Full wwPDB X-ray Structure Validation Report ⓘ

Oct 26, 2023 – 05:31 AM EDT

PDB ID	:	2ZJR
Title	:	Refined native structure of the large ribosomal subunit (50S) from Deinococcus radiodurans
Authors	:	Harms, J.M.; Wilson, D.N.; Schluenzen, F.; Connell, S.R.; Stachelhaus, T.; Zaborowska, Z.; Spahn, C.M.T.; Fucini, P.
Deposited on	:	2008-03-08
Resolution	:	2.91 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

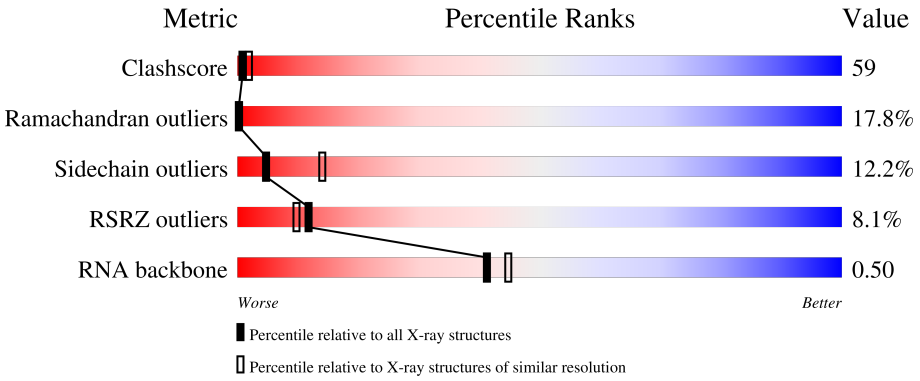
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.91 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	2531 (2.94-2.90)
Ramachandran outliers	138981	2462 (2.94-2.90)
Sidechain outliers	138945	2464 (2.94-2.90)
RSRZ outliers	127900	2248 (2.94-2.90)
RNA backbone	3102	1001 (3.18-2.66)

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

Mol	Chain	Length	Quality of chain
1	X	2880	4% 16% 46% 20% 10% 7%
2	Y	123	2% 23% 59% 15%
3	A	274	7% 16% 54% 16% 12%
4	B	211	29% 52% 12%
5	C	205	5% 11% 56% 25%

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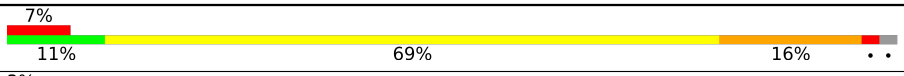
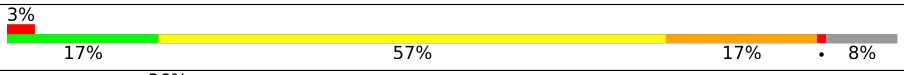
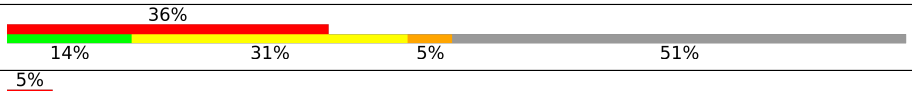
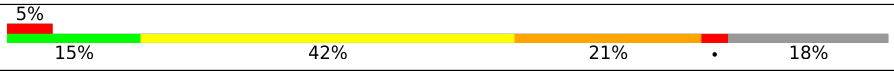
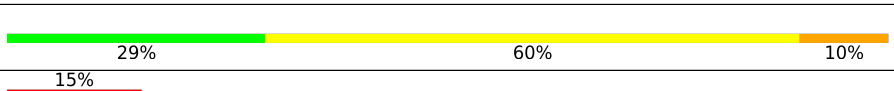
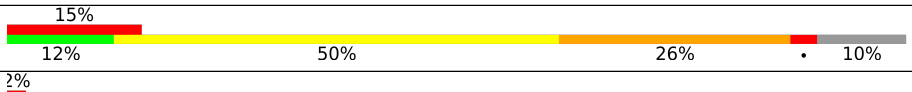
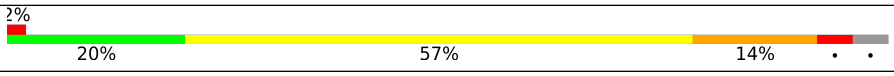
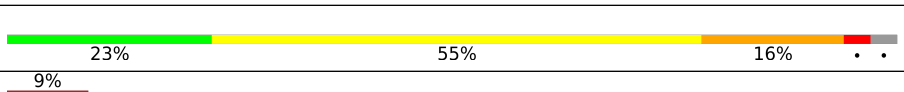
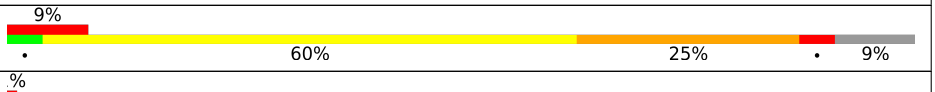
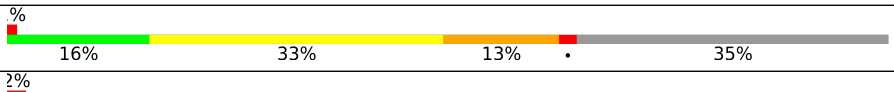
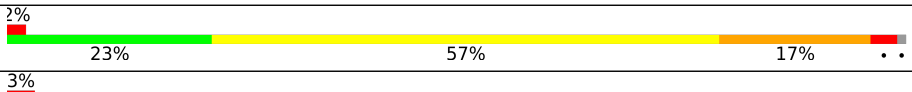
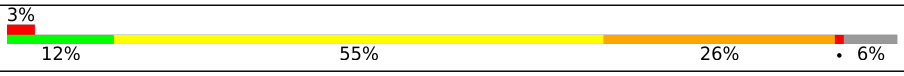
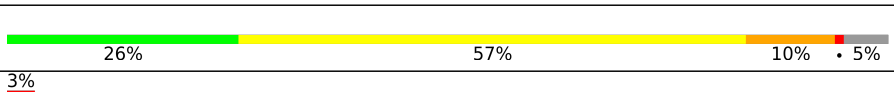
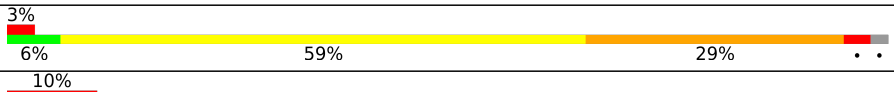
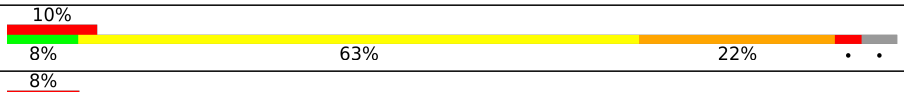
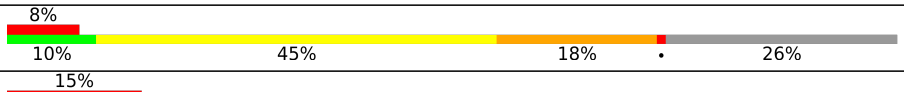
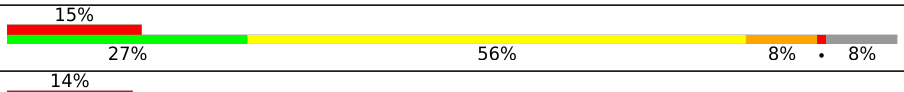
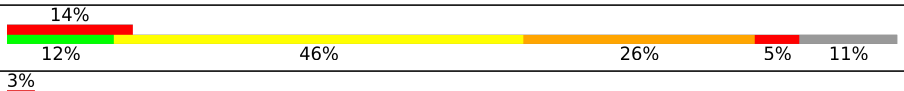
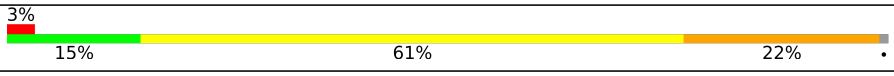
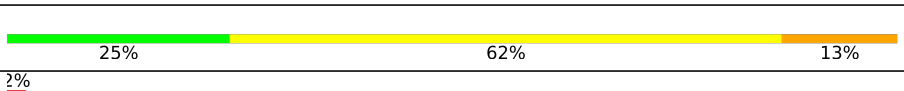
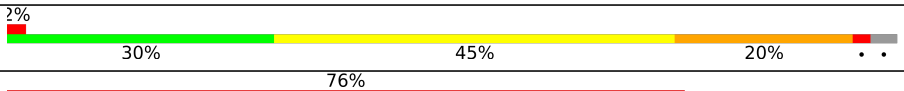
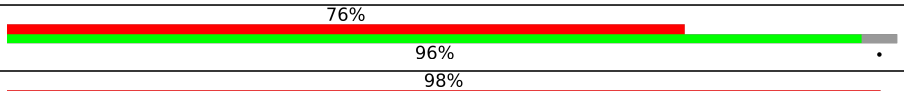
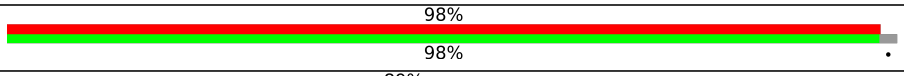
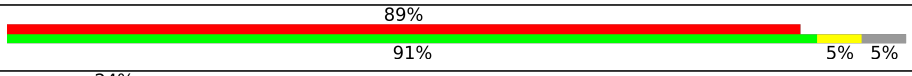
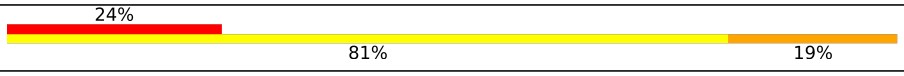
Mol	Chain	Length	Quality of chain
6	D	180	
7	E	185	
8	F	144	
9	G	174	
10	H	134	
11	I	156	
12	J	142	
13	K	116	
14	L	114	
15	M	166	
16	N	118	
17	O	100	
18	P	134	
19	Q	95	
20	R	115	
21	S	237	
22	T	91	
23	U	81	
24	V	67	
25	W	55	
26	Z	60	
27	1	55	
28	2	47	
29	3	66	
30	4	37	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
31	MG	X	2884	-	-	-	X
31	MG	X	2908	-	-	-	X
31	MG	Y	124	-	-	-	X

2 Entry composition (i)

There are 31 unique types of molecules in this entry. The entry contains 83819 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called ribosomal 23S RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	X	2686	57651	25718	10642	18606	2685	0	0	0

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	A	240	1826	1137	366	321	2	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	B	205	1539	965	295	271	8	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	C	197	1506	935	287	282	2	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	D	177	1400	892	247	254	7	0	0	0

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

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

- Molecule 8 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	F	71	Total	C	N	O	S	0	0	0
			503	310	91	99	3			

- Molecule 9 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	G	142	Total	C	N	O	S	0	0	0
			1114	704	209	198	3			

- Molecule 10 is a protein called 50S ribosomal protein L14.

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

- Molecule 11 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
11	I	141	Total	C	N	O	0	0	0
			1067	655	216	196			

- Molecule 12 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	J	136	Total	C	N	O	S	0	0	0
			1090	696	202	185	7			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	1	MET	-	initiating methionine	UNP Q9RXJ5

- Molecule 13 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	K	113	Total	C	N	O	S	0	0	0
			878	541	178	157	2			

- Molecule 14 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	L	104	Total	C	N	O	0	0	0
			779	476	161	142			

- Molecule 15 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
15	M	108	Total	C	N	O	0	0	0
			871	543	172	156			

- Molecule 16 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	N	117	Total	C	N	O	S	0	0	0
			978	608	210	159	1			

- Molecule 17 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
17	O	94	Total	C	N	O	0	0	0
			741	465	139	137			

- Molecule 18 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	P	127	Total	C	N	O	S	0	0	0
			1014	639	199	174	2			

- Molecule 19 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	Q	93	Total	C	N	O	S	0	0	0
			726	458	136	130	2			

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	R	110	Total	C	N	O	S	0	0	0
			825	513	160	151	1			

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	S	175	Total	C	N	O	S	0	0	0
			1345	849	236	254	6			

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	T	84	Total	C	N	O	S	0	0	0
			625	393	122	109	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
23	U	72	Total	C	N	O	0	0	0
			552	341	116	95			

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	V	66	Total	C	N	O	S	0	0	0
			533	327	107	96	3			

- Molecule 25 is a protein called 50S ribosomal protein L30.

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

- Molecule 26 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Z	58	Total	C	N	O	S	0	0	0
			457	281	94	77	5			

- Molecule 27 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
27	1	53	Total C 53 53	0	0	53

- Molecule 28 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	2	46	Total C 46 46	0	0	46

- Molecule 29 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	3	63	Total C 63 63	0	0	63

- Molecule 30 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
30	4	37	Total 297	C 179	N 66	O 47	S 5	0	0	0

- Molecule 31 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

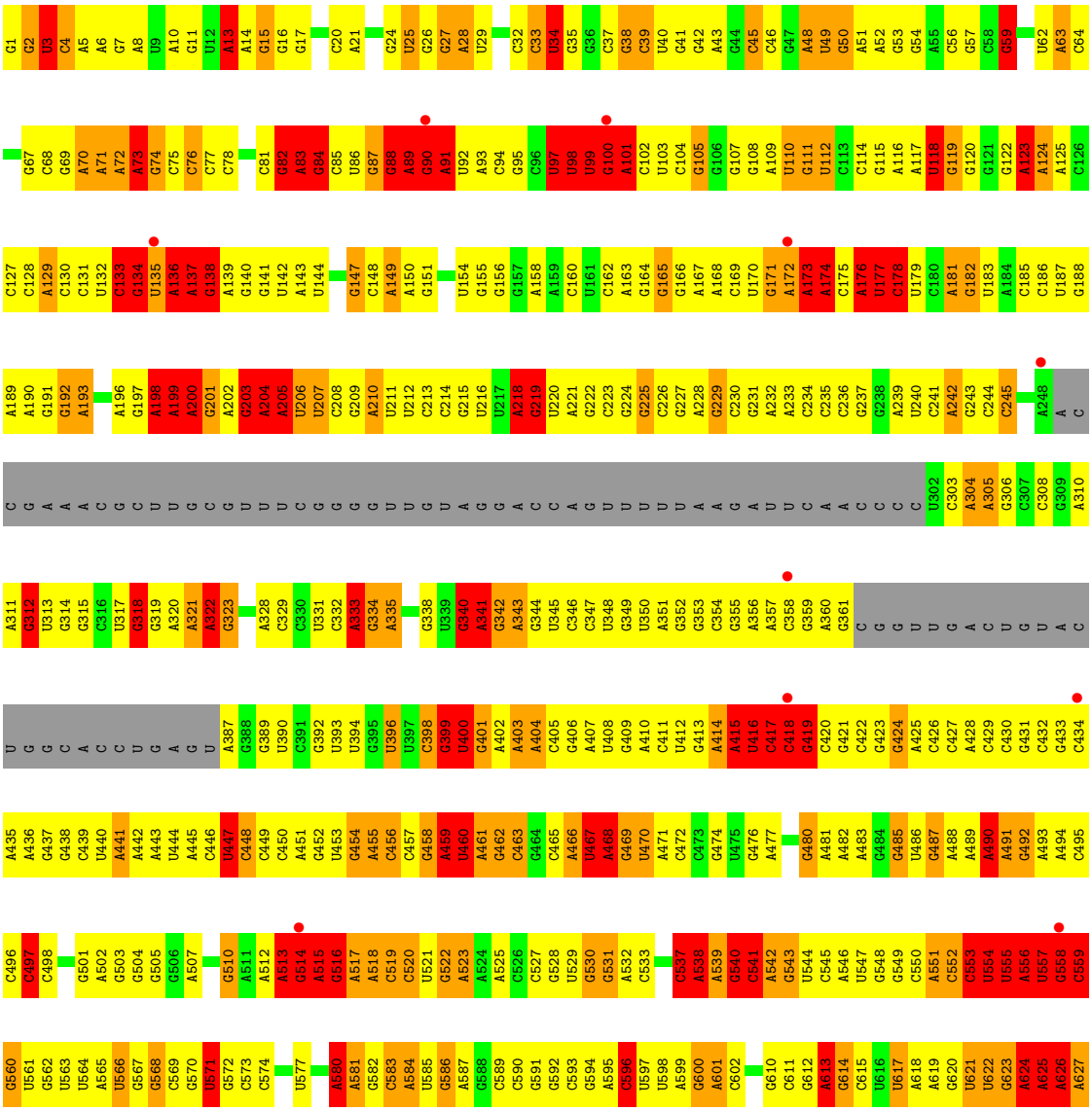
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
31	X	30	Total Mg 30 30	0	0
31	Y	5	Total Mg 5 5	0	0

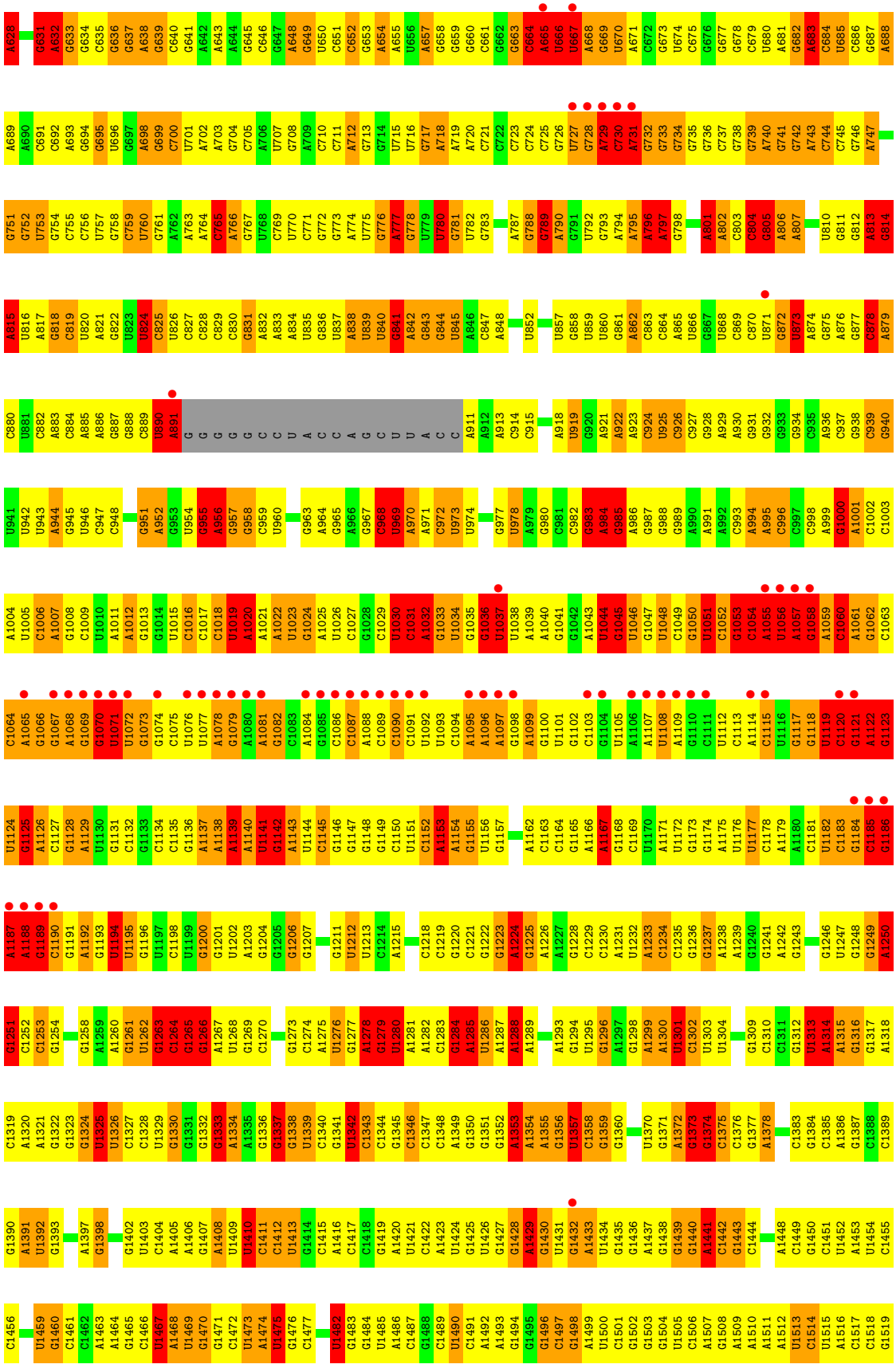
3 Residue-property plots (i)

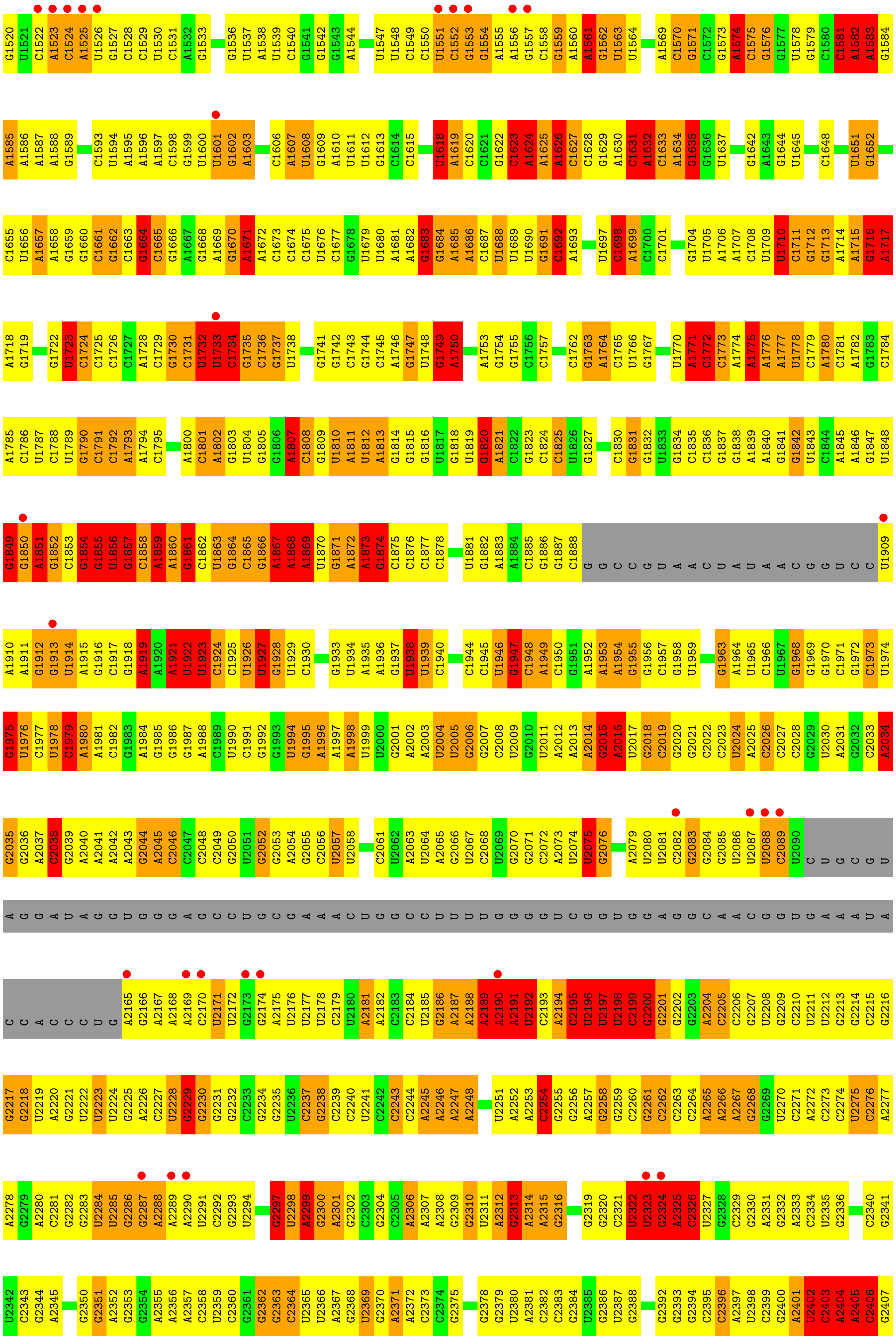
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

- Molecule 1: ribosomal 23S RNA

Chain X: 



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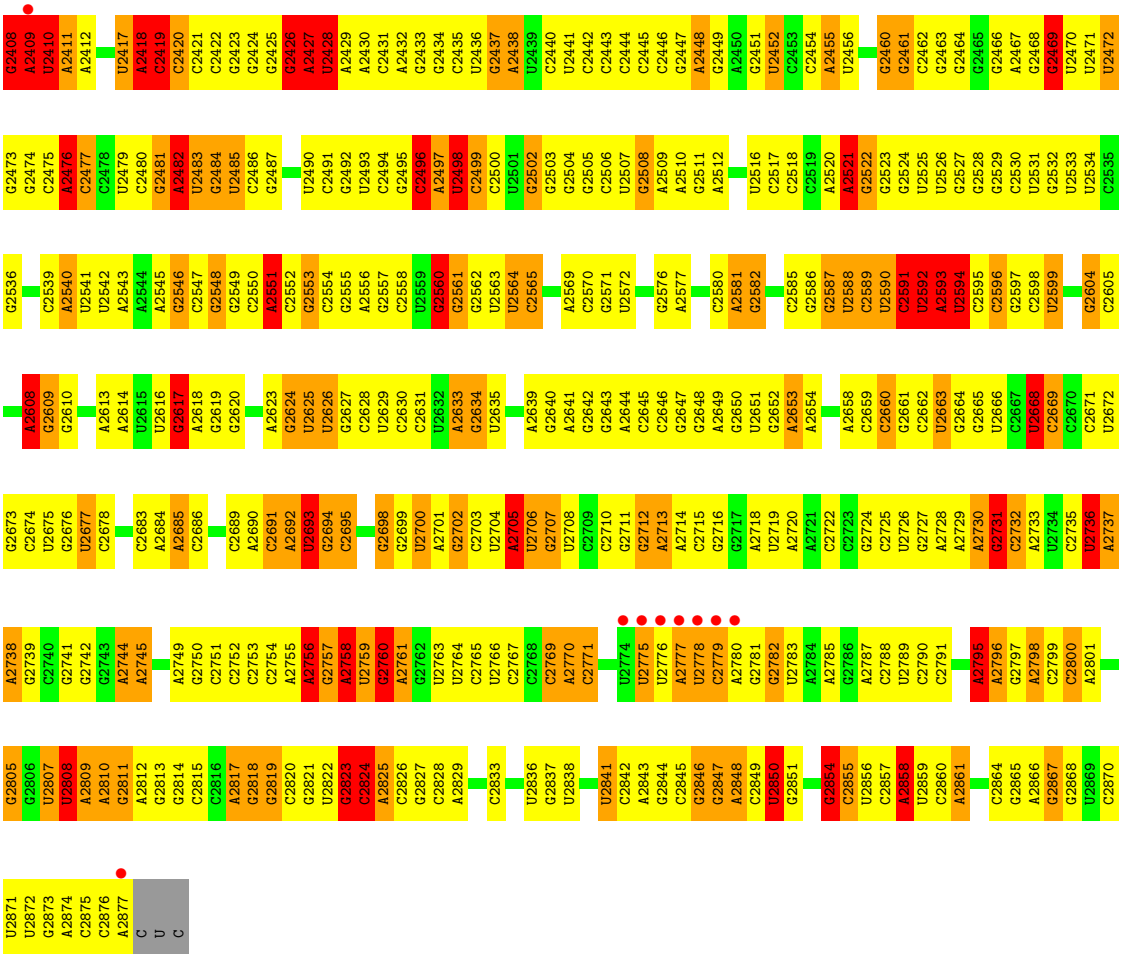
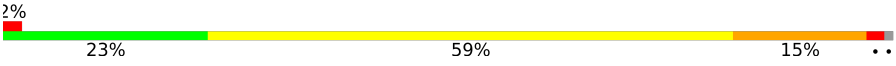
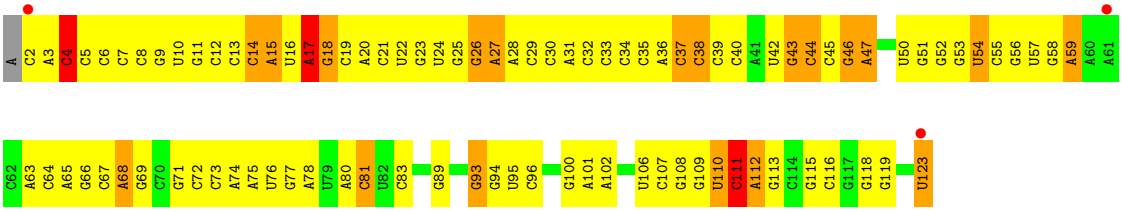


• Molecule 2: ribosomal 5S RNA

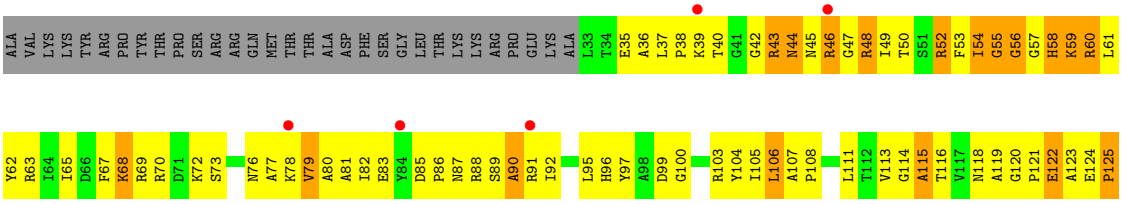
Chain Y:

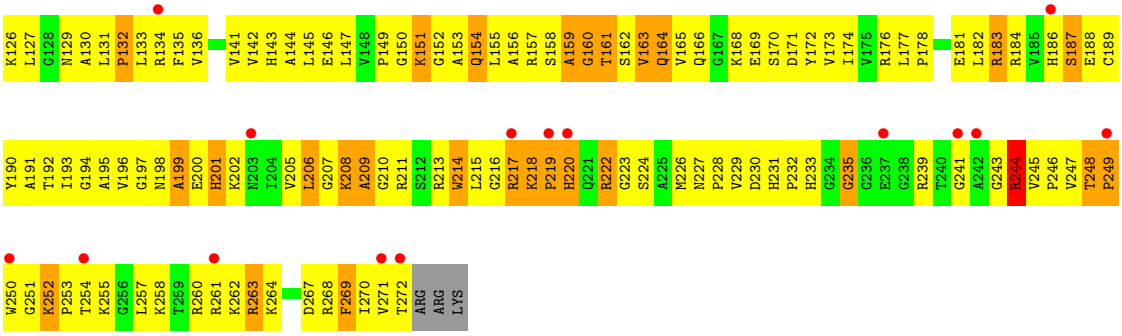




• Molecule 3: 50S ribosomal protein L2

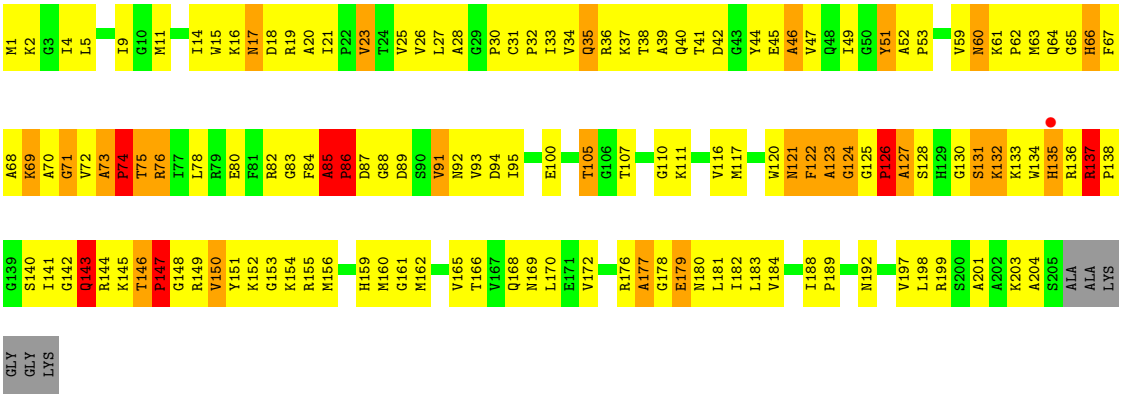
Chain A:





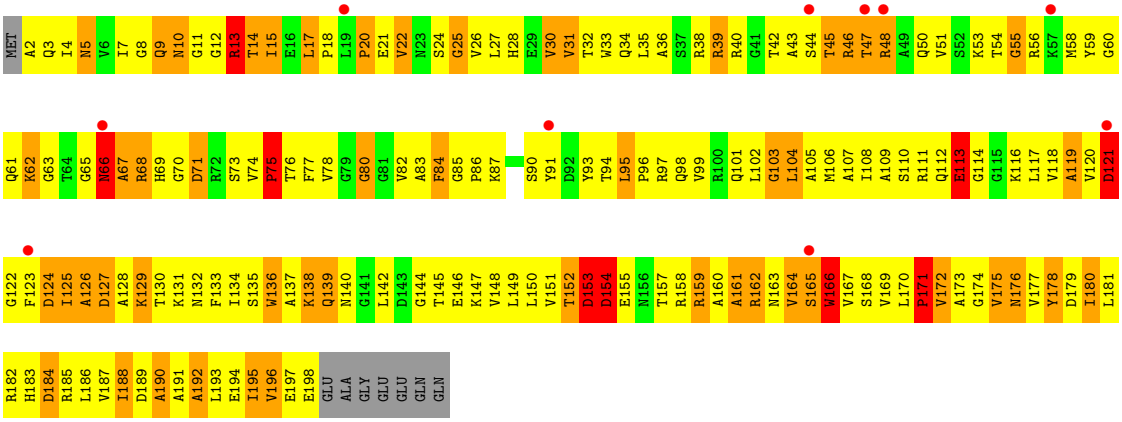
• Molecule 4: 50S ribosomal protein L3

Chain B:



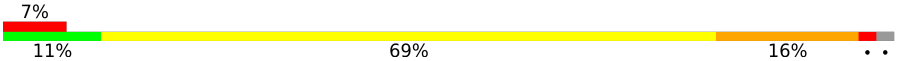
• Molecule 5: 50S ribosomal protein L4

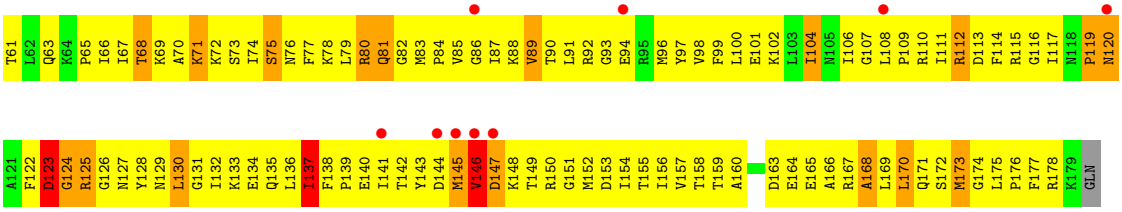
Chain C:



• Molecule 6: 50S ribosomal protein L5

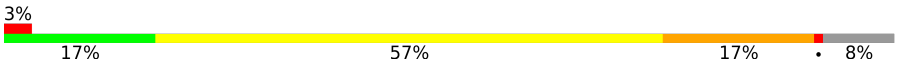
Chain D:

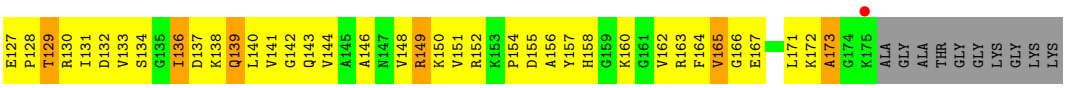




• Molecule 7: 50S ribosomal protein L6

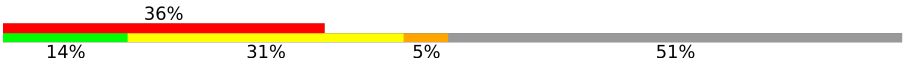
Chain E:

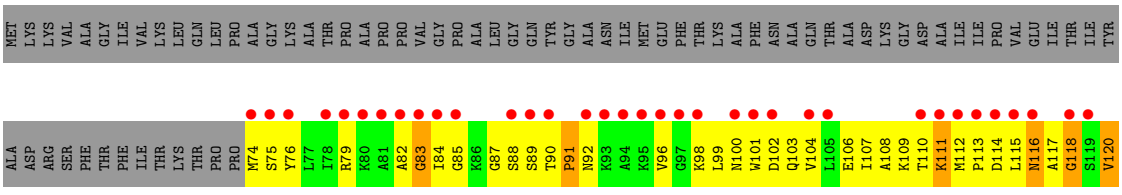


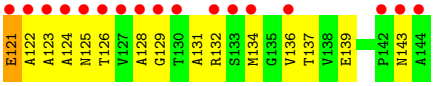


• Molecule 8: 50S ribosomal protein L11

Chain F:

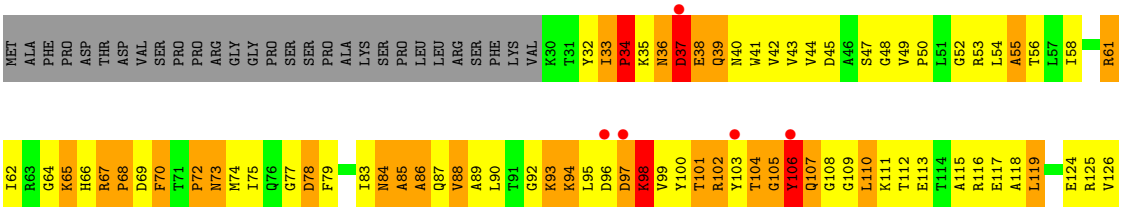


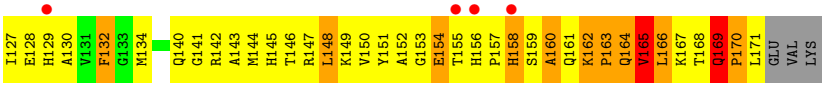




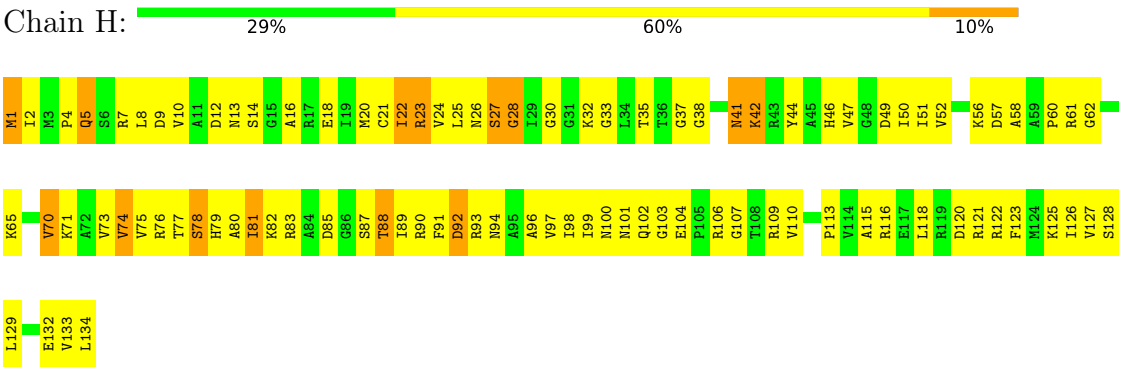
• Molecule 9: 50S ribosomal protein L13

Chain G:

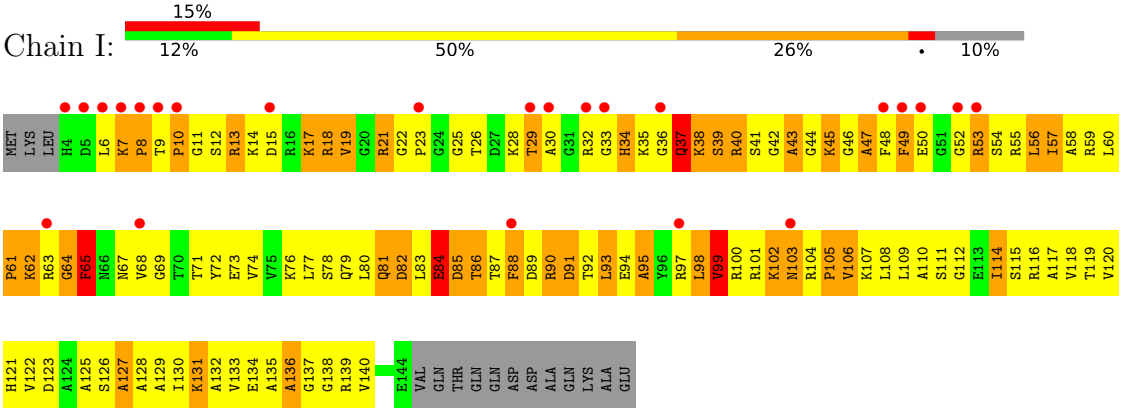




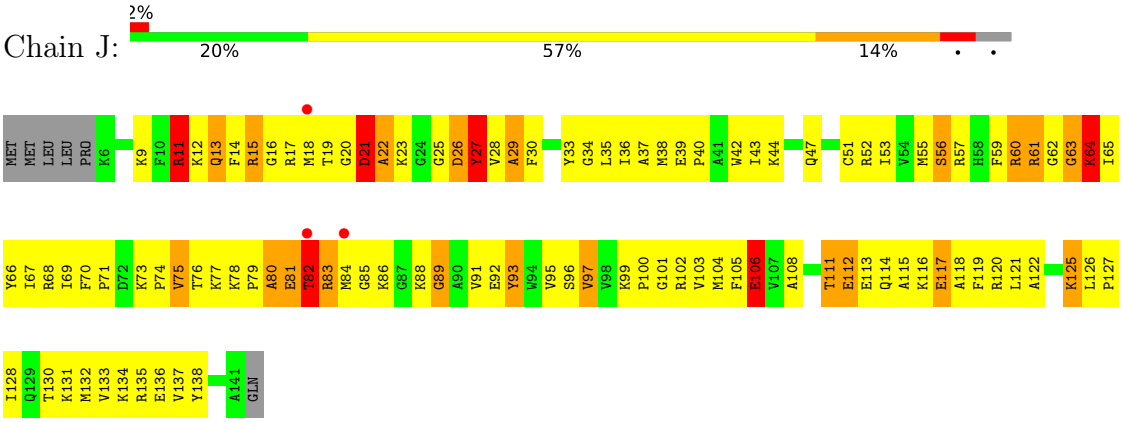
• Molecule 10: 50S ribosomal protein L14



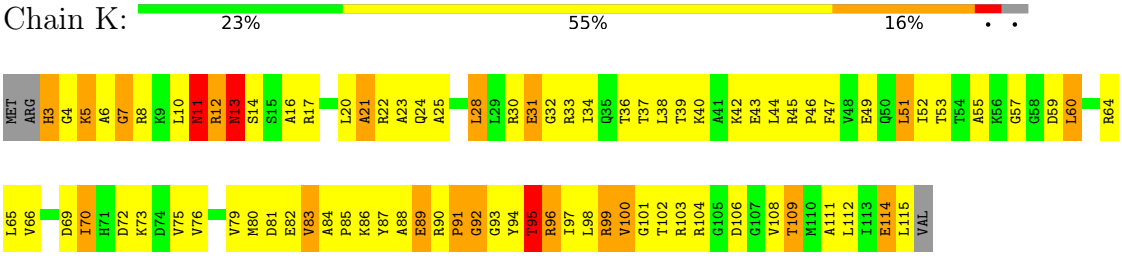
• Molecule 11: 50S ribosomal protein L15



• Molecule 12: 50S ribosomal protein L16

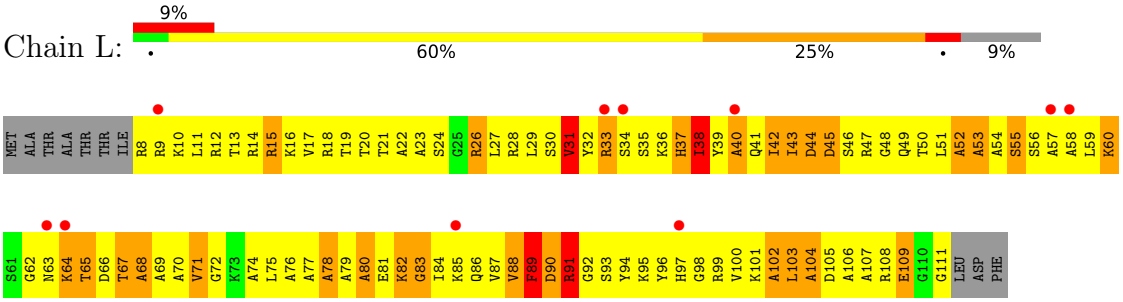


• Molecule 13: 50S ribosomal protein L17



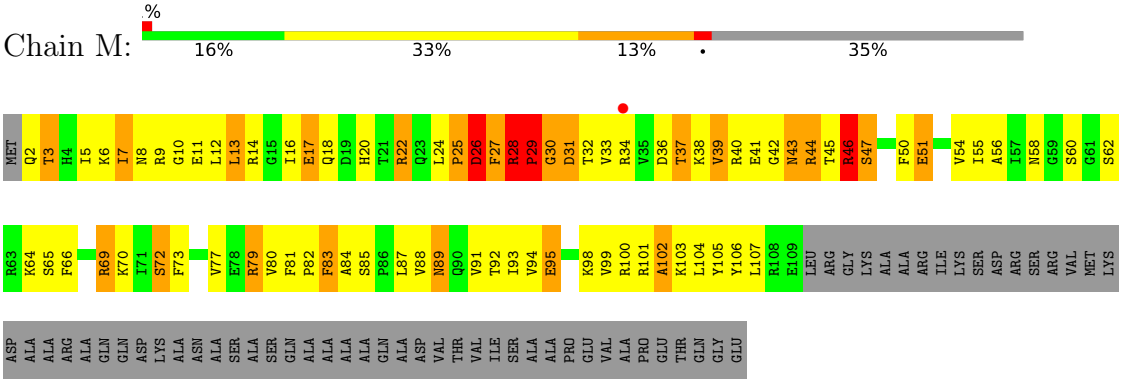
• Molecule 14: 50S ribosomal protein L18

Chain L:



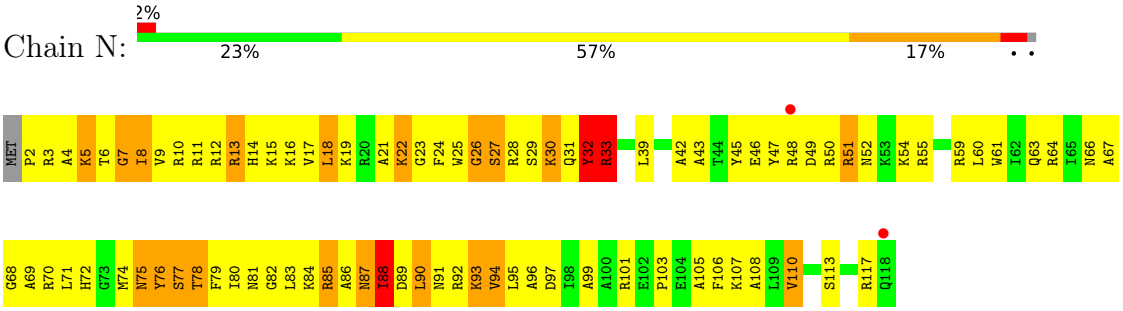
• Molecule 15: 50S ribosomal protein L19

Chain M:



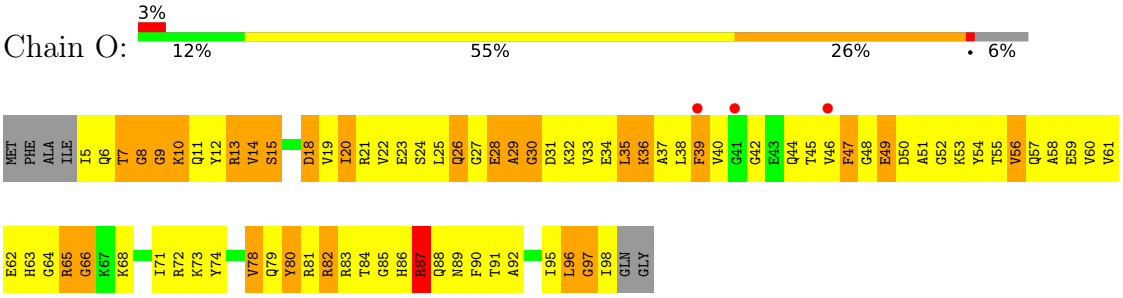
• Molecule 16: 50S ribosomal protein L20

Chain N:



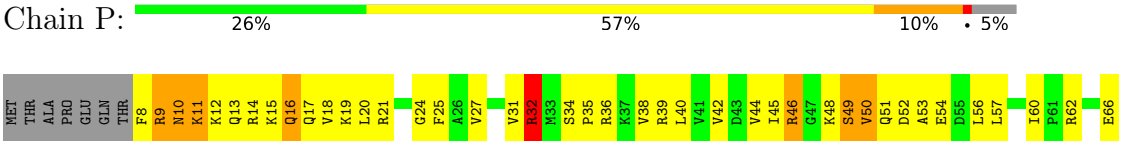
• Molecule 17: 50S ribosomal protein L21

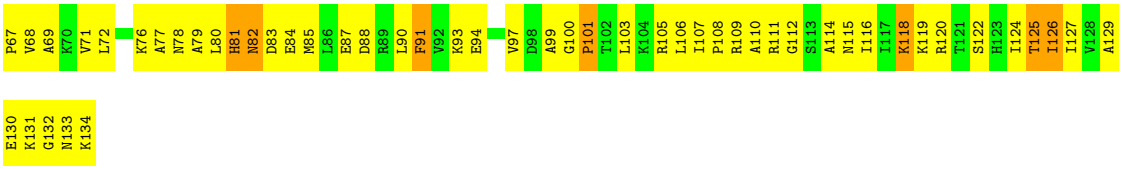
Chain O:



• Molecule 18: 50S ribosomal protein L22

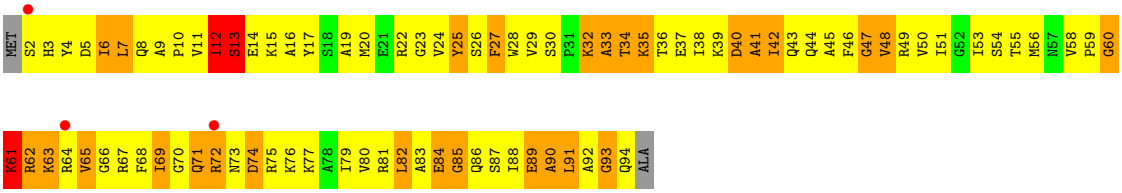
Chain P:





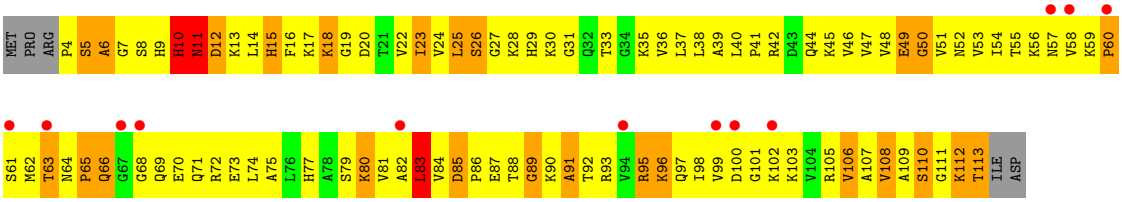
• Molecule 19: 50S ribosomal protein L23

Chain Q:



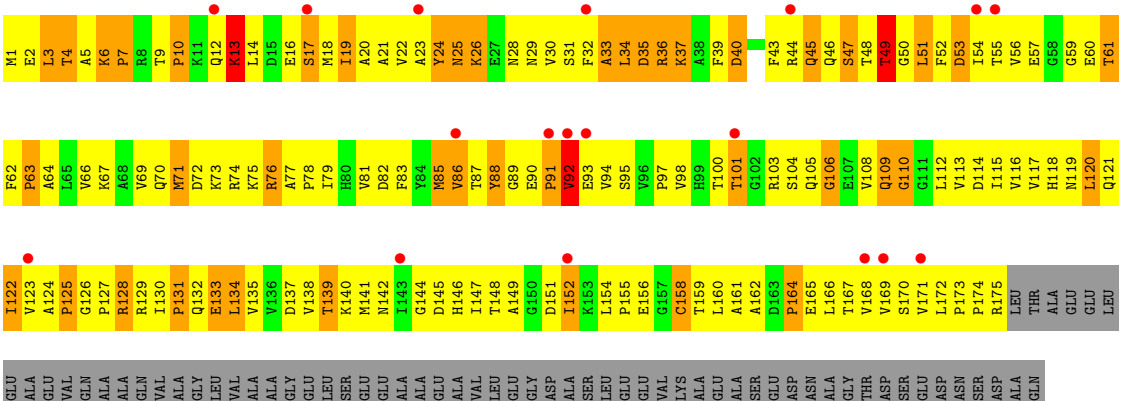
• Molecule 20: 50S ribosomal protein L24

Chain R:



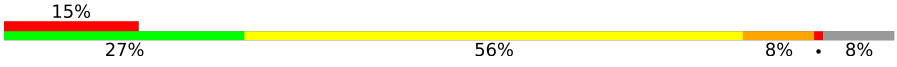
• Molecule 21: 50S ribosomal protein L25

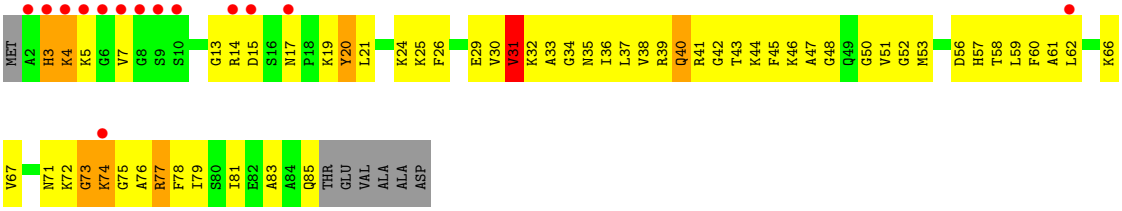
Chain S:



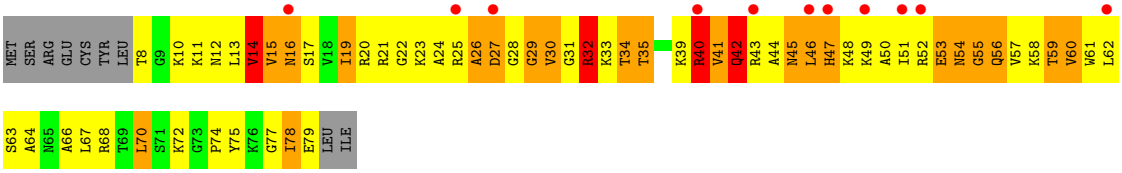
• Molecule 22: 50S ribosomal protein L27

Chain T:

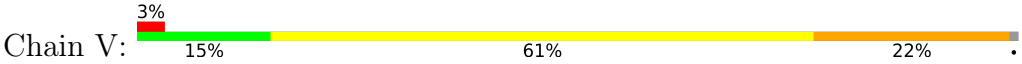


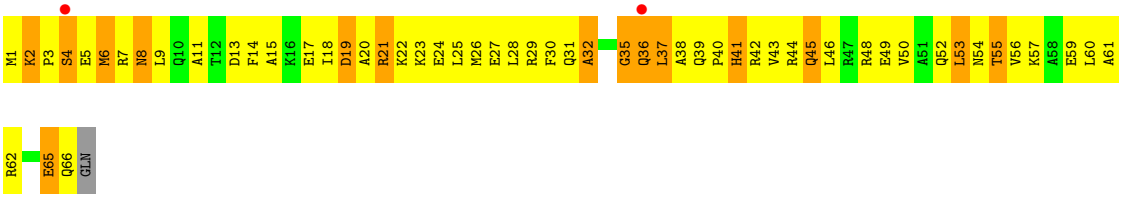


• Molecule 23: 50S ribosomal protein L28

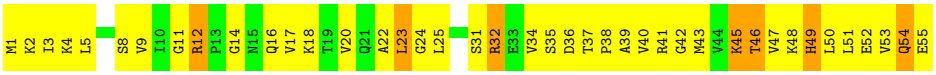


• Molecule 24: 50S ribosomal protein L29

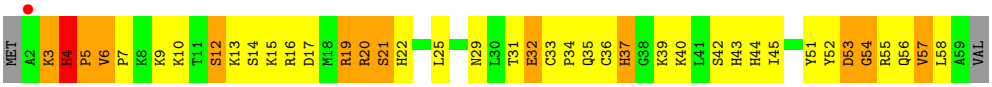




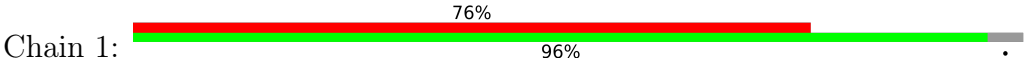
• Molecule 25: 50S ribosomal protein L30

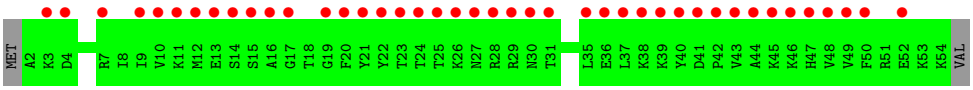


• Molecule 26: 50S ribosomal protein L32



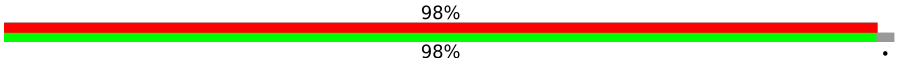
• Molecule 27: 50S ribosomal protein L33

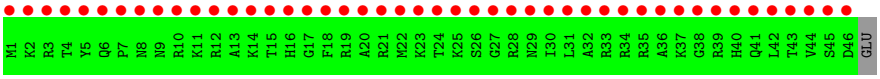




• Molecule 28: 50S ribosomal protein L34

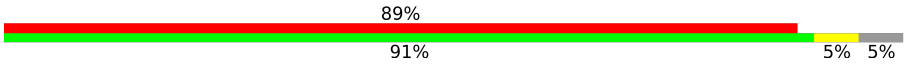
Chain 2:

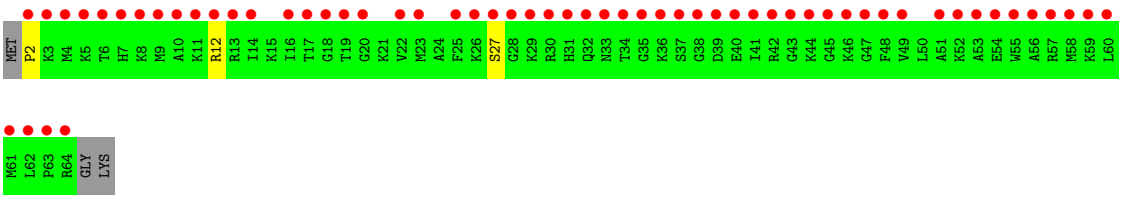




• Molecule 29: 50S ribosomal protein L35

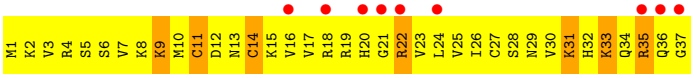
Chain 3:





• Molecule 30: 50S ribosomal protein L36

Chain 4:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	169.90Å 408.90Å 694.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.90 – 2.91 29.92 – 2.91	Depositor EDS
% Data completeness (in resolution range)	94.1 (29.90-2.91) 94.1 (29.92-2.91)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.56 (at 2.90Å)	Xtriage
Refinement program	CNS	Depositor
R, R_{free}	0.277 , 0.311 0.265 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	52.9	Xtriage
Anisotropy	0.101	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.17 , 45.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.43$, $< L^2 > = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.87	EDS
Total number of atoms	83819	wwPDB-VP
Average B, all atoms (Å^2)	43.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.87% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	X	0.90	156/64561 (0.2%)	1.15	809/100708 (0.8%)
2	Y	0.50	0/2904	0.73	0/4525
3	A	0.50	0/1862	0.82	0/2510
4	B	0.70	0/1567	0.99	6/2105 (0.3%)
5	C	0.60	0/1529	0.87	0/2070
6	D	0.47	0/1419	0.70	0/1903
7	E	0.46	0/1308	0.76	0/1771
8	F	0.65	0/508	1.11	2/683 (0.3%)
9	G	0.59	0/1138	0.92	2/1539 (0.1%)
10	H	0.72	0/1007	0.93	1/1352 (0.1%)
11	I	0.60	0/1081	0.89	0/1448
12	J	0.59	0/1113	0.86	1/1486 (0.1%)
13	K	0.83	0/886	1.04	1/1188 (0.1%)
14	L	0.48	0/785	0.82	1/1048 (0.1%)
15	M	0.72	0/884	1.15	6/1186 (0.5%)
16	N	0.54	0/994	0.80	0/1323
17	O	0.54	0/750	0.83	0/1000
18	P	0.73	0/1027	0.90	0/1373
19	Q	0.58	0/737	0.88	3/988 (0.3%)
20	R	0.48	0/835	0.84	0/1121
21	S	0.48	0/1370	0.71	0/1862
22	T	0.52	0/633	0.77	0/838
23	U	0.51	0/556	0.87	0/741
24	V	0.44	0/537	0.67	0/714
25	W	0.51	0/426	0.83	0/568
26	Z	0.68	0/469	0.95	1/629 (0.2%)
30	4	0.45	0/298	0.65	0/390
All	All	0.82	156/91184 (0.2%)	1.08	833/137069 (0.6%)

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	X	0	225
2	Y	0	4
9	G	0	1
16	N	0	1
19	Q	0	1
All	All	0	232

All (156) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	1123	G	C3'-O3'	14.43	1.62	1.42
1	X	1123	G	C4'-C3'	13.55	1.68	1.53
1	X	2322	U	C3'-O3'	12.22	1.59	1.42
1	X	1187	A	C2'-C1'	11.44	1.66	1.53
1	X	100	G	C3'-O3'	10.61	1.57	1.42
1	X	1187	A	C3'-C2'	10.05	1.64	1.52
1	X	417	C	C3'-O3'	9.87	1.55	1.42
1	X	2189	A	C2'-C1'	9.71	1.64	1.53
1	X	100	G	C2'-C1'	9.68	1.64	1.53
1	X	1187	A	C3'-O3'	9.54	1.55	1.42
1	X	1856	U	C4'-C3'	-9.30	1.43	1.53
1	X	82	G	C2'-C1'	9.15	1.63	1.53
1	X	2297	G	C3'-O3'	8.98	1.54	1.42
1	X	2190	A	P-O5'	8.86	1.68	1.59
1	X	667	U	C3'-O3'	-8.83	1.29	1.42
1	X	1056	U	C4'-C3'	8.79	1.62	1.53
1	X	890	U	C3'-O3'	8.71	1.54	1.42
1	X	2189	A	O3'-P	8.65	1.71	1.61
1	X	1856	U	O3'-P	-8.64	1.50	1.61
1	X	1278	A	C8-N7	-8.62	1.25	1.31
1	X	1056	U	P-O5'	8.52	1.68	1.59
1	X	2297	G	C2'-C1'	8.49	1.62	1.53
1	X	89	A	C3'-O3'	8.47	1.54	1.42
1	X	1278	A	C3'-O3'	8.44	1.53	1.42
1	X	1123	G	O3'-P	8.32	1.71	1.61
1	X	415	A	C2'-C1'	8.17	1.62	1.53
1	X	1855	G	O3'-P	-8.11	1.51	1.61
1	X	2298	U	C2'-C1'	8.10	1.62	1.53
1	X	666	U	C3'-O3'	8.06	1.53	1.42
1	X	2322	U	C4'-C3'	7.94	1.61	1.53
1	X	1036	G	C3'-O3'	7.89	1.53	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	2189	A	C3'-O3'	7.82	1.53	1.42
1	X	667	U	O3'-P	-7.79	1.51	1.61
1	X	2402	U	O3'-P	-7.71	1.51	1.61
1	X	1124	U	C4'-C3'	-7.71	1.44	1.53
1	X	725	C	C3'-O3'	-7.64	1.31	1.42
1	X	100	G	C3'-C2'	7.60	1.61	1.52
1	X	2322	U	O3'-P	7.56	1.70	1.61
1	X	1860	A	O3'-P	-7.56	1.52	1.61
1	X	1070	G	O3'-P	-7.44	1.52	1.61
1	X	2189	A	N9-C4	7.31	1.42	1.37
1	X	417	C	C3'-C2'	7.26	1.60	1.52
1	X	2190	A	C4'-C3'	7.24	1.61	1.53
1	X	1871	G	O3'-P	-7.21	1.52	1.61
1	X	415	A	C3'-O3'	7.17	1.52	1.42
1	X	101	A	C5'-C4'	7.17	1.59	1.51
1	X	2591	C	C3'-O3'	7.12	1.52	1.42
1	X	725	C	O3'-P	-7.09	1.52	1.61
1	X	1849	G	C2'-C1'	7.09	1.61	1.53
1	X	82	G	C3'-O3'	6.98	1.51	1.42
1	X	1187	A	N7-C5	-6.97	1.35	1.39
1	X	81	C	O3'-P	-6.96	1.52	1.61
1	X	1859	A	O3'-P	-6.91	1.52	1.61
1	X	2323	U	P-O5'	6.86	1.66	1.59
1	X	890	U	C2'-C1'	6.84	1.60	1.53
1	X	204	A	C3'-O3'	6.83	1.51	1.42
1	X	1056	U	C5'-C4'	6.82	1.59	1.51
1	X	82	G	C3'-C2'	6.82	1.60	1.52
1	X	796	A	C5-C6	-6.78	1.34	1.41
1	X	666	U	O3'-P	6.74	1.69	1.61
1	X	1858	C	C4'-C3'	-6.73	1.45	1.53
1	X	723	C	N1-C2	-6.71	1.33	1.40
1	X	417	C	C2'-C1'	6.69	1.60	1.53
1	X	1063	C	N1-C2	-6.65	1.33	1.40
1	X	2322	U	P-O5'	6.55	1.66	1.59
1	X	725	C	N1-C2	-6.55	1.33	1.40
1	X	84	G	O3'-P	-6.54	1.53	1.61
1	X	1849	G	C3'-O3'	6.53	1.51	1.42
1	X	2409	A	O3'-P	-6.48	1.53	1.61
1	X	2322	U	O5'-C5'	6.46	1.54	1.44
1	X	625	A	C4'-C3'	6.43	1.60	1.53
1	X	513	A	C2'-C1'	6.40	1.60	1.53
1	X	1849	G	C3'-C2'	6.40	1.59	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	891	A	P-O5'	-6.39	1.53	1.59
1	X	664	C	N1-C2	-6.37	1.33	1.40
1	X	1187	A	C1'-N9	6.35	1.58	1.48
1	X	1121	G	O3'-P	-6.33	1.53	1.61
1	X	2298	U	C3'-O3'	6.31	1.50	1.42
1	X	2403	C	N1-C2	-6.26	1.33	1.40
1	X	1858	C	N1-C2	-6.25	1.33	1.40
1	X	2297	G	C1'-N9	6.24	1.58	1.48
1	X	1664	G	C2-N2	-6.22	1.28	1.34
1	X	462	G	C6-O6	6.21	1.29	1.24
1	X	664	C	C2'-C1'	-6.16	1.46	1.53
1	X	2199	C	N1-C2	-6.10	1.34	1.40
1	X	1375	C	N1-C2	-6.08	1.34	1.40
1	X	514	G	C4'-C3'	-6.03	1.46	1.53
1	X	1031	C	N1-C2	-5.99	1.34	1.40
1	X	513	A	C3'-O3'	5.98	1.50	1.42
1	X	88	G	C4'-C3'	-5.97	1.46	1.52
1	X	557	U	C2'-C1'	5.97	1.59	1.53
1	X	1688	U	C4-O4	5.96	1.28	1.23
1	X	1052	C	N1-C2	-5.93	1.34	1.40
1	X	1190	C	N1-C2	-5.91	1.34	1.40
1	X	1123	G	O5'-C5'	5.90	1.53	1.44
1	X	1857	G	O3'-P	-5.90	1.54	1.61
1	X	1734	C	N1-C2	-5.87	1.34	1.40
1	X	1190	C	O3'-P	-5.87	1.54	1.61
1	X	1123	G	C2'-C1'	5.86	1.59	1.53
1	X	89	A	C2'-C1'	5.80	1.59	1.53
1	X	101	A	O5'-C5'	5.79	1.53	1.44
1	X	1853	C	N1-C2	-5.79	1.34	1.40
1	X	1119	U	P-O5'	5.78	1.65	1.59
1	X	556	A	N7-C5	-5.75	1.35	1.39
1	X	1018	C	C4'-C3'	-5.74	1.46	1.52
1	X	515	A	O3'-P	-5.74	1.54	1.61
1	X	2322	U	C2'-C1'	5.72	1.59	1.53
1	X	724	C	N1-C2	-5.72	1.34	1.40
1	X	1847	G	O3'-P	-5.72	1.54	1.61
1	X	100	G	P-O5'	5.71	1.65	1.59
1	X	134	G	C3'-O3'	5.68	1.50	1.42
1	X	1869	A	C5'-C4'	-5.68	1.44	1.51
1	X	1280	U	O3'-P	-5.60	1.54	1.61
1	X	666	U	C2'-C1'	5.59	1.59	1.53
1	X	1862	C	C2'-C1'	-5.54	1.47	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	X	728	G	C2'-C1'	5.45	1.59	1.53
1	X	728	G	P-O5'	5.43	1.65	1.59
1	X	2195	C	N1-C2	-5.43	1.34	1.40
1	X	2190	A	O5'-C5'	5.43	1.53	1.44
1	X	557	U	C1'-N1	5.42	1.56	1.48
1	X	1120	C	N1-C2	-5.42	1.34	1.40
1	X	552	C	N1-C2	-5.39	1.34	1.40
1	X	2190	A	C5'-C4'	5.38	1.57	1.51
1	X	1680	U	N1-C2	-5.36	1.33	1.38
1	X	137	A	O3'-P	-5.36	1.54	1.61
1	X	1860	A	C4'-C3'	-5.34	1.47	1.52
1	X	1288	A	C5-C6	-5.33	1.36	1.41
1	X	1124	U	O3'-P	-5.32	1.54	1.61
1	X	725	C	C2'-C1'	-5.29	1.47	1.53
1	X	1118	G	C2'-C1'	-5.29	1.47	1.53
1	X	175	C	N1-C2	-5.29	1.34	1.40
1	X	1859	A	C3'-C2'	-5.29	1.47	1.52
1	X	586	G	C5-C6	-5.28	1.37	1.42
1	X	204	A	O3'-P	5.27	1.67	1.61
1	X	890	U	P-O5'	5.27	1.65	1.59
1	X	497	C	N1-C2	-5.27	1.34	1.40
1	X	2592	U	C4-C5	5.26	1.48	1.43
1	X	82	G	O3'-P	5.25	1.67	1.61
1	X	1865	C	O3'-P	-5.24	1.54	1.61
1	X	1750	A	C5-C6	-5.21	1.36	1.41
1	X	557	U	C3'-O3'	5.18	1.49	1.42
1	X	664	C	C3'-C2'	-5.17	1.47	1.52
1	X	2553	G	C5-C6	-5.16	1.37	1.42
1	X	133	C	N1-C2	-5.13	1.35	1.40
1	X	730	C	N1-C2	-5.12	1.35	1.40
1	X	176	A	C4'-C3'	-5.07	1.47	1.52
1	X	1868	A	O3'-P	-5.07	1.55	1.61
1	X	171	G	C3'-O3'	5.06	1.49	1.42
1	X	723	C	C3'-O3'	5.05	1.49	1.42
1	X	1851	A	C3'-O3'	5.04	1.49	1.42
1	X	1869	A	P-O5'	-5.04	1.54	1.59
1	X	1373	G	C3'-C2'	5.02	1.58	1.52
1	X	2406	C	N1-C2	-5.01	1.35	1.40
1	X	2297	G	N9-C4	5.01	1.42	1.38
1	X	2604	G	C5-C6	-5.00	1.37	1.42
1	X	2197	U	C4'-C3'	-5.00	1.47	1.52

All (833) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1055	A	N9-C1'-C2'	-29.46	75.70	114.00
1	X	513	A	N9-C1'-C2'	24.54	145.90	114.00
1	X	2297	G	N9-C1'-C2'	21.75	142.27	114.00
1	X	557	U	N1-C1'-C2'	19.63	139.52	114.00
1	X	2298	U	N1-C1'-C2'	19.50	139.35	114.00
1	X	204	A	N9-C1'-C2'	19.36	139.17	114.00
1	X	1187	A	C8-N9-C4	-19.12	98.15	105.80
1	X	2297	G	C8-N9-C4	-18.92	98.83	106.40
1	X	82	G	N9-C1'-C2'	18.51	138.06	114.00
15	M	28	ARG	C-N-CD	-17.97	81.06	120.60
1	X	417	C	N1-C1'-C2'	17.64	136.93	114.00
1	X	2401	A	N9-C1'-C2'	17.43	136.66	114.00
1	X	2592	U	O4'-C1'-N1	17.30	122.04	108.20
1	X	176	A	N9-C1'-C2'	16.94	136.03	114.00
1	X	2418	A	N9-C1'-C2'	16.78	135.81	114.00
1	X	890	U	P-O3'-C3'	16.62	139.65	119.70
1	X	1123	G	P-O3'-C3'	16.43	139.42	119.70
1	X	83	A	N9-C1'-C2'	16.23	135.10	114.00
1	X	1856	U	P-O3'-C3'	-15.68	100.89	119.70
1	X	2189	A	P-O3'-C3'	15.48	138.28	119.70
1	X	2322	U	P-O3'-C3'	15.29	138.05	119.70
1	X	1854	G	P-O3'-C3'	-15.22	101.44	119.70
1	X	664	C	C6-N1-C2	15.10	126.34	120.30
1	X	1861	G	P-O3'-C3'	-15.03	101.66	119.70
1	X	1278	A	N9-C1'-C2'	14.75	133.18	114.00
1	X	1187	A	N9-C4-C5	14.32	111.53	105.80
1	X	100	G	O3'-P-O5'	14.19	130.97	104.00
1	X	1056	U	O4'-C4'-C3'	-14.04	89.96	104.00
1	X	558	G	C3'-C2'-C1'	-13.91	90.37	101.50
1	X	2195	C	N1-C1'-C2'	-13.67	96.23	114.00
1	X	626	A	P-O3'-C3'	13.55	135.96	119.70
1	X	1187	A	N9-C1'-C2'	13.44	131.48	114.00
1	X	1872	A	P-O3'-C3'	-13.33	103.70	119.70
1	X	514	G	N9-C1'-C2'	13.30	131.29	114.00
1	X	173	A	N9-C1'-C2'	12.98	130.88	114.00
1	X	2402	U	O4'-C1'-N1	-12.94	97.85	108.20
1	X	667	U	C3'-C2'-C1'	-12.91	91.17	101.50
1	X	417	C	P-O3'-C3'	12.81	135.07	119.70
1	X	204	A	P-O3'-C3'	12.69	134.93	119.70
1	X	556	A	N9-C1'-C2'	12.68	130.48	114.00
1	X	2324	G	O4'-C1'-N9	-12.60	98.12	108.20
1	X	2297	G	C3'-C2'-C1'	12.57	111.55	101.50
1	X	1869	A	P-O5'-C5'	-12.55	100.82	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	89	A	P-O3'-C3'	12.51	134.72	119.70
1	X	417	C	OP2-P-O3'	12.48	132.65	105.20
1	X	82	G	C3'-C2'-C1'	12.42	111.44	101.50
1	X	1278	A	P-O3'-C3'	12.41	134.60	119.70
1	X	731	A	P-O3'-C3'	12.40	134.58	119.70
1	X	1857	G	P-O3'-C3'	-12.39	104.83	119.70
1	X	2324	G	N9-C1'-C2'	12.27	129.94	114.00
1	X	890	U	N1-C1'-C2'	12.21	129.87	114.00
1	X	2197	U	C3'-C2'-C1'	-12.20	91.74	101.50
1	X	100	G	P-O3'-C3'	-12.01	105.29	119.70
1	X	199	A	C4'-C3'-C2'	11.98	114.58	102.60
1	X	415	A	P-O3'-C3'	11.89	133.97	119.70
1	X	1060	C	C6-N1-C2	11.85	125.04	120.30
1	X	2591	C	N1-C1'-C2'	11.71	129.23	114.00
1	X	82	G	C8-N9-C4	-11.61	101.76	106.40
1	X	557	U	C6-N1-C2	-11.61	114.03	121.00
1	X	1052	C	C6-N1-C2	11.50	124.90	120.30
1	X	1859	A	P-O3'-C3'	-11.34	106.09	119.70
1	X	99	U	P-O3'-C3'	11.25	133.20	119.70
1	X	1288	A	N9-C1'-C2'	11.10	128.43	114.00
1	X	1056	U	O4'-C1'-N1	11.09	117.07	108.20
1	X	1036	G	P-O3'-C3'	11.05	132.96	119.70
1	X	1632	A	N9-C1'-C2'	10.98	128.27	114.00
1	X	417	C	C3'-C2'-C1'	10.98	110.28	101.50
1	X	1142	G	N9-C1'-C2'	10.96	128.25	114.00
1	X	554	U	C6-N1-C2	10.90	127.54	121.00
1	X	556	A	P-O3'-C3'	10.78	132.64	119.70
1	X	666	U	P-O3'-C3'	10.78	132.64	119.70
1	X	2854	G	N9-C1'-C2'	10.77	128.00	114.00
1	X	1853	C	P-O3'-C3'	-10.76	106.79	119.70
1	X	2322	U	N1-C1'-C2'	10.76	127.99	114.00
1	X	132	U	P-O3'-C3'	10.73	132.57	119.70
1	X	2297	G	N7-C8-N9	10.70	118.45	113.10
1	X	1353	A	N9-C1'-C2'	10.66	127.86	114.00
1	X	2592	U	C2-N1-C1'	-10.66	104.91	117.70
1	X	667	U	P-O3'-C3'	10.63	132.45	119.70
1	X	2323	U	P-O3'-C3'	10.61	132.43	119.70
1	X	557	U	C3'-C2'-C1'	10.54	109.93	101.50
1	X	2593	A	N9-C1'-C2'	10.53	127.69	114.00
1	X	2402	U	C4'-C3'-O3'	-10.46	87.43	109.40
1	X	2402	U	C4'-C3'-C2'	10.43	113.03	102.60
1	X	1055	A	P-O3'-C3'	10.17	131.91	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1186	G	N9-C1'-C2'	-10.02	100.97	114.00
1	X	134	G	P-O3'-C3'	9.97	131.66	119.70
1	X	89	A	N9-C1'-C2'	9.94	126.92	114.00
1	X	1119	U	O4'-C1'-N1	-9.89	100.28	108.20
1	X	173	A	P-O3'-C3'	9.86	131.53	119.70
1	X	2592	U	C1'-O4'-C4'	-9.86	102.01	109.90
1	X	88	G	P-O3'-C3'	-9.86	107.87	119.70
1	X	1853	C	C6-N1-C2	9.81	124.23	120.30
1	X	731	A	N9-C1'-C2'	9.81	126.75	114.00
1	X	199	A	O4'-C4'-C3'	-9.79	94.21	104.00
1	X	177	U	O4'-C1'-N1	-9.75	100.40	108.20
1	X	667	U	O4'-C4'-C3'	-9.68	94.32	104.00
1	X	172	A	O4'-C1'-N9	9.60	115.88	108.20
1	X	683	A	N9-C1'-C2'	9.57	126.44	114.00
1	X	417	C	OP1-P-O3'	-9.53	84.25	105.20
1	X	1285	A	N9-C1'-C2'	9.47	126.31	114.00
1	X	667	U	O3'-P-O5'	9.32	121.70	104.00
1	X	2297	G	P-O3'-C3'	9.30	130.86	119.70
1	X	82	G	N9-C4-C5	9.27	109.11	105.40
1	X	82	G	P-O3'-C3'	9.22	130.76	119.70
1	X	199	A	C2'-C3'-O3'	-9.20	89.27	109.50
1	X	580	A	N9-C1'-C2'	9.18	125.94	114.00
4	B	85	ALA	C-N-CD	-9.18	100.42	120.60
1	X	2428	U	N1-C1'-C2'	9.17	125.92	114.00
1	X	2298	U	P-O3'-C3'	9.15	130.68	119.70
1	X	2190	A	N9-C1'-C2'	-9.12	101.97	112.00
1	X	136	A	P-O3'-C3'	-9.11	108.77	119.70
1	X	1265	G	N9-C1'-C2'	9.08	125.81	114.00
1	X	890	U	C2'-C3'-O3'	8.87	129.01	109.50
1	X	2409	A	C2'-C3'-O3'	8.87	129.01	109.50
1	X	89	A	C3'-C2'-C1'	8.86	108.58	101.50
1	X	83	A	C3'-C2'-C1'	8.83	108.56	101.50
1	X	1921	A	N9-C1'-C2'	8.73	125.35	114.00
1	X	1852	G	P-O3'-C3'	-8.72	109.24	119.70
1	X	1167	A	N9-C1'-C2'	8.70	125.31	114.00
1	X	1266	G	N9-C1'-C2'	8.69	125.30	114.00
1	X	558	G	C8-N9-C4	-8.68	102.93	106.40
1	X	204	A	O4'-C1'-N9	-8.68	101.26	108.20
1	X	2297	G	N9-C4-C5	8.66	108.86	105.40
1	X	513	A	O4'-C1'-N9	-8.65	101.28	108.20
1	X	1187	A	C3'-C2'-C1'	8.64	108.41	101.50
1	X	87	G	P-O3'-C3'	-8.61	109.37	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1862	C	P-O3'-C3'	-8.57	109.42	119.70
1	X	1123	G	C4'-C3'-C2'	-8.56	94.04	102.60
1	X	1121	G	C4'-C3'-C2'	8.55	111.15	102.60
1	X	98	U	O4'-C1'-N1	-8.47	101.42	108.20
1	X	198	A	P-O3'-C3'	8.46	129.86	119.70
1	X	729	A	P-O3'-C3'	-8.46	109.55	119.70
1	X	82	G	O4'-C4'-C3'	8.38	112.81	106.10
1	X	2034	A	N9-C1'-C2'	8.37	124.88	114.00
1	X	204	A	C3'-C2'-C1'	8.35	108.18	101.50
1	X	557	U	C5-C6-N1	8.34	126.87	122.70
1	X	199	A	C4'-C3'-O3'	-8.30	91.98	109.40
1	X	1187	A	C4'-C3'-C2'	-8.26	94.34	102.60
1	X	2418	A	P-O3'-C3'	8.24	129.59	119.70
1	X	2594	U	O5'-P-OP2	-8.23	98.29	105.70
1	X	513	A	C3'-C2'-C1'	8.20	108.06	101.50
8	F	118	GLY	N-CA-C	-8.18	92.65	113.10
1	X	2591	C	P-O3'-C3'	8.18	129.51	119.70
1	X	1120	C	N1-C1'-C2'	8.14	124.58	114.00
1	X	1631	C	N1-C1'-C2'	8.12	124.56	114.00
1	X	728	G	N9-C1'-C2'	8.11	124.55	114.00
1	X	1975	G	C2'-C3'-O3'	8.09	127.30	109.50
1	X	554	U	N1-C2-N3	-8.08	110.05	114.90
1	X	968	C	N1-C1'-C2'	8.01	124.41	114.00
1	X	1734	C	P-O3'-C3'	-8.00	110.10	119.70
1	X	1862	C	O4'-C4'-C3'	-7.96	96.04	104.00
1	X	2592	U	C5-C6-N1	-7.93	118.73	122.70
1	X	2298	U	C3'-C2'-C1'	7.90	107.82	101.50
1	X	664	C	O4'-C4'-C3'	-7.87	96.13	104.00
1	X	667	U	C5'-C4'-O4'	7.87	118.55	109.10
1	X	1849	G	C4'-C3'-C2'	-7.85	94.75	102.60
1	X	1139	A	N9-C1'-C2'	7.85	124.20	114.00
1	X	1264	C	N1-C1'-C2'	7.85	124.20	114.00
1	X	667	U	C2'-C3'-O3'	7.84	126.75	109.50
1	X	490	A	N9-C1'-C2'	7.83	124.19	114.00
1	X	732	G	O4'-C1'-N9	-7.79	101.97	108.20
1	X	1055	A	C3'-C2'-C1'	-7.77	95.28	101.50
1	X	555	U	C3'-C2'-C1'	-7.76	95.29	101.50
1	X	137	A	O4'-C1'-N9	-7.76	101.99	108.20
1	X	2322	U	C5'-C4'-O4'	-7.75	99.80	109.10
1	X	984	A	N9-C1'-C2'	7.73	124.05	114.00
1	X	555	U	O4'-C4'-C3'	-7.72	96.28	104.00
1	X	2313	G	N9-C1'-C2'	7.72	124.04	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1867	A	O4'-C1'-N9	-7.71	102.03	108.20
1	X	596	C	N1-C1'-C2'	7.70	124.01	114.00
1	X	1869	A	OP1-P-OP2	-7.67	108.09	119.60
1	X	1342	U	N1-C1'-C2'	7.67	123.97	114.00
1	X	1187	A	P-O3'-C3'	7.64	128.87	119.70
1	X	2323	U	C5'-C4'-O4'	-7.62	99.96	109.10
1	X	1862	C	C4'-C3'-C2'	7.61	110.21	102.60
1	X	1337	G	N9-C1'-C2'	7.58	123.86	114.00
1	X	2297	G	C1'-O4'-C4'	7.58	115.96	109.90
1	X	1664	G	N9-C1'-C2'	7.56	123.83	114.00
1	X	1582	A	N9-C1'-C2'	7.54	123.80	114.00
1	X	554	U	N1-C2-O2	7.53	128.07	122.80
1	X	100	G	C4'-C3'-C2'	-7.53	95.07	102.60
1	X	198	A	O4'-C1'-N9	7.48	114.19	108.20
1	X	2189	A	C2'-C3'-O3'	7.48	125.96	109.50
1	X	171	G	P-O3'-C3'	7.44	128.63	119.70
1	X	1373	G	C4'-C3'-C2'	-7.43	95.17	102.60
1	X	2824	C	N1-C1'-C2'	7.43	123.66	114.00
1	X	2187	A	P-O3'-C3'	7.41	128.59	119.70
1	X	1922	U	O4'-C1'-N1	-7.40	102.28	108.20
15	M	28	ARG	C-N-CA	7.39	153.03	122.00
1	X	2195	C	C6-N1-C2	7.39	123.25	120.30
1	X	400	U	N1-C1'-C2'	7.39	123.60	114.00
1	X	203	G	O4'-C1'-N9	-7.37	102.30	108.20
1	X	1855	G	OP1-P-OP2	-7.36	108.55	119.60
1	X	818	G	N9-C1'-C2'	7.36	123.56	114.00
1	X	667	U	N1-C1'-C2'	-7.34	103.92	112.00
1	X	2795	A	N9-C1'-C2'	7.33	123.53	114.00
1	X	2196	U	P-O3'-C3'	7.32	128.48	119.70
1	X	2198	U	P-O5'-C5'	-7.32	109.19	120.90
1	X	1855	G	P-O3'-C3'	-7.31	110.92	119.70
1	X	459	A	N9-C1'-C2'	7.31	123.50	114.00
1	X	1847	G	P-O3'-C3'	7.30	128.46	119.70
1	X	1185	C	C6-N1-C2	7.29	123.22	120.30
1	X	1854	G	OP1-P-OP2	-7.29	108.67	119.60
1	X	98	U	OP1-P-OP2	-7.27	108.69	119.60
1	X	2297	G	O4'-C1'-C2'	-7.27	98.53	105.80
1	X	724	C	P-O3'-C3'	7.27	128.42	119.70
1	X	626	A	OP1-P-OP2	-7.26	108.71	119.60
1	X	101	A	OP1-P-OP2	-7.24	108.73	119.60
1	X	2323	U	OP1-P-OP2	-7.23	108.75	119.60
1	X	1120	C	C6-N1-C2	7.23	123.19	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	728	G	C8-N9-C4	-7.21	103.52	106.40
1	X	199	A	N9-C1'-C2'	7.20	123.36	114.00
1	X	1858	C	C6-N1-C2	7.20	123.18	120.30
1	X	415	A	N9-C1'-C2'	7.20	123.36	114.00
1	X	2593	A	P-O3'-C3'	7.20	128.33	119.70
1	X	1374	G	OP1-P-OP2	-7.18	108.83	119.60
1	X	133	C	P-O5'-C5'	-7.18	109.42	120.90
1	X	1865	C	P-O3'-C3'	-7.16	111.10	119.70
1	X	1119	U	OP1-P-OP2	-7.16	108.86	119.60
1	X	1031	C	OP1-P-OP2	-7.16	108.86	119.60
1	X	1061	A	OP1-P-OP2	-7.15	108.87	119.60
1	X	664	C	C1'-O4'-C4'	7.15	115.62	109.90
1	X	1771	A	N9-C1'-C2'	7.15	123.30	114.00
1	X	1734	C	OP1-P-OP2	-7.14	108.89	119.60
1	X	1153	A	C2'-C3'-O3'	7.13	125.19	109.50
1	X	623	G	OP1-P-OP2	-7.13	108.91	119.60
1	X	1117	G	OP1-P-OP2	-7.12	108.93	119.60
1	X	555	U	OP1-P-OP2	-7.11	108.94	119.60
1	X	1126	A	OP1-P-OP2	-7.09	108.97	119.60
1	X	983	G	C2'-C3'-O3'	7.08	125.08	109.50
1	X	2188	A	P-O3'-C3'	-7.08	111.20	119.70
1	X	1850	G	C8-N9-C4	-7.07	103.57	106.40
1	X	1121	G	O4'-C1'-N9	-7.07	102.55	108.20
1	X	1357	U	N1-C1'-C2'	7.07	123.19	114.00
1	X	205	A	OP1-P-OP2	-7.05	109.03	119.60
8	F	83	GLY	C-N-CA	-7.05	104.08	121.70
1	X	2197	U	OP1-P-OP2	-7.04	109.04	119.60
1	X	99	U	C2'-C3'-O3'	7.04	124.98	109.50
1	X	628	A	OP1-P-OP2	-7.04	109.05	119.60
1	X	418	C	C6-N1-C2	7.03	123.11	120.30
1	X	723	C	O4'-C1'-N1	-7.03	102.58	108.20
1	X	89	A	OP1-P-OP2	-7.02	109.07	119.60
1	X	1581	C	N1-C1'-C2'	7.02	123.13	114.00
1	X	2402	U	C6-N1-C2	7.02	125.21	121.00
1	X	667	U	OP1-P-OP2	-7.01	109.08	119.60
1	X	801	A	N9-C1'-C2'	7.01	123.11	114.00
1	X	1142	G	O4'-C1'-N9	7.00	113.80	108.20
1	X	2299	A	O4'-C1'-N9	7.00	113.80	108.20
1	X	419	G	OP1-P-OP2	-7.00	109.11	119.60
1	X	1732	U	OP1-P-OP2	-6.99	109.11	119.60
1	X	1864	G	P-O3'-C3'	-6.99	111.31	119.70
1	X	516	G	N9-C1'-C2'	6.99	123.08	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2298	U	C2'-C3'-O3'	6.97	124.86	113.70
1	X	556	A	C3'-C2'-C1'	6.97	107.08	101.50
1	X	2299	A	OP1-P-OP2	-6.97	109.14	119.60
1	X	515	A	OP1-P-OP2	-6.96	109.16	119.60
1	X	805	G	N9-C1'-C2'	6.96	123.05	114.00
1	X	1856	U	C4'-C3'-C2'	6.96	109.56	102.60
1	X	2325	A	OP1-P-OP2	-6.95	109.17	119.60
1	X	1864	G	OP1-P-OP2	-6.95	109.18	119.60
1	X	134	G	OP1-P-OP2	-6.93	109.20	119.60
1	X	2419	C	OP1-P-OP2	-6.93	109.20	119.60
1	X	1279	G	P-O3'-C3'	6.93	128.01	119.70
1	X	417	C	O4'-C4'-C3'	6.92	111.64	106.10
1	X	1921	A	OP1-P-OP2	-6.92	109.22	119.60
1	X	203	G	OP1-P-OP2	-6.92	109.22	119.60
1	X	1278	A	C1'-O4'-C4'	-6.92	104.36	109.90
1	X	2560	G	N9-C1'-C2'	6.91	122.99	114.00
1	X	417	C	O4'-C1'-C2'	-6.91	98.89	105.80
1	X	1281	A	OP1-P-OP2	-6.90	109.25	119.60
1	X	1118	G	O4'-C1'-N9	-6.90	102.68	108.20
1	X	135	U	OP1-P-OP2	-6.89	109.26	119.60
1	X	2189	A	C4'-C3'-C2'	-6.89	95.71	102.60
1	X	2408	G	O4'-C1'-N9	-6.89	102.69	108.20
1	X	99	U	OP1-P-OP2	-6.88	109.28	119.60
1	X	1060	C	OP1-P-OP2	-6.87	109.29	119.60
1	X	1066	G	OP1-P-OP2	-6.86	109.31	119.60
1	X	1189	G	OP1-P-OP2	-6.86	109.32	119.60
1	X	729	A	N9-C4-C5	-6.84	103.06	105.80
1	X	1122	A	OP1-P-OP2	-6.84	109.34	119.60
1	X	780	U	N1-C1'-C2'	-6.84	104.48	112.00
1	X	1583	A	N9-C1'-C2'	6.84	122.89	114.00
1	X	101	A	O5'-C5'-C4'	6.83	124.68	111.70
1	X	734	G	OP1-P-OP2	-6.83	109.36	119.60
1	X	1807	A	N9-C1'-C2'	6.83	122.88	114.00
1	X	82	G	OP1-P-OP2	-6.82	109.36	119.60
1	X	1184	G	P-O3'-C3'	6.82	127.88	119.70
1	X	118	U	N1-C1'-C2'	6.81	122.85	114.00
1	X	1867	A	P-O3'-C3'	6.81	127.87	119.70
1	X	91	A	OP1-P-OP2	-6.80	109.40	119.60
1	X	1864	G	O4'-C1'-N9	-6.80	102.76	108.20
1	X	2323	U	C4'-C3'-O3'	6.77	126.55	113.00
1	X	1314	A	N9-C1'-C2'	6.77	122.80	114.00
1	X	2482	A	O4'-C1'-N9	6.76	113.61	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	625	A	OP1-P-OP2	-6.76	109.46	119.60
1	X	1856	U	OP1-P-OP2	-6.75	109.47	119.60
1	X	172	A	OP1-P-OP2	-6.75	109.48	119.60
1	X	1030	U	OP1-P-OP2	-6.75	109.48	119.60
1	X	558	G	O4'-C1'-N9	6.75	113.60	108.20
1	X	2326	C	OP1-P-OP2	-6.75	109.48	119.60
1	X	557	U	N3-C4-O4	6.73	124.11	119.40
1	X	1020	A	OP1-P-OP2	-6.72	109.52	119.60
1	X	1118	G	C4'-C3'-C2'	6.72	109.32	102.60
1	X	1052	C	N1-C2-O2	6.72	122.93	118.90
1	X	2496	C	N1-C1'-C2'	6.72	122.73	114.00
1	X	1186	G	C8-N9-C4	-6.71	103.71	106.40
1	X	1187	A	C2'-C3'-O3'	6.71	124.44	113.70
1	X	1860	A	OP1-P-OP2	-6.71	109.53	119.60
1	X	890	U	O4'-C1'-N1	-6.71	102.83	108.20
1	X	728	G	OP1-P-OP2	-6.71	109.53	119.60
1	X	804	C	N1-C1'-C2'	6.71	122.72	114.00
1	X	418	C	N1-C1'-C2'	6.70	122.71	114.00
1	X	1863	U	OP1-P-OP2	-6.70	109.54	119.60
1	X	2196	U	OP1-P-OP2	-6.70	109.55	119.60
1	X	2408	G	OP1-P-OP2	-6.70	109.56	119.60
1	X	173	A	OP1-P-OP2	-6.69	109.57	119.60
1	X	2195	C	O4'-C1'-C2'	6.68	113.61	107.60
1	X	514	G	OP1-P-OP2	-6.68	109.58	119.60
1	X	554	U	OP1-P-OP2	-6.68	109.58	119.60
1	X	1848	U	OP1-P-OP2	-6.67	109.59	119.60
1	X	1866	G	OP1-P-OP2	-6.67	109.59	119.60
1	X	2403	C	OP1-P-OP2	-6.67	109.59	119.60
1	X	664	C	OP1-P-OP2	-6.67	109.59	119.60
1	X	891	A	P-O5'-C5'	-6.67	110.22	120.90
1	X	2075	U	N1-C1'-C2'	6.67	122.67	114.00
1	X	731	A	OP1-P-OP2	-6.67	109.60	119.60
1	X	665	A	OP1-P-OP2	-6.66	109.60	119.60
1	X	2617	G	N9-C1'-C2'	6.66	122.66	114.00
1	X	1716	G	N9-C1'-C2'	6.66	122.66	114.00
1	X	1050	G	OP1-P-OP2	-6.66	109.61	119.60
1	X	2322	U	OP1-P-OP2	-6.65	109.62	119.60
1	X	2297	G	OP1-P-OP2	-6.65	109.62	119.60
1	X	2187	A	OP1-P-OP2	-6.65	109.63	119.60
1	X	552	C	OP1-P-OP2	-6.64	109.64	119.60
1	X	1852	G	O4'-C4'-C3'	-6.64	97.36	104.00
1	X	557	U	OP1-P-OP2	-6.64	109.64	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1723	U	C2'-C3'-O3'	6.64	124.32	113.70
1	X	2608	A	N9-C1'-C2'	6.63	122.62	114.00
1	X	1123	G	C5'-C4'-C3'	6.63	126.61	116.00
1	X	133	C	C6-N1-C2	6.63	122.95	120.30
1	X	1062	G	OP1-P-OP2	-6.63	109.66	119.60
1	X	201	G	OP1-P-OP2	-6.62	109.66	119.60
1	X	627	A	OP1-P-OP2	-6.62	109.67	119.60
1	X	2482	A	N9-C1'-C2'	6.62	122.61	114.00
1	X	138	G	OP1-P-OP2	-6.62	109.67	119.60
1	X	1190	C	OP1-P-OP2	-6.61	109.69	119.60
1	X	622	U	OP1-P-OP2	-6.60	109.70	119.60
1	X	2229	G	N9-C1'-C2'	6.60	122.58	114.00
1	X	515	A	C4'-C3'-C2'	6.60	109.20	102.60
1	X	174	A	OP1-P-OP2	-6.59	109.71	119.60
1	X	1186	G	C3'-C2'-C1'	-6.59	96.23	101.50
1	X	2591	C	OP1-P-OP2	-6.59	109.72	119.60
1	X	178	C	OP1-P-OP2	-6.59	109.72	119.60
1	X	2418	A	C3'-C2'-C1'	6.58	106.77	101.50
1	X	1049	C	C6-N1-C2	6.58	122.93	120.30
1	X	1186	G	O4'-C4'-C3'	-6.58	97.42	104.00
1	X	1045	G	OP1-P-OP2	-6.58	109.73	119.60
1	X	1737	G	OP1-P-OP2	-6.58	109.74	119.60
1	X	2191	A	OP1-P-OP2	-6.56	109.75	119.60
1	X	2196	U	C3'-C2'-C1'	6.56	106.75	101.50
1	X	2593	A	OP1-P-OP2	-6.56	109.75	119.60
1	X	1056	U	OP1-P-OP2	-6.56	109.76	119.60
1	X	2188	A	OP1-P-OP2	-6.56	109.76	119.60
1	X	666	U	C4'-C3'-C2'	-6.55	96.05	102.60
1	X	199	A	OP1-P-OP2	-6.55	109.78	119.60
1	X	541	C	OP2-P-O3'	6.54	119.60	105.20
1	X	1059	A	OP1-P-OP2	-6.54	109.79	119.60
1	X	2322	U	O4'-C1'-N1	-6.54	102.97	108.20
1	X	416	U	OP1-P-OP2	-6.53	109.81	119.60
1	X	1047	G	OP1-P-OP2	-6.53	109.81	119.60
1	X	171	G	N9-C1'-C2'	6.53	122.48	114.00
1	X	1118	G	O4'-C4'-C3'	-6.52	97.48	104.00
1	X	2322	U	C5'-C4'-C3'	6.52	126.43	116.00
1	X	204	A	OP1-P-OP2	-6.51	109.83	119.60
1	X	1280	U	OP1-P-OP2	-6.51	109.83	119.60
1	X	729	A	OP1-P-OP2	-6.51	109.83	119.60
1	X	199	A	C8-N9-C4	6.51	108.40	105.80
1	X	724	C	OP1-P-OP2	-6.51	109.84	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	B	147	PRO	N-CA-C	-6.51	95.19	112.10
1	X	624	A	OP1-P-OP2	-6.50	109.84	119.60
1	X	1868	A	OP1-P-OP2	-6.50	109.84	119.60
1	X	1124	U	OP1-P-OP2	-6.49	109.86	119.60
1	X	514	G	C5'-C4'-C3'	-6.49	105.62	116.00
1	X	2401	A	OP1-P-OP2	-6.49	109.87	119.60
1	X	2592	U	C6-N1-C1'	6.48	130.28	121.20
1	X	1064	C	OP1-P-OP2	-6.48	109.88	119.60
1	X	1185	C	OP1-P-OP2	-6.48	109.88	119.60
1	X	1561	A	C2'-C3'-O3'	6.48	124.07	113.70
1	X	1866	G	P-O3'-C3'	6.48	127.48	119.70
1	X	1947	G	N9-C1'-C2'	6.48	122.42	114.00
1	X	727	U	OP1-P-OP2	-6.47	109.89	119.60
1	X	1730	G	OP1-P-OP2	-6.47	109.90	119.60
1	X	1853	C	OP1-P-OP2	-6.47	109.90	119.60
1	X	1872	A	OP1-P-OP2	-6.47	109.90	119.60
1	X	664	C	P-O3'-C3'	6.46	127.46	119.70
1	X	1123	G	OP1-P-OP2	-6.46	109.91	119.60
1	X	2324	G	OP1-P-OP2	-6.46	109.91	119.60
1	X	2323	U	O5'-C5'-C4'	-6.45	99.44	111.70
1	X	1055	A	C4'-C3'-O3'	6.45	125.90	113.00
1	X	84	G	OP1-P-OP2	-6.45	109.93	119.60
1	X	218	A	N9-C1'-C2'	6.44	122.37	114.00
1	X	1250	A	N9-C1'-C2'	6.43	122.36	114.00
1	X	179	U	OP1-P-OP2	-6.43	109.95	119.60
1	X	516	G	OP1-P-OP2	-6.43	109.96	119.60
1	X	557	U	P-O3'-C3'	6.42	127.41	119.70
1	X	1278	A	N9-C4-C5	-6.42	103.23	105.80
1	X	1873	A	OP1-P-OP2	-6.42	109.97	119.60
9	G	119	LEU	CA-CB-CG	-6.41	100.55	115.30
1	X	514	G	O4'-C1'-N9	-6.41	103.08	108.20
1	X	732	G	OP1-P-OP2	-6.41	109.99	119.60
1	X	1185	C	N1-C1'-C2'	-6.41	104.95	112.00
1	X	1849	G	C8-N9-C4	-6.40	103.84	106.40
1	X	1279	G	OP1-P-OP2	-6.40	110.00	119.60
1	X	1467	U	O4'-C1'-N1	-6.40	103.08	108.20
1	X	1120	C	OP1-P-OP2	-6.40	110.00	119.60
1	X	1019	U	O4'-C1'-N1	-6.39	103.09	108.20
1	X	1123	G	C5'-C4'-O4'	-6.39	101.44	109.10
1	X	1051	U	OP1-P-OP2	-6.38	110.03	119.60
1	X	133	C	OP1-P-OP2	-6.38	110.03	119.60
1	X	1063	C	OP1-P-OP2	-6.38	110.03	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1874	G	OP1-P-OP2	-6.38	110.04	119.60
1	X	824	U	N1-C1'-C2'	6.37	122.28	114.00
1	X	1851	A	OP1-P-OP2	-6.37	110.04	119.60
1	X	1068	A	OP1-P-OP2	-6.37	110.05	119.60
1	X	1052	C	P-O5'-C5'	-6.36	110.72	120.90
1	X	1057	A	O4'-C1'-N9	6.36	113.29	108.20
1	X	1070	G	OP1-P-OP2	-6.36	110.06	119.60
1	X	1865	C	OP1-P-OP2	-6.36	110.07	119.60
1	X	73	A	N9-C1'-C2'	6.35	122.26	114.00
1	X	176	A	OP1-P-OP2	-6.35	110.07	119.60
1	X	621	U	OP1-P-OP2	-6.35	110.08	119.60
1	X	1052	C	OP1-P-OP2	-6.35	110.08	119.60
1	X	1772	C	N1-C1'-C2'	6.34	122.24	114.00
12	J	85	GLY	N-CA-C	-6.33	97.27	113.10
1	X	175	C	OP1-P-OP2	-6.33	110.11	119.60
1	X	1852	G	OP1-P-OP2	-6.33	110.11	119.60
1	X	1373	G	OP1-P-OP2	-6.32	110.12	119.60
1	X	1188	A	OP1-P-OP2	-6.32	110.13	119.60
1	X	1873	A	N9-C1'-C2'	-6.31	105.06	112.00
1	X	1664	G	O5'-P-OP1	-6.31	100.02	105.70
1	X	2190	A	OP1-P-OP2	-6.31	110.14	119.60
1	X	1859	A	OP1-P-OP2	-6.31	110.14	119.60
1	X	516	G	P-O3'-C3'	6.31	127.27	119.70
1	X	97	U	P-O5'-C5'	-6.30	110.81	120.90
1	X	1043	A	OP1-P-OP2	-6.30	110.15	119.60
1	X	725	C	OP1-P-OP2	-6.30	110.15	119.60
1	X	1862	C	OP1-P-OP2	-6.30	110.15	119.60
1	X	1475	U	N1-C1'-C2'	6.30	122.19	114.00
1	X	1850	G	OP1-P-OP2	-6.30	110.16	119.60
1	X	804	C	C4'-C3'-O3'	-6.29	96.18	109.40
1	X	1046	U	OP1-P-OP2	-6.29	110.16	119.60
1	X	1124	U	C3'-C2'-C1'	-6.29	96.47	101.50
1	X	198	A	OP1-P-OP2	-6.29	110.17	119.60
1	X	1187	A	N7-C8-N9	6.28	116.94	113.80
1	X	1923	U	OP1-P-OP2	-6.28	110.17	119.60
1	X	1861	G	OP1-P-OP2	-6.28	110.18	119.60
1	X	2402	U	C3'-C2'-C1'	-6.28	96.47	101.50
1	X	1979	C	N1-C1'-C2'	6.28	122.16	114.00
1	X	1372	A	OP1-P-OP2	-6.27	110.19	119.60
1	X	628	A	O4'-C1'-N9	-6.27	103.18	108.20
1	X	1057	A	N9-C1'-C2'	-6.27	105.10	112.00
1	X	1121	G	OP1-P-OP2	-6.27	110.19	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2326	C	O4'-C1'-N1	6.27	113.22	108.20
1	X	2404	A	OP1-P-OP2	-6.27	110.19	119.60
1	X	1049	C	OP1-P-OP2	-6.26	110.20	119.60
1	X	513	A	C8-N9-C4	-6.26	103.30	105.80
1	X	88	G	OP1-P-OP2	-6.26	110.21	119.60
1	X	1849	G	OP1-P-OP2	-6.26	110.21	119.60
15	M	29	PRO	CA-N-CD	-6.25	102.75	111.50
1	X	417	C	P-O5'-C5'	-6.25	110.90	120.90
1	X	2323	U	N1-C1'-C2'	-6.25	105.12	112.00
1	X	1865	C	O4'-C4'-C3'	-6.25	97.75	104.00
1	X	2195	C	OP1-P-OP2	-6.25	110.23	119.60
1	X	2192	U	OP1-P-OP2	-6.24	110.23	119.60
1	X	1867	A	OP1-P-OP2	-6.24	110.24	119.60
1	X	1032	A	OP1-P-OP2	-6.24	110.25	119.60
1	X	1963	G	N9-C1'-C2'	6.23	122.10	114.00
1	X	1775	A	C2'-C3'-O3'	6.23	123.67	113.70
1	X	1036	G	OP1-P-OP2	-6.23	110.26	119.60
1	X	1187	A	O4'-C1'-C2'	-6.23	99.57	105.80
1	X	1975	G	N9-C1'-C2'	6.21	122.08	114.00
1	X	171	G	OP1-P-OP2	-6.21	110.29	119.60
1	X	1118	G	OP1-P-OP2	-6.20	110.30	119.60
1	X	1125	G	OP1-P-OP2	-6.20	110.30	119.60
1	X	1056	U	N1-C2-N3	6.20	118.62	114.90
1	X	2409	A	OP1-P-OP2	-6.19	110.31	119.60
1	X	1184	G	OP1-P-OP2	-6.19	110.31	119.60
1	X	100	G	OP1-P-OP2	-6.19	110.31	119.60
1	X	1120	C	P-O3'-C3'	6.19	127.13	119.70
1	X	558	G	OP1-P-OP2	-6.19	110.32	119.60
1	X	1849	G	O4'-C4'-C3'	6.19	111.05	106.10
1	X	137	A	OP1-P-OP2	-6.18	110.33	119.60
1	X	1054	C	OP1-P-OP2	-6.18	110.32	119.60
1	X	1044	U	OP1-P-OP2	-6.18	110.33	119.60
1	X	890	U	OP1-P-OP2	-6.18	110.33	119.60
1	X	1070	G	P-O3'-C3'	6.18	127.11	119.70
1	X	2592	U	C6-N1-C2	6.17	124.70	121.00
1	X	97	U	OP1-P-OP2	-6.17	110.34	119.60
1	X	1375	C	OP1-P-OP2	-6.17	110.34	119.60
1	X	2406	C	OP1-P-OP2	-6.17	110.34	119.60
4	B	137	ARG	N-CA-C	-6.17	94.34	111.00
1	X	2592	U	OP1-P-OP2	-6.17	110.34	119.60
1	X	560	G	OP1-P-OP2	-6.17	110.35	119.60
1	X	955	G	N9-C1'-C2'	6.17	122.02	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1067	G	OP1-P-OP2	-6.17	110.35	119.60
1	X	2476	A	N9-C1'-C2'	6.16	122.01	114.00
1	X	559	C	OP1-P-OP2	-6.16	110.36	119.60
1	X	2201	G	OP1-P-OP2	-6.16	110.36	119.60
1	X	1037	U	OP1-P-OP2	-6.16	110.37	119.60
1	X	2190	A	C4'-C3'-O3'	6.16	125.31	113.00
1	X	1618	U	N1-C1'-C2'	6.15	122.00	114.00
1	X	83	A	OP1-P-OP2	-6.15	110.38	119.60
1	X	551	A	OP1-P-OP2	-6.14	110.38	119.60
1	X	417	C	OP1-P-OP2	-6.14	110.39	119.60
1	X	1858	C	OP1-P-OP2	-6.14	110.39	119.60
1	X	1123	G	C4'-C3'-O3'	6.14	125.27	113.00
1	X	1872	A	O4'-C4'-C3'	-6.14	97.86	104.00
1	X	2591	C	C3'-C2'-C1'	6.13	106.41	101.50
1	X	90	G	OP1-P-OP2	-6.13	110.40	119.60
1	X	2298	U	OP1-P-OP2	-6.13	110.40	119.60
1	X	580	A	C4'-C3'-O3'	-6.12	96.54	109.40
1	X	468	A	N9-C1'-C2'	6.12	121.96	114.00
1	X	1190	C	P-O3'-C3'	6.12	127.05	119.70
1	X	1057	A	OP1-P-OP2	-6.12	110.42	119.60
1	X	2324	G	P-O3'-C3'	6.12	127.04	119.70
1	X	418	C	OP1-P-OP2	-6.11	110.43	119.60
1	X	1065	A	OP1-P-OP2	-6.11	110.44	119.60
1	X	2592	U	O4'-C4'-C3'	-6.10	97.90	104.00
1	X	1919	A	N9-C1'-C2'	6.09	121.92	114.00
1	X	985	G	N9-C1'-C2'	6.09	121.92	114.00
1	X	1733	U	OP1-P-OP2	-6.09	110.46	119.60
1	X	2015	G	N9-C1'-C2'	6.09	121.91	114.00
1	X	1922	U	OP1-P-OP2	-6.09	110.47	119.60
1	X	69	G	N9-C1'-C2'	6.08	121.91	114.00
1	X	2769	C	O4'-C1'-N1	6.08	113.06	108.20
1	X	723	C	N1-C1'-C2'	6.07	121.90	114.00
1	X	1056	U	C5'-C4'-C3'	6.07	125.72	116.00
1	X	415	A	OP1-P-OP2	-6.07	110.49	119.60
1	X	1735	G	OP1-P-OP2	-6.07	110.50	119.60
1	X	1119	U	C3'-C2'-C1'	-6.06	96.65	101.50
1	X	747	A	C5'-C4'-C3'	6.06	125.70	116.00
1	X	2189	A	OP1-P-OP2	-6.06	110.51	119.60
1	X	219	G	N9-C1'-C2'	6.06	121.88	114.00
1	X	733	G	OP1-P-OP2	-6.06	110.51	119.60
1	X	663	G	OP1-P-OP2	-6.05	110.52	119.60
1	X	1124	U	P-O3'-C3'	-6.05	112.44	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	728	G	P-O3'-C3'	6.05	126.96	119.70
1	X	557	U	O4'-C1'-N1	-6.05	103.36	108.20
1	X	891	A	OP1-P-OP2	-6.04	110.53	119.60
1	X	1624	A	N9-C1'-C2'	6.04	121.85	114.00
1	X	173	A	O4'-C1'-N9	6.04	113.03	108.20
1	X	1058	G	OP1-P-OP2	-6.03	110.55	119.60
1	X	199	A	P-O3'-C3'	6.03	126.94	119.70
1	X	2194	A	OP1-P-OP2	-6.03	110.56	119.60
1	X	666	U	OP1-P-OP2	-6.03	110.56	119.60
1	X	2418	A	C8-N9-C4	6.03	108.21	105.80
1	X	1863	U	P-O3'-C3'	-6.02	112.47	119.70
1	X	2401	A	P-O3'-C3'	6.02	126.92	119.70
1	X	626	A	N9-C1'-C2'	6.01	121.82	114.00
1	X	1278	A	C4-N9-C1'	6.01	137.12	126.30
1	X	2188	A	C4'-C3'-C2'	6.00	108.61	102.60
1	X	556	A	OP1-P-OP2	-6.00	110.61	119.60
1	X	1288	A	C5'-C4'-C3'	6.00	125.59	116.00
1	X	537	C	N1-C1'-C2'	5.99	121.79	114.00
1	X	202	A	OP1-P-OP2	-5.99	110.61	119.60
1	X	1048	U	OP1-P-OP2	-5.97	110.64	119.60
1	X	1860	A	C4'-C3'-C2'	5.97	108.57	102.60
1	X	2402	U	O4'-C4'-C3'	-5.97	98.03	104.00
1	X	312	G	N9-C1'-C2'	5.96	121.75	114.00
1	X	1398	G	N9-C1'-C2'	5.96	121.75	114.00
1	X	1731	C	OP1-P-OP2	-5.96	110.67	119.60
1	X	1187	A	O4'-C4'-C3'	5.96	110.86	106.10
1	X	2417	U	OP1-P-OP2	-5.96	110.67	119.60
1	X	2823	G	N9-C1'-C2'	5.96	121.74	114.00
1	X	177	U	OP1-P-OP2	-5.95	110.67	119.60
1	X	561	U	OP1-P-OP2	-5.95	110.67	119.60
1	X	2189	A	O3'-P-O5'	5.95	115.31	104.00
1	X	2193	C	OP1-P-OP2	-5.95	110.68	119.60
1	X	100	G	N9-C1'-C2'	5.94	121.73	114.00
1	X	1866	G	C8-N9-C4	-5.93	104.03	106.40
1	X	2186	G	OP1-P-OP2	-5.93	110.70	119.60
1	X	200	A	OP1-P-OP2	-5.93	110.71	119.60
1	X	666	U	N1-C1'-C2'	5.92	121.69	114.00
1	X	2198	U	N1-C1'-C2'	5.92	121.69	114.00
1	X	97	U	P-O3'-C3'	5.91	126.80	119.70
1	X	135	U	C3'-C2'-C1'	-5.91	96.77	101.50
1	X	1121	G	O4'-C4'-C3'	-5.91	98.09	104.00
1	X	2705	A	N9-C1'-C2'	5.91	121.68	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2405	A	OP1-P-OP2	-5.91	110.74	119.60
1	X	415	A	O4'-C1'-N9	-5.90	103.48	108.20
1	X	1736	C	OP1-P-OP2	-5.90	110.75	119.60
1	X	2190	A	C3'-C2'-C1'	-5.90	96.78	101.50
1	X	1866	G	O4'-C1'-N9	-5.89	103.49	108.20
1	X	1278	A	C2'-C3'-O3'	5.89	123.12	113.70
1	X	1186	G	N9-C4-C5	5.88	107.75	105.40
19	Q	61	LYS	N-CA-C	5.88	126.89	111.00
1	X	1018	C	OP1-P-OP2	-5.88	110.78	119.60
1	X	2668	U	O4'-C1'-N1	5.88	112.90	108.20
1	X	553	C	OP1-P-OP2	-5.88	110.78	119.60
1	X	1187	A	OP1-P-OP2	-5.88	110.79	119.60
1	X	2198	U	OP1-P-OP2	-5.87	110.79	119.60
1	X	1710	U	N1-C1'-C2'	5.87	121.63	114.00
1	X	730	C	OP1-P-OP2	-5.87	110.80	119.60
1	X	513	A	OP1-P-OP2	-5.87	110.80	119.60
1	X	1053	G	OP1-P-OP2	-5.87	110.80	119.60
1	X	203	G	C3'-C2'-C1'	-5.87	96.81	101.50
1	X	2297	G	N3-C4-C5	-5.86	125.67	128.60
1	X	723	C	C5-C6-N1	5.85	123.93	121.00
1	X	83	A	P-O3'-C3'	5.85	126.72	119.70
1	X	1186	G	OP1-P-OP2	-5.85	110.83	119.60
1	X	1278	A	N7-C8-N9	5.84	116.72	113.80
1	X	200	A	C4'-C3'-C2'	5.83	108.43	102.60
1	X	136	A	O4'-C4'-C3'	-5.83	98.17	104.00
1	X	173	A	O4'-C4'-C3'	-5.82	98.18	104.00
1	X	2418	A	OP1-P-OP2	-5.82	110.87	119.60
1	X	1069	G	OP1-P-OP2	-5.81	110.88	119.60
19	Q	60	GLY	N-CA-C	5.81	127.63	113.10
1	X	1038	U	OP1-P-OP2	-5.81	110.89	119.60
1	X	1055	A	OP1-P-OP2	-5.81	110.89	119.60
1	X	1121	G	C3'-C2'-C1'	-5.80	96.86	101.50
1	X	2551	A	N9-C1'-C2'	5.80	121.54	114.00
13	K	95	THR	N-CA-C	-5.80	95.34	111.00
1	X	1927	U	N1-C1'-C2'	5.79	121.53	114.00
1	X	2199	C	OP1-P-OP2	-5.79	110.92	119.60
1	X	1187	A	C4-C5-N7	-5.78	107.81	110.70
1	X	725	C	O4'-C4'-C3'	-5.78	98.22	104.00
1	X	723	C	OP1-P-OP2	-5.76	110.95	119.60
1	X	1851	A	P-O3'-C3'	5.76	126.61	119.70
1	X	83	A	C1'-O4'-C4'	5.75	114.50	109.90
1	X	731	A	OP2-P-O3'	5.75	117.85	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1865	C	O4'-C1'-N1	5.75	112.80	108.20
1	X	1019	U	OP1-P-OP2	-5.75	110.98	119.60
1	X	1734	C	C5-C6-N1	5.75	123.87	121.00
1	X	417	C	C4'-C3'-C2'	-5.74	96.86	102.60
1	X	1288	A	O4'-C4'-C3'	-5.72	98.28	104.00
1	X	2322	U	C3'-C2'-C1'	5.72	106.08	101.50
1	X	727	U	P-O3'-C3'	5.72	126.57	119.70
1	X	2854	G	C4'-C3'-O3'	-5.72	97.39	109.40
1	X	555	U	N1-C1'-C2'	-5.72	105.71	112.00
1	X	172	A	N3-C4-N9	-5.71	122.83	127.40
1	X	101	A	P-O5'-C5'	-5.71	111.76	120.90
1	X	1123	G	O4'-C4'-C3'	5.71	110.67	106.10
1	X	664	C	N1-C2-O2	5.70	122.32	118.90
1	X	557	U	O4'-C1'-C2'	-5.69	100.11	105.80
1	X	2322	U	C4'-C3'-O3'	5.69	124.38	113.00
1	X	806	A	N9-C1'-C2'	5.69	121.39	114.00
1	X	399	G	N9-C1'-C2'	5.69	121.39	114.00
10	H	28	GLY	N-CA-C	5.68	127.31	113.10
1	X	838	A	OP1-P-O3'	5.68	117.69	105.20
1	X	1852	G	C4'-C3'-C2'	5.68	108.28	102.60
1	X	728	G	N3-C4-C5	-5.67	125.77	128.60
1	X	1736	C	C6-N1-C2	5.67	122.57	120.30
1	X	2427	A	N9-C1'-C2'	5.66	121.36	114.00
1	X	2756	A	OP2-P-O3'	5.66	117.65	105.20
1	X	2410	U	OP1-P-OP2	-5.65	111.13	119.60
15	M	3	THR	N-CA-C	-5.65	95.75	111.00
1	X	172	A	O4'-C4'-C3'	-5.64	98.36	104.00
1	X	557	U	N3-C4-C5	-5.64	111.21	114.60
1	X	841	G	N9-C1'-C2'	5.64	121.34	114.00
1	X	1853	C	O4'-C4'-C3'	-5.64	98.36	104.00
1	X	1854	G	O3'-P-O5'	5.63	114.70	104.00
1	X	731	A	C2'-C3'-O3'	5.63	122.71	113.70
1	X	1849	G	O4'-C1'-N9	-5.62	103.70	108.20
1	X	1333	G	O4'-C1'-N9	5.62	112.69	108.20
1	X	100	G	O4'-C4'-C3'	5.61	110.59	106.10
1	X	2469	G	N9-C1'-C2'	5.60	121.28	114.00
1	X	123	A	N9-C1'-C2'	5.60	121.28	114.00
1	X	513	A	C1'-O4'-C4'	5.60	114.38	109.90
1	X	728	G	C2'-C3'-O3'	5.59	122.65	113.70
1	X	134	G	P-O5'-C5'	-5.58	111.96	120.90
1	X	417	C	C1'-O4'-C4'	5.58	114.37	109.90
1	X	789	G	N9-C1'-C2'	5.58	121.25	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	1854	G	C5'-C4'-C3'	5.57	124.92	116.00
1	X	2693	U	N1-C1'-C2'	5.57	121.24	114.00
1	X	2254	C	N1-C1'-C2'	5.57	121.24	114.00
1	X	2190	A	O5'-C5'-C4'	5.57	122.28	111.70
26	Z	54	GLY	N-CA-C	-5.57	99.18	113.10
1	X	2418	A	N9-C4-C5	-5.57	103.57	105.80
1	X	513	A	O4'-C1'-C2'	-5.56	100.24	105.80
1	X	555	U	P-O3'-C3'	5.56	126.38	119.70
1	X	664	C	C4'-C3'-O3'	5.56	124.13	113.00
1	X	2402	U	OP1-P-OP2	-5.56	111.26	119.60
1	X	1281	A	P-O5'-C5'	-5.55	112.02	120.90
1	X	2200	G	OP1-P-OP2	-5.54	111.29	119.60
1	X	729	A	C4'-C3'-C2'	5.54	108.14	102.60
1	X	1194	U	C2'-C3'-O3'	5.54	122.56	113.70
1	X	1868	A	P-O3'-C3'	5.54	126.34	119.70
1	X	1669	A	C5'-C4'-O4'	-5.53	102.46	109.10
9	G	94	LYS	N-CA-C	-5.53	96.08	111.00
1	X	2663	U	C5'-C4'-C3'	-5.52	107.16	116.00
1	X	2756	A	N9-C1'-C2'	5.51	121.17	114.00
1	X	688	A	C5'-C4'-C3'	5.50	124.79	116.00
1	X	513	A	P-O3'-C3'	5.49	126.29	119.70
1	X	1020	A	O4'-C1'-N9	-5.49	103.81	108.20
1	X	1698	C	C5'-C4'-O4'	-5.49	102.51	109.10
1	X	2403	C	C5-C6-N1	5.49	123.74	121.00
1	X	1280	U	C4'-C3'-C2'	5.47	108.08	102.60
1	X	729	A	O4'-C4'-C3'	-5.47	98.53	104.00
1	X	2190	A	P-O5'-C5'	5.47	129.65	120.90
1	X	613	A	N9-C1'-C2'	5.47	121.11	114.00
1	X	2469	G	C5'-C4'-O4'	-5.47	102.54	109.10
1	X	1410	U	N1-C1'-C2'	5.46	121.10	114.00
14	L	65	THR	N-CA-C	-5.46	96.27	111.00
1	X	1858	C	C4'-C3'-C2'	5.45	108.05	102.60
1	X	3	U	C2'-C3'-O3'	5.44	122.40	113.70
1	X	1278	A	C8-N9-C1'	-5.44	117.92	127.70
1	X	515	A	C3'-C2'-C1'	-5.43	97.16	101.50
1	X	1052	C	O4'-C1'-N1	-5.43	103.86	108.20
1	X	665	A	C5'-C4'-O4'	-5.42	102.60	109.10
1	X	1854	G	C4'-C3'-O3'	5.42	123.84	113.00
1	X	1861	G	P-O5'-C5'	-5.42	112.23	120.90
1	X	723	C	C4-C5-C6	-5.41	114.69	117.40
1	X	2229	G	C4'-C3'-O3'	-5.41	98.03	109.40
1	X	1378	A	C5'-C4'-C3'	5.41	124.65	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2695	C	OP2-P-O3'	5.41	117.10	105.20
1	X	1862	C	C1'-O4'-C4'	5.40	114.22	109.90
1	X	1333	G	N9-C1'-C2'	5.39	121.00	114.00
1	X	1857	G	OP1-P-OP2	-5.39	111.52	119.60
1	X	724	C	C6-N1-C2	5.38	122.45	120.30
1	X	2363	G	N9-C1'-C2'	5.38	120.99	114.00
1	X	2188	A	N9-C1'-C2'	-5.37	106.09	112.00
1	X	1152	C	N1-C1'-C2'	5.37	120.98	114.00
1	X	101	A	C5'-C4'-O4'	5.36	115.54	109.10
1	X	728	G	N9-C4-C5	5.36	107.55	105.40
1	X	878	C	N1-C1'-C2'	5.36	120.97	114.00
1	X	765	C	OP2-P-O3'	5.36	117.00	105.20
1	X	2480	C	N1-C1'-C2'	5.35	120.96	114.00
1	X	1278	A	OP1-P-OP2	-5.35	111.57	119.60
1	X	2521	A	N9-C1'-C2'	5.35	120.95	114.00
1	X	1060	C	C5-C6-N1	-5.34	118.33	121.00
1	X	2608	A	C2'-C3'-O3'	5.34	122.25	113.70
1	X	1118	G	C3'-C2'-C1'	-5.33	97.23	101.50
1	X	416	U	N1-C1'-C2'	5.33	120.92	114.00
1	X	557	U	N1-C2-N3	5.33	118.09	114.90
4	B	146	THR	C-N-CD	-5.32	108.90	120.60
1	X	1263	G	N9-C1'-C2'	5.32	120.91	114.00
1	X	135	U	O4'-C4'-C3'	-5.31	98.69	104.00
1	X	664	C	C4'-C3'-C2'	5.31	107.91	102.60
1	X	797	A	N9-C1'-C2'	5.31	120.90	114.00
1	X	1301	U	O4'-C1'-N1	5.30	112.44	108.20
1	X	1866	G	N7-C8-N9	5.30	115.75	113.10
1	X	1665	C	O5'-P-OP2	-5.29	100.94	105.70
1	X	171	G	O4'-C1'-N9	-5.28	103.97	108.20
1	X	2196	U	N1-C1'-C2'	-5.28	106.19	112.00
4	B	85	ALA	N-CA-C	5.28	125.26	111.00
1	X	2498	U	OP1-P-O3'	5.28	116.82	105.20
1	X	2297	G	C4'-C3'-C2'	-5.27	97.33	102.60
1	X	136	A	C4'-C3'-O3'	5.27	123.53	113.00
1	X	804	C	C2'-C3'-O3'	5.27	122.13	113.70
1	X	2405	A	P-O3'-C3'	5.27	126.02	119.70
1	X	2848	A	N9-C1'-C2'	5.27	120.85	114.00
1	X	2800	C	C5'-C4'-C3'	-5.26	107.58	116.00
1	X	538	A	C2'-C3'-O3'	5.26	122.12	113.70
1	X	557	U	C1'-O4'-C4'	5.26	114.11	109.90
1	X	1632	A	C4'-C3'-O3'	-5.25	98.37	109.40
1	X	2191	A	O4'-C1'-N9	-5.25	104.00	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2408	G	C4'-C3'-C2'	5.25	107.85	102.60
1	X	1121	G	C2'-C3'-O3'	-5.24	97.97	109.50
1	X	2193	C	C6-N1-C2	5.24	122.39	120.30
1	X	664	C	C5'-C4'-O4'	-5.22	102.84	109.10
1	X	172	A	N9-C4-C5	5.21	107.88	105.80
1	X	59	G	N9-C1'-C2'	5.21	120.77	114.00
1	X	1064	C	C6-N1-C2	5.21	122.38	120.30
1	X	751	G	C2'-C3'-O3'	5.20	122.03	113.70
1	X	1288	A	C8-N9-C1'	-5.20	118.34	127.70
1	X	969	U	OP2-P-O3'	5.20	116.64	105.20
1	X	1995	G	O5'-P-OP2	-5.20	101.02	105.70
1	X	1963	G	C2'-C3'-O3'	5.19	122.00	113.70
1	X	97	U	O4'-C1'-N1	-5.18	104.06	108.20
1	X	1120	C	C4-C5-C6	-5.18	114.81	117.40
1	X	1684	G	C4'-C3'-O3'	-5.18	98.53	109.40
4	B	51	TYR	N-CA-C	5.18	124.98	111.00
1	X	552	C	C6-N1-C2	5.17	122.37	120.30
1	X	1125	G	N9-C1'-C2'	-5.17	106.31	112.00
1	X	777	A	C2'-C3'-O3'	5.17	121.98	113.70
1	X	1224	A	N9-C1'-C2'	5.17	120.72	114.00
1	X	1121	G	C4'-C3'-O3'	-5.16	98.57	109.40
1	X	82	G	C1'-O4'-C4'	5.16	114.02	109.90
1	X	558	G	C4'-C3'-O3'	5.16	123.31	113.00
1	X	34	U	N1-C1'-C2'	5.15	120.70	114.00
1	X	1187	A	P-O5'-C5'	-5.15	112.66	120.90
1	X	2299	A	P-O3'-C3'	5.15	125.88	119.70
1	X	81	C	P-O3'-C3'	5.15	125.88	119.70
1	X	1278	A	O4'-C1'-N9	5.15	112.32	108.20
1	X	1855	G	O3'-P-O5'	5.14	113.77	104.00
1	X	558	G	N9-C4-C5	5.14	107.46	105.40
1	X	1000	G	N9-C1'-C2'	5.13	120.68	114.00
1	X	1288	A	C4-N9-C1'	5.13	135.53	126.30
1	X	2188	A	O4'-C4'-C3'	-5.13	98.87	104.00
1	X	2758	A	O4'-C1'-N9	5.13	112.30	108.20
1	X	1373	G	C8-N9-C4	-5.11	104.36	106.40
1	X	2191	A	N9-C1'-C2'	5.11	120.65	114.00
1	X	2324	G	P-O5'-C5'	-5.11	112.72	120.90
1	X	2841	U	C2'-C3'-O3'	5.11	121.88	113.70
1	X	135	U	O3'-P-O5'	-5.11	94.30	104.00
1	X	1342	U	C4'-C3'-O3'	-5.11	98.67	109.40
19	Q	32	LYS	N-CA-C	-5.11	97.21	111.00
1	X	1735	G	C4'-C3'-C2'	5.11	107.70	102.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	X	2426	G	O4'-C1'-N9	5.11	112.28	108.20
1	X	82	G	N3-C4-C5	-5.10	126.05	128.60
1	X	1684	G	N9-C1'-C2'	5.09	120.62	114.00
1	X	460	U	N1-C1'-C2'	5.09	120.62	114.00
1	X	202	A	P-O3'-C3'	5.09	125.81	119.70
1	X	1679	U	O4'-C4'-C3'	-5.09	98.91	104.00
1	X	1441	A	N9-C1'-C2'	5.09	120.61	114.00
15	M	30	GLY	N-CA-C	-5.08	100.39	113.10
1	X	1071	U	N1-C1'-C2'	5.08	120.60	114.00
1	X	731	A	O4'-C4'-C3'	5.08	110.16	106.10
1	X	729	A	C8-N9-C4	5.07	107.83	105.80
1	X	558	G	N7-C8-N9	5.06	115.63	113.10
1	X	796	A	N9-C1'-C2'	-5.05	106.44	112.00
1	X	2402	U	C2'-C3'-O3'	-5.05	98.40	109.50
1	X	203	G	N9-C1'-C2'	-5.04	106.45	112.00
1	X	1054	C	N3-C4-C5	-5.04	119.88	121.90
1	X	1820	G	N9-C1'-C2'	5.04	120.56	114.00
1	X	1734	C	C4-C5-C6	-5.04	114.88	117.40
1	X	333	A	N9-C1'-C2'	5.04	120.55	114.00
1	X	666	U	O4'-C4'-C3'	5.04	110.13	106.10
1	X	2810	A	OP1-P-O3'	5.04	116.28	105.20
1	X	90	G	P-O3'-C3'	5.03	125.74	119.70
1	X	667	U	OP1-P-O3'	-5.03	94.13	105.20
1	X	2810	A	N9-C1'-C2'	5.03	120.54	114.00
1	X	664	C	N1-C2-N3	-5.03	115.68	119.20
1	X	1141	U	C5'-C4'-C3'	-5.02	107.96	116.00
1	X	419	G	P-O5'-C5'	-5.02	112.87	120.90
1	X	1279	G	C2'-C3'-O3'	5.02	121.73	113.70
1	X	516	G	O4'-C1'-N9	-5.02	104.19	108.20
15	M	13	LEU	CA-CB-CG	-5.02	103.76	115.30
1	X	173	A	C3'-C2'-C1'	5.01	105.51	101.50
1	X	1683	G	N9-C1'-C2'	-5.01	106.49	112.00
1	X	176	A	P-O3'-C3'	5.01	125.71	119.70
1	X	571	U	N1-C1'-C2'	5.00	120.51	114.00

There are no chirality outliers.

All (232) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
9	G	106	TYR	Sidechain
16	N	32	TYR	Sidechain
19	Q	25	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	X	100	G	Sidechain
1	X	1000	G	Sidechain
1	X	1012	A	Sidechain
1	X	1030	U	Sidechain
1	X	1054	C	Sidechain
1	X	1056	U	Sidechain
1	X	112	U	Sidechain
1	X	1141	U	Sidechain
1	X	1153	A	Sidechain
1	X	1167	A	Sidechain
1	X	1177	U	Sidechain
1	X	118	U	Sidechain
1	X	1186	G	Sidechain
1	X	1187	A	Sidechain
1	X	1200	G	Sidechain
1	X	1206	G	Sidechain
1	X	1212	U	Sidechain
1	X	1213	U	Sidechain
1	X	1224	A	Sidechain
1	X	123	A	Sidechain
1	X	1237	G	Sidechain
1	X	1250	A	Sidechain
1	X	1251	G	Sidechain
1	X	1265	G	Sidechain
1	X	1267	A	Sidechain
1	X	1276	U	Sidechain
1	X	1278	A	Sidechain
1	X	1282	A	Sidechain
1	X	1284	G	Sidechain
1	X	1285	A	Sidechain
1	X	1296	G	Sidechain
1	X	13	A	Sidechain
1	X	1304	U	Sidechain
1	X	1313	U	Sidechain
1	X	1325	U	Sidechain
1	X	1330	G	Sidechain
1	X	1333	G	Sidechain
1	X	1334	A	Sidechain
1	X	1338	G	Sidechain
1	X	1342	U	Sidechain
1	X	1353	A	Sidechain
1	X	1357	U	Sidechain

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Mol	Chain	Res	Type	Group
1	X	1373	G	Sidechain
1	X	1408	A	Sidechain
1	X	1429	A	Sidechain
1	X	1467	U	Sidechain
1	X	1482	U	Sidechain
1	X	15	G	Sidechain
1	X	1574	A	Sidechain
1	X	1583	A	Sidechain
1	X	1618	U	Sidechain
1	X	1620	C	Sidechain
1	X	1623	C	Sidechain
1	X	1626	A	Sidechain
1	X	1631	C	Sidechain
1	X	1632	A	Sidechain
1	X	1635	G	Sidechain
1	X	165	G	Sidechain
1	X	1662	G	Sidechain
1	X	1664	G	Sidechain
1	X	1671	A	Sidechain
1	X	1676	U	Sidechain
1	X	1677	C	Sidechain
1	X	1683	G	Sidechain
1	X	1689	U	Sidechain
1	X	1692	C	Sidechain
1	X	1697	U	Sidechain
1	X	1698	C	Sidechain
1	X	1710	U	Sidechain
1	X	1716	G	Sidechain
1	X	1717	A	Sidechain
1	X	173	A	Sidechain
1	X	174	A	Sidechain
1	X	1748	U	Sidechain
1	X	1749	G	Sidechain
1	X	1757	C	Sidechain
1	X	1762	C	Sidechain
1	X	1763	G	Sidechain
1	X	1771	A	Sidechain
1	X	1780	A	Sidechain
1	X	1810	U	Sidechain
1	X	1820	G	Sidechain
1	X	1849	G	Sidechain
1	X	1851	A	Sidechain

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Mol	Chain	Res	Type	Group
1	X	1938	U	Sidechain
1	X	1947	G	Sidechain
1	X	1968	G	Sidechain
1	X	1973	C	Sidechain
1	X	1979	C	Sidechain
1	X	1994	U	Sidechain
1	X	1996	A	Sidechain
1	X	1998	A	Sidechain
1	X	2001	G	Sidechain
1	X	2016	A	Sidechain
1	X	2017	U	Sidechain
1	X	2024	U	Sidechain
1	X	2028	C	Sidechain
1	X	2034	A	Sidechain
1	X	2038	C	Sidechain
1	X	2057	U	Sidechain
1	X	2189	A	Sidechain
1	X	2192	U	Sidechain
1	X	2195	C	Sidechain
1	X	2196	U	Sidechain
1	X	2223	U	Sidechain
1	X	2243	C	Sidechain
1	X	2258	G	Sidechain
1	X	2297	G	Sidechain
1	X	2310	G	Sidechain
1	X	2315	A	Sidechain
1	X	2323	U	Sidechain
1	X	2324	G	Sidechain
1	X	2363	G	Sidechain
1	X	2402	U	Sidechain
1	X	2411	A	Sidechain
1	X	2419	C	Sidechain
1	X	2427	A	Sidechain
1	X	2428	U	Sidechain
1	X	2433	G	Sidechain
1	X	2469	G	Sidechain
1	X	2472	U	Sidechain
1	X	2482	A	Sidechain
1	X	2487	G	Sidechain
1	X	2498	U	Sidechain
1	X	2502	G	Sidechain
1	X	2504	G	Sidechain

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Mol	Chain	Res	Type	Group
1	X	2521	A	Sidechain
1	X	2525	U	Sidechain
1	X	2540	A	Sidechain
1	X	2541	U	Sidechain
1	X	2542	U	Sidechain
1	X	2548	G	Sidechain
1	X	2587	G	Sidechain
1	X	2590	U	Sidechain
1	X	2596	C	Sidechain
1	X	2599	U	Sidechain
1	X	2617	G	Sidechain
1	X	2626	U	Sidechain
1	X	2653	A	Sidechain
1	X	2677	U	Sidechain
1	X	2683	C	Sidechain
1	X	2685	A	Sidechain
1	X	2698	G	Sidechain
1	X	2730	A	Sidechain
1	X	2731	G	Sidechain
1	X	2736	U	Sidechain
1	X	2760	G	Sidechain
1	X	2805	G	Sidechain
1	X	2808	U	Sidechain
1	X	2817	A	Sidechain
1	X	2818	G	Sidechain
1	X	2819	G	Sidechain
1	X	2824	C	Sidechain
1	X	2844	G	Sidechain
1	X	2847	G	Sidechain
1	X	2850	U	Sidechain
1	X	2854	G	Sidechain
1	X	2858	A	Sidechain
1	X	2861	A	Sidechain
1	X	318	G	Sidechain
1	X	32	C	Sidechain
1	X	321	A	Sidechain
1	X	322	A	Sidechain
1	X	34	U	Sidechain
1	X	340	G	Sidechain
1	X	341	A	Sidechain
1	X	396	U	Sidechain
1	X	398	C	Sidechain

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Mol	Chain	Res	Type	Group
1	X	399	G	Sidechain
1	X	400	U	Sidechain
1	X	415	A	Sidechain
1	X	447	U	Sidechain
1	X	459	A	Sidechain
1	X	467	U	Sidechain
1	X	474	G	Sidechain
1	X	480	G	Sidechain
1	X	487	G	Sidechain
1	X	490	A	Sidechain
1	X	498	C	Sidechain
1	X	510	G	Sidechain
1	X	518	A	Sidechain
1	X	530	G	Sidechain
1	X	531	G	Sidechain
1	X	538	A	Sidechain
1	X	540	G	Sidechain
1	X	557	U	Sidechain
1	X	566	U	Sidechain
1	X	568	G	Sidechain
1	X	580	A	Sidechain
1	X	59	G	Sidechain
1	X	596	C	Sidechain
1	X	600	G	Sidechain
1	X	617	U	Sidechain
1	X	631	G	Sidechain
1	X	632	A	Sidechain
1	X	637	G	Sidechain
1	X	666	U	Sidechain
1	X	683	A	Sidechain
1	X	685	U	Sidechain
1	X	712	A	Sidechain
1	X	744	C	Sidechain
1	X	767	G	Sidechain
1	X	780	U	Sidechain
1	X	801	A	Sidechain
1	X	804	C	Sidechain
1	X	805	G	Sidechain
1	X	807	A	Sidechain
1	X	813	A	Sidechain
1	X	814	G	Sidechain
1	X	815	A	Sidechain

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Mol	Chain	Res	Type	Group
1	X	824	U	Sidechain
1	X	831	G	Sidechain
1	X	839	U	Sidechain
1	X	873	U	Sidechain
1	X	890	U	Sidechain
1	X	924	C	Sidechain
1	X	951	G	Sidechain
1	X	956	A	Sidechain
1	X	958	G	Sidechain
1	X	968	C	Sidechain
1	X	978	U	Sidechain
1	X	989	G	Sidechain
1	X	991	A	Sidechain
1	X	993	C	Sidechain
1	X	998	C	Sidechain
2	Y	111	C	Sidechain
2	Y	17	A	Sidechain
2	Y	4	C	Sidechain
2	Y	89	G	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	57651	0	29047	3656	0
2	Y	2598	0	1328	160	0
3	A	1826	0	1885	387	0
4	B	1539	0	1600	265	0
5	C	1506	0	1525	369	0
6	D	1400	0	1481	377	0
7	E	1286	0	1336	242	0
8	F	503	0	520	94	0
9	G	1114	0	1144	264	0
10	H	997	0	1046	152	0
11	I	1067	0	1103	273	0
12	J	1090	0	1125	254	0
13	K	878	0	930	120	0
14	L	779	0	820	236	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	M	871	0	894	198	0
16	N	978	0	1020	216	0
17	O	741	0	756	192	0
18	P	1014	0	1096	152	0
19	Q	726	0	753	183	0
20	R	825	0	881	263	0
21	S	1345	0	1372	294	0
22	T	625	0	655	97	0
23	U	552	0	604	201	0
24	V	533	0	558	107	0
25	W	424	0	470	67	0
26	Z	457	0	464	67	0
27	1	53	0	0	0	0
28	2	46	0	0	0	0
29	3	63	0	0	3	0
30	4	297	0	330	68	0
31	X	30	0	0	0	0
31	Y	5	0	0	0	0
All	All	83819	0	54743	8176	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 59.

All (8176) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:135:U:H2'	1:X:136:A:C8	1.59	1.37
1:X:2195:C:C5	1:X:2196:U:C5	2.22	1.28
1:X:623:G:N2	1:X:626:A:C2	2.01	1.26
1:X:1053:G:H2'	1:X:1054:C:C6	1.71	1.25
1:X:333:A:H3'	5:C:162:ARG:NH2	1.49	1.24
1:X:2409:A:H3'	1:X:2409:A:N3	1.50	1.24
1:X:1188:A:H8	1:X:1188:A:O5'	1.21	1.22
1:X:2736:U:O2'	1:X:2737:A:H5"	1.39	1.21
1:X:1075:C:C5'	8:F:87:GLY:HA3	1.69	1.21
1:X:1186:G:H2'	1:X:1187:A:N3	1.56	1.20
1:X:82:G:N2	1:X:100:G:H2'	1.58	1.18
1:X:2196:U:H2'	1:X:2197:U:C6	1.77	1.18
4:B:38:THR:HG22	4:B:40:GLN:H	1.02	1.17
12:J:78:LYS:HE2	12:J:81:GLU:HA	1.22	1.16
4:B:150:VAL:HG21	4:B:154:LYS:HE2	1.17	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:79:VAL:HA	13:K:83:VAL:HG13	1.19	1.16
1:X:999:A:H5"	25:W:8:SER:HB2	1.26	1.15
1:X:1508:G:H5'	1:X:1509:A:H5"	1.19	1.15
1:X:2417:U:O2'	1:X:2418:A:H5"	1.45	1.15
23:U:48:LYS:HG2	23:U:49:LYS:H	1.03	1.15
4:B:116:VAL:N	4:B:136:ARG:HE	1.44	1.15
1:X:623:G:N2	1:X:626:A:H2	1.35	1.15
20:R:59:LYS:HD2	20:R:62:MET:HG3	1.29	1.14
1:X:135:U:H5"	1:X:136:A:OP1	1.43	1.14
1:X:98:U:H4'	1:X:99:U:O5'	1.43	1.14
21:S:113:VAL:HA	21:S:171:VAL:HA	1.24	1.14
1:X:135:U:C2'	1:X:136:A:C8	2.31	1.14
1:X:2323:U:O2	1:X:2323:U:H2'	1.45	1.14
3:A:183:ARG:HB3	3:A:183:ARG:HH11	1.05	1.13
6:D:122:PHE:HB3	6:D:129:ASN:HD22	1.03	1.13
9:G:55:ALA:HB1	9:G:134:MET:HE1	1.22	1.13
20:R:108:VAL:HG12	20:R:109:ALA:H	1.08	1.13
1:X:729:A:H2'	1:X:730:C:O4'	1.48	1.13
8:F:112:MET:HG3	8:F:113:PRO:HD3	1.23	1.12
1:X:1854:G:H2'	1:X:1855:G:OP2	1.39	1.12
1:X:2194:A:H3'	1:X:2195:C:H5"	1.30	1.12
9:G:61:ARG:NE	9:G:65:LYS:HD2	1.63	1.12
23:U:32:ARG:H	23:U:32:ARG:NE	1.48	1.12
1:X:135:U:H2'	1:X:136:A:N9	1.65	1.12
1:X:2795:A:H4'	13:K:5:LYS:HE3	1.27	1.12
7:E:98:LEU:HD12	7:E:99:THR:N	1.63	1.12
1:X:98:U:H1'	1:X:100:G:C8	1.84	1.11
10:H:116:ARG:HD2	15:M:38:LYS:HE2	1.28	1.11
12:J:42:TRP:HB3	12:J:95:VAL:HG11	1.33	1.11
21:S:104:SER:HA	21:S:139:THR:HA	1.31	1.11
1:X:1128:G:H3'	1:X:1129:A:H5"	1.19	1.10
6:D:12:VAL:HG12	6:D:16:LEU:HD11	1.32	1.10
1:X:128:C:H2'	1:X:129:A:H5"	1.24	1.10
1:X:136:A:C5	1:X:137:A:C5	2.39	1.10
1:X:537:C:H1'	1:X:538:A:C6	1.87	1.10
1:X:2581:A:H3'	1:X:2582:G:H5"	1.30	1.10
1:X:333:A:H3'	5:C:162:ARG:CZ	1.80	1.10
1:X:558:G:H3'	1:X:558:G:N3	1.67	1.10
14:L:15:ARG:HD2	14:L:91:ARG:HH11	1.14	1.10
19:Q:51:ILE:HD11	19:Q:83:ALA:HA	1.28	1.10
1:X:1466:C:H2'	1:X:1467:U:O4'	1.51	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2170:C:H3'	1:X:2171:U:H5"	1.34	1.09
3:A:252:LYS:HE3	3:A:252:LYS:H	1.16	1.09
1:X:635:C:H2'	1:X:636:G:H5"	1.34	1.09
1:X:1075:C:H5"	8:F:87:GLY:HA3	1.27	1.09
4:B:14:ILE:HG12	15:M:20:HIS:HD2	1.16	1.09
1:X:304:A:H2'	1:X:305:A:H5"	1.31	1.09
1:X:1711:C:H4'	1:X:1712:G:H5"	1.19	1.09
1:X:104:C:H2'	1:X:105:G:H5"	1.30	1.09
21:S:10:PRO:HG2	21:S:14:LEU:HD11	1.35	1.09
26:Z:4:HIS:HB3	26:Z:5:PRO:CD	1.81	1.09
1:X:542:A:C2	1:X:2004:U:H2'	1.87	1.08
6:D:70:ALA:HB3	6:D:83:MET:H	1.15	1.08
1:X:1188:A:O5'	1:X:1188:A:C8	2.03	1.08
15:M:99:VAL:HG22	15:M:100:ARG:H	0.98	1.08
7:E:58:ALA:H	7:E:62:ARG:HG3	1.14	1.08
1:X:1052:C:C3'	1:X:1053:G:H5"	1.83	1.08
4:B:116:VAL:H	4:B:136:ARG:NE	1.52	1.07
10:H:23:ARG:HH21	10:H:23:ARG:CB	1.66	1.07
14:L:40:ALA:HB2	14:L:103:LEU:HD11	1.32	1.07
1:X:664:C:H2'	1:X:665:A:C2	1.89	1.07
15:M:28:ARG:HB2	15:M:29:PRO:HD3	1.32	1.07
1:X:687:G:C2'	1:X:688:A:H5'	1.85	1.07
11:I:76:LYS:HG3	11:I:111:SER:HB2	1.37	1.07
1:X:2781:G:H2'	1:X:2782:G:H5"	1.37	1.06
3:A:43:ARG:N	3:A:43:ARG:HH11	1.52	1.06
5:C:148:VAL:HB	5:C:167:VAL:HG12	1.30	1.06
9:G:33:ILE:HB	9:G:34:PRO:CD	1.85	1.06
10:H:23:ARG:HH21	10:H:23:ARG:HB3	0.96	1.06
15:M:79:ARG:HH11	15:M:79:ARG:HG3	1.09	1.06
1:X:1018:C:H3'	1:X:1019:U:C5'	1.86	1.05
1:X:2357:A:H4'	14:L:26:ARG:NH1	1.69	1.05
4:B:136:ARG:HG2	4:B:137:ARG:H	1.18	1.05
14:L:33:ARG:CZ	14:L:103:LEU:HB2	1.85	1.05
13:K:3:HIS:ND1	13:K:5:LYS:HD2	1.69	1.05
1:X:2807:U:H5'	1:X:2807:U:H6	1.20	1.05
12:J:15:ARG:HD3	12:J:73:LYS:NZ	1.71	1.04
1:X:2194:A:H2'	1:X:2195:C:O4'	1.56	1.04
14:L:33:ARG:HH11	14:L:100:VAL:HA	1.21	1.04
24:V:50:VAL:HA	24:V:53:LEU:HD12	1.37	1.04
1:X:2617:G:HO2'	1:X:2618:A:H8	1.05	1.04
21:S:97:PRO:HA	21:S:119:ASN:HA	1.37	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2194:A:C3'	1:X:2195:C:H5"	1.87	1.04
9:G:88:VAL:HG22	9:G:89:ALA:H	1.15	1.04
1:X:1052:C:C2'	1:X:1053:G:H5"	1.88	1.03
1:X:1056:U:O2	1:X:1056:U:C2'	2.02	1.03
1:X:2496:C:O2'	1:X:2497:A:H3'	1.58	1.03
12:J:34:GLY:HA2	12:J:106:GLU:HA	1.40	1.03
25:W:2:LYS:HB3	25:W:54:GLN:HB3	1.40	1.03
1:X:1053:G:H2'	1:X:1054:C:H6	1.02	1.03
9:G:103:TYR:HB3	9:G:107:GLN:HE21	1.22	1.03
21:S:4:THR:HB	21:S:57:GLU:HB2	1.32	1.03
13:K:100:VAL:HG12	13:K:101:GLY:H	0.90	1.03
1:X:1057:A:H2'	1:X:1057:A:N3	1.69	1.03
1:X:2195:C:C4	1:X:2196:U:C4	2.45	1.03
3:A:67:PHE:HB3	3:A:153:ALA:H	1.24	1.03
15:M:33:VAL:HG22	15:M:51:GLU:HB2	1.40	1.03
23:U:51:ILE:HG12	23:U:59:THR:HG22	1.37	1.03
1:X:100:G:H4'	1:X:101:A:OP2	1.57	1.03
1:X:2198:U:H2'	1:X:2199:C:O4'	1.58	1.02
1:X:1550:C:H2'	1:X:1553:G:N2	1.73	1.02
1:X:198:A:H5"	1:X:199:A:C5'	1.88	1.02
12:J:62:GLY:HA3	12:J:64:LYS:HE3	1.40	1.02
1:X:1386:A:H5"	1:X:2191:A:N6	1.73	1.02
1:X:2617:G:P	4:B:82:ARG:HH22	1.81	1.02
9:G:132:PHE:CZ	9:G:145:HIS:HB2	1.95	1.02
1:X:347:C:H4'	20:R:15:HIS:CD2	1.95	1.02
1:X:2332:G:H1'	22:T:34:GLY:HA3	1.38	1.02
2:Y:43:G:H5'	2:Y:44:C:H5'	1.41	1.02
9:G:110:LEU:N	9:G:110:LEU:HD23	1.75	1.02
14:L:55:SER:O	14:L:71:VAL:HB	1.59	1.01
1:X:623:G:H3'	1:X:624:A:H5"	1.43	1.01
5:C:48:ARG:HB2	5:C:51:VAL:HG22	1.41	1.01
6:D:150:ARG:HG2	6:D:151:GLY:H	1.18	1.01
12:J:15:ARG:HD3	12:J:73:LYS:HZ2	1.24	1.01
19:Q:12:ILE:HG12	19:Q:13:SER:H	1.23	1.01
1:X:1052:C:H3'	1:X:1053:G:H5"	1.39	1.01
1:X:98:U:H4'	1:X:99:U:C5'	1.90	1.01
1:X:134:G:N2	1:X:136:A:H5"	1.74	1.01
1:X:2447:G:O2'	1:X:2448:A:H5'	1.61	1.01
11:I:94:GLU:HA	11:I:97:ARG:NE	1.75	1.01
13:K:100:VAL:HG12	13:K:101:GLY:N	1.68	1.01
1:X:2769:C:H2'	1:X:2770:A:H8	1.24	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:517:A:H5”	1:X:518:A:H5’	1.39	1.00
17:O:65:ARG:HG2	17:O:87:ARG:HD2	1.43	1.00
21:S:127:PRO:HA	21:S:130:ILE:HD11	1.38	1.00
8:F:104:VAL:HA	8:F:107:ILE:HD12	1.39	1.00
21:S:117:VAL:HG22	21:S:168:VAL:HA	1.42	1.00
23:U:29:GLY:C	23:U:31:GLY:H	1.59	1.00
1:X:198:A:C5’	1:X:199:A:H5’	1.90	1.00
1:X:135:U:H2’	1:X:136:A:C4	1.96	1.00
23:U:41:VAL:HG23	23:U:42:GLN:H	1.27	1.00
17:O:5:ILE:HD11	17:O:8:GLY:O	1.62	1.00
1:X:667:U:H3’	1:X:667:U:C6	1.94	1.00
1:X:1107:A:H3’	1:X:1108:U:H5”	1.42	0.99
21:S:122:ILE:HG22	21:S:160:LEU:HD23	1.43	0.99
1:X:2769:C:H2’	1:X:2770:A:C8	1.98	0.99
17:O:57:GLN:H	17:O:97:GLY:HA3	1.27	0.99
2:Y:59:A:H1’	6:D:27:ALA:HB2	1.44	0.99
9:G:100:TYR:HB2	9:G:116:ARG:NH1	1.76	0.99
10:H:13:ASN:ND2	10:H:109:ARG:HG2	1.77	0.99
2:Y:16:U:H1’	2:Y:109:G:H21	1.27	0.99
7:E:57:ASP:HB3	7:E:62:ARG:HE	1.21	0.99
1:X:317:U:H2’	1:X:318:G:H5”	1.44	0.99
1:X:104:C:C2’	1:X:105:G:H5”	1.93	0.99
1:X:1850:G:N2	1:X:1867:A:N7	2.08	0.99
17:O:57:GLN:H	17:O:97:GLY:CA	1.75	0.99
11:I:108:LEU:HB2	11:I:122:VAL:HG11	1.44	0.98
11:I:45:LYS:HE2	11:I:47:ALA:HB3	1.41	0.98
1:X:663:G:H3’	1:X:664:C:H5”	1.43	0.98
1:X:1978:U:H3’	1:X:1979:C:H5”	1.42	0.98
13:K:13:ASN:HD21	13:K:16:ALA:H	1.00	0.98
1:X:1919:A:H2	1:X:1926:U:N3	1.62	0.98
6:D:29:PRO:HG2	6:D:165:GLU:HB3	1.46	0.98
1:X:663:G:C3’	1:X:664:C:H5”	1.93	0.98
1:X:731:A:H2’	1:X:732:G:O4’	1.63	0.98
17:O:36:LYS:HZ2	17:O:54:TYR:HB3	1.28	0.98
1:X:2083:G:H1	1:X:2172:U:H3	1.10	0.98
19:Q:10:PRO:HA	19:Q:27:PHE:HB3	1.45	0.98
10:H:83:ARG:HH11	15:M:40:ARG:NE	1.61	0.98
1:X:34:U:HO2’	20:R:4:PRO:N	1.61	0.98
1:X:1075:C:H5”	8:F:87:GLY:CA	1.94	0.98
26:Z:51:TYR:CE1	26:Z:55:ARG:HB2	1.99	0.98
6:D:13:ARG:NH1	6:D:14:PRO:HG3	1.79	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:31:CYS:HB3	4:B:49:ILE:HG12	1.45	0.97
10:H:23:ARG:HB3	10:H:23:ARG:NH2	1.78	0.97
5:C:28:HIS:CE1	11:I:21:ARG:HH11	1.82	0.97
9:G:104:THR:OG1	9:G:110:LEU:HB3	1.63	0.97
1:X:666:U:H2'	1:X:667:U:O4'	1.65	0.97
4:B:14:ILE:HG12	15:M:20:HIS:CD2	1.98	0.97
1:X:2075:U:O2'	1:X:2076:G:H5"	1.64	0.97
12:J:44:LYS:HB2	12:J:47:GLN:HG3	1.45	0.97
7:E:87:LEU:HB2	7:E:131:ILE:HB	1.46	0.96
13:K:98:LEU:HD21	26:Z:56:GLN:HG2	1.47	0.96
1:X:136:A:C6	1:X:137:A:C5	2.52	0.96
1:X:1056:U:O2	1:X:1056:U:H2'	1.17	0.96
25:W:4:LYS:CG	25:W:52:GLU:HB3	1.95	0.96
16:N:93:LYS:HD3	17:O:5:ILE:HG22	1.44	0.96
23:U:32:ARG:HE	23:U:32:ARG:N	1.63	0.96
30:4:19:ARG:NH1	30:4:24:LEU:HD22	1.78	0.96
1:X:2261:G:H4'	1:X:2262:C:OP2	1.64	0.96
16:N:72:HIS:HD2	16:N:110:VAL:HG21	1.30	0.96
24:V:7:ARG:HD2	24:V:8:ASN:N	1.80	0.96
6:D:13:ARG:HB3	6:D:14:PRO:HD3	1.45	0.96
19:Q:62:ARG:HH12	19:Q:73:ASN:ND2	1.63	0.96
1:X:2563:U:H2'	1:X:2564:U:H5"	1.46	0.96
6:D:4:LEU:HD12	6:D:5:LYS:H	1.30	0.96
1:X:623:G:C2	1:X:626:A:H2	1.84	0.96
1:X:666:U:H3'	1:X:667:U:H5"	1.48	0.96
1:X:1128:G:H3'	1:X:1129:A:C5'	1.92	0.96
1:X:1854:G:O2'	1:X:1855:G:H5'	1.66	0.96
16:N:7:GLY:O	16:N:8:ILE:HG13	1.65	0.96
1:X:109:A:H2'	1:X:110:U:H5"	1.46	0.95
4:B:38:THR:HG22	4:B:40:GLN:N	1.81	0.95
12:J:12:LYS:O	12:J:13:GLN:HB2	1.66	0.95
21:S:103:ARG:HD3	21:S:108:VAL:HG23	1.47	0.95
6:D:35:VAL:HG23	6:D:155:THR:HB	1.48	0.95
1:X:1052:C:H3'	1:X:1053:G:C5'	1.95	0.95
1:X:2484:G:O2'	1:X:2485:U:H5'	1.65	0.95
14:L:33:ARG:HG3	14:L:38:ILE:HB	1.46	0.95
1:X:1075:C:H5'	8:F:87:GLY:HA3	1.47	0.95
1:X:1507:A:O4'	3:A:99:ASP:HB3	1.67	0.95
23:U:51:ILE:HG23	23:U:59:THR:HA	1.45	0.95
1:X:687:G:H2'	1:X:688:A:H5'	1.45	0.95
1:X:1173:G:H4'	17:O:22:VAL:HG22	1.48	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1698:C:O2'	1:X:1753:A:H2'	1.67	0.95
15:M:38:LYS:HB3	15:M:46:ARG:HB3	1.48	0.95
18:P:27:VAL:HG23	18:P:125:THR:HG22	1.47	0.95
15:M:79:ARG:HG3	15:M:79:ARG:NH1	1.77	0.95
1:X:1854:G:C2'	1:X:1855:G:OP2	2.10	0.94
2:Y:30:C:OP1	14:L:37:HIS:HB3	1.67	0.94
4:B:131:SER:O	4:B:132:LYS:HG2	1.66	0.94
5:C:3:GLN:HE22	5:C:4:ILE:HG12	1.30	0.94
1:X:623:G:C2	1:X:626:A:C2	2.54	0.94
1:X:2043:A:H62	5:C:68:ARG:HH12	0.97	0.94
13:K:98:LEU:CD2	26:Z:56:GLN:HG2	1.96	0.94
1:X:2404:A:H4'	1:X:2405:A:C5'	1.95	0.94
4:B:136:ARG:HG2	4:B:137:ARG:N	1.83	0.94
1:X:84:G:OP2	20:R:39:ALA:HB3	1.66	0.94
1:X:136:A:N6	1:X:137:A:C6	2.36	0.94
3:A:270:ILE:HG13	3:A:271:VAL:H	1.30	0.94
11:I:86:THR:H	11:I:116:ARG:NH1	1.65	0.94
15:M:99:VAL:HG22	15:M:100:ARG:N	1.74	0.94
25:W:4:LYS:HG3	25:W:52:GLU:HB3	1.49	0.94
1:X:95:G:H4'	24:V:41:HIS:ND1	1.82	0.94
1:X:2291:U:OP1	6:D:71:LYS:HB2	1.67	0.94
23:U:31:GLY:HA2	23:U:32:ARG:NH1	1.83	0.94
1:X:1052:C:H2'	1:X:1053:G:H5"	1.47	0.94
1:X:2516:U:H2'	1:X:2517:C:C6	2.02	0.94
14:L:10:LYS:O	14:L:14:ARG:HG3	1.68	0.94
1:X:3:U:H2'	1:X:4:C:C6	2.03	0.94
7:E:98:LEU:HD12	7:E:99:THR:H	1.26	0.94
17:O:10:LYS:HG3	17:O:11:GLN:HG2	1.47	0.94
2:Y:43:G:H5"	6:D:66:ILE:HD11	1.49	0.93
11:I:76:LYS:HE3	11:I:111:SER:HB3	1.49	0.93
1:X:1314:A:O2'	1:X:1315:A:H3'	1.69	0.93
19:Q:61:LYS:H	19:Q:72:ARG:HA	1.31	0.93
1:X:2712:G:H3'	1:X:2713:A:H5'	1.50	0.93
13:K:79:VAL:HA	13:K:83:VAL:CG1	1.98	0.93
14:L:38:ILE:HD12	14:L:39:TYR:H	1.34	0.93
1:X:1631:C:H1'	18:P:108:PRO:HG2	1.48	0.93
4:B:150:VAL:HG21	4:B:154:LYS:CE	1.99	0.93
15:M:34:ARG:NH2	15:M:88:VAL:HG11	1.84	0.93
16:N:82:GLY:HA3	16:N:113:SER:OG	1.67	0.93
1:X:1542:G:N2	1:X:1562:G:H1	1.66	0.93
5:C:7:ILE:O	5:C:120:VAL:HB	1.68	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:122:PHE:HB3	6:D:129:ASN:ND2	1.83	0.93
11:I:30:ALA:HB3	11:I:34:HIS:CE1	2.03	0.93
21:S:64:ALA:HA	21:S:85:MET:HA	1.47	0.93
1:X:101:A:H8	1:X:101:A:OP1	1.50	0.93
1:X:558:G:H3'	1:X:558:G:C4	1.98	0.93
1:X:2043:A:N6	5:C:68:ARG:HH12	1.66	0.93
6:D:171:GLN:HA	6:D:175:LEU:HB3	1.51	0.93
10:H:23:ARG:HH12	10:H:25:LEU:HA	1.32	0.93
1:X:1885:C:H5'	3:A:244:ARG:HD2	1.50	0.93
1:X:82:G:C2	1:X:100:G:H2'	2.04	0.92
1:X:2592:U:O2	1:X:2592:U:O2'	1.84	0.92
1:X:969:U:H5"	12:J:17:ARG:NH1	1.84	0.92
1:X:1166:A:H5"	16:N:55:ARG:HD3	1.50	0.92
6:D:74:ILE:HG23	6:D:80:ARG:HA	1.48	0.92
21:S:122:ILE:HA	21:S:161:ALA:H	1.33	0.92
1:X:516:G:O2'	1:X:517:A:H8	1.53	0.92
1:X:1448:A:H61	1:X:1574:A:H61	1.09	0.92
1:X:1850:G:O2'	1:X:1851:A:H8	1.52	0.92
6:D:111:ILE:HB	6:D:114:PHE:HB2	1.51	0.92
1:X:558:G:N3	1:X:558:G:C5'	2.33	0.92
1:X:2691:C:HO2'	1:X:2692:A:H8	0.93	0.92
4:B:116:VAL:HG22	4:B:136:ARG:CZ	1.99	0.92
9:G:116:ARG:HD2	9:G:119:LEU:HD12	1.51	0.92
30:4:1:MET:HE2	30:4:1:MET:HA	1.52	0.92
11:I:9:THR:O	11:I:13:ARG:HD2	1.70	0.92
20:R:18:LYS:HE2	20:R:19:GLY:N	1.85	0.92
24:V:1:MET:HG3	24:V:2:LYS:HG2	1.51	0.92
8:F:98:LYS:HB2	8:F:137:THR:OG1	1.70	0.92
16:N:66:ASN:HB2	16:N:70:ARG:HH12	1.34	0.92
20:R:90:LYS:HB2	20:R:108:VAL:HG21	1.51	0.92
23:U:48:LYS:HG2	23:U:49:LYS:N	1.83	0.92
1:X:2795:A:C4'	13:K:5:LYS:HE3	1.98	0.92
15:M:99:VAL:CG2	15:M:100:ARG:H	1.83	0.92
1:X:2498:U:H4'	1:X:2499:C:OP1	1.69	0.91
6:D:167:ARG:HA	6:D:170:LEU:HD12	1.51	0.91
1:X:1128:G:C3'	1:X:1129:A:H5"	2.00	0.91
21:S:18:MET:HA	21:S:36:ARG:H	1.34	0.91
1:X:624:A:H4'	1:X:626:A:N6	1.84	0.91
1:X:1053:G:C2'	1:X:1054:C:H6	1.83	0.91
1:X:1095:A:H2'	1:X:1096:A:H5"	1.50	0.91
1:X:1849:G:N3	1:X:1868:A:N6	2.19	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:50:LEU:HD23	7:E:51:LEU:H	1.34	0.91
1:X:347:C:H4'	20:R:15:HIS:HD2	1.32	0.91
1:X:693:A:H2'	1:X:694:G:H8	1.36	0.91
1:X:1118:G:H2'	1:X:1119:U:H5'	1.51	0.91
3:A:44:ASN:HB3	3:A:49:ILE:HA	1.52	0.91
5:C:7:ILE:HG21	5:C:121:ASP:O	1.71	0.91
20:R:108:VAL:HG12	20:R:109:ALA:N	1.85	0.91
14:L:33:ARG:NH1	14:L:103:LEU:HB2	1.85	0.91
20:R:23:ILE:HD12	20:R:23:ILE:H	1.34	0.91
11:I:18:ARG:HB2	11:I:21:ARG:HD3	1.52	0.91
23:U:62:LEU:HD23	23:U:67:LEU:HD12	1.51	0.91
1:X:242:A:H61	1:X:440:U:H2'	1.35	0.90
1:X:333:A:H5"	5:C:162:ARG:NH1	1.85	0.90
1:X:1091:C:H1'	8:F:126:THR:HA	1.51	0.90
5:C:5:ASN:HA	5:C:118:VAL:HG21	1.52	0.90
16:N:66:ASN:ND2	16:N:70:ARG:HH12	1.69	0.90
7:E:30:LYS:HG2	7:E:79:VAL:O	1.71	0.90
12:J:125:LYS:HZ2	12:J:125:LYS:HB3	1.34	0.90
20:R:107:ALA:HB1	20:R:111:GLY:HA2	1.50	0.90
26:Z:4:HIS:HB3	26:Z:5:PRO:HD3	1.53	0.90
3:A:252:LYS:HE3	3:A:252:LYS:N	1.85	0.90
8:F:99:LEU:HB2	8:F:103:GLN:NE2	1.86	0.90
10:H:116:ARG:HH22	15:M:41:GLU:HG2	1.34	0.90
1:X:652:C:H42	1:X:657:A:H61	0.94	0.90
8:F:121:GLU:HA	8:F:124:ALA:HB3	1.50	0.90
24:V:42:ARG:NH1	24:V:45:GLN:HE22	1.69	0.90
1:X:1354:A:HO2'	19:Q:54:SER:HB2	1.37	0.90
1:X:1428:G:H22	1:X:1602:G:C5'	1.85	0.90
1:X:2288:A:H2'	1:X:2289:A:H8	1.34	0.90
5:C:95:LEU:HD23	5:C:96:PRO:HD2	1.51	0.90
1:X:84:G:OP2	20:R:18:LYS:HB3	1.71	0.90
1:X:1142:G:H4'	9:G:103:TYR:CE2	2.07	0.90
1:X:2326:C:H2'	1:X:2327:U:C6	2.06	0.90
6:D:108:LEU:HD11	6:D:117:ILE:HD11	1.54	0.90
1:X:954:U:OP2	11:I:38:LYS:NZ	2.05	0.90
5:C:176:ASN:HD21	5:C:178:TYR:HB3	1.35	0.90
21:S:95:SER:HB3	21:S:119:ASN:HD21	1.35	0.90
18:P:87:GLU:HG3	18:P:88:ASP:OD2	1.72	0.90
1:X:143:A:H2'	1:X:144:U:C6	2.06	0.90
1:X:460:U:O4	1:X:592:G:H1'	1.72	0.90
16:N:66:ASN:HB2	16:N:70:ARG:NH1	1.87	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:14:VAL:HB	23:U:47:HIS:NE2	1.87	0.90
30:4:25:VAL:HB	30:4:34:GLN:HB2	1.53	0.90
1:X:136:A:C5	1:X:137:A:N7	2.39	0.89
13:K:13:ASN:ND2	13:K:16:ALA:H	1.70	0.89
21:S:91:PRO:HD3	21:S:127:PRO:HD3	1.52	0.89
26:Z:12:SER:HB2	26:Z:15:LYS:H	1.35	0.89
1:X:136:A:C4	1:X:137:A:C8	2.60	0.89
1:X:1816:G:O2'	3:A:252:LYS:HG2	1.72	0.89
3:A:147:LEU:HD21	3:A:155:LEU:HD11	1.53	0.89
23:U:49:LYS:HB2	23:U:61:TRP:HA	1.54	0.89
4:B:9:ILE:HD11	4:B:27:LEU:HB2	1.55	0.89
5:C:47:THR:HG23	5:C:85:GLY:H	1.36	0.89
14:L:38:ILE:HD11	14:L:40:ALA:H	1.37	0.89
1:X:667:U:H3'	1:X:667:U:H6	1.38	0.89
3:A:271:VAL:HG12	3:A:272:THR:HG23	1.53	0.89
7:E:84:THR:HA	7:E:134:SER:HA	1.55	0.89
12:J:36:ILE:HD12	12:J:133:VAL:HG11	1.52	0.89
1:X:1573:G:H3'	1:X:1574:A:H5"	1.51	0.89
12:J:28:VAL:H	12:J:137:VAL:HG21	1.36	0.89
23:U:27:ASP:HA	23:U:32:ARG:NH2	1.88	0.89
1:X:652:C:N4	1:X:657:A:H61	1.71	0.89
1:X:759:C:H6	1:X:759:C:H5'	1.34	0.89
1:X:1859:A:H2'	1:X:1860:A:C8	2.06	0.89
1:X:2306:A:H2'	1:X:2307:A:C8	2.07	0.89
9:G:61:ARG:HE	9:G:65:LYS:HD2	1.38	0.89
15:M:28:ARG:CB	15:M:29:PRO:HD3	1.93	0.89
18:P:126:ILE:HD12	18:P:127:ILE:N	1.88	0.89
1:X:538:A:H3'	1:X:538:A:N3	1.87	0.89
1:X:1018:C:H3'	1:X:1019:U:H5"	1.52	0.89
1:X:1141:U:C4	4:B:147:PRO:HD3	2.08	0.89
1:X:198:A:H5"	1:X:199:A:H5'	0.95	0.89
1:X:623:G:C3'	1:X:624:A:H5"	2.03	0.89
1:X:1770:U:H5	1:X:1775:A:N7	1.70	0.89
6:D:5:LYS:O	6:D:8:TYR:HB3	1.71	0.89
14:L:38:ILE:CD1	14:L:39:TYR:H	1.86	0.89
15:M:26:ASP:OD1	15:M:27:PHE:N	2.06	0.89
20:R:98:ILE:HG22	20:R:99:VAL:H	1.35	0.89
1:X:543:G:H5'	16:N:24:PHE:CE1	2.07	0.89
1:X:758:G:H2'	1:X:759:C:H5"	1.52	0.89
1:X:1275:A:C2	26:Z:10:LYS:HE2	2.07	0.89
1:X:1441:A:H1'	1:X:1442:C:C5	2.06	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2195:C:C6	1:X:2196:U:C6	2.61	0.89
1:X:2824:C:OP1	15:M:100:ARG:NH1	2.05	0.89
4:B:192:ASN:HD22	15:M:9:ARG:HH12	1.16	0.89
5:C:48:ARG:H	5:C:48:ARG:HD2	1.38	0.89
6:D:79:LEU:HA	6:D:80:ARG:CZ	2.03	0.89
1:X:788:G:H5'	1:X:790:A:H1'	1.55	0.88
9:G:116:ARG:HE	9:G:126:VAL:HG13	1.38	0.88
10:H:23:ARG:NH1	10:H:25:LEU:HA	1.88	0.88
20:R:15:HIS:HD1	20:R:16:PHE:HD2	1.15	0.88
1:X:516:G:HO2'	1:X:517:A:H8	0.90	0.88
1:X:1218:C:C4'	11:I:13:ARG:HH11	1.87	0.88
4:B:154:LYS:HE3	4:B:156:MET:SD	2.13	0.88
15:M:46:ARG:HG3	15:M:47:SER:H	1.38	0.88
23:U:31:GLY:HA2	23:U:32:ARG:HH11	1.34	0.88
1:X:759:C:H5'	1:X:759:C:C6	2.08	0.88
20:R:96:LYS:HG3	20:R:97:GLN:H	1.36	0.88
1:X:514:G:H4'	1:X:515:A:OP2	1.71	0.88
1:X:752:G:H4'	1:X:753:U:OP1	1.73	0.88
1:X:2043:A:H62	5:C:68:ARG:NH1	1.72	0.88
1:X:2371:A:H2	1:X:2403:C:H42	1.20	0.88
4:B:183:LEU:HD21	15:M:16:ILE:HD13	1.54	0.88
8:F:84:ILE:HG12	8:F:96:VAL:CG1	2.03	0.88
1:X:84:G:P	20:R:39:ALA:HB3	2.13	0.88
1:X:2323:U:O2	1:X:2323:U:C2'	2.21	0.88
11:I:104:ARG:HB3	11:I:105:PRO:HD2	1.54	0.88
21:S:154:LEU:HD11	21:S:160:LEU:HG	1.56	0.88
1:X:128:C:C2'	1:X:129:A:H5"	2.04	0.88
1:X:999:A:C5'	25:W:8:SER:HB2	2.03	0.88
1:X:514:G:N2	18:P:15:LYS:HA	1.89	0.88
9:G:88:VAL:HG22	9:G:89:ALA:N	1.89	0.88
11:I:18:ARG:HB2	11:I:21:ARG:HB2	1.56	0.88
14:L:64:LYS:HD3	14:L:64:LYS:N	1.88	0.88
16:N:61:TRP:HZ3	16:N:94:VAL:H	1.15	0.88
4:B:144:ARG:HG2	4:B:145:LYS:H	1.37	0.88
14:L:33:ARG:NH2	14:L:103:LEU:HB2	1.88	0.88
1:X:2672:U:H2'	1:X:2673:G:H8	1.38	0.88
9:G:154:GLU:C	9:G:157:PRO:HD2	1.95	0.88
14:L:68:ALA:HB1	14:L:102:ALA:CB	2.04	0.88
17:O:12:TYR:O	17:O:13:ARG:HB2	1.74	0.88
1:X:48:A:H4'	1:X:49:U:O5'	1.72	0.88
1:X:813:A:H4'	1:X:814:G:O5'	1.73	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1053:G:H1	1:X:1124:U:H3	1.15	0.88
1:X:2310:G:H4'	22:T:43:THR:H	1.38	0.87
4:B:116:VAL:HG22	4:B:136:ARG:NE	1.88	0.87
1:X:135:U:H2'	1:X:136:A:C5	2.08	0.87
12:J:64:LYS:H	12:J:64:LYS:HD2	1.36	0.87
18:P:45:ILE:HD11	18:P:57:LEU:HG	1.55	0.87
1:X:1508:G:H5'	1:X:1509:A:C5'	2.03	0.87
10:H:110:VAL:HG23	10:H:129:LEU:HB2	1.54	0.87
15:M:79:ARG:HH11	15:M:79:ARG:CG	1.88	0.87
24:V:41:HIS:HD2	24:V:42:ARG:H	1.22	0.87
1:X:730:C:H5"	1:X:731:A:OP2	1.75	0.87
1:X:1508:G:C5'	1:X:1509:A:H5"	2.03	0.87
10:H:132:GLU:HB2	15:M:73:PHE:HE1	1.39	0.87
3:A:183:ARG:HB3	3:A:183:ARG:NH1	1.90	0.87
1:X:482:A:H2'	1:X:483:A:O4'	1.74	0.87
1:X:2823:G:HO2'	1:X:2824:C:H6	0.91	0.87
6:D:74:ILE:HA	6:D:79:LEU:HB3	1.57	0.87
9:G:100:TYR:HB2	9:G:116:ARG:HH11	1.38	0.87
1:X:1978:U:H5"	1:X:1979:C:C5'	2.04	0.87
9:G:148:LEU:HD12	9:G:149:LYS:N	1.88	0.87
16:N:66:ASN:CB	16:N:70:ARG:HH12	1.88	0.87
1:X:2289:A:H2	6:D:79:LEU:HD21	1.37	0.87
6:D:75:SER:HB2	6:D:79:LEU:HD13	1.56	0.87
19:Q:90:ALA:C	19:Q:92:ALA:H	1.78	0.87
12:J:77:LYS:HG3	12:J:78:LYS:H	1.40	0.86
25:W:45:LYS:HA	25:W:45:LYS:HE3	1.57	0.86
5:C:176:ASN:ND2	5:C:178:TYR:HB3	1.90	0.86
21:S:116:VAL:HG12	21:S:117:VAL:HG13	1.55	0.86
1:X:174:A:H62	1:X:2409:A:H2'	1.39	0.86
12:J:22:ALA:HB2	12:J:100:PRO:O	1.75	0.86
7:E:44:ARG:HH22	7:E:46:ASP:HB2	1.39	0.86
10:H:4:PRO:O	10:H:5:GLN:HB2	1.74	0.86
10:H:116:ARG:HH11	15:M:38:LYS:NZ	1.74	0.86
1:X:82:G:N2	1:X:100:G:C2'	2.38	0.86
3:A:182:LEU:HD12	3:A:269:PHE:CD2	2.11	0.86
6:D:13:ARG:CZ	6:D:14:PRO:HG3	2.05	0.86
8:F:129:GLY:HA2	8:F:132:ARG:HB3	1.55	0.86
13:K:100:VAL:CG1	13:K:101:GLY:H	1.80	0.86
19:Q:7:LEU:HD22	19:Q:7:LEU:C	1.96	0.86
1:X:2781:G:C2'	1:X:2782:G:H5"	2.04	0.86
9:G:164:GLN:O	9:G:165:VAL:HG13	1.76	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:M:34:ARG:NH1	15:M:81:PHE:HB3	1.91	0.86
1:X:1856:U:C2'	1:X:1857:G:O5'	2.24	0.86
1:X:2699:G:O2'	1:X:2700:U:H5'	1.75	0.86
4:B:136:ARG:CG	4:B:137:ARG:H	1.87	0.86
1:X:1542:G:H22	1:X:1562:G:H1	0.86	0.86
1:X:2074:U:H1'	23:U:48:LYS:HE3	1.56	0.86
10:H:75:VAL:HG12	10:H:118:LEU:HD21	1.57	0.86
1:X:1299:A:H2'	1:X:1301:U:OP2	1.76	0.85
1:X:1427:G:H2'	1:X:1428:G:H1'	1.58	0.85
11:I:32:ARG:CZ	17:O:81:ARG:NE	2.39	0.85
16:N:66:ASN:HB3	16:N:76:TYR:HB2	1.58	0.85
1:X:3:U:H2'	1:X:4:C:H6	1.37	0.85
1:X:497:C:H5'	1:X:497:C:H6	1.41	0.85
1:X:635:C:C2'	1:X:636:G:H5"	2.06	0.85
1:X:1711:C:H4'	1:X:1712:G:C5'	2.06	0.85
12:J:15:ARG:HD2	12:J:73:LYS:HG3	1.58	0.85
12:J:78:LYS:HG2	12:J:80:ALA:H	1.41	0.85
1:X:1067:G:H21	1:X:1114:A:H62	1.23	0.85
1:X:2616:U:H5"	4:B:82:ARG:NH2	1.90	0.85
6:D:75:SER:H	6:D:79:LEU:HD22	1.40	0.85
21:S:3:LEU:HD12	21:S:4:THR:N	1.92	0.85
16:N:81:ASN:O	16:N:84:LYS:HB3	1.75	0.85
21:S:6:LYS:H	21:S:7:PRO:HD3	1.42	0.85
1:X:1574:A:H2'	1:X:1575:C:H5"	1.57	0.85
11:I:45:LYS:HD3	11:I:46:GLY:N	1.91	0.85
1:X:136:A:C6	1:X:137:A:C4	2.64	0.85
1:X:857:U:H3'	1:X:858:G:H8	1.38	0.85
1:X:2170:C:H2'	1:X:2171:U:H4'	1.59	0.85
6:D:60:ILE:HG22	6:D:140:GLU:HB2	1.57	0.85
21:S:141:MET:HG2	21:S:145:ASP:HB3	1.57	0.85
1:X:1095:A:C2'	1:X:1096:A:H5"	2.06	0.85
1:X:2033:C:O2'	4:B:141:ILE:HD11	1.75	0.85
22:T:14:ARG:HG3	22:T:15:ASP:OD2	1.76	0.85
1:X:135:U:C3'	1:X:136:A:C8	2.60	0.85
5:C:28:HIS:ND1	11:I:17:LYS:HA	1.92	0.85
5:C:139:GLN:HA	5:C:139:GLN:HE21	1.39	0.85
6:D:106:ILE:HG21	6:D:139:PRO:HB3	1.58	0.85
14:L:85:LYS:HE3	14:L:86:GLN:HE21	1.42	0.85
20:R:18:LYS:HA	20:R:36:VAL:CG1	2.07	0.85
20:R:108:VAL:CG1	20:R:109:ALA:H	1.87	0.85
21:S:36:ARG:HG2	21:S:40:ASP:OD1	1.74	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:914:C:H2'	1:X:915:C:H6	1.39	0.84
4:B:116:VAL:HG13	4:B:136:ARG:HH21	1.41	0.84
9:G:34:PRO:HA	9:G:69:ASP:OD2	1.75	0.84
9:G:155:THR:HG23	9:G:156:HIS:H	1.42	0.84
11:I:98:LEU:O	11:I:99:VAL:HG13	1.76	0.84
1:X:939:C:H5"	1:X:940:G:O5'	1.77	0.84
1:X:1623:C:H4'	1:X:1624:A:O5'	1.74	0.84
3:A:149:PRO:HD3	3:A:186:HIS:NE2	1.92	0.84
3:A:244:ARG:HB3	3:A:252:LYS:HZ1	1.41	0.84
20:R:40:LEU:HB2	20:R:45:LYS:HB2	1.58	0.84
1:X:555:U:H3'	1:X:555:U:H6	1.42	0.84
3:A:164:GLN:HE22	3:A:166:GLN:NE2	1.76	0.84
12:J:62:GLY:HA3	12:J:64:LYS:CE	2.07	0.84
1:X:553:C:H5'	1:X:554:U:OP1	1.76	0.84
7:E:126:PRO:HG3	7:E:130:ARG:HD3	1.58	0.84
16:N:50:ARG:C	16:N:52:ASN:H	1.81	0.84
1:X:1268:U:C2	5:C:66:ASN:HA	2.13	0.84
17:O:38:LEU:HD13	17:O:39:PHE:N	1.93	0.84
30:4:31:LYS:H	30:4:31:LYS:HD2	1.38	0.84
1:X:493:A:H4'	20:R:56:LYS:HE3	1.59	0.84
1:X:2177:U:H2'	1:X:2178:U:C6	2.12	0.84
7:E:43:VAL:HB	7:E:52:VAL:HG13	1.59	0.84
19:Q:69:ILE:CD1	19:Q:70:GLY:H	1.90	0.84
1:X:729:A:H3'	1:X:729:A:N3	1.93	0.84
1:X:1268:U:H2'	5:C:66:ASN:HB3	1.57	0.84
11:I:11:GLY:H	11:I:14:LYS:HB3	1.41	0.84
16:N:101:ARG:O	16:N:103:PRO:HD3	1.78	0.84
20:R:93:ARG:HH22	20:R:108:VAL:HG13	1.43	0.84
1:X:90:G:H4'	1:X:90:G:OP1	1.77	0.84
1:X:109:A:C2'	1:X:110:U:H5"	2.08	0.84
6:D:72:LYS:HA	6:D:81:GLN:C	1.97	0.84
6:D:108:LEU:CD1	6:D:117:ILE:HD11	2.08	0.84
12:J:37:ALA:HA	12:J:130:THR:HG22	1.60	0.84
1:X:542:A:N1	1:X:2004:U:H2'	1.93	0.84
5:C:164:VAL:O	5:C:166:TRP:N	2.11	0.84
14:L:28:ARG:HD2	14:L:90:ASP:CG	1.98	0.84
30:4:29:ASN:HD21	30:4:31:LYS:HD3	1.42	0.84
1:X:1193:G:H2'	1:X:1194:U:H5"	1.57	0.83
1:X:1467:U:H3'	1:X:1468:A:H5'	1.60	0.83
1:X:2222:U:H2'	1:X:2223:U:C6	2.13	0.83
1:X:2320:G:H2'	1:X:2321:C:H6	1.43	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:46:G:H5'	6:D:92:ARG:HH12	1.41	0.83
20:R:97:GLN:HB2	20:R:101:GLY:HA2	1.59	0.83
1:X:1448:A:N6	1:X:1574:A:H61	1.75	0.83
1:X:1770:U:C5	1:X:1775:A:N7	2.45	0.83
9:G:61:ARG:HB3	9:G:61:ARG:HH21	1.42	0.83
19:Q:63:LYS:HB3	19:Q:69:ILE:O	1.78	0.83
22:T:71:ASN:HD21	22:T:74:LYS:HD3	1.43	0.83
1:X:1186:G:H5"	1:X:1187:A:OP2	1.76	0.83
3:A:42:GLY:C	3:A:43:ARG:HH11	1.81	0.83
8:F:84:ILE:HG12	8:F:96:VAL:HG11	1.59	0.83
21:S:3:LEU:HD11	21:S:5:ALA:O	1.78	0.83
1:X:760:U:O2	1:X:1997:A:H1'	1.77	0.83
1:X:1467:U:H3'	1:X:1467:U:H6	1.42	0.83
1:X:2195:C:C6	1:X:2196:U:C5	2.66	0.83
19:Q:12:ILE:H	19:Q:12:ILE:HD13	1.43	0.83
1:X:13:A:O2'	1:X:15:G:N7	2.12	0.83
17:O:26:GLN:HG2	17:O:27:GLY:H	1.43	0.83
1:X:653:G:H2'	1:X:654:A:H5"	1.60	0.83
1:X:1539:U:H2'	1:X:1540:C:H6	1.42	0.83
1:X:1675:C:OP1	4:B:134:TRP:NE1	2.12	0.83
1:X:2581:A:H3'	1:X:2582:G:C5'	2.08	0.83
20:R:25:LEU:CD1	20:R:81:VAL:HG23	2.07	0.83
1:X:558:G:C8	1:X:559:C:C5	2.66	0.83
1:X:954:U:OP2	11:I:38:LYS:HG2	1.78	0.83
6:D:97:TYR:HD2	6:D:100:LEU:HD23	1.43	0.83
1:X:664:C:H2'	1:X:665:A:H2	1.36	0.83
1:X:999:A:H5"	25:W:8:SER:CB	2.08	0.83
1:X:1354:A:O2'	19:Q:54:SER:HB2	1.78	0.83
1:X:1922:U:HO2'	1:X:2571:G:C1'	1.92	0.83
7:E:88:GLU:OE2	7:E:90:ARG:HD2	1.78	0.83
16:N:50:ARG:O	16:N:52:ASN:N	2.11	0.83
1:X:76:C:H5'	1:X:76:C:H6	1.42	0.83
1:X:693:A:H2'	1:X:694:G:C8	2.13	0.83
1:X:1683:G:O2'	1:X:1684:G:H5'	1.78	0.83
5:C:132:ASN:O	5:C:135:SER:HB3	1.79	0.83
22:T:41:ARG:HH11	22:T:41:ARG:HG3	1.44	0.83
1:X:135:U:H2'	1:X:136:A:N7	1.94	0.83
16:N:8:ILE:HG22	16:N:11:ARG:NH2	1.94	0.83
1:X:623:G:N3	1:X:626:A:C2	2.47	0.82
1:X:1095:A:C3'	1:X:1096:A:H5"	2.09	0.82
1:X:1193:G:C2'	1:X:1194:U:H5"	2.08	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:56:ARG:HA	5:C:71:ASP:OD2	1.79	0.82
11:I:13:ARG:HG2	11:I:13:ARG:HH21	1.42	0.82
1:X:1113:C:H2'	1:X:1114:A:H8	1.43	0.82
11:I:32:ARG:NH2	17:O:81:ARG:HE	1.76	0.82
16:N:66:ASN:HD22	16:N:70:ARG:HH22	1.26	0.82
1:X:1468:A:H5"	1:X:1472:C:N4	1.93	0.82
1:X:2177:U:H2'	1:X:2178:U:H6	1.44	0.82
6:D:10:ASP:O	6:D:14:PRO:HD2	1.80	0.82
20:R:93:ARG:HH22	20:R:108:VAL:CG1	1.91	0.82
21:S:3:LEU:HD13	21:S:33:ALA:O	1.80	0.82
1:X:29:U:H4'	16:N:11:ARG:HH22	1.44	0.82
1:X:1223:G:H4'	1:X:1224:A:H5"	1.59	0.82
1:X:2725:C:H1'	7:E:143:GLN:HG2	1.61	0.82
12:J:81:GLU:HG2	12:J:82:THR:H	1.43	0.82
22:T:45:PHE:HA	22:T:77:ARG:HB2	1.62	0.82
1:X:1019:U:O2	1:X:1020:A:N7	2.13	0.82
1:X:2343:C:H4'	22:T:56:ASP:OD1	1.77	0.82
1:X:1142:G:H4'	9:G:103:TYR:HE2	1.43	0.82
6:D:79:LEU:HA	6:D:80:ARG:NH1	1.95	0.82
12:J:28:VAL:HB	12:J:137:VAL:HB	1.58	0.82
12:J:60:ARG:O	12:J:61:ARG:HG3	1.79	0.82
1:X:2015:G:H4'	1:X:2016:A:OP1	1.78	0.82
2:Y:16:U:C1'	2:Y:109:G:H21	1.92	0.82
7:E:103:LEU:HD21	7:E:131:ILE:HD13	1.61	0.82
15:M:26:ASP:CG	15:M:27:PHE:N	2.32	0.82
1:X:34:U:H1'	20:R:4:PRO:N	1.95	0.82
1:X:177:U:O2	1:X:178:C:H1'	1.78	0.82
3:A:95:LEU:HD12	3:A:105:ILE:HD12	1.60	0.82
5:C:148:VAL:O	5:C:167:VAL:HA	1.80	0.82
21:S:69:VAL:HG22	21:S:81:VAL:HG13	1.60	0.82
1:X:1086:C:H3'	1:X:1087:C:H5"	1.61	0.82
1:X:1186:G:C5'	1:X:1187:A:OP2	2.27	0.82
8:F:84:ILE:CG2	8:F:96:VAL:HG11	2.10	0.82
14:L:63:ASN:HB3	14:L:66:ASP:HB2	1.62	0.82
20:R:59:LYS:CD	20:R:62:MET:HG3	2.08	0.82
20:R:93:ARG:HH12	20:R:108:VAL:C	1.82	0.82
1:X:862:A:H2'	1:X:863:C:H6	1.44	0.81
1:X:1468:A:C8	1:X:1468:A:O5'	2.32	0.81
1:X:1468:A:O5'	1:X:1468:A:H8	1.63	0.81
3:A:206:LEU:HA	3:A:211:ARG:HD3	1.60	0.81
5:C:24:SER:HB2	11:I:15:ASP:OD1	1.79	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:65:PRO:HB3	6:D:89:VAL:HG13	1.59	0.81
10:H:116:ARG:HH11	15:M:38:LYS:HZ3	1.22	0.81
1:X:1069:G:H2'	1:X:1070:G:H5"	1.62	0.81
5:C:5:ASN:HB2	5:C:10:ASN:HA	1.59	0.81
6:D:142:THR:O	6:D:146:VAL:HG13	1.78	0.81
11:I:29:THR:HA	11:I:34:HIS:HB2	1.60	0.81
18:P:36:ARG:CZ	26:Z:20:ARG:NH1	2.43	0.81
19:Q:25:TYR:OH	19:Q:87:SER:HA	1.79	0.81
30:4:22:ARG:HG2	30:4:22:ARG:HH11	1.45	0.81
1:X:82:G:H22	1:X:100:G:H2'	1.44	0.81
1:X:177:U:C5	1:X:225:G:N2	2.48	0.81
1:X:555:U:H3'	1:X:555:U:C6	2.16	0.81
1:X:1501:C:H2'	1:X:1502:G:O4'	1.81	0.81
1:X:1919:A:H2	1:X:1926:U:H3	1.27	0.81
1:X:2170:C:H3'	1:X:2171:U:C5'	2.09	0.81
3:A:43:ARG:H	3:A:43:ARG:HD2	1.44	0.81
5:C:187:VAL:O	5:C:187:VAL:HG12	1.79	0.81
10:H:23:ARG:NH1	10:H:25:LEU:HD23	1.94	0.81
17:O:15:SER:HA	17:O:95:ILE:HB	1.62	0.81
17:O:36:LYS:NZ	17:O:54:TYR:HB3	1.94	0.81
14:L:30:SER:O	14:L:31:VAL:HG12	1.80	0.81
23:U:19:ILE:HG22	23:U:42:GLN:HG3	1.62	0.81
1:X:1252:C:O2'	1:X:1253:C:H5"	1.81	0.81
19:Q:68:PHE:O	19:Q:69:ILE:HD12	1.80	0.81
1:X:559:C:H2'	1:X:560:G:O4'	1.80	0.81
1:X:1051:U:H2'	1:X:1052:C:C6	2.15	0.81
1:X:2653:A:O2'	10:H:41:ASN:ND2	2.13	0.81
6:D:46:ASP:C	6:D:48:LYS:H	1.82	0.81
6:D:106:ILE:O	6:D:110:ARG:HB2	1.81	0.81
12:J:44:LYS:HB2	12:J:47:GLN:CG	2.10	0.81
19:Q:38:ILE:O	19:Q:42:ILE:HG22	1.80	0.81
1:X:947:C:H2'	1:X:948:C:C6	2.16	0.81
1:X:2326:C:H2'	1:X:2327:U:H6	1.44	0.81
2:Y:12:C:H2'	2:Y:13:C:O4'	1.79	0.81
1:X:1834:G:H2'	1:X:1835:C:C6	2.16	0.81
1:X:2394:G:H3'	11:I:63:ARG:HH11	1.44	0.81
5:C:3:GLN:NE2	5:C:4:ILE:HG12	1.95	0.81
6:D:35:VAL:HG13	6:D:90:THR:HA	1.62	0.81
24:V:4:SER:HB3	24:V:7:ARG:HH21	1.44	0.81
4:B:142:GLY:O	4:B:143:GLN:HG3	1.81	0.81
8:F:117:ALA:HB1	8:F:122:ALA:HB3	1.59	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:76:ARG:O	10:H:94:ASN:HA	1.80	0.81
16:N:8:ILE:HG22	16:N:11:ARG:HH21	1.45	0.81
1:X:624:A:H4'	1:X:626:A:C6	2.16	0.81
1:X:717:G:H2'	1:X:739:G:H22	1.43	0.81
21:S:19:ILE:HG12	21:S:36:ARG:HA	1.61	0.81
7:E:27:LYS:HA	7:E:32:GLU:HA	1.62	0.80
21:S:86:VAL:HG12	21:S:87:THR:H	1.45	0.80
25:W:46:THR:HG22	25:W:47:VAL:HG13	1.63	0.80
1:X:169:C:H2'	1:X:170:U:H5'	1.61	0.80
1:X:317:U:C2'	1:X:318:G:H5"	2.10	0.80
1:X:2807:U:H5'	1:X:2807:U:C6	2.11	0.80
2:Y:93:G:H5'	12:J:19:THR:HB	1.62	0.80
6:D:111:ILE:CB	6:D:114:PHE:HB2	2.10	0.80
11:I:39:SER:O	11:I:40:ARG:HB2	1.82	0.80
14:L:16:LYS:HE2	14:L:28:ARG:HH12	1.46	0.80
1:X:177:U:O2	1:X:178:C:C1'	2.30	0.80
1:X:954:U:H2'	1:X:955:G:H5"	1.63	0.80
1:X:1624:A:O2'	1:X:1625:A:H5'	1.80	0.80
4:B:2:LYS:HA	4:B:84:PHE:CD1	2.16	0.80
8:F:120:VAL:O	8:F:121:GLU:C	2.19	0.80
19:Q:62:ARG:NH1	19:Q:73:ASN:HD21	1.80	0.80
21:S:117:VAL:CG2	21:S:168:VAL:HA	2.10	0.80
6:D:36:VAL:HG22	6:D:154:ILE:HG13	1.62	0.80
21:S:18:MET:SD	21:S:35:ASP:HA	2.22	0.80
23:U:32:ARG:H	23:U:32:ARG:HE	0.83	0.80
1:X:514:G:C5	18:P:20:LEU:HD22	2.16	0.80
1:X:861:G:H2'	1:X:862:A:H5'	1.64	0.80
2:Y:64:C:H2'	2:Y:65:A:H8	1.46	0.80
13:K:3:HIS:ND1	13:K:5:LYS:CD	2.45	0.80
23:U:29:GLY:C	23:U:31:GLY:N	2.35	0.80
1:X:421:G:H2'	1:X:422:C:H6	1.45	0.80
1:X:691:C:H2'	1:X:692:C:H6	1.46	0.80
1:X:2691:C:O2'	1:X:2692:A:H8	1.63	0.80
14:L:54:ALA:HB3	14:L:75:LEU:HB2	1.64	0.80
23:U:49:LYS:CB	23:U:61:TRP:HA	2.11	0.80
23:U:53:GLU:HB2	23:U:56:GLN:O	1.81	0.80
1:X:356:A:H2'	1:X:357:A:C8	2.17	0.80
5:C:39:ARG:HE	5:C:91:TYR:HD2	1.29	0.80
1:X:457:C:O2'	1:X:458:G:H5'	1.82	0.80
1:X:1428:G:H22	1:X:1602:G:H5'	1.43	0.80
1:X:1850:G:HO2'	1:X:1851:A:H8	0.80	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:119:PRO:HG2	6:D:120:ASN:H	1.42	0.80
8:F:98:LYS:NZ	8:F:139:GLU:HB2	1.95	0.80
19:Q:62:ARG:NH1	19:Q:73:ASN:ND2	2.30	0.80
1:X:135:U:C2'	1:X:136:A:N9	2.40	0.80
1:X:1060:C:H2'	1:X:1061:A:H8	1.47	0.80
7:E:45:GLN:HG3	7:E:49:GLN:O	1.82	0.80
14:L:38:ILE:CD1	14:L:40:ALA:H	1.95	0.80
1:X:871:U:C2'	1:X:2247:A:H2'	2.12	0.80
3:A:244:ARG:HB3	3:A:252:LYS:NZ	1.96	0.80
7:E:30:LYS:HB2	7:E:79:VAL:HA	1.62	0.80
12:J:15:ARG:CD	12:J:73:LYS:HG3	2.11	0.80
17:O:13:ARG:HG2	17:O:14:VAL:H	1.45	0.80
1:X:1625:A:H1'	1:X:1632:A:O2'	1.81	0.79
21:S:71:MET:CB	21:S:78:PRO:HA	2.12	0.79
1:X:2662:C:H2'	1:X:2663:U:H6	1.47	0.79
5:C:151:VAL:O	5:C:189:ASP:HB3	1.82	0.79
20:R:105:ARG:HH22	20:R:112:LYS:CA	1.95	0.79
22:T:32:LYS:HB2	22:T:35:ASN:ND2	1.97	0.79
1:X:136:A:N6	1:X:137:A:N1	2.29	0.79
1:X:2409:A:N3	1:X:2409:A:C3'	2.41	0.79
1:X:2756:A:O2'	1:X:2757:G:OP2	2.00	0.79
7:E:43:VAL:HB	7:E:52:VAL:HA	1.62	0.79
9:G:140:GLN:HG2	9:G:144:MET:HE2	1.62	0.79
14:L:54:ALA:O	14:L:71:VAL:HG23	1.82	0.79
1:X:1949:A:O2'	1:X:2572:U:H5'	1.82	0.79
20:R:105:ARG:HH12	20:R:113:THR:N	1.80	0.79
1:X:1985:G:OP1	13:K:10:LEU:HD13	1.82	0.79
5:C:197:GLU:HG2	5:C:198:GLU:HG3	1.65	0.79
9:G:33:ILE:HB	9:G:34:PRO:HD2	1.65	0.79
15:M:46:ARG:CG	15:M:47:SER:H	1.96	0.79
15:M:104:LEU:HA	15:M:106:TYR:CE2	2.17	0.79
19:Q:65:VAL:HG12	19:Q:66:GLY:H	1.48	0.79
1:X:918:A:H2'	1:X:919:U:H5"	1.62	0.79
1:X:1092:U:H4'	8:F:122:ALA:HA	1.65	0.79
1:X:2850:U:H5'	1:X:2850:U:H6	1.45	0.79
5:C:27:LEU:O	5:C:31:VAL:HG22	1.82	0.79
5:C:146:GLU:HG3	5:C:185:ARG:HH22	1.48	0.79
7:E:18:ASN:HB3	7:E:20:GLN:HE21	1.48	0.79
21:S:113:VAL:HG22	21:S:171:VAL:HG22	1.63	0.79
23:U:11:LYS:NZ	23:U:75:TYR:HB2	1.98	0.79
1:X:2265:A:H4'	1:X:2266:A:O5'	1.83	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:152:LYS:HB2	9:G:106:TYR:HB3	1.62	0.79
18:P:8:PHE:O	18:P:9:ARG:HB2	1.81	0.79
1:X:1075:C:H4'	8:F:88:SER:N	1.97	0.79
1:X:1922:U:H1'	1:X:2570:C:O2'	1.83	0.79
1:X:2212:U:H2'	1:X:2213:G:C8	2.18	0.79
1:X:2691:C:OP1	1:X:2694:G:H4'	1.83	0.79
12:J:131:LYS:HD2	21:S:76:ARG:NH2	1.98	0.79
1:X:1466:C:C2'	1:X:1467:U:O4'	2.31	0.79
1:X:1474:A:O2'	1:X:1475:U:H5'	1.83	0.79
1:X:2546:G:H2'	1:X:2547:C:H6	1.47	0.79
10:H:83:ARG:HD2	10:H:89:ILE:HD11	1.63	0.79
1:X:577:U:P	11:I:40:ARG:NH2	2.56	0.78
1:X:665:A:H5'	1:X:665:A:N3	1.99	0.78
1:X:1057:A:N3	1:X:1057:A:C2'	2.45	0.78
2:Y:108:G:O2'	2:Y:109:G:H5'	1.83	0.78
3:A:252:LYS:H	3:A:252:LYS:CE	1.96	0.78
5:C:130:THR:O	5:C:134:ILE:HG13	1.82	0.78
15:M:27:PHE:C	15:M:28:ARG:HG2	2.03	0.78
1:X:555:U:OP2	1:X:556:A:H2'	1.83	0.78
1:X:558:G:N3	1:X:558:G:C3'	2.45	0.78
1:X:689:A:H8	1:X:2052:G:H21	1.27	0.78
1:X:857:U:H3'	1:X:858:G:C8	2.19	0.78
9:G:93:LYS:N	9:G:93:LYS:HD2	1.97	0.78
20:R:18:LYS:H	20:R:18:LYS:HD3	1.48	0.78
1:X:1051:U:H2'	1:X:1052:C:H6	1.47	0.78
1:X:1778:U:H2'	1:X:1779:C:H6	1.46	0.78
1:X:2282:G:H4'	6:D:122:PHE:HA	1.63	0.78
1:X:333:A:H5"	5:C:162:ARG:CZ	2.12	0.78
6:D:108:LEU:HA	6:D:111:ILE:CD1	2.13	0.78
6:D:135:GLN:HG3	6:D:151:GLY:HA2	1.63	0.78
7:E:43:VAL:HG21	7:E:52:VAL:HG22	1.65	0.78
10:H:28:GLY:O	10:H:35:THR:N	2.15	0.78
14:L:60:LYS:HB2	14:L:63:ASN:O	1.84	0.78
26:Z:35:GLN:O	26:Z:37:HIS:N	2.16	0.78
30:4:25:VAL:HG21	30:4:34:GLN:HE21	1.49	0.78
1:X:421:G:H2'	1:X:422:C:C6	2.18	0.78
1:X:922:A:H2'	1:X:923:A:C8	2.19	0.78
1:X:1953:A:H5'	1:X:1954:A:OP1	1.83	0.78
3:A:231:HIS:CD2	3:A:233:HIS:H	2.00	0.78
12:J:20:GLY:C	12:J:99:LYS:HE2	2.03	0.78
23:U:70:LEU:HB3	23:U:79:GLU:OE2	1.83	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1031:C:H41	1:X:1153:A:N6	1.80	0.78
21:S:19:ILE:HG22	21:S:20:ALA:H	1.48	0.78
1:X:871:U:H2'	1:X:2247:A:H2'	1.63	0.78
1:X:1121:G:O2'	1:X:1122:A:C8	2.35	0.78
1:X:1788:C:O2'	3:A:257:LEU:HD12	1.83	0.78
19:Q:12:ILE:HG12	19:Q:13:SER:N	1.99	0.78
19:Q:29:VAL:HG11	19:Q:38:ILE:HD12	1.65	0.78
23:U:53:GLU:CD	23:U:57:VAL:HA	2.03	0.78
1:X:136:A:N7	1:X:137:A:N7	2.30	0.78
1:X:542:A:H8	16:N:28:ARG:HH21	1.31	0.78
1:X:1075:C:C5'	8:F:87:GLY:CA	2.54	0.78
1:X:1781:C:O2'	3:A:209:ALA:HB2	1.83	0.78
1:X:2592:U:H5"	1:X:2593:A:OP2	1.84	0.78
2:Y:46:G:C4'	6:D:92:ARG:HH12	1.97	0.78
3:A:79:VAL:CG1	3:A:113:VAL:HA	2.14	0.78
21:S:127:PRO:O	21:S:128:ARG:HG2	1.82	0.78
1:X:2195:C:C5	1:X:2196:U:C4	2.68	0.78
1:X:2286:G:N2	1:X:2290:A:H61	1.81	0.78
1:X:2800:C:H2'	1:X:2801:A:H5'	1.66	0.78
6:D:92:ARG:HH21	6:D:92:ARG:HG3	1.49	0.78
13:K:10:LEU:HD23	13:K:17:ARG:CB	2.14	0.78
1:X:1791:C:OP1	3:A:263:ARG:HG3	1.84	0.78
22:T:71:ASN:HD22	22:T:77:ARG:NH1	1.80	0.78
6:D:123:ASP:C	6:D:125:ARG:H	1.86	0.77
6:D:150:ARG:HG2	6:D:151:GLY:N	1.96	0.77
1:X:1324:G:H2'	1:X:1325:U:C6	2.19	0.77
2:Y:46:G:C5'	6:D:92:ARG:HH12	1.97	0.77
3:A:36:ALA:HB1	3:A:62:TYR:O	1.83	0.77
6:D:80:ARG:HD3	6:D:83:MET:HB3	1.67	0.77
13:K:13:ASN:C	13:K:13:ASN:HD22	1.87	0.77
23:U:41:VAL:HG23	23:U:42:GLN:N	2.00	0.77
1:X:136:A:C8	1:X:137:A:N7	2.52	0.77
1:X:303:C:O5'	1:X:303:C:H6	1.66	0.77
1:X:1186:G:C2'	1:X:1187:A:N3	2.43	0.77
1:X:2275:U:H4'	1:X:2276:C:OP1	1.83	0.77
3:A:160:GLY:N	3:A:196:VAL:HG23	1.99	0.77
18:P:27:VAL:CG2	18:P:125:THR:HG22	2.14	0.77
1:X:627:A:H2'	1:X:628:A:C8	2.20	0.77
1:X:865:A:H2'	1:X:866:U:H6	1.49	0.77
1:X:2256:G:OP2	12:J:86:LYS:HD2	1.83	0.77
2:Y:36:A:HO2'	2:Y:37:C:H5	1.32	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:231:HIS:CE1	3:A:247:VAL:HA	2.20	0.77
5:C:194:GLU:O	5:C:195:ILE:HG12	1.84	0.77
9:G:105:GLY:C	9:G:110:LEU:HD12	2.04	0.77
16:N:66:ASN:CG	16:N:70:ARG:HH12	1.88	0.77
20:R:93:ARG:NH2	20:R:108:VAL:HG13	1.99	0.77
21:S:123:VAL:N	21:S:161:ALA:HB2	1.99	0.77
30:4:1:MET:CE	30:4:33:LYS:HB3	2.14	0.77
1:X:542:A:H2	1:X:2004:U:H2'	1.44	0.77
1:X:2015:G:H2'	4:B:145:LYS:NZ	1.98	0.77
1:X:2823:G:O2'	1:X:2824:C:H6	1.67	0.77
4:B:152:LYS:HD2	9:G:106:TYR:H	1.49	0.77
1:X:1016:C:O2'	9:G:56:THR:HG21	1.84	0.77
1:X:1223:G:H4'	1:X:1224:A:C5'	2.14	0.77
23:U:51:ILE:CG1	23:U:59:THR:HG22	2.14	0.77
1:X:455:A:N7	5:C:39:ARG:HG3	1.99	0.77
1:X:925:U:H4'	1:X:926:C:OP1	1.84	0.77
6:D:74:ILE:HG12	6:D:80:ARG:C	2.05	0.77
6:D:75:SER:HB2	6:D:79:LEU:CD1	2.14	0.77
8:F:112:MET:CG	8:F:113:PRO:HD3	2.11	0.77
11:I:30:ALA:HB3	11:I:34:HIS:HE1	1.50	0.77
16:N:88:ILE:HA	17:O:49:GLU:HG3	1.64	0.77
23:U:49:LYS:HD3	23:U:61:TRP:CD2	2.20	0.77
1:X:2196:U:C2'	1:X:2197:U:C6	2.65	0.77
13:K:7:GLY:O	13:K:8:ARG:HG2	1.84	0.77
19:Q:6:ILE:HG22	19:Q:7:LEU:N	1.98	0.77
20:R:85:ASP:OD1	20:R:86:PRO:HD3	1.84	0.77
1:X:33:C:O2'	1:X:34:U:H5"	1.85	0.77
1:X:2229:G:H5'	12:J:84:MET:HG2	1.66	0.77
5:C:102:LEU:O	5:C:102:LEU:HD23	1.85	0.77
6:D:38:GLU:HB3	6:D:87:ILE:HB	1.66	0.77
6:D:111:ILE:CG2	6:D:114:PHE:HB2	2.14	0.77
9:G:110:LEU:N	9:G:110:LEU:CD2	2.48	0.77
11:I:11:GLY:H	11:I:14:LYS:CB	1.98	0.77
15:M:34:ARG:HH21	15:M:91:VAL:CG2	1.98	0.77
30:4:19:ARG:HH11	30:4:24:LEU:HD22	1.45	0.77
5:C:5:ASN:HA	5:C:118:VAL:CG2	2.15	0.77
7:E:65:HIS:C	7:E:67:LEU:H	1.89	0.77
21:S:141:MET:HA	21:S:145:ASP:OD1	1.83	0.77
24:V:41:HIS:HD2	24:V:42:ARG:N	1.81	0.77
1:X:417:C:H1'	1:X:419:G:C8	2.20	0.76
1:X:1467:U:C4	1:X:1473:U:N3	2.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2195:C:C4	1:X:2196:U:C5	2.72	0.76
1:X:2775:U:H5'	1:X:2776:U:H5"	1.66	0.76
3:A:124:GLU:O	3:A:126:LYS:HG3	1.85	0.76
4:B:31:CYS:HB3	4:B:49:ILE:CG1	2.14	0.76
4:B:154:LYS:CE	4:B:156:MET:SD	2.74	0.76
9:G:107:GLN:HA	9:G:110:LEU:HG	1.65	0.76
1:X:492:G:H1'	1:X:516:G:N2	2.01	0.76
1:X:1053:G:C2'	1:X:1054:C:C6	2.61	0.76
1:X:2516:U:H2'	1:X:2517:C:H6	1.44	0.76
5:C:179:ASP:O	5:C:182:ARG:HB3	1.86	0.76
7:E:124:ALA:HB3	7:E:132:ASP:HB3	1.67	0.76
7:E:136:ILE:HD12	7:E:136:ILE:N	2.00	0.76
11:I:89:ASP:OD2	11:I:120:VAL:HA	1.85	0.76
12:J:106:GLU:CD	12:J:106:GLU:N	2.38	0.76
20:R:90:LYS:CB	20:R:108:VAL:HG21	2.15	0.76
20:R:105:ARG:HH12	20:R:112:LYS:C	1.88	0.76
22:T:74:LYS:O	22:T:76:ALA:N	2.18	0.76
24:V:4:SER:HB3	24:V:7:ARG:NH2	1.99	0.76
1:X:490:A:O2'	1:X:492:G:H5"	1.84	0.76
1:X:717:G:H1'	1:X:740:A:N6	2.00	0.76
15:M:33:VAL:HG22	15:M:51:GLU:CB	2.15	0.76
15:M:37:THR:HG21	15:M:39:VAL:HG13	1.66	0.76
16:N:61:TRP:HZ3	16:N:94:VAL:N	1.82	0.76
18:P:36:ARG:NH2	26:Z:20:ARG:CZ	2.48	0.76
3:A:164:GLN:HE22	3:A:166:GLN:HE21	1.31	0.76
11:I:10:PRO:HA	11:I:14:LYS:HB2	1.68	0.76
1:X:839:U:H5"	1:X:2408:G:OP2	1.85	0.76
1:X:1996:A:C2	18:P:109:ARG:NH2	2.53	0.76
1:X:2736:U:H5"	30:4:19:ARG:HA	1.68	0.76
1:X:2873:G:H2'	1:X:2874:A:C8	2.21	0.76
19:Q:4:TYR:HE1	19:Q:45:ALA:HA	1.50	0.76
24:V:41:HIS:CD2	24:V:42:ARG:N	2.53	0.76
1:X:1935:A:C4	10:H:22:ILE:HD11	2.21	0.76
3:A:121:PRO:HG2	3:A:122:GLU:OE1	1.85	0.76
7:E:18:ASN:HB2	7:E:25:LYS:HB3	1.67	0.76
19:Q:69:ILE:HD13	19:Q:70:GLY:O	1.85	0.76
23:U:52:ARG:HD2	23:U:79:GLU:HA	1.67	0.76
30:4:1:MET:HE1	30:4:33:LYS:HB3	1.68	0.76
1:X:409:G:O2'	1:X:410:A:H5'	1.86	0.76
1:X:652:C:H42	1:X:657:A:N6	1.77	0.76
1:X:1052:C:C3'	1:X:1053:G:C5'	2.57	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1188:A:C8	1:X:1188:A:P	2.78	0.76
1:X:2175:A:H2'	1:X:2176:U:H6	1.51	0.76
3:A:208:LYS:HA	3:A:208:LYS:HE3	1.66	0.76
9:G:70:PHE:HB2	16:N:64:ARG:HG2	1.67	0.76
1:X:2404:A:H1'	1:X:2406:C:C4	2.20	0.76
1:X:2407:G:OP1	1:X:2408:G:OP1	2.04	0.76
12:J:27:TYR:HB3	12:J:137:VAL:CG2	2.16	0.76
15:M:17:GLU:HG3	15:M:62:SER:OG	1.84	0.76
23:U:54:ASN:C	23:U:56:GLN:H	1.88	0.76
1:X:514:G:O6	18:P:20:LEU:HD13	1.86	0.76
1:X:1849:G:H1'	1:X:1868:A:H61	1.50	0.76
1:X:2625:U:H6	1:X:2625:U:OP2	1.69	0.76
3:A:108:PRO:HB3	3:A:143:HIS:HE1	1.49	0.76
9:G:61:ARG:HB3	9:G:61:ARG:NH2	1.99	0.76
9:G:115:ALA:O	9:G:118:ALA:HB3	1.86	0.76
13:K:37:THR:OG1	13:K:40:LYS:HG3	1.86	0.76
15:M:6:LYS:H	15:M:6:LYS:HD2	1.50	0.76
1:X:651:C:H2'	1:X:652:C:H5"	1.68	0.75
1:X:2379:G:O2'	1:X:2380:U:H5'	1.86	0.75
5:C:148:VAL:CB	5:C:167:VAL:HG12	2.15	0.75
15:M:34:ARG:HH11	15:M:81:PHE:HB3	1.50	0.75
23:U:28:GLY:HA3	23:U:32:ARG:HB3	1.67	0.75
1:X:224:G:H4'	1:X:399:G:C6	2.21	0.75
1:X:1122:A:C2	1:X:1123:G:H1'	2.21	0.75
5:C:109:ALA:O	5:C:113:GLU:HG3	1.85	0.75
6:D:67:ILE:HG21	6:D:84:PRO:HB3	1.67	0.75
7:E:89:LEU:HD13	7:E:95:ARG:HA	1.66	0.75
14:L:40:ALA:HB1	14:L:75:LEU:HD22	1.68	0.75
21:S:63:PRO:C	21:S:86:VAL:HG23	2.07	0.75
1:X:540:G:HO2'	1:X:542:A:H2	1.32	0.75
14:L:33:ARG:CG	14:L:38:ILE:HB	2.16	0.75
1:X:427:C:H1'	1:X:1856:U:H1'	1.69	0.75
1:X:617:U:H5	1:X:632:A:C2	2.03	0.75
3:A:77:ALA:HB2	3:A:97:TYR:CD1	2.21	0.75
3:A:125:PRO:HG3	3:A:131:LEU:HD13	1.67	0.75
13:K:24:GLN:HB2	13:K:44:LEU:HD13	1.68	0.75
1:X:746:G:O6	1:X:774:A:C8	2.39	0.75
1:X:1737:G:H2'	1:X:1738:U:H6	1.50	0.75
1:X:2581:A:H5'	1:X:2582:G:OP2	1.86	0.75
3:A:183:ARG:HH11	3:A:183:ARG:CB	1.94	0.75
3:A:247:VAL:HG23	3:A:248:THR:HG23	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:139:GLN:HE21	5:C:139:GLN:CA	1.99	0.75
6:D:29:PRO:HB3	6:D:160:ALA:HA	1.66	0.75
10:H:2:ILE:HD12	10:H:8:LEU:HD21	1.68	0.75
15:M:102:ALA:O	15:M:103:LYS:HD2	1.86	0.75
21:S:113:VAL:HG22	21:S:171:VAL:HG13	1.69	0.75
23:U:49:LYS:HB3	23:U:61:TRP:CE3	2.21	0.75
23:U:52:ARG:NH1	23:U:67:LEU:HG	2.01	0.75
1:X:1526:U:H2'	1:X:1527:G:O4'	1.86	0.75
3:A:73:SER:HA	3:A:119:ALA:HB3	1.69	0.75
9:G:84:ASN:O	9:G:86:ALA:N	2.19	0.75
18:P:49:SER:O	18:P:51:GLN:N	2.19	0.75
21:S:19:ILE:CD1	21:S:36:ARG:HA	2.17	0.75
1:X:389:G:H2'	1:X:390:U:C6	2.22	0.75
1:X:1608:U:H2'	1:X:1609:G:H8	1.51	0.75
1:X:1851:A:H62	1:X:1866:G:H21	1.35	0.75
1:X:2329:C:H2'	1:X:2330:G:O4'	1.86	0.75
1:X:2426:G:H4'	1:X:2427:A:O5'	1.87	0.75
2:Y:46:G:H4'	6:D:92:ARG:NH1	2.02	0.75
8:F:120:VAL:HG12	8:F:121:GLU:N	2.02	0.75
14:L:33:ARG:NH1	14:L:100:VAL:HA	2.01	0.75
14:L:101:LYS:O	14:L:104:ALA:HB3	1.87	0.75
24:V:32:ALA:HB2	24:V:37:LEU:HD12	1.67	0.75
1:X:82:G:H22	1:X:100:G:C2'	1.96	0.75
1:X:149:A:H2'	1:X:150:A:C8	2.21	0.75
1:X:304:A:C2'	1:X:305:A:H5"	2.12	0.75
1:X:984:A:H1'	1:X:1202:U:C5	2.22	0.75
1:X:2205:C:H2'	1:X:2206:C:H5'	1.68	0.75
6:D:57:LEU:HA	6:D:60:ILE:HD11	1.67	0.75
13:K:49:GLU:O	13:K:52:ILE:HG12	1.86	0.75
14:L:15:ARG:HD2	14:L:91:ARG:NH1	1.96	0.75
19:Q:69:ILE:HD13	19:Q:70:GLY:H	1.48	0.75
19:Q:81:ARG:HG3	19:Q:81:ARG:HH11	1.50	0.75
21:S:127:PRO:CA	21:S:130:ILE:HD11	2.15	0.75
1:X:789:G:H4'	1:X:790:A:O5'	1.87	0.75
1:X:1416:A:H2'	1:X:1417:C:H6	1.52	0.75
1:X:1919:A:C2	1:X:1926:U:N3	2.52	0.75
1:X:1978:U:C3'	1:X:1979:C:H5"	2.16	0.75
17:O:39:PHE:CE2	17:O:51:ALA:HB1	2.21	0.75
21:S:6:LYS:HB2	21:S:31:SER:C	2.06	0.75
24:V:55:THR:O	24:V:59:GLU:HG3	1.87	0.75
25:W:40:VAL:HA	25:W:43:MET:CG	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:98:U:H4'	1:X:99:U:H5"	1.68	0.74
1:X:492:G:H1'	1:X:516:G:H21	1.52	0.74
3:A:77:ALA:HB2	3:A:97:TYR:HD1	1.51	0.74
7:E:28:GLY:HA3	7:E:79:VAL:HB	1.69	0.74
7:E:154:PRO:HA	7:E:160:LYS:O	1.86	0.74
9:G:40:ASN:OD1	9:G:42:VAL:HG23	1.87	0.74
14:L:38:ILE:HG13	14:L:39:TYR:N	2.00	0.74
22:T:4:LYS:C	22:T:5:LYS:HD2	2.07	0.74
1:X:73:A:H5"	1:X:74:G:O4'	1.88	0.74
1:X:1167:A:H61	16:N:48:ARG:HD3	1.49	0.74
1:X:1186:G:H2'	1:X:1187:A:C4	2.22	0.74
1:X:1313:U:H4'	1:X:1314:A:O5'	1.87	0.74
1:X:1563:U:H2'	1:X:1564:U:C6	2.22	0.74
8:F:103:GLN:O	8:F:106:GLU:HG2	1.87	0.74
14:L:36:LYS:HA	14:L:36:LYS:HE3	1.68	0.74
21:S:3:LEU:HD13	21:S:33:ALA:C	2.06	0.74
30:4:9:LYS:H	30:4:9:LYS:HD2	1.52	0.74
1:X:591:G:H2'	1:X:592:G:C8	2.23	0.74
1:X:1070:G:O2'	8:F:74:MET:CE	2.35	0.74
1:X:1850:G:N2	1:X:1867:A:C8	2.54	0.74
8:F:99:LEU:HB2	8:F:103:GLN:HE22	1.49	0.74
12:J:71:PRO:HA	12:J:96:SER:HB2	1.69	0.74
20:R:95:ARG:NH1	20:R:106:VAL:HA	2.02	0.74
1:X:969:U:H5"	12:J:17:ARG:HH11	1.52	0.74
1:X:1094:C:H2'	1:X:1096:A:C5'	2.17	0.74
1:X:2352:A:H2'	1:X:2353:G:C8	2.23	0.74
3:A:251:GLY:HA3	3:A:255:LYS:NZ	2.02	0.74
7:E:58:ALA:H	7:E:62:ARG:CG	1.96	0.74
11:I:28:LYS:HZ2	11:I:36:GLY:CA	2.00	0.74
13:K:45:ARG:HG3	13:K:95:THR:HG21	1.69	0.74
21:S:51:LEU:HD23	21:S:51:LEU:H	1.52	0.74
1:X:403:A:H5"	1:X:404:A:OP1	1.88	0.74
1:X:618:A:OP1	5:C:94:THR:HG21	1.88	0.74
1:X:746:G:N7	1:X:774:A:C5	2.55	0.74
1:X:947:C:H2'	1:X:948:C:H6	1.51	0.74
1:X:1181:C:H2'	1:X:1182:U:H5"	1.68	0.74
7:E:95:ARG:HG3	7:E:106:ASN:HB3	1.70	0.74
10:H:23:ARG:HH12	10:H:25:LEU:CA	1.98	0.74
12:J:78:LYS:HA	12:J:88:LYS:HZ3	1.53	0.74
14:L:17:VAL:HG13	14:L:18:ARG:N	2.02	0.74
19:Q:7:LEU:HD23	24:V:30:PHE:HE2	1.53	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:66:GLY:C	19:Q:68:PHE:H	1.90	0.74
20:R:82:ALA:O	20:R:83:LEU:HD12	1.87	0.74
21:S:13:LYS:HB2	21:S:13:LYS:NZ	2.02	0.74
21:S:94:VAL:HG23	21:S:125:PRO:HG3	1.70	0.74
1:X:134:G:H2'	1:X:136:A:OP2	1.88	0.74
1:X:1782:A:H1'	3:A:208:LYS:HE3	1.68	0.74
1:X:2218:G:O4'	3:A:249:PRO:HG3	1.87	0.74
1:X:2546:G:H2'	1:X:2547:C:C6	2.23	0.74
6:D:33:LYS:HA	6:D:96:MET:SD	2.27	0.74
9:G:33:ILE:HB	9:G:34:PRO:HD3	1.69	0.74
10:H:4:PRO:HA	10:H:21:CYS:O	1.87	0.74
12:J:27:TYR:HB3	12:J:137:VAL:HG21	1.69	0.74
1:X:648:A:H4'	1:X:649:G:O4'	1.88	0.74
1:X:1036:G:C4	1:X:1145:C:H1'	2.23	0.74
1:X:1337:G:H1'	1:X:1632:A:N6	2.03	0.74
2:Y:19:C:H2'	2:Y:20:A:O4'	1.88	0.74
3:A:72:LYS:HE2	3:A:97:TYR:CD2	2.23	0.74
3:A:244:ARG:CB	3:A:252:LYS:HZ1	2.00	0.74
6:D:13:ARG:HH21	6:D:17:MET:CE	2.01	0.74
11:I:71:THR:HB	11:I:104:ARG:HD3	1.68	0.74
20:R:16:PHE:HB3	20:R:82:ALA:HB1	1.68	0.74
21:S:23:ALA:HB3	21:S:32:PHE:HE1	1.52	0.74
4:B:162:MET:HE2	4:B:162:MET:HA	1.68	0.74
13:K:10:LEU:HD23	13:K:17:ARG:HB2	1.69	0.74
18:P:87:GLU:HA	18:P:90:LEU:HG	1.69	0.74
1:X:787:A:H5"	3:A:48:ARG:HH22	1.53	0.74
1:X:1373:G:H22	1:X:2192:U:H3	1.35	0.74
1:X:1486:A:H2'	1:X:1487:C:C6	2.23	0.74
1:X:1584:G:H5"	3:A:61:LEU:HG	1.68	0.74
3:A:217:ARG:HH21	3:A:218:LYS:HE2	1.52	0.74
8:F:120:VAL:O	8:F:122:ALA:N	2.21	0.74
16:N:88:ILE:HG23	17:O:49:GLU:HB2	1.69	0.74
24:V:35:GLY:O	24:V:36:GLN:HB2	1.87	0.74
1:X:417:C:N1	1:X:419:G:C8	2.56	0.74
1:X:1734:C:C4	1:X:1735:G:H1'	2.23	0.74
2:Y:42:U:H1'	2:Y:47:A:N6	2.02	0.74
3:A:244:ARG:N	3:A:244:ARG:HD3	2.02	0.74
4:B:72:VAL:HG12	4:B:73:ALA:N	2.02	0.74
6:D:4:LEU:CD1	6:D:5:LYS:H	2.00	0.74
9:G:94:LYS:O	9:G:117:GLU:HB2	1.87	0.74
18:P:40:LEU:CD1	18:P:62:ARG:HH12	2.01	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:113:VAL:HG13	21:S:171:VAL:HG22	1.68	0.74
24:V:2:LYS:CG	24:V:3:PRO:HD3	2.17	0.74
1:X:1053:G:N2	1:X:1124:U:O2	2.17	0.73
1:X:2036:G:O2'	1:X:2037:A:H5'	1.88	0.73
1:X:2218:G:H5'	3:A:249:PRO:HB3	1.69	0.73
23:U:51:ILE:HA	23:U:59:THR:O	1.87	0.73
1:X:987:G:H4'	1:X:1167:A:N7	2.02	0.73
1:X:1430:G:H2'	1:X:1431:U:C6	2.23	0.73
1:X:1885:C:C5'	3:A:244:ARG:HD2	2.18	0.73
1:X:2356:A:H1'	14:L:89:PHE:CE2	2.22	0.73
6:D:32:GLU:HB3	6:D:157:VAL:HG12	1.70	0.73
17:O:14:VAL:O	17:O:15:SER:HB2	1.86	0.73
17:O:64:GLY:HA3	17:O:90:PHE:CZ	2.23	0.73
20:R:18:LYS:HE2	20:R:18:LYS:C	2.08	0.73
20:R:85:ASP:H	20:R:86:PRO:HD3	1.52	0.73
20:R:93:ARG:HA	20:R:95:ARG:NH2	2.03	0.73
1:X:1018:C:C3'	1:X:1019:U:C5'	2.66	0.73
1:X:1125:G:H2'	1:X:1126:A:H8	1.52	0.73
1:X:1841:G:H2'	1:X:1842:G:H5'	1.70	0.73
1:X:2448:A:H2'	1:X:2449:G:O4'	1.88	0.73
6:D:75:SER:N	6:D:79:LEU:HD22	2.03	0.73
9:G:83:ILE:HG13	9:G:84:ASN:ND2	2.03	0.73
9:G:158:HIS:HA	9:G:161:GLN:CD	2.08	0.73
11:I:45:LYS:HE2	11:I:47:ALA:CB	2.15	0.73
15:M:34:ARG:CZ	15:M:88:VAL:HG11	2.18	0.73
15:M:106:TYR:CE1	15:M:107:LEU:CD2	2.71	0.73
17:O:15:SER:OG	17:O:96:LEU:HA	1.88	0.73
1:X:90:G:OP1	1:X:90:G:C4'	2.36	0.73
1:X:497:C:H5'	1:X:497:C:C6	2.23	0.73
1:X:674:U:H2'	1:X:675:C:O4'	1.89	0.73
16:N:66:ASN:HD22	16:N:70:ARG:NH2	1.86	0.73
25:W:16:GLN:O	25:W:20:VAL:HG23	1.88	0.73
1:X:101:A:OP1	1:X:101:A:C8	2.38	0.73
1:X:862:A:H2'	1:X:863:C:C6	2.22	0.73
1:X:1277:G:OP1	26:Z:19:ARG:NH2	2.21	0.73
1:X:2178:U:O2'	1:X:2179:C:H5'	1.87	0.73
1:X:2357:A:H61	14:L:18:ARG:CZ	2.02	0.73
1:X:2672:U:H2'	1:X:2673:G:C8	2.23	0.73
4:B:146:THR:HB	4:B:147:PRO:HD2	1.69	0.73
6:D:134:GLU:HG2	6:D:136:LEU:H	1.53	0.73
7:E:105:MET:HB2	7:E:113:VAL:HB	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:105:MET:HE1	7:E:131:ILE:HD11	1.69	0.73
16:N:66:ASN:ND2	16:N:70:ARG:NH1	2.37	0.73
17:O:40:VAL:HG12	17:O:45:THR:HA	1.70	0.73
1:X:2195:C:H2'	1:X:2196:U:O4'	1.89	0.73
1:X:2811:G:H2'	1:X:2812:A:C8	2.23	0.73
2:Y:119:G:H4'	14:L:57:ALA:HB1	1.71	0.73
3:A:58:HIS:O	3:A:59:LYS:HB3	1.87	0.73
10:H:70:VAL:HG22	10:H:71:LYS:H	1.52	0.73
10:H:132:GLU:HB2	15:M:73:PHE:CE1	2.22	0.73
20:R:24:VAL:HB	20:R:29:HIS:O	1.88	0.73
22:T:31:VAL:HG22	22:T:67:VAL:HG23	1.71	0.73
1:X:826:U:H2'	1:X:827:C:C6	2.23	0.73
1:X:1737:G:H2'	1:X:1738:U:C6	2.23	0.73
4:B:120:TRP:CD2	4:B:155:ARG:HD2	2.24	0.73
9:G:36:ASN:C	9:G:38:GLU:H	1.90	0.73
9:G:67:ARG:HB3	9:G:70:PHE:HA	1.70	0.73
12:J:79:PRO:HD3	12:J:88:LYS:HZ2	1.53	0.73
17:O:28:GLU:O	17:O:30:GLY:N	2.21	0.73
1:X:177:U:H3'	1:X:178:C:C6	2.24	0.73
1:X:306:G:N2	1:X:355:G:H1'	2.03	0.73
1:X:554:U:O2	1:X:554:U:H2'	1.87	0.73
1:X:645:G:H2'	1:X:646:C:C6	2.24	0.73
1:X:1055:A:C4	1:X:1055:A:H3'	2.21	0.73
5:C:15:ILE:HG22	5:C:17:LEU:HD13	1.71	0.73
6:D:123:ASP:O	6:D:125:ARG:N	2.22	0.73
9:G:42:VAL:HG13	9:G:166:LEU:O	1.88	0.73
12:J:78:LYS:HE2	12:J:81:GLU:CA	2.11	0.73
15:M:31:ASP:OD2	15:M:31:ASP:N	2.22	0.73
17:O:36:LYS:HD3	17:O:39:PHE:CE2	2.24	0.73
18:P:80:LEU:HD21	18:P:87:GLU:HB3	1.71	0.73
25:W:46:THR:CG2	25:W:47:VAL:HG13	2.19	0.73
1:X:136:A:C6	1:X:137:A:C6	2.77	0.73
1:X:1031:C:O2	1:X:1031:C:H2'	1.87	0.73
1:X:1473:U:OP2	1:X:1473:U:H6	1.71	0.73
1:X:2195:C:N4	1:X:2196:U:C4	2.56	0.73
1:X:2237:C:H4'	1:X:2238:G:OP2	1.87	0.73
1:X:2418:A:H4'	1:X:2419:C:O5'	1.86	0.73
5:C:26:VAL:HA	11:I:18:ARG:HH11	1.52	0.73
11:I:76:LYS:CG	11:I:111:SER:HB2	2.17	0.73
17:O:90:PHE:HD1	17:O:91:THR:N	1.85	0.73
18:P:44:VAL:HG21	18:P:60:ILE:CD1	2.19	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:2:LYS:HB3	25:W:54:GLN:CB	2.15	0.73
1:X:333:A:H5'	5:C:162:ARG:HG3	1.69	0.73
1:X:1429:A:O2'	1:X:1430:G:H4'	1.89	0.73
1:X:2310:G:C4'	22:T:42:GLY:HA3	2.19	0.73
3:A:70:ARG:HG2	3:A:190:TYR:CE1	2.23	0.73
3:A:245:VAL:HA	3:A:252:LYS:HE2	1.70	0.73
8:F:112:MET:HA	8:F:115:LEU:HD12	1.71	0.73
9:G:36:ASN:O	9:G:38:GLU:N	2.21	0.73
11:I:86:THR:H	11:I:116:ARG:HH12	1.35	0.73
25:W:9:VAL:O	25:W:12:ARG:HB2	1.89	0.73
25:W:36:ASP:CG	25:W:41:ARG:HH12	1.92	0.73
1:X:71:A:N6	1:X:110:U:H4'	2.04	0.72
1:X:774:A:H3'	1:X:774:A:H8	1.54	0.72
1:X:1448:A:H61	1:X:1574:A:N6	1.85	0.72
3:A:270:ILE:HG13	3:A:271:VAL:N	2.03	0.72
7:E:139:GLN:HB3	7:E:143:GLN:CD	2.09	0.72
20:R:60:PRO:O	20:R:62:MET:N	2.18	0.72
21:S:4:THR:CB	21:S:57:GLU:HB2	2.15	0.72
1:X:537:C:H1'	1:X:538:A:N6	2.03	0.72
1:X:1218:C:C5'	11:I:13:ARG:HH11	2.02	0.72
6:D:39:GLY:HA2	6:D:86:GLY:HA2	1.71	0.72
6:D:40:LEU:HA	6:D:150:ARG:NH2	2.05	0.72
20:R:25:LEU:HD22	20:R:26:SER:HB3	1.72	0.72
20:R:107:ALA:CB	20:R:111:GLY:HA2	2.19	0.72
1:X:98:U:C4'	1:X:99:U:O5'	2.30	0.72
1:X:531:G:H2'	1:X:532:A:H8	1.53	0.72
1:X:1978:U:H5"	1:X:1979:C:H5'	1.71	0.72
1:X:2048:C:O2'	1:X:2049:C:H5'	1.90	0.72
3:A:92:ILE:CG2	3:A:104:TYR:HD2	2.02	0.72
5:C:48:ARG:CB	5:C:51:VAL:HG22	2.19	0.72
6:D:97:TYR:CD2	6:D:100:LEU:HD23	2.23	0.72
11:I:76:LYS:HE3	11:I:111:SER:CB	2.19	0.72
23:U:70:LEU:HD22	23:U:79:GLU:HG2	1.70	0.72
24:V:50:VAL:CA	24:V:53:LEU:HD12	2.18	0.72
1:X:168:A:O2'	1:X:169:C:H5'	1.89	0.72
1:X:469:G:HO2'	1:X:480:G:H1	1.35	0.72
1:X:558:G:N3	1:X:558:G:H5"	2.03	0.72
1:X:731:A:O5'	1:X:731:A:N3	2.22	0.72
1:X:1051:U:H2'	1:X:1052:C:O4'	1.89	0.72
1:X:1117:G:H2'	1:X:1118:G:C8	2.25	0.72
1:X:1124:U:O2'	1:X:1125:G:H5'	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:112:A:H2'	2:Y:113:G:C8	2.24	0.72
6:D:12:VAL:HG12	6:D:16:LEU:CD1	2.17	0.72
17:O:25:LEU:HB2	17:O:32:LYS:HZ1	1.54	0.72
21:S:10:PRO:O	21:S:13:LYS:HG3	1.87	0.72
23:U:15:VAL:HA	23:U:45:ASN:O	1.90	0.72
1:X:461:A:C4'	16:N:3:ARG:HH21	2.02	0.72
1:X:1333:G:N2	1:X:1344:C:H41	1.87	0.72
1:X:2311:U:H5'	1:X:2315:A:N6	2.04	0.72
3:A:42:GLY:C	3:A:43:ARG:NH1	2.43	0.72
4:B:149:ARG:HH12	9:G:106:TYR:HD1	1.37	0.72
5:C:39:ARG:HG2	5:C:39:ARG:HH11	1.54	0.72
7:E:58:ALA:N	7:E:62:ARG:HG3	1.99	0.72
17:O:86:HIS:CD2	17:O:87:ARG:N	2.56	0.72
1:X:1690:U:H2'	1:X:1691:G:H5'	1.72	0.72
5:C:48:ARG:HB2	5:C:51:VAL:CG2	2.19	0.72
11:I:86:THR:OG1	11:I:118:VAL:HG12	1.90	0.72
13:K:82:GLU:O	13:K:86:LYS:HG3	1.89	0.72
14:L:33:ARG:HH12	14:L:103:LEU:H	1.37	0.72
19:Q:62:ARG:O	19:Q:63:LYS:HB3	1.88	0.72
21:S:13:LYS:HB2	21:S:13:LYS:HZ3	1.53	0.72
1:X:98:U:H1'	1:X:100:G:N7	2.04	0.72
1:X:317:U:H2'	1:X:318:G:C5'	2.18	0.72
1:X:731:A:C2'	1:X:732:G:O4'	2.36	0.72
1:X:2712:G:H3'	1:X:2713:A:C5'	2.18	0.72
3:A:228:PRO:HD3	3:A:235:GLY:H	1.55	0.72
11:I:32:ARG:NH2	17:O:81:ARG:NE	2.37	0.72
12:J:11:ARG:NH2	12:J:15:ARG:HH22	1.88	0.72
14:L:68:ALA:HB1	14:L:102:ALA:HB1	1.71	0.72
23:U:29:GLY:O	23:U:31:GLY:N	2.22	0.72
1:X:1072:U:H4'	1:X:1073:G:OP2	1.89	0.72
2:Y:31:A:H2'	2:Y:32:C:C6	2.25	0.72
3:A:164:GLN:OE1	3:A:176:ARG:HB3	1.88	0.72
7:E:92:VAL:O	7:E:94:PHE:N	2.23	0.72
19:Q:66:GLY:O	19:Q:68:PHE:N	2.22	0.72
23:U:13:LEU:HD12	23:U:14:VAL:H	1.54	0.72
25:W:12:ARG:HG2	25:W:12:ARG:HH11	1.54	0.72
1:X:196:A:H2	1:X:211:U:O2	1.72	0.72
1:X:417:C:C2	1:X:419:G:C5	2.77	0.72
1:X:566:U:O2'	1:X:567:G:H5'	1.90	0.72
1:X:1816:G:OP1	3:A:52:ARG:HD3	1.90	0.72
1:X:1857:G:N2	1:X:1860:A:OP2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:33:LEU:HD12	7:E:34:THR:H	1.53	0.72
12:J:14:PHE:O	12:J:15:ARG:HG3	1.90	0.72
12:J:60:ARG:HG2	12:J:60:ARG:HH11	1.55	0.72
14:L:87:VAL:HG12	14:L:88:VAL:N	2.04	0.72
17:O:35:LEU:O	17:O:36:LYS:HB2	1.89	0.72
1:X:1736:C:H2'	1:X:1737:G:C8	2.25	0.72
3:A:160:GLY:HA2	3:A:196:VAL:O	1.89	0.72
3:A:231:HIS:HD2	3:A:233:HIS:H	1.34	0.72
5:C:3:GLN:HG2	5:C:116:LYS:HD2	1.71	0.72
11:I:88:PHE:O	11:I:93:LEU:HB2	1.90	0.72
16:N:93:LYS:HD2	16:N:93:LYS:O	1.89	0.72
21:S:105:GLN:O	21:S:142:ASN:HA	1.90	0.72
25:W:14:GLY:O	25:W:17:VAL:HB	1.90	0.72
1:X:242:A:H2'	1:X:243:G:O4'	1.90	0.71
1:X:925:U:O2'	1:X:926:C:H5'	1.89	0.71
1:X:1402:G:H2'	1:X:1403:U:O4'	1.90	0.71
1:X:1705:U:O2	1:X:1717:A:H5"	1.90	0.71
4:B:1:MET:HG3	4:B:83:GLY:O	1.90	0.71
5:C:104:LEU:N	5:C:104:LEU:HD23	2.05	0.71
9:G:44:VAL:HG12	9:G:45:ASP:N	2.05	0.71
9:G:170:PRO:O	9:G:171:LEU:HD23	1.90	0.71
12:J:69:ILE:HG23	12:J:104:MET:HA	1.71	0.71
16:N:61:TRP:CZ3	16:N:94:VAL:N	2.56	0.71
19:Q:91:LEU:HD22	19:Q:91:LEU:N	2.04	0.71
21:S:18:MET:HA	21:S:36:ARG:N	2.05	0.71
21:S:64:ALA:CA	21:S:85:MET:HA	2.19	0.71
21:S:168:VAL:HG12	21:S:169:VAL:HG13	1.69	0.71
1:X:788:G:H5'	1:X:790:A:C1'	2.20	0.71
1:X:1034:U:H2'	1:X:1035:G:H5'	1.71	0.71
1:X:2451:G:O6	1:X:2455:A:H4'	1.89	0.71
7:E:126:PRO:HG2	7:E:127:GLU:H	1.54	0.71
14:L:8:ARG:HG3	14:L:9:ARG:H	1.55	0.71
1:X:514:G:H22	18:P:15:LYS:HA	1.53	0.71
1:X:1411:C:O2'	1:X:1412:C:H5'	1.90	0.71
1:X:2310:G:H4'	22:T:43:THR:N	2.05	0.71
1:X:2668:U:H5'	1:X:2669:C:H5'	1.72	0.71
3:A:125:PRO:HG3	3:A:131:LEU:CD1	2.20	0.71
7:E:68:THR:O	7:E:72:VAL:HG23	1.90	0.71
9:G:61:ARG:CZ	9:G:65:LYS:HD2	2.20	0.71
12:J:64:LYS:H	12:J:64:LYS:CD	1.96	0.71
14:L:63:ASN:CB	14:L:66:ASP:HB2	2.19	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:50:ARG:C	16:N:52:ASN:N	2.40	0.71
19:Q:59:PRO:HA	19:Q:74:ASP:OD1	1.90	0.71
1:X:332:C:C1'	5:C:159:ARG:HE	2.03	0.71
1:X:2736:U:H4'	1:X:2737:A:OP1	1.89	0.71
3:A:132:PRO:O	3:A:136:VAL:HG23	1.90	0.71
6:D:41:GLY:HA2	6:D:44:LYS:O	1.90	0.71
19:Q:29:VAL:HG11	19:Q:38:ILE:CD1	2.21	0.71
22:T:3:HIS:HD2	22:T:5:LYS:HD3	1.54	0.71
24:V:14:PHE:CD2	24:V:57:LYS:HB2	2.25	0.71
24:V:14:PHE:HD2	24:V:57:LYS:HB2	1.54	0.71
1:X:1753:A:H8	1:X:1753:A:O5'	1.73	0.71
1:X:1787:U:H2'	1:X:1788:C:C6	2.25	0.71
1:X:2796:A:H5"	4:B:162:MET:CE	2.19	0.71
1:X:2873:G:H21	9:G:162:LYS:NZ	1.88	0.71
2:Y:30:C:OP1	14:L:37:HIS:CB	2.39	0.71
6:D:33:LYS:HB2	6:D:91:LEU:O	1.91	0.71
16:N:39:LEU:HA	16:N:42:ALA:CB	2.20	0.71
18:P:14:ARG:HA	18:P:17:GLN:HG2	1.72	0.71
1:X:541:C:O2'	1:X:542:A:OP2	2.07	0.71
1:X:729:A:C2'	1:X:730:C:O4'	2.35	0.71
1:X:2195:C:H2'	1:X:2196:U:C1'	2.21	0.71
5:C:26:VAL:O	5:C:30:VAL:HG23	1.89	0.71
9:G:98:LYS:HB3	9:G:116:ARG:HB2	1.73	0.71
16:N:72:HIS:CD2	16:N:110:VAL:HG21	2.21	0.71
16:N:93:LYS:NZ	17:O:10:LYS:HZ3	1.89	0.71
17:O:57:GLN:N	17:O:97:GLY:HA3	2.03	0.71
17:O:66:GLY:O	17:O:87:ARG:HD3	1.90	0.71
20:R:18:LYS:HA	20:R:36:VAL:HG12	1.72	0.71
21:S:141:MET:HB3	21:S:171:VAL:CG2	2.20	0.71
1:X:208:C:C2'	1:X:209:G:H5'	2.20	0.71
1:X:914:C:H2'	1:X:915:C:C6	2.26	0.71
4:B:120:TRP:O	4:B:121:ASN:HB2	1.89	0.71
6:D:143:TYR:HA	6:D:146:VAL:CG2	2.21	0.71
10:H:27:SER:HB3	10:H:50:ILE:H	1.54	0.71
15:M:27:PHE:HB3	15:M:93:ILE:HD12	1.71	0.71
16:N:74:MET:O	16:N:75:ASN:HB3	1.90	0.71
21:S:10:PRO:O	21:S:14:LEU:HG	1.91	0.71
1:X:514:G:N2	18:P:15:LYS:CA	2.53	0.71
1:X:797:A:H5"	3:A:227:ASN:HD21	1.53	0.71
1:X:1122:A:H2	1:X:1123:G:H1'	1.56	0.71
1:X:1337:G:OP2	18:P:105:ARG:NH1	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1517:C:H2'	1:X:1518:C:H6	1.55	0.71
1:X:2625:U:OP2	1:X:2625:U:C6	2.43	0.71
3:A:163:VAL:HG22	3:A:177:LEU:HA	1.72	0.71
22:T:58:THR:HG22	22:T:59:LEU:H	1.54	0.71
1:X:1474:A:H4'	1:X:1475:U:O5'	1.90	0.71
1:X:2394:G:OP1	11:I:63:ARG:HD2	1.91	0.71
1:X:2404:A:H4'	1:X:2405:A:H5"	1.70	0.71
3:A:160:GLY:CA	3:A:196:VAL:HG23	2.21	0.71
6:D:70:ALA:HB3	6:D:83:MET:N	1.99	0.71
7:E:29:PRO:HG2	7:E:79:VAL:O	1.90	0.71
10:H:83:ARG:HH11	15:M:40:ARG:CD	2.03	0.71
11:I:73:GLU:HG2	11:I:101:ARG:CB	2.21	0.71
22:T:38:VAL:HG21	22:T:79:ILE:HD11	1.73	0.71
1:X:1349:A:H2'	1:X:1350:G:H8	1.56	0.71
1:X:1468:A:H5"	1:X:1472:C:H41	1.54	0.71
1:X:1482:U:H2'	1:X:1483:G:C8	2.26	0.71
1:X:2323:U:P	1:X:2323:U:O4'	2.49	0.71
1:X:2764:U:H2'	1:X:2765:C:H6	1.55	0.71
6:D:106:ILE:HG23	6:D:110:ARG:HD2	1.72	0.71
12:J:28:VAL:HG21	12:J:135:ARG:HA	1.73	0.71
14:L:38:ILE:CG1	14:L:39:TYR:N	2.54	0.71
26:Z:33:CYS:O	26:Z:37:HIS:HA	1.91	0.71
1:X:10:A:H2'	1:X:11:G:C8	2.26	0.70
1:X:416:U:O2'	1:X:417:C:H5	1.74	0.70
1:X:1525:A:H3'	1:X:1526:U:H6	1.55	0.70
1:X:1882:G:H21	1:X:1885:C:H41	1.37	0.70
1:X:2198:U:C2	1:X:2199:C:C6	2.79	0.70
11:I:81:GLN:HE22	11:I:115:SER:HA	1.56	0.70
15:M:46:ARG:HG3	15:M:47:SER:N	2.06	0.70
18:P:94:GLU:HG2	18:P:127:ILE:HB	1.71	0.70
23:U:27:ASP:C	23:U:32:ARG:HD3	2.11	0.70
25:W:3:ILE:O	25:W:31:SER:HB2	1.91	0.70
1:X:685:U:O2'	1:X:686:C:H5'	1.91	0.70
3:A:206:LEU:CA	3:A:211:ARG:HD3	2.21	0.70
7:E:43:VAL:HG23	7:E:51:LEU:O	1.91	0.70
13:K:3:HIS:CE1	13:K:5:LYS:HD2	2.26	0.70
15:M:34:ARG:HD3	15:M:88:VAL:HG22	1.72	0.70
1:X:203:G:O2'	1:X:204:A:H5'	1.91	0.70
1:X:865:A:H2'	1:X:866:U:C6	2.26	0.70
1:X:1539:U:H2'	1:X:1540:C:C6	2.24	0.70
1:X:2198:U:H2'	1:X:2199:C:C1'	2.20	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2691:C:H4'	1:X:2692:A:OP1	1.91	0.70
3:A:48:ARG:H	3:A:48:ARG:HD2	1.57	0.70
6:D:92:ARG:HG3	6:D:92:ARG:NH2	2.05	0.70
8:F:90:THR:N	8:F:91:PRO:CD	2.54	0.70
11:I:13:ARG:HH21	11:I:13:ARG:CG	2.05	0.70
11:I:62:LYS:HD3	29:3:12:ARG:CA	2.21	0.70
14:L:21:THR:HG22	14:L:22:ALA:N	2.06	0.70
14:L:68:ALA:O	14:L:71:VAL:HG13	1.91	0.70
14:L:81:GLU:O	14:L:82:LYS:HG2	1.89	0.70
1:X:409:G:H1'	23:U:45:ASN:HD22	1.56	0.70
1:X:554:U:O2	1:X:554:U:C2'	2.38	0.70
1:X:1218:C:H5'	11:I:13:ARG:HH11	1.56	0.70
1:X:1250:A:HO2'	1:X:1251:G:C4'	2.03	0.70
1:X:2083:G:H2'	1:X:2084:G:C8	2.27	0.70
1:X:2266:A:O2'	1:X:2267:A:H3'	1.90	0.70
1:X:2371:A:H2	1:X:2403:C:N4	1.89	0.70
1:X:2563:U:C2'	1:X:2564:U:H5"	2.20	0.70
1:X:2767:C:H1'	4:B:62:PRO:HG3	1.71	0.70
1:X:2823:G:O2'	1:X:2824:C:P	2.50	0.70
5:C:137:ALA:HB1	5:C:142:LEU:HB2	1.73	0.70
6:D:166:ALA:O	6:D:170:LEU:HG	1.92	0.70
12:J:35:LEU:HB3	12:J:105:PHE:HB2	1.72	0.70
20:R:59:LYS:HD2	20:R:62:MET:CG	2.16	0.70
1:X:760:U:C6	26:Z:3:LYS:HG3	2.26	0.70
1:X:1218:C:C1'	11:I:13:ARG:HE	2.04	0.70
1:X:1886:G:H2'	1:X:1887:G:H8	1.55	0.70
1:X:2175:A:H2'	1:X:2176:U:C6	2.27	0.70
9:G:61:ARG:HE	9:G:65:LYS:CD	2.03	0.70
10:H:116:ARG:CD	15:M:38:LYS:HE2	2.17	0.70
15:M:95:GLU:HG3	15:M:95:GLU:O	1.91	0.70
18:P:91:PHE:HD1	18:P:129:ALA:O	1.73	0.70
20:R:80:LYS:HZ1	20:R:82:ALA:HA	1.55	0.70
1:X:177:U:H2'	1:X:178:C:O4'	1.90	0.70
1:X:2273:C:H5'	14:L:95:LYS:CE	2.21	0.70
1:X:2325:A:HO2'	1:X:2326:C:P	2.15	0.70
12:J:69:ILE:HG13	12:J:69:ILE:O	1.90	0.70
13:K:31:GLU:O	13:K:33:ARG:N	2.24	0.70
17:O:28:GLU:C	17:O:30:GLY:H	1.94	0.70
26:Z:32:GLU:HG3	26:Z:37:HIS:O	1.92	0.70
1:X:540:G:O2'	1:X:542:A:C2	2.43	0.70
1:X:760:U:C1'	26:Z:3:LYS:HE2	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1211:G:H2'	1:X:1212:U:H6	1.57	0.70
1:X:2286:G:C6	1:X:2287:G:H1'	2.27	0.70
6:D:40:LEU:HB3	6:D:150:ARG:NE	2.06	0.70
9:G:49:VAL:HG13	9:G:50:PRO:HD2	1.72	0.70
11:I:126:SER:OG	11:I:129:ALA:HB2	1.92	0.70
16:N:66:ASN:HD22	16:N:70:ARG:HH12	1.39	0.70
21:S:87:THR:O	21:S:88:TYR:HB2	1.91	0.70
5:C:47:THR:HA	5:C:82:VAL:HB	1.73	0.70
5:C:176:ASN:O	5:C:180:ILE:HG22	1.92	0.70
10:H:60:PRO:O	10:H:61:ARG:HB2	1.90	0.70
14:L:36:LYS:HB3	14:L:64:LYS:HB2	1.72	0.70
16:N:85:ARG:HH21	16:N:85:ARG:HG3	1.56	0.70
1:X:357:A:N7	1:X:358:C:H1'	2.07	0.70
1:X:469:G:O2'	1:X:470:U:OP2	2.09	0.70
1:X:692:C:O2'	1:X:693:A:H5'	1.92	0.70
1:X:1324:G:H1'	1:X:1326:U:O4	1.92	0.70
1:X:1909:U:H5	1:X:1911:A:N6	1.88	0.70
1:X:2322:U:H2'	1:X:2323:U:C6	2.26	0.70
1:X:2662:C:H2'	1:X:2663:U:C6	2.26	0.70
5:C:9:GLN:O	5:C:10:ASN:HB2	1.90	0.70
5:C:150:LEU:HG	5:C:187:VAL:HG11	1.73	0.70
20:R:54:ILE:HA	20:R:70:GLU:O	1.92	0.70
1:X:318:G:H5'	1:X:318:G:H8	1.55	0.70
1:X:564:U:H2'	1:X:565:A:C8	2.27	0.70
1:X:611:C:C4'	5:C:98:GLN:HE22	2.05	0.70
1:X:2075:U:HO2'	1:X:2076:G:H5"	1.56	0.70
1:X:2764:U:H2'	1:X:2765:C:C6	2.27	0.70
2:Y:16:U:H1'	2:Y:109:G:N2	2.04	0.70
5:C:26:VAL:HA	11:I:18:ARG:NH1	2.06	0.70
9:G:148:LEU:HD11	9:G:150:VAL:HG23	1.74	0.70
20:R:10:HIS:O	20:R:11:ASN:HB2	1.92	0.70
20:R:85:ASP:H	20:R:86:PRO:CD	2.04	0.70
1:X:571:U:O2'	1:X:581:A:O4'	2.10	0.69
1:X:1432:G:H2'	1:X:1594:U:O4	1.91	0.69
1:X:1490:U:H2'	1:X:1491:C:H6	1.55	0.69
1:X:1569:A:H2'	1:X:1571:G:N7	2.06	0.69
1:X:2247:A:H5'	1:X:2248:A:OP2	1.91	0.69
1:X:2286:G:H21	1:X:2290:A:H61	1.39	0.69
3:A:143:HIS:ND1	3:A:194:GLY:O	2.25	0.69
5:C:24:SER:O	5:C:27:LEU:N	2.24	0.69
12:J:44:LYS:HE3	12:J:93:TYR:HE1	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:11:ASN:OD1	13:K:17:ARG:CZ	2.41	0.69
16:N:22:LYS:C	16:N:24:PHE:H	1.94	0.69
19:Q:11:VAL:HG22	19:Q:28:TRP:NE1	2.07	0.69
1:X:400:U:O2'	1:X:401:G:H5"	1.91	0.69
1:X:417:C:C2	1:X:419:G:N7	2.60	0.69
1:X:2310:G:O4'	22:T:42:GLY:HA3	1.91	0.69
2:Y:123:U:OP1	2:Y:123:U:H3'	1.92	0.69
11:I:68:VAL:O	11:I:68:VAL:HG12	1.93	0.69
15:M:34:ARG:NH1	15:M:88:VAL:HG21	2.07	0.69
21:S:19:ILE:CG1	21:S:36:ARG:HA	2.21	0.69
1:X:674:U:H1'	11:I:22:GLY:HA2	1.74	0.69
1:X:1090:C:O2'	1:X:1091:C:H5'	1.91	0.69
1:X:2309:G:H2'	1:X:2310:G:H5'	1.74	0.69
4:B:34:VAL:HG12	4:B:72:VAL:HG21	1.73	0.69
6:D:16:LEU:O	6:D:20:PHE:N	2.24	0.69
6:D:46:ASP:C	6:D:48:LYS:N	2.45	0.69
21:S:149:ALA:HB3	21:S:164:PRO:HA	1.74	0.69
23:U:28:GLY:N	23:U:32:ARG:HD3	2.07	0.69
24:V:24:GLU:O	24:V:28:LEU:HD23	1.92	0.69
1:X:944:A:O2'	1:X:945:G:H5'	1.93	0.69
1:X:1060:C:H2'	1:X:1061:A:C8	2.27	0.69
1:X:1142:G:H1'	9:G:103:TYR:CD2	2.27	0.69
1:X:2320:G:H2'	1:X:2321:C:C6	2.27	0.69
6:D:13:ARG:O	6:D:16:LEU:HB2	1.93	0.69
23:U:10:LYS:HE2	23:U:11:LYS:HE3	1.73	0.69
23:U:19:ILE:HA	23:U:42:GLN:HA	1.72	0.69
1:X:663:G:C2'	1:X:664:C:H5"	2.21	0.69
1:X:2210:C:OP1	23:U:45:ASN:HA	1.92	0.69
11:I:81:GLN:HB3	11:I:114:ILE:HG22	1.73	0.69
16:N:8:ILE:HD13	16:N:12:ARG:CZ	2.22	0.69
17:O:22:VAL:HA	17:O:91:THR:OG1	1.92	0.69
19:Q:39:LYS:HE3	19:Q:50:VAL:HB	1.73	0.69
1:X:137:A:C8	1:X:137:A:OP2	2.45	0.69
1:X:219:G:H2'	1:X:231:G:O6	1.93	0.69
1:X:517:A:C5'	1:X:518:A:H5'	2.19	0.69
1:X:1995:G:O5'	1:X:1995:G:H8	1.76	0.69
1:X:2779:C:H3'	1:X:2779:C:H6	1.57	0.69
3:A:73:SER:HB2	3:A:120:GLY:CA	2.22	0.69
12:J:64:LYS:HG2	12:J:108:ALA:O	1.92	0.69
15:M:106:TYR:CE1	15:M:107:LEU:HD23	2.28	0.69
1:X:417:C:C1'	1:X:419:G:C8	2.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1017:C:O2	9:G:134:MET:HG2	1.93	0.69
1:X:1069:G:C2'	1:X:1070:G:H5"	2.22	0.69
1:X:2624:G:H4'	1:X:2712:G:O2'	1.92	0.69
10:H:25:LEU:HD11	10:H:52:VAL:CG2	2.22	0.69
18:P:40:LEU:HD12	18:P:62:ARG:HH12	1.57	0.69
19:Q:4:TYR:CE1	19:Q:45:ALA:HA	2.28	0.69
25:W:4:LYS:HD2	25:W:52:GLU:OE2	1.92	0.69
1:X:346:C:H2'	1:X:347:C:H6	1.58	0.69
1:X:416:U:O2'	1:X:417:C:C5	2.46	0.69
1:X:841:G:H2'	1:X:842:A:C8	2.28	0.69
1:X:1187:A:H5'	1:X:1188:A:OP2	1.92	0.69
1:X:1253:C:H5'	1:X:1253:C:H6	1.57	0.69
1:X:1312:G:H5"	1:X:1313:U:OP1	1.93	0.69
1:X:1778:U:H2'	1:X:1779:C:C6	2.28	0.69
1:X:1885:C:H2'	1:X:1886:G:H5'	1.73	0.69
1:X:1922:U:O2'	1:X:2571:G:C1'	2.40	0.69
1:X:1922:U:H4'	1:X:1923:U:OP2	1.90	0.69
1:X:1953:A:H1'	1:X:1955:G:C8	2.28	0.69
1:X:2198:U:C4	1:X:2199:C:C5	2.81	0.69
1:X:2245:A:H1'	1:X:2251:U:O4	1.93	0.69
1:X:2640:G:H2'	1:X:2641:A:C8	2.28	0.69
1:X:2728:A:H2'	1:X:2729:A:H8	1.57	0.69
2:Y:46:G:H4'	6:D:92:ARG:HH12	1.58	0.69
3:A:88:ARG:HG2	3:A:90:ALA:HB3	1.75	0.69
3:A:126:LYS:O	3:A:193:ILE:HB	1.91	0.69
6:D:30:ARG:O	6:D:158:THR:HB	1.92	0.69
6:D:34:ILE:O	6:D:91:LEU:HB2	1.92	0.69
12:J:69:ILE:HG21	12:J:104:MET:HG2	1.74	0.69
19:Q:69:ILE:CD1	19:Q:70:GLY:N	2.55	0.69
21:S:23:ALA:HA	21:S:83:PHE:O	1.91	0.69
24:V:41:HIS:CD2	24:V:42:ARG:H	2.09	0.69
1:X:501:G:H2'	1:X:502:A:H8	1.57	0.69
1:X:995:A:OP2	1:X:996:C:N4	2.20	0.69
1:X:1324:G:H1'	1:X:1326:U:C4	2.28	0.69
1:X:1734:C:C5	1:X:1735:G:H1'	2.28	0.69
1:X:2375:G:H4'	23:U:32:ARG:O	1.92	0.69
11:I:28:LYS:HZ2	11:I:37:GLN:H	1.41	0.69
12:J:12:LYS:O	12:J:13:GLN:CB	2.40	0.69
15:M:104:LEU:HA	15:M:106:TYR:CD2	2.28	0.69
20:R:17:LYS:HB3	20:R:18:LYS:NZ	2.08	0.69
20:R:91:ALA:O	20:R:108:VAL:HG22	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:141:MET:HB3	21:S:171:VAL:HG23	1.75	0.69
1:X:777:A:H62	1:X:1766:U:H3	1.40	0.69
1:X:1386:A:H5"	1:X:2191:A:H62	1.56	0.69
5:C:8:GLY:O	5:C:9:GLN:HB3	1.93	0.69
8:F:111:LYS:O	8:F:115:LEU:HG	1.94	0.69
9:G:132:PHE:CE1	9:G:145:HIS:HB2	2.27	0.69
11:I:32:ARG:CZ	17:O:81:ARG:HE	2.05	0.69
11:I:130:ILE:HG23	11:I:140:VAL:CG2	2.23	0.69
17:O:36:LYS:HZ2	17:O:54:TYR:CB	2.03	0.69
18:P:31:VAL:HG21	18:P:124:ILE:HD12	1.75	0.69
1:X:529:U:H2'	1:X:530:G:H8	1.57	0.68
1:X:1513:U:H5"	1:X:1514:C:OP2	1.93	0.68
10:H:41:ASN:O	10:H:42:LYS:HB3	1.93	0.68
11:I:47:ALA:C	11:I:49:PHE:H	1.97	0.68
12:J:15:ARG:HD3	12:J:73:LYS:HZ3	1.56	0.68
1:X:1570:C:H5'	1:X:1571:G:OP2	1.92	0.68
1:X:1732:U:H4'	1:X:1733:U:OP2	1.91	0.68
1:X:2055:G:O2'	1:X:2056:C:H5'	1.92	0.68
1:X:2081:U:H3	1:X:2174:G:H1	1.41	0.68
5:C:172:VAL:O	5:C:172:VAL:HG12	1.93	0.68
10:H:125:LYS:O	10:H:128:SER:HB2	1.93	0.68
20:R:90:LYS:CG	20:R:108:VAL:HG21	2.22	0.68
20:R:105:ARG:HH22	20:R:112:LYS:HA	1.57	0.68
23:U:13:LEU:O	23:U:14:VAL:HG13	1.92	0.68
1:X:503:G:H2'	1:X:504:G:O4'	1.93	0.68
1:X:1031:C:H41	1:X:1153:A:H61	1.37	0.68
1:X:2240:C:O2'	1:X:2241:U:H5'	1.92	0.68
1:X:2309:G:C2'	1:X:2310:G:H5'	2.23	0.68
1:X:2334:C:H4'	22:T:24:LYS:HD2	1.74	0.68
4:B:26:VAL:O	4:B:182:ILE:HG22	1.92	0.68
6:D:65:PRO:HB3	6:D:89:VAL:HG22	1.75	0.68
10:H:13:ASN:HD21	10:H:109:ARG:HG2	1.58	0.68
11:I:32:ARG:NH1	17:O:81:ARG:NH2	2.41	0.68
21:S:120:LEU:HD23	21:S:121:GLN:H	1.59	0.68
21:S:148:THR:HB	21:S:164:PRO:O	1.92	0.68
1:X:98:U:O2	1:X:98:U:H2'	1.92	0.68
1:X:205:A:H2'	1:X:206:U:H5'	1.76	0.68
1:X:871:U:O2'	1:X:2247:A:H2'	1.94	0.68
1:X:1189:G:H2'	1:X:1190:C:O4'	1.94	0.68
1:X:1522:C:H2'	1:X:1523:A:C4'	2.23	0.68
1:X:1914:U:H6	1:X:1914:U:H5'	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:246:PRO:HD3	3:A:251:GLY:H	1.57	0.68
5:C:56:ARG:HD3	5:C:71:ASP:OD2	1.93	0.68
9:G:44:VAL:HG12	9:G:45:ASP:H	1.58	0.68
11:I:107:LYS:HG2	11:I:109:LEU:HD21	1.75	0.68
17:O:10:LYS:HD2	17:O:37:ALA:HB3	1.76	0.68
1:X:333:A:C3'	5:C:162:ARG:CZ	2.66	0.68
1:X:1072:U:O4'	1:X:1081:A:H1'	1.93	0.68
1:X:1231:A:H2'	1:X:1232:U:C6	2.28	0.68
1:X:1505:U:H2'	1:X:1506:C:H5"	1.76	0.68
1:X:1629:G:C6	1:X:1633:C:C5	2.81	0.68
2:Y:106:U:H4'	21:S:67:LYS:NZ	2.08	0.68
5:C:122:GLY:C	5:C:124:ASP:H	1.97	0.68
11:I:53:ARG:HG3	11:I:53:ARG:HH21	1.58	0.68
17:O:56:VAL:HA	17:O:97:GLY:HA3	1.75	0.68
20:R:93:ARG:NH2	20:R:108:VAL:HA	2.07	0.68
21:S:122:ILE:HD13	21:S:158:CYS:HB3	1.75	0.68
1:X:623:G:N3	1:X:626:A:N1	2.42	0.68
1:X:687:G:O2'	1:X:688:A:H5'	1.93	0.68
6:D:36:VAL:O	6:D:89:VAL:HG23	1.94	0.68
6:D:70:ALA:CB	6:D:83:MET:H	1.98	0.68
17:O:25:LEU:HB2	17:O:32:LYS:NZ	2.09	0.68
20:R:22:VAL:HG13	20:R:81:VAL:O	1.94	0.68
21:S:34:LEU:HD21	21:S:39:PHE:HD1	1.58	0.68
23:U:54:ASN:O	23:U:56:GLN:N	2.27	0.68
25:W:40:VAL:HA	25:W:43:MET:HG2	1.75	0.68
1:X:501:G:H2'	1:X:502:A:C8	2.29	0.68
1:X:558:G:N3	1:X:558:G:O5'	2.27	0.68
1:X:756:C:O2'	1:X:757:U:H5'	1.93	0.68
1:X:1118:G:H2'	1:X:1119:U:C5'	2.23	0.68
1:X:2009:U:H6	1:X:2009:U:H5"	1.57	0.68
3:A:246:PRO:CD	3:A:251:GLY:H	2.07	0.68
5:C:112:GLN:HE22	5:C:188:ILE:HD11	1.58	0.68
6:D:13:ARG:CB	6:D:14:PRO:HD3	2.23	0.68
19:Q:63:LYS:HE3	19:Q:65:VAL:HA	1.75	0.68
20:R:11:ASN:O	20:R:12:ASP:C	2.31	0.68
1:X:1094:C:H2'	1:X:1096:A:H5'	1.75	0.68
1:X:1118:G:C2'	1:X:1119:U:H5'	2.23	0.68
1:X:1811:A:H4'	1:X:1812:U:H5"	1.74	0.68
1:X:2259:G:H4'	1:X:2306:A:H5'	1.74	0.68
9:G:105:GLY:O	9:G:110:LEU:HD12	1.94	0.68
9:G:155:THR:HG23	9:G:156:HIS:N	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:64:ALA:HA	21:S:85:MET:CA	2.20	0.68
21:S:89:GLY:O	21:S:90:GLU:HG2	1.93	0.68
23:U:31:GLY:CA	23:U:32:ARG:HH11	2.05	0.68
1:X:100:G:HO2'	1:X:101:A:H8	1.40	0.68
1:X:174:A:N6	1:X:2409:A:H2'	2.07	0.68
1:X:623:G:H2'	1:X:626:A:N1	2.09	0.68
1:X:731:A:O2'	1:X:732:G:H5'	1.93	0.68
1:X:1514:C:O4'	1:X:1593:C:H4'	1.93	0.68
1:X:2448:A:H61	1:X:2460:G:H1'	1.58	0.68
10:H:104:GLU:HG2	10:H:125:LYS:HD2	1.75	0.68
11:I:29:THR:HA	11:I:34:HIS:CB	2.23	0.68
19:Q:53:ILE:HD13	19:Q:80:VAL:HG12	1.75	0.68
1:X:1065:A:O2'	1:X:1066:G:H5'	1.93	0.68
1:X:1071:U:H1'	1:X:1073:G:H5'	1.76	0.68
1:X:1073:G:H1'	1:X:1099:A:N7	2.08	0.68
1:X:2065:A:H3'	1:X:2066:G:H8	1.58	0.68
3:A:88:ARG:HD3	3:A:106:LEU:HD21	1.76	0.68
6:D:41:GLY:O	6:D:43:SER:N	2.27	0.68
6:D:70:ALA:O	6:D:82:GLY:HA2	1.94	0.68
17:O:26:GLN:CG	17:O:27:GLY:H	2.07	0.68
20:R:105:ARG:NH2	20:R:112:LYS:HA	2.08	0.68
21:S:48:THR:O	21:S:49:THR:HG23	1.93	0.68
22:T:31:VAL:HG11	22:T:37:LEU:HD21	1.76	0.68
23:U:10:LYS:HG2	23:U:11:LYS:HG3	1.74	0.68
23:U:23:LYS:HD2	23:U:35:THR:OG1	1.92	0.68
30:4:9:LYS:H	30:4:9:LYS:CD	2.06	0.68
1:X:84:G:OP1	20:R:39:ALA:CB	2.42	0.67
1:X:310:A:H61	5:C:162:ARG:HH22	1.40	0.67
1:X:490:A:O2'	1:X:491:A:H5'	1.94	0.67
1:X:558:G:C4	1:X:558:G:C3'	2.74	0.67
1:X:1851:A:H62	1:X:1866:G:N2	1.91	0.67
1:X:2507:U:OP1	30:4:31:LYS:HE3	1.94	0.67
1:X:2728:A:H2'	1:X:2729:A:C8	2.29	0.67
2:Y:46:G:H5'	6:D:92:ARG:NH1	2.08	0.67
2:Y:53:G:N2	2:Y:54:U:H5	1.93	0.67
10:H:25:LEU:HD11	10:H:52:VAL:HG22	1.76	0.67
11:I:73:GLU:HG2	11:I:101:ARG:HB2	1.75	0.67
23:U:22:GLY:HA3	23:U:39:LYS:CD	2.25	0.67
1:X:192:G:H4'	1:X:193:A:O5'	1.94	0.67
1:X:1324:G:H1'	1:X:1326:U:C5	2.29	0.67
1:X:1505:U:H3'	1:X:1505:U:H6	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2352:A:H2'	1:X:2353:G:H8	1.59	0.67
7:E:54:ARG:HE	7:E:57:ASP:CB	2.07	0.67
8:F:84:ILE:HG21	8:F:96:VAL:HG11	1.75	0.67
23:U:11:LYS:HZ1	23:U:75:TYR:HB2	1.59	0.67
26:Z:45:ILE:HG21	26:Z:57:VAL:HG23	1.75	0.67
1:X:100:G:O2'	1:X:101:A:OP1	2.08	0.67
1:X:636:G:H5'	1:X:636:G:H8	1.59	0.67
1:X:936:A:O2'	1:X:937:C:H5'	1.95	0.67
1:X:1073:G:OP2	1:X:1081:A:H4'	1.93	0.67
1:X:1129:A:OP1	1:X:1129:A:H4'	1.94	0.67
1:X:2266:A:H62	1:X:2323:U:H3	1.42	0.67
7:E:139:GLN:O	7:E:143:GLN:HG3	1.94	0.67
14:L:76:ALA:HB1	14:L:111:GLY:N	2.10	0.67
17:O:66:GLY:O	17:O:87:ARG:NH1	2.27	0.67
1:X:27:G:H1'	1:X:523:A:N6	2.10	0.67
1:X:623:G:C2'	1:X:626:A:H61	2.08	0.67
1:X:640:C:H4'	1:X:660:G:H21	1.58	0.67
1:X:756:C:C2'	1:X:757:U:H5'	2.24	0.67
1:X:1252:C:C2'	1:X:1253:C:H5"	2.24	0.67
1:X:1787:U:H2'	1:X:1788:C:H6	1.57	0.67
1:X:2266:A:C2	1:X:2268:G:H1'	2.29	0.67
1:X:2598:C:O2'	4:B:154:LYS:HE3	1.94	0.67
2:Y:36:A:H1'	2:Y:51:G:N2	2.10	0.67
5:C:47:THR:OG1	5:C:87:LYS:HD3	1.95	0.67
6:D:123:ASP:C	6:D:125:ARG:N	2.48	0.67
8:F:84:ILE:HG12	8:F:96:VAL:HG12	1.76	0.67
8:F:98:LYS:HG3	8:F:137:THR:O	1.94	0.67
9:G:67:ARG:HE	9:G:70:PHE:HB3	1.59	0.67
9:G:104:THR:O	9:G:105:GLY:O	2.12	0.67
11:I:54:SER:O	11:I:59:ARG:NH2	2.27	0.67
19:Q:11:VAL:H	19:Q:27:PHE:HA	1.60	0.67
21:S:64:ALA:N	21:S:86:VAL:HG23	2.10	0.67
21:S:141:MET:SD	21:S:147:ILE:HG12	2.34	0.67
30:4:22:ARG:HD2	30:4:37:GLY:HA3	1.76	0.67
1:X:667:U:C6	1:X:667:U:C3'	2.77	0.67
1:X:1167:A:N6	16:N:48:ARG:HD3	2.09	0.67
1:X:1625:A:O2'	1:X:1632:A:H4'	1.94	0.67
1:X:1747:G:H4'	1:X:1749:G:H1'	1.75	0.67
1:X:2071:G:O2'	1:X:2072:C:H5'	1.95	0.67
1:X:2569:A:H2'	1:X:2570:C:H6	1.59	0.67
11:I:94:GLU:HB3	11:I:97:ARG:HH11	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:91:PRO:O	13:K:92:GLY:O	2.12	0.67
23:U:78:ILE:HD13	23:U:79:GLU:N	2.09	0.67
1:X:1018:C:N4	1:X:1019:U:O4	2.28	0.67
1:X:1072:U:C1'	1:X:1081:A:H1'	2.23	0.67
1:X:1076:U:H2'	1:X:1077:U:O4'	1.95	0.67
1:X:1094:C:C2'	1:X:1096:A:H5'	2.23	0.67
1:X:1522:C:H2'	1:X:1523:A:H4'	1.76	0.67
3:A:108:PRO:HB3	3:A:143:HIS:CE1	2.29	0.67
3:A:250:TRP:O	3:A:255:LYS:NZ	2.17	0.67
3:A:251:GLY:HA3	3:A:255:LYS:HD2	1.75	0.67
4:B:75:THR:O	4:B:76:ARG:CB	2.43	0.67
4:B:154:LYS:HZ1	4:B:156:MET:HE1	1.59	0.67
5:C:189:ASP:OD1	5:C:190:ALA:N	2.26	0.67
9:G:106:TYR:O	9:G:110:LEU:HD11	1.94	0.67
12:J:64:LYS:HD2	12:J:64:LYS:N	2.07	0.67
12:J:79:PRO:HD3	12:J:88:LYS:NZ	2.08	0.67
16:N:70:ARG:HG3	16:N:70:ARG:HH11	1.58	0.67
19:Q:92:ALA:C	19:Q:94:GLN:H	1.98	0.67
1:X:2273:C:H5'	14:L:95:LYS:HE3	1.76	0.67
3:A:244:ARG:C	3:A:252:LYS:NZ	2.48	0.67
4:B:131:SER:O	4:B:132:LYS:CG	2.41	0.67
9:G:62:ILE:O	9:G:77:GLY:HA3	1.95	0.67
20:R:36:VAL:O	20:R:37:LEU:HD23	1.95	0.67
1:X:589:C:H4'	16:N:31:GLN:CD	2.14	0.67
1:X:1070:G:O2'	8:F:74:MET:HE2	1.95	0.67
3:A:231:HIS:ND1	3:A:247:VAL:HA	2.10	0.67
4:B:154:LYS:NZ	4:B:156:MET:CE	2.58	0.67
5:C:125:ILE:O	5:C:126:ALA:HB3	1.94	0.67
5:C:128:ALA:HB2	5:C:159:ARG:CZ	2.25	0.67
6:D:13:ARG:HB3	6:D:14:PRO:CD	2.23	0.67
13:K:53:THR:HG22	13:K:53:THR:O	1.94	0.67
14:L:11:LEU:HA	14:L:14:ARG:HD2	1.75	0.67
1:X:402:A:C8	1:X:2392:G:H4'	2.30	0.67
1:X:2023:C:H2'	1:X:2024:U:H6	1.59	0.67
1:X:2288:A:H2'	1:X:2289:A:C8	2.24	0.67
1:X:2417:U:O2'	1:X:2418:A:C5'	2.33	0.67
4:B:131:SER:C	4:B:132:LYS:HG2	2.15	0.67
11:I:47:ALA:HA	11:I:49:PHE:CE2	2.29	0.67
12:J:125:LYS:HZ2	12:J:125:LYS:CB	2.06	0.67
14:L:87:VAL:HG12	14:L:88:VAL:H	1.58	0.67
20:R:100:ASP:C	20:R:102:LYS:H	1.97	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Z:4:HIS:HB3	26:Z:5:PRO:HD2	1.75	0.67
1:X:774:A:C8	1:X:774:A:H3'	2.29	0.67
1:X:1112:U:O2'	1:X:1113:C:H5'	1.95	0.67
5:C:153:ASP:C	5:C:154:ASP:OD1	2.33	0.67
7:E:155:ASP:OD2	7:E:158:HIS:N	2.26	0.67
20:R:48:VAL:O	20:R:50:GLY:N	2.28	0.67
20:R:54:ILE:HD13	20:R:71:GLN:HA	1.77	0.67
1:X:305:A:H2'	1:X:306:G:H5'	1.78	0.66
1:X:1804:U:H2'	1:X:1805:G:H8	1.60	0.66
6:D:74:ILE:HG23	6:D:79:LEU:O	1.96	0.66
14:L:64:LYS:HD3	14:L:64:LYS:H	1.57	0.66
17:O:20:ILE:HD11	17:O:23:GLU:OE2	1.95	0.66
1:X:88:G:H3'	1:X:89:A:H5"	1.78	0.66
1:X:540:G:O2'	1:X:542:A:H2	1.74	0.66
1:X:860:U:O2	1:X:860:U:H2'	1.94	0.66
5:C:166:TRP:H	5:C:166:TRP:HE3	1.40	0.66
6:D:152:MET:CE	6:D:154:ILE:HD11	2.24	0.66
8:F:120:VAL:O	8:F:123:ALA:N	2.28	0.66
9:G:39:GLN:HG3	9:G:39:GLN:O	1.95	0.66
19:Q:43:GLN:OE1	19:Q:49:ARG:HA	1.96	0.66
20:R:18:LYS:HA	20:R:36:VAL:HG11	1.76	0.66
22:T:44:LYS:HE3	22:T:45:PHE:HE1	1.60	0.66
23:U:22:GLY:HA3	23:U:39:LYS:HD2	1.77	0.66
1:X:969:U:C5	12:J:17:ARG:HB2	2.30	0.66
1:X:1325:U:O2'	1:X:1327:C:C5	2.48	0.66
1:X:1856:U:H2'	1:X:1857:G:O5'	1.94	0.66
3:A:79:VAL:HG11	3:A:113:VAL:HA	1.78	0.66
5:C:136:TRP:CD1	5:C:137:ALA:N	2.63	0.66
6:D:88:LYS:HE2	6:D:90:THR:OG1	1.95	0.66
6:D:132:ILE:HG22	6:D:133:LYS:N	2.09	0.66
7:E:126:PRO:HD2	7:E:130:ARG:O	1.95	0.66
20:R:60:PRO:C	20:R:62:MET:H	1.98	0.66
30:4:25:VAL:CB	30:4:34:GLN:HB2	2.24	0.66
1:X:417:C:C5	1:X:419:G:C4	2.84	0.66
1:X:417:C:C6	1:X:419:G:N9	2.64	0.66
1:X:599:A:H2'	1:X:600:G:C8	2.31	0.66
1:X:1068:A:C8	1:X:1097:A:H2'	2.30	0.66
1:X:1372:A:H2'	1:X:1373:G:O4'	1.95	0.66
1:X:1473:U:OP2	1:X:1473:U:C6	2.48	0.66
1:X:2293:G:OP1	6:D:88:LYS:HE3	1.96	0.66
2:Y:11:G:P	14:L:28:ARG:HH22	2.17	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:34:C:H2'	2:Y:35:C:C6	2.30	0.66
2:Y:39:C:H5'	2:Y:40:C:OP2	1.96	0.66
3:A:89:SER:OG	3:A:159:ALA:HB2	1.96	0.66
5:C:129:LYS:C	5:C:131:LYS:H	1.99	0.66
21:S:6:LYS:HB2	21:S:31:SER:O	1.96	0.66
1:X:1840:A:H2'	1:X:1841:G:O4'	1.96	0.66
1:X:2034:A:OP1	4:B:137:ARG:NH2	2.29	0.66
1:X:2045:A:H4'	1:X:2046:C:OP1	1.93	0.66
1:X:2080:U:H2'	1:X:2081:U:C6	2.30	0.66
1:X:2294:U:O2'	6:D:125:ARG:HG3	1.96	0.66
2:Y:59:A:C2	6:D:26:MET:HB3	2.30	0.66
9:G:106:TYR:O	9:G:110:LEU:CD1	2.44	0.66
14:L:20:THR:HG21	14:L:23:ALA:HB3	1.76	0.66
14:L:27:LEU:O	14:L:88:VAL:HG23	1.95	0.66
20:R:38:LEU:HB2	20:R:47:VAL:HB	1.76	0.66
1:X:82:G:O2'	1:X:83:A:C8	2.49	0.66
1:X:2551:A:N7	4:B:145:LYS:HB2	2.10	0.66
2:Y:3:A:H2'	2:Y:4:C:H5'	1.77	0.66
3:A:134:ARG:HG3	3:A:135:PHE:CD2	2.31	0.66
4:B:141:ILE:HG23	4:B:154:LYS:HD3	1.77	0.66
5:C:7:ILE:HG22	5:C:120:VAL:O	1.96	0.66
6:D:13:ARG:HA	6:D:16:LEU:HD12	1.78	0.66
8:F:98:LYS:HZ3	8:F:139:GLU:HB2	1.60	0.66
13:K:10:LEU:HD22	13:K:13:ASN:O	1.95	0.66
13:K:73:LYS:O	13:K:76:VAL:HG12	1.96	0.66
14:L:38:ILE:CG1	14:L:39:TYR:H	2.08	0.66
23:U:46:LEU:O	23:U:47:HIS:ND1	2.29	0.66
1:X:104:C:H2'	1:X:105:G:C5'	2.18	0.66
1:X:219:G:N2	1:X:231:G:H2'	2.11	0.66
1:X:415:A:C2'	1:X:416:U:H5'	2.25	0.66
1:X:653:G:C2'	1:X:654:A:H5"	2.25	0.66
1:X:1467:U:H3'	1:X:1467:U:C6	2.27	0.66
1:X:1504:G:H2'	1:X:1505:U:C2	2.30	0.66
1:X:2437:G:O2'	1:X:2438:A:N7	2.29	0.66
1:X:2800:C:C2'	1:X:2801:A:H5'	2.25	0.66
5:C:97:ARG:O	5:C:101:GLN:HG2	1.96	0.66
9:G:43:VAL:O	9:G:167:LYS:HG3	1.95	0.66
13:K:94:TYR:CZ	13:K:115:LEU:O	2.48	0.66
20:R:25:LEU:HD12	20:R:81:VAL:N	2.10	0.66
21:S:113:VAL:HG22	21:S:171:VAL:CG2	2.25	0.66
22:T:32:LYS:CB	22:T:35:ASN:ND2	2.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:2:LYS:HG3	24:V:3:PRO:HD3	1.76	0.66
24:V:41:HIS:HA	24:V:44:ARG:HE	1.61	0.66
25:W:37:THR:C	25:W:41:ARG:HG3	2.16	0.66
1:X:5:A:O2'	1:X:6:A:H5'	1.95	0.66
1:X:427:C:O2	1:X:1856:U:H4'	1.96	0.66
1:X:623:G:H21	1:X:626:A:H2	0.79	0.66
1:X:886:A:H1'	12:J:30:PHE:CE1	2.31	0.66
1:X:1095:A:H2'	1:X:1096:A:O4'	1.96	0.66
1:X:1626:A:H5"	1:X:1627:C:OP2	1.95	0.66
3:A:251:GLY:HA3	3:A:255:LYS:CE	2.25	0.66
10:H:9:ASP:OD1	10:H:93:ARG:NH2	2.29	0.66
10:H:97:VAL:HG11	10:H:126:ILE:CD1	2.25	0.66
12:J:106:GLU:OE1	12:J:106:GLU:O	2.14	0.66
13:K:20:LEU:O	13:K:23:ALA:N	2.28	0.66
19:Q:92:ALA:O	19:Q:94:GLN:N	2.29	0.66
20:R:29:HIS:CE1	20:R:51:VAL:HG22	2.30	0.66
24:V:42:ARG:NH1	24:V:45:GLN:NE2	2.43	0.66
1:X:729:A:OP1	1:X:729:A:C2	2.49	0.66
1:X:1253:C:H5'	1:X:1253:C:C6	2.31	0.66
1:X:1506:C:H2'	3:A:99:ASP:OD1	1.95	0.66
1:X:2628:C:H2'	1:X:2629:U:C6	2.31	0.66
7:E:9:ILE:HD12	7:E:50:LEU:HB3	1.78	0.66
7:E:51:LEU:HD12	7:E:52:VAL:H	1.61	0.66
16:N:93:LYS:CE	17:O:10:LYS:HZ3	2.09	0.66
19:Q:39:LYS:O	19:Q:42:ILE:HG23	1.95	0.66
21:S:113:VAL:CG2	21:S:171:VAL:HG22	2.25	0.66
1:X:169:C:C2'	1:X:170:U:H5'	2.26	0.66
1:X:543:G:H5'	16:N:24:PHE:CD1	2.30	0.66
1:X:1075:C:O2'	8:F:89:SER:HB3	1.96	0.66
1:X:1598:C:O5'	1:X:1598:C:H6	1.78	0.66
1:X:2082:C:H2'	1:X:2083:G:H5'	1.77	0.66
5:C:158:ARG:O	5:C:160:ALA:N	2.28	0.66
6:D:143:TYR:HA	6:D:146:VAL:HG22	1.78	0.66
10:H:70:VAL:HG23	10:H:106:ARG:NH1	2.11	0.66
11:I:32:ARG:NH1	17:O:81:ARG:HH21	1.94	0.66
20:R:14:LEU:O	20:R:16:PHE:N	2.27	0.66
25:W:1:MET:O	25:W:34:VAL:HG12	1.96	0.66
1:X:134:G:N2	1:X:136:A:C5'	2.57	0.65
1:X:1850:G:C2'	1:X:1851:A:H8	2.07	0.65
1:X:242:A:O2'	1:X:243:G:H4'	1.96	0.65
1:X:679:C:H2'	1:X:680:U:C6	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1812:U:O2	1:X:1812:U:H2'	1.95	0.65
1:X:2426:G:H3'	1:X:2479:U:OP2	1.96	0.65
1:X:2556:A:H5"	1:X:2557:G:H5'	1.78	0.65
1:X:2726:U:H2'	1:X:2727:G:H5'	1.77	0.65
4:B:154:LYS:HZ1	4:B:156:MET:CE	2.08	0.65
5:C:2:ALA:HA	5:C:13:ARG:HA	1.78	0.65
6:D:12:VAL:O	6:D:16:LEU:HG	1.96	0.65
7:E:33:LEU:CD1	7:E:34:THR:H	2.08	0.65
7:E:50:LEU:CD2	7:E:51:LEU:H	2.08	0.65
11:I:11:GLY:O	11:I:14:LYS:N	2.29	0.65
11:I:130:ILE:O	11:I:132:ALA:N	2.26	0.65
12:J:97:VAL:O	12:J:97:VAL:HG23	1.96	0.65
14:L:51:LEU:HD12	14:L:51:LEU:N	2.11	0.65
14:L:63:ASN:HB2	14:L:67:THR:HG23	1.78	0.65
16:N:61:TRP:CZ3	16:N:93:LYS:HA	2.31	0.65
16:N:88:ILE:HG12	17:O:49:GLU:OE1	1.97	0.65
18:P:46:ARG:HH11	18:P:46:ARG:HG2	1.61	0.65
19:Q:16:ALA:O	19:Q:19:ALA:HB3	1.96	0.65
20:R:112:LYS:O	20:R:113:THR:HG23	1.96	0.65
23:U:19:ILE:CG2	23:U:42:GLN:HG3	2.25	0.65
1:X:136:A:N7	1:X:137:A:C5	2.64	0.65
1:X:621:U:H2'	1:X:622:U:C6	2.30	0.65
1:X:994:A:O2'	1:X:995:A:OP1	2.14	0.65
1:X:1386:A:H5"	1:X:2191:A:C6	2.32	0.65
1:X:1550:C:H2'	1:X:1553:G:H22	1.57	0.65
1:X:1971:C:O2'	1:X:1972:G:H5'	1.97	0.65
1:X:2706:U:H2'	1:X:2706:U:O2	1.95	0.65
2:Y:64:C:H2'	2:Y:65:A:C8	2.30	0.65
3:A:70:ARG:HH12	3:A:149:PRO:CA	2.09	0.65
7:E:54:ARG:NE	7:E:57:ASP:OD2	2.29	0.65
11:I:38:LYS:HD3	11:I:40:ARG:O	1.96	0.65
15:M:16:ILE:O	15:M:16:ILE:HG22	1.94	0.65
16:N:61:TRP:HZ3	16:N:93:LYS:HA	1.59	0.65
23:U:52:ARG:HD2	23:U:79:GLU:CA	2.26	0.65
1:X:585:U:H2'	1:X:586:G:C8	2.30	0.65
3:A:184:ARG:HG2	3:A:184:ARG:HH11	1.60	0.65
9:G:55:ALA:CB	9:G:134:MET:HE1	2.15	0.65
14:L:15:ARG:CD	14:L:91:ARG:HH11	2.01	0.65
15:M:37:THR:CG2	15:M:39:VAL:HG13	2.26	0.65
16:N:39:LEU:HA	16:N:42:ALA:HB3	1.77	0.65
20:R:93:ARG:NH1	20:R:108:VAL:C	2.49	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:95:SER:HB3	21:S:119:ASN:ND2	2.10	0.65
21:S:123:VAL:HG23	21:S:161:ALA:CB	2.27	0.65
26:Z:34:PRO:HB2	26:Z:35:GLN:NE2	2.11	0.65
1:X:1745:C:OP1	15:M:101:ARG:NH2	2.29	0.65
1:X:2310:G:N2	1:X:2364:C:C4	2.64	0.65
5:C:27:LEU:HD11	5:C:106:MET:HG2	1.79	0.65
6:D:122:PHE:CB	6:D:129:ASN:HD22	1.96	0.65
7:E:97:LYS:O	7:E:98:LEU:HB2	1.95	0.65
11:I:13:ARG:HB3	11:I:13:ARG:CZ	2.26	0.65
11:I:128:ALA:HA	11:I:131:LYS:HB2	1.78	0.65
14:L:42:ILE:CG2	14:L:52:ALA:H	2.10	0.65
18:P:9:ARG:O	18:P:10:ASN:HB3	1.96	0.65
22:T:32:LYS:O	22:T:61:ALA:HB3	1.96	0.65
23:U:10:LYS:HG2	23:U:11:LYS:N	2.10	0.65
23:U:28:GLY:HA3	23:U:32:ARG:CA	2.26	0.65
1:X:760:U:C5	26:Z:3:LYS:HG3	2.31	0.65
1:X:793:G:H21	1:X:796:A:H62	1.44	0.65
1:X:1033:G:O2'	1:X:1034:U:H5'	1.96	0.65
1:X:1186:G:C4'	1:X:1187:A:OP2	2.44	0.65
1:X:1791:C:H5'	1:X:1792:C:OP1	1.96	0.65
1:X:2015:G:H2'	4:B:145:LYS:HZ1	1.61	0.65
1:X:2440:C:H2'	1:X:2441:U:H6	1.61	0.65
1:X:2475:C:C2'	1:X:2476:A:H5'	2.26	0.65
1:X:2613:A:O2'	1:X:2614:A:H5'	1.96	0.65
1:X:2616:U:H5"	4:B:82:ARG:HH21	1.58	0.65
3:A:206:LEU:HD22	3:A:211:ARG:HB3	1.78	0.65
5:C:112:GLN:HA	5:C:116:LYS:HB3	1.78	0.65
6:D:39:GLY:HA2	6:D:86:GLY:CA	2.26	0.65
10:H:23:ARG:HH12	10:H:25:LEU:HD23	1.59	0.65
11:I:42:GLY:O	11:I:43:ALA:HB2	1.97	0.65
13:K:87:TYR:CD1	13:K:90:ARG:HD2	2.32	0.65
15:M:34:ARG:HH11	15:M:81:PHE:CB	2.09	0.65
17:O:29:ALA:O	17:O:31:ASP:N	2.30	0.65
20:R:22:VAL:HG11	20:R:80:LYS:CE	2.26	0.65
21:S:30:VAL:HB	21:S:32:PHE:CZ	2.32	0.65
22:T:71:ASN:HB2	22:T:77:ARG:HH11	1.60	0.65
1:X:415:A:C3'	1:X:416:U:H5'	2.27	0.65
1:X:712:A:H2'	1:X:713:G:O4'	1.96	0.65
1:X:1313:U:O2'	1:X:1314:A:P	2.55	0.65
1:X:1524:C:H3'	1:X:1525:A:O4'	1.97	0.65
1:X:2617:G:O2'	1:X:2618:A:H8	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2691:C:O2'	1:X:2692:A:P	2.55	0.65
2:Y:53:G:H21	2:Y:54:U:H5	1.43	0.65
3:A:142:VAL:HB	3:A:192:THR:O	1.96	0.65
4:B:4:ILE:HG23	4:B:5:LEU:N	2.11	0.65
4:B:136:ARG:O	4:B:137:ARG:HB2	1.97	0.65
11:I:130:ILE:HG23	11:I:140:VAL:HG21	1.77	0.65
12:J:69:ILE:CG2	12:J:104:MET:HA	2.26	0.65
21:S:100:THR:HG23	21:S:138:VAL:HG21	1.78	0.65
21:S:113:VAL:HA	21:S:171:VAL:CA	2.16	0.65
22:T:29:GLU:O	22:T:67:VAL:HG23	1.97	0.65
1:X:428:A:H2'	1:X:429:C:C6	2.31	0.65
1:X:459:A:H4'	1:X:461:A:N7	2.11	0.65
1:X:1682:A:O2'	1:X:1683:G:H5'	1.97	0.65
1:X:1745:C:P	15:M:101:ARG:HH22	2.20	0.65
1:X:1926:U:H4'	1:X:1927:U:O5'	1.96	0.65
1:X:2447:G:HO2'	1:X:2448:A:H8	1.45	0.65
4:B:154:LYS:O	4:B:156:MET:HG3	1.96	0.65
14:L:30:SER:C	14:L:31:VAL:HG12	2.17	0.65
16:N:81:ASN:HD21	16:N:85:ARG:HE	1.43	0.65
17:O:23:GLU:O	17:O:24:SER:HB3	1.95	0.65
18:P:57:LEU:HD13	18:P:69:ALA:HA	1.78	0.65
26:Z:58:LEU:H	26:Z:58:LEU:HD12	1.62	0.65
1:X:596:C:H5'	5:C:84:PHE:CE1	2.32	0.65
1:X:654:A:H2'	1:X:654:A:N3	2.11	0.65
1:X:930:A:H8	1:X:930:A:O5'	1.80	0.65
1:X:2205:C:C2'	1:X:2206:C:H5'	2.27	0.65
1:X:2212:U:H2'	1:X:2213:G:H8	1.62	0.65
4:B:178:GLY:O	4:B:179:GLU:HG3	1.96	0.65
5:C:122:GLY:HA2	5:C:124:ASP:OD1	1.96	0.65
7:E:54:ARG:NH1	7:E:62:ARG:NE	2.45	0.65
10:H:116:ARG:NH1	15:M:38:LYS:NZ	2.44	0.65
16:N:7:GLY:O	16:N:9:VAL:N	2.30	0.65
21:S:1:MET:HE1	21:S:52:PHE:HB3	1.77	0.65
21:S:62:PHE:HB3	21:S:85:MET:SD	2.37	0.65
21:S:120:LEU:HD23	21:S:121:GLN:N	2.10	0.65
1:X:143:A:H2'	1:X:144:U:H6	1.57	0.65
1:X:648:A:H5'	1:X:649:G:H4'	1.77	0.65
1:X:801:A:O2'	1:X:802:A:P	2.54	0.65
1:X:1050:G:H2'	1:X:1051:U:H5'	1.78	0.65
1:X:1429:A:H1'	1:X:1603:A:C6	2.32	0.65
1:X:1459:U:H4'	1:X:1460:G:OP1	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1467:U:C6	1:X:1467:U:C3'	2.80	0.65
5:C:117:LEU:HD23	5:C:118:VAL:N	2.12	0.65
10:H:26:ASN:HB3	10:H:38:GLY:H	1.60	0.65
14:L:101:LYS:HG2	14:L:105:ASP:OD2	1.97	0.65
16:N:82:GLY:HA3	16:N:113:SER:HG	1.61	0.65
20:R:100:ASP:C	20:R:102:LYS:N	2.49	0.65
23:U:51:ILE:HG12	23:U:59:THR:CG2	2.23	0.65
24:V:56:VAL:O	24:V:59:GLU:N	2.30	0.65
1:X:242:A:N6	1:X:440:U:H2'	2.11	0.64
1:X:487:G:H4'	1:X:512:A:N1	2.12	0.64
1:X:1288:A:H2'	1:X:1289:A:O4'	1.98	0.64
1:X:1655:C:H4'	1:X:2689:C:O2	1.96	0.64
1:X:1658:A:H2'	1:X:1659:G:O4'	1.96	0.64
1:X:1698:C:O2'	1:X:1753:A:C2'	2.44	0.64
1:X:2809:A:H2'	1:X:2854:G:O6	1.96	0.64
4:B:91:VAL:HB	4:B:93:VAL:HG12	1.77	0.64
4:B:192:ASN:HD22	15:M:9:ARG:NH1	1.92	0.64
6:D:46:ASP:HB2	6:D:49:ALA:HB3	1.78	0.64
6:D:92:ARG:CA	6:D:96:MET:HB2	2.27	0.64
13:K:87:TYR:HE1	13:K:94:TYR:HD2	1.45	0.64
17:O:36:LYS:HD2	17:O:54:TYR:C	2.17	0.64
17:O:90:PHE:CD1	17:O:91:THR:N	2.64	0.64
20:R:25:LEU:HD12	20:R:81:VAL:H	1.62	0.64
20:R:27:GLY:O	20:R:30:LYS:HG2	1.97	0.64
25:W:9:VAL:HG12	25:W:17:VAL:HG22	1.79	0.64
1:X:91:A:H2'	1:X:92:U:C6	2.33	0.64
1:X:233:A:O2'	1:X:234:C:H5'	1.96	0.64
1:X:404:A:H1'	1:X:424:G:H1'	1.78	0.64
1:X:797:A:H5"	3:A:227:ASN:ND2	2.12	0.64
1:X:2796:A:H5"	4:B:162:MET:HE1	1.79	0.64
5:C:2:ALA:CB	5:C:13:ARG:HA	2.27	0.64
7:E:139:GLN:C	7:E:143:GLN:HG3	2.18	0.64
15:M:38:LYS:C	15:M:40:ARG:H	2.01	0.64
16:N:59:ARG:O	16:N:63:GLN:HG3	1.97	0.64
21:S:91:PRO:HD3	21:S:127:PRO:CD	2.24	0.64
30:4:15:LYS:HB2	30:4:26:ILE:HG13	1.78	0.64
1:X:1503:G:H2'	1:X:1504:G:C8	2.32	0.64
1:X:1644:G:H2'	1:X:1645:U:H6	1.61	0.64
1:X:1736:C:H2'	1:X:1737:G:H8	1.61	0.64
1:X:1856:U:O2'	1:X:1857:G:O5'	2.15	0.64
2:Y:45:C:H2'	6:D:92:ARG:NE	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:43:ARG:N	3:A:43:ARG:NH1	2.37	0.64
3:A:141:VAL:HG22	3:A:164:GLN:HB3	1.78	0.64
5:C:45:THR:HG22	5:C:47:THR:OG1	1.96	0.64
7:E:44:ARG:HH21	7:E:44:ARG:HG3	1.62	0.64
11:I:7:LYS:HD3	11:I:7:LYS:N	2.12	0.64
11:I:52:GLY:HA3	11:I:55:ARG:NH1	2.11	0.64
12:J:36:ILE:HG23	12:J:102:ARG:O	1.97	0.64
14:L:16:LYS:HE2	14:L:28:ARG:NH1	2.10	0.64
14:L:27:LEU:O	14:L:88:VAL:N	2.30	0.64
14:L:40:ALA:HB1	14:L:103:LEU:HD21	1.78	0.64
14:L:60:LYS:HG2	14:L:62:GLY:H	1.62	0.64
1:X:624:A:C4'	1:X:626:A:C6	2.81	0.64
1:X:673:G:H5'	5:C:93:TYR:CD1	2.33	0.64
1:X:761:G:OP2	18:P:109:ARG:HG3	1.97	0.64
1:X:1218:C:H5'	11:I:13:ARG:NH1	2.11	0.64
1:X:1805:G:N3	3:A:50:THR:HG21	2.13	0.64
6:D:134:GLU:OE2	6:D:136:LEU:HD12	1.97	0.64
23:U:70:LEU:HD21	23:U:77:GLY:O	1.97	0.64
1:X:116:A:N3	1:X:155:G:H1'	2.13	0.64
1:X:886:A:H4'	12:J:66:TYR:CE2	2.32	0.64
1:X:1006:C:H4'	1:X:1007:A:OP1	1.96	0.64
1:X:1053:G:C4	1:X:1054:C:C5	2.86	0.64
1:X:1095:A:H2'	1:X:1096:A:C5'	2.26	0.64
1:X:1107:A:H3'	1:X:1108:U:C5'	2.24	0.64
1:X:1836:C:H5'	3:A:254:THR:O	1.98	0.64
1:X:2074:U:H3'	1:X:2075:U:H5"	1.79	0.64
7:E:11:VAL:HG21	7:E:50:LEU:HB2	1.80	0.64
9:G:55:ALA:HB1	9:G:134:MET:CE	2.14	0.64
11:I:134:GLU:C	11:I:136:ALA:H	2.01	0.64
17:O:36:LYS:HD2	17:O:55:THR:HA	1.79	0.64
23:U:53:GLU:O	23:U:78:ILE:HG22	1.98	0.64
24:V:2:LYS:HA	24:V:6:MET:CE	2.28	0.64
26:Z:42:SER:O	26:Z:43:HIS:HB2	1.95	0.64
1:X:942:U:O2'	25:W:22:ALA:HA	1.96	0.64
1:X:1631:C:H1'	18:P:108:PRO:CG	2.24	0.64
1:X:1737:G:O2'	1:X:1738:U:H5'	1.96	0.64
1:X:2691:C:O2'	1:X:2692:A:O5'	2.15	0.64
2:Y:17:A:H1'	2:Y:112:A:C8	2.33	0.64
3:A:73:SER:HB2	3:A:120:GLY:HA2	1.78	0.64
13:K:91:PRO:O	13:K:92:GLY:C	2.35	0.64
15:M:104:LEU:HB3	15:M:107:LEU:CD1	2.27	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:Q:81:ARG:HG3	19:Q:81:ARG:NH1	2.11	0.64
19:Q:83:ALA:O	19:Q:85:GLY:N	2.31	0.64
20:R:80:LYS:HE3	20:R:80:LYS:O	1.98	0.64
3:A:44:ASN:CB	3:A:49:ILE:HA	2.26	0.64
5:C:117:LEU:HD23	5:C:117:LEU:C	2.17	0.64
5:C:148:VAL:HB	5:C:167:VAL:CG1	2.18	0.64
12:J:69:ILE:HD13	12:J:104:MET:HB3	1.80	0.64
12:J:79:PRO:HD2	12:J:88:LYS:HD2	1.78	0.64
13:K:102:THR:HA	13:K:109:THR:HA	1.79	0.64
19:Q:90:ALA:O	19:Q:92:ALA:N	2.31	0.64
20:R:96:LYS:HG3	20:R:97:GLN:N	2.11	0.64
1:X:752:G:C4'	1:X:753:U:OP1	2.44	0.64
1:X:2219:U:O2'	1:X:2220:A:H5'	1.97	0.64
1:X:2617:G:OP2	4:B:82:ARG:NH2	2.31	0.64
1:X:2849:C:H2'	1:X:2850:U:H5'	1.79	0.64
3:A:67:PHE:HB3	3:A:153:ALA:N	2.06	0.64
4:B:116:VAL:H	4:B:136:ARG:HE	0.71	0.64
5:C:48:ARG:HD2	5:C:48:ARG:N	2.10	0.64
6:D:74:ILE:CA	6:D:79:LEU:HB3	2.27	0.64
11:I:61:PRO:O	11:I:62:LYS:HB2	1.98	0.64
11:I:76:LYS:HB3	11:I:79:GLN:NE2	2.13	0.64
12:J:66:TYR:O	12:J:106:GLU:OE1	2.16	0.64
20:R:25:LEU:HD22	20:R:25:LEU:C	2.18	0.64
1:X:177:U:H3'	1:X:178:C:H6	1.62	0.64
1:X:959:C:O2'	1:X:960:U:H5'	1.97	0.64
1:X:1071:U:H1'	1:X:1073:G:C5'	2.28	0.64
1:X:2070:G:H2'	1:X:2071:G:H8	1.63	0.64
1:X:2301:A:H2'	1:X:2302:G:H8	1.62	0.64
1:X:2604:G:H2'	1:X:2605:C:C6	2.33	0.64
3:A:54:ILE:HG23	3:A:54:ILE:O	1.98	0.64
3:A:243:GLY:CA	3:A:244:ARG:NH1	2.61	0.64
4:B:72:VAL:O	4:B:73:ALA:HB2	1.98	0.64
4:B:155:ARG:HH11	4:B:155:ARG:HG3	1.61	0.64
5:C:12:GLY:O	5:C:14:THR:N	2.30	0.64
9:G:52:GLY:O	9:G:55:ALA:HB3	1.97	0.64
9:G:72:PRO:O	9:G:74:MET:N	2.30	0.64
11:I:72:TYR:HA	11:I:105:PRO:HG2	1.79	0.64
11:I:118:VAL:O	11:I:138:GLY:HA3	1.98	0.64
12:J:19:THR:HG22	12:J:20:GLY:N	2.12	0.64
20:R:15:HIS:ND1	20:R:16:PHE:HD2	1.91	0.64
20:R:55:THR:O	20:R:70:GLU:N	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:4:THR:HB	21:S:57:GLU:CB	2.19	0.64
1:X:224:G:H4'	1:X:399:G:C5	2.33	0.64
1:X:553:C:C5'	1:X:554:U:OP1	2.45	0.64
1:X:958:G:H2'	1:X:959:C:C6	2.33	0.64
1:X:1551:U:H5'	1:X:1552:C:C5	2.32	0.64
1:X:1608:U:H2'	1:X:1609:G:C8	2.33	0.64
1:X:2046:C:O2	1:X:2430:A:C2	2.51	0.64
1:X:2174:G:H2'	1:X:2175:A:C8	2.32	0.64
1:X:2343:C:O2	22:T:36:ILE:HD11	1.96	0.64
9:G:67:ARG:O	9:G:70:PHE:CE1	2.51	0.64
9:G:102:ARG:NH2	9:G:112:THR:HG21	2.13	0.64
10:H:23:ARG:HH12	10:H:25:LEU:CG	2.10	0.64
14:L:52:ALA:O	14:L:53:ALA:HB3	1.98	0.64
16:N:66:ASN:HD22	16:N:70:ARG:NH1	1.95	0.64
20:R:105:ARG:HH22	20:R:112:LYS:N	1.96	0.64
21:S:113:VAL:HG22	21:S:171:VAL:CG1	2.28	0.64
1:X:191:G:O2'	1:X:192:G:H5'	1.98	0.63
1:X:387:A:H2'	1:X:387:A:N3	2.13	0.63
1:X:2210:C:H2'	1:X:2211:U:H6	1.61	0.63
1:X:2713:A:O2'	1:X:2714:A:H5'	1.98	0.63
4:B:75:THR:O	4:B:76:ARG:HB3	1.97	0.63
8:F:79:ARG:O	8:F:84:ILE:N	2.31	0.63
9:G:84:ASN:O	9:G:152:ALA:HA	1.97	0.63
21:S:148:THR:HG22	21:S:167:THR:HA	1.80	0.63
23:U:39:LYS:O	23:U:40:ARG:HB2	1.98	0.63
1:X:797:A:C5	3:A:229:VAL:HG21	2.33	0.63
1:X:954:U:C2'	1:X:955:G:H5"	2.28	0.63
1:X:1007:A:H1'	17:O:6:GLN:HG2	1.80	0.63
1:X:1349:A:H2'	1:X:1350:G:C8	2.33	0.63
1:X:1391:A:O2'	1:X:1392:U:P	2.57	0.63
1:X:1493:A:H2'	1:X:1494:G:O4'	1.98	0.63
1:X:1602:G:H5'	1:X:1603:A:OP2	1.99	0.63
1:X:2564:U:H5'	1:X:2565:C:OP1	1.97	0.63
5:C:187:VAL:O	5:C:187:VAL:CG1	2.46	0.63
7:E:31:GLY:O	7:E:79:VAL:HG12	1.98	0.63
12:J:81:GLU:HG2	12:J:82:THR:N	2.10	0.63
13:K:25:ALA:HB2	13:K:47:PHE:CE2	2.32	0.63
1:X:109:A:C3'	1:X:110:U:H5"	2.27	0.63
1:X:476:G:H2'	1:X:477:A:C8	2.32	0.63
1:X:615:C:H41	11:I:100:ARG:NH1	1.96	0.63
1:X:888:G:H2'	1:X:889:C:O4'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:930:A:H5”	2:Y:100:G:O2’	1.97	0.63
1:X:1553:G:H2’	1:X:1554:G:C8	2.32	0.63
1:X:2424:G:OP1	5:C:68:ARG:NH2	2.31	0.63
3:A:43:ARG:HH21	3:A:55:GLY:HA2	1.62	0.63
4:B:144:ARG:HG2	4:B:145:LYS:N	2.12	0.63
5:C:128:ALA:O	5:C:130:THR:N	2.30	0.63
7:E:136:ILE:HD12	7:E:136:ILE:H	1.63	0.63
11:I:45:LYS:HD3	11:I:46:GLY:H	1.60	0.63
11:I:45:LYS:CE	11:I:47:ALA:HB3	2.21	0.63
11:I:93:LEU:O	11:I:97:ARG:HG3	1.97	0.63
16:N:26:GLY:O	16:N:28:ARG:N	2.31	0.63
17:O:12:TYR:O	17:O:13:ARG:CB	2.45	0.63
18:P:44:VAL:HG21	18:P:60:ILE:HD11	1.79	0.63
22:T:21:LEU:CD1	22:T:41:ARG:HG2	2.28	0.63
1:X:177:U:H5	1:X:225:G:N2	1.96	0.63
1:X:322:A:O2’	1:X:343:A:H4’	1.99	0.63
1:X:1416:A:H2’	1:X:1417:C:C6	2.32	0.63
1:X:1734:C:H5”	1:X:1735:G:C8	2.34	0.63
1:X:1949:A:H1’	1:X:2572:U:C5’	2.27	0.63
1:X:2477:C:H5’	1:X:2477:C:H6	1.64	0.63
1:X:2845:C:H5”	13:K:65:LEU:HD11	1.80	0.63
2:Y:50:U:H2’	2:Y:51:G:H8	1.63	0.63
3:A:58:HIS:O	3:A:59:LYS:CB	2.47	0.63
4:B:72:VAL:O	4:B:73:ALA:CB	2.46	0.63
11:I:82:ASP:H	11:I:114:ILE:HG21	1.64	0.63
11:I:92:THR:O	11:I:94:GLU:N	2.32	0.63
12:J:136:GLU:OE1	12:J:136:GLU:HA	1.99	0.63
15:M:32:THR:HG22	15:M:33:VAL:H	1.62	0.63
16:N:81:ASN:HD21	16:N:85:ARG:NE	1.96	0.63
21:S:113:VAL:CA	21:S:171:VAL:HA	2.16	0.63
1:X:1007:A:C2	1:X:1008:G:C8	2.87	0.63
1:X:1804:U:H2’	1:X:1805:G:C8	2.34	0.63
1:X:1949:A:H1’	1:X:2572:U:H5’	1.80	0.63
1:X:2023:C:H2’	1:X:2024:U:C6	2.34	0.63
3:A:43:ARG:N	3:A:43:ARG:HD2	2.12	0.63
5:C:122:GLY:C	5:C:124:ASP:N	2.52	0.63
5:C:171:PRO:O	5:C:173:ALA:N	2.32	0.63
6:D:136:LEU:O	6:D:137:ILE:HG23	1.98	0.63
7:E:37:TYR:OH	7:E:72:VAL:HG22	1.99	0.63
8:F:115:LEU:C	8:F:117:ALA:H	2.01	0.63
11:I:58:ALA:O	11:I:59:ARG:HB2	1.96	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:21:ASP:N	12:J:99:LYS:HE2	2.14	0.63
12:J:35:LEU:HD23	12:J:105:PHE:HD2	1.62	0.63
14:L:40:ALA:CB	14:L:103:LEU:HD21	2.28	0.63
15:M:99:VAL:HG21	15:M:104:LEU:CD2	2.29	0.63
16:N:3:ARG:HG2	16:N:3:ARG:HH11	1.63	0.63
18:P:48:LYS:HZ1	18:P:56:LEU:HD11	1.64	0.63
19:Q:7:LEU:HD23	24:V:30:PHE:CE2	2.33	0.63
19:Q:51:ILE:CD1	19:Q:83:ALA:HA	2.16	0.63
20:R:11:ASN:C	20:R:11:ASN:HD22	2.02	0.63
23:U:27:ASP:HA	23:U:32:ARG:HH21	1.64	0.63
25:W:23:LEU:HD21	25:W:43:MET:HB2	1.79	0.63
26:Z:52:TYR:O	26:Z:53:ASP:HB2	1.99	0.63
1:X:181:A:H2	1:X:182:G:N2	1.95	0.63
1:X:1475:U:OP2	1:X:1475:U:H4'	1.99	0.63
1:X:1630:A:N1	18:P:114:ALA:HB2	2.14	0.63
1:X:2217:G:H5"	1:X:2218:G:OP1	1.98	0.63
2:Y:37:C:H2'	2:Y:38:C:O4'	1.99	0.63
3:A:186:HIS:O	3:A:188:GLU:N	2.32	0.63
6:D:74:ILE:HG23	6:D:80:ARG:CA	2.28	0.63
9:G:38:GLU:O	9:G:39:GLN:HB3	1.98	0.63
10:H:47:VAL:HA	10:H:74:VAL:HG12	1.80	0.63
14:L:28:ARG:HA	14:L:88:VAL:O	1.99	0.63
19:Q:84:GLU:O	19:Q:86:GLN:N	2.32	0.63
25:W:41:ARG:HH11	25:W:41:ARG:HG2	1.62	0.63
1:X:426:C:H4'	1:X:1863:U:O2'	1.98	0.63
1:X:1250:A:O2'	1:X:1251:G:O4'	2.12	0.63
1:X:1442:C:O2'	1:X:1443:G:OP1	2.11	0.63
7:E:43:VAL:CG2	7:E:52:VAL:HG22	2.28	0.63
7:E:98:LEU:CD1	7:E:99:THR:H	2.07	0.63
9:G:148:LEU:HD12	9:G:149:LYS:H	1.61	0.63
12:J:128:ILE:HD12	12:J:128:ILE:C	2.19	0.63
14:L:66:ASP:C	14:L:68:ALA:H	2.02	0.63
16:N:66:ASN:HA	16:N:69:ALA:HB3	1.81	0.63
19:Q:6:ILE:CG2	19:Q:7:LEU:N	2.60	0.63
1:X:577:U:OP1	11:I:40:ARG:NH2	2.31	0.63
1:X:592:G:OP2	16:N:10:ARG:NH1	2.28	0.63
1:X:796:A:C8	1:X:797:A:H4'	2.33	0.63
1:X:801:A:O2'	1:X:802:A:OP2	2.15	0.63
1:X:1071:U:H4'	1:X:1072:U:O5'	1.99	0.63
1:X:1337:G:OP2	18:P:105:ARG:CZ	2.46	0.63
1:X:2628:C:H2'	1:X:2629:U:H6	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2797:G:H2'	1:X:2798:A:H5"	1.80	0.63
2:Y:14:C:H5"	22:T:72:LYS:HD3	1.80	0.63
4:B:155:ARG:HG3	4:B:155:ARG:NH1	2.12	0.63
5:C:34:GLN:HE22	5:C:178:TYR:H	1.45	0.63
5:C:197:GLU:HG2	5:C:198:GLU:N	2.14	0.63
6:D:11:GLN:O	6:D:15:ALA:HB3	1.98	0.63
10:H:7:ARG:NH1	10:H:20:MET:CE	2.62	0.63
11:I:76:LYS:HB3	11:I:79:GLN:HG2	1.81	0.63
14:L:21:THR:O	14:L:24:SER:HB2	1.97	0.63
14:L:107:ALA:C	14:L:109:GLU:H	2.02	0.63
15:M:82:PRO:HB2	15:M:85:SER:HB2	1.81	0.63
20:R:63:THR:HG22	20:R:64:ASN:ND2	2.14	0.63
1:X:872:G:H2'	1:X:928:G:N1	2.13	0.63
1:X:940:G:OP1	1:X:940:G:H4'	1.99	0.63
1:X:1238:A:H5'	17:O:85:GLY:H	1.64	0.63
1:X:1313:U:H1'	1:X:1642:G:C2	2.34	0.63
1:X:1339:U:H5"	1:X:1994:U:H1'	1.80	0.63
1:X:1728:A:O2'	1:X:1729:C:H5'	1.99	0.63
1:X:1922:U:O2'	1:X:2571:G:O4'	2.14	0.63
1:X:2523:G:O2'	1:X:2524:G:H5'	1.99	0.63
3:A:72:LYS:HZ1	3:A:99:ASP:CG	2.02	0.63
11:I:77:LEU:HD22	11:I:110:ALA:HA	1.81	0.63
13:K:20:LEU:HD21	13:K:40:LYS:HD3	1.81	0.63
14:L:52:ALA:O	14:L:53:ALA:CB	2.47	0.63
15:M:26:ASP:CG	15:M:27:PHE:H	1.95	0.63
15:M:104:LEU:O	15:M:105:TYR:C	2.37	0.63
17:O:13:ARG:HE	17:O:95:ILE:HG21	1.64	0.63
20:R:25:LEU:HD11	20:R:81:VAL:HG23	1.79	0.63
21:S:73:LYS:O	21:S:74:ARG:HB2	1.99	0.63
23:U:13:LEU:CD1	23:U:14:VAL:H	2.11	0.63
23:U:52:ARG:HD2	23:U:79:GLU:C	2.19	0.63
23:U:53:GLU:HB3	23:U:58:LYS:N	2.14	0.63
1:X:514:G:C5	18:P:20:LEU:CD2	2.82	0.62
1:X:623:G:H3'	1:X:624:A:C5'	2.25	0.62
1:X:1452:U:O2'	1:X:1453:A:H5'	1.98	0.62
1:X:1770:U:C2	1:X:1774:A:N7	2.67	0.62
1:X:2033:C:H1'	4:B:156:MET:HE1	1.81	0.62
1:X:2302:G:H1	1:X:2311:U:H3	1.47	0.62
1:X:2357:A:C4'	14:L:26:ARG:NH1	2.57	0.62
1:X:2448:A:N6	1:X:2460:G:H1'	2.14	0.62
1:X:2482:A:H4'	1:X:2483:U:OP1	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2736:U:O2'	1:X:2737:A:C5'	2.32	0.62
4:B:100:GLU:O	4:B:172:VAL:HG23	1.98	0.62
7:E:37:TYR:CZ	7:E:72:VAL:HG22	2.33	0.62
7:E:57:ASP:HB3	7:E:62:ARG:NE	2.04	0.62
10:H:116:ARG:NH1	15:M:38:LYS:HD3	2.14	0.62
11:I:32:ARG:HD2	17:O:81:ARG:HD2	1.81	0.62
12:J:15:ARG:CD	12:J:73:LYS:HZ2	2.07	0.62
12:J:34:GLY:HA2	12:J:106:GLU:CA	2.23	0.62
12:J:119:PHE:HD1	12:J:132:MET:SD	2.21	0.62
16:N:24:PHE:HE2	16:N:39:LEU:HD21	1.64	0.62
21:S:131:PRO:CG	21:S:155:PRO:HG3	2.29	0.62
23:U:22:GLY:H	23:U:39:LYS:HB2	1.64	0.62
23:U:27:ASP:CA	23:U:32:ARG:HD3	2.29	0.62
24:V:42:ARG:HG3	24:V:46:LEU:HD11	1.80	0.62
30:4:1:MET:SD	30:4:35:ARG:CZ	2.87	0.62
1:X:689:A:C8	1:X:2422:C:H1'	2.34	0.62
1:X:825:C:O2'	1:X:826:U:H5'	1.98	0.62
1:X:1730:G:O2'	1:X:1731:C:H5'	1.99	0.62
1:X:2196:U:H2'	1:X:2197:U:N1	2.14	0.62
1:X:2617:G:P	4:B:82:ARG:NH2	2.63	0.62
1:X:2634:G:O2'	1:X:2643:G:N1	2.31	0.62
5:C:24:SER:O	5:C:28:HIS:N	2.29	0.62
11:I:28:LYS:NZ	11:I:36:GLY:CA	2.62	0.62
20:R:84:VAL:CG2	20:R:89:GLY:HA2	2.29	0.62
1:X:1186:G:C6	1:X:1187:A:N1	2.68	0.62
1:X:1913:G:H5"	1:X:1914:U:OP1	1.99	0.62
2:Y:50:U:H2'	2:Y:51:G:C8	2.34	0.62
10:H:116:ARG:HH22	15:M:41:GLU:CG	2.11	0.62
15:M:27:PHE:O	15:M:28:ARG:HG2	1.99	0.62
17:O:9:GLY:O	17:O:10:LYS:HB3	1.99	0.62
17:O:78:VAL:HG13	17:O:78:VAL:O	2.00	0.62
20:R:24:VAL:O	20:R:30:LYS:HA	1.98	0.62
21:S:87:THR:HG21	21:S:90:GLU:O	1.99	0.62
21:S:106:GLY:N	21:S:109:GLN:HG3	2.14	0.62
23:U:28:GLY:HA3	23:U:32:ARG:CB	2.30	0.62
1:X:2222:U:H2'	1:X:2223:U:H6	1.59	0.62
1:X:2445:C:H5"	30:4:6:SER:HB2	1.82	0.62
2:Y:63:A:O2'	2:Y:64:C:H5'	1.99	0.62
3:A:46:ARG:HD3	3:A:47:GLY:N	2.13	0.62
5:C:104:LEU:HD23	5:C:104:LEU:H	1.63	0.62
9:G:41:TRP:O	9:G:165:VAL:HA	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:79:PHE:CE2	9:G:147:ARG:HG2	2.34	0.62
10:H:99:ILE:HD12	10:H:103:GLY:HA2	1.82	0.62
11:I:28:LYS:NZ	11:I:36:GLY:HA2	2.14	0.62
19:Q:22:ARG:HG3	19:Q:24:VAL:HG23	1.81	0.62
21:S:113:VAL:CG1	21:S:171:VAL:HG22	2.29	0.62
25:W:40:VAL:HA	25:W:43:MET:HG3	1.80	0.62
1:X:223:C:O2'	1:X:398:C:H5'	2.00	0.62
1:X:471:A:H2'	1:X:472:C:O4'	1.99	0.62
1:X:514:G:C6	18:P:20:LEU:HD22	2.34	0.62
1:X:623:G:N3	1:X:626:A:H2	1.94	0.62
1:X:1096:A:H4'	1:X:1097:A:OP1	1.99	0.62
1:X:1102:G:O2'	1:X:1103:C:H5'	2.00	0.62
1:X:1578:U:O2'	1:X:1579:G:H5'	1.99	0.62
1:X:2194:A:H2'	1:X:2195:C:C4'	2.30	0.62
1:X:2284:U:H2'	1:X:2285:U:H5"	1.80	0.62
1:X:2619:G:C6	1:X:2755:A:C2	2.88	0.62
4:B:116:VAL:HG13	4:B:136:ARG:NH2	2.12	0.62
5:C:107:ALA:HB1	5:C:180:ILE:HD13	1.81	0.62
7:E:91:GLY:O	7:E:92:VAL:O	2.17	0.62
11:I:126:SER:O	11:I:129:ALA:HB3	2.00	0.62
22:T:38:VAL:HG21	22:T:79:ILE:CD1	2.30	0.62
22:T:41:ARG:HG3	22:T:41:ARG:NH1	2.12	0.62
1:X:1683:G:C2'	1:X:1684:G:H5'	2.29	0.62
1:X:1685:A:N6	1:X:1693:A:H61	1.98	0.62
1:X:2779:C:H3'	1:X:2779:C:C6	2.34	0.62
3:A:206:LEU:C	3:A:211:ARG:HD3	2.18	0.62
4:B:136:ARG:HG2	4:B:136:ARG:HH11	1.64	0.62
5:C:22:VAL:HA	5:C:106:MET:HG3	1.81	0.62
6:D:114:PHE:HZ	6:D:176:PRO:HG3	1.64	0.62
7:E:57:ASP:O	7:E:58:ALA:HB2	1.99	0.62
11:I:63:ARG:O	11:I:64:GLY:C	2.37	0.62
15:M:34:ARG:CZ	15:M:88:VAL:CG1	2.77	0.62
20:R:85:ASP:H	20:R:90:LYS:HD3	1.63	0.62
23:U:23:LYS:HB2	23:U:35:THR:HG23	1.80	0.62
23:U:52:ARG:NH1	23:U:79:GLU:OE1	2.30	0.62
1:X:136:A:C5	1:X:137:A:C8	2.85	0.62
1:X:136:A:N6	1:X:137:A:C2	2.67	0.62
1:X:651:C:C2'	1:X:652:C:H5"	2.28	0.62
1:X:1147:G:H2'	1:X:1148:G:H8	1.63	0.62
1:X:1610:A:H2'	1:X:1611:U:C6	2.35	0.62
1:X:1938:U:O2'	1:X:1939:U:H5'	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2074:U:O5'	1:X:2075:U:H5"	2.00	0.62
1:X:2081:U:H2'	1:X:2082:C:O4'	1.99	0.62
1:X:2201:G:H4'	3:A:186:HIS:CE1	2.34	0.62
3:A:131:LEU:HG	3:A:131:LEU:O	1.99	0.62
6:D:70:ALA:C	6:D:72:LYS:H	2.03	0.62
6:D:108:LEU:HA	6:D:111:ILE:HD12	1.82	0.62
8:F:117:ALA:HB1	8:F:118:GLY:O	2.00	0.62
9:G:67:ARG:O	9:G:70:PHE:CD1	2.53	0.62
10:H:75:VAL:HG12	10:H:118:LEU:CD2	2.27	0.62
12:J:113:GLU:C	12:J:115:ALA:H	2.03	0.62
14:L:40:ALA:HB2	14:L:103:LEU:CD1	2.18	0.62
15:M:28:ARG:HB2	15:M:29:PRO:CD	2.20	0.62
22:T:58:THR:HG22	22:T:59:LEU:N	2.14	0.62
1:X:408:U:O2'	1:X:409:G:C8	2.51	0.62
1:X:1064:C:O5'	1:X:1064:C:H6	1.83	0.62
1:X:1113:C:H2'	1:X:1114:A:C8	2.32	0.62
1:X:1201:G:H5"	17:O:80:TYR:CE2	2.34	0.62
1:X:1286:U:C6	1:X:1986:G:H4'	2.35	0.62
1:X:2178:U:H2'	1:X:2179:C:H6	1.64	0.62
1:X:2194:A:C2'	1:X:2195:C:H5"	2.28	0.62
3:A:186:HIS:HB2	3:A:188:GLU:HG3	1.82	0.62
5:C:110:SER:HA	5:C:113:GLU:OE1	1.99	0.62
6:D:34:ILE:HD11	6:D:156:ILE:HG12	1.82	0.62
6:D:57:LEU:O	6:D:61:THR:HG23	1.99	0.62
16:N:24:PHE:O	16:N:29:SER:HB3	1.98	0.62
1:X:1194:U:H2'	1:X:1195:U:C6	2.35	0.62
5:C:83:ALA:O	5:C:85:GLY:N	2.33	0.62
5:C:129:LYS:O	5:C:130:THR:HB	1.99	0.62
7:E:54:ARG:HH11	7:E:62:ARG:NE	1.98	0.62
14:L:29:LEU:HA	14:L:41:GLN:O	1.99	0.62
16:N:88:ILE:HG22	17:O:48:GLY:O	1.99	0.62
16:N:93:LYS:HD2	17:O:10:LYS:HZ3	1.65	0.62
18:P:66:GLU:HB3	18:P:67:PRO:HD3	1.81	0.62
1:X:333:A:H5'	5:C:162:ARG:CG	2.30	0.62
1:X:455:A:H2	1:X:1258:G:N3	1.98	0.62
1:X:1036:G:O2'	1:X:1037:U:OP2	2.18	0.62
1:X:1275:A:N3	26:Z:10:LYS:HE2	2.15	0.62
1:X:2184:C:H2'	1:X:2185:U:H6	1.64	0.62
1:X:2490:U:H2'	1:X:2491:C:H6	1.64	0.62
8:F:76:TYR:HD1	8:F:79:ARG:NH2	1.97	0.62
10:H:41:ASN:ND2	10:H:41:ASN:H	1.96	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:18:ARG:CB	11:I:21:ARG:HD3	2.29	0.62
12:J:79:PRO:O	12:J:80:ALA:CB	2.47	0.62
16:N:7:GLY:C	16:N:9:VAL:H	2.03	0.62
1:X:833:A:H1'	1:X:954:U:O2'	2.00	0.61
1:X:1057:A:H5'	1:X:1058:G:OP2	2.00	0.61
6:D:16:LEU:O	6:D:20:PHE:HD1	1.82	0.61
7:E:44:ARG:HH22	7:E:46:ASP:CB	2.12	0.61
11:I:102:LYS:O	11:I:104:ARG:N	2.31	0.61
19:Q:7:LEU:O	19:Q:7:LEU:HD13	1.99	0.61
1:X:314:G:H2'	1:X:315:G:C8	2.35	0.61
1:X:973:U:H2'	1:X:974:U:H6	1.65	0.61
1:X:1391:A:O2'	1:X:1392:U:C6	2.53	0.61
1:X:1439:G:H2'	1:X:1440:G:C8	2.35	0.61
1:X:1467:U:H6	1:X:1467:U:C3'	2.13	0.61
1:X:1978:U:H5"	1:X:1979:C:H5"	1.80	0.61
1:X:2226:A:H2'	1:X:2227:C:H6	1.65	0.61
1:X:2554:C:O2'	4:B:140:SER:HB2	2.00	0.61
3:A:124:GLU:O	3:A:129:ASN:ND2	2.33	0.61
5:C:21:GLU:O	5:C:22:VAL:O	2.18	0.61
5:C:112:GLN:HA	5:C:116:LYS:HD3	1.83	0.61
14:L:83:GLY:C	14:L:84:ILE:HD12	2.19	0.61
16:N:66:ASN:HA	16:N:69:ALA:CB	2.30	0.61
20:R:23:ILE:HD12	20:R:23:ILE:N	2.08	0.61
21:S:21:ALA:HB2	21:S:81:VAL:HB	1.81	0.61
21:S:51:LEU:HD23	21:S:51:LEU:N	2.14	0.61
23:U:53:GLU:OE1	23:U:57:VAL:HG13	1.99	0.61
1:X:403:A:H4'	1:X:404:A:O5'	2.01	0.61
1:X:648:A:H5"	1:X:649:G:OP1	2.00	0.61
1:X:871:U:O2'	1:X:2248:A:H5"	2.01	0.61
1:X:1124:U:C2'	1:X:1125:G:H5'	2.30	0.61
1:X:1194:U:H5'	1:X:1194:U:H6	1.65	0.61
1:X:1359:G:H5'	1:X:1359:G:H8	1.65	0.61
1:X:1810:U:H5"	3:A:158:SER:HB3	1.81	0.61
1:X:2405:A:H2'	1:X:2405:A:N3	2.16	0.61
1:X:2779:C:H2'	1:X:2780:A:C1'	2.30	0.61
4:B:85:ALA:CB	4:B:86:PRO:CD	2.78	0.61
6:D:15:ALA:O	6:D:19:GLN:HB2	1.99	0.61
9:G:148:LEU:HD11	9:G:150:VAL:CG2	2.29	0.61
9:G:158:HIS:HA	9:G:161:GLN:NE2	2.15	0.61
11:I:18:ARG:HD2	11:I:21:ARG:HD2	1.81	0.61
11:I:28:LYS:HZ2	11:I:37:GLN:N	1.97	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:107:LYS:HG3	11:I:108:LEU:N	2.16	0.61
14:L:28:ARG:HD2	14:L:90:ASP:OD1	2.00	0.61
16:N:79:PHE:CD2	16:N:80:ILE:HD13	2.35	0.61
18:P:13:GLN:O	18:P:16:GLN:HG3	1.99	0.61
1:X:757:U:C2'	1:X:758:G:H5'	2.30	0.61
1:X:814:G:OP1	5:C:50:GLN:CD	2.38	0.61
1:X:1231:A:H2'	1:X:1232:U:H6	1.64	0.61
1:X:2241:U:H5	22:T:17:ASN:ND2	1.97	0.61
3:A:70:ARG:NH2	3:A:189:CYS:HA	2.15	0.61
5:C:104:LEU:H	5:C:104:LEU:CD2	2.13	0.61
6:D:57:LEU:HA	6:D:60:ILE:CD1	2.30	0.61
9:G:162:LYS:N	9:G:163:PRO:CD	2.62	0.61
13:K:11:ASN:OD1	13:K:17:ARG:NH2	2.34	0.61
15:M:104:LEU:HB3	15:M:107:LEU:HD12	1.81	0.61
16:N:4:ALA:O	16:N:5:LYS:O	2.18	0.61
17:O:48:GLY:O	17:O:50:ASP:N	2.28	0.61
21:S:105:GLN:OE1	21:S:140:LYS:HA	2.00	0.61
1:X:333:A:H2'	1:X:350:U:O2	1.99	0.61
1:X:1119:U:C2'	1:X:1120:C:O5'	2.48	0.61
1:X:2002:A:N7	26:Z:9:LYS:HE2	2.16	0.61
1:X:2167:A:H2'	1:X:2168:A:C8	2.35	0.61
1:X:2795:A:N1	15:M:2:GLN:N	2.49	0.61
2:Y:25:G:H2'	2:Y:26:G:N7	2.15	0.61
3:A:145:LEU:HD12	3:A:146:GLU:H	1.65	0.61
3:A:252:LYS:N	3:A:252:LYS:CE	2.58	0.61
4:B:67:PHE:CZ	4:B:75:THR:HG22	2.35	0.61
5:C:136:TRP:CD2	5:C:140:ASN:ND2	2.69	0.61
7:E:94:PHE:CG	7:E:107:ILE:HG22	2.35	0.61
10:H:116:ARG:NH2	15:M:40:ARG:HB2	2.16	0.61
15:M:50:PHE:CZ	15:M:70:LYS:HB3	2.35	0.61
16:N:66:ASN:ND2	16:N:70:ARG:HH22	1.97	0.61
20:R:15:HIS:ND1	20:R:16:PHE:CD2	2.67	0.61
21:S:103:ARG:HD3	21:S:108:VAL:CG2	2.27	0.61
24:V:6:MET:CE	24:V:52:GLN:HB3	2.30	0.61
1:X:741:G:O2'	1:X:743:A:H5"	2.00	0.61
1:X:1091:C:O2	8:F:126:THR:HG23	2.01	0.61
1:X:1186:G:H4'	1:X:1187:A:OP2	2.01	0.61
1:X:1427:G:H2'	1:X:1428:G:C1'	2.29	0.61
1:X:1547:U:H2'	1:X:1548:U:H6	1.65	0.61
1:X:2307:A:H2'	1:X:2308:A:C8	2.35	0.61
1:X:2870:C:H2'	1:X:2871:U:H6	1.66	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2870:C:H2'	1:X:2871:U:C6	2.36	0.61
5:C:177:VAL:O	5:C:180:ILE:HG23	2.01	0.61
8:F:100:ASN:N	8:F:103:GLN:OE1	2.33	0.61
11:I:85:ASP:O	11:I:87:THR:N	2.34	0.61
14:L:54:ALA:N	14:L:75:LEU:HD13	2.16	0.61
17:O:40:VAL:HA	17:O:44:GLN:O	2.01	0.61
20:R:95:ARG:H	20:R:95:ARG:HD2	1.65	0.61
1:X:1142:G:C1'	9:G:103:TYR:CD2	2.84	0.61
1:X:1922:U:O2	1:X:1922:U:O4'	2.18	0.61
1:X:1938:U:O2'	1:X:1939:U:OP1	2.15	0.61
1:X:2261:G:H21	1:X:2369:U:H3	1.49	0.61
1:X:2598:C:H1'	4:B:154:LYS:CE	2.30	0.61
3:A:90:ALA:HA	3:A:198:ASN:HB2	1.81	0.61
3:A:228:PRO:HD3	3:A:235:GLY:N	2.16	0.61
9:G:107:GLN:CA	9:G:110:LEU:HG	2.31	0.61
11:I:81:GLN:O	11:I:83:LEU:N	2.33	0.61
14:L:17:VAL:HG13	14:L:18:ARG:H	1.66	0.61
16:N:29:SER:O	16:N:30:LYS:HD2	2.00	0.61
17:O:57:GLN:N	17:O:97:GLY:CA	2.58	0.61
18:P:9:ARG:HD2	18:P:13:GLN:HG3	1.82	0.61
19:Q:35:LYS:HD3	19:Q:53:ILE:HG23	1.82	0.61
30:4:26:ILE:HG13	30:4:26:ILE:O	2.00	0.61
1:X:663:G:H2'	1:X:664:C:H5"	1.81	0.61
1:X:2395:C:H2'	1:X:2396:C:C5'	2.31	0.61
2:Y:30:C:H2'	2:Y:31:A:C8	2.36	0.61
3:A:42:GLY:H	3:A:43:ARG:NH1	1.99	0.61
5:C:122:GLY:O	5:C:124:ASP:N	2.33	0.61
23:U:17:SER:HB2	23:U:44:ALA:HA	1.83	0.61
1:X:416:U:O2'	1:X:419:G:H1'	2.00	0.61
1:X:528:G:H5'	18:P:39:ARG:HH22	1.66	0.61
1:X:624:A:C4'	1:X:626:A:N6	2.63	0.61
1:X:640:C:H4'	1:X:660:G:N3	2.16	0.61
1:X:1333:G:H8	1:X:1333:G:OP2	1.82	0.61
1:X:1551:U:H5'	1:X:1552:C:C6	2.35	0.61
1:X:2322:U:C3'	1:X:2323:U:C6	2.83	0.61
2:Y:42:U:H1'	2:Y:47:A:H62	1.66	0.61
3:A:59:LYS:HG3	3:A:59:LYS:O	1.99	0.61
4:B:85:ALA:HB3	4:B:86:PRO:CD	2.31	0.61
5:C:166:TRP:N	5:C:166:TRP:HE3	1.97	0.61
6:D:148:LYS:HG3	6:D:149:THR:H	1.66	0.61
7:E:43:VAL:CB	7:E:52:VAL:HA	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:115:LEU:O	8:F:117:ALA:N	2.34	0.61
17:O:8:GLY:H	17:O:20:ILE:HD13	1.66	0.61
1:X:84:G:P	20:R:39:ALA:CB	2.88	0.61
1:X:177:U:C2	1:X:178:C:C1'	2.84	0.61
1:X:538:A:H2'	1:X:2025:A:H2	1.65	0.61
1:X:787:A:H5"	3:A:48:ARG:NH2	2.16	0.61
1:X:1519:G:O2'	1:X:1520:G:H5'	2.01	0.61
1:X:1750:A:C8	1:X:2675:U:H1'	2.36	0.61
1:X:1854:G:HO2'	1:X:1855:G:H5'	1.65	0.61
1:X:1996:A:H2'	1:X:1997:A:H5'	1.82	0.61
1:X:2266:A:N6	1:X:2323:U:H3	1.98	0.61
6:D:150:ARG:CG	6:D:151:GLY:H	1.96	0.61
11:I:94:GLU:HA	11:I:97:ARG:HE	1.63	0.61
13:K:25:ALA:HB2	13:K:47:PHE:HE2	1.64	0.61
14:L:14:ARG:O	14:L:17:VAL:HG12	2.01	0.61
14:L:63:ASN:HB3	14:L:67:THR:N	2.15	0.61
15:M:99:VAL:HG21	15:M:104:LEU:HD21	1.81	0.61
16:N:6:THR:O	16:N:9:VAL:HB	2.00	0.61
1:X:93:A:O2'	1:X:94:C:H5'	2.02	0.60
1:X:2700:U:H5'	1:X:2700:U:H6	1.64	0.60
2:Y:106:U:H4'	21:S:67:LYS:HZ3	1.64	0.60
6:D:9:ASN:O	6:D:13:ARG:N	2.34	0.60
6:D:13:ARG:HH21	6:D:17:MET:HE1	1.65	0.60
10:H:27:SER:HB3	10:H:50:ILE:N	2.16	0.60
11:I:30:ALA:CB	11:I:34:HIS:CE1	2.81	0.60
13:K:13:ASN:HD21	13:K:16:ALA:N	1.85	0.60
23:U:45:ASN:C	23:U:46:LEU:HD23	2.22	0.60
1:X:310:A:H61	5:C:162:ARG:NH2	1.99	0.60
1:X:1235:C:H2'	1:X:1236:G:C8	2.35	0.60
1:X:1279:G:N2	1:X:1996:A:OP2	2.34	0.60
1:X:1467:U:H6	1:X:1468:A:H5'	1.65	0.60
1:X:2569:A:H2'	1:X:2570:C:C6	2.36	0.60
3:A:131:LEU:HD21	3:A:193:ILE:HG12	1.82	0.60
3:A:163:VAL:HG21	3:A:177:LEU:HD23	1.82	0.60
3:A:243:GLY:HA2	3:A:244:ARG:NH1	2.17	0.60
3:A:245:VAL:C	3:A:252:LYS:HD3	2.21	0.60
5:C:134:ILE:O	5:C:137:ALA:HB3	2.02	0.60
6:D:68:THR:CG2	6:D:88:LYS:HB2	2.30	0.60
6:D:108:LEU:HB3	6:D:114:PHE:CZ	2.36	0.60
12:J:102:ARG:HG3	12:J:102:ARG:HH11	1.66	0.60
23:U:22:GLY:CA	23:U:39:LYS:HD2	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:23:LYS:HD2	23:U:35:THR:HG23	1.83	0.60
30:4:11:CYS:O	30:4:13:ASN:N	2.34	0.60
1:X:1324:G:H4'	1:X:1325:U:OP1	2.01	0.60
1:X:2294:U:H1'	6:D:123:ASP:OD1	2.01	0.60
2:Y:52:G:N2	2:Y:53:G:H1'	2.16	0.60
3:A:46:ARG:HD3	3:A:46:ARG:C	2.21	0.60
10:H:23:ARG:HH12	10:H:25:LEU:CD2	2.14	0.60
22:T:73:GLY:O	22:T:74:LYS:HB2	2.01	0.60
25:W:23:LEU:HD21	25:W:43:MET:CB	2.31	0.60
1:X:110:U:H6	1:X:110:U:H5'	1.65	0.60
1:X:1573:G:H3'	1:X:1574:A:C5'	2.26	0.60
1:X:2375:G:H1'	23:U:33:LYS:NZ	2.16	0.60
1:X:2873:G:N2	9:G:162:LYS:NZ	2.49	0.60
3:A:132:PRO:HA	3:A:190:TYR:HA	1.83	0.60
6:D:132:ILE:HB	6:D:152:MET:O	2.01	0.60
7:E:89:LEU:HD11	7:E:96:ALA:CB	2.31	0.60
8:F:108:ALA:HA	8:F:115:LEU:HD11	1.82	0.60
10:H:116:ARG:HH11	15:M:38:LYS:CE	2.14	0.60
14:L:33:ARG:HH12	14:L:103:LEU:N	1.98	0.60
20:R:23:ILE:HG12	20:R:84:VAL:HG21	1.83	0.60
21:S:6:LYS:N	21:S:7:PRO:HD3	2.16	0.60
1:X:163:A:H2'	1:X:164:G:C8	2.35	0.60
1:X:637:G:O6	11:I:101:ARG:HD3	2.02	0.60
1:X:2691:C:H2'	1:X:2692:A:H5"	1.84	0.60
1:X:2710:C:O2'	1:X:2711:G:H5'	2.01	0.60
3:A:70:ARG:NH1	3:A:150:GLY:N	2.49	0.60
4:B:192:ASN:ND2	15:M:9:ARG:HH12	1.93	0.60
6:D:175:LEU:HD12	6:D:176:PRO:HD2	1.82	0.60
12:J:66:TYR:HB2	12:J:106:GLU:CD	2.22	0.60
13:K:96:ARG:HD2	13:K:114:GLU:OE2	2.02	0.60
14:L:37:HIS:CE1	14:L:39:TYR:CZ	2.89	0.60
14:L:72:GLY:O	14:L:107:ALA:HB2	2.01	0.60
19:Q:76:LYS:HG2	19:Q:76:LYS:O	2.01	0.60
20:R:22:VAL:HG12	20:R:23:ILE:N	2.16	0.60
20:R:98:ILE:C	20:R:100:ASP:H	2.04	0.60
1:X:196:A:O2'	1:X:197:G:H5'	2.02	0.60
1:X:208:C:N4	1:X:209:G:N2	2.49	0.60
1:X:318:G:H5'	1:X:318:G:C8	2.35	0.60
1:X:510:G:N2	1:X:512:A:H3'	2.16	0.60
1:X:640:C:C4'	1:X:660:G:H21	2.15	0.60
1:X:1221:C:H2'	1:X:1222:G:H8	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1324:G:H2'	1:X:1325:U:C5	2.37	0.60
1:X:1333:G:N2	1:X:1344:C:N4	2.49	0.60
1:X:1922:U:C1'	1:X:2570:C:O2'	2.49	0.60
1:X:2198:U:C2'	1:X:2199:C:O4'	2.43	0.60
1:X:2312:A:H4'	1:X:2313:G:O5'	2.01	0.60
1:X:2811:G:H2'	1:X:2812:A:H8	1.67	0.60
5:C:195:ILE:O	5:C:195:ILE:HG13	2.02	0.60
6:D:116:GLY:HA2	6:D:176:PRO:HB2	1.84	0.60
6:D:152:MET:HE2	6:D:154:ILE:HD11	1.82	0.60
7:E:9:ILE:HD12	7:E:51:LEU:N	2.17	0.60
7:E:171:LEU:N	7:E:171:LEU:HD12	2.16	0.60
10:H:100:ASN:C	10:H:100:ASN:OD1	2.39	0.60
14:L:37:HIS:O	14:L:37:HIS:CG	2.55	0.60
20:R:80:LYS:HE3	20:R:80:LYS:C	2.21	0.60
23:U:53:GLU:OE2	23:U:57:VAL:HG22	2.02	0.60
1:X:859:U:H1'	1:X:860:U:C4	2.36	0.60
1:X:1675:C:OP1	4:B:134:TRP:CD1	2.55	0.60
1:X:2795:A:O3'	13:K:3:HIS:HE1	1.85	0.60
3:A:166:GLN:HB2	3:A:174:ILE:O	2.02	0.60
5:C:151:VAL:O	5:C:152:THR:HB	2.00	0.60
5:C:190:ALA:C	5:C:192:ALA:H	2.04	0.60
6:D:34:ILE:HD13	6:D:156:ILE:HA	1.83	0.60
9:G:92:GLY:C	9:G:93:LYS:HD2	2.21	0.60
11:I:14:LYS:HG3	11:I:14:LYS:O	2.01	0.60
12:J:36:ILE:HD12	12:J:133:VAL:CG1	2.29	0.60
12:J:116:LYS:O	12:J:117:GLU:HB2	2.01	0.60
14:L:39:TYR:O	14:L:40:ALA:C	2.40	0.60
16:N:60:LEU:C	16:N:60:LEU:HD13	2.21	0.60
16:N:93:LYS:O	16:N:94:VAL:HG23	2.02	0.60
18:P:17:GLN:HG3	18:P:18:VAL:HG23	1.83	0.60
21:S:123:VAL:H	21:S:161:ALA:N	1.98	0.60
1:X:532:A:H2'	1:X:533:C:C6	2.37	0.60
1:X:1050:G:H2'	1:X:1051:U:C5'	2.32	0.60
1:X:1561:A:H2'	1:X:1562:G:O4'	2.01	0.60
1:X:2691:C:H5"	1:X:2694:G:H5"	1.84	0.60
3:A:208:LYS:O	3:A:209:ALA:O	2.20	0.60
5:C:67:ALA:O	5:C:68:ARG:CB	2.50	0.60
6:D:65:PRO:CB	6:D:89:VAL:HG22	2.30	0.60
6:D:122:PHE:O	6:D:124:GLY:N	2.34	0.60
9:G:107:GLN:OE1	9:G:107:GLN:N	2.34	0.60
12:J:56:SER:O	12:J:59:PHE:N	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:80:ALA:HB1	12:J:81:GLU:OE1	2.02	0.60
18:P:42:VAL:O	18:P:42:VAL:HG12	2.02	0.60
20:R:16:PHE:HD2	20:R:82:ALA:HB2	1.67	0.60
23:U:43:ARG:HH21	23:U:43:ARG:HG3	1.66	0.60
23:U:62:LEU:HD23	23:U:67:LEU:CD1	2.30	0.60
1:X:29:U:C4'	16:N:11:ARG:HH22	2.11	0.60
1:X:136:A:H2'	1:X:137:A:H8	1.67	0.60
1:X:965:G:N3	1:X:2253:A:C2	2.70	0.60
1:X:1067:G:N2	1:X:1114:A:H62	1.97	0.60
1:X:1186:G:C5	1:X:1187:A:N1	2.70	0.60
1:X:1468:A:H8	1:X:1468:A:P	2.24	0.60
1:X:1513:U:OP2	1:X:1514:C:H5	1.83	0.60
1:X:1820:G:O2'	1:X:1821:A:H5'	2.01	0.60
1:X:2411:A:H4'	23:U:25:ARG:NH1	2.16	0.60
1:X:2736:U:HO2'	1:X:2737:A:H5"	1.63	0.60
3:A:244:ARG:N	3:A:244:ARG:CD	2.63	0.60
5:C:4:ILE:O	5:C:4:ILE:HG13	2.02	0.60
5:C:47:THR:HA	5:C:82:VAL:O	2.01	0.60
5:C:149:LEU:HD12	5:C:168:SER:O	2.02	0.60
7:E:38:ASN:HB2	7:E:41:LEU:HB2	1.84	0.60
7:E:65:HIS:C	7:E:67:LEU:N	2.55	0.60
7:E:107:ILE:HD11	7:E:151:VAL:HG12	1.83	0.60
11:I:56:LEU:O	11:I:58:ALA:O	2.20	0.60
12:J:52:ARG:HB2	12:J:67:ILE:HD11	1.83	0.60
13:K:83:VAL:HG23	13:K:87:TYR:CE2	2.37	0.60
15:M:34:ARG:NH2	15:M:91:VAL:CG2	2.63	0.60
16:N:22:LYS:O	16:N:24:PHE:N	2.34	0.60
18:P:87:GLU:HA	18:P:90:LEU:CD1	2.32	0.60
20:R:59:LYS:O	20:R:60:PRO:O	2.19	0.60
21:S:70:GLN:O	21:S:79:ILE:HG22	2.01	0.60
1:X:2725:C:O2'	7:E:143:GLN:CG	2.50	0.60
3:A:79:VAL:HG12	3:A:113:VAL:HA	1.81	0.60
4:B:117:MET:HG3	4:B:136:ARG:HG3	1.84	0.60
7:E:44:ARG:HG3	7:E:44:ARG:NH2	2.15	0.60
7:E:84:THR:CA	7:E:134:SER:HA	2.29	0.60
12:J:19:THR:CG2	12:J:20:GLY:N	2.64	0.60
12:J:66:TYR:O	12:J:106:GLU:OE2	2.20	0.60
15:M:32:THR:HG22	15:M:33:VAL:N	2.17	0.60
18:P:91:PHE:CD1	18:P:129:ALA:O	2.54	0.60
18:P:103:LEU:N	18:P:103:LEU:HD23	2.15	0.60
20:R:23:ILE:CG1	20:R:84:VAL:HG21	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:75:LYS:O	21:S:77:ALA:N	2.34	0.60
24:V:42:ARG:HE	24:V:46:LEU:HD21	1.67	0.60
1:X:427:C:H2'	1:X:428:A:C8	2.37	0.59
1:X:638:A:O2'	1:X:639:G:C8	2.51	0.59
1:X:704:G:O2'	1:X:705:C:H5'	2.02	0.59
1:X:861:G:H1'	1:X:944:A:N3	2.16	0.59
1:X:1690:U:C2'	1:X:1691:G:H5'	2.31	0.59
1:X:2634:G:H2'	1:X:2643:G:O6	2.01	0.59
3:A:55:GLY:N	3:A:217:ARG:HB2	2.17	0.59
4:B:4:ILE:HG21	4:B:28:ALA:HB1	1.84	0.59
4:B:162:MET:HA	4:B:162:MET:CE	2.28	0.59
6:D:108:LEU:HD23	6:D:111:ILE:HD12	1.83	0.59
9:G:36:ASN:CG	9:G:37:ASP:N	2.56	0.59
9:G:49:VAL:HG21	9:G:170:PRO:HG2	1.83	0.59
9:G:103:TYR:HB3	9:G:107:GLN:NE2	2.05	0.59
11:I:73:GLU:OE1	11:I:73:GLU:N	2.35	0.59
12:J:92:GLU:HG3	12:J:93:TYR:CD2	2.37	0.59
14:L:37:HIS:O	14:L:38:ILE:O	2.19	0.59
14:L:75:LEU:O	14:L:78:ALA:HB3	2.00	0.59
16:N:17:VAL:CG1	16:N:39:LEU:HD12	2.32	0.59
16:N:86:ALA:O	16:N:89:ASP:N	2.35	0.59
19:Q:91:LEU:CD2	19:Q:91:LEU:H	2.15	0.59
23:U:19:ILE:HG22	23:U:41:VAL:O	2.02	0.59
25:W:34:VAL:HG22	25:W:40:VAL:HG11	1.83	0.59
30:4:10:MET:HE3	30:4:32:HIS:HA	1.82	0.59
1:X:839:U:OP1	1:X:2408:G:OP2	2.19	0.59
1:X:1428:G:N2	1:X:1602:G:H5'	2.17	0.59
1:X:1744:G:OP1	15:M:100:ARG:HD2	2.02	0.59
1:X:1850:G:O2'	1:X:1851:A:O4'	2.18	0.59
1:X:2405:A:H4'	1:X:2406:C:OP2	2.00	0.59
1:X:2445:C:H5"	30:4:6:SER:CB	2.32	0.59
1:X:2447:G:O2'	1:X:2448:A:H8	1.85	0.59
1:X:2592:U:C5'	1:X:2593:A:OP2	2.49	0.59
1:X:2873:G:H2'	1:X:2874:A:H8	1.66	0.59
3:A:200:GLU:O	3:A:202:LYS:N	2.35	0.59
4:B:130:GLY:O	4:B:131:SER:CB	2.49	0.59
5:C:46:ARG:O	5:C:47:THR:C	2.40	0.59
6:D:19:GLN:HB3	6:D:20:PHE:CD1	2.37	0.59
6:D:106:ILE:CG2	6:D:139:PRO:HB3	2.31	0.59
7:E:126:PRO:HG2	7:E:127:GLU:N	2.18	0.59
9:G:67:ARG:HB3	9:G:70:PHE:CA	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:23:ARG:NH1	10:H:25:LEU:CD2	2.65	0.59
11:I:18:ARG:HB2	11:I:21:ARG:CD	2.29	0.59
12:J:62:GLY:O	12:J:64:LYS:N	2.35	0.59
20:R:93:ARG:HA	20:R:95:ARG:CZ	2.32	0.59
1:X:1166:A:C5'	16:N:55:ARG:HD3	2.29	0.59
1:X:1173:G:N3	17:O:88:GLN:NE2	2.50	0.59
1:X:1211:G:C4	1:X:1212:U:C5	2.90	0.59
1:X:1355:A:H1'	1:X:1410:U:H4'	1.83	0.59
1:X:2325:A:O2'	1:X:2326:C:OP2	2.20	0.59
1:X:2383:C:H2'	1:X:2384:G:O4'	2.02	0.59
1:X:2871:U:H2'	1:X:2872:U:C6	2.38	0.59
5:C:14:THR:O	5:C:15:ILE:HB	2.02	0.59
5:C:24:SER:O	5:C:25:GLY:C	2.39	0.59
5:C:39:ARG:HG2	5:C:39:ARG:NH1	2.17	0.59
6:D:47:SER:HA	6:D:50:ILE:HD12	1.83	0.59
6:D:92:ARG:N	6:D:96:MET:HB2	2.17	0.59
9:G:169:GLN:HB2	9:G:170:PRO:HD2	1.84	0.59
14:L:91:ARG:HG2	14:L:92:GLY:N	2.18	0.59
16:N:79:PHE:HD2	16:N:80:ILE:HD13	1.67	0.59
19:Q:89:GLU:HB2	19:Q:91:LEU:HD23	1.82	0.59
20:R:29:HIS:CG	20:R:51:VAL:HG22	2.37	0.59
20:R:93:ARG:O	20:R:95:ARG:HD2	2.02	0.59
1:X:39:C:O2'	1:X:40:U:H5'	2.02	0.59
1:X:944:A:C2'	1:X:945:G:H5'	2.32	0.59
1:X:1854:G:C6	1:X:1864:G:C6	2.90	0.59
1:X:2007:G:O2'	1:X:2008:C:H5'	2.03	0.59
1:X:2195:C:N4	1:X:2196:U:O4	2.35	0.59
1:X:2692:A:C5'	1:X:2693:U:OP2	2.50	0.59
3:A:52:ARG:HB2	3:A:53:PHE:CD2	2.37	0.59
5:C:2:ALA:HA	5:C:13:ARG:CA	2.32	0.59
6:D:81:GLN:HG2	6:D:82:GLY:H	1.67	0.59
12:J:26:ASP:HB3	12:J:68:ARG:HH22	1.67	0.59
12:J:77:LYS:HG3	12:J:78:LYS:N	2.15	0.59
14:L:33:ARG:NH2	14:L:103:LEU:CB	2.65	0.59
15:M:24:LEU:O	15:M:25:PRO:O	2.20	0.59
17:O:65:ARG:HH11	17:O:65:ARG:HG3	1.68	0.59
19:Q:72:ARG:O	19:Q:73:ASN:OD1	2.20	0.59
20:R:80:LYS:CE	20:R:80:LYS:O	2.50	0.59
22:T:31:VAL:HG22	22:T:67:VAL:CG2	2.32	0.59
23:U:25:ARG:O	23:U:32:ARG:HG3	2.02	0.59
1:X:314:G:H2'	1:X:315:G:H8	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:449:C:H2'	1:X:450:C:H6	1.67	0.59
1:X:469:G:O2'	1:X:470:U:P	2.61	0.59
1:X:734:G:H2'	1:X:735:G:H8	1.66	0.59
1:X:1142:G:C8	9:G:107:GLN:HG2	2.36	0.59
1:X:1186:G:C5	1:X:1187:A:C2	2.90	0.59
1:X:1598:C:C2'	1:X:1599:G:H5'	2.32	0.59
1:X:1998:A:N3	26:Z:6:VAL:HG23	2.18	0.59
4:B:120:TRP:CE3	4:B:155:ARG:HD2	2.38	0.59
4:B:146:THR:O	4:B:147:PRO:C	2.40	0.59
6:D:135:GLN:HA	6:D:138:PHE:CE1	2.37	0.59
9:G:154:GLU:N	9:G:157:PRO:HG2	2.16	0.59
9:G:159:SER:C	9:G:161:GLN:H	2.05	0.59
14:L:28:ARG:HB2	14:L:90:ASP:HB3	1.84	0.59
20:R:14:LEU:CD1	20:R:39:ALA:HB1	2.32	0.59
1:X:1053:G:H2'	1:X:1054:C:O4'	2.02	0.59
1:X:1235:C:H2'	1:X:1236:G:H8	1.67	0.59
1:X:1439:G:O5'	1:X:1439:G:H8	1.86	0.59
1:X:2395:C:C2'	1:X:2396:C:H5"	2.31	0.59
1:X:2484:G:O2'	1:X:2485:U:C5'	2.47	0.59
1:X:2661:G:O6	1:X:2708:U:H1'	2.02	0.59
1:X:2764:U:H4'	4:B:42:ASP:OD2	2.02	0.59
3:A:43:ARG:HE	3:A:55:GLY:HA2	1.67	0.59
5:C:169:VAL:HG12	5:C:170:LEU:N	2.16	0.59
8:F:104:VAL:HA	8:F:107:ILE:CD1	2.26	0.59
9:G:154:GLU:O	9:G:157:PRO:HD2	2.01	0.59
10:H:116:ARG:NH1	15:M:38:LYS:CE	2.66	0.59
17:O:86:HIS:CG	17:O:87:ARG:N	2.70	0.59
21:S:122:ILE:HB	21:S:159:THR:O	2.03	0.59
21:S:131:PRO:HG3	21:S:155:PRO:HG3	1.82	0.59
1:X:596:C:C6	1:X:684:C:H1'	2.37	0.59
1:X:1599:G:N2	1:X:1600:U:H1'	2.17	0.59
1:X:1698:C:C2'	1:X:1753:A:H2'	2.33	0.59
1:X:1918:G:N2	1:X:1947:G:O4'	2.35	0.59
1:X:1922:U:O2'	1:X:2571:G:H1'	2.03	0.59
1:X:2036:G:C2'	1:X:2037:A:H5'	2.32	0.59
1:X:2205:C:H2'	1:X:2206:C:C5'	2.31	0.59
1:X:2355:A:H61	14:L:91:ARG:NH2	2.00	0.59
2:Y:93:G:OP1	12:J:19:THR:HB	2.01	0.59
6:D:16:LEU:CD1	6:D:28:VAL:HG11	2.32	0.59
9:G:116:ARG:NE	9:G:126:VAL:HG13	2.12	0.59
10:H:23:ARG:HH21	10:H:23:ARG:CG	2.15	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:35:SER:C	14:L:36:LYS:HD2	2.22	0.59
15:M:34:ARG:NH1	15:M:66:PHE:CE2	2.71	0.59
20:R:44:GLN:O	20:R:77:HIS:HA	2.03	0.59
22:T:40:GLN:HE21	22:T:57:HIS:HB3	1.67	0.59
24:V:13:ASP:O	24:V:17:GLU:HG2	2.03	0.59
30:4:22:ARG:HG2	30:4:22:ARG:NH1	2.18	0.59
1:X:242:A:H61	1:X:440:U:C2'	2.12	0.59
1:X:332:C:H5"	1:X:333:A:OP2	2.02	0.59
1:X:972:C:H4'	1:X:973:U:OP2	2.03	0.59
1:X:1656:U:O2'	1:X:1657:A:H5"	2.02	0.59
1:X:1937:G:O2'	1:X:1939:U:C5	2.54	0.59
1:X:2067:U:H2'	1:X:2068:C:C6	2.37	0.59
1:X:2551:A:C8	4:B:144:ARG:HD3	2.37	0.59
1:X:2824:C:H4'	1:X:2825:A:H5'	1.83	0.59
3:A:42:GLY:H	3:A:43:ARG:HH12	1.51	0.59
3:A:63:ARG:O	3:A:65:ILE:HG13	2.01	0.59
5:C:158:ARG:C	5:C:160:ALA:H	2.05	0.59
6:D:36:VAL:HG22	6:D:154:ILE:CG1	2.32	0.59
9:G:65:LYS:HE3	9:G:66:HIS:NE2	2.17	0.59
10:H:83:ARG:NH1	15:M:40:ARG:NE	2.43	0.59
12:J:99:LYS:HE3	12:J:100:PRO:HD2	1.84	0.59
23:U:17:SER:CB	23:U:44:ALA:HA	2.33	0.59
23:U:23:LYS:HD2	23:U:35:THR:CG2	2.32	0.59
23:U:52:ARG:HH12	23:U:67:LEU:HD11	1.68	0.59
25:W:9:VAL:CG1	25:W:17:VAL:HG22	2.33	0.59
1:X:5:A:H1'	9:G:162:LYS:NZ	2.18	0.59
1:X:135:U:C5'	1:X:136:A:OP1	2.36	0.59
1:X:730:C:O3'	1:X:731:A:O4'	2.19	0.59
1:X:1053:G:C5	1:X:1054:C:C5	2.90	0.59
1:X:1067:G:H21	1:X:1114:A:N6	1.98	0.59
1:X:2210:C:H2'	1:X:2211:U:C6	2.38	0.59
4:B:16:LYS:O	4:B:17:ASN:HB2	2.03	0.59
4:B:150:VAL:CG2	4:B:154:LYS:HE2	2.11	0.59
6:D:33:LYS:HG3	6:D:157:VAL:HG21	1.85	0.59
7:E:98:LEU:CD1	7:E:99:THR:N	2.54	0.59
11:I:78:SER:N	11:I:112:GLY:HA3	2.17	0.59
11:I:116:ARG:HE	11:I:118:VAL:CG1	2.16	0.59
14:L:36:LYS:HE2	14:L:65:THR:HG22	1.83	0.59
14:L:42:ILE:HG22	14:L:52:ALA:H	1.68	0.59
19:Q:89:GLU:CB	19:Q:91:LEU:HD23	2.33	0.59
20:R:93:ARG:C	20:R:95:ARG:CZ	2.71	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:23:ALA:HB3	21:S:32:PHE:CE1	2.36	0.59
23:U:23:LYS:HE3	23:U:26:ALA:HA	1.84	0.59
25:W:46:THR:HG22	25:W:47:VAL:N	2.17	0.59
1:X:82:G:O2'	1:X:83:A:H8	1.86	0.59
1:X:527:C:O2'	1:X:528:G:H5'	2.02	0.59
1:X:1979:C:H6	1:X:1979:C:OP1	1.84	0.59
1:X:2620:G:H5"	9:G:104:THR:CG2	2.33	0.59
4:B:123:ALA:O	4:B:124:GLY:O	2.21	0.59
6:D:8:TYR:HB2	6:D:173:MET:HE1	1.85	0.59
12:J:79:PRO:CD	12:J:88:LYS:HD2	2.32	0.59
14:L:60:LYS:HG2	14:L:62:GLY:N	2.18	0.59
17:O:79:GLN:OE1	17:O:79:GLN:HA	2.03	0.59
20:R:16:PHE:HB3	20:R:82:ALA:CB	2.32	0.59
21:S:6:LYS:O	21:S:31:SER:HB3	2.03	0.59
21:S:114:ASP:N	21:S:170:SER:O	2.32	0.59
24:V:1:MET:SD	24:V:2:LYS:HE2	2.43	0.59
26:Z:35:GLN:C	26:Z:37:HIS:H	2.06	0.59
1:X:732:G:H8	1:X:732:G:O5'	1.86	0.58
1:X:891:A:C6	1:X:911:A:N6	2.71	0.58
1:X:1107:A:C3'	1:X:1108:U:H5"	2.25	0.58
1:X:1741:G:O2'	1:X:1742:G:H5'	2.03	0.58
1:X:2194:A:C3'	1:X:2195:C:C5'	2.71	0.58
1:X:2335:U:OP1	22:T:24:LYS:NZ	2.36	0.58
1:X:2355:A:H61	14:L:91:ARG:CZ	2.15	0.58
1:X:2408:G:H5'	1:X:2409:A:OP2	2.03	0.58
1:X:2737:A:N3	1:X:2737:A:H2'	2.18	0.58
3:A:70:ARG:HG2	3:A:190:TYR:CZ	2.38	0.58
3:A:206:LEU:HD23	3:A:211:ARG:HH11	1.68	0.58
3:A:252:LYS:H	3:A:253:PRO:HD2	1.68	0.58
4:B:110:GLY:O	13:K:3:HIS:CD2	2.56	0.58
4:B:188:ILE:HG23	4:B:189:PRO:HD2	1.85	0.58
5:C:112:GLN:HA	5:C:116:LYS:CD	2.33	0.58
6:D:37:ASN:HA	6:D:87:ILE:O	2.03	0.58
12:J:19:THR:HG23	12:J:99:LYS:HD3	1.85	0.58
12:J:82:THR:O	12:J:83:ARG:HB3	2.03	0.58
13:K:11:ASN:ND2	13:K:12:ARG:HE	2.00	0.58
13:K:36:THR:HG23	13:K:37:THR:O	2.03	0.58
20:R:82:ALA:O	20:R:83:LEU:O	2.20	0.58
21:S:145:ASP:O	21:S:170:SER:HA	2.03	0.58
22:T:3:HIS:CD2	22:T:5:LYS:HD3	2.36	0.58
1:X:341:A:O2'	1:X:342:G:OP1	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:461:A:H4'	16:N:3:ARG:HH21	1.67	0.58
1:X:538:A:C4	1:X:2025:A:C2	2.90	0.58
1:X:742:G:O2'	1:X:776:G:H4'	2.02	0.58
1:X:860:U:O2	1:X:860:U:C2'	2.51	0.58
1:X:1547:U:H2'	1:X:1548:U:C6	2.38	0.58
4:B:154:LYS:O	4:B:154:LYS:HG3	2.03	0.58
6:D:16:LEU:HD13	6:D:28:VAL:CG1	2.33	0.58
6:D:138:PHE:CZ	6:D:152:MET:SD	2.96	0.58
7:E:96:ALA:HA	7:E:104:GLU:O	2.01	0.58
7:E:172:LYS:O	7:E:173:ALA:HB3	2.03	0.58
13:K:81:ASP:O	13:K:85:PRO:HG2	2.02	0.58
15:M:106:TYR:CE1	15:M:107:LEU:HD21	2.38	0.58
17:O:40:VAL:HG12	17:O:45:THR:CA	2.33	0.58
25:W:22:ALA:C	25:W:24:GLY:H	2.06	0.58
1:X:504:G:H4'	18:P:27:VAL:HG13	1.83	0.58
1:X:872:G:H2'	1:X:928:G:H1	1.69	0.58
1:X:1088:A:H2'	1:X:1089:C:O4'	2.02	0.58
1:X:1301:U:O2'	1:X:1664:G:N2	2.37	0.58
1:X:1699:A:H5'	1:X:1753:A:O2'	2.04	0.58
1:X:1917:C:C2'	1:X:1918:G:H5'	2.33	0.58
1:X:2208:U:H2'	1:X:2209:G:H8	1.68	0.58
1:X:2229:G:O2'	1:X:2230:G:OP2	2.16	0.58
1:X:2394:G:H2'	1:X:2395:C:C6	2.38	0.58
3:A:92:ILE:HG21	3:A:104:TYR:CD2	2.38	0.58
3:A:183:ARG:HD3	3:A:267:ASP:CG	2.24	0.58
6:D:175:LEU:HG	6:D:177:PHE:CE1	2.38	0.58
11:I:52:GLY:HA3	11:I:55:ARG:HH11	1.68	0.58
11:I:116:ARG:HE	11:I:118:VAL:HG13	1.65	0.58
18:P:35:PRO:O	18:P:39:ARG:CD	2.51	0.58
21:S:69:VAL:HG13	21:S:81:VAL:HG22	1.85	0.58
24:V:3:PRO:C	24:V:5:GLU:H	2.07	0.58
25:W:16:GLN:HG2	25:W:47:VAL:HG12	1.84	0.58
1:X:140:G:H2'	1:X:141:G:C8	2.38	0.58
1:X:1411:C:H2'	1:X:1412:C:H6	1.67	0.58
1:X:1542:G:N2	1:X:1562:G:H22	2.01	0.58
2:Y:44:C:N4	6:D:88:LYS:NZ	2.51	0.58
3:A:161:THR:H	3:A:196:VAL:HG22	1.68	0.58
3:A:224:SER:HA	3:A:233:HIS:O	2.03	0.58
4:B:5:LEU:HD13	4:B:49:ILE:HG21	1.86	0.58
6:D:65:PRO:HB3	6:D:89:VAL:CG1	2.30	0.58
7:E:13:SER:O	7:E:15:VAL:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:75:ILE:HG21	9:G:144:MET:HG2	1.86	0.58
11:I:11:GLY:N	11:I:14:LYS:HB3	2.15	0.58
30:4:8:LYS:H	30:4:34:GLN:HE22	1.49	0.58
30:4:30:VAL:C	30:4:32:HIS:H	2.04	0.58
1:X:861:G:H2'	1:X:862:A:C5'	2.32	0.58
1:X:971:A:H61	12:J:83:ARG:HH22	1.49	0.58
1:X:1074:G:O2'	1:X:1075:C:H5'	2.04	0.58
1:X:1868:A:H2'	1:X:1869:A:O4'	2.03	0.58
1:X:2200:G:O2'	3:A:149:PRO:HG2	2.03	0.58
1:X:2229:G:C5'	12:J:84:MET:HG2	2.34	0.58
1:X:2272:A:P	14:L:15:ARG:HH21	2.25	0.58
1:X:2286:G:C5	1:X:2287:G:H1'	2.39	0.58
1:X:2759:U:H4'	1:X:2760:G:H5"	1.84	0.58
3:A:262:LYS:O	3:A:264:LYS:N	2.36	0.58
4:B:53:PRO:HG2	15:M:6:LYS:NZ	2.19	0.58
5:C:54:THR:CB	5:C:73:SER:HB3	2.33	0.58
5:C:104:LEU:HA	5:C:107:ALA:HB3	1.85	0.58
5:C:166:TRP:N	5:C:166:TRP:CE3	2.71	0.58
12:J:26:ASP:HB3	12:J:68:ARG:NH2	2.18	0.58
13:K:45:ARG:HD3	13:K:97:ILE:HD11	1.85	0.58
16:N:107:LYS:O	16:N:110:VAL:HB	2.03	0.58
18:P:35:PRO:O	18:P:39:ARG:HD2	2.03	0.58
20:R:98:ILE:HG22	20:R:99:VAL:N	2.14	0.58
24:V:1:MET:HG3	24:V:2:LYS:N	2.18	0.58
1:X:76:C:O2'	1:X:77:C:H5'	2.04	0.58
1:X:1601:U:H4'	1:X:1602:G:OP2	2.02	0.58
3:A:68:LYS:HD3	3:A:68:LYS:H	1.69	0.58
3:A:252:LYS:HE3	3:A:253:PRO:HD3	1.85	0.58
5:C:194:GLU:O	5:C:195:ILE:HG23	2.03	0.58
6:D:108:LEU:HD22	6:D:114:PHE:CE1	2.38	0.58
9:G:103:TYR:CZ	9:G:111:LYS:HB2	2.38	0.58
13:K:10:LEU:HD23	13:K:17:ARG:HG2	1.85	0.58
13:K:10:LEU:HA	13:K:17:ARG:HG2	1.86	0.58
21:S:100:THR:OG1	21:S:138:VAL:HG11	2.03	0.58
1:X:739:G:HO2'	1:X:740:A:H8	1.50	0.58
1:X:863:C:H4'	25:W:18:LYS:HB2	1.84	0.58
1:X:1070:G:O2'	8:F:74:MET:HE1	2.03	0.58
3:A:108:PRO:HD2	3:A:111:LEU:HD12	1.84	0.58
3:A:163:VAL:HG23	3:A:178:PRO:HD3	1.86	0.58
3:A:251:GLY:HA3	3:A:255:LYS:CD	2.33	0.58
4:B:121:ASN:O	4:B:122:PHE:C	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:13:ARG:NH2	6:D:17:MET:HE2	2.18	0.58
6:D:29:PRO:HG2	6:D:165:GLU:CB	2.30	0.58
6:D:134:GLU:CD	6:D:136:LEU:HB2	2.24	0.58
7:E:33:LEU:CG	7:E:34:THR:H	2.16	0.58
7:E:92:VAL:HG12	7:E:93:GLY:N	2.18	0.58
9:G:88:VAL:CG2	9:G:89:ALA:H	2.00	0.58
9:G:157:PRO:C	9:G:161:GLN:HE21	2.06	0.58
21:S:55:THR:CG2	21:S:59:GLY:HA2	2.34	0.58
21:S:63:PRO:O	21:S:85:MET:SD	2.62	0.58
21:S:110:GLY:O	21:S:174:PRO:HB3	2.04	0.58
24:V:6:MET:HE3	24:V:52:GLN:HB3	1.85	0.58
24:V:11:ALA:O	24:V:14:PHE:HB2	2.04	0.58
30:4:17:VAL:HG12	30:4:18:ARG:N	2.18	0.58
1:X:189:A:O2'	1:X:190:A:H5'	2.03	0.58
1:X:538:A:H4'	1:X:539:A:OP1	2.04	0.58
1:X:1324:G:H2'	1:X:1325:U:H6	1.67	0.58
1:X:2197:U:H5'	1:X:2198:U:OP1	2.03	0.58
1:X:2560:G:H4'	1:X:2561:G:C8	2.39	0.58
1:X:2787:A:H2'	1:X:2788:C:C6	2.39	0.58
3:A:163:VAL:CG2	3:A:177:LEU:HD23	2.34	0.58
3:A:186:HIS:C	3:A:188:GLU:H	2.07	0.58
4:B:19:ARG:HG3	4:B:19:ARG:O	2.04	0.58
7:E:7:GLN:H	7:E:8:PRO:CD	2.17	0.58
7:E:59:GLN:O	7:E:60:LYS:C	2.42	0.58
8:F:121:GLU:O	8:F:122:ALA:C	2.42	0.58
9:G:109:GLY:C	9:G:110:LEU:HD23	2.23	0.58
17:O:38:LEU:O	17:O:39:PHE:HB3	2.02	0.58
19:Q:63:LYS:CB	19:Q:69:ILE:O	2.51	0.58
1:X:83:A:H4'	1:X:84:G:O5'	2.03	0.58
1:X:623:G:H2'	1:X:626:A:H61	1.67	0.58
1:X:717:G:H2'	1:X:739:G:N2	2.17	0.58
1:X:879:A:H2'	1:X:879:A:N3	2.19	0.58
1:X:1003:C:O2'	17:O:71:ILE:CD1	2.51	0.58
1:X:1275:A:H2	26:Z:10:LYS:HE2	1.68	0.58
1:X:1779:C:H5"	3:A:222:ARG:NH1	2.18	0.58
1:X:1808:C:OP1	3:A:39:LYS:HE2	2.04	0.58
1:X:2646:C:H2'	1:X:2647:G:O4'	2.04	0.58
1:X:2673:G:O2'	1:X:2674:C:H5'	2.04	0.58
2:Y:44:C:O2	6:D:90:THR:N	2.35	0.58
4:B:120:TRP:O	4:B:121:ASN:CB	2.50	0.58
4:B:198:LEU:O	4:B:199:ARG:HG3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:47:THR:HG23	5:C:85:GLY:N	2.15	0.58
8:F:84:ILE:HG22	8:F:85:GLY:N	2.18	0.58
10:H:7:ARG:HH12	10:H:20:MET:CE	2.15	0.58
10:H:13:ASN:HD22	10:H:109:ARG:HG2	1.61	0.58
11:I:32:ARG:CZ	17:O:81:ARG:CZ	2.82	0.58
12:J:92:GLU:OE1	12:J:92:GLU:HA	2.04	0.58
14:L:102:ALA:O	14:L:104:ALA:N	2.37	0.58
15:M:6:LYS:HD2	15:M:6:LYS:N	2.18	0.58
18:P:14:ARG:HA	18:P:17:GLN:CG	2.34	0.58
18:P:49:SER:C	18:P:51:GLN:H	2.06	0.58
19:Q:91:LEU:N	19:Q:91:LEU:CD2	2.67	0.58
1:X:134:G:H21	1:X:136:A:H5"	1.61	0.58
1:X:1031:C:H4'	1:X:1032:A:O5'	2.03	0.58
1:X:1175:A:O2'	1:X:1176:U:H5'	2.03	0.58
1:X:1873:A:C2'	1:X:1874:G:O5'	2.51	0.58
1:X:1979:C:O2'	1:X:1980:A:C4'	2.52	0.58
1:X:2211:U:O2'	1:X:2212:U:H5'	2.04	0.58
1:X:2569:A:O2'	1:X:2570:C:H5'	2.04	0.58
1:X:2824:C:H1'	1:X:2843:A:C4	2.39	0.58
1:X:2837:G:O2'	1:X:2838:U:H5'	2.02	0.58
4:B:61:LYS:HB3	4:B:62:PRO:HD3	1.85	0.58
6:D:57:LEU:O	6:D:60:ILE:HG12	2.03	0.58
10:H:1:MET:SD	10:H:1:MET:N	2.77	0.58
10:H:28:GLY:HA3	10:H:35:THR:OG1	2.04	0.58
11:I:86:THR:N	11:I:116:ARG:HH12	2.00	0.58
14:L:34:SER:HB2	14:L:94:TYR:OH	2.04	0.58
15:M:102:ALA:C	15:M:103:LYS:HD2	2.24	0.58
19:Q:68:PHE:C	19:Q:69:ILE:HD12	2.24	0.58
20:R:18:LYS:HD3	20:R:18:LYS:N	2.18	0.58
30:4:1:MET:HE2	30:4:33:LYS:HB3	1.86	0.58
1:X:228:A:H5'	11:I:53:ARG:NH2	2.18	0.57
1:X:320:A:H1'	1:X:340:G:H2'	1.86	0.57
1:X:422:C:O2'	1:X:423:G:H5'	2.03	0.57
1:X:528:G:H2'	1:X:529:U:C6	2.39	0.57
1:X:940:G:O2'	25:W:40:VAL:HG23	2.03	0.57
1:X:1095:A:H3'	1:X:1096:A:H5"	1.84	0.57
1:X:2325:A:O2'	1:X:2326:C:P	2.61	0.57
1:X:2400:G:H21	23:U:33:LYS:NZ	2.02	0.57
1:X:2788:C:O2'	1:X:2789:U:H5'	2.04	0.57
6:D:13:ARG:HH21	6:D:17:MET:HE2	1.68	0.57
8:F:118:GLY:O	8:F:122:ALA:HB3	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:P:80:LEU:HD21	18:P:87:GLU:CB	2.34	0.57
19:Q:34:THR:O	19:Q:38:ILE:HG22	2.04	0.57
25:W:12:ARG:HH11	25:W:12:ARG:CG	2.15	0.57
1:X:357:A:H2'	1:X:358:C:H5'	1.86	0.57
1:X:531:G:O2'	1:X:532:A:H5'	2.04	0.57
1:X:558:G:N3	1:X:558:G:C4'	2.65	0.57
1:X:940:G:OP1	25:W:37:THR:HG21	2.03	0.57
1:X:1153:A:HO2'	1:X:1154:A:H3'	1.69	0.57
1:X:1283:C:H5"	1:X:1284:G:O5'	2.04	0.57
1:X:1339:U:OP2	1:X:1339:U:C6	2.57	0.57
1:X:1979:C:C2'	1:X:1980:A:O4'	2.52	0.57
1:X:2366:U:O2'	22:T:41:ARG:NH2	2.37	0.57
2:Y:108:G:C2'	2:Y:109:G:H5'	2.34	0.57
3:A:92:ILE:HG21	3:A:104:TYR:HD2	1.68	0.57
4:B:134:TRP:O	4:B:135:HIS:C	2.42	0.57
7:E:163:ARG:HD3	7:E:167:GLU:HB3	1.86	0.57
9:G:115:ALA:HB3	9:G:118:ALA:HB2	1.87	0.57
9:G:157:PRO:C	9:G:161:GLN:NE2	2.58	0.57
11:I:17:LYS:O	11:I:18:ARG:HG3	2.04	0.57
12:J:79:PRO:CD	12:J:88:LYS:NZ	2.67	0.57
13:K:25:ALA:CB	13:K:47:PHE:HE2	2.17	0.57
17:O:13:ARG:HG2	17:O:14:VAL:N	2.16	0.57
20:R:70:GLU:OE1	20:R:72:ARG:HD2	2.03	0.57
20:R:93:ARG:CA	20:R:95:ARG:CZ	2.81	0.57
1:X:392:G:N2	1:X:409:G:C4	2.72	0.57
1:X:394:U:H5"	23:U:19:ILE:HD11	1.86	0.57
1:X:583:C:H1'	1:X:2038:C:C6	2.39	0.57
1:X:682:G:H2'	1:X:682:G:N3	2.20	0.57
1:X:972:C:H5'	1:X:973:U:OP2	2.04	0.57
1:X:1211:G:H2'	1:X:1212:U:C6	2.40	0.57
1:X:1706:A:O2'	1:X:1707:A:H5'	2.05	0.57
1:X:1997:A:H2'	1:X:1998:A:C8	2.40	0.57
2:Y:20:A:H2'	2:Y:21:C:C6	2.40	0.57
10:H:118:LEU:H	10:H:118:LEU:HD12	1.68	0.57
17:O:13:ARG:CG	17:O:14:VAL:H	2.10	0.57
21:S:94:VAL:HG12	21:S:95:SER:N	2.18	0.57
23:U:11:LYS:O	23:U:12:ASN:HB2	2.04	0.57
25:W:36:ASP:OD1	25:W:41:ARG:NH1	2.37	0.57
1:X:213:C:H2'	1:X:214:C:H6	1.68	0.57
1:X:244:C:H2'	1:X:245:C:O4'	2.05	0.57
1:X:417:C:C6	1:X:419:G:C8	2.93	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:691:C:H2'	1:X:692:C:C6	2.34	0.57
1:X:760:U:H1'	26:Z:3:LYS:HE2	1.87	0.57
1:X:1238:A:O2'	1:X:1239:A:H5'	2.04	0.57
1:X:1351:G:O3'	19:Q:13:SER:HB2	2.04	0.57
1:X:1597:A:H2'	1:X:1598:C:C6	2.39	0.57
1:X:1681:A:C2	1:X:2706:U:C2	2.92	0.57
1:X:1813:A:H2'	1:X:1814:G:C8	2.39	0.57
1:X:2034:A:H2'	1:X:2593:A:H61	1.68	0.57
1:X:2082:C:H2'	1:X:2083:G:C5'	2.34	0.57
1:X:2417:U:C2'	1:X:2418:A:H5"	2.34	0.57
1:X:2663:U:C4	1:X:2664:G:N7	2.73	0.57
2:Y:5:C:H2'	2:Y:6:C:C6	2.39	0.57
2:Y:54:U:H2'	2:Y:55:C:O4'	2.03	0.57
4:B:137:ARG:HG2	4:B:137:ARG:HH21	1.69	0.57
6:D:72:LYS:HA	6:D:81:GLN:O	2.03	0.57
6:D:127:ASN:OD1	6:D:158:THR:N	2.30	0.57
11:I:13:ARG:CG	11:I:13:ARG:NH2	2.65	0.57
12:J:79:PRO:O	12:J:80:ALA:HB2	2.03	0.57
17:O:36:LYS:HZ2	17:O:55:THR:N	2.03	0.57
18:P:21:ARG:HG3	18:P:21:ARG:HH11	1.68	0.57
20:R:93:ARG:NH1	20:R:108:VAL:O	2.37	0.57
21:S:34:LEU:HD21	21:S:39:PHE:CD1	2.38	0.57
1:X:29:U:H4'	16:N:11:ARG:NH2	2.19	0.57
1:X:542:A:N6	1:X:2003:A:N3	2.53	0.57
1:X:759:C:C6	1:X:759:C:C5'	2.85	0.57
1:X:1296:G:H22	1:X:1299:A:H5"	1.68	0.57
1:X:1586:A:H2'	1:X:1587:A:C8	2.39	0.57
1:X:2165:A:H2'	1:X:2166:G:H8	1.69	0.57
1:X:2170:C:H2'	1:X:2171:U:C4'	2.33	0.57
1:X:2310:G:H4'	22:T:42:GLY:HA3	1.85	0.57
1:X:2409:A:H2	1:X:2410:U:C5	2.23	0.57
1:X:2543:A:C2	1:X:2626:U:H4'	2.39	0.57
1:X:2796:A:H5"	4:B:162:MET:HE3	1.84	0.57
5:C:9:GLN:HE21	5:C:120:VAL:HG21	1.69	0.57
5:C:112:GLN:HA	5:C:116:LYS:CG	2.34	0.57
6:D:4:LEU:HD12	6:D:5:LYS:N	2.11	0.57
7:E:17:VAL:HG12	7:E:18:ASN:N	2.19	0.57
10:H:26:ASN:O	10:H:26:ASN:ND2	2.36	0.57
15:M:39:VAL:HA	15:M:45:THR:HA	1.85	0.57
16:N:66:ASN:CB	16:N:76:TYR:HB2	2.33	0.57
21:S:1:MET:HG3	21:S:52:PHE:CD2	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:S:30:VAL:HG12	21:S:31:SER:O	2.04	0.57
21:S:91:PRO:O	21:S:92:VAL:HG13	2.04	0.57
22:T:32:LYS:HB2	22:T:35:ASN:HD21	1.69	0.57
23:U:22:GLY:N	23:U:39:LYS:HD2	2.19	0.57
1:X:29:U:C4'	16:N:11:ARG:HH12	2.18	0.57
1:X:177:U:C5	1:X:225:G:C2	2.92	0.57
1:X:497:C:H6	1:X:497:C:C5'	2.16	0.57
1:X:699:G:H4'	1:X:700:C:OP2	2.05	0.57
1:X:871:U:O2'	1:X:2247:A:C2'	2.53	0.57
1:X:988:G:N3	1:X:1012:A:H2	2.02	0.57
1:X:1031:C:O2	1:X:1031:C:C2'	2.53	0.57
1:X:1314:A:H2	1:X:1642:G:N3	2.02	0.57
1:X:1324:G:O2'	1:X:1325:U:O5'	2.23	0.57
1:X:1779:C:H5"	3:A:222:ARG:HH12	1.70	0.57
1:X:1954:A:H5'	1:X:1955:G:H5"	1.87	0.57
1:X:2201:G:H5"	3:A:188:GLU:OE2	2.05	0.57
1:X:2216:G:H8	1:X:2216:G:O5'	1.86	0.57
1:X:2274:C:H5	14:L:14:ARG:HH12	1.50	0.57
1:X:2725:C:O2'	7:E:143:GLN:HG2	2.04	0.57
1:X:2777:A:C5	18:P:134:LYS:HB2	2.39	0.57
4:B:9:ILE:HD11	4:B:27:LEU:CB	2.31	0.57
5:C:48:ARG:HB2	5:C:51:VAL:HG13	1.86	0.57
8:F:117:ALA:C	8:F:118:GLY:O	2.36	0.57
8:F:132:ARG:O	8:F:132:ARG:HG2	2.05	0.57
9:G:33:ILE:HD11	9:G:35:LYS:HZ3	1.69	0.57
9:G:42:VAL:HG13	9:G:168:THR:HG23	1.86	0.57
9:G:105:GLY:O	9:G:106:TYR:C	2.41	0.57
10:H:133:VAL:HG12	10:H:133:VAL:O	2.03	0.57
12:J:20:GLY:O	12:J:99:LYS:HG2	2.04	0.57
13:K:95:THR:HG22	13:K:95:THR:O	2.05	0.57
17:O:12:TYR:HB2	17:O:39:PHE:HA	1.86	0.57
20:R:92:THR:C	20:R:95:ARG:HH22	2.07	0.57
21:S:48:THR:HG22	21:S:66:VAL:HB	1.85	0.57
23:U:28:GLY:O	23:U:30:VAL:N	2.37	0.57
1:X:37:C:H1'	5:C:44:SER:OG	2.04	0.57
1:X:181:A:C2	1:X:182:G:N2	2.73	0.57
1:X:691:C:O2'	1:X:692:C:H5'	2.04	0.57
1:X:796:A:H8	1:X:797:A:H4'	1.68	0.57
1:X:840:U:O2	1:X:2225:G:H4'	2.05	0.57
1:X:1542:G:H21	1:X:1562:G:H22	1.51	0.57
1:X:2014:A:O2'	1:X:2015:G:P	2.63	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2195:C:C2'	1:X:2196:U:O4'	2.52	0.57
1:X:2299:A:H2'	1:X:2299:A:N3	2.19	0.57
1:X:2561:G:H8	1:X:2561:G:H5'	1.68	0.57
1:X:2769:C:C2'	1:X:2770:A:C8	2.83	0.57
4:B:40:GLN:O	4:B:40:GLN:HG2	2.04	0.57
7:E:149:ARG:HD3	7:E:164:PHE:HE1	1.69	0.57
8:F:111:LYS:C	8:F:115:LEU:HG	2.25	0.57
18:P:51:GLN:O	18:P:54:GLU:HB2	2.04	0.57
18:P:134:LYS:OXT	18:P:134:LYS:HG2	2.04	0.57
1:X:531:G:H2'	1:X:532:A:C8	2.39	0.57
1:X:547:U:H2'	1:X:548:G:H8	1.68	0.57
1:X:718:A:H62	1:X:739:G:H1'	1.70	0.57
1:X:1287:A:N3	1:X:1310:C:H1'	2.20	0.57
1:X:1644:G:H2'	1:X:1645:U:C6	2.39	0.57
1:X:1735:G:H8	1:X:1735:G:OP2	1.88	0.57
3:A:97:TYR:HB3	3:A:99:ASP:OD2	2.04	0.57
5:C:112:GLN:CD	5:C:116:LYS:HD3	2.25	0.57
5:C:186:LEU:HD12	5:C:187:VAL:N	2.20	0.57
19:Q:92:ALA:C	19:Q:94:GLN:N	2.58	0.57
20:R:93:ARG:C	20:R:95:ARG:NH1	2.58	0.57
20:R:101:GLY:C	20:R:103:LYS:H	2.08	0.57
21:S:3:LEU:HD21	21:S:32:PHE:CD2	2.39	0.57
24:V:27:GLU:O	24:V:31:GLN:HG3	2.04	0.57
1:X:537:C:O2'	1:X:538:A:C2	2.58	0.57
1:X:687:G:H2'	1:X:817:A:H61	1.70	0.57
1:X:1026:U:O2'	1:X:1027:C:H5'	2.04	0.57
1:X:1873:A:H2'	1:X:1874:G:O5'	2.04	0.57
1:X:1996:A:C2'	1:X:1997:A:H5'	2.34	0.57
1:X:2199:C:C2	1:X:2200:G:C8	2.92	0.57
4:B:105:THR:HG21	4:B:199:ARG:NH2	2.19	0.57
6:D:46:ASP:O	6:D:50:ILE:HG13	2.04	0.57
11:I:94:GLU:CA	11:I:97:ARG:NE	2.61	0.57
15:M:38:LYS:O	15:M:40:ARG:N	2.37	0.57
20:R:22:VAL:HG21	20:R:80:LYS:NZ	2.19	0.57
21:S:36:ARG:O	21:S:40:ASP:OD2	2.23	0.57
21:S:64:ALA:HA	21:S:86:VAL:N	2.20	0.57
23:U:10:LYS:HE2	23:U:11:LYS:CE	2.34	0.57
26:Z:20:ARG:C	26:Z:22:HIS:H	2.07	0.57
30:4:30:VAL:C	30:4:32:HIS:N	2.57	0.57
1:X:312:G:O2'	1:X:313:U:O5'	2.23	0.57
1:X:1119:U:H2'	1:X:1120:C:O5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1141:U:O2'	1:X:1142:G:O5'	2.23	0.57
1:X:1183:C:H2'	1:X:1184:G:C8	2.40	0.57
1:X:1463:A:H2'	1:X:1464:A:C8	2.40	0.57
1:X:2238:G:C6	1:X:2239:C:C4	2.93	0.57
1:X:2274:C:H2'	1:X:2275:U:H6	1.69	0.57
1:X:2444:C:O2'	1:X:2445:C:H5'	2.05	0.57
1:X:2705:A:O2'	1:X:2706:U:P	2.62	0.57
1:X:2807:U:H6	1:X:2807:U:C5'	2.07	0.57
1:X:2824:C:H4'	1:X:2825:A:C5'	2.35	0.57
4:B:136:ARG:HG2	4:B:136:ARG:NH1	2.20	0.57
5:C:83:ALA:O	5:C:84:PHE:C	2.44	0.57
16:N:70:ARG:NH1	16:N:70:ARG:HG3	2.19	0.57
17:O:30:GLY:O	17:O:32:LYS:HG2	2.05	0.57
17:O:38:LEU:HA	17:O:46:VAL:O	2.05	0.57
18:P:49:SER:C	18:P:51:GLN:N	2.57	0.57
20:R:28:LYS:O	20:R:29:HIS:HB2	2.05	0.57
21:S:3:LEU:O	21:S:56:VAL:HA	2.05	0.57
21:S:92:VAL:O	21:S:93:GLU:HG3	2.05	0.57
21:S:122:ILE:CA	21:S:161:ALA:H	2.12	0.57
22:T:5:LYS:HD2	22:T:5:LYS:N	2.19	0.57
23:U:48:LYS:CG	23:U:49:LYS:H	1.91	0.57
1:X:136:A:C4	1:X:137:A:N7	2.71	0.56
1:X:169:C:H2'	1:X:170:U:C5'	2.32	0.56
1:X:177:U:O2	1:X:178:C:O4'	2.23	0.56
1:X:431:G:H2'	1:X:432:C:C6	2.40	0.56
1:X:539:A:H5'	1:X:540:G:OP1	2.05	0.56
1:X:1023:U:HO2'	1:X:1024:G:P	2.27	0.56
1:X:1151:U:H4'	1:X:1153:A:H5'	1.87	0.56
1:X:1339:U:H5	1:X:1664:G:HO2'	1.51	0.56
1:X:1467:U:H3'	1:X:1468:A:C5'	2.33	0.56
1:X:1517:C:H2'	1:X:1518:C:C6	2.38	0.56
1:X:2040:A:O2'	1:X:2041:A:H5'	2.04	0.56
1:X:2725:C:H2'	1:X:2726:U:C6	2.40	0.56
3:A:246:PRO:HD2	3:A:250:TRP:H	1.70	0.56
5:C:95:LEU:CD2	5:C:96:PRO:HD2	2.31	0.56
6:D:67:ILE:O	6:D:69:LYS:N	2.38	0.56
9:G:66:HIS:O	16:N:67:ALA:HB1	2.04	0.56
12:J:35:LEU:HD11	12:J:130:THR:OG1	2.05	0.56
17:O:83:ARG:HG2	17:O:83:ARG:HH21	1.70	0.56
21:S:137:ASP:OD2	21:S:138:VAL:N	2.38	0.56
23:U:52:ARG:CD	23:U:79:GLU:HA	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:83:A:H61	1:X:100:G:H1'	1.69	0.56
1:X:458:G:OP1	16:N:3:ARG:HD3	2.05	0.56
1:X:645:G:H2'	1:X:646:C:H6	1.67	0.56
1:X:1023:U:H3'	1:X:1023:U:H6	1.70	0.56
1:X:1333:G:H22	1:X:1344:C:N4	2.03	0.56
1:X:2277:A:H2'	1:X:2278:A:O4'	2.05	0.56
1:X:2322:U:H2'	1:X:2323:U:N1	2.20	0.56
1:X:2691:C:C2'	1:X:2692:A:H5"	2.35	0.56
1:X:2780:A:H2'	1:X:2781:G:H8	1.71	0.56
4:B:176:ARG:HE	15:M:16:ILE:HG12	1.70	0.56
5:C:73:SER:O	5:C:73:SER:OG	2.19	0.56
6:D:100:LEU:HG	6:D:104:ILE:HD11	1.87	0.56
6:D:119:PRO:CG	6:D:120:ASN:H	2.14	0.56
7:E:43:VAL:HB	7:E:52:VAL:CG1	2.34	0.56
7:E:127:GLU:C	7:E:129:THR:H	2.09	0.56
7:E:140:LEU:HA	7:E:143:GLN:HB2	1.86	0.56
11:I:119:THR:HA	11:I:139:ARG:H	1.70	0.56
18:P:131:LYS:HG2	18:P:132:GLY:N	2.19	0.56
19:Q:8:GLN:O	19:Q:9:ALA:HB2	2.04	0.56
20:R:95:ARG:HD2	20:R:95:ARG:N	2.20	0.56
24:V:38:ALA:C	24:V:40:PRO:HD3	2.26	0.56
1:X:203:G:H4'	1:X:234:C:O2'	2.06	0.56
1:X:553:C:H2'	1:X:557:U:C5	2.41	0.56
1:X:666:U:C3'	1:X:667:U:H5"	2.30	0.56
1:X:969:U:C6	12:J:17:ARG:HD2	2.40	0.56
1:X:1242:A:O2'	1:X:1243:G:H5'	2.05	0.56
1:X:1525:A:H3'	1:X:1526:U:C6	2.38	0.56
1:X:1569:A:N1	1:X:1571:G:H1'	2.19	0.56
1:X:1681:A:H61	1:X:1979:C:H42	1.53	0.56
1:X:2054:A:H2'	1:X:2055:G:H8	1.71	0.56
1:X:2074:U:H3'	1:X:2075:U:C5'	2.33	0.56
1:X:2395:C:H2'	1:X:2396:C:H5'	1.87	0.56
1:X:2517:C:O2'	1:X:2518:C:H5'	2.05	0.56
1:X:2597:G:H21	4:B:150:VAL:HG11	1.70	0.56
1:X:2782:G:O6	1:X:2867:G:O6	2.23	0.56
1:X:2807:U:HO2'	1:X:2808:U:P	2.29	0.56
1:X:2821:G:H2'	1:X:2822:U:C6	2.40	0.56
3:A:145:LEU:HD12	3:A:146:GLU:N	2.19	0.56
3:A:217:ARG:NH2	3:A:218:LYS:NZ	2.53	0.56
5:C:136:TRP:C	5:C:140:ASN:HD22	2.09	0.56
5:C:180:ILE:HG23	5:C:181:LEU:H	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:8:TYR:CD1	6:D:173:MET:HE2	2.40	0.56
7:E:171:LEU:N	7:E:171:LEU:CD1	2.68	0.56
8:F:76:TYR:HD1	8:F:79:ARG:HH21	1.51	0.56
9:G:47:SER:O	9:G:49:VAL:N	2.37	0.56
10:H:116:ARG:HG2	10:H:116:ARG:O	2.05	0.56
11:I:81:GLN:HE22	11:I:115:SER:CA	2.18	0.56
12:J:61:ARG:HG2	12:J:61:ARG:HH11	1.68	0.56
12:J:77:LYS:O	12:J:79:PRO:HD3	2.05	0.56
16:N:74:MET:SD	16:N:110:VAL:HG13	2.45	0.56
17:O:34:GLU:HB2	17:O:56:VAL:HG23	1.87	0.56
17:O:36:LYS:HD2	17:O:55:THR:CA	2.35	0.56
18:P:103:LEU:HB2	18:P:119:LYS:HB2	1.87	0.56
19:Q:12:ILE:H	19:Q:12:ILE:CD1	2.15	0.56
19:Q:12:ILE:HD13	19:Q:12:ILE:N	2.18	0.56
22:T:44:LYS:HG2	22:T:45:PHE:CD1	2.39	0.56
24:V:14:PHE:O	24:V:18:ILE:HG13	2.04	0.56
1:X:429:C:H2'	1:X:430:C:H6	1.69	0.56
1:X:514:G:C2	18:P:15:LYS:HG2	2.40	0.56
1:X:514:G:C4'	1:X:515:A:OP2	2.51	0.56
1:X:589:C:H4'	16:N:31:GLN:OE1	2.04	0.56
1:X:1459:U:C2	1:X:1475:U:H1'	2.41	0.56
1:X:2024:U:O2'	1:X:2025:A:H5'	2.06	0.56
1:X:2217:G:H5'	1:X:2218:G:N7	2.19	0.56
1:X:2228:U:H5"	1:X:2229:G:OP2	2.06	0.56
1:X:2396:C:H5'	1:X:2396:C:H6	1.70	0.56
1:X:2674:C:O2'	1:X:2675:U:H5'	2.05	0.56
1:X:2827:G:O2'	1:X:2828:C:H5'	2.05	0.56
3:A:85:ASP:HB2	3:A:92:ILE:HD12	1.88	0.56
3:A:130:ALA:HA	3:A:191:ALA:O	2.06	0.56
5:C:34:GLN:OE1	5:C:176:ASN:OD1	2.23	0.56
6:D:75:SER:CB	6:D:79:LEU:HD22	2.35	0.56
7:E:9:ILE:HG22	7:E:11:VAL:CG2	2.35	0.56
11:I:30:ALA:H	11:I:34:HIS:CE1	2.23	0.56
12:J:63:GLY:O	12:J:65:ILE:N	2.31	0.56
13:K:100:VAL:CG1	13:K:101:GLY:N	2.45	0.56
16:N:93:LYS:NZ	17:O:10:LYS:NZ	2.53	0.56
20:R:90:LYS:HD2	20:R:108:VAL:HG21	1.88	0.56
20:R:98:ILE:C	20:R:100:ASP:N	2.59	0.56
24:V:42:ARG:NE	24:V:46:LEU:HD21	2.19	0.56
1:X:27:G:N2	1:X:522:G:O2'	2.38	0.56
1:X:165:G:H2'	1:X:166:G:H5'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:568:G:H2'	1:X:569:C:O4'	2.05	0.56
1:X:577:U:P	11:I:40:ARG:HH22	2.26	0.56
1:X:769:C:O2'	1:X:770:U:H5'	2.06	0.56
1:X:1072:U:H1'	1:X:1081:A:H1'	1.86	0.56
1:X:1121:G:O2'	1:X:1122:A:H8	1.86	0.56
1:X:1505:U:H3'	1:X:1505:U:C6	2.40	0.56
1:X:1598:C:H2'	1:X:1599:G:H5'	1.88	0.56
1:X:2194:A:H3'	1:X:2195:C:C5'	2.21	0.56
1:X:2235:G:N2	1:X:2254:C:C4	2.73	0.56
1:X:2642:G:H2'	1:X:2643:G:C5'	2.35	0.56
1:X:2796:A:H2'	1:X:2797:G:C8	2.40	0.56
1:X:2876:C:H2'	1:X:2877:A:C8	2.41	0.56
3:A:142:VAL:HG12	3:A:193:ILE:HA	1.87	0.56
3:A:182:LEU:HD12	3:A:269:PHE:HD2	1.67	0.56
4:B:25:VAL:HG11	15:M:16:ILE:HD12	1.86	0.56
4:B:52:ALA:O	4:B:75:THR:O	2.24	0.56
15:M:5:ILE:CD1	15:M:7:ILE:HB	2.36	0.56
21:S:6:LYS:H	21:S:7:PRO:CD	2.16	0.56
21:S:155:PRO:HG2	21:S:158:CYS:SG	2.46	0.56
23:U:15:VAL:O	23:U:16:ASN:O	2.24	0.56
1:X:48:A:H1'	1:X:50:G:N3	2.20	0.56
1:X:133:C:H2'	1:X:134:G:O5'	2.06	0.56
1:X:333:A:C5'	5:C:162:ARG:CZ	2.84	0.56
1:X:527:C:OP1	26:Z:16:ARG:NH2	2.37	0.56
1:X:760:U:C5	1:X:2592:U:C5	2.93	0.56
1:X:1053:G:C4	1:X:1054:C:C6	2.93	0.56
1:X:1467:U:C6	1:X:1468:A:H5'	2.41	0.56
1:X:1856:U:H3	1:X:1861:G:H1	1.54	0.56
1:X:2027:C:C2	1:X:2604:G:C2	2.93	0.56
1:X:2375:G:H1'	23:U:33:LYS:HZ2	1.71	0.56
1:X:2490:U:H2'	1:X:2491:C:C6	2.40	0.56
3:A:96:HIS:HE1	3:A:100:GLY:CA	2.18	0.56
3:A:96:HIS:HE1	3:A:100:GLY:C	2.09	0.56
4:B:137:ARG:HH21	4:B:137:ARG:CG	2.19	0.56
5:C:102:LEU:HD23	5:C:106:MET:HB2	1.87	0.56
6:D:111:ILE:HB	6:D:114:PHE:CB	2.28	0.56
7:E:88:GLU:HB3	7:E:163:ARG:HG3	1.88	0.56
10:H:83:ARG:HE	15:M:40:ARG:CZ	2.19	0.56
12:J:128:ILE:HD12	12:J:128:ILE:O	2.05	0.56
15:M:104:LEU:O	15:M:107:LEU:N	2.25	0.56
16:N:91:ASN:C	16:N:93:LYS:H	2.08	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:17:LYS:HB3	20:R:18:LYS:HZ3	1.70	0.56
23:U:75:TYR:C	23:U:77:GLY:H	2.09	0.56
1:X:455:A:H1'	1:X:1215:A:O4'	2.05	0.56
1:X:1598:C:H2'	1:X:1599:G:C5'	2.36	0.56
1:X:2241:U:C5	22:T:17:ASN:ND2	2.73	0.56
1:X:2856:U:H5'	13:K:93:GLY:O	2.06	0.56
2:Y:3:A:C2'	2:Y:4:C:H5'	2.35	0.56
4:B:68:ALA:C	4:B:70:ALA:H	2.09	0.56
4:B:137:ARG:NH2	4:B:137:ARG:HG2	2.21	0.56
6:D:10:ASP:HA	6:D:14:PRO:HG2	1.87	0.56
6:D:74:ILE:HA	6:D:79:LEU:CB	2.34	0.56
6:D:111:ILE:HA	6:D:137:ILE:CG2	2.36	0.56
7:E:105:MET:HA	7:E:105:MET:CE	2.36	0.56
12:J:44:LYS:HE3	12:J:93:TYR:CE1	2.40	0.56
14:L:47:ARG:O	14:L:49:GLN:N	2.37	0.56
16:N:86:ALA:C	16:N:88:ILE:N	2.56	0.56
20:R:14:LEU:HD13	20:R:39:ALA:HB1	1.87	0.56
21:S:37:LYS:O	21:S:40:ASP:HB2	2.06	0.56
21:S:127:PRO:O	21:S:128:ARG:CG	2.54	0.56
1:X:71:A:C6	1:X:110:U:H4'	2.41	0.56
1:X:310:A:N6	5:C:162:ARG:HH22	2.04	0.56
1:X:482:A:O2'	1:X:483:A:H5'	2.05	0.56
1:X:758:G:C2'	1:X:759:C:H5"	2.30	0.56
1:X:780:U:H3'	1:X:780:U:C6	2.41	0.56
1:X:874:A:H2'	1:X:875:G:O4'	2.06	0.56
1:X:1820:G:O2'	1:X:1821:A:C5'	2.53	0.56
1:X:2326:C:H2'	1:X:2327:U:C5	2.38	0.56
3:A:252:LYS:HE3	3:A:253:PRO:CD	2.36	0.56
9:G:100:TYR:HB2	9:G:116:ARG:HH12	1.68	0.56
12:J:80:ALA:O	12:J:81:GLU:HB3	2.04	0.56
14:L:15:ARG:HA	14:L:15:ARG:HH11	1.71	0.56
15:M:34:ARG:HH21	15:M:91:VAL:HG23	1.69	0.56
20:R:84:VAL:HA	20:R:90:LYS:HD3	1.88	0.56
1:X:138:G:O2'	1:X:139:A:H5'	2.06	0.56
1:X:525:A:H2	1:X:1273:G:N3	2.04	0.56
1:X:746:G:N7	1:X:774:A:C6	2.74	0.56
1:X:2087:U:H2'	1:X:2088:U:C6	2.41	0.56
1:X:2190:A:H8	1:X:2191:A:OP2	1.89	0.56
1:X:2225:G:C2	1:X:2405:A:H1'	2.40	0.56
2:Y:33:C:O4'	6:D:26:MET:HE1	2.06	0.56
5:C:3:GLN:HB2	5:C:116:LYS:HD2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:106:ILE:HG23	6:D:110:ARG:CD	2.35	0.56
11:I:32:ARG:HH21	17:O:81:ARG:HG3	1.71	0.56
19:Q:66:GLY:C	19:Q:68:PHE:N	2.58	0.56
20:R:110:SER:OG	20:R:111:GLY:N	2.39	0.56
30:4:9:LYS:HD2	30:4:9:LYS:N	2.20	0.56
1:X:240:U:H2'	1:X:241:C:O4'	2.06	0.56
1:X:401:G:H5'	1:X:402:A:OP2	2.06	0.56
1:X:441:A:H5'	1:X:442:A:OP2	2.05	0.56
1:X:514:G:H22	18:P:15:LYS:CA	2.17	0.56
1:X:558:G:H8	1:X:559:C:C5	2.22	0.56
1:X:663:G:H2'	1:X:664:C:C4'	2.36	0.56
1:X:814:G:H4'	1:X:815:A:OP2	2.06	0.56
1:X:830:C:O2'	1:X:852:U:OP1	2.24	0.56
1:X:984:A:H1'	1:X:1202:U:C6	2.40	0.56
1:X:1218:C:C4'	11:I:13:ARG:NH1	2.64	0.56
1:X:1234:C:H2'	1:X:1235:C:H6	1.71	0.56
1:X:1973:C:H2'	1:X:1974:U:O4'	2.05	0.56
1:X:2007:G:C2	1:X:2023:C:C2	2.94	0.56
1:X:2404:A:O2'	1:X:2405:A:P	2.63	0.56
1:X:2592:U:O2	1:X:2592:U:C2'	2.45	0.56
7:E:54:ARG:HD2	7:E:56:SER:O	2.06	0.56
7:E:103:LEU:HB2	7:E:123:PHE:CD2	2.40	0.56
7:E:109:TYR:HE1	7:E:152:ARG:NE	2.04	0.56
7:E:126:PRO:HG3	7:E:130:ARG:CD	2.31	0.56
10:H:28:GLY:O	10:H:35:THR:HG23	2.06	0.56
12:J:116:LYS:HD3	12:J:132:MET:SD	2.46	0.56
16:N:29:SER:OG	16:N:30:LYS:HD3	2.05	0.56
16:N:66:ASN:HD22	16:N:70:ARG:CZ	2.18	0.56
16:N:91:ASN:O	16:N:93:LYS:HG3	2.05	0.56
18:P:49:SER:O	18:P:52:ASP:N	2.39	0.56
20:R:85:ASP:OD1	20:R:90:LYS:HD2	2.06	0.56
21:S:54:ILE:HG22	21:S:54:ILE:O	2.06	0.56
25:W:14:GLY:O	25:W:18:LYS:HG2	2.05	0.56
1:X:403:A:H3'	1:X:403:A:OP2	2.05	0.55
1:X:417:C:H4'	1:X:418:C:H5'	1.88	0.55
1:X:558:G:P	1:X:558:G:O4'	2.64	0.55
1:X:649:G:N1	1:X:660:G:N1	2.53	0.55
1:X:757:U:O2'	1:X:758:G:H5'	2.06	0.55
1:X:1105:U:N3	1:X:1107:A:H5"	2.21	0.55
1:X:1327:C:C2	1:X:1352:G:N2	2.74	0.55
1:X:1710:U:H4'	1:X:1711:C:OP2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1782:A:H4'	3:A:207:GLY:O	2.06	0.55
1:X:1979:C:O2'	1:X:1980:A:O4'	2.24	0.55
1:X:2799:C:C4	1:X:2800:C:N3	2.74	0.55
2:Y:4:C:H3'	2:Y:4:C:C6	2.41	0.55
3:A:134:ARG:NH2	3:A:135:PHE:CZ	2.74	0.55
3:A:143:HIS:HD1	3:A:194:GLY:C	2.09	0.55
4:B:15:TRP:NE1	4:B:20:ALA:HB2	2.21	0.55
4:B:144:ARG:CG	4:B:145:LYS:H	2.12	0.55
5:C:3:GLN:CG	5:C:116:LYS:HD2	2.34	0.55
6:D:38:GLU:CB	6:D:87:ILE:HB	2.34	0.55
7:E:65:HIS:O	7:E:67:LEU:N	2.39	0.55
8:F:90:THR:N	8:F:91:PRO:HD3	2.21	0.55
8:F:118:GLY:O	8:F:122:ALA:CB	2.55	0.55
11:I:130:ILE:HA	11:I:140:VAL:HG21	1.87	0.55
14:L:17:VAL:CG1	14:L:18:ARG:N	2.68	0.55
17:O:10:LYS:CG	17:O:11:GLN:HG2	2.29	0.55
18:P:48:LYS:NZ	18:P:56:LEU:HD11	2.20	0.55
23:U:44:ALA:C	23:U:45:ASN:OD1	2.43	0.55
26:Z:31:THR:HG22	26:Z:32:GLU:N	2.21	0.55
1:X:162:C:H2'	1:X:163:A:H8	1.72	0.55
1:X:208:C:H2'	1:X:209:G:H5'	1.87	0.55
1:X:396:U:O4	1:X:398:C:C2	2.59	0.55
1:X:592:G:P	16:N:10:ARG:HH11	2.29	0.55
1:X:1179:A:C2	1:X:1196:G:C2	2.95	0.55
1:X:1293:A:O2'	1:X:1294:G:H5'	2.07	0.55
1:X:2471:U:H2'	1:X:2472:U:C6	2.42	0.55
1:X:2779:C:H2'	1:X:2780:A:C8	2.41	0.55
1:X:2812:A:H2'	1:X:2813:G:H8	1.71	0.55
1:X:2845:C:C2'	1:X:2846:G:H5'	2.36	0.55
5:C:109:ALA:O	5:C:110:SER:C	2.43	0.55
6:D:36:VAL:HA	6:D:153:ASP:O	2.06	0.55
6:D:148:LYS:HG3	6:D:149:THR:N	2.22	0.55
7:E:139:GLN:HB3	7:E:143:GLN:OE1	2.06	0.55
12:J:64:LYS:CG	12:J:108:ALA:O	2.54	0.55
12:J:100:PRO:CB	21:S:74:ARG:HG2	2.36	0.55
12:J:116:LYS:NZ	12:J:132:MET:HB3	2.22	0.55
15:M:94:VAL:O	15:M:95:GLU:HB3	2.05	0.55
18:P:72:LEU:HG	18:P:72:LEU:O	2.04	0.55
19:Q:6:ILE:HG22	19:Q:7:LEU:H	1.71	0.55
1:X:33:C:N4	1:X:458:G:O2'	2.39	0.55
1:X:456:C:O2'	1:X:457:C:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:554:U:H5”	1:X:556:A:C2	2.41	0.55
1:X:555:U:C6	1:X:555:U:C3’	2.85	0.55
1:X:757:U:H2’	1:X:758:G:H5’	1.88	0.55
1:X:999:A:O2’	1:X:1166:A:H2	1.89	0.55
1:X:1686:A:H5”	1:X:1687:C:OP2	2.05	0.55
1:X:2018:G:O2’	1:X:2019:C:OP1	2.22	0.55
1:X:2309:G:N2	1:X:2365:U:C2	2.74	0.55
1:X:2562:G:C6	1:X:2563:U:C4	2.95	0.55
2:Y:22:U:H2’	2:Y:23:G:C8	2.41	0.55
3:A:163:VAL:O	3:A:163:VAL:HG12	2.06	0.55
5:C:54:THR:HB	5:C:73:SER:HB3	1.87	0.55
5:C:104:LEU:N	5:C:104:LEU:CD2	2.69	0.55
5:C:193:LEU:O	5:C:193:LEU:HD23	2.05	0.55
6:D:4:LEU:HD21	6:D:173:MET:HE3	1.88	0.55
7:E:33:LEU:HD12	7:E:34:THR:N	2.20	0.55
9:G:42:VAL:HG12	9:G:43:VAL:N	2.21	0.55
15:M:46:ARG:CG	15:M:47:SER:N	2.65	0.55
16:N:39:LEU:HA	16:N:42:ALA:HB2	1.88	0.55
17:O:78:VAL:O	17:O:79:GLN:HB2	2.04	0.55
18:P:66:GLU:O	18:P:67:PRO:C	2.44	0.55
20:R:54:ILE:HG22	20:R:69:GLN:HB3	1.88	0.55
21:S:21:ALA:O	21:S:32:PHE:HB2	2.06	0.55
23:U:52:ARG:HH12	23:U:67:LEU:CG	2.19	0.55
25:W:22:ALA:C	25:W:24:GLY:N	2.60	0.55
1:X:529:U:H2’	1:X:530:G:C8	2.39	0.55
1:X:1336:G:OP1	18:P:105:ARG:NH1	2.37	0.55
1:X:1787:U:H4’	3:A:254:THR:H	1.70	0.55
1:X:1998:A:C2	26:Z:6:VAL:HG23	2.41	0.55
1:X:2201:G:H2’	1:X:2202:G:H8	1.70	0.55
1:X:2324:G:N3	1:X:2360:C:H2’	2.22	0.55
1:X:2676:G:C2	1:X:2690:A:C2	2.94	0.55
2:Y:72:C:O2’	2:Y:73:C:H5’	2.05	0.55
3:A:68:LYS:N	3:A:152:GLY:HA2	2.21	0.55
4:B:181:LEU:HD13	15:M:16:ILE:HD11	1.88	0.55
6:D:117:ILE:HD12	6:D:175:LEU:CD1	2.35	0.55
12:J:21:ASP:O	12:J:22:ALA:O	2.24	0.55
18:P:80:LEU:CD2	18:P:87:GLU:HB3	2.37	0.55
1:X:84:G:N3	1:X:101:A:C2	2.75	0.55
1:X:313:U:H2’	1:X:314:G:H8	1.72	0.55
1:X:547:U:H2’	1:X:548:G:C8	2.42	0.55
1:X:814:G:OP1	5:C:50:GLN:HB2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1882:G:H21	1:X:1885:C:N4	2.03	0.55
1:X:2282:G:H1'	6:D:129:ASN:ND2	2.22	0.55
1:X:2726:U:H1'	7:E:139:GLN:HE21	1.71	0.55
2:Y:36:A:O2'	2:Y:37:C:H5	1.90	0.55
4:B:201:ALA:HB1	4:B:204:ALA:HB2	1.89	0.55
8:F:76:TYR:HA	8:F:79:ARG:HE	1.71	0.55
8:F:84:ILE:HG23	8:F:96:VAL:HG11	1.89	0.55
12:J:62:GLY:O	12:J:64:LYS:HG3	2.07	0.55
14:L:38:ILE:HD11	14:L:40:ALA:N	2.17	0.55
15:M:24:LEU:O	15:M:25:PRO:C	2.44	0.55
20:R:14:LEU:C	20:R:16:PHE:H	2.10	0.55
21:S:134:LEU:HD21	21:S:152:ILE:HG21	1.88	0.55
26:Z:34:PRO:HB2	26:Z:35:GLN:HE21	1.70	0.55
30:4:3:VAL:HA	30:4:35:ARG:O	2.06	0.55
1:X:104:C:C3'	1:X:105:G:H5"	2.36	0.55
1:X:174:A:N7	1:X:2409:A:C8	2.75	0.55
1:X:463:C:C2	1:X:465:C:C5	2.95	0.55
1:X:583:C:H4'	1:X:584:A:O5'	2.07	0.55
1:X:684:C:C5	11:I:43:ALA:HB1	2.40	0.55
1:X:754:G:C6	1:X:770:U:O2	2.59	0.55
1:X:1058:G:N2	1:X:1121:G:H2'	2.22	0.55
1:X:1573:G:C3'	1:X:1574:A:H5"	2.30	0.55
1:X:2508:G:OP2	7:E:172:LYS:HD3	2.06	0.55
1:X:2663:U:C2	1:X:2664:G:C8	2.94	0.55
4:B:105:THR:HG21	4:B:199:ARG:HH21	1.72	0.55
5:C:48:ARG:C	5:C:50:GLN:N	2.58	0.55
5:C:82:VAL:HG12	5:C:83:ALA:O	2.06	0.55
6:D:128:TYR:O	6:D:156:ILE:HB	2.07	0.55
7:E:57:ASP:CB	7:E:62:ARG:HE	2.09	0.55
7:E:89:LEU:HD12	7:E:129:THR:HA	1.88	0.55
10:H:100:ASN:OD1	10:H:102:GLN:N	2.32	0.55
11:I:53:ARG:O	11:I:53:ARG:HD3	2.06	0.55
11:I:76:LYS:HB3	11:I:79:GLN:CG	2.36	0.55
13:K:30:ARG:HG3	13:K:30:ARG:O	2.06	0.55
19:Q:6:ILE:O	19:Q:7:LEU:C	2.44	0.55
19:Q:39:LYS:O	19:Q:42:ILE:CG2	2.54	0.55
23:U:49:LYS:HD3	23:U:61:TRP:CG	2.42	0.55
24:V:42:ARG:CZ	24:V:45:GLN:HE22	2.20	0.55
1:X:400:U:HO2'	1:X:401:G:H5"	1.70	0.55
1:X:641:G:H4'	1:X:651:C:O2'	2.06	0.55
1:X:1312:G:H5"	1:X:1313:U:H5"	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1466:C:H2'	1:X:1467:U:C1'	2.36	0.55
1:X:1512:A:H2'	1:X:1514:C:C5	2.42	0.55
1:X:1554:G:O2'	1:X:1555:A:H5'	2.07	0.55
1:X:2379:G:C2'	1:X:2380:U:H5'	2.37	0.55
1:X:2641:A:H8	1:X:2641:A:O5'	1.89	0.55
4:B:70:ALA:O	4:B:71:GLY:C	2.45	0.55
5:C:55:GLY:O	5:C:71:ASP:OD2	2.25	0.55
5:C:188:ILE:HG21	5:C:194:GLU:OE2	2.07	0.55
7:E:117:PRO:HD3	7:E:123:PHE:CD1	2.42	0.55
11:I:85:ASP:O	11:I:86:THR:C	2.45	0.55
11:I:94:GLU:HA	11:I:97:ARG:CZ	2.35	0.55
11:I:97:ARG:O	11:I:98:LEU:CB	2.55	0.55
16:N:88:ILE:HA	17:O:49:GLU:CG	2.37	0.55
18:P:71:VAL:HG12	18:P:126:ILE:HG23	1.88	0.55
23:U:22:GLY:N	23:U:39:LYS:HB2	2.22	0.55
1:X:107:G:N2	1:X:108:G:H1'	2.21	0.55
1:X:197:G:N3	1:X:210:A:H2	2.05	0.55
1:X:322:A:O2'	1:X:343:A:C4'	2.55	0.55
1:X:633:G:O2'	1:X:634:G:H5'	2.07	0.55
1:X:891:A:C6	1:X:911:A:C6	2.94	0.55
1:X:929:A:H2	2:Y:81:C:O2	1.89	0.55
1:X:1385:C:H1'	1:X:2192:U:C5	2.42	0.55
1:X:2198:U:C6	1:X:2198:U:OP2	2.60	0.55
1:X:2400:G:N2	23:U:33:LYS:HZ2	2.05	0.55
2:Y:68:A:H61	2:Y:110:U:H3'	1.71	0.55
4:B:178:GLY:O	4:B:179:GLU:CG	2.54	0.55
6:D:32:GLU:HB3	6:D:157:VAL:CG1	2.36	0.55
6:D:35:VAL:O	6:D:154:ILE:HA	2.07	0.55
9:G:155:THR:CG2	9:G:156:HIS:H	2.16	0.55
12:J:61:ARG:NH1	21:S:175:ARG:HB2	2.21	0.55
12:J:80:ALA:C	12:J:81:GLU:OE1	2.45	0.55
14:L:51:LEU:N	14:L:51:LEU:CD1	2.69	0.55
1:X:174:A:C5	1:X:2409:A:C5	2.95	0.55
1:X:1430:G:H2'	1:X:1431:U:H6	1.71	0.55
1:X:1552:C:H1'	1:X:1553:G:N3	2.22	0.55
1:X:1714:A:N6	1:X:1715:A:C6	2.75	0.55
1:X:2301:A:H2'	1:X:2302:G:C8	2.41	0.55
1:X:2518:C:H4'	30:4:3:VAL:HG21	1.88	0.55
1:X:2796:A:OP2	13:K:3:HIS:CE1	2.60	0.55
3:A:81:ALA:HA	3:A:113:VAL:HG13	1.89	0.55
4:B:37:LYS:HD2	4:B:42:ASP:OD1	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:2:ALA:CA	5:C:13:ARG:HA	2.36	0.55
6:D:56:GLU:O	6:D:59:LEU:N	2.39	0.55
6:D:115:ARG:HB2	6:D:178:ARG:HD2	1.88	0.55
6:D:117:ILE:HG13	6:D:176:PRO:HG2	1.87	0.55
12:J:62:GLY:C	12:J:64:LYS:H	2.11	0.55
14:L:83:GLY:O	14:L:84:ILE:HD12	2.06	0.55
20:R:93:ARG:CA	20:R:95:ARG:NH2	2.70	0.55
20:R:111:GLY:C	20:R:112:LYS:HD2	2.27	0.55
21:S:106:GLY:HA2	21:S:109:GLN:OE1	2.07	0.55
23:U:52:ARG:HH12	23:U:67:LEU:CD1	2.18	0.55
25:W:39:ALA:O	25:W:43:MET:HG2	2.06	0.55
1:X:189:A:C2'	1:X:190:A:H5'	2.37	0.55
1:X:334:G:C8	5:C:164:VAL:HG13	2.42	0.55
1:X:717:G:C2'	1:X:739:G:H22	2.17	0.55
1:X:733:G:C6	1:X:734:G:N7	2.74	0.55
1:X:739:G:O2'	1:X:740:A:H8	1.90	0.55
1:X:977:G:O4'	1:X:2246:A:N6	2.40	0.55
1:X:1249:G:HO2'	1:X:1250:A:P	2.30	0.55
1:X:1392:U:H6	1:X:1392:U:OP1	1.89	0.55
1:X:1600:U:H5'	1:X:1601:U:OP1	2.07	0.55
2:Y:5:C:H2'	2:Y:6:C:O4'	2.07	0.55
2:Y:25:G:H2'	2:Y:26:G:C8	2.42	0.55
3:A:126:LYS:H	3:A:129:ASN:HD22	1.55	0.55
5:C:53:LYS:O	5:C:54:THR:OG1	2.20	0.55
5:C:111:ARG:NE	5:C:184:ASP:O	2.40	0.55
6:D:40:LEU:HD12	6:D:85:VAL:O	2.07	0.55
7:E:131:ILE:HG22	7:E:132:ASP:N	2.22	0.55
11:I:120:VAL:CG1	11:I:122:VAL:HG13	2.37	0.55
12:J:64:LYS:CB	12:J:108:ALA:HB3	2.37	0.55
18:P:87:GLU:HA	18:P:90:LEU:CG	2.36	0.55
22:T:21:LEU:HD11	22:T:41:ARG:NE	2.22	0.55
23:U:15:VAL:HG23	23:U:16:ASN:N	2.22	0.55
23:U:51:ILE:HG23	23:U:58:LYS:O	2.07	0.55
1:X:884:C:OP1	12:J:9:LYS:HG3	2.06	0.54
1:X:914:C:O2'	1:X:915:C:H5'	2.07	0.54
1:X:1764:A:H2'	1:X:1765:C:H5'	1.89	0.54
1:X:1872:A:O2'	1:X:1873:A:H5'	2.08	0.54
1:X:2063:A:H2'	1:X:2064:U:C6	2.41	0.54
2:Y:25:G:H2'	2:Y:26:G:C5	2.42	0.54
3:A:252:LYS:H	3:A:253:PRO:CD	2.20	0.54
4:B:37:LYS:HD2	4:B:42:ASP:CG	2.28	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:152:LYS:CB	9:G:106:TYR:HB3	2.34	0.54
5:C:46:ARG:HA	5:C:51:VAL:HG21	1.89	0.54
5:C:95:LEU:HD23	5:C:96:PRO:CD	2.33	0.54
7:E:75:ALA:O	7:E:79:VAL:HG22	2.07	0.54
11:I:87:THR:O	11:I:93:LEU:HD13	2.07	0.54
15:M:41:GLU:O	15:M:42:GLY:C	2.44	0.54
16:N:86:ALA:O	16:N:87:ASN:C	2.44	0.54
20:R:62:MET:O	20:R:63:THR:C	2.45	0.54
21:S:48:THR:HG22	21:S:66:VAL:O	2.06	0.54
23:U:49:LYS:NZ	23:U:61:TRP:CZ2	2.72	0.54
1:X:135:U:O3'	1:X:136:A:O4'	2.25	0.54
1:X:182:G:O2'	1:X:183:U:OP2	2.25	0.54
1:X:466:A:H4'	1:X:467:U:O5'	2.07	0.54
1:X:490:A:O2'	1:X:491:A:C5'	2.54	0.54
1:X:688:A:H5"	5:C:61:GLN:HE22	1.73	0.54
1:X:2827:G:C6	1:X:2828:C:N3	2.74	0.54
3:A:244:ARG:C	3:A:252:LYS:HZ1	2.11	0.54
4:B:116:VAL:N	4:B:136:ARG:NE	2.30	0.54
4:B:192:ASN:HB2	15:M:9:ARG:NH1	2.23	0.54
10:H:23:ARG:CB	10:H:23:ARG:NH2	2.51	0.54
11:I:134:GLU:O	11:I:136:ALA:N	2.41	0.54
12:J:99:LYS:HG3	12:J:100:PRO:HD2	1.89	0.54
13:K:94:TYR:CE1	13:K:115:LEU:O	2.59	0.54
16:N:14:HIS:CD2	16:N:32:TYR:CD1	2.94	0.54
16:N:93:LYS:CD	17:O:10:LYS:HZ3	2.20	0.54
18:P:39:ARG:HE	18:P:97:VAL:HB	1.72	0.54
21:S:70:GLN:HE21	21:S:70:GLN:HA	1.72	0.54
21:S:133:GLU:OE2	21:S:135:VAL:HG23	2.07	0.54
1:X:168:A:H2'	1:X:169:C:C6	2.42	0.54
1:X:305:A:C2'	1:X:306:G:H5'	2.36	0.54
1:X:333:A:C3'	5:C:162:ARG:NH2	2.44	0.54
1:X:514:G:N2	18:P:15:LYS:CB	2.70	0.54
1:X:1021:A:N3	1:X:1164:C:H1'	2.22	0.54
1:X:1071:U:H5"	1:X:1072:U:OP1	2.06	0.54
1:X:1813:A:H2'	1:X:1814:G:H8	1.73	0.54
1:X:2356:A:N3	14:L:89:PHE:CE1	2.75	0.54
1:X:2395:C:O2'	1:X:2396:C:H5"	2.07	0.54
1:X:2437:G:O2'	1:X:2438:A:C8	2.59	0.54
1:X:2610:G:O2'	1:X:2785:A:N1	2.33	0.54
3:A:134:ARG:HG3	3:A:135:PHE:N	2.21	0.54
5:C:43:ALA:HB1	5:C:86:PRO:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:130:THR:HA	5:C:133:PHE:HB3	1.90	0.54
6:D:67:ILE:CG2	6:D:84:PRO:HB3	2.38	0.54
6:D:74:ILE:CG2	6:D:80:ARG:HA	2.28	0.54
9:G:108:GLY:C	9:G:110:LEU:HD23	2.27	0.54
10:H:83:ARG:HH11	15:M:40:ARG:HE	1.49	0.54
11:I:117:ALA:HA	11:I:137:GLY:O	2.08	0.54
13:K:20:LEU:O	13:K:22:ARG:N	2.40	0.54
15:M:3:THR:O	15:M:3:THR:OG1	2.26	0.54
15:M:82:PRO:O	15:M:83:PHE:C	2.44	0.54
16:N:82:GLY:O	16:N:85:ARG:N	2.40	0.54
17:O:65:ARG:HH11	17:O:65:ARG:CG	2.19	0.54
20:R:16:PHE:CD2	20:R:82:ALA:HB2	2.42	0.54
20:R:22:VAL:HG11	20:R:80:LYS:HE3	1.88	0.54
30:4:30:VAL:O	30:4:32:HIS:N	2.40	0.54
1:X:208:C:N4	1:X:209:G:H21	2.06	0.54
1:X:244:C:H3'	1:X:245:C:H5"	1.89	0.54
1:X:490:A:O2'	1:X:491:A:H3'	2.07	0.54
1:X:1118:G:C2'	1:X:1119:U:C5'	2.84	0.54
1:X:1552:C:H4'	1:X:1553:G:OP1	2.07	0.54
1:X:2304:G:H8	1:X:2304:G:OP2	1.89	0.54
2:Y:112:A:H2'	2:Y:113:G:H8	1.71	0.54
2:Y:112:A:H2'	2:Y:113:G:O4'	2.07	0.54
3:A:73:SER:HA	3:A:119:ALA:CB	2.37	0.54
4:B:120:TRP:CD1	4:B:155:ARG:HB3	2.43	0.54
4:B:153:GLY:O	4:B:154:LYS:C	2.44	0.54
6:D:150:ARG:CG	6:D:151:GLY:N	2.63	0.54
6:D:153:ASP:C	6:D:154:ILE:HD12	2.27	0.54
11:I:30:ALA:H	11:I:34:HIS:CG	2.26	0.54
12:J:21:ASP:HA	12:J:99:LYS:HG3	1.90	0.54
15:M:33:VAL:CG2	15:M:51:GLU:HB2	2.25	0.54
16:N:14:HIS:CD2	16:N:32:TYR:CE1	2.95	0.54
18:P:36:ARG:NH2	26:Z:20:ARG:NH1	2.53	0.54
20:R:96:LYS:CG	20:R:97:GLN:N	2.70	0.54
23:U:13:LEU:CG	23:U:14:VAL:H	2.21	0.54
23:U:48:LYS:O	23:U:61:TRP:HE3	1.90	0.54
24:V:21:ARG:NH1	24:V:53:LEU:HD11	2.22	0.54
1:X:95:G:H4'	24:V:41:HIS:CE1	2.42	0.54
1:X:134:G:H21	1:X:136:A:H3'	1.72	0.54
1:X:148:C:H3'	1:X:149:A:C8	2.42	0.54
1:X:403:A:H3'	1:X:403:A:P	2.47	0.54
1:X:445:A:H2'	1:X:446:C:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:497:C:C6	1:X:497:C:C3'	2.91	0.54
1:X:513:A:H4'	1:X:515:A:H5'	1.88	0.54
1:X:518:A:OP2	1:X:518:A:H4'	2.08	0.54
1:X:1301:U:C2	1:X:1340:C:O2	2.60	0.54
1:X:1426:U:C2'	1:X:1427:G:H5'	2.36	0.54
1:X:1603:A:OP2	1:X:1603:A:H8	1.90	0.54
1:X:1820:G:H4'	1:X:1821:A:OP1	2.06	0.54
1:X:2510:A:H4'	7:E:157:TYR:CE2	2.43	0.54
1:X:2753:C:H2'	1:X:2754:C:H6	1.72	0.54
1:X:2855:C:O2'	13:K:90:ARG:NH1	2.40	0.54
5:C:7:ILE:CG2	5:C:120:VAL:O	2.55	0.54
6:D:111:ILE:CD1	6:D:137:ILE:HD12	2.37	0.54
6:D:132:ILE:CG2	6:D:133:LYS:N	2.71	0.54
6:D:175:LEU:HG	6:D:177:PHE:HE1	1.72	0.54
11:I:104:ARG:HB3	11:I:105:PRO:CD	2.34	0.54
16:N:22:LYS:C	16:N:24:PHE:N	2.61	0.54
16:N:105:ALA:O	16:N:108:ALA:N	2.41	0.54
17:O:14:VAL:O	17:O:14:VAL:HG12	2.07	0.54
19:Q:7:LEU:HD22	19:Q:8:GLN:N	2.22	0.54
20:R:90:LYS:CD	20:R:108:VAL:HG21	2.38	0.54
21:S:128:ARG:HG3	21:S:129:ARG:N	2.23	0.54
23:U:52:ARG:NH1	23:U:67:LEU:CG	2.71	0.54
24:V:2:LYS:HG2	24:V:3:PRO:HD3	1.88	0.54
1:X:10:A:H2'	1:X:11:G:H8	1.72	0.54
1:X:333:A:H3'	5:C:162:ARG:HH21	1.60	0.54
1:X:459:A:H4'	1:X:461:A:C8	2.43	0.54
1:X:980:G:O3'	25:W:11:GLY:HA2	2.08	0.54
1:X:1745:C:O2'	1:X:1746:A:H5'	2.07	0.54
1:X:2463:G:O2'	1:X:2464:G:H5'	2.08	0.54
1:X:2836:U:O2'	1:X:2837:G:H5'	2.06	0.54
3:A:231:HIS:CG	3:A:232:PRO:HD2	2.43	0.54
6:D:74:ILE:HG12	6:D:80:ARG:CA	2.38	0.54
9:G:125:ARG:HD2	9:G:129:HIS:CE1	2.43	0.54
12:J:63:GLY:C	12:J:65:ILE:H	2.11	0.54
17:O:20:ILE:HG13	17:O:21:ARG:O	2.07	0.54
17:O:36:LYS:HD2	17:O:55:THR:N	2.23	0.54
20:R:90:LYS:HB2	20:R:108:VAL:CG2	2.31	0.54
21:S:64:ALA:HB2	21:S:85:MET:CE	2.38	0.54
1:X:56:C:O5'	1:X:56:C:H6	1.90	0.54
1:X:177:U:C2	1:X:178:C:H1'	2.42	0.54
1:X:208:C:O2'	1:X:209:G:H5'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1005:U:H2'	16:N:54:LYS:NZ	2.23	0.54
1:X:1324:G:O2'	1:X:1325:U:P	2.65	0.54
1:X:2358:C:H2'	1:X:2359:U:C6	2.42	0.54
2:Y:107:C:H2'	2:Y:108:G:O4'	2.08	0.54
3:A:163:VAL:CG2	3:A:177:LEU:HA	2.37	0.54
4:B:2:LYS:HA	4:B:84:PHE:CE1	2.43	0.54
4:B:130:GLY:O	4:B:131:SER:OG	2.21	0.54
6:D:167:ARG:O	6:D:170:LEU:HB2	2.08	0.54
6:D:168:ALA:O	6:D:169:LEU:C	2.45	0.54
9:G:141:GLY:O	9:G:144:MET:HB2	2.08	0.54
13:K:10:LEU:O	13:K:11:ASN:OD1	2.26	0.54
13:K:79:VAL:CA	13:K:83:VAL:HG13	2.13	0.54
15:M:82:PRO:O	15:M:85:SER:N	2.36	0.54
18:P:85:MET:CE	18:P:130:GLU:HG3	2.38	0.54
19:Q:36:THR:O	19:Q:37:GLU:C	2.45	0.54
22:T:40:GLN:NE2	22:T:57:HIS:HB3	2.23	0.54
23:U:70:LEU:HB3	23:U:79:GLU:CD	2.28	0.54
30:4:18:ARG:HD3	30:4:23:VAL:HG22	1.88	0.54
1:X:165:G:C2'	1:X:166:G:H5'	2.37	0.54
1:X:452:G:N2	5:C:40:ARG:HH22	2.06	0.54
1:X:566:U:H2'	1:X:567:G:H8	1.73	0.54
1:X:602:C:H1'	29:3:2:PRO:CA	2.38	0.54
1:X:788:G:C5'	1:X:790:A:H1'	2.34	0.54
1:X:1206:G:O2'	1:X:1207:G:H5'	2.08	0.54
1:X:1218:C:O2'	1:X:1219:C:H5'	2.07	0.54
1:X:1486:A:H2'	1:X:1487:C:H6	1.72	0.54
1:X:1974:U:H2'	1:X:1975:G:C5'	2.38	0.54
1:X:1990:U:H2'	1:X:1991:C:C6	2.42	0.54
1:X:1996:A:H2	18:P:109:ARG:NH2	2.05	0.54
1:X:2065:A:H2'	1:X:2066:G:O4'	2.08	0.54
1:X:2372:A:H2'	1:X:2373:C:H6	1.72	0.54
2:Y:4:C:C2'	2:Y:5:C:H5'	2.38	0.54
2:Y:35:C:H2'	2:Y:36:A:O4'	2.07	0.54
3:A:133:LEU:HB3	3:A:173:VAL:HG21	1.89	0.54
3:A:161:THR:N	3:A:196:VAL:HG22	2.23	0.54
4:B:154:LYS:NZ	4:B:156:MET:SD	2.81	0.54
5:C:31:VAL:HG23	5:C:32:THR:H	1.72	0.54
5:C:125:ILE:O	5:C:126:ALA:CB	2.54	0.54
6:D:7:LYS:HA	6:D:10:ASP:HB2	1.90	0.54
6:D:138:PHE:HB2	6:D:141:ILE:HB	1.89	0.54
9:G:75:ILE:HG13	9:G:75:ILE:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:101:THR:CG2	9:G:102:ARG:N	2.71	0.54
11:I:76:LYS:HD3	11:I:79:GLN:NE2	2.22	0.54
16:N:76:TYR:CZ	16:N:80:ILE:HG13	2.43	0.54
18:P:10:ASN:O	18:P:10:ASN:OD1	2.26	0.54
1:X:27:G:N2	1:X:522:G:HO2'	2.05	0.54
1:X:341:A:HO2'	1:X:342:G:P	2.30	0.54
1:X:408:U:O2'	1:X:409:G:H8	1.90	0.54
1:X:1074:G:C2'	1:X:1075:C:H5'	2.37	0.54
1:X:1166:A:C3'	1:X:1167:A:H5"	2.38	0.54
1:X:1425:G:O2'	1:X:1426:U:H5'	2.08	0.54
1:X:1984:A:H4'	1:X:2668:U:H2'	1.90	0.54
1:X:2065:A:H3'	1:X:2066:G:C8	2.41	0.54
1:X:2293:G:H2'	1:X:2294:U:C6	2.43	0.54
1:X:2313:G:H1'	14:L:13:THR:HB	1.90	0.54
1:X:2492:G:C2	1:X:2493:U:C2	2.96	0.54
1:X:2779:C:H2'	1:X:2780:A:N9	2.23	0.54
2:Y:27:A:H61	2:Y:55:C:C5'	2.21	0.54
3:A:131:LEU:N	3:A:131:LEU:HD23	2.23	0.54
4:B:92:ASN:HA	4:B:95:ILE:HB	1.90	0.54
4:B:152:LYS:H	9:G:106:TYR:HB3	1.73	0.54
4:B:169:ASN:OD1	4:B:204:ALA:HB2	2.07	0.54
5:C:67:ALA:O	5:C:68:ARG:HB3	2.08	0.54
5:C:139:GLN:CA	5:C:139:GLN:NE2	2.70	0.54
6:D:4:LEU:HD21	6:D:173:MET:CE	2.38	0.54
6:D:34:ILE:HA	6:D:155:THR:O	2.08	0.54
6:D:38:GLU:HG2	6:D:57:LEU:HD11	1.90	0.54
6:D:111:ILE:HG22	6:D:114:PHE:HB2	1.87	0.54
9:G:157:PRO:C	9:G:159:SER:H	2.10	0.54
10:H:7:ARG:NH1	10:H:20:MET:HE3	2.22	0.54
10:H:47:VAL:HG11	10:H:115:ALA:HB1	1.90	0.54
12:J:56:SER:O	12:J:57:ARG:C	2.46	0.54
14:L:90:ASP:CG	14:L:90:ASP:O	2.46	0.54
15:M:38:LYS:C	15:M:40:ARG:N	2.60	0.54
15:M:60:SER:HA	15:M:64:LYS:HD2	1.88	0.54
17:O:10:LYS:HD2	17:O:11:GLN:HE21	1.73	0.54
20:R:14:LEU:HG	20:R:41:PRO:HA	1.89	0.54
22:T:32:LYS:N	22:T:35:ASN:HD22	2.05	0.54
22:T:46:LYS:NZ	22:T:76:ALA:HB2	2.23	0.54
23:U:22:GLY:HA3	23:U:39:LYS:CE	2.38	0.54
23:U:54:ASN:CG	23:U:55:GLY:N	2.62	0.54
1:X:496:C:H2'	1:X:497:C:C5'	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:580:A:C8	1:X:584:A:N6	2.76	0.54
1:X:1003:C:O2'	17:O:71:ILE:HD11	2.07	0.54
1:X:1030:U:H4'	1:X:1132:C:O2	2.08	0.54
1:X:2071:G:C2'	1:X:2072:C:H5'	2.38	0.54
1:X:2494:C:N3	1:X:2549:G:C6	2.77	0.54
1:X:2532:G:C2	1:X:2562:G:H1'	2.43	0.54
5:C:146:GLU:HG3	5:C:185:ARG:NH2	2.19	0.54
6:D:33:LYS:H	6:D:157:VAL:HB	1.73	0.54
6:D:67:ILE:O	6:D:69:LYS:HG3	2.08	0.54
6:D:158:THR:C	6:D:160:ALA:H	2.09	0.54
7:E:54:ARG:HH11	7:E:62:ARG:CZ	2.20	0.54
13:K:10:LEU:HD23	13:K:17:ARG:CG	2.37	0.54
20:R:11:ASN:O	20:R:13:LYS:N	2.41	0.54
20:R:85:ASP:N	20:R:86:PRO:CD	2.71	0.54
21:S:34:LEU:C	21:S:34:LEU:HD12	2.28	0.54
21:S:92:VAL:HG23	21:S:93:GLU:H	1.73	0.54
1:X:38:G:N3	5:C:42:THR:HG22	2.22	0.53
1:X:348:U:H2'	1:X:349:G:O4'	2.09	0.53
1:X:632:A:H2'	1:X:633:G:H5'	1.90	0.53
1:X:759:C:O2'	18:P:111:ARG:NH1	2.41	0.53
1:X:805:G:N7	1:X:2419:C:H1'	2.23	0.53
1:X:954:U:OP2	11:I:38:LYS:CG	2.54	0.53
1:X:982:C:H2'	1:X:983:G:C5'	2.38	0.53
1:X:1022:A:O5'	16:N:77:SER:HB2	2.08	0.53
1:X:1623:C:N4	1:X:1637:U:H2'	2.23	0.53
1:X:1674:C:H2'	1:X:1675:C:H6	1.73	0.53
1:X:2264:C:H5'	1:X:2267:A:N6	2.23	0.53
1:X:2294:U:O2	6:D:125:ARG:NH1	2.41	0.53
1:X:2561:G:C8	1:X:2561:G:H5'	2.43	0.53
6:D:143:TYR:HA	6:D:146:VAL:HG21	1.89	0.53
7:E:117:PRO:HD3	7:E:123:PHE:CE1	2.43	0.53
7:E:127:GLU:O	7:E:129:THR:N	2.39	0.53
8:F:123:ALA:HA	8:F:126:THR:HB	1.90	0.53
12:J:66:TYR:O	12:J:106:GLU:CD	2.47	0.53
12:J:93:TYR:HD2	12:J:93:TYR:N	2.05	0.53
19:Q:91:LEU:HD22	19:Q:91:LEU:H	1.68	0.53
21:S:117:VAL:HG23	21:S:168:VAL:HG13	1.90	0.53
30:4:17:VAL:HG12	30:4:18:ARG:H	1.71	0.53
1:X:70:A:H5'	1:X:71:A:OP1	2.07	0.53
1:X:419:G:O2'	1:X:420:C:H5'	2.08	0.53
1:X:738:G:H8	1:X:738:G:O5'	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1504:G:H2'	1:X:1505:U:O2	2.08	0.53
1:X:1517:C:O2'	1:X:1518:C:H5'	2.08	0.53
1:X:1933:G:C8	1:X:1934:U:C5	2.95	0.53
1:X:2181:A:C2'	1:X:2182:A:H5'	2.38	0.53
1:X:2283:G:O3'	6:D:131:GLY:HA3	2.08	0.53
1:X:2340:C:H2'	1:X:2341:G:H5'	1.89	0.53
1:X:2452:U:O2	1:X:2452:U:H2'	2.07	0.53
1:X:2817:A:H2'	1:X:2818:G:O4'	2.09	0.53
3:A:46:ARG:CD	3:A:47:GLY:N	2.72	0.53
3:A:218:LYS:O	3:A:218:LYS:HD2	2.07	0.53
9:G:103:TYR:O	9:G:107:GLN:NE2	2.40	0.53
11:I:119:THR:HG23	11:I:139:ARG:HB3	1.91	0.53
12:J:100:PRO:HB3	21:S:74:ARG:HG2	1.89	0.53
16:N:88:ILE:HG23	17:O:49:GLU:CB	2.38	0.53
16:N:108:ALA:HB1	17:O:47:PHE:CE2	2.43	0.53
18:P:40:LEU:HD12	18:P:62:ARG:NH1	2.23	0.53
20:R:58:VAL:O	20:R:60:PRO:HD3	2.08	0.53
21:S:113:VAL:HG13	21:S:171:VAL:CG2	2.36	0.53
24:V:17:GLU:O	24:V:53:LEU:HD13	2.08	0.53
1:X:172:A:C8	1:X:174:A:OP2	2.61	0.53
1:X:197:G:N2	1:X:242:A:H62	2.07	0.53
1:X:310:A:O2'	1:X:311:A:H5'	2.07	0.53
1:X:646:C:O2'	1:X:650:U:OP1	2.15	0.53
1:X:1286:U:H4'	1:X:1288:A:OP2	2.08	0.53
1:X:1317:G:O2'	1:X:1318:A:H5'	2.08	0.53
1:X:1510:A:H2'	1:X:1511:A:C8	2.43	0.53
1:X:2005:U:H2'	1:X:2595:C:O2'	2.09	0.53
1:X:2058:U:H1'	1:X:2576:G:N2	2.23	0.53
1:X:2187:A:H2'	1:X:2188:A:C8	2.44	0.53
1:X:2199:C:O2	1:X:2199:C:H2'	2.06	0.53
2:Y:44:C:O2'	6:D:63:GLN:HG2	2.08	0.53
3:A:76:ASN:OD1	3:A:118:ASN:HB2	2.08	0.53
4:B:68:ALA:O	4:B:70:ALA:N	2.41	0.53
5:C:69:HIS:CD2	5:C:77:PHE:HZ	2.26	0.53
7:E:150:LYS:C	7:E:152:ARG:N	2.58	0.53
14:L:71:VAL:HA	14:L:74:ALA:HB3	1.91	0.53
17:O:14:VAL:O	17:O:15:SER:CB	2.53	0.53
21:S:18:MET:N	21:S:36:ARG:HB2	2.23	0.53
24:V:45:GLN:O	24:V:46:LEU:C	2.46	0.53
25:W:22:ALA:O	25:W:24:GLY:N	2.41	0.53
26:Z:45:ILE:HG21	26:Z:57:VAL:CG2	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:84:G:OP2	20:R:39:ALA:CB	2.51	0.53
1:X:174:A:C8	1:X:2409:A:C8	2.96	0.53
1:X:494:A:C8	20:R:56:LYS:HD2	2.43	0.53
1:X:618:A:C2	1:X:632:A:N7	2.76	0.53
1:X:1193:G:H2'	1:X:1194:U:C5'	2.32	0.53
1:X:1784:C:O2'	1:X:1785:A:H5'	2.09	0.53
1:X:2167:A:H2'	1:X:2168:A:H8	1.72	0.53
1:X:2289:A:H3'	1:X:2290:A:H8	1.72	0.53
6:D:75:SER:CB	6:D:79:LEU:HD13	2.34	0.53
7:E:136:ILE:N	7:E:136:ILE:CD1	2.70	0.53
10:H:78:SER:HA	10:H:91:PHE:O	2.08	0.53
15:M:13:LEU:HD12	15:M:13:LEU:N	2.24	0.53
15:M:34:ARG:NH2	15:M:91:VAL:HG21	2.21	0.53
15:M:103:LYS:HG3	15:M:105:TYR:CE2	2.43	0.53
20:R:85:ASP:N	20:R:90:LYS:HD3	2.24	0.53
22:T:46:LYS:NZ	22:T:76:ALA:CB	2.72	0.53
1:X:88:G:O5'	1:X:89:A:H5"	2.08	0.53
1:X:659:G:C6	1:X:660:G:C6	2.96	0.53
1:X:730:C:H5"	1:X:731:A:P	2.49	0.53
1:X:918:A:C2'	1:X:919:U:H5"	2.34	0.53
1:X:1188:A:HO2'	1:X:1189:G:P	2.31	0.53
1:X:1342:U:H5"	1:X:1343:C:H5	1.73	0.53
1:X:2357:A:H4'	14:L:26:ARG:HH12	1.68	0.53
1:X:2422:C:O2'	1:X:2423:G:H5'	2.08	0.53
2:Y:46:G:C2	2:Y:50:U:O2	2.62	0.53
3:A:121:PRO:HB2	3:A:135:PHE:HE1	1.74	0.53
4:B:9:ILE:HG22	15:M:13:LEU:HD11	1.90	0.53
5:C:22:VAL:HG22	5:C:106:MET:O	2.09	0.53
5:C:191:ALA:HA	5:C:194:GLU:HB3	1.91	0.53
6:D:91:LEU:HB3	6:D:96:MET:HA	1.89	0.53
8:F:98:LYS:HB2	8:F:137:THR:HG1	1.71	0.53
12:J:33:TYR:O	12:J:106:GLU:HA	2.07	0.53
12:J:93:TYR:CD2	12:J:93:TYR:N	2.76	0.53
16:N:74:MET:CE	16:N:79:PHE:HA	2.38	0.53
20:R:82:ALA:C	20:R:83:LEU:HG	2.27	0.53
25:W:45:LYS:HE3	25:W:45:LYS:CA	2.36	0.53
1:X:539:A:N3	1:X:540:G:O6	2.41	0.53
1:X:638:A:H4'	1:X:639:G:H5'	1.90	0.53
1:X:1004:A:O2'	1:X:1005:U:H5'	2.09	0.53
1:X:1218:C:O4'	11:I:13:ARG:NE	2.40	0.53
1:X:2184:C:H2'	1:X:2185:U:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2325:A:C2	1:X:2362:G:C6	2.97	0.53
1:X:2424:G:O2'	1:X:2425:G:H5'	2.08	0.53
1:X:2799:C:C4	1:X:2800:C:C4	2.97	0.53
3:A:245:VAL:CA	3:A:252:LYS:HE2	2.37	0.53
5:C:117:LEU:HD23	5:C:118:VAL:O	2.09	0.53
6:D:125:ARG:HH11	6:D:125:ARG:CG	2.22	0.53
6:D:148:LYS:CG	6:D:149:THR:H	2.19	0.53
7:E:95:ARG:CZ	7:E:97:LYS:HE2	2.39	0.53
8:F:90:THR:C	8:F:92:ASN:H	2.12	0.53
12:J:30:PHE:HB3	12:J:66:TYR:CE2	2.43	0.53
16:N:39:LEU:O	17:O:72:ARG:NH2	2.40	0.53
22:T:50:GLY:C	22:T:62:LEU:HD23	2.29	0.53
25:W:32:ARG:HG3	25:W:32:ARG:O	2.08	0.53
26:Z:52:TYR:O	26:Z:53:ASP:CB	2.56	0.53
1:X:548:G:C2	1:X:549:G:C8	2.97	0.53
1:X:868:U:H3	1:X:934:G:H1	1.56	0.53
1:X:1141:U:HO2'	1:X:1142:G:P	2.31	0.53
1:X:1268:U:C2'	5:C:66:ASN:HB3	2.36	0.53
1:X:1510:A:H2'	1:X:1511:A:H8	1.73	0.53
1:X:2169:A:H2'	1:X:2170:C:C6	2.44	0.53
1:X:2271:C:H2'	1:X:2272:A:H8	1.73	0.53
1:X:2775:U:H5'	1:X:2776:U:C5'	2.36	0.53
3:A:35:GLU:HG3	3:A:35:GLU:O	2.08	0.53
3:A:134:ARG:NE	3:A:135:PHE:CE2	2.77	0.53
4:B:25:VAL:HG13	4:B:183:LEU:CD2	2.39	0.53
7:E:17:VAL:HG12	7:E:18:ASN:H	1.74	0.53
12:J:39:GLU:HG2	12:J:40:PRO:HD2	1.90	0.53
14:L:26:ARG:HB3	14:L:88:VAL:CG2	2.39	0.53
21:S:113:VAL:CG2	21:S:171:VAL:HG13	2.36	0.53
1:X:313:U:O2'	1:X:314:G:H5'	2.08	0.53
1:X:544:U:H2'	1:X:545:C:C6	2.44	0.53
1:X:1141:U:C2	4:B:147:PRO:HG3	2.44	0.53
1:X:1484:G:N2	1:X:1540:C:H1'	2.23	0.53
1:X:2273:C:H5'	14:L:95:LYS:HD2	1.91	0.53
1:X:2585:C:O2'	1:X:2586:G:H5'	2.09	0.53
1:X:2796:A:H2'	1:X:2797:G:H8	1.74	0.53
2:Y:14:C:H4'	2:Y:17:A:N6	2.23	0.53
6:D:13:ARG:HH21	6:D:13:ARG:HG2	1.74	0.53
6:D:52:LYS:HG2	6:D:147:ASP:OD1	2.08	0.53
6:D:152:MET:HE3	6:D:154:ILE:HD11	1.88	0.53
10:H:7:ARG:HD3	10:H:18:GLU:CD	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:L:75:LEU:O	14:L:78:ALA:N	2.41	0.53
14:L:76:ALA:HB2	14:L:107:ALA:HA	1.91	0.53
15:M:103:LYS:O	15:M:104:LEU:HB2	2.09	0.53
16:N:75:ASN:OD1	16:N:78:THR:HB	2.08	0.53
22:T:59:LEU:HD12	22:T:79:ILE:HD12	1.91	0.53
22:T:71:ASN:HD22	22:T:77:ARG:HH11	1.55	0.53
1:X:357:A:C5	1:X:358:C:H1'	2.44	0.53
1:X:417:C:N3	1:X:419:G:C5	2.77	0.53
1:X:1002:C:O2	1:X:1175:A:C2	2.62	0.53
1:X:1008:G:H2'	1:X:1009:C:C6	2.43	0.53
1:X:1128:G:C3'	1:X:1129:A:C5'	2.75	0.53
1:X:1183:C:O2'	1:X:1184:G:H5'	2.09	0.53
1:X:1385:C:H1'	1:X:2192:U:C6	2.43	0.53
1:X:1722:G:O2'	1:X:1723:U:H5'	2.09	0.53
1:X:1810:U:OP2	3:A:157:ARG:HD3	2.09	0.53
1:X:2034:A:H2'	1:X:2593:A:N6	2.24	0.53
1:X:2273:C:O5'	14:L:11:LEU:HD21	2.09	0.53
1:X:2725:C:H2'	1:X:2726:U:H6	1.74	0.53
3:A:132:PRO:CA	3:A:190:TYR:HA	2.39	0.53
4:B:67:PHE:CZ	4:B:78:LEU:HD11	2.44	0.53
5:C:158:ARG:HD3	5:C:169:VAL:CG1	2.39	0.53
9:G:36:ASN:C	9:G:38:GLU:N	2.61	0.53
9:G:106:TYR:O	9:G:108:GLY:N	2.35	0.53
17:O:40:VAL:CG1	17:O:45:THR:HA	2.38	0.53
19:Q:62:ARG:HH12	19:Q:73:ASN:HD22	1.49	0.53
20:R:16:PHE:HZ	20:R:46:VAL:HG22	1.74	0.53
21:S:44:ARG:HD3	21:S:45:GLN:NE2	2.23	0.53
21:S:123:VAL:CA	21:S:161:ALA:HB2	2.39	0.53
1:X:417:C:C4	1:X:419:G:C4	2.97	0.53
1:X:437:G:O2'	1:X:438:G:H5'	2.08	0.53
1:X:773:G:H2'	1:X:774:A:H5'	1.90	0.53
1:X:864:C:O2'	25:W:42:GLY:HA3	2.07	0.53
1:X:1144:U:H2'	1:X:1147:G:OP1	2.09	0.53
1:X:1218:C:H1'	11:I:13:ARG:HE	1.74	0.53
1:X:1313:U:H1'	1:X:1642:G:N2	2.24	0.53
1:X:1514:C:H4'	1:X:1593:C:H5'	1.90	0.53
1:X:1536:G:H2'	1:X:1537:U:C6	2.44	0.53
1:X:1557:G:H2'	1:X:1558:C:H6	1.74	0.53
1:X:1574:A:O2'	1:X:1575:C:H3'	2.09	0.53
1:X:1656:U:C2'	1:X:1657:A:H5"	2.39	0.53
1:X:1722:G:C2'	1:X:1723:U:H5'	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1811:A:O2'	1:X:1812:U:OP2	2.26	0.53
1:X:2187:A:C6	1:X:2188:A:C6	2.97	0.53
2:Y:15:A:O2'	2:Y:17:A:H5"	2.09	0.53
5:C:112:GLN:CB	5:C:116:LYS:HD3	2.39	0.53
6:D:108:LEU:HD23	6:D:111:ILE:CD1	2.39	0.53
7:E:54:ARG:NH1	7:E:62:ARG:CZ	2.72	0.53
7:E:149:ARG:HD3	7:E:164:PHE:CE1	2.43	0.53
9:G:53:ARG:NH2	9:G:171:LEU:HB2	2.24	0.53
9:G:97:ASP:O	9:G:99:VAL:N	2.42	0.53
11:I:13:ARG:NH2	11:I:13:ARG:H	2.07	0.53
17:O:10:LYS:HG3	17:O:11:GLN:N	2.22	0.53
18:P:25:PHE:C	18:P:25:PHE:CD2	2.83	0.53
20:R:11:ASN:O	20:R:13:LYS:HG3	2.08	0.53
20:R:29:HIS:ND1	20:R:51:VAL:HG22	2.24	0.53
1:X:521:U:OP2	1:X:522:G:O6	2.27	0.52
1:X:664:C:C2'	1:X:665:A:C2	2.80	0.52
1:X:689:A:C2	1:X:815:A:N6	2.71	0.52
1:X:937:C:H2'	1:X:938:G:O4'	2.07	0.52
1:X:1775:A:H4'	1:X:1776:A:O5'	2.09	0.52
1:X:2321:C:O2'	1:X:2353:G:H5"	2.09	0.52
1:X:2642:G:H2'	1:X:2643:G:O5'	2.10	0.52
3:A:72:LYS:HE2	3:A:97:TYR:HD2	1.72	0.52
5:C:158:ARG:C	5:C:160:ALA:N	2.59	0.52
5:C:186:LEU:HD12	5:C:187:VAL:H	1.73	0.52
7:E:18:ASN:C	7:E:20:GLN:H	2.13	0.52
9:G:32:TYR:OH	9:G:35:LYS:NZ	2.41	0.52
10:H:28:GLY:O	10:H:35:THR:OG1	2.27	0.52
11:I:28:LYS:HZ2	11:I:36:GLY:HA2	1.69	0.52
14:L:79:ALA:O	14:L:82:LYS:N	2.42	0.52
21:S:120:LEU:HD21	21:S:162:ALA:CB	2.39	0.52
23:U:62:LEU:HD23	23:U:67:LEU:HB2	1.91	0.52
1:X:89:A:H8	1:X:89:A:OP1	1.91	0.52
1:X:163:A:H2'	1:X:164:G:H8	1.72	0.52
1:X:482:A:C2'	1:X:483:A:H5'	2.39	0.52
1:X:770:U:O2'	1:X:771:C:H5'	2.09	0.52
1:X:773:G:C2'	1:X:774:A:H5'	2.40	0.52
1:X:774:A:C8	1:X:774:A:C3'	2.91	0.52
1:X:1228:G:C6	1:X:1229:C:C4	2.97	0.52
1:X:1499:A:O2'	1:X:1500:U:H5'	2.09	0.52
1:X:2292:C:O2'	1:X:2293:G:H5'	2.08	0.52
1:X:2641:A:H2'	1:X:2642:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2699:G:O2'	1:X:2700:U:C5'	2.54	0.52
1:X:2805:G:N3	1:X:2858:A:H2	2.07	0.52
5:C:99:VAL:O	5:C:103:GLY:N	2.41	0.52
5:C:169:VAL:CG1	5:C:170:LEU:N	2.72	0.52
6:D:73:SER:O	6:D:80:ARG:O	2.28	0.52
7:E:7:GLN:O	7:E:51:LEU:HD13	2.09	0.52
7:E:18:ASN:O	7:E:20:GLN:N	2.38	0.52
10:H:46:HIS:O	10:H:47:VAL:C	2.47	0.52
15:M:34:ARG:NH1	15:M:66:PHE:HE2	2.06	0.52
16:N:17:VAL:HG13	16:N:39:LEU:HD12	1.90	0.52
18:P:79:ALA:HB1	18:P:85:MET:SD	2.50	0.52
24:V:41:HIS:CB	24:V:44:ARG:HH21	2.23	0.52
1:X:218:A:H5'	1:X:220:U:H1'	1.91	0.52
1:X:338:G:H4'	20:R:9:HIS:CD2	2.44	0.52
1:X:338:G:H4'	20:R:9:HIS:CG	2.45	0.52
1:X:428:A:C5	1:X:429:C:C4	2.98	0.52
1:X:815:A:H2'	1:X:816:U:C6	2.44	0.52
1:X:887:G:O2'	1:X:888:G:H5'	2.09	0.52
1:X:1261:G:O2'	1:X:1262:U:P	2.68	0.52
1:X:1471:G:O2'	1:X:1472:C:H5'	2.09	0.52
1:X:1586:A:H2'	1:X:1587:A:H8	1.75	0.52
1:X:1919:A:C6	1:X:1928:G:C4	2.97	0.52
1:X:2306:A:C5	1:X:2367:A:N1	2.78	0.52
3:A:218:LYS:HD2	3:A:219:PRO:O	2.09	0.52
4:B:181:LEU:CD1	15:M:16:ILE:HD11	2.40	0.52
9:G:33:ILE:CB	9:G:34:PRO:CD	2.69	0.52
14:L:106:ALA:O	14:L:109:GLU:HG2	2.08	0.52
15:M:103:LYS:O	15:M:104:LEU:CB	2.56	0.52
20:R:85:ASP:HB3	20:R:90:LYS:NZ	2.24	0.52
22:T:52:GLY:HA3	22:T:60:PHE:CE2	2.44	0.52
23:U:17:SER:OG	23:U:45:ASN:N	2.42	0.52
1:X:640:C:H4'	1:X:660:G:N2	2.23	0.52
1:X:648:A:H4'	1:X:649:G:C4'	2.40	0.52
1:X:1142:G:C4'	9:G:103:TYR:CE2	2.86	0.52
1:X:1154:A:O2'	1:X:1155:G:OP1	2.23	0.52
1:X:1374:G:O2'	1:X:1375:C:H5'	2.10	0.52
1:X:1391:A:O2'	1:X:1392:U:O5'	2.27	0.52
1:X:1469:U:O5'	1:X:1470:G:OP2	2.26	0.52
1:X:1795:C:OP1	3:A:257:LEU:HD22	2.09	0.52
1:X:1885:C:C4'	3:A:244:ARG:HD2	2.40	0.52
1:X:1917:C:H2'	1:X:1918:G:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2581:A:C3’	1:X:2582:G:H5”	2.21	0.52
1:X:2659:C:H5’	4:B:189:PRO:HA	1.90	0.52
1:X:2698:G:O2’	1:X:2699:G:H5’	2.09	0.52
2:Y:67:C:O2’	2:Y:68:A:H5’	2.10	0.52
4:B:93:VAL:O	4:B:93:VAL:HG13	2.10	0.52
6:D:125:ARG:HG3	6:D:125:ARG:HH11	1.74	0.52
7:E:109:TYR:HE1	7:E:152:ARG:CZ	2.22	0.52
10:H:116:ARG:HH21	15:M:40:ARG:HB2	1.73	0.52
11:I:18:ARG:CB	11:I:21:ARG:HB2	2.34	0.52
12:J:82:THR:O	12:J:83:ARG:CB	2.56	0.52
13:K:3:HIS:ND1	13:K:5:LYS:CG	2.71	0.52
15:M:65:SER:HB2	15:M:81:PHE:O	2.10	0.52
17:O:57:GLN:H	17:O:97:GLY:HA2	1.71	0.52
19:Q:33:ALA:O	19:Q:34:THR:C	2.48	0.52
21:S:71:MET:HB3	21:S:78:PRO:HA	1.89	0.52
21:S:100:THR:HG23	21:S:138:VAL:CG2	2.39	0.52
24:V:2:LYS:HA	24:V:6:MET:HE1	1.90	0.52
1:X:20:C:O2’	1:X:21:A:H5’	2.09	0.52
1:X:70:A:OP1	1:X:110:U:H2’	2.10	0.52
1:X:98:U:C4	1:X:100:G:C2	2.97	0.52
1:X:356:A:C2’	1:X:357:A:C8	2.92	0.52
1:X:739:G:O2’	1:X:740:A:P	2.67	0.52
1:X:1729:C:H2’	1:X:1730:G:C8	2.45	0.52
1:X:1746:A:C2’	1:X:1747:G:O5’	2.58	0.52
1:X:1827:G:H1’	1:X:1914:U:C2	2.45	0.52
1:X:2226:A:H2’	1:X:2227:C:C6	2.44	0.52
3:A:79:VAL:HB	3:A:114:GLY:H	1.73	0.52
4:B:141:ILE:HG22	4:B:150:VAL:HB	1.91	0.52
6:D:12:VAL:HG22	6:D:172:SER:OG	2.10	0.52
9:G:44:VAL:CG1	9:G:45:ASP:N	2.72	0.52
11:I:45:LYS:CD	11:I:46:GLY:H	2.23	0.52
12:J:128:ILE:CD1	12:J:130:THR:HG23	2.39	0.52
16:N:60:LEU:HD13	16:N:60:LEU:O	2.09	0.52
19:Q:10:PRO:HD3	24:V:30:PHE:CD2	2.43	0.52
20:R:22:VAL:HG11	20:R:80:LYS:NZ	2.25	0.52
24:V:7:ARG:HD2	24:V:8:ASN:H	1.71	0.52
1:X:78:C:O2	1:X:357:A:H2	1.92	0.52
1:X:105:G:H5’	1:X:105:G:C8	2.44	0.52
1:X:242:A:N6	1:X:441:A:C8	2.78	0.52
1:X:537:C:O2’	1:X:538:A:OP2	2.27	0.52
1:X:704:G:H2’	1:X:705:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:871:U:OP1	22:T:44:LYS:CE	2.57	0.52
1:X:1044:U:H4'	1:X:1045:G:OP1	2.08	0.52
1:X:1075:C:O2'	8:F:89:SER:CB	2.57	0.52
1:X:2357:A:H61	14:L:18:ARG:NH1	2.07	0.52
1:X:2787:A:H2'	1:X:2788:C:H6	1.74	0.52
2:Y:18:G:O2'	2:Y:19:C:H5'	2.09	0.52
2:Y:45:C:H5'	2:Y:46:G:OP1	2.10	0.52
5:C:7:ILE:HB	5:C:120:VAL:H	1.75	0.52
5:C:188:ILE:HG21	5:C:194:GLU:CD	2.30	0.52
6:D:94:GLU:O	6:D:98:VAL:HG23	2.10	0.52
7:E:54:ARG:NE	7:E:62:ARG:HG2	2.25	0.52
7:E:156:ALA:C	7:E:157:TYR:CD1	2.83	0.52
9:G:106:TYR:O	9:G:110:LEU:HG	2.09	0.52
14:L:72:GLY:HA3	14:L:103:LEU:HA	1.91	0.52
14:L:87:VAL:CG1	14:L:88:VAL:N	2.72	0.52
17:O:39:PHE:CE1	17:O:46:VAL:HB	2.44	0.52
20:R:112:LYS:N	20:R:112:LYS:HD2	2.24	0.52
1:X:150:A:H2'	1:X:151:G:O4'	2.09	0.52
1:X:155:G:O2'	1:X:156:G:H5'	2.09	0.52
1:X:173:A:H61	1:X:844:G:H21	1.56	0.52
1:X:219:G:O2'	1:X:220:U:OP2	2.26	0.52
1:X:313:U:H2'	1:X:314:G:C8	2.43	0.52
1:X:497:C:C6	1:X:497:C:H3'	2.44	0.52
1:X:717:G:C2'	1:X:739:G:N2	2.72	0.52
1:X:1142:G:C1'	9:G:103:TYR:HD2	2.23	0.52
1:X:1278:A:O2'	1:X:1279:G:O5'	2.20	0.52
1:X:1375:C:C4	1:X:1376:C:C5	2.97	0.52
1:X:1437:A:H2'	1:X:1438:G:H8	1.75	0.52
1:X:1782:A:H61	1:X:1820:G:H2'	1.73	0.52
1:X:2181:A:H2'	1:X:2182:A:H5'	1.92	0.52
1:X:2570:C:OP1	3:A:239:ARG:HD3	2.10	0.52
1:X:2692:A:H5'	1:X:2693:U:OP2	2.10	0.52
3:A:86:PRO:O	3:A:87:ASN:HB2	2.09	0.52
3:A:164:GLN:OE1	3:A:164:GLN:O	2.27	0.52
4:B:75:THR:HG23	4:B:76:ARG:H	1.75	0.52
6:D:138:PHE:HZ	6:D:152:MET:SD	2.33	0.52
11:I:54:SER:OG	11:I:59:ARG:NH1	2.43	0.52
12:J:66:TYR:HB2	12:J:106:GLU:OE1	2.09	0.52
16:N:66:ASN:ND2	16:N:70:ARG:NH2	2.57	0.52
21:S:137:ASP:CG	21:S:140:LYS:HE2	2.30	0.52
1:X:216:U:OP1	1:X:601:A:C8	2.62	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:612:G:H2'	1:X:668:A:H61	1.75	0.52
1:X:939:C:C5'	1:X:940:G:O5'	2.55	0.52
1:X:946:U:H2'	1:X:947:C:C6	2.44	0.52
1:X:1091:C:C1'	8:F:126:THR:HA	2.34	0.52
1:X:1322:G:O2'	1:X:1323:G:H5'	2.09	0.52
1:X:1634:A:O2'	1:X:1635:G:H5'	2.09	0.52
1:X:2284:U:C2'	1:X:2285:U:H5"	2.40	0.52
4:B:11:MET:HA	4:B:23:VAL:O	2.10	0.52
6:D:16:LEU:HD12	6:D:28:VAL:HG11	1.92	0.52
6:D:35:VAL:O	6:D:154:ILE:HG23	2.10	0.52
7:E:83:TYR:OH	7:E:138:LYS:HD2	2.10	0.52
8:F:117:ALA:HB1	8:F:122:ALA:CB	2.34	0.52
12:J:119:PHE:O	12:J:120:ARG:C	2.47	0.52
15:M:99:VAL:C	15:M:100:ARG:HG2	2.29	0.52
16:N:91:ASN:O	16:N:93:LYS:N	2.38	0.52
19:Q:82:LEU:HD11	19:Q:88:ILE:CG2	2.40	0.52
20:R:59:LYS:HB3	20:R:62:MET:HB2	1.90	0.52
24:V:20:ALA:O	24:V:23:LYS:HB3	2.10	0.52
30:4:22:ARG:HH11	30:4:22:ARG:CG	2.18	0.52
1:X:34:U:O2'	20:R:4:PRO:N	2.36	0.52
1:X:84:G:H5'	20:R:39:ALA:O	2.10	0.52
1:X:589:C:H4'	16:N:31:GLN:NE2	2.25	0.52
1:X:617:U:C5	1:X:632:A:N1	2.78	0.52
1:X:726:G:H2'	1:X:727:U:C6	2.45	0.52
1:X:868:U:H2'	1:X:869:C:C6	2.45	0.52
1:X:1016:C:C5	1:X:1154:A:H1'	2.45	0.52
1:X:1186:G:H2'	1:X:1187:A:C2	2.40	0.52
1:X:1536:G:H2'	1:X:1537:U:H6	1.74	0.52
1:X:2289:A:H3'	1:X:2290:A:C8	2.44	0.52
5:C:124:ASP:O	5:C:132:ASN:ND2	2.43	0.52
5:C:136:TRP:CG	5:C:140:ASN:ND2	2.78	0.52
6:D:52:LYS:HG3	6:D:147:ASP:HB2	1.92	0.52
11:I:134:GLU:HG2	11:I:138:GLY:O	2.10	0.52
16:N:43:ALA:HB3	17:O:74:TYR:HB3	1.91	0.52
17:O:61:VAL:HB	17:O:92:ALA:HB3	1.92	0.52
21:S:60:GLU:O	21:S:61:THR:C	2.47	0.52
25:W:16:GLN:OE1	25:W:49:HIS:CE1	2.63	0.52
1:X:165:G:H1'	1:X:1378:A:C6	2.44	0.52
1:X:493:A:OP2	1:X:517:A:N6	2.39	0.52
1:X:505:G:N3	18:P:82:ASN:ND2	2.55	0.52
1:X:653:G:C3'	1:X:654:A:H5"	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:810:U:H2'	1:X:811:G:O4'	2.09	0.52
1:X:863:C:H2'	1:X:864:C:C6	2.44	0.52
1:X:864:C:O2'	1:X:865:A:H5'	2.10	0.52
1:X:1069:G:C3'	1:X:1070:G:H5"	2.40	0.52
1:X:1078:A:OP1	1:X:1078:A:H3'	2.10	0.52
1:X:1123:G:C6	1:X:1124:U:C4	2.98	0.52
1:X:1142:G:H8	1:X:2008:C:H4'	1.74	0.52
1:X:1149:G:O2'	1:X:1150:C:H5'	2.09	0.52
1:X:1499:A:H2'	1:X:1500:U:O4'	2.09	0.52
1:X:1789:U:H4'	1:X:1794:A:O4'	2.10	0.52
1:X:1812:U:C4	3:A:160:GLY:O	2.63	0.52
1:X:1939:U:H1'	1:X:2531:U:OP1	2.10	0.52
1:X:2364:C:H2'	1:X:2365:U:C6	2.45	0.52
1:X:2372:A:H5'	11:I:59:ARG:O	2.10	0.52
1:X:2769:C:C2'	1:X:2770:A:H8	2.10	0.52
2:Y:2:C:H3'	2:Y:2:C:H6	1.74	0.52
3:A:181:GLU:O	3:A:182:LEU:HD23	2.10	0.52
3:A:183:ARG:HD3	3:A:267:ASP:OD2	2.10	0.52
5:C:104:LEU:O	5:C:105:ALA:C	2.47	0.52
9:G:69:ASP:C	9:G:70:PHE:CD2	2.84	0.52
11:I:73:GLU:HB2	11:I:106:VAL:HA	1.91	0.52
12:J:30:PHE:HB3	12:J:66:TYR:CD2	2.44	0.52
15:M:39:VAL:CG1	15:M:45:THR:HG23	2.40	0.52
18:P:36:ARG:NE	26:Z:20:ARG:NH1	2.57	0.52
20:R:23:ILE:H	20:R:23:ILE:CD1	2.07	0.52
20:R:85:ASP:HB3	20:R:90:LYS:HZ2	1.74	0.52
23:U:14:VAL:CB	23:U:47:HIS:NE2	2.68	0.52
24:V:52:GLN:C	24:V:54:ASN:H	2.12	0.52
1:X:361:G:H8	1:X:361:G:O5'	1.93	0.51
1:X:742:G:O6	3:A:208:LYS:HB3	2.10	0.51
1:X:844:G:H5"	11:I:41:SER:HB2	1.92	0.51
1:X:973:U:H2'	1:X:974:U:C6	2.44	0.51
1:X:1505:U:O2	1:X:1506:C:C5	2.63	0.51
1:X:1522:C:H2'	1:X:1523:A:C5'	2.40	0.51
1:X:1978:U:H3'	1:X:1979:C:C5'	2.28	0.51
1:X:2075:U:O2	1:X:2075:U:H2'	2.10	0.51
1:X:2293:G:H2'	1:X:2294:U:H6	1.75	0.51
2:Y:9:G:H5'	14:L:32:TYR:CD2	2.45	0.51
3:A:72:LYS:HG2	3:A:103:ARG:NH1	2.24	0.51
5:C:4:ILE:HB	5:C:10:ASN:OD1	2.10	0.51
5:C:109:ALA:O	5:C:112:GLN:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:88:PHE:HB3	11:I:93:LEU:HD12	1.90	0.51
12:J:78:LYS:C	12:J:80:ALA:H	2.12	0.51
14:L:40:ALA:CB	14:L:75:LEU:HD22	2.38	0.51
14:L:42:ILE:O	14:L:50:THR:HG23	2.10	0.51
15:M:14:ARG:HH22	15:M:18:GLN:NE2	2.08	0.51
16:N:68:GLY:HA2	16:N:71:LEU:HB2	1.91	0.51
16:N:74:MET:HE1	16:N:79:PHE:HA	1.92	0.51
20:R:105:ARG:HH12	20:R:112:LYS:CA	2.23	0.51
21:S:120:LEU:CD2	21:S:121:GLN:N	2.74	0.51
1:X:136:A:C5	1:X:137:A:C4	2.94	0.51
1:X:147:G:O2'	1:X:149:A:N6	2.43	0.51
1:X:537:C:H1'	1:X:538:A:N1	2.21	0.51
1:X:732:G:H8	1:X:732:G:P	2.34	0.51
1:X:1061:A:N1	1:X:2731:G:C6	2.78	0.51
1:X:1549:C:H2'	1:X:1550:C:C6	2.45	0.51
1:X:1811:A:H5'	3:A:158:SER:OG	2.10	0.51
1:X:2404:A:H4'	1:X:2405:A:H5'	1.84	0.51
1:X:2404:A:H1'	1:X:2406:C:C5	2.44	0.51
3:A:68:LYS:HD3	3:A:68:LYS:N	2.25	0.51
4:B:38:THR:H	4:B:41:THR:HG1	1.57	0.51
6:D:52:LYS:NZ	6:D:149:THR:HA	2.25	0.51
14:L:66:ASP:C	14:L:68:ALA:N	2.63	0.51
19:Q:11:VAL:N	19:Q:27:PHE:HA	2.22	0.51
19:Q:43:GLN:O	19:Q:47:GLY:N	2.43	0.51
19:Q:51:ILE:HD11	19:Q:83:ALA:CA	2.19	0.51
19:Q:89:GLU:OE1	19:Q:91:LEU:HD23	2.11	0.51
20:R:25:LEU:CD2	20:R:26:SER:HB3	2.39	0.51
1:X:332:C:H1'	5:C:159:ARG:HE	1.75	0.51
1:X:650:U:H2'	1:X:651:C:C6	2.45	0.51
1:X:689:A:H8	1:X:2052:G:N2	2.02	0.51
1:X:1075:C:H5'	8:F:87:GLY:CA	2.30	0.51
1:X:1441:A:C1'	1:X:1442:C:C5	2.89	0.51
1:X:1455:C:O2'	1:X:1456:C:H5'	2.11	0.51
1:X:1811:A:H4'	1:X:1812:U:C5'	2.40	0.51
1:X:2661:G:C8	4:B:11:MET:HE2	2.46	0.51
1:X:2779:C:C6	1:X:2779:C:C3'	2.91	0.51
1:X:2833:C:H6	1:X:2833:C:O5'	1.93	0.51
2:Y:59:A:N1	6:D:26:MET:HB3	2.25	0.51
3:A:252:LYS:N	3:A:253:PRO:CD	2.74	0.51
4:B:152:LYS:H	9:G:106:TYR:CB	2.24	0.51
5:C:7:ILE:HB	5:C:120:VAL:N	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:108:LEU:HD13	6:D:176:PRO:HG3	1.93	0.51
7:E:96:ALA:HB1	7:E:103:LEU:HD11	1.91	0.51
14:L:20:THR:CG2	14:L:23:ALA:HB3	2.39	0.51
21:S:98:VAL:HG11	21:S:168:VAL:CG1	2.40	0.51
21:S:172:LEU:HD22	21:S:173:PRO:HD2	1.93	0.51
22:T:37:LEU:O	22:T:38:VAL:CG2	2.59	0.51
1:X:27:G:HO2'	1:X:28:A:H8	1.57	0.51
1:X:33:C:O2'	1:X:34:U:O4'	2.28	0.51
1:X:328:A:H2'	1:X:329:C:H6	1.74	0.51
1:X:873:U:C5	1:X:2247:A:C8	2.99	0.51
1:X:971:A:C4'	1:X:2436:U:H4'	2.41	0.51
1:X:1151:U:H5"	1:X:1153:A:H5"	1.92	0.51
1:X:1234:C:O2'	1:X:1235:C:H5'	2.10	0.51
1:X:1356:G:H1'	1:X:1613:G:C2	2.46	0.51
1:X:1674:C:H2'	1:X:1675:C:C6	2.45	0.51
1:X:1711:C:H5"	1:X:1712:G:OP1	2.10	0.51
1:X:2043:A:H1'	1:X:2481:G:O4'	2.10	0.51
1:X:2588:U:H5'	1:X:2589:C:OP2	2.11	0.51
1:X:2677:U:H2'	1:X:2678:C:C6	2.45	0.51
1:X:2736:U:O5'	30:4:19:ARG:HG2	2.10	0.51
6:D:169:LEU:O	6:D:170:LEU:C	2.49	0.51
7:E:94:PHE:CD2	7:E:107:ILE:HG22	2.44	0.51
9:G:44:VAL:CG1	9:G:45:ASP:H	2.21	0.51
9:G:103:TYR:CZ	9:G:111:LYS:CB	2.93	0.51
15:M:8:ASN:C	15:M:10:GLY:N	2.63	0.51
16:N:13:ARG:HH21	16:N:13:ARG:CG	2.21	0.51
16:N:66:ASN:CB	16:N:76:TYR:H	2.23	0.51
18:P:66:GLU:O	18:P:69:ALA:N	2.42	0.51
19:Q:63:LYS:HG3	19:Q:64:ARG:N	2.26	0.51
21:S:70:GLN:HA	21:S:70:GLN:NE2	2.26	0.51
21:S:138:VAL:O	21:S:141:MET:HB2	2.11	0.51
22:T:42:GLY:O	22:T:57:HIS:CD2	2.64	0.51
25:W:4:LYS:HG2	25:W:52:GLU:HB3	1.88	0.51
1:X:98:U:C2	1:X:100:G:C6	2.98	0.51
1:X:124:A:H2'	1:X:125:A:C8	2.46	0.51
1:X:404:A:C6	1:X:405:C:N3	2.78	0.51
1:X:492:G:O2'	1:X:517:A:N6	2.43	0.51
1:X:972:C:C4'	1:X:973:U:OP2	2.58	0.51
1:X:1053:G:C2'	1:X:1054:C:O4'	2.59	0.51
1:X:1354:A:H2'	1:X:1410:U:O2'	2.11	0.51
1:X:1550:C:H2'	1:X:1553:G:H21	1.64	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1552:C:O2'	1:X:1553:G:O5'	2.28	0.51
1:X:1781:C:OP1	3:A:219:PRO:HB2	2.10	0.51
1:X:1811:A:O2'	1:X:1812:U:P	2.69	0.51
1:X:2272:A:P	14:L:15:ARG:NH2	2.84	0.51
1:X:2311:U:C4'	1:X:2315:A:N6	2.73	0.51
2:Y:10:U:O3'	14:L:28:ARG:NH2	2.34	0.51
2:Y:44:C:H42	6:D:88:LYS:HZ1	1.58	0.51
4:B:88:GLY:O	4:B:89:ASP:OD1	2.29	0.51
5:C:75:PRO:HG3	5:C:83:ALA:HB2	1.91	0.51
6:D:8:TYR:O	6:D:12:VAL:HG23	2.11	0.51
6:D:122:PHE:HD2	6:D:129:ASN:H	1.58	0.51
9:G:156:HIS:N	9:G:157:PRO:CD	2.73	0.51
11:I:45:LYS:CD	11:I:46:GLY:N	2.71	0.51
12:J:106:GLU:N	12:J:106:GLU:OE1	2.44	0.51
14:L:81:GLU:C	14:L:82:LYS:HG2	2.29	0.51
16:N:32:TYR:O	16:N:33:ARG:C	2.49	0.51
16:N:76:TYR:O	16:N:80:ILE:HG12	2.10	0.51
17:O:36:LYS:NZ	17:O:55:THR:N	2.58	0.51
23:U:13:LEU:C	23:U:14:VAL:HG22	2.30	0.51
1:X:83:A:H2	1:X:97:U:O2	1.94	0.51
1:X:135:U:H3'	1:X:136:A:C8	2.42	0.51
1:X:197:G:H22	1:X:242:A:H62	1.57	0.51
1:X:636:G:H2'	1:X:637:G:H5'	1.93	0.51
1:X:663:G:H2'	1:X:664:C:C5'	2.40	0.51
1:X:757:U:H2'	1:X:758:G:C5'	2.40	0.51
1:X:1075:C:H4'	8:F:88:SER:H	1.72	0.51
1:X:1313:U:O2'	1:X:1314:A:OP2	2.29	0.51
1:X:1407:G:C6	1:X:1408:A:C6	2.98	0.51
1:X:1630:A:C2	18:P:114:ALA:HB2	2.45	0.51
1:X:1716:G:O3'	1:X:1717:A:H4'	2.11	0.51
1:X:1911:A:H2'	1:X:1912:G:H1'	1.92	0.51
1:X:2186:G:O3'	3:A:151:LYS:HD3	2.10	0.51
1:X:2357:A:N6	14:L:18:ARG:CZ	2.72	0.51
3:A:252:LYS:N	3:A:253:PRO:HD2	2.25	0.51
5:C:112:GLN:HA	5:C:116:LYS:CB	2.41	0.51
6:D:35:VAL:CG2	6:D:155:THR:HB	2.32	0.51
6:D:65:PRO:HB2	6:D:87:ILE:HG22	1.91	0.51
6:D:175:LEU:CD2	6:D:177:PHE:HE1	2.24	0.51
9:G:106:TYR:O	9:G:110:LEU:CG	2.59	0.51
11:I:11:GLY:O	11:I:13:ARG:N	2.43	0.51
11:I:105:PRO:O	11:I:106:VAL:CG2	2.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:40:PRO:HG3	12:J:99:LYS:HZ1	1.75	0.51
14:L:67:THR:O	14:L:70:ALA:HB3	2.11	0.51
14:L:75:LEU:O	14:L:76:ALA:C	2.48	0.51
14:L:104:ALA:O	14:L:105:ASP:C	2.47	0.51
15:M:44:ARG:HD2	15:M:46:ARG:NH2	2.26	0.51
19:Q:61:LYS:HB2	19:Q:72:ARG:HD3	1.91	0.51
20:R:110:SER:OG	20:R:112:LYS:HE3	2.10	0.51
23:U:11:LYS:HZ3	23:U:75:TYR:HB2	1.74	0.51
26:Z:51:TYR:HE1	26:Z:55:ARG:HD3	1.75	0.51
1:X:488:A:C6	1:X:489:A:C6	2.99	0.51
1:X:2411:A:H4'	23:U:25:ARG:HH12	1.76	0.51
1:X:2496:C:O2'	1:X:2497:A:O5'	2.28	0.51
1:X:2613:A:H2'	1:X:2614:A:H8	1.75	0.51
1:X:2620:G:OP1	9:G:104:THR:HG22	2.11	0.51
5:C:129:LYS:C	5:C:131:LYS:N	2.64	0.51
5:C:175:VAL:O	5:C:176:ASN:HB2	2.11	0.51
9:G:108:GLY:N	9:G:110:LEU:HG	2.26	0.51
9:G:159:SER:O	9:G:161:GLN:N	2.39	0.51
11:I:71:THR:O	11:I:104:ARG:HD3	2.10	0.51
12:J:19:THR:HG21	12:J:99:LYS:HZ2	1.76	0.51
15:M:39:VAL:HG12	15:M:45:THR:HG23	1.93	0.51
16:N:87:ASN:O	16:N:88:ILE:C	2.48	0.51
17:O:35:LEU:O	17:O:36:LYS:CB	2.58	0.51
18:P:62:ARG:HH11	18:P:62:ARG:HG3	1.75	0.51
19:Q:35:LYS:O	19:Q:38:ILE:HG23	2.11	0.51
30:4:29:ASN:ND2	30:4:31:LYS:HD3	2.19	0.51
1:X:485:G:C6	1:X:520:C:N4	2.79	0.51
1:X:1733:U:O4'	1:X:1733:U:OP1	2.29	0.51
1:X:2598:C:H1'	4:B:154:LYS:HE2	1.93	0.51
2:Y:2:C:H3'	2:Y:2:C:C6	2.46	0.51
2:Y:35:C:O2'	2:Y:36:A:H5'	2.10	0.51
5:C:45:THR:C	5:C:47:THR:H	2.12	0.51
5:C:74:VAL:O	5:C:76:THR:N	2.44	0.51
11:I:122:VAL:HG21	11:I:125:ALA:HB2	1.93	0.51
14:L:10:LYS:HB3	14:L:14:ARG:HE	1.75	0.51
14:L:99:ARG:O	14:L:102:ALA:HB3	2.11	0.51
15:M:99:VAL:CG2	15:M:100:ARG:N	2.49	0.51
18:P:85:MET:HE2	18:P:130:GLU:HG3	1.93	0.51
19:Q:63:LYS:HD3	19:Q:69:ILE:O	2.11	0.51
20:R:5:SER:O	20:R:6:ALA:HB3	2.11	0.51
20:R:25:LEU:O	20:R:79:SER:O	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:37:LEU:C	22:T:38:VAL:HG23	2.31	0.51
22:T:44:LYS:HG2	22:T:45:PHE:CE1	2.46	0.51
1:X:649:G:C2	1:X:661:C:C2	2.99	0.51
1:X:717:G:HO2'	1:X:718:A:P	2.33	0.51
1:X:1093:U:H2'	1:X:1094:C:O4'	2.11	0.51
1:X:1355:A:O2'	1:X:1357:U:OP2	2.23	0.51
1:X:1391:A:O2'	1:X:1392:U:H3'	2.11	0.51
1:X:1561:A:H3'	1:X:1562:G:C8	2.46	0.51
1:X:1909:U:C5	1:X:1911:A:N6	2.76	0.51
1:X:2053:G:C2	1:X:2054:A:C4	2.99	0.51
1:X:2311:U:H5'	1:X:2315:A:H61	1.75	0.51
1:X:2395:C:OP2	11:I:63:ARG:NH1	2.44	0.51
1:X:2855:C:O2	13:K:93:GLY:HA3	2.11	0.51
4:B:67:PHE:CE1	4:B:78:LEU:HD21	2.45	0.51
6:D:134:GLU:CG	6:D:136:LEU:HB2	2.40	0.51
7:E:89:LEU:HD11	7:E:96:ALA:HB2	1.92	0.51
14:L:36:LYS:HD2	14:L:36:LYS:N	2.26	0.51
15:M:37:THR:CG2	15:M:39:VAL:H	2.24	0.51
21:S:72:ASP:OD1	21:S:75:LYS:HD2	2.10	0.51
23:U:41:VAL:O	23:U:42:GLN:CB	2.57	0.51
25:W:37:THR:O	25:W:41:ARG:HG3	2.11	0.51
1:X:209:G:N2	1:X:433:G:OP1	2.44	0.51
1:X:230:C:C2'	1:X:231:G:H5'	2.41	0.51
1:X:244:C:C3'	1:X:245:C:H5"	2.41	0.51
1:X:496:C:C2'	1:X:497:C:H5"	2.41	0.51
1:X:890:U:O5'	1:X:890:U:H6	1.94	0.51
1:X:2038:C:H2'	1:X:2483:U:C4'	2.41	0.51
1:X:2204:A:O2'	1:X:2205:C:OP2	2.22	0.51
1:X:2494:C:O2'	1:X:2495:G:H5'	2.11	0.51
1:X:2713:A:N1	4:B:203:LYS:HG2	2.26	0.51
1:X:2725:C:O2'	7:E:143:GLN:HG3	2.11	0.51
1:X:2766:U:O2'	4:B:65:GLY:HA3	2.11	0.51
7:E:164:PHE:O	7:E:167:GLU:N	2.44	0.51
9:G:33:ILE:O	9:G:69:ASP:CG	2.49	0.51
12:J:15:ARG:HD3	12:J:73:LYS:HG3	1.93	0.51
14:L:87:VAL:CG1	14:L:88:VAL:H	2.23	0.51
16:N:99:ALA:HB2	16:N:106:PHE:CD1	2.46	0.51
17:O:36:LYS:HZ1	17:O:98:ILE:HB	1.75	0.51
19:Q:62:ARG:O	19:Q:70:GLY:HA3	2.11	0.51
21:S:43:PHE:CE1	21:S:47:SER:HA	2.46	0.51
21:S:94:VAL:HG23	21:S:125:PRO:CG	2.39	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:14:VAL:HB	23:U:47:HIS:CE1	2.44	0.51
24:V:39:GLN:HB3	24:V:42:ARG:HB2	1.93	0.51
1:X:682:G:H5"	1:X:683:A:OP2	2.11	0.50
1:X:765:C:O2'	1:X:766:A:OP2	2.25	0.50
1:X:826:U:C2	1:X:827:C:C5	2.98	0.50
1:X:964:A:OP1	12:J:18:MET:SD	2.69	0.50
1:X:1188:A:N6	1:X:1189:G:C2	2.79	0.50
1:X:1337:G:OP2	18:P:105:ARG:NH2	2.44	0.50
1:X:1435:G:O2'	1:X:1436:G:H5'	2.11	0.50
1:X:1766:U:H2'	1:X:1767:G:H5'	1.92	0.50
1:X:1935:A:C6	1:X:1936:A:N1	2.79	0.50
1:X:2275:U:C4'	1:X:2276:C:OP1	2.55	0.50
1:X:2639:A:H2'	1:X:2640:G:O4'	2.11	0.50
5:C:9:GLN:HG3	5:C:10:ASN:N	2.26	0.50
7:E:57:ASP:O	7:E:58:ALA:CB	2.58	0.50
9:G:68:PRO:O	9:G:70:PHE:CE2	2.64	0.50
9:G:105:GLY:CA	9:G:110:LEU:HD12	2.40	0.50
11:I:94:GLU:CA	11:I:97:ARG:HE	2.24	0.50
15:M:104:LEU:O	15:M:106:TYR:N	2.44	0.50
16:N:93:LYS:HZ2	17:O:10:LYS:HZ3	1.57	0.50
19:Q:39:LYS:O	19:Q:43:GLN:HG3	2.11	0.50
19:Q:69:ILE:HD12	19:Q:70:GLY:N	2.25	0.50
21:S:71:MET:H	21:S:71:MET:HE2	1.76	0.50
23:U:27:ASP:H	23:U:32:ARG:HH21	1.59	0.50
24:V:21:ARG:C	24:V:23:LYS:H	2.14	0.50
26:Z:19:ARG:O	26:Z:21:SER:N	2.44	0.50
1:X:70:A:H1'	1:X:72:A:N7	2.26	0.50
1:X:83:A:OP2	20:R:17:LYS:HE2	2.10	0.50
1:X:207:U:N3	1:X:208:C:C4	2.79	0.50
1:X:322:A:C2	1:X:342:G:H3'	2.46	0.50
1:X:623:G:C2'	1:X:624:A:H5"	2.41	0.50
1:X:717:G:O2'	1:X:718:A:P	2.68	0.50
1:X:940:G:N2	25:W:43:MET:SD	2.85	0.50
1:X:1105:U:C2	1:X:1107:A:H5"	2.47	0.50
1:X:1265:G:O4'	16:N:33:ARG:HD2	2.11	0.50
1:X:1320:A:H2'	1:X:1321:A:O4'	2.11	0.50
1:X:1325:U:O2'	1:X:1327:C:C4	2.63	0.50
1:X:1974:U:H2'	1:X:1975:G:H5"	1.93	0.50
1:X:2175:A:O2'	1:X:2176:U:H5'	2.11	0.50
1:X:2230:G:OP1	12:J:84:MET:SD	2.70	0.50
1:X:2301:A:C4	1:X:2302:G:C8	2.99	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2311:U:C5'	1:X:2315:A:N6	2.73	0.50
4:B:72:VAL:CG1	4:B:73:ALA:N	2.73	0.50
4:B:154:LYS:NZ	4:B:156:MET:HE1	2.23	0.50
5:C:3:GLN:NE2	5:C:4:ILE:N	2.59	0.50
6:D:42:SER:O	6:D:78:LYS:HD3	2.10	0.50
8:F:84:ILE:HG22	8:F:85:GLY:H	1.76	0.50
10:H:70:VAL:HG13	10:H:71:LYS:N	2.27	0.50
10:H:121:ARG:O	10:H:122:ARG:HB2	2.11	0.50
11:I:53:ARG:HH21	11:I:53:ARG:CG	2.21	0.50
12:J:44:LYS:CB	12:J:47:GLN:HG3	2.32	0.50
14:L:97:HIS:O	14:L:101:LYS:HB2	2.11	0.50
17:O:72:ARG:HA	17:O:82:ARG:O	2.11	0.50
19:Q:82:LEU:HD23	19:Q:82:LEU:N	2.26	0.50
21:S:63:PRO:O	21:S:86:VAL:N	2.43	0.50
23:U:53:GLU:OE2	23:U:57:VAL:HA	2.11	0.50
24:V:41:HIS:HB3	24:V:44:ARG:HH21	1.77	0.50
1:X:596:C:H5'	5:C:84:PHE:HE1	1.76	0.50
1:X:692:C:O2	1:X:693:A:C8	2.64	0.50
1:X:719:A:H2'	1:X:720:A:O4'	2.10	0.50
1:X:1031:C:HO2'	1:X:1032:A:P	2.35	0.50
1:X:1125:G:H2'	1:X:1126:A:C8	2.40	0.50
1:X:1142:G:OP1	9:G:107:GLN:O	2.29	0.50
1:X:1249:G:O2'	1:X:1250:A:P	2.70	0.50
1:X:1997:A:C2	1:X:1998:A:C2	2.99	0.50
1:X:2027:C:C2	1:X:2604:G:N2	2.79	0.50
1:X:2048:C:H2'	1:X:2049:C:H6	1.77	0.50
1:X:2382:C:O2	1:X:2382:C:H2'	2.11	0.50
1:X:2395:C:C2'	1:X:2396:C:C5'	2.89	0.50
2:Y:95:U:H2'	2:Y:96:C:C6	2.46	0.50
3:A:88:ARG:O	3:A:89:SER:HB3	2.12	0.50
3:A:258:LYS:NZ	3:A:261:ARG:HH21	2.09	0.50
5:C:27:LEU:HD23	5:C:181:LEU:HD22	1.92	0.50
5:C:30:VAL:HG12	5:C:31:VAL:N	2.26	0.50
5:C:30:VAL:O	5:C:31:VAL:C	2.49	0.50
5:C:153:ASP:OD1	5:C:172:VAL:HA	2.10	0.50
9:G:61:ARG:HH22	9:G:78:ASP:CG	2.15	0.50
9:G:157:PRO:O	9:G:159:SER:N	2.43	0.50
11:I:76:LYS:O	11:I:79:GLN:HG2	2.12	0.50
13:K:97:ILE:HA	13:K:112:LEU:O	2.11	0.50
14:L:17:VAL:CG1	14:L:18:ARG:H	2.24	0.50
19:Q:27:PHE:N	19:Q:27:PHE:CD1	2.79	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:60:PRO:C	20:R:62:MET:N	2.63	0.50
20:R:84:VAL:HA	20:R:90:LYS:CD	2.42	0.50
21:S:6:LYS:HB3	21:S:32:PHE:HA	1.94	0.50
21:S:13:LYS:HE2	21:S:20:ALA:HB2	1.93	0.50
23:U:13:LEU:HG	23:U:14:VAL:N	2.27	0.50
23:U:52:ARG:O	23:U:53:GLU:CB	2.60	0.50
1:X:457:C:C2'	1:X:458:G:H5'	2.41	0.50
1:X:648:A:H4'	1:X:649:G:O5'	2.10	0.50
1:X:756:C:H2'	1:X:757:U:H5'	1.92	0.50
1:X:1032:A:O2'	1:X:1134:C:H5"	2.12	0.50
1:X:1151:U:O4	9:G:93:LYS:HE3	2.11	0.50
1:X:2042:A:O2'	5:C:62:LYS:CE	2.59	0.50
1:X:2261:G:H5"	1:X:2262:C:O4'	2.11	0.50
1:X:2265:A:C2	1:X:2325:A:N7	2.79	0.50
2:Y:80:A:H2'	2:Y:81:C:O4'	2.12	0.50
5:C:144:GLY:HA2	5:C:166:TRP:NE1	2.26	0.50
6:D:54:ALA:O	6:D:55:LYS:C	2.50	0.50
9:G:102:ARG:CZ	9:G:112:THR:HG21	2.40	0.50
9:G:162:LYS:N	9:G:163:PRO:HD2	2.27	0.50
9:G:168:THR:O	9:G:169:GLN:O	2.29	0.50
10:H:30:GLY:O	10:H:33:GLY:O	2.29	0.50
12:J:15:ARG:HD2	12:J:74:PRO:HD2	1.94	0.50
12:J:77:LYS:O	12:J:88:LYS:NZ	2.44	0.50
14:L:102:ALA:O	14:L:103:LEU:C	2.49	0.50
19:Q:20:MET:O	19:Q:23:GLY:N	2.37	0.50
19:Q:20:MET:SD	19:Q:92:ALA:HA	2.51	0.50
22:T:42:GLY:O	22:T:57:HIS:HD2	1.95	0.50
23:U:46:LEU:C	23:U:47:HIS:CG	2.84	0.50
24:V:30:PHE:O	24:V:31:GLN:C	2.49	0.50
1:X:216:U:OP1	1:X:601:A:N7	2.44	0.50
1:X:333:A:C2'	1:X:350:U:O2	2.59	0.50
1:X:358:C:O5'	1:X:358:C:H6	1.94	0.50
1:X:590:C:H2'	1:X:591:G:H8	1.75	0.50
1:X:624:A:H5'	1:X:624:A:N3	2.26	0.50
1:X:729:A:OP1	1:X:729:A:H2	1.95	0.50
1:X:1411:C:H2'	1:X:1412:C:C6	2.46	0.50
1:X:1715:A:O2'	1:X:1716:G:H5"	2.12	0.50
1:X:1770:U:O2	1:X:1774:A:C5	2.65	0.50
1:X:1773:C:H2'	1:X:2587:G:O2'	2.11	0.50
1:X:1777:A:O2'	1:X:1778:U:OP1	2.25	0.50
1:X:1923:U:O2'	1:X:1924:C:P	2.70	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2014:A:C6	1:X:2477:C:H1'	2.46	0.50
1:X:2171:U:H4'	1:X:2171:U:OP1	2.12	0.50
1:X:2498:U:C4'	1:X:2499:C:OP1	2.51	0.50
1:X:2753:C:O2'	1:X:2754:C:H5'	2.12	0.50
2:Y:35:C:C2	2:Y:36:A:C8	2.99	0.50
3:A:150:GLY:O	3:A:152:GLY:N	2.45	0.50
4:B:93:VAL:O	4:B:94:ASP:HB2	2.12	0.50
4:B:142:GLY:C	4:B:143:GLN:HE21	2.15	0.50
5:C:30:VAL:O	5:C:32:THR:N	2.45	0.50
5:C:179:ASP:HA	5:C:182:ARG:HB3	1.94	0.50
6:D:46:ASP:O	6:D:48:LYS:N	2.45	0.50
9:G:95:LEU:HD21	9:G:117:GLU:CD	2.31	0.50
12:J:61:ARG:O	12:J:64:LYS:NZ	2.39	0.50
14:L:54:ALA:HB3	14:L:75:LEU:CB	2.36	0.50
17:O:18:ASP:C	17:O:18:ASP:OD1	2.50	0.50
17:O:68:LYS:HD2	17:O:86:HIS:O	2.11	0.50
19:Q:42:ILE:HG23	19:Q:43:GLN:H	1.75	0.50
20:R:93:ARG:O	20:R:95:ARG:CZ	2.59	0.50
21:S:128:ARG:NE	21:S:129:ARG:HD3	2.27	0.50
21:S:139:THR:O	21:S:140:LYS:C	2.50	0.50
1:X:417:C:C6	1:X:419:G:C4	2.99	0.50
1:X:683:A:O2'	1:X:684:C:P	2.68	0.50
1:X:688:A:H5"	5:C:61:GLN:NE2	2.27	0.50
1:X:729:A:O2'	1:X:730:C:C4'	2.60	0.50
1:X:737:C:H2'	1:X:738:G:C8	2.46	0.50
1:X:765:C:C4	1:X:1772:C:H1'	2.47	0.50
1:X:804:C:HO2'	1:X:805:G:C5'	2.24	0.50
1:X:1031:C:O2'	1:X:1032:A:H5"	2.12	0.50
1:X:1164:C:H2'	1:X:1165:G:O4'	2.12	0.50
1:X:1223:G:H5'	1:X:1225:G:O4'	2.11	0.50
1:X:1268:U:N3	5:C:66:ASN:HA	2.27	0.50
1:X:2003:A:O2'	1:X:2004:U:H3'	2.12	0.50
1:X:2198:U:N3	1:X:2199:C:C5	2.79	0.50
1:X:2441:U:H2'	1:X:2442:C:C6	2.47	0.50
1:X:2828:C:H2'	1:X:2829:A:H8	1.76	0.50
4:B:53:PRO:HG2	15:M:6:LYS:HZ2	1.77	0.50
4:B:116:VAL:HG22	4:B:136:ARG:NH2	2.26	0.50
5:C:43:ALA:HB1	5:C:86:PRO:C	2.32	0.50
5:C:136:TRP:HD1	5:C:137:ALA:N	2.09	0.50
5:C:150:LEU:HG	5:C:187:VAL:CG1	2.41	0.50
6:D:12:VAL:C	6:D:16:LEU:HG	2.31	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:126:PRO:HG2	7:E:130:ARG:HB3	1.92	0.50
9:G:66:HIS:C	16:N:67:ALA:HB1	2.31	0.50
10:H:116:ARG:HD2	15:M:38:LYS:CE	2.20	0.50
12:J:26:ASP:CB	12:J:68:ARG:HH22	2.24	0.50
14:L:38:ILE:HD12	14:L:39:TYR:N	2.16	0.50
19:Q:40:ASP:O	19:Q:41:ALA:C	2.49	0.50
20:R:55:THR:HG21	20:R:72:ARG:CZ	2.41	0.50
20:R:85:ASP:C	20:R:87:GLU:H	2.13	0.50
22:T:38:VAL:HG12	22:T:40:GLN:HG2	1.94	0.50
23:U:23:LYS:CB	23:U:35:THR:HG23	2.41	0.50
23:U:46:LEU:HD23	23:U:46:LEU:N	2.27	0.50
1:X:135:U:H5"	1:X:136:A:P	2.45	0.50
1:X:140:G:H2'	1:X:141:G:H8	1.75	0.50
1:X:141:G:H2'	1:X:142:U:O4'	2.12	0.50
1:X:618:A:C4	1:X:632:A:N6	2.80	0.50
1:X:658:G:H1'	1:X:2330:G:OP1	2.11	0.50
1:X:870:C:H1'	22:T:26:PHE:HE2	1.77	0.50
1:X:1134:C:H2'	1:X:1135:C:H6	1.77	0.50
1:X:1253:C:H6	1:X:1253:C:C5'	2.23	0.50
1:X:1505:U:H2'	1:X:1506:C:C5'	2.41	0.50
1:X:1750:A:H4'	1:X:2695:C:O4'	2.12	0.50
1:X:1841:G:C2'	1:X:1842:G:H5'	2.41	0.50
1:X:2057:U:H6	1:X:2057:U:H5"	1.77	0.50
1:X:2293:G:H4'	6:D:155:THR:HG21	1.94	0.50
1:X:2356:A:N3	14:L:89:PHE:CZ	2.79	0.50
1:X:2394:G:H5"	11:I:63:ARG:NE	2.27	0.50
1:X:2395:C:H2'	1:X:2396:C:H5"	1.93	0.50
1:X:2409:A:H3'	1:X:2409:A:C4	2.40	0.50
1:X:2594:U:H2'	1:X:2595:C:H6	1.76	0.50
1:X:2705:A:O2'	1:X:2706:U:C6	2.65	0.50
2:Y:44:C:H42	6:D:88:LYS:NZ	2.10	0.50
3:A:72:LYS:NZ	3:A:99:ASP:CG	2.65	0.50
4:B:150:VAL:HG21	4:B:154:LYS:CD	2.41	0.50
5:C:130:THR:OG1	5:C:160:ALA:HA	2.11	0.50
5:C:154:ASP:HB2	5:C:157:THR:HG23	1.94	0.50
6:D:4:LEU:O	6:D:5:LYS:CB	2.60	0.50
6:D:12:VAL:O	6:D:13:ARG:C	2.50	0.50
6:D:30:ARG:HH11	6:D:159:THR:HG21	1.76	0.50
6:D:33:LYS:HD2	6:D:90:THR:CG2	2.41	0.50
7:E:51:LEU:HD12	7:E:52:VAL:N	2.27	0.50
8:F:84:ILE:CG2	8:F:85:GLY:H	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:F:100:ASN:O	8:F:103:GLN:OE1	2.29	0.50
9:G:84:ASN:HA	9:G:153:GLY:O	2.12	0.50
11:I:47:ALA:O	11:I:49:PHE:N	2.44	0.50
12:J:119:PHE:CD1	12:J:132:MET:SD	3.04	0.50
14:L:89:PHE:HB2	14:L:91:ARG:HH21	1.76	0.50
15:M:29:PRO:HA	15:M:54:VAL:HB	1.94	0.50
16:N:76:TYR:CE2	16:N:80:ILE:HG13	2.47	0.50
16:N:81:ASN:ND2	16:N:85:ARG:HE	2.10	0.50
17:O:33:VAL:HG23	17:O:33:VAL:O	2.10	0.50
17:O:87:ARG:O	17:O:87:ARG:HG3	2.10	0.50
18:P:27:VAL:HB	18:P:125:THR:HB	1.93	0.50
19:Q:64:ARG:O	19:Q:65:VAL:HG22	2.12	0.50
21:S:100:THR:CG2	21:S:138:VAL:HG21	2.42	0.50
21:S:123:VAL:N	21:S:161:ALA:CB	2.74	0.50
30:4:1:MET:HA	30:4:1:MET:CE	2.32	0.50
1:X:136:A:C5	1:X:137:A:C6	2.97	0.50
1:X:670:U:H2'	1:X:671:A:C8	2.47	0.50
1:X:971:A:H4'	1:X:2436:U:H5'	1.92	0.50
1:X:1101:U:O2	1:X:1113:C:H1'	2.11	0.50
1:X:1223:G:H4'	1:X:1224:A:O5'	2.11	0.50
1:X:1673:C:H5"	4:B:136:ARG:HD3	1.93	0.50
1:X:2464:G:H5"	12:J:47:GLN:NE2	2.27	0.50
1:X:2533:U:H2'	1:X:2534:U:C6	2.47	0.50
2:Y:58:G:H4'	2:Y:59:A:H8	1.76	0.50
5:C:112:GLN:HB3	5:C:116:LYS:NZ	2.27	0.50
6:D:30:ARG:NH1	6:D:159:THR:HG21	2.27	0.50
8:F:75:SER:O	8:F:79:ARG:HG3	2.12	0.50
9:G:140:GLN:O	9:G:143:ALA:N	2.45	0.50
10:H:23:ARG:NH2	10:H:23:ARG:CG	2.75	0.50
12:J:62:GLY:CA	12:J:64:LYS:HE3	2.28	0.50
14:L:33:ARG:O	14:L:99:ARG:CZ	2.59	0.50
14:L:78:ALA:O	14:L:79:ALA:C	2.48	0.50
14:L:94:TYR:CD2	14:L:94:TYR:N	2.77	0.50
17:O:32:LYS:HE3	17:O:60:VAL:CG2	2.42	0.50
18:P:76:LYS:C	18:P:78:ASN:H	2.16	0.50
21:S:3:LEU:HD12	21:S:3:LEU:C	2.32	0.50
23:U:51:ILE:CG2	23:U:59:THR:HA	2.31	0.50
23:U:52:ARG:O	23:U:53:GLU:HB3	2.11	0.50
1:X:38:G:N2	5:C:42:THR:HG21	2.26	0.50
1:X:70:A:H1'	1:X:72:A:C5	2.47	0.50
1:X:831:G:H8	1:X:831:G:O5'	1.95	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:865:A:H61	1:X:937:C:H42	1.60	0.50
1:X:1053:G:C5	1:X:1054:C:C4	3.00	0.50
1:X:2372:A:H2'	1:X:2373:C:C6	2.46	0.50
1:X:2825:A:C2	1:X:2826:C:C2	3.00	0.50
2:Y:17:A:HO2'	2:Y:112:A:H8	1.56	0.50
3:A:123:ALA:O	3:A:125:PRO:HD3	2.11	0.50
5:C:26:VAL:CA	11:I:18:ARG:HH11	2.21	0.50
7:E:27:LYS:HG2	7:E:32:GLU:HB3	1.94	0.50
9:G:72:PRO:O	9:G:73:ASN:C	2.49	0.50
9:G:90:LEU:HB2	9:G:94:LYS:HE3	1.93	0.50
9:G:103:TYR:CD1	9:G:111:LYS:HA	2.47	0.50
11:I:47:ALA:C	11:I:49:PHE:N	2.64	0.50
11:I:74:VAL:HG13	11:I:109:LEU:HD12	1.93	0.50
12:J:35:LEU:HD23	12:J:105:PHE:CD2	2.45	0.50
19:Q:10:PRO:HA	19:Q:27:PHE:CB	2.30	0.50
21:S:123:VAL:HG23	21:S:161:ALA:HB2	1.94	0.50
1:X:91:A:H2'	1:X:92:U:H6	1.77	0.49
1:X:242:A:C2'	1:X:243:G:H4'	2.42	0.49
1:X:319:G:OP1	18:P:12:LYS:HE3	2.12	0.49
1:X:446:C:H2'	1:X:447:U:O4'	2.12	0.49
1:X:745:C:C2'	1:X:746:G:H5'	2.42	0.49
1:X:763:A:OP1	1:X:1631:C:N4	2.45	0.49
1:X:1074:G:H2'	1:X:1075:C:O4'	2.12	0.49
1:X:1089:C:H5"	1:X:1090:C:OP1	2.12	0.49
1:X:1134:C:O2'	1:X:1135:C:H5'	2.12	0.49
1:X:2322:U:H3'	1:X:2323:U:C6	2.45	0.49
2:Y:30:C:H2'	2:Y:31:A:H8	1.77	0.49
3:A:124:GLU:O	3:A:126:LYS:N	2.45	0.49
4:B:68:ALA:C	4:B:70:ALA:N	2.66	0.49
5:C:3:GLN:OE1	5:C:3:GLN:HA	2.12	0.49
5:C:122:GLY:O	5:C:125:ILE:N	2.42	0.49
8:F:84:ILE:CG1	8:F:96:VAL:HG11	2.38	0.49
9:G:54:LEU:HD12	9:G:170:PRO:HG3	1.93	0.49
11:I:7:LYS:O	11:I:7:LYS:HG2	2.12	0.49
14:L:42:ILE:HG22	14:L:52:ALA:N	2.27	0.49
16:N:13:ARG:HG3	16:N:13:ARG:NH2	2.27	0.49
17:O:31:ASP:OD1	17:O:59:GLU:OE2	2.30	0.49
20:R:17:LYS:HB3	20:R:18:LYS:HZ2	1.76	0.49
20:R:35:LYS:HE3	20:R:37:LEU:HD21	1.94	0.49
20:R:38:LEU:HB2	20:R:47:VAL:CB	2.42	0.49
20:R:74:LEU:HD12	20:R:75:ALA:N	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:93:ARG:N	20:R:95:ARG:NH2	2.60	0.49
21:S:6:LYS:O	21:S:31:SER:CB	2.60	0.49
21:S:55:THR:HG23	21:S:59:GLY:HA2	1.93	0.49
21:S:103:ARG:HH21	21:S:108:VAL:CG2	2.25	0.49
23:U:21:ARG:HG2	23:U:40:ARG:HG2	1.93	0.49
24:V:1:MET:HG3	24:V:3:PRO:HD3	1.92	0.49
1:X:63:A:O2'	19:Q:70:GLY:HA2	2.12	0.49
1:X:148:C:H3'	1:X:149:A:H8	1.76	0.49
1:X:592:G:P	16:N:10:ARG:NH1	2.85	0.49
1:X:1789:U:H5'	3:A:257:LEU:HB2	1.93	0.49
1:X:1842:G:H2'	1:X:1843:U:O4'	2.11	0.49
1:X:1845:A:H2'	1:X:1846:A:C8	2.47	0.49
1:X:1935:A:N9	10:H:22:ILE:HD11	2.27	0.49
1:X:2266:A:C2	1:X:2325:A:N7	2.80	0.49
1:X:2266:A:N1	1:X:2325:A:N7	2.60	0.49
1:X:2270:U:O2'	1:X:2271:C:H5'	2.12	0.49
1:X:2284:U:C3'	1:X:2285:U:H5"	2.43	0.49
1:X:2660:C:C2	1:X:2704:U:O4	2.65	0.49
2:Y:73:C:H2'	2:Y:74:A:O4'	2.12	0.49
3:A:96:HIS:HE1	3:A:100:GLY:HA2	1.77	0.49
5:C:45:THR:HG22	5:C:45:THR:O	2.11	0.49
5:C:46:ARG:HD2	5:C:51:VAL:CG2	2.42	0.49
6:D:52:LYS:HG2	6:D:147:ASP:CG	2.33	0.49
7:E:7:GLN:O	7:E:9:ILE:HG13	2.11	0.49
7:E:24:PHE:N	7:E:24:PHE:CD1	2.80	0.49
7:E:43:VAL:HB	7:E:52:VAL:CA	2.39	0.49
9:G:32:TYR:CE2	9:G:69:ASP:OD1	2.66	0.49
10:H:76:ARG:HD3	10:H:113:PRO:O	2.12	0.49
16:N:88:ILE:HG22	17:O:48:GLY:C	2.33	0.49
20:R:38:LEU:HB2	20:R:47:VAL:CG2	2.41	0.49
21:S:64:ALA:HB2	21:S:85:MET:HE2	1.93	0.49
26:Z:43:HIS:C	26:Z:44:HIS:HD2	2.15	0.49
1:X:70:A:H4'	1:X:71:A:H3'	1.93	0.49
1:X:135:U:H3'	1:X:135:U:C6	2.47	0.49
1:X:433:G:N2	1:X:434:C:H1'	2.27	0.49
1:X:465:C:O2'	1:X:467:U:H1'	2.11	0.49
1:X:494:A:H2'	1:X:494:A:N3	2.27	0.49
1:X:538:A:N3	1:X:538:A:C3'	2.70	0.49
1:X:678:G:O2'	1:X:679:C:H5'	2.12	0.49
1:X:872:G:O2'	1:X:873:U:H6	1.95	0.49
1:X:1015:U:H5"	1:X:1016:C:OP1	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1976:U:H4'	4:B:128:SER:OG	2.12	0.49
1:X:2081:U:H2'	1:X:2082:C:C6	2.47	0.49
1:X:2796:A:OP2	13:K:3:HIS:NE2	2.45	0.49
2:Y:4:C:O2'	2:Y:5:C:H5'	2.13	0.49
3:A:59:LYS:O	3:A:60:ARG:O	2.29	0.49
3:A:160:GLY:HA2	3:A:196:VAL:C	2.33	0.49
4:B:51:TYR:N	4:B:75:THR:OG1	2.44	0.49
4:B:127:ALA:CB	4:B:135:HIS:HE1	2.25	0.49
6:D:12:VAL:CG1	6:D:16:LEU:HD11	2.23	0.49
6:D:46:ASP:HB2	6:D:49:ALA:CB	2.43	0.49
7:E:37:TYR:CD2	7:E:68:THR:HG23	2.48	0.49
7:E:62:ARG:O	7:E:65:HIS:HB3	2.12	0.49
7:E:98:LEU:HD11	7:E:101:LYS:CA	2.41	0.49
9:G:101:THR:HG23	9:G:103:TYR:CD1	2.46	0.49
11:I:95:ALA:O	11:I:98:LEU:N	2.44	0.49
11:I:100:ARG:O	11:I:100:ARG:HG3	2.12	0.49
11:I:117:ALA:CB	11:I:137:GLY:HA3	2.42	0.49
11:I:119:THR:HG23	11:I:139:ARG:O	2.12	0.49
12:J:55:MET:HG2	12:J:118:ALA:O	2.12	0.49
12:J:83:ARG:O	12:J:83:ARG:HD3	2.12	0.49
12:J:102:ARG:HG3	12:J:103:VAL:N	2.27	0.49
13:K:72:ASP:CG	13:K:75:VAL:HG23	2.33	0.49
15:M:24:LEU:HD12	15:M:83:PHE:CD2	2.47	0.49
15:M:55:ILE:O	15:M:103:LYS:O	2.29	0.49
16:N:76:TYR:O	16:N:77:SER:C	2.50	0.49
19:Q:7:LEU:CD2	24:V:30:PHE:HE2	2.20	0.49
19:Q:19:ALA:O	19:Q:22:ARG:HG2	2.11	0.49
19:Q:26:SER:HB3	19:Q:79:ILE:HG23	1.93	0.49
19:Q:88:ILE:C	19:Q:88:ILE:HD12	2.33	0.49
20:R:22:VAL:HG11	20:R:80:LYS:HZ1	1.77	0.49
1:X:303:C:O5'	1:X:303:C:C6	2.56	0.49
1:X:402:A:H8	1:X:2392:G:H4'	1.76	0.49
1:X:553:C:C4	1:X:557:U:C2	3.01	0.49
1:X:969:U:O2'	1:X:970:A:OP2	2.22	0.49
1:X:1274:C:H2'	1:X:1275:A:O5'	2.12	0.49
1:X:1344:C:H2'	1:X:1346:C:C5	2.48	0.49
1:X:1794:A:H2	1:X:1814:G:N3	2.10	0.49
1:X:2219:U:C2	1:X:2220:A:C8	3.01	0.49
1:X:2306:A:H2'	1:X:2307:A:H8	1.73	0.49
1:X:2312:A:O2'	1:X:2313:G:OP2	2.30	0.49
1:X:2707:G:H8	1:X:2707:G:H5'	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Y:16:U:C1'	2:Y:109:G:N2	2.70	0.49
3:A:67:PHE:CE1	3:A:157:ARG:NH2	2.81	0.49
6:D:151:GLY:O	6:D:152:MET:HB3	2.12	0.49
7:E:24:PHE:CG	7:E:37:TYR:HD1	2.30	0.49
9:G:110:LEU:HD23	9:G:110:LEU:H	1.73	0.49
11:I:32:ARG:HD2	17:O:81:ARG:CD	2.41	0.49
12:J:23:LYS:HA	21:S:73:LYS:NZ	2.26	0.49
13:K:30:ARG:O	13:K:30:ARG:CG	2.61	0.49
14:L:102:ALA:C	14:L:104:ALA:N	2.62	0.49
15:M:5:ILE:HD12	15:M:5:ILE:O	2.12	0.49
16:N:86:ALA:O	16:N:88:ILE:N	2.45	0.49
18:P:126:ILE:HD12	18:P:127:ILE:H	1.72	0.49
20:R:46:VAL:HG12	20:R:48:VAL:CG2	2.42	0.49
21:S:144:GLY:O	21:S:146:HIS:CD2	2.65	0.49
24:V:42:ARG:HG3	24:V:46:LEU:CD1	2.42	0.49
30:4:4:ARG:O	30:4:36:GLN:HA	2.12	0.49
1:X:215:G:H21	1:X:632:A:H8	1.59	0.49
1:X:338:G:H1'	20:R:10:HIS:CE1	2.47	0.49
1:X:765:C:N4	1:X:1772:C:O2	2.45	0.49
1:X:1062:G:H4'	1:X:2732:C:O2'	2.12	0.49
1:X:1070:G:C5	1:X:1071:U:N3	2.80	0.49
1:X:1142:G:C8	1:X:2008:C:H4'	2.47	0.49
1:X:1253:C:H2'	1:X:1254:G:O5'	2.12	0.49
1:X:1419:G:H2'	1:X:1420:A:O4'	2.12	0.49
1:X:1450:G:O2'	1:X:1451:C:H5'	2.12	0.49
1:X:1673:C:OP1	4:B:136:ARG:HD3	2.13	0.49
1:X:1937:G:H2'	1:X:1939:U:O4	2.11	0.49
1:X:2204:A:H4'	1:X:2205:C:O5'	2.12	0.49
1:X:2267:A:H4'	1:X:2268:G:OP1	2.12	0.49
1:X:2394:G:P	11:I:63:ARG:CZ	3.01	0.49
1:X:2685:A:C2	1:X:2686:C:C2	3.00	0.49
1:X:2807:U:H4'	1:X:2808:U:H5"	1.93	0.49
3:A:217:ARG:HH21	3:A:218:LYS:CE	2.22	0.49
6:D:132:ILE:HG22	6:D:133:LYS:H	1.76	0.49
7:E:7:GLN:N	7:E:7:GLN:OE1	2.45	0.49
7:E:54:ARG:HH11	7:E:57:ASP:HB3	1.77	0.49
7:E:92:VAL:HG12	7:E:93:GLY:H	1.78	0.49
9:G:132:PHE:CE2	9:G:145:HIS:HB2	2.45	0.49
12:J:44:LYS:HB2	12:J:47:GLN:CD	2.32	0.49
12:J:75:VAL:HG23	12:J:93:TYR:O	2.12	0.49
12:J:99:LYS:HD2	12:J:100:PRO:HD3	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:87:TYR:HD1	13:K:90:ARG:HD2	1.75	0.49
15:M:41:GLU:OE1	15:M:46:ARG:HD2	2.13	0.49
19:Q:53:ILE:HD12	19:Q:54:SER:H	1.78	0.49
20:R:46:VAL:HG12	20:R:48:VAL:HG23	1.94	0.49
21:S:6:LYS:N	21:S:7:PRO:CD	2.74	0.49
23:U:54:ASN:C	23:U:56:GLN:N	2.59	0.49
24:V:45:GLN:O	24:V:48:ARG:N	2.46	0.49
1:X:192:G:C4'	1:X:193:A:H4'	2.43	0.49
1:X:417:C:H4'	1:X:418:C:C5'	2.42	0.49
1:X:2722:C:H5"	30:4:35:ARG:NH1	2.27	0.49
3:A:217:ARG:O	3:A:218:LYS:C	2.50	0.49
4:B:45:GLU:O	4:B:46:ALA:HB2	2.13	0.49
4:B:149:ARG:NH1	9:G:106:TYR:CD1	2.67	0.49
10:H:81:ILE:HG13	10:H:82:LYS:N	2.27	0.49
11:I:71:THR:HG21	11:I:104:ARG:NH2	2.28	0.49
16:N:117:ARG:NH2	16:N:117:ARG:HG3	2.27	0.49
17:O:20:ILE:O	17:O:90:PHE:HB2	2.12	0.49
17:O:44:GLN:O	17:O:46:VAL:HG23	2.12	0.49
18:P:67:PRO:O	18:P:71:VAL:HG23	2.11	0.49
23:U:63:SER:O	23:U:66:ALA:HB3	2.13	0.49
26:Z:13:LYS:O	26:Z:17:ASP:OD2	2.30	0.49
1:X:37:C:H1'	5:C:44:SER:CB	2.43	0.49
1:X:48:A:H4'	1:X:49:U:C5'	2.41	0.49
1:X:334:G:O2'	1:X:335:A:OP2	2.27	0.49
1:X:718:A:N6	1:X:739:G:H1'	2.27	0.49
1:X:1005:U:H2'	16:N:54:LYS:HZ1	1.78	0.49
1:X:1072:U:H1'	1:X:1081:A:C1'	2.43	0.49
1:X:1093:U:H3	1:X:1097:A:H2	1.61	0.49
1:X:1108:U:C2	1:X:1109:A:H1'	2.48	0.49
1:X:1135:C:H2'	1:X:1136:G:H8	1.77	0.49
1:X:1328:C:H2'	1:X:1329:U:H6	1.78	0.49
1:X:1474:A:C2'	1:X:1475:U:H5'	2.43	0.49
1:X:1858:C:H2'	1:X:1859:A:O4'	2.13	0.49
1:X:2239:C:C2	1:X:2240:C:C5	3.01	0.49
1:X:2456:U:H3	30:4:4:ARG:HH12	1.60	0.49
1:X:2605:C:O5'	1:X:2605:C:H6	1.95	0.49
2:Y:116:C:H1'	14:L:48:GLY:O	2.12	0.49
3:A:44:ASN:N	3:A:44:ASN:ND2	2.57	0.49
3:A:89:SER:O	3:A:159:ALA:HB2	2.13	0.49
6:D:36:VAL:CG2	6:D:154:ILE:HG13	2.38	0.49
8:F:131:ALA:O	8:F:136:VAL:HB	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:23:ARG:HH22	10:H:25:LEU:HG	1.76	0.49
11:I:62:LYS:CG	11:I:63:ARG:N	2.75	0.49
11:I:86:THR:C	11:I:88:PHE:H	2.14	0.49
12:J:100:PRO:C	12:J:102:ARG:H	2.16	0.49
13:K:72:ASP:OD2	13:K:72:ASP:C	2.51	0.49
16:N:8:ILE:HD12	16:N:8:ILE:C	2.32	0.49
18:P:66:GLU:O	18:P:69:ALA:HB3	2.13	0.49
22:T:25:LYS:HB2	22:T:37:LEU:CB	2.42	0.49
22:T:58:THR:O	22:T:59:LEU:HD23	2.13	0.49
1:X:39:C:H2'	1:X:40:U:C6	2.48	0.49
1:X:303:C:H3'	1:X:304:A:H5"	1.95	0.49
1:X:415:A:H2'	1:X:416:U:O4'	2.13	0.49
1:X:528:G:H5'	18:P:39:ARG:NH2	2.27	0.49
1:X:777:A:O2'	1:X:778:G:OP1	2.26	0.49
1:X:829:C:N3	1:X:1206:G:C2	2.80	0.49
1:X:1061:A:O2'	1:X:1062:G:H5'	2.12	0.49
1:X:1322:G:H1'	1:X:1627:C:O2'	2.12	0.49
1:X:1888:C:H4'	1:X:1912:G:C8	2.48	0.49
1:X:2194:A:H2'	1:X:2195:C:H5"	1.95	0.49
1:X:2299:A:N6	1:X:2312:A:H2'	2.28	0.49
1:X:2799:C:N4	1:X:2800:C:N3	2.60	0.49
3:A:122:GLU:OE1	3:A:122:GLU:N	2.46	0.49
4:B:151:TYR:HB3	9:G:106:TYR:CD2	2.47	0.49
9:G:64:GLY:CA	9:G:67:ARG:HG3	2.43	0.49
9:G:69:ASP:C	9:G:70:PHE:HD2	2.16	0.49
11:I:6:LEU:C	11:I:7:LYS:HD3	2.33	0.49
12:J:19:THR:CG2	12:J:99:LYS:NZ	2.75	0.49
12:J:78:LYS:HG2	12:J:80:ALA:N	2.18	0.49
13:K:94:TYR:CE2	13:K:115:LEU:O	2.66	0.49
15:M:39:VAL:HG12	15:M:45:THR:CG2	2.42	0.49
21:S:131:PRO:HG2	21:S:155:PRO:HG3	1.94	0.49
22:T:40:GLN:NE2	22:T:57:HIS:O	2.44	0.49
23:U:13:LEU:CG	23:U:14:VAL:N	2.75	0.49
24:V:32:ALA:O	24:V:35:GLY:N	2.37	0.49
1:X:346:C:H2'	1:X:347:C:C6	2.43	0.49
1:X:405:C:H2'	1:X:406:G:H8	1.77	0.49
1:X:496:C:H2'	1:X:497:C:H5'	1.94	0.49
1:X:1034:U:C2'	1:X:1035:G:H5'	2.42	0.49
1:X:1126:A:C2	1:X:1127:C:C2	3.00	0.49
1:X:1142:G:H4'	9:G:103:TYR:CD2	2.46	0.49
1:X:1221:C:H2'	1:X:1222:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1339:U:H5”	1:X:1994:U:C1’	2.42	0.49
1:X:1442:C:H2’	1:X:1585:A:OP2	2.13	0.49
1:X:1505:U:C6	1:X:1505:U:C3’	2.96	0.49
1:X:1979:C:O2’	1:X:1980:A:P	2.70	0.49
1:X:2048:C:H2’	1:X:2049:C:C6	2.47	0.49
1:X:2675:U:H2’	1:X:2676:G:C8	2.48	0.49
1:X:2691:C:O2’	1:X:2692:A:C5’	2.61	0.49
1:X:2849:C:H2’	1:X:2850:U:C5’	2.43	0.49
2:Y:4:C:C6	2:Y:4:C:C3’	2.96	0.49
4:B:111:LYS:HB2	4:B:160:MET:O	2.13	0.49
5:C:5:ASN:HD22	5:C:5:ASN:N	2.09	0.49
5:C:150:LEU:HD13	5:C:167:VAL:HB	1.93	0.49
6:D:92:ARG:HH21	6:D:92:ARG:CG	2.21	0.49
12:J:60:ARG:HG2	12:J:60:ARG:NH1	2.23	0.49
13:K:45:ARG:HG3	13:K:95:THR:CG2	2.41	0.49
13:K:84:ALA:N	13:K:85:PRO:CD	2.76	0.49
14:L:8:ARG:HB2	14:L:8:ARG:CZ	2.42	0.49
14:L:33:ARG:NH1	14:L:103:LEU:H	2.09	0.49
15:M:28:ARG:CB	15:M:29:PRO:CD	2.81	0.49
15:M:45:THR:O	15:M:45:THR:HG22	2.12	0.49
15:M:99:VAL:O	15:M:100:ARG:HG2	2.12	0.49
20:R:25:LEU:CD1	20:R:25:LEU:H	2.26	0.49
21:S:64:ALA:HA	21:S:86:VAL:H	1.78	0.49
23:U:19:ILE:HG22	23:U:42:GLN:CG	2.38	0.49
1:X:687:G:C2’	1:X:688:A:C5’	2.75	0.49
1:X:756:C:H2’	1:X:757:U:C5’	2.43	0.49
1:X:847:C:H2’	1:X:848:A:H8	1.77	0.49
1:X:967:G:O6	12:J:17:ARG:NH2	2.45	0.49
1:X:1102:G:H2’	1:X:1103:C:H6	1.78	0.49
1:X:1561:A:O5’	1:X:1561:A:H8	1.95	0.49
1:X:1670:G:H4’	1:X:1671:A:OP1	2.13	0.49
1:X:1710:U:H5’	1:X:1711:C:H5	1.78	0.49
1:X:1820:G:O2’	1:X:1821:A:P	2.71	0.49
1:X:2234:G:H2’	1:X:2235:G:O4’	2.13	0.49
1:X:2319:G:O2’	1:X:2320:G:H5’	2.13	0.49
1:X:2780:A:O2’	1:X:2781:G:H5’	2.13	0.49
1:X:2874:A:H2’	1:X:2875:C:C6	2.48	0.49
4:B:120:TRP:CE2	4:B:155:ARG:HD2	2.48	0.49
5:C:62:LYS:HD3	5:C:62:LYS:C	2.33	0.49
5:C:62:LYS:HD3	5:C:63:GLY:N	2.28	0.49
5:C:158:ARG:HD3	5:C:169:VAL:HG13	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:132:ILE:CG2	6:D:133:LYS:H	2.26	0.49
6:D:170:LEU:HB3	6:D:175:LEU:CD2	2.43	0.49
7:E:84:THR:HB	7:E:134:SER:OG	2.13	0.49
7:E:131:ILE:CG2	7:E:132:ASP:N	2.76	0.49
12:J:28:VAL:CG2	12:J:135:ARG:HA	2.42	0.49
12:J:80:ALA:CB	12:J:81:GLU:OE1	2.60	0.49
21:S:86:VAL:HG12	21:S:87:THR:N	2.21	0.49
21:S:127:PRO:O	21:S:128:ARG:CB	2.61	0.49
23:U:31:GLY:HA2	23:U:32:ARG:CZ	2.43	0.49
1:X:39:C:H2'	1:X:40:U:H6	1.78	0.48
1:X:187:U:O2'	1:X:188:G:H5'	2.13	0.48
1:X:221:A:H2'	1:X:222:G:O4'	2.12	0.48
1:X:239:A:H2	1:X:443:A:N3	2.10	0.48
1:X:494:A:O2'	20:R:68:GLY:HA2	2.13	0.48
1:X:744:C:N4	1:X:745:C:H41	2.11	0.48
1:X:1174:G:C2	1:X:1175:A:C5	3.00	0.48
1:X:1448:A:H2'	1:X:1449:C:O4'	2.13	0.48
1:X:1525:A:C5	1:X:1526:U:H1'	2.47	0.48
1:X:1625:A:H1'	1:X:1632:A:H1'	1.93	0.48
1:X:1927:U:O2'	1:X:1928:G:OP1	2.29	0.48
1:X:1944:C:H2'	1:X:1945:C:O4'	2.13	0.48
1:X:2223:U:H2'	1:X:2224:U:O4'	2.13	0.48
1:X:2344:G:H4'	22:T:60:PHE:CE1	2.48	0.48
1:X:2763:U:O2'	1:X:2764:U:H5'	2.13	0.48
1:X:2797:G:H2'	1:X:2798:A:C5'	2.43	0.48
2:Y:27:A:N6	2:Y:56:G:OP2	2.46	0.48
3:A:68:LYS:H	3:A:68:LYS:CD	2.26	0.48
3:A:172:TYR:HA	3:A:186:HIS:HA	1.94	0.48
6:D:9:ASN:O	6:D:14:PRO:HD2	2.12	0.48
7:E:70:THR:O	7:E:74:ASN:ND2	2.46	0.48
8:F:120:VAL:C	8:F:122:ALA:N	2.67	0.48
14:L:70:ALA:O	14:L:74:ALA:HB2	2.12	0.48
17:O:95:ILE:HG22	17:O:96:LEU:N	2.28	0.48
19:Q:49:ARG:HD3	19:Q:83:ALA:HB2	1.94	0.48
21:S:64:ALA:CB	21:S:85:MET:HA	2.43	0.48
21:S:103:ARG:HH21	21:S:108:VAL:HG22	1.76	0.48
23:U:35:THR:HG22	23:U:35:THR:O	2.12	0.48
26:Z:31:THR:CG2	26:Z:32:GLU:N	2.76	0.48
1:X:4:C:C2	1:X:2874:A:C2	3.01	0.48
1:X:467:U:HO2'	1:X:468:A:P	2.36	0.48
1:X:824:U:O2	1:X:1263:G:H3'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1153:A:O2'	1:X:1154:A:H3'	2.13	0.48
1:X:1238:A:C6	1:X:1239:A:N1	2.81	0.48
1:X:1372:A:H3'	1:X:1373:G:H8	1.78	0.48
1:X:1685:A:H61	1:X:1693:A:H61	1.59	0.48
1:X:1869:A:H2'	1:X:1870:U:O4'	2.13	0.48
1:X:2273:C:H5'	14:L:95:LYS:CD	2.43	0.48
1:X:2594:U:H2'	1:X:2595:C:C6	2.48	0.48
1:X:2706:U:O2'	1:X:2707:G:P	2.71	0.48
3:A:70:ARG:NE	3:A:190:TYR:CE2	2.81	0.48
3:A:78:LYS:HG2	3:A:116:THR:HG22	1.94	0.48
6:D:16:LEU:O	6:D:19:GLN:N	2.46	0.48
6:D:38:GLU:HB3	6:D:87:ILE:CB	2.41	0.48
7:E:27:LYS:HG2	7:E:32:GLU:CB	2.43	0.48
7:E:85:ILE:N	7:E:133:VAL:O	2.45	0.48
7:E:103:LEU:HD23	7:E:115:ILE:HD12	1.94	0.48
9:G:40:ASN:HB3	9:G:78:ASP:OD1	2.13	0.48
9:G:61:ARG:NH2	9:G:78:ASP:OD2	2.45	0.48
9:G:75:ILE:HG21	9:G:144:MET:CG	2.43	0.48
9:G:96:ASP:OD1	9:G:97:ASP:N	2.43	0.48
10:H:118:LEU:HD12	10:H:118:LEU:N	2.28	0.48
11:I:80:LEU:HD21	11:I:89:ASP:OD1	2.13	0.48
11:I:81:GLN:HB3	11:I:114:ILE:CG2	2.42	0.48
14:L:89:PHE:CD1	14:L:89:PHE:N	2.80	0.48
15:M:34:ARG:NH2	15:M:88:VAL:CG1	2.68	0.48
15:M:101:ARG:O	15:M:103:LYS:N	2.46	0.48
19:Q:76:LYS:O	19:Q:76:LYS:CG	2.59	0.48
19:Q:84:GLU:HA	19:Q:84:GLU:OE2	2.13	0.48
20:R:93:ARG:NH2	20:R:108:VAL:CA	2.75	0.48
1:X:98:U:C2	1:X:100:G:C5	3.02	0.48
1:X:165:G:H2'	1:X:166:G:C5'	2.42	0.48
1:X:187:U:H2'	1:X:188:G:H8	1.77	0.48
1:X:584:A:OP2	1:X:2038:C:C5	2.66	0.48
1:X:739:G:O2'	1:X:740:A:O5'	2.32	0.48
1:X:1147:G:H2'	1:X:1148:G:C8	2.46	0.48
1:X:1151:U:C5'	1:X:1153:A:C5'	2.91	0.48
1:X:1162:A:O2'	1:X:1163:C:H5'	2.13	0.48
1:X:1177:U:H2'	1:X:1178:C:C6	2.48	0.48
1:X:1450:G:C4	1:X:1573:G:N2	2.81	0.48
1:X:1982:C:H5"	1:X:2703:C:O2'	2.13	0.48
1:X:2394:G:H2'	1:X:2395:C:H6	1.78	0.48
1:X:2462:C:H2'	1:X:2463:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2551:A:C4	4:B:144:ARG:NH1	2.81	0.48
1:X:2608:A:O2'	1:X:2609:G:P	2.71	0.48
1:X:2824:C:P	15:M:100:ARG:NH1	2.86	0.48
2:Y:34:C:H2'	2:Y:35:C:H6	1.74	0.48
2:Y:50:U:O3'	14:L:97:HIS:CD2	2.66	0.48
4:B:169:ASN:OD1	4:B:204:ALA:CB	2.61	0.48
7:E:148:VAL:C	7:E:150:LYS:H	2.15	0.48
10:H:60:PRO:O	10:H:61:ARG:CB	2.56	0.48
16:N:21:ALA:CB	16:N:24:PHE:CD2	2.96	0.48
17:O:11:GLN:HA	17:O:38:LEU:O	2.13	0.48
18:P:45:ILE:CD1	18:P:57:LEU:HG	2.35	0.48
21:S:71:MET:HB2	21:S:78:PRO:HA	1.90	0.48
1:X:38:G:H21	5:C:42:THR:HG21	1.77	0.48
1:X:584:A:OP2	1:X:2038:C:H5	1.96	0.48
1:X:939:C:H5"	1:X:940:G:C5'	2.43	0.48
1:X:1011:A:H2'	1:X:1012:A:O4'	2.14	0.48
1:X:1354:A:C2'	1:X:1410:U:O2'	2.62	0.48
1:X:1423:A:O2'	1:X:1424:U:H5'	2.13	0.48
1:X:1575:C:H4'	1:X:1576:G:OP1	2.12	0.48
1:X:1979:C:H2'	1:X:1980:A:O4'	2.11	0.48
1:X:2272:A:P	14:L:18:ARG:HH12	2.36	0.48
1:X:2873:G:H21	9:G:162:LYS:HZ3	1.58	0.48
3:A:251:GLY:CA	3:A:255:LYS:HD2	2.43	0.48
5:C:104:LEU:O	5:C:108:ILE:N	2.43	0.48
6:D:30:ARG:O	6:D:158:THR:CB	2.61	0.48
6:D:150:ARG:HH11	6:D:150:ARG:HG3	1.79	0.48
6:D:158:THR:C	6:D:160:ALA:N	2.67	0.48
7:E:54:ARG:HE	7:E:57:ASP:HB3	1.77	0.48
13:K:36:THR:N	13:K:111:ALA:O	2.41	0.48
14:L:21:THR:CG2	14:L:22:ALA:N	2.75	0.48
20:R:95:ARG:O	20:R:96:LYS:HB3	2.13	0.48
21:S:24:TYR:HB3	21:S:29:ASN:HA	1.95	0.48
21:S:71:MET:H	21:S:71:MET:CE	2.26	0.48
21:S:103:ARG:NH2	21:S:108:VAL:HG22	2.27	0.48
21:S:154:LEU:HD11	21:S:160:LEU:CG	2.35	0.48
1:X:98:U:H1'	1:X:100:G:C5	2.48	0.48
1:X:318:G:N2	1:X:320:A:H3'	2.29	0.48
1:X:828:C:O2'	1:X:829:C:H5'	2.13	0.48
1:X:1153:A:C4	1:X:1155:G:N7	2.82	0.48
1:X:1404:C:C2	1:X:1406:A:N7	2.82	0.48
1:X:1525:A:H3'	1:X:1526:U:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1701:C:C6	1:X:1701:C:H5”	2.49	0.48
1:X:1807:A:OP2	1:X:1814:G:H5”	2.13	0.48
1:X:1933:G:N7	1:X:1934:U:C5	2.81	0.48
1:X:2058:U:C4	1:X:2217:G:C6	3.02	0.48
1:X:2726:U:C2’	1:X:2727:G:H5’	2.43	0.48
3:A:150:GLY:C	3:A:152:GLY:N	2.67	0.48
4:B:47:VAL:O	4:B:80:GLU:HA	2.13	0.48
5:C:145:THR:HG22	5:C:145:THR:O	2.12	0.48
5:C:163:ASN:ND2	5:C:166:TRP:HB2	2.28	0.48
6:D:111:ILE:HA	6:D:137:ILE:HG21	1.95	0.48
7:E:12:PRO:O	7:E:15:VAL:HG13	2.13	0.48
11:I:92:THR:O	11:I:93:LEU:C	2.51	0.48
12:J:113:GLU:C	12:J:115:ALA:N	2.67	0.48
15:M:26:ASP:O	15:M:27:PHE:CG	2.67	0.48
15:M:55:ILE:O	15:M:56:ALA:HB2	2.13	0.48
15:M:104:LEU:C	15:M:106:TYR:N	2.64	0.48
18:P:18:VAL:HG12	18:P:19:LYS:N	2.28	0.48
20:R:29:HIS:CD2	20:R:51:VAL:HG22	2.49	0.48
21:S:3:LEU:HB2	21:S:34:LEU:HB3	1.94	0.48
21:S:17:SER:C	21:S:36:ARG:HB2	2.34	0.48
21:S:71:MET:CA	21:S:78:PRO:HA	2.44	0.48
24:V:24:GLU:HG2	24:V:28:LEU:HD21	1.95	0.48
1:X:422:C:H2’	1:X:423:G:H8	1.79	0.48
1:X:573:C:H2’	1:X:574:C:O4’	2.14	0.48
1:X:597:U:H2’	1:X:598:U:C6	2.49	0.48
1:X:610:G:H2’	1:X:611:C:O4’	2.13	0.48
1:X:716:U:H2’	1:X:717:G:O4’	2.12	0.48
1:X:937:C:O2’	1:X:938:G:H5’	2.13	0.48
1:X:1118:G:C6	1:X:1119:U:C4	3.01	0.48
1:X:1443:G:O2’	1:X:1444:C:H5’	2.13	0.48
1:X:2015:G:C4	4:B:145:LYS:HD3	2.48	0.48
1:X:2195:C:C4	1:X:2196:U:N3	2.82	0.48
1:X:2291:U:O2’	1:X:2292:C:H5’	2.14	0.48
1:X:2475:C:H2’	1:X:2476:A:H5’	1.94	0.48
1:X:2759:U:H5”	1:X:2760:G:H5”	1.95	0.48
1:X:2790:C:H2’	1:X:2791:C:C6	2.48	0.48
3:A:262:LYS:O	3:A:263:ARG:C	2.51	0.48
4:B:16:LYS:HB2	4:B:21:ILE:CD1	2.44	0.48
6:D:80:ARG:CD	6:D:80:ARG:N	2.76	0.48
7:E:9:ILE:HD12	7:E:50:LEU:C	2.34	0.48
7:E:92:VAL:O	7:E:94:PHE:CD1	2.67	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:103:TYR:CE2	9:G:111:LYS:HB3	2.49	0.48
10:H:25:LEU:HD11	10:H:52:VAL:HG23	1.96	0.48
10:H:25:LEU:CD1	10:H:52:VAL:HG23	2.44	0.48
10:H:28:GLY:CA	10:H:35:THR:OG1	2.62	0.48
10:H:85:ASP:OD2	10:H:87:SER:HB3	2.14	0.48
12:J:11:ARG:NH2	12:J:15:ARG:NH2	2.57	0.48
12:J:39:GLU:HG2	12:J:40:PRO:CD	2.43	0.48
12:J:112:GLU:O	12:J:115:ALA:HB3	2.13	0.48
12:J:116:LYS:HZ2	12:J:132:MET:HB3	1.78	0.48
12:J:125:LYS:HB3	12:J:125:LYS:NZ	2.06	0.48
18:P:13:GLN:HA	18:P:16:GLN:OE1	2.13	0.48
21:S:31:SER:O	21:S:32:PHE:CD2	2.67	0.48
21:S:93:GLU:HA	21:S:125:PRO:HD3	1.95	0.48
23:U:34:THR:OG1	23:U:35:THR:N	2.41	0.48
30:4:15:LYS:O	30:4:26:ILE:HG12	2.13	0.48
1:X:137:A:OP2	1:X:137:A:H8	1.95	0.48
1:X:531:G:O2'	1:X:532:A:C5'	2.61	0.48
1:X:558:G:H8	1:X:559:C:C4	2.31	0.48
1:X:1051:U:C2'	1:X:1052:C:O4'	2.59	0.48
1:X:1404:C:H5'	1:X:1405:A:OP2	2.13	0.48
1:X:1467:U:C6	1:X:1467:U:H5"	2.48	0.48
1:X:1563:U:H2'	1:X:1564:U:H6	1.77	0.48
1:X:2371:A:H2'	1:X:2372:A:O4'	2.12	0.48
1:X:2475:C:O2'	1:X:2476:A:H5'	2.14	0.48
1:X:2485:U:O2	1:X:2485:U:H2'	2.14	0.48
1:X:2642:G:H2'	1:X:2643:G:H5'	1.96	0.48
1:X:2658:A:O2'	1:X:2659:C:H5'	2.13	0.48
1:X:2674:C:H2'	1:X:2675:U:H6	1.78	0.48
2:Y:56:G:H2'	2:Y:57:U:O4'	2.14	0.48
3:A:131:LEU:HD21	3:A:193:ILE:CG1	2.43	0.48
5:C:73:SER:HA	5:C:80:GLY:HA2	1.95	0.48
6:D:4:LEU:CG	6:D:5:LYS:N	2.76	0.48
9:G:34:PRO:C	9:G:35:LYS:HE2	2.34	0.48
9:G:67:ARG:HA	9:G:68:PRO:HD3	1.73	0.48
9:G:79:PHE:HA	9:G:147:ARG:HB3	1.96	0.48
12:J:125:LYS:H	12:J:125:LYS:HD2	1.78	0.48
14:L:13:THR:O	14:L:17:VAL:HG12	2.14	0.48
14:L:30:SER:C	14:L:31:VAL:CG1	2.82	0.48
16:N:117:ARG:HG3	16:N:117:ARG:HH21	1.77	0.48
21:S:40:ASP:OD2	21:S:40:ASP:N	2.45	0.48
21:S:91:PRO:C	21:S:92:VAL:HG22	2.34	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:U:22:GLY:HA3	23:U:39:LYS:HE2	1.95	0.48
30:4:22:ARG:NH1	30:4:22:ARG:CG	2.74	0.48
1:X:134:G:C2	1:X:136:A:H5"	2.44	0.48
1:X:333:A:O4'	1:X:351:A:H1'	2.14	0.48
1:X:460:U:O2'	5:C:78:VAL:HG13	2.13	0.48
1:X:698:A:C8	1:X:787:A:C6	3.01	0.48
1:X:826:U:H2'	1:X:827:C:H6	1.76	0.48
1:X:1064:C:H2'	1:X:1065:A:O4'	2.14	0.48
1:X:1174:G:N2	1:X:1175:A:C4	2.82	0.48
1:X:1218:C:O4'	11:I:13:ARG:NH1	2.44	0.48
1:X:1873:A:H2'	1:X:1874:G:O4'	2.13	0.48
1:X:1952:A:H1'	1:X:1956:G:O4'	2.13	0.48
1:X:2262:C:C2	1:X:2368:G:C2	3.02	0.48
1:X:2322:U:C2'	1:X:2323:U:C6	2.96	0.48
1:X:2392:G:H2'	1:X:2393:G:O4'	2.13	0.48
1:X:2665:G:C2	1:X:2704:U:O2	2.66	0.48
1:X:2698:G:H4'	15:M:103:LYS:HG2	1.95	0.48
1:X:2706:U:O2	1:X:2706:U:C2'	2.60	0.48
1:X:2824:C:O2'	1:X:2825:A:P	2.72	0.48
2:Y:15:A:C2	2:Y:71:G:H2'	2.49	0.48
3:A:49:ILE:HD11	3:A:52:ARG:HA	1.96	0.48
4:B:105:THR:HG23	4:B:197:VAL:HB	1.96	0.48
7:E:85:ILE:HG22	7:E:86:ASN:N	2.29	0.48
7:E:97:LYS:O	7:E:98:LEU:CB	2.59	0.48
10:H:92:ASP:OD2	15:M:69:ARG:NH2	2.45	0.48
14:L:85:LYS:HE3	14:L:86:GLN:NE2	2.21	0.48
14:L:89:PHE:CD1	14:L:91:ARG:NH2	2.82	0.48
16:N:93:LYS:O	16:N:94:VAL:CB	2.61	0.48
16:N:93:LYS:CD	17:O:5:ILE:HG22	2.32	0.48
20:R:49:GLU:HA	20:R:73:GLU:OE2	2.14	0.48
21:S:112:LEU:O	21:S:172:LEU:N	2.46	0.48
23:U:17:SER:OG	23:U:44:ALA:HA	2.13	0.48
24:V:60:LEU:O	24:V:62:ARG:N	2.47	0.48
1:X:24:G:C2	1:X:25:U:C2	3.01	0.48
1:X:38:G:H21	5:C:42:THR:CG2	2.27	0.48
1:X:48:A:H1'	1:X:50:G:C2	2.48	0.48
1:X:135:U:O2'	1:X:136:A:C1'	2.62	0.48
1:X:333:A:H5'	5:C:162:ARG:CD	2.43	0.48
1:X:338:G:H1'	20:R:10:HIS:HE1	1.79	0.48
1:X:453:U:H2'	1:X:454:G:C8	2.48	0.48
1:X:623:G:H2'	1:X:626:A:N6	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:632:A:H2'	1:X:633:G:C5'	2.43	0.48
1:X:669:G:H2'	1:X:670:U:O4'	2.14	0.48
1:X:1087:C:OP1	8:F:89:SER:O	2.32	0.48
1:X:1302:C:H2'	1:X:1303:U:H6	1.78	0.48
1:X:1354:A:H4'	19:Q:56:MET:HG2	1.95	0.48
1:X:1415:C:O2'	1:X:1416:A:H5'	2.14	0.48
1:X:1808:C:C5	3:A:62:TYR:CD2	3.01	0.48
1:X:2442:C:O2'	1:X:2443:C:H5'	2.14	0.48
1:X:2749:A:H2'	1:X:2750:G:O4'	2.14	0.48
1:X:2759:U:H5"	1:X:2760:G:H3'	1.95	0.48
2:Y:58:G:H4'	2:Y:59:A:H5"	1.95	0.48
2:Y:106:U:O3'	21:S:67:LYS:NZ	2.47	0.48
4:B:16:LYS:HB3	4:B:21:ILE:HD11	1.96	0.48
4:B:25:VAL:CG1	15:M:16:ILE:HD12	2.43	0.48
5:C:20:PRO:HG2	5:C:21:GLU:H	1.78	0.48
5:C:30:VAL:HG11	5:C:177:VAL:HG21	1.95	0.48
5:C:66:ASN:O	5:C:67:ALA:HB2	2.14	0.48
5:C:108:ILE:O	5:C:109:ALA:C	2.52	0.48
5:C:190:ALA:C	5:C:192:ALA:N	2.67	0.48
6:D:100:LEU:O	6:D:104:ILE:HG13	2.13	0.48
11:I:64:GLY:O	11:I:65:PHE:CB	2.61	0.48
12:J:15:ARG:HG3	12:J:15:ARG:HH11	1.79	0.48
13:K:12:ARG:HG3	13:K:17:ARG:HD3	1.94	0.48
14:L:43:ILE:HG23	14:L:49:GLN:O	2.14	0.48
16:N:24:PHE:HB2	16:N:29:SER:HB3	1.96	0.48
16:N:88:ILE:HG23	17:O:49:GLU:CG	2.44	0.48
17:O:42:GLY:C	17:O:44:GLN:H	2.17	0.48
18:P:78:ASN:O	18:P:79:ALA:C	2.52	0.48
18:P:85:MET:HE2	18:P:130:GLU:CG	2.44	0.48
19:Q:42:ILE:HD12	19:Q:42:ILE:O	2.14	0.48
19:Q:55:THR:O	19:Q:56:MET:HG2	2.14	0.48
19:Q:68:PHE:O	19:Q:69:ILE:C	2.51	0.48
20:R:80:LYS:NZ	20:R:82:ALA:HA	2.27	0.48
20:R:108:VAL:CG1	20:R:109:ALA:N	2.56	0.48
21:S:91:PRO:HG2	21:S:92:VAL:H	1.79	0.48
24:V:65:GLU:O	24:V:66:GLN:HB2	2.13	0.48
1:X:37:C:H2'	1:X:38:G:C8	2.48	0.48
1:X:230:C:O2'	1:X:231:G:H5'	2.13	0.48
1:X:412:U:H5	23:U:68:ARG:HH11	1.62	0.48
1:X:742:G:C6	3:A:208:LYS:HB3	2.49	0.48
1:X:857:U:H2'	1:X:858:G:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1086:C:H2'	1:X:1086:C:O2	2.13	0.48
1:X:1278:A:H2	1:X:1997:A:H62	1.61	0.48
1:X:1745:C:P	15:M:101:ARG:NH2	2.87	0.48
1:X:1838:G:H3'	1:X:1839:A:H8	1.79	0.48
1:X:2006:G:N2	1:X:2024:U:C2	2.81	0.48
1:X:2235:G:N2	1:X:2254:C:N4	2.61	0.48
1:X:2239:C:H2'	1:X:2240:C:H6	1.77	0.48
1:X:2309:G:H2'	1:X:2310:G:C5'	2.40	0.48
1:X:2522:G:H2'	1:X:2523:G:C8	2.48	0.48
1:X:2528:G:C2	1:X:2529:G:N7	2.82	0.48
1:X:2659:C:N4	1:X:2660:C:H41	2.12	0.48
3:A:262:LYS:C	3:A:264:LYS:N	2.66	0.48
6:D:13:ARG:CG	6:D:17:MET:HE1	2.44	0.48
6:D:56:GLU:O	6:D:57:LEU:C	2.52	0.48
6:D:80:ARG:N	6:D:80:ARG:HD2	2.28	0.48
6:D:166:ALA:C	6:D:170:LEU:HG	2.33	0.48
9:G:69:ASP:O	16:N:64:ARG:NE	2.46	0.48
9:G:127:ILE:O	9:G:128:GLU:C	2.51	0.48
12:J:64:LYS:HB3	12:J:108:ALA:HB3	1.94	0.48
12:J:113:GLU:O	12:J:115:ALA:N	2.47	0.48
15:M:24:LEU:C	15:M:25:PRO:O	2.51	0.48
18:P:62:ARG:NH1	18:P:62:ARG:HG3	2.29	0.48
19:Q:72:ARG:C	19:Q:73:ASN:OD1	2.53	0.48
21:S:24:TYR:HB2	21:S:29:ASN:OD1	2.14	0.48
21:S:91:PRO:CG	21:S:92:VAL:H	2.27	0.48
1:X:33:C:C2'	1:X:34:U:H5"	2.44	0.47
1:X:39:C:O2	5:C:40:ARG:NH2	2.47	0.47
1:X:173:A:N6	1:X:844:G:H21	2.11	0.47
1:X:530:G:O2'	1:X:531:G:H5'	2.14	0.47
1:X:537:C:C1'	1:X:538:A:N6	2.75	0.47
1:X:1050:G:C2'	1:X:1051:U:C5'	2.92	0.47
1:X:1084:A:H8	1:X:1084:A:O5'	1.96	0.47
1:X:1135:C:H1'	30:4:36:GLN:NE2	2.28	0.47
1:X:1175:A:C2	1:X:1176:U:C2	3.02	0.47
1:X:1194:U:H6	1:X:1194:U:C5'	2.26	0.47
1:X:1333:G:H22	1:X:1344:C:H41	1.59	0.47
1:X:1855:G:C2	1:X:1863:U:O2	2.67	0.47
1:X:1982:C:H4'	1:X:2703:C:O2	2.14	0.47
1:X:2040:A:H2'	1:X:2041:A:C8	2.49	0.47
1:X:2257:A:C2'	1:X:2258:G:H5'	2.44	0.47
3:A:95:LEU:CD1	3:A:105:ILE:HD12	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:213:ARG:C	3:A:215:LEU:N	2.68	0.47
4:B:128:SER:O	4:B:130:GLY:N	2.45	0.47
5:C:74:VAL:O	5:C:75:PRO:C	2.52	0.47
6:D:34:ILE:HD13	6:D:155:THR:O	2.14	0.47
6:D:97:TYR:HA	6:D:100:LEU:HB3	1.96	0.47
7:E:33:LEU:CG	7:E:34:THR:N	2.77	0.47
9:G:42:VAL:HG11	9:G:168:THR:OG1	2.14	0.47
9:G:67:ARG:HB3	9:G:70:PHE:CB	2.44	0.47
9:G:85:ALA:HB3	9:G:152:ALA:HA	1.95	0.47
9:G:119:LEU:HA	9:G:119:LEU:HD23	1.48	0.47
9:G:169:GLN:HB2	9:G:170:PRO:CD	2.43	0.47
11:I:72:TYR:CD1	11:I:105:PRO:HG3	2.49	0.47
12:J:55:MET:HB3	12:J:65:ILE:HD13	1.96	0.47
12:J:117:GLU:O	12:J:121:LEU:HG	2.13	0.47
21:S:3:LEU:HD21	21:S:32:PHE:HB3	1.96	0.47
21:S:123:VAL:HG23	21:S:161:ALA:HA	1.96	0.47
23:U:41:VAL:O	23:U:42:GLN:HB2	2.14	0.47
1:X:100:G:O2'	1:X:101:A:P	2.72	0.47
1:X:457:C:O3'	16:N:3:ARG:HD3	2.14	0.47
1:X:555:U:C5	1:X:1233:A:H3'	2.49	0.47
1:X:769:C:C2'	1:X:770:U:H5'	2.45	0.47
1:X:1235:C:C2	1:X:1241:G:C2	3.02	0.47
1:X:1287:A:N1	1:X:1661:C:O2'	2.44	0.47
1:X:1885:C:C2'	1:X:1886:G:H5'	2.42	0.47
1:X:2247:A:C8	1:X:2247:A:H5"	2.50	0.47
1:X:2302:G:H21	1:X:2316:G:H5'	1.79	0.47
1:X:2466:G:O2'	1:X:2467:A:H5'	2.14	0.47
1:X:2508:G:O5'	1:X:2509:A:H5"	2.14	0.47
1:X:2633:A:H5"	1:X:2634:G:OP1	2.13	0.47
1:X:2725:C:C1'	7:E:143:GLN:HG2	2.38	0.47
3:A:79:VAL:HG12	3:A:113:VAL:HG13	1.96	0.47
3:A:134:ARG:CZ	3:A:135:PHE:CZ	2.97	0.47
3:A:198:ASN:O	3:A:199:ALA:HB3	2.14	0.47
4:B:122:PHE:O	4:B:123:ALA:HB2	2.14	0.47
5:C:3:GLN:NE2	5:C:4:ILE:CG1	2.71	0.47
6:D:34:ILE:HG23	6:D:154:ILE:CG2	2.44	0.47
6:D:65:PRO:HB3	6:D:89:VAL:CG2	2.42	0.47
8:F:121:GLU:HA	8:F:124:ALA:CB	2.35	0.47
9:G:101:THR:HG23	9:G:102:ARG:N	2.29	0.47
9:G:155:THR:CG2	9:G:156:HIS:N	2.77	0.47
9:G:155:THR:C	9:G:157:PRO:HD2	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:80:ALA:HB1	10:H:88:THR:HG23	1.96	0.47
11:I:13:ARG:HG2	11:I:14:LYS:N	2.30	0.47
12:J:136:GLU:HA	12:J:138:TYR:HE2	1.79	0.47
13:K:24:GLN:HB3	13:K:44:LEU:HD22	1.95	0.47
15:M:82:PRO:O	15:M:84:ALA:N	2.47	0.47
16:N:93:LYS:HD3	17:O:5:ILE:CG2	2.31	0.47
19:Q:8:GLN:HA	19:Q:8:GLN:HE21	1.79	0.47
19:Q:11:VAL:HG22	19:Q:28:TRP:CE2	2.49	0.47
20:R:93:ARG:O	20:R:95:ARG:CD	2.62	0.47
1:X:48:A:H1'	1:X:50:G:C4	2.50	0.47
1:X:533:C:H1'	1:X:563:U:O2'	2.14	0.47
1:X:540:G:O6	1:X:2006:G:OP1	2.32	0.47
1:X:591:G:H2'	1:X:592:G:H8	1.75	0.47
1:X:731:A:H2'	1:X:732:G:C4'	2.44	0.47
1:X:760:U:C4	26:Z:3:LYS:HG3	2.48	0.47
1:X:792:U:P	3:A:49:ILE:HG22	2.54	0.47
1:X:1068:A:H2'	1:X:1068:A:N3	2.29	0.47
1:X:1187:A:C4'	1:X:1187:A:OP1	2.62	0.47
1:X:1336:G:O2'	1:X:1337:G:H5'	2.14	0.47
1:X:1482:U:C2'	1:X:1483:G:C8	2.95	0.47
1:X:1713:G:C6	1:X:1714:A:C4	3.03	0.47
1:X:2014:A:C5	1:X:2477:C:H1'	2.50	0.47
1:X:2178:U:H2'	1:X:2179:C:C6	2.47	0.47
1:X:2310:G:C5	1:X:2311:U:C4	3.02	0.47
1:X:2394:G:OP1	11:I:63:ARG:CD	2.62	0.47
1:X:2767:C:H4'	4:B:61:LYS:HG2	1.95	0.47
3:A:97:TYR:HE2	3:A:103:ARG:HD2	1.78	0.47
4:B:9:ILE:CD1	4:B:27:LEU:HB2	2.36	0.47
4:B:183:LEU:HD21	15:M:16:ILE:CD1	2.37	0.47
5:C:128:ALA:HB2	5:C:159:ARG:NE	2.28	0.47
6:D:71:LYS:O	6:D:72:LYS:HB2	2.14	0.47
7:E:22:GLY:O	7:E:24:PHE:CD1	2.68	0.47
8:F:112:MET:C	8:F:114:ASP:H	2.18	0.47
9:G:148:LEU:O	9:G:149:LYS:HG2	2.14	0.47
11:I:105:PRO:O	11:I:106:VAL:HG22	2.14	0.47
12:J:19:THR:HG22	12:J:99:LYS:NZ	2.29	0.47
13:K:38:LEU:HD12	13:K:38:LEU:O	2.14	0.47
13:K:60:LEU:HG	13:K:64:ARG:HD2	1.94	0.47
15:M:5:ILE:HD13	15:M:7:ILE:HB	1.96	0.47
18:P:40:LEU:HD13	18:P:62:ARG:HH12	1.75	0.47
19:Q:37:GLU:O	19:Q:40:ASP:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:25:LEU:H	20:R:25:LEU:HD13	1.80	0.47
20:R:93:ARG:O	20:R:95:ARG:NE	2.47	0.47
20:R:96:LYS:CG	20:R:97:GLN:H	2.04	0.47
22:T:71:ASN:HD22	22:T:77:ARG:CZ	2.28	0.47
23:U:32:ARG:NE	23:U:32:ARG:N	2.33	0.47
24:V:24:GLU:HG2	24:V:28:LEU:CD2	2.44	0.47
1:X:75:C:H2'	1:X:76:C:C5'	2.44	0.47
1:X:564:U:H2'	1:X:565:A:H8	1.76	0.47
1:X:683:A:H4'	1:X:684:C:H5'	1.97	0.47
1:X:1002:C:H2'	1:X:1003:C:H6	1.77	0.47
1:X:1002:C:C2	1:X:1003:C:C5	3.02	0.47
1:X:1039:A:N6	1:X:1136:G:H2'	2.30	0.47
1:X:1046:U:H3	1:X:1131:G:H1	1.62	0.47
1:X:1482:U:OP2	1:X:1562:G:O2'	2.31	0.47
1:X:1498:G:C4	1:X:1523:A:C2	3.02	0.47
1:X:1515:U:O2'	1:X:1516:A:H5'	2.14	0.47
1:X:1685:A:H4'	1:X:1686:A:O5'	2.15	0.47
1:X:2239:C:N3	1:X:2240:C:C5	2.83	0.47
1:X:2257:A:OP1	12:J:14:PHE:HE2	1.97	0.47
1:X:2550:C:N4	1:X:2553:G:C8	2.83	0.47
1:X:2652:G:O2'	1:X:2653:A:H5'	2.14	0.47
2:Y:22:U:H2'	2:Y:23:G:H8	1.80	0.47
2:Y:53:G:OP2	14:L:64:LYS:NZ	2.47	0.47
3:A:105:ILE:O	3:A:106:LEU:C	2.52	0.47
4:B:144:ARG:O	4:B:148:GLY:HA2	2.14	0.47
5:C:160:ALA:O	5:C:161:ALA:HB2	2.13	0.47
5:C:189:ASP:O	5:C:190:ALA:C	2.52	0.47
7:E:84:THR:HA	7:E:133:VAL:O	2.15	0.47
9:G:65:LYS:HG2	9:G:66:HIS:N	2.30	0.47
17:O:32:LYS:O	17:O:57:GLN:HA	2.15	0.47
20:R:41:PRO:HG2	20:R:42:ARG:H	1.80	0.47
21:S:35:ASP:O	21:S:36:ARG:O	2.32	0.47
21:S:114:ASP:OD2	21:S:115:ILE:N	2.47	0.47
21:S:146:HIS:CD2	21:S:146:HIS:N	2.81	0.47
22:T:53:MET:HG3	22:T:58:THR:O	2.15	0.47
23:U:24:ALA:C	23:U:26:ALA:N	2.68	0.47
1:X:7:G:C2	1:X:8:A:C4	3.03	0.47
1:X:562:G:OP1	16:N:22:LYS:NZ	2.48	0.47
1:X:596:C:H5'	5:C:84:PHE:CD1	2.49	0.47
1:X:682:G:N3	1:X:682:G:C2'	2.78	0.47
1:X:759:C:H6	1:X:759:C:C5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:810:U:H3'	1:X:810:U:C6	2.49	0.47
1:X:812:G:C4	1:X:813:A:N7	2.82	0.47
1:X:817:A:H2'	1:X:819:C:C4	2.49	0.47
1:X:1142:G:O2'	1:X:1143:A:O5'	2.26	0.47
1:X:1186:G:C4	1:X:1187:A:C2	3.03	0.47
1:X:1302:C:H2'	1:X:1303:U:C6	2.49	0.47
1:X:1426:U:H2'	1:X:1427:G:H5'	1.96	0.47
1:X:1732:U:O2'	1:X:1733:U:OP1	2.29	0.47
1:X:1802:A:H2'	1:X:1803:G:O4'	2.14	0.47
1:X:1823:G:H2'	1:X:1824:C:C6	2.49	0.47
1:X:2044:G:H5"	1:X:2482:A:C2	2.49	0.47
1:X:2201:G:H4'	3:A:186:HIS:NE2	2.29	0.47
1:X:2357:A:C5'	14:L:26:ARG:HH12	2.28	0.47
1:X:2824:C:P	15:M:100:ARG:HH11	2.38	0.47
2:Y:26:G:H2'	2:Y:58:G:O6	2.14	0.47
3:A:121:PRO:HB2	3:A:135:PHE:CE1	2.48	0.47
3:A:227:ASN:O	3:A:228:PRO:C	2.52	0.47
4:B:110:GLY:O	13:K:3:HIS:NE2	2.47	0.47
5:C:144:GLY:CA	5:C:166:TRP:NE1	2.77	0.47
6:D:81:GLN:HG2	6:D:82:GLY:N	2.29	0.47
6:D:111:ILE:HD13	6:D:137:ILE:HD12	1.95	0.47
6:D:135:GLN:HG3	6:D:151:GLY:CA	2.38	0.47
9:G:96:ASP:CG	9:G:97:ASP:H	2.18	0.47
9:G:157:PRO:C	9:G:159:SER:N	2.68	0.47
12:J:19:THR:CG2	12:J:99:LYS:HZ2	2.27	0.47
15:M:70:LYS:O	15:M:77:VAL:N	2.42	0.47
17:O:5:ILE:HG13	17:O:6:GLN:N	2.28	0.47
17:O:26:GLN:HA	17:O:63:HIS:NE2	2.30	0.47
20:R:105:ARG:O	20:R:106:VAL:HG13	2.14	0.47
21:S:53:ASP:OD2	21:S:53:ASP:N	2.47	0.47
21:S:141:MET:HA	21:S:145:ASP:CB	2.44	0.47
23:U:63:SER:O	23:U:66:ALA:N	2.39	0.47
30:4:15:LYS:HB2	30:4:26:ILE:CG1	2.43	0.47
1:X:820:U:H2'	1:X:821:A:H8	1.79	0.47
1:X:873:U:C4	1:X:2247:A:C8	3.03	0.47
1:X:1142:G:O4'	9:G:103:TYR:HD2	1.96	0.47
1:X:1264:C:H5"	16:N:13:ARG:NE	2.27	0.47
1:X:1484:G:H2'	1:X:1485:U:O4'	2.14	0.47
1:X:1629:G:C5	1:X:1633:C:C5	3.02	0.47
1:X:1675:C:OP1	4:B:134:TRP:CE2	2.68	0.47
1:X:1978:U:C5'	1:X:1979:C:H5"	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1982:C:OP1	1:X:2704:U:H5'	2.14	0.47
1:X:2015:G:C4'	1:X:2016:A:OP1	2.56	0.47
1:X:2064:U:OP2	23:U:39:LYS:NZ	2.48	0.47
1:X:2313:G:H21	14:L:17:VAL:N	2.13	0.47
1:X:2440:C:H2'	1:X:2441:U:C6	2.45	0.47
1:X:2817:A:C2	1:X:2851:G:C2	3.02	0.47
2:Y:5:C:H2'	2:Y:6:C:H6	1.78	0.47
4:B:192:ASN:ND2	15:M:9:ARG:NH1	2.57	0.47
5:C:147:LYS:O	5:C:184:ASP:HB2	2.15	0.47
7:E:37:TYR:CE2	7:E:68:THR:HG23	2.50	0.47
8:F:128:ALA:O	8:F:132:ARG:N	2.48	0.47
9:G:35:LYS:O	9:G:36:ASN:HB3	2.15	0.47
11:I:86:THR:N	11:I:116:ARG:NH1	2.47	0.47
12:J:42:TRP:CB	12:J:95:VAL:HG11	2.23	0.47
13:K:45:ARG:HD3	13:K:97:ILE:CD1	2.45	0.47
13:K:98:LEU:HD22	26:Z:56:GLN:HG2	1.92	0.47
16:N:60:LEU:HD11	16:N:64:ARG:CZ	2.45	0.47
16:N:92:ARG:HG3	16:N:92:ARG:HH11	1.79	0.47
17:O:13:ARG:HD2	17:O:15:SER:H	1.79	0.47
18:P:10:ASN:O	18:P:11:LYS:C	2.52	0.47
21:S:39:PHE:CZ	21:S:81:VAL:HG21	2.50	0.47
23:U:27:ASP:CA	23:U:32:ARG:HH21	2.26	0.47
24:V:32:ALA:HA	24:V:37:LEU:HB2	1.96	0.47
24:V:37:LEU:HD21	24:V:40:PRO:HA	1.95	0.47
1:X:334:G:H2'	5:C:162:ARG:O	2.15	0.47
1:X:455:A:C2	1:X:1258:G:N3	2.81	0.47
1:X:538:A:H2'	1:X:2025:A:C2	2.47	0.47
1:X:555:U:C5	1:X:1233:A:H2'	2.49	0.47
1:X:689:A:H8	1:X:2422:C:H1'	1.78	0.47
1:X:708:G:OP1	1:X:1393:G:O2'	2.32	0.47
1:X:827:C:H2'	1:X:828:C:O5'	2.15	0.47
1:X:1004:A:C2'	1:X:1005:U:H5'	2.45	0.47
1:X:1031:C:O2'	1:X:1032:A:P	2.73	0.47
1:X:1048:U:O5'	1:X:1048:U:H6	1.98	0.47
1:X:1053:G:C6	1:X:1054:C:C4	3.03	0.47
1:X:1198:C:O5'	1:X:1198:C:H6	1.98	0.47
1:X:1246:G:C5	1:X:1247:U:C5	3.03	0.47
1:X:1790:G:H5"	3:A:261:ARG:NH2	2.29	0.47
1:X:2074:U:P	1:X:2075:U:H3'	2.55	0.47
1:X:2265:A:H4'	1:X:2266:A:C5'	2.45	0.47
1:X:2507:U:O3'	1:X:2508:G:H8	1.98	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2598:C:C4'	4:B:150:VAL:HG22	2.45	0.47
1:X:2610:G:N3	1:X:2785:A:H2	2.13	0.47
1:X:2726:U:H2'	1:X:2727:G:C5'	2.44	0.47
1:X:2738:A:C2'	1:X:2739:G:H5'	2.45	0.47
1:X:2779:C:H2'	1:X:2780:A:O4'	2.14	0.47
2:Y:11:G:OP1	14:L:16:LYS:HD3	2.14	0.47
2:Y:38:C:OP2	2:Y:38:C:H6	1.97	0.47
3:A:79:VAL:O	3:A:114:GLY:N	2.47	0.47
4:B:37:LYS:HE2	4:B:44:TYR:OH	2.14	0.47
7:E:102:ALA:HB1	7:E:115:ILE:O	2.15	0.47
8:F:83:GLY:O	8:F:84:ILE:C	2.48	0.47
9:G:36:ASN:CG	9:G:37:ASP:H	2.18	0.47
9:G:93:LYS:CG	9:G:96:ASP:HB3	2.45	0.47
11:I:56:LEU:O	11:I:57:ILE:C	2.52	0.47
11:I:61:PRO:HG3	29:3:27:SER:CA	2.44	0.47
11:I:71:THR:HB	11:I:104:ARG:CD	2.40	0.47
11:I:130:ILE:HG23	11:I:140:VAL:CB	2.44	0.47
15:M:34:ARG:NH1	15:M:81:PHE:CB	2.67	0.47
16:N:66:ASN:HB2	16:N:76:TYR:H	1.78	0.47
16:N:106:PHE:O	16:N:110:VAL:HG23	2.15	0.47
17:O:57:GLN:HE21	17:O:98:ILE:HG13	1.79	0.47
17:O:64:GLY:HA3	17:O:90:PHE:CE1	2.49	0.47
19:Q:5:ASP:OD2	19:Q:5:ASP:N	2.47	0.47
19:Q:32:LYS:O	19:Q:33:ALA:HB2	2.15	0.47
20:R:16:PHE:HZ	20:R:46:VAL:CG2	2.28	0.47
21:S:2:GLU:O	21:S:3:LEU:C	2.52	0.47
21:S:6:LYS:CB	21:S:31:SER:O	2.63	0.47
21:S:16:GLU:O	21:S:18:MET:HG2	2.15	0.47
21:S:100:THR:CG2	21:S:101:THR:N	2.78	0.47
23:U:10:LYS:HZ3	23:U:70:LEU:CD1	2.28	0.47
23:U:24:ALA:C	23:U:26:ALA:H	2.12	0.47
23:U:62:LEU:CD2	23:U:67:LEU:HD12	2.34	0.47
24:V:21:ARG:O	24:V:24:GLU:N	2.41	0.47
1:X:63:A:C2	1:X:64:C:C6	3.02	0.47
1:X:176:A:H2'	1:X:2412:A:H61	1.79	0.47
1:X:1032:A:H8	1:X:1032:A:H3'	1.80	0.47
1:X:1090:C:H5	1:X:1099:A:OP1	1.98	0.47
1:X:1135:C:H2'	1:X:1136:G:C8	2.49	0.47
1:X:1142:G:O4'	9:G:107:GLN:HG3	2.15	0.47
1:X:1156:U:H2'	1:X:1157:G:H8	1.80	0.47
1:X:1238:A:H5'	17:O:85:GLY:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1314:A:C2'	1:X:1315:A:H3'	2.45	0.47
1:X:1407:G:H4'	1:X:1619:A:H4'	1.96	0.47
1:X:1474:A:H1'	1:X:1475:U:H5'	1.95	0.47
1:X:1496:G:H2'	1:X:1497:C:C6	2.50	0.47
1:X:1548:U:H2'	1:X:1549:C:C6	2.50	0.47
1:X:1726:C:C2	1:X:1741:G:N2	2.83	0.47
1:X:1818:G:C5	1:X:1819:U:C5	3.03	0.47
1:X:2823:G:O2'	1:X:2824:C:O5'	2.32	0.47
2:Y:10:U:O2'	14:L:28:ARG:NH2	2.48	0.47
3:A:134:ARG:N	3:A:187:SER:HB2	2.30	0.47
3:A:153:ALA:O	3:A:154:GLN:CG	2.63	0.47
4:B:5:LEU:HB2	4:B:31:CYS:SG	2.55	0.47
5:C:31:VAL:O	5:C:34:GLN:HB2	2.15	0.47
5:C:182:ARG:HD3	5:C:183:HIS:CE1	2.50	0.47
7:E:73:ALA:O	7:E:76:VAL:HB	2.15	0.47
9:G:162:LYS:H	9:G:163:PRO:CD	2.27	0.47
10:H:50:ILE:HG22	10:H:51:ILE:N	2.29	0.47
10:H:80:ALA:HB2	10:H:90:ARG:HD3	1.96	0.47
10:H:89:ILE:HG12	15:M:79:ARG:HD3	1.97	0.47
11:I:86:THR:HG1	11:I:118:VAL:HG12	1.79	0.47
12:J:19:THR:CG2	12:J:20:GLY:H	2.28	0.47
14:L:107:ALA:O	14:L:109:GLU:N	2.46	0.47
17:O:33:VAL:HA	17:O:56:VAL:O	2.14	0.47
18:P:100:GLY:O	18:P:101:PRO:O	2.33	0.47
22:T:39:ARG:HG2	22:T:39:ARG:HH11	1.80	0.47
23:U:70:LEU:HD23	23:U:74:PRO:HA	1.96	0.47
26:Z:14:SER:O	26:Z:15:LYS:C	2.53	0.47
1:X:119:G:H2'	1:X:120:G:H8	1.79	0.47
1:X:162:C:H2'	1:X:163:A:C8	2.49	0.47
1:X:334:G:H5'	5:C:162:ARG:HE	1.79	0.47
1:X:404:A:C5	1:X:405:C:C4	3.02	0.47
1:X:994:A:H2'	1:X:995:A:O4'	2.15	0.47
1:X:1807:A:H1'	1:X:1809:G:C8	2.49	0.47
1:X:1909:U:H5	1:X:1911:A:H62	1.59	0.47
1:X:1979:C:O2'	1:X:1980:A:C5'	2.63	0.47
1:X:2262:C:C5	1:X:2368:G:C4	3.03	0.47
1:X:2509:A:N7	7:E:172:LYS:HE2	2.30	0.47
1:X:2669:C:N4	1:X:2693:U:O3'	2.48	0.47
1:X:2859:U:H2'	1:X:2860:C:H5'	1.96	0.47
3:A:126:LYS:HB2	3:A:129:ASN:ND2	2.30	0.47
6:D:8:TYR:O	6:D:12:VAL:HB	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:114:PHE:HZ	6:D:176:PRO:CG	2.27	0.47
7:E:33:LEU:HG	7:E:34:THR:H	1.80	0.47
8:F:79:ARG:HG3	8:F:134:MET:CE	2.45	0.47
10:H:7:ARG:NH1	10:H:20:MET:HE2	2.30	0.47
11:I:134:GLU:C	11:I:136:ALA:N	2.67	0.47
14:L:33:ARG:NH1	14:L:103:LEU:CB	2.69	0.47
19:Q:7:LEU:HD22	19:Q:7:LEU:O	2.14	0.47
19:Q:12:ILE:O	19:Q:13:SER:O	2.33	0.47
19:Q:58:VAL:O	19:Q:74:ASP:HA	2.13	0.47
20:R:105:ARG:CZ	20:R:112:LYS:HA	2.44	0.47
1:X:38:G:HO2'	1:X:39:C:P	2.38	0.47
1:X:136:A:N9	1:X:137:A:C8	2.83	0.47
1:X:467:U:O2	1:X:467:U:C2'	2.63	0.47
1:X:651:C:C3'	1:X:652:C:H5"	2.45	0.47
1:X:801:A:C2'	1:X:802:A:OP2	2.63	0.47
1:X:1025:A:O2'	1:X:1026:U:H5'	2.14	0.47
1:X:1099:A:H4'	1:X:1100:G:H8	1.80	0.47
1:X:1142:G:O4'	9:G:107:GLN:CG	2.62	0.47
1:X:1314:A:C8	1:X:1316:G:C8	3.03	0.47
1:X:1598:C:O2'	1:X:1599:G:H5'	2.15	0.47
1:X:1735:G:C8	1:X:1735:G:OP2	2.68	0.47
1:X:2073:A:C5	1:X:2074:U:C4	3.03	0.47
1:X:2174:G:H2'	1:X:2175:A:H8	1.79	0.47
1:X:2728:A:O2'	7:E:66:GLY:HA3	2.15	0.47
2:Y:118:G:O2'	2:Y:119:G:H5'	2.15	0.47
3:A:70:ARG:HH12	3:A:149:PRO:C	2.18	0.47
3:A:150:GLY:C	3:A:152:GLY:H	2.16	0.47
3:A:243:GLY:C	3:A:244:ARG:HD3	2.35	0.47
5:C:48:ARG:HH11	5:C:87:LYS:HG3	1.80	0.47
6:D:16:LEU:O	6:D:17:MET:C	2.54	0.47
6:D:68:THR:HG23	6:D:88:LYS:HB2	1.97	0.47
6:D:126:GLY:O	6:D:160:ALA:HB3	2.14	0.47
7:E:150:LYS:O	7:E:152:ARG:N	2.48	0.47
10:H:62:GLY:O	10:H:65:LYS:NZ	2.43	0.47
11:I:71:THR:O	11:I:104:ARG:HB3	2.14	0.47
11:I:76:LYS:HB3	11:I:79:GLN:HE21	1.80	0.47
12:J:76:THR:HG22	12:J:89:GLY:O	2.14	0.47
14:L:60:LYS:HE3	14:L:62:GLY:H	1.80	0.47
18:P:35:PRO:HG2	18:P:99:ALA:HB2	1.96	0.47
20:R:22:VAL:HG21	20:R:80:LYS:HZ2	1.79	0.47
22:T:71:ASN:ND2	22:T:77:ARG:HD3	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:52:GLN:O	24:V:54:ASN:N	2.48	0.47
1:X:167:A:P	1:X:182:G:H22	2.38	0.46
1:X:344:G:C2	1:X:345:U:C6	3.03	0.46
1:X:640:C:C4	1:X:641:G:N7	2.83	0.46
1:X:692:C:H2'	1:X:693:A:H8	1.79	0.46
1:X:698:A:C2	1:X:702:A:C6	3.03	0.46
1:X:812:G:N1	1:X:813:A:N6	2.63	0.46
1:X:871:U:H1'	1:X:2248:A:H5'	1.96	0.46
1:X:1166:A:H2'	1:X:1167:A:H5"	1.97	0.46
1:X:1263:G:O2'	1:X:1264:C:H5'	2.14	0.46
1:X:1358:C:H2'	1:X:1359:G:H5'	1.98	0.46
1:X:1744:G:OP1	15:M:100:ARG:CD	2.62	0.46
1:X:2372:A:H5"	11:I:61:PRO:HB3	1.97	0.46
1:X:2498:U:C5	1:X:2520:A:C6	3.03	0.46
1:X:2628:C:O2'	1:X:2629:U:H5'	2.14	0.46
1:X:2700:U:C2	1:X:2701:A:C8	3.03	0.46
1:X:2751:C:H2'	1:X:2752:C:C6	2.50	0.46
2:Y:68:A:N6	2:Y:110:U:H3'	2.30	0.46
5:C:101:GLN:C	5:C:103:GLY:N	2.67	0.46
7:E:54:ARG:HE	7:E:57:ASP:CG	2.18	0.46
9:G:158:HIS:N	9:G:161:GLN:NE2	2.62	0.46
11:I:72:TYR:CE1	11:I:105:PRO:HG3	2.50	0.46
11:I:130:ILE:HG23	11:I:140:VAL:HB	1.95	0.46
12:J:125:LYS:CB	12:J:125:LYS:NZ	2.74	0.46
13:K:53:THR:O	13:K:53:THR:CG2	2.60	0.46
16:N:99:ALA:HA	16:N:106:PHE:HB2	1.96	0.46
17:O:10:LYS:HE3	17:O:11:GLN:HG2	1.96	0.46
18:P:21:ARG:HG3	18:P:21:ARG:NH1	2.28	0.46
19:Q:11:VAL:HG23	19:Q:27:PHE:HA	1.96	0.46
19:Q:28:TRP:CE3	19:Q:75:ARG:HB3	2.49	0.46
21:S:71:MET:HE2	21:S:71:MET:N	2.30	0.46
21:S:71:MET:HB2	21:S:77:ALA:O	2.15	0.46
23:U:49:LYS:HB3	23:U:61:TRP:HE3	1.77	0.46
26:Z:32:GLU:CG	26:Z:37:HIS:O	2.61	0.46
1:X:40:U:H2'	1:X:41:G:O4'	2.15	0.46
1:X:343:A:H1'	1:X:346:C:N4	2.30	0.46
1:X:359:G:H2'	1:X:360:A:H8	1.79	0.46
1:X:412:U:C5	23:U:68:ARG:NH1	2.83	0.46
1:X:451:A:H2'	1:X:452:G:C8	2.50	0.46
1:X:559:C:C2	1:X:560:G:H1'	2.50	0.46
1:X:634:G:H2'	1:X:635:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:649:G:O2'	1:X:650:U:H5'	2.15	0.46
1:X:804:C:O2'	1:X:805:G:C5'	2.63	0.46
1:X:1584:G:C5'	3:A:61:LEU:HG	2.41	0.46
1:X:1871:G:H3'	1:X:1871:G:N3	2.31	0.46
1:X:2521:A:H5'	1:X:2522:G:OP1	2.15	0.46
1:X:2795:A:O3'	13:K:3:HIS:CE1	2.66	0.46
1:X:2812:A:O2'	1:X:2813:G:H5'	2.15	0.46
1:X:2860:C:H2'	1:X:2861:A:O4'	2.15	0.46
3:A:147:LEU:CD2	3:A:155:LEU:HD11	2.35	0.46
4:B:16:LYS:CB	4:B:21:ILE:HD11	2.45	0.46
7:E:10:ALA:O	7:E:12:PRO:HD2	2.15	0.46
7:E:139:GLN:O	7:E:142:GLY:N	2.49	0.46
9:G:147:ARG:O	9:G:149:LYS:HG3	2.15	0.46
12:J:43:ILE:C	12:J:95:VAL:HG13	2.35	0.46
13:K:55:ALA:CB	13:K:79:VAL:HG22	2.45	0.46
19:Q:46:PHE:CD2	19:Q:88:ILE:HD13	2.51	0.46
19:Q:75:ARG:HH11	19:Q:75:ARG:HG3	1.79	0.46
21:S:98:VAL:HG11	21:S:168:VAL:HG11	1.97	0.46
22:T:46:LYS:HB2	22:T:78:PHE:CE2	2.50	0.46
23:U:45:ASN:OD1	23:U:45:ASN:N	2.48	0.46
1:X:235:C:N4	1:X:236:C:N3	2.63	0.46
1:X:581:A:C2	1:X:2016:A:C2	3.02	0.46
1:X:689:A:N1	1:X:815:A:N1	2.63	0.46
1:X:886:A:C4'	12:J:66:TYR:CE2	2.98	0.46
1:X:891:A:N1	1:X:911:A:C6	2.83	0.46
1:X:1066:G:H2'	1:X:1067:G:C8	2.49	0.46
1:X:2035:G:C2	1:X:2036:G:C8	3.03	0.46
1:X:2170:C:O5'	1:X:2170:C:H6	1.99	0.46
1:X:2240:C:OP2	22:T:17:ASN:OD1	2.32	0.46
1:X:2497:A:H5"	1:X:2498:U:OP2	2.16	0.46
1:X:2505:G:C2'	30:4:1:MET:H1	2.28	0.46
1:X:2781:G:C3'	1:X:2782:G:H5"	2.46	0.46
5:C:112:GLN:O	5:C:116:LYS:HE2	2.15	0.46
6:D:29:PRO:HB3	6:D:160:ALA:CA	2.40	0.46
6:D:111:ILE:O	6:D:114:PHE:HB3	2.16	0.46
9:G:61:ARG:NE	9:G:65:LYS:CD	2.52	0.46
10:H:70:VAL:HG22	10:H:71:LYS:N	2.25	0.46
13:K:20:LEU:O	13:K:21:ALA:C	2.54	0.46
22:T:46:LYS:HZ2	22:T:76:ALA:CB	2.29	0.46
24:V:39:GLN:O	24:V:40:PRO:C	2.52	0.46
1:X:122:G:C2'	1:X:123:A:H5"	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:357:A:H3'	1:X:358:C:O4'	2.16	0.46
1:X:834:A:H5"	1:X:835:U:H6	1.81	0.46
1:X:913:A:H2'	1:X:914:C:O5'	2.16	0.46
1:X:1086:C:C3'	1:X:1087:C:H5"	2.39	0.46
1:X:1228:G:C6	1:X:1229:C:N3	2.84	0.46
1:X:1279:G:H1'	1:X:1280:U:H5	1.80	0.46
1:X:1673:C:H2'	1:X:1674:C:H6	1.80	0.46
1:X:1917:C:O2'	1:X:1918:G:H5'	2.15	0.46
1:X:1998:A:H1'	26:Z:3:LYS:HG2	1.98	0.46
1:X:2257:A:H2'	1:X:2258:G:H5'	1.96	0.46
1:X:2334:C:O5'	1:X:2334:C:H6	1.98	0.46
1:X:2340:C:C2'	1:X:2341:G:H5'	2.45	0.46
1:X:2738:A:H2'	1:X:2739:G:H5'	1.97	0.46
2:Y:54:U:H4'	2:Y:54:U:OP1	2.16	0.46
2:Y:58:G:H5'	6:D:24:SER:OG	2.16	0.46
3:A:43:ARG:HB3	3:A:43:ARG:CZ	2.45	0.46
3:A:70:ARG:HH12	3:A:149:PRO:HA	1.79	0.46
4:B:66:HIS:O	4:B:69:LYS:HB2	2.16	0.46
4:B:146:THR:CB	4:B:147:PRO:HD2	2.38	0.46
6:D:69:LYS:HE2	6:D:84:PRO:HG3	1.97	0.46
7:E:109:TYR:CE1	7:E:152:ARG:CZ	2.98	0.46
7:E:164:PHE:O	7:E:166:GLY:N	2.47	0.46
12:J:79:PRO:HG2	12:J:88:LYS:HD2	1.98	0.46
13:K:69:ASP:O	13:K:70:ILE:HG12	2.15	0.46
14:L:57:ALA:O	14:L:59:LEU:N	2.48	0.46
16:N:13:ARG:CG	16:N:13:ARG:NH2	2.78	0.46
19:Q:73:ASN:HB2	19:Q:75:ARG:HH12	1.81	0.46
21:S:39:PHE:CE1	21:S:81:VAL:HG11	2.50	0.46
23:U:23:LYS:HE3	23:U:26:ALA:CA	2.44	0.46
23:U:27:ASP:HA	23:U:32:ARG:CZ	2.42	0.46
23:U:78:ILE:O	23:U:79:GLU:O	2.34	0.46
1:X:86:U:P	20:R:42:ARG:HH21	2.38	0.46
1:X:174:A:C8	1:X:2409:A:N7	2.83	0.46
1:X:889:C:H2'	1:X:890:U:C6	2.51	0.46
1:X:946:U:H2'	1:X:947:C:H6	1.79	0.46
1:X:1065:A:C2'	1:X:1066:G:H5'	2.45	0.46
1:X:1186:G:C6	1:X:1187:A:C6	3.03	0.46
1:X:1264:C:H5"	16:N:13:ARG:CZ	2.46	0.46
1:X:1274:C:C2'	1:X:1275:A:O5'	2.63	0.46
1:X:1505:U:C2	1:X:1506:C:C5	3.04	0.46
1:X:1651:U:H4'	1:X:1652:G:OP2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1770:U:O4	1:X:1776:A:C6	2.68	0.46
1:X:1845:A:H2'	1:X:1846:A:H8	1.79	0.46
1:X:1937:G:N3	1:X:2530:C:H5"	2.30	0.46
1:X:2085:G:H2'	1:X:2086:U:C6	2.50	0.46
1:X:2356:A:HO2'	14:L:89:PHE:HE2	1.54	0.46
1:X:2366:U:H1'	22:T:41:ARG:CZ	2.46	0.46
1:X:2399:C:O5'	1:X:2399:C:H6	1.98	0.46
2:Y:56:G:O2'	2:Y:57:U:H5'	2.16	0.46
3:A:246:PRO:O	3:A:248:THR:O	2.34	0.46
5:C:33:TRP:HB2	5:C:93:TYR:OH	2.15	0.46
5:C:106:MET:O	5:C:110:SER:OG	2.33	0.46
5:C:145:THR:O	5:C:146:GLU:CD	2.54	0.46
9:G:61:ARG:HA	9:G:65:LYS:HB2	1.97	0.46
12:J:40:PRO:HG3	12:J:99:LYS:NZ	2.31	0.46
12:J:40:PRO:HB3	12:J:99:LYS:HZ2	1.80	0.46
14:L:22:ALA:C	14:L:24:SER:N	2.68	0.46
14:L:29:LEU:HD13	14:L:75:LEU:HD21	1.98	0.46
14:L:37:HIS:O	14:L:37:HIS:ND1	2.48	0.46
16:N:11:ARG:HB3	16:N:15:LYS:NZ	2.30	0.46
16:N:93:LYS:C	16:N:94:VAL:HG23	2.36	0.46
17:O:65:ARG:CG	17:O:65:ARG:NH1	2.77	0.46
19:Q:22:ARG:CZ	19:Q:24:VAL:HG21	2.46	0.46
19:Q:22:ARG:NH1	19:Q:24:VAL:HG21	2.31	0.46
19:Q:33:ALA:O	19:Q:34:THR:O	2.34	0.46
20:R:25:LEU:CG	20:R:81:VAL:HG23	2.46	0.46
20:R:39:ALA:O	20:R:41:PRO:HD3	2.15	0.46
21:S:71:MET:HA	21:S:78:PRO:HA	1.98	0.46
22:T:50:GLY:O	22:T:62:LEU:HD23	2.14	0.46
25:W:1:MET:C	25:W:34:VAL:HG12	2.35	0.46
25:W:45:LYS:HA	25:W:45:LYS:CE	2.34	0.46
1:X:136:A:H2'	1:X:137:A:O5'	2.15	0.46
1:X:321:A:OP1	20:R:27:GLY:N	2.49	0.46
1:X:459:A:H1'	1:X:461:A:N6	2.31	0.46
1:X:471:A:C2	1:X:481:A:C4	3.04	0.46
1:X:845:U:P	11:I:41:SER:HG	2.39	0.46
1:X:982:C:H2'	1:X:983:G:O5'	2.15	0.46
1:X:994:A:O2'	1:X:995:A:H5'	2.14	0.46
1:X:1182:U:H2'	1:X:1183:C:O4'	2.15	0.46
1:X:1715:A:H4'	1:X:1716:G:O5'	2.16	0.46
1:X:2231:G:H2'	1:X:2232:G:O4'	2.14	0.46
1:X:2332:G:H2'	1:X:2333:A:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2823:G:O2'	1:X:2824:C:OP2	2.34	0.46
3:A:92:ILE:CG2	3:A:104:TYR:CD2	2.90	0.46
3:A:243:GLY:C	3:A:244:ARG:CZ	2.84	0.46
4:B:67:PHE:CD2	4:B:74:PRO:HA	2.51	0.46
4:B:127:ALA:HB2	4:B:135:HIS:HE1	1.81	0.46
5:C:28:HIS:CE1	11:I:17:LYS:HA	2.51	0.46
5:C:186:LEU:HG	5:C:188:ILE:CG1	2.45	0.46
7:E:39:THR:C	7:E:41:LEU:N	2.69	0.46
8:F:120:VAL:HG12	8:F:124:ALA:HB2	1.98	0.46
9:G:42:VAL:CG1	9:G:43:VAL:N	2.78	0.46
9:G:166:LEU:O	9:G:168:THR:HG23	2.14	0.46
10:H:100:ASN:OD1	10:H:102:GLN:HG2	2.16	0.46
11:I:18:ARG:HB2	11:I:21:ARG:CB	2.38	0.46
11:I:36:GLY:O	11:I:37:GLN:HB2	2.15	0.46
12:J:61:ARG:HH12	21:S:175:ARG:HD3	1.80	0.46
12:J:116:LYS:HE2	12:J:132:MET:CE	2.46	0.46
13:K:87:TYR:O	13:K:88:ALA:C	2.53	0.46
14:L:12:ARG:O	14:L:16:LYS:HB2	2.14	0.46
17:O:11:GLN:HE22	17:O:38:LEU:HB3	1.80	0.46
18:P:35:PRO:O	18:P:39:ARG:HD3	2.15	0.46
20:R:15:HIS:HD1	20:R:82:ALA:HB2	1.80	0.46
20:R:56:LYS:HA	20:R:68:GLY:O	2.16	0.46
23:U:28:GLY:CA	23:U:32:ARG:HB3	2.39	0.46
24:V:7:ARG:O	24:V:9:LEU:N	2.48	0.46
25:W:4:LYS:HD2	25:W:52:GLU:CD	2.36	0.46
1:X:38:G:H2'	1:X:39:C:C6	2.51	0.46
1:X:334:G:H3'	5:C:162:ARG:HG2	1.98	0.46
1:X:428:A:H2'	1:X:429:C:O4'	2.15	0.46
1:X:458:G:P	16:N:3:ARG:HD3	2.56	0.46
1:X:538:A:H5"	9:G:142:ARG:HH12	1.81	0.46
1:X:1188:A:H2'	1:X:1189:G:O5'	2.16	0.46
1:X:1785:A:H2'	1:X:1786:C:C6	2.51	0.46
1:X:2215:C:H2'	1:X:2216:G:O4'	2.16	0.46
3:A:181:GLU:HG2	3:A:182:LEU:H	1.79	0.46
3:A:217:ARG:NH2	3:A:218:LYS:HZ3	2.14	0.46
5:C:173:ALA:C	5:C:175:VAL:H	2.19	0.46
7:E:76:VAL:C	7:E:78:GLY:N	2.69	0.46
10:H:13:ASN:HD21	10:H:109:ARG:N	2.14	0.46
13:K:51:LEU:HD11	13:K:66:VAL:HG13	1.97	0.46
14:L:33:ARG:NH1	14:L:99:ARG:O	2.49	0.46
16:N:24:PHE:CE2	16:N:39:LEU:HD21	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:83:LEU:HD12	16:N:83:LEU:H	1.81	0.46
17:O:38:LEU:HD13	17:O:39:PHE:H	1.76	0.46
20:R:85:ASP:CG	20:R:86:PRO:HD3	2.35	0.46
23:U:28:GLY:O	23:U:31:GLY:N	2.49	0.46
24:V:4:SER:HB3	24:V:7:ARG:CZ	2.46	0.46
1:X:53:G:C2'	1:X:54:G:O5'	2.63	0.46
1:X:462:G:O6	1:X:465:C:OP1	2.33	0.46
1:X:573:C:O2	1:X:1266:G:N2	2.48	0.46
1:X:618:A:O2'	1:X:619:A:H5'	2.16	0.46
1:X:931:G:C5	1:X:932:G:C8	3.03	0.46
1:X:2417:U:H2'	1:X:2418:A:OP2	2.16	0.46
1:X:2663:U:N3	1:X:2664:G:C8	2.84	0.46
1:X:2698:G:O2'	1:X:2822:U:OP1	2.34	0.46
1:X:2728:A:H4'	7:E:66:GLY:O	2.15	0.46
1:X:2741:G:O2'	1:X:2742:G:H5'	2.16	0.46
3:A:88:ARG:HH11	3:A:88:ARG:HG3	1.79	0.46
3:A:161:THR:O	3:A:195:ALA:HB1	2.16	0.46
3:A:228:PRO:CD	3:A:235:GLY:H	2.25	0.46
4:B:123:ALA:O	4:B:124:GLY:C	2.53	0.46
5:C:65:GLY:O	5:C:66:ASN:O	2.33	0.46
6:D:33:LYS:HD2	6:D:90:THR:HG23	1.98	0.46
6:D:35:VAL:O	6:D:154:ILE:HG13	2.16	0.46
8:F:82:ALA:HB3	8:F:84:ILE:CD1	2.46	0.46
14:L:34:SER:HB2	14:L:94:TYR:CE2	2.50	0.46
16:N:50:ARG:O	16:N:51:ARG:C	2.53	0.46
17:O:39:PHE:C	17:O:39:PHE:CD1	2.88	0.46
17:O:63:HIS:CE1	17:O:91:THR:HG23	2.51	0.46
18:P:45:ILE:HG12	18:P:53:ALA:HA	1.98	0.46
18:P:81:HIS:O	18:P:83:ASP:N	2.49	0.46
20:R:92:THR:C	20:R:95:ARG:NH2	2.69	0.46
20:R:93:ARG:N	20:R:95:ARG:HH22	2.13	0.46
21:S:1:MET:HG3	21:S:52:PHE:CE2	2.51	0.46
23:U:28:GLY:N	23:U:32:ARG:CD	2.77	0.46
24:V:3:PRO:O	24:V:5:GLU:N	2.49	0.46
26:Z:31:THR:O	26:Z:39:LYS:HA	2.15	0.46
1:X:227:G:O2'	11:I:53:ARG:CZ	2.64	0.46
1:X:239:A:H2'	1:X:240:U:O4'	2.16	0.46
1:X:734:G:H2'	1:X:735:G:C8	2.50	0.46
1:X:862:A:H5'	1:X:862:A:H8	1.80	0.46
1:X:1226:A:N6	1:X:1249:G:H1'	2.30	0.46
1:X:1332:G:C2	1:X:1333:G:C2	3.04	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1376:C:C2	1:X:1377:G:C8	3.03	0.46
1:X:1383:C:C2	1:X:1384:G:C8	3.03	0.46
1:X:1724:C:N3	1:X:1747:G:C6	2.84	0.46
1:X:1793:A:H8	1:X:1793:A:O5'	1.99	0.46
1:X:2274:C:H5	14:L:14:ARG:NH1	2.14	0.46
1:X:2397:A:H2'	1:X:2398:U:O4'	2.15	0.46
1:X:2662:C:O2'	1:X:2663:U:H5'	2.15	0.46
1:X:2671:C:O2'	1:X:2672:U:H5'	2.16	0.46
1:X:2713:A:N6	4:B:203:LYS:HG2	2.30	0.46
1:X:2778:U:H5'	1:X:2779:C:H1'	1.97	0.46
3:A:70:ARG:C	3:A:72:LYS:N	2.70	0.46
5:C:14:THR:O	5:C:15:ILE:CB	2.63	0.46
5:C:117:LEU:C	5:C:117:LEU:CD2	2.85	0.46
5:C:126:ALA:C	5:C:127:ASP:CG	2.73	0.46
5:C:138:LYS:C	5:C:140:ASN:H	2.18	0.46
5:C:154:ASP:O	5:C:157:THR:OG1	2.33	0.46
6:D:33:LYS:CG	6:D:157:VAL:HG21	2.45	0.46
7:E:98:LEU:HD11	7:E:101:LYS:N	2.29	0.46
9:G:103:TYR:CG	9:G:111:LYS:HA	2.51	0.46
10:H:23:ARG:HG2	10:H:24:VAL:H	1.80	0.46
11:I:62:LYS:HG2	11:I:63:ARG:N	2.31	0.46
12:J:25:GLY:O	12:J:26:ASP:O	2.34	0.46
12:J:53:ILE:O	12:J:57:ARG:HG2	2.15	0.46
13:K:99:ARG:HG2	13:K:99:ARG:HH11	1.81	0.46
14:L:64:LYS:NZ	14:L:66:ASP:OD2	2.48	0.46
16:N:25:TRP:O	16:N:26:GLY:O	2.33	0.46
20:R:15:HIS:O	20:R:82:ALA:CB	2.64	0.46
21:S:62:PHE:HB3	21:S:85:MET:CE	2.45	0.46
23:U:41:VAL:O	23:U:42:GLN:OE1	2.33	0.46
24:V:31:GLN:O	24:V:32:ALA:C	2.54	0.46
1:X:352:G:O2'	1:X:353:G:H5'	2.15	0.46
1:X:514:G:N7	18:P:20:LEU:HD21	2.30	0.46
1:X:944:A:H2'	1:X:945:G:H5'	1.98	0.46
1:X:1040:A:C8	1:X:1041:G:C8	3.04	0.46
1:X:1053:G:H4'	1:X:1054:C:OP1	2.15	0.46
1:X:1082:G:N2	1:X:1101:U:H5	2.13	0.46
1:X:1147:G:C4	1:X:1148:G:C8	3.04	0.46
1:X:1325:U:O2'	1:X:1327:C:N4	2.49	0.46
1:X:1801:C:H1'	1:X:2207:G:O2'	2.16	0.46
1:X:1807:A:P	1:X:1814:G:H4'	2.56	0.46
1:X:1914:U:O2'	1:X:1915:A:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2030:U:O2'	1:X:2031:A:H5'	2.15	0.46
1:X:2334:C:O2'	22:T:39:ARG:NE	2.49	0.46
1:X:2507:U:O2'	1:X:2508:G:H3'	2.16	0.46
1:X:2540:A:O2'	10:H:23:ARG:HD3	2.16	0.46
1:X:2700:U:N3	1:X:2701:A:N7	2.64	0.46
2:Y:4:C:H2'	2:Y:5:C:H5'	1.96	0.46
3:A:42:GLY:N	3:A:43:ARG:NH1	2.64	0.46
3:A:67:PHE:CB	3:A:153:ALA:H	2.10	0.46
5:C:47:THR:CG2	5:C:85:GLY:H	2.17	0.46
5:C:153:ASP:HA	5:C:158:ARG:HH21	1.81	0.46
6:D:69:LYS:HG2	6:D:84:PRO:HA	1.98	0.46
6:D:101:GLU:HA	6:D:104:ILE:HD12	1.98	0.46
6:D:163:ASP:HA	6:D:166:ALA:HB3	1.97	0.46
8:F:84:ILE:CG2	8:F:85:GLY:N	2.78	0.46
8:F:110:THR:O	8:F:113:PRO:HD2	2.16	0.46
9:G:67:ARG:HE	9:G:70:PHE:CB	2.28	0.46
9:G:148:LEU:HD12	9:G:148:LEU:C	2.33	0.46
10:H:10:VAL:HA	10:H:96:ALA:O	2.16	0.46
12:J:81:GLU:CG	12:J:82:THR:H	2.22	0.46
15:M:11:GLU:O	15:M:12:LEU:C	2.53	0.46
16:N:93:LYS:O	16:N:94:VAL:CG2	2.64	0.46
18:P:83:ASP:O	18:P:84:GLU:C	2.54	0.46
19:Q:93:GLY:O	19:Q:94:GLN:C	2.54	0.46
21:S:1:MET:CE	21:S:52:PHE:HB3	2.44	0.46
25:W:36:ASP:C	25:W:41:ARG:NH1	2.69	0.46
30:4:29:ASN:OD1	30:4:31:LYS:N	2.49	0.46
1:X:59:G:N2	1:X:73:A:C4	2.84	0.45
1:X:203:G:OP1	1:X:233:A:O2'	2.32	0.45
1:X:308:C:O2	1:X:308:C:H2'	2.15	0.45
1:X:312:G:O2'	1:X:313:U:O4'	2.33	0.45
1:X:469:G:N2	1:X:480:G:H2'	2.31	0.45
1:X:623:G:N2	1:X:626:A:N3	2.49	0.45
1:X:988:G:N3	1:X:1012:A:C2	2.83	0.45
1:X:1318:A:H2'	1:X:1319:C:O5'	2.16	0.45
1:X:1468:A:C8	1:X:1468:A:P	3.04	0.45
1:X:1502:G:O2'	1:X:1503:G:H5'	2.16	0.45
1:X:1522:C:H3'	1:X:1522:C:H6	1.82	0.45
1:X:1672:A:H3'	1:X:1673:C:C6	2.51	0.45
1:X:1830:C:H42	1:X:1881:U:H2'	1.81	0.45
1:X:1929:U:H2'	1:X:1930:C:C6	2.50	0.45
1:X:1953:A:C5'	1:X:1954:A:OP1	2.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1987:G:C6	1:X:1988:A:C4	3.04	0.45
1:X:2289:A:C2	6:D:79:LEU:HD21	2.29	0.45
1:X:2598:C:H4'	4:B:150:VAL:HG22	1.98	0.45
1:X:2618:A:H1'	1:X:2758:A:C2	2.51	0.45
1:X:2701:A:H2'	1:X:2702:G:O5'	2.15	0.45
3:A:184:ARG:HH11	3:A:184:ARG:CG	2.29	0.45
9:G:86:ALA:HB2	9:G:152:ALA:HB1	1.97	0.45
9:G:150:VAL:HG12	9:G:151:TYR:N	2.31	0.45
10:H:47:VAL:HG11	10:H:115:ALA:CB	2.47	0.45
11:I:28:LYS:NZ	11:I:37:GLN:H	2.11	0.45
12:J:51:CYS:SG	12:J:126:LEU:HD21	2.55	0.45
14:L:77:ALA:O	14:L:80:ALA:HB3	2.15	0.45
17:O:6:GLN:O	17:O:7:THR:OG1	2.31	0.45
17:O:10:LYS:CD	17:O:11:GLN:HE21	2.28	0.45
18:P:88:ASP:OD2	18:P:88:ASP:N	2.49	0.45
19:Q:9:ALA:O	19:Q:27:PHE:HB2	2.16	0.45
20:R:25:LEU:CD1	20:R:81:VAL:N	2.77	0.45
24:V:18:ILE:O	24:V:20:ALA:N	2.48	0.45
30:4:1:MET:CE	30:4:35:ARG:NH2	2.78	0.45
1:X:409:G:C2'	1:X:410:A:H5'	2.45	0.45
1:X:417:C:N3	1:X:419:G:C6	2.84	0.45
1:X:428:A:N1	1:X:2388:G:C6	2.84	0.45
1:X:620:G:O2'	1:X:621:U:H5'	2.15	0.45
1:X:843:G:H1'	1:X:2427:A:C6	2.50	0.45
1:X:939:C:H4'	1:X:940:G:OP2	2.14	0.45
1:X:1148:G:H5"	1:X:1149:G:OP2	2.17	0.45
1:X:1188:A:N7	1:X:1189:G:C5	2.85	0.45
1:X:1389:C:O2'	1:X:1390:G:H5'	2.16	0.45
1:X:1476:G:C6	1:X:1477:C:C4	3.04	0.45
1:X:1551:U:C5'	1:X:1552:C:C5	3.00	0.45
1:X:1858:C:C2'	1:X:1859:A:O5'	2.64	0.45
1:X:2196:U:C4	1:X:2197:U:C4	3.05	0.45
1:X:2210:C:H5"	23:U:45:ASN:HB3	1.97	0.45
1:X:2299:A:C2	1:X:2312:A:C5	3.05	0.45
1:X:2395:C:H6	1:X:2395:C:O5'	1.99	0.45
3:A:43:ARG:NH2	3:A:55:GLY:HA2	2.29	0.45
3:A:228:PRO:HD3	3:A:235:GLY:CA	2.46	0.45
3:A:244:ARG:CB	3:A:252:LYS:NZ	2.68	0.45
3:A:261:ARG:O	3:A:264:LYS:HB3	2.15	0.45
4:B:159:HIS:CE1	4:B:162:MET:HB3	2.51	0.45
4:B:161:GLY:O	4:B:162:MET:HB3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:43:ALA:HB3	5:C:87:LYS:C	2.37	0.45
5:C:46:ARG:HD2	5:C:51:VAL:HG23	1.98	0.45
5:C:107:ALA:CB	5:C:180:ILE:HD13	2.45	0.45
7:E:7:GLN:HB3	7:E:51:LEU:HD11	1.96	0.45
10:H:83:ARG:CD	10:H:89:ILE:HD11	2.42	0.45
13:K:13:ASN:ND2	13:K:13:ASN:C	2.60	0.45
15:M:46:ARG:O	15:M:47:SER:HB2	2.16	0.45
16:N:91:ASN:ND2	17:O:11:GLN:HE22	2.14	0.45
22:T:52:GLY:HA3	22:T:60:PHE:CZ	2.51	0.45
25:W:37:THR:HA	25:W:41:ARG:NH2	2.30	0.45
1:X:1:G:H2'	1:X:2:G:C8	2.51	0.45
1:X:83:A:C2	1:X:97:U:O2	2.69	0.45
1:X:196:A:C2'	1:X:197:G:H5'	2.46	0.45
1:X:219:G:C2'	1:X:220:U:OP2	2.63	0.45
1:X:410:A:OP1	23:U:47:HIS:ND1	2.49	0.45
1:X:467:U:O2'	1:X:468:A:OP1	2.29	0.45
1:X:632:A:C2	1:X:633:G:C8	3.04	0.45
1:X:673:G:H5'	5:C:93:TYR:CE1	2.51	0.45
1:X:1312:G:C5'	1:X:1313:U:OP1	2.63	0.45
1:X:1339:U:H5	1:X:1664:G:O2'	2.00	0.45
1:X:1354:A:C5'	19:Q:56:MET:HG3	2.46	0.45
1:X:1490:U:H2'	1:X:1491:C:C6	2.43	0.45
1:X:1517:C:H4'	3:A:96:HIS:CD2	2.51	0.45
1:X:1631:C:C1'	18:P:108:PRO:HG2	2.34	0.45
1:X:1830:C:N4	1:X:1881:U:H2'	2.31	0.45
1:X:2170:C:C3'	1:X:2171:U:C5'	2.88	0.45
1:X:2263:C:H1'	1:X:2304:G:N2	2.32	0.45
1:X:2431:C:N4	1:X:2432:A:C6	2.84	0.45
1:X:2499:C:O2'	1:X:2500:C:H5'	2.16	0.45
1:X:2532:G:C6	1:X:2533:U:C2	3.05	0.45
3:A:172:TYR:CD2	3:A:186:HIS:N	2.84	0.45
3:A:186:HIS:C	3:A:188:GLU:N	2.69	0.45
3:A:231:HIS:HD2	3:A:233:HIS:N	2.08	0.45
5:C:53:LYS:HD3	5:C:53:LYS:HA	1.63	0.45
5:C:104:LEU:O	5:C:107:ALA:N	2.48	0.45
6:D:52:LYS:O	6:D:56:GLU:HB2	2.17	0.45
6:D:99:PHE:O	6:D:102:LYS:HB2	2.15	0.45
8:F:99:LEU:HD13	8:F:103:GLN:HB2	1.98	0.45
9:G:33:ILE:HD11	9:G:35:LYS:NZ	2.31	0.45
11:I:86:THR:HG22	11:I:86:THR:O	2.17	0.45
11:I:120:VAL:HG12	11:I:122:VAL:HG13	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:45:TYR:O	16:N:49:ASP:OD1	2.34	0.45
17:O:35:LEU:HD22	17:O:36:LYS:O	2.15	0.45
19:Q:53:ILE:HD12	19:Q:79:ILE:O	2.16	0.45
20:R:52:ASN:HD21	20:R:71:GLN:CD	2.19	0.45
20:R:95:ARG:NH1	20:R:95:ARG:HG3	2.32	0.45
21:S:87:THR:O	21:S:88:TYR:CB	2.61	0.45
21:S:101:THR:OG1	21:S:135:VAL:CG1	2.64	0.45
24:V:4:SER:O	24:V:8:ASN:OD1	2.34	0.45
24:V:41:HIS:O	24:V:42:ARG:C	2.52	0.45
1:X:5:A:C2	1:X:6:A:C4	3.04	0.45
1:X:42:G:H2'	1:X:43:A:C8	2.52	0.45
1:X:215:G:H2'	1:X:216:U:O4'	2.17	0.45
1:X:304:A:N7	1:X:356:A:N6	2.65	0.45
1:X:394:U:OP1	23:U:19:ILE:HD11	2.16	0.45
1:X:558:G:H2'	1:X:559:C:O4'	2.15	0.45
1:X:600:G:H3'	1:X:601:A:H5"	1.99	0.45
1:X:617:U:H5	1:X:632:A:N1	2.11	0.45
1:X:945:G:O2'	1:X:946:U:H5'	2.16	0.45
1:X:986:A:C2	1:X:1001:A:C8	3.05	0.45
1:X:1008:G:H2'	1:X:1009:C:H6	1.81	0.45
1:X:1332:G:C6	1:X:1333:G:N1	2.84	0.45
1:X:1357:U:H4'	1:X:1397:A:C6	2.51	0.45
1:X:1522:C:H3'	1:X:1522:C:C6	2.52	0.45
1:X:1771:A:O2'	1:X:1772:C:OP1	2.33	0.45
1:X:1876:C:C2'	1:X:1877:C:H5'	2.47	0.45
1:X:1958:G:H2'	1:X:1959:U:C6	2.51	0.45
1:X:2224:U:H5"	1:X:2225:G:H5'	1.98	0.45
1:X:2247:A:H5'	1:X:2248:A:P	2.57	0.45
1:X:2651:U:O2	1:X:2652:G:C8	2.69	0.45
5:C:17:LEU:HA	5:C:18:PRO:HD3	1.75	0.45
5:C:158:ARG:HB3	5:C:169:VAL:HG11	1.99	0.45
6:D:8:TYR:O	6:D:12:VAL:CG2	2.65	0.45
6:D:88:LYS:HE2	6:D:90:THR:HG1	1.78	0.45
6:D:175:LEU:CG	6:D:177:PHE:HE1	2.29	0.45
7:E:163:ARG:HB2	7:E:167:GLU:HG2	1.98	0.45
9:G:108:GLY:C	9:G:110:LEU:CD2	2.85	0.45
10:H:97:VAL:HG11	10:H:126:ILE:HD12	1.96	0.45
11:I:76:LYS:HG3	11:I:111:SER:CB	2.25	0.45
11:I:81:GLN:NE2	11:I:115:SER:CA	2.80	0.45
11:I:93:LEU:C	11:I:97:ARG:HG3	2.36	0.45
12:J:15:ARG:HB3	12:J:16:GLY:H	1.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:44:LYS:HD3	12:J:47:GLN:OE1	2.17	0.45
12:J:76:THR:HB	12:J:88:LYS:O	2.16	0.45
14:L:107:ALA:C	14:L:109:GLU:N	2.68	0.45
16:N:91:ASN:C	16:N:93:LYS:N	2.69	0.45
18:P:79:ALA:O	18:P:85:MET:HB2	2.16	0.45
20:R:58:VAL:C	20:R:60:PRO:HD3	2.37	0.45
21:S:91:PRO:CG	21:S:125:PRO:HG2	2.46	0.45
21:S:105:GLN:O	21:S:141:MET:O	2.35	0.45
22:T:14:ARG:O	22:T:15:ASP:HB2	2.17	0.45
1:X:230:C:H2'	1:X:231:G:H5'	1.97	0.45
1:X:239:A:C2	1:X:443:A:N3	2.85	0.45
1:X:413:G:C2'	1:X:414:A:H5"	2.46	0.45
1:X:549:G:C6	1:X:550:C:C4	3.04	0.45
1:X:704:G:H2'	1:X:705:C:C6	2.51	0.45
1:X:857:U:C3'	1:X:858:G:H8	2.20	0.45
1:X:871:U:H1'	1:X:2248:A:C5'	2.45	0.45
1:X:986:A:O3'	16:N:48:ARG:NH2	2.49	0.45
1:X:1089:C:H1'	1:X:1099:A:C2	2.51	0.45
1:X:1182:U:H5'	1:X:1182:U:H6	1.80	0.45
1:X:1189:G:O2'	1:X:1190:C:H5'	2.17	0.45
1:X:1277:G:H8	1:X:1277:G:O5'	1.99	0.45
1:X:1314:A:C2	1:X:1642:G:N3	2.85	0.45
1:X:1615:C:OP1	19:Q:35:LYS:N	2.25	0.45
1:X:1673:C:H5"	4:B:136:ARG:HH11	1.81	0.45
1:X:1851:A:N6	1:X:1866:G:H21	2.09	0.45
1:X:1874:G:C6	1:X:1875:C:C4	3.05	0.45
1:X:2070:G:H2'	1:X:2071:G:C8	2.47	0.45
1:X:2186:G:O2'	3:A:151:LYS:HB2	2.16	0.45
1:X:2199:C:N3	1:X:2200:G:N7	2.64	0.45
1:X:2213:G:N2	1:X:2214:G:C4	2.84	0.45
1:X:2436:U:O2	1:X:2474:G:C2	2.69	0.45
3:A:55:GLY:H	3:A:217:ARG:HB2	1.82	0.45
3:A:153:ALA:O	3:A:154:GLN:HG3	2.17	0.45
3:A:216:GLY:O	3:A:217:ARG:O	2.35	0.45
5:C:195:ILE:O	5:C:196:VAL:HB	2.16	0.45
6:D:108:LEU:HD13	6:D:176:PRO:CG	2.46	0.45
7:E:76:VAL:O	7:E:78:GLY:N	2.49	0.45
7:E:84:THR:HB	7:E:134:SER:CB	2.46	0.45
9:G:66:HIS:O	9:G:70:PHE:CE1	2.69	0.45
12:J:92:GLU:OE1	12:J:92:GLU:CA	2.64	0.45
15:M:34:ARG:CZ	15:M:88:VAL:HG21	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:81:ASN:C	16:N:84:LYS:HB3	2.36	0.45
16:N:88:ILE:HG23	17:O:49:GLU:OE1	2.16	0.45
16:N:91:ASN:HA	16:N:93:LYS:HZ2	1.81	0.45
17:O:26:GLN:CG	17:O:27:GLY:N	2.77	0.45
17:O:40:VAL:HG12	17:O:45:THR:N	2.31	0.45
18:P:109:ARG:HH11	18:P:115:ASN:HD22	1.63	0.45
22:T:20:TYR:HB3	22:T:21:LEU:H	1.41	0.45
24:V:13:ASP:O	24:V:17:GLU:N	2.41	0.45
1:X:84:G:O2'	1:X:85:C:H5'	2.17	0.45
1:X:416:U:H4'	1:X:419:G:O2'	2.16	0.45
1:X:481:A:C6	1:X:482:A:C6	3.04	0.45
1:X:792:U:OP1	3:A:49:ILE:HG22	2.17	0.45
1:X:810:U:C6	1:X:810:U:C3'	3.00	0.45
1:X:830:C:H2'	1:X:831:G:C8	2.52	0.45
1:X:1685:A:C5	1:X:1691:G:C4	3.05	0.45
1:X:1793:A:H2'	1:X:1794:A:C8	2.51	0.45
1:X:1819:U:H4'	1:X:1953:A:O2'	2.17	0.45
1:X:1837:G:O2'	1:X:1838:G:H5'	2.16	0.45
1:X:1842:G:O2'	1:X:1843:U:H5'	2.17	0.45
1:X:2546:G:C4	1:X:2547:C:C5	3.04	0.45
1:X:2598:C:O2'	1:X:2599:U:H5'	2.16	0.45
1:X:2700:U:H2'	1:X:2701:A:H8	1.81	0.45
1:X:2814:G:O2'	13:K:49:GLU:OE2	2.28	0.45
5:C:117:LEU:HD22	5:C:187:VAL:HG22	1.98	0.45
5:C:165:SER:HB3	5:C:166:TRP:CE3	2.52	0.45
6:D:20:PHE:N	6:D:20:PHE:CD1	2.85	0.45
7:E:9:ILE:HG22	7:E:11:VAL:HG22	1.98	0.45
8:F:121:GLU:HB3	8:F:125:ASN:HD21	1.81	0.45
9:G:49:VAL:CG1	9:G:50:PRO:HD2	2.43	0.45
9:G:103:TYR:CE2	9:G:111:LYS:CB	2.99	0.45
11:I:120:VAL:HG11	11:I:122:VAL:HG13	1.98	0.45
14:L:28:ARG:O	14:L:42:ILE:HD13	2.17	0.45
16:N:7:GLY:C	16:N:9:VAL:N	2.70	0.45
16:N:66:ASN:CB	16:N:70:ARG:NH1	2.60	0.45
17:O:32:LYS:HB2	17:O:58:ALA:O	2.17	0.45
18:P:109:ARG:HG3	18:P:110:ALA:H	1.81	0.45
21:S:19:ILE:HG22	21:S:20:ALA:N	2.25	0.45
21:S:104:SER:HA	21:S:139:THR:CA	2.22	0.45
21:S:122:ILE:O	21:S:122:ILE:HG13	2.17	0.45
1:X:98:U:H1'	1:X:100:G:N9	2.27	0.45
1:X:134:G:N3	1:X:136:A:OP2	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:518:A:OP2	1:X:518:A:C4'	2.65	0.45
1:X:736:G:H2'	1:X:737:C:O4'	2.16	0.45
1:X:1595:A:H2'	1:X:1596:A:O4'	2.16	0.45
1:X:1659:G:O2'	1:X:1660:G:H5'	2.16	0.45
1:X:1661:C:O2'	1:X:1662:G:H5'	2.16	0.45
1:X:2079:A:H61	1:X:2175:A:N6	2.15	0.45
1:X:2382:C:C4	1:X:2394:G:C2	3.05	0.45
1:X:2560:G:C4	1:X:2589:C:C4	3.05	0.45
1:X:2711:G:OP1	4:B:169:ASN:ND2	2.49	0.45
2:Y:116:C:O2'	14:L:49:GLN:HA	2.16	0.45
3:A:79:VAL:HG12	3:A:79:VAL:O	2.16	0.45
3:A:200:GLU:HG3	3:A:202:LYS:CB	2.47	0.45
3:A:211:ARG:O	3:A:215:LEU:HD12	2.16	0.45
5:C:13:ARG:H	5:C:13:ARG:HD2	1.80	0.45
9:G:85:ALA:O	9:G:87:GLN:N	2.50	0.45
13:K:37:THR:HG1	13:K:40:LYS:HG3	1.79	0.45
14:L:8:ARG:NH1	14:L:8:ARG:CB	2.80	0.45
19:Q:47:GLY:O	19:Q:48:VAL:HB	2.16	0.45
20:R:23:ILE:CD1	20:R:81:VAL:O	2.65	0.45
21:S:23:ALA:O	21:S:29:ASN:HA	2.16	0.45
25:W:36:ASP:C	25:W:41:ARG:HH12	2.19	0.45
30:4:25:VAL:CG2	30:4:34:GLN:HB2	2.46	0.45
30:4:35:ARG:HG2	30:4:37:GLY:O	2.17	0.45
1:X:89:A:O2'	1:X:90:G:H5"	2.17	0.45
1:X:827:C:H6	1:X:827:C:O5'	1.99	0.45
1:X:1142:G:C4'	9:G:103:TYR:CD2	3.00	0.45
1:X:1182:U:H2'	1:X:1183:C:C6	2.52	0.45
1:X:1284:G:OP2	1:X:1285:A:OP1	2.35	0.45
1:X:1420:A:H2'	1:X:1421:U:C6	2.52	0.45
1:X:1554:G:H2'	1:X:1555:A:C8	2.52	0.45
1:X:1623:C:C4'	1:X:1624:A:O5'	2.57	0.45
1:X:1746:A:H2'	1:X:1747:G:O5'	2.16	0.45
1:X:1777:A:O2'	1:X:1778:U:P	2.75	0.45
1:X:2190:A:C8	1:X:2190:A:H3'	2.52	0.45
1:X:2473:G:O2'	12:J:81:GLU:HB2	2.16	0.45
3:A:218:LYS:HD2	3:A:218:LYS:C	2.36	0.45
4:B:32:PRO:HA	4:B:89:ASP:OD1	2.17	0.45
4:B:170:LEU:HB3	4:B:184:VAL:CG1	2.46	0.45
5:C:3:GLN:CB	5:C:116:LYS:HD2	2.46	0.45
5:C:144:GLY:CA	5:C:166:TRP:CE2	3.00	0.45
5:C:154:ASP:HB2	5:C:157:THR:CG2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:126:PRO:CG	7:E:130:ARG:HB3	2.46	0.45
9:G:160:ALA:C	9:G:161:GLN:HG3	2.37	0.45
12:J:125:LYS:NZ	12:J:125:LYS:N	2.65	0.45
16:N:7:GLY:O	16:N:9:VAL:HG23	2.16	0.45
17:O:52:GLY:O	17:O:53:LYS:C	2.56	0.45
18:P:85:MET:HE3	18:P:130:GLU:H	1.80	0.45
19:Q:35:LYS:HD3	19:Q:53:ILE:CG2	2.45	0.45
19:Q:43:GLN:HA	19:Q:48:VAL:O	2.16	0.45
19:Q:59:PRO:O	19:Q:75:ARG:NH2	2.50	0.45
20:R:28:LYS:O	20:R:29:HIS:CB	2.64	0.45
20:R:60:PRO:O	20:R:65:PRO:HG3	2.17	0.45
21:S:141:MET:HA	21:S:145:ASP:CG	2.36	0.45
23:U:27:ASP:N	23:U:32:ARG:HH21	2.15	0.45
23:U:49:LYS:HB2	23:U:61:TRP:CA	2.37	0.45
24:V:7:ARG:HD2	24:V:8:ASN:CA	2.44	0.45
24:V:26:MET:HE2	24:V:27:GLU:OE2	2.17	0.45
26:Z:12:SER:HB2	26:Z:15:LYS:N	2.18	0.45
26:Z:45:ILE:HD13	26:Z:57:VAL:CG2	2.47	0.45
1:X:173:A:H61	1:X:844:G:N2	2.15	0.45
1:X:192:G:C1'	1:X:193:A:H4'	2.47	0.45
1:X:304:A:H62	1:X:356:A:N6	2.14	0.45
1:X:417:C:O2'	1:X:418:C:H4'	2.17	0.45
1:X:444:U:O2'	1:X:445:A:H5'	2.17	0.45
1:X:542:A:N6	1:X:2003:A:H1'	2.32	0.45
1:X:660:G:C2'	1:X:661:C:H5'	2.46	0.45
1:X:802:A:OP1	1:X:802:A:H3'	2.17	0.45
1:X:839:U:C5'	1:X:2408:G:OP2	2.62	0.45
1:X:872:G:H2'	1:X:928:G:C6	2.51	0.45
1:X:943:U:O2'	1:X:944:A:O4'	2.28	0.45
1:X:956:A:C4	1:X:2427:A:C2	3.05	0.45
1:X:1032:A:H3'	1:X:1032:A:C8	2.52	0.45
1:X:1131:G:C6	1:X:1132:C:C4	3.05	0.45
1:X:1515:U:H2'	1:X:1516:A:H8	1.82	0.45
1:X:1555:A:H2'	1:X:1556:A:C8	2.52	0.45
1:X:1627:C:N4	1:X:1628:C:H41	2.15	0.45
1:X:1630:A:H61	18:P:109:ARG:H	1.65	0.45
1:X:1723:U:O2'	1:X:1724:C:P	2.75	0.45
1:X:1766:U:H2'	1:X:1767:G:C5'	2.46	0.45
1:X:1788:C:H4'	3:A:255:LYS:O	2.16	0.45
1:X:2229:G:N3	1:X:2229:G:O4'	2.49	0.45
1:X:2371:A:H8	11:I:59:ARG:HA	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2560:G:OP2	1:X:2560:G:N2	2.50	0.45
1:X:2668:U:O2	1:X:2693:U:O4'	2.35	0.45
2:Y:2:C:C6	2:Y:2:C:C3'	3.00	0.45
2:Y:16:U:O2'	2:Y:110:U:O2	2.34	0.45
3:A:270:ILE:CG1	3:A:271:VAL:H	2.15	0.45
6:D:169:LEU:C	6:D:169:LEU:HD12	2.37	0.45
10:H:90:ARG:HH21	10:H:90:ARG:HG3	1.82	0.45
13:K:95:THR:O	13:K:95:THR:CG2	2.58	0.45
15:M:11:GLU:O	15:M:14:ARG:N	2.50	0.45
17:O:12:TYR:CG	17:O:13:ARG:N	2.84	0.45
17:O:46:VAL:HG12	17:O:51:ALA:HB2	1.98	0.45
18:P:36:ARG:CZ	26:Z:20:ARG:CZ	2.92	0.45
18:P:107:ILE:O	18:P:107:ILE:HG23	2.16	0.45
19:Q:20:MET:C	19:Q:22:ARG:N	2.69	0.45
21:S:106:GLY:CA	21:S:109:GLN:HG3	2.47	0.45
1:X:393:U:H4'	23:U:19:ILE:O	2.16	0.45
1:X:411:C:H5"	1:X:411:C:H6	1.81	0.45
1:X:431:G:H2'	1:X:432:C:H6	1.82	0.45
1:X:796:A:H2'	1:X:797:A:O3'	2.17	0.45
1:X:861:G:C1'	1:X:944:A:N3	2.79	0.45
1:X:913:A:O5'	1:X:913:A:H8	2.00	0.45
1:X:1070:G:H2'	1:X:1071:U:C5	2.52	0.45
1:X:1770:U:H6	1:X:1775:A:H62	1.65	0.45
1:X:1811:A:H1'	1:X:1813:A:C6	2.52	0.45
1:X:1812:U:N3	3:A:200:GLU:OE1	2.51	0.45
1:X:1916:G:O2'	1:X:1957:C:H4'	2.16	0.45
1:X:1976:U:O2'	1:X:1977:C:H5'	2.17	0.45
1:X:2225:G:C6	1:X:2405:A:C8	3.05	0.45
1:X:2340:C:H2'	1:X:2341:G:C5'	2.47	0.45
1:X:2394:G:H3'	11:I:63:ARG:NH1	2.22	0.45
1:X:2595:C:O2'	1:X:2596:C:H5'	2.17	0.45
1:X:2634:G:O2'	1:X:2635:U:OP2	2.34	0.45
1:X:2874:A:H2'	1:X:2875:C:H6	1.82	0.45
3:A:171:ASP:O	3:A:186:HIS:HA	2.17	0.45
3:A:219:PRO:O	3:A:220:HIS:O	2.34	0.45
4:B:93:VAL:C	4:B:95:ILE:H	2.20	0.45
6:D:33:LYS:HG3	6:D:157:VAL:CG2	2.47	0.45
6:D:111:ILE:HA	6:D:137:ILE:HG22	1.99	0.45
6:D:119:PRO:CG	6:D:120:ASN:N	2.80	0.45
12:J:60:ARG:O	12:J:61:ARG:CG	2.57	0.45
16:N:12:ARG:O	16:N:16:LYS:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:N:78:THR:HG23	16:N:117:ARG:CZ	2.47	0.45
18:P:27:VAL:HG13	18:P:27:VAL:O	2.17	0.45
19:Q:7:LEU:CD2	24:V:30:PHE:CE2	2.97	0.45
19:Q:89:GLU:OE1	19:Q:91:LEU:CD2	2.65	0.45
20:R:22:VAL:O	20:R:33:THR:HA	2.17	0.45
20:R:25:LEU:HD12	20:R:81:VAL:HG23	1.93	0.45
1:X:33:C:O2'	1:X:34:U:C5'	2.60	0.44
1:X:188:G:N1	1:X:189:A:C5	2.85	0.44
1:X:242:A:H2'	1:X:243:G:C4'	2.46	0.44
1:X:447:U:O2'	1:X:448:C:H5	2.00	0.44
1:X:764:A:C6	1:X:802:A:C5	3.05	0.44
1:X:1108:U:N3	1:X:1109:A:H1'	2.32	0.44
1:X:1166:A:C2'	1:X:1167:A:H5"	2.46	0.44
1:X:1200:G:H2'	1:X:1201:G:O4'	2.16	0.44
1:X:1278:A:N6	1:X:1996:A:H5"	2.32	0.44
1:X:1812:U:O2	1:X:1812:U:C2'	2.64	0.44
1:X:1978:U:OP2	1:X:1979:C:H3'	2.17	0.44
1:X:2058:U:H1'	1:X:2576:G:H21	1.82	0.44
1:X:2190:A:C8	1:X:2190:A:C3'	2.94	0.44
1:X:2394:G:OP1	11:I:63:ARG:CZ	2.64	0.44
1:X:2495:G:O2'	1:X:2496:C:H5'	2.17	0.44
1:X:2560:G:C4	1:X:2589:C:N4	2.85	0.44
5:C:168:SER:HB2	5:C:183:HIS:NE2	2.32	0.44
6:D:74:ILE:HG23	6:D:79:LEU:C	2.37	0.44
6:D:111:ILE:O	6:D:114:PHE:CB	2.65	0.44
7:E:15:VAL:HG23	7:E:16:THR:N	2.31	0.44
8:F:82:ALA:HB3	8:F:84:ILE:HG13	1.98	0.44
11:I:52:GLY:O	11:I:57:ILE:HG13	2.17	0.44
12:J:36:ILE:O	12:J:130:THR:HB	2.18	0.44
12:J:37:ALA:HB2	12:J:104:MET:CE	2.47	0.44
14:L:60:LYS:HE3	14:L:62:GLY:N	2.32	0.44
14:L:100:VAL:C	14:L:102:ALA:N	2.70	0.44
16:N:39:LEU:CA	16:N:42:ALA:HB3	2.45	0.44
16:N:75:ASN:O	16:N:76:TYR:C	2.55	0.44
16:N:108:ALA:HB1	17:O:47:PHE:CZ	2.52	0.44
17:O:36:LYS:HD2	17:O:54:TYR:O	2.18	0.44
19:Q:15:LYS:O	19:Q:19:ALA:HB2	2.16	0.44
19:Q:40:ASP:CG	19:Q:41:ALA:N	2.70	0.44
20:R:100:ASP:O	20:R:100:ASP:OD1	2.35	0.44
21:S:19:ILE:HG12	21:S:36:ARG:CA	2.40	0.44
21:S:91:PRO:HD3	21:S:127:PRO:CG	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:V:60:LEU:C	24:V:62:ARG:H	2.20	0.44
1:X:5:A:H1'	9:G:162:LYS:HZ2	1.82	0.44
1:X:403:A:H4'	1:X:404:A:C5'	2.48	0.44
1:X:936:A:H2'	1:X:937:C:C6	2.52	0.44
1:X:1218:C:H1'	11:I:8:PRO:O	2.17	0.44
1:X:1524:C:H5"	1:X:1525:A:H8	1.81	0.44
1:X:1570:C:C5'	1:X:1571:G:OP2	2.63	0.44
1:X:1611:U:H2'	1:X:1612:U:O4'	2.17	0.44
1:X:2055:G:C2'	1:X:2056:C:H5'	2.47	0.44
1:X:2074:U:OP2	1:X:2075:U:H3'	2.17	0.44
1:X:2271:C:P	14:L:18:ARG:HH21	2.40	0.44
1:X:2387:U:H2'	1:X:2388:G:C8	2.51	0.44
3:A:69:ARG:NH2	3:A:105:ILE:HG21	2.33	0.44
3:A:220:HIS:N	3:A:220:HIS:ND1	2.65	0.44
3:A:243:GLY:N	3:A:244:ARG:HH11	2.15	0.44
4:B:182:ILE:C	4:B:183:LEU:HD23	2.36	0.44
5:C:8:GLY:O	5:C:9:GLN:CB	2.64	0.44
5:C:151:VAL:CG1	5:C:173:ALA:HA	2.47	0.44
6:D:54:ALA:N	6:D:57:LEU:HD12	2.32	0.44
7:E:22:GLY:O	7:E:24:PHE:HD1	2.00	0.44
7:E:107:ILE:HD11	7:E:151:VAL:CG1	2.44	0.44
10:H:56:LYS:O	10:H:57:ASP:OD1	2.36	0.44
10:H:82:LYS:HB2	10:H:82:LYS:HE3	1.77	0.44
10:H:116:ARG:NH1	15:M:38:LYS:CD	2.79	0.44
10:H:116:ARG:NH2	15:M:40:ARG:C	2.71	0.44
14:L:33:ARG:HH12	14:L:103:LEU:HB2	1.75	0.44
15:M:8:ASN:O	15:M:10:GLY:N	2.50	0.44
15:M:36:ASP:C	15:M:36:ASP:OD1	2.56	0.44
16:N:82:GLY:C	16:N:84:LYS:N	2.67	0.44
17:O:90:PHE:CD1	17:O:90:PHE:C	2.90	0.44
18:P:42:VAL:O	18:P:42:VAL:CG1	2.64	0.44
18:P:67:PRO:O	18:P:68:VAL:C	2.53	0.44
21:S:117:VAL:CG2	21:S:168:VAL:HG22	2.47	0.44
21:S:149:ALA:C	21:S:151:ASP:H	2.20	0.44
24:V:6:MET:HE2	24:V:56:VAL:HG21	1.99	0.44
30:4:24:LEU:HD12	30:4:24:LEU:N	2.32	0.44
30:4:30:VAL:O	30:4:33:LYS:N	2.27	0.44
1:X:13:A:N3	1:X:15:G:C6	2.85	0.44
1:X:13:A:N3	1:X:15:G:O6	2.50	0.44
1:X:181:A:H4'	1:X:182:G:OP1	2.16	0.44
1:X:528:G:H5'	18:P:39:ARG:HH12	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:546:A:H2'	1:X:547:U:C6	2.52	0.44
1:X:615:C:H41	11:I:100:ARG:CZ	2.30	0.44
1:X:754:G:C6	1:X:755:C:N4	2.85	0.44
1:X:972:C:C5'	1:X:973:U:OP2	2.66	0.44
1:X:1247:U:O2'	1:X:1248:G:H5'	2.17	0.44
1:X:1516:A:C2	3:A:100:GLY:HA3	2.53	0.44
1:X:1990:U:H2'	1:X:1991:C:H6	1.81	0.44
1:X:2033:C:C4	1:X:2034:A:C6	3.04	0.44
1:X:2197:U:C4	1:X:2198:U:C4	3.06	0.44
1:X:2208:U:O2	23:U:48:LYS:NZ	2.50	0.44
1:X:2270:U:O2'	1:X:2353:G:H1'	2.18	0.44
1:X:2280:A:H2'	1:X:2281:C:C6	2.52	0.44
1:X:2420:C:O2'	1:X:2421:C:H5'	2.17	0.44
1:X:2701:A:O2'	1:X:2702:G:H5'	2.18	0.44
1:X:2812:A:H2'	1:X:2813:G:C8	2.51	0.44
1:X:2828:C:O2'	1:X:2829:A:H5'	2.18	0.44
2:Y:16:U:H4'	2:Y:72:C:O2	2.17	0.44
5:C:17:LEU:HA	5:C:17:LEU:HD12	1.78	0.44
7:E:87:LEU:N	7:E:131:ILE:O	2.49	0.44
9:G:119:LEU:CD1	9:G:126:VAL:HG22	2.47	0.44
9:G:158:HIS:CA	9:G:161:GLN:NE2	2.80	0.44
9:G:159:SER:C	9:G:161:GLN:N	2.68	0.44
10:H:8:LEU:N	10:H:8:LEU:HD23	2.33	0.44
11:I:54:SER:OG	11:I:59:ARG:CZ	2.65	0.44
11:I:77:LEU:HD12	11:I:77:LEU:HA	1.86	0.44
12:J:62:GLY:C	12:J:64:LYS:N	2.69	0.44
15:M:37:THR:HG23	15:M:39:VAL:H	1.82	0.44
16:N:88:ILE:CG2	17:O:49:GLU:HB2	2.44	0.44
18:P:19:LYS:HD3	18:P:21:ARG:NH2	2.32	0.44
18:P:66:GLU:HB3	18:P:67:PRO:CD	2.46	0.44
20:R:52:ASN:HD21	20:R:71:GLN:NE2	2.15	0.44
20:R:56:LYS:H	20:R:56:LYS:HG2	1.53	0.44
21:S:10:PRO:HG2	21:S:14:LEU:CD1	2.25	0.44
23:U:23:LYS:HE3	23:U:26:ALA:CB	2.47	0.44
23:U:48:LYS:NZ	23:U:48:LYS:HB2	2.32	0.44
26:Z:20:ARG:C	26:Z:22:HIS:N	2.70	0.44
1:X:64:C:N3	1:X:89:A:N6	2.65	0.44
1:X:428:A:H2'	1:X:429:C:H6	1.79	0.44
1:X:590:C:H2'	1:X:591:G:C8	2.50	0.44
1:X:649:G:N2	1:X:661:C:C2	2.86	0.44
1:X:657:A:H8	1:X:657:A:O5'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:698:A:H5”	1:X:699:G:H5”	2.00	0.44
1:X:860:U:H2’	1:X:861:G:H5’	1.99	0.44
1:X:870:C:H1’	22:T:26:PHE:CE2	2.53	0.44
1:X:985:G:C6	1:X:1000:G:C5	3.06	0.44
1:X:1121:G:C2’	1:X:1122:A:C8	3.00	0.44
1:X:1206:G:C2’	1:X:1207:G:H5’	2.48	0.44
1:X:1278:A:H61	1:X:1996:A:H5”	1.82	0.44
1:X:1370:U:H2’	1:X:1371:G:O4’	2.18	0.44
1:X:1524:C:H3’	1:X:1525:A:H5”	1.98	0.44
1:X:1555:A:H2’	1:X:1556:A:O4’	2.18	0.44
1:X:1673:C:C5’	4:B:136:ARG:HD3	2.46	0.44
1:X:2038:C:H2’	1:X:2483:U:H4’	1.99	0.44
1:X:2490:U:H2’	1:X:2491:C:O4’	2.17	0.44
1:X:2526:U:H2’	1:X:2527:G:H8	1.83	0.44
1:X:2539:C:O2’	1:X:2540:A:H5’	2.18	0.44
3:A:125:PRO:HG3	3:A:131:LEU:HD11	1.99	0.44
5:C:125:ILE:HG22	5:C:126:ALA:N	2.32	0.44
6:D:125:ARG:NH1	6:D:125:ARG:CG	2.80	0.44
7:E:146:ALA:O	7:E:150:LYS:HG3	2.18	0.44
10:H:47:VAL:HG22	10:H:75:VAL:C	2.37	0.44
11:I:36:GLY:O	11:I:37:GLN:CB	2.64	0.44
12:J:27:TYR:HB3	12:J:28:VAL:H	1.68	0.44
12:J:76:THR:CG2	12:J:88:LYS:O	2.65	0.44
12:J:83:ARG:HG2	12:J:83:ARG:HH11	1.81	0.44
13:K:106:ASP:OD1	13:K:108:VAL:HG23	2.18	0.44
19:Q:14:GLU:HG3	19:Q:15:LYS:N	2.32	0.44
19:Q:19:ALA:O	19:Q:24:VAL:HB	2.17	0.44
19:Q:20:MET:C	19:Q:22:ARG:H	2.21	0.44
20:R:93:ARG:CZ	20:R:108:VAL:HA	2.47	0.44
21:S:1:MET:HG3	21:S:52:PHE:HD2	1.81	0.44
21:S:117:VAL:HG21	21:S:168:VAL:HG22	1.98	0.44
25:W:48:LYS:O	25:W:50:LEU:N	2.50	0.44
1:X:514:G:C2	18:P:15:LYS:HA	2.51	0.44
1:X:551:A:H2’	1:X:552:C:O4’	2.17	0.44
1:X:631:G:H4’	1:X:632:A:OP1	2.17	0.44
1:X:717:G:C2’	1:X:718:A:OP2	2.65	0.44
1:X:782:U:O2’	1:X:783:G:H5’	2.17	0.44
1:X:801:A:HO2’	1:X:802:A:P	2.31	0.44
1:X:1226:A:H62	1:X:1249:G:H1’	1.82	0.44
1:X:1494:G:O2’	1:X:1574:A:H2	2.01	0.44
1:X:1681:A:N1	1:X:2706:U:C6	2.85	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2710:C:H4'	4:B:168:GLN:O	2.17	0.44
1:X:2764:U:C4'	4:B:42:ASP:OD2	2.64	0.44
3:A:55:GLY:O	3:A:56:GLY:O	2.36	0.44
3:A:65:ILE:HD11	3:A:92:ILE:HD11	1.99	0.44
3:A:246:PRO:HD3	3:A:251:GLY:N	2.29	0.44
4:B:192:ASN:HB2	15:M:9:ARG:HH11	1.81	0.44
5:C:90:SER:O	5:C:91:TYR:C	2.55	0.44
6:D:57:LEU:C	6:D:60:ILE:HG12	2.37	0.44
6:D:79:LEU:CA	6:D:80:ARG:CZ	2.88	0.44
7:E:7:GLN:H	7:E:8:PRO:HD3	1.82	0.44
9:G:66:HIS:HB3	16:N:71:LEU:HD13	1.99	0.44
9:G:106:TYR:CE2	9:G:108:GLY:CA	3.00	0.44
9:G:116:ARG:O	9:G:119:LEU:HB2	2.17	0.44
12:J:78:LYS:C	12:J:80:ALA:N	2.71	0.44
12:J:100:PRO:HB2	21:S:74:ARG:HG2	1.99	0.44
13:K:30:ARG:C	13:K:31:GLU:HG2	2.38	0.44
13:K:83:VAL:HG23	13:K:87:TYR:HE2	1.81	0.44
14:L:68:ALA:HB1	14:L:102:ALA:HB2	1.93	0.44
14:L:101:LYS:C	14:L:104:ALA:HB3	2.37	0.44
20:R:25:LEU:HG	20:R:81:VAL:HG23	1.98	0.44
20:R:105:ARG:NH1	20:R:112:LYS:HA	2.32	0.44
23:U:63:SER:O	23:U:64:ALA:C	2.55	0.44
1:X:34:U:H1'	20:R:4:PRO:CA	2.47	0.44
1:X:100:G:C4'	1:X:101:A:OP2	2.38	0.44
1:X:408:U:C2'	1:X:409:G:C8	3.01	0.44
1:X:490:A:HO2'	1:X:492:G:H5"	1.80	0.44
1:X:542:A:H8	16:N:28:ARG:NH2	2.07	0.44
1:X:546:A:H2'	1:X:547:U:H6	1.83	0.44
1:X:638:A:C6	1:X:648:A:C8	3.06	0.44
1:X:730:C:H4'	1:X:731:A:OP1	2.17	0.44
1:X:755:C:H2'	1:X:756:C:C6	2.53	0.44
1:X:797:A:C6	3:A:229:VAL:HG21	2.52	0.44
1:X:1023:U:H3'	1:X:1023:U:C6	2.52	0.44
1:X:1246:G:C6	1:X:1247:U:C4	3.06	0.44
1:X:1443:G:H2'	1:X:1444:C:C6	2.53	0.44
1:X:1468:A:C8	1:X:1468:A:OP2	2.71	0.44
1:X:1469:U:H2'	13:K:60:LEU:HD12	1.98	0.44
1:X:1574:A:C2'	1:X:1575:C:H5"	2.38	0.44
1:X:1629:G:H3'	1:X:1633:C:H42	1.82	0.44
1:X:1698:C:HO2'	1:X:1753:A:C2'	2.28	0.44
1:X:1937:G:N3	1:X:2530:C:C5'	2.80	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2063:A:C2	1:X:2064:U:C2	3.05	0.44
1:X:2185:U:H2'	1:X:2186:G:C8	2.53	0.44
1:X:2520:A:C2	1:X:2745:A:N6	2.86	0.44
1:X:2800:C:C5	1:X:2801:A:C8	3.05	0.44
3:A:72:LYS:CG	3:A:103:ARG:NH1	2.79	0.44
3:A:226:MET:HE3	3:A:230:ASP:CB	2.47	0.44
3:A:268:ARG:C	3:A:269:PHE:CD2	2.90	0.44
5:C:48:ARG:C	5:C:50:GLN:H	2.18	0.44
6:D:74:ILE:HG12	6:D:80:ARG:HA	1.98	0.44
6:D:108:LEU:HD13	6:D:117:ILE:HD11	1.96	0.44
7:E:7:GLN:N	7:E:8:PRO:CD	2.79	0.44
7:E:140:LEU:O	7:E:141:VAL:C	2.55	0.44
7:E:172:LYS:HB2	7:E:172:LYS:NZ	2.33	0.44
11:I:94:GLU:HB3	11:I:97:ARG:NH1	2.31	0.44
11:I:127:ALA:C	11:I:129:ALA:H	2.20	0.44
12:J:64:LYS:HB2	12:J:108:ALA:HB3	1.99	0.44
13:K:46:PRO:O	13:K:47:PHE:C	2.55	0.44
15:M:13:LEU:N	15:M:13:LEU:CD1	2.80	0.44
17:O:51:ALA:C	17:O:53:LYS:N	2.68	0.44
18:P:126:ILE:HD12	18:P:126:ILE:C	2.35	0.44
20:R:105:ARG:NH1	20:R:113:THR:OG1	2.50	0.44
21:S:10:PRO:HB2	21:S:13:LYS:HE3	1.99	0.44
21:S:90:GLU:OE1	21:S:90:GLU:HA	2.18	0.44
21:S:125:PRO:HG2	21:S:126:GLY:H	1.81	0.44
26:Z:31:THR:O	26:Z:40:LYS:N	2.39	0.44
1:X:67:G:H2'	1:X:68:C:O4'	2.17	0.44
1:X:102:C:H2'	1:X:103:U:O4'	2.18	0.44
1:X:219:G:HO2'	1:X:231:G:H1	1.66	0.44
1:X:416:U:H4'	1:X:419:G:C1'	2.47	0.44
1:X:637:G:C6	11:I:101:ARG:HD3	2.52	0.44
1:X:733:G:O2'	1:X:734:G:H5'	2.18	0.44
1:X:836:G:H2'	1:X:837:U:H6	1.82	0.44
1:X:1009:C:H6	1:X:1009:C:O5'	2.01	0.44
1:X:1187:A:OP1	1:X:1187:A:H4'	2.17	0.44
1:X:1354:A:H5'	19:Q:56:MET:HG3	1.99	0.44
1:X:1459:U:O4'	1:X:1475:U:O2'	2.32	0.44
1:X:2382:C:N4	1:X:2394:G:C6	2.86	0.44
1:X:2486:C:C4	1:X:2562:G:C6	3.05	0.44
1:X:2522:G:H2'	1:X:2523:G:O4'	2.17	0.44
1:X:2570:C:H2'	1:X:2571:G:C8	2.52	0.44
1:X:2691:C:H2'	1:X:2692:A:H3'	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2701:A:C2'	1:X:2702:G:O5'	2.66	0.44
2:Y:46:G:C5'	6:D:92:ARG:NH1	2.74	0.44
3:A:215:LEU:N	3:A:215:LEU:HD12	2.33	0.44
3:A:218:LYS:O	3:A:218:LYS:CD	2.66	0.44
3:A:246:PRO:CD	3:A:251:GLY:N	2.79	0.44
6:D:104:ILE:HG13	6:D:104:ILE:H	1.54	0.44
6:D:104:ILE:HG21	6:D:174:GLY:HA3	1.99	0.44
7:E:11:VAL:O	7:E:11:VAL:HG12	2.18	0.44
9:G:66:HIS:HA	16:N:67:ALA:HB1	2.00	0.44
11:I:58:ALA:C	11:I:59:ARG:HD2	2.38	0.44
12:J:64:LYS:CD	12:J:64:LYS:N	2.65	0.44
12:J:136:GLU:HA	12:J:138:TYR:CE2	2.53	0.44
16:N:3:ARG:HG2	16:N:3:ARG:NH1	2.32	0.44
21:S:75:LYS:C	21:S:77:ALA:N	2.71	0.44
1:X:168:A:H2'	1:X:169:C:H6	1.83	0.44
1:X:192:G:H4'	1:X:193:A:H4'	1.98	0.44
1:X:654:A:N3	1:X:654:A:C2'	2.80	0.44
1:X:663:G:C3'	1:X:664:C:C5'	2.81	0.44
1:X:684:C:H5	11:I:43:ALA:HB1	1.83	0.44
1:X:754:G:H2'	1:X:755:C:H6	1.82	0.44
1:X:982:C:C4	1:X:983:G:C5	3.06	0.44
1:X:1051:U:C6	1:X:1051:U:H3'	2.52	0.44
1:X:1173:G:H2'	1:X:1174:G:H8	1.83	0.44
1:X:1391:A:H1'	1:X:1392:U:C5	2.52	0.44
1:X:1422:C:O2'	1:X:1423:A:H5'	2.18	0.44
1:X:1715:A:C8	1:X:1717:A:H1'	2.53	0.44
1:X:1782:A:H1'	3:A:208:LYS:CE	2.42	0.44
1:X:1965:U:H2'	1:X:1966:C:C6	2.53	0.44
1:X:1999:U:O2	26:Z:7:PRO:HG2	2.18	0.44
1:X:2344:G:H4'	22:T:60:PHE:CZ	2.53	0.44
1:X:2356:A:H1'	14:L:89:PHE:CZ	2.52	0.44
3:A:43:ARG:NH1	3:A:43:ARG:HB3	2.32	0.44
3:A:43:ARG:CB	3:A:54:ILE:HG23	2.48	0.44
4:B:26:VAL:HB	4:B:182:ILE:HG23	1.99	0.44
5:C:48:ARG:CA	5:C:51:VAL:HG22	2.48	0.44
6:D:33:LYS:N	6:D:157:VAL:HB	2.33	0.44
6:D:43:SER:OG	6:D:44:LYS:HG3	2.17	0.44
6:D:70:ALA:C	6:D:72:LYS:N	2.69	0.44
7:E:140:LEU:O	7:E:144:VAL:N	2.50	0.44
7:E:157:TYR:CD1	7:E:157:TYR:N	2.86	0.44
9:G:61:ARG:HH22	9:G:78:ASP:CB	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:85:ASP:HB3	15:M:87:LEU:HG	2.00	0.44
12:J:128:ILE:C	12:J:128:ILE:CD1	2.86	0.44
13:K:31:GLU:C	13:K:33:ARG:H	2.20	0.44
15:M:98:LYS:HE2	15:M:99:VAL:O	2.17	0.44
18:P:24:GLY:O	18:P:127:ILE:HA	2.18	0.44
23:U:11:LYS:NZ	23:U:75:TYR:CD1	2.85	0.44
23:U:78:ILE:O	23:U:78:ILE:HG23	2.18	0.44
26:Z:35:GLN:HG3	26:Z:51:TYR:CD2	2.52	0.44
1:X:45:C:OP2	1:X:192:G:H3'	2.18	0.44
1:X:135:U:N3	1:X:136:A:N6	2.66	0.44
1:X:136:A:N1	1:X:137:A:C4	2.85	0.44
1:X:218:A:H5'	1:X:220:U:C1'	2.48	0.44
1:X:228:A:H2'	1:X:229:G:O4'	2.18	0.44
1:X:405:C:C2	1:X:406:G:C8	3.06	0.44
1:X:456:C:OP2	16:N:2:PRO:HD3	2.18	0.44
1:X:580:A:N7	1:X:584:A:C5	2.86	0.44
1:X:812:G:H2'	1:X:813:A:C8	2.52	0.44
1:X:876:A:P	12:J:23:LYS:HD3	2.58	0.44
1:X:930:A:C8	1:X:930:A:C3'	3.01	0.44
1:X:982:C:H2'	1:X:983:G:H5'	2.00	0.44
1:X:1071:U:H6	1:X:1071:U:OP1	2.01	0.44
1:X:1309:G:O2'	1:X:1310:C:H5'	2.18	0.44
1:X:1606:C:O2'	1:X:1607:A:H5'	2.17	0.44
1:X:1631:C:H2'	1:X:1631:C:O2	2.18	0.44
1:X:2633:A:N1	1:X:2644:A:H5"	2.33	0.44
2:Y:15:A:C6	2:Y:72:C:H5'	2.52	0.44
2:Y:107:C:H4'	21:S:24:TYR:HE1	1.83	0.44
3:A:59:LYS:O	3:A:60:ARG:C	2.57	0.44
3:A:68:LYS:CA	3:A:152:GLY:HA2	2.48	0.44
3:A:81:ALA:HA	3:A:113:VAL:CG1	2.48	0.44
4:B:34:VAL:O	4:B:35:GLN:HB2	2.18	0.44
4:B:134:TRP:O	4:B:136:ARG:O	2.35	0.44
5:C:46:ARG:O	5:C:48:ARG:N	2.50	0.44
6:D:13:ARG:NH2	6:D:13:ARG:HG2	2.33	0.44
6:D:13:ARG:HG2	6:D:17:MET:HE1	2.00	0.44
6:D:108:LEU:HA	6:D:111:ILE:CG1	2.47	0.44
7:E:39:THR:C	7:E:41:LEU:H	2.21	0.44
9:G:33:ILE:CB	9:G:34:PRO:HD3	2.44	0.44
9:G:41:TRP:CZ3	9:G:79:PHE:CG	3.06	0.44
9:G:115:ALA:O	9:G:118:ALA:CB	2.63	0.44
11:I:73:GLU:HG3	11:I:101:ARG:HG3	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:J:122:ALA:HA	12:J:125:LYS:HD3	1.99	0.44
13:K:10:LEU:C	13:K:11:ASN:OD1	2.56	0.44
13:K:28:LEU:C	13:K:28:LEU:CD2	2.86	0.44
16:N:61:TRP:HZ3	16:N:93:LYS:CA	2.29	0.44
17:O:20:ILE:CG1	17:O:21:ARG:N	2.79	0.44
17:O:28:GLU:C	17:O:30:GLY:N	2.61	0.44
17:O:61:VAL:HB	17:O:92:ALA:CB	2.48	0.44
19:Q:58:VAL:HA	19:Q:59:PRO:HD2	1.71	0.44
21:S:39:PHE:CZ	21:S:81:VAL:HG11	2.53	0.44
21:S:148:THR:HG22	21:S:166:LEU:C	2.38	0.44
30:4:1:MET:CE	30:4:1:MET:CA	2.96	0.44
30:4:7:VAL:HG22	30:4:34:GLN:HB3	2.00	0.44
1:X:829:C:C2	1:X:1206:G:N2	2.86	0.43
1:X:1055:A:C4	1:X:1055:A:C3'	2.83	0.43
1:X:1142:G:H21	9:G:101:THR:HG21	1.83	0.43
1:X:1191:G:C6	1:X:1192:A:C6	3.06	0.43
1:X:1662:G:H5"	1:X:1663:C:H5'	2.00	0.43
1:X:1749:G:H5'	1:X:1750:A:N7	2.33	0.43
1:X:2181:A:O2'	1:X:2182:A:H5'	2.18	0.43
1:X:2199:C:O2	1:X:2199:C:C2'	2.65	0.43
1:X:2324:G:O2'	1:X:2325:A:OP2	2.33	0.43
1:X:2335:U:H2'	1:X:2336:G:H8	1.83	0.43
1:X:2654:A:H5'	10:H:42:LYS:H	1.83	0.43
2:Y:58:G:H4'	2:Y:59:A:C5'	2.48	0.43
5:C:35:LEU:O	5:C:36:ALA:C	2.54	0.43
5:C:186:LEU:HG	5:C:188:ILE:HG12	2.00	0.43
7:E:113:VAL:HG21	7:E:151:VAL:HG13	2.00	0.43
9:G:83:ILE:HG13	9:G:84:ASN:HD22	1.81	0.43
10:H:1:MET:HE2	10:H:44:TYR:CZ	2.52	0.43
12:J:19:THR:HG21	12:J:40:PRO:HB3	1.99	0.43
14:L:34:SER:HB2	14:L:94:TYR:CZ	2.53	0.43
19:Q:2:SER:OG	19:Q:3:HIS:N	2.51	0.43
21:S:138:VAL:O	21:S:139:THR:C	2.56	0.43
24:V:2:LYS:H	24:V:3:PRO:CD	2.30	0.43
1:X:98:U:C4'	1:X:99:U:H5"	2.43	0.43
1:X:318:G:H21	1:X:341:A:N6	2.16	0.43
1:X:334:G:O2'	1:X:335:A:P	2.77	0.43
1:X:601:A:H2'	1:X:602:C:OP1	2.18	0.43
1:X:663:G:H3'	1:X:664:C:C5'	2.32	0.43
1:X:982:C:C2'	1:X:983:G:H5'	2.48	0.43
1:X:1238:A:C2	1:X:1239:A:C2	3.06	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1735:G:C6	1:X:1736:C:C4	3.06	0.43
1:X:1790:G:H5"	3:A:261:ARG:HH22	1.82	0.43
1:X:2026:C:H1'	1:X:2759:U:O4	2.18	0.43
1:X:2074:U:H1'	23:U:48:LYS:CE	2.39	0.43
1:X:2483:U:O5'	1:X:2483:U:H6	2.02	0.43
1:X:2733:A:H8	1:X:2733:A:O5'	2.00	0.43
2:Y:31:A:P	14:L:35:SER:HB2	2.59	0.43
2:Y:118:G:C2'	2:Y:119:G:H5'	2.48	0.43
3:A:69:ARG:CZ	3:A:105:ILE:HD13	2.48	0.43
3:A:80:ALA:O	3:A:81:ALA:HB2	2.18	0.43
4:B:141:ILE:HD13	4:B:154:LYS:NZ	2.33	0.43
5:C:112:GLN:O	5:C:114:GLY:N	2.51	0.43
5:C:112:GLN:CA	5:C:116:LYS:HD3	2.47	0.43
6:D:60:ILE:O	6:D:99:PHE:CD1	2.71	0.43
7:E:7:GLN:HB3	7:E:51:LEU:CD1	2.47	0.43
8:F:101:TRP:HA	8:F:104:VAL:CG2	2.48	0.43
8:F:101:TRP:HA	8:F:104:VAL:HG23	1.99	0.43
10:H:88:THR:HB	15:M:80:VAL:HB	2.01	0.43
11:I:76:LYS:C	11:I:79:GLN:HG2	2.38	0.43
12:J:11:ARG:HB3	12:J:12:LYS:H	1.53	0.43
12:J:33:TYR:O	12:J:106:GLU:CA	2.66	0.43
13:K:75:VAL:O	13:K:79:VAL:HG12	2.17	0.43
14:L:16:LYS:O	14:L:19:THR:HB	2.18	0.43
17:O:5:ILE:CD1	17:O:9:GLY:O	2.66	0.43
17:O:64:GLY:O	17:O:89:ASN:HA	2.18	0.43
20:R:38:LEU:CD1	20:R:47:VAL:HG21	2.48	0.43
20:R:105:ARG:HH22	20:R:111:GLY:C	2.21	0.43
21:S:154:LEU:HB3	21:S:155:PRO:HD2	2.00	0.43
25:W:46:THR:CG2	25:W:47:VAL:N	2.79	0.43
1:X:2:G:H2'	1:X:3:U:C6	2.53	0.43
1:X:37:C:H2'	1:X:38:G:H8	1.83	0.43
1:X:75:C:C2'	1:X:76:C:H5"	2.48	0.43
1:X:435:A:N1	1:X:436:A:C6	2.86	0.43
1:X:447:U:O2'	1:X:448:C:C5	2.71	0.43
1:X:685:U:C2	1:X:822:G:N2	2.86	0.43
1:X:765:C:C5	1:X:1772:C:C2	3.07	0.43
1:X:1069:G:H1'	8:F:116:ASN:OD1	2.18	0.43
1:X:1296:G:H22	1:X:1299:A:C5'	2.32	0.43
1:X:1529:C:C2'	1:X:1530:U:H5'	2.47	0.43
1:X:1544:A:C2	1:X:1560:A:C5	3.07	0.43
1:X:1581:C:O2'	1:X:1582:A:O5'	2.24	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1705:U:O2	1:X:1717:A:C5'	2.63	0.43
1:X:1722:G:H2'	1:X:1723:U:H5'	1.99	0.43
1:X:1971:C:C2'	1:X:1972:G:H5'	2.47	0.43
1:X:2073:A:C6	1:X:2074:U:C4	3.06	0.43
1:X:2571:G:C6	1:X:2572:U:C4	3.06	0.43
1:X:2728:A:C4'	7:E:66:GLY:O	2.66	0.43
1:X:2790:C:H2'	1:X:2791:C:H6	1.82	0.43
1:X:2859:U:H2'	1:X:2860:C:C5'	2.48	0.43
2:Y:6:C:O2'	2:Y:7:C:H5'	2.19	0.43
3:A:63:ARG:NE	3:A:85:ASP:OD1	2.51	0.43
3:A:82:ILE:HA	3:A:92:ILE:O	2.18	0.43
3:A:161:THR:N	3:A:196:VAL:CG2	2.80	0.43
4:B:4:ILE:HD11	4:B:91:VAL:HA	2.00	0.43
4:B:67:PHE:HE1	4:B:78:LEU:HD21	1.82	0.43
5:C:147:LYS:HB2	5:C:184:ASP:H	1.82	0.43
7:E:43:VAL:CB	7:E:52:VAL:HG13	2.42	0.43
9:G:94:LYS:HE3	9:G:94:LYS:HB2	1.84	0.43
11:I:53:ARG:NH2	11:I:53:ARG:CG	2.81	0.43
15:M:43:ASN:O	15:M:44:ARG:C	2.55	0.43
16:N:75:ASN:OD1	16:N:75:ASN:O	2.36	0.43
19:Q:17:TYR:HA	19:Q:20:MET:HE2	2.01	0.43
19:Q:36:THR:O	19:Q:39:LYS:N	2.51	0.43
20:R:82:ALA:C	20:R:83:LEU:CG	2.86	0.43
21:S:34:LEU:HD13	21:S:35:ASP:O	2.18	0.43
21:S:164:PRO:C	21:S:166:LEU:H	2.21	0.43
23:U:28:GLY:H	23:U:32:ARG:NE	2.16	0.43
23:U:53:GLU:HB3	23:U:58:LYS:H	1.84	0.43
24:V:3:PRO:C	24:V:5:GLU:N	2.72	0.43
24:V:17:GLU:O	24:V:21:ARG:NH1	2.50	0.43
30:4:13:ASN:HB2	30:4:27:CYS:SG	2.59	0.43
1:X:227:G:O3'	11:I:53:ARG:HG2	2.18	0.43
1:X:322:A:HO2'	1:X:323:G:P	2.40	0.43
1:X:438:G:H2'	1:X:439:C:C6	2.54	0.43
1:X:490:A:HO2'	1:X:491:A:P	2.41	0.43
1:X:521:U:OP2	1:X:522:G:C6	2.71	0.43
1:X:637:G:H1	11:I:101:ARG:HD3	1.82	0.43
1:X:668:A:O2'	1:X:669:G:O4'	2.36	0.43
1:X:876:A:OP2	12:J:23:LYS:HD3	2.17	0.43
1:X:984:A:H1'	1:X:1202:U:C4	2.53	0.43
1:X:1011:A:O2'	1:X:1012:A:H5'	2.18	0.43
1:X:1051:U:C6	1:X:1051:U:C3'	3.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1341:G:H8	1:X:1341:G:O5'	2.02	0.43
1:X:1391:A:O2'	1:X:1392:U:OP1	2.37	0.43
1:X:1429:A:H1'	1:X:1603:A:N1	2.33	0.43
1:X:1451:C:O2'	1:X:1533:G:H4'	2.18	0.43
1:X:1629:G:C6	1:X:1635:G:O6	2.71	0.43
1:X:2027:C:N3	1:X:2604:G:C2	2.86	0.43
1:X:2300:G:C2'	1:X:2301:A:OP1	2.66	0.43
2:Y:4:C:H2'	2:Y:5:C:C5'	2.49	0.43
2:Y:58:G:H5"	2:Y:59:A:OP1	2.17	0.43
3:A:144:ALA:O	3:A:153:ALA:HB1	2.18	0.43
5:C:95:LEU:O	5:C:96:PRO:C	2.56	0.43
5:C:173:ALA:HB1	5:C:193:LEU:HB2	2.00	0.43
7:E:162:VAL:CG1	7:E:163:ARG:N	2.82	0.43
8:F:100:ASN:HB2	8:F:139:GLU:OE1	2.18	0.43
9:G:41:TRP:CH2	9:G:79:PHE:CD2	3.06	0.43
12:J:69:ILE:HD13	12:J:104:MET:CB	2.48	0.43
16:N:74:MET:O	16:N:75:ASN:CB	2.62	0.43
16:N:107:LYS:O	16:N:108:ALA:C	2.57	0.43
17:O:10:LYS:HE3	17:O:11:GLN:CG	2.48	0.43
19:Q:12:ILE:CG1	19:Q:13:SER:H	2.07	0.43
20:R:8:SER:O	20:R:9:HIS:C	2.56	0.43
20:R:37:LEU:HD11	20:R:49:GLU:HG2	1.99	0.43
20:R:97:GLN:OE1	20:R:101:GLY:HA3	2.19	0.43
21:S:25:ASN:O	21:S:26:LYS:HB3	2.17	0.43
21:S:75:LYS:C	21:S:77:ALA:H	2.22	0.43
1:X:102:C:C4	1:X:103:U:C4	3.06	0.43
1:X:399:G:O2'	1:X:400:U:P	2.76	0.43
1:X:627:A:OP1	5:C:34:GLN:OE1	2.36	0.43
1:X:631:G:H8	1:X:633:G:O6	2.01	0.43
1:X:882:C:H2'	1:X:883:A:O4'	2.19	0.43
1:X:931:G:H4'	2:Y:83:C:H4'	2.00	0.43
1:X:1092:U:H2'	1:X:1093:U:C6	2.53	0.43
1:X:1850:G:H2'	1:X:1851:A:OP2	2.18	0.43
1:X:2286:G:N2	1:X:2290:A:N6	2.60	0.43
1:X:2548:G:C2	1:X:2549:G:C8	3.07	0.43
1:X:2797:G:C2'	1:X:2798:A:O5'	2.65	0.43
2:Y:109:G:H2'	2:Y:110:U:O4'	2.19	0.43
4:B:16:LYS:HB2	4:B:21:ILE:HD12	1.99	0.43
4:B:131:SER:O	4:B:132:LYS:CB	2.66	0.43
4:B:133:LYS:HG2	4:B:137:ARG:HB3	1.99	0.43
5:C:3:GLN:CD	5:C:4:ILE:N	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:102:LEU:HD21	5:C:106:MET:CE	2.49	0.43
5:C:164:VAL:C	5:C:166:TRP:H	2.22	0.43
6:D:53:ALA:C	6:D:57:LEU:HD12	2.38	0.43
7:E:68:THR:O	7:E:71:LEU:HB2	2.19	0.43
10:H:1:MET:CB	10:H:44:TYR:HB3	2.48	0.43
12:J:28:VAL:N	12:J:137:VAL:HG11	2.33	0.43
12:J:70:PHE:HA	12:J:71:PRO:HD3	1.78	0.43
13:K:10:LEU:CD2	13:K:17:ARG:HB2	2.46	0.43
14:L:97:HIS:CG	14:L:98:GLY:N	2.84	0.43
15:M:22:ARG:NH2	15:M:89:ASN:O	2.50	0.43
17:O:33:VAL:O	17:O:33:VAL:CG2	2.67	0.43
18:P:80:LEU:HD21	18:P:90:LEU:HD11	1.99	0.43
18:P:118:LYS:HE3	18:P:118:LYS:HB2	1.70	0.43
19:Q:11:VAL:HG23	19:Q:27:PHE:CA	2.49	0.43
19:Q:29:VAL:HG23	19:Q:30:SER:N	2.34	0.43
19:Q:76:LYS:O	19:Q:77:LYS:C	2.54	0.43
21:S:49:THR:HG22	21:S:94:VAL:HG11	2.01	0.43
1:X:48:A:N7	1:X:154:U:C4	2.86	0.43
1:X:114:C:H2'	1:X:115:G:C8	2.54	0.43
1:X:312:G:C4	1:X:313:U:C5	3.06	0.43
1:X:342:G:H4'	1:X:343:A:OP1	2.18	0.43
1:X:455:A:C5	5:C:39:ARG:HD2	2.53	0.43
1:X:657:A:O2'	1:X:658:G:H5'	2.19	0.43
1:X:820:U:H2'	1:X:821:A:C8	2.53	0.43
1:X:837:U:C2	1:X:838:A:C8	3.06	0.43
1:X:884:C:H5"	12:J:70:PHE:CZ	2.52	0.43
1:X:1441:A:O2'	1:X:1442:C:OP2	2.35	0.43
1:X:1692:C:O2'	1:X:1693:A:H5'	2.19	0.43
1:X:1876:C:H2'	1:X:1877:C:H5'	1.99	0.43
1:X:1919:A:C2	1:X:1928:G:C8	3.07	0.43
1:X:1965:U:OP1	1:X:1965:U:H3'	2.18	0.43
1:X:2084:G:H2'	1:X:2085:G:C8	2.54	0.43
1:X:2210:C:C5'	23:U:45:ASN:HB3	2.49	0.43
1:X:2334:C:H4'	22:T:24:LYS:CD	2.46	0.43
1:X:2448:A:H5'	1:X:2448:A:H8	1.83	0.43
2:Y:111:C:H6	2:Y:111:C:H5'	1.84	0.43
3:A:70:ARG:HH12	3:A:150:GLY:N	2.16	0.43
4:B:95:ILE:HD13	4:B:95:ILE:HA	1.78	0.43
4:B:123:ALA:C	4:B:124:GLY:O	2.55	0.43
6:D:50:ILE:O	6:D:53:ALA:HB3	2.19	0.43
6:D:52:LYS:HD3	6:D:56:GLU:OE2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:G:33:ILE:CD1	9:G:34:PRO:N	2.82	0.43
10:H:92:ASP:O	10:H:93:ARG:HG3	2.18	0.43
11:I:28:LYS:NZ	11:I:36:GLY:HA3	2.33	0.43
13:K:20:LEU:C	13:K:22:ARG:N	2.71	0.43
19:Q:8:GLN:HA	19:Q:8:GLN:NE2	2.33	0.43
21:S:6:LYS:CB	21:S:32:PHE:HA	2.49	0.43
21:S:105:GLN:OE1	21:S:139:THR:HG22	2.18	0.43
23:U:14:VAL:O	23:U:15:VAL:HG22	2.19	0.43
24:V:6:MET:HE1	24:V:52:GLN:HB3	2.00	0.43
30:4:34:GLN:O	30:4:35:ARG:HB2	2.19	0.43
1:X:16:G:C2	1:X:17:G:C8	3.07	0.43
1:X:242:A:C2'	1:X:243:G:C4'	2.97	0.43
1:X:334:G:C2	1:X:344:G:H1'	2.53	0.43
1:X:460:U:C4	1:X:592:G:H1'	2.49	0.43
1:X:540:G:C2'	1:X:542:A:C2	3.02	0.43
1:X:563:U:H2'	1:X:564:U:O4'	2.19	0.43
1:X:880:C:O5'	1:X:880:C:H6	2.01	0.43
1:X:930:A:C8	1:X:930:A:H3'	2.53	0.43
1:X:969:U:C5'	12:J:17:ARG:HH11	2.24	0.43
1:X:977:G:H2'	1:X:978:U:C6	2.52	0.43
1:X:1202:U:O2'	1:X:1203:A:H5'	2.19	0.43
1:X:1237:G:C6	1:X:1238:A:N6	2.86	0.43
1:X:1573:G:O5'	1:X:1574:A:H5"	2.19	0.43
1:X:1766:U:C2'	1:X:1767:G:H5'	2.48	0.43
1:X:1830:C:N4	1:X:1881:U:H3'	2.34	0.43
1:X:1921:A:O2'	1:X:1922:U:OP1	2.28	0.43
1:X:2082:C:C2'	1:X:2083:G:H5'	2.47	0.43
1:X:2309:G:O2'	1:X:2310:G:H5'	2.19	0.43
1:X:2345:A:H4'	22:T:62:LEU:HD12	2.01	0.43
1:X:2370:G:O2'	1:X:2403:C:N4	2.51	0.43
1:X:2502:G:O2'	1:X:2503:G:H5'	2.19	0.43
1:X:2630:C:O2'	1:X:2631:C:H5'	2.19	0.43
1:X:2663:U:N3	1:X:2664:G:N7	2.66	0.43
2:Y:47:A:OP1	6:D:92:ARG:NH2	2.52	0.43
2:Y:51:G:OP1	14:L:99:ARG:HG2	2.18	0.43
3:A:91:ARG:HB2	3:A:107:ALA:HB3	2.00	0.43
3:A:133:LEU:O	3:A:134:ARG:C	2.54	0.43
3:A:205:VAL:O	3:A:207:GLY:N	2.51	0.43
4:B:59:VAL:HG12	4:B:64:GLN:HG3	2.01	0.43
5:C:112:GLN:HB3	5:C:116:LYS:HD3	1.99	0.43
5:C:164:VAL:C	5:C:166:TRP:N	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:D:70:ALA:O	6:D:72:LYS:N	2.52	0.43
6:D:138:PHE:HB2	6:D:141:ILE:CG1	2.49	0.43
9:G:96:ASP:O	9:G:98:LYS:N	2.52	0.43
9:G:140:GLN:O	9:G:143:ALA:HB3	2.19	0.43
10:H:116:ARG:NH2	15:M:40:ARG:O	2.51	0.43
11:I:45:LYS:CG	11:I:46:GLY:H	2.32	0.43
14:L:8:ARG:NH1	14:L:8:ARG:HB3	2.34	0.43
14:L:8:ARG:HB3	14:L:8:ARG:HH11	1.83	0.43
14:L:90:ASP:O	14:L:91:ARG:O	2.36	0.43
16:N:33:ARG:HH11	16:N:33:ARG:HG3	1.83	0.43
16:N:66:ASN:HB3	16:N:76:TYR:CB	2.38	0.43
17:O:36:LYS:NZ	17:O:55:THR:O	2.48	0.43
17:O:54:TYR:CD1	17:O:54:TYR:N	2.85	0.43
18:P:100:GLY:C	18:P:101:PRO:O	2.57	0.43
19:Q:7:LEU:C	19:Q:7:LEU:CD2	2.71	0.43
19:Q:65:VAL:HG12	19:Q:66:GLY:N	2.27	0.43
19:Q:69:ILE:HD13	19:Q:70:GLY:N	2.25	0.43
26:Z:4:HIS:O	26:Z:5:PRO:C	2.54	0.43
30:4:14:CYS:HA	30:4:27:CYS:HB2	1.99	0.43
30:4:15:LYS:O	30:4:17:VAL:HG23	2.19	0.43
30:4:19:ARG:HH11	30:4:19:ARG:HG3	1.83	0.43
1:X:486:U:H4'	1:X:519:C:H2'	2.00	0.43
1:X:861:G:C2'	1:X:862:A:C5'	2.96	0.43
1:X:863:C:H4'	25:W:18:LYS:CB	2.46	0.43
1:X:984:A:H5'	17:O:78:VAL:CG2	2.49	0.43
1:X:1052:C:H3'	1:X:1053:G:H5'	1.93	0.43
1:X:1115:C:O5'	1:X:1115:C:H6	2.02	0.43
1:X:1122:A:C2'	1:X:1123:G:O5'	2.66	0.43
1:X:1463:A:H2'	1:X:1464:A:H8	1.82	0.43
1:X:1514:C:C4'	1:X:1593:C:H5'	2.48	0.43
1:X:1630:A:N6	18:P:109:ARG:H	2.16	0.43
1:X:1873:A:H2	1:X:2214:G:O4'	2.02	0.43
1:X:2270:U:O2'	1:X:2353:G:N3	2.48	0.43
1:X:2299:A:H61	1:X:2312:A:H2'	1.84	0.43
1:X:2564:U:H5'	1:X:2565:C:P	2.59	0.43
1:X:2701:A:H2'	1:X:2702:G:O4'	2.19	0.43
1:X:2759:U:C5'	1:X:2760:G:OP1	2.67	0.43
2:Y:44:C:N3	6:D:90:THR:OG1	2.44	0.43
2:Y:100:G:H2'	2:Y:101:A:O4'	2.18	0.43
3:A:86:PRO:O	3:A:87:ASN:CB	2.66	0.43
3:A:243:GLY:O	3:A:244:ARG:CZ	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:C:46:ARG:HD2	5:C:51:VAL:HB	2.01	0.43
5:C:149:LEU:HD22	5:C:179:ASP:HB3	2.00	0.43
5:C:165:SER:HB3	5:C:166:TRP:CZ3	2.54	0.43
6:D:108:LEU:HB2	6:D:109:PRO:HD3	2.01	0.43
9:G:84:ASN:N	9:G:153:GLY:O	2.49	0.43
9:G:119:LEU:HD12	9:G:126:VAL:HG22	2.01	0.43
9:G:165:VAL:O	9:G:167:LYS:N	2.51	0.43
10:H:75:VAL:HG23	10:H:76:ARG:HG3	2.00	0.43
11:I:127:ALA:C	11:I:129:ALA:N	2.72	0.43
14:L:33:ARG:CZ	14:L:103:LEU:HD12	2.49	0.43
15:M:6:LYS:H	15:M:6:LYS:CD	2.24	0.43
17:O:39:PHE:HE2	17:O:51:ALA:HB1	1.79	0.43
19:Q:71:GLN:O	19:Q:72:ARG:O	2.36	0.43
19:Q:90:ALA:C	19:Q:92:ALA:N	2.50	0.43
20:R:22:VAL:CG1	20:R:23:ILE:N	2.81	0.43
21:S:19:ILE:HD11	21:S:36:ARG:HA	1.98	0.43
21:S:56:VAL:O	21:S:57:GLU:C	2.56	0.43
22:T:50:GLY:O	22:T:81:ILE:HD12	2.19	0.43
23:U:20:ARG:HB2	23:U:43:ARG:HD2	2.01	0.43
24:V:22:LYS:HA	24:V:25:LEU:HB3	2.01	0.43
1:X:89:A:OP1	1:X:89:A:O4'	2.36	0.43
1:X:349:G:OP1	20:R:13:LYS:NZ	2.32	0.43
1:X:496:C:O2'	1:X:497:C:H5"	2.19	0.43
1:X:657:A:H2'	1:X:658:G:O4'	2.19	0.43
1:X:717:G:H1'	1:X:740:A:H61	1.82	0.43
1:X:731:A:O2'	1:X:732:G:C5'	2.64	0.43
1:X:766:A:H8	1:X:766:A:O5'	2.01	0.43
1:X:872:G:H22	1:X:929:A:P	2.42	0.43
1:X:1169:C:O5'	1:X:1169:C:H6	2.01	0.43
1:X:1419:G:H2'	1:X:1420:A:C8	2.54	0.43
1:X:1492:A:N6	1:X:1531:C:N4	2.66	0.43
1:X:1698:C:HO2'	1:X:1753:A:H2'	1.76	0.43
1:X:1782:A:N6	1:X:1820:G:C2'	2.82	0.43
1:X:1808:C:H41	3:A:37:LEU:HD12	1.83	0.43
1:X:2197:U:C4	1:X:2198:U:C5	3.06	0.43
1:X:2237:C:H2'	1:X:2406:C:OP2	2.18	0.43
1:X:2378:G:C2	1:X:2397:A:C2	3.07	0.43
1:X:2516:U:C2	1:X:2517:C:C5	3.06	0.43
1:X:2598:C:HO2'	4:B:154:LYS:HE3	1.82	0.43
1:X:2722:C:H5"	30:4:35:ARG:HH12	1.83	0.43
3:A:45:ASN:ND2	3:A:46:ARG:N	2.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:213:ARG:C	3:A:215:LEU:H	2.22	0.43
4:B:30:PRO:N	4:B:180:ASN:ND2	2.67	0.43
4:B:188:ILE:HG23	4:B:189:PRO:CD	2.49	0.43
5:C:82:VAL:C	5:C:83:ALA:O	2.56	0.43
6:D:4:LEU:HG	6:D:5:LYS:N	2.34	0.43
6:D:122:PHE:O	6:D:123:ASP:C	2.57	0.43
9:G:155:THR:HG23	9:G:156:HIS:ND1	2.34	0.43
10:H:4:PRO:O	10:H:5:GLN:CB	2.57	0.43
14:L:81:GLU:O	14:L:82:LYS:CG	2.63	0.43
14:L:100:VAL:HG13	14:L:101:LYS:N	2.34	0.43
15:M:29:PRO:C	15:M:30:GLY:O	2.54	0.43
15:M:41:GLU:O	15:M:44:ARG:O	2.37	0.43
16:N:82:GLY:O	16:N:83:LEU:C	2.58	0.43
19:Q:71:GLN:C	19:Q:72:ARG:O	2.57	0.43
21:S:13:LYS:O	21:S:16:GLU:O	2.36	0.43
21:S:77:ALA:HA	21:S:78:PRO:HD3	1.70	0.43
21:S:130:ILE:N	21:S:130:ILE:HD12	2.34	0.43
21:S:138:VAL:HG23	21:S:139:THR:N	2.33	0.43
24:V:21:ARG:C	24:V:23:LYS:N	2.72	0.43
24:V:26:MET:HA	24:V:29:ARG:NH2	2.34	0.43
1:X:29:U:O2'	16:N:11:ARG:NH2	2.52	0.43
1:X:160:C:O2	1:X:445:A:H2	2.01	0.43
1:X:185:C:H2'	1:X:186:C:H6	1.84	0.43
1:X:437:G:H2'	1:X:438:G:O4'	2.19	0.43
1:X:461:A:H4'	16:N:3:ARG:NH2	2.32	0.43
1:X:623:G:H2'	1:X:626:A:C6	2.53	0.43
1:X:703:A:O2'	1:X:793:G:OP1	2.36	0.43
1:X:731:A:C2'	1:X:732:G:C4'	2.97	0.43
1:X:756:C:C2'	1:X:757:U:C5'	2.96	0.43
1:X:777:A:OP2	3:A:214:TRP:HH2	2.01	0.43
1:X:1022:A:C2	1:X:1024:G:C4	3.07	0.43
1:X:1060:C:N4	1:X:1061:A:N6	2.67	0.43
1:X:1392:U:C6	1:X:1392:U:OP1	2.69	0.43
1:X:1526:U:H3'	1:X:1527:G:C8	2.53	0.43
1:X:1558:C:C2'	1:X:1559:G:O5'	2.67	0.43
1:X:1850:G:C2'	1:X:1851:A:C8	2.95	0.43
1:X:2304:G:H8	1:X:2304:G:P	2.41	0.43
1:X:2378:G:C6	1:X:2397:A:N1	2.87	0.43
1:X:2444:C:O3'	30:4:5:SER:HB3	2.19	0.43
1:X:2713:A:C6	4:B:203:LYS:HG2	2.53	0.43
1:X:2718:A:H2'	1:X:2719:U:O5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2726:U:H1'	7:E:139:GLN:NE2	2.32	0.43
3:A:142:VAL:CG1	3:A:193:ILE:HD13	2.48	0.43
4:B:61:LYS:N	4:B:62:PRO:CD	2.82	0.43
5:C:187:VAL:O	5:C:189:ASP:N	2.52	0.43
6:D:10:ASP:O	6:D:11:GLN:C	2.57	0.43
6:D:32:GLU:OE2	6:D:157:VAL:HG11	2.19	0.43
6:D:75:SER:O	6:D:76:ASN:C	2.57	0.43
7:E:126:PRO:CG	7:E:127:GLU:H	2.21	0.43
7:E:137:ASP:O	7:E:138:LYS:C	2.57	0.43
10:H:25:LEU:HG	10:H:52:VAL:HG23	2.00	0.43
11:I:116:ARG:CG	11:I:117:ALA:N	2.81	0.43
16:N:105:ALA:O	16:N:106:PHE:C	2.57	0.43
19:Q:7:LEU:CD2	24:V:29:ARG:HH12	2.31	0.43
21:S:24:TYR:HA	21:S:28:ASN:O	2.18	0.43
21:S:28:ASN:OD1	21:S:28:ASN:N	2.51	0.43
21:S:73:LYS:C	21:S:75:LYS:H	2.23	0.43
23:U:72:LYS:HD3	23:U:72:LYS:N	2.33	0.43
24:V:5:GLU:HA	24:V:8:ASN:HB2	1.99	0.43
24:V:31:GLN:O	24:V:35:GLY:N	2.51	0.43
1:X:1:G:H2'	1:X:2:G:O4'	2.19	0.42
1:X:640:C:H4'	1:X:660:G:C2	2.54	0.42
1:X:648:A:OP1	11:I:110:ALA:HB3	2.19	0.42
1:X:695:G:O2'	1:X:696:U:H5'	2.19	0.42
1:X:777:A:OP2	3:A:214:TRP:CH2	2.71	0.42
1:X:847:C:H2'	1:X:848:A:C8	2.54	0.42
1:X:873:U:O4	1:X:929:A:N7	2.52	0.42
1:X:885:A:C5	1:X:918:A:C2	3.07	0.42
1:X:938:G:H4'	1:X:939:C:C6	2.53	0.42
1:X:1023:U:C6	1:X:1023:U:C3'	3.01	0.42
1:X:1031:C:O2'	1:X:1032:A:C5'	2.67	0.42
1:X:1077:U:H2'	1:X:1079:G:OP2	2.19	0.42
1:X:1189:G:O5'	1:X:1189:G:H8	2.01	0.42
1:X:1371:G:H1'	1:X:1387:G:H1	1.84	0.42
1:X:1582:A:H1'	3:A:214:TRP:HB3	2.00	0.42
1:X:1808:C:C5	3:A:62:TYR:CE2	3.07	0.42
1:X:1830:C:H41	1:X:1881:U:H3'	1.83	0.42
1:X:2081:U:H2'	1:X:2082:C:H6	1.83	0.42
1:X:2331:A:H2	22:T:33:ALA:HB1	1.84	0.42
1:X:2379:G:H2'	1:X:2380:U:C5'	2.49	0.42
1:X:2381:A:C2'	1:X:2382:C:OP2	2.67	0.42
1:X:2505:G:O2'	30:4:1:MET:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2560:G:C8	1:X:2589:C:N4	2.87	0.42
1:X:2718:A:C2	1:X:2719:U:H1'	2.54	0.42
1:X:2760:G:C2'	1:X:2761:A:OP1	2.66	0.42
2:Y:26:G:H5"	2:Y:27:A:OP1	2.19	0.42
3:A:108:PRO:HG2	3:A:111:LEU:HG	2.00	0.42
3:A:258:LYS:NZ	3:A:261:ARG:HE	2.17	0.42
5:C:48:ARG:CB	5:C:51:VAL:H	2.32	0.42
5:C:147:LYS:HA	5:C:166:TRP:O	2.19	0.42
5:C:195:ILE:O	5:C:196:VAL:CB	2.67	0.42
6:D:52:LYS:HE3	6:D:148:LYS:H	1.84	0.42
7:E:6:LYS:O	7:E:7:GLN:HG3	2.19	0.42
7:E:163:ARG:HB2	7:E:167:GLU:CG	2.49	0.42
9:G:164:GLN:O	9:G:165:VAL:CG1	2.56	0.42
11:I:34:HIS:O	11:I:35:LYS:CG	2.67	0.42
11:I:90:ARG:O	11:I:121:HIS:HB2	2.19	0.42
11:I:107:LYS:HG3	11:I:108:LEU:H	1.84	0.42
12:J:119:PHE:O	12:J:122:ALA:N	2.52	0.42
12:J:126:LEU:HA	12:J:127:PRO:HD3	1.89	0.42
13:K:103:ARG:CG	13:K:104:ARG:N	2.82	0.42
14:L:35:SER:OG	14:L:36:LYS:N	2.51	0.42
16:N:47:TYR:CE1	17:O:73:LYS:NZ	2.87	0.42
17:O:42:GLY:C	17:O:44:GLN:N	2.71	0.42
20:R:18:LYS:N	20:R:18:LYS:CD	2.81	0.42
23:U:23:LYS:HD2	23:U:35:THR:CB	2.49	0.42
23:U:70:LEU:HD13	23:U:79:GLU:OE2	2.18	0.42
24:V:6:MET:CE	24:V:56:VAL:HG21	2.49	0.42
1:X:127:C:O2'	1:X:128:C:H5'	2.19	0.42
1:X:131:C:O5'	1:X:131:C:H6	2.02	0.42
1:X:167:A:H5"	1:X:181:A:N1	2.34	0.42
1:X:677:G:C2	1:X:678:G:C8	3.08	0.42
1:X:759:C:C1'	1:X:761:G:N2	2.82	0.42
1:X:760:U:C2	26:Z:3:LYS:HG3	2.53	0.42
1:X:774:A:C8	1:X:774:A:O5'	2.73	0.42
1:X:922:A:N1	1:X:2256:G:H1'	2.34	0.42
1:X:971:A:H4'	1:X:2436:U:C5'	2.49	0.42
1:X:1089:C:C1'	1:X:1099:A:H2	2.31	0.42
1:X:1261:G:O2'	1:X:1262:U:OP1	2.34	0.42
1:X:1283:C:H5"	1:X:1284:G:C5'	2.49	0.42
1:X:1300:A:OP2	13:K:103:ARG:HD2	2.19	0.42
1:X:1385:C:O2'	1:X:1386:A:H5'	2.19	0.42
1:X:2035:G:N3	4:B:149:ARG:HA	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2618:A:N7	1:X:2755:A:H2	2.17	0.42
1:X:2858:A:H5"	1:X:2859:U:H5'	2.00	0.42
1:X:2859:U:OP2	26:Z:43:HIS:CE1	2.72	0.42
2:Y:7:C:H2'	2:Y:8:C:H6	1.83	0.42
2:Y:32:C:H2'	2:Y:33:C:H5'	2.01	0.42
3:A:172:TYR:HB3	3:A:184:ARG:HB3	1.99	0.42
3:A:268:ARG:O	3:A:269:PHE:HB2	2.19	0.42
5:C:108:ILE:O	5:C:112:GLN:HG2	2.19	0.42
5:C:154:ASP:OD2	5:C:157:THR:OG1	2.29	0.42
5:C:161:ALA:HB3	5:C:169:VAL:CG2	2.49	0.42
13:K:13:ASN:HD22	13:K:14:SER:N	2.17	0.42
15:M:33:VAL:CG2	15:M:51:GLU:OE1	2.66	0.42
20:R:70:GLU:OE1	20:R:72:ARG:NH1	2.34	0.42
20:R:93:ARG:HH22	20:R:108:VAL:CA	2.32	0.42
22:T:31:VAL:CG1	22:T:37:LEU:HD21	2.47	0.42
23:U:39:LYS:O	23:U:40:ARG:CB	2.67	0.42
24:V:18:ILE:C	24:V:20:ALA:H	2.22	0.42
25:W:41:ARG:HH11	25:W:41:ARG:CG	2.29	0.42
1:X:8:A:P	9:G:149:LYS:HZ1	2.41	0.42
1:X:111:G:H5'	1:X:112:U:OP1	2.17	0.42
1:X:224:G:H4'	1:X:399:G:N1	2.34	0.42
1:X:321:A:C2	1:X:323:G:H1'	2.54	0.42
1:X:541:C:OP1	1:X:570:G:N1	2.51	0.42
1:X:745:C:H2'	1:X:746:G:H5'	2.01	0.42
1:X:963:G:C6	1:X:977:G:C6	3.07	0.42
1:X:1200:G:N7	1:X:1201:G:N7	2.68	0.42
1:X:1516:A:N3	3:A:100:GLY:HA3	2.35	0.42
1:X:1673:C:C2	1:X:1674:C:C5	3.08	0.42
1:X:1699:A:H61	1:X:1723:U:H3	1.67	0.42
1:X:1824:C:N4	1:X:1825:C:C4	2.88	0.42
1:X:1918:G:C6	1:X:1945:C:C5	3.07	0.42
1:X:1926:U:H5"	1:X:1927:U:OP1	2.20	0.42
1:X:2358:C:H2'	1:X:2359:U:H6	1.83	0.42
1:X:2590:U:O2	1:X:2590:U:H2'	2.19	0.42
1:X:2644:A:O2'	1:X:2645:C:H5'	2.19	0.42
3:A:111:LEU:HD21	3:A:127:LEU:O	2.20	0.42
3:A:270:ILE:HG13	3:A:271:VAL:HG23	2.02	0.42
5:C:34:GLN:O	5:C:38:ARG:HG3	2.19	0.42
5:C:102:LEU:CD2	5:C:106:MET:HB2	2.47	0.42
5:C:154:ASP:OD1	5:C:154:ASP:N	2.52	0.42
6:D:55:LYS:O	6:D:59:LEU:HG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:E:26:VAL:HG12	7:E:27:LYS:N	2.34	0.42
7:E:39:THR:O	7:E:41:LEU:N	2.51	0.42
8:F:129:GLY:CA	8:F:132:ARG:HB3	2.37	0.42
10:H:121:ARG:HB3	10:H:123:PHE:CE1	2.54	0.42
20:R:22:VAL:HG22	20:R:83:LEU:H	1.84	0.42
20:R:66:GLN:HG2	20:R:66:GLN:O	2.19	0.42
21:S:10:PRO:O	21:S:13:LYS:CG	2.63	0.42
21:S:117:VAL:HG23	21:S:117:VAL:O	2.19	0.42
23:U:59:THR:O	23:U:60:VAL:O	2.37	0.42
30:4:1:MET:SD	30:4:35:ARG:NE	2.91	0.42
1:X:496:C:H2'	1:X:497:C:H5"	1.99	0.42
1:X:745:C:H2'	1:X:746:G:C5'	2.50	0.42
1:X:759:C:OP2	1:X:2591:C:C6	2.72	0.42
1:X:923:A:C2	12:J:12:LYS:HE3	2.54	0.42
1:X:931:G:C6	1:X:932:G:C5	3.07	0.42
1:X:956:A:H5'	1:X:957:G:OP2	2.18	0.42
1:X:1050:G:C2'	1:X:1051:U:H5"	2.50	0.42
1:X:1325:U:H4'	1:X:1326:U:O5'	2.19	0.42
1:X:1688:U:H6	1:X:1688:U:O5'	2.03	0.42
1:X:1708:C:C4	1:X:1709:U:C5	3.08	0.42
1:X:1978:U:C3'	1:X:1979:C:C5'	2.94	0.42
1:X:2220:A:H2'	1:X:2221:G:C8	2.55	0.42
1:X:2551:A:H2'	4:B:144:ARG:HH11	1.84	0.42
1:X:2555:G:OP1	1:X:2555:G:H3'	2.19	0.42
1:X:2562:G:C5	1:X:2563:U:C5	3.07	0.42
1:X:2807:U:O2'	1:X:2808:U:C5'	2.68	0.42
1:X:2849:C:C2'	1:X:2850:U:C5'	2.98	0.42
2:Y:15:A:C2'	2:Y:16:U:H5"	2.50	0.42
2:Y:53:G:N2	2:Y:54:U:C5	2.80	0.42
3:A:165:VAL:HG13	3:A:173:VAL:HG11	2.01	0.42
5:C:48:ARG:HB2	5:C:51:VAL:CG1	2.50	0.42
5:C:112:GLN:OE1	5:C:116:LYS:HD3	2.20	0.42
5:C:129:LYS:O	5:C:131:LYS:N	2.48	0.42
7:E:150:LYS:C	7:E:152:ARG:H	2.21	0.42
9:G:33:ILE:CD1	9:G:35:LYS:HZ3	2.31	0.42
10:H:1:MET:HB3	10:H:44:TYR:HB3	2.01	0.42
14:L:33:ARG:HH22	14:L:103:LEU:HB2	1.79	0.42
17:O:11:GLN:NE2	17:O:38:LEU:HB3	2.34	0.42
23:U:20:ARG:HD2	23:U:43:ARG:CD	2.50	0.42
26:Z:20:ARG:O	26:Z:22:HIS:N	2.52	0.42
1:X:5:A:N3	9:G:162:LYS:HD2	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:43:A:H8	1:X:43:A:O5'	2.03	0.42
1:X:92:U:H2'	1:X:93:A:C8	2.55	0.42
1:X:199:A:O2'	1:X:200:A:H5'	2.20	0.42
1:X:221:A:C6	1:X:232:A:C8	3.08	0.42
1:X:494:A:N7	1:X:507:A:H2	2.17	0.42
1:X:643:A:H4'	11:I:67:ASN:HB2	2.01	0.42
1:X:691:C:C2	1:X:692:C:C5	3.07	0.42
1:X:694:G:H2'	1:X:695:G:O4'	2.20	0.42
1:X:787:A:P	3:A:48:ARG:HH12	2.43	0.42
1:X:805:G:N7	1:X:2419:C:C1'	2.82	0.42
1:X:826:U:O2	1:X:827:C:C6	2.72	0.42
1:X:1145:C:C6	1:X:1147:G:OP2	2.73	0.42
1:X:1163:C:H2'	1:X:1164:C:H6	1.84	0.42
1:X:1183:C:H2'	1:X:1184:G:H8	1.82	0.42
1:X:1406:A:N6	19:Q:15:LYS:CG	2.82	0.42
1:X:1750:A:N7	1:X:2675:U:H1'	2.35	0.42
1:X:1814:G:O2'	1:X:1815:G:H5'	2.19	0.42
1:X:1858:C:H2'	1:X:1859:A:C8	2.54	0.42
1:X:2314:A:O2'	1:X:2315:A:H8	2.03	0.42
1:X:2398:U:H2'	1:X:2399:C:C6	2.54	0.42
1:X:2712:G:H8	1:X:2712:G:OP2	2.02	0.42
1:X:2754:C:O2'	1:X:2755:A:H5'	2.19	0.42
1:X:2777:A:N7	18:P:134:LYS:HB2	2.34	0.42
1:X:2799:C:C5	1:X:2800:C:C4	3.08	0.42
1:X:2825:A:C6	1:X:2826:C:C4	3.07	0.42
4:B:147:PRO:C	4:B:149:ARG:H	2.23	0.42
5:C:112:GLN:C	5:C:114:GLY:N	2.73	0.42
6:D:93:GLY:O	6:D:97:TYR:HB2	2.19	0.42
6:D:119:PRO:HG2	6:D:120:ASN:N	2.21	0.42
7:E:54:ARG:CZ	7:E:62:ARG:HG2	2.50	0.42
7:E:109:TYR:CD1	7:E:109:TYR:N	2.88	0.42
9:G:67:ARG:NH2	9:G:70:PHE:O	2.52	0.42
10:H:27:SER:HB3	10:H:49:ASP:HA	2.02	0.42
11:I:126:SER:O	11:I:130:ILE:HG13	2.20	0.42
13:K:24:GLN:O	13:K:25:ALA:C	2.57	0.42
13:K:33:ARG:HG2	13:K:34:ILE:N	2.34	0.42
13:K:45:ARG:O	13:K:49:GLU:HG3	2.19	0.42
14:L:79:ALA:O	14:L:82:LYS:HB2	2.19	0.42
15:M:5:ILE:HD12	15:M:7:ILE:HB	2.01	0.42
16:N:97:ASP:OD2	16:N:101:ARG:CZ	2.68	0.42
17:O:36:LYS:HE3	17:O:56:VAL:HG13	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:R:48:VAL:C	20:R:50:GLY:H	2.22	0.42
21:S:94:VAL:CG1	21:S:95:SER:N	2.83	0.42
25:W:4:LYS:HD2	25:W:52:GLU:CG	2.49	0.42
1:X:317:U:C2'	1:X:318:G:C5'	2.88	0.42
1:X:441:A:OP2	1:X:441:A:H8	2.01	0.42
1:X:707:U:H6	1:X:707:U:O5'	2.03	0.42
1:X:730:C:C5'	1:X:731:A:P	3.06	0.42
1:X:1375:C:N3	1:X:1376:C:C6	2.88	0.42
1:X:1437:A:H2'	1:X:1438:G:C8	2.53	0.42
1:X:1780:A:H2'	1:X:1781:C:O4'	2.20	0.42
1:X:1927:U:H1'	1:X:1938:U:C4'	2.49	0.42
1:X:2165:A:H2'	1:X:2166:G:C8	2.54	0.42
1:X:2196:U:C3'	1:X:2197:U:H6	2.33	0.42
1:X:2210:C:C2	1:X:2211:U:C6	3.08	0.42
1:X:2252:A:O2'	1:X:2253:A:H5'	2.20	0.42
1:X:2431:C:O2'	1:X:2432:A:H5'	2.20	0.42
3:A:223:GLY:HA2	3:A:226:MET:SD	2.60	0.42
3:A:248:THR:HB	3:A:249:PRO:HD2	2.02	0.42
4:B:85:ALA:HB3	4:B:86:PRO:HD3	2.02	0.42
5:C:170:LEU:HD12	5:C:170:LEU:HA	1.78	0.42
5:C:185:ARG:HG2	5:C:185:ARG:HH21	1.84	0.42
6:D:5:LYS:C	6:D:8:TYR:HB3	2.34	0.42
6:D:123:ASP:H	6:D:129:ASN:ND2	2.17	0.42
7:E:136:ILE:H	7:E:136:ILE:CD1	2.31	0.42
12:J:122:ALA:O	12:J:125:LYS:HD2	2.19	0.42
14:L:11:LEU:HA	14:L:14:ARG:CD	2.45	0.42
14:L:43:ILE:N	14:L:43:ILE:HD12	2.34	0.42
15:M:43:ASN:ND2	15:M:43:ASN:C	2.70	0.42
17:O:68:LYS:HA	17:O:87:ARG:HB3	2.01	0.42
18:P:38:VAL:O	18:P:39:ARG:C	2.54	0.42
23:U:41:VAL:CG2	23:U:42:GLN:N	2.70	0.42
23:U:64:ALA:O	23:U:66:ALA:N	2.53	0.42
24:V:56:VAL:O	24:V:57:LYS:C	2.57	0.42
1:X:26:G:C2	1:X:27:G:N2	2.87	0.42
1:X:198:A:N7	1:X:243:G:C5	2.87	0.42
1:X:463:C:OP1	5:C:46:ARG:NH1	2.53	0.42
1:X:510:G:H1'	1:X:515:A:N6	2.34	0.42
1:X:847:C:H2'	1:X:848:A:O4'	2.20	0.42
1:X:1412:C:C2'	1:X:1413:U:O5'	2.68	0.42
1:X:2225:G:H2'	1:X:2226:A:C8	2.55	0.42
1:X:2356:A:H2	14:L:91:ARG:HH22	1.61	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2387:U:H2'	1:X:2388:G:H8	1.85	0.42
1:X:2490:U:O4	1:X:2554:C:N3	2.53	0.42
1:X:2691:C:C2'	1:X:2692:A:C5'	2.98	0.42
2:Y:58:G:C4'	2:Y:59:A:H8	2.33	0.42
3:A:88:ARG:HG3	3:A:88:ARG:NH1	2.35	0.42
3:A:248:THR:HB	3:A:249:PRO:CD	2.50	0.42
4:B:133:LYS:HB3	4:B:133:LYS:HE2	1.73	0.42
5:C:48:ARG:HB2	5:C:51:VAL:H	1.84	0.42
5:C:168:SER:CB	5:C:183:HIS:NE2	2.82	0.42
6:D:33:LYS:O	6:D:157:VAL:HG23	2.20	0.42
6:D:108:LEU:HA	6:D:111:ILE:HG13	2.01	0.42
6:D:128:TYR:HB3	6:D:156:ILE:HD12	2.02	0.42
6:D:130:LEU:HD22	6:D:132:ILE:HD11	2.01	0.42
7:E:117:PRO:N	7:E:123:PHE:HE1	2.18	0.42
9:G:117:GLU:C	9:G:119:LEU:N	2.73	0.42
10:H:116:ARG:HH21	15:M:40:ARG:CB	2.32	0.42
10:H:127:VAL:HG13	10:H:133:VAL:HG21	2.00	0.42
10:H:133:VAL:HG12	15:M:38:LYS:NZ	2.35	0.42
13:K:96:ARG:CD	13:K:114:GLU:OE2	2.67	0.42
15:M:34:ARG:HH12	15:M:81:PHE:HB3	1.82	0.42
15:M:34:ARG:NE	15:M:88:VAL:HG13	2.35	0.42
15:M:51:GLU:O	15:M:51:GLU:HG3	2.14	0.42
15:M:72:SER:O	15:M:73:PHE:HB2	2.19	0.42
16:N:93:LYS:HE2	17:O:5:ILE:HG21	2.00	0.42
17:O:62:GLU:H	17:O:92:ALA:HB3	1.85	0.42
18:P:46:ARG:HH11	18:P:46:ARG:CG	2.29	0.42
19:Q:35:LYS:HA	19:Q:38:ILE:CG2	2.50	0.42
21:S:16:GLU:O	21:S:17:SER:C	2.57	0.42
21:S:100:THR:O	21:S:101:THR:HG23	2.20	0.42
1:X:165:G:O2'	1:X:166:G:H5'	2.19	0.42
1:X:219:G:O2'	1:X:220:U:P	2.78	0.42
1:X:305:A:H2'	1:X:306:G:C5'	2.48	0.42
1:X:405:C:H2'	1:X:406:G:O4'	2.19	0.42
1:X:516:G:O2'	1:X:517:A:P	2.76	0.42
1:X:632:A:H3'	1:X:632:A:N3	2.34	0.42
1:X:699:G:C4'	1:X:700:C:OP2	2.67	0.42
1:X:715:U:H2'	1:X:716:U:O4'	2.19	0.42
1:X:777:A:O2'	1:X:778:G:P	2.78	0.42
1:X:1088:A:C2'	1:X:1089:C:H5'	2.49	0.42
1:X:1194:U:H5'	1:X:1194:U:C6	2.49	0.42
1:X:1441:A:H4'	1:X:1442:C:O5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1838:G:C2	1:X:1878:C:C2	3.08	0.42
1:X:1914:U:O4	1:X:1952:A:N7	2.52	0.42
1:X:1917:C:H2'	1:X:1918:G:C5'	2.50	0.42
1:X:2004:U:H4'	1:X:2005:U:OP2	2.16	0.42
1:X:2033:C:H1'	4:B:156:MET:CE	2.48	0.42
1:X:2594:U:C2	1:X:2595:C:C5	3.08	0.42
1:X:2754:C:C2'	1:X:2755:A:H5'	2.49	0.42
2:Y:9:G:H5'	14:L:32:TYR:CE2	2.54	0.42
2:Y:16:U:HO2'	2:Y:17:A:P	2.43	0.42
2:Y:29:C:O3'	14:L:37:HIS:CD2	2.73	0.42
3:A:68:LYS:HG2	3:A:69:ARG:N	2.34	0.42
5:C:45:THR:HG21	5:C:86:PRO:HD2	2.02	0.42
6:D:40:LEU:HB2	6:D:41:GLY:H	1.69	0.42
6:D:69:LYS:HG2	6:D:84:PRO:HG3	2.01	0.42
6:D:134:GLU:HG2	6:D:136:LEU:N	2.28	0.42
8:F:112:MET:CA	8:F:115:LEU:HD12	2.45	0.42
10:H:113:PRO:HB2	10:H:134:LEU:HD12	2.01	0.42
11:I:11:GLY:C	11:I:13:ARG:N	2.72	0.42
11:I:28:LYS:HZ2	11:I:36:GLY:HA3	1.83	0.42
11:I:78:SER:CA	11:I:112:GLY:HA3	2.50	0.42
11:I:108:LEU:O	11:I:109:LEU:HD23	2.20	0.42
14:L:26:ARG:HD3	14:L:88:VAL:HG22	2.02	0.42
16:N:59:ARG:HE	16:N:59:ARG:HB2	1.64	0.42
16:N:93:LYS:O	16:N:94:VAL:HB	2.18	0.42
17:O:13:ARG:HB2	17:O:13:ARG:CZ	2.49	0.42
17:O:83:ARG:HG2	17:O:83:ARG:NH2	2.34	0.42
20:R:86:PRO:HD3	20:R:90:LYS:HD3	2.01	0.42
21:S:51:LEU:H	21:S:51:LEU:CD2	2.19	0.42
21:S:172:LEU:CD2	21:S:173:PRO:HD2	2.50	0.42
22:T:72:LYS:O	22:T:74:LYS:N	2.52	0.42
23:U:53:GLU:HB3	23:U:58:LYS:HB2	2.01	0.42
1:X:37:C:H1'	5:C:44:SER:HB2	2.02	0.42
1:X:107:G:C2	1:X:108:G:C8	3.08	0.42
1:X:354:C:H2'	1:X:355:G:O4'	2.19	0.42
1:X:531:G:C2'	1:X:532:A:O5'	2.68	0.42
1:X:559:C:O2	1:X:560:G:H1'	2.19	0.42
1:X:683:A:O2'	1:X:684:C:O5'	2.36	0.42
1:X:698:A:C2	1:X:702:A:C2	3.07	0.42
1:X:711:C:O2'	1:X:747:A:N6	2.53	0.42
1:X:756:C:O5'	1:X:756:C:H6	2.02	0.42
1:X:871:U:H2'	1:X:2247:A:N3	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:951:G:H3'	1:X:952:A:H5"	2.02	0.42
1:X:1068:A:N7	1:X:1097:A:H3'	2.34	0.42
1:X:1095:A:H2'	1:X:1096:A:C4'	2.49	0.42
1:X:1114:A:H3'	1:X:1115:C:H5	1.85	0.42
1:X:1177:U:C2	1:X:1198:C:O2	2.73	0.42
1:X:1178:C:H6	1:X:1178:C:O5'	2.03	0.42
1:X:1453:A:H2'	1:X:1454:U:O4'	2.20	0.42
1:X:1552:C:H1'	1:X:1553:G:C4	2.55	0.42
1:X:1724:C:H2'	1:X:1725:C:C6	2.55	0.42
1:X:1831:G:C5	1:X:1832:G:C8	3.08	0.42
1:X:1922:U:HO2'	1:X:2571:G:H1'	1.77	0.42
1:X:1939:U:C4	1:X:1940:C:C4	3.07	0.42
1:X:2197:U:H3'	1:X:2198:U:H6	1.85	0.42
1:X:2463:G:H1'	12:J:125:LYS:HB2	2.02	0.42
1:X:2856:U:H2'	1:X:2857:C:C6	2.54	0.42
3:A:70:ARG:O	3:A:72:LYS:N	2.53	0.42
3:A:257:LEU:HD23	3:A:257:LEU:HA	1.61	0.42
4:B:146:THR:O	4:B:147:PRO:O	2.37	0.42
4:B:192:ASN:CB	15:M:9:ARG:NH1	2.83	0.42
5:C:46:ARG:HB3	5:C:51:VAL:HG23	2.02	0.42
5:C:122:GLY:CA	5:C:124:ASP:OD1	2.67	0.42
6:D:53:ALA:O	6:D:54:ALA:C	2.57	0.42
8:F:115:LEU:C	8:F:117:ALA:N	2.67	0.42
12:J:28:VAL:O	12:J:29:ALA:HB2	2.20	0.42
12:J:39:GLU:HA	12:J:40:PRO:HD3	1.80	0.42
18:P:36:ARG:HH21	26:Z:20:ARG:HD3	1.85	0.42
18:P:39:ARG:NE	18:P:97:VAL:HB	2.34	0.42
19:Q:49:ARG:C	19:Q:50:VAL:HG23	2.40	0.42
20:R:14:LEU:C	20:R:16:PHE:N	2.71	0.42
21:S:98:VAL:HG21	21:S:168:VAL:CG1	2.50	0.42
23:U:24:ALA:O	23:U:25:ARG:HB2	2.18	0.42
23:U:32:ARG:HG2	23:U:33:LYS:N	2.35	0.42
24:V:49:GLU:O	24:V:53:LEU:HG	2.20	0.42
1:X:5:A:N3	9:G:162:LYS:NZ	2.62	0.42
1:X:20:C:H2'	1:X:21:A:H8	1.84	0.42
1:X:75:C:H2'	1:X:76:C:H5"	2.02	0.42
1:X:494:A:H3'	1:X:495:C:H6	1.85	0.42
1:X:660:G:O2'	1:X:661:C:H5'	2.20	0.42
1:X:692:C:H2'	1:X:693:A:C8	2.54	0.42
1:X:968:C:C4	1:X:970:A:C4	3.08	0.42
1:X:1017:C:O2'	1:X:1018:C:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1138:A:H2'	1:X:1139:A:H5"	2.01	0.42
1:X:1188:A:C8	1:X:1189:G:C5	3.08	0.42
1:X:1188:A:C2'	1:X:1189:G:O5'	2.68	0.42
1:X:1249:G:O2'	1:X:1250:A:O5'	2.34	0.42
1:X:1253:C:H2'	1:X:1254:G:C5'	2.50	0.42
1:X:1276:U:H1'	26:Z:10:LYS:HG3	2.01	0.42
1:X:1351:G:C2	1:X:1352:G:C4	3.08	0.42
1:X:1426:U:H2'	1:X:1427:G:O4'	2.19	0.42
1:X:1715:A:C8	1:X:1717:A:C1'	3.03	0.42
1:X:1838:G:H2'	1:X:1839:A:O4'	2.20	0.42
1:X:1968:G:O2'	1:X:1969:G:H5'	2.20	0.42
1:X:2088:U:HO2'	1:X:2089:C:P	2.42	0.42
1:X:2313:G:H8	1:X:2313:G:OP1	2.03	0.42
1:X:2331:A:C8	1:X:2345:A:N1	2.88	0.42
1:X:2585:C:C2'	1:X:2586:G:H5'	2.50	0.42
1:X:2757:G:OP2	1:X:2761:A:O2'	2.34	0.42
1:X:2819:G:H2'	1:X:2820:C:C6	2.55	0.42
3:A:43:ARG:HH21	3:A:55:GLY:CA	2.31	0.42
4:B:39:ALA:HA	4:B:44:TYR:N	2.35	0.42
5:C:148:VAL:O	5:C:167:VAL:CA	2.62	0.42
6:D:175:LEU:HD12	6:D:176:PRO:CD	2.50	0.42
7:E:89:LEU:CD1	7:E:96:ALA:N	2.82	0.42
10:H:1:MET:HB2	10:H:44:TYR:CD1	2.55	0.42
10:H:14:SER:OG	10:H:98:ILE:HD12	2.20	0.42
12:J:38:MET:SD	12:J:131:LYS:HD3	2.60	0.42
12:J:83:ARG:O	12:J:83:ARG:CG	2.68	0.42
15:M:7:ILE:HD13	15:M:7:ILE:HA	1.81	0.42
16:N:21:ALA:HB1	16:N:24:PHE:CD2	2.54	0.42
17:O:13:ARG:NE	17:O:95:ILE:HG13	2.35	0.42
17:O:86:HIS:O	17:O:87:ARG:HB3	2.18	0.42
18:P:27:VAL:HG23	18:P:125:THR:CG2	2.35	0.42
21:S:46:GLN:HB3	21:S:50:GLY:HA3	2.02	0.42
22:T:5:LYS:N	22:T:5:LYS:CD	2.83	0.42
22:T:51:VAL:HG21	22:T:79:ILE:O	2.20	0.42
23:U:46:LEU:C	23:U:47:HIS:ND1	2.74	0.42
1:X:53:G:H2'	1:X:54:G:O5'	2.20	0.41
1:X:57:G:N3	1:X:72:A:H2	2.18	0.41
1:X:98:U:N1	1:X:100:G:C4	2.88	0.41
1:X:133:C:C2'	1:X:134:G:O5'	2.68	0.41
1:X:136:A:H2'	1:X:137:A:C8	2.52	0.41
1:X:177:U:C4	1:X:225:G:C2	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:216:U:H5”	1:X:601:A:H62	1.86	0.41
1:X:236:C:H2’	1:X:237:G:H8	1.84	0.41
1:X:481:A:N3	1:X:481:A:H2’	2.35	0.41
1:X:612:G:O2’	1:X:614:G:O2’	2.35	0.41
1:X:1033:G:O2’	1:X:1034:U:OP2	2.36	0.41
1:X:1036:G:HO2’	1:X:1037:U:P	2.42	0.41
1:X:1188:A:N6	1:X:1189:G:N2	2.68	0.41
1:X:1221:C:C2	1:X:1222:G:C8	3.08	0.41
1:X:1329:U:O2’	1:X:1330:G:H5’	2.19	0.41
1:X:1348:C:H2’	1:X:1349:A:H8	1.85	0.41
1:X:1428:G:H2’	1:X:1429:A:OP2	2.20	0.41
1:X:1773:C:O5’	1:X:1773:C:H6	2.02	0.41
1:X:1782:A:N6	1:X:1820:G:O2’	2.53	0.41
1:X:1818:G:OP1	3:A:224:SER:HB3	2.19	0.41
1:X:1969:G:O2’	1:X:1970:G:H5’	2.20	0.41
1:X:2013:A:H5”	1:X:2014:A:OP1	2.20	0.41
1:X:2021:G:C6	1:X:2022:C:N3	2.88	0.41
1:X:2036:G:N2	1:X:2037:A:H1’	2.35	0.41
1:X:2171:U:C4	1:X:2172:U:C4	3.07	0.41
1:X:2200:G:H2’	1:X:2201:G:H8	1.84	0.41
1:X:2202:G:O2’	3:A:262:LYS:HD3	2.20	0.41
1:X:2204:A:H5’	1:X:2205:C:O4’	2.20	0.41
1:X:2463:G:O2’	12:J:125:LYS:HB2	2.20	0.41
1:X:2492:G:C6	1:X:2493:U:C4	3.08	0.41
1:X:2508:G:C5’	1:X:2509:A:H5”	2.50	0.41
1:X:2527:G:C6	1:X:2540:A:N1	2.88	0.41
1:X:2665:G:C6	1:X:2666:U:N3	2.88	0.41
2:Y:40:C:N3	2:Y:46:G:N2	2.63	0.41
2:Y:77:G:H2’	2:Y:78:A:C8	2.55	0.41
3:A:55:GLY:H	3:A:217:ARG:H	1.68	0.41
4:B:151:TYR:CD1	9:G:106:TYR:CZ	3.07	0.41
4:B:183:LEU:HD11	15:M:16:ILE:CG2	2.50	0.41
5:C:14:THR:HG22	5:C:15:ILE:N	2.34	0.41
5:C:22:VAL:HA	5:C:106:MET:CG	2.48	0.41
5:C:104:LEU:N	5:C:177:VAL:HG22	2.35	0.41
6:D:7:LYS:O	6:D:11:GLN:HB2	2.19	0.41
6:D:163:ASP:HA	6:D:166:ALA:CB	2.50	0.41
8:F:74:MET:HG3	8:F:111:LYS:HD2	2.02	0.41
9:G:124:GLU:O	9:G:128:GLU:HB2	2.20	0.41
10:H:116:ARG:HH21	15:M:40:ARG:C	2.24	0.41
11:I:90:ARG:O	11:I:91:ASP:HB3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:97:ARG:O	11:I:98:LEU:HB3	2.20	0.41
12:J:28:VAL:HG23	12:J:137:VAL:HG21	2.02	0.41
12:J:35:LEU:N	12:J:105:PHE:O	2.46	0.41
16:N:17:VAL:O	16:N:18:LEU:C	2.56	0.41
16:N:31:GLN:O	16:N:32:TYR:O	2.38	0.41
18:P:93:LYS:HB2	18:P:129:ALA:HB3	2.01	0.41
19:Q:7:LEU:HD21	24:V:29:ARG:HH12	1.85	0.41
19:Q:42:ILE:O	19:Q:43:GLN:C	2.58	0.41
19:Q:71:GLN:HG2	19:Q:72:ARG:N	2.33	0.41
20:R:105:ARG:NH1	20:R:113:THR:N	2.59	0.41
1:X:182:G:O2'	1:X:183:U:P	2.78	0.41
1:X:197:G:H22	1:X:242:A:N6	2.18	0.41
1:X:198:A:H4'	1:X:199:A:O5'	2.21	0.41
1:X:681:A:H5'	1:X:682:G:OP2	2.20	0.41
1:X:759:C:C1'	1:X:761:G:H21	2.32	0.41
1:X:780:U:C6	1:X:780:U:C3'	3.03	0.41
1:X:971:A:H4'	1:X:2436:U:H4'	2.02	0.41
1:X:1007:A:C6	1:X:1171:A:C2	3.08	0.41
1:X:1033:G:O2'	1:X:1034:U:P	2.78	0.41
1:X:1096:A:H2'	1:X:1097:A:C4	2.55	0.41
1:X:1140:A:C4	1:X:2549:G:H1'	2.55	0.41
1:X:1569:A:O2'	1:X:1570:C:H5"	2.20	0.41
1:X:1622:G:H4'	1:X:1624:A:C2	2.55	0.41
1:X:1686:A:OP2	1:X:1687:C:H5	2.04	0.41
1:X:1804:U:O2'	1:X:1805:G:H5'	2.19	0.41
1:X:1928:G:C4	1:X:1929:U:C5	3.08	0.41
1:X:2256:G:P	12:J:86:LYS:HD2	2.59	0.41
1:X:2557:G:N2	1:X:2558:C:C2	2.88	0.41
1:X:2757:G:H5"	1:X:2758:A:H5"	2.02	0.41
1:X:2799:C:O5'	1:X:2799:C:H6	2.03	0.41
3:A:89:SER:HG	3:A:201:HIS:CE1	2.35	0.41
3:A:267:ASP:OD1	3:A:268:ARG:N	2.52	0.41
7:E:9:ILE:CD1	7:E:50:LEU:HB3	2.46	0.41
7:E:10:ALA:O	7:E:12:PRO:CD	2.68	0.41
7:E:90:ARG:NH2	7:E:163:ARG:NH1	2.68	0.41
7:E:126:PRO:CG	7:E:127:GLU:N	2.77	0.41
7:E:139:GLN:O	7:E:140:LEU:C	2.58	0.41
7:E:144:VAL:C	7:E:146:ALA:N	2.68	0.41
9:G:170:PRO:C	9:G:171:LEU:HD23	2.40	0.41
10:H:92:ASP:CG	15:M:69:ARG:HH12	2.22	0.41
11:I:83:LEU:HB3	11:I:84:GLU:H	1.69	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:I:94:GLU:O	11:I:99:VAL:HG22	2.21	0.41
12:J:52:ARG:HG3	12:J:67:ILE:HD11	2.02	0.41
12:J:69:ILE:HD13	12:J:104:MET:CG	2.49	0.41
12:J:96:SER:O	12:J:97:VAL:C	2.59	0.41
14:L:43:ILE:HG23	14:L:49:GLN:C	2.41	0.41
14:L:98:GLY:O	14:L:99:ARG:C	2.58	0.41
15:M:33:VAL:HG23	15:M:94:VAL:HG21	2.02	0.41
16:N:85:ARG:HH21	16:N:85:ARG:CG	2.25	0.41
16:N:96:ALA:O	16:N:99:ALA:HB3	2.20	0.41
17:O:10:LYS:CE	17:O:11:GLN:HE21	2.33	0.41
18:P:49:SER:O	18:P:50:VAL:C	2.59	0.41
19:Q:25:TYR:HH	19:Q:87:SER:HA	1.83	0.41
20:R:11:ASN:O	20:R:11:ASN:ND2	2.51	0.41
22:T:46:LYS:HZ1	22:T:76:ALA:HA	1.85	0.41
24:V:24:GLU:OE2	24:V:46:LEU:HD21	2.20	0.41
24:V:39:GLN:N	24:V:40:PRO:HD3	2.36	0.41
26:Z:16:ARG:HD3	26:Z:20:ARG:CZ	2.50	0.41
1:X:93:A:C2'	1:X:94:C:H5'	2.50	0.41
1:X:119:G:H2'	1:X:120:G:C8	2.55	0.41
1:X:357:A:H3'	1:X:358:C:C6	2.55	0.41
1:X:469:G:H22	1:X:481:A:P	2.43	0.41
1:X:494:A:H3'	1:X:495:C:C6	2.55	0.41
1:X:701:U:O2'	1:X:702:A:H5'	2.20	0.41
1:X:891:A:N1	1:X:911:A:C5	2.88	0.41
1:X:930:A:N7	1:X:931:G:C8	2.88	0.41
1:X:963:G:H2'	1:X:964:A:O5'	2.20	0.41
1:X:1108:U:H2'	1:X:1109:A:O4'	2.19	0.41
1:X:1359:G:O2'	1:X:1360:G:H5'	2.19	0.41
1:X:1440:G:H3'	1:X:1441:A:H5"	2.02	0.41
1:X:1442:C:O2'	1:X:1443:G:P	2.77	0.41
1:X:1473:U:C2'	1:X:1474:A:OP2	2.69	0.41
1:X:1733:U:H6	1:X:1733:U:H5"	1.84	0.41
1:X:1779:C:H2'	1:X:1780:A:C8	2.55	0.41
1:X:1925:C:H6	1:X:1925:C:O5'	2.03	0.41
1:X:1937:G:H1'	1:X:2530:C:H4'	2.01	0.41
1:X:1981:A:O3'	1:X:2704:U:H4'	2.19	0.41
1:X:2082:C:C2'	1:X:2083:G:C5'	2.98	0.41
1:X:2286:G:N7	1:X:2287:G:C8	2.88	0.41
1:X:2313:G:N2	14:L:17:VAL:HB	2.35	0.41
1:X:2468:G:H2'	1:X:2469:G:O4'	2.20	0.41
1:X:2520:A:H4'	1:X:2744:A:N1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2618:A:N7	1:X:2755:A:C2	2.89	0.41
1:X:2623:A:N6	1:X:2624:G:N1	2.69	0.41
1:X:2648:G:C2'	1:X:2649:A:O5'	2.68	0.41
1:X:2720:A:C6	1:X:2744:A:C8	3.08	0.41
1:X:2724:G:N7	1:X:2735:C:H1'	2.35	0.41
4:B:38:THR:C	4:B:40:GLN:N	2.74	0.41
4:B:38:THR:CG2	4:B:39:ALA:N	2.82	0.41
4:B:141:ILE:HD13	4:B:154:LYS:HZ2	1.85	0.41
4:B:183:LEU:HD23	4:B:183:LEU:N	2.34	0.41
5:C:153:ASP:O	5:C:154:ASP:CG	2.59	0.41
6:D:8:TYR:HB2	6:D:173:MET:CE	2.50	0.41
7:E:43:VAL:HG23	7:E:51:LEU:C	2.40	0.41
10:H:73:VAL:O	10:H:73:VAL:HG13	2.20	0.41
11:I:19:VAL:C	11:I:21:ARG:H	2.24	0.41
13:K:89:GLU:H	13:K:89:GLU:HG3	1.64	0.41
14:L:66:ASP:O	14:L:68:ALA:N	2.53	0.41
17:O:38:LEU:O	17:O:39:PHE:CB	2.65	0.41
18:P:31:VAL:HG21	18:P:124:ILE:CD1	2.48	0.41
18:P:32:ARG:NH2	18:P:120:ARG:O	2.53	0.41
21:S:26:LYS:HB2	21:S:26:LYS:HE3	1.67	0.41
21:S:120:LEU:HD21	21:S:162:ALA:HB3	2.01	0.41
22:T:42:GLY:C	22:T:57:HIS:HD2	2.23	0.41
23:U:49:LYS:CB	23:U:62:LEU:H	2.33	0.41
23:U:50:ALA:HB3	23:U:52:ARG:HH22	1.85	0.41
1:X:50:G:H1'	1:X:116:A:N6	2.35	0.41
1:X:177:U:C2	1:X:178:C:N1	2.88	0.41
1:X:407:A:H2'	1:X:408:U:C6	2.55	0.41
1:X:538:A:OP2	9:G:142:ARG:NH1	2.53	0.41
1:X:804:C:O2'	1:X:805:G:O5'	2.37	0.41
1:X:1229:C:H2'	1:X:1230:C:H6	1.85	0.41
1:X:1301:U:H5"	1:X:1302:C:OP2	2.19	0.41
1:X:1433:A:H2'	1:X:1433:A:N3	2.35	0.41
1:X:1440:G:C6	1:X:1441:A:N6	2.89	0.41
1:X:1724:C:C4	1:X:1747:G:C6	3.09	0.41
1:X:1949:A:N6	1:X:2581:A:H62	2.19	0.41
1:X:2196:U:H3'	1:X:2197:U:H6	1.84	0.41
1:X:2310:G:C6	1:X:2311:U:C4	3.09	0.41
1:X:2434:G:H2'	1:X:2435:C:C6	2.55	0.41
1:X:2528:G:C2	1:X:2529:G:C8	3.08	0.41
1:X:2560:G:N9	1:X:2589:C:N4	2.68	0.41
1:X:2596:C:O2'	1:X:2597:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2779:C:C2'	1:X:2780:A:O4'	2.69	0.41
3:A:83:GLU:OE1	3:A:104:TYR:HE2	2.03	0.41
3:A:96:HIS:CE1	3:A:100:GLY:HA2	2.54	0.41
3:A:105:ILE:HG22	3:A:106:LEU:O	2.20	0.41
3:A:134:ARG:NE	3:A:135:PHE:CZ	2.88	0.41
4:B:38:THR:C	4:B:40:GLN:H	2.20	0.41
5:C:127:ASP:HB2	5:C:129:LYS:HG2	2.01	0.41
6:D:57:LEU:HA	6:D:60:ILE:CG1	2.51	0.41
7:E:69:ARG:O	7:E:70:THR:C	2.58	0.41
7:E:165:VAL:C	7:E:167:GLU:H	2.23	0.41
7:E:172:LYS:O	7:E:173:ALA:CB	2.68	0.41
9:G:155:THR:N	9:G:157:PRO:HD2	2.35	0.41
10:H:121:ARG:HB3	10:H:123:PHE:CD1	2.56	0.41
11:I:18:ARG:O	11:I:19:VAL:HB	2.21	0.41
11:I:55:ARG:O	11:I:56:LEU:HB2	2.19	0.41
12:J:97:VAL:O	12:J:97:VAL:CG2	2.67	0.41
13:K:80:MET:HE3	13:K:80:MET:HB2	1.83	0.41
14:L:69:ALA:CB	14:L:106:ALA:HB2	2.50	0.41
15:M:26:ASP:O	15:M:27:PHE:CD2	2.74	0.41
17:O:15:SER:HA	17:O:95:ILE:CB	2.42	0.41
17:O:65:ARG:CG	17:O:87:ARG:HD2	2.32	0.41
20:R:95:ARG:HG3	20:R:95:ARG:HH11	1.86	0.41
20:R:98:ILE:CG2	20:R:99:VAL:H	2.16	0.41
21:S:12:GLN:O	21:S:13:LYS:CB	2.68	0.41
21:S:73:LYS:O	21:S:75:LYS:N	2.45	0.41
22:T:25:LYS:HB2	22:T:37:LEU:HA	2.02	0.41
23:U:27:ASP:N	23:U:32:ARG:HD3	2.34	0.41
23:U:28:GLY:O	23:U:29:GLY:C	2.58	0.41
23:U:52:ARG:NH1	23:U:67:LEU:CD1	2.83	0.41
26:Z:45:ILE:HD13	26:Z:57:VAL:HG22	2.02	0.41
1:X:83:A:N6	1:X:100:G:H1'	2.33	0.41
1:X:211:U:H2'	1:X:212:U:O4'	2.21	0.41
1:X:504:G:H4'	18:P:27:VAL:CG1	2.50	0.41
1:X:580:A:C8	1:X:584:A:C6	3.09	0.41
1:X:679:C:H2'	1:X:680:U:H6	1.80	0.41
1:X:931:G:H4'	2:Y:83:C:C4'	2.51	0.41
1:X:1012:A:H2'	1:X:1013:G:O4'	2.21	0.41
1:X:1029:C:O2'	1:X:1030:U:H5'	2.21	0.41
1:X:1254:G:O5'	1:X:1254:G:H8	2.04	0.41
1:X:1347:C:O2'	1:X:1348:C:H5'	2.20	0.41
1:X:1474:A:C1'	1:X:1475:U:H5'	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2289:A:C3'	1:X:2290:A:H8	2.33	0.41
1:X:2292:C:H5"	6:D:68:THR:HG21	2.02	0.41
1:X:2331:A:H2'	1:X:2332:G:H5'	2.02	0.41
1:X:2769:C:O2	1:X:2866:A:H2	2.04	0.41
1:X:2864:C:O2'	1:X:2865:G:H5'	2.20	0.41
2:Y:26:G:O3'	2:Y:27:A:O4'	2.39	0.41
6:D:13:ARG:CB	6:D:14:PRO:CD	2.87	0.41
7:E:94:PHE:CB	7:E:107:ILE:HG22	2.51	0.41
10:H:2:ILE:HD12	10:H:8:LEU:CD2	2.46	0.41
10:H:12:ASP:C	10:H:12:ASP:OD1	2.58	0.41
11:I:7:LYS:O	11:I:9:THR:N	2.54	0.41
11:I:18:ARG:HD2	11:I:21:ARG:CD	2.48	0.41
13:K:98:LEU:N	13:K:112:LEU:O	2.48	0.41
14:L:40:ALA:HB2	14:L:103:LEU:HD21	2.01	0.41
16:N:26:GLY:O	16:N:27:SER:C	2.58	0.41
19:Q:20:MET:O	19:Q:22:ARG:N	2.53	0.41
19:Q:25:TYR:O	19:Q:80:VAL:HG22	2.21	0.41
20:R:90:LYS:HB2	20:R:108:VAL:HG11	2.01	0.41
20:R:98:ILE:HB	20:R:100:ASP:H	1.86	0.41
21:S:123:VAL:N	21:S:159:THR:O	2.53	0.41
21:S:123:VAL:HG23	21:S:161:ALA:CA	2.49	0.41
22:T:21:LEU:HD11	22:T:41:ARG:HG2	2.00	0.41
23:U:49:LYS:HD3	23:U:61:TRP:CE2	2.56	0.41
25:W:5:LEU:HB2	25:W:25:LEU:HD13	2.02	0.41
25:W:47:VAL:HB	25:W:50:LEU:HD12	2.02	0.41
1:X:210:A:H61	1:X:441:A:H62	1.68	0.41
1:X:228:A:OP1	11:I:53:ARG:HB3	2.20	0.41
1:X:318:G:H21	1:X:341:A:H62	1.69	0.41
1:X:353:G:H2'	1:X:354:C:H6	1.84	0.41
1:X:459:A:H1'	1:X:461:A:H62	1.85	0.41
1:X:769:C:H2'	1:X:770:U:H5'	2.02	0.41
1:X:771:C:H2'	1:X:772:G:H8	1.85	0.41
1:X:871:U:C4	1:X:2247:A:N1	2.89	0.41
1:X:982:C:O2'	1:X:983:G:H5'	2.21	0.41
1:X:1064:C:C4	1:X:1065:A:N7	2.89	0.41
1:X:1122:A:H2'	1:X:1123:G:O5'	2.21	0.41
1:X:1141:U:O2'	1:X:1142:G:P	2.78	0.41
1:X:1151:U:C5'	1:X:1153:A:H5'	2.50	0.41
1:X:1298:G:N1	1:X:1342:U:OP1	2.53	0.41
1:X:1474:A:HO2'	1:X:1475:U:P	2.43	0.41
1:X:1666:G:C6	1:X:1992:G:C6	3.09	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2020:G:C6	1:X:2021:G:C6	3.09	0.41
1:X:2194:A:H2'	1:X:2195:C:C5'	2.50	0.41
1:X:2210:C:C2	1:X:2211:U:C5	3.09	0.41
1:X:2259:G:O2'	1:X:2260:C:H5'	2.20	0.41
1:X:2558:C:O5'	1:X:2558:C:H6	2.03	0.41
1:X:2576:G:C5	1:X:2577:A:C6	3.08	0.41
1:X:2770:A:O2'	1:X:2771:C:P	2.78	0.41
1:X:2800:C:H6	1:X:2800:C:H5"	1.85	0.41
2:Y:19:C:H2'	2:Y:20:A:C8	2.55	0.41
2:Y:39:C:C5	2:Y:40:C:C4	3.08	0.41
2:Y:68:A:H61	2:Y:111:C:H5"	1.85	0.41
4:B:127:ALA:HB2	4:B:135:HIS:CE1	2.54	0.41
4:B:176:ARG:C	4:B:177:ALA:O	2.59	0.41
4:B:179:GLU:HB3	4:B:181:LEU:HG	2.02	0.41
5:C:3:GLN:NE2	5:C:4:ILE:H	2.19	0.41
6:D:16:LEU:HD13	6:D:28:VAL:HG11	1.99	0.41
6:D:83:MET:O	6:D:84:PRO:C	2.57	0.41
6:D:171:GLN:O	6:D:174:GLY:N	2.48	0.41
7:E:45:GLN:NE2	7:E:48:ASP:O	2.54	0.41
12:J:27:TYR:HB3	12:J:137:VAL:CG1	2.51	0.41
12:J:105:PHE:HA	12:J:106:GLU:OE2	2.21	0.41
12:J:113:GLU:HA	12:J:113:GLU:OE2	2.21	0.41
16:N:68:GLY:C	16:N:106:PHE:HE2	2.23	0.41
18:P:34:SER:O	18:P:35:PRO:C	2.59	0.41
20:R:37:LEU:N	20:R:47:VAL:O	2.53	0.41
20:R:86:PRO:O	20:R:87:GLU:HB2	2.21	0.41
21:S:132:GLN:O	21:S:133:GLU:HB3	2.20	0.41
25:W:1:MET:HB2	25:W:34:VAL:CG1	2.51	0.41
26:Z:51:TYR:HA	26:Z:54:GLY:O	2.20	0.41
1:X:223:C:H2'	1:X:224:G:H5'	2.02	0.41
1:X:632:A:C2	1:X:633:G:C4	3.09	0.41
1:X:831:G:N7	1:X:1201:G:C6	2.89	0.41
1:X:836:G:H2'	1:X:837:U:C6	2.56	0.41
1:X:999:A:N1	1:X:1000:G:C2	2.88	0.41
1:X:1139:A:O2'	1:X:1140:A:P	2.79	0.41
1:X:1171:A:H2'	1:X:1172:U:C6	2.55	0.41
1:X:1406:A:N6	19:Q:15:LYS:HG2	2.35	0.41
1:X:1728:A:H2'	1:X:1729:C:C6	2.55	0.41
1:X:1742:G:H2'	1:X:1743:C:H6	1.85	0.41
1:X:2170:C:C2'	1:X:2171:U:H4'	2.39	0.41
1:X:2273:C:C5'	14:L:95:LYS:HD2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2289:A:N1	6:D:79:LEU:HD11	2.36	0.41
1:X:2418:A:N6	1:X:2564:U:H4'	2.36	0.41
3:A:213:ARG:HD2	3:A:213:ARG:HA	1.75	0.41
4:B:39:ALA:N	4:B:45:GLU:OE2	2.33	0.41
6:D:22:TYR:CE2	6:D:29:PRO:HD3	2.56	0.41
6:D:66:ILE:O	6:D:87:ILE:HA	2.21	0.41
6:D:143:TYR:CA	6:D:146:VAL:HG22	2.48	0.41
7:E:150:LYS:O	7:E:151:VAL:C	2.59	0.41
9:G:145:HIS:CE1	9:G:148:LEU:HD23	2.56	0.41
11:I:73:GLU:OE2	11:I:105:PRO:O	2.38	0.41
11:I:117:ALA:HB2	11:I:137:GLY:HA3	2.03	0.41
11:I:123:ASP:O	11:I:123:ASP:OD1	2.38	0.41
12:J:63:GLY:C	12:J:65:ILE:N	2.74	0.41
14:L:63:ASN:HB3	14:L:66:ASP:CB	2.43	0.41
15:M:56:ALA:O	15:M:66:PHE:HA	2.20	0.41
17:O:9:GLY:O	17:O:10:LYS:CB	2.66	0.41
17:O:47:PHE:O	17:O:51:ALA:HB2	2.21	0.41
18:P:116:ILE:HD13	18:P:116:ILE:HG21	1.89	0.41
19:Q:3:HIS:ND1	19:Q:44:GLN:HB2	2.35	0.41
19:Q:53:ILE:HG13	19:Q:54:SER:N	2.36	0.41
19:Q:75:ARG:HG3	19:Q:75:ARG:NH1	2.36	0.41
20:R:38:LEU:HD13	20:R:47:VAL:HG21	2.02	0.41
20:R:48:VAL:C	20:R:50:GLY:N	2.74	0.41
20:R:101:GLY:C	20:R:103:LYS:N	2.74	0.41
21:S:34:LEU:C	21:S:34:LEU:CD1	2.89	0.41
22:T:52:GLY:N	22:T:62:LEU:HD21	2.35	0.41
24:V:37:LEU:C	24:V:37:LEU:CD2	2.89	0.41
1:X:208:C:H2'	1:X:209:G:C5'	2.50	0.41
1:X:223:C:C4	1:X:224:G:N7	2.89	0.41
1:X:328:A:O2'	1:X:329:C:H5'	2.21	0.41
1:X:457:C:H2'	1:X:458:G:O4'	2.21	0.41
1:X:565:A:H2'	1:X:566:U:C6	2.55	0.41
1:X:678:G:H4'	11:I:50:GLU:OE1	2.21	0.41
1:X:780:U:O2'	1:X:781:G:H5'	2.21	0.41
1:X:869:C:O5'	1:X:869:C:H6	2.04	0.41
1:X:871:U:OP1	22:T:44:LYS:HE3	2.20	0.41
1:X:944:A:H2'	1:X:945:G:C5'	2.51	0.41
1:X:1007:A:N6	1:X:1171:A:C6	2.89	0.41
1:X:1151:U:H5"	1:X:1153:A:C5'	2.51	0.41
1:X:1776:A:OP1	1:X:1965:U:H5'	2.20	0.41
1:X:2225:G:H2'	1:X:2226:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:2446:C:N3	1:X:2462:C:N4	2.69	0.41
1:X:2706:U:O2'	1:X:2707:G:OP1	2.33	0.41
1:X:2714:A:C2	4:B:203:LYS:NZ	2.84	0.41
1:X:2790:C:O2'	26:Z:43:HIS:HD2	2.04	0.41
1:X:2796:A:P	13:K:3:HIS:CE1	3.14	0.41
6:D:113:ASP:O	6:D:115:ARG:NH2	2.54	0.41
7:E:30:LYS:HG2	7:E:79:VAL:C	2.36	0.41
10:H:16:ALA:HA	10:H:58:ALA:HA	2.03	0.41
10:H:41:ASN:O	10:H:42:LYS:O	2.39	0.41
11:I:94:GLU:CB	11:I:97:ARG:HH11	2.30	0.41
12:J:88:LYS:HZ2	12:J:88:LYS:HB2	1.86	0.41
13:K:44:LEU:HA	13:K:44:LEU:HD12	1.84	0.41
14:L:11:LEU:HD23	14:L:14:ARG:HD2	2.01	0.41
14:L:39:TYR:O	14:L:41:GLN:N	2.53	0.41
14:L:40:ALA:HB1	14:L:75:LEU:CD2	2.45	0.41
17:O:13:ARG:HB2	17:O:13:ARG:NH2	2.35	0.41
20:R:53:VAL:O	20:R:71:GLN:HA	2.20	0.41
20:R:105:ARG:NH2	20:R:112:LYS:CA	2.69	0.41
21:S:60:GLU:O	21:S:62:PHE:CD2	2.74	0.41
21:S:94:VAL:O	21:S:121:GLN:HG3	2.21	0.41
24:V:37:LEU:C	24:V:37:LEU:HD23	2.40	0.41
1:X:51:A:O2'	1:X:52:A:H5'	2.21	0.41
1:X:59:G:N3	1:X:73:A:C2	2.88	0.41
1:X:135:U:C3'	1:X:135:U:C6	3.04	0.41
1:X:171:G:N1	1:X:172:A:C2	2.89	0.41
1:X:306:G:H22	1:X:355:G:H1'	1.84	0.41
1:X:335:A:N6	1:X:349:G:O2'	2.53	0.41
1:X:417:C:C2	1:X:419:G:C8	3.07	0.41
1:X:439:C:O5'	1:X:439:C:H6	2.04	0.41
1:X:490:A:HO2'	1:X:492:G:C5'	2.34	0.41
1:X:497:C:C6	1:X:497:C:C4'	3.04	0.41
1:X:567:G:H2'	1:X:568:G:H8	1.86	0.41
1:X:593:C:N4	1:X:594:G:C6	2.89	0.41
1:X:617:U:H5"	1:X:617:U:O2	2.21	0.41
1:X:674:U:H6	1:X:674:U:O5'	2.04	0.41
1:X:844:G:OP2	1:X:955:G:N2	2.52	0.41
1:X:862:A:H2'	1:X:863:C:O4'	2.20	0.41
1:X:921:A:C6	1:X:924:C:C2	3.09	0.41
1:X:952:A:H1'	1:X:1204:G:O2'	2.21	0.41
1:X:1002:C:N3	1:X:1003:C:C5	2.89	0.41
1:X:1052:C:H2'	1:X:1053:G:C5'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1090:C:C2'	1:X:1091:C:H5'	2.51	0.41
1:X:1184:G:H3'	1:X:1185:C:H5"	2.02	0.41
1:X:1318:A:C2'	1:X:1319:C:O5'	2.68	0.41
1:X:1386:A:H2'	1:X:1387:G:O4'	2.21	0.41
1:X:1498:G:C5	1:X:1523:A:C6	3.09	0.41
1:X:1511:A:H2	1:X:1594:U:H1'	1.86	0.41
1:X:1538:A:H2'	1:X:1539:U:O4'	2.21	0.41
1:X:1601:U:O5'	1:X:1601:U:H6	2.04	0.41
1:X:1753:A:O5'	1:X:1753:A:C8	2.63	0.41
1:X:1763:G:C2'	1:X:1764:A:H5'	2.50	0.41
1:X:1949:A:N3	1:X:2572:U:O4'	2.54	0.41
1:X:2009:U:H6	1:X:2009:U:C5'	2.28	0.41
1:X:2036:G:H2'	1:X:2037:A:C5'	2.50	0.41
1:X:2042:A:O2'	5:C:62:LYS:HE3	2.21	0.41
1:X:2055:G:C6	1:X:2056:C:C4	3.09	0.41
1:X:2218:G:H5'	3:A:249:PRO:CB	2.43	0.41
1:X:2285:U:H5'	1:X:2286:G:O4'	2.21	0.41
1:X:2364:C:H2'	1:X:2365:U:H6	1.84	0.41
1:X:2451:G:H2'	1:X:2454:C:H42	1.86	0.41
1:X:2460:G:H2'	1:X:2461:G:OP2	2.21	0.41
1:X:2526:U:O2'	1:X:2527:G:H5'	2.21	0.41
1:X:2764:U:O2'	1:X:2765:C:H5'	2.21	0.41
2:Y:11:G:P	14:L:28:ARG:NH2	2.91	0.41
3:A:54:ILE:O	3:A:54:ILE:CG2	2.68	0.41
3:A:57:GLY:O	3:A:58:HIS:HB2	2.21	0.41
3:A:78:LYS:HG2	3:A:115:ALA:O	2.20	0.41
3:A:226:MET:HE3	3:A:230:ASP:HB2	2.03	0.41
4:B:33:ILE:HD13	4:B:36:ARG:HH12	1.85	0.41
4:B:59:VAL:HG12	4:B:60:ASN:O	2.20	0.41
4:B:63:MET:O	4:B:64:GLN:C	2.57	0.41
5:C:26:VAL:HG22	11:I:18:ARG:HH11	1.84	0.41
5:C:58:MET:HB2	5:C:70:GLY:O	2.21	0.41
5:C:112:GLN:NE2	5:C:116:LYS:CB	2.84	0.41
6:D:22:TYR:CG	6:D:28:VAL:HG22	2.56	0.41
6:D:57:LEU:O	6:D:60:ILE:CG1	2.69	0.41
6:D:80:ARG:O	6:D:81:GLN:O	2.39	0.41
6:D:81:GLN:CG	6:D:82:GLY:H	2.28	0.41
6:D:106:ILE:CG2	6:D:110:ARG:HD2	2.44	0.41
7:E:33:LEU:HG	7:E:34:THR:N	2.36	0.41
7:E:71:LEU:HD23	7:E:71:LEU:HA	1.84	0.41
9:G:127:ILE:N	9:G:127:ILE:HD12	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:H:23:ARG:HH12	10:H:25:LEU:HG	1.83	0.41
10:H:83:ARG:NH1	15:M:40:ARG:HE	2.14	0.41
11:I:64:GLY:O	11:I:65:PHE:HB3	2.19	0.41
11:I:73:GLU:CG	11:I:101:ARG:CB	2.95	0.41
11:I:76:LYS:HB3	11:I:79:GLN:CD	2.40	0.41
12:J:71:PRO:CA	12:J:96:SER:HB2	2.44	0.41
14:L:27:LEU:HB3	14:L:42:ILE:HD11	2.03	0.41
14:L:44:ASP:OD1	14:L:44:ASP:C	2.59	0.41
14:L:80:ALA:C	14:L:82:LYS:H	2.24	0.41
15:M:9:ARG:O	15:M:13:LEU:HD13	2.21	0.41
17:O:20:ILE:HD12	17:O:21:ARG:N	2.35	0.41
18:P:134:LYS:HE2	18:P:134:LYS:HB3	1.78	0.41
19:Q:25:TYR:CE2	19:Q:88:ILE:HG23	2.56	0.41
20:R:14:LEU:HA	20:R:14:LEU:HD23	1.84	0.41
20:R:15:HIS:CE1	20:R:16:PHE:CE2	3.08	0.41
20:R:17:LYS:C	20:R:19:GLY:H	2.24	0.41
20:R:25:LEU:HD22	20:R:26:SER:CB	2.48	0.41
20:R:40:LEU:HA	20:R:41:PRO:HD2	1.88	0.41
20:R:93:ARG:HH12	20:R:109:ALA:N	2.17	0.41
21:S:22:VAL:HA	21:S:32:PHE:HD1	1.85	0.41
21:S:90:GLU:N	21:S:127:PRO:HG2	2.36	0.41
21:S:148:THR:HG22	21:S:167:THR:CA	2.51	0.41
23:U:14:VAL:HB	23:U:15:VAL:H	1.71	0.41
24:V:7:ARG:CD	24:V:8:ASN:N	2.68	0.41
25:W:5:LEU:HA	25:W:51:LEU:HD23	2.02	0.41
25:W:36:ASP:OD1	25:W:36:ASP:O	2.38	0.41
26:Z:44:HIS:N	26:Z:44:HIS:CD2	2.89	0.41
30:4:22:ARG:HD2	30:4:37:GLY:CA	2.49	0.41
1:X:37:C:H4'	1:X:463:C:OP1	2.21	0.41
1:X:123:A:C2'	1:X:124:A:OP1	2.69	0.41
1:X:142:U:H5"	1:X:143:A:OP2	2.20	0.41
1:X:341:A:C8	1:X:341:A:H3'	2.55	0.41
1:X:417:C:C4	1:X:419:G:C5	3.09	0.41
1:X:422:C:H2'	1:X:423:G:C8	2.55	0.41
1:X:441:A:N7	1:X:442:A:C5	2.89	0.41
1:X:461:A:H4'	16:N:3:ARG:HE	1.85	0.41
1:X:666:U:OP1	1:X:666:U:H4'	2.21	0.41
1:X:793:G:C2	1:X:795:A:C2	3.09	0.41
1:X:877:G:H21	1:X:879:A:H61	1.67	0.41
1:X:963:G:C2'	1:X:964:A:O5'	2.69	0.41
1:X:1121:G:H2'	1:X:1122:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1501:C:C2'	1:X:1502:G:O4'	2.62	0.41
1:X:1681:A:N6	1:X:1979:C:H42	2.18	0.41
1:X:1705:U:O2	1:X:1717:A:H8	2.04	0.41
1:X:1787:U:H4'	3:A:254:THR:HG23	2.03	0.41
1:X:1948:C:C6	1:X:1949:A:C8	3.09	0.41
1:X:2187:A:N6	1:X:2188:A:N6	2.69	0.41
1:X:2208:U:H2'	1:X:2209:G:C8	2.53	0.41
1:X:2243:C:H2'	1:X:2244:C:O4'	2.21	0.41
1:X:2297:G:O2'	1:X:2300:G:O6	2.31	0.41
1:X:2322:U:O3'	1:X:2323:U:O4'	2.39	0.41
1:X:2437:G:O2'	1:X:2438:A:P	2.79	0.41
1:X:2691:C:H1'	1:X:2692:A:C8	2.56	0.41
1:X:2715:C:H2'	1:X:2716:G:O4'	2.20	0.41
3:A:190:TYR:CD2	3:A:190:TYR:N	2.89	0.41
3:A:206:LEU:O	3:A:207:GLY:C	2.58	0.41
4:B:64:GLN:O	4:B:65:GLY:C	2.58	0.41
4:B:142:GLY:O	4:B:143:GLN:CG	2.61	0.41
7:E:84:THR:CB	7:E:134:SER:HA	2.50	0.41
7:E:98:LEU:CD1	7:E:101:LYS:C	2.89	0.41
7:E:109:TYR:O	7:E:110:SER:C	2.58	0.41
9:G:109:GLY:N	9:G:110:LEU:HD23	2.36	0.41
9:G:146:THR:O	9:G:149:LYS:HE2	2.20	0.41
10:H:77:THR:C	10:H:79:HIS:H	2.23	0.41
10:H:113:PRO:CB	10:H:134:LEU:HD12	2.51	0.41
16:N:91:ASN:HA	16:N:93:LYS:NZ	2.36	0.41
17:O:35:LEU:C	17:O:35:LEU:HD23	2.40	0.41
18:P:81:HIS:CD2	18:P:82:ASN:N	2.89	0.41
19:Q:8:GLN:O	19:Q:9:ALA:CB	2.69	0.41
19:Q:12:ILE:O	19:Q:16:ALA:HB3	2.20	0.41
20:R:30:LYS:H	20:R:30:LYS:HG3	1.63	0.41
21:S:87:THR:OG1	21:S:91:PRO:HA	2.21	0.41
23:U:10:LYS:HZ3	23:U:70:LEU:HG	1.86	0.41
24:V:6:MET:O	24:V:14:PHE:HE1	2.04	0.41
30:4:2:LYS:HG2	30:4:4:ARG:HD3	2.02	0.41
30:4:30:VAL:HG23	30:4:31:LYS:N	2.36	0.41
1:X:77:C:C2	1:X:78:C:C5	3.09	0.40
1:X:83:A:C1'	1:X:84:G:O4'	2.69	0.40
1:X:98:U:O2	1:X:98:U:C2'	2.60	0.40
1:X:704:G:HO2'	1:X:705:C:H5'	1.86	0.40
1:X:877:G:H2'	1:X:878:C:O4'	2.21	0.40
1:X:1342:U:H5"	1:X:1343:C:C5	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1460:G:C6	1:X:1461:C:C4	3.09	0.40
1:X:2011:U:O2'	1:X:2012:A:H5'	2.21	0.40
1:X:2057:U:H5"	1:X:2057:U:C6	2.56	0.40
1:X:2290:A:C8	1:X:2290:A:O5'	2.74	0.40
1:X:2311:U:H4'	1:X:2315:A:H62	1.85	0.40
1:X:2404:A:HO2'	1:X:2405:A:P	2.44	0.40
1:X:2484:G:C2'	1:X:2485:U:H5'	2.49	0.40
1:X:2506:C:O2'	1:X:2507:U:H5'	2.21	0.40
1:X:2511:G:C6	1:X:2512:A:C5	3.09	0.40
2:Y:23:G:C6	2:Y:24:U:C4	3.10	0.40
2:Y:65:A:H2'	2:Y:66:G:H8	1.86	0.40
2:Y:75:A:C2	2:Y:76:U:H1'	2.56	0.40
2:Y:94:G:H5"	21:S:74:ARG:HH12	1.86	0.40
3:A:39:LYS:HD2	3:A:39:LYS:HA	1.84	0.40
3:A:52:ARG:HB2	3:A:53:PHE:CE2	2.56	0.40
4:B:165:VAL:HG12	4:B:166:THR:N	2.36	0.40
5:C:59:TYR:HB3	5:C:60:GLY:H	1.55	0.40
6:D:71:LYS:O	6:D:72:LYS:CB	2.69	0.40
6:D:146:VAL:HB	6:D:147:ASP:H	1.51	0.40
7:E:14:GLY:O	7:E:15:VAL:O	2.38	0.40
7:E:87:LEU:HD22	7:E:162:VAL:CG1	2.51	0.40
9:G:95:LEU:HD21	9:G:117:GLU:OE2	2.21	0.40
9:G:103:TYR:CE1	9:G:111:LYS:HA	2.57	0.40
10:H:1:MET:HE2	10:H:44:TYR:CE2	2.56	0.40
11:I:77:LEU:HB3	11:I:112:GLY:N	2.36	0.40
11:I:107:LYS:HG2	11:I:109:LEU:CD2	2.49	0.40
12:J:66:TYR:N	12:J:106:GLU:OE1	2.52	0.40
12:J:102:ARG:HG3	12:J:102:ARG:NH1	2.33	0.40
13:K:39:THR:O	13:K:42:LYS:HB2	2.21	0.40
14:L:31:VAL:O	14:L:94:TYR:HE1	2.04	0.40
14:L:42:ILE:CG2	14:L:42:ILE:O	2.68	0.40
17:O:73:LYS:HB2	17:O:82:ARG:HB2	2.03	0.40
21:S:70:GLN:HE21	21:S:70:GLN:CA	2.30	0.40
21:S:141:MET:HG2	21:S:145:ASP:CB	2.41	0.40
23:U:41:VAL:HG21	23:U:43:ARG:HH22	1.86	0.40
24:V:2:LYS:N	24:V:3:PRO:CD	2.84	0.40
25:W:12:ARG:HD3	25:W:12:ARG:HA	1.95	0.40
30:4:27:CYS:O	30:4:28:SER:C	2.60	0.40
1:X:46:C:N3	1:X:156:G:C2	2.90	0.40
1:X:71:A:O5'	1:X:71:A:H8	2.03	0.40
1:X:357:A:C2'	1:X:358:C:H5'	2.50	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:457:C:HO2'	1:X:458:G:H5'	1.82	0.40
1:X:532:A:C2	1:X:533:C:C2	3.09	0.40
1:X:625:A:H5'	1:X:626:A:OP2	2.20	0.40
1:X:795:A:OP1	1:X:795:A:O4'	2.39	0.40
1:X:982:C:OP1	1:X:985:G:C8	2.75	0.40
1:X:1055:A:C3'	1:X:1055:A:C8	2.77	0.40
1:X:1135:C:C2	1:X:1136:G:C8	3.09	0.40
1:X:1188:A:H3'	1:X:1189:G:C8	2.55	0.40
1:X:1279:G:O6	18:P:34:SER:CB	2.69	0.40
1:X:1312:G:H4'	1:X:1313:U:H5'	2.03	0.40
1:X:1473:U:O2'	1:X:1474:A:OP2	2.36	0.40
1:X:1491:C:C2	1:X:1492:A:C8	3.09	0.40
1:X:1522:C:C6	1:X:1522:C:C3'	3.03	0.40
1:X:1683:G:H2'	1:X:1684:G:H5'	2.01	0.40
1:X:1845:A:N1	1:X:2070:G:H1'	2.36	0.40
1:X:1997:A:C2	1:X:1998:A:N1	2.89	0.40
1:X:2080:U:N3	1:X:2081:U:C4	2.89	0.40
1:X:2245:A:N3	1:X:2251:U:C5	2.89	0.40
1:X:2620:G:H5"	9:G:104:THR:HG22	2.03	0.40
1:X:2770:A:N3	1:X:2867:G:O2'	2.51	0.40
3:A:43:ARG:NE	3:A:55:GLY:HA2	2.34	0.40
5:C:77:PHE:O	5:C:78:VAL:C	2.58	0.40
7:E:39:THR:OG1	7:E:40:GLU:N	2.54	0.40
12:J:19:THR:CG2	12:J:99:LYS:HD3	2.51	0.40
12:J:77:LYS:HB2	12:J:92:GLU:HB2	2.03	0.40
13:K:115:LEU:HD23	13:K:115:LEU:HA	1.89	0.40
15:M:8:ASN:O	15:M:9:ARG:C	2.60	0.40
17:O:55:THR:O	17:O:98:ILE:HB	2.21	0.40
17:O:56:VAL:CA	17:O:97:GLY:HA3	2.45	0.40
18:P:12:LYS:HD3	18:P:13:GLN:HE21	1.86	0.40
19:Q:49:ARG:O	19:Q:50:VAL:CG2	2.69	0.40
20:R:95:ARG:CZ	20:R:106:VAL:HG12	2.51	0.40
24:V:52:GLN:C	24:V:54:ASN:N	2.74	0.40
25:W:1:MET:SD	25:W:55:GLU:OXT	2.79	0.40
1:X:67:G:H2'	1:X:68:C:C6	2.56	0.40
1:X:129:A:O2'	1:X:130:C:H5'	2.21	0.40
1:X:430:C:C2	1:X:431:G:C8	3.09	0.40
1:X:720:A:H2'	1:X:721:C:C6	2.57	0.40
1:X:872:G:OP2	1:X:872:G:C8	2.74	0.40
1:X:999:A:N1	1:X:1000:G:N2	2.69	0.40
1:X:1007:A:N6	1:X:1171:A:N1	2.70	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:1270:C:H4'	5:C:77:PHE:CE2	2.55	0.40
1:X:1412:C:H2'	1:X:1413:U:O5'	2.22	0.40
1:X:1557:G:O2'	1:X:1558:C:H5'	2.21	0.40
1:X:1609:G:H2'	1:X:1609:G:N3	2.35	0.40
1:X:1674:C:O2'	1:X:1675:C:H5'	2.21	0.40
1:X:1704:G:N2	1:X:1719:G:C6	2.90	0.40
1:X:1790:G:HO2'	1:X:1791:C:P	2.45	0.40
1:X:2046:C:O2	1:X:2429:A:N1	2.54	0.40
1:X:2206:C:N4	1:X:2207:G:C6	2.89	0.40
1:X:2301:A:H2'	1:X:2302:G:O4'	2.20	0.40
1:X:2350:G:C6	1:X:2351:G:N7	2.89	0.40
1:X:2366:U:HO2'	22:T:41:ARG:NH2	2.18	0.40
1:X:2556:A:N1	1:X:2593:A:C2	2.89	0.40
1:X:2645:C:N4	7:E:108:GLY:O	2.54	0.40
1:X:2699:G:H5'	1:X:2822:U:OP1	2.21	0.40
1:X:2700:U:C2	1:X:2701:A:N7	2.90	0.40
1:X:2756:A:O2'	1:X:2757:G:P	2.80	0.40
1:X:2787:A:O2'	1:X:2788:C:H5'	2.22	0.40
2:Y:15:A:H2	2:Y:71:G:N3	2.19	0.40
3:A:169:GLU:HG2	3:A:170:SER:N	2.36	0.40
4:B:188:ILE:HA	4:B:189:PRO:HD3	1.89	0.40
5:C:118:VAL:O	5:C:119:ALA:HB2	2.22	0.40
6:D:111:ILE:HG12	6:D:137:ILE:HB	2.04	0.40
6:D:112:ARG:O	6:D:113:ASP:HB2	2.20	0.40
9:G:70:PHE:CB	16:N:64:ARG:HG2	2.43	0.40
10:H:13:ASN:OD1	10:H:107:GLY:CA	2.70	0.40
11:I:13:ARG:NH2	11:I:13:ARG:CB	2.84	0.40
14:L:19:THR:O	14:L:19:THR:HG22	2.20	0.40
14:L:21:THR:HG22	14:L:22:ALA:H	1.84	0.40
16:N:18:LEU:HD12	16:N:18:LEU:HA	1.73	0.40
16:N:85:ARG:CG	16:N:85:ARG:NH2	2.84	0.40
17:O:71:ILE:HB	17:O:84:THR:HG1	1.86	0.40
18:P:14:ARG:CA	18:P:17:GLN:HG2	2.47	0.40
18:P:106:LEU:HD23	18:P:107:ILE:N	2.36	0.40
18:P:109:ARG:NH1	18:P:115:ASN:HD22	2.20	0.40
19:Q:34:THR:O	19:Q:36:THR:N	2.54	0.40
19:Q:49:ARG:O	19:Q:50:VAL:HG23	2.21	0.40
20:R:85:ASP:OD1	20:R:86:PRO:CD	2.64	0.40
22:T:66:LYS:HE2	22:T:66:LYS:HB3	1.99	0.40
1:X:38:G:H1	1:X:453:U:H3	1.70	0.40
1:X:141:G:O2'	1:X:142:U:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:353:G:H2'	1:X:354:C:C6	2.56	0.40
1:X:559:C:H2'	1:X:560:G:C4'	2.52	0.40
1:X:726:G:N2	1:X:731:A:C2	2.89	0.40
1:X:812:G:H2'	1:X:813:A:H8	1.87	0.40
1:X:1408:A:H4'	1:X:1410:U:C5	2.56	0.40
1:X:1514:C:O4'	1:X:1593:C:C5'	2.69	0.40
1:X:1588:A:H2'	1:X:1589:G:H8	1.87	0.40
1:X:1733:U:C2	1:X:1734:C:C5	3.09	0.40
1:X:1774:A:H5'	1:X:2587:G:H4'	2.02	0.40
1:X:1918:G:C5	1:X:1945:C:C4	3.09	0.40
1:X:1946:U:OP2	1:X:1946:U:H3'	2.22	0.40
1:X:2061:C:H6	1:X:2061:C:O5'	2.04	0.40
1:X:2187:A:H2'	1:X:2188:A:H8	1.84	0.40
1:X:2194:A:C2'	1:X:2195:C:O4'	2.48	0.40
1:X:2394:G:H4'	11:I:64:GLY:O	2.21	0.40
1:X:2626:U:O2'	1:X:2627:G:H5'	2.21	0.40
1:X:2873:G:N2	9:G:162:LYS:HZ3	2.17	0.40
3:A:91:ARG:HG3	3:A:198:ASN:HA	2.04	0.40
4:B:88:GLY:O	4:B:89:ASP:CG	2.59	0.40
4:B:125:GLY:O	4:B:126:PRO:O	2.39	0.40
5:C:28:HIS:ND1	11:I:21:ARG:NH1	2.68	0.40
5:C:174:GLY:O	5:C:175:VAL:O	2.40	0.40
6:D:52:LYS:HZ1	6:D:149:THR:HA	1.86	0.40
7:E:44:ARG:NH2	7:E:46:ASP:HB2	2.21	0.40
7:E:76:VAL:C	7:E:78:GLY:H	2.24	0.40
10:H:116:ARG:HA	10:H:133:VAL:HG13	2.03	0.40
12:J:100:PRO:O	12:J:102:ARG:N	2.54	0.40
17:O:19:VAL:CG1	17:O:90:PHE:CG	3.04	0.40
19:Q:49:ARG:HE	19:Q:49:ARG:HB2	1.70	0.40
20:R:11:ASN:C	20:R:11:ASN:ND2	2.72	0.40
20:R:88:THR:O	20:R:89:GLY:C	2.60	0.40
21:S:59:GLY:C	21:S:60:GLU:HG3	2.41	0.40
21:S:142:ASN:H	21:S:145:ASP:CG	2.25	0.40
21:S:154:LEU:CD1	21:S:160:LEU:HG	2.39	0.40
22:T:37:LEU:C	22:T:38:VAL:CG2	2.90	0.40
23:U:43:ARG:HG3	23:U:43:ARG:NH2	2.36	0.40
23:U:52:ARG:HE	23:U:79:GLU:HB3	1.85	0.40
24:V:15:ALA:O	24:V:18:ILE:HB	2.21	0.40
26:Z:19:ARG:C	26:Z:21:SER:H	2.25	0.40
1:X:76:C:H2'	1:X:77:C:O4'	2.22	0.40
1:X:229:G:H2'	1:X:230:C:H6	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:X:331:U:O2'	5:C:162:ARG:HD2	2.22	0.40
1:X:405:C:H2'	1:X:406:G:C8	2.55	0.40
1:X:613:A:C2	1:X:636:G:N3	2.90	0.40
1:X:631:G:H4'	1:X:632:A:C5'	2.51	0.40
1:X:636:G:H8	1:X:636:G:C5'	2.32	0.40
1:X:693:A:C4	1:X:694:G:N7	2.90	0.40
1:X:710:C:O2'	1:X:711:C:H5'	2.21	0.40
1:X:1007:A:N3	1:X:1008:G:C8	2.90	0.40
1:X:1050:G:C2'	1:X:1051:U:H5'	2.49	0.40
1:X:1136:G:C6	1:X:1137:A:N6	2.90	0.40
1:X:1301:U:H2'	1:X:1340:C:O2	2.22	0.40
1:X:1373:G:O6	1:X:1385:C:C4	2.74	0.40
1:X:1432:G:H21	1:X:1596:A:H62	1.69	0.40
1:X:1542:G:N2	1:X:1562:G:N2	2.69	0.40
1:X:1544:A:C2	1:X:1560:A:C4	3.10	0.40
1:X:1549:C:H2'	1:X:1550:C:O4'	2.21	0.40
1:X:1578:U:H2'	1:X:1579:G:O4'	2.22	0.40
1:X:1710:U:H5'	1:X:1711:C:C5	2.56	0.40
1:X:1918:G:H21	1:X:1947:G:C1'	2.34	0.40
1:X:1938:U:C5	1:X:2536:G:N2	2.90	0.40
1:X:2426:G:O2'	1:X:2427:A:OP2	2.34	0.40
1:X:2714:A:N1	4:B:203:LYS:HE3	2.37	0.40
3:A:48:ARG:HD2	3:A:48:ARG:N	2.32	0.40
3:A:70:ARG:C	3:A:72:LYS:H	2.25	0.40
3:A:126:LYS:C	3:A:193:ILE:HG21	2.41	0.40
4:B:181:LEU:HD13	15:M:16:ILE:CD1	2.51	0.40
4:B:198:LEU:C	4:B:199:ARG:HG3	2.41	0.40
6:D:39:GLY:HA2	6:D:86:GLY:HA3	2.02	0.40
6:D:74:ILE:O	6:D:75:SER:O	2.39	0.40
7:E:92:VAL:O	7:E:94:PHE:HD1	2.02	0.40
8:F:109:LYS:O	8:F:109:LYS:HG3	2.21	0.40
9:G:58:ILE:O	9:G:62:ILE:HG13	2.21	0.40
10:H:23:ARG:HG2	10:H:24:VAL:N	2.36	0.40
11:I:76:LYS:CB	11:I:79:GLN:HG2	2.50	0.40
12:J:135:ARG:HB3	12:J:136:GLU:H	1.55	0.40
14:L:15:ARG:NH2	14:L:18:ARG:NH1	2.70	0.40
16:N:79:PHE:HE2	16:N:95:LEU:HD21	1.86	0.40
18:P:79:ALA:O	18:P:83:ASP:HB2	2.20	0.40
19:Q:6:ILE:C	19:Q:7:LEU:O	2.59	0.40
20:R:10:HIS:O	20:R:11:ASN:CB	2.64	0.40
21:S:46:GLN:O	21:S:47:SER:C	2.59	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:T:58:THR:CG2	22:T:59:LEU:N	2.83	0.40
24:V:21:ARG:HH11	24:V:21:ARG:HG2	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	A	238/274 (87%)	147 (62%)	53 (22%)	38 (16%)	0	0
4	B	203/211 (96%)	147 (72%)	31 (15%)	25 (12%)	0	1
5	C	195/205 (95%)	99 (51%)	48 (25%)	48 (25%)	0	0
6	D	175/180 (97%)	91 (52%)	59 (34%)	25 (14%)	0	0
7	E	169/185 (91%)	100 (59%)	39 (23%)	30 (18%)	0	0
8	F	69/144 (48%)	45 (65%)	19 (28%)	5 (7%)	1	2
9	G	140/174 (80%)	80 (57%)	28 (20%)	32 (23%)	0	0
10	H	132/134 (98%)	114 (86%)	11 (8%)	7 (5%)	2	5
11	I	139/156 (89%)	62 (45%)	33 (24%)	44 (32%)	0	0
12	J	134/142 (94%)	74 (55%)	36 (27%)	24 (18%)	0	0
13	K	111/116 (96%)	85 (77%)	12 (11%)	14 (13%)	0	0
14	L	102/114 (90%)	55 (54%)	22 (22%)	25 (24%)	0	0
15	M	106/166 (64%)	71 (67%)	21 (20%)	14 (13%)	0	0
16	N	115/118 (98%)	72 (63%)	25 (22%)	18 (16%)	0	0
17	O	92/100 (92%)	57 (62%)	16 (17%)	19 (21%)	0	0
18	P	125/134 (93%)	94 (75%)	20 (16%)	11 (9%)	1	1
19	Q	91/95 (96%)	44 (48%)	23 (25%)	24 (26%)	0	0
20	R	108/115 (94%)	60 (56%)	24 (22%)	24 (22%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
21	S	173/237 (73%)	94 (54%)	40 (23%)	39 (22%)	0	0
22	T	82/91 (90%)	48 (58%)	20 (24%)	14 (17%)	0	0
23	U	70/81 (86%)	35 (50%)	18 (26%)	17 (24%)	0	0
24	V	64/67 (96%)	32 (50%)	20 (31%)	12 (19%)	0	0
25	W	53/55 (96%)	42 (79%)	6 (11%)	5 (9%)	0	1
26	Z	56/60 (93%)	41 (73%)	7 (12%)	8 (14%)	0	0
30	4	35/37 (95%)	17 (49%)	9 (26%)	9 (26%)	0	0
All	All	2977/3391 (88%)	1806 (61%)	640 (22%)	531 (18%)	0	0

All (531) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	60	ARG
3	A	187	SER
3	A	209	ALA
3	A	217	ARG
3	A	220	HIS
4	B	73	ALA
4	B	85	ALA
4	B	86	PRO
4	B	123	ALA
4	B	126	PRO
4	B	131	SER
4	B	132	LYS
4	B	137	ARG
4	B	147	PRO
4	B	179	GLU
5	C	9	GLN
5	C	10	ASN
5	C	13	ARG
5	C	30	VAL
5	C	31	VAL
5	C	67	ALA
5	C	84	PHE
5	C	129	LYS
5	C	161	ALA
5	C	164	VAL
5	C	165	SER
5	C	166	TRP
5	C	172	VAL

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Mol	Chain	Res	Type
5	C	175	VAL
5	C	184	ASP
5	C	195	ILE
5	C	196	VAL
6	D	5	LYS
6	D	10	ASP
6	D	53	ALA
6	D	75	SER
6	D	81	GLN
6	D	119	PRO
6	D	123	ASP
6	D	137	ILE
6	D	145	MET
7	E	13	SER
7	E	14	GLY
7	E	15	VAL
7	E	55	PRO
7	E	58	ALA
7	E	92	VAL
7	E	93	GLY
7	E	119	ALA
7	E	126	PRO
7	E	165	VAL
8	F	120	VAL
9	G	33	ILE
9	G	34	PRO
9	G	37	ASP
9	G	39	GLN
9	G	48	GLY
9	G	65	LYS
9	G	67	ARG
9	G	73	ASN
9	G	78	ASP
9	G	97	ASP
9	G	98	LYS
9	G	104	THR
9	G	107	GLN
9	G	165	VAL
9	G	170	PRO
10	H	27	SER
11	I	29	THR
11	I	38	LYS

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Mol	Chain	Res	Type
11	I	39	SER
11	I	40	ARG
11	I	49	PHE
11	I	65	PHE
11	I	86	THR
11	I	91	ASP
11	I	93	LEU
11	I	98	LEU
11	I	99	VAL
11	I	106	VAL
11	I	127	ALA
11	I	131	LYS
12	J	11	ARG
12	J	21	ASP
12	J	22	ALA
12	J	26	ASP
12	J	82	THR
12	J	117	GLU
13	K	6	ALA
13	K	11	ASN
13	K	32	GLY
13	K	92	GLY
14	L	31	VAL
14	L	38	ILE
14	L	45	ASP
14	L	46	SER
14	L	55	SER
14	L	68	ALA
14	L	91	ARG
14	L	104	ALA
15	M	26	ASP
15	M	28	ARG
15	M	29	PRO
15	M	58	ASN
15	M	102	ALA
16	N	5	LYS
16	N	8	ILE
16	N	27	SER
16	N	32	TYR
16	N	75	ASN
16	N	94	VAL
17	O	7	THR

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Mol	Chain	Res	Type
17	O	9	GLY
17	O	10	LYS
17	O	13	ARG
17	O	35	LEU
17	O	36	LYS
18	P	11	LYS
18	P	50	VAL
19	Q	12	ILE
19	Q	33	ALA
19	Q	34	THR
19	Q	40	ASP
19	Q	63	LYS
19	Q	69	ILE
19	Q	74	ASP
19	Q	84	GLU
20	R	7	GLY
20	R	11	ASN
20	R	49	GLU
20	R	60	PRO
20	R	61	SER
20	R	83	LEU
20	R	96	LYS
21	S	13	LYS
21	S	17	SER
21	S	26	LYS
21	S	33	ALA
21	S	36	ARG
21	S	49	THR
21	S	76	ARG
21	S	88	TYR
21	S	92	VAL
21	S	118	HIS
21	S	156	GLU
22	T	3	HIS
22	T	19	LYS
22	T	75	GLY
22	T	83	ALA
23	U	14	VAL
23	U	16	ASN
23	U	19	ILE
23	U	30	VAL
23	U	56	GLN

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Mol	Chain	Res	Type
23	U	60	VAL
24	V	2	LYS
24	V	36	GLN
25	W	49	HIS
26	Z	4	HIS
26	Z	20	ARG
26	Z	36	CYS
26	Z	53	ASP
30	4	12	ASP
3	A	52	ARG
3	A	54	ILE
3	A	56	GLY
3	A	58	HIS
3	A	59	LYS
3	A	151	LYS
3	A	160	GLY
3	A	197	GLY
3	A	235	GLY
3	A	241	GLY
3	A	244	ARG
3	A	249	PRO
3	A	263	ARG
4	B	17	ASN
4	B	76	ARG
4	B	121	ASN
4	B	124	GLY
4	B	135	HIS
5	C	14	THR
5	C	15	ILE
5	C	22	VAL
5	C	66	ASN
5	C	68	ARG
5	C	103	GLY
5	C	152	THR
5	C	153	ASP
5	C	159	ARG
5	C	176	ASN
5	C	188	ILE
5	C	192	ALA
6	D	13	ARG
6	D	19	GLN
6	D	42	SER

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Mol	Chain	Res	Type
6	D	68	THR
6	D	71	LYS
6	D	107	GLY
6	D	120	ASN
6	D	124	GLY
6	D	168	ALA
7	E	7	GLN
7	E	19	ALA
7	E	139	GLN
8	F	116	ASN
8	F	121	GLU
9	G	36	ASN
9	G	68	PRO
9	G	72	PRO
9	G	86	ALA
9	G	105	GLY
9	G	158	HIS
9	G	164	GLN
9	G	166	LEU
10	H	5	GLN
10	H	32	LYS
10	H	37	GLY
10	H	101	ASN
11	I	12	SER
11	I	18	ARG
11	I	44	GLY
11	I	56	LEU
11	I	64	GLY
11	I	69	GLY
11	I	81	GLN
11	I	102	LYS
11	I	103	ASN
11	I	105	PRO
11	I	135	ALA
12	J	13	GLN
12	J	15	ARG
12	J	27	TYR
12	J	63	GLY
12	J	64	LYS
12	J	80	ALA
12	J	81	GLU
12	J	83	ARG

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Mol	Chain	Res	Type
12	J	97	VAL
12	J	101	GLY
12	J	111	THR
13	K	7	GLY
13	K	21	ALA
13	K	70	ILE
14	L	40	ALA
14	L	52	ALA
14	L	53	ALA
14	L	56	SER
14	L	82	LYS
14	L	89	PHE
14	L	102	ALA
15	M	17	GLU
15	M	39	VAL
15	M	46	ARG
16	N	7	GLY
16	N	26	GLY
16	N	51	ARG
16	N	110	VAL
17	O	8	GLY
17	O	15	SER
17	O	26	GLN
17	O	29	ALA
17	O	30	GLY
17	O	49	GLU
17	O	66	GLY
17	O	80	TYR
17	O	96	LEU
17	O	97	GLY
18	P	10	ASN
18	P	81	HIS
18	P	82	ASN
19	Q	13	SER
19	Q	35	LYS
19	Q	41	ALA
19	Q	47	GLY
19	Q	48	VAL
19	Q	65	VAL
19	Q	67	ARG
19	Q	72	ARG
19	Q	93	GLY

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Mol	Chain	Res	Type
20	R	5	SER
20	R	12	ASP
20	R	15	HIS
20	R	50	GLY
20	R	63	THR
20	R	91	ALA
20	R	110	SER
21	S	19	ILE
21	S	25	ASN
21	S	37	LYS
21	S	47	SER
21	S	61	THR
21	S	86	VAL
21	S	91	PRO
21	S	128	ARG
21	S	139	THR
21	S	152	ILE
21	S	165	GLU
22	T	31	VAL
22	T	47	ALA
22	T	48	GLY
23	U	29	GLY
23	U	41	VAL
23	U	53	GLU
24	V	4	SER
24	V	8	ASN
24	V	19	ASP
24	V	43	VAL
24	V	53	LEU
24	V	61	ALA
24	V	65	GLU
25	W	54	GLN
26	Z	19	ARG
30	4	16	VAL
30	4	20	HIS
30	4	33	LYS
3	A	46	ARG
3	A	90	ALA
3	A	115	ALA
3	A	125	PRO
3	A	168	LYS
3	A	199	ALA

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Mol	Chain	Res	Type
3	A	206	LEU
3	A	222	ARG
4	B	35	GLN
4	B	69	LYS
4	B	74	PRO
4	B	127	ALA
5	C	11	GLY
5	C	75	PRO
5	C	123	PHE
5	C	126	ALA
5	C	178	TYR
6	D	77	PHE
6	D	146	VAL
7	E	21	ASP
7	E	49	GLN
7	E	76	VAL
7	E	98	LEU
7	E	106	ASN
8	F	143	ASN
9	G	84	ASN
9	G	169	GLN
11	I	17	LYS
11	I	37	GLN
11	I	43	ALA
11	I	48	PHE
11	I	62	LYS
11	I	82	ASP
11	I	84	GLU
12	J	29	ALA
12	J	61	ARG
12	J	89	GLY
12	J	114	GLN
13	K	4	GLY
13	K	13	ASN
13	K	95	THR
14	L	83	GLY
14	L	103	LEU
14	L	108	ARG
14	L	109	GLU
15	M	25	PRO
15	M	27	PHE
15	M	44	ARG

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Mol	Chain	Res	Type
15	M	47	SER
16	N	33	ARG
16	N	46	GLU
17	O	14	VAL
17	O	39	PHE
17	O	87	ARG
18	P	9	ARG
18	P	32	ARG
18	P	49	SER
19	Q	61	LYS
19	Q	91	LEU
20	R	20	ASP
20	R	26	SER
20	R	65	PRO
21	S	106	GLY
21	S	109	GLN
21	S	124	ALA
21	S	125	PRO
21	S	158	CYS
22	T	4	LYS
23	U	15	VAL
23	U	26	ALA
23	U	32	ARG
23	U	34	THR
23	U	42	GLN
25	W	23	LEU
26	Z	37	HIS
30	4	35	ARG
3	A	106	LEU
3	A	132	PRO
3	A	156	ALA
3	A	159	ALA
3	A	248	THR
4	B	66	HIS
4	B	143	GLN
5	C	20	PRO
5	C	46	ARG
5	C	113	GLU
5	C	119	ALA
5	C	121	ASP
5	C	138	LYS
5	C	154	ASP

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Mol	Chain	Res	Type
5	C	190	ALA
6	D	9	ASN
7	E	8	PRO
7	E	84	THR
7	E	128	PRO
7	E	149	ARG
9	G	55	ALA
9	G	85	ALA
9	G	163	PRO
11	I	10	PRO
11	I	25	GLY
11	I	33	GLY
11	I	47	ALA
11	I	90	ARG
11	I	136	ALA
13	K	5	LYS
14	L	26	ARG
14	L	80	ALA
15	M	83	PHE
16	N	78	THR
16	N	90	LEU
18	P	101	PRO
20	R	66	GLN
20	R	85	ASP
20	R	108	VAL
21	S	6	LYS
21	S	45	GLN
21	S	85	MET
21	S	110	GLY
22	T	13	GLY
23	U	47	HIS
26	Z	12	SER
26	Z	21	SER
30	4	21	GLY
3	A	79	VAL
3	A	154	GLN
3	A	201	HIS
3	A	219	PRO
4	B	46	ALA
5	C	47	THR
5	C	125	ILE
6	D	164	GLU

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Mol	Chain	Res	Type
6	D	170	LEU
7	E	16	THR
7	E	69	ARG
7	E	173	ALA
9	G	160	ALA
11	I	8	PRO
11	I	19	VAL
11	I	133	VAL
12	J	56	SER
12	J	106	GLU
12	J	112	GLU
13	K	100	VAL
14	L	58	ALA
14	L	78	ALA
16	N	77	SER
16	N	88	ILE
18	P	77	ALA
18	P	112	GLY
19	Q	71	GLN
19	Q	89	GLU
19	Q	90	ALA
20	R	6	ALA
20	R	10	HIS
21	S	24	TYR
21	S	133	GLU
21	S	134	LEU
21	S	164	PRO
22	T	73	GLY
22	T	74	LYS
23	U	40	ARG
25	W	38	PRO
30	4	9	LYS
30	4	31	LYS
3	A	55	GLY
3	A	269	PHE
4	B	71	GLY
4	B	122	PHE
4	B	177	ALA
5	C	80	GLY
7	E	11	VAL
7	E	40	GLU
7	E	66	GLY

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Mol	Chain	Res	Type
7	E	77	LYS
9	G	130	ALA
10	H	42	LYS
11	I	57	ILE
11	I	95	ALA
11	I	114	ILE
13	K	57	GLY
14	L	33	ARG
14	L	96	TYR
15	M	95	GLU
16	N	76	TYR
19	Q	85	GLY
20	R	89	GLY
21	S	7	PRO
21	S	10	PRO
22	T	20	TYR
23	U	55	GLY
24	V	32	ALA
24	V	35	GLY
24	V	45	GLN
25	W	53	VAL
30	4	14	CYS
6	D	12	VAL
9	G	88	VAL
19	Q	60	GLY
21	S	63	PRO
22	T	7	VAL
3	A	210	GLY
5	C	25	GLY
5	C	171	PRO
16	N	23	GLY
6	D	14	PRO
8	F	91	PRO
9	G	162	LYS
13	K	91	PRO
20	R	31	GLY
22	T	30	VAL
5	C	55	GLY
7	E	43	VAL
10	H	74	VAL
21	S	131	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
3	A	185/215 (86%)	167 (90%)	18 (10%)	8 24
4	B	155/157 (99%)	139 (90%)	16 (10%)	7 21
5	C	157/163 (96%)	132 (84%)	25 (16%)	2 7
6	D	153/156 (98%)	136 (89%)	17 (11%)	6 18
7	E	136/144 (94%)	124 (91%)	12 (9%)	10 28
8	F	51/107 (48%)	49 (96%)	2 (4%)	32 64
9	G	118/146 (81%)	101 (86%)	17 (14%)	3 9
10	H	103/103 (100%)	93 (90%)	10 (10%)	8 24
11	I	108/121 (89%)	91 (84%)	17 (16%)	2 7
12	J	110/116 (95%)	97 (88%)	13 (12%)	5 15
13	K	90/93 (97%)	73 (81%)	17 (19%)	1 4
14	L	74/82 (90%)	57 (77%)	17 (23%)	1 2
15	M	94/134 (70%)	81 (86%)	13 (14%)	3 10
16	N	96/97 (99%)	85 (88%)	11 (12%)	5 16
17	O	75/79 (95%)	66 (88%)	9 (12%)	5 14
18	P	109/115 (95%)	100 (92%)	9 (8%)	11 30
19	Q	75/76 (99%)	67 (89%)	8 (11%)	6 19
20	R	91/96 (95%)	79 (87%)	12 (13%)	4 11
21	S	149/192 (78%)	133 (89%)	16 (11%)	6 19
22	T	62/67 (92%)	58 (94%)	4 (6%)	17 43
23	U	57/66 (86%)	44 (77%)	13 (23%)	1 2
24	V	54/55 (98%)	48 (89%)	6 (11%)	6 18
25	W	48/48 (100%)	43 (90%)	5 (10%)	7 20
26	Z	51/53 (96%)	43 (84%)	8 (16%)	2 7
30	4	35/35 (100%)	33 (94%)	2 (6%)	20 49
All	All	2436/2716 (90%)	2139 (88%)	297 (12%)	5 14

All (297) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	38	PRO
3	A	40	THR
3	A	43	ARG
3	A	44	ASN
3	A	48	ARG
3	A	68	LYS
3	A	122	GLU
3	A	161	THR
3	A	162	SER
3	A	163	VAL
3	A	164	GLN
3	A	183	ARG
3	A	208	LYS
3	A	214	TRP
3	A	218	LYS
3	A	244	ARG
3	A	252	LYS
3	A	260	ARG
4	B	18	ASP
4	B	23	VAL
4	B	60	ASN
4	B	74	PRO
4	B	75	THR
4	B	86	PRO
4	B	87	ASP
4	B	91	VAL
4	B	105	THR
4	B	107	THR
4	B	126	PRO
4	B	137	ARG
4	B	138	PRO
4	B	143	GLN
4	B	147	PRO
4	B	150	VAL
5	C	5	ASN
5	C	13	ARG
5	C	17	LEU
5	C	39	ARG
5	C	45	THR
5	C	48	ARG
5	C	62	LYS
5	C	66	ASN

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Mol	Chain	Res	Type
5	C	71	ASP
5	C	75	PRO
5	C	95	LEU
5	C	104	LEU
5	C	113	GLU
5	C	121	ASP
5	C	124	ASP
5	C	127	ASP
5	C	136	TRP
5	C	139	GLN
5	C	153	ASP
5	C	154	ASP
5	C	155	GLU
5	C	162	ARG
5	C	166	TRP
5	C	171	PRO
5	C	180	ILE
6	D	20	PHE
6	D	35	VAL
6	D	40	LEU
6	D	42	SER
6	D	80	ARG
6	D	89	VAL
6	D	104	ILE
6	D	112	ARG
6	D	123	ASP
6	D	125	ARG
6	D	130	LEU
6	D	137	ILE
6	D	144	ASP
6	D	145	MET
6	D	146	VAL
6	D	147	ASP
6	D	173	MET
7	E	24	PHE
7	E	35	VAL
7	E	42	THR
7	E	48	ASP
7	E	50	LEU
7	E	57	ASP
7	E	67	LEU
7	E	72	VAL

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Mol	Chain	Res	Type
7	E	98	LEU
7	E	107	ILE
7	E	129	THR
7	E	136	ILE
8	F	102	ASP
8	F	111	LYS
9	G	34	PRO
9	G	37	ASP
9	G	38	GLU
9	G	61	ARG
9	G	70	PHE
9	G	93	LYS
9	G	98	LYS
9	G	101	THR
9	G	102	ARG
9	G	106	TYR
9	G	110	LEU
9	G	113	GLU
9	G	132	PHE
9	G	148	LEU
9	G	154	GLU
9	G	165	VAL
9	G	169	GLN
10	H	1	MET
10	H	22	ILE
10	H	23	ARG
10	H	41	ASN
10	H	70	VAL
10	H	78	SER
10	H	81	ILE
10	H	88	THR
10	H	92	ASP
10	H	120	ASP
11	I	7	LYS
11	I	13	ARG
11	I	21	ARG
11	I	23	PRO
11	I	26	THR
11	I	34	HIS
11	I	37	GLN
11	I	45	LYS
11	I	53	ARG

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Mol	Chain	Res	Type
11	I	60	LEU
11	I	61	PRO
11	I	65	PHE
11	I	84	GLU
11	I	85	ASP
11	I	88	PHE
11	I	99	VAL
11	I	103	ASN
12	J	11	ARG
12	J	21	ASP
12	J	27	TYR
12	J	60	ARG
12	J	64	LYS
12	J	75	VAL
12	J	82	THR
12	J	91	VAL
12	J	93	TYR
12	J	106	GLU
12	J	111	THR
12	J	125	LYS
12	J	134	LYS
13	K	3	HIS
13	K	11	ASN
13	K	12	ARG
13	K	13	ASN
13	K	28	LEU
13	K	31	GLU
13	K	43	GLU
13	K	51	LEU
13	K	59	ASP
13	K	60	LEU
13	K	83	VAL
13	K	89	GLU
13	K	95	THR
13	K	96	ARG
13	K	99	ARG
13	K	109	THR
13	K	114	GLU
14	L	15	ARG
14	L	31	VAL
14	L	37	HIS
14	L	38	ILE

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Mol	Chain	Res	Type
14	L	42	ILE
14	L	43	ILE
14	L	44	ASP
14	L	45	ASP
14	L	60	LYS
14	L	64	LYS
14	L	67	THR
14	L	71	VAL
14	L	88	VAL
14	L	89	PHE
14	L	90	ASP
14	L	91	ARG
14	L	93	SER
15	M	7	ILE
15	M	22	ARG
15	M	26	ASP
15	M	31	ASP
15	M	37	THR
15	M	43	ASN
15	M	46	ARG
15	M	51	GLU
15	M	69	ARG
15	M	72	SER
15	M	79	ARG
15	M	89	ASN
15	M	92	THR
16	N	13	ARG
16	N	18	LEU
16	N	19	LYS
16	N	22	LYS
16	N	30	LYS
16	N	33	ARG
16	N	85	ARG
16	N	87	ASN
16	N	88	ILE
16	N	90	LEU
16	N	93	LYS
17	O	18	ASP
17	O	20	ILE
17	O	28	GLU
17	O	47	PHE
17	O	56	VAL

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Mol	Chain	Res	Type
17	O	65	ARG
17	O	78	VAL
17	O	82	ARG
17	O	87	ARG
18	P	16	GLN
18	P	32	ARG
18	P	46	ARG
18	P	91	PHE
18	P	118	LYS
18	P	122	SER
18	P	125	THR
18	P	126	ILE
18	P	133	ASN
19	Q	6	ILE
19	Q	7	LEU
19	Q	12	ILE
19	Q	13	SER
19	Q	27	PHE
19	Q	42	ILE
19	Q	62	ARG
19	Q	82	LEU
20	R	10	HIS
20	R	11	ASN
20	R	18	LYS
20	R	23	ILE
20	R	25	LEU
20	R	57	ASN
20	R	80	LYS
20	R	83	LEU
20	R	95	ARG
20	R	106	VAL
20	R	112	LYS
20	R	113	THR
21	S	3	LEU
21	S	4	THR
21	S	9	THR
21	S	13	LYS
21	S	34	LEU
21	S	35	ASP
21	S	40	ASP
21	S	49	THR
21	S	51	LEU

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Mol	Chain	Res	Type
21	S	53	ASP
21	S	71	MET
21	S	82	ASP
21	S	92	VAL
21	S	101	THR
21	S	120	LEU
21	S	122	ILE
22	T	31	VAL
22	T	40	GLN
22	T	77	ARG
22	T	85	GLN
23	U	8	THR
23	U	14	VAL
23	U	27	ASP
23	U	32	ARG
23	U	35	THR
23	U	40	ARG
23	U	42	GLN
23	U	45	ASN
23	U	46	LEU
23	U	54	ASN
23	U	59	THR
23	U	70	LEU
23	U	78	ILE
24	V	6	MET
24	V	19	ASP
24	V	21	ARG
24	V	37	LEU
24	V	41	HIS
24	V	55	THR
25	W	12	ARG
25	W	32	ARG
25	W	35	SER
25	W	45	LYS
25	W	46	THR
26	Z	3	LYS
26	Z	4	HIS
26	Z	5	PRO
26	Z	6	VAL
26	Z	25	LEU
26	Z	29	ASN
26	Z	32	GLU

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Mol	Chain	Res	Type
26	Z	57	VAL
30	4	11	CYS
30	4	22	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (90) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	44	ASN
3	A	96	HIS
3	A	129	ASN
3	A	166	GLN
3	A	227	ASN
3	A	231	HIS
4	B	129	HIS
4	B	135	HIS
4	B	143	GLN
4	B	180	ASN
4	B	192	ASN
5	C	3	GLN
5	C	5	ASN
5	C	9	GLN
5	C	61	GLN
5	C	66	ASN
5	C	112	GLN
5	C	132	ASN
5	C	139	GLN
5	C	140	ASN
6	D	9	ASN
6	D	63	GLN
6	D	118	ASN
6	D	129	ASN
7	E	20	GLN
7	E	45	GLN
7	E	61	HIS
7	E	111	HIS
7	E	139	GLN
8	F	125	ASN
9	G	84	ASN
9	G	129	HIS
9	G	140	GLN
9	G	161	GLN
10	H	41	ASN

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Mol	Chain	Res	Type
11	I	37	GLN
11	I	79	GLN
11	I	81	GLN
11	I	121	HIS
12	J	13	GLN
13	K	13	ASN
14	L	37	HIS
14	L	49	GLN
14	L	63	ASN
14	L	86	GLN
14	L	97	HIS
15	M	18	GLN
15	M	43	ASN
15	M	48	GLN
16	N	31	GLN
16	N	34	ASN
16	N	66	ASN
16	N	72	HIS
16	N	81	ASN
16	N	91	ASN
17	O	11	GLN
17	O	57	GLN
17	O	86	HIS
18	P	13	GLN
18	P	78	ASN
18	P	81	HIS
18	P	115	ASN
18	P	133	ASN
19	Q	8	GLN
19	Q	73	ASN
20	R	10	HIS
20	R	11	ASN
20	R	29	HIS
20	R	64	ASN
20	R	71	GLN
21	S	45	GLN
21	S	70	GLN
21	S	80	HIS
21	S	146	HIS
22	T	3	HIS
22	T	12	ASN
22	T	17	ASN

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Mol	Chain	Res	Type
22	T	35	ASN
22	T	57	HIS
22	T	71	ASN
23	U	42	GLN
24	V	41	HIS
24	V	45	GLN
25	W	49	HIS
26	Z	29	ASN
26	Z	35	GLN
26	Z	43	HIS
26	Z	44	HIS
30	4	34	GLN
30	4	36	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	X	2680/2880 (93%)	695 (25%)	324 (12%)
2	Y	121/123 (98%)	25 (20%)	1 (0%)
All	All	2801/3003 (93%)	720 (25%)	325 (11%)

All (720) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	X	2	G
1	X	4	C
1	X	13	A
1	X	14	A
1	X	25	U
1	X	28	A
1	X	34	U
1	X	35	G
1	X	39	C
1	X	45	C
1	X	49	U
1	X	50	G
1	X	59	G
1	X	63	A
1	X	70	A
1	X	71	A
1	X	72	A

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Mol	Chain	Res	Type
1	X	74	G
1	X	76	C
1	X	82	G
1	X	83	A
1	X	84	G
1	X	87	G
1	X	88	G
1	X	89	A
1	X	90	G
1	X	91	A
1	X	97	U
1	X	98	U
1	X	99	U
1	X	100	G
1	X	101	A
1	X	105	G
1	X	110	U
1	X	111	G
1	X	117	A
1	X	118	U
1	X	119	G
1	X	123	A
1	X	124	A
1	X	129	A
1	X	133	C
1	X	134	G
1	X	136	A
1	X	137	A
1	X	138	G
1	X	147	G
1	X	149	A
1	X	158	A
1	X	173	A
1	X	174	A
1	X	176	A
1	X	177	U
1	X	178	C
1	X	181	A
1	X	182	G
1	X	193	A
1	X	199	A
1	X	200	A

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Mol	Chain	Res	Type
1	X	201	G
1	X	203	G
1	X	205	A
1	X	206	U
1	X	207	U
1	X	210	A
1	X	218	A
1	X	219	G
1	X	225	G
1	X	229	G
1	X	242	A
1	X	245	C
1	X	304	A
1	X	305	A
1	X	318	G
1	X	323	G
1	X	333	A
1	X	334	G
1	X	335	A
1	X	340	G
1	X	341	A
1	X	342	G
1	X	343	A
1	X	399	G
1	X	400	U
1	X	401	G
1	X	403	A
1	X	404	A
1	X	414	A
1	X	416	U
1	X	417	C
1	X	418	C
1	X	419	G
1	X	424	G
1	X	425	A
1	X	441	A
1	X	447	U
1	X	448	C
1	X	455	A
1	X	456	C
1	X	460	U
1	X	461	A

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Mol	Chain	Res	Type
1	X	463	C
1	X	466	A
1	X	467	U
1	X	468	A
1	X	470	U
1	X	485	G
1	X	491	A
1	X	492	G
1	X	497	C
1	X	514	G
1	X	515	A
1	X	517	A
1	X	519	C
1	X	520	C
1	X	523	A
1	X	537	C
1	X	538	A
1	X	539	A
1	X	540	G
1	X	541	C
1	X	542	A
1	X	543	G
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	558	G
1	X	559	C
1	X	571	U
1	X	572	G
1	X	580	A
1	X	581	A
1	X	582	G
1	X	583	C
1	X	584	A
1	X	587	A
1	X	595	A
1	X	601	A
1	X	613	A
1	X	614	G
1	X	624	A
1	X	625	A

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Mol	Chain	Res	Type
1	X	626	A
1	X	628	A
1	X	631	G
1	X	632	A
1	X	633	G
1	X	636	G
1	X	638	A
1	X	639	G
1	X	648	A
1	X	649	G
1	X	652	C
1	X	654	A
1	X	655	A
1	X	657	A
1	X	664	C
1	X	665	A
1	X	666	U
1	X	667	U
1	X	668	A
1	X	669	G
1	X	670	U
1	X	682	G
1	X	683	A
1	X	684	C
1	X	695	G
1	X	699	G
1	X	700	C
1	X	718	A
1	X	728	G
1	X	729	A
1	X	730	C
1	X	731	A
1	X	740	A
1	X	742	G
1	X	743	A
1	X	752	G
1	X	753	U
1	X	759	C
1	X	760	U
1	X	766	A
1	X	775	U
1	X	776	G

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Mol	Chain	Res	Type
1	X	777	A
1	X	778	G
1	X	780	U
1	X	781	G
1	X	789	G
1	X	790	A
1	X	794	A
1	X	795	A
1	X	796	A
1	X	797	A
1	X	798	G
1	X	802	A
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	807	A
1	X	813	A
1	X	814	G
1	X	815	A
1	X	818	G
1	X	819	C
1	X	825	C
1	X	832	A
1	X	840	U
1	X	841	G
1	X	843	G
1	X	844	G
1	X	845	U
1	X	862	A
1	X	872	G
1	X	873	U
1	X	878	C
1	X	879	A
1	X	891	A
1	X	919	U
1	X	922	A
1	X	926	C
1	X	927	C
1	X	940	G
1	X	944	A
1	X	952	A

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Mol	Chain	Res	Type
1	X	955	G
1	X	956	A
1	X	957	G
1	X	968	C
1	X	969	U
1	X	970	A
1	X	972	C
1	X	973	U
1	X	984	A
1	X	985	G
1	X	994	A
1	X	995	A
1	X	996	C
1	X	1001	A
1	X	1006	C
1	X	1007	A
1	X	1016	C
1	X	1019	U
1	X	1020	A
1	X	1022	A
1	X	1023	U
1	X	1024	G
1	X	1032	A
1	X	1033	G
1	X	1034	U
1	X	1036	G
1	X	1037	U
1	X	1044	U
1	X	1045	G
1	X	1051	U
1	X	1053	G
1	X	1054	C
1	X	1055	A
1	X	1056	U
1	X	1057	A
1	X	1058	G
1	X	1059	A
1	X	1060	C
1	X	1070	G
1	X	1071	U
1	X	1072	U
1	X	1073	G

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Mol	Chain	Res	Type
1	X	1078	A
1	X	1079	G
1	X	1081	A
1	X	1082	G
1	X	1087	C
1	X	1090	C
1	X	1095	A
1	X	1096	A
1	X	1097	A
1	X	1098	G
1	X	1099	A
1	X	1108	U
1	X	1115	C
1	X	1119	U
1	X	1120	C
1	X	1121	G
1	X	1122	A
1	X	1123	G
1	X	1125	G
1	X	1128	G
1	X	1129	A
1	X	1137	A
1	X	1138	A
1	X	1139	A
1	X	1140	A
1	X	1142	G
1	X	1143	A
1	X	1145	C
1	X	1146	G
1	X	1152	C
1	X	1153	A
1	X	1154	A
1	X	1155	G
1	X	1167	A
1	X	1168	G
1	X	1182	U
1	X	1183	C
1	X	1185	C
1	X	1186	G
1	X	1187	A
1	X	1188	A
1	X	1189	G

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Mol	Chain	Res	Type
1	X	1192	A
1	X	1194	U
1	X	1195	U
1	X	1220	G
1	X	1224	A
1	X	1225	G
1	X	1234	C
1	X	1250	A
1	X	1251	G
1	X	1253	C
1	X	1261	G
1	X	1262	U
1	X	1264	C
1	X	1266	G
1	X	1269	G
1	X	1278	A
1	X	1279	G
1	X	1280	U
1	X	1284	G
1	X	1285	A
1	X	1286	U
1	X	1288	A
1	X	1295	U
1	X	1300	A
1	X	1302	C
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1316	G
1	X	1325	U
1	X	1326	U
1	X	1333	G
1	X	1334	A
1	X	1338	G
1	X	1339	U
1	X	1342	U
1	X	1343	C
1	X	1346	C
1	X	1354	A
1	X	1355	A
1	X	1356	G
1	X	1358	C

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Mol	Chain	Res	Type
1	X	1359	G
1	X	1374	G
1	X	1391	A
1	X	1392	U
1	X	1398	G
1	X	1410	U
1	X	1411	C
1	X	1413	U
1	X	1428	G
1	X	1429	A
1	X	1430	G
1	X	1432	G
1	X	1433	A
1	X	1434	U
1	X	1440	G
1	X	1441	A
1	X	1442	C
1	X	1443	G
1	X	1460	G
1	X	1465	G
1	X	1467	U
1	X	1468	A
1	X	1469	U
1	X	1470	G
1	X	1473	U
1	X	1474	A
1	X	1475	U
1	X	1482	U
1	X	1489	C
1	X	1490	U
1	X	1497	C
1	X	1498	G
1	X	1513	U
1	X	1514	C
1	X	1523	A
1	X	1524	C
1	X	1525	A
1	X	1528	C
1	X	1551	U
1	X	1552	C
1	X	1553	G
1	X	1554	G

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Mol	Chain	Res	Type
1	X	1559	G
1	X	1562	G
1	X	1563	U
1	X	1570	C
1	X	1571	G
1	X	1574	A
1	X	1575	C
1	X	1576	G
1	X	1581	C
1	X	1582	A
1	X	1583	A
1	X	1585	A
1	X	1601	U
1	X	1602	G
1	X	1603	A
1	X	1608	U
1	X	1619	A
1	X	1624	A
1	X	1625	A
1	X	1626	A
1	X	1627	C
1	X	1632	A
1	X	1633	C
1	X	1634	A
1	X	1635	G
1	X	1648	C
1	X	1651	U
1	X	1652	G
1	X	1657	A
1	X	1661	C
1	X	1664	G
1	X	1665	C
1	X	1668	G
1	X	1671	A
1	X	1685	A
1	X	1686	A
1	X	1691	G
1	X	1692	C
1	X	1699	A
1	X	1710	U
1	X	1711	C
1	X	1712	G

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Mol	Chain	Res	Type
1	X	1713	G
1	X	1715	A
1	X	1716	G
1	X	1717	A
1	X	1718	A
1	X	1724	C
1	X	1732	U
1	X	1733	U
1	X	1734	C
1	X	1747	G
1	X	1749	G
1	X	1750	A
1	X	1754	G
1	X	1755	G
1	X	1764	A
1	X	1771	A
1	X	1772	C
1	X	1773	C
1	X	1776	A
1	X	1778	U
1	X	1790	G
1	X	1791	C
1	X	1792	C
1	X	1793	A
1	X	1800	A
1	X	1801	C
1	X	1802	A
1	X	1807	A
1	X	1808	C
1	X	1812	U
1	X	1813	A
1	X	1821	A
1	X	1825	C
1	X	1831	G
1	X	1842	G
1	X	1851	A
1	X	1852	G
1	X	1854	G
1	X	1855	G
1	X	1856	U
1	X	1857	G
1	X	1859	A

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Mol	Chain	Res	Type
1	X	1861	G
1	X	1865	C
1	X	1867	A
1	X	1868	A
1	X	1869	A
1	X	1873	A
1	X	1874	G
1	X	1883	A
1	X	1910	A
1	X	1912	G
1	X	1914	U
1	X	1919	A
1	X	1922	U
1	X	1923	U
1	X	1924	C
1	X	1926	U
1	X	1927	U
1	X	1928	G
1	X	1938	U
1	X	1939	U
1	X	1946	U
1	X	1947	G
1	X	1948	C
1	X	1949	A
1	X	1950	C
1	X	1953	A
1	X	1954	A
1	X	1955	G
1	X	1964	A
1	X	1976	U
1	X	1978	U
1	X	1979	C
1	X	1980	A
1	X	2004	U
1	X	2005	U
1	X	2006	G
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2019	C
1	X	2026	C
1	X	2035	G

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Mol	Chain	Res	Type
1	X	2038	C
1	X	2039	G
1	X	2044	G
1	X	2045	A
1	X	2046	C
1	X	2052	G
1	X	2075	U
1	X	2076	G
1	X	2083	G
1	X	2089	C
1	X	2171	U
1	X	2181	A
1	X	2190	A
1	X	2191	A
1	X	2192	U
1	X	2195	C
1	X	2196	U
1	X	2197	U
1	X	2198	U
1	X	2199	C
1	X	2200	G
1	X	2205	C
1	X	2217	G
1	X	2218	G
1	X	2229	G
1	X	2230	G
1	X	2237	C
1	X	2238	G
1	X	2245	A
1	X	2246	A
1	X	2247	A
1	X	2248	A
1	X	2254	C
1	X	2255	G
1	X	2261	G
1	X	2262	C
1	X	2265	A
1	X	2266	A
1	X	2267	A
1	X	2268	G
1	X	2276	C
1	X	2284	U

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Mol	Chain	Res	Type
1	X	2285	U
1	X	2286	G
1	X	2287	G
1	X	2288	A
1	X	2298	U
1	X	2299	A
1	X	2300	G
1	X	2301	A
1	X	2306	A
1	X	2313	G
1	X	2314	A
1	X	2316	G
1	X	2322	U
1	X	2323	U
1	X	2324	G
1	X	2325	A
1	X	2326	C
1	X	2351	G
1	X	2362	G
1	X	2364	C
1	X	2369	U
1	X	2371	A
1	X	2386	G
1	X	2396	C
1	X	2402	U
1	X	2403	C
1	X	2405	A
1	X	2406	C
1	X	2408	G
1	X	2409	A
1	X	2410	U
1	X	2418	A
1	X	2419	C
1	X	2420	C
1	X	2427	A
1	X	2428	U
1	X	2438	A
1	X	2448	A
1	X	2452	U
1	X	2455	A
1	X	2461	G
1	X	2469	G

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Mol	Chain	Res	Type
1	X	2470	U
1	X	2476	A
1	X	2477	C
1	X	2481	G
1	X	2482	A
1	X	2483	U
1	X	2484	G
1	X	2485	U
1	X	2497	A
1	X	2498	U
1	X	2499	C
1	X	2508	G
1	X	2521	A
1	X	2522	G
1	X	2545	A
1	X	2546	G
1	X	2552	C
1	X	2560	G
1	X	2561	G
1	X	2564	U
1	X	2565	C
1	X	2581	A
1	X	2582	G
1	X	2588	U
1	X	2591	C
1	X	2592	U
1	X	2593	A
1	X	2594	U
1	X	2608	A
1	X	2609	G
1	X	2624	G
1	X	2625	U
1	X	2633	A
1	X	2634	G
1	X	2650	G
1	X	2660	C
1	X	2668	U
1	X	2669	C
1	X	2684	A
1	X	2691	C
1	X	2692	A
1	X	2693	U

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Mol	Chain	Res	Type
1	X	2694	G
1	X	2700	U
1	X	2702	G
1	X	2706	U
1	X	2707	G
1	X	2712	G
1	X	2713	A
1	X	2730	A
1	X	2731	G
1	X	2732	C
1	X	2736	U
1	X	2737	A
1	X	2738	A
1	X	2744	A
1	X	2745	A
1	X	2757	G
1	X	2758	A
1	X	2759	U
1	X	2760	G
1	X	2761	A
1	X	2770	A
1	X	2771	C
1	X	2775	U
1	X	2777	A
1	X	2778	U
1	X	2779	C
1	X	2782	G
1	X	2783	U
1	X	2795	A
1	X	2796	A
1	X	2798	A
1	X	2807	U
1	X	2808	U
1	X	2809	A
1	X	2810	A
1	X	2811	G
1	X	2815	C
1	X	2824	C
1	X	2825	A
1	X	2841	U
1	X	2842	C
1	X	2846	G

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Mol	Chain	Res	Type
1	X	2847	G
1	X	2850	U
1	X	2854	G
1	X	2855	C
1	X	2858	A
1	X	2868	G
2	Y	4	C
2	Y	14	C
2	Y	15	A
2	Y	17	A
2	Y	18	G
2	Y	27	A
2	Y	28	A
2	Y	37	C
2	Y	38	C
2	Y	43	G
2	Y	44	C
2	Y	46	G
2	Y	47	A
2	Y	54	U
2	Y	59	A
2	Y	68	A
2	Y	69	G
2	Y	81	C
2	Y	93	G
2	Y	102	A
2	Y	110	U
2	Y	111	C
2	Y	112	A
2	Y	115	G
2	Y	123	U

All (325) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	X	3	U
1	X	13	A
1	X	27	G
1	X	33	C
1	X	38	G
1	X	48	A
1	X	62	U

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Mol	Chain	Res	Type
1	X	70	A
1	X	71	A
1	X	73	A
1	X	82	G
1	X	83	A
1	X	89	A
1	X	90	G
1	X	98	U
1	X	99	U
1	X	100	G
1	X	117	A
1	X	118	U
1	X	173	A
1	X	176	A
1	X	177	U
1	X	181	A
1	X	192	G
1	X	198	A
1	X	199	A
1	X	204	A
1	X	218	A
1	X	226	C
1	X	312	G
1	X	318	G
1	X	322	A
1	X	333	A
1	X	334	G
1	X	340	G
1	X	341	A
1	X	342	G
1	X	399	G
1	X	400	U
1	X	403	A
1	X	417	C
1	X	424	G
1	X	454	G
1	X	458	G
1	X	460	U
1	X	466	A
1	X	467	U
1	X	468	A
1	X	469	G

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Mol	Chain	Res	Type
1	X	485	G
1	X	490	A
1	X	513	A
1	X	514	G
1	X	516	G
1	X	522	G
1	X	538	A
1	X	539	A
1	X	541	C
1	X	542	A
1	X	553	C
1	X	554	U
1	X	555	U
1	X	556	A
1	X	557	U
1	X	571	U
1	X	580	A
1	X	582	G
1	X	583	C
1	X	596	C
1	X	613	A
1	X	625	A
1	X	631	G
1	X	638	A
1	X	648	A
1	X	664	C
1	X	667	U
1	X	682	G
1	X	683	A
1	X	698	A
1	X	699	G
1	X	717	G
1	X	730	C
1	X	739	G
1	X	741	G
1	X	751	G
1	X	752	G
1	X	759	C
1	X	765	C
1	X	775	U
1	X	777	A
1	X	780	U

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Mol	Chain	Res	Type
1	X	788	G
1	X	789	G
1	X	795	A
1	X	801	A
1	X	802	A
1	X	803	C
1	X	804	C
1	X	805	G
1	X	806	A
1	X	813	A
1	X	814	G
1	X	818	G
1	X	824	U
1	X	842	A
1	X	843	G
1	X	872	G
1	X	878	C
1	X	890	U
1	X	925	U
1	X	939	C
1	X	955	G
1	X	956	A
1	X	968	C
1	X	969	U
1	X	972	C
1	X	983	G
1	X	984	A
1	X	985	G
1	X	994	A
1	X	1000	G
1	X	1006	C
1	X	1023	U
1	X	1031	C
1	X	1033	G
1	X	1036	G
1	X	1044	U
1	X	1053	G
1	X	1055	A
1	X	1057	A
1	X	1071	U
1	X	1072	U
1	X	1096	A

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Mol	Chain	Res	Type
1	X	1121	G
1	X	1122	A
1	X	1123	G
1	X	1137	A
1	X	1139	A
1	X	1141	U
1	X	1142	G
1	X	1152	C
1	X	1153	A
1	X	1154	A
1	X	1167	A
1	X	1182	U
1	X	1186	G
1	X	1188	A
1	X	1194	U
1	X	1223	G
1	X	1224	A
1	X	1233	A
1	X	1249	G
1	X	1260	A
1	X	1261	G
1	X	1263	G
1	X	1264	C
1	X	1265	G
1	X	1266	G
1	X	1278	A
1	X	1279	G
1	X	1285	A
1	X	1299	A
1	X	1301	U
1	X	1313	U
1	X	1314	A
1	X	1315	A
1	X	1324	G
1	X	1325	U
1	X	1333	G
1	X	1337	G
1	X	1338	G
1	X	1342	U
1	X	1345	G
1	X	1353	A
1	X	1354	A

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Mol	Chain	Res	Type
1	X	1355	A
1	X	1373	G
1	X	1391	A
1	X	1409	U
1	X	1410	U
1	X	1412	C
1	X	1439	G
1	X	1441	A
1	X	1442	C
1	X	1459	U
1	X	1473	U
1	X	1474	A
1	X	1496	G
1	X	1552	C
1	X	1561	A
1	X	1575	C
1	X	1581	C
1	X	1582	A
1	X	1583	A
1	X	1601	U
1	X	1607	A
1	X	1618	U
1	X	1623	C
1	X	1624	A
1	X	1626	A
1	X	1632	A
1	X	1633	C
1	X	1634	A
1	X	1651	U
1	X	1664	G
1	X	1670	G
1	X	1685	A
1	X	1691	G
1	X	1698	C
1	X	1710	U
1	X	1711	C
1	X	1712	G
1	X	1715	A
1	X	1716	G
1	X	1723	U
1	X	1732	U
1	X	1749	G

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Mol	Chain	Res	Type
1	X	1771	A
1	X	1772	C
1	X	1775	A
1	X	1777	A
1	X	1790	G
1	X	1791	C
1	X	1807	A
1	X	1811	A
1	X	1820	G
1	X	1849	G
1	X	1867	A
1	X	1913	G
1	X	1921	A
1	X	1922	U
1	X	1923	U
1	X	1926	U
1	X	1927	U
1	X	1938	U
1	X	1947	G
1	X	1953	A
1	X	1963	G
1	X	1975	G
1	X	1979	C
1	X	2004	U
1	X	2005	U
1	X	2014	A
1	X	2015	G
1	X	2016	A
1	X	2018	G
1	X	2034	A
1	X	2044	G
1	X	2045	A
1	X	2050	G
1	X	2075	U
1	X	2088	U
1	X	2189	A
1	X	2195	C
1	X	2196	U
1	X	2197	U
1	X	2204	A
1	X	2217	G
1	X	2228	U

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Mol	Chain	Res	Type
1	X	2229	G
1	X	2237	C
1	X	2245	A
1	X	2254	C
1	X	2261	G
1	X	2265	A
1	X	2267	A
1	X	2275	U
1	X	2298	U
1	X	2312	A
1	X	2313	G
1	X	2323	U
1	X	2324	G
1	X	2325	A
1	X	2396	C
1	X	2401	A
1	X	2402	U
1	X	2404	A
1	X	2405	A
1	X	2409	A
1	X	2418	A
1	X	2426	G
1	X	2427	A
1	X	2428	U
1	X	2437	G
1	X	2460	G
1	X	2469	G
1	X	2476	A
1	X	2482	A
1	X	2496	C
1	X	2497	A
1	X	2498	U
1	X	2521	A
1	X	2545	A
1	X	2551	A
1	X	2560	G
1	X	2580	C
1	X	2588	U
1	X	2589	C
1	X	2592	U
1	X	2593	A
1	X	2608	A

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Mol	Chain	Res	Type
1	X	2624	G
1	X	2633	A
1	X	2660	C
1	X	2668	U
1	X	2669	C
1	X	2691	C
1	X	2693	U
1	X	2705	A
1	X	2706	U
1	X	2712	G
1	X	2736	U
1	X	2756	A
1	X	2758	A
1	X	2759	U
1	X	2770	A
1	X	2807	U
1	X	2810	A
1	X	2823	G
1	X	2824	C
1	X	2841	U
1	X	2848	A
1	X	2854	G
1	X	2867	G
2	Y	26	G

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 35 ligands modelled in this entry, 35 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	X	2686/2880 (93%)	-0.22	110 (4%) 37 34	3, 38, 98, 118	0
2	Y	122/123 (99%)	-0.03	3 (2%) 57 56	24, 67, 89, 101	0
3	A	240/274 (87%)	0.27	20 (8%) 11 9	17, 53, 65, 71	0
4	B	205/211 (97%)	-0.45	1 (0%) 91 91	2, 21, 43, 56	0
5	C	197/205 (96%)	0.02	10 (5%) 28 24	14, 43, 58, 66	0
6	D	177/180 (98%)	0.45	13 (7%) 15 12	50, 60, 67, 69	0
7	E	171/185 (92%)	-0.09	5 (2%) 51 48	38, 53, 64, 68	0
8	F	71/144 (49%)	2.85	52 (73%) 0 0	0, 77, 83, 85	0
9	G	142/174 (81%)	0.10	9 (6%) 20 17	24, 39, 53, 63	0
10	H	134/134 (100%)	-0.53	0 100 100	3, 17, 33, 42	0
11	I	141/156 (90%)	0.77	24 (17%) 1 1	21, 52, 62, 71	0
12	J	136/142 (95%)	-0.03	3 (2%) 62 60	28, 43, 60, 65	0
13	K	113/116 (97%)	-0.47	0 100 100	2, 10, 24, 34	0
14	L	104/114 (91%)	0.28	10 (9%) 8 6	38, 51, 58, 63	0
15	M	108/166 (65%)	-0.54	1 (0%) 84 84	3, 18, 43, 55	0
16	N	117/118 (99%)	-0.19	2 (1%) 70 70	5, 37, 54, 61	0
17	O	94/100 (94%)	-0.17	3 (3%) 47 44	22, 47, 59, 64	0
18	P	127/134 (94%)	-0.50	0 100 100	4, 18, 47, 59	0
19	Q	93/95 (97%)	-0.00	3 (3%) 47 44	29, 42, 56, 68	0
20	R	110/115 (95%)	0.35	12 (10%) 5 4	35, 46, 61, 65	0
21	S	175/237 (73%)	0.64	18 (10%) 6 5	49, 58, 64, 68	0
22	T	84/91 (92%)	0.62	14 (16%) 1 1	26, 44, 59, 70	0
23	U	72/81 (88%)	0.74	11 (15%) 2 1	41, 53, 63, 67	0
24	V	66/67 (98%)	-0.12	2 (3%) 50 46	38, 52, 65, 67	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	W	55/55 (100%)	-0.40	0 100 100	21, 37, 49, 64	0
26	Z	58/60 (96%)	-0.42	1 (1%) 70 70	4, 16, 38, 44	0
27	1	53/55 (96%)	3.46	42 (79%) 0 0	37, 47, 56, 60	0
28	2	46/47 (97%)	6.25	46 (100%) 0 0	11, 27, 34, 37	0
29	3	63/66 (95%)	5.67	59 (93%) 0 0	21, 36, 46, 48	0
30	4	37/37 (100%)	1.02	9 (24%) 0 0	44, 52, 58, 59	0
All	All	5997/6562 (91%)	0.10	483 (8%) 12 10	0, 43, 84, 118	0

All (483) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
29	3	37	SER	16.5
29	3	38	GLY	16.4
29	3	39	ASP	11.4
29	3	33	ASN	11.4
29	3	43	GLY	11.0
28	2	29	ASN	10.4
29	3	42	ARG	9.6
29	3	36	LYS	9.2
28	2	26	SER	9.2
28	2	24	THR	9.1
29	3	35	GLY	9.0
29	3	40	GLU	9.0
29	3	41	ILE	8.9
29	3	34	THR	8.9
21	S	92	VAL	8.8
8	F	125	ASN	8.8
28	2	7	PRO	8.7
28	2	36	ALA	8.6
28	2	22	MET	8.5
29	3	7	HIS	8.3
28	2	20	ALA	8.3
27	1	43	VAL	8.2
29	3	6	THR	8.2
29	3	31	HIS	8.2
22	T	15	ASP	8.1
27	1	25	THR	8.1
28	2	8	ASN	8.0
28	2	9	ASN	7.8
29	3	11	LYS	7.8

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Mol	Chain	Res	Type	RSRZ
28	2	15	THR	7.7
28	2	4	THR	7.7
29	3	27	SER	7.6
28	2	27	GLY	7.6
28	2	6	GLN	7.5
28	2	32	ALA	7.5
29	3	8	LYS	7.4
29	3	28	GLY	7.4
21	S	91	PRO	7.3
27	1	42	PRO	7.2
29	3	9	MET	7.1
27	1	40	TYR	7.0
28	2	33	ARG	6.9
3	A	250	TRP	6.9
29	3	63	PRO	6.8
28	2	5	TYR	6.8
28	2	40	HIS	6.7
22	T	9	SER	6.7
20	R	58	VAL	6.7
2	Y	123	U	6.6
28	2	16	HIS	6.6
1	X	1086	C	6.6
29	3	44	LYS	6.6
27	1	23	THR	6.6
11	I	48	PHE	6.6
11	I	29	THR	6.5
12	J	84	MET	6.4
29	3	62	LEU	6.4
27	1	41	ASP	6.4
9	G	97	ASP	6.3
1	X	731	A	6.3
29	3	10	ALA	6.3
27	1	47	HIS	6.2
28	2	30	ILE	6.0
28	2	3	ARG	6.0
27	1	7	ARG	6.0
28	2	21	ARG	6.0
28	2	28	ARG	5.9
28	2	37	LYS	5.9
29	3	4	MET	5.9
27	1	24	THR	5.9
28	2	25	LYS	5.8

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Mol	Chain	Res	Type	RSRZ
11	I	6	LEU	5.8
29	3	61	MET	5.8
27	1	9	ILE	5.8
1	X	2088	U	5.7
28	2	31	LEU	5.7
29	3	18	GLY	5.7
28	2	19	ARG	5.7
28	2	43	THR	5.7
28	2	13	ALA	5.6
27	1	21	TYR	5.6
28	2	46	ASP	5.6
27	1	26	LYS	5.6
8	F	144	ALA	5.5
1	X	891	A	5.5
11	I	10	PRO	5.5
28	2	42	LEU	5.5
28	2	45	SER	5.5
29	3	45	GLY	5.4
29	3	47	GLY	5.4
28	2	10	ARG	5.4
1	X	1069	G	5.3
29	3	32	GLN	5.3
1	X	514	G	5.2
8	F	129	GLY	5.2
23	U	16	ASN	5.2
1	X	2779	C	5.2
28	2	17	GLY	5.2
28	2	39	ARG	5.2
29	3	53	ALA	5.1
29	3	25	PHE	5.1
11	I	53	ARG	5.1
1	X	2776	U	5.1
28	2	41	GLN	5.0
7	E	37	TYR	5.0
27	1	10	VAL	5.0
8	F	114	ASP	5.0
29	3	55	TRP	4.9
28	2	23	LYS	4.9
8	F	93	LYS	4.9
28	2	11	LYS	4.9
28	2	1	MET	4.9
29	3	54	GLU	4.9

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Mol	Chain	Res	Type	RSRZ
26	Z	2	ALA	4.8
9	G	156	HIS	4.8
1	X	558	G	4.8
8	F	130	THR	4.8
29	3	30	ARG	4.8
11	I	52	GLY	4.8
1	X	1085	G	4.8
11	I	5	ASP	4.8
30	4	37	GLY	4.7
29	3	46	LYS	4.7
8	F	92	ASN	4.7
27	1	27	ASN	4.7
1	X	1522	C	4.7
28	2	34	ARG	4.7
29	3	17	THR	4.7
8	F	142	PRO	4.7
29	3	29	LYS	4.6
27	1	37	LEU	4.6
29	3	19	THR	4.6
8	F	132	ARG	4.5
29	3	26	LYS	4.5
8	F	101	TRP	4.5
28	2	44	VAL	4.5
8	F	74	MET	4.5
28	2	38	GLY	4.5
22	T	8	GLY	4.5
29	3	3	LYS	4.5
19	Q	64	ARG	4.4
21	S	123	VAL	4.4
27	1	44	ALA	4.4
8	F	128	ALA	4.4
5	C	44	SER	4.4
8	F	94	ALA	4.3
1	X	2780	A	4.3
28	2	18	PHE	4.3
28	2	14	LYS	4.3
27	1	36	GLU	4.3
8	F	123	ALA	4.3
6	D	43	SER	4.3
22	T	10	SER	4.3
1	X	2775	U	4.3
30	4	22	ARG	4.3

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Mol	Chain	Res	Type	RSRZ
27	1	30	ASN	4.2
14	L	58	ALA	4.2
1	X	2778	U	4.2
20	R	99	VAL	4.2
8	F	126	THR	4.1
9	G	129	HIS	4.1
1	X	248	A	4.1
1	X	1090	C	4.1
3	A	254	THR	4.1
1	X	2290	A	4.1
6	D	145	MET	4.0
29	3	56	ALA	4.0
8	F	116	ASN	4.0
8	F	90	THR	4.0
1	X	1057	A	4.0
1	X	1104	G	4.0
23	U	52	ARG	4.0
3	A	249	PRO	4.0
20	R	57	ASN	3.9
6	D	11	GLN	3.9
28	2	35	ARG	3.9
7	E	23	VAL	3.9
11	I	4	HIS	3.9
22	T	3	HIS	3.9
3	A	203	ASN	3.8
29	3	60	LEU	3.8
29	3	5	LYS	3.8
7	E	119	ALA	3.8
6	D	86	GLY	3.8
22	T	7	VAL	3.8
8	F	122	ALA	3.8
17	O	46	VAL	3.8
1	X	665	A	3.7
27	1	22	TYR	3.7
28	2	12	ARG	3.7
8	F	84	ILE	3.7
27	1	48	VAL	3.7
8	F	136	VAL	3.7
8	F	143	ASN	3.7
8	F	97	GLY	3.7
1	X	2087	U	3.7
1	X	1524	C	3.7

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Mol	Chain	Res	Type	RSRZ
1	X	1190	C	3.7
27	1	38	LYS	3.6
17	O	39	PHE	3.6
28	2	2	LYS	3.6
29	3	58	MET	3.6
11	I	32	ARG	3.6
22	T	2	ALA	3.6
1	X	1121	G	3.6
5	C	19	LEU	3.6
1	X	728	G	3.6
1	X	1523	A	3.6
27	1	14	SER	3.6
3	A	219	PRO	3.6
27	1	12	MET	3.6
3	A	241	GLY	3.6
29	3	12	ARG	3.6
11	I	36	GLY	3.5
23	U	62	LEU	3.5
3	A	242	ALA	3.5
1	X	1087	C	3.5
21	S	143	ILE	3.5
1	X	1077	U	3.5
1	X	1187	A	3.5
14	L	97	HIS	3.5
30	4	24	LEU	3.4
8	F	83	GLY	3.4
8	F	96	VAL	3.4
29	3	48	PHE	3.4
1	X	729	A	3.4
22	T	14	ARG	3.4
1	X	730	C	3.4
29	3	57	ARG	3.3
1	X	727	U	3.3
8	F	113	PRO	3.3
1	X	1189	G	3.3
6	D	42	SER	3.3
5	C	47	THR	3.3
29	3	51	ALA	3.3
27	1	28	ARG	3.3
8	F	88	SER	3.3
27	1	46	LYS	3.3
27	1	52	GLU	3.3

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Mol	Chain	Res	Type	RSRZ
1	X	1186	G	3.3
1	X	1084	A	3.2
1	X	1114	A	3.2
1	X	2409	A	3.2
3	A	39	LYS	3.2
22	T	17	ASN	3.2
1	X	1058	G	3.2
1	X	1106	A	3.2
29	3	64	ARG	3.2
1	X	1526	U	3.2
22	T	6	GLY	3.2
8	F	82	ALA	3.2
20	R	68	GLY	3.2
11	I	8	PRO	3.2
1	X	1037	U	3.2
1	X	2777	A	3.2
1	X	1103	C	3.2
1	X	1071	U	3.1
1	X	1111	C	3.1
4	B	135	HIS	3.1
1	X	1188	A	3.1
8	F	119	SER	3.1
6	D	141	ILE	3.1
1	X	1067	G	3.1
1	X	1733	U	3.1
1	X	2173	G	3.1
8	F	133	SER	3.0
1	X	1107	A	3.0
1	X	2190	A	3.0
8	F	85	GLY	3.0
8	F	124	ALA	3.0
11	I	50	GLU	3.0
29	3	23	MET	3.0
1	X	1120	C	3.0
11	I	97	ARG	3.0
1	X	1080	A	3.0
8	F	127	VAL	3.0
8	F	121	GLU	3.0
20	R	102	LYS	3.0
23	U	43	ARG	3.0
24	V	4	SER	3.0
27	1	31	THR	3.0

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Mol	Chain	Res	Type	RSRZ
27	1	11	LYS	3.0
8	F	81	ALA	3.0
14	L	34	SER	2.9
14	L	33	ARG	2.9
29	3	59	LYS	2.9
11	I	49	PHE	2.9
1	X	1551	U	2.9
23	U	27	ASP	2.9
21	S	86	VAL	2.9
27	1	45	LYS	2.9
1	X	1074	G	2.9
1	X	1525	A	2.9
11	I	15	ASP	2.9
6	D	146	VAL	2.9
1	X	1065	A	2.9
1	X	2169	A	2.9
16	N	48	ARG	2.9
1	X	1076	U	2.8
8	F	102	ASP	2.8
8	F	134	MET	2.8
1	X	100	G	2.8
1	X	418	C	2.8
23	U	40	ARG	2.8
27	1	17	GLY	2.8
1	X	1108	U	2.8
1	X	2089	C	2.8
11	I	88	PHE	2.8
6	D	147	ASP	2.8
30	4	35	ARG	2.8
1	X	1553	G	2.8
8	F	104	VAL	2.8
9	G	158	HIS	2.8
1	X	1095	A	2.7
9	G	37	ASP	2.7
8	F	105	LEU	2.7
8	F	110	THR	2.7
21	S	55	THR	2.7
27	1	49	VAL	2.7
11	I	63	ARG	2.7
1	X	1552	C	2.7
5	C	48	ARG	2.7
1	X	1557	G	2.7

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Mol	Chain	Res	Type	RSRZ
1	X	1850	G	2.7
27	1	20	PHE	2.7
23	U	25	ARG	2.7
29	3	13	ARG	2.7
5	C	165	SER	2.7
1	X	1072	U	2.7
23	U	47	HIS	2.7
3	A	237	GLU	2.7
11	I	9	THR	2.7
27	1	19	GLY	2.7
5	C	121	ASP	2.6
8	F	118	GLY	2.6
11	I	7	LYS	2.6
1	X	2170	C	2.6
5	C	123	PHE	2.6
24	V	36	GLN	2.6
20	R	67	GLY	2.6
1	X	90	G	2.6
14	L	64	LYS	2.6
21	S	171	VAL	2.6
14	L	57	ALA	2.6
2	Y	61	A	2.6
20	R	100	ASP	2.6
7	E	62	ARG	2.6
8	F	95	LYS	2.6
8	F	98	LYS	2.6
21	S	54	ILE	2.6
1	X	1096	A	2.6
1	X	1909	U	2.6
1	X	2774	U	2.6
1	X	1089	C	2.5
6	D	35	VAL	2.5
21	S	23	ALA	2.5
29	3	2	PRO	2.5
22	T	62	LEU	2.5
1	X	1056	U	2.5
7	E	175	LYS	2.5
3	A	220	HIS	2.5
23	U	49	LYS	2.5
3	A	91	ARG	2.5
1	X	1913	G	2.5
8	F	112	MET	2.5

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Mol	Chain	Res	Type	RSRZ
22	T	4	LYS	2.5
9	G	103	TYR	2.5
1	X	2877	A	2.5
21	S	93	GLU	2.5
8	F	100	ASN	2.5
30	4	20	HIS	2.5
1	X	358	C	2.5
3	A	271	VAL	2.5
1	X	2174	G	2.5
23	U	46	LEU	2.5
27	1	35	LEU	2.5
9	G	96	ASP	2.4
22	T	74	LYS	2.4
8	F	76	TYR	2.4
14	L	85	LYS	2.4
1	X	1078	A	2.4
1	X	1097	A	2.4
1	X	2324	G	2.4
21	S	17	SER	2.4
3	A	84	TYR	2.4
1	X	1092	U	2.4
27	1	39	LYS	2.4
1	X	1068	A	2.4
3	A	78	LYS	2.4
21	S	12	GLN	2.4
2	Y	2	C	2.4
5	C	91	TYR	2.3
6	D	144	ASP	2.3
3	A	261	ARG	2.3
3	A	186	HIS	2.3
1	X	871	U	2.3
11	I	103	ASN	2.3
20	R	94	VAL	2.3
27	1	16	ALA	2.3
8	F	115	LEU	2.3
20	R	63	THR	2.3
27	1	15	SER	2.3
1	X	1070	G	2.3
5	C	57	LYS	2.3
21	S	32	PHE	2.3
1	X	1556	A	2.3
11	I	23	PRO	2.3

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Mol	Chain	Res	Type	RSRZ
8	F	111	LYS	2.3
21	S	101	THR	2.3
29	3	49	VAL	2.3
1	X	1079	G	2.3
3	A	134	ARG	2.3
30	4	16	VAL	2.3
27	1	13	GLU	2.3
1	X	1601	U	2.3
3	A	217	ARG	2.3
19	Q	72	ARG	2.3
1	X	1110	G	2.3
1	X	1432	G	2.3
14	L	63	ASN	2.3
21	S	169	VAL	2.3
8	F	75	SER	2.2
12	J	82	THR	2.2
27	1	4	ASP	2.2
1	X	434	C	2.2
16	N	118	GLN	2.2
1	X	2289	A	2.2
11	I	68	VAL	2.2
1	X	172	A	2.2
3	A	272	THR	2.2
29	3	20	GLY	2.2
20	R	60	PRO	2.2
1	X	1098	G	2.2
1	X	2082	C	2.2
3	A	46	ARG	2.2
29	3	14	ILE	2.2
17	O	41	GLY	2.2
9	G	155	THR	2.2
1	X	1081	A	2.2
15	M	34	ARG	2.2
11	I	30	ALA	2.2
21	S	152	ILE	2.2
30	4	21	GLY	2.2
1	X	1115	C	2.2
27	1	29	ARG	2.2
11	I	33	GLY	2.1
1	X	2323	U	2.1
22	T	5	LYS	2.1
30	4	18	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
27	1	3	LYS	2.1
1	X	1185	C	2.1
1	X	1184	G	2.1
29	3	52	LYS	2.1
8	F	78	ILE	2.1
1	X	1088	A	2.1
8	F	89	SER	2.1
29	3	22	VAL	2.1
5	C	66	ASN	2.1
8	F	80	LYS	2.1
14	L	9	ARG	2.1
6	D	94	GLU	2.1
27	1	50	PHE	2.1
9	G	106	TYR	2.1
1	X	1109	A	2.1
20	R	61	SER	2.1
14	L	40	ALA	2.1
1	X	2287	G	2.1
1	X	1055	A	2.1
1	X	135	U	2.0
8	F	79	ARG	2.0
20	R	82	ALA	2.0
23	U	51	ILE	2.0
1	X	1091	C	2.0
21	S	44	ARG	2.0
1	X	2165	A	2.0
29	3	16	ILE	2.0
30	4	36	GLN	2.0
19	Q	2	SER	2.0
6	D	108	LEU	2.0
1	X	667	U	2.0
21	S	168	VAL	2.0
12	J	18	MET	2.0
6	D	120	ASN	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
31	MG	X	2886	1/1	0.52	0.33	41,41,41,41	0
31	MG	X	2884	1/1	0.53	0.42	55,55,55,55	0
31	MG	X	2910	1/1	0.63	0.37	19,19,19,19	0
31	MG	X	2882	1/1	0.66	0.29	12,12,12,12	0
31	MG	X	2908	1/1	0.72	0.49	17,17,17,17	0
31	MG	Y	126	1/1	0.73	0.29	25,25,25,25	0
31	MG	X	2883	1/1	0.76	0.19	49,49,49,49	0
31	MG	Y	124	1/1	0.80	0.42	26,26,26,26	0
31	MG	X	2881	1/1	0.82	0.26	59,59,59,59	0
31	MG	Y	128	1/1	0.82	0.16	41,41,41,41	0
31	MG	X	2890	1/1	0.83	0.20	49,49,49,49	0
31	MG	X	2893	1/1	0.83	0.21	13,13,13,13	0
31	MG	X	2900	1/1	0.83	0.40	3,3,3,3	0
31	MG	X	2888	1/1	0.83	0.23	3,3,3,3	0
31	MG	X	2885	1/1	0.84	0.52	56,56,56,56	0
31	MG	X	2909	1/1	0.86	0.12	3,3,3,3	0
31	MG	X	2892	1/1	0.87	0.19	22,22,22,22	0
31	MG	X	2899	1/1	0.88	0.22	19,19,19,19	0
31	MG	Y	127	1/1	0.90	0.18	12,12,12,12	0
31	MG	X	2906	1/1	0.91	0.44	13,13,13,13	0
31	MG	X	2905	1/1	0.92	0.28	6,6,6,6	0
31	MG	X	2896	1/1	0.92	0.25	3,3,3,3	0
31	MG	X	2898	1/1	0.92	0.42	3,3,3,3	0
31	MG	X	2897	1/1	0.93	0.51	3,3,3,3	0
31	MG	X	2901	1/1	0.93	0.28	3,3,3,3	0
31	MG	X	2903	1/1	0.93	0.24	24,24,24,24	0
31	MG	X	2887	1/1	0.94	0.15	3,3,3,3	0
31	MG	X	2894	1/1	0.95	0.39	15,15,15,15	0
31	MG	X	2907	1/1	0.96	0.17	58,58,58,58	0
31	MG	X	2904	1/1	0.96	0.13	3,3,3,3	0
31	MG	X	2902	1/1	0.97	0.11	60,60,60,60	0
31	MG	X	2895	1/1	0.97	0.35	3,3,3,3	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
31	MG	Y	125	1/1	0.97	0.20	9,9,9,9	0
31	MG	X	2889	1/1	0.98	0.36	3,3,3,3	0
31	MG	X	2891	1/1	0.99	0.51	12,12,12,12	0

6.5 Other polymers (i)

There are no such residues in this entry.