



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 11, 2014 – 03:09 PM GMT

PDB ID : 2J01
Title : STRUCTURE OF THE THERMUS THERMOPHILUS 70S RIBOSOME COMPLEXED WITH MRNA, TRNA AND PAROMOMYCIN (PART 2 OF 4). THIS FILE CONTAINS THE 50S SUBUNIT FROM MOLECULE I.
Authors : Selmer, M.; Dunham, C.M.; Murphy, F.V.; Weixlbaumer, A.; Petry, S.; Weir, J.R.; Kelley, A.C.; Ramakrishnan, V.
Deposited on : 2006-07-31
Resolution : 2.80 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

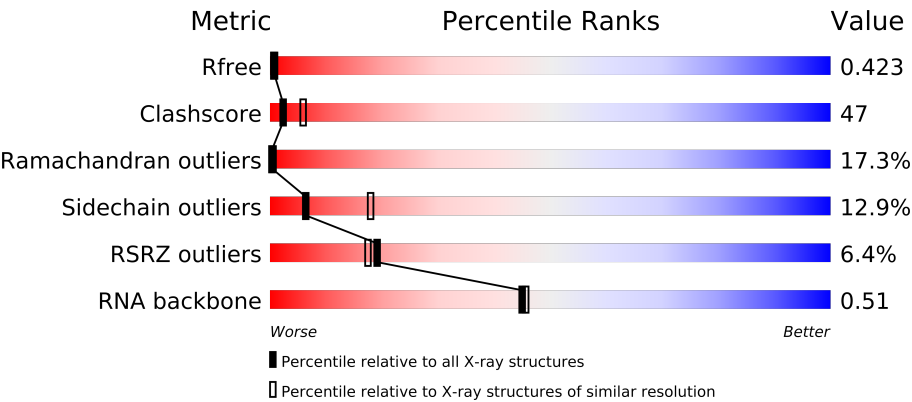
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.16 November 2013
Xtriage (Phenix) : dev-1323
EDS : trunk22699
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : trunk22699

1 Overall quality at a glance

The reported resolution of this entry is 2.80 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R _{free}	66092	1799 (2.80-2.80)
Clashscore	79885	2295 (2.80-2.80)
Ramachandran outliers	78287	2252 (2.80-2.80)
Sidechain outliers	78261	2254 (2.80-2.80)
RSRZ outliers	66119	1802 (2.80-2.80)
RNA backbone	1838	1076 (3.30-2.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	0	85	
2	1	98	
3	2	72	
4	3	60	
5	4	71	
6	5	60	
7	6	54	
8	7	49	
9	8	65	
10	A	2787	
11	B	122	
12	C	229	

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Mol	Chain	Length	Quality of chain
13	D	276	
14	E	206	
15	F	210	
16	G	182	
17	H	180	
18	I	148	
19	N	140	
20	O	122	
21	P	150	
22	Q	141	
23	R	118	
24	S	112	
25	T	146	
26	U	118	
27	V	101	
28	W	113	
29	X	96	
30	Y	110	
31	Z	206	

2 Entry composition

There are 35 unique types of molecules in this entry. The entry contains 89408 atoms, of which 0 are hydrogen and 0 are deuterium.

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 protein called 50S RIBOSOMAL PROTEIN L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	0	85	Total	C	N	O	S	0	0	0
			650	401	137	111	1			

- Molecule 2 is a protein called 50S RIBOSOMAL PROTEIN L28.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
2	1	89	Total	C	N	O	0	0	1
			693	435	140	118			

- Molecule 3 is a protein called 50S RIBOSOMAL PROTEIN L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	2	51	Total	C	N	O	S	0	0	1
			421	263	85	72	1			

- Molecule 4 is a protein called 50S RIBOSOMAL PROTEIN L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	3	60	Total	C	N	O	S	0	0	1
			468	298	91	78	1			

- Molecule 5 is a protein called 50S RIBOSOMAL PROTEIN L31.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
5	4	50	Total	C	N	O	0	0	1
			242	143	50	49			

- Molecule 6 is a protein called 50S RIBOSOMAL PROTEIN L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 7 is a protein called 50S RIBOSOMAL PROTEIN L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	6	45	Total	C	N	O	S	0	0	1
			381	235	78	64	4			

- Molecule 8 is a protein called 50S RIBOSOMAL PROTEIN L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	7	49	Total	C	N	O	S	0	0	1
			419	257	105	55	2			

- Molecule 9 is a protein called 50S RIBOSOMAL PROTEIN L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	8	64	Total	C	N	O	S	0	0	1
			508	326	102	78	2			

- Molecule 10 is a RNA chain called 23S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	A	2772	Total	C	N	O	P	0	0	0
			59708	26573	11171	19193	2771			

- Molecule 11 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	B	119	Total	C	N	O	P	0	0	0
			2551	1136	471	826	118			

- Molecule 12 is a protein called 50S RIBOSOMAL PROTEIN L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	C	191	Total	C	N	O	P	0	0	1
			1142	691	221	230				

- Molecule 13 is a protein called 50S RIBOSOMAL PROTEIN L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	D	272	Total	C	N	O	S	0	0	1
			2105	1329	417	356	3			

- Molecule 14 is a protein called 50S RIBOSOMAL PROTEIN L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	E	205	Total	C	N	O	S	0	0	1
			1564	988	300	270	6			

- Molecule 15 is a protein called 50S RIBOSOMAL PROTEIN L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	F	208	Total	C	N	O	S	0	0	1
			1624	1035	304	282	3			

- Molecule 16 is a protein called 50S RIBOSOMAL PROTEIN L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	G	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 17 is a protein called 50S RIBOSOMAL PROTEIN L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	H	160	Total	C	N	O	S	0	0	1
			1223	773	229	220	1			

- Molecule 18 is a protein called 50S RIBOSOMAL PROTEIN L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	I	146	Total	C	N	O	S	0	0	1
			1132	723	201	207	1			

- Molecule 19 is a protein called 50S RIBOSOMAL PROTEIN L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	N	139	Total	C	N	O	S	0	0	1
			1105	712	207	182	4			

- Molecule 20 is a protein called 50S RIBOSOMAL PROTEIN L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	O	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 21 is a protein called 50S RIBOSOMAL PROTEIN L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	P	146	Total	C	N	O	S	0	0	0
			1114	692	227	193	2			

- Molecule 22 is a protein called 50S RIBOSOMAL PROTEIN L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Q	136	Total	C	N	O	S	0	0	0
			1080	688	204	183	5			

- Molecule 23 is a protein called 50S RIBOSOMAL PROTEIN L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	R	117	Total	C	N	O		0	0	0
			960	599	202	159				

- Molecule 24 is a protein called 50S RIBOSOMAL PROTEIN L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	S	99	Total	C	N	O		0	0	1
			771	486	155	130				

- Molecule 25 is a protein called 50S RIBOSOMAL PROTEIN L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	T	138	Total	C	N	O	S	0	0	1
			1142	710	235	196	1			

- Molecule 26 is a protein called 50S RIBOSOMAL PROTEIN L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	U	117	Total	C	N	O	S	0	0	0
			958	604	202	151	1			

- Molecule 27 is a protein called 50S RIBOSOMAL PROTEIN L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	V	101	Total	C	N	O	S	0	0	0
			779	501	142	135	1			

- Molecule 28 is a protein called 50S RIBOSOMAL PROTEIN L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	W	113	Total	C	N	O	S	0	0	0
			896	563	176	155	2			

- Molecule 29 is a protein called 50S RIBOSOMAL PROTEIN L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	X	93	Total	C	N	O		0	0	1
			726	471	132	123				

- Molecule 30 is a protein called 50S RIBOSOMAL PROTEIN L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	Y	101	Total	C	N	O	S	0	0	1
			776	500	149	123	4			

- Molecule 31 is a protein called 50S RIBOSOMAL PROTEIN L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	Z	177	Total	C	N	O	S	0	0	1
			1404	897	253	252	2			

- Molecule 32 is a protein called 50S RIBOSOMAL PROTEIN L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
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- Molecule 33 is a protein called 50S RIBOSOMAL PROTEIN L10.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
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- Molecule 34 is a protein called 50S RIBOSOMAL PROTEIN L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
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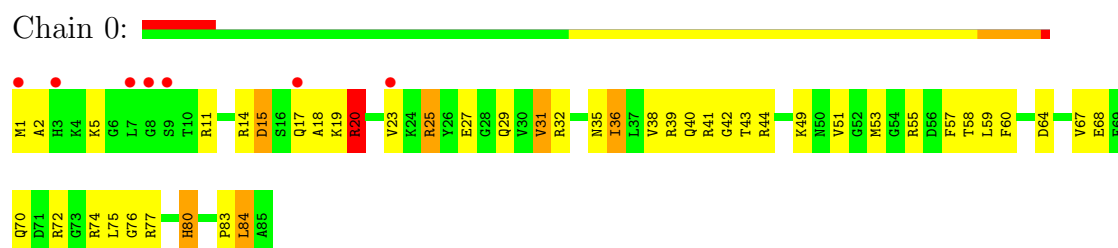
- Molecule 35 is a protein called 50S RIBOSOMAL PROTEIN L7.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
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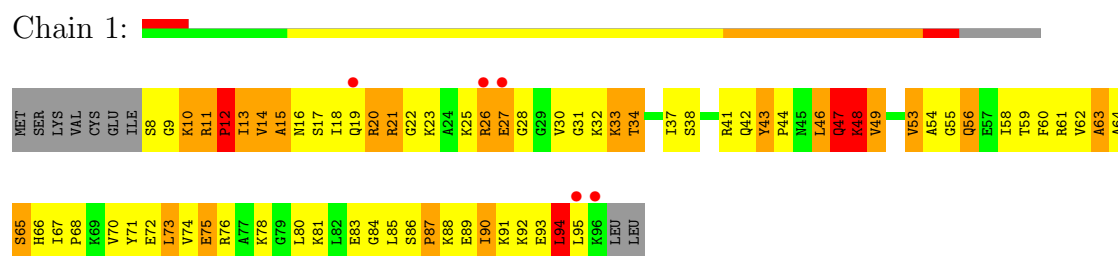
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

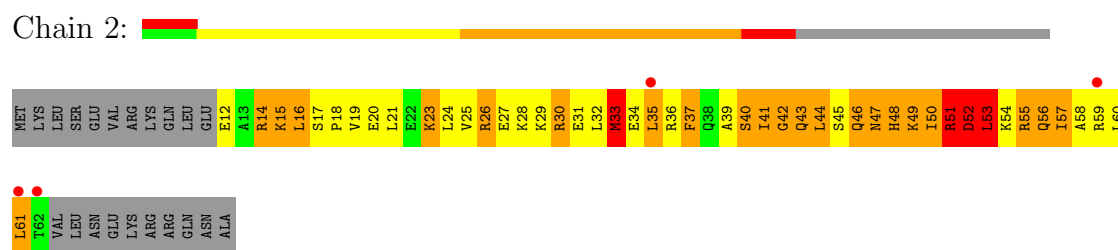
- Molecule 1: 50S RIBOSOMAL PROTEIN L27



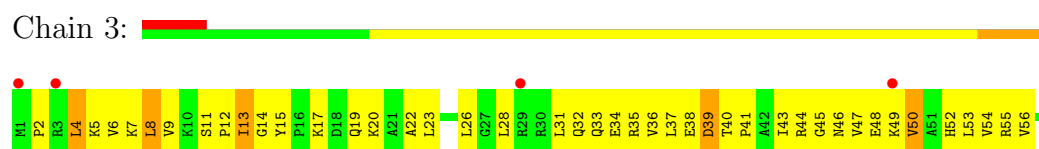
- Molecule 2: 50S RIBOSOMAL PROTEIN L28



- Molecule 3: 50S RIBOSOMAL PROTEIN L29

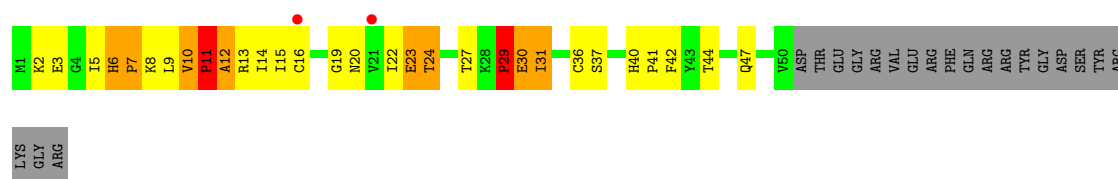


- Molecule 4: 50S RIBOSOMAL PROTEIN L30



- Molecule 5: 50S RIBOSOMAL PROTEIN L31





• Molecule 6: 50S RIBOSOMAL PROTEIN L32

Chain 5:

• Molecule 7: 50S RIBOSOMAL PROTEIN L33

Chain 6:

• Molecule 8: 50S RIBOSOMAL PROTEIN L34

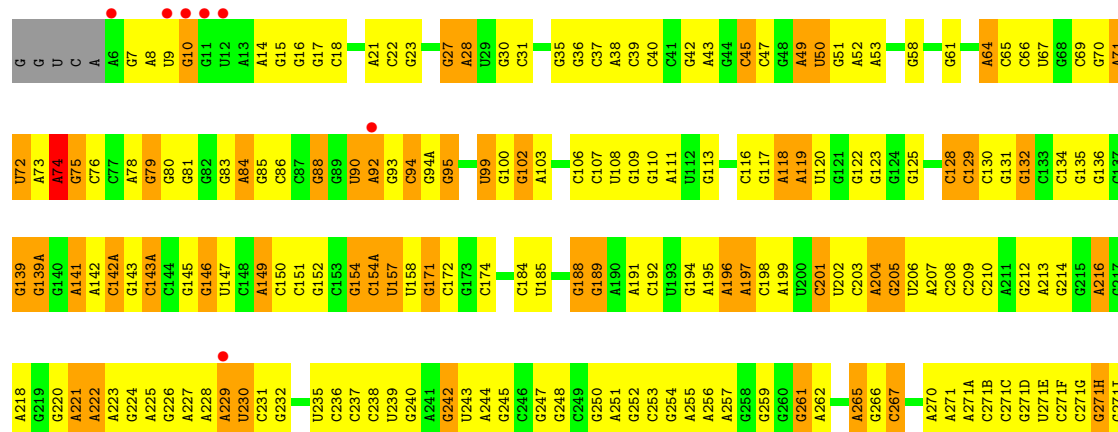
Chain 7:

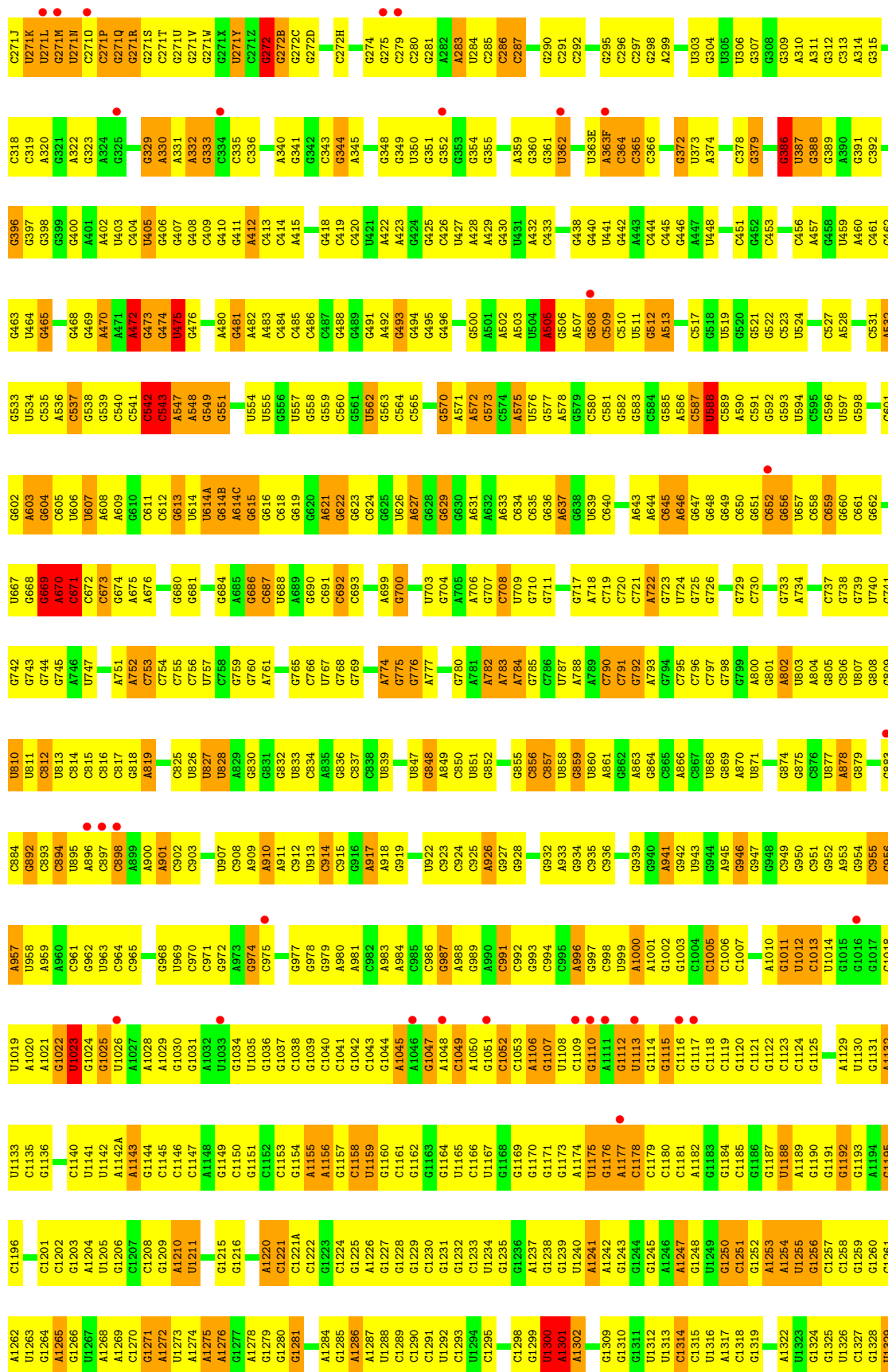
• Molecule 9: 50S RIBOSOMAL PROTEIN L35

Chain 8:

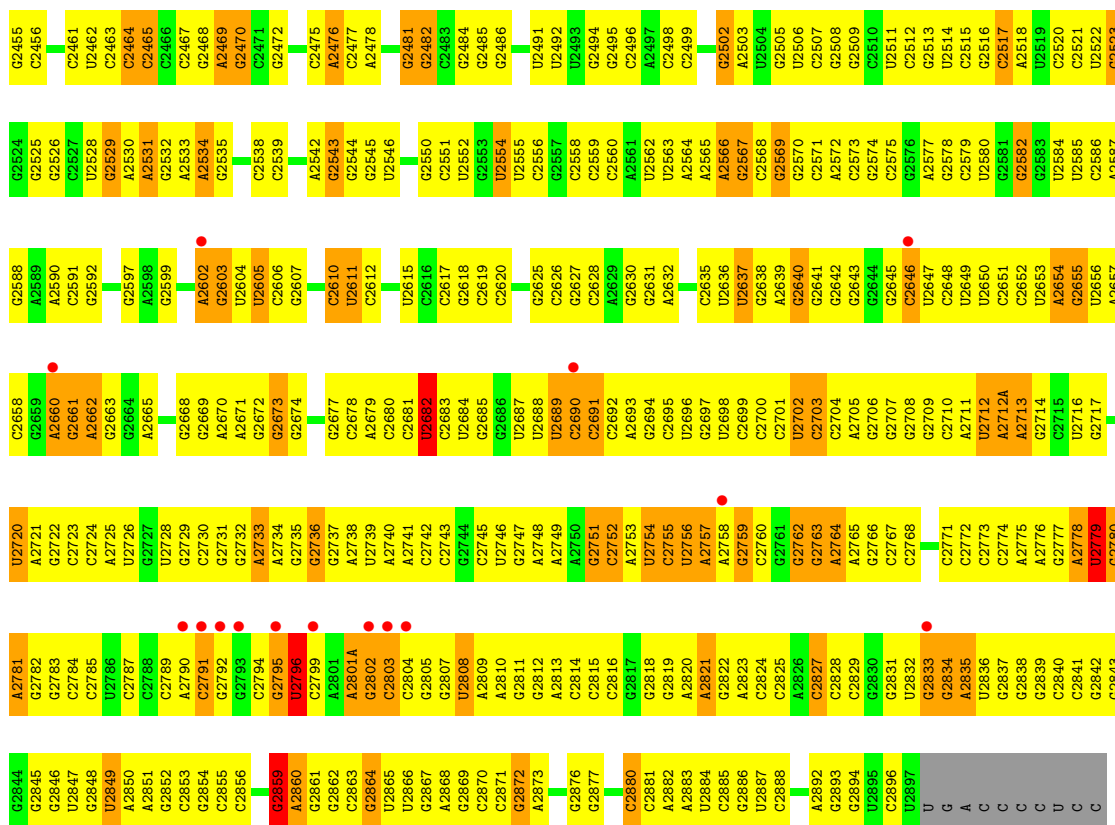
• Molecule 10: 23S RIBOSOMAL RNA

Chain A:



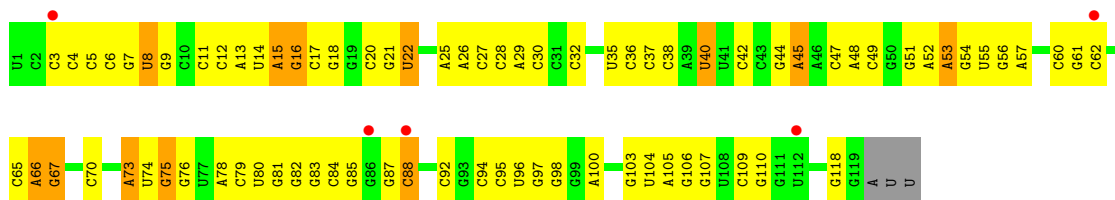






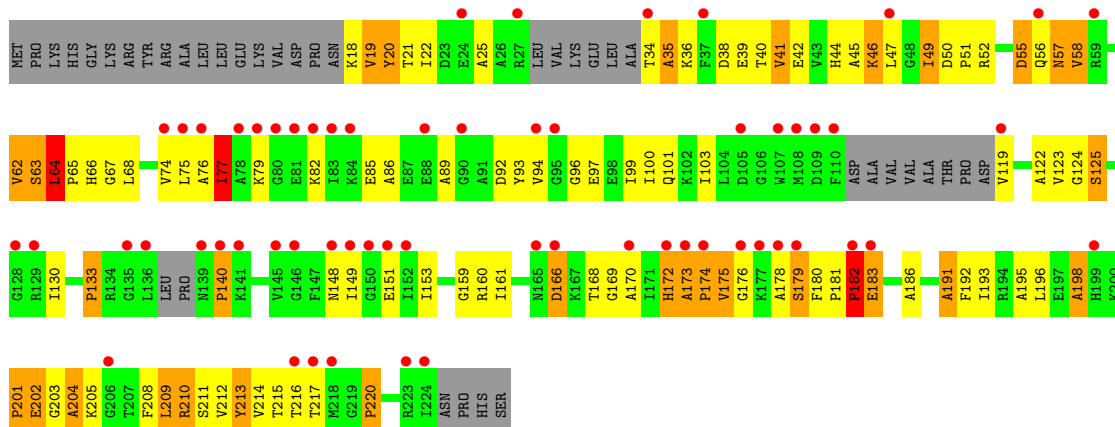
• Molecule 11: 5S RIBOSOMAL RNA

Chain B:



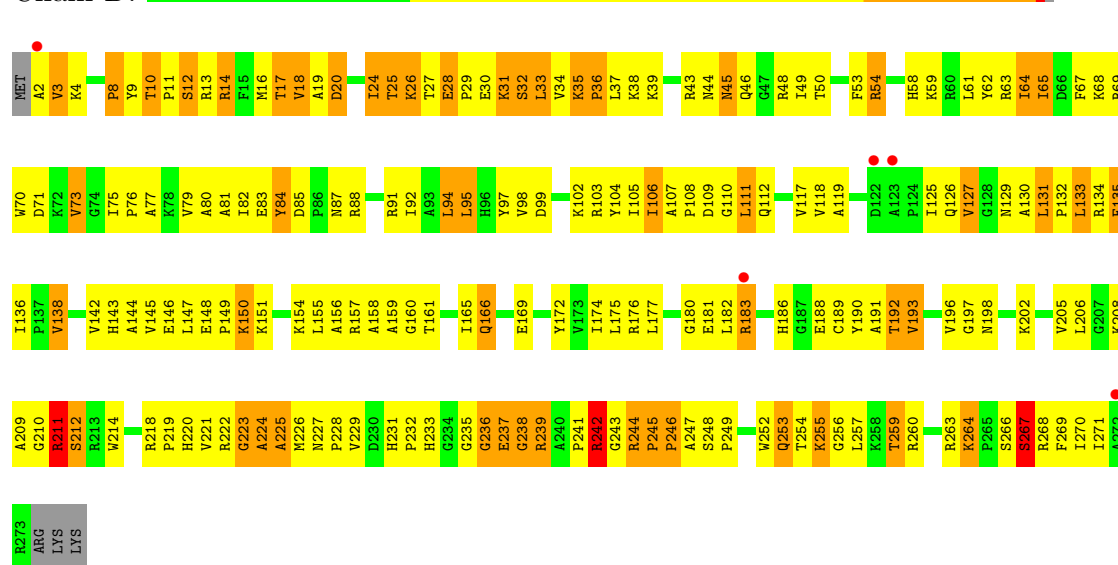
• Molecule 12: 50S RIBOSOMAL PROTEIN L1

Chain C:



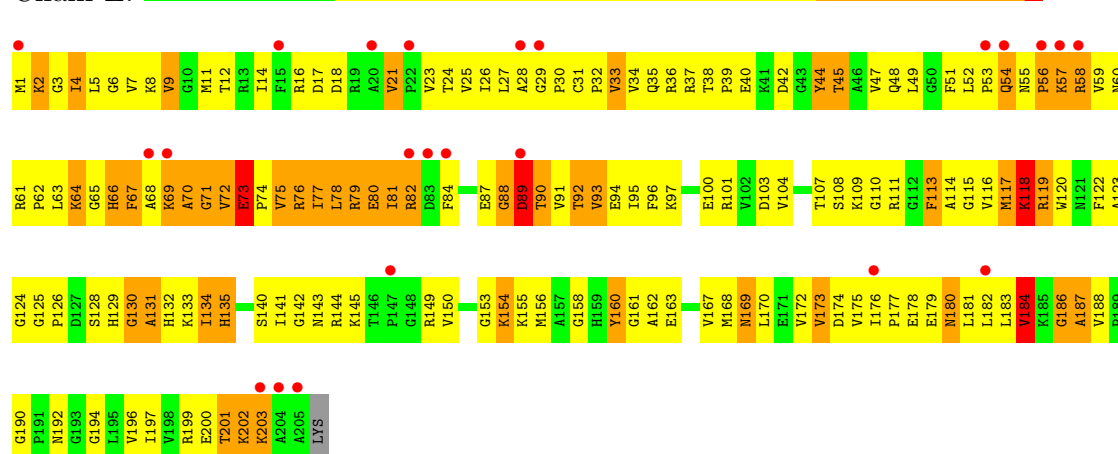
• Molecule 13: 50S RIBOSOMAL PROTEIN L2

Chain D:



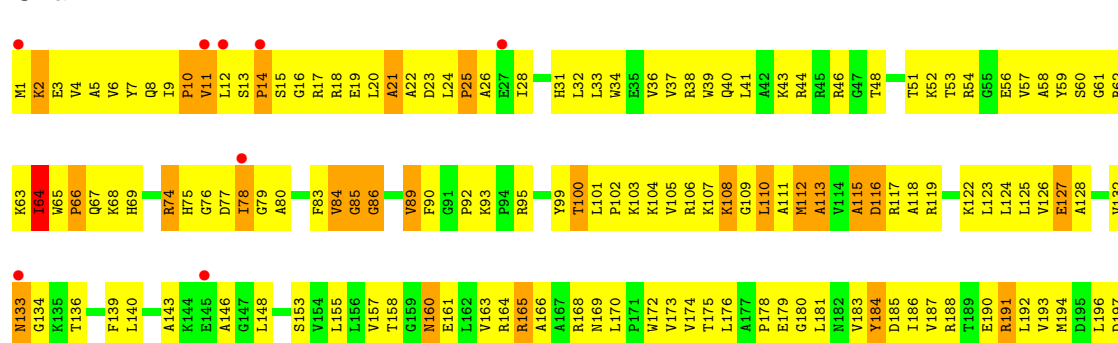
• Molecule 14: 50S RIBOSOMAL PROTEIN L3

Chain E:



• Molecule 15: 50S RIBOSOMAL PROTEIN L4

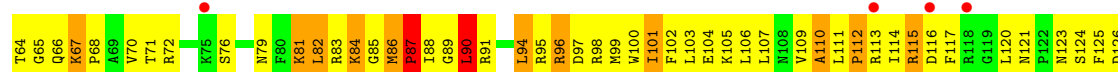
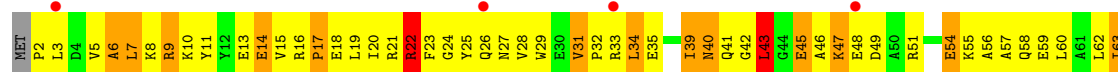
Chain F:





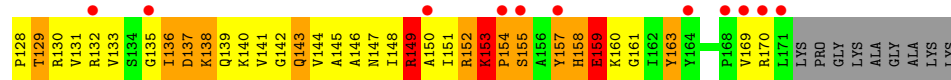
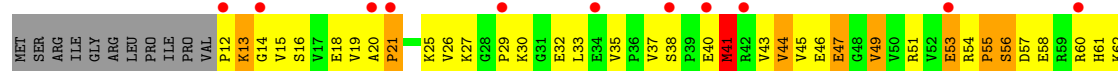
• Molecule 16: 50S RIBOSOMAL PROTEIN L5

Chain G:



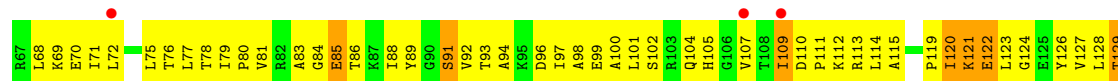
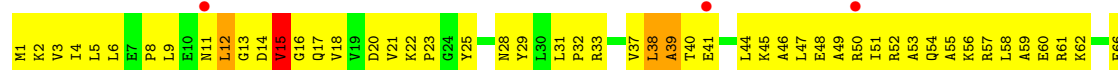
• Molecule 17: 50S RIBOSOMAL PROTEIN L6

Chain H:



• Molecule 18: 50S RIBOSOMAL PROTEIN L9

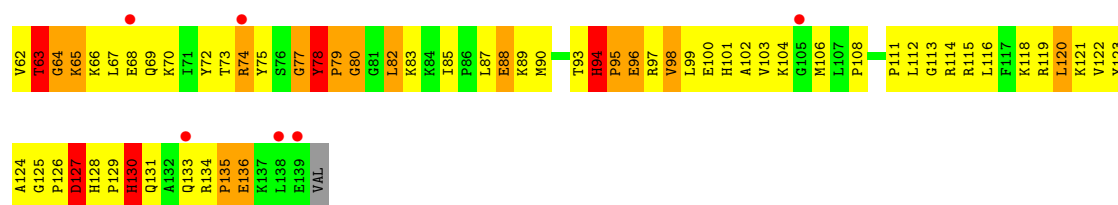
Chain I:



• Molecule 19: 50S RIBOSOMAL PROTEIN L13

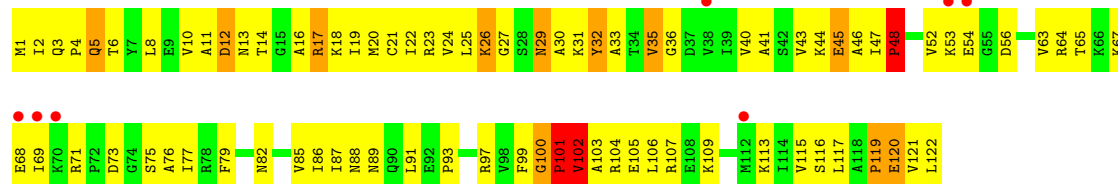
Chain N:





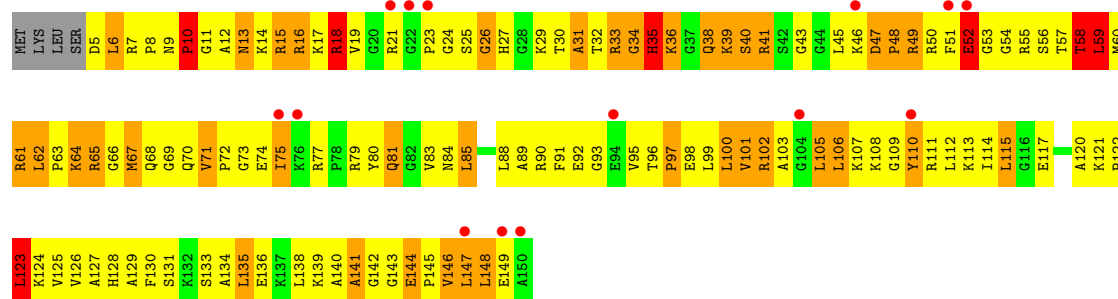
• Molecule 20: 50S RIBOSOMAL PROTEIN L14

Chain O:



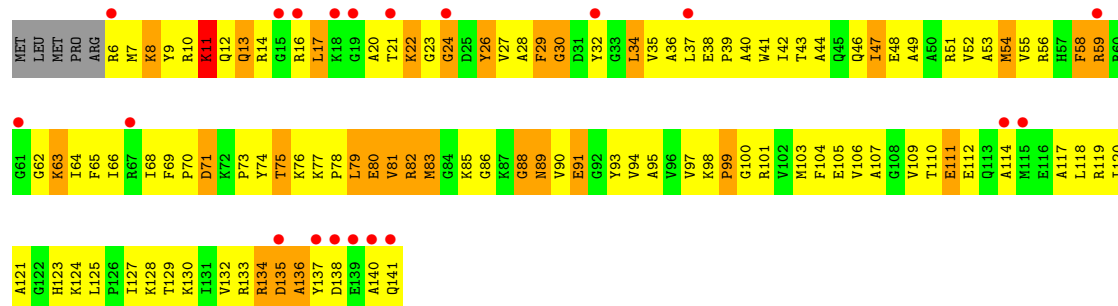
• Molecule 21: 50S RIBOSOMAL PROTEIN L15

Chain P:



• Molecule 22: 50S RIBOSOMAL PROTEIN L16

Chain Q:



• Molecule 23: 50S RIBOSOMAL PROTEIN L17

Chain R:





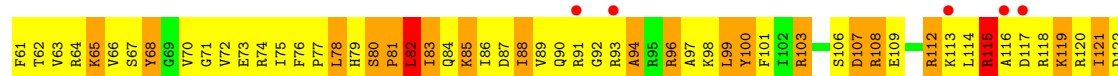
• Molecule 24: 50S RIBOSOMAL PROTEIN L18

Chain S:



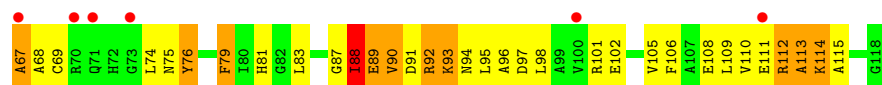
• Molecule 25: 50S RIBOSOMAL PROTEIN L19

Chain T:



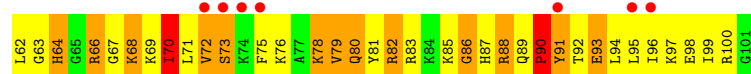
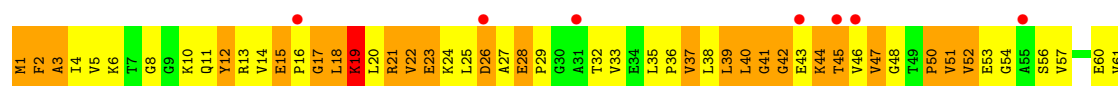
• Molecule 26: 50S RIBOSOMAL PROTEIN L20

Chain U:



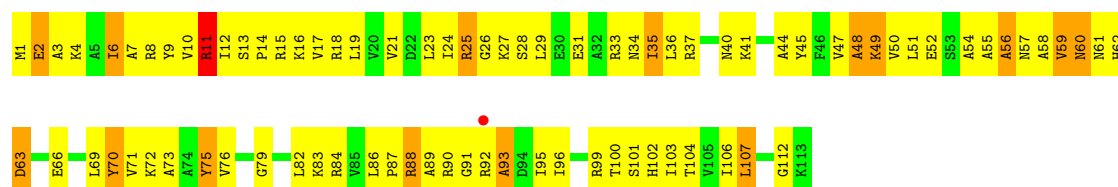
• Molecule 27: 50S RIBOSOMAL PROTEIN L21

Chain V:



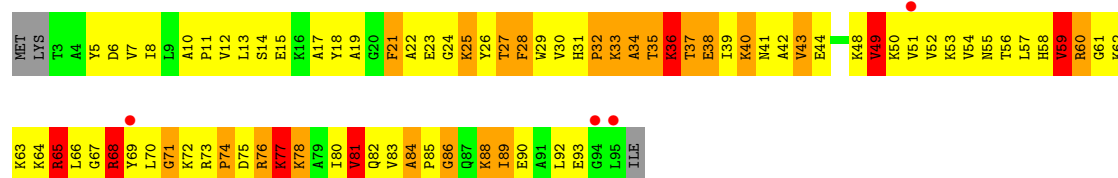
• Molecule 28: 50S RIBOSOMAL PROTEIN L22

Chain W:



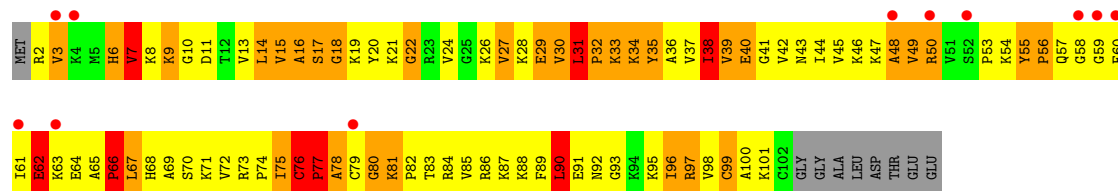
• Molecule 29: 50S RIBOSOMAL PROTEIN L23

Chain X:



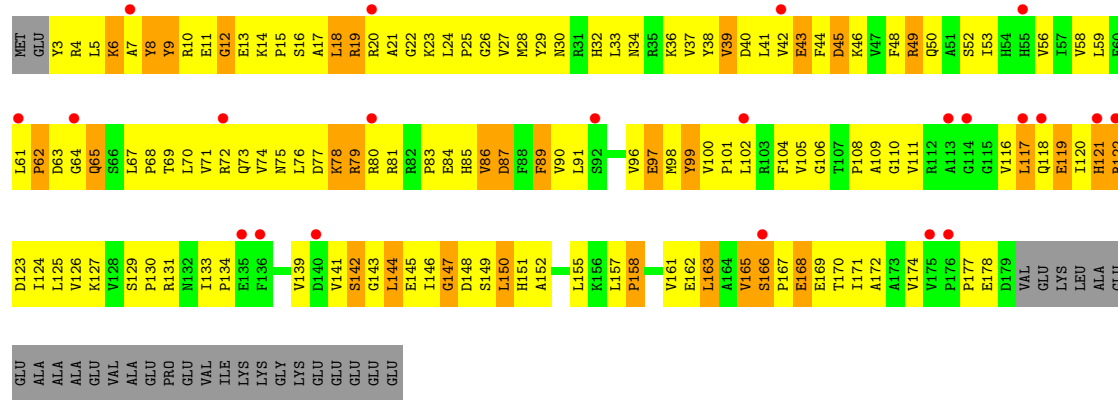
• Molecule 30: 50S RIBOSOMAL PROTEIN L24

Chain Y:



• Molecule 31: 50S RIBOSOMAL PROTEIN L25

Chain Z:



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	213.32Å 452.95Å 631.36Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 2.80 49.96 – 2.80	Depositor EDS
% Data completeness (in resolution range)	90.7 (50.00-2.80) 90.7 (49.96-2.80)	Depositor EDS
R_{merge}	0.28	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.84 (at 2.81Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.272 , 0.313 0.421 , 0.423	Depositor DCC
R_{free} test set	64102 reflections (5.01%)	DCC
Wilson B-factor (Å ²)	36.9	Xtriage
Anisotropy	0.160	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.15 , 39.6	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning	$\langle L \rangle = 0.35$, $\langle L^2 \rangle = 0.17$	Xtriage
Outliers	0 of 1342659 reflections	Xtriage
F_o, F_c correlation	0.55	EDS
Total number of atoms	89408	wwPDB-VP
Average B, all atoms (Å ²)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.24% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.38	0/658	0.65	0/878
2	1	0.61	0/700	1.04	1/931 (0.1%)
3	2	0.45	0/423	0.99	3/560 (0.5%)
4	3	0.37	0/473	0.61	0/636
5	4	0.47	0/241	0.88	4/334 (1.2%)
6	5	0.42	0/473	0.74	0/639
7	6	0.39	0/387	0.62	0/517
8	7	0.51	0/427	0.73	0/563
9	8	0.50	0/516	0.81	0/681
10	A	0.62	4/66876 (0.0%)	0.77	56/104407 (0.1%)
11	B	0.39	0/2853	0.70	0/4451
12	C	0.38	0/1145	0.68	7/1556 (0.4%)
13	D	0.52	0/2155	0.87	3/2907 (0.1%)
14	E	0.43	0/1597	0.76	0/2155
15	F	0.45	0/1659	0.70	0/2246
16	G	0.39	0/1498	0.72	1/2013 (0.0%)
17	H	0.33	0/1246	0.69	0/1684
18	I	0.35	0/1147	0.66	0/1553
19	N	0.40	0/1132	0.78	0/1527
20	O	0.48	0/943	0.74	0/1269
21	P	0.42	0/1131	1.00	6/1504 (0.4%)
22	Q	0.37	0/1100	0.72	1/1470 (0.1%)
23	R	0.40	0/974	0.74	1/1302 (0.1%)
24	S	0.40	0/779	0.73	0/1038
25	T	0.42	0/1156	0.77	2/1544 (0.1%)
26	U	0.37	0/975	0.68	0/1297
27	V	0.38	0/789	0.73	0/1054
28	W	0.43	0/907	0.72	0/1216
29	X	0.53	0/740	0.89	3/995 (0.3%)
30	Y	0.41	0/789	0.78	0/1053
31	Z	0.35	0/1436	0.64	0/1951
All	All	0.56	4/97325 (0.0%)	0.76	88/145931 (0.1%)

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

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	1	0	1
10	A	30	81
All	All	30	82

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	A	783	A	C5-C6	-6.34	1.35	1.41
10	A	774	A	C5-C6	-6.20	1.35	1.41
10	A	652	C	C3'-O3'	5.41	1.49	1.42
10	A	656	G	O5'-C5'	5.32	1.52	1.44

All (88) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	A	1962	C	N1-C1'-C2'	10.48	127.62	114.00
10	A	669	G	N9-C1'-C2'	10.36	127.47	114.00
10	A	1722	A	N9-C1'-C2'	9.93	126.91	114.00
10	A	1397	U	C2'-C3'-O3'	9.86	131.19	109.50
10	A	1250	G	C2'-C3'-O3'	9.26	129.88	109.50
10	A	283	A	C2'-C3'-O3'	9.06	129.44	109.50
21	P	53	GLY	N-CA-C	-8.99	90.63	113.10
10	A	2360	A	N9-C1'-C2'	-8.80	102.32	112.00
10	A	1300	U	N1-C1'-C2'	8.75	125.38	114.00
10	A	1819	A	C2'-C3'-O3'	8.58	128.37	109.50
10	A	1544	A	N9-C1'-C2'	8.45	124.99	114.00
10	A	2662	A	N9-C1'-C2'	7.96	124.34	114.00
21	P	52	GLU	N-CA-C	7.77	131.98	111.00
21	P	41	ARG	N-CA-C	-7.63	90.40	111.00
10	A	1652	A	C2'-C3'-O3'	7.61	126.25	109.50
10	A	1458	C	N1-C1'-C2'	7.61	123.89	114.00
21	P	59	LEU	N-CA-C	-7.60	90.47	111.00
10	A	2191	G	C2'-C3'-O3'	7.51	126.02	109.50
13	D	238	GLY	N-CA-C	-7.49	94.37	113.10
10	A	783	A	N9-C1'-C2'	-7.47	103.78	112.00
10	A	1786	A	N9-C1'-C2'	7.44	123.68	114.00
10	A	472	A	C2'-C3'-O3'	7.41	125.80	109.50
10	A	1484	G	C2'-C3'-O3'	7.23	125.41	109.50
10	A	2796	U	N1-C1'-C2'	6.91	122.98	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	P	54	GLY	N-CA-C	-6.85	95.98	113.10
13	D	237	GLU	N-CA-C	6.82	129.40	111.00
10	A	1379	A	N9-C1'-C2'	6.81	122.85	114.00
10	A	1694	C	C2'-C3'-O3'	6.80	124.58	113.70
10	A	1820	U	C2'-C3'-O3'	6.71	124.43	113.70
3	2	51	ARG	N-CA-C	-6.62	93.11	111.00
10	A	2033	A	N9-C1'-C2'	6.54	122.50	114.00
10	A	1992	G	N9-C1'-C2'	6.54	122.50	114.00
13	D	267	SER	N-CA-C	-6.29	94.03	111.00
10	A	1616	A	N9-C1'-C2'	6.18	122.04	114.00
10	A	1773	A	N9-C1'-C2'	-6.13	105.26	112.00
12	C	174	PRO	N-CA-CB	6.05	110.56	103.30
10	A	1934	C	C2'-C3'-O3'	6.03	123.34	113.70
10	A	1301	A	N9-C1'-C2'	6.02	121.83	114.00
10	A	1970	A	C5'-C4'-O4'	6.00	116.30	109.10
10	A	671	C	C5'-C4'-O4'	-5.93	101.98	109.10
10	A	562	U	N1-C1'-C2'	5.87	121.63	114.00
10	A	2286	A	N9-C1'-C2'	5.85	121.61	114.00
29	X	75	ASP	N-CA-C	-5.85	95.20	111.00
10	A	2225	A	C2'-C3'-O3'	5.85	123.06	113.70
10	A	265	A	N9-C1'-C2'	5.82	121.56	114.00
5	4	41	PRO	N-CA-CB	5.81	110.27	103.30
10	A	1820	U	C4'-C3'-C2'	5.80	108.40	102.60
16	G	54	GLU	N-CA-C	-5.75	95.47	111.00
22	Q	11	LYS	N-CA-C	-5.68	95.66	111.00
10	A	386	G	N9-C1'-C2'	5.68	121.38	114.00
10	A	1694	C	N1-C1'-C2'	5.64	121.33	114.00
5	4	29	PRO	N-CA-CB	5.62	110.04	103.30
3	2	55	ARG	N-CA-C	-5.61	95.86	111.00
21	P	58	THR	N-CA-C	-5.61	95.86	111.00
10	A	2796	U	O4'-C1'-N1	5.59	112.67	108.20
12	C	133	PRO	N-CA-CB	5.59	110.01	103.30
10	A	673	C	C5'-C4'-C3'	-5.59	107.06	116.00
10	A	272	G	C2'-C3'-O3'	5.58	122.62	113.70
10	A	2859	G	C2'-C3'-O3'	5.57	122.60	113.70
5	4	11	PRO	N-CA-CB	5.47	109.86	103.30
3	2	52	ASP	N-CA-C	-5.45	96.30	111.00
10	A	1722	A	O4'-C1'-N9	5.44	112.55	108.20
10	A	1992	G	C2'-C3'-O3'	5.41	122.36	113.70
12	C	220	PRO	N-CA-CB	5.40	109.78	103.30
10	A	387	U	C2'-C3'-O3'	5.40	122.33	113.70
12	C	140	PRO	N-CA-CB	5.38	109.76	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	T	30	VAL	N-CA-C	5.36	125.48	111.00
10	A	2346	A	N9-C1'-C2'	5.35	120.96	114.00
29	X	77	LYS	N-CA-C	5.31	125.34	111.00
12	C	182	PRO	N-CA-CB	5.30	109.66	103.30
2	1	65	SER	N-CA-C	-5.29	96.72	111.00
10	A	1822	G	C5'-C4'-O4'	-5.28	102.77	109.10
10	A	493	G	C5'-C4'-C3'	-5.25	107.60	116.00
10	A	1495	A	N9-C1'-C2'	5.23	120.80	114.00
10	A	1987	G	C5'-C4'-O4'	-5.22	102.83	109.10
12	C	201	PRO	N-CA-CB	5.20	109.54	103.30
5	4	7	PRO	N-CA-CB	5.16	109.49	103.30
23	R	8	ARG	N-CA-C	5.13	124.84	111.00
10	A	1000	A	C5'-C4'-C3'	-5.12	107.81	116.00
10	A	1286	A	N9-C1'-C2'	5.11	120.64	114.00
12	C	181	PRO	N-CA-CB	5.10	109.42	103.30
10	A	629	G	C5'-C4'-C3'	-5.08	107.86	116.00
10	A	669	G	C5'-C4'-C3'	5.08	124.12	116.00
25	T	82	LEU	CA-CB-CG	5.08	126.98	115.30
10	A	1458	C	O4'-C1'-N1	5.07	112.25	108.20
29	X	59	VAL	N-CA-C	5.05	124.63	111.00
10	A	283	A	C4'-C3'-O3'	5.01	123.02	113.00
10	A	1250	G	C4'-C3'-C2'	5.00	107.61	102.60

All (30) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
10	A	100	G	C1'
10	A	283	A	C3'
10	A	472	A	C3'
10	A	669	G	C4',C3',C1'
10	A	945	A	C1'
10	A	1250	G	C3'
10	A	1300	U	C4',C3',C1'
10	A	1379	A	C1'
10	A	1397	U	C3'
10	A	1458	C	C1'
10	A	1484	G	C3'
10	A	1544	A	C1'
10	A	1609	A	C2'
10	A	1652	A	C3'
10	A	1694	C	C4',C3'
10	A	1697	G	C3'

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Mol	Chain	Res	Type	Atom
10	A	1722	A	C1'
10	A	1819	A	C3'
10	A	1934	C	C3'
10	A	1962	C	C4',C1'
10	A	2191	G	C3'
10	A	2286	A	C1'
10	A	2662	A	C1'
10	A	2796	U	C1'

All (82) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1	43	TYR	Sidechain
10	A	1023	U	Sidechain
10	A	1132	A	Sidechain
10	A	1158	C	Sidechain
10	A	1161	C	Sidechain
10	A	1188	U	Sidechain
10	A	1192	G	Sidechain
10	A	1340	U	Sidechain
10	A	1352	U	Sidechain
10	A	1370	C	Sidechain
10	A	1611	C	Sidechain
10	A	1647	G	Sidechain
10	A	1675	C	Sidechain
10	A	1692	U	Sidechain
10	A	1758	G	Sidechain
10	A	1772	G	Sidechain
10	A	1773	A	Sidechain
10	A	1775	U	Sidechain
10	A	1807	G	Sidechain
10	A	1808	U	Sidechain
10	A	1820	U	Sidechain
10	A	1834	U	Sidechain
10	A	188	G	Sidechain
10	A	189	G	Sidechain
10	A	1898	U	Sidechain
10	A	1940	U	Sidechain
10	A	1980	G	Sidechain
10	A	1985	G	Sidechain
10	A	1992	G	Sidechain
10	A	2004	G	Sidechain

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Mol	Chain	Res	Type	Group
10	A	2009	G	Sidechain
10	A	201	C	Sidechain
10	A	2010	G	Sidechain
10	A	2017	U	Sidechain
10	A	2033	A	Sidechain
10	A	2079	U	Sidechain
10	A	2090	G	Sidechain
10	A	2306	C	Sidechain
10	A	2360	A	Sidechain
10	A	242	G	Sidechain
10	A	2454	G	Sidechain
10	A	2464	C	Sidechain
10	A	2517	C	Sidechain
10	A	2564	A	Sidechain
10	A	2569	G	Sidechain
10	A	2582	G	Sidechain
10	A	2597	G	Sidechain
10	A	2603	G	Sidechain
10	A	2605	U	Sidechain
10	A	2682	U	Sidechain
10	A	271(H)	G	Sidechain
10	A	271(Q)	G	Sidechain
10	A	271(Y)	U	Sidechain
10	A	2764	A	Sidechain
10	A	2779	U	Sidechain
10	A	379	G	Sidechain
10	A	398	G	Sidechain
10	A	459	U	Sidechain
10	A	463	G	Sidechain
10	A	465	G	Sidechain
10	A	475	U	Sidechain
10	A	476	G	Sidechain
10	A	488	G	Sidechain
10	A	505	A	Sidechain
10	A	532	A	Sidechain
10	A	542	C	Sidechain
10	A	543	C	Sidechain
10	A	562	U	Sidechain
10	A	570	G	Sidechain
10	A	588	U	Sidechain
10	A	669	G	Sidechain
10	A	670	A	Sidechain

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Mol	Chain	Res	Type	Group
10	A	692	C	Sidechain
10	A	700	G	Sidechain
10	A	734	A	Sidechain
10	A	74	A	Sidechain
10	A	79	G	Sidechain
10	A	802	A	Sidechain
10	A	810	U	Sidechain
10	A	939	G	Sidechain
10	A	968	G	Sidechain
10	A	987	G	Sidechain

5.2 Close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	650	0	654	71	0
2	1	693	0	764	182	0
3	2	421	0	461	124	0
4	3	468	0	523	53	0
5	4	242	0	103	22	0
6	5	459	0	480	75	0
7	6	381	0	390	59	0
8	7	419	0	467	35	0
9	8	508	0	576	110	0
10	A	59708	0	30099	2489	0
11	B	2551	0	1295	106	0
12	C	1142	0	865	109	0
13	D	2105	0	2182	357	0
14	E	1564	0	1629	325	0
15	F	1624	0	1677	237	0
16	G	1474	0	1534	231	0
17	H	1223	0	1282	199	0
18	I	1132	0	1218	198	0
19	N	1105	0	1180	209	0
20	O	933	0	996	136	0
21	P	1114	0	1187	322	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
22	Q	1080	0	1127	224	0
23	R	960	0	1021	171	0
24	S	771	0	832	182	0
25	T	1142	0	1202	219	0
26	U	958	0	1015	183	0
27	V	779	0	851	212	0
28	W	896	0	953	111	0
29	X	726	0	778	203	0
30	Y	776	0	870	220	0
31	Z	1404	0	1432	219	0
All	All	89408	0	59643	6918	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 47.

All (6918) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:I:79:ILE:HG12	18:I:140:LEU:HD11	1.21	1.17
10:A:2128:C:H2'	10:A:2129:C:H5''	1.28	1.16
10:A:1590:U:H2'	10:A:1591:G:H5''	1.29	1.15
10:A:2701:C:H3'	10:A:2702:U:H5''	1.24	1.15
27:V:70:ILE:HB	27:V:90:PRO:HB2	1.20	1.15
29:X:72:LYS:HG3	29:X:74:PRO:HD3	1.23	1.14
13:D:79:VAL:HG21	13:D:111:LEU:HD11	1.28	1.14
10:A:1332:G:H22	10:A:1609:A:H2'	1.05	1.14
30:Y:46:LYS:H	30:Y:62:GLU:HG2	1.02	1.14
21:P:146:VAL:HG22	21:P:147:LEU:H	1.11	1.12
27:V:28:GLU:HG3	27:V:29:PRO:HD3	1.25	1.12
24:S:89:ARG:HA	24:S:89:ARG:HE	1.02	1.12
21:P:126:VAL:HA	21:P:145:PRO:HB2	1.25	1.12
24:S:28:VAL:HG12	24:S:29:PHE:H	1.11	1.11
25:T:28:VAL:HG22	25:T:47:GLY:H	1.11	1.11
2:I:20:ARG:HD3	2:I:41:ARG:HD3	1.33	1.11
19:N:65:LYS:HE2	19:N:65:LYS:HA	1.25	1.11
10:A:2491:U:H5'	10:A:2570:G:H5''	1.24	1.11
10:A:2781:A:H5'	10:A:2782:G:H5''	1.19	1.10
10:A:1826:G:H4'	13:D:242:ARG:HH21	0.95	1.10
30:Y:15:VAL:HG12	30:Y:16:ALA:H	1.07	1.10
10:A:996:A:H4'	26:U:92:ARG:HE	0.97	1.10
10:A:612:C:H2'	10:A:613:G:H5''	1.26	1.10
21:P:45:LEU:HD23	21:P:46:LYS:H	1.10	1.10
24:S:17:ARG:HA	24:S:20:ARG:HE	1.15	1.09

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:35:LYS:HD3	13:D:63:ARG:HB3	1.21	1.09
29:X:60:ARG:HG2	29:X:74:PRO:HD2	1.26	1.09
15:F:53:THR:HG22	15:F:56:GLU:HB2	1.32	1.09
4:3:6:VAL:HG13	4:3:54:VAL:HG11	1.25	1.09
2:1:16:ASN:HB3	2:1:46:LEU:HG	1.35	1.09
10:A:1484:G:H2'	10:A:1485:G:H5''	1.34	1.09
10:A:2562:U:H1'	20:O:23:ARG:NH1	1.68	1.08
2:1:13:ILE:HG21	2:1:63:ALA:HB2	1.27	1.08
10:A:2562:U:H1'	20:O:23:ARG:HH12	1.14	1.08
10:A:2175:C:H2'	10:A:2176:A:H5''	1.29	1.08
3:2:16:LEU:H	3:2:18:PRO:HD2	1.11	1.08
12:C:58:VAL:HG21	12:C:166:ASP:H	0.95	1.08
15:F:3:GLU:HG3	15:F:19:GLU:HB2	1.34	1.08
14:E:52:LEU:HB2	14:E:76:ARG:HB2	1.26	1.08
9:8:62:LEU:HD13	10:A:242:G:H5''	1.33	1.08
25:T:91:ARG:HB3	25:T:116:ALA:HA	1.36	1.07
21:P:45:LEU:HD23	21:P:46:LYS:N	1.70	1.07
21:P:59:LEU:HA	21:P:61:ARG:NH1	1.70	1.06
3:2:49:LYS:HD2	3:2:53:LEU:HD13	1.34	1.06
10:A:145:G:H2'	10:A:146:G:H5''	1.33	1.06
18:I:77:LEU:HD21	18:I:101:LEU:HD13	1.33	1.06
29:X:36:LYS:HZ2	29:X:39:ILE:HA	1.10	1.05
10:A:2415:G:H4'	21:P:67:MET:H	0.95	1.05
22:Q:82:ARG:HH11	22:Q:82:ARG:HG2	1.14	1.05
31:Z:151:HIS:HB3	31:Z:170:THR:HA	1.36	1.05
10:A:2415:G:H4'	21:P:67:MET:N	1.71	1.05
10:A:954:G:H4'	22:Q:13:GLN:HE21	1.21	1.05
10:A:49:A:H4'	10:A:50:U:H5'	1.35	1.04
10:A:145:G:C2'	10:A:146:G:H5''	1.87	1.04
16:G:111:LEU:HA	16:G:114:ILE:HG12	1.38	1.04
10:A:2758:A:H2'	10:A:2759:G:H5''	1.35	1.04
24:S:74:ALA:HB1	24:S:103:GLU:HG3	1.36	1.04
28:W:25:ARG:HH11	28:W:25:ARG:HB2	1.23	1.04
29:X:36:LYS:NZ	29:X:39:ILE:HA	1.72	1.03
30:Y:8:LYS:HD2	30:Y:8:LYS:H	1.23	1.03
31:Z:145:GLU:HG3	31:Z:146:ILE:H	1.18	1.03
23:R:56:LYS:HD2	23:R:88:ARG:HA	1.39	1.03
29:X:65:ARG:HE	29:X:65:ARG:HA	1.22	1.03
10:A:2712:U:O2'	10:A:2712(A):A:H5''	1.59	1.03
24:S:89:ARG:NE	24:S:89:ARG:HA	1.72	1.02
25:T:27:THR:O	25:T:28:VAL:HG23	1.59	1.02
10:A:2762:G:H2'	10:A:2763:G:H5''	1.37	1.02

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:28:LYS:O	30:Y:38:ILE:HB	1.59	1.02
29:X:65:ARG:NE	29:X:65:ARG:HA	1.74	1.02
24:S:89:ARG:CA	24:S:89:ARG:HE	1.73	1.01
30:Y:37:VAL:HG23	30:Y:38:ILE:H	1.21	1.01
20:O:47:ILE:HG13	20:O:48:PRO:HD2	1.37	1.01
23:R:38:VAL:HB	23:R:39:PRO:HD3	1.40	1.01
10:A:2103:C:H3'	10:A:2104:G:H5''	1.41	1.01
10:A:2129:C:H2'	10:A:2130:U:H4'	1.39	1.01
22:Q:11:LYS:HE2	22:Q:85:LYS:HG2	1.42	1.01
19:N:39:ARG:HE	19:N:41:ASP:HB2	1.24	1.01
16:G:161:THR:HG22	16:G:163:ALA:H	1.18	1.01
10:A:1879:C:H2'	10:A:1880:C:H5''	1.41	1.01
2:1:64:ALA:HA	2:1:67:ILE:HG13	1.40	1.00
10:A:571:A:H5'	10:A:2030:A:H62	1.20	1.00
10:A:1578:U:H2'	10:A:1579:A:H5''	1.41	1.00
4:3:8:LEU:HD11	4:3:31:LEU:HD23	1.41	1.00
17:H:41:MET:HB3	17:H:43:VAL:HG13	1.39	1.00
31:Z:69:THR:HG22	31:Z:90:VAL:HA	1.42	1.00
18:I:9:LEU:H	18:I:13:GLY:HA2	1.24	1.00
10:A:612:C:C2'	10:A:613:G:H5''	1.91	1.00
10:A:2464:C:HO2'	10:A:2465:C:H6	1.02	1.00
14:E:117:MET:HA	14:E:122:PHE:H	1.26	1.00
21:P:24:GLY:HA3	21:P:33:ARG:HH21	1.27	1.00
12:C:58:VAL:HG21	12:C:166:ASP:N	1.77	0.99
25:T:29:ARG:HD3	25:T:86:ILE:HG22	1.40	0.99
20:O:64:ARG:HD3	20:O:101:PRO:HB2	1.44	0.99
19:N:42:TRP:HB2	26:U:64:ARG:CZ	1.91	0.99
17:H:13:LYS:HE2	17:H:13:LYS:HA	1.45	0.99
14:E:201:THR:HG22	14:E:203:LYS:H	1.20	0.99
2:1:19:GLN:HE21	10:A:379:G:H21	1.05	0.98
10:A:2533:A:H2'	10:A:2534:A:H5''	1.41	0.98
12:C:168:THR:HA	12:C:173:ALA:HB2	1.45	0.98
6:5:4:HIS:HB3	6:5:5:PRO:HD3	1.43	0.98
2:1:47:GLN:HG2	10:A:2230:G:H1'	1.02	0.98
10:A:1884:A:H2'	10:A:1885:A:H5''	1.40	0.98
18:I:110:ASP:HB2	18:I:113:ARG:HB2	1.45	0.98
18:I:76:THR:HG22	18:I:139:GLN:HB3	1.44	0.98
17:H:96:ALA:HB2	17:H:105:LEU:HB3	1.43	0.98
10:A:2262:U:C2'	10:A:2263:C:H5''	1.93	0.98
2:1:47:GLN:CG	10:A:2230:G:H1'	1.94	0.97
10:A:92:A:H2'	10:A:93:G:H8	1.27	0.97
30:Y:90:LEU:HG	30:Y:91:GLU:H	1.25	0.97

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:C:46:LYS:HE2	12:C:46:LYS:HA	1.47	0.97
11:B:7:G:H3'	11:B:8:U:H5''	1.43	0.97
15:F:22:ALA:HA	15:F:26:ALA:HB2	1.47	0.97
16:G:82:LEU:HD22	16:G:87:PRO:HG3	1.47	0.97
13:D:174:ILE:H	13:D:174:ILE:HD12	1.30	0.97
31:Z:151:HIS:HA	31:Z:171:ILE:HG12	1.46	0.96
10:A:598:G:H5'	21:P:15:ARG:HD2	1.43	0.96
15:F:78:ILE:HD13	15:F:78:ILE:H	1.26	0.96
10:A:2681:C:H5	10:A:2725:A:H62	1.12	0.96
21:P:16:ARG:HH11	21:P:18:ARG:HB2	1.31	0.96
31:Z:39:VAL:HG23	31:Z:40:ASP:N	1.80	0.96
17:H:152:ARG:HB3	17:H:161:GLY:HA2	1.46	0.96
16:G:76:SER:HB3	16:G:84:LYS:H	1.29	0.96
10:A:2679:A:O2'	10:A:2680:C:H5'	1.66	0.96
10:A:1948:G:H5'	10:A:1948:G:H8	1.30	0.96
10:A:1590:U:C2'	10:A:1591:G:H5''	1.95	0.95
25:T:28:VAL:CG2	25:T:47:GLY:H	1.78	0.95
10:A:1689:A:H62	10:A:1698:A:H2	0.98	0.95
10:A:1826:G:H4'	13:D:242:ARG:NH2	1.81	0.95
31:Z:6:LYS:H	31:Z:6:LYS:HD3	1.28	0.95
13:D:147:LEU:HD13	13:D:155:LEU:HD11	1.47	0.95
29:X:60:ARG:HE	29:X:74:PRO:HG3	1.31	0.95
29:X:77:LYS:HD3	29:X:78:LYS:HD2	1.49	0.95
10:A:1717:G:H2'	10:A:1718:G:H5''	1.48	0.95
31:Z:79:ARG:HD2	31:Z:79:ARG:H	1.30	0.95
29:X:12:VAL:HG11	29:X:27:THR:HG23	1.45	0.95
3:2:23:LYS:HB2	29:X:5:TYR:HE1	1.31	0.95
10:A:2175:C:C2'	10:A:2176:A:H5''	1.96	0.95
10:A:1779:U:H5	10:A:1784:A:N7	1.63	0.95
19:N:43:THR:O	19:N:46:VAL:HG12	1.66	0.95
31:Z:152:ALA:HB1	31:Z:167:PRO:HB2	1.48	0.95
30:Y:46:LYS:N	30:Y:62:GLU:HG2	1.81	0.95
10:A:2359:C:H2'	10:A:2360:A:H5'	1.46	0.95
10:A:2036:C:H6	10:A:2036:C:H5'	1.31	0.94
10:A:2893:G:H5'	10:A:2894:G:H5'	1.49	0.94
27:V:15:GLU:HB3	27:V:16:PRO:CD	1.97	0.94
21:P:95:VAL:HA	21:P:99:LEU:HD23	1.49	0.94
3:2:55:ARG:NH1	10:A:72:U:H5'	1.82	0.94
10:A:996:A:H4'	26:U:92:ARG:NE	1.81	0.94
30:Y:95:LYS:HG2	30:Y:101:LYS:H	1.33	0.94
13:D:35:LYS:HG2	13:D:64:ILE:N	1.82	0.94
17:H:16:SER:HB2	17:H:27:LYS:HB2	1.47	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:V:19:LYS:NZ	27:V:20:LEU:H	1.65	0.94
19:N:55:VAL:HG12	19:N:126:PRO:HA	1.49	0.94
15:F:3:GLU:HB2	15:F:20:LEU:H	1.33	0.94
19:N:73:THR:O	19:N:75:TYR:N	2.01	0.94
10:A:287:C:N4	10:A:354:G:H1	1.65	0.94
15:F:24:LEU:HB3	15:F:25:PRO:HD2	1.47	0.94
10:A:2206:G:H21	10:A:2207:G:H5'	1.32	0.94
14:E:14:ILE:HD11	14:E:173:VAL:HG11	1.49	0.94
21:P:16:ARG:HG2	21:P:18:ARG:H	1.31	0.93
9:8:59:LYS:HD3	21:P:50:ARG:HB3	1.50	0.93
10:A:1019:U:H3	10:A:1142(A):A:H62	1.11	0.93
3:2:32:LEU:HG	3:2:33:MET:H	1.28	0.93
13:D:17:THR:CG2	13:D:205:VAL:HB	1.99	0.93
10:A:2639:A:H2'	10:A:2640:G:H5''	1.48	0.93
20:O:22:ILE:HG12	20:O:41:ALA:HA	1.50	0.93
6:5:55:ARG:HG3	6:5:56:LYS:H	1.33	0.93
13:D:27:THR:HG23	13:D:28:GLU:H	1.34	0.93
28:W:6:ILE:HG12	28:W:104:THR:HG23	1.50	0.93
10:A:286:C:H2'	10:A:287:C:H5''	1.51	0.93
22:Q:30:GLY:HA2	22:Q:107:ALA:HB2	1.47	0.93
22:Q:75:THR:HG21	22:Q:85:LYS:HE3	1.51	0.93
30:Y:95:LYS:HB3	30:Y:100:ALA:HA	1.49	0.93
3:2:41:ILE:HG12	10:A:94(A):G:N2	1.84	0.93
31:Z:39:VAL:HG23	31:Z:40:ASP:H	1.32	0.93
9:8:32:LEU:C	9:8:34:TRP:H	1.68	0.92
10:A:2128:C:C2'	10:A:2129:C:H5''	1.99	0.92
26:U:64:ARG:HA	26:U:64:ARG:NE	1.83	0.92
27:V:19:LYS:HG3	27:V:20:LEU:N	1.81	0.92
10:A:329:G:H1	30:Y:19:LYS:HE3	1.35	0.92
18:I:144:VAL:HG12	18:I:145:VAL:H	1.35	0.92
26:U:90:VAL:HG12	26:U:91:ASP:H	1.35	0.92
29:X:53:LYS:HE3	29:X:55:ASN:HD21	1.32	0.92
14:E:77:ILE:HG22	14:E:78:LEU:H	1.35	0.92
21:P:58:THR:O	21:P:61:ARG:NE	2.02	0.92
22:Q:43:THR:HA	22:Q:94:VAL:HG12	1.51	0.92
31:Z:158:PRO:HG2	31:Z:161:VAL:HG21	1.51	0.92
10:A:2781:A:C5'	10:A:2782:G:H5'	2.00	0.92
13:D:27:THR:HG21	13:D:83:GLU:HG2	1.50	0.92
29:X:12:VAL:HG12	29:X:27:THR:O	1.70	0.92
17:H:44:VAL:HG12	17:H:45:VAL:H	1.34	0.92
31:Z:10:ARG:HH21	31:Z:26:GLY:H	1.13	0.91
20:O:101:PRO:O	20:O:102:VAL:HG13	1.70	0.91

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2012:G:H4'	28:W:96:ILE:HD11	1.53	0.91
17:H:92:ILE:HG22	17:H:93:GLY:H	1.34	0.91
2:1:26:ARG:HB2	2:1:34:THR:HA	1.50	0.91
13:D:186:HIS:HD2	13:D:188:GLU:H	1.16	0.91
26:U:24:TYR:HB2	26:U:29:SER:HB3	1.52	0.91
15:F:101:LEU:HD12	15:F:102:PRO:HD2	1.51	0.91
15:F:139:PHE:HB2	15:F:166:ALA:HB1	1.49	0.91
10:A:860:U:H5	10:A:917:A:N7	1.69	0.91
2:1:47:GLN:HG2	10:A:2230:G:C1'	1.98	0.91
20:O:19:ILE:HG22	20:O:43:VAL:HA	1.52	0.91
7:6:33:LYS:HE2	7:6:33:LYS:HA	1.51	0.91
10:A:1224:C:O3'	27:V:88:ARG:HB3	1.69	0.91
10:A:1301:A:O2'	10:A:1302:A:H2'	1.68	0.91
28:W:59:VAL:HG12	28:W:60:ASN:N	1.86	0.91
10:A:914:C:H2'	10:A:915:C:H5'	1.52	0.91
10:A:1332:G:H22	10:A:1609:A:C2'	1.83	0.91
24:S:85:VAL:HG23	24:S:106:ARG:HB2	1.52	0.91
25:T:40:THR:O	25:T:41:ARG:HB2	1.68	0.91
10:A:2636:U:O2'	10:A:2637:U:H5''	1.71	0.91
13:D:34:VAL:HG21	13:D:103:ARG:HA	1.49	0.91
2:1:13:ILE:HG21	2:1:63:ALA:CB	2.00	0.91
13:D:27:THR:O	13:D:29:PRO:HD2	1.71	0.90
21:P:75:ILE:N	21:P:75:ILE:HD13	1.86	0.90
18:I:38:LEU:H	18:I:38:LEU:HD12	1.35	0.90
10:A:27:G:HO2'	10:A:28:A:H8	0.97	0.90
31:Z:15:PRO:O	31:Z:19:ARG:HG3	1.71	0.90
19:N:57:ALA:HB3	19:N:124:ALA:HA	1.53	0.90
17:H:127:GLU:HB3	17:H:128:PRO:HD2	1.50	0.90
30:Y:15:VAL:HG12	30:Y:16:ALA:N	1.87	0.90
10:A:1453:U:H5'	23:R:63:ARG:HE	1.35	0.90
19:N:9:VAL:HG12	19:N:10:GLU:H	1.34	0.90
26:U:31:SER:HB3	26:U:34:LYS:HB2	1.52	0.90
21:P:101:VAL:HG23	21:P:107:LYS:HA	1.53	0.90
13:D:35:LYS:HD3	13:D:63:ARG:CB	2.00	0.90
25:T:32:TYR:HD2	25:T:32:TYR:N	1.68	0.90
26:U:34:LYS:HA	26:U:34:LYS:HE2	1.54	0.90
23:R:45:ARG:HG3	23:R:46:GLY:H	1.37	0.90
25:T:32:TYR:CD2	25:T:32:TYR:N	2.40	0.90
21:P:23:PRO:HB2	21:P:33:ARG:HG3	1.53	0.90
2:1:27:GLU:HG2	2:1:32:LYS:HB2	1.54	0.90
15:F:66:PRO:O	15:F:67:GLN:HB3	1.70	0.90
10:A:676:A:H8	10:A:2069:G:H21	1.15	0.90

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1494:A:O2'	10:A:1495:A:H5''	1.71	0.90
10:A:2781:A:H5'	10:A:2782:G:C5'	2.02	0.90
30:Y:45:VAL:HA	30:Y:62:GLU:HB2	1.53	0.89
19:N:65:LYS:HD3	19:N:67:LEU:HG	1.53	0.89
2:1:47:GLN:HB2	10:A:397:G:H5''	1.53	0.89
18:I:129:THR:HG23	18:I:135:GLU:HB3	1.51	0.89
25:T:29:ARG:HB3	25:T:85:LYS:HA	1.50	0.89
29:X:27:THR:HB	29:X:78:LYS:N	1.86	0.89
10:A:389:G:H22	21:P:71:VAL:HG12	1.37	0.89
25:T:28:VAL:HG22	25:T:47:GLY:N	1.87	0.89
17:H:118:PRO:HG2	17:H:121:ILE:HB	1.55	0.89
24:S:98:VAL:HG13	24:S:100:ALA:H	1.37	0.89
31:Z:33:LEU:HD23	31:Z:90:VAL:HG21	1.53	0.89
27:V:22:VAL:O	27:V:23:GLU:HB2	1.72	0.89
21:P:131:SER:H	21:P:134:ALA:HB3	1.34	0.89
12:C:49:ILE:HD12	12:C:49:ILE:H	1.37	0.89
10:A:286:C:H42	10:A:355:G:H1	1.20	0.89
22:Q:127:ILE:HG22	22:Q:128:LYS:H	1.36	0.89
22:Q:43:THR:OG1	22:Q:46:GLN:HG3	1.71	0.89
4:3:8:LEU:CD1	4:3:31:LEU:HD23	2.03	0.89
10:A:1528(A):A:H3'	10:A:1529:G:H5''	1.55	0.89
27:V:15:GLU:HB3	27:V:16:PRO:HD2	1.52	0.89
27:V:21:ARG:H	27:V:21:ARG:HD3	1.36	0.89
10:A:2348:U:C2'	10:A:2349:G:H5''	2.02	0.89
10:A:1024:G:H3'	10:A:1025:G:H5''	1.53	0.89
10:A:1594:G:H8	10:A:1594:G:H5'	1.37	0.89
30:Y:46:LYS:H	30:Y:62:GLU:CG	1.86	0.89
16:G:76:SER:HB2	16:G:83:ARG:HB3	1.54	0.89
21:P:115:LEU:HA	21:P:134:ALA:HB2	1.54	0.89
18:I:71:ILE:HG13	18:I:72:LEU:HD22	1.55	0.89
25:T:55:ASN:HD22	25:T:58:ASN:HD21	1.21	0.89
31:Z:74:VAL:HG22	31:Z:86:VAL:HG13	1.53	0.88
21:P:101:VAL:HG13	21:P:102:ARG:H	1.36	0.88
31:Z:4:ARG:HG2	31:Z:58:VAL:HB	1.53	0.88
29:X:63:LYS:HE3	29:X:70:LEU:HD22	1.55	0.88
3:2:47:ASN:C	3:2:49:LYS:H	1.75	0.88
11:B:74:U:H2'	11:B:75:G:H5''	1.54	0.88
19:N:54:VAL:HB	19:N:122:VAL:HG22	1.55	0.88
10:A:259:G:H21	10:A:621:A:H8	1.21	0.88
2:1:13:ILE:HG23	2:1:14:VAL:H	1.34	0.88
10:A:1332:G:N2	10:A:1609:A:H2'	1.88	0.88
13:D:17:THR:HG23	13:D:205:VAL:H	1.35	0.88

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1614:A:H62	28:W:93:ALA:HB2	1.38	0.88
4:3:8:LEU:HA	4:3:54:VAL:HG22	1.56	0.88
10:A:191:A:O2'	10:A:192:C:H5'	1.74	0.88
14:E:75:VAL:C	14:E:77:ILE:H	1.76	0.88
13:D:64:ILE:HG12	13:D:64:ILE:O	1.73	0.88
10:A:2701:C:H3'	10:A:2702:U:C5'	2.03	0.88
10:A:1826:G:C4'	13:D:242:ARG:HH21	1.85	0.88
13:D:35:LYS:HG2	13:D:64:ILE:H	1.34	0.88
9:8:30:ARG:HH21	21:P:62:LEU:HB2	1.38	0.88
10:A:571:A:H5'	10:A:2030:A:N6	1.89	0.88
1:0:36:ILE:HD11	10:A:2355:C:H5'	1.55	0.88
10:A:2377:A:H4'	24:S:107:GLU:HB3	1.56	0.88
19:N:46:VAL:HG13	19:N:47:ALA:H	1.38	0.88
9:8:32:LEU:HB3	9:8:35:GLN:H	1.37	0.87
10:A:365:C:H5'	10:A:365:C:H6	1.39	0.87
30:Y:28:LYS:HA	30:Y:39:VAL:H	1.38	0.87
16:G:145:THR:HG23	16:G:148:MET:HB2	1.56	0.87
10:A:2758:A:C2'	10:A:2759:G:H5''	2.04	0.87
19:N:46:VAL:HG11	19:N:48:MET:HG3	1.56	0.87
10:A:1879:C:C2'	10:A:1880:C:H5''	2.04	0.87
10:A:2068:U:H3	10:A:2430:A:H2	1.17	0.87
10:A:2358:G:H1	21:P:55:ARG:HH22	1.18	0.87
10:A:1484:G:H2'	10:A:1485:G:C5'	2.05	0.87
10:A:2175:C:H1'	12:C:215:THR:HA	1.53	0.87
10:A:2472:G:H2'	10:A:2529:G:N2	1.90	0.87
30:Y:48:ALA:HB3	30:Y:59:GLY:H	1.37	0.87
10:A:2415:G:C4'	21:P:67:MET:H	1.85	0.87
6:5:20:ARG:HH12	28:W:15:ARG:CZ	1.87	0.87
21:P:112:LEU:H	21:P:128:HIS:CD2	1.92	0.87
10:A:956:G:OP2	22:Q:85:LYS:HD2	1.73	0.87
29:X:64:LYS:HG2	29:X:65:ARG:N	1.89	0.87
10:A:27:G:H22	10:A:512:G:H2'	1.40	0.87
27:V:83:ARG:HH11	27:V:83:ARG:HG2	1.39	0.87
13:D:102:LYS:O	13:D:103:ARG:HG2	1.75	0.87
19:N:24:GLY:O	19:N:28:THR:HG22	1.74	0.87
17:H:87:LEU:HD13	17:H:148:ILE:HG21	1.55	0.87
10:A:171:G:H2'	10:A:172:C:O4'	1.75	0.87
12:C:58:VAL:CG2	12:C:166:ASP:H	1.86	0.86
13:D:227:ASN:HB3	13:D:228:PRO:HD2	1.56	0.86
16:G:67:LYS:H	16:G:67:LYS:HD2	1.36	0.86
10:A:1902:C:H1'	13:D:244:ARG:HD3	1.56	0.86
3:2:47:ASN:HA	3:2:50:ILE:O	1.74	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2640:G:H5'	10:A:2640:G:H8	1.37	0.86
3:2:14:ARG:CZ	3:2:57:ILE:HG21	2.05	0.86
10:A:2762:G:C2'	10:A:2763:G:H5''	2.04	0.86
21:P:62:LEU:H	21:P:62:LEU:HD13	1.38	0.86
24:S:88:ASP:CG	24:S:89:ARG:H	1.76	0.86
29:X:65:ARG:CZ	29:X:66:LEU:H	1.87	0.86
19:N:126:PRO:O	19:N:127:ASP:HB2	1.75	0.86
10:A:2348:U:H2'	10:A:2349:G:H5''	1.55	0.86
22:Q:52:VAL:HG13	22:Q:53:ALA:H	1.39	0.86
24:S:13:ARG:O	24:S:15:ARG:HG2	1.74	0.86
4:3:6:VAL:CG1	4:3:54:VAL:HG11	2.06	0.86
10:A:141:A:H8	10:A:1408:C:HO2'	1.19	0.86
9:8:35:GLN:HA	10:A:2420:C:OP2	1.75	0.86
19:N:14:VAL:HA	19:N:135:PRO:HG2	1.56	0.86
18:I:88:ILE:HG22	18:I:89:TYR:H	1.41	0.86
29:X:36:LYS:HD2	29:X:36:LYS:O	1.75	0.86
29:X:33:LYS:C	29:X:35:THR:H	1.77	0.86
20:O:1:MET:HE3	20:O:67:LYS:HE2	1.57	0.86
13:D:44:ASN:HB2	13:D:48:ARG:O	1.75	0.86
27:V:89:GLN:HE21	27:V:90:PRO:HD2	1.39	0.86
14:E:51:PHE:HB3	14:E:76:ARG:HB3	1.58	0.86
10:A:2262:U:H2'	10:A:2263:C:H5''	1.58	0.86
17:H:19:VAL:HG21	17:H:44:VAL:HG13	1.58	0.86
15:F:32:LEU:HD21	15:F:105:VAL:HG13	1.56	0.86
18:I:133:HIS:HB2	18:I:134:PRO:CD	2.06	0.85
30:Y:8:LYS:NZ	30:Y:74:PRO:HD3	1.91	0.85
13:D:27:THR:HG23	13:D:28:GLU:N	1.89	0.85
13:D:35:LYS:NZ	13:D:104:TYR:HB2	1.91	0.85
10:A:451:C:H4'	15:F:52:LYS:NZ	1.90	0.85
14:E:154:LYS:HA	14:E:154:LYS:HE3	1.56	0.85
10:A:1840:G:H1	10:A:1902:C:H42	1.24	0.85
10:A:925:C:H2'	10:A:926:A:H5''	1.57	0.85
10:A:658:C:H2'	10:A:659:C:H5''	1.55	0.85
10:A:1884:A:C2'	10:A:1885:A:H5''	2.05	0.85
3:2:23:LYS:HB2	29:X:5:TYR:CE1	2.10	0.85
10:A:807:U:H2'	10:A:808:G:H8	1.39	0.85
3:2:14:ARG:NH2	3:2:57:ILE:HG21	1.91	0.85
27:V:19:LYS:HZ3	27:V:20:LEU:N	1.74	0.85
10:A:2308:G:O6	10:A:2310:A:H2'	1.76	0.85
26:U:88:ILE:C	26:U:90:VAL:H	1.76	0.85
15:F:206:ILE:O	15:F:206:ILE:HD12	1.76	0.85
9:8:14:VAL:HG11	9:8:22:VAL:HG13	1.59	0.85

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:1:26:ARG:CB	2:1:34:THR:HA	2.06	0.85
4:3:4:LEU:HD21	4:3:56:VAL:HG13	1.59	0.85
21:P:38:GLN:HG3	21:P:39:LYS:H	1.39	0.85
25:T:30:VAL:HG21	25:T:84:GLN:H	1.40	0.85
14:E:35:GLN:HE21	14:E:37:ARG:HE	1.20	0.85
14:E:77:ILE:HG22	14:E:78:LEU:N	1.91	0.85
18:I:72:LEU:HB3	18:I:138:ILE:HG12	1.59	0.85
1:0:20:ARG:HD3	1:0:20:ARG:N	1.89	0.85
10:A:2864:G:H5'	10:A:2864:G:H8	1.42	0.85
10:A:287:C:H42	10:A:354:G:H1	0.87	0.85
17:H:43:VAL:HG11	17:H:53:GLU:H	1.41	0.85
10:A:1948:G:H5'	10:A:1948:G:C8	2.12	0.85
14:E:36:ARG:HH21	14:E:88:GLY:HA3	1.42	0.85
22:Q:20:ALA:HB2	22:Q:99:PRO:HG2	1.59	0.85
10:A:814:C:H5''	27:V:86:GLY:HA3	1.58	0.85
13:D:267:SER:C	13:D:269:PHE:H	1.79	0.85
10:A:1131:G:HO2'	10:A:1132:A:H8	0.89	0.85
31:Z:12:GLY:O	31:Z:13:GLU:HG3	1.77	0.85
27:V:72:VAL:HG12	27:V:73:SER:H	1.41	0.84
29:X:60:ARG:HG2	29:X:74:PRO:CD	2.07	0.84
24:S:28:VAL:N	24:S:89:ARG:HD2	1.91	0.84
16:G:111:LEU:HA	16:G:114:ILE:CG1	2.07	0.84
10:A:106:C:H1'	30:Y:2:ARG:HE	1.41	0.84
9:8:51:ALA:C	9:8:53:PRO:HD2	1.97	0.84
13:D:27:THR:CG2	13:D:28:GLU:H	1.89	0.84
3:2:32:LEU:HG	3:2:33:MET:N	1.90	0.84
10:A:676:A:H2	10:A:802:A:H61	1.24	0.84
10:A:2599:G:C8	13:D:236:GLY:HA2	2.13	0.84
20:O:4:PRO:O	20:O:5:GLN:HB2	1.75	0.84
23:R:63:ARG:HA	23:R:80:PHE:CE2	2.12	0.84
10:A:2729:G:H2'	10:A:2730:C:H6	1.41	0.84
25:T:109:GLU:HB3	25:T:113:LYS:HE3	1.59	0.84
10:A:481:G:H1'	10:A:506:G:H21	1.41	0.84
24:S:28:VAL:HG12	24:S:29:PHE:N	1.92	0.84
2:1:89:GLU:CD	2:1:89:GLU:H	1.78	0.84
17:H:55:PRO:HG2	17:H:56:SER:H	1.43	0.84
3:2:30:ARG:HD2	3:2:30:ARG:H	1.43	0.84
14:E:24:THR:HG23	14:E:184:VAL:HG23	1.60	0.84
18:I:115:ALA:HB2	18:I:131:LYS:HE3	1.57	0.84
11:B:7:G:C3'	11:B:8:U:H5''	2.07	0.84
10:A:2723:C:H5''	23:R:2:ARG:CD	2.07	0.84
13:D:267:SER:HA	13:D:270:ILE:HG13	1.60	0.84

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:G:31:VAL:HG22	16:G:32:PRO:CD	2.07	0.84
19:N:42:TRP:N	26:U:64:ARG:HH21	1.74	0.84
10:A:1722:A:C2'	10:A:1739:U:H5''	2.06	0.84
31:Z:108:PRO:HB3	31:Z:142:SER:HA	1.59	0.84
29:X:60:ARG:HB2	29:X:72:LYS:O	1.78	0.84
9:8:6:THR:CG2	9:8:63:PRO:HD3	2.08	0.84
17:H:105:LEU:H	17:H:105:LEU:HD13	1.43	0.84
23:R:10:LEU:HB3	23:R:17:ARG:HD2	1.58	0.84
24:S:17:ARG:HA	24:S:20:ARG:NE	1.93	0.83
10:A:2747:G:O6	10:A:2755:C:H5''	1.78	0.83
22:Q:133:ARG:O	22:Q:134:ARG:HB2	1.77	0.83
10:A:1747(A):G:H2'	10:A:1748:G:H5''	1.59	0.83
29:X:30:VAL:HG12	29:X:31:HIS:H	1.40	0.83
23:R:28:LEU:HD12	23:R:48:VAL:HG21	1.60	0.83
10:A:1717:G:C2'	10:A:1718:G:H5''	2.08	0.83
27:V:28:GLU:CG	27:V:29:PRO:HD3	2.07	0.83
10:A:571:A:C5'	10:A:2030:A:H62	1.90	0.83
23:R:95:THR:HA	23:R:116:LEU:O	1.78	0.83
19:N:28:THR:HG23	19:N:29:LYS:H	1.44	0.83
15:F:143:ALA:HA	15:F:146:ALA:HB3	1.59	0.83
10:A:2206:G:N2	10:A:2207:G:H5'	1.92	0.83
15:F:181:LEU:HD11	15:F:186:ILE:HD11	1.59	0.83
16:G:86:MET:HG3	16:G:87:PRO:HD2	1.58	0.83
10:A:2359:C:C2'	10:A:2360:A:H5'	2.07	0.83
10:A:271(D):G:H1	10:A:271(T):C:H42	1.23	0.83
27:V:47:VAL:HG22	27:V:48:GLY:H	1.44	0.83
23:R:73:VAL:O	23:R:76:VAL:HG12	1.79	0.83
29:X:55:ASN:O	29:X:77:LYS:HB3	1.79	0.83
19:N:33:LEU:HD23	19:N:52:VAL:HG22	1.61	0.83
10:A:536:A:H2'	10:A:537:C:C6	2.14	0.83
27:V:70:ILE:CB	27:V:90:PRO:HB2	2.08	0.83
10:A:1348:G:H2'	10:A:1349:A:H5''	1.61	0.83
10:A:2753:A:O2'	10:A:2754:U:H5'	1.77	0.83
12:C:49:ILE:HG22	12:C:50:ASP:H	1.44	0.83
10:A:2599:G:H8	13:D:236:GLY:HA2	1.41	0.83
5:4:10:VAL:O	16:G:2:PRO:HG2	1.79	0.83
10:A:673:C:H5'	15:F:54:ARG:HH12	1.42	0.83
24:S:85:VAL:CG2	24:S:106:ARG:HB2	2.09	0.82
19:N:39:ARG:HE	19:N:41:ASP:CB	1.92	0.82
10:A:2189:U:H3'	10:A:2190:G:H5''	1.60	0.82
24:S:67:ARG:H	24:S:69:VAL:HG12	1.44	0.82
19:N:39:ARG:NE	19:N:41:ASP:HB2	1.94	0.82

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:92:ARG:HB2	27:V:11:GLN:NE2	1.93	0.82
30:Y:15:VAL:CG1	30:Y:16:ALA:H	1.89	0.82
30:Y:8:LYS:HB2	30:Y:28:LYS:HZ3	1.44	0.82
15:F:18:ARG:HG2	15:F:19:GLU:H	1.42	0.82
3:2:47:ASN:O	3:2:49:LYS:N	2.13	0.82
21:P:23:PRO:CB	21:P:33:ARG:HG3	2.09	0.82
22:Q:140:ALA:HB3	31:Z:53:ILE:HG13	1.60	0.82
25:T:109:GLU:HA	25:T:112:ARG:HG2	1.61	0.82
10:A:1353:A:H4'	13:D:38:LYS:HZ1	1.45	0.82
12:C:44:HIS:CD2	12:C:175:VAL:HA	2.13	0.82
9:8:18:ALA:HB3	10:A:651:G:H5''	1.60	0.82
3:2:48:HIS:NE2	10:A:75:G:H4'	1.94	0.82
10:A:2189:U:C3'	10:A:2190:G:H5''	2.10	0.82
26:U:92:ARG:O	26:U:94:ASN:N	2.11	0.82
27:V:70:ILE:HB	27:V:90:PRO:CB	2.08	0.82
10:A:1578:U:C2'	10:A:1579:A:H5''	2.09	0.82
31:Z:10:ARG:HH21	31:Z:26:GLY:N	1.78	0.82
10:A:543:C:H42	10:A:551:G:H1	1.27	0.82
10:A:2201:C:O2'	10:A:2202:C:H5'	1.79	0.82
10:A:1846:G:H5'	10:A:1847:A:OP2	1.79	0.82
10:A:2787:C:H1'	14:E:61:ARG:HB2	1.59	0.82
24:S:61:ASN:HD22	24:S:62:LYS:N	1.76	0.82
31:Z:10:ARG:NH2	31:Z:26:GLY:N	2.28	0.82
10:A:871:U:H4'	22:Q:69:PHE:CE2	2.15	0.82
10:A:2712:U:H1'	10:A:2712(A):A:C8	2.15	0.82
10:A:2533:A:C2'	10:A:2534:A:H5''	2.09	0.82
31:Z:10:ARG:HD2	31:Z:36:LYS:HB3	1.62	0.82
10:A:481:G:H1'	10:A:506:G:N2	1.94	0.82
11:B:80:U:H2'	11:B:81:G:H21	1.44	0.82
25:T:109:GLU:O	25:T:112:ARG:HG3	1.80	0.81
1:0:41:ARG:HD2	1:0:41:ARG:H	1.45	0.81
17:H:92:ILE:HG22	17:H:93:GLY:N	1.94	0.81
10:A:2287:A:H62	10:A:2344:U:H3	1.25	0.81
13:D:76:PRO:HG2	13:D:98:VAL:HG21	1.62	0.81
26:U:6:THR:HG21	26:U:10:ARG:NH2	1.95	0.81
18:I:81:VAL:HG11	18:I:88:ILE:HD12	1.62	0.81
5:4:6:HIS:HA	16:G:67:LYS:HE3	1.61	0.81
1:0:70:GLN:OE1	1:0:72:ARG:HD3	1.81	0.81
10:A:2312:U:H4'	16:G:71:THR:HG21	1.61	0.81
17:H:136:ILE:O	17:H:137:ASP:HB2	1.78	0.81
27:V:19:LYS:HB3	27:V:96:ILE:O	1.80	0.81
10:A:2426:A:H3'	10:A:2427:C:H5'	1.61	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:146:VAL:HG22	21:P:147:LEU:N	1.95	0.81
21:P:48:PRO:HG2	21:P:49:ARG:H	1.44	0.81
31:Z:149:SER:HB2	31:Z:172:ALA:O	1.80	0.81
16:G:31:VAL:HG22	16:G:32:PRO:HD2	1.63	0.81
27:V:62:LEU:HD22	27:V:98:GLU:HA	1.62	0.81
22:Q:52:VAL:HG13	22:Q:53:ALA:N	1.94	0.81
13:D:4:LYS:NZ	13:D:20:ASP:HA	1.96	0.81
9:8:25:MET:HG3	21:P:64:LYS:HB2	1.61	0.81
22:Q:82:ARG:NH1	22:Q:82:ARG:HG2	1.93	0.81
10:A:106:C:H1'	30:Y:2:ARG:NE	1.96	0.81
11:B:44:G:H1'	11:B:47:C:H42	1.46	0.81
25:T:89:VAL:CG1	25:T:91:ARG:HE	1.93	0.81
13:D:35:LYS:HZ1	13:D:104:TYR:HB2	1.46	0.81
9:8:49:VAL:O	9:8:53:PRO:HD3	1.81	0.81
11:B:74:U:C2'	11:B:75:G:H5''	2.10	0.81
10:A:2645:G:H3'	10:A:2646:C:H5'	1.61	0.81
28:W:25:ARG:NH1	28:W:25:ARG:HB2	1.96	0.81
10:A:1747(A):G:C2'	10:A:1748:G:H5''	2.11	0.81
10:A:2298:A:H2'	10:A:2299:G:O4'	1.80	0.81
27:V:71:LEU:HD13	27:V:72:VAL:N	1.96	0.80
21:P:100:LEU:O	21:P:102:ARG:N	2.14	0.80
3:2:44:LEU:C	3:2:46:GLN:H	1.80	0.80
8:7:19:ARG:HG2	8:7:19:ARG:HH11	1.44	0.80
10:A:1987:G:H8	10:A:1987:G:H5'	1.45	0.80
31:Z:53:ILE:HG22	31:Z:71:VAL:HB	1.62	0.80
21:P:71:VAL:HG12	21:P:72:PRO:HD3	1.62	0.80
18:I:79:ILE:HG12	18:I:140:LEU:CD1	2.07	0.80
9:8:25:MET:HB2	21:P:62:LEU:CD2	2.11	0.80
29:X:64:LYS:HG2	29:X:65:ARG:H	1.45	0.80
14:E:109:LYS:HB3	23:R:2:ARG:HH12	1.44	0.80
29:X:27:THR:HB	29:X:78:LYS:H	1.46	0.80
31:Z:10:ARG:NH2	31:Z:26:GLY:H	1.79	0.80
10:A:919:G:H5''	11:B:81:G:H1'	1.63	0.80
9:8:35:GLN:HE21	9:8:36:LYS:HZ2	1.26	0.80
10:A:1175:U:H4'	10:A:1176:G:H5'	1.63	0.80
6:5:32:PRO:O	6:5:33:CYS:HB3	1.80	0.80
10:A:639:U:H2'	10:A:640:C:C6	2.16	0.80
29:X:50:LYS:HB3	29:X:82:GLN:HB2	1.64	0.80
30:Y:37:VAL:O	30:Y:38:ILE:HB	1.82	0.80
30:Y:8:LYS:HB2	30:Y:28:LYS:NZ	1.97	0.80
10:A:780:G:H21	10:A:783:A:H62	1.29	0.80
14:E:60:ASN:OD1	14:E:62:PRO:HD2	1.82	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:229:A:H3'	10:A:230:U:H5'	1.64	0.80
10:A:2394:C:OP1	21:P:63:PRO:HD2	1.81	0.80
16:G:43:LEU:HD23	16:G:88:ILE:HG22	1.62	0.80
10:A:1341:U:C2	29:X:77:LYS:HE2	2.17	0.80
10:A:2348:U:H2'	10:A:2349:G:C5'	2.11	0.80
12:C:18:LYS:HD2	12:C:19:VAL:HG23	1.63	0.80
10:A:1378:A:O2'	10:A:1379:A:H5''	1.81	0.80
18:I:79:ILE:HB	18:I:142:VAL:HG13	1.63	0.80
25:T:80:SER:CB	25:T:81:PRO:HD3	2.11	0.80
10:A:541:C:H2'	10:A:542:C:C6	2.16	0.80
26:U:112:ARG:HG2	26:U:112:ARG:HH11	1.46	0.80
25:T:98:LYS:HB3	25:T:100:TYR:CE1	2.17	0.80
10:A:2577:A:H5''	10:A:2578:G:H5'	1.64	0.80
24:S:101:LEU:HD22	24:S:102:ALA:H	1.46	0.80
10:A:2245:U:H5'	10:A:2246:G:H5'	1.63	0.80
24:S:54:LEU:C	24:S:56:LEU:H	1.82	0.80
20:O:25:LEU:O	20:O:26:LYS:HG3	1.80	0.80
14:E:77:ILE:CG2	14:E:78:LEU:H	1.96	0.79
22:Q:75:THR:HB	22:Q:88:GLY:HA2	1.63	0.79
27:V:19:LYS:NZ	27:V:20:LEU:N	2.28	0.79
6:5:57:VAL:HG23	6:5:58:LEU:H	1.46	0.79
24:S:35:ILE:H	24:S:53:SER:HB2	1.47	0.79
19:N:83:LYS:HE2	19:N:85:ILE:HD11	1.63	0.79
16:G:60:LEU:O	16:G:64:THR:HG22	1.82	0.79
21:P:30:THR:HG22	21:P:31:ALA:H	1.46	0.79
24:S:61:ASN:HD22	24:S:61:ASN:C	1.82	0.79
13:D:255:LYS:HE3	13:D:255:LYS:H	1.48	0.79
21:P:6:LEU:HG	21:P:8:PRO:O	1.80	0.79
3:2:30:ARG:HH11	3:2:30:ARG:HG3	1.48	0.79
10:A:2729:G:H2'	10:A:2730:C:C6	2.17	0.79
10:A:1722:A:H2'	10:A:1739:U:H5''	1.63	0.79
10:A:2317:C:C2'	10:A:2318:G:H5'	2.12	0.79
29:X:76:ARG:O	29:X:77:LYS:HB2	1.82	0.79
27:V:19:LYS:HG3	27:V:20:LEU:H	1.47	0.79
2:1:18:ILE:HA	2:1:44:PRO:HD2	1.64	0.79
2:1:19:GLN:HG3	2:1:44:PRO:HG3	1.64	0.79
10:A:1485:G:H1'	10:A:1505:C:N4	1.98	0.79
6:5:4:HIS:HB3	6:5:5:PRO:CD	2.13	0.79
10:A:2530:A:H2'	10:A:2531:A:H5'	1.63	0.79
28:W:50:VAL:HG13	28:W:51:LEU:H	1.47	0.79
7:6:15:GLU:OE1	7:6:18:ARG:HG3	1.83	0.79
14:E:91:VAL:HG13	14:E:95:ILE:HD11	1.62	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:35:HIS:O	21:P:36:LYS:HG3	1.83	0.79
27:V:43:GLU:HA	27:V:48:GLY:CA	2.13	0.79
18:I:133:HIS:HB2	18:I:134:PRO:HD3	1.65	0.79
21:P:89:ALA:HB1	21:P:121:LYS:NZ	1.98	0.79
3:2:46:GLN:HG2	3:2:50:ILE:HG13	1.65	0.79
16:G:111:LEU:CA	16:G:114:ILE:HG12	2.11	0.79
10:A:1947:C:C2'	10:A:1948:G:H5''	2.13	0.79
22:Q:68:ILE:HG23	22:Q:103:MET:HA	1.65	0.79
15:F:46:ARG:HH11	15:F:46:ARG:HG3	1.46	0.79
27:V:70:ILE:HG12	27:V:71:LEU:N	1.97	0.79
10:A:1365:A:H2'	10:A:1366:A:H8	1.47	0.79
16:G:41:GLN:HG2	16:G:155:MET:HB3	1.65	0.79
17:H:148:ILE:O	17:H:151:ILE:HG12	1.83	0.79
10:A:1652:A:OP1	23:R:9:LYS:HD2	1.83	0.79
25:T:50:ILE:HD12	25:T:50:ILE:N	1.98	0.79
3:2:41:ILE:HG12	10:A:94(A):G:H21	1.45	0.79
10:A:2415:G:O3'	21:P:66:GLY:HA3	1.83	0.79
19:N:55:VAL:HG12	19:N:56:ASN:H	1.47	0.79
10:A:2639:A:C2'	10:A:2640:G:H5''	2.12	0.79
19:N:120:LEU:HD11	19:N:122:VAL:HG23	1.65	0.79
13:D:118:VAL:HG22	13:D:119:ALA:H	1.47	0.79
15:F:8:GLN:HB3	15:F:126:VAL:HA	1.65	0.79
20:O:87:ILE:HG23	20:O:91:LEU:HA	1.64	0.79
10:A:2876:G:H4'	25:T:3:ARG:HD3	1.65	0.79
2:1:19:GLN:H	2:1:44:PRO:HD3	1.48	0.78
10:A:1453:U:H5'	23:R:63:ARG:NE	1.97	0.78
20:O:69:ILE:HD13	20:O:77:ILE:HG23	1.65	0.78
21:P:47:ASP:HB3	21:P:48:PRO:CA	2.11	0.78
10:A:1577:C:H2'	10:A:1578:U:C6	2.18	0.78
10:A:528:A:C2	10:A:2043:C:H4'	2.18	0.78
13:D:25:THR:HG21	13:D:81:ALA:HB1	1.66	0.78
10:A:1484:G:C2'	10:A:1485:G:H5''	2.13	0.78
18:I:9:LEU:HB2	18:I:12:LEU:O	1.84	0.78
27:V:19:LYS:HG2	27:V:96:ILE:HB	1.65	0.78
21:P:131:SER:HB2	21:P:134:ALA:H	1.47	0.78
10:A:482:A:H4'	30:Y:47:LYS:NZ	1.97	0.78
10:A:1902:C:O2'	13:D:244:ARG:HB2	1.83	0.78
30:Y:8:LYS:HZ1	30:Y:74:PRO:HD3	1.46	0.78
10:A:2746:U:H4'	17:H:138:LYS:HD3	1.64	0.78
1:0:23:VAL:HA	1:0:38:VAL:HG22	1.66	0.78
20:O:35:VAL:HG11	20:O:103:ALA:HB3	1.63	0.78
10:A:2579:C:H4'	14:E:134:ILE:HD12	1.63	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:92:TYR:CD1	24:S:93:LYS:N	2.52	0.78
2:1:19:GLN:OE1	2:1:44:PRO:HB3	1.82	0.78
21:P:59:LEU:HA	21:P:61:ARG:CZ	2.14	0.78
9:8:27:THR:HA	21:P:62:LEU:HD11	1.65	0.78
10:A:2729:G:H1'	14:E:187:ALA:HB2	1.64	0.78
9:8:43:GLN:C	9:8:44:LYS:HD2	2.04	0.78
8:7:12:ARG:HD3	8:7:46:VAL:HG21	1.65	0.78
29:X:58:HIS:O	29:X:59:VAL:HG13	1.83	0.78
13:D:79:VAL:HG21	13:D:111:LEU:CD1	2.13	0.78
19:N:46:VAL:HG13	19:N:47:ALA:N	1.98	0.78
10:A:969:U:H2'	10:A:970:C:C6	2.18	0.78
13:D:176:ARG:HG2	13:D:176:ARG:HH11	1.48	0.78
17:H:85:LYS:HD3	17:H:133:VAL:HB	1.66	0.78
10:A:1353:A:H4'	13:D:38:LYS:NZ	1.97	0.78
10:A:2283:C:H2'	10:A:2284:C:H5'	1.64	0.78
15:F:65:TRP:HZ3	15:F:75:HIS:HD2	1.32	0.78
14:E:100:GLU:O	14:E:172:VAL:HG23	1.84	0.78
30:Y:28:LYS:HB2	30:Y:37:VAL:C	2.04	0.78
9:8:32:LEU:C	9:8:34:TRP:N	2.36	0.78
10:A:622:G:O2'	10:A:623:G:H5'	1.83	0.78
1:0:27:GLU:HG3	1:0:68:GLU:HA	1.64	0.78
7:6:20:ASN:ND2	7:6:21:TYR:H	1.80	0.78
26:U:83:LEU:HB3	26:U:88:ILE:CD1	2.13	0.78
13:D:79:VAL:CG2	13:D:111:LEU:HD11	2.10	0.78
13:D:25:THR:O	13:D:27:THR:N	2.17	0.78
11:B:74:U:C3'	11:B:75:G:H5''	2.14	0.78
15:F:39:TRP:O	15:F:43:LYS:HG2	1.83	0.78
13:D:4:LYS:HZ1	13:D:20:ASP:HA	1.49	0.78
10:A:1805:U:O2	13:D:50:THR:HB	1.84	0.78
10:A:2052:G:H4'	14:E:143:ASN:O	1.84	0.78
21:P:65:ARG:NH1	21:P:65:ARG:HB2	1.98	0.78
28:W:10:VAL:O	28:W:11:ARG:HB2	1.82	0.78
12:C:64:LEU:HD13	12:C:65:PRO:HD2	1.64	0.78
21:P:17:LYS:C	21:P:19:VAL:H	1.87	0.77
30:Y:87:LYS:O	30:Y:88:LYS:HB2	1.85	0.77
29:X:61:GLY:O	29:X:70:LEU:HB3	1.83	0.77
12:C:44:HIS:HD2	12:C:175:VAL:HA	1.49	0.77
10:A:1665:A:C2'	10:A:1666:G:H5'	2.14	0.77
10:A:2262:U:O2'	10:A:2263:C:H5''	1.84	0.77
13:D:24:ILE:O	13:D:24:ILE:HG23	1.84	0.77
10:A:1639:U:O2'	10:A:1640:C:H5''	1.84	0.77
24:S:17:ARG:C	24:S:19:LYS:H	1.83	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:205:ARG:O	15:F:206:ILE:HG23	1.84	0.77
17:H:43:VAL:CG1	17:H:53:GLU:H	1.97	0.77
24:S:37:ALA:HB2	24:S:99:LYS:NZ	1.99	0.77
3:2:34:GLU:O	3:2:36:ARG:N	2.18	0.77
23:R:11:ASN:OD1	23:R:12:ARG:N	2.17	0.77
10:A:1518:U:H2'	10:A:1519:G:O4'	1.85	0.77
24:S:27:SER:HB3	24:S:89:ARG:NH1	1.99	0.77
4:3:8:LEU:CD1	4:3:31:LEU:HA	2.14	0.77
29:X:34:ALA:O	29:X:36:LYS:HG3	1.84	0.77
10:A:286:C:C2'	10:A:287:C:H5''	2.15	0.77
10:A:1019:U:H3	10:A:1142(A):A:N6	1.80	0.77
13:D:106:ILE:HD11	13:D:196:VAL:HG13	1.66	0.77
13:D:8:PRO:HB3	13:D:14:ARG:HB2	1.65	0.77
13:D:102:LYS:C	13:D:103:ARG:HG2	2.05	0.77
31:Z:151:HIS:HB3	31:Z:170:THR:CA	2.14	0.77
10:A:955:C:H5'	10:A:956:G:OP2	1.84	0.77
17:H:40:GLU:O	17:H:41:MET:HB2	1.85	0.77
20:O:64:ARG:CZ	25:T:70:VAL:HG21	2.14	0.77
10:A:271(U):G:O2'	10:A:271(V):G:H5'	1.85	0.77
2:1:17:SER:C	2:1:18:ILE:HD12	2.05	0.77
2:1:13:ILE:CG2	2:1:63:ALA:HB2	2.11	0.77
21:P:66:GLY:O	21:P:67:MET:C	2.23	0.77
19:N:42:TRP:N	26:U:64:ARG:NH2	2.32	0.77
10:A:528:A:H5''	19:N:114:ARG:HH12	1.50	0.77
6:5:29:THR:HG21	10:A:2814:C:O2'	1.85	0.77
18:I:127:VAL:HG22	18:I:139:GLN:HG3	1.65	0.77
30:Y:10:GLY:HA2	30:Y:27:VAL:HG13	1.67	0.77
3:2:16:LEU:N	3:2:18:PRO:HD2	1.95	0.77
21:P:47:ASP:OD1	21:P:49:ARG:HB2	1.84	0.77
31:Z:126:VAL:HG12	31:Z:163:LEU:HA	1.66	0.77
27:V:43:GLU:HA	27:V:48:GLY:HA3	1.66	0.77
10:A:1490:A:H5'	10:A:1491:G:OP2	1.84	0.77
10:A:483:A:H8	30:Y:47:LYS:HZ3	1.32	0.77
19:N:46:VAL:CG1	19:N:48:MET:HG3	2.15	0.77
10:A:1141:U:H2'	19:N:63:THR:HG22	1.64	0.77
10:A:292:C:H42	10:A:348:G:H1	1.32	0.77
18:I:98:ALA:HB1	18:I:109:ILE:HD13	1.67	0.77
17:H:68:THR:HA	17:H:71:LEU:HB2	1.67	0.77
6:5:20:ARG:NH1	28:W:15:ARG:CZ	2.48	0.77
10:A:658:C:C2'	10:A:659:C:H5''	2.14	0.77
10:A:784:A:H5'	10:A:785:G:OP1	1.85	0.77
16:G:64:THR:HG23	16:G:65:GLY:H	1.50	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:33:LEU:HD23	19:N:52:VAL:CG2	2.14	0.77
15:F:65:TRP:CZ3	15:F:75:HIS:HD2	2.02	0.77
28:W:29:LEU:HD21	28:W:33:ARG:HH21	1.49	0.77
10:A:811:U:H3'	21:P:25:SER:O	1.84	0.77
10:A:2009:G:N3	23:R:107:ASP:HA	1.99	0.77
15:F:57:VAL:HG12	15:F:58:ALA:N	1.98	0.77
10:A:1899:G:H22	10:A:1902:C:H41	1.33	0.76
13:D:63:ARG:HH11	13:D:63:ARG:HG3	1.49	0.76
29:X:56:THR:HA	29:X:77:LYS:HB2	1.67	0.76
10:A:621:A:H2'	10:A:622:G:H5'	1.66	0.76
24:S:34:HIS:HB3	24:S:53:SER:HB3	1.68	0.76
18:I:88:ILE:HG22	18:I:89:TYR:N	2.00	0.76
19:N:66:LYS:HA	19:N:69:GLN:HB2	1.67	0.76
30:Y:37:VAL:HG23	30:Y:38:ILE:N	1.99	0.76
2:1:46:LEU:HD12	2:1:46:LEU:H	1.49	0.76
21:P:24:GLY:CA	21:P:33:ARG:HH21	1.98	0.76
10:A:2555:U:H2'	10:A:2556:C:H5'	1.65	0.76
15:F:148:LEU:HD21	15:F:191:ARG:HH11	1.49	0.76
21:P:7:ARG:HB3	21:P:8:PRO:HD3	1.67	0.76
10:A:2801(A):A:HO2'	10:A:2803:C:H5	1.31	0.76
11:B:6:C:HO2'	24:S:29:PHE:HE1	1.29	0.76
20:O:63:VAL:HG23	20:O:64:ARG:N	1.99	0.76
16:G:23:PHE:HZ	16:G:171:ALA:HB3	1.50	0.76
27:V:73:SER:HB2	27:V:75:PHE:CE1	2.20	0.76
25:T:65:LYS:NZ	25:T:65:LYS:HA	2.00	0.76
4:3:6:VAL:HG13	4:3:54:VAL:CG1	2.13	0.76
17:H:44:VAL:HG12	17:H:45:VAL:N	2.01	0.76
19:N:57:ALA:HB2	19:N:123:TYR:O	1.85	0.76
10:A:1169:G:H1	10:A:1180:C:H42	1.30	0.76
8:7:43:THR:HG23	8:7:44:PRO:HD2	1.68	0.76
27:V:2:PHE:HB3	27:V:42:GLY:HA2	1.68	0.76
10:A:539:G:H2'	10:A:540:C:H6	1.51	0.76
1:0:32:ARG:H	1:0:35:ASN:ND2	1.84	0.76
31:Z:5:LEU:HD13	31:Z:43:GLU:HB3	1.66	0.76
10:A:1947:C:H2'	10:A:1948:G:H5''	1.68	0.76
29:X:56:THR:C	29:X:57:LEU:HD12	2.05	0.76
19:N:131:GLN:HE22	19:N:134:ARG:HA	1.51	0.76
10:A:2307:G:H21	10:A:2308:G:C5'	1.97	0.76
10:A:2810:A:H2'	14:E:61:ARG:NH2	2.01	0.76
14:E:26:ILE:HD12	14:E:196:VAL:HG21	1.66	0.76
10:A:2180:U:H2'	10:A:2181:G:C8	2.20	0.76
13:D:76:PRO:HG2	13:D:98:VAL:CG2	2.15	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:G:42:GLY:C	16:G:43:LEU:HD22	2.06	0.76
22:Q:47:ILE:HG12	22:Q:68:ILE:HD11	1.67	0.76
2:1:53:VAL:HG21	2:1:74:VAL:HG21	1.67	0.76
27:V:69:LYS:HG3	27:V:70:ILE:H	1.50	0.75
15:F:25:PRO:HB3	15:F:119:ARG:HB2	1.68	0.75
3:2:55:ARG:H	3:2:56:GLN:HE21	1.32	0.75
22:Q:85:LYS:HG3	22:Q:86:GLY:N	2.00	0.75
17:H:37:VAL:HG12	17:H:38:SER:H	1.49	0.75
10:A:1141:U:H2'	19:N:63:THR:CG2	2.15	0.75
27:V:43:GLU:H	27:V:48:GLY:HA2	1.51	0.75
10:A:2845:G:O2'	10:A:2846:G:H5'	1.85	0.75
25:T:100:TYR:HD2	25:T:103:ARG:HH21	1.34	0.75
10:A:451:C:H4'	15:F:52:LYS:HZ2	1.49	0.75
31:Z:125:LEU:HD23	31:Z:126:VAL:N	2.01	0.75
19:N:55:VAL:CG1	19:N:126:PRO:HA	2.16	0.75
3:2:33:MET:HG2	29:X:11:PRO:HD2	1.66	0.75
22:Q:23:GLY:O	22:Q:100:GLY:HA3	1.85	0.75
10:A:2632:A:H1'	14:E:61:ARG:NH1	2.01	0.75
10:A:1799:G:H4'	10:A:1800:C:O5'	1.86	0.75
3:2:44:LEU:C	3:2:46:GLN:N	2.39	0.75
3:2:52:ASP:O	3:2:53:LEU:C	2.25	0.75
7:6:20:ASN:HD22	7:6:21:TYR:H	1.34	0.75
1:0:32:ARG:H	1:0:35:ASN:HD21	1.35	0.75
10:A:1509(A):A:H2'	10:A:1509(B):A:H8	1.51	0.75
17:H:85:LYS:NZ	17:H:145:ALA:HA	2.02	0.75
21:P:71:VAL:CG1	21:P:72:PRO:HD3	2.16	0.75
15:F:46:ARG:HG3	15:F:46:ARG:NH1	2.00	0.75
25:T:92:GLY:HA2	25:T:114:LEU:HA	1.69	0.75
29:X:33:LYS:C	29:X:35:THR:N	2.38	0.75
6:5:40:LYS:CD	6:5:46:CYS:HB3	2.16	0.75
10:A:1038:C:H42	10:A:1117:G:H1	1.33	0.75
29:X:59:VAL:HG23	29:X:74:PRO:HG2	1.68	0.75
2:1:86:SER:N	2:1:87:PRO:HD3	2.01	0.75
16:G:161:THR:HG22	16:G:163:ALA:N	1.97	0.75
31:Z:53:ILE:CG2	31:Z:71:VAL:HB	2.15	0.75
13:D:14:ARG:HG2	13:D:14:ARG:HH11	1.50	0.75
10:A:2468:G:H22	10:A:2481:G:H2'	1.50	0.75
21:P:105:LEU:O	21:P:106:LEU:HB2	1.85	0.75
21:P:95:VAL:HG23	21:P:125:VAL:HG23	1.68	0.75
10:A:2468:G:N2	10:A:2481:G:H2'	2.00	0.75
14:E:79:ARG:HH11	14:E:79:ARG:HG2	1.52	0.75
7:6:41:PRO:HG2	7:6:44:ARG:O	1.86	0.75

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:8:35:GLN:HE21	9:8:36:LYS:NZ	1.84	0.75
10:A:807:U:H2'	10:A:808:G:C8	2.21	0.75
31:Z:116:VAL:HG13	31:Z:117:LEU:HD23	1.69	0.75
13:D:75:ILE:O	13:D:118:VAL:HG23	1.87	0.75
11:B:29:A:H2'	11:B:30:C:C6	2.22	0.74
1:0:36:ILE:HD11	10:A:2355:C:C5'	2.17	0.74
10:A:782:A:H5'	10:A:783:A:C2	2.22	0.74
17:H:98:LEU:HD13	17:H:125:VAL:HG23	1.68	0.74
24:S:78:LEU:HD11	24:S:103:GLU:HB3	1.68	0.74
1:0:51:VAL:HG21	1:0:80:HIS:HA	1.67	0.74
10:A:1639:U:C2'	10:A:1640:C:H5''	2.17	0.74
10:A:2707:G:H5''	23:R:68:ARG:NH2	2.02	0.74
10:A:2506:U:H4'	10:A:2507:C:OP1	1.86	0.74
10:A:271(P):C:H2'	10:A:271(Q):G:C8	2.21	0.74
18:I:69:LYS:HA	18:I:136:VAL:CG2	2.16	0.74
10:A:2645:G:H3'	10:A:2646:C:C5'	2.14	0.74
21:P:85:LEU:CD2	21:P:85:LEU:H	2.00	0.74
10:A:2635:C:OP1	14:E:77:ILE:HG21	1.87	0.74
10:A:1899:G:N2	10:A:1902:C:H41	1.85	0.74
10:A:1887:C:C3'	10:A:1888:G:H5''	2.17	0.74
10:A:361:G:H2'	10:A:362:U:H5''	1.69	0.74
10:A:1396:U:H2'	10:A:1396:U:O2	1.88	0.74
14:E:93:VAL:C	14:E:95:ILE:H	1.87	0.74
10:A:1689:A:N6	10:A:1698:A:H2	1.81	0.74
21:P:84:ASN:HA	21:P:115:LEU:O	1.88	0.74
30:Y:75:ILE:CD1	30:Y:76:CYS:H	2.00	0.74
29:X:21:PHE:H	29:X:21:PHE:HD1	1.34	0.74
10:A:858:U:O2	10:A:2268:A:H2'	1.88	0.74
15:F:157:VAL:HG23	15:F:194:MET:HB3	1.67	0.74
10:A:2810:A:H2'	14:E:61:ARG:HH21	1.53	0.74
10:A:1798:U:H5'	13:D:259:THR:HG22	1.67	0.74
29:X:60:ARG:NE	29:X:74:PRO:HG3	2.01	0.74
10:A:1484:G:H21	10:A:1505:C:H41	1.34	0.74
10:A:2327:A:H2'	10:A:2328:A:C8	2.23	0.74
30:Y:28:LYS:HE2	30:Y:30:VAL:HG22	1.68	0.74
9:8:52:LYS:N	9:8:53:PRO:CD	2.50	0.74
17:H:102:ALA:HB2	17:H:117:PRO:HB3	1.68	0.74
19:N:128:HIS:CD2	19:N:131:GLN:HB2	2.23	0.74
10:A:2110:G:H1	10:A:2179:C:H42	1.32	0.74
26:U:87:GLY:O	26:U:88:ILE:HG23	1.88	0.74
26:U:64:ARG:CA	26:U:64:ARG:NE	2.51	0.74
14:E:111:ARG:HA	23:R:2:ARG:HB3	1.68	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:84:VAL:HG12	15:F:85:GLY:N	2.03	0.74
13:D:142:VAL:HG23	13:D:192:THR:C	2.08	0.73
10:A:1879:C:C3'	10:A:1880:C:H5''	2.18	0.73
10:A:587:C:C5	21:P:33:ARG:HG2	2.23	0.73
22:Q:130:LYS:HD2	31:Z:80:ARG:NH1	2.03	0.73
10:A:17:G:H4'	26:U:25:TRP:CH2	2.23	0.73
19:N:58:ASP:C	19:N:60:ILE:H	1.90	0.73
29:X:63:LYS:HD2	29:X:70:LEU:HD13	1.67	0.73
10:A:2632:A:HI1'	14:E:61:ARG:HH12	1.52	0.73
14:E:38:THR:HG22	14:E:40:GLU:H	1.51	0.73
30:Y:15:VAL:HG12	30:Y:17:SER:H	1.53	0.73
10:A:1598:C:H5'	29:X:37:THR:HB	1.69	0.73
21:P:85:LEU:HD23	21:P:85:LEU:H	1.53	0.73
10:A:1751:C:O2'	10:A:1752:C:H5'	1.88	0.73
8:7:48:LYS:HE3	10:A:125:G:H21	1.53	0.73
30:Y:17:SER:CB	30:Y:71:LYS:HD2	2.18	0.73
10:A:61:G:H1	10:A:94:C:H42	1.35	0.73
10:A:925:C:C2'	10:A:926:A:H5''	2.17	0.73
14:E:11:MET:HB3	14:E:24:THR:HA	1.70	0.73
30:Y:76:CYS:O	30:Y:78:ALA:N	2.22	0.73
10:A:1708:C:H2'	10:A:1709:U:H6	1.53	0.73
3:2:55:ARG:N	3:2:56:GLN:HE21	1.86	0.73
19:N:55:VAL:HG12	19:N:56:ASN:N	2.03	0.73
10:A:171:G:H2'	10:A:172:C:C4'	2.18	0.73
31:Z:139:VAL:HG12	31:Z:141:VAL:HG12	1.71	0.73
25:T:61:PHE:CE2	25:T:76:PHE:HB2	2.23	0.73
29:X:40:LYS:O	29:X:42:ALA:N	2.20	0.73
31:Z:18:LEU:O	31:Z:21:ALA:N	2.22	0.73
17:H:46:GLU:O	17:H:47:GLU:HB2	1.86	0.73
21:P:138:LEU:HD13	21:P:142:GLY:HA3	1.70	0.73
11:B:20:C:C2'	11:B:21:G:H5''	2.18	0.73
10:A:997:G:OP1	26:U:93:LYS:HD3	1.88	0.73
21:P:102:ARG:O	21:P:102:ARG:HD2	1.87	0.73
2:1:67:ILE:N	2:1:68:PRO:HD2	2.04	0.73
26:U:64:ARG:CA	26:U:64:ARG:HE	2.00	0.73
22:Q:140:ALA:CB	31:Z:99:TYR:HB2	2.19	0.73
29:X:89:ILE:HA	29:X:92:LEU:HD12	1.69	0.73
1:0:72:ARG:HB3	1:0:75:LEU:HB2	1.67	0.73
6:5:29:THR:O	6:5:42:PRO:HD3	1.88	0.73
30:Y:31:LEU:HB3	30:Y:32:PRO:HA	1.70	0.73
25:T:80:SER:HB3	25:T:81:PRO:HD3	1.70	0.73
14:E:2:LYS:HD3	14:E:95:ILE:HG22	1.69	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:2:49:LYS:HB3	3:2:53:LEU:HD22	1.69	0.73
10:A:8:A:H2'	10:A:9:U:C6	2.23	0.73
10:A:1012:U:O4	19:N:28:THR:HG21	1.89	0.73
28:W:29:LEU:O	28:W:33:ARG:HG3	1.87	0.73
10:A:212:G:O2'	10:A:213:A:H5'	1.89	0.73
16:G:112:PRO:C	16:G:113:ARG:HA	2.09	0.73
10:A:1635:G:H8	10:A:1635:G:H5'	1.54	0.73
2:1:85:LEU:C	2:1:87:PRO:HD3	2.09	0.73
29:X:31:HIS:ND1	29:X:32:PRO:HD2	2.03	0.73
10:A:143:G:H2'	10:A:143(A):C:H6	1.53	0.73
14:E:109:LYS:CB	23:R:2:ARG:HH12	2.00	0.73
7:6:32:ASN:CG	7:6:33:LYS:H	1.91	0.73
10:A:2822:G:H2'	10:A:2823:A:H5''	1.69	0.73
21:P:62:LEU:HD22	21:P:62:LEU:N	2.04	0.73
15:F:103:LYS:HA	15:F:106:ARG:HG3	1.71	0.73
16:G:19:LEU:HD22	16:G:23:PHE:CE1	2.24	0.73
10:A:2502:G:H5''	10:A:2503:A:H5''	1.69	0.73
2:1:92:LYS:C	2:1:94:LEU:H	1.90	0.73
16:G:67:LYS:N	16:G:67:LYS:HD2	2.04	0.73
10:A:1822:G:H5'	10:A:1822:G:H8	1.52	0.73
10:A:1221(A):C:O2'	10:A:1222:C:H5'	1.89	0.73
10:A:847:U:H2'	10:A:848:G:H5''	1.69	0.73
10:A:2884:U:H2'	10:A:2885:C:H5'	1.68	0.73
10:A:1903:G:OP2	13:D:241:PRO:HB2	1.89	0.72
16:G:39:ILE:HD13	16:G:155:MET:CE	2.19	0.72
17:H:141:VAL:HG12	17:H:142:GLY:N	2.04	0.72
1:0:41:ARG:HD3	1:0:44:ARG:HD2	1.69	0.72
18:I:93:THR:HG22	18:I:119:PRO:HB3	1.71	0.72
10:A:132:G:H5'	10:A:132:G:H8	1.52	0.72
30:Y:8:LYS:N	30:Y:8:LYS:HD2	2.03	0.72
21:P:16:ARG:NH1	21:P:18:ARG:HB2	2.04	0.72
21:P:64:LYS:O	21:P:66:GLY:N	2.20	0.72
1:0:36:ILE:HD11	10:A:2355:C:C4'	2.19	0.72
10:A:344:G:H5'	10:A:344:G:H8	1.54	0.72
16:G:94:LEU:N	16:G:94:LEU:HD23	2.05	0.72
10:A:2749:A:H1'	17:H:63:SER:OG	1.89	0.72
6:5:2:ALA:HA	10:A:2015:A:C1'	2.20	0.72
13:D:30:GLU:HG3	13:D:63:ARG:CZ	2.19	0.72
2:1:26:ARG:NH2	2:1:28:GLY:HA2	2.04	0.72
10:A:1509(A):A:H2'	10:A:1509(B):A:C8	2.24	0.72
17:H:154:PRO:HG2	17:H:155:SER:H	1.54	0.72
10:A:1188:U:C2'	10:A:1189:A:H5'	2.19	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:12:ARG:O	26:U:15:LYS:HG2	1.89	0.72
10:A:1937:A:O2'	10:A:1938:A:H5'	1.88	0.72
10:A:1593:G:C2'	10:A:1594:G:H5''	2.19	0.72
30:Y:27:VAL:HG12	30:Y:29:GLU:H	1.54	0.72
10:A:2313:C:H2'	10:A:2314:C:H6	1.55	0.72
31:Z:61:LEU:HB2	31:Z:65:GLN:HB2	1.71	0.72
6:5:55:ARG:HG3	6:5:56:LYS:N	2.03	0.72
6:5:40:LYS:CE	6:5:46:CYS:HB3	2.19	0.72
12:C:45:ALA:CB	12:C:210:ARG:HA	2.19	0.72
10:A:1899:G:H22	10:A:1902:C:N4	1.87	0.72
3:2:41:ILE:O	3:2:42:GLY:C	2.28	0.72
15:F:101:LEU:HD12	15:F:102:PRO:CD	2.20	0.72
23:R:78:LYS:O	23:R:82:GLU:HB3	1.89	0.72
10:A:1594:G:C8	10:A:1594:G:H5'	2.24	0.72
29:X:65:ARG:CZ	29:X:66:LEU:N	2.52	0.72
28:W:75:TYR:HD1	28:W:75:TYR:N	1.88	0.72
22:Q:34:LEU:C	22:Q:34:LEU:HD12	2.10	0.72
17:H:106:THR:HG22	17:H:112:PRO:HB3	1.70	0.72
10:A:2836:U:H2'	10:A:2837:G:H8	1.55	0.72
26:U:64:ARG:HA	26:U:64:ARG:HE	1.54	0.72
19:N:42:TRP:H	26:U:64:ARG:HH21	1.36	0.72
3:2:32:LEU:O	3:2:33:MET:HB2	1.87	0.72
18:I:58:LEU:HD23	18:I:58:LEU:O	1.89	0.72
10:A:419:C:H2'	10:A:420:C:H6	1.54	0.72
10:A:1262:A:P	28:W:99:ARG:HH12	2.13	0.72
26:U:83:LEU:HB3	26:U:88:ILE:HG12	1.70	0.72
21:P:122:PRO:HB3	21:P:141:ALA:HB1	1.72	0.72
25:T:89:VAL:HG11	25:T:91:ARG:HE	1.53	0.72
9:8:25:MET:HB2	21:P:62:LEU:HD23	1.71	0.72
13:D:154:LYS:C	13:D:155:LEU:HD12	2.10	0.72
10:A:1779:U:C5	10:A:1784:A:N7	2.53	0.72
23:R:9:LYS:O	23:R:10:LEU:HG	1.88	0.72
22:Q:75:THR:HA	22:Q:88:GLY:HA2	1.71	0.72
21:P:30:THR:HG22	21:P:31:ALA:N	2.04	0.72
11:B:15:A:H3'	11:B:16:G:H5'	1.71	0.72
7:6:45:LYS:HZ1	10:A:2370:G:H21	1.37	0.72
18:I:109:ILE:HD12	18:I:109:ILE:H	1.55	0.71
21:P:146:VAL:CG2	21:P:147:LEU:H	1.93	0.71
14:E:36:ARG:HH21	14:E:88:GLY:CA	2.03	0.71
2:1:60:PHE:HD1	2:1:70:VAL:HG22	1.54	0.71
29:X:65:ARG:NH2	29:X:66:LEU:H	1.87	0.71
10:A:1188:U:O2'	10:A:1189:A:H5'	1.89	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:20:ALA:HB1	17:H:21:PRO:CD	2.19	0.71
10:A:2859:G:H2'	10:A:2860:A:C8	2.25	0.71
7:6:28:ARG:HG2	7:6:28:ARG:HH11	1.55	0.71
10:A:1502:C:H2'	10:A:1502:C:O2	1.90	0.71
27:V:75:PHE:CE1	27:V:89:GLN:HB3	2.25	0.71
17:H:144:VAL:HG12	17:H:144:VAL:O	1.88	0.71
17:H:67:LEU:O	17:H:71:LEU:HD13	1.90	0.71
24:S:101:LEU:HD13	24:S:102:ALA:N	2.05	0.71
16:G:16:ARG:O	16:G:20:ILE:HG13	1.89	0.71
31:Z:150:LEU:H	31:Z:150:LEU:HD13	1.55	0.71
22:Q:75:THR:HA	22:Q:89:ASN:H	1.55	0.71
23:R:116:LEU:O	23:R:117:VAL:HB	1.90	0.71
3:2:32:LEU:CG	3:2:33:MET:H	1.99	0.71
28:W:84:ARG:HB2	28:W:96:ILE:HG22	1.72	0.71
19:N:31:ALA:HA	19:N:34:LEU:HD23	1.72	0.71
1:0:51:VAL:CG2	1:0:80:HIS:HA	2.19	0.71
10:A:2180:U:H2'	10:A:2181:G:H8	1.55	0.71
31:Z:117:LEU:HA	31:Z:174:VAL:HA	1.72	0.71
29:X:33:LYS:O	29:X:35:THR:N	2.24	0.71
29:X:65:ARG:CA	29:X:65:ARG:NE	2.52	0.71
19:N:41:ASP:N	26:U:64:ARG:HH21	1.89	0.71
17:H:41:MET:SD	17:H:55:PRO:HD3	2.30	0.71
10:A:2680:C:H2'	10:A:2681:C:O2	1.90	0.71
10:A:2362:G:O2'	10:A:2363:C:H5'	1.90	0.71
1:0:25:ARG:HD2	1:0:29:GLN:HE22	1.54	0.71
6:5:2:ALA:HA	10:A:2015:A:H1'	1.70	0.71
27:V:69:LYS:HG3	27:V:70:ILE:N	2.05	0.71
4:3:31:LEU:HD12	10:A:1157:G:O2'	1.90	0.71
2:1:15:ALA:O	2:1:46:LEU:HD23	1.90	0.71
22:Q:47:ILE:CG1	22:Q:68:ILE:HD11	2.20	0.71
2:1:26:ARG:HH21	2:1:28:GLY:HA2	1.55	0.71
10:A:271(G):C:H2'	10:A:271(H):G:H8	1.54	0.71
10:A:541:C:H2'	10:A:542:C:C5	2.24	0.71
1:0:77:ARG:NH2	10:A:857:C:H5'	2.06	0.71
28:W:40:ASN:O	28:W:41:LYS:HG2	1.89	0.71
10:A:1286:A:H2'	10:A:1288:U:OP2	1.90	0.71
9:8:23:VAL:HG12	9:8:46:ARG:HH11	1.55	0.71
30:Y:17:SER:HB2	30:Y:71:LYS:HD2	1.69	0.71
13:D:35:LYS:HD2	13:D:104:TYR:CD1	2.26	0.71
9:8:25:MET:CG	21:P:64:LYS:HB2	2.20	0.71
31:Z:118:GLN:O	31:Z:120:ILE:HG12	1.91	0.71
14:E:111:ARG:HA	23:R:2:ARG:CG	2.21	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:31:LEU:HB3	30:Y:32:PRO:CA	2.19	0.71
10:A:884:C:O2'	10:A:892:G:C8	2.42	0.71
10:A:1503:U:H2'	10:A:1504:C:C6	2.25	0.71
10:A:2312:U:O3'	16:G:71:THR:HG21	1.90	0.71
10:A:2307:G:H21	10:A:2308:G:H5'	1.55	0.71
10:A:2834:G:H5'	10:A:2835:A:OP2	1.90	0.71
1:O:77:ARG:HH22	10:A:857:C:H5'	1.55	0.71
13:D:35:LYS:HD2	13:D:104:TYR:CE1	2.25	0.71
10:A:142:A:C8	10:A:1408:C:H1'	2.25	0.71
30:Y:90:LEU:HG	30:Y:91:GLU:N	2.04	0.71
13:D:267:SER:C	13:D:269:PHE:N	2.43	0.71
29:X:77:LYS:CD	29:X:78:LYS:HD2	2.20	0.71
10:A:154:G:H1	10:A:172:C:N4	1.87	0.71
20:O:87:ILE:CG2	20:O:91:LEU:HA	2.21	0.71
25:T:48:ILE:O	25:T:63:VAL:HA	1.90	0.71
18:I:91:SER:H	18:I:121:LYS:HE3	1.56	0.71
26:U:91:ASP:O	26:U:95:LEU:HB2	1.90	0.71
27:V:73:SER:N	27:V:88:ARG:HH22	1.87	0.71
13:D:35:LYS:HG2	13:D:64:ILE:HG23	1.73	0.71
13:D:186:HIS:CD2	13:D:188:GLU:H	2.06	0.71
10:A:2736:G:H5'	10:A:2736:G:H8	1.56	0.71
2:1:21:ARG:HD3	2:1:22:GLY:H	1.56	0.71
26:U:92:ARG:HD2	27:V:11:GLN:CG	2.20	0.71
13:D:92:ILE:HD13	13:D:104:TYR:HD2	1.53	0.71
21:P:58:THR:O	21:P:61:ARG:CZ	2.38	0.71
10:A:549:G:C3'	10:A:551:G:H5''	2.20	0.71
11:B:44:G:H1'	11:B:47:C:N4	2.06	0.71
10:A:2023:G:H5'	10:A:2617:C:H4'	1.73	0.71
10:A:80:G:O2'	10:A:81:G:H5'	1.91	0.71
10:A:1358:G:O2'	10:A:1359:A:H5''	1.90	0.71
10:A:2689:U:H5''	10:A:2690:C:H5'	1.72	0.71
30:Y:81:LYS:CD	30:Y:96:ILE:HB	2.21	0.70
10:A:154:G:H1	10:A:172:C:H42	1.39	0.70
27:V:47:VAL:HG22	27:V:48:GLY:N	2.05	0.70
3:2:25:VAL:C	3:2:27:GLU:H	1.91	0.70
24:S:28:VAL:CG1	24:S:29:PHE:H	1.95	0.70
30:Y:8:LYS:CE	30:Y:72:VAL:HG23	2.21	0.70
13:D:35:LYS:CD	13:D:63:ARG:HB3	2.12	0.70
17:H:20:ALA:HB1	17:H:21:PRO:HD2	1.73	0.70
29:X:60:ARG:HG3	29:X:72:LYS:H	1.56	0.70
20:O:16:ALA:HA	20:O:46:ALA:HA	1.72	0.70
24:S:37:ALA:HB2	24:S:99:LYS:HZ1	1.52	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2591:C:H2'	10:A:2592:G:C8	2.26	0.70
21:P:144:GLU:N	21:P:145:PRO:HD3	2.05	0.70
10:A:146:G:H2'	10:A:147:U:O4'	1.91	0.70
22:Q:82:ARG:O	22:Q:83:MET:HB2	1.91	0.70
10:A:879:G:H1	10:A:898:C:N4	1.90	0.70
21:P:33:ARG:O	21:P:34:GLY:C	2.29	0.70
10:A:27:G:N2	10:A:512:G:H2'	2.05	0.70
10:A:676:A:H8	10:A:2069:G:N2	1.89	0.70
10:A:1131:G:O2'	10:A:1132:A:H8	1.68	0.70
13:D:131:LEU:HB2	13:D:136:ILE:HD11	1.73	0.70
30:Y:43:ASN:ND2	30:Y:64:GLU:HG3	2.05	0.70
18:I:78:THR:HA	18:I:141:LYS:O	1.92	0.70
21:P:17:LYS:O	21:P:19:VAL:N	2.23	0.70
2:1:78:LYS:NZ	2:1:93:GLU:HB2	2.07	0.70
11:B:15:A:H5'	11:B:16:G:C8	2.26	0.70
27:V:80:GLN:O	27:V:81:TYR:N	2.24	0.70
21:P:124:LYS:HA	21:P:143:GLY:HA3	1.73	0.70
2:1:19:GLN:NE2	10:A:379:G:H21	1.85	0.70
18:I:1:MET:HG3	18:I:23:PRO:HA	1.72	0.70
10:A:1112:G:H1'	10:A:1113:U:OP1	1.91	0.70
25:T:91:ARG:CB	25:T:116:ALA:HA	2.19	0.70
21:P:16:ARG:HG3	21:P:16:ARG:HH11	1.56	0.70
29:X:36:LYS:HD3	29:X:38:GLU:HB2	1.72	0.70
21:P:62:LEU:N	21:P:62:LEU:HD13	2.05	0.70
20:O:64:ARG:NH1	25:T:70:VAL:HG21	2.06	0.70
23:R:2:ARG:HD2	23:R:2:ARG:O	1.92	0.70
27:V:35:LEU:HD22	27:V:61:VAL:HA	1.73	0.70
22:Q:43:THR:HG1	22:Q:46:GLN:HG3	1.56	0.70
10:A:1666:G:O3'	20:O:6:THR:HG23	1.91	0.70
18:I:75:LEU:HD21	18:I:105:HIS:ND1	2.06	0.70
8:7:7:PRO:HB2	10:A:1309:G:H4'	1.73	0.70
26:U:91:ASP:O	26:U:92:ARG:O	2.08	0.70
14:E:167:VAL:HG11	14:E:187:ALA:O	1.91	0.70
22:Q:132:VAL:HG11	31:Z:81:ARG:CZ	2.22	0.70
16:G:165:THR:HB	16:G:167:GLU:OE1	1.91	0.70
31:Z:141:VAL:HG23	31:Z:144:LEU:HD23	1.73	0.70
11:B:20:C:H2'	11:B:21:G:H5''	1.74	0.70
23:R:64:ARG:HA	23:R:67:LEU:HD23	1.72	0.70
26:U:83:LEU:HB3	26:U:88:ILE:CG1	2.22	0.70
24:S:90:GLY:O	24:S:92:TYR:HD1	1.75	0.70
30:Y:8:LYS:CD	30:Y:8:LYS:H	1.98	0.70
2:1:62:VAL:HG13	2:1:64:ALA:H	1.56	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:8:30:ARG:NH2	21:P:62:LEU:HB2	2.07	0.70
10:A:911:A:H2'	22:Q:9:TYR:OH	1.92	0.70
23:R:62:ALA:O	23:R:66:VAL:HG23	1.91	0.70
23:R:38:VAL:HB	23:R:39:PRO:CD	2.19	0.70
10:A:598:G:C5'	21:P:15:ARG:HD2	2.22	0.70
31:Z:162:GLU:HG3	31:Z:162:GLU:O	1.90	0.70
28:W:34:ASN:O	28:W:37:ARG:HB3	1.92	0.70
21:P:80:TYR:CZ	21:P:111:ARG:HG2	2.27	0.70
10:A:2784:C:H2'	10:A:2785:C:H6	1.56	0.70
10:A:320:A:H2'	15:F:136:THR:OG1	1.91	0.70
26:U:92:ARG:HD2	27:V:11:GLN:HG3	1.73	0.70
25:T:33:LYS:HA	25:T:33:LYS:HZ2	1.57	0.70
10:A:1240:U:O2'	10:A:1241:A:H5'	1.92	0.70
3:2:46:GLN:NE2	3:2:47:ASN:HA	2.06	0.70
10:A:1722:A:C2	10:A:1740:G:H2'	2.27	0.70
16:G:96:ARG:O	16:G:99:MET:HB3	1.91	0.70
17:H:12:PRO:O	17:H:15:VAL:HG22	1.91	0.70
10:A:2866:U:C6	10:A:2868:A:H1'	2.27	0.70
24:S:87:PHE:O	24:S:88:ASP:HB2	1.92	0.69
17:H:136:ILE:HD12	17:H:136:ILE:H	1.57	0.69
21:P:24:GLY:HA2	21:P:33:ARG:HE	1.56	0.69
28:W:75:TYR:CD1	28:W:75:TYR:N	2.60	0.69
10:A:1987:G:C8	10:A:1987:G:H5'	2.25	0.69
10:A:2197:U:O2'	10:A:2198:A:H5''	1.91	0.69
10:A:1140:C:H1'	10:A:1143:A:C2	2.27	0.69
24:S:89:ARG:O	24:S:92:TYR:HB3	1.91	0.69
15:F:34:TRP:HB2	21:P:10:PRO:O	1.92	0.69
2:1:13:ILE:O	2:1:14:VAL:HB	1.91	0.69
15:F:23:ASP:O	15:F:24:LEU:HD22	1.91	0.69
9:8:61:LEU:HB3	10:A:593:G:H4'	1.74	0.69
10:A:2317:C:H2'	10:A:2318:G:H5'	1.74	0.69
10:A:1803:A:H4'	13:D:259:THR:CG2	2.22	0.69
14:E:38:THR:HG23	14:E:39:PRO:HD2	1.73	0.69
10:A:1547:C:O2'	10:A:1548:C:H5'	1.92	0.69
21:P:146:VAL:HG13	21:P:147:LEU:HG	1.74	0.69
30:Y:28:LYS:HD2	30:Y:37:VAL:HG12	1.72	0.69
2:1:64:ALA:HA	2:1:67:ILE:CG1	2.20	0.69
29:X:18:TYR:HA	29:X:21:PHE:CE1	2.27	0.69
22:Q:47:ILE:HD12	22:Q:47:ILE:H	1.57	0.69
10:A:27:G:H1'	10:A:513:A:H62	1.57	0.69
12:C:49:ILE:HG22	12:C:50:ASP:N	2.06	0.69
10:A:2682:U:O4	10:A:2728:U:H1'	1.92	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:203:C:H3'	10:A:204:A:H5''	1.74	0.69
18:I:83:ALA:HA	18:I:89:TYR:CD1	2.26	0.69
10:A:1162:G:H1'	27:V:91:TYR:OH	1.92	0.69
21:P:96:THR:O	21:P:99:LEU:HB3	1.92	0.69
15:F:123:LEU:HD12	15:F:124:LEU:N	2.08	0.69
14:E:11:MET:CB	14:E:24:THR:HA	2.23	0.69
10:A:528:A:H5''	19:N:114:ARG:NH1	2.06	0.69
30:Y:75:ILE:HD13	30:Y:76:CYS:H	1.57	0.69
15:F:9:ILE:HG12	15:F:14:PRO:C	2.12	0.69
30:Y:14:LEU:HG	30:Y:15:VAL:O	1.92	0.69
14:E:111:ARG:HA	23:R:2:ARG:HG3	1.75	0.69
23:R:5:LYS:HD2	23:R:5:LYS:H	1.57	0.69
29:X:76:ARG:HD3	29:X:76:ARG:C	2.13	0.69
1:O:49:LYS:N	1:O:80:HIS:HB3	2.07	0.69
10:A:2836:U:H2'	10:A:2837:G:C8	2.28	0.69
10:A:1434:A:H61	10:A:1558:A:H62	1.39	0.69
26:U:17:ILE:HG23	26:U:39:LEU:HD12	1.72	0.69
13:D:35:LYS:HE3	13:D:64:ILE:C	2.12	0.69
10:A:2178:C:H4'	12:C:46:LYS:NZ	2.08	0.69
21:P:47:ASP:HB3	21:P:48:PRO:HA	1.74	0.69
9:8:32:LEU:HD11	9:8:41:ILE:HG22	1.74	0.69
16:G:76:SER:CB	16:G:84:LYS:H	2.04	0.69
16:G:6:ALA:HB3	16:G:104:GLU:OE1	1.91	0.69
10:A:2672:G:H2'	10:A:2673:G:H5''	1.73	0.69
21:P:106:LEU:O	21:P:107:LYS:HG2	1.93	0.69
25:T:29:ARG:CB	25:T:85:LYS:HA	2.23	0.69
13:D:71:ASP:HB2	13:D:103:ARG:HH22	1.58	0.69
20:O:47:ILE:CG1	20:O:48:PRO:HD2	2.20	0.69
29:X:11:PRO:HB3	29:X:26:TYR:HE2	1.57	0.69
5:4:11:PRO:C	5:4:13:ARG:H	1.96	0.69
21:P:13:ASN:H	21:P:13:ASN:HD22	1.40	0.69
10:A:408:G:H2'	10:A:409:C:H6	1.57	0.69
10:A:1679:U:H2'	10:A:1680:U:H5'	1.73	0.69
30:Y:60:PHE:C	30:Y:61:ILE:HD12	2.13	0.69
25:T:91:ARG:HA	25:T:117:ASP:H	1.56	0.69
2:1:62:VAL:C	2:1:64:ALA:H	1.96	0.69
30:Y:97:ARG:O	30:Y:97:ARG:HG3	1.92	0.69
29:X:56:THR:O	29:X:57:LEU:HD12	1.91	0.69
1:O:20:ARG:HD3	1:O:20:ARG:H	1.57	0.69
10:A:893:C:H2'	10:A:894:C:H5'	1.73	0.69
29:X:14:SER:H	29:X:17:ALA:HB3	1.57	0.69
23:R:18:LEU:HD13	23:R:18:LEU:C	2.13	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:G:131:TYR:HB3	16:G:159:VAL:CG1	2.23	0.69
28:W:27:LYS:O	28:W:70:TYR:HB2	1.93	0.69
10:A:1820:U:C2	13:D:202:LYS:HB3	2.27	0.69
10:A:1925:C:O2'	10:A:1926:U:H5'	1.92	0.69
29:X:60:ARG:CG	29:X:74:PRO:HD2	2.15	0.69
14:E:203:LYS:O	14:E:203:LYS:HD2	1.93	0.69
16:G:134:GLY:HA2	16:G:156:ASP:HA	1.74	0.69
14:E:111:ARG:HA	23:R:2:ARG:CB	2.23	0.69
13:D:270:ILE:O	13:D:270:ILE:HD12	1.92	0.69
19:N:15:LEU:HB2	19:N:134:ARG:HB2	1.75	0.69
15:F:57:VAL:CG1	15:F:58:ALA:N	2.56	0.69
10:A:2538:C:O2'	10:A:2539:C:H5'	1.92	0.69
10:A:1914:C:H2'	10:A:1915:U:O4'	1.92	0.69
10:A:1114:G:H2'	10:A:1115:G:H5''	1.74	0.69
26:U:83:LEU:HB3	26:U:88:ILE:HD11	1.75	0.69
2:1:41:ARG:HH12	10:A:189:G:P	2.16	0.69
2:1:48:LYS:HG3	2:1:49:VAL:H	1.57	0.69
2:1:88:LYS:O	2:1:92:LYS:N	2.26	0.69
19:N:13:TRP:O	19:N:14:VAL:HG23	1.93	0.69
3:2:30:ARG:HA	3:2:33:MET:SD	2.33	0.69
20:O:46:ALA:H	20:O:54:GLU:HG2	1.55	0.69
29:X:63:LYS:O	29:X:68:ARG:HA	1.92	0.69
15:F:8:GLN:CB	15:F:126:VAL:HA	2.23	0.69
20:O:2:ILE:HD11	20:O:82:ASN:ND2	2.08	0.69
10:A:296:C:O2'	10:A:297:C:H5'	1.93	0.69
19:N:65:LYS:CA	19:N:65:LYS:HE2	2.16	0.68
30:Y:28:LYS:HD2	30:Y:37:VAL:CG1	2.23	0.68
10:A:598:G:H5'	21:P:15:ARG:CD	2.19	0.68
13:D:155:LEU:HD23	13:D:177:LEU:HD22	1.75	0.68
19:N:134:ARG:HG3	19:N:134:ARG:O	1.93	0.68
10:A:1345:C:O2'	10:A:1346:G:H5'	1.93	0.68
22:Q:78:PRO:O	22:Q:79:LEU:CB	2.41	0.68
10:A:536:A:H2'	10:A:537:C:H6	1.55	0.68
13:D:27:THR:CG2	13:D:28:GLU:N	2.52	0.68
10:A:2741:A:H2'	10:A:2742:C:O4'	1.93	0.68
31:Z:16:SER:HA	31:Z:19:ARG:HD2	1.74	0.68
7:6:45:LYS:NZ	10:A:2370:G:H21	1.90	0.68
28:W:82:LEU:HD12	28:W:82:LEU:N	2.08	0.68
19:N:78:TYR:HD1	19:N:79:PRO:N	1.90	0.68
10:A:128:C:H2'	10:A:129:C:H6	1.58	0.68
25:T:29:ARG:HH21	25:T:84:GLN:NE2	1.91	0.68
25:T:80:SER:OG	25:T:81:PRO:HD3	1.92	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:50:ARG:O	21:P:57:THR:HG23	1.92	0.68
9:8:29:LYS:O	9:8:32:LEU:N	2.25	0.68
10:A:954:G:H4'	22:Q:13:GLN:NE2	2.02	0.68
10:A:2312:U:H2'	10:A:2313:C:H5''	1.74	0.68
19:N:15:LEU:O	19:N:136:GLU:HA	1.93	0.68
17:H:46:GLU:CG	17:H:51:ARG:HB2	2.24	0.68
15:F:157:VAL:HG12	15:F:176:LEU:O	1.94	0.68
18:I:79:ILE:HB	18:I:142:VAL:CG1	2.24	0.68
18:I:145:VAL:HG12	18:I:146:ALA:N	2.08	0.68
30:Y:86:ARG:HB3	30:Y:88:LYS:HZ2	1.58	0.68
10:A:2725:A:O2'	10:A:2726:U:H2'	1.94	0.68
10:A:2689:U:H4'	10:A:2690:C:H6	1.58	0.68
18:I:52:ARG:HG3	18:I:53:ALA:H	1.58	0.68
24:S:90:GLY:O	24:S:92:TYR:CD1	2.47	0.68
10:A:1504:C:O2'	10:A:1505:C:H5'	1.92	0.68
29:X:64:LYS:CG	29:X:65:ARG:H	2.07	0.68
19:N:57:ALA:CB	19:N:124:ALA:HA	2.23	0.68
19:N:58:ASP:O	19:N:60:ILE:HG13	1.94	0.68
22:Q:134:ARG:HG2	22:Q:135:ASP:H	1.58	0.68
13:D:118:VAL:HG22	13:D:119:ALA:N	2.07	0.68
10:A:603:A:H4'	10:A:604:G:O5'	1.93	0.68
16:G:173:LEU:HB3	16:G:178:PHE:CG	2.29	0.68
10:A:2701:C:C3'	10:A:2702:U:H5''	2.15	0.68
3:2:41:ILE:CG1	10:A:94(A):G:N2	2.57	0.68
10:A:2461:C:H2'	10:A:2462:U:C6	2.27	0.68
10:A:784:A:N7	13:D:229:VAL:HG21	2.08	0.68
10:A:78:A:H2'	10:A:79:G:C8	2.29	0.68
11:B:103:G:H1'	31:Z:73:GLN:HE22	1.58	0.68
15:F:132:VAL:HG22	15:F:133:ASN:H	1.59	0.68
3:2:14:ARG:CD	3:2:57:ILE:HB	2.23	0.68
10:A:2314:C:O2'	10:A:2315:G:H5'	1.94	0.68
19:N:133:GLN:O	19:N:135:PRO:HD3	1.94	0.68
15:F:164:ARG:HD3	15:F:175:THR:OG1	1.93	0.68
10:A:271(D):G:H1	10:A:271(T):C:N4	1.91	0.68
1:0:38:VAL:HB	1:0:59:LEU:HD12	1.76	0.68
30:Y:75:ILE:HD11	30:Y:79:CYS:CA	2.24	0.68
18:I:1:MET:O	18:I:20:ASP:HA	1.94	0.68
29:X:37:THR:HG23	29:X:54:VAL:HB	1.74	0.68
22:Q:75:THR:HG21	22:Q:85:LYS:CE	2.23	0.68
31:Z:145:GLU:HG3	31:Z:146:ILE:N	2.01	0.68
13:D:17:THR:HG22	13:D:205:VAL:HB	1.74	0.68
10:A:1448:G:H5'	10:A:1449:A:OP1	1.94	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:925:C:C3'	10:A:926:A:H5''	2.24	0.68
10:A:1821:A:C2'	10:A:1822:G:H5''	2.24	0.68
10:A:2579:C:O3'	14:E:131:ALA:HB2	1.93	0.68
21:P:85:LEU:HB2	21:P:120:ALA:HB2	1.75	0.68
10:A:2873:A:C2	23:R:6:SER:HB2	2.28	0.68
22:Q:78:PRO:O	22:Q:79:LEU:HB2	1.94	0.68
10:A:2121:G:H2'	10:A:2122:U:C6	2.28	0.68
26:U:95:LEU:C	26:U:97:ASP:H	1.98	0.68
25:T:88:ILE:HG22	25:T:89:VAL:HG23	1.73	0.68
10:A:195:A:H5''	10:A:196:A:OP2	1.93	0.68
10:A:141:A:H8	10:A:1408:C:O2'	1.75	0.68
15:F:63:LYS:CE	15:F:67:GLN:HB2	2.24	0.68
10:A:539:G:H2'	10:A:540:C:C6	2.29	0.68
10:A:1887:C:H3'	10:A:1888:G:H5''	1.74	0.68
20:O:113:LYS:O	20:O:117:LEU:HG	1.94	0.68
10:A:2127:G:H2'	10:A:2128:C:C6	2.29	0.68
26:U:88:ILE:C	26:U:90:VAL:N	2.47	0.68
2:1:49:VAL:HB	2:1:64:ALA:HB2	1.76	0.68
10:A:2312:U:C2'	10:A:2313:C:H5''	2.24	0.68
10:A:2312:U:H4'	16:G:71:THR:CG2	2.24	0.68
15:F:78:ILE:H	15:F:78:ILE:CD1	2.03	0.68
29:X:57:LEU:HD13	29:X:77:LYS:HG3	1.75	0.68
27:V:35:LEU:CD2	27:V:61:VAL:HA	2.24	0.68
22:Q:66:ILE:HG22	22:Q:104:PHE:CD2	2.29	0.68
10:A:919:G:C5'	11:B:81:G:H1'	2.24	0.68
17:H:127:GLU:HB3	17:H:128:PRO:CD	2.24	0.68
13:D:231:HIS:ND1	13:D:232:PRO:HD2	2.08	0.68
15:F:3:GLU:CG	15:F:19:GLU:HB2	2.19	0.67
22:Q:89:ASN:O	22:Q:91:GLU:N	2.27	0.67
17:H:84:SER:O	17:H:85:LYS:HB2	1.93	0.67
2:1:71:TYR:O	2:1:74:VAL:N	2.27	0.67
28:W:88:ARG:HB3	28:W:92:ARG:HB3	1.76	0.67
10:A:626:U:C2	21:P:105:LEU:HG	2.30	0.67
10:A:587:C:H5	21:P:33:ARG:HH11	1.42	0.67
10:A:2036:C:C6	10:A:2036:C:H5'	2.22	0.67
10:A:8:A:H2'	10:A:9:U:C5	2.29	0.67
10:A:1986:A:C2'	10:A:1987:G:H5''	2.24	0.67
7:6:20:ASN:ND2	7:6:21:TYR:N	2.42	0.67
13:D:138:VAL:HA	13:D:165:ILE:HG21	1.75	0.67
10:A:2208:A:H1'	10:A:2219:G:N3	2.09	0.67
11:B:65:C:H41	11:B:109:C:H2'	1.59	0.67
21:P:105:LEU:HD12	21:P:105:LEU:N	2.09	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:75:VAL:O	14:E:77:ILE:N	2.26	0.67
13:D:245:PRO:O	13:D:246:PRO:C	2.33	0.67
3:2:14:ARG:O	3:2:18:PRO:HD3	1.95	0.67
10:A:1348:G:C2'	10:A:1349:A:H5''	2.23	0.67
14:E:111:ARG:CG	23:R:2:ARG:HG3	2.25	0.67
10:A:2709:G:O2'	10:A:2710:C:H5'	1.93	0.67
28:W:35:ILE:HG22	28:W:36:LEU:N	2.09	0.67
8:7:30:VAL:O	8:7:31:LEU:C	2.33	0.67
30:Y:20:TYR:CE1	30:Y:42:VAL:HG22	2.29	0.67
22:Q:22:LYS:NZ	22:Q:22:LYS:HA	2.09	0.67
10:A:994:C:O2	27:V:10:LYS:HE2	1.95	0.67
10:A:2491:U:H4'	10:A:2570:G:OP1	1.95	0.67
10:A:195:A:OP1	21:P:46:LYS:HE2	1.95	0.67
13:D:70:TRP:CH2	13:D:150:LYS:HA	2.28	0.67
10:A:814:C:O2'	10:A:815:C:H5'	1.94	0.67
24:S:14:VAL:HG12	24:S:15:ARG:N	2.09	0.67
10:A:2569:G:O2'	10:A:2570:G:H5'	1.95	0.67
14:E:5:LEU:HB2	14:E:51:PHE:HD2	1.59	0.67
15:F:155:LEU:HD23	15:F:186:ILE:HD13	1.76	0.67
13:D:45:ASN:CG	13:D:46:GLN:H	1.98	0.67
20:O:13:ASN:ND2	20:O:97:ARG:HB2	2.09	0.67
14:E:108:SER:O	14:E:162:ALA:HA	1.95	0.67
22:Q:26:TYR:HD1	22:Q:26:TYR:O	1.78	0.67
25:T:91:ARG:HB3	25:T:116:ALA:CA	2.21	0.67
21:P:50:ARG:HH21	21:P:50:ARG:HG2	1.59	0.67
10:A:587:C:H5	21:P:33:ARG:NH1	1.91	0.67
10:A:581:C:O2'	10:A:582:G:H5'	1.94	0.67
10:A:1528(A):A:C3'	10:A:1529:G:H5''	2.25	0.67
10:A:2631:G:N2	14:E:61:ARG:NH1	2.42	0.67
10:A:1231:G:H2'	10:A:1232:G:H8	1.58	0.67
21:P:92:GLU:HG3	21:P:123:LEU:HD22	1.77	0.67
2:1:92:LYS:C	2:1:94:LEU:N	2.44	0.67
10:A:2029:G:H2'	10:A:2031:A:OP2	1.94	0.67
30:Y:95:LYS:HG2	30:Y:101:LYS:N	2.08	0.67
11:B:78:A:O2'	22:Q:21:THR:HG21	1.93	0.67
10:A:2286:A:H5''	10:A:2287:A:O4'	1.94	0.67
20:O:91:LEU:HD22	20:O:91:LEU:N	2.09	0.67
7:6:19:ARG:HE	7:6:19:ARG:N	1.92	0.67
17:H:104:GLU:HA	17:H:113:VAL:O	1.95	0.67
19:N:95:PRO:O	19:N:97:ARG:N	2.28	0.67
10:A:1997:G:O2'	10:A:1998:G:H5'	1.95	0.67
20:O:24:VAL:HG23	20:O:33:ALA:HB2	1.76	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:I:127:VAL:HG13	18:I:139:GLN:HB2	1.76	0.67
21:P:89:ALA:HB1	21:P:121:LYS:HZ1	1.59	0.67
9:8:32:LEU:HD23	9:8:35:GLN:O	1.94	0.67
27:V:78:LYS:C	27:V:78:LYS:HD3	2.16	0.67
10:A:271(P):C:H2'	10:A:271(Q):G:H8	1.59	0.67
10:A:784:A:C5	13:D:229:VAL:HG21	2.30	0.67
11:B:15:A:H3'	11:B:16:G:C5'	2.24	0.67
18:I:48:GLU:O	18:I:51:ILE:HB	1.95	0.67
10:A:2771:C:O2	10:A:2771:C:H2'	1.94	0.67
10:A:2455:G:H2'	10:A:2456:C:C6	2.30	0.67
10:A:2653:U:C5'	10:A:2654:A:H5''	2.25	0.67
2:1:11:ARG:HB3	2:1:12:PRO:HD2	1.75	0.67
29:X:40:LYS:HG3	29:X:41:ASN:H	1.60	0.67
10:A:2681:C:H5	10:A:2725:A:N6	1.91	0.67
2:1:26:ARG:HG2	2:1:34:THR:OG1	1.95	0.67
14:E:134:ILE:H	14:E:134:ILE:HD13	1.58	0.67
12:C:82:LYS:NZ	12:C:151:GLU:HA	2.10	0.67
18:I:83:ALA:HA	18:I:89:TYR:CE1	2.30	0.67
26:U:95:LEU:HD11	27:V:11:GLN:O	1.95	0.67
29:X:40:LYS:C	29:X:42:ALA:H	1.98	0.67
26:U:56:ASP:O	26:U:60:LEU:HG	1.95	0.67
5:4:6:HIS:N	16:G:67:LYS:HE2	2.09	0.67
13:D:176:ARG:NH1	13:D:176:ARG:HG2	2.08	0.67
10:A:2292:C:O2'	10:A:2293:C:H5'	1.94	0.67
10:A:2796:U:O2'	10:A:2799:C:H5'	1.95	0.67
10:A:993:G:OP1	26:U:50:ARG:NH2	2.28	0.66
9:8:52:LYS:N	9:8:53:PRO:HD2	2.10	0.66
9:8:54:GLU:O	9:8:58:ILE:HG12	1.95	0.66
10:A:2312:U:H2'	10:A:2313:C:C5'	2.25	0.66
20:O:99:PHE:O	20:O:100:GLY:O	2.13	0.66
10:A:271(G):C:H2'	10:A:271(H):G:C8	2.29	0.66
10:A:298:G:H5'	10:A:299:A:OP1	1.95	0.66
15:F:178:PRO:HG2	15:F:179:GLU:OE1	1.94	0.66
10:A:1658:C:OP1	14:E:132:HIS:ND1	2.27	0.66
18:I:88:ILE:CD1	18:I:123:LEU:HG	2.24	0.66
23:R:60:LEU:C	23:R:60:LEU:HD23	2.15	0.66
10:A:1190:G:H5'	21:P:35:HIS:HB3	1.76	0.66
13:D:158:ALA:HB3	13:D:161:THR:HG21	1.77	0.66
17:H:153:LYS:H	17:H:153:LYS:HD3	1.59	0.66
2:1:37:ILE:HG21	10:A:2080:G:O5'	1.95	0.66
10:A:1170:G:H1	10:A:1179:C:H42	1.43	0.66
10:A:1773:A:C2'	10:A:1774:C:H5'	2.24	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:1:19:GLN:HE21	10:A:379:G:N2	1.88	0.66
19:N:70:LYS:HG3	19:N:72:TYR:HE1	1.60	0.66
13:D:35:LYS:NZ	13:D:64:ILE:O	2.27	0.66
24:S:77:ALA:O	24:S:80:LEU:HD12	1.95	0.66
31:Z:52:SER:OG	31:Z:53:ILE:N	2.28	0.66
29:X:57:LEU:CD1	29:X:77:LYS:HD2	2.25	0.66
19:N:131:GLN:NE2	19:N:134:ARG:HA	2.08	0.66
21:P:74:GLU:C	21:P:75:ILE:HD13	2.14	0.66
14:E:168:MET:O	14:E:170:LEU:HD12	1.94	0.66
5:4:29:PRO:C	5:4:31:ILE:H	1.98	0.66
10:A:271(E):U:H2'	10:A:271(F):C:C6	2.31	0.66
2:1:85:LEU:CB	2:1:87:PRO:HD3	2.26	0.66
29:X:23:GLU:HG3	29:X:24:GLY:N	2.11	0.66
12:C:191:ALA:O	12:C:195:ALA:HB3	1.95	0.66
16:G:171:ALA:O	16:G:175:LEU:HD12	1.95	0.66
3:2:24:LEU:O	3:2:27:GLU:HB3	1.95	0.66
10:A:235:U:H2'	10:A:236:C:H6	1.60	0.66
25:T:81:PRO:C	25:T:82:LEU:HD12	2.15	0.66
30:Y:71:LYS:HB2	30:Y:71:LYS:NZ	2.11	0.66
13:D:63:ARG:NH1	13:D:63:ARG:HG3	2.10	0.66
3:2:14:ARG:NE	3:2:57:ILE:HB	2.11	0.66
16:G:45:GLU:HB2	16:G:47:LYS:HG3	1.77	0.66
17:H:137:ASP:O	17:H:138:LYS:HG3	1.96	0.66
10:A:2732:G:O2'	10:A:2733:A:H5'	1.95	0.66
24:S:54:LEU:C	24:S:56:LEU:N	2.49	0.66
10:A:2182:G:H2'	10:A:2183:C:H6	1.59	0.66
27:V:79:VAL:O	27:V:80:GLN:HB3	1.93	0.66
23:R:8:ARG:NE	23:R:8:ARG:HA	2.11	0.66
25:T:65:LYS:HZ3	25:T:65:LYS:HA	1.58	0.66
2:1:46:LEU:N	2:1:46:LEU:HD12	2.05	0.66
10:A:142:A:H8	10:A:1408:C:H1'	1.60	0.66
21:P:65:ARG:HH11	21:P:65:ARG:HB2	1.59	0.66
10:A:92:A:H2'	10:A:93:G:C8	2.20	0.66
31:Z:18:LEU:O	31:Z:20:ARG:N	2.28	0.66
10:A:2444:G:OP2	15:F:68:LYS:HE2	1.95	0.66
20:O:24:VAL:CG2	20:O:33:ALA:HB2	2.26	0.66
10:A:1493:C:O2	10:A:1493:C:H2'	1.95	0.66
10:A:2543:G:H2'	10:A:2544:G:O4'	1.96	0.66
10:A:1153:C:H2'	10:A:1154:G:O4'	1.95	0.66
26:U:69:CYS:SG	26:U:79:PHE:HD1	2.18	0.66
10:A:482:A:H4'	30:Y:47:LYS:HZ2	1.58	0.66
14:E:180:ASN:C	14:E:181:LEU:HD22	2.16	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:613:G:H8	10:A:613:G:H5'	1.58	0.66
15:F:123:LEU:HD12	15:F:124:LEU:H	1.60	0.66
29:X:55:ASN:ND2	29:X:78:LYS:HE2	2.10	0.66
10:A:1635:G:C8	10:A:1635:G:H5'	2.31	0.66
17:H:153:LYS:HB2	17:H:154:PRO:CD	2.26	0.66
10:A:1786:A:H2	10:A:2606:C:H1'	1.60	0.66
26:U:69:CYS:HG	26:U:79:PHE:HD1	1.44	0.66
10:A:2636:U:C2'	10:A:2637:U:H5''	2.25	0.66
30:Y:28:LYS:CE	30:Y:30:VAL:HG22	2.25	0.66
13:D:25:THR:HG22	13:D:82:ILE:O	1.96	0.66
10:A:143(A):C:H2'	10:A:143(A):C:O2	1.94	0.66
10:A:2415:G:H2'	10:A:2416:C:C6	2.31	0.66
21:P:62:LEU:HD22	21:P:62:LEU:H	1.61	0.66
22:Q:20:ALA:CB	22:Q:99:PRO:HG2	2.25	0.66
17:H:90:LYS:HB2	17:H:159:GLU:O	1.95	0.66
4:3:17:LYS:HG2	10:A:969:U:OP1	1.96	0.66
10:A:1639:U:H2'	10:A:1640:C:H5''	1.77	0.66
10:A:945:A:H5''	10:A:946:G:OP2	1.95	0.66
10:A:2703:C:H2'	10:A:2704:C:H6	1.61	0.66
24:S:89:ARG:CB	24:S:97:ARG:HH12	2.09	0.66
9:8:32:LEU:O	9:8:33:ASN:HB3	1.95	0.66
19:N:42:TRP:HB2	26:U:64:ARG:NE	2.10	0.66
10:A:285:C:C3'	10:A:286:C:H5''	2.26	0.66
28:W:75:TYR:CE1	28:W:104:THR:HB	2.31	0.66
19:N:58:ASP:C	19:N:60:ILE:N	2.49	0.66
10:A:1748:G:H8	10:A:1748:G:H5'	1.59	0.66
8:7:12:ARG:HH11	8:7:12:ARG:HG3	1.61	0.66
25:T:92:GLY:HA2	25:T:114:LEU:CA	2.25	0.66
25:T:67:SER:O	25:T:68:TYR:HB2	1.96	0.66
14:E:35:GLN:NE2	14:E:37:ARG:HE	1.93	0.66
22:Q:75:THR:CB	22:Q:88:GLY:HA2	2.26	0.66
22:Q:75:THR:CA	22:Q:88:GLY:HA2	2.26	0.66
25:T:53:ARG:HH11	25:T:53:ARG:HG2	1.61	0.66
17:H:19:VAL:CG2	17:H:44:VAL:HG13	2.26	0.66
10:A:1131:G:OP1	19:N:80:GLY:HA2	1.96	0.66
6:5:40:LYS:HD3	6:5:46:CYS:HB3	1.78	0.66
14:E:7:VAL:HA	14:E:194:GLY:O	1.96	0.66
10:A:78:A:H2'	10:A:79:G:H8	1.60	0.66
13:D:58:HIS:CD2	13:D:59:LYS:N	2.64	0.66
10:A:1384:A:N3	10:A:1405:U:H1'	2.11	0.66
28:W:79:GLY:HA3	28:W:100:THR:HG23	1.78	0.66
2:1:13:ILE:HG12	2:1:14:VAL:N	2.10	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:47:ASP:HB3	21:P:48:PRO:C	2.16	0.65
22:Q:85:LYS:HG3	22:Q:86:GLY:H	1.61	0.65
24:S:74:ALA:HB1	24:S:103:GLU:CG	2.21	0.65
10:A:2745:C:O2'	17:H:142:GLY:HA3	1.97	0.65
31:Z:28:MET:SD	31:Z:33:LEU:HD21	2.36	0.65
10:A:271(P):C:H5''	18:I:45:LYS:HE3	1.79	0.65
13:D:48:ARG:HG3	13:D:48:ARG:HH11	1.61	0.65
13:D:106:ILE:HD11	13:D:196:VAL:CG1	2.26	0.65
10:A:1665:A:H2'	10:A:1666:G:H5'	1.77	0.65
10:A:1925:C:C2'	10:A:1926:U:H5'	2.26	0.65
12:C:56:GLN:O	12:C:57:ASN:HB2	1.97	0.65
14:E:182:LEU:C	14:E:183:LEU:HD12	2.17	0.65
22:Q:10:ARG:NH1	22:Q:10:ARG:HB2	2.11	0.65
10:A:774:A:O2'	10:A:775:G:OP2	2.12	0.65
18:I:131:LYS:CG	18:I:132:PRO:HA	2.26	0.65
27:V:69:LYS:HB3	27:V:93:GLU:HB3	1.76	0.65
21:P:16:ARG:HG2	21:P:17:LYS:N	2.10	0.65
13:D:25:THR:O	13:D:25:THR:HG23	1.95	0.65
19:N:41:ASP:N	26:U:64:ARG:NH2	2.43	0.65
17:H:85:LYS:O	17:H:132:ARG:HA	1.96	0.65
14:E:111:ARG:HG2	23:R:2:ARG:HG3	1.77	0.65
3:2:33:MET:HG3	29:X:10:ALA:HB1	1.76	0.65
29:X:26:TYR:OH	29:X:89:ILE:HG21	1.96	0.65
19:N:30:ILE:HG23	19:N:52:VAL:HG11	1.77	0.65
15:F:157:VAL:HG23	15:F:194:MET:CB	2.26	0.65
10:A:1678:G:N2	10:A:1989:G:H22	1.93	0.65
10:A:2580:U:H5'	14:E:131:ALA:H	1.60	0.65
16:G:20:ILE:O	16:G:24:GLY:HA2	1.96	0.65
10:A:743:G:O2'	10:A:744:G:H5'	1.95	0.65
12:C:47:LEU:HD21	12:C:172:HIS:CB	2.27	0.65
27:V:24:LYS:HA	27:V:94:LEU:HD12	1.77	0.65
10:A:2334:G:H21	24:S:18:ILE:HD11	1.60	0.65
21:P:16:ARG:CG	21:P:18:ARG:H	2.08	0.65
2:1:87:PRO:O	2:1:91:LYS:N	2.28	0.65
31:Z:6:LYS:H	31:Z:6:LYS:CD	2.06	0.65
10:A:15:G:O2'	10:A:16:G:H5'	1.96	0.65
12:C:51:PRO:HG3	12:C:204:ALA:HB3	1.78	0.65
10:A:2343:C:H2'	10:A:2344:U:C6	2.32	0.65
9:8:43:GLN:O	9:8:44:LYS:HD2	1.95	0.65
10:A:686:G:N2	10:A:788:A:H61	1.94	0.65
10:A:633:A:H2'	10:A:634:C:H5'	1.77	0.65
10:A:270:A:O2'	10:A:271:A:H5'	1.95	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:Z:69:THR:HG22	31:Z:90:VAL:CA	2.24	0.65
16:G:7:LEU:HB2	16:G:104:GLU:OE2	1.97	0.65
10:A:2840:C:H4'	23:R:53:HIS:CD2	2.31	0.65
26:U:102:GLU:HB2	26:U:105:VAL:HG23	1.77	0.65
3:2:50:ILE:O	3:2:51:ARG:HB3	1.96	0.65
3:2:52:ASP:OD1	3:2:53:LEU:N	2.29	0.65
10:A:2712:U:H1'	10:A:2712(A):A:H8	1.60	0.65
10:A:1784:A:H4'	10:A:1785:A:O5'	1.96	0.65
15:F:161:GLU:O	15:F:165:ARG:HG2	1.95	0.65
25:T:57:PHE:C	25:T:59:THR:H	2.00	0.65
10:A:2425:A:H5''	10:A:2427:C:O4'	1.96	0.65
10:A:1986:A:H2'	10:A:1987:G:H5''	1.78	0.65
17:H:14:GLY:O	17:H:29:PRO:HD3	1.97	0.65
10:A:2454:G:O2'	10:A:2455:G:H5'	1.97	0.65
26:U:74:LEU:HD21	26:U:110:VAL:HG13	1.78	0.65
10:A:483:A:O4'	30:Y:47:LYS:HD3	1.95	0.65
9:8:6:THR:HG22	9:8:63:PRO:HD3	1.78	0.65
23:R:41:ALA:C	23:R:43:GLU:H	2.00	0.65
27:V:63:GLY:O	27:V:64:HIS:HB3	1.97	0.65
10:A:2640:G:C8	10:A:2640:G:H5'	2.27	0.65
3:2:26:ARG:HA	3:2:29:LYS:HE2	1.77	0.65
6:5:20:ARG:HB3	6:5:23:HIS:HD2	1.60	0.65
27:V:83:ARG:NH1	27:V:83:ARG:HG2	2.09	0.65
10:A:2864:G:H5'	10:A:2864:G:C8	2.28	0.65
27:V:47:VAL:HG13	27:V:48:GLY:N	2.12	0.65
10:A:549:G:H3'	10:A:551:G:H5''	1.77	0.65
27:V:80:GLN:C	27:V:80:GLN:OE1	2.34	0.65
27:V:12:TYR:N	27:V:12:TYR:CD2	2.64	0.65
15:F:10:PRO:HG2	15:F:11:VAL:H	1.61	0.65
10:A:1280:G:C3'	10:A:1281:G:H5''	2.26	0.65
2:1:73:LEU:HD22	2:1:90:ILE:HG23	1.78	0.65
10:A:74:A:H4'	10:A:75:G:O5'	1.97	0.65
17:H:46:GLU:HG2	17:H:51:ARG:HB2	1.77	0.65
10:A:2735:G:C2'	10:A:2736:G:H5''	2.27	0.65
15:F:192:LEU:HD23	15:F:193:VAL:N	2.11	0.65
13:D:223:GLY:O	13:D:226:MET:HG3	1.96	0.65
12:C:85:GLU:HB3	12:C:153:ILE:CB	2.27	0.65
18:I:114:LEU:HD23	18:I:130:TYR:CE1	2.32	0.65
10:A:1349:A:N6	10:A:1598:C:N4	2.44	0.65
9:8:32:LEU:HG	9:8:34:TRP:CE3	2.32	0.65
17:H:41:MET:SD	17:H:54:ARG:HA	2.37	0.65
29:X:57:LEU:HD11	29:X:77:LYS:HD2	1.78	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:860:U:C5	10:A:917:A:N7	2.60	0.65
10:A:1821:A:H2'	10:A:1822:G:H5''	1.77	0.65
10:A:2511:U:O3'	14:E:123:ALA:HB3	1.97	0.65
8:7:37:LYS:HE2	10:A:469:G:O6	1.96	0.65
21:P:101:VAL:C	21:P:103:ALA:H	1.99	0.65
29:X:12:VAL:CG1	29:X:27:THR:HG23	2.24	0.65
10:A:2863:C:C2'	10:A:2864:G:H5''	2.27	0.65
7:6:15:GLU:CD	7:6:18:ARG:HG3	2.17	0.65
26:U:95:LEU:HD12	27:V:11:GLN:HE21	1.60	0.65
30:Y:37:VAL:CG2	30:Y:38:ILE:H	2.05	0.65
10:A:2177:C:O2'	12:C:46:LYS:HE3	1.97	0.65
21:P:47:ASP:HB3	21:P:48:PRO:O	1.97	0.65
10:A:2712:U:HO2'	10:A:2712(A):A:H5''	1.60	0.65
14:E:109:LYS:HB3	23:R:2:ARG:NH1	2.11	0.65
27:V:22:VAL:O	27:V:23:GLU:CB	2.45	0.65
10:A:621:A:H2'	10:A:622:G:C5'	2.26	0.65
10:A:2202:C:H1'	13:D:151:LYS:HZ1	1.62	0.65
1:0:41:ARG:CD	1:0:41:ARG:H	2.10	0.65
1:0:80:HIS:CD2	1:0:80:HIS:N	2.63	0.65
10:A:2693:A:H2'	10:A:2694:G:H8	1.62	0.65
18:I:58:LEU:HA	18:I:61:ARG:HH11	1.61	0.65
10:A:18:C:O3'	26:U:23:GLY:HA2	1.97	0.65
10:A:2852:G:H2'	10:A:2853:C:C6	2.31	0.65
10:A:2230:G:H2'	10:A:2231:C:H6	1.62	0.64
3:2:16:LEU:H	3:2:18:PRO:CD	2.01	0.64
9:8:35:GLN:HA	10:A:2420:C:P	2.37	0.64
16:G:43:LEU:HD12	16:G:153:ARG:HD2	1.78	0.64
19:N:42:TRP:H	26:U:64:ARG:HD2	1.61	0.64
10:A:809:G:O4'	10:A:1254:A:H1'	1.97	0.64
19:N:15:LEU:HG	19:N:134:ARG:HD2	1.77	0.64
30:Y:48:ALA:O	30:Y:58:GLY:HA3	1.97	0.64
17:H:88:LEU:O	17:H:89:ILE:HG23	1.96	0.64
10:A:2317:C:O2'	10:A:2318:G:H5'	1.97	0.64
10:A:404:C:H4'	10:A:405:U:H5'	1.79	0.64
18:I:113:ARG:NH1	18:I:132:PRO:HG3	2.13	0.64
25:T:65:LYS:CE	25:T:66:VAL:H	2.10	0.64
14:E:120:TRP:CE3	14:E:155:LYS:HD3	2.31	0.64
24:S:99:LYS:O	24:S:101:LEU:N	2.30	0.64
17:H:89:ILE:N	17:H:89:ILE:HD13	2.11	0.64
30:Y:75:ILE:CD1	30:Y:76:CYS:N	2.61	0.64
10:A:322:A:OP2	15:F:169:ASN:HB2	1.97	0.64
27:V:25:LEU:H	27:V:94:LEU:HD12	1.62	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:246:PRO:HB2	13:D:255:LYS:HG3	1.80	0.64
16:G:39:ILE:HD13	16:G:155:MET:SD	2.37	0.64
10:A:2757:A:N1	17:H:67:LEU:HD22	2.12	0.64
10:A:941:A:H4'	21:P:35:HIS:CE1	2.31	0.64
30:Y:90:LEU:CG	30:Y:91:GLU:H	2.04	0.64
30:Y:97:ARG:HH21	30:Y:98:VAL:CG2	2.10	0.64
25:T:92:GLY:C	25:T:94:ALA:H	2.00	0.64
10:A:2116:G:H5'	10:A:2117:A:OP2	1.98	0.64
25:T:31:SER:C	25:T:32:TYR:HD2	1.99	0.64
14:E:91:VAL:HG13	14:E:95:ILE:CD1	2.27	0.64
4:3:7:LYS:C	4:3:54:VAL:HG13	2.17	0.64
23:R:10:LEU:HB3	23:R:17:ARG:CD	2.26	0.64
1:0:43:THR:H	10:A:2331:G:H4'	1.63	0.64
10:A:1173:G:H5'	10:A:1174:A:OP2	1.98	0.64
15:F:24:LEU:CB	15:F:25:PRO:HD2	2.25	0.64
20:O:63:VAL:HG23	20:O:64:ARG:H	1.61	0.64
10:A:2345:G:H5''	10:A:2347:C:O4'	1.97	0.64
18:I:71:ILE:CG1	18:I:72:LEU:HD22	2.25	0.64
17:H:89:ILE:CD1	17:H:89:ILE:N	2.61	0.64
10:A:1803:A:H2	10:A:1822:G:N3	1.95	0.64
13:D:106:ILE:C	13:D:106:ILE:HD13	2.17	0.64
10:A:2884:U:C2'	10:A:2885:C:H5'	2.27	0.64
16:G:18:GLU:O	16:G:22:ARG:HB2	1.96	0.64
10:A:1844:C:O2'	10:A:1845:G:H5'	1.97	0.64
18:I:78:THR:H	18:I:140:LEU:HD12	1.62	0.64
9:8:62:LEU:N	9:8:63:PRO:HD2	2.13	0.64
10:A:2036:C:H6	10:A:2036:C:C5'	2.07	0.64
27:V:19:LYS:CG	27:V:20:LEU:N	2.55	0.64
12:C:49:ILE:CD1	12:C:49:ILE:H	2.10	0.64
10:A:64:A:O2'	10:A:65:C:H5'	1.98	0.64
10:A:2308:G:H2'	10:A:2309:A:C8	2.32	0.64
10:A:943:U:OP2	21:P:38:GLN:CD	2.36	0.64
10:A:1227:G:O2'	10:A:1228:G:H5'	1.97	0.64
10:A:1658:C:OP1	14:E:132:HIS:O	2.16	0.64
24:S:17:ARG:CZ	24:S:89:ARG:NH2	2.61	0.64
2:1:89:GLU:O	2:1:93:GLU:N	2.30	0.64
31:Z:166:SER:HB2	31:Z:168:GLU:N	2.11	0.64
27:V:19:LYS:CG	27:V:20:LEU:H	2.10	0.64
10:A:914:C:C2'	10:A:915:C:H5'	2.26	0.64
10:A:2580:U:C5'	14:E:131:ALA:H	2.09	0.64
8:7:8:ASN:C	8:7:8:ASN:HD22	2.01	0.64
8:7:9:ARG:NH1	10:A:1310:G:OP2	2.31	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2208:A:H1'	10:A:2219:G:C4	2.32	0.64
10:A:322:A:H3'	15:F:169:ASN:HD21	1.61	0.64
13:D:58:HIS:HD2	13:D:59:LYS:N	1.94	0.64
11:B:3:C:H42	11:B:118:G:H1	1.46	0.64
10:A:1049:C:H2'	10:A:1050:A:H8	1.62	0.64
10:A:2772:C:H2'	10:A:2773:C:C6	2.33	0.64
13:D:28:GLU:HB2	13:D:29:PRO:CD	2.27	0.64
10:A:2720:U:O2	10:A:2720:U:H2'	1.96	0.64
17:H:89:ILE:HD11	17:H:129:THR:HB	1.79	0.64
23:R:78:LYS:O	23:R:83:ILE:HG12	1.98	0.64
23:R:4:LEU:HD13	23:R:4:LEU:O	1.97	0.64
10:A:1188:U:H2'	10:A:1189:A:H5'	1.79	0.64
10:A:2672:G:C2'	10:A:2673:G:H5''	2.28	0.64
19:N:78:TYR:CD1	19:N:79:PRO:N	2.65	0.64
10:A:1419:A:O2'	10:A:1420:U:H5''	1.97	0.64
18:I:77:LEU:HD11	18:I:101:LEU:HD22	1.79	0.64
10:A:2175:C:C3'	10:A:2176:A:H5''	2.27	0.64
19:N:58:ASP:C	19:N:60:ILE:HG13	2.18	0.64
25:T:58:ASN:HD22	25:T:58:ASN:C	2.01	0.64
10:A:2801(A):A:H4'	10:A:2802:G:H5'	1.79	0.64
20:O:13:ASN:HD21	20:O:97:ARG:H	1.44	0.64
15:F:51:THR:HG21	15:F:92:PRO:HD2	1.80	0.64
18:I:109:ILE:HD12	18:I:109:ILE:N	2.12	0.64
18:I:77:LEU:HD11	18:I:101:LEU:HB2	1.79	0.64
26:U:50:ARG:HG2	26:U:53:ARG:NH2	2.13	0.64
21:P:97:PRO:O	21:P:98:GLU:HB3	1.98	0.64
14:E:92:THR:O	14:E:93:VAL:HG23	1.98	0.64
13:D:246:PRO:HB2	13:D:255:LYS:CG	2.27	0.64
16:G:60:LEU:O	16:G:63:ILE:HG13	1.98	0.64
26:U:29:SER:OG	26:U:30:LYS:HE3	1.96	0.64
22:Q:63:LYS:HG2	22:Q:65:PHE:CZ	2.33	0.64
10:A:2181:G:H2'	10:A:2182:G:H8	1.62	0.64
19:N:78:TYR:CD1	19:N:79:PRO:HD3	2.33	0.64
1:O:18:ALA:HB1	10:A:2271:G:OP1	1.98	0.64
3:2:58:ALA:O	3:2:60:LEU:N	2.31	0.64
15:F:198:ALA:O	15:F:201:VAL:HG12	1.97	0.64
27:V:71:LEU:O	27:V:90:PRO:HA	1.98	0.63
27:V:72:VAL:HG12	27:V:73:SER:N	2.13	0.63
30:Y:37:VAL:O	30:Y:38:ILE:CB	2.47	0.63
13:D:92:ILE:O	13:D:92:ILE:HD12	1.98	0.63
16:G:70:VAL:HA	16:G:90:LEU:CD1	2.28	0.63
26:U:62:ILE:HA	26:U:65:ILE:HD12	1.80	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:5:LYS:N	23:R:5:LYS:HD2	2.13	0.63
2:1:32:LYS:HG2	10:A:2396:G:O2'	1.98	0.63
19:N:16:ILE:O	19:N:54:VAL:HA	1.97	0.63
10:A:2863:C:C3'	10:A:2864:G:H5''	2.29	0.63
24:S:61:ASN:C	24:S:61:ASN:ND2	2.52	0.63
10:A:1887:C:H2'	10:A:1888:G:H5''	1.80	0.63
10:A:2653:U:H5'	10:A:2654:A:H5''	1.80	0.63
24:S:48:LEU:N	24:S:48:LEU:HD12	2.13	0.63
18:I:62:LYS:HD3	18:I:62:LYS:O	1.97	0.63
20:O:76:ALA:HB3	25:T:75:ILE:HB	1.79	0.63
24:S:12:PHE:HD1	24:S:12:PHE:O	1.81	0.63
21:P:101:VAL:HG13	21:P:102:ARG:N	2.11	0.63
2:1:19:GLN:CD	2:1:44:PRO:HB3	2.18	0.63
13:D:25:THR:HG21	13:D:82:ILE:N	2.12	0.63
13:D:25:THR:CG2	13:D:82:ILE:H	2.11	0.63
4:3:7:LYS:O	4:3:54:VAL:HG13	1.97	0.63
20:O:23:ARG:HG2	20:O:23:ARG:HH11	1.62	0.63
30:Y:97:ARG:HH21	30:Y:98:VAL:HG21	1.63	0.63
22:Q:30:GLY:CA	22:Q:107:ALA:HB2	2.24	0.63
10:A:1276:A:H1'	23:R:16:HIS:HE1	1.63	0.63
1:0:43:THR:HG22	10:A:2331:G:O2'	1.96	0.63
10:A:528:A:N1	10:A:2042:A:H2'	2.12	0.63
15:F:80:ALA:O	15:F:83:PHE:HB2	1.99	0.63
19:N:89:LYS:O	19:N:93:THR:HG22	1.97	0.63
10:A:2379:G:H2'	10:A:2380:C:C6	2.33	0.63
10:A:70:G:H2'	10:A:113:G:O2'	1.98	0.63
10:A:189:G:H2'	10:A:205:G:N2	2.13	0.63
15:F:117:ARG:NH2	15:F:187:VAL:HA	2.12	0.63
31:Z:145:GLU:CG	31:Z:146:ILE:H	1.96	0.63
17:H:41:MET:HE3	17:H:41:MET:HA	1.81	0.63
27:V:19:LYS:C	27:V:20:LEU:HD12	2.19	0.63
6:5:46:CYS:SG	6:5:47:PRO:HD2	2.38	0.63
16:G:23:PHE:HZ	16:G:171:ALA:CB	2.12	0.63
18:I:75:LEU:HD21	18:I:105:HIS:CE1	2.34	0.63
10:A:1280:G:H3'	10:A:1281:G:H5''	1.79	0.63
7:6:36:LEU:HD13	7:6:50:ARG:NH1	2.12	0.63
10:A:149:A:H2'	10:A:150:C:C6	2.32	0.63
1:0:74:ARG:HH12	11:B:13:A:H8	1.46	0.63
10:A:576:U:O2'	10:A:577:G:H5'	1.98	0.63
14:E:93:VAL:HG21	14:E:180:ASN:OD1	1.98	0.63
22:Q:29:PHE:O	22:Q:30:GLY:O	2.16	0.63
10:A:1798:U:C5'	13:D:259:THR:HG22	2.28	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:C:45:ALA:HB2	12:C:210:ARG:HA	1.80	0.63
10:A:2784:C:H2'	10:A:2785:C:C6	2.32	0.63
20:O:13:ASN:HD22	20:O:97:ARG:HB2	1.63	0.63
13:D:77:ALA:HB2	13:D:97:TYR:CD2	2.33	0.63
10:A:491:G:H2'	10:A:492:A:C8	2.34	0.63
21:P:126:VAL:HA	21:P:145:PRO:CB	2.14	0.63
25:T:80:SER:CB	25:T:81:PRO:CD	2.76	0.63
14:E:75:VAL:C	14:E:77:ILE:N	2.49	0.63
13:D:25:THR:HG21	13:D:82:ILE:H	1.64	0.63
10:A:833:U:H2'	10:A:834:C:C6	2.33	0.63
14:E:173:VAL:HG12	14:E:174:ASP:N	2.13	0.63
10:A:154(A):C:H5	10:A:171:G:H1	1.47	0.63
27:V:43:GLU:N	27:V:48:GLY:HA2	2.12	0.63
10:A:2631:G:N2	14:E:61:ARG:HH12	1.97	0.63
17:H:98:LEU:HB2	17:H:125:VAL:CG2	2.29	0.63
16:G:133:LEU:HD12	16:G:133:LEU:C	2.19	0.63
12:C:76:ALA:HB3	12:C:94:VAL:CG1	2.28	0.63
19:N:18:ALA:HB1	19:N:21:LYS:HG2	1.79	0.63
24:S:88:ASP:CG	24:S:89:ARG:N	2.51	0.63
2:1:9:GLY:O	2:1:10:LYS:HB3	1.98	0.63
15:F:199:TRP:CZ3	15:F:203:GLN:HG3	2.33	0.63
15:F:3:GLU:O	15:F:19:GLU:HA	1.98	0.63
17:H:92:ILE:HD12	17:H:92:ILE:N	2.12	0.63
12:C:49:ILE:HD12	12:C:49:ILE:N	2.12	0.63
10:A:1658:C:OP1	14:E:132:HIS:CE1	2.52	0.63
17:H:30:LYS:NZ	17:H:81:GLU:HG2	2.14	0.63
13:D:253:GLN:HB3	13:D:255:LYS:HE2	1.81	0.63
30:Y:10:GLY:HA2	30:Y:27:VAL:CG1	2.29	0.63
30:Y:37:VAL:HG13	30:Y:69:ALA:HA	1.81	0.63
30:Y:38:ILE:HG22	30:Y:39:VAL:N	2.14	0.63
16:G:60:LEU:HD13	16:G:60:LEU:C	2.18	0.63
10:A:2742:C:O2'	10:A:2743:C:H5'	1.99	0.63
18:I:14:ASP:O	18:I:17:GLN:HB2	1.99	0.63
6:5:55:ARG:CG	6:5:56:LYS:H	2.08	0.63
10:A:2377:A:H4'	24:S:107:GLU:CB	2.28	0.63
23:R:10:LEU:HD22	23:R:17:ARG:HD2	1.81	0.63
10:A:1220:A:O2'	10:A:1221:C:H5''	1.98	0.63
19:N:66:LYS:HB3	19:N:70:LYS:HB2	1.79	0.63
22:Q:140:ALA:HB1	31:Z:99:TYR:HB2	1.80	0.63
21:P:131:SER:N	21:P:134:ALA:HB3	2.12	0.63
12:C:50:ASP:CG	12:C:55:ASP:HA	2.19	0.63
10:A:2051:A:H8	10:A:2051:A:OP2	1.82	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:36:TYR:N	24:S:36:TYR:HD1	1.95	0.63
10:A:1656:C:H2'	10:A:1657:C:H6	1.63	0.63
10:A:492:A:H2'	10:A:493:G:O4'	1.99	0.63
10:A:152:G:H1	10:A:174:C:H42	1.46	0.63
1:O:17:GLN:O	1:O:19:LYS:HD3	1.98	0.63
10:A:247:G:H4'	10:A:386:G:C5	2.33	0.63
29:X:73:ARG:N	29:X:74:PRO:CD	2.61	0.63
25:T:65:LYS:HZ2	25:T:66:VAL:N	1.97	0.63
15:F:117:ARG:HH21	15:F:187:VAL:HA	1.64	0.63
10:A:136:G:H1	10:A:143(A):C:H42	1.46	0.63
22:Q:42:ILE:HG22	22:Q:47:ILE:CD1	2.29	0.63
10:A:359:A:H2'	10:A:360:G:O4'	1.98	0.63
17:H:153:LYS:N	17:H:153:LYS:HD3	2.13	0.63
27:V:25:LEU:N	27:V:94:LEU:HD12	2.14	0.63
27:V:89:GLN:NE2	27:V:90:PRO:HD2	2.14	0.62
10:A:1899:G:O2'	10:A:1900:A:H5''	1.98	0.62
2:1:84:GLY:O	2:1:85:LEU:HD23	1.98	0.62
26:U:26:GLY:C	26:U:28:ARG:N	2.50	0.62
18:I:37:VAL:HG12	18:I:38:LEU:N	2.14	0.62
10:A:510:C:H2'	10:A:511:U:O4'	1.98	0.62
17:H:87:LEU:N	17:H:131:VAL:O	2.32	0.62
10:A:2426:A:H3'	10:A:2427:C:C5'	2.28	0.62
10:A:2283:C:H2'	10:A:2284:C:C5'	2.29	0.62
11:B:16:G:O2'	11:B:17:C:H5'	1.98	0.62
10:A:307:G:H21	10:A:330:A:H62	1.47	0.62
16:G:91:ARG:HD2	16:G:91:ARG:C	2.19	0.62
7:6:10:LEU:H	7:6:10:LEU:HD22	1.64	0.62
22:Q:11:LYS:HE2	22:Q:85:LYS:CG	2.26	0.62
23:R:113:LEU:HD12	23:R:114:VAL:H	1.64	0.62
17:H:118:PRO:HB2	17:H:121:ILE:HD12	1.81	0.62
29:X:78:LYS:O	29:X:78:LYS:HD3	1.98	0.62
14:E:167:VAL:HG22	14:E:170:LEU:HD11	1.79	0.62
20:O:89:ASN:O	20:O:91:LEU:HD22	1.98	0.62
23:R:4:LEU:O	23:R:6:SER:N	2.32	0.62
10:A:604:G:H2'	10:A:605:C:H6	1.64	0.62
10:A:30:G:O2'	10:A:31:C:H5'	1.99	0.62
10:A:207:A:H2'	10:A:208:C:O4'	1.99	0.62
20:O:69:ILE:N	20:O:69:ILE:HD12	2.15	0.62
15:F:53:THR:CG2	15:F:56:GLU:HB2	2.21	0.62
9:8:13:ARG:NH2	10:A:250:G:OP2	2.32	0.62
16:G:70:VAL:HA	16:G:90:LEU:HD12	1.79	0.62
13:D:172:TYR:CD1	13:D:186:HIS:HA	2.33	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2513:G:H2'	10:A:2514:U:C6	2.33	0.62
6:5:32:PRO:HD2	10:A:2886:G:O2'	1.99	0.62
24:S:58:LEU:CD2	24:S:68:GLN:HB2	2.29	0.62
27:V:5:VAL:HG21	27:V:36:PRO:CG	2.28	0.62
10:A:1710:C:O2'	10:A:1711:C:H5'	1.99	0.62
30:Y:31:LEU:HB2	30:Y:36:ALA:H	1.64	0.62
11:B:15:A:C3'	11:B:16:G:H5'	2.28	0.62
11:B:15:A:H5'	11:B:16:G:H8	1.63	0.62
13:D:138:VAL:HA	13:D:165:ILE:CG2	2.28	0.62
10:A:1844:C:H5'	13:D:256:GLY:O	1.99	0.62
10:A:2772:C:H2'	10:A:2773:C:H6	1.64	0.62
25:T:108:ARG:HH11	25:T:108:ARG:CB	2.11	0.62
10:A:717:G:H2'	10:A:718:A:O4'	2.00	0.62
26:U:88:ILE:O	26:U:90:VAL:N	2.31	0.62
10:A:1162:G:N3	27:V:91:TYR:HE1	1.96	0.62
30:Y:47:LYS:O	30:Y:49:VAL:HG23	1.98	0.62
21:P:143:GLY:C	21:P:145:PRO:HD3	2.19	0.62
25:T:28:VAL:CG2	25:T:46:GLU:HA	2.30	0.62
25:T:82:LEU:O	25:T:83:ILE:C	2.37	0.62
14:E:101:ARG:HB3	14:E:201:THR:OG1	1.98	0.62
2:1:89:GLU:HG2	2:1:90:ILE:H	1.64	0.62
3:2:49:LYS:HA	3:2:53:LEU:HB3	1.80	0.62
26:U:57:PHE:HA	26:U:60:LEU:HB2	1.80	0.62
10:A:2722:G:H2'	10:A:2723:C:C6	2.34	0.62
31:Z:85:HIS:ND1	31:Z:86:VAL:N	2.47	0.62
10:A:27:G:H1'	10:A:513:A:N6	2.14	0.62
19:N:120:LEU:CD1	19:N:122:VAL:HG23	2.29	0.62
10:A:2348:U:C2'	10:A:2349:G:C5'	2.75	0.62
16:G:25:TYR:CE2	16:G:32:PRO:HD3	2.35	0.62
14:E:26:ILE:HG22	14:E:27:LEU:N	2.13	0.62
10:A:893:C:H2'	10:A:894:C:C5'	2.29	0.62
10:A:2162:G:H5'	10:A:2171:A:H5''	1.82	0.62
6:5:43:HIS:HD2	10:A:2815:C:O2'	1.82	0.62
16:G:127:GLY:HA2	16:G:166:ASP:HB3	1.80	0.62
12:C:41:VAL:HB	12:C:178:ALA:HB3	1.81	0.62
10:A:1204:A:N1	10:A:1241:A:H2	1.97	0.62
4:3:54:VAL:HG12	4:3:55:ARG:N	2.12	0.62
10:A:1497:U:H5'	10:A:1498:C:H5	1.64	0.62
17:H:140:LYS:O	17:H:144:VAL:HG23	1.99	0.62
23:R:2:ARG:HD3	23:R:5:LYS:HZ2	1.64	0.62
31:Z:166:SER:HB2	31:Z:167:PRO:C	2.19	0.62
27:V:19:LYS:HZ2	27:V:20:LEU:H	1.48	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2345:G:N3	10:A:2381:C:H2'	2.14	0.62
14:E:154:LYS:CA	14:E:154:LYS:HE3	2.27	0.62
14:E:11:MET:H	25:T:8:LYS:HE3	1.63	0.62
10:A:870:A:H5''	22:Q:7:MET:HB2	1.81	0.62
12:C:47:LEU:HD23	12:C:47:LEU:N	2.14	0.62
10:A:608:A:OP1	15:F:100:THR:HG21	1.99	0.62
10:A:1195:G:O2'	10:A:1196:C:H5'	2.00	0.62
6:5:59:GLU:O	6:5:60:VAL:HG23	1.99	0.62
14:E:30:PRO:HD3	14:E:180:ASN:ND2	2.13	0.62
10:A:2870:C:H2'	10:A:2871:C:O4'	1.99	0.62
31:Z:40:ASP:HB3	31:Z:43:GLU:HG3	1.80	0.62
22:Q:44:ALA:HA	22:Q:47:ILE:HD13	1.81	0.62
26:U:31:SER:O	26:U:33:ARG:N	2.32	0.62
27:V:5:VAL:HG21	27:V:36:PRO:HB2	1.80	0.62
10:A:491:G:O2'	10:A:492:A:H5'	2.00	0.62
27:V:50:PRO:O	27:V:51:VAL:HB	1.99	0.62
10:A:2571:C:C5'	10:A:2572:A:H5''	2.30	0.62
10:A:2323:G:H2'	10:A:2324:C:O4'	1.98	0.62
12:C:34:THR:O	12:C:35:ALA:CB	2.48	0.62
30:Y:17:SER:HA	30:Y:71:LYS:HD2	1.81	0.62
30:Y:26:LYS:HG2	30:Y:27:VAL:H	1.65	0.62
2:1:11:ARG:HH11	2:1:60:PHE:HA	1.65	0.62
9:8:50:LEU:O	9:8:52:LYS:N	2.28	0.62
10:A:142:A:H5'	10:A:142(A):C:OP2	1.99	0.62
10:A:896:A:H5''	31:Z:146:ILE:HD12	1.80	0.62
17:H:152:ARG:CB	17:H:161:GLY:HA2	2.23	0.62
10:A:2893:G:H5'	10:A:2894:G:C5'	2.27	0.62
27:V:62:LEU:CD2	27:V:98:GLU:HA	2.30	0.62
18:I:71:ILE:HG13	18:I:72:LEU:N	2.15	0.62
12:C:18:LYS:HB3	12:C:22:ILE:HD11	1.80	0.62
26:U:112:ARG:O	26:U:115:ALA:HB3	1.99	0.62
10:A:1842:G:H2'	10:A:1843:C:C6	2.34	0.62
10:A:792:G:H5''	10:A:793:A:H5'	1.80	0.62
4:3:23:LEU:HD11	4:3:50:VAL:HG11	1.81	0.62
10:A:2824:C:H2'	10:A:2825:C:O4'	2.00	0.62
2:1:11:ARG:HB3	2:1:12:PRO:CD	2.30	0.62
2:1:13:ILE:HG23	2:1:14:VAL:N	2.12	0.62
3:2:52:ASP:O	3:2:53:LEU:O	2.17	0.62
10:A:2758:A:C3'	10:A:2759:G:H5''	2.29	0.62
14:E:117:MET:HA	14:E:122:PHE:N	2.06	0.62
11:B:74:U:H2'	11:B:75:G:O4'	2.00	0.62
10:A:286:C:C3'	10:A:287:C:H5''	2.29	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:19:VAL:HG11	17:H:44:VAL:HG22	1.80	0.62
10:A:1322:A:O3'	28:W:84:ARG:NH2	2.33	0.62
25:T:3:ARG:O	25:T:7:ILE:HG12	1.99	0.62
10:A:1324:G:H3'	10:A:1325:G:C5'	2.30	0.62
10:A:2832:U:H4'	10:A:2833:G:H5''	1.81	0.62
10:A:2295:C:O2'	10:A:2296:U:H5'	1.99	0.62
24:S:89:ARG:HB2	24:S:97:ARG:HH22	1.64	0.62
10:A:1245:G:OP1	21:P:16:ARG:HD2	2.00	0.62
13:D:267:SER:HA	13:D:270:ILE:CG1	2.29	0.62
2:1:26:ARG:HB2	2:1:34:THR:CA	2.28	0.62
27:V:2:PHE:O	27:V:3:ALA:HB2	2.00	0.62
10:A:604:G:O2'	10:A:605:C:H5'	1.99	0.62
10:A:271(M):G:H2'	10:A:271(N):U:C5'	2.30	0.62
18:I:110:ASP:C	18:I:112:LYS:H	2.03	0.62
14:E:69:LYS:O	14:E:70:ALA:C	2.39	0.62
14:E:55:ASN:HD21	14:E:75:VAL:CG2	2.12	0.62
10:A:1899:G:N2	10:A:1902:C:N4	2.47	0.62
30:Y:9:LYS:HG3	30:Y:11:ASP:OD2	2.00	0.62
30:Y:71:LYS:HZ2	30:Y:71:LYS:HB2	1.65	0.62
19:N:42:TRP:HE3	19:N:48:MET:HE1	1.65	0.62
11:B:74:U:H2'	11:B:75:G:C5'	2.30	0.62
22:Q:42:ILE:HD12	22:Q:42:ILE:N	2.15	0.62
10:A:2730:C:O2'	10:A:2731:G:H5'	1.99	0.62
10:A:2287:A:C2	10:A:2346:A:C2	2.88	0.62
10:A:2283:C:C2'	10:A:2284:C:H5'	2.28	0.62
10:A:1703:G:H2'	10:A:1704:G:C8	2.35	0.62
13:D:31:LYS:HA	13:D:31:LYS:NZ	2.14	0.62
25:T:29:ARG:HG3	25:T:30:VAL:HG13	1.80	0.61
13:D:94:LEU:HD13	13:D:94:LEU:C	2.21	0.61
17:H:105:LEU:HD22	17:H:105:LEU:O	2.00	0.61
29:X:57:LEU:HD22	29:X:76:ARG:HD2	1.82	0.61
29:X:5:TYR:C	29:X:7:VAL:H	2.03	0.61
12:C:76:ALA:HB3	12:C:94:VAL:HG13	1.82	0.61
10:A:1317:A:H2'	10:A:1318:C:H6	1.65	0.61
22:Q:109:VAL:HG12	22:Q:110:THR:H	1.65	0.61
25:T:29:ARG:HG2	25:T:86:ILE:H	1.66	0.61
30:Y:17:SER:CA	30:Y:71:LYS:HD2	2.30	0.61
13:D:35:LYS:NZ	13:D:65:ILE:HA	2.15	0.61
14:E:52:LEU:H	14:E:76:ARG:HB3	1.63	0.61
3:2:47:ASN:C	3:2:49:LYS:N	2.46	0.61
16:G:115:ARG:NH2	16:G:136:ARG:HG3	2.14	0.61
19:N:40:PRO:HA	26:U:64:ARG:NH2	2.14	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:37:VAL:HG12	17:H:38:SER:N	2.15	0.61
17:H:85:LYS:HZ1	17:H:145:ALA:HA	1.65	0.61
22:Q:23:GLY:C	22:Q:100:GLY:HA3	2.20	0.61
2:1:32:LYS:HA	10:A:2396:G:O2'	2.00	0.61
23:R:45:ARG:HG3	23:R:46:GLY:N	2.11	0.61
13:D:148:GLU:HB2	13:D:151:LYS:HD2	1.82	0.61
24:S:30:ARG:NH2	24:S:62:LYS:HD2	2.15	0.61
12:C:22:ILE:CG2	12:C:25:ALA:HB2	2.31	0.61
10:A:292:C:N4	10:A:348:G:H1	1.96	0.61
15:F:57:VAL:CG1	15:F:58:ALA:H	2.12	0.61
10:A:1171:G:H3'	10:A:1173:G:O4'	2.01	0.61
11:B:73:A:H2	31:Z:34:ASN:HD21	1.48	0.61
14:E:30:PRO:O	14:E:32:PRO:HD3	2.00	0.61
13:D:255:LYS:HE3	13:D:255:LYS:N	2.15	0.61
10:A:1204:A:N1	10:A:1241:A:C2	2.68	0.61
29:X:39:ILE:O	29:X:42:ALA:HB3	2.00	0.61
10:A:2697:G:O2'	10:A:2698:U:H5'	2.00	0.61
14:E:117:MET:CA	14:E:122:PHE:H	2.08	0.61
10:A:2677:G:H2'	10:A:2678:C:H6	1.65	0.61
13:D:147:LEU:HD13	13:D:155:LEU:CD1	2.27	0.61
23:R:79:LEU:HD23	23:R:83:ILE:HB	1.82	0.61
12:C:18:LYS:O	12:C:20:TYR:N	2.32	0.61
25:T:98:LYS:HB3	25:T:100:TYR:HE1	1.64	0.61
28:W:10:VAL:HG23	28:W:101:SER:O	2.00	0.61
10:A:892:G:C8	10:A:893:C:C4	2.88	0.61
14:E:57:LYS:C	14:E:59:VAL:H	2.03	0.61
10:A:412:A:H2'	10:A:413:C:H5'	1.80	0.61
24:S:85:VAL:HG23	24:S:106:ARG:CB	2.28	0.61
2:1:89:GLU:CD	2:1:89:GLU:N	2.50	0.61
3:2:14:ARG:CZ	3:2:57:ILE:CG2	2.76	0.61
15:F:78:ILE:HD13	15:F:78:ILE:N	2.08	0.61
10:A:2807:G:H1	10:A:2892:A:H62	1.48	0.61
19:N:15:LEU:HD21	19:N:55:VAL:CG2	2.30	0.61
23:R:45:ARG:CG	23:R:46:GLY:H	2.09	0.61
22:Q:55:VAL:HG23	31:Z:178:GLU:HB3	1.80	0.61
19:N:82:LEU:H	19:N:82:LEU:HD12	1.66	0.61
10:A:2330:G:O2'	10:A:2331:G:H5'	2.00	0.61
10:A:2040:C:H2'	10:A:2041:U:H6	1.66	0.61
10:A:1773:A:H2'	10:A:1774:C:H5'	1.81	0.61
10:A:2186:G:H2'	10:A:2187:G:H5''	1.82	0.61
12:C:74:VAL:HA	12:C:119:VAL:CB	2.30	0.61
10:A:1441:G:O2'	10:A:1442:G:H5'	1.99	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1278:A:O2'	10:A:1279:G:H5'	2.00	0.61
10:A:1642:G:O2'	10:A:1643:G:H5'	2.01	0.61
10:A:2779:U:H1'	10:A:2781:A:C5	2.35	0.61
13:D:35:LYS:HZ1	13:D:65:ILE:HA	1.63	0.61
13:D:83:GLU:HB2	13:D:92:ILE:HD11	1.81	0.61
23:R:54:LEU:HD21	23:R:65:LEU:HB3	1.81	0.61
20:O:63:VAL:CG2	20:O:64:ARG:N	2.63	0.61
31:Z:40:ASP:HB3	31:Z:43:GLU:CG	2.30	0.61
13:D:268:ARG:NH1	13:D:269:PHE:HE1	1.99	0.61
6:5:50:GLY:HA3	6:5:56:LYS:HG2	1.82	0.61
17:H:158:HIS:O	17:H:159:GLU:HB2	1.99	0.61
10:A:2864:G:O2'	10:A:2865:U:H5'	1.99	0.61
10:A:2728:U:O2'	10:A:2729:G:H5'	2.00	0.61
16:G:19:LEU:HD22	16:G:23:PHE:HE1	1.64	0.61
15:F:9:ILE:HG23	15:F:13:SER:O	2.00	0.61
11:B:3:C:N4	11:B:118:G:H1	1.99	0.61
10:A:2277:G:C2'	10:A:2278:A:H5'	2.29	0.61
10:A:706:A:H2'	10:A:707:G:O4'	2.00	0.61
6:5:6:VAL:HG13	6:5:7:PRO:HD2	1.81	0.61
10:A:1000:A:H5'	10:A:1001:A:OP2	2.00	0.61
24:S:87:PHE:HB2	24:S:106:ARG:HD3	1.81	0.61
24:S:17:ARG:O	24:S:18:ILE:HG22	2.00	0.61
14:E:176:ILE:HD12	14:E:176:ILE:N	2.15	0.61
14:E:4:ILE:HG23	14:E:4:ILE:O	2.00	0.61
30:Y:16:ALA:HA	30:Y:21:LYS:HD2	1.80	0.61
30:Y:38:ILE:N	30:Y:66:PRO:O	2.34	0.61
9:8:13:ARG:HB3	21:P:63:PRO:HA	1.82	0.61
28:W:25:ARG:CB	28:W:25:ARG:HH11	2.08	0.61
30:Y:75:ILE:HD12	30:Y:76:CYS:N	2.14	0.61
10:A:1259:G:O2'	10:A:1260:G:H5'	2.01	0.61
10:A:742:G:O2'	10:A:743:G:H5'	1.99	0.61
10:A:2290:G:H5'	10:A:2290:G:H8	1.66	0.61
10:A:1907:G:O2'	10:A:1908:C:H5'	2.00	0.61
24:S:42:ASP:C	24:S:44:LYS:H	2.04	0.61
26:U:92:ARG:O	26:U:95:LEU:N	2.33	0.61
27:V:73:SER:HB2	27:V:75:PHE:CZ	2.35	0.61
30:Y:15:VAL:O	30:Y:16:ALA:HB2	2.01	0.61
10:A:661:C:H4'	21:P:18:ARG:HG2	1.83	0.61
21:P:16:ARG:HG3	21:P:16:ARG:NH1	2.14	0.61
23:R:113:LEU:HD12	23:R:114:VAL:N	2.15	0.61
28:W:59:VAL:CG1	28:W:60:ASN:N	2.56	0.61
13:D:235:GLY:O	13:D:237:GLU:HG2	2.01	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:11:MET:N	25:T:8:LYS:HE3	2.16	0.61
27:V:5:VAL:CG2	27:V:36:PRO:HB2	2.31	0.61
10:A:1114:G:H2'	10:A:1115:G:C5'	2.31	0.61
10:A:237:C:O2'	10:A:238:C:H5'	2.00	0.61
27:V:72:VAL:HA	27:V:88:ARG:NH2	2.15	0.61
14:E:55:ASN:CG	14:E:75:VAL:HG13	2.21	0.61
10:A:1504:C:O2'	10:A:1505:C:C5'	2.48	0.61
10:A:2030:A:H5''	10:A:2031:A:OP1	2.01	0.61
10:A:588:U:H2'	10:A:589:C:C6	2.35	0.61
21:P:115:LEU:HA	21:P:134:ALA:CB	2.29	0.61
10:A:2658:C:O2	10:A:2658:C:H2'	1.99	0.61
10:A:659:C:C5'	10:A:659:C:H6	2.14	0.61
10:A:1227:G:OP1	26:U:13:LYS:HD3	2.01	0.61
21:P:80:TYR:CE2	21:P:111:ARG:HG2	2.35	0.61
10:A:1654:A:C2	14:E:113:PHE:CD1	2.88	0.61
13:D:126:GLN:O	13:D:193:VAL:HG11	2.00	0.61
24:S:89:ARG:O	24:S:92:TYR:CG	2.54	0.61
10:A:145:G:H2'	10:A:146:G:C5'	2.21	0.61
23:R:63:ARG:HA	23:R:80:PHE:CZ	2.35	0.61
29:X:55:ASN:HB2	29:X:78:LYS:HD2	1.83	0.61
27:V:21:ARG:H	27:V:21:ARG:CD	2.10	0.61
22:Q:52:VAL:CG1	22:Q:53:ALA:H	2.10	0.61
8:7:19:ARG:HG2	8:7:19:ARG:NH1	2.15	0.61
10:A:2051:A:H5'	10:A:2578:G:O4'	2.00	0.61
23:R:11:ASN:O	23:R:12:ARG:HB2	2.01	0.61
10:A:1750:G:O2'	10:A:1751:C:H5'	2.01	0.61
10:A:2735:G:O2'	10:A:2736:G:H5''	2.01	0.61
7:6:36:LEU:HD13	7:6:50:ARG:CZ	2.31	0.61
25:T:108:ARG:NH1	25:T:108:ARG:HB3	2.16	0.61
10:A:1001:A:H2'	10:A:1002:G:O4'	2.00	0.61
14:E:197:ILE:HD11	14:E:199:ARG:HH22	1.66	0.61
10:A:1045:A:N3	10:A:1045:A:H3'	2.15	0.61
18:I:77:LEU:O	18:I:78:THR:HB	2.01	0.61
10:A:2637:U:H6	10:A:2637:U:H5'	1.65	0.61
13:D:34:VAL:O	13:D:34:VAL:HG13	2.01	0.61
2:1:66:HIS:C	2:1:68:PRO:HD2	2.21	0.61
28:W:83:LYS:O	28:W:84:ARG:HD3	2.01	0.61
10:A:1464:C:HO2'	10:A:1528:A:H8	1.49	0.61
25:T:50:ILE:CD1	25:T:50:ILE:N	2.62	0.61
1:0:32:ARG:N	1:0:35:ASN:ND2	2.48	0.61
17:H:103:LEU:H	17:H:103:LEU:HD23	1.65	0.61
10:A:1114:G:C2'	10:A:1115:G:H5''	2.31	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:O:18:LYS:HB2	20:O:45:GLU:HG2	1.83	0.61
18:I:98:ALA:CB	18:I:109:ILE:HD13	2.30	0.60
26:U:91:ASP:OD2	26:U:96:ALA:HB2	2.01	0.60
15:F:125:LEU:HD21	15:F:199:TRP:CD1	2.36	0.60
10:A:1747:G:H2'	10:A:1747(A):G:H8	1.66	0.60
12:C:191:ALA:O	12:C:193:ILE:N	2.33	0.60
10:A:1665:A:O2'	10:A:1666:G:H5'	2.01	0.60
10:A:419:C:O2'	10:A:420:C:H5'	2.00	0.60
19:N:78:TYR:CD1	19:N:79:PRO:CD	2.84	0.60
26:U:79:PHE:HD2	26:U:79:PHE:C	2.04	0.60
25:T:80:SER:HB3	25:T:81:PRO:CD	2.31	0.60
2:1:62:VAL:HG21	2:1:67:ILE:HA	1.82	0.60
9:8:14:VAL:HG22	9:8:24:ALA:HB2	1.83	0.60
10:A:879:G:H1	10:A:898:C:H42	1.49	0.60
30:Y:95:LYS:HD3	30:Y:100:ALA:CB	2.31	0.60
10:A:2720:U:H5'	10:A:2721:A:OP2	2.01	0.60
10:A:271(R):G:O2'	10:A:271(S):G:H5'	2.01	0.60
10:A:621:A:C2'	10:A:622:G:H5'	2.30	0.60
13:D:235:GLY:O	13:D:236:GLY:C	2.38	0.60
5:4:13:ARG:CB	16:G:2:PRO:HG3	2.32	0.60
24:S:34:HIS:CD2	24:S:54:LEU:HB2	2.36	0.60
6:5:25:LEU:HD12	28:W:19:LEU:HB3	1.83	0.60
10:A:2580:U:H5'	14:E:131:ALA:HB2	1.83	0.60
7:6:36:LEU:O	7:6:37:ARG:HG3	2.02	0.60
10:A:473:G:H5''	10:A:508:G:N2	2.16	0.60
11:B:87:G:H2'	11:B:88:C:H5''	1.83	0.60
10:A:1688:U:H1'	10:A:1701:A:C6	2.36	0.60
10:A:738:G:O2'	10:A:739:G:H5'	2.01	0.60
10:A:2774:C:H2'	10:A:2775:A:O4'	2.01	0.60
15:F:183:VAL:O	15:F:187:VAL:HG23	2.02	0.60
4:3:8:LEU:HB2	4:3:28:LEU:HD13	1.83	0.60
16:G:76:SER:HB3	16:G:84:LYS:N	2.09	0.60
21:P:26:GLY:HA2	21:P:30:THR:HG21	1.83	0.60
19:N:96:GLU:HG2	19:N:97:ARG:H	1.66	0.60
22:Q:6:ARG:O	22:Q:6:ARG:HG3	2.00	0.60
25:T:108:ARG:HH11	25:T:108:ARG:HB3	1.65	0.60
7:6:42:TRP:CE3	7:6:42:TRP:HA	2.35	0.60
10:A:266:G:H2'	10:A:267:C:H5''	1.83	0.60
18:I:133:HIS:CB	18:I:134:PRO:CD	2.79	0.60
10:A:2129:C:H2'	10:A:2130:U:C4'	2.22	0.60
2:1:20:ARG:HD3	2:1:41:ARG:CD	2.20	0.60
10:A:2779:U:H1'	10:A:2781:A:N7	2.17	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:92:ILE:HD13	13:D:104:TYR:CD2	2.34	0.60
2:1:86:SER:N	2:1:87:PRO:CD	2.64	0.60
10:A:955:C:OP1	22:Q:13:GLN:HG3	2.01	0.60
31:Z:6:LYS:HB3	31:Z:8:TYR:CE1	2.37	0.60
6:5:57:VAL:HB	6:5:58:LEU:HD12	1.81	0.60
10:A:1847:A:H3'	10:A:1848:A:H5'	1.82	0.60
30:Y:31:LEU:HG	30:Y:34:LYS:HB2	1.83	0.60
16:G:131:TYR:CG	16:G:132:ASN:N	2.68	0.60
10:A:185:U:H4'	10:A:218:A:H4'	1.83	0.60
18:I:25:TYR:HE2	18:I:29:TYR:CD2	2.19	0.60
24:S:17:ARG:C	24:S:19:LYS:N	2.54	0.60
25:T:65:LYS:HZ2	25:T:66:VAL:H	1.49	0.60
2:1:11:ARG:HE	2:1:61:ARG:H	1.48	0.60
14:E:52:LEU:H	14:E:76:ARG:CB	2.15	0.60
31:Z:18:LEU:HB3	31:Z:23:LYS:HB2	1.84	0.60
10:A:1785:A:OP2	10:A:1982:C:H5'	2.02	0.60
22:Q:35:VAL:HG23	22:Q:100:GLY:O	2.00	0.60
10:A:549:G:H2'	10:A:551:G:H5''	1.84	0.60
10:A:2182:G:H2'	10:A:2183:C:C6	2.35	0.60
10:A:2672:G:C3'	10:A:2673:G:H5''	2.31	0.60
22:Q:109:VAL:HG12	22:Q:110:THR:N	2.15	0.60
1:0:11:ARG:HB3	1:0:11:ARG:NH1	2.17	0.60
18:I:127:VAL:HG22	18:I:139:GLN:CG	2.31	0.60
10:A:83:G:N1	10:A:102:G:H2'	2.17	0.60
2:1:10:LYS:HD2	2:1:15:ALA:H	1.65	0.60
10:A:2562:U:C1'	20:O:23:ARG:HH12	2.02	0.60
11:B:81:G:H5'	11:B:82:G:OP2	2.02	0.60
10:A:1722:A:H2	10:A:1740:G:H2'	1.64	0.60
13:D:161:THR:O	13:D:196:VAL:HG23	2.01	0.60
25:T:63:VAL:O	25:T:73:GLU:HA	2.01	0.60
22:Q:22:LYS:CE	22:Q:22:LYS:HA	2.31	0.60
4:3:23:LEU:CD1	4:3:50:VAL:HG11	2.30	0.60
10:A:1654:A:H2	14:E:113:PHE:CD1	2.19	0.60
24:S:17:ARG:HG3	24:S:18:ILE:N	2.17	0.60
21:P:121:LYS:HB3	21:P:122:PRO:HD2	1.83	0.60
10:A:662:G:OP1	21:P:18:ARG:HD2	2.02	0.60
15:F:2:LYS:HG3	15:F:25:PRO:HG2	1.83	0.60
3:2:47:ASN:HD22	3:2:47:ASN:N	1.99	0.60
31:Z:151:HIS:HA	31:Z:171:ILE:CG1	2.29	0.60
20:O:63:VAL:HB	20:O:102:VAL:HG12	1.82	0.60
6:5:4:HIS:CB	6:5:5:PRO:HD3	2.27	0.60
10:A:1947:C:C3'	10:A:1948:G:H5''	2.31	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2892:A:H2'	10:A:2893:G:O4'	2.01	0.60
19:N:16:ILE:HG23	19:N:54:VAL:HG22	1.82	0.60
4:3:2:PRO:O	4:3:39:ASP:HB3	2.01	0.60
10:A:2863:C:H2'	10:A:2864:G:H5''	1.83	0.60
14:E:11:MET:H	25:T:8:LYS:CE	2.14	0.60
30:Y:75:ILE:HG12	30:Y:80:GLY:N	2.16	0.60
23:R:4:LEU:C	23:R:6:SER:H	2.04	0.60
10:A:1230:C:O2'	10:A:1231:G:H5'	2.01	0.60
27:V:51:VAL:HG12	27:V:52:VAL:N	2.16	0.60
18:I:110:ASP:O	18:I:114:LEU:HG	2.02	0.60
24:S:89:ARG:HB3	24:S:97:ARG:HH12	1.65	0.60
13:D:244:ARG:HG2	13:D:245:PRO:HG3	1.83	0.60
10:A:957:A:H5'	22:Q:76:LYS:HG3	1.83	0.60
23:R:50:HIS:O	23:R:54:LEU:HB2	2.02	0.60
13:D:43:ARG:HB3	13:D:54:ARG:HB2	1.82	0.60
10:A:2383:G:O2'	10:A:2384:G:H5'	2.01	0.60
28:W:50:VAL:HG13	28:W:51:LEU:N	2.15	0.60
31:Z:143:GLY:O	31:Z:144:LEU:HD13	2.02	0.60
19:N:77:GLY:O	19:N:78:TYR:HB3	2.02	0.60
30:Y:54:LYS:O	30:Y:55:TYR:O	2.20	0.60
10:A:1593:G:H2'	10:A:1594:G:H5''	1.82	0.60
24:S:89:ARG:CB	24:S:97:ARG:HH22	2.13	0.60
19:N:67:LEU:O	19:N:68:GLU:HB2	2.02	0.60
10:A:1497:U:C5'	10:A:1498:C:H5	2.15	0.60
31:Z:163:LEU:H	31:Z:163:LEU:HD23	1.67	0.60
22:Q:42:ILE:HG22	22:Q:47:ILE:HD12	1.82	0.60
22:Q:52:VAL:CG1	22:Q:53:ALA:N	2.65	0.60
12:C:21:THR:O	12:C:22:ILE:HD13	2.01	0.60
10:A:2849:U:O4	25:T:23:ARG:NH2	2.29	0.60
13:D:223:GLY:O	13:D:224:ALA:C	2.39	0.60
10:A:472:A:H2'	10:A:473:G:H5'	1.84	0.60
26:U:92:ARG:HH22	27:V:10:LYS:HB3	1.67	0.60
26:U:92:ARG:O	26:U:93:LYS:C	2.40	0.60
29:X:59:VAL:CG2	29:X:74:PRO:HG2	2.32	0.60
31:Z:101:PRO:HA	31:Z:123:ASP:HB3	1.83	0.60
24:S:71:ARG:O	24:S:74:ALA:HB3	2.02	0.60
22:Q:141:GLN:HG3	31:Z:72:ARG:NH1	2.17	0.60
19:N:56:ASN:ND2	19:N:126:PRO:HD3	2.17	0.60
25:T:57:PHE:O	25:T:59:THR:N	2.35	0.60
14:E:11:MET:H	25:T:8:LYS:NZ	2.00	0.60
14:E:23:VAL:HA	14:E:184:VAL:O	2.02	0.60
13:D:11:PRO:C	13:D:13:ARG:H	2.05	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:13:ARG:NH1	13:D:16:MET:SD	2.75	0.60
20:O:65:THR:HA	20:O:82:ASN:HA	1.82	0.60
23:R:18:LEU:HD11	23:R:22:ARG:CZ	2.32	0.60
26:U:74:LEU:O	26:U:74:LEU:HD12	2.02	0.59
26:U:95:LEU:HD12	27:V:11:GLN:HG3	1.83	0.59
24:S:106:ARG:O	24:S:106:ARG:HD2	2.02	0.59
21:P:17:LYS:C	21:P:19:VAL:N	2.55	0.59
9:8:12:LYS:O	21:P:65:ARG:HB3	2.02	0.59
10:A:2103:C:H3'	10:A:2104:G:C5'	2.25	0.59
14:E:116:VAL:O	14:E:117:MET:HB3	1.99	0.59
10:A:1141:U:O5'	19:N:63:THR:HG21	2.02	0.59
29:X:92:LEU:O	29:X:93:GLU:HB3	2.02	0.59
22:Q:37:LEU:O	22:Q:99:PRO:HB3	2.02	0.59
21:P:83:VAL:CG1	21:P:112:LEU:HD21	2.32	0.59
25:T:100:TYR:HD2	25:T:103:ARG:NH2	2.00	0.59
10:A:1230:C:H2'	10:A:1231:G:H8	1.67	0.59
10:A:491:G:H2'	10:A:492:A:H8	1.66	0.59
24:S:85:VAL:O	24:S:106:ARG:HA	2.01	0.59
24:S:88:ASP:OD2	24:S:89:ARG:N	2.35	0.59
14:E:200:GLU:N	14:E:200:GLU:OE2	2.34	0.59
22:Q:82:ARG:HH11	22:Q:82:ARG:CG	1.98	0.59
13:D:48:ARG:HG3	13:D:48:ARG:NH1	2.15	0.59
31:Z:108:PRO:CB	31:Z:142:SER:HA	2.30	0.59
10:A:674:G:P	15:F:54:ARG:HH22	2.25	0.59
4:3:15:TYR:O	4:3:20:LYS:HE2	2.02	0.59
10:A:2707:G:H5''	23:R:68:ARG:HH21	1.68	0.59
10:A:2543:G:H8	10:A:2543:G:H5'	1.67	0.59
16:G:135:LEU:N	16:G:135:LEU:HD12	2.17	0.59
13:D:108:PRO:HG2	13:D:111:LEU:HB2	1.82	0.59
25:T:82:LEU:O	25:T:84:GLN:N	2.35	0.59
15:F:20:LEU:O	15:F:24:LEU:HD23	2.02	0.59
15:F:24:LEU:HB3	15:F:25:PRO:CD	2.21	0.59
14:E:51:PHE:HD1	14:E:52:LEU:HD12	1.67	0.59
17:H:70:THR:HG22	17:H:74:ASN:HD21	1.67	0.59
22:Q:20:ALA:HB2	22:Q:99:PRO:CG	2.29	0.59
31:Z:158:PRO:CG	31:Z:161:VAL:HG21	2.31	0.59
10:A:2590:A:H2'	10:A:2591:C:H6	1.67	0.59
10:A:2887:U:H2'	10:A:2888:C:H6	1.66	0.59
10:A:1314:C:H5'	10:A:1314:C:H6	1.66	0.59
15:F:115:ALA:O	15:F:116:ASP:C	2.40	0.59
21:P:46:LYS:HG2	21:P:52:GLU:HG2	1.83	0.59
13:D:95:LEU:HD12	13:D:95:LEU:O	2.02	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:37:THR:CG2	29:X:54:VAL:HB	2.32	0.59
10:A:2463:C:O2'	10:A:2464:C:H5'	2.03	0.59
29:X:29:TRP:CZ3	29:X:76:ARG:HG2	2.37	0.59
10:A:2892:A:C4	10:A:2893:G:H1'	2.36	0.59
10:A:1141:U:H5''	10:A:1142(A):A:O4'	2.02	0.59
10:A:364:C:H2'	10:A:365:C:H5''	1.85	0.59
29:X:83:VAL:O	29:X:84:ALA:HB3	2.02	0.59
10:A:2845:G:OP1	25:T:56:GLY:N	2.34	0.59
20:O:86:ILE:HD12	20:O:86:ILE:H	1.66	0.59
10:A:1679:U:C2'	10:A:1680:U:H5'	2.32	0.59
15:F:132:VAL:HG22	15:F:133:ASN:N	2.16	0.59
10:A:1264:G:H3'	10:A:1265:A:H5''	1.84	0.59
7:6:11:LEU:HG	7:6:26:ASN:ND2	2.17	0.59
13:D:125:ILE:O	13:D:125:ILE:HG22	2.02	0.59
14:E:33:VAL:HG11	14:E:88:GLY:HA2	1.84	0.59
2:1:11:ARG:CB	2:1:12:PRO:HD2	2.32	0.59
10:A:252:G:OP2	21:P:50:ARG:NH1	2.34	0.59
10:A:910:A:N7	22:Q:13:GLN:HB2	2.18	0.59
10:A:1449:A:H1'	10:A:1529:G:H8	1.68	0.59
10:A:2287:A:N6	10:A:2344:U:H3	1.96	0.59
1:0:72:ARG:CB	1:0:75:LEU:HB2	2.33	0.59
15:F:122:LYS:HB3	15:F:191:ARG:HG2	1.83	0.59
15:F:84:VAL:O	15:F:86:GLY:N	2.34	0.59
17:H:153:LYS:H	17:H:153:LYS:CD	2.15	0.59
20:O:107:ARG:NH2	25:T:35:LYS:HD2	2.16	0.59
12:C:77:ILE:O	12:C:77:ILE:HD13	2.02	0.59
8:7:24:THR:OG1	8:7:25:PRO:HD2	2.03	0.59
14:E:3:GLY:CA	14:E:81:ILE:HG21	2.33	0.59
2:1:15:ALA:C	2:1:46:LEU:HD23	2.22	0.59
9:8:59:LYS:CD	21:P:50:ARG:HB3	2.29	0.59
21:P:66:GLY:O	21:P:68:GLN:HB3	2.01	0.59
23:R:87:TYR:HE1	23:R:117:VAL:HG13	1.68	0.59
17:H:66:GLY:HA2	17:H:69:ARG:HB2	1.84	0.59
19:N:55:VAL:CG1	19:N:56:ASN:H	2.15	0.59
22:Q:30:GLY:HA2	22:Q:107:ALA:CB	2.26	0.59
14:E:27:LEU:HG	14:E:27:LEU:O	2.01	0.59
10:A:1887:C:C2'	10:A:1888:G:H5''	2.33	0.59
13:D:18:VAL:HG13	13:D:19:ALA:O	2.02	0.59
10:A:1582:C:H2'	10:A:1583:A:H8	1.68	0.59
29:X:52:VAL:O	29:X:52:VAL:HG12	2.03	0.59
26:U:90:VAL:HG12	26:U:91:ASP:N	2.12	0.59
25:T:65:LYS:HE3	25:T:66:VAL:H	1.66	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1840:G:H1	10:A:1902:C:N4	1.97	0.59
10:A:145:G:C3'	10:A:146:G:H5''	2.32	0.59
17:H:61:HIS:O	17:H:65:HIS:N	2.32	0.59
29:X:50:LYS:O	29:X:82:GLN:N	2.36	0.59
24:S:58:LEU:HD11	24:S:68:GLN:OE1	2.02	0.59
16:G:16:ARG:N	16:G:17:PRO:HD2	2.17	0.59
21:P:85:LEU:N	21:P:85:LEU:HD23	2.18	0.59
16:G:106:LEU:HD12	16:G:110:ALA:HB3	1.85	0.59
10:A:1434:A:O2'	10:A:1435:G:H5'	2.03	0.59
16:G:133:LEU:HD12	16:G:133:LEU:O	2.03	0.59
10:A:1151:G:H5''	26:U:81:HIS:CE1	2.38	0.59
11:B:6:C:O2'	24:S:29:PHE:HE1	1.85	0.59
10:A:2175:C:H2'	10:A:2176:A:C5'	2.20	0.59
3:2:46:GLN:HE21	3:2:47:ASN:HA	1.67	0.59
10:A:2392:A:H2	10:A:2424:C:H42	1.49	0.59
16:G:138:GLN:OE1	16:G:153:ARG:N	2.36	0.59
31:Z:39:VAL:CG2	31:Z:40:ASP:N	2.53	0.59
29:X:55:ASN:HB2	29:X:77:LYS:HD3	1.85	0.59
10:A:285:C:H3'	10:A:286:C:H5''	1.84	0.59
10:A:659:C:H5'	10:A:659:C:H6	1.68	0.59
10:A:2852:G:H2'	10:A:2853:C:H6	1.66	0.59
10:A:1150:C:O2'	10:A:1151:G:H5'	2.03	0.59
11:B:54:G:O2'	11:B:55:U:H5'	2.03	0.59
25:T:13:ARG:NE	25:T:13:ARG:HA	2.18	0.59
10:A:729:G:C4	10:A:1775:U:O2	2.56	0.59
14:E:36:ARG:NH2	14:E:88:GLY:CA	2.65	0.59
4:3:28:LEU:HA	4:3:33:GLN:OE1	2.01	0.59
10:A:2523:G:H5'	10:A:2523:G:H8	1.66	0.59
3:2:46:GLN:NE2	3:2:47:ASN:CA	2.66	0.59
19:N:42:TRP:HA	19:N:48:MET:HE1	1.84	0.59
10:A:2756:U:H4'	10:A:2757:A:OP1	2.02	0.59
13:D:266:SER:O	13:D:267:SER:CB	2.50	0.59
19:N:63:THR:O	19:N:64:GLY:O	2.19	0.59
13:D:172:TYR:HD1	13:D:186:HIS:HA	1.67	0.59
18:I:46:ALA:O	18:I:49:ALA:HB3	2.02	0.59
10:A:389:G:H22	21:P:71:VAL:CG1	2.13	0.59
6:5:40:LYS:HE2	6:5:46:CYS:HB3	1.84	0.59
25:T:50:ILE:HD11	25:T:64:ARG:CB	2.32	0.59
17:H:30:LYS:HB2	17:H:79:VAL:HA	1.85	0.59
10:A:2098:U:H2'	10:A:2099:U:H6	1.68	0.59
10:A:751:A:H5'	28:W:90:ARG:HG2	1.84	0.59
25:T:66:VAL:HA	25:T:71:GLY:HA2	1.84	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:18:ARG:HG2	15:F:19:GLU:N	2.17	0.59
29:X:36:LYS:O	29:X:38:GLU:N	2.36	0.59
24:S:65:VAL:O	24:S:67:ARG:N	2.36	0.59
22:Q:140:ALA:N	31:Z:53:ILE:HD12	2.18	0.59
10:A:806:C:OP2	21:P:39:LYS:HD2	2.02	0.59
10:A:2846:G:H2'	10:A:2847:U:O4'	2.03	0.59
15:F:64:ILE:HD11	15:F:65:TRP:CZ2	2.38	0.59
13:D:77:ALA:CB	13:D:97:TYR:HA	2.33	0.59
10:A:30:G:H2'	10:A:31:C:C6	2.37	0.59
10:A:2098:U:H2'	10:A:2099:U:C6	2.38	0.59
10:A:646:A:H3'	10:A:647:G:H8	1.68	0.59
18:I:94:ALA:HB1	18:I:114:LEU:HD12	1.85	0.58
10:A:993:G:H5''	27:V:75:PHE:CE2	2.37	0.58
29:X:58:HIS:C	29:X:59:VAL:HG22	2.21	0.58
2:1:10:LYS:HD2	2:1:15:ALA:N	2.18	0.58
21:P:34:GLY:O	21:P:35:HIS:O	2.20	0.58
10:A:2533:A:C3'	10:A:2534:A:H5''	2.32	0.58
10:A:27:G:O2'	10:A:28:A:H8	1.75	0.58
14:E:186:GLY:O	14:E:188:VAL:HG12	2.03	0.58
10:A:2502:G:H5''	10:A:2503:A:C5'	2.32	0.58
12:C:77:ILE:HG21	12:C:122:ALA:C	2.23	0.58
10:A:1411:C:H2'	10:A:1412:A:C8	2.38	0.58
15:F:140:LEU:HD13	15:F:170:LEU:HD21	1.85	0.58
10:A:908:C:O2'	10:A:909:A:H5'	2.03	0.58
18:I:91:SER:HB3	18:I:121:LYS:HE3	1.85	0.58
18:I:129:THR:CG2	18:I:135:GLU:HB3	2.29	0.58
18:I:77:LEU:HB2	18:I:140:LEU:HD13	1.84	0.58
13:D:127:VAL:HA	13:D:193:VAL:HG13	1.85	0.58
13:D:129:ASN:O	13:D:193:VAL:HG12	2.03	0.58
21:P:91:PHE:CE2	21:P:95:VAL:HG12	2.38	0.58
10:A:310:A:OP1	30:Y:18:GLY:HA2	2.03	0.58
13:D:94:LEU:HD22	13:D:95:LEU:N	2.18	0.58
14:E:6:GLY:HA2	14:E:51:PHE:CE2	2.37	0.58
10:A:2392:A:C8	21:P:60:MET:HG3	2.38	0.58
10:A:2415:G:H2'	10:A:2416:C:H6	1.64	0.58
21:P:62:LEU:CD1	21:P:62:LEU:H	2.02	0.58
24:S:67:ARG:O	24:S:70:GLY:N	2.36	0.58
20:O:63:VAL:CG2	20:O:64:ARG:H	2.16	0.58
2:1:27:GLU:HB2	2:1:33:LYS:O	2.02	0.58
10:A:607:U:OP1	15:F:102:PRO:HA	2.03	0.58
10:A:1301:A:O2'	10:A:1302:A:C2'	2.48	0.58
10:A:64:A:H2'	10:A:65:C:H6	1.68	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:89:ILE:O	17:H:90:LYS:HB2	2.02	0.58
15:F:157:VAL:CG2	15:F:194:MET:HB3	2.33	0.58
15:F:181:LEU:CD1	15:F:186:ILE:HD11	2.31	0.58
10:A:1510:G:H2'	10:A:1511:C:C6	2.38	0.58
10:A:1221(A):C:H2'	10:A:1222:C:H6	1.68	0.58
14:E:57:LYS:HG3	14:E:57:LYS:O	2.03	0.58
18:I:52:ARG:HG3	18:I:53:ALA:N	2.17	0.58
12:C:89:ALA:HB2	12:C:153:ILE:HA	1.84	0.58
10:A:1963:U:H4'	10:A:1964:G:OP1	2.02	0.58
12:C:97:GLU:HA	12:C:100:ILE:HG12	1.85	0.58
19:N:99:LEU:O	19:N:103:VAL:HG23	2.02	0.58
10:A:585:G:C5	10:A:1251:C:C5	2.91	0.58
18:I:77:LEU:CD1	18:I:101:LEU:HB2	2.33	0.58
21:P:5:ASP:O	21:P:6:LEU:HB3	2.02	0.58
15:F:3:GLU:CA	15:F:24:LEU:HG	2.33	0.58
10:A:1254:A:H5'	10:A:1255:U:H5'	1.84	0.58
14:E:61:ARG:CG	14:E:62:PRO:HD3	2.33	0.58
10:A:1986:A:C3'	10:A:1987:G:H5''	2.31	0.58
24:S:36:TYR:N	24:S:36:TYR:CD1	2.66	0.58
10:A:128:C:H2'	10:A:129:C:C6	2.38	0.58
10:A:2619:C:O2'	10:A:2620:C:H5'	2.03	0.58
28:W:86:LEU:HD12	28:W:87:PRO:HD2	1.86	0.58
18:I:120:ILE:HD13	18:I:126:TYR:CD1	2.37	0.58
10:A:1590:U:C3'	10:A:1591:G:H5''	2.32	0.58
25:T:28:VAL:CG2	25:T:47:GLY:N	2.59	0.58
14:E:201:THR:HG22	14:E:203:LYS:N	2.05	0.58
13:D:35:LYS:HZ3	13:D:104:TYR:HD1	1.47	0.58
2:1:78:LYS:HZ1	2:1:93:GLU:HB2	1.68	0.58
31:Z:101:PRO:O	31:Z:102:LEU:HD23	2.03	0.58
10:A:49:A:H4'	10:A:50:U:C5'	2.22	0.58
16:G:76:SER:CB	16:G:83:ARG:HB3	2.30	0.58
14:E:120:TRP:CE2	14:E:155:LYS:HB3	2.38	0.58
21:P:30:THR:O	21:P:32:THR:N	2.36	0.58
28:W:84:ARG:HB2	28:W:96:ILE:CG2	2.34	0.58
28:W:10:VAL:O	28:W:11:ARG:CB	2.51	0.58
12:C:191:ALA:C	12:C:193:ILE:H	2.05	0.58
27:V:4:ILE:O	27:V:39:LEU:HB2	2.03	0.58
10:A:1789:A:OP1	13:D:222:ARG:HG3	2.03	0.58
12:C:77:ILE:HD12	12:C:123:VAL:N	2.18	0.58
19:N:4:TYR:N	19:N:4:TYR:CD1	2.71	0.58
26:U:110:VAL:O	26:U:113:ALA:HB3	2.04	0.58
29:X:57:LEU:HD13	29:X:77:LYS:CG	2.33	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1717:G:C3'	10:A:1718:G:H5''	2.34	0.58
26:U:29:SER:O	26:U:30:LYS:HD3	2.03	0.58
26:U:34:LYS:HA	26:U:34:LYS:CE	2.32	0.58
17:H:87:LEU:C	17:H:88:LEU:HD22	2.24	0.58
10:A:673:C:H5'	15:F:54:ARG:NH1	2.16	0.58
10:A:542:C:N4	10:A:543:C:H41	2.02	0.58
14:E:128:SER:OG	14:E:129:HIS:N	2.34	0.58
16:G:11:TYR:O	16:G:15:VAL:HB	2.02	0.58
27:V:51:VAL:CG1	27:V:52:VAL:N	2.67	0.58
20:O:104:ARG:HH12	25:T:35:LYS:HD3	1.69	0.58
10:A:1424:G:H2'	10:A:1425:G:O4'	2.04	0.58
10:A:2092:U:H4'	10:A:2093:G:O5'	2.04	0.58
10:A:1603:A:H5'	10:A:1603:A:H8	1.69	0.58
16:G:172:LEU:O	16:G:176:LEU:HG	2.03	0.58
10:A:752:A:O2'	10:A:753:C:OP2	2.18	0.58
11:B:40:U:H1'	11:B:45:A:H61	1.67	0.58
10:A:855:G:H2'	10:A:856:C:C6	2.38	0.58
19:N:74:ARG:NH1	19:N:101:HIS:ND1	2.52	0.58
27:V:72:VAL:O	27:V:73:SER:HB3	2.04	0.58
21:P:101:VAL:C	21:P:103:ALA:N	2.56	0.58
20:O:32:TYR:HD1	20:O:32:TYR:N	2.00	0.58
22:Q:42:ILE:HA	22:Q:46:GLN:OE1	2.04	0.58
10:A:1176:G:H1'	10:A:1177:A:OP1	2.03	0.58
16:G:6:ALA:O	16:G:7:LEU:C	2.41	0.58
10:A:2050:C:H1'	14:E:156:MET:CE	2.33	0.58
14:E:93:VAL:C	14:E:95:ILE:N	2.57	0.58
21:P:45:LEU:CD2	21:P:46:LYS:N	2.56	0.58
13:D:35:LYS:CG	13:D:64:ILE:HG23	2.33	0.58
10:A:833:U:H2'	10:A:834:C:H6	1.67	0.58
29:X:35:THR:O	29:X:36:LYS:C	2.41	0.58
26:U:55:ARG:HA	26:U:58:ARG:HG3	1.86	0.58
16:G:130:ASN:OD1	16:G:160:VAL:HG13	2.04	0.58
14:E:117:MET:CE	14:E:124:GLY:HA3	2.33	0.58
10:A:2723:C:H5''	23:R:2:ARG:NE	2.18	0.58
31:Z:39:VAL:HG21	31:Z:44:PHE:HB2	1.86	0.58
31:Z:56:VAL:HA	31:Z:70:LEU:HD21	1.86	0.58
10:A:229:A:H3'	10:A:230:U:C5'	2.32	0.58
10:A:741:G:H2'	10:A:742:G:H8	1.68	0.58
10:A:646:A:C8	10:A:647:G:H1'	2.38	0.58
10:A:1403:C:H5''	10:A:1471:A:H1'	1.84	0.58
10:A:21:A:O2'	10:A:22:C:H5'	2.04	0.58
10:A:2657:A:H1'	10:A:2665:A:N6	2.17	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:79:PHE:C	26:U:79:PHE:CD2	2.76	0.58
27:V:69:LYS:HB2	27:V:93:GLU:OE2	2.03	0.58
30:Y:28:LYS:HD2	30:Y:37:VAL:CB	2.34	0.58
30:Y:8:LYS:HE3	30:Y:72:VAL:HG23	1.85	0.58
3:2:53:LEU:O	3:2:54:LYS:HB2	2.04	0.58
10:A:71:A:H8	10:A:71:A:H5'	1.67	0.58
29:X:36:LYS:HZ2	29:X:39:ILE:CA	2.01	0.58
23:R:28:LEU:CD2	23:R:114:VAL:HG12	2.34	0.58
23:R:28:LEU:HD13	23:R:28:LEU:O	2.03	0.58
10:A:2103:C:C3'	10:A:2104:G:H5''	2.25	0.58
19:N:46:VAL:CG1	19:N:47:ALA:H	2.13	0.58
26:U:66:ASN:C	26:U:68:ALA:H	2.06	0.58
11:B:74:U:H3'	11:B:75:G:H5''	1.84	0.58
10:A:2641:G:OP1	19:N:75:TYR:HB3	2.04	0.58
17:H:19:VAL:HG21	17:H:44:VAL:CG1	2.31	0.58
12:C:49:ILE:CG2	12:C:50:ASP:H	2.16	0.58
18:I:69:LYS:HA	18:I:136:VAL:HG21	1.85	0.58
29:X:70:LEU:HG	29:X:71:GLY:N	2.19	0.58
10:A:2202:C:H1'	13:D:151:LYS:NZ	2.19	0.58
10:A:1796:U:H2'	10:A:1797:C:C6	2.38	0.58
27:V:12:TYR:N	27:V:12:TYR:HD2	2.01	0.58
3:2:28:LYS:O	3:2:31:GLU:HB3	2.03	0.58
3:2:28:LYS:HG2	3:2:43:GLN:O	2.04	0.58
10:A:754:C:H2'	10:A:755:C:H6	1.69	0.58
26:U:92:ARG:C	26:U:94:ASN:N	2.55	0.58
10:A:58:G:OP1	29:X:72:LYS:HA	2.03	0.58
10:A:1484:G:N2	10:A:1505:C:H41	2.00	0.58
3:2:17:SER:O	3:2:20:GLU:HB2	2.04	0.58
9:8:35:GLN:NE2	9:8:36:LYS:NZ	2.51	0.58
10:A:519:U:H4'	28:W:25:ARG:HH21	1.69	0.58
10:A:2696:U:H2'	10:A:2697:G:H8	1.68	0.58
10:A:1301:A:H4'	10:A:1302:A:OP1	2.03	0.58
10:A:1301:A:H2'	10:A:1302:A:H3'	1.84	0.58
10:A:389:G:N2	21:P:71:VAL:HG12	2.14	0.58
10:A:2347:C:H2'	10:A:2348:U:H6	1.69	0.58
6:5:20:ARG:HH12	28:W:15:ARG:NE	2.02	0.58
10:A:2308:G:H21	16:G:79:ASN:ND2	2.02	0.58
14:E:11:MET:HB2	14:E:23:VAL:O	2.04	0.58
1:0:53:MET:HB3	1:0:59:LEU:HD23	1.86	0.58
13:D:9:TYR:CD2	13:D:10:THR:HG22	2.38	0.58
30:Y:32:PRO:C	30:Y:34:LYS:H	2.07	0.58
14:E:64:LYS:O	14:E:64:LYS:HG2	2.04	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:I:54:GLN:HA	18:I:57:ARG:NH1	2.19	0.58
10:A:855:G:H1	10:A:922:U:H3	1.51	0.58
10:A:2260:C:O2'	10:A:2261:C:H5'	2.03	0.58
10:A:1215:G:O2'	10:A:1216:G:H5'	2.02	0.58
23:R:100:LEU:HD23	23:R:112:ALA:HA	1.85	0.58
10:A:485:C:O2'	10:A:486:C:H5'	2.04	0.58
26:U:83:LEU:C	26:U:88:ILE:HD11	2.24	0.58
2:1:48:LYS:HG3	2:1:49:VAL:N	2.18	0.58
16:G:55:LYS:C	16:G:57:ALA:H	2.06	0.58
23:R:97:VAL:HG22	23:R:114:VAL:HG22	1.84	0.58
10:A:2030:A:H4'	10:A:2031:A:H8	1.69	0.58
17:H:85:LYS:HD2	17:H:141:VAL:HG13	1.86	0.58
20:O:101:PRO:C	20:O:102:VAL:HG22	2.24	0.58
31:Z:40:ASP:OD1	31:Z:42:VAL:HG12	2.03	0.58
31:Z:19:ARG:HH12	31:Z:84:GLU:HA	1.69	0.58
3:2:29:LYS:O	3:2:33:MET:SD	2.62	0.58
11:B:79:C:C2'	11:B:80:U:H5'	2.34	0.58
26:U:31:SER:C	26:U:33:ARG:H	2.07	0.58
24:S:35:ILE:H	24:S:53:SER:CB	2.16	0.58
20:O:86:ILE:HD12	20:O:86:ILE:N	2.19	0.58
30:Y:77:PRO:O	30:Y:78:ALA:HB2	2.03	0.58
10:A:2571:C:H5'	10:A:2572:A:H5''	1.85	0.58
13:D:31:LYS:HA	13:D:31:LYS:HZ1	1.68	0.58
27:V:69:LYS:CG	27:V:70:ILE:H	2.17	0.57
10:A:481:G:HO2'	10:A:482:A:P	2.27	0.57
24:S:28:VAL:H	24:S:89:ARG:HD2	1.69	0.57
10:A:615:G:OP1	15:F:40:GLN:NE2	2.37	0.57
12:C:40:THR:HG21	12:C:215:THR:CB	2.34	0.57
15:F:206:ILE:CD1	15:F:206:ILE:O	2.50	0.57
16:G:63:ILE:O	16:G:63:ILE:HD12	2.04	0.57
19:N:46:VAL:O	19:N:47:ALA:CB	2.51	0.57
17:H:41:MET:CE	17:H:41:MET:HA	2.33	0.57
10:A:1697:G:C5'	10:A:1698:A:H5''	2.34	0.57
31:Z:161:VAL:O	31:Z:161:VAL:HG12	2.03	0.57
30:Y:76:CYS:SG	30:Y:77:PRO:CD	2.91	0.57
16:G:110:ALA:C	16:G:112:PRO:HD2	2.24	0.57
10:A:319:C:O2'	10:A:320:A:H5'	2.03	0.57
7:6:42:TRP:HE3	7:6:42:TRP:HA	1.69	0.57
10:A:646:A:H2'	10:A:647:G:O4'	2.04	0.57
4:3:11:SER:OG	4:3:13:ILE:HG12	2.04	0.57
24:S:15:ARG:HH11	24:S:15:ARG:HG3	1.69	0.57
10:A:2334:G:H21	24:S:18:ILE:CD1	2.17	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:13:VAL:HG12	30:Y:14:LEU:H	1.69	0.57
9:8:34:TRP:O	9:8:35:GLN:HB2	2.04	0.57
23:R:41:ALA:O	23:R:43:GLU:N	2.37	0.57
1:0:39:ARG:HH21	10:A:2355:C:H1'	1.69	0.57
15:F:157:VAL:HA	15:F:176:LEU:O	2.04	0.57
25:T:50:ILE:CD1	25:T:50:ILE:H	2.17	0.57
10:A:2555:U:C2'	10:A:2556:C:H5'	2.31	0.57
21:P:85:LEU:HA	21:P:88:LEU:CB	2.32	0.57
16:G:139:LEU:C	16:G:139:LEU:HD12	2.24	0.57
10:A:500:G:N2	10:A:502:A:H3'	2.18	0.57
17:H:86:GLU:N	17:H:86:GLU:OE1	2.36	0.57
21:P:127:ALA:HB3	21:P:130:PHE:CZ	2.39	0.57
10:A:451:C:H4'	15:F:52:LYS:HZ1	1.67	0.57
29:X:36:LYS:C	29:X:38:GLU:N	2.57	0.57
31:Z:150:LEU:CD2	31:Z:171:ILE:HG13	2.34	0.57
26:U:57:PHE:O	26:U:58:ARG:C	2.43	0.57
22:Q:140:ALA:H	31:Z:53:ILE:CD1	2.17	0.57
22:Q:127:ILE:HG22	22:Q:128:LYS:N	2.15	0.57
22:Q:17:LEU:HD21	22:Q:41:TRP:HE1	1.69	0.57
2:1:26:ARG:HE	2:1:34:THR:CB	2.17	0.57
11:B:78:A:C2	11:B:100:A:C4	2.91	0.57
18:I:38:LEU:O	18:I:40:THR:N	2.36	0.57
1:0:60:PHE:CZ	10:A:2365:G:H4'	2.38	0.57
14:E:24:THR:CG2	14:E:184:VAL:HG23	2.32	0.57
10:A:1275:A:C4	23:R:16:HIS:CE1	2.92	0.57
10:A:2287:A:H2	10:A:2346:A:C2	2.22	0.57
10:A:1314:C:H5'	10:A:1314:C:C6	2.38	0.57
10:A:1247:A:OP1	15:F:95:ARG:NH2	2.37	0.57
10:A:1376:C:O2'	10:A:1377:G:H5'	2.04	0.57
10:A:2636:U:OP1	14:E:80:GLU:N	2.37	0.57
30:Y:28:LYS:O	30:Y:29:GLU:HB2	2.04	0.57
14:E:52:LEU:CB	14:E:76:ARG:HB2	2.18	0.57
22:Q:8:LYS:HG3	22:Q:9:TYR:N	2.19	0.57
22:Q:34:LEU:HD11	22:Q:129:THR:CG2	2.33	0.57
10:A:2181:G:H2'	10:A:2182:G:C8	2.39	0.57
10:A:2481:G:HO2'	10:A:2482:G:P	2.28	0.57
17:H:102:ALA:HB2	17:H:117:PRO:CB	2.34	0.57
11:B:60:C:O2'	11:B:61:G:H5'	2.04	0.57
11:B:105:A:H2'	11:B:106:G:O4'	2.03	0.57
27:V:94:LEU:C	27:V:94:LEU:HD23	2.25	0.57
10:A:1828:G:O6	13:D:222:ARG:HD3	2.05	0.57
10:A:314:A:O2'	10:A:315:G:H5'	2.05	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1336:A:O2'	10:A:1337:G:H5'	2.05	0.57
10:A:122:G:O2'	10:A:123:G:H5'	2.03	0.57
12:C:39:GLU:HG2	12:C:180:PHE:CB	2.34	0.57
10:A:671:C:O2'	10:A:672:C:H5'	2.03	0.57
25:T:118:ARG:O	25:T:121:ILE:N	2.37	0.57
10:A:2491:U:O2'	10:A:2492:U:H5'	2.04	0.57
10:A:83:G:H1	10:A:102:G:H2'	1.69	0.57
30:Y:8:LYS:HZ2	30:Y:74:PRO:HD3	1.70	0.57
9:8:6:THR:HG21	10:A:243:U:OP1	2.04	0.57
3:2:41:ILE:HG22	3:2:42:GLY:N	2.19	0.57
21:P:24:GLY:HA3	21:P:33:ARG:NH2	2.09	0.57
31:Z:25:PRO:HG2	31:Z:84:GLU:O	2.04	0.57
5:4:5:ILE:C	16:G:67:LYS:HE2	2.25	0.57
10:A:2307:G:N2	10:A:2308:G:H5''	2.19	0.57
10:A:1847:A:H3'	10:A:1848:A:C5'	2.35	0.57
10:A:2886:G:H2'	10:A:2887:U:H6	1.70	0.57
25:T:50:ILE:HA	25:T:99:LEU:CD1	2.35	0.57
8:7:12:ARG:HG3	10:A:686:G:O6	2.04	0.57
30:Y:75:ILE:HD11	30:Y:79:CYS:N	2.18	0.57
15:F:84:VAL:HG12	15:F:85:GLY:H	1.70	0.57
10:A:2735:G:H2'	10:A:2736:G:C5'	2.35	0.57
11:B:106:G:O2'	11:B:107:G:H5'	2.04	0.57
10:A:754:C:H2'	10:A:755:C:C6	2.40	0.57
10:A:2350:C:H2'	10:A:2351:G:O4'	2.04	0.57
27:V:75:PHE:HE1	27:V:89:GLN:HB3	1.69	0.57
30:Y:27:VAL:HG12	30:Y:28:LYS:N	2.20	0.57
10:A:1203:G:H4'	21:P:7:ARG:HG2	1.86	0.57
9:8:6:THR:HG21	9:8:63:PRO:HD3	1.87	0.57
10:A:956:G:H5'	10:A:957:A:OP2	2.05	0.57
10:A:877:U:O2'	10:A:878:A:H5''	2.04	0.57
10:A:1884:A:C3'	10:A:1885:A:H5''	2.34	0.57
20:O:4:PRO:O	20:O:5:GLN:CB	2.49	0.57
16:G:102:PHE:HA	16:G:105:LYS:NZ	2.19	0.57
16:G:121:ASN:OD1	16:G:123:ASN:HB2	2.04	0.57
25:T:121:ILE:HG22	25:T:122:ASP:N	2.18	0.57
25:T:83:ILE:HG13	25:T:84:GLN:N	2.20	0.57
21:P:47:ASP:OD1	21:P:48:PRO:O	2.23	0.57
10:A:2262:U:H2'	10:A:2263:C:C5'	2.33	0.57
10:A:7:G:H1	10:A:2896:C:H42	1.52	0.57
21:P:131:SER:C	21:P:133:SER:N	2.58	0.57
10:A:2068:U:N3	10:A:2430:A:H2	1.95	0.57
18:I:58:LEU:HA	18:I:61:ARG:NH1	2.19	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:408:G:O2'	10:A:409:C:H5'	2.04	0.57
13:D:224:ALA:O	13:D:225:ALA:HB2	2.05	0.57
10:A:2321:G:N3	10:A:2321:G:H2'	2.20	0.57
10:A:1242:A:H5'	10:A:1243:G:OP2	2.05	0.57
10:A:1683:C:H2'	10:A:1684:C:H6	1.70	0.57
18:I:92:VAL:O	18:I:92:VAL:HG13	2.04	0.57
21:P:100:LEU:HB2	21:P:106:LEU:HD22	1.87	0.57
10:A:141:A:C8	10:A:1408:C:O2'	2.55	0.57
16:G:57:ALA:O	16:G:60:LEU:HB3	2.05	0.57
23:R:2:ARG:HD3	23:R:5:LYS:NZ	2.20	0.57
10:A:2808:U:H2'	10:A:2809:A:H5'	1.87	0.57
15:F:163:VAL:O	15:F:166:ALA:HB3	2.05	0.57
10:A:2531:A:N3	10:A:2531:A:H2'	2.20	0.57
21:P:83:VAL:HG11	21:P:112:LEU:HD21	1.86	0.57
6:5:31:VAL:HB	6:5:32:PRO:HD2	1.86	0.57
10:A:2801(A):A:C4'	10:A:2802:G:H5'	2.34	0.57
8:7:10:ARG:HG3	10:A:125:G:C6	2.40	0.57
13:D:133:LEU:HA	13:D:136:ILE:HD13	1.87	0.57
8:7:4:THR:OG1	8:7:5:TRP:N	2.37	0.57
10:A:2196:C:O2'	10:A:2197:U:H5'	2.05	0.57
18:I:60:GLU:C	18:I:62:LYS:H	2.08	0.57
10:A:2186:G:C2'	10:A:2187:G:H5''	2.34	0.57
21:P:101:VAL:CG2	21:P:107:LYS:HA	2.30	0.57
12:C:46:LYS:CE	12:C:46:LYS:HA	2.27	0.57
16:G:59:GLU:O	16:G:63:ILE:HG23	2.05	0.57
14:E:111:ARG:NE	14:E:160:TYR:HE1	2.02	0.57
20:O:32:TYR:CD1	20:O:32:TYR:N	2.71	0.57
17:H:89:ILE:HG12	17:H:90:LYS:N	2.19	0.57
10:A:549:G:C2'	10:A:551:G:H5''	2.35	0.57
22:Q:69:PHE:CD1	22:Q:70:PRO:HD2	2.40	0.57
10:A:2286:A:HO2'	10:A:2286:A:H8	1.52	0.57
20:O:104:ARG:NH1	25:T:35:LYS:HD3	2.19	0.57
10:A:2410:G:H2'	10:A:2411:A:O4'	2.05	0.57
26:U:92:ARG:NH2	27:V:10:LYS:HB3	2.20	0.57
29:X:60:ARG:HG3	29:X:72:LYS:N	2.20	0.57
19:N:40:PRO:HA	26:U:64:ARG:CZ	2.34	0.57
22:Q:38:GLU:HB2	22:Q:127:ILE:HG23	1.87	0.57
10:A:2059:A:H5'	10:A:2060:A:OP2	2.04	0.57
17:H:87:LEU:CD1	17:H:148:ILE:HG21	2.30	0.57
10:A:1988:C:H2'	10:A:1989:G:H8	1.70	0.57
24:S:58:LEU:HD21	24:S:68:GLN:OE1	2.05	0.57
10:A:1991:U:O2'	10:A:1992:G:H5''	2.05	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:8:PRO:CB	13:D:14:ARG:HB2	2.32	0.57
10:A:1292:U:H2'	10:A:1293:C:C6	2.40	0.57
9:8:23:VAL:HG12	9:8:46:ARG:NH1	2.19	0.57
10:A:2025:C:H2'	10:A:2026:C:H6	1.70	0.57
19:N:65:LYS:HA	19:N:65:LYS:CE	2.13	0.56
19:N:72:TYR:N	19:N:85:ILE:O	2.36	0.56
3:2:51:ARG:O	3:2:52:ASP:CB	2.53	0.56
10:A:94(A):G:H2'	10:A:95:G:O4'	2.04	0.56
17:H:141:VAL:CG1	17:H:142:GLY:N	2.68	0.56
13:D:267:SER:O	13:D:268:ARG:HB2	2.04	0.56
13:D:267:SER:O	13:D:269:PHE:N	2.38	0.56
13:D:183:ARG:HD2	13:D:270:ILE:HG22	1.86	0.56
3:2:26:ARG:NE	3:2:29:LYS:NZ	2.53	0.56
21:P:115:LEU:HB3	21:P:131:SER:OG	2.04	0.56
10:A:1815:A:OP2	13:D:54:ARG:NH2	2.37	0.56
8:7:12:ARG:NH1	8:7:12:ARG:HG3	2.20	0.56
16:G:112:PRO:CB	16:G:113:ARG:HG2	2.35	0.56
2:1:23:LYS:HA	2:1:23:LYS:HE3	1.87	0.56
12:C:89:ALA:HB2	12:C:153:ILE:CB	2.35	0.56
31:Z:105:VAL:HG22	31:Z:106:GLY:N	2.20	0.56
14:E:201:THR:CG2	14:E:202:LYS:N	2.68	0.56
30:Y:38:ILE:HG12	30:Y:66:PRO:HA	1.87	0.56
15:F:205:ARG:C	15:F:206:ILE:HG13	2.24	0.56
10:A:27:G:N2	10:A:512:G:C2'	2.68	0.56
6:5:20:ARG:HA	6:5:23:HIS:CD2	2.41	0.56
29:X:82:GLN:OE1	29:X:83:VAL:N	2.37	0.56
10:A:440:G:H22	15:F:46:ARG:HH21	1.54	0.56
10:A:1169:G:H1	10:A:1180:C:N4	2.01	0.56
13:D:132:PRO:HG3	13:D:190:TYR:CE1	2.40	0.56
20:O:13:ASN:HD21	20:O:97:ARG:N	2.02	0.56
10:A:373:U:H2'	10:A:374:A:H8	1.70	0.56
26:U:92:ARG:HD2	27:V:11:GLN:HG2	1.88	0.56
10:A:993:G:N2	27:V:91:TYR:OH	2.39	0.56
24:S:87:PHE:CG	24:S:88:ASP:N	2.73	0.56
21:P:121:LYS:O	21:P:123:LEU:HD23	2.05	0.56
20:O:69:ILE:H	20:O:69:ILE:HD12	1.69	0.56
15:F:2:LYS:O	15:F:25:PRO:HG2	2.05	0.56
15:F:22:ALA:C	15:F:24:LEU:H	2.07	0.56
3:2:46:GLN:HG2	3:2:50:ILE:CG1	2.35	0.56
10:A:2496:C:OP1	22:Q:81:VAL:HG13	2.06	0.56
16:G:153:ARG:HG2	16:G:153:ARG:O	2.06	0.56
14:E:114:ALA:HB3	14:E:160:TYR:HB3	1.88	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:Z:99:TYR:HE2	31:Z:125:LEU:HD12	1.70	0.56
7:6:33:LYS:O	7:6:34:LEU:HB2	2.05	0.56
12:C:50:ASP:OD1	12:C:55:ASP:HA	2.04	0.56
18:I:72:LEU:O	18:I:138:ILE:HA	2.04	0.56
10:A:2472:G:H2'	10:A:2529:G:H22	1.66	0.56
10:A:2590:A:O2'	10:A:2591:C:H5'	2.04	0.56
24:S:31:SER:HB3	24:S:34:HIS:O	2.06	0.56
10:A:39:C:O2	15:F:46:ARG:NH2	2.39	0.56
20:O:71:ARG:NH2	20:O:122:LEU:OXT	2.38	0.56
21:P:85:LEU:HD21	21:P:117:GLU:O	2.05	0.56
21:P:13:ASN:N	21:P:13:ASN:HD22	2.02	0.56
22:Q:7:MET:O	22:Q:10:ARG:NE	2.37	0.56
10:A:1682:G:H2'	10:A:1683:C:C6	2.41	0.56
10:A:554:U:C2'	10:A:555:U:H5'	2.35	0.56
10:A:1438:U:O2'	10:A:1439:A:H5'	2.04	0.56
10:A:38:A:H1'	15:F:48:THR:HB	1.86	0.56
6:5:52:TYR:O	6:5:53:ALA:HB3	2.05	0.56
10:A:2387:U:H5'	10:A:2388:A:OP2	2.05	0.56
10:A:2296:U:H2'	24:S:13:ARG:NH2	2.21	0.56
15:F:33:LEU:HD13	15:F:112:MET:HB3	1.88	0.56
7:6:10:LEU:HD22	7:6:10:LEU:N	2.21	0.56
22:Q:74:TYR:HD2	22:Q:91:GLU:CD	2.09	0.56
22:Q:75:THR:HA	22:Q:89:ASN:N	2.20	0.56
19:N:48:MET:O	19:N:48:MET:SD	2.64	0.56
21:P:34:GLY:O	21:P:35:HIS:HD2	1.89	0.56
19:N:128:HIS:O	19:N:130:HIS:N	2.38	0.56
10:A:2514:U:H2'	10:A:2515:C:H6	1.70	0.56
10:A:2591:C:P	13:D:239:ARG:HG3	2.45	0.56
8:7:47:ARG:C	8:7:48:LYS:HD3	2.25	0.56
18:I:1:MET:HB2	18:I:21:VAL:O	2.05	0.56
10:A:271(M):G:H2'	10:A:271(N):U:H5'	1.86	0.56
10:A:2277:G:H2'	10:A:2278:A:H5'	1.87	0.56
10:A:2289:G:H2'	10:A:2290:G:H5''	1.88	0.56
18:I:28:ASN:HA	18:I:32:PRO:HG2	1.88	0.56
19:N:2:LYS:HD2	19:N:2:LYS:N	2.20	0.56
10:A:402:A:O2'	10:A:403:U:H5'	2.05	0.56
10:A:2716:U:O2'	10:A:2717:G:H5'	2.05	0.56
17:H:139:GLN:O	17:H:143:GLN:HB2	2.06	0.56
28:W:1:MET:HE2	28:W:2:GLU:H	1.70	0.56
10:A:1257:C:H2'	10:A:1258:C:C6	2.41	0.56
18:I:98:ALA:CA	18:I:109:ILE:HD13	2.35	0.56
10:A:2704:C:C2	10:A:2705:A:C8	2.94	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2777:G:H4'	10:A:2778:A:H5'	1.86	0.56
14:E:179:GLU:OE1	14:E:179:GLU:HA	2.04	0.56
14:E:180:ASN:O	14:E:181:LEU:HD22	2.06	0.56
14:E:3:GLY:O	14:E:4:ILE:CB	2.54	0.56
13:D:241:PRO:O	13:D:243:GLY:N	2.38	0.56
2:1:90:ILE:O	2:1:94:LEU:HB2	2.05	0.56
14:E:51:PHE:CD1	14:E:52:LEU:HD12	2.40	0.56
9:8:60:LEU:HB3	9:8:63:PRO:HG2	1.88	0.56
21:P:48:PRO:HG2	21:P:49:ARG:N	2.19	0.56
16:G:55:LYS:C	16:G:57:ALA:N	2.58	0.56
21:P:14:LYS:O	21:P:15:ARG:HG3	2.05	0.56
10:A:1675:C:C2	14:E:129:HIS:HD2	2.24	0.56
20:O:65:THR:O	20:O:79:PHE:HB2	2.05	0.56
21:P:108:LYS:C	21:P:110:TYR:H	2.06	0.56
14:E:63:LEU:O	14:E:63:LEU:HD23	2.05	0.56
1:0:74:ARG:HG2	11:B:12:C:O2'	2.05	0.56
10:A:1684:C:O2'	10:A:1685:C:H5'	2.05	0.56
10:A:1695:G:C2'	10:A:1696:G:H5'	2.36	0.56
20:O:11:ALA:O	20:O:12:ASP:HB3	2.04	0.56
27:V:72:VAL:C	27:V:88:ARG:HH22	2.09	0.56
25:T:33:LYS:HB2	25:T:41:ARG:HB3	1.86	0.56
30:Y:28:LYS:O	30:Y:38:ILE:CB	2.45	0.56
2:1:66:HIS:O	2:1:67:ILE:C	2.43	0.56
2:1:87:PRO:HB2	2:1:91:LYS:HD2	1.87	0.56
2:1:94:LEU:HD22	2:1:95:LEU:N	2.20	0.56
15:F:20:LEU:HD22	15:F:23:ASP:OD2	2.06	0.56
10:A:2011:U:C2'	10:A:2012:G:H5'	2.35	0.56
26:U:28:ARG:NH1	26:U:38:THR:OG1	2.38	0.56
21:P:74:GLU:HG3	21:P:75:ILE:N	2.20	0.56
19:N:16:ILE:HG12	19:N:17:ASP:N	2.21	0.56
10:A:2591:C:H2'	10:A:2592:G:H8	1.70	0.56
10:A:1722:A:O2'	10:A:1739:U:H5''	2.05	0.56
13:D:75:ILE:HG21	13:D:99:ASP:HB2	1.86	0.56
20:O:71:ARG:HH11	20:O:71:ARG:HG3	1.70	0.56
17:H:98:LEU:HB2	17:H:125:VAL:HG21	1.87	0.56
31:Z:144:LEU:N	31:Z:144:LEU:HD22	2.20	0.56
5:4:29:PRO:C	5:4:31:ILE:N	2.57	0.56
28:W:52:GLU:O	28:W:55:ALA:HB3	2.05	0.56
10:A:460:A:H2'	10:A:461:C:O4'	2.06	0.56
24:S:28:VAL:O	24:S:29:PHE:HB2	2.06	0.56
21:P:122:PRO:HB3	21:P:141:ALA:CB	2.35	0.56
25:T:29:ARG:NE	25:T:30:VAL:HG13	2.20	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:117:ARG:NH2	21:P:5:ASP:N	2.53	0.56
13:D:30:GLU:CD	13:D:63:ARG:HE	2.09	0.56
4:3:8:LEU:HD12	4:3:31:LEU:HA	1.87	0.56
10:A:2178:C:H4'	12:C:46:LYS:HZ3	1.69	0.56
9:8:50:LEU:HD12	9:8:51:ALA:H	1.71	0.56
21:P:50:ARG:NH2	21:P:50:ARG:HG2	2.18	0.56
26:U:64:ARG:HE	26:U:64:ARG:N	2.04	0.56
25:T:53:ARG:O	25:T:53:ARG:HD3	2.05	0.56
31:Z:18:LEU:O	31:Z:19:ARG:C	2.43	0.56
29:X:77:LYS:HD3	29:X:78:LYS:CD	2.31	0.56
20:O:10:VAL:HG21	20:O:16:ALA:O	2.06	0.56
10:A:1175:U:C4'	10:A:1176:G:H2'	2.36	0.56
29:X:83:VAL:O	29:X:85:PRO:HD3	2.06	0.56
28:W:18:ARG:HG2	28:W:76:VAL:CG1	2.36	0.56
13:D:16:MET:HG3	13:D:206:LEU:O	2.05	0.56
25:T:92:GLY:C	25:T:94:ALA:N	2.59	0.56
30:Y:33:LYS:O	30:Y:34:LYS:HG3	2.05	0.56
3:2:28:LYS:HE2	3:2:43:GLN:CB	2.35	0.56
21:P:101:VAL:O	21:P:103:ALA:N	2.39	0.56
14:E:55:ASN:HB2	14:E:72:VAL:HG12	1.87	0.56
13:D:39:LYS:HB2	13:D:62:TYR:HB2	1.88	0.56
2:1:88:LYS:O	2:1:89:GLU:C	2.42	0.56
2:1:94:LEU:CD2	2:1:95:LEU:N	2.69	0.56
16:G:114:ILE:CD1	16:G:140:ILE:HD12	2.36	0.56
16:G:129:GLY:O	16:G:130:ASN:HB2	2.06	0.56
10:A:2464:C:O2'	10:A:2465:C:H6	1.79	0.56
30:Y:99:CYS:O	30:Y:100:ALA:HB3	2.06	0.56
3:2:33:MET:HG2	29:X:11:PRO:CD	2.33	0.56
17:H:106:THR:HG22	17:H:112:PRO:CB	2.35	0.56
10:A:343:C:H2'	10:A:343:C:O2	2.06	0.56
10:A:1713:U:O2'	10:A:1714:G:H5'	2.06	0.56
10:A:543:C:N4	10:A:551:G:H1	2.01	0.56
10:A:1175:U:O4'	10:A:1176:G:H2'	2.06	0.56
10:A:440:G:H22	15:F:46:ARG:NH2	2.04	0.56
10:A:2801(A):A:C3'	10:A:2802:G:H5'	2.36	0.56
30:Y:76:CYS:SG	30:Y:77:PRO:HD3	2.46	0.56
13:D:136:ILE:N	13:D:136:ILE:HD12	2.21	0.56
10:A:790:C:O2'	10:A:791:C:OP1	2.18	0.56
10:A:2062:A:O2'	10:A:2063:C:H5'	2.06	0.56
2:1:47:GLN:OE1	2:1:47:GLN:O	2.24	0.56
29:X:36:LYS:NZ	29:X:39:ILE:CA	2.59	0.56
29:X:40:LYS:C	29:X:42:ALA:N	2.58	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2312:U:C4'	16:G:71:THR:HG21	2.33	0.56
31:Z:69:THR:CG2	31:Z:90:VAL:HA	2.28	0.56
14:E:111:ARG:NE	14:E:160:TYR:CE1	2.74	0.56
10:A:2808:U:C2'	10:A:2809:A:H5'	2.36	0.56
27:V:64:HIS:HB2	27:V:95:LEU:O	2.06	0.56
31:Z:158:PRO:HG2	31:Z:161:VAL:CG2	2.32	0.56
10:A:543:C:N3	10:A:551:G:C2	2.73	0.56
10:A:2692:C:O2'	10:A:2693:A:H5'	2.06	0.56
17:H:155:SER:O	17:H:157:TYR:N	2.35	0.56
13:D:223:GLY:O	13:D:225:ALA:N	2.39	0.56
17:H:76:VAL:HG12	17:H:77:LYS:N	2.20	0.56
10:A:2102:U:C5	10:A:2187:G:O6	2.59	0.56
23:R:24:GLN:HB2	23:R:44:LEU:HD23	1.88	0.56
14:E:9:VAL:HG13	14:E:25:VAL:O	2.05	0.56
10:A:1756:G:H4'	10:A:1758:G:O4'	2.05	0.56
18:I:131:LYS:HG2	18:I:132:PRO:HA	1.87	0.56
18:I:123:LEU:CD1	18:I:144:VAL:HG22	2.35	0.56
26:U:93:LYS:H	26:U:93:LYS:CD	2.19	0.56
24:S:25:ARG:HG2	24:S:88:ASP:OD1	2.06	0.56
13:D:35:LYS:HG2	13:D:64:ILE:CG2	2.35	0.56
2:1:46:LEU:O	2:1:47:GLN:C	2.44	0.56
24:S:66:ALA:HA	24:S:69:VAL:CG1	2.36	0.56
10:A:2534:A:H5'	10:A:2534:A:H8	1.69	0.56
29:X:55:ASN:HB2	29:X:78:LYS:CD	2.36	0.56
17:H:26:VAL:O	17:H:32:GLU:HA	2.06	0.56
10:A:285:C:H2'	10:A:286:C:H5"	1.87	0.56
29:X:21:PHE:O	29:X:22:ALA:C	2.44	0.56
22:Q:62:GLY:O	31:Z:178:GLU:HG2	2.05	0.56
14:E:154:LYS:HA	14:E:154:LYS:CE	2.34	0.56
1:0:41:ARG:HD2	1:0:41:ARG:N	2.18	0.56
10:A:2822:G:O6	23:R:4:LEU:HD12	2.06	0.56
8:7:9:ARG:HG3	8:7:9:ARG:HH11	1.70	0.56
10:A:1771:C:H1'	10:A:1786:A:C8	2.41	0.56
20:O:18:LYS:HB2	20:O:45:GLU:CG	2.36	0.56
10:A:2074:U:H2'	10:A:2075:U:C6	2.40	0.56
10:A:1817:G:OP1	13:D:88:ARG:NH2	2.38	0.56
10:A:1298:C:O2	10:A:1298:C:H2'	2.06	0.56
18:I:114:LEU:HA	18:I:130:TYR:CD1	2.42	0.55
26:U:106:PHE:O	26:U:109:LEU:HB2	2.05	0.55
13:D:25:THR:HG23	13:D:27:THR:HB	1.86	0.55
21:P:50:ARG:HG3	21:P:51:PHE:N	2.20	0.55
23:R:54:LEU:HD23	23:R:66:VAL:HG22	1.88	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:587:C:C5	21:P:33:ARG:NH1	2.73	0.55
14:E:119:ARG:HG2	14:E:160:TYR:HB2	1.87	0.55
10:A:2726:U:H6	20:O:67:LYS:HZ3	1.53	0.55
29:X:18:TYR:HA	29:X:21:PHE:CD1	2.40	0.55
22:Q:34:LEU:HD12	22:Q:35:VAL:N	2.21	0.55
15:F:101:LEU:HB3	15:F:106:ARG:HD3	1.88	0.55
10:A:2864:G:H2'	10:A:2865:U:O4'	2.06	0.55
10:A:2040:C:H2'	10:A:2041:U:C6	2.41	0.55
20:O:105:GLU:N	20:O:105:GLU:OE1	2.37	0.55
23:R:106:GLY:O	23:R:107:ASP:HB3	2.06	0.55
10:A:2836:U:C4	10:A:2883:A:N6	2.75	0.55
13:D:45:ASN:CG	13:D:46:GLN:N	2.56	0.55
10:A:1298:C:H3'	10:A:1299:G:C8	2.41	0.55
15:F:107:LYS:O	15:F:109:GLY:N	2.39	0.55
19:N:108:PRO:O	19:N:113:GLY:HA3	2.07	0.55
10:A:2777:G:H5''	10:A:2778:A:C5'	2.36	0.55
14:E:37:ARG:HB3	14:E:42:ASP:HB2	1.88	0.55
2:1:13:ILE:CG2	2:1:14:VAL:H	2.10	0.55
3:2:54:LYS:H	3:2:56:GLN:HG2	1.70	0.55
9:8:29:LYS:O	9:8:30:ARG:C	2.43	0.55
17:H:43:VAL:HG11	17:H:53:GLU:N	2.19	0.55
31:Z:99:TYR:CE2	31:Z:125:LEU:HD12	2.41	0.55
27:V:61:VAL:HG21	27:V:100:ARG:HE	1.70	0.55
29:X:24:GLY:O	29:X:25:LYS:O	2.23	0.55
11:B:79:C:O2'	11:B:80:U:H5'	2.06	0.55
2:1:53:VAL:HG12	2:1:58:ILE:HB	1.87	0.55
10:A:892:G:H3'	10:A:892:G:N3	2.21	0.55
12:C:75:LEU:HD23	12:C:76:ALA:N	2.21	0.55
10:A:1324:G:H3'	10:A:1325:G:H4'	1.87	0.55
11:B:57:A:H5'	16:G:27:ASN:HD22	1.70	0.55
15:F:170:LEU:HD23	15:F:172:TRP:CZ2	2.42	0.55
10:A:1339:G:N2	10:A:1603:A:H1'	2.21	0.55
11:B:40:U:H1'	11:B:45:A:N6	2.21	0.55
10:A:2828:C:O2'	10:A:2829:C:H5'	2.05	0.55
10:A:1166:C:H2'	10:A:1167:U:H6	1.69	0.55
10:A:2111:C:H1'	10:A:2118:U:H1'	1.88	0.55
10:A:559:G:H22	26:U:49:HIS:CD2	2.24	0.55
18:I:101:LEU:HD12	18:I:101:LEU:O	2.06	0.55
11:B:7:G:H3'	11:B:8:U:C5'	2.26	0.55
21:P:107:LYS:O	21:P:107:LYS:HG3	2.06	0.55
14:E:201:THR:HG22	14:E:202:LYS:N	2.21	0.55
14:E:3:GLY:O	14:E:4:ILE:HB	2.07	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:G:57:ALA:HA	16:G:90:LEU:CD2	2.36	0.55
21:P:30:THR:CG2	21:P:31:ALA:H	2.18	0.55
31:Z:48:PHE:CE1	31:Z:52:SER:HA	2.42	0.55
10:A:2639:A:C3'	10:A:2640:G:C5'	2.84	0.55
29:X:82:GLN:OE1	29:X:83:VAL:HG22	2.06	0.55
15:F:65:TRP:HZ3	15:F:75:HIS:CD2	2.18	0.55
10:A:1786:A:C2	10:A:2606:C:H1'	2.40	0.55
12:C:212:VAL:O	12:C:213:TYR:CB	2.55	0.55
7:6:27:LYS:HD2	10:A:2285:C:OP2	2.06	0.55
10:A:1531:C:H2'	10:A:1532:C:H4'	1.88	0.55
10:A:2703:C:H2'	10:A:2704:C:C6	2.41	0.55
13:D:108:PRO:CG	13:D:111:LEU:HD23	2.37	0.55
2:1:67:ILE:O	2:1:70:VAL:HB	2.06	0.55
2:1:87:PRO:HB2	2:1:91:LYS:CE	2.36	0.55
9:8:13:ARG:HD2	21:P:61:ARG:HH11	1.71	0.55
3:2:46:GLN:NE2	3:2:47:ASN:N	2.54	0.55
10:A:1348:G:H2'	10:A:1349:A:C5'	2.34	0.55
10:A:2392:A:H8	21:P:60:MET:HG3	1.70	0.55
23:R:49:ASP:O	23:R:52:ILE:N	2.40	0.55
21:P:33:ARG:O	21:P:35:HIS:N	2.39	0.55
31:Z:152:ALA:HB2	31:Z:168:GLU:N	2.21	0.55
31:Z:96:VAL:HG22	31:Z:97:GLU:N	2.22	0.55
29:X:27:THR:OG1	29:X:77:LYS:HA	2.05	0.55
10:A:1021:A:H8	10:A:1021:A:H3'	1.72	0.55
29:X:21:PHE:N	29:X:21:PHE:CD1	2.75	0.55
6:5:57:VAL:HG23	6:5:58:LEU:N	2.18	0.55
15:F:101:LEU:CD1	15:F:102:PRO:HD2	2.33	0.55
10:A:1192:G:O2'	10:A:1193:G:H5'	2.06	0.55
30:Y:75:ILE:HD12	30:Y:76:CYS:H	1.72	0.55
10:A:1568:G:H4'	13:D:59:LYS:HG2	1.89	0.55
10:A:1403:C:H2'	10:A:1404:C:O5'	2.06	0.55
10:A:23:G:H1	10:A:517:C:H42	1.53	0.55
15:F:28:ILE:HD12	15:F:28:ILE:O	2.06	0.55
25:T:78:LEU:O	25:T:79:HIS:ND1	2.40	0.55
27:V:72:VAL:CA	27:V:88:ARG:HH22	2.19	0.55
10:A:2334:G:H5'	24:S:13:ARG:HB3	1.89	0.55
30:Y:26:LYS:HG2	30:Y:27:VAL:N	2.20	0.55
10:A:612:C:C3'	10:A:613:G:H5''	2.36	0.55
29:X:36:LYS:HZ3	29:X:38:GLU:C	2.09	0.55
10:A:2305:A:N7	16:G:155:MET:HA	2.22	0.55
16:G:161:THR:CG2	16:G:163:ALA:HB3	2.37	0.55
11:B:78:A:H4'	22:Q:21:THR:HG23	1.87	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:71:VAL:HG13	21:P:72:PRO:N	2.21	0.55
17:H:89:ILE:O	17:H:90:LYS:CB	2.54	0.55
22:Q:48:GLU:O	22:Q:52:VAL:HG12	2.06	0.55
15:F:155:LEU:HD12	15:F:174:VAL:O	2.06	0.55
27:V:5:VAL:HG23	27:V:37:VAL:O	2.07	0.55
10:A:1116:C:H2'	10:A:1117:G:H5'	1.89	0.55
13:D:131:LEU:HD12	13:D:131:LEU:N	2.22	0.55
30:Y:42:VAL:HB	30:Y:65:ALA:HB3	1.87	0.55
10:A:1568:G:H4'	13:D:59:LYS:CG	2.36	0.55
10:A:1582:C:H2'	10:A:1583:A:C8	2.41	0.55
10:A:729:G:C5	13:D:208:LYS:HB2	2.42	0.55
2:1:54:ALA:O	2:1:55:GLY:C	2.43	0.55
28:W:9:TYR:H	28:W:102:HIS:HD2	1.54	0.55
7:6:16:CYS:O	7:6:17:LYS:HB2	2.06	0.55
30:Y:17:SER:OG	30:Y:18:GLY:N	2.39	0.55
2:1:87:PRO:HG2	2:1:88:LYS:H	1.71	0.55
16:G:136:ARG:O	16:G:154:GLY:HA3	2.05	0.55
29:X:23:GLU:HG3	29:X:24:GLY:H	1.71	0.55
22:Q:68:ILE:C	22:Q:68:ILE:HD12	2.27	0.55
7:6:32:ASN:ND2	7:6:33:LYS:H	2.04	0.55
13:D:44:ASN:HB3	13:D:49:ILE:HG22	1.89	0.55
24:S:30:ARG:HH21	24:S:62:LYS:HD2	1.71	0.55
10:A:1987:G:O2'	10:A:1988:C:H5'	2.07	0.55
10:A:2579:C:H2'	10:A:2580:U:O4'	2.07	0.55
1:0:25:ARG:HD2	1:0:29:GLN:NE2	2.22	0.55
2:1:75:GLU:O	2:1:76:ARG:HD3	2.07	0.55
18:I:44:LEU:O	18:I:47:LEU:HB3	2.07	0.55
10:A:473:G:H5''	10:A:508:G:H22	1.71	0.55
10:A:690:G:H2'	10:A:691:C:C6	2.42	0.55
10:A:2404:C:H2'	10:A:2405:G:O4'	2.06	0.55
10:A:596:G:H2'	10:A:597:U:O4'	2.05	0.55
25:T:45:PHE:CE1	25:T:74:ARG:HG3	2.42	0.55
30:Y:39:VAL:O	30:Y:40:GLU:CD	2.45	0.55
13:D:28:GLU:HB2	13:D:29:PRO:HD3	1.89	0.55
9:8:51:ALA:O	9:8:54:GLU:HG2	2.07	0.55
3:2:49:LYS:CA	3:2:53:LEU:HB3	2.36	0.55
22:Q:12:GLN:HG2	22:Q:73:PRO:HD2	1.89	0.55
14:E:109:LYS:HE2	23:R:2:ARG:HH12	1.71	0.55
27:V:64:HIS:HB3	27:V:96:ILE:HA	1.88	0.55
17:H:127:GLU:HA	17:H:127:GLU:OE1	2.07	0.55
10:A:580:C:O2'	10:A:581:C:H5'	2.07	0.55
10:A:1747:G:H2'	10:A:1747(A):G:C8	2.42	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:231:HIS:ND1	13:D:232:PRO:CD	2.69	0.55
11:B:65:C:N4	11:B:109:C:H2'	2.20	0.55
10:A:2270:G:H3'	10:A:2271:G:H8	1.72	0.55
10:A:751:A:H5'	28:W:90:ARG:HA	1.87	0.55
10:A:585:G:H2'	10:A:1251:C:N4	2.22	0.55
10:A:45:C:H2'	10:A:47:C:H6	1.71	0.55
10:A:1108:U:H2'	10:A:1109:C:H5'	1.89	0.55
10:A:110:G:O2'	10:A:111:A:H5'	2.07	0.55
10:A:760:G:H2'	10:A:761:A:O4'	2.07	0.55
10:A:2702:U:O4'	10:A:2702:U:OP1	2.24	0.55
21:P:144:GLU:N	21:P:145:PRO:CD	2.69	0.55
14:E:3:GLY:HA3	14:E:81:ILE:HG21	1.87	0.55
14:E:109:LYS:HE2	23:R:2:ARG:NH1	2.20	0.55
27:V:99:ILE:HG22	27:V:100:ARG:N	2.21	0.55
19:N:55:VAL:HG22	19:N:128:HIS:HB3	1.88	0.55
1:0:36:ILE:HA	1:0:60:PHE:HB3	1.87	0.55
17:H:89:ILE:H	17:H:89:ILE:HD13	1.71	0.55
5:4:13:ARG:HA	16:G:101:ILE:HD12	1.88	0.55
23:R:8:ARG:HE	23:R:8:ARG:HA	1.72	0.55
14:E:197:ILE:O	14:E:197:ILE:HG13	2.06	0.55
18:I:66:GLU:O	18:I:70:GLU:HG2	2.07	0.55
10:A:391:G:O2'	10:A:392:C:H5'	2.06	0.55
14:E:16:ARG:O	14:E:18:ASP:N	2.39	0.55
18:I:120:ILE:O	18:I:121:LYS:HB3	2.07	0.55
7:6:25:LYS:HD3	9:8:36:LYS:HD2	1.89	0.55
19:N:112:LEU:O	19:N:115:ARG:N	2.40	0.55
29:X:77:LYS:HE3	29:X:78:LYS:CG	2.37	0.55
31:Z:79:ARG:H	31:Z:79:ARG:CD	2.08	0.55
29:X:88:LYS:O	29:X:89:ILE:HB	2.07	0.55
10:A:1427:A:C2	10:A:1570:A:OP2	2.60	0.55
10:A:542:C:C4	10:A:543:C:N4	2.75	0.55
13:D:10:THR:HG23	13:D:13:ARG:HB3	1.88	0.55
8:7:43:THR:HG23	8:7:44:PRO:CD	2.36	0.55
10:A:2855:C:H2'	10:A:2856:C:H6	1.71	0.55
10:A:1550:C:H2'	10:A:1551:C:H6	1.71	0.55
10:A:1831:G:H2'	10:A:1832:C:H6	1.72	0.55
29:X:60:ARG:HE	29:X:74:PRO:CG	2.12	0.55
13:D:142:VAL:HG23	13:D:193:VAL:N	2.21	0.55
11:B:29:A:H2'	11:B:30:C:H6	1.68	0.55
25:T:33:LYS:HD2	25:T:43:GLN:OE1	2.07	0.55
14:E:169:ASN:HA	14:E:201:THR:OG1	2.07	0.55
7:6:10:LEU:CD1	9:8:36:LYS:HD3	2.36	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:81:LYS:HG2	30:Y:96:ILE:HB	1.89	0.55
27:V:64:HIS:CB	27:V:96:ILE:HA	2.37	0.55
10:A:2059:A:C5'	10:A:2060:A:OP2	2.55	0.55
21:P:71:VAL:CG1	21:P:72:PRO:CD	2.84	0.55
25:T:57:PHE:C	25:T:59:THR:N	2.61	0.55
10:A:2475:C:H42	10:A:2529:G:H22	1.53	0.55
13:D:44:ASN:CB	13:D:49:ILE:HA	2.37	0.55
15:F:7:TYR:HB3	15:F:16:GLY:C	2.28	0.55
30:Y:75:ILE:HD11	30:Y:78:ALA:C	2.26	0.55
20:O:8:LEU:HD22	20:O:8:LEU:N	2.21	0.55
30:Y:20:TYR:CD1	30:Y:42:VAL:HG22	2.42	0.55
22:Q:22:LYS:HZ3	22:Q:22:LYS:HA	1.71	0.55
10:A:491:G:H2'	10:A:492:A:O4'	2.06	0.55
22:Q:137:TYR:CD1	22:Q:138:ASP:N	2.75	0.55
18:I:88:ILE:HD11	18:I:123:LEU:N	2.21	0.54
25:T:28:VAL:CG2	25:T:88:ILE:HD11	2.36	0.54
30:Y:68:HIS:CE1	30:Y:70:SER:H	2.25	0.54
30:Y:13:VAL:HG11	30:Y:72:VAL:HB	1.88	0.54
10:A:661:C:H5'	15:F:38:ARG:HH12	1.72	0.54
13:D:35:LYS:HA	13:D:64:ILE:CG2	2.38	0.54
4:3:8:LEU:HD13	4:3:31:LEU:HA	1.89	0.54
10:A:94(A):G:H2'	10:A:95:G:H5''	1.89	0.54
10:A:142(A):C:O2'	10:A:143:G:H5'	2.07	0.54
21:P:64:LYS:O	21:P:65:ARG:C	2.46	0.54
26:U:62:ILE:HG13	26:U:76:TYR:CE1	2.42	0.54
18:I:5:LEU:C	18:I:6:LEU:HD23	2.27	0.54
10:A:1952:A:C6	10:A:1953:A:N1	2.74	0.54
20:O:20:MET:O	20:O:41:ALA:HB1	2.07	0.54
2:1:34:THR:HG21	10:A:388:G:P	2.47	0.54
18:I:37:VAL:CG1	18:I:38:LEU:N	2.70	0.54
10:A:1448:G:N3	10:A:1528(A):A:H2	2.05	0.54
13:D:44:ASN:HB3	13:D:49:ILE:HA	1.89	0.54
22:Q:132:VAL:HG12	22:Q:133:ARG:N	2.22	0.54
29:X:82:GLN:CD	29:X:83:VAL:H	2.10	0.54
25:T:50:ILE:HD12	25:T:50:ILE:H	1.71	0.54
15:F:126:VAL:O	15:F:196:LEU:HG	2.07	0.54
10:A:271(U):G:C2'	10:A:271(V):G:H5'	2.37	0.54
27:V:37:VAL:HG12	27:V:38:LEU:H	1.72	0.54
10:A:1344:G:H4'	10:A:1384:A:C5	2.42	0.54
10:A:1695:G:H2'	10:A:1696:G:H5'	1.87	0.54
13:D:2:ALA:O	13:D:3:VAL:HB	2.06	0.54
10:A:1808:U:C5	10:A:1809:A:N7	2.75	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1661:G:O2'	10:A:1662:C:H5'	2.07	0.54
2:1:11:ARG:O	2:1:12:PRO:C	2.46	0.54
15:F:161:GLU:HA	15:F:164:ARG:HB2	1.89	0.54
27:V:37:VAL:HG12	27:V:38:LEU:N	2.21	0.54
16:G:132:ASN:O	16:G:133:LEU:HB3	2.07	0.54
13:D:231:HIS:CE1	13:D:232:PRO:HD2	2.42	0.54
27:V:25:LEU:N	27:V:94:LEU:CD1	2.71	0.54
10:A:2437:U:H2'	10:A:2438:U:C6	2.43	0.54
10:A:687:C:H42	10:A:787:U:H4'	1.72	0.54
10:A:2818:G:O2'	10:A:2819:G:H5'	2.07	0.54
13:D:110:GLY:O	13:D:112:GLN:HG3	2.07	0.54
25:T:27:THR:O	25:T:28:VAL:CG2	2.45	0.54
21:P:46:LYS:HG2	21:P:52:GLU:CG	2.36	0.54
3:2:17:SER:N	3:2:18:PRO:CD	2.71	0.54
9:8:29:LYS:O	9:8:31:HIS:N	2.40	0.54
9:8:25:MET:SD	21:P:64:LYS:HG3	2.48	0.54
16:G:136:ARG:O	16:G:154:GLY:N	2.41	0.54
27:V:96:ILE:CG2	27:V:97:LYS:N	2.71	0.54
22:Q:20:ALA:HB1	22:Q:23:GLY:HA3	1.89	0.54
2:1:26:ARG:CB	2:1:34:THR:CA	2.84	0.54
19:N:28:THR:HG23	19:N:29:LYS:N	2.18	0.54
10:A:280:C:H42	10:A:360:G:H1	1.55	0.54
10:A:741:G:O2'	10:A:742:G:H5'	2.07	0.54
10:A:1910:G:O2'	10:A:1911:U:H5'	2.07	0.54
16:G:170:ARG:HH11	16:G:170:ARG:HG2	1.71	0.54
26:U:110:VAL:O	26:U:114:LYS:HD2	2.07	0.54
27:V:90:PRO:CD	27:V:91:TYR:H	2.20	0.54
14:E:201:THR:CG2	14:E:203:LYS:H	2.08	0.54
14:E:72:VAL:O	14:E:73:GLU:C	2.45	0.54
10:A:2563:U:H2'	10:A:2565:A:OP2	2.07	0.54
9:8:62:LEU:CD1	10:A:242:G:H5''	2.23	0.54
9:8:35:GLN:NE2	9:8:36:LYS:HZ2	2.02	0.54
22:Q:82:ARG:CG	22:Q:82:ARG:NH1	2.65	0.54
22:Q:86:GLY:C	22:Q:88:GLY:N	2.58	0.54
17:H:54:ARG:HB3	17:H:65:HIS:CD2	2.42	0.54
24:S:98:VAL:O	24:S:99:LYS:HD3	2.07	0.54
10:A:2810:A:C2'	14:E:61:ARG:NH2	2.70	0.54
27:V:5:VAL:HG21	27:V:36:PRO:CB	2.37	0.54
10:A:2024:G:O2'	10:A:2025:C:H5'	2.07	0.54
30:Y:20:TYR:CZ	30:Y:42:VAL:HA	2.42	0.54
10:A:1568:G:H21	13:D:58:HIS:HE1	1.55	0.54
18:I:33:ARG:HG2	18:I:33:ARG:HH11	1.73	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:7:25:PRO:HG2	8:7:26:GLY:H	1.73	0.54
11:B:55:U:O2'	11:B:56:G:H5'	2.07	0.54
15:F:107:LYS:C	15:F:109:GLY:N	2.58	0.54
10:A:1532:C:H2'	10:A:1532:C:O2	2.08	0.54
10:A:2320:A:N3	10:A:2320:A:H2'	2.21	0.54
10:A:1506:C:H2'	10:A:1507:A:H5'	1.90	0.54
9:8:2:PRO:O	9:8:3:LYS:C	2.45	0.54
10:A:2065:C:H2'	10:A:2066:C:C6	2.43	0.54
10:A:1444:G:H2'	10:A:1445(A):C:C5	2.42	0.54
13:D:210:GLY:O	13:D:212:SER:N	2.39	0.54
10:A:2574:G:O2'	10:A:2575:C:H5'	2.07	0.54
18:I:4:ILE:HG12	18:I:18:VAL:HG22	1.90	0.54
10:A:1157:G:H2'	10:A:1158:C:H5'	1.89	0.54
2:1:87:PRO:CG	2:1:88:LYS:H	2.20	0.54
9:8:32:LEU:CD2	9:8:35:GLN:O	2.56	0.54
10:A:2461:C:H2'	10:A:2462:U:H6	1.69	0.54
14:E:14:ILE:HG13	14:E:21:VAL:CG2	2.38	0.54
22:Q:68:ILE:CG2	22:Q:103:MET:HA	2.36	0.54
10:A:2514:U:H2'	10:A:2515:C:C6	2.42	0.54
14:E:131:ALA:HB3	14:E:134:ILE:CD1	2.38	0.54
10:A:405:U:H3'	10:A:406:G:H5'	1.88	0.54
16:G:33:ARG:HD3	16:G:162:THR:HG21	1.88	0.54
10:A:1181:C:O2'	10:A:1182:A:H5'	2.07	0.54
13:D:134:ARG:HB2	13:D:135:PHE:CD1	2.42	0.54
10:A:1037:G:H1	10:A:1118:C:H42	1.56	0.54
6:5:16:ARG:HH11	6:5:16:ARG:HG2	1.72	0.54
27:V:88:ARG:HG3	27:V:88:ARG:HH11	1.73	0.54
21:P:126:VAL:HG22	21:P:145:PRO:HB3	1.89	0.54
30:Y:29:GLU:N	30:Y:29:GLU:OE1	2.41	0.54
15:F:2:LYS:HG3	15:F:25:PRO:O	2.08	0.54
9:8:62:LEU:H	9:8:63:PRO:HD2	1.72	0.54
10:A:143:G:H2'	10:A:143(A):C:C6	2.38	0.54
16:G:54:GLU:HA	16:G:57:ALA:HB2	1.88	0.54
23:R:9:LYS:O	23:R:10:LEU:CG	2.56	0.54
27:V:47:VAL:HG13	27:V:48:GLY:H	1.71	0.54
10:A:2787:C:O2	14:E:61:ARG:HD3	2.07	0.54
10:A:2317:C:H2'	10:A:2318:G:C5'	2.37	0.54
12:C:18:LYS:HD3	12:C:19:VAL:H	1.72	0.54
10:A:2039:C:O2'	10:A:2040:C:H5'	2.08	0.54
13:D:24:ILE:CG2	13:D:24:ILE:O	2.55	0.54
13:D:11:PRO:O	13:D:13:ARG:N	2.41	0.54
10:A:2468:G:OP1	22:Q:119:ARG:NH2	2.39	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:B:20:C:H2'	11:B:21:G:C5'	2.38	0.54
10:A:1644:C:H2'	10:A:1644:C:O2	2.06	0.54
13:D:135:PHE:N	13:D:135:PHE:CD1	2.73	0.54
10:A:703:U:H2'	10:A:704:G:H5'	1.88	0.54
18:I:120:ILE:HG21	18:I:126:TYR:CE1	2.42	0.54
30:Y:45:VAL:HA	30:Y:62:GLU:CB	2.29	0.54
24:S:26:LEU:O	24:S:88:ASP:HB3	2.07	0.54
13:D:35:LYS:CG	13:D:64:ILE:H	2.15	0.54
22:Q:8:LYS:HE3	22:Q:9:TYR:CE1	2.43	0.54
10:A:2313:C:H2'	10:A:2314:C:C6	2.41	0.54
10:A:1190:G:OP1	21:P:35:HIS:HA	2.07	0.54
30:Y:88:LYS:O	30:Y:90:LEU:HD23	2.08	0.54
31:Z:6:LYS:CB	31:Z:8:TYR:CE1	2.91	0.54
10:A:1021:A:H3'	10:A:1021:A:C8	2.43	0.54
29:X:89:ILE:N	29:X:89:ILE:HD12	2.22	0.54
10:A:2011:U:O2'	10:A:2012:G:H5'	2.07	0.54
22:Q:134:ARG:C	22:Q:136:ALA:H	2.11	0.54
20:O:88:ASN:O	20:O:91:LEU:N	2.38	0.54
1:O:29:GLN:O	1:O:67:VAL:HG23	2.08	0.54
23:R:107:ASP:C	23:R:107:ASP:OD2	2.45	0.54
10:A:2208:A:H1'	10:A:2219:G:C2	2.43	0.54
8:7:30:VAL:HG12	8:7:31:LEU:N	2.22	0.54
24:S:12:PHE:CD1	24:S:12:PHE:O	2.61	0.54
17:H:76:VAL:O	17:H:79:VAL:HG22	2.08	0.54
27:V:50:PRO:O	27:V:51:VAL:CB	2.56	0.54
10:A:523:C:C2'	10:A:524:U:H5'	2.38	0.54
10:A:703:U:C2'	10:A:704:G:H5'	2.38	0.54
21:P:148:LEU:N	21:P:148:LEU:HD13	2.23	0.54
27:V:89:GLN:HE21	27:V:90:PRO:CD	2.16	0.54
30:Y:61:ILE:HG22	30:Y:61:ILE:O	2.07	0.54
21:P:114:ILE:HG12	21:P:130:PHE:CD1	2.43	0.54
30:Y:28:LYS:HD2	30:Y:37:VAL:HB	1.88	0.54
13:D:150:LYS:HE3	13:D:150:LYS:HA	1.89	0.54
9:8:22:VAL:HB	9:8:53:PRO:HB3	1.90	0.54
10:A:74:A:O2'	10:A:75:G:OP2	2.25	0.54
10:A:2392:A:H2'	10:A:2393:A:O4'	2.08	0.54
31:Z:120:ILE:O	31:Z:120:ILE:HG22	2.07	0.54
14:E:117:MET:O	14:E:118:LYS:HB2	2.08	0.54
19:N:55:VAL:CG1	19:N:56:ASN:N	2.71	0.54
31:Z:157:LEU:HB3	31:Z:161:VAL:CG1	2.38	0.54
1:O:36:ILE:HD13	1:O:36:ILE:N	2.21	0.54
10:A:1754:C:OP1	25:T:96:ARG:NH1	2.41	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:0:41:ARG:HD3	1:0:44:ARG:CD	2.37	0.54
1:0:41:ARG:HB3	10:A:2330:G:H1'	1.90	0.54
13:D:76:PRO:O	13:D:98:VAL:HG23	2.07	0.54
10:A:635:C:H2'	10:A:636:G:H8	1.73	0.54
10:A:440:G:H2'	10:A:441:U:C6	2.43	0.54
27:V:5:VAL:HG21	27:V:36:PRO:HG2	1.88	0.54
10:A:2022:U:O2'	10:A:2617:C:H5'	2.07	0.54
10:A:2673:G:O2'	10:A:2674:G:H5'	2.08	0.54
10:A:1656:C:H2'	10:A:1657:C:C6	2.42	0.54
10:A:744:G:O2'	10:A:745:G:H5'	2.08	0.54
28:W:55:ALA:HA	28:W:107:LEU:CD2	2.37	0.54
1:0:1:MET:O	1:0:2:ALA:HB3	2.08	0.54
14:E:49:LEU:O	14:E:78:LEU:HB3	2.08	0.54
13:D:65:ILE:HD11	13:D:67:PHE:CE1	2.42	0.54
13:D:92:ILE:HD12	13:D:92:ILE:C	2.28	0.54
2:1:8:SER:HA	10:A:1365:A:OP2	2.08	0.54
15:F:1:MET:O	15:F:2:LYS:O	2.25	0.54
10:A:2419:U:O2'	10:A:2420:C:H5'	2.08	0.54
31:Z:169:GLU:O	31:Z:171:ILE:HG23	2.08	0.54
16:G:136:ARG:O	16:G:154:GLY:CA	2.56	0.54
29:X:64:LYS:O	29:X:65:ARG:HB2	2.08	0.54
19:N:115:ARG:O	19:N:118:LYS:HB2	2.07	0.54
30:Y:95:LYS:CB	30:Y:100:ALA:HA	2.31	0.54
31:Z:40:ASP:O	31:Z:43:GLU:HB2	2.08	0.54
3:2:30:ARG:C	3:2:32:LEU:N	2.59	0.54
13:D:17:THR:HG23	13:D:205:VAL:N	2.15	0.54
2:1:34:THR:CG2	10:A:388:G:P	2.96	0.54
15:F:164:ARG:HH11	15:F:164:ARG:HG2	1.73	0.54
2:1:58:ILE:HG22	2:1:59:THR:N	2.21	0.54
17:H:103:LEU:HD23	17:H:115:VAL:HB	1.88	0.54
31:Z:104:PHE:CD1	31:Z:139:VAL:HG21	2.43	0.54
26:U:74:LEU:HD23	26:U:114:LYS:HE3	1.89	0.54
21:P:146:VAL:O	21:P:147:LEU:O	2.25	0.54
24:S:13:ARG:H	24:S:13:ARG:HD2	1.72	0.54
2:1:19:GLN:HG3	2:1:44:PRO:CG	2.34	0.54
16:G:47:LYS:HE2	16:G:81:LYS:HB2	1.89	0.54
10:A:2746:U:O2'	10:A:2747:G:H5'	2.08	0.54
14:E:111:ARG:HD2	14:E:160:TYR:HE1	1.73	0.54
10:A:1019:U:HO2'	10:A:1021:A:H2	1.54	0.54
29:X:25:LYS:HG3	29:X:26:TYR:CD1	2.43	0.54
2:1:26:ARG:HE	2:1:34:THR:HB	1.73	0.54
10:A:389:G:H1	21:P:71:VAL:CG1	2.21	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2307:G:N2	10:A:2308:G:C5'	2.68	0.54
19:N:82:LEU:O	19:N:82:LEU:HD13	2.08	0.54
10:A:1720:U:H2'	10:A:1721:G:O4'	2.08	0.54
24:S:56:LEU:O	24:S:57:LYS:HB2	2.07	0.54
10:A:2579:C:H5'	14:E:134:ILE:HG21	1.90	0.54
17:H:102:ALA:HB2	17:H:117:PRO:HD3	1.89	0.54
25:T:23:ARG:HG2	25:T:120:ARG:NH1	2.23	0.54
10:A:2735:G:H2'	10:A:2736:G:H5'	1.90	0.54
7:6:50:ARG:HB3	7:6:51:GLU:OE1	2.08	0.54
10:A:998:C:H2'	10:A:999:U:O4'	2.07	0.54
10:A:2485:G:O2'	10:A:2486:G:H5'	2.08	0.54
10:A:1184:G:O2'	10:A:1185:C:H5'	2.08	0.54
11:B:28:C:O2'	11:B:29:A:H5'	2.07	0.53
25:T:89:VAL:HG12	25:T:91:ARG:HG2	1.90	0.53
15:F:41:LEU:HD11	15:F:184:TYR:CE1	2.43	0.53
13:D:35:LYS:HA	13:D:64:ILE:HG22	1.89	0.53
29:X:44:GLU:HB2	29:X:49:VAL:O	2.08	0.53
10:A:1010:A:H5'	26:U:62:ILE:HG21	1.89	0.53
29:X:76:ARG:O	29:X:77:LYS:CB	2.52	0.53
22:Q:39:PRO:N	22:Q:99:PRO:HD3	2.22	0.53
10:A:343:C:H2'	10:A:344:G:H5''	1.89	0.53
2:1:53:VAL:CG2	2:1:74:VAL:HG21	2.37	0.53
17:H:154:PRO:CG	17:H:155:SER:H	2.20	0.53
25:T:23:ARG:HG2	25:T:120:ARG:HH12	1.73	0.53
10:A:2736:G:H5'	10:A:2736:G:C8	2.39	0.53
16:G:95:ARG:O	16:G:96:ARG:O	2.26	0.53
10:A:1434:A:H61	10:A:1558:A:N6	2.05	0.53
19:N:18:ALA:C	19:N:20:GLY:H	2.10	0.53
12:C:39:GLU:HA	12:C:180:PHE:HA	1.91	0.53
10:A:1107:G:O2'	10:A:1108:U:H5'	2.08	0.53
10:A:1430:C:H2'	10:A:1431:U:H6	1.73	0.53
10:A:2668:G:O2'	10:A:2669:G:H5'	2.09	0.53
1:0:14:ARG:O	1:0:15:ASP:HB2	2.08	0.53
23:R:51:LEU:HD23	23:R:66:VAL:HG13	1.89	0.53
10:A:2360:A:O2'	10:A:2361:A:O5'	2.27	0.53
19:N:25:ARG:HH11	19:N:25:ARG:HG3	1.73	0.53
22:Q:38:GLU:HB2	22:Q:127:ILE:CG2	2.38	0.53
2:1:72:GLU:HA	2:1:75:GLU:OE1	2.08	0.53
10:A:2469:A:H2	10:A:2481:G:H21	1.55	0.53
11:B:103:G:O2'	11:B:104:U:H5'	2.08	0.53
10:A:740:U:H2'	10:A:741:G:C8	2.43	0.53
10:A:1344:G:H4'	10:A:1384:A:N7	2.23	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:150:C:H2'	10:A:151:C:H6	1.73	0.53
18:I:31:LEU:HB3	18:I:32:PRO:HD3	1.90	0.53
10:A:1411:C:H2'	10:A:1412:A:H8	1.72	0.53
28:W:1:MET:CE	28:W:2:GLU:H	2.22	0.53
10:A:796:C:H2'	10:A:797:C:C6	2.42	0.53
10:A:979:G:H3'	10:A:980:A:H5''	1.89	0.53
10:A:912:C:O2'	10:A:913:U:H5'	2.08	0.53
11:B:32:C:C2	11:B:51:G:N2	2.76	0.53
10:A:1410:G:H1	10:A:1592:C:H42	1.56	0.53
26:U:69:CYS:HB3	26:U:106:PHE:HZ	1.73	0.53
13:D:32:SER:O	13:D:33:LEU:CB	2.56	0.53
13:D:70:TRP:O	13:D:73:VAL:HG22	2.09	0.53
15:F:20:LEU:HB3	15:F:23:ASP:HB2	1.89	0.53
15:F:20:LEU:HD12	15:F:199:TRP:HH2	1.73	0.53
31:Z:102:LEU:HG	31:Z:122:ARG:O	2.09	0.53
14:E:117:MET:HB2	14:E:122:PHE:HB2	1.91	0.53
20:O:100:GLY:O	20:O:101:PRO:O	2.26	0.53
14:E:111:ARG:H	14:E:161:GLY:HA3	1.74	0.53
31:Z:4:ARG:O	31:Z:5:LEU:HG	2.06	0.53
29:X:5:TYR:O	29:X:7:VAL:N	2.40	0.53
27:V:32:THR:HB	27:V:64:HIS:CE1	2.42	0.53
27:V:47:VAL:CG2	27:V:48:GLY:H	2.13	0.53
10:A:848:G:N3	10:A:933:A:H1'	2.23	0.53
14:E:144:ARG:O	14:E:145:LYS:C	2.46	0.53
20:O:107:ARG:CZ	25:T:35:LYS:HD2	2.37	0.53
3:2:28:LYS:HE2	3:2:43:GLN:HB3	1.91	0.53
10:A:2193:G:H8	10:A:2193:G:H5'	1.73	0.53
10:A:2402:C:H2'	10:A:2403:C:H5'	1.90	0.53
10:A:188:G:N2	10:A:209:C:C2	2.76	0.53
10:A:85:G:N3	10:A:103:A:H2	2.06	0.53
13:D:32:SER:O	13:D:33:LEU:HB2	2.07	0.53
2:1:49:VAL:HG11	10:A:2091:U:O2'	2.07	0.53
9:8:4:MET:SD	9:8:61:LEU:HD12	2.49	0.53
9:8:31:HIS:CG	10:A:2419:U:O4	2.61	0.53
16:G:45:GLU:HG2	16:G:47:LYS:H	1.74	0.53
29:X:25:LYS:HG3	29:X:26:TYR:H	1.71	0.53
22:Q:39:PRO:HA	22:Q:97:VAL:O	2.08	0.53
16:G:101:ILE:HG12	16:G:102:PHE:N	2.23	0.53
10:A:2189:U:C2'	10:A:2190:G:H5''	2.39	0.53
27:V:38:LEU:HD23	27:V:39:LEU:N	2.22	0.53
25:T:92:GLY:O	25:T:93:ARG:HB3	2.09	0.53
10:A:2101:G:C6	10:A:2102:U:C5	2.96	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1550:C:O2'	10:A:1551:C:H5'	2.07	0.53
10:A:2273:A:H2'	10:A:2274:A:C8	2.43	0.53
18:I:144:VAL:HG12	18:I:145:VAL:N	2.14	0.53
25:T:28:VAL:HG21	25:T:88:ILE:HD11	1.90	0.53
30:Y:39:VAL:HG12	30:Y:40:GLU:N	2.23	0.53
15:F:34:TRP:CD1	21:P:11:GLY:HA2	2.43	0.53
3:2:16:LEU:O	3:2:20:GLU:HG3	2.08	0.53
16:G:88:ILE:CG2	16:G:89:GLY:N	2.71	0.53
23:R:41:ALA:C	23:R:43:GLU:N	2.62	0.53
19:N:46:VAL:O	19:N:47:ALA:HB3	2.08	0.53
31:Z:30:ASN:OD1	31:Z:33:LEU:HB3	2.09	0.53
30:Y:83:THR:HG22	30:Y:84:ARG:N	2.24	0.53
14:E:14:ILE:HG12	14:E:21:VAL:HG23	1.91	0.53
24:S:101:LEU:HD22	24:S:102:ALA:N	2.20	0.53
10:A:637:A:OP2	21:P:115:LEU:HB2	2.08	0.53
10:A:1464:C:O2'	10:A:1528:A:H8	1.91	0.53
10:A:295:G:H1	10:A:343:C:H42	1.55	0.53
24:S:54:LEU:HD13	24:S:57:LYS:O	2.09	0.53
22:Q:106:VAL:HG13	22:Q:118:LEU:HD21	1.90	0.53
10:A:2694:G:O2'	10:A:2695:C:H5'	2.08	0.53
10:A:79:G:O2'	10:A:80:G:H5'	2.09	0.53
30:Y:43:ASN:HA	30:Y:64:GLU:HA	1.91	0.53
10:A:409:C:O2'	10:A:410:G:H5'	2.09	0.53
10:A:271(K):U:H3'	10:A:271(L):U:C5'	2.39	0.53
10:A:645:C:H3'	10:A:645:C:O2	2.09	0.53
10:A:2184:G:H2'	10:A:2185:C:C6	2.43	0.53
10:A:680:G:H2'	10:A:681:G:H8	1.73	0.53
10:A:2033:A:H4'	10:A:2034:U:OP1	2.08	0.53
13:D:35:LYS:HB3	13:D:63:ARG:HA	1.90	0.53
12:C:46:LYS:HB2	12:C:209:LEU:CB	2.39	0.53
3:2:18:PRO:O	3:2:19:VAL:C	2.46	0.53
22:Q:81:VAL:HG12	22:Q:82:ARG:N	2.24	0.53
10:A:2305:A:H5''	16:G:134:GLY:HA3	1.90	0.53
16:G:85:GLY:O	16:G:87:PRO:HD2	2.08	0.53
19:N:39:ARG:O	26:U:64:ARG:NH2	2.34	0.53
10:A:587:C:O2'	10:A:588:U:OP2	2.22	0.53
31:Z:48:PHE:CD1	31:Z:52:SER:HA	2.43	0.53
13:D:154:LYS:O	13:D:155:LEU:HD12	2.08	0.53
10:A:1614:A:H62	28:W:93:ALA:CB	2.16	0.53
10:A:1573:G:H2'	10:A:1574:C:H5'	1.91	0.53
14:E:26:ILE:CG2	14:E:27:LEU:N	2.72	0.53
10:A:1116:C:C2'	10:A:1117:G:H5'	2.39	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:103:LEU:CD2	17:H:115:VAL:HB	2.38	0.53
10:A:1708:C:H2'	10:A:1709:U:C6	2.38	0.53
10:A:2691:C:H6	10:A:2691:C:H5'	1.74	0.53
10:A:2023:G:H4'	10:A:2617:C:O3'	2.08	0.53
12:C:82:LYS:HZ2	12:C:151:GLU:HA	1.73	0.53
10:A:1049:C:H2'	10:A:1050:A:C8	2.43	0.53
20:O:104:ARG:C	20:O:106:LEU:N	2.62	0.53
10:A:1532:C:O2	10:A:1532:C:C2'	2.57	0.53
4:3:36:VAL:O	4:3:37:LEU:HD23	2.09	0.53
10:A:1625:C:H2'	10:A:1626:G:H5'	1.90	0.53
10:A:1744:C:C2'	10:A:1745:C:H5'	2.38	0.53
10:A:2704:C:H2'	10:A:2705:A:H8	1.74	0.53
10:A:451:C:N4	10:A:453:C:H3'	2.23	0.53
10:A:2562:U:C2'	10:A:2563:U:H5'	2.38	0.53
10:A:2562:U:H2'	10:A:2563:U:H5'	1.91	0.53
23:R:28:LEU:HD21	23:R:114:VAL:HG12	1.90	0.53
26:U:55:ARG:HA	26:U:58:ARG:CG	2.39	0.53
10:A:587:C:C4	21:P:33:ARG:HG2	2.43	0.53
22:Q:140:ALA:H	31:Z:53:ILE:HD12	1.73	0.53
17:H:106:THR:O	17:H:107:VAL:HG13	2.09	0.53
1:0:36:ILE:CD1	10:A:2355:C:H5'	2.34	0.53
22:Q:55:VAL:HG13	22:Q:56:ARG:H	1.73	0.53
10:A:543:C:N4	10:A:551:G:N1	2.50	0.53
29:X:85:PRO:O	29:X:86:GLY:C	2.46	0.53
10:A:1234:U:O2'	10:A:1235:G:H5'	2.09	0.53
18:I:56:LYS:HA	18:I:59:ALA:HB3	1.91	0.53
10:A:239:U:H2'	10:A:240:G:O4'	2.09	0.53
10:A:363(E):U:O2'	10:A:363(F):A:H4'	2.09	0.53
10:A:201:C:C2'	10:A:202:U:H5'	2.39	0.53
26:U:79:PHE:O	26:U:83:LEU:HD13	2.09	0.53
2:1:19:GLN:H	2:1:44:PRO:CD	2.18	0.53
14:E:91:VAL:HG12	14:E:91:VAL:O	2.07	0.53
16:G:40:ASN:O	16:G:155:MET:HB2	2.09	0.53
23:R:47:PHE:O	23:R:51:LEU:HD12	2.09	0.53
21:P:34:GLY:O	21:P:35:HIS:CD2	2.62	0.53
13:D:174:ILE:N	13:D:174:ILE:HD12	2.13	0.53
26:U:31:SER:C	26:U:33:ARG:N	2.62	0.53
10:A:171:G:H2'	10:A:172:C:H4'	1.91	0.53
1:0:42:GLY:HA3	10:A:2331:G:O4'	2.08	0.53
6:5:33:CYS:SG	6:5:40:LYS:HE3	2.49	0.53
20:O:26:LYS:HB2	20:O:30:ALA:HB2	1.90	0.53
30:Y:31:LEU:HD23	30:Y:36:ALA:HB3	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:67:LEU:H	23:R:67:LEU:HD22	1.74	0.53
10:A:962:G:O2'	10:A:963:U:H5'	2.08	0.53
11:B:5:C:H2'	11:B:6:C:H6	1.74	0.53
13:D:62:TYR:CE1	13:D:64:ILE:HA	2.44	0.53
9:8:10:ALA:HB2	9:8:59:LYS:NZ	2.24	0.53
21:P:48:PRO:O	21:P:49:ARG:C	2.46	0.53
3:2:52:ASP:O	3:2:55:ARG:CB	2.57	0.53
9:8:25:MET:HB2	21:P:62:LEU:HD21	1.90	0.53
19:N:14:VAL:HA	19:N:135:PRO:CG	2.31	0.53
10:A:285:C:H2'	10:A:286:C:O4'	2.09	0.53
14:E:14:ILE:CD1	14:E:173:VAL:HG11	2.33	0.53
5:4:5:ILE:O	5:4:6:HIS:O	2.27	0.53
10:A:1571:A:H2'	10:A:1572:A:C8	2.44	0.53
25:T:51:ARG:HB2	25:T:98:LYS:HG3	1.91	0.53
17:H:153:LYS:CB	17:H:154:PRO:CD	2.87	0.53
16:G:124:SER:HB2	16:G:131:TYR:CE1	2.44	0.53
12:C:89:ALA:HB2	12:C:153:ILE:CA	2.37	0.53
11:B:87:G:C2'	11:B:88:C:H5''	2.38	0.53
28:W:9:TYR:H	28:W:102:HIS:CD2	2.27	0.53
10:A:1208:C:C4	10:A:1209:G:N7	2.77	0.53
10:A:2811:G:C2'	10:A:2812:G:H5'	2.38	0.53
10:A:198:C:H5'	10:A:2244:U:OP1	2.09	0.53
23:R:70:LEU:HD13	23:R:75:LEU:CD1	2.39	0.53
24:S:24:LEU:HB3	24:S:85:VAL:HG12	1.91	0.53
21:P:125:VAL:O	21:P:145:PRO:HD2	2.09	0.53
25:T:65:LYS:NZ	25:T:66:VAL:H	2.06	0.53
9:8:36:LYS:O	9:8:37:SER:O	2.27	0.53
31:Z:85:HIS:HD1	31:Z:86:VAL:N	2.05	0.53
22:Q:29:PHE:N	22:Q:29:PHE:CD1	2.76	0.53
22:Q:39:PRO:HB3	22:Q:99:PRO:CD	2.39	0.53
10:A:815:C:H2'	10:A:816:C:H6	1.74	0.53
29:X:82:GLN:HB3	29:X:85:PRO:HG2	1.91	0.53
10:A:558:G:P	19:N:111:PRO:HD2	2.48	0.53
23:R:107:ASP:OD2	23:R:108:GLY:N	2.42	0.53
16:G:165:THR:OG1	16:G:168:GLU:HG3	2.08	0.53
27:V:2:PHE:HB3	27:V:42:GLY:CA	2.39	0.53
3:2:25:VAL:O	3:2:27:GLU:N	2.41	0.53
14:E:132:HIS:HA	14:E:135:HIS:CE1	2.44	0.53
28:W:55:ALA:O	28:W:56:ALA:C	2.47	0.53
18:I:100:ALA:O	18:I:104:GLN:HB2	2.08	0.53
25:T:132:LYS:C	25:T:134:GLU:H	2.13	0.53
10:A:2705:A:H2'	10:A:2706:G:H8	1.73	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:61:PHE:CE2	25:T:76:PHE:CB	2.92	0.52
14:E:3:GLY:O	14:E:4:ILE:HG22	2.09	0.52
14:E:52:LEU:O	14:E:74:PRO:HA	2.10	0.52
17:H:85:LYS:HD3	17:H:133:VAL:CB	2.38	0.52
30:Y:98:VAL:HG12	30:Y:98:VAL:O	2.09	0.52
31:Z:19:ARG:NH1	31:Z:19:ARG:HG2	2.24	0.52
26:U:18:LEU:O	26:U:19:LYS:C	2.46	0.52
18:I:72:LEU:HD12	18:I:138:ILE:CG2	2.38	0.52
10:A:2645:G:OP2	10:A:2645:G:H8	1.93	0.52
21:P:85:LEU:HA	21:P:88:LEU:HB2	1.90	0.52
10:A:2831:G:H1'	10:A:2883:A:H2'	1.90	0.52
14:E:59:VAL:CG2	14:E:63:LEU:HA	2.40	0.52
14:E:65:GLY:C	14:E:67:PHE:H	2.12	0.52
10:A:1680:U:O2	10:A:1763:G:H3'	2.08	0.52
19:N:97:ARG:HA	19:N:100:GLU:HB2	1.91	0.52
12:C:89:ALA:CB	12:C:153:ILE:HA	2.39	0.52
19:N:93:THR:HG23	19:N:93:THR:O	2.09	0.52
12:C:41:VAL:HB	12:C:178:ALA:CB	2.38	0.52
10:A:692:C:O2'	10:A:693:C:H5'	2.09	0.52
11:B:14:U:H4'	11:B:70:C:O2	2.08	0.52
10:A:1417:C:H2'	10:A:1418:G:O4'	2.08	0.52
10:A:2649:U:H2'	10:A:2650:U:C6	2.43	0.52
10:A:1563:G:O2'	10:A:1564:C:H5'	2.09	0.52
13:D:67:PHE:CE1	13:D:157:ARG:NH2	2.77	0.52
2:1:8:SER:N	2:1:46:LEU:HD11	2.25	0.52
18:I:8:PRO:HA	18:I:13:GLY:O	2.09	0.52
10:A:2512:C:H4'	14:E:122:PHE:CE2	2.45	0.52
10:A:2807:G:H2'	10:A:2808:U:C4'	2.38	0.52
10:A:7:G:H1	10:A:2896:C:N4	2.07	0.52
10:A:2639:A:H2'	10:A:2640:G:C5'	2.29	0.52
6:5:58:LEU:HD12	6:5:58:LEU:N	2.24	0.52
22:Q:38:GLU:OE2	22:Q:128:LYS:HB2	2.09	0.52
22:Q:39:PRO:HB3	22:Q:99:PRO:HD3	1.92	0.52
10:A:925:C:H2'	10:A:926:A:O4'	2.10	0.52
21:P:38:GLN:HG3	21:P:39:LYS:N	2.18	0.52
10:A:2599:G:C8	13:D:236:GLY:CA	2.90	0.52
10:A:1988:C:H2'	10:A:1989:G:C8	2.44	0.52
10:A:1678:G:N2	10:A:1989:G:N2	2.56	0.52
29:X:82:GLN:CG	29:X:83:VAL:H	2.22	0.52
26:U:112:ARG:HG2	26:U:112:ARG:NH1	2.21	0.52
20:O:87:ILE:HG21	20:O:91:LEU:HD13	1.90	0.52
23:R:104:ARG:HH11	23:R:104:ARG:CG	2.22	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:102:ALA:HB1	17:H:115:VAL:O	2.09	0.52
10:A:945:A:O3'	10:A:946:G:H4'	2.10	0.52
16:G:139:LEU:HA	16:G:144:ILE:HG21	1.89	0.52
10:A:1866:C:H2'	10:A:1876:A:O4'	2.09	0.52
10:A:951:C:O2'	10:A:952:G:H5'	2.09	0.52
25:T:17:THR:HG23	25:T:17:THR:O	2.10	0.52
25:T:29:ARG:HG3	25:T:30:VAL:N	2.25	0.52
2:1:48:LYS:CG	2:1:49:VAL:H	2.17	0.52
10:A:2178:C:O5'	12:C:46:LYS:HD2	2.09	0.52
9:8:30:ARG:O	9:8:31:HIS:C	2.47	0.52
24:S:66:ALA:O	24:S:67:ARG:HG3	2.09	0.52
10:A:2684:U:O2'	20:O:68:GLU:HG3	2.09	0.52
31:Z:48:PHE:O	31:Z:50:GLN:N	2.43	0.52
10:A:2360:A:O2'	10:A:2361:A:P	2.67	0.52
27:V:19:LYS:HG3	27:V:20:LEU:O	2.08	0.52
19:N:126:PRO:O	19:N:127:ASP:CB	2.55	0.52
15:F:68:LYS:O	15:F:68:LYS:HG3	2.10	0.52
12:C:22:ILE:HG22	12:C:25:ALA:HB2	1.90	0.52
23:R:12:ARG:HH11	23:R:12:ARG:HG3	1.74	0.52
14:E:7:VAL:HA	14:E:196:VAL:HG22	1.92	0.52
10:A:2884:U:H2'	10:A:2885:C:C5'	2.38	0.52
10:A:1112:G:C1'	10:A:1113:U:OP1	2.57	0.52
10:A:2064:C:H2'	10:A:2065:C:C6	2.45	0.52
10:A:445:C:O2'	10:A:446:G:H5'	2.09	0.52
13:D:218:ARG:HG3	13:D:218:ARG:HH11	1.74	0.52
10:A:2408:U:H2'	10:A:2409:G:C8	2.45	0.52
18:I:88:ILE:HG12	18:I:122:GLU:N	2.24	0.52
2:1:18:ILE:HD12	2:1:18:ILE:N	2.23	0.52
14:E:47:VAL:HG23	14:E:84:PHE:O	2.10	0.52
10:A:85:G:N3	10:A:103:A:C2	2.78	0.52
10:A:1238:G:O2'	10:A:1239:G:H5'	2.10	0.52
16:G:115:ARG:HH22	16:G:136:ARG:HG3	1.72	0.52
10:A:570:G:H2'	10:A:2030:A:N7	2.24	0.52
18:I:15:VAL:HG23	18:I:16:GLY:N	2.23	0.52
19:N:15:LEU:HD21	19:N:55:VAL:HG23	1.91	0.52
19:N:121:LYS:HG3	19:N:123:TYR:CE1	2.44	0.52
10:A:827:U:H4'	10:A:828:U:O2	2.09	0.52
22:Q:51:ARG:O	22:Q:54:MET:HB3	2.09	0.52
22:Q:63:LYS:HG3	22:Q:64:ILE:N	2.24	0.52
24:S:31:SER:OG	24:S:32:LEU:N	2.39	0.52
24:S:35:ILE:N	24:S:53:SER:HB2	2.22	0.52
27:V:38:LEU:C	27:V:38:LEU:HD23	2.29	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:7:8:ASN:HD22	8:7:9:ARG:N	2.07	0.52
10:A:2784:C:O2'	10:A:2785:C:H5'	2.09	0.52
13:D:231:HIS:ND1	13:D:232:PRO:N	2.58	0.52
3:2:60:LEU:O	3:2:61:LEU:CB	2.57	0.52
11:B:57:A:C4	16:G:29:TRP:CB	2.93	0.52
25:T:13:ARG:HD3	25:T:13:ARG:O	2.09	0.52
10:A:1257:C:H2'	10:A:1258:C:H6	1.74	0.52
10:A:1430:C:H2'	10:A:1431:U:C6	2.44	0.52
10:A:797:C:H2'	10:A:798:G:H8	1.75	0.52
10:A:2525:G:O2'	10:A:2526:G:H5'	2.09	0.52
10:A:1762:A:H8	10:A:1762:A:O5'	1.92	0.52
10:A:2228:G:H2'	10:A:2229:C:C6	2.44	0.52
10:A:768:G:O2'	10:A:769:G:H5'	2.10	0.52
10:A:1591:G:O2'	10:A:1592:C:H5'	2.09	0.52
2:1:18:ILE:HD13	10:A:188:G:OP1	2.09	0.52
19:N:66:LYS:HB3	19:N:70:LYS:CB	2.40	0.52
10:A:2779:U:H4'	10:A:2780:G:O5'	2.09	0.52
30:Y:26:LYS:O	30:Y:27:VAL:O	2.27	0.52
16:G:68:PRO:HB2	16:G:90:LEU:HG	1.91	0.52
30:Y:89:PHE:C	30:Y:90:LEU:HD23	2.30	0.52
10:A:271(A):A:N7	10:A:271(W):G:N2	2.57	0.52
5:4:5:ILE:CB	16:G:67:LYS:HE2	2.39	0.52
10:A:1821:A:H2'	10:A:1822:G:C5'	2.39	0.52
10:A:528:A:C5'	19:N:114:ARG:HH12	2.21	0.52
20:O:121:VAL:HG12	20:O:122:LEU:N	2.24	0.52
10:A:86:C:OP1	30:Y:32:PRO:HD2	2.09	0.52
10:A:633:A:C2'	10:A:634:C:H5'	2.39	0.52
10:A:729:G:H2'	10:A:1775:U:O2	2.08	0.52
10:A:585:G:H2'	10:A:1251:C:H42	1.74	0.52
19:N:74:ARG:HH12	19:N:101:HIS:CG	2.27	0.52
7:6:27:LYS:HE3	10:A:2285:C:C5	2.44	0.52
11:B:52:A:HO2'	11:B:53:A:H8	1.57	0.52
10:A:422:A:H2'	10:A:423:A:C8	2.45	0.52
18:I:88:ILE:CG2	18:I:89:TYR:H	2.19	0.52
10:A:661:C:O2'	10:A:662:G:H5'	2.09	0.52
13:D:27:THR:O	13:D:28:GLU:HB2	2.10	0.52
3:2:41:ILE:O	3:2:42:GLY:O	2.27	0.52
22:Q:140:ALA:O	31:Z:53:ILE:HB	2.10	0.52
29:X:53:LYS:N	29:X:80:ILE:HG22	2.24	0.52
31:Z:10:ARG:NH2	31:Z:26:GLY:O	2.43	0.52
18:I:38:LEU:HB2	18:I:40:THR:HG23	1.91	0.52
19:N:19:GLU:HB2	19:N:59:LYS:HB2	1.92	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2069:G:C2'	10:A:2070:G:H5'	2.40	0.52
10:A:2443:C:O2'	10:A:2444:G:H5'	2.09	0.52
21:P:71:VAL:HG13	21:P:72:PRO:CD	2.40	0.52
10:A:2348:U:H2'	10:A:2349:G:H5'	1.90	0.52
29:X:70:LEU:HD12	29:X:71:GLY:H	1.73	0.52
10:A:106:C:C1'	30:Y:2:ARG:HE	2.18	0.52
14:E:60:ASN:OD1	14:E:62:PRO:CD	2.56	0.52
11:B:61:G:O2'	11:B:62:C:H5'	2.09	0.52
10:A:1230:C:H2'	10:A:1231:G:C8	2.45	0.52
21:P:108:LYS:C	21:P:110:TYR:N	2.63	0.52
8:7:31:LEU:O	8:7:32:LYS:C	2.48	0.52
20:O:76:ALA:HB3	25:T:75:ILE:HD12	1.91	0.52
10:A:30:G:H2'	10:A:31:C:H6	1.72	0.52
11:B:87:G:C3'	11:B:88:C:H5''	2.39	0.52
10:A:729:G:C4	10:A:1775:U:C2	2.97	0.52
25:T:78:LEU:C	25:T:79:HIS:ND1	2.62	0.52
10:A:1053:C:N4	10:A:1107:G:H22	2.08	0.52
10:A:1431:U:O2'	10:A:1432:C:H5'	2.10	0.52
25:T:128:GLU:O	25:T:130:ALA:N	2.41	0.52
10:A:649:G:H2'	10:A:650:C:C6	2.45	0.52
18:I:129:THR:HG21	18:I:135:GLU:HG2	1.91	0.52
18:I:79:ILE:CG2	18:I:81:VAL:HG23	2.40	0.52
10:A:1331:A:O2'	10:A:1332:G:H5''	2.10	0.52
13:D:255:LYS:CE	13:D:255:LYS:H	2.20	0.52
30:Y:35:TYR:HD2	30:Y:68:HIS:CE1	2.28	0.52
22:Q:81:VAL:O	22:Q:82:ARG:NH1	2.43	0.52
22:Q:75:THR:HB	22:Q:88:GLY:CA	2.35	0.52
10:A:1496:A:H8	10:A:1577:C:HO2'	1.54	0.52
17:H:85:LYS:HE3	17:H:141:VAL:O	2.10	0.52
18:I:9:LEU:H	18:I:13:GLY:CA	2.12	0.52
10:A:2685:G:N3	10:A:2725:A:C2	2.77	0.52
31:Z:5:LEU:HD22	31:Z:6:LYS:HE2	1.91	0.52
27:V:96:ILE:HG22	27:V:97:LYS:N	2.24	0.52
10:A:7:G:H4'	19:N:13:TRP:HH2	1.75	0.52
3:2:30:ARG:NH1	3:2:30:ARG:HG3	2.21	0.52
7:6:32:ASN:CG	7:6:33:LYS:N	2.62	0.52
17:H:89:ILE:CD1	17:H:129:THR:HB	2.39	0.52
4:3:19:GLN:O	4:3:22:ALA:HB3	2.09	0.52
16:G:16:ARG:NH1	16:G:16:ARG:HG3	2.24	0.52
10:A:2467:C:H2'	10:A:2468:G:O4'	2.10	0.52
14:E:63:LEU:O	14:E:64:LYS:C	2.47	0.52
10:A:235:U:H2'	10:A:236:C:C6	2.43	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:90:GLN:HE22	25:T:124:ASP:CG	2.13	0.52
13:D:109:ASP:HB2	13:D:197:GLY:HA2	1.92	0.52
4:3:38:GLU:O	4:3:40:THR:HG23	2.10	0.52
10:A:1742:G:N7	10:A:1743:C:C2	2.77	0.52
18:I:114:LEU:HA	18:I:130:TYR:HD1	1.75	0.52
24:S:84:GLN:O	24:S:85:VAL:HG13	2.09	0.52
10:A:84:A:H5'	30:Y:9:LYS:HB3	1.91	0.52
4:3:54:VAL:CG1	4:3:55:ARG:N	2.72	0.52
10:A:878:A:H2'	10:A:879:G:H5'	1.92	0.52
17:H:55:PRO:CG	17:H:56:SER:H	2.15	0.52
10:A:2723:C:H5''	23:R:2:ARG:HD2	1.91	0.52
10:A:1141:U:C5'	10:A:1142(A):A:O4'	2.58	0.52
2:1:34:THR:HG21	10:A:388:G:OP2	2.09	0.52
10:A:2362:G:C2'	10:A:2363:C:H5'	2.40	0.52
10:A:635:C:H2'	10:A:636:G:C8	2.45	0.52
21:P:85:LEU:HD12	21:P:120:ALA:HB3	1.90	0.52
10:A:80:G:C2'	10:A:81:G:H5'	2.39	0.52
10:A:2292:C:H42	10:A:2340:G:H1	1.57	0.52
26:U:101:ARG:O	26:U:102:GLU:HG2	2.09	0.52
15:F:51:THR:CG2	15:F:92:PRO:HD2	2.39	0.52
10:A:45:C:O2'	10:A:47:C:H5'	2.09	0.52
10:A:1865:G:H5'	10:A:1866:C:OP2	2.10	0.52
18:I:78:THR:HA	18:I:141:LYS:C	2.30	0.52
18:I:81:VAL:CG1	18:I:88:ILE:HD12	2.39	0.52
25:T:28:VAL:CG1	25:T:46:GLU:HA	2.40	0.52
14:E:201:THR:HG21	14:E:203:LYS:HB3	1.91	0.52
14:E:44:TYR:O	14:E:45:THR:CB	2.57	0.52
30:Y:26:LYS:HG2	30:Y:27:VAL:HG23	1.91	0.52
3:2:57:ILE:O	3:2:57:ILE:HG23	2.09	0.52
16:G:114:ILE:O	16:G:116:ASP:N	2.43	0.52
19:N:42:TRP:H	26:U:64:ARG:NH2	2.01	0.52
10:A:1880:C:H6	10:A:1880:C:H5'	1.75	0.52
10:A:589:C:H2'	10:A:590:A:H8	1.75	0.52
19:N:55:VAL:HG11	19:N:127:ASP:H	1.75	0.52
10:A:1822:G:H5'	10:A:1822:G:C8	2.40	0.52
23:R:3:HIS:O	23:R:4:LEU:CB	2.58	0.52
17:H:155:SER:C	17:H:157:TYR:N	2.63	0.52
19:N:3:THR:C	19:N:4:TYR:CG	2.83	0.52
23:R:24:GLN:HB2	23:R:44:LEU:CD2	2.40	0.52
10:A:977:G:O2'	10:A:978:G:H5'	2.09	0.52
15:F:185:ASP:OD1	15:F:188:ARG:NH1	2.39	0.52
31:Z:75:ASN:O	31:Z:76:LEU:HD23	2.10	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:122:PRO:HA	21:P:141:ALA:O	2.09	0.52
25:T:29:ARG:HE	25:T:84:GLN:HG3	1.74	0.52
14:E:47:VAL:O	14:E:80:GLU:HA	2.10	0.52
9:8:32:LEU:HD11	9:8:41:ILE:CG2	2.39	0.52
10:A:955:C:H5''	22:Q:14:ARG:HH21	1.75	0.52
16:G:86:MET:CG	16:G:87:PRO:HD2	2.35	0.52
23:R:60:LEU:HD23	23:R:61:HIS:N	2.25	0.52
19:N:42:TRP:H	26:U:64:ARG:CD	2.22	0.52
31:Z:67:LEU:HD12	31:Z:67:LEU:N	2.24	0.52
10:A:1947:C:H2'	10:A:1948:G:C5'	2.36	0.52
26:U:26:GLY:C	26:U:28:ARG:H	2.13	0.52
10:A:812:C:O2'	10:A:813:U:H5'	2.10	0.52
10:A:542:C:N4	10:A:543:C:N4	2.57	0.52
20:O:85:VAL:HG12	20:O:86:ILE:O	2.10	0.52
16:G:6:ALA:O	16:G:9:ARG:N	2.43	0.52
10:A:1290:C:O2'	10:A:1291:C:H5'	2.10	0.52
25:T:72:VAL:HG12	25:T:73:GLU:N	2.25	0.52
10:A:2617:C:C2'	10:A:2618:G:H5'	2.40	0.52
2:1:37:ILE:HG21	10:A:2080:G:P	2.49	0.52
7:6:51:GLU:O	7:6:52:VAL:HB	2.10	0.52
24:S:95:HIS:CG	24:S:96:GLY:H	2.27	0.52
20:O:36:GLY:HA3	20:O:109:LYS:HG3	1.92	0.52
2:1:31:GLY:O	10:A:2397:G:H5'	2.10	0.52
10:A:2222:G:O2'	10:A:2223:G:H5'	2.10	0.52
26:U:87:GLY:C	26:U:88:ILE:HG13	2.30	0.51
27:V:8:GLY:O	27:V:10:LYS:HG3	2.10	0.51
25:T:65:LYS:HG3	25:T:66:VAL:N	2.25	0.51
15:F:115:ALA:O	15:F:118:ALA:N	2.40	0.51
13:D:25:THR:HG22	13:D:82:ILE:C	2.30	0.51
2:1:46:LEU:O	2:1:48:LYS:N	2.43	0.51
31:Z:27:VAL:HG12	31:Z:87:ASP:HA	1.92	0.51
30:Y:81:LYS:HD2	30:Y:96:ILE:HB	1.92	0.51
27:V:32:THR:HB	27:V:64:HIS:HE1	1.73	0.51
26:U:21:ALA:HB1	26:U:24:TYR:CD1	2.45	0.51
18:I:68:LEU:O	18:I:71:ILE:HG12	2.10	0.51
26:U:10:ARG:O	26:U:11:ARG:C	2.46	0.51
29:X:82:GLN:CG	29:X:83:VAL:N	2.73	0.51
31:Z:143:GLY:C	31:Z:144:LEU:HD22	2.29	0.51
7:6:28:ARG:HG2	7:6:28:ARG:NH1	2.23	0.51
27:V:66:ARG:CD	27:V:67:GLY:N	2.73	0.51
10:A:150:C:H2'	10:A:151:C:C6	2.46	0.51
10:A:271(M):G:H2'	10:A:271(N):U:H5''	1.92	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2290:G:C8	10:A:2290:G:H5'	2.43	0.51
10:A:2827:C:H5'	10:A:2828:C:OP2	2.10	0.51
10:A:1524:G:O2'	10:A:1525:G:H5'	2.10	0.51
10:A:1270:C:H5''	10:A:1271:G:O5'	2.10	0.51
26:U:92:ARG:HB2	27:V:11:GLN:HE21	1.73	0.51
27:V:69:LYS:CB	27:V:93:GLU:OE2	2.58	0.51
30:Y:49:VAL:CG1	30:Y:53:PRO:HG3	2.40	0.51
21:P:95:VAL:HA	21:P:99:LEU:CD2	2.33	0.51
14:E:176:ILE:HG22	14:E:179:GLU:H	1.74	0.51
10:A:2545:G:N3	10:A:2565:A:H2	2.09	0.51
31:Z:151:HIS:CB	31:Z:170:THR:HA	2.24	0.51
27:V:17:GLY:HA2	27:V:98:GLU:O	2.10	0.51
10:A:191:A:C2'	10:A:192:C:H5'	2.41	0.51
10:A:154(A):C:H5	10:A:171:G:N1	2.06	0.51
1:O:20:ARG:NH1	10:A:2357:U:OP1	2.43	0.51
14:E:142:GLY:C	14:E:143:ASN:ND2	2.64	0.51
10:A:2467:C:H4'	22:Q:123:HIS:CE1	2.45	0.51
6:5:2:ALA:HA	10:A:2015:A:O4'	2.09	0.51
10:A:2025:C:H2'	10:A:2026:C:C6	2.46	0.51
10:A:1195:G:C2'	10:A:1196:C:H5'	2.40	0.51
10:A:265:A:H4'	10:A:266:G:O5'	2.10	0.51
11:B:57:A:C4	16:G:29:TRP:HB3	2.45	0.51
11:B:45:A:N3	11:B:45:A:H2'	2.23	0.51
10:A:2063:C:O2	10:A:2450:A:N1	2.43	0.51
10:A:2111:C:H5'	10:A:2112:G:OP1	2.10	0.51
10:A:2687:U:C2'	10:A:2688:U:H5'	2.41	0.51
10:A:483:A:H8	30:Y:47:LYS:NZ	2.07	0.51
10:A:84:A:H2'	10:A:99:U:O4	2.10	0.51
30:Y:28:LYS:HA	30:Y:39:VAL:N	2.18	0.51
2:1:87:PRO:CD	2:1:88:LYS:H	2.24	0.51
16:G:115:ARG:CZ	16:G:136:ARG:HG3	2.41	0.51
16:G:56:ALA:HB2	16:G:153:ARG:NH2	2.26	0.51
31:Z:6:LYS:HB2	31:Z:8:TYR:HE1	1.75	0.51
6:5:55:ARG:HH21	23:R:33:ARG:HH22	1.57	0.51
18:I:41:GLU:O	18:I:45:LYS:HG2	2.10	0.51
10:A:622:G:C2'	10:A:623:G:H5'	2.39	0.51
10:A:547:A:C8	10:A:549:G:C6	2.98	0.51
10:A:2202:C:H2'	10:A:2203:U:H6	1.75	0.51
28:W:47:VAL:HA	28:W:50:VAL:CG1	2.40	0.51
10:A:2186:G:C3'	10:A:2187:G:H5''	2.41	0.51
10:A:1257:C:C2	10:A:1258:C:C5	2.99	0.51
10:A:1625:C:H2'	10:A:1626:G:C5'	2.40	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:29:ARG:HE	25:T:84:GLN:CG	2.24	0.51
10:A:2777:G:C4'	10:A:2778:A:H5'	2.41	0.51
2:1:11:ARG:CB	2:1:12:PRO:CD	2.88	0.51
2:1:60:PHE:CD2	2:1:91:LYS:HE2	2.44	0.51
2:1:92:LYS:O	2:1:94:LEU:N	2.42	0.51
10:A:1980:G:O2'	10:A:1982:C:OP2	2.25	0.51
10:A:2306:C:C5	10:A:2307:G:H1'	2.45	0.51
7:6:15:GLU:CG	7:6:18:ARG:HG3	2.39	0.51
27:V:5:VAL:HG22	27:V:6:LYS:N	2.26	0.51
14:E:8:LYS:HG2	14:E:192:ASN:HD22	1.75	0.51
10:A:1924:C:O2'	10:A:1925:C:H5'	2.11	0.51
5:4:29:PRO:O	5:4:31:ILE:N	2.43	0.51
10:A:1827:C:O2'	10:A:1828:G:H5'	2.10	0.51
25:T:13:ARG:HA	25:T:13:ARG:HE	1.74	0.51
10:A:2855:C:O2'	10:A:2856:C:H5'	2.10	0.51
16:G:33:ARG:HB2	16:G:162:THR:OG1	2.10	0.51
10:A:1876:A:H2'	10:A:1877:A:C8	2.46	0.51
10:A:721:C:H2'	10:A:722:A:C8	2.46	0.51
24:S:45:GLY:O	24:S:46:VAL:HG23	2.10	0.51
17:H:18:GLU:HB2	17:H:25:LYS:HB2	1.92	0.51
21:P:96:THR:O	21:P:100:LEU:HD22	2.09	0.51
14:E:3:GLY:HA3	14:E:81:ILE:HG13	1.92	0.51
15:F:3:GLU:CB	15:F:24:LEU:HG	2.40	0.51
10:A:143:G:O4'	29:X:38:GLU:HG3	2.10	0.51
10:A:2031:A:C6	10:A:2498:C:H1'	2.46	0.51
10:A:2498:C:O2'	10:A:2499:C:H5'	2.10	0.51
14:E:111:ARG:CD	14:E:160:TYR:HE1	2.23	0.51
27:V:45:THR:O	27:V:45:THR:HG22	2.11	0.51
5:4:12:ALA:O	16:G:101:ILE:HD11	2.11	0.51
10:A:1354:A:H2'	10:A:1355:G:O4'	2.11	0.51
20:O:14:THR:HG21	20:O:86:ILE:HG12	1.92	0.51
13:D:14:ARG:CG	13:D:14:ARG:HH11	2.21	0.51
10:A:2813:A:C2'	10:A:2814:C:H5'	2.40	0.51
1:0:31:VAL:HB	1:0:35:ASN:HD22	1.75	0.51
10:A:320:A:C5	15:F:136:THR:HG21	2.46	0.51
10:A:1140:C:H1'	10:A:1143:A:N3	2.25	0.51
19:N:96:GLU:HG2	19:N:97:ARG:N	2.25	0.51
10:A:1278:A:OP1	23:R:36:THR:HG22	2.10	0.51
10:A:1603:A:H5'	10:A:1603:A:C8	2.46	0.51
28:W:95:ILE:O	28:W:95:ILE:HG13	2.11	0.51
10:A:709:U:H2'	10:A:710:G:H8	1.76	0.51
26:U:95:LEU:CD1	27:V:11:GLN:HG3	2.40	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:14:LEU:HD12	30:Y:15:VAL:N	2.25	0.51
10:A:2762:G:C3'	10:A:2763:G:H5''	2.40	0.51
19:N:9:VAL:HG12	19:N:10:GLU:N	2.14	0.51
14:E:120:TRP:CD1	14:E:155:LYS:HB3	2.46	0.51
22:Q:20:ALA:HA	22:Q:98:LYS:HB3	1.92	0.51
10:A:2364:C:H2'	10:A:2365:G:O4'	2.10	0.51
6:5:20:ARG:CB	6:5:23:HIS:HD2	2.23	0.51
17:H:130:ARG:O	17:H:131:VAL:HG23	2.11	0.51
25:T:109:GLU:O	25:T:113:LYS:HG3	2.09	0.51
10:A:686:G:H21	10:A:788:A:H61	1.59	0.51
26:U:15:LYS:HG3	26:U:16:LYS:N	2.26	0.51
28:W:79:GLY:CA	28:W:100:THR:HG23	2.40	0.51
10:A:1744:C:O2'	10:A:1745:C:H5'	2.10	0.51
10:A:1839:G:H5'	10:A:1839:G:H8	1.75	0.51
10:A:36:G:O2'	10:A:37:C:H5'	2.11	0.51
10:A:1456:G:H2'	10:A:1457:A:H8	1.75	0.51
3:2:35:LEU:HD23	3:2:35:LEU:N	2.26	0.51
26:U:95:LEU:O	26:U:98:LEU:HG	2.11	0.51
27:V:26:ASP:C	27:V:28:GLU:H	2.14	0.51
21:P:100:LEU:O	21:P:101:VAL:C	2.49	0.51
10:A:2636:U:C2'	10:A:2637:U:C5'	2.88	0.51
14:E:70:ALA:O	14:E:72:VAL:N	2.44	0.51
14:E:48:GLN:NE2	14:E:78:LEU:HD12	2.25	0.51
4:3:8:LEU:HD22	4:3:9:VAL:N	2.26	0.51
2:1:65:SER:OG	2:1:66:HIS:HD2	1.93	0.51
10:A:135:G:O2'	10:A:136:G:H5'	2.10	0.51
17:H:55:PRO:HG2	17:H:56:SER:N	2.21	0.51
31:Z:127:LYS:HD3	31:Z:162:GLU:OE1	2.11	0.51
29:X:56:THR:C	29:X:57:LEU:CD1	2.77	0.51
22:Q:34:LEU:HD11	22:Q:129:THR:HB	1.92	0.51
10:A:364:C:C2'	10:A:365:C:H5''	2.40	0.51
6:5:20:ARG:HH12	28:W:15:ARG:NH1	2.06	0.51
13:D:106:ILE:HD13	13:D:107:ALA:N	2.25	0.51
20:O:71:ARG:HB2	20:O:75:SER:O	2.11	0.51
10:A:1396:U:C2'	10:A:1396:U:O2	2.56	0.51
30:Y:75:ILE:HD12	30:Y:76:CYS:O	2.11	0.51
10:A:604:G:H2'	10:A:605:C:C6	2.43	0.51
1:0:2:ALA:HB1	10:A:2494:G:P	2.51	0.51
10:A:795:C:H2'	10:A:796:C:H6	1.75	0.51
18:I:110:ASP:HB2	18:I:113:ARG:CB	2.31	0.51
24:S:24:LEU:CB	24:S:85:VAL:HG12	2.41	0.51
24:S:89:ARG:CA	24:S:89:ARG:NE	2.47	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:97:PRO:O	21:P:99:LEU:N	2.40	0.51
2:1:62:VAL:C	2:1:64:ALA:N	2.61	0.51
10:A:2230:G:H2'	10:A:2231:C:C6	2.44	0.51
3:2:12:GLU:C	3:2:14:ARG:N	2.64	0.51
16:G:47:LYS:HD3	16:G:81:LYS:HD2	1.92	0.51
24:S:77:ALA:O	24:S:79:ALA:N	2.43	0.51
23:R:54:LEU:HD23	23:R:66:VAL:CG2	2.41	0.51
16:G:129:GLY:O	16:G:130:ASN:CB	2.59	0.51
29:X:76:ARG:HD3	29:X:76:ARG:O	2.11	0.51
10:A:365:C:H2'	10:A:366:C:O4'	2.10	0.51
10:A:2307:G:H3'	10:A:2307:G:N3	2.26	0.51
10:A:814:C:H5''	27:V:86:GLY:CA	2.37	0.51
27:V:44:LYS:C	27:V:46:VAL:H	2.14	0.51
14:E:61:ARG:HG3	14:E:62:PRO:HD3	1.93	0.51
16:G:16:ARG:HB2	16:G:17:PRO:CD	2.41	0.51
25:T:92:GLY:O	25:T:94:ALA:N	2.36	0.51
21:P:90:ARG:HD3	21:P:90:ARG:O	2.11	0.51
10:A:1357:U:H2'	10:A:1358:G:O4'	2.11	0.51
10:A:1568:G:H21	13:D:58:HIS:CE1	2.28	0.51
10:A:870:A:H5''	22:Q:7:MET:CB	2.41	0.51
4:3:13:ILE:HD12	10:A:989:G:N7	2.25	0.51
26:U:69:CYS:HB3	26:U:106:PHE:CZ	2.45	0.51
3:2:14:ARG:NE	3:2:57:ILE:CB	2.74	0.51
15:F:3:GLU:HA	15:F:24:LEU:HG	1.93	0.51
29:X:36:LYS:C	29:X:38:GLU:H	2.14	0.51
21:P:65:ARG:HH11	21:P:65:ARG:CB	2.24	0.51
19:N:39:ARG:HE	19:N:41:ASP:CG	2.13	0.51
17:H:85:LYS:HZ3	17:H:145:ALA:HA	1.76	0.51
6:5:4:HIS:O	10:A:2056:G:N2	2.44	0.51
31:Z:20:ARG:HH11	31:Z:20:ARG:HG3	1.76	0.51
10:A:271(A):A:H5'	10:A:271(B):C:OP2	2.11	0.51
1:0:53:MET:HA	1:0:58:THR:O	2.10	0.51
27:V:36:PRO:HD2	27:V:60:GLU:O	2.10	0.51
17:H:155:SER:C	17:H:157:TYR:H	2.15	0.51
14:E:182:LEU:O	14:E:183:LEU:HD12	2.11	0.51
27:V:66:ARG:HD2	27:V:67:GLY:N	2.26	0.51
10:A:2115:G:H5'	10:A:2116:G:OP2	2.10	0.51
10:A:2289:G:C2'	10:A:2290:G:H5''	2.41	0.51
24:S:42:ASP:O	24:S:43:GLU:HB2	2.11	0.51
10:A:1243:G:O2'	21:P:9:ASN:HA	2.11	0.51
10:A:1225:G:OP1	27:V:88:ARG:HB2	2.11	0.51
10:A:2626:C:H2'	10:A:2627:G:O4'	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:94:LEU:HA	13:D:104:TYR:HA	1.93	0.51
10:A:2522:U:H2'	10:A:2523:G:H5''	1.92	0.51
16:G:81:LYS:O	16:G:82:LEU:O	2.29	0.51
19:N:42:TRP:HB2	26:U:64:ARG:NH2	2.26	0.51
10:A:92:A:O2'	10:A:93:G:H5'	2.11	0.51
31:Z:163:LEU:N	31:Z:163:LEU:HD23	2.26	0.51
22:Q:141:GLN:O	31:Z:70:LEU:HD22	2.10	0.51
10:A:285:C:C2'	10:A:286:C:H5''	2.40	0.51
14:E:14:ILE:CG1	14:E:21:VAL:HG23	2.41	0.51
20:O:10:VAL:O	20:O:10:VAL:HG23	2.11	0.51
17:H:44:VAL:CG1	17:H:45:VAL:H	2.05	0.51
10:A:1573:G:C2'	10:A:1574:C:H5'	2.41	0.51
12:C:64:LEU:HD13	12:C:65:PRO:CD	2.36	0.51
10:A:2735:G:C2'	10:A:2736:G:C5'	2.89	0.51
27:V:79:VAL:O	27:V:80:GLN:CB	2.59	0.51
10:A:2605:U:H2'	10:A:2606:C:C6	2.46	0.51
10:A:493:G:N2	10:A:494:G:H1'	2.26	0.51
10:A:2687:U:C4	10:A:2688:U:C5	2.99	0.51
26:U:95:LEU:C	26:U:97:ASP:N	2.63	0.50
27:V:72:VAL:HA	27:V:88:ARG:HH22	1.76	0.50
24:S:27:SER:HA	24:S:88:ASP:OD1	2.11	0.50
25:T:30:VAL:HG11	25:T:84:GLN:HG2	1.94	0.50
14:E:176:ILE:HG22	14:E:176:ILE:O	2.11	0.50
21:P:61:ARG:HD2	21:P:61:ARG:H	1.75	0.50
10:A:1190:G:H5'	21:P:35:HIS:CB	2.41	0.50
30:Y:81:LYS:HE2	30:Y:97:ARG:CG	2.41	0.50
31:Z:8:TYR:N	31:Z:8:TYR:CD1	2.79	0.50
29:X:56:THR:HA	29:X:77:LYS:CB	2.40	0.50
27:V:19:LYS:HG2	27:V:96:ILE:CB	2.38	0.50
10:A:2406:U:O4	21:P:70:GLN:HB3	2.10	0.50
10:A:542:C:H2'	10:A:543:C:OP1	2.11	0.50
10:A:2298:A:H62	10:A:2318:G:H8	1.56	0.50
10:A:1005:C:C2	10:A:1143:A:C5	2.99	0.50
16:G:21:ARG:HG2	16:G:22:ARG:N	2.26	0.50
10:A:2277:G:O2'	10:A:2278:A:H5'	2.11	0.50
10:A:1695:G:H2'	10:A:1696:G:C5'	2.40	0.50
10:A:1109:C:H5	10:A:1110:G:C5	2.29	0.50
15:F:89:VAL:HG12	15:F:90:PHE:N	2.25	0.50
10:A:756:C:C2'	10:A:757:U:H5'	2.42	0.50
10:A:1394:U:C4	10:A:1395:A:C6	2.99	0.50
22:Q:16:ARG:HB2	22:Q:16:ARG:HH11	1.76	0.50
25:T:28:VAL:O	25:T:29:ARG:HB2	2.10	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:46:GLU:O	25:T:65:LYS:HB2	2.11	0.50
14:E:51:PHE:HB3	14:E:76:ARG:CB	2.38	0.50
7:6:10:LEU:HD12	9:8:36:LYS:HD3	1.94	0.50
16:G:115:ARG:NH1	16:G:136:ARG:HG3	2.27	0.50
10:A:2894:G:H2'	10:A:2894:G:N3	2.26	0.50
17:H:44:VAL:CG1	17:H:45:VAL:N	2.69	0.50
10:A:1131:G:OP2	10:A:2515:C:H4'	2.11	0.50
15:F:143:ALA:CA	15:F:146:ALA:HB3	2.34	0.50
26:U:8:VAL:HG12	26:U:9:VAL:N	2.25	0.50
10:A:1990:C:H2'	10:A:1991:U:O4'	2.11	0.50
14:E:142:GLY:C	14:E:143:ASN:HD22	2.15	0.50
14:E:63:LEU:O	14:E:65:GLY:N	2.44	0.50
10:A:1005:C:H2'	10:A:1006:C:C6	2.46	0.50
11:B:106:G:C2	11:B:107:G:C8	2.99	0.50
20:O:13:ASN:ND2	20:O:97:ARG:H	2.08	0.50
10:A:2656:U:C4	10:A:2657:A:H2	2.29	0.50
10:A:2408:U:H2'	10:A:2409:G:H8	1.77	0.50
10:A:244:A:C2	10:A:255:A:C4	2.99	0.50
14:E:56:PRO:O	14:E:58:ARG:N	2.44	0.50
8:7:16:HIS:ND1	10:A:684:G:OP1	2.44	0.50
18:I:123:LEU:CD2	18:I:142:VAL:HB	2.41	0.50
25:T:89:VAL:HG21	25:T:91:ARG:HH21	1.76	0.50
21:P:17:LYS:C	21:P:19:VAL:HG22	2.31	0.50
2:1:9:GLY:O	2:1:10:LYS:CB	2.59	0.50
10:A:2678:C:C2	10:A:2679:A:C8	2.99	0.50
27:V:19:LYS:HE2	27:V:19:LYS:HA	1.93	0.50
15:F:39:TRP:CD1	15:F:101:LEU:HB2	2.47	0.50
10:A:271(Q):G:HO2'	10:A:271(R):G:H8	1.59	0.50
17:H:148:ILE:O	17:H:150:ALA:N	2.44	0.50
10:A:1713:U:O2	10:A:1747:G:C2	2.64	0.50
10:A:1767:C:O2'	10:A:1768:U:H5'	2.12	0.50
16:G:11:TYR:HA	16:G:15:VAL:CG2	2.40	0.50
2:1:21:ARG:HD3	2:1:22:GLY:N	2.23	0.50
13:D:132:PRO:O	13:D:133:LEU:C	2.50	0.50
1:0:11:ARG:HH11	1:0:11:ARG:CB	2.24	0.50
13:D:12:SER:HB2	13:D:208:LYS:HB3	1.93	0.50
16:G:162:THR:HG22	16:G:162:THR:O	2.11	0.50
10:A:2086:U:H2'	10:A:2087:G:C8	2.47	0.50
10:A:256:A:H2'	10:A:257:A:C8	2.46	0.50
10:A:2078:C:O2'	10:A:2079:U:H5'	2.12	0.50
7:6:13:CYS:HB3	7:6:49:HIS:HB3	1.93	0.50
10:A:1593:G:H2'	10:A:1594:G:C5'	2.42	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:243:GLY:O	13:D:244:ARG:HB3	2.12	0.50
10:A:2175:C:H1'	12:C:215:THR:CA	2.34	0.50
12:C:46:LYS:HB2	12:C:208:PHE:O	2.11	0.50
10:A:954:G:H5'	22:Q:13:GLN:HG2	1.93	0.50
23:R:85:PRO:O	23:R:87:TYR:N	2.45	0.50
17:H:38:SER:C	17:H:40:GLU:H	2.14	0.50
21:P:35:HIS:O	21:P:36:LYS:CG	2.58	0.50
13:D:147:LEU:HG	13:D:183:ARG:HH12	1.76	0.50
10:A:1341:U:N1	29:X:77:LYS:HE2	2.25	0.50
10:A:8:A:H2	10:A:2896:C:N3	2.10	0.50
19:N:56:ASN:CG	19:N:126:PRO:HD3	2.32	0.50
19:N:15:LEU:HD21	19:N:55:VAL:HG21	1.93	0.50
1:O:36:ILE:CD1	10:A:2354:G:O2'	2.59	0.50
17:H:89:ILE:HG13	17:H:129:THR:HA	1.92	0.50
13:D:43:ARG:NH1	13:D:49:ILE:HG22	2.27	0.50
10:A:583:G:OP2	26:U:10:ARG:NH1	2.45	0.50
20:O:103:ALA:HB1	20:O:105:GLU:CD	2.32	0.50
10:A:1820:U:O2	13:D:202:LYS:HB3	2.11	0.50
13:D:231:HIS:CG	13:D:232:PRO:HD2	2.46	0.50
10:A:2340:G:O2'	10:A:2341:G:H5'	2.10	0.50
15:F:169:ASN:OD1	15:F:169:ASN:O	2.30	0.50
10:A:2511:U:H5''	14:E:123:ALA:CB	2.42	0.50
12:C:75:LEU:C	12:C:75:LEU:HD23	2.31	0.50
23:R:101:ALA:O	23:R:102:GLU:HB2	2.10	0.50
10:A:2127:G:N1	10:A:2161:C:H1'	2.26	0.50
24:S:15:ARG:O	24:S:17:ARG:O	2.29	0.50
24:S:17:ARG:O	24:S:19:LYS:N	2.42	0.50
25:T:33:LYS:HA	25:T:33:LYS:NZ	2.25	0.50
30:Y:28:LYS:CA	30:Y:39:VAL:H	2.16	0.50
2:1:47:GLN:C	2:1:47:GLN:OE1	2.50	0.50
15:F:200:GLU:O	15:F:203:GLN:HB2	2.11	0.50
15:F:4:VAL:HA	15:F:18:ARG:O	2.12	0.50
21:P:61:ARG:HD2	21:P:61:ARG:N	2.26	0.50
16:G:111:LEU:O	16:G:114:ILE:HG12	2.11	0.50
16:G:114:ILE:O	16:G:115:ARG:C	2.50	0.50
19:N:112:LEU:O	19:N:116:LEU:N	2.38	0.50
21:P:23:PRO:HB3	21:P:34:GLY:H	1.75	0.50
21:P:14:LYS:O	21:P:15:ARG:CB	2.60	0.50
14:E:119:ARG:HG2	14:E:160:TYR:CB	2.42	0.50
19:N:13:TRP:H	19:N:13:TRP:HD1	1.57	0.50
10:A:1141:U:H2'	19:N:63:THR:HG21	1.93	0.50
15:F:161:GLU:O	15:F:164:ARG:HB3	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:271(Q):G:O2'	10:A:271(R):G:H8	1.94	0.50
19:N:34:LEU:HD21	19:N:120:LEU:HD23	1.94	0.50
17:H:88:LEU:O	17:H:89:ILE:CG2	2.59	0.50
20:O:103:ALA:HB1	20:O:105:GLU:OE1	2.11	0.50
27:V:3:ALA:O	27:V:13:ARG:HA	2.12	0.50
17:H:102:ALA:HB2	17:H:117:PRO:CD	2.41	0.50
25:T:23:ARG:NH2	25:T:120:ARG:HD3	2.26	0.50
10:A:733:G:O5'	10:A:733:G:H8	1.94	0.50
4:3:46:ASN:ND2	10:A:851:U:H5'	2.26	0.50
10:A:84:A:H5''	30:Y:9:LYS:NZ	2.25	0.50
10:A:85:G:O5'	30:Y:30:VAL:HB	2.12	0.50
2:1:46:LEU:CD1	2:1:46:LEU:H	2.14	0.50
15:F:21:ALA:C	15:F:23:ASP:H	2.14	0.50
16:G:57:ALA:HA	16:G:90:LEU:HD21	1.93	0.50
10:A:2747:G:O6	10:A:2754:U:H2'	2.12	0.50
31:Z:71:VAL:HG13	31:Z:86:VAL:HG12	1.93	0.50
19:N:26:LEU:HG	19:N:30:ILE:HD11	1.93	0.50
13:D:158:ALA:O	13:D:159:ALA:HB3	2.10	0.50
27:V:4:ILE:HG12	27:V:13:ARG:CB	2.42	0.50
21:P:88:LEU:C	21:P:90:ARG:H	2.15	0.50
10:A:415:A:C2	10:A:2409:G:C2	2.99	0.50
2:1:30:VAL:O	2:1:30:VAL:HG12	2.11	0.50
10:A:1187:G:H8	10:A:1187:G:O5'	1.95	0.50
10:A:994:C:H1'	27:V:10:LYS:NZ	2.26	0.50
11:B:4:C:H2'	11:B:5:C:C6	2.47	0.50
21:P:96:THR:HB	21:P:126:VAL:HB	1.94	0.50
25:T:42:ILE:O	25:T:43:GLN:C	2.50	0.50
25:T:65:LYS:HZ2	25:T:65:LYS:HA	1.77	0.50
14:E:101:ARG:HD3	14:E:169:ASN:HD22	1.76	0.50
10:A:612:C:H2'	10:A:613:G:C5'	2.19	0.50
10:A:615:G:H5'	15:F:40:GLN:NE2	2.27	0.50
14:E:120:TRP:CD2	14:E:155:LYS:HD3	2.46	0.50
10:A:941:A:H2'	10:A:942:G:C8	2.47	0.50
10:A:2533:A:H2'	10:A:2534:A:C5'	2.28	0.50
22:Q:104:PHE:HE1	22:Q:125:LEU:HD11	1.77	0.50
28:W:59:VAL:HG12	28:W:60:ASN:H	1.74	0.50
16:G:7:LEU:HB2	16:G:104:GLU:CD	2.32	0.50
15:F:83:PHE:O	15:F:85:GLY:N	2.44	0.50
10:A:1708:C:O2'	10:A:1709:U:H5'	2.12	0.50
10:A:1345:C:H2'	10:A:1346:G:H8	1.77	0.50
2:1:23:LYS:O	2:1:37:ILE:HB	2.10	0.50
10:A:2050:C:H1'	14:E:156:MET:HE2	1.92	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:554:U:O2'	10:A:555:U:H5'	2.11	0.50
10:A:614(A):U:H4'	10:A:614(B):G:H5''	1.93	0.50
10:A:1268:A:H2'	10:A:1269:A:O4'	2.11	0.50
10:A:1022:G:O2'	10:A:1023:U:P	2.70	0.50
18:I:120:ILE:HG22	18:I:121:LYS:N	2.26	0.50
10:A:2160:G:H3'	10:A:2161:C:H5''	1.94	0.50
21:P:123:LEU:O	21:P:124:LYS:C	2.50	0.50
14:E:201:THR:CG2	14:E:203:LYS:HB3	2.42	0.50
16:G:39:ILE:HG12	16:G:60:LEU:HD21	1.94	0.50
10:A:1718:G:H8	10:A:1718:G:H5'	1.77	0.50
17:H:92:ILE:CG2	17:H:93:GLY:N	2.64	0.50
2:1:26:ARG:N	2:1:26:ARG:HD3	2.25	0.50
16:G:145:THR:OG1	16:G:146:TYR:N	2.45	0.50
10:A:2531:A:H2	10:A:2658:C:O2	1.94	0.50
10:A:2645:G:C3'	10:A:2646:C:H5'	2.39	0.50
10:A:1175:U:H4'	10:A:1176:G:H2'	1.93	0.50
10:A:2842:G:O2'	10:A:2843:G:H5'	2.12	0.50
16:G:6:ALA:O	16:G:10:LYS:N	2.44	0.50
10:A:360:G:H2'	10:A:361:G:C8	2.47	0.50
10:A:2872:G:C2	10:A:2873:A:N6	2.79	0.50
23:R:4:LEU:O	23:R:4:LEU:HD22	2.11	0.50
10:A:2873:A:N3	23:R:6:SER:HB2	2.27	0.50
8:7:8:ASN:ND2	8:7:8:ASN:C	2.61	0.50
6:5:43:HIS:CD2	10:A:2815:C:O2'	2.63	0.50
27:V:52:VAL:O	27:V:53:GLU:HB3	2.12	0.50
4:3:23:LEU:HD12	4:3:23:LEU:H	1.77	0.50
10:A:1335:U:O2'	10:A:1336:A:H5'	2.12	0.50
31:Z:105:VAL:HG22	31:Z:106:GLY:H	1.77	0.50
15:F:110:LEU:O	15:F:113:ALA:HB3	2.12	0.50
9:8:2:PRO:O	9:8:3:LYS:O	2.29	0.50
21:P:148:LEU:HD22	21:P:148:LEU:O	2.12	0.50
10:A:1523:U:H2'	10:A:1524:G:C8	2.46	0.50
10:A:1509:C:OP1	10:A:1509:C:H4'	2.12	0.50
6:5:35:GLU:HB2	6:5:49:CYS:SG	2.51	0.50
10:A:118:A:H5'	10:A:119:A:H8	1.77	0.50
14:E:101:ARG:HH11	14:E:169:ASN:HD22	1.58	0.50
10:A:1203:G:H3'	10:A:1204:A:H5''	1.94	0.50
15:F:41:LEU:HD23	15:F:44:ARG:HD3	1.94	0.50
10:A:139:G:H1	10:A:142(A):C:H42	1.60	0.50
17:H:65:HIS:C	17:H:67:LEU:H	2.16	0.50
31:Z:166:SER:HB2	31:Z:167:PRO:CA	2.42	0.50
31:Z:44:PHE:CE2	31:Z:86:VAL:HG11	2.47	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:Z:48:PHE:O	31:Z:52:SER:N	2.43	0.50
29:X:55:ASN:HD22	29:X:78:LYS:HE2	1.75	0.50
29:X:53:LYS:H	29:X:80:ILE:HG22	1.77	0.50
20:O:46:ALA:H	20:O:54:GLU:CG	2.23	0.50
22:Q:47:ILE:HD12	22:Q:47:ILE:N	2.26	0.50
15:F:103:LYS:O	15:F:105:VAL:N	2.45	0.50
10:A:2348:U:O2'	10:A:2349:G:H5'	2.11	0.50
10:A:2201:C:H2'	10:A:2202:C:C6	2.46	0.50
26:U:108:GLU:O	26:U:112:ARG:HB2	2.12	0.50
8:7:27:GLY:O	8:7:30:VAL:HB	2.11	0.50
6:5:7:PRO:HB2	10:A:2016:U:O2	2.11	0.50
22:Q:137:TYR:O	22:Q:138:ASP:CG	2.50	0.50
10:A:2861:G:O2'	10:A:2862:G:H5'	2.12	0.50
10:A:1388:G:O2'	10:A:1389:G:H5'	2.11	0.50
31:Z:131:ARG:HH11	31:Z:131:ARG:HG2	1.77	0.50
18:I:124:GLY:O	18:I:142:VAL:HG23	2.12	0.49
10:A:482:A:H4'	30:Y:47:LYS:HZ1	1.76	0.49
30:Y:8:LYS:HZ1	30:Y:74:PRO:CD	2.22	0.49
9:8:14:VAL:CG1	9:8:22:VAL:HG13	2.37	0.49
3:2:48:HIS:O	3:2:49:LYS:HG2	2.11	0.49
3:2:41:ILE:CG1	10:A:94(A):G:H22	2.25	0.49
23:R:96:ARG:HE	23:R:117:VAL:HG23	1.77	0.49
10:A:1155:A:O3'	26:U:55:ARG:NH1	2.45	0.49
14:E:120:TRP:NE1	14:E:155:LYS:HB3	2.27	0.49
10:A:578:A:OP1	10:A:1255:U:O2'	2.26	0.49
10:A:2684:U:OP2	25:T:53:ARG:NH2	2.43	0.49
22:Q:140:ALA:O	31:Z:53:ILE:HD12	2.11	0.49
27:V:18:LEU:C	27:V:18:LEU:HD22	2.32	0.49
10:A:624:C:O2	10:A:657:U:H4'	2.13	0.49
10:A:1350:C:O2'	10:A:1351:C:H5'	2.12	0.49
29:X:83:VAL:O	29:X:84:ALA:CB	2.59	0.49
14:E:134:ILE:O	14:E:134:ILE:HG12	2.11	0.49
10:A:468:G:H2'	10:A:469:G:O4'	2.12	0.49
3:2:60:LEU:O	3:2:61:LEU:HB2	2.12	0.49
10:A:660:G:H5'	15:F:99:TYR:CE2	2.47	0.49
10:A:1607:C:H4'	10:A:1608:A:O5'	2.12	0.49
18:I:79:ILE:HG13	18:I:140:LEU:HD21	1.94	0.49
25:T:89:VAL:CB	25:T:91:ARG:HE	2.24	0.49
10:A:2776:A:C6	10:A:2782:G:H1'	2.47	0.49
23:R:84:ALA:N	23:R:85:PRO:CD	2.75	0.49
23:R:97:VAL:CG2	23:R:114:VAL:HG22	2.42	0.49
10:A:2747:G:P	17:H:138:LYS:HZ3	2.35	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:Z:98:MET:O	31:Z:125:LEU:HA	2.11	0.49
31:Z:99:TYR:N	31:Z:99:TYR:HD2	2.10	0.49
10:A:2529:G:OP2	10:A:2530:A:H5''	2.12	0.49
25:T:101:PHE:HE2	25:T:113:LYS:HD3	1.76	0.49
15:F:176:LEU:HD21	15:F:180:GLY:O	2.12	0.49
10:A:1766:U:O2'	10:A:1767:C:H5'	2.12	0.49
10:A:1665:A:H2'	10:A:1666:G:C5'	2.41	0.49
10:A:1510:G:H2'	10:A:1511:C:O4'	2.11	0.49
6:5:2:ALA:N	10:A:747:U:C4	2.80	0.49
10:A:1140:C:C1'	10:A:1143:A:C2	2.96	0.49
27:V:25:LEU:C	27:V:27:ALA:H	2.16	0.49
10:A:2815:C:H2'	10:A:2816:C:H6	1.77	0.49
18:I:25:TYR:CE2	18:I:29:TYR:CD2	3.00	0.49
7:6:11:LEU:O	7:6:24:GLU:N	2.45	0.49
15:F:107:LYS:O	15:F:110:LEU:N	2.45	0.49
2:1:54:ALA:O	2:1:56:GLN:N	2.44	0.49
2:1:54:ALA:C	2:1:56:GLN:N	2.63	0.49
10:A:1108:U:C2'	10:A:1109:C:H5'	2.43	0.49
10:A:2066:C:O2'	10:A:2067:G:H5'	2.12	0.49
10:A:2164:C:H5''	10:A:2165:G:N7	2.27	0.49
16:G:34:LEU:HD22	16:G:35:GLU:N	2.27	0.49
18:I:110:ASP:O	18:I:112:LYS:N	2.44	0.49
18:I:114:LEU:O	18:I:115:ALA:HB3	2.11	0.49
11:B:7:G:H4'	24:S:29:PHE:CD1	2.48	0.49
24:S:28:VAL:O	24:S:89:ARG:HD2	2.11	0.49
2:1:94:LEU:O	2:1:95:LEU:HG	2.13	0.49
10:A:2392:A:H1'	21:P:60:MET:HG2	1.93	0.49
31:Z:118:GLN:O	31:Z:120:ILE:N	2.45	0.49
19:N:40:PRO:C	26:U:64:ARG:NH2	2.65	0.49
20:O:1:MET:HB2	20:O:32:TYR:HD2	1.77	0.49
31:Z:16:SER:O	31:Z:17:ALA:C	2.51	0.49
11:B:76:G:C4'	31:Z:85:HIS:HD2	2.25	0.49
27:V:32:THR:HG22	27:V:33:VAL:N	2.27	0.49
25:T:55:ASN:HD22	25:T:58:ASN:ND2	1.99	0.49
10:A:2189:U:H2'	10:A:2190:G:H5''	1.95	0.49
10:A:2632:A:O2'	14:E:61:ARG:CZ	2.60	0.49
10:A:2887:U:H2'	10:A:2888:C:C6	2.46	0.49
27:V:2:PHE:CZ	27:V:13:ARG:HD2	2.47	0.49
10:A:493:G:O2'	28:W:7:ALA:HA	2.12	0.49
14:E:25:VAL:HG12	14:E:25:VAL:O	2.11	0.49
10:A:2184:G:H2'	10:A:2185:C:H6	1.77	0.49
10:A:2019:A:C2'	10:A:2020:A:O5'	2.61	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:350:U:H2'	10:A:351:G:O4'	2.12	0.49
31:Z:24:LEU:HD11	31:Z:83:PRO:HB2	1.94	0.49
10:A:2881:C:C2	10:A:2882:A:C8	3.00	0.49
10:A:765:G:H2'	10:A:766:C:C6	2.46	0.49
13:D:108:PRO:HB3	13:D:143:HIS:CE1	2.47	0.49
21:P:126:VAL:HG12	21:P:127:ALA:N	2.26	0.49
10:A:1158:C:O2'	10:A:1159:U:H5''	2.12	0.49
2:1:62:VAL:HG13	2:1:64:ALA:N	2.27	0.49
10:A:1365:A:H2'	10:A:1366:A:C8	2.37	0.49
29:X:44:GLU:HB3	29:X:51:VAL:HG23	1.94	0.49
9:8:32:LEU:HD23	9:8:35:GLN:C	2.32	0.49
10:A:910:A:C8	22:Q:13:GLN:HB2	2.47	0.49
10:A:2696:U:H2'	10:A:2697:G:C8	2.45	0.49
31:Z:29:TYR:CZ	31:Z:87:ASP:HB2	2.47	0.49
30:Y:81:LYS:CG	30:Y:96:ILE:HB	2.42	0.49
30:Y:96:ILE:HG13	30:Y:99:CYS:HB2	1.93	0.49
10:A:2720:U:C2	10:A:2721:A:C8	3.00	0.49
27:V:61:VAL:O	27:V:62:LEU:HD23	2.12	0.49
10:A:860:U:O4'	10:A:860:U:O2	2.30	0.49
10:A:813:U:H2'	10:A:814:C:C6	2.47	0.49
10:A:2580:U:H4'	14:E:130:GLY:CA	2.41	0.49
27:V:40:LEU:O	27:V:41:GLY:C	2.50	0.49
21:P:85:LEU:HA	21:P:88:LEU:HB3	1.93	0.49
29:X:14:SER:H	29:X:17:ALA:CB	2.25	0.49
10:A:1771:C:C1'	10:A:1786:A:H8	2.24	0.49
10:A:670:A:H4'	10:A:671:C:OP1	2.10	0.49
10:A:524:U:H4'	10:A:555:U:H4'	1.94	0.49
10:A:934:G:N3	10:A:934:G:H2'	2.28	0.49
28:W:48:ALA:O	28:W:49:LYS:C	2.50	0.49
15:F:60:SER:OG	15:F:61:GLY:N	2.46	0.49
21:P:101:VAL:HG23	21:P:107:LYS:CA	2.35	0.49
21:P:140:ALA:O	21:P:141:ALA:HB2	2.12	0.49
2:1:41:ARG:HG3	2:1:41:ARG:NH1	2.27	0.49
10:A:188:G:C6	10:A:189:G:C4	3.00	0.49
13:D:30:GLU:HG3	13:D:63:ARG:NE	2.28	0.49
15:F:3:GLU:HB2	15:F:20:LEU:N	2.14	0.49
29:X:30:VAL:HG12	29:X:31:HIS:N	2.18	0.49
29:X:35:THR:O	29:X:36:LYS:O	2.30	0.49
10:A:2713:A:H3'	10:A:2714:G:H5'	1.94	0.49
22:Q:141:GLN:N	31:Z:53:ILE:O	2.46	0.49
27:V:63:GLY:O	27:V:64:HIS:CB	2.60	0.49
10:A:1020:A:N1	10:A:1141:U:H1'	2.27	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:18:TYR:O	29:X:19:ALA:C	2.49	0.49
15:F:63:LYS:HE3	15:F:67:GLN:HB2	1.94	0.49
10:A:1131:G:C2	10:A:1132:A:C5	3.00	0.49
10:A:1131:G:H4'	19:N:82:LEU:HG	1.95	0.49
28:W:17:VAL:O	28:W:18:ARG:C	2.49	0.49
25:T:50:ILE:HD11	25:T:64:ARG:HB3	1.94	0.49
10:A:1803:A:C2	10:A:1822:G:N3	2.79	0.49
13:D:159:ALA:H	13:D:196:VAL:HG11	1.77	0.49
30:Y:43:ASN:HD21	30:Y:64:GLU:HG3	1.75	0.49
12:C:82:LYS:HZ1	12:C:151:GLU:HA	1.76	0.49
10:A:2240:C:O2'	10:A:2241:A:H5'	2.12	0.49
10:A:680:G:H2'	10:A:681:G:C8	2.46	0.49
13:D:145:VAL:HG12	13:D:146:GLU:N	2.27	0.49
26:U:50:ARG:CZ	27:V:75:PHE:CE2	2.96	0.49
13:D:108:PRO:HG3	13:D:111:LEU:HD23	1.95	0.49
15:F:52:LYS:HB3	15:F:56:GLU:HB3	1.94	0.49
10:A:2521:C:H1'	10:A:2545:G:N2	2.28	0.49
29:X:64:LYS:CG	29:X:65:ARG:N	2.60	0.49
19:N:38:HIS:O	26:U:67:ALA:O	2.31	0.49
17:H:41:MET:HB3	17:H:43:VAL:CG1	2.28	0.49
14:E:119:ARG:HH11	14:E:160:TYR:HB2	1.78	0.49
10:A:863:A:OP1	22:Q:21:THR:HB	2.12	0.49
10:A:2329:G:H2'	10:A:2330:G:C8	2.48	0.49
25:T:6:LEU:HD23	25:T:6:LEU:C	2.32	0.49
10:A:558:G:OP1	19:N:111:PRO:HD2	2.13	0.49
10:A:2555:U:H2'	10:A:2556:C:C5'	2.39	0.49
10:A:1385:G:C4	10:A:1386:C:C5	3.01	0.49
10:A:318:C:H2'	10:A:319:C:H6	1.76	0.49
10:A:2270:G:H3'	10:A:2271:G:C8	2.47	0.49
7:6:14:THR:HG22	7:6:51:GLU:O	2.12	0.49
10:A:608:A:H3'	10:A:609:A:H8	1.77	0.49
10:A:1403:C:C2'	10:A:1404:C:O5'	2.61	0.49
10:A:1035:U:H2'	10:A:1036:G:C8	2.48	0.49
4:3:49:LYS:NZ	10:A:851:U:OP1	2.39	0.49
10:A:2584:U:O5'	10:A:2584:U:O2	2.30	0.49
10:A:2804:C:H2'	10:A:2805:G:C8	2.47	0.49
23:R:13:HIS:O	23:R:14:SER:C	2.51	0.49
10:A:2660:A:H3'	10:A:2661:G:O4'	2.11	0.49
1:0:84:LEU:HD12	1:0:84:LEU:N	2.27	0.49
24:S:89:ARG:N	24:S:89:ARG:HE	2.10	0.49
10:A:614:U:O4'	10:A:614:U:O2	2.31	0.49
2:1:85:LEU:HB2	2:1:87:PRO:HD3	1.95	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:48:PRO:CG	21:P:49:ARG:H	2.21	0.49
9:8:30:ARG:HH21	21:P:62:LEU:CB	2.20	0.49
16:G:43:LEU:CD2	16:G:88:ILE:HG22	2.36	0.49
23:R:48:VAL:O	23:R:51:LEU:HB2	2.12	0.49
31:Z:99:TYR:N	31:Z:99:TYR:CD2	2.81	0.49
27:V:63:GLY:O	27:V:96:ILE:HG23	2.13	0.49
26:U:40:PHE:CD1	27:V:78:LYS:NZ	2.81	0.49
14:E:61:ARG:HG2	14:E:62:PRO:HD3	1.93	0.49
26:U:112:ARG:HH11	26:U:112:ARG:CG	2.19	0.49
10:A:2041:U:C2	10:A:2042:A:C8	3.01	0.49
25:T:72:VAL:CG1	25:T:73:GLU:N	2.75	0.49
27:V:25:LEU:H	27:V:94:LEU:CD1	2.25	0.49
10:A:1602:U:H3'	10:A:1603:A:C5'	2.42	0.49
10:A:2855:C:H2'	10:A:2856:C:C6	2.48	0.49
13:D:209:ALA:C	13:D:210:GLY:O	2.47	0.49
23:R:75:LEU:HD13	23:R:75:LEU:C	2.33	0.49
28:W:13:SER:O	28:W:16:LYS:HB2	2.12	0.49
26:U:93:LYS:H	26:U:93:LYS:HD3	1.76	0.49
29:X:73:ARG:O	29:X:74:PRO:C	2.51	0.49
10:A:310:A:OP1	30:Y:17:SER:O	2.31	0.49
13:D:35:LYS:CG	13:D:64:ILE:N	2.65	0.49
9:8:52:LYS:NZ	10:A:834:C:H4'	2.28	0.49
17:H:136:ILE:HD12	17:H:136:ILE:N	2.28	0.49
27:V:18:LEU:O	27:V:19:LYS:HB2	2.12	0.49
12:C:49:ILE:CG2	12:C:50:ASP:N	2.75	0.49
10:A:2349:G:H5'	10:A:2349:G:H8	1.78	0.49
29:X:82:GLN:CD	29:X:83:VAL:HG22	2.33	0.49
20:O:91:LEU:N	20:O:91:LEU:CD2	2.75	0.49
23:R:3:HIS:O	23:R:4:LEU:HB3	2.12	0.49
10:A:132:G:C8	10:A:132:G:H5'	2.41	0.49
19:N:97:ARG:O	19:N:98:VAL:C	2.51	0.49
10:A:2574:G:H2'	10:A:2575:C:C6	2.48	0.49
10:A:839:U:H1'	10:A:1191:G:H1'	1.94	0.49
24:S:13:ARG:O	24:S:14:VAL:C	2.50	0.49
21:P:8:PRO:C	21:P:10:PRO:HD3	2.33	0.49
10:A:2807:G:H3'	10:A:2808:U:H5''	1.94	0.49
3:2:33:MET:CG	29:X:11:PRO:HD2	2.38	0.49
22:Q:39:PRO:CD	22:Q:99:PRO:HD3	2.43	0.49
16:G:13:GLU:O	16:G:14:GLU:HB2	2.13	0.49
27:V:13:ARG:HG3	27:V:13:ARG:HH11	1.78	0.49
10:A:2107:C:H42	10:A:2182:G:H1	1.59	0.49
10:A:1510:G:O2'	10:A:1511:C:H5'	2.13	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:138:LEU:C	21:P:138:LEU:HD12	2.33	0.49
16:G:127:GLY:CA	16:G:166:ASP:HB3	2.43	0.49
10:A:422:A:C6	10:A:423:A:C6	3.00	0.49
10:A:2087:G:C2'	10:A:2088:G:H5'	2.43	0.49
13:D:257:LEU:HD23	13:D:257:LEU:C	2.33	0.49
11:B:84:C:H2'	11:B:85:G:H8	1.77	0.49
18:I:115:ALA:CB	18:I:131:LYS:HE3	2.36	0.49
18:I:94:ALA:O	18:I:98:ALA:N	2.46	0.49
24:S:92:TYR:CG	24:S:93:LYS:N	2.81	0.49
25:T:117:ASP:OD1	25:T:119:LYS:HB3	2.13	0.49
25:T:76:PHE:HA	25:T:77:PRO:HD3	1.68	0.49
14:E:4:ILE:CG1	14:E:28:ALA:HB1	2.43	0.49
15:F:117:ARG:HH22	21:P:5:ASP:N	2.09	0.49
13:D:70:TRP:O	13:D:71:ASP:C	2.51	0.49
21:P:50:ARG:CG	21:P:51:PHE:N	2.75	0.49
16:G:111:LEU:C	16:G:114:ILE:HG12	2.33	0.49
14:E:117:MET:HG3	14:E:122:PHE:O	2.13	0.49
13:D:183:ARG:HH11	13:D:183:ARG:HG2	1.77	0.49
20:O:16:ALA:HB1	20:O:43:VAL:HG13	1.95	0.49
22:Q:43:THR:HG23	22:Q:46:GLN:CD	2.33	0.49
10:A:271(H):G:C6	10:A:271(Q):G:N1	2.81	0.49
10:A:1024:G:H8	10:A:1024:G:O5'	1.96	0.49
21:P:112:LEU:HD22	21:P:113:LYS:N	2.27	0.49
17:H:87:LEU:HD12	17:H:131:VAL:HG12	1.95	0.49
10:A:1569:A:O2'	13:D:38:LYS:HE2	2.13	0.49
10:A:2287:A:C2	10:A:2346:A:H2	2.30	0.49
13:D:8:PRO:C	13:D:10:THR:H	2.15	0.49
30:Y:77:PRO:O	30:Y:78:ALA:CB	2.60	0.49
10:A:2838:G:O2'	10:A:2839:G:H5'	2.13	0.49
16:G:95:ARG:O	16:G:96:ARG:C	2.51	0.49
10:A:2197:U:H1'	10:A:2198:A:C8	2.48	0.49
22:Q:6:ARG:O	22:Q:7:MET:HG2	2.13	0.49
10:A:2247:A:O2'	10:A:2248:C:H5'	2.13	0.49
27:V:85:LYS:O	27:V:87:HIS:N	2.39	0.49
22:Q:111:GLU:HG3	22:Q:112:GLU:N	2.27	0.49
13:D:130:ALA:HA	13:D:191:ALA:O	2.13	0.49
18:I:131:LYS:HG3	18:I:132:PRO:HA	1.95	0.48
18:I:123:LEU:HD23	18:I:142:VAL:HB	1.94	0.48
24:S:14:VAL:HG12	24:S:16:ASN:H	1.78	0.48
25:T:121:ILE:CG2	25:T:122:ASP:N	2.76	0.48
14:E:54:GLN:O	14:E:55:ASN:CG	2.50	0.48
3:2:52:ASP:C	3:2:56:GLN:NE2	2.66	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:73:PRO:HG3	22:Q:93:TYR:CE2	2.48	0.48
17:H:41:MET:HE1	17:H:55:PRO:HD3	1.95	0.48
10:A:8:A:C2	10:A:2896:C:N3	2.81	0.48
22:Q:39:PRO:O	22:Q:40:ALA:HB2	2.13	0.48
10:A:826:U:OP1	10:A:2428:G:H3'	2.12	0.48
17:H:148:ILE:HG22	17:H:149:ARG:N	2.28	0.48
5:4:6:HIS:HA	16:G:67:LYS:CE	2.39	0.48
23:R:79:LEU:HA	23:R:83:ILE:HB	1.95	0.48
10:A:2298:A:N6	10:A:2318:G:C8	2.81	0.48
29:X:82:GLN:HG3	29:X:83:VAL:N	2.28	0.48
12:C:20:TYR:CG	12:C:21:THR:N	2.81	0.48
13:D:160:GLY:H	13:D:196:VAL:HB	1.78	0.48
22:Q:26:TYR:CD1	22:Q:26:TYR:O	2.63	0.48
10:A:2162:G:H3'	10:A:2162:G:OP2	2.13	0.48
10:A:523:C:O2'	10:A:524:U:H5'	2.13	0.48
10:A:692:C:H2'	10:A:693:C:H6	1.78	0.48
10:A:2687:U:O2'	10:A:2688:U:H5'	2.13	0.48
10:A:335:C:H2'	10:A:336:C:C6	2.48	0.48
26:U:83:LEU:HD12	26:U:83:LEU:N	2.29	0.48
26:U:92:ARG:NH1	27:V:11:GLN:O	2.42	0.48
25:T:89:VAL:HG12	25:T:91:ARG:CG	2.44	0.48
10:A:2638:G:P	14:E:82:ARG:HH21	2.36	0.48
14:E:69:LYS:HE2	14:E:69:LYS:N	2.27	0.48
3:2:50:ILE:HD13	3:2:50:ILE:H	1.77	0.48
31:Z:150:LEU:HD22	31:Z:150:LEU:O	2.13	0.48
10:A:2759:G:O2'	10:A:2760:C:H5'	2.13	0.48
22:Q:141:GLN:NE2	31:Z:72:ARG:HG2	2.28	0.48
31:Z:7:ALA:HB3	31:Z:61:LEU:HD23	1.95	0.48
31:Z:7:ALA:O	31:Z:8:TYR:O	2.32	0.48
10:A:1697:G:H5''	10:A:1698:A:H5''	1.94	0.48
29:X:80:ILE:HG23	29:X:81:VAL:N	2.28	0.48
26:U:37:GLU:O	26:U:40:PHE:HB2	2.13	0.48
19:N:27:ALA:HA	19:N:30:ILE:HD12	1.94	0.48
10:A:814:C:H5	21:P:27:HIS:CD2	2.31	0.48
13:D:235:GLY:O	13:D:237:GLU:N	2.47	0.48
10:A:1848:A:C4	10:A:1849:G:C8	3.01	0.48
10:A:1227:G:C2'	10:A:1228:G:H5'	2.43	0.48
10:A:440:G:H2'	10:A:441:U:H6	1.77	0.48
15:F:7:TYR:HE1	15:F:196:LEU:HD11	1.78	0.48
10:A:2469:A:H3'	10:A:2470:G:O4'	2.12	0.48
10:A:2708:G:O2'	10:A:2709:G:H5'	2.13	0.48
10:A:2783:G:H2'	10:A:2784:C:H6	1.78	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:14:SER:O	29:X:17:ALA:HB3	2.12	0.48
10:A:1115:G:H5'	10:A:1115:G:H8	1.77	0.48
10:A:740:U:H2'	10:A:741:G:H8	1.78	0.48
10:A:201:C:H2'	10:A:202:U:H5'	1.94	0.48
10:A:1312:U:H4'	10:A:1313:U:O5'	2.14	0.48
10:A:699:A:O2'	10:A:700:G:H5'	2.13	0.48
30:Y:61:ILE:HD12	30:Y:61:ILE:N	2.28	0.48
25:T:83:ILE:HG13	25:T:84:GLN:HG2	1.94	0.48
14:E:52:LEU:N	14:E:76:ARG:HB3	2.28	0.48
24:S:52:SER:CB	24:S:55:ALA:HB3	2.43	0.48
23:R:87:TYR:O	23:R:89:ASP:N	2.43	0.48
27:V:15:GLU:CB	27:V:16:PRO:CD	2.82	0.48
26:U:25:TRP:CD1	26:U:26:GLY:N	2.82	0.48
22:Q:134:ARG:HG2	22:Q:135:ASP:N	2.26	0.48
1:0:42:GLY:HA2	1:0:57:PHE:CE2	2.49	0.48
10:A:2580:U:C5'	14:E:131:ALA:N	2.76	0.48
22:Q:121:ALA:O	22:Q:124:LYS:N	2.43	0.48
30:Y:75:ILE:HD11	30:Y:79:CYS:HA	1.95	0.48
14:E:197:ILE:HG13	14:E:199:ARG:NH1	2.28	0.48
30:Y:27:VAL:HG12	30:Y:29:GLU:N	2.25	0.48
15:F:37:VAL:O	15:F:38:ARG:C	2.51	0.48
3:2:53:LEU:HD12	10:A:76:C:O3'	2.13	0.48
10:A:2762:G:C3'	10:A:2763:G:C5'	2.92	0.48
19:N:38:HIS:CE1	19:N:50:ASP:OD2	2.66	0.48
26:U:64:ARG:NH1	26:U:67:ALA:HB3	2.29	0.48
17:H:37:VAL:HG11	17:H:68:THR:HG21	1.95	0.48
19:N:19:GLU:HB2	19:N:59:LYS:CB	2.43	0.48
10:A:364:C:H2'	10:A:365:C:C5'	2.42	0.48
14:E:104:VAL:HG11	14:E:188:VAL:HG23	1.94	0.48
1:0:53:MET:CE	1:0:57:PHE:HD1	2.26	0.48
17:H:153:LYS:HG2	17:H:154:PRO:N	2.28	0.48
18:I:75:LEU:HD11	18:I:105:HIS:HE1	1.79	0.48
10:A:1680:U:H2'	10:A:1681:G:O4'	2.13	0.48
10:A:774:A:HO2'	10:A:775:G:P	2.33	0.48
13:D:211:ARG:O	13:D:212:SER:C	2.50	0.48
10:A:1939:U:OP1	10:A:2604:U:O2'	2.31	0.48
17:H:58:GLU:C	17:H:60:ARG:N	2.67	0.48
14:E:34:VAL:O	14:E:34:VAL:HG23	2.12	0.48
14:E:36:ARG:NH2	14:E:88:GLY:H	2.11	0.48
10:A:661:C:C4'	21:P:18:ARG:HG2	2.43	0.48
13:D:33:LEU:O	13:D:35:LYS:N	2.46	0.48
9:8:58:ILE:O	9:8:58:ILE:HG22	2.12	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:40:LYS:HG3	29:X:41:ASN:N	2.28	0.48
21:P:24:GLY:CA	21:P:33:ARG:NH2	2.74	0.48
10:A:2677:G:H2'	10:A:2678:C:C6	2.48	0.48
10:A:2683:C:P	25:T:53:ARG:HH22	2.36	0.48
31:Z:4:ARG:CG	31:Z:58:VAL:HB	2.34	0.48
10:A:1697:G:H5'	10:A:1698:A:H5''	1.95	0.48
19:N:13:TRP:O	19:N:135:PRO:HG3	2.14	0.48
3:2:32:LEU:CG	3:2:33:MET:N	2.62	0.48
22:Q:39:PRO:CB	22:Q:99:PRO:HD3	2.43	0.48
10:A:2347:C:H2'	10:A:2348:U:C6	2.48	0.48
29:X:67:GLY:C	29:X:68:ARG:HG2	2.32	0.48
25:T:50:ILE:O	25:T:99:LEU:HD12	2.14	0.48
10:A:266:G:H2'	10:A:267:C:C5'	2.44	0.48
18:I:29:TYR:C	18:I:32:PRO:HD2	2.33	0.48
28:W:1:MET:HG3	28:W:2:GLU:N	2.27	0.48
1:0:2:ALA:HB1	10:A:2494:G:OP2	2.13	0.48
10:A:2199:A:H5'	10:A:2200:C:OP2	2.14	0.48
10:A:2200:C:H42	10:A:2223:G:H1	1.61	0.48
10:A:2114:A:H2'	10:A:2114:A:N3	2.29	0.48
29:X:8:ILE:HG12	29:X:43:VAL:HG23	1.95	0.48
10:A:719:C:O2'	10:A:720:C:H5'	2.13	0.48
10:A:1331:A:C2'	10:A:1332:G:H5''	2.43	0.48
24:S:88:ASP:OD1	24:S:89:ARG:NH2	2.47	0.48
14:E:75:VAL:O	14:E:77:ILE:HG12	2.13	0.48
9:8:51:ALA:CA	9:8:53:PRO:HD2	2.43	0.48
9:8:13:ARG:NE	21:P:61:ARG:NH1	2.61	0.48
29:X:76:ARG:CD	29:X:76:ARG:O	2.62	0.48
27:V:19:LYS:HD3	27:V:22:VAL:CG2	2.43	0.48
10:A:1266:G:C8	28:W:15:ARG:NH2	2.82	0.48
15:F:157:VAL:HG12	15:F:176:LEU:HB3	1.95	0.48
10:A:2646:C:OP2	10:A:2732:G:O2'	2.31	0.48
13:D:106:ILE:CD1	13:D:196:VAL:HG13	2.39	0.48
28:W:26:GLY:HA2	28:W:71:VAL:O	2.12	0.48
18:I:133:HIS:O	18:I:134:PRO:C	2.52	0.48
18:I:91:SER:HB2	18:I:119:PRO:O	2.14	0.48
18:I:91:SER:H	18:I:121:LYS:CE	2.26	0.48
27:V:70:ILE:O	27:V:71:LEU:HB2	2.14	0.48
21:P:126:VAL:HG22	21:P:145:PRO:CB	2.44	0.48
15:F:40:GLN:O	15:F:44:ARG:HG2	2.13	0.48
12:C:208:PHE:O	12:C:209:LEU:CB	2.61	0.48
19:N:43:THR:CG2	19:N:46:VAL:HB	2.44	0.48
10:A:2263:C:C2'	10:A:2264:C:H5'	2.44	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:32:LEU:O	15:F:36:VAL:HG23	2.14	0.48
19:N:33:LEU:O	19:N:34:LEU:C	2.52	0.48
24:S:98:VAL:HG13	24:S:100:ALA:N	2.18	0.48
10:A:2363:C:O2'	10:A:2364:C:H5'	2.13	0.48
27:V:83:ARG:NH1	27:V:83:ARG:CG	2.77	0.48
17:H:158:HIS:NE2	17:H:169:VAL:O	2.46	0.48
17:H:159:GLU:OE1	17:H:159:GLU:HA	2.13	0.48
10:A:2847:U:C2'	10:A:2848:G:H5'	2.43	0.48
10:A:360:G:H2'	10:A:361:G:H8	1.78	0.48
15:F:83:PHE:O	15:F:84:VAL:HB	2.13	0.48
28:W:27:LYS:H	28:W:71:VAL:HB	1.77	0.48
10:A:1773:A:H2'	10:A:1774:C:C5'	2.43	0.48
11:B:11:C:OP2	11:B:12:C:H5	1.97	0.48
10:A:2162:G:H5'	10:A:2171:A:C5'	2.43	0.48
10:A:608:A:C2	10:A:609:A:C4	3.02	0.48
10:A:912:C:H2'	10:A:913:U:H6	1.78	0.48
25:T:36:GLU:O	25:T:36:GLU:HG2	2.13	0.48
10:A:900:A:H3'	10:A:901:A:H8	1.79	0.48
10:A:901:A:H2'	10:A:901:A:N3	2.28	0.48
10:A:1899:G:N2	10:A:1902:C:C5	2.81	0.48
10:A:614:U:H4'	10:A:614(C):A:H62	1.79	0.48
16:G:130:ASN:OD1	16:G:161:THR:N	2.41	0.48
17:H:137:ASP:HB3	17:H:140:LYS:HB2	1.96	0.48
19:N:120:LEU:HD13	19:N:121:LYS:N	2.28	0.48
10:A:2377:A:H4'	24:S:107:GLU:CG	2.43	0.48
17:H:87:LEU:HA	17:H:163:TYR:O	2.13	0.48
22:Q:65:PHE:HB2	22:Q:105:GLU:HG3	1.95	0.48
10:A:657:U:C2	10:A:658:C:C5	3.02	0.48
10:A:1747(A):G:H2'	10:A:1748:G:C5'	2.38	0.48
16:G:8:LYS:O	16:G:11:TYR:HB3	2.14	0.48
2:1:74:VAL:C	2:1:76:ARG:H	2.17	0.48
10:A:1040:C:H42	10:A:1116:C:H42	1.61	0.48
11:B:61:G:C6	11:B:62:C:C4	3.02	0.48
16:G:112:PRO:C	16:G:113:ARG:HG2	2.34	0.48
23:R:18:LEU:HD11	23:R:22:ARG:NE	2.29	0.48
15:F:10:PRO:HG2	15:F:11:VAL:N	2.28	0.48
10:A:1602:U:H3'	10:A:1603:A:H5''	1.96	0.48
10:A:1625:C:C2'	10:A:1626:G:H5'	2.43	0.48
30:Y:3:VAL:O	30:Y:3:VAL:HG12	2.14	0.48
10:A:1526:G:H1	10:A:1546:C:H42	1.62	0.48
10:A:2127:G:H2'	10:A:2128:C:N1	2.27	0.48
24:S:15:ARG:NH1	24:S:15:ARG:HG3	2.28	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:9:LYS:HA	30:Y:30:VAL:HG21	1.95	0.48
13:D:80:ALA:HB3	13:D:94:LEU:CD1	2.44	0.48
21:P:47:ASP:CB	21:P:48:PRO:CA	2.89	0.48
9:8:12:LYS:HA	21:P:65:ARG:HD2	1.96	0.48
16:G:86:MET:HG3	16:G:87:PRO:CD	2.38	0.48
14:E:117:MET:HE1	14:E:124:GLY:HA3	1.96	0.48
10:A:1952:A:N3	10:A:2560:C:O2'	2.38	0.48
21:P:70:GLN:HG3	21:P:71:VAL:H	1.79	0.48
10:A:64:A:H2'	10:A:65:C:C6	2.47	0.48
29:X:70:LEU:CG	29:X:71:GLY:N	2.77	0.48
10:A:295:G:OP1	30:Y:2:ARG:HD3	2.14	0.48
10:A:1668:A:H4'	10:A:1669:A:O5'	2.13	0.48
10:A:2801(A):A:O2'	10:A:2803:C:H5	1.93	0.48
31:Z:104:PHE:HA	31:Z:139:VAL:HB	1.96	0.48
16:G:112:PRO:HB2	16:G:113:ARG:HG2	1.96	0.48
16:G:131:TYR:HB3	16:G:159:VAL:HG13	1.95	0.48
20:O:120:GLU:HG2	25:T:67:SER:OG	2.13	0.48
10:A:869:G:O2'	10:A:870:A:H5'	2.13	0.48
28:W:1:MET:HG3	28:W:2:GLU:H	1.79	0.48
10:A:2192:G:C2	10:A:2193:G:C8	3.02	0.48
10:A:1146:C:O2'	10:A:1147:C:H5'	2.14	0.48
24:S:15:ARG:C	24:S:17:ARG:N	2.64	0.48
24:S:97:ARG:HG3	24:S:97:ARG:O	2.14	0.48
14:E:35:GLN:NE2	14:E:37:ARG:HH21	2.11	0.48
9:8:31:HIS:O	9:8:33:ASN:N	2.47	0.48
22:Q:8:LYS:HE3	22:Q:9:TYR:CD1	2.49	0.48
24:S:77:ALA:O	24:S:78:LEU:C	2.53	0.48
24:S:78:LEU:HD23	24:S:82:ILE:O	2.13	0.48
10:A:2030:A:H4'	10:A:2031:A:C8	2.47	0.48
10:A:863:A:O2'	10:A:864:G:H5'	2.14	0.48
30:Y:48:ALA:CB	30:Y:59:GLY:H	2.16	0.48
10:A:2306:C:OP2	10:A:2307:G:C8	2.67	0.48
10:A:2886:G:H2'	10:A:2887:U:C6	2.49	0.48
10:A:2707:G:H2'	10:A:2708:G:H8	1.79	0.48
10:A:1112:G:O2'	10:A:1113:U:H5''	2.14	0.48
22:Q:22:LYS:HE2	22:Q:22:LYS:HA	1.96	0.48
10:A:235:U:O2'	10:A:236:C:H5'	2.14	0.48
12:C:77:ILE:HG21	12:C:122:ALA:CA	2.44	0.48
15:F:107:LYS:C	15:F:109:GLY:H	2.16	0.48
10:A:2065:C:H2'	10:A:2066:C:H6	1.79	0.48
16:G:120:LEU:HB2	16:G:179:PRO:O	2.14	0.48
24:S:89:ARG:O	24:S:92:TYR:CB	2.59	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2636:U:H2'	10:A:2637:U:C5'	2.44	0.47
14:E:96:PHE:HA	14:E:100:GLU:OE1	2.14	0.47
31:Z:120:ILE:O	31:Z:121:HIS:HB2	2.14	0.47
16:G:71:THR:HB	16:G:89:GLY:C	2.35	0.47
19:N:39:ARG:HD3	19:N:41:ASP:H	1.79	0.47
13:D:174:ILE:CD1	13:D:174:ILE:H	2.07	0.47
23:R:5:LYS:CD	23:R:5:LYS:H	2.24	0.47
10:A:1341:U:P	10:A:1397:U:H3	2.37	0.47
29:X:77:LYS:CE	29:X:78:LYS:HD2	2.44	0.47
10:A:2639:A:C3'	10:A:2640:G:H5''	2.43	0.47
6:5:57:VAL:C	6:5:58:LEU:HD12	2.34	0.47
29:X:67:GLY:O	29:X:68:ARG:HG2	2.12	0.47
10:A:1614:A:H2'	10:A:1615:C:H5'	1.96	0.47
1:0:36:ILE:H	1:0:36:ILE:HD13	1.78	0.47
5:4:6:HIS:N	16:G:67:LYS:CE	2.76	0.47
25:T:101:PHE:CE2	25:T:113:LYS:HD3	2.49	0.47
23:R:104:ARG:HG2	23:R:104:ARG:NH1	2.28	0.47
16:G:5:VAL:O	16:G:8:LYS:HB3	2.14	0.47
27:V:13:ARG:HG3	27:V:13:ARG:NH1	2.30	0.47
30:Y:31:LEU:CB	30:Y:32:PRO:HA	2.42	0.47
10:A:2748:A:H2'	10:A:2749:A:O4'	2.14	0.47
27:V:66:ARG:HH11	27:V:66:ARG:HG3	1.79	0.47
15:F:192:LEU:C	15:F:192:LEU:HD23	2.34	0.47
13:D:224:ALA:O	13:D:225:ALA:CB	2.62	0.47
10:A:1439:A:H2'	10:A:1440:G:O4'	2.14	0.47
10:A:1662:C:O2'	10:A:1663:C:H5'	2.14	0.47
10:A:1445:A:C5'	10:A:1445(A):C:H5	2.27	0.47
13:D:210:GLY:O	13:D:211:ARG:HB3	2.13	0.47
10:A:2648:C:O2'	10:A:2649:U:H5'	2.13	0.47
10:A:256:A:H2'	10:A:257:A:H8	1.79	0.47
4:3:59:VAL:CG1	4:3:60:GLU:N	2.77	0.47
18:I:78:THR:OG1	18:I:141:LYS:HB2	2.13	0.47
18:I:92:VAL:HG22	18:I:97:ILE:CG1	2.44	0.47
10:A:626:U:O2	21:P:105:LEU:HG	2.13	0.47
25:T:29:ARG:HG3	25:T:30:VAL:H	1.79	0.47
25:T:29:ARG:HG2	25:T:86:ILE:N	2.29	0.47
19:N:67:LEU:O	19:N:68:GLU:CB	2.62	0.47
10:A:310:A:P	30:Y:18:GLY:HA2	2.54	0.47
23:R:60:LEU:O	23:R:61:HIS:C	2.52	0.47
18:I:12:LEU:N	18:I:12:LEU:HD23	2.30	0.47
10:A:1718:G:C8	10:A:1718:G:H5'	2.49	0.47
10:A:1952:A:C5	20:O:22:ILE:HD12	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:103:MET:HE1	22:Q:125:LEU:HD13	1.95	0.47
10:A:1449:A:N3	10:A:1529:G:H1'	2.29	0.47
1:0:36:ILE:HD13	10:A:2354:G:O2'	2.14	0.47
10:A:1131:G:N3	10:A:1132:A:C8	2.82	0.47
10:A:1572:A:O2'	10:A:1573:G:H5'	2.14	0.47
10:A:1993:U:H4'	14:E:128:SER:HB3	1.95	0.47
10:A:811:U:C3'	21:P:25:SER:O	2.58	0.47
27:V:4:ILE:HD12	27:V:40:LEU:HD21	1.95	0.47
10:A:1386:C:OP2	10:A:1396:U:H5	1.97	0.47
31:Z:141:VAL:CG2	31:Z:144:LEU:HD23	2.42	0.47
2:1:37:ILE:HG22	2:1:38:SER:N	2.29	0.47
3:2:31:GLU:HA	3:2:31:GLU:OE1	2.14	0.47
10:A:523:C:H2'	10:A:524:U:H5'	1.96	0.47
28:W:55:ALA:O	28:W:58:ALA:HB3	2.15	0.47
13:D:210:GLY:O	13:D:211:ARG:CB	2.62	0.47
31:Z:75:ASN:C	31:Z:76:LEU:HD23	2.34	0.47
21:P:29:LYS:N	21:P:29:LYS:HD2	2.28	0.47
25:T:129:ARG:NH1	25:T:131:ALA:H	2.11	0.47
10:A:1983:C:O2'	10:A:1984:G:H5'	2.13	0.47
10:A:521:G:H2'	10:A:522:G:H8	1.79	0.47
28:W:66:GLU:O	28:W:69:LEU:HG	2.14	0.47
10:A:1475:G:N3	10:A:1475:G:H2'	2.30	0.47
10:A:1011:G:OP1	26:U:75:ASN:HB3	2.13	0.47
12:C:99:ILE:O	12:C:99:ILE:HG22	2.13	0.47
24:S:93:LYS:HA	24:S:93:LYS:HE3	1.96	0.47
21:P:91:PHE:N	21:P:91:PHE:CD1	2.82	0.47
25:T:115:ARG:HA	25:T:115:ARG:HD3	1.67	0.47
14:E:49:LEU:HD22	14:E:49:LEU:N	2.29	0.47
30:Y:15:VAL:O	30:Y:16:ALA:CB	2.62	0.47
30:Y:28:LYS:O	30:Y:37:VAL:O	2.32	0.47
2:1:87:PRO:CG	2:1:88:LYS:N	2.76	0.47
10:A:1484:G:H8	10:A:1484:G:O5'	1.97	0.47
9:8:13:ARG:HB3	21:P:63:PRO:CA	2.44	0.47
3:2:40:SER:OG	3:2:41:ILE:N	2.45	0.47
3:2:45:SER:O	3:2:48:HIS:HB2	2.13	0.47
16:G:63:ILE:C	16:G:63:ILE:HD12	2.35	0.47
10:A:2713:A:H3'	10:A:2714:G:C5'	2.44	0.47
17:H:35:VAL:O	17:H:37:VAL:HG23	2.14	0.47
21:P:14:LYS:O	21:P:15:ARG:CG	2.63	0.47
3:2:30:ARG:CZ	3:2:30:ARG:HB3	2.43	0.47
10:A:2011:U:H2'	10:A:2012:G:C5'	2.44	0.47
11:B:78:A:H2'	11:B:79:C:O4'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:6:33:LYS:CE	7:6:33:LYS:HA	2.35	0.47
10:A:1712:C:O2'	10:A:1713:U:H5'	2.14	0.47
10:A:528:A:C2	10:A:2043:C:C4'	2.94	0.47
10:A:1992:G:O2'	10:A:1993:U:P	2.73	0.47
10:A:2580:U:H5'	14:E:131:ALA:CB	2.44	0.47
10:A:686:G:N2	10:A:788:A:N6	2.62	0.47
10:A:418:G:O2'	10:A:419:C:H5'	2.14	0.47
22:Q:78:PRO:O	22:Q:79:LEU:CG	2.62	0.47
10:A:323:G:H2'	15:F:169:ASN:OD1	2.14	0.47
14:E:132:HIS:CD2	14:E:135:HIS:NE2	2.82	0.47
28:W:56:ALA:O	28:W:57:ASN:C	2.50	0.47
7:6:27:LYS:HE3	10:A:2285:C:H5	1.78	0.47
10:A:1467:C:H42	10:A:1525:G:H1	1.61	0.47
13:D:166:GLN:CA	13:D:166:GLN:HE21	2.25	0.47
10:A:996:A:H2'	10:A:997:G:H8	1.78	0.47
10:A:614(C):A:O2'	10:A:615:G:O4'	2.32	0.47
24:S:75:GLU:O	24:S:76:LYS:C	2.53	0.47
30:Y:83:THR:HG22	30:Y:84:ARG:H	1.79	0.47
29:X:76:ARG:CD	29:X:76:ARG:C	2.82	0.47
29:X:92:LEU:O	29:X:93:GLU:CB	2.62	0.47
22:Q:17:LEU:HD21	22:Q:41:TRP:NE1	2.29	0.47
25:T:58:ASN:ND2	25:T:58:ASN:C	2.67	0.47
10:A:1352:U:O2'	10:A:1353:A:H5'	2.15	0.47
10:A:2631:G:N3	10:A:2810:A:H2	2.12	0.47
10:A:1040:C:H42	10:A:1116:C:N4	2.11	0.47
26:U:15:LYS:CG	26:U:16:LYS:N	2.77	0.47
13:D:133:LEU:CA	13:D:136:ILE:HD13	2.45	0.47
10:A:744:G:OP1	14:E:132:HIS:HB3	2.14	0.47
10:A:2571:C:H5''	10:A:2572:A:H5''	1.97	0.47
10:A:1051:G:C2	10:A:1052:C:N4	2.81	0.47
13:D:247:ALA:HA	13:D:254:THR:HG22	1.96	0.47
18:I:101:LEU:C	18:I:101:LEU:HD12	2.35	0.47
18:I:101:LEU:HD23	18:I:109:ILE:HG12	1.95	0.47
29:X:60:ARG:NE	29:X:74:PRO:CG	2.74	0.47
19:N:83:LYS:CE	19:N:85:ILE:HD11	2.41	0.47
14:E:48:GLN:HE21	14:E:78:LEU:CD1	2.28	0.47
14:E:68:ALA:O	14:E:70:ALA:N	2.48	0.47
13:D:242:ARG:HD2	13:D:242:ARG:N	2.29	0.47
13:D:246:PRO:HB2	13:D:255:LYS:HG2	1.96	0.47
3:2:40:SER:HB2	10:A:61:G:H1'	1.96	0.47
31:Z:102:LEU:HG	31:Z:123:ASP:HA	1.97	0.47
10:A:2312:U:C2'	10:A:2313:C:C5'	2.89	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:65:VAL:O	24:S:69:VAL:HG12	2.15	0.47
19:N:47:ALA:HB2	19:N:112:LEU:HD11	1.96	0.47
26:U:55:ARG:HA	26:U:58:ARG:CD	2.44	0.47
30:Y:86:ARG:NH1	30:Y:95:LYS:HZ2	2.13	0.47
31:Z:14:LYS:O	31:Z:17:ALA:HB3	2.15	0.47
27:V:62:LEU:HD22	27:V:98:GLU:CA	2.39	0.47
17:H:19:VAL:CB	17:H:44:VAL:HG13	2.44	0.47
29:X:63:LYS:HE3	29:X:70:LEU:CD2	2.36	0.47
10:A:1132:A:C2	10:A:1133:U:C2	3.02	0.47
30:Y:2:ARG:HG2	30:Y:2:ARG:HH11	1.79	0.47
10:A:1719:G:O2'	10:A:1720:U:H5'	2.14	0.47
10:A:1428:C:O2'	10:A:1429:G:H5'	2.15	0.47
23:R:104:ARG:O	23:R:108:GLY:HA2	2.13	0.47
11:B:21:G:N3	11:B:21:G:H2'	2.30	0.47
14:E:197:ILE:HD11	14:E:199:ARG:HH12	1.78	0.47
14:E:197:ILE:CG1	14:E:199:ARG:HH12	2.27	0.47
10:A:1272:A:H3'	10:A:1273:U:H5'	1.96	0.47
10:A:667:U:H2'	10:A:668:G:O4'	2.13	0.47
14:E:84:PHE:HE1	14:E:91:VAL:HG21	1.79	0.47
10:A:1902:C:H4'	13:D:244:ARG:HA	1.95	0.47
23:R:116:LEU:O	23:R:117:VAL:CB	2.60	0.47
23:R:97:VAL:HA	23:R:113:LEU:O	2.13	0.47
10:A:2639:A:H3'	10:A:2640:G:H5'	1.97	0.47
22:Q:20:ALA:HB2	22:Q:99:PRO:CD	2.45	0.47
25:T:57:PHE:O	25:T:58:ASN:ND2	2.47	0.47
22:Q:55:VAL:CG2	31:Z:178:GLU:HB3	2.45	0.47
10:A:39:C:H2'	10:A:40:C:C6	2.50	0.47
1:O:68:GLU:O	1:O:80:HIS:HD2	1.96	0.47
27:V:5:VAL:CG2	27:V:6:LYS:N	2.78	0.47
10:A:1188:U:H2'	10:A:1189:A:C5'	2.42	0.47
10:A:2671:A:H2'	10:A:2672:G:H8	1.79	0.47
23:R:21:TYR:O	23:R:22:ARG:C	2.50	0.47
10:A:601:C:O2'	10:A:605:C:H5''	2.14	0.47
20:O:113:LYS:HA	20:O:116:SER:OG	2.14	0.47
19:N:18:ALA:C	19:N:20:GLY:N	2.68	0.47
19:N:18:ALA:CB	19:N:21:LYS:HG2	2.43	0.47
10:A:2019:A:H2'	10:A:2020:A:O5'	2.13	0.47
23:R:14:SER:O	23:R:15:SER:C	2.52	0.47
10:A:1272:A:H3'	10:A:1273:U:C5'	2.44	0.47
10:A:1970:A:H5''	10:A:1971:A:OP1	2.14	0.47
10:A:2651:C:O2'	10:A:2652:C:H5'	2.13	0.47
10:A:927:G:H3'	10:A:928:G:H8	1.79	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:836:G:H2'	10:A:837:C:C6	2.50	0.47
18:I:140:LEU:HD12	18:I:141:LYS:N	2.29	0.47
18:I:81:VAL:CG1	18:I:88:ILE:HG23	2.44	0.47
27:V:73:SER:CB	27:V:75:PHE:CE1	2.97	0.47
21:P:101:VAL:CG1	21:P:102:ARG:H	2.18	0.47
25:T:28:VAL:HG22	25:T:46:GLU:HA	1.97	0.47
10:A:2777:G:H5''	10:A:2778:A:H5''	1.96	0.47
14:E:169:ASN:HD21	14:E:203:LYS:HB3	1.80	0.47
13:D:255:LYS:HE3	13:D:255:LYS:C	2.35	0.47
30:Y:7:VAL:HB	30:Y:8:LYS:NZ	2.30	0.47
10:A:613:G:C6	10:A:614:U:C5	3.02	0.47
13:D:25:THR:O	13:D:25:THR:CG2	2.61	0.47
2:1:67:ILE:N	2:1:68:PRO:CD	2.77	0.47
9:8:4:MET:HE2	10:A:592:G:N3	2.29	0.47
10:A:2416:C:OP1	21:P:64:LYS:O	2.33	0.47
16:G:56:ALA:HA	16:G:59:GLU:HB3	1.97	0.47
10:A:2312:U:O2'	10:A:2313:C:H5''	2.14	0.47
24:S:72:ALA:O	24:S:76:LYS:HB2	2.15	0.47
31:Z:145:GLU:C	31:Z:147:GLY:H	2.17	0.47
23:R:38:VAL:O	23:R:41:ALA:N	2.48	0.47
19:N:38:HIS:NE2	19:N:50:ASP:OD2	2.46	0.47
10:A:1878:G:H2'	10:A:1879:C:C6	2.49	0.47
20:O:64:ARG:HD3	20:O:101:PRO:CB	2.31	0.47
20:O:1:MET:CB	20:O:32:TYR:HD2	2.28	0.47
31:Z:56:VAL:HA	31:Z:70:LEU:CD2	2.44	0.47
29:X:53:LYS:HE3	29:X:55:ASN:ND2	2.13	0.47
10:A:1982:C:OP1	10:A:1982:C:H3'	2.15	0.47
27:V:20:LEU:HB3	27:V:21:ARG:HD3	1.97	0.47
3:2:33:MET:SD	3:2:33:MET:N	2.86	0.47
6:5:50:GLY:HA3	6:5:56:LYS:CG	2.45	0.47
10:A:2011:U:H2'	10:A:2012:G:H5'	1.96	0.47
17:H:92:ILE:N	17:H:92:ILE:CD1	2.78	0.47
19:N:58:ASP:O	19:N:59:LYS:HB2	2.15	0.47
10:A:1024:G:C3'	10:A:1025:G:H5''	2.35	0.47
17:H:130:ARG:NH1	17:H:130:ARG:HB3	2.29	0.47
10:A:1652:A:C2	10:A:2006:C:N3	2.82	0.47
20:O:87:ILE:HD12	20:O:91:LEU:O	2.15	0.47
12:C:64:LEU:HD12	12:C:66:HIS:HB2	1.96	0.47
13:D:84:TYR:CD2	13:D:84:TYR:C	2.88	0.47
16:G:10:LYS:HD3	16:G:14:GLU:OE1	2.15	0.47
10:A:1385:G:H1'	10:A:1386:C:C6	2.49	0.47
10:A:2061:G:H5''	10:A:2503:A:C2	2.50	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:I:61:ARG:H	18:I:61:ARG:HD2	1.80	0.47
16:G:99:MET:O	16:G:100:TRP:C	2.53	0.47
16:G:124:SER:HB2	16:G:131:TYR:HE1	1.78	0.47
10:A:1657:C:H2'	10:A:1658:C:C6	2.49	0.47
19:N:90:MET:O	19:N:93:THR:O	2.32	0.47
7:6:14:THR:HG23	7:6:14:THR:O	2.15	0.47
13:D:77:ALA:HB2	13:D:97:TYR:HA	1.96	0.47
10:A:1703:G:H2'	10:A:1704:G:H8	1.78	0.47
4:3:35:ARG:NE	4:3:37:LEU:HD21	2.29	0.47
10:A:708:C:H5'	10:A:709:U:OP2	2.15	0.47
4:3:26:LEU:HD21	4:3:46:ASN:HB2	1.96	0.47
10:A:303:U:H2'	10:A:304:G:C8	2.50	0.47
7:6:30:THR:O	7:6:31:PRO:C	2.53	0.47
21:P:81:GLN:HA	21:P:81:GLN:HE21	1.78	0.47
28:W:28:SER:OG	28:W:31:GLU:HB2	2.15	0.47
10:A:221:A:H4'	10:A:222:A:O5'	2.15	0.47
12:C:183:GLU:CB	12:C:186:ALA:HB3	2.45	0.47
18:I:120:ILE:HD13	18:I:126:TYR:CE1	2.49	0.47
3:2:39:ALA:O	3:2:40:SER:C	2.53	0.47
10:A:142:A:N6	10:A:1596:A:H5'	2.29	0.47
26:U:61:TRP:O	26:U:62:ILE:C	2.52	0.47
10:A:1948:G:O2'	10:A:1949:G:H5'	2.14	0.47
10:A:1019:U:N3	10:A:1142(A):A:N6	2.57	0.47
10:A:1951:U:H2'	10:A:1953:A:OP2	2.15	0.47
18:I:72:LEU:HD12	18:I:138:ILE:HG23	1.95	0.47
10:A:271(A):A:N1	10:A:272(D):G:O2'	2.43	0.47
11:B:48:A:H2'	11:B:49:C:C6	2.49	0.47
10:A:442:G:O4'	15:F:46:ARG:HD3	2.15	0.47
14:E:8:LYS:HA	14:E:26:ILE:HD13	1.96	0.47
22:Q:118:LEU:O	22:Q:119:ARG:C	2.53	0.47
10:A:848:G:H2'	10:A:849:A:C8	2.49	0.47
10:A:2859:G:O2'	10:A:2860:A:C5'	2.63	0.47
19:N:97:ARG:O	19:N:100:GLU:N	2.47	0.47
15:F:11:VAL:HG12	15:F:12:LEU:HG	1.97	0.47
18:I:60:GLU:C	18:I:62:LYS:N	2.68	0.47
25:T:62:THR:HG22	25:T:75:ILE:HG12	1.97	0.47
17:H:30:LYS:HZ3	17:H:81:GLU:HG2	1.78	0.47
10:A:1215:G:C2'	10:A:1216:G:H5'	2.45	0.47
10:A:979:G:H3'	10:A:980:A:C5'	2.44	0.47
10:A:1562:A:O2'	10:A:1563:G:H5'	2.15	0.47
8:7:34:ARG:O	8:7:35:ARG:C	2.52	0.47
10:A:272:G:H1'	10:A:272(B):G:O5'	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:77:ASP:C	15:F:79:GLY:H	2.18	0.47
18:I:128:LEU:HB3	18:I:129:THR:H	1.50	0.47
10:A:996:A:C4'	26:U:92:ARG:HH21	2.28	0.47
13:D:142:VAL:HG23	13:D:192:THR:O	2.15	0.47
14:E:4:ILE:HD11	14:E:28:ALA:HB1	1.96	0.47
14:E:55:ASN:ND2	14:E:75:VAL:HG13	2.30	0.47
14:E:36:ARG:NH2	14:E:88:GLY:N	2.63	0.47
4:3:32:GLN:HB2	10:A:1158:C:H4'	1.96	0.47
29:X:31:HIS:O	29:X:32:PRO:C	2.50	0.47
10:A:2312:U:H2'	10:A:2313:C:H5'	1.97	0.47
24:S:67:ARG:C	24:S:69:VAL:N	2.69	0.47
19:N:9:VAL:CG1	19:N:39:ARG:HH22	2.28	0.47
17:H:54:ARG:HB3	17:H:65:HIS:HD2	1.80	0.47
31:Z:29:TYR:HA	31:Z:33:LEU:O	2.15	0.47
10:A:7:G:H4'	19:N:13:TRP:CH2	2.49	0.47
10:A:27:G:O2'	10:A:28:A:P	2.72	0.47
13:D:117:VAL:HG22	13:D:118:VAL:N	2.29	0.47
12:C:191:ALA:C	12:C:193:ILE:N	2.68	0.47
10:A:270:A:C2'	10:A:271:A:H5'	2.45	0.47
10:A:1653:G:O2'	10:A:1654:A:OP2	2.28	0.47
10:A:737:C:O2'	10:A:738:G:H5'	2.15	0.47
14:E:17:ASP:O	14:E:18:ASP:CG	2.53	0.47
24:S:39:ILE:O	24:S:47:THR:HG23	2.15	0.47
10:A:224:G:N2	10:A:225:A:H1'	2.30	0.47
21:P:136:GLU:O	21:P:139:LYS:HB3	2.14	0.47
10:A:1361:G:O2'	10:A:1362:C:H5'	2.15	0.47
14:E:89:ASP:O	14:E:90:THR:HB	2.15	0.47
13:D:271:ILE:HD12	13:D:271:ILE:N	2.30	0.47
18:I:94:ALA:CB	18:I:114:LEU:HD12	2.45	0.47
18:I:127:VAL:HA	18:I:139:GLN:HA	1.96	0.47
10:A:1225:G:OP1	27:V:88:ARG:HD2	2.15	0.47
25:T:26:ASP:HB3	25:T:89:VAL:O	2.15	0.47
13:D:35:LYS:HE3	13:D:65:ILE:N	2.29	0.47
9:8:53:PRO:HA	9:8:56:GLU:HB2	1.96	0.47
22:Q:81:VAL:HG12	22:Q:82:ARG:HG2	1.96	0.47
10:A:2712:U:O2'	10:A:2713:A:H5'	2.15	0.47
31:Z:30:ASN:HD21	31:Z:32:HIS:HB2	1.80	0.47
30:Y:81:LYS:CE	30:Y:97:ARG:HG3	2.45	0.47
30:Y:87:LYS:HG3	30:Y:88:LYS:N	2.30	0.47
13:D:267:SER:O	13:D:269:PHE:HD1	1.97	0.47
3:2:30:ARG:CG	3:2:30:ARG:NH1	2.74	0.47
22:Q:42:ILE:HG23	22:Q:46:GLN:OE1	2.15	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:Q:47:ILE:HG13	22:Q:68:ILE:HD11	1.95	0.47
25:T:55:ASN:H	25:T:59:THR:HB	1.80	0.47
10:A:2306:C:H5	10:A:2307:G:H1'	1.80	0.47
10:A:2298:A:N6	10:A:2318:G:H8	2.12	0.47
25:T:50:ILE:HA	25:T:99:LEU:HD11	1.97	0.47
10:A:1675:C:C2	14:E:129:HIS:CD2	3.03	0.47
1:O:27:GLU:HG3	1:O:67:VAL:O	2.14	0.47
10:A:1287:A:N7	23:R:106:GLY:O	2.48	0.47
10:A:361:G:C2'	10:A:362:U:H5''	2.39	0.47
10:A:149:A:H2'	10:A:150:C:O4'	2.15	0.47
10:A:974:G:C5	10:A:989:G:C2	3.03	0.47
10:A:723:G:H2'	10:A:724:U:O4'	2.14	0.47
21:P:149:GLU:HG3	21:P:149:GLU:O	2.15	0.47
10:A:1854:A:H3'	10:A:1855:G:H8	1.80	0.47
10:A:2705:A:H2'	10:A:2706:G:C8	2.50	0.46
10:A:482:A:C4'	30:Y:47:LYS:HZ2	2.25	0.46
24:S:90:GLY:C	24:S:92:TYR:N	2.65	0.46
25:T:29:ARG:CG	25:T:30:VAL:H	2.27	0.46
21:P:16:ARG:HG2	21:P:18:ARG:N	2.14	0.46
13:D:35:LYS:HD3	13:D:63:ARG:CA	2.45	0.46
12:C:40:THR:O	12:C:40:THR:HG23	2.15	0.46
29:X:37:THR:C	29:X:39:ILE:H	2.18	0.46
19:N:43:THR:HG21	19:N:46:VAL:HB	1.97	0.46
10:A:810:U:O2'	21:P:33:ARG:CZ	2.63	0.46
23:R:2:ARG:HG2	23:R:5:LYS:HZ1	1.80	0.46
2:1:33:LYS:C	2:1:34:THR:HG22	2.34	0.46
2:1:26:ARG:NE	2:1:34:THR:OG1	2.48	0.46
21:P:131:SER:C	21:P:133:SER:H	2.18	0.46
10:A:827:U:H5'	10:A:828:U:O5'	2.15	0.46
31:Z:178:GLU:HA	31:Z:178:GLU:OE2	2.15	0.46
10:A:1748:G:H2'	10:A:1749:A:O4'	2.15	0.46
10:A:2201:C:H2'	10:A:2202:C:H6	1.80	0.46
9:8:40:GLU:OE1	9:8:44:LYS:HE3	2.15	0.46
10:A:1799:G:H2'	13:D:181:GLU:OE2	2.15	0.46
11:B:21:G:O6	11:B:62:C:N3	2.48	0.46
10:A:1231:G:O2'	10:A:1232:G:H5'	2.15	0.46
10:A:2370:G:H2'	10:A:2371:G:C8	2.50	0.46
29:X:14:SER:O	29:X:17:ALA:N	2.48	0.46
10:A:709:U:H2'	10:A:710:G:C8	2.51	0.46
10:A:1783:A:C2	10:A:2587:A:C4	3.03	0.46
12:C:68:LEU:CD2	12:C:179:SER:HA	2.45	0.46
10:A:2516:G:H2'	10:A:2517:C:C6	2.50	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:B:97:G:C2	11:B:98:G:C8	3.02	0.46
10:A:1811:G:H2'	10:A:1812:A:H8	1.79	0.46
30:Y:11:ASP:N	30:Y:27:VAL:HG22	2.29	0.46
13:D:30:GLU:CD	13:D:63:ARG:NE	2.68	0.46
2:1:73:LEU:HG	2:1:94:LEU:HG	1.95	0.46
2:1:87:PRO:HG2	2:1:88:LYS:N	2.31	0.46
2:1:88:LYS:O	2:1:92:LYS:CB	2.63	0.46
3:2:52:ASP:C	3:2:56:GLN:HE22	2.18	0.46
10:A:1596:A:O2'	10:A:1597:A:H5'	2.15	0.46
15:F:165:ARG:H	15:F:165:ARG:HG2	1.59	0.46
10:A:1848:A:C5	10:A:1849:G:C8	3.03	0.46
24:S:33:LYS:HA	24:S:62:LYS:NZ	2.30	0.46
10:A:1767:C:H2'	10:A:1768:U:O4'	2.15	0.46
14:E:134:ILE:H	14:E:134:ILE:CD1	2.26	0.46
10:A:292:C:C2	10:A:349:G:C2	3.03	0.46
15:F:83:PHE:O	15:F:84:VAL:C	2.52	0.46
10:A:2883:A:C5'	10:A:2884:U:H5'	2.45	0.46
16:G:173:LEU:HB3	16:G:178:PHE:CD1	2.49	0.46
10:A:2653:U:C3'	10:A:2654:A:H5''	2.45	0.46
10:A:945:A:C4	10:A:2448:A:C2	3.03	0.46
10:A:184:C:H2'	10:A:185:U:C6	2.50	0.46
18:I:29:TYR:HE1	18:I:33:ARG:HE	1.55	0.46
10:A:1339:G:H21	10:A:1603:A:H1'	1.79	0.46
10:A:922:U:H2'	10:A:923:C:C6	2.50	0.46
16:G:121:ASN:OD1	16:G:123:ASN:N	2.39	0.46
10:A:2004:G:H2'	10:A:2005:A:O4'	2.15	0.46
16:G:58:GLN:O	16:G:62:LEU:HD12	2.15	0.46
18:I:121:LYS:O	18:I:122:GLU:HB2	2.15	0.46
13:D:144:ALA:HB3	13:D:192:THR:CG2	2.45	0.46
13:D:35:LYS:HG2	13:D:64:ILE:CA	2.45	0.46
10:A:1158:C:O2'	10:A:1159:U:P	2.73	0.46
2:1:47:GLN:CB	10:A:397:G:H5''	2.37	0.46
10:A:242:G:N2	10:A:254:G:H2'	2.30	0.46
3:2:51:ARG:C	3:2:51:ARG:HD3	2.36	0.46
26:U:66:ASN:O	26:U:68:ALA:N	2.48	0.46
10:A:589:C:H2'	10:A:590:A:C8	2.50	0.46
21:P:23:PRO:O	21:P:33:ARG:NE	2.48	0.46
14:E:109:LYS:CB	23:R:2:ARG:NH1	2.72	0.46
31:Z:152:ALA:CB	31:Z:167:PRO:HB2	2.33	0.46
31:Z:7:ALA:HB2	31:Z:59:LEU:HB3	1.98	0.46
29:X:5:TYR:C	29:X:7:VAL:N	2.69	0.46
3:2:26:ARG:NE	3:2:29:LYS:HZ1	2.13	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:271(A):A:H62	10:A:271(W):G:H21	1.63	0.46
16:G:145:THR:HG23	16:G:148:MET:CB	2.38	0.46
17:H:146:ALA:C	17:H:148:ILE:N	2.69	0.46
22:Q:52:VAL:O	22:Q:55:VAL:HG13	2.16	0.46
15:F:173:VAL:HG12	15:F:174:VAL:N	2.31	0.46
10:A:1428:C:C5	10:A:1569:A:H5''	2.51	0.46
10:A:2876:G:H4'	25:T:3:ARG:CD	2.40	0.46
2:1:37:ILE:O	2:1:38:SER:HB2	2.14	0.46
26:U:102:GLU:HB2	26:U:105:VAL:CG2	2.42	0.46
10:A:1337:G:H2'	10:A:1338:G:O4'	2.15	0.46
23:R:75:LEU:O	23:R:75:LEU:HD13	2.15	0.46
15:F:185:ASP:HA	15:F:188:ARG:HB3	1.97	0.46
10:A:42:G:H2'	10:A:43:A:O4'	2.16	0.46
16:G:143:GLU:HG2	16:G:143:GLU:H	1.31	0.46
26:U:92:ARG:NH1	27:V:11:GLN:H	2.12	0.46
14:E:169:ASN:OD1	14:E:201:THR:HG23	2.14	0.46
9:8:13:ARG:HD2	21:P:61:ARG:NH1	2.30	0.46
10:A:2869:G:O3'	23:R:61:HIS:HE1	1.98	0.46
23:R:48:VAL:HA	23:R:51:LEU:HD12	1.97	0.46
19:N:42:TRP:HE3	19:N:42:TRP:HA	1.81	0.46
10:A:570:G:H2'	10:A:2030:A:C5	2.50	0.46
17:H:41:MET:CE	17:H:55:PRO:HD3	2.45	0.46
18:I:9:LEU:N	18:I:13:GLY:HA2	2.09	0.46
20:O:21:CYS:SG	20:O:22:ILE:N	2.88	0.46
15:F:103:LYS:C	15:F:105:VAL:H	2.19	0.46
10:A:580:C:H2'	10:A:581:C:C6	2.50	0.46
10:A:343:C:C2'	10:A:344:G:H5''	2.45	0.46
23:R:17:ARG:O	23:R:20:LEU:HB3	2.16	0.46
21:P:85:LEU:HD12	21:P:120:ALA:CB	2.45	0.46
10:A:849:A:C8	10:A:850:C:C5	3.03	0.46
10:A:1289:C:H2'	10:A:1290:C:C6	2.50	0.46
10:A:575:A:O2'	10:A:576:U:H5'	2.15	0.46
17:H:30:LYS:HZ1	17:H:81:GLU:HG2	1.78	0.46
10:A:1164:G:H2'	10:A:1165:U:H6	1.79	0.46
10:A:1165:U:O2'	10:A:1166:C:H5'	2.15	0.46
10:A:2881:C:H2'	10:A:2882:A:H8	1.80	0.46
10:A:1121:C:H2'	10:A:1122:G:O4'	2.16	0.46
10:A:564:C:O2'	10:A:565:C:H5'	2.15	0.46
26:U:50:ARG:CZ	27:V:75:PHE:HE2	2.29	0.46
26:U:92:ARG:C	26:U:94:ASN:H	2.19	0.46
27:V:70:ILE:HG12	27:V:71:LEU:H	1.75	0.46
2:1:17:SER:OG	2:1:44:PRO:HG3	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:37:ARG:HD3	14:E:44:TYR:CE2	2.51	0.46
10:A:84:A:H5''	30:Y:9:LYS:HZ2	1.81	0.46
30:Y:15:VAL:CG1	30:Y:16:ALA:N	2.59	0.46
10:A:1159:U:O2'	10:A:1160:G:H5'	2.16	0.46
15:F:20:LEU:HD12	15:F:199:TRP:CH2	2.49	0.46
22:Q:82:ARG:O	22:Q:83:MET:CB	2.58	0.46
19:N:40:PRO:CA	26:U:64:ARG:NH2	2.79	0.46
17:H:61:HIS:O	17:H:62:LYS:C	2.54	0.46
30:Y:90:LEU:CG	30:Y:91:GLU:N	2.72	0.46
10:A:2678:C:O2'	10:A:2679:A:H5'	2.15	0.46
22:Q:63:LYS:HA	31:Z:178:GLU:OE1	2.15	0.46
10:A:813:U:C2	10:A:814:C:C5	3.02	0.46
10:A:1275:A:N1	10:A:1295:C:O2'	2.41	0.46
10:A:2287:A:C2	10:A:2346:A:N1	2.84	0.46
10:A:1803:A:O2'	13:D:259:THR:HG21	2.16	0.46
13:D:69:ARG:HD2	13:D:119:ALA:HB2	1.98	0.46
16:G:23:PHE:CZ	16:G:171:ALA:CB	2.97	0.46
14:E:59:VAL:HG21	14:E:63:LEU:HA	1.98	0.46
10:A:534:U:O2'	26:U:49:HIS:CD2	2.68	0.46
12:C:62:VAL:O	12:C:63:SER:C	2.53	0.46
25:T:106:SER:O	25:T:107:ASP:HB3	2.16	0.46
18:I:86:THR:HG22	18:I:122:GLU:HG2	1.96	0.46
10:A:481:G:C2'	10:A:482:A:OP2	2.63	0.46
25:T:43:GLN:NE2	25:T:74:ARG:HH21	2.14	0.46
30:Y:7:VAL:HB	30:Y:8:LYS:HD2	1.97	0.46
2:1:87:PRO:HB2	2:1:91:LYS:CD	2.45	0.46
10:A:2532:G:H2'	10:A:2533:A:C8	2.51	0.46
10:A:1021:A:C3'	10:A:1021:A:C8	2.98	0.46
15:F:103:LYS:C	15:F:105:VAL:N	2.67	0.46
24:S:58:LEU:HD22	24:S:68:GLN:HB2	1.97	0.46
20:O:121:VAL:O	20:O:122:LEU:HD23	2.15	0.46
10:A:2707:G:O2'	10:A:2708:G:H5'	2.16	0.46
21:P:88:LEU:C	21:P:90:ARG:N	2.68	0.46
10:A:494:G:OP1	28:W:8:ARG:NH1	2.48	0.46
30:Y:54:LYS:O	30:Y:55:TYR:CD1	2.69	0.46
10:A:2050:C:H1'	14:E:156:MET:HE1	1.96	0.46
23:R:13:HIS:HE1	23:R:15:SER:OG	1.98	0.46
10:A:2256:G:O2'	10:A:2257:U:H5'	2.16	0.46
10:A:991:C:H2'	10:A:992:C:H6	1.79	0.46
10:A:949:C:H2'	10:A:950:G:H8	1.80	0.46
11:B:5:C:H2'	11:B:6:C:C6	2.51	0.46
25:T:38:ASN:ND2	25:T:40:THR:OG1	2.46	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2637:U:O2'	10:A:2638:G:H5'	2.16	0.46
10:A:2779:U:H4'	10:A:2780:G:C5'	2.46	0.46
30:Y:8:LYS:HG2	30:Y:13:VAL:HG13	1.97	0.46
3:2:17:SER:HB3	3:2:18:PRO:HD3	1.97	0.46
10:A:593:G:O2'	10:A:594:U:H5'	2.15	0.46
3:2:55:ARG:CZ	10:A:72:U:H5'	2.43	0.46
16:G:60:LEU:HD22	16:G:60:LEU:O	2.16	0.46
10:A:1301:A:O2'	10:A:1302:A:O5'	2.34	0.46
10:A:826:U:H2'	10:A:828:U:O4'	2.16	0.46
22:Q:51:ARG:O	22:Q:54:MET:CB	2.63	0.46
10:A:925:C:H2'	10:A:926:A:C5'	2.37	0.46
30:Y:2:ARG:HG2	30:Y:2:ARG:NH1	2.31	0.46
26:U:8:VAL:O	26:U:9:VAL:C	2.53	0.46
10:A:2282:G:C4	10:A:2425:A:N6	2.83	0.46
7:6:15:GLU:HG2	7:6:18:ARG:HG3	1.96	0.46
4:3:12:PRO:O	4:3:14:GLY:N	2.49	0.46
4:3:17:LYS:O	4:3:20:LYS:HB2	2.15	0.46
3:2:34:GLU:O	3:2:34:GLU:HG2	2.15	0.46
23:R:11:ASN:O	23:R:12:ARG:CB	2.64	0.46
16:G:14:GLU:O	16:G:17:PRO:HG2	2.15	0.46
14:E:79:ARG:NH1	14:E:79:ARG:HG2	2.25	0.46
16:G:106:LEU:HD12	16:G:110:ALA:CB	2.46	0.46
25:T:48:ILE:HD12	25:T:48:ILE:N	2.31	0.46
10:A:1036:G:O2'	10:A:1037:G:H5'	2.15	0.46
4:3:5:LYS:HE2	4:3:34:GLU:OE1	2.16	0.46
10:A:629:G:H4'	10:A:650:C:O2	2.16	0.46
10:A:1742:G:N7	10:A:1743:C:N3	2.63	0.46
16:G:35:GLU:OE2	16:G:35:GLU:N	2.49	0.46
24:S:64:GLU:N	24:S:64:GLU:OE2	2.49	0.46
9:8:39:LYS:O	9:8:39:LYS:HE3	2.15	0.46
25:T:32:TYR:O	25:T:41:ARG:O	2.34	0.46
13:D:94:LEU:HD13	13:D:94:LEU:O	2.16	0.46
10:A:1485:G:H1'	10:A:1505:C:H42	1.79	0.46
15:F:25:PRO:HB3	15:F:119:ARG:HD3	1.97	0.46
15:F:25:PRO:HB3	15:F:119:ARG:CB	2.43	0.46
3:2:56:GLN:N	3:2:56:GLN:NE2	2.64	0.46
9:8:8:LYS:HE3	10:A:245:G:O6	2.16	0.46
29:X:65:ARG:NE	29:X:66:LEU:N	2.63	0.46
17:H:138:LYS:C	17:H:140:LYS:N	2.65	0.46
31:Z:29:TYR:OH	31:Z:87:ASP:HB2	2.15	0.46
30:Y:81:LYS:HG2	30:Y:96:ILE:CB	2.46	0.46
30:Y:88:LYS:NZ	30:Y:93:GLY:O	2.49	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:Z:53:ILE:HG22	31:Z:71:VAL:CB	2.42	0.46
10:A:2807:G:C3'	10:A:2808:U:H5''	2.46	0.46
22:Q:42:ILE:HD11	22:Q:127:ILE:HD11	1.97	0.46
10:A:917:A:H2'	10:A:918:A:O4'	2.15	0.46
19:N:17:ASP:OD1	19:N:19:GLU:HG3	2.15	0.46
10:A:1464:C:O2'	10:A:1528:A:C8	2.62	0.46
10:A:827:U:N3	10:A:2430:A:C6	2.84	0.46
17:H:89:ILE:HG12	17:H:90:LYS:H	1.80	0.46
16:G:25:TYR:O	16:G:26:GLN:HG2	2.15	0.46
31:Z:108:PRO:O	31:Z:109:ALA:C	2.54	0.46
23:R:16:HIS:O	23:R:17:ARG:C	2.54	0.46
27:V:1:MET:HE3	27:V:44:LYS:HB3	1.96	0.46
10:A:2346:A:H5'	10:A:2383:G:O4'	2.15	0.46
10:A:2732:G:C3'	10:A:2733:A:H5'	2.46	0.46
10:A:1803:A:H4'	13:D:259:THR:HG21	1.97	0.46
13:D:24:ILE:HD11	13:D:84:TYR:N	2.31	0.46
13:D:206:LEU:HD23	13:D:206:LEU:HA	1.76	0.46
10:A:1502:C:C2'	10:A:1502:C:O2	2.60	0.46
28:W:34:ASN:O	28:W:35:ILE:C	2.54	0.46
10:A:129:C:O2'	10:A:130:C:H5'	2.16	0.46
10:A:116:C:O2'	10:A:117:G:H5'	2.16	0.46
18:I:94:ALA:HB1	18:I:114:LEU:CD1	2.46	0.46
10:A:2296:U:H2'	24:S:13:ARG:HH22	1.80	0.46
10:A:1204:A:C2	10:A:1241:A:N1	2.84	0.46
2:1:48:LYS:O	2:1:49:VAL:HB	2.15	0.46
21:P:57:THR:HB	21:P:58:THR:H	1.33	0.46
21:P:58:THR:HG22	21:P:58:THR:O	2.15	0.46
9:8:34:TRP:O	9:8:35:GLN:CB	2.64	0.46
18:I:15:VAL:O	18:I:17:GLN:N	2.49	0.46
19:N:13:TRP:CD1	19:N:13:TRP:N	2.84	0.46
22:Q:37:LEU:HB2	22:Q:128:LYS:O	2.15	0.46
22:Q:42:ILE:HG22	22:Q:47:ILE:HD11	1.98	0.46
10:A:1301:A:O2'	10:A:1302:A:P	2.74	0.46
10:A:271(G):C:O2'	10:A:271(H):G:H5'	2.15	0.46
18:I:38:LEU:CD1	18:I:38:LEU:H	2.14	0.46
14:E:186:GLY:O	14:E:188:VAL:N	2.48	0.46
10:A:1326:U:O2'	10:A:1327:C:H5'	2.16	0.46
28:W:70:TYR:N	28:W:70:TYR:CD2	2.83	0.46
5:4:30:GLU:O	5:4:31:ILE:CB	2.64	0.46
10:A:751:A:C5'	28:W:90:ARG:HA	2.45	0.46
15:F:153:SER:OG	15:F:190:GLU:N	2.42	0.46
10:A:1284:A:H2'	10:A:1285:G:O4'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1476:C:H2'	10:A:1477:A:H8	1.79	0.46
18:I:99:GLU:C	18:I:101:LEU:H	2.19	0.46
21:P:107:LYS:C	21:P:109:GLY:H	2.20	0.46
21:P:126:VAL:CA	21:P:145:PRO:HB2	2.18	0.46
20:O:77:ILE:HD12	25:T:74:ARG:HG2	1.98	0.46
14:E:55:ASN:ND2	14:E:75:VAL:CG1	2.78	0.46
2:1:73:LEU:HD21	2:1:90:ILE:O	2.16	0.46
10:A:1496:A:H5'	10:A:1497:U:OP2	2.16	0.46
18:I:11:ASN:C	18:I:12:LEU:HD23	2.36	0.46
28:W:4:LYS:HE3	28:W:6:ILE:HD11	1.97	0.46
10:A:27:G:C2'	10:A:28:A:OP2	2.63	0.46
13:D:238:GLY:O	13:D:239:ARG:O	2.34	0.46
27:V:43:GLU:CA	27:V:48:GLY:CA	2.91	0.46
10:A:1991:U:H2'	10:A:1992:G:H5'	1.96	0.46
23:R:104:ARG:HB3	23:R:107:ASP:OD2	2.16	0.46
2:1:71:TYR:O	2:1:72:GLU:C	2.54	0.46
30:Y:76:CYS:SG	30:Y:77:PRO:HD2	2.57	0.46
10:A:2014:A:C2	10:A:2015:A:N1	2.84	0.46
28:W:92:ARG:HG2	28:W:92:ARG:HH11	1.81	0.46
30:Y:64:GLU:H	30:Y:64:GLU:CD	2.20	0.46
10:A:203:C:C3'	10:A:204:A:H5''	2.43	0.46
13:D:232:PRO:HG2	13:D:248:SER:O	2.16	0.46
19:N:18:ALA:HB1	19:N:21:LYS:CG	2.46	0.46
28:W:1:MET:O	28:W:2:GLU:HB3	2.16	0.46
6:5:44:THR:HG21	23:R:101:ALA:CA	2.46	0.46
10:A:1226:A:OP1	27:V:85:LYS:NZ	2.44	0.46
10:A:2603:G:C6	10:A:2604:U:C5	3.04	0.46
4:3:52:HIS:ND1	4:3:53:LEU:HG	2.31	0.46
18:I:79:ILE:CG1	18:I:140:LEU:HD21	2.46	0.45
10:A:2779:U:O2	10:A:2779:U:O4'	2.33	0.45
10:A:1899:G:H21	10:A:1902:C:H5	1.63	0.45
10:A:2545:G:H2'	10:A:2546:U:O4'	2.15	0.45
14:E:51:PHE:C	14:E:74:PRO:HB2	2.36	0.45
14:E:52:LEU:HD22	14:E:76:ARG:HD2	1.98	0.45
10:A:94:C:O2	10:A:94:C:H2'	2.15	0.45
16:G:153:ARG:HB3	16:G:153:ARG:CZ	2.45	0.45
16:G:154:GLY:O	16:G:155:MET:HB3	2.16	0.45
24:S:76:LYS:O	24:S:79:ALA:HB3	2.16	0.45
19:N:39:ARG:HD3	19:N:39:ARG:O	2.16	0.45
10:A:27:G:H22	10:A:512:G:C2'	2.16	0.45
25:T:3:ARG:C	25:T:5:ALA:N	2.68	0.45
15:F:62:ARG:HH21	15:F:64:ILE:HA	1.81	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:784:A:N6	10:A:2072:G:O2'	2.49	0.45
16:G:15:VAL:HG12	16:G:19:LEU:CD1	2.46	0.45
8:7:5:TRP:NE1	8:7:7:PRO:HG3	2.31	0.45
10:A:1478:G:O2'	10:A:1558:A:H2	1.99	0.45
10:A:1763:G:H4'	10:A:1763:G:OP1	2.16	0.45
18:I:47:LEU:HD12	18:I:50:ARG:HH21	1.81	0.45
11:B:32:C:C2	11:B:51:G:C2	3.04	0.45
24:S:46:VAL:HG12	24:S:47:THR:N	2.31	0.45
14:E:87:GLU:O	14:E:87:GLU:HG3	2.17	0.45
4:3:44:ARG:O	4:3:48:GLU:HG2	2.15	0.45
28:W:73:ALA:HB3	28:W:106:ILE:HD11	1.97	0.45
10:A:1028:A:N6	10:A:1125:G:H2'	2.31	0.45
10:A:2610:C:O2'	10:A:2611:U:P	2.74	0.45
18:I:94:ALA:HA	18:I:97:ILE:HB	1.98	0.45
10:A:535:C:O3'	26:U:53:ARG:NH1	2.49	0.45
26:U:79:PHE:HE1	26:U:106:PHE:CZ	2.34	0.45
26:U:74:LEU:C	26:U:74:LEU:HD12	2.37	0.45
27:V:88:ARG:HG3	27:V:88:ARG:NH1	2.32	0.45
24:S:28:VAL:C	24:S:89:ARG:HD2	2.37	0.45
21:P:93:GLY:O	21:P:123:LEU:HB2	2.16	0.45
15:F:118:ALA:HA	15:F:123:LEU:HB3	1.97	0.45
21:P:10:PRO:CD	21:P:11:GLY:H	2.29	0.45
22:Q:8:LYS:HG3	22:Q:9:TYR:H	1.81	0.45
10:A:2711:A:H5''	10:A:2712:U:H5'	1.97	0.45
19:N:42:TRP:CE3	19:N:42:TRP:HA	2.52	0.45
22:Q:141:GLN:OXT	31:Z:98:MET:HB2	2.16	0.45
10:A:2808:U:H2'	10:A:2809:A:C5'	2.46	0.45
22:Q:127:ILE:CG2	22:Q:128:LYS:H	2.16	0.45
17:H:106:THR:CG2	17:H:112:PRO:HB3	2.41	0.45
10:A:2531:A:C2	10:A:2658:C:O2	2.70	0.45
17:H:158:HIS:NE2	17:H:169:VAL:C	2.70	0.45
10:A:1570:A:H2'	10:A:1571:A:C8	2.51	0.45
9:8:18:ALA:C	9:8:20:GLY:H	2.20	0.45
10:A:528:A:H2	10:A:2043:C:H4'	1.75	0.45
10:A:2468:G:H5'	22:Q:120:ILE:HD12	1.98	0.45
10:A:1262:A:OP1	28:W:99:ARG:NH1	2.46	0.45
22:Q:7:MET:O	22:Q:10:ARG:NH2	2.48	0.45
28:W:54:ALA:C	28:W:107:LEU:HD22	2.37	0.45
4:3:59:VAL:HG12	4:3:60:GLU:N	2.31	0.45
10:A:303:U:H2'	10:A:304:G:H8	1.82	0.45
28:W:62:HIS:O	28:W:63:ASP:C	2.54	0.45
18:I:139:GLN:HG2	18:I:140:LEU:N	2.31	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:329:G:OP2	30:Y:71:LYS:HE3	2.16	0.45
30:Y:28:LYS:CB	30:Y:37:VAL:HB	2.46	0.45
10:A:613:G:C8	10:A:613:G:H5'	2.45	0.45
21:P:46:LYS:CG	21:P:52:GLU:HG2	2.46	0.45
17:H:118:PRO:CG	17:H:121:ILE:HB	2.38	0.45
14:E:117:MET:HE3	14:E:124:GLY:HA3	1.99	0.45
20:O:101:PRO:O	20:O:102:VAL:CG1	2.52	0.45
6:5:4:HIS:CB	6:5:5:PRO:CD	2.90	0.45
27:V:32:THR:O	27:V:63:GLY:HA2	2.17	0.45
6:5:57:VAL:CG2	6:5:58:LEU:H	2.18	0.45
2:1:27:GLU:OE2	2:1:33:LYS:N	2.50	0.45
10:A:2599:G:OP2	13:D:236:GLY:N	2.50	0.45
10:A:1678:G:H22	10:A:1989:G:H22	1.63	0.45
13:D:106:ILE:CD1	13:D:106:ILE:C	2.83	0.45
23:R:104:ARG:HD3	23:R:111:LEU:HD11	1.99	0.45
10:A:1708:C:C2	10:A:1709:U:C5	3.05	0.45
10:A:2839:G:H2'	10:A:2840:C:C6	2.51	0.45
10:A:1435:G:H2'	10:A:1436:G:O4'	2.16	0.45
10:A:407:G:O2'	10:A:408:G:H5'	2.16	0.45
16:G:173:LEU:O	16:G:178:PHE:HB2	2.17	0.45
23:R:100:LEU:HD23	23:R:112:ALA:CA	2.45	0.45
10:A:756:C:O2'	10:A:757:U:H5'	2.16	0.45
10:A:1967:C:H2'	10:A:1968:G:H5'	1.98	0.45
18:I:92:VAL:HG22	18:I:97:ILE:HG13	1.98	0.45
10:A:2702:U:HO2'	10:A:2703:C:H6	1.63	0.45
21:P:95:VAL:O	21:P:95:VAL:HG23	2.15	0.45
25:T:65:LYS:NZ	25:T:66:VAL:HG23	2.32	0.45
14:E:97:LYS:N	14:E:100:GLU:OE1	2.47	0.45
30:Y:11:ASP:O	30:Y:27:VAL:HA	2.16	0.45
13:D:25:THR:CB	13:D:82:ILE:H	2.30	0.45
2:1:47:GLN:NE2	10:A:2090:G:N3	2.65	0.45
10:A:1365:A:C4	10:A:1366:A:C8	3.04	0.45
9:8:53:PRO:HG2	9:8:54:GLU:N	2.30	0.45
10:A:2393:A:O5'	21:P:62:LEU:HD12	2.17	0.45
21:P:66:GLY:O	21:P:68:GLN:N	2.49	0.45
10:A:2723:C:H5''	23:R:2:ARG:HD3	1.91	0.45
31:Z:97:GLU:CB	31:Z:125:LEU:HD21	2.47	0.45
10:A:1341:U:C1'	29:X:77:LYS:HE2	2.46	0.45
10:A:2808:U:O2'	10:A:2809:A:H5'	2.16	0.45
17:H:44:VAL:O	17:H:46:GLU:OE2	2.35	0.45
19:N:33:LEU:HD23	19:N:52:VAL:HG21	1.95	0.45
10:A:2658:C:C2'	10:A:2658:C:O2	2.63	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1748:G:H5'	10:A:1748:G:C8	2.47	0.45
24:S:53:SER:O	24:S:56:LEU:HB3	2.16	0.45
13:D:105:ILE:O	13:D:106:ILE:C	2.55	0.45
10:A:528:A:C2	10:A:2043:C:C5'	3.00	0.45
10:A:2508:G:H2'	10:A:2509:G:H8	1.82	0.45
7:6:20:ASN:HD22	7:6:21:TYR:N	2.04	0.45
10:A:2821:A:O2'	10:A:2822:G:H5'	2.17	0.45
10:A:1232:G:H2'	10:A:1233:C:C6	2.52	0.45
29:X:14:SER:O	29:X:15:GLU:C	2.55	0.45
10:A:322:A:H3'	15:F:169:ASN:ND2	2.28	0.45
10:A:1317:A:H2'	10:A:1318:C:C6	2.46	0.45
10:A:1775:U:C2'	10:A:1776:G:O5'	2.65	0.45
10:A:2193:G:C4	10:A:2194:G:C8	3.05	0.45
10:A:1783:A:C2	10:A:2587:A:C5	3.04	0.45
10:A:2516:G:C5	10:A:2517:C:C4	3.04	0.45
9:8:39:LYS:HG2	9:8:39:LYS:O	2.17	0.45
10:A:1446:C:O2'	10:A:1447:G:H5'	2.16	0.45
22:Q:114:ALA:O	22:Q:117:ALA:HB3	2.16	0.45
25:T:28:VAL:O	25:T:28:VAL:HG12	2.15	0.45
13:D:34:VAL:O	13:D:35:LYS:CB	2.64	0.45
10:A:1484:G:H2'	10:A:1485:G:C4'	2.46	0.45
9:8:32:LEU:HB3	9:8:35:GLN:N	2.18	0.45
31:Z:121:HIS:O	31:Z:122:ARG:C	2.54	0.45
19:N:46:VAL:CG1	19:N:47:ALA:N	2.69	0.45
12:C:168:THR:CA	12:C:173:ALA:HB2	2.31	0.45
30:Y:86:ARG:NH2	30:Y:95:LYS:HZ3	2.15	0.45
31:Z:19:ARG:HH11	31:Z:19:ARG:HG2	1.80	0.45
6:5:20:ARG:NH1	28:W:15:ARG:NE	2.64	0.45
10:A:271(C):C:H2'	10:A:271(D):G:H8	1.82	0.45
11:B:38:C:O2	11:B:48:A:H1'	2.17	0.45
12:C:18:LYS:HD3	12:C:19:VAL:N	2.31	0.45
10:A:440:G:N2	15:F:46:ARG:NH2	2.64	0.45
25:T:6:LEU:HD23	25:T:6:LEU:O	2.17	0.45
7:6:19:ARG:O	7:6:20:ASN:HB3	2.16	0.45
10:A:1639:U:H2'	10:A:1640:C:C5'	2.46	0.45
20:O:79:PHE:CD2	25:T:72:VAL:HG22	2.52	0.45
21:P:108:LYS:O	21:P:110:TYR:N	2.50	0.45
10:A:2291:U:H2'	10:A:2292:C:C6	2.51	0.45
16:G:149:VAL:O	16:G:149:VAL:HG23	2.15	0.45
15:F:108:LYS:HA	15:F:108:LYS:HD3	1.82	0.45
10:A:1622:G:C2	10:A:1623:G:C8	3.04	0.45
14:E:107:THR:O	14:E:190:GLY:HA2	2.16	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:T:10:VAL:O	25:T:11:GLU:C	2.54	0.45
13:D:85:ASP:OD1	13:D:87:ASN:ND2	2.49	0.45
10:A:2588:G:O6	10:A:2607:G:C6	2.69	0.45
10:A:832:G:OP1	21:P:40:SER:HB3	2.16	0.45
10:A:290:G:O2'	10:A:291:C:H5'	2.16	0.45
18:I:132:PRO:O	18:I:133:HIS:O	2.35	0.45
26:U:110:VAL:O	26:U:113:ALA:N	2.49	0.45
30:Y:49:VAL:O	30:Y:50:ARG:HB2	2.17	0.45
24:S:89:ARG:HB3	24:S:92:TYR:HB3	1.99	0.45
25:T:29:ARG:HD3	25:T:86:ILE:CG2	2.29	0.45
14:E:28:ALA:O	14:E:180:ASN:OD1	2.35	0.45
14:E:179:GLU:HB3	14:E:181:LEU:CD2	2.46	0.45
14:E:34:VAL:O	14:E:35:GLN:HB2	2.16	0.45
9:8:8:LYS:O	9:8:12:LYS:HG3	2.16	0.45
21:P:62:LEU:H	21:P:62:LEU:CD2	2.19	0.45
31:Z:145:GLU:C	31:Z:147:GLY:N	2.70	0.45
26:U:61:TRP:O	26:U:64:ARG:N	2.50	0.45
3:2:21:LEU:O	3:2:24:LEU:HB3	2.16	0.45
10:A:2170:A:O2'	10:A:2171:A:C8	2.67	0.45
28:W:86:LEU:HD12	28:W:87:PRO:CD	2.46	0.45
10:A:1109:C:C5	10:A:1110:G:C5	3.05	0.45
10:A:2228:G:H2'	10:A:2229:C:H6	1.81	0.45
10:A:1270:C:H5''	10:A:1271:G:C5'	2.46	0.45
10:A:1122:G:C2	10:A:1123:C:C6	3.05	0.45
10:A:874:G:O2'	10:A:875:G:H5'	2.17	0.45
10:A:2382:G:O5'	10:A:2382:G:H8	2.00	0.45
18:I:77:LEU:O	18:I:78:THR:CB	2.65	0.45
13:D:142:VAL:CG2	13:D:192:THR:C	2.83	0.45
15:F:33:LEU:O	15:F:37:VAL:HG23	2.16	0.45
10:A:2313:C:C6	10:A:2314:C:H5	2.35	0.45
10:A:896:A:H5''	31:Z:146:ILE:CD1	2.45	0.45
23:R:56:LYS:HE2	23:R:88:ARG:H	1.82	0.45
10:A:2697:G:C2	10:A:2711:A:C2	3.05	0.45
10:A:2713:A:C3'	10:A:2714:G:C5'	2.94	0.45
10:A:2680:C:OP1	14:E:109:LYS:HG3	2.17	0.45
31:Z:163:LEU:CD1	31:Z:167:PRO:HB3	2.47	0.45
31:Z:23:LYS:HD2	31:Z:38:TYR:CD1	2.52	0.45
29:X:89:ILE:O	29:X:89:ILE:HG22	2.17	0.45
21:P:112:LEU:HD13	21:P:112:LEU:O	2.17	0.45
10:A:2308:G:C8	10:A:2309:A:H3'	2.52	0.45
6:5:40:LYS:HD3	6:5:46:CYS:CB	2.45	0.45
24:S:57:LYS:O	24:S:58:LEU:O	2.34	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1668:A:N3	10:A:1670:C:C4	2.83	0.45
10:A:686:G:H21	10:A:788:A:N6	2.15	0.45
11:B:21:G:O2'	11:B:22:U:P	2.75	0.45
14:E:57:LYS:C	14:E:59:VAL:N	2.69	0.45
10:A:1914:C:O2	10:A:1914:C:O4'	2.34	0.45
19:N:78:TYR:H	19:N:79:PRO:HD2	1.81	0.45
12:C:47:LEU:HD21	12:C:172:HIS:CA	2.47	0.45
20:O:104:ARG:C	20:O:106:LEU:H	2.18	0.45
12:C:97:GLU:CA	12:C:100:ILE:HG12	2.46	0.45
1:O:1:MET:H3	10:A:2602:A:H61	1.63	0.45
10:A:977:G:O6	10:A:987:G:C6	2.70	0.45
10:A:335:C:H2'	10:A:336:C:H6	1.82	0.45
10:A:2766:G:N3	10:A:2766:G:H2'	2.32	0.45
23:R:99:LYS:HE3	23:R:99:LYS:HB3	1.83	0.45
2:1:42:GLN:HG2	2:1:43:TYR:H	1.81	0.45
26:U:83:LEU:CB	26:U:88:ILE:HG12	2.41	0.45
24:S:14:VAL:HG11	24:S:90:GLY:C	2.37	0.45
25:T:31:SER:CA	25:T:32:TYR:HD2	2.30	0.45
10:A:2637:U:C2'	10:A:2638:G:H5'	2.46	0.45
13:D:35:LYS:NZ	13:D:104:TYR:CD1	2.79	0.45
10:A:2522:U:O2'	10:A:2647:U:H5''	2.16	0.45
15:F:25:PRO:CB	15:F:119:ARG:HD3	2.47	0.45
10:A:911:A:C2'	22:Q:9:TYR:OH	2.63	0.45
24:S:52:SER:O	24:S:69:VAL:HG23	2.16	0.45
24:S:69:VAL:O	24:S:72:ALA:HB3	2.16	0.45
10:A:2870:C:C2'	10:A:2871:C:H5'	2.47	0.45
10:A:1947:C:C3'	10:A:1948:G:C5'	2.95	0.45
10:A:1341:U:O4'	29:X:57:LEU:HD11	2.17	0.45
29:X:88:LYS:HB3	29:X:89:ILE:HD13	1.98	0.45
17:H:94:TYR:CG	17:H:107:VAL:HG12	2.52	0.45
10:A:389:G:H1	21:P:71:VAL:HG12	1.80	0.45
28:W:14:PRO:O	28:W:15:ARG:C	2.54	0.45
22:Q:55:VAL:HG13	22:Q:56:ARG:N	2.31	0.45
27:V:46:VAL:O	27:V:47:VAL:HB	2.17	0.45
10:A:2259:G:H1'	10:A:2427:C:C2	2.51	0.45
10:A:2732:G:C2'	10:A:2733:A:H5'	2.45	0.45
10:A:1797:C:O2'	13:D:259:THR:HB	2.17	0.45
14:E:129:HIS:O	14:E:130:GLY:O	2.34	0.45
10:A:1925:C:H2'	10:A:1926:U:H5'	1.96	0.45
10:A:2653:U:H5'	10:A:2654:A:C5'	2.44	0.45
10:A:1493:C:O2	10:A:1493:C:C2'	2.62	0.45
12:C:34:THR:O	12:C:35:ALA:HB2	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:2574:G:H2'	10:A:2575:C:H6	1.81	0.45
10:A:964:C:O2'	10:A:2273:A:N3	2.41	0.45
10:A:2087:G:O2'	10:A:2088:G:H5'	2.17	0.45
28:W:28:SER:OG	28:W:31:GLU:CB	2.64	0.45
10:A:1328:G:O2'	10:A:1329:U:H5''	2.16	0.45
10:A:1860:G:H2'	10:A:1861:G:H8	1.82	0.45
22:Q:58:PHE:O	22:Q:59:ARG:C	2.55	0.45
6:5:26:THR:O	6:5:26:THR:HG23	2.17	0.45
10:A:2705:A:C4	10:A:2706:G:C8	3.05	0.45
10:A:2777:G:H5''	10:A:2778:A:H5'	1.98	0.45
14:E:45:THR:O	14:E:45:THR:HG22	2.17	0.45
10:A:614:U:H4'	10:A:614(C):A:N6	2.32	0.45
21:P:10:PRO:CD	21:P:11:GLY:N	2.78	0.45
2:1:78:LYS:NZ	2:1:89:GLU:O	2.50	0.45
3:2:18:PRO:C	3:2:20:GLU:N	2.68	0.45
14:E:51:PHE:HD1	14:E:52:LEU:N	2.15	0.45
10:A:49:A:C4'	10:A:50:U:H5'	2.26	0.45
17:H:55:PRO:CG	17:H:56:SER:N	2.78	0.45
10:A:1190:G:C5'	21:P:35:HIS:HB3	2.44	0.45
27:V:61:VAL:C	27:V:62:LEU:HD23	2.37	0.45
19:N:128:HIS:CG	19:N:128:HIS:O	2.70	0.45
15:F:63:LYS:HE2	15:F:67:GLN:HB2	1.95	0.45
12:C:51:PRO:HB2	12:C:202:GLU:CB	2.47	0.45
10:A:2475:C:H42	10:A:2529:G:N2	2.14	0.45
13:D:238:GLY:C	13:D:239:ARG:O	2.53	0.45
23:R:10:LEU:CB	23:R:17:ARG:HD2	2.39	0.45
13:D:76:PRO:HG2	13:D:98:VAL:HG23	1.94	0.45
26:U:9:VAL:O	26:U:13:LYS:HG2	2.17	0.45
26:U:6:THR:O	26:U:9:VAL:HG23	2.17	0.45
11:B:37:C:H2'	11:B:38:C:O4'	2.16	0.45
10:A:2732:G:H3'	10:A:2733:A:C5'	2.47	0.45
10:A:438:G:O2'	10:A:440:G:H5'	2.17	0.45
4:3:15:TYR:HB3	4:3:19:GLN:NE2	2.32	0.45
23:R:11:ASN:CG	23:R:12:ARG:H	2.19	0.45
12:C:41:VAL:O	12:C:178:ALA:HB3	2.17	0.45
10:A:1935:G:H1'	10:A:1964:G:N2	2.32	0.45
16:G:33:ARG:HB2	16:G:162:THR:CB	2.47	0.45
4:3:26:LEU:HD21	4:3:46:ASN:CB	2.46	0.45
10:A:507:A:O4'	10:A:509:C:C2	2.70	0.45
6:5:15:ARG:HA	6:5:18:ALA:HB3	1.99	0.45
10:A:661:C:O3'	21:P:18:ARG:HG2	2.16	0.45
9:8:4:MET:O	9:8:62:LEU:HD12	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:2:44:LEU:HA	3:2:44:LEU:HD13	1.71	0.45
9:8:31:HIS:O	9:8:32:LEU:C	2.55	0.45
10:A:2418:A:H2'	10:A:2419:U:C6	2.52	0.45
24:S:67:ARG:N	24:S:69:VAL:HG12	2.23	0.45
24:S:78:LEU:HD11	24:S:103:GLU:CB	2.42	0.45
23:R:55:ALA:HA	23:R:80:PHE:CE1	2.52	0.45
10:A:1629:U:O2	10:A:2698:U:H5''	2.16	0.45
10:A:2464:C:O2'	10:A:2465:C:O5'	2.35	0.45
20:O:101:PRO:O	20:O:102:VAL:HG22	2.17	0.45
13:D:268:ARG:HH12	13:D:269:PHE:HE1	1.62	0.45
19:N:15:LEU:CB	19:N:134:ARG:HB2	2.44	0.45
10:A:1952:A:C2	10:A:1953:A:C2	3.05	0.45
10:A:675:A:O2'	10:A:676:A:H5'	2.17	0.45
10:A:2368:C:O2'	10:A:2369:A:H5'	2.16	0.45
25:T:57:PHE:CG	25:T:58:ASN:N	2.84	0.45
10:A:606:U:H4'	10:A:658:C:H4'	1.99	0.45
28:W:12:ILE:HD13	28:W:17:VAL:CG1	2.47	0.45
6:5:25:LEU:HB3	28:W:23:LEU:HD13	1.99	0.45
13:D:118:VAL:CG2	13:D:119:ALA:H	2.24	0.45
20:O:86:ILE:CD1	20:O:86:ILE:H	2.29	0.45
25:T:6:LEU:HA	25:T:9:LEU:HD12	1.98	0.45
13:D:11:PRO:C	13:D:13:ARG:N	2.70	0.45
11:B:20:C:O2'	11:B:21:G:H5''	2.15	0.45
30:Y:31:LEU:HD11	30:Y:34:LYS:HD3	1.99	0.45
10:A:319:C:C2'	10:A:320:A:H5'	2.47	0.45
17:H:12:PRO:O	17:H:14:GLY:N	2.50	0.45
22:Q:77:LYS:HA	22:Q:78:PRO:HD3	1.68	0.45
14:E:110:GLY:HA2	14:E:162:ALA:N	2.32	0.45
14:E:197:ILE:HG13	14:E:199:ARG:HH12	1.82	0.45
14:E:197:ILE:O	14:E:197:ILE:CG1	2.65	0.45
10:A:2192:G:H2'	10:A:2193:G:H5''	1.98	0.45
23:R:70:LEU:HD13	23:R:75:LEU:HD11	1.98	0.45
10:A:949:C:O2'	10:A:950:G:H5'	2.17	0.45
10:A:825:C:H42	10:A:832:G:H1	1.63	0.45
10:A:206:U:H2'	10:A:206:U:O2	2.16	0.45
10:A:1401:G:H2'	10:A:1402:C:C6	2.52	0.45
4:3:43:ILE:HG22	4:3:47:VAL:CG2	2.47	0.45
10:A:2124:G:C2'	10:A:2125:G:H5'	2.46	0.45
26:U:106:PHE:HA	26:U:109:LEU:HD12	1.98	0.44
26:U:109:LEU:O	26:U:113:ALA:N	2.42	0.44
10:A:378:C:C2'	10:A:379:G:H5'	2.47	0.44
10:A:2625:G:H2'	10:A:2626:C:O4'	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:21:ALA:C	15:F:23:ASP:N	2.71	0.44
15:F:24:LEU:HD12	15:F:25:PRO:HD2	1.98	0.44
10:A:250:G:H2'	10:A:251:A:C8	2.52	0.44
29:X:40:LYS:O	29:X:44:GLU:HG2	2.17	0.44
31:Z:121:HIS:CE1	31:Z:124:ILE:HG22	2.52	0.44
26:U:64:ARG:O	26:U:65:ILE:C	2.55	0.44
10:A:2464:C:O2'	10:A:2465:C:P	2.74	0.44
27:V:19:LYS:CE	27:V:20:LEU:H	2.30	0.44
19:N:128:HIS:HD2	19:N:131:GLN:HB2	1.80	0.44
10:A:1142(A):A:C4	10:A:1144:G:N7	2.85	0.44
3:2:30:ARG:O	3:2:32:LEU:O	2.36	0.44
26:U:38:THR:C	26:U:40:PHE:N	2.70	0.44
10:A:859:G:O4'	10:A:2268:A:H1'	2.16	0.44
19:N:19:GLU:O	19:N:59:LYS:O	2.35	0.44
10:A:2060:A:OP1	15:F:68:LYS:O	2.35	0.44
10:A:2377:A:H2'	10:A:2378:A:C8	2.52	0.44
10:A:814:C:C5	21:P:27:HIS:CD2	3.05	0.44
10:A:1798:U:H5'	13:D:259:THR:CG2	2.42	0.44
6:5:2:ALA:CA	10:A:2015:A:H1'	2.43	0.44
6:5:2:ALA:HB3	10:A:747:U:N1	2.31	0.44
10:A:817:C:H2'	10:A:818:G:O4'	2.18	0.44
11:B:17:C:O2'	11:B:18:G:H5'	2.17	0.44
10:A:2734:A:H5'	10:A:2735:G:OP2	2.17	0.44
10:A:2771:C:O2	10:A:2771:C:C2'	2.62	0.44
10:A:2455:G:H2'	10:A:2456:C:H6	1.82	0.44
10:A:2292:C:N4	10:A:2340:G:H1	2.15	0.44
10:A:1771:C:O2'	10:A:1786:A:H8	2.00	0.44
10:A:1843:C:O2'	10:A:1844:C:H5'	2.16	0.44
19:N:18:ALA:O	19:N:21:LYS:HG2	2.17	0.44
10:A:2811:G:O2'	10:A:2812:G:H5'	2.17	0.44
10:A:2084:C:O2'	10:A:2085:C:H5'	2.17	0.44
13:D:53:PHE:CE1	13:D:220:HIS:HA	2.53	0.44
22:Q:32:TYR:CD1	22:Q:32:TYR:N	2.85	0.44
21:P:102:ARG:HG3	21:P:102:ARG:HH21	1.82	0.44
21:P:105:LEU:O	21:P:106:LEU:CB	2.59	0.44
14:E:3:GLY:C	14:E:4:ILE:HG22	2.37	0.44
13:D:35:LYS:CD	13:D:104:TYR:CD1	3.00	0.44
13:D:70:TRP:CD2	13:D:150:LYS:HE2	2.53	0.44
2:1:46:LEU:HD13	2:1:48:LYS:HE3	1.99	0.44
10:A:143(A):C:O2	10:A:143(A):C:C2'	2.62	0.44
10:A:2756:U:H1'	10:A:2757:A:H5''	1.99	0.44
17:H:144:VAL:HG22	17:H:147:ASN:OD1	2.17	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:70:THR:O	17:H:73:ALA:HB3	2.18	0.44
18:I:5:LEU:HD11	18:I:12:LEU:HB2	1.98	0.44
10:A:1254:A:H5'	10:A:1255:U:C5'	2.46	0.44
21:P:30:THR:CG2	21:P:31:ALA:N	2.73	0.44
29:X:27:THR:CB	29:X:77:LYS:HA	2.47	0.44
19:N:13:TRP:HZ3	19:N:130:HIS:CE1	2.36	0.44
29:X:89:ILE:CD1	29:X:89:ILE:N	2.80	0.44
22:Q:39:PRO:CA	22:Q:99:PRO:HD3	2.46	0.44
17:H:47:GLU:C	17:H:49:VAL:H	2.20	0.44
10:A:627:A:C6	10:A:637:A:C8	3.06	0.44
10:A:1448:G:H21	10:A:1528(A):A:H2	1.65	0.44
10:A:2364:C:O2'	10:A:2365:G:H5'	2.17	0.44
13:D:239:ARG:HH21	13:D:239:ARG:HG3	1.83	0.44
14:E:24:THR:HG21	14:E:188:VAL:CG1	2.47	0.44
10:A:2847:U:OP1	25:T:98:LYS:HD3	2.17	0.44
30:Y:76:CYS:CB	30:Y:77:PRO:CD	2.96	0.44
10:A:1260:G:C6	10:A:1261:C:C4	3.05	0.44
10:A:2849:U:N3	10:A:2867:G:N3	2.65	0.44
10:A:2737:G:O2'	10:A:2738:A:H5'	2.17	0.44
16:G:131:TYR:CE2	16:G:133:LEU:HD23	2.52	0.44
10:A:2339:G:O2'	10:A:2340:G:H5'	2.17	0.44
10:A:1844:C:C2'	10:A:1845:G:H5'	2.47	0.44
16:G:139:LEU:HB3	16:G:149:VAL:HG11	1.99	0.44
10:A:461:C:O2'	10:A:462:C:H5'	2.17	0.44
10:A:1209:G:O2'	10:A:1237:A:N1	2.49	0.44
10:A:978:G:C2	10:A:986:C:C2	3.05	0.44
12:C:67:GLY:O	12:C:68:LEU:HB2	2.18	0.44
10:A:1120:G:C6	10:A:1121:C:C4	3.05	0.44
28:W:72:LYS:HB3	28:W:106:ILE:O	2.18	0.44
18:I:88:ILE:HD13	18:I:123:LEU:HG	1.98	0.44
10:A:614(C):A:H4'	10:A:615:G:OP1	2.17	0.44
10:A:1159:U:C2'	10:A:1160:G:H5'	2.47	0.44
15:F:3:GLU:HB2	15:F:24:LEU:HG	1.99	0.44
9:8:6:THR:CG2	10:A:243:U:OP1	2.65	0.44
3:2:40:SER:O	3:2:41:ILE:O	2.35	0.44
10:A:139:G:H2'	10:A:139(A):G:H5''	1.99	0.44
16:G:138:GLN:OE1	16:G:152:LEU:HA	2.16	0.44
10:A:879:G:N1	10:A:898:C:N4	2.63	0.44
10:A:1577:C:H2'	10:A:1578:U:H6	1.78	0.44
31:Z:28:MET:CE	31:Z:37:VAL:HG11	2.48	0.44
10:A:941:A:H4'	21:P:35:HIS:HE1	1.77	0.44
14:E:173:VAL:HG12	14:E:174:ASP:H	1.80	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:26:GLY:O	26:U:30:LYS:HG2	2.17	0.44
19:N:57:ALA:O	19:N:58:ASP:C	2.55	0.44
24:S:101:LEU:HD13	24:S:102:ALA:O	2.17	0.44
25:T:96:ARG:HG2	25:T:96:ARG:HH11	1.83	0.44
25:T:100:TYR:CD1	25:T:100:TYR:N	2.84	0.44
17:H:20:ALA:CB	17:H:21:PRO:CD	2.92	0.44
10:A:1771:C:C1'	10:A:1786:A:C8	2.99	0.44
22:Q:10:ARG:HH11	22:Q:10:ARG:CB	2.31	0.44
25:T:15:VAL:O	25:T:16:ARG:HG2	2.17	0.44
28:W:89:ALA:O	28:W:90:ARG:HB2	2.17	0.44
10:A:1047:G:H2'	10:A:1110:G:N1	2.32	0.44
10:A:795:C:H2'	10:A:796:C:C6	2.51	0.44
10:A:1508:A:H2'	10:A:1509:C:OP1	2.18	0.44
12:C:68:LEU:HD22	12:C:179:SER:HA	2.00	0.44
10:A:935:C:H2'	10:A:936:C:C6	2.53	0.44
14:E:55:ASN:HD21	14:E:75:VAL:HG21	1.82	0.44
10:A:2176:A:H2'	10:A:2177:C:C6	2.52	0.44
29:X:40:LYS:CG	29:X:41:ASN:N	2.81	0.44
22:Q:93:TYR:CD1	22:Q:93:TYR:N	2.85	0.44
10:A:2103:C:H5'	10:A:2104:G:OP2	2.18	0.44
10:A:2745:C:O2'	10:A:2746:U:H5'	2.17	0.44
10:A:2681:C:O2	10:A:2681:C:O4'	2.32	0.44
29:X:29:TRP:CE3	29:X:76:ARG:HB3	2.52	0.44
29:X:88:LYS:HD2	29:X:88:LYS:N	2.32	0.44
7:6:32:ASN:O	7:6:33:LYS:HB2	2.17	0.44
10:A:676:A:C8	10:A:2069:G:N2	2.67	0.44
12:C:51:PRO:HB3	12:C:203:GLY:C	2.38	0.44
10:A:1815:A:OP1	10:A:1815:A:H8	1.99	0.44
10:A:2343:C:H2'	10:A:2344:U:H6	1.82	0.44
10:A:2287:A:H2	10:A:2346:A:N1	2.15	0.44
16:G:16:ARG:HG3	16:G:16:ARG:HH11	1.82	0.44
10:A:1509(B):A:H2'	10:A:1510:G:O4'	2.17	0.44
10:A:2853:C:O2'	10:A:2854:G:H5'	2.18	0.44
10:A:2319:G:H4'	10:A:2319:G:OP2	2.18	0.44
18:I:84:GLY:O	18:I:85:GLU:HB2	2.17	0.44
21:P:96:THR:HG22	21:P:126:VAL:HG23	1.99	0.44
25:T:33:LYS:H	25:T:33:LYS:HZ3	1.66	0.44
30:Y:37:VAL:HG11	30:Y:72:VAL:HG21	1.98	0.44
30:Y:40:GLU:HA	30:Y:40:GLU:OE2	2.16	0.44
10:A:1157:G:C2'	10:A:1158:C:H5'	2.47	0.44
31:Z:120:ILE:HG21	31:Z:170:THR:OG1	2.17	0.44
26:U:66:ASN:C	26:U:68:ALA:N	2.70	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:62:ILE:HG13	26:U:76:TYR:CZ	2.52	0.44
17:H:57:ASP:O	17:H:62:LYS:HE3	2.17	0.44
22:Q:140:ALA:HA	31:Z:99:TYR:CG	2.53	0.44
10:A:1341:U:OP1	10:A:1397:U:N3	2.45	0.44
17:H:32:GLU:O	17:H:33:LEU:HD23	2.17	0.44
10:A:861:A:C2	10:A:917:A:C4	3.06	0.44
10:A:271(P):C:O2'	10:A:271(Q):G:H5'	2.17	0.44
18:I:3:VAL:HG12	18:I:38:LEU:HA	1.99	0.44
10:A:1494:A:H4'	10:A:1494:A:OP1	2.17	0.44
24:S:49:VAL:HG12	24:S:73:LEU:CD2	2.47	0.44
10:A:2308:G:N7	10:A:2310:A:H5'	2.32	0.44
28:W:88:ARG:HA	28:W:88:ARG:HD2	1.46	0.44
10:A:741:G:H2'	10:A:742:G:C8	2.50	0.44
13:D:77:ALA:HB2	13:D:97:TYR:CG	2.52	0.44
20:O:17:ARG:O	20:O:18:LYS:HG3	2.16	0.44
12:C:77:ILE:HD12	12:C:123:VAL:H	1.81	0.44
10:A:314:A:C2'	10:A:315:G:H5'	2.47	0.44
10:A:649:G:C5	10:A:650:C:C4	3.06	0.44
10:A:1474:C:H3'	10:A:1475:G:H8	1.82	0.44
18:I:88:ILE:CG2	18:I:89:TYR:N	2.71	0.44
21:P:95:VAL:HG23	21:P:125:VAL:CG2	2.42	0.44
14:E:3:GLY:O	14:E:4:ILE:CG2	2.66	0.44
10:A:71:A:H2	29:X:31:HIS:HE1	1.66	0.44
9:8:32:LEU:O	9:8:34:TRP:N	2.50	0.44
10:A:910:A:H62	22:Q:12:GLN:HA	1.83	0.44
16:G:155:MET:SD	16:G:156:ASP:N	2.91	0.44
23:R:49:ASP:O	23:R:51:LEU:N	2.51	0.44
17:H:144:VAL:O	17:H:144:VAL:CG1	2.61	0.44
14:E:116:VAL:HG22	14:E:122:PHE:CG	2.53	0.44
22:Q:47:ILE:CD1	22:Q:47:ILE:H	2.28	0.44
26:U:18:LEU:O	26:U:21:ALA:N	2.47	0.44
19:N:30:ILE:O	19:N:33:LEU:HB3	2.18	0.44
10:A:1449:A:OP2	10:A:1449:A:H8	1.99	0.44
10:A:1754:C:H4'	25:T:101:PHE:CD2	2.53	0.44
23:R:78:LYS:O	23:R:83:ILE:N	2.50	0.44
5:4:11:PRO:C	5:4:13:ARG:N	2.65	0.44
10:A:2287:A:N6	10:A:2344:U:N3	2.63	0.44
24:S:56:LEU:C	24:S:56:LEU:HD23	2.38	0.44
10:A:2837:G:H2'	10:A:2838:G:H8	1.81	0.44
18:I:53:ALA:O	18:I:57:ARG:HB2	2.17	0.44
10:A:322:A:P	15:F:169:ASN:HD22	2.40	0.44
14:E:113:PHE:CE2	14:E:158:GLY:HA2	2.53	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:977:G:C6	10:A:987:G:C6	3.06	0.44
24:S:95:HIS:CD2	24:S:96:GLY:H	2.35	0.44
6:5:34:PRO:O	6:5:35:GLU:C	2.56	0.44
10:A:503:A:H4'	10:A:505:A:H5''	1.99	0.44
10:A:1201:C:O2'	10:A:1202:C:H5'	2.17	0.44
19:N:104:LYS:C	19:N:106:MET:H	2.21	0.44
2:1:80:LEU:HA	2:1:80:LEU:HD23	1.84	0.44
14:E:36:ARG:O	14:E:37:ARG:HG3	2.18	0.44
15:F:38:ARG:NH1	21:P:16:ARG:HH22	2.16	0.44
24:S:66:ALA:HA	24:S:69:VAL:HG11	1.99	0.44
10:A:2870:C:O2'	10:A:2871:C:H5'	2.18	0.44
14:E:14:ILE:CG1	14:E:21:VAL:CG2	2.96	0.44
20:O:40:VAL:HG12	20:O:41:ALA:N	2.33	0.44
22:Q:17:LEU:N	22:Q:17:LEU:HD23	2.33	0.44
15:F:36:VAL:HA	15:F:101:LEU:CD2	2.48	0.44
10:A:511:U:O4	10:A:512:G:C2	2.70	0.44
1:0:40:GLN:NE2	1:0:43:THR:HA	2.33	0.44
11:B:38:C:H42	11:B:44:G:H1	1.66	0.44
20:O:103:ALA:C	20:O:105:GLU:N	2.70	0.44
15:F:64:ILE:HG22	15:F:76:GLY:O	2.18	0.44
16:G:23:PHE:CZ	16:G:168:GLU:HA	2.53	0.44
10:A:2691:C:H2'	10:A:2692:C:H6	1.83	0.44
16:G:94:LEU:N	16:G:94:LEU:CD2	2.75	0.44
25:T:25:GLY:O	25:T:48:ILE:HG23	2.18	0.44
8:7:30:VAL:O	8:7:33:ARG:N	2.51	0.44
13:D:45:ASN:OD1	13:D:46:GLN:N	2.51	0.44
23:R:8:ARG:CA	23:R:8:ARG:NE	2.80	0.44
10:A:1683:C:H2'	10:A:1684:C:C6	2.52	0.44
10:A:332:A:H4'	10:A:333:G:OP1	2.17	0.44
10:A:372:G:N2	10:A:400:G:H2'	2.33	0.44
10:A:643:A:O2'	10:A:644:A:H5'	2.17	0.44
10:A:688:U:H5'	10:A:1780:A:C2	2.53	0.44
14:E:141:ILE:HG13	14:E:150:VAL:HG22	2.00	0.44
10:A:2699:C:O2'	10:A:2700:C:H5'	2.18	0.44
3:2:37:PHE:O	3:2:37:PHE:CD2	2.71	0.44
27:V:82:ARG:CD	27:V:82:ARG:C	2.86	0.44
18:I:89:TYR:N	18:I:89:TYR:CD1	2.86	0.44
27:V:69:LYS:CG	27:V:70:ILE:N	2.73	0.44
25:T:29:ARG:CG	25:T:30:VAL:N	2.81	0.44
19:N:65:LYS:C	19:N:66:LYS:HD3	2.38	0.44
10:A:2175:C:C1'	12:C:215:THR:HA	2.38	0.44
15:F:18:ARG:O	15:F:19:GLU:HB3	2.18	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:631:A:O2'	21:P:67:MET:HB3	2.17	0.44
10:A:896:A:C2	10:A:898:C:H5''	2.52	0.44
17:H:72:ILE:O	17:H:75:ALA:N	2.50	0.44
31:Z:64:GLY:O	31:Z:65:GLN:O	2.36	0.44
22:Q:36:ALA:O	22:Q:100:GLY:N	2.50	0.44
2:1:26:ARG:HG2	2:1:34:THR:C	2.38	0.44
21:P:70:GLN:OE1	21:P:70:GLN:HA	2.17	0.44
1:0:36:ILE:HA	1:0:60:PHE:CB	2.48	0.44
10:A:2887:U:O2'	10:A:2888:C:H5'	2.18	0.44
12:C:18:LYS:CD	12:C:19:VAL:HG23	2.41	0.44
24:S:35:ILE:C	24:S:36:TYR:HD1	2.21	0.44
10:A:280:C:N4	10:A:360:G:H1	2.15	0.44
30:Y:31:LEU:HA	30:Y:31:LEU:HD22	1.64	0.44
16:G:103:LEU:O	16:G:106:LEU:HB3	2.18	0.44
27:V:67:GLY:O	27:V:68:LYS:C	2.56	0.44
10:A:2092:U:H4'	10:A:2093:G:C5'	2.48	0.44
13:D:109:ASP:HB2	13:D:197:GLY:CA	2.47	0.44
31:Z:130:PRO:O	31:Z:133:ILE:HG13	2.18	0.44
10:A:1414:G:H1	10:A:1588:C:H42	1.65	0.44
30:Y:49:VAL:HG12	30:Y:53:PRO:HG3	1.99	0.44
13:D:30:GLU:HG3	13:D:63:ARG:NH2	2.33	0.44
9:8:9:GLY:O	9:8:13:ARG:HG2	2.18	0.44
10:A:2313:C:C5	10:A:2314:C:H5	2.36	0.44
26:U:57:PHE:HB3	26:U:61:TRP:CZ2	2.52	0.44
16:G:161:THR:HG21	16:G:163:ALA:HB3	2.00	0.44
17:H:85:LYS:HE3	17:H:144:VAL:C	2.38	0.44
10:A:90:U:H1'	10:A:92:A:H8	1.83	0.44
30:Y:85:VAL:HG13	30:Y:92:ASN:OD1	2.18	0.44
10:A:285:C:H2'	10:A:286:C:C4'	2.48	0.44
10:A:1144:G:C4	10:A:1145:C:C5	3.06	0.44
13:D:205:VAL:O	13:D:205:VAL:HG12	2.18	0.44
15:F:163:VAL:O	15:F:164:ARG:C	2.56	0.44
21:P:75:ILE:N	21:P:75:ILE:CD1	2.56	0.44
10:A:1614:A:N1	28:W:91:GLY:HA2	2.33	0.44
17:H:130:ARG:HH11	17:H:130:ARG:HB3	1.83	0.44
10:A:154:G:H2'	10:A:154(A):C:O2	2.18	0.44
26:U:112:ARG:NH1	26:U:112:ARG:CG	2.77	0.44
28:W:17:VAL:C	28:W:19:LEU:N	2.68	0.44
8:7:9:ARG:HH11	8:7:9:ARG:CG	2.30	0.44
17:H:12:PRO:HB2	17:H:15:VAL:CG2	2.48	0.44
19:N:93:THR:O	19:N:94:HIS:HD2	2.00	0.44
19:N:18:ALA:O	19:N:20:GLY:N	2.51	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:N:74:ARG:HH22	19:N:101:HIS:HB3	1.82	0.44
10:A:1744:C:H2'	10:A:1745:C:H5'	2.00	0.44
7:6:39:TYR:HB3	7:6:49:HIS:CE1	2.53	0.44
10:A:1362:C:O2'	10:A:1363:C:H5'	2.17	0.44
18:I:2:LYS:HB2	18:I:39:ALA:HB3	1.99	0.44
11:B:35:U:O2'	11:B:36:C:H5'	2.18	0.44
12:C:169:GLY:O	12:C:170:ALA:HB3	2.18	0.44
25:T:27:THR:HG23	25:T:28:VAL:N	2.32	0.43
10:A:2635:C:H2'	10:A:2636:U:O5'	2.18	0.43
10:A:1239:G:H2'	10:A:1240:U:O4'	2.17	0.43
13:D:25:THR:CG2	13:D:82:ILE:N	2.75	0.43
21:P:48:PRO:CG	21:P:49:ARG:N	2.81	0.43
16:G:111:LEU:HD22	16:G:117:PHE:HE1	1.82	0.43
31:Z:48:PHE:O	31:Z:49:ARG:C	2.56	0.43
31:Z:7:ALA:O	31:Z:8:TYR:C	2.55	0.43
13:D:266:SER:O	13:D:267:SER:OG	2.31	0.43
13:D:270:ILE:C	13:D:270:ILE:HD12	2.39	0.43
19:N:56:ASN:HA	19:N:125:GLY:C	2.39	0.43
6:5:56:LYS:CD	6:5:57:VAL:N	2.81	0.43
21:P:74:GLU:HG3	21:P:75:ILE:H	1.83	0.43
21:P:113:LYS:HA	21:P:129:ALA:O	2.18	0.43
10:A:1381:G:O2'	10:A:1382:G:H5'	2.18	0.43
28:W:51:LEU:C	28:W:51:LEU:HD13	2.38	0.43
13:D:69:ARG:NH2	13:D:105:ILE:CD1	2.81	0.43
14:E:131:ALA:HB3	14:E:134:ILE:HD12	1.99	0.43
15:F:57:VAL:HG11	15:F:59:TYR:CD1	2.53	0.43
16:G:112:PRO:C	16:G:113:ARG:CA	2.83	0.43
25:T:23:ARG:O	25:T:25:GLY:N	2.51	0.43
10:A:2023:G:C2	10:A:2024:G:C8	3.05	0.43
18:I:22:LYS:O	18:I:23:PRO:C	2.56	0.43
28:W:82:LEU:CD1	28:W:82:LEU:N	2.80	0.43
20:O:119:PRO:O	25:T:68:TYR:HE1	2.02	0.43
12:C:76:ALA:HB3	12:C:94:VAL:HG11	2.00	0.43
10:A:751:A:O5'	10:A:751:A:H8	2.00	0.43
16:G:139:LEU:HA	16:G:144:ILE:CG2	2.48	0.43
11:B:52:A:O2'	11:B:53:A:H8	2.00	0.43
16:G:48:GLU:O	16:G:51:ARG:HG2	2.18	0.43
10:A:2476:A:H3'	10:A:2476:A:N3	2.32	0.43
26:U:92:ARG:HB2	27:V:11:GLN:CD	2.36	0.43
25:T:29:ARG:CG	25:T:30:VAL:HG13	2.48	0.43
25:T:65:LYS:HZ2	25:T:66:VAL:HG23	1.82	0.43
10:A:209:C:O2'	10:A:210:C:H5'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:116:ASP:OD2	21:P:5:ASP:HA	2.18	0.43
14:E:5:LEU:HB2	14:E:51:PHE:CD2	2.46	0.43
29:X:36:LYS:O	29:X:37:THR:C	2.56	0.43
24:S:52:SER:OG	24:S:55:ALA:HB3	2.17	0.43
29:X:65:ARG:NE	29:X:66:LEU:H	2.15	0.43
17:H:41:MET:HE1	17:H:55:PRO:CD	2.48	0.43
14:E:116:VAL:HG21	14:E:122:PHE:CD2	2.53	0.43
29:X:23:GLU:CG	29:X:24:GLY:N	2.75	0.43
22:Q:17:LEU:CD2	22:Q:41:TRP:HE1	2.29	0.43
10:A:859:G:O3'	10:A:860:U:O2	2.36	0.43
11:B:79:C:H2'	11:B:80:U:H5'	1.99	0.43
10:A:1464:C:O2'	10:A:1465:G:H5'	2.18	0.43
29:X:70:LEU:O	29:X:71:GLY:C	2.56	0.43
10:A:2472:G:H2'	10:A:2475:C:H42	1.82	0.43
10:A:157:U:H5''	10:A:171:G:H22	1.83	0.43
10:A:1707:G:N2	10:A:1708:C:C2	2.86	0.43
21:P:79:ARG:C	21:P:80:TYR:HD2	2.21	0.43
10:A:152:G:H1	10:A:174:C:N4	2.14	0.43
10:A:307:G:H21	10:A:330:A:N6	2.13	0.43
10:A:2033:A:H2'	10:A:2035:G:OP2	2.18	0.43
10:A:2086:U:O2	10:A:2234:G:C2	2.72	0.43
16:G:51:ARG:HA	16:G:51:ARG:HE	1.83	0.43
13:D:36:PRO:HG3	13:D:61:LEU:HD23	2.00	0.43
10:A:2126:A:O2'	10:A:2127:G:P	2.76	0.43
10:A:483:A:C4'	30:Y:47:LYS:HD3	2.47	0.43
24:S:14:VAL:O	24:S:15:ARG:C	2.55	0.43
2:1:20:ARG:CD	2:1:41:ARG:HD3	2.23	0.43
10:A:188:G:H2'	10:A:189:G:H5'	2.00	0.43
10:A:611:C:O2'	10:A:612:C:H5'	2.18	0.43
13:D:35:LYS:CE	13:D:104:TYR:HB2	2.48	0.43
13:D:63:ARG:CG	13:D:63:ARG:HH11	2.24	0.43
9:8:35:GLN:CB	10:A:2420:C:OP1	2.66	0.43
10:A:955:C:C5'	22:Q:14:ARG:HH21	2.31	0.43
16:G:86:MET:CB	16:G:87:PRO:CD	2.96	0.43
23:R:39:PRO:O	23:R:40:LYS:C	2.56	0.43
17:H:53:GLU:CD	17:H:54:ARG:H	2.22	0.43
10:A:2684:U:O2'	10:A:2685:G:H5'	2.18	0.43
20:O:1:MET:HB2	20:O:32:TYR:CD2	2.52	0.43
31:Z:6:LYS:CB	31:Z:8:TYR:HE1	2.29	0.43
10:A:1018:C:O2'	10:A:1019:U:H5'	2.18	0.43
20:O:16:ALA:HA	20:O:46:ALA:CA	2.46	0.43
22:Q:34:LEU:CD1	22:Q:129:THR:HB	2.48	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:U:35:ALA:O	26:U:36:ARG:C	2.57	0.43
15:F:139:PHE:C	15:F:139:PHE:CD2	2.91	0.43
12:C:49:ILE:O	12:C:51:PRO:HD3	2.19	0.43
10:A:66:C:O2'	10:A:67:U:H5'	2.18	0.43
22:Q:51:ARG:O	22:Q:52:VAL:C	2.55	0.43
10:A:344:G:H5'	10:A:344:G:C8	2.43	0.43
14:E:24:THR:HB	14:E:186:GLY:HA2	2.01	0.43
10:A:1722:A:C6	10:A:1741:A:N1	2.86	0.43
31:Z:108:PRO:CA	31:Z:142:SER:HA	2.48	0.43
23:R:76:VAL:CG1	23:R:77:ARG:N	2.80	0.43
10:A:1177:A:H5''	10:A:1178:C:O5'	2.19	0.43
10:A:1176:G:O2'	10:A:1177:A:O5'	2.34	0.43
20:O:86:ILE:HG22	20:O:87:ILE:N	2.32	0.43
20:O:87:ILE:HD13	20:O:93:PRO:HA	1.99	0.43
4:3:12:PRO:O	4:3:15:TYR:HD1	2.00	0.43
31:Z:116:VAL:HG12	31:Z:117:LEU:O	2.18	0.43
17:H:116:GLU:HG2	17:H:117:PRO:N	2.33	0.43
7:6:45:LYS:HZ1	10:A:2370:G:N2	2.09	0.43
10:A:2617:C:H2'	10:A:2618:G:H5'	1.99	0.43
10:A:2642:G:H5''	19:N:79:PRO:HG3	2.00	0.43
10:A:2291:U:H2'	10:A:2292:C:H6	1.82	0.43
10:A:869:G:H2'	10:A:870:A:O4'	2.19	0.43
10:A:738:G:HO2'	10:A:739:G:H5'	1.83	0.43
10:A:646:A:H3'	10:A:647:G:C8	2.50	0.43
23:R:69:ASP:C	23:R:70:LEU:O	2.56	0.43
13:D:218:ARG:HB3	13:D:219:PRO:HD2	2.00	0.43
10:A:231:C:H2'	10:A:232:G:O4'	2.18	0.43
10:A:1210:A:H5'	10:A:1211:U:H2'	2.00	0.43
31:Z:100:VAL:HG21	31:Z:134:PRO:HG2	2.00	0.43
10:A:1156:A:H4'	10:A:1157:G:OP2	2.18	0.43
3:2:52:ASP:O	3:2:55:ARG:HB2	2.19	0.43
10:A:910:A:C6	10:A:911:A:C6	3.06	0.43
30:Y:81:LYS:HA	30:Y:82:PRO:HD3	1.82	0.43
11:B:76:G:O4'	31:Z:85:HIS:CD2	2.71	0.43
31:Z:48:PHE:CD1	31:Z:48:PHE:C	2.92	0.43
27:V:61:VAL:O	27:V:99:ILE:HB	2.17	0.43
27:V:78:LYS:C	27:V:78:LYS:CD	2.83	0.43
19:N:58:ASP:O	19:N:60:ILE:N	2.51	0.43
10:A:2472:G:H2'	10:A:2529:G:H21	1.75	0.43
22:Q:63:LYS:HB2	22:Q:63:LYS:HZ3	1.83	0.43
10:A:271(C):C:H2'	10:A:271(D):G:C8	2.52	0.43
1:0:43:THR:HG23	1:0:43:THR:O	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:21:VAL:C	28:W:23:LEU:N	2.71	0.43
16:G:23:PHE:CZ	16:G:171:ALA:HB3	2.41	0.43
10:A:1231:G:H2'	10:A:1232:G:C8	2.46	0.43
10:A:2689:U:H4'	10:A:2690:C:C6	2.47	0.43
10:A:2642:G:O2'	10:A:2643:G:H5'	2.19	0.43
27:V:66:ARG:NE	27:V:94:LEU:HG	2.33	0.43
15:F:10:PRO:CG	15:F:11:VAL:H	2.30	0.43
10:A:1775:U:H2'	10:A:1776:G:O5'	2.19	0.43
15:F:170:LEU:HD23	15:F:172:TRP:CE2	2.54	0.43
10:A:855:G:C6	10:A:856:C:N4	2.86	0.43
16:G:139:LEU:C	16:G:139:LEU:CD1	2.87	0.43
10:A:1831:G:H2'	10:A:1832:C:C6	2.51	0.43
1:O:1:MET:N	10:A:2602:A:N6	2.67	0.43
10:A:223:A:C2	10:A:422:A:C8	3.06	0.43
7:6:40:CYS:HB2	7:6:46:HIS:CE1	2.53	0.43
10:A:332:A:O2'	10:A:333:G:P	2.76	0.43
10:A:521:G:H2'	10:A:522:G:C8	2.53	0.43
10:A:1362:C:C2'	10:A:1363:C:H5'	2.48	0.43
18:I:102:SER:HA	18:I:107:VAL:O	2.19	0.43
6:5:12:SER:C	6:5:14:ALA:N	2.70	0.43
20:O:27:GLY:C	20:O:29:ASN:H	2.22	0.43
10:A:537:C:C2	10:A:538:G:C8	3.07	0.43
24:S:28:VAL:HB	24:S:97:ARG:NH1	2.34	0.43
2:1:17:SER:O	2:1:44:PRO:HD2	2.18	0.43
10:A:189:G:H2'	10:A:205:G:H22	1.82	0.43
14:E:77:ILE:C	14:E:78:LEU:HD23	2.38	0.43
16:G:71:THR:HG22	16:G:72:ARG:N	2.33	0.43
10:A:2869:G:H2'	10:A:2870:C:O4'	2.18	0.43
17:H:70:THR:O	17:H:71:LEU:C	2.56	0.43
10:A:1885:A:C8	10:A:1885:A:H5'	2.54	0.43
19:N:130:HIS:CG	19:N:130:HIS:O	2.71	0.43
3:2:30:ARG:HB3	29:X:11:PRO:HD3	2.00	0.43
22:Q:43:THR:N	22:Q:46:GLN:OE1	2.51	0.43
26:U:26:GLY:O	26:U:27:LEU:C	2.57	0.43
10:A:2189:U:H3'	10:A:2190:G:C5'	2.40	0.43
10:A:2286:A:O2'	10:A:2286:A:C8	2.72	0.43
28:W:21:VAL:C	28:W:23:LEU:H	2.22	0.43
15:F:16:GLY:O	15:F:17:ARG:CG	2.67	0.43
15:F:8:GLN:HB3	15:F:126:VAL:CA	2.43	0.43
25:T:3:ARG:HB2	25:T:6:LEU:HB3	1.99	0.43
10:A:2580:U:H4'	14:E:130:GLY:HA2	2.00	0.43
13:D:9:TYR:C	13:D:10:THR:HG22	2.38	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:P:110:TYR:CD2	21:P:111:ARG:HD3	2.53	0.43
10:A:2851:A:C4	10:A:2852:G:C8	3.06	0.43
16:G:21:ARG:O	16:G:22:ARG:C	2.57	0.43
10:A:271(J):C:C3'	10:A:271(K):U:H5''	2.48	0.43
12:C:38:ASP:O	12:C:180:PHE:HA	2.19	0.43
13:D:247:ALA:CA	13:D:254:THR:HG22	2.48	0.43
27:V:82:ARG:O	27:V:82:ARG:HD2	2.19	0.43
12:C:196:LEU:C	12:C:198:ALA:N	2.72	0.43
10:A:2385:C:H2'	10:A:2386:C:C6	2.53	0.43
31:Z:11:GLU:CD	31:Z:11:GLU:H	2.21	0.43
18:I:145:VAL:CG1	18:I:146:ALA:N	2.76	0.43
26:U:90:VAL:C	26:U:92:ARG:H	2.22	0.43
27:V:70:ILE:CG1	27:V:71:LEU:N	2.70	0.43
24:S:18:ILE:HA	24:S:18:ILE:HD12	1.80	0.43
30:Y:68:HIS:ND1	30:Y:69:ALA:N	2.67	0.43
13:D:71:ASP:CB	13:D:103:ARG:HH22	2.29	0.43
13:D:80:ALA:O	13:D:81:ALA:HB2	2.19	0.43
16:G:39:ILE:HD12	16:G:39:ILE:C	2.39	0.43
28:W:24:ILE:O	28:W:25:ARG:C	2.56	0.43
10:A:1578:U:OP2	10:A:1578:U:H6	2.01	0.43
6:5:50:GLY:HA3	6:5:56:LYS:CB	2.49	0.43
22:Q:41:TRP:C	22:Q:42:ILE:HD12	2.39	0.43
15:F:68:LYS:O	15:F:69:HIS:CD2	2.71	0.43
10:A:627:A:N7	21:P:84:ASN:ND2	2.64	0.43
10:A:1350:C:H2'	10:A:1351:C:H6	1.84	0.43
10:A:1822:G:O2'	10:A:1823:G:H5'	2.18	0.43
7:6:19:ARG:HB2	7:6:20:ASN:H	1.64	0.43
10:A:2883:A:H3'	10:A:2884:U:H5'	2.01	0.43
10:A:2859:G:O2'	10:A:2860:A:O5'	2.37	0.43
14:E:108:SER:OG	14:E:163:GLU:HG2	2.18	0.43
10:A:2543:G:C2	10:A:2544:G:C4	3.07	0.43
27:V:25:LEU:HG	27:V:94:LEU:HD13	2.00	0.43
10:A:1013:C:O2'	10:A:1014:U:H5'	2.18	0.43
10:A:2861:G:C2'	10:A:2862:G:H5'	2.48	0.43
31:Z:130:PRO:HA	31:Z:133:ILE:HD11	2.01	0.43
14:E:149:ARG:HH11	14:E:149:ARG:HG3	1.83	0.43
17:H:82:GLY:O	17:H:135:GLY:O	2.37	0.43
10:A:616:G:H2'	10:A:618:C:O4'	2.18	0.43
10:A:1368:G:O2'	10:A:1369:G:H5'	2.19	0.43
10:A:2236:C:C2'	10:A:2237:G:H5'	2.49	0.43
10:A:1851:U:C2'	10:A:1852:C:H5'	2.48	0.43
10:A:2702:U:O2'	10:A:2703:C:H6	2.02	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:994:C:H3'	26:U:54:LYS:HE2	2.00	0.43
14:E:70:ALA:O	14:E:71:GLY:C	2.57	0.43
13:D:34:VAL:O	13:D:35:LYS:HB2	2.19	0.43
2:1:78:LYS:HZ2	2:1:90:ILE:HA	1.84	0.43
19:N:43:THR:HB	19:N:46:VAL:CG1	2.49	0.43
17:H:65:HIS:ND1	17:H:66:GLY:N	2.67	0.43
30:Y:81:LYS:HD3	30:Y:97:ARG:N	2.32	0.43
20:O:31:LYS:C	20:O:32:TYR:HD1	2.22	0.43
22:Q:141:GLN:HE22	31:Z:89:PHE:HB2	1.83	0.43
29:X:57:LEU:HB2	29:X:76:ARG:HD2	2.00	0.43
10:A:9:U:HO2'	10:A:10:G:P	2.42	0.43
15:F:67:GLN:O	15:F:67:GLN:HG3	2.15	0.43
1:0:60:PHE:CE2	10:A:2365:G:H4'	2.54	0.43
10:A:344:G:O2'	10:A:345:A:H5'	2.19	0.43
10:A:1380:G:C2	10:A:1381:G:C8	3.07	0.43
23:R:11:ASN:CG	23:R:12:ARG:N	2.72	0.43
10:A:470:A:OP1	15:F:59:TYR:HE2	2.01	0.43
14:E:79:ARG:CG	14:E:79:ARG:NH1	2.80	0.43
17:H:102:ALA:CB	17:H:117:PRO:HD3	2.49	0.43
10:A:2691:C:C6	10:A:2872:G:N1	2.87	0.43
11:B:15:A:C3'	11:B:16:G:C5'	2.94	0.43
25:T:120:ARG:HA	25:T:123:GLN:CD	2.38	0.43
20:O:119:PRO:O	20:O:120:GLU:CB	2.66	0.43
26:U:101:ARG:HB3	26:U:102:GLU:OE2	2.18	0.43
10:A:2850:A:H2'	10:A:2851:A:C8	2.53	0.43
15:F:201:VAL:HG13	15:F:202:PHE:N	2.34	0.43
10:A:2572:A:C8	14:E:144:ARG:NE	2.87	0.43
1:0:11:ARG:CB	1:0:11:ARG:NH1	2.81	0.43
10:A:1243:G:H4'	21:P:9:ASN:HD22	1.83	0.43
10:A:687:C:H2'	10:A:687:C:O2	2.19	0.43
27:V:76:LYS:HG2	27:V:85:LYS:HG2	2.01	0.43
12:C:79:LYS:O	12:C:96:GLY:HA3	2.19	0.43
10:A:2841:C:C2	10:A:2877:G:C2	3.07	0.43
18:I:127:VAL:C	18:I:128:LEU:HD12	2.39	0.43
18:I:79:ILE:HA	18:I:80:PRO:HD3	1.76	0.43
26:U:95:LEU:HD12	27:V:11:GLN:NE2	2.29	0.43
30:Y:71:LYS:CB	30:Y:71:LYS:NZ	2.80	0.43
10:A:631:A:OP1	21:P:64:LYS:CE	2.67	0.43
22:Q:71:ASP:O	22:Q:73:PRO:HD3	2.18	0.43
10:A:2312:U:C3'	16:G:71:THR:HG21	2.49	0.43
23:R:85:PRO:C	23:R:87:TYR:N	2.72	0.43
10:A:1862:G:O2'	10:A:1863:G:H5'	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
30:Y:95:LYS:HD3	30:Y:100:ALA:HB1	2.01	0.43
10:A:7:G:O2'	10:A:8:A:H5'	2.19	0.43
22:Q:43:THR:O	22:Q:44:ALA:C	2.55	0.43
21:P:115:LEU:HD12	21:P:115:LEU:C	2.39	0.43
10:A:813:U:H2'	10:A:814:C:H6	1.83	0.43
16:G:7:LEU:H	16:G:104:GLU:CD	2.22	0.43
27:V:2:PHE:O	27:V:3:ALA:CB	2.65	0.43
10:A:1288:U:C2	10:A:1327:C:O2	2.72	0.43
13:D:248:SER:HB2	13:D:249:PRO:CD	2.49	0.43
22:Q:22:LYS:NZ	22:Q:22:LYS:CA	2.81	0.43
10:A:743:G:C2'	10:A:744:G:H5'	2.48	0.43
13:D:224:ALA:HB2	13:D:233:HIS:HB3	2.01	0.43
7:6:46:HIS:HB3	7:6:47:THR:N	2.34	0.43
10:A:2517:C:N3	10:A:2542:A:N6	2.66	0.43
31:Z:129:SER:HA	31:Z:130:PRO:HD3	1.89	0.43
10:A:2550:G:O2'	10:A:2551:C:H5'	2.19	0.43
10:A:214:G:H1'	10:A:216:A:O2'	2.19	0.43
10:A:800:A:H4'	10:A:801:G:O5'	2.19	0.43
10:A:907:U:O2'	22:Q:101:ARG:NH2	2.50	0.43
18:I:126:TYR:O	18:I:139:GLN:HG3	2.19	0.43
10:A:537:C:H2'	10:A:537:C:O2	2.19	0.43
13:D:193:VAL:O	13:D:193:VAL:HG13	2.17	0.43
24:S:28:VAL:O	24:S:89:ARG:CD	2.67	0.43
14:E:203:LYS:HD2	14:E:203:LYS:C	2.38	0.43
14:E:69:LYS:O	14:E:71:GLY:N	2.51	0.43
14:E:71:GLY:O	14:E:72:VAL:HB	2.19	0.43
2:1:47:GLN:NE2	10:A:2090:G:H21	2.16	0.43
16:G:85:GLY:O	16:G:87:PRO:CD	2.66	0.43
10:A:1863:G:H2'	10:A:1864:U:O4'	2.18	0.43
10:A:2263:C:H2'	10:A:2264:C:H5'	2.01	0.43
22:Q:104:PHE:CD1	22:Q:104:PHE:N	2.86	0.43
31:Z:155:LEU:HB2	31:Z:157:LEU:HD21	2.01	0.43
10:A:16:G:O2'	10:A:17:G:H5'	2.19	0.43
18:I:45:LYS:HG3	18:I:46:ALA:N	2.34	0.43
26:U:31:SER:HB3	26:U:34:LYS:CB	2.37	0.43
15:F:143:ALA:HA	15:F:146:ALA:CB	2.41	0.43
16:G:98:ARG:O	16:G:101:ILE:HG23	2.19	0.43
25:T:100:TYR:HD1	25:T:100:TYR:H	1.63	0.43
24:S:57:LYS:HG2	24:S:58:LEU:N	2.33	0.43
10:A:527:C:H4'	10:A:528:A:O4'	2.19	0.43
10:A:280:C:H2'	10:A:281:G:O5'	2.19	0.43
10:A:2013:A:O2'	10:A:2014:A:H5'	2.18	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:W:88:ARG:HG2	28:W:88:ARG:HH11	1.84	0.43
10:A:2736:G:O2'	10:A:2737:G:H5'	2.17	0.43
17:H:12:PRO:HB2	17:H:15:VAL:CG1	2.49	0.43
15:F:13:SER:HA	15:F:14:PRO:HD3	1.89	0.43
28:W:82:LEU:HD12	28:W:82:LEU:H	1.83	0.43
10:A:271(K):U:H3'	10:A:271(L):U:H5'	2.00	0.43
10:A:1643:G:H2'	10:A:1644:C:H6	1.83	0.43
23:R:44:LEU:HD13	23:R:44:LEU:O	2.18	0.43
10:A:2243:U:H2'	10:A:2244:U:C6	2.54	0.43
10:A:709:U:O2'	10:A:710:G:H5'	2.19	0.43
10:A:902:C:H2'	10:A:903:C:H6	1.84	0.43
10:A:935:C:H2'	10:A:936:C:H6	1.83	0.43
9:8:48:PHE:CD1	9:8:48:PHE:N	2.78	0.43
25:T:22:PHE:CD2	25:T:22:PHE:N	2.85	0.43
21:P:107:LYS:C	21:P:109:GLY:N	2.72	0.43
21:P:95:VAL:HG22	21:P:123:LEU:HD12	2.01	0.43
14:E:69:LYS:HE2	14:E:69:LYS:CA	2.49	0.43
30:Y:14:LEU:HD11	30:Y:22:GLY:HA2	2.01	0.43
21:P:46:LYS:HB3	21:P:52:GLU:HG2	2.00	0.43
13:D:149:PRO:O	13:D:150:LYS:HB2	2.19	0.43
13:D:92:ILE:CD1	13:D:92:ILE:C	2.88	0.43
3:2:15:LYS:HG3	3:2:15:LYS:O	2.19	0.43
14:E:51:PHE:CD1	14:E:52:LEU:N	2.87	0.43
10:A:146:G:H8	10:A:146:G:H5'	1.84	0.43
23:R:27:SER:O	23:R:30:THR:N	2.52	0.43
17:H:121:ILE:HD11	17:H:140:LYS:HB3	2.00	0.43
18:I:15:VAL:C	18:I:17:GLN:H	2.22	0.43
30:Y:84:ARG:NH1	30:Y:97:ARG:HB2	2.34	0.43
10:A:2721:A:C4	10:A:2722:G:C8	3.06	0.43
10:A:2723:C:O2'	10:A:2724:C:H5'	2.18	0.43
10:A:1946:U:H2'	10:A:1947:C:H6	1.82	0.43
10:A:1798:U:C4	10:A:1819:A:C2	3.06	0.43
10:A:528:A:H2	10:A:2043:C:C4'	2.31	0.43
10:A:557:U:H2'	10:A:558:G:H8	1.84	0.43
1:0:51:VAL:HG23	1:0:80:HIS:HA	1.98	0.43
16:G:103:LEU:O	16:G:106:LEU:N	2.52	0.43
10:A:1221(A):C:C2	10:A:1229:G:C2	3.07	0.43
30:Y:65:ALA:O	30:Y:67:LEU:N	2.51	0.43
10:A:2795:G:N2	10:A:2796:U:HO2'	2.16	0.43
20:O:119:PRO:O	20:O:120:GLU:HB2	2.19	0.43
22:Q:10:ARG:HH11	22:Q:10:ARG:HB2	1.82	0.43
10:A:1050:A:C2	10:A:2751:G:C4	3.07	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:H:30:LYS:HG2	17:H:79:VAL:O	2.18	0.43
11:B:56:G:H5''	16:G:27:ASN:ND2	2.34	0.43
16:G:172:LEU:HD12	16:G:172:LEU:O	2.19	0.43
10:A:692:C:H2'	10:A:693:C:C6	2.54	0.43
10:A:987:G:H2'	10:A:988:A:O4'	2.19	0.43
10:A:226:G:C2	10:A:227:A:C6	3.06	0.43
11:B:66:A:O2'	11:B:67:G:O5'	2.37	0.43
26:U:92:ARG:NH1	27:V:11:GLN:N	2.67	0.42
25:T:89:VAL:HB	25:T:91:ARG:HE	1.83	0.42
30:Y:10:GLY:C	30:Y:27:VAL:HG22	2.39	0.42
30:Y:27:VAL:HG12	30:Y:29:GLU:OE1	2.19	0.42
30:Y:37:VAL:HG21	30:Y:72:VAL:HG11	2.00	0.42
10:A:613:G:C2	10:A:615:G:C5	3.06	0.42
15:F:203:GLN:O	15:F:206:ILE:C	2.57	0.42
9:8:58:ILE:O	9:8:61:LEU:HG	2.19	0.42
10:A:2313:C:O2'	10:A:2314:C:H5'	2.19	0.42
16:G:39:ILE:CD1	16:G:155:MET:SD	3.06	0.42
10:A:2762:G:H2'	10:A:2763:G:C5'	2.27	0.42
10:A:571:A:O2'	10:A:573:G:O5'	2.36	0.42
10:A:1496:A:H8	10:A:1577:C:O2'	2.02	0.42
18:I:14:ASP:O	18:I:17:GLN:CB	2.66	0.42
30:Y:87:LYS:HG3	30:Y:88:LYS:H	1.84	0.42
10:A:1019:U:O2'	10:A:1021:A:H2	2.01	0.42
20:O:19:ILE:HD12	20:O:41:ALA:HB3	2.01	0.42
10:A:1494:A:O2'	10:A:1495:A:OP1	2.36	0.42
24:S:37:ALA:HB1	24:S:73:LEU:HD11	2.00	0.42
1:0:36:ILE:HD11	10:A:2355:C:O4'	2.18	0.42
10:A:2528:U:O2'	10:A:2529:G:H3'	2.19	0.42
22:Q:52:VAL:O	22:Q:55:VAL:CG1	2.67	0.42
20:O:3:GLN:HG3	20:O:4:PRO:HD2	2.01	0.42
13:D:4:LYS:HZ2	13:D:20:ASP:HA	1.80	0.42
10:A:1491:G:O4'	13:D:99:ASP:OD2	2.37	0.42
16:G:16:ARG:CG	16:G:16:ARG:HH11	2.32	0.42
30:Y:32:PRO:C	30:Y:34:LYS:N	2.73	0.42
10:A:2693:A:H2'	10:A:2694:G:C8	2.47	0.42
10:A:1657:C:H2'	10:A:1658:C:H6	1.83	0.42
10:A:1809:A:H2'	10:A:1810:A:C8	2.54	0.42
10:A:708:C:H42	10:A:723:G:H1	1.66	0.42
7:6:47:THR:HG22	7:6:48:VAL:N	2.33	0.42
10:A:311:A:O4'	10:A:332:A:C4	2.72	0.42
15:F:77:ASP:C	15:F:79:GLY:N	2.73	0.42
25:T:106:SER:O	25:T:107:ASP:CB	2.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:220:G:H2'	10:A:427:U:O4	2.19	0.42
10:A:2740:A:C6	10:A:2764:A:C8	3.07	0.42
10:A:1932:A:H2'	10:A:1933:G:O4'	2.19	0.42
18:I:133:HIS:CD2	18:I:133:HIS:N	2.87	0.42
11:B:9:G:P	24:S:17:ARG:HH11	2.42	0.42
21:P:105:LEU:HD12	21:P:105:LEU:H	1.83	0.42
13:D:68:LYS:HB2	13:D:70:TRP:CH2	2.54	0.42
9:8:13:ARG:CD	21:P:61:ARG:NH1	2.82	0.42
10:A:2496:C:P	22:Q:81:VAL:HG13	2.58	0.42
31:Z:118:GLN:HG2	31:Z:120:ILE:HD13	2.01	0.42
16:G:90:LEU:HA	16:G:90:LEU:HD12	1.77	0.42
24:S:66:ALA:O	24:S:67:ARG:CB	2.68	0.42
10:A:1697:G:OP2	10:A:1698:A:H2'	2.19	0.42
29:X:27:THR:HA	29:X:78:LYS:HA	2.01	0.42
10:A:1141:U:OP1	19:N:25:ARG:NH1	2.52	0.42
3:2:30:ARG:CD	3:2:30:ARG:H	2.14	0.42
22:Q:42:ILE:CD1	22:Q:42:ILE:N	2.82	0.42
31:Z:10:ARG:HB3	31:Z:36:LYS:C	2.39	0.42
13:D:186:HIS:HD2	13:D:188:GLU:N	1.99	0.42
15:F:68:LYS:O	15:F:69:HIS:HD2	2.02	0.42
21:P:55:ARG:HG2	21:P:56:SER:N	2.34	0.42
4:3:4:LEU:HB2	4:3:39:ASP:HB2	2.01	0.42
10:A:1355:G:C4	10:A:1356:G:C8	3.07	0.42
24:S:54:LEU:HD22	24:S:57:LYS:O	2.18	0.42
10:A:1819:A:H5''	13:D:158:ALA:HB3	2.00	0.42
23:R:104:ARG:NH1	23:R:104:ARG:CG	2.80	0.42
10:A:1510:G:H2'	10:A:1511:C:H6	1.81	0.42
23:R:18:LEU:C	23:R:18:LEU:CD1	2.84	0.42
23:R:18:LEU:O	23:R:18:LEU:HD13	2.19	0.42
10:A:322:A:H5'	10:A:340:A:H1'	2.00	0.42
6:5:6:VAL:HG13	6:5:7:PRO:CD	2.47	0.42
25:T:13:ARG:NH2	25:T:15:VAL:HG22	2.33	0.42
12:C:180:PHE:O	12:C:182:PRO:N	2.51	0.42
10:A:2124:G:O2'	10:A:2125:G:H5'	2.18	0.42
10:A:2385:C:H2'	10:A:2386:C:H6	1.84	0.42
8:7:2:LYS:HG2	10:A:1620:G:O2'	2.19	0.42
10:A:947:G:N3	10:A:984:A:H2	2.17	0.42
18:I:83:ALA:HA	18:I:89:TYR:HD1	1.81	0.42
10:A:2128:C:C3'	10:A:2129:C:H5''	2.49	0.42
26:U:74:LEU:HD23	26:U:114:LYS:CE	2.49	0.42
29:X:58:HIS:O	29:X:59:VAL:HG22	2.19	0.42
24:S:97:ARG:CG	24:S:97:ARG:O	2.66	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:200:GLU:O	14:E:201:THR:O	2.37	0.42
13:D:35:LYS:CE	13:D:64:ILE:C	2.83	0.42
10:A:1158:C:O2'	10:A:1159:U:C5'	2.66	0.42
2:1:62:VAL:O	2:1:64:ALA:N	2.52	0.42
10:A:414:C:O2	10:A:1864:U:O2'	2.29	0.42
18:I:15:VAL:C	18:I:17:GLN:N	2.73	0.42
31:Z:39:VAL:CG2	31:Z:40:ASP:H	2.06	0.42
31:Z:61:LEU:O	31:Z:63:ASP:N	2.52	0.42
31:Z:97:GLU:HB3	31:Z:125:LEU:HD21	2.01	0.42
27:V:18:LEU:O	27:V:98:GLU:HB3	2.19	0.42
10:A:2639:A:C2'	10:A:2640:G:C5'	2.91	0.42
29:X:21:PHE:CE1	29:X:26:TYR:HB3	2.54	0.42
22:Q:42:ILE:HD13	22:Q:97:VAL:CG2	2.50	0.42
22:Q:23:GLY:O	31:Z:78:LYS:HB3	2.18	0.42
18:I:136:VAL:HG22	18:I:136:VAL:O	2.19	0.42
6:5:20:ARG:O	6:5:21:SER:C	2.57	0.42
10:A:925:C:H3'	10:A:926:A:H5''	2.00	0.42
10:A:2308:G:N7	10:A:2310:A:O5'	2.51	0.42
10:A:1722:A:H2'	10:A:1739:U:C5'	2.41	0.42
29:X:83:VAL:C	29:X:85:PRO:HD3	2.40	0.42
10:A:1379:A:O2'	10:A:1380:G:OP1	2.38	0.42
20:O:89:ASN:C	20:O:91:LEU:H	2.22	0.42
20:O:87:ILE:HD13	20:O:93:PRO:N	2.35	0.42
4:3:20:LYS:C	4:3:22:ALA:N	2.72	0.42
3:2:36:ARG:HD3	3:2:36:ARG:O	2.17	0.42
15:F:57:VAL:HG12	15:F:58:ALA:H	1.73	0.42
10:A:2802:G:O2'	10:A:2803:C:H5''	2.18	0.42
16:G:10:LYS:O	16:G:11:TYR:C	2.57	0.42
10:A:747:U:O2'	28:W:88:ARG:HG3	2.19	0.42
10:A:819:A:C4	10:A:1189:A:C2	3.07	0.42
10:A:419:C:H2'	10:A:420:C:C6	2.45	0.42
10:A:1286:A:C6	10:A:1289:C:C2	3.06	0.42
10:A:320:A:C4	15:F:136:THR:HG21	2.53	0.42
10:A:298:G:C5'	10:A:299:A:OP1	2.65	0.42
13:D:222:ARG:O	13:D:223:GLY:O	2.37	0.42
14:E:197:ILE:CD1	14:E:199:ARG:HH12	2.32	0.42
10:A:554:U:H2'	10:A:555:U:H5'	2.02	0.42
10:A:2222:G:C4	10:A:2223:G:C8	3.08	0.42
6:5:41:PRO:HG2	6:5:44:THR:OG1	2.19	0.42
11:B:95:C:H2'	11:B:96:U:H6	1.84	0.42
19:N:119:ARG:HG3	19:N:119:ARG:HH11	1.84	0.42
27:V:72:VAL:O	27:V:73:SER:CB	2.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:89:ARG:C	24:S:92:TYR:HB3	2.40	0.42
10:A:2777:G:C5'	10:A:2778:A:H5'	2.49	0.42
14:E:1:MET:O	14:E:2:LYS:C	2.57	0.42
10:A:1245:G:H5''	21:P:16:ARG:HH21	1.84	0.42
13:D:27:THR:O	13:D:28:GLU:CB	2.66	0.42
2:1:9:GLY:O	2:1:10:LYS:HD3	2.20	0.42
2:1:66:HIS:C	2:1:68:PRO:CD	2.87	0.42
10:A:2178:C:C5'	12:C:46:LYS:HD2	2.50	0.42
3:2:41:ILE:O	3:2:44:LEU:N	2.50	0.42
29:X:36:LYS:HZ3	29:X:39:ILE:HA	1.73	0.42
9:8:41:ILE:HG13	9:8:42:ARG:N	2.34	0.42
21:P:32:THR:O	21:P:33:ARG:HB2	2.19	0.42
31:Z:58:VAL:HA	31:Z:67:LEU:O	2.19	0.42
19:N:13:TRP:HZ3	19:N:130:HIS:HE1	1.66	0.42
20:O:20:MET:O	20:O:41:ALA:CB	2.68	0.42
10:A:512:G:C2'	10:A:513:A:OP2	2.67	0.42
19:N:31:ALA:O	19:N:34:LEU:HB2	2.18	0.42
10:A:2863:C:C3'	10:A:2864:G:C5'	2.96	0.42
10:A:583:G:H5''	26:U:10:ARG:HH12	1.84	0.42
12:C:19:VAL:HB	12:C:20:TYR:HD1	1.83	0.42
13:D:117:VAL:HG22	13:D:118:VAL:H	1.85	0.42
10:A:1992:G:O2'	10:A:1993:U:OP2	2.32	0.42
27:V:39:LEU:HA	27:V:39:LEU:HD13	1.87	0.42
31:Z:141:VAL:HG13	31:Z:141:VAL:O	2.17	0.42
10:A:1290:C:H2'	10:A:1291:C:H6	1.82	0.42
8:7:9:ARG:HD2	10:A:1309:G:OP2	2.20	0.42
10:A:1657:C:H5''	14:E:133:LYS:O	2.19	0.42
20:O:45:GLU:HG3	20:O:45:GLU:O	2.19	0.42
10:A:1755:A:H2'	10:A:1756:G:H5'	2.01	0.42
10:A:703:U:H2'	10:A:704:G:C5'	2.48	0.42
10:A:2020:A:C2	10:A:2035:G:N1	2.86	0.42
11:B:85:G:H1	11:B:92:C:H42	1.66	0.42
11:B:66:A:HO2'	11:B:67:G:P	2.42	0.42
31:Z:9:TYR:HA	31:Z:9:TYR:HD2	1.74	0.42
10:A:2552:U:H3'	10:A:2554:U:OP2	2.19	0.42
10:A:2558:C:H2'	10:A:2559:C:O4'	2.19	0.42
10:A:2399:G:O6	10:A:2417:C:N3	2.53	0.42
18:I:140:LEU:HD12	18:I:141:LYS:H	1.84	0.42
26:U:111:GLU:HA	26:U:114:LYS:HD3	2.01	0.42
14:E:36:ARG:C	14:E:37:ARG:HG3	2.40	0.42
10:A:309:G:N3	10:A:329:G:O2'	2.52	0.42
10:A:396:G:O2'	10:A:397:G:H5'	2.19	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:X:39:ILE:C	29:X:42:ALA:HB3	2.39	0.42
9:8:25:MET:HG2	21:P:64:LYS:HB2	2.01	0.42
10:A:2754:U:H2'	10:A:2755:C:H5''	2.02	0.42
31:Z:44:PHE:CZ	31:Z:86:VAL:HG11	2.54	0.42
10:A:858:U:C2	10:A:2268:A:C2	3.07	0.42
10:A:676:A:C8	10:A:2443:C:H1'	2.54	0.42
10:A:1495:A:N3	10:A:1495:A:H2'	2.35	0.42
13:D:237:GLU:OE2	13:D:239:ARG:N	2.51	0.42
16:G:31:VAL:HG13	16:G:32:PRO:N	2.33	0.42
10:A:271(C):C:O2'	10:A:271(D):G:H5'	2.20	0.42
1:0:72:ARG:HB2	1:0:76:GLY:O	2.20	0.42
13:D:118:VAL:CG2	13:D:119:ALA:N	2.78	0.42
10:A:2038:G:H2'	10:A:2039:C:O4'	2.19	0.42
8:7:12:ARG:NH2	10:A:465:G:OP1	2.49	0.42
10:A:2748:A:H2'	10:A:2749:A:C8	2.55	0.42
10:A:893:C:C2'	10:A:894:C:H5'	2.46	0.42
20:O:2:ILE:HG13	20:O:8:LEU:HD11	2.01	0.42
18:I:47:LEU:O	18:I:51:ILE:HG12	2.19	0.42
10:A:402:A:C2'	10:A:403:U:H5'	2.49	0.42
10:A:759:G:O2'	10:A:760:G:H5'	2.20	0.42
10:A:2408:U:H6	10:A:2408:U:O5'	2.02	0.42
21:P:29:LYS:H	21:P:29:LYS:HD2	1.85	0.42
10:A:1854:A:H3'	10:A:1855:G:C8	2.54	0.42
10:A:1210:A:H4'	10:A:1211:U:O5'	2.18	0.42
10:A:1043:C:H6	10:A:1043:C:O5'	2.02	0.42
10:A:1691:C:O2'	10:A:1692:U:H5'	2.20	0.42
10:A:1048:A:H2'	10:A:1048:A:N3	2.35	0.42
10:A:480:A:H3'	10:A:481:G:H5''	2.01	0.42
24:S:89:ARG:HB3	24:S:97:ARG:NH1	2.32	0.42
14:E:93:VAL:O	14:E:95:ILE:N	2.53	0.42
30:Y:15:VAL:CG1	30:Y:17:SER:H	2.28	0.42
10:A:2230:G:C4	10:A:2231:C:C5	3.08	0.42
3:2:55:ARG:HB3	3:2:56:GLN:NE2	2.34	0.42
17:H:13:LYS:CA	17:H:13:LYS:HE2	2.31	0.42
31:Z:65:GLN:HB3	31:Z:67:LEU:HD11	2.01	0.42
10:A:2360:A:O2'	10:A:2361:A:C5'	2.68	0.42
10:A:2639:A:H3'	10:A:2640:G:C5'	2.49	0.42
17:H:46:GLU:O	17:H:47:GLU:CB	2.62	0.42
10:A:607:U:H5	10:A:619:G:C5	2.37	0.42
10:A:154:G:N1	10:A:154(A):C:N4	2.67	0.42
25:T:109:GLU:O	25:T:112:ARG:CG	2.60	0.42
15:F:180:GLY:O	15:F:181:LEU:C	2.58	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:548:A:O2'	10:A:549:G:OP1	2.31	0.42
10:A:635:C:O2'	10:A:639:U:OP1	2.37	0.42
24:S:58:LEU:HD12	24:S:59:LYS:H	1.84	0.42
28:W:17:VAL:HG23	28:W:18:ARG:N	2.34	0.42
10:A:2783:G:H2'	10:A:2784:C:C6	2.54	0.42
10:A:1002:G:H2'	10:A:1003:G:O4'	2.19	0.42
10:A:1216:G:N2	10:A:1234:U:H1'	2.35	0.42
10:A:485:C:N3	10:A:496:G:C2	2.87	0.42
10:A:1256:G:C4	10:A:1257:C:C5	3.08	0.42
10:A:560:C:H4'	26:U:52:ARG:CZ	2.49	0.42
16:G:170:ARG:HG2	16:G:170:ARG:NH1	2.33	0.42
13:D:134:ARG:HB2	13:D:135:PHE:HD1	1.83	0.42
10:A:2256:G:H2'	10:A:2257:U:O4'	2.20	0.42
27:V:82:ARG:HH11	27:V:82:ARG:CG	2.33	0.42
11:B:94:C:O2'	11:B:95:C:H5'	2.20	0.42
10:A:432:A:H2'	10:A:433:C:C6	2.54	0.42
10:A:1029:A:H2'	10:A:1030:G:O4'	2.19	0.42
31:Z:68:PRO:O	31:Z:91:LEU:N	2.49	0.42
15:F:93:LYS:HA	15:F:93:LYS:HD3	1.87	0.42
14:E:66:HIS:O	14:E:66:HIS:CG	2.72	0.42
18:I:98:ALA:HA	18:I:109:ILE:HD13	2.00	0.42
30:Y:44:ILE:HG22	30:Y:45:VAL:N	2.34	0.42
11:B:9:G:OP1	24:S:17:ARG:NH1	2.41	0.42
2:1:62:VAL:HG11	2:1:67:ILE:HA	2.02	0.42
14:E:74:PRO:O	14:E:76:ARG:N	2.52	0.42
9:8:35:GLN:HB3	10:A:2420:C:OP1	2.20	0.42
10:A:955:C:H5'	10:A:956:G:P	2.59	0.42
16:G:115:ARG:NH2	16:G:136:ARG:CG	2.80	0.42
23:R:27:SER:O	23:R:29:LEU:N	2.52	0.42
19:N:40:PRO:C	26:U:64:ARG:HH21	2.21	0.42
30:Y:81:LYS:HE2	30:Y:97:ARG:HG3	2.01	0.42
31:Z:45:ASP:OD2	31:Z:49:ARG:HG2	2.20	0.42
29:X:12:VAL:O	29:X:13:LEU:HD23	2.20	0.42
27:V:22:VAL:HG12	27:V:22:VAL:O	2.19	0.42
17:H:27:LYS:HG2	17:H:32:GLU:OE1	2.20	0.42
6:5:50:GLY:HA3	6:5:56:LYS:HB3	2.01	0.42
14:E:12:THR:O	14:E:23:VAL:HG22	2.19	0.42
8:7:19:ARG:CG	8:7:19:ARG:NH1	2.81	0.42
24:S:34:HIS:CE1	24:S:54:LEU:HB2	2.55	0.42
1:0:49:LYS:O	1:0:80:HIS:HB3	2.19	0.42
10:A:1813:G:H1'	13:D:50:THR:OG1	2.19	0.42
10:A:247:G:H4'	10:A:386:G:C6	2.54	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:F:107:LYS:O	15:F:108:LYS:C	2.58	0.42
1:O:1:MET:N	10:A:2602:A:H61	2.17	0.42
10:A:981:A:H2	10:A:2027:G:N3	2.18	0.42
10:A:912:C:H2'	10:A:913:U:C6	2.54	0.42
29:X:8:ILE:N	29:X:8:ILE:HD12	2.35	0.42
10:A:927:G:H3'	10:A:928:G:C8	2.53	0.42
25:T:10:VAL:O	25:T:12:SER:N	2.52	0.42
15:F:127:GLU:OE1	15:F:127:GLU:HA	2.19	0.42
12:C:92:ASP:CG	12:C:93:TYR:N	2.73	0.42
18:I:79:ILE:HG22	18:I:81:VAL:HG23	2.00	0.42
10:A:1594:G:H2'	10:A:1595:G:O4'	2.20	0.42
10:A:535:C:O2'	10:A:536:A:H5'	2.19	0.42
30:Y:13:VAL:CG1	30:Y:72:VAL:HB	2.50	0.42
3:2:12:GLU:C	3:2:14:ARG:H	2.22	0.42
9:8:13:ARG:HD2	21:P:61:ARG:HD3	2.01	0.42
10:A:878:A:H2'	10:A:879:G:C5'	2.50	0.42
11:B:75:G:H2'	11:B:76:G:H5'	2.00	0.42
13:D:268:ARG:HB3	13:D:268:ARG:CZ	2.50	0.42
10:A:2012:G:H4'	28:W:96:ILE:CD1	2.38	0.42
17:H:94:TYR:CD1	17:H:94:TYR:N	2.87	0.42
26:U:26:GLY:O	26:U:28:ARG:N	2.53	0.42
15:F:164:ARG:NH1	15:F:164:ARG:HG2	2.35	0.42
10:A:271(Q):G:O2'	10:A:271(R):G:P	2.77	0.42
10:A:2406:U:C2	21:P:72:PRO:HB2	2.55	0.42
24:S:37:ALA:CB	24:S:73:LEU:HD11	2.49	0.42
12:C:51:PRO:HB3	12:C:204:ALA:HB2	2.02	0.42
10:A:66:C:C2'	10:A:67:U:H5'	2.49	0.42
27:V:43:GLU:CA	27:V:48:GLY:HA2	2.49	0.42
10:A:2810:A:C4	14:E:61:ARG:NH2	2.88	0.42
10:A:2328:A:H2'	10:A:2329:G:C8	2.55	0.42
10:A:440:G:N2	15:F:46:ARG:HH21	2.15	0.42
13:D:133:LEU:HG	13:D:189:CYS:O	2.20	0.42
19:N:78:TYR:H	19:N:79:PRO:CD	2.33	0.42
26:U:101:ARG:C	26:U:102:GLU:HG2	2.40	0.42
10:A:2511:U:H5''	14:E:123:ALA:HB1	2.02	0.42
10:A:306:U:O2'	10:A:307:G:H5'	2.20	0.42
10:A:1317:A:H2'	10:A:1318:C:O4'	2.20	0.42
20:O:44:LYS:O	20:O:45:GLU:HB3	2.20	0.42
18:I:33:ARG:NH1	18:I:33:ARG:HG2	2.33	0.42
10:A:1149:G:O2'	10:A:1150:C:H5'	2.19	0.42
10:A:2124:G:H2'	10:A:2125:G:O4'	2.18	0.42
13:D:53:PHE:CD1	13:D:220:HIS:HA	2.55	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:D:263:ARG:O	13:D:264:LYS:C	2.57	0.42
10:A:2073:C:H42	10:A:2436:G:H1	1.67	0.42
19:N:87:LEU:O	19:N:88:GLU:C	2.57	0.42
6:5:36:CYS:C	6:5:38:ALA:H	2.23	0.42
13:D:175:LEU:HA	13:D:175:LEU:HD23	1.85	0.42
10:A:993:G:C4	10:A:994:C:C5	3.08	0.42
10:A:536:A:H5'	26:U:53:ARG:HD3	2.01	0.42
30:Y:61:ILE:O	30:Y:62:GLU:O	2.37	0.42
24:S:84:GLN:HE21	24:S:105:ALA:HB1	1.84	0.42
14:E:48:GLN:HE21	14:E:78:LEU:HD12	1.85	0.42
13:D:252:TRP:O	13:D:253:GLN:C	2.57	0.42
2:1:60:PHE:CD1	2:1:70:VAL:HG22	2.43	0.42
9:8:62:LEU:HD13	10:A:242:G:C5'	2.24	0.42
23:R:85:PRO:C	23:R:87:TYR:H	2.23	0.42
10:A:2723:C:OP1	23:R:2:ARG:NH1	2.53	0.42
10:A:2640:G:C2'	10:A:2641:G:O5'	2.68	0.42
17:H:146:ALA:O	17:H:148:ILE:N	2.53	0.42
12:C:20:TYR:CD1	12:C:20:TYR:N	2.88	0.42
20:O:87:ILE:HD12	20:O:91:LEU:C	2.40	0.42
10:A:2813:A:H2'	10:A:2814:C:H5'	2.02	0.42
6:5:3:LYS:HD2	6:5:3:LYS:HA	1.88	0.42
10:A:1140:C:OP1	19:N:23:LEU:HD23	2.19	0.42
10:A:1842:G:H2'	10:A:1843:C:H6	1.81	0.42
10:A:1050:A:O2'	10:A:2752:C:H1'	2.20	0.42
10:A:2097:C:O2'	10:A:2098:U:H5'	2.19	0.42
10:A:978:G:C2	10:A:986:C:N3	2.88	0.42
10:A:1119:C:O2'	10:A:1120:G:H5'	2.20	0.42
10:A:425:G:O2'	10:A:426:C:H5'	2.20	0.42
19:N:35:ARG:O	19:N:37:LYS:N	2.53	0.42
18:I:120:ILE:HG21	18:I:126:TYR:HE1	1.81	0.42
10:A:1593:G:C2'	10:A:1594:G:C5'	2.96	0.42
13:D:142:VAL:HG22	13:D:143:HIS:N	2.34	0.42
24:S:84:GLN:O	24:S:85:VAL:CG1	2.68	0.42
25:T:28:VAL:HG21	25:T:46:GLU:HA	2.01	0.42
14:E:35:GLN:HE22	14:E:37:ARG:HH21	1.67	0.42
10:A:1899:G:HO2'	10:A:1900:A:H5''	1.85	0.42
30:Y:28:LYS:HB2	30:Y:37:VAL:HB	2.02	0.42
10:A:194:G:H2'	10:A:195:A:O4'	2.19	0.42
3:2:15:LYS:O	3:2:16:LEU:HB2	2.20	0.42
7:6:10:LEU:H	7:6:10:LEU:CD2	2.32	0.42
7:6:10:LEU:HD13	9:8:36:LYS:HD3	2.01	0.42
10:A:2495:G:H5''	22:Q:81:VAL:HG22	2.02	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:R:54:LEU:C	23:R:56:LYS:N	2.73	0.42
10:A:2713:A:C3'	10:A:2714:G:H5'	2.50	0.42
20:O:47:ILE:HA	20:O:47:ILE:HD12	1.92	0.42
26:U:65:ILE:O	26:U:68:ALA:HB3	2.20	0.42
10:A:572:A:H5''	10:A:573:G:OP2	2.20	0.42
17:H:147:ASN:HD22	17:H:147:ASN:N	2.18	0.42
10:A:2723:C:OP1	23:R:2:ARG:CZ	2.68	0.42
17:H:152:ARG:HB3	17:H:161:GLY:CA	2.32	0.42
29:X:57:LEU:HD21	29:X:77:LYS:NZ	2.35	0.42
17:H:94:TYR:N	17:H:94:TYR:HD1	2.18	0.42
19:N:28:THR:O	19:N:31:ALA:N	2.52	0.42
10:A:581:C:OP1	26:U:33:ARG:HG2	2.20	0.42
10:A:1528:A:O2'	10:A:1528(A):A:P	2.78	0.42
6:5:40:LYS:HE2	6:5:48:GLU:OE2	2.20	0.42
6:5:47:PRO:C	6:5:48:GLU:HG3	2.40	0.42
10:A:464:U:H2'	10:A:465:G:O4'	2.20	0.42
10:A:1517:G:C2'	10:A:1518:U:H5'	2.50	0.42
11:B:21:G:O2'	11:B:22:U:C5'	2.67	0.42
10:A:848:G:C2	10:A:933:A:H1'	2.54	0.42
28:W:40:ASN:C	28:W:41:LYS:HG2	2.38	0.42
10:A:1006:C:O2'	10:A:1007:C:H5'	2.20	0.42
7:6:51:GLU:HG2	7:6:52:VAL:N	2.34	0.42
10:A:1106:A:O2'	10:A:1107:G:O4'	2.32	0.42
31:Z:131:ARG:HG2	31:Z:131:ARG:NH1	2.35	0.42
10:A:1473:G:C6	10:A:1474:C:C4	3.07	0.42
28:W:106:ILE:O	28:W:106:ILE:HG13	2.20	0.42
10:A:1252:G:C2	10:A:1253:A:C2	3.08	0.42
20:O:53:LYS:O	20:O:56:ASP:CG	2.58	0.42
18:I:86:THR:HA	18:I:122:GLU:OE2	2.20	0.41
18:I:115:ALA:HB3	18:I:129:THR:O	2.20	0.41
11:B:6:C:H4'	11:B:28:C:H5'	2.02	0.41
11:B:9:G:P	24:S:17:ARG:NH1	2.93	0.41
25:T:91:ARG:HB3	25:T:115:ARG:O	2.20	0.41
14:E:176:ILE:CD1	14:E:176:ILE:N	2.81	0.41
14:E:29:GLY:O	14:E:30:PRO:C	2.57	0.41
30:Y:6:HIS:HE1	30:Y:30:VAL:HG11	1.85	0.41
2:1:48:LYS:O	2:1:49:VAL:CB	2.68	0.41
2:1:87:PRO:N	2:1:89:GLU:OE2	2.53	0.41
21:P:68:GLN:O	21:P:68:GLN:HG3	2.20	0.41
17:H:141:VAL:HG12	17:H:142:GLY:H	1.84	0.41
14:E:120:TRP:HB2	14:E:122:PHE:CD1	2.55	0.41
10:A:590:A:H2'	10:A:591:C:C6	2.55	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:C:168:THR:HA	12:C:173:ALA:CB	2.32	0.41
31:Z:165:VAL:HG12	31:Z:166:SER:N	2.35	0.41
10:A:2359:C:H2'	10:A:2360:A:C8	2.55	0.41
10:A:495:G:H21	28:W:61:ASN:HD21	1.68	0.41
10:A:389:G:H8	10:A:389:G:O5'	2.02	0.41
21:P:71:VAL:C	21:P:73:GLY:N	2.73	0.41
14:E:153:GLY:O	14:E:154:LYS:C	2.56	0.41
27:V:44:LYS:HG2	27:V:45:THR:H	1.85	0.41
10:A:1353:A:H2'	10:A:1354:A:C8	2.55	0.41
20:O:89:ASN:O	20:O:91:LEU:CD2	2.66	0.41
10:A:528:A:H5'	19:N:111:PRO:HG3	2.01	0.41
16:G:66:GLN:OE1	16:G:94:LEU:HD22	2.20	0.41
17:H:153:LYS:N	17:H:153:LYS:CD	2.79	0.41
20:O:119:PRO:O	25:T:68:TYR:CE1	2.73	0.41
20:O:119:PRO:HB2	25:T:68:TYR:HE1	1.85	0.41
28:W:57:ASN:O	28:W:58:ALA:C	2.57	0.41
25:T:134:GLU:O	25:T:135:ALA:HB3	2.19	0.41
17:H:60:ARG:O	17:H:64:LEU:HG	2.20	0.41
10:A:901:A:H5'	10:A:902:C:OP2	2.20	0.41
16:G:120:LEU:H	16:G:181:ARG:H	1.67	0.41
10:A:1399:C:O2'	10:A:1400:G:H5'	2.20	0.41
10:A:1031:G:N2	10:A:1124:C:C2	2.88	0.41
10:A:2567:G:H2'	10:A:2568:C:C6	2.54	0.41
10:A:261:G:C2	10:A:262:A:C8	3.08	0.41
5:4:42:PHE:C	5:4:44:THR:N	2.73	0.41
10:A:2880:C:O2	23:R:93:GLY:N	2.53	0.41
10:A:1410:G:N1	10:A:1593:G:C6	2.88	0.41
14:E:35:GLN:HB3	14:E:48:GLN:HB3	2.01	0.41
15:F:53:THR:HG23	15:F:56:GLU:H	1.85	0.41
10:A:1482:G:H2'	10:A:1484:G:C8	2.55	0.41
22:Q:11:LYS:CE	22:Q:86:GLY:O	2.68	0.41
23:R:65:LEU:HA	23:R:65:LEU:HD12	1.87	0.41
30:Y:84:ARG:HH11	30:Y:97:ARG:HA	1.84	0.41
22:Q:34:LEU:HD11	22:Q:129:THR:CB	2.50	0.41
2:1:33:LYS:HB3	10:A:2395:C:O2'	2.19	0.41
18:I:72:LEU:HD12	18:I:138:ILE:HG21	2.02	0.41
10:A:65:C:O2'	10:A:66:C:H5'	2.20	0.41
10:A:2729:G:C4	10:A:2730:C:C5	3.08	0.41
10:A:1039:G:O2'	10:A:1040:C:H5'	2.19	0.41
10:A:1478:G:O2'	10:A:1558:A:C2	2.74	0.41
30:Y:54:LYS:HG2	30:Y:55:TYR:N	2.35	0.41
20:O:104:ARG:CZ	20:O:104:ARG:HB3	2.50	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1014:U:C2	10:A:1149:G:N2	2.88	0.41
10:A:986:C:O2'	10:A:987:G:H5'	2.21	0.41
10:A:710:G:O2'	10:A:711:G:H5'	2.20	0.41
13:D:257:LEU:CD2	13:D:257:LEU:C	2.89	0.41
16:G:51:ARG:NE	16:G:51:ARG:HA	2.34	0.41
29:X:58:HIS:O	29:X:59:VAL:CG1	2.62	0.41
10:A:626:U:N3	21:P:105:LEU:HG	2.35	0.41
25:T:61:PHE:CZ	25:T:85:LYS:HE2	2.55	0.41
10:A:188:G:C2'	10:A:189:G:H5'	2.51	0.41
14:E:47:VAL:O	14:E:49:LEU:HD22	2.21	0.41
14:E:55:ASN:HD21	14:E:75:VAL:HG22	1.83	0.41
30:Y:13:VAL:HG12	30:Y:14:LEU:N	2.33	0.41
21:P:68:GLN:O	21:P:68:GLN:CG	2.69	0.41
10:A:2462:U:O2'	10:A:2463:C:H5'	2.20	0.41
21:P:24:GLY:CA	21:P:33:ARG:HE	2.30	0.41
30:Y:81:LYS:HE2	30:Y:97:ARG:HG2	2.01	0.41
31:Z:97:GLU:O	31:Z:98:MET:HB3	2.20	0.41
10:A:354:G:H2'	10:A:355:G:O4'	2.20	0.41
10:A:1142(A):A:C5	10:A:1144:G:C5	3.08	0.41
29:X:89:ILE:CG2	29:X:89:ILE:O	2.67	0.41
17:H:92:ILE:O	17:H:94:TYR:N	2.48	0.41
6:5:20:ARG:HB3	6:5:23:HIS:CD2	2.48	0.41
10:A:1719:G:C6	10:A:1720:U:C4	3.09	0.41
6:5:46:CYS:SG	6:5:47:PRO:CD	3.08	0.41
10:A:1378:A:C8	10:A:1380:G:C6	3.08	0.41
10:A:2040:C:C2	10:A:2041:U:C6	3.08	0.41
10:A:1229:G:C6	10:A:1230:C:C4	3.08	0.41
10:A:131:G:H2'	10:A:132:G:H5'	2.02	0.41
10:A:2013:A:C2'	10:A:2014:A:H5'	2.50	0.41
10:A:1261:C:C2'	10:A:1262:A:O5'	2.68	0.41
7:6:45:LYS:HG3	10:A:2371:G:C4'	2.50	0.41
18:I:52:ARG:O	18:I:55:ALA:N	2.54	0.41
10:A:412:A:C2'	10:A:413:C:H5'	2.49	0.41
10:A:1817:G:H2'	10:A:1818:U:H5'	2.02	0.41
3:2:35:LEU:HD23	3:2:35:LEU:H	1.85	0.41
10:A:1824:G:O2'	10:A:1825:A:H5'	2.20	0.41
20:O:73:ASP:C	20:O:73:ASP:OD1	2.59	0.41
18:I:99:GLU:C	18:I:101:LEU:N	2.72	0.41
10:A:1225:G:OP1	27:V:88:ARG:CB	2.68	0.41
10:A:1225:G:P	27:V:88:ARG:HB3	2.59	0.41
21:P:127:ALA:HB3	21:P:130:PHE:CE2	2.55	0.41
25:T:89:VAL:HB	25:T:91:ARG:NE	2.35	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:101:ARG:HH11	14:E:169:ASN:ND2	2.19	0.41
10:A:1204:A:H2	10:A:1241:A:N1	2.17	0.41
2:1:62:VAL:HG21	2:1:67:ILE:CA	2.50	0.41
10:A:2870:C:H5'	23:R:65:LEU:HD21	2.02	0.41
23:R:117:VAL:HG22	23:R:118:GLU:N	2.36	0.41
23:R:28:LEU:HD13	23:R:29:LEU:HD12	2.01	0.41
26:U:57:PHE:CD2	26:U:60:LEU:HD12	2.55	0.41
18:I:13:GLY:O	18:I:14:ASP:C	2.58	0.41
29:X:57:LEU:N	29:X:57:LEU:CD1	2.83	0.41
29:X:26:TYR:H	29:X:26:TYR:HD1	1.67	0.41
22:Q:42:ILE:HD13	22:Q:97:VAL:HG23	2.02	0.41
24:S:51:ALA:HB3	24:S:73:LEU:HG	2.02	0.41
17:H:88:LEU:C	17:H:89:ILE:HG23	2.41	0.41
20:O:3:GLN:CG	20:O:4:PRO:HD2	2.51	0.41
10:A:1355:G:H2'	10:A:1356:G:H8	1.84	0.41
14:E:143:ASN:ND2	14:E:143:ASN:N	2.67	0.41
13:D:14:ARG:CG	13:D:14:ARG:NH1	2.83	0.41
23:R:106:GLY:O	23:R:107:ASP:CB	2.68	0.41
10:A:2691:C:H2'	10:A:2692:C:C6	2.56	0.41
10:A:892:G:H2'	10:A:893:C:O4'	2.20	0.41
10:A:894:C:H2'	10:A:895:U:C6	2.55	0.41
15:F:9:ILE:HG12	15:F:14:PRO:O	2.21	0.41
18:I:51:ILE:O	18:I:55:ALA:HB2	2.20	0.41
16:G:169:ALA:O	16:G:173:LEU:HG	2.20	0.41
15:F:178:PRO:HG2	15:F:179:GLU:CD	2.41	0.41
12:C:56:GLN:O	12:C:57:ASN:CB	2.68	0.41
10:A:868:U:C4	10:A:869:G:N7	2.88	0.41
10:A:237:C:H2'	10:A:238:C:H6	1.85	0.41
20:O:17:ARG:HD3	20:O:17:ARG:HA	1.82	0.41
10:A:2097:C:H2'	10:A:2098:U:O4'	2.20	0.41
10:A:923:C:H2'	10:A:924:C:H6	1.86	0.41
10:A:484:C:O2'	10:A:485:C:H5'	2.21	0.41
10:A:1022:G:O2'	10:A:1023:U:OP2	2.37	0.41
10:A:1588:C:O2	10:A:1588:C:H2'	2.19	0.41
10:A:1969:A:O2'	10:A:1972:A:N3	2.45	0.41
10:A:971:C:H2'	10:A:972:G:O4'	2.20	0.41
23:R:92:GLY:HA2	23:R:94:TYR:CE1	2.56	0.41
10:A:2334:G:C4	24:S:15:ARG:NH1	2.84	0.41
21:P:98:GLU:HA	21:P:101:VAL:CG1	2.50	0.41
14:E:103:ASP:OD2	14:E:201:THR:HA	2.21	0.41
13:D:255:LYS:CA	13:D:255:LYS:HE3	2.50	0.41
2:1:11:ARG:NH1	2:1:60:PHE:HA	2.33	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:2:18:PRO:O	3:2:20:GLU:N	2.54	0.41
10:A:134:C:O2'	10:A:135:G:H5'	2.19	0.41
17:H:83:TYR:O	17:H:84:SER:O	2.38	0.41
10:A:2463:C:C2'	10:A:2464:C:H5'	2.50	0.41
30:Y:91:GLU:HB3	30:Y:92:ASN:H	1.46	0.41
31:Z:14:LYS:HB2	31:Z:17:ALA:CB	2.49	0.41
31:Z:52:SER:OG	31:Z:53:ILE:HG12	2.21	0.41
22:Q:66:ILE:O	22:Q:66:ILE:HG13	2.20	0.41
26:U:36:ARG:HG2	26:U:40:PHE:CZ	2.55	0.41
21:P:71:VAL:CG1	21:P:72:PRO:N	2.84	0.41
5:4:6:HIS:CA	16:G:67:LYS:HE3	2.41	0.41
10:A:657:U:H2'	10:A:658:C:C6	2.56	0.41
10:A:1175:U:H5''	10:A:1176:G:C8	2.56	0.41
24:S:34:HIS:CG	24:S:54:LEU:HB2	2.56	0.41
10:A:2842:G:C6	10:A:2876:G:C6	3.08	0.41
22:Q:120:ILE:O	22:Q:121:ALA:C	2.58	0.41
15:F:84:VAL:O	15:F:85:GLY:C	2.59	0.41
30:Y:31:LEU:CD2	30:Y:36:ALA:HB3	2.49	0.41
10:A:1260:G:O2'	10:A:1261:C:H5'	2.21	0.41
8:7:7:PRO:CB	10:A:1309:G:H4'	2.47	0.41
14:E:59:VAL:HG22	14:E:63:LEU:HA	2.02	0.41
10:A:1114:G:C2'	10:A:1115:G:C5'	2.96	0.41
19:N:89:LYS:C	19:N:93:THR:HG22	2.39	0.41
12:C:86:ALA:HB1	12:C:94:VAL:HG11	2.02	0.41
10:A:1324:G:H3'	10:A:1325:G:C4'	2.49	0.41
10:A:1817:G:C2'	10:A:1818:U:H5'	2.50	0.41
10:A:363(E):U:C2'	10:A:363(F):A:H4'	2.51	0.41
6:5:44:THR:HG21	23:R:101:ALA:HB2	2.02	0.41
10:A:1313:U:C2'	10:A:1313:U:O2	2.68	0.41
13:D:166:GLN:HA	13:D:166:GLN:HE21	1.85	0.41
15:F:160:ASN:HD22	15:F:160:ASN:C	2.22	0.41
10:A:1544:A:O2'	10:A:1545:A:P	2.78	0.41
10:A:2767:C:H2'	10:A:2768:C:H6	1.85	0.41
10:A:776:G:H4'	10:A:777:A:O5'	2.20	0.41
10:A:2791:C:H4'	10:A:2792:G:O5'	2.20	0.41
10:A:2655:G:H2'	10:A:2655:G:N3	2.35	0.41
10:A:2635:C:C2'	10:A:2636:U:O5'	2.68	0.41
10:A:1902:C:H5'	13:D:246:PRO:HD3	2.02	0.41
10:A:615:G:P	15:F:40:GLN:NE2	2.93	0.41
20:O:23:ARG:HA	20:O:23:ARG:HD2	1.87	0.41
3:2:49:LYS:HD3	10:A:76:C:H5''	2.03	0.41
9:8:27:THR:HA	21:P:62:LEU:CD1	2.45	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:956:G:C5'	10:A:957:A:OP2	2.68	0.41
16:G:72:ARG:HD3	16:G:86:MET:HA	2.01	0.41
28:W:24:ILE:C	28:W:24:ILE:HD12	2.41	0.41
10:A:2711:A:OP1	10:A:2712(A):A:P	2.78	0.41
19:N:46:VAL:HG13	19:N:48:MET:HG3	2.00	0.41
10:A:2754:U:H1'	10:A:2756:U:OP1	2.21	0.41
10:A:1885:A:H8	10:A:1885:A:H5'	1.86	0.41
25:T:53:ARG:NH1	25:T:53:ARG:CG	2.84	0.41
31:Z:17:ALA:O	31:Z:18:LEU:O	2.38	0.41
10:A:1778:U:H2'	10:A:1784:A:N6	2.35	0.41
10:A:2807:G:H2'	10:A:2808:U:H5''	2.03	0.41
19:N:125:GLY:HA3	19:N:126:PRO:C	2.39	0.41
15:F:39:TRP:CB	15:F:101:LEU:HD22	2.49	0.41
10:A:64:A:H5'	29:X:63:LYS:HB2	2.02	0.41
21:P:112:LEU:C	21:P:112:LEU:HD13	2.41	0.41
10:A:639:U:H2'	10:A:640:C:H6	1.74	0.41
28:W:47:VAL:HA	28:W:50:VAL:HG12	2.02	0.41
28:W:21:VAL:HG23	28:W:47:VAL:HG21	2.02	0.41
15:F:16:GLY:O	15:F:17:ARG:HG3	2.20	0.41
15:F:9:ILE:O	15:F:128:ALA:HB2	2.20	0.41
11:B:57:A:N9	16:G:29:TRP:HB2	2.34	0.41
10:A:1164:G:H2'	10:A:1165:U:C6	2.55	0.41
26:U:49:HIS:O	26:U:52:ARG:N	2.53	0.41
10:A:1106:A:H1'	10:A:1107:G:C5	2.56	0.41
13:D:135:PHE:HD1	13:D:135:PHE:N	2.17	0.41
10:A:952:G:C6	10:A:953:A:N7	2.89	0.41
4:3:46:ASN:HD21	10:A:851:U:H5'	1.85	0.41
10:A:766:C:H2'	10:A:767:U:C6	2.55	0.41
4:3:43:ILE:O	4:3:47:VAL:HG23	2.20	0.41
10:A:2739:U:O2'	10:A:2740:A:H5'	2.20	0.41
10:A:1406:U:H2'	10:A:1407:C:C6	2.55	0.41
14:E:125:GLY:O	14:E:126:PRO:C	2.57	0.41
10:A:52:A:O2'	10:A:53:A:H5'	2.21	0.41
19:N:5:VAL:HG13	19:N:6:PRO:HD2	2.02	0.41
10:A:997:G:N3	10:A:997:G:H2'	2.36	0.41
25:T:32:TYR:HB3	25:T:81:PRO:HB3	2.01	0.41
14:E:55:ASN:OD1	14:E:75:VAL:HG13	2.21	0.41
21:P:7:ARG:HA	21:P:7:ARG:HD2	1.71	0.41
2:1:73:LEU:HD13	2:1:90:ILE:HG22	2.02	0.41
10:A:2565:A:H5''	10:A:2566:A:OP2	2.20	0.41
10:A:251:A:H2'	10:A:252:G:O4'	2.19	0.41
16:G:45:GLU:HG2	16:G:46:ALA:N	2.36	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:I:12:LEU:O	18:I:12:LEU:HG	2.21	0.41
10:A:2726:U:H6	20:O:67:LYS:NZ	2.19	0.41
31:Z:99:TYR:HA	31:Z:125:LEU:HA	2.02	0.41
29:X:77:LYS:HE3	29:X:78:LYS:HG3	2.01	0.41
22:Q:35:VAL:HG13	22:Q:130:LYS:HB3	2.02	0.41
10:A:815:C:H2'	10:A:816:C:C6	2.54	0.41
24:S:54:LEU:O	24:S:56:LEU:N	2.53	0.41
16:G:164:GLU:O	16:G:165:THR:C	2.59	0.41
27:V:38:LEU:HD21	27:V:41:GLY:H	1.86	0.41
10:A:1888:G:H5'	10:A:1888:G:N3	2.36	0.41
10:A:1707:G:H2'	10:A:1708:C:C6	2.56	0.41
10:A:2838:G:H2'	10:A:2839:G:H8	1.85	0.41
7:6:28:ARG:CG	7:6:28:ARG:NH1	2.84	0.41
10:A:2023:G:C5'	10:A:2617:C:H4'	2.46	0.41
14:E:57:LYS:O	14:E:59:VAL:N	2.53	0.41
13:D:222:ARG:H	13:D:222:ARG:HG3	1.59	0.41
25:T:34:VAL:O	25:T:35:LYS:HB3	2.20	0.41
10:A:1753:G:N2	10:A:1755:A:H3'	2.35	0.41
15:F:108:LYS:O	15:F:111:ALA:HB3	2.20	0.41
10:A:2669:G:C2	10:A:2670:A:C8	3.09	0.41
10:A:980:A:C6	10:A:981:A:N1	2.89	0.41
4:3:5:LYS:HA	4:3:36:VAL:HG12	2.03	0.41
13:D:197:GLY:O	13:D:198:ASN:HB3	2.21	0.41
7:6:48:VAL:HG23	7:6:49:HIS:N	2.36	0.41
10:A:2881:C:O2'	10:A:2882:A:H5'	2.20	0.41
27:V:82:ARG:HG2	27:V:82:ARG:HH11	1.85	0.41
13:D:175:LEU:O	13:D:182:LEU:HA	2.20	0.41
10:A:474:G:H4'	10:A:475:U:OP1	2.20	0.41
26:U:44:ASN:O	26:U:45:TYR:C	2.56	0.41
24:S:16:ASN:HB2	24:S:90:GLY:HA2	2.02	0.41
10:A:2637:U:C6	10:A:2637:U:H5'	2.50	0.41
14:E:4:ILE:HG21	14:E:96:PHE:HE2	1.86	0.41
2:1:84:GLY:C	2:1:85:LEU:HD23	2.41	0.41
9:8:5:LYS:HG2	10:A:242:G:C8	2.56	0.41
29:X:40:LYS:CG	29:X:41:ASN:H	2.32	0.41
16:G:41:GLN:HB3	16:G:43:LEU:HD13	2.03	0.41
26:U:65:ILE:HG13	26:U:65:ILE:H	1.74	0.41
10:A:1497:U:H5'	10:A:1498:C:C5	2.51	0.41
10:A:2684:U:P	25:T:53:ARG:HE	2.44	0.41
25:T:53:ARG:HH11	25:T:53:ARG:CG	2.28	0.41
31:Z:162:GLU:O	31:Z:163:LEU:C	2.59	0.41
31:Z:8:TYR:HA	31:Z:62:PRO:HG2	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1948:G:C8	10:A:1948:G:C5'	2.95	0.41
27:V:17:GLY:O	27:V:18:LEU:HB3	2.21	0.41
22:Q:27:VAL:HG12	22:Q:29:PHE:O	2.20	0.41
18:I:40:THR:O	18:I:41:GLU:C	2.59	0.41
21:P:131:SER:H	21:P:134:ALA:CB	2.19	0.41
29:X:63:LYS:CD	29:X:70:LEU:HD13	2.43	0.41
10:A:197:A:H62	10:A:2430:A:H2'	1.86	0.41
10:A:2591:C:OP2	13:D:239:ARG:HB2	2.21	0.41
10:A:1721:G:C2	10:A:1739:U:OP2	2.74	0.41
25:T:100:TYR:CD2	25:T:103:ARG:NH2	2.84	0.41
20:O:103:ALA:C	20:O:105:GLU:H	2.24	0.41
10:A:1992:G:HO2'	10:A:1993:U:P	2.42	0.41
10:A:1709:U:H2'	10:A:1710:C:C6	2.55	0.41
26:U:17:ILE:HG23	26:U:39:LEU:CD1	2.46	0.41
16:G:133:LEU:CD1	16:G:157:ILE:HG12	2.51	0.41
10:A:340:A:H2'	10:A:341:G:O4'	2.21	0.41
10:A:1316:U:O2'	10:A:1317:A:H5'	2.21	0.41
10:A:1274:A:H2	10:A:1644:C:O2	2.03	0.41
10:A:648:G:O2'	10:A:649:G:H5'	2.21	0.41
10:A:2222:G:H2'	10:A:2223:G:H8	1.85	0.41
10:A:2687:U:H2'	10:A:2688:U:H5'	2.02	0.41
2:1:25:LYS:NZ	10:A:2079:U:H5''	2.35	0.41
24:S:63:THR:O	24:S:64:GLU:C	2.59	0.41
31:Z:3:TYR:N	31:Z:3:TYR:CD1	2.89	0.41
25:T:19:LEU:HA	25:T:20:PRO:HD3	1.91	0.41
26:U:69:CYS:HB2	26:U:74:LEU:HD11	2.02	0.41
24:S:90:GLY:O	24:S:91:PRO:C	2.57	0.41
14:E:1:MET:HB3	14:E:200:GLU:OE1	2.21	0.41
14:E:55:ASN:OD1	14:E:75:VAL:HG22	2.21	0.41
10:A:83:G:N2	10:A:103:A:OP2	2.48	0.41
13:D:28:GLU:CB	13:D:29:PRO:CD	2.98	0.41
13:D:68:LYS:HB2	13:D:70:TRP:CZ2	2.56	0.41
2:1:10:LYS:O	2:1:13:ILE:HG22	2.20	0.41
15:F:22:ALA:HA	15:F:26:ALA:CB	2.33	0.41
21:P:47:ASP:HB2	21:P:51:PHE:HB2	2.02	0.41
3:2:47:ASN:HB2	3:2:51:ARG:HD2	2.02	0.41
31:Z:102:LEU:HD11	31:Z:124:ILE:HG23	2.02	0.41
16:G:43:LEU:N	16:G:43:LEU:HD13	2.35	0.41
10:A:2758:A:C3'	10:A:2759:G:C5'	2.97	0.41
23:R:87:TYR:O	23:R:88:ARG:HB3	2.20	0.41
19:N:41:ASP:N	19:N:41:ASP:OD1	2.54	0.41
17:H:141:VAL:O	17:H:144:VAL:N	2.51	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:E:115:GLY:C	14:E:116:VAL:O	2.59	0.41
25:T:53:ARG:NH1	25:T:53:ARG:HG2	2.32	0.41
31:Z:8:TYR:HB2	31:Z:38:TYR:CE1	2.56	0.41
31:Z:125:LEU:HD23	31:Z:125:LEU:C	2.41	0.41
31:Z:8:TYR:HA	31:Z:62:PRO:CG	2.51	0.41
10:A:2807:G:H2'	10:A:2808:U:C5'	2.50	0.41
10:A:2807:G:N2	10:A:2808:U:H1'	2.35	0.41
27:V:62:LEU:HB3	27:V:96:ILE:CG2	2.51	0.41
13:D:17:THR:HG21	13:D:205:VAL:HB	1.94	0.41
28:W:60:ASN:OD1	28:W:61:ASN:ND2	2.54	0.41
19:N:28:THR:CG2	19:N:29:LYS:H	2.25	0.41
10:A:272(C):G:H2'	10:A:272(D):G:H8	1.85	0.41
10:A:271(A):A:H1'	10:A:365:C:O4'	2.20	0.41
22:Q:63:LYS:HB2	22:Q:63:LYS:NZ	2.36	0.41
10:A:1275:A:C4	23:R:16:HIS:ND1	2.89	0.41
22:Q:134:ARG:O	22:Q:136:ALA:N	2.53	0.41
22:Q:70:PRO:N	22:Q:95:ALA:HB2	2.36	0.41
10:A:2259:G:C8	10:A:2427:C:C4	3.09	0.41
20:O:88:ASN:OD1	20:O:89:ASN:N	2.54	0.41
16:G:5:VAL:O	16:G:6:ALA:C	2.59	0.41
27:V:13:ARG:HG3	27:V:13:ARG:O	2.21	0.41
27:V:4:ILE:HG13	27:V:40:LEU:HD11	2.03	0.41
10:A:1386:C:OP2	10:A:1396:U:C5	2.74	0.41
10:A:818:G:N1	10:A:1188:U:OP2	2.36	0.41
10:A:1291:C:H2'	10:A:1292:U:C6	2.56	0.41
20:O:8:LEU:N	20:O:8:LEU:CD2	2.83	0.41
3:2:25:VAL:C	3:2:27:GLU:N	2.61	0.41
19:N:23:LEU:HD23	19:N:23:LEU:O	2.21	0.41
28:W:70:TYR:N	28:W:70:TYR:HD2	2.18	0.41
19:N:78:TYR:N	19:N:79:PRO:CD	2.84	0.41
2:1:23:LYS:O	2:1:37:ILE:N	2.53	0.41
10:A:2241:A:O2'	10:A:2242:G:H5'	2.21	0.41
10:A:774:A:O2'	10:A:775:G:P	2.78	0.41
10:A:2850:A:H2'	10:A:2851:A:H8	1.86	0.41
24:S:48:LEU:N	24:S:48:LEU:CD1	2.84	0.41
10:A:2277:G:H2'	10:A:2278:A:C5'	2.51	0.41
10:A:1653:G:H4'	10:A:1654:A:O5'	2.21	0.41
14:E:199:ARG:HH11	14:E:199:ARG:HG3	1.84	0.41
16:G:123:ASN:O	16:G:126:ASP:HB2	2.21	0.41
28:W:52:GLU:OE2	28:W:52:GLU:HA	2.21	0.41
10:A:1298:C:H3'	10:A:1299:G:H8	1.83	0.41
10:A:1445:A:H5''	10:A:1445(A):C:H5	1.85	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:S:38:GLN:OE1	24:S:47:THR:HG21	2.21	0.41
22:Q:16:ARG:HH11	22:Q:16:ARG:CB	2.34	0.41
4:3:46:ASN:ND2	10:A:851:U:C4'	2.84	0.41
10:A:1268:A:C5	10:A:1269:A:C8	3.09	0.41
4:3:44:ARG:O	4:3:45:GLY:C	2.59	0.41
13:D:36:PRO:O	13:D:37:LEU:HD23	2.21	0.41
6:5:8:LYS:O	6:5:8:LYS:HG3	2.21	0.41
10:A:312:G:C2	10:A:313:C:C2	3.09	0.41
10:A:2172:U:H2'	10:A:2174:C:O4'	2.21	0.41
10:A:2335:A:C8	10:A:2337:G:C5	3.09	0.41
12:C:124:GLY:O	12:C:125:SER:CB	2.68	0.41
5:4:20:ASN:C	5:4:22:ILE:N	2.73	0.41
25:T:24:PRO:HA	25:T:49:VAL:HG13	2.02	0.41
31:Z:119:GLU:HG3	31:Z:119:GLU:O	2.21	0.41
25:T:28:VAL:HB	25:T:88:ILE:HD11	2.02	0.41
30:Y:28:LYS:C	30:Y:29:GLU:OE1	2.60	0.41
15:F:183:VAL:HG23	15:F:184:TYR:N	2.36	0.41
10:A:1245:G:O3'	21:P:16:ARG:NH2	2.53	0.41
2:1:64:ALA:C	2:1:67:ILE:HD11	2.41	0.41
10:A:1366:A:C2	10:A:1367:A:H1'	2.56	0.41
10:A:250:G:C6	10:A:251:A:C6	3.09	0.41
22:Q:8:LYS:CG	22:Q:9:TYR:N	2.82	0.41
31:Z:65:GLN:HB3	31:Z:67:LEU:CD1	2.51	0.41
13:D:177:LEU:O	13:D:180:GLY:N	2.52	0.41
6:5:50:GLY:CA	6:5:56:LYS:HB3	2.51	0.41
28:W:6:ILE:HA	28:W:103:ILE:O	2.21	0.41
15:F:165:ARG:O	15:F:166:ALA:C	2.58	0.41
24:S:98:VAL:HG13	24:S:99:LYS:N	2.35	0.41
15:F:173:VAL:CG1	15:F:174:VAL:N	2.84	0.41
10:A:1569:A:H2'	10:A:1570:A:C8	2.56	0.41
10:A:2732:G:C3'	10:A:2733:A:C5'	2.99	0.41
29:X:83:VAL:O	29:X:83:VAL:HG23	2.21	0.41
13:D:161:THR:OG1	13:D:196:VAL:HG21	2.21	0.41
20:O:103:ALA:HA	20:O:122:LEU:O	2.21	0.41
16:G:5:VAL:HG12	16:G:104:GLU:OE2	2.21	0.41
20:O:2:ILE:HD11	20:O:82:ASN:CG	2.40	0.41
10:A:945:A:H5''	10:A:946:G:P	2.61	0.41
10:A:271(L):U:H4'	10:A:271(M):G:C6	2.56	0.41
22:Q:109:VAL:CG1	22:Q:110:THR:N	2.83	0.41
23:R:13:HIS:C	23:R:13:HIS:ND1	2.74	0.41
10:A:1272:A:C3'	10:A:1273:U:C5'	2.99	0.41
10:A:803:U:O2'	10:A:804:A:H5'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:5:11:THR:OG1	10:A:1263:U:O3'	2.39	0.41
10:A:725:G:C6	10:A:726:G:N1	2.89	0.41
18:I:88:ILE:HD11	18:I:123:LEU:HG	2.00	0.40
18:I:96:ASP:C	18:I:98:ALA:H	2.23	0.40
21:P:97:PRO:C	21:P:99:LEU:N	2.75	0.40
14:E:4:ILE:HG13	14:E:28:ALA:HB1	2.03	0.40
2:1:8:SER:HB2	2:1:48:LYS:NZ	2.36	0.40
9:8:62:LEU:N	9:8:63:PRO:CD	2.82	0.40
10:A:71:A:O2'	10:A:72:U:OP2	2.26	0.40
22:Q:89:ASN:N	22:Q:89:ASN:ND2	2.66	0.40
10:A:49:A:O2'	10:A:50:U:OP2	2.29	0.40
10:A:1497:U:H3	10:A:1578:U:P	2.44	0.40
10:A:810:U:O2'	21:P:33:ARG:NE	2.54	0.40
22:Q:28:ALA:HB3	22:Q:29:PHE:CD1	2.56	0.40
10:A:917:A:N1	11:B:80:U:H4'	2.37	0.40
18:I:69:LYS:HA	18:I:136:VAL:HG23	2.01	0.40
22:Q:55:VAL:HG23	31:Z:178:GLU:CB	2.49	0.40
29:X:50:LYS:HD3	29:X:82:GLN:HE21	1.87	0.40
23:R:104:ARG:HG2	23:R:104:ARG:HH11	1.86	0.40
10:A:1886:C:H2'	10:A:1887:C:H6	1.86	0.40
30:Y:32:PRO:O	30:Y:34:LYS:N	2.53	0.40
7:6:28:ARG:O	7:6:29:ASN:C	2.59	0.40
15:F:201:VAL:CG1	15:F:202:PHE:N	2.84	0.40
10:A:150:C:O2'	10:A:151:C:H5'	2.21	0.40
10:A:608:A:H3'	10:A:609:A:C8	2.54	0.40
10:A:1315:C:H2'	10:A:1316:U:H6	1.87	0.40
25:T:35:LYS:O	25:T:37:GLY:N	2.54	0.40
10:A:1270:C:H5''	10:A:1271:G:H5'	2.03	0.40
28:W:3:ALA:O	28:W:106:ILE:HA	2.21	0.40
10:A:1042:G:H3'	10:A:1043:C:O4'	2.22	0.40
10:A:1544:A:N3	10:A:1544:A:O3'	2.55	0.40
5:4:23:GLU:O	5:4:24:THR:CB	2.70	0.40
11:B:25:A:C2	11:B:26:A:H1'	2.56	0.40
10:A:107:C:H2'	10:A:108:U:H6	1.86	0.40
27:V:71:LEU:HA	27:V:71:LEU:HD22	1.91	0.40
13:D:142:VAL:HG23	13:D:193:VAL:CA	2.51	0.40
30:Y:62:GLU:HB3	30:Y:63:LYS:H	1.43	0.40
11:B:4:C:H2'	11:B:5:C:H6	1.86	0.40
25:T:118:ARG:O	25:T:119:LYS:C	2.60	0.40
10:A:2776:A:H4'	10:A:2777:G:H5''	2.03	0.40
14:E:70:ALA:C	14:E:72:VAL:N	2.73	0.40
2:1:13:ILE:CG2	2:1:63:ALA:CB	2.85	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:71:A:C8	10:A:71:A:H5'	2.52	0.40
10:A:2534:A:H2'	10:A:2535:G:O4'	2.21	0.40
21:P:14:LYS:O	21:P:15:ARG:HB2	2.22	0.40
27:V:15:GLU:O	27:V:98:GLU:CD	2.60	0.40
15:F:31:HIS:O	15:F:32:LEU:C	2.59	0.40
12:C:51:PRO:O	12:C:52:ARG:HB2	2.21	0.40
23:R:77:ARG:O	23:R:78:LYS:C	2.59	0.40
26:U:8:VAL:HG22	26:U:11:ARG:NH2	2.36	0.40
25:T:3:ARG:O	25:T:4:GLY:C	2.60	0.40
6:5:2:ALA:O	6:5:3:LYS:HD2	2.22	0.40
16:G:133:LEU:HD11	16:G:157:ILE:HG12	2.02	0.40
10:A:601:C:H2'	10:A:602:G:O4'	2.22	0.40
10:A:742:G:H2'	10:A:743:G:C8	2.56	0.40
10:A:207:A:C8	10:A:208:C:C5	3.09	0.40
20:O:11:ALA:O	20:O:12:ASP:CB	2.68	0.40
25:T:124:ASP:O	25:T:127:ALA:HB3	2.22	0.40
10:A:1839:G:C8	10:A:1839:G:H5'	2.56	0.40
10:A:332:A:C5	10:A:335:C:C4	3.09	0.40
10:A:2439:A:H1'	10:A:2587:A:OP1	2.21	0.40
15:F:158:THR:HG23	15:F:160:ASN:H	1.86	0.40
10:A:108:U:C2	10:A:109:G:C8	3.09	0.40
10:A:2082:A:H2'	10:A:2083:G:O4'	2.21	0.40
12:C:42:GLU:HG2	12:C:176:GLY:O	2.22	0.40
29:X:28:PHE:CD1	29:X:28:PHE:N	2.89	0.40
10:A:480:A:P	30:Y:46:LYS:HE2	2.61	0.40
10:A:2627:G:H21	10:A:2781:A:H2	1.69	0.40
14:E:37:ARG:HD3	14:E:44:TYR:HE2	1.87	0.40
13:D:241:PRO:C	13:D:242:ARG:HD2	2.41	0.40
30:Y:8:LYS:HE3	30:Y:73:ARG:HA	2.03	0.40
15:F:37:VAL:HG12	15:F:41:LEU:HD12	2.03	0.40
15:F:20:LEU:O	15:F:21:ALA:O	2.39	0.40
15:F:3:GLU:HA	15:F:24:LEU:CG	2.51	0.40
3:2:46:GLN:HE21	3:2:50:ILE:HG12	1.87	0.40
24:S:77:ALA:C	24:S:79:ALA:N	2.74	0.40
23:R:60:LEU:O	23:R:63:ARG:HB3	2.21	0.40
17:H:121:ILE:HD13	17:H:144:VAL:HG21	2.03	0.40
10:A:2684:U:C2'	10:A:2685:G:H5'	2.50	0.40
22:Q:24:GLY:HA2	22:Q:100:GLY:O	2.21	0.40
22:Q:37:LEU:HD23	22:Q:37:LEU:HA	1.88	0.40
19:N:24:GLY:C	19:N:26:LEU:N	2.73	0.40
10:A:675:A:N6	10:A:676:A:N6	2.69	0.40
18:I:72:LEU:HB2	18:I:136:VAL:CG2	2.51	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:197:A:C8	10:A:197:A:H5'	2.57	0.40
10:A:2358:G:H1	21:P:55:ARG:NH2	2.01	0.40
21:P:112:LEU:C	21:P:112:LEU:HD22	2.41	0.40
14:E:24:THR:HG21	14:E:188:VAL:HG12	2.04	0.40
16:G:31:VAL:CG2	16:G:32:PRO:CD	2.88	0.40
12:C:64:LEU:HD22	12:C:193:ILE:CB	2.51	0.40
10:A:2783:G:O2'	10:A:2784:C:H5'	2.21	0.40
10:A:2785:C:H1'	14:E:64:LYS:NZ	2.36	0.40
11:B:104:U:O2'	11:B:105:A:H5'	2.22	0.40
10:A:1657:C:O2'	10:A:1658:C:H5'	2.21	0.40
27:V:68:LYS:O	27:V:68:LYS:HG3	2.21	0.40
10:A:2276:G:O2'	10:A:2277:G:H5'	2.20	0.40
10:A:687:C:C2'	10:A:687:C:O2	2.69	0.40
13:D:211:ARG:O	13:D:214:TRP:N	2.55	0.40
11:B:51:G:H2'	11:B:52:A:O4'	2.22	0.40
15:F:74:ARG:HG2	15:F:74:ARG:O	2.20	0.40
27:V:56:SER:O	27:V:57:VAL:HB	2.20	0.40
10:A:88:G:N3	10:A:88:G:H2'	2.36	0.40
26:U:79:PHE:HE2	26:U:83:LEU:HD21	1.86	0.40
13:D:126:GLN:C	13:D:193:VAL:HG11	2.42	0.40
24:S:89:ARG:CG	24:S:97:ARG:HH12	2.33	0.40
10:A:2628:C:O2'	10:A:2781:A:H3'	2.22	0.40
14:E:31:CYS:O	14:E:32:PRO:C	2.60	0.40
2:1:87:PRO:CD	2:1:88:LYS:N	2.84	0.40
15:F:197:ASP:O	15:F:200:GLU:HB3	2.22	0.40
10:A:252:G:O2'	10:A:253:C:H5'	2.22	0.40
29:X:36:LYS:HD3	29:X:38:GLU:CB	2.45	0.40
31:Z:120:ILE:HB	31:Z:172:ALA:N	2.37	0.40
16:G:56:ALA:HB2	16:G:153:ARG:HH21	1.85	0.40
23:R:84:ALA:HB3	23:R:85:PRO:HD3	2.01	0.40
30:Y:98:VAL:O	30:Y:99:CYS:SG	2.75	0.40
10:A:2677:G:C4	10:A:2678:C:C5	3.09	0.40
31:Z:163:LEU:HD11	31:Z:167:PRO:HB3	2.03	0.40
22:Q:23:GLY:HA3	22:Q:99:PRO:O	2.21	0.40
31:Z:77:ASP:O	31:Z:78:LYS:C	2.59	0.40
13:D:169:GLU:HB2	13:D:172:TYR:HB2	2.02	0.40
11:B:82:G:H2'	11:B:83:G:H8	1.86	0.40
28:W:61:ASN:N	28:W:61:ASN:HD22	2.19	0.40
17:H:146:ALA:O	17:H:150:ALA:HB3	2.21	0.40
10:A:1351:C:H4'	10:A:1572:A:O4'	2.21	0.40
3:2:34:GLU:N	3:2:34:GLU:OE2	2.39	0.40
23:R:104:ARG:CB	23:R:104:ARG:HH11	2.35	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:1345:C:H2'	10:A:1346:G:C8	2.54	0.40
2:1:37:ILE:HD13	2:1:37:ILE:HA	1.89	0.40
10:A:962:G:C2'	10:A:963:U:H5'	2.50	0.40
7:6:48:VAL:O	7:6:49:HIS:HB2	2.22	0.40
17:H:58:GLU:O	17:H:60:ARG:N	2.54	0.40
19:N:102:ALA:O	19:N:106:MET:HG3	2.21	0.40
14:E:140:SER:OG	14:E:141:ILE:N	2.55	0.40
10:A:429:A:H2'	10:A:430:G:C8	2.57	0.40
10:A:1882:C:O2	10:A:1882:C:H2'	2.21	0.40
10:A:14:A:H8	10:A:14:A:O5'	2.05	0.40
10:A:1409:C:H2'	10:A:1410:G:C8	2.56	0.40
10:A:993:G:H21	27:V:91:TYR:HH	1.68	0.40
24:S:93:LYS:HE3	24:S:93:LYS:CA	2.52	0.40
10:A:1902:C:H2'	10:A:1903:G:O5'	2.22	0.40
2:1:89:GLU:O	2:1:93:GLU:HB2	2.22	0.40
10:A:2521:C:C4	10:A:2522:U:C4	3.09	0.40
20:O:23:ARG:HG2	20:O:23:ARG:NH1	2.31	0.40
14:E:6:GLY:HA2	14:E:51:PHE:HE2	1.85	0.40
22:Q:80:GLU:HB3	22:Q:81:VAL:H	1.62	0.40
16:G:55:LYS:O	16:G:57:ALA:N	2.54	0.40
16:G:82:LEU:C	16:G:83:ARG:HG3	2.41	0.40
17:H:72:ILE:O	17:H:74:ASN:N	2.54	0.40
10:A:809:G:O2'	10:A:810:U:H5'	2.21	0.40
22:Q:141:GLN:HE21	31:Z:71:VAL:C	2.24	0.40
29:X:93:GLU:HG3	29:X:93:GLU:O	2.21	0.40
13:D:17:THR:CG2	13:D:205:VAL:H	2.19	0.40
21:P:75:ILE:O	21:P:77:ARG:HG2	2.22	0.40
29:X:62:LYS:O	29:X:63:LYS:HG3	2.21	0.40
5:4:6:HIS:CA	16:G:67:LYS:CE	3.00	0.40
27:V:47:VAL:CG1	27:V:48:GLY:H	2.32	0.40
10:A:1803:A:C2	10:A:1822:G:H1'	2.57	0.40
28:W:88:ARG:HB3	28:W:92:ARG:CB	2.47	0.40
17:H:154:PRO:CG	17:H:155:SER:N	2.83	0.40
18:I:75:LEU:HD11	18:I:105:HIS:CE1	2.57	0.40
10:A:2292:C:C2'	10:A:2293:C:H5'	2.50	0.40
15:F:179:GLU:OE1	15:F:179:GLU:N	2.31	0.40
4:3:23:LEU:HD12	4:3:50:VAL:HG11	2.02	0.40
10:A:21:A:H2'	10:A:22:C:C6	2.56	0.40
7:6:27:LYS:HA	7:6:27:LYS:HD3	1.90	0.40
10:A:45:C:H2'	10:A:47:C:C6	2.54	0.40
18:I:66:GLU:HA	18:I:66:GLU:OE1	2.21	0.40
10:A:2192:G:C2'	10:A:2193:G:H5''	2.51	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:A:851:U:O2'	10:A:852:G:H5'	2.20	0.40
16:G:177:GLY:O	16:G:179:PRO:HD3	2.21	0.40
10:A:1360:A:N7	10:A:1361:G:N7	2.69	0.40
14:E:175:VAL:O	14:E:177:PRO:HD3	2.21	0.40
19:N:61:ARG:HG3	19:N:61:ARG:HH11	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
1	0	83/85 (98%)	62 (75%)	16 (19%)	5 (6%)	2	6
2	1	87/98 (89%)	43 (49%)	25 (29%)	19 (22%)	0	0
3	2	49/72 (68%)	16 (33%)	16 (33%)	17 (35%)	0	0
4	3	58/60 (97%)	42 (72%)	12 (21%)	4 (7%)	2	4
5	4	48/71 (68%)	14 (29%)	11 (23%)	23 (48%)	0	0
6	5	57/60 (95%)	37 (65%)	13 (23%)	7 (12%)	1	1
7	6	41/54 (76%)	18 (44%)	16 (39%)	7 (17%)	0	0
8	7	47/49 (96%)	36 (77%)	10 (21%)	1 (2%)	11	33
9	8	62/65 (95%)	38 (61%)	13 (21%)	11 (18%)	0	0
12	C	183/229 (80%)	88 (48%)	52 (28%)	43 (24%)	0	0
13	D	270/276 (98%)	193 (72%)	51 (19%)	26 (10%)	1	2
14	E	203/206 (98%)	116 (57%)	49 (24%)	38 (19%)	0	0
15	F	206/210 (98%)	142 (69%)	40 (19%)	24 (12%)	1	1
16	G	177/182 (97%)	93 (52%)	56 (32%)	28 (16%)	0	1
17	H	158/180 (88%)	100 (63%)	31 (20%)	27 (17%)	0	0
18	I	144/148 (97%)	98 (68%)	36 (25%)	10 (7%)	2	4
19	N	137/140 (98%)	75 (55%)	35 (26%)	27 (20%)	0	0

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
20	O	120/122 (98%)	92 (77%)	17 (14%)	11 (9%)	1	2
21	P	144/150 (96%)	72 (50%)	37 (26%)	35 (24%)	0	0
22	Q	134/141 (95%)	81 (60%)	34 (25%)	19 (14%)	0	1
23	R	115/118 (98%)	74 (64%)	20 (17%)	21 (18%)	0	0
24	S	97/112 (87%)	49 (50%)	19 (20%)	29 (30%)	0	0
25	T	136/146 (93%)	77 (57%)	34 (25%)	25 (18%)	0	0
26	U	115/118 (98%)	61 (53%)	42 (36%)	12 (10%)	1	1
27	V	97/101 (96%)	47 (48%)	23 (24%)	27 (28%)	0	0
28	W	111/113 (98%)	74 (67%)	23 (21%)	14 (13%)	0	1
29	X	91/96 (95%)	45 (50%)	23 (25%)	23 (25%)	0	0
30	Y	99/110 (90%)	41 (41%)	24 (24%)	34 (34%)	0	0
31	Z	175/206 (85%)	99 (57%)	48 (27%)	28 (16%)	0	1
All	All	3444/3718 (93%)	2023 (59%)	826 (24%)	595 (17%)	0	0

All (595) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	1	10	LYS
2	1	12	PRO
2	1	13	ILE
2	1	14	VAL
2	1	15	ALA
2	1	33	LYS
2	1	47	GLN
2	1	48	LYS
2	1	49	VAL
2	1	90	ILE
2	1	94	LEU
3	2	16	LEU
3	2	35	LEU
3	2	40	SER
3	2	41	ILE
3	2	43	GLN
3	2	48	HIS
3	2	52	ASP
3	2	61	LEU
4	3	13	ILE
5	4	3	GLU

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Mol	Chain	Res	Type
5	4	6	HIS
5	4	7	PRO
5	4	10	VAL
5	4	11	PRO
5	4	16	CYS
5	4	29	PRO
5	4	31	ILE
5	4	37	SER
6	5	4	HIS
6	5	34	PRO
6	5	56	LYS
7	6	31	PRO
9	8	17	THR
9	8	32	LEU
9	8	37	SER
9	8	51	ALA
12	C	19	VAL
12	C	35	ALA
12	C	46	LYS
12	C	57	ASN
12	C	63	SER
12	C	160	ARG
12	C	161	ILE
12	C	166	ASP
12	C	172	HIS
12	C	173	ALA
12	C	174	PRO
12	C	179	SER
12	C	182	PRO
12	C	191	ALA
12	C	192	PHE
12	C	201	PRO
12	C	205	LYS
12	C	209	LEU
12	C	213	TYR
12	C	216	THR
12	C	220	PRO
13	D	25	THR
13	D	26	LYS
13	D	28	GLU
13	D	45	ASN
13	D	225	ALA

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Mol	Chain	Res	Type
13	D	267	SER
14	E	2	LYS
14	E	4	ILE
14	E	45	THR
14	E	53	PRO
14	E	54	GLN
14	E	57	LYS
14	E	77	ILE
14	E	82	ARG
14	E	92	THR
14	E	93	VAL
14	E	118	LYS
14	E	131	ALA
14	E	173	VAL
14	E	187	ALA
14	E	201	THR
15	F	2	LYS
15	F	14	PRO
15	F	21	ALA
15	F	115	ALA
15	F	133	ASN
15	F	206	ILE
16	G	47	LYS
16	G	81	LYS
16	G	82	LEU
16	G	86	MET
16	G	87	PRO
16	G	96	ARG
16	G	97	ASP
16	G	115	ARG
16	G	153	ARG
17	H	13	LYS
17	H	47	GLU
17	H	55	PRO
17	H	84	SER
17	H	85	LYS
17	H	89	ILE
17	H	90	LYS
17	H	92	ILE
17	H	137	ASP
17	H	138	LYS
17	H	153	LYS

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Mol	Chain	Res	Type
17	H	154	PRO
17	H	158	HIS
17	H	159	GLU
18	I	133	HIS
18	I	145	VAL
19	N	13	TRP
19	N	47	ALA
19	N	57	ALA
19	N	62	VAL
19	N	63	THR
19	N	74	ARG
19	N	78	TYR
19	N	96	GLU
20	O	5	GLN
20	O	12	ASP
20	O	26	LYS
20	O	29	ASN
20	O	100	GLY
20	O	101	PRO
20	O	102	VAL
20	O	120	GLU
21	P	12	ALA
21	P	15	ARG
21	P	34	GLY
21	P	35	HIS
21	P	36	LYS
21	P	47	ASP
21	P	58	THR
21	P	101	VAL
21	P	106	LEU
21	P	123	LEU
21	P	146	VAL
21	P	147	LEU
22	Q	11	LYS
22	Q	30	GLY
22	Q	79	LEU
22	Q	83	MET
22	Q	134	ARG
23	R	5	LYS
23	R	8	ARG
23	R	9	LYS
23	R	14	SER

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Mol	Chain	Res	Type
23	R	45	ARG
23	R	107	ASP
23	R	116	LEU
23	R	117	VAL
24	S	14	VAL
24	S	29	PHE
24	S	57	LYS
24	S	58	LEU
24	S	59	LYS
24	S	67	ARG
24	S	74	ALA
24	S	87	PHE
24	S	89	ARG
24	S	100	ALA
24	S	102	ALA
25	T	24	PRO
25	T	28	VAL
25	T	30	VAL
25	T	41	ARG
25	T	58	ASN
25	T	80	SER
25	T	97	ALA
25	T	103	ARG
25	T	107	ASP
25	T	115	ARG
26	U	9	VAL
26	U	88	ILE
26	U	92	ARG
26	U	93	LYS
27	V	15	GLU
27	V	28	GLU
27	V	47	VAL
27	V	51	VAL
27	V	52	VAL
27	V	73	SER
28	W	11	ARG
28	W	48	ALA
29	X	25	LYS
29	X	59	VAL
29	X	60	ARG
29	X	69	TYR
29	X	81	VAL

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Mol	Chain	Res	Type
29	X	84	ALA
29	X	88	LYS
29	X	89	ILE
30	Y	7	VAL
30	Y	16	ALA
30	Y	17	SER
30	Y	27	VAL
30	Y	30	VAL
30	Y	38	ILE
30	Y	55	TYR
30	Y	56	PRO
30	Y	62	GLU
30	Y	66	PRO
30	Y	77	PRO
30	Y	78	ALA
30	Y	90	LEU
31	Z	8	TYR
31	Z	18	LEU
31	Z	19	ARG
31	Z	65	GLN
31	Z	78	LYS
31	Z	119	GLU
31	Z	142	SER
31	Z	148	ASP
31	Z	168	GLU
1	0	5	LYS
1	0	20	ARG
2	1	11	ARG
2	1	81	LYS
2	1	87	PRO
3	2	14	ARG
3	2	42	GLY
3	2	53	LEU
3	2	59	ARG
4	3	39	ASP
5	4	23	GLU
5	4	24	THR
6	5	35	GLU
9	8	3	LYS
9	8	30	ARG
9	8	35	GLN
9	8	36	LYS

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Mol	Chain	Res	Type
9	8	43	GLN
12	C	62	VAL
12	C	125	SER
12	C	133	PRO
12	C	148	ASN
12	C	211	SER
12	C	214	VAL
13	D	3	VAL
13	D	32	SER
13	D	33	LEU
13	D	223	GLY
13	D	236	GLY
14	E	64	LYS
14	E	69	LYS
14	E	70	ALA
14	E	71	GLY
14	E	76	ARG
14	E	88	GLY
14	E	89	ASP
14	E	130	GLY
14	E	135	HIS
14	E	184	VAL
14	E	186	GLY
15	F	64	ILE
15	F	85	GLY
15	F	86	GLY
15	F	113	ALA
15	F	134	GLY
16	G	14	GLU
16	G	84	LYS
16	G	107	LEU
16	G	110	ALA
16	G	155	MET
17	H	41	MET
17	H	76	VAL
17	H	149	ARG
17	H	160	LYS
18	I	120	ILE
18	I	121	LYS
18	I	122	GLU
19	N	19	GLU
19	N	34	LEU

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Mol	Chain	Res	Type
19	N	52	VAL
19	N	58	ASP
19	N	64	GLY
19	N	94	HIS
19	N	95	PRO
19	N	127	ASP
19	N	130	HIS
21	P	6	LEU
21	P	10	PRO
21	P	18	ARG
21	P	31	ALA
21	P	52	GLU
21	P	65	ARG
21	P	67	MET
21	P	69	GLY
21	P	102	ARG
21	P	115	LEU
21	P	141	ALA
22	Q	24	GLY
22	Q	59	ARG
22	Q	71	ASP
22	Q	90	VAL
22	Q	136	ALA
23	R	4	LEU
23	R	7	GLY
23	R	12	ARG
23	R	42	LYS
23	R	86	ARG
24	S	18	ILE
24	S	23	ARG
24	S	24	LEU
24	S	45	GLY
24	S	62	LYS
24	S	66	ALA
24	S	88	ASP
24	S	92	TYR
25	T	18	ASP
25	T	83	ILE
25	T	85	LYS
26	U	7	GLY
26	U	25	TRP
26	U	32	PHE

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Mol	Chain	Res	Type
26	U	67	ALA
27	V	3	ALA
27	V	23	GLU
27	V	44	LYS
27	V	50	PRO
27	V	64	HIS
27	V	68	LYS
27	V	72	VAL
27	V	91	TYR
28	W	6	ILE
28	W	35	ILE
28	W	93	ALA
29	X	6	ASP
29	X	34	ALA
29	X	36	LYS
29	X	65	ARG
29	X	77	LYS
29	X	86	GLY
29	X	90	GLU
30	Y	15	VAL
30	Y	80	GLY
31	Z	49	ARG
31	Z	110	GLY
31	Z	121	HIS
31	Z	122	ARG
31	Z	147	GLY
31	Z	158	PRO
31	Z	165	VAL
2	1	27	GLU
2	1	75	GLU
2	1	83	GLU
3	2	33	MET
3	2	37	PHE
3	2	49	LYS
5	4	8	LYS
5	4	9	LEU
5	4	30	GLU
5	4	36	CYS
12	C	49	ILE
12	C	140	PRO
12	C	198	ALA
12	C	204	ALA

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Mol	Chain	Res	Type
12	C	210	ARG
12	C	217	THR
13	D	133	LEU
13	D	242	ARG
13	D	246	PRO
14	E	169	ASN
15	F	5	ALA
15	F	84	VAL
15	F	89	VAL
15	F	116	ASP
15	F	127	GLU
15	F	184	TYR
17	H	21	PRO
17	H	71	LEU
17	H	73	ALA
18	I	39	ALA
19	N	80	GLY
19	N	136	GLU
20	O	48	PRO
21	P	39	LYS
21	P	41	ARG
21	P	43	GLY
21	P	110	TYR
22	Q	8	LYS
22	Q	49	ALA
23	R	80	PHE
23	R	82	GLU
24	S	17	ARG
24	S	78	LEU
24	S	83	LYS
24	S	94	TYR
24	S	103	GLU
25	T	33	LYS
25	T	35	LYS
25	T	68	TYR
25	T	94	ALA
26	U	89	GLU
27	V	19	LYS
27	V	26	ASP
27	V	45	THR
27	V	90	PRO
28	W	44	ALA

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Mol	Chain	Res	Type
28	W	60	ASN
29	X	37	THR
29	X	48	LYS
29	X	68	ARG
29	X	71	GLY
30	Y	31	LEU
30	Y	39	VAL
30	Y	41	GLY
30	Y	48	ALA
30	Y	49	VAL
30	Y	81	LYS
31	Z	46	LYS
31	Z	111	VAL
31	Z	117	LEU
1	0	15	ASP
1	0	55	ARG
1	0	83	PRO
2	1	56	GLN
2	1	63	ALA
5	4	2	LYS
5	4	40	HIS
5	4	47	GLN
7	6	24	GLU
7	6	28	ARG
7	6	33	LYS
7	6	52	VAL
9	8	64	TYR
12	C	55	ASP
12	C	64	LEU
12	C	77	ILE
12	C	183	GLU
12	C	202	GLU
13	D	12	SER
13	D	127	VAL
13	D	156	ALA
13	D	193	VAL
13	D	224	ALA
13	D	245	PRO
13	D	264	LYS
14	E	80	GLU
14	E	94	GLU
14	E	178	GLU

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Mol	Chain	Res	Type
15	F	10	PRO
15	F	11	VAL
15	F	104	LYS
15	F	108	LYS
15	F	168	ARG
16	G	9	ARG
16	G	49	ASP
16	G	90	LEU
16	G	130	ASN
17	H	44	VAL
17	H	56	SER
17	H	107	VAL
17	H	155	SER
18	I	15	VAL
18	I	91	SER
19	N	98	VAL
19	N	129	PRO
20	O	35	VAL
20	O	45	GLU
21	P	26	GLY
21	P	48	PRO
21	P	49	ARG
21	P	71	VAL
21	P	100	LEU
22	Q	89	ASN
22	Q	135	ASP
23	R	28	LEU
23	R	50	HIS
24	S	33	LYS
25	T	11	GLU
25	T	26	ASP
25	T	81	PRO
25	T	82	LEU
25	T	129	ARG
26	U	113	ALA
27	V	42	GLY
27	V	79	VAL
27	V	86	GLY
28	W	2	GLU
28	W	49	LYS
28	W	59	VAL
29	X	74	PRO

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Mol	Chain	Res	Type
30	Y	33	LYS
30	Y	34	LYS
30	Y	40	GLU
30	Y	57	GLN
30	Y	67	LEU
31	Z	43	GLU
31	Z	166	SER
3	2	15	LYS
3	2	26	ARG
5	4	12	ALA
5	4	27	THR
6	5	33	CYS
7	6	38	LYS
7	6	49	HIS
9	8	19	SER
12	C	159	GLY
14	E	56	PRO
14	E	58	ARG
14	E	72	VAL
14	E	73	GLU
14	E	90	THR
14	E	180	ASN
15	F	25	PRO
16	G	3	LEU
16	G	6	ALA
16	G	17	PRO
16	G	22	ARG
16	G	43	LEU
16	G	181	ARG
17	H	129	THR
18	I	85	GLU
19	N	9	VAL
19	N	40	PRO
19	N	77	GLY
19	N	88	GLU
21	P	135	LEU
22	Q	54	MET
23	R	17	ARG
24	S	95	HIS
25	T	88	ILE
25	T	119	LYS
27	V	37	VAL

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Mol	Chain	Res	Type
27	V	41	GLY
28	W	45	TYR
28	W	56	ALA
29	X	38	GLU
30	Y	50	ARG
30	Y	76	CYS
30	Y	99	CYS
31	Z	41	LEU
31	Z	45	ASP
31	Z	62	PRO
31	Z	177	PRO
13	D	211	ARG
13	D	239	ARG
13	D	244	ARG
15	F	6	VAL
16	G	109	VAL
21	P	38	GLN
23	R	10	LEU
23	R	102	GLU
28	W	63	ASP
30	Y	3	VAL
31	Z	39	VAL
4	3	41	PRO
6	5	57	VAL
12	C	175	VAL
14	E	75	VAL
21	P	97	PRO
23	R	38	VAL
24	S	28	VAL
24	S	96	GLY
26	U	65	ILE
27	V	70	ILE
30	Y	18	GLY
30	Y	22	GLY
31	Z	22	GLY
5	4	19	GLY
12	C	130	ILE
12	C	149	ILE
13	D	35	LYS
18	I	111	PRO
19	N	11	PRO
22	Q	47	ILE

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Mol	Chain	Res	Type
22	Q	99	PRO
27	V	22	VAL
28	W	112	GLY
30	Y	96	ILE
4	3	50	VAL
5	4	15	ILE
6	5	47	PRO
8	7	30	VAL
12	C	103	ILE
14	E	81	ILE
19	N	135	PRO
22	Q	81	VAL
22	Q	88	GLY
24	S	85	VAL
27	V	17	GLY
29	X	49	VAL
30	Y	24	VAL
5	4	14	ILE
16	G	28	VAL
16	G	129	GLY
16	G	140	ILE
25	T	7	ILE
26	U	90	VAL
29	X	32	PRO
13	D	8	PRO
17	H	49	VAL
27	V	54	GLY
31	Z	12	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
1	0	61/67 (91%)	54 (88%)	7 (12%)	8	23
2	1	73/83 (88%)	62 (85%)	11 (15%)	4	12
3	2	46/67 (69%)	35 (76%)	11 (24%)	1	3
4	3	51/52 (98%)	49 (96%)	2 (4%)	43	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	5	51/52 (98%)	41 (80%)	10 (20%)	2	6
7	6	43/52 (83%)	36 (84%)	7 (16%)	3	10
8	7	41/42 (98%)	37 (90%)	4 (10%)	12	32
9	8	53/55 (96%)	45 (85%)	8 (15%)	4	12
12	C	61/181 (34%)	54 (88%)	7 (12%)	8	23
13	D	213/218 (98%)	179 (84%)	34 (16%)	3	10
14	E	165/166 (99%)	145 (88%)	20 (12%)	7	21
15	F	165/166 (99%)	153 (93%)	12 (7%)	20	49
16	G	155/156 (99%)	135 (87%)	20 (13%)	6	18
17	H	132/148 (89%)	117 (89%)	15 (11%)	8	24
18	I	122/124 (98%)	113 (93%)	9 (7%)	20	48
19	N	117/119 (98%)	98 (84%)	19 (16%)	3	10
20	O	100/100 (100%)	92 (92%)	8 (8%)	17	44
21	P	112/116 (97%)	92 (82%)	20 (18%)	2	7
22	Q	106/111 (96%)	93 (88%)	13 (12%)	7	20
23	R	100/101 (99%)	91 (91%)	9 (9%)	14	37
24	S	77/88 (88%)	65 (84%)	12 (16%)	4	11
25	T	120/127 (94%)	99 (82%)	21 (18%)	3	8
26	U	92/94 (98%)	85 (92%)	7 (8%)	19	46
27	V	82/82 (100%)	64 (78%)	18 (22%)	1	4
28	W	91/92 (99%)	85 (93%)	6 (7%)	24	56
29	X	74/78 (95%)	59 (80%)	15 (20%)	2	5
30	Y	84/91 (92%)	67 (80%)	17 (20%)	2	5
31	Z	155/179 (87%)	144 (93%)	11 (7%)	21	51
All	All	2742/3007 (91%)	2389 (87%)	353 (13%)	6	18

All (353) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	20	ARG
1	0	25	ARG
1	0	31	VAL
1	0	36	ILE
1	0	64	ASP

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Mol	Chain	Res	Type
1	0	80	HIS
1	0	84	LEU
2	1	12	PRO
2	1	20	ARG
2	1	21	ARG
2	1	26	ARG
2	1	34	THR
2	1	46	LEU
2	1	47	GLN
2	1	48	LYS
2	1	53	VAL
2	1	73	LEU
2	1	94	LEU
3	2	23	LYS
3	2	30	ARG
3	2	33	MET
3	2	44	LEU
3	2	46	GLN
3	2	47	ASN
3	2	50	ILE
3	2	51	ARG
3	2	53	LEU
3	2	56	GLN
3	2	57	ILE
4	3	4	LEU
4	3	8	LEU
6	5	3	LYS
6	5	4	HIS
6	5	25	LEU
6	5	32	PRO
6	5	33	CYS
6	5	37	LYS
6	5	44	THR
6	5	51	TYR
6	5	56	LYS
6	5	58	LEU
7	6	10	LEU
7	6	18	ARG
7	6	19	ARG
7	6	30	THR
7	6	31	PRO
7	6	42	TRP

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Mol	Chain	Res	Type
7	6	44	ARG
8	7	8	ASN
8	7	10	ARG
8	7	43	THR
8	7	48	LYS
9	8	6	THR
9	8	13	ARG
9	8	16	ILE
9	8	34	TRP
9	8	40	GLU
9	8	44	LYS
9	8	47	LYS
9	8	48	PHE
12	C	20	TYR
12	C	36	LYS
12	C	41	VAL
12	C	58	VAL
12	C	64	LEU
12	C	77	ILE
12	C	101	GLN
13	D	10	THR
13	D	14	ARG
13	D	17	THR
13	D	18	VAL
13	D	20	ASP
13	D	24	ILE
13	D	26	LYS
13	D	31	LYS
13	D	36	PRO
13	D	54	ARG
13	D	64	ILE
13	D	65	ILE
13	D	73	VAL
13	D	84	TYR
13	D	91	ARG
13	D	94	LEU
13	D	95	LEU
13	D	106	ILE
13	D	111	LEU
13	D	131	LEU
13	D	135	PHE
13	D	138	VAL

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Mol	Chain	Res	Type
13	D	150	LYS
13	D	166	GLN
13	D	183	ARG
13	D	192	THR
13	D	211	ARG
13	D	212	SER
13	D	221	VAL
13	D	242	ARG
13	D	253	GLN
13	D	255	LYS
13	D	259	THR
13	D	260	ARG
14	E	9	VAL
14	E	21	VAL
14	E	33	VAL
14	E	44	TYR
14	E	66	HIS
14	E	67	PHE
14	E	73	GLU
14	E	78	LEU
14	E	79	ARG
14	E	89	ASP
14	E	113	PHE
14	E	117	MET
14	E	118	LYS
14	E	119	ARG
14	E	134	ILE
14	E	154	LYS
14	E	160	TYR
14	E	184	VAL
14	E	202	LYS
14	E	203	LYS
15	F	15	SER
15	F	64	ILE
15	F	66	PRO
15	F	74	ARG
15	F	78	ILE
15	F	100	THR
15	F	110	LEU
15	F	112	MET
15	F	160	ASN
15	F	165	ARG

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Mol	Chain	Res	Type
15	F	191	ARG
15	F	202	PHE
16	G	7	LEU
16	G	22	ARG
16	G	31	VAL
16	G	34	LEU
16	G	39	ILE
16	G	40	ASN
16	G	43	LEU
16	G	45	GLU
16	G	63	ILE
16	G	67	LYS
16	G	87	PRO
16	G	90	LEU
16	G	94	LEU
16	G	101	ILE
16	G	112	PRO
16	G	125	PHE
16	G	143	GLU
16	G	145	THR
16	G	155	MET
16	G	166	ASP
17	H	41	MET
17	H	53	GLU
17	H	86	GLU
17	H	89	ILE
17	H	105	LEU
17	H	123	PHE
17	H	136	ILE
17	H	143	GLN
17	H	149	ARG
17	H	152	ARG
17	H	153	LYS
17	H	157	TYR
17	H	159	GLU
17	H	163	TYR
17	H	170	ARG
18	I	12	LEU
18	I	15	VAL
18	I	38	LEU
18	I	109	ILE
18	I	129	THR

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Mol	Chain	Res	Type
18	I	130	TYR
18	I	133	HIS
18	I	134	PRO
18	I	142	VAL
19	N	4	TYR
19	N	19	GLU
19	N	22	THR
19	N	28	THR
19	N	39	ARG
19	N	41	ASP
19	N	42	TRP
19	N	48	MET
19	N	51	PHE
19	N	56	ASN
19	N	63	THR
19	N	65	LYS
19	N	78	TYR
19	N	79	PRO
19	N	82	LEU
19	N	94	HIS
19	N	120	LEU
19	N	127	ASP
19	N	130	HIS
20	O	17	ARG
20	O	32	TYR
20	O	48	PRO
20	O	52	VAL
20	O	101	PRO
20	O	102	VAL
20	O	115	VAL
20	O	119	PRO
21	P	10	PRO
21	P	13	ASN
21	P	16	ARG
21	P	18	ARG
21	P	21	ARG
21	P	33	ARG
21	P	35	HIS
21	P	40	SER
21	P	59	LEU
21	P	61	ARG
21	P	62	LEU

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Mol	Chain	Res	Type
21	P	64	LYS
21	P	75	ILE
21	P	81	GLN
21	P	85	LEU
21	P	105	LEU
21	P	123	LEU
21	P	135	LEU
21	P	144	GLU
21	P	148	LEU
22	Q	13	GLN
22	Q	17	LEU
22	Q	22	LYS
22	Q	26	TYR
22	Q	29	PHE
22	Q	34	LEU
22	Q	58	PHE
22	Q	63	LYS
22	Q	75	THR
22	Q	80	GLU
22	Q	82	ARG
22	Q	91	GLU
22	Q	111	GLU
23	R	2	ARG
23	R	5	LYS
23	R	17	ARG
23	R	40	LYS
23	R	49	ASP
23	R	60	LEU
23	R	76	VAL
23	R	79	LEU
23	R	104	ARG
24	S	13	ARG
24	S	16	ASN
24	S	26	LEU
24	S	36	TYR
24	S	54	LEU
24	S	61	ASN
24	S	68	GLN
24	S	80	LEU
24	S	89	ARG
24	S	92	TYR
24	S	93	LYS

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Mol	Chain	Res	Type
24	S	98	VAL
25	T	13	ARG
25	T	24	PRO
25	T	32	TYR
25	T	33	LYS
25	T	41	ARG
25	T	51	ARG
25	T	53	ARG
25	T	58	ASN
25	T	59	THR
25	T	65	LYS
25	T	78	LEU
25	T	82	LEU
25	T	87	ASP
25	T	96	ARG
25	T	99	LEU
25	T	100	TYR
25	T	108	ARG
25	T	112	ARG
25	T	115	ARG
25	T	121	ILE
25	T	128	GLU
26	U	64	ARG
26	U	76	TYR
26	U	79	PHE
26	U	88	ILE
26	U	89	GLU
26	U	112	ARG
26	U	114	LYS
27	V	1	MET
27	V	2	PHE
27	V	12	TYR
27	V	14	VAL
27	V	18	LEU
27	V	19	LYS
27	V	21	ARG
27	V	39	LEU
27	V	40	LEU
27	V	66	ARG
27	V	70	ILE
27	V	78	LYS
27	V	80	GLN

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Mol	Chain	Res	Type
27	V	82	ARG
27	V	88	ARG
27	V	90	PRO
27	V	92	THR
27	V	93	GLU
28	W	11	ARG
28	W	25	ARG
28	W	70	TYR
28	W	75	TYR
28	W	88	ARG
28	W	107	LEU
29	X	21	PHE
29	X	27	THR
29	X	28	PHE
29	X	33	LYS
29	X	35	THR
29	X	36	LYS
29	X	40	LYS
29	X	43	VAL
29	X	49	VAL
29	X	59	VAL
29	X	65	ARG
29	X	68	ARG
29	X	76	ARG
29	X	78	LYS
29	X	81	VAL
30	Y	6	HIS
30	Y	7	VAL
30	Y	9	LYS
30	Y	14	LEU
30	Y	29	GLU
30	Y	31	LEU
30	Y	32	PRO
30	Y	35	TYR
30	Y	38	ILE
30	Y	56	PRO
30	Y	62	GLU
30	Y	66	PRO
30	Y	75	ILE
30	Y	76	CYS
30	Y	77	PRO
30	Y	90	LEU

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Mol	Chain	Res	Type
30	Y	97	ARG
31	Z	6	LYS
31	Z	9	TYR
31	Z	79	ARG
31	Z	86	VAL
31	Z	87	ASP
31	Z	89	PHE
31	Z	97	GLU
31	Z	99	TYR
31	Z	144	LEU
31	Z	150	LEU
31	Z	163	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (86) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	29	GLN
1	0	35	ASN
2	1	19	GLN
2	1	66	HIS
3	2	46	GLN
3	2	47	ASN
3	2	56	GLN
4	3	19	GLN
4	3	46	ASN
6	5	4	HIS
6	5	23	HIS
6	5	43	HIS
7	6	20	ASN
7	6	26	ASN
8	7	8	ASN
9	8	35	GLN
13	D	58	HIS
13	D	126	GLN
13	D	164	GLN
13	D	166	GLN
13	D	186	HIS
13	D	198	ASN
14	E	48	GLN
14	E	54	GLN
14	E	66	HIS
14	E	132	HIS

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Mol	Chain	Res	Type
14	E	143	ASN
14	E	169	ASN
14	E	192	ASN
15	F	69	HIS
15	F	75	HIS
15	F	160	ASN
15	F	169	ASN
16	G	27	ASN
16	G	40	ASN
16	G	79	ASN
17	H	74	ASN
17	H	147	ASN
18	I	43	ASN
18	I	105	HIS
18	I	133	HIS
19	N	56	ASN
19	N	94	HIS
19	N	128	HIS
20	O	3	GLN
20	O	13	ASN
21	P	9	ASN
21	P	13	ASN
21	P	38	GLN
21	P	81	GLN
21	P	128	HIS
22	Q	12	GLN
22	Q	13	GLN
22	Q	89	ASN
22	Q	141	GLN
23	R	13	HIS
23	R	16	HIS
23	R	23	ASN
23	R	61	HIS
23	R	91	GLN
24	S	16	ASN
24	S	34	HIS
24	S	61	ASN
24	S	84	GLN
25	T	58	ASN
25	T	84	GLN
25	T	90	GLN
25	T	123	GLN

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Mol	Chain	Res	Type
26	U	14	HIS
26	U	49	HIS
26	U	75	ASN
26	U	81	HIS
27	V	11	GLN
27	V	89	GLN
28	W	57	ASN
28	W	60	ASN
28	W	61	ASN
28	W	62	HIS
29	X	41	ASN
29	X	55	ASN
29	X	87	GLN
30	Y	6	HIS
31	Z	73	GLN
31	Z	75	ASN
31	Z	118	GLN
31	Z	151	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	A	2771/2787 (99%)	563 (20%)	76 (2%)
11	B	118/122 (96%)	14 (11%)	1 (0%)
All	All	2889/2909 (99%)	577 (19%)	77 (2%)

All (577) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
10	A	10	G
10	A	28	A
10	A	35	G
10	A	45	C
10	A	49	A
10	A	50	U
10	A	51	G
10	A	64	A
10	A	69	C
10	A	71	A
10	A	72	U
10	A	73	A

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Mol	Chain	Res	Type
10	A	75	G
10	A	84	A
10	A	88	G
10	A	90	U
10	A	92	A
10	A	94	C
10	A	95	G
10	A	99	U
10	A	100	G
10	A	102	G
10	A	118	A
10	A	119	A
10	A	120	U
10	A	129	C
10	A	132	G
10	A	139	G
10	A	139(A)	G
10	A	141	A
10	A	142(A)	C
10	A	143(A)	C
10	A	146	G
10	A	149	A
10	A	154	G
10	A	154(A)	C
10	A	157	U
10	A	158	U
10	A	171	G
10	A	196	A
10	A	197	A
10	A	199	A
10	A	204	A
10	A	205	G
10	A	216	A
10	A	221	A
10	A	222	A
10	A	228	A
10	A	229	A
10	A	230	U
10	A	248	G
10	A	261	G
10	A	267	C
10	A	271(I)	G

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Mol	Chain	Res	Type
10	A	271(K)	U
10	A	271(L)	U
10	A	271(M)	G
10	A	271(N)	U
10	A	271(O)	C
10	A	271(P)	C
10	A	271(R)	G
10	A	271(Y)	U
10	A	272	G
10	A	272(B)	G
10	A	272(H)	C
10	A	274	G
10	A	275	G
10	A	279	C
10	A	283	A
10	A	284	U
10	A	286	C
10	A	287	C
10	A	329	G
10	A	330	A
10	A	332	A
10	A	333	G
10	A	344	G
10	A	352	G
10	A	362	U
10	A	363(F)	A
10	A	364	C
10	A	365	C
10	A	372	G
10	A	386	G
10	A	388	G
10	A	396	G
10	A	405	U
10	A	411	G
10	A	412	A
10	A	428	A
10	A	444	C
10	A	448	U
10	A	456	C
10	A	457	A
10	A	470	A
10	A	472	A

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Mol	Chain	Res	Type
10	A	473	G
10	A	475	U
10	A	481	G
10	A	505	A
10	A	508	G
10	A	509	C
10	A	513	A
10	A	531	C
10	A	532	A
10	A	533	G
10	A	537	C
10	A	542	C
10	A	543	C
10	A	547	A
10	A	548	A
10	A	549	G
10	A	551	G
10	A	563	G
10	A	572	A
10	A	573	G
10	A	575	A
10	A	586	A
10	A	588	U
10	A	604	G
10	A	607	U
10	A	613	G
10	A	614(A)	U
10	A	614(B)	G
10	A	614(C)	A
10	A	615	G
10	A	621	A
10	A	622	G
10	A	627	A
10	A	637	A
10	A	645	C
10	A	646	A
10	A	652	C
10	A	656	G
10	A	659	C
10	A	669	G
10	A	670	A
10	A	671	C

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Mol	Chain	Res	Type
10	A	686	G
10	A	687	C
10	A	708	C
10	A	722	A
10	A	730	C
10	A	753	C
10	A	775	G
10	A	776	G
10	A	782	A
10	A	784	A
10	A	790	C
10	A	791	C
10	A	792	G
10	A	805	G
10	A	812	C
10	A	819	A
10	A	827	U
10	A	828	U
10	A	830	G
10	A	848	G
10	A	856	C
10	A	857	C
10	A	859	G
10	A	866	A
10	A	878	A
10	A	883	G
10	A	892	G
10	A	894	C
10	A	897	C
10	A	898	C
10	A	901	A
10	A	910	A
10	A	914	C
10	A	917	A
10	A	926	A
10	A	932	G
10	A	941	A
10	A	946	G
10	A	955	C
10	A	956	G
10	A	957	A
10	A	958	U

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Mol	Chain	Res	Type
10	A	959	A
10	A	961	C
10	A	965	C
10	A	974	G
10	A	975	C
10	A	983	A
10	A	991	C
10	A	996	A
10	A	1005	C
10	A	1011	G
10	A	1012	U
10	A	1013	C
10	A	1022	G
10	A	1023	U
10	A	1025	G
10	A	1026	U
10	A	1034	G
10	A	1041	C
10	A	1044	G
10	A	1045	A
10	A	1047	G
10	A	1049	C
10	A	1052	C
10	A	1106	A
10	A	1107	G
10	A	1110	G
10	A	1112	G
10	A	1113	U
10	A	1115	G
10	A	1129	A
10	A	1130	U
10	A	1135	C
10	A	1136	G
10	A	1142	U
10	A	1143	A
10	A	1155	A
10	A	1156	A
10	A	1159	U
10	A	1175	U
10	A	1176	G
10	A	1177	A
10	A	1178	C

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Mol	Chain	Res	Type
10	A	1195	G
10	A	1205	U
10	A	1206	G
10	A	1210	A
10	A	1211	U
10	A	1220	A
10	A	1221	C
10	A	1241	A
10	A	1247	A
10	A	1248	G
10	A	1251	C
10	A	1253	A
10	A	1254	A
10	A	1255	U
10	A	1256	G
10	A	1265	A
10	A	1271	G
10	A	1272	A
10	A	1276	A
10	A	1281	G
10	A	1300	U
10	A	1301	A
10	A	1302	A
10	A	1314	C
10	A	1319	G
10	A	1329	U
10	A	1332	G
10	A	1345	C
10	A	1349	A
10	A	1352	U
10	A	1359	A
10	A	1368	G
10	A	1379	A
10	A	1380	G
10	A	1384	A
10	A	1385	G
10	A	1398	C
10	A	1407	C
10	A	1416	G
10	A	1417	C
10	A	1419	A
10	A	1420	U

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Mol	Chain	Res	Type
10	A	1421	G
10	A	1427	A
10	A	1428	C
10	A	1437	C
10	A	1445	A
10	A	1449	A
10	A	1450	G
10	A	1455	G
10	A	1458	C
10	A	1459	G
10	A	1461	G
10	A	1467	C
10	A	1471	A
10	A	1475	G
10	A	1478	G
10	A	1481	U
10	A	1482	G
10	A	1484	G
10	A	1485	G
10	A	1490	A
10	A	1493	C
10	A	1494	A
10	A	1495	A
10	A	1497	U
10	A	1498	C
10	A	1501	C
10	A	1502	C
10	A	1505	C
10	A	1509	C
10	A	1509(A)	A
10	A	1520	G
10	A	1528(A)	A
10	A	1529	G
10	A	1530	C
10	A	1531	C
10	A	1532	C
10	A	1533	G
10	A	1543	C
10	A	1545	A
10	A	1554	A
10	A	1558	A
10	A	1559	G

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Mol	Chain	Res	Type
10	A	1569	A
10	A	1578	U
10	A	1579	A
10	A	1584	C
10	A	1586	A
10	A	1588	C
10	A	1591	G
10	A	1594	G
10	A	1603	A
10	A	1608	A
10	A	1610	A
10	A	1616	A
10	A	1617	C
10	A	1618	A
10	A	1635	G
10	A	1636	C
10	A	1640	C
10	A	1648	C
10	A	1652	A
10	A	1653	G
10	A	1654	A
10	A	1674	G
10	A	1694	C
10	A	1695	G
10	A	1697	G
10	A	1698	A
10	A	1699	G
10	A	1718	G
10	A	1722	A
10	A	1739	U
10	A	1742	G
10	A	1744	C
10	A	1746	G
10	A	1748	G
10	A	1763	G
10	A	1764	G
10	A	1773	A
10	A	1780	A
10	A	1791	A
10	A	1799	G
10	A	1800	C
10	A	1816	G

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Mol	Chain	Res	Type
10	A	1820	U
10	A	1821	A
10	A	1822	G
10	A	1829	A
10	A	1835	G
10	A	1847	A
10	A	1858	G
10	A	1865	G
10	A	1866	C
10	A	1877	A
10	A	1878	G
10	A	1880	C
10	A	1882	C
10	A	1885	A
10	A	1886	C
10	A	1888	G
10	A	1889	A
10	A	1900	A
10	A	1903	G
10	A	1906	G
10	A	1929	G
10	A	1934	C
10	A	1935	G
10	A	1936	A
10	A	1938	A
10	A	1948	G
10	A	1955	U
10	A	1962	C
10	A	1963	U
10	A	1967	C
10	A	1969	A
10	A	1970	A
10	A	1971	A
10	A	1972	A
10	A	1987	G
10	A	1991	U
10	A	1993	U
10	A	2020	A
10	A	2023	G
10	A	2027	G
10	A	2031	A
10	A	2033	A

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Mol	Chain	Res	Type
10	A	2034	U
10	A	2036	C
10	A	2043	C
10	A	2051	A
10	A	2055	C
10	A	2056	G
10	A	2060	A
10	A	2061	G
10	A	2062	A
10	A	2069	G
10	A	2093	G
10	A	2099	U
10	A	2103	C
10	A	2104	G
10	A	2110	G
10	A	2111	C
10	A	2112	G
10	A	2116	G
10	A	2118	U
10	A	2119	A
10	A	2120	G
10	A	2122	U
10	A	2127	G
10	A	2128	C
10	A	2129	C
10	A	2130	U
10	A	2159	G
10	A	2161	C
10	A	2162	G
10	A	2164	C
10	A	2165	G
10	A	2170	A
10	A	2171	A
10	A	2172	U
10	A	2176	A
10	A	2187	G
10	A	2190	G
10	A	2191	G
10	A	2192	G
10	A	2193	G
10	A	2198	A
10	A	2199	A

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Mol	Chain	Res	Type
10	A	2200	C
10	A	2207	G
10	A	2208	A
10	A	2218	U
10	A	2219	G
10	A	2225	A
10	A	2226	C
10	A	2238	G
10	A	2239	G
10	A	2263	C
10	A	2275	C
10	A	2276	G
10	A	2283	C
10	A	2286	A
10	A	2287	A
10	A	2288	A
10	A	2290	G
10	A	2305	A
10	A	2307	G
10	A	2308	G
10	A	2309	A
10	A	2311	A
10	A	2313	C
10	A	2319	G
10	A	2320	A
10	A	2325	G
10	A	2334	G
10	A	2336	A
10	A	2345	G
10	A	2347	C
10	A	2349	G
10	A	2360	A
10	A	2361	A
10	A	2383	G
10	A	2385	C
10	A	2388	A
10	A	2399	G
10	A	2402	C
10	A	2422	A
10	A	2423	U
10	A	2425	A
10	A	2427	C

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Mol	Chain	Res	Type
10	A	2429	G
10	A	2430	A
10	A	2435	A
10	A	2439	A
10	A	2441	C
10	A	2448	A
10	A	2465	C
10	A	2469	A
10	A	2470	G
10	A	2476	A
10	A	2477	C
10	A	2478	A
10	A	2482	G
10	A	2484	G
10	A	2502	G
10	A	2505	G
10	A	2518	A
10	A	2520	C
10	A	2523	G
10	A	2529	G
10	A	2531	A
10	A	2534	A
10	A	2543	G
10	A	2554	U
10	A	2566	A
10	A	2567	G
10	A	2573	C
10	A	2582	G
10	A	2585	U
10	A	2586	C
10	A	2602	A
10	A	2611	U
10	A	2612	C
10	A	2615	U
10	A	2630	G
10	A	2637	U
10	A	2640	G
10	A	2646	C
10	A	2654	A
10	A	2655	G
10	A	2660	A
10	A	2661	G

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Mol	Chain	Res	Type
10	A	2662	A
10	A	2663	G
10	A	2673	G
10	A	2682	U
10	A	2690	C
10	A	2691	C
10	A	2702	U
10	A	2703	C
10	A	2712	U
10	A	2712(A)	A
10	A	2713	A
10	A	2720	U
10	A	2733	A
10	A	2736	G
10	A	2751	G
10	A	2752	C
10	A	2754	U
10	A	2755	C
10	A	2757	A
10	A	2759	G
10	A	2762	G
10	A	2763	G
10	A	2765	A
10	A	2778	A
10	A	2779	U
10	A	2780	G
10	A	2781	A
10	A	2789	C
10	A	2790	A
10	A	2791	C
10	A	2794	C
10	A	2795	G
10	A	2801(A)	A
10	A	2802	G
10	A	2803	C
10	A	2808	U
10	A	2820	A
10	A	2821	A
10	A	2827	C
10	A	2833	G
10	A	2834	G
10	A	2835	A

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Mol	Chain	Res	Type
10	A	2849	U
10	A	2860	A
10	A	2864	G
10	A	2872	G
10	A	2880	C
11	B	8	U
11	B	15	A
11	B	16	G
11	B	22	U
11	B	27	C
11	B	40	U
11	B	42	C
11	B	45	A
11	B	53	A
11	B	67	G
11	B	73	A
11	B	75	G
11	B	88	C
11	B	110	G

All (77) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
10	A	27	G
10	A	49	A
10	A	71	A
10	A	74	A
10	A	128	C
10	A	196	A
10	A	197	A
10	A	221	A
10	A	272	G
10	A	283	A
10	A	331	A
10	A	332	A
10	A	387	U
10	A	472	A
10	A	474	G
10	A	512	G
10	A	587	C
10	A	603	A
10	A	614(C)	A

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Mol	Chain	Res	Type
10	A	669	G
10	A	670	A
10	A	752	A
10	A	790	C
10	A	856	C
10	A	1022	G
10	A	1112	G
10	A	1176	G
10	A	1210	A
10	A	1250	G
10	A	1275	A
10	A	1300	U
10	A	1301	A
10	A	1378	A
10	A	1397	U
10	A	1427	A
10	A	1458	C
10	A	1484	G
10	A	1494	A
10	A	1544	A
10	A	1558	A
10	A	1608	A
10	A	1635	G
10	A	1652	A
10	A	1653	G
10	A	1694	C
10	A	1697	G
10	A	1722	A
10	A	1799	G
10	A	1819	A
10	A	1820	U
10	A	1885	A
10	A	1912	A
10	A	1934	C
10	A	1937	A
10	A	1962	C
10	A	1970	A
10	A	1987	G
10	A	1992	G
10	A	2031	A
10	A	2033	A
10	A	2126	A

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Mol	Chain	Res	Type
10	A	2191	G
10	A	2225	A
10	A	2282	G
10	A	2290	G
10	A	2422	A
10	A	2481	G
10	A	2610	C
10	A	2637	U
10	A	2662	A
10	A	2689	U
10	A	2756	U
10	A	2779	U
10	A	2796	U
10	A	2859	G
10	A	2864	G
11	B	66	A

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

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

5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	0	85/85 (100%)	0.15	7 (8%) 12 10	8, 43, 138, 196	0
2	1	89/98 (90%)	-0.07	5 (5%) 24 23	1, 35, 143, 157	0
3	2	51/72 (70%)	0.05	4 (7%) 13 11	5, 66, 145, 200	0
4	3	60/60 (100%)	0.16	4 (6%) 17 16	5, 57, 140, 190	0
5	4	50/71 (70%)	0.16	2 (4%) 36 37	38, 90, 158, 173	0
6	5	59/60 (98%)	0.65	6 (10%) 7 6	5, 51, 192, 200	0
7	6	45/54 (83%)	1.56	17 (37%) 1 0	54, 103, 171, 180	0
8	7	49/49 (100%)	-0.10	3 (6%) 21 20	1, 19, 115, 165	0
9	8	64/65 (98%)	0.34	7 (10%) 6 5	4, 44, 140, 195	0
10	A	2772/2787 (99%)	0.05	63 (2%) 57 58	1, 29, 145, 200	0
11	B	119/122 (97%)	0.34	5 (4%) 35 35	22, 64, 108, 197	0
12	C	191/229 (83%)	2.02	60 (31%) 1 1	51, 144, 186, 200	0
13	D	272/276 (98%)	-0.29	5 (1%) 65 66	1, 19, 89, 196	0
14	E	205/206 (99%)	0.38	23 (11%) 6 5	1, 46, 141, 193	0
15	F	208/210 (99%)	-0.03	10 (4%) 29 30	1, 44, 155, 200	0
16	G	181/182 (99%)	0.03	13 (7%) 15 14	8, 65, 142, 188	0
17	H	160/180 (88%)	1.13	32 (20%) 2 1	51, 124, 175, 200	0
18	I	146/148 (98%)	-0.02	6 (4%) 35 36	5, 78, 148, 187	0
19	N	139/140 (99%)	0.25	10 (7%) 15 14	10, 68, 144, 163	0
20	O	122/122 (100%)	-0.16	7 (5%) 23 23	3, 32, 103, 177	0
21	P	146/150 (97%)	0.38	14 (9%) 8 7	1, 61, 159, 193	0
22	Q	136/141 (96%)	0.54	20 (14%) 3 3	7, 58, 171, 200	0
23	R	117/118 (99%)	-0.01	2 (1%) 67 68	3, 32, 132, 146	0
24	S	99/112 (88%)	0.41	11 (11%) 6 5	21, 76, 134, 173	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
25	T	138/146 (94%)	0.15	11 (7%) 12 11	3, 67, 169, 190	0
26	U	117/118 (99%)	0.40	10 (8%) 11 9	5, 50, 142, 200	0
27	V	101/101 (100%)	0.51	14 (13%) 4 3	14, 96, 174, 192	0
28	W	113/113 (100%)	-0.14	1 (0%) 81 81	1, 26, 121, 161	0
29	X	93/96 (96%)	-0.08	4 (4%) 34 34	1, 46, 137, 168	0
30	Y	101/110 (91%)	0.63	11 (10%) 6 5	1, 79, 170, 195	0
31	Z	177/206 (85%)	0.53	22 (12%) 5 4	19, 96, 177, 200	0
All	All	6405/6627 (96%)	0.21	409 (6%) 19 17	1, 44, 159, 200	0

All (409) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
12	C	224	ILE	26.4
12	C	136	LEU	18.4
17	H	171	LEU	16.8
6	5	60	VAL	16.6
30	Y	60	PHE	14.3
12	C	223	ARG	13.6
12	C	108	MET	13.3
14	E	204	ALA	12.3
12	C	83	ILE	12.1
12	C	140	PRO	11.9
12	C	139	ASN	11.1
22	Q	140	ALA	10.7
12	C	182	PRO	10.2
6	5	59	GLU	9.9
30	Y	50	ARG	9.9
12	C	110	PHE	9.9
12	C	152	ILE	9.8
12	C	216	THR	9.4
12	C	81	GLU	9.3
12	C	166	ASP	9.1
24	S	43	GLU	9.1
12	C	165	ASN	9.0
12	C	95	GLY	8.8
30	Y	61	ILE	8.8
21	P	150	ALA	8.8
22	Q	139	GLU	8.3
24	S	109	GLY	8.3
22	Q	141	GLN	8.1

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Mol	Chain	Res	Type	RSRZ
10	A	2791	C	8.1
14	E	205	ALA	7.8
12	C	177	LYS	7.7
12	C	109	ASP	7.4
31	Z	136	PHE	7.4
12	C	84	LYS	7.3
19	N	139	GLU	7.2
10	A	897	C	7.2
10	A	2790	A	7.2
19	N	1	MET	7.2
24	S	20	ARG	7.1
15	F	1	MET	6.9
10	A	2792	G	6.8
10	A	1046	A	6.6
1	0	8	GLY	6.5
12	C	82	LYS	6.4
14	E	1	MET	6.3
17	H	124	GLU	6.1
7	6	42	TRP	6.0
17	H	169	VAL	6.0
31	Z	80	ARG	5.9
9	8	37	SER	5.9
17	H	21	PRO	5.9
28	W	92	ARG	5.8
10	A	2116	G	5.8
21	P	104	GLY	5.8
26	U	70	ARG	5.8
17	H	98	LEU	5.7
7	6	47	THR	5.7
10	A	1048	A	5.7
5	4	16	CYS	5.6
31	Z	175	VAL	5.6
4	3	29	ARG	5.6
17	H	38	SER	5.6
12	C	128	GLY	5.5
17	H	157	TYR	5.4
16	G	113	ARG	5.4
18	I	50	ARG	5.4
30	Y	59	GLY	5.4
10	A	652	C	5.4
12	C	170	ALA	5.4
12	C	173	ALA	5.4

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Mol	Chain	Res	Type	RSRZ
25	T	91	ARG	5.3
12	C	105	ASP	5.3
31	Z	61	LEU	5.3
25	T	39	ARG	5.3
12	C	145	VAL	5.3
12	C	178	ALA	5.2
2	1	96	LYS	5.2
10	A	2802	G	5.1
17	H	42	ARG	5.1
4	3	1	MET	5.1
26	U	71	GLN	5.1
10	A	896	A	5.0
27	V	45	THR	5.0
17	H	60	ARG	4.9
12	C	78	ALA	4.9
21	P	21	ARG	4.9
10	A	2799	C	4.9
10	A	2112	G	4.9
22	Q	15	GLY	4.9
11	B	62	C	4.8
30	Y	3	VAL	4.8
12	C	27	ARG	4.8
22	Q	24	GLY	4.7
9	8	30	ARG	4.7
17	H	29	PRO	4.7
17	H	170	ARG	4.6
12	C	172	HIS	4.6
19	N	16	ILE	4.5
8	7	49	ARG	4.5
10	A	2602	A	4.5
30	Y	58	GLY	4.5
31	Z	176	PRO	4.5
10	A	12	U	4.4
10	A	1117	G	4.4
10	A	2111	C	4.4
10	A	363(F)	A	4.4
13	D	2	ALA	4.4
10	A	11	G	4.4
17	H	83	TYR	4.3
27	V	55	ALA	4.3
22	Q	138	ASP	4.3
1	0	7	LEU	4.3

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Mol	Chain	Res	Type	RSRZ
21	P	149	GLU	4.3
9	8	31	HIS	4.2
10	A	1494	A	4.2
21	P	110	TYR	4.2
24	S	60	GLY	4.1
31	Z	20	ARG	4.1
18	I	11	ASN	4.1
22	Q	19	GLY	4.1
31	Z	135	GLU	4.1
26	U	73	GLY	4.0
8	7	48	LYS	4.0
10	A	1116	C	4.0
14	E	82	ARG	4.0
1	0	1	MET	4.0
12	C	90	GLY	4.0
12	C	79	LYS	4.0
12	C	94	VAL	4.0
27	V	91	TYR	4.0
7	6	13	CYS	4.0
10	A	2174	C	4.0
26	U	67	ALA	3.9
29	X	95	LEU	3.9
14	E	69	LYS	3.9
17	H	132	ARG	3.9
22	Q	135	ASP	3.9
15	F	207	GLY	3.9
3	2	62	THR	3.9
12	C	47	LEU	3.8
22	Q	37	LEU	3.8
14	E	176	ILE	3.8
1	0	3	HIS	3.8
12	C	80	GLY	3.7
12	C	146	GLY	3.7
17	H	123	PHE	3.7
17	H	14	GLY	3.7
16	G	128	ARG	3.7
22	Q	115	MET	3.7
25	T	93	ARG	3.7
12	C	179	SER	3.7
10	A	1033	U	3.6
10	A	1026	U	3.6
10	A	2803	C	3.6

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Mol	Chain	Res	Type	RSRZ
12	C	206	GLY	3.6
16	G	116	ASP	3.6
17	H	164	TYR	3.6
27	V	74	LYS	3.5
12	C	217	THR	3.5
17	H	168	PRO	3.5
27	V	73	SER	3.5
17	H	154	PRO	3.5
24	S	100	ALA	3.5
31	Z	55	HIS	3.5
14	E	53	PRO	3.5
20	O	53	LYS	3.5
25	T	13	ARG	3.5
20	O	112	MET	3.4
12	C	107	TRP	3.4
14	E	83	ASP	3.4
10	A	2795	G	3.4
14	E	68	ALA	3.4
10	A	1051	G	3.4
26	U	100	VAL	3.4
12	C	149	ILE	3.4
14	E	22	PRO	3.4
3	2	35	LEU	3.4
22	Q	137	TYR	3.4
14	E	56	PRO	3.4
13	D	123	ALA	3.3
12	C	218	MET	3.3
7	6	51	GLU	3.3
15	F	11	VAL	3.3
7	6	22	ALA	3.3
12	C	183	GLU	3.3
10	A	2126	A	3.3
21	P	94	GLU	3.3
10	A	2115	G	3.3
14	E	54	GLN	3.3
10	A	508	G	3.2
3	2	61	LEU	3.2
6	5	54	GLY	3.2
21	P	75	ILE	3.2
10	A	6	A	3.2
10	A	229	A	3.2
12	C	59	ARG	3.2

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Mol	Chain	Res	Type	RSRZ
10	A	2646	C	3.2
25	T	34	VAL	3.2
30	Y	4	LYS	3.2
10	A	1177	A	3.1
21	P	46	LYS	3.1
14	E	203	LYS	3.1
10	A	2793	G	3.1
10	A	898	C	3.1
15	F	208	GLY	3.1
17	H	34	GLU	3.1
31	Z	140	ASP	3.1
6	5	2	ALA	3.1
1	0	17	GLN	3.1
20	O	70	LYS	3.1
7	6	50	ARG	3.1
1	0	9	SER	3.1
2	1	95	LEU	3.0
15	F	78	ILE	3.0
13	D	122	ASP	3.0
17	H	108	GLY	3.0
15	F	27	GLU	3.0
27	V	96	ILE	3.0
14	E	20	ALA	3.0
22	Q	61	GLY	3.0
7	6	21	TYR	3.0
7	6	52	VAL	3.0
26	U	60	LEU	3.0
31	Z	118	GLN	3.0
31	Z	64	GLY	3.0
10	A	362	U	3.0
17	H	155	SER	3.0
6	5	55	ARG	2.9
12	C	76	ALA	2.9
17	H	53	GLU	2.9
10	A	975	C	2.9
17	H	135	GLY	2.9
24	S	45	GLY	2.9
31	Z	121	HIS	2.9
12	C	151	GLU	2.9
17	H	40	GLU	2.9
19	N	138	LEU	2.9
10	A	2168	G	2.9

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Mol	Chain	Res	Type	RSRZ
12	C	24	GLU	2.9
12	C	34	THR	2.9
19	N	12	ARG	2.9
10	A	2758	A	2.9
12	C	150	GLY	2.9
7	6	34	LEU	2.9
12	C	174	PRO	2.9
30	Y	48	ALA	2.9
7	6	32	ASN	2.9
24	S	84	GLN	2.9
12	C	135	GLY	2.8
26	U	111	GLU	2.8
27	V	46	VAL	2.8
29	X	51	VAL	2.8
22	Q	114	ALA	2.8
2	1	27	GLU	2.8
21	P	52	GLU	2.8
25	T	117	ASP	2.8
31	Z	92	SER	2.8
31	Z	114	GLY	2.8
12	C	141	LYS	2.8
6	5	53	ALA	2.8
17	H	65	HIS	2.8
19	N	133	GLN	2.8
27	V	43	GLU	2.8
12	C	75	LEU	2.8
21	P	23	PRO	2.8
27	V	95	LEU	2.8
17	H	20	ALA	2.7
25	T	138	ALA	2.7
21	P	22	GLY	2.7
10	A	275	G	2.7
7	6	14	THR	2.7
22	Q	18	LYS	2.7
9	8	19	SER	2.7
14	E	182	LEU	2.7
9	8	34	TRP	2.7
16	G	181	ARG	2.7
31	Z	42	VAL	2.7
12	C	56	GLN	2.7
22	Q	59	ARG	2.7
26	U	33	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
25	T	116	ALA	2.7
10	A	279	C	2.6
30	Y	79	CYS	2.6
10	A	271(O)	C	2.6
11	B	88	C	2.6
16	G	129	GLY	2.6
19	N	8	GLN	2.6
24	S	21	THR	2.6
10	A	9	U	2.6
7	6	12	GLU	2.6
2	1	26	ARG	2.6
10	A	2833	G	2.5
16	G	26	GLN	2.5
7	6	31	PRO	2.5
11	B	3	C	2.5
12	C	74	VAL	2.5
17	H	82	GLY	2.5
3	2	59	ARG	2.5
13	D	183	ARG	2.5
7	6	23	THR	2.5
20	O	68	GLU	2.5
21	P	51	PHE	2.5
12	C	148	ASN	2.5
31	Z	122	ARG	2.5
14	E	57	LYS	2.5
17	H	67	LEU	2.5
10	A	2660	A	2.5
27	V	75	PHE	2.5
16	G	33	ARG	2.5
15	F	12	LEU	2.5
7	6	26	ASN	2.5
24	S	13	ARG	2.5
15	F	145	GLU	2.5
29	X	94	GLY	2.5
18	I	72	LEU	2.5
10	A	1113	U	2.5
24	S	108	GLY	2.5
17	H	64	LEU	2.5
10	A	92	A	2.5
1	0	23	VAL	2.4
4	3	3	ARG	2.4
14	E	58	ARG	2.4

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Mol	Chain	Res	Type	RSRZ
22	Q	16	ARG	2.4
10	A	883	G	2.4
16	G	146	TYR	2.4
12	C	37	PHE	2.4
19	N	74	ARG	2.4
27	V	72	VAL	2.4
29	X	69	TYR	2.4
12	C	119	VAL	2.4
31	Z	166	SER	2.4
12	C	176	GLY	2.4
7	6	44	ARG	2.4
31	Z	72	ARG	2.4
10	A	352	G	2.4
4	3	49	LYS	2.4
10	A	2804	C	2.4
12	C	129	ARG	2.4
19	N	105	GLY	2.4
14	E	89	ASP	2.4
23	R	112	ALA	2.4
19	N	68	GLU	2.3
16	G	3	LEU	2.3
18	I	107	VAL	2.3
14	E	29	GLY	2.3
17	H	150	ALA	2.3
22	Q	67	ARG	2.3
20	O	54	GLU	2.3
15	F	14	PRO	2.3
14	E	147	PRO	2.3
10	A	325	G	2.3
10	A	1111	A	2.3
26	U	56	ASP	2.3
9	8	63	PRO	2.3
31	Z	113	ALA	2.3
2	1	19	GLN	2.2
20	O	38	VAL	2.2
25	T	113	LYS	2.2
17	H	96	ALA	2.2
25	T	2	ASN	2.2
27	V	26	ASP	2.2
9	8	29	LYS	2.2
23	R	8	ARG	2.2
11	B	86	G	2.2

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Mol	Chain	Res	Type	RSRZ
21	P	76	LYS	2.2
15	F	133	ASN	2.2
22	Q	21	THR	2.2
16	G	48	GLU	2.2
25	T	1	MET	2.2
13	D	272	ALA	2.2
22	Q	32	TYR	2.2
7	6	37	ARG	2.2
31	Z	117	LEU	2.2
10	A	271(M)	G	2.2
10	A	2123	G	2.2
18	I	109	ILE	2.2
30	Y	52	SER	2.2
10	A	271(L)	U	2.2
27	V	31	ALA	2.2
12	C	88	GLU	2.2
11	B	112	U	2.2
26	U	63	VAL	2.2
31	Z	7	ALA	2.2
31	Z	102	LEU	2.2
16	G	127	GLY	2.2
30	Y	63	LYS	2.2
27	V	16	PRO	2.1
10	A	10	G	2.1
10	A	1016	G	2.1
10	A	1110	G	2.1
16	G	75	LYS	2.1
14	E	15	PHE	2.1
10	A	334	C	2.1
24	S	19	LYS	2.1
14	E	28	ALA	2.1
21	P	147	LEU	2.1
10	A	2690	C	2.1
10	A	2062	A	2.0
10	A	2406	U	2.0
14	E	84	PHE	2.0
22	Q	6	ARG	2.0
20	O	69	ILE	2.0
5	4	21	VAL	2.0
8	7	36	GLN	2.0
17	H	12	PRO	2.0
16	G	118	ARG	2.0

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Mol	Chain	Res	Type	RSRZ
10	A	1109	C	2.0
18	I	41	GLU	2.0
12	C	199	HIS	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.