



# Full wwPDB X-ray Structure Validation Report

Sep 15, 2014 – 06:30 PM EDT

PDB ID : 1VXQ  
Title : Crystal Structure of tRNA Proline (CGG) Bound to Codon CCC-G on the Ribosome  
Authors : Maehigashi, T.; Dunkle, J.A.; Dunham, C.M.  
Deposited on : 2013-07-23  
Resolution : 3.14 Å(reported)

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

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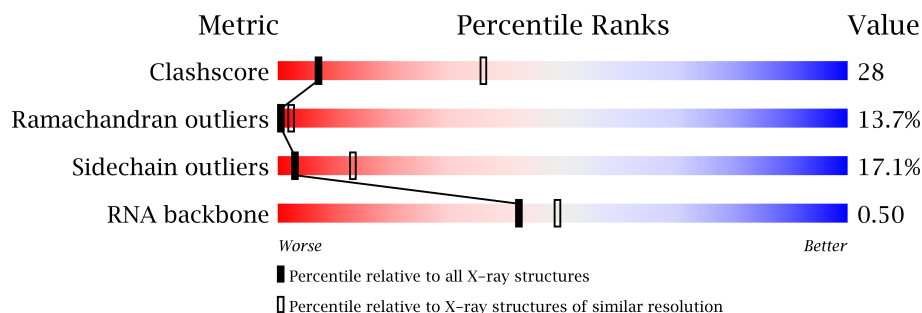
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.16 November 2013  
Xtriage (Phenix) : **NOT EXECUTED**  
EDS : **NOT EXECUTED**  
Percentile statistics : 21963  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable23489

# 1 Overall quality at a glance

The reported resolution of this entry is 3.14 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	79885	1656 (3.20-3.08)
Ramachandran outliers	78287	1614 (3.20-3.08)
Sidechain outliers	78261	1613 (3.20-3.08)
RNA backbone	1838	1002 (3.66-2.62)

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  $\geq 3$ , 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.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	2916	
2	B	122	
3	D	276	
4	E	206	
5	F	210	
6	G	182	
7	H	180	
8	I	148	
9	N	140	
10	O	122	
11	P	150	
12	Q	141	
13	R	118	
14	S	112	

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Mol	Chain	Length	Quality of chain
15	T	146	
16	U	118	
17	V	101	
18	W	113	
19	X	96	
20	Y	110	
21	Z	206	
22	0	85	
23	1	98	
24	2	72	
25	3	60	
26	4	71	
27	5	60	
28	6	54	
29	7	49	
30	8	65	
31	9	37	
32	a	3	

## 2 Entry composition

There are 33 unique types of molecules in this entry. The entry contains 92242 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 RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	2882	Total	C	N	O	P	0	0	0
			62071	27627	11611	19952	2881			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	D	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	E	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	F	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	H	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	I	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	N	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			

- Molecule 10 is a protein called 50S ribosomal protein L13.

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

- Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	P	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

- Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	R	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 14 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	S	111	Total	C	N	O	0	0	0
			882	556	176	150			

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	T	137	Total	C	N	O	S	0	0	0
			1141	710	234	196	1			

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	U	117	Total	C	N	O	S	0	0	0
			964	610	202	151	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

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

- Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	W	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
19	X	92	Total	C	N	O	0	0	0
			725	471	131	123			

- Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	Y	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 21 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	Z	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 32 is a RNA chain called tRNA acceptor end mimic.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	a	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 33 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	P	1	Total	Mg	0	0
			1	1		
33	0	1	Total	Mg	0	0
			1	1		
33	D	1	Total	Mg	0	0
			1	1		
33	E	2	Total	Mg	0	0
			2	2		
33	B	2	Total	Mg	0	0
			2	2		
33	A	240	Total	Mg	0	0
			240	240		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
33	5	1	Total 1	Mg 1	0	0
33	R	2	Total 2	Mg 2	0	0
33	F	1	Total 1	Mg 1	0	0

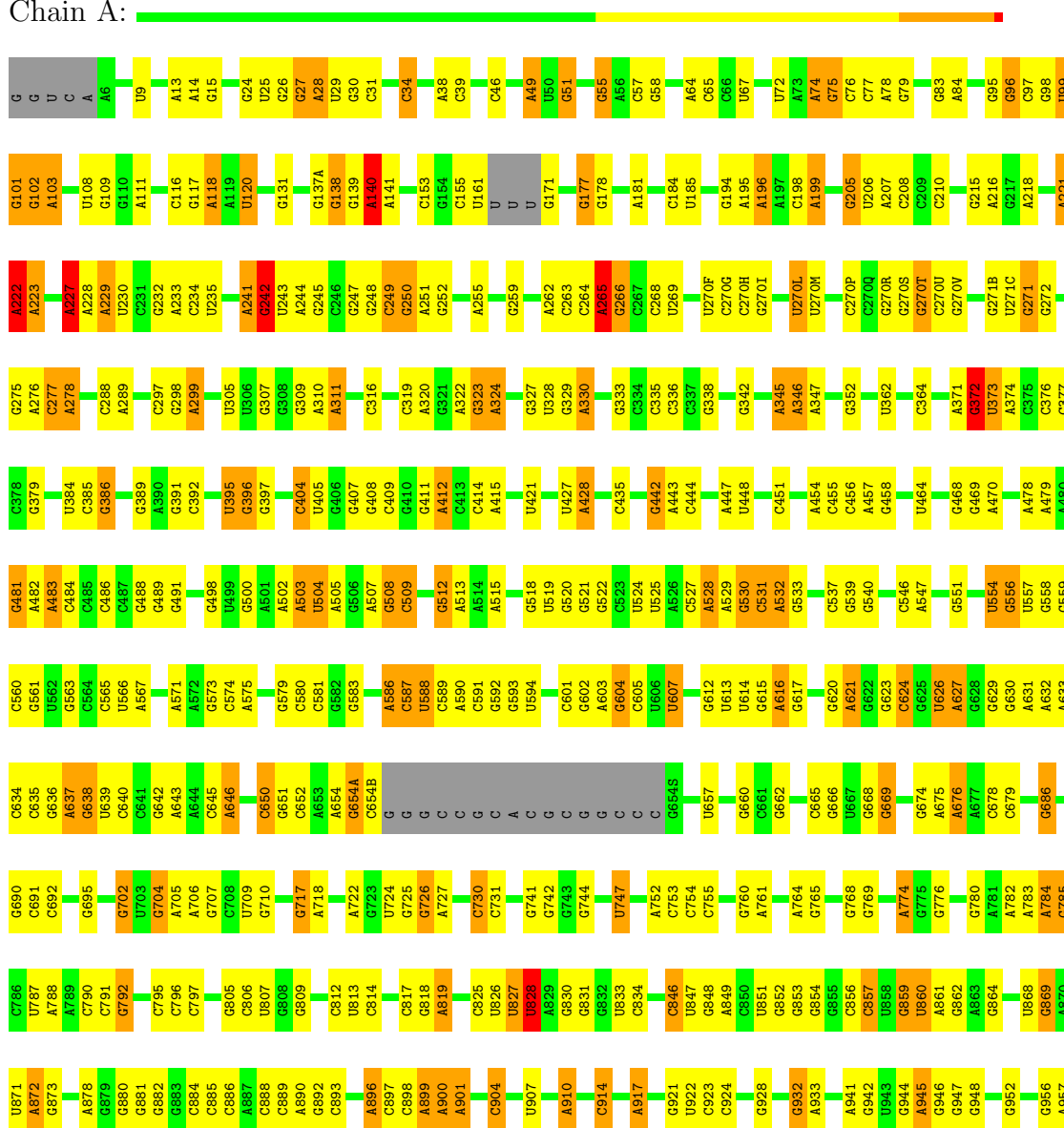
### 3 Residue-property plots

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.

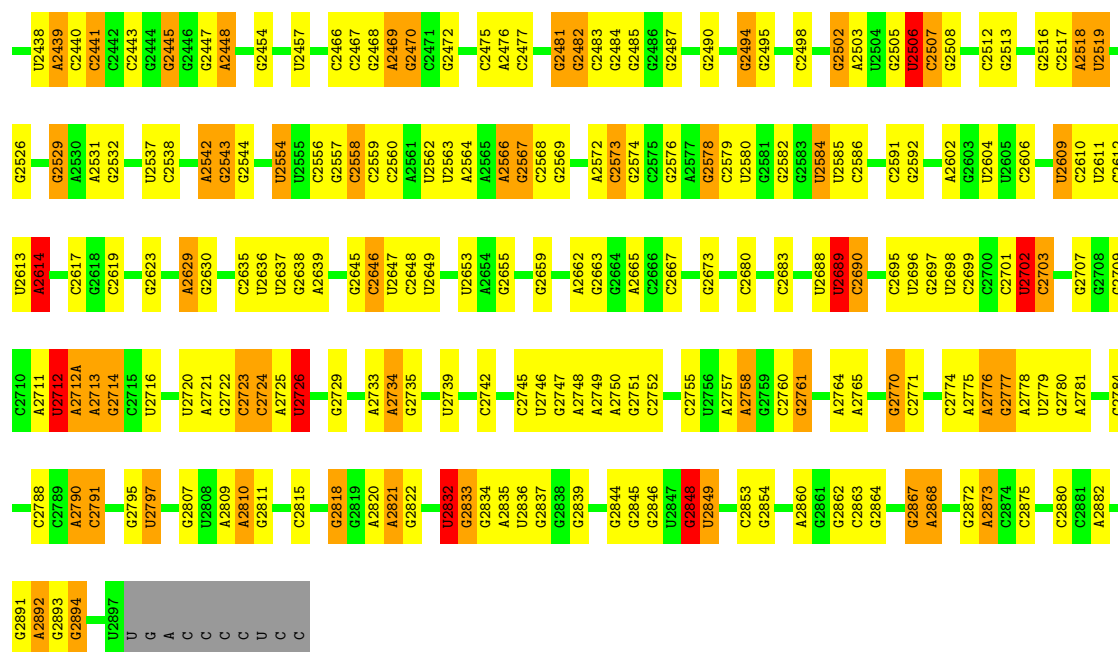
Note EDS was not executed.

#### • Molecule 1: 23S rRNA

Chain A:

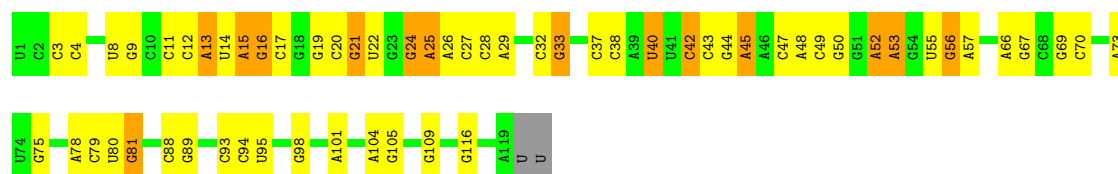






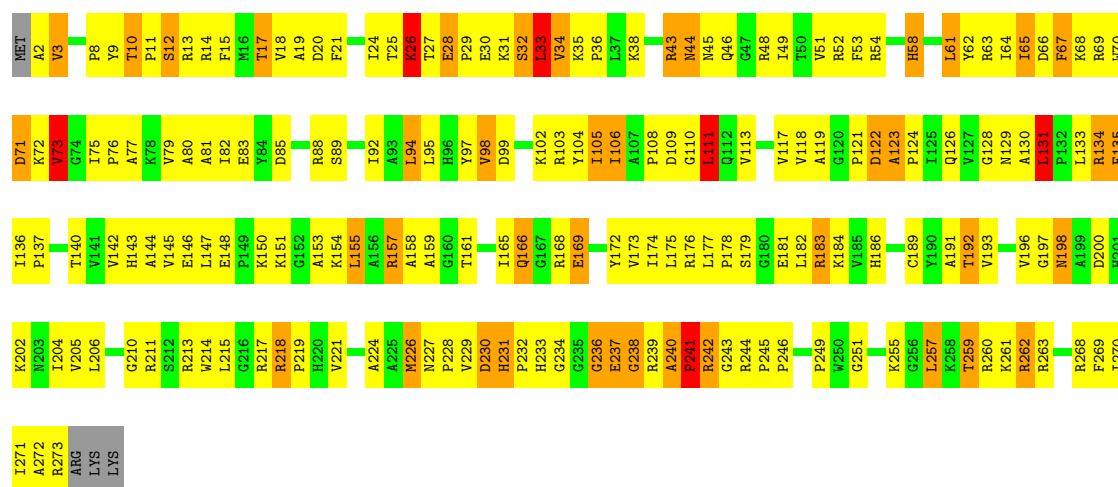
• Molecule 2: 5S rRNA

Chain B:



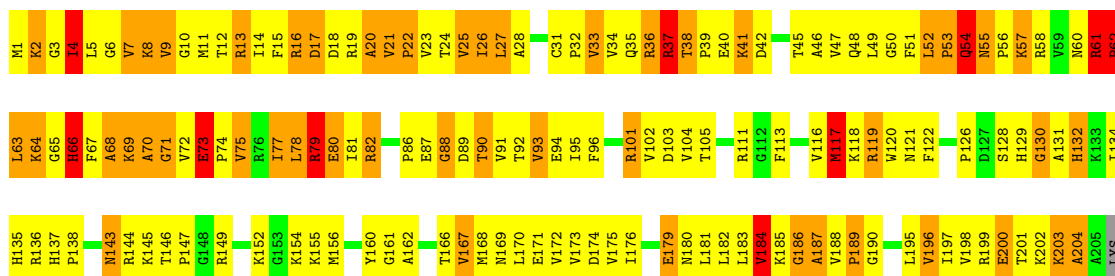
• Molecule 3: 50S ribosomal protein L2

Chain D:



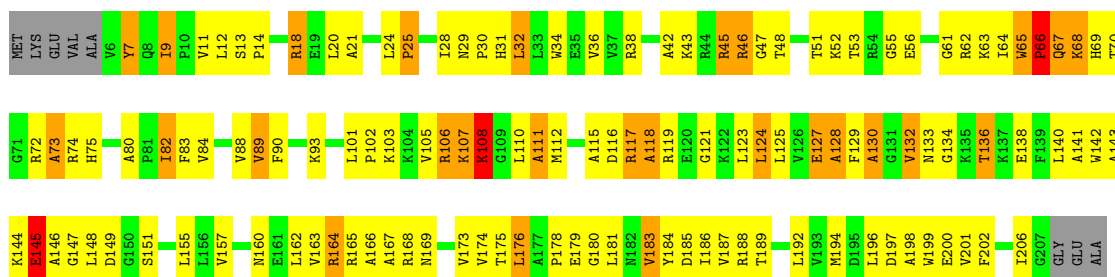
• Molecule 4: 50S ribosomal protein L3

Chain E:



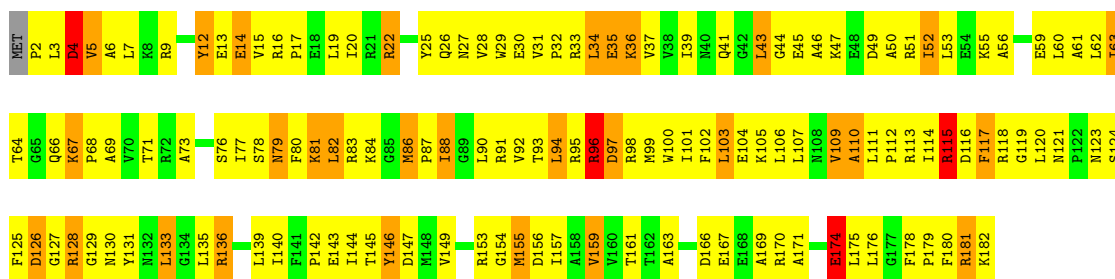
• Molecule 5: 50S ribosomal protein L4

Chain F:



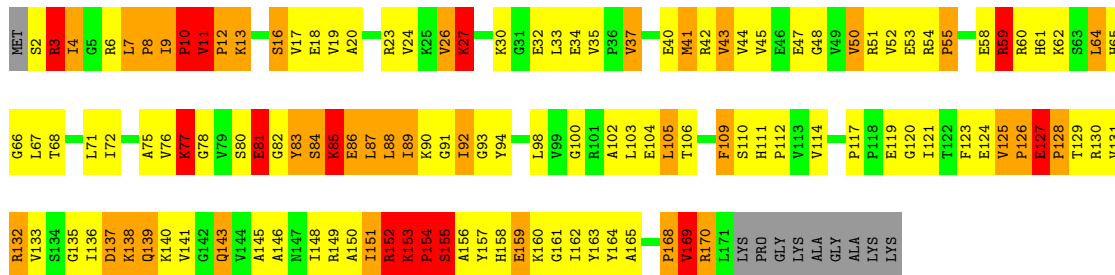
• Molecule 6: 50S ribosomal protein L5

Chain G:



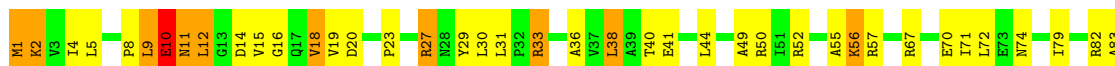
• Molecule 7: 50S ribosomal protein L6

Chain H:



• Molecule 8: 50S ribosomal protein L9

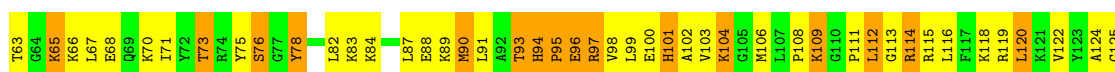
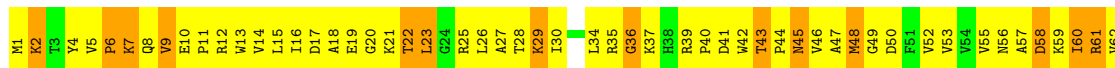
Chain I:





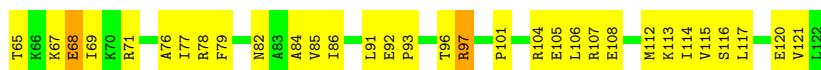
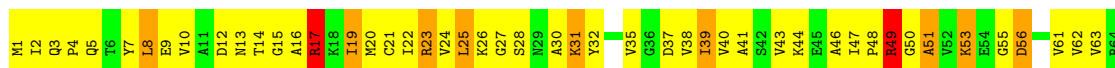
• Molecule 9: 50S ribosomal protein L11

Chain N:



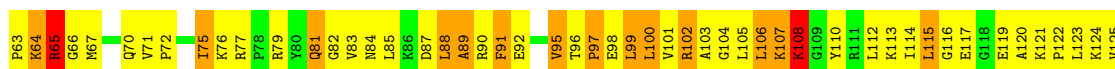
• Molecule 10: 50S ribosomal protein L13

Chain O:



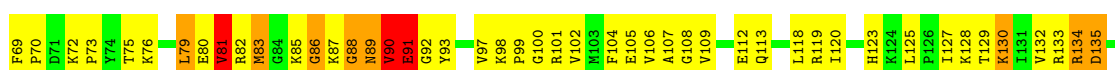
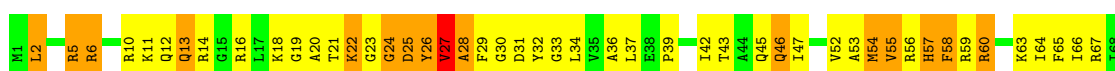
• Molecule 11: 50S ribosomal protein L14

Chain P:



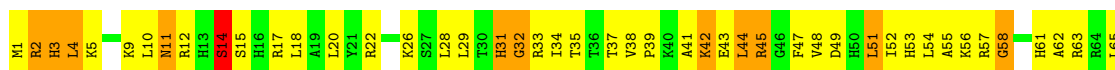
• Molecule 12: 50S ribosomal protein L15

Chain Q:



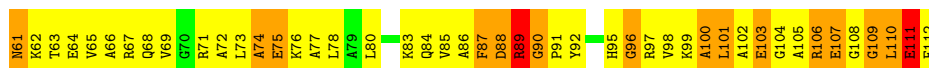
• Molecule 13: 50S ribosomal protein L16

Chain R:



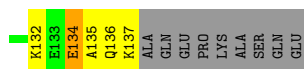
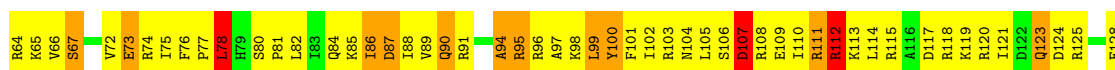
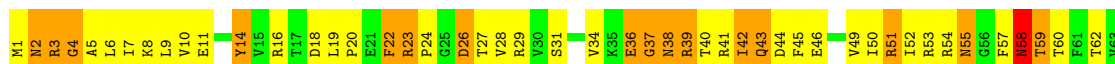
• Molecule 14: 50S ribosomal protein L17

Chain S:



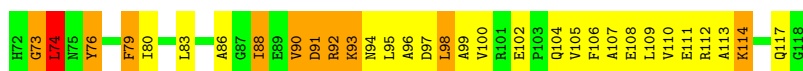
• Molecule 15: 50S ribosomal protein L18

Chain T:



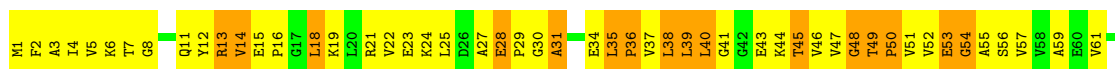
• Molecule 16: 50S ribosomal protein L19

Chain U:



• Molecule 17: 50S ribosomal protein L20

Chain V:



• Molecule 18: 50S ribosomal protein L21

Chain W:





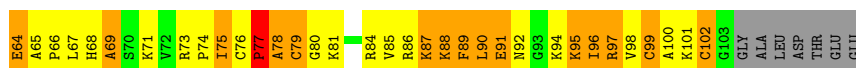
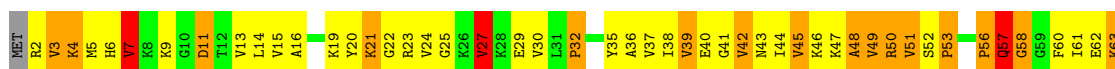
• Molecule 19: 50S ribosomal protein L22

Chain X:



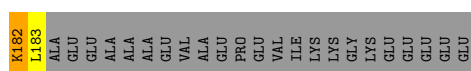
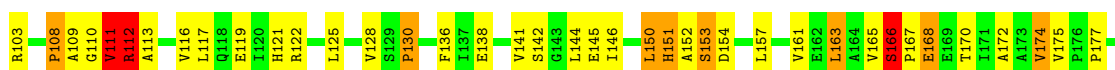
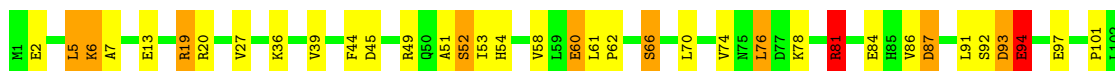
• Molecule 20: 50S ribosomal protein L23

Chain Y:



• Molecule 21: 50S ribosomal protein L24

Chain Z:



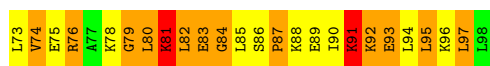
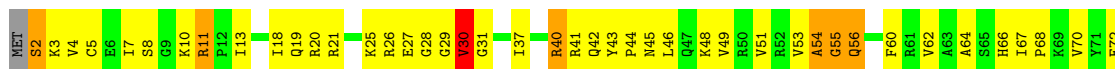
• Molecule 22: 50S ribosomal protein L25

Chain 0:



• Molecule 23: 50S ribosomal protein L27

Chain 1:



• Molecule 24: 50S ribosomal protein L28

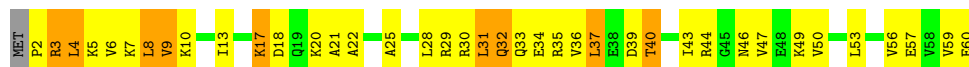
Chain 2:





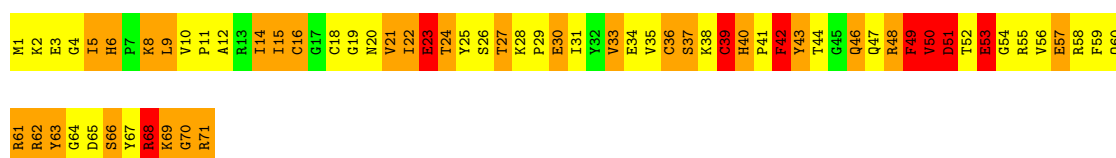
- Molecule 25: 50S ribosomal protein L29

Chain 3:



- Molecule 26: 50S ribosomal protein L30

Chain 4:



- Molecule 27: 50S ribosomal protein L32

Chain 5:



- Molecule 28: 50S ribosomal protein L33

Chain 6:



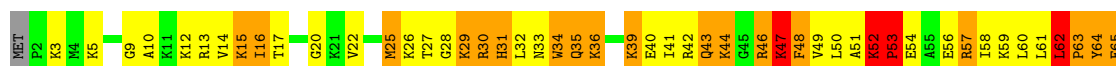
- Molecule 29: 50S ribosomal protein L34

Chain 7:



- Molecule 30: 50S ribosomal protein L35

Chain 8:



- Molecule 31: 50S ribosomal protein L36

Chain 9:



- Molecule 32: tRNA acceptor end mimic

Chain a: 



## 4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section will therefore be incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	209.21Å 448.45Å 619.86Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	189.60 – 3.14	Depositor
% Data completeness (in resolution range)	99.6 (189.60-3.14)	Depositor
$R_{merge}$	0.27	Depositor
$R_{sym}$	(Not available)	Depositor
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, $R_{free}$	0.230 , 0.262	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	92242	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	70.0	wwPDB-VP

## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z  > 5$	RMSZ	$\# Z  > 5$
1	A	0.39	0/69521	0.88	70/108529 (0.1%)
2	B	0.32	0/2878	0.84	0/4490
3	D	0.60	2/2165 (0.1%)	0.90	4/2919 (0.1%)
4	E	0.52	0/1601	0.91	2/2160 (0.1%)
5	F	0.50	0/1620	0.76	0/2194
6	G	0.40	0/1499	0.66	0/2016
7	H	0.45	0/1332	0.85	3/1802 (0.2%)
8	I	0.28	0/1151	0.56	0/1558
9	N	0.46	0/1131	0.78	1/1525 (0.1%)
10	O	0.54	0/943	0.71	0/1269
11	P	0.50	0/1162	0.95	3/1544 (0.2%)
12	Q	0.54	0/1143	0.91	3/1527 (0.2%)
13	R	0.45	0/982	0.80	1/1312 (0.1%)
14	S	0.46	0/892	0.82	1/1187 (0.1%)
15	T	0.47	0/1155	0.73	2/1542 (0.1%)
16	U	0.48	0/982	0.78	0/1306
17	V	0.47	0/790	0.82	0/1057
18	W	0.45	0/911	0.75	0/1220
19	X	0.56	0/739	0.77	0/993
20	Y	0.52	0/798	0.80	0/1064
21	Z	0.27	0/1493	0.52	0/2026
22	0	0.30	0/657	0.54	0/874
23	1	0.49	0/770	0.85	1/1022 (0.1%)
24	2	0.51	0/583	0.83	1/771 (0.1%)
25	3	0.47	0/474	0.72	0/635
26	4	0.38	0/594	0.78	1/795 (0.1%)
27	5	0.51	0/473	0.74	0/639
28	6	0.42	0/431	0.76	0/575
29	7	0.56	0/438	0.76	0/575
30	8	0.62	0/525	0.93	1/691 (0.1%)
31	9	0.35	0/310	0.59	0/407
32	a	0.79	0/40	1.81	1/60 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.41	2/100183 (0.0%)	0.86	95/150284 (0.1%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	236	GLY	C-N	8.57	1.53	1.34
3	D	241	PRO	N-CD	5.19	1.55	1.47

All (95) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	E	21	VAL	C-N-CD	-10.09	98.41	120.60
1	A	2506	U	N3-C2-O2	-9.83	115.32	122.20
1	A	2506	U	N1-C2-O2	8.71	128.90	122.80
12	Q	81	VAL	CB-CA-C	-8.63	94.99	111.40
1	A	2614	A	C6-N1-C2	-8.11	113.73	118.60
1	A	1786	A	N7-C8-N9	8.09	117.84	113.80
23	1	79	GLY	N-CA-C	-7.82	93.55	113.10
1	A	774	A	C2-N3-C4	-7.40	106.90	110.60
11	P	59	LEU	N-CA-C	-7.27	91.36	111.00
1	A	1396	U	C2-N1-C1'	7.27	126.42	117.70
1	A	1396	U	N1-C2-O2	7.08	127.76	122.80
1	A	1396	U	N3-C2-O2	-7.02	117.28	122.20
12	Q	81	VAL	N-CA-C	7.01	129.93	111.00
1	A	1786	A	C5-N7-C8	-6.91	100.44	103.90
1	A	676	A	O4'-C1'-N9	6.83	113.66	108.20
32	a	74	C	N1-C2-O2	6.74	122.94	118.90
1	A	2614	A	N1-C2-N3	6.70	132.65	129.30
1	A	1130	U	P-O3'-C3'	6.65	127.68	119.70
1	A	205	G	P-O3'-C3'	6.60	127.62	119.70
3	D	131	LEU	CA-CB-CG	6.52	130.31	115.30
1	A	2506	U	C2-N1-C1'	6.49	125.49	117.70
1	A	1899	G	N3-C2-N2	6.46	124.42	119.90
1	A	242	G	P-O3'-C3'	6.44	127.42	119.70
1	A	1543	A	O4'-C1'-N9	6.36	113.29	108.20
1	A	2060	A	P-O3'-C3'	6.35	127.32	119.70
1	A	2702	U	C2-N1-C1'	6.23	125.17	117.70
1	A	2053	G	C5-N7-C8	-6.22	101.19	104.30
1	A	205	G	OP2-P-O3'	6.21	118.87	105.20
1	A	1899	G	N1-C2-N2	-6.15	110.67	116.20
13	R	9	LYS	N-CA-C	-6.04	94.69	111.00
3	D	240	ALA	C-N-CD	5.93	140.86	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	2702	U	C5-C6-N1	5.91	125.65	122.70
7	H	125	VAL	C-N-CD	-5.89	107.64	120.60
4	E	58	ARG	N-CA-C	-5.82	95.28	111.00
1	A	1929	G	OP1-P-O3'	5.82	118.00	105.20
1	A	1786	A	C8-N9-C4	-5.82	103.47	105.80
11	P	26	GLY	N-CA-C	-5.78	98.66	113.10
24	2	16	LEU	N-CA-C	-5.75	95.47	111.00
1	A	1950	G	O4'-C1'-N9	5.71	112.77	108.20
1	A	774	A	N3-C4-N9	-5.71	122.83	127.40
1	A	1694	C	P-O3'-C3'	5.68	126.52	119.70
1	A	140	A	N7-C8-N9	5.64	116.62	113.80
1	A	530	G	O4'-C1'-N9	5.62	112.69	108.20
1	A	1899	G	C6-C5-N7	-5.62	127.03	130.40
1	A	828	U	N3-C2-O2	-5.56	118.31	122.20
26	4	39	CYS	N-CA-C	-5.56	95.99	111.00
9	N	114	ARG	N-CA-C	-5.55	96.00	111.00
1	A	372	G	OP2-P-O3'	5.54	117.40	105.20
1	A	1654	A	O5'-P-OP1	-5.54	100.72	105.70
1	A	2420	C	O5'-P-OP1	-5.51	100.74	105.70
1	A	2848	G	P-O3'-C3'	5.48	126.28	119.70
1	A	227	A	P-O3'-C3'	5.47	126.27	119.70
3	D	251	GLY	N-CA-C	5.47	126.78	113.10
7	H	127	GLU	N-CA-C	-5.46	96.25	111.00
1	A	2053	G	C8-N9-C1'	5.46	134.10	127.00
11	P	25	SER	N-CA-C	-5.44	96.31	111.00
1	A	2335	A	O4'-C1'-N9	5.44	112.55	108.20
1	A	372	G	C4-N9-C1'	-5.43	119.44	126.50
1	A	1313	U	C2-N1-C1'	5.41	124.19	117.70
1	A	2832	U	P-O3'-C3'	5.37	126.14	119.70
1	A	1799	G	P-O3'-C3'	5.36	126.13	119.70
1	A	1332	G	C2-N3-C4	-5.34	109.23	111.90
1	A	2584	U	C2-N1-C1'	5.34	124.11	117.70
1	A	1786	A	C6-C5-N7	-5.34	128.56	132.30
1	A	774	A	N3-C4-C5	5.33	130.53	126.80
3	D	111	LEU	CA-CB-CG	5.33	127.57	115.30
7	H	100	GLY	N-CA-C	-5.33	99.78	113.10
1	A	140	A	C8-N9-C4	-5.33	103.67	105.80
1	A	1899	G	N3-C4-N9	5.32	129.19	126.00
1	A	2198	A	P-O3'-C3'	5.30	126.06	119.70
1	A	1653	G	P-O3'-C3'	5.30	126.06	119.70
30	8	36	LYS	N-CA-C	-5.29	96.73	111.00
1	A	404	C	P-O3'-C3'	5.28	126.04	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	372	G	O4'-C1'-N9	5.26	112.41	108.20
1	A	2689	U	P-O3'-C3'	5.24	125.99	119.70
14	S	110	LEU	CA-CB-CG	5.24	127.35	115.30
1	A	1992	G	P-O3'-C3'	5.20	125.94	119.70
12	Q	5	ARG	N-CA-C	-5.19	96.99	111.00
1	A	2447	G	C8-N9-C1'	5.18	133.73	127.00
1	A	1558	A	P-O3'-C3'	5.17	125.90	119.70
1	A	2712	U	C2-N1-C1'	5.14	123.87	117.70
1	A	1925	C	N1-C2-O2	-5.11	115.84	118.90
1	A	1914	C	C2-N1-C1'	5.10	124.41	118.80
1	A	265	A	O4'-C1'-N9	5.08	112.26	108.20
1	A	2490	G	C4-N9-C1'	5.07	133.09	126.50
15	T	123	GLN	N-CA-C	-5.07	97.32	111.00
1	A	2726	U	C2-N1-C1'	5.05	123.76	117.70
15	T	59	THR	N-CA-C	-5.05	97.36	111.00
1	A	1528	A	O4'-C1'-N9	5.04	112.23	108.20
1	A	2307	G	O4'-C1'-N9	5.03	112.23	108.20
1	A	846	C	P-O3'-C3'	5.02	125.73	119.70
1	A	2126	A	P-O3'-C3'	5.01	125.72	119.70
1	A	222	A	P-O3'-C3'	5.01	125.71	119.70
1	A	1314	C	N1-C2-O2	5.00	121.90	118.90
1	A	828	U	N1-C2-O2	5.00	126.30	122.80

There are no chirality outliers.

There are no planarity outliers.

## 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	A	62071	0	31288	983	0
2	B	2573	0	1306	62	0
3	D	2115	0	2195	319	0
4	E	1568	0	1634	270	0
5	F	1585	0	1632	181	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	G	1474	0	1535	206	0
7	H	1307	0	1382	225	0
8	I	1136	0	1223	42	0
9	N	1104	0	1180	191	0
10	O	933	0	996	122	0
11	P	1145	0	1228	250	0
12	Q	1122	0	1179	159	0
13	R	968	0	1033	113	0
14	S	882	0	943	165	0
15	T	1141	0	1202	150	0
16	U	964	0	1022	131	0
17	V	779	0	852	129	0
18	W	900	0	964	99	0
19	X	725	0	778	69	0
20	Y	785	0	878	163	0
21	Z	1461	0	1493	46	0
22	0	648	0	672	20	0
23	1	763	0	848	146	0
24	2	581	0	629	81	0
25	3	469	0	518	41	0
26	4	581	0	574	132	0
27	5	459	0	480	77	0
28	6	424	0	450	92	0
29	7	430	0	480	43	0
30	8	517	0	582	106	0
31	9	307	0	338	18	0
32	a	74	0	51	0	0
33	0	1	0	0	0	0
33	5	1	0	0	0	0
33	A	240	0	0	0	0
33	B	2	0	0	0	0
33	D	1	0	0	0	0
33	E	2	0	0	0	0
33	F	1	0	0	0	0
33	P	1	0	0	0	0
33	R	2	0	0	0	0
All	All	92242	0	61565	4341	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 28.

All (4341) close contacts within the same asymmetric unit are listed below.



Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:127:GLU:CG	7:H:128:PRO:HD3	1.35	1.53
23:1:81:LYS:NZ	23:1:81:LYS:HA	1.43	1.34
23:1:81:LYS:HE2	23:1:81:LYS:N	1.50	1.26
12:Q:59:ARG:O	12:Q:60:ARG:HD2	1.38	1.22
7:H:127:GLU:HG2	7:H:128:PRO:CD	1.69	1.20
7:H:127:GLU:CB	7:H:128:PRO:HD3	1.69	1.19
20:Y:95:LYS:HB3	20:Y:100:ALA:HA	1.20	1.17
7:H:132:ARG:HH11	7:H:132:ARG:HB2	1.10	1.15
11:P:50:ARG:HB3	11:P:50:ARG:HH21	1.13	1.14
23:1:82:LEU:HD12	23:1:82:LEU:C	1.66	1.13
23:1:82:LEU:CD1	23:1:83:GLU:O	1.97	1.11
16:U:8:VAL:HG23	16:U:11:ARG:HH21	1.14	1.11
5:F:101:LEU:HD12	5:F:102:PRO:HD2	1.21	1.11
3:D:44:ASN:HB2	3:D:48:ARG:O	1.50	1.11
23:1:82:LEU:HD12	23:1:83:GLU:N	1.66	1.10
4:E:179:GLU:HB3	4:E:181:LEU:HD23	1.32	1.10
7:H:86:GLU:HG3	7:H:165:ALA:H	1.06	1.10
20:Y:76:CYS:HB3	20:Y:96:ILE:HD13	1.17	1.10
11:P:19:VAL:HG22	11:P:20:GLY:H	1.15	1.08
11:P:126:VAL:HG12	11:P:147:LEU:HD21	1.30	1.07
3:D:131:LEU:HB2	3:D:136:ILE:HD11	1.35	1.07
7:H:152:ARG:HG3	7:H:153:LYS:HE2	1.33	1.07
26:4:71:ARG:HG3	26:4:71:ARG:HH11	1.13	1.07
4:E:50:GLY:HA2	4:E:77:ILE:HA	1.31	1.07
11:P:59:LEU:HA	11:P:61:ARG:NH2	1.69	1.06
4:E:21:VAL:HB	4:E:22:PRO:HB3	1.37	1.06
4:E:63:LEU:HD12	4:E:64:LYS:H	1.18	1.06
23:1:82:LEU:CD1	23:1:83:GLU:N	2.18	1.06
5:F:46:ARG:HH11	5:F:46:ARG:HG2	1.20	1.06
23:1:81:LYS:HZ3	23:1:81:LYS:CA	1.70	1.05
9:N:134:ARG:H	9:N:135:PRO:HD3	1.11	1.05
12:Q:59:ARG:O	12:Q:60:ARG:CD	2.05	1.04
7:H:127:GLU:CB	7:H:128:PRO:CD	2.35	1.04
16:U:90:VAL:HG12	16:U:91:ASP:H	1.18	1.04
1:A:518:G:H4'	18:W:18:ARG:HH12	1.23	1.04
13:R:67:LEU:HD13	13:R:76:VAL:HG21	1.39	1.04
14:S:106:ARG:HA	14:S:110:LEU:HD11	1.39	1.04
12:Q:81:VAL:O	12:Q:82:ARG:CD	2.06	1.03
14:S:83:LYS:O	14:S:109:GLY:HA3	1.57	1.03
3:D:35:LYS:HG2	3:D:64:ILE:N	1.72	1.03
30:8:52:LYS:H	30:8:53:PRO:CD	1.69	1.03
12:Q:80:GLU:O	12:Q:81:VAL:HG13	1.60	1.02
5:F:67:GLN:HG3	5:F:67:GLN:O	1.58	1.02

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:67:GLN:O	5:F:68:LYS:HB2	1.56	1.02
12:Q:12:GLN:HG2	12:Q:73:PRO:HD2	1.42	1.02
10:O:53:LYS:H	10:O:53:LYS:HD2	1.23	1.02
7:H:153:LYS:HB3	7:H:154:PRO:HD2	1.06	1.02
1:A:2701:C:H3'	1:A:2702:U:H5''	1.42	1.01
5:F:185:ASP:HA	5:F:188:ARG:HD3	1.41	1.01
14:S:26:LEU:HD12	14:S:39:ILE:HD11	1.40	1.01
17:V:49:THR:HB	17:V:50:PRO:HD2	1.39	1.00
3:D:227:ASN:HB3	3:D:228:PRO:HD2	1.44	1.00
26:4:56:VAL:HA	26:4:60:GLN:HB2	1.43	1.00
12:Q:65:PHE:O	12:Q:66:ILE:HG12	1.59	1.00
12:Q:81:VAL:O	12:Q:82:ARG:NE	1.94	1.00
20:Y:97:ARG:HH21	20:Y:98:VAL:HB	1.26	1.00
24:2:50:ILE:HD12	24:2:51:ARG:N	1.76	1.00
7:H:153:LYS:HB3	7:H:154:PRO:CD	1.92	0.99
7:H:77:LYS:HB3	7:H:77:LYS:HZ3	1.22	0.99
4:E:201:THR:HG22	4:E:203:LYS:H	1.26	0.99
14:S:83:LYS:NZ	14:S:109:GLY:HA2	1.78	0.99
7:H:127:GLU:CG	7:H:128:PRO:CD	2.31	0.99
11:P:50:ARG:HH21	11:P:50:ARG:CB	1.76	0.98
11:P:105:LEU:O	11:P:106:LEU:HB2	1.61	0.98
18:W:86:LEU:HD12	18:W:87:PRO:HD2	1.45	0.98
6:G:13:GLU:O	6:G:14:GLU:HB2	1.60	0.98
12:Q:79:LEU:HD22	12:Q:79:LEU:O	1.64	0.98
3:D:44:ASN:HB3	3:D:49:ILE:HA	1.46	0.97
4:E:20:ALA:O	4:E:21:VAL:HG22	1.64	0.97
24:2:50:ILE:HD12	24:2:51:ARG:H	1.24	0.97
9:N:96:GLU:HG2	9:N:97:ARG:H	1.26	0.97
1:A:1019:U:HO2'	1:A:1021:A:H2	1.11	0.96
12:Q:79:LEU:HD13	12:Q:79:LEU:O	1.63	0.96
28:6:7:ILE:HG13	28:6:8:LYS:H	1.25	0.96
6:G:112:PRO:HB3	26:4:37:SER:HB2	1.47	0.96
28:6:47:THR:HG22	28:6:48:VAL:HG12	1.45	0.96
13:R:54:LEU:HD23	13:R:66:VAL:HG23	1.44	0.95
20:Y:84:ARG:HH12	20:Y:97:ARG:HB2	1.28	0.95
5:F:101:LEU:HD12	5:F:102:PRO:CD	1.96	0.95
24:2:13:ALA:HA	24:2:16:LEU:HD23	1.48	0.94
7:H:86:GLU:HG3	7:H:165:ALA:N	1.79	0.94
11:P:62:LEU:HD22	11:P:62:LEU:N	1.82	0.94
1:A:1454:U:H5'	13:R:63:ARG:HE	1.31	0.94
10:O:2:ILE:HD11	10:O:82:ASN:HD22	1.33	0.94
20:Y:51:VAL:HG13	20:Y:52:SER:H	1.31	0.94

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:81:LYS:CA	23:1:81:LYS:CE	2.45	0.94
3:D:28:GLU:HB2	3:D:29:PRO:CD	1.98	0.94
3:D:108:PRO:HB3	3:D:143:HIS:HE1	1.32	0.94
4:E:78:LEU:HG	4:E:79:ARG:HE	1.31	0.94
17:V:35:LEU:HD21	17:V:57:VAL:HG22	1.47	0.94
23:1:81:LYS:N	23:1:81:LYS:CE	2.30	0.94
15:T:62:THR:HG22	15:T:75:ILE:HG12	1.46	0.94
11:P:1:MET:HE2	11:P:5:ASP:HB3	1.50	0.94
15:T:11:GLU:CD	15:T:11:GLU:H	1.71	0.94
19:X:57:LEU:CD1	19:X:78:LYS:HB2	1.98	0.94
28:6:41:PRO:HG2	28:6:45:LYS:H	1.29	0.93
14:S:59:LYS:HG2	14:S:60:GLY:H	1.31	0.93
27:5:56:LYS:H	27:5:56:LYS:HD2	1.31	0.93
9:N:134:ARG:H	9:N:135:PRO:CD	1.81	0.93
12:Q:59:ARG:O	12:Q:60:ARG:CG	2.17	0.93
17:V:99:ILE:HD13	17:V:99:ILE:H	1.31	0.93
27:5:58:LEU:HD13	27:5:60:VAL:HG12	1.48	0.93
7:H:127:GLU:HB3	7:H:128:PRO:CD	1.99	0.93
12:Q:34:LEU:HD11	12:Q:129:THR:HB	1.50	0.93
3:D:147:LEU:HD13	3:D:155:LEU:HD11	1.52	0.92
3:D:183:ARG:HH11	3:D:183:ARG:HG2	1.34	0.92
5:F:103:LYS:HA	5:F:106:ARG:HG3	1.49	0.92
6:G:37:VAL:HG22	6:G:159:VAL:HA	1.52	0.92
3:D:108:PRO:HB3	3:D:143:HIS:CE1	2.05	0.92
7:H:153:LYS:CB	7:H:154:PRO:HD2	1.97	0.92
17:V:24:LYS:HA	17:V:92:THR:HG23	1.52	0.91
23:1:81:LYS:CE	23:1:81:LYS:HA	2.01	0.91
6:G:101:ILE:HG13	6:G:102:PHE:N	1.86	0.91
7:H:77:LYS:NZ	7:H:77:LYS:HB3	1.82	0.91
13:R:33:ARG:NH2	27:5:55:ARG:HG2	1.85	0.91
4:E:14:ILE:HG12	4:E:15:PHE:H	1.33	0.91
5:F:7:TYR:HB3	5:F:21:ALA:HB1	1.53	0.91
1:A:242:G:H5'	30:8:62:LEU:HD22	1.52	0.91
1:A:2015:A:H1'	27:5:2:ALA:HA	1.51	0.90
14:S:67:ARG:NH1	14:S:67:ARG:HB2	1.85	0.90
3:D:10:THR:HG23	3:D:13:ARG:HB3	1.51	0.90
7:H:4:ILE:HG13	7:H:6:ARG:CZ	2.01	0.90
11:P:58:THR:O	11:P:61:ARG:NE	2.05	0.90
24:2:65:ASN:HB3	24:2:69:ARG:HH12	1.34	0.90
12:Q:59:ARG:O	12:Q:60:ARG:HG3	1.72	0.90
3:D:69:ARG:HH21	3:D:130:ALA:HB2	1.37	0.89
23:1:81:LYS:CA	23:1:81:LYS:NZ	2.31	0.89

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:92:ARG:O	16:U:92:ARG:HG2	1.69	0.89
7:H:26:VAL:HG13	7:H:27:LYS:H	1.36	0.89
7:H:10:PRO:HD2	7:H:50:VAL:O	1.72	0.89
27:5:3:LYS:HE3	27:5:3:LYS:HA	1.54	0.89
1:A:2712:U:HO2'	1:A:2712(A):A:H8	1.15	0.89
20:Y:76:CYS:SG	20:Y:77:PRO:HD2	2.13	0.89
30:8:52:LYS:H	30:8:53:PRO:HD3	1.35	0.89
17:V:44:LYS:O	17:V:46:VAL:HG12	1.72	0.89
11:P:88:LEU:HD12	11:P:95:VAL:HG11	1.52	0.89
11:P:65:ARG:HH11	11:P:65:ARG:HG3	1.35	0.88
23:1:80:LEU:O	23:1:81:LYS:HB2	1.71	0.88
3:D:27:THR:HG23	3:D:28:GLU:H	1.38	0.88
20:Y:30:VAL:HG22	20:Y:37:VAL:HG12	1.53	0.88
6:G:88:ILE:O	6:G:88:ILE:HD13	1.72	0.88
11:P:106:LEU:O	11:P:107:LYS:HB2	1.71	0.88
4:E:63:LEU:HD12	4:E:64:LYS:N	1.88	0.88
9:N:22:THR:HG22	9:N:23:LEU:N	1.88	0.88
1:A:1359:A:N6	1:A:1372:U:O4	2.05	0.88
1:A:674:G:H1'	5:F:74:ARG:HD3	1.56	0.88
27:5:40:LYS:HZ1	27:5:48:GLU:HB2	1.39	0.87
30:8:59:LYS:HB2	30:8:59:LYS:NZ	1.88	0.87
3:D:28:GLU:HB2	3:D:29:PRO:HD2	1.56	0.87
18:W:65:LEU:HD12	18:W:68:ARG:HH11	1.36	0.87
4:E:77:ILE:HD12	4:E:78:LEU:N	1.89	0.87
17:V:19:LYS:HD2	17:V:95:LEU:HD23	1.55	0.87
14:S:106:ARG:NH1	14:S:106:ARG:HB2	1.88	0.87
3:D:181:GLU:HA	3:D:272:ALA:HB3	1.57	0.87
11:P:49:ARG:HD2	30:8:58:ILE:HG22	1.54	0.87
20:Y:38:ILE:HG22	20:Y:66:PRO:HA	1.54	0.87
3:D:44:ASN:H	3:D:44:ASN:HD22	1.19	0.87
11:P:64:LYS:O	11:P:66:GLY:N	2.07	0.87
12:Q:64:ILE:HA	12:Q:106:VAL:HG12	1.54	0.87
6:G:116:ASP:O	6:G:117:PHE:HB3	1.72	0.87
1:A:270(R):G:N3	23:1:78:LYS:NZ	2.22	0.86
23:1:92:LYS:HG3	23:1:96:LYS:HB2	1.57	0.86
11:P:75:ILE:H	11:P:75:ILE:HD13	1.39	0.86
14:S:106:ARG:HH11	14:S:106:ARG:HB2	1.39	0.86
5:F:29:ASN:H	5:F:112:MET:HE3	1.40	0.86
5:F:82:ILE:HG13	5:F:82:ILE:O	1.73	0.86
6:G:161:THR:HG22	6:G:163:ALA:H	1.39	0.86
3:D:44:ASN:CB	3:D:49:ILE:HA	2.04	0.86
20:Y:51:VAL:O	20:Y:56:PRO:HA	1.76	0.86

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:92:ARG:HD2	17:V:11:GLN:NE2	1.90	0.85
4:E:61:ARG:O	4:E:63:LEU:HG	1.77	0.85
23:1:82:LEU:HD13	23:1:83:GLU:O	1.74	0.85
6:G:179:PRO:HG3	26:4:38:LYS:HZ1	1.40	0.85
12:Q:75:THR:HA	12:Q:88:GLY:O	1.76	0.85
27:5:39:MET:O	27:5:40:LYS:HG3	1.77	0.85
16:U:64:ARG:HG2	16:U:64:ARG:HH21	1.42	0.85
1:A:2729:G:HI'	4:E:187:ALA:HB2	1.57	0.85
5:F:32:LEU:HD13	5:F:105:VAL:HG13	1.59	0.85
4:E:81:ILE:O	4:E:82:ARG:HB2	1.75	0.85
4:E:95:ILE:HD12	4:E:95:ILE:H	1.41	0.85
6:G:67:LYS:HE2	26:4:6:HIS:NE2	1.92	0.85
3:D:17:THR:HG22	3:D:205:VAL:H	1.41	0.85
7:H:127:GLU:HG2	7:H:128:PRO:HD3	0.86	0.85
30:8:59:LYS:NZ	30:8:59:LYS:CB	2.40	0.84
4:E:24:THR:HG21	4:E:188:VAL:HG11	1.59	0.84
7:H:89:ILE:HD11	7:H:129:THR:HB	1.58	0.84
11:P:18:ARG:O	11:P:19:VAL:HB	1.75	0.84
14:S:89:ARG:HD2	14:S:92:TYR:O	1.78	0.84
10:O:26:LYS:HB2	10:O:30:ALA:HB2	1.59	0.84
11:P:62:LEU:CD2	30:8:25:MET:HB2	2.08	0.84
14:S:83:LYS:HG2	14:S:109:GLY:CA	2.07	0.84
23:1:82:LEU:HD11	23:1:83:GLU:O	1.75	0.84
3:D:35:LYS:HG2	3:D:64:ILE:H	1.40	0.84
15:T:111:ARG:O	15:T:112:ARG:HG3	1.76	0.84
6:G:98:ARG:HA	6:G:101:ILE:HG12	1.59	0.84
17:V:49:THR:HB	17:V:50:PRO:CD	2.07	0.84
7:H:54:ARG:NH1	7:H:62:LYS:HG2	1.92	0.83
20:Y:81:LYS:HD3	20:Y:97:ARG:HE	1.43	0.83
7:H:105:LEU:H	7:H:105:LEU:HD13	1.42	0.83
13:R:117:VAL:HG22	13:R:118:GLU:H	1.43	0.83
15:T:24:PRO:HA	15:T:49:VAL:HG13	1.59	0.83
27:5:40:LYS:HD3	27:5:46:CYS:HB3	1.60	0.83
1:A:1689:A:H62	1:A:1698:A:H2	1.23	0.83
4:E:35:GLN:HG2	4:E:37:ARG:HE	1.44	0.83
9:N:133:GLN:HB2	9:N:135:PRO:HD3	1.59	0.83
20:Y:57:GLN:NE2	20:Y:58:GLY:H	1.76	0.83
9:N:131:GLN:NE2	9:N:132:ALA:H	1.75	0.83
15:T:3:ARG:HG3	15:T:7:ILE:HG12	1.60	0.83
17:V:66:ARG:NH1	17:V:88:ARG:HD3	1.94	0.83
26:4:36:CYS:O	26:4:39:CYS:HB2	1.79	0.83
1:A:2056:G:N2	27:5:4:HIS:O	2.12	0.83

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:53:THR:HG23	5:F:56:GLU:OE1	1.77	0.83
11:P:101:VAL:HG23	11:P:107:LYS:H	1.41	0.83
11:P:65:ARG:NH1	11:P:65:ARG:HG3	1.90	0.83
14:S:88:ASP:O	14:S:89:ARG:HB3	1.78	0.83
15:T:53:ARG:O	15:T:59:THR:HG23	1.78	0.83
12:Q:30:GLY:HA2	12:Q:107:ALA:HB2	1.60	0.82
28:6:27:LYS:NZ	28:6:27:LYS:HB2	1.93	0.82
4:E:15:PHE:CE1	4:E:20:ALA:HB2	2.14	0.82
14:S:106:ARG:HA	14:S:110:LEU:CD1	2.08	0.82
3:D:35:LYS:NZ	3:D:104:TYR:HB2	1.93	0.82
4:E:7:VAL:HG23	4:E:8:LYS:H	1.44	0.82
26:4:33:VAL:HG12	26:4:34:GLU:H	1.44	0.82
9:N:22:THR:HG22	9:N:23:LEU:H	1.44	0.82
16:U:88:ILE:H	16:U:88:ILE:HD13	1.44	0.82
5:F:155:LEU:HD13	5:F:174:VAL:HG13	1.62	0.82
8:I:52:ARG:HB2	8:I:56:LYS:HB3	1.62	0.82
1:A:2580:U:H4'	4:E:130:GLY:HA3	1.62	0.81
7:H:8:PRO:C	7:H:9:ILE:HG12	2.00	0.81
24:2:16:LEU:HG	24:2:16:LEU:O	1.78	0.81
7:H:132:ARG:NH1	7:H:132:ARG:HB2	1.94	0.81
7:H:153:LYS:HG2	7:H:162:ILE:HG13	1.61	0.81
10:O:53:LYS:N	10:O:53:LYS:HD2	1.96	0.81
11:P:126:VAL:HG22	11:P:145:PRO:HG2	1.60	0.81
30:8:52:LYS:N	30:8:53:PRO:CD	2.43	0.81
12:Q:90:VAL:HG13	12:Q:91:GLU:N	1.95	0.81
15:T:102:ILE:HA	15:T:105:LEU:HD21	1.62	0.81
1:A:1021:A:OP2	9:N:65:LYS:NZ	2.14	0.81
6:G:179:PRO:HG3	26:4:38:LYS:NZ	1.95	0.81
7:H:152:ARG:O	7:H:153:LYS:HB2	1.80	0.81
11:P:39:LYS:HA	11:P:45:LEU:CD1	2.10	0.81
29:7:48:LYS:HG2	29:7:49:ARG:H	1.46	0.81
14:S:36:TYR:HD2	14:S:52:SER:HB3	1.46	0.81
24:2:43:GLN:O	24:2:44:LEU:HG	1.81	0.81
3:D:27:THR:HG23	3:D:28:GLU:N	1.96	0.81
4:E:3:GLY:O	4:E:4:ILE:HB	1.81	0.81
6:G:67:LYS:HE2	26:4:6:HIS:CE1	2.14	0.81
7:H:26:VAL:HG13	7:H:27:LYS:N	1.96	0.81
9:N:35:ARG:HG3	9:N:37:LYS:HG3	1.63	0.81
14:S:106:ARG:CA	14:S:110:LEU:HD21	2.11	0.81
6:G:47:LYS:HD3	6:G:81:LYS:HB2	1.63	0.81
1:A:631:A:OP2	30:8:46:ARG:NH2	2.13	0.81
15:T:39:ARG:HG2	15:T:40:THR:H	1.46	0.81

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
15:T:62:THR:CG2	15:T:75:ILE:HG12	2.11	0.81
27:5:4:HIS:HB3	27:5:5:PRO:CD	2.11	0.80
1:A:583:G:H5''	16:U:10:ARG:HH12	1.46	0.80
4:E:116:VAL:HG21	4:E:122:PHE:CD2	2.16	0.80
7:H:13:LYS:HE2	7:H:13:LYS:HA	1.60	0.80
20:Y:6:HIS:O	20:Y:7:VAL:HG13	1.81	0.80
4:E:52:LEU:HB2	4:E:75:VAL:HG23	1.62	0.80
14:S:19:LYS:O	14:S:20:ARG:HB3	1.79	0.80
20:Y:76:CYS:HB3	20:Y:96:ILE:CD1	2.07	0.80
4:E:201:THR:CG2	4:E:203:LYS:HB3	2.11	0.80
4:E:50:GLY:CA	4:E:77:ILE:HA	2.10	0.80
11:P:47:ASP:OD2	11:P:49:ARG:HG2	1.82	0.80
3:D:121:PRO:HB3	3:D:135:PHE:HE1	1.46	0.80
1:A:1803:A:H4'	3:D:259:THR:CG2	2.12	0.80
1:A:338:G:OP1	20:Y:4:LYS:NZ	2.14	0.80
3:D:25:THR:HG22	3:D:82:ILE:H	1.47	0.80
3:D:27:THR:HG21	3:D:83:GLU:HB3	1.64	0.80
3:D:35:LYS:HZ1	3:D:104:TYR:HB2	1.46	0.80
17:V:99:ILE:N	17:V:99:ILE:HD13	1.95	0.80
3:D:34:VAL:O	3:D:34:VAL:HG13	1.80	0.80
5:F:198:ALA:HA	5:F:201:VAL:HG12	1.62	0.80
10:O:14:THR:HG21	10:O:86:ILE:HB	1.62	0.80
3:D:25:THR:CG2	3:D:82:ILE:H	1.93	0.79
5:F:145:GLU:HG3	5:F:145:GLU:O	1.81	0.79
6:G:77:ILE:HD13	6:G:82:LEU:HD12	1.64	0.79
11:P:14:LYS:O	11:P:16:ARG:HG2	1.83	0.79
3:D:54:ARG:HG3	3:D:54:ARG:NH1	1.98	0.79
4:E:137:HIS:HB3	4:E:138:PRO:HD2	1.65	0.79
5:F:11:VAL:HB	5:F:18:ARG:HG3	1.64	0.79
6:G:61:ALA:HB2	6:G:68:PRO:CD	2.12	0.79
11:P:59:LEU:HA	11:P:61:ARG:HH21	1.44	0.79
12:Q:81:VAL:O	12:Q:82:ARG:CG	2.31	0.79
1:A:2298:A:H62	1:A:2318:G:H8	1.28	0.79
1:A:1803:A:H4'	3:D:259:THR:HG21	1.65	0.79
1:A:768:G:O2'	1:A:1379:A:N6	2.15	0.79
7:H:10:PRO:O	7:H:11:VAL:HG13	1.80	0.79
7:H:126:PRO:CG	7:H:127:GLU:H	1.96	0.79
15:T:102:ILE:HA	15:T:105:LEU:CD2	2.13	0.79
3:D:68:LYS:HB2	3:D:70:TRP:CH2	2.17	0.79
11:P:97:PRO:O	11:P:98:GLU:HB3	1.83	0.79
1:A:141:A:H8	1:A:1595:G:H21	1.31	0.79
4:E:111:ARG:HE	4:E:160:TYR:HE1	1.31	0.79

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:86:GLU:CG	7:H:165:ALA:H	1.94	0.79
10:O:31:LYS:HG3	10:O:32:TYR:CE2	2.17	0.79
30:8:59:LYS:HB2	30:8:59:LYS:HZ2	1.47	0.79
1:A:571:A:O2'	17:V:78:LYS:NZ	2.16	0.79
9:N:71:ILE:HG21	9:N:84:LYS:HB3	1.65	0.78
9:N:43:THR:HB	9:N:46:VAL:HG12	1.63	0.78
11:P:138:LEU:C	11:P:140:ALA:H	1.85	0.78
16:U:105:VAL:HG22	17:V:44:LYS:HD2	1.65	0.78
1:A:676:A:H8	1:A:2069:G:H21	1.30	0.78
9:N:62:VAL:HG12	9:N:66:LYS:HD2	1.66	0.78
12:Q:80:GLU:O	12:Q:81:VAL:CG1	2.30	0.78
23:1:11:ARG:NH1	23:1:11:ARG:HB3	1.98	0.78
3:D:54:ARG:HG3	3:D:54:ARG:HH11	1.49	0.78
6:G:61:ALA:HB2	6:G:68:PRO:HD3	1.65	0.78
1:A:1279:G:H4'	13:R:31:HIS:HD2	1.48	0.78
2:B:56:G:OP1	6:G:27:ASN:ND2	2.16	0.78
12:Q:119:ARG:HG2	12:Q:119:ARG:HH11	1.48	0.78
12:Q:20:ALA:HB1	12:Q:99:PRO:HB2	1.65	0.78
14:S:106:ARG:HA	14:S:110:LEU:HD21	1.64	0.78
19:X:70:LEU:HD23	19:X:70:LEU:N	1.99	0.78
5:F:20:LEU:HD12	5:F:21:ALA:H	1.49	0.78
7:H:153:LYS:CG	7:H:162:ILE:H	1.96	0.78
6:G:145:THR:HG23	26:4:28:LYS:HZ1	1.49	0.78
1:A:498:G:N3	20:Y:47:LYS:NZ	2.31	0.78
16:U:90:VAL:HG12	16:U:91:ASP:N	1.97	0.78
25:3:56:VAL:HG12	25:3:57:GLU:H	1.48	0.78
3:D:142:VAL:HG23	3:D:193:VAL:HA	1.66	0.78
3:D:94:LEU:HD22	3:D:95:LEU:N	1.98	0.78
4:E:24:THR:HG21	4:E:188:VAL:CG1	2.13	0.78
10:O:47:ILE:HD12	10:O:48:PRO:HD2	1.66	0.78
20:Y:86:ARG:HB2	20:Y:95:LYS:HD2	1.64	0.78
1:A:2810:A:O3'	4:E:61:ARG:HG3	1.84	0.78
11:P:19:VAL:HG22	11:P:20:GLY:N	1.97	0.78
11:P:75:ILE:N	11:P:75:ILE:HD13	2.00	0.78
5:F:29:ASN:H	5:F:112:MET:CE	1.97	0.77
6:G:128:ARG:HH21	6:G:128:ARG:HG3	1.48	0.77
1:A:1332:G:H21	1:A:1610:A:H8	1.32	0.77
1:A:2068:U:H3	1:A:2430:A:H2	1.31	0.77
3:D:25:THR:O	3:D:27:THR:N	2.18	0.77
4:E:4:ILE:HD12	4:E:28:ALA:HB1	1.67	0.77
6:G:127:GLY:HA2	6:G:166:ASP:CG	2.05	0.77
15:T:43:GLN:HG2	15:T:44:ASP:N	1.99	0.77

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:15:GLU:CD	28:6:41:PRO:HB3	2.04	0.77
1:A:83:G:N2	1:A:103:A:OP2	2.17	0.77
7:H:150:ALA:O	7:H:152:ARG:N	2.14	0.77
11:P:62:LEU:N	11:P:62:LEU:CD2	2.46	0.77
16:U:66:ASN:O	16:U:70:ARG:HB2	1.84	0.77
26:4:22:ILE:O	26:4:24:THR:HG23	1.84	0.77
18:W:65:LEU:CD1	18:W:68:ARG:HH11	1.97	0.77
1:A:483:A:H4'	20:Y:49:VAL:HA	1.66	0.77
3:D:17:THR:CG2	3:D:205:VAL:H	1.96	0.77
11:P:114:ILE:HD11	11:P:130:PHE:CE1	2.19	0.77
11:P:84:ASN:ND2	11:P:116:GLY:HA3	1.99	0.77
20:Y:97:ARG:HH21	20:Y:98:VAL:CB	1.98	0.77
3:D:146:GLU:HB2	3:D:189:CYS:HB3	1.67	0.77
14:S:60:GLY:O	14:S:61:ASN:HB3	1.84	0.77
10:O:97:ARG:H	10:O:117:LEU:HD22	1.48	0.77
23:1:13:ILE:HD11	23:1:42:GLN:OE1	1.84	0.77
23:1:86:SER:N	23:1:87:PRO:CD	2.48	0.77
26:4:58:ARG:O	26:4:63:TYR:HB2	1.84	0.77
1:A:2115:G:N2	1:A:2165:G:N7	2.29	0.77
12:Q:66:ILE:HG13	12:Q:67:ARG:N	1.99	0.77
26:4:1:MET:HB2	26:4:6:HIS:NE2	2.00	0.77
12:Q:20:ALA:CB	12:Q:99:PRO:HD2	2.14	0.77
20:Y:44:ILE:HG13	20:Y:45:VAL:N	2.00	0.77
3:D:44:ASN:N	3:D:44:ASN:HD22	1.79	0.77
5:F:183:VAL:O	5:F:187:VAL:HG23	1.85	0.77
7:H:153:LYS:HA	7:H:153:LYS:NZ	1.99	0.77
20:Y:79:CYS:SG	20:Y:80:GLY:N	2.57	0.77
6:G:127:GLY:O	6:G:128:ARG:HG2	1.85	0.76
13:R:33:ARG:HH22	27:5:55:ARG:HG2	1.51	0.76
1:A:530:G:C2	1:A:2022:U:OP1	2.38	0.76
12:Q:90:VAL:HG13	12:Q:91:GLU:H	1.49	0.76
16:U:88:ILE:HG22	16:U:90:VAL:HG23	1.67	0.76
25:3:35:ARG:HB3	25:3:37:LEU:HD21	1.66	0.76
3:D:153:ALA:O	3:D:154:LYS:HG3	1.85	0.76
20:Y:81:LYS:HD3	20:Y:97:ARG:NE	2.01	0.76
20:Y:97:ARG:NH2	20:Y:98:VAL:HB	2.01	0.76
3:D:34:VAL:HG21	3:D:103:ARG:HA	1.66	0.76
23:1:56:GLN:N	23:1:56:GLN:NE2	2.34	0.76
28:6:34:LEU:HD13	28:6:34:LEU:H	1.50	0.76
1:A:1754:C:OP1	15:T:96:ARG:NH1	2.18	0.76
6:G:101:ILE:HG13	6:G:102:PHE:H	1.49	0.76
21:Z:94:GLU:HB2	21:Z:130:PRO:HD2	1.68	0.76

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:9:1:MET:HB3	31:9:4:ARG:NH1	2.01	0.76
1:A:1019:U:H3	1:A:1142(A):A:H62	1.34	0.76
3:D:69:ARG:HH21	3:D:130:ALA:CB	1.99	0.76
7:H:152:ARG:HG3	7:H:153:LYS:CE	2.13	0.76
7:H:169:VAL:HG22	7:H:170:ARG:H	1.48	0.76
26:4:34:GLU:HG3	26:4:35:VAL:H	1.51	0.75
27:5:47:PRO:O	27:5:48:GLU:HG3	1.86	0.75
1:A:1187:G:H5"	17:V:81:TYR:CE2	2.21	0.75
5:F:129:PHE:HA	5:F:142:TRP:NE1	2.02	0.75
10:O:104:ARG:HG2	10:O:104:ARG:HH11	1.50	0.75
13:R:74:LYS:O	13:R:75:LEU:HB3	1.84	0.75
6:G:76:SER:OG	6:G:83:ARG:HA	1.85	0.75
6:G:142:PRO:HB2	26:4:31:ILE:HD13	1.68	0.75
11:P:62:LEU:HD21	30:8:25:MET:HB2	1.69	0.75
6:G:3:LEU:HD12	6:G:4:ASP:H	1.51	0.75
16:U:52:ARG:HG2	16:U:52:ARG:HH11	1.51	0.75
27:5:40:LYS:CD	27:5:46:CYS:HB3	2.15	0.75
17:V:15:GLU:O	17:V:18:LEU:HB2	1.86	0.75
1:A:2701:C:H3'	1:A:2702:U:C5'	2.16	0.75
17:V:47:VAL:HG13	17:V:48:GLY:H	1.49	0.75
20:Y:94:LYS:O	20:Y:101:LYS:HB3	1.85	0.75
7:H:150:ALA:C	7:H:152:ARG:H	1.88	0.75
20:Y:90:LEU:N	20:Y:90:LEU:HD22	2.02	0.75
23:1:3:LYS:HD3	23:1:43:TYR:HD2	1.52	0.75
7:H:153:LYS:HG2	7:H:162:ILE:H	1.52	0.75
13:R:73:VAL:O	13:R:76:VAL:HG12	1.87	0.75
4:E:36:ARG:HH21	4:E:88:GLY:HA2	1.51	0.75
4:E:63:LEU:CD1	4:E:65:GLY:H	2.00	0.75
1:A:674:G:C1'	5:F:74:ARG:HD3	2.17	0.74
6:G:97:ASP:H	6:G:100:TRP:HD1	1.31	0.74
9:N:96:GLU:CG	9:N:97:ARG:H	2.00	0.74
14:S:62:LYS:HB3	14:S:97:ARG:HD3	1.69	0.74
17:V:52:VAL:HG21	17:V:55:ALA:HB3	1.68	0.74
18:W:18:ARG:HG3	18:W:76:VAL:CG1	2.15	0.74
18:W:40:ASN:O	18:W:41:LYS:HG2	1.87	0.74
15:T:111:ARG:O	15:T:113:LYS:N	2.17	0.74
16:U:92:ARG:HH11	16:U:95:LEU:CD1	2.00	0.74
23:1:26:ARG:HD2	23:1:26:ARG:O	1.86	0.74
26:4:71:ARG:NH1	26:4:71:ARG:HG3	1.90	0.74
5:F:7:TYR:HB3	5:F:21:ALA:CB	2.16	0.74
14:S:83:LYS:HZ2	14:S:109:GLY:HA2	1.49	0.74
19:X:57:LEU:HD11	19:X:78:LYS:HB2	1.68	0.74

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:47:ASN:HD22	24:2:47:ASN:H	1.33	0.74
10:O:26:LYS:HB2	10:O:30:ALA:CB	2.18	0.74
1:A:2245:U:H5''	1:A:2246:G:H5'	1.67	0.74
5:F:136:THR:HG22	5:F:166:ALA:O	1.87	0.74
15:T:50:ILE:HD12	15:T:102:ILE:HD11	1.68	0.74
3:D:77:ALA:CB	3:D:97:TYR:HA	2.18	0.74
4:E:201:THR:HG22	4:E:203:LYS:HB3	1.70	0.74
5:F:29:ASN:HB3	5:F:112:MET:HE1	1.68	0.74
17:V:51:VAL:HG12	17:V:52:VAL:H	1.51	0.74
25:3:29:ARG:HH11	25:3:29:ARG:HB2	1.52	0.74
23:1:80:LEU:O	23:1:81:LYS:CB	2.35	0.74
20:Y:95:LYS:HB3	20:Y:100:ALA:CA	2.10	0.74
23:1:76:ARG:HG2	23:1:76:ARG:HH11	1.53	0.73
27:5:2:ALA:O	27:5:3:LYS:HB2	1.88	0.73
30:8:59:LYS:HZ3	30:8:59:LYS:CB	1.99	0.73
1:A:221:A:H4'	1:A:222:A:O5'	1.88	0.73
10:O:47:ILE:CD1	10:O:48:PRO:HD2	2.16	0.73
1:A:637:A:H2'	11:P:117:GLU:OE2	1.88	0.73
12:Q:79:LEU:CD1	12:Q:79:LEU:O	2.35	0.73
18:W:70:TYR:H	18:W:70:TYR:HD2	1.36	0.73
20:Y:52:SER:OG	20:Y:53:PRO:HD3	1.88	0.73
9:N:58:ASP:H	9:N:60:ILE:HD11	1.53	0.73
14:S:36:TYR:CD2	14:S:52:SER:HB3	2.23	0.73
17:V:35:LEU:H	17:V:35:LEU:HD22	1.51	0.73
18:W:73:ALA:HB3	18:W:106:ILE:HG12	1.68	0.73
1:A:1667:G:O2'	1:A:1669:A:N6	2.21	0.73
11:P:50:ARG:HB3	11:P:50:ARG:NH2	1.98	0.73
11:P:62:LEU:HD22	11:P:62:LEU:H	1.53	0.73
1:A:1286:A:O2'	1:A:1288:U:OP2	2.06	0.73
1:A:49:A:H5''	1:A:51:G:H5'	1.70	0.73
3:D:30:GLU:HG3	3:D:63:ARG:CZ	2.17	0.73
4:E:203:LYS:O	4:E:203:LYS:HD2	1.88	0.73
4:E:61:ARG:HB2	4:E:62:PRO:HD3	1.69	0.73
4:E:77:ILE:HD12	4:E:78:LEU:H	1.52	0.73
5:F:9:ILE:HD11	5:F:125:LEU:HG	1.70	0.73
16:U:64:ARG:CG	16:U:64:ARG:HH21	2.00	0.73
26:4:41:PRO:O	26:4:42:PHE:HB3	1.87	0.73
7:H:153:LYS:HG3	7:H:161:GLY:CA	2.18	0.73
9:N:96:GLU:HG2	9:N:97:ARG:N	2.01	0.73
15:T:23:ARG:HB2	15:T:24:PRO:HD2	1.70	0.73
25:3:7:LYS:HB2	25:3:34:GLU:HG2	1.69	0.73
7:H:125:VAL:HA	7:H:126:PRO:HB3	1.68	0.73

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:84:SER:O	7:H:85:LYS:HB2	1.89	0.73
4:E:23:VAL:HG21	4:E:183:LEU:HD23	1.68	0.73
1:A:1403:C:H5''	1:A:1471:A:H1'	1.71	0.73
3:D:131:LEU:HB2	3:D:136:ILE:CD1	2.17	0.73
15:T:26:ASP:HB3	15:T:91:ARG:HA	1.69	0.73
4:E:55:ASN:C	4:E:57:LYS:H	1.91	0.73
24:2:27:GLU:N	24:2:27:GLU:OE1	2.19	0.73
1:A:1542:G:O6	1:A:1543:A:N6	2.22	0.73
4:E:56:PRO:O	4:E:57:LYS:HB2	1.89	0.73
5:F:101:LEU:CD1	5:F:102:PRO:HD2	2.11	0.73
12:Q:90:VAL:CG1	12:Q:91:GLU:H	2.02	0.73
16:U:34:LYS:HA	16:U:34:LYS:HE2	1.70	0.73
21:Z:19:ARG:NH1	21:Z:84:GLU:O	2.22	0.73
1:A:2562:U:O2'	10:O:23:ARG:NH1	2.22	0.72
5:F:157:VAL:HB	5:F:194:MET:HB3	1.70	0.72
6:G:146:TYR:O	6:G:149:VAL:HG22	1.88	0.72
1:A:265:A:N6	1:A:427:U:O2'	2.21	0.72
7:H:54:ARG:HH12	7:H:62:LYS:HG2	1.54	0.72
7:H:80:SER:O	7:H:81:GLU:HB2	1.89	0.72
9:N:1:MET:HE1	16:U:95:LEU:HD21	1.71	0.72
1:A:1543:A:O2'	1:A:1544:C:H3'	1.90	0.72
4:E:13:ARG:HA	4:E:22:PRO:HA	1.71	0.72
23:1:80:LEU:HB2	23:1:81:LYS:HE2	1.71	0.72
27:5:40:LYS:CE	27:5:46:CYS:HB3	2.19	0.72
2:B:42:C:H41	6:G:91:ARG:HH21	1.38	0.72
7:H:30:LYS:HD2	7:H:81:GLU:H	1.54	0.72
1:A:27:G:H22	1:A:512:G:H2'	1.55	0.72
4:E:78:LEU:HG	4:E:79:ARG:NE	2.03	0.72
11:P:127:ALA:C	11:P:147:LEU:HD23	2.10	0.72
15:T:117:ASP:O	15:T:121:ILE:HG13	1.89	0.72
27:5:58:LEU:CD1	27:5:60:VAL:HG12	2.19	0.72
1:A:140:A:H8	1:A:1408:C:HO2'	1.34	0.72
5:F:124:LEU:HD12	5:F:125:LEU:N	2.04	0.72
10:O:113:LYS:HG2	10:O:117:LEU:HD11	1.71	0.72
11:P:29:LYS:HD2	11:P:30:THR:HG22	1.72	0.72
11:P:88:LEU:C	11:P:90:ARG:H	1.92	0.72
14:S:42:ASP:O	14:S:43:GLU:HB2	1.90	0.72
15:T:54:ARG:HH11	15:T:54:ARG:HG2	1.52	0.72
15:T:78:LEU:HD13	15:T:78:LEU:O	1.87	0.72
4:E:28:ALA:HB3	4:E:93:VAL:HG22	1.72	0.72
25:3:56:VAL:HG12	25:3:57:GLU:N	2.04	0.72
28:6:13:CYS:HA	28:6:50:ARG:O	1.89	0.72

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:7:10:ARG:O	29:7:14:LYS:HB2	1.90	0.72
30:8:16:ILE:HD11	30:8:57:ARG:HG2	1.70	0.72
5:F:32:LEU:HD12	5:F:32:LEU:O	1.90	0.72
11:P:114:ILE:HD13	11:P:125:VAL:HG21	1.72	0.72
12:Q:79:LEU:C	12:Q:79:LEU:HD22	2.07	0.72
14:S:103:GLU:O	14:S:106:ARG:HG3	1.90	0.72
15:T:57:PHE:C	15:T:58:ASN:HD22	1.93	0.72
16:U:69:CYS:HB3	16:U:106:PHE:HZ	1.55	0.72
7:H:89:ILE:CD1	7:H:129:THR:HB	2.19	0.72
7:H:26:VAL:CG1	7:H:27:LYS:H	2.02	0.72
29:7:5:TRP:NE1	29:7:7:PRO:HG3	2.04	0.72
30:8:61:LEU:O	30:8:62:LEU:HB2	1.88	0.72
1:A:2114:A:N6	1:A:2119:A:N7	2.38	0.72
5:F:32:LEU:C	5:F:32:LEU:HD12	2.10	0.72
6:G:7:LEU:HD21	6:G:176:LEU:HD22	1.70	0.72
7:H:152:ARG:O	7:H:153:LYS:HD2	1.90	0.72
13:R:3:HIS:O	13:R:5:LYS:N	2.22	0.72
14:S:26:LEU:O	14:S:26:LEU:HD23	1.90	0.72
16:U:66:ASN:HB2	16:U:76:TYR:HB2	1.72	0.72
16:U:98:LEU:HD23	16:U:99:ALA:N	2.04	0.72
4:E:197:ILE:HD11	4:E:199:ARG:HH12	1.55	0.71
12:Q:79:LEU:CD2	12:Q:79:LEU:O	2.36	0.71
13:R:117:VAL:HG22	13:R:118:GLU:N	2.05	0.71
13:R:85:PRO:O	13:R:87:TYR:N	2.22	0.71
20:Y:51:VAL:HG13	20:Y:52:SER:N	2.03	0.71
30:8:60:LEU:O	30:8:63:PRO:HD2	1.90	0.71
1:A:2198:A:O2'	1:A:2199:A:O5'	2.07	0.71
1:A:2680:C:H5'	4:E:189:PRO:HA	1.71	0.71
4:E:93:VAL:H	4:E:95:ILE:HD12	1.54	0.71
11:P:85:LEU:HA	11:P:88:LEU:HD22	1.71	0.71
15:T:102:ILE:HB	15:T:110:ILE:CD1	2.19	0.71
24:2:29:LYS:HD3	24:2:57:ILE:HD13	1.71	0.71
1:A:620:G:H4'	1:A:621:A:H5''	1.73	0.71
1:A:1012:U:H3	9:N:25:ARG:HH11	1.38	0.71
10:O:3:GLN:HB2	10:O:4:PRO:HD2	1.72	0.71
14:S:83:LYS:HG2	14:S:109:GLY:N	2.04	0.71
16:U:8:VAL:HG23	16:U:11:ARG:NH2	1.99	0.71
18:W:1:MET:HE2	18:W:2:GLU:H	1.55	0.71
4:E:21:VAL:HB	4:E:22:PRO:CB	2.18	0.71
11:P:49:ARG:HD2	30:8:58:ILE:CG2	2.20	0.71
3:D:244:ARG:HB2	3:D:245:PRO:HD2	1.71	0.71
14:S:67:ARG:O	14:S:71:ARG:HG3	1.89	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:39:LEU:O	17:V:40:LEU:HD23	1.90	0.71
28:6:25:LYS:HD2	30:8:34:TRP:HZ2	1.56	0.71
7:H:125:VAL:HG12	7:H:126:PRO:HG3	1.70	0.71
14:S:106:ARG:CA	14:S:110:LEU:HD11	2.19	0.71
9:N:1:MET:CE	16:U:95:LEU:HD21	2.21	0.71
19:X:12:VAL:HG12	19:X:27:THR:O	1.91	0.71
26:4:29:PRO:O	26:4:30:GLU:HB2	1.89	0.71
8:I:4:ILE:HD11	8:I:44:LEU:HD12	1.71	0.71
4:E:14:ILE:HD11	15:T:14:TYR:OH	1.90	0.71
30:8:58:ILE:HD13	30:8:61:LEU:HD11	1.72	0.71
30:8:60:LEU:C	30:8:63:PRO:HD2	2.11	0.71
1:A:299:A:H5'	20:Y:84:ARG:HH21	1.54	0.71
5:F:66:PRO:O	5:F:67:GLN:HB3	1.89	0.71
11:P:83:VAL:CG1	11:P:112:LEU:HD21	2.21	0.71
28:6:36:LEU:HD13	28:6:50:ARG:NH1	2.05	0.71
1:A:1332:G:N2	1:A:1609:A:O2'	2.24	0.71
5:F:178:PRO:HB2	5:F:201:VAL:HG11	1.73	0.71
5:F:185:ASP:OD1	5:F:188:ARG:NH1	2.23	0.71
1:A:2713:A:OP1	13:R:14:SER:OG	2.09	0.71
3:D:263:ARG:HB2	3:D:263:ARG:NH1	2.05	0.71
1:A:1490:A:O2'	3:D:99:ASP:OD2	2.09	0.71
14:S:83:LYS:C	14:S:109:GLY:HA3	2.10	0.71
17:V:51:VAL:HG12	17:V:52:VAL:N	2.06	0.71
24:2:41:ILE:C	24:2:41:ILE:HD12	2.10	0.70
1:A:2438:U:O3'	1:A:2439:A:H3'	1.91	0.70
3:D:43:ARG:HB3	3:D:54:ARG:HB2	1.73	0.70
5:F:164:ARG:HG3	5:F:175:THR:OG1	1.91	0.70
7:H:132:ARG:CB	7:H:132:ARG:HH11	1.97	0.70
1:A:2014:A:O2'	27:5:2:ALA:HB2	1.90	0.70
11:P:58:THR:O	11:P:61:ARG:CZ	2.38	0.70
5:F:101:LEU:O	5:F:106:ARG:NH1	2.23	0.70
14:S:54:LEU:O	14:S:54:LEU:HD13	1.91	0.70
23:1:80:LEU:C	23:1:81:LYS:HE2	2.10	0.70
28:6:29:ASN:OD1	28:6:30:THR:HG22	1.90	0.70
7:H:154:PRO:O	7:H:155:SER:HB2	1.91	0.70
14:S:83:LYS:HZ1	14:S:109:GLY:HA2	1.56	0.70
20:Y:48:ALA:O	20:Y:49:VAL:C	2.30	0.70
24:2:7:ARG:HG3	24:2:7:ARG:HH11	1.55	0.70
30:8:29:LYS:HD3	30:8:44:LYS:HB2	1.71	0.70
1:A:2306:C:H3'	1:A:2307:G:H5''	1.72	0.70
20:Y:45:VAL:HG12	20:Y:60:PHE:CD1	2.27	0.70
27:5:40:LYS:HE2	27:5:47:PRO:HD2	1.73	0.70

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1332:G:N2	1:A:1609:A:HO2'	1.90	0.70
9:N:89:LYS:O	9:N:93:THR:HG22	1.90	0.70
12:Q:32:TYR:CD1	12:Q:133:ARG:HA	2.27	0.70
23:1:7:ILE:CD1	23:1:70:VAL:HG22	2.21	0.70
1:A:957:A:H5'	12:Q:76:LYS:HD2	1.74	0.70
5:F:178:PRO:HG2	5:F:179:GLU:OE2	1.90	0.70
5:F:65:TRP:HZ3	5:F:73:ALA:O	1.74	0.70
7:H:152:ARG:O	7:H:153:LYS:CB	2.40	0.70
7:H:154:PRO:HG2	7:H:162:ILE:O	1.92	0.70
23:1:82:LEU:HD13	23:1:83:GLU:N	2.05	0.70
1:A:297:C:H5"	20:Y:85:VAL:HG21	1.74	0.70
3:D:65:ILE:HD13	3:D:65:ILE:O	1.91	0.70
14:S:106:ARG:N	14:S:110:LEU:HD21	2.07	0.70
16:U:65:ILE:HG12	16:U:96:ALA:HB1	1.73	0.70
19:X:57:LEU:HD11	19:X:78:LYS:HD2	1.73	0.70
6:G:131:TYR:O	6:G:159:VAL:HG13	1.92	0.70
7:H:128:PRO:HD2	7:H:129:THR:H	1.55	0.70
18:W:29:LEU:HD21	18:W:33:ARG:CZ	2.22	0.70
3:D:65:ILE:HD11	3:D:67:PHE:CD1	2.27	0.70
1:A:1190:G:OP1	11:P:30:THR:OG1	2.10	0.70
20:Y:57:GLN:HE21	20:Y:58:GLY:H	1.37	0.70
23:1:7:ILE:HD12	23:1:70:VAL:HG22	1.73	0.69
24:2:47:ASN:O	24:2:49:LYS:N	2.25	0.69
1:A:2392:A:C8	11:P:60:MET:HG3	2.27	0.69
11:P:64:LYS:C	11:P:66:GLY:H	1.94	0.69
23:1:74:VAL:O	23:1:74:VAL:HG12	1.92	0.69
8:I:88:ILE:HG12	8:I:122:GLU:H	1.57	0.69
20:Y:2:ARG:HG2	20:Y:2:ARG:HH11	1.57	0.69
3:D:76:PRO:O	3:D:98:VAL:HG23	1.91	0.69
4:E:103:ASP:OD1	4:E:201:THR:HA	1.92	0.69
7:H:59:ARG:HH11	7:H:59:ARG:HG3	1.56	0.69
11:P:126:VAL:CG1	11:P:147:LEU:HD21	2.16	0.69
23:1:82:LEU:HD12	23:1:83:GLU:CA	2.21	0.69
5:F:103:LYS:HA	5:F:106:ARG:CG	2.21	0.69
9:N:120:LEU:HD11	9:N:122:VAL:HG23	1.74	0.69
10:O:63:VAL:HG13	10:O:84:ALA:HA	1.72	0.69
11:P:20:GLY:HA2	11:P:27:HIS:O	1.92	0.69
23:1:4:VAL:HG23	23:1:10:LYS:O	1.93	0.69
6:G:56:ALA:HB2	6:G:153:ARG:HE	1.57	0.69
7:H:103:LEU:HD12	7:H:131:VAL:HG21	1.73	0.69
7:H:4:ILE:HG13	7:H:6:ARG:NE	2.08	0.69
9:N:46:VAL:O	9:N:47:ALA:HB3	1.92	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:43:THR:OG1	12:Q:46:GLN:HB2	1.91	0.69
1:A:2563:U:H4'	10:O:28:SER:HA	1.75	0.69
4:E:65:GLY:HA2	4:E:70:ALA:CB	2.23	0.69
4:E:7:VAL:HG23	4:E:8:LYS:N	2.07	0.69
27:5:4:HIS:HB3	27:5:5:PRO:HD3	1.75	0.69
3:D:89:SER:HB2	3:D:159:ALA:HB2	1.74	0.69
11:P:39:LYS:CA	11:P:45:LEU:HD11	2.23	0.69
17:V:41:GLY:HA3	17:V:46:VAL:HG11	1.74	0.69
17:V:66:ARG:HH12	17:V:88:ARG:NH1	1.90	0.69
27:5:40:LYS:HE2	27:5:47:PRO:CD	2.21	0.69
9:N:7:LYS:HD3	9:N:9:VAL:HA	1.75	0.69
9:N:68:GLU:HG2	9:N:88:GLU:OE1	1.92	0.69
15:T:41:ARG:NH2	15:T:43:GLN:HB2	2.06	0.69
23:1:81:LYS:HE2	23:1:81:LYS:CA	2.13	0.69
27:5:40:LYS:HG2	27:5:47:PRO:HD2	1.75	0.69
28:6:28:ARG:HB3	28:6:30:THR:H	1.55	0.69
3:D:35:LYS:HB3	3:D:63:ARG:HA	1.75	0.69
6:G:171:ALA:O	6:G:175:LEU:HG	1.93	0.69
11:P:61:ARG:HD2	11:P:61:ARG:H	1.58	0.69
1:A:2393:A:H4'	11:P:61:ARG:O	1.93	0.69
11:P:64:LYS:HB2	30:8:25:MET:CG	2.22	0.69
14:S:52:SER:O	14:S:56:LEU:HD22	1.93	0.69
16:U:90:VAL:O	16:U:92:ARG:N	2.26	0.69
23:1:53:VAL:HG22	23:1:74:VAL:HG13	1.74	0.69
6:G:28:VAL:HG23	6:G:29:TRP:CD1	2.28	0.69
12:Q:80:GLU:HG3	12:Q:81:VAL:H	1.58	0.69
20:Y:29:GLU:HB3	20:Y:38:ILE:HG12	1.75	0.69
1:A:1080:C:N4	1:A:1088:A:OP2	2.26	0.69
1:A:2502:G:H5''	1:A:2503:A:H5''	1.74	0.69
17:V:22:VAL:HG12	17:V:23:GLU:N	2.06	0.69
21:Z:60:GLU:HA	21:Z:66:SER:HA	1.75	0.69
24:2:23:LYS:O	24:2:27:GLU:OE1	2.11	0.68
28:6:14:THR:HG21	28:6:19:ARG:HH21	1.58	0.68
6:G:16:ARG:HH21	6:G:31:VAL:CG1	2.06	0.68
16:U:65:ILE:HD11	16:U:93:LYS:HA	1.74	0.68
23:1:80:LEU:C	23:1:81:LYS:HD2	2.12	0.68
28:6:41:PRO:CG	28:6:45:LYS:H	2.05	0.68
18:W:6:ILE:HG12	18:W:104:THR:HG23	1.73	0.68
1:A:1138:G:H21	9:N:106:MET:HE3	1.57	0.68
1:A:2111:C:N3	1:A:2118:U:O2'	2.26	0.68
3:D:17:THR:HG22	3:D:205:VAL:N	2.08	0.68
5:F:185:ASP:HA	5:F:188:ARG:CD	2.20	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:100:ALA:HA	14:S:103:GLU:HG2	1.75	0.68
6:G:112:PRO:CB	26:4:37:SER:HB2	2.22	0.68
1:A:1814:G:H4'	3:D:51:VAL:HG21	1.75	0.68
10:O:8:LEU:HD22	10:O:8:LEU:N	2.08	0.68
26:4:15:ILE:HD13	26:4:15:ILE:N	2.09	0.68
28:6:7:ILE:HG13	28:6:8:LYS:N	2.06	0.68
11:P:62:LEU:HD23	30:8:25:MET:HB2	1.74	0.68
11:P:15:ARG:O	11:P:16:ARG:C	2.32	0.68
17:V:18:LEU:O	17:V:95:LEU:HA	1.94	0.68
18:W:86:LEU:HD12	18:W:87:PRO:CD	2.23	0.68
20:Y:40:GLU:HA	20:Y:64:GLU:OE1	1.94	0.68
23:1:64:ALA:HA	23:1:67:ILE:HG13	1.75	0.68
23:1:83:GLU:HG2	23:1:84:GLY:N	2.09	0.68
3:D:17:THR:CG2	3:D:204:ILE:HA	2.23	0.68
7:H:126:PRO:HB2	7:H:130:ARG:O	1.93	0.68
9:N:134:ARG:N	9:N:135:PRO:HD3	1.97	0.68
10:O:25:LEU:HB2	10:O:38:VAL:HG13	1.74	0.68
11:P:26:GLY:O	11:P:28:GLY:N	2.27	0.68
27:5:20:ARG:HA	27:5:23:HIS:ND1	2.09	0.68
1:A:242:G:H5'	30:8:62:LEU:CD2	2.23	0.68
14:S:57:LYS:H	14:S:57:LYS:HD3	1.58	0.68
15:T:108:ARG:HA	15:T:111:ARG:CZ	2.23	0.68
15:T:109:GLU:O	15:T:113:LYS:HB2	1.94	0.68
15:T:50:ILE:HG22	15:T:62:THR:OG1	1.94	0.68
19:X:12:VAL:HG11	19:X:27:THR:OG1	1.93	0.68
1:A:270(T):G:OP1	23:1:97:LEU:HD13	1.93	0.68
1:A:2867:G:O2'	1:A:2868:A:H8	1.76	0.68
5:F:67:GLN:O	5:F:67:GLN:CG	2.32	0.68
7:H:126:PRO:HG2	7:H:127:GLU:H	1.59	0.68
1:A:2392:A:H8	11:P:60:MET:HG3	1.58	0.68
12:Q:12:GLN:CG	12:Q:73:PRO:HD2	2.21	0.68
13:R:29:LEU:HD23	13:R:79:LEU:HD12	1.75	0.68
23:1:20:ARG:HG2	23:1:20:ARG:HH11	1.58	0.68
1:A:643:A:N1	1:A:2369:A:O2'	2.26	0.68
7:H:88:LEU:H	7:H:88:LEU:HD22	1.58	0.68
1:A:1142(A):A:H4'	9:N:25:ARG:HH22	1.58	0.68
20:Y:49:VAL:O	20:Y:51:VAL:N	2.27	0.68
5:F:184:TYR:O	5:F:188:ARG:HG3	1.93	0.68
12:Q:104:PHE:HE1	12:Q:125:LEU:HD11	1.59	0.68
1:A:1820:U:C2	3:D:202:LYS:HB3	2.29	0.67
4:E:116:VAL:O	4:E:117:MET:HB3	1.94	0.67
12:Q:20:ALA:HB1	12:Q:99:PRO:HD2	1.76	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:13:ARG:HH11	4:E:13:ARG:CB	2.07	0.67
12:Q:133:ARG:O	12:Q:134:ARG:HB2	1.94	0.67
12:Q:90:VAL:CG1	12:Q:91:GLU:N	2.57	0.67
1:A:993:G:OP1	16:U:50:ARG:NH2	2.22	0.67
28:6:48:VAL:HG13	28:6:49:HIS:H	1.60	0.67
1:A:518:G:H4'	18:W:18:ARG:NH1	2.03	0.67
7:H:89:ILE:HG12	7:H:89:ILE:O	1.93	0.67
9:N:56:ASN:HD22	9:N:125:GLY:C	1.96	0.67
1:A:1300:U:H4'	1:A:1301:A:H5''	1.77	0.67
3:D:135:PHE:N	3:D:135:PHE:CD2	2.62	0.67
12:Q:104:PHE:CE1	12:Q:125:LEU:HD11	2.29	0.67
14:S:35:ILE:HD13	14:S:101:LEU:HD23	1.76	0.67
16:U:92:ARG:O	16:U:94:ASN:N	2.25	0.67
17:V:25:LEU:H	17:V:92:THR:HG21	1.60	0.67
2:B:80:U:H2'	2:B:81:G:H21	1.59	0.67
4:E:10:GLY:H	4:E:25:VAL:HG23	1.60	0.67
4:E:14:ILE:HG12	4:E:15:PHE:N	2.06	0.67
26:4:33:VAL:HG12	26:4:34:GLU:N	2.10	0.67
28:6:43:CYS:SG	28:6:44:ARG:HD3	2.35	0.67
1:A:1252:G:N3	16:U:33:ARG:HD2	2.09	0.67
1:A:1980:G:O2'	1:A:1982:C:OP2	2.13	0.67
1:A:27:G:N2	1:A:512:G:H2'	2.10	0.67
1:A:483:A:H3'	1:A:484:C:H6	1.59	0.67
7:H:4:ILE:HG13	7:H:6:ARG:NH1	2.09	0.67
10:O:13:ASN:ND2	10:O:96:THR:O	2.28	0.67
18:W:29:LEU:HD21	18:W:33:ARG:NE	2.09	0.67
20:Y:61:ILE:CG2	20:Y:62:GLU:N	2.56	0.67
11:P:90:ARG:NE	11:P:91:PHE:HD1	1.93	0.67
13:R:26:LYS:HE2	13:R:70:LEU:O	1.95	0.67
24:2:47:ASN:ND2	24:2:47:ASN:H	1.92	0.67
2:B:42:C:N4	6:G:91:ARG:HH21	1.91	0.67
7:H:126:PRO:CD	7:H:127:GLU:H	2.07	0.67
12:Q:66:ILE:HG13	12:Q:67:ARG:H	1.57	0.67
12:Q:81:VAL:C	12:Q:82:ARG:HG2	2.15	0.67
28:6:7:ILE:C	28:6:9:LEU:H	1.98	0.67
1:A:468:G:N7	29:7:39:ARG:NH2	2.42	0.67
4:E:16:ARG:HG3	4:E:16:ARG:O	1.93	0.67
7:H:125:VAL:CG1	7:H:126:PRO:HG3	2.25	0.67
7:H:124:GLU:HB3	7:H:132:ARG:HD2	1.77	0.67
12:Q:32:TYR:HD1	12:Q:133:ARG:HA	1.60	0.67
1:A:2131:G:H4'	1:A:2132:U:H4'	1.77	0.67
11:P:122:PRO:HA	11:P:141:ALA:O	1.95	0.67

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:90:VAL:O	12:Q:92:GLY:N	2.25	0.67
23:1:80:LEU:N	23:1:80:LEU:HD23	2.10	0.66
25:3:29:ARG:HB2	25:3:29:ARG:NH1	2.10	0.66
1:A:2343:C:O2'	1:A:2373:G:O2'	2.12	0.66
3:D:35:LYS:CG	3:D:64:ILE:N	2.56	0.66
7:H:77:LYS:O	7:H:77:LYS:HG2	1.94	0.66
14:S:107:GLU:H	14:S:110:LEU:HD11	1.60	0.66
19:X:57:LEU:HD12	19:X:78:LYS:HB2	1.77	0.66
20:Y:21:LYS:HG3	20:Y:22:GLY:N	2.09	0.66
1:A:1939:U:OP1	1:A:2604:U:O2'	2.12	0.66
1:A:2864:G:OP1	15:T:119:LYS:HD2	1.96	0.66
3:D:241:PRO:O	3:D:243:GLY:N	2.28	0.66
3:D:80:ALA:HB3	3:D:94:LEU:CD1	2.25	0.66
4:E:36:ARG:HH11	4:E:36:ARG:HB3	1.60	0.66
8:I:93:THR:HG22	8:I:119:PRO:HB3	1.77	0.66
11:P:66:GLY:O	11:P:67:MET:HB3	1.94	0.66
1:A:2112:G:O6	1:A:2169:A:N6	2.29	0.66
6:G:136:ARG:O	6:G:154:GLY:HA3	1.94	0.66
8:I:5:LEU:HD11	8:I:19:VAL:HG12	1.78	0.66
10:O:86:ILE:HD12	10:O:86:ILE:H	1.60	0.66
20:Y:42:VAL:CG1	20:Y:65:ALA:HB3	2.25	0.66
26:4:37:SER:C	26:4:39:CYS:H	1.98	0.66
1:A:660:G:O3'	5:F:38:ARG:NH2	2.29	0.66
3:D:145:VAL:HG12	3:D:146:GLU:O	1.95	0.66
3:D:68:LYS:HB2	3:D:70:TRP:CZ3	2.31	0.66
5:F:34:TRP:HA	11:P:6:LEU:HD12	1.77	0.66
10:O:14:THR:O	10:O:51:ALA:HB3	1.95	0.66
12:Q:33:GLY:HA2	12:Q:105:GLU:HA	1.76	0.66
14:S:67:ARG:CZ	14:S:67:ARG:HB2	2.25	0.66
15:T:11:GLU:CD	15:T:11:GLU:N	2.47	0.66
20:Y:89:PHE:C	20:Y:90:LEU:HD13	2.15	0.66
11:P:1:MET:CE	11:P:5:ASP:HB3	2.24	0.66
12:Q:88:GLY:C	12:Q:90:VAL:N	2.47	0.66
15:T:50:ILE:CD1	15:T:102:ILE:HD11	2.25	0.66
23:1:86:SER:N	23:1:87:PRO:HD2	2.10	0.66
4:E:174:ASP:CG	4:E:175:VAL:H	1.98	0.66
4:E:9:VAL:HB	4:E:25:VAL:HG23	1.76	0.66
7:H:168:PRO:O	7:H:169:VAL:HG12	1.96	0.66
11:P:81:GLN:NE2	11:P:106:LEU:O	2.29	0.66
17:V:44:LYS:O	17:V:46:VAL:N	2.28	0.66
20:Y:94:LYS:HE3	20:Y:101:LYS:NZ	2.11	0.66
23:1:51:VAL:HG11	23:1:74:VAL:HG21	1.75	0.66

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1026:U:H4'	1:A:1027:A:OP1	1.96	0.66
3:D:44:ASN:HB3	3:D:49:ILE:HG22	1.78	0.66
3:D:35:LYS:CA	3:D:64:ILE:HG22	2.25	0.66
4:E:101:ARG:CZ	4:E:171:GLU:HB2	2.25	0.66
4:E:62:PRO:O	4:E:64:LYS:N	2.28	0.66
5:F:175:THR:O	5:F:176:LEU:HB2	1.96	0.66
14:S:106:ARG:HA	14:S:110:LEU:CD2	2.26	0.66
14:S:88:ASP:OD2	14:S:90:GLY:N	2.28	0.66
16:U:88:ILE:N	16:U:88:ILE:HD13	2.10	0.66
20:Y:14:LEU:HD23	20:Y:15:VAL:N	2.10	0.66
20:Y:47:LYS:HG2	20:Y:60:PHE:CE1	2.31	0.66
9:N:58:ASP:H	9:N:60:ILE:CD1	2.08	0.66
26:4:16:CYS:SG	26:4:33:VAL:HB	2.35	0.66
1:A:1464:C:HO2'	1:A:1528:A:H8	1.44	0.66
3:D:121:PRO:HB3	3:D:135:PHE:CE1	2.29	0.66
4:E:26:ILE:HD13	4:E:27:LEU:N	2.10	0.66
24:2:64:LEU:HD22	24:2:68:ARG:HD2	1.76	0.66
1:A:1826:G:H4'	3:D:242:ARG:HH21	1.61	0.66
3:D:183:ARG:HH11	3:D:183:ARG:CG	2.07	0.66
3:D:237:GLU:N	3:D:237:GLU:OE1	2.29	0.66
20:Y:99:CYS:SG	20:Y:100:ALA:N	2.69	0.66
20:Y:75:ILE:HG12	20:Y:76:CYS:N	2.10	0.66
1:A:942:G:O2'	1:A:1189:A:N3	2.25	0.65
11:P:61:ARG:NH2	30:8:13:ARG:HD2	2.10	0.65
15:T:22:PHE:CD2	15:T:22:PHE:N	2.63	0.65
17:V:53:GLU:O	17:V:53:GLU:HG2	1.94	0.65
30:8:30:ARG:O	30:8:31:HIS:HB2	1.96	0.65
1:A:270(L):U:H2'	8:I:50:ARG:HD2	1.77	0.65
11:P:138:LEU:HD11	11:P:144:GLU:HG3	1.78	0.65
20:Y:60:PHE:O	20:Y:61:ILE:HD12	1.95	0.65
1:A:443:A:N7	5:F:45:ARG:HD2	2.11	0.65
7:H:150:ALA:C	7:H:152:ARG:N	2.44	0.65
10:O:113:LYS:O	10:O:117:LEU:HD12	1.96	0.65
17:V:76:LYS:HB2	17:V:81:TYR:HB3	1.79	0.65
18:W:25:ARG:NH1	18:W:25:ARG:HB2	2.11	0.65
1:A:586:A:H5'	5:F:89:VAL:HG21	1.78	0.65
3:D:27:THR:CG2	3:D:28:GLU:H	2.09	0.65
16:U:90:VAL:CG1	16:U:91:ASP:H	2.00	0.65
17:V:43:GLU:HA	17:V:43:GLU:OE2	1.95	0.65
18:W:18:ARG:HG3	18:W:76:VAL:HG13	1.77	0.65
19:X:65:ARG:N	19:X:65:ARG:HD3	2.12	0.65
22:0:68:GLU:HG2	22:0:80:HIS:HB2	1.78	0.65

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:857:C:H4'	22:0:23:VAL:HG21	1.78	0.65
2:B:45:A:H1'	6:G:95:ARG:HH22	1.62	0.65
12:Q:59:ARG:C	12:Q:60:ARG:HG3	2.17	0.65
26:4:49:PHE:O	26:4:50:VAL:HG23	1.97	0.65
3:D:176:ARG:HG2	3:D:176:ARG:HH11	1.61	0.65
4:E:28:ALA:O	4:E:93:VAL:HG23	1.95	0.65
5:F:155:LEU:HD13	5:F:174:VAL:CG1	2.27	0.65
7:H:128:PRO:CD	7:H:129:THR:H	2.09	0.65
10:O:12:ASP:OD1	10:O:14:THR:HG23	1.97	0.65
10:O:7:TYR:CE1	10:O:20:MET:HB2	2.32	0.65
10:O:71:ARG:NH1	15:T:74:ARG:HH21	1.94	0.65
11:P:39:LYS:HA	11:P:45:LEU:HD13	1.79	0.65
23:1:11:ARG:HH11	23:1:11:ARG:HB3	1.61	0.65
26:4:36:CYS:O	26:4:37:SER:O	2.14	0.65
27:5:40:LYS:NZ	27:5:48:GLU:HB2	2.10	0.65
23:1:29:GLY:O	23:1:30:VAL:HG23	1.97	0.65
23:1:56:GLN:N	23:1:56:GLN:HE21	1.93	0.65
6:G:145:THR:HG23	26:4:28:LYS:NZ	2.11	0.65
27:5:56:LYS:CD	27:5:56:LYS:H	2.07	0.65
1:A:270(T):G:H5"	23:1:97:LEU:HD22	1.79	0.65
3:D:122:ASP:CG	3:D:123:ALA:H	2.00	0.65
20:Y:35:TYR:CE1	20:Y:69:ALA:HB3	2.31	0.65
23:1:82:LEU:CD1	23:1:83:GLU:C	2.64	0.65
4:E:37:ARG:HA	4:E:37:ARG:NE	2.11	0.65
5:F:45:ARG:CG	5:F:45:ARG:HH11	2.09	0.65
11:P:6:LEU:O	11:P:7:ARG:HG2	1.97	0.65
16:U:74:LEU:HD23	16:U:114:LYS:HD3	1.78	0.65
24:2:69:ARG:HB2	24:2:69:ARG:NH1	2.11	0.65
1:A:2286:A:OP1	28:6:28:ARG:NE	2.30	0.65
1:A:227:A:OP1	11:P:76:LYS:HE3	1.97	0.65
3:D:172:TYR:HB3	3:D:184:LYS:HG2	1.77	0.65
28:6:27:LYS:HZ3	28:6:27:LYS:HB2	1.60	0.64
2:B:42:C:C6	6:G:69:ALA:HB2	2.31	0.64
4:E:13:ARG:NH1	4:E:21:VAL:HG12	2.11	0.64
7:H:51:ARG:HG3	7:H:51:ARG:HH11	1.61	0.64
11:P:97:PRO:HD3	11:P:126:VAL:O	1.97	0.64
16:U:65:ILE:HG12	16:U:96:ALA:CB	2.26	0.64
1:A:443:A:C5	5:F:45:ARG:HD2	2.32	0.64
4:E:104:VAL:HG11	4:E:188:VAL:CG2	2.27	0.64
4:E:50:GLY:HA3	4:E:74:PRO:HG3	1.79	0.64
7:H:105:LEU:CD1	7:H:105:LEU:H	2.09	0.64
23:1:80:LEU:HD12	23:1:81:LYS:HE3	1.78	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:40:LYS:HD3	27:5:46:CYS:CB	2.26	0.64
4:E:35:GLN:CG	4:E:37:ARG:HE	2.11	0.64
7:H:148:ILE:O	7:H:151:ILE:HG12	1.98	0.64
12:Q:81:VAL:O	12:Q:82:ARG:HG2	1.97	0.64
16:U:102:GLU:HG3	17:V:2:PHE:HE2	1.62	0.64
26:4:71:ARG:CG	26:4:71:ARG:HH11	1.98	0.64
30:8:52:LYS:O	30:8:52:LYS:HG3	1.97	0.64
1:A:1153:C:OP1	16:U:76:TYR:OH	2.15	0.64
1:A:530:G:O2'	1:A:532:A:N7	2.29	0.64
2:B:15:A:H5'	2:B:16:G:C8	2.32	0.64
15:T:11:GLU:N	15:T:11:GLU:OE1	2.27	0.64
1:A:95:G:O2'	24:2:48:HIS:ND1	2.26	0.64
1:A:1251:C:OP1	16:U:10:ARG:HG3	1.96	0.64
1:A:2394:C:OP1	11:P:63:PRO:HD2	1.97	0.64
6:G:83:ARG:HG3	6:G:86:MET:HE1	1.78	0.64
9:N:15:LEU:HD12	9:N:136:GLU:HB2	1.79	0.64
9:N:57:ALA:HA	9:N:60:ILE:HD11	1.78	0.64
20:Y:56:PRO:HG2	20:Y:57:GLN:OE1	1.98	0.64
30:8:56:GLU:OE1	30:8:56:GLU:N	2.30	0.64
1:A:2208:U:H1'	3:D:151:LYS:HE2	1.79	0.64
3:D:77:ALA:HB2	3:D:97:TYR:HA	1.77	0.64
6:G:81:LYS:O	6:G:82:LEU:HB2	1.96	0.64
6:G:82:LEU:HA	6:G:86:MET:SD	2.38	0.64
12:Q:10:ARG:O	12:Q:11:LYS:HB2	1.98	0.64
13:R:2:ARG:HG2	13:R:5:LYS:NZ	2.13	0.64
18:W:59:VAL:HG12	18:W:60:ASN:N	2.11	0.64
19:X:11:PRO:HB3	19:X:92:LEU:HD21	1.78	0.64
22:0:18:ALA:O	22:0:20:ARG:NH1	2.31	0.64
3:D:182:LEU:H	3:D:272:ALA:HB3	1.63	0.64
12:Q:23:GLY:HA3	12:Q:101:ARG:NH1	2.12	0.64
23:1:91:LYS:HG3	23:1:92:LYS:H	1.63	0.64
1:A:2405:G:O2'	1:A:2411:A:N6	2.31	0.64
1:A:242:G:H5''	30:8:3:LYS:HE3	1.80	0.64
7:H:92:ILE:HD12	7:H:92:ILE:H	1.63	0.64
9:N:131:GLN:CD	9:N:132:ALA:H	2.01	0.64
12:Q:30:GLY:HA3	12:Q:106:VAL:O	1.98	0.64
4:E:201:THR:HG21	4:E:203:LYS:HB3	1.80	0.64
1:A:2832:U:H4'	1:A:2833:G:H5''	1.79	0.63
6:G:114:ILE:CG2	6:G:117:PHE:HB2	2.28	0.63
10:O:86:ILE:HD12	10:O:86:ILE:N	2.13	0.63
11:P:98:GLU:O	11:P:101:VAL:HG12	1.98	0.63
11:P:105:LEU:O	11:P:106:LEU:CB	2.42	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:113:LYS:HG2	11:P:115:LEU:HD23	1.79	0.63
17:V:52:VAL:CG2	17:V:55:ALA:HB3	2.28	0.63
1:A:2419:U:H5'	28:6:23:THR:HG22	1.80	0.63
1:A:635:C:O2'	1:A:639:U:OP1	2.16	0.63
9:N:43:THR:HB	9:N:46:VAL:CG1	2.27	0.63
12:Q:104:PHE:O	12:Q:105:GLU:HB3	1.98	0.63
13:R:28:LEU:HD21	13:R:114:VAL:HG12	1.79	0.63
18:W:74:ALA:O	18:W:75:TYR:HB3	1.98	0.63
3:D:135:PHE:HD2	3:D:135:PHE:N	1.96	0.63
3:D:35:LYS:HZ1	3:D:65:ILE:HA	1.62	0.63
5:F:11:VAL:HG12	5:F:12:LEU:N	2.13	0.63
5:F:132:VAL:HG23	5:F:133:ASN:N	2.14	0.63
7:H:117:PRO:HB3	7:H:123:PHE:CE1	2.33	0.63
8:I:1:MET:HG3	8:I:23:PRO:HB3	1.80	0.63
12:Q:81:VAL:O	12:Q:82:ARG:HD3	1.98	0.63
19:X:63:LYS:O	19:X:64:LYS:HD2	1.98	0.63
3:D:147:LEU:CD1	3:D:155:LEU:HD11	2.26	0.63
3:D:18:VAL:HG12	3:D:19:ALA:O	1.99	0.63
7:H:3:ARG:NE	7:H:3:ARG:HA	2.12	0.63
9:N:61:ARG:HA	9:N:61:ARG:HE	1.63	0.63
11:P:112:LEU:HD11	11:P:114:ILE:HG23	1.80	0.63
24:2:42:GLY:O	24:2:44:LEU:N	2.30	0.63
1:A:1059:G:O6	1:A:1079:C:N4	2.29	0.63
2:B:52:A:O2'	2:B:53:A:N7	2.32	0.63
3:D:230:ASP:O	3:D:231:HIS:HB2	1.98	0.63
7:H:153:LYS:HG3	7:H:161:GLY:HA3	1.80	0.63
15:T:49:VAL:O	15:T:49:VAL:HG13	1.99	0.63
19:X:18:TYR:C	19:X:20:GLY:H	2.02	0.63
1:A:1190:G:H5'	11:P:32:THR:HA	1.79	0.63
1:A:2415:G:H4'	11:P:67:MET:N	2.14	0.63
4:E:131:ALA:HB1	4:E:135:HIS:CE1	2.34	0.63
9:N:22:THR:CG2	9:N:23:LEU:N	2.61	0.63
9:N:39:ARG:HB3	9:N:41:ASP:OD1	1.99	0.63
12:Q:66:ILE:CG1	12:Q:67:ARG:H	2.12	0.63
14:S:78:LEU:HD11	14:S:107:GLU:O	1.98	0.63
16:U:102:GLU:HG3	17:V:2:PHE:CE2	2.34	0.63
18:W:110:LYS:HG3	18:W:111:HIS:ND1	2.12	0.63
24:2:40:SER:C	24:2:42:GLY:H	2.00	0.63
24:2:46:GLN:OE1	24:2:46:GLN:HA	1.98	0.63
30:8:48:PHE:CD1	30:8:48:PHE:N	2.66	0.63
1:A:2287:A:N6	1:A:2344:U:H3	1.97	0.63
1:A:278:A:H61	1:A:362:U:H3	1.47	0.63

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:28:ILE:HG22	5:F:112:MET:HB3	1.80	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CB	2.29	0.63
19:X:49:VAL:HG13	19:X:83:VAL:HG13	1.80	0.63
20:Y:95:LYS:CB	20:Y:100:ALA:HA	2.13	0.63
23:1:82:LEU:CD1	23:1:83:GLU:CA	2.76	0.63
28:6:13:CYS:HB2	28:6:22:ALA:HB3	1.80	0.63
1:A:1798:U:H5''	3:D:259:THR:HG22	1.81	0.63
5:F:119:ARG:HH11	5:F:119:ARG:HG2	1.64	0.63
13:R:63:ARG:NH1	13:R:80:PHE:CD1	2.67	0.63
12:Q:83:MET:HB2	22:0:7:LEU:HD12	1.79	0.63
23:1:87:PRO:O	23:1:88:LYS:C	2.37	0.63
3:D:133:LEU:HD21	3:D:191:ALA:CB	2.29	0.63
11:P:108:LYS:HD2	11:P:108:LYS:H	1.64	0.63
12:Q:20:ALA:HB1	12:Q:99:PRO:CD	2.29	0.63
15:T:111:ARG:C	15:T:113:LYS:H	2.01	0.63
15:T:16:ARG:HE	15:T:19:LEU:HD21	1.63	0.63
16:U:34:LYS:HA	16:U:34:LYS:CE	2.29	0.63
20:Y:86:ARG:O	20:Y:92:ASN:HB2	1.97	0.63
23:1:76:ARG:H	23:1:76:ARG:HD2	1.64	0.62
24:2:65:ASN:HB3	24:2:69:ARG:NH1	2.10	0.62
5:F:107:LYS:O	5:F:108:LYS:C	2.36	0.62
13:R:117:VAL:O	13:R:118:GLU:HB3	1.98	0.62
15:T:60:THR:HG22	15:T:77:PRO:HA	1.80	0.62
30:8:59:LYS:HZ3	30:8:59:LYS:HB3	1.64	0.62
1:A:483:A:H3'	1:A:484:C:C6	2.33	0.62
7:H:136:ILE:HD12	7:H:136:ILE:H	1.64	0.62
10:O:8:LEU:HB2	10:O:19:ILE:HD11	1.81	0.62
14:S:48:LEU:N	14:S:48:LEU:HD12	2.14	0.62
24:2:40:SER:C	24:2:42:GLY:N	2.50	0.62
28:6:41:PRO:HG2	28:6:45:LYS:N	2.10	0.62
3:D:44:ASN:HB3	3:D:49:ILE:CA	2.27	0.62
15:T:24:PRO:O	15:T:94:ALA:HB2	2.00	0.62
1:A:1795:C:O2	3:D:255:LYS:HE2	1.99	0.62
1:A:2667:C:H1'	7:H:109:PHE:HD2	1.63	0.62
3:D:72:LYS:HG2	3:D:103:ARG:NH2	2.13	0.62
5:F:28:ILE:HD13	5:F:30:PRO:HD3	1.80	0.62
11:P:61:ARG:CD	11:P:61:ARG:H	2.09	0.62
14:S:22:GLY:O	14:S:23:ARG:O	2.17	0.62
15:T:96:ARG:NH1	15:T:96:ARG:HB2	2.14	0.62
1:A:259:G:H21	1:A:621:A:H8	1.46	0.62
6:G:94:LEU:N	6:G:94:LEU:HD23	2.14	0.62
9:N:133:GLN:O	9:N:134:ARG:HB3	1.99	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:96:GLU:O	9:N:98:VAL:N	2.33	0.62
11:P:83:VAL:HG12	11:P:112:LEU:HD21	1.80	0.62
18:W:60:ASN:C	18:W:61:ASN:HD22	2.03	0.62
1:A:307:G:H21	1:A:330:A:H62	1.46	0.62
4:E:35:GLN:CG	4:E:37:ARG:NE	2.62	0.62
6:G:77:ILE:HD13	6:G:82:LEU:CD1	2.29	0.62
6:G:68:PRO:HB2	6:G:90:LEU:HD12	1.80	0.62
7:H:137:ASP:HB3	7:H:140:LYS:HB2	1.81	0.62
11:P:65:ARG:HH11	11:P:65:ARG:CG	2.06	0.62
15:T:108:ARG:O	15:T:111:ARG:HG3	2.00	0.62
17:V:36:PRO:HA	17:V:56:SER:OG	1.98	0.62
3:D:70:TRP:CH2	3:D:150:LYS:HA	2.35	0.62
4:E:13:ARG:HH12	4:E:21:VAL:HG12	1.64	0.62
9:N:26:LEU:O	9:N:30:ILE:HG13	1.99	0.62
9:N:7:LYS:HD2	9:N:7:LYS:H	1.64	0.62
14:S:26:LEU:HD22	14:S:87:PHE:HD1	1.63	0.62
19:X:31:HIS:CE1	19:X:33:LYS:HB2	2.34	0.62
20:Y:87:LYS:O	20:Y:88:LYS:NZ	2.31	0.62
23:1:18:ILE:HG12	23:1:37:ILE:HG12	1.81	0.62
1:A:1043:C:N3	1:A:1112:G:N2	2.39	0.62
3:D:134:ARG:HD3	3:D:135:PHE:CE2	2.35	0.62
3:D:27:THR:O	3:D:29:PRO:HD2	1.99	0.62
5:F:129:PHE:O	5:F:130:ALA:HB3	2.00	0.62
5:F:32:LEU:CD1	5:F:105:VAL:HG13	2.29	0.62
9:N:87:LEU:HD23	9:N:87:LEU:O	1.99	0.62
12:Q:86:GLY:C	12:Q:88:GLY:H	2.03	0.62
15:T:57:PHE:CD2	15:T:58:ASN:N	2.66	0.62
1:A:210:C:OP2	29:7:29:LYS:NZ	2.33	0.62
1:A:2745:C:O2	7:H:139:GLN:NE2	2.28	0.62
3:D:72:LYS:HE3	3:D:75:ILE:HD12	1.82	0.62
10:O:78:ARG:HH21	15:T:103:ARG:NH2	1.98	0.62
14:S:100:ALA:HA	14:S:103:GLU:CG	2.29	0.62
14:S:26:LEU:HD12	14:S:39:ILE:CD1	2.23	0.62
15:T:22:PHE:HD2	15:T:22:PHE:N	1.97	0.62
15:T:31:SER:HA	15:T:44:ASP:OD2	2.00	0.62
23:1:3:LYS:HD3	23:1:43:TYR:CD2	2.35	0.62
23:1:91:LYS:HE3	23:1:91:LYS:HA	1.82	0.62
1:A:76:C:O2'	24:2:62:THR:HG21	1.98	0.62
24:2:69:ARG:CZ	24:2:69:ARG:HB2	2.30	0.62
26:4:61:ARG:O	26:4:63:TYR:N	2.33	0.62
28:6:18:ARG:O	28:6:18:ARG:HD2	2.00	0.62
4:E:35:GLN:HG2	4:E:37:ARG:NE	2.14	0.62

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:9:ARG:HG2	6:G:13:GLU:OE1	2.00	0.62
11:P:64:LYS:HB2	30:8:25:MET:HG3	1.80	0.62
14:S:17:ARG:HG3	14:S:18:ILE:N	2.14	0.62
24:2:17:SER:HB2	24:2:18:PRO:CA	2.30	0.61
6:G:6:ALA:HB2	26:4:23:GLU:OE2	2.00	0.61
26:4:71:ARG:CG	26:4:71:ARG:NH1	2.60	0.61
28:6:44:ARG:O	28:6:45:LYS:HB2	2.00	0.61
1:A:1318:C:H2'	1:A:1319:G:H5''	1.82	0.61
1:A:1348:G:H2'	1:A:1349:A:H5''	1.82	0.61
1:A:2392:A:H2	1:A:2424:C:H42	1.46	0.61
1:A:242:G:C8	30:8:5:LYS:HG2	2.34	0.61
4:E:201:THR:HG22	4:E:203:LYS:N	2.07	0.61
6:G:170:ARG:O	6:G:174:GLU:HB2	2.00	0.61
20:Y:101:LYS:HE3	20:Y:102:CYS:SG	2.40	0.61
26:4:23:GLU:O	26:4:25:TYR:N	2.33	0.61
3:D:137:PRO:HB2	3:D:140:THR:HG23	1.81	0.61
3:D:237:GLU:OE1	3:D:237:GLU:CA	2.48	0.61
6:G:111:LEU:HB2	6:G:112:PRO:HD3	1.82	0.61
6:G:112:PRO:HB3	26:4:37:SER:CB	2.25	0.61
7:H:152:ARG:O	7:H:153:LYS:CD	2.48	0.61
10:O:97:ARG:N	10:O:117:LEU:HD22	2.15	0.61
11:P:114:ILE:HD11	11:P:130:PHE:CD1	2.34	0.61
11:P:50:ARG:NH2	11:P:50:ARG:CB	2.57	0.61
1:A:859:G:O2'	1:A:860:U:O2	2.10	0.61
2:B:55:U:H4'	6:G:29:TRP:HE1	1.65	0.61
3:D:133:LEU:HD21	3:D:191:ALA:HB2	1.82	0.61
16:U:92:ARG:HD3	16:U:94:ASN:HB3	1.82	0.61
2:B:55:U:C4'	6:G:29:TRP:HE1	2.13	0.61
7:H:86:GLU:O	7:H:87:LEU:HB2	1.99	0.61
9:N:62:VAL:CG1	9:N:66:LYS:HD2	2.30	0.61
13:R:38:VAL:HB	13:R:39:PRO:HD3	1.81	0.61
20:Y:48:ALA:HB2	20:Y:61:ILE:HD13	1.82	0.61
25:3:29:ARG:HH11	25:3:29:ARG:CB	2.13	0.61
6:G:142:PRO:HB2	26:4:31:ILE:CD1	2.30	0.61
26:4:35:VAL:O	26:4:37:SER:N	2.26	0.61
28:6:25:LYS:HD2	30:8:34:TRP:CZ2	2.36	0.61
1:A:2439:A:C8	1:A:2439:A:H5'	2.35	0.61
1:A:65:C:O2'	1:A:456:C:N3	2.33	0.61
2:B:116:G:H4'	14:S:54:LEU:HD13	1.82	0.61
2:B:75:G:H5''	21:Z:36:LYS:HE2	1.83	0.61
14:S:88:ASP:O	14:S:89:ARG:CB	2.49	0.61
18:W:5:ALA:O	18:W:50:VAL:HG13	2.00	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:82:LEU:HB2	18:W:98:LYS:HB2	1.82	0.61
19:X:66:LEU:O	19:X:66:LEU:HD23	2.01	0.61
1:A:49:A:N7	1:A:120:U:H5	1.98	0.61
1:A:2815:C:H5'	27:5:29:THR:HG21	1.82	0.61
3:D:35:LYS:HA	3:D:64:ILE:HG22	1.82	0.61
7:H:6:ARG:HG3	7:H:7:LEU:N	2.15	0.61
11:P:65:ARG:HE	30:8:15:LYS:HB2	1.64	0.61
10:O:104:ARG:CZ	15:T:34:VAL:HG11	2.29	0.61
23:1:80:LEU:O	23:1:81:LYS:HD2	2.01	0.61
30:8:29:LYS:HD3	30:8:44:LYS:CB	2.30	0.61
1:A:1454:U:OP1	13:R:77:ARG:NH1	2.34	0.61
1:A:1794:U:H2'	1:A:1795:C:H6	1.66	0.61
1:A:27:G:HO2'	1:A:28:A:H8	1.46	0.61
3:D:21:PHE:HB3	3:D:24:ILE:HG13	1.83	0.61
9:N:7:LYS:CD	9:N:9:VAL:H	2.14	0.61
17:V:46:VAL:O	17:V:46:VAL:HG13	2.01	0.61
3:D:174:ILE:N	3:D:174:ILE:HD12	2.16	0.61
3:D:35:LYS:HG2	3:D:64:ILE:CG2	2.31	0.61
1:A:2311:A:H1'	6:G:82:LEU:HD11	1.81	0.61
12:Q:2:LEU:H	12:Q:2:LEU:HD23	1.65	0.61
18:W:65:LEU:HD12	18:W:68:ARG:NH1	2.10	0.61
28:6:41:PRO:HD2	28:6:46:HIS:N	2.16	0.61
1:A:900:A:H3'	1:A:901:A:H8	1.64	0.61
2:B:38:C:H42	2:B:44:G:H1	1.47	0.61
5:F:63:LYS:HE2	5:F:67:GLN:HB3	1.83	0.61
16:U:69:CYS:HB3	16:U:106:PHE:CZ	2.36	0.61
19:X:14:SER:O	19:X:17:ALA:N	2.34	0.61
24:2:41:ILE:HD11	24:2:44:LEU:HG	1.82	0.61
25:3:5:LYS:HB2	25:3:36:VAL:HG12	1.82	0.61
25:3:59:VAL:HG12	25:3:60:GLU:N	2.16	0.61
1:A:247:G:H4'	1:A:386:G:C5	2.35	0.61
4:E:52:LEU:HB3	4:E:54:GLN:OE1	2.00	0.61
6:G:28:VAL:O	6:G:31:VAL:HG12	2.01	0.61
9:N:23:LEU:HD12	9:N:99:LEU:HD23	1.82	0.61
9:N:6:PRO:HG3	9:N:41:ASP:HB2	1.83	0.61
12:Q:88:GLY:C	12:Q:90:VAL:H	2.02	0.61
14:S:49:VAL:HG22	14:S:80:LEU:HD12	1.82	0.61
17:V:15:GLU:HG3	17:V:16:PRO:HD2	1.83	0.61
1:A:25:U:H5''	18:W:80:PRO:HD3	1.83	0.61
27:5:52:TYR:O	27:5:53:ALA:HB3	2.01	0.60
1:A:1292:U:H2'	1:A:1293:C:C6	2.37	0.60
1:A:395:U:H2'	1:A:396:G:N7	2.16	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:175:THR:O	5:F:176:LEU:CB	2.49	0.60
9:N:58:ASP:N	9:N:60:ILE:HD11	2.16	0.60
10:O:91:LEU:HD22	10:O:91:LEU:N	2.16	0.60
13:R:52:ILE:O	13:R:55:ALA:HB3	2.01	0.60
18:W:28:SER:O	18:W:31:GLU:N	2.34	0.60
7:H:44:VAL:O	7:H:44:VAL:HG22	2.01	0.60
11:P:96:THR:HG22	11:P:126:VAL:HB	1.83	0.60
12:Q:66:ILE:CG1	12:Q:67:ARG:N	2.64	0.60
12:Q:86:GLY:C	12:Q:88:GLY:N	2.52	0.60
17:V:66:ARG:HH12	17:V:88:ARG:HH11	1.49	0.60
23:1:80:LEU:C	23:1:81:LYS:CD	2.69	0.60
24:2:70:GLN:O	24:2:71:ASN:HB2	2.00	0.60
1:A:2131:G:N2	1:A:2158:A:N7	2.49	0.60
3:D:263:ARG:HH11	3:D:263:ARG:CB	2.14	0.60
4:E:104:VAL:HG11	4:E:188:VAL:HG23	1.82	0.60
6:G:50:ALA:O	6:G:53:LEU:HB3	2.01	0.60
7:H:126:PRO:CD	7:H:127:GLU:N	2.65	0.60
16:U:96:ALA:C	16:U:98:LEU:H	2.04	0.60
17:V:35:LEU:HD23	17:V:35:LEU:O	2.01	0.60
1:A:2636:U:OP1	4:E:79:ARG:HA	2.01	0.60
1:A:612:G:H2'	1:A:613:U:O2	2.01	0.60
3:D:35:LYS:NZ	3:D:65:ILE:HA	2.15	0.60
2:B:56:G:H5'	6:G:27:ASN:ND2	2.17	0.60
6:G:94:LEU:HD23	6:G:94:LEU:H	1.64	0.60
1:A:2562:U:H1'	10:O:23:ARG:NH1	2.17	0.60
1:A:77:C:O3'	24:2:14:ARG:NH2	2.34	0.60
1:A:1582:C:HO2'	1:A:1586:A:H8	1.48	0.60
1:A:2543:G:H2'	1:A:2544:G:C8	2.36	0.60
4:E:51:PHE:O	4:E:52:LEU:C	2.38	0.60
8:I:4:ILE:HG12	8:I:18:VAL:HG22	1.82	0.60
9:N:17:ASP:O	9:N:18:ALA:HB3	2.01	0.60
10:O:104:ARG:NH1	10:O:104:ARG:HG2	2.14	0.60
12:Q:54:MET:O	12:Q:57:HIS:HB3	2.00	0.60
19:X:43:VAL:CG1	19:X:51:VAL:HG21	2.32	0.60
20:Y:19:LYS:HG3	20:Y:19:LYS:O	2.01	0.60
24:2:41:ILE:HG12	24:2:44:LEU:HD12	1.81	0.60
1:A:1262:A:N3	27:5:10:LYS:HE3	2.16	0.60
1:A:2723:C:H5''	13:R:1:MET:HG2	1.82	0.60
4:E:4:ILE:CD1	4:E:28:ALA:HB1	2.29	0.60
4:E:4:ILE:C	4:E:5:LEU:HD23	2.22	0.60
6:G:44:GLY:HA2	6:G:88:ILE:CG1	2.30	0.60
11:P:55:ARG:HD2	11:P:56:SER:O	2.01	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:80:GLU:C	12:Q:81:VAL:HG13	2.22	0.60
23:1:73:LEU:C	23:1:75:GLU:H	2.03	0.60
1:A:1952:A:OP1	10:O:44:LYS:NZ	2.21	0.60
6:G:64:THR:HG23	6:G:66:GLN:H	1.67	0.60
6:G:61:ALA:HB2	6:G:68:PRO:HD2	1.81	0.60
9:N:99:LEU:O	9:N:103:VAL:HG23	2.02	0.60
19:X:15:GLU:N	19:X:15:GLU:OE1	2.34	0.60
20:Y:44:ILE:HG13	20:Y:45:VAL:H	1.65	0.60
22:O:68:GLU:OE1	22:O:82:ARG:NH1	2.34	0.60
1:A:1509:C:H3'	1:A:1510:A:H5''	1.83	0.60
3:D:2:ALA:HB3	3:D:20:ASP:HB3	1.83	0.60
4:E:53:PRO:HG2	4:E:54:GLN:NE2	2.16	0.60
5:F:164:ARG:HH11	5:F:164:ARG:HG2	1.66	0.60
5:F:34:TRP:CZ3	11:P:8:PRO:HB3	2.37	0.60
5:F:46:ARG:HH11	5:F:46:ARG:CG	2.04	0.60
7:H:89:ILE:O	7:H:91:GLY:N	2.35	0.60
13:R:44:LEU:HD22	13:R:48:VAL:HG23	1.82	0.60
13:R:92:GLY:H	13:R:94:TYR:HE2	1.49	0.60
17:V:18:LEU:HB3	17:V:96:ILE:HG12	1.83	0.60
1:A:1398:C:OP1	19:X:53:LYS:NZ	2.34	0.60
3:D:25:THR:HG21	3:D:81:ALA:CA	2.31	0.60
4:E:131:ALA:HB1	4:E:135:HIS:HE1	1.65	0.60
4:E:37:ARG:CA	4:E:37:ARG:NE	2.64	0.60
6:G:126:ASP:OD1	6:G:130:ASN:HB2	2.02	0.60
7:H:117:PRO:HB3	7:H:123:PHE:CD1	2.37	0.60
7:H:30:LYS:CD	7:H:81:GLU:H	2.15	0.60
11:P:138:LEU:C	11:P:140:ALA:N	2.55	0.60
13:R:44:LEU:O	13:R:48:VAL:HG23	2.02	0.60
16:U:76:TYR:CZ	16:U:80:ILE:HG13	2.37	0.60
24:2:32:LEU:HD11	24:2:54:LYS:HG3	1.84	0.60
1:A:1007:C:O3'	9:N:108:PRO:HB3	2.02	0.60
3:D:165:ILE:HA	3:D:175:LEU:HD23	1.83	0.60
3:D:35:LYS:HD3	3:D:63:ARG:CB	2.32	0.60
4:E:63:LEU:CD1	4:E:64:LYS:H	2.04	0.60
4:E:95:ILE:HD12	4:E:95:ILE:N	2.15	0.60
6:G:128:ARG:NH2	6:G:128:ARG:HG3	2.17	0.60
11:P:13:ASN:O	11:P:15:ARG:N	2.34	0.60
11:P:27:HIS:ND1	11:P:27:HIS:N	2.49	0.60
13:R:75:LEU:HD13	13:R:75:LEU:C	2.22	0.60
14:S:11:LYS:HB2	14:S:91:PRO:HD3	1.84	0.60
15:T:34:VAL:HG12	15:T:36:GLU:HG2	1.83	0.60
1:A:1826:G:OP1	3:D:224:ALA:N	2.32	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:116:VAL:O	4:E:117:MET:CB	2.49	0.59
4:E:68:ALA:O	4:E:69:LYS:HG3	2.02	0.59
7:H:4:ILE:N	7:H:4:ILE:HD13	2.17	0.59
9:N:41:ASP:O	9:N:48:MET:HE3	2.01	0.59
11:P:95:VAL:HG13	11:P:100:LEU:HD21	1.83	0.59
12:Q:81:VAL:HG23	12:Q:82:ARG:H	1.67	0.59
14:S:99:LYS:O	14:S:102:ALA:N	2.34	0.59
15:T:107:ASP:O	15:T:110:ILE:HG22	2.02	0.59
20:Y:4:LYS:O	20:Y:5:MET:HB2	2.01	0.59
1:A:270(R):G:HI'	23:1:78:LYS:HZ1	1.65	0.59
23:1:91:LYS:CG	23:1:92:LYS:H	2.15	0.59
1:A:1287:A:N7	13:R:107:ASP:HB2	2.17	0.59
1:A:2250:G:C6	12:Q:82:ARG:HD2	2.37	0.59
3:D:236:GLY:C	3:D:237:GLU:OE1	2.39	0.59
3:D:35:LYS:HE3	3:D:64:ILE:C	2.21	0.59
4:E:69:LYS:O	4:E:71:GLY:N	2.27	0.59
5:F:155:LEU:CD1	5:F:174:VAL:HG13	2.32	0.59
11:P:37:GLY:HA2	11:P:41:ARG:HE	1.67	0.59
17:V:35:LEU:HB2	17:V:37:VAL:HG23	1.85	0.59
1:A:2287:A:H62	1:A:2344:U:H3	1.50	0.59
1:A:414:C:O2	1:A:1864:U:O2'	2.18	0.59
3:D:166:GLN:CA	3:D:166:GLN:HE21	2.14	0.59
3:D:172:TYR:CD1	3:D:186:HIS:HA	2.37	0.59
3:D:25:THR:HG21	3:D:81:ALA:HA	1.84	0.59
4:E:61:ARG:HB2	4:E:62:PRO:CD	2.33	0.59
6:G:13:GLU:O	6:G:14:GLU:CB	2.44	0.59
7:H:153:LYS:HA	7:H:153:LYS:HZ2	1.67	0.59
9:N:16:ILE:O	9:N:55:VAL:HG22	2.01	0.59
1:A:2292:C:P	14:S:17:ARG:HH22	2.25	0.59
23:1:87:PRO:O	23:1:91:LYS:N	2.31	0.59
28:6:13:CYS:O	28:6:21:TYR:HA	2.02	0.59
30:8:22:VAL:CG2	30:8:53:PRO:HB2	2.32	0.59
7:H:82:GLY:O	7:H:135:GLY:O	2.20	0.59
1:A:558:G:P	9:N:111:PRO:HD2	2.43	0.59
11:P:106:LEU:O	11:P:107:LYS:CB	2.46	0.59
12:Q:63:LYS:HE2	12:Q:65:PHE:CE1	2.37	0.59
1:A:654(A):G:H3'	1:A:654(A):G:OP2	2.03	0.59
3:D:54:ARG:CG	3:D:54:ARG:HH11	2.14	0.59
9:N:9:VAL:HG21	9:N:48:MET:HB3	1.85	0.59
11:P:79:ARG:HD3	11:P:110:TYR:HE1	1.67	0.59
16:U:58:ARG:HA	16:U:61:TRP:CE3	2.37	0.59
1:A:24:G:O2'	18:W:78:GLU:O	2.19	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
21:Z:5:LEU:HD11	21:Z:39:VAL:HB	1.84	0.59
27:5:40:LYS:NZ	27:5:46:CYS:HB3	2.18	0.59
30:8:22:VAL:HG21	30:8:53:PRO:HB2	1.83	0.59
1:A:384:U:H2'	1:A:385:C:H6	1.67	0.59
2:B:44:G:H1'	2:B:47:C:H42	1.68	0.59
4:E:36:ARG:H	4:E:37:ARG:HH21	1.49	0.59
1:A:2635:C:H5"	4:E:78:LEU:HA	1.85	0.59
5:F:123:LEU:HD12	5:F:124:LEU:N	2.17	0.59
9:N:78:TYR:CD1	9:N:78:TYR:N	2.70	0.59
18:W:66:GLU:O	18:W:68:ARG:N	2.33	0.59
1:A:2283:C:P	28:6:5:VAL:HG13	2.43	0.59
3:D:137:PRO:HB2	3:D:140:THR:CG2	2.33	0.59
4:E:116:VAL:CG2	4:E:122:PHE:CD2	2.86	0.59
15:T:102:ILE:HB	15:T:110:ILE:HD13	1.84	0.59
18:W:36:LEU:HD11	18:W:47:VAL:HG12	1.83	0.59
20:Y:51:VAL:CG1	20:Y:52:SER:H	2.11	0.59
1:A:1903:G:OP2	3:D:241:PRO:HB2	2.03	0.59
4:E:93:VAL:N	4:E:95:ILE:CD1	2.65	0.59
13:R:79:LEU:HD23	13:R:79:LEU:C	2.23	0.59
14:S:42:ASP:C	14:S:44:LYS:H	2.06	0.59
14:S:89:ARG:O	14:S:90:GLY:O	2.19	0.59
26:4:63:TYR:C	26:4:65:ASP:H	2.05	0.59
1:A:2344:U:C2	28:6:37:ARG:HD3	2.38	0.59
1:A:747:U:N3	27:5:2:ALA:N	2.51	0.59
3:D:12:SER:C	3:D:14:ARG:H	2.06	0.59
3:D:44:ASN:N	3:D:44:ASN:ND2	2.42	0.59
3:D:71:ASP:HB3	3:D:103:ARG:HH22	1.68	0.59
5:F:89:VAL:HG12	5:F:90:PHE:N	2.18	0.59
7:H:127:GLU:HG2	7:H:128:PRO:CG	2.33	0.59
7:H:55:PRO:HG2	7:H:61:HIS:CE1	2.37	0.59
9:N:18:ALA:HB3	9:N:55:VAL:O	2.03	0.59
11:P:71:VAL:HG13	11:P:72:PRO:HD3	1.85	0.59
16:U:52:ARG:HG2	16:U:52:ARG:NH1	2.18	0.59
1:A:1022:G:H22	1:A:1142(A):A:H2	1.50	0.59
1:A:2689:U:H4'	1:A:2690:C:O5'	2.03	0.59
1:A:483:A:H4'	20:Y:49:VAL:HG13	1.84	0.59
7:H:92:ILE:HG22	7:H:93:GLY:N	2.18	0.59
11:P:138:LEU:O	11:P:140:ALA:N	2.33	0.59
13:R:72:ASP:O	13:R:76:VAL:HB	2.02	0.59
17:V:1:MET:CE	17:V:43:GLU:HG2	2.32	0.59
19:X:49:VAL:CG1	19:X:83:VAL:HG13	2.33	0.59
26:4:65:ASP:O	26:4:66:SER:CB	2.51	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:93:VAL:N	4:E:95:ILE:HD12	2.17	0.58
5:F:63:LYS:HE2	5:F:67:GLN:CB	2.32	0.58
8:I:2:LYS:HA	8:I:20:ASP:HA	1.85	0.58
9:N:114:ARG:O	9:N:115:ARG:HB3	2.03	0.58
11:P:121:LYS:HG3	11:P:122:PRO:HD2	1.84	0.58
14:S:88:ASP:CG	14:S:90:GLY:H	2.06	0.58
15:T:36:GLU:HG3	15:T:41:ARG:HD3	1.85	0.58
15:T:66:VAL:HG12	15:T:67:SER:H	1.67	0.58
1:A:994:C:H3'	16:U:54:LYS:HE3	1.83	0.58
24:2:64:LEU:CD2	24:2:68:ARG:HD2	2.33	0.58
26:4:12:ALA:CB	26:4:29:PRO:HA	2.33	0.58
26:4:42:PHE:CG	26:4:43:TYR:N	2.71	0.58
1:A:1342:A:OP1	19:X:36:LYS:NZ	2.35	0.58
4:E:72:VAL:O	4:E:73:GLU:O	2.21	0.58
1:A:2635:C:OP1	4:E:78:LEU:HD12	2.03	0.58
1:A:2314:C:OP1	6:G:91:ARG:NH1	2.36	0.58
9:N:13:TRP:O	9:N:135:PRO:HD2	2.03	0.58
11:P:127:ALA:O	11:P:147:LEU:HD23	2.02	0.58
15:T:102:ILE:HB	15:T:110:ILE:HD11	1.84	0.58
20:Y:81:LYS:HD3	20:Y:97:ARG:CD	2.33	0.58
20:Y:96:ILE:CD1	20:Y:98:VAL:HG12	2.32	0.58
24:2:17:SER:CB	24:2:18:PRO:HA	2.33	0.58
1:A:288:C:H2'	1:A:289:A:H8	1.68	0.58
7:H:86:GLU:O	7:H:131:VAL:O	2.21	0.58
9:N:14:VAL:HG12	9:N:15:LEU:N	2.18	0.58
1:A:2404:C:H1'	11:P:67:MET:CE	2.32	0.58
17:V:41:GLY:H	17:V:46:VAL:HG13	1.67	0.58
21:Z:45:ASP:OD1	21:Z:49:ARG:NE	2.36	0.58
24:2:69:ARG:CB	24:2:69:ARG:NH1	2.67	0.58
1:A:958:U:OP2	12:Q:14:ARG:NH1	2.28	0.58
3:D:92:ILE:HD12	3:D:104:TYR:CD2	2.39	0.58
3:D:242:ARG:HD2	3:D:242:ARG:N	2.18	0.58
10:O:20:MET:O	10:O:41:ALA:HB1	2.04	0.58
16:U:92:ARG:NH1	16:U:95:LEU:CD1	2.65	0.58
24:2:16:LEU:O	24:2:17:SER:HB3	2.04	0.58
26:4:48:ARG:NH1	26:4:52:THR:H	2.01	0.58
27:5:60:VAL:HG13	27:5:60:VAL:OXT	2.03	0.58
1:A:2848:G:HO2'	1:A:2849:U:P	2.26	0.58
1:A:704:G:H1'	1:A:727:A:N6	2.18	0.58
3:D:35:LYS:CG	3:D:64:ILE:H	2.14	0.58
6:G:16:ARG:NH2	6:G:31:VAL:HG11	2.17	0.58
2:B:45:A:O4'	6:G:95:ARG:NH1	2.36	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:124:GLY:H	8:I:142:VAL:HG23	1.69	0.58
10:O:71:ARG:HH11	10:O:71:ARG:HG3	1.69	0.58
10:O:7:TYR:HE1	10:O:20:MET:HE3	1.68	0.58
18:W:95:ILE:O	18:W:95:ILE:HD12	2.04	0.58
24:2:16:LEU:CG	24:2:16:LEU:O	2.49	0.58
30:8:46:ARG:O	30:8:47:LYS:HB3	2.03	0.58
4:E:6:GLY:HA3	4:E:26:ILE:HD11	1.85	0.58
5:F:11:VAL:HG11	5:F:18:ARG:HE	1.67	0.58
5:F:160:ASN:OD1	5:F:162:LEU:HB2	2.04	0.58
5:F:174:VAL:HG13	5:F:174:VAL:O	2.03	0.58
1:A:1030:G:OP2	12:Q:128:LYS:HE2	2.03	0.58
16:U:92:ARG:HH11	16:U:95:LEU:HD12	1.67	0.58
20:Y:95:LYS:HD3	20:Y:95:LYS:H	1.67	0.58
2:B:40:U:O2'	2:B:45:A:N6	2.31	0.58
7:H:159:GLU:O	7:H:160:LYS:HG2	2.03	0.58
26:4:15:ILE:HG22	26:4:19:GLY:O	2.03	0.58
26:4:38:LYS:C	26:4:40:HIS:N	2.52	0.58
30:8:56:GLU:O	30:8:59:LYS:N	2.35	0.58
1:A:1899:G:H21	1:A:1902:C:N4	2.01	0.58
4:E:51:PHE:CD1	4:E:52:LEU:HG	2.39	0.58
7:H:125:VAL:HG12	7:H:126:PRO:CG	2.34	0.58
7:H:4:ILE:HG13	7:H:6:ARG:CD	2.33	0.58
14:S:67:ARG:HB2	14:S:67:ARG:HH11	1.65	0.58
21:Z:150:LEU:HD21	21:Z:172:ALA:HB3	1.86	0.58
22:0:53:MET:HB3	22:0:59:LEU:HD23	1.85	0.58
26:4:22:ILE:HG22	26:4:23:GLU:N	2.18	0.58
26:4:27:THR:O	26:4:28:LYS:HB3	2.04	0.58
1:A:2306:C:H2'	1:A:2307:G:H21	1.68	0.58
1:A:2645:G:H3'	1:A:2646:C:H5'	1.84	0.58
11:P:71:VAL:CG1	11:P:72:PRO:HD3	2.33	0.58
13:R:117:VAL:CG2	13:R:118:GLU:H	2.15	0.58
19:X:7:VAL:O	19:X:30:VAL:HG12	2.04	0.58
19:X:27:THR:HB	19:X:80:ILE:HB	1.84	0.58
1:A:2331:G:O2'	22:0:43:THR:HG22	2.03	0.58
26:4:15:ILE:HG22	26:4:20:ASN:HA	1.86	0.58
26:4:3:GLU:HG3	26:4:4:GLY:N	2.19	0.58
27:5:50:GLY:O	27:5:51:TYR:HB2	2.03	0.58
3:D:27:THR:CG2	3:D:83:GLU:HB3	2.33	0.58
5:F:138:GLU:O	5:F:141:ALA:HB3	2.04	0.58
7:H:4:ILE:H	7:H:4:ILE:HD13	1.68	0.58
7:H:85:LYS:HA	7:H:86:GLU:OE1	2.04	0.58
16:U:24:TYR:HE1	16:U:39:LEU:HD23	1.69	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:78:LYS:O	17:V:79:VAL:HB	2.04	0.58
23:1:81:LYS:HZ3	23:1:81:LYS:HA	0.74	0.57
26:4:39:CYS:O	26:4:40:HIS:HB2	2.03	0.57
1:A:2219:G:OP1	3:D:172:TYR:OH	2.20	0.57
1:A:2277:G:OP1	12:Q:85:LYS:HB2	2.04	0.57
1:A:774:A:H2	1:A:787:U:HO2'	1.50	0.57
6:G:53:LEU:C	6:G:53:LEU:HD23	2.25	0.57
12:Q:47:ILE:CD1	12:Q:70:PRO:HD3	2.34	0.57
12:Q:90:VAL:C	12:Q:92:GLY:H	2.07	0.57
14:S:95:HIS:CG	14:S:96:GLY:H	2.21	0.57
15:T:82:LEU:N	15:T:82:LEU:HD12	2.19	0.57
17:V:35:LEU:HD21	17:V:57:VAL:CG2	2.30	0.57
18:W:1:MET:HA	18:W:1:MET:HE3	1.85	0.57
24:2:15:LYS:H	24:2:67:LYS:NZ	2.02	0.57
24:2:21:LEU:O	24:2:25:VAL:HG23	2.04	0.57
1:A:2485:G:OP1	12:Q:46:GLN:NE2	2.36	0.57
3:D:147:LEU:HD13	3:D:155:LEU:CD1	2.29	0.57
3:D:177:LEU:HD11	3:D:183:ARG:HB2	1.85	0.57
3:D:263:ARG:HH11	3:D:263:ARG:HB2	1.67	0.57
3:D:35:LYS:HG2	3:D:64:ILE:CA	2.34	0.57
4:E:111:ARG:NE	4:E:160:TYR:HE1	2.01	0.57
6:G:39:ILE:HG23	6:G:155:MET:HG3	1.86	0.57
7:H:84:SER:O	7:H:133:VAL:O	2.22	0.57
12:Q:66:ILE:HA	12:Q:104:PHE:HA	1.85	0.57
14:S:106:ARG:O	14:S:107:GLU:HB2	2.04	0.57
14:S:67:ARG:HH11	14:S:67:ARG:CB	2.17	0.57
14:S:26:LEU:CD2	14:S:87:PHE:HD1	2.17	0.57
18:W:80:PRO:O	18:W:100:THR:HG22	2.03	0.57
1:A:1340:U:OP2	19:X:78:LYS:NZ	2.35	0.57
23:1:81:LYS:H	23:1:81:LYS:HE2	1.62	0.57
26:4:37:SER:HB3	26:4:42:PHE:CE1	2.38	0.57
27:5:55:ARG:NH1	27:5:58:LEU:HD11	2.19	0.57
1:A:479:A:N3	1:A:481:G:H5''	2.19	0.57
1:A:747:U:C4	27:5:2:ALA:N	2.72	0.57
3:D:25:THR:HG21	3:D:81:ALA:HB1	1.86	0.57
11:P:59:LEU:HA	11:P:61:ARG:CZ	2.35	0.57
16:U:92:ARG:C	16:U:94:ASN:H	2.05	0.57
1:A:2466:C:OP1	31:9:4:ARG:HB2	2.04	0.57
1:A:1085:A:O2'	1:A:1086:A:OP1	2.22	0.57
1:A:2477:C:H2'	31:9:1:MET:HG3	1.85	0.57
7:H:41:MET:HE1	7:H:64:LEU:HB3	1.86	0.57
9:N:35:ARG:O	9:N:37:LYS:N	2.37	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:55:VAL:HG22	12:Q:56:ARG:N	2.18	0.57
13:R:63:ARG:HG3	13:R:63:ARG:HH11	1.68	0.57
25:3:22:ALA:O	25:3:25:ALA:HB3	2.04	0.57
28:6:6:ARG:O	28:6:8:LYS:HD2	2.05	0.57
31:9:25:VAL:HB	31:9:34:GLN:HB2	1.86	0.57
4:E:74:PRO:HG2	4:E:77:ILE:HG23	1.86	0.57
6:G:107:LEU:HD11	6:G:178:PHE:CE1	2.39	0.57
6:G:16:ARG:HB3	6:G:17:PRO:CD	2.33	0.57
6:G:39:ILE:CG2	6:G:155:MET:HG3	2.35	0.57
10:O:20:MET:HG2	10:O:21:CYS:N	2.20	0.57
10:O:40:VAL:HG12	10:O:41:ALA:N	2.19	0.57
1:A:2404:C:O3'	11:P:77:ARG:NH2	2.38	0.57
9:N:42:TRP:O	16:U:64:ARG:NH2	2.35	0.57
1:A:997:G:OP1	16:U:93:LYS:HD3	2.05	0.57
30:8:53:PRO:CD	30:8:54:GLU:H	2.15	0.57
1:A:630:G:N2	1:A:633:A:OP2	2.34	0.57
1:A:709:U:H2'	1:A:710:G:C8	2.40	0.57
4:E:102:VAL:HG13	4:E:172:VAL:CG2	2.34	0.57
4:E:51:PHE:HD1	4:E:52:LEU:HG	1.68	0.57
6:G:63:ILE:HD11	6:G:102:PHE:HE2	1.69	0.57
7:H:124:GLU:HB3	7:H:132:ARG:HG3	1.84	0.57
7:H:125:VAL:HA	7:H:126:PRO:CB	2.29	0.57
9:N:133:GLN:O	9:N:134:ARG:CB	2.53	0.57
12:Q:22:LYS:HA	21:Z:78:LYS:HD2	1.86	0.57
14:S:103:GLU:O	14:S:106:ARG:CG	2.53	0.57
19:X:36:LYS:HE3	19:X:54:VAL:O	2.04	0.57
1:A:2232:U:P	23:1:40:ARG:HH12	2.27	0.57
23:1:70:VAL:O	23:1:74:VAL:HG23	2.05	0.57
24:2:15:LYS:H	24:2:67:LYS:CE	2.17	0.57
24:2:31:GLU:O	24:2:35:LEU:HG	2.05	0.57
30:8:33:ASN:O	30:8:34:TRP:C	2.42	0.57
1:A:184:C:H2'	1:A:185:U:C6	2.39	0.57
1:A:2420:C:N4	30:8:30:ARG:HD2	2.20	0.57
1:A:2494:G:H2'	1:A:2495:G:H8	1.69	0.57
4:E:63:LEU:HD13	4:E:65:GLY:H	1.68	0.57
9:N:131:GLN:CG	9:N:132:ALA:N	2.68	0.57
9:N:7:LYS:HG2	9:N:8:GLN:N	2.20	0.57
10:O:96:THR:O	10:O:97:ARG:HB3	2.03	0.57
16:U:96:ALA:O	16:U:100:VAL:HG23	2.05	0.57
23:1:86:SER:H	23:1:87:PRO:CD	2.16	0.57
24:2:17:SER:HB2	24:2:18:PRO:HA	1.86	0.57
25:3:31:LEU:O	25:3:32:GLN:HB2	2.04	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:11:LEU:HD23	28:6:26:ASN:HB3	1.87	0.57
1:A:1309:G:H4'	29:7:7:PRO:HB2	1.87	0.57
2:B:52:A:H62	14:S:33:LYS:HG3	1.69	0.57
7:H:126:PRO:CG	7:H:127:GLU:N	2.65	0.57
13:R:32:GLY:O	13:R:115:GLU:HA	2.04	0.57
9:N:40:PRO:HB3	16:U:68:ALA:HB2	1.87	0.57
28:6:48:VAL:HG13	28:6:49:HIS:N	2.20	0.57
1:A:1678:G:H22	1:A:1989:G:H22	1.53	0.57
1:A:2311:A:C1'	6:G:82:LEU:HD11	2.34	0.57
3:D:239:ARG:O	3:D:240:ALA:HB2	2.05	0.57
1:A:1695:G:H1'	3:D:8:PRO:O	2.05	0.57
4:E:41:LYS:HA	4:E:41:LYS:HE2	1.87	0.57
4:E:63:LEU:HD12	4:E:65:GLY:H	1.69	0.57
2:B:42:C:O4'	6:G:69:ALA:HB2	2.04	0.57
1:A:1006:C:H1'	9:N:106:MET:HE3	1.87	0.57
9:N:14:VAL:HG12	9:N:15:LEU:H	1.69	0.57
9:N:63:THR:HG22	9:N:66:LYS:NZ	2.20	0.57
16:U:79:PHE:C	16:U:79:PHE:CD2	2.78	0.57
23:1:89:GLU:O	23:1:93:GLU:HB2	2.05	0.57
1:A:102:G:H4'	1:A:103:A:O5'	2.05	0.57
1:A:118:A:N3	1:A:178:G:H1'	2.20	0.57
9:N:82:LEU:HD12	9:N:83:LYS:H	1.70	0.57
14:S:32:LEU:O	14:S:62:LYS:HE2	2.05	0.57
16:U:68:ALA:O	16:U:71:GLN:HB2	2.04	0.57
20:Y:89:PHE:O	20:Y:90:LEU:HD13	2.05	0.57
12:Q:80:GLU:OE1	22:O:7:LEU:HB3	2.05	0.56
31:9:1:MET:HB3	31:9:4:ARG:CZ	2.35	0.56
1:A:1266:G:C5	18:W:15:ARG:NH1	2.72	0.56
1:A:2638:G:HO2'	1:A:2639:A:H8	1.53	0.56
1:A:871:U:H4'	12:Q:69:PHE:CE2	2.39	0.56
3:D:35:LYS:CE	3:D:104:TYR:HB2	2.35	0.56
1:A:1812:A:O2'	3:D:45:ASN:HB2	2.05	0.56
9:N:112:LEU:O	9:N:114:ARG:O	2.23	0.56
9:N:56:ASN:N	9:N:125:GLY:O	2.35	0.56
21:Z:111:VAL:HG22	21:Z:112:ARG:H	1.70	0.56
29:7:19:ARG:HH11	29:7:19:ARG:HG2	1.70	0.56
5:F:24:LEU:HB3	5:F:115:ALA:HB2	1.87	0.56
13:R:70:LEU:HD13	13:R:75:LEU:HD11	1.88	0.56
14:S:72:ALA:O	14:S:76:LYS:HG3	2.04	0.56
24:2:51:ARG:HA	24:2:54:LYS:HB2	1.86	0.56
25:3:4:LEU:O	25:3:36:VAL:HA	2.04	0.56
28:6:42:TRP:CD1	28:6:42:TRP:N	2.73	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
29:7:13:ALA:O	29:7:17:GLY:HA3	2.05	0.56
1:A:1496:A:HB8	1:A:1577:C:HO2'	1.52	0.56
1:A:328:U:H4'	20:Y:68:HIS:CD2	2.40	0.56
1:A:796:C:H2'	1:A:797:C:C6	2.40	0.56
3:D:236:GLY:O	3:D:237:GLU:OE1	2.23	0.56
4:E:78:LEU:HD23	4:E:79:ARG:HD2	1.86	0.56
5:F:192:LEU:HD21	5:F:194:MET:CE	2.35	0.56
4:E:152:LYS:HG2	9:N:78:TYR:CE1	2.40	0.56
11:P:31:ALA:O	11:P:32:THR:HG23	2.05	0.56
17:V:38:LEU:HD23	17:V:39:LEU:N	2.19	0.56
28:6:14:THR:O	28:6:49:HIS:HA	2.06	0.56
30:8:52:LYS:H	30:8:53:PRO:HD2	1.66	0.56
4:E:37:ARG:N	4:E:37:ARG:NE	2.53	0.56
5:F:198:ALA:CA	5:F:201:VAL:HG12	2.35	0.56
5:F:46:ARG:HG2	5:F:46:ARG:NH1	2.00	0.56
6:G:41:GLN:HB3	6:G:43:LEU:HD13	1.87	0.56
7:H:3:ARG:HA	7:H:3:ARG:HE	1.69	0.56
11:P:65:ARG:HH21	30:8:15:LYS:CB	2.17	0.56
12:Q:59:ARG:C	12:Q:60:ARG:CG	2.74	0.56
18:W:65:LEU:O	18:W:66:GLU:C	2.43	0.56
23:1:53:VAL:HG12	23:1:54:ALA:N	2.21	0.56
4:E:174:ASP:CG	4:E:175:VAL:N	2.58	0.56
4:E:183:LEU:HD12	4:E:183:LEU:N	2.20	0.56
7:H:77:LYS:CB	7:H:77:LYS:HZ3	2.03	0.56
14:S:5:THR:HG23	14:S:8:GLU:OE2	2.05	0.56
20:Y:97:ARG:HG2	20:Y:97:ARG:O	2.05	0.56
26:4:48:ARG:O	26:4:50:VAL:N	2.38	0.56
26:4:64:GLY:C	26:4:66:SER:H	2.08	0.56
27:5:55:ARG:HD3	27:5:56:LYS:N	2.21	0.56
30:8:50:LEU:HD12	30:8:51:ALA:H	1.70	0.56
1:A:587:C:OP2	11:P:21:ARG:NH2	2.38	0.56
3:D:183:ARG:HD2	3:D:270:ILE:HG12	1.88	0.56
3:D:80:ALA:HB3	3:D:94:LEU:HD13	1.87	0.56
4:E:117:MET:HG3	4:E:117:MET:O	2.06	0.56
6:G:180:PHE:C	6:G:182:LYS:H	2.09	0.56
7:H:153:LYS:CB	7:H:154:PRO:CD	2.69	0.56
12:Q:79:LEU:CG	12:Q:79:LEU:O	2.52	0.56
1:A:2250:G:C2	12:Q:82:ARG:HB3	2.40	0.56
13:R:84:ALA:HB3	13:R:85:PRO:HD3	1.87	0.56
15:T:26:ASP:CB	15:T:91:ARG:HA	2.36	0.56
17:V:1:MET:HE2	17:V:43:GLU:HG2	1.87	0.56
26:4:41:PRO:O	26:4:42:PHE:CB	2.54	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
31:9:2:LYS:HD2	31:9:33:LYS:O	2.04	0.56
1:A:1857:G:O2'	1:A:1885:A:N6	2.37	0.56
4:E:69:LYS:C	4:E:71:GLY:H	2.09	0.56
1:A:323:G:H2'	5:F:169:ASN:OD1	2.04	0.56
5:F:32:LEU:HD13	5:F:105:VAL:CG1	2.33	0.56
6:G:60:LEU:O	6:G:64:THR:HG22	2.05	0.56
8:I:98:ALA:HB2	8:I:111:PRO:HB3	1.87	0.56
10:O:19:ILE:O	10:O:19:ILE:HD13	2.06	0.56
11:P:14:LYS:O	11:P:16:ARG:N	2.39	0.56
15:T:134:GLU:O	15:T:135:ALA:HB3	2.05	0.56
17:V:76:LYS:O	17:V:79:VAL:HG12	2.05	0.56
1:A:857:C:OP2	22:0:77:ARG:NH2	2.39	0.56
29:7:12:ARG:NH2	29:7:44:PRO:HB3	2.21	0.56
1:A:1454:U:H5'	13:R:63:ARG:NE	2.12	0.56
1:A:1678:G:N2	1:A:1989:G:H22	2.03	0.56
4:E:32:PRO:O	4:E:34:VAL:HG13	2.06	0.56
8:I:92:VAL:HG13	8:I:120:ILE:HG23	1.86	0.56
10:O:107:ARG:O	10:O:112:MET:HE3	2.05	0.56
1:A:2377:A:H2	14:S:18:ILE:HD11	1.70	0.56
17:V:27:ALA:O	17:V:28:GLU:O	2.24	0.56
20:Y:95:LYS:O	20:Y:95:LYS:HE3	2.06	0.56
21:Z:110:GLY:HA2	21:Z:111:VAL:O	2.05	0.56
25:3:59:VAL:CG1	25:3:60:GLU:N	2.69	0.56
26:4:48:ARG:HH12	26:4:52:THR:HG22	1.71	0.56
1:A:2198:A:HO2'	1:A:2199:A:P	2.29	0.56
1:A:588:U:H2'	1:A:589:C:C6	2.40	0.56
5:F:9:ILE:HD11	5:F:125:LEU:CG	2.36	0.56
14:S:5:THR:OG1	14:S:7:TYR:HB3	2.06	0.56
19:X:35:THR:HG22	19:X:38:GLU:OE1	2.05	0.56
24:2:50:ILE:CD1	24:2:51:ARG:N	2.61	0.56
1:A:2415:G:H4'	11:P:66:GLY:C	2.27	0.56
3:D:221:VAL:HG22	3:D:226:MET:HE2	1.88	0.56
6:G:120:LEU:HB3	6:G:131:TYR:OH	2.05	0.56
12:Q:12:GLN:OE1	12:Q:72:LYS:HD2	2.06	0.56
30:8:30:ARG:O	30:8:31:HIS:CB	2.54	0.56
1:A:1428:C:N4	1:A:1570:A:OP2	2.33	0.56
3:D:69:ARG:C	3:D:71:ASP:H	2.08	0.56
3:D:94:LEU:HD22	3:D:95:LEU:H	1.69	0.56
4:E:203:LYS:HE3	4:E:204:ALA:HB2	1.86	0.56
5:F:108:LYS:HZ3	5:F:108:LYS:HA	1.71	0.56
7:H:59:ARG:HH11	7:H:59:ARG:CG	2.19	0.56
10:O:3:GLN:CB	10:O:4:PRO:HD2	2.35	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
11:P:15:ARG:O	11:P:17:LYS:N	2.39	0.56
12:Q:37:LEU:HD21	12:Q:130:LYS:HE3	1.87	0.56
14:S:18:ILE:C	14:S:19:LYS:O	2.44	0.56
16:U:105:VAL:HA	17:V:44:LYS:HE3	1.88	0.56
19:X:65:ARG:HD3	19:X:65:ARG:H	1.71	0.56
20:Y:62:GLU:O	20:Y:63:LYS:O	2.24	0.56
25:3:7:LYS:NZ	25:3:32:GLN:HE21	2.03	0.55
3:D:155:LEU:HD23	3:D:177:LEU:CD2	2.36	0.55
2:B:42:C:O2	6:G:92:VAL:HA	2.06	0.55
8:I:30:LEU:HB3	8:I:36:ALA:HB3	1.88	0.55
1:A:558:G:OP1	9:N:111:PRO:HD2	2.06	0.55
15:T:105:LEU:C	15:T:107:ASP:H	2.08	0.55
1:A:2361:A:O5'	30:8:27:THR:OG1	2.24	0.55
3:D:31:LYS:O	3:D:35:LYS:O	2.24	0.55
3:D:35:LYS:NZ	3:D:64:ILE:O	2.32	0.55
8:I:116:LEU:O	8:I:118:LYS:N	2.39	0.55
11:P:39:LYS:CA	11:P:45:LEU:CD1	2.80	0.55
14:S:14:VAL:HG13	14:S:15:ARG:N	2.21	0.55
16:U:83:LEU:HD12	16:U:113:ALA:HB2	1.86	0.55
18:W:14:PRO:HG2	18:W:78:GLU:OE2	2.07	0.55
26:4:9:LEU:H	26:4:27:THR:HG22	1.71	0.55
1:A:1264:G:H3'	1:A:1265:A:H5''	1.87	0.55
1:A:1771:C:HO2'	1:A:1786:A:H8	1.54	0.55
3:D:69:ARG:HD3	3:D:105:ILE:HD11	1.87	0.55
4:E:26:ILE:C	4:E:26:ILE:HD13	2.26	0.55
11:P:13:ASN:C	11:P:15:ARG:N	2.54	0.55
12:Q:63:LYS:HD2	21:Z:175:VAL:HG21	1.88	0.55
17:V:49:THR:CB	17:V:50:PRO:HD2	2.25	0.55
20:Y:95:LYS:NZ	20:Y:95:LYS:HB2	2.21	0.55
30:8:63:PRO:O	30:8:64:TYR:HB2	2.07	0.55
1:A:666:G:H4'	11:P:49:ARG:NH1	2.21	0.55
1:A:898:C:H2'	1:A:899:A:H5'	1.88	0.55
3:D:36:PRO:HB2	3:D:61:LEU:HG	1.87	0.55
4:E:4:ILE:HD13	4:E:5:LEU:H	1.71	0.55
4:E:14:ILE:HD11	15:T:14:TYR:CZ	2.42	0.55
20:Y:21:LYS:HG3	20:Y:22:GLY:H	1.69	0.55
25:3:4:LEU:HD21	25:3:39:ASP:OD1	2.06	0.55
1:A:1329:U:H5''	1:A:1330:C:H5	1.71	0.55
1:A:1338:G:N7	19:X:62:LYS:NZ	2.50	0.55
1:A:1858:G:O2'	1:A:1884:A:N6	2.39	0.55
1:A:2848:G:O2'	1:A:2849:U:OP2	2.20	0.55
1:A:587:C:H4'	1:A:588:U:O5'	2.06	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:118:VAL:HG22	3:D:119:ALA:H	1.72	0.55
4:E:67:PHE:O	4:E:69:LYS:N	2.39	0.55
5:F:28:ILE:HD12	5:F:28:ILE:O	2.06	0.55
10:O:79:PHE:HD2	15:T:72:VAL:HG22	1.72	0.55
11:P:115:LEU:HD12	11:P:116:GLY:N	2.21	0.55
16:U:27:LEU:O	16:U:29:SER:N	2.40	0.55
17:V:52:VAL:O	17:V:54:GLY:N	2.39	0.55
18:W:88:ARG:HB3	18:W:92:ARG:HB3	1.88	0.55
1:A:1043:C:H42	1:A:1112:G:H1	1.54	0.55
1:A:1149:G:H2'	1:A:1150:C:C6	2.42	0.55
1:A:1794:U:H2'	1:A:1795:C:C6	2.41	0.55
1:A:593:G:H2'	1:A:594:U:C6	2.42	0.55
1:A:602:G:O2'	1:A:604:G:O2'	2.08	0.55
4:E:195:LEU:HD12	4:E:196:VAL:H	1.71	0.55
5:F:118:ALA:O	5:F:121:GLY:N	2.33	0.55
5:F:129:PHE:O	5:F:130:ALA:CB	2.55	0.55
6:G:114:ILE:HD11	6:G:140:ILE:HD12	1.89	0.55
11:P:88:LEU:C	11:P:90:ARG:N	2.60	0.55
12:Q:25:ASP:N	12:Q:102:VAL:HG23	2.21	0.55
15:T:6:LEU:O	15:T:7:ILE:C	2.44	0.55
16:U:104:GLN:OE1	16:U:104:GLN:N	2.35	0.55
18:W:1:MET:C	18:W:64:MET:HE1	2.27	0.55
1:A:270(T):G:C5'	23:1:97:LEU:HD22	2.36	0.55
28:6:20:ASN:CG	28:6:21:TYR:H	2.09	0.55
1:A:2313:C:H2'	1:A:2314:C:C6	2.41	0.55
3:D:28:GLU:O	3:D:29:PRO:C	2.45	0.55
8:I:31:LEU:HD21	8:I:38:LEU:HG	1.88	0.55
10:O:1:MET:HE2	10:O:67:LYS:HG2	1.88	0.55
10:O:68:GLU:HA	10:O:78:ARG:HB3	1.89	0.55
11:P:2:LYS:O	11:P:5:ASP:HB2	2.06	0.55
14:S:36:TYR:HD2	14:S:52:SER:CB	2.18	0.55
24:2:41:ILE:HD11	24:2:44:LEU:CG	2.36	0.55
26:4:65:ASP:O	26:4:66:SER:HB3	2.07	0.55
1:A:1782:C:H1'	1:A:2609:U:H5''	1.89	0.55
1:A:2023:G:H5'	1:A:2617:C:H4'	1.87	0.55
2:B:50:G:OP1	14:S:63:THR:HG23	2.07	0.55
4:E:3:GLY:HA3	4:E:81:ILE:HD12	1.88	0.55
6:G:3:LEU:HD12	6:G:4:ASP:N	2.19	0.55
9:N:109:LYS:N	9:N:109:LYS:HD2	2.22	0.55
14:S:13:ARG:HD2	14:S:13:ARG:O	2.06	0.55
16:U:74:LEU:HD13	16:U:79:PHE:HB2	1.89	0.55
16:U:92:ARG:NH1	17:V:11:GLN:HB2	2.22	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:48:ALA:H	20:Y:60:PHE:HA	1.72	0.55
1:A:1264:G:H5'	27:5:11:THR:HG21	1.89	0.55
1:A:922:U:H2'	1:A:923:C:C6	2.42	0.55
2:B:55:U:C5'	6:G:28:VAL:HG21	2.36	0.55
3:D:2:ALA:O	3:D:3:VAL:HB	2.06	0.55
4:E:21:VAL:HG23	4:E:22:PRO:HD3	1.89	0.55
5:F:147:GLY:O	5:F:148:LEU:HD23	2.07	0.55
7:H:12:PRO:O	7:H:13:LYS:HB2	2.07	0.55
11:P:39:LYS:N	11:P:45:LEU:HD11	2.21	0.55
13:R:12:ARG:HH11	13:R:12:ARG:HG3	1.71	0.55
14:S:74:ALA:HB1	14:S:107:GLU:HB3	1.89	0.55
16:U:73:GLY:O	16:U:74:LEU:HB3	2.07	0.55
24:2:47:ASN:ND2	24:2:47:ASN:N	2.54	0.55
1:A:1309:G:OP1	29:7:9:ARG:HD3	2.07	0.55
2:B:42:C:H2'	2:B:43:C:O4'	2.06	0.55
6:G:7:LEU:HD12	6:G:104:GLU:HA	1.88	0.55
7:H:8:PRO:O	7:H:9:ILE:HG23	2.07	0.55
9:N:101:HIS:CD2	9:N:101:HIS:C	2.79	0.55
11:P:24:GLY:O	11:P:25:SER:HB3	2.06	0.55
11:P:59:LEU:HD23	11:P:59:LEU:O	2.06	0.55
12:Q:79:LEU:HD12	22:0:5:LYS:HD3	1.89	0.55
17:V:99:ILE:N	17:V:99:ILE:CD1	2.65	0.55
18:W:25:ARG:CB	18:W:25:ARG:HH11	2.20	0.55
1:A:1364:G:N7	23:1:2:SER:N	2.56	0.54
25:3:8:LEU:HD22	25:3:31:LEU:CD2	2.36	0.54
29:7:48:LYS:HG2	29:7:49:ARG:N	2.19	0.54
1:A:1007:C:OP1	9:N:35:ARG:NH1	2.40	0.54
1:A:1049:C:H2'	1:A:1050:A:H5''	1.88	0.54
1:A:1203:G:H3'	1:A:1204:A:H5''	1.89	0.54
1:A:695:G:OP1	1:A:1380:G:H4'	2.07	0.54
1:A:2790:A:H2'	1:A:2791:C:H5''	1.88	0.54
1:A:878:A:N6	1:A:899:A:O2'	2.40	0.54
3:D:43:ARG:CB	3:D:54:ARG:HB2	2.37	0.54
6:G:135:LEU:N	6:G:135:LEU:HD12	2.21	0.54
11:P:106:LEU:O	11:P:107:LYS:HD3	2.07	0.54
11:P:49:ARG:NE	30:8:59:LYS:HG2	2.22	0.54
15:T:107:ASP:O	15:T:111:ARG:NH1	2.40	0.54
16:U:58:ARG:O	16:U:62:ILE:HG13	2.07	0.54
16:U:6:THR:O	16:U:9:VAL:HG23	2.07	0.54
17:V:49:THR:CB	17:V:50:PRO:CD	2.83	0.54
18:W:80:PRO:O	18:W:100:THR:CG2	2.55	0.54
18:W:70:TYR:CD2	18:W:70:TYR:N	2.75	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
19:X:5:TYR:HE2	24:2:30:ARG:HH11	1.55	0.54
1:A:1567:A:H5'	3:D:58:HIS:ND1	2.22	0.54
3:D:25:THR:HG21	3:D:81:ALA:CB	2.38	0.54
5:F:197:ASP:O	5:F:198:ALA:HB3	2.06	0.54
7:H:128:PRO:CD	7:H:129:THR:N	2.71	0.54
8:I:99:GLU:OE2	8:I:103:ARG:NH2	2.38	0.54
9:N:44:PRO:HG2	9:N:45:ASN:H	1.71	0.54
11:P:84:ASN:ND2	11:P:115:LEU:HD12	2.22	0.54
12:Q:58:PHE:O	12:Q:59:ARG:C	2.43	0.54
16:U:58:ARG:NH1	16:U:93:LYS:HE2	2.22	0.54
23:1:53:VAL:O	23:1:54:ALA:C	2.45	0.54
29:7:18:PHE:C	29:7:18:PHE:CD2	2.81	0.54
11:P:65:ARG:HH21	30:8:15:LYS:HB2	1.72	0.54
1:A:1434:A:H61	1:A:1558:A:N6	2.04	0.54
1:A:1444(A):A:H4'	1:A:1460:A:O2'	2.06	0.54
5:F:197:ASP:O	5:F:199:TRP:N	2.38	0.54
5:F:62:ARG:HB3	5:F:62:ARG:NH1	2.22	0.54
10:O:53:LYS:HD2	10:O:56:ASP:OD1	2.08	0.54
14:S:107:GLU:N	14:S:110:LEU:HD11	2.22	0.54
15:T:16:ARG:HG2	15:T:18:ASP:OD1	2.06	0.54
17:V:22:VAL:CG1	17:V:23:GLU:N	2.71	0.54
23:1:91:LYS:CE	23:1:91:LYS:HA	2.38	0.54
26:4:37:SER:HB3	26:4:42:PHE:CD1	2.43	0.54
1:A:2150:U:H2'	1:A:2151:G:C8	2.42	0.54
1:A:2327:A:H2'	1:A:2328:A:C8	2.43	0.54
1:A:1902:C:H5'	3:D:246:PRO:HD3	1.90	0.54
5:F:67:GLN:O	5:F:68:LYS:CB	2.39	0.54
6:G:116:ASP:O	6:G:117:PHE:CB	2.50	0.54
7:H:86:GLU:HG3	7:H:165:ALA:CB	2.38	0.54
12:Q:21:THR:O	12:Q:22:LYS:O	2.25	0.54
15:T:3:ARG:HG3	15:T:7:ILE:CG1	2.36	0.54
17:V:29:PRO:HA	17:V:61:VAL:CG2	2.37	0.54
18:W:20:VAL:C	18:W:22:ASP:H	2.10	0.54
20:Y:91:GLU:HG3	20:Y:92:ASN:H	1.72	0.54
20:Y:95:LYS:N	20:Y:95:LYS:HD3	2.23	0.54
23:1:83:GLU:CG	23:1:84:GLY:N	2.71	0.54
25:3:35:ARG:HB3	25:3:37:LEU:CD2	2.37	0.54
29:7:31:LEU:O	29:7:32:LYS:C	2.43	0.54
1:A:2853:C:H2'	1:A:2854:G:H8	1.71	0.54
3:D:227:ASN:HB3	3:D:228:PRO:CD	2.30	0.54
3:D:233:HIS:N	3:D:233:HIS:CD2	2.75	0.54
4:E:186:GLY:O	4:E:188:VAL:N	2.41	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:39:PRO:HB3	12:Q:99:PRO:HD3	1.90	0.54
15:T:29:ARG:HH11	15:T:29:ARG:HB2	1.72	0.54
20:Y:47:LYS:O	20:Y:49:VAL:HG23	2.08	0.54
20:Y:61:ILE:HG23	20:Y:62:GLU:H	1.71	0.54
24:2:31:GLU:HB2	24:2:53:LEU:HD11	1.89	0.54
18:W:38:TYR:OH	27:5:47:PRO:HG3	2.08	0.54
28:6:12:GLU:HG2	28:6:52:VAL:O	2.07	0.54
1:A:1693:U:H1'	3:D:14:ARG:NH2	2.22	0.54
3:D:183:ARG:NH1	3:D:183:ARG:HG2	2.11	0.54
6:G:139:LEU:HD22	6:G:146:TYR:HD1	1.73	0.54
11:P:125:VAL:O	11:P:145:PRO:HD2	2.08	0.54
14:S:111:GLU:HA	14:S:111:GLU:OE1	2.06	0.54
15:T:123:GLN:O	15:T:125:ARG:N	2.40	0.54
16:U:95:LEU:HD12	17:V:11:GLN:HE21	1.72	0.54
18:W:9:TYR:H	18:W:102:HIS:CE1	2.26	0.54
21:Z:108:PRO:HA	21:Z:142:SER:HA	1.90	0.54
23:1:60:PHE:HE2	23:1:91:LYS:HZ1	1.54	0.54
1:A:1056:G:O2'	1:A:1086:A:O2'	2.26	0.54
1:A:2404:C:H1'	11:P:67:MET:HE1	1.88	0.54
1:A:2867:G:O2'	1:A:2868:A:O5'	2.26	0.54
1:A:320:A:N3	5:F:169:ASN:ND2	2.55	0.54
4:E:176:ILE:HG22	4:E:179:GLU:H	1.72	0.54
8:I:133:HIS:HB2	8:I:134:PRO:HD2	1.90	0.54
11:P:124:LYS:HA	11:P:143:GLY:O	2.08	0.54
30:8:32:LEU:O	30:8:36:LYS:HE3	2.07	0.54
1:A:2074:U:H2'	1:A:2075:U:C6	2.43	0.54
1:A:2208:U:O2'	3:D:151:LYS:HG2	2.08	0.54
3:D:158:ALA:HB3	3:D:161:THR:HG21	1.90	0.54
4:E:101:ARG:HB3	4:E:201:THR:OG1	2.08	0.54
5:F:179:GLU:H	5:F:179:GLU:CD	2.11	0.54
10:O:4:PRO:O	10:O:5:GLN:HB2	2.06	0.54
13:R:1:MET:O	13:R:2:ARG:HG3	2.08	0.54
9:N:42:TRP:CD1	16:U:63:VAL:HG11	2.42	0.54
17:V:45:THR:O	17:V:45:THR:HG22	2.08	0.54
23:1:83:GLU:OE1	23:1:85:LEU:HD23	2.07	0.54
26:4:51:ASP:OD1	26:4:51:ASP:O	2.25	0.54
27:5:55:ARG:HD3	27:5:56:LYS:H	1.73	0.54
28:6:17:LYS:O	28:6:18:ARG:HB2	2.08	0.54
1:A:2022:U:O2'	1:A:2617:C:H5'	2.07	0.54
1:A:2212:A:H1'	1:A:2215:G:C5	2.42	0.54
1:A:2845:G:H5''	15:T:55:ASN:HA	1.88	0.54
3:D:227:ASN:CB	3:D:228:PRO:HD2	2.24	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:53:PRO:O	4:E:74:PRO:HA	2.07	0.54
7:H:26:VAL:CG1	7:H:27:LYS:N	2.64	0.54
7:H:91:GLY:O	7:H:94:TYR:HB2	2.08	0.54
11:P:112:LEU:HD13	11:P:112:LEU:C	2.29	0.54
11:P:64:LYS:HG3	30:8:25:MET:SD	2.48	0.54
12:Q:60:ARG:HH12	12:Q:113:GLN:HE22	1.55	0.54
13:R:38:VAL:HG22	13:R:112:ALA:HB2	1.90	0.54
13:R:45:ARG:HA	13:R:95:THR:HG21	1.87	0.54
14:S:67:ARG:NH1	14:S:67:ARG:CB	2.64	0.54
15:T:14:TYR:H	15:T:14:TYR:HD1	1.56	0.54
20:Y:87:LYS:HB2	20:Y:87:LYS:NZ	2.23	0.54
23:1:92:LYS:O	23:1:94:LEU:N	2.41	0.54
28:6:27:LYS:HB2	28:6:27:LYS:HZ2	1.71	0.54
1:A:1636:C:H2'	1:A:1637:A:C8	2.43	0.54
1:A:623:G:H2'	1:A:624:C:C6	2.43	0.54
3:D:25:THR:CG2	3:D:81:ALA:HB1	2.38	0.54
4:E:54:GLN:NE2	4:E:54:GLN:N	2.55	0.54
4:E:51:PHE:O	4:E:74:PRO:HB3	2.08	0.54
9:N:70:LYS:C	9:N:71:ILE:HD13	2.27	0.54
11:P:37:GLY:HA2	11:P:41:ARG:NE	2.23	0.54
12:Q:81:VAL:C	12:Q:82:ARG:CG	2.76	0.54
1:A:2146:C:H4'	1:A:2147:G:C8	2.44	0.53
1:A:2166:G:N2	1:A:2168:G:OP1	2.41	0.53
1:A:2506:U:O2	1:A:2506:U:H2'	2.07	0.53
1:A:263:C:H2'	1:A:264:C:O4'	2.08	0.53
3:D:211:ARG:HD2	3:D:214:TRP:CZ3	2.43	0.53
4:E:14:ILE:CG1	4:E:15:PHE:H	2.08	0.53
7:H:139:GLN:O	7:H:143:GLN:HB2	2.09	0.53
9:N:109:LYS:HD2	9:N:109:LYS:H	1.73	0.53
9:N:137:LYS:HG3	9:N:138:LEU:N	2.23	0.53
10:O:113:LYS:HG2	10:O:117:LEU:CD1	2.38	0.53
15:T:88:ILE:C	15:T:88:ILE:HD12	2.29	0.53
16:U:47:TYR:C	16:U:47:TYR:CD2	2.81	0.53
24:2:43:GLN:O	24:2:44:LEU:CG	2.54	0.53
27:5:60:VAL:CG1	27:5:60:VAL:OXT	2.56	0.53
1:A:2844:G:H3'	1:A:2845:G:H8	1.73	0.53
1:A:593:G:O3'	30:8:61:LEU:HD22	2.08	0.53
1:A:864:G:H1'	1:A:914:C:H42	1.74	0.53
11:P:140:ALA:O	11:P:141:ALA:HB2	2.08	0.53
1:A:2277:G:H5'	12:Q:85:LYS:HG3	1.89	0.53
13:R:53:HIS:HA	13:R:56:LYS:HD3	1.90	0.53
10:O:78:ARG:O	15:T:73:GLU:HG3	2.08	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:37:SER:C	26:4:39:CYS:N	2.62	0.53
28:6:13:CYS:O	28:6:14:THR:HB	2.08	0.53
29:7:10:ARG:NH1	29:7:14:LYS:HE3	2.23	0.53
30:8:29:LYS:HB2	30:8:44:LYS:HG2	1.90	0.53
30:8:58:ILE:O	30:8:61:LEU:HG	2.08	0.53
1:A:222:A:H3'	1:A:421:U:H5''	1.91	0.53
1:A:524:U:H2'	1:A:525:U:C6	2.44	0.53
3:D:124:PRO:HB2	3:D:126:GLN:NE2	2.22	0.53
3:D:206:LEU:O	3:D:211:ARG:NH1	2.38	0.53
3:D:85:ASP:OD2	3:D:88:ARG:HG2	2.07	0.53
5:F:116:ASP:OD1	5:F:119:ARG:NH2	2.41	0.53
5:F:53:THR:C	5:F:55:GLY:H	2.10	0.53
6:G:81:LYS:O	6:G:82:LEU:CB	2.56	0.53
7:H:153:LYS:CE	7:H:153:LYS:HA	2.37	0.53
11:P:37:GLY:C	11:P:41:ARG:HD3	2.29	0.53
13:R:28:LEU:HD13	13:R:28:LEU:O	2.08	0.53
16:U:24:TYR:O	16:U:29:SER:HB3	2.08	0.53
19:X:53:LYS:NZ	19:X:55:ASN:HD21	2.06	0.53
25:3:2:PRO:O	25:3:3:ARG:O	2.25	0.53
27:5:16:ARG:NH1	27:5:17:ASP:OD1	2.41	0.53
27:5:44:THR:O	27:5:46:CYS:N	2.41	0.53
1:A:1588:C:H2'	1:A:1589:C:C6	2.44	0.53
1:A:458:G:O2'	1:A:469:G:O6	2.23	0.53
1:A:639:U:H2'	1:A:640:C:C6	2.44	0.53
3:D:25:THR:O	3:D:25:THR:HG23	2.07	0.53
1:A:2758:A:C4	7:H:67:LEU:HD21	2.43	0.53
10:O:49:ARG:HB3	10:O:49:ARG:NH1	2.23	0.53
10:O:7:TYR:C	10:O:8:LEU:HD22	2.29	0.53
5:F:34:TRP:CH2	11:P:8:PRO:HB3	2.43	0.53
13:R:91:GLN:HG2	13:R:91:GLN:O	2.08	0.53
20:Y:44:ILE:CG1	20:Y:45:VAL:N	2.70	0.53
1:A:1081:U:H3'	1:A:1082:U:H4'	1.91	0.53
1:A:2466:C:H5'	31:9:5:ALA:HB3	1.90	0.53
1:A:469:G:O6	29:7:37:LYS:HE2	2.07	0.53
1:A:662:G:H5''	11:P:15:ARG:O	2.08	0.53
1:A:74:A:H4'	1:A:75:G:O5'	2.07	0.53
1:A:784:A:N7	3:D:229:VAL:HG21	2.23	0.53
2:B:44:G:H1'	2:B:47:C:N4	2.24	0.53
5:F:32:LEU:HD12	5:F:36:VAL:HG23	1.89	0.53
10:O:12:ASP:OD1	10:O:85:VAL:HG13	2.08	0.53
14:S:10:ARG:O	14:S:14:VAL:HG12	2.09	0.53
14:S:25:ARG:CB	14:S:25:ARG:HH11	2.22	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:7:THR:CG2	17:V:22:VAL:HG11	2.39	0.53
17:V:66:ARG:HH11	17:V:66:ARG:CB	2.20	0.53
19:X:36:LYS:HA	19:X:39:ILE:HD12	1.90	0.53
20:Y:84:ARG:NH1	20:Y:97:ARG:HB2	2.11	0.53
1:A:1600:C:H4'	29:7:49:ARG:HE	1.73	0.53
1:A:1268:A:H2'	1:A:1269:A:O4'	2.08	0.53
1:A:859:G:N2	1:A:917:A:OP2	2.33	0.53
2:B:55:U:H2'	2:B:56:G:C8	2.43	0.53
4:E:134:ILE:HD12	4:E:134:ILE:C	2.28	0.53
8:I:11:ASN:O	8:I:12:LEU:HB2	2.09	0.53
9:N:120:LEU:CD1	9:N:122:VAL:HG23	2.38	0.53
9:N:78:TYR:HD1	9:N:78:TYR:N	2.07	0.53
10:O:12:ASP:CG	10:O:14:THR:HG23	2.29	0.53
10:O:14:THR:HG21	10:O:86:ILE:HD13	1.91	0.53
12:Q:119:ARG:NH1	12:Q:119:ARG:HG2	2.20	0.53
15:T:98:LYS:HB3	15:T:100:TYR:CE1	2.43	0.53
15:T:105:LEU:O	15:T:107:ASP:N	2.41	0.53
17:V:81:TYR:C	17:V:82:ARG:HG3	2.27	0.53
18:W:43:GLY:O	18:W:44:ALA:C	2.46	0.53
19:X:60:ARG:NH1	29:7:47:ARG:HH22	2.07	0.53
21:Z:117:LEU:HA	21:Z:174:VAL:HA	1.91	0.53
21:Z:27:VAL:HG13	21:Z:87:ASP:HB3	1.91	0.53
24:2:41:ILE:HD11	24:2:44:LEU:HB2	1.90	0.53
26:4:15:ILE:HD13	26:4:15:ILE:H	1.74	0.53
28:6:11:LEU:CD1	28:6:51:GLU:HG3	2.39	0.53
28:6:9:LEU:HD13	28:6:26:ASN:ND2	2.24	0.53
1:A:249:C:O2	30:8:12:LYS:HE3	2.09	0.53
1:A:155:C:H42	1:A:171:G:H1	1.57	0.53
1:A:1952:A:N3	1:A:2560:C:O2'	2.37	0.53
1:A:2261:C:C6	22:0:16:SER:HB3	2.43	0.53
3:D:34:VAL:C	3:D:35:LYS:HG3	2.28	0.53
4:E:14:ILE:HG23	4:E:15:PHE:N	2.22	0.53
4:E:25:VAL:HG11	15:T:11:GLU:HG2	1.90	0.53
16:U:86:ALA:HB1	16:U:88:ILE:HD11	1.90	0.53
17:V:48:GLY:O	17:V:49:THR:O	2.26	0.53
20:Y:97:ARG:NH2	20:Y:98:VAL:CB	2.66	0.53
22:0:11:ARG:O	22:0:14:ARG:NH2	2.42	0.53
2:B:42:C:H41	6:G:91:ARG:NH2	2.06	0.53
3:D:36:PRO:HA	3:D:62:TYR:O	2.09	0.53
4:E:20:ALA:O	4:E:21:VAL:CG2	2.48	0.53
5:F:129:PHE:O	5:F:142:TRP:CD1	2.62	0.53
9:N:19:GLU:HA	9:N:59:LYS:HB2	1.91	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:51:VAL:CG1	17:V:52:VAL:H	2.22	0.53
18:W:14:PRO:O	18:W:17:VAL:N	2.42	0.53
21:Z:163:LEU:HD12	21:Z:163:LEU:H	1.72	0.53
26:4:54:GLY:O	26:4:71:ARG:HA	2.08	0.53
27:5:55:ARG:HG3	27:5:57:VAL:H	1.73	0.53
30:8:52:LYS:N	30:8:53:PRO:HD2	2.22	0.53
1:A:678:C:H2'	1:A:679:C:C6	2.44	0.53
3:D:155:LEU:N	3:D:155:LEU:CD1	2.71	0.53
3:D:25:THR:HG21	3:D:82:ILE:H	1.70	0.53
7:H:40:GLU:O	7:H:41:MET:HB2	2.08	0.53
14:S:56:LEU:O	14:S:58:LEU:HD22	2.08	0.53
18:W:8:ARG:HG3	18:W:8:ARG:HH11	1.73	0.53
20:Y:95:LYS:HA	20:Y:101:LYS:H	1.72	0.53
26:4:47:GLN:O	26:4:48:ARG:HB2	2.07	0.53
28:6:25:LYS:HE2	28:6:27:LYS:HE3	1.91	0.53
1:A:2126:A:H4'	1:A:2127:G:O5'	2.09	0.53
3:D:34:VAL:O	3:D:34:VAL:CG1	2.50	0.53
3:D:43:ARG:NH1	3:D:44:ASN:OD1	2.42	0.53
6:G:125:PHE:C	6:G:127:GLY:H	2.12	0.53
7:H:126:PRO:HD2	7:H:127:GLU:H	1.72	0.53
11:P:125:VAL:HG13	11:P:125:VAL:O	2.09	0.53
13:R:33:ARG:NH2	27:5:55:ARG:CG	2.66	0.53
1:A:270(R):G:H2'	1:A:270(S):G:H8	1.73	0.52
1:A:1050:A:H8	1:A:2751:G:HO2'	1.57	0.52
1:A:583:G:OP2	16:U:10:ARG:NH1	2.42	0.52
11:P:92:GLU:HA	11:P:123:LEU:CD2	2.38	0.52
12:Q:76:LYS:O	12:Q:88:GLY:HA3	2.09	0.52
15:T:55:ASN:O	15:T:57:PHE:O	2.26	0.52
23:1:85:LEU:HA	23:1:87:PRO:HD2	1.91	0.52
1:A:1824:G:O3'	3:D:249:PRO:HD3	2.09	0.52
4:E:61:ARG:O	4:E:63:LEU:N	2.42	0.52
4:E:7:VAL:O	4:E:196:VAL:HG13	2.09	0.52
5:F:125:LEU:HA	5:F:194:MET:O	2.10	0.52
7:H:12:PRO:HG3	7:H:48:GLY:O	2.09	0.52
7:H:44:VAL:CG2	7:H:44:VAL:O	2.57	0.52
7:H:76:VAL:C	7:H:78:GLY:H	2.13	0.52
9:N:12:ARG:NH1	9:N:50:ASP:OD2	2.40	0.52
11:P:79:ARG:HD3	11:P:110:TYR:CE1	2.43	0.52
14:S:106:ARG:HA	14:S:110:LEU:CG	2.39	0.52
15:T:100:TYR:HB3	15:T:103:ARG:NH1	2.25	0.52
23:1:20:ARG:HG2	23:1:20:ARG:NH1	2.24	0.52
25:3:9:VAL:HG12	25:3:32:GLN:HE22	1.74	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
26:4:49:PHE:N	26:4:49:PHE:CD1	2.76	0.52
30:8:61:LEU:O	30:8:62:LEU:CB	2.57	0.52
1:A:140:A:H8	1:A:1408:C:O2'	1.91	0.52
1:A:1859:A:N6	1:A:1883:G:O2'	2.42	0.52
1:A:2306:C:H2'	1:A:2307:G:N2	2.24	0.52
1:A:814:C:H41	11:P:25:SER:HA	1.74	0.52
5:F:192:LEU:HD21	5:F:194:MET:HE2	1.90	0.52
9:N:94:HIS:O	9:N:95:PRO:O	2.27	0.52
9:N:7:LYS:HD3	9:N:9:VAL:CA	2.38	0.52
14:S:89:ARG:HH11	14:S:89:ARG:HG2	1.74	0.52
15:T:110:ILE:HG23	15:T:111:ARG:N	2.24	0.52
15:T:14:TYR:N	15:T:14:TYR:CD1	2.77	0.52
26:4:48:ARG:CZ	26:4:51:ASP:HA	2.40	0.52
1:A:1028:A:N6	1:A:1125:G:H2'	2.24	0.52
1:A:1113:U:OP1	7:H:2:SER:N	2.42	0.52
1:A:2619:C:H1'	4:E:156:MET:HE1	1.92	0.52
1:A:2591:C:OP2	3:D:238:GLY:HA3	2.09	0.52
3:D:35:LYS:HG2	3:D:64:ILE:HG22	1.91	0.52
3:D:77:ALA:HB2	3:D:97:TYR:CG	2.44	0.52
12:Q:29:PHE:HB3	12:Q:65:PHE:CZ	2.44	0.52
23:1:4:VAL:HG22	23:1:5:CYS:N	2.25	0.52
25:3:21:ALA:O	25:3:25:ALA:N	2.41	0.52
1:A:2439:A:H5'	1:A:2439:A:H8	1.74	0.52
2:B:56:G:P	6:G:27:ASN:HD21	2.32	0.52
3:D:134:ARG:HB2	3:D:135:PHE:HD2	1.75	0.52
3:D:210:GLY:O	3:D:213:ARG:N	2.43	0.52
5:F:140:LEU:O	5:F:143:ALA:HB3	2.09	0.52
6:G:124:SER:HB2	6:G:131:TYR:CE1	2.44	0.52
15:T:23:ARG:HG2	15:T:120:ARG:HH12	1.75	0.52
15:T:94:ALA:O	15:T:95:ARG:HB3	2.09	0.52
16:U:88:ILE:CD1	16:U:88:ILE:H	2.05	0.52
12:Q:132:VAL:HG11	21:Z:81:ARG:CZ	2.39	0.52
25:3:56:VAL:CG1	25:3:57:GLU:H	2.20	0.52
26:4:63:TYR:C	26:4:65:ASP:N	2.62	0.52
1:A:1289:C:H2'	1:A:1290:C:H6	1.73	0.52
1:A:2723:C:OP1	13:R:3:HIS:HD2	1.92	0.52
1:A:2853:C:H2'	1:A:2854:G:C8	2.45	0.52
1:A:675:A:N3	1:A:2443:C:O2'	2.38	0.52
4:E:39:PRO:HG2	4:E:40:GLU:OE1	2.09	0.52
7:H:24:VAL:O	7:H:24:VAL:HG23	2.09	0.52
9:N:103:VAL:O	9:N:106:MET:N	2.42	0.52
14:S:83:LYS:O	14:S:109:GLY:CA	2.46	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:86:ALA:O	14:S:87:PHE:HB3	2.10	0.52
15:T:16:ARG:HD3	15:T:19:LEU:HG	1.92	0.52
16:U:92:ARG:NH2	16:U:94:ASN:HD22	2.07	0.52
17:V:34:GLU:O	17:V:36:PRO:HD3	2.10	0.52
17:V:41:GLY:HA3	17:V:46:VAL:CG1	2.38	0.52
25:3:7:LYS:HE2	25:3:32:GLN:NE2	2.25	0.52
25:3:6:VAL:HG12	25:3:56:VAL:HG22	1.91	0.52
28:6:30:THR:O	28:6:30:THR:HG23	2.09	0.52
1:A:1416:G:H2'	1:A:1417:C:C6	2.45	0.52
1:A:2061:G:OP2	1:A:2502:G:H5'	2.10	0.52
1:A:2300:G:H2'	1:A:2301:C:C6	2.45	0.52
1:A:2319:G:N7	14:S:3:ARG:HB3	2.24	0.52
1:A:247:G:O6	30:8:12:LYS:NZ	2.28	0.52
1:A:2507:C:H2'	1:A:2508:G:O4'	2.09	0.52
1:A:2564:A:OP1	1:A:2648:C:H4'	2.10	0.52
1:A:270(R):G:H2'	1:A:270(S):G:C8	2.45	0.52
3:D:133:LEU:HG	3:D:189:CYS:O	2.10	0.52
3:D:35:LYS:HD3	3:D:63:ARG:CA	2.39	0.52
3:D:66:ASP:OD2	3:D:69:ARG:HG2	2.09	0.52
4:E:116:VAL:HG22	4:E:122:PHE:HB2	1.91	0.52
4:E:170:LEU:CD2	4:E:185:LYS:HB2	2.40	0.52
4:E:55:ASN:C	4:E:57:LYS:N	2.62	0.52
7:H:4:ILE:O	7:H:6:ARG:N	2.43	0.52
11:P:13:ASN:O	11:P:14:LYS:C	2.49	0.52
13:R:56:LYS:C	13:R:58:GLY:N	2.62	0.52
26:4:50:VAL:O	26:4:51:ASP:C	2.48	0.52
26:4:54:GLY:HA2	26:4:57:GLU:HG2	1.92	0.52
29:7:38:GLY:O	29:7:39:ARG:C	2.48	0.52
31:9:27:CYS:SG	31:9:28:GLU:N	2.83	0.52
1:A:2572:A:OP1	1:A:2574:G:O2'	2.26	0.52
1:A:270(S):G:C2'	1:A:270(T):G:H5'	2.40	0.52
1:A:2893:G:H5''	1:A:2894:G:H5'	1.91	0.52
1:A:336:C:O2'	20:Y:35:TYR:OH	2.27	0.52
1:A:593:G:O2'	30:8:61:LEU:HD13	2.10	0.52
6:G:97:ASP:N	6:G:100:TRP:HD1	2.05	0.52
6:G:16:ARG:HG2	6:G:16:ARG:HH11	1.74	0.52
7:H:121:ILE:HG12	7:H:135:GLY:HA3	1.91	0.52
7:H:2:SER:O	7:H:3:ARG:C	2.47	0.52
9:N:112:LEU:HD23	9:N:112:LEU:C	2.30	0.52
14:S:95:HIS:CG	14:S:96:GLY:N	2.77	0.52
17:V:3:ALA:HB3	17:V:14:VAL:HG23	1.92	0.52
20:Y:91:GLU:HG3	20:Y:92:ASN:N	2.25	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
24:2:9:GLN:O	24:2:12:GLU:HB3	2.10	0.52
1:A:1796:U:H2'	1:A:1797:C:C6	2.45	0.52
1:A:2335:A:HO2'	1:A:2336:A:P	2.32	0.52
1:A:38:A:H2'	1:A:39:C:C6	2.44	0.52
1:A:443:A:H1'	1:A:1201:C:O4'	2.08	0.52
4:E:179:GLU:OE1	4:E:179:GLU:HA	2.10	0.52
4:E:54:GLN:NE2	4:E:54:GLN:H	2.08	0.52
9:N:114:ARG:C	9:N:116:LEU:H	2.13	0.52
9:N:57:ALA:O	9:N:58:ASP:HB3	2.09	0.52
10:O:4:PRO:O	10:O:5:GLN:CB	2.58	0.52
13:R:41:ALA:O	13:R:43:GLU:N	2.43	0.52
23:1:76:ARG:NH1	23:1:76:ARG:HG2	2.19	0.52
26:4:40:HIS:N	26:4:41:PRO:CD	2.73	0.52
1:A:1068:G:O2'	1:A:1096:A:N3	2.43	0.52
1:A:2543:G:H21	1:A:2646:C:H5''	1.73	0.52
1:A:2776:A:H3'	1:A:2776:A:OP1	2.10	0.52
1:A:330:A:H2	1:A:1210:A:H2'	1.75	0.52
1:A:531:C:H4'	1:A:532:A:H5''	1.91	0.52
1:A:747:U:C4	1:A:2613:U:C4	2.98	0.52
4:E:54:GLN:O	4:E:55:ASN:HB2	2.09	0.52
4:E:64:LYS:C	4:E:66:HIS:H	2.12	0.52
5:F:108:LYS:O	5:F:112:MET:HG3	2.10	0.52
10:O:2:ILE:HD12	10:O:2:ILE:N	2.24	0.52
10:O:23:ARG:O	10:O:39:ILE:HB	2.10	0.52
11:P:147:LEU:O	11:P:148:LEU:CB	2.57	0.52
16:U:107:ALA:O	16:U:111:GLU:OE1	2.28	0.52
16:U:39:LEU:O	16:U:40:PHE:C	2.48	0.52
25:3:49:LYS:O	25:3:49:LYS:HG2	2.10	0.51
26:4:14:ILE:O	26:4:14:ILE:HG23	2.10	0.51
1:A:1289:C:H2'	1:A:1290:C:C6	2.45	0.51
1:A:2150:U:H2'	1:A:2151:G:H8	1.73	0.51
1:A:389:G:H1	11:P:71:VAL:HG12	1.76	0.51
1:A:833:U:H2'	1:A:834:C:C6	2.45	0.51
2:B:37:C:O2	14:S:95:HIS:NE2	2.39	0.51
3:D:174:ILE:N	3:D:174:ILE:CD1	2.73	0.51
6:G:34:LEU:HD13	6:G:34:LEU:C	2.30	0.51
7:H:55:PRO:HG2	7:H:61:HIS:ND1	2.26	0.51
9:N:108:PRO:O	9:N:113:GLY:HA3	2.10	0.51
10:O:24:VAL:HG21	10:O:32:TYR:O	2.10	0.51
11:P:88:LEU:HD23	11:P:89:ALA:N	2.24	0.51
13:R:52:ILE:CG2	13:R:94:TYR:HD1	2.22	0.51
16:U:59:ARG:O	16:U:63:VAL:HG23	2.10	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:28:SER:HB3	18:W:31:GLU:HB2	1.91	0.51
19:X:47:PHE:CD1	19:X:47:PHE:N	2.78	0.51
19:X:52:VAL:O	19:X:52:VAL:HG12	2.09	0.51
20:Y:75:ILE:HD13	20:Y:75:ILE:C	2.30	0.51
20:Y:9:LYS:O	20:Y:9:LYS:HG2	2.10	0.51
25:3:17:LYS:HA	25:3:20:LYS:HD2	1.93	0.51
1:A:1462:C:H4'	1:A:2703:C:H5'	1.91	0.51
1:A:2008:C:H2'	1:A:2009:G:H8	1.76	0.51
5:F:162:LEU:HD23	5:F:165:ARG:NH2	2.25	0.51
6:G:97:ASP:O	6:G:101:ILE:HG23	2.10	0.51
11:P:112:LEU:HD22	11:P:113:LYS:N	2.25	0.51
11:P:31:ALA:C	11:P:32:THR:HG23	2.31	0.51
12:Q:64:ILE:HA	12:Q:106:VAL:CG1	2.33	0.51
15:T:20:PRO:HD2	15:T:86:ILE:HG23	1.92	0.51
19:X:65:ARG:CD	19:X:65:ARG:H	2.23	0.51
20:Y:61:ILE:HG23	20:Y:62:GLU:N	2.24	0.51
12:Q:134:ARG:HH12	21:Z:119:GLU:HG3	1.74	0.51
27:5:40:LYS:HD3	27:5:46:CYS:SG	2.50	0.51
1:A:2420:C:H41	30:8:30:ARG:HD2	1.75	0.51
1:A:2224:G:OP1	3:D:268:ARG:HD3	2.09	0.51
1:A:270(U):C:H2'	1:A:270(V):G:H8	1.76	0.51
1:A:507:A:C5'	1:A:508:G:H5'	2.40	0.51
1:A:813:U:H2'	1:A:814:C:C6	2.46	0.51
1:A:84:A:N1	1:A:98:G:O2'	2.30	0.51
4:E:105:THR:HG23	4:E:166:THR:OG1	2.10	0.51
4:E:105:THR:HB	4:E:197:ILE:HG12	1.92	0.51
7:H:126:PRO:HD2	7:H:127:GLU:N	2.26	0.51
7:H:89:ILE:CG1	7:H:89:ILE:O	2.57	0.51
9:N:16:ILE:HG22	9:N:17:ASP:N	2.26	0.51
9:N:12:ARG:NH1	9:N:50:ASP:OD1	2.43	0.51
10:O:43:VAL:HG23	10:O:56:ASP:O	2.10	0.51
11:P:112:LEU:HD11	11:P:114:ILE:CG2	2.40	0.51
12:Q:25:ASP:HA	12:Q:100:GLY:O	2.11	0.51
15:T:99:LEU:HB2	15:T:101:PHE:CE1	2.45	0.51
17:V:75:PHE:C	17:V:75:PHE:CD1	2.83	0.51
1:A:1331:A:O2'	1:A:1332:G:H8	1.93	0.51
1:A:1434:A:H61	1:A:1558:A:H62	1.58	0.51
1:A:747:U:N1	27:5:2:ALA:HB3	2.25	0.51
5:F:198:ALA:C	5:F:200:GLU:N	2.62	0.51
9:N:131:GLN:CG	9:N:132:ALA:H	2.20	0.51
10:O:79:PHE:CD2	15:T:72:VAL:HG22	2.45	0.51
11:P:112:LEU:HD22	11:P:113:LYS:H	1.75	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:28:LEU:CD2	13:R:114:VAL:HG12	2.41	0.51
15:T:42:ILE:HD12	15:T:42:ILE:N	2.25	0.51
17:V:29:PRO:O	17:V:61:VAL:O	2.29	0.51
18:W:20:VAL:C	18:W:22:ASP:N	2.59	0.51
18:W:25:ARG:HH11	18:W:25:ARG:HB2	1.74	0.51
21:Z:110:GLY:HA2	21:Z:111:VAL:C	2.29	0.51
23:1:87:PRO:O	23:1:91:LYS:HB2	2.10	0.51
24:2:15:LYS:H	24:2:67:LYS:HE2	1.73	0.51
26:4:36:CYS:O	26:4:39:CYS:CB	2.55	0.51
3:D:67:PHE:CE1	3:D:157:ARG:NH2	2.78	0.51
5:F:127:GLU:O	5:F:129:PHE:N	2.40	0.51
6:G:114:ILE:CG2	6:G:115:ARG:N	2.73	0.51
6:G:44:GLY:CA	6:G:88:ILE:HD11	2.40	0.51
1:A:2746:U:H5''	7:H:138:LYS:HE2	1.91	0.51
8:I:93:THR:O	8:I:97:ILE:HG12	2.10	0.51
13:R:117:VAL:CG2	13:R:118:GLU:N	2.74	0.51
14:S:87:PHE:O	14:S:88:ASP:O	2.29	0.51
17:V:38:LEU:HD13	17:V:55:ALA:HB3	1.91	0.51
18:W:9:TYR:CD2	18:W:102:HIS:HE1	2.28	0.51
20:Y:95:LYS:O	20:Y:96:ILE:O	2.28	0.51
23:1:8:SER:HB3	23:1:66:HIS:CE1	2.46	0.51
28:6:9:LEU:HB3	28:6:26:ASN:O	2.11	0.51
1:A:102:G:OP2	24:2:7:ARG:NH2	2.43	0.51
1:A:1204:A:H2	1:A:1241:A:N1	2.07	0.51
1:A:2012:G:H4'	18:W:96:ILE:HD11	1.92	0.51
1:A:2068:U:N3	1:A:2430:A:H2	2.04	0.51
1:A:1786:A:C2	1:A:2606:C:H1'	2.46	0.51
1:A:2745:C:H1'	7:H:143:GLN:HG2	1.93	0.51
1:A:298:G:P	20:Y:85:VAL:HG22	2.50	0.51
1:A:566:U:OP1	11:P:29:LYS:HE2	2.10	0.51
3:D:259:THR:O	3:D:260:ARG:C	2.49	0.51
4:E:77:ILE:O	4:E:78:LEU:C	2.48	0.51
5:F:127:GLU:OE1	5:F:127:GLU:HA	2.07	0.51
8:I:94:ALA:H	8:I:116:LEU:HD13	1.74	0.51
9:N:134:ARG:O	9:N:136:GLU:N	2.43	0.51
15:T:34:VAL:CG1	15:T:36:GLU:HG2	2.39	0.51
26:4:12:ALA:HB1	26:4:30:GLU:H	1.76	0.51
1:A:1048:A:H2	1:A:1112:G:H21	1.58	0.51
1:A:288:C:H2'	1:A:289:A:C8	2.45	0.51
4:E:119:ARG:HD3	4:E:160:TYR:HB2	1.92	0.51
5:F:32:LEU:O	5:F:36:VAL:HG23	2.11	0.51
10:O:113:LYS:O	10:O:116:SER:HB3	2.11	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:5:VAL:HG22	17:V:14:VAL:HG22	1.93	0.51
18:W:7:ALA:HB2	18:W:50:VAL:CG2	2.40	0.51
20:Y:75:ILE:CG1	20:Y:76:CYS:N	2.74	0.51
21:Z:182:LYS:H	21:Z:182:LYS:HD3	1.75	0.51
23:1:94:LEU:O	23:1:95:LEU:HG	2.11	0.51
26:4:61:ARG:C	26:4:63:TYR:H	2.14	0.51
29:7:36:GLN:HG2	29:7:36:GLN:O	2.10	0.51
30:8:10:ALA:O	30:8:14:VAL:HG12	2.11	0.51
1:A:2271:G:OP1	22:0:18:ALA:HB1	2.11	0.51
1:A:2518:A:H4'	1:A:2519:U:OP1	2.11	0.51
7:H:131:VAL:CG1	7:H:132:ARG:N	2.74	0.51
9:N:26:LEU:HG	9:N:30:ILE:HD11	1.93	0.51
9:N:6:PRO:HG2	9:N:43:THR:OG1	2.11	0.51
10:O:15:GLY:O	10:O:46:ALA:HB1	2.10	0.51
10:O:16:ALA:HA	10:O:46:ALA:HB2	1.92	0.51
1:A:1279:G:C4'	13:R:31:HIS:HD2	2.21	0.51
24:2:36:ARG:O	24:2:40:SER:HB2	2.10	0.51
26:4:42:PHE:O	26:4:44:THR:N	2.44	0.51
1:A:1939:U:H6	1:A:1939:U:H5''	1.75	0.51
4:E:37:ARG:N	4:E:37:ARG:HE	2.09	0.51
7:H:6:ARG:C	7:H:8:PRO:HD2	2.30	0.51
10:O:23:ARG:HG2	10:O:23:ARG:HH11	1.76	0.51
10:O:35:VAL:HG23	10:O:35:VAL:O	2.11	0.51
14:S:89:ARG:O	14:S:89:ARG:HD2	2.11	0.51
19:X:5:TYR:CE2	24:2:30:ARG:HG3	2.45	0.51
22:0:27:GLU:HG3	22:0:68:GLU:HA	1.92	0.51
23:1:92:LYS:C	23:1:94:LEU:N	2.62	0.51
1:A:2396:G:OP1	23:1:25:LYS:NZ	2.41	0.51
1:A:2591:C:H2'	1:A:2592:G:C8	2.46	0.51
3:D:76:PRO:HA	3:D:118:VAL:HG23	1.93	0.51
5:F:65:TRP:HZ2	5:F:72:ARG:NH2	2.09	0.51
6:G:51:ARG:HB3	6:G:51:ARG:HH11	1.76	0.51
7:H:72:ILE:O	7:H:75:ALA:HB3	2.11	0.51
9:N:112:LEU:HD23	9:N:113:GLY:N	2.26	0.51
10:O:20:MET:HG2	10:O:21:CYS:O	2.11	0.51
12:Q:36:ALA:HB1	12:Q:127:ILE:HD12	1.93	0.51
13:R:1:MET:O	13:R:2:ARG:CB	2.59	0.51
20:Y:2:ARG:NH1	20:Y:2:ARG:HG2	2.22	0.51
23:1:4:VAL:HG23	23:1:10:LYS:C	2.32	0.50
23:1:91:LYS:CA	23:1:91:LYS:HE3	2.40	0.50
1:A:2286:A:H4'	1:A:2287:A:O4'	2.11	0.50
1:A:2416:C:H5''	11:P:64:LYS:HE3	1.92	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:270(F):U:H2'	1:A:270(G):C:C6	2.46	0.50
7:H:152:ARG:C	7:H:153:LYS:HE2	2.32	0.50
9:N:7:LYS:HD3	9:N:9:VAL:N	2.25	0.50
10:O:2:ILE:CD1	10:O:82:ASN:HD22	2.14	0.50
12:Q:133:ARG:HG2	12:Q:134:ARG:N	2.26	0.50
14:S:83:LYS:HG2	14:S:109:GLY:H	1.76	0.50
17:V:14:VAL:HA	17:V:18:LEU:HD12	1.92	0.50
18:W:88:ARG:HB3	18:W:92:ARG:CB	2.41	0.50
20:Y:46:LYS:HE3	20:Y:63:LYS:HB3	1.93	0.50
1:A:2030:A:H4'	1:A:2031:A:C8	2.47	0.50
1:A:1750:G:O2'	1:A:2860:A:N1	2.42	0.50
1:A:669:G:N3	1:A:669:G:H2'	2.27	0.50
2:B:42:C:N4	6:G:91:ARG:NH2	2.58	0.50
3:D:94:LEU:HD13	3:D:94:LEU:C	2.31	0.50
4:E:137:HIS:HB3	4:E:138:PRO:CD	2.37	0.50
4:E:37:ARG:H	4:E:37:ARG:HE	1.59	0.50
6:G:92:VAL:O	6:G:92:VAL:HG13	2.12	0.50
7:H:153:LYS:HG3	7:H:161:GLY:HA2	1.91	0.50
10:O:47:ILE:CG1	10:O:48:PRO:HD2	2.42	0.50
11:P:104:GLY:C	11:P:105:LEU:HD12	2.31	0.50
11:P:101:VAL:HA	11:P:105:LEU:O	2.10	0.50
11:P:95:VAL:HG13	11:P:100:LEU:CD2	2.40	0.50
14:S:35:ILE:CD1	14:S:101:LEU:HD23	2.41	0.50
1:A:2849:U:O4	15:T:23:ARG:NH2	2.44	0.50
17:V:35:LEU:CD2	17:V:57:VAL:HG22	2.32	0.50
27:5:37:LYS:O	27:5:37:LYS:HD2	2.12	0.50
1:A:2867:G:HO2'	1:A:2868:A:P	2.34	0.50
1:A:307:G:N2	1:A:309:G:H3'	2.26	0.50
5:F:45:ARG:CG	5:F:45:ARG:NH1	2.71	0.50
10:O:24:VAL:O	10:O:24:VAL:HG13	2.11	0.50
15:T:57:PHE:CG	15:T:58:ASN:N	2.79	0.50
20:Y:44:ILE:CG1	20:Y:45:VAL:H	2.25	0.50
20:Y:74:PRO:O	20:Y:80:GLY:HA2	2.10	0.50
1:A:153:C:P	23:1:88:LYS:HE2	2.51	0.50
1:A:1579:A:H2'	1:A:1580:A:C8	2.47	0.50
1:A:507:A:H5''	1:A:508:G:H5'	1.93	0.50
3:D:30:GLU:HG3	3:D:63:ARG:NH2	2.26	0.50
5:F:108:LYS:HA	5:F:108:LYS:NZ	2.27	0.50
7:H:151:ILE:C	7:H:152:ARG:O	2.49	0.50
7:H:16:SER:O	7:H:17:VAL:HG23	2.12	0.50
1:A:2495:G:H5''	12:Q:81:VAL:CG1	2.41	0.50
13:R:70:LEU:O	13:R:72:ASP:N	2.42	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:62:LYS:HB3	14:S:97:ARG:CD	2.39	0.50
15:T:54:ARG:NH1	15:T:54:ARG:HG2	2.24	0.50
15:T:51:ARG:HG3	15:T:98:LYS:HG3	1.93	0.50
16:U:112:ARG:HG2	16:U:112:ARG:HH11	1.77	0.50
6:G:111:LEU:HB2	26:4:38:LYS:HZ3	1.76	0.50
27:5:48:GLU:HA	27:5:59:GLU:HG2	1.94	0.50
1:A:1588:C:H2'	1:A:1589:C:H6	1.77	0.50
1:A:1991:U:H2'	1:A:1992:G:H5''	1.94	0.50
1:A:2283:C:H2'	1:A:2284:C:O4'	2.11	0.50
1:A:2328:A:H2'	1:A:2329:G:C8	2.47	0.50
1:A:270(R):G:H1'	23:1:78:LYS:NZ	2.27	0.50
1:A:2836:U:H2'	1:A:2837:G:C8	2.47	0.50
2:B:48:A:H2'	2:B:49:C:C6	2.46	0.50
6:G:43:LEU:O	6:G:88:ILE:HG12	2.12	0.50
7:H:133:VAL:HG12	7:H:141:VAL:HG13	1.93	0.50
7:H:143:GLN:HE21	7:H:143:GLN:C	2.15	0.50
7:H:169:VAL:HG13	7:H:170:ARG:N	2.26	0.50
14:S:26:LEU:CD2	14:S:87:PHE:CD1	2.94	0.50
16:U:92:ARG:NH1	16:U:95:LEU:HD11	2.26	0.50
26:4:1:MET:HG3	26:4:1:MET:O	2.12	0.50
28:6:9:LEU:HD13	28:6:26:ASN:HD22	1.76	0.50
30:8:56:GLU:O	30:8:57:ARG:C	2.50	0.50
1:A:323:G:HO2'	1:A:1205:U:H3	1.60	0.50
1:A:530:G:O2'	1:A:2021:C:O2'	2.29	0.50
1:A:2053:G:O6	1:A:2614:A:H2	1.95	0.50
1:A:1637:A:H4'	1:A:2711:A:O2'	2.11	0.50
2:B:45:A:H1'	6:G:95:ARG:NH2	2.26	0.50
3:D:2:ALA:CB	3:D:20:ASP:CB	2.89	0.50
3:D:32:SER:O	3:D:33:LEU:CB	2.60	0.50
4:E:176:ILE:HG22	4:E:176:ILE:O	2.10	0.50
4:E:203:LYS:HE3	4:E:204:ALA:CB	2.40	0.50
4:E:61:ARG:CB	4:E:62:PRO:HD3	2.41	0.50
9:N:87:LEU:C	9:N:87:LEU:HD23	2.32	0.50
10:O:107:ARG:HA	10:O:112:MET:HE1	1.94	0.50
11:P:114:ILE:HD13	11:P:125:VAL:CG2	2.41	0.50
12:Q:108:GLY:O	12:Q:109:VAL:HG23	2.12	0.50
13:R:92:GLY:N	13:R:94:TYR:HE2	2.09	0.50
18:W:22:ASP:HA	18:W:25:ARG:HH12	1.75	0.50
23:1:80:LEU:HB2	23:1:81:LYS:CE	2.41	0.50
26:4:10:VAL:HG23	26:4:11:PRO:HD2	1.93	0.50
1:A:28:A:N6	1:A:512:G:H1'	2.26	0.50
1:A:873:G:H1	1:A:904:C:H42	1.58	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:35:LYS:HD2	3:D:104:TYR:CD1	2.45	0.50
3:D:28:GLU:OE1	3:D:29:PRO:HD2	2.11	0.50
7:H:19:VAL:HG13	7:H:43:VAL:HG23	1.93	0.50
9:N:46:VAL:O	9:N:47:ALA:CB	2.57	0.50
13:R:96:ARG:NH2	13:R:117:VAL:HG23	2.27	0.50
14:S:83:LYS:HG2	14:S:109:GLY:HA2	1.90	0.50
15:T:38:ASN:O	15:T:39:ARG:O	2.30	0.50
20:Y:48:ALA:HB2	20:Y:61:ILE:CD1	2.41	0.50
20:Y:88:LYS:HA	20:Y:88:LYS:NZ	2.27	0.50
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ1	1.76	0.50
27:5:50:GLY:O	27:5:51:TYR:CB	2.59	0.50
28:6:34:LEU:HD23	28:6:36:LEU:HD22	1.92	0.50
28:6:41:PRO:HD2	28:6:46:HIS:H	1.77	0.50
29:7:46:VAL:HG12	29:7:47:ARG:N	2.27	0.50
1:A:392:C:H5"	1:A:409:C:H5"	1.94	0.50
3:D:237:GLU:OE1	3:D:237:GLU:HA	2.12	0.50
9:N:137:LYS:HG3	9:N:138:LEU:H	1.77	0.50
11:P:6:LEU:N	11:P:6:LEU:CD2	2.75	0.50
12:Q:2:LEU:N	12:Q:2:LEU:HD23	2.27	0.50
15:T:23:ARG:CB	15:T:24:PRO:HD2	2.40	0.50
20:Y:16:ALA:O	20:Y:21:LYS:HD3	2.11	0.50
20:Y:90:LEU:H	20:Y:90:LEU:HD22	1.73	0.50
24:2:16:LEU:O	24:2:17:SER:CB	2.56	0.50
31:9:7:VAL:HG12	31:9:25:VAL:HG21	1.94	0.50
1:A:1061:U:H3'	1:A:1062:G:H5"	1.94	0.50
1:A:1728:G:H3'	1:A:1729:A:H5"	1.94	0.50
3:D:35:LYS:HE2	3:D:104:TYR:HB2	1.94	0.50
3:D:35:LYS:CG	3:D:64:ILE:HG22	2.42	0.50
4:E:119:ARG:HD3	4:E:160:TYR:CD2	2.47	0.50
4:E:2:LYS:HG2	4:E:95:ILE:CG2	2.42	0.50
6:G:109:VAL:O	6:G:113:ARG:HG3	2.10	0.50
7:H:103:LEU:CD1	7:H:131:VAL:HG21	2.41	0.50
1:A:389:G:H1	11:P:70:GLN:HB3	1.77	0.50
10:O:104:ARG:NE	15:T:34:VAL:HG11	2.26	0.50
26:4:23:GLU:C	26:4:24:THR:HG1	2.16	0.49
26:4:9:LEU:H	26:4:27:THR:CG2	2.25	0.49
28:6:20:ASN:O	28:6:21:TYR:CB	2.59	0.49
1:A:2377:A:H4'	14:S:111:GLU:O	2.12	0.49
1:A:2469:A:H5"	1:A:2470:G:C8	2.46	0.49
1:A:642:G:H21	1:A:646:A:H2	1.59	0.49
3:D:72:LYS:O	3:D:73:VAL:C	2.50	0.49
4:E:61:ARG:O	4:E:62:PRO:C	2.50	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:11:VAL:CG1	5:F:12:LEU:N	2.75	0.49
6:G:103:LEU:HD21	6:G:178:PHE:CZ	2.47	0.49
6:G:111:LEU:N	6:G:112:PRO:CD	2.75	0.49
7:H:153:LYS:O	7:H:154:PRO:O	2.30	0.49
8:I:5:LEU:HD12	8:I:5:LEU:H	1.76	0.49
9:N:73:THR:HG22	9:N:82:LEU:HD11	1.93	0.49
12:Q:80:GLU:HG3	12:Q:81:VAL:N	2.27	0.49
17:V:41:GLY:N	17:V:46:VAL:HG13	2.26	0.49
25:3:7:LYS:CB	25:3:34:GLU:HG2	2.41	0.49
29:7:12:ARG:NH1	29:7:12:ARG:HG3	2.27	0.49
2:B:55:U:H4'	6:G:28:VAL:HG21	1.93	0.49
3:D:218:ARG:HB3	3:D:219:PRO:HD2	1.94	0.49
7:H:19:VAL:HG13	7:H:43:VAL:CG2	2.41	0.49
11:P:61:ARG:HH21	30:8:13:ARG:HD2	1.77	0.49
19:X:18:TYR:C	19:X:20:GLY:N	2.64	0.49
20:Y:81:LYS:HD3	20:Y:97:ARG:HD3	1.94	0.49
26:4:57:GLU:O	26:4:61:ARG:O	2.30	0.49
3:D:123:ALA:HB3	3:D:131:LEU:HG	1.94	0.49
3:D:25:THR:O	3:D:27:THR:HG22	2.12	0.49
4:E:23:VAL:HG12	4:E:173:VAL:HG21	1.94	0.49
4:E:179:GLU:O	4:E:180:ASN:HB2	2.12	0.49
8:I:129:THR:HA	8:I:137:PRO:HA	1.94	0.49
9:N:42:TRP:HA	9:N:48:MET:CE	2.42	0.49
11:P:114:ILE:HD11	11:P:130:PHE:HE1	1.70	0.49
11:P:147:LEU:O	11:P:148:LEU:HB2	2.11	0.49
13:R:67:LEU:HD13	13:R:76:VAL:CG2	2.27	0.49
14:S:60:GLY:O	14:S:61:ASN:CB	2.56	0.49
19:X:70:LEU:CD2	19:X:70:LEU:N	2.72	0.49
20:Y:77:PRO:O	20:Y:78:ALA:HB2	2.11	0.49
23:1:83:GLU:CD	23:1:85:LEU:H	2.15	0.49
24:2:41:ILE:HD11	24:2:44:LEU:CB	2.42	0.49
1:A:2283:C:OP1	28:6:5:VAL:HG13	2.12	0.49
1:A:2862:G:H2'	1:A:2863:C:H6	1.76	0.49
3:D:10:THR:HG23	3:D:13:ARG:CB	2.34	0.49
4:E:55:ASN:O	4:E:57:LYS:N	2.44	0.49
4:E:7:VAL:HG11	15:T:1:MET:HE3	1.94	0.49
5:F:196:LEU:C	5:F:197:ASP:O	2.50	0.49
6:G:49:ASP:OD1	6:G:51:ARG:HG3	2.12	0.49
6:G:83:ARG:HH11	6:G:83:ARG:HG2	1.76	0.49
7:H:120:GLY:HA3	7:H:140:LYS:NZ	2.28	0.49
10:O:69:ILE:O	10:O:76:ALA:HA	2.12	0.49
13:R:118:GLU:OXT	13:R:118:GLU:HG3	2.11	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:18:LEU:HD13	13:R:18:LEU:C	2.33	0.49
16:U:79:PHE:HE2	16:U:83:LEU:HD22	1.78	0.49
17:V:76:LYS:HG3	17:V:81:TYR:CD1	2.48	0.49
17:V:91:TYR:HD1	17:V:91:TYR:C	2.16	0.49
18:W:29:LEU:O	18:W:29:LEU:HD23	2.13	0.49
21:Z:166:SER:HB2	21:Z:168:GLU:N	2.27	0.49
24:2:33:MET:O	24:2:37:PHE:HD1	1.95	0.49
26:4:68:ARG:HD3	26:4:69:LYS:HG2	1.92	0.49
28:6:37:ARG:HA	28:6:37:ARG:HE	1.77	0.49
29:7:9:ARG:HH12	29:7:47:ARG:HG3	1.76	0.49
1:A:1508:A:O2'	1:A:1509:C:O4'	2.30	0.49
1:A:1786:A:H2	1:A:2606:C:H1'	1.77	0.49
1:A:2749:A:H3'	1:A:2750:A:H2'	1.92	0.49
1:A:706:A:H2'	1:A:707:G:O4'	2.13	0.49
1:A:760:G:H2'	1:A:761:A:O4'	2.12	0.49
7:H:23:ARG:HD2	7:H:34:GLU:OE2	2.12	0.49
9:N:120:LEU:HD11	9:N:122:VAL:CG2	2.42	0.49
11:P:49:ARG:HE	30:8:59:LYS:HG2	1.76	0.49
12:Q:132:VAL:HG12	12:Q:133:ARG:N	2.27	0.49
13:R:2:ARG:HG2	13:R:5:LYS:HZ2	1.75	0.49
20:Y:35:TYR:CD1	20:Y:69:ALA:HB3	2.48	0.49
1:A:896:A:C2	21:Z:146:ILE:HD11	2.48	0.49
23:1:67:ILE:N	23:1:68:PRO:CD	2.76	0.49
26:4:22:ILE:H	26:4:22:ILE:HD12	1.77	0.49
26:4:42:PHE:O	26:4:44:THR:O	2.31	0.49
27:5:20:ARG:C	27:5:22:HIS:H	2.14	0.49
1:A:2372:G:O2'	28:6:46:HIS:NE2	2.24	0.49
1:A:1021:A:H8	1:A:1022:G:H5''	1.76	0.49
1:A:1266:G:OP2	27:5:20:ARG:NE	2.45	0.49
1:A:1853:A:N1	1:A:2087:G:H1'	2.26	0.49
1:A:1889:A:N1	1:A:2234:G:H1'	2.27	0.49
1:A:262:A:H2'	1:A:263:C:O4'	2.11	0.49
1:A:345:A:H2'	1:A:347:A:H62	1.77	0.49
1:A:482:A:H4'	20:Y:47:LYS:HD2	1.95	0.49
3:D:2:ALA:CB	3:D:20:ASP:HB3	2.42	0.49
1:A:1257:C:O2'	5:F:84:VAL:HG12	2.12	0.49
6:G:107:LEU:HD11	6:G:178:PHE:CD1	2.48	0.49
6:G:35:GLU:CD	6:G:35:GLU:C	2.71	0.49
7:H:103:LEU:H	7:H:103:LEU:HD23	1.77	0.49
7:H:128:PRO:HD2	7:H:129:THR:N	2.25	0.49
9:N:30:ILE:O	9:N:34:LEU:HD23	2.13	0.49
10:O:105:GLU:O	10:O:108:GLU:HB2	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
10:O:8:LEU:CD2	10:O:8:LEU:N	2.76	0.49
11:P:101:VAL:CG1	11:P:102:ARG:N	2.75	0.49
11:P:64:LYS:C	11:P:66:GLY:N	2.56	0.49
15:T:94:ALA:O	15:T:95:ARG:CB	2.61	0.49
16:U:92:ARG:CD	16:U:94:ASN:HB3	2.42	0.49
1:A:64:A:C4	19:X:66:LEU:HD13	2.47	0.49
21:Z:70:LEU:HB2	21:Z:91:LEU:HD21	1.95	0.49
23:1:40:ARG:NH2	23:1:42:GLN:HG2	2.27	0.49
26:4:10:VAL:CG2	26:4:11:PRO:HD2	2.43	0.49
6:G:113:ARG:HD2	26:4:33:VAL:CG1	2.43	0.49
1:A:2015:A:N3	27:5:2:ALA:N	2.60	0.49
28:6:7:ILE:C	28:6:9:LEU:N	2.65	0.49
1:A:486:C:H4'	18:W:60:ASN:OD1	2.12	0.49
1:A:626:U:H5''	1:A:627:A:H5'	1.95	0.49
4:E:95:ILE:CD1	4:E:95:ILE:H	2.19	0.49
6:G:143:GLU:HA	26:4:28:LYS:HD3	1.95	0.49
7:H:54:ARG:HD3	7:H:65:HIS:ND1	2.27	0.49
7:H:98:LEU:HD12	7:H:102:ALA:O	2.13	0.49
9:N:95:PRO:O	9:N:97:ARG:N	2.46	0.49
12:Q:29:PHE:N	12:Q:105:GLU:OE2	2.41	0.49
12:Q:23:GLY:O	12:Q:24:GLY:O	2.30	0.49
14:S:18:ILE:O	14:S:19:LYS:O	2.31	0.49
15:T:16:ARG:NE	15:T:19:LEU:HD21	2.28	0.49
20:Y:84:ARG:HD3	20:Y:86:ARG:NH1	2.28	0.49
27:5:45:VAL:O	27:5:45:VAL:HG12	2.13	0.49
27:5:48:GLU:HA	27:5:59:GLU:CG	2.43	0.49
30:8:33:ASN:O	30:8:35:GLN:N	2.46	0.49
30:8:41:ILE:HG13	30:8:42:ARG:N	2.28	0.49
1:A:137(A):G:H2'	1:A:139:G:N7	2.28	0.49
1:A:2721:A:H1'	1:A:2873:A:O2'	2.12	0.49
1:A:774:A:H2	1:A:787:U:O2'	1.96	0.49
3:D:182:LEU:H	3:D:272:ALA:CB	2.25	0.49
4:E:119:ARG:HD3	4:E:160:TYR:HD2	1.78	0.49
5:F:45:ARG:HG2	5:F:45:ARG:NH1	2.28	0.49
7:H:124:GLU:HB3	7:H:132:ARG:CG	2.42	0.49
9:N:73:THR:CG2	9:N:82:LEU:HD11	2.42	0.49
13:R:71:GLN:HA	13:R:71:GLN:HE21	1.77	0.49
14:S:99:LYS:O	14:S:101:LEU:N	2.45	0.49
15:T:16:ARG:HD3	15:T:19:LEU:CG	2.43	0.49
17:V:7:THR:HG23	17:V:22:VAL:HG11	1.94	0.49
18:W:30:GLU:O	18:W:34:ASN:ND2	2.46	0.49
19:X:51:VAL:HG13	19:X:81:VAL:HG23	1.93	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
20:Y:19:LYS:CG	20:Y:19:LYS:O	2.60	0.49
23:1:19:GLN:HA	23:1:19:GLN:OE1	2.12	0.49
23:1:25:LYS:C	23:1:27:GLU:H	2.16	0.49
1:A:928:G:O2'	25:3:43:ILE:HD11	2.12	0.49
6:G:6:ALA:H	26:4:23:GLU:CG	2.25	0.49
27:5:2:ALA:O	27:5:3:LYS:CB	2.60	0.49
28:6:27:LYS:NZ	28:6:27:LYS:CB	2.73	0.49
28:6:44:ARG:O	28:6:45:LYS:CB	2.60	0.49
28:6:8:LYS:O	28:6:27:LYS:HA	2.13	0.49
28:6:7:ILE:O	28:6:9:LEU:N	2.46	0.49
1:A:1291:C:H2'	1:A:1292:U:C6	2.47	0.49
1:A:848:G:H2'	1:A:849:A:C8	2.48	0.49
3:D:233:HIS:H	3:D:233:HIS:CD2	2.29	0.49
7:H:12:PRO:HD3	7:H:48:GLY:O	2.13	0.49
12:Q:86:GLY:O	12:Q:88:GLY:N	2.46	0.49
13:R:52:ILE:CG2	13:R:94:TYR:CD1	2.96	0.49
1:A:2882:A:OP1	13:R:96:ARG:NH1	2.43	0.49
15:T:111:ARG:O	15:T:112:ARG:CG	2.55	0.49
1:A:137(A):G:H1'	19:X:41:ASN:ND2	2.27	0.49
20:Y:95:LYS:N	20:Y:95:LYS:CD	2.76	0.49
21:Z:152:ALA:O	21:Z:154:ASP:N	2.41	0.49
23:1:81:LYS:O	23:1:82:LEU:O	2.30	0.49
27:5:52:TYR:O	27:5:53:ALA:CB	2.60	0.49
28:6:20:ASN:CG	28:6:21:TYR:N	2.66	0.49
30:8:58:ILE:O	30:8:61:LEU:HD12	2.13	0.49
1:A:1657:C:H2'	1:A:1658:C:C6	2.48	0.49
1:A:2537:U:H2'	1:A:2538:C:C6	2.48	0.49
1:A:414:C:H2'	1:A:415:A:H8	1.78	0.49
1:A:851:U:H1'	25:3:46:ASN:HD21	1.78	0.49
4:E:38:THR:O	4:E:42:ASP:HB2	2.13	0.49
4:E:46:ALA:HB1	4:E:80:GLU:HB2	1.94	0.49
5:F:129:PHE:CD2	5:F:163:VAL:HG21	2.48	0.49
2:B:55:U:H4'	6:G:29:TRP:NE1	2.27	0.49
7:H:137:ASP:CB	7:H:140:LYS:HB2	2.43	0.49
7:H:24:VAL:HG21	7:H:72:ILE:HG12	1.94	0.49
11:P:30:THR:O	11:P:33:ARG:HB2	2.12	0.49
11:P:47:ASP:OD1	11:P:49:ARG:NH1	2.46	0.49
13:R:44:LEU:HD22	13:R:48:VAL:CG2	2.43	0.49
17:V:18:LEU:HB3	17:V:96:ILE:CG1	2.43	0.49
19:X:44:GLU:OE1	19:X:50:LYS:HD2	2.13	0.49
20:Y:101:LYS:O	20:Y:102:CYS:SG	2.66	0.49
26:4:47:GLN:O	26:4:48:ARG:CB	2.61	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1041:C:H2'	1:A:1042:G:H8	1.78	0.48
1:A:1525:G:H2'	1:A:1526:G:C8	2.48	0.48
1:A:1792:G:H2'	1:A:1793:C:H6	1.77	0.48
1:A:2286:A:H2'	28:6:31:PRO:HG2	1.94	0.48
1:A:2698:U:H2'	1:A:2699:C:C6	2.48	0.48
1:A:277:C:H4'	1:A:278:A:OP2	2.13	0.48
1:A:605:C:O2	1:A:657:U:O2'	2.30	0.48
1:A:691:C:H2'	1:A:692:C:H6	1.77	0.48
5:F:155:LEU:HD23	5:F:186:ILE:HA	1.95	0.48
6:G:115:ARG:HG2	6:G:115:ARG:NH1	2.27	0.48
6:G:114:ILE:HG21	6:G:117:PHE:HB2	1.93	0.48
7:H:42:ARG:O	7:H:52:VAL:HA	2.12	0.48
10:O:55:GLY:O	10:O:56:ASP:C	2.51	0.48
11:P:36:LYS:HB2	11:P:40:SER:HB3	1.94	0.48
12:Q:31:ASP:O	12:Q:32:TYR:CG	2.66	0.48
14:S:48:LEU:N	14:S:48:LEU:CD1	2.76	0.48
10:O:107:ARG:NH1	15:T:36:GLU:OE1	2.46	0.48
17:V:35:LEU:HD22	17:V:57:VAL:O	2.13	0.48
17:V:29:PRO:O	17:V:61:VAL:HG22	2.12	0.48
17:V:79:VAL:HG22	17:V:79:VAL:O	2.12	0.48
1:A:565:C:OP1	17:V:82:ARG:NH2	2.46	0.48
17:V:91:TYR:C	17:V:91:TYR:CD1	2.87	0.48
18:W:51:LEU:HD23	18:W:105:VAL:HG11	1.95	0.48
19:X:11:PRO:HB3	19:X:92:LEU:CD2	2.43	0.48
20:Y:6:HIS:O	20:Y:7:VAL:CG1	2.59	0.48
23:1:93:GLU:O	23:1:97:LEU:HD11	2.12	0.48
1:A:1292:U:H2'	1:A:1293:C:H6	1.76	0.48
1:A:2123:G:H2'	1:A:2124:G:H8	1.77	0.48
1:A:2821:A:OP2	1:A:2822:G:OP2	2.31	0.48
1:A:817:C:H4'	1:A:932:G:C5	2.49	0.48
6:G:36:LYS:HA	6:G:95:ARG:HG2	1.95	0.48
6:G:77:ILE:O	6:G:81:LYS:O	2.31	0.48
7:H:123:PHE:O	7:H:125:VAL:HG23	2.13	0.48
11:P:35:HIS:O	11:P:36:LYS:O	2.31	0.48
11:P:52:GLU:OE2	11:P:57:THR:HA	2.13	0.48
13:R:70:LEU:C	13:R:72:ASP:H	2.16	0.48
14:S:11:LYS:HG2	14:S:11:LYS:O	2.12	0.48
20:Y:47:LYS:C	20:Y:49:VAL:H	2.16	0.48
20:Y:5:MET:HE1	20:Y:32:PRO:HB3	1.94	0.48
20:Y:81:LYS:HZ2	20:Y:98:VAL:CG1	2.25	0.48
24:2:69:ARG:HH11	24:2:69:ARG:HB3	1.79	0.48
28:6:14:THR:OG1	28:6:19:ARG:NE	2.40	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1204:A:H1'	1:A:1206:G:C4	2.48	0.48
1:A:1285:G:N2	1:A:1329:U:OP1	2.40	0.48
1:A:1496:A:H8	1:A:1577:C:O2'	1.95	0.48
1:A:2576:G:O2'	1:A:2579:C:OP2	2.26	0.48
1:A:675:A:OP1	5:F:63:LYS:NZ	2.44	0.48
4:E:78:LEU:CD2	4:E:79:ARG:HD2	2.43	0.48
1:A:588:U:H1'	5:F:90:PHE:CD1	2.48	0.48
6:G:125:PHE:HB3	6:G:166:ASP:HB2	1.95	0.48
7:H:10:PRO:C	7:H:11:VAL:HG22	2.34	0.48
9:N:95:PRO:O	9:N:96:GLU:C	2.51	0.48
12:Q:112:GLU:CD	12:Q:112:GLU:H	2.17	0.48
13:R:42:LYS:HA	13:R:45:ARG:HD2	1.96	0.48
14:S:33:LYS:HB3	14:S:34:HIS:CD2	2.48	0.48
17:V:22:VAL:HG12	17:V:23:GLU:H	1.76	0.48
18:W:36:LEU:CD1	18:W:47:VAL:HG12	2.44	0.48
1:A:2419:U:O4	30:8:30:ARG:NE	2.46	0.48
30:8:35:GLN:HA	30:8:35:GLN:OE1	2.12	0.48
1:A:1178:C:H2'	1:A:1179:C:C6	2.48	0.48
1:A:1430:C:H2'	1:A:1431:U:C6	2.49	0.48
1:A:1638:C:O3'	1:A:2709:G:N2	2.47	0.48
1:A:1903:G:OP1	3:D:241:PRO:HG2	2.13	0.48
9:N:12:ARG:NH1	9:N:50:ASP:CG	2.67	0.48
11:P:112:LEU:HD12	11:P:127:ALA:CB	2.44	0.48
14:S:46:VAL:HG12	14:S:47:THR:N	2.28	0.48
14:S:59:LYS:HG2	14:S:60:GLY:N	2.13	0.48
19:X:35:THR:O	19:X:37:THR:N	2.47	0.48
24:2:69:ARG:HH11	24:2:69:ARG:CB	2.25	0.48
28:6:27:LYS:O	28:6:28:ARG:HG2	2.13	0.48
30:8:56:GLU:O	30:8:58:ILE:N	2.47	0.48
1:A:2335:A:O2'	1:A:2336:A:H2'	2.13	0.48
1:A:2795:G:H3'	1:A:2797:U:C5'	2.44	0.48
1:A:704:G:C2'	1:A:726:G:H22	2.26	0.48
1:A:828:U:H4'	1:A:831:G:N1	2.28	0.48
1:A:859:G:O2'	1:A:860:U:P	2.72	0.48
4:E:77:ILE:CD1	4:E:78:LEU:N	2.70	0.48
5:F:128:ALA:O	5:F:129:PHE:HB2	2.13	0.48
5:F:198:ALA:O	5:F:201:VAL:HG12	2.13	0.48
1:A:588:U:C2	5:F:90:PHE:CE1	3.01	0.48
6:G:115:ARG:HG2	6:G:115:ARG:HH11	1.77	0.48
6:G:136:ARG:O	6:G:154:GLY:CA	2.62	0.48
7:H:104:GLU:HG3	7:H:114:VAL:HG22	1.96	0.48
11:P:101:VAL:C	11:P:103:ALA:H	2.17	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:34:LEU:HD23	12:Q:104:PHE:HD1	1.77	0.48
15:T:132:LYS:O	15:T:136:GLN:HG3	2.14	0.48
19:X:53:LYS:HZ2	19:X:55:ASN:HD21	1.62	0.48
21:Z:45:ASP:O	21:Z:49:ARG:HG2	2.13	0.48
26:4:42:PHE:O	26:4:43:TYR:C	2.51	0.48
27:5:56:LYS:N	27:5:56:LYS:HD2	2.13	0.48
29:7:12:ARG:HG3	29:7:12:ARG:HH11	1.78	0.48
1:A:2529:G:O6	31:9:31:LYS:NZ	2.40	0.48
1:A:181:A:H1'	1:A:435:C:H5'	1.94	0.48
3:D:35:LYS:HD2	3:D:104:TYR:CE1	2.49	0.48
1:A:2729:G:C1'	4:E:187:ALA:HB2	2.37	0.48
5:F:107:LYS:O	5:F:110:LEU:N	2.47	0.48
5:F:51:THR:O	5:F:93:LYS:NZ	2.38	0.48
8:I:49:ALA:O	8:I:52:ARG:HG2	2.13	0.48
11:P:138:LEU:HD11	11:P:144:GLU:CG	2.42	0.48
17:V:6:LYS:HD3	17:V:11:GLN:HG2	1.96	0.48
20:Y:57:GLN:O	20:Y:58:GLY:O	2.32	0.48
23:1:56:GLN:H	23:1:56:GLN:NE2	2.10	0.48
27:5:49:CYS:SG	27:5:58:LEU:HB2	2.53	0.48
1:A:1274:A:N3	1:A:1297:C:H1'	2.28	0.48
1:A:1578:U:H2'	1:A:1579:A:H5'	1.95	0.48
1:A:2119:A:N6	1:A:2170:A:N7	2.62	0.48
1:A:478:A:N1	1:A:500:G:H4'	2.28	0.48
1:A:910:A:N3	1:A:2264:C:O2'	2.39	0.48
1:A:974(A):C:H4'	1:A:975:G:O5'	2.14	0.48
3:D:130:ALA:HA	3:D:192:THR:HA	1.95	0.48
3:D:198:ASN:C	3:D:198:ASN:HD22	2.17	0.48
6:G:16:ARG:HB3	6:G:17:PRO:HD3	1.94	0.48
7:H:7:LEU:N	7:H:8:PRO:CD	2.77	0.48
9:N:10:GLU:HA	9:N:11:PRO:HD3	1.73	0.48
9:N:75:TYR:C	9:N:76:SER:O	2.52	0.48
11:P:14:LYS:O	11:P:15:ARG:C	2.51	0.48
11:P:71:VAL:HG13	11:P:72:PRO:CD	2.44	0.48
12:Q:21:THR:HB	12:Q:22:LYS:H	1.42	0.48
12:Q:87:LYS:O	12:Q:89:ASN:N	2.43	0.48
12:Q:19:GLY:O	12:Q:98:LYS:HD3	2.14	0.48
13:R:61:HIS:O	13:R:65:LEU:HD13	2.14	0.48
15:T:57:PHE:O	15:T:59:THR:N	2.46	0.48
20:Y:44:ILE:O	20:Y:62:GLU:O	2.32	0.48
21:Z:111:VAL:O	21:Z:113:ALA:N	2.46	0.48
26:4:60:GLN:O	26:4:63:TYR:HB3	2.14	0.48
1:A:2401:U:H2'	1:A:2402:C:H5''	1.96	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:250:G:C6	1:A:251:A:C6	3.02	0.48
1:A:2867:G:O2'	1:A:2868:A:P	2.72	0.48
3:D:130:ALA:C	3:D:131:LEU:HD12	2.33	0.48
3:D:65:ILE:C	3:D:65:ILE:HD13	2.32	0.48
4:E:61:ARG:CB	4:E:62:PRO:CD	2.90	0.48
5:F:34:TRP:HD1	11:P:6:LEU:HB3	1.79	0.48
7:H:131:VAL:HG12	7:H:132:ARG:N	2.29	0.48
9:N:34:LEU:O	9:N:49:GLY:HA3	2.13	0.48
11:P:144:GLU:OE1	11:P:144:GLU:O	2.31	0.48
30:8:43:GLN:C	30:8:44:LYS:HD2	2.34	0.48
1:A:1771:C:H1'	1:A:1786:A:C8	2.48	0.48
1:A:1869:G:H5'	1:A:1870:C:OP2	2.13	0.48
3:D:25:THR:O	3:D:26:LYS:C	2.52	0.48
3:D:48:ARG:HG3	3:D:48:ARG:HH11	1.78	0.48
4:E:64:LYS:C	4:E:66:HIS:N	2.67	0.48
1:A:442:G:H1'	5:F:48:THR:HG21	1.96	0.48
2:B:33:G:O5'	6:G:2:PRO:HG3	2.13	0.48
9:N:18:ALA:O	9:N:19:GLU:C	2.53	0.48
9:N:82:LEU:HD12	9:N:83:LYS:N	2.27	0.48
1:A:807:U:OP2	11:P:41:ARG:NH1	2.46	0.48
12:Q:119:ARG:O	12:Q:123:HIS:HD2	1.97	0.48
13:R:63:ARG:NH1	13:R:63:ARG:HG3	2.29	0.48
15:T:135:ALA:C	15:T:137:LYS:H	2.16	0.48
20:Y:11:ASP:HB2	20:Y:27:VAL:HG11	1.94	0.48
1:A:1728:G:H5'	1:A:1729:A:OP2	2.14	0.48
1:A:1990:C:H2'	1:A:1991:U:C6	2.49	0.48
1:A:530:G:N1	1:A:2022:U:OP1	2.47	0.48
1:A:2563:U:H1'	1:A:2566:A:N6	2.29	0.48
1:A:579:G:H2'	1:A:580:C:C6	2.49	0.48
3:D:35:LYS:CG	3:D:64:ILE:CG2	2.92	0.48
4:E:93:VAL:C	4:E:95:ILE:H	2.17	0.48
4:E:93:VAL:H	4:E:95:ILE:CD1	2.23	0.48
5:F:155:LEU:HA	5:F:174:VAL:HG12	1.95	0.48
1:A:2445:G:OP1	5:F:74:ARG:NH2	2.46	0.48
6:G:106:LEU:HA	6:G:110:ALA:HB3	1.95	0.48
6:G:12:TYR:O	6:G:16:ARG:HB3	2.14	0.48
2:B:55:U:H4'	6:G:28:VAL:CG2	2.44	0.48
6:G:3:LEU:HD21	26:4:25:TYR:CE1	2.48	0.48
2:B:43:C:O5'	6:G:67:LYS:HE3	2.14	0.48
9:N:56:ASN:ND2	9:N:125:GLY:C	2.66	0.48
12:Q:42:ILE:HD12	12:Q:42:ILE:N	2.29	0.48
13:R:107:ASP:C	13:R:107:ASP:OD2	2.52	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
14:S:56:LEU:C	14:S:56:LEU:HD23	2.34	0.48
16:U:79:PHE:HE2	16:U:83:LEU:CD2	2.27	0.48
17:V:35:LEU:O	17:V:37:VAL:N	2.47	0.48
20:Y:56:PRO:O	20:Y:58:GLY:N	2.47	0.48
1:A:2351:G:O6	30:8:39:LYS:HG2	2.14	0.47
30:8:53:PRO:CD	30:8:54:GLU:N	2.77	0.47
1:A:1079:C:H2'	1:A:1080:C:O4'	2.14	0.47
1:A:372:G:O2'	1:A:373:U:P	2.72	0.47
3:D:145:VAL:O	3:D:153:ALA:HA	2.14	0.47
5:F:53:THR:C	5:F:55:GLY:N	2.67	0.47
7:H:154:PRO:CG	7:H:162:ILE:O	2.61	0.47
9:N:57:ALA:O	9:N:58:ASP:CB	2.61	0.47
9:N:67:LEU:O	9:N:88:GLU:HG3	2.14	0.47
9:N:4:TYR:OH	9:N:7:LYS:NZ	2.46	0.47
10:O:8:LEU:HB2	10:O:19:ILE:CD1	2.43	0.47
11:P:126:VAL:HA	11:P:145:PRO:HD2	1.95	0.47
11:P:47:ASP:OD1	11:P:50:ARG:NH2	2.47	0.47
11:P:75:ILE:CD1	11:P:75:ILE:H	2.14	0.47
14:S:55:ALA:O	14:S:56:LEU:HB3	2.13	0.47
16:U:92:ARG:CZ	16:U:94:ASN:HD22	2.27	0.47
17:V:48:GLY:O	17:V:49:THR:C	2.52	0.47
18:W:32:ALA:O	18:W:33:ARG:C	2.52	0.47
20:Y:97:ARG:HG2	20:Y:97:ARG:NH1	2.28	0.47
23:1:7:ILE:HD12	23:1:62:VAL:HG11	1.96	0.47
26:4:36:CYS:O	26:4:37:SER:C	2.52	0.47
1:A:1266:G:O5'	18:W:15:ARG:NH2	2.44	0.47
1:A:1709:U:H2'	1:A:1710:C:C6	2.49	0.47
1:A:1815:A:OP2	3:D:54:ARG:NH2	2.47	0.47
1:A:2526:G:H5'	1:A:2742:C:O2'	2.14	0.47
1:A:2760:C:H2'	1:A:2761:G:H5''	1.95	0.47
4:E:120:TRP:O	4:E:121:ASN:HB2	2.15	0.47
7:H:124:GLU:HB3	7:H:132:ARG:CD	2.44	0.47
7:H:45:VAL:O	7:H:45:VAL:HG13	2.14	0.47
9:N:113:GLY:O	9:N:116:LEU:HB2	2.14	0.47
9:N:131:GLN:HE21	9:N:132:ALA:H	1.58	0.47
9:N:137:LYS:CG	9:N:138:LEU:N	2.78	0.47
11:P:19:VAL:CG2	11:P:20:GLY:H	1.98	0.47
11:P:6:LEU:O	11:P:7:ARG:O	2.31	0.47
16:U:107:ALA:O	16:U:110:VAL:HB	2.14	0.47
17:V:4:ILE:HA	17:V:12:TYR:O	2.14	0.47
17:V:66:ARG:NH1	17:V:88:ARG:NH1	2.61	0.47
17:V:21:ARG:HD2	17:V:91:TYR:CZ	2.49	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
18:W:66:GLU:O	18:W:69:LEU:HG	2.14	0.47
20:Y:81:LYS:NZ	20:Y:98:VAL:HB	2.29	0.47
1:A:2331:G:H4'	22:0:43:THR:H	1.79	0.47
23:1:8:SER:OG	23:1:10:LYS:HG3	2.13	0.47
1:A:2396:G:H1'	23:1:30:VAL:HG13	1.96	0.47
26:4:50:VAL:O	26:4:50:VAL:CG1	2.63	0.47
27:5:57:VAL:HG13	27:5:57:VAL:O	2.14	0.47
1:A:1427:A:H4'	1:A:1428:C:O5'	2.13	0.47
1:A:1820:U:H4'	1:A:1821:A:OP2	2.14	0.47
1:A:1998:G:OP2	4:E:136:ARG:NH2	2.37	0.47
1:A:2243:U:H2'	1:A:2244:U:C6	2.49	0.47
1:A:620:G:H4'	1:A:621:A:C5'	2.41	0.47
2:B:94:C:H2'	2:B:95:U:C6	2.49	0.47
4:E:174:ASP:O	4:E:182:LEU:HD12	2.14	0.47
4:E:195:LEU:HD12	4:E:196:VAL:N	2.29	0.47
4:E:56:PRO:O	4:E:57:LYS:CB	2.61	0.47
6:G:106:LEU:HA	6:G:110:ALA:CB	2.44	0.47
7:H:82:GLY:O	7:H:83:TYR:O	2.32	0.47
9:N:68:GLU:HG2	9:N:88:GLU:CD	2.33	0.47
12:Q:57:HIS:ND1	12:Q:58:PHE:N	2.62	0.47
14:S:40:ILE:HG22	14:S:41:ASP:N	2.29	0.47
15:T:96:ARG:NH1	15:T:96:ARG:CB	2.76	0.47
16:U:91:ASP:O	16:U:92:ARG:C	2.53	0.47
23:1:29:GLY:C	23:1:30:VAL:CG2	2.82	0.47
1:A:1184:G:OP1	25:3:29:ARG:NH1	2.48	0.47
28:6:8:LYS:O	28:6:27:LYS:HG2	2.14	0.47
1:A:1354:A:OP1	3:D:38:LYS:HE2	2.14	0.47
1:A:590:A:H2'	1:A:591:C:C6	2.49	0.47
1:A:900:A:H5'	1:A:901:A:OP2	2.14	0.47
2:B:24:G:H5''	2:B:25:A:OP1	2.14	0.47
3:D:134:ARG:HB2	3:D:135:PHE:CD2	2.49	0.47
9:N:97:ARG:HA	9:N:100:GLU:HB3	1.97	0.47
13:R:10:LEU:O	13:R:12:ARG:HG3	2.14	0.47
13:R:41:ALA:C	13:R:43:GLU:N	2.68	0.47
17:V:16:PRO:HA	17:V:96:ILE:O	2.14	0.47
17:V:2:PHE:CD2	17:V:13:ARG:NH2	2.83	0.47
20:Y:94:LYS:HE3	20:Y:101:LYS:HZ3	1.77	0.47
20:Y:19:LYS:HE3	20:Y:20:TYR:CE1	2.49	0.47
1:A:96:G:H4'	24:2:48:HIS:NE2	2.30	0.47
26:4:55:ARG:C	26:4:59:PHE:HB3	2.35	0.47
1:A:2238:G:N3	1:A:2238:G:H2'	2.30	0.47
1:A:2636:U:OP1	4:E:79:ARG:HG3	2.14	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2638:G:P	4:E:82:ARG:HH22	2.38	0.47
1:A:690:G:H2'	1:A:691:C:C6	2.50	0.47
2:B:13:A:O2'	2:B:14:U:H3'	2.14	0.47
3:D:72:LYS:CG	3:D:103:ARG:NH2	2.77	0.47
4:E:129:HIS:O	4:E:130:GLY:C	2.53	0.47
6:G:13:GLU:HG3	6:G:13:GLU:O	2.14	0.47
6:G:5:VAL:HG22	26:4:25:TYR:CE2	2.50	0.47
7:H:67:LEU:O	7:H:71:LEU:HB2	2.14	0.47
9:N:118:LYS:O	9:N:120:LEU:N	2.43	0.47
17:V:38:LEU:HD23	17:V:39:LEU:H	1.79	0.47
19:X:6:ASP:OD1	24:2:29:LYS:NZ	2.47	0.47
23:1:94:LEU:O	23:1:95:LEU:CB	2.62	0.47
30:8:44:LYS:HD2	30:8:44:LYS:N	2.30	0.47
31:9:1:MET:SD	31:9:31:LYS:O	2.73	0.47
1:A:1062:G:H2'	1:A:1063:G:C8	2.50	0.47
4:E:3:GLY:HA3	4:E:81:ILE:HG21	1.97	0.47
5:F:162:LEU:HD23	5:F:165:ARG:HH21	1.80	0.47
6:G:56:ALA:HB2	6:G:153:ARG:NE	2.28	0.47
11:P:147:LEU:HD22	11:P:147:LEU:N	2.29	0.47
12:Q:66:ILE:H	12:Q:104:PHE:HA	1.80	0.47
14:S:108:GLY:O	14:S:110:LEU:N	2.48	0.47
14:S:25:ARG:HH12	14:S:42:ASP:CG	2.16	0.47
26:4:8:LYS:O	26:4:9:LEU:CB	2.62	0.47
28:6:20:ASN:ND2	28:6:42:TRP:CZ2	2.82	0.47
1:A:177:G:H5''	1:A:177:G:N3	2.28	0.47
1:A:2721:A:H2'	1:A:2722:G:O4'	2.15	0.47
1:A:57:C:H2'	1:A:58:G:O4'	2.14	0.47
1:A:635:C:H2'	1:A:636:G:O4'	2.15	0.47
1:A:872:A:H4'	12:Q:66:ILE:HD11	1.97	0.47
4:E:197:ILE:CD1	4:E:199:ARG:HH12	2.26	0.47
10:O:120:GLU:OE1	15:T:67:SER:OG	2.24	0.47
10:O:37:ASP:O	10:O:62:VAL:HG23	2.15	0.47
11:P:12:ALA:C	11:P:14:LYS:H	2.17	0.47
13:R:117:VAL:O	13:R:118:GLU:CB	2.62	0.47
13:R:74:LYS:O	13:R:76:VAL:N	2.45	0.47
17:V:2:PHE:CD1	17:V:2:PHE:C	2.88	0.47
17:V:36:PRO:HA	17:V:56:SER:CB	2.44	0.47
20:Y:39:VAL:O	20:Y:40:GLU:OE2	2.32	0.47
20:Y:61:ILE:HG22	20:Y:62:GLU:N	2.27	0.47
26:4:3:GLU:HG3	26:4:4:GLY:H	1.79	0.47
1:A:2372:G:H4'	28:6:46:HIS:NE2	2.30	0.47
1:A:307:G:H22	1:A:310:A:P	2.37	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:102:LYS:O	3:D:103:ARG:HG3	2.15	0.47
4:E:17:ASP:OD2	4:E:17:ASP:N	2.46	0.47
4:E:65:GLY:HA2	4:E:70:ALA:HB3	1.95	0.47
5:F:184:TYR:CD2	5:F:188:ARG:HD2	2.50	0.47
6:G:44:GLY:HA2	6:G:88:ILE:HG12	1.96	0.47
9:N:137:LYS:CG	9:N:138:LEU:H	2.27	0.47
11:P:37:GLY:O	11:P:41:ARG:HD3	2.15	0.47
16:U:8:VAL:O	16:U:9:VAL:C	2.53	0.47
20:Y:75:ILE:HG12	20:Y:76:CYS:H	1.79	0.47
1:A:153:C:OP2	23:1:88:LYS:HE2	2.15	0.47
1:A:1264:G:H5'	27:5:11:THR:CG2	2.45	0.47
1:A:1020:A:N6	1:A:1141:U:O2'	2.47	0.47
1:A:964:C:O2'	1:A:2273:A:N3	2.43	0.47
1:A:270(T):G:H5''	23:1:97:LEU:CD2	2.43	0.47
1:A:583:G:H5''	16:U:10:ARG:NH1	2.21	0.47
1:A:67:U:H3	1:A:74:A:H2	1.58	0.47
1:A:717:G:H2'	1:A:718:A:O4'	2.15	0.47
1:A:78:A:H2'	1:A:79:G:H8	1.79	0.47
3:D:165:ILE:C	3:D:166:GLN:HE21	2.18	0.47
9:N:57:ALA:CA	9:N:60:ILE:HD11	2.44	0.47
1:A:806:C:OP2	11:P:41:ARG:NE	2.47	0.47
1:A:2468:G:H5''	12:Q:120:ILE:HD12	1.97	0.47
13:R:56:LYS:C	13:R:58:GLY:H	2.18	0.47
19:X:26:TYR:HB3	19:X:92:LEU:HD12	1.97	0.47
1:A:2356:C:O3'	22:0:20:ARG:HD3	2.15	0.47
24:2:17:SER:CB	24:2:18:PRO:CA	2.92	0.47
1:A:184:C:H2'	1:A:185:U:H6	1.79	0.47
1:A:265:A:O2'	1:A:266:G:H4'	2.13	0.47
3:D:205:VAL:O	3:D:206:LEU:C	2.52	0.47
4:E:63:LEU:O	4:E:64:LYS:CB	2.62	0.47
5:F:65:TRP:CH2	5:F:72:ARG:HB3	2.50	0.47
7:H:41:MET:HG3	7:H:54:ARG:HA	1.96	0.47
10:O:53:LYS:CD	10:O:56:ASP:OD1	2.63	0.47
1:A:2467:C:H4'	12:Q:123:HIS:ND1	2.30	0.47
14:S:61:ASN:O	14:S:65:VAL:HG23	2.15	0.47
26:4:53:GLU:O	26:4:57:GLU:HG3	2.14	0.47
27:5:20:ARG:C	27:5:22:HIS:N	2.68	0.47
28:6:48:VAL:O	28:6:49:HIS:HB2	2.15	0.47
29:7:25:PRO:HA	29:7:28:ARG:CZ	2.45	0.47
31:9:19:ARG:NH2	31:9:26:ILE:HD11	2.29	0.47
1:A:1005:C:O2'	9:N:28:THR:HG21	2.15	0.47
1:A:1930:G:HO2'	1:A:1931:U:P	2.37	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2250:G:C4	12:Q:82:ARG:HG3	2.50	0.47
1:A:29:U:H2'	1:A:30:G:C8	2.50	0.47
3:D:18:VAL:CG1	3:D:19:ALA:N	2.78	0.47
3:D:231:HIS:ND1	3:D:232:PRO:HD2	2.30	0.47
6:G:16:ARG:NH2	6:G:28:VAL:O	2.48	0.47
8:I:14:ASP:O	8:I:16:GLY:N	2.48	0.47
9:N:134:ARG:N	9:N:135:PRO:CD	2.58	0.47
11:P:98:GLU:HG2	11:P:99:LEU:N	2.30	0.47
12:Q:34:LEU:HD11	12:Q:129:THR:CB	2.35	0.47
14:S:66:ALA:HA	14:S:69:VAL:HG12	1.96	0.47
20:Y:68:HIS:O	20:Y:71:LYS:HB2	2.15	0.47
27:5:43:HIS:ND1	27:5:43:HIS:N	2.63	0.46
1:A:458:G:O2'	29:7:39:ARG:HD3	2.14	0.46
29:7:2:LYS:HG2	29:7:3:ARG:N	2.31	0.46
30:8:29:LYS:HE3	30:8:41:ILE:O	2.15	0.46
1:A:1188:U:O2'	1:A:1189:A:H5'	2.15	0.46
1:A:1677:A:H2'	1:A:1678:G:O4'	2.15	0.46
1:A:780:G:H21	1:A:783:A:H62	1.62	0.46
1:A:2052:G:H4'	4:E:143:ASN:O	2.14	0.46
7:H:18:GLU:HA	7:H:18:GLU:OE2	2.15	0.46
7:H:4:ILE:H	7:H:4:ILE:CD1	2.25	0.46
1:A:389:G:H22	11:P:72:PRO:CG	2.28	0.46
14:S:52:SER:O	14:S:56:LEU:CD2	2.60	0.46
15:T:57:PHE:O	15:T:58:ASN:C	2.53	0.46
24:2:7:ARG:NH1	24:2:7:ARG:HG3	2.25	0.46
1:A:1425:G:H2'	1:A:1426:G:C8	2.50	0.46
1:A:2295:C:OP1	14:S:10:ARG:HD2	2.16	0.46
3:D:27:THR:O	3:D:29:PRO:CD	2.62	0.46
4:E:188:VAL:HG13	4:E:188:VAL:O	2.15	0.46
4:E:87:GLU:O	4:E:89:ASP:N	2.49	0.46
6:G:95:ARG:O	6:G:96:ARG:C	2.54	0.46
7:H:9:ILE:O	7:H:10:PRO:O	2.33	0.46
9:N:9:VAL:HG21	9:N:48:MET:CB	2.45	0.46
11:P:23:PRO:HG2	11:P:23:PRO:O	2.15	0.46
13:R:56:LYS:HE2	13:R:94:TYR:OH	2.15	0.46
9:N:1:MET:HE3	16:U:95:LEU:HD21	1.97	0.46
17:V:30:GLY:O	17:V:31:ALA:O	2.34	0.46
18:W:4:LYS:HA	18:W:106:ILE:HA	1.97	0.46
23:1:49:VAL:HG12	23:1:51:VAL:CG2	2.45	0.46
23:1:76:ARG:N	23:1:76:ARG:HD2	2.29	0.46
1:A:1025:G:C4	1:A:1135:C:H1'	2.51	0.46
1:A:1179:C:H2'	1:A:1180:C:O4'	2.15	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1657:C:H2'	1:A:1658:C:H6	1.81	0.46
1:A:2572:A:N3	4:E:144:ARG:NH2	2.62	0.46
3:D:183:ARG:NH1	3:D:183:ARG:CG	2.69	0.46
4:E:33:VAL:HG12	4:E:90:THR:H	1.81	0.46
6:G:98:ARG:CA	6:G:101:ILE:HG12	2.40	0.46
10:O:112:MET:O	10:O:115:VAL:CG2	2.64	0.46
13:R:29:LEU:N	13:R:29:LEU:CD1	2.78	0.46
13:R:78:LYS:O	13:R:78:LYS:HG2	2.15	0.46
14:S:26:LEU:HD22	14:S:87:PHE:CD1	2.46	0.46
15:T:29:ARG:NH1	15:T:46:GLU:OE1	2.48	0.46
10:O:104:ARG:HD3	15:T:36:GLU:OE2	2.15	0.46
19:X:12:VAL:O	19:X:12:VAL:HG13	2.15	0.46
20:Y:15:VAL:O	20:Y:21:LYS:HA	2.15	0.46
23:1:79:GLY:N	23:1:80:LEU:HD23	2.30	0.46
25:3:56:VAL:CG1	25:3:57:GLU:N	2.74	0.46
1:A:1582:C:O2'	1:A:1586:A:H8	1.97	0.46
1:A:195:A:H61	1:A:198:C:H3'	1.80	0.46
1:A:2532:G:H1'	1:A:2663:G:N2	2.30	0.46
1:A:2646:C:H2'	1:A:2647:U:O4'	2.15	0.46
1:A:384:U:H2'	1:A:385:C:C6	2.48	0.46
3:D:35:LYS:HD3	3:D:63:ARG:HB3	1.96	0.46
5:F:132:VAL:O	5:F:133:ASN:C	2.52	0.46
5:F:31:HIS:O	5:F:34:TRP:HB3	2.15	0.46
7:H:127:GLU:OE2	7:H:130:ARG:NH2	2.47	0.46
7:H:153:LYS:HG3	7:H:162:ILE:H	1.79	0.46
12:Q:133:ARG:CG	12:Q:134:ARG:N	2.78	0.46
13:R:75:LEU:HA	13:R:78:LYS:HB3	1.97	0.46
14:S:28:VAL:HG11	14:S:98:VAL:HG12	1.98	0.46
20:Y:35:TYR:O	20:Y:35:TYR:CD1	2.69	0.46
24:2:15:LYS:H	24:2:67:LYS:HZ3	1.63	0.46
28:6:18:ARG:O	28:6:19:ARG:O	2.33	0.46
30:8:52:LYS:O	30:8:52:LYS:CG	2.64	0.46
1:A:1140:C:P	9:N:66:LYS:HZ3	2.39	0.46
1:A:1266:G:O4'	18:W:15:ARG:NH2	2.47	0.46
1:A:2277:G:P	12:Q:85:LYS:HB2	2.56	0.46
1:A:2313:C:H2'	1:A:2314:C:H6	1.78	0.46
1:A:270(S):G:O2'	1:A:270(T):G:H5'	2.15	0.46
1:A:483:A:H4'	20:Y:49:VAL:CA	2.42	0.46
1:A:605:C:H1'	1:A:657:U:O2'	2.15	0.46
1:A:947:G:H2'	1:A:948:G:C8	2.51	0.46
3:D:69:ARG:C	3:D:71:ASP:N	2.69	0.46
4:E:20:ALA:C	4:E:21:VAL:HG13	2.35	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:47:VAL:O	4:E:48:GLN:C	2.52	0.46
4:E:54:GLN:HE21	4:E:54:GLN:CA	2.27	0.46
4:E:89:ASP:O	4:E:90:THR:O	2.33	0.46
9:N:30:ILE:O	9:N:34:LEU:CD2	2.63	0.46
9:N:46:VAL:HG13	9:N:47:ALA:N	2.31	0.46
10:O:101:PRO:HA	10:O:120:GLU:O	2.16	0.46
11:P:45:LEU:CD1	11:P:45:LEU:N	2.79	0.46
13:R:85:PRO:C	13:R:87:TYR:H	2.19	0.46
15:T:36:GLU:O	15:T:37:GLY:C	2.53	0.46
15:T:96:ARG:CB	15:T:96:ARG:HH11	2.29	0.46
19:X:24:GLY:O	19:X:82:GLN:HA	2.16	0.46
1:A:2396:G:H4'	23:1:30:VAL:HA	1.96	0.46
23:1:83:GLU:OE1	23:1:85:LEU:HB2	2.15	0.46
25:3:18:ASP:O	25:3:21:ALA:N	2.49	0.46
26:4:15:ILE:HG22	26:4:20:ASN:CA	2.45	0.46
26:4:38:LYS:C	26:4:40:HIS:H	2.07	0.46
1:A:1309:G:P	29:7:9:ARG:HD3	2.55	0.46
1:A:1021:A:H3'	1:A:1022:G:H5''	1.97	0.46
1:A:13:A:N1	1:A:525:U:H2'	2.31	0.46
1:A:1538:G:H2'	1:A:1539:G:H8	1.81	0.46
1:A:1332:G:N2	1:A:1610:A:C8	2.80	0.46
1:A:2233:U:H2'	1:A:2234:G:C8	2.51	0.46
4:E:103:ASP:OD2	4:E:168:MET:HG2	2.15	0.46
4:E:50:GLY:CA	4:E:74:PRO:HG3	2.45	0.46
1:A:451:C:H4'	5:F:52:LYS:NZ	2.31	0.46
7:H:86:GLU:O	7:H:132:ARG:HA	2.15	0.46
11:P:81:GLN:HB3	11:P:110:TYR:HB3	1.97	0.46
11:P:6:LEU:N	11:P:6:LEU:HD22	2.31	0.46
12:Q:109:VAL:HG13	12:Q:113:GLN:OE1	2.16	0.46
12:Q:66:ILE:O	12:Q:104:PHE:N	2.49	0.46
14:S:13:ARG:O	14:S:14:VAL:HB	2.16	0.46
15:T:118:ARG:NH2	15:T:121:ILE:HD12	2.31	0.46
15:T:51:ARG:CG	15:T:98:LYS:HG3	2.44	0.46
15:T:58:ASN:HD22	15:T:58:ASN:N	2.10	0.46
19:X:35:THR:HG23	19:X:35:THR:O	2.16	0.46
20:Y:56:PRO:O	20:Y:57:GLN:C	2.53	0.46
25:3:59:VAL:CG1	25:3:60:GLU:H	2.28	0.46
1:A:108:U:H2'	1:A:109:G:C8	2.51	0.46
1:A:2788:C:O2'	1:A:2809:A:N3	2.45	0.46
1:A:612:G:O2'	1:A:616:A:N1	2.45	0.46
1:A:741:G:H2'	1:A:742:G:H8	1.81	0.46
3:D:117:VAL:CG2	3:D:128:GLY:C	2.84	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:27:THR:CG2	3:D:28:GLU:N	2.66	0.46
3:D:61:LEU:HB3	3:D:63:ARG:NH1	2.31	0.46
6:G:111:LEU:HD22	6:G:120:LEU:HD21	1.97	0.46
6:G:135:LEU:HD11	6:G:157:ILE:HD12	1.97	0.46
6:G:88:ILE:CD1	6:G:88:ILE:O	2.54	0.46
7:H:59:ARG:CG	7:H:59:ARG:NH1	2.79	0.46
11:P:90:ARG:HB3	11:P:91:PHE:H	1.60	0.46
12:Q:23:GLY:O	12:Q:24:GLY:C	2.54	0.46
16:U:27:LEU:HD12	16:U:31:SER:HB3	1.98	0.46
17:V:47:VAL:O	17:V:48:GLY:O	2.34	0.46
19:X:8:ILE:CD1	19:X:42:ALA:HB1	2.46	0.46
21:Z:54:HIS:CD2	21:Z:101:PRO:HG3	2.50	0.46
26:4:50:VAL:O	26:4:50:VAL:HG13	2.15	0.46
27:5:41:PRO:HA	27:5:42:PRO:HD3	1.82	0.46
1:A:1003:G:O2'	1:A:1010:A:N1	2.37	0.46
1:A:198:C:O2'	1:A:199:A:H5'	2.16	0.46
3:D:136:ILE:N	3:D:136:ILE:HD12	2.30	0.46
4:E:172:VAL:HG13	4:E:182:LEU:HD11	1.98	0.46
4:E:7:VAL:HG11	15:T:1:MET:CE	2.45	0.46
6:G:104:GLU:OE1	26:4:23:GLU:HB3	2.15	0.46
6:G:37:VAL:HG22	6:G:159:VAL:CA	2.34	0.46
7:H:37:VAL:HG11	7:H:68:THR:HG23	1.98	0.46
8:I:101:LEU:HD13	8:I:109:ILE:HD13	1.97	0.46
9:N:73:THR:HA	9:N:83:LYS:O	2.15	0.46
11:P:1:MET:O	11:P:2:LYS:HG3	2.16	0.46
14:S:24:LEU:HB2	14:S:85:VAL:HG12	1.98	0.46
14:S:56:LEU:O	14:S:57:LYS:C	2.53	0.46
19:X:43:VAL:HG11	19:X:51:VAL:HG21	1.97	0.46
21:Z:74:VAL:HG13	21:Z:86:VAL:HG22	1.98	0.46
23:1:80:LEU:C	23:1:81:LYS:CE	2.77	0.46
23:1:60:PHE:CE2	23:1:91:LYS:NZ	2.84	0.46
1:A:1999:C:H4'	1:A:2723:C:O2	2.16	0.46
1:A:99:U:H4'	1:A:101:G:O5'	2.15	0.46
3:D:35:LYS:HE3	3:D:65:ILE:N	2.30	0.46
4:E:61:ARG:O	4:E:63:LEU:CG	2.57	0.46
6:G:14:GLU:O	6:G:17:PRO:HD2	2.16	0.46
6:G:14:GLU:O	6:G:17:PRO:HG2	2.15	0.46
6:G:52:ILE:O	6:G:52:ILE:HG22	2.15	0.46
9:N:112:LEU:O	9:N:116:LEU:HG	2.16	0.46
9:N:36:GLY:O	9:N:42:TRP:HE3	1.98	0.46
10:O:7:TYR:CD1	10:O:20:MET:HB2	2.50	0.46
11:P:46:LYS:O	11:P:48:PRO:N	2.48	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:26:TYR:O	12:Q:27:VAL:O	2.34	0.46
12:Q:63:LYS:HE2	12:Q:65:PHE:CZ	2.50	0.46
14:S:89:ARG:O	14:S:90:GLY:C	2.54	0.46
16:U:106:PHE:O	16:U:109:LEU:HB2	2.15	0.46
25:3:7:LYS:HE2	25:3:32:GLN:HA	1.98	0.46
6:G:179:PRO:CG	26:4:38:LYS:HZ1	2.22	0.46
28:6:15:GLU:OE2	28:6:44:ARG:NH1	2.49	0.46
28:6:7:ILE:O	28:6:8:LYS:HG2	2.16	0.46
30:8:40:GLU:C	30:8:42:ARG:N	2.68	0.46
1:A:1534:G:H2'	1:A:1534:G:N3	2.31	0.46
1:A:1993:U:H4'	4:E:128:SER:OG	2.16	0.46
1:A:2025:C:H2'	1:A:2026:C:C6	2.51	0.46
1:A:2469:A:H5'	1:A:2470:G:OP2	2.16	0.46
1:A:900:A:H3'	1:A:901:A:C8	2.47	0.46
4:E:47:VAL:HG23	4:E:47:VAL:O	2.16	0.46
4:E:95:ILE:O	4:E:95:ILE:HG22	2.16	0.46
6:G:121:ASN:C	6:G:123:ASN:H	2.19	0.46
7:H:13:LYS:CA	7:H:13:LYS:HE2	2.40	0.46
7:H:4:ILE:HG13	7:H:6:ARG:HD3	1.97	0.46
7:H:88:LEU:HD22	7:H:163:TYR:O	2.17	0.46
11:P:21:ARG:HB3	11:P:22:GLY:H	1.65	0.46
11:P:85:LEU:HD23	11:P:88:LEU:HD22	1.97	0.46
14:S:109:GLY:O	14:S:110:LEU:HB2	2.16	0.46
16:U:69:CYS:O	16:U:74:LEU:HD12	2.16	0.46
16:U:79:PHE:CE2	16:U:83:LEU:HD13	2.51	0.46
23:1:85:LEU:HD22	23:1:85:LEU:N	2.31	0.45
1:A:1928:A:C2'	1:A:1929:G:H5'	2.46	0.45
1:A:207:A:H2'	1:A:208:C:O4'	2.17	0.45
1:A:2416:C:H2'	1:A:2417:C:C6	2.52	0.45
3:D:105:ILE:HG23	3:D:106:ILE:O	2.15	0.45
3:D:211:ARG:HH11	3:D:211:ARG:HG2	1.80	0.45
3:D:80:ALA:O	3:D:113:VAL:HG13	2.16	0.45
11:P:115:LEU:CD1	11:P:116:GLY:N	2.78	0.45
12:Q:85:LYS:HD3	12:Q:86:GLY:H	1.80	0.45
12:Q:87:LYS:HG2	12:Q:87:LYS:O	2.15	0.45
13:R:1:MET:O	13:R:2:ARG:HB2	2.15	0.45
16:U:98:LEU:HD23	16:U:98:LEU:C	2.36	0.45
18:W:28:SER:C	18:W:30:GLU:N	2.69	0.45
20:Y:90:LEU:CD2	20:Y:90:LEU:N	2.73	0.45
26:4:56:VAL:HA	26:4:60:GLN:CB	2.28	0.45
1:A:747:U:C2	27:5:2:ALA:HB3	2.51	0.45
27:5:36:CYS:C	27:5:38:ALA:H	2.19	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
27:5:54:GLY:O	27:5:55:ARG:C	2.54	0.45
28:6:20:ASN:O	28:6:21:TYR:HB2	2.15	0.45
31:9:25:VAL:HG11	31:9:34:GLN:HE21	1.80	0.45
1:A:1165:U:H2'	1:A:1166:C:C6	2.51	0.45
1:A:31:C:O2'	1:A:1238:G:H5'	2.16	0.45
1:A:1263:U:O2'	27:5:11:THR:HG23	2.16	0.45
1:A:1607:C:N4	1:A:1622:G:OP2	2.46	0.45
1:A:2335:A:O2'	1:A:2336:A:O5'	2.30	0.45
1:A:2366:A:H2'	1:A:2367:G:O4'	2.16	0.45
1:A:2558:C:H2'	1:A:2559:C:O4'	2.16	0.45
1:A:2712:U:O2'	1:A:2712(A):A:OP1	2.35	0.45
1:A:2712:U:OP1	1:A:2714:G:H4'	2.16	0.45
1:A:2724:C:OP1	4:E:118:LYS:NZ	2.46	0.45
1:A:959:A:N3	1:A:2457:U:O2'	2.43	0.45
1:A:917:A:O2'	2:B:98:G:H4'	2.16	0.45
3:D:198:ASN:C	3:D:198:ASN:ND2	2.69	0.45
4:E:15:PHE:CD1	4:E:20:ALA:HB2	2.50	0.45
7:H:137:ASP:HB2	7:H:140:LYS:HE3	1.98	0.45
7:H:89:ILE:H	7:H:89:ILE:HD13	1.81	0.45
9:N:17:ASP:O	9:N:55:VAL:O	2.34	0.45
12:Q:104:PHE:O	12:Q:105:GLU:CB	2.65	0.45
12:Q:81:VAL:HG23	12:Q:82:ARG:N	2.32	0.45
15:T:24:PRO:HD3	15:T:52:ILE:HD12	1.98	0.45
16:U:57:PHE:O	16:U:59:ARG:N	2.50	0.45
16:U:73:GLY:O	16:U:74:LEU:CB	2.63	0.45
20:Y:47:LYS:O	20:Y:49:VAL:N	2.48	0.45
20:Y:81:LYS:CD	20:Y:97:ARG:HE	2.20	0.45
25:3:43:ILE:O	25:3:47:VAL:HG23	2.16	0.45
25:3:60:GLU:HG2	25:3:60:GLU:O	2.16	0.45
27:5:16:ARG:O	27:5:20:ARG:HG3	2.16	0.45
30:8:48:PHE:HD1	30:8:48:PHE:N	2.14	0.45
1:A:1636:C:H2'	1:A:1637:A:H8	1.82	0.45
1:A:2284:C:C5	28:6:27:LYS:HE2	2.52	0.45
1:A:483:A:C5'	20:Y:49:VAL:HG13	2.46	0.45
1:A:551:G:H5'	1:A:1220:A:H1'	1.97	0.45
1:A:898:C:C2'	1:A:899:A:H5'	2.46	0.45
3:D:145:VAL:HB	3:D:155:LEU:HB2	1.99	0.45
3:D:2:ALA:HB1	3:D:20:ASP:CB	2.46	0.45
4:E:1:MET:HA	4:E:200:GLU:OE2	2.16	0.45
4:E:21:VAL:HG23	4:E:22:PRO:CD	2.46	0.45
6:G:76:SER:CB	6:G:83:ARG:HA	2.46	0.45
7:H:106:THR:HG22	7:H:112:PRO:HB3	1.97	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
8:I:74:ASN:OD1	8:I:74:ASN:N	2.49	0.45
9:N:129:PRO:C	9:N:131:GLN:H	2.20	0.45
10:O:104:ARG:HG2	10:O:121:VAL:HG12	1.97	0.45
10:O:61:VAL:O	10:O:84:ALA:HB1	2.16	0.45
12:Q:30:GLY:CA	12:Q:107:ALA:HB2	2.39	0.45
12:Q:5:ARG:O	12:Q:6:ARG:O	2.35	0.45
14:S:5:THR:OG1	14:S:8:GLU:HG3	2.17	0.45
15:T:6:LEU:O	15:T:10:VAL:HG23	2.16	0.45
16:U:92:ARG:C	16:U:94:ASN:N	2.69	0.45
18:W:48:ALA:O	18:W:49:LYS:C	2.53	0.45
19:X:35:THR:O	19:X:36:LYS:C	2.55	0.45
20:Y:75:ILE:HA	20:Y:80:GLY:HA2	1.99	0.45
21:Z:108:PRO:HB2	21:Z:109:ALA:H	1.62	0.45
22:O:41:ARG:NE	22:O:41:ARG:HA	2.31	0.45
1:A:1824:G:OP1	3:D:52:ARG:HD3	2.16	0.45
1:A:412:A:N7	1:A:2411:A:H2	2.13	0.45
1:A:2584:U:H2'	1:A:2585:U:C6	2.51	0.45
1:A:2712:U:O2'	1:A:2712(A):A:P	2.73	0.45
1:A:923:C:H2'	1:A:924:C:C6	2.52	0.45
2:B:13:A:N1	2:B:69:G:O2'	2.45	0.45
3:D:148:GLU:HB2	3:D:151:LYS:HD2	1.98	0.45
3:D:31:LYS:C	3:D:32:SER:O	2.54	0.45
1:A:2572:A:C4	4:E:144:ARG:NH2	2.84	0.45
4:E:22:PRO:CG	4:E:22:PRO:O	2.63	0.45
6:G:14:GLU:HB3	6:G:15:VAL:H	1.56	0.45
7:H:151:ILE:O	7:H:152:ARG:O	2.34	0.45
7:H:109:PHE:CE1	7:H:152:ARG:NH1	2.84	0.45
7:H:94:TYR:CD1	7:H:94:TYR:N	2.82	0.45
9:N:22:THR:O	9:N:60:ILE:HG22	2.16	0.45
11:P:92:GLU:HA	11:P:123:LEU:HD23	1.98	0.45
14:S:74:ALA:O	14:S:75:GLU:C	2.54	0.45
18:W:34:ASN:O	18:W:35:ILE:C	2.55	0.45
1:A:2009:G:OP1	18:W:41:LYS:HE2	2.17	0.45
1:A:1728:G:N1	1:A:1730:U:OP2	2.49	0.45
1:A:1756:G:H4'	1:A:1758:G:O4'	2.16	0.45
1:A:1769:G:O2'	1:A:1958:C:OP1	2.30	0.45
1:A:2507:C:H5''	1:A:2573:C:N4	2.32	0.45
1:A:2630:G:O4'	1:A:2894:G:H1'	2.16	0.45
1:A:78:A:H2'	1:A:79:G:C8	2.52	0.45
3:D:166:GLN:CA	3:D:166:GLN:NE2	2.78	0.45
3:D:213:ARG:HD2	3:D:213:ARG:HA	1.60	0.45
3:D:65:ILE:HD11	3:D:67:PHE:CE1	2.51	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:20:ILE:HD13	6:G:25:TYR:HB2	1.98	0.45
6:G:51:ARG:NH2	6:G:52:ILE:HD11	2.32	0.45
9:N:128:HIS:HB2	9:N:129:PRO:CD	2.46	0.45
9:N:5:VAL:O	9:N:5:VAL:HG13	2.16	0.45
9:N:96:GLU:O	9:N:99:LEU:N	2.34	0.45
11:P:31:ALA:C	11:P:32:THR:CG2	2.85	0.45
12:Q:93:TYR:CD1	12:Q:93:TYR:N	2.84	0.45
15:T:36:GLU:CG	15:T:41:ARG:HD3	2.46	0.45
16:U:76:TYR:C	16:U:76:TYR:CD2	2.90	0.45
18:W:40:ASN:C	18:W:41:LYS:HG2	2.37	0.45
1:A:138:G:N2	19:X:44:GLU:OE2	2.34	0.45
24:2:28:LYS:HB3	24:2:57:ILE:HG12	1.98	0.45
1:A:1754:C:N3	1:A:2716:U:O2'	2.49	0.45
1:A:177:G:H3'	1:A:178:G:H8	1.82	0.45
1:A:372:G:H5''	23:1:66:HIS:CD2	2.52	0.45
1:A:709:U:H2'	1:A:710:G:H8	1.80	0.45
1:A:769:G:H5'	1:A:1379:A:H61	1.80	0.45
1:A:868:U:C4	1:A:869:G:N7	2.85	0.45
3:D:14:ARG:HG3	3:D:15:PHE:N	2.31	0.45
5:F:123:LEU:HD12	5:F:124:LEU:H	1.82	0.45
7:H:86:GLU:O	7:H:87:LEU:CB	2.64	0.45
8:I:83:ALA:HA	8:I:88:ILE:HA	1.97	0.45
9:N:35:ARG:HG3	9:N:35:ARG:O	2.15	0.45
10:O:40:VAL:CG1	10:O:41:ALA:N	2.80	0.45
10:O:47:ILE:HG13	10:O:48:PRO:HD2	1.99	0.45
11:P:21:ARG:HA	11:P:21:ARG:HE	1.82	0.45
11:P:88:LEU:O	11:P:90:ARG:N	2.50	0.45
16:U:79:PHE:HD2	16:U:79:PHE:C	2.18	0.45
18:W:14:PRO:O	18:W:16:LYS:N	2.50	0.45
25:3:28:LEU:HA	25:3:33:GLN:OE1	2.16	0.45
27:5:15:ARG:HA	27:5:18:ALA:HB3	1.99	0.45
30:8:16:ILE:CD1	30:8:57:ARG:HG2	2.42	0.45
1:A:1217:C:OP1	16:U:15:LYS:NZ	2.45	0.45
1:A:1257:C:H4'	5:F:83:PHE:CE2	2.52	0.45
1:A:1672:C:H5''	1:A:2554:U:OP1	2.17	0.45
1:A:2168:G:H2'	1:A:2168:G:N3	2.31	0.45
1:A:2777:G:OP2	1:A:2781:A:O2'	2.18	0.45
1:A:515:A:H1'	1:A:581:C:H1'	1.98	0.45
1:A:519:U:H2'	1:A:520:G:H8	1.79	0.45
1:A:686:G:N2	1:A:788:A:H61	2.15	0.45
3:D:109:ASP:HB2	3:D:197:GLY:CA	2.46	0.45
1:A:1693:U:H1'	3:D:14:ARG:HH22	1.80	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:2:LYS:O	4:E:199:ARG:HA	2.17	0.45
5:F:119:ARG:HH11	5:F:119:ARG:CG	2.29	0.45
1:A:451:C:H4'	5:F:52:LYS:HZ2	1.81	0.45
1:A:2404:C:H1'	11:P:67:MET:HE2	1.99	0.45
16:U:53:ARG:C	16:U:55:ARG:H	2.19	0.45
17:V:59:ALA:HB2	17:V:96:ILE:HD13	1.97	0.45
1:A:1225:C:O2'	17:V:85:LYS:HA	2.17	0.45
18:W:65:LEU:CD1	18:W:68:ARG:NH1	2.75	0.45
20:Y:2:ARG:O	20:Y:3:VAL:C	2.55	0.45
23:1:73:LEU:C	23:1:75:GLU:N	2.70	0.45
23:1:80:LEU:CB	23:1:81:LYS:HE2	2.44	0.45
23:1:82:LEU:HD13	23:1:83:GLU:C	2.36	0.45
28:6:17:LYS:O	28:6:18:ARG:CB	2.64	0.45
28:6:11:LEU:H	28:6:25:LYS:HA	1.81	0.45
1:A:1113:U:H2'	1:A:1114:G:C8	2.51	0.45
1:A:1291:C:H5'	1:A:1536:A:H5'	1.99	0.45
1:A:1328:G:H2'	1:A:1330:C:C5	2.52	0.45
1:A:1796:U:H2'	1:A:1797:C:H6	1.80	0.45
2:B:80:U:O2'	2:B:81:G:H5''	2.16	0.45
3:D:118:VAL:O	3:D:129:ASN:HA	2.16	0.45
3:D:36:PRO:HB3	3:D:62:TYR:O	2.16	0.45
6:G:102:PHE:HA	6:G:105:LYS:HE3	1.98	0.45
6:G:36:LYS:O	6:G:37:VAL:HG23	2.16	0.45
9:N:57:ALA:HA	9:N:60:ILE:CD1	2.43	0.45
10:O:22:ILE:HG12	10:O:41:ALA:HA	1.98	0.45
10:O:2:ILE:HD11	10:O:82:ASN:ND2	2.16	0.45
11:P:144:GLU:N	11:P:144:GLU:OE1	2.48	0.45
11:P:62:LEU:H	11:P:62:LEU:CD2	2.19	0.45
11:P:81:GLN:CD	11:P:106:LEU:O	2.55	0.45
13:R:17:ARG:O	13:R:20:LEU:HB3	2.17	0.45
16:U:97:ASP:HA	16:U:100:VAL:CG2	2.47	0.45
20:Y:36:ALA:HB1	20:Y:67:LEU:O	2.16	0.45
23:1:49:VAL:HG12	23:1:51:VAL:HG23	1.99	0.45
30:8:36:LYS:HB3	30:8:40:GLU:HG2	1.99	0.45
1:A:49:A:H61	1:A:177:G:H2'	1.81	0.45
1:A:2712:U:O2'	1:A:2712(A):A:H8	1.88	0.45
1:A:376:C:H2'	1:A:377:C:C6	2.51	0.45
1:A:1567:A:H4'	3:D:58:HIS:CE1	2.51	0.45
4:E:77:ILE:O	4:E:78:LEU:O	2.34	0.45
5:F:196:LEU:O	5:F:200:GLU:HG2	2.17	0.45
6:G:129:GLY:O	6:G:130:ASN:OD1	2.34	0.45
1:A:2531:A:H4'	7:H:157:TYR:CE2	2.52	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
9:N:118:LYS:C	9:N:120:LEU:H	2.20	0.45
11:P:88:LEU:HD23	11:P:88:LEU:C	2.37	0.45
11:P:96:THR:HG22	11:P:126:VAL:CB	2.47	0.45
17:V:4:ILE:HG22	17:V:39:LEU:HD23	1.98	0.45
17:V:5:VAL:HG13	17:V:14:VAL:HG21	1.98	0.45
17:V:61:VAL:HA	17:V:94:LEU:HD23	1.97	0.45
19:X:47:PHE:O	19:X:48:LYS:C	2.55	0.45
20:Y:84:ARG:HD3	20:Y:86:ARG:HH11	1.82	0.45
23:1:60:PHE:HZ	23:1:90:ILE:HG21	1.82	0.45
28:6:11:LEU:HD11	28:6:51:GLU:HG3	1.98	0.45
28:6:9:LEU:CD1	28:6:26:ASN:ND2	2.79	0.45
1:A:108:U:H2'	1:A:109:G:H8	1.82	0.45
1:A:1510:A:O2'	1:A:1511:A:N7	2.50	0.45
1:A:1470:G:N2	1:A:1522:G:OP2	2.50	0.45
1:A:2037:G:H2'	1:A:2038:G:C8	2.51	0.45
1:A:324:A:N6	1:A:338:G:O2'	2.47	0.45
2:B:20:C:H2'	2:B:21:G:O4'	2.17	0.45
3:D:198:ASN:O	3:D:198:ASN:ND2	2.50	0.45
1:A:1797:C:H4'	3:D:257:LEU:O	2.17	0.45
3:D:44:ASN:HB2	3:D:49:ILE:HA	1.93	0.45
3:D:68:LYS:HD2	3:D:70:TRP:CZ2	2.52	0.45
3:D:79:VAL:HG21	3:D:111:LEU:HD21	1.98	0.45
4:E:2:LYS:HG2	4:E:95:ILE:HG22	1.99	0.45
5:F:184:TYR:CE2	5:F:188:ARG:HD2	2.52	0.45
7:H:149:ARG:HA	7:H:162:ILE:HG21	1.99	0.45
10:O:78:ARG:HH21	15:T:103:ARG:HH22	1.64	0.45
11:P:115:LEU:CB	11:P:131:SER:HB2	2.47	0.45
11:P:115:LEU:HA	11:P:134:ALA:CB	2.47	0.45
12:Q:10:ARG:O	12:Q:11:LYS:CB	2.64	0.45
12:Q:119:ARG:CG	12:Q:119:ARG:HH11	2.25	0.45
12:Q:11:LYS:HE2	12:Q:87:LYS:HA	1.98	0.45
12:Q:90:VAL:C	12:Q:92:GLY:N	2.70	0.45
17:V:5:VAL:HG22	17:V:14:VAL:CG2	2.46	0.45
17:V:69:LYS:HG3	17:V:87:HIS:O	2.17	0.45
18:W:21:VAL:HG12	18:W:21:VAL:O	2.17	0.45
21:Z:58:VAL:O	21:Z:60:GLU:N	2.47	0.45
23:1:48:LYS:HA	23:1:60:PHE:O	2.17	0.44
6:G:67:LYS:CE	26:4:6:HIS:NE2	2.74	0.44
29:7:24:THR:O	29:7:28:ARG:HG3	2.16	0.44
30:8:15:LYS:C	30:8:15:LYS:HD3	2.37	0.44
1:A:242:G:C5'	30:8:3:LYS:HE3	2.46	0.44
30:8:9:GLY:O	30:8:13:ARG:HG2	2.16	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1405:U:H2'	1:A:1406:U:C6	2.52	0.44
1:A:2567:G:H2'	1:A:2568:C:C6	2.51	0.44
3:D:143:HIS:HD2	3:D:144:ALA:HB2	1.82	0.44
3:D:145:VAL:HG12	3:D:146:GLU:N	2.32	0.44
3:D:166:GLN:HA	3:D:166:GLN:NE2	2.32	0.44
4:E:101:ARG:HD2	4:E:171:GLU:HA	1.98	0.44
4:E:36:ARG:HH11	4:E:36:ARG:CB	2.28	0.44
7:H:51:ARG:NH1	7:H:51:ARG:HG3	2.30	0.44
7:H:7:LEU:HD12	7:H:7:LEU:C	2.37	0.44
9:N:7:LYS:HD3	9:N:9:VAL:H	1.80	0.44
10:O:19:ILE:HD13	10:O:19:ILE:H	1.82	0.44
1:A:2415:G:O3'	11:P:66:GLY:HA3	2.17	0.44
10:O:104:ARG:NH2	15:T:34:VAL:HG11	2.32	0.44
16:U:86:ALA:CB	16:U:88:ILE:HD11	2.48	0.44
18:W:67:ASP:N	18:W:67:ASP:OD2	2.50	0.44
20:Y:73:ARG:HB3	20:Y:73:ARG:HE	1.51	0.44
24:2:41:ILE:HD12	24:2:41:ILE:O	2.16	0.44
26:4:15:ILE:CG2	26:4:20:ASN:ND2	2.81	0.44
27:5:56:LYS:O	27:5:58:LEU:N	2.50	0.44
30:8:17:THR:O	30:8:20:GLY:N	2.46	0.44
1:A:1927:A:H2'	1:A:1928:A:C8	2.53	0.44
1:A:234:C:H2'	1:A:235:U:C6	2.52	0.44
1:A:241:A:H4'	1:A:242:G:OP1	2.17	0.44
1:A:2659:G:N2	1:A:2662:A:OP2	2.50	0.44
3:D:176:ARG:HH11	3:D:176:ARG:CG	2.30	0.44
3:D:241:PRO:O	3:D:242:ARG:C	2.55	0.44
3:D:92:ILE:HD12	3:D:104:TYR:HD2	1.81	0.44
4:E:4:ILE:HG12	4:E:91:VAL:HG11	1.99	0.44
5:F:132:VAL:HG23	5:F:133:ASN:H	1.82	0.44
5:F:7:TYR:CD1	5:F:7:TYR:N	2.85	0.44
6:G:6:ALA:HB3	6:G:104:GLU:OE2	2.16	0.44
6:G:16:ARG:CZ	6:G:31:VAL:HG11	2.47	0.44
6:G:44:GLY:HA2	6:G:88:ILE:HD11	1.99	0.44
7:H:53:GLU:OE1	7:H:53:GLU:HA	2.16	0.44
1:A:567:A:OP2	11:P:29:LYS:NZ	2.51	0.44
11:P:75:ILE:HG12	11:P:77:ARG:HH12	1.82	0.44
13:R:10:LEU:O	13:R:11:ASN:C	2.55	0.44
14:S:78:LEU:HD21	14:S:108:GLY:CA	2.47	0.44
14:S:5:THR:HG1	14:S:7:TYR:HB3	1.82	0.44
1:A:1155:A:O3'	16:U:55:ARG:NH1	2.50	0.44
23:1:54:ALA:O	23:1:55:GLY:O	2.35	0.44
23:1:10:LYS:HD2	23:1:66:HIS:HE1	1.82	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:94:LEU:O	23:1:95:LEU:HB2	2.18	0.44
29:7:32:LYS:O	29:7:33:ARG:C	2.55	0.44
1:A:1228:G:OP2	16:U:16:LYS:NZ	2.34	0.44
1:A:1258:C:O4'	5:F:84:VAL:HG11	2.18	0.44
1:A:1436:G:H1'	1:A:1477:A:O2'	2.17	0.44
1:A:2271:G:H2'	1:A:2272:U:C6	2.52	0.44
1:A:229:A:OP1	1:A:229:A:H4'	2.15	0.44
1:A:271:G:H2'	1:A:272:G:H8	1.82	0.44
1:A:2747:G:H21	1:A:2757:A:H62	1.64	0.44
1:A:30:G:H2'	1:A:31:C:C6	2.52	0.44
1:A:335:C:H4'	20:Y:73:ARG:CZ	2.47	0.44
1:A:26:G:H1'	1:A:515:A:H61	1.81	0.44
2:B:33:G:H5''	2:B:33:G:H8	1.82	0.44
2:B:78:A:H2'	2:B:79:C:O4'	2.17	0.44
5:F:155:LEU:HA	5:F:174:VAL:CG1	2.46	0.44
8:I:41:GLU:HA	8:I:44:LEU:HB2	1.99	0.44
9:N:120:LEU:C	9:N:120:LEU:HD13	2.37	0.44
9:N:36:GLY:O	9:N:42:TRP:CE3	2.69	0.44
9:N:67:LEU:HA	9:N:87:LEU:HD13	2.00	0.44
11:P:45:LEU:N	11:P:45:LEU:HD12	2.32	0.44
1:A:389:G:N1	11:P:70:GLN:HB3	2.33	0.44
15:T:49:VAL:CG1	15:T:49:VAL:O	2.64	0.44
18:W:74:ALA:O	18:W:75:TYR:CB	2.65	0.44
18:W:88:ARG:HG2	18:W:88:ARG:HH11	1.82	0.44
1:A:328:U:H4'	20:Y:68:HIS:CE1	2.52	0.44
20:Y:95:LYS:HB2	20:Y:99:CYS:O	2.18	0.44
20:Y:97:ARG:HH11	20:Y:97:ARG:HG2	1.82	0.44
26:4:15:ILE:CD1	26:4:15:ILE:N	2.78	0.44
1:A:1138:G:H21	9:N:106:MET:CE	2.29	0.44
1:A:1161:C:O2'	17:V:8:GLY:HA2	2.17	0.44
1:A:2862:G:H2'	1:A:2863:C:C6	2.52	0.44
1:A:27:G:O2'	1:A:28:A:H8	2.00	0.44
1:A:373:U:H2'	1:A:374:A:H8	1.82	0.44
1:A:38:A:N3	5:F:48:THR:OG1	2.48	0.44
1:A:792:G:N3	1:A:2072:G:O2'	2.40	0.44
3:D:155:LEU:HD12	3:D:155:LEU:N	2.32	0.44
3:D:30:GLU:HG3	3:D:63:ARG:NE	2.32	0.44
3:D:48:ARG:HG3	3:D:48:ARG:NH1	2.31	0.44
5:F:117:ARG:NH2	5:F:189:THR:O	2.50	0.44
6:G:129:GLY:HA2	6:G:169:ALA:HB2	1.99	0.44
9:N:20:GLY:HA2	9:N:61:ARG:HD2	1.99	0.44
11:P:101:VAL:HA	11:P:106:LEU:HB2	1.99	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
13:R:3:HIS:C	13:R:5:LYS:H	2.16	0.44
14:S:3:ARG:O	14:S:4:LEU:O	2.35	0.44
16:U:66:ASN:CB	16:U:76:TYR:HB2	2.44	0.44
17:V:61:VAL:HG22	17:V:61:VAL:O	2.16	0.44
19:X:87:GLN:HE21	19:X:87:GLN:HB2	1.55	0.44
20:Y:88:LYS:HB3	20:Y:90:LEU:CD2	2.48	0.44
30:8:47:LYS:HD2	30:8:48:PHE:N	2.33	0.44
1:A:2122:U:H2'	1:A:2123:G:H8	1.82	0.44
1:A:2688:U:H5	1:A:2720:U:OP2	2.01	0.44
1:A:956:G:H2'	1:A:957:A:H2'	1.99	0.44
2:B:57:A:H4'	6:G:30:GLU:HG2	1.98	0.44
4:E:11:MET:O	4:E:12:THR:HB	2.18	0.44
4:E:143:ASN:ND2	4:E:143:ASN:N	2.65	0.44
5:F:174:VAL:CG1	5:F:174:VAL:O	2.65	0.44
1:A:675:A:H4'	5:F:67:GLN:OE1	2.17	0.44
9:N:57:ALA:O	9:N:124:ALA:HA	2.18	0.44
11:P:83:VAL:HG11	11:P:112:LEU:HD21	1.97	0.44
15:T:135:ALA:C	15:T:137:LYS:N	2.71	0.44
18:W:29:LEU:HD11	18:W:55:ALA:HB2	1.98	0.44
19:X:70:LEU:HD23	19:X:70:LEU:H	1.77	0.44
21:Z:110:GLY:N	21:Z:111:VAL:HG12	2.33	0.44
23:1:8:SER:CB	23:1:66:HIS:CE1	3.01	0.44
24:2:4:SER:OG	24:2:5:GLU:OE2	2.26	0.44
26:4:68:ARG:HH11	26:4:69:LYS:HG2	1.82	0.44
28:6:34:LEU:O	28:6:36:LEU:HD22	2.17	0.44
29:7:48:LYS:CG	29:7:49:ARG:H	2.23	0.44
1:A:1086:A:H3'	1:A:1086:A:N3	2.33	0.44
1:A:1366:A:H2'	1:A:1367:A:O4'	2.17	0.44
1:A:1870:C:H2'	1:A:1871:A:O4'	2.17	0.44
1:A:1889:A:O2'	1:A:2087:G:H5'	2.17	0.44
1:A:921:G:H4'	1:A:2269:A:C5	2.52	0.44
1:A:464:U:H4'	29:7:5:TRP:CZ3	2.52	0.44
3:D:12:SER:C	3:D:14:ARG:N	2.70	0.44
3:D:30:GLU:CD	3:D:63:ARG:HE	2.21	0.44
7:H:84:SER:OG	7:H:85:LYS:N	2.51	0.44
8:I:29:TYR:O	8:I:33:ARG:HB2	2.18	0.44
10:O:77:ILE:O	10:O:77:ILE:HG23	2.17	0.44
10:O:91:LEU:N	10:O:91:LEU:CD2	2.80	0.44
17:V:35:LEU:N	17:V:35:LEU:HD22	2.23	0.44
26:4:33:VAL:CG1	26:4:34:GLU:H	2.22	0.44
26:4:39:CYS:HB3	26:4:41:PRO:HD2	2.00	0.44
28:6:15:GLU:HB3	28:6:16:CYS:H	1.46	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
28:6:11:LEU:HD12	28:6:51:GLU:HG3	2.00	0.44
1:A:1093:G:OP1	7:H:170:ARG:HD2	2.17	0.44
1:A:1771:C:O2'	1:A:1786:A:H8	2.00	0.44
1:A:1930:G:H2'	1:A:1968:G:H1	1.83	0.44
1:A:944:G:H5''	1:A:945:A:O5'	2.17	0.44
3:D:12:SER:O	3:D:14:ARG:N	2.51	0.44
3:D:237:GLU:HB3	3:D:238:GLY:H	1.49	0.44
1:A:2227:A:H5''	3:D:263:ARG:NH1	2.32	0.44
3:D:45:ASN:CG	3:D:46:GLN:N	2.68	0.44
3:D:52:ARG:HB2	3:D:53:PHE:CD2	2.53	0.44
3:D:95:LEU:HD12	3:D:95:LEU:O	2.17	0.44
2:B:43:C:O2	6:G:93:THR:HB	2.18	0.44
8:I:9:LEU:O	8:I:10:GLU:HG3	2.18	0.44
8:I:29:TYR:HD2	8:I:30:LEU:HD23	1.82	0.44
9:N:96:GLU:CG	9:N:97:ARG:N	2.72	0.44
11:P:81:GLN:HG3	11:P:82:GLY:N	2.33	0.44
14:S:78:LEU:HD21	14:S:108:GLY:HA2	1.98	0.44
2:B:48:A:H4'	14:S:95:HIS:HD2	1.82	0.44
15:T:114:LEU:HA	15:T:114:LEU:HD23	1.74	0.44
17:V:72:VAL:HG13	17:V:85:LYS:HB3	2.00	0.44
25:3:50:VAL:HB	25:3:53:LEU:HD12	2.00	0.44
27:5:52:TYR:CD1	27:5:52:TYR:N	2.85	0.44
1:A:1937:A:C8	1:A:1939:U:H2'	2.52	0.44
1:A:194:G:H2'	1:A:195:A:O4'	2.17	0.44
1:A:2106:G:H1	1:A:2183:C:H42	1.66	0.44
1:A:222:A:HO2'	1:A:223:A:P	2.41	0.44
1:A:2629:A:O2'	1:A:2630:G:H5''	2.18	0.44
1:A:704:G:O2'	1:A:726:G:N2	2.50	0.44
1:A:860:U:H5	1:A:917:A:N1	2.16	0.44
3:D:10:THR:O	3:D:11:PRO:C	2.56	0.44
3:D:25:THR:O	3:D:25:THR:CG2	2.65	0.44
4:E:13:ARG:HH11	4:E:13:ARG:HB3	1.82	0.44
4:E:199:ARG:HH11	4:E:199:ARG:HG3	1.82	0.44
1:A:2637:U:H5''	4:E:82:ARG:HH21	1.82	0.44
6:G:67:LYS:N	6:G:67:LYS:HD2	2.33	0.44
7:H:119:GLU:CD	7:H:120:GLY:H	2.22	0.44
9:N:114:ARG:O	9:N:115:ARG:CB	2.65	0.44
12:Q:34:LEU:HB2	12:Q:118:LEU:HD22	1.99	0.44
13:R:12:ARG:HG3	13:R:12:ARG:NH1	2.32	0.44
13:R:33:ARG:HA	13:R:114:VAL:O	2.18	0.44
13:R:79:LEU:HD23	13:R:79:LEU:O	2.16	0.44
16:U:52:ARG:CG	16:U:52:ARG:NH1	2.76	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:66:ARG:NH1	17:V:88:ARG:CD	2.74	0.44
18:W:14:PRO:HB3	18:W:18:ARG:HE	1.83	0.44
19:X:14:SER:HB2	19:X:15:GLU:OE1	2.18	0.44
19:X:31:HIS:HA	19:X:32:PRO:HD3	1.88	0.44
22:O:53:MET:CB	22:O:59:LEU:HD23	2.48	0.44
27:5:3:LYS:O	27:5:4:HIS:C	2.56	0.44
1:A:2372:G:H4'	28:6:46:HIS:CD2	2.52	0.44
30:8:58:ILE:O	30:8:61:LEU:CG	2.66	0.44
1:A:1078:U:O2'	1:A:1079:C:OP2	2.25	0.44
1:A:2008:C:H2'	1:A:2009:G:C8	2.51	0.44
1:A:2023:G:H4'	1:A:2617:C:O3'	2.18	0.44
1:A:2086:U:H2'	1:A:2087:G:C8	2.53	0.44
1:A:2298:A:C2	1:A:2299:G:H1'	2.52	0.44
1:A:2377:A:H2'	1:A:2378:A:C8	2.53	0.44
3:D:206:LEU:HA	3:D:206:LEU:HD23	1.49	0.44
3:D:227:ASN:CB	3:D:228:PRO:CD	2.93	0.44
3:D:44:ASN:H	3:D:44:ASN:ND2	1.97	0.44
4:E:52:LEU:HB2	4:E:75:VAL:CG2	2.40	0.44
5:F:65:TRP:CZ2	5:F:72:ARG:NH2	2.86	0.44
7:H:109:PHE:C	7:H:111:HIS:H	2.21	0.44
10:O:104:ARG:NH1	15:T:36:GLU:CD	2.71	0.44
10:O:63:VAL:O	10:O:63:VAL:HG23	2.18	0.44
10:O:86:ILE:CD1	10:O:86:ILE:H	2.28	0.44
13:R:41:ALA:C	13:R:43:GLU:H	2.21	0.44
15:T:105:LEU:C	15:T:107:ASP:OD1	2.56	0.44
15:T:29:ARG:HA	15:T:45:PHE:O	2.17	0.44
15:T:99:LEU:CD1	15:T:99:LEU:O	2.65	0.44
16:U:79:PHE:CE2	16:U:83:LEU:CD1	3.01	0.44
1:A:1161:C:O2'	17:V:23:GLU:HG2	2.18	0.44
18:W:70:TYR:HD2	18:W:70:TYR:N	2.06	0.44
19:X:3:THR:HA	19:X:6:ASP:OD2	2.18	0.44
20:Y:15:VAL:HB	20:Y:20:TYR:O	2.17	0.44
21:Z:157:LEU:HD23	21:Z:161:VAL:HG12	1.98	0.44
21:Z:151:HIS:HA	21:Z:170:THR:HA	1.99	0.44
26:4:39:CYS:O	26:4:40:HIS:CB	2.66	0.43
30:8:40:GLU:O	30:8:43:GLN:N	2.50	0.43
1:A:1930:G:H2'	1:A:1968:G:N1	2.33	0.43
1:A:2031:A:O2'	1:A:2454:G:N2	2.49	0.43
1:A:2340:G:H2'	1:A:2341:G:H8	1.83	0.43
1:A:2645:G:C3'	1:A:2646:C:H5'	2.47	0.43
1:A:2811:G:H8	1:A:2811:G:OP2	2.00	0.43
1:A:852:G:H2'	1:A:853:G:C8	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:102:LYS:O	3:D:103:ARG:CG	2.66	0.43
3:D:11:PRO:O	3:D:12:SER:CB	2.65	0.43
3:D:155:LEU:HD23	3:D:177:LEU:HD21	2.00	0.43
3:D:17:THR:HG22	3:D:204:ILE:HA	1.98	0.43
4:E:3:GLY:CA	4:E:81:ILE:HG21	2.48	0.43
5:F:144:LYS:C	5:F:146:ALA:H	2.20	0.43
5:F:167:ALA:HB1	5:F:173:VAL:HG11	1.98	0.43
5:F:24:LEU:HD12	5:F:24:LEU:N	2.33	0.43
5:F:63:LYS:CE	5:F:67:GLN:HB2	2.48	0.43
7:H:125:VAL:CG1	7:H:126:PRO:CG	2.94	0.43
8:I:130:TYR:HB3	8:I:136:VAL:HG13	2.00	0.43
9:N:30:ILE:HG22	9:N:34:LEU:CD2	2.48	0.43
1:A:389:G:H22	11:P:72:PRO:HD3	1.83	0.43
14:S:110:LEU:HA	14:S:112:PHE:CE1	2.53	0.43
20:Y:11:ASP:HB2	20:Y:27:VAL:CG1	2.46	0.43
20:Y:48:ALA:CB	20:Y:61:ILE:HD13	2.45	0.43
23:1:80:LEU:O	23:1:81:LYS:CD	2.65	0.43
26:4:48:ARG:C	26:4:49:PHE:HD1	2.22	0.43
30:8:58:ILE:O	30:8:61:LEU:CD1	2.67	0.43
1:A:1090:U:H3	1:A:1102:C:H1'	1.83	0.43
1:A:2126:A:H1'	1:A:2127:G:OP2	2.18	0.43
1:A:2441:C:OP2	1:A:2586:C:O2'	2.30	0.43
5:F:201:VAL:HG13	5:F:202:PHE:N	2.33	0.43
6:G:131:TYR:HE2	6:G:133:LEU:HD22	1.83	0.43
10:O:97:ARG:HA	10:O:117:LEU:HD22	2.00	0.43
11:P:101:VAL:HG13	11:P:102:ARG:N	2.33	0.43
11:P:75:ILE:HG12	11:P:77:ARG:NH1	2.32	0.43
1:A:1278:A:O3'	13:R:34:ILE:HG23	2.18	0.43
13:R:81:ASP:OD2	13:R:81:ASP:N	2.50	0.43
1:A:2377:A:C2	14:S:18:ILE:HD11	2.52	0.43
15:T:111:ARG:C	15:T:113:LYS:N	2.64	0.43
1:A:994:C:OP1	16:U:53:ARG:NH2	2.51	0.43
16:U:64:ARG:NH2	16:U:64:ARG:CG	2.70	0.43
19:X:65:ARG:N	19:X:65:ARG:CD	2.79	0.43
19:X:7:VAL:O	19:X:30:VAL:CG1	2.67	0.43
20:Y:88:LYS:HA	20:Y:88:LYS:HZ2	1.83	0.43
23:1:53:VAL:CG1	23:1:54:ALA:N	2.81	0.43
26:4:42:PHE:C	26:4:42:PHE:CD1	2.90	0.43
28:6:20:ASN:O	28:6:21:TYR:CG	2.72	0.43
28:6:7:ILE:HG23	28:6:8:LYS:N	2.32	0.43
1:A:686:G:O6	29:7:12:ARG:HG3	2.18	0.43
29:7:5:TRP:CD1	29:7:7:PRO:HG3	2.53	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1047:G:H2'	1:A:1110:G:N1	2.32	0.43
1:A:1113:U:H2'	1:A:1114:G:H8	1.83	0.43
1:A:1810:A:H2'	1:A:1811:G:O4'	2.18	0.43
1:A:1844:C:OP1	3:D:257:LEU:HD23	2.19	0.43
1:A:271:G:H2'	1:A:272:G:C8	2.53	0.43
1:A:586:A:N1	1:A:809:G:O2'	2.31	0.43
1:A:629:G:H5'	1:A:650:C:O2'	2.18	0.43
1:A:952:G:P	12:Q:16:ARG:HH12	2.41	0.43
3:D:69:ARG:NH2	3:D:130:ALA:HB2	2.19	0.43
4:E:31:CYS:HB3	4:E:49:LEU:HG	2.01	0.43
4:E:36:ARG:NH1	4:E:36:ARG:HB3	2.30	0.43
4:E:51:PHE:CD1	4:E:52:LEU:N	2.76	0.43
5:F:101:LEU:HD12	5:F:102:PRO:N	2.33	0.43
5:F:149:ASP:OD2	5:F:151:SER:HB3	2.17	0.43
6:G:19:LEU:HA	6:G:22:ARG:HB2	1.99	0.43
1:A:2653:U:O2'	7:H:110:SER:HB2	2.18	0.43
7:H:136:ILE:HD12	7:H:136:ILE:N	2.31	0.43
7:H:137:ASP:OD1	7:H:138:LYS:N	2.51	0.43
8:I:82:ARG:HD3	8:I:146:ALA:HB3	1.99	0.43
11:P:81:GLN:HB2	11:P:81:GLN:HE21	1.59	0.43
12:Q:27:VAL:HG13	12:Q:28:ALA:N	2.32	0.43
14:S:14:VAL:CG1	14:S:15:ARG:N	2.81	0.43
14:S:38:GLN:CG	14:S:47:THR:HG21	2.48	0.43
14:S:86:ALA:O	14:S:87:PHE:CB	2.65	0.43
1:A:559:G:H22	16:U:49:HIS:CE1	2.36	0.43
17:V:25:LEU:H	17:V:92:THR:CG2	2.28	0.43
19:X:14:SER:O	19:X:15:GLU:C	2.57	0.43
20:Y:25:GLY:HA3	20:Y:39:VAL:CG1	2.47	0.43
20:Y:95:LYS:HA	20:Y:101:LYS:N	2.33	0.43
26:4:49:PHE:HD1	26:4:49:PHE:N	2.17	0.43
1:A:2350:C:C5	30:8:42:ARG:NH1	2.87	0.43
1:A:1220:A:H5'	1:A:1221:C:OP2	2.17	0.43
1:A:1257:C:H5'	5:F:75:HIS:CE1	2.52	0.43
1:A:185:U:H4'	1:A:218:A:H4'	1.99	0.43
1:A:2123:G:H2'	1:A:2124:G:C8	2.54	0.43
1:A:2329:G:H2'	1:A:2330:G:C8	2.54	0.43
1:A:2543:G:H2'	1:A:2544:G:H8	1.83	0.43
1:A:34:C:H41	1:A:447:A:H61	1.66	0.43
4:E:16:ARG:O	4:E:18:ASP:O	2.36	0.43
4:E:52:LEU:O	4:E:74:PRO:HA	2.18	0.43
6:G:139:LEU:HA	6:G:144:ILE:HG21	2.00	0.43
6:G:83:ARG:HG3	6:G:86:MET:CE	2.46	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
7:H:92:ILE:CD1	7:H:160:LYS:HD3	2.48	0.43
11:P:107:LYS:HB2	11:P:110:TYR:HD2	1.83	0.43
15:T:105:LEU:O	15:T:105:LEU:HG	2.19	0.43
17:V:15:GLU:O	17:V:96:ILE:HB	2.19	0.43
20:Y:81:LYS:HZ2	20:Y:98:VAL:HB	1.83	0.43
23:1:92:LYS:O	23:1:93:GLU:C	2.56	0.43
1:A:1357:U:H2'	1:A:1358:G:O4'	2.19	0.43
1:A:1578:U:C2'	1:A:1579:A:H5'	2.48	0.43
1:A:270(S):G:H1'	23:1:78:LYS:HD2	2.00	0.43
1:A:2722:G:H4'	13:R:4:LEU:HB2	1.99	0.43
1:A:428:A:OP2	1:A:428:A:H8	2.02	0.43
1:A:593:G:H2'	1:A:594:U:H6	1.83	0.43
1:A:724:U:H2'	1:A:725:G:O4'	2.18	0.43
4:E:69:LYS:C	4:E:71:GLY:N	2.71	0.43
6:G:59:GLU:O	6:G:62:LEU:HB3	2.18	0.43
8:I:52:ARG:HA	8:I:55:ALA:HB3	2.00	0.43
10:O:51:ALA:O	10:O:53:LYS:HE3	2.19	0.43
14:S:56:LEU:O	14:S:57:LYS:O	2.36	0.43
15:T:89:VAL:O	15:T:90:GLN:HB2	2.19	0.43
20:Y:6:HIS:N	20:Y:6:HIS:ND1	2.66	0.43
21:Z:153:SER:HB2	21:Z:167:PRO:HB3	2.00	0.43
23:1:44:PRO:O	23:1:46:LEU:N	2.51	0.43
30:8:40:GLU:O	30:8:41:ILE:C	2.56	0.43
31:9:7:VAL:HG21	31:9:36:GLN:HB2	2.00	0.43
1:A:2193:G:H2'	1:A:2194:G:O4'	2.18	0.43
1:A:249:C:H4'	1:A:250:G:O5'	2.18	0.43
1:A:2749:A:H4'	7:H:62:LYS:HB3	1.99	0.43
1:A:2875:C:H4'	15:T:5:ALA:HB2	2.01	0.43
1:A:500:G:N2	1:A:502:A:H3'	2.33	0.43
2:B:11:C:H3'	2:B:12:C:H6	1.83	0.43
3:D:177:LEU:O	3:D:179:SER:N	2.51	0.43
4:E:120:TRP:CE3	4:E:155:LYS:HD3	2.53	0.43
4:E:51:PHE:O	4:E:74:PRO:CB	2.67	0.43
5:F:62:ARG:CB	5:F:62:ARG:NH1	2.82	0.43
9:N:103:VAL:O	9:N:104:LYS:C	2.57	0.43
9:N:61:ARG:HA	9:N:61:ARG:NE	2.33	0.43
9:N:96:GLU:O	9:N:97:ARG:C	2.57	0.43
14:S:110:LEU:HD23	14:S:112:PHE:CE2	2.54	0.43
14:S:57:LYS:O	14:S:58:LEU:HB3	2.18	0.43
15:T:107:ASP:OD2	15:T:109:GLU:HB2	2.18	0.43
16:U:88:ILE:HG22	16:U:90:VAL:CG2	2.44	0.43
16:U:95:LEU:HD13	17:V:4:ILE:HD12	1.98	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
22:0:82:ARG:HA	22:0:83:PRO:HD2	1.87	0.43
26:4:59:PHE:CE1	26:4:70:GLY:N	2.86	0.43
26:4:68:ARG:O	26:4:69:LYS:HB2	2.17	0.43
1:A:116:C:H2'	1:A:117:G:O4'	2.19	0.43
1:A:1331:A:H2'	1:A:1333:C:H5	1.84	0.43
1:A:2102:U:H2'	1:A:2103:C:C6	2.54	0.43
1:A:2439:A:H3'	1:A:2439:A:P	2.59	0.43
1:A:2695:C:H2'	1:A:2696:U:C6	2.54	0.43
1:A:488:G:O2'	1:A:491:G:N7	2.47	0.43
2:B:40:U:H3	2:B:43:C:H5''	1.84	0.43
4:E:203:LYS:HD2	4:E:203:LYS:C	2.39	0.43
4:E:48:GLN:HB3	4:E:48:GLN:HE21	1.55	0.43
7:H:6:ARG:CG	7:H:7:LEU:N	2.81	0.43
9:N:63:THR:HG23	9:N:66:LYS:HE3	2.00	0.43
11:P:135:LEU:HD13	11:P:139:LYS:HE3	2.01	0.43
11:P:70:GLN:OE1	11:P:70:GLN:N	2.51	0.43
13:R:54:LEU:O	13:R:62:ALA:HB1	2.19	0.43
14:S:105:ALA:C	14:S:110:LEU:HD21	2.38	0.43
18:W:19:LEU:O	18:W:22:ASP:HB2	2.19	0.43
1:A:336:C:H5''	20:Y:6:HIS:CD2	2.53	0.43
21:Z:141:VAL:HA	21:Z:144:LEU:HD23	2.00	0.43
1:A:1265:A:OP1	1:A:1265:A:H8	2.01	0.43
1:A:1348:G:C2'	1:A:1349:A:H5''	2.48	0.43
1:A:1651:G:H2'	1:A:1652:A:O4'	2.18	0.43
1:A:827:U:H1'	1:A:2246:G:O2'	2.18	0.43
1:A:560:C:H2'	1:A:561:G:O4'	2.18	0.43
2:B:16:G:H2'	2:B:17:C:H6	1.84	0.43
3:D:44:ASN:HB3	3:D:49:ILE:CG2	2.47	0.43
3:D:44:ASN:CB	3:D:49:ILE:HG22	2.46	0.43
3:D:76:PRO:O	3:D:98:VAL:CG2	2.65	0.43
7:H:35:VAL:CG2	7:H:75:ALA:HB2	2.48	0.43
8:I:12:LEU:HG	8:I:19:VAL:HG11	2.00	0.43
8:I:79:ILE:HB	8:I:142:VAL:HA	2.00	0.43
9:N:1:MET:HG3	9:N:1:MET:O	2.19	0.43
9:N:7:LYS:HD2	9:N:7:LYS:N	2.29	0.43
10:O:61:VAL:O	10:O:61:VAL:HG13	2.18	0.43
13:R:48:VAL:O	13:R:49:ASP:C	2.57	0.43
18:W:28:SER:O	18:W:30:GLU:N	2.50	0.43
1:A:1799:G:H4'	1:A:1800:C:O5'	2.18	0.43
1:A:1882:C:H5'	1:A:1883:G:OP2	2.18	0.43
1:A:2224:G:H4'	1:A:2226:C:C2	2.53	0.43
1:A:2277:G:C5'	12:Q:85:LYS:HG3	2.49	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2556:C:H2'	1:A:2557:G:O4'	2.17	0.43
1:A:298:G:O2'	1:A:322:A:N1	2.43	0.43
4:E:18:ASP:O	4:E:19:ARG:C	2.55	0.43
5:F:183:VAL:O	5:F:184:TYR:C	2.57	0.43
6:G:31:VAL:O	6:G:31:VAL:HG13	2.18	0.43
6:G:4:ASP:O	6:G:5:VAL:HB	2.19	0.43
9:N:42:TRP:HA	9:N:48:MET:HE1	1.99	0.43
11:P:120:ALA:HB1	11:P:138:LEU:CB	2.49	0.43
11:P:13:ASN:C	11:P:15:ARG:H	2.21	0.43
11:P:18:ARG:O	11:P:19:VAL:CB	2.52	0.43
11:P:19:VAL:HG22	11:P:21:ARG:H	1.83	0.43
13:R:10:LEU:O	13:R:12:ARG:N	2.52	0.43
13:R:2:ARG:HG2	13:R:5:LYS:HZ1	1.82	0.43
14:S:52:SER:HB2	14:S:55:ALA:CB	2.49	0.43
15:T:6:LEU:HD12	15:T:9:LEU:HD12	2.01	0.43
18:W:111:HIS:CG	18:W:112:GLY:H	2.37	0.43
20:Y:95:LYS:HZ1	20:Y:95:LYS:HB2	1.82	0.43
21:Z:5:LEU:HD21	21:Z:44:PHE:HA	2.01	0.43
24:2:6:VAL:O	24:2:7:ARG:C	2.57	0.43
28:6:50:ARG:HH11	28:6:50:ARG:HG2	1.84	0.43
29:7:19:ARG:HG2	29:7:19:ARG:NH1	2.33	0.43
29:7:17:GLY:O	29:7:20:ALA:HB3	2.19	0.43
30:8:28:GLY:O	30:8:29:LYS:O	2.37	0.43
1:A:1050:A:H8	1:A:2751:G:O2'	2.02	0.43
1:A:2481:G:O2'	1:A:2482:G:P	2.77	0.43
3:D:71:ASP:CB	3:D:103:ARG:HH22	2.32	0.43
6:G:25:TYR:CZ	6:G:32:PRO:HD3	2.54	0.43
6:G:51:ARG:HB3	6:G:51:ARG:NH1	2.33	0.43
7:H:16:SER:OG	7:H:17:VAL:N	2.50	0.43
7:H:53:GLU:CD	7:H:54:ARG:H	2.21	0.43
9:N:87:LEU:C	9:N:87:LEU:CD2	2.86	0.43
9:N:90:MET:O	9:N:91:LEU:C	2.57	0.43
10:O:31:LYS:O	10:O:32:TYR:HD2	2.02	0.43
11:P:52:GLU:OE2	11:P:58:THR:N	2.52	0.43
14:S:29:PHE:HD2	14:S:92:TYR:HH	1.66	0.43
15:T:64:ARG:HH11	15:T:64:ARG:HG2	1.84	0.43
16:U:27:LEU:O	16:U:30:LYS:N	2.41	0.43
17:V:72:VAL:O	17:V:72:VAL:HG13	2.19	0.43
21:Z:52:SER:OG	21:Z:52:SER:O	2.33	0.43
23:1:13:ILE:CG1	23:1:42:GLN:HB2	2.49	0.42
26:4:22:ILE:CG2	26:4:23:GLU:N	2.81	0.42
27:5:3:LYS:CE	27:5:3:LYS:HA	2.36	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:1210:A:H4'	1:A:1211:U:O5'	2.17	0.42
1:A:1754:C:H2'	1:A:1755:A:O4'	2.19	0.42
1:A:795:C:H2'	1:A:796:C:C6	2.54	0.42
1:A:861:A:H2'	1:A:862:G:O4'	2.19	0.42
4:E:23:VAL:HG12	4:E:184:VAL:O	2.19	0.42
4:E:25:VAL:HG21	15:T:8:LYS:HG3	2.00	0.42
5:F:176:LEU:HD11	5:F:180:GLY:O	2.19	0.42
5:F:20:LEU:HD12	5:F:21:ALA:N	2.26	0.42
5:F:64:ILE:HG23	5:F:65:TRP:CD1	2.54	0.42
10:O:17:ARG:HH11	10:O:17:ARG:HG2	1.84	0.42
14:S:110:LEU:HA	14:S:112:PHE:CZ	2.53	0.42
18:W:88:ARG:CB	18:W:92:ARG:HB3	2.47	0.42
21:Z:111:VAL:HG13	21:Z:112:ARG:N	2.34	0.42
21:Z:5:LEU:HB3	21:Z:6:LYS:H	1.55	0.42
24:2:62:THR:O	24:2:65:ASN:HB2	2.19	0.42
26:4:43:TYR:O	26:4:46:GLN:HA	2.19	0.42
26:4:48:ARG:NH1	26:4:51:ASP:HA	2.34	0.42
1:A:1417:C:H2'	1:A:1418:G:O4'	2.19	0.42
1:A:1937:A:O2'	1:A:1939:U:OP2	2.34	0.42
1:A:2298:A:H2'	1:A:2299:G:O4'	2.19	0.42
1:A:2723:C:O3'	13:R:1:MET:HE2	2.18	0.42
1:A:345:A:H1'	1:A:346:A:N7	2.35	0.42
3:D:108:PRO:HG2	3:D:111:LEU:HB2	2.01	0.42
3:D:134:ARG:HG3	3:D:134:ARG:H	1.55	0.42
4:E:155:LYS:O	4:E:156:MET:HG3	2.19	0.42
4:E:188:VAL:HA	4:E:189:PRO:HD2	1.79	0.42
7:H:26:VAL:CG1	7:H:33:LEU:HB2	2.49	0.42
9:N:15:LEU:HD13	9:N:15:LEU:C	2.40	0.42
9:N:30:ILE:HG22	9:N:34:LEU:HD21	2.01	0.42
11:P:112:LEU:CD1	11:P:114:ILE:HG23	2.47	0.42
11:P:119:GLU:HA	11:P:119:GLU:OE1	2.19	0.42
11:P:49:ARG:HH11	11:P:49:ARG:HG2	1.84	0.42
12:Q:135:ASP:CG	21:Z:81:ARG:HH12	2.23	0.42
13:R:10:LEU:C	13:R:12:ARG:N	2.72	0.42
13:R:51:LEU:HD13	13:R:66:VAL:HG22	2.01	0.42
16:U:91:ASP:O	16:U:95:LEU:N	2.42	0.42
16:U:98:LEU:O	16:U:102:GLU:N	2.49	0.42
28:6:7:ILE:O	28:6:8:LYS:CG	2.68	0.42
29:7:47:ARG:HB2	29:7:48:LYS:H	1.64	0.42
1:A:1042:G:H2'	1:A:1043:C:C6	2.54	0.42
1:A:1629:U:H2'	1:A:1630:G:C8	2.55	0.42
1:A:244:A:H2'	1:A:245:G:O4'	2.20	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:88:C:H2'	2:B:89:G:O4'	2.19	0.42
3:D:14:ARG:CG	3:D:15:PHE:N	2.83	0.42
3:D:17:THR:HG21	3:D:204:ILE:HA	2.00	0.42
3:D:33:LEU:O	3:D:35:LYS:N	2.52	0.42
4:E:3:GLY:HA3	4:E:81:ILE:CD1	2.47	0.42
4:E:54:GLN:CD	4:E:54:GLN:N	2.73	0.42
6:G:114:ILE:O	6:G:116:ASP:N	2.51	0.42
6:G:41:GLN:NE2	6:G:154:GLY:O	2.52	0.42
6:G:27:ASN:HB3	6:G:30:GLU:OE2	2.19	0.42
7:H:120:GLY:O	7:H:136:ILE:HD12	2.19	0.42
7:H:58:GLU:O	7:H:60:ARG:N	2.53	0.42
10:O:2:ILE:CD1	10:O:2:ILE:N	2.82	0.42
11:P:114:ILE:CD1	11:P:130:PHE:CE1	2.98	0.42
13:R:44:LEU:HD23	13:R:44:LEU:HA	1.79	0.42
15:T:50:ILE:HD11	15:T:102:ILE:HG12	2.01	0.42
17:V:44:LYS:HB3	17:V:45:THR:H	1.56	0.42
18:W:8:ARG:NH1	18:W:8:ARG:HG3	2.34	0.42
25:3:46:ASN:O	25:3:50:VAL:HG22	2.19	0.42
27:5:20:ARG:HA	27:5:23:HIS:CE1	2.54	0.42
1:A:111:A:O3'	24:2:69:ARG:NH2	2.52	0.42
1:A:1020:A:N1	1:A:1141:U:H2'	2.34	0.42
1:A:2105:C:H2'	1:A:2106:G:H8	1.84	0.42
1:A:2892:A:H2'	1:A:2893:G:O4'	2.19	0.42
1:A:311:A:C6	1:A:328:U:C4	3.07	0.42
3:D:43:ARG:CZ	3:D:49:ILE:HG21	2.49	0.42
4:E:28:ALA:HB3	4:E:93:VAL:CG2	2.46	0.42
5:F:63:LYS:HE2	5:F:67:GLN:HB2	2.00	0.42
6:G:145:THR:O	6:G:146:TYR:HB3	2.19	0.42
6:G:63:ILE:HG12	6:G:64:THR:N	2.32	0.42
9:N:10:GLU:OE2	9:N:11:PRO:CD	2.67	0.42
14:S:95:HIS:O	14:S:96:GLY:C	2.57	0.42
15:T:24:PRO:HA	15:T:49:VAL:CG1	2.39	0.42
16:U:92:ARG:NH2	17:V:11:GLN:O	2.53	0.42
20:Y:42:VAL:HG11	20:Y:65:ALA:HB3	2.02	0.42
21:Z:136:PHE:HE1	21:Z:138:GLU:HB3	1.83	0.42
23:1:74:VAL:O	23:1:74:VAL:CG1	2.64	0.42
24:2:59:ARG:O	24:2:62:THR:HG23	2.18	0.42
26:4:54:GLY:HA2	26:4:57:GLU:CG	2.50	0.42
28:6:33:LYS:C	28:6:35:GLU:H	2.22	0.42
1:A:1301:A:O2'	1:A:1302:A:H3'	2.19	0.42
1:A:565:C:H2'	1:A:566:U:O4'	2.20	0.42
4:E:121:ASN:O	4:E:122:PHE:C	2.57	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:E:137:HIS:CB	4:E:138:PRO:HD2	2.42	0.42
4:E:104:VAL:CG1	4:E:188:VAL:HG23	2.49	0.42
4:E:35:GLN:HB3	4:E:48:GLN:HB2	2.01	0.42
6:G:109:VAL:C	6:G:112:PRO:HD2	2.40	0.42
6:G:121:ASN:HA	6:G:181:ARG:NH2	2.34	0.42
6:G:55:LYS:O	6:G:59:GLU:HB2	2.19	0.42
7:H:125:VAL:HG12	7:H:126:PRO:CD	2.49	0.42
7:H:89:ILE:H	7:H:89:ILE:CD1	2.32	0.42
9:N:75:TYR:HA	9:N:82:LEU:HA	2.01	0.42
13:R:29:LEU:HD11	13:R:48:VAL:CG1	2.50	0.42
15:T:80:SER:HA	15:T:81:PRO:HD3	1.73	0.42
16:U:79:PHE:CD2	16:U:83:LEU:HD13	2.54	0.42
21:Z:93:ASP:OD1	21:Z:93:ASP:N	2.53	0.42
31:9:1:MET:HE2	31:9:10:ILE:HD13	2.01	0.42
1:A:1412:A:H2'	1:A:1413:G:O4'	2.20	0.42
1:A:1778:U:H2'	1:A:1784:A:N6	2.34	0.42
1:A:1926:U:H5'	1:A:1927:A:OP2	2.20	0.42
1:A:2183:C:H2'	1:A:2184:G:H8	1.84	0.42
1:A:2291:U:H2'	1:A:2292:C:C6	2.55	0.42
1:A:2494:G:H2'	1:A:2495:G:C8	2.53	0.42
1:A:244:A:C2	1:A:255:A:C4	3.08	0.42
3:D:33:LEU:HB3	3:D:34:VAL:H	1.48	0.42
4:E:24:THR:HB	4:E:184:VAL:HG23	2.02	0.42
7:H:136:ILE:O	7:H:137:ASP:O	2.38	0.42
8:I:135:GLU:HB2	8:I:136:VAL:H	1.67	0.42
9:N:26:LEU:HG	9:N:30:ILE:CD1	2.49	0.42
10:O:1:MET:HG2	10:O:67:LYS:HG2	2.01	0.42
10:O:50:GLY:O	10:O:51:ALA:C	2.57	0.42
11:P:37:GLY:O	11:P:38:GLN:C	2.58	0.42
11:P:98:GLU:O	11:P:99:LEU:C	2.57	0.42
15:T:3:ARG:O	15:T:4:GLY:C	2.58	0.42
17:V:59:ALA:HA	17:V:95:LEU:O	2.19	0.42
18:W:71:VAL:HA	18:W:107:LEU:HD12	2.02	0.42
18:W:14:PRO:O	18:W:15:ARG:C	2.58	0.42
23:1:60:PHE:HE2	23:1:91:LYS:NZ	2.16	0.42
31:9:2:LYS:HD2	31:9:2:LYS:HA	1.93	0.42
1:A:1222:C:C2	1:A:1229(A):G:C2	3.08	0.42
1:A:565:C:H4'	1:A:1253:A:C6	2.54	0.42
1:A:1459:G:H2'	1:A:1460:A:H5''	2.01	0.42
1:A:2020:A:OP1	16:U:27:LEU:HD23	2.20	0.42
1:A:528:A:C2	1:A:2042:A:H2'	2.54	0.42
1:A:2832:U:HO2'	1:A:2833:G:P	2.43	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:2839:G:H21	13:R:92:GLY:HA3	1.85	0.42
1:A:389:G:N1	11:P:71:VAL:HG12	2.34	0.42
1:A:414:C:H2'	1:A:415:A:C8	2.54	0.42
1:A:730:C:OP2	1:A:731:C:OP2	2.38	0.42
2:B:15:A:H5'	2:B:16:G:H8	1.83	0.42
3:D:9:TYR:CZ	3:D:13:ARG:HD3	2.54	0.42
3:D:168:ARG:O	3:D:169:GLU:HB2	2.19	0.42
3:D:182:LEU:N	3:D:272:ALA:HB3	2.32	0.42
4:E:101:ARG:C	4:E:201:THR:OG1	2.58	0.42
4:E:117:MET:HA	4:E:122:PHE:N	2.35	0.42
4:E:143:ASN:HB2	4:E:147:PRO:HD2	2.01	0.42
5:F:132:VAL:CG2	5:F:133:ASN:N	2.79	0.42
5:F:164:ARG:NH1	5:F:164:ARG:HG2	2.34	0.42
5:F:198:ALA:HA	5:F:201:VAL:CG1	2.41	0.42
6:G:99:MET:O	6:G:103:LEU:HB2	2.20	0.42
7:H:169:VAL:HG22	7:H:170:ARG:N	2.26	0.42
9:N:43:THR:HA	9:N:44:PRO:HD2	1.92	0.42
10:O:97:ARG:CA	10:O:117:LEU:HD22	2.50	0.42
1:A:1250:G:OP2	11:P:21:ARG:HD3	2.20	0.42
12:Q:27:VAL:HG11	12:Q:134:ARG:HG3	2.00	0.42
15:T:110:ILE:CG2	15:T:111:ARG:N	2.82	0.42
16:U:99:ALA:HA	16:U:106:PHE:HB2	2.01	0.42
16:U:91:ASP:OD2	16:U:96:ALA:HB2	2.19	0.42
18:W:81:ALA:C	18:W:82:LEU:HD12	2.40	0.42
20:Y:20:TYR:CE1	20:Y:42:VAL:HA	2.55	0.42
23:1:72:GLU:O	23:1:75:GLU:HB2	2.20	0.42
25:3:37:LEU:HD12	25:3:43:ILE:CG2	2.50	0.42
28:6:19:ARG:HD2	28:6:19:ARG:HA	1.76	0.42
1:A:1421:G:C2	1:A:1422:G:C8	3.07	0.42
1:A:2695:C:H2'	1:A:2696:U:H6	1.85	0.42
3:D:158:ALA:HB3	3:D:161:THR:CG2	2.49	0.42
4:E:128:SER:O	4:E:129:HIS:HB2	2.20	0.42
4:E:176:ILE:HD12	4:E:176:ILE:N	2.35	0.42
5:F:61:GLY:O	5:F:62:ARG:C	2.57	0.42
7:H:86:GLU:CD	7:H:86:GLU:H	2.16	0.42
11:P:107:LYS:O	11:P:108:LYS:C	2.57	0.42
11:P:115:LEU:HB3	11:P:131:SER:HB2	2.02	0.42
12:Q:65:PHE:O	12:Q:66:ILE:CG1	2.48	0.42
14:S:102:ALA:C	14:S:104:GLY:N	2.73	0.42
15:T:134:GLU:OE1	15:T:135:ALA:N	2.53	0.42
10:O:71:ARG:HH11	15:T:74:ARG:HH21	1.65	0.42
15:T:89:VAL:O	15:T:90:GLN:CB	2.67	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
16:U:97:ASP:HA	16:U:100:VAL:HG23	2.02	0.42
1:A:1162:G:H1'	17:V:23:GLU:OE2	2.19	0.42
20:Y:60:PHE:CD2	20:Y:60:PHE:N	2.87	0.42
24:2:50:ILE:HG13	24:2:50:ILE:H	1.64	0.42
27:5:40:LYS:HE2	27:5:47:PRO:HG2	2.02	0.42
27:5:56:LYS:O	27:5:57:VAL:C	2.57	0.42
29:7:9:ARG:NH1	29:7:47:ARG:HG3	2.35	0.42
30:8:56:GLU:C	30:8:58:ILE:N	2.73	0.42
1:A:265:A:C6	1:A:428:A:C4	3.08	0.42
1:A:55:G:C2	1:A:116:C:C2	3.08	0.42
3:D:196:VAL:O	3:D:196:VAL:CG1	2.68	0.42
4:E:10:GLY:HA3	15:T:8:LYS:HD3	2.02	0.42
4:E:144:ARG:HB3	4:E:145:LYS:H	1.58	0.42
5:F:192:LEU:HD21	5:F:194:MET:HE3	2.02	0.42
6:G:16:ARG:NE	6:G:31:VAL:HG11	2.34	0.42
6:G:78:SER:O	6:G:80:PHE:N	2.53	0.42
6:G:34:LEU:HD11	6:G:99:MET:CE	2.49	0.42
9:N:62:VAL:HG12	9:N:66:LYS:HB2	2.01	0.42
10:O:31:LYS:HD3	10:O:31:LYS:HA	1.92	0.42
12:Q:118:LEU:HA	12:Q:118:LEU:HD23	1.87	0.42
13:R:55:ALA:HA	13:R:80:PHE:CE2	2.55	0.42
14:S:99:LYS:C	14:S:101:LEU:N	2.72	0.42
14:S:49:VAL:HG21	14:S:77:ALA:HA	2.02	0.42
14:S:30:ARG:NH2	14:S:92:TYR:HD1	2.17	0.42
16:U:39:LEU:O	16:U:42:ALA:N	2.53	0.42
17:V:21:ARG:HD2	17:V:91:TYR:CE2	2.55	0.42
19:X:54:VAL:C	19:X:55:ASN:HD22	2.24	0.42
23:1:76:ARG:H	23:1:76:ARG:CD	2.29	0.42
1:A:270(S):G:C1'	23:1:78:LYS:HD2	2.50	0.42
25:3:37:LEU:HD23	25:3:37:LEU:N	2.35	0.42
26:4:26:SER:C	26:4:27:THR:O	2.58	0.42
26:4:2:LYS:HA	26:4:2:LYS:HD2	1.61	0.42
26:4:61:ARG:C	26:4:63:TYR:N	2.73	0.42
29:7:25:PRO:HA	29:7:28:ARG:NH2	2.35	0.42
1:A:1061:U:H5'	1:A:1070:A:H1'	2.01	0.42
1:A:1464:C:O2'	1:A:1528:A:H8	2.01	0.42
1:A:1570:A:H2'	1:A:1571:A:C8	2.55	0.42
1:A:1792:G:H2'	1:A:1793:C:C6	2.55	0.42
1:A:1918:A:O2'	1:A:1920:C:N4	2.53	0.42
1:A:528:A:H2	1:A:2043:C:C5'	2.33	0.42
1:A:2696:U:H2'	1:A:2697:G:C8	2.55	0.42
1:A:2818:G:OP2	13:R:42:LYS:NZ	2.50	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:589:C:H2'	1:A:590:A:C8	2.54	0.42
1:A:634:C:H2'	1:A:635:C:C6	2.55	0.42
1:A:702:G:C2	1:A:731:C:C2	3.08	0.42
3:D:110:GLY:O	3:D:111:LEU:C	2.59	0.42
3:D:165:ILE:O	3:D:166:GLN:NE2	2.53	0.42
1:A:2784:C:H5''	4:E:41:LYS:NZ	2.35	0.42
4:E:7:VAL:CG2	4:E:8:LYS:H	2.11	0.42
6:G:22:ARG:HH22	6:G:175:LEU:HD21	1.85	0.42
6:G:51:ARG:CB	6:G:51:ARG:NH1	2.83	0.42
7:H:66:GLY:O	7:H:67:LEU:C	2.58	0.42
9:N:27:ALA:O	9:N:28:THR:C	2.57	0.42
11:P:144:GLU:HA	11:P:145:PRO:HD3	1.76	0.42
14:S:99:LYS:HE2	14:S:103:GLU:OE2	2.20	0.42
14:S:51:ALA:HB3	14:S:73:LEU:HD23	2.01	0.42
16:U:43:GLY:HA3	17:V:73:SER:OG	2.19	0.42
19:X:57:LEU:H	19:X:57:LEU:HD12	1.85	0.42
20:Y:91:GLU:CG	20:Y:92:ASN:N	2.83	0.42
23:1:29:GLY:O	23:1:31:GLY:N	2.49	0.41
1:A:379:G:N2	23:1:42:GLN:OE1	2.43	0.41
23:1:81:LYS:N	23:1:81:LYS:CD	2.83	0.41
24:2:41:ILE:C	24:2:41:ILE:CD1	2.81	0.41
26:4:38:LYS:HG3	26:4:44:THR:OG1	2.20	0.41
27:5:40:LYS:HE2	27:5:47:PRO:CG	2.49	0.41
28:6:25:LYS:HE2	28:6:27:LYS:CD	2.49	0.41
1:A:1068:G:N2	1:A:1095:A:O2'	2.53	0.41
1:A:1204:A:O2'	1:A:1205:U:O5'	2.38	0.41
1:A:2021:C:OP1	27:5:12:SER:OG	2.31	0.41
1:A:2405:G:O2'	1:A:2406:U:P	2.78	0.41
1:A:2667:C:H1'	7:H:109:PHE:CD2	2.51	0.41
1:A:407:G:H2'	1:A:408:G:C8	2.55	0.41
1:A:521:G:H2'	1:A:522:G:H8	1.85	0.41
1:A:556:G:H2'	1:A:557:U:C6	2.55	0.41
1:A:691:C:H2'	1:A:692:C:C6	2.54	0.41
1:A:817:C:H4'	1:A:932:G:C6	2.54	0.41
5:F:118:ALA:HA	5:F:123:LEU:HB3	2.02	0.41
6:G:60:LEU:C	6:G:60:LEU:HD23	2.41	0.41
6:G:73:ALA:O	6:G:84:LYS:O	2.38	0.41
7:H:128:PRO:CG	7:H:129:THR:H	2.33	0.41
9:N:63:THR:HG22	9:N:66:LYS:HZ1	1.84	0.41
10:O:16:ALA:HA	10:O:46:ALA:CB	2.50	0.41
10:O:86:ILE:N	10:O:86:ILE:CD1	2.83	0.41
11:P:125:VAL:C	11:P:145:PRO:HD2	2.39	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
5:F:34:TRP:CA	11:P:6:LEU:HD12	2.46	0.41
14:S:83:LYS:HE3	14:S:84:GLN:HG3	2.02	0.41
14:S:83:LYS:HE3	14:S:84:GLN:CG	2.50	0.41
15:T:96:ARG:CZ	15:T:96:ARG:HB2	2.49	0.41
16:U:35:ALA:O	16:U:39:LEU:HG	2.19	0.41
17:V:35:LEU:HB2	17:V:37:VAL:CG2	2.49	0.41
19:X:60:ARG:HA	19:X:75:ASP:OD2	2.20	0.41
19:X:87:GLN:C	19:X:88:LYS:HG3	2.40	0.41
21:Z:97:GLU:HB3	21:Z:125:LEU:HD11	2.02	0.41
28:6:41:PRO:HG3	28:6:44:ARG:HB2	2.01	0.41
19:X:60:ARG:HH12	29:7:47:ARG:HH22	1.67	0.41
1:A:1317:A:H2'	1:A:1318:C:C6	2.55	0.41
1:A:1819:A:H4'	1:A:1820:U:O5'	2.20	0.41
1:A:2105:C:H2'	1:A:2106:G:C8	2.55	0.41
1:A:2420:C:H6	1:A:2420:C:O5'	2.03	0.41
1:A:2420:C:OP1	30:8:34:TRP:HB2	2.20	0.41
1:A:830:G:N2	1:A:2445:G:O2'	2.51	0.41
1:A:2683:C:OP1	15:T:53:ARG:NH2	2.47	0.41
1:A:270(U):C:H2'	1:A:270(V):G:C8	2.55	0.41
1:A:601:C:O2'	1:A:605:C:H5''	2.20	0.41
2:B:93:C:H2'	2:B:94:C:H6	1.86	0.41
1:A:1819:A:H5''	3:D:158:ALA:CB	2.50	0.41
3:D:35:LYS:HB3	3:D:36:PRO:HA	2.00	0.41
4:E:152:LYS:HG2	9:N:78:TYR:CD1	2.55	0.41
4:E:94:GLU:C	4:E:96:PHE:N	2.73	0.41
5:F:42:ALA:O	5:F:45:ARG:HB2	2.18	0.41
1:A:1248:G:N2	5:F:88:VAL:HG22	2.35	0.41
7:H:146:ALA:HA	7:H:164:TYR:OH	2.21	0.41
1:A:1006:C:H1'	9:N:106:MET:CE	2.49	0.41
9:N:131:GLN:HE21	9:N:131:GLN:HB3	1.57	0.41
11:P:18:ARG:HD2	11:P:27:HIS:CD2	2.56	0.41
11:P:64:LYS:HG3	30:8:25:MET:CE	2.50	0.41
12:Q:20:ALA:HA	12:Q:98:LYS:HB3	2.02	0.41
15:T:39:ARG:CG	15:T:40:THR:H	2.22	0.41
1:A:1252:G:O4'	16:U:33:ARG:HD3	2.20	0.41
16:U:83:LEU:HG	16:U:88:ILE:HG13	2.02	0.41
17:V:16:PRO:HB3	17:V:97:LYS:O	2.20	0.41
6:G:143:GLU:C	26:4:28:LYS:HZ2	2.24	0.41
26:4:68:ARG:HB2	26:4:69:LYS:H	1.35	0.41
30:8:16:ILE:HD11	30:8:57:ARG:CG	2.44	0.41
1:A:139:G:N2	1:A:1596:A:H4'	2.35	0.41
1:A:1936:A:H61	1:A:1963:U:H3	1.69	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:264:C:C2'	1:A:265:A:H5''	2.50	0.41
1:A:2734:A:H5'	1:A:2735:G:OP2	2.20	0.41
1:A:2747:G:O6	1:A:2755:C:H5''	2.21	0.41
1:A:297:C:H5''	20:Y:85:VAL:CG2	2.46	0.41
1:A:727:A:H2	3:D:9:TYR:CD2	2.38	0.41
3:D:13:ARG:O	3:D:13:ARG:HG2	2.20	0.41
3:D:269:PHE:CD2	3:D:269:PHE:N	2.88	0.41
5:F:53:THR:O	5:F:55:GLY:N	2.53	0.41
6:G:53:LEU:CD1	6:G:87:PRO:HB2	2.51	0.41
7:H:105:LEU:N	7:H:105:LEU:CD1	2.81	0.41
8:I:8:PRO:HG3	8:I:14:ASP:HB2	2.01	0.41
9:N:114:ARG:C	9:N:116:LEU:N	2.74	0.41
9:N:62:VAL:CG1	9:N:66:LYS:HB2	2.51	0.41
1:A:2009:G:H1'	13:R:107:ASP:O	2.19	0.41
14:S:53:SER:HA	14:S:56:LEU:CD2	2.50	0.41
4:E:25:VAL:CG1	15:T:11:GLU:HG2	2.50	0.41
15:T:134:GLU:O	15:T:135:ALA:CB	2.69	0.41
17:V:81:TYR:C	17:V:82:ARG:CG	2.89	0.41
18:W:19:LEU:HA	18:W:19:LEU:HD12	1.79	0.41
18:W:55:ALA:O	18:W:58:ALA:HB3	2.20	0.41
1:A:896:A:H2	21:Z:146:ILE:HD11	1.86	0.41
26:4:64:GLY:C	26:4:66:SER:N	2.73	0.41
28:6:6:ARG:NE	28:6:6:ARG:HA	2.35	0.41
1:A:2392:A:H2	1:A:2424:C:N4	2.15	0.41
1:A:2031:A:C6	1:A:2498:C:H1'	2.55	0.41
1:A:2774:C:H2'	1:A:2775:A:O4'	2.20	0.41
1:A:686:G:H21	1:A:788:A:H61	1.69	0.41
1:A:784:A:O2'	1:A:785:G:H5''	2.21	0.41
1:A:890:A:O2'	1:A:892:G:H8	2.04	0.41
3:D:75:ILE:HG21	3:D:99:ASP:HB2	2.02	0.41
4:E:13:ARG:HB2	4:E:13:ARG:HH11	1.81	0.41
4:E:111:ARG:NE	4:E:160:TYR:CE1	2.76	0.41
9:N:52:VAL:CG1	9:N:53:VAL:N	2.82	0.41
12:Q:34:LEU:HD23	12:Q:104:PHE:CD1	2.55	0.41
13:R:28:LEU:C	13:R:28:LEU:HD13	2.40	0.41
2:B:52:A:N6	14:S:33:LYS:HG3	2.35	0.41
16:U:91:ASP:OD2	16:U:96:ALA:CA	2.68	0.41
17:V:38:LEU:CD2	17:V:39:LEU:N	2.82	0.41
17:V:38:LEU:CD1	17:V:55:ALA:CB	2.99	0.41
17:V:38:LEU:CD1	17:V:55:ALA:HB1	2.50	0.41
23:1:94:LEU:HD23	23:1:94:LEU:HA	1.81	0.41
24:2:61:LEU:HD23	24:2:64:LEU:HD12	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
25:3:7:LYS:HG2	25:3:7:LYS:O	2.20	0.41
1:A:1045:A:N3	1:A:1047:G:N2	2.68	0.41
1:A:1057:A:H62	1:A:1086:A:H2'	1.84	0.41
1:A:1190:G:H2'	1:A:1191:G:H8	1.84	0.41
1:A:196:A:O5'	11:P:46:LYS:NZ	2.38	0.41
1:A:1973:G:H2'	1:A:1974:C:C6	2.55	0.41
1:A:2018:G:H2'	1:A:2019:A:O4'	2.20	0.41
1:A:2397:G:H5''	23:1:28:GLY:HA2	2.02	0.41
1:A:2566:A:H4'	1:A:2567:G:O5'	2.21	0.41
1:A:26:G:H1'	1:A:515:A:N6	2.35	0.41
1:A:825:C:H2'	1:A:826:U:O4'	2.21	0.41
1:A:932:G:H4'	1:A:933:A:O5'	2.21	0.41
2:B:28:C:OP2	14:S:33:LYS:HE3	2.20	0.41
3:D:2:ALA:O	3:D:3:VAL:CB	2.68	0.41
4:E:167:VAL:CG1	4:E:189:PRO:HD3	2.50	0.41
4:E:179:GLU:CB	4:E:181:LEU:HD23	2.24	0.41
4:E:197:ILE:HD11	4:E:199:ARG:NH1	2.30	0.41
4:E:35:GLN:HG3	4:E:37:ARG:NH2	2.36	0.41
5:F:111:ALA:O	5:F:112:MET:C	2.59	0.41
6:G:117:PHE:CE1	6:G:119:GLY:CA	3.03	0.41
7:H:86:GLU:HG3	7:H:165:ALA:CA	2.49	0.41
9:N:21:LYS:O	9:N:22:THR:O	2.39	0.41
14:S:64:GLU:O	14:S:68:GLN:HG3	2.19	0.41
17:V:22:VAL:CG1	17:V:23:GLU:H	2.32	0.41
18:W:17:VAL:O	18:W:18:ARG:C	2.57	0.41
20:Y:2:ARG:O	20:Y:3:VAL:O	2.38	0.41
1:A:328:U:H4'	20:Y:68:HIS:CG	2.55	0.41
20:Y:97:ARG:HH21	20:Y:98:VAL:CG2	2.32	0.41
12:Q:134:ARG:HD3	21:Z:122:ARG:NH1	2.36	0.41
26:4:4:GLY:O	26:4:5:ILE:C	2.59	0.41
28:6:8:LYS:O	28:6:9:LEU:HB2	2.20	0.41
30:8:26:LYS:HD3	30:8:26:LYS:HA	1.86	0.41
1:A:1331:A:H2'	1:A:1333:C:C5	2.56	0.41
1:A:1678:G:N2	1:A:1989:G:N2	2.67	0.41
1:A:2512:C:H2'	1:A:2513:G:O4'	2.21	0.41
1:A:2648:C:H2'	1:A:2649:U:C6	2.55	0.41
1:A:637:A:N3	1:A:638:G:H1'	2.36	0.41
1:A:741:G:H2'	1:A:742:G:C8	2.55	0.41
1:A:744:G:OP1	4:E:132:HIS:ND1	2.54	0.41
3:D:158:ALA:O	3:D:196:VAL:HG11	2.21	0.41
4:E:93:VAL:HG21	4:E:180:ASN:HA	2.03	0.41
6:G:135:LEU:CD1	6:G:135:LEU:N	2.84	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
6:G:44:GLY:C	6:G:46:ALA:N	2.73	0.41
14:S:42:ASP:C	14:S:44:LYS:N	2.72	0.41
15:T:76:PHE:HA	15:T:77:PRO:HD3	1.75	0.41
17:V:61:VAL:O	17:V:61:VAL:CG2	2.68	0.41
18:W:1:MET:HG3	18:W:2:GLU:N	2.36	0.41
19:X:83:VAL:CG1	19:X:87:GLN:HB2	2.50	0.41
20:Y:13:VAL:O	20:Y:24:VAL:HA	2.20	0.41
24:2:18:PRO:C	24:2:20:GLU:N	2.73	0.41
24:2:41:ILE:HD12	24:2:43:GLN:N	2.35	0.41
26:4:12:ALA:HB1	26:4:30:GLU:N	2.35	0.41
26:4:14:ILE:HA	26:4:31:ILE:O	2.21	0.41
30:8:14:VAL:CG1	30:8:60:LEU:HD11	2.51	0.41
1:A:1153:C:H2'	1:A:1154:G:O4'	2.20	0.41
1:A:2196:C:N4	1:A:2197:U:O4	2.54	0.41
1:A:2320:A:N3	1:A:2320:A:H2'	2.35	0.41
1:A:2516:G:C5	1:A:2517:C:C4	3.09	0.41
1:A:2517:C:C2	1:A:2542:A:N6	2.89	0.41
1:A:675:A:N6	1:A:676:A:N6	2.68	0.41
1:A:754:C:H2'	1:A:755:C:C6	2.55	0.41
3:D:68:LYS:O	3:D:68:LYS:HG3	2.20	0.41
1:A:607:U:OP1	5:F:102:PRO:HA	2.21	0.41
5:F:183:VAL:HG22	5:F:184:TYR:N	2.35	0.41
6:G:77:ILE:H	6:G:82:LEU:HB2	1.84	0.41
7:H:137:ASP:HB2	7:H:140:LYS:CE	2.51	0.41
7:H:45:VAL:O	7:H:45:VAL:CG1	2.69	0.41
13:R:1:MET:SD	13:R:1:MET:N	2.75	0.41
13:R:28:LEU:HD12	13:R:29:LEU:HD12	2.01	0.41
13:R:47:PHE:O	13:R:51:LEU:HD23	2.21	0.41
14:S:66:ALA:HA	14:S:69:VAL:CG1	2.51	0.41
16:U:6:THR:HG21	16:U:10:ARG:CZ	2.50	0.41
16:U:76:TYR:O	16:U:80:ILE:HG12	2.21	0.41
18:W:14:PRO:C	18:W:18:ARG:HD2	2.41	0.41
18:W:14:PRO:HG3	18:W:101:SER:OG	2.21	0.41
18:W:96:ILE:O	18:W:96:ILE:CG2	2.68	0.41
30:8:64:TYR:HB3	30:8:65:GLU:H	1.40	0.41
1:A:140:A:C8	1:A:1408:C:O2'	2.70	0.41
1:A:1688:U:O2	1:A:1700:A:H8	2.04	0.41
1:A:1799:G:H5'	1:A:1819:A:H61	1.84	0.41
1:A:1836:C:H2'	1:A:1837:C:H6	1.86	0.41
1:A:2295:C:P	14:S:10:ARG:HD2	2.61	0.41
1:A:2725:A:O2'	1:A:2726:U:H5''	2.20	0.41
1:A:396:G:H1'	23:1:42:GLN:HB3	2.02	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:177:LEU:C	3:D:179:SER:H	2.23	0.41
3:D:197:GLY:O	3:D:198:ASN:HB3	2.21	0.41
3:D:263:ARG:CB	3:D:263:ARG:NH1	2.75	0.41
5:F:46:ARG:CG	5:F:46:ARG:NH1	2.72	0.41
10:O:10:VAL:HG21	10:O:16:ALA:HB3	2.03	0.41
10:O:2:ILE:HG12	10:O:8:LEU:HD11	2.02	0.41
10:O:48:PRO:O	10:O:50:GLY:N	2.54	0.41
11:P:55:ARG:HG2	11:P:55:ARG:NH2	2.36	0.41
12:Q:139:GLU:CG	12:Q:140:ALA:N	2.84	0.41
12:Q:20:ALA:HB1	12:Q:99:PRO:CG	2.51	0.41
13:R:55:ALA:O	13:R:58:GLY:HA3	2.21	0.41
15:T:28:VAL:HG23	15:T:87:ASP:O	2.21	0.41
18:W:29:LEU:C	18:W:29:LEU:HD23	2.41	0.41
20:Y:43:ASN:OD1	20:Y:43:ASN:O	2.39	0.41
23:1:18:ILE:O	23:1:18:ILE:HG22	2.21	0.41
1:A:1149:G:H2'	1:A:1150:C:H6	1.85	0.41
1:A:2199:A:H3'	1:A:2205:C:C6	2.55	0.41
1:A:2770:G:H5''	1:A:2771:C:OP2	2.20	0.41
1:A:2776:A:H4'	1:A:2777:G:O5'	2.21	0.41
1:A:2832:U:O2'	1:A:2833:G:P	2.79	0.41
1:A:389:G:H22	11:P:72:PRO:CD	2.34	0.41
1:A:397:G:H1'	1:A:2231:C:O2'	2.20	0.41
3:D:145:VAL:CG1	3:D:146:GLU:N	2.83	0.41
3:D:154:LYS:C	3:D:155:LEU:HD12	2.41	0.41
3:D:272:ALA:HB1	3:D:273:ARG:H	1.58	0.41
4:E:4:ILE:HG22	4:E:198:VAL:HB	2.02	0.41
6:G:47:LYS:HB2	6:G:47:LYS:HE3	1.80	0.41
8:I:38:LEU:H	8:I:38:LEU:HD12	1.86	0.41
9:N:133:GLN:C	9:N:134:ARG:HG2	2.41	0.41
1:A:995:C:N4	9:N:2:LYS:HG3	2.36	0.41
9:N:58:ASP:HB3	9:N:95:PRO:HB3	2.02	0.41
11:P:101:VAL:HG23	11:P:106:LEU:HB3	2.03	0.41
12:Q:139:GLU:HG2	12:Q:140:ALA:N	2.36	0.41
12:Q:27:VAL:HG22	12:Q:105:GLU:CD	2.41	0.41
13:R:94:TYR:N	13:R:94:TYR:CD2	2.87	0.41
14:S:15:ARG:O	14:S:19:LYS:HD3	2.20	0.41
15:T:39:ARG:HG2	15:T:40:THR:N	2.25	0.41
15:T:84:GLN:HG2	15:T:85:LYS:N	2.36	0.41
16:U:83:LEU:CD1	16:U:113:ALA:HB2	2.50	0.41
16:U:27:LEU:C	16:U:29:SER:N	2.73	0.41
16:U:33:ARG:O	16:U:37:GLU:HB2	2.21	0.41
16:U:57:PHE:O	16:U:60:LEU:N	2.54	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
17:V:67:GLY:O	17:V:68:LYS:C	2.60	0.41
18:W:50:VAL:O	18:W:53:SER:N	2.50	0.41
24:2:65:ASN:O	24:2:66:GLU:C	2.59	0.41
26:4:63:TYR:O	26:4:65:ASP:N	2.54	0.41
29:7:24:THR:HB	29:7:25:PRO:HD2	2.03	0.41
30:8:3:LYS:HB3	30:8:3:LYS:HE2	1.82	0.41
1:A:631:A:P	30:8:46:ARG:HH21	2.40	0.41
1:A:1542:G:H5''	1:A:1543:A:OP2	2.21	0.41
1:A:1688:U:H1'	1:A:1701:A:C6	2.56	0.41
1:A:2051:A:H5'	1:A:2578:G:O4'	2.20	0.41
1:A:270(H):C:H2'	1:A:270(I):G:C8	2.55	0.41
1:A:299:A:N3	1:A:319:C:O2'	2.52	0.41
1:A:508:G:HO2'	1:A:509:C:P	2.43	0.41
1:A:978:G:H1	1:A:985:C:H42	1.69	0.41
2:B:14:U:OP2	2:B:70:C:O2'	2.30	0.41
3:D:147:LEU:CD1	3:D:155:LEU:HD21	2.51	0.41
4:E:9:VAL:HB	4:E:10:GLY:H	1.71	0.41
4:E:147:PRO:HB2	4:E:149:ARG:HG2	2.03	0.41
4:E:161:GLY:O	4:E:162:ALA:HB3	2.20	0.41
4:E:51:PHE:CG	4:E:52:LEU:N	2.89	0.41
6:G:7:LEU:CD2	6:G:176:LEU:HD22	2.45	0.41
2:B:55:U:H5'	6:G:28:VAL:HG21	2.02	0.41
6:G:61:ALA:CB	6:G:67:LYS:HA	2.50	0.41
6:G:67:LYS:NZ	26:4:6:HIS:CD2	2.89	0.41
7:H:145:ALA:O	7:H:148:ILE:HB	2.21	0.41
9:N:10:GLU:OE2	9:N:11:PRO:HD2	2.21	0.41
9:N:56:ASN:ND2	9:N:126:PRO:N	2.69	0.41
1:A:196:A:OP2	11:P:46:LYS:NZ	2.54	0.41
11:P:65:ARG:C	11:P:66:GLY:O	2.59	0.41
11:P:66:GLY:O	11:P:67:MET:CB	2.63	0.41
11:P:9:ASN:HB2	11:P:10:PRO:HD2	2.03	0.41
12:Q:52:VAL:O	12:Q:53:ALA:C	2.59	0.41
14:S:106:ARG:CZ	14:S:106:ARG:HB2	2.49	0.41
14:S:6:ALA:O	14:S:10:ARG:HD3	2.21	0.41
1:A:993:G:P	16:U:50:ARG:HH22	2.40	0.41
20:Y:86:ARG:HD2	20:Y:86:ARG:HA	1.91	0.41
21:Z:76:LEU:H	21:Z:76:LEU:HD23	1.86	0.41
23:1:85:LEU:CD2	23:1:85:LEU:N	2.84	0.41
24:2:48:HIS:O	24:2:49:LYS:C	2.57	0.41
26:4:42:PHE:CZ	26:4:43:TYR:HB3	2.57	0.41
29:7:5:TRP:HE1	29:7:7:PRO:HG3	1.85	0.41
1:A:1520:U:H2'	1:A:1521:G:O4'	2.21	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:554:U:HO2'	1:A:556:G:H8	1.69	0.41
1:A:833:U:H2'	1:A:834:C:H6	1.84	0.41
2:B:28:C:H2'	2:B:29:A:C8	2.56	0.41
3:D:31:LYS:O	3:D:32:SER:O	2.39	0.41
4:E:62:PRO:O	4:E:63:LEU:C	2.59	0.41
6:G:95:ARG:CA	6:G:99:MET:HB3	2.50	0.41
6:G:95:ARG:HA	6:G:99:MET:HB3	2.03	0.41
7:H:26:VAL:HG12	7:H:33:LEU:HB2	2.03	0.41
8:I:23:PRO:O	8:I:27:ARG:HG2	2.21	0.41
8:I:88:ILE:HG12	8:I:88:ILE:H	1.57	0.41
9:N:133:GLN:CB	9:N:135:PRO:HD3	2.42	0.41
9:N:137:LYS:HA	9:N:137:LYS:HD2	1.89	0.41
9:N:23:LEU:CD1	9:N:99:LEU:HD23	2.51	0.41
10:O:20:MET:O	10:O:41:ALA:CB	2.67	0.41
10:O:31:LYS:C	10:O:32:TYR:CD2	2.94	0.41
11:P:84:ASN:HB2	11:P:87:ASP:OD2	2.21	0.41
12:Q:39:PRO:HA	12:Q:97:VAL:O	2.21	0.41
14:S:100:ALA:CA	14:S:103:GLU:HG2	2.49	0.41
24:2:11:GLU:HA	24:2:14:ARG:HD2	2.02	0.40
31:9:10:ILE:HD12	31:9:32:HIS:CG	2.56	0.40
1:A:1105:U:H2'	1:A:1106:G:H8	1.86	0.40
1:A:1689:A:OP2	1:A:1698:A:N6	2.54	0.40
1:A:2070:G:H2'	1:A:2071:A:H8	1.86	0.40
1:A:819:A:OP2	1:A:1187:G:N2	2.24	0.40
1:A:852:G:H2'	1:A:853:G:H8	1.86	0.40
1:A:873:G:H1	1:A:904:C:N4	2.19	0.40
1:A:910:A:C5	12:Q:13:GLN:HG3	2.57	0.40
2:B:3:C:H2'	2:B:4:C:C6	2.56	0.40
3:D:134:ARG:HD3	3:D:135:PHE:HE2	1.82	0.40
5:F:128:ALA:O	5:F:129:PHE:CB	2.67	0.40
5:F:144:LYS:C	5:F:146:ALA:N	2.75	0.40
5:F:13:SER:OG	5:F:14:PRO:HD2	2.21	0.40
5:F:68:LYS:O	5:F:69:HIS:HB2	2.21	0.40
5:F:80:ALA:O	5:F:83:PHE:HB2	2.20	0.40
12:Q:76:LYS:HB3	12:Q:90:VAL:CG1	2.51	0.40
13:R:22:ARG:O	13:R:26:LYS:HG3	2.21	0.40
14:S:12:PHE:HA	14:S:12:PHE:HD2	1.80	0.40
17:V:38:LEU:O	17:V:51:VAL:HA	2.20	0.40
18:W:14:PRO:C	18:W:16:LYS:N	2.73	0.40
20:Y:49:VAL:O	20:Y:50:ARG:C	2.59	0.40
20:Y:87:LYS:HZ2	20:Y:87:LYS:HB2	1.85	0.40
20:Y:90:LEU:HB2	20:Y:91:GLU:H	1.53	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
23:1:82:LEU:HD13	23:1:83:GLU:CA	2.49	0.40
24:2:32:LEU:HD23	24:2:32:LEU:O	2.21	0.40
28:6:24:GLU:HB3	28:6:25:LYS:H	1.56	0.40
1:A:1022:G:C6	1:A:1140:C:C4	3.09	0.40
1:A:1543:A:HO2'	1:A:1544:C:P	2.44	0.40
1:A:2199:A:H3'	1:A:2205:C:H6	1.86	0.40
1:A:2291:U:O2'	1:A:2374:C:O2	2.34	0.40
1:A:945:A:C4	1:A:2448:A:C2	3.09	0.40
1:A:2469:A:H4'	1:A:2469:A:OP1	2.20	0.40
1:A:2477:C:H2'	31:9:1:MET:CG	2.50	0.40
1:A:489:G:N7	18:W:49:LYS:NZ	2.69	0.40
1:A:969:U:H2'	1:A:970:C:C6	2.57	0.40
2:B:11:C:H3'	2:B:12:C:C6	2.57	0.40
4:E:119:ARG:HG2	4:E:160:TYR:HB2	2.03	0.40
1:A:2811:G:P	4:E:61:ARG:HG3	2.60	0.40
1:A:443:A:H3'	5:F:45:ARG:HH12	1.86	0.40
10:O:106:LEU:HD23	10:O:106:LEU:HA	1.89	0.40
10:O:47:ILE:HD12	10:O:48:PRO:CD	2.43	0.40
11:P:65:ARG:HH21	30:8:15:LYS:HB3	1.85	0.40
14:S:42:ASP:O	14:S:43:GLU:CB	2.62	0.40
14:S:52:SER:HB2	14:S:55:ALA:HB3	2.03	0.40
14:S:62:LYS:HD3	14:S:97:ARG:CZ	2.52	0.40
17:V:55:ALA:O	17:V:56:SER:OG	2.31	0.40
19:X:60:ARG:HH22	29:7:47:ARG:HH12	1.68	0.40
23:1:86:SER:O	23:1:89:GLU:HB2	2.21	0.40
23:1:96:LYS:HG2	23:1:96:LYS:O	2.21	0.40
26:4:26:SER:O	26:4:27:THR:O	2.40	0.40
30:8:32:LEU:HD23	30:8:32:LEU:HA	1.94	0.40
30:8:53:PRO:HD2	30:8:54:GLU:H	1.84	0.40
30:8:53:PRO:CG	30:8:54:GLU:N	2.84	0.40
1:A:2298:A:N6	1:A:2318:G:H8	2.05	0.40
1:A:503:A:H4'	1:A:504:U:H5''	2.03	0.40
1:A:592:G:H1	1:A:665:C:H42	1.68	0.40
1:A:631:A:H2'	1:A:632:A:O4'	2.22	0.40
2:B:104:A:H2'	2:B:105:G:O4'	2.21	0.40
3:D:117:VAL:HG22	3:D:118:VAL:N	2.35	0.40
4:E:5:LEU:O	4:E:28:ALA:HA	2.22	0.40
5:F:62:ARG:HB3	5:F:62:ARG:CZ	2.52	0.40
6:G:41:GLN:HB3	6:G:43:LEU:CD1	2.51	0.40
10:O:92:GLU:O	10:O:93:PRO:C	2.58	0.40
11:P:19:VAL:HG22	11:P:21:ARG:N	2.36	0.40
11:P:65:ARG:O	11:P:66:GLY:C	2.60	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
12:Q:66:ILE:O	12:Q:67:ARG:HB2	2.22	0.40
13:R:34:ILE:HG22	13:R:35:THR:N	2.35	0.40
14:S:43:GLU:HG2	22:O:49:LYS:NZ	2.36	0.40
14:S:92:TYR:HB2	14:S:98:VAL:HG11	2.02	0.40
18:W:100:THR:HG23	18:W:100:THR:O	2.22	0.40
20:Y:57:GLN:O	20:Y:58:GLY:C	2.60	0.40
20:Y:95:LYS:HA	20:Y:101:LYS:CB	2.51	0.40
26:4:21:VAL:O	26:4:22:ILE:O	2.40	0.40
28:6:36:LEU:HD23	28:6:36:LEU:N	2.37	0.40
28:6:37:ARG:O	28:6:48:VAL:O	2.39	0.40
28:6:50:ARG:NH1	28:6:50:ARG:HG2	2.37	0.40
28:6:36:LEU:CD1	28:6:50:ARG:NH1	2.82	0.40
1:A:987:G:O2'	1:A:1000:A:N3	2.48	0.40
1:A:1465:G:H5'	1:A:1528:A:H1'	2.03	0.40
1:A:2056:G:H2'	1:A:2056:G:N3	2.35	0.40
1:A:868:U:H2'	1:A:869:G:O4'	2.22	0.40
1:A:95:G:HO2'	24:2:48:HIS:CE1	2.29	0.40
3:D:228:PRO:HD3	3:D:234:GLY:O	2.21	0.40
5:F:36:VAL:HG11	5:F:183:VAL:HG11	2.04	0.40
6:G:78:SER:O	6:G:79:ASN:C	2.59	0.40
8:I:129:THR:HG22	8:I:137:PRO:HB3	2.04	0.40
9:N:101:HIS:HD2	9:N:102:ALA:N	2.19	0.40
9:N:28:THR:O	9:N:29:LYS:C	2.59	0.40
10:O:13:ASN:HD21	10:O:97:ARG:HB3	1.86	0.40
13:R:14:SER:HB2	13:R:15:SER:H	1.72	0.40
13:R:18:LEU:HD11	13:R:22:ARG:NE	2.36	0.40
13:R:84:ALA:O	13:R:85:PRO:C	2.59	0.40
14:S:83:LYS:CE	14:S:109:GLY:HA2	2.47	0.40
15:T:54:ARG:HA	15:T:59:THR:HG23	2.02	0.40
18:W:1:MET:CE	18:W:2:GLU:H	2.31	0.40
21:Z:103:ARG:HD3	21:Z:136:PHE:CD1	2.55	0.40
24:2:53:LEU:O	24:2:57:ILE:HG13	2.21	0.40
6:G:112:PRO:CA	26:4:37:SER:HB2	2.51	0.40
1:A:1310:G:OP2	29:7:9:ARG:NH1	2.55	0.40
30:8:40:GLU:O	30:8:42:ARG:N	2.54	0.40
1:A:1041:C:H2'	1:A:1042:G:C8	2.55	0.40
1:A:1178:C:HO2'	1:A:1179:C:P	2.44	0.40
1:A:1750:G:H2'	1:A:1751:C:H6	1.87	0.40
1:A:2070:G:H2'	1:A:2071:A:C8	2.56	0.40
1:A:2151:G:H2'	1:A:2152:G:C8	2.57	0.40
1:A:2395:C:H2'	1:A:2396:G:O4'	2.22	0.40
1:A:2472:G:H22	1:A:2477:C:H5''	1.86	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
3:D:92:ILE:CD1	3:D:104:TYR:CD2	3.05	0.40
3:D:117:VAL:HG21	3:D:128:GLY:O	2.22	0.40
3:D:25:THR:HG23	3:D:27:THR:HB	2.02	0.40
7:H:146:ALA:HB2	7:H:164:TYR:OH	2.21	0.40
7:H:20:ALA:HB3	7:H:23:ARG:HG2	2.03	0.40
9:N:75:TYR:O	9:N:76:SER:O	2.40	0.40
10:O:112:MET:O	10:O:115:VAL:HG23	2.22	0.40
11:P:2:LYS:O	11:P:5:ASP:CB	2.70	0.40
14:S:20:ARG:HE	14:S:21:THR:HA	1.87	0.40
14:S:89:ARG:NH1	14:S:89:ARG:HG2	2.36	0.40
15:T:10:VAL:O	15:T:11:GLU:C	2.59	0.40
15:T:23:ARG:O	15:T:49:VAL:HG11	2.21	0.40
15:T:58:ASN:ND2	15:T:58:ASN:N	2.70	0.40
18:W:88:ARG:HD2	18:W:88:ARG:HA	1.92	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	
3	D	270/276 (98%)	203 (75%)	48 (18%)	19 (7%)	2	14
4	E	203/206 (98%)	120 (59%)	41 (20%)	42 (21%)	0	0
5	F	200/210 (95%)	144 (72%)	36 (18%)	20 (10%)	1	6
6	G	179/182 (98%)	119 (66%)	39 (22%)	21 (12%)	1	4
7	H	168/180 (93%)	94 (56%)	36 (21%)	38 (23%)	0	0
8	I	144/148 (97%)	102 (71%)	27 (19%)	15 (10%)	1	6
9	N	136/140 (97%)	84 (62%)	30 (22%)	22 (16%)	0	1
10	O	120/122 (98%)	90 (75%)	21 (18%)	9 (8%)	2	12
11	P	148/150 (99%)	97 (66%)	19 (13%)	32 (22%)	0	0
12	Q	139/141 (99%)	95 (68%)	30 (22%)	14 (10%)	1	6

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	R	116/118 (98%)	83 (72%)	19 (16%)	14 (12%)	1	4
14	S	109/112 (97%)	62 (57%)	28 (26%)	19 (17%)	0	0
15	T	135/146 (92%)	83 (62%)	32 (24%)	20 (15%)	0	2
16	U	115/118 (98%)	87 (76%)	19 (16%)	9 (8%)	1	11
17	V	99/101 (98%)	73 (74%)	16 (16%)	10 (10%)	1	6
18	W	111/113 (98%)	75 (68%)	22 (20%)	14 (13%)	0	3
19	X	90/96 (94%)	77 (86%)	8 (9%)	5 (6%)	3	22
20	Y	100/110 (91%)	58 (58%)	16 (16%)	26 (26%)	0	0
21	Z	181/206 (88%)	126 (70%)	35 (19%)	20 (11%)	1	5
22	0	80/85 (94%)	71 (89%)	7 (9%)	2 (2%)	9	47
23	1	95/98 (97%)	64 (67%)	20 (21%)	11 (12%)	1	4
24	2	67/72 (93%)	46 (69%)	12 (18%)	9 (13%)	0	2
25	3	57/60 (95%)	45 (79%)	9 (16%)	3 (5%)	3	24
26	4	69/71 (97%)	23 (33%)	20 (29%)	26 (38%)	0	0
27	5	57/60 (95%)	33 (58%)	9 (16%)	15 (26%)	0	0
28	6	47/54 (87%)	15 (32%)	18 (38%)	14 (30%)	0	0
29	7	47/49 (96%)	37 (79%)	7 (15%)	3 (6%)	2	17
30	8	62/65 (95%)	36 (58%)	15 (24%)	11 (18%)	0	0
31	9	35/37 (95%)	31 (89%)	4 (11%)	0	100	100
All	All	3379/3526 (96%)	2273 (67%)	643 (19%)	463 (14%)	0	2

All (463) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	26	LYS
3	D	28	GLU
3	D	123	ALA
3	D	231	HIS
4	E	4	ILE
4	E	7	VAL
4	E	9	VAL
4	E	22	PRO
4	E	54	GLN
4	E	57	LYS
4	E	60	ASN

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Mol	Chain	Res	Type
4	E	63	LEU
4	E	64	LYS
4	E	68	ALA
4	E	70	ALA
4	E	73	GLU
4	E	90	THR
4	E	92	THR
4	E	93	VAL
4	E	169	ASN
4	E	187	ALA
4	E	189	PRO
5	F	25	PRO
5	F	66	PRO
5	F	68	LYS
5	F	73	ALA
5	F	89	VAL
5	F	128	ALA
5	F	176	LEU
6	G	4	ASP
6	G	14	GLU
6	G	79	ASN
6	G	86	MET
7	H	10	PRO
7	H	12	PRO
7	H	83	TYR
7	H	85	LYS
7	H	86	GLU
7	H	87	LEU
7	H	90	LYS
7	H	92	ILE
7	H	126	PRO
7	H	127	GLU
7	H	128	PRO
7	H	137	ASP
7	H	138	LYS
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	169	VAL
8	I	10	GLU
9	N	6	PRO
9	N	9	VAL

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Mol	Chain	Res	Type
9	N	22	THR
9	N	36	GLY
9	N	58	ASP
9	N	95	PRO
9	N	97	ARG
9	N	119	ARG
9	N	131	GLN
9	N	133	GLN
9	N	134	ARG
10	O	49	ARG
11	P	5	ASP
11	P	10	PRO
11	P	15	ARG
11	P	19	VAL
11	P	21	ARG
11	P	25	SER
11	P	27	HIS
11	P	36	LYS
11	P	38	GLN
11	P	42	SER
11	P	65	ARG
11	P	95	VAL
11	P	106	LEU
11	P	107	LYS
11	P	141	ALA
11	P	148	LEU
12	Q	6	ARG
12	Q	18	LYS
12	Q	22	LYS
12	Q	27	VAL
12	Q	81	VAL
12	Q	90	VAL
12	Q	134	ARG
13	R	2	ARG
13	R	3	HIS
13	R	4	LEU
13	R	14	SER
13	R	58	GLY
13	R	86	ARG
13	R	117	VAL
14	S	4	LEU
14	S	12	PHE

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Mol	Chain	Res	Type
14	S	14	VAL
14	S	23	ARG
14	S	56	LEU
14	S	57	LYS
14	S	88	ASP
14	S	89	ARG
14	S	90	GLY
14	S	107	GLU
15	T	2	ASN
15	T	3	ARG
15	T	39	ARG
15	T	55	ASN
15	T	58	ASN
15	T	90	GLN
15	T	94	ALA
15	T	97	ALA
15	T	106	SER
15	T	107	ASP
17	V	28	GLU
17	V	31	ALA
17	V	45	THR
17	V	48	GLY
17	V	49	THR
17	V	50	PRO
17	V	53	GLU
17	V	79	VAL
18	W	59	VAL
18	W	67	ASP
18	W	75	TYR
18	W	111	HIS
19	X	36	LYS
20	Y	3	VAL
20	Y	23	ARG
20	Y	48	ALA
20	Y	49	VAL
20	Y	50	ARG
20	Y	53	PRO
20	Y	58	GLY
20	Y	63	LYS
20	Y	77	PRO
20	Y	78	ALA
20	Y	96	ILE

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Mol	Chain	Res	Type
21	Z	6	LYS
21	Z	111	VAL
23	1	30	VAL
23	1	54	ALA
23	1	81	LYS
23	1	82	LEU
23	1	95	LEU
24	2	16	LEU
24	2	43	GLN
24	2	47	ASN
24	2	48	HIS
24	2	71	ASN
25	3	3	ARG
26	4	5	ILE
26	4	14	ILE
26	4	16	CYS
26	4	22	ILE
26	4	23	GLU
26	4	36	CYS
26	4	37	SER
26	4	40	HIS
26	4	42	PHE
26	4	43	TYR
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	62	ARG
26	4	66	SER
26	4	68	ARG
27	5	3	LYS
27	5	4	HIS
27	5	35	GLU
27	5	51	TYR
27	5	53	ALA
28	6	7	ILE
28	6	14	THR
28	6	15	GLU
28	6	19	ARG
28	6	21	TYR
28	6	33	LYS
28	6	45	LYS

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Mol	Chain	Res	Type
28	6	48	VAL
30	8	29	LYS
30	8	31	HIS
30	8	34	TRP
30	8	52	LYS
30	8	62	LEU
3	D	3	VAL
3	D	32	SER
3	D	58	HIS
3	D	122	ASP
3	D	169	GLU
4	E	8	LYS
4	E	37	ARG
4	E	53	PRO
4	E	61	ARG
4	E	78	LEU
4	E	88	GLY
4	E	186	GLY
4	E	190	GLY
4	E	204	ALA
5	F	18	ARG
5	F	107	LYS
5	F	108	LYS
5	F	111	ALA
5	F	132	VAL
5	F	134	GLY
5	F	168	ARG
6	G	5	VAL
6	G	36	LYS
6	G	81	LYS
6	G	82	LEU
6	G	96	ARG
6	G	110	ALA
6	G	115	ARG
6	G	126	ASP
6	G	136	ARG
7	H	3	ARG
7	H	8	PRO
7	H	55	PRO
7	H	59	ARG
7	H	84	SER
7	H	151	ILE

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Mol	Chain	Res	Type
7	H	156	ALA
7	H	168	PRO
8	I	11	ASN
8	I	84	GLY
8	I	117	GLU
8	I	133	HIS
8	I	145	VAL
9	N	23	LEU
9	N	76	SER
10	O	51	ALA
10	O	56	ASP
10	O	68	GLU
11	P	6	LEU
11	P	11	GLY
11	P	12	ALA
11	P	16	ARG
12	Q	13	GLN
12	Q	24	GLY
12	Q	28	ALA
12	Q	57	HIS
13	R	11	ASN
14	S	87	PHE
14	S	96	GLY
14	S	100	ALA
14	S	109	GLY
14	S	111	GLU
15	T	4	GLY
15	T	36	GLU
15	T	43	GLN
15	T	67	SER
15	T	124	ASP
16	U	9	VAL
16	U	28	ARG
16	U	73	GLY
16	U	90	VAL
18	W	63	ASP
18	W	66	GLU
19	X	67	GLY
20	Y	4	LYS
20	Y	41	GLY
20	Y	56	PRO
20	Y	57	GLN

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Mol	Chain	Res	Type
20	Y	91	GLU
20	Y	99	CYS
21	Z	51	ALA
21	Z	108	PRO
21	Z	116	VAL
21	Z	153	SER
21	Z	177	PRO
22	0	3	HIS
23	1	45	ASN
23	1	55	GLY
23	1	84	GLY
24	2	24	LEU
24	2	44	LEU
24	2	70	GLN
26	4	9	LEU
26	4	24	THR
27	5	43	HIS
27	5	55	ARG
29	7	39	ARG
3	D	111	LEU
3	D	242	ARG
3	D	262	ARG
4	E	20	ALA
4	E	62	PRO
4	E	69	LYS
4	E	71	GLY
4	E	82	ARG
4	E	117	MET
4	E	130	GLY
4	E	132	HIS
6	G	128	ARG
6	G	174	GLU
7	H	50	VAL
7	H	81	GLU
7	H	152	ARG
8	I	15	VAL
8	I	72	LEU
8	I	118	LYS
9	N	45	ASN
9	N	130	HIS
9	N	132	ALA
9	N	135	PRO

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Mol	Chain	Res	Type
11	P	7	ARG
11	P	14	LYS
11	P	43	GLY
11	P	89	ALA
11	P	102	ARG
11	P	115	LEU
12	Q	88	GLY
12	Q	91	GLU
13	R	42	LYS
13	R	45	ARG
13	R	71	GLN
13	R	107	ASP
14	S	19	LYS
14	S	61	ASN
14	S	74	ALA
14	S	75	GLU
15	T	78	LEU
15	T	112	ARG
16	U	46	ALA
16	U	58	ARG
16	U	93	LYS
17	V	54	GLY
18	W	68	ARG
18	W	93	ALA
19	X	48	LYS
19	X	87	GLN
20	Y	21	LYS
20	Y	39	VAL
20	Y	42	VAL
20	Y	69	ALA
20	Y	102	CYS
21	Z	112	ARG
21	Z	166	SER
22	0	18	ALA
23	1	74	VAL
23	1	91	LYS
23	1	93	GLU
26	4	27	THR
26	4	46	GLN
28	6	18	ARG
29	7	32	LYS
30	8	46	ARG

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Mol	Chain	Res	Type
30	8	47	LYS
3	D	12	SER
3	D	73	VAL
3	D	238	GLY
4	E	66	HIS
4	E	126	PRO
5	F	43	LYS
5	F	130	ALA
5	F	136	THR
5	F	145	GLU
6	G	12	TYR
6	G	117	PHE
6	G	146	TYR
7	H	13	LYS
7	H	109	PHE
7	H	159	GLU
8	I	115	ALA
8	I	122	GLU
9	N	96	GLU
10	O	17	ARG
10	O	97	ARG
11	P	29	LYS
11	P	47	ASP
11	P	139	LYS
15	T	37	GLY
15	T	95	ARG
16	U	74	LEU
18	W	14	PRO
18	W	48	ALA
21	Z	7	ALA
21	Z	13	GLU
21	Z	92	SER
26	4	8	LYS
27	5	14	ALA
27	5	37	LYS
27	5	42	PRO
27	5	45	VAL
27	5	48	GLU
28	6	8	LYS
28	6	9	LEU
28	6	10	LEU
28	6	49	HIS

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Mol	Chain	Res	Type
30	8	25	MET
30	8	53	PRO
30	8	57	ARG
3	D	33	LEU
4	E	79	ARG
5	F	47	GLY
5	F	118	ALA
7	H	11	VAL
7	H	27	LYS
7	H	47	GLU
7	H	77	LYS
7	H	170	ARG
9	N	29	LYS
9	N	104	LYS
9	N	127	ASP
9	N	128	HIS
10	O	25	LEU
11	P	50	ARG
11	P	97	PRO
11	P	108	LYS
13	R	85	PRO
16	U	91	ASP
18	W	32	ALA
19	X	19	ALA
20	Y	7	VAL
21	Z	61	LEU
21	Z	66	SER
21	Z	81	ARG
21	Z	130	PRO
25	3	13	ILE
26	4	30	GLU
28	6	35	GLU
30	8	64	TYR
3	D	178	PRO
6	G	109	VAL
6	G	181	ARG
7	H	7	LEU
7	H	26	VAL
8	I	9	LEU
8	I	12	LEU
15	T	38	ASN
18	W	11	ARG

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Mol	Chain	Res	Type
18	W	33	ARG
26	4	33	VAL
26	4	69	LYS
26	4	70	GLY
27	5	57	VAL
29	7	44	PRO
4	E	86	PRO
4	E	184	VAL
12	Q	86	GLY
13	R	32	GLY
17	V	36	PRO
18	W	35	ILE
21	Z	53	ILE
3	D	241	PRO
8	I	18	VAL
20	Y	32	PRO
21	Z	94	GLU
27	5	46	CYS
3	D	34	VAL
6	G	52	ILE
10	O	114	ILE
20	Y	27	VAL
20	Y	51	VAL
21	Z	62	PRO
21	Z	165	VAL
27	5	34	PRO
4	E	52	LEU
4	E	55	ASN
10	O	27	GLY
25	3	40	THR
8	I	71	ILE
24	2	18	PRO

### 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
3	D	214/218 (98%)	177 (83%)	37 (17%)	<b>3</b> <b>13</b>

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	E	165/166 (99%)	128 (78%)	37 (22%)	1	6
5	F	161/166 (97%)	140 (87%)	21 (13%)	6	26
6	G	155/156 (99%)	130 (84%)	25 (16%)	3	15
7	H	142/148 (96%)	114 (80%)	28 (20%)	2	9
8	I	122/124 (98%)	100 (82%)	22 (18%)	2	12
9	N	117/119 (98%)	98 (84%)	19 (16%)	3	15
10	O	100/100 (100%)	90 (90%)	10 (10%)	11	41
11	P	116/116 (100%)	89 (77%)	27 (23%)	1	5
12	Q	111/111 (100%)	93 (84%)	18 (16%)	3	15
13	R	101/101 (100%)	84 (83%)	17 (17%)	3	13
14	S	87/88 (99%)	74 (85%)	13 (15%)	4	19
15	T	120/127 (94%)	97 (81%)	23 (19%)	2	10
16	U	93/94 (99%)	80 (86%)	13 (14%)	5	23
17	V	82/82 (100%)	71 (87%)	11 (13%)	6	25
18	W	92/92 (100%)	77 (84%)	15 (16%)	3	15
19	X	74/78 (95%)	63 (85%)	11 (15%)	4	19
20	Y	85/91 (93%)	70 (82%)	15 (18%)	3	12
21	Z	162/179 (90%)	138 (85%)	24 (15%)	4	19
22	0	65/67 (97%)	58 (89%)	7 (11%)	9	37
23	1	82/83 (99%)	67 (82%)	15 (18%)	2	11
24	2	64/67 (96%)	57 (89%)	7 (11%)	9	37
25	3	51/52 (98%)	40 (78%)	11 (22%)	1	7
26	4	63/63 (100%)	44 (70%)	19 (30%)	0	1
27	5	51/52 (98%)	39 (76%)	12 (24%)	1	5
28	6	48/52 (92%)	38 (79%)	10 (21%)	2	8
29	7	42/42 (100%)	39 (93%)	3 (7%)	21	64
30	8	54/55 (98%)	39 (72%)	15 (28%)	0	1
31	9	34/34 (100%)	32 (94%)	2 (6%)	28	72
All	All	2853/2923 (98%)	2366 (83%)	487 (17%)	3	13

All (487) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	10	THR
3	D	17	THR
3	D	26	LYS
3	D	33	LEU
3	D	43	ARG
3	D	44	ASN
3	D	61	LEU
3	D	65	ILE
3	D	67	PHE
3	D	71	ASP
3	D	73	VAL
3	D	94	LEU
3	D	98	VAL
3	D	105	ILE
3	D	106	ILE
3	D	131	LEU
3	D	134	ARG
3	D	135	PHE
3	D	155	LEU
3	D	157	ARG
3	D	166	GLN
3	D	173	VAL
3	D	183	ARG
3	D	192	THR
3	D	198	ASN
3	D	200	ASP
3	D	215	LEU
3	D	217	ARG
3	D	218	ARG
3	D	226	MET
3	D	230	ASP
3	D	237	GLU
3	D	257	LEU
3	D	259	THR
3	D	261	LYS
3	D	262	ARG
3	D	271	ILE
4	E	2	LYS
4	E	4	ILE
4	E	13	ARG
4	E	16	ARG
4	E	17	ASP
4	E	25	VAL

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Mol	Chain	Res	Type
4	E	26	ILE
4	E	27	LEU
4	E	33	VAL
4	E	36	ARG
4	E	37	ARG
4	E	38	THR
4	E	41	LYS
4	E	45	THR
4	E	54	GLN
4	E	61	ARG
4	E	62	PRO
4	E	66	HIS
4	E	73	GLU
4	E	75	VAL
4	E	77	ILE
4	E	79	ARG
4	E	80	GLU
4	E	101	ARG
4	E	113	PHE
4	E	117	MET
4	E	119	ARG
4	E	143	ASN
4	E	146	THR
4	E	154	LYS
4	E	167	VAL
4	E	179	GLU
4	E	184	VAL
4	E	196	VAL
4	E	200	GLU
4	E	202	LYS
4	E	203	LYS
5	F	7	TYR
5	F	9	ILE
5	F	25	PRO
5	F	32	LEU
5	F	45	ARG
5	F	46	ARG
5	F	65	TRP
5	F	66	PRO
5	F	67	GLN
5	F	70	THR
5	F	82	ILE

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Mol	Chain	Res	Type
5	F	106	ARG
5	F	108	LYS
5	F	117	ARG
5	F	124	LEU
5	F	127	GLU
5	F	145	GLU
5	F	164	ARG
5	F	181	LEU
5	F	183	VAL
5	F	206	ILE
6	G	4	ASP
6	G	22	ARG
6	G	26	GLN
6	G	33	ARG
6	G	34	LEU
6	G	35	GLU
6	G	43	LEU
6	G	45	GLU
6	G	63	ILE
6	G	67	LYS
6	G	71	THR
6	G	88	ILE
6	G	94	LEU
6	G	96	ARG
6	G	97	ASP
6	G	103	LEU
6	G	115	ARG
6	G	118	ARG
6	G	133	LEU
6	G	147	ASP
6	G	155	MET
6	G	156	ASP
6	G	159	VAL
6	G	167	GLU
6	G	174	GLU
7	H	3	ARG
7	H	4	ILE
7	H	9	ILE
7	H	10	PRO
7	H	11	VAL
7	H	16	SER
7	H	27	LYS

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Mol	Chain	Res	Type
7	H	32	GLU
7	H	37	VAL
7	H	41	MET
7	H	43	VAL
7	H	59	ARG
7	H	64	LEU
7	H	77	LYS
7	H	81	GLU
7	H	85	LYS
7	H	88	LEU
7	H	89	ILE
7	H	105	LEU
7	H	132	ARG
7	H	139	GLN
7	H	143	GLN
7	H	152	ARG
7	H	153	LYS
7	H	154	PRO
7	H	155	SER
7	H	158	HIS
7	H	169	VAL
8	I	1	MET
8	I	2	LYS
8	I	10	GLU
8	I	27	ARG
8	I	33	ARG
8	I	38	LEU
8	I	40	THR
8	I	56	LYS
8	I	57	ARG
8	I	67	ARG
8	I	70	GLU
8	I	85	GLU
8	I	86	THR
8	I	88	ILE
8	I	101	LEU
8	I	113	ARG
8	I	118	LYS
8	I	128	LEU
8	I	135	GLU
8	I	138	ILE
8	I	142	VAL

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Mol	Chain	Res	Type
8	I	145	VAL
9	N	2	LYS
9	N	7	LYS
9	N	43	THR
9	N	48	MET
9	N	60	ILE
9	N	61	ARG
9	N	65	LYS
9	N	73	THR
9	N	78	TYR
9	N	90	MET
9	N	93	THR
9	N	94	HIS
9	N	101	HIS
9	N	109	LYS
9	N	112	LEU
9	N	120	LEU
9	N	127	ASP
9	N	131	GLN
9	N	136	GLU
10	O	8	LEU
10	O	9	GLU
10	O	17	ARG
10	O	19	ILE
10	O	23	ARG
10	O	31	LYS
10	O	39	ILE
10	O	49	ARG
10	O	53	LYS
10	O	65	THR
11	P	5	ASP
11	P	9	ASN
11	P	10	PRO
11	P	16	ARG
11	P	21	ARG
11	P	27	HIS
11	P	29	LYS
11	P	30	THR
11	P	32	THR
11	P	36	LYS
11	P	38	GLN
11	P	41	ARG

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Mol	Chain	Res	Type
11	P	50	ARG
11	P	55	ARG
11	P	61	ARG
11	P	62	LEU
11	P	64	LYS
11	P	65	ARG
11	P	75	ILE
11	P	81	GLN
11	P	88	LEU
11	P	91	PHE
11	P	99	LEU
11	P	100	LEU
11	P	108	LYS
11	P	144	GLU
11	P	146	VAL
12	Q	2	LEU
12	Q	25	ASP
12	Q	26	TYR
12	Q	27	VAL
12	Q	45	GLN
12	Q	46	GLN
12	Q	54	MET
12	Q	55	VAL
12	Q	58	PHE
12	Q	60	ARG
12	Q	79	LEU
12	Q	83	MET
12	Q	89	ASN
12	Q	90	VAL
12	Q	91	GLU
12	Q	130	LYS
12	Q	135	ASP
12	Q	139	GLU
13	R	14	SER
13	R	31	HIS
13	R	37	THR
13	R	44	LEU
13	R	51	LEU
13	R	57	ARG
13	R	66	VAL
13	R	67	LEU
13	R	71	GLN

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Mol	Chain	Res	Type
13	R	75	LEU
13	R	76	VAL
13	R	81	ASP
13	R	95	THR
13	R	104	ARG
13	R	105	ARG
13	R	107	ASP
13	R	113	LEU
14	S	4	LEU
14	S	12	PHE
14	S	17	ARG
14	S	18	ILE
14	S	20	ARG
14	S	44	LYS
14	S	56	LEU
14	S	57	LYS
14	S	89	ARG
14	S	101	LEU
14	S	103	GLU
14	S	106	ARG
14	S	111	GLU
15	T	2	ASN
15	T	14	TYR
15	T	22	PHE
15	T	23	ARG
15	T	26	ASP
15	T	27	THR
15	T	42	ILE
15	T	51	ARG
15	T	58	ASN
15	T	65	LYS
15	T	73	GLU
15	T	78	LEU
15	T	86	ILE
15	T	87	ASP
15	T	99	LEU
15	T	100	TYR
15	T	104	ASN
15	T	107	ASP
15	T	111	ARG
15	T	112	ARG
15	T	115	ARG

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Mol	Chain	Res	Type
15	T	128	GLU
15	T	134	GLU
16	U	5	LYS
16	U	9	VAL
16	U	31	SER
16	U	52	ARG
16	U	74	LEU
16	U	76	TYR
16	U	79	PHE
16	U	88	ILE
16	U	92	ARG
16	U	98	LEU
16	U	108	GLU
16	U	114	LYS
16	U	117	GLN
17	V	13	ARG
17	V	14	VAL
17	V	18	LEU
17	V	35	LEU
17	V	38	LEU
17	V	39	LEU
17	V	40	LEU
17	V	66	ARG
17	V	75	PHE
17	V	91	TYR
17	V	99	ILE
18	W	11	ARG
18	W	14	PRO
18	W	16	LYS
18	W	18	ARG
18	W	19	LEU
18	W	20	VAL
18	W	63	ASP
18	W	67	ASP
18	W	69	LEU
18	W	70	TYR
18	W	87	PRO
18	W	88	ARG
18	W	92	ARG
18	W	107	LEU
18	W	109	GLU
19	X	3	THR

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Mol	Chain	Res	Type
19	X	6	ASP
19	X	15	GLU
19	X	27	THR
19	X	30	VAL
19	X	55	ASN
19	X	57	LEU
19	X	65	ARG
19	X	70	LEU
19	X	80	ILE
19	X	88	LYS
20	Y	7	VAL
20	Y	11	ASP
20	Y	27	VAL
20	Y	45	VAL
20	Y	57	GLN
20	Y	64	GLU
20	Y	75	ILE
20	Y	77	PRO
20	Y	79	CYS
20	Y	87	LYS
20	Y	88	LYS
20	Y	89	PHE
20	Y	90	LEU
20	Y	95	LYS
20	Y	97	ARG
21	Z	2	GLU
21	Z	5	LEU
21	Z	19	ARG
21	Z	20	ARG
21	Z	52	SER
21	Z	60	GLU
21	Z	76	LEU
21	Z	81	ARG
21	Z	87	ASP
21	Z	93	ASP
21	Z	94	GLU
21	Z	111	VAL
21	Z	112	ARG
21	Z	121	HIS
21	Z	128	VAL
21	Z	145	GLU
21	Z	150	LEU

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Mol	Chain	Res	Type
21	Z	151	HIS
21	Z	163	LEU
21	Z	166	SER
21	Z	168	GLU
21	Z	174	VAL
21	Z	182	LYS
21	Z	183	LEU
22	0	10	THR
22	0	11	ARG
22	0	35	ASN
22	0	36	ILE
22	0	64	ASP
22	0	66	VAL
22	0	74	ARG
23	1	2	SER
23	1	11	ARG
23	1	21	ARG
23	1	30	VAL
23	1	40	ARG
23	1	41	ARG
23	1	56	GLN
23	1	76	ARG
23	1	80	LEU
23	1	81	LYS
23	1	83	GLU
23	1	87	PRO
23	1	91	LYS
23	1	92	LYS
23	1	97	LEU
24	2	7	ARG
24	2	9	GLN
24	2	16	LEU
24	2	24	LEU
24	2	53	LEU
24	2	62	THR
24	2	64	LEU
25	3	4	LEU
25	3	8	LEU
25	3	9	VAL
25	3	10	LYS
25	3	17	LYS
25	3	30	ARG

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Mol	Chain	Res	Type
25	3	31	LEU
25	3	32	GLN
25	3	37	LEU
25	3	40	THR
25	3	44	ARG
26	4	6	HIS
26	4	15	ILE
26	4	18	CYS
26	4	21	VAL
26	4	23	GLU
26	4	39	CYS
26	4	42	PHE
26	4	48	ARG
26	4	49	PHE
26	4	50	VAL
26	4	51	ASP
26	4	53	GLU
26	4	57	GLU
26	4	61	ARG
26	4	62	ARG
26	4	63	TYR
26	4	67	TYR
26	4	68	ARG
26	4	71	ARG
27	5	3	LYS
27	5	4	HIS
27	5	6	VAL
27	5	11	THR
27	5	19	ARG
27	5	25	LEU
27	5	36	CYS
27	5	37	LYS
27	5	43	HIS
27	5	52	TYR
27	5	56	LYS
27	5	58	LEU
28	6	6	ARG
28	6	8	LYS
28	6	18	ARG
28	6	19	ARG
28	6	28	ARG
28	6	34	LEU

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Mol	Chain	Res	Type
28	6	37	ARG
28	6	42	TRP
28	6	44	ARG
28	6	46	HIS
29	7	1	MET
29	7	9	ARG
29	7	43	THR
30	8	15	LYS
30	8	16	ILE
30	8	30	ARG
30	8	35	GLN
30	8	39	LYS
30	8	43	GLN
30	8	44	LYS
30	8	47	LYS
30	8	48	PHE
30	8	49	VAL
30	8	52	LYS
30	8	53	PRO
30	8	62	LEU
30	8	63	PRO
30	8	65	GLU
31	9	1	MET
31	9	17	ILE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (31) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	44	ASN
3	D	143	HIS
3	D	166	GLN
3	D	198	ASN
4	E	48	GLN
7	H	143	GLN
7	H	147	ASN
9	N	56	ASN
9	N	101	HIS
9	N	131	GLN
10	O	5	GLN
10	O	82	ASN
11	P	81	GLN
11	P	84	ASN

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Mol	Chain	Res	Type
12	Q	123	HIS
13	R	3	HIS
15	T	55	ASN
15	T	58	ASN
16	U	81	HIS
16	U	94	ASN
17	V	11	GLN
18	W	61	ASN
19	X	55	ASN
19	X	87	GLN
20	Y	57	GLN
23	1	56	GLN
24	2	9	GLN
24	2	47	ASN
25	3	19	GLN
25	3	32	GLN
31	9	32	HIS

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2879/2916 (98%)	618 (21%)	67 (2%)
2	B	119/122 (97%)	24 (20%)	2 (1%)
32	a	1/3 (33%)	0	0
All	All	2999/3041 (98%)	642 (21%)	69 (2%)

All (642) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	9	U
1	A	14	A
1	A	15	G
1	A	28	A
1	A	34	C
1	A	46	C
1	A	49	A
1	A	51	G
1	A	55	G
1	A	72	U
1	A	74	A
1	A	75	G

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Mol	Chain	Res	Type
1	A	96	G
1	A	97	C
1	A	101	G
1	A	102	G
1	A	103	A
1	A	118	A
1	A	120	U
1	A	131	G
1	A	138	G
1	A	140	A
1	A	161	U
1	A	177	G
1	A	196	A
1	A	199	A
1	A	206	U
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	223	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	232	G
1	A	233	A
1	A	242	G
1	A	243	U
1	A	248	G
1	A	249	C
1	A	250	G
1	A	252	G
1	A	265	A
1	A	266	G
1	A	268	C
1	A	269	U
1	A	270(L)	U
1	A	270(M)	U
1	A	270(P)	C
1	A	270(T)	G
1	A	271(B)	G
1	A	271(C)	U
1	A	271	G

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Mol	Chain	Res	Type
1	A	275	G
1	A	276	A
1	A	277	C
1	A	278	A
1	A	299	A
1	A	305	U
1	A	311	A
1	A	316	C
1	A	323	G
1	A	324	A
1	A	327	G
1	A	329	G
1	A	330	A
1	A	333	G
1	A	342	G
1	A	346	A
1	A	352	G
1	A	364	C
1	A	371	A
1	A	372	G
1	A	373	U
1	A	386	G
1	A	391	G
1	A	395	U
1	A	396	G
1	A	405	U
1	A	411	G
1	A	412	A
1	A	428	A
1	A	442	G
1	A	444	C
1	A	448	U
1	A	454	A
1	A	455	C
1	A	457	A
1	A	470	A
1	A	481	G
1	A	483	A
1	A	504	U
1	A	505	A
1	A	509	C
1	A	512	G

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Mol	Chain	Res	Type
1	A	513	A
1	A	527	C
1	A	528	A
1	A	529	A
1	A	531	C
1	A	532	A
1	A	533	G
1	A	537	C
1	A	539	G
1	A	540	G
1	A	546	C
1	A	547	A
1	A	554	U
1	A	556	G
1	A	563	G
1	A	573	G
1	A	574	C
1	A	575	A
1	A	586	A
1	A	588	U
1	A	603	A
1	A	604	G
1	A	607	U
1	A	614	U
1	A	615	G
1	A	616	A
1	A	617	G
1	A	621	A
1	A	624	C
1	A	626	U
1	A	627	A
1	A	637	A
1	A	638	G
1	A	645	C
1	A	646	A
1	A	650	C
1	A	651	G
1	A	652	C
1	A	654	A
1	A	654(A)	G
1	A	654(B)	C
1	A	668	G

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Mol	Chain	Res	Type
1	A	669	G
1	A	686	G
1	A	702	G
1	A	705	A
1	A	717	G
1	A	722	A
1	A	726	G
1	A	730	C
1	A	747	U
1	A	753	C
1	A	764	A
1	A	765	G
1	A	776	G
1	A	782	A
1	A	784	A
1	A	785	G
1	A	790	C
1	A	791	C
1	A	792	G
1	A	805	G
1	A	812	C
1	A	818	G
1	A	819	A
1	A	827	U
1	A	828	U
1	A	846	C
1	A	847	U
1	A	854	G
1	A	856	C
1	A	857	C
1	A	859	G
1	A	860	U
1	A	869	G
1	A	872	A
1	A	880	G
1	A	881	G
1	A	882	G
1	A	884	C
1	A	885	C
1	A	886	C
1	A	888	C
1	A	889	C

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Mol	Chain	Res	Type
1	A	893	C
1	A	896	A
1	A	897	C
1	A	899	A
1	A	900	A
1	A	901	A
1	A	904	C
1	A	907	U
1	A	910	A
1	A	914	C
1	A	917	A
1	A	932	G
1	A	941	A
1	A	945	A
1	A	946	G
1	A	959	A
1	A	961	C
1	A	974	G
1	A	974(A)	C
1	A	975	G
1	A	980	A
1	A	983	A
1	A	990	A
1	A	991	C
1	A	996	A
1	A	1003	G
1	A	1005	C
1	A	1011	G
1	A	1012	U
1	A	1013	C
1	A	1015	G
1	A	1016	G
1	A	1022	G
1	A	1023	U
1	A	1025	G
1	A	1026	U
1	A	1027	A
1	A	1033	U
1	A	1044	G
1	A	1045	A
1	A	1046	A
1	A	1050	A

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Mol	Chain	Res	Type
1	A	1055	G
1	A	1057	A
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1065	U
1	A	1066	U
1	A	1067	A
1	A	1068	G
1	A	1070	A
1	A	1071	G
1	A	1076	C
1	A	1077	A
1	A	1078	U
1	A	1079	C
1	A	1082	U
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1086	A
1	A	1087	G
1	A	1088	A
1	A	1091	G
1	A	1093	G
1	A	1095	A
1	A	1096	A
1	A	1099	G
1	A	1104	C
1	A	1110	G
1	A	1111	A
1	A	1112	G
1	A	1129	A
1	A	1131	G
1	A	1135	C
1	A	1136	G
1	A	1142	U
1	A	1142(A)	A
1	A	1151	G
1	A	1170	G
1	A	1173	G
1	A	1174	A
1	A	1175	U

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Mol	Chain	Res	Type
1	A	1176	G
1	A	1178	C
1	A	1179	C
1	A	1180	C
1	A	1195	G
1	A	1204	A
1	A	1205	U
1	A	1210	A
1	A	1211	U
1	A	1220	A
1	A	1238	G
1	A	1248	G
1	A	1252	G
1	A	1253	A
1	A	1256	G
1	A	1265	A
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1300	U
1	A	1301	A
1	A	1303	G
1	A	1306	C
1	A	1312	U
1	A	1313	U
1	A	1314	C
1	A	1319	G
1	A	1321	A
1	A	1329	U
1	A	1332	G
1	A	1349	A
1	A	1365	A
1	A	1368	G
1	A	1370	C
1	A	1379	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1395	A
1	A	1407	C
1	A	1408	C

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Mol	Chain	Res	Type
1	A	1411	C
1	A	1412	A
1	A	1416	G
1	A	1419	A
1	A	1420	U
1	A	1421	G
1	A	1427	A
1	A	1428	C
1	A	1444(A)	A
1	A	1445	C
1	A	1448	G
1	A	1449	A
1	A	1449(A)	G
1	A	1455	G
1	A	1458	C
1	A	1459	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1482	U
1	A	1483	G
1	A	1485	G
1	A	1493	C
1	A	1497	U
1	A	1503	U
1	A	1505	C
1	A	1506	C
1	A	1507	A
1	A	1508	A
1	A	1510	A
1	A	1511	A
1	A	1513	C
1	A	1514	U
1	A	1515	C
1	A	1520	U
1	A	1522	G
1	A	1525	G
1	A	1534	G
1	A	1535	U
1	A	1536	A
1	A	1537	C

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Mol	Chain	Res	Type
1	A	1538	G
1	A	1543	A
1	A	1544	C
1	A	1545	A
1	A	1547	C
1	A	1554	A
1	A	1558	A
1	A	1559	G
1	A	1569	A
1	A	1578	U
1	A	1579	A
1	A	1581	G
1	A	1585	C
1	A	1586	A
1	A	1591	G
1	A	1593	G
1	A	1598	C
1	A	1608	A
1	A	1609	A
1	A	1616	A
1	A	1617	C
1	A	1618	A
1	A	1640	C
1	A	1647	G
1	A	1648	C
1	A	1654	A
1	A	1667	G
1	A	1674	G
1	A	1675	C
1	A	1686	C
1	A	1694	C
1	A	1695	G
1	A	1725	G
1	A	1729	A
1	A	1730	U
1	A	1731	G
1	A	1733	G
1	A	1742	C
1	A	1743	G
1	A	1753	G
1	A	1754	C
1	A	1756	G

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Mol	Chain	Res	Type
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1769	G
1	A	1773	A
1	A	1780	A
1	A	1782	C
1	A	1791	A
1	A	1799	G
1	A	1800	C
1	A	1801	G
1	A	1816	G
1	A	1820	U
1	A	1829	A
1	A	1835	G
1	A	1847	A
1	A	1848	A
1	A	1850	G
1	A	1858	G
1	A	1869	G
1	A	1870	C
1	A	1872	A
1	A	1878	G
1	A	1882	C
1	A	1885	A
1	A	1888	G
1	A	1889	A
1	A	1896	G
1	A	1905	C
1	A	1906	G
1	A	1913	A
1	A	1927	A
1	A	1930	G
1	A	1931	U
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1955	U
1	A	1963	U
1	A	1964	G
1	A	1967	C
1	A	1969	A

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Mol	Chain	Res	Type
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1981	A
1	A	1982	C
1	A	1991	U
1	A	1992	G
1	A	1993	U
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2043	C
1	A	2052	G
1	A	2055	C
1	A	2056	G
1	A	2059	A
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2069	G
1	A	2093	G
1	A	2096	U
1	A	2099	U
1	A	2111	C
1	A	2113	U
1	A	2114	A
1	A	2115	G
1	A	2116	G
1	A	2117	A
1	A	2118	U
1	A	2120	G
1	A	2126	A
1	A	2127	G
1	A	2128	C
1	A	2131	G
1	A	2132	U
1	A	2133	G
1	A	2136	C
1	A	2146	C
1	A	2148	G
1	A	2158	A

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Mol	Chain	Res	Type
1	A	2166	G
1	A	2168	G
1	A	2169	A
1	A	2173	A
1	A	2176	A
1	A	2190	G
1	A	2192	G
1	A	2198	A
1	A	2199	A
1	A	2210	G
1	A	2211	G
1	A	2212	A
1	A	2213	U
1	A	2215	G
1	A	2225	A
1	A	2239	G
1	A	2243	U
1	A	2245	U
1	A	2275	C
1	A	2280	G
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2300	G
1	A	2301	C
1	A	2305	A
1	A	2307	G
1	A	2308	G
1	A	2310	A
1	A	2312	U
1	A	2319	G
1	A	2320	A
1	A	2325	G
1	A	2326	C
1	A	2342	C
1	A	2345	G
1	A	2346	A
1	A	2347	C
1	A	2350	C
1	A	2372	G
1	A	2382	G
1	A	2383	G

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Mol	Chain	Res	Type
1	A	2385	C
1	A	2394	C
1	A	2397	G
1	A	2398	U
1	A	2402	C
1	A	2403	C
1	A	2406	U
1	A	2423	U
1	A	2424	C
1	A	2425	A
1	A	2429	G
1	A	2430	A
1	A	2434	A
1	A	2435	A
1	A	2439	A
1	A	2440	C
1	A	2441	C
1	A	2445	G
1	A	2448	A
1	A	2469	A
1	A	2470	G
1	A	2475	C
1	A	2476	A
1	A	2481	G
1	A	2482	G
1	A	2483	C
1	A	2484	G
1	A	2487	G
1	A	2494	G
1	A	2502	G
1	A	2505	G
1	A	2506	U
1	A	2507	C
1	A	2519	U
1	A	2529	G
1	A	2542	A
1	A	2543	G
1	A	2554	U
1	A	2558	C
1	A	2567	G
1	A	2569	G
1	A	2573	C

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Mol	Chain	Res	Type
1	A	2578	G
1	A	2582	G
1	A	2602	A
1	A	2609	U
1	A	2610	C
1	A	2611	U
1	A	2612	C
1	A	2614	A
1	A	2623	G
1	A	2629	A
1	A	2646	C
1	A	2655	G
1	A	2665	A
1	A	2673	G
1	A	2689	U
1	A	2690	C
1	A	2702	U
1	A	2703	C
1	A	2707	G
1	A	2712	U
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2724	C
1	A	2726	U
1	A	2733	A
1	A	2734	A
1	A	2739	U
1	A	2748	A
1	A	2752	C
1	A	2758	A
1	A	2761	G
1	A	2764	A
1	A	2765	A
1	A	2770	G
1	A	2777	G
1	A	2778	A
1	A	2779	U
1	A	2780	G
1	A	2790	A
1	A	2791	C
1	A	2797	U

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Mol	Chain	Res	Type
1	A	2807	G
1	A	2810	A
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2833	G
1	A	2834	G
1	A	2835	A
1	A	2846	G
1	A	2849	U
1	A	2867	G
1	A	2868	A
1	A	2872	G
1	A	2873	A
1	A	2880	C
1	A	2891	G
1	A	2892	A
1	A	2894	G
2	B	8	U
2	B	9	G
2	B	13	A
2	B	15	A
2	B	16	G
2	B	19	G
2	B	21	G
2	B	22	U
2	B	25	A
2	B	26	A
2	B	27	C
2	B	32	C
2	B	33	G
2	B	40	U
2	B	42	C
2	B	45	A
2	B	52	A
2	B	53	A
2	B	56	G
2	B	67	G
2	B	73	A
2	B	81	G
2	B	101	A
2	B	109	G

All (69) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	27	G
1	A	74	A
1	A	99	U
1	A	102	G
1	A	196	A
1	A	205	G
1	A	221	A
1	A	222	A
1	A	227	A
1	A	229	A
1	A	241	A
1	A	242	G
1	A	271(B)	G
1	A	271(C)	U
1	A	277	C
1	A	345	A
1	A	372	G
1	A	404	C
1	A	503	A
1	A	508	G
1	A	512	G
1	A	587	C
1	A	637	A
1	A	704	G
1	A	752	A
1	A	846	C
1	A	856	C
1	A	859	G
1	A	974(A)	C
1	A	1022	G
1	A	1026	U
1	A	1045	A
1	A	1078	U
1	A	1085	A
1	A	1130	U
1	A	1141	U
1	A	1178	C
1	A	1204	A
1	A	1210	A
1	A	1312	U
1	A	1427	A
1	A	1558	A

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Mol	Chain	Res	Type
1	A	1653	G
1	A	1694	C
1	A	1799	G
1	A	1819	A
1	A	1929	G
1	A	1930	G
1	A	1992	G
1	A	2060	A
1	A	2126	A
1	A	2198	A
1	A	2238	G
1	A	2405	G
1	A	2439	A
1	A	2481	G
1	A	2518	A
1	A	2566	A
1	A	2610	C
1	A	2689	U
1	A	2712	U
1	A	2723	C
1	A	2726	U
1	A	2776	A
1	A	2832	U
1	A	2848	G
1	A	2867	G
2	B	24	G
2	B	66	A

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
32	PPU	a	76	1,32	38,40,41	2.42	8 (21%)	54,57,60	2.62	14 (25%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	PPU	a	76	1,32	-	0/26/43/44	0/4/4/4

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	a	76	PPU	O-C	9.24	1.41	1.23
32	a	76	PPU	C9-N6	-5.44	1.32	1.45
32	a	76	PPU	C-N3'	5.41	1.46	1.34
32	a	76	PPU	C10-N6	-5.14	1.32	1.45
32	a	76	PPU	C4-N9	-3.07	1.33	1.37
32	a	76	PPU	C8-N9	-3.00	1.32	1.36
32	a	76	PPU	O4'-C1'	2.81	1.44	1.41
32	a	76	PPU	C6-C5	-2.59	1.40	1.44

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	a	76	PPU	N3-C2-N1	-8.46	121.45	128.89
32	a	76	PPU	C3'-N3'-C	-8.17	110.18	123.19
32	a	76	PPU	C5-C4-N3	-6.41	119.72	125.98
32	a	76	PPU	C2'-C1'-N9	-5.45	98.50	113.35
32	a	76	PPU	C2'-C3'-N3'	5.18	125.11	113.08
32	a	76	PPU	C2-N1-C6	4.70	121.70	111.52
32	a	76	PPU	C4'-O4'-C1'	-4.00	105.32	109.72
32	a	76	PPU	N3-C4-N9	3.93	132.13	125.39
32	a	76	PPU	C4-C5-N7	-3.63	105.90	109.41
32	a	76	PPU	CM-OC-CZ	-3.21	110.08	117.54
32	a	76	PPU	C4'-C3'-N3'	-2.69	107.89	113.56
32	a	76	PPU	O4'-C1'-N9	-2.66	102.31	108.10
32	a	76	PPU	C2-N3-C4	2.64	120.88	113.27
32	a	76	PPU	CA-C-N3'	2.06	121.74	115.94

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 5.5 Carbohydrates ⓘ

There are no carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 251 ligands modelled in this entry, 251 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

## 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 ⓘ

EDS was not executed - this section will therefore be empty.

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

EDS was not executed - this section will therefore be empty.

### 6.3 Carbohydrates ⓘ

EDS was not executed - this section will therefore be empty.

### 6.4 Ligands ⓘ

EDS was not executed - this section will therefore be empty.

### 6.5 Other polymers ⓘ

EDS was not executed - this section will therefore be empty.