



Full wwPDB EM Validation Report ⓘ

Nov 27, 2022 – 01:07 AM EST

PDB ID : 5KPS
EMDB ID : EMD-8279
Title : Structure of RelA bound to ribosome in absence of A/R tRNA (Structure I)
Authors : Loveland, A.B.; Bah, E.; Madireddy, R.; Zhang, Y.; Brilot, A.F.; Grigorieff, N.; Korostelev, A.A.
Deposited on : 2016-07-05
Resolution : 3.90 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

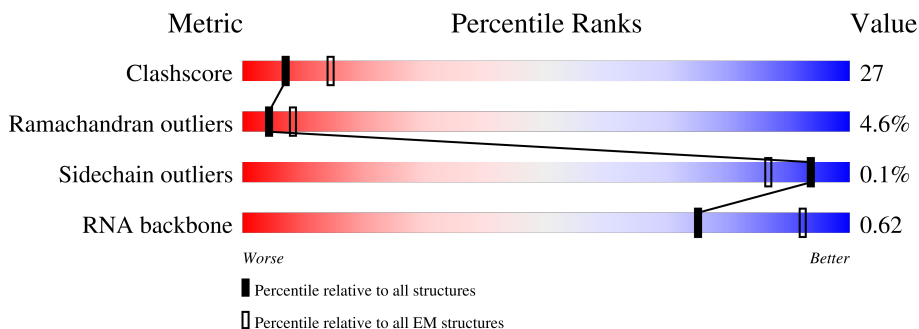
EMDB validation analysis : 0.0.1.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.90 Å.

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



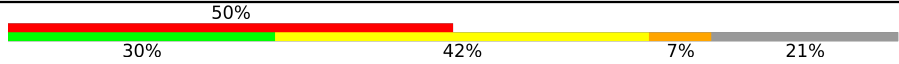


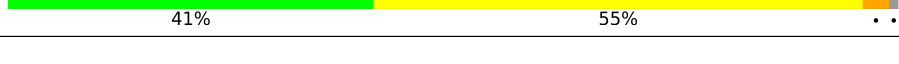
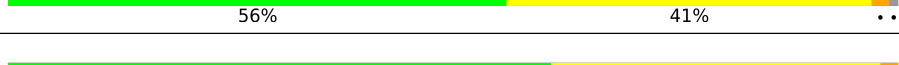


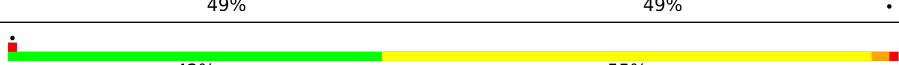

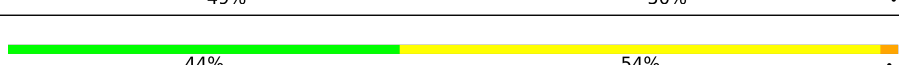
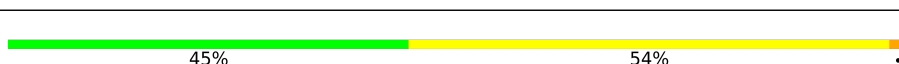

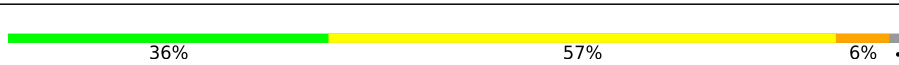


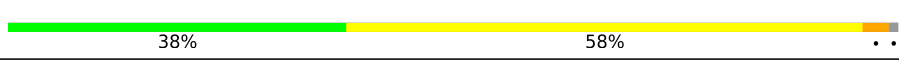
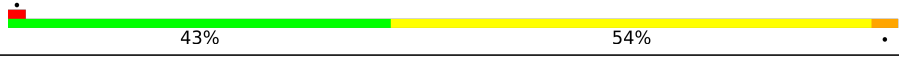
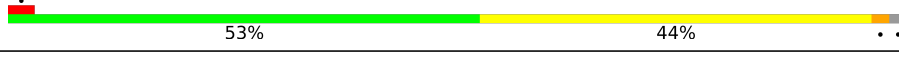
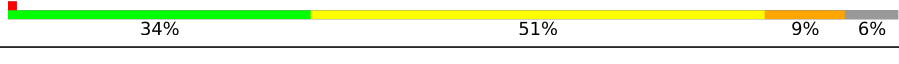

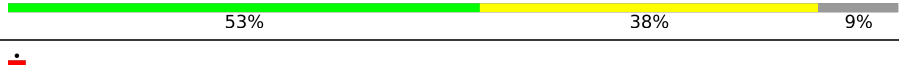




Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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

Mol	Chain	Length	Quality of chain
1	A	750	
2	B	273	
3	C	209	
4	D	201	
5	E	179	
6	F	177	
7	G	149	

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Mol	Chain	Length	Quality of chain
8	H	165	
9	I	142	
10	J	142	
11	K	123	
12	L	144	
13	M	136	
14	N	127	
15	O	117	
16	P	115	
17	Q	118	
18	R	103	
19	S	110	
20	T	100	
21	U	104	
22	V	94	
23	W	85	
24	X	78	
25	Y	63	
26	Z	59	
27	1	70	
28	2	57	
29	3	55	
30	4	46	
31	5	65	
32	6	38	

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Mol	Chain	Length	Quality of chain
33	7	241	
34	8	233	
35	9	206	
36	10	167	
37	11	135	
38	12	179	
39	13	130	
40	14	130	
41	15	103	
42	16	129	
43	17	124	
44	18	118	
45	19	101	
46	20	89	
47	21	82	
48	22	84	
49	23	75	
50	24	92	
51	25	87	
52	26	71	
53	27	1539	
54	28	2903	
55	29	120	
56	30	18	
57	31	77	

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Mol	Chain	Length	Quality of chain
58	32	77	 26% 53% 21%

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 149128 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called GTP pyrophosphokinase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	143	1103	685	209	204	5	0	0

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	MET	-	expression tag	UNP P0AG20
A	-4	HIS	-	expression tag	UNP P0AG20
A	-3	HIS	-	expression tag	UNP P0AG20
A	-2	HIS	-	expression tag	UNP P0AG20
A	-1	HIS	-	expression tag	UNP P0AG20
A	0	HIS	-	expression tag	UNP P0AG20
A	1	HIS	-	expression tag	UNP P0AG20

- Molecule 2 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	271	2082	1288	423	364	7	0	0

- Molecule 3 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	209	1565	979	288	294	4	0	0

- Molecule 4 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	201	1552	974	283	290	5	0	0

- Molecule 5 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 6 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		

- Molecule 7 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 8 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	131	Total	C	N	O	S	0	0
			988	625	175	183	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	L	143	1045	649	206	189	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	M	136	1074	686	205	177	6	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	N	120	960	593	196	166	5	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
15	O	116	892	552	178	162	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	P	114	917	574	179	163	1	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	Q	117	947	604	192	151	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	R	103	816	516	153	145	2	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
21	U	102	Total	C	N	O	0	0
			779	492	146	141		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 27 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	1	66	Total	C	N	O	S	0	0
			522	323	99	94	6		

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	2	56	Total	C	N	O	S	0	0
			444	269	94	80	1		

- Molecule 29 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms				AltConf	Trace
29	3	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 30 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	4	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	5	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 32 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	6	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 33 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	7	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 34 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	8	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 35 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	9	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 36 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	10	157	Total	C	N	O	S	0	0
			1156	719	218	213	6		

- Molecule 37 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	11	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 38 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	12	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 39 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	13	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 40 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	14	127	1022	634	206	179	3	0	0

- Molecule 41 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	15	98	786	493	150	142	1	0	0

- Molecule 42 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	16	116	869	535	173	158	3	0	0

- Molecule 43 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	17	123	955	590	196	165	4	0	0

- Molecule 44 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	18	114	883	546	178	156	3	0	0

- Molecule 45 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	19	100	805	499	164	139	3	0	0

- Molecule 46 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	20	88	714	439	144	130	1	0	0

- Molecule 47 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	21	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 48 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	22	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 49 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	23	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 50 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	24	79	Total	C	N	O	S	0	0
			637	408	120	107	2		

- Molecule 51 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	25	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 52 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	26	65	Total	C	N	O	S	0	0
			544	335	117	91	1		

- Molecule 53 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	27	1539	Total	C	N	O	P	0	0
			33016	14725	6052	10700	1539		

- Molecule 54 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
54	28	2903	62322	27801	11468	20150	2903	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
28	747	C	U	conflict	GB 802133627
28	1847	G	A	conflict	GB 802133627

- Molecule 55 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
55	29	120	2572	1145	471	836	120	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
29	120	A	-	conflict	GB 1028475309

- Molecule 56 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
56	30	18	388	175	76	120	17	0	0

- Molecule 57 is a RNA chain called P site tRNA^{fmet}.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
57	31	77	1644	732	297	538	77	0	0

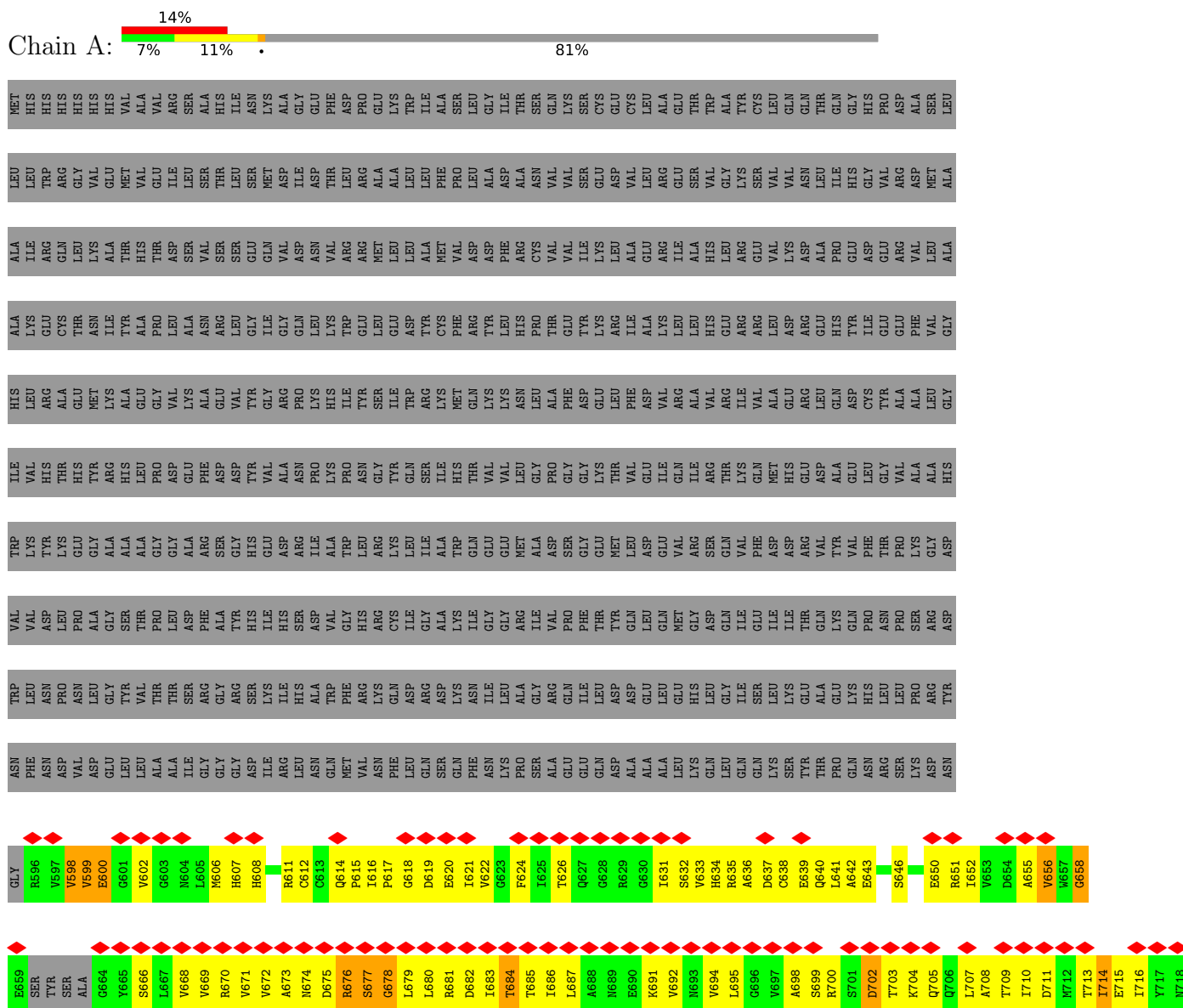
- Molecule 58 is a RNA chain called E-site tRNA^{fMet}.

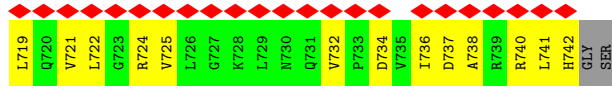
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
58	32	77	1643	732	297	537	77	0	0

3 Residue-property plots [i](#)

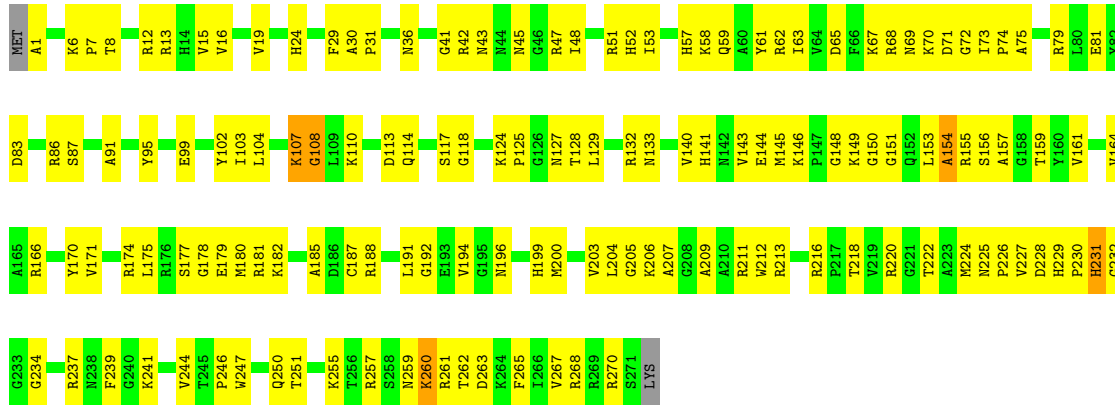
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: GTP pyrophosphokinase

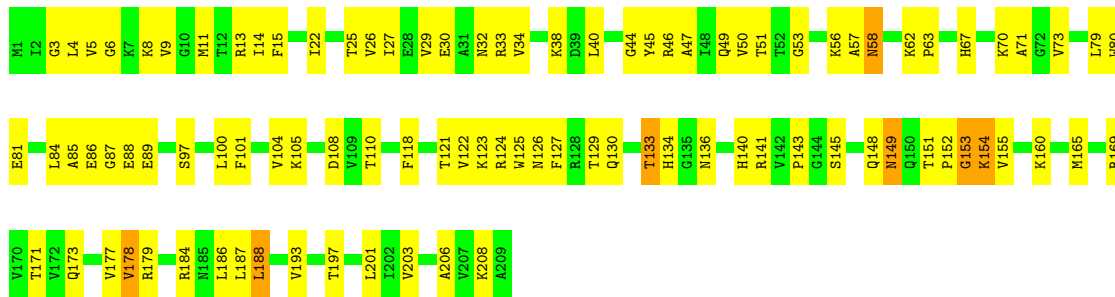




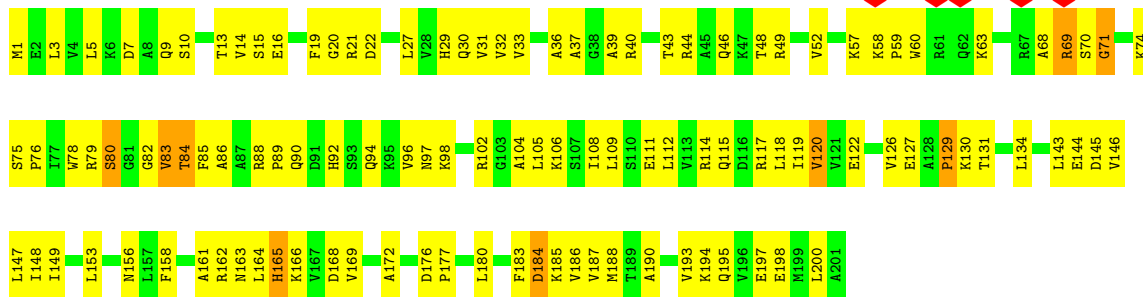
• Molecule 2: 50S ribosomal protein L2



• Molecule 3: 50S ribosomal protein L3

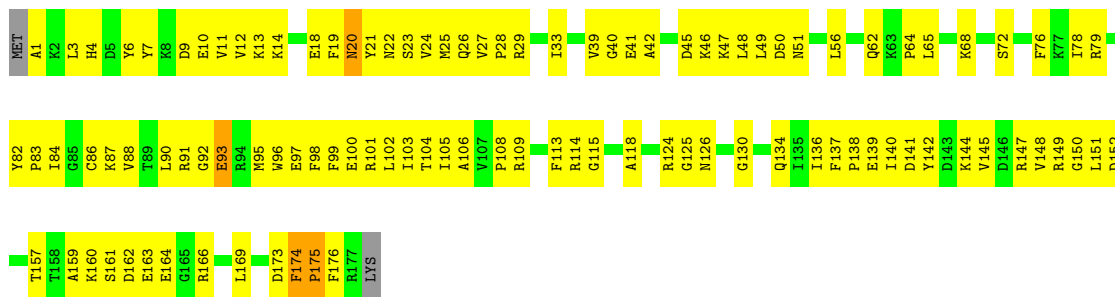


• Molecule 4: 50S ribosomal protein L4

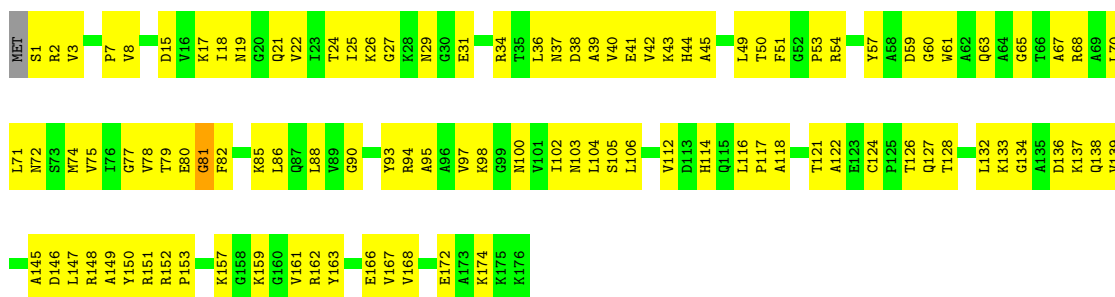


• Molecule 5: 50S ribosomal protein L5

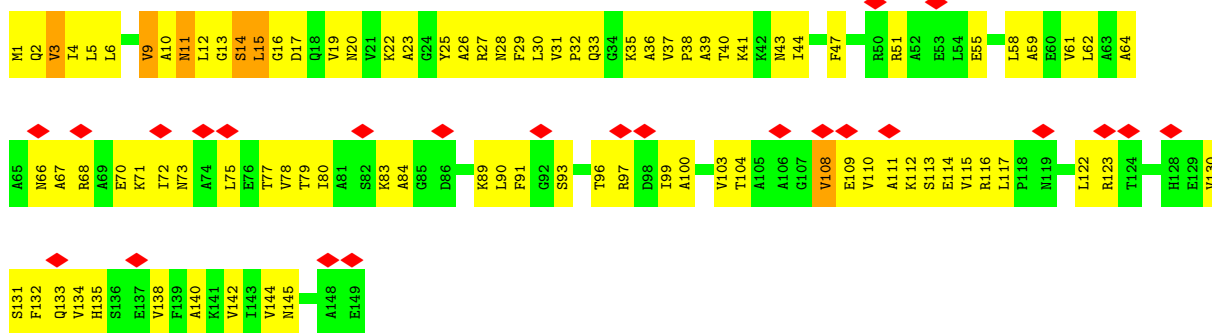




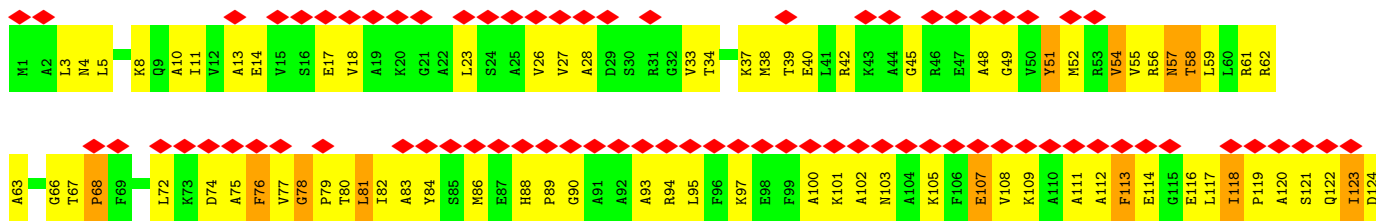
• Molecule 6: 50S ribosomal protein L6

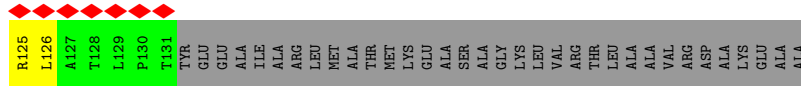


• Molecule 7: 50S ribosomal protein L9

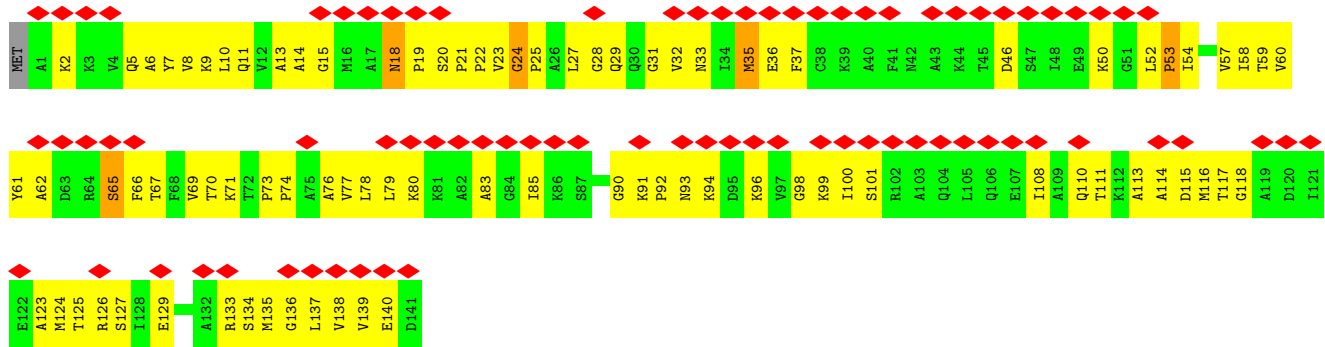


• Molecule 8: 50S ribosomal protein L10

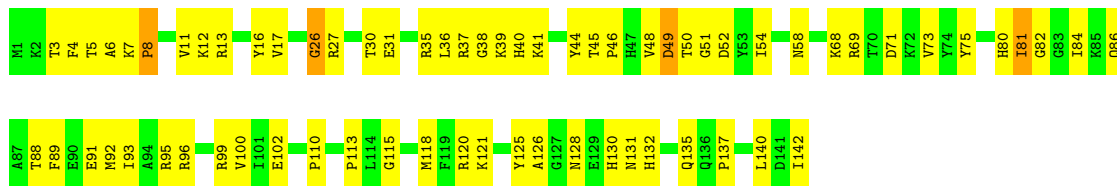




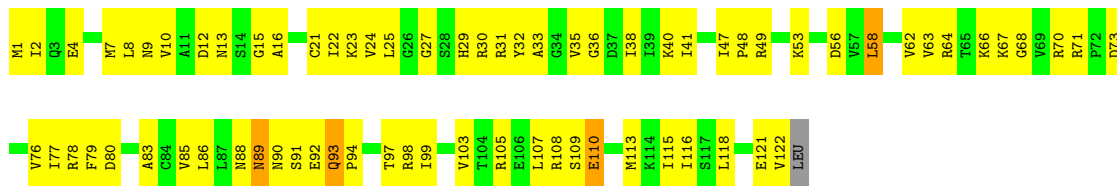
• Molecule 9: 50S ribosomal protein L11



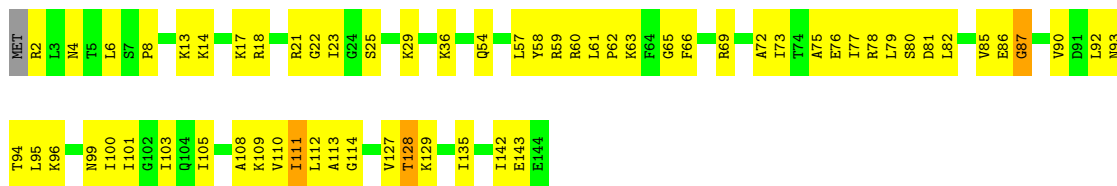
• Molecule 10: 50S ribosomal protein L13



• Molecule 11: 50S ribosomal protein L14

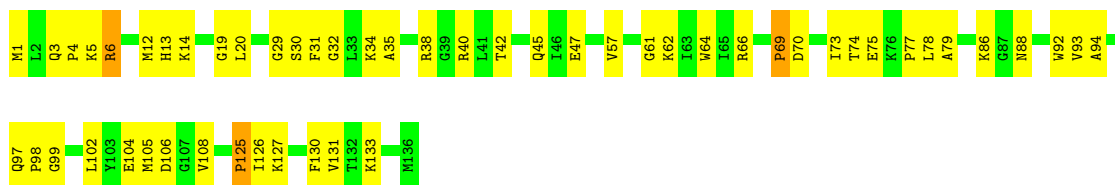


• Molecule 12: 50S ribosomal protein L15



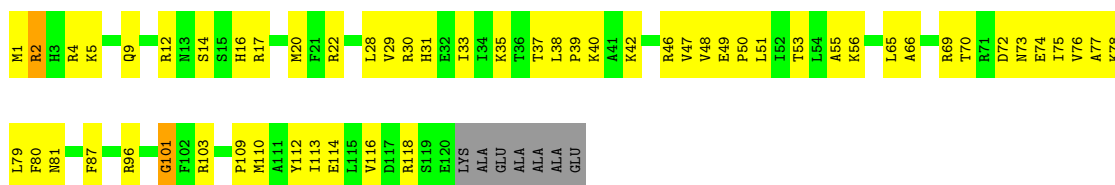
• Molecule 13: 50S ribosomal protein L16

Chain M:  61% 37%



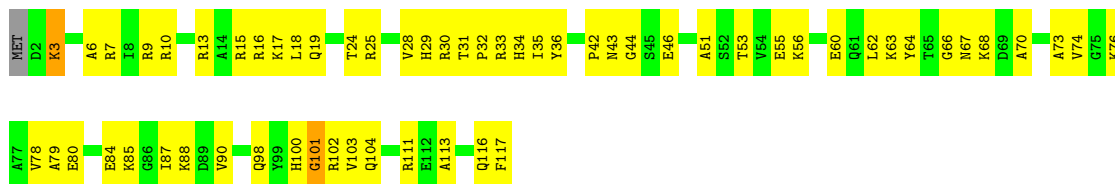
- Molecule 14: 50S ribosomal protein L17

Chain N:  50% 43% 6%



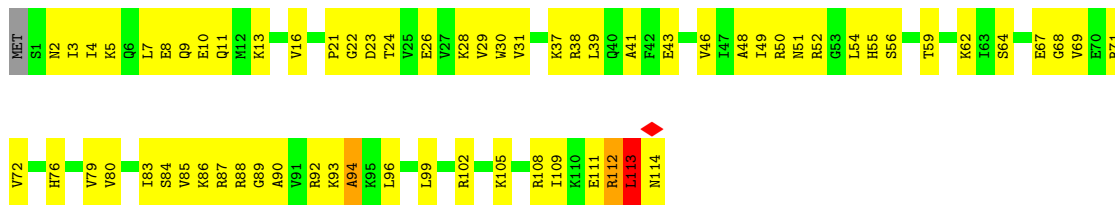
- Molecule 15: 50S ribosomal protein L18

Chain O:  49% 49%



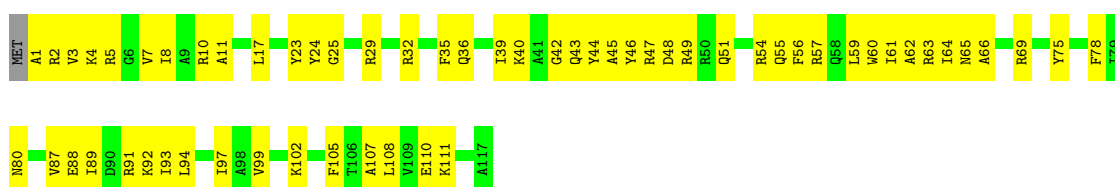
- Molecule 16: 50S ribosomal protein L19

Chain P:  42% 55%

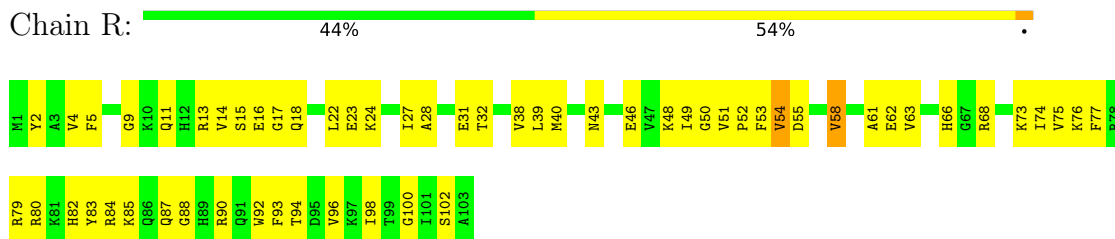


- Molecule 17: 50S ribosomal protein L20

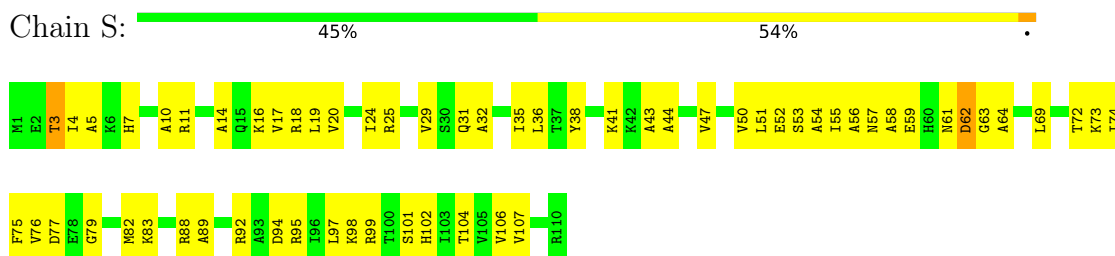
Chain Q:  49% 50%



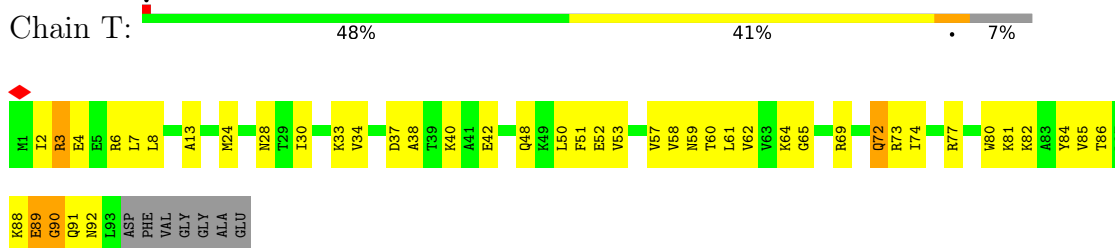
- Molecule 18: 50S ribosomal protein L21



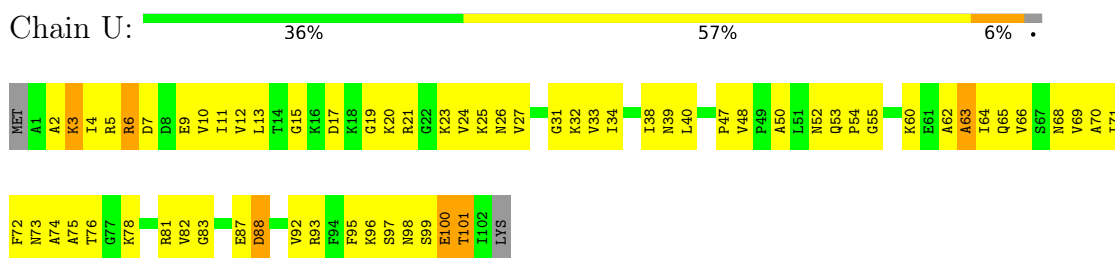
- Molecule 19: 50S ribosomal protein L22



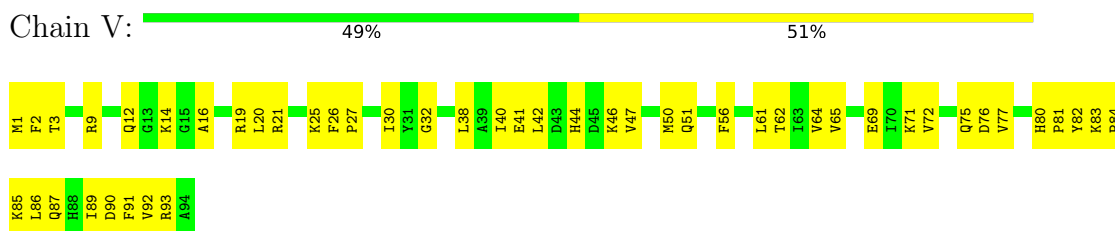
- Molecule 20: 50S ribosomal protein L23



- Molecule 21: 50S ribosomal protein L24

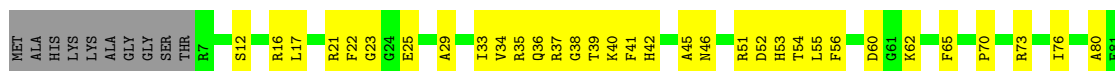


- Molecule 22: 50S ribosomal protein L25

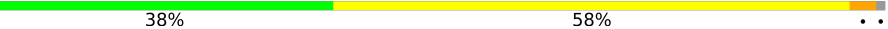


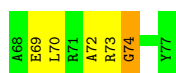
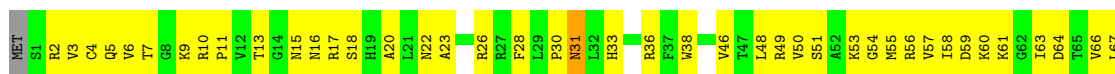
- Molecule 23: 50S ribosomal protein L27

Chain W:  49% 39% 12%



- Molecule 24: 50S ribosomal protein L28

Chain X:  38% 58% ..



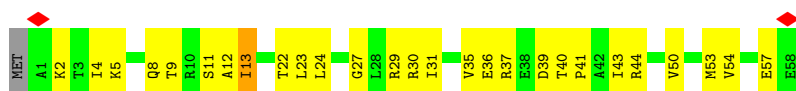
- Molecule 25: 50S ribosomal protein L29

Chain Y:  43% 54% .



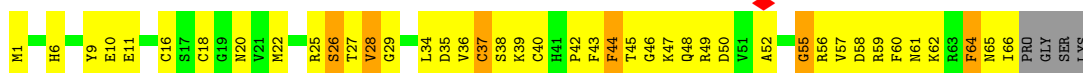
- Molecule 26: 50S ribosomal protein L30

Chain Z:  53% 44% ..



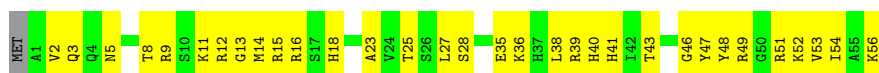
- Molecule 27: 50S ribosomal protein L31

Chain 1:  34% 51% 9% 6%



- Molecule 28: 50S ribosomal protein L32

Chain 2:  42% 56% .



- Molecule 29: 50S ribosomal protein L33

Chain 3:  53% 38% 9%



• Molecule 30: 50S ribosomal protein L34



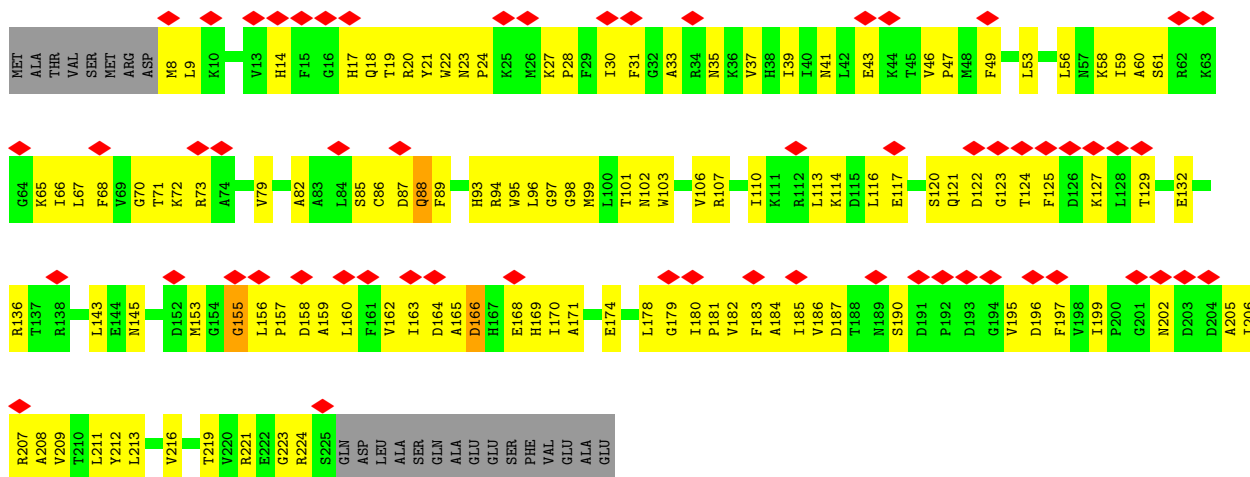
• Molecule 31: 50S ribosomal protein L35



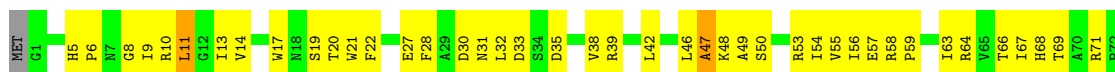
• Molecule 32: 50S ribosomal protein L36



• Molecule 33: 30S ribosomal protein S2

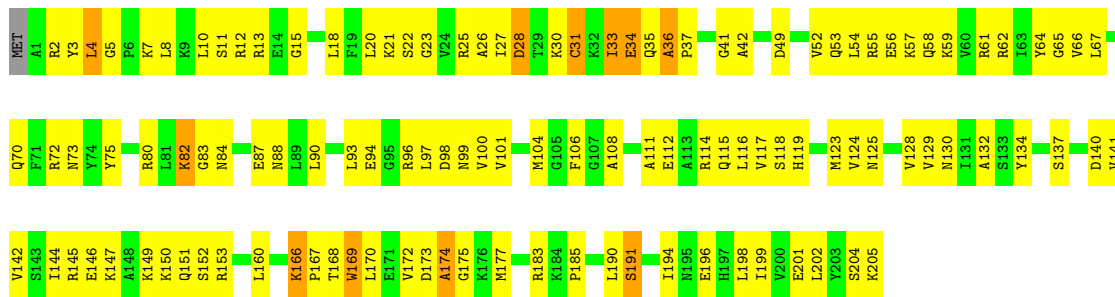


• Molecule 34: 30S ribosomal protein S3

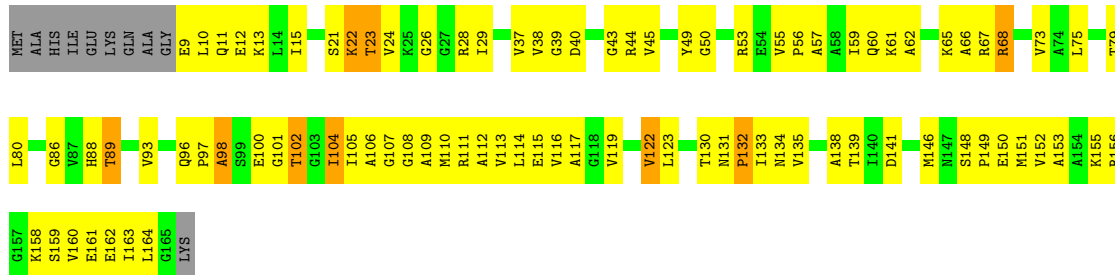




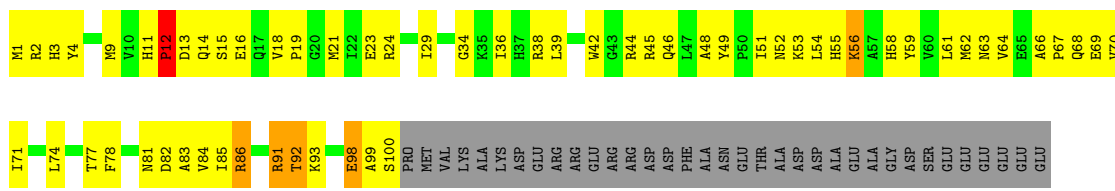
• Molecule 35: 30S ribosomal protein S4



• Molecule 36: 30S ribosomal protein S5

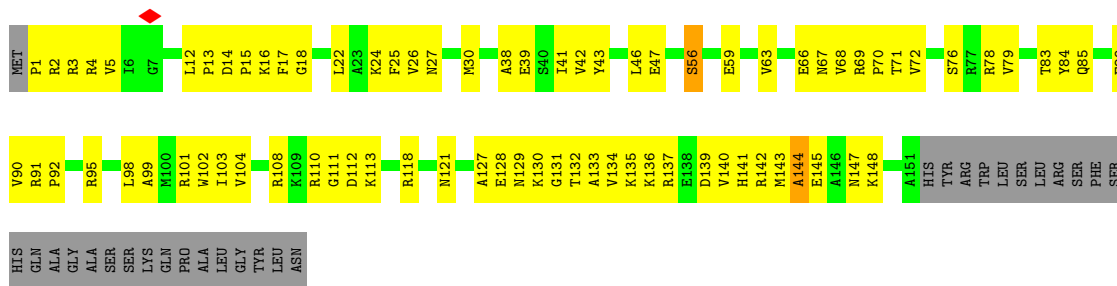


• Molecule 37: 30S ribosomal protein S6

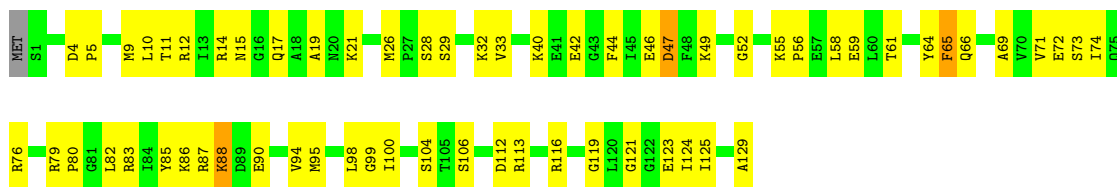


• Molecule 38: 30S ribosomal protein S7

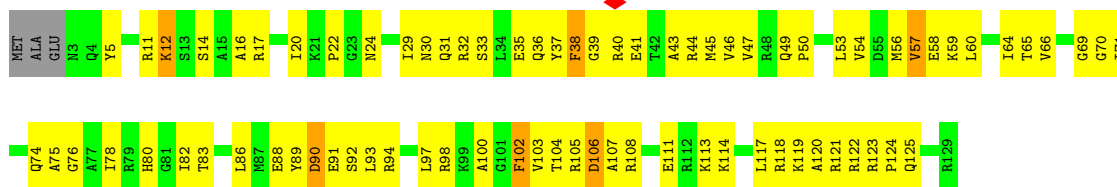




• Molecule 39: 30S ribosomal protein S8



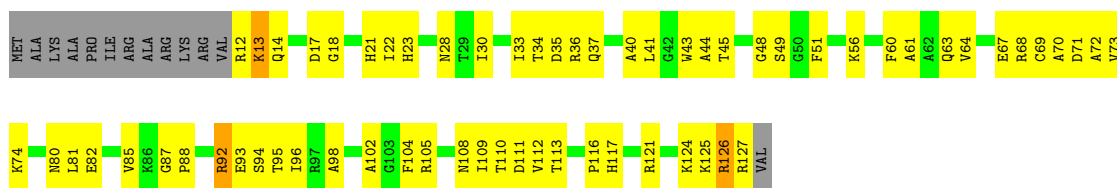
• Molecule 40: 30S ribosomal protein S9



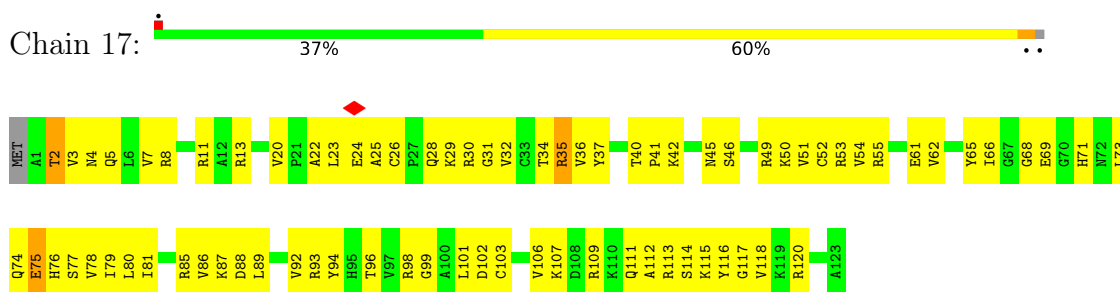
• Molecule 41: 30S ribosomal protein S10



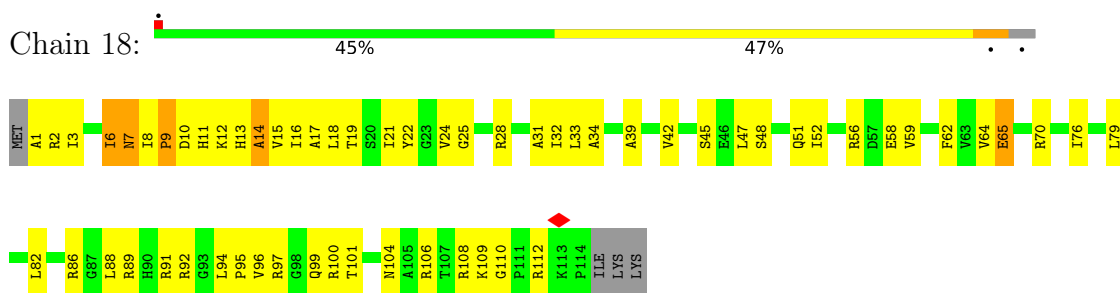
• Molecule 42: 30S ribosomal protein S11



• Molecule 43: 30S ribosomal protein S12



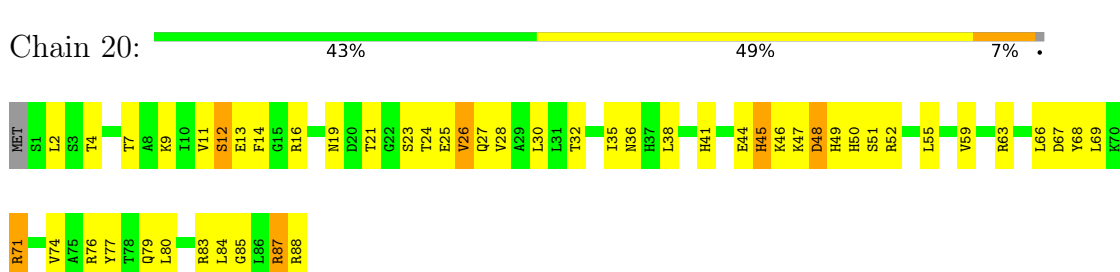
• Molecule 44: 30S ribosomal protein S13



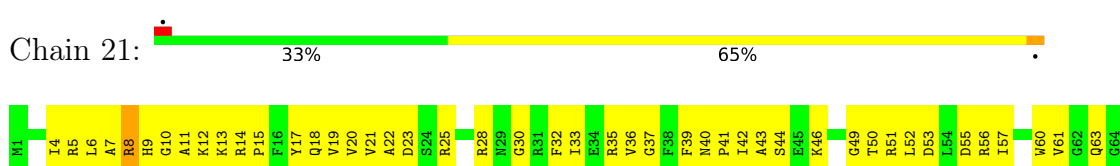
• Molecule 45: 30S ribosomal protein S14

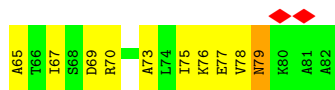


• Molecule 46: 30S ribosomal protein S15

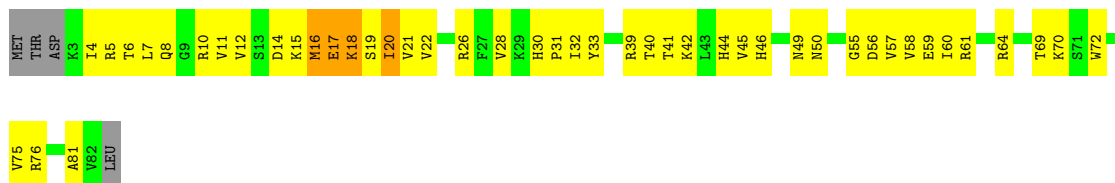


• Molecule 47: 30S ribosomal protein S16

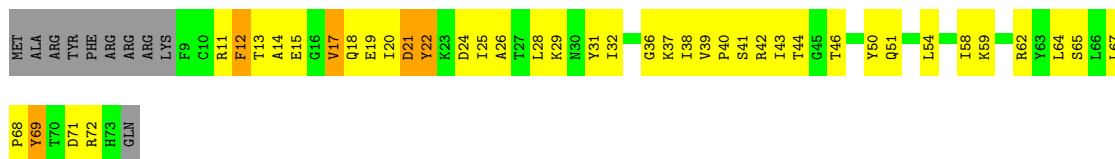




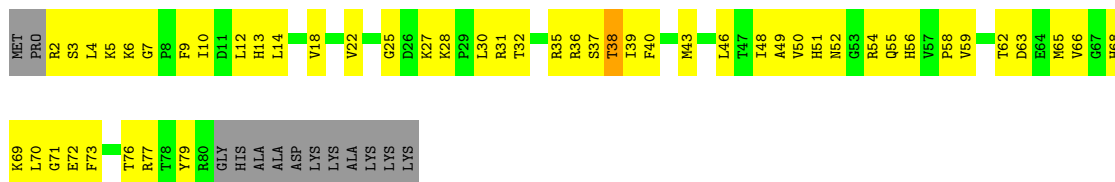
• Molecule 48: 30S ribosomal protein S17



• Molecule 49: 30S ribosomal protein S18



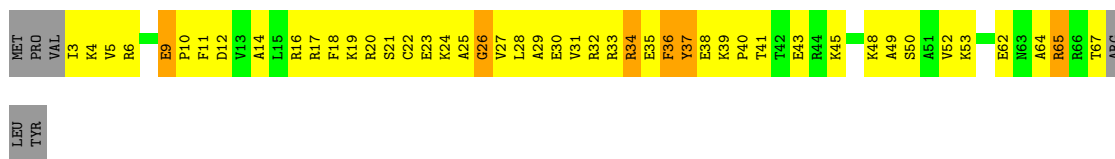
• Molecule 50: 30S ribosomal protein S19



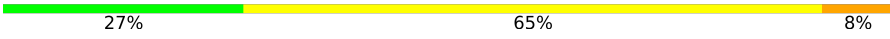
• Molecule 51: 30S ribosomal protein S20

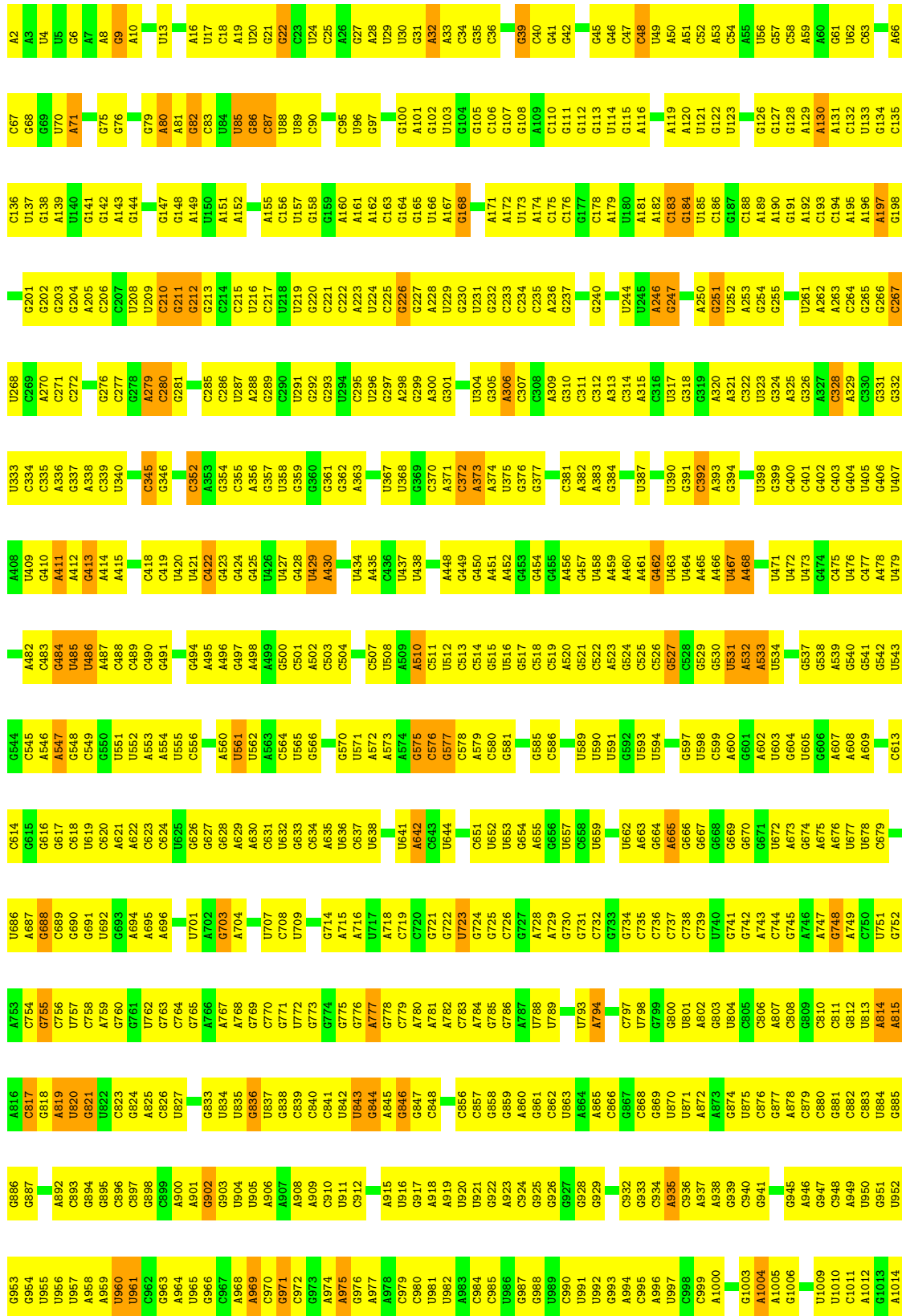


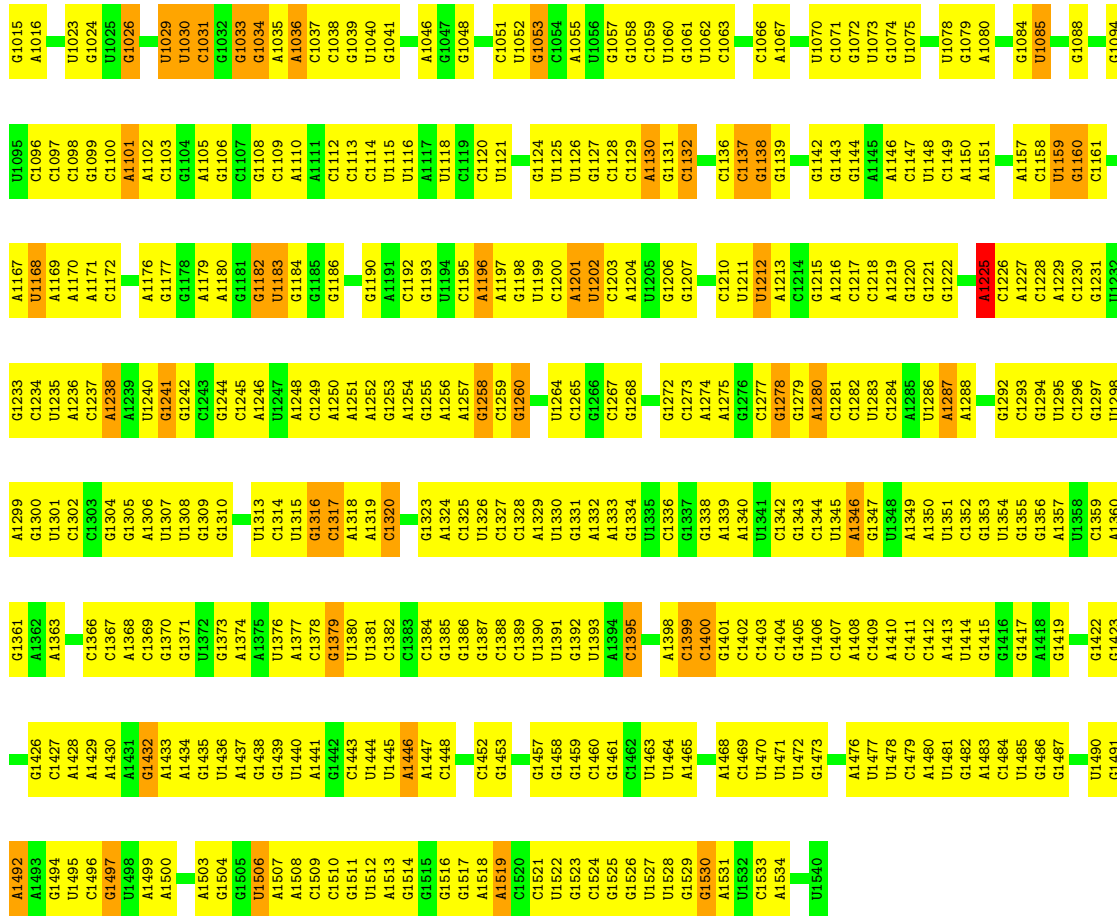
• Molecule 52: 30S ribosomal protein S21



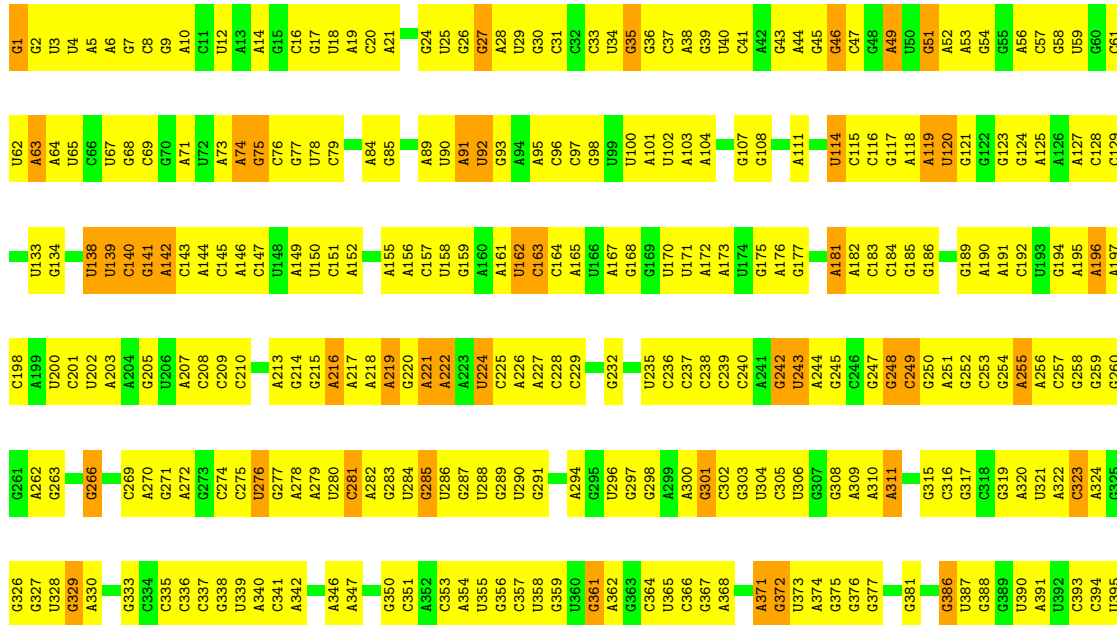
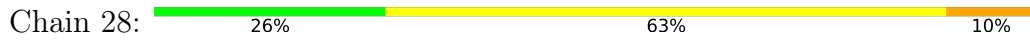
• Molecule 53: 16S ribosomal RNA

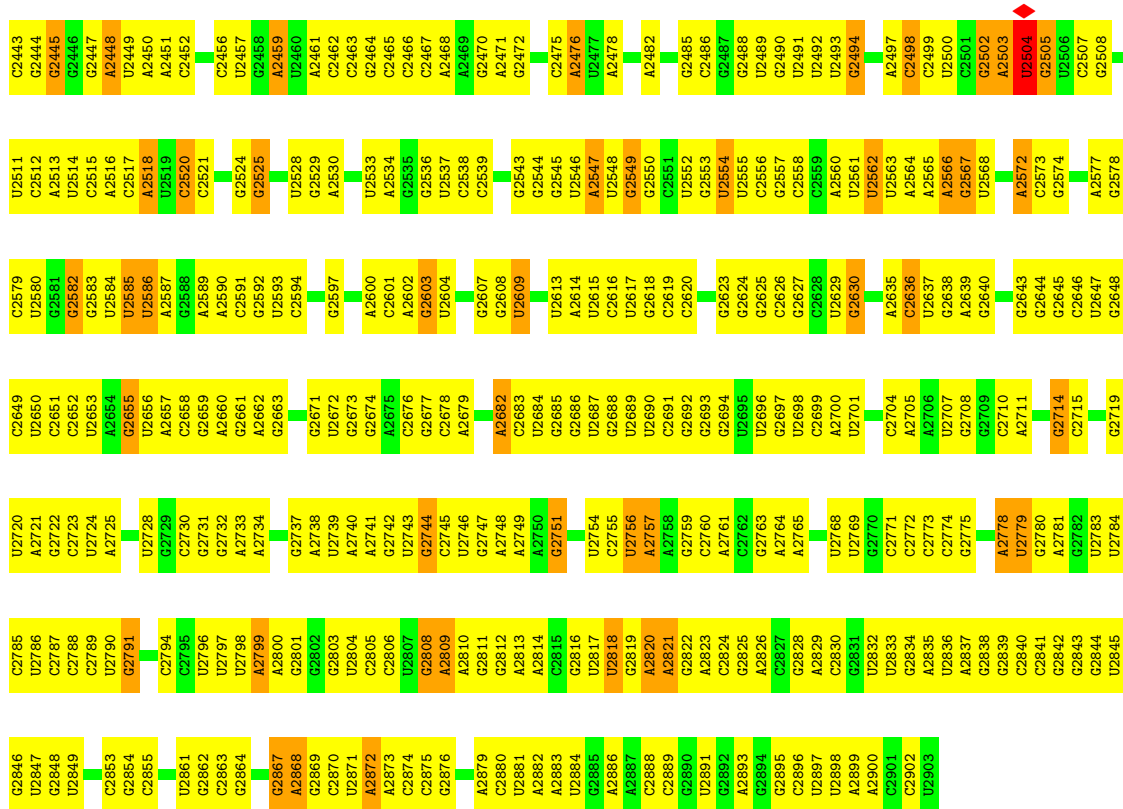
Chain 27: 



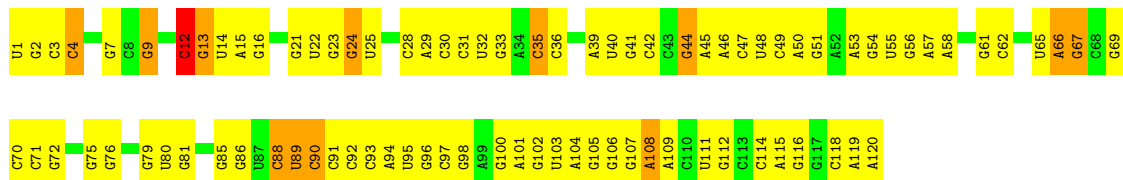
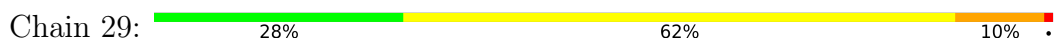


• Molecule 54: 23S ribosomal RNA





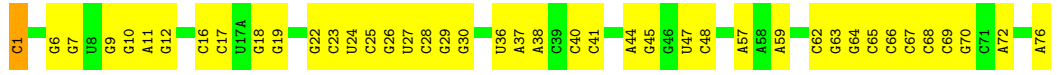
• Molecule 55: 5S ribosomal RNA



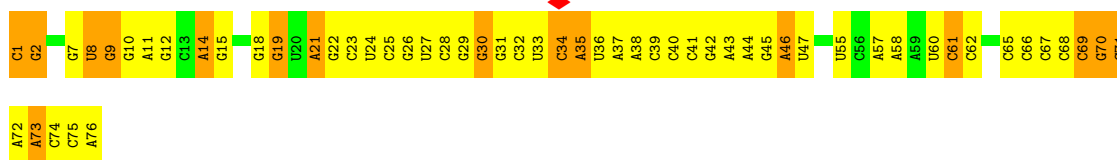
• Molecule 56: mRNA



• Molecule 57: P site tRNA^{fmet}



• Molecule 58: E-site tRNA^{fMet}



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	76158	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	1.6	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	30488	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.465	Depositor
Minimum map value	-0.124	Depositor
Average map value	-0.006	Depositor
Map value standard deviation	0.041	Depositor
Recommended contour level	0.08	Depositor
Map size (\AA)	393.6, 393.6, 393.6	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.82, 0.82, 0.82	Depositor

5 Model quality i

5.1 Standard geometry i

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	0.63	1/1115 (0.1%)	0.83	1/1510 (0.1%)
2	B	0.38	0/2121	0.71	0/2852
3	C	0.39	0/1586	0.69	1/2134 (0.0%)
4	D	0.44	0/1571	0.71	1/2113 (0.0%)
5	E	0.40	0/1434	0.64	0/1926
6	F	0.38	0/1343	0.67	1/1816 (0.1%)
7	G	0.49	0/1122	0.73	0/1515
8	H	0.60	0/1001	0.75	0/1350
9	I	0.60	0/1046	0.86	2/1410 (0.1%)
10	J	0.40	0/1152	0.64	0/1551
11	K	0.35	0/947	0.63	0/1268
12	L	0.36	0/1054	0.68	0/1403
13	M	0.39	0/1093	0.64	0/1460
14	N	0.37	0/973	0.62	0/1301
15	O	0.36	0/902	0.59	0/1209
16	P	0.37	0/929	0.67	1/1242 (0.1%)
17	Q	0.42	0/960	0.57	0/1278
18	R	0.41	0/829	0.70	1/1107 (0.1%)
19	S	0.34	0/864	0.60	0/1156
20	T	0.36	0/744	0.63	0/994
21	U	0.37	0/787	0.69	0/1051
22	V	0.40	0/766	0.61	0/1025
23	W	0.40	0/582	0.65	0/769
24	X	0.38	0/635	0.62	0/848
25	Y	0.40	0/510	0.60	0/677
26	Z	0.35	0/453	0.61	0/605
27	1	0.55	0/531	0.81	0/709
28	2	0.34	0/450	0.66	0/599
29	3	0.41	0/416	0.65	0/554
30	4	0.42	0/380	0.67	0/498
31	5	0.38	0/513	0.62	0/676
32	6	0.53	0/303	0.91	2/397 (0.5%)
33	7	0.46	0/1735	0.64	0/2338
34	8	0.39	0/1651	0.62	0/2225

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	9	0.37	0/1665	0.63	0/2227
36	10	0.36	0/1169	0.67	1/1573 (0.1%)
37	11	0.39	0/835	0.70	0/1128
38	12	0.35	0/1195	0.59	0/1602
39	13	0.35	0/989	0.66	0/1326
40	14	0.37	0/1034	0.64	0/1375
41	15	0.38	0/796	0.67	0/1077
42	16	0.38	0/885	0.71	0/1195
43	17	0.38	0/969	0.66	1/1300 (0.1%)
44	18	0.39	0/892	0.66	0/1193
45	19	0.38	0/817	0.57	0/1088
46	20	0.34	0/722	0.61	0/964
47	21	0.39	0/659	0.62	0/884
48	22	0.36	0/657	0.67	0/881
49	23	0.42	0/544	0.66	0/731
50	24	0.48	0/652	0.70	0/877
51	25	0.37	0/671	0.52	0/888
52	26	0.45	0/550	0.64	0/728
53	27	0.46	1/36967 (0.0%)	0.67	1/57666 (0.0%)
54	28	0.49	1/69801 (0.0%)	0.67	5/108894 (0.0%)
55	29	0.40	1/2876 (0.0%)	0.66	0/4483
56	30	0.62	0/436	0.69	0/679
57	31	0.45	1/1836 (0.1%)	0.66	0/2859
58	32	0.71	1/1835 (0.1%)	0.68	0/2857
All	All	0.46	6/161950 (0.0%)	0.67	18/242041 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
53	27	0	6
54	28	0	9
55	29	0	1
All	All	0	16

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	29	1	U	OP3-P	-6.99	1.52	1.61
53	27	2	A	OP3-P	-6.92	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
57	31	1	C	OP3-P	-6.89	1.52	1.61
54	28	1	G	OP3-P	-6.88	1.52	1.61
58	32	1	C	OP3-P	-6.86	1.52	1.61
1	A	684	THR	C-O	5.74	1.34	1.23

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	28	2504	U	N1-C1'-C2'	7.12	123.26	114.00
32	6	19	ARG	NE-CZ-NH1	-6.43	117.09	120.30
43	17	115	LYS	N-CA-C	-5.96	94.89	111.00
1	A	678	GLY	N-CA-C	5.72	127.41	113.10
16	P	113	LEU	CA-CB-CG	5.67	128.34	115.30
3	C	188	LEU	CA-CB-CG	-5.56	102.51	115.30
9	I	65	SER	N-CA-C	-5.51	96.11	111.00
54	28	974	G	N9-C1'-C2'	5.49	121.14	114.00
36	10	101	GLY	N-CA-C	-5.38	99.65	113.10
54	28	2287	A	N9-C1'-C2'	5.31	120.90	114.00
54	28	1329	U	N1-C1'-C2'	5.30	120.90	114.00
18	R	50	GLY	N-CA-C	-5.28	99.90	113.10
54	28	2391	G	C2'-C3'-O3'	5.25	122.10	113.70
53	27	1225	A	N9-C1'-C2'	5.22	120.79	114.00
32	6	18	LYS	N-CA-C	5.17	124.95	111.00
9	I	33	ASN	N-CA-C	5.15	124.91	111.00
6	F	81	GLY	N-CA-C	-5.10	100.36	113.10
4	D	120	VAL	N-CA-C	5.09	124.76	111.00

There are no chirality outliers.

All (16) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
53	27	1316	G	Sidechain
53	27	80	A	Sidechain
53	27	82	G	Sidechain
53	27	820	U	Sidechain
53	27	898	G	Sidechain
53	27	938	A	Sidechain
54	28	1171	G	Sidechain
54	28	1328	A	Sidechain
54	28	1937	A	Sidechain
54	28	196	A	Sidechain
54	28	2308	G	Sidechain

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Mol	Chain	Res	Type	Group
54	28	2504	U	Sidechain
54	28	27	G	Sidechain
54	28	512	G	Sidechain
54	28	683	U	Sidechain
55	29	12	C	Sidechain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1103	0	1130	102	0
2	B	2082	0	2157	138	0
3	C	1565	0	1616	96	0
4	D	1552	0	1619	118	0
5	E	1410	0	1447	121	0
6	F	1323	0	1374	92	0
7	G	1111	0	1148	84	0
8	H	988	0	1025	127	0
9	I	1032	0	1088	128	0
10	J	1129	0	1162	70	0
11	K	938	0	1012	68	0
12	L	1045	0	1117	73	0
13	M	1074	0	1157	47	0
14	N	960	0	1000	52	0
15	O	892	0	923	57	0
16	P	917	0	965	80	0
17	Q	947	0	1022	71	0
18	R	816	0	839	60	0
19	S	857	0	922	53	0
20	T	738	0	807	39	0
21	U	779	0	834	64	0
22	V	753	0	780	37	0
23	W	575	0	592	33	0
24	X	625	0	655	44	0
25	Y	509	0	543	38	0
26	Z	449	0	491	25	0
27	1	522	0	521	47	0
28	2	444	0	461	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	3	409	0	440	14	0
30	4	377	0	418	29	0
31	5	504	0	574	27	0
32	6	302	0	343	26	0
33	7	1704	0	1732	104	0
34	8	1624	0	1699	99	0
35	9	1643	0	1710	121	0
36	10	1156	0	1199	90	0
37	11	817	0	808	71	0
38	12	1181	0	1240	79	0
39	13	979	0	1034	64	0
40	14	1022	0	1070	98	0
41	15	786	0	828	81	0
42	16	869	0	878	67	0
43	17	955	0	1019	100	0
44	18	883	0	944	73	0
45	19	805	0	847	58	0
46	20	714	0	737	46	0
47	21	649	0	666	59	0
48	22	648	0	691	55	0
49	23	535	0	552	44	0
50	24	637	0	665	72	0
51	25	665	0	714	46	0
52	26	544	0	579	59	0
53	27	33016	0	16617	1316	0
54	28	62322	0	31345	2457	0
55	29	2572	0	1302	116	0
56	30	388	0	196	10	0
57	31	1644	0	836	31	0
58	32	1643	0	836	66	0
All	All	149128	0	100926	6677	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 27.

All (6677) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:7:TYR:HA	9:I:58:ILE:O	1.26	1.26
22:V:75:GLN:HB3	22:V:90:ASP:O	1.47	1.13
9:I:90:GLY:HA2	54:28:1064:C:H1'	1.26	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:133:ARG:NH1	54:28:1079:C:H4'	1.63	1.12
53:27:1259:C:H3'	53:27:1260:G:H5''	1.31	1.11
1:A:679:LEU:O	1:A:682:ASP:HB2	1.47	1.10
54:28:821:A:H5''	54:28:822:G:H5''	1.26	1.09
9:I:94:LYS:HD3	54:28:1076:C:H4'	1.31	1.09
54:28:1300:G:H4'	54:28:1301:A:H5''	1.22	1.09
36:10:107:GLY:HA3	53:27:9:G:H5'	1.36	1.08
46:20:71:ARG:HH22	53:27:754:C:H5'	0.95	1.07
54:28:45:G:H5''	54:28:46:G:H5'	1.11	1.07
9:I:35:MET:HG3	9:I:36:GLU:H	1.20	1.07
1:A:673:ALA:O	1:A:708:ALA:HB3	1.55	1.06
46:20:71:ARG:NH2	53:27:754:C:H5'	1.69	1.06
9:I:93:ASN:HB2	54:28:1077:A:H4'	1.30	1.06
52:26:48:LYS:HG2	53:27:723:U:H5'	1.37	1.05
52:26:65:ARG:HH11	53:27:1088:G:H4'	1.23	1.04
8:H:80:THR:H	54:28:1108:U:H5'	1.18	1.02
36:10:161:GLU:O	36:10:164:LEU:HG	1.59	1.01
54:28:704:G:H2'	54:28:726:G:H22	1.26	1.00
10:J:81:ILE:HG23	10:J:82:GLY:H	1.23	1.00
16:P:38:ARG:NH1	53:27:345:C:H5'	1.78	0.98
54:28:2170:A:H2'	54:28:2171:A:H4'	1.43	0.98
11:K:30:ARG:HE	54:28:2674:G:H4'	1.25	0.98
58:32:7:G:H3'	58:32:8:U:H5'	1.46	0.98
46:20:71:ARG:HH22	53:27:754:C:C5'	1.77	0.98
36:10:148:SER:HB3	36:10:151:MET:HG2	1.44	0.97
54:28:1702:G:H2'	54:28:1703:G:H5''	1.43	0.97
9:I:133:ARG:HH11	54:28:1079:C:H4'	1.21	0.97
8:H:80:THR:HA	54:28:1107:G:O2'	1.65	0.96
54:28:728:G:HO2'	54:28:730:A:H8	1.13	0.96
54:28:655:A:H4'	54:28:656:G:H5'	1.47	0.96
54:28:704:G:H2'	54:28:726:G:N2	1.80	0.96
27:1:11:GLU:HA	27:1:25:ARG:HA	1.47	0.96
54:28:1082:U:H3'	54:28:1083:U:H5''	1.47	0.96
49:23:17:VAL:HG22	49:23:18:GLN:H	1.30	0.96
35:9:33:ILE:HG12	35:9:34:GLU:H	1.24	0.96
52:26:65:ARG:NH1	53:27:1088:G:H4'	1.81	0.96
16:P:88:ARG:HB3	16:P:112:ARG:HD3	1.45	0.95
54:28:2277:G:H2'	54:28:2278:A:H5''	1.48	0.95
9:I:7:TYR:CA	9:I:58:ILE:O	2.15	0.95
33:7:31:PHE:HB2	33:7:39:ILE:HB	1.47	0.95
3:C:148:GLN:O	54:28:2052:A:H4'	1.66	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:742:A:H2'	54:28:743:A:H8	1.31	0.94
37:11:48:ALA:HB1	49:23:68:PRO:HG3	1.50	0.94
38:12:91:ARG:HH22	53:27:1378:C:H4'	1.32	0.94
48:22:26:ARG:HH22	53:27:237:G:H4'	1.27	0.94
30:4:42:LEU:HD23	30:4:43:THR:HG23	1.50	0.94
10:J:27:ARG:HH22	54:28:1142:A:H4'	1.33	0.94
9:I:23:VAL:HG13	9:I:24:GLY:H	1.33	0.93
53:27:835:U:H2'	53:27:836:G:H5''	1.51	0.92
53:27:373:A:H2'	53:27:374:A:H8	1.34	0.92
5:E:140:ILE:HG22	5:E:142:TYR:H	1.34	0.92
53:27:664:G:N2	53:27:741:G:H1	1.68	0.92
40:14:98:ARG:HG2	40:14:103:VAL:HG21	1.51	0.92
49:23:40:PRO:HB2	49:23:42:ARG:HG2	1.52	0.92
2:B:47:ARG:HH21	54:28:774:G:H5''	1.35	0.91
12:L:95:LEU:HD22	12:L:100:ILE:HD11	1.52	0.91
54:28:121:G:H4'	54:28:149:A:H5'	1.48	0.91
4:D:117:ARG:HH12	12:L:2:ARG:HG2	1.34	0.91
8:H:59:LEU:HD21	54:28:1047:G:H2'	1.51	0.91
54:28:2391:G:H2'	54:28:2424:C:H41	1.36	0.91
54:28:2685:G:H2'	54:28:2686:G:H8	1.36	0.91
20:T:2:ILE:HD11	54:28:144:A:H5''	1.53	0.91
38:12:12:LEU:HD12	38:12:13:PRO:HD2	1.54	0.90
42:16:116:PRO:HB3	53:27:676:A:H1'	1.51	0.90
53:27:112:G:H21	53:27:354:G:H5'	1.33	0.90
50:24:39:ILE:HB	50:24:66:VAL:O	1.72	0.90
53:27:1052:U:H2'	53:27:1200:C:H41	1.37	0.90
43:17:85:ARG:HA	43:17:93:ARG:HA	1.52	0.89
54:28:807:U:H2'	54:28:808:G:H8	1.37	0.89
53:27:673:A:H2'	53:27:674:G:C8	2.07	0.89
28:2:8:THR:CG2	54:28:2020:A:H5'	2.03	0.89
41:15:65:TYR:HB3	45:19:95:LEU:HD11	1.53	0.89
54:28:2092:U:H4'	54:28:2093:G:H5''	1.52	0.89
54:28:2170:A:H2'	54:28:2171:A:C4'	2.02	0.89
35:9:144:ILE:HD13	35:9:177:MET:HB3	1.53	0.89
9:I:94:LYS:CD	54:28:1076:C:H4'	2.03	0.88
15:O:62:LEU:HD11	15:O:70:ALA:HA	1.55	0.88
9:I:19:PRO:O	9:I:23:VAL:HG12	1.73	0.88
53:27:1131:G:H3'	53:27:1132:C:H5''	1.52	0.88
53:27:235:C:H2'	53:27:236:A:H8	1.39	0.88
23:W:12:SER:HG	54:28:2262:U:H5	0.92	0.88
17:Q:111:LYS:HB2	18:R:48:LYS:HE3	1.54	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:71:LYS:HE2	54:28:1059:G:OP1	1.73	0.88
39:13:42:GLU:HG2	39:13:100:ILE:HD13	1.54	0.88
53:27:405:U:H3'	53:27:406:G:H5'	1.54	0.87
54:28:955:U:H5	54:28:962:G:H1	1.20	0.87
54:28:279:A:N6	54:28:361:G:H1'	1.89	0.87
29:3:9:LYS:O	29:3:51:ALA:HB3	1.75	0.87
2:B:16:VAL:HB	2:B:203:VAL:HG22	1.56	0.87
55:29:3:C:H2'	55:29:4:C:H5''	1.57	0.87
54:28:528:A:C2	54:28:2042:A:H2'	2.10	0.87
54:28:1056:G:H4'	54:28:1086:A:H8	1.39	0.87
37:11:38:ARG:O	37:11:62:MET:O	1.92	0.86
54:28:2591:C:H2'	54:28:2592:G:C8	2.09	0.86
45:19:13:VAL:HG22	45:19:59:GLN:HE22	1.39	0.86
53:27:224:U:H2'	53:27:225:C:C6	2.11	0.86
40:14:123:ARG:HB3	53:27:1343:G:H4'	1.58	0.86
40:14:17:ARG:HH21	53:27:1147:C:H1'	1.41	0.86
54:28:859:G:H1'	54:28:860:U:H5	1.40	0.86
45:19:19:TYR:O	45:19:22:LYS:HB3	1.75	0.85
4:D:129:PRO:HG3	4:D:156:ASN:HA	1.55	0.85
54:28:577:G:H2'	54:28:578:G:C8	2.11	0.85
5:E:33:ILE:HG13	5:E:95:MET:HE3	1.59	0.85
9:I:27:LEU:HB2	9:I:32:VAL:HB	1.58	0.85
54:28:2629:U:O2'	54:28:2630:G:H5''	1.76	0.85
38:12:110:ARG:HH22	38:12:121:ASN:HB3	1.42	0.85
21:U:47:PRO:HD3	21:U:55:GLY:HA2	1.59	0.85
54:28:2548:U:H2'	54:28:2549:G:H5''	1.58	0.85
54:28:2183:A:H2'	54:28:2184:A:C8	2.12	0.85
13:M:45:GLN:HE21	54:28:2485:G:H5''	1.39	0.84
33:7:163:ILE:HD11	33:7:209:VAL:HB	1.57	0.84
33:7:53:LEU:HB3	33:7:219:THR:HG21	1.59	0.84
53:27:1029:U:H2'	53:27:1031:C:H1'	1.59	0.84
35:9:123:MET:HA	35:9:128:VAL:HA	1.58	0.84
53:27:1306:A:N6	53:27:1331:G:H1'	1.92	0.84
9:I:123:ALA:HB1	54:28:1081:U:H5''	1.59	0.84
28:2:49:ARG:HG2	54:28:2884:U:H6	1.42	0.84
45:19:60:ARG:HG2	53:27:981:U:H4'	1.60	0.84
53:27:539:A:H2'	53:27:540:G:C8	2.13	0.84
53:27:701:U:H5''	53:27:703:G:H1'	1.56	0.84
34:8:156:LEU:HD12	34:8:156:LEU:O	1.76	0.84
54:28:2538:C:H2'	54:28:2539:C:H6	1.42	0.84
20:T:88:LYS:O	20:T:90:GLY:N	2.11	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:58:THR:HG22	54:28:1107:G:H5''	1.60	0.84
53:27:1347:G:N2	53:27:1373:G:H2'	1.92	0.84
40:14:108:ARG:HG3	53:27:1347:G:O5'	1.78	0.83
33:7:99:MET:HA	33:7:106:VAL:HG21	1.60	0.83
53:27:960:U:H4'	53:27:961:U:O5'	1.78	0.83
42:16:117:HIS:ND1	53:27:675:A:H1'	1.92	0.83
54:28:45:G:H5''	54:28:46:G:C5'	2.03	0.83
40:14:83:THR:HG21	40:14:102:PHE:HB3	1.60	0.83
44:18:6:ILE:HG13	44:18:7:ASN:H	1.43	0.83
18:R:63:VAL:HA	18:R:96:VAL:HG12	1.60	0.83
21:U:10:VAL:HG12	21:U:71:ILE:HA	1.59	0.83
53:27:1130:A:H61	53:27:1144:G:H1'	1.43	0.83
54:28:742:A:H2'	54:28:743:A:C8	2.14	0.83
4:D:69:ARG:HD3	54:28:674:G:O4'	1.79	0.83
6:F:17:LYS:HB2	6:F:24:THR:HB	1.59	0.83
8:H:94:ARG:HB2	8:H:97:LYS:HE2	1.60	0.83
54:28:807:U:H2'	54:28:808:G:C8	2.14	0.83
55:29:119:A:C2	55:29:120:A:H1'	2.13	0.83
38:12:145:GLU:HA	38:12:148:LYS:HB2	1.59	0.83
53:27:695:A:H2'	53:27:696:A:C8	2.13	0.82
54:28:2561:U:H2'	54:28:2562:U:H5''	1.59	0.82
41:15:40:ILE:HD11	53:27:1124:G:H4'	1.62	0.82
35:9:12:ARG:HD2	35:9:36:ALA:HB3	1.61	0.82
53:27:714:G:H2'	53:27:715:A:C8	2.14	0.82
8:H:37:LYS:HA	8:H:40:GLU:HB3	1.59	0.82
10:J:68:LYS:HD3	54:28:1022:G:N7	1.94	0.82
54:28:2243:U:H2'	54:28:2244:U:H6	1.44	0.82
3:C:15:PHE:H	16:P:11:GLN:HE22	1.23	0.82
5:E:161:SER:HB3	5:E:164:GLU:HG3	1.60	0.82
53:27:235:C:H2'	53:27:236:A:C8	2.14	0.82
9:I:93:ASN:HB2	54:28:1077:A:C4'	2.10	0.82
54:28:1179:G:H3'	54:28:1180:U:H4'	1.59	0.82
54:28:2327:A:H2'	54:28:2328:A:C8	2.15	0.82
1:A:621:ILE:HG22	1:A:635:ARG:HA	1.60	0.81
9:I:23:VAL:HG13	9:I:24:GLY:N	1.95	0.81
33:7:58:LYS:O	33:7:61:SER:HB2	1.80	0.81
22:V:75:GLN:HB2	22:V:92:VAL:HG23	1.62	0.81
48:22:16:MET:HG3	48:22:19:SER:HB2	1.60	0.81
14:N:33:ILE:HD12	14:N:118:ARG:HH22	1.44	0.81
17:Q:3:VAL:HG22	54:28:1199:U:H1'	1.62	0.81
39:13:52:GLY:HA3	39:13:56:PRO:HA	1.63	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:462:G:H5'	53:27:463:U:OP2	1.80	0.81
1:A:640:GLN:OE1	54:28:894:U:H4'	1.79	0.81
54:28:1105:U:H2'	54:28:1106:G:H8	1.46	0.81
54:28:1469:A:H2'	54:28:1470:A:C8	2.16	0.81
7:G:79:THR:HA	7:G:145:ASN:HB3	1.62	0.81
54:28:2070:A:H2'	54:28:2071:A:C8	2.16	0.81
18:R:14:VAL:HG21	18:R:98:ILE:HG13	1.61	0.81
18:R:49:ILE:HB	18:R:51:VAL:O	1.79	0.81
54:28:45:G:C5'	54:28:46:G:H5'	2.04	0.81
54:28:1825:U:H2'	54:28:1826:G:C8	2.16	0.81
54:28:2267:A:H5''	54:28:2268:A:H5'	1.62	0.81
8:H:80:THR:N	54:28:1108:U:H5'	1.96	0.81
32:6:32:LYS:HE3	54:28:2478:A:H5'	1.60	0.81
36:10:75:LEU:HD12	36:10:75:LEU:O	1.82	0.80
40:14:91:GLU:HA	40:14:94:ARG:HB2	1.62	0.80
53:27:1137:C:H5'	53:27:1138:G:H5'	1.61	0.80
9:I:23:VAL:CG1	9:I:24:GLY:H	1.95	0.80
54:28:1702:G:C2'	54:28:1703:G:H5''	2.11	0.80
9:I:2:LYS:HE3	9:I:62:ALA:HB2	1.63	0.80
54:28:1796:U:H2'	54:28:1797:G:H8	1.45	0.80
54:28:2075:U:H1'	54:28:2597:G:H21	1.43	0.80
53:27:1513:A:H2'	53:27:1514:G:H8	1.46	0.80
54:28:242:G:H22	54:28:254:G:H2'	1.45	0.80
58:32:46:A:H3'	58:32:47:U:H5''	1.62	0.80
54:28:1906:G:H2'	54:28:1907:G:H5''	1.61	0.80
4:D:5:LEU:O	4:D:9:GLN:HA	1.82	0.80
38:12:2:ARG:HB3	53:27:933:G:OP2	1.82	0.80
37:11:46:GLN:HA	37:11:56:LYS:HG2	1.64	0.80
44:18:15:VAL:HG23	44:18:16:ILE:HD12	1.62	0.80
54:28:581:C:H2'	54:28:582:A:H8	1.46	0.80
54:28:1796:U:H2'	54:28:1797:G:C8	2.17	0.80
7:G:1:MET:HG3	7:G:2:GLN:H	1.47	0.80
54:28:1434:A:H2'	54:28:1435:G:H8	1.45	0.80
8:H:59:LEU:CD2	54:28:1047:G:H2'	2.11	0.79
50:24:30:LEU:HB2	50:24:48:ILE:HG22	1.65	0.79
54:28:740:C:H5''	54:28:1784:A:OP1	1.82	0.79
43:17:99:GLY:HA3	43:17:117:GLY:HA3	1.64	0.79
58:32:41:C:H2'	58:32:42:G:C8	2.16	0.79
50:24:35:ARG:HE	50:24:71:GLY:HA2	1.46	0.79
53:27:955:U:H1'	53:27:1227:A:H61	1.48	0.79
38:12:68:VAL:HG23	38:12:99:ALA:HB1	1.65	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2591:C:H2'	54:28:2592:G:H8	1.44	0.79
54:28:2693:G:H2'	54:28:2694:G:H8	1.47	0.79
1:A:672:VAL:HB	1:A:737:ASP:HB3	1.63	0.79
4:D:69:ARG:HB2	54:28:674:G:H4'	1.64	0.79
54:28:1251:C:O2'	54:28:1252:G:H3'	1.82	0.79
5:E:114:ARG:NH2	27:1:47:LYS:HA	1.97	0.79
11:K:98:ARG:NH2	53:27:340:U:OP2	2.16	0.79
53:27:1512:U:H2'	53:27:1513:A:C8	2.18	0.79
58:32:7:G:H3'	58:32:8:U:C5'	2.11	0.79
41:15:57:VAL:HG22	41:15:58:ASN:H	1.45	0.79
54:28:593:U:H2'	54:28:594:U:C6	2.18	0.79
54:28:1825:U:H2'	54:28:1826:G:H8	1.48	0.79
7:G:40:THR:HB	7:G:43:ASN:HD22	1.48	0.79
53:27:797:C:H2'	53:27:798:U:H6	1.47	0.79
10:J:93:ILE:HD13	10:J:100:VAL:HG21	1.62	0.78
25:Y:2:LYS:HE2	54:28:102:U:H1'	1.64	0.78
34:8:147:GLY:HA3	34:8:202:PHE:HB3	1.64	0.78
52:26:67:THR:HA	53:27:1167:A:N7	1.98	0.78
54:28:1010:A:N3	54:28:1153:C:H1'	1.98	0.78
54:28:2391:G:H2'	54:28:2424:C:N4	1.99	0.78
54:28:2514:U:H2'	54:28:2515:C:C6	2.18	0.78
55:29:115:A:H2'	55:29:116:G:C8	2.18	0.78
8:H:4:ASN:HD21	54:28:1046:A:H2'	1.47	0.78
11:K:121:GLU:HG2	11:K:122:VAL:HG23	1.66	0.78
44:18:88:LEU:HG	44:18:91:ARG:HH21	1.48	0.78
21:U:6:ARG:HG3	21:U:7:ASP:H	1.49	0.78
40:14:108:ARG:HG2	53:27:1347:G:C8	2.18	0.78
53:27:1513:A:H2'	53:27:1514:G:C8	2.19	0.78
40:14:32:ARG:HD2	40:14:37:TYR:HD1	1.48	0.78
53:27:1391:U:H2'	53:27:1392:G:C8	2.18	0.78
54:28:594:U:H2'	54:28:595:C:C6	2.18	0.78
54:28:1096:A:H3'	54:28:1097:U:H5''	1.65	0.78
32:6:36:ARG:HG2	32:6:37:GLN:H	1.49	0.78
54:28:2443:C:H2'	54:28:2444:G:C8	2.18	0.78
8:H:88:HIS:HB3	8:H:89:PRO:HD3	1.65	0.78
40:14:22:PRO:HA	40:14:60:LEU:HG	1.66	0.78
41:15:8:ILE:HB	41:15:74:VAL:HB	1.66	0.78
54:28:720:U:H2'	54:28:721:A:C8	2.18	0.78
1:A:698:ALA:HB3	1:A:711:ASP:O	1.84	0.78
24:X:26:ARG:NH1	24:X:28:PHE:HE1	1.81	0.78
53:27:1218:C:H2'	53:27:1219:A:C8	2.19	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1323:G:H2'	53:27:1324:A:C8	2.18	0.78
7:G:1:MET:HG3	7:G:2:GLN:N	1.99	0.78
39:13:65:PHE:CD2	39:13:66:GLN:HG3	2.19	0.78
1:A:611:ARG:HB2	54:28:883:G:O3'	1.84	0.77
8:H:80:THR:H	54:28:1108:U:C5'	1.96	0.77
34:8:31:ASN:HD21	34:8:58:ARG:HD2	1.46	0.77
42:16:63:GLN:HG3	42:16:98:ALA:HB2	1.65	0.77
53:27:352:C:H4'	53:27:354:G:OP1	1.83	0.77
35:9:49:ASP:O	35:9:52:VAL:HG22	1.83	0.77
53:27:715:A:H2'	53:27:716:A:H8	1.48	0.77
54:28:1047:G:N2	54:28:1110:G:H2'	1.99	0.77
19:S:57:ASN:OD1	54:28:495:G:H1'	1.85	0.77
23:W:17:LEU:HD21	23:W:37:ARG:NH2	2.00	0.77
53:27:31:G:H21	53:27:47:C:H5''	1.48	0.77
54:28:1664:A:H61	54:28:1996:C:H42	1.29	0.77
54:28:2026:U:H2'	54:28:2027:G:H8	1.49	0.77
55:29:65:U:H3'	55:29:108:A:H61	1.49	0.77
53:27:1352:C:H2'	53:27:1353:G:C8	2.20	0.77
54:28:275:C:H2'	54:28:276:U:H4'	1.66	0.77
54:28:581:C:H2'	54:28:582:A:C8	2.19	0.77
4:D:131:THR:HG23	54:28:321:U:H5''	1.66	0.77
54:28:2508:G:H1	54:28:2580:U:H5	1.32	0.77
55:29:114:C:H2'	55:29:115:A:H8	1.50	0.77
3:C:105:LYS:O	3:C:177:VAL:HG12	1.83	0.77
58:32:23:C:H2'	58:32:24:U:C6	2.20	0.77
1:A:700:ARG:O	1:A:709:THR:HG22	1.85	0.77
53:27:555:U:H2'	53:27:556:C:C6	2.19	0.77
53:27:880:C:H2'	53:27:881:G:H8	1.50	0.77
54:28:1857:G:H1'	54:28:1885:A:N6	2.00	0.77
54:28:2026:U:H2'	54:28:2027:G:C8	2.20	0.77
53:27:763:G:H2'	53:27:764:C:H6	1.49	0.77
54:28:138:U:H5'	54:28:139:U:OP2	1.84	0.77
6:F:163:TYR:HB2	6:F:166:GLU:HB2	1.67	0.76
35:9:147:LYS:HD2	53:27:491:G:OP1	1.85	0.76
41:15:35:GLN:HG2	41:15:77:VAL:HG23	1.66	0.76
54:28:277:G:H1'	54:28:361:G:H1	1.49	0.76
54:28:1394:U:H4'	54:28:1603:A:H4'	1.66	0.76
54:28:2685:G:H2'	54:28:2686:G:C8	2.20	0.76
9:I:35:MET:HG3	9:I:36:GLU:N	1.99	0.76
15:O:55:GLU:HG2	55:29:116:G:H5'	1.68	0.76
37:11:4:TYR:O	37:11:63:ASN:HA	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:40:ILE:HB	41:15:73:LEU:HB2	1.65	0.76
48:22:26:ARG:NH2	53:27:237:G:H4'	2.01	0.76
54:28:18:U:H2'	54:28:19:A:C8	2.21	0.76
54:28:242:G:N2	54:28:254:G:H2'	2.01	0.76
54:28:2443:C:H2'	54:28:2444:G:H8	1.50	0.76
54:28:2462:C:H1'	54:28:2491:U:O4	1.85	0.76
5:E:113:PHE:HZ	5:E:175:PRO:HB3	1.50	0.76
38:12:72:VAL:HG12	38:12:89:GLU:HA	1.66	0.76
54:28:419:U:H2'	54:28:420:C:C6	2.20	0.76
54:28:181:A:H2'	54:28:182:A:C8	2.20	0.76
52:26:67:THR:HA	53:27:1167:A:C5	2.19	0.76
54:28:100:U:H4'	54:28:101:A:O4'	1.86	0.76
54:28:2502:G:H5'	54:28:2503:A:C5'	2.16	0.76
12:L:135:ILE:HB	12:L:142:ILE:HD11	1.66	0.76
30:4:34:ARG:HE	30:4:39:ARG:HD2	1.51	0.76
28:2:51:ARG:HG3	28:2:53:VAL:HG13	1.67	0.76
36:10:23:THR:HA	36:10:28:ARG:HA	1.67	0.76
42:16:23:HIS:HB3	42:16:30:ILE:HG23	1.67	0.76
54:28:548:G:H2'	54:28:549:G:O4'	1.85	0.76
54:28:2277:G:C2'	54:28:2278:A:H5''	2.16	0.76
53:27:715:A:H2'	53:27:716:A:C8	2.20	0.76
54:28:2564:A:C2	54:28:2647:U:H4'	2.21	0.76
21:U:12:VAL:HA	21:U:69:VAL:HG12	1.65	0.75
54:28:549:G:H2'	54:28:550:C:C6	2.21	0.75
54:28:1056:G:H4'	54:28:1086:A:C8	2.21	0.75
54:28:1176:U:H2'	54:28:1177:G:C8	2.21	0.75
43:17:71:HIS:HA	43:17:98:ARG:HH12	1.51	0.75
1:A:684:THR:HA	1:A:687:LEU:HG	1.68	0.75
4:D:149:ILE:HG21	4:D:188:MET:HG2	1.68	0.75
17:Q:2:ARG:HD2	54:28:1248:G:C2	2.20	0.75
33:7:208:ALA:O	33:7:211:LEU:HG	1.87	0.75
53:27:70:U:H4'	53:27:71:A:H8	1.51	0.75
54:28:1434:A:H2'	54:28:1435:G:C8	2.22	0.75
10:J:27:ARG:NH2	54:28:1142:A:H4'	2.01	0.75
34:8:109:GLU:HB2	34:8:143:LEU:HD22	1.66	0.75
48:22:64:ARG:HD2	53:27:264:C:H4'	1.68	0.75
53:27:1432:G:H1'	53:27:1468:A:H62	1.51	0.75
54:28:947:A:H2'	54:28:948:C:C6	2.20	0.75
54:28:1258:U:H2'	54:28:1259:G:C8	2.22	0.75
17:Q:2:ARG:HB2	54:28:1248:G:C5	2.22	0.75
33:7:185:ILE:HA	33:7:199:ILE:HB	1.68	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:860:U:H2'	54:28:861:A:H8	1.49	0.75
4:D:75:SER:HB3	4:D:78:TRP:HD1	1.52	0.75
11:K:30:ARG:NE	54:28:2674:G:H4'	2.02	0.75
27:1:37:CYS:HB2	27:1:39:LYS:HG2	1.67	0.75
54:28:1300:G:C4'	54:28:1301:A:H5''	2.09	0.75
9:I:78:LEU:HD13	9:I:108:ILE:HG23	1.67	0.75
9:I:111:THR:O	9:I:114:ALA:HB3	1.86	0.75
17:Q:57:ARG:HH12	54:28:1154:G:P	2.10	0.75
42:16:126:ARG:O	52:26:34:ARG:NH2	2.18	0.74
44:18:12:LYS:HD3	44:18:16:ILE:HG22	1.66	0.74
55:29:3:C:C2'	55:29:4:C:H5''	2.17	0.74
16:P:84:SER:HB2	16:P:86:LYS:NZ	2.02	0.74
24:X:58:ILE:HG12	24:X:66:VAL:HG21	1.69	0.74
54:28:2170:A:C2'	54:28:2171:A:H4'	2.17	0.74
8:H:23:LEU:HD22	8:H:126:LEU:HD21	1.69	0.74
54:28:162:U:O2'	54:28:163:C:H5'	1.86	0.74
54:28:955:U:H5	54:28:962:G:N1	1.84	0.74
54:28:1053:C:H6	54:28:1053:C:H5'	1.49	0.74
41:15:15:HIS:HB3	41:15:70:HIS:CE1	2.22	0.74
53:27:399:G:H2'	53:27:400:C:C6	2.23	0.74
53:27:501:C:H2'	53:27:502:A:C8	2.23	0.74
47:21:10:GLY:HA2	53:27:624:C:H4'	1.70	0.74
54:28:910:A:H2'	54:28:911:A:C8	2.21	0.74
54:28:2143:C:H2'	54:28:2144:G:O4'	1.87	0.74
8:H:58:THR:CG2	54:28:1107:G:H5''	2.17	0.74
17:Q:91:ARG:HH22	54:28:998:C:P	2.11	0.74
24:X:16:ASN:HD22	54:28:2081:U:H5''	1.52	0.74
35:9:59:LYS:HE3	35:9:194:ILE:HG22	1.69	0.74
53:27:1507:A:H2'	53:27:1508:A:C8	2.22	0.74
4:D:68:ALA:HA	54:28:1255:U:C5	2.22	0.74
20:T:88:LYS:C	20:T:90:GLY:N	2.38	0.74
45:19:45:LEU:O	45:19:48:GLN:OE1	2.04	0.74
49:23:41:SER:HB3	49:23:51:GLN:HE21	1.53	0.74
54:28:1068:G:H21	54:28:1096:A:H5'	1.52	0.74
54:28:1300:G:H4'	54:28:1301:A:C5'	2.11	0.74
42:16:23:HIS:HB3	42:16:30:ILE:CG2	2.18	0.74
53:27:1507:A:H2'	53:27:1508:A:H8	1.51	0.74
54:28:657:U:H2'	54:28:658:U:C6	2.23	0.74
54:28:1179:G:C4	54:28:1180:U:H1'	2.23	0.74
54:28:1773:A:H2'	54:28:1774:C:O4'	1.88	0.74
54:28:2065:C:H2'	54:28:2066:C:C6	2.23	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:65:U:H3'	55:29:108:A:N6	2.01	0.74
1:A:694:VAL:HA	1:A:714:ILE:HG22	1.69	0.74
18:R:76:LYS:HB2	18:R:85:LYS:HB3	1.68	0.74
19:S:83:LYS:HD3	19:S:95:ARG:NH1	2.03	0.74
42:16:34:THR:HG22	42:16:40:ALA:HA	1.69	0.74
53:27:1138:G:H3'	53:27:1138:G:N3	2.03	0.73
53:27:1524:C:H2'	53:27:1525:G:C8	2.23	0.73
58:32:14:A:H3'	58:32:15:G:H8	1.53	0.73
15:O:62:LEU:HD11	15:O:70:ALA:CB	2.18	0.73
53:27:763:G:H2'	53:27:764:C:C6	2.22	0.73
53:27:817:C:H4'	53:27:818:G:H5''	1.71	0.73
53:27:1526:G:H2'	53:27:1527:U:C6	2.24	0.73
54:28:851:C:H2'	54:28:852:U:C6	2.22	0.73
54:28:2699:C:H2'	54:28:2700:A:H8	1.53	0.73
55:29:66:A:H5''	55:29:67:G:OP1	1.88	0.73
2:B:144:GLU:HB2	2:B:187:CYS:HB3	1.70	0.73
16:P:59:THR:HG22	16:P:72:VAL:HG12	1.70	0.73
53:27:422:C:H4'	53:27:423:G:H5''	1.71	0.73
53:27:1356:G:H2'	53:27:1357:A:C8	2.24	0.73
53:27:1391:U:H2'	53:27:1392:G:H8	1.53	0.73
54:28:1594:U:H2'	54:28:1595:C:C6	2.24	0.73
58:32:67:C:H2'	58:32:68:C:C6	2.24	0.73
5:E:24:VAL:O	5:E:27:VAL:HG12	1.88	0.73
45:19:45:LEU:HG	50:24:12:LEU:HD12	1.69	0.73
53:27:1432:G:H1'	53:27:1468:A:N6	2.03	0.73
54:28:1843:C:H2'	54:28:1844:C:C6	2.23	0.73
54:28:2423:U:O2'	54:28:2425:A:H2'	1.88	0.73
54:28:2537:U:H2'	54:28:2538:C:C6	2.24	0.73
53:27:337:G:H2'	53:27:338:A:C8	2.23	0.73
53:27:1062:U:H2'	53:27:1063:C:C6	2.23	0.73
9:I:101:SER:HA	9:I:140:GLU:O	1.89	0.73
54:28:287:G:H2'	54:28:288:U:C6	2.24	0.73
58:32:1:C:H4'	58:32:73:A:N1	2.04	0.73
53:27:188:C:H2'	53:27:189:A:O4'	1.87	0.73
53:27:894:G:H2'	53:27:895:G:H8	1.54	0.73
10:J:58:ASN:HA	10:J:126:ALA:O	1.89	0.73
54:28:1179:G:H3'	54:28:1180:U:C4'	2.19	0.73
9:I:90:GLY:HA2	54:28:1064:C:C1'	2.15	0.72
53:27:501:C:H2'	53:27:502:A:H8	1.53	0.72
45:19:85:GLU:HG3	45:19:89:ARG:HH12	1.54	0.72
54:28:2130:U:H2'	54:28:2131:U:H5''	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2406:A:H5'	54:28:2407:A:OP1	1.87	0.72
54:28:565:C:H2'	54:28:566:U:C6	2.24	0.72
54:28:1636:U:H2'	54:28:1637:A:C8	2.24	0.72
3:C:15:PHE:H	16:P:11:GLN:NE2	1.87	0.72
4:D:5:LEU:HD13	4:D:10:SER:O	1.89	0.72
8:H:101:LYS:HE3	8:H:105:LYS:HD2	1.71	0.72
9:I:92:PRO:HD2	54:28:1076:C:H1'	1.70	0.72
23:W:39:THR:H	54:28:2331:G:H4'	1.54	0.72
34:8:175:HIS:ND1	53:27:1108:G:H5''	2.03	0.72
42:16:80:ASN:HD22	42:16:105:ARG:HB3	1.54	0.72
53:27:1491:G:H2'	53:27:1492:A:H5''	1.70	0.72
54:28:1536:C:H4'	54:28:1537:G:N2	2.04	0.72
54:28:2470:G:H2'	54:28:2471:A:H8	1.55	0.72
16:P:26:GLU:HA	16:P:43:GLU:HA	1.70	0.72
40:14:70:GLY:HA3	53:27:1371:G:O3'	1.89	0.72
50:24:5:LYS:HG3	50:24:6:LYS:HG2	1.72	0.72
54:28:630:G:N2	54:28:632:A:H3'	2.04	0.72
8:H:55:VAL:HA	54:28:1084:A:H5'	1.69	0.72
53:27:1131:G:C3'	53:27:1132:C:H5''	2.18	0.72
53:27:1402:C:H2'	53:27:1403:C:O4'	1.88	0.72
8:H:42:ARG:HD2	9:I:117:THR:HA	1.72	0.72
8:H:75:ALA:O	8:H:77:VAL:N	2.23	0.72
53:27:1148:U:H2'	53:27:1149:C:O4'	1.90	0.72
1:A:612:CYS:SG	1:A:634:HIS:NE2	2.63	0.72
17:Q:48:ASP:HA	17:Q:51:GLN:HB2	1.71	0.72
8:H:80:THR:O	54:28:1107:G:H4'	1.90	0.72
53:27:835:U:C2'	53:27:836:G:H5''	2.20	0.72
54:28:848:C:H2'	54:28:849:A:C8	2.24	0.72
54:28:2493:U:H3'	54:28:2494:G:H5''	1.70	0.72
55:29:88:C:H5''	55:29:89:U:OP1	1.90	0.72
6:F:79:THR:HG22	6:F:80:GLU:HG3	1.72	0.71
15:O:62:LEU:HD11	15:O:70:ALA:CA	2.20	0.71
17:Q:55:GLN:NE2	54:28:559:G:H1'	2.05	0.71
53:27:950:U:H2'	53:27:951:G:H8	1.54	0.71
53:27:1305:G:H22	53:27:1331:G:H2'	1.54	0.71
54:28:144:A:H2'	54:28:145:C:C6	2.25	0.71
54:28:679:C:H2'	54:28:680:C:C6	2.25	0.71
54:28:2086:U:H2'	54:28:2087:G:C8	2.25	0.71
4:D:75:SER:HB3	4:D:78:TRP:CD1	2.25	0.71
10:J:27:ARG:HD2	54:28:1012:U:N3	2.05	0.71
53:27:1429:A:H2'	53:27:1430:A:H8	1.55	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1181:U:H2'	54:28:1182:G:C8	2.25	0.71
32:6:18:LYS:HG2	32:6:18:LYS:O	1.87	0.71
41:15:80:THR:HB	41:15:83:THR:OG1	1.90	0.71
43:17:28:GLN:NE2	53:27:33:A:O2'	2.23	0.71
54:28:2092:U:C4'	54:28:2093:G:H5''	2.20	0.71
1:A:626:THR:HG23	1:A:632:SER:HB2	1.71	0.71
54:28:1175:A:H5'	54:28:1176:U:O4'	1.90	0.71
54:28:1857:G:H2'	54:28:1884:G:H22	1.54	0.71
9:I:79:LEU:O	9:I:83:ALA:HB3	1.90	0.71
31:5:15:LYS:HE2	31:5:19:GLY:HA2	1.72	0.71
35:9:97:LEU:HB2	35:9:134:TYR:HB3	1.71	0.71
53:27:475:C:H2'	53:27:476:U:C6	2.25	0.71
53:27:1014:A:H2'	53:27:1015:G:O4'	1.91	0.71
54:28:2074:U:H2'	54:28:2075:U:C6	2.26	0.71
54:28:2648:G:H2'	54:28:2649:C:C6	2.25	0.71
1:A:700:ARG:HB2	1:A:709:THR:HG23	1.71	0.71
17:Q:40:LYS:HG3	17:Q:44:TYR:HE2	1.55	0.71
53:27:56:U:H2'	53:27:57:G:C8	2.26	0.71
53:27:151:A:H2'	53:27:152:A:O4'	1.91	0.71
36:10:106:ALA:HB1	36:10:110:MET:HG2	1.70	0.71
53:27:1109:C:H2'	53:27:1110:A:O4'	1.91	0.71
54:28:825:A:H2'	54:28:826:U:C6	2.26	0.71
54:28:2389:G:H5''	54:28:2390:U:O4'	1.89	0.71
55:29:48:U:H2'	55:29:49:C:C6	2.26	0.71
55:29:75:G:H2'	55:29:76:G:C8	2.26	0.71
5:E:7:TYR:HA	5:E:11:VAL:CG2	2.21	0.71
6:F:174:LYS:HE3	54:28:2529:G:H4'	1.73	0.71
23:W:12:SER:OG	54:28:2262:U:H5	1.71	0.71
54:28:2070:A:H2'	54:28:2071:A:H8	1.55	0.71
54:28:2297:A:N1	54:28:2321:U:C5	2.59	0.71
1:A:598:VAL:O	1:A:598:VAL:HG12	1.90	0.71
8:H:97:LYS:HB3	8:H:125:ARG:HB2	1.71	0.71
15:O:66:GLY:O	15:O:102:ARG:HD3	1.91	0.71
37:11:68:GLN:O	37:11:71:ILE:HG22	1.91	0.71
48:22:69:THR:HG22	48:22:70:LYS:H	1.55	0.71
53:27:86:G:H4'	53:27:87:C:C6	2.26	0.71
53:27:1342:C:H2'	53:27:1343:G:C8	2.25	0.71
54:28:942:G:H2'	54:28:943:A:O4'	1.90	0.71
54:28:1179:G:C3'	54:28:1180:U:H4'	2.21	0.71
4:D:153:LEU:HD11	4:D:158:PHE:HB2	1.71	0.70
11:K:110:GLU:O	11:K:113:MET:HG2	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:11:ARG:HG3	53:27:562:U:H1'	1.73	0.70
53:27:182:A:H2'	53:27:183:C:H5''	1.72	0.70
53:27:382:A:H2'	53:27:383:A:C8	2.26	0.70
54:28:279:A:H61	54:28:361:G:H1'	1.55	0.70
54:28:1178:C:H2'	54:28:1179:G:C8	2.25	0.70
2:B:209:ALA:HA	2:B:212:TRP:CE2	2.26	0.70
4:D:148:ILE:HD13	4:D:187:VAL:CG1	2.21	0.70
22:V:72:VAL:HG12	22:V:93:ARG:HA	1.73	0.70
53:27:1464:U:H2'	53:27:1465:A:C8	2.27	0.70
54:28:974:G:H8	54:28:990:A:H62	1.34	0.70
54:28:2796:U:H2'	54:28:2798:U:OP2	1.91	0.70
1:A:619:ASP:O	1:A:620:GLU:HB2	1.92	0.70
3:C:151:THR:HB	3:C:152:PRO:HD3	1.71	0.70
6:F:41:GLU:HG3	6:F:54:ARG:HH21	1.56	0.70
53:27:70:U:H4'	53:27:71:A:C8	2.26	0.70
54:28:191:A:H2'	54:28:192:C:H6	1.54	0.70
8:H:57:ASN:HB2	8:H:62:ARG:HD2	1.73	0.70
52:26:16:ARG:HB2	52:26:19:LYS:HD3	1.72	0.70
53:27:1259:C:C3'	53:27:1260:G:H5''	2.18	0.70
3:C:56:LYS:NZ	54:28:2830:C:H5''	2.06	0.70
41:15:6:ILE:HB	41:15:76:ILE:HB	1.73	0.70
44:18:100:ARG:HH22	53:27:950:U:H3'	1.55	0.70
53:27:634:C:H2'	53:27:635:A:H8	1.56	0.70
1:A:640:GLN:HA	1:A:643:GLU:OE1	1.92	0.70
22:V:9:ARG:HG2	22:V:41:GLU:HB2	1.73	0.70
33:7:124:THR:HG22	33:7:127:LYS:HD2	1.72	0.70
53:27:1435:G:H2'	53:27:1436:U:C6	2.27	0.70
54:28:1019:U:H3	54:28:1142:A:H62	1.37	0.70
54:28:1258:U:H2'	54:28:1259:G:H8	1.56	0.70
54:28:1386:C:H2'	54:28:1387:A:C8	2.27	0.70
54:28:1659:G:H2'	54:28:1660:G:H5''	1.73	0.70
54:28:1900:A:H1'	54:28:1970:A:H2'	1.73	0.70
54:28:2134:A:H62	54:28:2157:G:H4'	1.56	0.70
54:28:2638:G:H1'	54:28:2778:A:H61	1.57	0.70
30:4:11:LYS:CE	54:28:686:U:H5''	2.22	0.70
40:14:40:ARG:HH22	53:27:1292:G:H4'	1.55	0.70
42:16:63:GLN:HB2	42:16:94:SER:OG	1.91	0.70
44:18:28:ARG:HH21	44:18:62:PHE:HB2	1.56	0.70
54:28:1659:G:C3'	54:28:1660:G:H5''	2.22	0.70
54:28:2503:A:H1'	54:28:2505:G:OP2	1.90	0.70
54:28:2617:U:H2'	54:28:2618:G:O4'	1.89	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:34:VAL:HA	3:C:50:VAL:HG12	1.74	0.70
53:27:413:G:H1'	53:27:428:G:N2	2.07	0.70
53:27:1259:C:H3'	53:27:1260:G:C5'	2.16	0.70
54:28:1295:C:H2'	54:28:1296:G:C8	2.27	0.70
9:I:11:GLN:H	54:28:1061:U:H5	1.36	0.70
53:27:736:C:H2'	53:27:737:C:C6	2.27	0.70
54:28:310:A:C2'	54:28:311:A:H5''	2.21	0.70
54:28:2427:C:H5''	54:28:2429:G:H5'	1.72	0.70
54:28:2832:U:H1'	54:28:2834:G:C2	2.26	0.70
55:29:106:G:H2'	55:29:107:G:O4'	1.91	0.70
15:O:17:LYS:NZ	54:28:2380:C:H5'	2.07	0.70
43:17:73:LEU:HD21	43:17:79:ILE:HG21	1.74	0.70
50:24:35:ARG:HH11	53:27:1221:G:H5''	1.57	0.70
53:27:735:C:H2'	53:27:736:C:H6	1.57	0.70
54:28:2073:C:H2'	54:28:2074:U:H6	1.54	0.70
54:28:2233:U:H2'	54:28:2234:G:C8	2.27	0.70
7:G:9:VAL:HG11	7:G:12:LEU:HG	1.72	0.69
15:O:29:HIS:HB3	15:O:36:TYR:HB2	1.74	0.69
37:11:15:SER:HB2	37:11:58:HIS:HB3	1.74	0.69
37:11:67:PRO:HG2	37:11:70:VAL:HG23	1.74	0.69
53:27:1023:U:H2'	53:27:1024:G:C8	2.27	0.69
54:28:690:G:H2'	54:28:691:C:C6	2.26	0.69
54:28:1826:G:H2'	54:28:1827:U:C6	2.26	0.69
54:28:1872:A:H2'	54:28:1873:G:O4'	1.92	0.69
7:G:116:ARG:HG3	7:G:133:GLN:HG3	1.72	0.69
31:5:7:ARG:NH2	54:28:245:G:N7	2.40	0.69
53:27:994:A:N7	53:27:1216:A:H4'	2.07	0.69
54:28:49:A:H5'	54:28:51:G:O4'	1.93	0.69
9:I:20:SER:HB3	9:I:21:PRO:HD3	1.72	0.69
46:20:38:LEU:HD23	46:20:55:LEU:HD13	1.73	0.69
47:21:40:ASN:HB3	47:21:43:ALA:HB2	1.73	0.69
53:27:225:C:C3'	53:27:226:G:H5''	2.22	0.69
54:28:277:G:H1'	54:28:361:G:N1	2.07	0.69
54:28:1320:C:O2'	54:28:1321:A:H5''	1.93	0.69
58:32:72:A:H2'	58:32:73:A:O4'	1.93	0.69
9:I:91:LYS:HB3	9:I:94:LYS:HB2	1.74	0.69
11:K:68:GLY:HA3	11:K:78:ARG:HG2	1.73	0.69
16:P:38:ARG:HH21	16:P:38:ARG:HG3	1.57	0.69
23:W:38:GLY:HA2	54:28:2330:G:H21	1.57	0.69
40:14:54:VAL:HG23	40:14:56:MET:HG2	1.74	0.69
41:15:45:ARG:HB3	41:15:69:THR:HB	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:113:ARG:HB2	43:17:118:VAL:HB	1.74	0.69
44:18:2:ARG:HA	44:18:7:ASN:O	1.93	0.69
50:24:79:TYR:CZ	53:27:1226:C:H4'	2.27	0.69
54:28:2848:G:O2'	54:28:2849:U:H5'	1.92	0.69
15:O:51:ALA:HB3	15:O:78:VAL:HG22	1.73	0.69
34:8:87:ARG:HG3	34:8:98:ALA:O	1.92	0.69
53:27:448:A:H3'	53:27:449:G:C8	2.27	0.69
53:27:1071:C:H2'	53:27:1072:G:H8	1.57	0.69
54:28:1283:G:H1'	54:28:1329:U:O2	1.92	0.69
6:F:41:GLU:HB2	6:F:54:ARG:HE	1.57	0.69
19:S:20:VAL:HG11	19:S:44:ALA:HA	1.73	0.69
53:27:533:A:O2'	53:27:534:U:H5''	1.92	0.69
47:21:5:ARG:HB2	53:27:376:G:H5''	1.75	0.69
54:28:172:A:H2'	54:28:173:A:H8	1.57	0.69
54:28:2583:G:H2'	54:28:2584:U:O4'	1.93	0.69
7:G:114:GLU:HA	7:G:116:ARG:HH12	1.58	0.69
30:4:24:THR:HG23	30:4:27:GLY:H	1.58	0.69
39:13:5:PRO:HB2	39:13:32:LYS:NZ	2.08	0.69
40:14:16:ALA:HA	40:14:66:VAL:HA	1.75	0.69
54:28:184:C:H2'	54:28:185:G:H8	1.57	0.69
54:28:1068:G:N2	54:28:1096:A:H5'	2.08	0.69
54:28:1881:C:H2'	54:28:1882:U:O4'	1.93	0.69
10:J:81:ILE:HG23	10:J:82:GLY:N	2.04	0.69
17:Q:57:ARG:HA	17:Q:60:TRP:CE3	2.27	0.69
33:7:66:ILE:HD12	33:7:159:ALA:HB3	1.74	0.69
53:27:1409:C:H2'	53:27:1410:A:C8	2.28	0.69
54:28:582:A:H2'	54:28:583:G:C8	2.27	0.69
54:28:721:A:H2'	54:28:722:A:C8	2.27	0.69
6:F:2:ARG:HD2	54:28:2751:G:O4'	1.92	0.69
9:I:36:GLU:HB3	9:I:66:PHE:HE2	1.58	0.69
9:I:127:SER:HA	54:28:1080:A:H1'	1.75	0.69
18:R:58:VAL:H	18:R:102:SER:HB2	1.58	0.69
40:14:35:GLU:HA	40:14:39:GLY:HA3	1.74	0.69
53:27:517:G:O2'	53:27:530:G:H4'	1.93	0.69
54:28:821:A:H5''	54:28:822:G:C5'	2.13	0.69
54:28:2861:U:H2'	54:28:2862:G:H8	1.58	0.69
11:K:49:ARG:NH2	53:27:1423:G:H5'	2.08	0.68
38:12:129:ASN:HA	38:12:134:VAL:HG11	1.76	0.68
50:24:35:ARG:NH1	53:27:1221:G:H5''	2.07	0.68
53:27:312:C:H2'	53:27:313:A:H8	1.57	0.68
53:27:634:C:H2'	53:27:635:A:C8	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:769:G:H4'	53:27:1513:A:H4'	1.73	0.68
53:27:955:U:C1'	53:27:1227:A:H61	2.05	0.68
54:28:967:U:H2'	54:28:968:C:C6	2.28	0.68
54:28:1198:U:H2'	54:28:1199:U:C6	2.28	0.68
54:28:2075:U:H1'	54:28:2597:G:N2	2.08	0.68
54:28:2292:U:H2'	54:28:2293:G:C8	2.28	0.68
54:28:2372:U:H2'	54:28:2373:G:H8	1.58	0.68
35:9:36:ALA:H	35:9:37:PRO:HD3	1.58	0.68
53:27:1512:U:H2'	53:27:1513:A:H8	1.56	0.68
54:28:2646:C:H2'	54:28:2647:U:O4'	1.93	0.68
8:H:61:ARG:HG3	54:28:1046:A:H4'	1.75	0.68
54:28:1132:U:H2'	54:28:1133:A:C8	2.29	0.68
9:I:7:TYR:CD1	9:I:59:THR:HA	2.28	0.68
36:10:134:ASN:HD21	53:27:1078:U:H1'	1.57	0.68
43:17:49:ARG:NH2	53:27:522:C:H41	1.91	0.68
53:27:210:C:H3'	53:27:211:G:H5'	1.75	0.68
53:27:265:G:H2'	53:27:267:C:H5	1.57	0.68
53:27:1011:C:H2'	53:27:1012:A:C8	2.29	0.68
54:28:191:A:H2'	54:28:192:C:C6	2.28	0.68
54:28:799:G:H5''	54:28:800:A:H2'	1.75	0.68
54:28:969:G:H2'	54:28:970:U:C6	2.28	0.68
54:28:1295:C:H2'	54:28:1296:G:H8	1.57	0.68
54:28:2037:A:H2'	54:28:2038:G:C8	2.28	0.68
54:28:2786:U:H2'	54:28:2787:C:H6	1.58	0.68
5:E:169:LEU:HB3	5:E:174:PHE:HD2	1.58	0.68
8:H:37:LYS:HE2	54:28:1086:A:N6	2.09	0.68
11:K:49:ARG:HH12	53:27:1422:G:H4'	1.56	0.68
12:L:109:LYS:HE2	54:28:636:G:N7	2.08	0.68
15:O:101:GLY:HA3	55:29:49:C:OP1	1.93	0.68
44:18:25:GLY:H	53:27:1329:A:H5''	1.58	0.68
46:20:63:ARG:HD2	46:20:87:ARG:HH22	1.59	0.68
53:27:918:A:H2'	53:27:919:A:C8	2.28	0.68
54:28:7:G:H2'	54:28:8:C:C6	2.28	0.68
54:28:215:G:H4'	54:28:216:A:H4'	1.73	0.68
54:28:1057:A:N7	54:28:1086:A:H2'	2.08	0.68
54:28:1316:U:H2'	54:28:1317:G:H8	1.58	0.68
54:28:1765:U:H2'	54:28:1766:G:H8	1.59	0.68
54:28:2087:G:H2'	54:28:2088:A:C8	2.29	0.68
58:32:21:A:H62	58:32:47:U:H4'	1.58	0.68
35:9:94:GLU:HA	35:9:99:ASN:HD22	1.58	0.68
43:17:109:ARG:HB2	43:17:118:VAL:HG21	1.74	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:24:54:ARG:HB3	53:27:958:A:C2	2.29	0.68
53:27:539:A:H2'	53:27:540:G:H8	1.58	0.68
54:28:1190:G:H2'	54:28:1191:G:H8	1.59	0.68
54:28:1508:A:H2'	54:28:1509:A:O4'	1.94	0.68
54:28:1636:U:H2'	54:28:1637:A:H8	1.57	0.68
47:21:15:PRO:HG2	47:21:41:PRO:HG3	1.74	0.68
53:27:54:C:H2'	53:27:352:C:H41	1.59	0.68
53:27:328:C:H4'	53:27:329:A:H5'	1.76	0.68
53:27:613:C:H2'	53:27:614:C:C6	2.29	0.68
54:28:813:U:H2'	54:28:814:C:C6	2.29	0.68
54:28:2233:U:H2'	54:28:2234:G:H8	1.57	0.68
14:N:29:VAL:HG12	14:N:78:LYS:HD2	1.74	0.68
44:18:7:ASN:HD22	44:18:21:ILE:HD11	1.59	0.68
53:27:404:G:H2'	53:27:405:U:C6	2.28	0.68
54:28:1906:G:C2'	54:28:1907:G:H5''	2.24	0.68
3:C:25:THR:HG21	3:C:193:VAL:HG22	1.74	0.68
7:G:111:ALA:HB3	7:G:114:GLU:HG2	1.74	0.68
8:H:61:ARG:HB3	54:28:1047:G:C8	2.29	0.68
13:M:20:LEU:HD23	22:V:81:PRO:HG2	1.76	0.68
18:R:74:ILE:HB	18:R:87:GLN:HB3	1.76	0.68
20:T:88:LYS:C	20:T:90:GLY:H	1.97	0.68
21:U:87:GLU:HG3	21:U:92:VAL:HG21	1.76	0.68
22:V:20:LEU:HD21	22:V:41:GLU:HG2	1.75	0.68
24:X:36:ARG:NH2	54:28:2199:A:OP1	2.26	0.68
47:21:11:ALA:HB3	47:21:14:ARG:HB2	1.74	0.68
51:25:2:ASN:OD1	51:25:3:ILE:N	2.27	0.68
54:28:580:U:H2'	54:28:581:C:C6	2.28	0.68
54:28:2114:A:C6	54:28:2115:G:H1'	2.29	0.68
1:A:674:ASN:HD21	1:A:736:ILE:HG21	1.59	0.68
19:S:29:VAL:HG23	19:S:69:LEU:O	1.93	0.68
40:14:94:ARG:HA	40:14:97:LEU:HB2	1.75	0.68
41:15:22:THR:HG21	41:15:39:PRO:HB3	1.76	0.68
50:24:69:LYS:HE3	53:27:1319:A:H5''	1.74	0.68
53:27:27:G:H2'	53:27:28:A:C8	2.29	0.68
54:28:584:C:H2'	54:28:585:G:H8	1.59	0.68
54:28:687:C:H2'	54:28:688:U:O4'	1.94	0.68
54:28:1789:A:H2'	54:28:1790:C:O4'	1.93	0.68
54:28:2567:G:H2'	54:28:2568:U:C6	2.28	0.68
54:28:2693:G:H2'	54:28:2694:G:C8	2.29	0.68
25:Y:38:GLN:O	54:28:95:A:H4'	1.93	0.67
37:11:78:PHE:HD1	37:11:84:VAL:HG11	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:808:G:H2'	54:28:809:G:C8	2.29	0.67
54:28:826:U:H5''	54:28:2429:G:P	2.34	0.67
54:28:974:G:H1'	54:28:975:A:C8	2.29	0.67
54:28:1678:A:H2'	54:28:1679:A:H8	1.58	0.67
54:28:1857:G:N2	54:28:1884:G:H2'	2.08	0.67
54:28:2060:A:H1'	54:28:2502:G:O2'	1.93	0.67
54:28:2345:G:N3	54:28:2381:A:H2'	2.09	0.67
58:32:10:G:H2'	58:32:11:A:C8	2.29	0.67
8:H:59:LEU:HD23	8:H:62:ARG:HB2	1.75	0.67
30:4:11:LYS:HE2	54:28:686:U:H5''	1.76	0.67
53:27:1144:G:H21	53:27:1146:A:H62	1.39	0.67
54:28:420:C:H2'	54:28:421:C:C6	2.29	0.67
54:28:634:C:H2'	54:28:635:C:C6	2.29	0.67
54:28:1807:G:H2'	54:28:1808:A:H5'	1.75	0.67
54:28:2593:U:H2'	54:28:2594:C:C6	2.29	0.67
55:29:3:C:C3'	55:29:4:C:H5''	2.24	0.67
2:B:180:MET:HB2	2:B:268:ARG:H	1.59	0.67
5:E:25:MET:HB3	55:29:57:A:C2	2.28	0.67
12:L:23:ILE:H	12:L:23:ILE:HD12	1.59	0.67
16:P:112:ARG:O	16:P:113:LEU:HG	1.93	0.67
21:U:3:LYS:HE2	54:28:337:C:OP1	1.95	0.67
21:U:6:ARG:N	54:28:85:G:OP1	2.28	0.67
53:27:373:A:H2'	53:27:374:A:C8	2.24	0.67
54:28:1746:A:H2'	54:28:1747:U:C6	2.30	0.67
54:28:2120:G:H2'	54:28:2121:G:C8	2.29	0.67
58:32:1:C:H2'	58:32:2:G:C8	2.30	0.67
6:F:102:ILE:HD12	6:F:114:HIS:HD2	1.60	0.67
28:2:8:THR:HG21	54:28:2020:A:H5'	1.76	0.67
32:6:18:LYS:HE2	32:6:21:GLY:HA2	1.77	0.67
35:9:119:HIS:HD1	53:27:437:U:HO2'	1.40	0.67
36:10:132:PRO:O	36:10:135:VAL:HG22	1.94	0.67
53:27:1530:G:H2'	53:27:1531:A:C8	2.28	0.67
54:28:2421:G:H2'	58:32:76:A:N6	2.10	0.67
55:29:29:A:H2'	55:29:30:C:O4'	1.93	0.67
7:G:12:LEU:HD12	7:G:13:GLY:N	2.10	0.67
23:W:36:GLN:NE2	23:W:39:THR:HA	2.08	0.67
25:Y:39:GLN:HB2	25:Y:41:HIS:CE1	2.29	0.67
32:6:8:LYS:H	32:6:35:GLN:HE22	1.42	0.67
34:8:89:VAL:O	34:8:93:ILE:HG13	1.95	0.67
36:10:156:ARG:HD2	39:13:44:PHE:CZ	2.28	0.67
41:15:9:ARG:O	41:15:99:GLN:HB2	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:950:U:H2'	53:27:951:G:C8	2.28	0.67
53:27:1213:A:C2	53:27:1215:G:H1'	2.29	0.67
58:32:2:G:N2	58:32:72:A:H1'	2.10	0.67
58:32:69:C:H3'	58:32:70:G:H8	1.60	0.67
41:15:29:ALA:HA	41:15:32:THR:HG22	1.76	0.67
53:27:948:C:H2'	53:27:949:A:H8	1.60	0.67
54:28:1213:A:N6	54:28:1236:G:H1'	2.08	0.67
4:D:119:ILE:O	4:D:187:VAL:HG23	1.95	0.67
9:I:113:ALA:O	9:I:114:ALA:C	2.32	0.67
35:9:33:ILE:HG12	35:9:34:GLU:N	2.05	0.67
38:12:78:ARG:HH11	53:27:1382:C:H4'	1.59	0.67
42:16:30:ILE:HD13	42:16:45:THR:HG22	1.77	0.67
6:F:51:PHE:HZ	6:F:71:LEU:HD22	1.60	0.67
10:J:36:LEU:O	10:J:51:GLY:HA3	1.95	0.67
43:17:98:ARG:HB2	43:17:116:TYR:HA	1.77	0.67
53:27:24:U:H2'	53:27:25:C:C6	2.29	0.67
53:27:147:G:H2'	53:27:148:G:C8	2.29	0.67
53:27:448:A:H3'	53:27:449:G:H8	1.59	0.67
54:28:832:U:H2'	54:28:833:A:C8	2.29	0.67
4:D:163:ASN:ND2	54:28:320:A:N3	2.42	0.67
9:I:113:ALA:HA	9:I:124:MET:SD	2.35	0.67
10:J:35:ARG:HA	10:J:40:HIS:HD2	1.60	0.67
40:14:11:ARG:NH1	40:14:106:ASP:OD2	2.27	0.67
53:27:112:G:N2	53:27:354:G:H5'	2.09	0.67
53:27:579:A:H5'	53:27:728:A:H1'	1.76	0.67
54:28:2267:A:H5''	54:28:2268:A:C5'	2.24	0.67
1:A:612:CYS:HB3	54:28:883:G:O2'	1.95	0.67
8:H:34:THR:CG2	54:28:1056:G:H5'	2.25	0.67
9:I:23:VAL:HG23	9:I:27:LEU:HD21	1.77	0.67
44:18:6:ILE:HG13	44:18:7:ASN:N	2.10	0.67
53:27:17:U:H2'	53:27:18:C:C6	2.30	0.67
53:27:313:A:H2'	53:27:314:C:C6	2.30	0.67
54:28:296:U:H2'	54:28:297:G:C8	2.29	0.67
54:28:639:U:H2'	54:28:640:C:C6	2.29	0.67
54:28:1082:U:C3'	54:28:1083:U:H5''	2.25	0.67
54:28:1469:A:H2'	54:28:1470:A:H8	1.60	0.67
54:28:1935:G:H1'	54:28:1964:G:N2	2.09	0.67
54:28:2041:U:H2'	54:28:2042:A:C8	2.30	0.67
3:C:122:VAL:O	3:C:126:ASN:HA	1.95	0.66
9:I:7:TYR:HE1	9:I:59:THR:HG23	1.60	0.66
35:9:10:LEU:HD13	35:9:62:ARG:HD2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:413:G:H1'	53:27:428:G:H21	1.59	0.66
53:27:562:U:H5	53:27:884:U:HO2'	1.40	0.66
54:28:64:A:H2'	54:28:65:U:C6	2.29	0.66
54:28:1028:A:H2'	54:28:1029:A:C8	2.30	0.66
4:D:149:ILE:CG2	4:D:188:MET:HG2	2.25	0.66
6:F:112:VAL:O	6:F:112:VAL:HG12	1.95	0.66
27:1:46:GLY:O	27:1:49:ARG:HG2	1.96	0.66
28:2:46:GLY:HA3	28:2:54:ILE:CG2	2.25	0.66
53:27:56:U:H2'	53:27:57:G:H8	1.59	0.66
53:27:1169:A:H2'	53:27:1170:A:C8	2.31	0.66
54:28:282:A:H2'	54:28:283:G:H8	1.58	0.66
7:G:103:VAL:HG12	7:G:108:VAL:HB	1.77	0.66
8:H:81:LEU:HA	54:28:1107:G:C4'	2.26	0.66
54:28:1021:A:C8	54:28:1023:U:H1'	2.30	0.66
54:28:1196:C:H2'	54:28:1197:G:C8	2.30	0.66
54:28:2548:U:C2'	54:28:2549:G:H5''	2.26	0.66
2:B:206:LYS:HB2	54:28:729:G:C5	2.30	0.66
17:Q:40:LYS:HG3	17:Q:44:TYR:CE2	2.31	0.66
52:26:38:GLU:OE1	53:27:1526:G:H3'	1.95	0.66
53:27:1005:A:H4'	53:27:1037:C:H1'	1.77	0.66
54:28:2699:C:H2'	54:28:2700:A:C8	2.29	0.66
54:28:2873:A:O2'	54:28:2874:C:H5'	1.95	0.66
22:V:62:THR:HG22	22:V:71:LYS:HG2	1.78	0.66
53:27:21:G:H2'	53:27:22:G:C8	2.30	0.66
53:27:320:A:H2'	53:27:321:A:C8	2.30	0.66
53:27:1170:A:H2'	53:27:1171:A:O4'	1.96	0.66
54:28:78:U:H2'	54:28:79:C:C6	2.31	0.66
54:28:1721:G:H2'	54:28:1738:G:H22	1.59	0.66
54:28:2041:U:H2'	54:28:2042:A:H8	1.61	0.66
54:28:2144:G:H1'	54:28:2148:G:N2	2.11	0.66
54:28:2146:C:H4'	54:28:2147:A:N7	2.11	0.66
55:29:114:C:H2'	55:29:115:A:C8	2.30	0.66
2:B:36:ASN:HB2	2:B:61:TYR:HB2	1.77	0.66
3:C:179:ARG:HB3	3:C:188:LEU:HD12	1.78	0.66
6:F:97:VAL:HG23	6:F:124:CYS:SG	2.35	0.66
9:I:134:SER:HB2	54:28:1062:G:H1'	1.77	0.66
14:N:22:ARG:HG3	14:N:70:THR:HA	1.76	0.66
35:9:8:LEU:HD12	35:9:11:SER:HB2	1.77	0.66
53:27:1496:C:H2'	53:27:1497:G:O4'	1.94	0.66
54:28:1310:G:H3'	54:28:1311:G:C8	2.31	0.66
54:28:1722:A:N6	54:28:1738:G:H1'	2.10	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2786:U:H2'	54:28:2787:C:C6	2.30	0.66
58:32:66:C:H2'	58:32:67:C:C6	2.30	0.66
12:L:78:ARG:NH2	12:L:80:SER:OG	2.29	0.66
22:V:19:ARG:NH2	55:29:95:U:OP2	2.29	0.66
27:1:43:PHE:HB2	27:1:47:LYS:HE3	1.76	0.66
37:11:38:ARG:HB3	37:11:63:ASN:HB2	1.78	0.66
46:20:48:ASP:OD2	46:20:51:SER:HB2	1.96	0.66
52:26:19:LYS:HD2	52:26:19:LYS:N	2.11	0.66
53:27:490:C:H2'	53:27:491:G:C8	2.30	0.66
53:27:923:A:H2'	53:27:924:C:C6	2.31	0.66
53:27:1399:C:H1'	53:27:1400:C:OP2	1.94	0.66
53:27:1437:A:H2'	53:27:1438:G:H8	1.60	0.66
54:28:2493:U:C3'	54:28:2494:G:H5''	2.26	0.66
53:27:231:U:H2'	53:27:232:G:H8	1.60	0.66
54:28:1297:C:H2'	54:28:1298:C:C6	2.31	0.66
54:28:2287:A:O2'	54:28:2288:A:H2'	1.95	0.66
55:29:28:C:H2'	55:29:29:A:C8	2.31	0.66
8:H:56:ARG:CB	54:28:1106:G:H4'	2.26	0.66
10:J:31:GLU:HG2	10:J:142:ILE:HG12	1.78	0.66
33:7:67:LEU:HD23	33:7:89:PHE:HB2	1.78	0.66
34:8:57:GLU:HB2	34:8:64:ARG:HG2	1.78	0.66
53:27:502:A:H2'	53:27:503:C:C6	2.31	0.66
54:28:184:C:H2'	54:28:185:G:C8	2.30	0.66
54:28:584:C:H2'	54:28:585:G:C8	2.31	0.66
54:28:1107:G:H2'	54:28:1108:U:C6	2.31	0.66
5:E:134:GLN:N	5:E:134:GLN:OE1	2.29	0.66
11:K:21:CYS:HA	11:K:41:ILE:HG22	1.77	0.66
16:P:105:LYS:O	16:P:108:ARG:HG2	1.95	0.66
19:S:82:MET:HB2	19:S:98:LYS:HB2	1.77	0.66
43:17:87:LYS:HD3	53:27:525:C:OP1	1.96	0.66
48:22:30:HIS:HD2	48:22:33:TYR:H	1.44	0.66
54:28:732:C:H2'	54:28:733:G:O4'	1.96	0.66
54:28:1678:A:H2'	54:28:1679:A:C8	2.31	0.66
55:29:66:A:N1	55:29:107:G:H2'	2.11	0.66
58:32:72:A:H3'	58:32:73:A:H5''	1.78	0.66
7:G:12:LEU:HD13	7:G:19:VAL:HG21	1.77	0.65
7:G:73:ASN:HB2	7:G:108:VAL:HG23	1.77	0.65
42:16:116:PRO:HB3	53:27:676:A:C1'	2.25	0.65
53:27:797:C:H2'	53:27:798:U:C6	2.31	0.65
53:27:1417:G:H2'	53:27:1482:G:N2	2.11	0.65
54:28:1432:G:H2'	54:28:1433:A:C8	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2467:C:H2'	54:28:2468:A:O4'	1.97	0.65
58:32:46:A:H3'	58:32:47:U:C5'	2.26	0.65
2:B:164:VAL:HG23	2:B:174:ARG:HB2	1.78	0.65
53:27:593:U:H2'	53:27:594:U:H6	1.61	0.65
54:28:464:U:H2'	54:28:465:G:O4'	1.96	0.65
54:28:665:U:H2'	54:28:666:A:H8	1.60	0.65
54:28:834:G:H2'	54:28:835:C:C6	2.31	0.65
54:28:927:A:H2'	54:28:928:A:C8	2.30	0.65
54:28:1736:U:H2'	54:28:1737:G:O4'	1.96	0.65
4:D:117:ARG:NH2	4:D:183:PHE:O	2.29	0.65
8:H:33:VAL:HG12	54:28:1055:G:H5''	1.78	0.65
15:O:3:LYS:HE3	55:29:46:A:H5''	1.78	0.65
27:1:42:PRO:O	27:1:46:GLY:HA3	1.97	0.65
38:12:70:PRO:HG3	38:12:98:LEU:HD23	1.77	0.65
43:17:23:LEU:HG	43:17:24:GLU:HG3	1.77	0.65
51:25:4:LYS:NZ	53:27:61:G:P	2.69	0.65
53:27:31:G:N2	53:27:47:C:H5''	2.10	0.65
53:27:999:C:H2'	53:27:1000:A:C8	2.32	0.65
54:28:146:A:H2'	54:28:147:C:C6	2.32	0.65
54:28:488:G:N2	54:28:491:G:H5''	2.12	0.65
55:29:56:G:H4'	55:29:57:A:H8	1.61	0.65
8:H:80:THR:C	54:28:1107:G:H4'	2.16	0.65
17:Q:65:ASN:HA	17:Q:75:TYR:HB2	1.79	0.65
28:2:3:GLN:HA	54:28:2615:U:C2	2.31	0.65
39:13:46:GLU:O	39:13:61:THR:HB	1.96	0.65
41:15:30:LYS:HA	41:15:34:ALA:HA	1.77	0.65
44:18:86:ARG:HH21	53:27:1309:G:P	2.19	0.65
47:21:5:ARG:HH12	47:21:28:ARG:HA	1.60	0.65
48:22:26:ARG:HH22	53:27:237:G:C4'	2.07	0.65
54:28:558:U:H2'	54:28:559:G:H8	1.60	0.65
54:28:2292:U:H2'	54:28:2293:G:H8	1.61	0.65
19:S:52:GLU:HA	19:S:55:ILE:HD12	1.78	0.65
23:W:25:GLU:OE1	54:28:923:G:H4'	1.95	0.65
50:24:52:ASN:HD21	50:24:55:GLN:HB2	1.61	0.65
51:25:9:ARG:HG2	53:27:108:G:N1	2.10	0.65
54:28:934:U:H2'	54:28:935:C:C6	2.32	0.65
54:28:1331:G:O2'	54:28:1332:G:H5''	1.97	0.65
1:A:639:GLU:O	1:A:642:ALA:HB3	1.97	0.65
2:B:206:LYS:HD2	54:28:729:G:C8	2.31	0.65
43:17:78:VAL:N	43:17:102:ASP:OD2	2.30	0.65
49:23:37:LYS:HG3	53:27:719:C:H1'	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1414:U:H2'	53:27:1415:G:H8	1.62	0.65
54:28:1447:C:H2'	54:28:1448:G:H8	1.62	0.65
54:28:2372:U:H2'	54:28:2373:G:C8	2.30	0.65
54:28:2514:U:H2'	54:28:2515:C:H6	1.61	0.65
17:Q:36:GLN:NE2	54:28:564:C:H1'	2.12	0.65
22:V:21:ARG:HE	22:V:87:GLN:HA	1.61	0.65
40:14:17:ARG:HB2	40:14:65:THR:OG1	1.97	0.65
50:24:39:ILE:HD13	50:24:65:MET:HG2	1.79	0.65
54:28:146:A:H2'	54:28:147:C:H6	1.62	0.65
56:30:13:A:H2'	56:30:14:A:H5'	1.79	0.65
10:J:27:ARG:HD2	54:28:1012:U:H3	1.62	0.65
27:1:62:LYS:O	27:1:65:ASN:ND2	2.30	0.65
29:3:7:LYS:HA	29:3:23:THR:HA	1.77	0.65
45:19:7:ALA:O	45:19:10:VAL:HG12	1.97	0.65
52:26:67:THR:CB	53:27:1088:G:HO2'	2.10	0.65
53:27:542:G:H2'	53:27:543:U:C6	2.32	0.65
54:28:141:G:H3'	54:28:142:A:O4'	1.96	0.65
54:28:635:C:H2'	54:28:636:G:C8	2.32	0.65
54:28:2273:A:H2'	54:28:2274:A:C8	2.31	0.65
10:J:16:TYR:CD1	10:J:140:LEU:HB2	2.31	0.65
43:17:49:ARG:HH12	53:27:523:A:N6	1.94	0.65
45:19:16:ALA:HA	45:19:54:SER:O	1.96	0.65
51:25:2:ASN:HB3	53:27:332:G:OP2	1.96	0.65
53:27:323:U:H2'	53:27:324:G:O4'	1.96	0.65
53:27:952:U:H2'	53:27:953:G:H8	1.62	0.65
54:28:5:A:H2'	54:28:6:A:C8	2.32	0.65
54:28:466:A:N3	54:28:683:U:H1'	2.12	0.65
54:28:1096:A:C3'	54:28:1097:U:H5''	2.26	0.65
4:D:186:VAL:O	4:D:186:VAL:HG12	1.95	0.65
21:U:31:GLY:O	21:U:66:VAL:HG23	1.96	0.65
21:U:47:PRO:CD	21:U:55:GLY:HA2	2.26	0.65
30:4:3:ARG:HG2	54:28:1613:G:H4'	1.79	0.65
53:27:229:U:H2'	53:27:230:G:C8	2.31	0.65
53:27:1486:G:H2'	53:27:1487:G:C8	2.32	0.65
54:28:851:C:H2'	54:28:852:U:H6	1.61	0.65
54:28:1936:A:H2	54:28:1943:U:H3	1.42	0.65
54:28:2286:G:H5''	54:28:2287:A:OP1	1.97	0.65
54:28:2698:U:H2'	54:28:2699:C:C6	2.31	0.65
2:B:48:ILE:HD11	2:B:51:ARG:HA	1.78	0.64
5:E:42:ALA:HB2	5:E:49:LEU:HB2	1.79	0.64
6:F:51:PHE:CZ	6:F:71:LEU:HD22	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:110:GLN:O	9:I:113:ALA:HB3	1.96	0.64
15:O:35:ILE:HG22	15:O:53:THR:HG23	1.79	0.64
33:7:22:TRP:CZ3	33:7:24:PRO:HA	2.32	0.64
39:13:83:ARG:NH2	53:27:644:U:H4'	2.12	0.64
53:27:1030:U:H2'	53:27:1031:C:H5'	1.78	0.64
54:28:644:A:H2'	54:28:645:C:C4'	2.27	0.64
54:28:814:C:H1'	54:28:1225:G:H21	1.61	0.64
54:28:1821:A:H2'	54:28:1822:C:H6	1.62	0.64
54:28:2704:C:H2'	54:28:2705:A:O4'	1.96	0.64
16:P:92:ARG:HD3	54:28:1753:G:H5''	1.78	0.64
30:4:31:LEU:HG	30:4:42:LEU:HD21	1.79	0.64
49:23:17:VAL:HG13	49:23:18:GLN:HG2	1.79	0.64
53:27:530:G:H2'	53:27:530:G:N3	2.11	0.64
54:28:1081:U:H2'	54:28:1082:U:C6	2.31	0.64
54:28:1821:A:H2'	54:28:1822:C:C6	2.32	0.64
54:28:2331:G:H2'	54:28:2332:C:C6	2.31	0.64
56:30:8:A:H2'	56:30:9:G:C8	2.33	0.64
2:B:74:PRO:HB3	2:B:114:GLN:HE21	1.62	0.64
3:C:56:LYS:HZ2	54:28:2830:C:H5''	1.62	0.64
4:D:162:ARG:NH1	54:28:321:U:O3'	2.30	0.64
7:G:100:ALA:HB2	7:G:115:VAL:HG21	1.79	0.64
8:H:94:ARG:CB	8:H:97:LYS:HE2	2.27	0.64
53:27:1052:U:H2'	53:27:1200:C:N4	2.12	0.64
54:28:1669:A:H5''	54:28:2550:G:OP1	1.98	0.64
2:B:42:ARG:NH1	54:28:690:G:H21	1.96	0.64
2:B:51:ARG:HG3	2:B:52:HIS:HD1	1.61	0.64
13:M:69:PRO:HA	13:M:94:ALA:HB2	1.79	0.64
22:V:42:LEU:HD13	22:V:47:VAL:HG21	1.80	0.64
53:27:687:A:H2'	53:27:701:U:O4	1.97	0.64
53:27:865:A:H2'	53:27:866:C:C6	2.33	0.64
54:28:138:U:H3'	54:28:139:U:C5'	2.27	0.64
54:28:172:A:H2'	54:28:173:A:C8	2.32	0.64
54:28:1826:G:H2'	54:28:1827:U:H6	1.62	0.64
8:H:82:ILE:HG22	8:H:83:ALA:H	1.62	0.64
46:20:50:HIS:ND1	53:27:667:G:H4'	2.11	0.64
53:27:381:C:H2'	53:27:382:A:O4'	1.96	0.64
53:27:1029:U:H1'	53:27:1033:G:H22	1.60	0.64
54:28:591:U:H2'	54:28:592:A:C8	2.33	0.64
2:B:145:MET:SD	2:B:153:LEU:HD11	2.37	0.64
11:K:70:ARG:NH1	54:28:2684:U:O4'	2.31	0.64
16:P:38:ARG:HG3	16:P:38:ARG:NH2	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:36:ALA:N	35:9:37:PRO:HD3	2.12	0.64
45:19:80:ARG:O	45:19:83:VAL:HG12	1.97	0.64
52:26:29:ALA:HA	52:26:32:ARG:HD3	1.79	0.64
53:27:225:C:H3'	53:27:226:G:H5''	1.78	0.64
53:27:744:C:H2'	53:27:745:G:C8	2.33	0.64
54:28:5:A:H2'	54:28:6:A:H8	1.62	0.64
54:28:1080:A:O2'	54:28:1081:U:H5'	1.97	0.64
57:31:16:C:O2'	57:31:17:C:H5'	1.97	0.64
2:B:7:PRO:HB3	2:B:13:ARG:HG3	1.80	0.64
6:F:157:LYS:HB2	6:F:159:LYS:HG3	1.80	0.64
7:G:41:LYS:HD2	7:G:44:ILE:HD12	1.79	0.64
10:J:110:PRO:O	10:J:115:GLY:HA3	1.97	0.64
15:O:30:ARG:HH11	15:O:102:ARG:HH11	1.45	0.64
33:7:68:PHE:HE1	33:7:216:VAL:HG11	1.62	0.64
33:7:103:TRP:CH2	33:7:107:ARG:HD3	2.33	0.64
36:10:98:ALA:HB2	36:10:123:LEU:HG	1.79	0.64
38:12:102:TRP:CH2	38:12:140:VAL:HG21	2.33	0.64
53:27:692:U:H2'	53:27:694:A:OP2	1.98	0.64
54:28:2524:G:H2'	54:28:2525:G:H5''	1.79	0.64
2:B:52:HIS:HA	2:B:216:ARG:HB2	1.80	0.64
21:U:6:ARG:O	21:U:24:VAL:HB	1.97	0.64
53:27:593:U:H2'	53:27:594:U:C6	2.33	0.64
54:28:2196:C:O2'	54:28:2197:U:H5'	1.97	0.64
21:U:73:ASN:HA	21:U:95:PHE:CE1	2.31	0.64
36:10:38:VAL:HG22	36:10:66:ALA:HB1	1.80	0.64
41:15:76:ILE:HG21	41:15:83:THR:HG21	1.80	0.64
53:27:88:U:H2'	53:27:89:U:C6	2.32	0.64
54:28:181:A:H2'	54:28:182:A:H8	1.60	0.64
54:28:1199:U:H2'	54:28:1200:C:C6	2.32	0.64
54:28:1683:U:H2'	54:28:1684:G:C8	2.33	0.64
54:28:2600:A:H2'	54:28:2601:C:C6	2.33	0.64
58:32:70:G:H2'	58:32:71:C:O4'	1.98	0.64
14:N:47:VAL:O	14:N:50:PRO:HD2	1.98	0.64
19:S:10:ALA:HB3	19:S:101:SER:O	1.98	0.64
42:16:22:ILE:HG22	42:16:22:ILE:O	1.97	0.64
53:27:285:C:H2'	53:27:286:C:H6	1.63	0.64
53:27:337:G:H2'	53:27:338:A:H8	1.60	0.64
53:27:620:C:H2'	53:27:621:A:O4'	1.97	0.64
54:28:2861:U:H2'	54:28:2862:G:C8	2.32	0.64
57:31:25:C:H2'	57:31:26:G:O4'	1.97	0.64
1:A:640:GLN:NE2	54:28:883:G:H21	1.95	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:1:ALA:N	54:28:1248:G:OP1	2.31	0.63
20:T:90:GLY:O	20:T:92:ASN:ND2	2.31	0.63
34:8:6:PRO:HB3	34:8:10:ARG:HH22	1.63	0.63
35:9:137:SER:HB3	35:9:140:ASP:OD2	1.98	0.63
44:18:10:ASP:C	44:18:12:LYS:H	2.00	0.63
47:21:23:ASP:OD2	47:21:25:ARG:HB2	1.99	0.63
53:27:742:G:H2'	53:27:743:A:H8	1.61	0.63
54:28:616:A:H2'	54:28:617:G:O4'	1.97	0.63
54:28:1190:G:H2'	54:28:1191:G:C8	2.33	0.63
54:28:2228:G:H2'	54:28:2229:U:C6	2.33	0.63
58:32:46:A:C3'	58:32:47:U:H5''	2.28	0.63
7:G:1:MET:O	7:G:20:ASN:HA	1.98	0.63
18:R:5:PHE:O	18:R:11:GLN:HA	1.99	0.63
54:28:1777:U:O2'	54:28:1778:U:H5'	1.98	0.63
54:28:2291:U:H2'	54:28:2292:U:C6	2.33	0.63
54:28:2898:U:H2'	54:28:2899:A:C8	2.33	0.63
2:B:224:MET:O	2:B:232:GLY:HA3	1.99	0.63
4:D:83:VAL:O	4:D:85:PHE:N	2.31	0.63
5:E:142:TYR:O	5:E:145:VAL:HG22	1.99	0.63
18:R:68:ARG:HB2	18:R:90:ARG:HH21	1.63	0.63
35:9:169:TRP:CD1	35:9:185:PRO:HG3	2.33	0.63
47:21:22:ALA:HA	47:21:33:ILE:HD12	1.78	0.63
53:27:946:A:H2'	53:27:947:G:C8	2.33	0.63
53:27:1201:A:H4'	53:27:1203:C:OP2	1.98	0.63
54:28:718:A:H2'	54:28:719:C:H5'	1.80	0.63
54:28:1127:A:C2'	54:28:1128:G:H5''	2.28	0.63
54:28:2419:U:H2'	54:28:2420:C:C6	2.33	0.63
8:H:81:LEU:HA	54:28:1107:G:H4'	1.79	0.63
17:Q:36:GLN:HE21	54:28:1252:G:H1	1.47	0.63
28:2:8:THR:HG22	54:28:2020:A:H5'	1.81	0.63
34:8:39:ARG:HG3	34:8:54:ILE:HD11	1.79	0.63
34:8:110:LEU:HG	34:8:143:LEU:HD23	1.80	0.63
35:9:106:PHE:CD1	35:9:144:ILE:HD11	2.33	0.63
53:27:49:U:O2'	53:27:50:A:H2'	1.98	0.63
53:27:1023:U:H2'	53:27:1024:G:H8	1.63	0.63
4:D:69:ARG:HE	54:28:674:G:H1'	1.62	0.63
7:G:6:LEU:HD11	7:G:37:VAL:HG23	1.78	0.63
37:11:3:HIS:HB2	37:11:92:THR:HA	1.78	0.63
40:14:11:ARG:HH22	40:14:108:ARG:HH21	1.46	0.63
46:20:23:SER:HB3	46:20:26:VAL:HG23	1.80	0.63
51:25:34:VAL:HG11	51:25:78:LEU:HD21	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:162:A:H2'	53:27:163:C:O4'	1.99	0.63
53:27:1333:A:H2'	53:27:1334:G:O4'	1.99	0.63
54:28:282:A:H2'	54:28:283:G:C8	2.33	0.63
7:G:16:GLY:HA2	7:G:47:PHE:CZ	2.34	0.63
7:G:29:PHE:HB2	54:28:2198:A:N3	2.14	0.63
12:L:76:GLU:OE1	54:28:636:G:N1	2.28	0.63
21:U:87:GLU:O	21:U:88:ASP:HB3	1.97	0.63
28:2:54:ILE:HG23	28:2:56:LYS:H	1.64	0.63
53:27:721:G:H4'	53:27:722:G:O4'	1.98	0.63
54:28:1149:G:H2'	54:28:1150:C:C6	2.32	0.63
54:28:1484:U:H2'	54:28:1485:U:C6	2.34	0.63
54:28:1534:U:H2'	54:28:1536:C:O4'	1.98	0.63
54:28:1908:C:H2'	54:28:1909:C:H6	1.62	0.63
54:28:2339:C:H2'	54:28:2340:A:C8	2.33	0.63
5:E:118:ALA:O	5:E:166:ARG:NH2	2.30	0.63
19:S:3:THR:HG21	19:S:58:ALA:HB2	1.80	0.63
43:17:50:LYS:HD2	43:17:50:LYS:N	2.13	0.63
44:18:100:ARG:NH2	53:27:950:U:H3'	2.12	0.63
47:21:46:LYS:HD2	53:27:617:G:H4'	1.80	0.63
53:27:312:C:H2'	53:27:313:A:C8	2.33	0.63
53:27:517:G:H2'	53:27:531:U:C5	2.34	0.63
53:27:1429:A:H2'	53:27:1430:A:C8	2.33	0.63
54:28:1410:G:H2'	54:28:1411:U:C6	2.34	0.63
54:28:1923:U:H2'	54:28:1924:C:C6	2.33	0.63
55:29:3:C:H3'	55:29:4:C:H5''	1.81	0.63
55:29:111:U:H2'	55:29:112:G:H8	1.64	0.63
15:O:80:GLU:O	15:O:84:GLU:HG3	1.99	0.63
18:R:14:VAL:CG2	18:R:98:ILE:HG13	2.28	0.63
21:U:9:GLU:HA	21:U:23:LYS:HA	1.81	0.63
33:7:53:LEU:HD23	33:7:56:LEU:HD12	1.81	0.63
43:17:28:GLN:HG3	43:17:80:LEU:HD21	1.80	0.63
52:26:50:SER:HA	52:26:53:LYS:HD2	1.80	0.63
53:27:184:G:H2'	53:27:185:U:C6	2.34	0.63
54:28:376:G:H2'	54:28:377:G:H8	1.64	0.63
54:28:1486:U:H2'	54:28:1487:U:C6	2.33	0.63
54:28:1801:A:H5''	54:28:2203:U:H2'	1.81	0.63
54:28:2193:G:H2'	54:28:2194:U:C6	2.33	0.63
54:28:2266:A:H4'	54:28:2267:A:N3	2.14	0.63
54:28:2561:U:C2'	54:28:2562:U:H5''	2.27	0.63
58:32:38:A:H2'	58:32:39:C:O4'	1.99	0.63
53:27:113:G:H2'	53:27:114:U:C6	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:402:G:H4'	53:27:620:C:O2	1.99	0.63
53:27:531:U:H4'	53:27:532:A:H5''	1.80	0.63
53:27:744:C:H2'	53:27:745:G:H8	1.64	0.63
54:28:161:A:H3'	54:28:162:U:H5''	1.80	0.63
54:28:170:U:H2'	54:28:171:U:C6	2.34	0.63
54:28:176:A:O2'	54:28:177:G:H5'	1.99	0.63
54:28:420:C:H2'	54:28:421:C:H6	1.63	0.63
54:28:1444:G:H2'	54:28:1445:G:H8	1.63	0.63
54:28:1563:U:H2'	54:28:1564:C:C6	2.34	0.63
54:28:1675:C:H2'	54:28:1676:A:O4'	1.97	0.63
54:28:1721:G:H2'	54:28:1738:G:N2	2.14	0.63
54:28:2243:U:H2'	54:28:2244:U:C6	2.30	0.63
1:A:683:ILE:HD13	1:A:686:ILE:HD12	1.79	0.62
2:B:161:VAL:HG13	2:B:174:ARG:O	1.99	0.62
35:9:144:ILE:CD1	35:9:177:MET:HB3	2.27	0.62
39:13:49:LYS:HB2	39:13:59:GLU:HB3	1.81	0.62
53:27:580:C:H2'	53:27:581:G:O4'	1.99	0.62
53:27:672:U:H2'	53:27:673:A:C8	2.34	0.62
54:28:296:U:H2'	54:28:297:G:H8	1.64	0.62
4:D:44:ARG:HH22	54:28:1248:G:P	2.22	0.62
26:Z:40:THR:OG1	26:Z:41:PRO:HD2	1.99	0.62
33:7:9:LEU:HG	33:7:14:HIS:HE1	1.64	0.62
37:11:29:ILE:HG21	37:11:64:VAL:HG21	1.81	0.62
43:17:98:ARG:HH21	43:17:106:VAL:HA	1.64	0.62
54:28:288:U:H2'	54:28:289:G:C8	2.34	0.62
54:28:1810:A:H2'	54:28:1811:G:O4'	1.98	0.62
54:28:2075:U:H2'	54:28:2238:G:H22	1.64	0.62
54:28:2190:G:H2'	54:28:2191:A:C8	2.35	0.62
11:K:49:ARG:NH2	53:27:1422:G:O2'	2.31	0.62
12:L:110:VAL:HG21	12:L:127:VAL:HG22	1.81	0.62
53:27:1071:C:H2'	53:27:1072:G:C8	2.34	0.62
54:28:277:G:H3'	54:28:277:G:N3	2.15	0.62
54:28:1188:U:H2'	54:28:1189:A:H8	1.63	0.62
54:28:2025:C:H2'	54:28:2026:U:C6	2.34	0.62
19:S:77:ASP:OD1	19:S:102:HIS:HB2	1.98	0.62
33:7:65:LYS:O	33:7:66:ILE:HD13	1.99	0.62
43:17:71:HIS:HA	43:17:98:ARG:NH1	2.14	0.62
53:27:730:G:H2'	53:27:731:G:H5'	1.82	0.62
53:27:1524:C:H2'	53:27:1525:G:H8	1.63	0.62
54:28:946:C:H2'	54:28:947:A:H8	1.65	0.62
54:28:1370:C:H2'	54:28:1371:G:O4'	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2508:G:N1	54:28:2580:U:H5	1.97	0.62
54:28:2853:C:H2'	54:28:2854:G:H8	1.63	0.62
7:G:23:ALA:HB1	7:G:27:ARG:HH21	1.64	0.62
8:H:8:LYS:HB2	54:28:1046:A:N1	2.14	0.62
8:H:61:ARG:HB2	54:28:1047:G:N7	2.13	0.62
23:W:33:ILE:HG22	23:W:34:VAL:HG23	1.82	0.62
27:1:16:CYS:SG	27:1:18:CYS:HB2	2.38	0.62
33:7:20:ARG:HG3	33:7:21:TYR:H	1.64	0.62
53:27:1413:A:H2	53:27:1487:G:H22	1.47	0.62
54:28:1278:C:H2'	54:28:1279:G:H8	1.64	0.62
54:28:2071:A:H2'	54:28:2072:C:C6	2.34	0.62
9:I:93:ASN:CB	54:28:1077:A:H4'	2.17	0.62
16:P:23:ASP:HA	16:P:89:GLY:H	1.65	0.62
30:4:4:THR:O	54:28:687:C:H5''	2.00	0.62
35:9:28:ASP:O	35:9:30:LYS:N	2.28	0.62
42:16:111:ASP:OD1	42:16:113:THR:HG23	1.99	0.62
43:17:25:ALA:HB1	53:27:554:A:H5'	1.79	0.62
43:17:68:GLY:O	53:27:521:G:H5'	2.00	0.62
53:27:516:U:H5	53:27:533:A:H62	1.43	0.62
53:27:1506:U:O2'	53:27:1507:A:H5'	1.99	0.62
54:28:1168:G:H2'	54:28:1169:A:C8	2.35	0.62
54:28:1809:A:H2'	54:28:1810:A:C8	2.34	0.62
4:D:148:ILE:HB	4:D:169:VAL:HG22	1.82	0.62
5:E:87:LYS:HD2	54:28:2313:C:H5''	1.82	0.62
10:J:113:PRO:HD3	54:28:529:A:OP2	1.99	0.62
11:K:63:VAL:HG22	11:K:83:ALA:O	2.00	0.62
17:Q:87:VAL:HA	18:R:49:ILE:HD11	1.82	0.62
28:2:46:GLY:HA3	28:2:54:ILE:HB	1.80	0.62
36:10:104:ILE:HG23	36:10:104:ILE:O	1.99	0.62
40:14:59:LYS:C	40:14:60:LEU:HD12	2.20	0.62
45:19:39:ASP:HA	45:19:42:ASN:HD22	1.65	0.62
53:27:236:A:H2'	53:27:237:G:C8	2.35	0.62
53:27:418:C:H2'	53:27:419:C:C6	2.35	0.62
54:28:878:A:H3'	54:28:879:G:H8	1.65	0.62
54:28:2114:A:N6	54:28:2119:A:H61	1.97	0.62
54:28:2547:A:H2'	54:28:2548:U:C6	2.35	0.62
1:A:673:ALA:HA	1:A:734:ASP:O	2.00	0.62
11:K:24:VAL:HG13	11:K:33:ALA:HB2	1.81	0.62
15:O:56:LYS:O	15:O:60:GLU:HG3	1.99	0.62
28:2:38:LEU:HB2	28:2:41:HIS:HB2	1.81	0.62
43:17:41:PRO:HG3	43:17:49:ARG:HG2	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:784:A:H2'	53:27:785:G:C8	2.34	0.62
53:27:894:G:H2'	53:27:895:G:C8	2.34	0.62
53:27:1388:C:H2'	53:27:1389:C:H6	1.63	0.62
54:28:1386:C:H2'	54:28:1387:A:H8	1.64	0.62
54:28:1659:G:C2'	54:28:1660:G:H5''	2.29	0.62
54:28:1808:A:H3'	54:28:1809:A:H8	1.65	0.62
4:D:126:VAL:O	4:D:156:ASN:ND2	2.32	0.62
10:J:30:THR:HG21	54:28:1005:C:O2'	1.99	0.62
20:T:59:ASN:HB2	20:T:84:TYR:HB2	1.80	0.62
32:6:36:ARG:HG2	32:6:37:GLN:N	2.13	0.62
36:10:153:ALA:O	36:10:158:LYS:HA	1.99	0.62
38:12:131:GLY:O	38:12:134:VAL:HG22	1.99	0.62
54:28:214:G:H2'	54:28:215:G:C8	2.35	0.62
54:28:1744:A:H3'	54:28:1745:A:H8	1.62	0.62
54:28:1946:U:H2'	54:28:1947:C:C6	2.35	0.62
6:F:27:GLY:HA3	6:F:78:VAL:HB	1.82	0.62
15:O:24:THR:HG22	15:O:42:PRO:HD3	1.82	0.62
30:4:4:THR:CG2	54:28:789:A:H5'	2.30	0.62
35:9:4:LEU:HD12	35:9:4:LEU:O	2.00	0.62
35:9:37:PRO:HD2	35:9:41:GLY:CA	2.30	0.62
35:9:196:GLU:HA	35:9:199:ILE:HD13	1.82	0.62
53:27:1004:A:H2'	53:27:1005:A:O4'	1.99	0.62
53:27:1211:U:H4'	53:27:1213:A:H1'	1.82	0.62
53:27:1388:C:H2'	53:27:1389:C:C6	2.35	0.62
54:28:394:C:H2'	54:28:395:U:O4'	1.99	0.62
54:28:2637:U:H2'	54:28:2638:G:O4'	1.99	0.62
33:7:162:VAL:HG12	33:7:164:ASP:H	1.64	0.61
37:11:9:MET:HG3	37:11:85:ILE:HG23	1.82	0.61
50:24:49:ALA:HA	50:24:58:PRO:HA	1.81	0.61
53:27:149:A:H1'	53:27:1446:A:C2	2.35	0.61
53:27:1491:G:C2'	53:27:1492:A:H5''	2.29	0.61
54:28:310:A:H2'	54:28:311:A:H5''	1.80	0.61
54:28:596:U:H2'	54:28:597:G:H8	1.65	0.61
54:28:634:C:H2'	54:28:635:C:H6	1.63	0.61
54:28:2146:C:H4'	54:28:2147:A:C5	2.35	0.61
58:32:19:G:P	58:32:60:U:H3	2.22	0.61
4:D:78:TRP:CE3	54:28:1257:C:H4'	2.35	0.61
22:V:46:LYS:O	22:V:50:MET:HG2	2.00	0.61
53:27:285:C:H2'	53:27:286:C:C6	2.35	0.61
53:27:335:C:H2'	53:27:336:A:H8	1.65	0.61
54:28:119:A:H4'	54:28:120:U:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:127:A:H5''	54:28:128:C:O4'	1.99	0.61
54:28:554:U:H2'	54:28:555:G:O4'	2.00	0.61
54:28:1023:U:H4'	54:28:1123:C:OP1	2.00	0.61
54:28:1999:C:H5''	54:28:2723:C:O2'	2.00	0.61
54:28:2853:C:H2'	54:28:2854:G:C8	2.34	0.61
3:C:8:LYS:HB2	3:C:201:LEU:HD11	1.81	0.61
6:F:41:GLU:HB2	6:F:54:ARG:HB2	1.81	0.61
9:I:96:LYS:HA	9:I:136:GLY:O	2.00	0.61
23:W:51:ARG:NH1	54:28:2364:C:OP1	2.33	0.61
42:16:82:GLU:HG3	42:16:108:ASN:OD1	1.99	0.61
48:22:61:ARG:HG3	48:22:75:VAL:HG22	1.81	0.61
49:23:38:ILE:HG13	49:23:62:ARG:NH2	2.15	0.61
53:27:513:C:H2'	53:27:514:C:C6	2.34	0.61
53:27:1427:C:H2'	53:27:1428:A:C8	2.34	0.61
54:28:814:C:H1'	54:28:1225:G:N2	2.15	0.61
54:28:998:C:H2'	54:28:999:U:O4'	2.01	0.61
54:28:2111:U:H1'	54:28:2118:U:H4'	1.82	0.61
1:A:598:VAL:HG23	1:A:658:GLY:CA	2.30	0.61
2:B:83:ASP:OD2	2:B:86:ARG:NH1	2.33	0.61
34:8:68:HIS:HA	34:8:103:ALA:O	2.00	0.61
43:17:49:ARG:HH22	53:27:522:C:H41	1.48	0.61
45:19:53:ASP:HA	45:19:58:ARG:HD3	1.81	0.61
46:20:88:ARG:NH2	54:28:716:A:OP1	2.33	0.61
53:27:517:G:H2'	53:27:531:U:H5	1.64	0.61
54:28:215:G:C4'	54:28:216:A:H4'	2.31	0.61
54:28:225:C:H2'	54:28:226:A:O4'	2.01	0.61
54:28:876:C:H2'	54:28:877:A:O4'	2.00	0.61
54:28:1441:G:H2'	54:28:1442:U:C6	2.35	0.61
54:28:1565:C:O2'	54:28:1566:A:H8	1.82	0.61
3:C:152:PRO:O	3:C:154:LYS:N	2.33	0.61
12:L:65:GLY:HA2	54:28:2415:G:O3'	2.00	0.61
14:N:77:ALA:O	14:N:81:ASN:HB2	1.99	0.61
38:12:113:LYS:HB3	53:27:1297:G:H21	1.65	0.61
49:23:37:LYS:HG2	53:27:719:C:O2'	2.01	0.61
53:27:672:U:H2'	53:27:673:A:H8	1.66	0.61
53:27:1530:G:H2'	53:27:1531:A:H8	1.64	0.61
54:28:635:C:H2'	54:28:636:G:H8	1.64	0.61
54:28:1570:A:H2'	54:28:1571:A:C8	2.36	0.61
55:29:75:G:H2'	55:29:76:G:H8	1.65	0.61
31:5:34:LYS:HD2	54:28:2391:G:OP2	1.99	0.61
40:14:113:LYS:HG3	40:14:119:LYS:HA	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:18:7:ASN:OD1	44:18:9:PRO:HD2	2.00	0.61
53:27:946:A:H2'	53:27:947:G:H8	1.64	0.61
53:27:1171:A:H2'	53:27:1172:C:C6	2.35	0.61
53:27:1219:A:H2'	53:27:1220:G:C8	2.35	0.61
53:27:1251:A:H2'	53:27:1252:A:C8	2.36	0.61
54:28:277:G:H4'	54:28:278:A:N7	2.15	0.61
54:28:346:A:C2	54:28:347:A:H1'	2.36	0.61
13:M:40:ARG:HD2	54:28:958:U:C4	2.35	0.61
36:10:61:LYS:NZ	53:27:1073:U:OP2	2.33	0.61
47:21:6:LEU:HD22	47:21:17:TYR:HB3	1.82	0.61
52:26:36:PHE:HB3	52:26:40:PRO:HD3	1.81	0.61
53:27:909:A:H2'	53:27:910:C:O4'	2.00	0.61
53:27:1256:A:H1'	53:27:1258:G:C8	2.36	0.61
53:27:1306:A:H62	53:27:1331:G:H1'	1.63	0.61
54:28:538:A:H2'	54:28:539:G:O4'	2.00	0.61
54:28:1363:C:H2'	54:28:1364:G:H8	1.64	0.61
54:28:1721:G:HO2'	54:28:1722:A:H8	1.47	0.61
54:28:1785:A:OP2	54:28:1982:U:H5'	2.01	0.61
33:7:98:GLY:O	33:7:102:ASN:HB3	2.01	0.61
40:14:56:MET:HG3	40:14:57:VAL:N	2.15	0.61
42:16:126:ARG:NH2	53:27:692:U:H5''	2.16	0.61
51:25:4:LYS:O	51:25:7:LYS:HG2	2.01	0.61
53:27:476:U:H2'	53:27:477:C:C6	2.36	0.61
53:27:1347:G:H22	53:27:1373:G:H2'	1.62	0.61
54:28:310:A:O2'	54:28:311:A:H5''	2.00	0.61
54:28:720:U:H2'	54:28:721:A:H8	1.62	0.61
54:28:991:C:H5'	54:28:1185:G:H2'	1.83	0.61
54:28:2241:A:H2'	54:28:2242:G:C8	2.35	0.61
5:E:169:LEU:HD22	5:E:174:PHE:HE2	1.65	0.61
16:P:51:ASN:O	16:P:52:ARG:NH1	2.32	0.61
31:5:14:LYS:HD3	31:5:22:LYS:HE2	1.82	0.61
53:27:512:U:H2'	53:27:513:C:C6	2.36	0.61
53:27:981:U:H2'	53:27:982:U:C5	2.36	0.61
53:27:1014:A:C2	53:27:1219:A:H1'	2.35	0.61
53:27:1248:A:H2'	53:27:1249:C:C6	2.35	0.61
54:28:236:C:H2'	54:28:237:C:C6	2.35	0.61
54:28:783:A:H2'	54:28:784:G:H5'	1.82	0.61
54:28:871:U:H2'	54:28:872:U:C6	2.36	0.61
54:28:2121:G:H2'	54:28:2122:U:O4'	2.01	0.61
7:G:78:VAL:HG21	7:G:103:VAL:HG22	1.83	0.61
11:K:64:ARG:NE	16:P:67:GLU:OE2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:82:LEU:HD11	12:L:90:VAL:HG21	1.82	0.61
51:25:9:ARG:NH2	53:27:107:G:N7	2.49	0.61
53:27:1283:U:H2'	53:27:1284:C:C6	2.35	0.61
53:27:1342:C:H2'	53:27:1343:G:H8	1.64	0.61
54:28:2638:G:HO2'	54:28:2639:A:H8	1.46	0.61
55:29:13:G:H21	55:29:16:G:H1'	1.65	0.61
2:B:164:VAL:CG2	2:B:174:ARG:HB2	2.30	0.60
22:V:44:HIS:NE2	22:V:85:LYS:HB2	2.16	0.60
23:W:56:PHE:CZ	54:28:2365:G:H4'	2.36	0.60
53:27:604:G:H2'	53:27:605:U:O4'	2.00	0.60
54:28:665:U:H2'	54:28:666:A:C8	2.35	0.60
54:28:690:G:H2'	54:28:691:C:H6	1.66	0.60
54:28:1851:U:H2'	54:28:1852:U:O4'	2.01	0.60
54:28:2066:C:H2'	54:28:2067:G:C8	2.36	0.60
54:28:2249:U:H3'	54:28:2250:G:H5'	1.83	0.60
8:H:100:ALA:HA	8:H:113:PHE:CD2	2.36	0.60
20:T:48:GLN:O	20:T:52:GLU:HA	2.01	0.60
24:X:18:SER:HB3	24:X:22:ASN:HB2	1.84	0.60
24:X:61:LYS:HE3	54:28:372:G:OP2	2.01	0.60
37:11:85:ILE:HG23	37:11:85:ILE:O	2.02	0.60
40:14:119:LYS:HE3	53:27:1350:A:OP2	2.01	0.60
41:15:40:ILE:CD1	53:27:1124:G:H4'	2.30	0.60
44:18:24:VAL:HA	53:27:1329:A:H5''	1.83	0.60
51:25:53:MET:O	51:25:56:ILE:HG22	2.01	0.60
53:27:747:A:H2'	53:27:748:G:O4'	2.01	0.60
54:28:758:C:O2	54:28:758:C:H2'	2.00	0.60
54:28:891:G:H2'	54:28:892:A:H8	1.64	0.60
54:28:1506:U:H2'	54:28:1507:C:C6	2.36	0.60
54:28:1993:U:H2'	54:28:1994:C:H6	1.65	0.60
58:32:31:G:H2'	58:32:32:C:H5'	1.82	0.60
5:E:68:LYS:NZ	55:29:41:G:H1	1.99	0.60
8:H:54:VAL:O	8:H:54:VAL:HG13	2.01	0.60
9:I:36:GLU:HB3	9:I:66:PHE:CE2	2.36	0.60
25:Y:23:ARG:O	25:Y:24:GLU:C	2.39	0.60
40:14:32:ARG:HA	40:14:36:GLN:HE21	1.66	0.60
50:24:10:ILE:HG21	50:24:40:PHE:CE2	2.36	0.60
53:27:707:U:H2'	53:27:708:C:C6	2.36	0.60
54:28:419:U:H2'	54:28:420:C:H6	1.66	0.60
54:28:2217:G:O2'	54:28:2218:G:H5'	2.02	0.60
54:28:2393:U:H2'	54:28:2394:C:C6	2.37	0.60
54:28:2555:U:H2'	54:28:2556:C:H5'	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2619:C:H2'	54:28:2620:C:C6	2.36	0.60
14:N:79:LEU:O	14:N:80:PHE:HB2	2.00	0.60
20:T:57:VAL:HG12	20:T:86:THR:OG1	2.02	0.60
43:17:2:THR:HG22	43:17:5:GLN:H	1.67	0.60
53:27:560:A:H4'	53:27:561:U:H5'	1.83	0.60
54:28:1138:G:H2'	54:28:1139:G:O4'	2.01	0.60
54:28:1597:A:H5''	54:28:1598:A:H5'	1.84	0.60
58:32:1:C:H1'	58:32:72:A:N1	2.16	0.60
3:C:46:ARG:HG2	3:C:84:LEU:HD12	1.84	0.60
4:D:164:LEU:O	4:D:166:LYS:N	2.34	0.60
31:5:57:VAL:HA	31:5:60:CYS:SG	2.42	0.60
52:26:3:ILE:HD11	52:26:22:CYS:SG	2.41	0.60
53:27:131:A:H2'	53:27:132:C:H6	1.66	0.60
53:27:678:U:H2'	53:27:679:C:C6	2.36	0.60
53:27:1033:G:C2'	53:27:1034:G:H5'	2.31	0.60
54:28:167:A:C2	54:28:168:G:H1'	2.36	0.60
54:28:672:C:O2'	54:28:673:C:H5'	2.01	0.60
54:28:1440:U:H2'	54:28:1441:G:C8	2.36	0.60
54:28:1447:C:H2'	54:28:1448:G:C8	2.36	0.60
54:28:1684:G:H2'	54:28:1685:C:C6	2.36	0.60
54:28:1778:U:H2'	54:28:1784:A:N6	2.17	0.60
54:28:1902:C:H2'	54:28:1903:G:O4'	2.01	0.60
54:28:2262:U:H2'	54:28:2263:C:H6	1.67	0.60
56:30:17:U:H2'	56:30:18:G:C8	2.37	0.60
58:32:43:A:H2'	58:32:44:A:C8	2.36	0.60
1:A:634:HIS:HE1	1:A:638:CYS:SG	2.25	0.60
4:D:57:LYS:HE3	4:D:59:PRO:HA	1.83	0.60
6:F:90:GLY:HA3	6:F:93:TYR:CD2	2.36	0.60
6:F:153:PRO:HG3	6:F:161:VAL:O	2.02	0.60
16:P:83:ILE:O	16:P:83:ILE:HG22	2.00	0.60
33:7:20:ARG:HG3	33:7:21:TYR:N	2.16	0.60
33:7:101:THR:HG23	53:27:1074:G:O2'	2.02	0.60
38:12:38:ALA:HA	38:12:41:ILE:HD12	1.82	0.60
41:15:8:ILE:HG12	41:15:100:ILE:HG22	1.82	0.60
50:24:52:ASN:ND2	50:24:55:GLN:HB2	2.17	0.60
53:27:598:U:H2'	53:27:599:C:C6	2.37	0.60
53:27:1144:G:N2	53:27:1146:A:H62	1.99	0.60
54:28:161:A:N7	54:28:162:U:H5	1.99	0.60
54:28:741:U:H2'	54:28:742:A:C8	2.36	0.60
58:32:34:C:H3'	58:32:35:A:H5''	1.82	0.60
2:B:42:ARG:HG2	2:B:48:ILE:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:37:LYS:HE2	54:28:1086:A:H62	1.66	0.60
12:L:86:GLU:O	12:L:87:GLY:C	2.38	0.60
14:N:53:THR:OG1	54:28:2840:C:H5''	2.02	0.60
29:3:20:TYR:OH	54:28:2348:U:H5'	2.02	0.60
37:11:29:ILE:HG22	37:11:34:GLY:CA	2.32	0.60
49:23:13:THR:HG21	49:23:20:ILE:HD11	1.83	0.60
52:26:37:TYR:O	52:26:40:PRO:HD2	2.01	0.60
53:27:542:G:H2'	53:27:543:U:H6	1.64	0.60
54:28:20:C:H2'	54:28:21:A:H8	1.67	0.60
54:28:1702:G:H2'	54:28:1703:G:C5'	2.27	0.60
54:28:2732:G:O2'	54:28:2733:A:H5'	2.01	0.60
5:E:130:GLY:HA3	54:28:2305:U:H5''	1.83	0.60
8:H:11:ILE:HD12	8:H:66:GLY:HA3	1.84	0.60
33:7:94:ARG:HE	53:27:1100:C:P	2.25	0.60
33:7:181:PRO:HA	33:7:196:ASP:OD2	2.02	0.60
35:9:117:VAL:HG12	35:9:130:ASN:O	2.01	0.60
43:17:2:THR:HG21	43:17:5:GLN:HG3	1.84	0.60
43:17:4:ASN:ND2	53:27:880:C:OP1	2.35	0.60
45:19:72:PHE:CZ	45:19:77:GLY:HA2	2.36	0.60
50:24:77:ARG:HD2	53:27:1225:A:H1'	1.84	0.60
54:28:660:C:H2'	54:28:661:A:C8	2.36	0.60
54:28:884:U:O2	54:28:892:A:H2	1.85	0.60
54:28:1020:A:H1'	54:28:1021:A:OP2	2.01	0.60
54:28:1444:G:H2'	54:28:1445:G:C8	2.37	0.60
9:I:100:ILE:O	9:I:140:GLU:O	2.20	0.60
39:13:106:SER:HA	53:27:642:A:N7	2.17	0.60
50:24:10:ILE:HG12	50:24:40:PHE:HE2	1.67	0.60
53:27:171:A:H2'	53:27:172:A:C8	2.36	0.60
53:27:270:A:H2'	53:27:271:C:C6	2.37	0.60
53:27:701:U:C5'	53:27:703:G:H1'	2.29	0.60
53:27:1105:A:H2'	53:27:1106:G:H8	1.66	0.60
53:27:1314:C:H2'	53:27:1315:U:C6	2.37	0.60
54:28:535:G:H2'	54:28:536:G:O4'	2.02	0.60
54:28:872:U:H2'	54:28:873:C:C6	2.36	0.60
54:28:1161:C:H2'	54:28:1162:G:H8	1.67	0.60
1:A:640:GLN:HE21	54:28:883:G:H21	1.49	0.60
2:B:132:ARG:HH11	7:G:123:ARG:HH21	1.50	0.60
4:D:60:TRP:CZ2	4:D:70:SER:HA	2.37	0.60
5:E:130:GLY:HA2	5:E:152:ASP:HA	1.82	0.60
7:G:28:ASN:OD1	54:28:2199:A:H4'	2.01	0.60
15:O:100:HIS:HD2	55:29:48:U:H4'	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:52:ARG:NH1	54:28:2845:U:O3'	2.35	0.60
24:X:26:ARG:NH1	24:X:28:PHE:CE1	2.67	0.60
53:27:1301:U:O2	53:27:1301:U:H2'	2.02	0.60
54:28:445:C:O2'	54:28:446:G:H5'	2.02	0.60
54:28:2107:G:C2	54:28:2108:A:H1'	2.37	0.60
54:28:2259:U:H2'	54:28:2260:C:H6	1.67	0.60
1:A:616:ILE:HG12	1:A:740:ARG:HH12	1.66	0.59
23:W:16:ARG:HD3	54:28:2271:G:H5'	1.84	0.59
34:8:73:GLY:O	34:8:76:ILE:HG13	2.00	0.59
40:14:98:ARG:HG2	40:14:103:VAL:CG2	2.29	0.59
41:15:53:ILE:HG22	41:15:61:ALA:O	2.02	0.59
53:27:254:G:O2'	53:27:255:G:H5'	2.02	0.59
53:27:825:A:H2'	53:27:826:C:C6	2.37	0.59
53:27:1409:C:H2'	53:27:1410:A:H8	1.65	0.59
53:27:1436:U:H2'	53:27:1437:A:C8	2.36	0.59
54:28:692:C:H2'	54:28:693:A:C8	2.37	0.59
54:28:1843:C:H2'	54:28:1844:C:H6	1.67	0.59
54:28:2538:C:H2'	54:28:2539:C:C6	2.29	0.59
55:29:118:C:H2'	55:29:119:A:H8	1.67	0.59
3:C:25:THR:HG21	3:C:193:VAL:CG2	2.33	0.59
3:C:33:ARG:HD3	3:C:73:VAL:HB	1.84	0.59
4:D:5:LEU:CD2	4:D:122:GLU:HB3	2.33	0.59
4:D:84:THR:HG21	54:28:586:A:H5'	1.84	0.59
7:G:25:TYR:CD1	54:28:2094:A:H5'	2.37	0.59
15:O:29:HIS:CD2	55:29:7:G:H5''	2.38	0.59
39:13:88:LYS:HG3	53:27:600:A:H5''	1.83	0.59
48:22:20:ILE:HG23	48:22:45:VAL:HB	1.84	0.59
52:26:40:PRO:HA	52:26:43:GLU:HG2	1.84	0.59
53:27:666:G:H5'	53:27:726:C:H1'	1.83	0.59
53:27:922:G:H2'	53:27:923:A:C8	2.37	0.59
53:27:1331:G:HO2'	53:27:1332:A:H8	1.50	0.59
53:27:1366:C:H2'	53:27:1367:C:C6	2.37	0.59
53:27:1369:C:H2'	53:27:1370:G:C8	2.37	0.59
54:28:26:G:H1'	54:28:515:A:H61	1.67	0.59
54:28:236:C:H2'	54:28:237:C:H6	1.67	0.59
54:28:319:G:H2'	54:28:320:A:O4'	2.02	0.59
54:28:1856:U:H2'	54:28:1857:G:O4'	2.02	0.59
54:28:2582:G:O2'	54:28:2583:G:H5'	2.02	0.59
4:D:112:LEU:HA	4:D:115:GLN:HB2	1.84	0.59
18:R:80:ARG:NH1	54:28:571:U:H2'	2.17	0.59
31:5:30:HIS:HE2	54:28:2422:C:H41	1.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:14:37:TYR:O	40:14:38:PHE:HB3	2.02	0.59
41:15:91:ASP:CG	41:15:92:LEU:H	2.04	0.59
42:16:109:ILE:HG22	52:26:16:ARG:NH1	2.17	0.59
54:28:46:G:H2'	54:28:47:C:H6	1.67	0.59
54:28:221:A:H2'	54:28:266:G:N7	2.17	0.59
54:28:310:A:O2'	54:28:311:A:H2'	2.02	0.59
54:28:1196:C:H2'	54:28:1197:G:H8	1.67	0.59
54:28:2047:C:H2'	54:28:2048:G:H8	1.66	0.59
54:28:2682:A:O2'	54:28:2683:C:H5'	2.02	0.59
54:28:2789:C:H2'	54:28:2893:A:N7	2.18	0.59
42:16:87:GLY:H	42:16:113:THR:HG22	1.67	0.59
43:17:49:ARG:HH12	53:27:523:A:H61	1.48	0.59
53:27:20:U:H2'	53:27:21:G:O4'	2.01	0.59
53:27:62:U:H2'	53:27:63:C:C6	2.37	0.59
54:28:859:G:H1'	54:28:860:U:C5	2.31	0.59
54:28:1060:U:H1'	54:28:1062:G:H5'	1.83	0.59
54:28:1316:U:H2'	54:28:1317:G:C8	2.37	0.59
54:28:1405:U:H2'	54:28:1406:U:C6	2.37	0.59
54:28:2007:U:H2'	54:28:2008:C:C6	2.37	0.59
54:28:2692:G:O2'	54:28:2693:G:H5'	2.01	0.59
4:D:76:PRO:HA	4:D:82:GLY:HA3	1.82	0.59
8:H:45:GLY:O	8:H:49:GLY:HA2	2.02	0.59
8:H:114:GLU:HA	8:H:123:ILE:HA	1.84	0.59
40:14:43:ALA:O	40:14:46:VAL:HG22	2.02	0.59
53:27:33:A:H2'	53:27:34:C:C6	2.36	0.59
53:27:339:C:H2'	53:27:340:U:C6	2.38	0.59
54:28:680:C:H2'	54:28:681:G:C8	2.37	0.59
54:28:856:G:H2'	54:28:857:G:C8	2.37	0.59
54:28:1076:C:H2'	54:28:1077:A:O4'	2.01	0.59
54:28:2075:U:H2'	54:28:2238:G:N2	2.18	0.59
54:28:2475:C:H2'	54:28:2476:A:H5'	1.83	0.59
54:28:2638:G:H1'	54:28:2778:A:N6	2.16	0.59
54:28:2788:C:H2'	54:28:2789:C:C6	2.38	0.59
4:D:162:ARG:NH1	54:28:340:A:O2'	2.35	0.59
7:G:22:LYS:HD2	54:28:2094:A:P	2.42	0.59
16:P:64:SER:N	16:P:67:GLU:O	2.35	0.59
19:S:62:ASP:O	19:S:64:ALA:N	2.36	0.59
35:9:191:SER:OG	35:9:194:ILE:HG12	2.02	0.59
42:16:87:GLY:O	42:16:92:ARG:NH2	2.36	0.59
45:19:48:GLN:OE1	45:19:48:GLN:N	2.30	0.59
47:21:70:ARG:CG	53:27:375:U:OP1	2.50	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:25:61:ALA:HB1	51:25:68:LYS:HB2	1.83	0.59
53:27:406:G:H2'	53:27:407:U:C6	2.36	0.59
54:28:150:U:H2'	54:28:151:C:C6	2.36	0.59
54:28:277:G:H1'	54:28:361:G:C6	2.37	0.59
54:28:315:G:H2'	54:28:316:C:C6	2.38	0.59
54:28:950:G:H2'	54:28:951:C:C6	2.38	0.59
54:28:1056:G:H1'	54:28:1103:A:N6	2.18	0.59
54:28:1181:U:H2'	54:28:1182:G:H8	1.65	0.59
54:28:1683:U:H2'	54:28:1684:G:H8	1.67	0.59
12:L:111:ILE:HD11	54:28:636:G:C6	2.37	0.59
15:O:31:THR:HB	15:O:33:ARG:O	2.02	0.59
20:T:62:VAL:HG22	20:T:81:LYS:HB2	1.83	0.59
34:8:57:GLU:OE1	34:8:64:ARG:HD2	2.02	0.59
37:11:44:ARG:HA	37:11:58:HIS:HA	1.82	0.59
53:27:1142:G:H3'	53:27:1143:G:H8	1.67	0.59
53:27:1225:A:H5'	53:27:1226:C:OP2	2.03	0.59
53:27:1352:C:H2'	53:27:1353:G:H8	1.67	0.59
54:28:1111:A:H2'	54:28:1111:A:N3	2.18	0.59
54:28:1564:C:H2'	54:28:1565:C:C6	2.38	0.59
54:28:1827:U:H2'	54:28:1828:G:O4'	2.02	0.59
54:28:2464:G:H2'	54:28:2465:C:H6	1.68	0.59
54:28:2655:G:O2'	54:28:2656:U:C5	2.55	0.59
55:29:44:G:H1'	55:29:47:C:H42	1.67	0.59
9:I:54:ILE:HA	9:I:74:PRO:HD3	1.83	0.59
10:J:125:TYR:HH	10:J:132:HIS:HE2	1.49	0.59
11:K:92:GLU:O	11:K:93:GLN:O	2.20	0.59
24:X:2:ARG:NH1	54:28:1364:G:H5''	2.18	0.59
37:11:38:ARG:NH2	37:11:98:GLU:OE1	2.35	0.59
45:19:48:GLN:HE21	50:24:9:PHE:HE1	1.50	0.59
53:27:309:A:H2'	53:27:310:G:H8	1.67	0.59
53:27:1202:U:H2'	53:27:1203:C:O4'	2.03	0.59
54:28:1201:U:H2'	54:28:1202:G:H8	1.67	0.59
16:P:113:LEU:HD12	16:P:113:LEU:O	2.03	0.59
23:W:40:LYS:HE3	54:28:2330:G:O2'	2.03	0.59
31:5:61:LEU:HD12	31:5:61:LEU:O	2.02	0.59
37:11:29:ILE:HG22	37:11:34:GLY:HA3	1.83	0.59
53:27:824:G:H2'	53:27:825:A:H8	1.67	0.59
53:27:1005:A:H2'	53:27:1006:G:O4'	2.02	0.59
53:27:1142:G:C2	53:27:1143:G:H1'	2.38	0.59
54:28:1089:A:H2	54:28:1090:A:H62	1.50	0.59
54:28:1326:U:H2'	54:28:1327:A:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1702:G:C3'	54:28:1703:G:H5''	2.33	0.59
54:28:1900:A:O4'	54:28:1970:A:H5''	2.03	0.59
54:28:1972:G:H2'	54:28:1973:G:H8	1.68	0.59
2:B:15:VAL:HA	2:B:204:LEU:O	2.02	0.59
8:H:54:VAL:N	54:28:1084:A:OP1	2.35	0.59
16:P:26:GLU:HB3	16:P:84:SER:OG	2.02	0.59
21:U:97:SER:C	21:U:99:SER:H	2.06	0.59
38:12:113:LYS:HB3	53:27:1297:G:N2	2.17	0.59
43:17:8:ARG:NH2	53:27:759:A:H1'	2.18	0.59
53:27:514:C:H2'	53:27:515:G:H8	1.68	0.59
53:27:1035:A:H2'	53:27:1036:A:C8	2.38	0.59
54:28:1956:U:H2'	54:28:1957:C:H5'	1.83	0.59
54:28:2415:G:H2'	54:28:2416:C:C6	2.38	0.59
12:L:79:LEU:HD12	12:L:114:GLY:H	1.68	0.58
28:2:28:SER:OG	28:2:39:ARG:HD3	2.03	0.58
34:8:56:ILE:HG23	34:8:63:ILE:HD11	1.85	0.58
41:15:8:ILE:HD13	41:15:25:ILE:HD11	1.85	0.58
43:17:109:ARG:HH21	43:17:112:ALA:HB3	1.67	0.58
50:24:76:THR:HG21	53:27:1221:G:O3'	2.02	0.58
53:27:16:A:O2'	53:27:17:U:H5'	2.02	0.58
53:27:22:G:H5'	53:27:561:U:O2	2.03	0.58
53:27:952:U:H2'	53:27:953:G:C8	2.37	0.58
53:27:1316:G:N2	53:27:1318:A:H3'	2.18	0.58
54:28:669:G:H2'	54:28:669:G:N3	2.18	0.58
6:F:152:ARG:NH1	54:28:2743:U:O2'	2.36	0.58
8:H:56:ARG:HB3	54:28:1106:G:H4'	1.85	0.58
8:H:94:ARG:O	8:H:97:LYS:HG2	2.03	0.58
10:J:130:HIS:ND1	10:J:130:HIS:O	2.35	0.58
12:L:96:LYS:HD2	12:L:103:ILE:HA	1.85	0.58
17:Q:44:TYR:HD1	17:Q:47:ARG:HH11	1.51	0.58
23:W:17:LEU:HD21	23:W:37:ARG:HH21	1.66	0.58
35:9:125:ASN:HA	35:9:141:VAL:HG23	1.83	0.58
35:9:172:VAL:HG22	35:9:174:ALA:H	1.69	0.58
38:12:78:ARG:HB3	38:12:83:THR:HG22	1.85	0.58
54:28:449:A:H2'	54:28:450:G:O4'	2.02	0.58
54:28:613:A:H4'	54:28:614:A:C8	2.38	0.58
54:28:1183:U:H2'	54:28:1184:U:C6	2.38	0.58
54:28:1758:U:C5	54:28:2696:U:H5'	2.38	0.58
54:28:2512:C:H2'	54:28:2513:A:O4'	2.03	0.58
3:C:184:ARG:HG3	3:C:186:LEU:HG	1.85	0.58
6:F:70:LEU:O	6:F:74:MET:HG3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:G:104:THR:HA	7:G:108:VAL:O	2.03	0.58
28:2:49:ARG:HG2	54:28:2884:U:C6	2.31	0.58
35:9:7:LYS:HE2	35:9:21:LYS:HB2	1.85	0.58
40:14:56:MET:O	40:14:59:LYS:HG2	2.03	0.58
42:16:28:ASN:HD21	42:16:56:LYS:HD2	1.68	0.58
43:17:2:THR:CG2	43:17:5:GLN:HG3	2.33	0.58
45:19:25:GLU:HA	45:19:28:ALA:HB3	1.85	0.58
50:24:13:HIS:NE2	53:27:1014:A:H4'	2.18	0.58
53:27:82:G:H2'	53:27:83:C:O4'	2.04	0.58
53:27:225:C:H2'	53:27:226:G:H5''	1.84	0.58
53:27:570:G:H1'	53:27:820:U:C4	2.38	0.58
53:27:783:C:H2'	53:27:784:A:H8	1.68	0.58
53:27:1037:C:H2'	53:27:1038:C:C6	2.39	0.58
53:27:1096:C:H2'	53:27:1097:C:C6	2.38	0.58
53:27:1236:A:H2'	53:27:1237:C:C6	2.39	0.58
53:27:1526:G:H2'	53:27:1527:U:H6	1.65	0.58
54:28:140:C:H3'	54:28:140:C:OP2	2.02	0.58
54:28:189:G:H2'	54:28:205:G:N2	2.18	0.58
54:28:1765:U:H2'	54:28:1766:G:C8	2.39	0.58
54:28:2231:U:H2'	54:28:2232:C:C6	2.39	0.58
54:28:2590:A:H2'	54:28:2591:C:H6	1.68	0.58
5:E:76:PHE:HE1	54:28:2308:G:C6	2.21	0.58
8:H:75:ALA:C	8:H:77:VAL:N	2.57	0.58
9:I:135:MET:HA	54:28:1063:G:H1'	1.85	0.58
17:Q:80:ASN:CG	54:28:1151:A:H4'	2.23	0.58
21:U:15:GLY:HA2	54:28:309:A:H4'	1.84	0.58
33:7:94:ARG:HG3	53:27:1100:C:OP2	2.03	0.58
36:10:96:GLN:HB3	36:10:123:LEU:HB2	1.84	0.58
41:15:53:ILE:HG13	45:19:84:ARG:NE	2.19	0.58
54:28:779:U:H2'	54:28:780:G:C8	2.39	0.58
54:28:947:A:H2'	54:28:948:C:H6	1.67	0.58
54:28:1638:C:H5''	54:28:2710:C:O2'	2.02	0.58
54:28:2790:U:H5''	54:28:2791:G:OP1	2.02	0.58
1:A:624:PHE:HA	1:A:652:ILE:HG12	1.85	0.58
41:15:59:LYS:HE2	41:15:62:ARG:HH21	1.67	0.58
43:17:120:ARG:NH1	53:27:500:G:H5'	2.19	0.58
53:27:185:U:H2'	53:27:186:C:C6	2.39	0.58
53:27:325:A:H2'	53:27:326:G:O4'	2.03	0.58
53:27:608:A:H2'	53:27:609:A:O4'	2.04	0.58
53:27:755:G:H2'	53:27:756:C:H6	1.69	0.58
54:28:1775:U:C2'	54:28:1776:G:H5'	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2339:C:H2'	54:28:2340:A:H8	1.69	0.58
2:B:124:LYS:HB2	2:B:127:ASN:ND2	2.18	0.58
2:B:175:LEU:HD11	2:B:181:ARG:HH12	1.68	0.58
3:C:121:THR:HB	3:C:127:PHE:CD2	2.38	0.58
4:D:58:LYS:NZ	4:D:70:SER:HB2	2.17	0.58
12:L:18:ARG:HH22	54:28:1249:U:H2'	1.68	0.58
17:Q:5:ARG:NH1	54:28:585:G:N7	2.52	0.58
40:14:5:TYR:HB2	40:14:20:ILE:HG23	1.84	0.58
40:14:56:MET:HG3	40:14:57:VAL:H	1.68	0.58
53:27:131:A:H2'	53:27:132:C:C6	2.39	0.58
53:27:1070:U:H2'	53:27:1071:C:C6	2.39	0.58
53:27:1404:C:H2'	53:27:1405:G:C8	2.37	0.58
54:28:889:C:H2'	54:28:890:C:O4'	2.04	0.58
54:28:962:G:O2'	54:28:963:U:H5'	2.03	0.58
54:28:1590:A:H2'	54:28:1591:A:C8	2.38	0.58
54:28:1664:A:H61	54:28:1996:C:N4	1.99	0.58
54:28:2648:G:H2'	54:28:2649:C:H6	1.69	0.58
54:28:2650:U:H2'	54:28:2651:C:C6	2.38	0.58
8:H:4:ASN:ND2	54:28:1046:A:H2'	2.17	0.58
16:P:96:LEU:HB3	16:P:99:LEU:HD13	1.85	0.58
23:W:42:HIS:CD2	23:W:73:ARG:HD3	2.38	0.58
25:Y:16:THR:HG22	25:Y:20:ASN:HD21	1.68	0.58
35:9:101:VAL:HG13	35:9:106:PHE:HB2	1.85	0.58
38:12:56:SER:N	38:12:59:GLU:OE2	2.34	0.58
47:21:18:GLN:HE21	47:21:35:ARG:HE	1.50	0.58
54:28:53:A:H2'	54:28:54:G:O4'	2.03	0.58
54:28:288:U:H2'	54:28:289:G:H8	1.67	0.58
54:28:1656:C:H2'	54:28:1657:U:C6	2.37	0.58
54:28:1709:U:H2'	54:28:1710:G:C8	2.39	0.58
54:28:2643:G:H2'	54:28:2644:G:H8	1.69	0.58
54:28:2819:G:H2'	54:28:2821:A:N7	2.19	0.58
2:B:144:GLU:HG2	2:B:151:GLY:N	2.18	0.58
5:E:72:SER:HA	5:E:79:ARG:HA	1.85	0.58
9:I:18:ASN:H	9:I:19:PRO:HD2	1.69	0.58
9:I:57:VAL:HB	9:I:69:VAL:HB	1.86	0.58
36:10:80:LEU:HB3	36:10:97:PRO:HA	1.86	0.58
44:18:21:ILE:O	44:18:24:VAL:HG12	2.04	0.58
53:27:390:U:H2'	53:27:391:G:C8	2.39	0.58
53:27:1254:A:H2'	53:27:1255:G:C8	2.38	0.58
54:28:443:A:H1'	54:28:1201:U:O4'	2.03	0.58
54:28:1000:A:H2'	54:28:1001:A:C8	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:3:C:H2'	55:29:4:C:C5'	2.33	0.58
4:D:5:LEU:HD23	4:D:122:GLU:HB3	1.86	0.58
11:K:2:ILE:HD12	11:K:8:LEU:HD11	1.86	0.58
12:L:77:ILE:CD1	12:L:108:ALA:HB1	2.34	0.58
35:9:67:LEU:HD11	53:27:547:A:OP2	2.03	0.58
47:21:76:LYS:O	47:21:79:ASN:ND2	2.36	0.58
53:27:332:G:O2'	53:27:333:U:H5'	2.03	0.58
53:27:483:C:H2'	53:27:484:G:C8	2.39	0.58
54:28:289:G:H2'	54:28:290:U:O4'	2.04	0.58
54:28:356:G:H2'	54:28:357:C:C6	2.39	0.58
54:28:588:U:O4	54:28:670:A:H1'	2.03	0.58
54:28:849:A:H2'	54:28:850:U:C6	2.38	0.58
54:28:1590:A:H2'	54:28:1591:A:H8	1.67	0.58
54:28:1930:G:H2'	54:28:1968:G:H1	1.69	0.58
54:28:2115:G:H21	54:28:2119:A:N6	2.02	0.58
5:E:68:LYS:HZ3	55:29:41:G:H1	1.50	0.58
11:K:23:LYS:NZ	54:28:2562:U:H1'	2.19	0.58
24:X:36:ARG:N	54:28:2200:C:OP1	2.35	0.58
53:27:123:U:H5''	53:27:311:C:O2'	2.04	0.58
54:28:248:G:N3	54:28:2431:U:H4'	2.18	0.58
54:28:783:A:H2'	54:28:784:G:C5'	2.33	0.58
54:28:833:A:H2'	54:28:834:G:C8	2.39	0.58
54:28:999:U:O2'	54:28:1000:A:H5'	2.04	0.58
9:I:80:LYS:HA	9:I:85:ILE:HG13	1.86	0.57
11:K:22:ILE:HG13	11:K:40:LYS:O	2.03	0.57
12:L:78:ARG:HD3	54:28:626:A:C2	2.39	0.57
43:17:86:VAL:HG21	43:17:89:LEU:HB2	1.86	0.57
48:22:5:ARG:NH2	53:27:127:G:O3'	2.37	0.57
53:27:827:U:H2'	53:27:870:U:O4	2.03	0.57
53:27:1029:U:C2'	53:27:1031:C:H1'	2.33	0.57
53:27:1260:G:OP1	53:27:1284:C:H4'	2.04	0.57
54:28:167:A:H2'	54:28:168:G:O4'	2.04	0.57
54:28:308:G:H2'	54:28:309:A:C8	2.38	0.57
54:28:807:U:H1'	54:28:2445:G:OP1	2.04	0.57
54:28:909:A:H2'	54:28:912:C:C5	2.38	0.57
54:28:969:G:H2'	54:28:970:U:H6	1.67	0.57
54:28:1352:U:O2'	54:28:1353:A:H5'	2.03	0.57
54:28:1857:G:H2'	54:28:1884:G:N2	2.18	0.57
54:28:2333:A:O4'	54:28:2335:A:H1'	2.04	0.57
54:28:2603:G:H2'	54:28:2604:U:O4'	2.04	0.57
54:28:2677:G:H2'	54:28:2678:C:C6	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:679:LEU:O	1:A:682:ASP:CB	2.38	0.57
1:A:679:LEU:N	1:A:679:LEU:HD12	2.20	0.57
6:F:51:PHE:CE2	6:F:68:ARG:HA	2.39	0.57
8:H:38:MET:HG3	9:I:117:THR:HG22	1.86	0.57
9:I:92:PRO:O	54:28:1076:C:O2'	2.14	0.57
22:V:26:PHE:CZ	22:V:42:LEU:HD11	2.39	0.57
24:X:22:ASN:OD1	54:28:2079:U:O2'	2.22	0.57
33:7:101:THR:HG22	33:7:174:GLU:OE2	2.04	0.57
36:10:149:PRO:HB2	36:10:163:ILE:HD13	1.86	0.57
36:10:156:ARG:C	36:10:158:LYS:H	2.08	0.57
39:13:106:SER:HA	53:27:642:A:C8	2.39	0.57
41:15:5:ARG:HG2	41:15:79:PRO:HD3	1.86	0.57
47:21:18:GLN:NE2	47:21:35:ARG:HE	2.02	0.57
47:21:60:TRP:HB3	47:21:65:ALA:HB2	1.85	0.57
54:28:703:U:H2'	54:28:704:G:O4'	2.04	0.57
54:28:1179:G:C5	54:28:1180:U:H1'	2.39	0.57
54:28:1367:A:H2'	54:28:1368:G:H5'	1.85	0.57
54:28:1484:U:H2'	54:28:1485:U:H6	1.68	0.57
54:28:1515:A:H2'	54:28:1516:G:O4'	2.04	0.57
5:E:65:LEU:HD22	55:29:42:C:C5	2.39	0.57
6:F:82:PHE:CE2	6:F:137:LYS:HB2	2.40	0.57
6:F:122:ALA:HA	6:F:132:LEU:HA	1.86	0.57
15:O:62:LEU:HD21	15:O:64:TYR:O	2.04	0.57
23:W:29:ALA:N	23:W:60:ASP:OD1	2.34	0.57
25:Y:39:GLN:NE2	25:Y:42:LEU:HD11	2.20	0.57
41:15:15:HIS:O	41:15:18:ILE:HG22	2.03	0.57
53:27:1229:A:H2'	53:27:1230:C:C6	2.39	0.57
54:28:565:C:H2'	54:28:566:U:H6	1.66	0.57
54:28:783:A:H8	54:28:784:G:H4'	1.70	0.57
54:28:1730:C:H1'	54:28:1731:G:C5	2.39	0.57
54:28:1906:G:C3'	54:28:1907:G:H5''	2.34	0.57
54:28:2165:C:N4	54:28:2170:A:H62	2.03	0.57
54:28:2264:C:H2'	54:28:2265:U:O4'	2.03	0.57
54:28:2545:G:H2'	54:28:2546:U:O4'	2.03	0.57
55:29:92:C:O2'	55:29:93:C:H5'	2.04	0.57
33:7:153:MET:HG2	33:7:155:GLY:H	1.68	0.57
33:7:209:VAL:O	33:7:213:LEU:HD13	2.03	0.57
40:14:114:LYS:HB2	40:14:117:LEU:HD12	1.87	0.57
42:16:33:ILE:O	42:16:41:LEU:HB2	2.04	0.57
46:20:87:ARG:HD3	46:20:88:ARG:H	1.68	0.57
53:27:810:C:H2'	53:27:811:C:O4'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1131:G:H2'	53:27:1132:C:C4'	2.34	0.57
53:27:1354:U:H2'	53:27:1355:G:H8	1.69	0.57
53:27:1499:A:H2'	53:27:1500:A:H8	1.67	0.57
53:27:1516:G:H2'	53:27:1518:A:OP2	2.03	0.57
54:28:596:U:H2'	54:28:597:G:C8	2.39	0.57
54:28:1788:C:H2'	54:28:1789:A:C8	2.38	0.57
54:28:2031:A:C6	54:28:2498:C:HI'	2.40	0.57
54:28:2524:G:C3'	54:28:2525:G:H5''	2.33	0.57
57:31:62:C:H2'	57:31:63:G:H8	1.70	0.57
1:A:716:ILE:HD11	1:A:721:VAL:HB	1.85	0.57
2:B:220:ARG:HD2	54:28:1827:U:OP2	2.04	0.57
6:F:19:ASN:HB3	6:F:22:VAL:HB	1.87	0.57
6:F:100:ASN:O	6:F:116:LEU:HB2	2.05	0.57
9:I:19:PRO:HG2	9:I:22:PRO:HG2	1.87	0.57
16:P:52:ARG:HH12	54:28:2846:G:P	2.27	0.57
36:10:160:VAL:O	36:10:163:ILE:HG13	2.05	0.57
39:13:29:SER:HB3	39:13:32:LYS:HG3	1.86	0.57
43:17:111:GLN:HB3	53:27:538:G:OP2	2.04	0.57
53:27:46:G:OP1	53:27:307:C:H4'	2.05	0.57
53:27:524:G:H2'	53:27:525:C:C6	2.39	0.57
53:27:917:G:H2'	53:27:918:A:C8	2.39	0.57
53:27:1464:U:H2'	53:27:1465:A:H8	1.67	0.57
54:28:680:C:H2'	54:28:681:G:H8	1.68	0.57
54:28:825:A:H2'	54:28:826:U:H6	1.70	0.57
54:28:864:G:H2'	54:28:865:C:C6	2.39	0.57
54:28:1141:U:H4'	54:28:1142:A:O4'	2.04	0.57
54:28:1260:A:H2'	54:28:1261:C:C6	2.40	0.57
54:28:1282:U:H2'	54:28:1283:G:O4'	2.03	0.57
54:28:2007:U:H2'	54:28:2008:C:H6	1.69	0.57
54:28:2172:U:OP2	54:28:2173:A:H5'	2.04	0.57
54:28:2472:G:H2'	54:28:2529:G:N2	2.20	0.57
54:28:2783:U:H2'	54:28:2784:U:C6	2.39	0.57
5:E:90:LEU:HD12	5:E:90:LEU:O	2.05	0.57
10:J:16:TYR:HD1	10:J:140:LEU:HB2	1.69	0.57
13:M:45:GLN:NE2	54:28:2485:G:H5''	2.17	0.57
18:R:4:VAL:HB	18:R:40:MET:HG2	1.84	0.57
29:3:10:LEU:HD23	29:3:50:GLU:HA	1.87	0.57
30:4:13:ASN:O	30:4:17:GLY:HA3	2.04	0.57
39:13:11:THR:HG22	39:13:15:ASN:HD21	1.69	0.57
41:15:88:MET:O	41:15:89:ARG:HG2	2.04	0.57
53:27:460:A:H2'	53:27:461:A:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:621:A:H2'	53:27:622:A:C8	2.39	0.57
53:27:1527:U:H2'	53:27:1528:U:C6	2.40	0.57
54:28:1507:C:H2'	54:28:1508:A:O4'	2.05	0.57
54:28:1908:C:H2'	54:28:1909:C:C6	2.38	0.57
54:28:2760:C:O2'	54:28:2761:A:H5'	2.05	0.57
55:29:56:G:H4'	55:29:57:A:C8	2.39	0.57
55:29:104:A:H2'	55:29:105:G:O4'	2.03	0.57
58:32:36:U:H2'	58:32:37:A:H5'	1.85	0.57
58:32:55:U:H2'	58:32:57:A:OP2	2.04	0.57
4:D:68:ALA:HA	54:28:1255:U:C4	2.40	0.57
6:F:7:PRO:HB3	6:F:50:THR:HA	1.87	0.57
8:H:57:ASN:CG	8:H:63:ALA:HB2	2.24	0.57
8:H:81:LEU:HD13	54:28:1106:G:N3	2.20	0.57
9:I:113:ALA:O	9:I:115:ASP:N	2.37	0.57
21:U:2:ALA:O	21:U:5:ARG:NH1	2.38	0.57
24:X:4:CYS:HB2	24:X:51:SER:HB3	1.86	0.57
53:27:398:U:H2'	53:27:399:G:C8	2.39	0.57
53:27:769:G:O2'	53:27:770:C:H5'	2.04	0.57
53:27:1130:A:N6	53:27:1144:G:H1'	2.18	0.57
54:28:1127:A:H2'	54:28:1128:G:H5''	1.86	0.57
54:28:1331:G:C2'	54:28:1332:G:H5''	2.35	0.57
54:28:2036:C:H2'	54:28:2037:A:C8	2.40	0.57
54:28:2171:A:C2'	54:28:2172:U:H5'	2.35	0.57
55:29:118:C:H2'	55:29:119:A:C8	2.40	0.57
2:B:206:LYS:HD2	54:28:729:G:N9	2.20	0.57
8:H:77:VAL:HB	8:H:84:TYR:HE1	1.70	0.57
10:J:7:LYS:O	10:J:11:VAL:HG23	2.04	0.57
13:M:125:PRO:HG2	13:M:126:ILE:H	1.70	0.57
21:U:96:LYS:O	21:U:97:SER:HB3	2.04	0.57
32:6:2:LYS:HB2	32:6:35:GLN:HB3	1.85	0.57
48:22:30:HIS:CD2	48:22:32:ILE:H	2.23	0.57
49:23:13:THR:CG2	49:23:20:ILE:HD11	2.35	0.57
53:27:71:A:C2	53:27:100:G:H1'	2.40	0.57
53:27:461:A:H2'	53:27:462:G:O4'	2.04	0.57
53:27:708:C:H2'	53:27:709:U:H6	1.70	0.57
53:27:751:U:H2'	53:27:752:G:O4'	2.05	0.57
53:27:1079:G:H2'	53:27:1080:A:C8	2.40	0.57
53:27:1137:C:H5'	53:27:1138:G:C5'	2.34	0.57
53:27:1195:C:H5''	53:27:1196:A:OP2	2.05	0.57
53:27:1477:U:H2'	53:27:1478:U:C6	2.40	0.57
53:27:1508:A:H2'	53:27:1509:C:C6	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:612:G:H1'	54:28:616:A:H61	1.69	0.57
54:28:704:G:H1'	54:28:727:A:H61	1.70	0.57
54:28:1822:C:O2'	54:28:1823:G:H5'	2.05	0.57
54:28:2087:G:H2'	54:28:2088:A:H8	1.66	0.57
54:28:2623:G:H2'	54:28:2624:G:H8	1.69	0.57
55:29:41:G:H2'	55:29:41:G:N3	2.19	0.57
1:A:680:LEU:O	1:A:683:ILE:HB	2.05	0.57
8:H:51:TYR:CE2	8:H:95:LEU:HD11	2.39	0.57
17:Q:24:TYR:HE2	54:28:2020:A:H4'	1.69	0.57
20:T:28:ASN:HD21	20:T:91:GLN:HA	1.70	0.57
30:4:46:LYS:HE3	54:28:127:A:OP2	2.05	0.57
34:8:155:ARG:O	34:8:156:LEU:C	2.43	0.57
38:12:78:ARG:NH1	53:27:1382:C:H4'	2.20	0.57
41:15:86:ALA:O	41:15:90:LEU:HB2	2.05	0.57
53:27:86:G:H5''	53:27:87:C:OP1	2.05	0.57
54:28:582:A:H2'	54:28:583:G:H8	1.67	0.57
54:28:909:A:H2'	54:28:912:C:H5	1.70	0.57
54:28:941:A:H2'	54:28:942:G:C8	2.39	0.57
54:28:1287:A:H3'	54:28:1288:G:H21	1.69	0.57
54:28:1548:A:H2'	54:28:1549:A:H8	1.70	0.57
54:28:1827:U:O2'	54:28:1828:G:H5'	2.05	0.57
7:G:110:VAL:HG21	7:G:134:VAL:HG12	1.87	0.57
8:H:34:THR:HG21	54:28:1056:G:H5'	1.85	0.57
11:K:25:LEU:HD12	11:K:38:ILE:HG22	1.86	0.57
12:L:86:GLU:O	12:L:87:GLY:O	2.23	0.57
13:M:4:PRO:HG2	13:M:70:ASP:HA	1.86	0.57
16:P:29:VAL:HG13	16:P:79:VAL:HG22	1.87	0.57
20:T:80:TRP:CZ3	20:T:82:LYS:HB3	2.40	0.57
21:U:73:ASN:O	21:U:74:ALA:HB3	2.05	0.57
40:14:97:LEU:HB3	40:14:103:VAL:HG13	1.87	0.57
42:16:117:HIS:CE1	53:27:675:A:H1'	2.40	0.57
53:27:110:C:H2'	53:27:111:G:O4'	2.05	0.57
53:27:762:U:H2'	53:27:763:G:C8	2.40	0.57
53:27:1387:G:H2'	53:27:1388:C:C6	2.40	0.57
54:28:1328:A:H2'	54:28:1330:C:C5	2.39	0.57
54:28:1798:U:H2'	54:28:1819:A:N6	2.20	0.57
54:28:2328:A:H2'	54:28:2329:U:C6	2.40	0.57
55:29:66:A:H61	55:29:107:G:H3'	1.69	0.57
2:B:155:ARG:NH2	54:28:1818:U:H5	2.02	0.56
2:B:174:ARG:HH11	2:B:180:MET:HE1	1.69	0.56
6:F:39:ALA:O	6:F:54:ARG:HB3	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:65:GLY:O	6:F:68:ARG:HB3	2.05	0.56
10:J:92:MET:HG3	10:J:100:VAL:HG22	1.86	0.56
23:W:55:LEU:HD12	23:W:76:ILE:HD12	1.86	0.56
25:Y:12:GLU:O	25:Y:15:ASN:HB3	2.06	0.56
33:7:117:GLU:O	33:7:121:GLN:HB2	2.05	0.56
45:19:80:ARG:HA	45:19:83:VAL:HG12	1.88	0.56
53:27:916:U:H2'	53:27:917:G:H8	1.70	0.56
54:28:16:C:H2'	54:28:17:G:H8	1.70	0.56
54:28:138:U:H3'	54:28:139:U:H5'	1.87	0.56
54:28:176:A:C2'	54:28:177:G:H5'	2.34	0.56
54:28:607:U:O4	54:28:620:G:H5'	2.06	0.56
54:28:968:C:H2'	54:28:969:G:H8	1.68	0.56
54:28:1266:G:H22	54:28:2012:G:H2'	1.70	0.56
54:28:2073:C:H2'	54:28:2074:U:C6	2.39	0.56
54:28:2357:G:N2	54:28:2359:C:H3'	2.21	0.56
54:28:2567:G:H2'	54:28:2568:U:H6	1.70	0.56
54:28:2635:A:H2'	54:28:2636:C:O4'	2.05	0.56
58:32:38:A:H2'	58:32:39:C:C6	2.40	0.56
2:B:59:GLN:HA	54:28:1568:G:H5'	1.86	0.56
2:B:79:ARG:NH1	2:B:81:GLU:OE2	2.37	0.56
3:C:49:GLN:NE2	3:C:79:LEU:HD13	2.20	0.56
3:C:63:PRO:HG3	54:28:2787:C:H1'	1.86	0.56
13:M:1:MET:N	13:M:47:GLU:HG3	2.20	0.56
14:N:30:ARG:HG3	14:N:75:ILE:HD11	1.87	0.56
20:T:51:PHE:O	20:T:53:VAL:HG13	2.04	0.56
21:U:11:ILE:HD11	21:U:19:GLY:HA2	1.87	0.56
36:10:100:GLU:C	36:10:102:THR:N	2.58	0.56
40:14:5:TYR:CD1	40:14:88:GLU:HB3	2.40	0.56
53:27:767:A:H2'	53:27:768:A:O4'	2.04	0.56
53:27:1460:C:H2'	53:27:1461:G:C8	2.40	0.56
54:28:162:U:HO2'	54:28:163:C:H6	1.53	0.56
54:28:163:C:H2'	54:28:164:C:O4'	2.05	0.56
54:28:2097:A:H2'	54:28:2098:U:O4'	2.05	0.56
54:28:2475:C:C2'	54:28:2476:A:H5'	2.35	0.56
2:B:154:ALA:HB1	2:B:159:THR:HG22	1.88	0.56
4:D:83:VAL:O	4:D:83:VAL:HG12	2.05	0.56
7:G:90:LEU:HB2	7:G:123:ARG:O	2.06	0.56
9:I:23:VAL:CG2	9:I:27:LEU:HD21	2.35	0.56
12:L:21:ARG:NH2	54:28:811:U:C4	2.73	0.56
16:P:112:ARG:NH2	16:P:114:ASN:HD22	2.04	0.56
24:X:15:ASN:HD22	54:28:381:G:H5''	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:4:THR:HG21	54:28:789:A:H5'	1.86	0.56
34:8:46:LEU:O	34:8:49:ALA:HB3	2.06	0.56
34:8:105:VAL:HG21	34:8:111:ASP:OD2	2.06	0.56
35:9:25:ARG:HH22	53:27:411:A:P	2.28	0.56
38:12:113:LYS:HZ3	53:27:1297:G:H1'	1.70	0.56
39:13:73:SER:HB3	39:13:129:ALA:HB3	1.87	0.56
40:14:14:SER:HB2	40:14:69:GLY:HA3	1.85	0.56
41:15:42:LEU:HD11	41:15:73:LEU:HG	1.87	0.56
44:18:15:VAL:HG13	44:18:33:LEU:HD22	1.87	0.56
45:19:26:LEU:O	45:19:30:ILE:N	2.38	0.56
53:27:175:C:H2'	53:27:176:C:C6	2.40	0.56
53:27:664:G:H22	53:27:741:G:H1	0.83	0.56
53:27:928:G:H2'	53:27:929:G:H8	1.70	0.56
53:27:1410:A:H2'	53:27:1411:C:H6	1.70	0.56
54:28:189:G:H2'	54:28:205:G:H22	1.71	0.56
54:28:441:U:H2'	54:28:442:G:C8	2.40	0.56
54:28:503:A:H4'	54:28:504:A:H5'	1.87	0.56
54:28:521:U:H2'	54:28:522:A:H8	1.70	0.56
54:28:820:A:H2'	54:28:821:A:C8	2.40	0.56
54:28:971:G:H2'	54:28:972:A:O4'	2.06	0.56
54:28:1059:G:H3'	54:28:1060:U:H2'	1.87	0.56
54:28:1229:C:H2'	54:28:1230:A:H8	1.69	0.56
54:28:1297:C:H2'	54:28:1298:C:H6	1.70	0.56
54:28:1561:C:H2'	54:28:1562:U:C6	2.41	0.56
54:28:2190:G:H2'	54:28:2191:A:H8	1.70	0.56
54:28:2345:G:H5'	54:28:2347:C:O4'	2.05	0.56
55:29:48:U:H2'	55:29:49:C:H6	1.69	0.56
57:31:10:G:N2	57:31:26:G:H1'	2.20	0.56
2:B:171:VAL:HG23	2:B:185:ALA:HA	1.88	0.56
34:8:77:GLY:HA3	34:8:82:ASP:OD2	2.05	0.56
41:15:57:VAL:HG13	41:15:58:ASN:N	2.19	0.56
45:19:20:PHE:O	45:19:21:ALA:HB3	2.05	0.56
49:23:17:VAL:HG22	49:23:18:GLN:N	2.12	0.56
53:27:1033:G:H2'	53:27:1034:G:H5'	1.86	0.56
53:27:1120:C:H2'	53:27:1121:U:C6	2.41	0.56
54:28:253:C:H2'	54:28:254:G:O4'	2.05	0.56
54:28:438:G:H2'	54:28:439:A:C8	2.40	0.56
54:28:704:G:H1'	54:28:727:A:N6	2.20	0.56
54:28:1730:C:H1'	54:28:1731:G:C6	2.40	0.56
54:28:1761:C:H2'	54:28:1762:A:O4'	2.04	0.56
54:28:2322:A:H2'	54:28:2323:G:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2677:G:H2'	54:28:2678:C:H6	1.70	0.56
54:28:2805:C:H2'	54:28:2806:C:H6	1.70	0.56
1:A:615:PRO:HB3	1:A:635:ARG:HB2	1.88	0.56
3:C:46:ARG:NH2	3:C:89:GLU:OE1	2.39	0.56
4:D:78:TRP:CD2	54:28:1257:C:H4'	2.40	0.56
6:F:94:ARG:HB2	6:F:105:SER:HB2	1.87	0.56
10:J:95:ARG:HG3	10:J:96:ARG:HG2	1.88	0.56
14:N:33:ILE:HB	14:N:118:ARG:NH2	2.20	0.56
15:O:62:LEU:CD1	15:O:70:ALA:HA	2.31	0.56
18:R:49:ILE:HD13	18:R:52:PRO:N	2.20	0.56
39:13:14:ARG:NH2	39:13:74:ILE:HG23	2.20	0.56
43:17:65:TYR:HB2	43:17:92:VAL:HG11	1.88	0.56
44:18:14:ALA:HB3	44:18:33:LEU:HD21	1.87	0.56
44:18:39:ALA:O	44:18:42:VAL:HG22	2.05	0.56
44:18:95:PRO:HA	44:18:108:ARG:HG3	1.88	0.56
48:22:5:ARG:HH12	53:27:128:G:H5'	1.70	0.56
53:27:291:U:O2'	53:27:292:G:H5'	2.05	0.56
53:27:947:G:H2'	53:27:948:C:C6	2.40	0.56
54:28:630:G:H22	54:28:632:A:H3'	1.70	0.56
54:28:2162:G:H5'	54:28:2162:G:H8	1.71	0.56
54:28:2447:G:C4	54:28:2500:U:C5	2.93	0.56
55:29:28:C:H2'	55:29:29:A:H8	1.70	0.56
1:A:674:ASN:HD21	1:A:736:ILE:CG2	2.18	0.56
6:F:21:GLN:HE21	6:F:38:ASP:HA	1.70	0.56
10:J:113:PRO:HD2	54:28:558:U:P	2.46	0.56
12:L:63:LYS:HE2	54:28:2394:C:H5''	1.87	0.56
34:8:96:VAL:HB	34:8:97:PRO:HD2	1.88	0.56
37:11:9:MET:CG	37:11:85:ILE:O	2.54	0.56
41:15:42:LEU:O	53:27:1151:A:H5'	2.05	0.56
42:16:71:ASP:O	42:16:72:ALA:HB3	2.06	0.56
54:28:20:C:H2'	54:28:21:A:C8	2.40	0.56
54:28:724:U:H2'	54:28:725:G:O4'	2.06	0.56
54:28:759:G:H2'	54:28:760:G:C8	2.41	0.56
54:28:1658:C:H2'	54:28:1659:G:C8	2.41	0.56
54:28:2065:C:H2'	54:28:2066:C:H6	1.71	0.56
54:28:2282:G:H4'	54:28:2389:G:O2'	2.05	0.56
54:28:2848:G:H2'	54:28:2867:G:H21	1.71	0.56
24:X:5:GLN:O	24:X:73:ARG:NH2	2.39	0.56
38:12:113:LYS:NZ	53:27:1297:G:H1'	2.21	0.56
39:13:28:SER:HB2	39:13:58:LEU:N	2.21	0.56
43:17:45:ASN:HA	53:27:529:G:O6	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:17:98:ARG:HD2	43:17:103:CYS:SG	2.46	0.56
45:19:68:ARG:HH22	53:27:974:A:P	2.29	0.56
46:20:25:GLU:HG2	46:20:80:LEU:HD22	1.88	0.56
50:24:32:THR:HG22	50:24:49:ALA:O	2.06	0.56
53:27:178:C:H2'	53:27:179:A:H8	1.70	0.56
53:27:219:U:H2'	53:27:220:G:H8	1.71	0.56
53:27:678:U:H2'	53:27:679:C:H6	1.69	0.56
53:27:965:U:H1'	53:27:969:A:N3	2.21	0.56
53:27:1097:C:H2'	53:27:1098:C:H6	1.70	0.56
54:28:207:A:H2'	54:28:208:C:O4'	2.05	0.56
54:28:527:C:C4	54:28:2779:U:H2'	2.41	0.56
54:28:691:C:H2'	54:28:692:C:H6	1.70	0.56
54:28:1657:U:H2'	54:28:1658:C:H6	1.69	0.56
57:31:69:C:H2'	57:31:70:G:H8	1.71	0.56
1:A:622:VAL:HG23	1:A:636:ALA:HA	1.87	0.56
5:E:104:THR:HG21	27:1:22:MET:CE	2.36	0.56
13:M:42:THR:OG1	13:M:45:GLN:HG3	2.06	0.56
15:O:43:ASN:HD21	15:O:46:GLU:HG2	1.70	0.56
17:Q:57:ARG:NH1	54:28:1154:G:P	2.79	0.56
34:8:19:SER:HB3	34:8:21:TRP:HE1	1.71	0.56
35:9:12:ARG:HG2	35:9:33:ILE:HA	1.88	0.56
36:10:24:VAL:HG23	36:10:26:GLY:H	1.70	0.56
53:27:358:U:H2'	53:27:359:G:H8	1.70	0.56
53:27:458:U:H2'	53:27:459:A:C8	2.40	0.56
53:27:494:G:O2'	53:27:496:A:H1'	2.06	0.56
54:28:39:G:H2'	54:28:40:U:C6	2.41	0.56
54:28:133:U:H2'	54:28:134:G:C8	2.41	0.56
54:28:1239:G:H2'	54:28:1240:U:O4'	2.05	0.56
54:28:1754:A:H2'	54:28:1755:A:O4'	2.06	0.56
54:28:2128:G:H1	54:28:2160:C:N4	2.03	0.56
54:28:2556:C:H2'	54:28:2557:G:O4'	2.06	0.56
5:E:92:GLY:O	5:E:95:MET:HG2	2.06	0.56
7:G:55:GLU:O	7:G:58:LEU:HB2	2.05	0.56
7:G:97:ARG:HG2	7:G:112:LYS:HD2	1.88	0.56
37:11:45:ARG:HD3	37:11:59:TYR:HD2	1.71	0.56
44:18:97:ARG:HG2	53:27:1308:U:OP2	2.06	0.56
53:27:817:C:C4'	53:27:818:G:H5''	2.35	0.56
54:28:528:A:H2	54:28:2042:A:H2'	1.67	0.56
54:28:780:G:H2'	54:28:782:A:N7	2.21	0.56
54:28:834:G:H2'	54:28:835:C:H6	1.71	0.56
54:28:1842:G:H2'	54:28:1843:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2516:A:H2'	54:28:2517:C:C6	2.40	0.56
54:28:2756:U:H1'	54:28:2757:A:H5''	1.87	0.56
3:C:5:VAL:H	3:C:32:ASN:HD21	1.54	0.56
19:S:97:LEU:HD12	19:S:97:LEU:O	2.06	0.56
22:V:86:LEU:HD13	22:V:89:ILE:HD11	1.87	0.56
37:11:61:LEU:HD21	37:11:63:ASN:ND2	2.21	0.56
38:12:66:GLU:HA	38:12:69:ARG:HE	1.71	0.56
47:21:75:ILE:HA	47:21:78:VAL:HG12	1.88	0.56
53:27:742:G:H2'	53:27:743:A:C8	2.41	0.56
53:27:975:A:H8	53:27:1357:A:HO2'	1.53	0.56
53:27:1057:G:H2'	53:27:1058:G:O4'	2.06	0.56
54:28:218:A:H3'	54:28:219:A:H8	1.70	0.56
54:28:588:U:H2'	54:28:589:U:C6	2.41	0.56
54:28:839:U:H2'	54:28:840:C:C6	2.41	0.56
54:28:900:A:H2'	54:28:901:C:O4'	2.06	0.56
54:28:2064:C:H2'	54:28:2065:C:C6	2.41	0.56
2:B:110:LYS:N	2:B:113:ASP:OD2	2.36	0.55
3:C:49:GLN:HE21	3:C:79:LEU:HB3	1.71	0.55
9:I:133:ARG:HH11	54:28:1079:C:C4'	2.07	0.55
28:2:18:HIS:CD2	54:28:2046:G:H1'	2.41	0.55
30:4:34:ARG:NE	30:4:39:ARG:HD2	2.21	0.55
32:6:8:LYS:H	32:6:35:GLN:NE2	2.04	0.55
34:8:38:VAL:O	34:8:42:LEU:HD13	2.06	0.55
37:11:11:HIS:HD2	37:11:12:PRO:HD2	1.71	0.55
38:12:128:GLU:OE2	38:12:130:LYS:HE2	2.06	0.55
40:14:80:HIS:CE1	40:14:105:ARG:HA	2.41	0.55
44:18:62:PHE:O	44:18:64:VAL:HG13	2.07	0.55
46:20:49:HIS:O	46:20:52:ARG:HB3	2.06	0.55
53:27:708:C:H2'	53:27:709:U:C6	2.41	0.55
53:27:1003:G:N2	53:27:1037:C:O2	2.39	0.55
54:28:564:C:H2'	54:28:565:C:C6	2.41	0.55
54:28:660:C:H2'	54:28:661:A:H8	1.68	0.55
54:28:1396:U:H5''	54:28:1397:U:OP2	2.06	0.55
57:31:62:C:H2'	57:31:63:G:C8	2.40	0.55
1:A:676:ARG:O	1:A:678:GLY:N	2.39	0.55
2:B:153:LEU:HD11	2:B:181:ARG:HH21	1.70	0.55
6:F:53:PRO:HG3	6:F:61:TRP:CE2	2.40	0.55
9:I:93:ASN:HB2	54:28:1077:A:C5'	2.36	0.55
11:K:97:THR:O	11:K:118:LEU:HD13	2.06	0.55
12:L:75:ALA:O	12:L:108:ALA:HA	2.06	0.55
35:9:196:GLU:OE1	35:9:196:GLU:N	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:82:LEU:HD23	39:13:82:LEU:O	2.06	0.55
49:23:17:VAL:CG2	49:23:18:GLN:H	2.11	0.55
53:27:662:U:H2'	53:27:663:A:C8	2.41	0.55
53:27:1040:U:H2'	53:27:1041:G:C8	2.42	0.55
53:27:1298:U:H4'	53:27:1299:A:O4'	2.07	0.55
53:27:1510:C:H2'	53:27:1511:G:C8	2.40	0.55
54:28:224:U:O4	54:28:420:C:H5'	2.06	0.55
54:28:437:U:H2'	54:28:438:G:C8	2.42	0.55
54:28:1112:G:H2'	54:28:1113:U:C6	2.41	0.55
54:28:1287:A:H3'	54:28:1288:G:N2	2.21	0.55
8:H:123:ILE:HG23	8:H:123:ILE:O	2.07	0.55
16:P:38:ARG:NH1	53:27:345:C:C5'	2.62	0.55
17:Q:54:ARG:NH2	54:28:1155:A:O3'	2.39	0.55
19:S:73:LYS:HB2	19:S:106:VAL:HB	1.87	0.55
26:Z:30:ARG:HD2	54:28:1158:C:H5''	1.87	0.55
28:2:35:GLU:OE1	28:2:43:THR:HB	2.07	0.55
33:7:101:THR:HG22	33:7:174:GLU:CD	2.26	0.55
38:12:68:VAL:HG21	38:12:103:ILE:HD11	1.88	0.55
41:15:86:ALA:HA	41:15:90:LEU:HD12	1.89	0.55
47:21:19:VAL:HG12	47:21:37:GLY:C	2.27	0.55
53:27:1060:U:H2'	53:27:1061:G:H8	1.72	0.55
54:28:226:A:H2'	54:28:227:A:O4'	2.05	0.55
54:28:414:C:H2'	54:28:415:A:C8	2.40	0.55
54:28:1102:C:H2'	54:28:1103:A:C8	2.41	0.55
54:28:1775:U:H2'	54:28:1776:G:H5'	1.86	0.55
54:28:2285:C:O2'	54:28:2287:A:H1'	2.06	0.55
4:D:97:ASN:HA	54:28:607:U:OP1	2.06	0.55
10:J:40:HIS:NE2	10:J:52:ASP:OD2	2.37	0.55
12:L:54:GLN:HE21	54:28:2428:G:N2	2.03	0.55
13:M:29:GLY:CA	13:M:106:ASP:HB2	2.36	0.55
36:10:13:LYS:HE2	36:10:115:GLU:OE2	2.06	0.55
37:11:86:ARG:NH2	53:27:673:A:O3'	2.39	0.55
39:13:86:LYS:HD2	39:13:90:GLU:HB3	1.88	0.55
41:15:5:ARG:N	41:15:77:VAL:HA	2.22	0.55
43:17:86:VAL:HG23	43:17:89:LEU:H	1.70	0.55
47:21:70:ARG:HG3	53:27:375:U:OP1	2.05	0.55
53:27:113:G:H1'	53:27:354:G:H5''	1.88	0.55
53:27:554:A:H2'	53:27:555:U:C6	2.41	0.55
53:27:626:G:H2'	53:27:627:G:C8	2.42	0.55
53:27:1349:A:H2'	53:27:1350:A:O4'	2.05	0.55
54:28:622:G:H2'	54:28:623:C:C6	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1110:G:HO2'	54:28:1111:A:H8	1.53	0.55
54:28:1990:C:H2'	54:28:1991:U:C6	2.41	0.55
54:28:2863:C:H2'	54:28:2864:G:H8	1.72	0.55
2:B:166:ARG:O	2:B:166:ARG:HG2	2.07	0.55
3:C:62:LYS:HB2	3:C:63:PRO:HD3	1.89	0.55
6:F:8:VAL:HB	6:F:49:LEU:HB2	1.89	0.55
33:7:153:MET:HE1	33:7:157:PRO:HG3	1.89	0.55
35:9:94:GLU:HA	35:9:99:ASN:ND2	2.20	0.55
51:25:23:ARG:NH2	51:25:60:GLN:HE22	2.05	0.55
51:25:29:THR:HG21	53:27:1457:G:H5''	1.89	0.55
53:27:160:A:H2'	53:27:161:A:O4'	2.07	0.55
53:27:210:C:H5'	53:27:211:G:N3	2.21	0.55
53:27:225:C:C2'	53:27:226:G:H5''	2.36	0.55
53:27:687:A:N3	53:27:688:G:H1'	2.22	0.55
53:27:865:A:H2'	53:27:866:C:H6	1.71	0.55
53:27:868:C:H2'	53:27:869:G:O4'	2.07	0.55
54:28:7:G:H2'	54:28:8:C:H6	1.71	0.55
54:28:103:A:H2'	54:28:104:A:O4'	2.07	0.55
54:28:301:G:H1'	54:28:302:C:C6	2.42	0.55
54:28:521:U:H2'	54:28:522:A:C8	2.42	0.55
54:28:1802:A:H2'	54:28:1803:A:C8	2.42	0.55
54:28:2266:A:H4'	54:28:2267:A:C2	2.41	0.55
3:C:186:LEU:HD21	16:P:3:ILE:HG21	1.88	0.55
5:E:62:GLN:HE21	5:E:88:VAL:HG13	1.72	0.55
10:J:12:LYS:O	10:J:41:LYS:NZ	2.40	0.55
13:M:14:LYS:NZ	54:28:958:U:H5'	2.22	0.55
25:Y:9:LYS:HZ1	25:Y:11:VAL:HG23	1.71	0.55
26:Z:9:THR:HG22	26:Z:53:MET:C	2.27	0.55
43:17:109:ARG:O	43:17:113:ARG:HB3	2.06	0.55
50:24:9:PHE:O	50:24:38:THR:HG23	2.06	0.55
53:27:503:C:H2'	53:27:504:C:H6	1.71	0.55
54:28:24:G:H2'	54:28:25:U:O4'	2.06	0.55
54:28:488:G:H1'	54:28:492:A:N6	2.21	0.55
54:28:714:U:H5'	54:28:715:A:OP2	2.06	0.55
54:28:1188:U:O2'	54:28:1189:A:H5'	2.06	0.55
54:28:1662:U:H2'	54:28:1663:G:C8	2.42	0.55
54:28:2112:G:H2'	54:28:2112:G:N3	2.21	0.55
54:28:2557:G:H2'	54:28:2558:C:C6	2.42	0.55
1:A:612:CYS:SG	54:28:884:U:H4'	2.47	0.55
5:E:4:HIS:O	5:E:7:TYR:HB3	2.06	0.55
7:G:3:VAL:HA	7:G:38:PRO:HA	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:89:GLY:HA2	16:P:109:ILE:HD13	1.88	0.55
25:Y:20:ASN:O	25:Y:24:GLU:HB2	2.06	0.55
33:7:183:PHE:HE1	33:7:197:PHE:HD2	1.55	0.55
38:12:133:ALA:O	38:12:136:LYS:HB3	2.07	0.55
50:24:25:GLY:O	50:24:27:LYS:HG3	2.06	0.55
53:27:552:U:H2'	53:27:553:A:H8	1.71	0.55
53:27:762:U:H2'	53:27:763:G:H8	1.71	0.55
53:27:1128:C:H2'	53:27:1129:C:O4'	2.06	0.55
53:27:1395:C:H6	53:27:1395:C:H5'	1.72	0.55
53:27:1463:U:H2'	53:27:1464:U:C6	2.42	0.55
54:28:580:U:H2'	54:28:581:C:H6	1.72	0.55
54:28:1412:U:H2'	54:28:1413:A:H8	1.72	0.55
54:28:2030:A:C2	54:28:2499:C:H5''	2.42	0.55
54:28:2376:A:H2'	54:28:2377:A:O4'	2.06	0.55
54:28:2655:G:O2'	54:28:2656:U:H5	1.89	0.55
54:28:2710:C:H2'	54:28:2711:A:C8	2.41	0.55
2:B:43:ASN:HD21	54:28:1806:C:H1'	1.72	0.55
9:I:134:SER:O	54:28:1062:G:N2	2.36	0.55
18:R:5:PHE:HB3	18:R:38:VAL:HA	1.89	0.55
19:S:16:LYS:O	19:S:19:LEU:HB3	2.07	0.55
24:X:7:THR:OG1	24:X:9:LYS:HG3	2.07	0.55
27:1:37:CYS:N	27:1:40:CYS:SG	2.67	0.55
38:12:12:LEU:CD1	38:12:13:PRO:HD2	2.33	0.55
43:17:8:ARG:HH21	53:27:759:A:H1'	1.72	0.55
46:20:50:HIS:CE1	53:27:667:G:H4'	2.41	0.55
54:28:217:A:H2'	54:28:218:A:O4'	2.07	0.55
54:28:813:U:H2'	54:28:814:C:H6	1.71	0.55
54:28:1363:C:H2'	54:28:1364:G:C8	2.41	0.55
54:28:1425:G:H2'	54:28:1426:G:C8	2.41	0.55
54:28:1657:U:H2'	54:28:1658:C:C6	2.41	0.55
54:28:2114:A:C2	54:28:2167:U:H1'	2.42	0.55
54:28:2590:A:H2'	54:28:2591:C:C6	2.41	0.55
54:28:2848:G:H2'	54:28:2867:G:N2	2.22	0.55
2:B:222:THR:HG22	2:B:239:PHE:CD1	2.42	0.55
3:C:11:MET:O	54:28:2682:A:H5'	2.06	0.55
4:D:43:THR:O	54:28:38:A:H1'	2.07	0.55
10:J:102:GLU:OE2	54:28:2780:G:C6	2.59	0.55
10:J:135:GLN:NE2	54:28:6:A:N3	2.55	0.55
11:K:29:HIS:ND1	11:K:29:HIS:O	2.40	0.55
35:9:61:ARG:NH2	35:9:66:VAL:O	2.40	0.55
40:14:11:ARG:HG2	40:14:12:LYS:HG2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:14:121:ARG:HH12	53:27:1346:A:P	2.30	0.55
53:27:467:U:H2'	53:27:468:A:H5'	1.89	0.55
53:27:490:C:H2'	53:27:491:G:H8	1.71	0.55
53:27:628:G:H2'	53:27:629:A:C8	2.41	0.55
53:27:728:A:H2'	53:27:729:A:C8	2.41	0.55
53:27:959:A:N3	53:27:985:C:H1'	2.21	0.55
53:27:1244:G:H2'	53:27:1245:C:C6	2.42	0.55
53:27:1345:U:H5''	53:27:1346:A:OP1	2.07	0.55
53:27:1401:G:C2	53:27:1402:C:H1'	2.42	0.55
54:28:1186:G:H2'	54:28:1187:G:O4'	2.07	0.55
54:28:1427:A:H4'	54:28:1428:C:O4'	2.07	0.55
54:28:2259:U:H2'	54:28:2260:C:C6	2.42	0.55
54:28:2462:C:H2'	54:28:2463:C:C6	2.41	0.55
2:B:30:ALA:HB3	2:B:31:PRO:HD3	1.88	0.55
2:B:179:GLU:OE1	54:28:1799:G:C8	2.60	0.55
3:C:4:LEU:HD13	3:C:101:PHE:CE2	2.41	0.55
4:D:27:LEU:O	4:D:30:GLN:HB3	2.07	0.55
5:E:101:ARG:HH22	27:1:9:TYR:HE1	1.54	0.55
9:I:23:VAL:CG1	9:I:24:GLY:N	2.59	0.55
14:N:49:GLU:OE1	54:28:2839:G:H4'	2.06	0.55
35:9:30:LYS:N	35:9:30:LYS:HD2	2.22	0.55
35:9:56:GLU:HG2	35:9:198:LEU:HB2	1.89	0.55
37:11:91:ARG:HG3	53:27:737:C:OP1	2.06	0.55
44:18:76:ILE:HA	44:18:79:LEU:HD12	1.89	0.55
46:20:35:ILE:HD13	46:20:59:VAL:HG22	1.87	0.55
48:22:5:ARG:HE	53:27:636:U:H5'	1.72	0.55
50:24:72:GLU:HG2	53:27:1320:C:H4'	1.87	0.55
52:26:67:THR:HB	53:27:1088:G:HO2'	1.71	0.55
53:27:409:U:H2'	53:27:410:G:C8	2.41	0.55
53:27:613:C:H2'	53:27:614:C:H6	1.72	0.55
53:27:1233:G:H2'	53:27:1234:C:C6	2.41	0.55
54:28:414:C:H2'	54:28:415:A:H8	1.72	0.55
54:28:1084:A:H2	54:28:1105:U:O2	1.90	0.55
54:28:2673:G:H2'	54:28:2674:G:H8	1.72	0.55
54:28:2771:C:H2'	54:28:2772:C:C6	2.42	0.55
54:28:2808:G:H5'	54:28:2809:A:OP1	2.07	0.55
54:28:2812:G:H2'	54:28:2813:A:C8	2.41	0.55
54:28:2868:A:H3'	54:28:2869:G:H8	1.72	0.55
3:C:123:LYS:HE2	14:N:1:MET:CE	2.37	0.54
3:C:154:LYS:NZ	54:28:2025:C:H5'	2.22	0.54
10:J:40:HIS:CE1	10:J:41:LYS:HG3	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:9:70:GLN:HA	35:9:73:ASN:HD22	1.72	0.54
38:12:112:ASP:OD2	38:12:118:ARG:HA	2.08	0.54
39:13:94:VAL:HB	39:13:99:GLY:O	2.07	0.54
53:27:398:U:H2'	53:27:399:G:H8	1.72	0.54
53:27:1213:A:N1	53:27:1215:G:H1'	2.22	0.54
54:28:52:A:O2'	54:28:53:A:H5'	2.06	0.54
54:28:290:U:H2'	54:28:291:G:H8	1.72	0.54
54:28:1357:C:H2'	54:28:1358:G:O4'	2.07	0.54
54:28:1936:A:H2	54:28:1943:U:N3	2.05	0.54
54:28:2147:A:H62	54:28:2148:G:H21	1.54	0.54
1:A:670:ARG:HE	1:A:741:LEU:HD12	1.71	0.54
5:E:114:ARG:HH21	27:1:47:LYS:HA	1.71	0.54
16:P:13:LYS:NZ	16:P:80:VAL:HG23	2.22	0.54
26:Z:11:SER:OG	26:Z:13:ILE:HG13	2.07	0.54
27:1:27:THR:HG23	27:1:28:VAL:H	1.72	0.54
36:10:135:VAL:O	36:10:139:THR:HG23	2.07	0.54
38:12:91:ARG:NH2	53:27:1378:C:H4'	2.12	0.54
39:13:72:GLU:HB3	39:13:129:ALA:O	2.07	0.54
43:17:30:ARG:HG2	53:27:363:A:OP2	2.07	0.54
46:20:9:LYS:O	46:20:12:SER:HB2	2.07	0.54
47:21:69:ASP:OD1	47:21:70:ARG:N	2.40	0.54
52:26:37:TYR:CE2	53:27:1526:G:OP1	2.61	0.54
53:27:817:C:H4'	53:27:818:G:C5'	2.36	0.54
53:27:1343:G:H2'	53:27:1344:C:C6	2.41	0.54
54:28:19:A:H2'	54:28:20:C:C6	2.42	0.54
54:28:528:A:N1	54:28:2042:A:H2'	2.22	0.54
54:28:752:A:H62	54:28:2609:U:H3	1.54	0.54
54:28:1549:A:H2'	54:28:1550:C:C6	2.42	0.54
54:28:2564:A:H2'	54:28:2565:A:O4'	2.07	0.54
54:28:2625:G:H2'	54:28:2626:C:C6	2.42	0.54
54:28:2756:U:H4'	54:28:2757:A:OP1	2.07	0.54
2:B:48:ILE:HG23	2:B:48:ILE:O	2.08	0.54
22:V:75:GLN:CB	22:V:90:ASP:O	2.38	0.54
23:W:52:ASP:O	23:W:53:HIS:HB2	2.07	0.54
29:3:47:ILE:H	29:3:47:ILE:HD12	1.72	0.54
34:8:184:ASN:OD1	34:8:185:THR:N	2.37	0.54
37:11:98:GLU:OE2	37:11:100:SER:HB2	2.07	0.54
40:14:111:GLU:OE2	53:27:1186:G:H4'	2.08	0.54
44:18:22:TYR:HB3	44:18:65:GLU:OE1	2.07	0.54
46:20:76:ARG:O	46:20:79:GLN:HB3	2.06	0.54
46:20:87:ARG:HD3	46:20:88:ARG:N	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1219:A:H2'	53:27:1220:G:H8	1.72	0.54
53:27:1483:A:H2'	53:27:1484:C:H5'	1.89	0.54
54:28:171:U:H2'	54:28:172:A:H8	1.72	0.54
54:28:1019:U:H2'	54:28:1020:A:C8	2.42	0.54
54:28:1999:C:O2'	54:28:2000:C:H5'	2.07	0.54
8:H:61:ARG:HB3	54:28:1047:G:H8	1.72	0.54
21:U:10:VAL:HA	21:U:72:PHE:H	1.72	0.54
42:16:80:ASN:ND2	42:16:105:ARG:HD3	2.22	0.54
48:22:49:ASN:OD1	48:22:50:ASN:N	2.41	0.54
52:26:67:THR:HG23	53:27:1167:A:H62	1.73	0.54
53:27:1088:G:H21	53:27:1167:A:H61	1.54	0.54
54:28:371:A:N6	54:28:401:A:H3'	2.22	0.54
54:28:692:C:H2'	54:28:693:A:H8	1.71	0.54
54:28:821:A:C5'	54:28:822:G:H5''	2.19	0.54
54:28:1458:U:H1'	54:28:1459:G:C6	2.43	0.54
54:28:1703:G:H2'	54:28:1704:C:C6	2.42	0.54
54:28:2585:U:O2'	54:28:2586:U:H5'	2.07	0.54
4:D:31:VAL:HG21	4:D:104:ALA:HB2	1.88	0.54
4:D:71:GLY:HA3	54:28:674:G:H5''	1.89	0.54
6:F:146:ASP:O	6:F:149:ALA:HB3	2.08	0.54
8:H:45:GLY:HA2	8:H:49:GLY:O	2.07	0.54
13:M:86:LYS:HE3	54:28:955:U:OP1	2.08	0.54
14:N:29:VAL:HB	14:N:75:ILE:HD12	1.88	0.54
29:3:31:GLU:OE1	29:3:31:GLU:N	2.39	0.54
36:10:80:LEU:HD12	36:10:146:MET:SD	2.47	0.54
45:19:48:GLN:NE2	50:24:9:PHE:HE1	2.05	0.54
53:27:184:G:H2'	53:27:185:U:H6	1.72	0.54
53:27:184:G:H3'	53:27:184:G:OP2	2.07	0.54
53:27:202:G:H2'	53:27:203:G:H8	1.73	0.54
53:27:405:U:C3'	53:27:406:G:H5'	2.31	0.54
53:27:579:A:O2'	53:27:580:C:H5'	2.08	0.54
53:27:735:C:H2'	53:27:736:C:C6	2.39	0.54
54:28:540:C:H2'	54:28:541:A:H8	1.71	0.54
54:28:857:G:H2'	54:28:858:G:C1'	2.37	0.54
54:28:897:C:H3'	54:28:897:C:OP2	2.07	0.54
54:28:917:A:H5''	54:28:2268:A:H61	1.72	0.54
54:28:1565:C:O2'	54:28:1566:A:H2'	2.08	0.54
54:28:1786:A:H1'	54:28:1938:A:N6	2.23	0.54
54:28:2249:U:H3'	54:28:2250:G:C5'	2.38	0.54
55:29:93:C:H2'	55:29:94:A:C8	2.42	0.54
5:E:21:TYR:HB3	5:E:26:GLN:OE1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:26:GLN:HE21	55:29:57:A:H4'	1.73	0.54
8:H:79:PRO:HA	54:28:1108:U:OP1	2.08	0.54
9:I:21:PRO:HB2	9:I:22:PRO:HD3	1.89	0.54
14:N:46:ARG:O	14:N:50:PRO:HG2	2.07	0.54
20:T:34:VAL:HG22	20:T:81:LYS:O	2.07	0.54
20:T:73:ARG:NH1	54:28:456:C:C6	2.70	0.54
24:X:16:ASN:ND2	54:28:2081:U:H5''	2.21	0.54
25:Y:58:ASN:ND2	54:28:111:A:O2'	2.40	0.54
35:9:33:ILE:CG1	35:9:34:GLU:H	2.05	0.54
40:14:11:ARG:HD3	40:14:76:GLY:HA3	1.90	0.54
40:14:40:ARG:NH2	53:27:1292:G:H4'	2.22	0.54
41:15:35:GLN:NE2	41:15:77:VAL:O	2.41	0.54
43:17:26:CYS:SG	43:17:29:LYS:HG2	2.48	0.54
53:27:181:A:N6	53:27:194:C:H3'	2.23	0.54
53:27:335:C:H2'	53:27:336:A:C8	2.43	0.54
53:27:358:U:H2'	53:27:359:G:C8	2.42	0.54
53:27:1182:G:H5'	53:27:1183:U:OP1	2.08	0.54
54:28:19:A:H2'	54:28:20:C:H6	1.73	0.54
54:28:553:G:H2'	54:28:554:U:O4'	2.08	0.54
54:28:1526:C:H2'	54:28:1527:G:O4'	2.07	0.54
54:28:1669:A:H2'	54:28:1670:C:H5'	1.90	0.54
54:28:1748:C:H2'	54:28:1749:A:C8	2.42	0.54
54:28:2127:G:H21	54:28:2173:A:C4'	2.20	0.54
54:28:2195:U:H2'	54:28:2196:C:H6	1.72	0.54
54:28:2464:G:H2'	54:28:2465:C:C6	2.43	0.54
54:28:2805:C:H2'	54:28:2806:C:C6	2.43	0.54
56:30:13:A:N6	58:32:35:A:N6	2.55	0.54
9:I:80:LYS:HA	9:I:85:ILE:CG1	2.37	0.54
16:P:84:SER:HB2	16:P:86:LYS:HZ1	1.71	0.54
19:S:5:ALA:HB3	19:S:54:ALA:HB2	1.90	0.54
29:3:9:LYS:O	29:3:51:ALA:CB	2.51	0.54
32:6:1:MET:HE2	32:6:36:ARG:HB2	1.90	0.54
38:12:148:LYS:HE3	42:16:60:PHE:CZ	2.43	0.54
53:27:785:G:H2'	53:27:786:G:H8	1.72	0.54
53:27:1198:G:H2'	53:27:1199:U:C6	2.42	0.54
53:27:1234:C:O2'	53:27:1235:U:H5'	2.08	0.54
53:27:1417:G:N2	53:27:1482:G:H2'	2.22	0.54
54:28:340:A:H2'	54:28:341:C:O4'	2.08	0.54
54:28:934:U:H2'	54:28:935:C:H6	1.70	0.54
54:28:1269:A:H2'	54:28:1270:C:C6	2.43	0.54
54:28:2229:U:H2'	54:28:2230:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2368:C:H2'	54:28:2369:A:H8	1.73	0.54
3:C:149:ASN:HD22	54:28:2572:A:H2'	1.73	0.54
3:C:173:GLN:NE2	54:28:2772:C:H5'	2.23	0.54
4:D:14:VAL:HG21	4:D:19:PHE:CD2	2.42	0.54
7:G:51:ARG:HG2	7:G:55:GLU:OE1	2.08	0.54
32:6:18:LYS:CE	32:6:21:GLY:HA2	2.37	0.54
38:12:30:MET:SD	53:27:1373:G:H4'	2.47	0.54
38:12:71:THR:O	38:12:90:VAL:HG12	2.08	0.54
38:12:101:ARG:NH1	53:27:939:G:H5'	2.23	0.54
39:13:5:PRO:HB2	39:13:32:LYS:HZ2	1.71	0.54
53:27:514:C:H2'	53:27:515:G:C8	2.43	0.54
53:27:1410:A:H2'	53:27:1411:C:C6	2.43	0.54
53:27:1427:C:H2'	53:27:1428:A:H8	1.72	0.54
54:28:155:A:H2'	54:28:156:A:C8	2.43	0.54
54:28:326:G:H2'	54:28:327:G:H8	1.72	0.54
54:28:546:U:H2'	54:28:547:A:O4'	2.08	0.54
54:28:586:A:H2	54:28:809:G:N3	2.06	0.54
54:28:691:C:H2'	54:28:692:C:C6	2.43	0.54
54:28:745:G:O2'	54:28:748:G:H1'	2.07	0.54
54:28:1278:C:H2'	54:28:1279:G:C8	2.42	0.54
54:28:2286:G:C5'	54:28:2287:A:O4'	2.56	0.54
54:28:2368:C:H2'	54:28:2369:A:C8	2.43	0.54
58:32:32:C:H2'	58:32:33:U:O4'	2.08	0.54
1:A:679:LEU:HB3	1:A:734:ASP:OD2	2.07	0.54
3:C:27:ILE:HG22	3:C:29:VAL:HG23	1.89	0.54
5:E:41:GLU:HB2	5:E:48:LEU:HD23	1.90	0.54
6:F:15:ASP:HB2	6:F:26:LYS:HB3	1.88	0.54
8:H:117:LEU:HG	8:H:120:ALA:HA	1.90	0.54
16:P:23:ASP:OD1	16:P:89:GLY:N	2.41	0.54
22:V:51:GLN:OE1	22:V:86:LEU:HD21	2.08	0.54
25:Y:49:ASP:O	25:Y:53:VAL:HG23	2.08	0.54
46:20:44:GLU:HG3	46:20:45:HIS:CD2	2.43	0.54
51:25:77:ASN:O	51:25:81:GLN:HG2	2.08	0.54
53:27:52:C:H2'	53:27:53:A:H8	1.72	0.54
53:27:232:G:H1'	53:27:262:A:N1	2.22	0.54
53:27:314:C:O2'	53:27:315:A:H5'	2.08	0.54
53:27:834:U:H2'	53:27:835:U:C6	2.42	0.54
53:27:1426:G:H2'	53:27:1427:C:C6	2.42	0.54
54:28:654:A:H3'	54:28:654:A:N3	2.22	0.54
54:28:2398:U:H2'	54:28:2399:G:H8	1.71	0.54
54:28:2404:U:H2'	54:28:2405:G:O4'	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2691:C:H2'	54:28:2692:G:H8	1.73	0.54
1:A:679:LEU:N	1:A:679:LEU:CD1	2.70	0.54
2:B:65:ASP:OD2	2:B:68:ARG:HD2	2.07	0.54
2:B:104:LEU:HD13	2:B:155:ARG:HB2	1.90	0.54
3:C:130:GLN:HE22	54:28:2578:G:H21	1.56	0.54
5:E:28:PRO:HB3	5:E:159:ALA:HB2	1.90	0.54
7:G:16:GLY:HA2	7:G:47:PHE:CE2	2.43	0.54
9:I:92:PRO:HA	9:I:136:GLY:HA3	1.89	0.54
11:K:113:MET:O	11:K:116:ILE:HG13	2.08	0.54
13:M:29:GLY:HA2	13:M:106:ASP:HB2	1.89	0.54
18:R:73:LYS:O	18:R:75:VAL:HG23	2.07	0.54
33:7:106:VAL:O	33:7:110:ILE:HG13	2.08	0.54
35:9:82:LYS:O	35:9:83:GLY:C	2.44	0.54
35:9:146:GLU:HA	35:9:149:LYS:HB2	1.90	0.54
36:10:96:GLN:OE1	36:10:97:PRO:HD2	2.08	0.54
37:11:15:SER:HB2	37:11:58:HIS:CB	2.38	0.54
37:11:81:ASN:OD1	37:11:82:ASP:N	2.41	0.54
40:14:123:ARG:HB3	53:27:1343:G:C4'	2.36	0.54
50:24:5:LYS:HD2	50:24:6:LYS:NZ	2.23	0.54
53:27:212:G:H2'	53:27:213:G:O4'	2.07	0.54
54:28:492:A:H2'	54:28:493:G:O4'	2.07	0.54
54:28:1229:C:H2'	54:28:1230:A:C8	2.43	0.54
54:28:1290:C:H2'	54:28:1291:C:C6	2.42	0.54
54:28:1318:U:H2'	54:28:1319:C:C6	2.43	0.54
54:28:1775:U:H2'	54:28:1776:G:O4'	2.08	0.54
54:28:2038:G:H2'	54:28:2039:U:O4'	2.08	0.54
54:28:2134:A:C2	54:28:2158:A:H4'	2.43	0.54
54:28:2333:A:H5''	54:28:2334:U:OP1	2.08	0.54
54:28:2739:U:O2'	54:28:2740:A:H5'	2.08	0.54
54:28:2810:A:H2'	54:28:2811:G:O4'	2.07	0.54
2:B:227:VAL:HG11	54:28:784:G:C2	2.43	0.53
2:B:231:HIS:HA	2:B:241:LYS:HE2	1.90	0.53
3:C:13:ARG:HH11	16:P:55:HIS:HA	1.73	0.53
8:H:39:THR:HA	8:H:42:ARG:HB3	1.89	0.53
8:H:61:ARG:CB	54:28:1047:G:C8	2.90	0.53
9:I:19:PRO:HB2	9:I:22:PRO:HD2	1.90	0.53
12:L:17:LYS:HD3	54:28:663:G:H5''	1.90	0.53
19:S:18:ARG:NH1	54:28:518:G:OP1	2.41	0.53
19:S:57:ASN:OD1	19:S:61:ASN:ND2	2.41	0.53
27:1:35:ASP:OD1	27:1:36:VAL:N	2.41	0.53
34:8:121:SER:HB3	34:8:125:ARG:HH12	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:737:C:H2'	54:28:738:G:O4'	2.08	0.53
54:28:1139:G:O2'	54:28:1140:C:H5'	2.08	0.53
3:C:110:THR:HG21	3:C:169:ARG:HE	1.73	0.53
3:C:129:THR:HG22	3:C:130:GLN:O	2.08	0.53
4:D:145:ASP:O	4:D:184:ASP:HB2	2.08	0.53
9:I:74:PRO:HB2	9:I:77:VAL:HG23	1.90	0.53
17:Q:57:ARG:NH1	54:28:1154:G:OP2	2.29	0.53
21:U:52:ASN:OD1	21:U:53:GLN:N	2.40	0.53
36:10:49:TYR:O	36:10:62:ALA:HB2	2.07	0.53
41:15:36:VAL:HG22	41:15:38:GLY:H	1.72	0.53
51:25:77:ASN:OD1	51:25:78:LEU:N	2.42	0.53
53:27:459:A:H2'	53:27:460:A:C8	2.43	0.53
53:27:576:C:H3'	53:27:576:C:OP2	2.08	0.53
53:27:968:A:C8	53:27:1062:U:H4'	2.43	0.53
53:27:1478:U:H2'	53:27:1479:C:C6	2.43	0.53
54:28:2014:A:H2'	54:28:2015:A:C8	2.43	0.53
54:28:2047:C:O2'	54:28:2048:G:H5'	2.08	0.53
54:28:2106:U:H2'	54:28:2107:G:C8	2.43	0.53
54:28:2415:G:H2'	54:28:2416:C:H6	1.74	0.53
54:28:2485:G:O2'	54:28:2486:C:H5'	2.08	0.53
54:28:2691:C:H2'	54:28:2692:G:C8	2.42	0.53
54:28:2714:G:O2'	54:28:2715:C:H5'	2.08	0.53
54:28:2834:G:O2'	54:28:2835:A:H5'	2.08	0.53
6:F:121:THR:OG1	6:F:133:LYS:HB2	2.08	0.53
8:H:59:LEU:HG	8:H:61:ARG:H	1.73	0.53
9:I:118:GLY:HA3	54:28:1082:U:H5'	1.90	0.53
21:U:97:SER:O	21:U:99:SER:N	2.38	0.53
33:7:209:VAL:HA	33:7:212:TYR:HD2	1.72	0.53
53:27:422:C:H5''	53:27:423:G:O5'	2.08	0.53
53:27:878:A:H2'	53:27:879:C:C6	2.43	0.53
54:28:271:G:H1'	54:28:272:A:C8	2.43	0.53
54:28:388:G:N7	54:28:390:U:H2'	2.23	0.53
54:28:816:C:H2'	54:28:817:C:H6	1.72	0.53
54:28:845:A:H5'	54:28:846:U:OP2	2.08	0.53
54:28:1541:C:H2'	54:28:1542:U:C6	2.43	0.53
54:28:1659:G:H3'	54:28:1660:G:H5''	1.88	0.53
54:28:1748:C:H2'	54:28:1749:A:H8	1.73	0.53
54:28:2199:A:H2'	54:28:2200:C:O4'	2.08	0.53
54:28:2323:G:H2'	54:28:2324:U:O4'	2.08	0.53
1:A:602:VAL:HG21	50:24:31:ARG:HD3	1.90	0.53
14:N:30:ARG:HG3	14:N:75:ILE:CD1	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:61:ILE:HG12	17:Q:91:ARG:HD3	1.90	0.53
20:T:64:LYS:NZ	54:28:1602:U:OP2	2.41	0.53
24:X:11:PRO:HA	24:X:28:PHE:O	2.08	0.53
28:2:27:LEU:HD23	28:2:36:LYS:HB3	1.90	0.53
36:10:148:SER:OG	36:10:150:GLU:OE1	2.26	0.53
37:11:48:ALA:HB1	49:23:68:PRO:CG	2.30	0.53
38:12:3:ARG:HD2	53:27:932:C:OP1	2.09	0.53
41:15:57:VAL:HG22	41:15:58:ASN:N	2.21	0.53
42:16:124:LYS:O	52:26:34:ARG:NE	2.41	0.53
49:23:31:TYR:O	49:23:39:VAL:HB	2.09	0.53
52:26:45:LYS:HE3	53:27:723:U:O4'	2.07	0.53
53:27:321:A:O2'	53:27:322:C:H5'	2.08	0.53
53:27:472:U:H2'	53:27:473:U:C6	2.43	0.53
53:27:965:U:H1'	53:27:969:A:C2	2.42	0.53
53:27:1351:U:H2'	53:27:1352:C:C6	2.43	0.53
54:28:796:C:H2'	54:28:797:G:H8	1.72	0.53
54:28:814:C:H2'	54:28:815:C:H6	1.72	0.53
54:28:1094:U:H1'	54:28:1097:U:H5	1.73	0.53
54:28:1354:A:H2'	54:28:1355:G:O4'	2.09	0.53
54:28:1878:G:H2'	54:28:1879:C:O4'	2.09	0.53
54:28:2345:G:H5'	54:28:2347:C:H5'	1.89	0.53
54:28:2898:U:H2'	54:28:2899:A:H8	1.72	0.53
1:A:692:VAL:HG21	1:A:715:GLU:O	2.08	0.53
2:B:206:LYS:HB2	54:28:729:G:C6	2.44	0.53
5:E:90:LEU:HD13	5:E:95:MET:HA	1.91	0.53
7:G:31:VAL:HG12	24:X:38:TRP:HD1	1.74	0.53
7:G:58:LEU:O	7:G:61:VAL:HG22	2.08	0.53
11:K:36:GLY:HA2	11:K:62:VAL:O	2.08	0.53
18:R:88:GLY:O	54:28:1224:U:H4'	2.09	0.53
19:S:25:ARG:HH22	54:28:519:U:H5''	1.73	0.53
21:U:21:ARG:HD3	21:U:72:PHE:CD1	2.44	0.53
25:Y:39:GLN:HB2	25:Y:41:HIS:HE1	1.71	0.53
35:9:167:PRO:HB3	35:9:169:TRP:CH2	2.43	0.53
36:10:104:ILE:HD11	36:10:119:VAL:HG23	1.91	0.53
41:15:52:LEU:HD21	41:15:59:LYS:HD2	1.88	0.53
53:27:287:U:H2'	53:27:288:A:H8	1.73	0.53
53:27:465:A:H2'	53:27:466:A:C8	2.43	0.53
53:27:599:C:H2'	53:27:600:A:H8	1.73	0.53
53:27:1030:U:H3'	53:27:1031:C:O4'	2.09	0.53
53:27:1176:A:H2'	53:27:1177:G:C8	2.43	0.53
54:28:558:U:H2'	54:28:559:G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:816:C:H2'	54:28:817:C:C6	2.44	0.53
54:28:1328:A:H2'	54:28:1330:C:C4	2.43	0.53
54:28:1606:C:H4'	54:28:1608:A:C2	2.43	0.53
54:28:1746:A:H2'	54:28:1747:U:H6	1.70	0.53
54:28:2126:A:H5'	54:28:2127:G:O5'	2.08	0.53
56:30:13:A:C2'	56:30:14:A:H5'	2.37	0.53
14:N:12:ARG:HD3	14:N:16:HIS:CE1	2.43	0.53
16:P:88:ARG:N	16:P:111:GLU:OE2	2.41	0.53
17:Q:2:ARG:HD2	54:28:1248:G:N1	2.23	0.53
33:7:206:ILE:HG13	33:7:207:ARG:N	2.24	0.53
54:28:808:G:H2'	54:28:809:G:H8	1.71	0.53
54:28:1130:U:O2'	54:28:1131:G:OP1	2.26	0.53
54:28:1289:C:H2'	54:28:1290:C:H6	1.73	0.53
54:28:1550:C:H2'	54:28:1551:A:H8	1.72	0.53
54:28:1916:A:H2'	54:28:1917:U:O4'	2.09	0.53
54:28:2457:U:C5	54:28:2494:G:N1	2.75	0.53
54:28:2520:C:O2'	54:28:2521:C:H5'	2.09	0.53
54:28:2524:G:C2'	54:28:2525:G:H5''	2.37	0.53
54:28:2644:G:H3'	54:28:2645:G:N2	2.23	0.53
1:A:640:GLN:NE2	54:28:883:G:N2	2.57	0.53
1:A:668:VAL:HG22	1:A:713:THR:HG22	1.91	0.53
2:B:132:ARG:O	2:B:166:ARG:NH1	2.42	0.53
11:K:66:LYS:HA	11:K:79:PHE:O	2.09	0.53
13:M:66:ARG:NH1	13:M:104:GLU:OE2	2.41	0.53
33:7:68:PHE:HE2	33:7:88:GLN:HB2	1.73	0.53
35:9:37:PRO:HD2	35:9:41:GLY:HA3	1.90	0.53
36:10:45:VAL:HG11	36:10:113:VAL:HG23	1.91	0.53
42:16:110:THR:HG22	52:26:4:LYS:HA	1.91	0.53
47:21:50:THR:HG22	47:21:50:THR:O	2.09	0.53
52:26:37:TYR:C	52:26:40:PRO:HD2	2.29	0.53
53:27:102:G:H2'	53:27:103:U:H6	1.74	0.53
53:27:1305:G:HO2'	53:27:1306:A:H8	1.53	0.53
54:28:499:U:H2'	54:28:500:G:O4'	2.08	0.53
54:28:556:A:H3'	54:28:557:C:C6	2.43	0.53
54:28:574:A:H4'	54:28:575:A:H5'	1.91	0.53
54:28:689:A:H2'	54:28:690:G:C8	2.44	0.53
54:28:1289:C:H2'	54:28:1290:C:C6	2.44	0.53
54:28:1866:A:H2'	54:28:1867:G:O4'	2.08	0.53
54:28:2088:A:H2'	54:28:2089:C:C6	2.43	0.53
54:28:2093:G:N7	54:28:2225:A:H2'	2.24	0.53
54:28:2676:C:H2'	54:28:2677:G:H8	1.72	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2888:C:H2'	54:28:2889:C:H6	1.74	0.53
2:B:87:SER:HB2	2:B:199:HIS:CD2	2.44	0.53
6:F:114:HIS:CD2	6:F:147:LEU:HD21	2.44	0.53
8:H:61:ARG:NE	54:28:1045:C:O2'	2.42	0.53
11:K:48:PRO:CG	53:27:1422:G:H5'	2.39	0.53
14:N:66:ALA:O	14:N:69:ARG:O	2.27	0.53
36:10:88:HIS:CE1	36:10:89:THR:HG1	2.27	0.53
42:16:81:LEU:O	42:16:81:LEU:HD12	2.09	0.53
43:17:78:VAL:HG12	43:17:101:LEU:HD23	1.90	0.53
44:18:13:HIS:NE2	53:27:1296:C:H5'	2.24	0.53
53:27:59:A:H5''	53:27:387:U:H5''	1.91	0.53
53:27:208:U:O2'	53:27:211:G:N2	2.42	0.53
53:27:460:A:H2'	53:27:461:A:H8	1.73	0.53
53:27:628:G:H2'	53:27:629:A:H8	1.72	0.53
53:27:984:C:H2'	53:27:985:C:H6	1.74	0.53
53:27:1229:A:H2'	53:27:1230:C:H6	1.73	0.53
53:27:1386:G:H2'	53:27:1387:G:H8	1.72	0.53
54:28:43:G:H2'	54:28:44:A:C8	2.44	0.53
54:28:57:C:H2'	54:28:58:G:O4'	2.07	0.53
54:28:1266:G:N2	54:28:2012:G:H2'	2.23	0.53
54:28:2257:U:O2'	54:28:2258:C:H5'	2.07	0.53
54:28:2391:G:O2'	54:28:2392:A:H8	1.91	0.53
54:28:2871:U:H5'	54:28:2872:A:OP1	2.09	0.53
56:30:7:G:H2'	56:30:8:A:C8	2.44	0.53
2:B:170:TYR:HB3	2:B:182:LYS:HB3	1.90	0.53
2:B:174:ARG:HH11	2:B:180:MET:CE	2.22	0.53
11:K:105:ARG:HE	16:P:31:VAL:HG21	1.73	0.53
12:L:86:GLU:C	12:L:87:GLY:O	2.45	0.53
14:N:29:VAL:HG11	14:N:75:ILE:HG23	1.91	0.53
23:W:35:ARG:NH1	54:28:2355:G:O2'	2.42	0.53
24:X:11:PRO:HG3	24:X:30:PRO:HD2	1.90	0.53
36:10:108:GLY:H	53:27:9:G:H4'	1.74	0.53
40:14:93:LEU:O	40:14:97:LEU:HD13	2.09	0.53
50:24:10:ILE:HG12	50:24:40:PHE:CE2	2.44	0.53
53:27:215:C:H2'	53:27:216:U:O4'	2.09	0.53
53:27:222:C:H2'	53:27:223:A:H8	1.74	0.53
53:27:1009:U:H2'	53:27:1010:U:H6	1.74	0.53
53:27:1011:C:H2'	53:27:1012:A:H8	1.74	0.53
54:28:395:U:H2'	54:28:396:G:C8	2.44	0.53
54:28:833:A:H2'	54:28:834:G:H8	1.72	0.53
54:28:863:A:H2'	54:28:864:G:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1515:A:H3'	54:28:1516:G:H8	1.74	0.53
54:28:1642:G:H2'	54:28:1643:G:C8	2.44	0.53
54:28:2104:C:H2'	54:28:2105:U:C6	2.44	0.53
54:28:2470:G:H2'	54:28:2471:A:C8	2.41	0.53
56:30:17:U:H2'	56:30:18:G:H8	1.73	0.53
2:B:52:HIS:CD2	2:B:218:THR:HA	2.44	0.53
8:H:17:GLU:HA	8:H:88:HIS:HB2	1.91	0.53
11:K:23:LYS:HZ3	54:28:2562:U:H1'	1.74	0.53
14:N:29:VAL:CG1	14:N:78:LYS:HD2	2.38	0.53
27:1:45:THR:O	27:1:48:GLN:HB3	2.09	0.53
34:8:55:VAL:HB	34:8:66:THR:HB	1.90	0.53
41:15:37:ARG:HD3	53:27:1124:G:OP1	2.09	0.53
45:19:52:ARG:CZ	53:27:1317:C:N3	2.72	0.53
53:27:132:C:H2'	53:27:133:U:C6	2.44	0.53
53:27:216:U:H2'	53:27:217:C:C6	2.44	0.53
53:27:513:C:H2'	53:27:514:C:H6	1.72	0.53
53:27:731:G:O2'	53:27:732:C:H5'	2.09	0.53
53:27:1287:A:H2'	53:27:1288:A:C8	2.43	0.53
54:28:115:C:O2'	54:28:116:C:H5'	2.09	0.53
54:28:409:G:H2'	54:28:410:G:C8	2.44	0.53
54:28:460:A:H2'	54:28:461:C:O4'	2.09	0.53
54:28:1344:U:H3'	54:28:1345:C:H5'	1.91	0.53
54:28:1972:G:H2'	54:28:1973:G:C8	2.44	0.53
54:28:2643:G:H2'	54:28:2644:G:C8	2.44	0.53
55:29:89:U:H5'	55:29:90:C:C6	2.43	0.53
2:B:228:ASP:CG	54:28:780:G:H1	2.13	0.52
7:G:83:LYS:C	7:G:91:PHE:HB2	2.29	0.52
16:P:84:SER:HB2	16:P:86:LYS:HZ2	1.73	0.52
18:R:4:VAL:HG22	18:R:13:ARG:HA	1.90	0.52
19:S:53:SER:O	19:S:57:ASN:HB2	2.09	0.52
36:10:105:ILE:HD11	36:10:123:LEU:HA	1.91	0.52
37:11:29:ILE:O	37:11:34:GLY:N	2.42	0.52
40:14:5:TYR:HB2	40:14:20:ILE:CG2	2.39	0.52
40:14:123:ARG:HB3	53:27:1343:G:O3'	2.09	0.52
41:15:14:ASP:OD2	41:15:17:LEU:N	2.42	0.52
42:16:44:ALA:HB3	42:16:69:CYS:HB2	1.90	0.52
47:21:39:PHE:HD1	47:21:50:THR:HG23	1.73	0.52
53:27:52:C:H2'	53:27:53:A:C8	2.44	0.52
53:27:309:A:H2'	53:27:310:G:C8	2.45	0.52
53:27:552:U:H2'	53:27:553:A:C8	2.44	0.52
53:27:695:A:H2'	53:27:696:A:H8	1.68	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:759:A:H2'	53:27:760:G:O4'	2.08	0.52
53:27:990:C:H2'	53:27:991:U:O4'	2.09	0.52
54:28:171:U:H2'	54:28:172:A:C8	2.45	0.52
54:28:337:C:H2'	54:28:338:G:O4'	2.09	0.52
54:28:796:C:H2'	54:28:797:G:C8	2.44	0.52
54:28:1435:G:O2'	54:28:1436:G:H5'	2.08	0.52
54:28:1478:G:H2'	54:28:1479:G:H8	1.73	0.52
54:28:1853:A:H2'	54:28:1854:A:C8	2.44	0.52
55:29:2:G:H2'	55:29:3:C:C6	2.44	0.52
2:B:222:THR:HG22	2:B:239:PHE:HD1	1.74	0.52
5:E:126:ASN:OD1	5:E:157:THR:N	2.32	0.52
10:J:102:GLU:OE2	54:28:2780:G:N1	2.41	0.52
14:N:31:HIS:CD2	54:28:1279:G:H4'	2.45	0.52
14:N:69:ARG:O	14:N:70:THR:OG1	2.25	0.52
20:T:88:LYS:O	20:T:89:GLU:C	2.46	0.52
39:13:11:THR:HG22	39:13:15:ASN:ND2	2.23	0.52
43:17:25:ALA:CB	53:27:554:A:H5'	2.39	0.52
53:27:24:U:H2'	53:27:25:C:H6	1.74	0.52
53:27:371:A:H2'	53:27:372:C:O4'	2.09	0.52
53:27:512:U:H2'	53:27:513:C:H6	1.73	0.52
53:27:801:U:H2'	53:27:802:A:C8	2.44	0.52
53:27:1029:U:H1'	53:27:1033:G:N2	2.22	0.52
53:27:1324:A:H2'	53:27:1325:C:C6	2.43	0.52
53:27:1453:G:H3'	53:27:1453:G:N3	2.24	0.52
54:28:583:G:H2'	54:28:584:C:C6	2.44	0.52
54:28:1201:U:H2'	54:28:1202:G:C8	2.44	0.52
54:28:1341:G:C2	54:28:1398:C:H4'	2.44	0.52
54:28:2837:A:H2'	54:28:2838:G:H8	1.74	0.52
2:B:246:PRO:HD2	2:B:247:TRP:CZ3	2.43	0.52
4:D:161:ALA:HA	4:D:164:LEU:HD13	1.90	0.52
5:E:91:ARG:HA	5:E:95:MET:HB3	1.90	0.52
5:E:99:PHE:O	5:E:102:LEU:HB3	2.09	0.52
6:F:34:ARG:HD3	6:F:74:MET:SD	2.50	0.52
17:Q:75:TYR:O	17:Q:78:PHE:HB3	2.09	0.52
17:Q:93:ILE:O	17:Q:97:ILE:HG13	2.10	0.52
18:R:85:LYS:HE2	54:28:815:C:P	2.50	0.52
24:X:3:VAL:HG22	24:X:10:ARG:HB3	1.92	0.52
34:8:35:ASP:O	34:8:38:VAL:HG22	2.10	0.52
35:9:2:ARG:HD2	35:9:114:ARG:HH21	1.74	0.52
38:12:14:ASP:HB3	38:12:17:PHE:O	2.09	0.52
40:14:41:GLU:OE1	40:14:41:GLU:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:52:LEU:HD23	41:15:62:ARG:HG2	1.89	0.52
44:18:6:ILE:O	44:18:8:ILE:CD1	2.57	0.52
50:24:51:HIS:HB2	50:24:56:HIS:NE2	2.24	0.52
53:27:1105:A:H2'	53:27:1106:G:C8	2.45	0.52
54:28:1:G:H2'	54:28:2:G:C8	2.44	0.52
54:28:297:G:H2'	54:28:298:G:O4'	2.09	0.52
54:28:609:A:H2'	54:28:610:C:O4'	2.09	0.52
54:28:1387:A:H2'	54:28:1388:G:C8	2.45	0.52
54:28:1415:U:H1'	54:28:1588:G:N2	2.24	0.52
54:28:1925:C:O2'	54:28:1926:U:H5'	2.10	0.52
54:28:2297:A:N6	54:28:2319:G:H1'	2.25	0.52
54:28:2623:G:H2'	54:28:2624:G:C8	2.43	0.52
55:29:85:G:H2'	55:29:86:G:H8	1.74	0.52
1:A:607:HIS:HB3	1:A:631:ILE:HB	1.91	0.52
4:D:44:ARG:NH1	54:28:1248:G:OP1	2.42	0.52
5:E:48:LEU:HD21	5:E:147:ARG:HH12	1.74	0.52
6:F:26:LYS:HB2	6:F:31:GLU:HG3	1.92	0.52
11:K:10:VAL:HG21	11:K:16:ALA:HB3	1.90	0.52
12:L:65:GLY:C	54:28:2415:G:H4'	2.30	0.52
19:S:11:ARG:NH2	54:28:1321:A:H4'	2.25	0.52
34:8:196:GLY:H	53:27:1057:G:H4'	1.73	0.52
35:9:8:LEU:HD21	35:9:31:CYS:SG	2.50	0.52
35:9:53:GLN:HB3	35:9:202:LEU:HD12	1.91	0.52
39:13:124:ILE:HG13	39:13:124:ILE:O	2.09	0.52
45:19:30:ILE:HG21	45:19:43:ALA:HB2	1.90	0.52
48:22:11:VAL:CG2	48:22:20:ILE:HD11	2.38	0.52
49:23:28:LEU:HD23	49:23:58:ILE:HD13	1.91	0.52
53:27:189:A:H2'	53:27:190:A:O4'	2.09	0.52
53:27:1125:U:H2'	53:27:1126:U:H2'	1.91	0.52
53:27:1251:A:O2'	53:27:1370:G:H5'	2.09	0.52
54:28:96:C:H2'	54:28:97:C:H6	1.75	0.52
54:28:438:G:H2'	54:28:439:A:H8	1.72	0.52
54:28:1662:U:H2'	54:28:1663:G:H8	1.75	0.52
54:28:1778:U:H2'	54:28:1784:A:H62	1.74	0.52
54:28:1794:A:H2'	54:28:1795:C:H6	1.74	0.52
54:28:2848:G:O2'	54:28:2868:A:N6	2.43	0.52
2:B:207:ALA:HB2	54:28:1790:C:O2'	2.09	0.52
4:D:68:ALA:O	4:D:69:ARG:C	2.47	0.52
4:D:85:PHE:CD1	54:28:588:U:H1'	2.45	0.52
5:E:141:ASP:O	5:E:142:TYR:HB3	2.08	0.52
8:H:11:ILE:O	8:H:14:GLU:HB3	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:35:ARG:HB3	10:J:54:ILE:HD11	1.92	0.52
11:K:66:LYS:HD3	54:28:1666:G:OP1	2.09	0.52
16:P:2:ASN:HD21	54:28:2876:G:H4'	1.74	0.52
43:17:35:ARG:HG2	43:17:37:TYR:CD2	2.44	0.52
48:22:5:ARG:NH2	53:27:127:G:H4'	2.24	0.52
53:27:429:U:H4'	53:27:430:A:O5'	2.08	0.52
54:28:532:A:H2'	54:28:532:A:N3	2.24	0.52
54:28:556:A:H3'	54:28:557:C:H6	1.74	0.52
54:28:569:U:C4	54:28:570:G:C6	2.97	0.52
54:28:706:A:H2'	54:28:707:G:O4'	2.09	0.52
54:28:777:G:H2'	54:28:778:G:H8	1.74	0.52
54:28:1177:G:H2'	54:28:1178:C:C1'	2.40	0.52
54:28:1858:A:H1'	54:28:1885:A:C2	2.44	0.52
54:28:2626:C:H2'	54:28:2627:G:C8	2.45	0.52
54:28:2650:U:H2'	54:28:2651:C:H6	1.74	0.52
58:32:9:G:O2'	58:32:45:G:H2'	2.09	0.52
3:C:108:ASP:OD2	3:C:206:ALA:HA	2.10	0.52
11:K:22:ILE:HD12	11:K:23:LYS:HB2	1.90	0.52
13:M:75:GLU:HA	54:28:957:C:OP2	2.10	0.52
14:N:53:THR:HA	14:N:56:LYS:HG2	1.92	0.52
20:T:50:LEU:N	20:T:50:LEU:HD12	2.24	0.52
28:2:46:GLY:HA3	28:2:54:ILE:CB	2.39	0.52
35:9:57:LYS:NZ	35:9:58:GLN:OE1	2.40	0.52
48:22:39:ARG:HD3	53:27:280:C:O2	2.09	0.52
49:23:11:ARG:O	49:23:12:PHE:HB2	2.09	0.52
53:27:880:C:H2'	53:27:881:G:C8	2.39	0.52
54:28:640:C:H2'	54:28:641:U:C6	2.45	0.52
54:28:723:C:H2'	54:28:724:U:O4'	2.10	0.52
54:28:2037:A:H2'	54:28:2038:G:H8	1.72	0.52
54:28:2747:G:H1	54:28:2754:U:H2'	1.75	0.52
4:D:149:ILE:HD11	4:D:172:ALA:HA	1.92	0.52
6:F:29:ASN:HB2	6:F:78:VAL:HA	1.92	0.52
12:L:77:ILE:HD12	12:L:108:ALA:HB1	1.91	0.52
17:Q:36:GLN:NE2	54:28:1252:G:H1	2.08	0.52
17:Q:80:ASN:ND2	54:28:1151:A:H4'	2.24	0.52
20:T:69:ARG:NH1	20:T:72:GLN:O	2.43	0.52
27:1:50:ASP:OD1	44:18:70:ARG:NE	2.31	0.52
30:4:11:LYS:HE3	54:28:686:U:H5''	1.90	0.52
36:10:131:ASN:HD21	53:27:18:C:P	2.32	0.52
48:22:56:ASP:HB3	48:22:81:ALA:N	2.24	0.52
53:27:300:A:H2'	53:27:301:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:376:G:H2'	53:27:377:G:H8	1.74	0.52
53:27:737:C:H2'	53:27:738:C:H6	1.74	0.52
53:27:1313:U:H2'	53:27:1314:C:C6	2.44	0.52
53:27:1521:C:H2'	53:27:1522:U:C6	2.44	0.52
54:28:262:A:H2'	54:28:263:G:O4'	2.09	0.52
54:28:279:A:H1'	54:28:362:A:O2'	2.10	0.52
54:28:668:A:H2'	54:28:670:A:H62	1.74	0.52
54:28:696:G:H2'	54:28:697:G:H8	1.74	0.52
54:28:1013:C:O2'	54:28:1014:A:H5'	2.10	0.52
54:28:2813:A:H2'	54:28:2814:A:C8	2.44	0.52
55:29:39:A:H2'	55:29:40:U:C5	2.45	0.52
4:D:46:GLN:HB3	4:D:83:VAL:HG11	1.92	0.52
8:H:11:ILE:CD1	8:H:66:GLY:HA3	2.39	0.52
8:H:34:THR:HG23	54:28:1056:G:H5'	1.92	0.52
9:I:111:THR:O	9:I:114:ALA:CB	2.56	0.52
11:K:90:ASN:OD1	11:K:91:SER:N	2.43	0.52
12:L:78:ARG:NH2	54:28:626:A:C2	2.77	0.52
15:O:66:GLY:HA2	15:O:102:ARG:HH21	1.75	0.52
17:Q:111:LYS:CB	18:R:48:LYS:HE3	2.32	0.52
21:U:81:ARG:NH2	21:U:96:LYS:HG3	2.25	0.52
22:V:20:LEU:HD23	22:V:27:PRO:HD3	1.92	0.52
24:X:48:LEU:HB3	24:X:50:VAL:HG13	1.91	0.52
33:7:165:ALA:HB2	33:7:186:VAL:HG12	1.91	0.52
33:7:170:ILE:HG13	33:7:171:ALA:N	2.24	0.52
37:11:11:HIS:CD2	37:11:12:PRO:HD2	2.44	0.52
39:13:104:SER:OG	39:13:125:ILE:HD11	2.10	0.52
43:17:98:ARG:HA	43:17:103:CYS:SG	2.49	0.52
46:20:27:GLN:NE2	53:27:657:U:O4'	2.40	0.52
47:21:4:ILE:HG12	47:21:21:VAL:HG22	1.91	0.52
51:25:70:LYS:HE2	53:27:261:U:OP2	2.10	0.52
53:27:458:U:H2'	53:27:459:A:H8	1.74	0.52
53:27:741:G:H2'	53:27:742:G:O4'	2.10	0.52
53:27:1412:C:H2'	53:27:1413:A:C8	2.45	0.52
54:28:259:G:O2'	54:28:260:G:H5'	2.10	0.52
54:28:996:A:H2'	54:28:997:G:H8	1.74	0.52
54:28:1005:C:H2'	54:28:1006:C:H6	1.75	0.52
54:28:1023:U:O2'	54:28:1122:G:H5'	2.09	0.52
54:28:1387:A:H2'	54:28:1388:G:H8	1.74	0.52
54:28:1930:G:N2	54:28:1968:G:H2'	2.23	0.52
54:28:2258:C:O2'	54:28:2426:A:H4'	2.10	0.52
54:28:2784:U:H2'	54:28:2785:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:144:GLU:HA	2:B:151:GLY:HA2	1.92	0.52
3:C:125:TRP:CG	3:C:160:LYS:HB3	2.45	0.52
7:G:29:PHE:HB2	54:28:2198:A:C2	2.45	0.52
9:I:113:ALA:C	9:I:115:ASP:N	2.63	0.52
33:7:221:ARG:O	33:7:224:ARG:NE	2.43	0.52
34:8:76:ILE:HD12	34:8:77:GLY:O	2.09	0.52
36:10:114:LEU:O	36:10:117:ALA:HB3	2.09	0.52
36:10:148:SER:O	36:10:151:MET:HB2	2.10	0.52
38:12:41:ILE:HD11	53:27:1240:U:O4'	2.10	0.52
40:14:98:ARG:NH2	53:27:1180:A:OP2	2.39	0.52
49:23:15:GLU:OE1	49:23:15:GLU:N	2.43	0.52
50:24:72:GLU:CG	53:27:1320:C:H4'	2.40	0.52
53:27:128:G:O2'	53:27:129:A:H5'	2.10	0.52
53:27:501:C:H1'	53:27:549:C:H1'	1.90	0.52
54:28:1246:A:H2'	54:28:1247:A:O4'	2.10	0.52
54:28:1637:A:H5'	54:28:1760:C:O2'	2.10	0.52
54:28:2497:A:H8	54:28:2497:A:OP2	1.92	0.52
54:28:2573:C:H5''	54:28:2574:G:H5''	1.91	0.52
8:H:75:ALA:O	8:H:76:PHE:C	2.47	0.52
10:J:113:PRO:HD2	54:28:558:U:OP1	2.10	0.52
16:P:105:LYS:HG2	53:27:1432:G:O5'	2.10	0.52
18:R:49:ILE:HD12	18:R:49:ILE:O	2.09	0.52
19:S:51:LEU:O	19:S:55:ILE:HG13	2.10	0.52
39:13:85:TYR:CD1	53:27:598:U:H4'	2.45	0.52
50:24:62:THR:HG22	50:24:63:ASP:N	2.25	0.52
52:26:16:ARG:HE	52:26:19:LYS:HG2	1.75	0.52
53:27:1252:A:H2'	53:27:1253:G:O4'	2.10	0.52
53:27:1328:C:H2'	53:27:1329:A:O4'	2.10	0.52
54:28:244:A:H2'	54:28:245:G:O4'	2.10	0.52
54:28:250:G:C2	54:28:251:A:C4	2.98	0.52
54:28:968:C:H2'	54:28:969:G:C8	2.45	0.52
54:28:1260:A:H2'	54:28:1261:C:H6	1.74	0.52
54:28:1336:A:H2'	54:28:1337:G:C8	2.45	0.52
54:28:1594:U:H2'	54:28:1595:C:H6	1.75	0.52
54:28:1838:C:H4'	54:28:1839:G:H8	1.75	0.52
54:28:2345:G:H21	54:28:2381:A:H3'	1.75	0.52
6:F:8:VAL:HG11	6:F:75:VAL:HG21	1.93	0.51
6:F:88:LEU:HD22	6:F:95:ALA:HB2	1.92	0.51
6:F:97:VAL:HG21	6:F:122:ALA:O	2.10	0.51
8:H:37:LYS:HD3	54:28:1085:A:N6	2.25	0.51
21:U:71:ILE:O	21:U:71:ILE:HG13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:X:31:ASN:OD1	24:X:33:HIS:NE2	2.42	0.51
32:6:4:ARG:O	32:6:37:GLN:HB3	2.09	0.51
33:7:56:LEU:HD23	33:7:59:ILE:HD11	1.92	0.51
38:12:139:ASP:HA	38:12:142:ARG:HH11	1.74	0.51
44:18:6:ILE:O	44:18:8:ILE:HD12	2.10	0.51
53:27:414:A:H2'	53:27:415:A:O4'	2.10	0.51
53:27:955:U:H2'	53:27:956:U:C6	2.44	0.51
53:27:1053:G:N7	53:27:1199:U:H3'	2.25	0.51
53:27:1113:C:H2'	53:27:1114:C:H6	1.74	0.51
53:27:1436:U:H2'	53:27:1437:A:H8	1.75	0.51
53:27:1472:U:H2'	53:27:1473:G:C8	2.45	0.51
54:28:401:A:H2'	54:28:402:A:C8	2.45	0.51
54:28:1882:U:O2'	54:28:1883:U:H5'	2.10	0.51
54:28:2006:C:H5'	54:28:2049:G:OP1	2.11	0.51
54:28:2131:U:C2	54:28:2158:A:H2'	2.45	0.51
54:28:2475:C:H42	54:28:2529:G:H22	1.58	0.51
54:28:2607:G:H2'	54:28:2608:G:O4'	2.10	0.51
1:A:722:LEU:O	1:A:725:VAL:HB	2.10	0.51
5:E:124:ARG:HG3	54:28:2315:G:O2'	2.10	0.51
5:E:144:LYS:N	5:E:144:LYS:HD2	2.25	0.51
9:I:46:ASP:HA	9:I:50:LYS:HE2	1.91	0.51
10:J:44:TYR:OH	10:J:46:PRO:HA	2.10	0.51
11:K:15:GLY:O	11:K:47:ILE:HG12	2.11	0.51
12:L:4:ASN:O	54:28:1243:C:H1'	2.10	0.51
15:O:64:TYR:CE2	15:O:66:GLY:HA3	2.46	0.51
21:U:6:ARG:HG3	21:U:7:ASP:N	2.23	0.51
27:1:9:TYR:CE1	27:1:26:SER:HA	2.46	0.51
32:6:2:LYS:HG3	32:6:4:ARG:HH12	1.74	0.51
34:8:148:ILE:HD12	34:8:200:TRP:O	2.10	0.51
41:15:39:PRO:HA	41:15:73:LEU:O	2.11	0.51
53:27:784:A:H2'	53:27:785:G:H8	1.74	0.51
53:27:813:U:H2'	53:27:814:A:H5''	1.90	0.51
53:27:994:A:C8	53:27:1216:A:H4'	2.46	0.51
54:28:277:G:H1'	54:28:361:G:O6	2.10	0.51
54:28:1744:A:H3'	54:28:1745:A:C8	2.43	0.51
54:28:1857:G:H1'	54:28:1885:A:H62	1.74	0.51
54:28:2812:G:H2'	54:28:2813:A:H8	1.74	0.51
57:31:23:C:H2'	57:31:24:U:C6	2.46	0.51
1:A:598:VAL:O	1:A:599:VAL:C	2.47	0.51
6:F:95:ALA:HB3	6:F:127:GLN:O	2.10	0.51
9:I:98:GLY:HA3	9:I:137:LEU:HD22	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:30:ARG:HA	15:O:35:ILE:HG13	1.90	0.51
17:Q:23:TYR:CD1	54:28:533:G:H5'	2.45	0.51
27:1:16:CYS:SG	27:1:20:ASN:N	2.83	0.51
43:17:42:LYS:HG3	43:17:88:ASP:O	2.10	0.51
51:25:67:HIS:ND1	51:25:67:HIS:O	2.43	0.51
53:27:516:U:H5	53:27:533:A:N6	2.08	0.51
53:27:1097:C:H2'	53:27:1098:C:C6	2.46	0.51
54:28:195:A:H2'	54:28:198:C:N4	2.24	0.51
54:28:600:G:H2'	54:28:601:C:C6	2.45	0.51
54:28:1168:G:H2'	54:28:1169:A:H8	1.75	0.51
54:28:1178:C:H2'	54:28:1179:G:N7	2.25	0.51
54:28:1660:G:H2'	54:28:1661:G:H8	1.75	0.51
54:28:1931:U:H2'	54:28:1932:A:H8	1.74	0.51
54:28:2011:U:H2'	54:28:2012:G:O4'	2.09	0.51
54:28:2398:U:H2'	54:28:2399:G:C8	2.45	0.51
54:28:2472:G:H2'	54:28:2475:C:H42	1.74	0.51
54:28:2488:G:O2'	54:28:2489:U:H5'	2.11	0.51
54:28:2888:C:H2'	54:28:2889:C:C6	2.45	0.51
2:B:149:LYS:HD3	54:28:2204:G:H4'	1.91	0.51
8:H:27:VAL:HG13	8:H:83:ALA:HB3	1.93	0.51
16:P:5:LYS:NZ	16:P:9:GLN:OE1	2.44	0.51
17:Q:56:PHE:CZ	54:28:536:G:H4'	2.45	0.51
27:1:58:ASP:OD1	27:1:59:ARG:N	2.41	0.51
37:11:2:ARG:HG3	37:11:68:GLN:NE2	2.26	0.51
38:12:3:ARG:HB2	53:27:932:C:OP1	2.09	0.51
43:17:81:ILE:CG2	43:17:94:TYR:HB3	2.39	0.51
44:18:3:ILE:HD11	44:18:21:ILE:HD11	1.92	0.51
53:27:1484:C:H2'	53:27:1485:U:C6	2.46	0.51
54:28:9:G:H2'	54:28:2629:U:O4	2.10	0.51
54:28:121:G:C4'	54:28:149:A:H5'	2.31	0.51
54:28:721:A:H2'	54:28:722:A:H8	1.70	0.51
54:28:910:A:C6	54:28:911:A:C6	2.99	0.51
54:28:1722:A:H62	54:28:1738:G:H1'	1.75	0.51
54:28:2565:A:C2'	54:28:2566:A:H5'	2.41	0.51
1:A:675:ASP:O	1:A:676:ARG:HB3	2.10	0.51
5:E:42:ALA:HB1	5:E:46:LYS:HD3	1.92	0.51
5:E:139:GLU:CD	5:E:139:GLU:H	2.13	0.51
11:K:31:ARG:HH12	54:28:2676:C:P	2.34	0.51
12:L:78:ARG:O	12:L:81:ASP:OD1	2.29	0.51
18:R:27:ILE:O	18:R:66:HIS:NE2	2.40	0.51
35:9:147:LYS:CD	53:27:491:G:OP1	2.55	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:74:LEU:O	37:11:77:THR:OG1	2.25	0.51
39:13:85:TYR:CG	53:27:598:U:H4'	2.45	0.51
39:13:87:ARG:HB3	39:13:90:GLU:HG2	1.92	0.51
42:16:51:PHE:CE2	42:16:64:VAL:HG11	2.46	0.51
45:19:2:LYS:NZ	53:27:1048:G:H4'	2.25	0.51
53:27:112:G:H21	53:27:354:G:C5'	2.14	0.51
53:27:622:A:H2'	53:27:623:C:H5'	1.92	0.51
53:27:765:G:H3'	53:27:812:G:H22	1.75	0.51
53:27:1390:U:H2'	53:27:1391:U:C6	2.46	0.51
53:27:1444:U:H2'	53:27:1445:U:C6	2.45	0.51
54:28:729:G:H4'	54:28:763:G:H5'	1.92	0.51
54:28:863:A:H2'	54:28:864:G:C8	2.45	0.51
54:28:1257:C:H2'	54:28:1258:U:C6	2.46	0.51
54:28:2141:G:N2	54:28:2151:U:H1'	2.25	0.51
54:28:2450:A:OP1	54:28:2497:A:H2'	2.10	0.51
1:A:650:GLU:HG2	1:A:651:ARG:HG3	1.93	0.51
1:A:684:THR:O	1:A:687:LEU:HB2	2.11	0.51
7:G:70:GLU:HB2	7:G:138:VAL:HG11	1.93	0.51
20:T:8:LEU:O	25:Y:29:ARG:NH1	2.43	0.51
20:T:50:LEU:HD23	25:Y:26:PHE:CD2	2.46	0.51
22:V:9:ARG:NH2	22:V:12:GLN:HA	2.26	0.51
30:4:12:ARG:NE	30:4:44:VAL:HG21	2.26	0.51
34:8:187:GLU:OE1	34:8:187:GLU:N	2.43	0.51
35:9:111:ALA:HB1	53:27:407:U:H5''	1.93	0.51
48:22:40:THR:HG22	48:22:41:THR:N	2.26	0.51
53:27:112:G:O2'	53:27:113:G:H5'	2.10	0.51
53:27:755:G:H2'	53:27:756:C:C6	2.46	0.51
54:28:355:U:H2'	54:28:356:G:C8	2.45	0.51
54:28:479:A:H4'	54:28:480:A:OP1	2.11	0.51
54:28:546:U:H2'	54:28:547:A:C4'	2.39	0.51
54:28:697:G:H2'	54:28:698:C:C6	2.45	0.51
54:28:741:U:H2'	54:28:742:A:H8	1.73	0.51
54:28:1032:A:H2	54:28:1122:G:H22	1.58	0.51
54:28:1656:C:H2'	54:28:1657:U:H6	1.74	0.51
54:28:2231:U:H2'	54:28:2232:C:H6	1.75	0.51
54:28:2417:C:H2'	54:28:2418:A:H8	1.76	0.51
5:E:72:SER:OG	5:E:79:ARG:HG2	2.10	0.51
5:E:105:ILE:HG13	5:E:106:ALA:N	2.24	0.51
9:I:29:GLN:OE1	54:28:1096:A:N6	2.43	0.51
12:L:54:GLN:NE2	54:28:2428:G:C2	2.79	0.51
14:N:38:LEU:HB3	14:N:39:PRO:HD3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:74:GLU:O	14:N:77:ALA:HB3	2.10	0.51
34:8:6:PRO:HB3	34:8:10:ARG:NH2	2.26	0.51
34:8:32:LEU:O	34:8:35:ASP:HB3	2.10	0.51
36:10:160:VAL:HA	36:10:163:ILE:HG13	1.93	0.51
42:16:95:THR:HG23	42:16:96:ILE:N	2.26	0.51
42:16:124:LYS:HD3	53:27:780:A:H5''	1.93	0.51
43:17:20:VAL:HG21	53:27:553:A:H5''	1.93	0.51
49:23:11:ARG:NH2	53:27:845:A:O2'	2.44	0.51
53:27:105:G:H2'	53:27:106:C:C6	2.45	0.51
53:27:571:U:H4'	53:27:819:A:C6	2.46	0.51
53:27:928:G:H2'	53:27:929:G:C8	2.46	0.51
53:27:987:G:H2'	53:27:988:G:H8	1.75	0.51
53:27:1004:A:C6	53:27:1026:G:H1'	2.46	0.51
53:27:1210:C:H2'	53:27:1211:U:O4'	2.10	0.51
53:27:1241:G:H2'	53:27:1242:G:H8	1.74	0.51
53:27:1338:G:H21	57:31:41:C:H1'	1.75	0.51
53:27:1346:A:N1	53:27:1374:A:H5''	2.25	0.51
54:28:551:G:H2'	54:28:552:U:H6	1.76	0.51
54:28:656:G:H2'	54:28:657:U:O4'	2.11	0.51
54:28:759:G:H2'	54:28:760:G:H8	1.75	0.51
54:28:1548:A:H2'	54:28:1549:A:C8	2.46	0.51
54:28:1839:G:H1'	54:28:1927:A:C8	2.46	0.51
54:28:2502:G:H5'	54:28:2503:A:H5''	1.93	0.51
54:28:2578:G:H2'	54:28:2579:C:H6	1.76	0.51
54:28:2821:A:H2'	54:28:2822:G:C8	2.45	0.51
55:29:111:U:H2'	55:29:112:G:C8	2.45	0.51
1:A:703:THR:HG23	1:A:704:LYS:N	2.26	0.51
2:B:156:SER:OG	54:28:1821:A:H5'	2.10	0.51
4:D:1:MET:O	4:D:13:THR:HA	2.11	0.51
9:I:135:MET:HB3	54:28:1063:G:C4'	2.41	0.51
15:O:51:ALA:HB3	15:O:78:VAL:CG2	2.40	0.51
26:Z:23:LEU:HD11	26:Z:53:MET:SD	2.50	0.51
34:8:47:ALA:O	34:8:49:ALA:N	2.44	0.51
35:9:106:PHE:CE1	35:9:144:ILE:HD11	2.46	0.51
47:21:51:ARG:O	47:21:52:LEU:HD12	2.10	0.51
52:26:33:ARG:HG3	52:26:34:ARG:HG2	1.91	0.51
53:27:1309:G:H2'	53:27:1310:G:C8	2.46	0.51
54:28:340:A:C2'	54:28:341:C:H5'	2.41	0.51
54:28:655:A:H4'	54:28:656:G:C5'	2.31	0.51
54:28:839:U:H2'	54:28:840:C:H6	1.76	0.51
54:28:1891:G:H2'	54:28:1892:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2106:U:H2'	54:28:2107:G:H8	1.74	0.51
54:28:2657:A:H2'	54:28:2658:C:H5'	1.92	0.51
54:28:2817:U:H3'	54:28:2818:U:H5''	1.93	0.51
57:31:1:C:N4	57:31:72:A:H61	2.07	0.51
58:32:14:A:H3'	58:32:15:G:C8	2.40	0.51
2:B:81:GLU:HG3	2:B:102:TYR:HE1	1.75	0.51
4:D:194:LYS:O	4:D:197:GLU:HB3	2.11	0.51
6:F:138:GLN:HE22	54:28:2759:G:N2	2.08	0.51
9:I:116:MET:HG2	9:I:117:THR:N	2.25	0.51
16:P:8:GLU:HA	16:P:54:LEU:HD22	1.93	0.51
17:Q:32:ARG:HB2	54:28:581:C:OP1	2.11	0.51
17:Q:107:ALA:O	17:Q:110:GLU:HB2	2.10	0.51
18:R:9:GLY:O	54:28:996:A:H1'	2.11	0.51
21:U:47:PRO:HB3	21:U:55:GLY:N	2.26	0.51
34:8:201:ILE:O	34:8:203:LYS:HG3	2.11	0.51
35:9:12:ARG:HH22	53:27:428:G:H3'	1.76	0.51
37:11:3:HIS:N	37:11:92:THR:HG22	2.25	0.51
42:16:56:LYS:HE2	53:27:691:G:O6	2.11	0.51
43:17:2:THR:HG21	53:27:880:C:OP2	2.10	0.51
49:23:11:ARG:NH1	49:23:14:ALA:HB3	2.24	0.51
51:25:4:LYS:HZ3	53:27:61:G:P	2.34	0.51
53:27:25:C:H5'	53:27:524:G:H1'	1.92	0.51
53:27:27:G:H2'	53:27:28:A:H8	1.75	0.51
53:27:102:G:H2'	53:27:103:U:C6	2.45	0.51
53:27:253:A:H2'	53:27:254:G:H8	1.76	0.51
53:27:999:C:H2'	53:27:1000:A:H8	1.76	0.51
54:28:29:U:H2'	54:28:30:G:C8	2.46	0.51
54:28:847:U:O2	54:28:847:U:H2'	2.10	0.51
54:28:972:A:H3'	54:28:973:A:H2'	1.92	0.51
54:28:1255:U:N3	54:28:2060:A:H8	2.09	0.51
54:28:2361:G:H2'	54:28:2362:C:H6	1.76	0.51
54:28:2658:C:H2'	54:28:2659:G:O4'	2.11	0.51
54:28:2841:C:H2'	54:28:2842:G:H8	1.76	0.51
58:32:72:A:C3'	58:32:73:A:H5''	2.41	0.51
3:C:130:GLN:NE2	54:28:2578:G:H21	2.08	0.51
4:D:49:ARG:NH2	54:28:673:C:OP1	2.40	0.51
4:D:130:LYS:NZ	54:28:320:A:OP1	2.44	0.51
12:L:111:ILE:H	12:L:128:THR:HG23	1.76	0.51
28:2:47:TYR:HA	28:2:51:ARG:O	2.10	0.51
33:7:120:SER:O	33:7:125:PHE:HB3	2.11	0.51
35:9:23:GLY:H	35:9:160:LEU:HD21	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:2:ARG:HE	37:11:92:THR:CG2	2.24	0.51
41:15:73:LEU:CD1	53:27:1125:U:H1'	2.41	0.51
49:23:15:GLU:OE2	53:27:845:A:H4'	2.10	0.51
49:23:32:ILE:HD12	49:23:36:GLY:HA2	1.92	0.51
53:27:370:C:H2'	53:27:371:A:C8	2.46	0.51
53:27:449:G:H2'	53:27:450:G:C8	2.46	0.51
53:27:456:A:H2'	53:27:457:G:C8	2.46	0.51
53:27:519:C:H2'	53:27:520:A:O4'	2.10	0.51
54:28:804:A:H2'	54:28:806:C:C4	2.46	0.51
54:28:1270:C:H5''	54:28:1271:G:O5'	2.11	0.51
54:28:1524:G:H2'	54:28:1525:A:H8	1.76	0.51
54:28:2391:G:O2'	54:28:2392:A:O5'	2.23	0.51
54:28:2544:G:H2'	54:28:2545:G:H8	1.75	0.51
55:29:93:C:H2'	55:29:94:A:H8	1.75	0.51
1:A:598:VAL:O	1:A:598:VAL:CG1	2.58	0.50
1:A:598:VAL:CG2	1:A:658:GLY:HA2	2.41	0.50
5:E:103:ILE:HG13	5:E:104:THR:N	2.26	0.50
6:F:90:GLY:HA3	6:F:93:TYR:CE2	2.46	0.50
9:I:7:TYR:CE1	9:I:59:THR:HG23	2.43	0.50
11:K:10:VAL:HG21	11:K:16:ALA:CB	2.42	0.50
11:K:79:PHE:HD1	16:P:69:VAL:HG22	1.76	0.50
25:Y:42:LEU:O	25:Y:43:LEU:C	2.49	0.50
31:5:41:ARG:HD3	54:28:2349:G:OP2	2.11	0.50
34:8:84:GLU:HA	34:8:87:ARG:NH1	2.26	0.50
37:11:98:GLU:HG3	37:11:99:ALA:N	2.26	0.50
40:14:56:MET:HE3	40:14:60:LEU:H	1.75	0.50
40:14:118:ARG:CZ	53:27:1233:G:H5'	2.41	0.50
45:19:52:ARG:NE	53:27:1317:C:N3	2.59	0.50
51:25:4:LYS:HZ1	53:27:61:G:P	2.34	0.50
53:27:165:G:H2'	53:27:166:U:C6	2.46	0.50
53:27:202:G:H2'	53:27:203:G:C8	2.46	0.50
53:27:451:A:H4'	53:27:452:A:O4'	2.11	0.50
53:27:781:A:H4'	53:27:1522:U:O2'	2.11	0.50
53:27:1460:C:H2'	53:27:1461:G:H8	1.77	0.50
54:28:145:C:H2'	54:28:146:A:C8	2.46	0.50
54:28:753:A:O2'	54:28:754:U:H5'	2.11	0.50
54:28:780:G:H21	54:28:783:A:H62	1.59	0.50
54:28:877:A:O2'	54:28:900:A:N6	2.44	0.50
54:28:1289:C:H1'	54:28:1330:C:H5'	1.92	0.50
54:28:1330:C:O2'	54:28:1331:G:H5'	2.11	0.50
54:28:1599:U:H2'	54:28:1600:C:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2019:A:H2	54:28:2035:G:H22	1.60	0.50
54:28:2329:U:H2'	54:28:2330:G:C8	2.46	0.50
54:28:2457:U:H5	54:28:2494:G:N1	2.09	0.50
54:28:2518:A:H2'	54:28:2518:A:N3	2.26	0.50
56:30:13:A:H61	58:32:35:A:N6	2.09	0.50
5:E:92:GLY:O	5:E:93:GLU:C	2.49	0.50
5:E:134:GLN:HB3	5:E:149:ARG:O	2.12	0.50
8:H:3:LEU:HD12	8:H:5:LEU:H	1.76	0.50
9:I:126:ARG:HB3	54:28:1080:A:H4'	1.93	0.50
21:U:6:ARG:NH2	21:U:25:LYS:O	2.45	0.50
26:Z:29:ARG:CD	54:28:1183:U:H5''	2.41	0.50
34:8:71:ARG:HE	34:8:74:ILE:HD11	1.76	0.50
36:10:153:ALA:HB2	36:10:163:ILE:HG12	1.93	0.50
38:12:76:SER:HB2	38:12:85:GLN:OE1	2.12	0.50
40:14:44:ARG:O	40:14:47:VAL:HG22	2.11	0.50
41:15:32:THR:HG21	41:15:83:THR:HA	1.93	0.50
51:25:30:PHE:O	51:25:33:LYS:HB2	2.11	0.50
53:27:189:A:O2'	53:27:190:A:H5'	2.12	0.50
53:27:197:A:N3	53:27:198:G:H1'	2.25	0.50
53:27:516:U:O4	53:27:533:A:N7	2.44	0.50
53:27:859:G:H2'	53:27:860:A:C8	2.46	0.50
53:27:1009:U:H2'	53:27:1010:U:C6	2.46	0.50
54:28:56:A:H2'	54:28:57:C:O4'	2.10	0.50
54:28:89:A:H2'	54:28:90:U:C6	2.46	0.50
54:28:622:G:H2'	54:28:623:C:H6	1.75	0.50
54:28:679:C:H2'	54:28:680:C:H6	1.71	0.50
54:28:963:U:H2'	54:28:964:C:H6	1.75	0.50
54:28:1144:A:H2'	54:28:1145:C:C6	2.46	0.50
54:28:1486:U:H2'	54:28:1487:U:H6	1.76	0.50
54:28:1912:A:N7	54:28:1917:U:O4	2.44	0.50
57:31:68:C:H2'	57:31:69:C:C6	2.46	0.50
1:A:700:ARG:NH2	54:28:897:C:O4'	2.44	0.50
2:B:200:MET:HB2	54:28:1820:U:C2	2.46	0.50
5:E:175:PRO:O	5:E:176:PHE:HB2	2.11	0.50
7:G:4:ILE:HD12	7:G:17:ASP:O	2.10	0.50
8:H:67:THR:HB	8:H:68:PRO:HD3	1.93	0.50
10:J:6:ALA:HB1	10:J:11:VAL:HG22	1.93	0.50
20:T:40:LYS:HG3	54:28:1599:U:OP1	2.11	0.50
24:X:15:ASN:ND2	54:28:381:G:H5''	2.26	0.50
28:2:12:ARG:HH11	28:2:16:ARG:NH1	2.09	0.50
30:4:11:LYS:HE2	54:28:686:U:OP1	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:11:46:GLN:CA	37:11:56:LYS:HG2	2.38	0.50
38:12:1:PRO:HB2	53:27:1379:G:N7	2.25	0.50
43:17:113:ARG:NH2	53:27:501:C:OP1	2.44	0.50
53:27:182:A:C2'	53:27:183:C:H5''	2.39	0.50
53:27:1115:U:H2'	53:27:1116:U:C6	2.46	0.50
53:27:1476:A:H2'	53:27:1477:U:O4'	2.11	0.50
54:28:371:A:H61	54:28:401:A:H3'	1.76	0.50
54:28:754:U:H2'	54:28:755:U:C6	2.47	0.50
54:28:959:A:H2'	54:28:960:A:C8	2.47	0.50
54:28:1047:G:H21	54:28:1110:G:H2'	1.76	0.50
54:28:1056:G:H1'	54:28:1103:A:H61	1.75	0.50
54:28:1464:G:H2'	54:28:1465:G:C8	2.46	0.50
54:28:1536:C:H4'	54:28:1537:G:C2	2.45	0.50
54:28:1709:U:H2'	54:28:1710:G:H8	1.73	0.50
54:28:2070:A:H2'	54:28:2071:A:O4'	2.11	0.50
57:31:63:G:H2'	57:31:64:G:H8	1.76	0.50
58:32:40:C:H2'	58:32:41:C:C6	2.46	0.50
1:A:668:VAL:O	1:A:740:ARG:HG3	2.11	0.50
2:B:205:GLY:O	54:28:1791:A:O4'	2.28	0.50
3:C:45:TYR:HE1	3:C:47:ALA:HB3	1.76	0.50
3:C:85:ALA:O	3:C:86:GLU:HB3	2.11	0.50
4:D:106:LYS:HG3	4:D:200:LEU:HD23	1.92	0.50
6:F:85:LYS:C	6:F:86:LEU:HD12	2.32	0.50
6:F:136:ASP:OD2	6:F:138:GLN:HB3	2.12	0.50
13:M:35:ALA:HB2	13:M:102:LEU:HD11	1.92	0.50
19:S:41:LYS:HB2	19:S:44:ALA:HB2	1.93	0.50
20:T:89:GLU:O	20:T:91:GLN:N	2.36	0.50
27:1:47:LYS:O	27:1:50:ASP:HB3	2.12	0.50
33:7:183:PHE:CE1	33:7:197:PHE:HD2	2.28	0.50
35:9:169:TRP:NE1	35:9:185:PRO:HG3	2.26	0.50
37:11:49:TYR:CE2	49:23:65:SER:HA	2.47	0.50
40:14:78:ILE:O	40:14:82:ILE:HG13	2.12	0.50
42:16:49:SER:HA	42:16:68:ARG:NH1	2.26	0.50
48:22:60:ILE:HG22	48:22:72:TRP:HE3	1.76	0.50
53:27:88:U:H2'	53:27:89:U:H6	1.73	0.50
53:27:236:A:H2'	53:27:237:G:H8	1.76	0.50
53:27:857:C:H2'	53:27:858:G:O4'	2.12	0.50
53:27:1504:G:OP1	53:27:1507:A:H4'	2.11	0.50
53:27:1518:A:H2'	53:27:1519:A:O4'	2.12	0.50
54:28:365:U:H2'	54:28:366:C:C6	2.47	0.50
54:28:787:C:H3'	54:28:791:C:H41	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1173:U:H5'	54:28:1174:U:OP2	2.11	0.50
54:28:1437:C:H2'	54:28:1438:U:C6	2.47	0.50
54:28:1441:G:H4'	54:28:1628:G:H5'	1.92	0.50
54:28:1771:C:H2'	54:28:1772:A:C8	2.46	0.50
1:A:638:CYS:O	1:A:641:LEU:HB3	2.12	0.50
4:D:49:ARG:O	4:D:74:LYS:HE2	2.10	0.50
7:G:114:GLU:HA	7:G:116:ARG:NH1	2.26	0.50
9:I:92:PRO:HG2	54:28:1063:G:N3	2.27	0.50
19:S:59:GLU:HA	19:S:64:ALA:HA	1.93	0.50
36:10:110:MET:O	36:10:113:VAL:HG12	2.11	0.50
38:12:111:GLY:HA2	38:12:118:ARG:HD3	1.93	0.50
38:12:113:LYS:HZ1	53:27:1298:U:H5	1.58	0.50
53:27:357:G:O2'	53:27:358:U:H5'	2.10	0.50
53:27:484:G:H4'	53:27:485:U:H5''	1.93	0.50
53:27:663:A:H5'	53:27:836:G:OP1	2.12	0.50
53:27:813:U:C2'	53:27:814:A:H5''	2.41	0.50
53:27:1305:G:N2	53:27:1331:G:H2'	2.24	0.50
54:28:443:A:N3	54:28:1201:U:H1'	2.26	0.50
54:28:1935:G:H3'	54:28:1962:C:H42	1.75	0.50
54:28:2216:G:H2'	54:28:2217:G:H8	1.77	0.50
54:28:2461:A:H2'	54:28:2462:C:C6	2.46	0.50
54:28:2841:C:H2'	54:28:2842:G:C8	2.46	0.50
54:28:2875:C:O2'	54:28:2876:G:H5'	2.11	0.50
8:H:61:ARG:CB	54:28:1047:G:N7	2.74	0.50
33:7:66:ILE:N	33:7:88:GLN:OE1	2.39	0.50
35:9:205:LYS:HB3	53:27:8:A:C5	2.46	0.50
43:17:51:VAL:HG22	43:17:52:CYS:N	2.25	0.50
48:22:12:VAL:HB	48:22:21:VAL:HG13	1.94	0.50
49:23:14:ALA:HA	49:23:50:TYR:CE2	2.46	0.50
50:24:5:LYS:HD2	50:24:6:LYS:HZ3	1.76	0.50
50:24:54:ARG:NH1	53:27:958:A:C5	2.80	0.50
53:27:813:U:H2'	53:27:814:A:C5'	2.42	0.50
53:27:836:G:H2'	53:27:837:U:O4'	2.12	0.50
53:27:860:A:H2'	53:27:861:G:O4'	2.11	0.50
53:27:896:C:H2'	53:27:897:C:C6	2.46	0.50
54:28:886:A:H1'	54:28:891:G:N2	2.27	0.50
54:28:1001:A:H2'	54:28:1002:G:O4'	2.12	0.50
54:28:1561:C:H2'	54:28:1562:U:H6	1.77	0.50
54:28:2307:G:H8	54:28:2307:G:OP1	1.94	0.50
54:28:2317:A:H2'	54:28:2318:G:O4'	2.11	0.50
54:28:2651:C:O2'	54:28:2652:C:H5'	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2723:C:H2'	54:28:2724:U:O4'	2.12	0.50
54:28:2881:U:H2'	54:28:2882:A:C8	2.46	0.50
55:29:49:C:H2'	55:29:50:A:C8	2.46	0.50
55:29:85:G:H2'	55:29:86:G:C8	2.47	0.50
1:A:699:SER:HA	1:A:710:ILE:HA	1.92	0.50
3:C:118:PHE:HB2	54:28:2823:A:OP1	2.11	0.50
6:F:81:GLY:HA3	6:F:134:GLY:O	2.11	0.50
10:J:35:ARG:HD3	10:J:40:HIS:CD2	2.47	0.50
13:M:66:ARG:NH2	54:28:906:U:O2'	2.38	0.50
16:P:46:VAL:HA	16:P:59:THR:O	2.12	0.50
33:7:41:ASN:HD21	33:7:43:GLU:HB2	1.77	0.50
33:7:58:LYS:O	33:7:61:SER:CB	2.57	0.50
37:11:9:MET:HB3	37:11:59:TYR:CE1	2.47	0.50
41:15:67:ILE:HG23	45:19:95:LEU:HD13	1.94	0.50
43:17:106:VAL:HG23	43:17:116:TYR:HB3	1.92	0.50
53:27:181:A:H61	53:27:194:C:H3'	1.76	0.50
53:27:427:U:H4'	53:27:541:G:H5''	1.93	0.50
53:27:590:U:H2'	53:27:591:U:C6	2.47	0.50
53:27:1221:G:H2'	53:27:1222:G:C8	2.47	0.50
54:28:565:C:H4'	54:28:1253:A:C6	2.47	0.50
54:28:1290:C:H2'	54:28:1291:C:H6	1.77	0.50
54:28:2010:G:H2'	54:28:2011:U:H6	1.76	0.50
54:28:2016:U:H2'	54:28:2017:U:C6	2.47	0.50
54:28:2291:U:H5''	54:28:2380:C:O2'	2.11	0.50
1:A:621:ILE:HB	1:A:633:VAL:HG13	1.94	0.50
2:B:71:ASP:OD1	2:B:118:GLY:HA2	2.11	0.50
4:D:88:ARG:HD3	4:D:89:PRO:HD2	1.93	0.50
5:E:114:ARG:HH22	27:1:47:LYS:HA	1.72	0.50
7:G:68:ARG:HA	7:G:71:LYS:HD2	1.92	0.50
10:J:36:LEU:HD22	10:J:121:LYS:HB2	1.93	0.50
20:T:13:ALA:HB3	20:T:33:LYS:HD3	1.93	0.50
28:2:40:HIS:HA	28:2:48:TYR:OH	2.11	0.50
31:5:14:LYS:HB3	31:5:22:LYS:HE2	1.94	0.50
35:9:58:GLN:HE21	35:9:62:ARG:NH2	2.09	0.50
51:25:70:LYS:HA	51:25:73:ARG:NH1	2.27	0.50
52:26:23:GLU:HB3	52:26:27:VAL:HG22	1.93	0.50
52:26:39:LYS:HB3	52:26:40:PRO:HD3	1.92	0.50
53:27:79:G:N3	53:27:80:A:H1'	2.27	0.50
53:27:401:C:O2'	53:27:402:G:H5'	2.12	0.50
53:27:507:C:H2'	53:27:508:U:H5	1.77	0.50
53:27:878:A:H2'	53:27:879:C:H6	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:948:C:H2'	53:27:949:A:C8	2.43	0.50
54:28:114:U:H2'	54:28:115:C:C6	2.46	0.50
54:28:128:C:H2'	54:28:129:C:H6	1.77	0.50
54:28:1433:A:H2'	54:28:1434:A:O4'	2.12	0.50
54:28:1593:A:H2'	54:28:1594:U:C6	2.47	0.50
54:28:1775:U:H2'	54:28:1776:G:C5'	2.41	0.50
54:28:2047:C:H2'	54:28:2048:G:C8	2.45	0.50
54:28:2228:G:H2'	54:28:2229:U:H6	1.75	0.50
54:28:2743:U:H2'	54:28:2744:G:O4'	2.11	0.50
9:I:135:MET:HG3	9:I:137:LEU:HG	1.94	0.50
15:O:30:ARG:HH11	15:O:102:ARG:NH1	2.09	0.50
18:R:17:GLY:H	18:R:98:ILE:HB	1.75	0.50
18:R:27:ILE:CG2	18:R:31:GLU:HB3	2.42	0.50
36:10:155:LYS:HG2	39:13:65:PHE:HB2	1.94	0.50
50:24:2:ARG:HA	53:27:1313:U:O4	2.11	0.50
51:25:23:ARG:HH21	51:25:60:GLN:HE22	1.59	0.50
53:27:250:A:H4'	53:27:251:G:O5'	2.12	0.50
53:27:306:A:O2'	53:27:307:C:H5'	2.11	0.50
53:27:507:C:H2'	53:27:508:U:C5	2.46	0.50
53:27:1296:C:H4'	53:27:1302:C:H41	1.77	0.50
53:27:1408:A:H2	53:27:1492:A:H62	1.59	0.50
54:28:894:U:O2'	54:28:895:U:H5'	2.11	0.50
54:28:1664:A:N6	54:28:1996:C:H42	2.05	0.50
54:28:2197:U:O3'	54:28:2198:A:H8	1.94	0.50
54:28:2246:G:H2'	54:28:2247:A:H8	1.77	0.50
54:28:2771:C:H2'	54:28:2772:C:H6	1.76	0.50
4:D:115:GLN:C	4:D:117:ARG:H	2.15	0.49
5:E:64:PRO:HA	5:E:88:VAL:HG22	1.94	0.49
5:E:134:GLN:OE1	5:E:149:ARG:O	2.29	0.49
5:E:137:PHE:HB2	5:E:140:ILE:HD13	1.94	0.49
9:I:27:LEU:O	9:I:31:GLY:N	2.45	0.49
10:J:17:VAL:HG23	10:J:137:PRO:HB2	1.94	0.49
12:L:96:LYS:CD	12:L:103:ILE:HA	2.42	0.49
15:O:3:LYS:CE	55:29:46:A:H5''	2.42	0.49
16:P:16:VAL:HG13	16:P:83:ILE:HD12	1.94	0.49
19:S:83:LYS:HD3	19:S:95:ARG:HH11	1.73	0.49
22:V:16:ALA:HA	22:V:19:ARG:NH1	2.27	0.49
34:8:35:ASP:OD1	34:8:56:ILE:HG13	2.12	0.49
35:9:23:GLY:O	35:9:26:ALA:HB2	2.12	0.49
38:12:112:ASP:HB2	38:12:118:ARG:HG3	1.93	0.49
41:15:20:GLN:O	41:15:24:GLU:HG3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:18:97:ARG:HG2	53:27:1308:U:P	2.52	0.49
53:27:252:U:C2	53:27:253:A:N7	2.80	0.49
53:27:403:C:H2'	53:27:404:G:H8	1.77	0.49
53:27:537:G:H2'	53:27:538:G:H8	1.77	0.49
53:27:1211:U:H4'	53:27:1213:A:C1'	2.41	0.49
54:28:493:G:H2'	54:28:494:G:O4'	2.12	0.49
54:28:753:A:H2'	54:28:754:U:H6	1.77	0.49
54:28:984:A:H5''	54:28:985:C:OP2	2.12	0.49
54:28:1259:G:H2'	54:28:1260:A:H8	1.77	0.49
54:28:1475:G:O2'	54:28:1476:U:C6	2.61	0.49
54:28:1676:A:H2'	54:28:1677:A:C8	2.46	0.49
54:28:2340:A:H2'	54:28:2341:G:C8	2.47	0.49
54:28:2450:A:O2'	54:28:2451:A:H5'	2.11	0.49
54:28:2784:U:H2'	54:28:2785:C:C6	2.46	0.49
54:28:2881:U:H2'	54:28:2882:A:H8	1.75	0.49
54:28:2896:C:H2'	54:28:2897:U:H6	1.77	0.49
57:31:37:A:H2'	57:31:38:A:C8	2.47	0.49
3:C:101:PHE:HZ	3:C:203:VAL:O	1.95	0.49
5:E:105:ILE:C	5:E:108:PRO:HD2	2.33	0.49
6:F:3:VAL:HG12	6:F:68:ARG:HG2	1.94	0.49
7:G:75:LEU:HB3	7:G:77:THR:HG22	1.93	0.49
7:G:132:PHE:HB3	7:G:134:VAL:HG13	1.94	0.49
15:O:17:LYS:HZ2	54:28:2380:C:H5'	1.77	0.49
31:5:3:ILE:O	31:5:63:TYR:CE2	2.65	0.49
33:7:182:VAL:O	33:7:195:VAL:HG13	2.11	0.49
35:9:169:TRP:HA	35:9:183:ARG:CZ	2.41	0.49
38:12:128:GLU:OE1	38:12:128:GLU:N	2.45	0.49
40:14:33:SER:HB3	40:14:36:GLN:HG2	1.93	0.49
41:15:54:SER:OG	41:15:58:ASN:HB2	2.13	0.49
53:27:34:C:H2'	53:27:35:G:H8	1.75	0.49
53:27:47:C:H4'	53:27:48:C:C5'	2.42	0.49
53:27:276:G:H2'	53:27:277:C:C6	2.48	0.49
53:27:370:C:H2'	53:27:371:A:H8	1.77	0.49
53:27:908:A:H2'	53:27:909:A:C8	2.47	0.49
53:27:940:C:H2'	53:27:941:G:C8	2.47	0.49
53:27:1137:C:C5'	53:27:1138:G:H5'	2.37	0.49
53:27:1248:A:H2'	53:27:1249:C:H6	1.77	0.49
53:27:1324:A:H2'	53:27:1325:C:H6	1.76	0.49
54:28:114:U:H2'	54:28:115:C:H6	1.77	0.49
54:28:367:G:H3'	54:28:368:A:C8	2.47	0.49
54:28:657:U:H2'	54:28:658:U:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1126:A:H8	54:28:1126:A:OP1	1.95	0.49
54:28:1442:U:H2'	54:28:1443:U:H6	1.77	0.49
54:28:1752:C:H2'	54:28:1753:G:C8	2.47	0.49
54:28:2283:C:H2'	54:28:2284:A:O4'	2.12	0.49
55:29:49:C:H2'	55:29:50:A:H8	1.77	0.49
56:30:17:U:O2'	56:30:18:G:H5'	2.12	0.49
1:A:606:MET:HE3	50:24:55:GLN:HG3	1.94	0.49
1:A:700:ARG:O	1:A:709:THR:CG2	2.59	0.49
2:B:67:LYS:HE2	2:B:69:ASN:HB3	1.95	0.49
3:C:197:THR:HB	54:28:2820:A:C6	2.47	0.49
5:E:84:ILE:HG21	54:28:2312:U:H5'	1.92	0.49
21:U:4:ILE:H	21:U:4:ILE:HD12	1.77	0.49
21:U:5:ARG:O	21:U:6:ARG:C	2.51	0.49
21:U:40:LEU:HA	21:U:60:LYS:O	2.12	0.49
33:7:164:ASP:OD2	33:7:166:ASP:HB3	2.12	0.49
34:8:8:GLY:HA3	45:19:88:MET:HE3	1.94	0.49
39:13:28:SER:HB3	39:13:56:PRO:HB2	1.93	0.49
40:14:11:ARG:HH12	40:14:108:ARG:HH21	1.59	0.49
43:17:13:ARG:HA	53:27:562:U:O2'	2.12	0.49
44:18:101:THR:HG22	53:27:1226:C:H2'	1.94	0.49
52:26:49:ALA:O	52:26:53:LYS:HG3	2.11	0.49
53:27:67:C:H2'	53:27:68:G:C8	2.46	0.49
53:27:293:G:N2	53:27:305:G:H1'	2.27	0.49
53:27:525:C:H2'	53:27:526:C:O4'	2.12	0.49
53:27:1345:U:O2	53:27:1376:U:O2	2.30	0.49
54:28:597:G:H2'	54:28:598:U:O4'	2.12	0.49
54:28:962:G:H2'	54:28:963:U:O4'	2.12	0.49
54:28:1550:C:H2'	54:28:1551:A:C8	2.47	0.49
54:28:1611:C:H6	54:28:1611:C:H5'	1.78	0.49
54:28:2055:C:H5'	54:28:2056:G:O5'	2.12	0.49
57:31:68:C:H2'	57:31:69:C:H6	1.77	0.49
58:32:36:U:C2'	58:32:37:A:H5'	2.42	0.49
1:A:678:GLY:O	1:A:681:ARG:HB3	2.13	0.49
2:B:91:ALA:HB3	2:B:103:ILE:HD11	1.94	0.49
3:C:38:LYS:HG3	3:C:81:GLU:OE2	2.12	0.49
6:F:93:TYR:CD1	6:F:106:LEU:HA	2.48	0.49
7:G:25:TYR:HD1	54:28:2093:G:O2'	1.95	0.49
7:G:130:VAL:CG2	7:G:144:VAL:HG21	2.42	0.49
10:J:81:ILE:CG2	10:J:82:GLY:H	2.04	0.49
11:K:105:ARG:O	11:K:108:ARG:HB3	2.13	0.49
32:6:24:ARG:HG2	32:6:36:ARG:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:6:30:GLU:HG3	32:6:32:LYS:HB2	1.93	0.49
33:7:101:THR:CG2	53:27:1074:G:O2'	2.60	0.49
37:11:66:ALA:HB1	37:11:67:PRO:HD2	1.94	0.49
40:14:14:SER:OG	40:14:74:GLN:HA	2.12	0.49
44:18:95:PRO:CA	44:18:108:ARG:HG3	2.42	0.49
53:27:825:A:H2'	53:27:826:C:H6	1.77	0.49
54:28:1:G:H2'	54:28:2:G:H8	1.77	0.49
54:28:2340:A:H2'	54:28:2341:G:H8	1.76	0.49
54:28:2529:G:OP2	54:28:2530:A:H5''	2.12	0.49
55:29:39:A:H2'	55:29:40:U:C6	2.48	0.49
6:F:116:LEU:HD11	6:F:122:ALA:HB2	1.95	0.49
16:P:28:LYS:HA	16:P:41:ALA:HA	1.93	0.49
16:P:30:TRP:CZ3	16:P:39:LEU:HB2	2.47	0.49
18:R:49:ILE:HG22	18:R:54:VAL:HA	1.94	0.49
18:R:77:PHE:CD1	18:R:84:ARG:HB3	2.47	0.49
29:3:34:GLU:OE2	29:3:49:LYS:HA	2.12	0.49
34:8:63:ILE:O	34:8:98:ALA:HA	2.12	0.49
36:10:79:THR:OG1	36:10:80:LEU:N	2.37	0.49
36:10:113:VAL:HG13	36:10:114:LEU:HD12	1.95	0.49
42:16:43:TRP:HA	42:16:69:CYS:SG	2.52	0.49
44:18:13:HIS:HD2	53:27:1302:C:N4	2.10	0.49
52:26:36:PHE:HB3	52:26:40:PRO:CD	2.43	0.49
53:27:116:A:OP2	53:27:116:A:H3'	2.12	0.49
53:27:129:A:H1'	53:27:130:A:N7	2.28	0.49
53:27:313:A:H2'	53:27:314:C:H6	1.76	0.49
53:27:355:C:H2'	53:27:356:A:O4'	2.12	0.49
53:27:607:A:H2'	53:27:608:A:C8	2.47	0.49
53:27:686:U:H2'	53:27:687:A:C8	2.47	0.49
53:27:1074:G:H2'	53:27:1075:U:C6	2.48	0.49
53:27:1508:A:H2'	53:27:1509:C:H6	1.77	0.49
54:28:18:U:H2'	54:28:19:A:H8	1.76	0.49
54:28:689:A:H2'	54:28:690:G:H8	1.78	0.49
54:28:917:A:H5''	54:28:2268:A:N6	2.28	0.49
54:28:1823:G:H2'	54:28:1824:G:H8	1.77	0.49
54:28:2024:G:H2'	54:28:2025:C:C6	2.47	0.49
58:32:30:G:H2'	58:32:31:G:H8	1.77	0.49
4:D:63:LYS:HB3	54:28:2060:A:H5'	1.95	0.49
7:G:66:ASN:ND2	7:G:135:HIS:HD2	2.10	0.49
8:H:67:THR:N	8:H:68:PRO:CD	2.75	0.49
10:J:69:ARG:HA	10:J:89:PHE:CD2	2.47	0.49
12:L:76:GLU:HB2	12:L:111:ILE:HD13	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:10:ARG:NH2	54:28:28:A:H1'	2.27	0.49
21:U:26:ASN:OD1	21:U:34:ILE:HB	2.13	0.49
23:W:39:THR:HG21	54:28:2336:A:H61	1.77	0.49
25:Y:9:LYS:NZ	25:Y:11:VAL:HG23	2.27	0.49
25:Y:56:LEU:O	25:Y:60:LYS:HG2	2.13	0.49
28:2:5:ASN:HB2	54:28:2022:U:O4	2.13	0.49
33:7:94:ARG:NE	53:27:1100:C:OP1	2.28	0.49
35:9:10:LEU:HD22	35:9:62:ARG:NH1	2.28	0.49
35:9:108:ALA:HB1	35:9:160:LEU:HD23	1.93	0.49
36:10:160:VAL:HA	36:10:163:ILE:CG1	2.42	0.49
41:15:67:ILE:O	41:15:67:ILE:HG13	2.12	0.49
44:18:6:ILE:CG1	44:18:7:ASN:H	2.09	0.49
44:18:8:ILE:O	44:18:8:ILE:HG22	2.13	0.49
48:22:6:THR:O	48:22:7:LEU:HD12	2.13	0.49
48:22:8:GLN:HG2	48:22:59:GLU:HG2	1.93	0.49
53:27:107:G:H2'	53:27:108:G:O4'	2.11	0.49
53:27:262:A:H2'	53:27:263:A:O4'	2.12	0.49
53:27:560:A:H5'	53:27:566:G:N2	2.27	0.49
53:27:872:A:C2	53:27:874:G:C5	3.01	0.49
53:27:987:G:H2'	53:27:988:G:C8	2.47	0.49
53:27:1305:G:H1'	53:27:1332:A:N6	2.28	0.49
54:28:128:C:H2'	54:28:129:C:C6	2.47	0.49
54:28:768:G:N2	54:28:1379:U:O2'	2.45	0.49
54:28:979:A:H2'	54:28:982:C:H42	1.78	0.49
54:28:1208:C:H2'	54:28:1209:U:C6	2.47	0.49
54:28:2408:U:H2'	54:28:2409:G:C8	2.46	0.49
54:28:2475:C:H42	54:28:2529:G:N2	2.11	0.49
54:28:2565:A:H2'	54:28:2566:A:H5'	1.95	0.49
55:29:91:C:O2'	55:29:92:C:H5'	2.12	0.49
55:29:100:G:H2'	55:29:101:A:O4'	2.12	0.49
58:32:60:U:H2'	58:32:61:C:C5	2.48	0.49
1:A:621:ILE:HG13	1:A:655:ALA:HB3	1.94	0.49
2:B:87:SER:C	2:B:157:ALA:HB2	2.33	0.49
4:D:44:ARG:NH2	54:28:1248:G:OP1	2.45	0.49
8:H:51:TYR:CG	8:H:52:MET:N	2.81	0.49
8:H:57:ASN:C	8:H:59:LEU:H	2.16	0.49
34:8:66:THR:HA	34:8:101:ASN:O	2.12	0.49
34:8:121:SER:O	34:8:125:ARG:HG3	2.13	0.49
37:11:38:ARG:HB3	37:11:63:ASN:HD22	1.78	0.49
39:13:85:TYR:CD1	39:13:123:GLU:HB2	2.47	0.49
40:14:12:LYS:O	40:14:12:LYS:HG3	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:10:LEU:HD12	41:15:10:LEU:O	2.13	0.49
44:18:25:GLY:H	53:27:1329:A:C5'	2.25	0.49
44:18:28:ARG:NH2	44:18:62:PHE:HB2	2.27	0.49
51:25:5:SER:O	51:25:8:LYS:HB3	2.12	0.49
53:27:167:A:H2'	53:27:168:G:C8	2.48	0.49
53:27:476:U:H2'	53:27:477:C:H6	1.74	0.49
53:27:551:U:H2'	53:27:552:U:C6	2.46	0.49
53:27:725:G:H2'	53:27:726:C:H6	1.78	0.49
53:27:1102:A:H2'	53:27:1103:C:C6	2.48	0.49
54:28:107:G:H2'	54:28:108:G:H8	1.77	0.49
54:28:300:A:N3	54:28:319:G:H1'	2.28	0.49
54:28:595:C:H2'	54:28:596:U:H6	1.77	0.49
54:28:1410:G:H2'	54:28:1411:U:H6	1.78	0.49
54:28:1659:G:H2'	54:28:1660:G:O4'	2.13	0.49
54:28:1760:C:H2'	54:28:1761:C:H5'	1.94	0.49
54:28:2195:U:H2'	54:28:2196:C:C6	2.47	0.49
54:28:2884:U:O2	54:28:2884:U:H3'	2.13	0.49
58:32:31:G:C2'	58:32:32:C:H5'	2.43	0.49
2:B:261:ARG:HG3	2:B:262:THR:HG23	1.94	0.49
6:F:98:LYS:NZ	6:F:103:ASN:HD22	2.10	0.49
7:G:97:ARG:CG	7:G:112:LYS:HD2	2.43	0.49
17:Q:65:ASN:HD21	17:Q:69:ARG:HE	1.58	0.49
18:R:24:LYS:HD3	18:R:92:TRP:HB3	1.94	0.49
21:U:5:ARG:HG2	21:U:93:ARG:NH2	2.28	0.49
26:Z:29:ARG:HD3	54:28:1183:U:O3'	2.13	0.49
26:Z:40:THR:HG22	26:Z:43:ILE:HG12	1.95	0.49
27:1:38:SER:O	27:1:43:PHE:HE2	1.96	0.49
36:10:22:LYS:HB3	36:10:29:ILE:CG2	2.43	0.49
38:12:68:VAL:C	38:12:137:ARG:HD3	2.33	0.49
40:14:11:ARG:NH2	40:14:108:ARG:HH21	2.11	0.49
40:14:37:TYR:CD2	40:14:38:PHE:HD2	2.30	0.49
44:18:6:ILE:HD11	44:18:21:ILE:HG23	1.94	0.49
53:27:321:A:H2'	53:27:322:C:H6	1.77	0.49
53:27:635:A:H2'	53:27:636:U:C6	2.48	0.49
53:27:1221:G:H2'	53:27:1222:G:H8	1.78	0.49
53:27:1307:U:H2'	53:27:1308:U:C6	2.48	0.49
53:27:1318:A:H2'	53:27:1319:A:H5'	1.93	0.49
54:28:194:G:N2	54:28:250:G:H22	2.09	0.49
54:28:227:A:C6	54:28:2407:A:H1'	2.47	0.49
54:28:404:A:H1'	54:28:406:G:N9	2.27	0.49
54:28:599:A:H2'	54:28:600:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:704:G:HO2'	54:28:705:A:H8	1.59	0.49
54:28:1164:C:H2'	54:28:1165:A:H8	1.76	0.49
54:28:1210:G:H5''	54:28:1212:G:O4'	2.13	0.49
54:28:1463:C:H2'	54:28:1464:G:H8	1.77	0.49
54:28:1924:C:H2'	54:28:1925:C:C6	2.47	0.49
54:28:2421:G:H2'	58:32:76:A:H62	1.76	0.49
54:28:2497:A:OP2	54:28:2497:A:C8	2.65	0.49
54:28:2739:U:H5''	54:28:2763:G:O6	2.12	0.49
2:B:12:ARG:HH21	54:28:728:G:H5'	1.77	0.49
2:B:148:GLY:O	54:28:2205:A:H5'	2.12	0.49
3:C:123:LYS:HE2	14:N:1:MET:HE3	1.95	0.49
5:E:62:GLN:HB2	27:1:6:HIS:ND1	2.28	0.49
6:F:162:ARG:CZ	6:F:168:VAL:HG21	2.43	0.49
6:F:167:VAL:HG13	6:F:167:VAL:O	2.12	0.49
8:H:10:ALA:O	8:H:13:ALA:HB3	2.13	0.49
9:I:6:ALA:HB3	9:I:60:VAL:HG21	1.93	0.49
12:L:61:LEU:O	31:5:12:ARG:HD3	2.13	0.49
14:N:2:ARG:HA	14:N:5:LYS:HD2	1.93	0.49
14:N:103:ARG:N	14:N:110:MET:HG2	2.28	0.49
27:1:27:THR:HG23	27:1:28:VAL:N	2.28	0.49
31:5:51:LYS:HZ2	54:28:937:C:P	2.36	0.49
33:7:60:ALA:HB3	33:7:223:GLY:HA3	1.94	0.49
34:8:128:MET:O	34:8:131:ARG:HB2	2.13	0.49
36:10:12:GLU:CB	36:10:38:VAL:HG12	2.42	0.49
37:11:29:ILE:HG23	37:11:70:VAL:HG11	1.95	0.49
39:13:14:ARG:HD2	53:27:875:U:O2'	2.12	0.49
42:16:92:ARG:CZ	52:26:24:LYS:HD2	2.43	0.49
43:17:41:PRO:HB3	43:17:88:ASP:OD1	2.12	0.49
53:27:75:G:H2'	53:27:76:G:C8	2.48	0.49
53:27:222:C:H2'	53:27:223:A:C8	2.47	0.49
53:27:1238:A:N7	53:27:1301:U:O4	2.46	0.49
53:27:1327:C:H2'	53:27:1328:C:H6	1.77	0.49
54:28:612:G:H1'	54:28:616:A:N6	2.28	0.49
54:28:753:A:H2'	54:28:754:U:C6	2.48	0.49
54:28:817:C:H2'	54:28:818:G:O4'	2.12	0.49
54:28:1028:A:N6	54:28:1125:G:H2'	2.28	0.49
54:28:1412:U:H2'	54:28:1413:A:C8	2.48	0.49
54:28:1528:A:H2'	54:28:1529:G:H5'	1.94	0.49
54:28:1710:G:H2'	54:28:1711:A:H8	1.78	0.49
54:28:2676:C:H2'	54:28:2677:G:C8	2.48	0.49
54:28:2682:A:H61	54:28:2728:U:H1'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2772:C:H2'	54:28:2773:C:H6	1.77	0.49
54:28:2896:C:H2'	54:28:2897:U:C6	2.48	0.49
2:B:255:LYS:NZ	54:28:1844:C:O3'	2.45	0.49
3:C:15:PHE:N	16:P:11:GLN:HE22	2.01	0.49
4:D:29:HIS:O	4:D:32:VAL:HG12	2.12	0.49
5:E:48:LEU:HA	5:E:51:ASN:HD22	1.77	0.49
10:J:84:ILE:HG23	10:J:84:ILE:O	2.13	0.49
32:6:13:ASN:OD1	32:6:29:ALA:HB2	2.13	0.49
33:7:168:GLU:OE1	33:7:168:GLU:N	2.46	0.49
36:10:110:MET:SD	36:10:139:THR:HG22	2.53	0.49
46:20:7:THR:HG22	46:20:30:LEU:HD11	1.94	0.49
47:21:12:LYS:O	47:21:13:LYS:HB2	2.12	0.49
50:24:5:LYS:HG3	50:24:6:LYS:N	2.26	0.49
53:27:79:G:H2'	53:27:80:A:O4'	2.13	0.49
53:27:537:G:H2'	53:27:538:G:C8	2.48	0.49
53:27:996:A:O2'	53:27:997:U:H5'	2.12	0.49
53:27:1230:C:O2'	53:27:1231:G:H5'	2.12	0.49
53:27:1244:G:H2'	53:27:1245:C:H6	1.78	0.49
53:27:1439:G:H2'	53:27:1440:U:O4'	2.13	0.49
54:28:301:G:C6	54:28:317:G:C6	3.00	0.49
54:28:560:C:H2'	54:28:561:G:O4'	2.13	0.49
54:28:700:G:O2'	54:28:701:G:H5'	2.13	0.49
54:28:1057:A:O2'	54:28:1058:U:H5'	2.13	0.49
54:28:1360:G:H2'	54:28:1361:G:H5'	1.95	0.49
54:28:2626:C:O2'	54:28:2627:G:H5'	2.13	0.49
54:28:2809:A:H2'	54:28:2810:A:C8	2.47	0.49
58:32:39:C:H2'	58:32:40:C:C6	2.48	0.49
2:B:244:VAL:HA	2:B:251:THR:H	1.78	0.48
3:C:110:THR:OG1	3:C:171:THR:HG23	2.12	0.48
4:D:79:ARG:O	4:D:80:SER:HB3	2.13	0.48
17:Q:25:GLY:O	17:Q:29:ARG:NH1	2.46	0.48
17:Q:43:GLN:HE21	18:R:77:PHE:HB3	1.76	0.48
21:U:39:ASN:OD1	21:U:64:ILE:HB	2.13	0.48
24:X:13:THR:HG21	54:28:189:G:P	2.53	0.48
33:7:202:ASN:ND2	33:7:205:ALA:HB3	2.28	0.48
34:8:22:PHE:HA	41:15:13:PHE:HE2	1.77	0.48
36:10:106:ALA:HB1	36:10:110:MET:CG	2.40	0.48
38:12:16:LYS:NZ	38:12:47:GLU:OE2	2.38	0.48
39:13:64:TYR:HD1	39:13:69:ALA:HA	1.78	0.48
42:16:111:ASP:OD1	42:16:112:VAL:N	2.46	0.48
50:24:65:MET:HG3	50:24:73:PHE:CZ	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1096:C:H2'	53:27:1097:C:H6	1.76	0.48
53:27:1129:C:H5''	53:27:1130:A:OP1	2.13	0.48
54:28:287:G:H2'	54:28:288:U:H6	1.78	0.48
54:28:541:A:H2'	54:28:542:C:O4'	2.13	0.48
54:28:1794:A:H2'	54:28:1795:C:C6	2.48	0.48
54:28:2204:G:H2'	54:28:2205:A:C8	2.47	0.48
54:28:2577:A:H5''	54:28:2578:G:H5'	1.95	0.48
54:28:2743:U:H3'	54:28:2744:G:H5''	1.95	0.48
2:B:71:ASP:O	2:B:73:ILE:N	2.43	0.48
6:F:132:LEU:C	6:F:132:LEU:HD12	2.34	0.48
8:H:81:LEU:CA	54:28:1107:G:H4'	2.43	0.48
12:L:85:VAL:HG13	12:L:94:THR:HG22	1.94	0.48
16:P:38:ARG:HH22	53:27:345:C:P	2.36	0.48
22:V:75:GLN:CB	22:V:92:VAL:HG23	2.40	0.48
22:V:77:VAL:HG21	22:V:86:LEU:HD22	1.94	0.48
23:W:56:PHE:CE1	54:28:2365:G:H4'	2.48	0.48
27:1:39:LYS:HG3	27:1:40:CYS:N	2.27	0.48
28:2:52:LYS:HG3	28:2:52:LYS:O	2.13	0.48
33:7:113:LEU:HD22	33:7:143:LEU:O	2.13	0.48
34:8:49:ALA:O	34:8:50:SER:HB2	2.13	0.48
35:9:128:VAL:HG13	35:9:128:VAL:O	2.13	0.48
41:15:45:ARG:HG3	41:15:47:GLU:OE1	2.12	0.48
42:16:51:PHE:CZ	42:16:64:VAL:HG11	2.48	0.48
42:16:61:ALA:O	42:16:64:VAL:HG12	2.12	0.48
42:16:110:THR:HB	49:23:72:ARG:HH22	1.77	0.48
53:27:405:U:H1'	53:27:498:A:H2'	1.94	0.48
53:27:725:G:H2'	53:27:726:C:C6	2.48	0.48
53:27:1005:A:N6	53:27:1024:G:O2'	2.46	0.48
53:27:1074:G:H2'	53:27:1075:U:H6	1.77	0.48
53:27:1309:G:H2'	53:27:1310:G:H8	1.78	0.48
53:27:1490:U:H2'	53:27:1491:G:C8	2.48	0.48
53:27:1499:A:H3'	53:27:1499:A:OP2	2.13	0.48
54:28:242:G:H22	54:28:254:G:C2'	2.21	0.48
54:28:326:G:H2'	54:28:327:G:C8	2.47	0.48
54:28:551:G:H2'	54:28:552:U:C6	2.48	0.48
54:28:940:G:H2'	54:28:941:A:H5''	1.93	0.48
54:28:1045:C:H1'	54:28:1047:G:N1	2.28	0.48
54:28:1238:G:O2'	54:28:1239:G:H5'	2.13	0.48
54:28:1912:A:N6	54:28:1917:U:H5	2.10	0.48
54:28:2346:A:H3'	54:28:2347:C:C5'	2.43	0.48
54:28:2737:G:H2'	54:28:2738:A:C8	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:703:THR:HG23	1:A:705:GLN:H	1.78	0.48
2:B:143:VAL:HG12	2:B:144:GLU:O	2.14	0.48
6:F:36:LEU:HD13	6:F:67:ALA:HB1	1.95	0.48
8:H:56:ARG:HB2	54:28:1106:G:H4'	1.96	0.48
8:H:68:PRO:HA	8:H:72:LEU:HD12	1.95	0.48
8:H:118:ILE:HB	8:H:119:PRO:HD3	1.95	0.48
9:I:7:TYR:CE1	9:I:59:THR:HA	2.47	0.48
19:S:97:LEU:HD11	19:S:99:ARG:HH11	1.78	0.48
23:W:45:ALA:O	23:W:46:ASN:HB2	2.14	0.48
34:8:10:ARG:HH21	34:8:181:ILE:HB	1.79	0.48
37:11:3:HIS:H	37:11:92:THR:HG22	1.78	0.48
43:17:66:ILE:H	43:17:66:ILE:HD12	1.79	0.48
43:17:109:ARG:NH2	43:17:112:ALA:HB3	2.27	0.48
53:27:157:U:O2'	53:27:158:G:H5'	2.13	0.48
53:27:902:G:H2'	53:27:903:G:H8	1.78	0.48
53:27:1055:A:C6	53:27:1206:G:C5	3.01	0.48
54:28:194:G:H2'	54:28:195:A:O4'	2.12	0.48
54:28:340:A:H2'	54:28:341:C:H5'	1.95	0.48
54:28:823:C:H2'	54:28:824:U:C6	2.49	0.48
54:28:2040:G:H2'	54:28:2041:U:O4'	2.13	0.48
54:28:2379:G:H2'	54:28:2380:C:C6	2.48	0.48
55:29:13:G:N2	55:29:16:G:H1'	2.26	0.48
55:29:22:U:H2'	55:29:23:G:C8	2.48	0.48
57:31:11:A:O2'	57:31:12:G:H5'	2.13	0.48
57:31:66:C:H2'	57:31:67:C:C6	2.48	0.48
1:A:692:VAL:HB	1:A:715:GLU:HG2	1.95	0.48
5:E:91:ARG:NH2	55:29:45:A:O4'	2.46	0.48
9:I:100:ILE:HD11	9:I:139:VAL:HG12	1.94	0.48
12:L:62:PRO:HB2	31:5:29:ARG:HH11	1.78	0.48
12:L:69:ARG:O	12:L:72:ALA:HB3	2.13	0.48
15:O:15:ARG:NH1	55:29:9:G:OP2	2.44	0.48
19:S:88:ARG:HB2	19:S:92:ARG:O	2.13	0.48
40:14:29:ILE:HA	40:14:64:ILE:O	2.13	0.48
45:19:20:PHE:C	45:19:22:LYS:N	2.61	0.48
47:21:55:ASP:OD1	47:21:56:ARG:N	2.43	0.48
51:25:79:THR:O	51:25:82:ILE:HG13	2.12	0.48
53:27:132:C:H2'	53:27:133:U:H6	1.78	0.48
53:27:471:U:H2'	53:27:472:U:C6	2.49	0.48
53:27:823:C:O2'	53:27:824:G:H5'	2.12	0.48
53:27:935:A:H2'	53:27:936:C:H6	1.78	0.48
53:27:1510:C:H2'	53:27:1511:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1185:G:H5''	54:28:1186:G:OP1	2.13	0.48
54:28:1318:U:H2'	54:28:1319:C:H6	1.78	0.48
54:28:1562:U:H2'	54:28:1563:U:C6	2.49	0.48
54:28:1815:A:H8	54:28:1815:A:OP1	1.97	0.48
54:28:2057:G:H2'	54:28:2058:A:C8	2.49	0.48
57:31:44:A:H2'	57:31:45:G:O4'	2.13	0.48
1:A:719:LEU:O	1:A:722:LEU:HB3	2.14	0.48
2:B:51:ARG:HG3	2:B:52:HIS:ND1	2.27	0.48
2:B:132:ARG:HB3	2:B:185:ALA:HB1	1.95	0.48
3:C:153:GLY:HA2	54:28:2052:A:O2'	2.13	0.48
6:F:136:ASP:OD2	6:F:139:VAL:HG23	2.12	0.48
9:I:54:ILE:HD13	9:I:70:THR:HB	1.94	0.48
11:K:71:ARG:HB2	11:K:73:ASP:OD1	2.13	0.48
16:P:105:LYS:HD3	53:27:1433:A:OP1	2.13	0.48
21:U:47:PRO:HB3	21:U:55:GLY:CA	2.43	0.48
24:X:5:GLN:OE1	24:X:49:ARG:O	2.31	0.48
24:X:15:ASN:HD22	54:28:381:G:C5'	2.25	0.48
33:7:202:ASN:HD21	33:7:208:ALA:HB2	1.78	0.48
36:10:39:GLY:HA3	36:10:116:VAL:HB	1.96	0.48
41:15:7:ARG:NH2	53:27:1126:U:OP1	2.46	0.48
44:18:89:ARG:HB2	44:18:96:VAL:HG22	1.94	0.48
45:19:20:PHE:C	45:19:22:LYS:H	2.14	0.48
49:23:54:LEU:O	49:23:58:ILE:HG12	2.13	0.48
50:24:43:MET:HA	50:24:46:LEU:HD12	1.96	0.48
53:27:129:A:H1'	53:27:130:A:C8	2.48	0.48
53:27:437:U:H2'	53:27:438:U:O4'	2.13	0.48
53:27:1213:A:H2'	53:27:1215:G:C8	2.48	0.48
53:27:1469:C:H2'	53:27:1470:U:O4'	2.13	0.48
53:27:1500:A:H5''	53:27:1508:A:H5''	1.95	0.48
54:28:46:G:H2'	54:28:47:C:C6	2.47	0.48
54:28:69:C:H4'	54:28:75:G:N7	2.28	0.48
54:28:220:G:H22	54:28:427:U:H2'	1.79	0.48
54:28:255:A:H2'	54:28:256:A:C8	2.49	0.48
54:28:397:U:H2'	54:28:398:C:C6	2.48	0.48
54:28:950:G:H2'	54:28:951:C:H6	1.78	0.48
54:28:1062:G:H2'	54:28:1063:G:H8	1.78	0.48
54:28:1171:G:C4	54:28:1172:C:H1'	2.49	0.48
54:28:1720:U:H2'	54:28:1721:G:O4'	2.14	0.48
54:28:1750:G:O2'	54:28:1751:U:H5'	2.14	0.48
54:28:1779:U:C5	54:28:1784:A:N7	2.81	0.48
54:28:2408:U:H2'	54:28:2409:G:H8	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2502:G:H5'	54:28:2503:A:H5'	1.93	0.48
54:28:2524:G:H2'	54:28:2525:G:O4'	2.13	0.48
2:B:43:ASN:ND2	54:28:1806:C:H1'	2.28	0.48
11:K:70:ARG:HA	11:K:76:VAL:HA	1.96	0.48
14:N:55:ALA:HA	14:N:80:PHE:CE1	2.49	0.48
23:W:21:ARG:HH22	54:28:2355:G:P	2.36	0.48
33:7:19:THR:OG1	33:7:20:ARG:N	2.44	0.48
38:12:132:THR:O	38:12:135:LYS:HB3	2.14	0.48
42:16:67:GLU:O	42:16:70:ALA:HB3	2.13	0.48
53:27:815:A:H4'	53:27:817:C:C5	2.49	0.48
53:27:951:G:H2'	53:27:952:U:H6	1.78	0.48
54:28:471:A:H2'	54:28:472:A:O4'	2.13	0.48
54:28:598:U:H2'	54:28:599:A:H8	1.79	0.48
54:28:786:C:H2'	54:28:787:C:O4'	2.14	0.48
54:28:891:G:H2'	54:28:892:A:C8	2.48	0.48
54:28:1268:A:H2'	54:28:1269:A:H8	1.79	0.48
54:28:1441:G:H4'	54:28:1628:G:C5'	2.44	0.48
54:28:2552:U:H2'	54:28:2554:U:H5''	1.96	0.48
54:28:2687:U:H2'	54:28:2688:G:O4'	2.14	0.48
54:28:2845:U:H2'	54:28:2846:G:C8	2.49	0.48
57:31:6:G:O2'	57:31:7:G:H5'	2.13	0.48
58:32:11:A:H2'	58:32:12:G:C8	2.48	0.48
1:A:705:GLN:HE21	1:A:707:LEU:HB2	1.79	0.48
2:B:86:ARG:NH2	54:28:1817:G:OP1	2.47	0.48
4:D:15:SER:HB2	4:D:197:GLU:OE2	2.13	0.48
12:L:103:ILE:H	12:L:103:ILE:HD12	1.78	0.48
14:N:47:VAL:C	14:N:50:PRO:HD2	2.33	0.48
15:O:31:THR:CG2	15:O:32:PRO:HD2	2.43	0.48
16:P:50:ARG:CZ	16:P:52:ARG:HG3	2.43	0.48
38:12:113:LYS:HE3	53:27:1297:G:N3	2.29	0.48
39:13:106:SER:HA	53:27:642:A:C5	2.48	0.48
46:20:32:THR:CB	46:20:84:LEU:HD21	2.44	0.48
46:20:71:ARG:NH2	53:27:754:C:OP1	2.47	0.48
51:25:73:ARG:NH1	53:27:263:A:OP1	2.47	0.48
52:26:67:THR:CB	53:27:1088:G:O2'	2.62	0.48
53:27:79:G:C2	53:27:80:A:H1'	2.48	0.48
53:27:321:A:H2'	53:27:322:C:C6	2.48	0.48
53:27:920:U:H2'	53:27:921:U:C6	2.48	0.48
53:27:1137:C:H4'	53:27:1138:G:C2	2.49	0.48
54:28:151:C:H2'	54:28:152:A:C8	2.48	0.48
54:28:595:C:H2'	54:28:596:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:718:A:C2'	54:28:719:C:H5'	2.44	0.48
54:28:1214:A:H2'	54:28:1215:G:O4'	2.14	0.48
54:28:1306:C:H5''	54:28:1606:C:N4	2.29	0.48
54:28:1351:C:H2'	54:28:1352:U:C6	2.48	0.48
54:28:1451:C:H4'	54:28:1452:G:N9	2.29	0.48
54:28:2189:U:O2'	54:28:2190:G:H5'	2.14	0.48
54:28:2221:G:O2'	54:28:2222:C:H5'	2.13	0.48
54:28:2405:G:H2'	54:28:2411:A:H62	1.78	0.48
54:28:2543:G:H2'	54:28:2544:G:C8	2.49	0.48
54:28:2563:U:H2'	54:28:2565:A:OP2	2.14	0.48
54:28:2834:G:C2'	54:28:2835:A:H5'	2.44	0.48
58:32:62:C:O5'	58:32:62:C:H6	1.97	0.48
4:D:97:ASN:N	4:D:97:ASN:OD1	2.46	0.48
6:F:138:GLN:NE2	54:28:2759:G:H21	2.12	0.48
10:J:13:ARG:HE	10:J:121:LYS:HZ1	1.62	0.48
11:K:25:LEU:HB2	11:K:38:ILE:O	2.14	0.48
12:L:54:GLN:NE2	54:28:2428:G:N2	2.62	0.48
18:R:82:HIS:O	18:R:82:HIS:ND1	2.46	0.48
23:W:22:PHE:CD2	54:28:922:C:H1'	2.49	0.48
27:1:61:ASN:O	27:1:64:PHE:HB3	2.14	0.48
31:5:44:ARG:N	31:5:45:PRO:HD2	2.28	0.48
34:8:8:GLY:HA3	45:19:88:MET:CE	2.44	0.48
34:8:71:ARG:HE	34:8:74:ILE:CD1	2.26	0.48
34:8:86:LEU:O	34:8:90:VAL:HG23	2.13	0.48
34:8:108:PRO:HA	34:8:114:LEU:HD12	1.96	0.48
34:8:121:SER:HB3	34:8:125:ARG:NH1	2.29	0.48
36:10:10:LEU:HD12	36:10:67:ARG:NH1	2.29	0.48
36:10:10:LEU:O	36:10:11:GLN:C	2.52	0.48
37:11:3:HIS:HB2	37:11:92:THR:CA	2.44	0.48
38:12:79:VAL:HB	38:12:84:TYR:OH	2.13	0.48
41:15:22:THR:O	41:15:25:ILE:HG22	2.14	0.48
45:19:48:GLN:NE2	50:24:9:PHE:CE1	2.80	0.48
47:21:5:ARG:HH11	53:27:376:G:H4'	1.79	0.48
53:27:89:U:H2'	53:27:90:C:C6	2.49	0.48
53:27:296:U:H2'	53:27:297:G:C8	2.49	0.48
53:27:418:C:H2'	53:27:419:C:H6	1.79	0.48
53:27:477:C:H2'	53:27:478:A:C8	2.48	0.48
53:27:651:C:H2'	53:27:652:U:C6	2.49	0.48
53:27:995:C:N3	53:27:1046:A:O2'	2.42	0.48
53:27:1305:G:O2'	53:27:1306:A:H8	1.96	0.48
54:28:579:G:H2'	54:28:580:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:729:G:H2'	54:28:1775:U:H1'	1.94	0.48
54:28:1195:G:O2'	54:28:1196:C:H5'	2.12	0.48
1:A:634:HIS:ND1	1:A:634:HIS:O	2.47	0.48
3:C:133:THR:HG22	54:28:1993:U:H4'	1.95	0.48
8:H:93:ALA:O	8:H:126:LEU:HD12	2.14	0.48
9:I:59:THR:HB	9:I:67:THR:HB	1.95	0.48
14:N:33:ILE:HD12	14:N:118:ARG:NH2	2.22	0.48
23:W:39:THR:H	54:28:2331:G:C4'	2.25	0.48
33:7:70:GLY:HA3	33:7:163:ILE:HG22	1.96	0.48
33:7:95:TRP:HH2	33:7:174:GLU:OE1	1.96	0.48
35:9:149:LYS:HG2	35:9:177:MET:HE3	1.96	0.48
44:18:97:ARG:HB2	44:18:99:GLN:NE2	2.29	0.48
53:27:405:U:OP1	53:27:406:G:H4'	2.14	0.48
53:27:820:U:H3'	53:27:821:G:C5'	2.44	0.48
53:27:1392:G:H2'	53:27:1393:U:C6	2.49	0.48
54:28:115:C:C2'	54:28:116:C:H5'	2.44	0.48
54:28:237:C:H2'	54:28:238:C:H6	1.78	0.48
54:28:269:C:H2'	54:28:270:A:H8	1.79	0.48
54:28:817:C:O2'	54:28:839:U:H5''	2.14	0.48
54:28:1223:G:C6	54:28:1227:G:C6	3.02	0.48
54:28:1946:U:H2'	54:28:1947:C:H6	1.77	0.48
54:28:2515:C:H2'	54:28:2516:A:C8	2.49	0.48
54:28:2662:A:H2'	54:28:2663:G:O4'	2.14	0.48
54:28:2662:A:H8	54:28:2662:A:O5'	1.97	0.48
54:28:2774:C:H2'	54:28:2775:G:O4'	2.14	0.48
11:K:77:ILE:HG12	16:P:71:ARG:HG3	1.96	0.48
12:L:90:VAL:HG13	12:L:95:LEU:HD21	1.96	0.48
15:O:28:VAL:O	15:O:28:VAL:HG13	2.14	0.48
16:P:52:ARG:H	16:P:56:SER:HB3	1.79	0.48
18:R:16:GLU:OE2	18:R:100:GLY:HA2	2.14	0.48
19:S:41:LYS:O	19:S:44:ALA:HB3	2.13	0.48
23:W:52:ASP:OD2	23:W:54:THR:OG1	2.32	0.48
33:7:95:TRP:CH2	33:7:171:ALA:HA	2.48	0.48
35:9:72:ARG:O	35:9:75:TYR:HB3	2.14	0.48
36:10:15:ILE:HD11	36:10:37:VAL:HG23	1.96	0.48
44:18:10:ASP:C	44:18:12:LYS:N	2.67	0.48
46:20:19:ASN:OD1	53:27:749:A:O2'	2.31	0.48
48:22:57:VAL:HG12	48:22:58:VAL:N	2.29	0.48
53:27:482:A:H2'	53:27:483:C:O4'	2.13	0.48
53:27:840:C:HO2'	53:27:841:C:H5	1.61	0.48
53:27:1273:C:H2'	53:27:1274:A:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1326:U:H2'	53:27:1327:C:C6	2.49	0.48
54:28:284:U:H2'	54:28:285:G:C8	2.49	0.48
54:28:519:U:H2'	54:28:520:G:H8	1.78	0.48
54:28:662:G:H2'	54:28:663:G:H8	1.78	0.48
54:28:974:G:H1'	54:28:975:A:H8	1.77	0.48
54:28:1742:U:H2'	54:28:1743:G:C8	2.49	0.48
54:28:2671:G:H2'	54:28:2672:U:C6	2.49	0.48
58:32:72:A:H2'	58:32:73:A:C4'	2.42	0.48
1:A:695:LEU:HG	1:A:714:ILE:HA	1.96	0.47
5:E:151:LEU:HD12	5:E:152:ASP:N	2.28	0.47
6:F:26:LYS:HA	6:F:31:GLU:HA	1.95	0.47
7:G:116:ARG:O	7:G:130:VAL:HG13	2.14	0.47
8:H:94:ARG:HB2	8:H:97:LYS:CE	2.38	0.47
9:I:27:LEU:HD13	9:I:32:VAL:HB	1.95	0.47
10:J:99:ARG:HA	10:J:102:GLU:OE1	2.14	0.47
15:O:67:ASN:OD1	15:O:70:ALA:HB2	2.13	0.47
17:Q:7:VAL:HG13	17:Q:8:ILE:N	2.29	0.47
18:R:24:LYS:HA	18:R:94:THR:OG1	2.13	0.47
34:8:149:LYS:HA	34:8:167:TYR:O	2.14	0.47
38:12:56:SER:HB3	38:12:59:GLU:HG2	1.95	0.47
40:14:38:PHE:HA	40:14:41:GLU:OE1	2.14	0.47
42:16:93:GLU:HG3	42:16:94:SER:N	2.29	0.47
44:18:21:ILE:HB	44:18:24:VAL:CG1	2.43	0.47
46:20:66:LEU:HD12	46:20:87:ARG:HH21	1.79	0.47
46:20:68:TYR:HD1	46:20:71:ARG:HH21	1.62	0.47
53:27:212:G:H2'	53:27:213:G:H8	1.80	0.47
53:27:267:C:H2'	53:27:268:U:C6	2.48	0.47
53:27:376:G:O2'	53:27:377:G:H5'	2.13	0.47
53:27:963:G:H2'	53:27:964:A:H8	1.79	0.47
54:28:455:C:O2	54:28:472:A:H2'	2.13	0.47
54:28:531:C:C5	54:28:2035:G:C2	3.01	0.47
54:28:1442:U:H2'	54:28:1443:U:C6	2.49	0.47
54:28:1830:C:H2'	54:28:1831:G:H8	1.79	0.47
3:C:130:GLN:HE22	54:28:2578:G:N2	2.12	0.47
5:E:26:GLN:HE21	55:29:57:A:C4'	2.27	0.47
13:M:6:ARG:HG3	13:M:6:ARG:O	2.13	0.47
13:M:14:LYS:HD3	54:28:958:U:O4'	2.14	0.47
16:P:29:VAL:CG1	16:P:79:VAL:HG22	2.44	0.47
25:Y:2:LYS:HD2	54:28:78:U:OP2	2.13	0.47
28:2:13:GLY:HA3	54:28:16:C:H5''	1.96	0.47
32:6:1:MET:CE	32:6:36:ARG:HB2	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:112:ALA:HB1	34:8:199:VAL:HG13	1.96	0.47
35:9:149:LYS:O	35:9:150:LYS:HG2	2.14	0.47
36:10:130:THR:HG21	53:27:10:A:OP2	2.14	0.47
37:11:29:ILE:HD13	37:11:64:VAL:HG21	1.95	0.47
41:15:14:ASP:HB3	41:15:17:LEU:HB3	1.95	0.47
41:15:82:LYS:HA	41:15:85:ASP:OD2	2.14	0.47
44:18:10:ASP:O	44:18:11:HIS:HB2	2.15	0.47
46:20:41:HIS:HD1	53:27:739:C:HO2'	1.59	0.47
48:22:46:HIS:HB2	48:22:70:LYS:HE2	1.95	0.47
49:23:37:LYS:CG	53:27:719:C:H1'	2.42	0.47
50:24:28:LYS:O	50:24:30:LEU:HD12	2.13	0.47
52:26:18:PHE:O	52:26:21:SER:HB3	2.13	0.47
53:27:70:U:H5''	53:27:71:A:OP1	2.14	0.47
53:27:1381:U:H5	53:27:1382:C:C4	2.32	0.47
54:28:1565:C:HO2'	54:28:1566:A:H8	1.58	0.47
54:28:1670:C:H2'	54:28:1671:U:O4'	2.14	0.47
54:28:2018:G:O2'	54:28:2019:A:H5'	2.14	0.47
54:28:2173:A:H2'	54:28:2174:C:C6	2.50	0.47
54:28:2270:A:H2'	54:28:2271:G:O4'	2.14	0.47
1:A:598:VAL:HG23	1:A:658:GLY:HA2	1.97	0.47
1:A:608:HIS:NE2	1:A:626:THR:HG21	2.30	0.47
2:B:155:ARG:NH2	54:28:1818:U:C5	2.81	0.47
2:B:222:THR:HA	2:B:232:GLY:H	1.80	0.47
3:C:5:VAL:H	3:C:32:ASN:ND2	2.13	0.47
6:F:29:ASN:HD22	6:F:78:VAL:C	2.15	0.47
8:H:37:LYS:HE2	54:28:1085:A:N6	2.28	0.47
10:J:4:PHE:O	17:Q:63:ARG:NH2	2.48	0.47
13:M:13:HIS:HA	54:28:955:U:OP1	2.14	0.47
13:M:19:GLY:C	13:M:20:LEU:HD12	2.35	0.47
14:N:17:ARG:O	14:N:20:MET:HG2	2.15	0.47
14:N:35:LYS:HD2	14:N:112:TYR:CZ	2.49	0.47
22:V:32:GLY:O	22:V:93:ARG:NH1	2.41	0.47
32:6:24:ARG:NH1	54:28:2742:G:OP2	2.45	0.47
34:8:8:GLY:HA2	34:8:11:LEU:HG	1.96	0.47
35:9:61:ARG:O	35:9:65:GLY:N	2.48	0.47
36:10:45:VAL:CG2	36:10:117:ALA:HA	2.45	0.47
39:13:5:PRO:HB2	39:13:32:LYS:HZ1	1.78	0.47
39:13:79:ARG:HB2	39:13:80:PRO:HD2	1.96	0.47
43:17:7:VAL:HG22	48:22:33:TYR:HD2	1.77	0.47
53:27:45:G:H5''	53:27:307:C:O2'	2.14	0.47
53:27:50:A:N6	53:27:361:G:H4'	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:279:A:H5''	53:27:280:C:O3'	2.14	0.47
53:27:730:G:C2'	53:27:731:G:H5'	2.44	0.47
53:27:865:A:C2	53:27:918:A:H4'	2.49	0.47
53:27:884:U:H4'	53:27:885:G:H5''	1.97	0.47
53:27:1386:G:H2'	53:27:1387:G:C8	2.49	0.47
54:28:257:C:H2'	54:28:258:G:O4'	2.13	0.47
54:28:339:U:O5'	54:28:339:U:H6	1.97	0.47
54:28:819:A:OP2	54:28:1187:G:N2	2.47	0.47
54:28:1023:U:OP2	54:28:1025:G:O2'	2.32	0.47
54:28:1936:A:H3'	54:28:1937:A:H5'	1.96	0.47
54:28:1956:U:C2'	54:28:1957:C:H5'	2.44	0.47
54:28:2212:A:H4'	54:28:2213:U:C4	2.50	0.47
54:28:2548:U:C3'	54:28:2549:G:H5''	2.44	0.47
54:28:2829:A:H2'	54:28:2830:C:C6	2.49	0.47
54:28:2832:U:H1'	54:28:2834:G:N3	2.29	0.47
55:29:79:G:O2'	55:29:80:U:H5'	2.14	0.47
5:E:7:TYR:OH	5:E:29:ARG:HB3	2.15	0.47
6:F:21:GLN:NE2	6:F:40:VAL:O	2.42	0.47
7:G:116:ARG:HB2	7:G:131:SER:O	2.13	0.47
12:L:69:ARG:NH2	54:28:2406:A:C6	2.82	0.47
12:L:79:LEU:HD12	12:L:112:LEU:HD12	1.96	0.47
14:N:56:LYS:NZ	14:N:87:PHE:O	2.46	0.47
19:S:38:TYR:CE2	28:2:27:LEU:HD21	2.49	0.47
21:U:73:ASN:ND2	21:U:76:THR:OG1	2.46	0.47
25:Y:16:THR:HG22	25:Y:20:ASN:ND2	2.28	0.47
36:10:149:PRO:HG2	36:10:150:GLU:OE1	2.15	0.47
39:13:17:GLN:NE2	39:13:71:VAL:H	2.13	0.47
45:19:12:ARG:NH2	53:27:980:C:O3'	2.47	0.47
47:21:51:ARG:HH12	53:27:627:G:H5'	1.79	0.47
49:23:62:ARG:HD3	49:23:69:TYR:CD1	2.50	0.47
50:24:48:ILE:HD12	50:24:48:ILE:O	2.14	0.47
51:25:28:ARG:O	51:25:32:LYS:HG2	2.13	0.47
53:27:86:G:H4'	53:27:87:C:C5	2.49	0.47
53:27:843:U:OP1	53:27:844:G:H3'	2.15	0.47
54:28:61:C:C2'	54:28:62:U:H5'	2.44	0.47
54:28:226:A:H5''	54:28:257:C:O2'	2.13	0.47
54:28:522:A:O2'	54:28:523:C:H5'	2.15	0.47
54:28:1326:U:H2'	54:28:1327:A:C8	2.47	0.47
54:28:1779:U:H5	54:28:1784:A:N7	2.13	0.47
54:28:1801:A:H5''	54:28:2203:U:C2'	2.44	0.47
54:28:1922:G:H2'	54:28:1923:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2208:C:H2'	54:28:2209:G:C8	2.49	0.47
54:28:2329:U:H2'	54:28:2330:G:H8	1.79	0.47
54:28:2720:U:H2'	54:28:2721:A:C8	2.49	0.47
1:A:619:ASP:OD2	1:A:636:ALA:HB3	2.14	0.47
3:C:186:LEU:HD13	16:P:7:LEU:HD11	1.96	0.47
4:D:94:GLN:OE1	54:28:660:C:H5''	2.15	0.47
5:E:169:LEU:HD22	5:E:174:PHE:CE2	2.48	0.47
20:T:58:VAL:HG13	20:T:85:VAL:HG22	1.96	0.47
20:T:65:GLY:HA3	20:T:77:ARG:O	2.14	0.47
30:4:1:MET:N	54:28:1619:G:O2'	2.48	0.47
36:10:159:SER:HB3	36:10:161:GLU:HG2	1.97	0.47
39:13:95:MET:O	39:13:98:LEU:HG	2.14	0.47
41:15:22:THR:CG2	41:15:39:PRO:HB3	2.42	0.47
43:17:25:ALA:HB1	53:27:553:A:O2'	2.15	0.47
47:21:43:ALA:O	47:21:46:LYS:HE2	2.14	0.47
48:22:46:HIS:HB2	48:22:70:LYS:CE	2.45	0.47
53:27:862:C:O2'	53:27:863:U:H5'	2.15	0.47
53:27:969:A:H2'	53:27:970:C:O4'	2.14	0.47
53:27:1102:A:H2'	53:27:1103:C:H6	1.80	0.47
54:28:74:A:H4'	54:28:75:G:O5'	2.14	0.47
54:28:209:C:H2'	54:28:210:C:H6	1.79	0.47
54:28:519:U:H2'	54:28:520:G:C8	2.49	0.47
54:28:677:A:O2'	54:28:2071:A:H5'	2.14	0.47
54:28:1102:C:H2'	54:28:1103:A:H8	1.78	0.47
54:28:1998:A:H2'	54:28:1999:C:C6	2.50	0.47
54:28:2063:C:H2'	54:28:2064:C:C6	2.50	0.47
54:28:2150:C:H2'	54:28:2151:U:O4'	2.14	0.47
3:C:154:LYS:NZ	54:28:2024:G:O2'	2.48	0.47
9:I:116:MET:HB3	9:I:124:MET:SD	2.54	0.47
13:M:74:THR:HA	13:M:88:ASN:O	2.14	0.47
27:1:44:PHE:CD1	27:1:45:THR:HG23	2.49	0.47
31:5:7:ARG:NH1	54:28:243:U:OP2	2.48	0.47
35:9:3:TYR:O	35:9:4:LEU:C	2.53	0.47
39:13:17:GLN:NE2	39:13:69:ALA:HB1	2.30	0.47
40:14:123:ARG:HD2	40:14:124:PRO:HD2	1.95	0.47
42:16:121:ARG:HE	52:26:35:GLU:HB2	1.80	0.47
45:19:25:GLU:HB2	45:19:29:ILE:HD12	1.96	0.47
49:23:51:GLN:O	49:23:54:LEU:HB3	2.15	0.47
53:27:253:A:H2'	53:27:254:G:C8	2.49	0.47
53:27:495:A:H4'	53:27:496:A:O4'	2.14	0.47
53:27:1345:U:H2'	53:27:1377:A:N1	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1435:G:H2'	53:27:1436:U:H6	1.78	0.47
54:28:76:C:O2'	54:28:77:G:H5'	2.15	0.47
54:28:1858:A:C2	54:28:1885:A:H1'	2.49	0.47
54:28:2286:G:H5'	54:28:2287:A:C1'	2.44	0.47
57:31:16:C:H5'	57:31:59:A:N1	2.29	0.47
58:32:18:G:H1'	58:32:58:A:C2	2.49	0.47
1:A:691:LYS:HD2	1:A:691:LYS:N	2.28	0.47
2:B:52:HIS:ND1	54:28:1824:G:OP1	2.46	0.47
2:B:61:TYR:CE2	2:B:63:ILE:HA	2.50	0.47
3:C:154:LYS:HE2	54:28:1130:U:O2	2.15	0.47
4:D:29:HIS:HD2	12:L:6:LEU:O	1.98	0.47
4:D:90:GLN:HG3	4:D:92:HIS:CE1	2.50	0.47
4:D:149:ILE:HG23	4:D:149:ILE:O	2.14	0.47
5:E:113:PHE:CZ	5:E:175:PRO:HB3	2.40	0.47
5:E:125:GLY:CA	5:E:162:ASP:HA	2.44	0.47
7:G:72:ILE:HB	7:G:108:VAL:HG22	1.97	0.47
11:K:121:GLU:OE2	16:P:62:LYS:NZ	2.46	0.47
12:L:13:LYS:HG3	54:28:1245:G:OP1	2.14	0.47
12:L:77:ILE:O	12:L:110:VAL:O	2.33	0.47
13:M:1:MET:H2	13:M:47:GLU:HG3	1.79	0.47
16:P:94:ALA:N	54:28:2848:G:OP2	2.48	0.47
19:S:79:GLY:H	19:S:101:SER:HA	1.79	0.47
23:W:36:GLN:OE1	23:W:41:PHE:N	2.47	0.47
33:7:72:LYS:HD3	33:7:164:ASP:OD2	2.15	0.47
35:9:28:ASP:HB2	35:9:31:CYS:SG	2.54	0.47
35:9:58:GLN:O	35:9:62:ARG:HG2	2.14	0.47
38:12:67:ASN:O	38:12:137:ARG:NE	2.48	0.47
40:14:125:GLN:HE22	53:27:1342:C:C1'	2.28	0.47
43:17:11:ARG:CG	53:27:562:U:H1'	2.42	0.47
43:17:55:ARG:NH1	43:17:61:GLU:OE1	2.48	0.47
44:18:92:ARG:O	44:18:94:LEU:HG	2.14	0.47
47:21:46:LYS:CD	53:27:617:G:H4'	2.45	0.47
47:21:46:LYS:NZ	53:27:617:G:H4'	2.28	0.47
47:21:57:ILE:O	47:21:61:VAL:HG23	2.14	0.47
48:22:61:ARG:HG3	48:22:75:VAL:CG2	2.45	0.47
50:24:10:ILE:HG21	50:24:40:PHE:HE2	1.77	0.47
50:24:54:ARG:NH1	53:27:958:A:C6	2.80	0.47
52:26:9:GLU:HB2	52:26:10:PRO:HD3	1.96	0.47
52:26:17:ARG:NE	52:26:20:ARG:HH21	2.12	0.47
52:26:45:LYS:HE3	53:27:723:U:C1'	2.45	0.47
53:27:244:U:O4	53:27:906:A:H1'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:317:U:H2'	53:27:318:G:H8	1.79	0.47
53:27:484:G:H4'	53:27:485:U:C5'	2.45	0.47
53:27:696:A:H1'	53:27:786:G:O2'	2.15	0.47
53:27:782:A:H4'	53:27:1514:G:O2'	2.15	0.47
53:27:835:U:C3'	53:27:836:G:H5''	2.45	0.47
53:27:1143:G:H2'	53:27:1144:G:H8	1.80	0.47
53:27:1250:A:H2'	53:27:1251:A:C8	2.50	0.47
53:27:1353:G:H2'	53:27:1354:U:H6	1.79	0.47
54:28:250:G:H2'	54:28:251:A:C8	2.48	0.47
54:28:257:C:H3'	54:28:258:G:H8	1.80	0.47
54:28:510:C:OP1	54:28:510:C:H3'	2.14	0.47
54:28:533:G:H2'	54:28:534:U:O4'	2.15	0.47
54:28:729:G:H4'	54:28:763:G:C5'	2.45	0.47
54:28:1097:U:H2'	54:28:1098:A:O4'	2.15	0.47
54:28:1186:G:H2'	54:28:1187:G:H8	1.80	0.47
54:28:1385:A:H1'	54:28:1386:C:C6	2.50	0.47
54:28:1440:U:H2'	54:28:1441:G:H8	1.79	0.47
54:28:1544:A:H2'	54:28:1545:A:C8	2.50	0.47
54:28:1555:G:H2'	54:28:1556:C:C6	2.50	0.47
54:28:1663:G:O2'	54:28:1664:A:H5'	2.14	0.47
54:28:2024:G:H2'	54:28:2025:C:H6	1.78	0.47
54:28:2036:C:H2'	54:28:2037:A:H8	1.79	0.47
54:28:2185:U:H2'	54:28:2186:G:C8	2.50	0.47
54:28:2224:G:H4'	54:28:2226:C:C2	2.49	0.47
54:28:2314:A:H2'	54:28:2315:G:C8	2.50	0.47
54:28:2821:A:H2'	54:28:2822:G:H8	1.79	0.47
55:29:4:C:H6	55:29:4:C:H5'	1.79	0.47
55:29:106:G:C2	55:29:107:G:H1'	2.50	0.47
1:A:684:THR:O	1:A:685:THR:C	2.53	0.47
2:B:222:THR:O	2:B:232:GLY:HA2	2.14	0.47
2:B:246:PRO:HD2	2:B:247:TRP:CE3	2.50	0.47
5:E:49:LEU:CD2	5:E:83:PRO:HB2	2.44	0.47
5:E:124:ARG:HA	5:E:160:LYS:O	2.15	0.47
11:K:13:ASN:HB3	11:K:98:ARG:HB2	1.97	0.47
11:K:24:VAL:HG11	11:K:32:TYR:O	2.15	0.47
15:O:6:ALA:O	15:O:9:ARG:HG2	2.14	0.47
15:O:88:LYS:O	15:O:116:GLN:HB2	2.15	0.47
16:P:29:VAL:C	16:P:39:LEU:HD12	2.35	0.47
17:Q:42:GLY:O	17:Q:45:ALA:HB3	2.14	0.47
19:S:38:TYR:HE2	28:2:27:LEU:HD21	1.79	0.47
23:W:23:GLY:N	23:W:65:PHE:HE2	2.12	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:16:THR:HA	25:Y:19:LEU:HD12	1.96	0.47
31:5:21:PHE:O	31:5:48:MET:HA	2.14	0.47
33:7:46:VAL:HB	33:7:47:PRO:HD3	1.96	0.47
35:9:66:VAL:HG12	35:9:67:LEU:O	2.15	0.47
35:9:84:ASN:HD22	35:9:87:GLU:HG3	1.80	0.47
35:9:169:TRP:CE2	35:9:185:PRO:HG3	2.49	0.47
39:13:10:LEU:HD22	39:13:74:ILE:CD1	2.44	0.47
40:14:11:ARG:HH22	40:14:108:ARG:NH2	2.10	0.47
41:15:23:ALA:O	41:15:27:GLU:HG2	2.15	0.47
42:16:18:GLY:O	42:16:81:LEU:HA	2.15	0.47
45:19:25:GLU:O	45:19:29:ILE:HB	2.14	0.47
53:27:17:U:O2'	53:27:18:C:H5'	2.15	0.47
54:28:455:C:O2	54:28:473:G:H5'	2.15	0.47
54:28:1186:G:H2'	54:28:1187:G:C8	2.50	0.47
54:28:1555:G:H2'	54:28:1556:C:H6	1.80	0.47
54:28:1670:C:O5'	54:28:1670:C:H6	1.98	0.47
54:28:1726:C:H2'	54:28:1727:C:C6	2.50	0.47
54:28:2459:A:H3'	54:28:2459:A:OP2	2.14	0.47
55:29:61:G:H2'	55:29:62:C:C6	2.49	0.47
55:29:95:U:H2'	55:29:96:G:C8	2.50	0.47
2:B:154:ALA:HA	54:28:1819:A:OP2	2.14	0.47
2:B:257:ARG:HG2	2:B:257:ARG:HH11	1.80	0.47
3:C:67:HIS:O	3:C:70:LYS:HB3	2.15	0.47
4:D:164:LEU:HD12	4:D:164:LEU:N	2.30	0.47
5:E:98:PHE:HD1	5:E:101:ARG:HH11	1.62	0.47
8:H:57:ASN:O	8:H:63:ALA:HB3	2.15	0.47
9:I:11:GLN:HG3	54:28:1061:U:C6	2.50	0.47
10:J:102:GLU:OE2	54:28:2780:G:O6	2.32	0.47
13:M:62:LYS:HE3	13:M:64:TRP:NE1	2.30	0.47
15:O:34:HIS:ND1	15:O:53:THR:OG1	2.42	0.47
16:P:51:ASN:O	54:28:2845:U:H5''	2.14	0.47
19:S:11:ARG:HH21	54:28:1321:A:H4'	1.80	0.47
21:U:13:LEU:HD11	21:U:70:ALA:HB2	1.95	0.47
27:1:60:PHE:HZ	50:24:40:PHE:CE1	2.32	0.47
33:7:116:LEU:HD11	33:7:136:ARG:HB3	1.95	0.47
36:10:21:SER:OG	36:10:22:LYS:N	2.48	0.47
36:10:100:GLU:C	36:10:102:THR:H	2.16	0.47
40:14:59:LYS:O	40:14:60:LEU:HD12	2.14	0.47
41:15:41:PRO:CB	53:27:1151:A:H1'	2.44	0.47
44:18:32:ILE:HG23	44:18:58:GLU:CG	2.44	0.47
50:24:39:ILE:HB	50:24:66:VAL:HA	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:264:C:H2'	53:27:265:G:O4'	2.15	0.47
53:27:267:C:H2'	53:27:268:U:H6	1.80	0.47
53:27:485:U:H5'	53:27:486:U:OP2	2.15	0.47
53:27:869:G:H4'	53:27:872:A:C8	2.50	0.47
53:27:917:G:H2'	53:27:918:A:H8	1.79	0.47
53:27:1354:U:H2'	53:27:1355:G:C8	2.48	0.47
54:28:305:C:O5'	54:28:305:C:H6	1.97	0.47
54:28:956:G:N2	54:28:959:A:H3'	2.30	0.47
54:28:1319:C:O2'	54:28:1320:C:H5'	2.14	0.47
54:28:2297:A:N1	54:28:2321:U:H5	2.09	0.47
2:B:107:LYS:HG2	2:B:108:GLY:N	2.30	0.47
4:D:98:LYS:HB3	4:D:102:ARG:HH22	1.80	0.47
7:G:32:PRO:HB3	24:X:38:TRP:CG	2.50	0.47
9:I:92:PRO:O	54:28:1077:A:H5'	2.14	0.47
11:K:4:GLU:HA	11:K:21:CYS:O	2.15	0.47
13:M:4:PRO:CG	13:M:70:ASP:HA	2.44	0.47
13:M:12:MET:HA	54:28:910:A:H62	1.80	0.47
15:O:79:ALA:CB	15:O:113:ALA:HB3	2.45	0.47
18:R:22:LEU:HD12	18:R:23:GLU:O	2.15	0.47
20:T:69:ARG:HA	20:T:73:ARG:O	2.15	0.47
21:U:47:PRO:HD3	21:U:55:GLY:CA	2.38	0.47
34:8:9:ILE:HG23	34:8:10:ARG:HG3	1.97	0.47
34:8:11:LEU:HD13	34:8:17:TRP:NE1	2.30	0.47
34:8:175:HIS:HD1	53:27:1108:G:H5'	1.79	0.47
39:13:65:PHE:CE2	39:13:66:GLN:HG3	2.49	0.47
43:17:81:ILE:HD13	43:17:96:THR:HA	1.97	0.47
46:20:52:ARG:O	46:20:55:LEU:HB3	2.15	0.47
53:27:31:G:H5'	53:27:306:A:C2	2.50	0.47
53:27:299:G:C6	53:27:300:A:C6	3.03	0.47
53:27:437:U:HO2'	53:27:438:U:H5'	1.80	0.47
53:27:1267:C:H2'	53:27:1268:G:O4'	2.15	0.47
53:27:1346:A:H61	53:27:1374:A:H3'	1.80	0.47
54:28:599:A:H2'	54:28:600:G:H8	1.80	0.47
54:28:928:A:H2'	54:28:929:U:O4'	2.15	0.47
54:28:1038:G:H2'	54:28:1039:A:C8	2.50	0.47
54:28:1082:U:H3'	54:28:1083:U:C5'	2.31	0.47
54:28:1159:U:O2'	54:28:1160:G:H5'	2.14	0.47
54:28:1208:C:C4	54:28:1209:U:C4	3.02	0.47
54:28:1565:C:O2'	54:28:1566:A:C8	2.64	0.47
54:28:2039:U:H2'	54:28:2040:G:C8	2.50	0.47
54:28:2393:U:O2'	54:28:2394:C:H5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2720:U:H2'	54:28:2721:A:H8	1.79	0.47
6:F:106:LEU:O	6:F:151:ARG:NH2	2.48	0.46
8:H:38:MET:HG3	9:I:117:THR:CG2	2.45	0.46
8:H:59:LEU:HD11	54:28:1047:G:C8	2.50	0.46
12:L:92:LEU:O	12:L:96:LYS:NZ	2.47	0.46
17:Q:10:ARG:HH21	54:28:28:A:C2'	2.28	0.46
17:Q:99:VAL:O	17:Q:102:LYS:NZ	2.48	0.46
22:V:64:VAL:HG22	22:V:69:GLU:HG2	1.96	0.46
33:7:114:LYS:O	33:7:117:GLU:HG2	2.15	0.46
33:7:182:VAL:HG23	33:7:196:ASP:H	1.80	0.46
36:10:98:ALA:CB	36:10:123:LEU:HG	2.45	0.46
36:10:108:GLY:O	36:10:109:ALA:HB3	2.15	0.46
39:13:10:LEU:HD22	39:13:74:ILE:HD11	1.97	0.46
41:15:5:ARG:HG2	41:15:79:PRO:CD	2.45	0.46
47:21:7:ALA:HB3	47:21:18:GLN:HB3	1.97	0.46
53:27:1301:U:O2	53:27:1301:U:C2'	2.63	0.46
54:28:14:A:H3'	54:28:14:A:OP2	2.15	0.46
54:28:18:U:O2'	54:28:554:U:H5''	2.15	0.46
54:28:67:U:H2'	54:28:68:G:H8	1.80	0.46
54:28:302:C:H2'	54:28:303:G:H8	1.80	0.46
54:28:615:U:O5'	54:28:615:U:H6	1.98	0.46
54:28:822:G:H2'	54:28:823:C:C6	2.49	0.46
54:28:1164:C:H2'	54:28:1165:A:C8	2.50	0.46
54:28:1401:G:H2'	54:28:1402:U:O4'	2.14	0.46
54:28:1790:C:H2'	54:28:1791:A:C5	2.50	0.46
54:28:2075:U:C1'	54:28:2597:G:H21	2.22	0.46
54:28:2359:C:O2'	54:28:2360:G:H5'	2.16	0.46
54:28:2533:U:H2'	54:28:2534:A:O4'	2.15	0.46
54:28:2561:U:C3'	54:28:2562:U:H5''	2.44	0.46
1:A:634:HIS:HB3	1:A:641:LEU:HD13	1.96	0.46
1:A:682:ASP:O	1:A:683:ILE:C	2.53	0.46
3:C:51:THR:HB	3:C:79:LEU:HD23	1.97	0.46
6:F:145:ALA:O	6:F:148:ARG:HG2	2.13	0.46
9:I:73:PRO:HA	9:I:74:PRO:HD3	1.86	0.46
11:K:70:ARG:HH12	54:28:2684:U:C4'	2.28	0.46
11:K:91:SER:O	11:K:92:GLU:HB2	2.15	0.46
12:L:57:LEU:HD13	12:L:60:ARG:NH1	2.31	0.46
12:L:96:LYS:HG3	12:L:101:ILE:HD11	1.97	0.46
15:O:31:THR:HG22	15:O:32:PRO:HD2	1.97	0.46
22:V:80:HIS:CG	22:V:81:PRO:HD2	2.50	0.46
23:W:70:PRO:HD3	55:29:12:C:N4	2.29	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y:55:THR:HG21	54:28:77:G:O4'	2.15	0.46
30:4:34:ARG:NH1	54:28:466:A:OP1	2.36	0.46
31:5:2:LYS:HG3	54:28:242:G:C8	2.50	0.46
31:5:3:ILE:O	31:5:63:TYR:HE2	1.97	0.46
33:7:27:LYS:O	33:7:30:ILE:HG12	2.15	0.46
37:11:39:LEU:HD23	37:11:39:LEU:O	2.15	0.46
39:13:87:ARG:HG3	53:27:600:A:OP1	2.15	0.46
42:16:121:ARG:NH2	52:26:35:GLU:HG2	2.30	0.46
44:18:89:ARG:NH2	44:18:94:LEU:HB3	2.30	0.46
53:27:737:C:H2'	53:27:738:C:C6	2.50	0.46
53:27:1171:A:H2'	53:27:1172:C:H6	1.77	0.46
54:28:197:A:C2	54:28:198:C:H1'	2.50	0.46
54:28:966:G:C5	54:28:967:U:C4	3.03	0.46
54:28:1998:A:H2'	54:28:1999:C:H6	1.80	0.46
54:28:2207:C:H2'	54:28:2208:C:C6	2.49	0.46
54:28:2370:G:H2'	54:28:2371:G:C8	2.51	0.46
2:B:68:ARG:NH1	2:B:128:THR:OG1	2.48	0.46
4:D:96:VAL:O	4:D:96:VAL:HG23	2.16	0.46
8:H:37:LYS:CE	54:28:1086:A:N6	2.79	0.46
8:H:61:ARG:CG	54:28:1046:A:H4'	2.41	0.46
8:H:75:ALA:O	8:H:77:VAL:C	2.53	0.46
9:I:6:ALA:HB3	9:I:60:VAL:CG2	2.45	0.46
12:L:111:ILE:HA	12:L:128:THR:HG21	1.97	0.46
33:7:120:SER:HA	33:7:125:PHE:HA	1.97	0.46
34:8:112:ALA:HB2	34:8:182:ASP:O	2.15	0.46
34:8:112:ALA:O	34:8:199:VAL:HG11	2.15	0.46
49:23:40:PRO:HG2	49:23:43:ILE:HG12	1.97	0.46
50:24:32:THR:CG2	50:24:50:VAL:HG22	2.44	0.46
50:24:39:ILE:HG22	50:24:40:PHE:N	2.31	0.46
53:27:113:G:H2'	53:27:114:U:H6	1.78	0.46
53:27:134:G:H2'	53:27:135:C:O4'	2.15	0.46
53:27:554:A:H2'	53:27:555:U:H6	1.81	0.46
53:27:1015:G:H2'	53:27:1016:A:O4'	2.16	0.46
53:27:1280:A:O2'	53:27:1281:C:H5'	2.15	0.46
54:28:269:C:H2'	54:28:270:A:C8	2.51	0.46
54:28:277:G:H4'	54:28:278:A:C8	2.50	0.46
54:28:341:C:H2'	54:28:342:A:C8	2.50	0.46
54:28:437:U:H2'	54:28:438:G:H8	1.79	0.46
54:28:574:A:O3'	54:28:2055:C:H5	1.97	0.46
54:28:783:A:C2'	54:28:784:G:H5'	2.46	0.46
54:28:818:G:N1	54:28:1188:U:OP2	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:963:U:H2'	54:28:964:C:C6	2.50	0.46
54:28:1037:G:O2'	54:28:1038:G:H5'	2.14	0.46
54:28:1157:G:H2'	54:28:1158:C:C6	2.50	0.46
54:28:1287:A:O2'	54:28:1288:G:H5'	2.16	0.46
54:28:1336:A:H2'	54:28:1337:G:H8	1.80	0.46
54:28:1379:U:OP1	54:28:1379:U:C6	2.67	0.46
54:28:1537:G:C4	54:28:1538:G:H1'	2.50	0.46
54:28:1759:A:C2	54:28:2697:G:H1'	2.51	0.46
54:28:2030:A:N3	54:28:2499:C:H5''	2.30	0.46
54:28:2066:C:H2'	54:28:2067:G:H8	1.81	0.46
54:28:2286:G:H5'	54:28:2287:A:O4'	2.15	0.46
54:28:2639:A:H1'	54:28:2778:A:C2	2.50	0.46
54:28:2678:C:H2'	54:28:2679:A:O4'	2.15	0.46
2:B:52:HIS:NE2	2:B:218:THR:HG23	2.30	0.46
7:G:113:SER:O	7:G:116:ARG:NH1	2.48	0.46
11:K:63:VAL:HB	11:K:103:VAL:HG12	1.97	0.46
13:M:73:ILE:HG12	13:M:93:VAL:HG22	1.98	0.46
14:N:2:ARG:HB2	14:N:5:LYS:HB2	1.98	0.46
14:N:96:ARG:HG3	54:28:2882:A:H5'	1.98	0.46
17:Q:64:ILE:HD13	17:Q:94:LEU:HD22	1.97	0.46
18:R:77:PHE:HD1	18:R:84:ARG:HB3	1.80	0.46
19:S:107:VAL:O	19:S:107:VAL:HG13	2.15	0.46
33:7:33:ALA:HB3	33:7:37:VAL:HG13	1.96	0.46
35:9:115:GLN:NE2	35:9:119:HIS:NE2	2.64	0.46
36:10:134:ASN:ND2	53:27:1078:U:H1'	2.28	0.46
47:21:8:ARG:HB3	47:21:28:ARG:HD2	1.97	0.46
47:21:14:ARG:HE	47:21:42:ILE:CD1	2.29	0.46
48:22:17:GLU:O	48:22:19:SER:N	2.48	0.46
52:26:52:VAL:HG21	53:27:723:U:C5	2.51	0.46
53:27:531:U:C4'	53:27:532:A:H5''	2.45	0.46
53:27:1443:C:H2'	53:27:1444:U:O4'	2.16	0.46
53:27:1499:A:O2'	53:27:1500:A:H5'	2.15	0.46
54:28:358:U:H2'	54:28:359:G:H8	1.80	0.46
54:28:564:C:H2'	54:28:565:C:H6	1.80	0.46
54:28:765:C:H2'	54:28:766:U:C6	2.51	0.46
54:28:1432:G:H2'	54:28:1433:A:H8	1.81	0.46
54:28:1712:U:H2'	54:28:1713:A:C8	2.50	0.46
54:28:2020:A:O2'	54:28:2021:C:H5'	2.15	0.46
54:28:2066:C:O2'	54:28:2067:G:H5'	2.16	0.46
54:28:2101:A:H2'	54:28:2102:G:H8	1.80	0.46
54:28:2246:G:H2'	54:28:2247:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2745:C:H2'	54:28:2746:U:C6	2.51	0.46
54:28:2813:A:H2'	54:28:2814:A:H8	1.79	0.46
55:29:115:A:H2'	55:29:116:G:H8	1.74	0.46
1:A:741:LEU:HD23	1:A:742:HIS:N	2.30	0.46
2:B:57:HIS:ND1	2:B:58:LYS:O	2.49	0.46
2:B:260:LYS:HA	2:B:263:ASP:OD2	2.15	0.46
4:D:143:LEU:HD22	4:D:185:LYS:HG3	1.96	0.46
9:I:99:LYS:HA	9:I:138:VAL:HG23	1.96	0.46
15:O:68:LYS:HG3	55:29:50:A:OP1	2.15	0.46
17:Q:108:LEU:HD23	18:R:48:LYS:HD3	1.96	0.46
21:U:82:VAL:HG12	21:U:83:GLY:N	2.30	0.46
23:W:40:LYS:CE	54:28:2330:G:H4'	2.46	0.46
24:X:56:ARG:O	24:X:59:ASP:HB3	2.15	0.46
26:Z:2:LYS:HE2	26:Z:39:ASP:OD2	2.16	0.46
33:7:98:GLY:HA2	33:7:174:GLU:OE1	2.15	0.46
33:7:101:THR:OG1	53:27:1074:G:O3'	2.25	0.46
35:9:7:LYS:HB2	35:9:20:LEU:HD13	1.96	0.46
38:12:141:HIS:O	38:12:144:ALA:HB3	2.16	0.46
41:15:8:ILE:HA	41:15:99:GLN:O	2.15	0.46
43:17:41:PRO:HG3	43:17:49:ARG:CG	2.45	0.46
45:19:27:LYS:HE2	53:27:1317:C:OP2	2.15	0.46
53:27:66:A:H4'	53:27:173:U:C5	2.51	0.46
53:27:195:A:H2'	53:27:196:A:C8	2.50	0.46
53:27:552:U:O2'	53:27:553:A:H5'	2.16	0.46
53:27:1329:A:C2'	53:27:1330:U:H5'	2.45	0.46
54:28:30:G:H2'	54:28:31:C:C6	2.51	0.46
54:28:59:U:O2'	54:28:73:A:H2'	2.16	0.46
54:28:1030:C:O2'	54:28:1031:G:H5'	2.16	0.46
54:28:1068:G:H21	54:28:1096:A:C5'	2.23	0.46
54:28:1464:G:H2'	54:28:1465:G:H8	1.80	0.46
54:28:1805:A:H2'	54:28:1806:C:H6	1.79	0.46
54:28:2271:G:H2'	54:28:2272:U:C6	2.51	0.46
54:28:2465:C:O2'	54:28:2466:C:H5'	2.15	0.46
54:28:2740:A:H2'	54:28:2741:A:C8	2.51	0.46
1:A:702:ASP:CG	1:A:703:THR:H	2.19	0.46
2:B:141:HIS:ND1	2:B:192:GLY:O	2.43	0.46
2:B:200:MET:HE3	53:27:773:G:H4'	1.98	0.46
4:D:147:LEU:HD12	4:D:168:ASP:O	2.16	0.46
7:G:27:ARG:NH1	24:X:55:MET:HG2	2.31	0.46
8:H:14:GLU:OE2	8:H:67:THR:HA	2.15	0.46
9:I:100:ILE:HG13	9:I:139:VAL:HA	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:88:THR:OG1	10:J:91:GLU:HG3	2.16	0.46
11:K:76:VAL:H	16:P:72:VAL:CG2	2.28	0.46
16:P:102:ARG:NH2	54:28:1754:A:O3'	2.49	0.46
21:U:48:VAL:O	21:U:53:GLN:HB3	2.15	0.46
33:7:35:ASN:HB3	33:7:37:VAL:HG12	1.98	0.46
34:8:13:ILE:HG22	34:8:14:VAL:HG23	1.96	0.46
34:8:129:PHE:CZ	34:8:156:LEU:HD13	2.51	0.46
35:9:151:GLN:O	35:9:153:ARG:N	2.49	0.46
35:9:190:LEU:HD12	35:9:190:LEU:O	2.15	0.46
40:14:35:GLU:H	40:14:35:GLU:CD	2.18	0.46
42:16:82:GLU:OE1	42:16:82:GLU:N	2.48	0.46
43:17:29:LYS:HD3	53:27:363:A:OP1	2.15	0.46
43:17:49:ARG:NH2	43:17:88:ASP:OD2	2.47	0.46
44:18:97:ARG:HB2	44:18:99:GLN:HE22	1.80	0.46
45:19:74:ARG:HE	53:27:1359:C:H5	1.63	0.46
47:21:22:ALA:HB2	47:21:32:PHE:CB	2.46	0.46
48:22:59:GLU:C	48:22:60:ILE:HG13	2.36	0.46
49:23:21:ASP:O	49:23:22:TYR:HB3	2.15	0.46
50:24:10:ILE:HA	50:24:37:SER:HA	1.97	0.46
52:26:6:ARG:O	52:26:11:PHE:CD2	2.67	0.46
53:27:472:U:H2'	53:27:473:U:H6	1.81	0.46
53:27:979:C:OP2	53:27:980:C:H5	1.98	0.46
53:27:1114:C:H2'	53:27:1115:U:C6	2.51	0.46
54:28:518:G:H2'	54:28:519:U:C6	2.50	0.46
54:28:563:A:C6	54:28:564:C:C4	3.04	0.46
54:28:897:C:H3'	54:28:897:C:P	2.56	0.46
54:28:1056:G:O2'	54:28:1086:A:H1'	2.15	0.46
54:28:1297:C:OP1	54:28:2710:C:H4'	2.15	0.46
54:28:1430:G:H2'	54:28:1431:A:C8	2.51	0.46
54:28:2158:A:H5''	54:28:2159:G:OP1	2.15	0.46
54:28:2315:G:H2'	54:28:2316:G:H8	1.78	0.46
54:28:2590:A:H61	54:28:2604:U:H3	1.62	0.46
54:28:2652:C:H2'	54:28:2653:U:O4'	2.15	0.46
2:B:146:LYS:HB2	2:B:149:LYS:HB2	1.98	0.46
2:B:206:LYS:HE2	54:28:764:A:OP1	2.15	0.46
3:C:3:GLY:C	3:C:4:LEU:HD12	2.36	0.46
5:E:12:VAL:O	5:E:13:LYS:C	2.54	0.46
6:F:1:SER:N	54:28:2749:A:H5''	2.31	0.46
6:F:161:VAL:HG12	6:F:162:ARG:N	2.31	0.46
8:H:23:LEU:CD2	8:H:126:LEU:HD21	2.43	0.46
13:M:127:LYS:NZ	54:28:1030:C:OP2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:30:ARG:NH2	55:29:48:U:OP2	2.48	0.46
16:P:13:LYS:HZ2	16:P:80:VAL:HG23	1.80	0.46
30:4:34:ARG:HA	30:4:34:ARG:HD2	1.75	0.46
35:9:58:GLN:O	35:9:59:LYS:C	2.54	0.46
39:13:42:GLU:HG2	39:13:100:ILE:HG21	1.97	0.46
39:13:80:PRO:HG2	53:27:878:A:C5'	2.46	0.46
40:14:98:ARG:HH12	53:27:1179:A:H5''	1.80	0.46
43:17:74:GLN:O	43:17:76:HIS:N	2.48	0.46
46:20:74:VAL:O	46:20:77:TYR:HB3	2.16	0.46
47:21:60:TRP:HB3	47:21:65:ALA:CB	2.46	0.46
53:27:271:C:H2'	53:27:272:C:H6	1.81	0.46
53:27:621:A:H2'	53:27:622:A:O4'	2.15	0.46
53:27:1471:U:O2'	53:27:1472:U:H5'	2.15	0.46
54:28:200:U:H2'	54:28:201:C:O4'	2.16	0.46
54:28:271:G:HO2'	54:28:272:A:H8	1.64	0.46
54:28:275:C:H2'	54:28:276:U:C4'	2.43	0.46
54:28:966:G:H2'	54:28:967:U:C6	2.51	0.46
54:28:1157:G:H2'	54:28:1158:C:H6	1.80	0.46
54:28:1754:A:H2'	54:28:1755:A:C8	2.50	0.46
54:28:1973:G:H2'	54:28:1974:C:C6	2.50	0.46
54:28:2134:A:H62	54:28:2157:G:C4'	2.28	0.46
1:A:611:ARG:HB2	54:28:884:U:P	2.55	0.46
1:A:676:ARG:HG3	1:A:677:SER:H	1.79	0.46
5:E:22:ASN:N	5:E:26:GLN:OE1	2.49	0.46
5:E:48:LEU:HD21	5:E:147:ARG:NH1	2.30	0.46
9:I:116:MET:HE1	54:28:1059:G:H1'	1.98	0.46
11:K:9:ASN:O	11:K:83:ALA:HA	2.16	0.46
14:N:37:THR:OG1	14:N:40:LYS:HG3	2.15	0.46
20:T:40:LYS:HE2	20:T:60:THR:HG22	1.97	0.46
20:T:91:GLN:O	20:T:91:GLN:HG2	2.15	0.46
21:U:95:PHE:O	21:U:97:SER:O	2.33	0.46
30:4:11:LYS:NZ	54:28:686:U:OP1	2.49	0.46
30:4:19:ARG:HD3	54:28:125:A:OP2	2.15	0.46
34:8:113:LYS:HB2	34:8:184:ASN:ND2	2.30	0.46
34:8:133:MET:HG3	34:8:150:VAL:HG21	1.97	0.46
35:9:117:VAL:HG11	35:9:132:ALA:HA	1.97	0.46
35:9:123:MET:HE2	35:9:145:ARG:HA	1.97	0.46
38:12:15:PRO:HA	40:14:45:MET:SD	2.55	0.46
40:14:104:THR:HG22	40:14:106:ASP:H	1.80	0.46
44:18:25:GLY:N	53:27:1329:A:H5''	2.30	0.46
46:20:69:LEU:HD21	46:20:77:TYR:HA	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:21:14:ARG:HH22	53:27:618:C:H1'	1.81	0.46
47:21:20:VAL:HG23	47:21:35:ARG:HA	1.98	0.46
49:23:24:ASP:N	49:23:24:ASP:OD1	2.49	0.46
53:27:602:A:H2'	53:27:603:U:C6	2.51	0.46
53:27:641:U:H4'	53:27:642:A:C8	2.51	0.46
53:27:1060:U:H2'	53:27:1061:G:C8	2.50	0.46
53:27:1299:A:C2'	53:27:1301:U:H1'	2.46	0.46
54:28:191:A:O2'	54:28:192:C:H5'	2.16	0.46
54:28:699:A:H2'	54:28:700:G:O4'	2.16	0.46
54:28:1080:A:C2'	54:28:1081:U:H5'	2.46	0.46
54:28:1130:U:C2	54:28:2025:C:H5''	2.50	0.46
54:28:1524:G:H2'	54:28:1525:A:C8	2.51	0.46
54:28:1684:G:H2'	54:28:1685:C:H6	1.80	0.46
54:28:2488:G:H2'	54:28:2489:U:C6	2.51	0.46
55:29:71:C:H2'	55:29:72:G:O4'	2.15	0.46
2:B:207:ALA:HB2	54:28:1790:C:H4'	1.98	0.46
8:H:57:ASN:O	8:H:63:ALA:CB	2.64	0.46
9:I:93:ASN:H	9:I:136:GLY:HA2	1.80	0.46
18:R:15:SER:O	18:R:18:GLN:HG2	2.15	0.46
19:S:7:HIS:HB2	19:S:50:VAL:HG22	1.98	0.46
19:S:74:ILE:HG23	19:S:74:ILE:O	2.16	0.46
33:7:153:MET:CE	33:7:157:PRO:HG3	2.46	0.46
35:9:54:LEU:HD23	35:9:202:LEU:HD11	1.97	0.46
36:10:40:ASP:CG	36:10:44:ARG:HB2	2.36	0.46
37:11:67:PRO:HG2	37:11:70:VAL:CG2	2.44	0.46
42:16:111:ASP:HB2	52:26:16:ARG:NH2	2.30	0.46
47:21:70:ARG:HD2	47:21:70:ARG:HA	1.78	0.46
49:23:59:LYS:HD3	53:27:734:G:O2'	2.16	0.46
49:23:62:ARG:HA	49:23:67:LEU:O	2.16	0.46
52:26:28:LEU:C	52:26:30:GLU:H	2.18	0.46
53:27:212:G:H2'	53:27:213:G:C8	2.51	0.46
53:27:295:C:H2'	53:27:296:U:C6	2.51	0.46
53:27:1236:A:H4'	53:27:1304:G:H4'	1.98	0.46
54:28:118:A:OP2	54:28:119:A:H5''	2.16	0.46
54:28:149:A:O2'	54:28:150:U:H5'	2.15	0.46
54:28:481:G:H1'	54:28:506:G:N2	2.30	0.46
54:28:571:U:C4	54:28:2030:A:C6	3.04	0.46
54:28:828:U:H2'	54:28:829:A:C8	2.50	0.46
54:28:980:A:C6	54:28:981:A:N1	2.84	0.46
54:28:1094:U:H1'	54:28:1097:U:C5	2.49	0.46
54:28:1847:G:HO2'	54:28:1848:A:H8	1.62	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2560:A:H2'	54:28:2561:U:O4'	2.15	0.46
57:31:69:C:H2'	57:31:70:G:C8	2.50	0.46
3:C:56:LYS:NZ	54:28:2830:C:OP1	2.48	0.46
5:E:3:LEU:HA	5:E:6:TYR:HB3	1.97	0.46
6:F:39:ALA:HB1	6:F:57:TYR:CG	2.51	0.46
6:F:77:GLY:HA2	6:F:81:GLY:HA2	1.98	0.46
7:G:84:ALA:HA	7:G:91:PHE:N	2.31	0.46
11:K:7:MET:C	11:K:8:LEU:HD12	2.36	0.46
12:L:128:THR:OG1	12:L:129:LYS:N	2.49	0.46
15:O:79:ALA:HB3	15:O:113:ALA:CB	2.46	0.46
17:Q:87:VAL:HG12	17:Q:89:ILE:H	1.79	0.46
18:R:27:ILE:HG22	18:R:28:ALA:O	2.16	0.46
33:7:174:GLU:OE1	53:27:1101:A:N6	2.49	0.46
38:12:24:LYS:HA	38:12:27:ASN:HD22	1.81	0.46
42:16:126:ARG:HH22	53:27:692:U:C3'	2.28	0.46
43:17:66:ILE:HD12	43:17:66:ILE:N	2.31	0.46
53:27:391:G:H2'	53:27:392:C:O4'	2.16	0.46
53:27:393:A:C2	53:27:394:G:C8	3.04	0.46
53:27:423:G:H3'	53:27:423:G:N3	2.30	0.46
53:27:459:A:H2'	53:27:460:A:H8	1.81	0.46
53:27:577:G:H2'	53:27:578:C:H6	1.81	0.46
53:27:911:U:H2'	53:27:912:C:C6	2.51	0.46
53:27:971:G:OP1	53:27:971:G:H3'	2.16	0.46
53:27:1040:U:H2'	53:27:1041:G:H8	1.80	0.46
53:27:1109:C:H2'	53:27:1110:A:C8	2.50	0.46
53:27:1339:A:H2'	53:27:1340:A:O4'	2.16	0.46
54:28:190:A:C6	54:28:191:A:C6	3.04	0.46
54:28:309:A:H1'	54:28:329:G:N3	2.31	0.46
54:28:564:C:O2'	54:28:565:C:H5'	2.16	0.46
54:28:809:G:H2'	54:28:810:U:C6	2.51	0.46
54:28:927:A:H2'	54:28:928:A:H8	1.78	0.46
54:28:1006:C:O2'	54:28:1007:C:H5'	2.16	0.46
54:28:1048:A:H61	54:28:1111:A:H1'	1.81	0.46
54:28:1281:G:H2'	54:28:1282:U:C6	2.51	0.46
54:28:1952:A:C6	54:28:1953:A:N1	2.83	0.46
54:28:2109:U:H2'	54:28:2110:G:C8	2.51	0.46
54:28:2127:G:H21	54:28:2173:A:H4'	1.80	0.46
54:28:2724:U:H2'	54:28:2725:A:C8	2.50	0.46
54:28:2783:U:H2'	54:28:2784:U:H6	1.81	0.46
57:31:18:G:N2	57:31:57:A:H2'	2.31	0.46
58:32:26:G:N1	58:32:44:A:C2	2.84	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:ALA:CB	54:28:1790:C:H4'	2.46	0.45
3:C:122:VAL:HG22	3:C:127:PHE:O	2.16	0.45
5:E:4:HIS:HB2	5:E:96:TRP:CG	2.51	0.45
5:E:7:TYR:HA	5:E:11:VAL:HG23	1.98	0.45
5:E:137:PHE:HA	5:E:138:PRO:HD3	1.83	0.45
9:I:8:VAL:HG12	9:I:9:LYS:N	2.31	0.45
9:I:10:LEU:HD23	54:28:1070:A:C2	2.52	0.45
11:K:99:ILE:HD13	11:K:115:ILE:HG23	1.97	0.45
12:L:66:PHE:CE2	54:28:2415:G:H1'	2.50	0.45
13:M:30:SER:HA	13:M:133:LYS:HB2	1.98	0.45
16:P:7:LEU:HA	16:P:10:GLU:OE2	2.16	0.45
22:V:30:ILE:HG12	22:V:91:PHE:HB2	1.96	0.45
34:8:91:ALA:O	34:8:95:GLY:N	2.49	0.45
35:9:173:ASP:O	35:9:175:GLY:N	2.49	0.45
37:11:9:MET:HG3	37:11:85:ILE:O	2.16	0.45
40:14:30:ASN:C	40:14:32:ARG:H	2.20	0.45
42:16:87:GLY:N	42:16:113:THR:HG22	2.31	0.45
50:24:18:VAL:O	50:24:22:VAL:HG23	2.16	0.45
53:27:142:G:H2'	53:27:143:A:O4'	2.16	0.45
53:27:225:C:H2'	53:27:226:G:O4'	2.15	0.45
53:27:575:G:H4'	53:27:576:C:O5'	2.16	0.45
53:27:723:U:N3	53:27:856:C:H5'	2.31	0.45
53:27:793:U:H5'	53:27:794:A:O5'	2.16	0.45
53:27:1143:G:O2'	53:27:1144:G:H5'	2.17	0.45
53:27:1308:U:H2'	53:27:1309:G:C8	2.52	0.45
54:28:338:G:N2	54:28:339:U:H1'	2.31	0.45
54:28:468:G:H2'	54:28:469:G:O4'	2.16	0.45
54:28:488:G:H1'	54:28:492:A:H61	1.80	0.45
54:28:644:A:H2'	54:28:645:C:H4'	1.98	0.45
54:28:1341:G:N2	54:28:1398:C:H4'	2.31	0.45
54:28:1556:C:O2'	54:28:1557:C:H5'	2.16	0.45
54:28:2281:A:O2'	54:28:2282:G:H5'	2.16	0.45
54:28:2524:G:H3'	54:28:2525:G:H5''	1.97	0.45
54:28:2730:C:O2'	54:28:2731:G:H5'	2.16	0.45
54:28:2747:G:O6	54:28:2755:C:H5''	2.15	0.45
54:28:2869:G:H2'	54:28:2870:C:O4'	2.16	0.45
55:29:24:G:N7	55:29:56:G:O2'	2.45	0.45
2:B:52:HIS:CA	2:B:216:ARG:HB2	2.45	0.45
2:B:68:ARG:O	2:B:188:ARG:NH1	2.49	0.45
2:B:196:ASN:O	2:B:196:ASN:OD1	2.34	0.45
5:E:105:ILE:HD12	5:E:138:PRO:HG2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:37:ASN:HD22	6:F:63:GLN:NE2	2.13	0.45
7:G:66:ASN:HB3	7:G:135:HIS:HB2	1.98	0.45
17:Q:23:TYR:CE1	54:28:533:G:H5'	2.52	0.45
19:S:18:ARG:HH12	54:28:518:G:P	2.39	0.45
26:Z:5:LYS:HB2	26:Z:57:GLU:HG3	1.98	0.45
27:1:56:ARG:HH22	50:24:68:HIS:HE1	1.64	0.45
33:7:107:ARG:HA	33:7:110:ILE:HD12	1.98	0.45
37:11:21:MET:O	37:11:24:ARG:HB3	2.15	0.45
38:12:127:ALA:HB3	38:12:128:GLU:OE1	2.16	0.45
40:14:29:ILE:HG23	40:14:29:ILE:O	2.16	0.45
40:14:118:ARG:O	40:14:119:LYS:HB3	2.17	0.45
43:17:87:LYS:O	43:17:87:LYS:HG2	2.16	0.45
43:17:98:ARG:CB	43:17:116:TYR:HA	2.45	0.45
43:17:113:ARG:NH2	43:17:120:ARG:HG3	2.32	0.45
48:22:14:ASP:O	48:22:16:MET:N	2.49	0.45
51:25:6:ALA:O	51:25:9:ARG:HB3	2.15	0.45
51:25:23:ARG:NH1	53:27:176:C:H5''	2.32	0.45
53:27:757:U:H2'	53:27:758:C:O4'	2.17	0.45
53:27:788:U:H2'	53:27:789:U:O4'	2.16	0.45
53:27:1167:A:C6	53:27:1169:A:N1	2.84	0.45
53:27:1225:A:H3'	53:27:1226:C:C6	2.50	0.45
53:27:1434:A:H2'	53:27:1435:G:C8	2.51	0.45
54:28:185:G:H2'	54:28:186:G:H8	1.81	0.45
54:28:213:A:H2'	54:28:214:G:C8	2.51	0.45
54:28:329:G:O4'	54:28:477:A:H1'	2.16	0.45
54:28:886:A:H2'	54:28:887:U:O4'	2.17	0.45
54:28:1255:U:O5'	54:28:1256:G:H5''	2.16	0.45
54:28:1710:G:H2'	54:28:1711:A:C8	2.51	0.45
54:28:1773:A:C2'	54:28:1774:C:H5'	2.47	0.45
54:28:1838:C:N4	54:28:1898:U:H2'	2.31	0.45
54:28:1951:U:H2'	54:28:1953:A:OP2	2.16	0.45
54:28:2136:G:N2	54:28:2137:U:H1'	2.31	0.45
54:28:2171:A:O2'	54:28:2172:U:H5'	2.16	0.45
54:28:2242:G:O5'	54:28:2242:G:H8	1.98	0.45
54:28:2295:C:H2'	54:28:2296:U:C6	2.52	0.45
54:28:2314:A:H2'	54:28:2315:G:H8	1.81	0.45
54:28:2472:G:H2'	54:28:2529:G:H21	1.81	0.45
55:29:35:C:H2'	55:29:36:C:O4'	2.16	0.45
57:31:36:U:O2'	57:31:37:A:H5'	2.15	0.45
3:C:88:GLU:OE1	3:C:88:GLU:N	2.48	0.45
4:D:1:MET:HB3	4:D:14:VAL:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:134:LEU:CD2	4:D:161:ALA:HB2	2.46	0.45
5:E:62:GLN:HE21	5:E:88:VAL:CG1	2.30	0.45
6:F:104:LEU:HD13	6:F:106:LEU:HD11	1.98	0.45
8:H:77:VAL:HB	8:H:84:TYR:CE1	2.49	0.45
22:V:1:MET:O	22:V:3:THR:N	2.49	0.45
25:Y:21:LEU:O	25:Y:25:GLN:HB3	2.15	0.45
26:Z:50:VAL:O	26:Z:54:VAL:HG22	2.16	0.45
29:3:46:VAL:HG12	29:3:47:ILE:N	2.31	0.45
33:7:102:ASN:HB2	53:27:1074:G:H1'	1.98	0.45
36:10:57:ALA:O	36:10:61:LYS:HB2	2.15	0.45
44:18:6:ILE:O	44:18:7:ASN:C	2.53	0.45
53:27:210:C:H3'	53:27:211:G:C5'	2.44	0.45
53:27:376:G:H2'	53:27:377:G:C8	2.51	0.45
53:27:423:G:H2'	53:27:424:G:H5'	1.97	0.45
53:27:551:U:H2'	53:27:552:U:H6	1.81	0.45
53:27:589:U:O2'	53:27:590:U:H5'	2.15	0.45
53:27:871:U:H5''	53:27:872:A:OP2	2.15	0.45
53:27:880:C:O2'	53:27:881:G:H5'	2.16	0.45
53:27:1034:G:H2'	53:27:1035:A:O4'	2.16	0.45
53:27:1120:C:H2'	53:27:1121:U:H6	1.81	0.45
53:27:1331:G:O2'	53:27:1332:A:H8	1.99	0.45
53:27:1350:A:H2'	53:27:1351:U:C6	2.51	0.45
54:28:151:C:H2'	54:28:152:A:H8	1.80	0.45
54:28:364:C:H2'	54:28:365:U:C6	2.51	0.45
54:28:465:G:H21	54:28:684:G:H1'	1.81	0.45
54:28:1424:G:H2'	54:28:1425:G:O4'	2.17	0.45
54:28:1670:C:C4	54:28:1671:U:C2	3.04	0.45
54:28:1857:G:H1'	54:28:1885:A:H61	1.76	0.45
54:28:1874:C:H2'	54:28:1875:G:O4'	2.15	0.45
54:28:2010:G:H2'	54:28:2011:U:C6	2.51	0.45
54:28:2405:G:H2'	54:28:2411:A:N6	2.32	0.45
54:28:2626:C:H2'	54:28:2627:G:H8	1.81	0.45
54:28:2837:A:H2'	54:28:2838:G:C8	2.51	0.45
4:D:111:GLU:O	4:D:115:GLN:N	2.49	0.45
31:5:32:LEU:HD13	54:28:2419:U:OP2	2.16	0.45
34:8:175:HIS:NE2	53:27:1190:G:H5''	2.31	0.45
35:9:13:ARG:HD2	35:9:55:ARG:CZ	2.47	0.45
37:11:62:MET:O	37:11:63:ASN:HB2	2.16	0.45
40:14:35:GLU:O	40:14:40:ARG:HG3	2.15	0.45
45:19:11:LYS:O	45:19:14:ALA:HB3	2.16	0.45
46:20:4:THR:HG23	53:27:659:U:H5''	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:26:67:THR:HB	53:27:1088:G:O2'	2.16	0.45
53:27:904:U:H2'	53:27:905:U:C6	2.51	0.45
53:27:1277:C:H2'	53:27:1278:G:H5''	1.97	0.45
53:27:1404:C:H2'	53:27:1405:G:H8	1.77	0.45
53:27:1405:G:O2'	53:27:1406:U:H5'	2.17	0.45
54:28:2:G:H2'	54:28:3:U:C6	2.50	0.45
54:28:247:G:H4'	54:28:386:G:C4	2.52	0.45
54:28:435:C:H2'	54:28:436:C:H5'	1.99	0.45
54:28:528:A:H2'	54:28:2042:A:N1	2.32	0.45
54:28:542:C:H2'	54:28:543:G:H5''	1.98	0.45
54:28:1013:C:H2'	54:28:1014:A:H8	1.82	0.45
54:28:1144:A:H2'	54:28:1145:C:H6	1.80	0.45
54:28:1417:C:H2'	54:28:1418:G:O4'	2.16	0.45
54:28:1913:A:H4'	54:28:1914:C:C5'	2.46	0.45
54:28:1993:U:H2'	54:28:1994:C:C6	2.50	0.45
54:28:2000:C:O2'	54:28:2001:C:H5'	2.17	0.45
54:28:2078:C:H2'	54:28:2079:U:O4'	2.16	0.45
54:28:2199:A:H3'	54:28:2200:C:H6	1.81	0.45
54:28:2440:C:H5''	54:28:2587:A:H4'	1.98	0.45
54:28:2643:G:C4	54:28:2644:G:C8	3.04	0.45
55:29:30:C:C2'	55:29:31:C:H5'	2.46	0.45
4:D:63:LYS:O	54:28:2060:A:OP1	2.35	0.45
5:E:10:GLU:CD	5:E:10:GLU:H	2.20	0.45
5:E:14:LYS:NZ	5:E:18:GLU:OE2	2.49	0.45
5:E:47:LYS:O	5:E:50:ASP:HB2	2.17	0.45
5:E:115:GLY:HA2	5:E:175:PRO:HB3	1.97	0.45
9:I:23:VAL:O	9:I:24:GLY:C	2.54	0.45
14:N:28:LEU:HD23	14:N:48:VAL:HG11	1.99	0.45
15:O:7:ARG:O	15:O:10:ARG:HB3	2.17	0.45
27:1:16:CYS:HA	27:1:34:LEU:HB2	1.98	0.45
33:7:96:LEU:O	33:7:98:GLY:N	2.50	0.45
33:7:162:VAL:HB	33:7:184:ALA:CB	2.47	0.45
35:9:13:ARG:HD2	35:9:55:ARG:NH2	2.32	0.45
35:9:201:GLU:HA	35:9:204:SER:HB2	1.99	0.45
40:14:30:ASN:O	40:14:31:GLN:HB2	2.16	0.45
41:15:6:ILE:HA	41:15:102:LEU:HB3	1.98	0.45
44:18:15:VAL:O	44:18:19:THR:HG23	2.17	0.45
45:19:68:ARG:HD2	53:27:1202:U:O4'	2.16	0.45
46:20:63:ARG:CD	46:20:87:ARG:HH22	2.27	0.45
53:27:81:A:H2	53:27:88:U:O2	1.99	0.45
53:27:654:G:H2'	53:27:655:A:O4'	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:922:G:N3	53:27:1398:A:H2	2.15	0.45
53:27:1167:A:C6	53:27:1169:A:C6	3.04	0.45
53:27:1353:G:H2'	53:27:1354:U:C6	2.52	0.45
54:28:445:C:H2'	54:28:446:G:O4'	2.17	0.45
54:28:522:A:H2'	54:28:523:C:H6	1.82	0.45
54:28:857:G:H1	54:28:920:A:H61	1.65	0.45
54:28:859:G:O2'	54:28:860:U:P	2.74	0.45
54:28:1301:A:O2'	54:28:1302:A:H3'	2.16	0.45
54:28:1637:A:H2'	54:28:1638:C:C6	2.51	0.45
54:28:1731:G:C6	54:28:1733:G:C5	3.05	0.45
54:28:2242:G:H2'	54:28:2243:U:O4'	2.16	0.45
54:28:2417:C:H2'	54:28:2418:A:C8	2.51	0.45
56:30:16:A:H2'	56:30:17:U:C6	2.51	0.45
1:A:598:VAL:O	1:A:600:GLU:N	2.49	0.45
1:A:624:PHE:O	1:A:632:SER:N	2.48	0.45
2:B:62:ARG:NH2	54:28:1568:G:OP2	2.48	0.45
2:B:178:GLY:O	2:B:270:ARG:HA	2.17	0.45
3:C:136:ASN:HD21	3:C:140:HIS:HA	1.81	0.45
4:D:190:ALA:O	4:D:193:VAL:HB	2.17	0.45
5:E:3:LEU:O	5:E:6:TYR:HB3	2.17	0.45
5:E:42:ALA:HA	5:E:45:ASP:O	2.16	0.45
7:G:59:ALA:HA	7:G:62:LEU:HD12	1.98	0.45
8:H:23:LEU:HB2	8:H:119:PRO:CD	2.47	0.45
8:H:81:LEU:HA	54:28:1107:G:O4'	2.17	0.45
11:K:49:ARG:HH21	53:27:1423:G:H5'	1.81	0.45
11:K:79:PHE:CD1	16:P:69:VAL:HG22	2.51	0.45
22:V:76:ASP:OD1	22:V:77:VAL:N	2.49	0.45
28:2:28:SER:HG	54:28:2886:A:H2	1.61	0.45
32:6:1:MET:HE3	32:6:34:LYS:HG2	1.98	0.45
35:9:56:GLU:HG2	35:9:198:LEU:HD12	1.98	0.45
35:9:64:TYR:CE2	35:9:93:LEU:HB3	2.52	0.45
37:11:1:MET:SD	37:11:66:ALA:HA	2.56	0.45
43:17:34:THR:O	43:17:53:ARG:HB3	2.16	0.45
43:17:113:ARG:HG2	43:17:113:ARG:HH11	1.82	0.45
50:24:35:ARG:HA	50:24:70:LEU:HB2	1.98	0.45
53:27:16:A:C2'	53:27:17:U:H5'	2.47	0.45
53:27:631:C:H3'	53:27:632:U:H5'	1.97	0.45
53:27:908:A:H2'	53:27:909:A:H8	1.81	0.45
53:27:1213:A:C6	53:27:1215:G:H1'	2.52	0.45
53:27:1282:C:H2'	53:27:1283:U:C6	2.52	0.45
53:27:1369:C:H2'	53:27:1370:G:H8	1.79	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1806:C:H2'	54:28:1807:G:O4'	2.16	0.45
54:28:2821:A:O2'	54:28:2822:G:H5'	2.17	0.45
54:28:2869:G:H2'	54:28:2870:C:C6	2.52	0.45
55:29:88:C:P	55:29:88:C:H3'	2.57	0.45
58:32:42:G:O2'	58:32:43:A:H5'	2.17	0.45
2:B:225:ASN:ND2	54:28:784:G:O5'	2.50	0.45
4:D:82:GLY:O	4:D:83:VAL:HB	2.16	0.45
4:D:176:ASP:HA	4:D:177:PRO:HD3	1.77	0.45
5:E:62:GLN:HB2	27:1:6:HIS:CE1	2.51	0.45
6:F:42:VAL:HG22	6:F:43:LYS:N	2.32	0.45
7:G:64:ALA:O	7:G:68:ARG:HG3	2.16	0.45
7:G:83:LYS:O	7:G:91:PHE:HB2	2.17	0.45
9:I:59:THR:HB	9:I:67:THR:O	2.16	0.45
13:M:40:ARG:HD2	54:28:958:U:O4	2.16	0.45
15:O:98:GLN:O	15:O:100:HIS:N	2.49	0.45
15:O:111:ARG:NH2	15:O:117:PHE:OXT	2.49	0.45
28:2:9:ARG:O	28:2:12:ARG:HB3	2.17	0.45
33:7:221:ARG:HG2	33:7:224:ARG:HE	1.82	0.45
40:14:119:LYS:O	40:14:122:ARG:N	2.45	0.45
44:18:109:LYS:NZ	53:27:1226:C:O2'	2.48	0.45
46:20:28:VAL:HG11	46:20:66:LEU:HD21	1.99	0.45
47:21:4:ILE:HB	47:21:67:ILE:HG22	1.99	0.45
48:22:60:ILE:CG2	48:22:72:TRP:HB3	2.47	0.45
50:24:43:MET:HG3	50:24:46:LEU:HD12	1.98	0.45
53:27:262:A:H2'	53:27:263:A:C8	2.52	0.45
53:27:510:A:N3	53:27:543:U:H1'	2.32	0.45
53:27:1458:G:H2'	53:27:1459:G:H8	1.81	0.45
54:28:598:U:H2'	54:28:599:A:C8	2.52	0.45
54:28:755:U:H2'	54:28:756:A:C8	2.52	0.45
54:28:818:G:C2'	54:28:819:A:H5''	2.46	0.45
54:28:860:U:H2'	54:28:861:A:C8	2.40	0.45
54:28:918:A:H5''	55:29:97:C:O2'	2.17	0.45
54:28:948:C:H2'	54:28:949:G:H8	1.82	0.45
54:28:1213:A:H62	54:28:1236:G:H1'	1.80	0.45
54:28:1366:A:H2'	54:28:1367:A:O4'	2.16	0.45
54:28:1891:G:H2'	54:28:1892:C:H6	1.80	0.45
54:28:1923:U:H2'	54:28:1924:C:H6	1.80	0.45
54:28:1997:C:H2'	54:28:1998:A:H8	1.81	0.45
54:28:2081:U:H2'	54:28:2082:A:C8	2.52	0.45
54:28:2834:G:O6	54:28:2879:A:H2'	2.16	0.45
58:32:29:G:H2'	58:32:30:G:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:686:ILE:HD11	1:A:732:VAL:HG21	1.99	0.45
3:C:136:ASN:ND2	3:C:140:HIS:HA	2.32	0.45
7:G:27:ARG:HH11	24:X:55:MET:HG2	1.81	0.45
13:M:29:GLY:HA3	13:M:105:MET:O	2.16	0.45
14:N:14:SER:HA	14:N:17:ARG:NH1	2.31	0.45
16:P:21:PRO:HD3	16:P:49:ILE:HD12	1.98	0.45
18:R:51:VAL:O	18:R:52:PRO:C	2.53	0.45
21:U:39:ASN:HB2	21:U:62:ALA:O	2.16	0.45
30:4:5:PHE:CD2	30:4:7:PRO:HD3	2.52	0.45
34:8:53:ARG:HG3	34:8:68:HIS:ND1	2.31	0.45
34:8:109:GLU:HB2	34:8:143:LEU:CD2	2.42	0.45
35:9:26:ALA:O	35:9:28:ASP:N	2.50	0.45
35:9:119:HIS:CE1	53:27:437:U:HO2'	2.35	0.45
40:14:53:LEU:HD21	40:14:100:ALA:HB3	1.98	0.45
49:23:25:ILE:HG13	49:23:26:ALA:N	2.31	0.45
50:24:68:HIS:HB3	50:24:72:GLU:OE1	2.16	0.45
51:25:57:VAL:HG13	51:25:58:ASP:N	2.32	0.45
53:27:122:G:H2'	53:27:123:U:C6	2.52	0.45
53:27:1051:C:H2'	53:27:1052:U:O4'	2.17	0.45
53:27:1326:U:H2'	53:27:1327:C:H6	1.81	0.45
53:27:1478:U:H2'	53:27:1479:C:H6	1.81	0.45
54:28:226:A:H3'	54:28:227:A:H8	1.82	0.45
54:28:1152:C:O2'	54:28:1153:C:H5'	2.17	0.45
54:28:1259:G:H2'	54:28:1260:A:C8	2.52	0.45
54:28:1448:G:H2'	54:28:1449:G:H8	1.82	0.45
54:28:1905:C:H4'	54:28:1928:A:C2	2.51	0.45
54:28:2216:G:H2'	54:28:2217:G:C8	2.52	0.45
54:28:2291:U:H2'	54:28:2292:U:H6	1.81	0.45
54:28:2557:G:H2'	54:28:2558:C:H6	1.82	0.45
54:28:2600:A:H2'	54:28:2601:C:H6	1.79	0.45
54:28:2899:A:H2'	54:28:2900:A:C8	2.52	0.45
1:A:602:VAL:CG2	50:24:31:ARG:HD3	2.46	0.45
2:B:175:LEU:HD13	54:28:1799:G:C4	2.52	0.45
3:C:133:THR:HG23	3:C:134:HIS:N	2.32	0.45
4:D:36:ALA:O	4:D:39:ALA:HB3	2.16	0.45
8:H:48:ALA:HB3	8:H:51:TYR:CB	2.46	0.45
8:H:59:LEU:HB3	8:H:62:ARG:HB3	1.98	0.45
12:L:62:PRO:HG2	31:5:24:LYS:HB3	1.99	0.45
13:M:77:PRO:O	13:M:78:LEU:C	2.55	0.45
16:P:88:ARG:NH2	16:P:114:ASN:HD21	2.15	0.45
20:T:3:ARG:NH2	54:28:143:C:O4'	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:74:ILE:HG13	20:T:74:ILE:O	2.17	0.45
26:Z:40:THR:HG23	26:Z:43:ILE:H	1.81	0.45
37:11:12:PRO:HA	37:11:15:SER:OG	2.17	0.45
38:12:102:TRP:HH2	38:12:140:VAL:HG21	1.80	0.45
40:14:56:MET:O	40:14:58:GLU:N	2.50	0.45
40:14:74:GLN:O	40:14:78:ILE:HG13	2.17	0.45
42:16:22:ILE:HB	42:16:85:VAL:HA	1.99	0.45
46:20:32:THR:HG22	46:20:36:ASN:HD21	1.82	0.45
53:27:147:G:H2'	53:27:148:G:H8	1.80	0.45
53:27:463:U:H2'	53:27:464:U:O4'	2.17	0.45
53:27:689:C:H2'	53:27:690:G:O4'	2.16	0.45
53:27:865:A:H5'	53:27:1078:U:O4	2.16	0.45
53:27:1036:A:H5'	53:27:1037:C:OP2	2.16	0.45
54:28:319:G:H2'	54:28:320:A:C8	2.52	0.45
54:28:367:G:H3'	54:28:368:A:H8	1.82	0.45
54:28:393:C:O2'	54:28:394:C:H5'	2.16	0.45
54:28:633:A:H2'	54:28:634:C:O4'	2.17	0.45
54:28:795:C:H2'	54:28:796:C:C6	2.52	0.45
54:28:1209:U:O3'	54:28:1212:G:H5'	2.16	0.45
54:28:1686:C:H2'	54:28:1687:G:O4'	2.17	0.45
54:28:1989:G:H2'	54:28:1990:C:O4'	2.17	0.45
54:28:2350:C:H2'	54:28:2351:G:O4'	2.16	0.45
54:28:2452:C:C2	54:28:2504:U:O4	2.70	0.45
54:28:2456:C:H2'	54:28:2457:U:O2	2.17	0.45
54:28:2472:G:H1'	54:28:2478:A:H61	1.81	0.45
54:28:2779:U:O4'	54:28:2781:A:C5	2.70	0.45
54:28:2863:C:H2'	54:28:2864:G:C8	2.51	0.45
54:28:2868:A:H3'	54:28:2869:G:C8	2.50	0.45
55:29:29:A:H2'	55:29:30:C:C6	2.51	0.45
58:32:30:G:H2'	58:32:31:G:C8	2.52	0.45
1:A:640:GLN:CA	1:A:643:GLU:OE1	2.64	0.45
3:C:154:LYS:HZ3	54:28:2025:C:H5'	1.81	0.45
5:E:169:LEU:HB3	5:E:174:PHE:CD2	2.45	0.45
7:G:90:LEU:HD23	7:G:93:SER:HA	1.97	0.45
8:H:107:GLU:O	8:H:109:LYS:N	2.50	0.45
10:J:120:ARG:NE	54:28:2780:G:OP2	2.48	0.45
11:K:22:ILE:HD11	11:K:40:LYS:CG	2.47	0.45
17:Q:36:GLN:NE2	54:28:564:C:C1'	2.79	0.45
21:U:87:GLU:CD	21:U:101:THR:HG21	2.37	0.45
24:X:49:ARG:HH22	54:28:1364:G:P	2.38	0.45
25:Y:31:GLN:HG3	25:Y:36:GLN:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:4:11:LYS:CE	54:28:686:U:OP1	2.65	0.45
32:6:38:GLY:O	54:28:1124:G:H1'	2.17	0.45
33:7:8:MET:N	33:7:46:VAL:HG11	2.32	0.45
34:8:20:THR:O	34:8:57:GLU:HA	2.17	0.45
34:8:39:ARG:NE	45:19:91:GLU:OE1	2.50	0.45
34:8:178:ARG:CZ	53:27:1112:C:H1'	2.46	0.45
39:13:9:MET:HG3	39:13:26:MET:SD	2.57	0.45
42:16:21:HIS:NE2	53:27:707:U:O3'	2.49	0.45
43:17:87:LYS:HE3	43:17:87:LYS:HB3	1.85	0.45
44:18:8:ILE:N	44:18:9:PRO:HD3	2.32	0.45
44:18:94:LEU:HB3	44:18:95:PRO:HD2	1.97	0.45
53:27:148:G:H1'	53:27:1447:A:H1'	1.98	0.45
53:27:265:G:H2'	53:27:267:C:C5	2.45	0.45
53:27:429:U:H1'	53:27:430:A:H5''	1.99	0.45
54:28:92:U:H2'	54:28:93:G:H5'	1.98	0.45
54:28:149:A:H2'	54:28:150:U:H6	1.82	0.45
54:28:516:C:H2'	54:28:517:C:H6	1.82	0.45
54:28:540:C:H2'	54:28:541:A:C8	2.50	0.45
54:28:1162:G:H2'	54:28:1163:G:H8	1.81	0.45
54:28:1188:U:H2'	54:28:1189:A:C8	2.46	0.45
54:28:1308:A:N6	54:28:1606:C:H1'	2.32	0.45
54:28:1604:C:H2'	54:28:1605:C:C6	2.53	0.45
54:28:1613:G:H2'	54:28:1617:C:H42	1.82	0.45
54:28:1676:A:H2'	54:28:1677:A:H8	1.81	0.45
54:28:1677:A:H2'	54:28:1678:A:C8	2.52	0.45
54:28:1681:G:N3	54:28:1762:A:H2'	2.32	0.45
54:28:2134:A:O2'	54:28:2159:G:N3	2.50	0.45
54:28:2298:A:H2'	54:28:2299:U:O4'	2.17	0.45
54:28:2686:G:H2'	54:28:2687:U:O4'	2.16	0.45
54:28:2825:G:H3'	54:28:2826:A:H8	1.82	0.45
54:28:2899:A:H2'	54:28:2900:A:H8	1.82	0.45
55:29:88:C:C5'	55:29:89:U:OP1	2.63	0.45
55:29:96:G:O2'	55:29:97:C:H5'	2.17	0.45
57:31:23:C:H2'	57:31:24:U:H6	1.81	0.45
3:C:14:ILE:O	3:C:22:ILE:HG12	2.17	0.44
4:D:40:ARG:HD2	4:D:92:HIS:CG	2.52	0.44
6:F:102:ILE:HD11	6:F:116:LEU:HD21	1.98	0.44
8:H:42:ARG:HG3	9:I:118:GLY:O	2.17	0.44
9:I:92:PRO:HD3	54:28:1063:G:H21	1.82	0.44
12:L:95:LEU:O	12:L:99:ASN:N	2.50	0.44
14:N:101:GLY:N	28:2:41:HIS:HD2	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:14:LYS:HB2	55:29:98:G:H1	1.83	0.44
25:Y:14:LEU:HD23	25:Y:14:LEU:HA	1.85	0.44
27:1:27:THR:O	27:1:29:GLY:N	2.50	0.44
31:5:11:LYS:HE3	54:28:249:C:O2	2.17	0.44
35:9:125:ASN:HA	35:9:141:VAL:CG2	2.46	0.44
36:10:156:ARG:NH2	36:10:163:ILE:HG22	2.31	0.44
39:13:104:SER:HB3	53:27:642:A:C2	2.52	0.44
41:15:15:HIS:CG	41:15:16:ARG:N	2.85	0.44
43:17:69:GLU:HB2	53:27:521:G:OP1	2.17	0.44
43:17:101:LEU:HB3	43:17:102:ASP:H	1.57	0.44
44:18:14:ALA:CB	44:18:33:LEU:HD21	2.46	0.44
45:19:5:MET:HE1	53:27:981:U:OP1	2.17	0.44
47:21:12:LYS:HD2	53:27:393:A:OP2	2.17	0.44
51:25:25:SER:HB3	53:27:1458:G:H5''	1.98	0.44
53:27:122:G:H2'	53:27:123:U:H6	1.82	0.44
53:27:1327:C:O2'	53:27:1328:C:H5'	2.17	0.44
54:28:141:G:H5''	54:28:142:A:N9	2.33	0.44
54:28:785:G:C6	54:28:786:C:C4	3.05	0.44
54:28:795:C:C2	54:28:796:C:C5	3.05	0.44
54:28:1608:A:C5	54:28:1611:C:C4	3.04	0.44
54:28:1613:G:C2	54:28:1619:G:C5	3.05	0.44
54:28:1912:A:N6	54:28:1917:U:C5	2.77	0.44
54:28:2075:U:H3'	54:28:2238:G:H21	1.82	0.44
54:28:2134:A:C6	54:28:2158:A:H4'	2.52	0.44
54:28:2507:C:H2'	54:28:2508:G:O4'	2.17	0.44
54:28:2743:U:C3'	54:28:2744:G:H5''	2.47	0.44
1:A:616:ILE:O	1:A:618:GLY:N	2.49	0.44
2:B:205:GLY:O	54:28:1791:A:C1'	2.65	0.44
3:C:4:LEU:HD23	3:C:29:VAL:HG11	1.98	0.44
4:D:88:ARG:CD	4:D:89:PRO:HD2	2.48	0.44
5:E:151:LEU:HD12	5:E:151:LEU:C	2.38	0.44
6:F:67:ALA:O	6:F:70:LEU:HB2	2.17	0.44
7:G:9:VAL:CG1	7:G:12:LEU:HG	2.46	0.44
7:G:103:VAL:CG1	7:G:108:VAL:HB	2.47	0.44
13:M:3:GLN:HG3	13:M:92:TRP:CD1	2.53	0.44
14:N:72:ASP:OD2	14:N:75:ILE:HG12	2.17	0.44
24:X:46:VAL:HG11	24:X:67:LEU:HD21	1.98	0.44
28:2:11:LYS:NZ	54:28:2616:C:H5''	2.33	0.44
30:4:30:VAL:O	30:4:34:ARG:HG2	2.17	0.44
35:9:13:ARG:NH2	53:27:542:G:O3'	2.51	0.44
35:9:80:ARG:HH21	53:27:613:C:P	2.40	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:12:14:ASP:OD1	38:12:43:TYR:OH	2.31	0.44
40:14:5:TYR:O	40:14:20:ILE:HG22	2.17	0.44
41:15:80:THR:O	41:15:83:THR:N	2.50	0.44
43:17:32:VAL:HB	43:17:55:ARG:HB3	1.99	0.44
46:20:32:THR:HG22	46:20:36:ASN:ND2	2.32	0.44
48:22:42:LYS:HZ1	53:27:277:C:P	2.40	0.44
50:24:35:ARG:HH11	53:27:1221:G:C5'	2.29	0.44
50:24:39:ILE:HG23	50:24:43:MET:CE	2.46	0.44
53:27:390:U:H2'	53:27:391:G:H8	1.82	0.44
53:27:547:A:H4'	53:27:548:G:O5'	2.17	0.44
53:27:598:U:H2'	53:27:599:C:H6	1.82	0.44
53:27:637:C:O2'	53:27:638:U:H5'	2.16	0.44
53:27:1138:G:N3	53:27:1138:G:C3'	2.78	0.44
54:28:16:C:H2'	54:28:17:G:C8	2.50	0.44
54:28:335:C:H2'	54:28:336:C:C6	2.53	0.44
54:28:354:A:H2'	54:28:355:U:O4'	2.16	0.44
54:28:765:C:H2'	54:28:766:U:H6	1.81	0.44
54:28:831:G:O2'	54:28:832:U:H5'	2.17	0.44
54:28:1089:A:H2	54:28:1090:A:N6	2.14	0.44
54:28:1528:A:C2'	54:28:1529:G:H5'	2.47	0.44
54:28:2247:A:H2'	54:28:2248:C:H6	1.82	0.44
55:29:104:A:C2	55:29:105:G:H1'	2.52	0.44
58:32:27:U:O2'	58:32:28:C:H5'	2.17	0.44
1:A:670:ARG:HH21	1:A:741:LEU:HD11	1.83	0.44
4:D:22:ASP:HA	4:D:114:ARG:HH12	1.81	0.44
6:F:57:TYR:HB3	6:F:59:ASP:OD1	2.17	0.44
7:G:131:SER:HA	7:G:140:ALA:O	2.18	0.44
9:I:15:GLY:HA3	9:I:50:LYS:NZ	2.32	0.44
9:I:52:LEU:HB3	9:I:77:VAL:HG11	1.99	0.44
10:J:7:LYS:HA	10:J:8:PRO:HD3	1.72	0.44
10:J:99:ARG:HA	10:J:102:GLU:HB3	2.00	0.44
13:M:75:GLU:HG3	54:28:957:C:H5'	2.00	0.44
17:Q:93:ILE:HG21	18:R:4:VAL:HG11	1.99	0.44
21:U:54:PRO:O	21:U:55:GLY:C	2.54	0.44
25:Y:36:GLN:O	25:Y:38:GLN:OE1	2.36	0.44
34:8:163:ARG:NH1	34:8:165:GLU:OE2	2.51	0.44
35:9:100:VAL:O	35:9:104:MET:HG2	2.17	0.44
36:10:37:VAL:HG12	36:10:116:VAL:HG21	1.99	0.44
36:10:86:GLY:O	36:10:138:ALA:HB1	2.16	0.44
38:12:2:ARG:NH2	53:27:935:A:C2	2.85	0.44
38:12:63:VAL:HA	38:12:66:GLU:OE2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:12:85:GLN:O	38:12:147:ASN:ND2	2.43	0.44
40:14:64:ILE:HD13	40:14:78:ILE:HG23	1.99	0.44
41:15:71:LEU:O	41:15:72:ARG:NH1	2.38	0.44
48:22:18:LYS:NZ	48:22:49:ASN:H	2.15	0.44
53:27:392:C:C2	53:27:393:A:C8	3.05	0.44
53:27:607:A:C2	53:27:608:A:C4	3.05	0.44
53:27:819:A:H4'	53:27:820:U:OP2	2.17	0.44
53:27:900:A:H2'	53:27:901:A:C8	2.53	0.44
53:27:1127:G:H5'	53:27:1280:A:O2'	2.17	0.44
53:27:1426:G:H2'	53:27:1427:C:H6	1.82	0.44
53:27:1495:U:H2'	53:27:1496:C:C6	2.52	0.44
53:27:1522:U:H2'	53:27:1523:G:C8	2.51	0.44
54:28:35:G:H1'	54:28:454:A:C4	2.52	0.44
54:28:255:A:H2'	54:28:256:A:O4'	2.17	0.44
54:28:473:G:O2'	54:28:474:G:H5'	2.17	0.44
54:28:838:C:H2'	54:28:839:U:O4'	2.17	0.44
54:28:1470:A:H2'	54:28:1471:G:O4'	2.17	0.44
54:28:1739:A:H2'	54:28:1740:G:O4'	2.16	0.44
54:28:2078:C:H2'	54:28:2079:U:C6	2.53	0.44
54:28:2152:G:H2'	54:28:2153:C:C6	2.52	0.44
54:28:2536:G:H2'	54:28:2537:U:C6	2.53	0.44
54:28:2639:A:H2'	54:28:2640:G:O4'	2.17	0.44
54:28:2697:G:H2'	54:28:2698:U:O4'	2.17	0.44
55:29:4:C:C5'	55:29:4:C:H6	2.30	0.44
55:29:30:C:H2'	55:29:31:C:H5'	1.99	0.44
55:29:44:G:H1'	55:29:47:C:N4	2.31	0.44
1:A:692:VAL:HG11	1:A:715:GLU:O	2.17	0.44
1:A:700:ARG:HB2	1:A:709:THR:CG2	2.45	0.44
3:C:178:VAL:HG12	3:C:179:ARG:N	2.33	0.44
6:F:15:ASP:OD2	6:F:26:LYS:HE3	2.18	0.44
7:G:59:ALA:O	7:G:62:LEU:HB2	2.16	0.44
7:G:96:THR:HG22	7:G:117:LEU:HG	2.00	0.44
10:J:45:THR:HG21	10:J:48:VAL:HG23	1.98	0.44
10:J:80:HIS:O	10:J:82:GLY:N	2.51	0.44
12:L:93:ASN:C	12:L:95:LEU:H	2.20	0.44
14:N:79:LEU:O	14:N:80:PHE:CB	2.66	0.44
33:7:49:PHE:O	33:7:53:LEU:HG	2.18	0.44
42:16:12:ARG:O	42:16:14:GLN:N	2.50	0.44
44:18:1:ALA:O	44:18:8:ILE:HA	2.17	0.44
47:21:36:VAL:HG22	47:21:53:ASP:HB3	1.98	0.44
48:22:17:GLU:C	48:22:19:SER:N	2.70	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:299:G:H2'	53:27:300:A:C8	2.52	0.44
53:27:1179:A:H2'	53:27:1180:A:O4'	2.17	0.44
54:28:44:A:H2'	54:28:45:G:O4'	2.17	0.44
54:28:374:A:H2'	54:28:375:G:O4'	2.18	0.44
54:28:730:A:H2'	54:28:731:C:H6	1.82	0.44
54:28:887:U:H5'	54:28:889:C:H41	1.83	0.44
54:28:1335:C:H2'	54:28:1336:A:C8	2.53	0.44
54:28:1365:A:H3'	54:28:1366:A:H8	1.83	0.44
54:28:2361:G:H2'	54:28:2362:C:C6	2.52	0.44
54:28:2838:G:C6	54:28:2839:G:C5	3.05	0.44
4:D:105:LEU:HD21	4:D:177:PRO:HG3	1.99	0.44
7:G:67:ALA:O	7:G:70:GLU:HB3	2.17	0.44
8:H:56:ARG:O	8:H:57:ASN:HB3	2.17	0.44
9:I:76:ALA:O	9:I:80:LYS:HG3	2.17	0.44
9:I:117:THR:CB	54:28:1081:U:O2'	2.66	0.44
9:I:135:MET:HB3	54:28:1063:G:O4'	2.17	0.44
11:K:71:ARG:HH11	11:K:77:ILE:HD12	1.83	0.44
13:M:61:GLY:HA3	13:M:108:VAL:HG13	1.99	0.44
18:R:80:ARG:N	54:28:565:C:OP2	2.50	0.44
20:T:61:LEU:C	20:T:61:LEU:HD12	2.38	0.44
23:W:16:ARG:HE	54:28:2357:G:P	2.40	0.44
29:3:26:LYS:NZ	29:3:30:PRO:O	2.46	0.44
35:9:5:GLY:O	35:9:7:LYS:N	2.50	0.44
37:11:52:ASN:O	37:11:53:LYS:HB2	2.17	0.44
39:13:85:TYR:CE1	39:13:123:GLU:HB2	2.53	0.44
42:16:17:ASP:OD2	42:16:36:ARG:NH2	2.51	0.44
42:16:36:ARG:NH1	42:16:82:GLU:OE2	2.47	0.44
43:17:36:VAL:O	43:17:37:TYR:HB3	2.18	0.44
43:17:80:LEU:O	43:17:81:ILE:HD13	2.18	0.44
50:24:39:ILE:HG23	50:24:43:MET:HE2	1.99	0.44
53:27:32:A:H2'	53:27:33:A:C8	2.53	0.44
53:27:105:G:H2'	53:27:106:C:H6	1.82	0.44
53:27:777:A:C2	53:27:778:G:H1'	2.52	0.44
53:27:865:A:H2	53:27:918:A:H4'	1.82	0.44
53:27:1035:A:H2'	53:27:1036:A:H8	1.81	0.44
53:27:1192:C:H2'	53:27:1193:G:O4'	2.18	0.44
53:27:1305:G:H1'	53:27:1332:A:H62	1.83	0.44
53:27:1329:A:O2'	53:27:1330:U:H5'	2.17	0.44
54:28:235:U:H2'	54:28:236:C:H6	1.83	0.44
54:28:418:C:H2'	54:28:419:U:O4'	2.17	0.44
54:28:1029:A:H8	54:28:1029:A:O5'	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1161:C:H2'	54:28:1162:G:C8	2.51	0.44
54:28:1182:G:H2'	54:28:1183:U:O4'	2.16	0.44
54:28:1342:A:C6	54:28:1397:U:C5	3.06	0.44
54:28:1367:A:C2'	54:28:1368:G:H5'	2.48	0.44
54:28:1802:A:N6	54:28:1814:G:H2'	2.33	0.44
54:28:2248:C:C2'	54:28:2249:U:H5'	2.46	0.44
54:28:2721:A:H2'	54:28:2722:G:C8	2.53	0.44
2:B:42:ARG:NH2	54:28:691:C:O4'	2.51	0.44
2:B:229:HIS:CG	2:B:230:PRO:HD2	2.52	0.44
3:C:141:ARG:NH2	54:28:1656:C:OP1	2.51	0.44
6:F:138:GLN:NE2	54:28:2759:G:N2	2.66	0.44
8:H:56:ARG:O	54:28:1106:G:H5''	2.17	0.44
9:I:23:VAL:O	9:I:24:GLY:O	2.35	0.44
11:K:107:LEU:HD21	11:K:115:ILE:HG21	1.99	0.44
17:Q:1:ALA:O	17:Q:3:VAL:HG23	2.18	0.44
18:R:14:VAL:HG21	18:R:98:ILE:CG1	2.40	0.44
21:U:73:ASN:HA	21:U:95:PHE:HE1	1.82	0.44
22:V:21:ARG:HA	22:V:25:LYS:O	2.17	0.44
22:V:56:PHE:CE1	22:V:61:LEU:HD21	2.52	0.44
26:Z:12:ALA:HB2	26:Z:23:LEU:HD12	1.99	0.44
35:9:11:SER:O	35:9:15:GLY:N	2.50	0.44
41:15:5:ARG:HE	41:15:79:PRO:HB3	1.81	0.44
43:17:52:CYS:SG	43:17:66:ILE:HD11	2.58	0.44
44:18:47:LEU:HD12	44:18:51:GLN:OE1	2.17	0.44
53:27:39:G:O2'	53:27:40:C:H5'	2.16	0.44
53:27:142:G:H2'	53:27:143:A:C8	2.52	0.44
53:27:399:G:H2'	53:27:400:C:H6	1.78	0.44
53:27:741:G:O2'	53:27:742:G:H5'	2.17	0.44
53:27:876:C:H2'	53:27:877:G:H8	1.82	0.44
53:27:883:C:O2'	53:27:884:U:H5'	2.17	0.44
53:27:1272:G:H2'	53:27:1273:C:O4'	2.18	0.44
53:27:1351:U:H2'	53:27:1352:C:H6	1.81	0.44
54:28:350:G:H2'	54:28:351:C:O4'	2.18	0.44
54:28:623:C:H2'	54:28:624:C:C6	2.53	0.44
54:28:955:U:H5	54:28:962:G:C6	2.35	0.44
54:28:1048:A:H2	54:28:1112:G:N3	2.15	0.44
54:28:1197:G:H2'	54:28:1198:U:C6	2.53	0.44
54:28:1948:G:C6	54:28:1959:G:C6	3.06	0.44
54:28:2661:G:O2'	54:28:2662:A:H5'	2.17	0.44
55:29:53:A:H2'	55:29:53:A:N3	2.33	0.44
57:31:27:U:H2'	57:31:28:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:31:66:C:H2'	57:31:67:C:H6	1.82	0.44
1:A:634:HIS:ND1	1:A:641:LEU:HB2	2.33	0.44
1:A:671:VAL:HA	1:A:738:ALA:HA	1.99	0.44
8:H:80:THR:HA	54:28:1107:G:HO2'	1.79	0.44
8:H:80:THR:CA	54:28:1107:G:O2'	2.51	0.44
10:J:3:THR:HB	54:28:995:C:O2	2.18	0.44
10:J:27:ARG:N	10:J:27:ARG:HD3	2.32	0.44
10:J:131:ASN:O	54:28:6:A:H4'	2.18	0.44
12:L:14:LYS:O	54:28:662:G:H4'	2.18	0.44
14:N:48:VAL:O	14:N:51:LEU:HB2	2.18	0.44
20:T:6:ARG:NH1	20:T:42:GLU:OE1	2.51	0.44
20:T:64:LYS:HZ3	54:28:1602:U:P	2.40	0.44
26:Z:9:THR:HG22	26:Z:53:MET:O	2.18	0.44
26:Z:29:ARG:NH1	54:28:930:G:H5''	2.32	0.44
29:3:39:ASP:O	29:3:43:ARG:N	2.51	0.44
33:7:82:ALA:O	33:7:85:SER:OG	2.28	0.44
35:9:82:LYS:O	35:9:88:ASN:ND2	2.40	0.44
37:11:42:TRP:HB2	37:11:59:TYR:HB2	1.99	0.44
39:13:40:LYS:HD3	39:13:47:ASP:HA	2.00	0.44
41:15:7:ARG:N	41:15:101:SER:O	2.51	0.44
41:15:53:ILE:HD11	45:19:84:ARG:NH2	2.32	0.44
47:21:51:ARG:C	47:21:52:LEU:HD12	2.38	0.44
53:27:333:U:H2'	53:27:334:C:C6	2.53	0.44
53:27:519:C:O2'	53:27:520:A:H5'	2.18	0.44
53:27:772:U:H2'	53:27:773:G:C8	2.53	0.44
53:27:839:C:H2'	53:27:840:C:C6	2.52	0.44
53:27:1511:G:H2'	53:27:1512:U:O4'	2.18	0.44
54:28:156:A:O2'	54:28:157:C:H5'	2.18	0.44
54:28:335:C:H2'	54:28:336:C:H6	1.82	0.44
54:28:799:G:H5''	54:28:800:A:C2'	2.44	0.44
54:28:1111:A:H2'	54:28:1112:G:H4'	1.99	0.44
54:28:1120:G:O2'	54:28:1121:C:H5'	2.18	0.44
54:28:1123:C:H2'	54:28:1124:G:H8	1.83	0.44
54:28:1171:G:H2'	54:28:1172:C:O4'	2.17	0.44
54:28:1917:U:O2'	54:28:1918:A:H5'	2.18	0.44
54:28:2061:G:O2'	54:28:2062:A:H2'	2.17	0.44
54:28:2111:U:H1'	54:28:2118:U:C4'	2.48	0.44
54:28:2212:A:H4'	54:28:2213:U:O4	2.18	0.44
54:28:2262:U:O2'	54:28:2263:C:H5'	2.18	0.44
54:28:2286:G:H4'	54:28:2287:A:O4'	2.18	0.44
54:28:2790:U:H5'	54:28:2893:A:N7	2.31	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2895:G:H2'	54:28:2896:C:C6	2.53	0.44
3:C:101:PHE:HD1	3:C:104:VAL:HG21	1.83	0.44
4:D:32:VAL:HG13	4:D:33:VAL:N	2.32	0.44
4:D:109:LEU:HD11	4:D:180:LEU:HD13	2.00	0.44
5:E:25:MET:HB3	55:29:57:A:N3	2.32	0.44
5:E:39:VAL:HG13	5:E:40:GLY:N	2.33	0.44
5:E:140:ILE:HG22	5:E:142:TYR:N	2.16	0.44
7:G:99:ILE:HD12	7:G:117:LEU:HD21	2.00	0.44
7:G:104:THR:HG23	7:G:109:GLU:HB2	1.99	0.44
8:H:100:ALA:O	8:H:103:ASN:N	2.50	0.44
15:O:85:LYS:HB2	15:O:87:ILE:HG12	1.99	0.44
16:P:85:VAL:HG12	16:P:86:LYS:N	2.32	0.44
18:R:2:TYR:HA	18:R:14:VAL:O	2.18	0.44
32:6:11:CYS:N	32:6:14:CYS:SG	2.87	0.44
33:7:165:ALA:O	33:7:169:HIS:HB3	2.17	0.44
33:7:206:ILE:HG13	33:7:207:ARG:H	1.82	0.44
34:8:57:GLU:HB2	34:8:64:ARG:CG	2.45	0.44
36:10:112:ALA:O	36:10:115:GLU:HG2	2.18	0.44
43:17:3:VAL:HG13	43:17:4:ASN:N	2.32	0.44
44:18:112:ARG:NH1	53:27:946:A:OP1	2.49	0.44
45:19:3:GLN:HG2	53:27:1048:G:OP1	2.17	0.44
47:21:73:ALA:O	47:21:77:GLU:HG2	2.18	0.44
53:27:112:G:C2	53:27:113:G:C8	3.06	0.44
53:27:227:G:H2'	53:27:228:A:O4'	2.18	0.44
53:27:296:U:H2'	53:27:297:G:O4'	2.18	0.44
53:27:338:A:H2'	53:27:339:C:O4'	2.18	0.44
53:27:778:G:H2'	53:27:779:C:O4'	2.18	0.44
53:27:800:G:H2'	53:27:801:U:C5	2.51	0.44
53:27:886:G:H2'	53:27:887:G:O4'	2.17	0.44
53:27:916:U:H2'	53:27:917:G:C8	2.50	0.44
53:27:924:C:H2'	53:27:925:G:C8	2.52	0.44
53:27:1160:G:O2'	53:27:1161:C:H5'	2.17	0.44
53:27:1251:A:H2'	53:27:1252:A:H8	1.83	0.44
54:28:586:A:C2	54:28:1254:A:C2	3.05	0.44
54:28:620:G:H4'	54:28:621:A:O5'	2.18	0.44
54:28:671:C:H2'	54:28:672:C:C6	2.52	0.44
54:28:897:C:H2'	54:28:898:C:H6	1.83	0.44
54:28:1153:C:H2'	54:28:1154:G:O4'	2.17	0.44
54:28:1516:G:O2'	54:28:1517:G:H5'	2.18	0.44
54:28:1637:A:H5'	54:28:1760:C:HO2'	1.82	0.44
54:28:1642:G:H2'	54:28:1643:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1685:C:H2'	54:28:1686:C:H6	1.82	0.44
54:28:1854:A:H2'	54:28:1855:U:H5'	1.98	0.44
54:28:2274:A:H8	54:28:2274:A:O5'	2.00	0.44
54:28:2786:U:O2'	54:28:2787:C:H5'	2.17	0.44
58:32:74:C:H2'	58:32:75:C:H5''	1.98	0.44
1:A:702:ASP:O	1:A:703:THR:C	2.57	0.44
2:B:181:ARG:HG3	2:B:265:PHE:C	2.38	0.44
5:E:25:MET:HG3	55:29:57:A:C6	2.53	0.44
6:F:126:THR:HG22	6:F:128:THR:H	1.83	0.44
6:F:147:LEU:HA	6:F:150:TYR:HD2	1.83	0.44
10:J:132:HIS:O	10:J:137:PRO:HD3	2.18	0.44
14:N:73:ASN:HA	14:N:76:VAL:HG12	2.00	0.44
18:R:39:LEU:HD12	18:R:53:PHE:H	1.82	0.44
22:V:3:THR:HA	22:V:62:THR:OG1	2.18	0.44
27:1:55:GLY:O	27:1:58:ASP:OD1	2.35	0.44
28:2:39:ARG:HD2	54:28:2884:U:O4	2.18	0.44
31:5:16:THR:HG21	31:5:48:MET:SD	2.57	0.44
36:10:107:GLY:CA	53:27:9:G:H5'	2.26	0.44
36:10:113:VAL:HG13	36:10:114:LEU:CD1	2.48	0.44
36:10:149:PRO:O	36:10:152:VAL:HG22	2.18	0.44
36:10:161:GLU:HA	36:10:164:LEU:CD2	2.48	0.44
37:11:36:ILE:HD11	37:11:39:LEU:HB2	1.99	0.44
38:12:104:VAL:O	38:12:108:ARG:HG2	2.17	0.44
39:13:113:ARG:HA	39:13:116:ARG:NH2	2.32	0.44
40:14:37:TYR:CD2	40:14:38:PHE:CD2	3.06	0.44
41:15:92:LEU:O	41:15:93:ALA:HB3	2.18	0.44
43:17:79:ILE:HD12	43:17:96:THR:HG22	2.00	0.44
44:18:82:LEU:HD11	50:24:65:MET:HB2	1.99	0.44
45:19:85:GLU:OE2	45:19:89:ARG:NH2	2.51	0.44
50:24:2:ARG:HA	53:27:1313:U:C5	2.53	0.44
53:27:114:U:H2'	53:27:115:G:C8	2.53	0.44
53:27:193:C:H2'	53:27:194:C:C6	2.53	0.44
53:27:806:C:H2'	53:27:807:A:H8	1.83	0.44
53:27:843:U:OP2	53:27:846:G:C4	2.70	0.44
53:27:893:C:H2'	53:27:894:G:C8	2.53	0.44
53:27:1331:G:O2'	53:27:1332:A:C8	2.70	0.44
53:27:1360:A:H2'	53:27:1361:G:O4'	2.17	0.44
54:28:61:C:H2'	54:28:62:U:H5'	2.00	0.44
54:28:161:A:C5	54:28:162:U:H5	2.36	0.44
54:28:490:C:H4'	54:28:491:G:OP2	2.18	0.44
54:28:1101:U:O2'	54:28:1102:C:H5'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1353:A:H2'	54:28:1354:A:C8	2.53	0.44
54:28:1475:G:HO2'	54:28:1476:U:H6	1.57	0.44
54:28:1535:A:H5'	54:28:1536:C:C5	2.53	0.44
54:28:1645:G:H5''	54:28:1646:C:H5'	2.00	0.44
54:28:1764:C:O2'	54:28:1765:U:H5'	2.18	0.44
54:28:2004:G:H2'	54:28:2005:A:O4'	2.17	0.44
54:28:2016:U:H2'	54:28:2017:U:O4'	2.18	0.44
54:28:2168:G:H2'	54:28:2169:A:O4'	2.17	0.44
54:28:2682:A:H61	54:28:2728:U:C1'	2.30	0.44
1:A:598:VAL:HG23	1:A:658:GLY:HA3	1.98	0.43
1:A:681:ARG:O	1:A:682:ASP:C	2.55	0.43
7:G:5:LEU:HD21	7:G:12:LEU:CD1	2.48	0.43
10:J:13:ARG:NH1	10:J:49:ASP:O	2.44	0.43
11:K:63:VAL:HG11	11:K:85:VAL:HG23	2.00	0.43
11:K:80:ASP:OD2	16:P:68:GLY:HA3	2.18	0.43
14:N:2:ARG:HG2	54:28:1654:A:OP1	2.18	0.43
19:S:36:LEU:HD13	19:S:47:VAL:HG13	2.00	0.43
21:U:96:LYS:C	21:U:97:SER:O	2.55	0.43
24:X:17:ARG:HD3	24:X:23:ALA:HA	1.99	0.43
34:8:10:ARG:O	34:8:11:LEU:O	2.36	0.43
37:11:92:THR:O	37:11:93:LYS:HB2	2.18	0.43
38:12:2:ARG:HA	53:27:1380:U:C4	2.53	0.43
41:15:19:ASP:O	41:15:22:THR:HB	2.18	0.43
42:16:71:ASP:HB3	42:16:74:LYS:HE3	2.00	0.43
45:19:20:PHE:HD2	45:19:54:SER:O	2.01	0.43
45:19:51:PRO:HG2	45:19:54:SER:HB3	2.00	0.43
46:20:23:SER:O	46:20:26:VAL:HB	2.18	0.43
47:21:22:ALA:CB	47:21:32:PHE:HA	2.48	0.43
48:22:4:ILE:CG2	48:22:61:ARG:HH12	2.31	0.43
53:27:861:G:O2'	53:27:862:C:H5'	2.18	0.43
53:27:1479:C:H2'	53:27:1480:A:H8	1.82	0.43
54:28:37:C:H4'	54:28:451:U:OP1	2.17	0.43
54:28:319:G:N2	54:28:333:G:H1'	2.33	0.43
54:28:364:C:H2'	54:28:365:U:H6	1.84	0.43
54:28:542:C:H2'	54:28:542:C:O2	2.18	0.43
54:28:593:U:H2'	54:28:594:U:H6	1.77	0.43
54:28:696:G:H2'	54:28:697:G:C8	2.52	0.43
54:28:747:C:H42	54:28:2014:A:H2	1.66	0.43
54:28:970:U:O2'	54:28:984:A:H4'	2.18	0.43
54:28:995:C:H6	54:28:995:C:H5'	1.83	0.43
54:28:1292:G:H2'	54:28:1293:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1386:C:H1'	54:28:1470:A:H1'	1.99	0.43
54:28:1416:G:H2'	54:28:1417:C:C6	2.53	0.43
54:28:1679:A:H2'	54:28:1680:U:H6	1.83	0.43
54:28:1837:C:H2'	54:28:1899:A:H61	1.83	0.43
54:28:2016:U:H2'	54:28:2017:U:H6	1.83	0.43
54:28:2044:C:O2'	54:28:2045:C:H5'	2.18	0.43
54:28:2141:G:H22	54:28:2151:U:H1'	1.82	0.43
54:28:2347:C:H2'	54:28:2348:U:C6	2.53	0.43
54:28:2352:A:H2'	54:28:2353:G:O4'	2.18	0.43
54:28:2393:U:H2'	54:28:2394:C:H6	1.83	0.43
54:28:2579:C:H2'	54:28:2580:U:O2	2.18	0.43
54:28:2839:G:H2'	54:28:2840:C:C6	2.53	0.43
58:32:19:G:OP1	58:32:60:U:N3	2.50	0.43
2:B:67:LYS:HA	2:B:150:GLY:HA2	2.00	0.43
3:C:124:ARG:HA	3:C:165:MET:SD	2.58	0.43
5:E:40:GLY:HA2	5:E:84:ILE:HD12	2.01	0.43
5:E:56:LEU:HD12	5:E:86:CYS:SG	2.58	0.43
6:F:71:LEU:O	6:F:75:VAL:HG23	2.18	0.43
9:I:92:PRO:CD	54:28:1063:G:H21	2.31	0.43
11:K:88:ASN:HB2	11:K:91:SER:HB2	1.99	0.43
12:L:61:LEU:HD13	31:5:23:HIS:CG	2.53	0.43
22:V:80:HIS:HE1	22:V:82:TYR:CE2	2.37	0.43
30:4:12:ARG:HG2	30:4:44:VAL:HG21	2.00	0.43
36:10:43:GLY:O	36:10:73:VAL:N	2.51	0.43
38:12:3:ARG:O	38:12:5:VAL:N	2.49	0.43
41:15:80:THR:O	41:15:83:THR:HB	2.18	0.43
42:16:126:ARG:O	42:16:127:ARG:HB2	2.18	0.43
44:18:48:SER:O	44:18:52:ILE:HG13	2.17	0.43
44:18:106:ARG:NH1	44:18:112:ARG:HA	2.32	0.43
47:21:18:GLN:HE21	47:21:35:ARG:NE	2.16	0.43
48:22:6:THR:C	48:22:7:LEU:HD12	2.38	0.43
52:26:38:GLU:HB3	53:27:1526:G:OP2	2.19	0.43
53:27:138:G:H2'	53:27:139:A:C8	2.53	0.43
53:27:252:U:O2	53:27:252:U:H2'	2.18	0.43
53:27:686:U:O4	53:27:703:G:H2'	2.18	0.43
53:27:1109:C:O5'	53:27:1109:C:H6	2.01	0.43
53:27:1217:C:O2'	53:27:1218:C:H5'	2.18	0.43
53:27:1256:A:H1'	53:27:1258:G:C5	2.53	0.43
54:28:278:A:H2'	54:28:278:A:N3	2.33	0.43
54:28:790:U:H2'	54:28:791:C:H5'	2.00	0.43
54:28:1184:U:O2'	54:28:1185:G:H5'	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1448:G:H2'	54:28:1449:G:C8	2.53	0.43
54:28:1573:G:H2'	54:28:1574:C:H5'	1.99	0.43
54:28:1880:U:H2'	54:28:1881:C:C6	2.53	0.43
54:28:2247:A:H2'	54:28:2248:C:C6	2.53	0.43
54:28:2341:G:H2'	54:28:2342:C:C6	2.53	0.43
54:28:2493:U:C2'	54:28:2494:G:H5''	2.48	0.43
54:28:2515:C:H2'	54:28:2516:A:H8	1.83	0.43
55:29:30:C:H2'	55:29:31:C:O4'	2.18	0.43
55:29:55:U:H2'	55:29:56:G:C8	2.53	0.43
2:B:216:ARG:NH1	54:28:691:C:OP1	2.51	0.43
3:C:13:ARG:O	3:C:14:ILE:HD13	2.19	0.43
9:I:78:LEU:HD13	9:I:108:ILE:CG2	2.42	0.43
9:I:91:LYS:HB3	9:I:94:LYS:CB	2.45	0.43
10:J:26:GLY:HA3	54:28:1140:C:H5'	1.99	0.43
10:J:37:ARG:HD3	10:J:39:LYS:HB2	1.99	0.43
10:J:38:GLY:CA	10:J:51:GLY:HA2	2.48	0.43
16:P:13:LYS:HE3	16:P:76:HIS:HA	2.00	0.43
19:S:7:HIS:HB2	19:S:50:VAL:CG2	2.48	0.43
19:S:75:PHE:CZ	19:S:104:THR:HG21	2.53	0.43
20:T:24:MET:SD	20:T:30:ILE:HA	2.58	0.43
23:W:37:ARG:NH1	54:28:2387:U:H4'	2.33	0.43
25:Y:2:LYS:HG3	25:Y:3:ALA:N	2.33	0.43
26:Z:23:LEU:O	26:Z:27:GLY:N	2.51	0.43
27:1:18:CYS:SG	27:1:35:ASP:O	2.75	0.43
27:1:56:ARG:HH22	50:24:68:HIS:CE1	2.37	0.43
32:6:23:ILE:HD13	54:28:1032:A:H1'	1.99	0.43
35:9:104:MET:SD	35:9:170:LEU:HD13	2.58	0.43
36:10:22:LYS:HB3	36:10:29:ILE:HG22	2.01	0.43
39:13:104:SER:HB3	53:27:642:A:H2	1.83	0.43
45:19:35:ALA:O	45:19:40:ARG:HB2	2.17	0.43
45:19:63:CYS:HB2	45:19:79:SER:HB2	2.01	0.43
45:19:82:LYS:HD3	53:27:1202:U:O2	2.18	0.43
50:24:39:ILE:CD1	50:24:65:MET:HG2	2.46	0.43
53:27:246:A:H4'	53:27:247:G:OP1	2.18	0.43
53:27:456:A:H2'	53:27:457:G:H8	1.81	0.43
53:27:571:U:O5'	53:27:571:U:H6	2.01	0.43
53:27:577:G:H2'	53:27:578:C:C6	2.52	0.43
53:27:895:G:C6	53:27:896:C:C4	3.06	0.43
53:27:984:C:O5'	53:27:984:C:H6	2.01	0.43
53:27:1327:C:H2'	53:27:1328:C:C6	2.52	0.43
53:27:1367:C:H2'	53:27:1368:A:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:1401:G:H2'	53:27:1402:C:O4'	2.19	0.43
53:27:1472:U:H2'	53:27:1473:G:H8	1.84	0.43
54:28:372:G:O2'	54:28:373:U:C5	2.71	0.43
54:28:948:C:H2'	54:28:949:G:C8	2.53	0.43
54:28:1127:A:O2'	54:28:1128:G:H5''	2.18	0.43
54:28:1754:A:C6	54:28:1755:A:C6	3.06	0.43
54:28:2051:A:H2'	54:28:2614:A:N6	2.33	0.43
54:28:2060:A:N6	54:28:2445:G:OP2	2.51	0.43
54:28:2071:A:C6	54:28:2072:C:N4	2.86	0.43
54:28:2199:A:H3'	54:28:2200:C:C6	2.52	0.43
54:28:2465:C:H2'	54:28:2466:C:H6	1.83	0.43
58:32:14:A:C2	58:32:15:G:H1'	2.52	0.43
1:A:684:THR:O	1:A:687:LEU:N	2.51	0.43
3:C:40:LEU:O	3:C:44:GLY:N	2.51	0.43
4:D:7:ASP:OD2	4:D:122:GLU:HG2	2.18	0.43
4:D:119:ILE:O	4:D:119:ILE:HG22	2.17	0.43
5:E:140:ILE:H	5:E:140:ILE:HD12	1.83	0.43
8:H:61:ARG:HG3	54:28:1046:A:C4'	2.46	0.43
8:H:82:ILE:HG22	8:H:83:ALA:N	2.31	0.43
11:K:73:ASP:OD2	16:P:79:VAL:HG11	2.18	0.43
16:P:24:THR:HB	16:P:87:ARG:H	1.83	0.43
21:U:15:GLY:HA2	54:28:309:A:O3'	2.18	0.43
29:3:16:THR:OG1	29:3:41:VAL:HG21	2.19	0.43
34:8:188:ALA:HB3	34:8:195:ILE:HB	2.00	0.43
40:14:17:ARG:NH2	53:27:1147:C:H1'	2.22	0.43
43:17:31:GLY:HA3	43:17:54:VAL:CG1	2.49	0.43
43:17:114:SER:HB2	53:27:502:A:OP1	2.18	0.43
48:22:30:HIS:CE1	48:22:31:PRO:HD2	2.53	0.43
49:23:13:THR:O	49:23:17:VAL:N	2.51	0.43
51:25:2:ASN:ND2	53:27:331:G:O2'	2.51	0.43
51:25:54:GLN:N	51:25:55:PRO:HD2	2.33	0.43
52:26:40:PRO:O	52:26:41:THR:C	2.57	0.43
53:27:163:C:H2'	53:27:164:G:O4'	2.19	0.43
53:27:1167:A:C5	53:27:1169:A:C6	3.06	0.43
53:27:1458:G:H2'	53:27:1459:G:C8	2.53	0.43
54:28:281:C:H42	54:28:359:G:H1	1.66	0.43
54:28:954:G:C6	54:28:955:U:C4	3.07	0.43
54:28:1149:G:H2'	54:28:1150:C:H6	1.80	0.43
54:28:1613:G:H3'	54:28:1614:A:C5'	2.49	0.43
54:28:1651:G:H2'	54:28:1652:A:O4'	2.18	0.43
54:28:2088:A:H2'	54:28:2089:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:12:ARG:HH21	54:28:728:G:C5'	2.31	0.43
3:C:63:PRO:HB3	54:28:2786:U:O2	2.18	0.43
3:C:81:GLU:HB2	54:28:2636:C:O5'	2.19	0.43
5:E:104:THR:O	5:E:108:PRO:HG2	2.17	0.43
11:K:12:ASP:HB2	11:K:98:ARG:O	2.18	0.43
16:P:22:GLY:C	16:P:89:GLY:HA3	2.38	0.43
19:S:29:VAL:HG21	19:S:69:LEU:HG	2.00	0.43
24:X:20:ALA:HB1	54:28:2432:A:N1	2.33	0.43
31:5:51:LYS:HG3	31:5:52:GLY:N	2.33	0.43
34:8:107:LYS:HB3	34:8:143:LEU:HD21	2.00	0.43
35:9:35:GLN:HB3	35:9:42:ALA:HA	2.00	0.43
35:9:49:ASP:OD2	36:10:111:ARG:NH2	2.52	0.43
35:9:55:ARG:HD3	35:9:55:ARG:HA	1.71	0.43
38:12:43:TYR:O	38:12:47:GLU:HG2	2.18	0.43
41:15:29:ALA:O	41:15:32:THR:HG22	2.18	0.43
46:20:11:VAL:O	46:20:13:GLU:N	2.51	0.43
48:22:70:LYS:HZ3	53:27:255:G:P	2.41	0.43
50:24:62:THR:HG22	50:24:63:ASP:H	1.82	0.43
52:26:3:ILE:HB	52:26:19:LYS:HE3	2.00	0.43
54:28:300:A:H1'	54:28:319:G:O4'	2.18	0.43
54:28:366:C:H2'	54:28:367:G:O4'	2.18	0.43
54:28:522:A:H2'	54:28:523:C:C6	2.53	0.43
54:28:572:A:H5''	54:28:573:U:OP2	2.19	0.43
54:28:589:U:H2'	54:28:590:A:H8	1.82	0.43
54:28:784:G:OP2	54:28:2589:A:OP1	2.35	0.43
54:28:795:C:H2'	54:28:796:C:H6	1.84	0.43
54:28:1717:A:H2'	54:28:1718:G:O4'	2.18	0.43
54:28:2161:C:H2'	54:28:2162:G:H5'	2.01	0.43
54:28:2298:A:C2'	54:28:2299:U:H5'	2.49	0.43
54:28:2366:A:H2'	54:28:2367:G:O4'	2.18	0.43
54:28:2545:G:C2	54:28:2546:U:H1'	2.53	0.43
54:28:2787:C:O2'	54:28:2788:C:H5'	2.18	0.43
2:B:75:ALA:HB2	2:B:95:TYR:CD1	2.52	0.43
2:B:177:SER:HB3	54:28:1799:G:O6	2.18	0.43
2:B:206:LYS:NZ	54:28:729:G:OP2	2.52	0.43
4:D:165:HIS:CE1	54:28:1205:A:C4	3.07	0.43
6:F:25:ILE:HG22	6:F:26:LYS:N	2.32	0.43
6:F:44:HIS:CG	6:F:45:ALA:N	2.85	0.43
8:H:37:LYS:HA	8:H:40:GLU:CB	2.39	0.43
9:I:133:ARG:HD2	54:28:1079:C:H1'	2.01	0.43
14:N:4:ARG:HA	54:28:2820:A:OP1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:14:ALA:O	19:S:18:ARG:HG3	2.18	0.43
19:S:24:ILE:HG13	19:S:24:ILE:O	2.18	0.43
27:1:1:MET:HA	55:29:40:U:O4	2.19	0.43
33:7:93:HIS:CD2	33:7:145:ASN:HB2	2.53	0.43
34:8:54:ILE:HG22	34:8:67:ILE:HG23	2.01	0.43
36:10:9:GLU:N	36:10:9:GLU:OE1	2.51	0.43
36:10:55:VAL:N	36:10:56:PRO:HD2	2.33	0.43
36:10:138:ALA:O	36:10:141:ASP:HB3	2.18	0.43
41:15:80:THR:HG22	41:15:82:LYS:HB3	2.00	0.43
42:16:109:ILE:HB	52:26:5:VAL:CG1	2.49	0.43
43:17:69:GLU:HB3	53:27:521:G:O5'	2.19	0.43
48:22:4:ILE:HG21	48:22:61:ARG:HH12	1.84	0.43
51:25:78:LEU:O	51:25:81:GLN:HB2	2.18	0.43
53:27:201:G:H2'	53:27:202:G:C8	2.53	0.43
53:27:383:A:C5	53:27:384:G:H1'	2.53	0.43
53:27:437:U:O2'	53:27:438:U:H5'	2.19	0.43
53:27:781:A:OP1	53:27:1523:G:H5'	2.18	0.43
53:27:783:C:O2'	53:27:784:A:H5'	2.19	0.43
53:27:837:U:H2'	53:27:838:G:H8	1.83	0.43
53:27:919:A:O2'	53:27:920:U:H5'	2.17	0.43
53:27:1355:G:H2'	53:27:1356:G:C8	2.54	0.43
53:27:1415:G:C6	53:27:1486:G:C6	3.07	0.43
54:28:6:A:H2'	54:28:7:G:C8	2.54	0.43
54:28:116:C:O2'	54:28:117:G:H5'	2.18	0.43
54:28:149:A:H2'	54:28:150:U:C6	2.53	0.43
54:28:1105:U:H2'	54:28:1106:G:C8	2.37	0.43
54:28:1327:A:H2'	54:28:1328:A:O4'	2.18	0.43
54:28:1420:A:H5'	54:28:1421:G:OP2	2.17	0.43
54:28:1520:U:H2'	54:28:1521:G:O4'	2.19	0.43
54:28:1529:G:H2'	54:28:1530:G:C8	2.53	0.43
54:28:2036:C:H3'	54:28:2036:C:OP2	2.19	0.43
54:28:2493:U:H2'	54:28:2494:G:H5''	2.00	0.43
54:28:2746:U:O4	54:28:2755:C:H4'	2.18	0.43
3:C:5:VAL:HG21	3:C:80:TRP:CD2	2.54	0.43
4:D:44:ARG:HH12	54:28:1248:G:P	2.41	0.43
8:H:3:LEU:HB2	8:H:4:ASN:H	1.61	0.43
9:I:10:LEU:HD23	54:28:1070:A:N1	2.34	0.43
16:P:38:ARG:NH2	53:27:345:C:P	2.91	0.43
17:Q:35:PHE:CZ	17:Q:39:ILE:HD11	2.54	0.43
20:T:50:LEU:HD23	25:Y:26:PHE:CE2	2.54	0.43
30:4:30:VAL:HG22	30:4:33:ARG:HH12	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:8:147:GLY:HA3	34:8:171:ARG:O	2.19	0.43
36:10:40:ASP:OD1	36:10:44:ARG:HB2	2.18	0.43
36:10:160:VAL:HG13	36:10:161:GLU:N	2.34	0.43
38:12:66:GLU:HB3	38:12:69:ARG:HH21	1.84	0.43
38:12:129:ASN:CA	38:12:134:VAL:HG11	2.44	0.43
41:15:10:LEU:HD11	41:15:72:ARG:HB2	2.01	0.43
45:19:53:ASP:O	45:19:54:SER:OG	2.29	0.43
46:20:47:LYS:NZ	53:27:808:C:OP2	2.51	0.43
48:22:11:VAL:HA	48:22:22:VAL:HG22	2.00	0.43
51:25:7:LYS:O	51:25:10:ALA:HB3	2.19	0.43
53:27:18:C:H2'	53:27:19:A:O4'	2.18	0.43
53:27:424:G:O2'	53:27:425:G:H5'	2.18	0.43
53:27:483:C:H2'	53:27:484:G:N7	2.34	0.43
53:27:1149:C:O2'	53:27:1150:A:H5'	2.18	0.43
53:27:1256:A:O2'	53:27:1257:A:H5''	2.18	0.43
53:27:1411:C:H2'	53:27:1412:C:C6	2.54	0.43
53:27:1523:G:H2'	53:27:1524:C:C6	2.53	0.43
54:28:52:A:C6	54:28:118:A:C2	3.06	0.43
54:28:78:U:H2'	54:28:79:C:H6	1.81	0.43
54:28:235:U:H2'	54:28:236:C:C6	2.54	0.43
54:28:303:G:H2'	54:28:304:U:O4'	2.18	0.43
54:28:872:U:H2'	54:28:873:C:H6	1.79	0.43
54:28:1086:A:H3'	54:28:1086:A:N3	2.34	0.43
54:28:1100:C:H2'	54:28:1101:U:O4'	2.18	0.43
54:28:1609:A:H1'	54:28:1616:A:O4'	2.18	0.43
54:28:2071:A:C4	54:28:2072:C:C5	3.07	0.43
54:28:2156:G:H2'	54:28:2157:G:H5'	2.00	0.43
54:28:2346:A:H3'	54:28:2347:C:H5'	2.01	0.43
54:28:2377:A:O2'	54:28:2378:A:H5'	2.18	0.43
1:A:674:ASN:ND2	1:A:736:ILE:HD13	2.33	0.43
3:C:9:VAL:O	3:C:26:VAL:HB	2.19	0.43
4:D:37:ALA:HB1	4:D:92:HIS:O	2.19	0.43
5:E:9:ASP:HB2	5:E:10:GLU:OE1	2.18	0.43
13:M:79:ALA:HA	54:28:2494:G:O2'	2.18	0.43
21:U:6:ARG:CG	21:U:7:ASP:N	2.80	0.43
21:U:95:PHE:HD2	21:U:100:GLU:HB2	1.83	0.43
27:1:10:GLU:N	27:1:26:SER:O	2.52	0.43
28:2:14:MET:SD	54:28:2045:C:H5''	2.59	0.43
33:7:18:GLN:NE2	33:7:187:ASP:OD2	2.48	0.43
35:9:112:GLU:O	35:9:116:LEU:HD13	2.19	0.43
45:19:52:ARG:HG3	45:19:58:ARG:CZ	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:20:46:LYS:HA	46:20:52:ARG:NH2	2.34	0.43
53:27:526:C:H2'	53:27:527:G:H4'	2.01	0.43
53:27:607:A:H2'	53:27:608:A:H8	1.84	0.43
53:27:1014:A:N3	53:27:1219:A:H1'	2.34	0.43
53:27:1293:C:O2'	53:27:1294:G:H5'	2.19	0.43
54:28:170:U:H2'	54:28:171:U:H6	1.79	0.43
54:28:441:U:H2'	54:28:442:G:H8	1.82	0.43
54:28:1097:U:H2'	54:28:1098:A:H5'	2.01	0.43
54:28:1268:A:H2'	54:28:1269:A:C8	2.53	0.43
54:28:1538:G:O2'	54:28:1539:U:H5'	2.19	0.43
54:28:1641:A:H2'	54:28:1642:G:O4'	2.18	0.43
54:28:2078:C:O2'	54:28:2079:U:H5'	2.18	0.43
54:28:2146:C:H4'	54:28:2147:A:C8	2.54	0.43
2:B:140:VAL:HG12	2:B:191:LEU:HD23	2.00	0.43
3:C:6:GLY:HA3	3:C:29:VAL:HG22	2.01	0.43
4:D:105:LEU:CD2	4:D:177:PRO:HG3	2.49	0.43
5:E:147:ARG:HG3	5:E:148:VAL:N	2.33	0.43
8:H:42:ARG:HG3	9:I:118:GLY:H	1.84	0.43
8:H:117:LEU:HD23	8:H:117:LEU:C	2.39	0.43
11:K:66:LYS:HD3	54:28:1666:G:P	2.59	0.43
12:L:60:ARG:O	54:28:2393:U:H5'	2.18	0.43
12:L:103:ILE:HD12	54:28:622:G:OP1	2.19	0.43
15:O:70:ALA:O	15:O:74:VAL:HG23	2.19	0.43
15:O:73:ALA:O	15:O:76:LYS:HB3	2.18	0.43
17:Q:102:LYS:O	17:Q:105:PHE:HB3	2.19	0.43
18:R:49:ILE:HG21	18:R:53:PHE:N	2.34	0.43
25:Y:2:LYS:HG3	25:Y:3:ALA:H	1.83	0.43
27:1:11:GLU:HB2	27:1:25:ARG:HG2	2.01	0.43
27:1:66:ILE:HG23	27:1:66:ILE:O	2.19	0.43
34:8:198:LYS:HE3	53:27:1058:G:OP1	2.18	0.43
41:15:59:LYS:HD3	53:27:972:C:O3'	2.19	0.43
42:16:111:ASP:HB3	52:26:3:ILE:N	2.33	0.43
43:17:113:ARG:NE	43:17:120:ARG:HA	2.34	0.43
53:27:136:C:O2'	53:27:137:U:H5'	2.19	0.43
53:27:175:C:H2'	53:27:176:C:H6	1.80	0.43
53:27:298:A:H2'	53:27:299:G:O4'	2.18	0.43
53:27:434:U:H2'	53:27:435:A:C8	2.54	0.43
53:27:892:A:H2'	53:27:893:C:C6	2.54	0.43
53:27:1203:C:O2'	53:27:1204:A:H5'	2.18	0.43
53:27:1434:A:H2'	53:27:1435:G:O4'	2.19	0.43
54:28:145:C:H2'	54:28:146:A:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:176:A:HO2'	54:28:177:G:H5'	1.83	0.43
54:28:819:A:O2'	54:28:820:A:H5'	2.19	0.43
54:28:1063:G:H2'	54:28:1064:C:C6	2.54	0.43
54:28:1137:G:O2'	54:28:1138:G:H5'	2.18	0.43
54:28:1738:G:HO2'	54:28:1739:A:H8	1.66	0.43
54:28:1798:U:H4'	54:28:1803:A:O4'	2.19	0.43
54:28:2080:A:H2'	54:28:2081:U:C6	2.54	0.43
54:28:2544:G:H2'	54:28:2545:G:C8	2.54	0.43
55:29:54:G:H2'	55:29:55:U:C6	2.54	0.43
55:29:80:U:H2'	55:29:81:G:H8	1.83	0.43
3:C:155:VAL:O	54:28:2619:C:H5'	2.19	0.43
4:D:21:ARG:HH21	4:D:106:LYS:HE3	1.84	0.43
4:D:165:HIS:HE1	54:28:1205:A:O2'	2.02	0.43
9:I:135:MET:HB3	54:28:1063:G:H4'	2.00	0.43
15:O:43:ASN:OD1	15:O:44:GLY:N	2.51	0.43
15:O:63:LYS:NZ	55:29:51:G:H5'	2.34	0.43
19:S:56:ALA:HA	19:S:59:GLU:HG2	2.01	0.43
21:U:97:SER:C	21:U:99:SER:N	2.72	0.43
25:Y:10:SER:O	25:Y:14:LEU:HG	2.19	0.43
25:Y:15:ASN:O	25:Y:19:LEU:HG	2.18	0.43
25:Y:49:ASP:O	25:Y:52:ARG:HB2	2.19	0.43
33:7:59:ILE:HB	33:7:158:ASP:OD2	2.19	0.43
35:9:168:THR:O	35:9:183:ARG:NH2	2.52	0.43
36:10:159:SER:HB2	36:10:162:GLU:HG2	1.99	0.43
37:11:29:ILE:HG21	37:11:64:VAL:CG2	2.49	0.43
40:14:49:GLN:HB3	40:14:102:PHE:CE1	2.54	0.43
43:17:66:ILE:HG13	43:17:96:THR:HG21	2.00	0.43
44:18:76:ILE:O	44:18:79:LEU:HB2	2.19	0.43
45:19:53:ASP:C	45:19:55:SER:H	2.21	0.43
49:23:32:ILE:HA	49:23:39:VAL:HG23	2.00	0.43
51:25:7:LYS:O	51:25:11:ILE:HG13	2.18	0.43
53:27:924:C:H2'	53:27:925:G:H8	1.83	0.43
53:27:1228:C:H2'	53:27:1229:A:H8	1.83	0.43
54:28:320:A:C2	54:28:323:C:H5	2.37	0.43
54:28:323:C:H2'	54:28:1205:A:N1	2.34	0.43
54:28:940:G:C3'	54:28:941:A:H5''	2.49	0.43
54:28:1047:G:H22	54:28:1110:G:H2'	1.80	0.43
54:28:1306:C:O2'	54:28:1307:A:H5'	2.19	0.43
54:28:1630:A:H2'	54:28:1631:G:O4'	2.19	0.43
54:28:1858:A:N6	54:28:1884:G:O2'	2.52	0.43
54:28:2280:G:C2	54:28:2281:A:C8	3.07	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2503:A:H2'	54:28:2503:A:N3	2.34	0.43
54:28:2755:C:O5'	54:28:2755:C:H6	2.01	0.43
54:28:2812:G:H2'	54:28:2813:A:O4'	2.19	0.43
54:28:2824:C:H2'	54:28:2825:G:O4'	2.19	0.43
55:29:12:C:O2	55:29:12:C:O4'	2.37	0.43
58:32:34:C:H3'	58:32:35:A:C5'	2.48	0.43
2:B:225:ASN:HA	2:B:226:PRO:HD3	1.73	0.42
2:B:247:TRP:CG	54:28:1805:A:H5''	2.53	0.42
3:C:47:ALA:HA	3:C:84:LEU:HG	2.01	0.42
3:C:108:ASP:CG	3:C:206:ALA:HA	2.40	0.42
4:D:3:LEU:HD11	4:D:19:PHE:HD2	1.83	0.42
4:D:5:LEU:HG	4:D:120:VAL:O	2.19	0.42
5:E:79:ARG:O	5:E:82:TYR:HD2	2.02	0.42
9:I:100:ILE:O	9:I:140:GLU:HB3	2.19	0.42
18:R:68:ARG:HB2	18:R:90:ARG:NH2	2.32	0.42
21:U:71:ILE:HD13	21:U:82:VAL:HG22	2.01	0.42
23:W:25:GLU:O	23:W:62:LYS:HA	2.19	0.42
25:Y:24:GLU:O	25:Y:28:LEU:HG	2.19	0.42
27:1:26:SER:OG	27:1:27:THR:N	2.51	0.42
33:7:27:LYS:N	33:7:28:PRO:CD	2.81	0.42
33:7:33:ALA:HB2	33:7:39:ILE:HG13	2.00	0.42
33:7:86:CYS:HG	33:7:87:ASP:H	1.67	0.42
35:9:18:LEU:C	35:9:20:LEU:H	2.22	0.42
36:10:10:LEU:HD23	36:10:10:LEU:HA	1.82	0.42
37:11:36:ILE:HD11	37:11:38:ARG:O	2.19	0.42
38:12:85:GLN:HB2	38:12:147:ASN:ND2	2.33	0.42
39:13:76:ARG:NH1	39:13:125:ILE:HG23	2.35	0.42
43:17:28:GLN:HE21	53:27:363:A:H1'	1.83	0.42
46:20:24:THR:HG21	46:20:69:LEU:HB2	2.01	0.42
48:22:39:ARG:HA	53:27:280:C:O2	2.18	0.42
51:25:34:VAL:CG1	51:25:78:LEU:HD21	2.48	0.42
53:27:45:G:H2'	53:27:46:G:C8	2.54	0.42
53:27:123:U:OP1	53:27:312:C:H5'	2.19	0.42
53:27:585:G:H2'	53:27:586:C:O4'	2.19	0.42
53:27:802:A:H2'	53:27:803:G:O4'	2.19	0.42
53:27:1015:G:O2'	53:27:1016:A:H5'	2.19	0.42
54:28:1060:U:C1'	54:28:1062:G:H5'	2.47	0.42
54:28:1230:A:H2'	54:28:1231:U:O4'	2.19	0.42
54:28:1401:G:H2'	54:28:1402:U:C6	2.54	0.42
54:28:1639:C:C2'	54:28:1640:A:H5'	2.49	0.42
54:28:1677:A:H2'	54:28:1678:A:H8	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1873:G:O2'	54:28:1874:C:H5'	2.18	0.42
54:28:1914:C:O2	54:28:1914:C:O4'	2.37	0.42
54:28:2089:C:H2'	54:28:2090:A:C8	2.54	0.42
54:28:2162:G:O4'	54:28:2173:A:H5''	2.19	0.42
54:28:2448:A:H3'	54:28:2449:U:H2'	2.00	0.42
54:28:2719:G:H5'	54:28:2847:U:OP1	2.19	0.42
55:29:30:C:H4'	55:29:58:A:H2	1.84	0.42
1:A:643:GLU:O	1:A:646:SER:HB3	2.18	0.42
2:B:70:LYS:O	2:B:117:SER:OG	2.30	0.42
2:B:95:TYR:HB2	2:B:99:GLU:O	2.19	0.42
4:D:58:LYS:HZ1	4:D:70:SER:HB2	1.84	0.42
4:D:148:ILE:HD13	4:D:187:VAL:HG13	1.96	0.42
5:E:92:GLY:O	5:E:95:MET:N	2.52	0.42
6:F:71:LEU:HA	6:F:74:MET:SD	2.60	0.42
8:H:88:HIS:HB3	8:H:89:PRO:CD	2.44	0.42
9:I:52:LEU:HA	9:I:53:PRO:HD3	1.71	0.42
11:K:53:LYS:N	11:K:56:ASP:OD2	2.51	0.42
12:L:57:LEU:HD13	12:L:60:ARG:HH12	1.84	0.42
17:Q:17:LEU:HD21	17:Q:29:ARG:O	2.19	0.42
17:Q:64:ILE:HG22	17:Q:75:TYR:HD1	1.84	0.42
18:R:58:VAL:O	18:R:58:VAL:HG22	2.19	0.42
21:U:65:GLN:HG3	54:28:328:U:H4'	2.00	0.42
26:Z:4:ILE:C	26:Z:36:GLU:HG3	2.40	0.42
34:8:118:SER:O	34:8:122:GLN:HG3	2.18	0.42
39:13:11:THR:HA	39:13:14:ARG:NH1	2.34	0.42
40:14:118:ARG:NH2	53:27:1233:G:H5'	2.34	0.42
43:17:35:ARG:HG2	43:17:37:TYR:HD2	1.84	0.42
46:20:67:ASP:O	46:20:68:TYR:C	2.56	0.42
48:22:11:VAL:HG22	48:22:22:VAL:HG22	2.01	0.42
50:24:39:ILE:CG2	50:24:66:VAL:HA	2.49	0.42
52:26:50:SER:HA	52:26:53:LYS:CD	2.47	0.42
53:27:271:C:H2'	53:27:272:C:C6	2.55	0.42
53:27:429:U:C1'	53:27:430:A:H5''	2.49	0.42
53:27:803:G:H2'	53:27:804:U:C6	2.54	0.42
53:27:915:A:H2'	53:27:916:U:H5'	2.02	0.42
53:27:1206:G:C2	53:27:1207:G:H1'	2.53	0.42
54:28:569:U:H2'	54:28:570:G:O4'	2.19	0.42
54:28:766:U:H2'	54:28:767:U:C6	2.54	0.42
54:28:892:A:H2'	54:28:893:C:O4'	2.19	0.42
54:28:929:U:H2'	54:28:930:G:C8	2.53	0.42
54:28:1376:C:H2'	54:28:1377:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1655:A:H3'	54:28:1656:C:C6	2.55	0.42
54:28:1799:G:O6	54:28:1819:A:H2'	2.18	0.42
54:28:1919:A:H2'	54:28:1919:A:N3	2.33	0.42
54:28:2230:G:H2'	54:28:2231:U:C6	2.54	0.42
54:28:2528:U:H2'	54:28:2530:A:O5'	2.19	0.42
55:29:103:U:H2'	55:29:104:A:H8	1.83	0.42
2:B:6:LYS:O	2:B:8:THR:N	2.51	0.42
2:B:154:ALA:CB	2:B:161:VAL:HG23	2.49	0.42
4:D:48:THR:O	4:D:52:VAL:HG23	2.18	0.42
4:D:126:VAL:HG22	4:D:127:GLU:N	2.34	0.42
5:E:139:GLU:HG3	27:1:28:VAL:H	1.84	0.42
8:H:78:GLY:H	8:H:79:PRO:HD2	1.84	0.42
10:J:48:VAL:O	10:J:50:THR:N	2.52	0.42
10:J:71:ASP:O	10:J:73:VAL:HG23	2.19	0.42
15:O:67:ASN:O	15:O:70:ALA:HB3	2.19	0.42
17:Q:94:LEU:O	17:Q:97:ILE:HB	2.20	0.42
21:U:6:ARG:HB2	54:28:85:G:P	2.59	0.42
23:W:16:ARG:NE	54:28:2357:G:OP1	2.42	0.42
24:X:60:LYS:HZ2	54:28:372:G:C1'	2.33	0.42
32:6:36:ARG:HD3	54:28:2742:G:OP1	2.20	0.42
34:8:120:THR:HG23	34:8:188:ALA:HA	2.00	0.42
35:9:129:VAL:HG12	53:27:619:U:O2'	2.19	0.42
35:9:169:TRP:HA	35:9:183:ARG:NH1	2.35	0.42
37:11:38:ARG:HD3	37:11:98:GLU:H	1.84	0.42
37:11:42:TRP:HH2	37:11:100:SER:O	2.02	0.42
37:11:55:HIS:O	37:11:56:LYS:HB2	2.18	0.42
39:13:29:SER:O	39:13:33:VAL:HG23	2.18	0.42
47:21:5:ARG:HD2	53:27:376:G:O3'	2.20	0.42
48:22:11:VAL:HG22	48:22:20:ILE:HD11	2.00	0.42
53:27:234:C:H2'	53:27:235:C:C6	2.54	0.42
53:27:666:G:H2'	53:27:667:G:H8	1.84	0.42
53:27:676:A:H2'	53:27:677:U:C6	2.55	0.42
53:27:801:U:H2'	53:27:802:A:H8	1.83	0.42
53:27:881:G:H2'	53:27:882:C:O4'	2.19	0.42
53:27:1031:C:O5'	53:27:1031:C:H6	2.02	0.42
54:28:175:G:H2'	54:28:176:A:O4'	2.19	0.42
54:28:274:C:C2'	54:28:275:C:H5'	2.49	0.42
54:28:404:A:H1'	54:28:406:G:C4	2.54	0.42
54:28:859:G:H2'	54:28:916:G:O6	2.19	0.42
54:28:1177:G:H2'	54:28:1178:C:O4'	2.20	0.42
54:28:1665:A:H2'	54:28:1666:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:1805:A:H2'	54:28:1806:C:C6	2.54	0.42
54:28:2147:A:N6	54:28:2148:G:H21	2.17	0.42
54:28:2331:G:H2'	54:28:2332:C:H6	1.80	0.42
54:28:2660:A:H2'	54:28:2661:G:O4'	2.19	0.42
54:28:2843:G:H2'	54:28:2844:G:O4'	2.19	0.42
2:B:24:HIS:CD2	2:B:79:ARG:NH1	2.87	0.42
4:D:69:ARG:NE	54:28:674:G:H1'	2.31	0.42
5:E:114:ARG:HH22	27:1:50:ASP:HB2	1.85	0.42
10:J:26:GLY:HA3	54:28:1140:C:C5'	2.49	0.42
13:M:5:LYS:HE3	13:M:5:LYS:HB2	1.82	0.42
16:P:29:VAL:HG12	16:P:30:TRP:O	2.19	0.42
18:R:4:VAL:O	18:R:39:LEU:N	2.51	0.42
18:R:88:GLY:H	54:28:1225:G:H5'	1.84	0.42
19:S:29:VAL:O	19:S:32:ALA:HB3	2.19	0.42
24:X:63:ILE:HG23	24:X:64:ASP:N	2.34	0.42
26:Z:40:THR:O	26:Z:44:ARG:HG2	2.18	0.42
30:4:27:GLY:O	30:4:30:VAL:HB	2.20	0.42
31:5:4:LYS:HZ2	54:28:253:C:P	2.42	0.42
33:7:101:THR:O	53:27:1074:G:H4'	2.19	0.42
33:7:113:LEU:HD13	33:7:143:LEU:HB3	2.02	0.42
37:11:92:THR:OG1	37:11:93:LYS:N	2.52	0.42
38:12:69:ARG:HB3	38:12:95:ARG:HD3	2.01	0.42
40:14:32:ARG:HD2	40:14:37:TYR:CD1	2.39	0.42
42:16:21:HIS:CD2	53:27:707:U:H5''	2.54	0.42
45:19:41:TRP:O	45:19:44:VAL:HG22	2.18	0.42
47:21:7:ALA:HB1	47:21:9:HIS:CE1	2.54	0.42
47:21:19:VAL:O	47:21:19:VAL:HG13	2.20	0.42
52:26:28:LEU:HA	52:26:31:VAL:HG12	2.01	0.42
53:27:57:G:H2'	53:27:58:C:C6	2.55	0.42
53:27:100:G:H3'	53:27:101:A:H8	1.84	0.42
53:27:462:G:H2'	53:27:462:G:N3	2.34	0.42
54:28:28:A:H1'	54:28:513:A:C2	2.54	0.42
54:28:190:A:H3'	54:28:191:A:C8	2.54	0.42
54:28:228:C:H42	54:28:417:C:H1'	1.83	0.42
54:28:543:G:H2'	54:28:544:C:O4'	2.19	0.42
54:28:1062:G:H2'	54:28:1063:G:C8	2.54	0.42
54:28:1133:A:H4'	54:28:1134:A:H5''	2.01	0.42
54:28:1157:G:P	54:28:1157:G:H3'	2.59	0.42
54:28:1542:U:H2'	54:28:1543:G:O4'	2.19	0.42
54:28:2024:G:OP2	54:28:2034:U:H4'	2.19	0.42
54:28:2039:U:H2'	54:28:2040:G:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2134:A:C2	54:28:2135:A:H1'	2.54	0.42
54:28:2230:G:H2'	54:28:2231:U:H6	1.84	0.42
54:28:2410:G:H2'	54:28:2411:A:O4'	2.19	0.42
54:28:2524:G:H2'	54:28:2525:G:C5'	2.49	0.42
54:28:2768:U:H2'	54:28:2769:U:O4'	2.20	0.42
54:28:2854:G:H2'	54:28:2855:C:H6	1.84	0.42
1:A:624:PHE:HB3	1:A:632:SER:HB3	2.01	0.42
4:D:195:GLN:O	4:D:198:GLU:HB3	2.20	0.42
11:K:1:MET:HB2	11:K:67:LYS:HG2	2.02	0.42
14:N:49:GLU:HB2	14:N:50:PRO:HD3	2.02	0.42
16:P:30:TRP:CD2	16:P:39:LEU:HD13	2.54	0.42
16:P:30:TRP:CE3	16:P:37:LYS:HG2	2.53	0.42
24:X:5:GLN:HE22	24:X:49:ARG:HB3	1.85	0.42
28:2:15:ARG:HH22	54:28:1264:A:H5''	1.85	0.42
32:6:3:VAL:HG21	54:28:2539:C:H5'	2.02	0.42
33:7:129:THR:O	33:7:132:GLU:HB3	2.19	0.42
34:8:21:TRP:HB3	34:8:58:ARG:H	1.84	0.42
38:12:38:ALA:O	38:12:41:ILE:HB	2.19	0.42
39:13:12:ARG:NH2	53:27:826:C:H5'	2.34	0.42
41:15:44:THR:OG1	53:27:1151:A:H5''	2.20	0.42
46:20:45:HIS:O	46:20:46:LYS:HB2	2.20	0.42
52:26:19:LYS:N	52:26:19:LYS:CD	2.79	0.42
53:27:54:C:H2'	53:27:352:C:N4	2.31	0.42
53:27:304:U:H2'	53:27:305:G:O4'	2.20	0.42
53:27:545:C:O2'	53:27:549:C:H5''	2.19	0.42
53:27:729:A:C4	53:27:730:G:C8	3.07	0.42
53:27:767:A:H2'	53:27:768:A:C8	2.55	0.42
53:27:1131:G:C3'	53:27:1132:C:C5'	2.95	0.42
54:28:182:A:O2'	54:28:183:C:H5'	2.19	0.42
54:28:372:G:H2'	54:28:400:G:O6	2.19	0.42
54:28:570:G:C2'	54:28:571:U:H5'	2.50	0.42
54:28:775:G:C5	54:28:794:A:C8	3.08	0.42
54:28:1361:G:H2'	54:28:1362:C:C6	2.55	0.42
54:28:1839:G:C4	54:28:1840:G:C8	3.07	0.42
54:28:1839:G:C5	54:28:1840:G:N7	2.87	0.42
54:28:2027:G:H2'	54:28:2028:U:H6	1.84	0.42
58:32:11:A:H2'	58:32:12:G:H8	1.84	0.42
1:A:614:GLN:HB2	1:A:740:ARG:HD2	2.00	0.42
1:A:703:THR:HG23	1:A:704:LYS:H	1.84	0.42
3:C:30:GLU:OE1	3:C:53:GLY:HA2	2.19	0.42
3:C:56:LYS:O	3:C:58:ASN:N	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:69:ARG:HD3	54:28:674:G:C1'	2.50	0.42
5:E:22:ASN:HB2	5:E:26:GLN:HE22	1.83	0.42
5:E:23:SER:OG	55:29:55:U:H4'	2.19	0.42
7:G:132:PHE:H	7:G:140:ALA:HB3	1.85	0.42
8:H:100:ALA:O	8:H:101:LYS:C	2.58	0.42
10:J:4:PHE:CD2	17:Q:99:VAL:HG11	2.55	0.42
12:L:57:LEU:C	12:L:59:ARG:H	2.23	0.42
12:L:73:ILE:O	12:L:105:ILE:HA	2.18	0.42
12:L:77:ILE:HD11	12:L:108:ALA:HB1	2.02	0.42
12:L:92:LEU:HD23	12:L:92:LEU:HA	1.90	0.42
17:Q:94:LEU:HA	17:Q:97:ILE:HD12	2.01	0.42
26:Z:13:ILE:HD11	54:28:989:G:OP2	2.20	0.42
28:2:39:ARG:HA	54:28:2884:U:O4	2.20	0.42
30:4:37:LYS:NZ	54:28:468:G:OP2	2.50	0.42
33:7:160:LEU:O	33:7:160:LEU:HG	2.19	0.42
34:8:76:ILE:HA	34:8:83:VAL:HG23	2.01	0.42
43:17:109:ARG:HD2	43:17:109:ARG:HA	1.82	0.42
44:18:31:ALA:O	44:18:34:ALA:HB3	2.19	0.42
46:20:44:GLU:O	46:20:45:HIS:HB2	2.20	0.42
53:27:545:C:O2'	53:27:546:A:H5'	2.18	0.42
53:27:957:U:H2'	53:27:959:A:OP2	2.18	0.42
53:27:1097:C:O2'	53:27:1098:C:H5'	2.20	0.42
53:27:1101:A:H4'	53:27:1102:A:O5'	2.20	0.42
53:27:1157:A:H4'	53:27:1158:C:O5'	2.19	0.42
53:27:1264:U:H2'	53:27:1265:C:C6	2.54	0.42
54:28:158:U:H2'	54:28:159:G:O4'	2.19	0.42
54:28:226:A:H2'	54:28:227:A:C8	2.54	0.42
54:28:1173:U:C3'	54:28:1174:U:H4'	2.49	0.42
54:28:1379:U:OP1	54:28:1379:U:H6	2.02	0.42
54:28:1633:G:C6	54:28:1635:A:C5	3.08	0.42
54:28:1658:C:H2'	54:28:1659:G:H8	1.84	0.42
54:28:1688:U:H2'	54:28:1698:A:N6	2.35	0.42
54:28:2008:C:H2'	54:28:2009:A:H8	1.85	0.42
54:28:2105:U:H2'	54:28:2106:U:O4'	2.20	0.42
54:28:2115:G:H21	54:28:2119:A:H62	1.66	0.42
54:28:2118:U:H1'	54:28:2145:C:N4	2.34	0.42
54:28:2508:G:C6	54:28:2580:U:H5	2.37	0.42
57:31:22:G:O2'	57:31:23:C:H5'	2.20	0.42
57:31:40:C:H2'	57:31:41:C:H6	1.84	0.42
2:B:155:ARG:HA	2:B:194:VAL:HG21	2.01	0.42
5:E:1:ALA:N	5:E:97:GLU:OE1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:76:PHE:CE1	54:28:2308:G:C6	3.06	0.42
5:E:150:GLY:O	54:28:2305:U:N3	2.52	0.42
6:F:88:LEU:CD2	6:F:95:ALA:HB2	2.48	0.42
6:F:172:GLU:C	6:F:174:LYS:H	2.22	0.42
10:J:40:HIS:O	17:Q:66:ALA:HB1	2.20	0.42
15:O:10:ARG:NH1	54:28:2295:C:OP1	2.53	0.42
33:7:178:LEU:O	33:7:180:ILE:N	2.52	0.42
34:8:5:HIS:HA	34:8:6:PRO:HD3	1.69	0.42
34:8:196:GLY:HA3	53:27:1057:G:O3'	2.20	0.42
38:12:42:VAL:O	38:12:46:LEU:HD13	2.20	0.42
40:14:105:ARG:NE	53:27:1118:U:OP1	2.42	0.42
43:17:106:VAL:HG12	43:17:107:LYS:N	2.34	0.42
52:26:38:GLU:O	52:26:41:THR:HB	2.20	0.42
53:27:85:U:O5'	53:27:85:U:H6	2.02	0.42
53:27:191:G:H2'	53:27:192:A:H8	1.85	0.42
53:27:204:G:H2'	53:27:205:A:C8	2.53	0.42
53:27:287:U:H2'	53:27:288:A:C8	2.53	0.42
53:27:409:U:H2'	53:27:410:G:O4'	2.20	0.42
53:27:771:G:H2'	53:27:772:U:C6	2.54	0.42
53:27:1037:C:H2'	53:27:1038:C:C5	2.54	0.42
53:27:1066:C:H2'	53:27:1067:A:C8	2.54	0.42
54:28:64:A:H2'	54:28:65:U:H6	1.82	0.42
54:28:197:A:C4	54:28:2430:A:C6	3.08	0.42
54:28:758:C:O2	54:28:758:C:C2'	2.67	0.42
54:28:2475:C:N4	54:28:2529:G:H22	2.18	0.42
54:28:2649:C:H2'	54:28:2650:U:C6	2.55	0.42
54:28:2838:G:C4	54:28:2839:G:C8	3.08	0.42
58:32:65:C:H2'	58:32:66:C:C6	2.54	0.42
58:32:68:C:H2'	58:32:69:C:O4'	2.19	0.42
58:32:69:C:H3'	58:32:70:G:C8	2.47	0.42
2:B:43:ASN:OD1	2:B:45:ASN:HB2	2.20	0.42
4:D:106:LYS:CG	4:D:200:LEU:HD23	2.50	0.42
6:F:49:LEU:HD13	6:F:71:LEU:HD23	2.01	0.42
8:H:42:ARG:CG	9:I:118:GLY:H	2.32	0.42
14:N:114:GLU:OE1	14:N:118:ARG:NH2	2.52	0.42
18:R:79:ARG:O	18:R:80:ARG:HB2	2.20	0.42
18:R:83:TYR:CZ	54:28:1187:G:H5''	2.55	0.42
24:X:54:GLY:O	24:X:57:VAL:HB	2.20	0.42
35:9:124:VAL:HA	35:9:142:VAL:HA	2.00	0.42
36:10:29:ILE:HD11	36:10:53:ARG:CZ	2.49	0.42
37:11:39:LEU:HD23	37:11:39:LEU:C	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:12:59:GLU:O	38:12:63:VAL:HG23	2.20	0.42
39:13:112:ASP:OD1	39:13:113:ARG:N	2.51	0.42
40:14:11:ARG:NH2	53:27:1347:G:O6	2.52	0.42
41:15:13:PHE:O	41:15:70:HIS:ND1	2.53	0.42
43:17:40:THR:HA	43:17:41:PRO:HD3	1.86	0.42
44:18:7:ASN:HD21	44:18:18:LEU:HD23	1.84	0.42
50:24:35:ARG:NH2	53:27:1320:C:O2	2.53	0.42
53:27:39:G:C6	53:27:404:G:C6	3.07	0.42
53:27:130:A:O2'	53:27:264:C:H5'	2.20	0.42
53:27:235:C:O2'	53:27:236:A:H5'	2.19	0.42
53:27:489:C:H2'	53:27:490:C:H6	1.85	0.42
53:27:530:G:N3	53:27:530:G:C2'	2.83	0.42
53:27:807:A:H2'	53:27:808:C:C6	2.55	0.42
53:27:936:C:H2'	53:27:937:A:H8	1.85	0.42
53:27:1439:G:C2	53:27:1440:U:H1'	2.55	0.42
54:28:251:A:C4	54:28:252:G:H1'	2.55	0.42
54:28:540:C:O2'	54:28:541:A:H5'	2.20	0.42
54:28:757:G:C2	54:28:758:C:H1'	2.54	0.42
54:28:897:C:O2'	54:28:898:C:H5'	2.19	0.42
54:28:1047:G:H1'	54:28:1110:G:N2	2.35	0.42
54:28:1847:G:O2'	54:28:1848:A:H8	2.03	0.42
54:28:2027:G:H2'	54:28:2028:U:C6	2.55	0.42
54:28:2286:G:H4'	54:28:2287:A:O5'	2.18	0.42
54:28:2511:U:H2'	54:28:2512:C:O4'	2.20	0.42
54:28:2700:A:H2'	54:28:2701:U:C6	2.54	0.42
54:28:2730:C:H2'	54:28:2731:G:C8	2.55	0.42
2:B:129:LEU:HD13	2:B:133:ASN:HB2	2.02	0.42
2:B:203:VAL:O	2:B:204:LEU:C	2.57	0.42
2:B:213:ARG:NH2	54:28:1566:A:H5'	2.34	0.42
4:D:162:ARG:HH12	54:28:340:A:HO2'	1.68	0.42
4:D:163:ASN:HB2	54:28:322:A:P	2.59	0.42
6:F:26:LYS:HG3	6:F:31:GLU:HB2	2.01	0.42
6:F:68:ARG:HH12	6:F:72:ASN:HD22	1.68	0.42
9:I:35:MET:CG	9:I:36:GLU:H	2.06	0.42
13:M:34:LYS:HE3	13:M:131:VAL:HG11	2.01	0.42
18:R:32:THR:HA	18:R:62:GLU:HA	2.01	0.42
21:U:17:ASP:HB3	21:U:20:LYS:HD2	2.01	0.42
33:7:156:LEU:HA	33:7:157:PRO:HD3	1.86	0.42
36:10:122:VAL:HG23	36:10:122:VAL:O	2.20	0.42
38:12:22:LEU:O	38:12:25:PHE:HB3	2.20	0.42
39:13:12:ARG:HH12	53:27:826:C:H5''	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:84:VAL:HG22	41:15:84:VAL:O	2.20	0.42
51:25:23:ARG:O	51:25:26:MET:HB3	2.20	0.42
53:27:361:G:H2'	53:27:362:G:O4'	2.20	0.42
53:27:665:A:H2'	53:27:732:C:O2	2.20	0.42
54:28:4:U:H2'	54:28:5:A:C8	2.55	0.42
54:28:63:A:O2'	54:28:64:A:H5'	2.19	0.42
54:28:67:U:C2	54:28:68:G:C8	3.08	0.42
54:28:570:G:C6	54:28:2030:A:C6	3.08	0.42
54:28:573:U:O2'	54:28:574:A:H3'	2.19	0.42
54:28:942:G:C2	54:28:943:A:H1'	2.55	0.42
54:28:952:G:C6	54:28:966:G:C6	3.08	0.42
54:28:1727:C:H2'	54:28:1728:C:C6	2.55	0.42
54:28:1823:G:H2'	54:28:1824:G:C8	2.54	0.42
55:29:14:U:OP2	55:29:71:C:H5'	2.20	0.42
2:B:41:GLY:HA3	2:B:53:ILE:HD11	2.01	0.42
2:B:73:ILE:HA	2:B:74:PRO:HD3	1.87	0.42
3:C:5:VAL:HG21	3:C:80:TRP:CE3	2.55	0.42
4:D:127:GLU:O	4:D:156:ASN:ND2	2.53	0.42
7:G:9:VAL:HG11	7:G:12:LEU:CG	2.45	0.42
8:H:18:VAL:HG22	8:H:86:MET:SD	2.60	0.42
9:I:125:THR:O	9:I:129:GLU:HG3	2.20	0.42
11:K:58:LEU:HA	11:K:89:ASN:OD1	2.20	0.42
17:Q:59:LEU:O	17:Q:62:ALA:HB3	2.20	0.42
18:R:85:LYS:HE2	54:28:815:C:OP1	2.20	0.42
22:V:76:ASP:O	22:V:90:ASP:N	2.47	0.42
33:7:23:ASN:ND2	33:7:190:SER:O	2.53	0.42
33:7:49:PHE:CD1	33:7:199:ILE:HD13	2.55	0.42
33:7:65:LYS:HD2	33:7:153:MET:HG3	2.02	0.42
33:7:206:ILE:HA	33:7:209:VAL:HG22	2.01	0.42
34:8:19:SER:HB3	34:8:21:TRP:NE1	2.34	0.42
34:8:59:PRO:HB3	41:15:94:ALA:HA	2.02	0.42
34:8:114:LEU:HD23	34:8:114:LEU:HA	1.84	0.42
34:8:161:ILE:O	34:8:161:ILE:HG13	2.20	0.42
37:11:52:ASN:HB3	37:11:85:ILE:HD11	2.02	0.42
38:12:140:VAL:O	38:12:143:MET:HB2	2.20	0.42
40:14:46:VAL:HG21	40:14:75:ALA:HB1	2.01	0.42
41:15:7:ARG:HG2	41:15:75:ASP:OD1	2.20	0.42
44:18:108:ARG:HD3	53:27:1307:U:O2'	2.19	0.42
47:21:12:LYS:C	47:21:14:ARG:H	2.22	0.42
50:24:39:ILE:HB	50:24:66:VAL:C	2.40	0.42
50:24:59:VAL:HG23	50:24:59:VAL:O	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:25:31:ILE:HG12	51:25:53:MET:SD	2.60	0.42
52:26:36:PHE:HB3	52:26:40:PRO:CG	2.50	0.42
53:27:41:G:O2'	53:27:42:G:H5'	2.19	0.42
53:27:227:G:H2'	53:27:228:A:H8	1.83	0.42
53:27:419:C:O2'	53:27:420:U:H5'	2.20	0.42
53:27:954:G:H2'	53:27:955:U:O4'	2.19	0.42
53:27:991:U:O4	53:27:1212:U:H4'	2.19	0.42
53:27:1314:C:H2'	53:27:1315:U:H6	1.82	0.42
54:28:209:C:H2'	54:28:210:C:C6	2.55	0.42
54:28:277:G:C1'	54:28:361:G:H1	2.26	0.42
54:28:946:C:H2'	54:28:947:A:C8	2.51	0.42
54:28:1052:C:H2'	54:28:1053:C:H5'	2.02	0.42
54:28:1219:U:O2'	54:28:1220:G:H5'	2.20	0.42
54:28:1287:A:C2'	54:28:1288:G:H5'	2.50	0.42
54:28:1766:G:H2'	54:28:1767:G:H8	1.85	0.42
54:28:1997:C:H2'	54:28:1998:A:C8	2.55	0.42
54:28:2103:C:H2'	54:28:2104:C:C6	2.55	0.42
54:28:2799:A:H2'	54:28:2801:G:OP2	2.19	0.42
55:29:61:G:H2'	55:29:62:C:H6	1.85	0.42
3:C:9:VAL:HG12	16:P:4:ILE:HD11	2.02	0.41
3:C:155:VAL:HG21	54:28:2618:G:H21	1.85	0.41
4:D:90:GLN:HE21	4:D:92:HIS:CE1	2.37	0.41
4:D:108:ILE:HG13	4:D:109:LEU:HD12	2.02	0.41
5:E:163:GLU:OE1	5:E:166:ARG:NH1	2.52	0.41
6:F:157:LYS:HD2	54:28:2659:G:OP1	2.20	0.41
9:I:23:VAL:O	9:I:27:LEU:HG	2.20	0.41
14:N:101:GLY:H	28:2:41:HIS:HD2	1.67	0.41
15:O:16:ARG:HD3	15:O:19:GLN:NE2	2.36	0.41
15:O:68:LYS:HA	15:O:102:ARG:HG2	2.02	0.41
18:R:79:ARG:NH1	54:28:572:A:OP2	2.45	0.41
18:R:85:LYS:HE2	54:28:815:C:OP2	2.19	0.41
19:S:4:ILE:HG22	19:S:106:VAL:HG13	2.02	0.41
20:T:62:VAL:HA	20:T:81:LYS:HA	2.02	0.41
21:U:5:ARG:HB2	54:28:85:G:OP1	2.20	0.41
21:U:48:VAL:HG22	21:U:50:ALA:H	1.85	0.41
25:Y:49:ASP:HA	25:Y:52:ARG:HG2	2.02	0.41
33:7:206:ILE:O	33:7:209:VAL:HG22	2.20	0.41
34:8:5:HIS:HB3	45:19:88:MET:CE	2.50	0.41
34:8:69:THR:C	34:8:105:VAL:HG12	2.40	0.41
35:9:96:ARG:O	35:9:100:VAL:HG23	2.19	0.41
40:14:82:ILE:O	40:14:86:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:15:47:GLU:HG3	53:27:1254:A:OP1	2.20	0.41
41:15:76:ILE:HD13	41:15:83:THR:HG21	2.02	0.41
43:17:49:ARG:HG3	43:17:89:LEU:HD11	2.02	0.41
43:17:114:SER:OG	53:27:501:C:O3'	2.30	0.41
47:21:7:ALA:HB1	47:21:9:HIS:HE1	1.85	0.41
47:21:53:ASP:OD2	47:21:56:ARG:HB2	2.20	0.41
51:25:43:LYS:HE2	51:25:85:LEU:HG	2.01	0.41
53:27:309:A:C2	53:27:310:G:C5	3.07	0.41
53:27:564:C:C4	53:27:565:U:C4	3.08	0.41
53:27:901:A:C5	53:27:902:G:H1'	2.55	0.41
53:27:1332:A:H2'	53:27:1333:A:C8	2.55	0.41
54:28:228:C:N4	54:28:417:C:H1'	2.35	0.41
54:28:510:C:H2'	54:28:511:U:O4'	2.20	0.41
54:28:634:C:O5'	54:28:634:C:H6	2.03	0.41
54:28:809:G:H1'	54:28:1254:A:N3	2.35	0.41
54:28:822:G:H2'	54:28:823:C:H6	1.85	0.41
54:28:867:C:H2'	54:28:868:U:H6	1.84	0.41
54:28:1173:U:H2'	54:28:1174:U:H4'	2.01	0.41
54:28:1932:A:H3'	54:28:1933:G:H8	1.85	0.41
54:28:2073:C:O2'	54:28:2074:U:H5'	2.20	0.41
54:28:2227:A:H3'	54:28:2228:G:C8	2.54	0.41
54:28:2389:G:H5''	54:28:2390:U:H5'	2.01	0.41
54:28:2553:G:H1'	54:28:2582:G:H21	1.85	0.41
3:C:121:THR:HG21	3:C:143:PRO:HB3	2.01	0.41
8:H:48:ALA:HB3	8:H:51:TYR:HB3	2.02	0.41
18:R:32:THR:OG1	18:R:61:ALA:O	2.32	0.41
28:2:5:ASN:ND2	54:28:2020:A:H62	2.17	0.41
28:2:48:TYR:O	28:2:51:ARG:HG2	2.20	0.41
28:2:49:ARG:NH1	54:28:2883:A:OP2	2.49	0.41
32:6:30:GLU:HA	32:6:31:PRO:HD3	1.92	0.41
34:8:47:ALA:C	34:8:49:ALA:H	2.23	0.41
35:9:146:GLU:OE1	35:9:146:GLU:N	2.42	0.41
36:10:12:GLU:HA	36:10:38:VAL:HA	2.02	0.41
39:13:55:LYS:HE3	53:27:653:U:C1'	2.50	0.41
40:14:54:VAL:CG2	40:14:56:MET:HG2	2.45	0.41
42:16:111:ASP:HB2	52:26:16:ARG:HH22	1.85	0.41
47:21:75:ILE:O	47:21:78:VAL:HG12	2.21	0.41
48:22:17:GLU:C	48:22:19:SER:H	2.23	0.41
48:22:28:VAL:O	48:22:28:VAL:HG13	2.19	0.41
48:22:46:HIS:ND1	48:22:70:LYS:HE2	2.35	0.41
51:25:67:HIS:O	51:25:67:HIS:CG	2.73	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:597:G:H2'	53:27:598:U:H5'	2.01	0.41
53:27:882:C:O2'	53:27:883:C:H5'	2.20	0.41
53:27:915:A:C2'	53:27:916:U:H5'	2.50	0.41
53:27:1254:A:H2'	53:27:1255:G:H8	1.83	0.41
54:28:84:A:N7	54:28:101:A:H2	2.18	0.41
54:28:84:A:H4'	54:28:85:G:O5'	2.19	0.41
54:28:239:C:H2'	54:28:240:C:O4'	2.21	0.41
54:28:775:G:C4	54:28:794:A:C8	3.08	0.41
54:28:803:U:H2'	54:28:804:A:O4'	2.19	0.41
54:28:1537:G:N1	54:28:1538:G:N3	2.69	0.41
54:28:1558:C:O4'	54:28:1560:G:C8	2.73	0.41
54:28:1607:C:H4'	54:28:1608:A:O5'	2.20	0.41
54:28:1721:G:H1'	54:28:1739:A:N6	2.35	0.41
54:28:2130:U:H1'	54:28:2159:G:N1	2.35	0.41
54:28:2186:G:H2'	54:28:2187:U:O4'	2.20	0.41
54:28:2373:G:O2'	54:28:2374:C:H5'	2.20	0.41
54:28:2461:A:H1'	54:28:2492:U:N3	2.35	0.41
54:28:2834:G:H2'	54:28:2879:A:H61	1.85	0.41
55:29:66:A:H4'	55:29:67:G:C8	2.55	0.41
57:31:1:C:H42	57:31:72:A:H61	1.67	0.41
2:B:1:ALA:O	2:B:19:VAL:N	2.53	0.41
3:C:97:SER:O	3:C:100:LEU:HD13	2.21	0.41
4:D:117:ARG:NH1	12:L:2:ARG:HG2	2.16	0.41
6:F:34:ARG:HH21	6:F:70:LEU:HD13	1.85	0.41
6:F:148:ARG:HD2	6:F:163:TYR:CE1	2.55	0.41
7:G:6:LEU:HD11	7:G:37:VAL:CG2	2.48	0.41
8:H:51:TYR:CD2	8:H:52:MET:N	2.88	0.41
8:H:102:ALA:HA	8:H:105:LYS:HB3	2.02	0.41
10:J:75:TYR:HE1	10:J:86:GLN:OE1	2.03	0.41
10:J:115:GLY:O	10:J:118:MET:HG2	2.21	0.41
13:M:31:PHE:HD1	13:M:130:PHE:CZ	2.38	0.41
15:O:10:ARG:HD3	54:28:2294:G:OP1	2.19	0.41
17:Q:61:ILE:HG23	17:Q:75:TYR:CZ	2.56	0.41
17:Q:88:GLU:OE1	17:Q:88:GLU:N	2.53	0.41
19:S:62:ASP:N	19:S:62:ASP:OD1	2.52	0.41
21:U:76:THR:OG1	21:U:78:LYS:HG2	2.21	0.41
33:7:208:ALA:O	33:7:212:TYR:CD2	2.74	0.41
34:8:46:LEU:HB3	34:8:49:ALA:CB	2.50	0.41
35:9:108:ALA:N	35:9:112:GLU:OE1	2.54	0.41
35:9:123:MET:CE	35:9:145:ARG:HA	2.50	0.41
37:11:14:GLN:H	37:11:14:GLN:CD	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:13:4:ASP:OD1	39:13:76:ARG:NH2	2.53	0.41
42:16:43:TRP:CZ3	42:16:45:THR:HG23	2.55	0.41
42:16:45:THR:OG1	42:16:48:GLY:N	2.53	0.41
43:17:34:THR:HA	43:17:75:GLU:O	2.20	0.41
43:17:88:ASP:HB2	53:27:523:A:N1	2.34	0.41
44:18:48:SER:HB2	44:18:51:GLN:HG3	2.02	0.41
53:27:17:U:H2'	53:27:18:C:H6	1.79	0.41
53:27:296:U:H2'	53:27:297:G:H8	1.86	0.41
53:27:305:G:H5''	53:27:306:A:OP1	2.20	0.41
53:27:306:A:C2'	53:27:307:C:H5'	2.50	0.41
53:27:629:A:H2'	53:27:630:A:O4'	2.21	0.41
53:27:1038:C:H2'	53:27:1039:G:H8	1.84	0.41
53:27:1167:A:N6	53:27:1169:A:N1	2.69	0.41
53:27:1278:G:O5'	53:27:1279:G:H5'	2.20	0.41
54:28:155:A:H2'	54:28:156:A:H8	1.83	0.41
54:28:286:U:O2'	54:28:287:G:H5'	2.20	0.41
54:28:589:U:H2'	54:28:590:A:C8	2.56	0.41
54:28:814:C:O2'	54:28:815:C:H5'	2.19	0.41
54:28:1268:A:H2'	54:28:1269:A:O4'	2.20	0.41
54:28:1877:A:H2'	54:28:1878:G:O4'	2.20	0.41
54:28:1999:C:H1'	54:28:2687:U:O2'	2.20	0.41
54:28:2144:G:H1'	54:28:2148:G:H22	1.85	0.41
54:28:2205:A:O2'	54:28:2206:C:H5'	2.21	0.41
54:28:2561:U:H2'	54:28:2562:U:C5'	2.40	0.41
57:31:27:U:H2'	57:31:28:C:H6	1.85	0.41
58:32:60:U:P	58:32:61:C:H41	2.43	0.41
3:C:145:SER:O	54:28:2512:C:H1'	2.19	0.41
4:D:46:GLN:HB2	4:D:86:ALA:HB1	2.03	0.41
5:E:1:ALA:HB2	5:E:93:GLU:OE1	2.20	0.41
6:F:29:ASN:ND2	6:F:79:THR:C	2.74	0.41
7:G:33:GLN:HB3	7:G:35:LYS:HG2	2.03	0.41
8:H:26:VAL:HG23	8:H:111:ALA:HB3	2.03	0.41
9:I:9:LYS:HB3	9:I:57:VAL:HG22	2.02	0.41
9:I:13:ALA:O	9:I:15:GLY:N	2.54	0.41
13:M:35:ALA:O	13:M:99:GLY:N	2.51	0.41
15:O:3:LYS:NZ	55:29:46:A:H5''	2.35	0.41
17:Q:88:GLU:OE1	18:R:52:PRO:HB3	2.20	0.41
20:T:4:GLU:HA	20:T:7:LEU:HD12	2.02	0.41
22:V:65:VAL:O	22:V:65:VAL:HG13	2.20	0.41
26:Z:22:THR:HA	54:28:850:U:O2'	2.20	0.41
26:Z:35:VAL:HG21	26:Z:37:ARG:NH2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:6:6:SER:O	32:6:8:LYS:NZ	2.53	0.41
33:7:79:VAL:HA	33:7:213:LEU:CD2	2.51	0.41
35:9:115:GLN:NE2	35:9:119:HIS:CE1	2.88	0.41
35:9:119:HIS:ND1	53:27:437:U:O2'	2.37	0.41
37:11:67:PRO:HB2	37:11:69:GLU:OE1	2.19	0.41
38:12:2:ARG:CB	53:27:933:G:OP2	2.62	0.41
40:14:70:GLY:O	40:14:74:GLN:HG3	2.20	0.41
40:14:89:TYR:HB2	40:14:93:LEU:HD12	2.03	0.41
46:20:47:LYS:O	46:20:49:HIS:N	2.52	0.41
48:22:44:HIS:O	48:22:70:LYS:HA	2.19	0.41
49:23:11:ARG:HH11	49:23:14:ALA:HB3	1.85	0.41
50:24:3:SER:O	50:24:4:LEU:HB3	2.20	0.41
52:26:64:ALA:HB3	53:27:1099:G:O2'	2.19	0.41
53:27:191:G:H2'	53:27:192:A:C8	2.56	0.41
53:27:317:U:H2'	53:27:318:G:C8	2.55	0.41
53:27:454:G:H22	53:27:478:A:H2	1.67	0.41
53:27:525:C:H2'	53:27:526:C:C6	2.56	0.41
53:27:703:G:HO2'	53:27:704:A:H8	1.62	0.41
53:27:833:G:H2'	53:27:834:U:O4'	2.21	0.41
53:27:1220:G:O2'	53:27:1221:G:H5'	2.20	0.41
53:27:1283:U:H2'	53:27:1284:C:H6	1.80	0.41
54:28:415:A:H2'	54:28:416:U:C6	2.55	0.41
54:28:527:C:C5	54:28:2779:U:C6	3.08	0.41
54:28:563:A:C6	54:28:2018:G:C5	3.08	0.41
54:28:1210:G:P	54:28:1212:G:H5'	2.60	0.41
54:28:2051:A:H5'	54:28:2578:G:O4'	2.20	0.41
54:28:2114:A:N6	54:28:2115:G:N3	2.69	0.41
54:28:2212:A:H4'	54:28:2213:U:C5	2.55	0.41
54:28:2223:G:H3'	54:28:2224:G:H8	1.85	0.41
54:28:2555:U:C2'	54:28:2556:C:H5'	2.50	0.41
54:28:2707:U:H2'	54:28:2708:G:C8	2.55	0.41
55:29:53:A:C2	55:29:54:G:C8	3.08	0.41
57:31:65:C:H2'	57:31:66:C:C6	2.54	0.41
58:32:60:U:H2'	58:32:61:C:H5	1.85	0.41
1:A:670:ARG:NE	1:A:741:LEU:HD12	2.34	0.41
3:C:187:LEU:HD12	3:C:187:LEU:HA	1.81	0.41
5:E:65:LEU:HD22	55:29:42:C:C4	2.55	0.41
6:F:18:ILE:O	6:F:18:ILE:HG22	2.20	0.41
10:J:31:GLU:HG2	10:J:142:ILE:CG1	2.48	0.41
11:K:66:LYS:NZ	54:28:1665:A:OP1	2.53	0.41
11:K:86:LEU:O	11:K:94:PRO:HA	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:75:GLU:HG3	54:28:957:C:OP1	2.20	0.41
14:N:38:LEU:HD11	14:N:42:LYS:HE2	2.01	0.41
15:O:18:LEU:HD21	15:O:25:ARG:CB	2.50	0.41
15:O:66:GLY:HA2	15:O:102:ARG:NH2	2.35	0.41
16:P:48:ALA:HB3	16:P:59:THR:OG1	2.20	0.41
17:Q:56:PHE:CE2	54:28:536:G:H4'	2.55	0.41
18:R:49:ILE:HD13	18:R:51:VAL:C	2.41	0.41
19:S:25:ARG:HE	19:S:74:ILE:HG23	1.86	0.41
25:Y:9:LYS:O	25:Y:13:GLU:HG2	2.20	0.41
27:1:66:ILE:O	27:1:66:ILE:HG12	2.20	0.41
28:2:15:ARG:HH12	54:28:1264:A:P	2.44	0.41
33:7:33:ALA:HB3	33:7:37:VAL:CG1	2.50	0.41
34:8:122:GLN:O	34:8:127:VAL:HG12	2.20	0.41
35:9:18:LEU:HB2	35:9:20:LEU:HG	2.03	0.41
36:10:132:PRO:O	36:10:135:VAL:CG2	2.67	0.41
38:12:112:ASP:HB2	38:12:118:ARG:CG	2.50	0.41
40:14:113:LYS:HG2	53:27:1368:A:OP2	2.21	0.41
43:17:20:VAL:HG23	43:17:20:VAL:O	2.20	0.41
44:18:56:ARG:O	44:18:59:VAL:HG22	2.20	0.41
47:21:19:VAL:HG12	47:21:37:GLY:O	2.20	0.41
49:23:64:LEU:O	49:23:65:SER:HB3	2.21	0.41
50:24:36:ARG:HD2	53:27:1318:A:H1'	2.02	0.41
53:27:227:G:H2'	53:27:228:A:C8	2.55	0.41
53:27:484:G:C5	53:27:486:U:H1'	2.55	0.41
53:27:806:C:H2'	53:27:807:A:C8	2.55	0.41
53:27:847:G:O2'	53:27:848:C:H5'	2.21	0.41
53:27:950:U:H4'	53:27:971:G:C2	2.56	0.41
53:27:1146:A:H2'	53:27:1147:C:H5'	2.02	0.41
53:27:1294:G:H2'	53:27:1295:U:C6	2.56	0.41
54:28:227:A:N1	54:28:2407:A:H1'	2.36	0.41
54:28:305:C:H2'	54:28:306:U:C6	2.55	0.41
54:28:763:G:O2'	54:28:765:C:H5'	2.19	0.41
54:28:1198:U:H2'	54:28:1199:U:C5	2.55	0.41
54:28:1372:U:O2'	54:28:1373:A:H5'	2.21	0.41
54:28:1499:C:H2'	54:28:1500:G:H8	1.84	0.41
54:28:1609:A:H1'	54:28:1616:A:C1'	2.49	0.41
54:28:1795:C:H2'	54:28:1796:U:O4'	2.19	0.41
54:28:2619:C:H2'	54:28:2620:C:H6	1.85	0.41
54:28:2796:U:O2	54:28:2801:G:N1	2.54	0.41
55:29:4:C:OP1	55:29:4:C:H4'	2.20	0.41
55:29:14:U:HO2'	55:29:15:A:H8	1.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:29:54:G:H2'	55:29:55:U:H6	1.85	0.41
9:I:93:ASN:HD22	9:I:96:LYS:HE2	1.85	0.41
10:J:58:ASN:HD21	10:J:128:ASN:HB2	1.85	0.41
24:X:18:SER:CB	24:X:22:ASN:HB2	2.48	0.41
25:Y:17:GLU:OE1	25:Y:53:VAL:HG11	2.21	0.41
26:Z:24:LEU:HD21	54:28:930:G:H1'	2.02	0.41
27:1:57:VAL:HG23	50:24:63:ASP:OD1	2.20	0.41
33:7:157:PRO:O	33:7:180:ILE:HD13	2.21	0.41
35:9:201:GLU:HG2	36:10:105:ILE:HG22	2.02	0.41
38:12:5:VAL:HG23	38:12:5:VAL:O	2.21	0.41
38:12:92:PRO:O	38:12:95:ARG:HB3	2.20	0.41
38:12:142:ARG:HB3	58:32:41:C:H4'	2.02	0.41
40:14:90:ASP:C	40:14:92:SER:H	2.23	0.41
40:14:98:ARG:CG	40:14:103:VAL:HG21	2.37	0.41
46:20:44:GLU:HG3	46:20:45:HIS:CG	2.55	0.41
48:22:30:HIS:HD2	48:22:33:TYR:N	2.16	0.41
51:25:19:HIS:CE1	51:25:23:ARG:HG3	2.56	0.41
51:25:82:ILE:O	51:25:86:ALA:N	2.52	0.41
53:27:40:C:O2'	53:27:41:G:H5'	2.20	0.41
53:27:232:G:O2'	53:27:233:C:H5'	2.21	0.41
53:27:608:A:C2	53:27:609:A:H1'	2.55	0.41
53:27:728:A:H2'	53:27:729:A:H8	1.84	0.41
53:27:1084:G:C5	53:27:1085:U:C4	3.09	0.41
53:27:1282:C:H2'	53:27:1283:U:H6	1.85	0.41
53:27:1305:G:N2	53:27:1331:G:C2'	2.84	0.41
53:27:1366:C:H2'	53:27:1367:C:H6	1.82	0.41
54:28:30:G:H2'	54:28:31:C:H6	1.86	0.41
54:28:279:A:H2'	54:28:280:U:O4'	2.21	0.41
54:28:364:C:O2'	54:28:365:U:H5'	2.21	0.41
54:28:443:A:H5''	54:28:444:C:C5'	2.51	0.41
54:28:467:G:O2'	54:28:468:G:H5'	2.20	0.41
54:28:537:G:H1'	54:28:556:A:N6	2.36	0.41
54:28:814:C:C1'	54:28:1225:G:H21	2.31	0.41
54:28:852:U:H2'	54:28:853:C:C6	2.55	0.41
54:28:1045:C:P	54:28:1046:A:H5'	2.60	0.41
54:28:1177:G:H2'	54:28:1178:C:H1'	2.00	0.41
54:28:1257:C:H2'	54:28:1258:U:H6	1.86	0.41
54:28:1418:G:H2'	54:28:1579:A:H62	1.86	0.41
54:28:1639:C:O2'	54:28:1640:A:H5'	2.20	0.41
54:28:1889:A:H2'	54:28:1890:A:O4'	2.21	0.41
54:28:2489:U:H2'	54:28:2490:G:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:2818:U:H2'	54:28:2819:G:H8	1.86	0.41
55:29:24:G:H4'	55:29:25:U:H5	1.86	0.41
57:31:63:G:H2'	57:31:64:G:C8	2.55	0.41
58:32:10:G:H2'	58:32:11:A:H8	1.82	0.41
4:D:16:GLU:O	4:D:20:GLY:N	2.54	0.41
4:D:94:GLN:HB2	54:28:660:C:H5''	2.02	0.41
5:E:33:ILE:HB	5:E:90:LEU:HD12	2.01	0.41
7:G:26:ALA:HA	7:G:30:LEU:HB2	2.02	0.41
7:G:67:ALA:O	7:G:71:LYS:HG3	2.20	0.41
8:H:8:LYS:O	8:H:11:ILE:HB	2.21	0.41
9:I:61:TYR:HB3	9:I:65:SER:H	1.86	0.41
10:J:4:PHE:CG	10:J:5:THR:N	2.88	0.41
15:O:103:VAL:HG23	15:O:104:GLN:N	2.36	0.41
16:P:80:VAL:HG23	16:P:80:VAL:O	2.20	0.41
16:P:88:ARG:O	16:P:112:ARG:HG3	2.20	0.41
17:Q:46:TYR:HA	17:Q:49:ARG:NH2	2.35	0.41
18:R:46:GLU:OE2	18:R:48:LYS:N	2.53	0.41
19:S:17:VAL:HG12	19:S:76:VAL:HG21	2.03	0.41
24:X:70:LEU:O	24:X:74:GLY:N	2.54	0.41
29:3:37:LYS:HB2	29:3:48:TYR:CD2	2.55	0.41
35:9:98:ASP:OD1	35:9:99:ASN:N	2.53	0.41
36:10:108:GLY:O	36:10:110:MET:N	2.49	0.41
38:12:39:GLU:HG2	38:12:43:TYR:CE2	2.56	0.41
39:13:85:TYR:HA	39:13:123:GLU:HA	2.02	0.41
40:14:12:LYS:NZ	53:27:1373:G:O6	2.53	0.41
42:16:13:LYS:O	42:16:14:GLN:HB3	2.21	0.41
42:16:117:HIS:CD2	53:27:718:A:C5	3.09	0.41
44:18:32:ILE:HG23	44:18:58:GLU:HG3	2.03	0.41
46:20:88:ARG:HE	54:28:714:U:H5	1.68	0.41
47:21:14:ARG:HE	47:21:42:ILE:HD13	1.86	0.41
53:27:193:C:O2'	53:27:194:C:H5'	2.20	0.41
53:27:204:G:O6	53:27:215:C:H1'	2.21	0.41
53:27:775:G:H2'	53:27:776:G:O4'	2.21	0.41
53:27:858:G:O6	53:27:869:G:H3'	2.20	0.41
53:27:947:G:H2'	53:27:948:C:H6	1.85	0.41
53:27:1483:A:C2'	53:27:1484:C:H5'	2.49	0.41
53:27:1494:G:O2'	53:27:1495:U:H5'	2.21	0.41
54:28:35:G:O2'	54:28:36:G:H5'	2.21	0.41
54:28:123:G:H2'	54:28:124:G:C8	2.54	0.41
54:28:161:A:H1'	54:28:2208:C:H1'	2.03	0.41
54:28:414:C:H1'	54:28:1864:U:H1'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:465:G:C6	54:28:466:A:N6	2.89	0.41
54:28:488:G:H22	54:28:491:G:H5''	1.84	0.41
54:28:1045:C:OP1	54:28:1046:A:H5'	2.20	0.41
54:28:1147:A:H2'	54:28:1148:U:C6	2.56	0.41
54:28:1463:C:H2'	54:28:1464:G:C8	2.55	0.41
54:28:1478:G:O2'	54:28:1479:G:H5'	2.21	0.41
54:28:1747:U:H2'	54:28:1748:C:C6	2.55	0.41
54:28:1912:A:H62	54:28:1917:U:H5	1.53	0.41
54:28:1930:G:H2'	54:28:1968:G:N1	2.32	0.41
54:28:2127:G:H2'	54:28:2128:G:O4'	2.21	0.41
54:28:2803:G:H2'	54:28:2804:U:C6	2.56	0.41
58:32:8:U:O2	58:32:21:A:H2	2.03	0.41
2:B:239:PHE:O	2:B:241:LYS:HG2	2.21	0.41
3:C:71:ALA:HB3	3:C:73:VAL:HG22	2.01	0.41
3:C:85:ALA:C	3:C:87:GLY:H	2.24	0.41
4:D:146:VAL:HA	4:D:185:LYS:O	2.21	0.41
5:E:78:ILE:O	5:E:78:ILE:HG13	2.20	0.41
5:E:100:GLU:C	5:E:102:LEU:N	2.74	0.41
5:E:114:ARG:NH2	27:1:50:ASP:HB2	2.35	0.41
7:G:140:ALA:HB1	7:G:142:VAL:HG23	2.03	0.41
12:L:79:LEU:N	12:L:113:ALA:HB3	2.35	0.41
16:P:93:LYS:HE2	54:28:1754:A:OP1	2.21	0.41
17:Q:55:GLN:HE22	54:28:559:G:H1'	1.78	0.41
17:Q:60:TRP:CG	17:Q:92:LYS:HA	2.56	0.41
25:Y:39:GLN:HE21	25:Y:42:LEU:HD11	1.84	0.41
34:8:27:GLU:HG3	34:8:28:PHE:N	2.34	0.41
34:8:39:ARG:CG	34:8:54:ILE:HD11	2.48	0.41
36:10:109:ALA:O	36:10:110:MET:C	2.58	0.41
37:11:51:ILE:HG12	37:11:86:ARG:HH12	1.85	0.41
39:13:17:GLN:HG3	39:13:71:VAL:HB	2.02	0.41
42:16:102:ALA:HB3	42:16:104:PHE:HD2	1.85	0.41
43:17:3:VAL:HG23	48:22:33:TYR:HB3	2.02	0.41
44:18:106:ARG:O	44:18:110:GLY:N	2.54	0.41
47:21:12:LYS:HG3	53:27:392:C:H5'	2.02	0.41
48:22:26:ARG:NH2	53:27:237:G:H5''	2.36	0.41
49:23:19:GLU:H	49:23:19:GLU:CD	2.23	0.41
49:23:25:ILE:O	49:23:26:ALA:C	2.58	0.41
53:27:119:A:H4'	53:27:120:A:C8	2.56	0.41
53:27:935:A:H2'	53:27:936:C:C6	2.55	0.41
53:27:945:G:N3	53:27:945:G:H2'	2.35	0.41
54:28:40:U:H2'	54:28:41:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:28:209:C:O2'	54:28:210:C:H5'	2.21	0.41
54:28:222:A:N6	54:28:232:G:H1'	2.36	0.41
54:28:226:A:H3'	54:28:227:A:C8	2.55	0.41
54:28:477:A:H2'	54:28:478:A:C8	2.55	0.41
54:28:622:G:O2'	54:28:623:C:H5'	2.21	0.41
54:28:667:U:H2'	54:28:668:A:O4'	2.20	0.41
54:28:890:C:H2'	54:28:891:G:O4'	2.21	0.41
54:28:1165:A:H2'	54:28:1166:G:H8	1.86	0.41
54:28:1228:G:H2'	54:28:1229:C:C6	2.56	0.41
54:28:1331:G:C2'	54:28:1332:G:C5'	2.99	0.41
54:28:1458:U:H4'	54:28:1459:G:O4'	2.21	0.41
54:28:1689:A:H2'	54:28:1690:A:C8	2.55	0.41
54:28:2198:A:O2'	54:28:2199:A:H8	2.03	0.41
54:28:2649:C:H2'	54:28:2650:U:H6	1.86	0.41
54:28:2688:G:H1'	54:28:2721:A:H61	1.85	0.41
54:28:2733:A:O2'	54:28:2734:A:H5'	2.20	0.41
54:28:2836:U:H2'	54:28:2837:A:C8	2.55	0.41
55:29:32:U:H2'	55:29:33:G:C8	2.55	0.41
55:29:69:G:H2'	55:29:70:C:O4'	2.20	0.41
2:B:71:ASP:C	2:B:73:ILE:H	2.23	0.41
2:B:175:LEU:HD13	54:28:1799:G:C5	2.56	0.41
2:B:216:ARG:NH2	54:28:781:A:OP1	2.54	0.41
2:B:224:MET:SD	2:B:229:HIS:HB2	2.61	0.41
3:C:153:GLY:O	3:C:154:LYS:HB3	2.21	0.41
3:C:208:LYS:HZ3	54:28:2732:G:P	2.44	0.41
5:E:109:ARG:NH2	5:E:136:ILE:O	2.54	0.41
5:E:134:GLN:NE2	5:E:149:ARG:H	2.19	0.41
7:G:22:LYS:HD2	54:28:2094:A:OP1	2.21	0.41
8:H:113:PHE:O	8:H:113:PHE:CD1	2.74	0.41
9:I:36:GLU:O	9:I:37:PHE:C	2.58	0.41
9:I:85:ILE:CD1	9:I:135:MET:HE1	2.51	0.41
10:J:41:LYS:HE3	10:J:52:ASP:OD1	2.21	0.41
12:L:127:VAL:HG12	12:L:128:THR:N	2.35	0.41
12:L:128:THR:HA	54:28:636:G:OP2	2.20	0.41
13:M:32:GLY:O	13:M:131:VAL:HG22	2.21	0.41
13:M:57:VAL:HG11	13:M:105:MET:HE2	2.03	0.41
14:N:33:ILE:HA	14:N:113:ILE:O	2.21	0.41
16:P:38:ARG:HH11	53:27:345:C:H5'	1.78	0.41
17:Q:65:ASN:ND2	17:Q:69:ARG:HE	2.18	0.41
17:Q:69:ARG:NH1	54:28:1011:G:OP2	2.53	0.41
19:S:31:GLN:O	19:S:35:ILE:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:T:28:ASN:ND2	20:T:91:GLN:HA	2.35	0.41
21:U:6:ARG:HA	21:U:6:ARG:HD2	1.84	0.41
21:U:12:VAL:HB	21:U:17:ASP:O	2.20	0.41
21:U:93:ARG:O	21:U:101:THR:HA	2.20	0.41
25:Y:41:HIS:O	25:Y:45:GLN:HG2	2.21	0.41
26:Z:8:GLN:HB3	26:Z:31:ILE:HA	2.03	0.41
26:Z:29:ARG:HD2	54:28:1183:U:H5''	2.02	0.41
27:1:59:ARG:O	27:1:62:LYS:HB2	2.20	0.41
29:3:50:GLU:CD	29:3:51:ALA:N	2.75	0.41
31:5:9:ALA:HB1	31:5:61:LEU:HD23	2.03	0.41
31:5:16:THR:HG23	31:5:21:PHE:HA	2.03	0.41
32:6:20:ASP:HA	54:28:2757:A:OP2	2.21	0.41
33:7:82:ALA:HB3	33:7:213:LEU:HD23	2.03	0.41
35:9:56:GLU:HG3	35:9:199:ILE:HD11	2.03	0.41
37:11:12:PRO:O	37:11:16:GLU:HG2	2.21	0.41
37:11:18:VAL:HG11	37:11:58:HIS:CE1	2.56	0.41
37:11:19:PRO:O	37:11:23:GLU:HG3	2.20	0.41
37:11:81:ASN:OD1	37:11:83:ALA:N	2.52	0.41
39:13:19:ALA:HB3	39:13:21:LYS:HG3	2.02	0.41
39:13:94:VAL:HG12	39:13:95:MET:HG3	2.02	0.41
40:14:123:ARG:CB	53:27:1343:G:O3'	2.69	0.41
41:15:41:PRO:HB2	53:27:1151:A:H1'	2.02	0.41
44:18:8:ILE:N	44:18:9:PRO:CD	2.84	0.41
44:18:10:ASP:OD1	44:18:45:SER:N	2.54	0.41
45:19:80:ARG:HA	45:19:83:VAL:CG1	2.49	0.41
45:19:95:LEU:HD12	45:19:96:LYS:H	1.86	0.41
46:20:14:PHE:HE1	46:20:83:ARG:HG2	1.85	0.41
48:22:59:GLU:CD	48:22:76:ARG:HE	2.24	0.41
51:25:59:ARG:NH2	53:27:178:C:OP2	2.53	0.41
51:25:68:LYS:O	51:25:72:ALA:N	2.38	0.41
53:27:35:G:H2'	53:27:36:C:C6	2.56	0.41
53:27:47:C:H4'	53:27:48:C:H5''	2.03	0.41
53:27:155:A:H2'	53:27:156:C:C6	2.56	0.41
53:27:220:G:O2'	53:27:221:C:H5'	2.21	0.41
53:27:331:G:OP1	53:27:332:G:H8	2.04	0.41
53:27:334:C:O2'	53:27:335:C:H5'	2.21	0.41
53:27:421:U:H5''	53:27:422:C:H5	1.85	0.41
53:27:450:G:OP1	53:27:452:A:OP1	2.39	0.41
53:27:616:G:O2'	53:27:617:G:H5'	2.20	0.41
53:27:628:G:O2'	53:27:629:A:H5'	2.21	0.41
53:27:669:G:O2'	53:27:670:G:H5'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:27:951:G:H2'	53:27:952:U:C6	2.56	0.41
53:27:1130:A:C2	53:27:1146:A:C5	3.08	0.41
54:28:120:U:H1'	54:28:149:A:C8	2.55	0.41
54:28:198:C:H6	54:28:198:C:O5'	2.04	0.41
54:28:439:A:H2'	54:28:440:C:C6	2.56	0.41
54:28:551:G:O2'	54:28:552:U:H5'	2.21	0.41
54:28:749:A:H4'	54:28:1271:G:N3	2.35	0.41
54:28:771:G:H2'	54:28:771:G:N3	2.36	0.41
54:28:799:G:H3'	54:28:800:A:H8	1.86	0.41
54:28:914:G:H5'	54:28:915:C:OP2	2.21	0.41
54:28:989:G:O5'	54:28:1157:G:H4'	2.21	0.41
54:28:1086:A:H4'	54:28:1103:A:H2	1.86	0.41
54:28:1232:G:H2'	54:28:1233:C:C6	2.56	0.41
54:28:1284:A:H2'	54:28:1285:A:O4'	2.21	0.41
54:28:1404:C:O2'	54:28:1405:U:H5'	2.21	0.41
54:28:1532:A:N3	54:28:1532:A:H2'	2.36	0.41
54:28:1770:G:C6	54:28:1983:G:C5	3.08	0.41
54:28:1804:C:H2'	54:28:1805:A:C8	2.55	0.41
54:28:1972:G:C2	54:28:1973:G:C5	3.09	0.41
54:28:2024:G:C5	54:28:2040:G:C2	3.09	0.41
54:28:2063:C:H2'	54:28:2064:C:H6	1.85	0.41
54:28:2412:A:H2'	54:28:2413:G:O4'	2.21	0.41
54:28:2441:U:O2'	54:28:2442:C:H5'	2.21	0.41
54:28:2516:A:O2'	54:28:2517:C:H5'	2.20	0.41
54:28:2684:U:C4	54:28:2685:G:N7	2.89	0.41
55:29:3:C:H3'	55:29:4:C:C5'	2.50	0.41
55:29:55:U:O2'	55:29:56:G:H5'	2.20	0.41
55:29:101:A:H2'	55:29:102:G:O4'	2.21	0.41
58:32:38:A:H2'	58:32:39:C:H6	1.84	0.41
1:A:669:VAL:HA	1:A:740:ARG:HA	2.03	0.41
4:D:118:LEU:O	4:D:119:ILE:HD13	2.21	0.41
5:E:78:ILE:HD13	54:28:2311:A:N3	2.35	0.41
6:F:71:LEU:HD12	6:F:71:LEU:N	2.36	0.41
7:G:10:ALA:O	7:G:11:ASN:HB2	2.21	0.41
7:G:97:ARG:HH21	54:28:2220:U:H4'	1.86	0.41
10:J:135:GLN:OE1	10:J:135:GLN:N	2.54	0.41
12:L:95:LEU:CD2	12:L:100:ILE:HD11	2.35	0.41
13:M:29:GLY:HA3	13:M:106:ASP:HB2	2.01	0.41
17:Q:4:LYS:NZ	54:28:30:G:OP2	2.48	0.41
18:R:93:PHE:CD1	18:R:93:PHE:C	2.94	0.41
21:U:27:VAL:HG23	21:U:33:VAL:HG12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:38:LEU:O	22:V:40:ILE:HG12	2.20	0.41
34:8:21:TRP:CB	34:8:58:ARG:HB3	2.51	0.41
34:8:30:ASP:O	34:8:33:ASP:HB3	2.21	0.41
37:11:38:ARG:HB3	37:11:63:ASN:ND2	2.35	0.41
40:14:122:ARG:NH1	40:14:123:ARG:O	2.54	0.41
42:16:110:THR:HB	49:23:72:ARG:NH2	2.36	0.41
43:17:22:ALA:O	43:17:23:LEU:HB3	2.21	0.41
44:18:89:ARG:HH21	44:18:95:PRO:HG2	1.86	0.41
51:25:9:ARG:HG2	53:27:108:G:C6	2.55	0.41
53:27:205:A:H2'	53:27:206:C:O4'	2.21	0.41
53:27:357:G:H1'	53:27:368:U:O2	2.21	0.41
53:27:414:A:C4	53:27:415:A:C8	3.09	0.41
53:27:1213:A:C5	53:27:1215:G:C4	3.09	0.41
54:28:765:C:H2'	54:28:766:U:O4'	2.20	0.41
54:28:1372:U:H2'	54:28:1373:A:O4'	2.21	0.41
54:28:1577:C:H2'	54:28:1578:U:C6	2.56	0.41
54:28:2385:C:O2'	54:28:2386:A:H5'	2.21	0.41
54:28:2548:U:H2'	54:28:2549:G:C5'	2.41	0.41
54:28:2648:G:C4	54:28:2673:G:C2	3.09	0.41
54:28:2788:C:O2'	54:28:2809:A:H1'	2.20	0.41
55:29:21:G:H2'	55:29:22:U:C6	2.55	0.41
2:B:250:GLN:NE2	2:B:251:THR:O	2.51	0.40
2:B:259:ASN:O	2:B:261:ARG:N	2.54	0.40
5:E:7:TYR:HA	5:E:11:VAL:HG21	2.00	0.40
5:E:142:TYR:CE2	44:18:8:ILE:HG21	2.56	0.40
7:G:80:ILE:HD12	7:G:144:VAL:HG13	2.03	0.40
8:H:28:ALA:HB2	8:H:82:ILE:HG23	2.02	0.40
8:H:118:ILE:HD13	8:H:118:ILE:HA	1.95	0.40
9:I:117:THR:HB	54:28:1081:U:O2'	2.21	0.40
11:K:7:MET:O	11:K:8:LEU:HD12	2.21	0.40
12:L:79:LEU:CD1	12:L:112:LEU:HD12	2.51	0.40
14:N:33:ILE:HG23	14:N:33:ILE:O	2.21	0.40
14:N:65:LEU:HD21	54:28:2870:C:H5''	2.03	0.40
17:Q:93:ILE:HG21	18:R:4:VAL:HG21	2.02	0.40
20:T:58:VAL:HG22	20:T:85:VAL:HG13	2.02	0.40
21:U:65:GLN:HB2	21:U:68:ASN:OD1	2.21	0.40
22:V:83:LYS:HA	22:V:84:PRO:HD3	1.93	0.40
26:Z:37:ARG:NH1	54:28:929:U:H5''	2.36	0.40
28:2:23:ALA:O	28:2:25:THR:HG23	2.21	0.40
28:2:40:HIS:CD2	54:28:2816:G:H4'	2.57	0.40
30:4:7:PRO:HG3	54:28:1612:C:H5'	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:10:59:ILE:HG13	36:10:60:GLN:N	2.35	0.40
36:10:65:LYS:HA	36:10:68:ARG:HG2	2.02	0.40
39:13:121:GLY:O	53:27:599:C:H4'	2.20	0.40
40:14:90:ASP:C	40:14:92:SER:N	2.75	0.40
42:16:35:ASP:OD2	42:16:37:GLN:NE2	2.55	0.40
43:17:49:ARG:HB2	43:17:89:LEU:HD21	2.03	0.40
43:17:54:VAL:O	43:17:61:GLU:HA	2.21	0.40
44:18:14:ALA:O	44:18:17:ALA:HB3	2.20	0.40
45:19:80:ARG:CA	45:19:83:VAL:HG12	2.50	0.40
48:22:20:ILE:HG12	48:22:22:VAL:HG23	2.02	0.40
48:22:46:HIS:CG	48:22:70:LYS:HE2	2.56	0.40
50:24:77:ARG:HD2	53:27:1225:A:O2'	2.21	0.40
51:25:67:HIS:O	51:25:68:LYS:HB3	2.21	0.40
52:26:18:PHE:HA	52:26:21:SER:HB3	2.03	0.40
53:27:96:U:O2'	53:27:97:G:H5'	2.22	0.40
53:27:106:C:H2'	53:27:107:G:H8	1.86	0.40
53:27:130:A:H1'	53:27:264:C:C4'	2.52	0.40
53:27:487:A:H2'	53:27:488:C:O4'	2.22	0.40
53:27:504:C:C2	53:27:542:G:C2	3.08	0.40
53:27:541:G:O2'	53:27:542:G:H5'	2.20	0.40
53:27:780:A:C2	53:27:803:G:C6	3.09	0.40
53:27:824:G:H2'	53:27:825:A:C8	2.52	0.40
53:27:936:C:H2'	53:27:937:A:C8	2.55	0.40
53:27:949:A:C5	53:27:950:U:C4	3.09	0.40
53:27:969:A:C2'	53:27:970:C:H5'	2.51	0.40
53:27:1406:U:C2'	53:27:1407:C:H5'	2.51	0.40
54:28:222:A:H61	54:28:232:G:H1'	1.87	0.40
54:28:372:G:O2'	54:28:400:G:N1	2.53	0.40
54:28:478:A:N1	54:28:500:G:H4'	2.36	0.40
54:28:708:G:O2'	54:28:709:U:H5'	2.21	0.40
54:28:938:G:H2'	54:28:939:G:H8	1.86	0.40
54:28:1287:A:C2	54:28:1649:G:H4'	2.57	0.40
54:28:1491:G:H2'	54:28:1492:G:H8	1.86	0.40
54:28:1890:A:H2'	54:28:1891:G:H8	1.86	0.40
54:28:1911:U:O2	54:28:1911:U:O5'	2.39	0.40
54:28:2217:G:C2'	54:28:2218:G:H5'	2.51	0.40
54:28:2397:G:C6	54:28:2398:U:C4	3.09	0.40
54:28:2828:G:O2'	54:28:2829:A:H5'	2.20	0.40
3:C:22:ILE:O	3:C:22:ILE:HG13	2.20	0.40
5:E:19:PHE:C	5:E:20:ASN:OD1	2.60	0.40
5:E:19:PHE:HB3	5:E:21:TYR:CZ	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:174:PHE:HA	5:E:175:PRO:HD3	1.95	0.40
7:G:14:SER:O	7:G:15:LEU:HB3	2.21	0.40
7:G:31:VAL:HG12	24:X:38:TRP:CD1	2.55	0.40
8:H:112:ALA:O	8:H:113:PHE:O	2.38	0.40
12:L:22:GLY:O	12:L:25:SER:HB3	2.21	0.40
13:M:97:GLN:O	13:M:98:PRO:C	2.58	0.40
19:S:61:ASN:OD1	54:28:496:G:H1'	2.21	0.40
19:S:79:GLY:N	19:S:101:SER:HA	2.36	0.40
21:U:47:PRO:HB2	21:U:53:GLN:HB2	2.01	0.40
27:1:44:PHE:HD1	27:1:45:THR:HG23	1.85	0.40
35:9:3:TYR:CD1	35:9:10:LEU:HD11	2.56	0.40
35:9:8:LEU:O	35:9:11:SER:HB2	2.21	0.40
35:9:28:ASP:N	35:9:28:ASP:OD1	2.53	0.40
35:9:104:MET:HE1	35:9:170:LEU:HB2	2.03	0.40
37:11:38:ARG:CD	37:11:98:GLU:H	2.34	0.40
39:13:88:LYS:HD3	39:13:119:GLY:O	2.21	0.40
40:14:49:GLN:N	40:14:50:PRO:HD2	2.36	0.40
41:15:41:PRO:HB3	53:27:1151:A:H1'	2.02	0.40
43:17:66:ILE:HA	43:17:96:THR:OG1	2.21	0.40
47:21:14:ARG:NH1	53:27:618:C:O2'	2.54	0.40
48:22:10:ARG:HH11	48:22:55:GLY:HA2	1.86	0.40
49:23:25:ILE:O	49:23:29:LYS:HG3	2.21	0.40
52:26:37:TYR:HE2	53:27:1526:G:OP1	2.04	0.40
53:27:708:C:O2'	53:27:709:U:H5'	2.21	0.40
53:27:958:A:H1'	53:27:985:C:O2'	2.21	0.40
53:27:1059:C:H2'	53:27:1060:U:H6	1.85	0.40
53:27:1384:C:H2'	53:27:1385:G:C8	2.56	0.40
54:28:164:C:H2'	54:28:165:A:O4'	2.21	0.40
54:28:553:G:O2'	54:28:554:U:H5'	2.20	0.40
54:28:820:A:H2'	54:28:821:A:H8	1.86	0.40
54:28:858:G:H5'	54:28:859:G:OP2	2.22	0.40
54:28:967:U:H2'	54:28:968:C:H6	1.84	0.40
54:28:1831:G:H2'	54:28:1832:C:C6	2.56	0.40
54:28:2193:G:H2'	54:28:2194:U:H6	1.81	0.40
54:28:2315:G:H2'	54:28:2316:G:C8	2.55	0.40
57:31:29:G:H2'	57:31:30:G:H8	1.86	0.40
58:32:28:C:H2'	58:32:29:G:C8	2.56	0.40
2:B:180:MET:HB2	2:B:268:ARG:N	2.31	0.40
2:B:211:ARG:HA	2:B:211:ARG:HD2	1.82	0.40
5:E:175:PRO:HB2	5:E:176:PHE:H	1.69	0.40
9:I:118:GLY:HA3	54:28:1082:U:C5'	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:118:GLY:CA	54:28:1082:U:C5'	3.00	0.40
9:I:124:MET:O	9:I:127:SER:HB2	2.21	0.40
12:L:143:GLU:OE1	12:L:143:GLU:N	2.55	0.40
13:M:97:GLN:OE1	13:M:97:GLN:N	2.51	0.40
19:S:3:THR:HG21	19:S:58:ALA:CA	2.52	0.40
19:S:3:THR:HG21	19:S:58:ALA:CB	2.48	0.40
19:S:94:ASP:OD1	19:S:95:ARG:N	2.54	0.40
34:8:39:ARG:NH2	34:8:56:ILE:HG12	2.36	0.40
35:9:118:SER:HA	35:9:130:ASN:OD1	2.22	0.40
43:17:113:ARG:HE	43:17:120:ARG:HA	1.86	0.40
47:21:8:ARG:HD3	47:21:17:TYR:CE1	2.56	0.40
47:21:60:TRP:HA	47:21:63:GLN:HB3	2.03	0.40
50:24:38:THR:HA	50:24:69:LYS:HA	2.03	0.40
51:25:57:VAL:HG22	51:25:71:ALA:HB1	2.03	0.40
53:27:126:G:OP1	53:27:605:U:O2'	2.33	0.40
53:27:487:A:H3'	53:27:488:C:C6	2.56	0.40
54:28:27:G:N2	54:28:512:G:H1'	2.36	0.40
54:28:33:C:O2	54:28:447:A:N6	2.54	0.40
54:28:90:U:H3'	54:28:91:A:H8	1.85	0.40
54:28:470:A:H2'	54:28:471:A:O4'	2.21	0.40
54:28:1117:C:O2'	54:28:1118:C:H5'	2.21	0.40
54:28:1167:C:O2'	54:28:1168:G:H5'	2.21	0.40
54:28:1454:C:HO2'	54:28:1455:G:H8	1.69	0.40
54:28:1685:C:H2'	54:28:1686:C:C6	2.56	0.40
54:28:1991:U:H2'	54:28:1992:G:C5'	2.52	0.40
54:28:2063:C:O2	54:28:2450:A:N1	2.55	0.40
54:28:2103:C:H2'	54:28:2104:C:H6	1.86	0.40
1:A:598:VAL:HB	1:A:656:VAL:CG2	2.51	0.40
4:D:29:HIS:CE1	12:L:8:PRO:HB3	2.56	0.40
5:E:174:PHE:HD1	5:E:175:PRO:HD3	1.85	0.40
6:F:34:ARG:NH2	6:F:70:LEU:HD13	2.36	0.40
7:G:112:LYS:O	7:G:115:VAL:HB	2.21	0.40
8:H:38:MET:SD	54:28:1058:U:H4'	2.62	0.40
8:H:57:ASN:ND2	8:H:63:ALA:HB2	2.37	0.40
8:H:74:ASP:OD1	8:H:116:GLU:HG2	2.21	0.40
9:I:20:SER:HA	9:I:24:GLY:HA3	2.04	0.40
9:I:25:PRO:HA	9:I:28:GLY:HA3	2.03	0.40
12:L:79:LEU:HD12	12:L:112:LEU:HA	2.03	0.40
13:M:38:ARG:NH2	13:M:98:PRO:HG2	2.37	0.40
16:P:84:SER:CB	16:P:86:LYS:NZ	2.79	0.40
16:P:90:ALA:HB2	16:P:112:ARG:HA	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:10:ARG:O	17:Q:11:ALA:C	2.58	0.40
24:X:5:GLN:HE22	24:X:49:ARG:CB	2.34	0.40
24:X:18:SER:HB2	54:28:2080:A:C5'	2.52	0.40
24:X:53:LYS:O	24:X:56:ARG:HB2	2.21	0.40
33:7:101:THR:HG21	53:27:1075:U:H5'	2.04	0.40
33:7:163:ILE:HG12	33:7:163:ILE:O	2.21	0.40
34:8:11:LEU:HD13	34:8:17:TRP:HE1	1.87	0.40
34:8:122:GLN:OE1	34:8:132:ALA:HB1	2.21	0.40
35:9:124:VAL:HG12	35:9:129:VAL:HG13	2.03	0.40
36:10:37:VAL:HG11	36:10:113:VAL:HA	2.04	0.40
40:14:56:MET:HB2	40:14:59:LYS:HB2	2.02	0.40
40:14:89:TYR:O	40:14:92:SER:HB2	2.21	0.40
42:16:30:ILE:HD13	42:16:45:THR:CG2	2.49	0.40
51:25:32:LYS:HE2	53:27:1439:G:OP1	2.21	0.40
52:26:25:ALA:O	52:26:26:GLY:C	2.60	0.40
53:27:120:A:C4	53:27:122:G:C5	3.10	0.40
53:27:155:A:H2'	53:27:156:C:O4'	2.21	0.40
53:27:691:G:O2'	53:27:797:C:H4'	2.21	0.40
53:27:1113:C:H2'	53:27:1114:C:C6	2.54	0.40
53:27:1167:A:HO2'	53:27:1168:U:H5	1.67	0.40
53:27:1250:A:C2	53:27:1370:G:H1'	2.56	0.40
54:28:600:G:H2'	54:28:601:C:H6	1.83	0.40
54:28:924:G:H2'	54:28:925:A:C8	2.57	0.40
54:28:1293:C:H2'	54:28:1294:U:C6	2.56	0.40
54:28:1612:C:O5'	54:28:1612:C:H6	2.04	0.40
54:28:1993:U:O2'	54:28:1994:C:H5'	2.22	0.40
54:28:2022:U:O2'	54:28:2617:U:H5'	2.20	0.40
54:28:2185:U:H2'	54:28:2186:G:H8	1.86	0.40
54:28:2207:C:H2'	54:28:2208:C:H6	1.86	0.40
54:28:2578:G:H2'	54:28:2579:C:C6	2.55	0.40
54:28:2580:U:O2	54:28:2580:U:O4'	2.40	0.40
54:28:2785:C:O2'	54:28:2786:U:H5'	2.21	0.40
55:29:13:G:H1	55:29:69:G:HO2'	1.69	0.40
1:A:721:VAL:O	1:A:724:ARG:HG2	2.22	0.40
3:C:56:LYS:HZ1	54:28:2830:C:H5''	1.85	0.40
7:G:3:VAL:HG12	7:G:36:ALA:HB1	2.04	0.40
7:G:83:LYS:O	7:G:91:PHE:CB	2.69	0.40
8:H:118:ILE:HB	8:H:119:PRO:CD	2.51	0.40
8:H:121:SER:OG	8:H:124:ASP:O	2.37	0.40
9:I:7:TYR:OH	9:I:60:VAL:O	2.32	0.40
10:J:31:GLU:HG2	10:J:142:ILE:CD1	2.52	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:9:GLN:HE21	54:28:2002:G:H5'	1.87	0.40
19:S:20:VAL:HG21	19:S:43:ALA:HB3	2.04	0.40
21:U:32:LYS:HE3	21:U:63:ALA:HB3	2.03	0.40
22:V:25:LYS:HB3	22:V:41:GLU:OE2	2.22	0.40
24:X:69:GLU:O	24:X:72:ALA:HB3	2.21	0.40
25:Y:52:ARG:NE	54:28:76:C:O3'	2.55	0.40
28:2:28:SER:HG	28:2:39:ARG:HD3	1.86	0.40
35:9:90:LEU:HD23	35:9:90:LEU:HA	1.93	0.40
35:9:166:LYS:HD2	35:9:167:PRO:HD2	2.03	0.40
36:10:156:ARG:O	36:10:158:LYS:N	2.50	0.40
38:12:26:VAL:O	38:12:30:MET:N	2.53	0.40
38:12:102:TRP:CZ3	38:12:137:ARG:HA	2.56	0.40
41:15:65:TYR:CB	45:19:95:LEU:HD11	2.38	0.40
49:23:44:THR:OG1	49:23:46:THR:HG23	2.21	0.40
49:23:71:ASP:OD1	49:23:72:ARG:N	2.55	0.40
50:24:14:LEU:O	50:24:18:VAL:HG23	2.21	0.40
52:26:39:LYS:N	52:26:40:PRO:CD	2.83	0.40
53:27:29:U:O2'	53:27:30:U:H5'	2.21	0.40
53:27:835:U:H2'	53:27:836:G:C5'	2.36	0.40
53:27:1159:U:C5	53:27:1182:G:H2'	2.57	0.40
53:27:1246:A:C6	53:27:1292:G:C6	3.10	0.40
53:27:1481:U:H2'	53:27:1482:G:C8	2.57	0.40
54:28:202:U:H2'	54:28:203:A:O4'	2.22	0.40
54:28:274:C:H2'	54:28:275:C:H5'	2.04	0.40
54:28:441:U:O2'	54:28:442:G:H5'	2.21	0.40
54:28:610:C:H2'	54:28:611:C:C6	2.56	0.40
54:28:987:C:H2'	54:28:988:A:O4'	2.21	0.40
54:28:991:C:H5'	54:28:1185:G:C2'	2.51	0.40
54:28:1259:G:O2'	54:28:1260:A:H5'	2.22	0.40
54:28:1627:G:H2'	54:28:1628:G:H8	1.87	0.40
54:28:1661:G:O2'	54:28:1662:U:H5'	2.22	0.40
54:28:2129:C:H2'	54:28:2130:U:O4'	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	139/750 (18%)	106 (76%)	21 (15%)	12 (9%)	1	13
2	B	269/273 (98%)	227 (84%)	31 (12%)	11 (4%)	3	27
3	C	207/209 (99%)	183 (88%)	17 (8%)	7 (3%)	3	31
4	D	199/201 (99%)	162 (81%)	28 (14%)	9 (4%)	2	25
5	E	175/179 (98%)	140 (80%)	31 (18%)	4 (2%)	6	38
6	F	174/177 (98%)	145 (83%)	27 (16%)	2 (1%)	14	51
7	G	147/149 (99%)	115 (78%)	23 (16%)	9 (6%)	1	20
8	H	129/165 (78%)	85 (66%)	29 (22%)	15 (12%)	0	6
9	I	139/142 (98%)	112 (81%)	21 (15%)	6 (4%)	2	26
10	J	140/142 (99%)	123 (88%)	13 (9%)	4 (3%)	4	33
11	K	120/123 (98%)	102 (85%)	12 (10%)	6 (5%)	2	23
12	L	141/144 (98%)	110 (78%)	25 (18%)	6 (4%)	2	26
13	M	134/136 (98%)	115 (86%)	16 (12%)	3 (2%)	6	38
14	N	118/127 (93%)	96 (81%)	18 (15%)	4 (3%)	3	31
15	O	114/117 (97%)	100 (88%)	10 (9%)	4 (4%)	3	30
16	P	112/115 (97%)	99 (88%)	11 (10%)	2 (2%)	8	42
17	Q	115/118 (98%)	105 (91%)	10 (9%)	0	100	100
18	R	101/103 (98%)	84 (83%)	13 (13%)	4 (4%)	3	27
19	S	108/110 (98%)	95 (88%)	8 (7%)	5 (5%)	2	25
20	T	91/100 (91%)	77 (85%)	8 (9%)	6 (7%)	1	19
21	U	100/104 (96%)	83 (83%)	8 (8%)	9 (9%)	1	13
22	V	92/94 (98%)	79 (86%)	12 (13%)	1 (1%)	14	51
23	W	73/85 (86%)	66 (90%)	6 (8%)	1 (1%)	11	46
24	X	75/78 (96%)	67 (89%)	5 (7%)	3 (4%)	3	27
25	Y	61/63 (97%)	53 (87%)	5 (8%)	3 (5%)	2	24
26	Z	56/59 (95%)	52 (93%)	3 (5%)	1 (2%)	8	42
27	1	64/70 (91%)	48 (75%)	10 (16%)	6 (9%)	0	12
28	2	54/57 (95%)	46 (85%)	7 (13%)	1 (2%)	8	41
29	3	48/55 (87%)	45 (94%)	2 (4%)	1 (2%)	7	39

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	4	44/46 (96%)	40 (91%)	4 (9%)	0	100	100
31	5	62/65 (95%)	54 (87%)	6 (10%)	2 (3%)	4	32
32	6	36/38 (95%)	29 (81%)	6 (17%)	1 (3%)	5	34
33	7	216/241 (90%)	170 (79%)	36 (17%)	10 (5%)	2	25
34	8	204/233 (88%)	179 (88%)	20 (10%)	5 (2%)	5	36
35	9	203/206 (98%)	167 (82%)	22 (11%)	14 (7%)	1	17
36	10	155/167 (93%)	117 (76%)	26 (17%)	12 (8%)	1	16
37	11	98/135 (73%)	77 (79%)	13 (13%)	8 (8%)	1	14
38	12	149/179 (83%)	127 (85%)	18 (12%)	4 (3%)	5	35
39	13	127/130 (98%)	116 (91%)	8 (6%)	3 (2%)	6	37
40	14	125/130 (96%)	105 (84%)	10 (8%)	10 (8%)	1	15
41	15	96/103 (93%)	75 (78%)	16 (17%)	5 (5%)	2	23
42	16	114/129 (88%)	95 (83%)	13 (11%)	6 (5%)	2	22
43	17	121/124 (98%)	91 (75%)	24 (20%)	6 (5%)	2	23
44	18	112/118 (95%)	98 (88%)	8 (7%)	6 (5%)	2	22
45	19	98/101 (97%)	80 (82%)	13 (13%)	5 (5%)	2	23
46	20	86/89 (97%)	62 (72%)	14 (16%)	10 (12%)	0	6
47	21	80/82 (98%)	64 (80%)	11 (14%)	5 (6%)	1	19
48	22	78/84 (93%)	60 (77%)	13 (17%)	5 (6%)	1	19
49	23	63/75 (84%)	52 (82%)	6 (10%)	5 (8%)	1	15
50	24	77/92 (84%)	64 (83%)	11 (14%)	2 (3%)	5	35
51	25	83/87 (95%)	77 (93%)	6 (7%)	0	100	100
52	26	63/71 (89%)	39 (62%)	15 (24%)	9 (14%)	0	4
All	All	5985/6970 (86%)	4958 (83%)	749 (12%)	278 (5%)	4	25

All (278) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	599	VAL
1	A	666	SER
1	A	677	SER
1	A	702	ASP
2	B	107	LYS
2	B	154	ALA

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Mol	Chain	Res	Type
3	C	153	GLY
4	D	71	GLY
4	D	84	THR
4	D	165	HIS
5	E	20	ASN
5	E	175	PRO
7	G	11	ASN
8	H	57	ASN
8	H	76	PHE
8	H	107	GLU
8	H	113	PHE
9	I	35	MET
10	J	81	ILE
11	K	93	GLN
12	L	36	LYS
12	L	128	THR
13	M	6	ARG
15	O	3	LYS
18	R	54	VAL
19	S	62	ASP
19	S	63	GLY
20	T	89	GLU
22	V	2	PHE
25	Y	22	LEU
25	Y	23	ARG
25	Y	24	GLU
26	Z	13	ILE
27	1	28	VAL
27	1	52	ALA
32	6	29	ALA
33	7	166	ASP
33	7	179	GLY
34	8	11	LEU
34	8	156	LEU
35	9	22	SER
35	9	28	ASP
35	9	33	ILE
35	9	152	SER
35	9	169	TRP
35	9	174	ALA
36	10	102	THR
36	10	122	VAL

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Mol	Chain	Res	Type
38	12	4	ARG
40	14	38	PHE
40	14	107	ALA
42	16	88	PRO
42	16	125	LYS
43	17	75	GLU
44	18	6	ILE
44	18	104	ASN
48	22	17	GLU
49	23	17	VAL
49	23	22	TYR
49	23	69	TYR
1	A	598	VAL
1	A	676	ARG
2	B	29	PHE
2	B	234	GLY
3	C	57	ALA
3	C	58	ASN
4	D	69	ARG
4	D	83	VAL
4	D	144	GLU
6	F	60	GLY
7	G	14	SER
7	G	39	ALA
8	H	51	TYR
8	H	58	THR
8	H	81	LEU
9	I	5	GLN
9	I	14	ALA
9	I	24	GLY
11	K	35	VAL
12	L	111	ILE
14	N	2	ARG
16	P	94	ALA
18	R	55	ASP
19	S	89	ALA
20	T	72	GLN
20	T	90	GLY
21	U	3	LYS
21	U	101	THR
23	W	80	ALA
27	1	26	SER

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Mol	Chain	Res	Type
27	1	64	PHE
28	2	2	VAL
29	3	4	ILE
31	5	62	PRO
33	7	73	ARG
33	7	97	GLY
34	8	48	LYS
35	9	4	LEU
35	9	82	LYS
35	9	191	SER
36	10	104	ILE
37	11	92	THR
38	12	18	GLY
38	12	56	SER
39	13	65	PHE
40	14	12	LYS
40	14	57	VAL
40	14	71	ILE
41	15	57	VAL
44	18	7	ASN
44	18	65	GLU
45	19	53	ASP
46	20	12	SER
48	22	15	LYS
48	22	16	MET
49	23	12	PHE
50	24	7	GLY
52	26	26	GLY
52	26	62	GLU
1	A	656	VAL
1	A	658	GLY
2	B	231	HIS
2	B	237	ARG
3	C	154	LYS
4	D	184	ASP
5	E	173	ASP
7	G	89	LYS
7	G	122	LEU
8	H	118	ILE
8	H	122	GLN
9	I	53	PRO
11	K	110	GLU

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Mol	Chain	Res	Type
12	L	29	LYS
13	M	69	PRO
13	M	125	PRO
16	P	112	ARG
18	R	43	ASN
18	R	58	VAL
19	S	3	THR
19	S	72	THR
20	T	3	ARG
20	T	38	ALA
21	U	63	ALA
21	U	75	ALA
21	U	88	ASP
21	U	100	GLU
33	7	71	THR
33	7	88	GLN
34	8	47	ALA
35	9	31	CYS
36	10	23	THR
36	10	50	GLY
36	10	98	ALA
37	11	13	ASP
37	11	54	LEU
37	11	91	ARG
38	12	144	ALA
40	14	102	PHE
40	14	120	ALA
41	15	75	ASP
41	15	91	ASP
42	16	92	ARG
43	17	2	THR
43	17	35	ARG
43	17	46	SER
45	19	34	ASN
45	19	37	ASP
46	20	16	ARG
46	20	87	ARG
47	21	49	GLY
47	21	79	ASN
48	22	18	LYS
52	26	12	ASP
52	26	14	ALA

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Mol	Chain	Res	Type
52	26	36	PHE
52	26	65	ARG
1	A	600	GLU
1	A	637	ASP
2	B	108	GLY
5	E	93	GLU
6	F	118	ALA
7	G	3	VAL
7	G	9	VAL
8	H	68	PRO
10	J	8	PRO
10	J	49	ASP
11	K	89	ASN
15	O	13	ARG
20	T	37	ASP
24	X	6	VAL
33	7	17	HIS
34	8	126	ARG
35	9	34	GLU
35	9	166	LYS
36	10	93	VAL
37	11	12	PRO
37	11	56	LYS
40	14	24	ASN
40	14	106	ASP
41	15	33	GLY
43	17	77	SER
46	20	2	LEU
46	20	21	THR
46	20	45	HIS
46	20	71	ARG
46	20	85	GLY
47	21	8	ARG
47	21	44	SER
48	22	20	ILE
50	24	38	THR
52	26	9	GLU
52	26	37	TYR
2	B	260	LYS
3	C	133	THR
3	C	149	ASN
3	C	178	VAL

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Mol	Chain	Res	Type
4	D	80	SER
4	D	129	PRO
7	G	15	LEU
8	H	90	GLY
11	K	27	GLY
12	L	58	TYR
12	L	87	GLY
14	N	109	PRO
21	U	6	ARG
21	U	98	ASN
24	X	31	ASN
24	X	74	GLY
27	1	44	PHE
31	5	31	ILE
33	7	122	ASP
36	10	22	LYS
36	10	89	THR
37	11	86	ARG
39	13	47	ASP
39	13	88	LYS
40	14	90	ASP
42	16	13	LYS
42	16	126	ARG
44	18	14	ALA
52	26	34	ARG
2	B	72	GLY
7	G	108	VAL
8	H	123	ILE
9	I	18	ASN
11	K	109	SER
14	N	116	VAL
15	O	90	VAL
15	O	101	GLY
35	9	36	ALA
36	10	68	ARG
36	10	132	PRO
37	11	98	GLU
45	19	2	LYS
46	20	26	VAL
46	20	48	ASP
49	23	21	ASP
1	A	617	PRO

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Mol	Chain	Res	Type
2	B	267	VAL
8	H	78	GLY
36	10	133	ILE
1	A	714	ILE
33	7	123	GLY
2	B	125	PRO
8	H	54	VAL
8	H	108	VAL
10	J	26	GLY
14	N	101	GLY
27	1	55	GLY
35	9	27	ILE
42	16	73	VAL
33	7	155	GLY
41	15	77	VAL
43	17	62	VAL
21	U	38	ILE
44	18	9	PRO
45	19	93	PRO
47	21	30	GLY

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	121/635 (19%)	121 (100%)	0	100	100
2	B	216/218 (99%)	216 (100%)	0	100	100
3	C	164/164 (100%)	164 (100%)	0	100	100
4	D	165/165 (100%)	165 (100%)	0	100	100
5	E	148/150 (99%)	147 (99%)	1 (1%)	84	90
6	F	137/138 (99%)	136 (99%)	1 (1%)	84	90
7	G	114/114 (100%)	114 (100%)	0	100	100
8	H	100/123 (81%)	100 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	I	109/110 (99%)	109 (100%)	0	100	100
10	J	116/116 (100%)	116 (100%)	0	100	100
11	K	103/104 (99%)	102 (99%)	1 (1%)	76	86
12	L	102/103 (99%)	102 (100%)	0	100	100
13	M	109/109 (100%)	109 (100%)	0	100	100
14	N	100/103 (97%)	100 (100%)	0	100	100
15	O	86/87 (99%)	86 (100%)	0	100	100
16	P	99/100 (99%)	98 (99%)	1 (1%)	76	86
17	Q	89/90 (99%)	89 (100%)	0	100	100
18	R	84/84 (100%)	84 (100%)	0	100	100
19	S	93/93 (100%)	93 (100%)	0	100	100
20	T	80/84 (95%)	80 (100%)	0	100	100
21	U	83/85 (98%)	83 (100%)	0	100	100
22	V	78/78 (100%)	78 (100%)	0	100	100
23	W	57/63 (90%)	57 (100%)	0	100	100
24	X	67/68 (98%)	67 (100%)	0	100	100
25	Y	55/55 (100%)	55 (100%)	0	100	100
26	Z	48/49 (98%)	48 (100%)	0	100	100
27	1	59/62 (95%)	58 (98%)	1 (2%)	60	78
28	2	47/48 (98%)	47 (100%)	0	100	100
29	3	45/49 (92%)	45 (100%)	0	100	100
30	4	38/38 (100%)	38 (100%)	0	100	100
31	5	51/52 (98%)	51 (100%)	0	100	100
32	6	34/34 (100%)	34 (100%)	0	100	100
33	7	180/199 (90%)	180 (100%)	0	100	100
34	8	170/190 (90%)	170 (100%)	0	100	100
35	9	172/173 (99%)	172 (100%)	0	100	100
36	10	119/126 (94%)	119 (100%)	0	100	100
37	11	87/116 (75%)	86 (99%)	1 (1%)	73	84
38	12	124/147 (84%)	124 (100%)	0	100	100
39	13	104/105 (99%)	104 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
40	14	105/107 (98%)	105 (100%)	0	100	100
41	15	86/90 (96%)	86 (100%)	0	100	100
42	16	89/99 (90%)	89 (100%)	0	100	100
43	17	103/104 (99%)	103 (100%)	0	100	100
44	18	92/96 (96%)	92 (100%)	0	100	100
45	19	83/84 (99%)	83 (100%)	0	100	100
46	20	76/77 (99%)	76 (100%)	0	100	100
47	21	65/65 (100%)	65 (100%)	0	100	100
48	22	74/78 (95%)	74 (100%)	0	100	100
49	23	56/65 (86%)	56 (100%)	0	100	100
50	24	70/79 (89%)	70 (100%)	0	100	100
51	25	65/66 (98%)	65 (100%)	0	100	100
52	26	55/61 (90%)	55 (100%)	0	100	100
All	All	4972/5698 (87%)	4966 (100%)	6 (0%)	93	97

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	E	174	PHE
6	F	117	PRO
11	K	58	LEU
16	P	113	LEU
27	1	37	CYS
37	11	12	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	674	ASN
1	A	705	GLN
1	A	730	ASN
2	B	44	ASN
2	B	114	GLN
2	B	199	HIS
3	C	32	ASN
3	C	42	ASN

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Mol	Chain	Res	Type
3	C	49	GLN
3	C	130	GLN
3	C	150	GLN
4	D	29	HIS
4	D	41	GLN
4	D	90	GLN
4	D	165	HIS
5	E	51	ASN
6	F	29	ASN
6	F	44	HIS
6	F	63	GLN
6	F	103	ASN
6	F	114	HIS
6	F	138	GLN
7	G	43	ASN
7	G	66	ASN
7	G	119	ASN
8	H	4	ASN
9	I	11	GLN
9	I	30	GLN
9	I	33	ASN
10	J	58	ASN
14	N	9	GLN
14	N	81	ASN
15	O	100	HIS
16	P	2	ASN
16	P	11	GLN
16	P	114	ASN
17	Q	36	GLN
17	Q	43	GLN
17	Q	55	GLN
18	R	89	HIS
18	R	91	GLN
20	T	28	ASN
21	U	68	ASN
21	U	73	ASN
24	X	15	ASN
24	X	16	ASN
25	Y	20	ASN
25	Y	39	GLN
25	Y	58	ASN
28	2	5	ASN

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Mol	Chain	Res	Type
28	2	41	HIS
30	4	13	ASN
30	4	29	GLN
31	5	27	ASN
32	6	35	GLN
33	7	14	HIS
33	7	41	ASN
33	7	189	ASN
34	8	24	ASN
35	9	73	ASN
36	10	11	GLN
36	10	42	ASN
36	10	134	ASN
37	11	3	HIS
37	11	11	HIS
37	11	63	ASN
38	12	27	ASN
38	12	121	ASN
39	13	3	GLN
39	13	17	GLN
39	13	20	ASN
40	14	4	GLN
40	14	30	ASN
40	14	36	GLN
40	14	125	GLN
42	16	80	ASN
43	17	4	ASN
43	17	28	GLN
43	17	45	ASN
43	17	76	HIS
43	17	95	HIS
44	18	7	ASN
45	19	42	ASN
45	19	59	GLN
46	20	27	GLN
46	20	34	GLN
46	20	36	ASN
46	20	49	HIS
47	21	18	GLN
48	22	30	HIS
49	23	51	GLN
50	24	55	GLN

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Mol	Chain	Res	Type
50	24	68	HIS
51	25	60	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
53	27	1538/1539 (99%)	171 (11%)	7 (0%)
54	28	2902/2903 (99%)	386 (13%)	20 (0%)
55	29	119/120 (99%)	12 (10%)	3 (2%)
56	30	17/18 (94%)	3 (17%)	0
57	31	76/77 (98%)	5 (6%)	0
58	32	76/77 (98%)	17 (22%)	0
All	All	4728/4734 (99%)	594 (12%)	30 (0%)

All (594) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
53	27	4	U
53	27	6	G
53	27	9	G
53	27	13	U
53	27	22	G
53	27	32	A
53	27	39	G
53	27	48	C
53	27	51	A
53	27	71	A
53	27	85	U
53	27	86	G
53	27	87	C
53	27	95	C
53	27	121	U
53	27	130	A
53	27	141	G
53	27	144	G
53	27	168	G
53	27	174	A
53	27	183	C
53	27	184	G
53	27	197	A
53	27	209	U

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Mol	Chain	Res	Type
53	27	210	C
53	27	211	G
53	27	212	G
53	27	226	G
53	27	240	G
53	27	247	G
53	27	251	G
53	27	266	G
53	27	267	C
53	27	279	A
53	27	281	G
53	27	289	G
53	27	306	A
53	27	328	C
53	27	345	C
53	27	346	G
53	27	352	C
53	27	367	U
53	27	372	C
53	27	373	A
53	27	392	C
53	27	411	A
53	27	412	A
53	27	413	G
53	27	422	C
53	27	429	U
53	27	430	A
53	27	462	G
53	27	467	U
53	27	468	A
53	27	479	U
53	27	484	G
53	27	485	U
53	27	486	U
53	27	497	G
53	27	510	A
53	27	511	C
53	27	518	C
53	27	527	G
53	27	531	U
53	27	532	A
53	27	533	A

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Mol	Chain	Res	Type
53	27	547	A
53	27	561	U
53	27	572	A
53	27	573	A
53	27	575	G
53	27	576	C
53	27	577	G
53	27	633	G
53	27	642	A
53	27	665	A
53	27	688	G
53	27	703	G
53	27	723	U
53	27	724	G
53	27	748	G
53	27	755	G
53	27	777	A
53	27	794	A
53	27	814	A
53	27	815	A
53	27	817	C
53	27	819	A
53	27	821	G
53	27	836	G
53	27	842	U
53	27	843	U
53	27	844	G
53	27	846	G
53	27	902	G
53	27	926	G
53	27	934	C
53	27	935	A
53	27	960	U
53	27	961	U
53	27	966	G
53	27	969	A
53	27	971	G
53	27	975	A
53	27	976	G
53	27	977	A
53	27	992	U
53	27	993	G

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Mol	Chain	Res	Type
53	27	1004	A
53	27	1026	G
53	27	1029	U
53	27	1030	U
53	27	1031	C
53	27	1033	G
53	27	1034	G
53	27	1036	A
53	27	1053	G
53	27	1085	U
53	27	1094	G
53	27	1101	A
53	27	1130	A
53	27	1132	C
53	27	1136	C
53	27	1137	C
53	27	1138	G
53	27	1139	G
53	27	1159	U
53	27	1160	G
53	27	1168	U
53	27	1183	U
53	27	1184	G
53	27	1196	A
53	27	1197	A
53	27	1201	A
53	27	1202	U
53	27	1212	U
53	27	1225	A
53	27	1238	A
53	27	1241	G
53	27	1258	G
53	27	1260	G
53	27	1275	A
53	27	1278	G
53	27	1280	A
53	27	1286	U
53	27	1287	A
53	27	1300	G
53	27	1317	C
53	27	1320	C
53	27	1336	C

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Mol	Chain	Res	Type
53	27	1346	A
53	27	1363	A
53	27	1379	G
53	27	1395	C
53	27	1400	C
53	27	1419	G
53	27	1432	G
53	27	1441	A
53	27	1446	A
53	27	1448	C
53	27	1452	C
53	27	1492	A
53	27	1497	G
53	27	1503	A
53	27	1506	U
53	27	1517	G
53	27	1519	A
53	27	1529	G
53	27	1530	G
53	27	1533	C
53	27	1534	A
54	28	10	A
54	28	12	U
54	28	34	U
54	28	35	G
54	28	46	G
54	28	49	A
54	28	51	G
54	28	63	A
54	28	71	A
54	28	74	A
54	28	75	G
54	28	91	A
54	28	92	U
54	28	98	G
54	28	114	U
54	28	119	A
54	28	120	U
54	28	138	U
54	28	139	U
54	28	140	C
54	28	141	G

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Mol	Chain	Res	Type
54	28	142	A
54	28	162	U
54	28	163	C
54	28	181	A
54	28	196	A
54	28	216	A
54	28	219	A
54	28	221	A
54	28	222	A
54	28	224	U
54	28	229	C
54	28	242	G
54	28	243	U
54	28	248	G
54	28	249	C
54	28	255	A
54	28	266	G
54	28	276	U
54	28	281	C
54	28	285	G
54	28	294	A
54	28	301	G
54	28	311	A
54	28	323	C
54	28	324	A
54	28	329	G
54	28	330	A
54	28	353	C
54	28	361	G
54	28	371	A
54	28	372	G
54	28	386	G
54	28	387	U
54	28	391	A
54	28	404	A
54	28	406	G
54	28	411	G
54	28	422	A
54	28	424	G
54	28	451	U
54	28	455	C
54	28	456	C

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Mol	Chain	Res	Type
54	28	457	A
54	28	458	G
54	28	467	G
54	28	479	A
54	28	481	G
54	28	491	G
54	28	504	A
54	28	505	A
54	28	506	G
54	28	508	A
54	28	529	A
54	28	531	C
54	28	532	A
54	28	542	C
54	28	543	G
54	28	545	U
54	28	547	A
54	28	562	U
54	28	563	A
54	28	573	U
54	28	575	A
54	28	588	U
54	28	592	A
54	28	603	A
54	28	614	A
54	28	616	A
54	28	627	A
54	28	637	A
54	28	646	U
54	28	654	A
54	28	656	G
54	28	668	A
54	28	669	G
54	28	686	U
54	28	687	C
54	28	695	G
54	28	711	G
54	28	714	U
54	28	730	A
54	28	747	C
54	28	752	A
54	28	764	A

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Mol	Chain	Res	Type
54	28	776	G
54	28	782	A
54	28	784	G
54	28	785	G
54	28	800	A
54	28	805	G
54	28	812	C
54	28	819	A
54	28	822	G
54	28	827	U
54	28	828	U
54	28	830	G
54	28	845	A
54	28	846	U
54	28	847	U
54	28	858	G
54	28	859	G
54	28	860	U
54	28	878	A
54	28	896	A
54	28	897	C
54	28	910	A
54	28	915	C
54	28	932	U
54	28	941	A
54	28	946	C
54	28	953	G
54	28	961	C
54	28	974	G
54	28	983	A
54	28	995	C
54	28	996	A
54	28	1012	U
54	28	1013	C
54	28	1021	A
54	28	1022	G
54	28	1026	G
54	28	1033	U
54	28	1045	C
54	28	1046	A
54	28	1053	C
54	28	1060	U

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Mol	Chain	Res	Type
54	28	1062	G
54	28	1070	A
54	28	1071	G
54	28	1083	U
54	28	1088	A
54	28	1090	A
54	28	1097	U
54	28	1111	A
54	28	1131	G
54	28	1132	U
54	28	1135	C
54	28	1143	A
54	28	1157	G
54	28	1174	U
54	28	1177	G
54	28	1178	C
54	28	1180	U
54	28	1211	C
54	28	1212	G
54	28	1248	G
54	28	1250	G
54	28	1251	C
54	28	1253	A
54	28	1256	G
54	28	1271	G
54	28	1272	A
54	28	1294	U
54	28	1301	A
54	28	1302	A
54	28	1321	A
54	28	1329	U
54	28	1330	C
54	28	1332	G
54	28	1345	C
54	28	1365	A
54	28	1378	A
54	28	1379	U
54	28	1383	A
54	28	1395	A
54	28	1416	G
54	28	1419	A
54	28	1420	A

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Mol	Chain	Res	Type
54	28	1428	C
54	28	1461	C
54	28	1482	G
54	28	1490	A
54	28	1504	A
54	28	1515	A
54	28	1524	G
54	28	1533	C
54	28	1535	A
54	28	1536	C
54	28	1555	G
54	28	1560	G
54	28	1569	A
54	28	1578	U
54	28	1581	G
54	28	1584	U
54	28	1585	C
54	28	1608	A
54	28	1611	C
54	28	1616	A
54	28	1627	G
54	28	1647	U
54	28	1648	U
54	28	1660	G
54	28	1674	G
54	28	1703	G
54	28	1715	G
54	28	1729	U
54	28	1730	C
54	28	1731	G
54	28	1732	C
54	28	1738	G
54	28	1757	A
54	28	1758	U
54	28	1764	C
54	28	1773	A
54	28	1780	A
54	28	1791	A
54	28	1800	C
54	28	1801	A
54	28	1808	A
54	28	1816	C

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Mol	Chain	Res	Type
54	28	1829	A
54	28	1833	C
54	28	1847	G
54	28	1858	A
54	28	1871	A
54	28	1896	G
54	28	1901	A
54	28	1906	G
54	28	1907	G
54	28	1913	A
54	28	1914	C
54	28	1929	G
54	28	1930	G
54	28	1931	U
54	28	1937	A
54	28	1938	A
54	28	1940	U
54	28	1955	U
54	28	1963	U
54	28	1967	C
54	28	1970	A
54	28	1971	U
54	28	1972	G
54	28	1982	U
54	28	1991	U
54	28	1992	G
54	28	1993	U
54	28	1997	C
54	28	2022	U
54	28	2023	C
54	28	2031	A
54	28	2034	U
54	28	2036	C
54	28	2043	C
54	28	2052	A
54	28	2055	C
54	28	2056	G
54	28	2060	A
54	28	2061	G
54	28	2063	C
54	28	2069	G
54	28	2072	C

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Mol	Chain	Res	Type
54	28	2093	G
54	28	2096	C
54	28	2110	G
54	28	2111	U
54	28	2118	U
54	28	2119	A
54	28	2127	G
54	28	2131	U
54	28	2132	U
54	28	2133	G
54	28	2145	C
54	28	2146	C
54	28	2158	A
54	28	2159	G
54	28	2161	C
54	28	2162	G
54	28	2170	A
54	28	2171	A
54	28	2172	U
54	28	2173	A
54	28	2189	U
54	28	2198	A
54	28	2204	G
54	28	2211	A
54	28	2225	A
54	28	2238	G
54	28	2239	G
54	28	2250	G
54	28	2268	A
54	28	2278	A
54	28	2283	C
54	28	2287	A
54	28	2297	A
54	28	2305	U
54	28	2309	A
54	28	2325	G
54	28	2327	A
54	28	2334	U
54	28	2344	U
54	28	2350	C
54	28	2382	G
54	28	2383	G

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Mol	Chain	Res	Type
54	28	2385	C
54	28	2392	A
54	28	2402	U
54	28	2406	A
54	28	2407	A
54	28	2423	U
54	28	2424	C
54	28	2427	C
54	28	2429	G
54	28	2430	A
54	28	2431	U
54	28	2435	A
54	28	2441	U
54	28	2445	G
54	28	2448	A
54	28	2459	A
54	28	2476	A
54	28	2482	A
54	28	2494	G
54	28	2498	C
54	28	2502	G
54	28	2503	A
54	28	2504	U
54	28	2505	G
54	28	2518	A
54	28	2520	C
54	28	2525	G
54	28	2547	A
54	28	2549	G
54	28	2554	U
54	28	2562	U
54	28	2567	G
54	28	2572	A
54	28	2582	G
54	28	2585	U
54	28	2586	U
54	28	2602	A
54	28	2603	G
54	28	2609	U
54	28	2613	U
54	28	2630	G
54	28	2636	C

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Mol	Chain	Res	Type
54	28	2655	G
54	28	2682	A
54	28	2689	U
54	28	2690	U
54	28	2714	G
54	28	2744	G
54	28	2748	A
54	28	2751	G
54	28	2757	A
54	28	2764	A
54	28	2765	A
54	28	2778	A
54	28	2779	U
54	28	2791	G
54	28	2794	C
54	28	2797	U
54	28	2799	A
54	28	2800	A
54	28	2809	A
54	28	2818	U
54	28	2820	A
54	28	2821	A
54	28	2833	U
54	28	2867	G
54	28	2868	A
54	28	2872	A
54	28	2880	C
54	28	2891	U
54	28	2902	C
55	29	4	C
55	29	9	G
55	29	12	C
55	29	13	G
55	29	24	G
55	29	35	C
55	29	44	G
55	29	67	G
55	29	89	U
55	29	90	C
55	29	108	A
55	29	109	A
56	30	8	A

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Mol	Chain	Res	Type
56	30	12	A
56	30	19	U
57	31	9	G
57	31	19	G
57	31	47	U
57	31	48	C
57	31	76	A
58	32	2	G
58	32	8	U
58	32	9	G
58	32	14	A
58	32	19	G
58	32	21	A
58	32	22	G
58	32	25	C
58	32	30	G
58	32	34	C
58	32	35	A
58	32	46	A
58	32	61	C
58	32	69	C
58	32	70	G
58	32	71	C
58	32	73	A

All (30) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
53	27	85	U
53	27	246	A
53	27	280	C
53	27	429	U
53	27	960	U
53	27	1182	G
53	27	1399	C
54	28	242	G
54	28	421	C
54	28	490	C
54	28	858	G
54	28	859	G
54	28	1020	A
54	28	1130	U

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Mol	Chain	Res	Type
54	28	1378	A
54	28	1490	A
54	28	1626	A
54	28	1730	C
54	28	1857	G
54	28	1930	G
54	28	2286	G
54	28	2296	U
54	28	2326	C
54	28	2391	G
54	28	2566	A
54	28	2756	U
54	28	2808	G
55	29	44	G
55	29	66	A
55	29	88	C

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

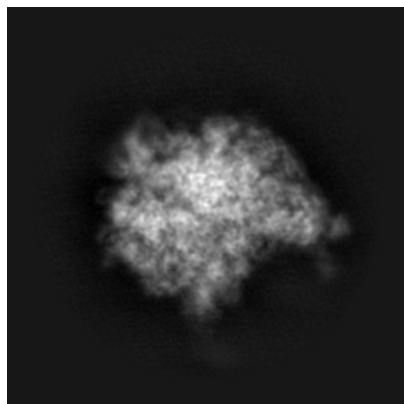
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-8279. These allow visual inspection of the internal detail of the map and identification of artifacts.

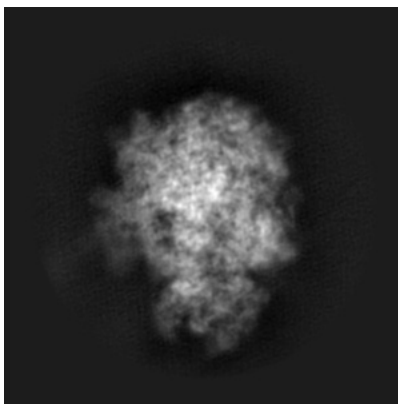
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

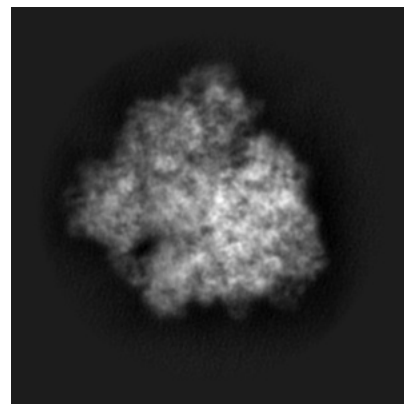
6.1.1 Primary map



X

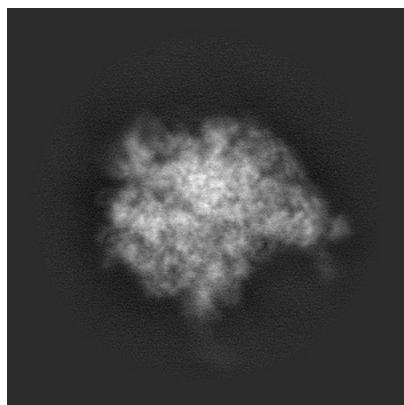


Y

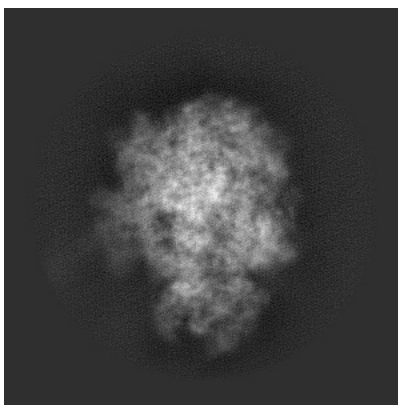


Z

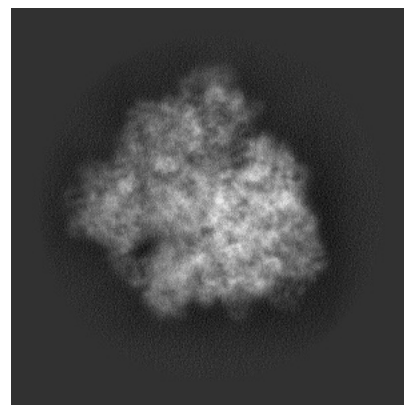
6.1.2 Raw map



X



Y

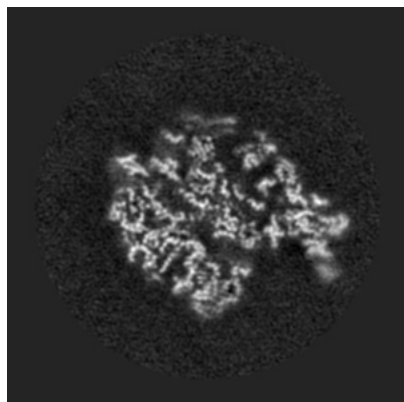


Z

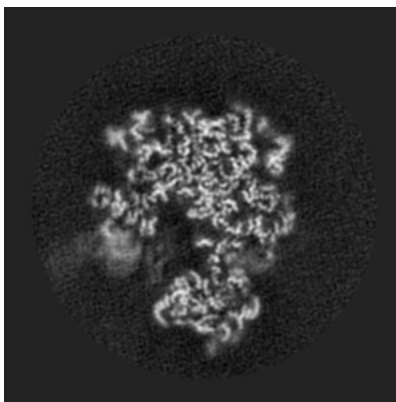
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

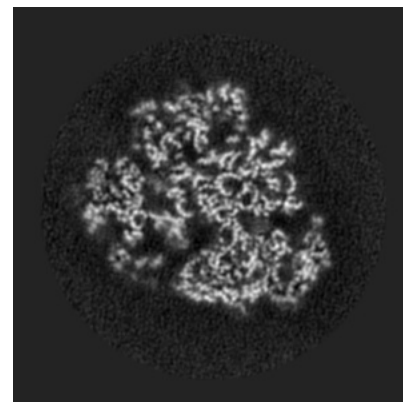
6.2.1 Primary map



X Index: 240

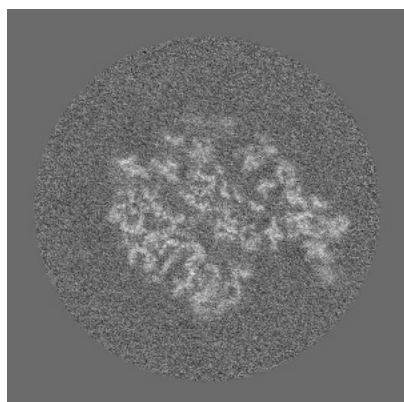


Y Index: 240

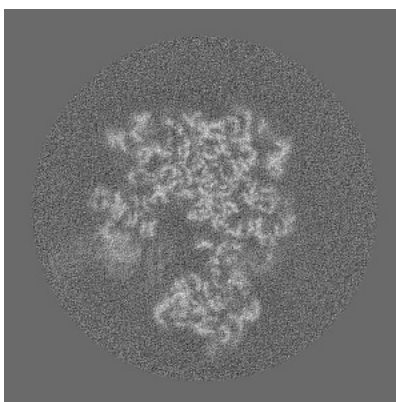


Z Index: 240

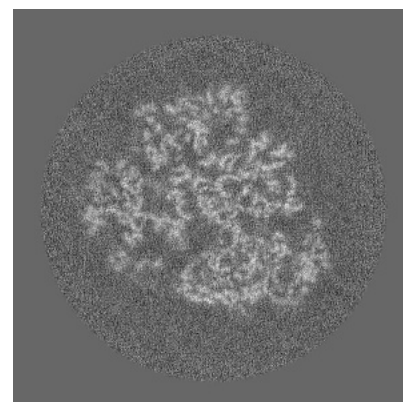
6.2.2 Raw map



X Index: 240



Y Index: 240

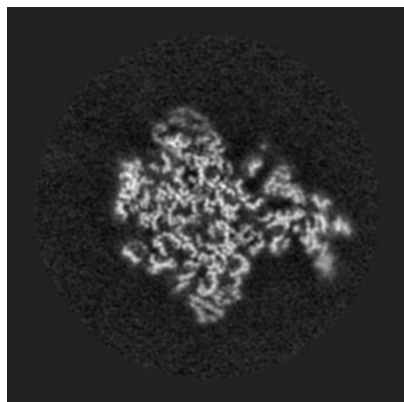


Z Index: 240

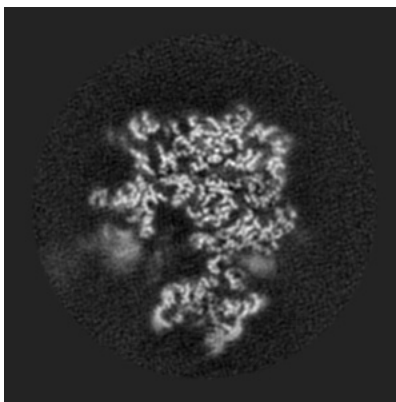
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

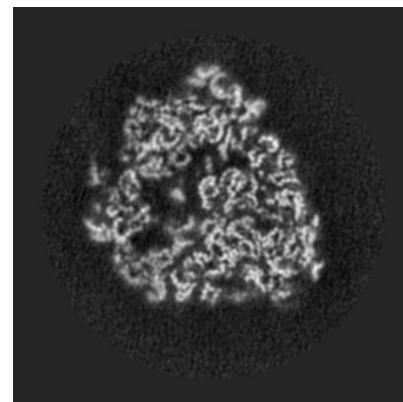
6.3.1 Primary map



X Index: 249

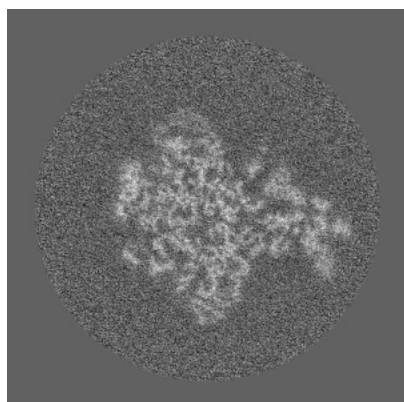


Y Index: 247

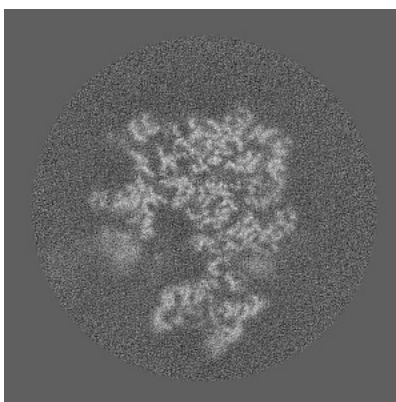


Z Index: 225

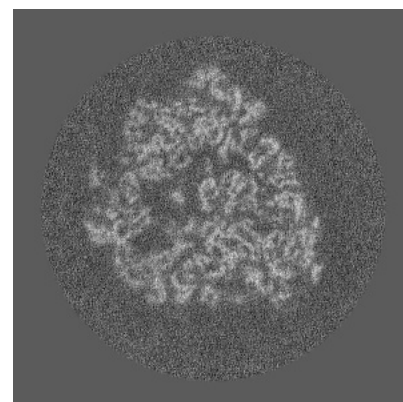
6.3.2 Raw map



X Index: 249



Y Index: 247



Z Index: 225

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

6.4 Orthogonal surface views [i](#)

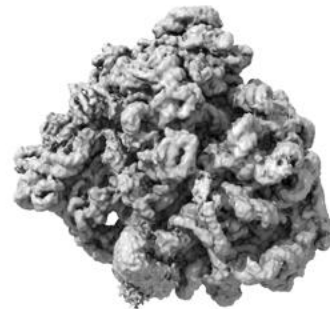
6.4.1 Primary map



X



Y



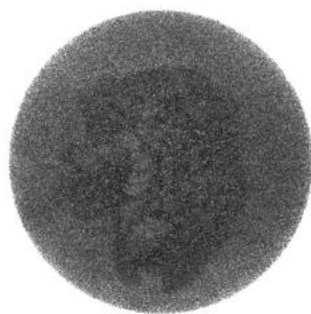
Z

The images above show the 3D surface view of the map at the recommended contour level 0.08. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

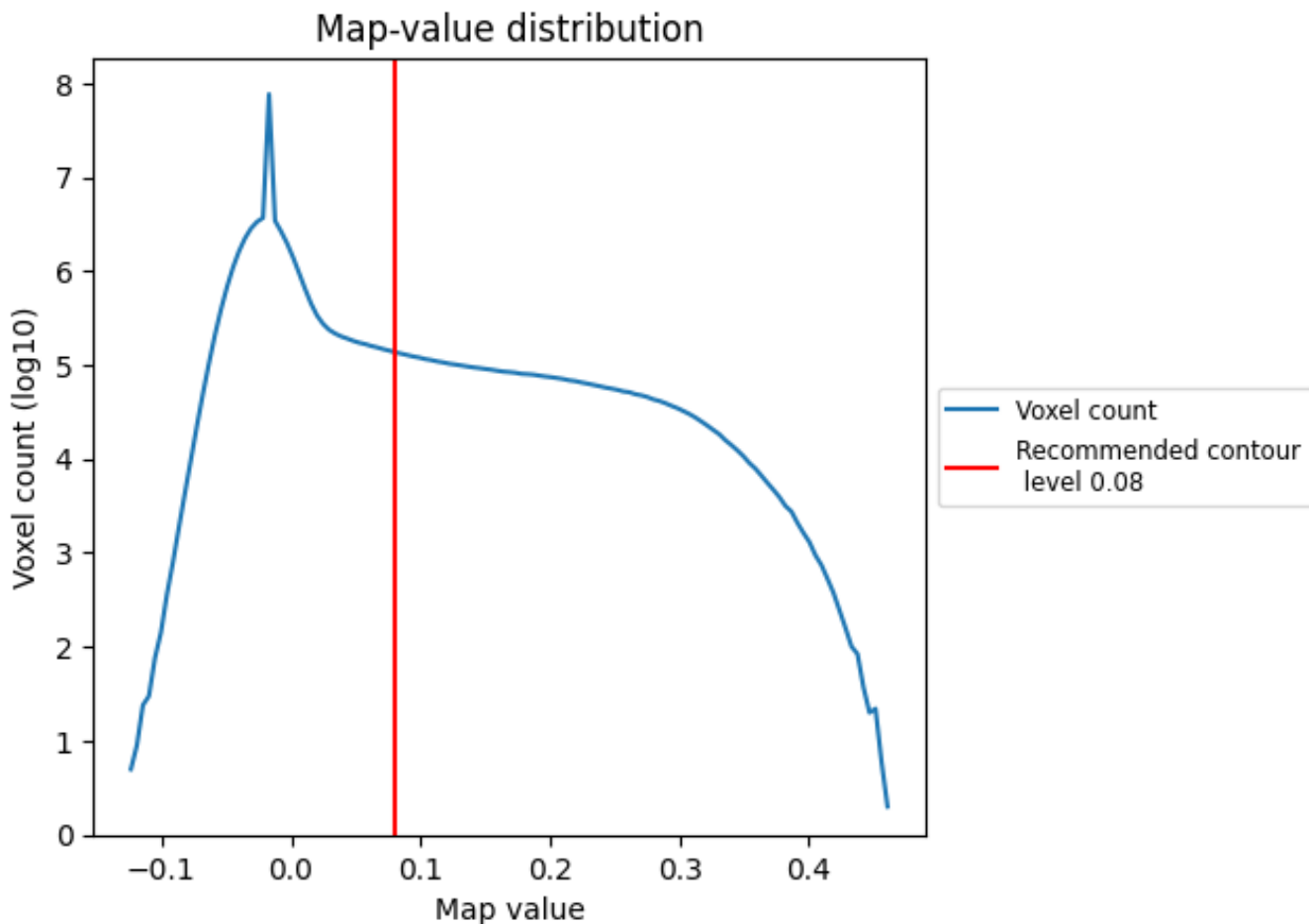
6.5 Mask visualisation [i](#)

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

7 Map analysis [i](#)

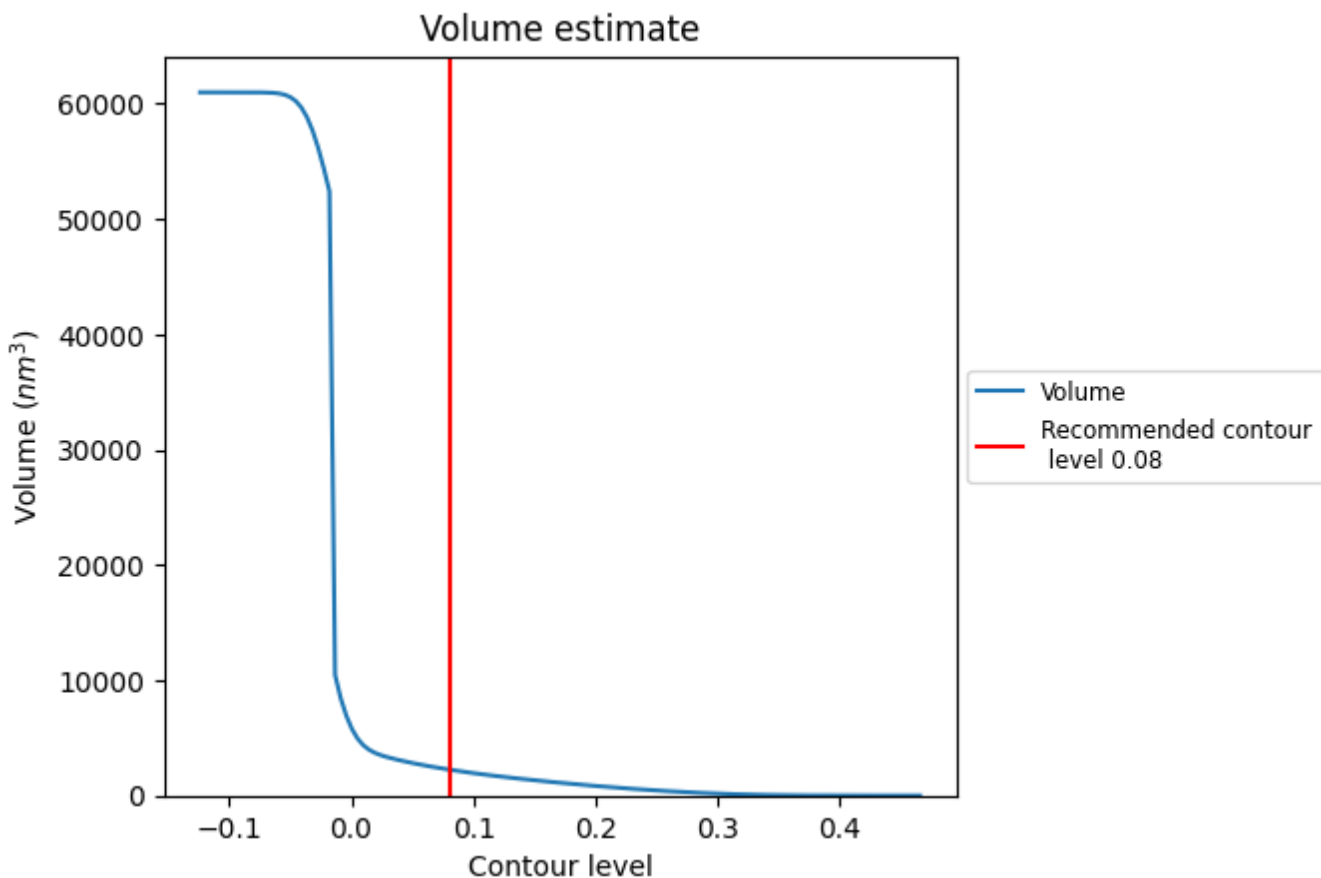
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

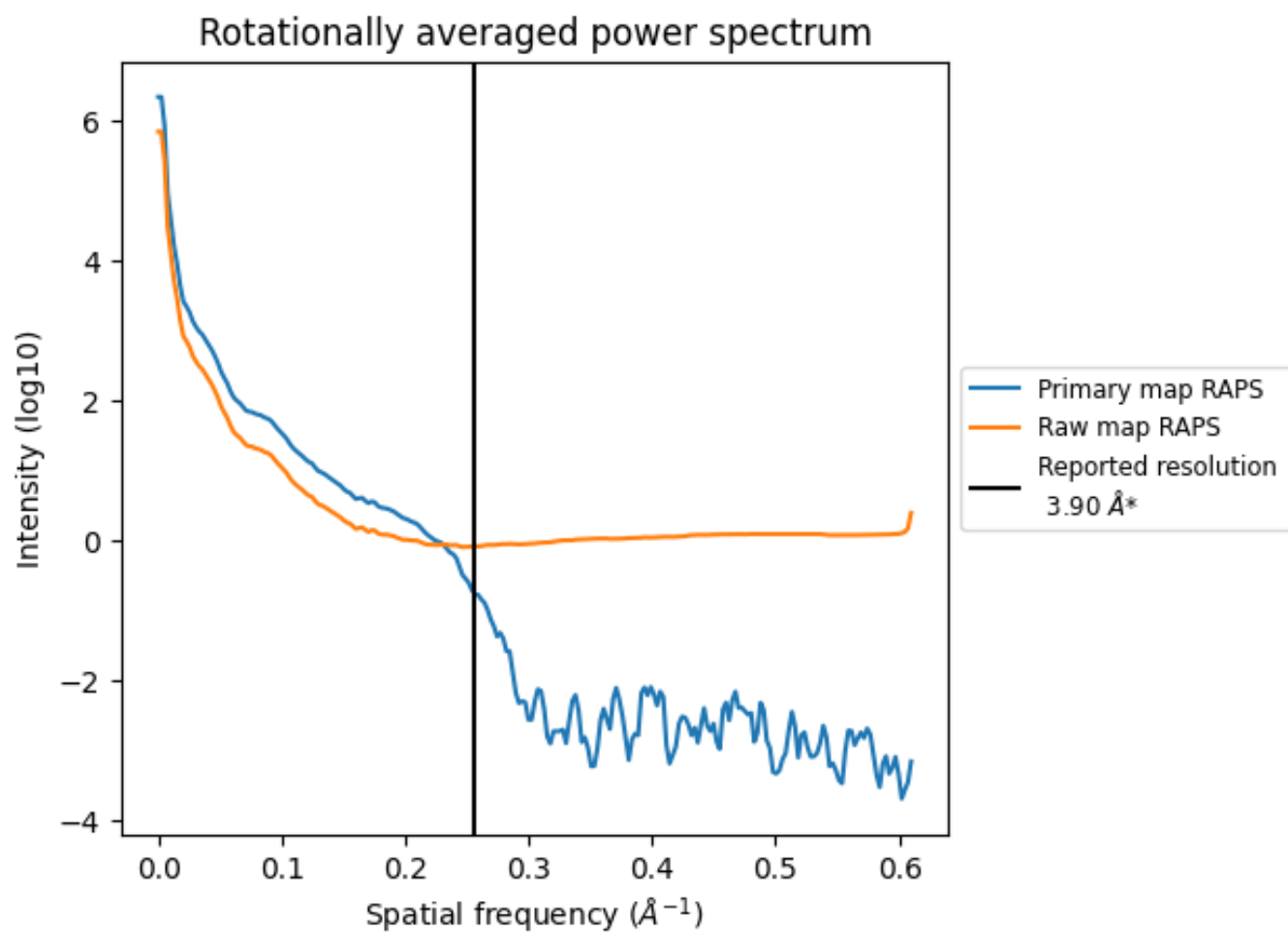
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2253 nm³; this corresponds to an approximate mass of 2035 kDa.

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

7.3 Rotationally averaged power spectrum i

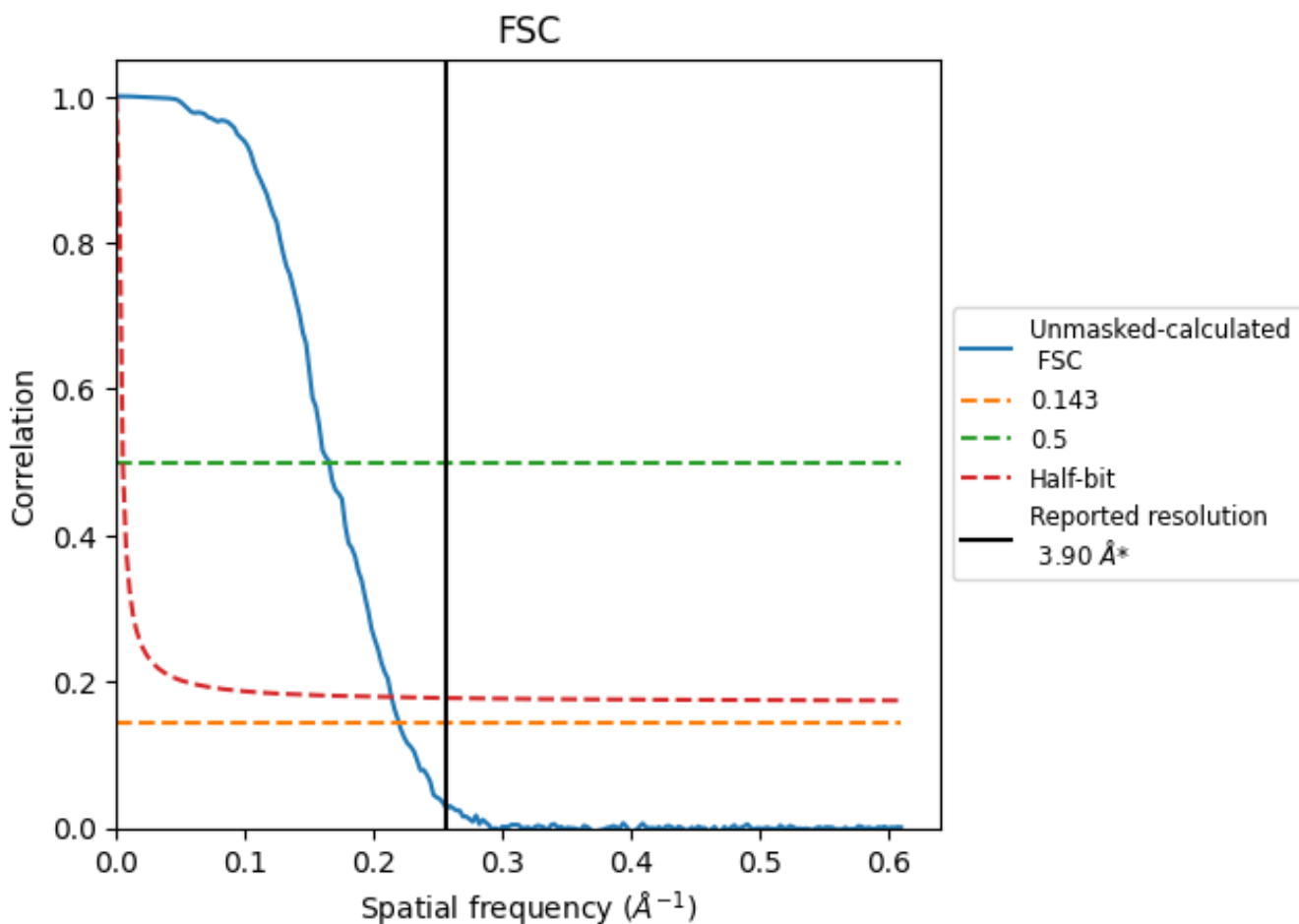


*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.256 Å⁻¹

8.2 Resolution estimates [i](#)

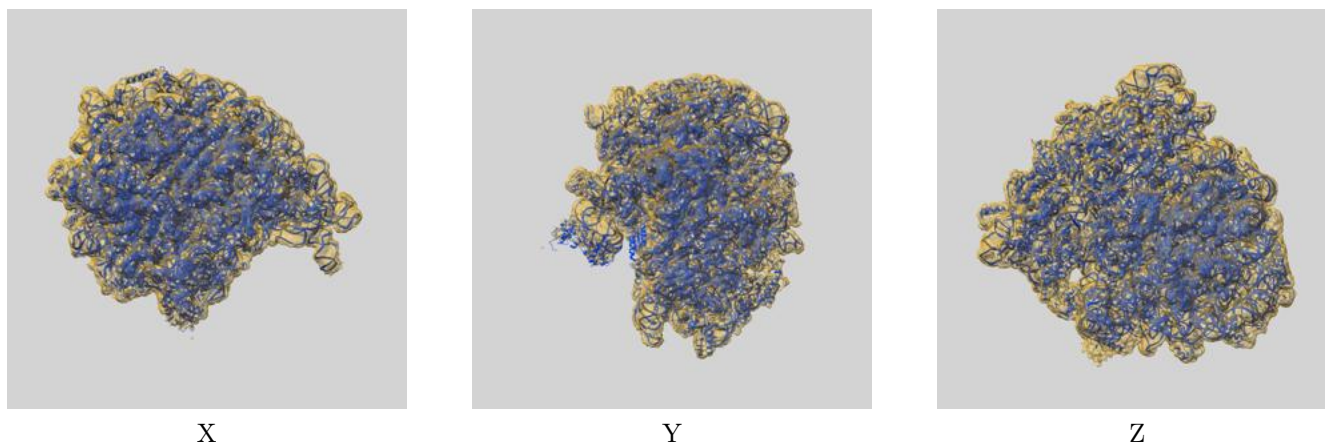
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.90	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.55	6.05	4.68

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.55 differs from the reported value 3.9 by more than 10 %

9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-8279 and PDB model 5KPS. Per-residue inclusion information can be found in section 3 on page 15.

9.1 Map-model overlay [i](#)

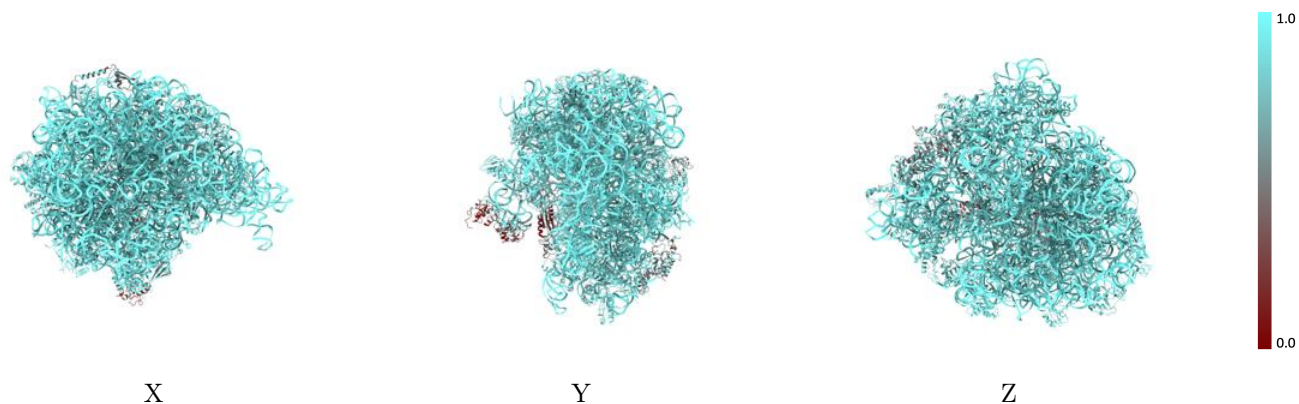


The images above show the 3D surface view of the map at the recommended contour level 0.08 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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

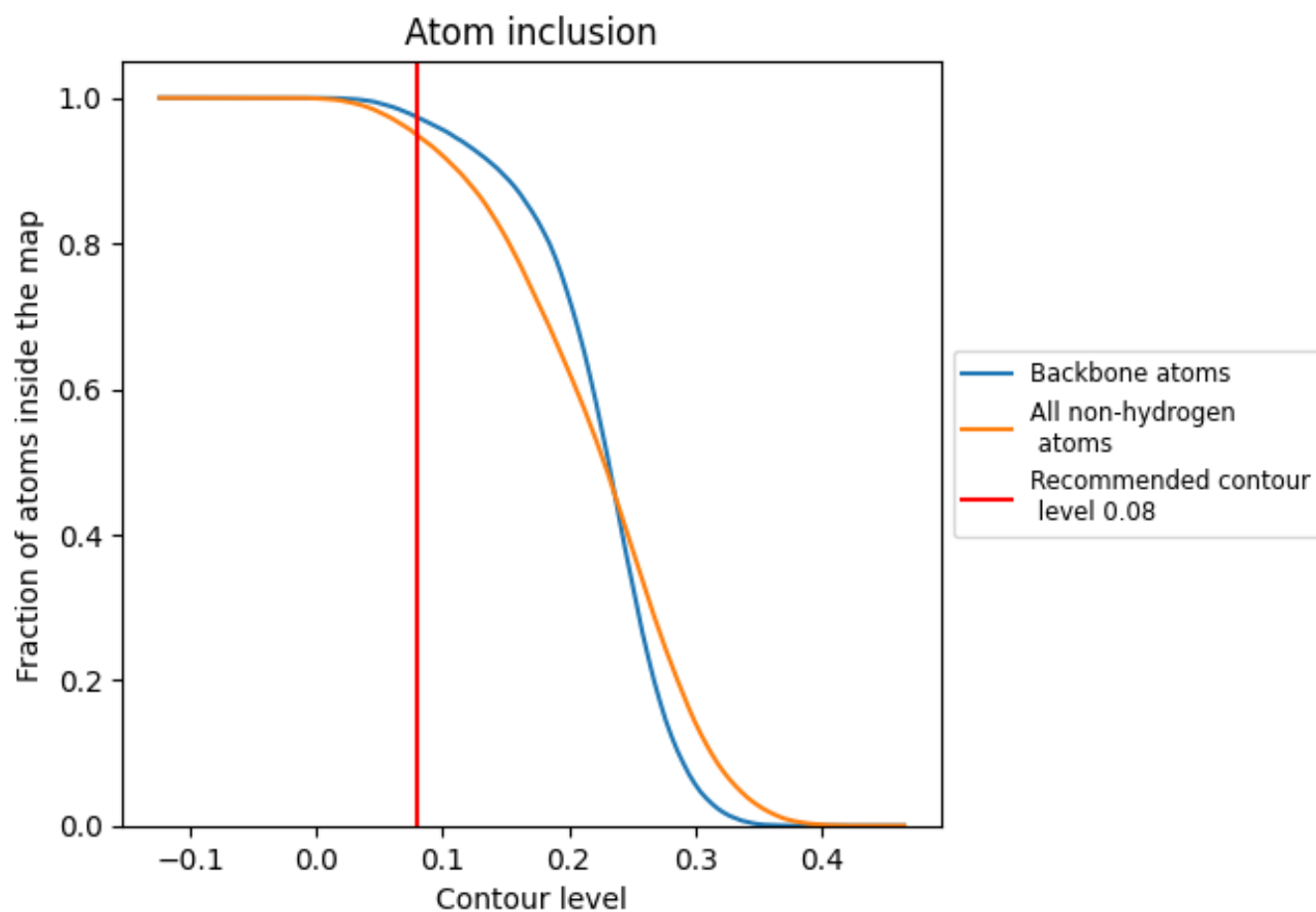
This section was not generated.

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.08).




































9.4 Atom inclusion [i](#)



At the recommended contour level, 97% of all backbone atoms, 95% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

























The table lists the average atom inclusion at the recommended contour level (0.08) and Q-score for the entire model and for each chain.

Chain	Atom inclusion
All	 0.9490
1	 0.9198
10	 0.9012
11	 0.9196
12	 0.8995
13	 0.9062
14	 0.9265
15	 0.8371
16	 0.9290
17	 0.8686
18	 0.9201
19	 0.8992
2	 0.9206
20	 0.9290
21	 0.9314
22	 0.9209
23	 0.9514
24	 0.9114
25	 0.9169
26	 0.8124
27	 0.9962
28	 0.9954
29	 0.9988
3	 0.8903
30	 0.8814
31	 0.9848
32	 0.9410
4	 0.9268
5	 0.9185
6	 0.9281
7	 0.5331
8	 0.8523
9	 0.8912
A	 0.2626
B	 0.9167



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Chain	Atom inclusion
C	 0.9233
D	 0.8757
E	 0.9199
F	 0.9337
G	 0.6670
H	 0.3171
I	 0.4129
J	 0.9082
K	 0.8894
L	 0.9232
M	 0.8906
N	 0.9252
O	 0.9432
P	 0.9133
Q	 0.9328
R	 0.9222
S	 0.8684
T	 0.9072
U	 0.9166
V	 0.9255
W	 0.9195
X	 0.9151
Y	 0.9014
Z	 0.8970