Full wwPDB EM Validation Report ⓘ

Mar 26, 2026 – 09:43 AM UTC

PDB ID	:	7LV0 / pdb_00007lv0
EMDB ID	:	EMD-23528
Title	:	Pre-translocation rotated ribosome +1-frameshifting(CCC-A) complex (Structure Irot-FS)
Authors	:	Demo, G.; Loveland, A.B.; Svidritskiy, E.; Gamper, H.B.; Hou, Y.M.; Korostelev, A.A.
Deposited on	:	2021-02-23
Resolution	:	3.20 Å(reported)
Based on initial models	:	6ENJ, 4V9P, 4V7D, 5UYM

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

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

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

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

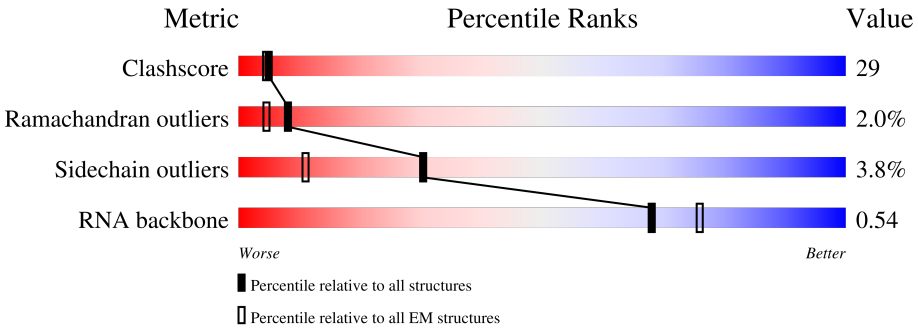
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

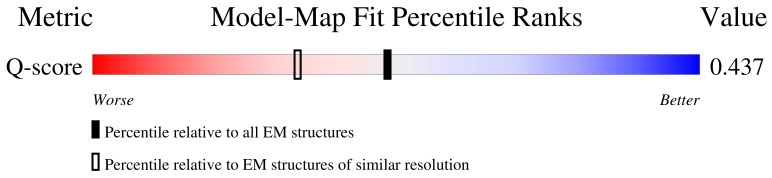
1 Overall quality at a glance

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

The reported resolution of this entry is 3.20 Å.

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





Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15020 (2.70 - 3.70)

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 <=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	b	271	36% 54% 9%
2	c	209	46% 46% 7%

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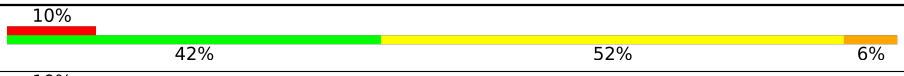
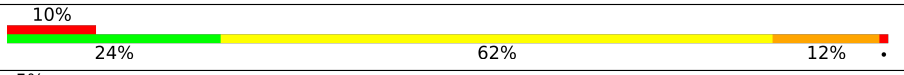
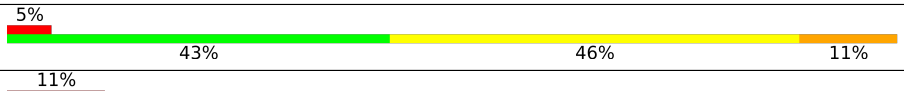
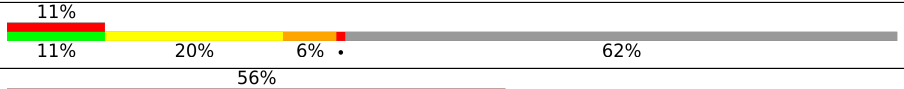
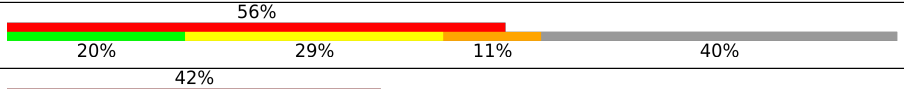
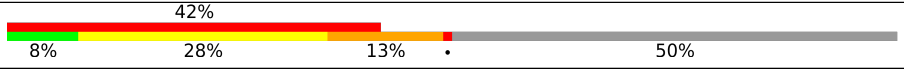
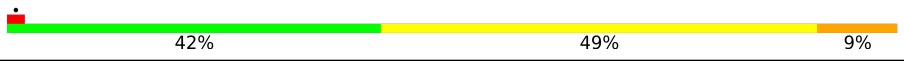
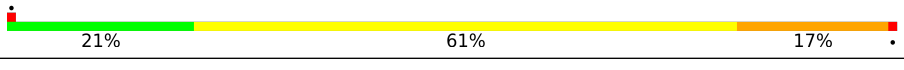
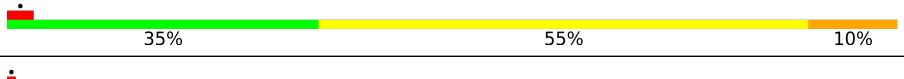
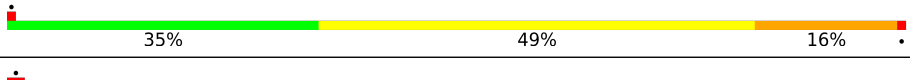
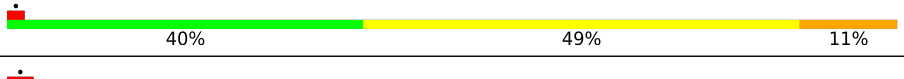
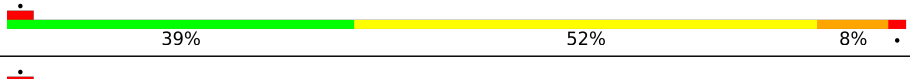
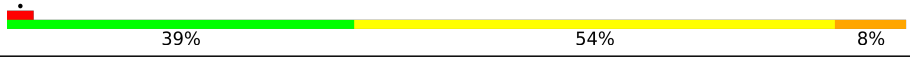
Mol	Chain	Length	Quality of chain
3	d	201	
4	e	177	
5	f	176	
6	g	149	
7	h	131	
8	i	141	
9	j	142	
10	k	122	
11	l	143	
12	m	136	
13	n	120	
14	o	116	
15	p	114	
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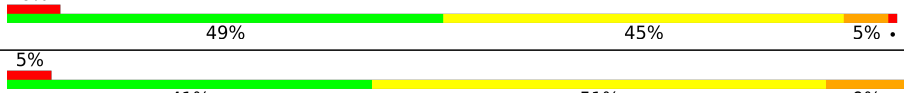
17	r	103	
18	s	110	
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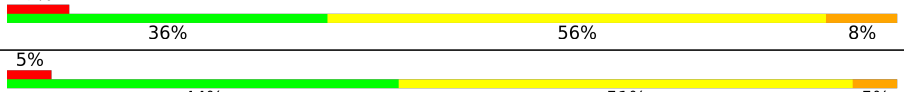
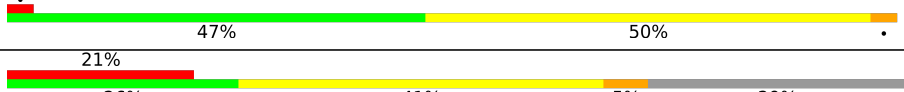
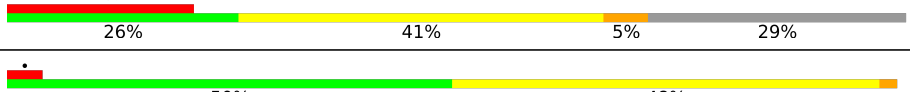
20	u	102	
21	v	94	
22	w	75	
23	x	77	
24	y	63	
25	z	58	
26	A	66	
27	B	56	

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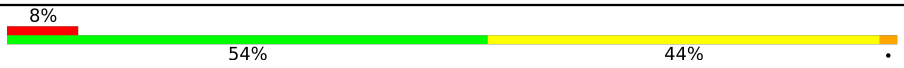
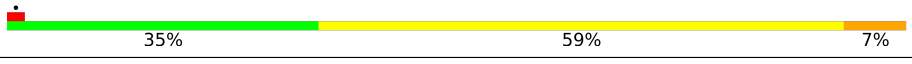
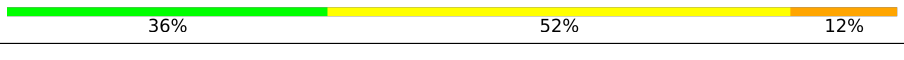
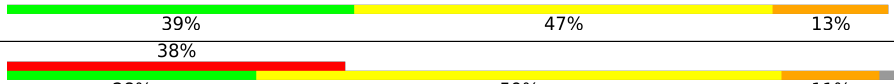
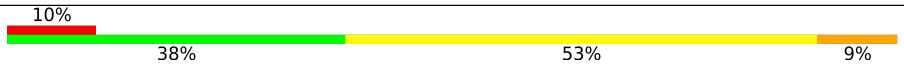
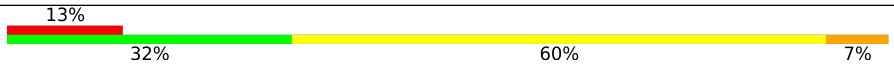
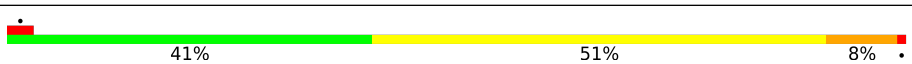
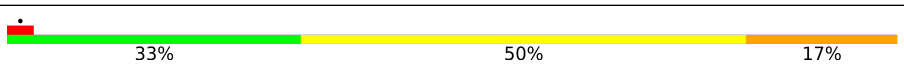
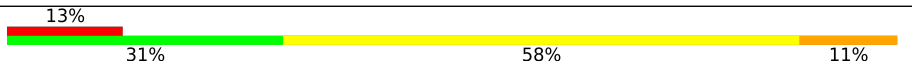
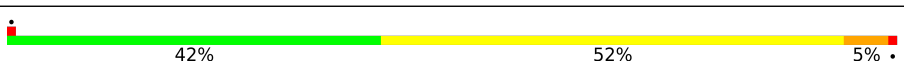
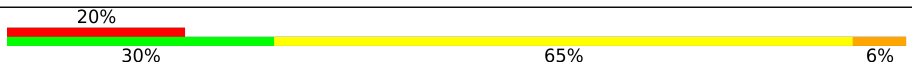
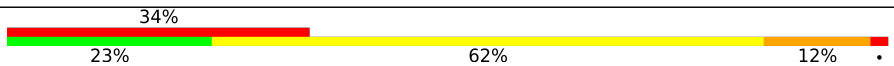
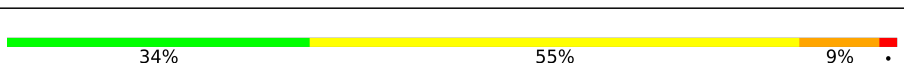
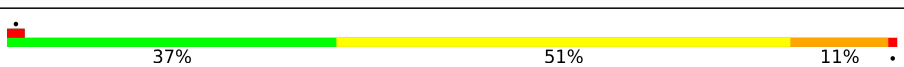
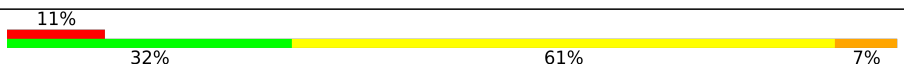
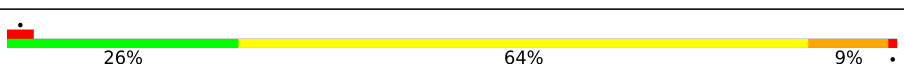
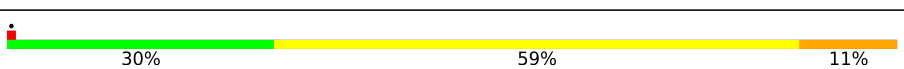
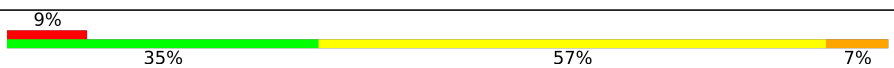
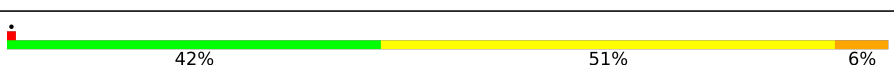
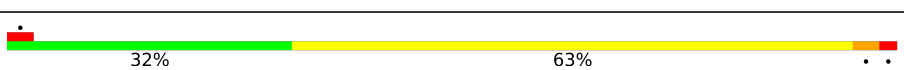
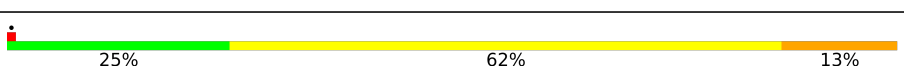
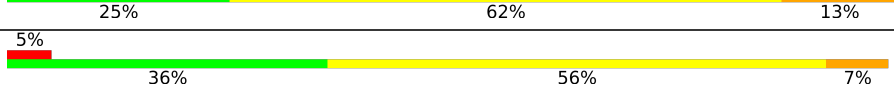
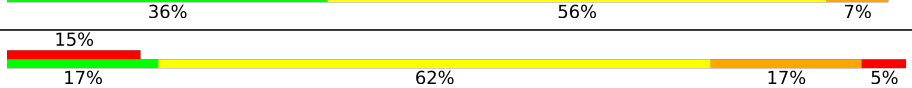
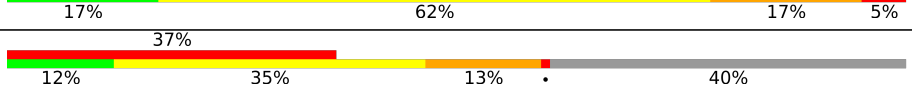
Mol	Chain	Length	Quality of chain
28	C	50	
29	D	46	
30	E	64	
31	F	38	
32	G	225	
33	H	206	
34	I	205	
35	J	157	
36	K	100	
37	L	151	
38	M	129	
39	N	127	
40	O	98	
41	P	116	
42	Q	123	
43	R	114	
44	S	100	
45	T	88	
46	U	82	
47	V	80	
48	W	65	
49	X	79	
50	Y	85	
51	Z	65	
52	a	223	

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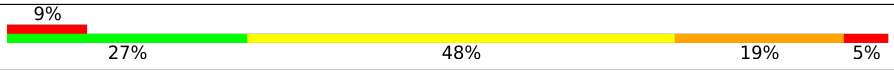
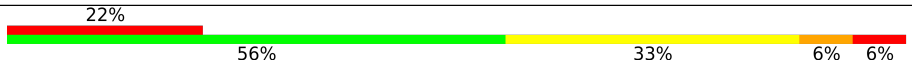
Mol	Chain	Length	Quality of chain
53	3	1539	
54	1	2903	
55	2	120	
56	5	77	
57	6	77	
58	4	18	

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 147330 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 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	b	271	2083	1288	423	365	7	0	0

- Molecule 2 is a protein called 50S ribosomal protein L3.

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

- Molecule 3 is a protein called 50S ribosomal protein L4.

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

- Molecule 4 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	e	177	1411	899	249	257	6	0	0

- Molecule 5 is a protein called 50S ribosomal protein L6.

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

- Molecule 6 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	g	57	440	281	79	79	1	0	0

- Molecule 7 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	h	79	Total	C	N	O	S	0	0
			593	369	109	111	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	i	71	Total	C	N	O	S	0	0
			511	313	93	102	3		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	k	122	Total	C	N	O	S	0	0
			939	587	180	166	6		

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
13	n	120	Total	C	N	O	S	0	0
			961	593	196	167	5		

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
19	t	93	Total 739	C 466	N 139	O 132	S 2	0	0

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

Mol	Chain	Residues	Atoms				AltConf	Trace
20	u	102	Total 780	C 492	N 146	O 142	0	0

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

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

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

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

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

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

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

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

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

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

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	A	47	Total	C	N	O	S	0	0
			364	227	64	67	6		

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
28	C	50	Total	C	N	O	0	0
			410	263	75	72		

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

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

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

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

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

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

- Molecule 32 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	G	218	Total	C	N	O	S	0	0
			1705	1081	305	312	7		

- Molecule 33 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	H	206	Total	C	N	O	S	0	0
			1625	1028	305	289	3		

- Molecule 34 is a protein called 30S ribosomal protein S4.

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

- Molecule 35 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	J	157	Total	C	N	O	S	0	0
			1157	719	218	214	6		

- Molecule 36 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	K	100	Total	C	N	O	S	0	0
			818	515	148	149	6		

- Molecule 37 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	L	151	Total	C	N	O	S	0	0
			1182	735	227	216	4		

- Molecule 38 is a protein called 30S ribosomal protein S8.

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

- Molecule 39 is a protein called 30S ribosomal protein S9.

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

- Molecule 40 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	O	98	Total	C	N	O	S	0	0
			787	493	150	143	1		

- Molecule 41 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	P	116	Total	C	N	O	S	0	0
			870	535	173	159	3		

- Molecule 42 is a protein called 30S ribosomal protein S12.

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

- Molecule 43 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	R	114	Total	C	N	O	S	0	0
			884	546	178	157	3		

- Molecule 44 is a protein called 30S ribosomal protein S14.

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

- Molecule 45 is a protein called 30S ribosomal protein S15.

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

- Molecule 46 is a protein called 30S ribosomal protein S16.

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

- Molecule 47 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	V	80	Total	C	N	O	S	0	0
			649	411	121	114	3		

- Molecule 48 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	W	65	Total	C	N	O	S	0	0
			536	339	100	96	1		

- Molecule 49 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	X	79	Total 638	C 408	N 120	O 108	S 2	0	0

- Molecule 50 is a protein called 30S ribosomal protein S20.

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

- Molecule 51 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Z	65	Total 545	C 335	N 117	O 92	S 1	0	0

- Molecule 52 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	a	134	Total 1027	C 645	N 186	O 194	S 2	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
53	3	1539	Total 33012	C 14725	N 6052	O 10697	P 1538	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
54	1	2903	Total 62317	C 27801	N 11468	O 20146	P 2902	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	747	C	U	conflict	GB 802133627

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

Mol	Chain	Residues	Atoms					AltConf	Trace
55	2	120	Total	C	N	O	P	0	0
			2568	1145	471	833	119		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
2	120	A	-	insertion	GB 1266961702

- Molecule 56 is a RNA chain called tRNAPro.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	5	77	Total	C	N	O	P	0	0
			1647	733	295	542	77		

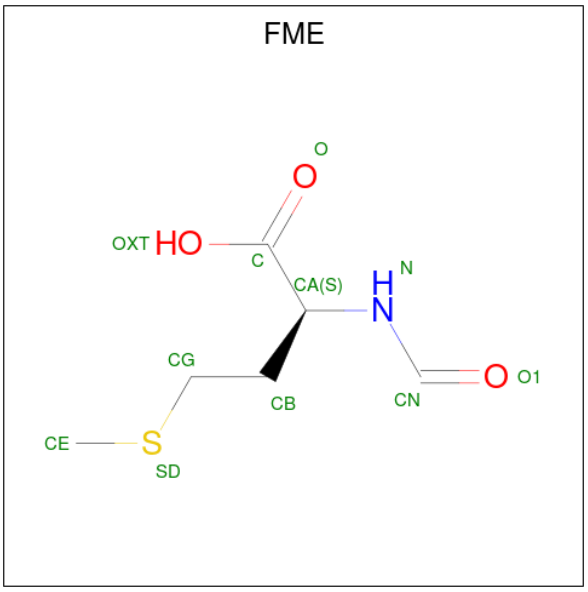
- Molecule 57 is a RNA chain called tRNAfMet.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	6	77	Total	C	N	O	P	0	0
			1640	732	297	535	76		

- Molecule 58 is a RNA chain called mRNA.

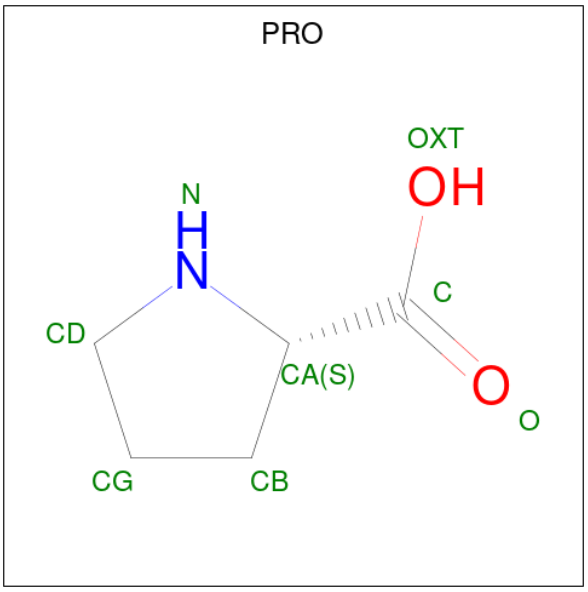
Mol	Chain	Residues	Atoms					AltConf	Trace
58	4	18	Total	C	N	O	P	0	0
			388	175	78	118	17		

- Molecule 59 is N-FORMYLMETHIONINE (CCD ID: FME) (formula: $C_6H_{11}NO_3S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
59	1	1	Total	C	N	O	S	0
			10	6	1	2	1	

- Molecule 60 is PROLINE (CCD ID: PRO) (formula: $C_5H_9NO_2$) (labeled as "Ligand of Interest" by depositor).



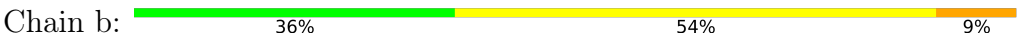
Mol	Chain	Residues	Atoms				AltConf
60	5	1	Total	C	N	O	0
			7	5	1	1	

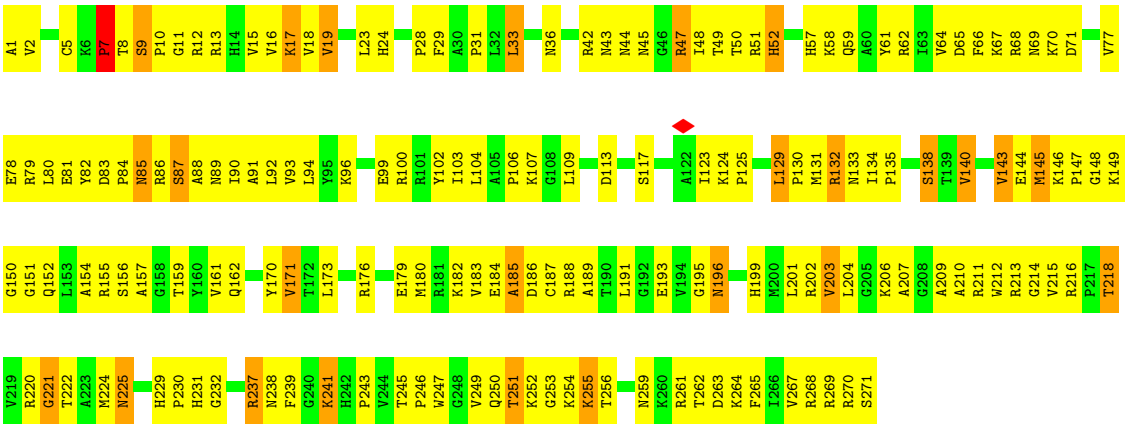
3 Residue-property plots (i)

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: 50S ribosomal protein L2

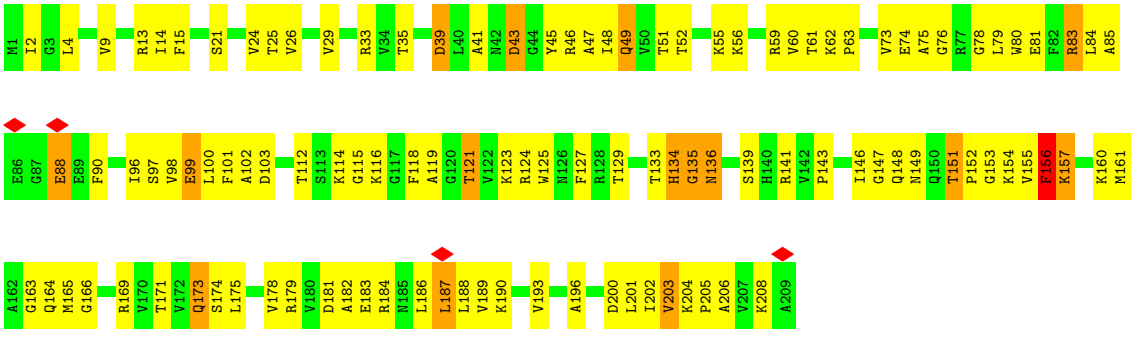
Chain b:





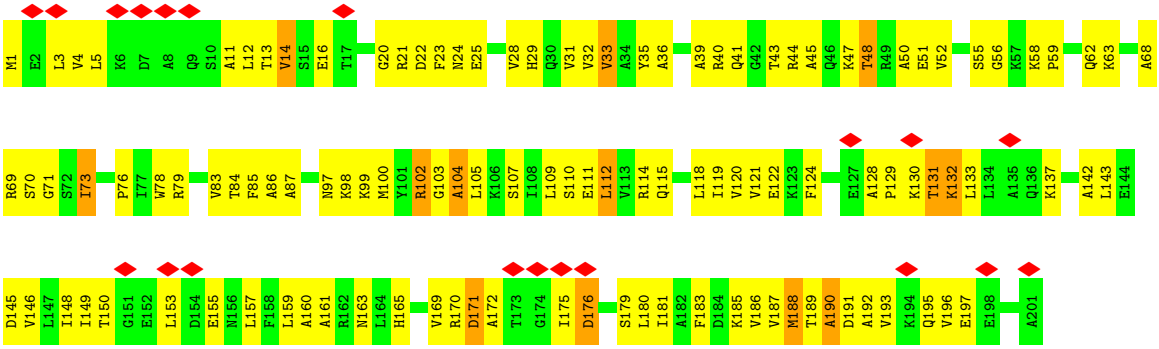
• Molecule 2: 50S ribosomal protein L3

Chain c:



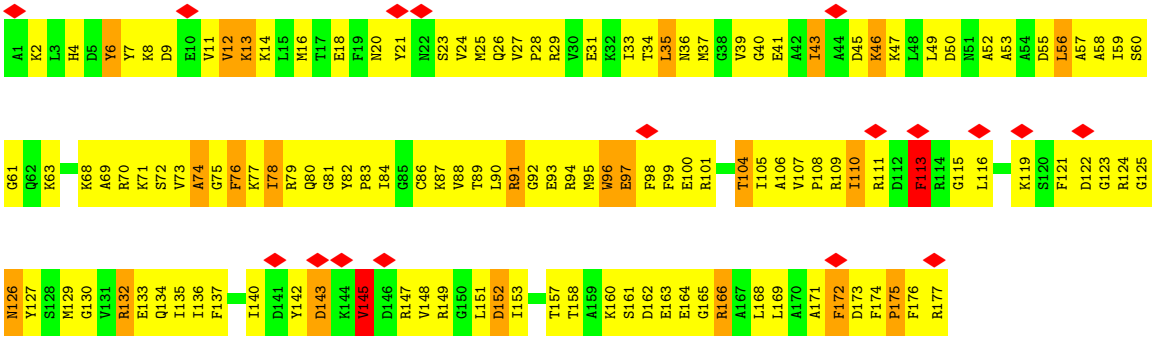
• Molecule 3: 50S ribosomal protein L4

Chain d:



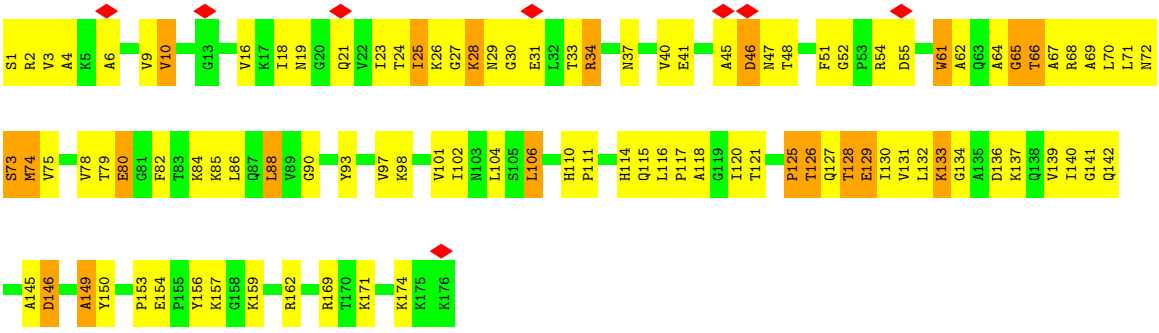
• Molecule 4: 50S ribosomal protein L5

Chain e:



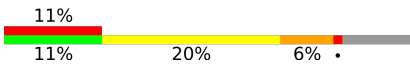
• Molecule 5: 50S ribosomal protein L6

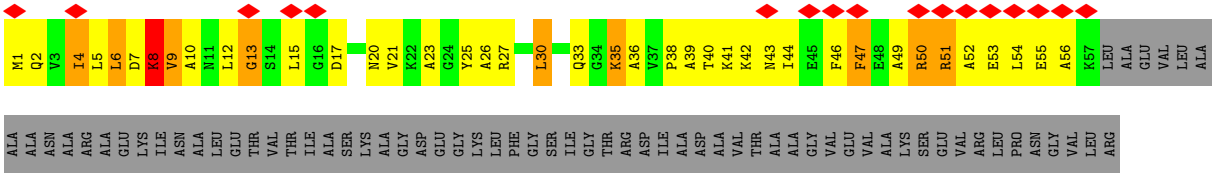
Chain f:

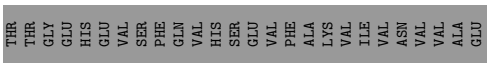


• Molecule 6: 50S ribosomal protein L9

Chain g:

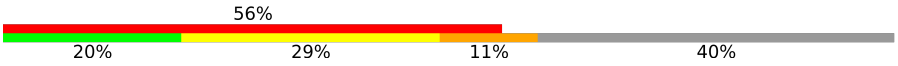


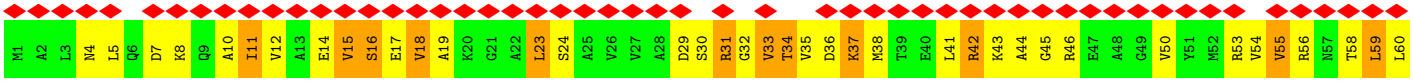


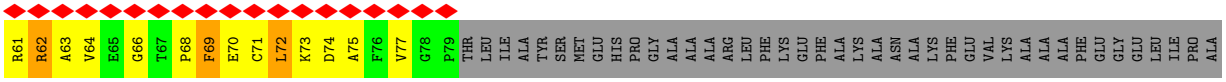


• Molecule 7: 50S ribosomal protein L10

Chain h:

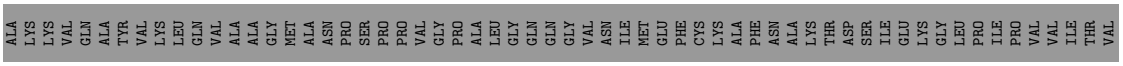


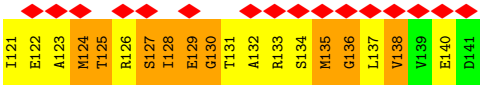




• Molecule 8: 50S ribosomal protein L11

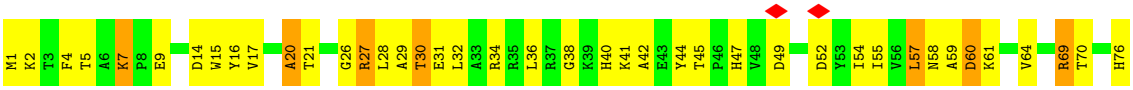
Chain i:





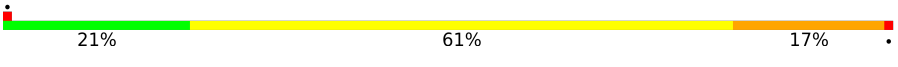
• Molecule 9: 50S ribosomal protein L13

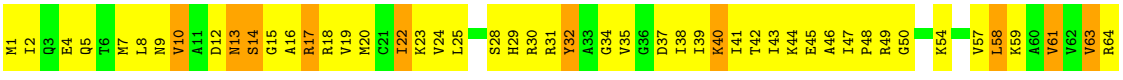
Chain j:

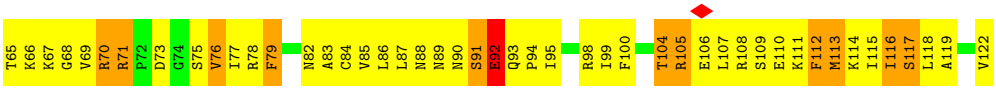


• Molecule 10: 50S ribosomal protein L14

Chain k:

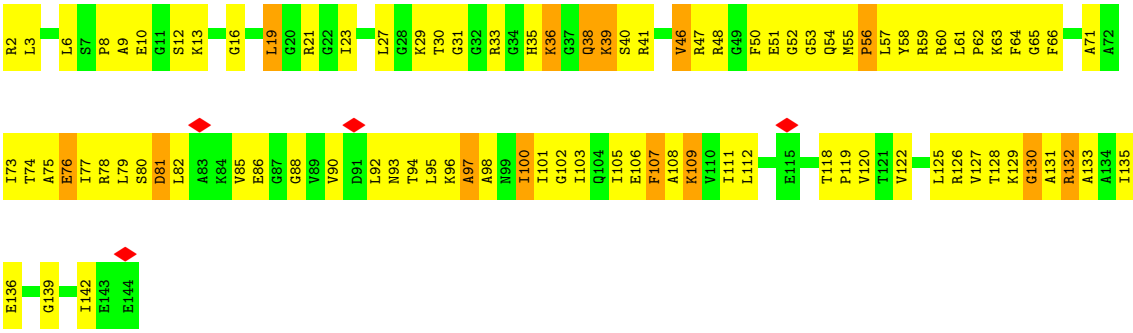






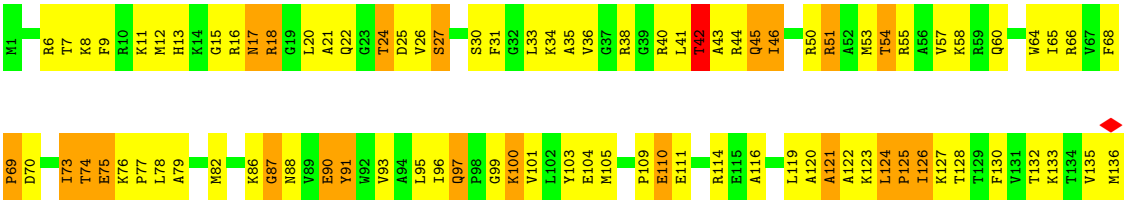
• Molecule 11: 50S ribosomal protein L15

Chain l:



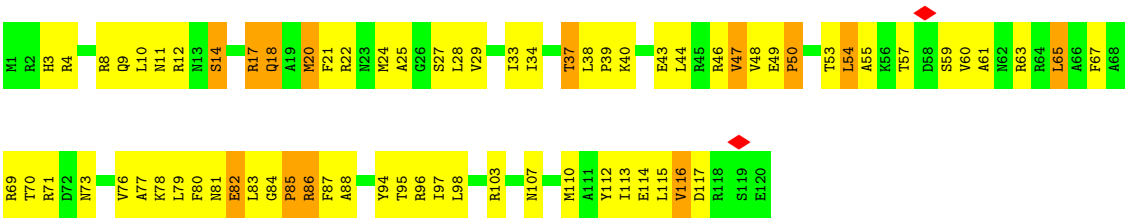
• Molecule 12: 50S ribosomal protein L16

Chain m:



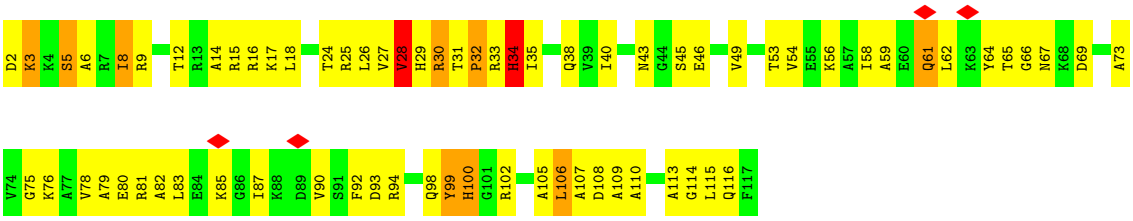
• Molecule 13: 50S ribosomal protein L17

Chain n:



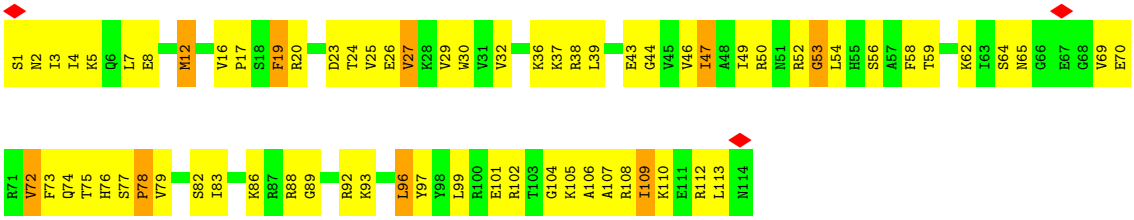
• Molecule 14: 50S ribosomal protein L18

Chain o:



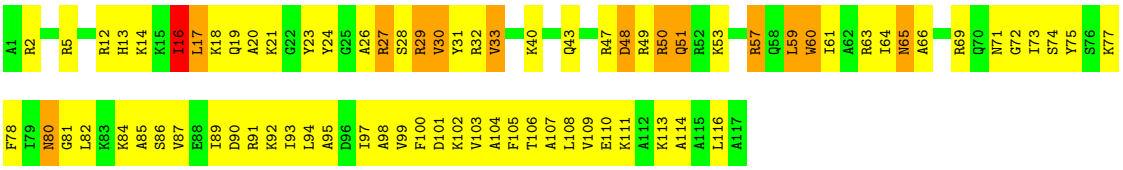
• Molecule 15: 50S ribosomal protein L19

Chain p:



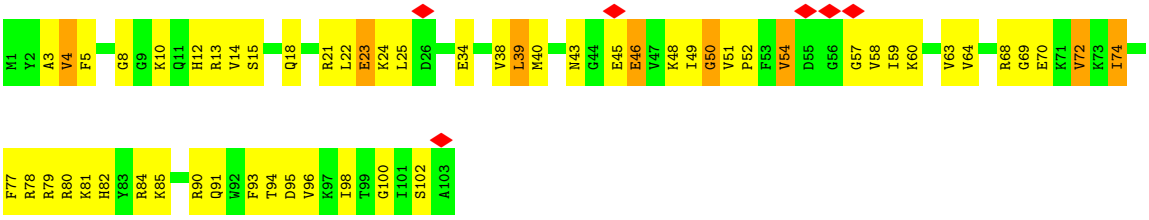
• Molecule 16: 50S ribosomal protein L20

Chain q:



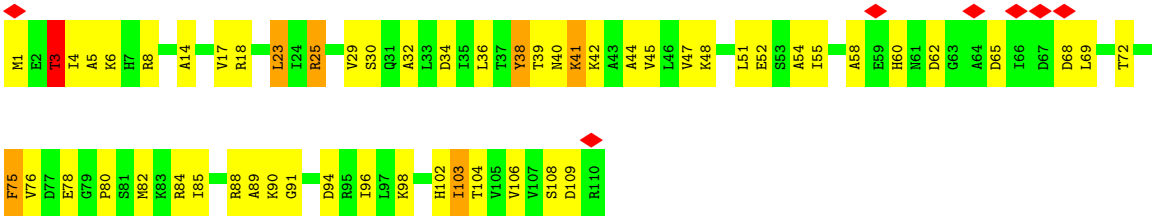
• Molecule 17: 50S ribosomal protein L21

Chain r:



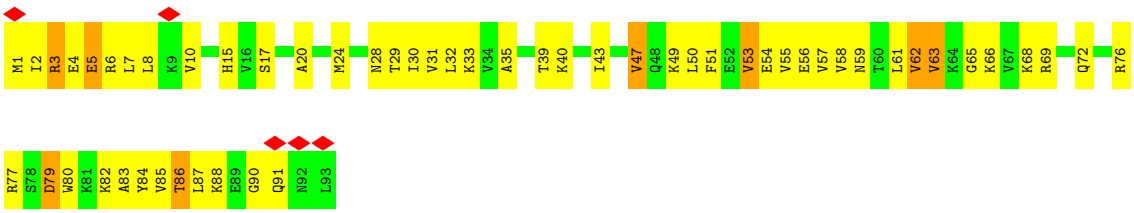
• Molecule 18: 50S ribosomal protein L22

Chain s:



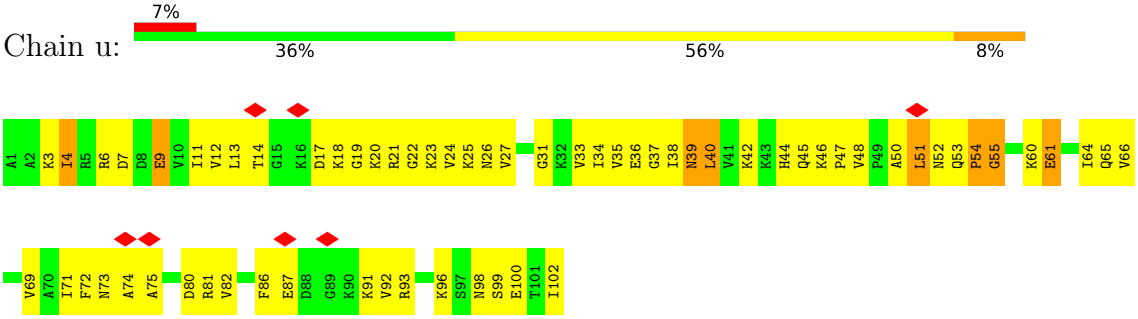
• Molecule 19: 50S ribosomal protein L23

Chain t:



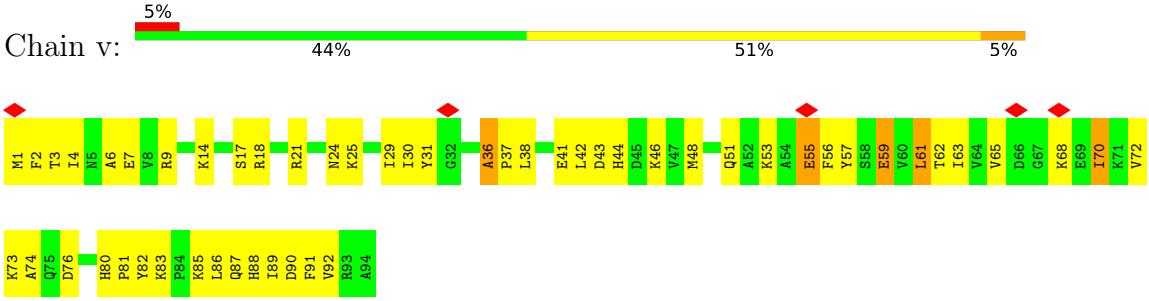
• Molecule 20: 50S ribosomal protein L24

Chain u:



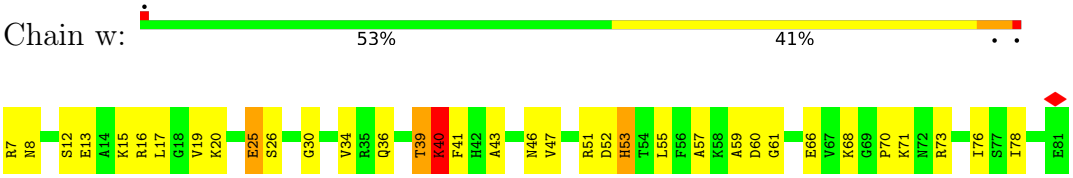
• Molecule 21: 50S ribosomal protein L25

Chain v:



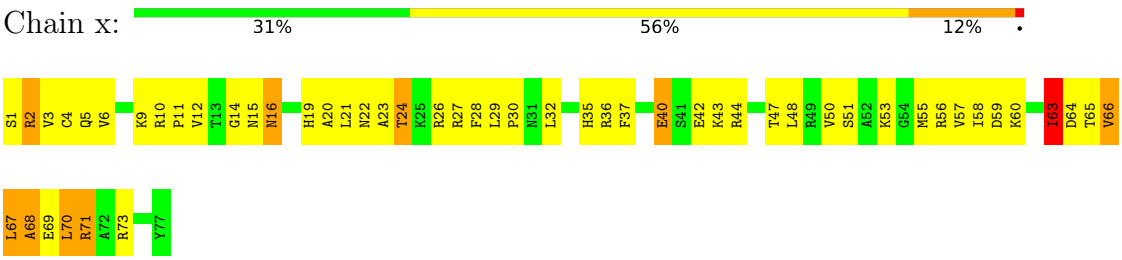
• Molecule 22: 50S ribosomal protein L27

Chain w:



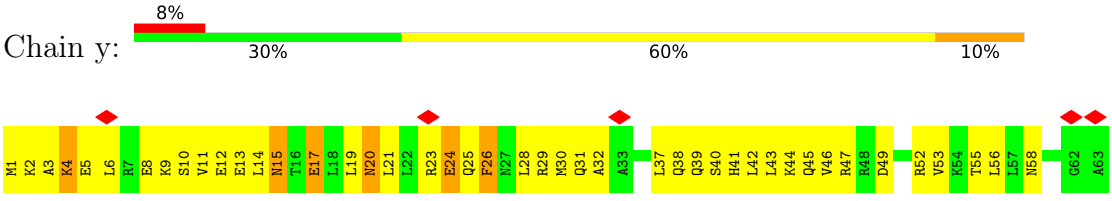
• Molecule 23: 50S ribosomal protein L28

Chain x:



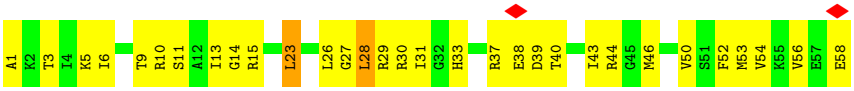
• Molecule 24: 50S ribosomal protein L29

Chain y:

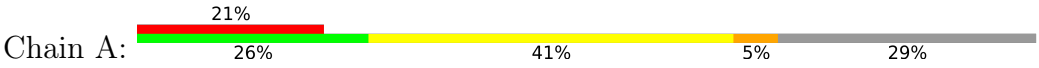


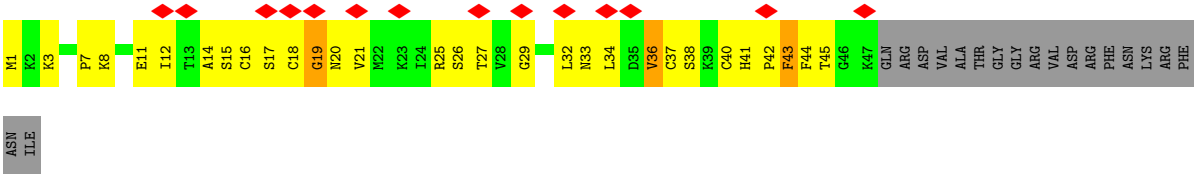
• Molecule 25: 50S ribosomal protein L30

Chain z:

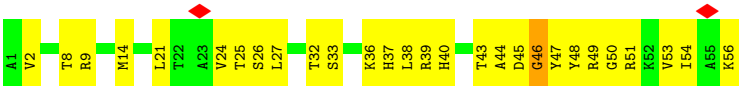


• Molecule 26: 50S ribosomal protein L31



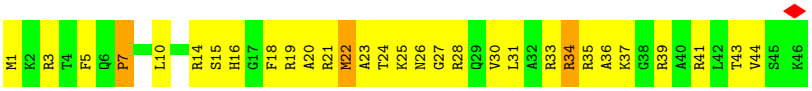


• Molecule 27: 50S ribosomal protein L32

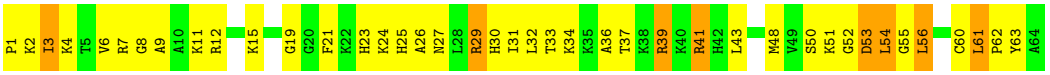


• Molecule 28: 50S ribosomal protein L33

• Molecule 29: 50S ribosomal protein L34



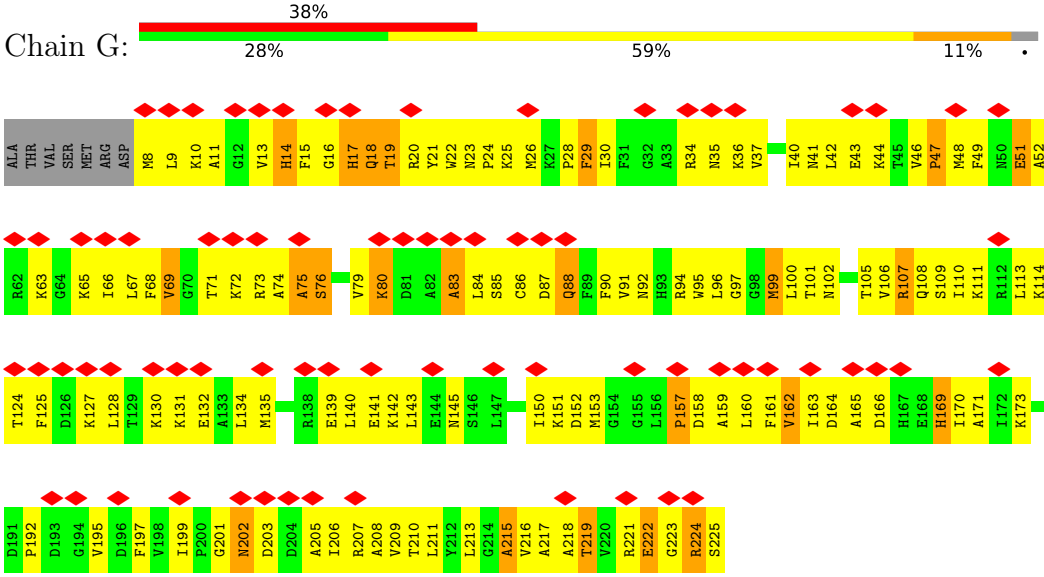
• Molecule 30: 50S ribosomal protein L35



• Molecule 31: 50S ribosomal protein L36

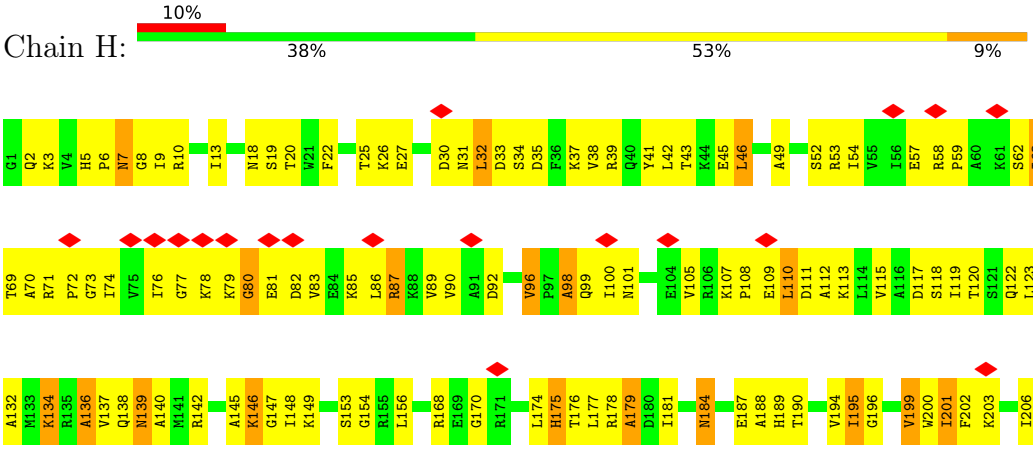
• Molecule 32: 30S ribosomal protein S2

Chain G:



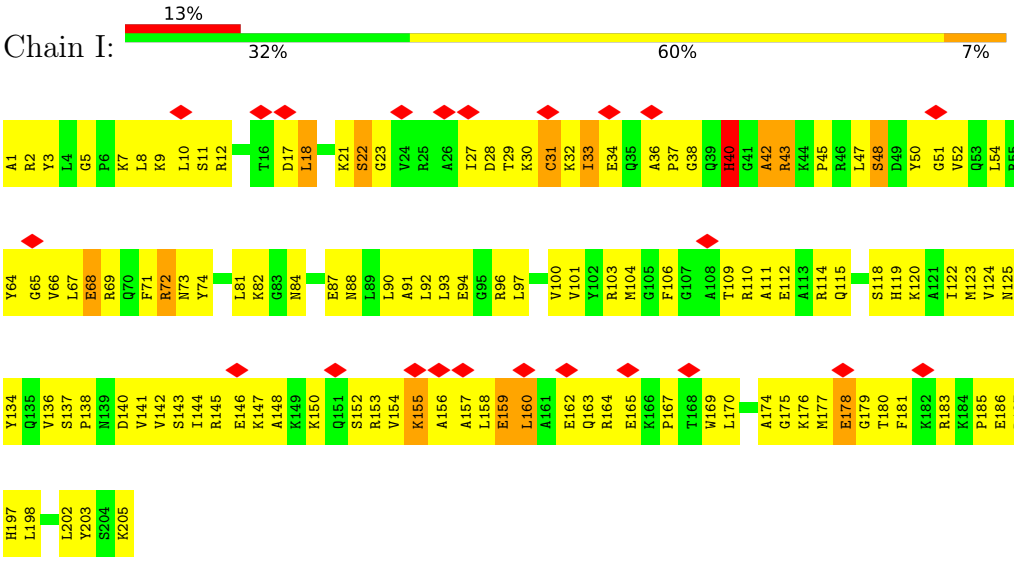
• Molecule 33: 30S ribosomal protein S3

Chain H:



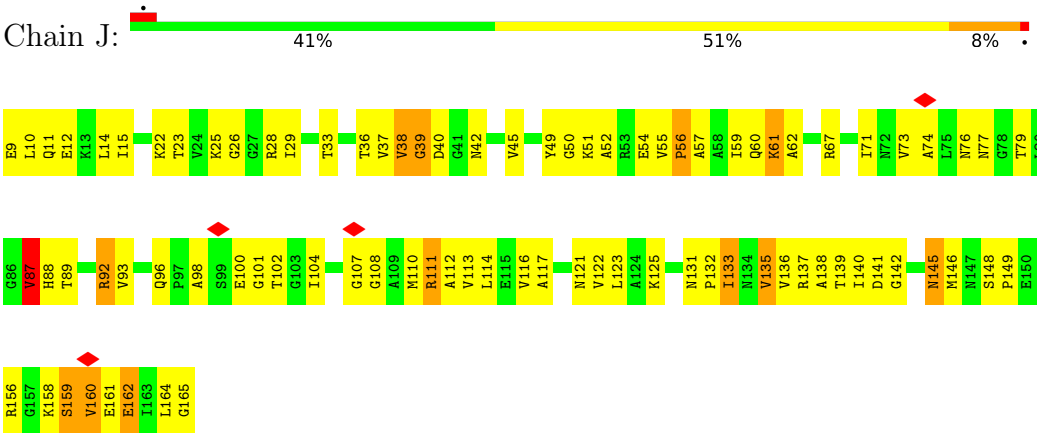
• Molecule 34: 30S ribosomal protein S4

Chain I:



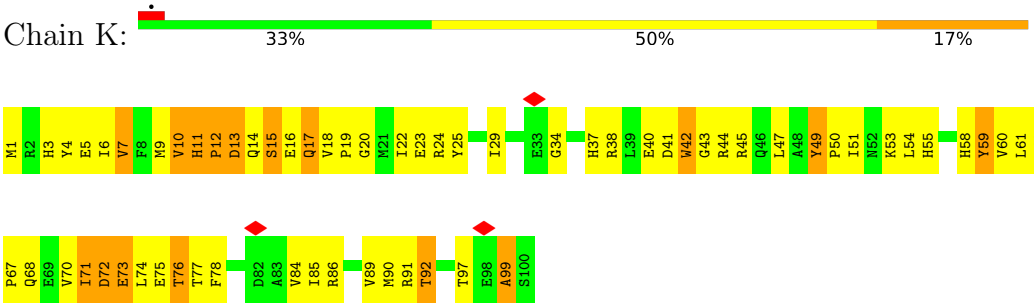
• Molecule 35: 30S ribosomal protein S5

Chain J:



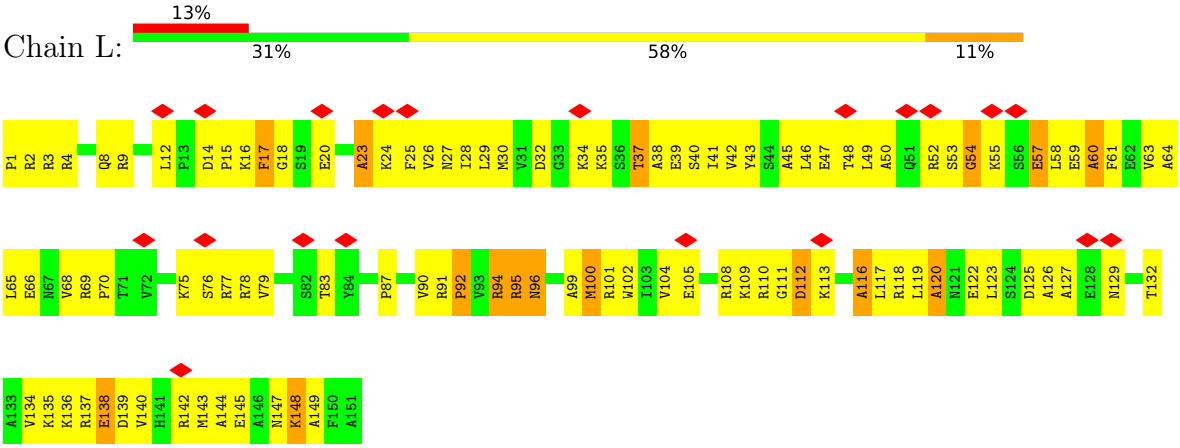
• Molecule 36: 30S ribosomal protein S6

Chain K:



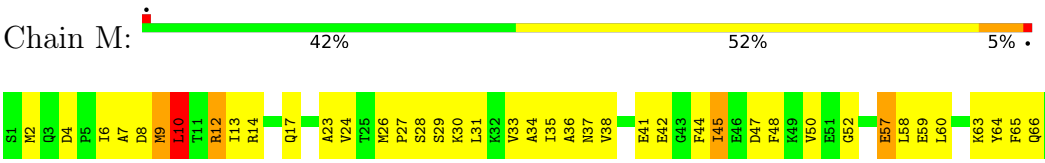
• Molecule 37: 30S ribosomal protein S7

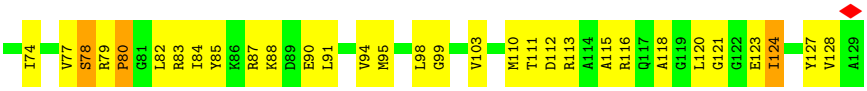
Chain L:



• Molecule 38: 30S ribosomal protein S8

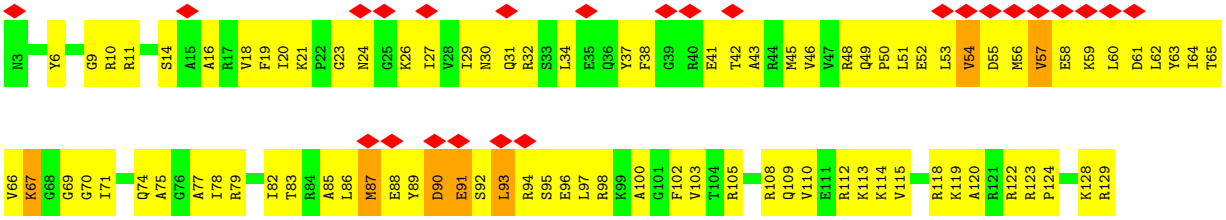
Chain M:





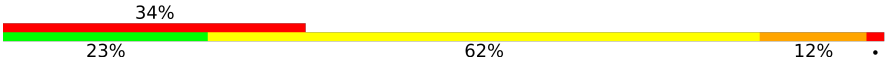
• Molecule 39: 30S ribosomal protein S9

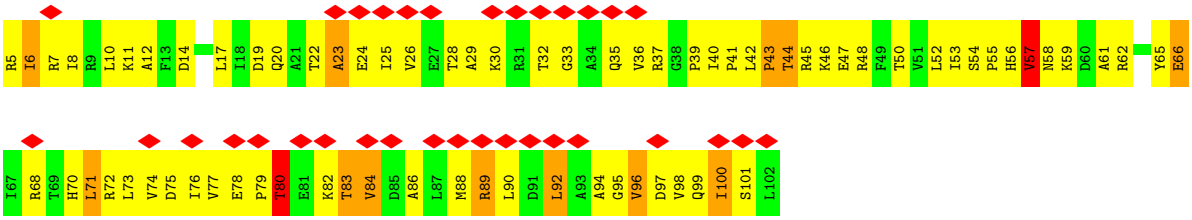
Chain N:



• Molecule 40: 30S ribosomal protein S10

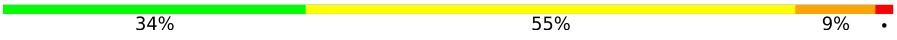
Chain O:

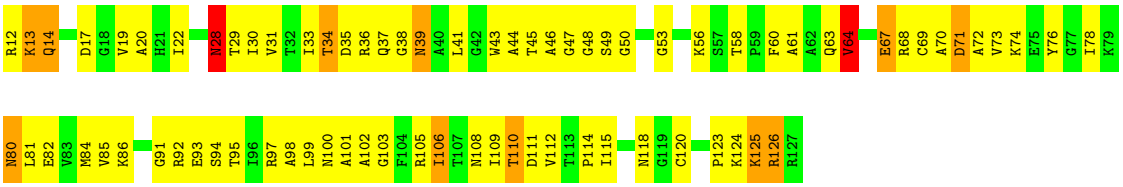




• Molecule 41: 30S ribosomal protein S11

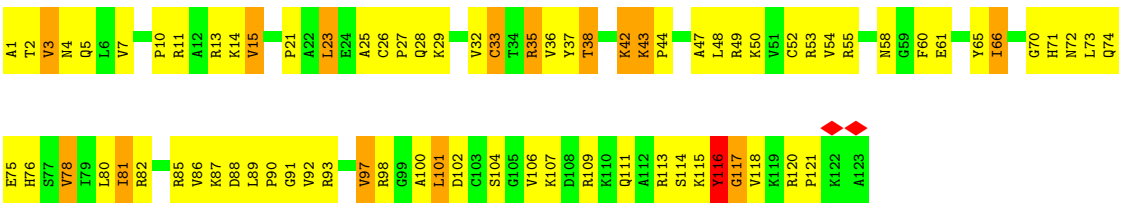
Chain P:





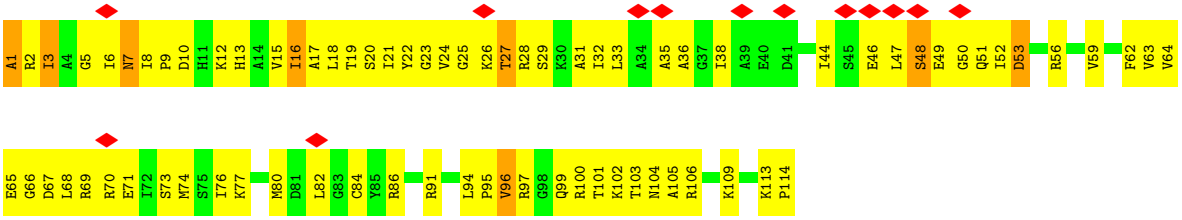
• Molecule 42: 30S ribosomal protein S12

Chain Q:

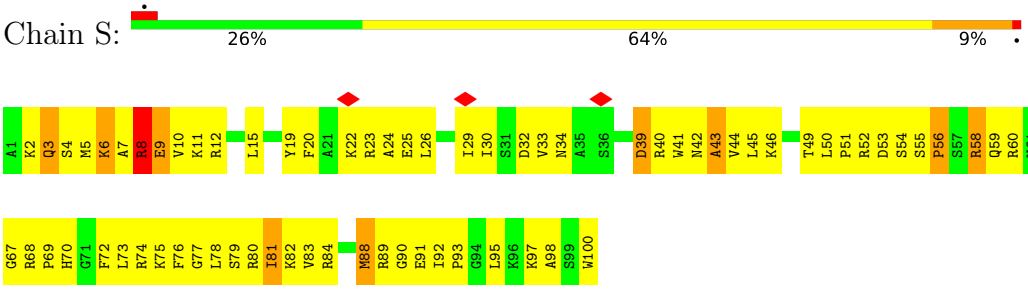


• Molecule 43: 30S ribosomal protein S13

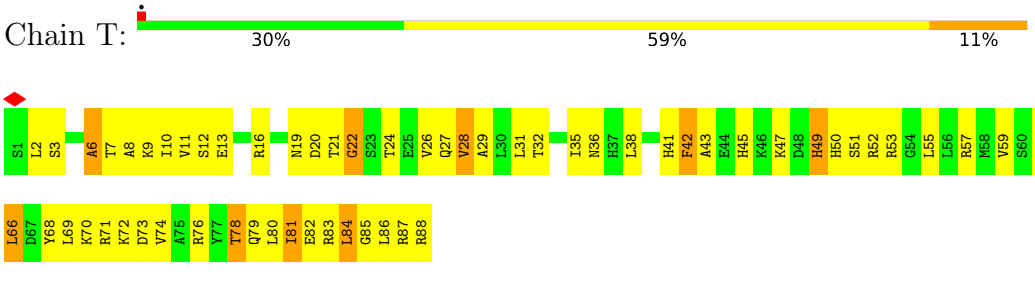
Chain R:



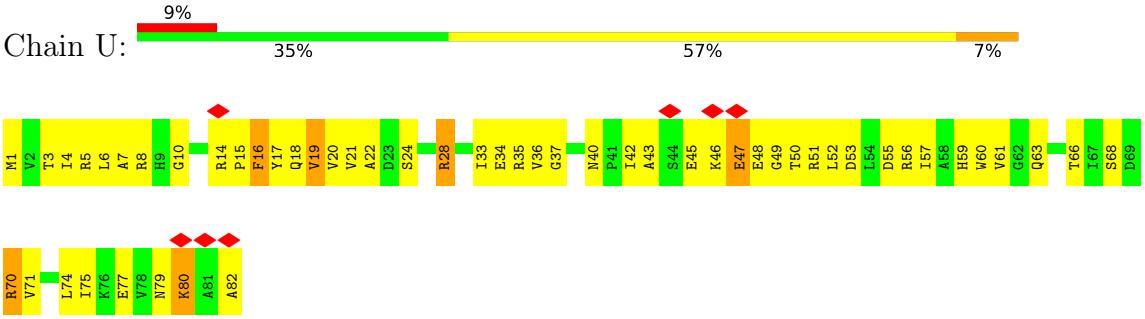
• Molecule 44: 30S ribosomal protein S14



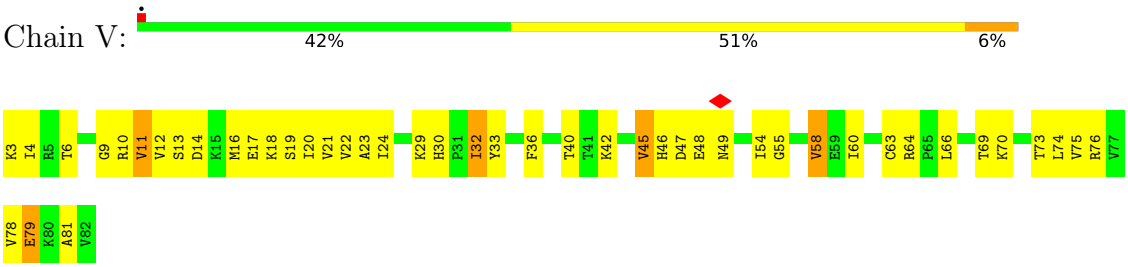
• Molecule 45: 30S ribosomal protein S15



• Molecule 46: 30S ribosomal protein S16



• Molecule 47: 30S ribosomal protein S17

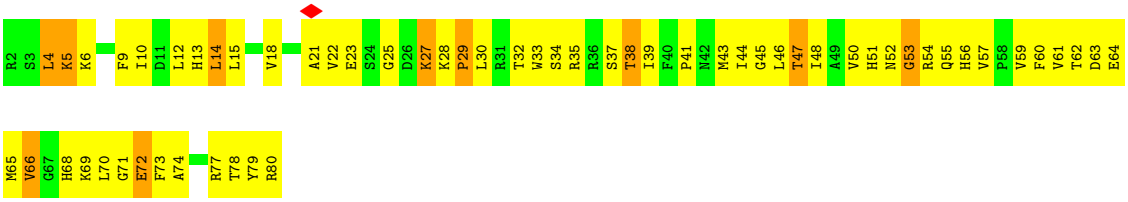


• Molecule 48: 30S ribosomal protein S18

Chain W:

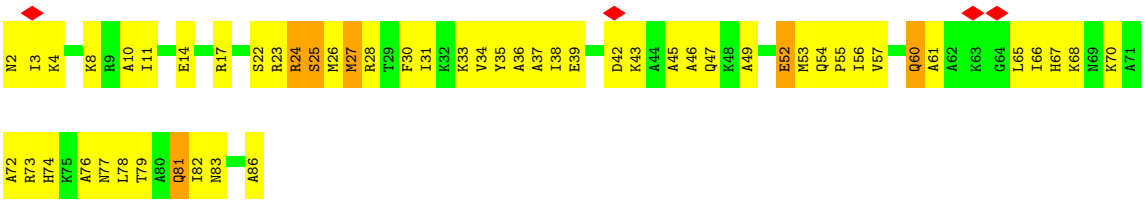
• Molecule 49: 30S ribosomal protein S19

Chain X:



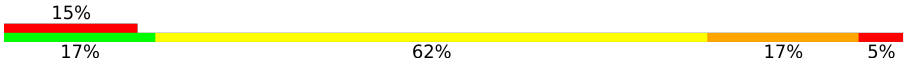
• Molecule 50: 30S ribosomal protein S20

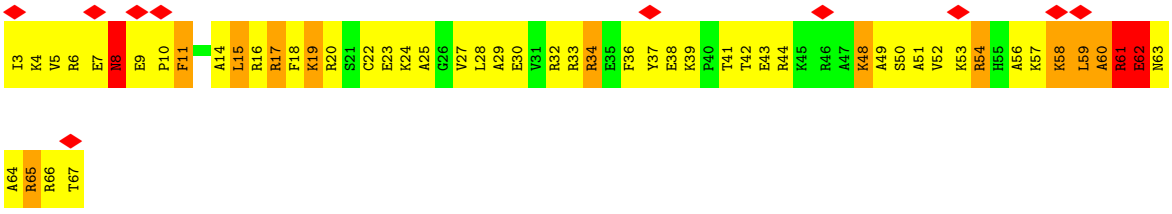
Chain Y:



• Molecule 51: 30S ribosomal protein S21

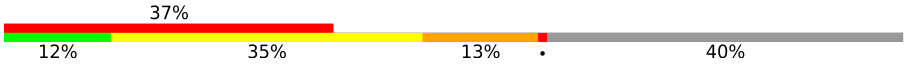
Chain Z:

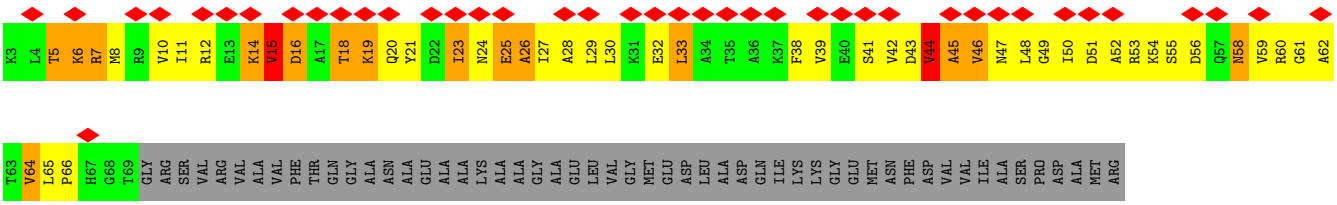


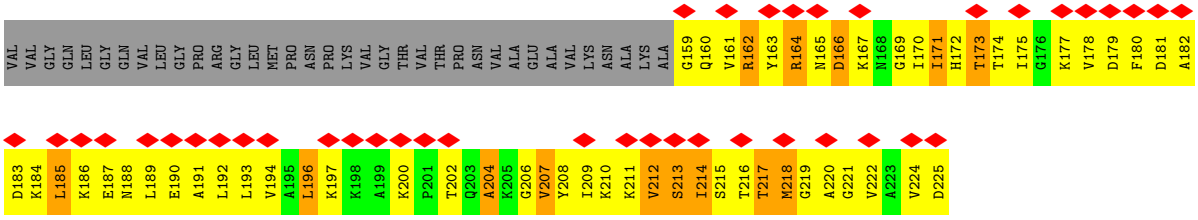


• Molecule 52: 50S ribosomal protein L1

Chain a:

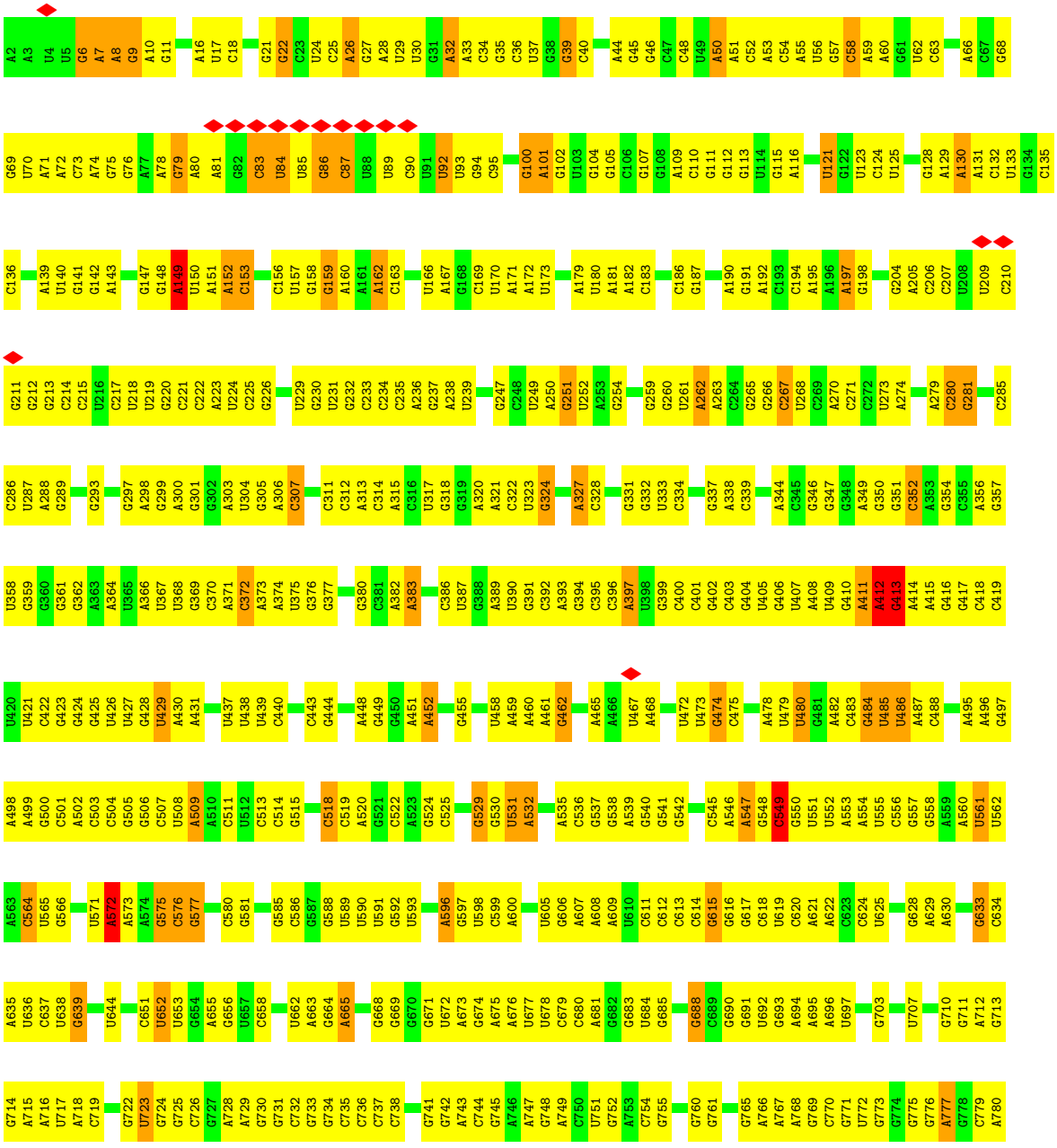


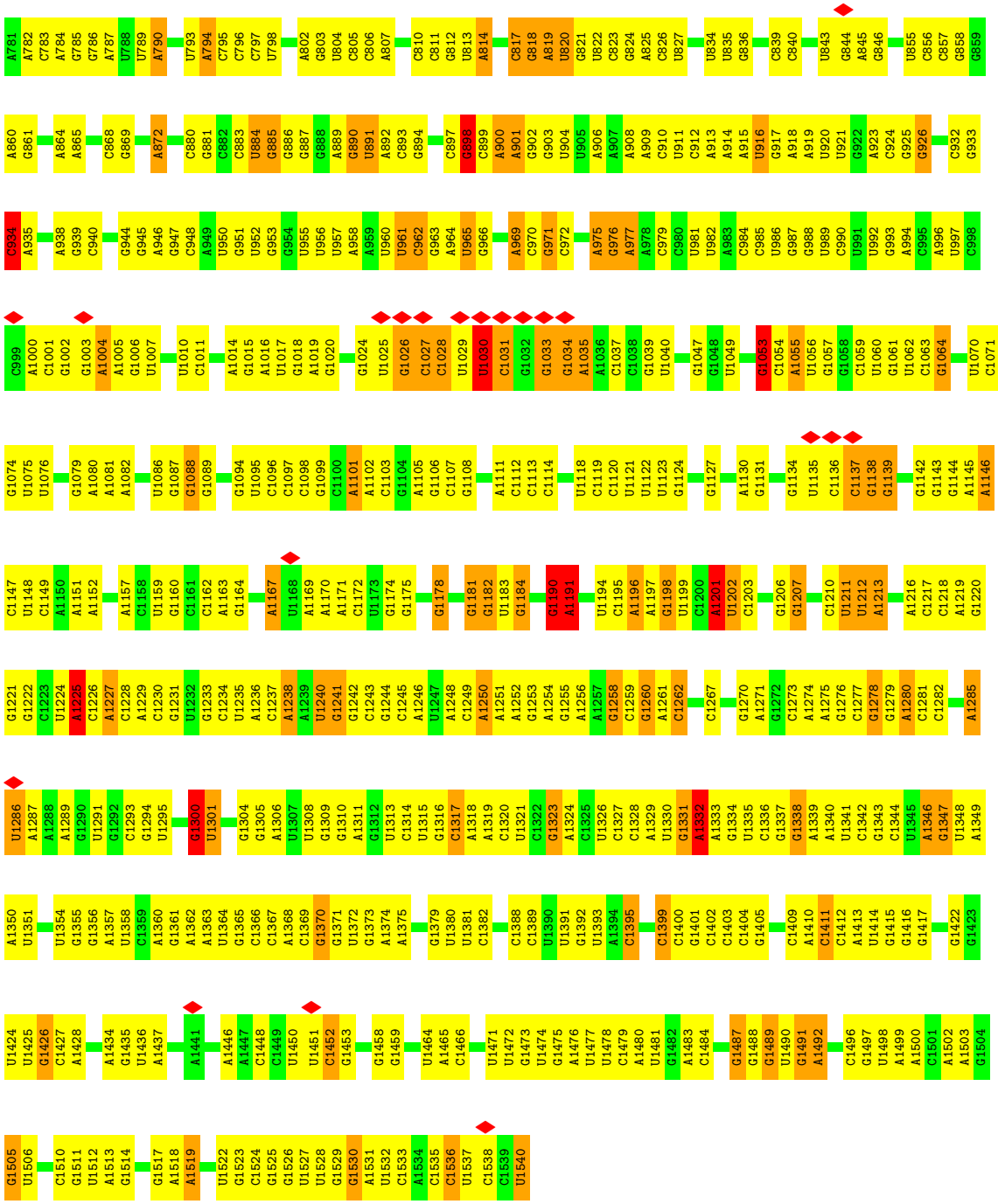




• Molecule 53: 16S ribosomal RNA

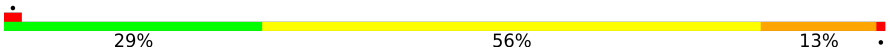
Chain 3:

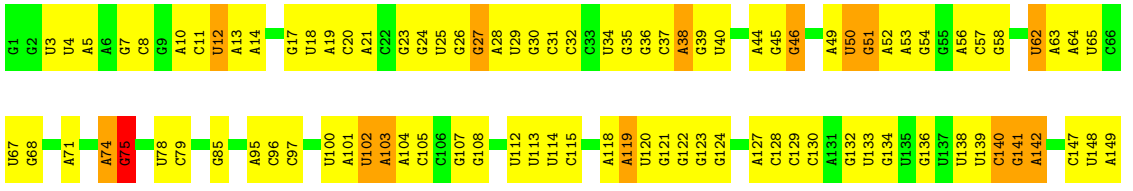


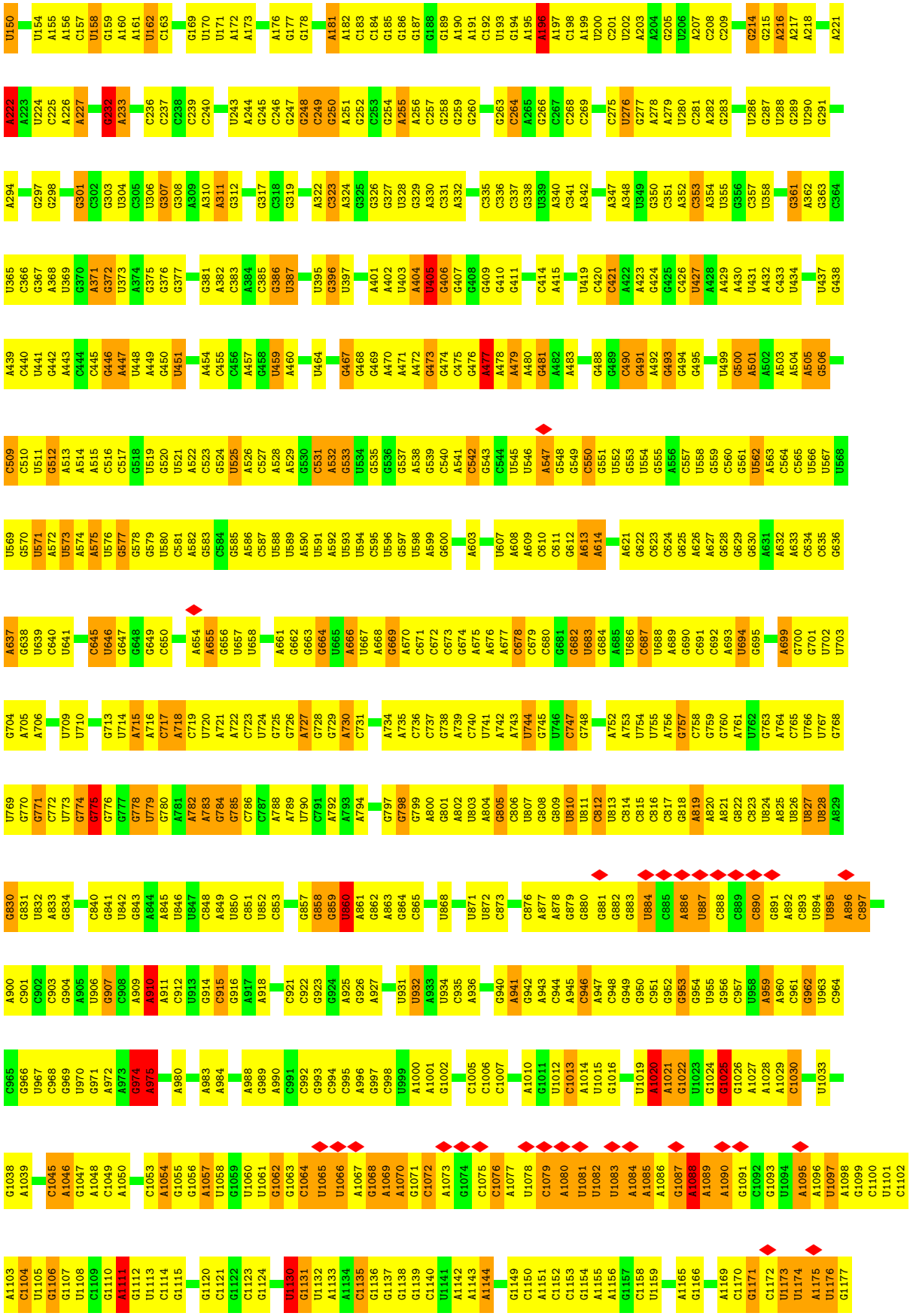


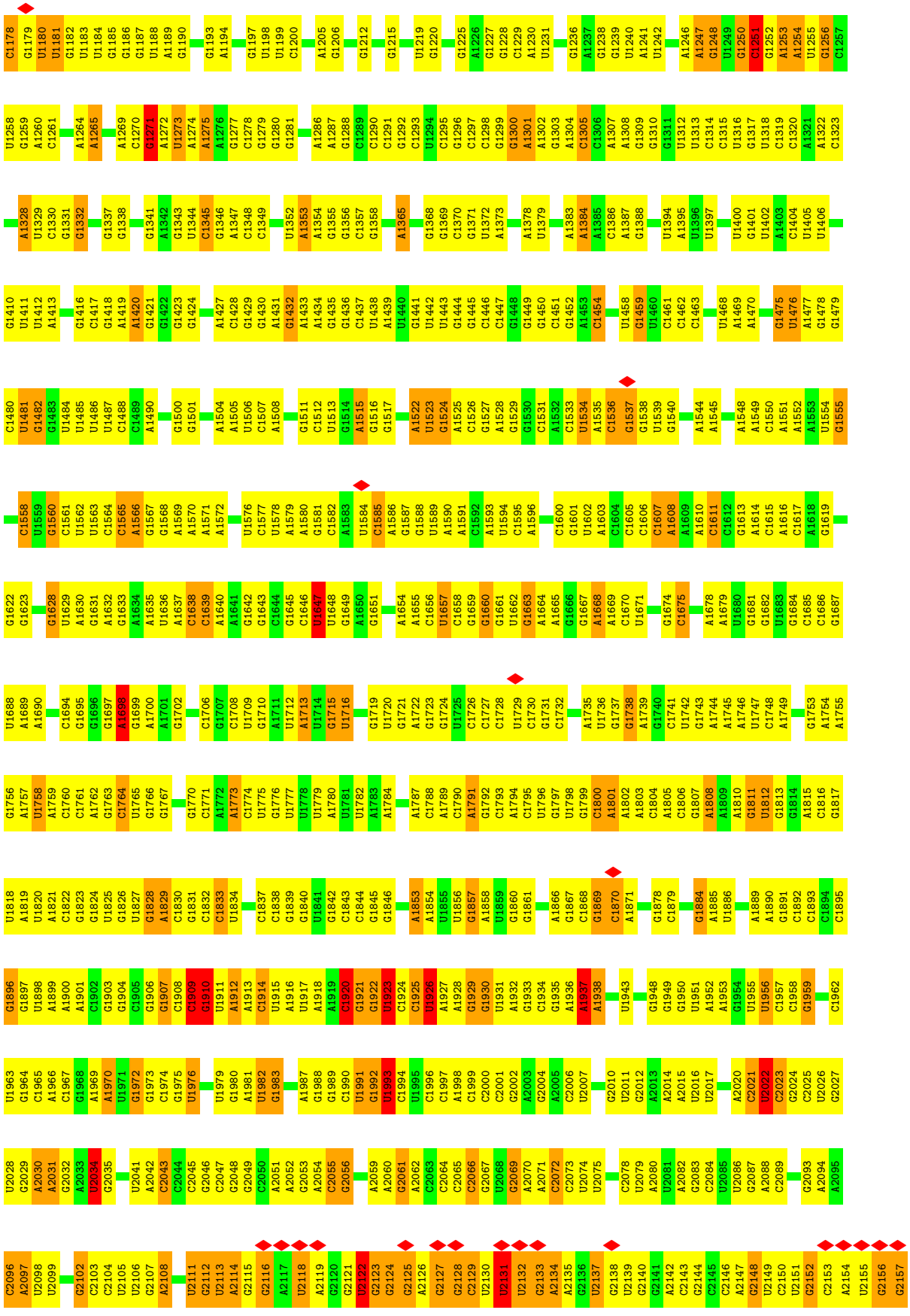
• Molecule 54: 23S ribosomal RNA

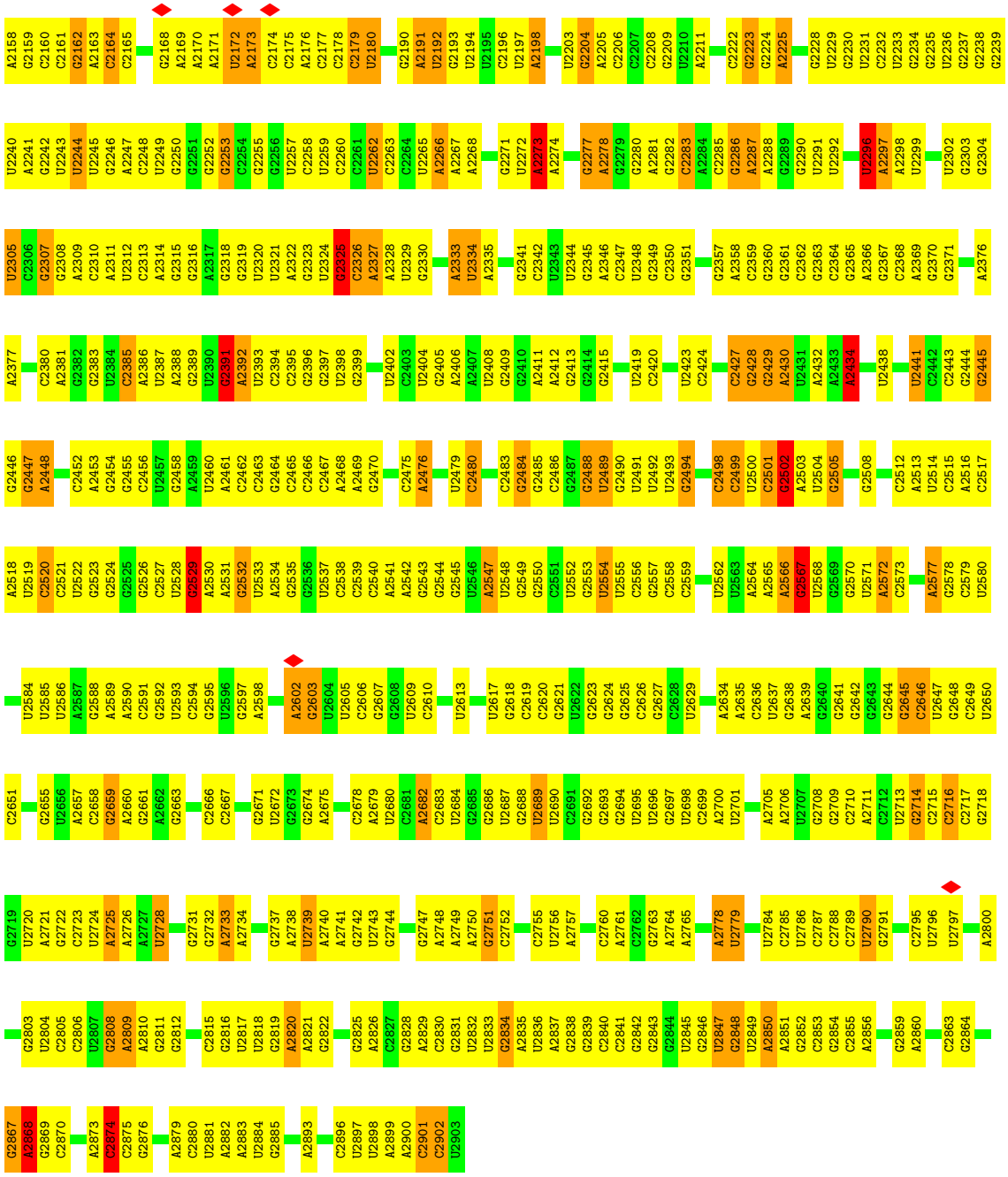
Chain 1:





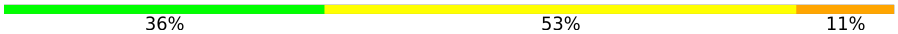


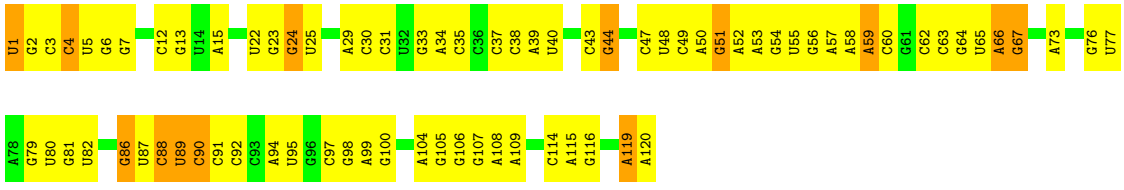




• Molecule 55: 5S ribosomal RNA

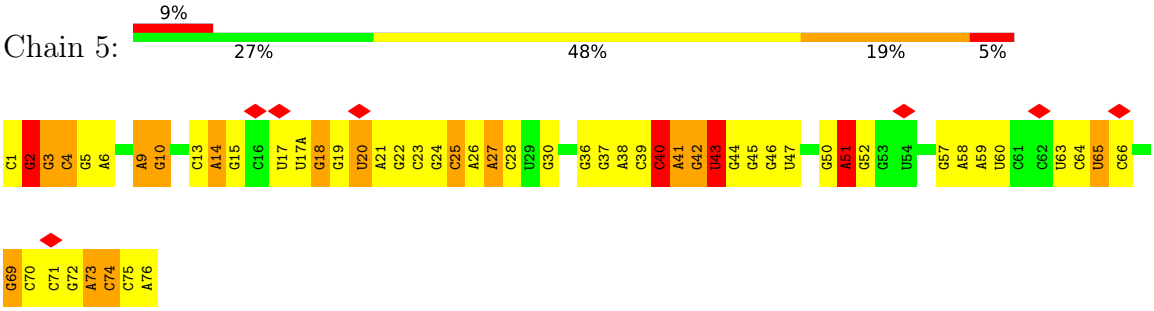
Chain 2:





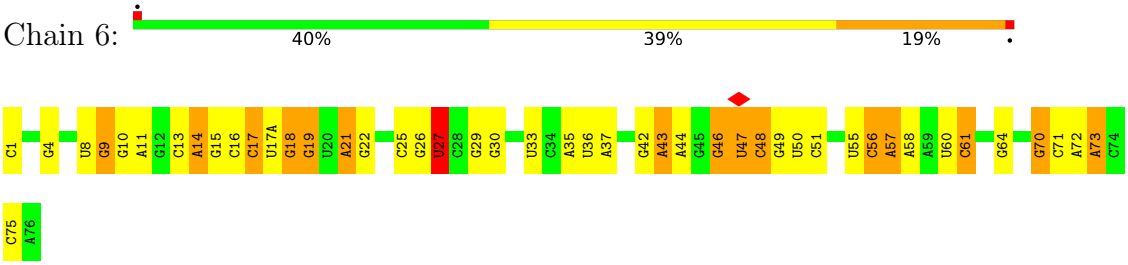
• Molecule 56: tRNAPro

Chain 5:



• Molecule 57: tRNAfMet

Chain 6:



• Molecule 58: mRNA

Chain 4:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	3658	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 ($e^-/Å^2$)	40.2	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	20.138	Depositor
Minimum map value	-7.423	Depositor
Average map value	0.007	Depositor
Map value standard deviation	1.205	Depositor
Recommended contour level	3.5	Depositor
Map size (Å)	424.96, 424.96, 424.96	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	b	0.97	11/2122 (0.5%)	1.21	11/2852 (0.4%)
2	c	1.01	7/1586 (0.4%)	1.17	8/2134 (0.4%)
3	d	1.16	16/1571 (1.0%)	1.25	5/2113 (0.2%)
4	e	1.32	21/1435 (1.5%)	1.34	24/1926 (1.2%)
5	f	1.14	13/1343 (1.0%)	1.30	18/1816 (1.0%)
6	g	1.29	7/445 (1.6%)	1.49	10/597 (1.7%)
7	h	1.85	17/597 (2.8%)	1.70	21/803 (2.6%)
8	i	2.07	19/513 (3.7%)	1.83	22/684 (3.2%)
9	j	0.90	6/1152 (0.5%)	1.14	12/1551 (0.8%)
10	k	1.05	5/948 (0.5%)	1.45	18/1268 (1.4%)
11	l	0.94	5/1054 (0.5%)	1.26	10/1403 (0.7%)
12	m	1.22	16/1093 (1.5%)	1.33	14/1460 (1.0%)
13	n	0.98	7/974 (0.7%)	1.16	10/1301 (0.8%)
14	o	1.23	9/902 (1.0%)	1.27	15/1209 (1.2%)
15	p	0.75	0/929	1.06	2/1242 (0.2%)
16	q	1.07	7/960 (0.7%)	1.33	14/1278 (1.1%)
17	r	0.84	3/829 (0.4%)	1.10	3/1107 (0.3%)
18	s	1.02	4/864 (0.5%)	1.25	11/1156 (1.0%)
19	t	0.97	6/745 (0.8%)	1.19	10/994 (1.0%)
20	u	0.79	1/788 (0.1%)	1.11	5/1051 (0.5%)
21	v	0.94	4/766 (0.5%)	1.18	2/1025 (0.2%)
22	w	0.80	1/582 (0.2%)	1.04	0/769
23	x	1.13	8/635 (1.3%)	1.24	4/848 (0.5%)
24	y	0.99	4/510 (0.8%)	1.17	1/677 (0.1%)
25	z	0.85	1/453 (0.2%)	1.11	1/605 (0.2%)
26	A	0.98	2/371 (0.5%)	1.17	3/496 (0.6%)
27	B	0.78	0/450	1.03	3/599 (0.5%)
28	C	0.83	1/417 (0.2%)	0.92	0/554
29	D	0.95	1/380 (0.3%)	1.16	4/498 (0.8%)
30	E	0.96	3/513 (0.6%)	1.23	4/676 (0.6%)
31	F	1.07	2/303 (0.7%)	1.35	6/397 (1.5%)
32	G	1.19	25/1736 (1.4%)	1.31	22/2338 (0.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	H	1.21	17/1652 (1.0%)	1.27	20/2225 (0.9%)
34	I	1.00	11/1665 (0.7%)	1.23	13/2227 (0.6%)
35	J	1.10	7/1170 (0.6%)	1.32	17/1573 (1.1%)
36	K	1.49	12/836 (1.4%)	1.47	20/1128 (1.8%)
37	L	1.21	9/1196 (0.8%)	1.44	23/1602 (1.4%)
38	M	1.01	5/989 (0.5%)	1.24	10/1326 (0.8%)
39	N	0.86	4/1034 (0.4%)	1.02	3/1375 (0.2%)
40	O	1.20	7/797 (0.9%)	1.34	10/1077 (0.9%)
41	P	1.00	7/886 (0.8%)	1.27	8/1195 (0.7%)
42	Q	1.06	4/969 (0.4%)	1.19	6/1300 (0.5%)
43	R	1.25	10/893 (1.1%)	1.31	7/1193 (0.6%)
44	S	1.05	6/817 (0.7%)	1.14	5/1088 (0.5%)
45	T	1.08	6/722 (0.8%)	1.37	13/964 (1.3%)
46	U	0.87	2/659 (0.3%)	1.03	0/884
47	V	0.80	2/658 (0.3%)	1.06	1/881 (0.1%)
48	W	0.90	2/545 (0.4%)	1.17	4/731 (0.5%)
49	X	0.94	2/653 (0.3%)	1.19	7/877 (0.8%)
50	Y	1.12	7/671 (1.0%)	1.23	0/888
51	Z	1.13	4/551 (0.7%)	1.57	16/728 (2.2%)
52	a	1.58	23/1034 (2.2%)	1.56	27/1387 (1.9%)
53	3	0.64	0/36963	0.63	14/57662 (0.0%)
54	1	0.65	0/69796	0.65	47/108888 (0.0%)
55	2	0.57	0/2872	0.63	0/4479
56	5	0.63	0/1840	0.70	5/2868 (0.2%)
57	6	0.53	0/1832	0.63	0/2855
58	4	0.62	0/436	0.63	1/679 (0.1%)
All	All	0.80	379/160102 (0.2%)	0.85	570/239507 (0.2%)

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
3	d	0	1
35	J	0	1
42	Q	0	1
53	3	0	42
54	1	0	113
55	2	0	4
56	5	0	4
57	6	0	2

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Mol	Chain	#Chirality outliers	#Planarity outliers
58	4	0	1
All	All	0	169

All (379) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	e	73	VAL	C-O	19.62	1.46	1.23
36	K	13	ASP	C-O	18.27	1.45	1.24
7	h	44	ALA	C-O	15.30	1.44	1.24
3	d	150	THR	C-O	14.99	1.38	1.24
14	o	58	ILE	C-O	14.69	1.41	1.24
36	K	17	GLN	N-CA	13.64	1.63	1.46
8	i	107	GLU	C-O	13.56	1.40	1.24
8	i	138	VAL	C-O	13.45	1.40	1.24
52	a	59	VAL	C-O	13.24	1.38	1.24
5	f	90	GLY	C-O	12.43	1.33	1.23
52	a	19	LYS	N-CA	11.96	1.61	1.46
2	c	157	LYS	C-O	11.57	1.37	1.23
37	L	92	PRO	C-O	11.55	1.40	1.24
1	b	9	SER	C-O	11.51	1.35	1.24
4	e	93	GLU	C-O	11.50	1.37	1.24
37	L	96	ASN	N-CA	11.34	1.60	1.46
32	G	75	ALA	C-O	11.30	1.38	1.24
36	K	59	TYR	C-O	11.25	1.38	1.23
7	h	62	ARG	C-O	11.21	1.33	1.23
40	O	80	THR	C-O	11.11	1.37	1.23
35	J	159	SER	C-O	10.99	1.36	1.23
52	a	44	VAL	C-O	10.96	1.37	1.24
33	H	199	VAL	C-O	10.94	1.35	1.24
4	e	9	ASP	C-O	10.88	1.36	1.23
14	o	30	ARG	N-CA	10.79	1.59	1.45
12	m	119	LEU	C-O	10.64	1.36	1.24
34	I	156	ALA	C-O	10.64	1.37	1.24
33	H	43	THR	C-O	10.50	1.36	1.24
45	T	6	ALA	C-O	10.44	1.37	1.24
7	h	43	LYS	C-O	10.33	1.37	1.24
43	R	7	ASN	C-O	10.31	1.36	1.23
32	G	215	ALA	C-O	10.25	1.35	1.24
12	m	73	ILE	C-O	10.22	1.34	1.24
3	d	35	TYR	C-O	10.16	1.36	1.24
8	i	98	GLY	C-O	10.15	1.33	1.23
10	k	113	MET	N-CA	9.92	1.58	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	L	116	ALA	C-O	9.89	1.35	1.24
43	R	66	GLY	C-O	9.87	1.35	1.23
7	h	15	VAL	C-O	9.75	1.35	1.23
37	L	57	GLU	C-O	9.72	1.36	1.24
18	s	41	LYS	N-CA	9.60	1.58	1.45
14	o	62	LEU	N-CA	9.52	1.57	1.46
8	i	80	LYS	C-O	9.39	1.35	1.24
4	e	36	ASN	N-CA	9.37	1.57	1.46
50	Y	60	GLN	C-O	9.31	1.36	1.24
51	Z	61	ARG	N-CA	9.29	1.58	1.46
40	O	46	LYS	N-CA	9.24	1.58	1.46
43	R	16	ILE	C-O	9.20	1.34	1.24
12	m	100	LYS	N-CA	9.09	1.57	1.45
32	G	55	GLU	C-O	9.01	1.35	1.24
44	S	39	ASP	C-O	8.99	1.34	1.24
23	x	63	ILE	C-O	8.96	1.35	1.24
7	h	33	VAL	C-O	8.92	1.36	1.23
8	i	136	GLY	C-O	8.91	1.35	1.23
40	O	20	GLN	C-O	8.89	1.35	1.24
52	a	159	GLY	C-O	8.88	1.41	1.23
13	n	14	SER	C-O	8.87	1.35	1.24
3	d	112	LEU	C-O	8.87	1.35	1.24
45	T	70	LYS	C-O	8.86	1.34	1.24
32	G	14	HIS	C-O	8.84	1.35	1.24
5	f	150	TYR	N-CA	8.82	1.57	1.46
43	R	6	ILE	N-CA	8.81	1.57	1.46
33	H	63	ILE	C-O	8.77	1.32	1.24
34	I	91	ALA	C-O	8.77	1.34	1.24
1	b	19	VAL	N-CA	8.72	1.57	1.46
7	h	59	LEU	C-O	8.71	1.34	1.23
7	h	37	LYS	N-CA	8.66	1.57	1.46
42	Q	116	TYR	C-O	8.65	1.33	1.23
43	R	32	ILE	C-O	8.60	1.34	1.24
8	i	128	ILE	N-CA	8.57	1.56	1.46
8	i	111	THR	N-CA	8.51	1.56	1.46
31	F	23	ILE	N-CA	8.50	1.57	1.46
32	G	73	ARG	C-O	-8.49	1.13	1.24
8	i	100	ILE	N-CA	8.48	1.55	1.46
8	i	79	LEU	C-O	8.44	1.34	1.24
23	x	64	ASP	C-O	8.43	1.34	1.24
3	d	36	ALA	C-O	8.41	1.33	1.24
52	a	23	ILE	C-O	8.32	1.33	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	e	36	ASN	C-O	8.30	1.33	1.24
33	H	136	ALA	C-O	8.23	1.33	1.24
16	q	82	LEU	C-O	8.23	1.34	1.24
9	j	81	ILE	N-CA	8.21	1.56	1.46
12	m	97	GLN	C-O	8.20	1.30	1.24
36	K	16	GLU	N-CA	8.18	1.56	1.46
4	e	110	ILE	C-O	8.17	1.33	1.24
9	j	7	LYS	C-O	8.15	1.33	1.23
35	J	160	VAL	C-O	8.15	1.33	1.24
35	J	56	PRO	C-O	8.13	1.34	1.24
7	h	19	ALA	N-CA	8.11	1.56	1.46
32	G	107	ARG	C-O	8.11	1.33	1.24
8	i	111	THR	C-O	8.07	1.33	1.24
13	n	47	VAL	C-O	8.07	1.33	1.24
8	i	124	MET	C-O	8.07	1.34	1.24
6	g	7	ASP	N-CA	8.04	1.56	1.46
4	e	132	ARG	C-O	8.02	1.34	1.24
36	K	25	TYR	C-O	8.02	1.33	1.24
5	f	74	MET	C-O	8.01	1.34	1.24
38	M	52	GLY	N-CA	7.98	1.53	1.45
37	L	23	ALA	C-O	7.95	1.33	1.24
36	K	12	PRO	C-O	7.92	1.34	1.24
33	H	80	GLY	C-O	7.92	1.35	1.24
12	m	88	ASN	C-O	7.91	1.34	1.24
32	G	108	GLN	C-O	7.80	1.33	1.24
52	a	171	ILE	C-O	7.79	1.31	1.23
12	m	75	GLU	C-O	7.79	1.33	1.23
14	o	105	ALA	C-O	7.78	1.33	1.24
16	q	97	ILE	C-O	7.74	1.33	1.24
24	y	26	PHE	C-O	7.71	1.33	1.24
4	e	94	ARG	C-O	7.70	1.33	1.24
25	z	23	LEU	C-O	7.69	1.33	1.24
2	c	121	THR	C-O	7.69	1.33	1.24
43	R	48	SER	N-CA	7.66	1.55	1.45
8	i	104	GLN	C-O	7.63	1.33	1.24
52	a	171	ILE	N-CA	7.58	1.54	1.46
33	H	179	ALA	C-N	7.55	1.43	1.33
13	n	86	ARG	C-N	7.55	1.44	1.33
6	g	51	ARG	C-N	7.54	1.44	1.33
38	M	9	MET	C-O	7.53	1.33	1.24
34	I	160	LEU	N-CA	7.53	1.56	1.46
8	i	129	GLU	N-CA	7.51	1.56	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	J	39	GLY	N-CA	7.49	1.52	1.45
3	d	48	THR	C-O	7.48	1.32	1.23
2	c	203	VAL	N-CA	7.47	1.56	1.46
7	h	70	GLU	N-CA	7.47	1.55	1.46
2	c	136	ASN	N-CA	7.46	1.55	1.46
8	i	78	LEU	C-O	7.45	1.33	1.24
18	s	39	THR	C-N	-7.44	1.23	1.33
7	h	17	GLU	C-O	7.42	1.33	1.24
1	b	210	ALA	C-O	7.38	1.32	1.24
32	G	132	GLU	C-O	7.32	1.32	1.24
10	k	10	VAL	N-CA	7.30	1.54	1.46
26	A	45	THR	C-O	7.28	1.33	1.24
19	t	47	VAL	C-O	7.26	1.32	1.24
36	K	73	GLU	C-O	7.25	1.33	1.24
44	S	60	ARG	N-CA	7.21	1.56	1.46
50	Y	25	SER	C-O	7.21	1.32	1.24
33	H	184	ASN	N-CA	7.19	1.54	1.46
34	I	155	LYS	C-O	7.18	1.32	1.24
52	a	45	ALA	C-O	7.16	1.32	1.24
5	f	90	GLY	N-CA	7.14	1.52	1.45
1	b	135	PRO	C-O	7.13	1.31	1.23
1	b	221	GLY	C-O	7.11	1.33	1.23
33	H	85	LYS	C-O	7.08	1.32	1.24
13	n	65	LEU	C-O	7.08	1.32	1.24
4	e	91	ARG	N-CA	7.07	1.54	1.45
48	W	61	ALA	C-O	7.02	1.32	1.24
11	l	130	GLY	C-O	7.00	1.32	1.23
16	q	65	ASN	C-O	6.97	1.32	1.24
12	m	77	PRO	C-O	6.95	1.31	1.23
40	O	84	VAL	N-CA	6.93	1.54	1.46
4	e	6	TYR	C-O	6.92	1.32	1.24
8	i	83	ALA	C-N	6.92	1.43	1.33
4	e	13	LYS	N-CA	6.92	1.55	1.46
14	o	5	SER	C-O	6.90	1.32	1.24
50	Y	22	SER	C-O	6.87	1.32	1.24
32	G	219	THR	N-CA	6.87	1.55	1.46
7	h	24	SER	C-O	6.86	1.32	1.23
51	Z	51	ALA	C-N	6.84	1.42	1.33
52	a	164	ARG	C-N	6.83	1.43	1.33
6	g	13	GLY	C-N	-6.82	1.25	1.33
5	f	129	GLU	N-CA	6.79	1.54	1.46
51	Z	58	LYS	C-O	6.78	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	J	111	ARG	C-O	6.75	1.32	1.24
10	k	112	PHE	C-N	6.75	1.42	1.34
19	t	63	VAL	C-O	6.74	1.31	1.24
33	H	196	GLY	N-CA	6.72	1.51	1.44
44	S	6	LYS	C-O	6.71	1.31	1.24
34	I	178	GLU	C-O	6.65	1.32	1.23
45	T	50	HIS	C-O	6.64	1.31	1.24
7	h	34	THR	C-O	6.63	1.32	1.24
3	d	176	ASP	C-O	6.63	1.30	1.24
4	e	97	GLU	N-CA	6.63	1.54	1.46
6	g	35	LYS	C-O	6.63	1.32	1.24
2	c	189	VAL	N-CA	6.61	1.54	1.46
8	i	108	ILE	C-O	6.58	1.32	1.24
4	e	55	ASP	C-O	6.57	1.31	1.24
52	a	212	VAL	C-O	6.53	1.30	1.24
19	t	86	THR	C-O	6.52	1.31	1.24
33	H	184	ASN	C-O	6.52	1.31	1.23
6	g	30	LEU	C-O	6.51	1.33	1.23
16	q	31	TYR	N-CA	6.50	1.54	1.46
38	M	30	LYS	C-O	6.49	1.31	1.24
5	f	146	ASP	C-O	6.49	1.31	1.24
36	K	68	GLN	C-O	6.48	1.32	1.24
24	y	17	GLU	C-O	6.48	1.31	1.24
3	d	188	MET	N-CA	6.47	1.53	1.45
6	g	47	PHE	C-O	6.47	1.32	1.24
33	H	30	ASP	C-O	6.46	1.31	1.24
47	V	45	VAL	N-CA	6.46	1.53	1.46
7	h	46	ARG	N-CA	6.45	1.55	1.46
40	O	19	ASP	C-O	6.41	1.31	1.24
30	E	39	ARG	C-O	6.41	1.31	1.24
1	b	218	THR	N-CA	6.40	1.53	1.46
52	a	55	SER	C-O	6.40	1.32	1.24
32	G	162	VAL	C-O	6.38	1.30	1.23
24	y	15	ASN	C-O	6.37	1.31	1.24
9	j	69	ARG	C-O	6.36	1.31	1.24
30	E	53	ASP	C-O	6.34	1.31	1.24
3	d	105	LEU	N-CA	6.34	1.54	1.46
50	Y	81	GLN	C-O	6.32	1.32	1.24
11	l	109	LYS	C-O	6.29	1.32	1.23
52	a	46	VAL	C-O	6.28	1.30	1.24
41	P	111	ASP	N-CA	6.27	1.53	1.46
8	i	125	THR	C-O	6.27	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	q	107	ALA	C-O	6.27	1.31	1.24
34	I	61	ARG	C-O	6.26	1.31	1.24
34	I	40	HIS	C-O	6.24	1.32	1.24
5	f	25	ILE	C-O	6.21	1.30	1.24
23	x	24	THR	N-CA	6.21	1.53	1.45
32	G	75	ALA	C-N	6.21	1.42	1.33
4	e	104	THR	C-O	6.19	1.31	1.24
10	k	71	ARG	N-CA	6.17	1.54	1.45
24	y	20	ASN	C-O	6.16	1.31	1.24
34	I	43	ARG	N-CA	6.14	1.53	1.45
49	X	66	VAL	C-O	6.13	1.31	1.24
23	x	70	LEU	C-O	6.12	1.31	1.24
33	H	96	VAL	N-CA	6.09	1.52	1.46
18	s	39	THR	C-O	-6.05	1.15	1.23
48	W	40	PRO	C-O	6.05	1.30	1.23
4	e	152	ASP	C-O	6.04	1.30	1.23
22	w	25	GLU	C-O	6.03	1.31	1.23
3	d	24	ASN	N-CA	6.03	1.54	1.46
23	x	67	LEU	N-CA	6.03	1.53	1.46
52	a	12	ARG	C-O	6.02	1.31	1.24
33	H	81	GLU	C-O	6.01	1.31	1.24
32	G	218	ALA	C-O	6.01	1.31	1.24
43	R	36	ALA	N-CA	5.98	1.52	1.46
47	V	11	VAL	C-O	5.97	1.31	1.24
46	U	49	GLY	C-O	5.96	1.31	1.23
11	l	132	ARG	C-O	5.96	1.31	1.24
10	k	91	SER	N-CA	5.95	1.56	1.46
3	d	33	VAL	C-O	5.95	1.31	1.24
3	d	105	LEU	C-N	5.94	1.41	1.33
41	P	64	VAL	C-O	5.93	1.31	1.24
3	d	172	ALA	N-CA	5.93	1.53	1.46
39	N	87	MET	C-O	5.90	1.30	1.24
52	a	173	THR	N-CA	5.90	1.55	1.46
39	N	95	SER	C-O	5.90	1.31	1.24
32	G	202	ASN	N-CA	5.89	1.53	1.46
46	U	75	ILE	C-O	5.89	1.30	1.24
32	G	222	GLU	C-O	5.88	1.31	1.24
5	f	30	GLY	C-O	5.87	1.31	1.24
33	H	137	VAL	C-O	5.86	1.30	1.24
3	d	39	ALA	N-CA	5.86	1.53	1.46
2	c	156	PHE	C-O	5.84	1.31	1.23
5	f	73	SER	C-O	5.84	1.30	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	v	55	GLU	C-O	5.84	1.31	1.24
45	T	78	THR	C-O	5.84	1.31	1.24
14	o	106	LEU	C-O	5.83	1.30	1.24
2	c	39	ASP	C-O	5.82	1.30	1.23
52	a	218	MET	C-N	5.82	1.40	1.33
32	G	80	LYS	C-O	5.81	1.30	1.24
36	K	13	ASP	CA-C	5.79	1.60	1.52
38	M	10	LEU	C-O	5.79	1.30	1.24
50	Y	4	LYS	N-CA	5.78	1.53	1.46
42	Q	42	LYS	C-O	5.77	1.31	1.23
44	S	8	ARG	C-O	5.76	1.30	1.24
21	v	68	LYS	C-O	5.75	1.31	1.24
7	h	42	ARG	C-O	5.75	1.31	1.24
12	m	43	ALA	C-O	5.75	1.31	1.24
52	a	15	VAL	N-CA	5.75	1.53	1.46
9	j	27	ARG	C-O	5.75	1.30	1.24
14	o	34	HIS	C-O	5.73	1.31	1.24
32	G	47	PRO	C-O	5.70	1.31	1.24
20	u	45	GLN	N-CA	5.70	1.53	1.46
40	O	96	VAL	N-CA	5.67	1.52	1.46
52	a	214	ILE	C-N	5.67	1.41	1.33
33	H	140	ALA	N-CA	5.64	1.53	1.46
52	a	26	ALA	N-CA	5.64	1.53	1.46
12	m	46	ILE	N-CA	5.62	1.53	1.46
37	L	120	ALA	N-CA	5.62	1.53	1.46
3	d	190	ALA	C-O	5.62	1.31	1.24
14	o	3	LYS	C-O	5.61	1.31	1.24
32	G	111	LYS	N-CA	5.61	1.53	1.46
4	e	145	VAL	N-CA	5.60	1.52	1.46
35	J	85	LYS	C-N	5.59	1.41	1.33
23	x	68	ALA	N-CA	5.59	1.53	1.46
34	I	48	SER	C-O	5.57	1.30	1.24
8	i	82	ALA	N-CA	5.57	1.53	1.45
1	b	225	ASN	C-O	5.57	1.30	1.23
12	m	51	ARG	C-O	5.56	1.31	1.24
40	O	23	ALA	C-N	5.56	1.41	1.33
43	R	20	SER	N-CA	5.56	1.53	1.46
1	b	17	LYS	C-O	5.54	1.30	1.23
13	n	18	GLN	N-CA	5.53	1.53	1.46
32	G	169	HIS	C-O	5.52	1.31	1.24
37	L	95	ARG	C-O	5.51	1.30	1.24
49	X	72	GLU	C-O	5.51	1.31	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	o	8	ILE	C-O	5.51	1.30	1.24
37	L	100	MET	C-O	5.50	1.30	1.24
19	t	10	VAL	C-O	5.47	1.30	1.24
12	m	88	ASN	N-CA	5.47	1.52	1.46
41	P	58	THR	C-O	5.47	1.31	1.24
12	m	42	THR	C-O	5.47	1.30	1.24
12	m	75	GLU	N-CA	5.47	1.52	1.45
21	v	46	LYS	C-O	5.46	1.30	1.24
36	K	60	VAL	C-O	5.46	1.29	1.23
44	S	88	MET	C-O	5.46	1.30	1.24
28	C	47	ILE	C-O	5.44	1.31	1.24
12	m	6	ARG	N-CA	5.44	1.53	1.46
41	P	28	ASN	C-O	5.44	1.30	1.24
17	r	72	VAL	C-O	5.43	1.29	1.24
4	e	77	LYS	N-CA	5.43	1.54	1.46
7	h	38	MET	N-CA	5.43	1.52	1.46
44	S	43	ALA	N-CA	5.43	1.52	1.46
34	I	132	ALA	C-O	5.41	1.30	1.24
5	f	126	THR	C-O	-5.41	1.17	1.23
9	j	20	ALA	N-CA	5.39	1.53	1.46
16	q	16	ILE	C-O	5.39	1.31	1.24
38	M	124	ILE	C-O	5.39	1.30	1.24
50	Y	27	MET	C-O	5.38	1.30	1.24
33	H	87	ARG	C-O	5.38	1.30	1.24
41	P	31	VAL	N-CA	5.37	1.52	1.46
8	i	135	MET	C-O	5.36	1.31	1.24
23	x	48	LEU	N-CA	5.35	1.52	1.45
4	e	45	ASP	C-O	5.34	1.29	1.23
52	a	46	VAL	N-CA	5.34	1.52	1.46
41	P	80	ASN	C-O	5.33	1.30	1.23
29	D	34	ARG	C-O	5.32	1.30	1.24
4	e	78	ILE	C-O	5.32	1.30	1.24
23	x	68	ALA	C-O	5.31	1.30	1.24
30	E	50	SER	C-O	5.31	1.32	1.23
52	a	213	SER	C-O	5.31	1.30	1.23
19	t	68	LYS	N-CA	5.30	1.52	1.45
35	J	77	ASN	N-CA	5.30	1.54	1.46
5	f	65	GLY	C-O	5.29	1.31	1.23
45	T	10	ILE	N-CA	5.28	1.52	1.46
4	e	56	LEU	C-O	5.28	1.30	1.24
19	t	55	VAL	N-CA	5.27	1.52	1.46
13	n	82	GLU	C-O	5.27	1.31	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	l	75	ALA	C-O	5.26	1.31	1.23
21	v	17	SER	C-O	5.25	1.30	1.24
37	L	99	ALA	C-O	5.25	1.30	1.24
3	d	14	VAL	N-CA	5.25	1.52	1.46
43	R	3	ILE	C-O	5.23	1.31	1.23
32	G	59	ILE	C-O	5.23	1.30	1.24
43	R	27	THR	C-O	5.23	1.30	1.24
5	f	34	ARG	C-O	5.22	1.30	1.23
31	F	35	GLN	N-CA	5.22	1.53	1.45
32	G	69	VAL	C-O	5.22	1.29	1.24
4	e	166	ARG	C-O	5.22	1.30	1.24
42	Q	55	ARG	C-O	5.21	1.30	1.24
45	T	81	ILE	C-N	5.21	1.41	1.33
1	b	185	ALA	C-O	5.20	1.30	1.24
33	H	7	ASN	C-O	5.19	1.30	1.24
32	G	51	GLU	N-CA	5.18	1.53	1.46
34	I	129	VAL	N-CA	5.18	1.52	1.46
12	m	42	THR	N-CA	5.18	1.52	1.46
52	a	165	ASN	N-CA	5.17	1.52	1.46
32	G	83	ALA	C-O	5.17	1.30	1.23
52	a	212	VAL	C-N	5.17	1.40	1.33
52	a	180	PHE	N-CA	5.15	1.52	1.45
3	d	137	LYS	C-O	5.14	1.30	1.24
16	q	90	ASP	C-O	5.13	1.30	1.23
1	b	47	ARG	C-O	5.13	1.30	1.23
18	s	3	THR	C-O	5.13	1.31	1.23
6	g	8	LYS	C-O	5.12	1.30	1.24
17	r	4	VAL	C-O	5.12	1.30	1.24
7	h	69	PHE	C-N	5.12	1.39	1.33
9	j	89	PHE	C-O	5.12	1.29	1.24
12	m	45	GLN	C-N	5.12	1.40	1.33
36	K	66	ALA	C-O	5.12	1.28	1.24
32	G	105	THR	C-O	5.10	1.30	1.24
42	Q	97	VAL	C-O	5.09	1.30	1.24
17	r	39	LEU	N-CA	5.08	1.52	1.46
36	K	10	VAL	C-O	5.07	1.28	1.24
41	P	34	THR	N-CA	5.07	1.51	1.45
39	N	67	LYS	C-O	5.06	1.30	1.23
11	l	96	LYS	C-N	5.06	1.40	1.33
13	n	69	ARG	N-CA	5.05	1.51	1.45
51	Z	59	LEU	N-CA	5.05	1.52	1.46
5	f	133	LYS	C-O	5.05	1.30	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	G	53	LEU	C-O	5.04	1.30	1.24
39	N	93	LEU	C-O	5.04	1.30	1.24
50	Y	24	ARG	C-O	5.03	1.30	1.24
1	b	138	SER	C-O	5.02	1.30	1.23
7	h	68	PRO	CA-C	5.02	1.58	1.52
32	G	76	SER	N-CA	5.01	1.52	1.46
26	A	43	PHE	C-O	5.00	1.30	1.23

All (570) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	d	73	ILE	N-CA-C	-12.36	101.97	113.71
10	k	112	PHE	CA-C-N	-11.75	103.22	120.38
10	k	112	PHE	C-N-CA	-11.75	103.22	120.38
41	P	126	ARG	N-CA-C	11.11	123.90	110.91
36	K	13	ASP	CA-C-O	10.97	132.34	120.82
37	L	95	ARG	CA-C-N	-10.17	104.85	120.31
37	L	95	ARG	C-N-CA	-10.17	104.85	120.31
1	b	18	VAL	CA-C-N	-10.01	109.78	123.10
1	b	18	VAL	C-N-CA	-10.01	109.78	123.10
36	K	16	GLU	CA-C-N	-9.97	106.10	122.65
36	K	16	GLU	C-N-CA	-9.97	106.10	122.65
8	i	96	LYS	CA-C-N	-9.81	112.76	123.16
8	i	96	LYS	C-N-CA	-9.81	112.76	123.16
5	f	128	THR	CA-C-N	-9.73	109.29	122.72
5	f	128	THR	C-N-CA	-9.73	109.29	122.72
16	q	72	GLY	N-CA-C	9.63	129.01	115.43
32	G	75	ALA	CA-C-N	-9.47	106.85	120.29
32	G	75	ALA	C-N-CA	-9.47	106.85	120.29
13	n	86	ARG	CA-C-N	-9.36	109.22	123.17
13	n	86	ARG	C-N-CA	-9.36	109.22	123.17
53	3	1201	A	C2'-C3'-O3'	9.36	123.54	109.50
33	H	195	ILE	CA-C-N	-9.32	112.62	122.69
33	H	195	ILE	C-N-CA	-9.32	112.62	122.69
49	X	53	GLY	N-CA-C	-9.14	103.80	113.58
11	l	103	ILE	N-CA-C	9.03	119.84	110.36
53	3	1190	G	C2'-C3'-O3'	9.03	123.04	109.50
4	e	35	LEU	CA-C-N	-8.88	110.61	123.05
4	e	35	LEU	C-N-CA	-8.88	110.61	123.05
8	i	81	LYS	CA-C-N	-8.83	107.62	122.11
8	i	81	LYS	C-N-CA	-8.83	107.62	122.11
18	s	106	VAL	CA-C-N	-8.76	111.39	123.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	s	106	VAL	C-N-CA	-8.76	111.39	123.13
7	h	68	PRO	N-CA-C	-8.74	102.39	114.80
52	a	18	THR	CA-C-N	-8.70	102.39	121.87
52	a	18	THR	C-N-CA	-8.70	102.39	121.87
7	h	69	PHE	CA-C-N	-8.63	107.60	121.58
7	h	69	PHE	C-N-CA	-8.63	107.60	121.58
32	G	19	THR	N-CA-C	8.58	121.55	107.73
14	o	61	GLN	CA-C-N	-8.43	108.42	121.74
14	o	61	GLN	C-N-CA	-8.43	108.42	121.74
52	a	58	ASN	N-CA-C	8.35	122.28	110.50
54	1	1130	U	C2'-C3'-O3'	8.34	122.01	109.50
5	f	149	ALA	CA-C-N	-8.33	108.45	120.29
5	f	149	ALA	C-N-CA	-8.33	108.45	120.29
41	P	125	LYS	N-CA-C	8.27	121.00	110.24
51	Z	58	LYS	CA-C-N	-8.14	106.92	122.06
51	Z	58	LYS	C-N-CA	-8.14	106.92	122.06
8	i	135	MET	O-C-N	8.11	130.69	122.10
52	a	44	VAL	O-C-N	8.09	130.95	122.62
36	K	13	ASP	O-C-N	-8.04	113.79	122.07
36	K	7	VAL	CA-C-N	-7.96	109.62	122.36
36	K	7	VAL	C-N-CA	-7.96	109.62	122.36
10	k	117	SER	N-CA-C	-7.96	102.19	111.03
43	R	50	GLY	N-CA-C	-7.94	105.59	114.40
8	i	99	LYS	CA-C-N	-7.90	112.16	123.06
8	i	99	LYS	C-N-CA	-7.90	112.16	123.06
10	k	9	ASN	CA-C-N	-7.90	109.91	120.50
10	k	9	ASN	C-N-CA	-7.90	109.91	120.50
33	H	179	ALA	CA-C-N	-7.90	111.86	123.00
33	H	179	ALA	C-N-CA	-7.90	111.86	123.00
37	L	119	LEU	CA-C-N	-7.88	109.91	120.54
37	L	119	LEU	C-N-CA	-7.88	109.91	120.54
3	d	105	LEU	CA-C-N	-7.84	109.64	120.38
3	d	105	LEU	C-N-CA	-7.84	109.64	120.38
54	1	2122	U	N1-C1'-C2'	7.83	123.74	112.00
38	M	50	VAL	CA-C-O	7.78	128.61	120.36
18	s	39	THR	CA-C-O	7.76	130.16	122.01
32	G	201	GLY	CA-C-N	-7.70	112.09	122.72
32	G	201	GLY	C-N-CA	-7.70	112.09	122.72
12	m	99	GLY	CA-C-N	-7.70	110.73	122.81
12	m	99	GLY	C-N-CA	-7.70	110.73	122.81
33	H	134	LYS	CA-C-N	-7.68	109.99	120.28
33	H	134	LYS	C-N-CA	-7.68	109.99	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	g	13	GLY	CA-C-N	7.63	132.34	120.89
6	g	13	GLY	C-N-CA	7.63	132.34	120.89
1	b	87	SER	N-CA-C	-7.63	105.14	114.75
35	J	85	LYS	CA-C-N	-7.61	106.50	121.41
35	J	85	LYS	C-N-CA	-7.61	106.50	121.41
54	1	2874	C	N1-C1'-C2'	7.60	123.40	112.00
35	J	162	GLU	CA-C-N	-7.46	107.46	120.29
35	J	162	GLU	C-N-CA	-7.46	107.46	120.29
12	m	45	GLN	CA-C-N	-7.44	108.65	120.55
12	m	45	GLN	C-N-CA	-7.44	108.65	120.55
8	i	97	VAL	N-CA-C	7.43	117.49	111.62
2	c	135	GLY	CA-C-N	-7.41	110.35	120.87
2	c	135	GLY	C-N-CA	-7.41	110.35	120.87
54	1	1020	A	C2'-C3'-O3'	7.39	120.59	109.50
7	h	44	ALA	CA-C-N	-7.36	111.90	120.00
7	h	44	ALA	C-N-CA	-7.36	111.90	120.00
52	a	14	LYS	CA-C-N	-7.30	108.82	121.97
52	a	14	LYS	C-N-CA	-7.30	108.82	121.97
23	x	66	VAL	CA-C-N	-7.28	110.97	120.44
23	x	66	VAL	C-N-CA	-7.28	110.97	120.44
38	M	80	PRO	N-CA-C	-7.27	103.83	113.65
40	O	23	ALA	CA-C-N	-7.27	110.54	120.28
40	O	23	ALA	C-N-CA	-7.27	110.54	120.28
35	J	145	ASN	CA-C-N	-7.25	112.51	122.30
35	J	145	ASN	C-N-CA	-7.25	112.51	122.30
25	z	27	GLY	N-CA-C	-7.23	105.33	113.79
44	S	58	ARG	CA-C-O	7.11	127.88	119.56
9	j	80	HIS	CA-C-N	-7.11	109.18	121.97
9	j	80	HIS	C-N-CA	-7.11	109.18	121.97
6	g	51	ARG	CA-C-N	-7.09	109.25	120.60
6	g	51	ARG	C-N-CA	-7.09	109.25	120.60
51	Z	51	ALA	N-CA-C	-7.08	103.91	112.54
16	q	80	ASN	CA-C-N	-7.07	112.23	120.00
16	q	80	ASN	C-N-CA	-7.07	112.23	120.00
11	l	97	ALA	N-CA-C	-7.06	104.79	113.41
4	e	76	PHE	CA-C-N	-7.04	112.08	122.35
4	e	76	PHE	C-N-CA	-7.04	112.08	122.35
18	s	40	ASN	N-CA-C	6.99	118.82	110.44
16	q	31	TYR	N-CA-C	6.98	118.89	111.28
34	I	159	GLU	CA-C-N	-6.96	109.46	120.60
34	I	159	GLU	C-N-CA	-6.96	109.46	120.60
1	b	132	ARG	N-CA-C	-6.95	103.32	114.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	o	58	ILE	CA-C-O	6.93	126.11	118.98
49	X	38	THR	CA-C-N	-6.92	113.32	122.94
49	X	38	THR	C-N-CA	-6.92	113.32	122.94
31	F	21	GLY	CA-C-O	6.92	128.57	119.58
4	e	46	LYS	N-CA-C	6.91	118.90	111.36
2	c	157	LYS	O-C-N	6.91	131.37	122.87
8	i	127	SER	N-CA-C	-6.90	103.76	111.28
36	K	15	SER	CA-C-N	-6.89	108.97	120.68
36	K	15	SER	C-N-CA	-6.89	108.97	120.68
37	L	94	ARG	CA-C-N	-6.89	111.07	120.44
37	L	94	ARG	C-N-CA	-6.89	111.07	120.44
13	n	17	ARG	CA-C-N	-6.86	110.55	120.29
13	n	17	ARG	C-N-CA	-6.86	110.55	120.29
4	e	12	VAL	CA-C-N	-6.83	109.32	120.72
4	e	12	VAL	C-N-CA	-6.83	109.32	120.72
17	r	46	GLU	N-CA-C	6.81	120.36	110.42
35	J	38	VAL	CA-C-N	-6.80	113.32	122.03
35	J	38	VAL	C-N-CA	-6.80	113.32	122.03
54	1	974	G	N9-C1'-C2'	6.80	124.20	114.00
40	O	95	GLY	CA-C-N	-6.79	111.37	122.57
40	O	95	GLY	C-N-CA	-6.79	111.37	122.57
54	1	1459	G	N9-C1'-C2'	6.77	122.16	112.00
4	e	43	ILE	N-CA-C	-6.77	103.44	113.39
8	i	125	THR	CA-C-O	6.75	127.68	119.31
32	G	218	ALA	CA-C-N	-6.74	109.47	120.72
32	G	218	ALA	C-N-CA	-6.74	109.47	120.72
37	L	92	PRO	O-C-N	-6.73	114.57	122.17
54	1	421	C	N1-C1'-C2'	6.73	122.09	112.00
54	1	477	A	N9-C1'-C2'	6.71	122.06	112.00
7	h	37	LYS	CA-C-N	-6.69	111.34	120.44
7	h	37	LYS	C-N-CA	-6.69	111.34	120.44
49	X	4	LEU	N-CA-C	6.68	119.37	111.02
52	a	25	GLU	CA-C-N	-6.67	110.81	120.29
52	a	25	GLU	C-N-CA	-6.67	110.81	120.29
15	p	16	VAL	CA-C-O	6.66	122.85	119.12
38	M	12	ARG	CA-C-N	-6.65	112.18	120.56
38	M	12	ARG	C-N-CA	-6.65	112.18	120.56
34	I	112	GLU	N-CA-C	-6.65	103.85	112.23
43	R	46	GLU	CA-C-O	6.64	127.32	119.28
38	M	50	VAL	O-C-N	-6.64	116.03	123.20
2	c	202	ILE	CA-C-N	-6.63	111.97	121.85
2	c	202	ILE	C-N-CA	-6.63	111.97	121.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	P	110	THR	CA-C-N	-6.62	113.58	122.72
41	P	110	THR	C-N-CA	-6.62	113.58	122.72
11	l	139	GLY	CA-C-O	6.62	125.45	119.83
37	L	92	PRO	CA-C-O	6.62	129.63	120.03
13	n	50	PRO	CA-C-N	-6.61	111.43	120.28
13	n	50	PRO	C-N-CA	-6.61	111.43	120.28
33	H	175	HIS	N-CA-C	-6.59	106.44	114.75
37	L	57	GLU	CA-C-O	6.59	129.93	120.51
6	g	35	LYS	O-C-N	6.58	130.37	122.27
11	l	100	ILE	N-CA-C	-6.57	106.89	113.20
35	J	87	VAL	N-CA-C	6.54	122.94	109.34
4	e	8	LYS	CA-C-N	-6.53	112.29	122.42
4	e	8	LYS	C-N-CA	-6.53	112.29	122.42
4	e	57	ALA	CA-C-N	-6.51	110.99	122.26
4	e	57	ALA	C-N-CA	-6.51	110.99	122.26
14	o	100	HIS	N-CA-C	6.50	120.84	112.12
32	G	202	ASN	N-CA-C	6.49	119.81	109.24
4	e	172	PHE	CA-C-N	-6.48	112.89	122.35
4	e	172	PHE	C-N-CA	-6.48	112.89	122.35
36	K	71	ILE	CA-C-N	-6.47	109.68	120.68
36	K	71	ILE	C-N-CA	-6.47	109.68	120.68
33	H	179	ALA	N-CA-C	6.43	118.83	110.53
52	a	45	ALA	CA-C-N	-6.43	114.00	122.94
52	a	45	ALA	C-N-CA	-6.43	114.00	122.94
54	1	490	C	C2'-C3'-O3'	6.43	119.14	109.50
54	1	2391	G	C2'-C3'-O3'	6.42	123.33	113.70
36	K	76	THR	CA-C-N	-6.41	111.19	120.29
36	K	76	THR	C-N-CA	-6.41	111.19	120.29
45	T	70	LYS	CA-C-N	-6.39	109.53	122.31
45	T	70	LYS	C-N-CA	-6.39	109.53	122.31
37	L	52	ARG	N-CA-C	-6.38	106.07	114.31
34	I	72	ARG	N-CA-C	-6.38	104.76	112.54
7	h	45	GLY	O-C-N	6.37	128.37	122.19
9	j	102	GLU	CA-C-N	-6.35	111.05	121.34
9	j	102	GLU	C-N-CA	-6.35	111.05	121.34
45	T	8	ALA	CA-C-N	-6.35	111.27	120.29
45	T	8	ALA	C-N-CA	-6.35	111.27	120.29
3	d	104	ALA	CA-C-N	-6.34	111.29	120.29
3	d	104	ALA	C-N-CA	-6.34	111.29	120.29
40	O	92	LEU	N-CA-C	-6.32	103.47	112.13
52	a	26	ALA	N-CA-C	-6.30	104.49	111.36
37	L	60	ALA	CA-C-N	-6.30	112.33	120.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	L	60	ALA	C-N-CA	-6.30	112.33	120.65
53	3	572	A	N9-C1'-C2'	6.29	121.43	112.00
1	b	185	ALA	N-CA-C	6.27	119.78	111.75
44	S	58	ARG	O-C-N	-6.27	114.81	122.34
19	t	62	VAL	CA-C-N	-6.27	113.11	122.70
19	t	62	VAL	C-N-CA	-6.27	113.11	122.70
45	T	42	PHE	CA-C-N	-6.27	112.38	120.65
45	T	42	PHE	C-N-CA	-6.27	112.38	120.65
53	3	413	G	N9-C1'-C2'	6.27	121.40	112.00
10	k	49	ARG	CA-C-N	-6.25	109.16	121.41
10	k	49	ARG	C-N-CA	-6.25	109.16	121.41
37	L	148	LYS	N-CA-C	-6.24	104.75	113.37
56	5	69	G	N9-C1'-C2'	6.24	121.36	112.00
54	1	2501	C	N1-C1'-C2'	6.23	121.35	112.00
52	a	33	LEU	N-CA-C	-6.22	105.96	112.93
31	F	11	CYS	N-CA-C	6.21	124.03	110.80
32	G	17	HIS	N-CA-C	6.21	116.80	108.23
7	h	18	VAL	CA-C-N	-6.21	110.63	120.63
7	h	18	VAL	C-N-CA	-6.21	110.63	120.63
54	1	1081	U	N1-C1'-C2'	6.21	121.31	112.00
4	e	175	PRO	N-CA-C	6.21	125.26	112.47
6	g	55	GLU	N-CA-C	6.20	117.70	111.07
6	g	6	LEU	CA-C-N	-6.19	109.71	121.54
6	g	6	LEU	C-N-CA	-6.19	109.71	121.54
53	3	1030	U	N1-C1'-C2'	6.18	121.27	112.00
51	Z	8	ASN	N-CA-C	6.18	123.95	110.80
32	G	157	PRO	N-CA-C	6.17	119.86	111.22
51	Z	51	ALA	CA-C-N	-6.16	111.72	121.02
51	Z	51	ALA	C-N-CA	-6.16	111.72	121.02
35	J	59	ILE	CA-C-N	-6.15	109.00	121.18
35	J	59	ILE	C-N-CA	-6.15	109.00	121.18
37	L	100	MET	N-CA-C	-6.15	104.58	111.28
54	1	2645	G	N9-C1'-C2'	6.14	123.22	114.00
54	1	2131	U	N1-C1'-C2'	6.14	121.21	112.00
40	O	57	VAL	N-CA-C	6.14	122.11	109.34
14	o	28	VAL	CA-C-N	-6.13	114.12	122.77
14	o	28	VAL	C-N-CA	-6.13	114.12	122.77
39	N	103	VAL	N-CA-C	-6.12	107.53	113.53
16	q	50	ARG	N-CA-C	-6.12	105.72	113.43
8	i	110	GLN	CA-C-N	-6.12	111.60	120.29
8	i	110	GLN	C-N-CA	-6.12	111.60	120.29
34	I	33	ILE	N-CA-C	6.12	117.95	109.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	k	70	ARG	CA-C-N	-6.11	111.39	120.68
10	k	70	ARG	C-N-CA	-6.11	111.39	120.68
35	J	135	VAL	CA-C-N	-6.09	111.83	121.02
35	J	135	VAL	C-N-CA	-6.09	111.83	121.02
54	1	1669	A	N9-C1'-C2'	6.09	121.13	112.00
7	h	31	ARG	N-CA-C	-6.08	105.16	114.16
5	f	88	LEU	CA-C-N	-6.07	115.23	123.12
5	f	88	LEU	C-N-CA	-6.07	115.23	123.12
42	Q	44	PRO	CA-C-N	-6.07	113.28	122.81
42	Q	44	PRO	C-N-CA	-6.07	113.28	122.81
27	B	33	SER	CA-C-N	-6.06	113.61	122.46
27	B	33	SER	C-N-CA	-6.06	113.61	122.46
8	i	127	SER	O-C-N	6.06	128.55	122.12
11	l	96	LYS	CA-C-N	-6.06	111.24	122.09
11	l	96	LYS	C-N-CA	-6.06	111.24	122.09
18	s	60	HIS	CA-C-N	-6.06	110.73	121.81
18	s	60	HIS	C-N-CA	-6.06	110.73	121.81
33	H	32	LEU	CA-C-N	-6.05	111.70	120.29
33	H	32	LEU	C-N-CA	-6.05	111.70	120.29
52	a	196	LEU	CA-C-N	-6.04	111.14	120.31
52	a	196	LEU	C-N-CA	-6.04	111.14	120.31
10	k	110	GLU	O-C-N	-6.03	114.57	122.59
45	T	9	LYS	CA-C-N	-6.03	112.96	120.56
45	T	9	LYS	C-N-CA	-6.03	112.96	120.56
7	h	16	SER	CA-C-N	-6.03	111.05	121.66
7	h	16	SER	C-N-CA	-6.03	111.05	121.66
34	I	169	TRP	N-CA-C	-6.03	105.48	114.64
54	1	2501	C	C4'-C3'-O3'	-6.02	103.97	113.00
54	1	895	U	N1-C1'-C2'	6.01	121.01	112.00
5	f	90	GLY	O-C-N	-6.00	118.33	123.43
18	s	40	ASN	CA-C-N	-5.99	113.27	122.62
18	s	40	ASN	C-N-CA	-5.99	113.27	122.62
52	a	185	LEU	N-CA-C	-5.99	105.46	112.89
54	1	2326	C	C2'-C3'-O3'	5.99	122.68	113.70
42	Q	35	ARG	N-CA-C	5.99	117.91	110.91
56	5	2	G	C2'-C3'-O3'	5.98	118.47	109.50
5	f	45	ALA	CA-C-N	5.98	132.96	121.54
5	f	45	ALA	C-N-CA	5.98	132.96	121.54
49	X	47	THR	N-CA-C	5.97	118.13	109.71
54	1	2502	G	N9-C1'-C2'	5.97	120.96	112.00
9	j	27	ARG	CA-C-N	-5.96	112.78	120.65
9	j	27	ARG	C-N-CA	-5.96	112.78	120.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	h	42	ARG	N-CA-C	-5.96	106.01	113.28
56	5	43	U	N1-C1'-C2'	5.95	120.93	112.00
29	D	7	PRO	N-CA-C	5.95	120.55	111.15
7	h	36	ASP	CA-C-N	-5.94	111.09	120.60
7	h	36	ASP	C-N-CA	-5.94	111.09	120.60
36	K	41	ASP	CA-C-N	-5.93	111.27	120.88
36	K	41	ASP	C-N-CA	-5.93	111.27	120.88
43	R	48	SER	N-CA-C	5.92	118.85	110.14
26	A	40	CYS	CA-C-N	-5.92	103.58	121.98
26	A	40	CYS	C-N-CA	-5.92	103.58	121.98
44	S	42	ASN	CA-C-N	-5.91	112.75	120.44
44	S	42	ASN	C-N-CA	-5.91	112.75	120.44
32	G	15	PHE	N-CA-C	5.91	118.67	111.82
5	f	19	ASN	N-CA-C	-5.91	103.46	111.55
14	o	28	VAL	CA-C-O	5.90	127.25	120.76
30	E	56	LEU	CA-C-N	-5.88	113.35	120.70
30	E	56	LEU	C-N-CA	-5.88	113.35	120.70
44	S	93	PRO	N-CA-C	5.88	120.46	111.11
52	a	171	ILE	CA-C-O	-5.88	115.05	121.28
54	1	1909	C	N1-C1'-C2'	5.87	120.81	112.00
54	1	227	A	N9-C1'-C2'	5.86	120.80	112.00
1	b	7	PRO	N-CA-C	5.85	124.53	112.47
6	g	8	LYS	O-C-N	5.83	130.35	122.59
33	H	146	LYS	CA-C-N	-5.83	114.26	121.38
33	H	146	LYS	C-N-CA	-5.83	114.26	121.38
12	m	54	THR	CA-C-N	-5.82	112.48	120.28
12	m	54	THR	C-N-CA	-5.82	112.48	120.28
56	5	40	C	C2'-C3'-O3'	5.82	118.23	109.50
21	v	36	ALA	CA-C-O	5.82	124.59	119.71
40	O	44	THR	CA-C-N	-5.82	114.50	122.93
40	O	44	THR	C-N-CA	-5.82	114.50	122.93
10	k	113	MET	N-CA-C	5.81	119.19	111.75
14	o	6	ALA	CA-C-N	-5.81	112.54	120.44
14	o	6	ALA	C-N-CA	-5.81	112.54	120.44
32	G	18	GLN	N-CA-C	5.81	123.17	110.80
51	Z	48	LYS	CA-C-N	-5.81	110.81	120.68
51	Z	48	LYS	C-N-CA	-5.81	110.81	120.68
35	J	61	LYS	N-CA-C	-5.80	106.24	113.15
8	i	127	SER	CA-C-N	-5.80	112.51	120.46
8	i	127	SER	C-N-CA	-5.80	112.51	120.46
32	G	135	MET	CA-C-N	-5.80	111.93	120.28
32	G	135	MET	C-N-CA	-5.80	111.93	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	L	95	ARG	O-C-N	5.80	128.35	122.09
32	G	75	ALA	N-CA-C	-5.80	106.06	114.12
8	i	80	LYS	O-C-N	5.79	128.75	122.15
8	i	83	ALA	CA-C-N	-5.78	110.09	121.41
8	i	83	ALA	C-N-CA	-5.78	110.09	121.41
2	c	43	ASP	CA-C-N	-5.76	113.69	122.28
2	c	43	ASP	C-N-CA	-5.76	113.69	122.28
20	u	44	HIS	CA-C-N	-5.76	114.53	122.30
20	u	44	HIS	C-N-CA	-5.76	114.53	122.30
19	t	53	VAL	CA-C-O	5.75	127.28	121.64
36	K	99	ALA	N-CA-C	5.75	117.75	110.33
51	Z	8	ASN	CA-C-N	-5.75	110.77	122.45
51	Z	8	ASN	C-N-CA	-5.75	110.77	122.45
43	R	1	ALA	CA-C-N	5.75	132.44	122.32
43	R	1	ALA	C-N-CA	5.75	132.44	122.32
4	e	113	PHE	N-CA-C	5.75	123.05	110.80
52	a	164	ARG	CA-C-N	-5.74	110.57	121.54
52	a	164	ARG	C-N-CA	-5.74	110.57	121.54
54	1	2728	U	N1-C1'-C2'	5.74	120.61	112.00
17	r	23	GLU	N-CA-C	5.74	118.50	108.52
32	G	30	ILE	N-CA-C	5.73	116.93	108.45
13	n	82	GLU	N-CA-C	-5.73	106.94	114.04
54	1	2180	U	N1-C1'-C2'	5.72	120.58	112.00
38	M	45	ILE	CA-C-O	5.71	126.38	120.39
53	3	1426	G	N9-C1'-C2'	5.70	120.55	112.00
19	t	86	THR	N-CA-C	-5.69	100.95	109.15
33	H	110	LEU	CA-C-N	-5.68	113.29	121.42
33	H	110	LEU	C-N-CA	-5.68	113.29	121.42
9	j	81	ILE	N-CA-C	5.67	121.14	109.34
10	k	112	PHE	O-C-N	5.67	129.70	122.04
54	1	12	U	N1-C1'-C2'	5.66	120.49	112.00
14	o	8	ILE	CA-C-N	-5.66	111.24	121.14
14	o	8	ILE	C-N-CA	-5.66	111.24	121.14
16	q	57	ARG	N-CA-C	-5.65	105.02	111.07
34	I	42	ALA	CA-C-N	-5.65	112.97	122.92
34	I	42	ALA	C-N-CA	-5.65	112.97	122.92
40	O	83	THR	CA-C-N	-5.65	112.72	120.46
40	O	83	THR	C-N-CA	-5.65	112.72	120.46
37	L	116	ALA	CA-C-O	5.65	126.94	120.90
35	J	111	ARG	N-CA-C	-5.64	104.51	111.33
54	1	980	A	N9-C1'-C2'	5.63	120.44	112.00
29	D	15	SER	CA-C-N	-5.62	113.73	122.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	D	15	SER	C-N-CA	-5.62	113.73	122.67
4	e	47	LYS	CA-C-N	-5.61	113.25	120.65
4	e	47	LYS	C-N-CA	-5.61	113.25	120.65
32	G	63	LYS	N-CA-C	-5.61	104.35	110.91
32	G	210	THR	N-CA-C	-5.59	105.96	112.89
10	k	116	ILE	CA-C-N	-5.59	113.03	120.63
10	k	116	ILE	C-N-CA	-5.59	113.03	120.63
37	L	57	GLU	O-C-N	-5.59	115.16	122.59
16	q	60	TRP	CA-C-N	-5.59	113.41	120.56
16	q	60	TRP	C-N-CA	-5.59	113.41	120.56
34	I	31	CYS	N-CA-C	5.58	118.33	109.96
54	1	827	U	N1-C1'-C2'	5.58	120.37	112.00
53	3	397	A	N9-C1'-C2'	5.58	120.36	112.00
14	o	28	VAL	O-C-N	-5.57	116.86	123.05
41	P	71	ASP	N-CA-C	-5.57	106.46	113.20
32	G	111	LYS	CA-C-N	-5.56	112.83	120.28
32	G	111	LYS	C-N-CA	-5.56	112.83	120.28
54	1	62	U	N1-C1'-C2'	5.56	120.33	112.00
12	m	119	LEU	CA-C-N	-5.55	113.22	120.44
12	m	119	LEU	C-N-CA	-5.55	113.22	120.44
5	f	21	GLN	CA-C-N	-5.55	115.80	122.90
5	f	21	GLN	C-N-CA	-5.55	115.80	122.90
42	Q	117	GLY	N-CA-C	5.55	126.33	113.18
37	L	138	GLU	N-CA-C	-5.54	105.32	111.36
12	m	87	GLY	CA-C-N	-5.54	114.63	122.94
12	m	87	GLY	C-N-CA	-5.54	114.63	122.94
36	K	16	GLU	O-C-N	5.53	129.74	122.33
33	H	46	LEU	CA-C-N	-5.53	112.53	120.82
33	H	46	LEU	C-N-CA	-5.53	112.53	120.82
7	h	16	SER	N-CA-C	-5.52	106.50	113.18
35	J	112	ALA	CA-C-N	-5.52	111.75	120.47
35	J	112	ALA	C-N-CA	-5.52	111.75	120.47
18	s	38	TYR	CA-C-O	5.51	126.34	119.12
1	b	162	GLN	CA-C-N	-5.50	115.50	122.43
1	b	162	GLN	C-N-CA	-5.50	115.50	122.43
41	P	106	ILE	N-CA-C	5.50	112.10	106.21
54	1	2157	G	N9-C1'-C2'	5.50	120.25	112.00
30	E	41	ARG	CA-C-N	-5.50	111.52	121.14
30	E	41	ARG	C-N-CA	-5.50	111.52	121.14
52	a	64	VAL	N-CA-C	5.50	118.75	111.17
1	b	213	ARG	N-CA-C	-5.49	104.93	111.69
9	j	80	HIS	O-C-N	5.49	129.21	123.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	F	21	GLY	O-C-N	-5.49	115.64	122.34
45	T	81	ILE	CA-C-N	-5.49	110.32	121.18
45	T	81	ILE	C-N-CA	-5.49	110.32	121.18
53	3	1191	A	N9-C1'-C2'	5.48	120.22	112.00
54	1	2725	A	N9-C1'-C2'	5.48	120.22	112.00
51	Z	60	ALA	CA-C-N	-5.47	111.09	121.54
51	Z	60	ALA	C-N-CA	-5.47	111.09	121.54
42	Q	43	LYS	N-CA-C	5.47	121.89	109.81
20	u	9	GLU	CA-C-N	-5.46	116.42	122.27
20	u	9	GLU	C-N-CA	-5.46	116.42	122.27
54	1	2335	A	N9-C1'-C2'	5.46	120.19	112.00
54	1	1171	G	N9-C1'-C2'	5.46	120.19	112.00
54	1	1343	G	N9-C1'-C2'	5.46	120.19	112.00
52	a	162	ARG	CA-C-N	-5.45	113.24	122.67
52	a	162	ARG	C-N-CA	-5.45	113.24	122.67
36	K	72	ASP	CA-C-N	-5.44	112.05	120.31
36	K	72	ASP	C-N-CA	-5.44	112.05	120.31
4	e	89	THR	CA-C-O	5.43	126.57	120.70
51	Z	19	LYS	N-CA-C	-5.43	105.44	111.36
56	5	51	A	N9-C1'-C2'	5.43	120.15	112.00
16	q	14	LYS	CA-C-N	-5.43	113.06	120.44
16	q	14	LYS	C-N-CA	-5.43	113.06	120.44
24	y	4	LYS	N-CA-C	-5.42	106.50	113.01
23	x	71	ARG	CA-C-N	-5.42	111.65	121.14
23	x	71	ARG	C-N-CA	-5.42	111.65	121.14
29	D	22	MET	N-CA-C	-5.42	106.74	113.19
41	P	67	GLU	CA-C-N	-5.42	112.48	120.28
41	P	67	GLU	C-N-CA	-5.42	112.48	120.28
4	e	96	TRP	O-C-N	5.42	127.88	122.03
58	4	9	G	N9-C1'-C2'	5.42	120.12	112.00
54	1	2296	U	C4'-C3'-O3'	5.41	117.52	109.40
8	i	111	THR	CA-C-N	-5.41	112.49	120.28
8	i	111	THR	C-N-CA	-5.41	112.49	120.28
34	I	175	GLY	N-CA-C	-5.41	105.74	113.86
16	q	33	VAL	CB-CA-C	-5.41	106.30	111.06
34	I	91	ALA	N-CA-C	-5.40	105.47	111.36
20	u	40	LEU	N-CA-C	5.39	118.41	109.46
10	k	90	ASN	CA-C-N	-5.39	114.75	122.67
10	k	90	ASN	C-N-CA	-5.39	114.75	122.67
16	q	29	ARG	CA-C-O	5.38	126.29	119.78
54	1	2427	C	N1-C1'-C2'	5.37	120.05	112.00
2	c	156	PHE	CA-C-O	5.36	127.16	121.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
37	L	79	VAL	N-CA-C	-5.36	106.04	113.00
52	a	18	THR	O-C-N	5.35	128.67	122.19
54	1	2434	A	N9-C1'-C2'	5.35	120.02	112.00
4	e	6	TYR	N-CA-C	-5.35	104.69	111.11
32	G	99	MET	CA-C-N	-5.35	114.54	122.56
32	G	99	MET	C-N-CA	-5.35	114.54	122.56
45	T	22	GLY	N-CA-C	5.35	124.18	115.46
16	q	65	ASN	CA-C-N	-5.34	111.59	120.68
16	q	65	ASN	C-N-CA	-5.34	111.59	120.68
12	m	74	THR	CA-C-N	-5.34	112.51	121.75
12	m	74	THR	C-N-CA	-5.34	112.51	121.75
11	l	76	GLU	CA-C-N	-5.34	115.57	122.99
11	l	76	GLU	C-N-CA	-5.34	115.57	122.99
54	1	790	U	N1-C1'-C2'	5.33	119.99	112.00
11	l	98	ALA	CA-C-N	-5.33	114.85	122.68
11	l	98	ALA	C-N-CA	-5.33	114.85	122.68
43	R	96	VAL	N-CA-C	5.31	119.63	113.42
45	T	49	HIS	N-CA-C	5.30	117.06	111.28
37	L	94	ARG	N-CA-C	-5.30	106.82	113.28
53	3	1301	U	N1-C1'-C2'	5.29	119.94	112.00
39	N	95	SER	CA-C-N	-5.28	112.37	121.66
39	N	95	SER	C-N-CA	-5.28	112.37	121.66
18	s	23	LEU	CA-C-N	-5.28	115.38	121.71
18	s	23	LEU	C-N-CA	-5.28	115.38	121.71
37	L	143	MET	CA-C-N	-5.28	113.45	120.63
37	L	143	MET	C-N-CA	-5.28	113.45	120.63
42	Q	42	LYS	N-CA-C	-5.27	103.07	110.35
15	p	78	PRO	N-CA-C	-5.27	107.76	114.35
45	T	43	ALA	N-CA-C	-5.27	105.23	110.97
47	V	32	ILE	N-CA-C	5.27	115.41	110.30
19	t	55	VAL	N-CA-C	5.26	115.47	108.11
31	F	29	ALA	N-CA-C	-5.25	105.99	112.72
10	k	90	ASN	O-C-N	5.25	128.10	121.64
51	Z	17	ARG	N-CA-C	-5.25	106.12	113.37
53	3	1211	U	N1-C1'-C2'	5.25	119.87	112.00
8	i	104	GLN	N-CA-C	-5.24	105.69	111.71
27	B	8	THR	N-CA-C	5.23	117.08	110.33
9	j	84	ILE	CA-C-N	-5.22	115.47	122.42
9	j	84	ILE	C-N-CA	-5.22	115.47	122.42
54	1	301	G	N9-C1'-C2'	5.22	121.82	114.00
5	f	150	TYR	N-CA-C	5.21	117.04	111.36
9	j	15	TRP	CA-C-N	-5.21	113.65	122.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	j	15	TRP	C-N-CA	-5.21	113.65	122.67
19	t	79	ASP	CA-C-N	-5.21	115.47	123.07
19	t	79	ASP	C-N-CA	-5.21	115.47	123.07
4	e	18	GLU	N-CA-C	-5.20	106.90	113.20
54	1	2499	C	N1-C1'-C2'	5.20	119.81	112.00
38	M	118	ALA	N-CA-C	-5.20	106.89	113.18
49	X	72	GLU	CA-C-N	-5.20	116.03	123.20
49	X	72	GLU	C-N-CA	-5.20	116.03	123.20
54	1	2022	U	N1-C1'-C2'	5.20	119.80	112.00
7	h	33	VAL	CA-C-O	5.19	128.26	121.98
1	b	52	HIS	N-CA-C	5.19	118.49	111.17
8	i	130	GLY	N-CA-C	-5.19	106.13	112.77
13	n	86	ARG	O-C-N	5.19	127.62	122.12
33	H	139	ASN	CA-C-N	-5.19	110.90	121.18
33	H	139	ASN	C-N-CA	-5.19	110.90	121.18
37	L	17	PHE	N-CA-C	-5.18	102.65	110.06
38	M	50	VAL	N-CA-C	5.18	115.59	108.12
54	1	2430	A	N9-C1'-C2'	5.18	119.77	112.00
52	a	46	VAL	O-C-N	5.18	128.64	123.10
13	n	85	PRO	CA-C-N	-5.18	113.34	120.28
13	n	85	PRO	C-N-CA	-5.18	113.34	120.28
54	1	1910	G	N9-C1'-C2'	5.18	119.77	112.00
10	k	17	ARG	N-CA-C	-5.17	108.73	114.62
5	f	55	ASP	N-CA-C	5.16	117.95	110.42
4	e	31	GLU	N-CA-C	5.16	120.05	113.55
5	f	80	GLU	N-CA-C	-5.15	106.81	114.64
5	f	88	LEU	CA-C-O	5.15	126.20	120.43
7	h	11	ILE	N-CA-C	-5.15	105.52	110.72
26	A	19	GLY	N-CA-C	-5.14	108.24	114.92
7	h	37	LYS	N-CA-C	5.14	118.65	112.38
43	R	27	THR	CA-C-O	5.14	126.00	120.55
53	3	149	A	N9-C1'-C2'	5.13	119.70	112.00
51	Z	54	ARG	N-CA-C	-5.13	105.69	111.28
52	a	53	ARG	CA-C-N	-5.13	114.30	122.66
52	a	53	ARG	C-N-CA	-5.13	114.30	122.66
21	v	62	THR	CA-C-O	5.12	126.02	120.43
38	M	57	GLU	CA-C-O	5.12	125.78	120.40
36	K	42	TRP	CA-C-N	-5.12	115.45	122.57
36	K	42	TRP	C-N-CA	-5.12	115.45	122.57
12	m	46	ILE	CA-C-N	-5.12	113.63	120.54
12	m	46	ILE	C-N-CA	-5.12	113.63	120.54
31	F	22	VAL	CA-C-N	-5.12	113.83	120.63

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
31	F	22	VAL	C-N-CA	-5.12	113.83	120.63
14	o	61	GLN	O-C-N	5.11	127.98	122.15
48	W	20	ILE	N-CA-C	5.11	119.98	109.34
54	1	1565	C	N1-C1'-C2'	5.11	119.67	112.00
6	g	47	PHE	O-C-N	5.11	129.33	122.49
38	M	45	ILE	O-C-N	-5.11	117.75	123.26
17	r	50	GLY	N-CA-C	-5.10	101.09	113.18
34	I	72	ARG	CA-C-N	-5.09	113.45	120.28
34	I	72	ARG	C-N-CA	-5.09	113.45	120.28
51	Z	59	LEU	N-CA-C	-5.09	107.07	113.28
54	1	1254	A	N9-C1'-C2'	5.09	119.64	112.00
54	1	2847	U	N1-C1'-C2'	5.09	119.63	112.00
19	t	5	GLU	CA-C-N	-5.09	112.58	120.31
19	t	5	GLU	C-N-CA	-5.09	112.58	120.31
53	3	1225	A	N9-C1'-C2'	5.08	119.62	112.00
53	3	1300	G	N9-C1'-C2'	5.08	119.63	112.00
48	W	42	ARG	N-CA-C	-5.08	105.74	111.28
4	e	143	ASP	N-CA-C	-5.07	106.92	113.01
14	o	32	PRO	N-CA-C	-5.07	106.48	113.53
53	3	549	C	N1-C1'-C2'	5.06	119.59	112.00
33	H	98	ALA	CA-C-N	-5.05	115.75	122.72
33	H	98	ALA	C-N-CA	-5.05	115.75	122.72
19	t	53	VAL	O-C-N	-5.05	117.34	122.95
52	a	64	VAL	CA-C-N	5.05	134.12	121.80
52	a	64	VAL	C-N-CA	5.05	134.12	121.80
54	1	1088	A	N9-C1'-C2'	5.05	119.57	112.00
1	b	215	VAL	N-CA-C	5.04	115.30	107.28
54	1	405	U	N1-C1'-C2'	5.04	119.56	112.00
48	W	31	TYR	CA-C-N	-5.03	114.45	122.50
48	W	31	TYR	C-N-CA	-5.03	114.45	122.50
14	o	116	GLN	N-CA-C	5.02	116.50	108.41
54	1	1923	U	N1-C1'-C2'	5.01	119.52	112.00
7	h	59	LEU	N-CA-C	-5.01	102.86	110.28
5	f	66	THR	N-CA-C	-5.01	105.82	111.28
5	f	149	ALA	O-C-N	5.00	128.07	122.22

There are no chirality outliers.

All (169) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
54	1	1025	G	Sidechain
54	1	1062	G	Sidechain

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Mol	Chain	Res	Type	Group
54	1	1080	A	Sidechain
54	1	1088	A	Sidechain
54	1	1111	A	Sidechain
54	1	1154	G	Sidechain
54	1	1236	G	Sidechain
54	1	1251	C	Sidechain
54	1	1254	A	Sidechain
54	1	1256	G	Sidechain
54	1	1271	G	Sidechain
54	1	1328	A	Sidechain
54	1	1353	A	Sidechain
54	1	136	G	Sidechain
54	1	1432	G	Sidechain
54	1	1433	A	Sidechain
54	1	150	U	Sidechain
54	1	1554	U	Sidechain
54	1	1558	C	Sidechain
54	1	1568	G	Sidechain
54	1	1615	C	Sidechain
54	1	1628	G	Sidechain
54	1	1638	C	Sidechain
54	1	1647	U	Sidechain
54	1	1657	U	Sidechain
54	1	1663	G	Sidechain
54	1	1668	A	Sidechain
54	1	1698	A	Sidechain
54	1	1763	G	Sidechain
54	1	1828	G	Sidechain
54	1	1834	U	Sidechain
54	1	1853	A	Sidechain
54	1	1857	G	Sidechain
54	1	1893	C	Sidechain
54	1	1899	A	Sidechain
54	1	1909	C	Sidechain
54	1	1910	G	Sidechain
54	1	1920	C	Sidechain
54	1	1926	U	Sidechain
54	1	1929	G	Sidechain
54	1	1937	A	Sidechain
54	1	1938	A	Sidechain
54	1	1956	U	Sidechain
54	1	1959	G	Sidechain

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Mol	Chain	Res	Type	Group
54	1	196	A	Sidechain
54	1	1969	A	Sidechain
54	1	1972	G	Sidechain
54	1	1976	U	Sidechain
54	1	1993	U	Sidechain
54	1	2034	U	Sidechain
54	1	2061	G	Sidechain
54	1	2066	C	Sidechain
54	1	2114	A	Sidechain
54	1	214	G	Sidechain
54	1	222	A	Sidechain
54	1	2244	U	Sidechain
54	1	2245	U	Sidechain
54	1	2255	G	Sidechain
54	1	2262	U	Sidechain
54	1	2266	A	Sidechain
54	1	2273	A	Sidechain
54	1	232	G	Sidechain
54	1	2325	G	Sidechain
54	1	2447	G	Sidechain
54	1	2454	G	Sidechain
54	1	2486	C	Sidechain
54	1	2488	G	Sidechain
54	1	2489	U	Sidechain
54	1	250	G	Sidechain
54	1	2501	C	Sidechain
54	1	2508	G	Sidechain
54	1	2529	G	Sidechain
54	1	2532	G	Sidechain
54	1	2567	G	Sidechain
54	1	2577	A	Sidechain
54	1	2659	G	Sidechain
54	1	27	G	Sidechain
54	1	2834	G	Sidechain
54	1	2848	G	Sidechain
54	1	2868	A	Sidechain
54	1	307	G	Sidechain
54	1	395	U	Sidechain
54	1	427	U	Sidechain
54	1	446	G	Sidechain
54	1	454	A	Sidechain
54	1	476	G	Sidechain

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Mol	Chain	Res	Type	Group
54	1	477	A	Sidechain
54	1	493	G	Sidechain
54	1	500	G	Sidechain
54	1	501	A	Sidechain
54	1	506	G	Sidechain
54	1	512	G	Sidechain
54	1	525	U	Sidechain
54	1	562	U	Sidechain
54	1	571	U	Sidechain
54	1	577	G	Sidechain
54	1	666	A	Sidechain
54	1	682	G	Sidechain
54	1	683	U	Sidechain
54	1	727	A	Sidechain
54	1	744	U	Sidechain
54	1	75	G	Sidechain
54	1	757	G	Sidechain
54	1	775	G	Sidechain
54	1	778	G	Sidechain
54	1	798	G	Sidechain
54	1	810	U	Sidechain
54	1	860	U	Sidechain
54	1	868	U	Sidechain
54	1	884	U	Sidechain
54	1	910	A	Sidechain
54	1	974	G	Sidechain
54	1	975	A	Sidechain
55	2	1	U	Sidechain
55	2	119	A	Sidechain
55	2	24	G	Sidechain
55	2	59	A	Sidechain
53	3	1053	G	Sidechain
53	3	1064	G	Sidechain
53	3	1139	G	Sidechain
53	3	1167	A	Sidechain
53	3	1178	G	Sidechain
53	3	1191	A	Sidechain
53	3	1194	U	Sidechain
53	3	1285	A	Sidechain
53	3	1316	G	Sidechain
53	3	1332	A	Sidechain
53	3	1395	C	Sidechain

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Mol	Chain	Res	Type	Group
53	3	1399	C	Sidechain
53	3	1412	C	Sidechain
53	3	1481	U	Sidechain
53	3	1489	G	Sidechain
53	3	1491	G	Sidechain
53	3	159	G	Sidechain
53	3	249	U	Sidechain
53	3	26	A	Sidechain
53	3	297	G	Sidechain
53	3	324	G	Sidechain
53	3	380	G	Sidechain
53	3	383	A	Sidechain
53	3	412	A	Sidechain
53	3	413	G	Sidechain
53	3	529	G	Sidechain
53	3	532	A	Sidechain
53	3	549	C	Sidechain
53	3	58	C	Sidechain
53	3	722	G	Sidechain
53	3	820	U	Sidechain
53	3	826	C	Sidechain
53	3	827	U	Sidechain
53	3	872	A	Sidechain
53	3	897	C	Sidechain
53	3	898	G	Sidechain
53	3	900	A	Sidechain
53	3	901	A	Sidechain
53	3	916	U	Sidechain
53	3	925	G	Sidechain
53	3	934	C	Sidechain
53	3	938	A	Sidechain
58	4	9	G	Sidechain
56	5	43	U	Sidechain
56	5	51	A	Sidechain
56	5	65	U	Sidechain
56	5	69	G	Sidechain
57	6	27	U	Sidechain
57	6	44	A	Sidechain
35	J	92	ARG	Mainchain
42	Q	14	LYS	Peptide
3	d	102	ARG	Mainchain

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	b	2083	0	2157	196	0
2	c	1565	0	1616	138	0
3	d	1552	0	1619	120	0
4	e	1411	0	1447	170	0
5	f	1323	0	1374	102	0
6	g	440	0	464	32	0
7	h	593	0	623	66	0
8	i	511	0	544	64	0
9	j	1129	0	1162	78	0
10	k	939	0	1012	138	0
11	l	1045	0	1117	126	0
12	m	1074	0	1157	110	0
13	n	961	0	1000	74	0
14	o	892	0	923	81	0
15	p	917	0	965	99	0
16	q	947	0	1022	91	0
17	r	816	0	839	71	0
18	s	857	0	922	49	0
19	t	739	0	807	55	0
20	u	780	0	834	69	0
21	v	753	0	780	56	0
22	w	575	0	592	46	0
23	x	625	0	655	61	0
24	y	509	0	543	62	0
25	z	449	0	491	29	0
26	A	364	0	366	32	0
27	B	444	0	461	32	0
28	C	410	0	440	25	0
29	D	377	0	418	40	0
30	E	504	0	574	49	0
31	F	302	0	343	25	0
32	G	1705	0	1732	163	0
33	H	1625	0	1699	140	0
34	I	1643	0	1710	161	0
35	J	1157	0	1199	100	0
36	K	818	0	808	78	0
37	L	1182	0	1240	136	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	M	979	0	1034	76	0
39	N	1022	0	1070	107	0
40	O	787	0	828	86	0
41	P	870	0	878	72	0
42	Q	955	0	1019	99	0
43	R	884	0	944	70	0
44	S	805	0	847	92	0
45	T	714	0	737	48	0
46	U	649	0	666	72	0
47	V	649	0	691	58	0
48	W	536	0	552	56	0
49	X	638	0	665	82	0
50	Y	665	0	714	67	0
51	Z	545	0	579	71	0
52	a	1027	0	1092	136	0
53	3	33012	0	16618	1111	0
54	1	62317	0	31346	2241	0
55	2	2568	0	1303	78	0
56	5	1647	0	831	57	0
57	6	1640	0	837	45	0
58	4	388	0	198	8	0
59	1	10	0	10	2	0
60	5	7	0	7	2	0
All	All	147330	0	99121	7238	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 29.

All (7238) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:18:ARG:HB3	12:m:18:ARG:HH21	1.07	1.18
52:a:46:VAL:HG22	52:a:213:SER:H	1.10	1.15
42:Q:113:ARG:HB2	42:Q:118:VAL:HB	1.24	1.14
56:5:26:A:N6	56:5:44:G:H1	1.47	1.12
54:1:770:G:H2'	54:1:771:G:H5"	1.23	1.11
53:3:1212:U:H5"	53:3:1213:A:H5"	1.33	1.10
54:1:1063:G:H3'	54:1:1064:C:H5"	1.27	1.09
1:b:245:THR:HG23	1:b:247:TRP:H	1.14	1.05
4:e:130:GLY:HA3	54:1:2305:U:H5"	1.39	1.04
54:1:45:G:H5"	54:1:46:G:H5'	1.40	1.04

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:28:PRO:HG2	1:b:33:LEU:HD21	1.39	1.04
54:1:674:G:H2'	54:1:804:A:H61	1.18	1.04
52:a:30:LEU:HD23	52:a:185:LEU:HD13	1.39	1.03
26:A:16:CYS:HB3	26:A:20:ASN:HB2	1.38	1.03
35:J:107:GLY:HA3	53:3:9:G:H5'	1.36	1.02
36:K:49:TYR:HE1	48:W:65:SER:HA	1.25	1.02
37:L:78:ARG:HH22	53:3:1382:C:H1'	1.22	1.02
52:a:5:THR:H	52:a:8:MET:HE3	1.21	1.02
54:1:1175:A:H3'	54:1:1176:U:H5'	1.38	1.02
52:a:30:LEU:HA	52:a:33:LEU:HB2	1.39	1.02
10:k:66:LYS:HD2	54:1:1665:A:H5"	1.36	1.02
33:H:39:ARG:HG2	33:H:54:ILE:HD11	1.41	1.02
39:N:71:ILE:HD11	53:3:1289:A:H61	1.25	1.02
36:K:47:LEU:HD12	36:K:55:HIS:HA	1.42	1.01
53:3:94:G:H4'	53:3:95:C:H5'	1.43	1.01
35:J:57:ALA:HA	35:J:60:GLN:HE22	1.22	1.01
4:e:68:LYS:HD3	4:e:81:GLY:HA2	1.43	1.01
51:Z:19:LYS:HE2	51:Z:24:LYS:H	1.25	1.01
11:l:62:PRO:HB2	30:E:29:ARG:HH11	1.22	1.01
32:G:57:ASN:HD22	32:G:219:THR:HB	1.25	1.00
4:e:87:LYS:HD3	54:1:2313:C:H5"	1.44	0.99
24:y:9:LYS:HB3	24:y:12:GLU:HB2	1.42	0.99
36:K:1:MET:HG2	36:K:67:PRO:HA	1.45	0.99
54:1:1075:C:H2'	54:1:1076:C:H5"	1.45	0.99
54:1:1638:C:H2'	54:1:1639:C:H5"	1.43	0.99
54:1:1078:U:H4'	54:1:1079:C:H5"	1.44	0.98
10:k:58:LEU:HD11	10:k:86:LEU:HD23	1.43	0.98
54:1:2155:U:H2'	54:1:2156:G:H5'	1.43	0.98
53:3:112:G:H21	53:3:354:G:H5'	1.27	0.98
35:J:133:ILE:H	35:J:133:ILE:HD12	1.29	0.98
37:L:24:LYS:HE2	53:3:1375:A:H5"	1.46	0.97
53:3:484:G:H4'	53:3:485:U:H5"	1.46	0.97
54:1:2502:G:H5'	54:1:2503:A:H5"	1.42	0.97
1:b:16:VAL:HB	1:b:203:VAL:HG13	1.45	0.97
37:L:41:ILE:HG13	37:L:116:ALA:HA	1.46	0.97
45:T:38:LEU:HD23	45:T:55:LEU:HD13	1.47	0.97
53:3:1033:G:H2'	53:3:1034:G:H4'	1.43	0.97
54:1:1856:U:H3	54:1:1886:U:H3	1.10	0.97
20:u:98:ASN:HB3	20:u:100:GLU:HG3	1.46	0.96
44:S:81:ILE:H	44:S:81:ILE:HD12	1.28	0.96
14:o:31:THR:HG22	14:o:33:ARG:H	1.30	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1063:G:H3'	54:1:1064:C:C5'	1.94	0.96
35:J:108:GLY:H	53:3:9:G:H4'	1.31	0.96
57:6:26:G:H2'	57:6:27:U:H5"	1.48	0.96
8:i:80:LYS:HB3	8:i:86:LYS:HG2	1.45	0.96
40:O:59:LYS:HE2	40:O:62:ARG:HH22	1.29	0.96
54:1:2297:A:N1	54:1:2321:U:H5	1.64	0.95
39:N:83:THR:HG21	39:N:102:PHE:HB3	1.46	0.95
54:1:1799:G:H4'	54:1:1800:C:H5"	1.47	0.95
25:z:46:MET:HG2	54:1:851:C:H4'	1.44	0.95
54:1:2153:C:H2'	54:1:2154:A:H8	1.32	0.95
16:q:61:ILE:HD11	16:q:91:ARG:HD3	1.45	0.95
5:f:88:LEU:HD23	5:f:93:TYR:HB3	1.47	0.94
52:a:47:ASN:HB3	52:a:211:LYS:HB3	1.47	0.94
14:o:34:HIS:HB2	14:o:53:THR:HB	1.50	0.94
23:x:71:ARG:HA	23:x:71:ARG:HH11	1.33	0.94
54:1:2021:C:H3'	54:1:2022:U:H5"	1.48	0.94
2:c:49:GLN:HE22	2:c:79:LEU:HD22	1.28	0.93
10:k:92:GLU:CD	10:k:92:GLU:H	1.76	0.93
54:1:1659:G:H2'	54:1:1660:G:H5"	1.49	0.93
37:L:15:PRO:HB3	39:N:45:MET:HG3	1.50	0.93
52:a:62:ALA:HB1	52:a:160:GLN:HE21	1.31	0.93
7:h:37:LYS:HD2	7:h:54:VAL:HG11	1.46	0.93
54:1:770:G:C2'	54:1:771:G:H5"	1.97	0.92
10:k:64:ARG:HB2	10:k:79:PHE:CE2	2.04	0.92
16:q:12:ARG:HH22	54:1:812:C:H4'	1.34	0.92
15:p:52:ARG:HH22	54:1:2720:U:H5"	1.33	0.92
53:3:92:U:H2'	53:3:93:U:H5'	1.51	0.92
41:P:33:ILE:HG22	41:P:41:LEU:HD12	1.52	0.92
53:3:664:G:H22	53:3:741:G:H1	1.08	0.92
54:1:2128:G:H21	54:1:2173:A:H1'	1.35	0.92
54:1:1922:G:H2'	54:1:1923:U:C4'	2.00	0.91
53:3:946:A:H2'	53:3:947:G:C8	2.05	0.91
54:1:2391:G:H2'	54:1:2424:C:H41	1.33	0.91
29:D:35:ARG:HH22	54:1:54:G:H1'	1.33	0.91
54:1:674:G:H2'	54:1:804:A:N6	1.86	0.91
49:X:61:VAL:HA	49:X:65:MET:HE3	1.53	0.91
54:1:906:U:H2'	54:1:907:G:H5"	1.52	0.91
32:G:71:THR:HG22	32:G:72:LYS:H	1.34	0.91
37:L:55:LYS:HD2	37:L:60:ALA:HB2	1.51	0.91
53:3:412:A:O2'	53:3:413:G:H4'	1.69	0.91
33:H:154:GLY:HA3	33:H:195:ILE:HG12	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:K:38:ARG:HB3	36:K:63:ASN:HB2	1.53	0.90
52:a:26:ALA:HB1	52:a:222:VAL:HG13	1.53	0.90
54:1:910:A:H2'	54:1:911:A:H8	1.36	0.90
51:Z:61:ARG:HG3	51:Z:62:GLU:H	1.34	0.90
37:L:26:VAL:HG23	37:L:42:VAL:HG21	1.52	0.90
54:1:189:G:H2'	54:1:205:G:N2	1.86	0.90
2:c:47:ALA:HA	2:c:84:LEU:HG	1.54	0.90
12:m:18:ARG:HB3	12:m:18:ARG:NH2	1.86	0.90
39:N:123:ARG:HG3	39:N:124:PRO:HD2	1.53	0.90
48:W:55:ALA:HA	48:W:58:ILE:HG22	1.53	0.90
30:E:31:ILE:HD13	54:1:2391:G:H5'	1.53	0.90
39:N:27:ILE:HD12	39:N:34:LEU:HD22	1.52	0.90
40:O:6:ILE:H	40:O:6:ILE:HD12	1.36	0.90
4:e:11:VAL:HA	4:e:14:LYS:HE2	1.54	0.90
53:3:614:C:H2'	53:3:615:G:H5"	1.53	0.90
32:G:101:THR:HG21	53:3:1101:A:H61	1.36	0.89
53:3:501:C:H2'	53:3:502:A:H8	1.37	0.89
53:3:555:U:H2'	53:3:556:C:C6	2.07	0.89
40:O:28:THR:HG22	40:O:86:ALA:HB1	1.55	0.89
54:1:475:C:H4'	54:1:510:C:H5'	1.51	0.89
44:S:32:ASP:HB3	44:S:34:ASN:HD22	1.35	0.89
53:3:206:C:H2'	53:3:207:C:H5'	1.52	0.89
24:y:2:LYS:HG3	24:y:3:ALA:H	1.36	0.89
44:S:26:LEU:HD12	44:S:30:ILE:HD12	1.53	0.89
39:N:50:PRO:HA	39:N:53:LEU:HD12	1.54	0.89
48:W:11:ARG:HB2	48:W:47:ARG:NH1	1.88	0.89
3:d:128:ALA:HB3	3:d:133:LEU:HD22	1.54	0.88
4:e:13:LYS:HA	4:e:16:MET:HG2	1.55	0.88
53:3:1404:C:H2'	53:3:1405:G:C8	2.07	0.88
54:1:1024:G:H3'	54:1:1025:G:H5"	1.53	0.88
8:i:132:ALA:O	8:i:136:GLY:N	2.05	0.88
51:Z:33:ARG:HG3	51:Z:34:ARG:H	1.38	0.88
54:1:1079:C:H2'	54:1:1080:A:H8	1.38	0.88
1:b:49:THR:HG21	54:1:1813:G:H1'	1.53	0.88
53:3:691:G:H2'	53:3:692:U:H6	1.39	0.87
10:k:12:ASP:OD2	10:k:14:SER:HB3	1.73	0.87
53:3:1279:G:H4'	53:3:1281:C:H41	1.39	0.87
11:l:38:GLN:O	11:l:40:SER:N	2.07	0.87
35:J:57:ALA:HA	35:J:60:GLN:NE2	1.90	0.87
1:b:229:HIS:HD2	1:b:230:PRO:HD2	1.39	0.87
34:I:115:GLN:HE21	34:I:115:GLN:HA	1.38	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:23:ASN:HD21	32:G:25:LYS:HE2	1.37	0.87
53:3:501:C:H2'	53:3:502:A:C8	2.09	0.87
53:3:1414:U:H2'	53:3:1415:G:H8	1.40	0.87
36:K:38:ARG:HD2	36:K:97:THR:HA	1.57	0.87
15:p:2:ASN:HA	15:p:5:LYS:HZ2	1.39	0.86
43:R:27:THR:HG21	53:3:1328:C:H5"	1.57	0.86
43:R:19:THR:HG21	43:R:26:LYS:HD2	1.58	0.86
54:1:1080:A:C2	54:1:1081:U:H1'	2.09	0.86
20:u:71:ILE:H	20:u:71:ILE:HD12	1.38	0.86
34:I:120:LYS:HE2	53:3:439:U:H5"	1.55	0.86
54:1:2605:U:H2'	54:1:2606:C:C6	2.10	0.86
54:1:1304:A:H2'	54:1:1305:C:H5"	1.59	0.85
54:1:1925:C:O5'	54:1:1925:C:H6	1.59	0.85
50:Y:66:ILE:HD12	50:Y:70:LYS:HD3	1.58	0.85
40:O:14:ASP:HB3	40:O:17:LEU:HB3	1.56	0.85
15:p:47:ILE:HG22	15:p:96:LEU:HD12	1.57	0.85
38:M:48:PHE:HB2	38:M:58:LEU:HD11	1.58	0.85
53:3:83:C:H2'	53:3:84:U:H5"	1.58	0.85
54:1:910:A:H2'	54:1:911:A:C8	2.11	0.85
6:g:9:VAL:HG13	6:g:12:LEU:HB2	1.59	0.85
2:c:49:GLN:NE2	2:c:79:LEU:HD22	1.92	0.85
7:h:23:LEU:HD12	7:h:23:LEU:H	1.41	0.85
56:5:51:A:H61	56:5:63:U:H3	1.24	0.85
39:N:71:ILE:H	39:N:71:ILE:HD12	1.41	0.85
12:m:38:ARG:HH12	55:2:90:C:H4'	1.42	0.84
54:1:2709:G:H2'	54:1:2710:C:H6	1.42	0.84
8:i:121:ILE:H	8:i:121:ILE:HD12	1.39	0.84
54:1:1789:A:H2'	54:1:1790:C:H6	1.40	0.84
11:l:19:LEU:HB3	11:l:27:LEU:HD13	1.58	0.84
36:K:49:TYR:CE1	48:W:65:SER:HA	2.12	0.84
32:G:57:ASN:ND2	32:G:219:THR:HB	1.92	0.84
11:l:85:VAL:HG22	11:l:86:GLU:H	1.40	0.84
42:Q:113:ARG:HB2	42:Q:118:VAL:CB	2.07	0.84
1:b:180:MET:HE1	1:b:268:ARG:HE	1.42	0.84
35:J:22:LYS:HB3	35:J:29:ILE:HG22	1.60	0.84
47:V:3:LYS:HG2	47:V:4:ILE:H	1.42	0.84
53:3:1483:A:H2'	53:3:1484:C:H5'	1.60	0.84
44:S:81:ILE:HG21	53:3:1202:U:N3	1.92	0.84
53:3:890:G:H2'	53:3:906:A:H61	1.42	0.84
32:G:76:SER:HB2	32:G:92:ASN:HB2	1.60	0.83
47:V:76:ARG:HH12	47:V:78:VAL:HG22	1.42	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:976:G:H5”	53:3:1358:U:O2’	1.76	0.83
53:3:1171:A:H2’	53:3:1172:C:C6	2.12	0.83
54:1:1077:A:H2’	54:1:1078:U:H5’	1.58	0.83
55:2:48:U:H2’	55:2:49:C:C6	2.13	0.83
53:3:555:U:H2’	53:3:556:C:H6	1.43	0.83
13:n:20:MET:HE1	13:n:40:LYS:HE2	1.59	0.83
53:3:1206:G:H2’	53:3:1207:G:H5”	1.60	0.83
5:f:9:VAL:HA	5:f:48:THR:HG22	1.59	0.83
19:t:4:GLU:HA	19:t:7:LEU:HD12	1.60	0.83
53:3:352:C:H4’	53:3:354:G:OP1	1.78	0.83
54:1:2722:G:H2’	54:1:2723:C:C6	2.14	0.83
13:n:9:GLN:HA	13:n:17:ARG:HD3	1.61	0.83
37:L:109:LYS:HG3	37:L:110:ARG:H	1.42	0.83
3:d:119:ILE:HB	3:d:187:VAL:HA	1.60	0.83
40:O:59:LYS:HE2	40:O:62:ARG:NH2	1.93	0.83
8:i:80:LYS:HD3	8:i:86:LYS:HB3	1.60	0.83
24:y:2:LYS:HD2	54:1:102:U:C2	2.14	0.83
54:1:1565:C:H2’	54:1:1566:A:H5”	1.60	0.83
2:c:56:LYS:HB3	2:c:59:ARG:HB3	1.58	0.83
6:g:30:LEU:HB3	6:g:36:ALA:HB3	1.59	0.83
11:l:101:ILE:HG22	11:l:105:ILE:HG13	1.61	0.83
38:M:94:VAL:HG21	38:M:127:TYR:CD1	2.14	0.83
54:1:799:G:H5”	54:1:800:A:H2’	1.61	0.83
54:1:974:G:H8	54:1:990:A:H62	1.20	0.83
54:1:1779:U:H5	54:1:1784:A:N7	1.76	0.82
53:3:17:U:H2’	53:3:18:C:C6	2.14	0.82
54:1:2591:C:H2’	54:1:2592:G:C8	2.13	0.82
48:W:41:SER:H	48:W:51:GLN:HE22	1.26	0.82
54:1:121:G:H4’	54:1:149:A:H5’	1.61	0.82
54:1:1175:A:H3’	54:1:1176:U:C5’	2.10	0.82
54:1:1868:C:H3’	54:1:1869:G:H5”	1.62	0.82
54:1:2126:A:C2	54:1:2163:A:H1’	2.14	0.82
4:e:21:TYR:HE2	4:e:28:PRO:HD3	1.44	0.82
52:a:15:VAL:HG13	52:a:16:ASP:H	1.43	0.82
55:2:119:A:C2	55:2:120:A:H1’	2.13	0.82
1:b:77:VAL:HA	1:b:93:VAL:HG12	1.61	0.82
54:1:2158:A:H4’	54:1:2159:G:O4’	1.79	0.82
10:k:42:THR:HG22	10:k:57:VAL:HG22	1.60	0.82
54:1:1277:G:H2’	54:1:1278:C:C6	2.15	0.82
54:1:1313:U:H2’	54:1:1610:A:C2	2.15	0.82
54:1:782:A:H4’	54:1:783:A:H5’	1.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1922:G:C4	54:1:1923:U:H1'	2.15	0.82
3:d:109:LEU:HD13	3:d:112:LEU:HD12	1.59	0.82
4:e:132:ARG:HG2	4:e:133:GLU:OE2	1.80	0.82
37:L:78:ARG:NH2	53:3:1382:C:H1'	1.94	0.82
6:g:52:ALA:HA	6:g:56:ALA:HB3	1.62	0.81
1:b:224:MET:HE2	54:1:782:A:C2	2.15	0.81
4:e:147:ARG:HG3	4:e:148:VAL:H	1.45	0.81
33:H:63:ILE:HG22	33:H:96:VAL:HG23	1.59	0.81
54:1:1796:U:H2'	54:1:1797:G:H8	1.45	0.81
54:1:2252:G:H2'	54:1:2253:G:C8	2.15	0.81
1:b:86:ARG:HG2	1:b:88:ALA:H	1.43	0.81
1:b:245:THR:OG1	1:b:246:PRO:HD2	1.80	0.81
45:T:81:ILE:HG22	45:T:86:LEU:HD12	1.63	0.81
54:1:699:A:H5"	54:1:700:G:OP2	1.80	0.81
54:1:2163:A:H5"	54:1:2171:A:C2	2.15	0.81
53:3:1033:G:H2'	53:3:1034:G:C4'	2.10	0.81
54:1:1565:C:C2'	54:1:1566:A:H5"	2.11	0.81
11:l:62:PRO:HB2	30:E:29:ARG:NH1	1.95	0.81
35:J:93:VAL:HG21	35:J:110:MET:SD	2.20	0.81
54:1:310:A:H2'	54:1:311:A:H5"	1.63	0.81
54:1:2722:G:H2'	54:1:2723:C:H6	1.44	0.81
12:m:18:ARG:HH21	12:m:18:ARG:CB	1.92	0.81
33:H:199:VAL:HG23	33:H:201:ILE:HD11	1.61	0.81
42:Q:89:LEU:HB3	42:Q:92:VAL:HG23	1.61	0.81
46:U:46:LYS:NZ	46:U:48:GLU:HB2	1.95	0.81
11:l:109:LYS:HG2	11:l:126:ARG:HG3	1.63	0.81
1:b:204:LEU:HD12	1:b:209:ALA:HB1	1.60	0.81
29:D:35:ARG:NH2	54:1:54:G:H1'	1.96	0.81
10:k:66:LYS:CD	54:1:1665:A:H5"	2.11	0.81
54:1:1922:G:H2'	54:1:1923:U:O4'	1.81	0.81
2:c:61:THR:HB	2:c:63:PRO:HD2	1.62	0.81
10:k:23:LYS:NZ	54:1:2562:U:H1'	1.96	0.81
10:k:86:LEU:HB3	10:k:95:ILE:HD12	1.62	0.81
43:R:49:GLU:HA	43:R:52:ILE:HB	1.63	0.80
54:1:2131:U:H5'	54:1:2132:U:H5'	1.60	0.80
54:1:971:G:H2'	54:1:972:A:O4'	1.80	0.80
6:g:53:GLU:HG2	6:g:54:LEU:HD12	1.63	0.80
23:x:4:CYS:HB2	23:x:32:LEU:HD21	1.61	0.80
33:H:76:ILE:HB	33:H:80:GLY:HA2	1.62	0.80
54:1:1056:G:H1'	54:1:1103:A:H62	1.45	0.80
54:1:2266:A:H4'	54:1:2267:A:C2	2.16	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:146:ILE:CD1	2:c:155:VAL:HG11	2.12	0.80
3:d:131:THR:HG22	3:d:160:ALA:HA	1.63	0.80
15:p:93:LYS:HE2	15:p:93:LYS:HA	1.62	0.80
52:a:46:VAL:HG22	52:a:213:SER:N	1.95	0.80
54:1:2709:G:H2'	54:1:2710:C:C6	2.16	0.80
5:f:85:LYS:HD3	5:f:131:VAL:HG22	1.64	0.80
46:U:8:ARG:HB3	46:U:28:ARG:HH11	1.46	0.80
54:1:2071:A:H2'	54:1:2072:C:C6	2.17	0.80
15:p:59:THR:HG22	15:p:72:VAL:HB	1.64	0.80
32:G:165:ALA:HB2	32:G:186:VAL:HG12	1.63	0.80
33:H:176:THR:HG22	53:3:1111:A:N1	1.97	0.80
49:X:28:LYS:HD3	49:X:29:PRO:HD2	1.64	0.80
29:D:35:ARG:HH22	54:1:54:G:C1'	1.93	0.80
53:3:1206:G:C3'	53:3:1207:G:H5"	2.12	0.80
54:1:49:A:H5'	54:1:51:G:O4'	1.81	0.79
16:q:85:ALA:HB1	16:q:111:LYS:HE3	1.63	0.79
33:H:5:HIS:CE1	33:H:7:ASN:HB3	2.16	0.79
43:R:63:VAL:HG23	43:R:67:ASP:HB2	1.62	0.79
2:c:43:ASP:O	2:c:45:TYR:HD1	1.64	0.79
54:1:1912:A:H62	54:1:1917:U:H5	1.31	0.79
7:h:41:LEU:HD22	54:1:1083:U:H4'	1.64	0.79
17:r:14:VAL:HG21	17:r:98:ILE:HG13	1.63	0.79
20:u:7:ASP:HA	20:u:23:LYS:HE2	1.64	0.79
54:1:742:A:H2'	54:1:743:A:C8	2.17	0.79
54:1:1638:C:C2'	54:1:1639:C:H5"	2.11	0.79
58:4:11:U:H2'	58:4:12:A:H5"	1.64	0.79
4:e:97:GLU:HA	4:e:100:GLU:HG2	1.63	0.79
4:e:116:LEU:HD22	4:e:175:PRO:HD2	1.65	0.79
7:h:29:ASP:HB3	7:h:32:GLY:HA3	1.64	0.79
12:m:35:ALA:HA	12:m:128:THR:HG22	1.64	0.79
54:1:189:G:H2'	54:1:205:G:H22	1.47	0.79
56:5:26:A:H61	56:5:44:G:H1	0.80	0.79
1:b:149:LYS:HD3	54:1:2204:G:H4'	1.64	0.79
14:o:31:THR:HG22	14:o:33:ARG:N	1.97	0.79
23:x:15:ASN:HD21	23:x:23:ALA:HB1	1.48	0.79
35:J:148:SER:HB2	35:J:149:PRO:HD2	1.65	0.79
54:1:1087:G:H2'	54:1:1089:A:H5"	1.64	0.79
53:3:148:G:H2'	53:3:149:A:H5"	1.65	0.79
53:3:396:C:H2'	53:3:397:A:H5"	1.65	0.79
54:1:859:G:H1'	54:1:860:U:H5	1.46	0.79
54:1:1807:G:H2'	54:1:1808:A:H5'	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:81:LEU:HG	34:I:82:LYS:H	1.48	0.79
54:1:541:A:H2'	54:1:542:C:C6	2.18	0.79
11:l:135:ILE:HD12	11:l:142:ILE:HD11	1.64	0.78
42:Q:49:ARG:HH22	53:3:522:C:N4	1.80	0.78
47:V:10:ARG:HB3	47:V:10:ARG:NH1	1.98	0.78
46:U:16:PHE:CE1	53:3:625:U:H4'	2.16	0.78
10:k:31:ARG:HB2	10:k:32:TYR:CD2	2.17	0.78
53:3:946:A:H2'	53:3:947:G:H8	1.43	0.78
54:1:1924:C:H2'	54:1:1925:C:C6	2.19	0.78
8:i:72:THR:HG23	8:i:73:PRO:HD2	1.63	0.78
32:G:69:VAL:HG13	32:G:162:VAL:HG23	1.65	0.78
16:q:77:LYS:HE3	16:q:116:LEU:HD21	1.66	0.78
54:1:2553:G:H3'	54:1:2554:U:H5"	1.62	0.78
10:k:17:ARG:HH21	53:3:1471:U:H5"	1.49	0.78
12:m:86:LYS:HZ2	54:1:955:U:H5"	1.49	0.78
32:G:95:TRP:HZ2	32:G:100:LEU:HD23	1.48	0.78
2:c:124:ARG:HD2	2:c:163:GLY:O	1.83	0.78
47:V:11:VAL:HG13	47:V:55:GLY:H	1.46	0.78
53:3:1206:G:C2'	53:3:1207:G:H5"	2.14	0.78
44:S:41:TRP:HA	44:S:44:VAL:HG22	1.63	0.78
54:1:765:C:H2'	54:1:766:U:C6	2.19	0.78
6:g:5:LEU:HD21	6:g:12:LEU:HB3	1.66	0.78
14:o:16:ARG:HA	14:o:16:ARG:HH21	1.48	0.78
15:p:2:ASN:HA	15:p:5:LYS:NZ	1.99	0.78
22:w:36:GLN:NE2	22:w:39:THR:HA	1.99	0.77
46:U:70:ARG:HG2	46:U:70:ARG:HH11	1.46	0.77
54:1:1909:C:O2	54:1:1910:G:C8	2.37	0.77
41:P:17:ASP:HB3	41:P:80:ASN:HD21	1.48	0.77
54:1:2671:G:H2'	54:1:2672:U:C6	2.19	0.77
17:r:21:ARG:HG3	17:r:93:PHE:CD2	2.19	0.77
54:1:729:G:H5"	54:1:730:A:C5'	2.15	0.77
54:1:1664:A:H61	54:1:1996:C:H42	1.31	0.77
54:1:2391:G:H2'	54:1:2424:C:N4	1.98	0.77
14:o:43:ASN:HD21	14:o:46:GLU:H	1.32	0.77
20:u:25:LYS:HB2	20:u:34:ILE:HG22	1.64	0.77
47:V:46:HIS:HB3	47:V:70:LYS:HE3	1.67	0.77
17:r:79:ARG:NE	17:r:80:ARG:HH21	1.83	0.77
35:J:132:PRO:HA	35:J:135:VAL:HG22	1.65	0.77
42:Q:85:ARG:HG3	42:Q:87:LYS:H	1.49	0.77
52:a:23:ILE:HA	52:a:224:VAL:HB	1.66	0.77
54:1:1571:A:H2'	54:1:1572:A:C8	2.19	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1689:A:H2'	54:1:1690:A:C8	2.19	0.77
54:1:2123:G:O6	54:1:2170:A:H1'	1.85	0.77
10:k:71:ARG:HB2	10:k:73:ASP:OD1	1.85	0.77
22:w:16:ARG:N	22:w:16:ARG:HD2	2.00	0.77
24:y:44:LYS:HG3	24:y:47:ARG:NH1	2.00	0.77
39:N:42:THR:HG22	39:N:43:ALA:H	1.49	0.77
54:1:419:U:H2'	54:1:420:C:C6	2.19	0.77
54:1:852:U:H2'	54:1:853:C:C6	2.19	0.77
54:1:2074:U:H2'	54:1:2075:U:C6	2.19	0.77
2:c:148:GLN:O	54:1:2052:A:H4'	1.84	0.77
10:k:59:LYS:HE2	10:k:89:ASN:HA	1.66	0.77
13:n:25:ALA:O	13:n:29:VAL:HG23	1.84	0.77
54:1:2809:A:H2'	54:1:2810:A:C8	2.18	0.77
44:S:26:LEU:HD11	44:S:43:ALA:HA	1.67	0.77
53:3:715:A:H2'	53:3:716:A:H8	1.50	0.77
54:1:447:A:H2'	54:1:447:A:OP2	1.84	0.77
11:l:101:ILE:CG2	11:l:105:ILE:HG13	2.15	0.77
23:x:40:GLU:H	23:x:40:GLU:CD	1.92	0.77
32:G:184:ALA:HB3	32:G:195:VAL:HG11	1.67	0.77
54:1:2682:A:H61	54:1:2728:U:H1'	1.49	0.77
56:5:20:U:H2'	56:5:21:A:H5"	1.67	0.77
2:c:136:ASN:HD21	2:c:139:SER:HB3	1.49	0.77
52:a:26:ALA:HB3	52:a:224:VAL:HG12	1.66	0.77
52:a:170:ILE:HG22	52:a:171:ILE:H	1.49	0.77
3:d:112:LEU:HB3	3:d:118:LEU:HD21	1.65	0.76
4:e:125:GLY:HA2	4:e:162:ASP:HA	1.66	0.76
24:y:11:VAL:HA	24:y:14:LEU:HB3	1.65	0.76
39:N:96:GLU:HG2	39:N:97:LEU:HD22	1.65	0.76
41:P:80:ASN:HA	41:P:105:ARG:HB3	1.65	0.76
53:3:1198:G:H5'	53:3:1198:G:H8	1.50	0.76
54:1:1906:G:H2'	54:1:1907:G:H5"	1.66	0.76
14:o:3:LYS:HD3	55:2:30:C:OP1	1.85	0.76
21:v:76:ASP:H	21:v:90:ASP:HB2	1.50	0.76
24:y:2:LYS:HG3	24:y:3:ALA:N	2.00	0.76
54:1:967:U:H2'	54:1:968:C:C6	2.19	0.76
1:b:129:LEU:C	1:b:188:ARG:HG2	2.11	0.76
53:3:509:A:H8	53:3:509:A:H5'	1.51	0.76
59:1:3001:FME:HB2	60:5:101:PRO:HD2	1.67	0.76
3:d:111:GLU:OE2	3:d:112:LEU:HG	1.86	0.76
19:t:39:THR:O	19:t:43:ILE:HG13	1.85	0.76
25:z:50:VAL:O	25:z:54:VAL:HG22	1.86	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:5:LYS:HZ3	49:X:6:LYS:HD2	1.50	0.76
53:3:235:C:H2'	53:3:236:A:C8	2.21	0.76
54:1:2731:G:H2'	54:1:2732:G:C8	2.19	0.76
2:c:39:ASP:HA	2:c:46:ARG:HG2	1.67	0.76
12:m:38:ARG:NH1	55:2:90:C:H4'	2.00	0.76
12:m:45:GLN:HE21	54:1:2485:G:H5"	1.50	0.76
54:1:780:G:H2'	54:1:782:A:N7	2.00	0.76
16:q:61:ILE:CD1	16:q:91:ARG:HD3	2.15	0.76
50:Y:66:ILE:HG23	50:Y:70:LYS:HB3	1.64	0.76
54:1:742:A:H2'	54:1:743:A:H8	1.49	0.76
54:1:1654:A:H2'	54:1:1655:A:H8	1.50	0.76
54:1:1956:U:O2	54:1:1956:U:H2'	1.84	0.76
2:c:200:ASP:O	2:c:201:LEU:HD12	1.84	0.76
54:1:1920:C:H4'	54:1:1921:G:OP1	1.85	0.76
38:M:10:LEU:HD12	38:M:74:ILE:HG12	1.67	0.76
41:P:19:VAL:HG22	41:P:82:GLU:HB2	1.68	0.76
54:1:548:G:H2'	54:1:549:G:O4'	1.86	0.76
54:1:1922:G:H2'	54:1:1923:U:H4'	1.66	0.76
54:1:2591:C:H2'	54:1:2592:G:H8	1.50	0.76
53:3:78:A:H2'	53:3:79:G:O4'	1.86	0.76
53:3:1029:U:H2'	53:3:1031:C:H1'	1.67	0.76
54:1:1064:C:N4	54:1:1069:A:H3'	2.00	0.76
54:1:2247:A:H2'	54:1:2248:C:C6	2.20	0.76
57:6:26:G:C2'	57:6:27:U:H5"	2.15	0.76
14:o:85:LYS:HE2	14:o:85:LYS:HA	1.67	0.75
46:U:34:GLU:HG2	46:U:56:ARG:HH21	1.52	0.75
47:V:78:VAL:O	47:V:79:GLU:HG2	1.86	0.75
51:Z:66:ARG:O	53:3:1167:A:N7	2.19	0.75
20:u:13:LEU:O	20:u:18:LYS:HG3	1.87	0.75
37:L:3:ARG:HB2	53:3:932:C:OP1	1.86	0.75
15:p:52:ARG:NH2	54:1:2720:U:H5"	2.02	0.75
29:D:1:MET:HE1	54:1:752:A:C5'	2.17	0.75
51:Z:48:LYS:HE2	51:Z:48:LYS:HA	1.67	0.75
54:1:2112:G:H3'	54:1:2113:U:C5	2.21	0.75
5:f:82:PHE:HB3	5:f:140:ILE:HD13	1.68	0.75
54:1:882:G:H1	54:1:894:U:H3	1.34	0.75
56:5:2:G:H1'	56:5:3:G:OP1	1.86	0.75
41:P:110:THR:HG22	51:Z:4:LYS:HG3	1.67	0.75
53:3:664:G:N2	53:3:741:G:H1	1.84	0.75
54:1:1090:A:H2'	54:1:1091:G:O4'	1.86	0.75
52:a:46:VAL:HG13	52:a:211:LYS:O	1.86	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:83:VAL:HG23	33:H:86:LEU:HD12	1.69	0.75
41:P:118:ASN:OD1	53:3:718:A:H5'	1.86	0.75
54:1:1104:C:H6	54:1:1104:C:H5"	1.52	0.75
54:1:2520:C:O2'	54:1:2521:C:H5'	1.86	0.75
9:j:96:ARG:HH12	9:j:126:ALA:HB2	1.50	0.75
12:m:86:LYS:NZ	54:1:955:U:H5"	2.01	0.75
37:L:140:VAL:O	37:L:144:ALA:N	2.20	0.75
54:1:729:G:H5"	54:1:730:A:H5"	1.69	0.75
54:1:1657:U:H2'	54:1:1658:C:H6	1.52	0.75
56:5:10:G:N2	56:5:26:A:H1'	2.00	0.75
2:c:133:THR:HG23	2:c:134:HIS:H	1.52	0.74
21:v:30:ILE:HD13	21:v:72:VAL:HG11	1.69	0.74
41:P:125:LYS:HB2	51:Z:33:ARG:HD2	1.69	0.74
46:U:5:ARG:HB2	53:3:376:G:H5"	1.68	0.74
54:1:580:U:O2'	54:1:581:C:H5'	1.88	0.74
32:G:96:LEU:HD13	53:3:1103:C:H4'	1.69	0.74
36:K:4:TYR:CD1	36:K:71:ILE:HG21	2.22	0.74
39:N:14:SER:HB3	39:N:69:GLY:HA3	1.69	0.74
53:3:1305:G:H22	53:3:1331:G:H2'	1.51	0.74
54:1:1025:G:H1'	54:1:1135:C:H5"	1.68	0.74
54:1:1354:A:H2'	54:1:1355:G:O4'	1.88	0.74
54:1:2715:C:H2'	54:1:2716:C:H5"	1.69	0.74
12:m:26:VAL:HG21	12:m:133:LYS:HA	1.67	0.74
20:u:81:ARG:HB2	20:u:96:LYS:HD2	1.69	0.74
28:C:33:LEU:HD23	28:C:34:GLU:N	2.03	0.74
46:U:21:VAL:HG13	46:U:33:ILE:HB	1.67	0.74
4:e:107:VAL:HG12	4:e:113:PHE:HE1	1.52	0.74
29:D:1:MET:HE1	54:1:752:A:H5"	1.69	0.74
49:X:10:ILE:HD11	49:X:15:LEU:HD22	1.67	0.74
54:1:528:A:N1	54:1:2042:A:H2'	2.03	0.74
54:1:782:A:H5'	54:1:783:A:C2	2.22	0.74
54:1:1584:U:H2'	54:1:1585:C:H5'	1.69	0.74
34:I:145:ARG:HH21	34:I:148:ALA:HB2	1.52	0.74
53:3:479:U:H2'	53:3:480:U:H5"	1.69	0.74
54:1:729:G:O2'	54:1:763:G:H4'	1.87	0.74
54:1:2171:A:H5'	54:1:2174:C:H41	1.53	0.74
8:i:99:LYS:HB3	8:i:140:GLU:HB2	1.68	0.74
12:m:58:LYS:O	12:m:58:LYS:HD3	1.87	0.74
21:v:76:ASP:HB3	21:v:90:ASP:OD2	1.87	0.74
27:B:24:VAL:HG22	27:B:26:SER:H	1.53	0.74
53:3:273:U:H2'	53:3:274:A:H5'	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2737:G:H2'	54:1:2738:A:C8	2.21	0.74
8:i:90:GLY:N	8:i:92:PRO:HD3	2.01	0.74
19:t:61:LEU:HD12	19:t:61:LEU:O	1.86	0.74
35:J:156:ARG:HA	35:J:158:LYS:NZ	2.03	0.74
37:L:138:GLU:HG3	37:L:142:ARG:HD2	1.68	0.74
38:M:12:ARG:HD3	38:M:26:MET:HE3	1.68	0.74
41:P:19:VAL:HG11	41:P:84:MET:HG3	1.70	0.74
53:3:1483:A:C2'	53:3:1484:C:H5'	2.17	0.74
54:1:528:A:C2	54:1:2042:A:H2'	2.23	0.74
22:w:71:LYS:HB2	22:w:73:ARG:NH1	2.03	0.74
33:H:71:ARG:HG2	33:H:74:ILE:HD12	1.69	0.74
33:H:146:LYS:HB2	33:H:202:PHE:HD2	1.53	0.74
52:a:25:GLU:HA	52:a:28:ALA:HB3	1.68	0.74
54:1:1789:A:H2'	54:1:1790:C:C6	2.23	0.74
3:d:32:VAL:HG11	11:l:6:LEU:HD23	1.69	0.74
22:w:34:VAL:HG11	22:w:41:PHE:HD2	1.53	0.74
53:3:152:A:H5"	53:3:153:C:H5	1.52	0.74
56:5:17(A):U:O2'	56:5:18:G:H5"	1.87	0.74
16:q:12:ARG:NH2	54:1:812:C:H4'	2.02	0.73
34:I:90:LEU:HD12	34:I:187:ARG:NH1	2.03	0.73
53:3:728:A:H2'	53:3:729:A:C8	2.23	0.73
54:1:20:C:H2'	54:1:21:A:C8	2.22	0.73
54:1:1539:U:H2'	54:1:1540:G:C8	2.22	0.73
17:r:77:PHE:HD1	17:r:84:ARG:HG2	1.53	0.73
34:I:67:LEU:O	34:I:71:PHE:HB2	1.89	0.73
44:S:66:THR:CG2	44:S:82:LYS:HE3	2.18	0.73
1:b:106:PRO:HD2	1:b:109:LEU:HD22	1.68	0.73
1:b:199:HIS:CD2	1:b:202:ARG:HH12	2.06	0.73
20:u:48:VAL:HG22	20:u:50:ALA:H	1.51	0.73
36:K:47:LEU:HD23	36:K:59:TYR:OH	1.88	0.73
52:a:170:ILE:HG22	52:a:171:ILE:N	2.03	0.73
25:z:6:ILE:HG21	25:z:26:LEU:HD13	1.69	0.73
31:F:36:ARG:HG2	31:F:37:GLN:N	2.03	0.73
32:G:66:ILE:HD12	32:G:159:ALA:HB3	1.70	0.73
54:1:7:G:H2'	54:1:8:C:C6	2.23	0.73
4:e:92:GLY:H	4:e:95:MET:HE3	1.50	0.73
14:o:43:ASN:HD21	14:o:46:GLU:HG2	1.52	0.73
15:p:1:SER:HB2	15:p:4:ILE:HD13	1.71	0.73
46:U:6:LEU:HD22	46:U:17:TYR:HB3	1.70	0.73
53:3:1477:U:H2'	53:3:1478:U:C6	2.22	0.73
54:1:1028:A:H2'	54:1:1029:A:C8	2.23	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:19:VAL:HB	10:k:41:ILE:HD12	1.70	0.73
12:m:66:ARG:HH11	12:m:66:ARG:HG3	1.52	0.73
35:J:98:ALA:HB2	35:J:123:LEU:HD13	1.70	0.73
39:N:71:ILE:HD11	53:3:1289:A:N6	2.04	0.73
45:T:62:ARG:HH11	45:T:62:ARG:HG3	1.53	0.73
54:1:717:C:H2'	54:1:718:A:H5'	1.71	0.73
18:s:18:ARG:HE	18:s:76:VAL:HG23	1.53	0.73
20:u:33:VAL:HG13	20:u:66:VAL:HG22	1.70	0.73
21:v:21:ARG:HD2	21:v:87:GLN:OE1	1.87	0.73
34:I:10:LEU:HD22	34:I:62:ARG:HH11	1.54	0.73
9:j:128:ASN:HB3	9:j:129:GLU:OE2	1.88	0.73
29:D:1:MET:HE2	54:1:753:A:H5'	1.71	0.73
53:3:1332:A:H2'	53:3:1333:A:H8	1.54	0.73
54:1:1458:U:H4'	54:1:1459:G:O4'	1.89	0.73
54:1:1908:C:H2'	54:1:1909:C:H5'	1.71	0.73
1:b:143:VAL:HG12	1:b:189:ALA:HB2	1.68	0.73
9:j:60:ASP:OD2	9:j:127:GLY:HA2	1.89	0.73
34:I:205:LYS:HA	53:3:8:A:N7	2.03	0.73
52:a:5:THR:N	52:a:8:MET:HE3	2.01	0.73
53:3:129:A:H1'	53:3:130:A:N7	2.04	0.73
53:3:1540:U:O4	58:4:5:A:H2	1.71	0.73
54:1:2462:C:H1'	54:1:2491:U:O4	1.88	0.73
56:5:14:A:N1	56:5:22:G:H1'	2.04	0.73
13:n:37:THR:HG23	13:n:40:LYS:HD2	1.70	0.73
54:1:310:A:C2'	54:1:311:A:H5"	2.19	0.73
54:1:1045:C:H5"	54:1:1111:A:N6	2.02	0.73
54:1:2514:U:H2'	54:1:2515:C:C6	2.23	0.73
7:h:53:ARG:HB3	54:1:1084:A:OP1	1.88	0.72
14:o:33:ARG:HG3	14:o:34:HIS:H	1.54	0.72
30:E:3:ILE:HD13	30:E:62:PRO:HG3	1.68	0.72
54:1:2128:G:H1'	54:1:2173:A:N3	2.04	0.72
4:e:142:TYR:HD1	4:e:145:VAL:HG13	1.51	0.72
40:O:50:THR:HG21	53:3:975:A:H62	1.53	0.72
44:S:15:LEU:HB3	44:S:54:SER:HB3	1.71	0.72
54:1:2259:U:H2'	54:1:2260:C:H6	1.52	0.72
53:3:767:A:H2'	53:3:768:A:H8	1.55	0.72
53:3:1261:A:H2'	53:3:1262:C:H5'	1.71	0.72
54:1:2087:G:H2'	54:1:2088:A:H8	1.53	0.72
48:W:61:ALA:HB3	48:W:67:LEU:HD12	1.71	0.72
53:3:908:A:H2'	53:3:909:A:C8	2.24	0.72
54:1:1539:U:H2'	54:1:1540:G:H8	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1826:G:H2'	54:1:1827:U:C6	2.24	0.72
1:b:7:PRO:HG3	54:1:1694:C:OP1	1.89	0.72
1:b:259:ASN:HD22	1:b:262:THR:HG23	1.54	0.72
2:c:133:THR:OG1	54:1:1675:C:N3	2.22	0.72
3:d:47:LYS:HB3	3:d:51:GLU:HB2	1.72	0.72
3:d:143:LEU:HB3	3:d:146:VAL:HG11	1.70	0.72
7:h:8:LYS:HD2	54:1:1046:A:N1	2.04	0.72
11:l:129:LYS:HE2	11:l:129:LYS:HA	1.70	0.72
12:m:57:VAL:O	12:m:60:GLN:HG2	1.89	0.72
28:C:38:PHE:HB2	28:C:45:HIS:CE1	2.23	0.72
54:1:1277:G:H2'	54:1:1278:C:H6	1.53	0.72
12:m:64:TRP:HB2	12:m:104:GLU:HB2	1.71	0.72
27:B:54:ILE:HG23	27:B:56:LYS:H	1.52	0.72
40:O:52:LEU:HD23	40:O:62:ARG:HD3	1.72	0.72
53:3:576:C:H3'	53:3:577:G:H5"	1.71	0.72
53:3:614:C:C2'	53:3:615:G:H5"	2.19	0.72
3:d:21:ARG:NH1	3:d:107:SER:HB2	2.05	0.72
16:q:23:TYR:HB2	16:q:28:SER:HB2	1.70	0.72
52:a:24:ASN:O	52:a:28:ALA:N	2.21	0.72
52:a:197:LYS:HA	52:a:197:LYS:HE2	1.70	0.72
53:3:399:G:H2'	53:3:400:C:C6	2.24	0.72
22:w:15:LYS:HE2	22:w:15:LYS:HA	1.70	0.72
33:H:201:ILE:HD12	33:H:201:ILE:N	2.04	0.72
37:L:76:SER:HB3	37:L:83:THR:HB	1.71	0.72
48:W:18:GLN:HG2	48:W:19:GLU:H	1.53	0.72
54:1:488:G:N2	54:1:491:G:H5"	2.03	0.72
7:h:59:LEU:HG	7:h:61:ARG:H	1.55	0.72
51:Z:36:PHE:C	51:Z:38:GLU:H	1.97	0.72
53:3:35:G:H2'	53:3:36:C:C6	2.24	0.72
37:L:38:ALA:O	37:L:42:VAL:HG23	1.90	0.71
53:3:389:A:H3'	53:3:390:U:H6	1.54	0.71
54:1:1098:A:H2'	54:1:1099:G:H8	1.54	0.71
54:1:1657:U:H2'	54:1:1658:C:C6	2.25	0.71
7:h:31:ARG:O	54:1:1055:G:H5'	1.90	0.71
10:k:79:PHE:HA	15:p:70:GLU:OE2	1.89	0.71
32:G:130:LYS:H	32:G:130:LYS:HD2	1.54	0.71
34:I:152:SER:HA	34:I:155:LYS:HD3	1.70	0.71
12:m:11:LYS:HD2	12:m:86:LYS:HD3	1.71	0.71
54:1:2139:U:H2'	54:1:2140:G:H8	1.56	0.71
52:a:187:GLU:HA	52:a:190:GLU:HB2	1.71	0.71
53:3:560:A:H4'	53:3:561:U:H5'	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:214:G:H2'	54:1:215:G:C8	2.26	0.71
23:x:9:LYS:HZ1	23:x:53:LYS:HE2	1.55	0.71
38:M:29:SER:HB3	53:3:589:U:H5"	1.73	0.71
43:R:21:ILE:HB	43:R:24:VAL:HG12	1.72	0.71
53:3:1148:U:H2'	53:3:1149:C:O4'	1.91	0.71
54:1:225:C:H2'	54:1:226:A:O4'	1.91	0.71
54:1:694:U:OP2	54:1:694:U:H6	1.73	0.71
54:1:1895:C:H2'	54:1:1896:G:H5"	1.72	0.71
54:1:2619:C:O2'	54:1:2620:C:H5'	1.90	0.71
4:e:142:TYR:CD1	4:e:145:VAL:HG13	2.25	0.71
9:j:14:ASP:H	9:j:52:ASP:HB2	1.53	0.71
11:l:100:ILE:C	11:l:101:ILE:HD12	2.16	0.71
35:J:33:THR:HG22	35:J:51:LYS:HB3	1.72	0.71
36:K:12:PRO:HA	36:K:15:SER:HB3	1.70	0.71
53:3:483:C:H2'	53:3:484:G:C8	2.26	0.71
53:3:860:A:H2'	53:3:861:G:O4'	1.90	0.71
54:1:2153:C:H2'	54:1:2154:A:C8	2.22	0.71
6:g:26:ALA:HA	6:g:30:LEU:HG	1.71	0.71
37:L:111:GLY:HA2	37:L:118:ARG:NH1	2.06	0.71
42:Q:89:LEU:HB3	42:Q:92:VAL:CG2	2.19	0.71
54:1:1788:C:H2'	54:1:1789:A:H8	1.53	0.71
3:d:5:LEU:HG	3:d:11:ALA:HA	1.72	0.71
5:f:23:ILE:HD11	5:f:34:ARG:HB3	1.73	0.71
31:F:18:LYS:NZ	31:F:21:GLY:HA2	2.05	0.71
54:1:1063:G:C3'	54:1:1064:C:H5"	2.15	0.71
8:i:133:ARG:HD3	54:1:1079:C:H4'	1.73	0.71
32:G:26:MET:SD	32:G:192:PRO:HD3	2.30	0.71
32:G:58:LYS:HE2	32:G:58:LYS:HA	1.72	0.71
34:I:186:GLU:O	34:I:190:LEU:HD23	1.91	0.71
54:1:1810:A:H2'	54:1:1811:G:O4'	1.91	0.71
17:r:21:ARG:HG3	17:r:93:PHE:HD2	1.55	0.71
21:v:73:LYS:O	21:v:92:VAL:HG12	1.91	0.71
54:1:1079:C:H2'	54:1:1080:A:C8	2.25	0.71
54:1:1911:U:H2'	54:1:1918:A:N1	2.06	0.71
55:2:79:G:H2'	55:2:80:U:O4'	1.91	0.71
1:b:66:PHE:HB3	1:b:150:GLY:O	1.91	0.70
4:e:43:ILE:HG22	4:e:78:ILE:HD13	1.72	0.70
16:q:27:ARG:HD3	54:1:533:G:OP1	1.90	0.70
33:H:2:GLN:HG3	53:3:1190:G:O2'	1.89	0.70
46:U:1:MET:HE3	53:3:136:C:H5'	1.72	0.70
54:1:1058:U:H3	54:1:1080:A:H61	1.38	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1077:A:C2'	54:1:1078:U:H5'	2.20	0.70
56:5:40:C:HO2'	56:5:41:A:H8	1.38	0.70
13:n:60:VAL:HG13	54:1:1454:C:H1'	1.73	0.70
23:x:27:ARG:HG2	23:x:27:ARG:HH11	1.55	0.70
46:U:40:ASN:ND2	46:U:43:ALA:HA	2.06	0.70
53:3:890:G:H2'	53:3:906:A:N6	2.06	0.70
54:1:1370:C:H2'	54:1:1371:G:O4'	1.91	0.70
57:6:17:C:OP1	57:6:61:C:H5'	1.91	0.70
15:p:47:ILE:HG22	15:p:96:LEU:CD1	2.21	0.70
24:y:40:SER:O	24:y:43:LEU:HG	1.92	0.70
51:Z:38:GLU:HB2	53:3:1526:G:OP2	1.91	0.70
53:3:1526:G:H2'	53:3:1527:U:C6	2.26	0.70
54:1:974:G:H1'	54:1:989:G:N2	2.07	0.70
54:1:1300:G:H4'	54:1:1301:A:H5'	1.73	0.70
2:c:127:PHE:CD1	54:1:2512:C:H5"	2.26	0.70
10:k:76:VAL:HG12	15:p:72:VAL:CG1	2.21	0.70
13:n:46:ARG:HG3	54:1:2839:G:OP1	1.92	0.70
16:q:89:ILE:H	16:q:89:ILE:HD12	1.57	0.70
24:y:1:MET:HB2	24:y:52:ARG:HH21	1.56	0.70
42:Q:107:LYS:HA	42:Q:107:LYS:HE2	1.71	0.70
48:W:53:GLN:HA	48:W:56:ARG:NH1	2.07	0.70
53:3:769:G:O2'	53:3:770:C:H5'	1.91	0.70
1:b:206:LYS:HD2	54:1:729:G:C8	2.26	0.70
35:J:87:VAL:HG12	35:J:92:ARG:HG2	1.74	0.70
45:T:16:ARG:O	45:T:16:ARG:HD2	1.92	0.70
54:1:689:A:C2	54:1:779:U:H4'	2.27	0.70
54:1:1906:G:C3'	54:1:1907:G:H5"	2.21	0.70
54:1:2191:A:H3'	54:1:2192:U:H5"	1.73	0.70
54:1:2324:U:H3'	54:1:2325:G:H5"	1.73	0.70
13:n:103:ARG:HH21	54:1:1287:A:H5'	1.55	0.70
21:v:18:ARG:HA	21:v:21:ARG:HH21	1.56	0.70
41:P:36:ARG:HG2	41:P:37:GLN:NE2	2.07	0.70
54:1:718:A:H2'	54:1:719:C:H5'	1.74	0.70
54:1:1584:U:H2'	54:1:1585:C:C5'	2.21	0.70
37:L:109:LYS:O	37:L:110:ARG:HG2	1.92	0.70
49:X:43:MET:HE1	49:X:48:ILE:HG23	1.73	0.70
54:1:459:U:H6	54:1:459:U:H5'	1.56	0.70
54:1:2078:C:H2'	54:1:2079:U:C6	2.26	0.70
1:b:1:ALA:N	1:b:19:VAL:H	1.90	0.70
16:q:12:ARG:HH22	54:1:812:C:C4'	2.03	0.70
16:q:108:LEU:HA	17:r:48:LYS:HE2	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:126:ARG:HH21	53:3:421:U:H3	1.40	0.70
54:1:1278:C:H2'	54:1:1279:G:H8	1.57	0.70
54:1:1965:C:H5"	54:1:1966:A:H2'	1.72	0.70
54:1:2290:G:H2'	54:1:2291:U:C6	2.27	0.70
55:2:87:U:H5"	55:2:88:C:OP2	1.92	0.70
49:X:30:LEU:HD12	49:X:48:ILE:HG22	1.74	0.70
53:3:613:C:H2'	53:3:614:C:C6	2.27	0.70
54:1:1536:C:H4'	54:1:1537:G:C2	2.27	0.70
53:3:1212:U:C5'	53:3:1213:A:H5"	2.19	0.70
54:1:565:C:O2'	54:1:566:U:H5'	1.92	0.70
54:1:1689:A:H2'	54:1:1690:A:H8	1.57	0.70
54:1:2637:U:H2'	54:1:2638:G:O4'	1.90	0.70
13:n:55:ALA:HA	13:n:80:PHE:CD1	2.26	0.69
41:P:36:ARG:HG2	41:P:37:GLN:HE21	1.56	0.69
42:Q:23:LEU:HB3	42:Q:29:LYS:HE3	1.74	0.69
44:S:89:ARG:HD2	44:S:91:GLU:OE2	1.91	0.69
53:3:252:U:O2	53:3:252:U:H2'	1.92	0.69
53:3:520:A:H61	53:3:529:G:H1'	1.57	0.69
54:1:347:A:H2'	54:1:348:A:H8	1.55	0.69
4:e:161:SER:OG	4:e:164:GLU:HG3	1.91	0.69
13:n:37:THR:HG22	13:n:110:MET:HE1	1.74	0.69
49:X:77:ARG:NH1	53:3:1222:G:H5"	2.07	0.69
53:3:858:G:O6	53:3:869:G:H3'	1.91	0.69
54:1:1908:C:C2'	54:1:1909:C:H5'	2.21	0.69
2:c:133:THR:O	2:c:135:GLY:N	2.21	0.69
2:c:165:MET:HE3	2:c:166:GLY:H	1.57	0.69
34:I:87:GLU:HG2	34:I:187:ARG:HD3	1.74	0.69
35:J:52:ALA:HB2	35:J:61:LYS:HD3	1.74	0.69
43:R:22:TYR:HB3	43:R:65:GLU:HG3	1.74	0.69
53:3:375:U:H2'	53:3:376:G:H8	1.57	0.69
53:3:611:C:H2'	53:3:612:C:H6	1.56	0.69
54:1:279:A:H61	54:1:361:G:H1'	1.57	0.69
54:1:1659:G:C2'	54:1:1660:G:H5"	2.21	0.69
2:c:127:PHE:CE1	54:1:2512:C:H5"	2.27	0.69
4:e:56:LEU:O	4:e:59:ILE:N	2.26	0.69
17:r:38:VAL:HG13	17:r:54:VAL:HG23	1.75	0.69
34:I:153:ARG:HH12	53:3:437:U:H4'	1.58	0.69
39:N:115:VAL:HG21	40:O:62:ARG:HB2	1.73	0.69
54:1:1822:C:O2'	54:1:1823:G:H5'	1.92	0.69
32:G:41:ASN:OD1	32:G:43:GLU:HB3	1.91	0.69
49:X:5:LYS:HG3	49:X:6:LYS:HD2	1.73	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1536:C:H2'	53:3:1537:U:C6	2.27	0.69
37:L:37:THR:HB	53:3:1240:U:O2'	1.91	0.69
41:P:30:ILE:HG23	41:P:45:THR:HG22	1.74	0.69
46:U:8:ARG:HD2	46:U:17:TYR:HE1	1.58	0.69
52:a:65:LEU:HD11	52:a:161:VAL:HB	1.74	0.69
54:1:1868:C:C3'	54:1:1869:G:H5"	2.22	0.69
16:q:30:VAL:HG13	16:q:33:VAL:HG12	1.73	0.69
21:v:65:VAL:HG12	21:v:70:ILE:HD11	1.75	0.69
33:H:2:GLN:HG3	53:3:1190:G:HO2'	1.56	0.69
49:X:4:LEU:HD22	49:X:9:PHE:HB2	1.73	0.69
2:c:43:ASP:O	2:c:45:TYR:CD1	2.45	0.69
4:e:134:GLN:HB2	4:e:149:ARG:O	1.92	0.69
13:n:79:LEU:HD22	13:n:83:LEU:HD12	1.75	0.69
34:I:27:ILE:HG13	34:I:28:ASP:H	1.57	0.69
34:I:33:ILE:HG23	34:I:34:GLU:HG3	1.74	0.69
53:3:62:U:H2'	53:3:63:C:C6	2.28	0.69
53:3:692:U:H1'	53:3:695:A:N7	2.07	0.69
53:3:1305:G:HO2'	53:3:1306:A:H8	1.38	0.69
53:3:1309:G:H2'	53:3:1310:G:C8	2.26	0.69
53:3:1341:U:H2'	53:3:1342:C:C6	2.27	0.69
54:1:322:A:H5'	54:1:340:A:H1'	1.72	0.69
54:1:704:G:H1'	54:1:727:A:H61	1.56	0.69
54:1:1779:U:C5	54:1:1784:A:N7	2.59	0.69
54:1:2128:G:N2	54:1:2173:A:H1'	2.06	0.69
36:K:49:TYR:HE1	48:W:65:SER:CA	2.03	0.69
39:N:20:ILE:HD11	39:N:60:LEU:HD22	1.75	0.69
44:S:92:ILE:HB	44:S:95:LEU:HD23	1.75	0.69
49:X:52:ASN:HB2	49:X:57:VAL:HG23	1.74	0.69
53:3:112:G:N2	53:3:354:G:H5'	2.05	0.69
53:3:1356:G:H2'	53:3:1357:A:C8	2.27	0.69
54:1:200:U:H2'	54:1:201:C:H5'	1.74	0.69
54:1:1078:U:C4'	54:1:1079:C:H5"	2.18	0.69
54:1:1173:U:C5	54:1:1174:U:H1'	2.27	0.69
2:c:133:THR:HG23	2:c:134:HIS:N	2.08	0.69
4:e:35:LEU:HB2	4:e:88:VAL:HG12	1.75	0.69
14:o:2:ASP:HB3	14:o:5:SER:HB3	1.73	0.69
37:L:3:ARG:HB3	37:L:4:ARG:HD2	1.73	0.69
47:V:29:LYS:HA	47:V:36:PHE:HA	1.74	0.69
54:1:2795:C:H2'	54:1:2796:U:O4'	1.93	0.69
47:V:75:VAL:HG12	47:V:76:ARG:HG2	1.76	0.68
53:3:1306:A:H62	53:3:1331:G:H1'	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:689:A:H2	54:1:779:U:H4'	1.57	0.68
54:1:1999:C:H2'	54:1:2000:C:H6	1.58	0.68
54:1:2808:G:H5'	54:1:2809:A:OP1	1.92	0.68
10:k:23:LYS:HZ3	54:1:2562:U:H1'	1.59	0.68
10:k:108:ARG:HH12	10:k:116:ILE:HD12	1.58	0.68
11:l:95:LEU:HB3	11:l:101:ILE:HD13	1.75	0.68
46:U:46:LYS:HZ2	46:U:48:GLU:HB2	1.58	0.68
53:3:608:A:H2'	53:3:609:A:H8	1.57	0.68
54:1:828:U:H4'	54:1:831:G:N1	2.08	0.68
54:1:2014:A:H2'	54:1:2015:A:C8	2.27	0.68
12:m:12:MET:HA	54:1:910:A:H62	1.58	0.68
54:1:809:G:H2'	54:1:810:U:C6	2.27	0.68
23:x:16:ASN:HB3	23:x:24:THR:HB	1.74	0.68
38:M:77:VAL:CG1	38:M:84:ILE:HD11	2.23	0.68
51:Z:5:VAL:HG21	51:Z:7:GLU:HG3	1.75	0.68
54:1:1629:U:H2'	54:1:1630:A:H8	1.56	0.68
16:q:40:LYS:HA	16:q:43:GLN:HG2	1.74	0.68
36:K:6:ILE:HB	36:K:62:MET:HG3	1.75	0.68
54:1:192:C:H2'	54:1:193:U:H5'	1.74	0.68
54:1:950:G:H2'	54:1:951:C:H6	1.59	0.68
56:5:51:A:N6	56:5:63:U:H3	1.91	0.68
2:c:173:GLN:HE22	54:1:2731:G:H4'	1.59	0.68
23:x:29:LEU:HB2	54:1:2230:G:O3'	1.92	0.68
24:y:3:ALA:HA	24:y:6:LEU:HD12	1.76	0.68
35:J:155:LYS:HD3	38:M:70:VAL:HG23	1.75	0.68
52:a:39:VAL:HG21	52:a:179:ASP:HB2	1.75	0.68
54:1:1764:C:O2'	54:1:1765:U:H5'	1.94	0.68
54:1:1906:G:C2'	54:1:1907:G:H5"	2.22	0.68
1:b:245:THR:HG23	1:b:247:TRP:N	1.98	0.68
9:j:122:LEU:HD23	9:j:123:LYS:N	2.08	0.68
17:r:79:ARG:HE	17:r:80:ARG:HH21	1.42	0.68
34:I:7:LYS:H	34:I:7:LYS:HD2	1.58	0.68
37:L:3:ARG:HB3	37:L:4:ARG:HH11	1.59	0.68
51:Z:19:LYS:CE	51:Z:24:LYS:H	2.04	0.68
51:Z:33:ARG:CG	51:Z:34:ARG:H	1.98	0.68
52:a:163:TYR:HB2	52:a:173:THR:HG21	1.75	0.68
54:1:1269:A:H2'	54:1:1270:C:C6	2.29	0.68
54:1:2605:U:H2'	54:1:2606:C:C5	2.28	0.68
3:d:63:LYS:HE3	54:1:2444:G:OP2	1.93	0.68
10:k:22:ILE:HD13	10:k:42:THR:HG23	1.75	0.68
17:r:84:ARG:HB3	17:r:84:ARG:HH21	1.57	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:56:U:H2'	53:3:57:G:H8	1.58	0.68
53:3:908:A:H2'	53:3:909:A:H8	1.58	0.68
13:n:82:GLU:O	13:n:86:ARG:HG3	1.92	0.68
32:G:95:TRP:HE1	32:G:99:MET:HB2	1.59	0.68
35:J:149:PRO:HA	35:J:152:VAL:HG12	1.74	0.68
39:N:86:LEU:HD23	39:N:93:LEU:HD13	1.75	0.68
54:1:1908:C:H2'	54:1:1909:C:C5'	2.23	0.68
54:1:2021:C:H3'	54:1:2022:U:C5'	2.21	0.68
7:h:59:LEU:HD23	7:h:62:ARG:HG3	1.75	0.68
12:m:33:LEU:HD23	12:m:103:TYR:HD2	1.59	0.68
52:a:25:GLU:O	52:a:29:LEU:N	2.22	0.68
53:3:824:G:H2'	53:3:825:A:H8	1.58	0.68
54:1:703:U:H2'	54:1:704:G:O4'	1.93	0.68
54:1:828:U:H4'	54:1:831:G:C2	2.29	0.68
54:1:1173:U:H2'	54:1:1174:U:H4'	1.75	0.68
16:q:59:LEU:HD23	16:q:59:LEU:C	2.19	0.67
42:Q:111:GLN:HB2	53:3:538:G:OP2	1.94	0.67
50:Y:66:ILE:CG2	50:Y:70:LYS:HB3	2.23	0.67
52:a:15:VAL:HG11	52:a:33:LEU:HD21	1.74	0.67
53:3:191:G:H2'	53:3:192:A:C8	2.29	0.67
54:1:514:A:H2'	54:1:515:A:C8	2.29	0.67
54:1:1796:U:H2'	54:1:1797:G:C8	2.29	0.67
2:c:179:ARG:HB3	2:c:188:LEU:HD12	1.76	0.67
8:i:101:SER:HB3	8:i:104:GLN:HB2	1.75	0.67
15:p:47:ILE:HA	15:p:96:LEU:HD11	1.75	0.67
33:H:63:ILE:HG23	33:H:98:ALA:HB2	1.76	0.67
38:M:26:MET:HB2	38:M:27:PRO:HD2	1.74	0.67
46:U:57:ILE:O	46:U:61:VAL:HG23	1.94	0.67
54:1:859:G:N2	54:1:916:G:H2'	2.09	0.67
54:1:1103:A:H3'	54:1:1104:C:C6	2.28	0.67
54:1:1629:U:H2'	54:1:1630:A:C8	2.29	0.67
56:5:24:G:H2'	56:5:25:C:C6	2.29	0.67
4:e:68:LYS:CD	4:e:81:GLY:HA2	2.21	0.67
33:H:113:LYS:HB2	33:H:184:ASN:ND2	2.08	0.67
35:J:14:LEU:HA	35:J:36:THR:HA	1.75	0.67
36:K:43:GLY:HA2	36:K:58:HIS:CE1	2.29	0.67
53:3:715:A:H2'	53:3:716:A:C8	2.28	0.67
53:3:1436:U:H2'	53:3:1437:A:C8	2.29	0.67
54:1:942:G:H2'	54:1:943:A:H8	1.58	0.67
54:1:2191:A:C3'	54:1:2192:U:H5"	2.25	0.67
1:b:220:ARG:HD2	54:1:1827:U:OP2	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:110:HIS:HB2	5:f:111:PRO:HD2	1.76	0.67
42:Q:86:VAL:HG23	42:Q:88:ASP:H	1.59	0.67
54:1:852:U:H2'	54:1:853:C:H6	1.57	0.67
54:1:2129:C:H2'	54:1:2130:U:H5'	1.76	0.67
54:1:2252:G:H2'	54:1:2253:G:H8	1.55	0.67
1:b:70:LYS:HD2	1:b:99:GLU:OE2	1.95	0.67
15:p:109:ILE:N	15:p:109:ILE:HD12	2.08	0.67
21:v:63:ILE:O	21:v:70:ILE:HD12	1.95	0.67
24:y:11:VAL:O	24:y:15:ASN:N	2.28	0.67
35:J:9:GLU:C	35:J:10:LEU:HD22	2.19	0.67
53:3:306:A:H2'	53:3:307:C:H5"	1.75	0.67
53:3:1487:G:O2'	53:3:1488:G:H5'	1.94	0.67
54:1:1758:U:C6	54:1:2696:U:H5'	2.29	0.67
1:b:259:ASN:ND2	1:b:262:THR:HG23	2.10	0.67
8:i:82:ALA:HB3	8:i:108:ILE:HD13	1.75	0.67
9:j:101:ILE:H	9:j:101:ILE:HD12	1.58	0.67
11:l:62:PRO:HA	54:1:2393:U:O3'	1.94	0.67
11:l:90:VAL:HB	11:l:122:VAL:HA	1.76	0.67
19:t:61:LEU:HD11	19:t:82:LYS:HE3	1.75	0.67
26:A:18:CYS:HB2	26:A:20:ASN:ND2	2.10	0.67
40:O:12:ALA:HB2	40:O:96:VAL:HG23	1.77	0.67
46:U:14:ARG:HA	46:U:42:ILE:HD13	1.77	0.67
53:3:375:U:H2'	53:3:376:G:C8	2.29	0.67
54:1:2143:C:H2'	54:1:2144:G:O4'	1.94	0.67
12:m:64:TRP:HE1	54:1:873:C:H4'	1.59	0.67
20:u:37:GLY:H	20:u:61:GLU:HG2	1.59	0.67
23:x:20:ALA:HB3	23:x:22:ASN:OD1	1.95	0.67
31:F:3:VAL:HG12	31:F:36:ARG:HB3	1.76	0.67
38:M:9:MET:HG2	38:M:26:MET:HE2	1.76	0.67
49:X:35:ARG:HA	49:X:70:LEU:HD12	1.77	0.67
53:3:93:U:H2'	53:3:95:C:C5	2.30	0.67
53:3:1259:C:H3'	53:3:1260:G:H5"	1.74	0.67
54:1:1917:U:O2'	54:1:1918:A:H5'	1.95	0.67
54:1:2024:G:H2'	54:1:2025:C:H6	1.60	0.67
54:1:2297:A:N1	54:1:2321:U:C5	2.56	0.67
54:1:2412:A:H2'	54:1:2413:G:O4'	1.94	0.67
54:1:2899:A:H2'	54:1:2900:A:C8	2.30	0.67
9:j:96:ARG:NE	9:j:98:GLU:HG2	2.10	0.67
32:G:224:ARG:HH21	32:G:225:SER:H	1.40	0.67
48:W:18:GLN:NE2	48:W:20:ILE:HA	2.10	0.67
54:1:49:A:H4'	54:1:50:U:H5'	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:11:ILE:HD12	20:u:20:LYS:O	1.95	0.67
33:H:130:ARG:HB3	33:H:134:LYS:NZ	2.09	0.67
41:P:123:PRO:HG3	53:3:779:C:H5"	1.77	0.67
42:Q:49:ARG:HB3	42:Q:65:TYR:HE1	1.59	0.67
44:S:25:GLU:HB2	44:S:29:ILE:HD12	1.75	0.67
53:3:337:G:H2'	53:3:338:A:C8	2.30	0.67
54:1:1802:A:H2'	54:1:1803:A:C8	2.28	0.67
32:G:151:LYS:HG3	32:G:152:ASP:N	2.09	0.67
33:H:6:PRO:HG2	33:H:200:TRP:HE1	1.60	0.67
34:I:56:GLU:HG2	34:I:195:ASN:HB3	1.76	0.67
47:V:46:HIS:HB3	47:V:70:LYS:CE	2.25	0.67
50:Y:17:ARG:HH12	53:3:322:C:H4'	1.60	0.67
52:a:30:LEU:HD12	52:a:33:LEU:CB	2.25	0.67
53:3:191:G:H2'	53:3:192:A:H8	1.59	0.67
54:1:1935:G:H1'	54:1:1964:G:N2	2.09	0.67
8:i:90:GLY:HA2	54:1:1063:G:N7	2.09	0.66
27:B:14:MET:SD	54:1:2045:C:H5"	2.34	0.66
36:K:44:ARG:NH1	36:K:44:ARG:HB3	2.10	0.66
48:W:33:THR:HG22	48:W:37:LYS:O	1.95	0.66
53:3:1121:U:H2'	53:3:1122:U:C6	2.30	0.66
54:1:1175:A:H8	54:1:1176:U:H5'	1.60	0.66
54:1:1922:G:C6	54:1:1923:U:C2	2.83	0.66
54:1:2267:A:H5"	54:1:2268:A:H5'	1.77	0.66
54:1:2461:A:H2'	54:1:2462:C:C6	2.31	0.66
3:d:98:LYS:HB3	3:d:102:ARG:HH22	1.59	0.66
9:j:122:LEU:HD23	9:j:122:LEU:C	2.21	0.66
11:l:59:ARG:HG2	11:l:59:ARG:HH11	1.59	0.66
19:t:76:ARG:HD2	19:t:77:ARG:O	1.95	0.66
37:L:49:LEU:HD22	37:L:123:LEU:HD13	1.75	0.66
49:X:33:TRP:HA	49:X:51:HIS:HB2	1.76	0.66
53:3:1010:U:H2'	53:3:1011:C:C6	2.30	0.66
54:1:704:G:H1'	54:1:727:A:N6	2.10	0.66
54:1:2584:U:H2'	54:1:2585:U:C6	2.30	0.66
2:c:121:THR:HB	2:c:127:PHE:HD2	1.61	0.66
2:c:155:VAL:O	54:1:2619:C:H5'	1.96	0.66
10:k:113:MET:HA	10:k:116:ILE:HG12	1.76	0.66
14:o:109:ALA:O	14:o:113:ALA:N	2.27	0.66
20:u:38:ILE:C	20:u:39:ASN:HD22	2.02	0.66
39:N:112:ARG:NH1	39:N:114:LYS:HA	2.09	0.66
44:S:52:ARG:HH12	44:S:58:ARG:HH12	1.43	0.66
45:T:61:GLN:HE22	45:T:65:LEU:HG	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Z:5:VAL:CG2	51:Z:7:GLU:HG3	2.25	0.66
54:1:580:U:H2'	54:1:581:C:C6	2.31	0.66
54:1:950:G:H2'	54:1:951:C:C6	2.30	0.66
54:1:1829:A:H3'	54:1:1830:C:C6	2.30	0.66
54:1:1982:U:H5'	54:1:1982:U:H6	1.60	0.66
1:b:92:LEU:HB2	1:b:102:TYR:HE1	1.61	0.66
5:f:154:GLU:HB3	5:f:159:LYS:H	1.61	0.66
34:I:7:LYS:HB2	34:I:21:LYS:HD3	1.78	0.66
37:L:60:ALA:O	37:L:64:ALA:N	2.27	0.66
37:L:78:ARG:HD3	37:L:83:THR:HG23	1.76	0.66
44:S:81:ILE:HD12	44:S:81:ILE:N	2.07	0.66
54:1:2107:G:H2'	54:1:2108:A:O4'	1.95	0.66
54:1:2171:A:C5'	54:1:2174:C:H41	2.09	0.66
54:1:2462:C:H2'	54:1:2463:C:C6	2.31	0.66
4:e:21:TYR:CE2	4:e:28:PRO:HD3	2.28	0.66
7:h:37:LYS:HE2	54:1:1084:A:C8	2.30	0.66
20:u:52:ASN:C	20:u:54:PRO:HD2	2.20	0.66
41:P:93:GLU:HB3	41:P:97:ARG:NH2	2.11	0.66
47:V:78:VAL:HG12	47:V:79:GLU:OE1	1.95	0.66
53:3:1415:G:H2'	53:3:1416:G:H8	1.59	0.66
54:1:2502:G:C5'	54:1:2503:A:H5"	2.22	0.66
54:1:2687:U:H2'	54:1:2688:G:O4'	1.96	0.66
2:c:148:GLN:HB2	2:c:152:PRO:HG3	1.76	0.66
7:h:18:VAL:HG11	7:h:69:PHE:HB3	1.78	0.66
19:t:43:ILE:O	19:t:47:VAL:HG23	1.96	0.66
32:G:65:LYS:HB2	32:G:158:ASP:HB2	1.78	0.66
34:I:115:GLN:HA	34:I:115:GLN:NE2	2.09	0.66
44:S:26:LEU:HD21	44:S:46:LYS:HB3	1.76	0.66
46:U:8:ARG:NH1	46:U:15:PRO:HB3	2.11	0.66
54:1:704:G:H2'	54:1:726:G:H22	1.59	0.66
54:1:1910:G:C6	54:1:1922:G:N7	2.64	0.66
55:2:30:C:H1'	55:2:57:A:H61	1.60	0.66
24:y:24:GLU:CD	24:y:46:VAL:HG21	2.21	0.66
47:V:69:THR:HG22	53:3:254:G:OP1	1.95	0.66
54:1:613:A:H4'	54:1:614:A:C8	2.31	0.66
54:1:747:C:O2	54:1:2014:A:H1'	1.95	0.66
1:b:201:LEU:HD22	53:3:773:G:H5"	1.76	0.66
12:m:69:PRO:HG2	12:m:70:ASP:H	1.60	0.66
19:t:56:GLU:OE2	19:t:88:LYS:HG2	1.96	0.66
39:N:112:ARG:HH12	39:N:114:LYS:HA	1.59	0.66
53:3:1025:U:H4'	53:3:1026:G:H8	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1339:A:H2'	53:3:1340:A:O4'	1.96	0.66
54:1:577:G:H2'	54:1:578:G:C8	2.30	0.66
54:1:2493:U:O5'	54:1:2493:U:H6	1.79	0.66
55:2:119:A:N3	55:2:120:A:H1'	2.10	0.66
1:b:245:THR:HG22	1:b:249:VAL:H	1.61	0.66
2:c:193:VAL:HG21	2:c:201:LEU:HD21	1.77	0.66
5:f:86:LEU:HB2	5:f:130:ILE:HG23	1.77	0.66
12:m:40:ARG:C	12:m:41:LEU:HD22	2.21	0.66
24:y:49:ASP:O	24:y:53:VAL:HG23	1.96	0.66
53:3:633:G:H2'	53:3:634:C:C6	2.30	0.66
54:1:596:U:H2'	54:1:597:G:H8	1.60	0.66
54:1:714:U:H2'	54:1:716:A:N7	2.11	0.66
54:1:1026:G:H2'	54:1:1027:A:H8	1.61	0.66
54:1:1183:U:H2'	54:1:1184:U:C6	2.30	0.66
54:1:2404:U:H2'	54:1:2405:G:O4'	1.96	0.66
2:c:114:LYS:HG3	54:1:2680:U:OP1	1.96	0.66
8:i:123:ALA:HB1	54:1:1081:U:H4'	1.78	0.66
9:j:96:ARG:HG3	9:j:99:ARG:HG2	1.78	0.66
10:k:43:ILE:HD12	10:k:43:ILE:N	2.11	0.66
12:m:7:THR:HG22	12:m:9:PHE:H	1.61	0.66
24:y:31:GLN:HB2	24:y:37:LEU:HD12	1.76	0.66
37:L:23:ALA:O	37:L:26:VAL:HG12	1.95	0.66
37:L:58:LEU:HD23	37:L:58:LEU:H	1.60	0.66
42:Q:11:ARG:HH11	42:Q:11:ARG:HG3	1.60	0.66
54:1:1090:A:H61	54:1:1101:U:H3	1.44	0.66
54:1:1139:G:O2'	54:1:1140:C:H5'	1.95	0.66
8:i:76:ALA:O	8:i:80:LYS:HG3	1.97	0.65
17:r:77:PHE:CD1	17:r:84:ARG:HG2	2.31	0.65
36:K:71:ILE:HG13	36:K:72:ASP:N	2.11	0.65
49:X:47:THR:HG22	49:X:60:PHE:HB2	1.78	0.65
52:a:220:ALA:HB2	54:1:2176:A:H5'	1.78	0.65
54:1:645:C:H2'	54:1:647:G:C8	2.31	0.65
54:1:1020:A:H1'	54:1:1021:A:OP2	1.97	0.65
54:1:1103:A:H3'	54:1:1104:C:C5	2.30	0.65
11:l:38:GLN:C	11:l:40:SER:H	2.02	0.65
32:G:187:ASP:OD2	32:G:203:ASP:HB3	1.96	0.65
43:R:59:VAL:HG22	43:R:64:VAL:HG11	1.78	0.65
44:S:81:ILE:H	44:S:81:ILE:CD1	2.04	0.65
53:3:54:C:H2'	53:3:352:C:H41	1.60	0.65
53:3:484:G:H5'	53:3:486:U:H5'	1.77	0.65
53:3:502:A:H2'	53:3:503:C:C6	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:520:A:N6	53:3:529:G:H1'	2.11	0.65
54:1:1410:G:H2'	54:1:1411:U:C6	2.31	0.65
54:1:2790:U:H5'	54:1:2893:A:N7	2.11	0.65
55:2:29:A:H2'	55:2:30:C:C6	2.30	0.65
55:2:106:G:H2'	55:2:107:G:O4'	1.95	0.65
32:G:46:VAL:HA	32:G:49:PHE:CZ	2.31	0.65
53:3:57:G:H2'	53:3:58:C:C6	2.32	0.65
54:1:20:C:H2'	54:1:21:A:H8	1.60	0.65
54:1:193:U:H4'	54:1:803:U:H5'	1.78	0.65
54:1:2266:A:H4'	54:1:2267:A:N3	2.11	0.65
54:1:2405:G:H2'	54:1:2411:A:N6	2.11	0.65
54:1:2419:U:H2'	54:1:2420:C:C6	2.30	0.65
55:2:48:U:H2'	55:2:49:C:H6	1.61	0.65
1:b:229:HIS:CD2	1:b:246:PRO:HA	2.32	0.65
4:e:37:MET:HB3	4:e:86:CYS:HB2	1.78	0.65
14:o:94:ARG:HB2	14:o:94:ARG:NH2	2.11	0.65
15:p:58:PHE:CE1	15:p:73:PHE:HB2	2.31	0.65
15:p:102:ARG:NH2	54:1:1755:A:H5'	2.11	0.65
35:J:156:ARG:HD3	38:M:42:GLU:HG3	1.77	0.65
53:3:1414:U:H2'	53:3:1415:G:C8	2.28	0.65
54:1:473:G:O2'	54:1:474:G:H5'	1.97	0.65
54:1:816:C:H2'	54:1:817:C:H6	1.61	0.65
1:b:216:ARG:HD2	54:1:691:C:OP1	1.97	0.65
3:d:1:MET:O	3:d:14:VAL:HG22	1.96	0.65
8:i:126:ARG:O	8:i:130:GLY:N	2.25	0.65
24:y:24:GLU:O	24:y:28:LEU:HG	1.97	0.65
36:K:54:LEU:HG	36:K:55:HIS:N	2.11	0.65
39:N:41:GLU:HG3	53:3:1291:U:H4'	1.77	0.65
48:W:41:SER:H	48:W:51:GLN:NE2	1.94	0.65
48:W:55:ALA:CA	48:W:58:ILE:HG22	2.25	0.65
52:a:58:ASN:HD21	52:a:167:LYS:HG3	1.60	0.65
53:3:128:G:H2'	53:3:129:A:C8	2.30	0.65
53:3:728:A:H2'	53:3:729:A:H8	1.61	0.65
53:3:1033:G:C2'	53:3:1034:G:H4'	2.22	0.65
54:1:2097:A:H2'	54:1:2098:U:H6	1.62	0.65
2:c:165:MET:HE3	2:c:166:GLY:N	2.12	0.65
13:n:33:ILE:HG13	13:n:114:GLU:HB3	1.78	0.65
17:r:84:ARG:HB3	17:r:84:ARG:NH2	2.11	0.65
24:y:2:LYS:CG	24:y:3:ALA:H	2.08	0.65
26:A:15:SER:HA	26:A:21:VAL:HA	1.78	0.65
34:I:106:PHE:CG	34:I:144:ILE:HD11	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:M:77:VAL:HG11	38:M:84:ILE:HD11	1.77	0.65
53:3:770:C:O2'	53:3:771:G:H5'	1.96	0.65
53:3:1369:C:H2'	53:3:1370:G:C8	2.30	0.65
54:1:753:A:H2'	54:1:754:U:H6	1.62	0.65
54:1:1181:U:H2'	54:1:1182:G:C8	2.31	0.65
1:b:156:SER:O	1:b:159:THR:HG23	1.97	0.65
10:k:48:PRO:HB3	53:3:1422:G:H5'	1.79	0.65
14:o:34:HIS:CB	14:o:53:THR:HB	2.27	0.65
20:u:98:ASN:CB	20:u:100:GLU:HG3	2.24	0.65
32:G:164:ASP:OD1	32:G:165:ALA:N	2.29	0.65
36:K:14:GLN:HB3	36:K:17:GLN:NE2	2.11	0.65
40:O:53:ILE:HG13	44:S:84:ARG:HD2	1.77	0.65
54:1:184:C:H2'	54:1:185:G:H8	1.58	0.65
54:1:594:U:H2'	54:1:595:C:C6	2.31	0.65
11:l:62:PRO:CB	30:E:29:ARG:HH11	2.06	0.65
53:3:152:A:H5"	53:3:153:C:C5	2.31	0.65
53:3:677:U:H2'	53:3:678:U:C6	2.30	0.65
53:3:1219:A:H2'	53:3:1220:G:C8	2.32	0.65
53:3:1404:C:H2'	53:3:1405:G:H8	1.61	0.65
54:1:57:C:H2'	54:1:58:G:H8	1.60	0.65
54:1:1065:U:O4	54:1:1069:A:H5"	1.96	0.65
54:1:2243:U:H2'	54:1:2244:U:C6	2.31	0.65
2:c:186:LEU:HD11	15:p:3:ILE:HG21	1.78	0.65
4:e:60:SER:HA	4:e:101:ARG:HH12	1.62	0.65
12:m:41:LEU:HD23	12:m:96:ILE:CG1	2.27	0.65
39:N:10:ARG:HG3	39:N:105:ARG:HE	1.62	0.65
42:Q:32:VAL:HA	42:Q:78:VAL:HA	1.79	0.65
53:3:474:G:H2'	53:3:475:C:C6	2.32	0.65
53:3:1379:G:O2'	53:3:1380:U:H5'	1.96	0.65
54:1:64:A:H2'	54:1:65:U:C6	2.31	0.65
54:1:630:G:N2	54:1:632:A:H3'	2.12	0.65
54:1:1060:U:O4'	54:1:1062:G:H5'	1.97	0.65
54:1:1657:U:O2'	54:1:1658:C:H5'	1.96	0.65
20:u:48:VAL:H	20:u:53:GLN:HA	1.62	0.65
24:y:28:LEU:HD13	24:y:43:LEU:HB3	1.77	0.65
26:A:12:ILE:CD1	26:A:14:ALA:HB2	2.27	0.65
31:F:14:CYS:SG	31:F:33:HIS:ND1	2.70	0.65
48:W:33:THR:HG21	48:W:37:LYS:HE3	1.78	0.65
53:3:273:U:C2'	53:3:274:A:H5'	2.28	0.65
54:1:306:U:H2'	54:1:307:G:O4'	1.97	0.65
54:1:894:U:C2	54:1:895:U:H1'	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1184:U:O2'	54:1:1185:G:H5'	1.97	0.65
1:b:43:ASN:ND2	1:b:45:ASN:H	1.95	0.64
4:e:56:LEU:O	4:e:59:ILE:HG22	1.96	0.64
7:h:8:LYS:O	7:h:12:VAL:HG23	1.96	0.64
18:s:103:ILE:HD12	18:s:103:ILE:N	2.11	0.64
50:Y:34:VAL:HG22	50:Y:49:ALA:HB1	1.79	0.64
53:3:950:U:H4'	53:3:971:G:C2	2.32	0.64
10:k:63:VAL:HG23	10:k:84:CYS:HA	1.79	0.64
16:q:87:VAL:HG13	17:r:49:ILE:HD11	1.77	0.64
39:N:59:LYS:HB3	39:N:60:LEU:HD12	1.79	0.64
42:Q:52:CYS:H	42:Q:66:ILE:HD11	1.62	0.64
46:U:79:ASN:O	46:U:82:ALA:N	2.31	0.64
54:1:2443:C:O2'	54:1:2444:G:H5'	1.97	0.64
1:b:9:SER:HB2	1:b:10:PRO:HD2	1.80	0.64
23:x:12:VAL:HG23	23:x:28:PHE:HB2	1.79	0.64
51:Z:22:CYS:HB3	51:Z:23:GLU:OE2	1.96	0.64
53:3:975:A:H2	53:3:1365:G:N2	1.95	0.64
53:3:1327:C:H2'	53:3:1328:C:H6	1.61	0.64
54:1:608:A:H2'	54:1:609:A:C8	2.32	0.64
54:1:1086:A:H3'	54:1:1086:A:N3	2.12	0.64
54:1:2071:A:C4	54:1:2072:C:C5	2.85	0.64
4:e:60:SER:HA	4:e:101:ARG:NH1	2.13	0.64
36:K:1:MET:CG	36:K:67:PRO:HA	2.26	0.64
40:O:10:LEU:HD11	40:O:72:ARG:HB2	1.78	0.64
50:Y:43:LYS:HB2	50:Y:86:ALA:HB2	1.79	0.64
53:3:767:A:H2'	53:3:768:A:C8	2.32	0.64
53:3:1219:A:H2'	53:3:1220:G:H8	1.62	0.64
53:3:1527:U:H2'	53:3:1528:U:C6	2.33	0.64
54:1:2073:C:O2'	54:1:2074:U:H5'	1.98	0.64
2:c:39:ASP:HA	2:c:46:ARG:HA	1.78	0.64
4:e:152:ASP:C	4:e:153:ILE:HD12	2.23	0.64
33:H:66:THR:HA	33:H:101:ASN:O	1.98	0.64
53:3:46:G:H2'	53:3:366:A:N7	2.13	0.64
54:1:964:C:O2'	54:1:2273:A:N3	2.31	0.64
1:b:129:LEU:N	1:b:129:LEU:HD23	2.13	0.64
1:b:237:ARG:HG2	1:b:237:ARG:HH11	1.62	0.64
3:d:29:HIS:NE2	11:l:8:PRO:HB3	2.13	0.64
4:e:116:LEU:CB	4:e:175:PRO:HB2	2.27	0.64
5:f:86:LEU:HB2	5:f:130:ILE:CG2	2.27	0.64
9:j:27:ARG:HH22	54:1:1142:A:H4'	1.63	0.64
37:L:126:ALA:HA	37:L:129:ASN:HA	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:14:LEU:O	49:X:18:VAL:HG23	1.97	0.64
51:Z:23:GLU:HG2	51:Z:27:VAL:HG23	1.79	0.64
53:3:1074:G:H2'	53:3:1075:U:H6	1.63	0.64
53:3:1327:C:H2'	53:3:1328:C:C6	2.32	0.64
53:3:1522:U:H2'	53:3:1523:G:H8	1.63	0.64
5:f:104:LEU:H	5:f:104:LEU:HD23	1.63	0.64
11:l:19:LEU:HB2	11:l:27:LEU:HB3	1.77	0.64
15:p:27:VAL:HA	15:p:82:SER:O	1.98	0.64
16:q:89:ILE:HD12	16:q:89:ILE:N	2.13	0.64
49:X:39:ILE:HG21	49:X:61:VAL:HG11	1.80	0.64
53:3:743:A:H2'	53:3:744:C:C6	2.33	0.64
54:1:2348:U:O2'	54:1:2349:G:H5'	1.97	0.64
14:o:30:ARG:HG2	14:o:30:ARG:HH11	1.62	0.64
16:q:87:VAL:HG12	16:q:89:ILE:HD13	1.80	0.64
33:H:76:ILE:HG22	33:H:83:VAL:HB	1.79	0.64
33:H:147:GLY:C	33:H:148:ILE:HD12	2.23	0.64
34:I:205:LYS:HA	53:3:8:A:C5	2.33	0.64
40:O:5:ARG:HA	40:O:7:ARG:NH1	2.11	0.64
43:R:23:GLY:HA2	43:R:68:LEU:HD11	1.78	0.64
47:V:14:ASP:HA	47:V:20:ILE:HD12	1.78	0.64
48:W:55:ALA:HA	48:W:58:ILE:CG2	2.26	0.64
51:Z:52:VAL:O	51:Z:56:ALA:N	2.30	0.64
53:3:1005:A:H2'	53:3:1006:G:O4'	1.98	0.64
53:3:1527:U:O2'	53:3:1528:U:H5'	1.96	0.64
54:1:26:G:H1'	54:1:514:A:H61	1.62	0.64
54:1:2070:A:H2'	54:1:2071:A:O4'	1.98	0.64
54:1:2849:U:H4'	54:1:2868:A:C2	2.33	0.64
1:b:231:HIS:HA	1:b:241:LYS:HE3	1.78	0.64
3:d:16:GLU:HG3	3:d:20:GLY:HA3	1.80	0.64
5:f:120:ILE:HD12	5:f:134:GLY:HA3	1.80	0.64
7:h:12:VAL:HA	7:h:15:VAL:HB	1.78	0.64
24:y:23:ARG:O	24:y:25:GLN:N	2.30	0.64
45:T:76:ARG:O	45:T:79:GLN:HG3	1.98	0.64
52:a:21:TYR:HB2	52:a:26:ALA:HB2	1.79	0.64
54:1:1469:A:H2'	54:1:1470:A:C8	2.32	0.64
54:1:1826:G:H2'	54:1:1827:U:H6	1.62	0.64
54:1:1910:G:H2'	54:1:1921:G:H21	1.62	0.64
54:1:2537:U:H2'	54:1:2538:C:C6	2.33	0.64
8:i:80:LYS:HB3	8:i:86:LYS:CG	2.24	0.64
34:I:146:GLU:OE2	34:I:147:LYS:HG3	1.98	0.64
37:L:39:GLU:HG2	37:L:43:TYR:CE2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:111:GLY:HA2	37:L:118:ARG:CZ	2.28	0.64
40:O:8:ILE:HB	40:O:74:VAL:HB	1.78	0.64
41:P:17:ASP:HB3	41:P:80:ASN:ND2	2.12	0.64
43:R:19:THR:HA	43:R:24:VAL:HG13	1.80	0.64
53:3:217:C:H2'	53:3:218:U:C6	2.33	0.64
53:3:222:C:H2'	53:3:223:A:H8	1.62	0.64
53:3:608:A:H2'	53:3:609:A:C8	2.32	0.64
53:3:1496:C:H2'	53:3:1497:G:O4'	1.98	0.64
54:1:2041:U:H2'	54:1:2042:A:H8	1.62	0.64
4:e:49:LEU:CD2	4:e:83:PRO:HB2	2.28	0.63
5:f:120:ILE:HG22	5:f:121:THR:N	2.11	0.63
11:l:62:PRO:HG2	30:E:24:LYS:HD2	1.79	0.63
11:l:132:ARG:HD2	11:l:142:ILE:HD12	1.81	0.63
33:H:115:VAL:O	33:H:119:ILE:HG12	1.98	0.63
37:L:101:ARG:O	37:L:104:VAL:N	2.31	0.63
48:W:18:GLN:HE21	48:W:20:ILE:HA	1.62	0.63
52:a:217:THR:HG22	52:a:218:MET:N	2.13	0.63
53:3:1241:G:H2'	53:3:1242:G:H8	1.62	0.63
54:1:720:U:H2'	54:1:721:A:C8	2.33	0.63
54:1:1090:A:C2	54:1:1102:C:H1'	2.32	0.63
56:5:58:A:H1'	56:5:60:U:OP2	1.97	0.63
1:b:130:PRO:N	1:b:188:ARG:HG2	2.12	0.63
2:c:133:THR:HB	54:1:1993:U:H4'	1.79	0.63
4:e:123:GLY:HA2	4:e:162:ASP:OD2	1.97	0.63
24:y:38:GLN:HB3	24:y:39:GLN:NE2	2.13	0.63
42:Q:66:ILE:HD12	42:Q:66:ILE:N	2.12	0.63
50:Y:66:ILE:HG22	50:Y:68:LYS:H	1.63	0.63
53:3:1332:A:H2'	53:3:1333:A:C8	2.33	0.63
54:1:303:G:H2'	54:1:304:U:C6	2.33	0.63
7:h:55:VAL:HA	54:1:1084:A:H4'	1.80	0.63
11:l:48:ARG:HD3	54:1:666:A:H4'	1.80	0.63
24:y:41:HIS:CE1	24:y:42:LEU:HG	2.33	0.63
37:L:53:SER:O	37:L:55:LYS:HG3	1.99	0.63
47:V:74:LEU:HD12	47:V:74:LEU:O	1.98	0.63
52:a:14:LYS:HB3	52:a:32:GLU:HB2	1.80	0.63
53:3:1206:G:H3'	53:3:1207:G:H5"	1.79	0.63
54:1:1885:A:H2'	54:1:1886:U:H5'	1.80	0.63
3:d:58:LYS:HG3	3:d:71:GLY:HA2	1.79	0.63
4:e:134:GLN:HE22	4:e:149:ARG:HH21	1.45	0.63
5:f:51:PHE:CE2	5:f:68:ARG:HA	2.33	0.63
5:f:82:PHE:HB3	5:f:140:ILE:CD1	2.29	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:30:SER:O	54:1:1054:A:H4'	1.98	0.63
14:o:31:THR:HG23	14:o:32:PRO:HD2	1.79	0.63
36:K:47:LEU:CD1	36:K:55:HIS:HA	2.25	0.63
45:T:62:ARG:HG3	45:T:62:ARG:NH1	2.10	0.63
51:Z:33:ARG:HG3	51:Z:34:ARG:N	2.13	0.63
53:3:212:G:O2'	53:3:213:G:H5'	1.99	0.63
53:3:892:A:H2'	53:3:893:C:H6	1.63	0.63
54:1:347:A:H2'	54:1:348:A:C8	2.33	0.63
54:1:663:G:H2'	54:1:664:G:H5"	1.80	0.63
54:1:2350:C:H2'	54:1:2351:G:O4'	1.98	0.63
1:b:262:THR:O	1:b:264:LYS:N	2.32	0.63
4:e:74:ALA:O	4:e:76:PHE:N	2.31	0.63
11:l:85:VAL:HG22	11:l:86:GLU:N	2.13	0.63
23:x:15:ASN:ND2	23:x:23:ALA:HB1	2.13	0.63
51:Z:9:GLU:O	51:Z:11:PHE:HD1	1.81	0.63
53:3:412:A:C2	53:3:414:A:H1'	2.33	0.63
54:1:1758:U:H3'	54:1:1759:A:H8	1.64	0.63
54:1:2444:G:H2'	54:1:2445:G:H5"	1.79	0.63
3:d:12:LEU:HD23	3:d:13:THR:H	1.63	0.63
4:e:43:ILE:HA	4:e:82:TYR:HE2	1.64	0.63
7:h:8:LYS:HA	7:h:11:ILE:HG12	1.79	0.63
7:h:18:VAL:HB	7:h:69:PHE:HD2	1.63	0.63
15:p:50:ARG:HG2	15:p:52:ARG:HG2	1.79	0.63
17:r:64:VAL:HG23	17:r:96:VAL:HA	1.81	0.63
33:H:35:ASP:O	33:H:39:ARG:HG3	1.98	0.63
39:N:122:ARG:HG2	39:N:122:ARG:HH11	1.63	0.63
51:Z:66:ARG:HH12	53:3:1099:G:H1'	1.63	0.63
53:3:222:C:H2'	53:3:223:A:C8	2.33	0.63
54:1:171:U:H2'	54:1:172:A:C8	2.33	0.63
54:1:705:A:H2'	54:1:706:A:H8	1.62	0.63
54:1:1130:U:H1'	54:1:1131:G:OP1	1.98	0.63
54:1:1331:G:C2'	54:1:1332:G:H5"	2.28	0.63
1:b:79:ARG:HG3	1:b:81:GLU:OE1	1.97	0.63
1:b:90:ILE:HD12	1:b:102:TYR:CG	2.34	0.63
1:b:103:ILE:HD12	1:b:104:LEU:O	1.98	0.63
4:e:116:LEU:HB3	4:e:175:PRO:HB2	1.81	0.63
8:i:132:ALA:HB1	8:i:137:LEU:HB2	1.80	0.63
15:p:2:ASN:O	15:p:5:LYS:HG2	1.98	0.63
15:p:19:PHE:H	15:p:19:PHE:HD2	1.44	0.63
17:r:74:ILE:N	17:r:74:ILE:HD12	2.14	0.63
18:s:80:PRO:HD2	18:s:102:HIS:NE2	2.14	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:50:ALA:C	20:u:51:LEU:HD23	2.23	0.63
24:y:1:MET:N	24:y:4:LYS:HD3	2.12	0.63
33:H:70:ALA:HA	33:H:105:VAL:HG12	1.81	0.63
38:M:8:ASP:O	38:M:12:ARG:HG3	1.97	0.63
43:R:23:GLY:CA	43:R:68:LEU:HD11	2.28	0.63
50:Y:25:SER:HB2	53:3:1458:G:H5"	1.81	0.63
52:a:30:LEU:HD12	52:a:33:LEU:HB2	1.77	0.63
54:1:2809:A:H2'	54:1:2810:A:H8	1.62	0.63
1:b:206:LYS:HD2	54:1:729:G:C4	2.34	0.63
3:d:21:ARG:O	3:d:110:SER:HB3	1.98	0.63
7:h:37:LYS:CD	7:h:54:VAL:HG11	2.23	0.63
15:p:112:ARG:O	15:p:113:LEU:HD12	1.98	0.63
16:q:16:ILE:HA	16:q:19:GLN:OE1	1.99	0.63
53:3:402:G:O2'	53:3:403:C:H5'	1.98	0.63
53:3:1064:G:H1'	53:3:1190:G:N2	2.14	0.63
54:1:57:C:H2'	54:1:58:G:C8	2.33	0.63
57:6:70:G:H2'	57:6:71:C:C6	2.33	0.63
20:u:39:ASN:HD22	20:u:39:ASN:N	1.96	0.63
33:H:86:LEU:O	33:H:90:VAL:HG23	1.97	0.63
41:P:60:PHE:O	41:P:64:VAL:HG12	1.99	0.63
49:X:37:SER:OG	49:X:70:LEU:HD21	1.99	0.63
51:Z:16:ARG:HB3	51:Z:16:ARG:NH1	2.13	0.63
54:1:7:G:H2'	54:1:8:C:H6	1.62	0.63
54:1:672:C:O2'	54:1:673:C:H5'	1.99	0.63
54:1:1061:U:H3'	54:1:1062:G:C5'	2.28	0.63
54:1:1062:G:OP1	54:1:1070:A:H4'	1.99	0.63
54:1:1664:A:H61	54:1:1996:C:N4	1.97	0.63
54:1:2692:G:O2'	54:1:2693:G:H5'	1.99	0.63
3:d:21:ARG:HG2	3:d:22:ASP:H	1.63	0.62
3:d:23:PHE:CE1	3:d:28:VAL:HG21	2.34	0.62
4:e:49:LEU:HD21	4:e:83:PRO:HB2	1.79	0.62
4:e:119:LYS:H	4:e:166:ARG:HH22	1.46	0.62
7:h:5:LEU:HA	7:h:8:LYS:HB2	1.80	0.62
8:i:74:PRO:O	8:i:78:LEU:HB3	1.99	0.62
24:y:44:LYS:HG3	24:y:47:ARG:HH11	1.64	0.62
29:D:35:ARG:NH2	54:1:54:G:C1'	2.60	0.62
34:I:122:ILE:HD12	34:I:123:MET:H	1.64	0.62
49:X:22:VAL:HG12	49:X:46:LEU:HD12	1.81	0.62
52:a:161:VAL:HG22	52:a:163:TYR:HB3	1.81	0.62
54:1:406:G:O2'	54:1:407:G:H5'	1.98	0.62
54:1:1072:C:H2'	54:1:1093:G:O6	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1084:A:H2'	54:1:1105:U:O2'	1.99	0.62
54:1:1736:U:H2'	54:1:1737:G:O4'	1.99	0.62
2:c:156:PHE:CD1	9:j:81:ILE:HD13	2.34	0.62
4:e:37:MET:HB2	4:e:56:LEU:HD11	1.79	0.62
9:j:96:ARG:HH11	9:j:97:PRO:HG2	1.64	0.62
32:G:23:ASN:ND2	32:G:25:LYS:HE2	2.12	0.62
38:M:91:LEU:HD12	38:M:116:ARG:HD3	1.80	0.62
50:Y:27:MET:HE1	50:Y:57:VAL:HG13	1.81	0.62
54:1:1100:C:H2'	54:1:1101:U:O4'	1.98	0.62
54:1:1910:G:C5	54:1:1922:G:C5	2.87	0.62
54:1:2128:G:H1'	54:1:2173:A:C2	2.34	0.62
55:2:38:C:H2'	55:2:39:A:C8	2.33	0.62
1:b:224:MET:O	1:b:232:GLY:HA2	1.98	0.62
4:e:87:LYS:HD3	54:1:2313:C:C5'	2.25	0.62
5:f:120:ILE:HG23	5:f:133:LYS:O	1.98	0.62
10:k:61:VAL:HG12	10:k:87:LEU:HG	1.81	0.62
16:q:87:VAL:CG1	16:q:89:ILE:HD13	2.29	0.62
18:s:6:LYS:HB3	18:s:104:THR:HG22	1.81	0.62
19:t:58:VAL:CG2	19:t:83:ALA:HB1	2.29	0.62
27:B:54:ILE:HG23	27:B:56:LYS:N	2.14	0.62
53:3:551:U:H2'	53:3:552:U:C6	2.33	0.62
53:3:892:A:H2'	53:3:893:C:C6	2.33	0.62
53:3:1010:U:H2'	53:3:1011:C:H6	1.63	0.62
54:1:11:C:H2'	54:1:12:U:H5'	1.81	0.62
54:1:1068:G:H1'	54:1:1096:A:H4'	1.81	0.62
54:1:2087:G:H2'	54:1:2088:A:C8	2.33	0.62
54:1:2606:C:H2'	54:1:2607:G:H8	1.63	0.62
14:o:34:HIS:CD2	14:o:54:VAL:HB	2.34	0.62
26:A:16:CYS:SG	26:A:37:CYS:HB3	2.39	0.62
41:P:28:ASN:N	41:P:56:LYS:HD3	2.13	0.62
54:1:354:A:H2'	54:1:355:U:C6	2.35	0.62
54:1:871:U:H2'	54:1:872:U:C6	2.34	0.62
54:1:2329:U:H2'	54:1:2330:G:H8	1.65	0.62
54:1:2479:U:H2'	54:1:2480:C:H5"	1.80	0.62
2:c:59:ARG:HH11	54:1:2830:C:H3'	1.64	0.62
3:d:192:ALA:HA	3:d:195:GLN:HB2	1.82	0.62
4:e:107:VAL:HA	4:e:110:ILE:HD12	1.82	0.62
10:k:19:VAL:CB	10:k:41:ILE:HD12	2.28	0.62
11:l:16:GLY:HA3	54:1:662:G:O3'	2.00	0.62
11:l:55:MET:HE3	11:l:59:ARG:HB3	1.82	0.62
11:l:127:VAL:HG12	11:l:128:THR:O	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:50:ILE:HD11	52:a:54:LYS:O	1.99	0.62
53:3:1074:G:H2'	53:3:1075:U:C6	2.34	0.62
54:1:1028:A:H2'	54:1:1029:A:H8	1.65	0.62
54:1:2281:A:O2'	54:1:2282:G:H5'	1.99	0.62
2:c:181:ASP:OD2	2:c:184:ARG:HD3	1.98	0.62
4:e:91:ARG:HA	4:e:95:MET:HE2	1.81	0.62
8:i:89:SER:HA	8:i:92:PRO:HG3	1.82	0.62
15:p:8:GLU:O	15:p:12:MET:HG2	1.99	0.62
27:B:46:GLY:HA3	27:B:54:ILE:HG22	1.81	0.62
32:G:131:LYS:HD3	53:3:1160:G:OP1	2.00	0.62
33:H:53:ARG:O	33:H:68:HIS:HB2	1.99	0.62
43:R:10:ASP:HA	43:R:44:ILE:HG22	1.82	0.62
53:3:955:U:H3	53:3:1225:A:H61	1.45	0.62
54:1:1045:C:H5"	54:1:1111:A:H61	1.63	0.62
54:1:1170:C:H2'	54:1:1171:G:C8	2.34	0.62
54:1:1429:G:O2'	54:1:1430:G:H5'	1.99	0.62
3:d:69:ARG:HH22	54:1:2445:G:P	2.22	0.62
19:t:30:ILE:HG22	19:t:85:VAL:CG2	2.30	0.62
29:D:26:ASN:CG	54:1:682:G:H5'	2.24	0.62
39:N:48:ARG:HG2	39:N:56:MET:HE1	1.81	0.62
42:Q:35:ARG:HH12	42:Q:37:TYR:HD1	1.47	0.62
54:1:1639:C:O2'	54:1:1640:A:H5'	2.00	0.62
54:1:2097:A:H2'	54:1:2098:U:C6	2.34	0.62
54:1:2127:G:H2'	54:1:2128:G:O4'	1.98	0.62
54:1:2648:G:H2'	54:1:2649:C:C6	2.34	0.62
54:1:2785:C:H2'	54:1:2786:U:H6	1.62	0.62
23:x:63:ILE:O	23:x:66:VAL:HG22	1.99	0.62
34:I:111:ALA:HB1	53:3:407:U:H5"	1.82	0.62
37:L:70:PRO:CA	37:L:137:ARG:HH12	2.13	0.62
38:M:64:TYR:HB3	38:M:66:GLN:O	2.00	0.62
47:V:11:VAL:CG1	47:V:55:GLY:H	2.11	0.62
50:Y:36:ALA:HA	50:Y:39:GLU:OE1	1.99	0.62
53:3:148:G:C2'	53:3:149:A:H5"	2.29	0.62
53:3:1002:G:H2'	53:3:1003:G:O4'	1.99	0.62
54:1:709:U:H2'	54:1:710:U:C6	2.34	0.62
54:1:896:A:H5'	54:1:897:C:H6	1.65	0.62
54:1:1123:C:H2'	54:1:1124:G:O4'	1.99	0.62
54:1:1910:G:C4	54:1:1921:G:N2	2.68	0.62
54:1:1973:G:O2'	54:1:1974:C:H5'	2.00	0.62
57:6:18:G:H3'	57:6:19:G:H5"	1.81	0.62
2:c:182:ALA:HB3	2:c:183:GLU:OE2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:91:ARG:HH21	4:e:91:ARG:CB	2.13	0.62
21:v:76:ASP:N	21:v:90:ASP:HB2	2.15	0.62
54:1:2549:G:O2'	54:1:2550:G:H5'	1.99	0.62
9:j:27:ARG:NH2	54:1:1142:A:H4'	2.15	0.62
13:n:44:LEU:HD23	13:n:113:ILE:HD13	1.80	0.62
13:n:67:PHE:O	13:n:71:ARG:HD2	1.98	0.62
22:w:73:ARG:HH11	22:w:73:ARG:HG3	1.65	0.62
26:A:11:GLU:HA	26:A:25:ARG:HA	1.80	0.62
30:E:3:ILE:CD1	30:E:62:PRO:HG3	2.29	0.62
32:G:46:VAL:HB	32:G:47:PRO:HD3	1.81	0.62
38:M:63:LYS:HB3	38:M:70:VAL:HG11	1.82	0.62
43:R:94:LEU:HB3	43:R:95:PRO:HD2	1.80	0.62
53:3:611:C:H2'	53:3:612:C:C6	2.34	0.62
54:1:580:U:H2'	54:1:581:C:H6	1.65	0.62
54:1:859:G:H1'	54:1:860:U:C5	2.33	0.62
54:1:1095:A:H3'	54:1:1096:A:H8	1.64	0.62
54:1:2557:G:H2'	54:1:2558:C:C6	2.35	0.62
54:1:2718:G:O2'	54:1:2847:U:H5"	2.00	0.62
54:1:2737:G:H2'	54:1:2738:A:H8	1.63	0.62
3:d:71:GLY:H	54:1:674:G:H5"	1.63	0.61
6:g:4:ILE:HA	6:g:17:ASP:O	2.00	0.61
8:i:127:SER:O	8:i:131:THR:N	2.31	0.61
12:m:66:ARG:HG3	12:m:66:ARG:NH1	2.14	0.61
13:n:4:ARG:HB2	54:1:2722:G:H4'	1.81	0.61
15:p:32:VAL:HG12	15:p:37:LYS:HA	1.81	0.61
15:p:77:SER:OG	15:p:79:VAL:HG12	1.99	0.61
28:C:5:ARG:NH1	28:C:25:ASN:HB2	2.15	0.61
32:G:166:ASP:OD2	32:G:190:SER:HA	2.00	0.61
37:L:14:ASP:OD1	37:L:15:PRO:HD2	2.00	0.61
37:L:45:ALA:HB2	37:L:116:ALA:O	2.00	0.61
37:L:68:VAL:O	37:L:137:ARG:HD2	2.00	0.61
38:M:13:ILE:HD12	38:M:13:ILE:H	1.65	0.61
2:c:9:VAL:O	2:c:26:VAL:HB	2.00	0.61
11:l:76:GLU:C	11:l:77:ILE:HD12	2.25	0.61
17:r:22:LEU:HD11	17:r:25:LEU:HG	1.82	0.61
18:s:38:TYR:CE2	27:B:27:LEU:HD11	2.35	0.61
20:u:11:ILE:HD11	20:u:19:GLY:HA2	1.81	0.61
42:Q:98:ARG:HB3	42:Q:116:TYR:HB3	1.81	0.61
52:a:170:ILE:HG21	54:1:2177:C:O2	2.00	0.61
54:1:215:G:H4'	54:1:216:A:H4'	1.82	0.61
54:1:622:G:H2'	54:1:623:C:C6	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1853:A:H2'	54:1:1854:A:C8	2.34	0.61
54:1:2064:C:H2'	54:1:2065:C:C6	2.34	0.61
54:1:2286:G:H4'	54:1:2287:A:O5'	2.00	0.61
55:2:91:C:H2'	55:2:92:C:H6	1.64	0.61
56:5:9:A:H5"	56:5:46:G:H1'	1.81	0.61
2:c:151:THR:HG22	2:c:152:PRO:N	2.14	0.61
3:d:32:VAL:HG11	11:l:6:LEU:CD2	2.31	0.61
20:u:11:ILE:O	20:u:69:VAL:HA	1.99	0.61
24:y:41:HIS:CD2	54:1:96:C:H4'	2.36	0.61
35:J:55:VAL:HG23	35:J:56:PRO:HD3	1.81	0.61
35:J:107:GLY:CA	53:3:9:G:H5'	2.22	0.61
40:O:59:LYS:HD2	53:3:972:C:O3'	2.01	0.61
46:U:8:ARG:HA	46:U:17:TYR:CD1	2.35	0.61
48:W:47:ARG:HB2	48:W:50:TYR:HD2	1.65	0.61
53:3:337:G:H2'	53:3:338:A:H8	1.65	0.61
54:1:558:U:H2'	54:1:559:G:H8	1.65	0.61
54:1:744:U:H2'	54:1:745:G:O4'	2.01	0.61
20:u:25:LYS:N	20:u:34:ILE:O	2.32	0.61
33:H:33:ASP:O	33:H:37:LYS:N	2.34	0.61
37:L:110:ARG:HG3	37:L:118:ARG:HD3	1.81	0.61
44:S:8:ARG:HD3	44:S:12:ARG:HH12	1.65	0.61
47:V:14:ASP:HA	47:V:20:ILE:CD1	2.30	0.61
53:3:44:A:H2'	53:3:45:G:H8	1.65	0.61
53:3:695:A:C2	53:3:696:A:C4	2.88	0.61
54:1:467:G:O2'	54:1:468:G:H5'	2.01	0.61
54:1:581:C:H2'	54:1:582:A:C8	2.36	0.61
54:1:662:G:H2'	54:1:663:G:H8	1.66	0.61
57:6:50:U:H3	57:6:64:G:H1	1.48	0.61
1:b:83:ASP:HB2	1:b:90:ILE:HG23	1.81	0.61
3:d:21:ARG:HH11	3:d:107:SER:HB2	1.65	0.61
15:p:38:ARG:HG2	15:p:39:LEU:H	1.65	0.61
15:p:38:ARG:HG2	15:p:39:LEU:N	2.16	0.61
21:v:21:ARG:HB3	21:v:85:LYS:HZ3	1.65	0.61
32:G:119:GLN:HE21	32:G:124:THR:H	1.47	0.61
34:I:137:SER:HB3	34:I:140:ASP:OD2	2.00	0.61
34:I:170:LEU:HD12	34:I:170:LEU:O	2.01	0.61
37:L:68:VAL:CG1	37:L:137:ARG:HD2	2.31	0.61
51:Z:9:GLU:OE2	51:Z:10:PRO:HD2	2.00	0.61
52:a:214:ILE:HB	52:a:222:VAL:H	1.66	0.61
53:3:314:C:O2'	53:3:315:A:H5'	1.99	0.61
53:3:730:G:H2'	53:3:731:G:H5'	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:963:G:H2'	53:3:964:A:H8	1.66	0.61
54:1:192:C:C2'	54:1:193:U:H5'	2.30	0.61
54:1:2041:U:H2'	54:1:2042:A:C8	2.35	0.61
7:h:8:LYS:HA	7:h:11:ILE:CG1	2.31	0.61
7:h:33:VAL:HA	54:1:1055:G:H4'	1.82	0.61
16:q:69:ARG:C	16:q:71:ASN:H	2.06	0.61
19:t:50:LEU:HD12	24:y:26:PHE:CE2	2.35	0.61
20:u:71:ILE:H	20:u:71:ILE:CD1	2.12	0.61
22:w:43:ALA:HB1	22:w:47:VAL:HG13	1.83	0.61
23:x:20:ALA:C	23:x:21:LEU:HD12	2.26	0.61
24:y:28:LEU:HD23	24:y:31:GLN:HG3	1.81	0.61
34:I:61:ARG:HD2	34:I:68:GLU:OE1	2.01	0.61
34:I:164:ARG:HG2	34:I:165:GLU:H	1.66	0.61
35:J:101:GLY:H	35:J:121:ASN:HB3	1.65	0.61
42:Q:71:HIS:ND1	42:Q:73:LEU:HB2	2.16	0.61
47:V:10:ARG:HB3	47:V:10:ARG:HH11	1.65	0.61
50:Y:28:ARG:HH11	50:Y:28:ARG:HG3	1.66	0.61
53:3:743:A:H2'	53:3:744:C:H6	1.64	0.61
54:1:263:G:H3'	54:1:264:C:H5"	1.83	0.61
54:1:279:A:H2'	54:1:280:U:H5'	1.81	0.61
54:1:863:A:H2'	54:1:864:G:H8	1.64	0.61
54:1:2123:G:C6	54:1:2170:A:H1'	2.35	0.61
4:e:58:ALA:HB1	26:A:27:THR:HG21	1.82	0.61
34:I:150:LYS:O	34:I:150:LYS:HG2	2.01	0.61
54:1:409:G:H2'	54:1:410:G:C8	2.36	0.61
54:1:574:A:H4'	54:1:575:A:H5'	1.83	0.61
54:1:753:A:H2'	54:1:754:U:C6	2.35	0.61
1:b:206:LYS:HB2	54:1:729:G:C6	2.34	0.61
1:b:229:HIS:HD2	1:b:230:PRO:CD	2.12	0.61
4:e:163:GLU:HA	4:e:166:ARG:HB3	1.82	0.61
10:k:28:SER:O	10:k:29:HIS:ND1	2.34	0.61
13:n:54:LEU:O	13:n:57:THR:N	2.33	0.61
31:F:7:VAL:HG12	31:F:35:GLN:HB3	1.81	0.61
38:M:110:MET:HG3	38:M:115:ALA:HB2	1.82	0.61
42:Q:27:PRO:HB2	42:Q:28:GLN:OE1	2.01	0.61
44:S:80:ARG:HB3	44:S:80:ARG:HH11	1.65	0.61
52:a:42:VAL:O	52:a:174:THR:HA	2.00	0.61
53:3:856:C:O2'	53:3:857:C:H5'	2.01	0.61
54:1:103:A:H2'	54:1:104:A:O4'	2.01	0.61
54:1:722:A:H2'	54:1:723:C:C6	2.36	0.61
54:1:906:U:C2'	54:1:907:G:H5"	2.26	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:192:ALA:O	3:d:196:VAL:HG23	2.01	0.61
39:N:21:LYS:O	39:N:61:ASP:N	2.34	0.61
43:R:84:CYS:SG	43:R:86:ARG:HD3	2.40	0.61
55:2:97:C:H2'	55:2:98:G:H5'	1.83	0.61
1:b:77:VAL:HG21	1:b:109:LEU:HD11	1.83	0.61
1:b:84:PRO:HG3	54:1:1567:G:H2'	1.81	0.61
4:e:121:PHE:HE1	4:e:127:TYR:HB2	1.66	0.61
42:Q:80:LEU:O	42:Q:97:VAL:HG23	2.00	0.61
49:X:41:PRO:O	49:X:44:ILE:HG12	2.00	0.61
53:3:1401:G:H2'	53:3:1402:C:H5'	1.83	0.61
54:1:848:C:H2'	54:1:849:A:H8	1.65	0.61
54:1:1054:A:H2'	54:1:1055:G:C8	2.35	0.61
54:1:1925:C:H2'	54:1:1926:U:C6	2.36	0.61
57:6:60:U:H2'	57:6:61:C:H5	1.65	0.61
2:c:4:LEU:HD22	2:c:101:PHE:CE2	2.36	0.60
11:l:79:LEU:HD12	11:l:112:LEU:HA	1.83	0.60
18:s:36:LEU:HD13	18:s:48:LYS:HA	1.82	0.60
28:C:5:ARG:HH12	28:C:25:ASN:HB2	1.66	0.60
35:J:14:LEU:C	35:J:14:LEU:HD12	2.26	0.60
37:L:55:LYS:HB3	37:L:59:GLU:OE2	2.01	0.60
37:L:61:PHE:O	37:L:64:ALA:N	2.34	0.60
46:U:14:ARG:HH22	53:3:618:C:H1'	1.66	0.60
49:X:35:ARG:HA	49:X:70:LEU:CD1	2.31	0.60
51:Z:36:PHE:O	51:Z:38:GLU:N	2.34	0.60
54:1:62:U:O2	54:1:62:U:H2'	2.01	0.60
54:1:2123:G:H2'	54:1:2124:G:C8	2.36	0.60
1:b:207:ALA:HB2	54:1:1790:C:O2'	2.01	0.60
5:f:24:THR:HA	5:f:33:THR:HG22	1.83	0.60
29:D:14:ARG:HH21	29:D:14:ARG:HG3	1.65	0.60
42:Q:78:VAL:O	42:Q:102:ASP:HB3	2.01	0.60
46:U:7:ALA:O	46:U:17:TYR:HA	2.00	0.60
54:1:352:A:H2'	54:1:353:C:C6	2.37	0.60
54:1:1053:C:H3'	54:1:1054:A:H5"	1.83	0.60
54:1:1856:U:H2'	54:1:1857:G:H5'	1.82	0.60
54:1:1921:G:N3	54:1:1921:G:H2'	2.15	0.60
54:1:2196:C:O2'	54:1:2197:U:H5'	2.00	0.60
54:1:2716:C:O2'	54:1:2717:C:H5'	2.01	0.60
2:c:62:LYS:HB2	2:c:63:PRO:HD3	1.83	0.60
3:d:130:LYS:O	3:d:132:LYS:N	2.34	0.60
9:j:38:GLY:O	9:j:44:TYR:HB2	2.01	0.60
32:G:29:PHE:HA	32:G:44:LYS:HD2	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:209:VAL:O	32:G:213:LEU:HD23	2.00	0.60
34:I:32:LYS:NZ	34:I:36:ALA:HB2	2.16	0.60
41:P:22:ILE:HD13	41:P:95:THR:OG1	2.01	0.60
53:3:50:A:N6	53:3:361:G:H4'	2.16	0.60
53:3:234:C:H2'	53:3:235:C:C6	2.37	0.60
53:3:1392:G:H2'	53:3:1393:U:C6	2.36	0.60
53:3:1413:A:H2	53:3:1487:G:H22	1.49	0.60
54:1:357:C:H2'	54:1:358:U:C6	2.36	0.60
54:1:1130:U:H4'	54:1:2515:C:H4'	1.83	0.60
54:1:2538:C:H2'	54:1:2539:C:H6	1.66	0.60
54:1:2715:C:C2'	54:1:2716:C:H5"	2.30	0.60
4:e:68:LYS:HG2	4:e:69:ALA:H	1.64	0.60
10:k:34:GLY:N	10:k:37:ASP:OD2	2.34	0.60
30:E:31:ILE:CD1	54:1:2391:G:H5'	2.29	0.60
37:L:145:GLU:OE2	37:L:148:LYS:HE2	2.01	0.60
42:Q:113:ARG:NH2	42:Q:120:ARG:HH11	1.99	0.60
49:X:46:LEU:HD23	49:X:47:THR:N	2.16	0.60
53:3:633:G:H2'	53:3:634:C:H6	1.65	0.60
53:3:1034:G:H3'	53:3:1035:A:C8	2.36	0.60
53:3:1062:U:H2'	53:3:1063:C:C6	2.37	0.60
54:1:286:U:H2'	54:1:287:G:C8	2.36	0.60
54:1:1386:C:H2'	54:1:1387:A:C8	2.36	0.60
54:1:1548:A:H2'	54:1:1549:A:H8	1.67	0.60
54:1:2832:U:H1'	54:1:2834:G:C2	2.36	0.60
5:f:154:GLU:HG3	5:f:156:TYR:H	1.65	0.60
12:m:64:TRP:NE1	54:1:873:C:H4'	2.16	0.60
28:C:35:LEU:HD11	28:C:37:LYS:HE3	1.82	0.60
34:I:59:LYS:HE2	34:I:194:ILE:HG22	1.83	0.60
37:L:78:ARG:HD3	37:L:83:THR:CG2	2.31	0.60
51:Z:49:ALA:O	51:Z:53:LYS:HG2	2.01	0.60
53:3:396:C:C2'	53:3:397:A:H5"	2.31	0.60
53:3:459:A:H2'	53:3:460:A:H8	1.66	0.60
53:3:1248:A:H2'	53:3:1249:C:C6	2.36	0.60
53:3:1293:C:H2'	53:3:1294:G:H8	1.66	0.60
54:1:1179:G:C5	54:1:1180:U:H1'	2.37	0.60
54:1:2071:A:H2'	54:1:2072:C:H6	1.62	0.60
54:1:2636:C:H2'	54:1:2637:U:C6	2.35	0.60
54:1:2742:G:O2'	54:1:2743:U:H5'	2.02	0.60
54:1:2839:G:H2'	54:1:2840:C:H6	1.65	0.60
55:2:88:C:H5"	55:2:89:U:OP1	2.02	0.60
1:b:16:VAL:HB	1:b:203:VAL:CG1	2.27	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:112:LEU:HB3	3:d:118:LEU:CD2	2.31	0.60
4:e:136:ILE:HG13	4:e:137:PHE:HD2	1.66	0.60
21:v:21:ARG:O	21:v:85:LYS:NZ	2.35	0.60
54:1:741:U:H2'	54:1:742:A:H8	1.66	0.60
54:1:1956:U:H2'	54:1:1957:C:H5'	1.82	0.60
54:1:2366:A:H2'	54:1:2367:G:O4'	2.00	0.60
54:1:2543:G:H2'	54:1:2544:G:H8	1.66	0.60
15:p:86:LYS:HA	15:p:86:LYS:HE2	1.84	0.60
16:q:86:SER:HB2	17:r:50:GLY:O	2.00	0.60
18:s:84:ARG:HB2	18:s:96:ILE:HD11	1.84	0.60
39:N:37:TYR:HD2	39:N:38:PHE:HD1	1.50	0.60
39:N:96:GLU:HG2	39:N:97:LEU:CD2	2.31	0.60
45:T:71:ARG:NH2	53:3:754:C:H5'	2.16	0.60
50:Y:17:ARG:NH1	53:3:322:C:H4'	2.17	0.60
51:Z:16:ARG:C	51:Z:18:PHE:H	2.08	0.60
52:a:18:THR:O	52:a:19:LYS:HB2	2.01	0.60
53:3:317:U:H2'	53:3:318:G:C8	2.35	0.60
54:1:14:A:OP2	54:1:14:A:H3'	2.01	0.60
54:1:387:U:H5'	54:1:387:U:H6	1.67	0.60
54:1:1486:U:H2'	54:1:1487:U:H6	1.67	0.60
55:2:2:G:H2'	55:2:3:C:C6	2.37	0.60
4:e:132:ARG:HH21	4:e:132:ARG:HG3	1.65	0.60
8:i:79:LEU:HD11	8:i:128:ILE:HG23	1.83	0.60
12:m:68:PHE:CD1	12:m:69:PRO:HD2	2.36	0.60
16:q:24:TYR:O	16:q:27:ARG:HB2	2.01	0.60
18:s:38:TYR:HB3	27:B:38:LEU:HD11	1.82	0.60
21:v:1:MET:HG3	21:v:59:GLU:OE1	2.01	0.60
21:v:44:HIS:O	21:v:48:MET:N	2.34	0.60
35:J:38:VAL:HG11	35:J:67:ARG:HE	1.66	0.60
38:M:14:ARG:HH11	38:M:14:ARG:HB2	1.66	0.60
49:X:9:PHE:O	49:X:38:THR:HG22	2.02	0.60
53:3:813:U:C2'	53:3:814:A:H5"	2.31	0.60
53:3:868:C:H2'	53:3:869:G:O4'	2.01	0.60
53:3:1197:A:H2'	53:3:1198:G:H5"	1.83	0.60
54:1:863:A:H2'	54:1:864:G:C8	2.36	0.60
54:1:2291:U:H2'	54:1:2292:U:C6	2.37	0.60
4:e:53:ALA:HA	4:e:86:CYS:SG	2.42	0.60
5:f:102:ILE:HD12	5:f:102:ILE:N	2.17	0.60
11:l:66:PHE:CE1	54:1:2415:G:H1'	2.36	0.60
21:v:7:GLU:HA	21:v:65:VAL:HG23	1.84	0.60
21:v:9:ARG:HB3	21:v:41:GLU:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:z:10:ARG:C	25:z:31:ILE:HD12	2.26	0.60
32:G:16:GLY:HA2	32:G:40:ILE:HG13	1.84	0.60
34:I:27:ILE:HG13	34:I:28:ASP:N	2.16	0.60
36:K:14:GLN:HB3	36:K:17:GLN:HE21	1.66	0.60
36:K:45:ARG:HG3	36:K:45:ARG:HH11	1.67	0.60
41:P:46:ALA:HB1	41:P:61:ALA:HB1	1.82	0.60
44:S:51:PRO:HG2	44:S:54:SER:OG	2.02	0.60
52:a:181:ASP:HB3	52:a:184:LYS:HD3	1.84	0.60
53:3:217:C:H2'	53:3:218:U:H6	1.67	0.60
53:3:975:A:C2	53:3:1365:G:N2	2.70	0.60
54:1:1013:C:H2'	54:1:1014:A:H8	1.67	0.60
54:1:1515:A:H3'	54:1:1516:G:H8	1.65	0.60
1:b:1:ALA:H3	1:b:19:VAL:H	1.48	0.60
1:b:23:LEU:HD11	1:b:81:GLU:C	2.27	0.60
1:b:218:THR:HG22	54:1:1790:C:OP1	2.01	0.60
4:e:49:LEU:HA	4:e:52:ALA:HB3	1.83	0.60
10:k:12:ASP:CG	10:k:85:VAL:HG23	2.27	0.60
12:m:121:ALA:O	12:m:124:LEU:HD12	2.02	0.60
15:p:38:ARG:HH21	15:p:38:ARG:HB2	1.66	0.60
20:u:71:ILE:HD12	20:u:71:ILE:N	2.14	0.60
21:v:14:LYS:HB2	55:2:98:G:H1	1.67	0.60
23:x:67:LEU:O	23:x:71:ARG:HG2	2.01	0.60
33:H:10:ARG:HH22	33:H:181:ILE:HD12	1.66	0.60
35:J:133:ILE:H	35:J:133:ILE:CD1	2.08	0.60
39:N:29:ILE:HA	39:N:64:ILE:O	2.02	0.60
42:Q:120:ARG:HG3	42:Q:121:PRO:HD2	1.84	0.60
47:V:40:THR:HG22	53:3:280:C:C5	2.37	0.60
49:X:44:ILE:HD11	49:X:66:VAL:HG22	1.84	0.60
54:1:792:A:H1'	54:1:2072:C:O2'	2.02	0.60
54:1:1444:G:H2'	54:1:1445:G:H8	1.67	0.60
54:1:1487:U:H2'	54:1:1488:C:C6	2.37	0.60
54:1:2139:U:H2'	54:1:2140:G:C8	2.37	0.60
1:b:161:VAL:HG11	1:b:173:LEU:HD13	1.82	0.59
3:d:189:THR:HG22	3:d:191:ASP:H	1.66	0.59
4:e:37:MET:HE2	4:e:56:LEU:HG	1.84	0.59
16:q:89:ILE:H	16:q:89:ILE:CD1	2.13	0.59
32:G:71:THR:HG22	32:G:72:LYS:N	2.13	0.59
38:M:83:ARG:HH21	53:3:644:U:H4'	1.67	0.59
39:N:112:ARG:HH21	44:S:100:TRP:HH2	1.48	0.59
45:T:57:ARG:HH11	53:3:742:G:H5"	1.67	0.59
52:a:30:LEU:HD23	52:a:185:LEU:CD1	2.24	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:160:A:H1'	53:3:344:A:N7	2.17	0.59
53:3:676:A:O2'	53:3:677:U:H5'	2.02	0.59
53:3:775:G:O2'	53:3:776:G:H5'	2.02	0.59
54:1:549:G:H2'	54:1:550:C:C6	2.36	0.59
54:1:808:G:H2'	54:1:809:G:H8	1.66	0.59
54:1:2617:U:H2'	54:1:2618:G:O4'	2.02	0.59
54:1:2715:C:C3'	54:1:2716:C:H5"	2.32	0.59
54:1:2839:G:H2'	54:1:2840:C:C6	2.37	0.59
5:f:3:VAL:HG12	5:f:68:ARG:HB3	1.83	0.59
20:u:23:LYS:HB3	20:u:36:GLU:OE1	2.02	0.59
21:v:24:ASN:O	21:v:44:HIS:HB3	2.01	0.59
32:G:46:VAL:HA	32:G:49:PHE:CE2	2.37	0.59
32:G:160:LEU:O	32:G:160:LEU:HD23	2.02	0.59
41:P:100:ASN:OD1	41:P:106:ILE:HG13	2.02	0.59
42:Q:113:ARG:NH2	42:Q:120:ARG:NH1	2.50	0.59
53:3:57:G:H2'	53:3:58:C:H6	1.67	0.59
54:1:11:C:C2'	54:1:12:U:H5'	2.31	0.59
5:f:126:THR:HG22	5:f:127:GLN:H	1.66	0.59
15:p:52:ARG:O	15:p:56:SER:N	2.35	0.59
16:q:50:ARG:HD3	54:1:1156:A:C5	2.36	0.59
18:s:72:THR:OG1	18:s:108:SER:N	2.35	0.59
53:3:44:A:H2'	53:3:45:G:C8	2.38	0.59
53:3:232:G:H2'	53:3:233:C:H6	1.64	0.59
53:3:767:A:C4	53:3:768:A:C8	2.90	0.59
53:3:834:U:H2'	53:3:835:U:C6	2.37	0.59
54:1:499:U:H2'	54:1:500:G:O4'	2.02	0.59
54:1:1909:C:C2	54:1:1910:G:N7	2.71	0.59
3:d:3:LEU:HB3	3:d:120:VAL:HG21	1.85	0.59
9:j:36:LEU:HD11	9:j:122:LEU:HD12	1.85	0.59
12:m:136:MET:HE1	21:v:76:ASP:HA	1.83	0.59
13:n:79:LEU:C	13:n:81:ASN:H	2.10	0.59
29:D:5:PHE:CD2	29:D:7:PRO:HD3	2.37	0.59
37:L:14:ASP:HB3	37:L:18:GLY:HA3	1.84	0.59
38:M:33:VAL:O	38:M:37:ASN:N	2.34	0.59
53:3:1004:A:H3'	53:3:1024:G:H22	1.67	0.59
54:1:864:G:H2'	54:1:865:C:C6	2.38	0.59
54:1:2163:A:H5"	54:1:2171:A:N1	2.16	0.59
54:1:2455:G:H2'	54:1:2456:C:C6	2.36	0.59
54:1:2788:C:H2'	54:1:2789:C:C6	2.36	0.59
4:e:115:GLY:HA3	4:e:177:ARG:HE	1.67	0.59
11:l:46:VAL:HG23	11:l:47:ARG:H	1.66	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:53:THR:HG22	14:o:65:THR:HG23	1.84	0.59
17:r:69:GLY:N	17:r:91:GLN:O	2.36	0.59
19:t:56:GLU:CD	19:t:88:LYS:HG2	2.27	0.59
30:E:63:TYR:OH	54:1:593:U:H5'	2.03	0.59
34:I:94:GLU:HB3	34:I:185:PRO:HG2	1.85	0.59
43:R:21:ILE:HB	43:R:24:VAL:CG1	2.33	0.59
44:S:5:MET:HB3	44:S:62:ARG:NH1	2.18	0.59
53:3:21:G:H2'	53:3:22:G:C8	2.37	0.59
53:3:976:G:H5"	53:3:1358:U:HO2'	1.68	0.59
54:1:760:G:H2'	54:1:761:A:O4'	2.02	0.59
54:1:1656:C:O5'	54:1:1656:C:H6	1.86	0.59
10:k:70:ARG:HD3	54:1:2728:U:OP1	2.02	0.59
10:k:99:ILE:HD12	10:k:99:ILE:N	2.18	0.59
13:n:47:VAL:O	13:n:50:PRO:HD2	2.02	0.59
16:q:60:TRP:CZ2	16:q:92:LYS:HD3	2.37	0.59
43:R:82:LEU:HD22	43:R:84:CYS:HB2	1.84	0.59
50:Y:42:ASP:O	50:Y:46:ALA:N	2.30	0.59
53:3:33:A:H2'	53:3:34:C:C6	2.38	0.59
53:3:1510:C:H2'	53:3:1511:G:H8	1.68	0.59
54:1:107:G:O2'	54:1:108:G:H5'	2.02	0.59
54:1:894:U:H2'	54:1:895:U:H4'	1.84	0.59
54:1:896:A:H5'	54:1:897:C:C6	2.36	0.59
54:1:2584:U:H2'	54:1:2585:U:H6	1.67	0.59
56:5:59:A:O2'	56:5:60:U:H5'	2.02	0.59
1:b:16:VAL:CB	1:b:203:VAL:HG13	2.28	0.59
4:e:49:LEU:O	4:e:53:ALA:N	2.34	0.59
26:A:41:HIS:ND1	26:A:42:PRO:HD2	2.18	0.59
33:H:49:ALA:O	33:H:69:THR:OG1	2.19	0.59
33:H:153:SER:O	33:H:195:ILE:HG23	2.02	0.59
34:I:2:ARG:HH11	34:I:114:ARG:HD3	1.66	0.59
36:K:47:LEU:HB2	36:K:55:HIS:HB3	1.83	0.59
40:O:7:ARG:HG3	40:O:75:ASP:OD2	2.02	0.59
46:U:8:ARG:HA	46:U:17:TYR:HD1	1.68	0.59
49:X:35:ARG:HD2	53:3:1221:G:OP1	2.02	0.59
53:3:537:G:H2'	53:3:538:G:H8	1.68	0.59
53:3:768:A:H5'	53:3:1524:C:O2'	2.03	0.59
54:1:39:G:H2'	54:1:40:U:C6	2.37	0.59
54:1:1060:U:C4'	54:1:1062:G:H5'	2.33	0.59
54:1:1420:A:H5'	54:1:1421:G:OP2	2.02	0.59
54:1:2543:G:H2'	54:1:2544:G:C8	2.37	0.59
57:6:70:G:H2'	57:6:71:C:H6	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:91:ARG:HB2	4:e:91:ARG:NH2	2.18	0.59
15:p:105:LYS:HE2	15:p:105:LYS:CA	2.33	0.59
17:r:79:ARG:HE	17:r:80:ARG:NH2	2.00	0.59
24:y:19:LEU:O	24:y:23:ARG:HG2	2.02	0.59
27:B:37:HIS:CG	27:B:43:THR:HG22	2.38	0.59
35:J:156:ARG:HA	35:J:158:LYS:HZ2	1.68	0.59
39:N:118:ARG:HH22	53:3:1233:G:P	2.26	0.59
42:Q:21:PRO:O	42:Q:23:LEU:N	2.32	0.59
44:S:26:LEU:CD1	44:S:43:ALA:HA	2.33	0.59
46:U:53:ASP:O	46:U:57:ILE:HG12	2.01	0.59
53:3:539:A:H2'	53:3:540:G:C8	2.37	0.59
53:3:576:C:H3'	53:3:577:G:C5'	2.32	0.59
53:3:956:U:O2'	53:3:957:U:H5'	2.02	0.59
54:1:724:U:H2'	54:1:725:G:O4'	2.03	0.59
54:1:734:A:C2	54:1:735:A:H1'	2.38	0.59
54:1:779:U:H2'	54:1:780:G:C8	2.37	0.59
54:1:2725:A:O2'	54:1:2726:A:H2'	2.02	0.59
3:d:29:HIS:ND1	11:l:6:LEU:O	2.32	0.59
10:k:29:HIS:CE1	54:1:2675:A:H4'	2.38	0.59
12:m:91:TYR:C	12:m:91:TYR:CD2	2.80	0.59
15:p:3:ILE:N	15:p:3:ILE:HD12	2.18	0.59
20:u:53:GLN:N	20:u:54:PRO:HD2	2.17	0.59
32:G:185:ILE:HD12	32:G:185:ILE:N	2.18	0.59
33:H:130:ARG:HB3	33:H:134:LYS:HZ3	1.66	0.59
37:L:14:ASP:H	37:L:23:ALA:HB2	1.66	0.59
47:V:76:ARG:HH11	47:V:76:ARG:HG3	1.68	0.59
52:a:48:LEU:HD22	52:a:209:ILE:HA	1.84	0.59
52:a:217:THR:HG23	54:1:2124:G:N2	2.17	0.59
54:1:1528:A:H2'	54:1:1529:G:O4'	2.03	0.59
54:1:1910:G:N7	54:1:1922:G:C6	2.71	0.59
54:1:2171:A:H5'	54:1:2174:C:N4	2.18	0.59
1:b:8:THR:HG21	54:1:727:A:H2	1.67	0.59
1:b:86:ARG:HH12	54:1:1817:G:H5"	1.68	0.59
1:b:237:ARG:HG2	1:b:237:ARG:NH1	2.16	0.59
5:f:18:ILE:HG13	5:f:18:ILE:O	2.01	0.59
11:l:58:TYR:CD2	11:l:59:ARG:HG3	2.38	0.59
20:u:7:ASP:HA	20:u:23:LYS:CE	2.32	0.59
23:x:65:THR:O	23:x:68:ALA:N	2.36	0.59
26:A:36:VAL:HA	26:A:41:HIS:CE1	2.38	0.59
33:H:120:THR:O	33:H:124:GLU:N	2.35	0.59
36:K:38:ARG:HB3	36:K:63:ASN:CB	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:W:11:ARG:HB2	48:W:47:ARG:CZ	2.32	0.59
53:3:429:U:H4'	53:3:430:A:O5'	2.03	0.59
53:3:673:A:H2'	53:3:674:G:C8	2.38	0.59
53:3:1088:G:H2'	53:3:1089:G:O4'	2.03	0.59
54:1:224:U:O4	54:1:420:C:H5'	2.02	0.59
54:1:297:G:H2'	54:1:298:G:O4'	2.03	0.59
54:1:759:G:H2'	54:1:760:G:C8	2.38	0.59
54:1:1999:C:O2'	54:1:2000:C:H5'	2.02	0.59
54:1:2082:A:H2'	54:1:2083:G:O4'	2.03	0.59
54:1:2590:A:O2'	54:1:2591:C:H5'	2.01	0.59
54:1:2634:A:H2'	54:1:2635:A:H8	1.68	0.59
4:e:39:VAL:HG13	4:e:40:GLY:N	2.17	0.58
4:e:124:ARG:NH1	54:1:2316:G:H4'	2.18	0.58
10:k:108:ARG:NH1	10:k:116:ILE:HD12	2.18	0.58
11:l:58:TYR:CE2	11:l:59:ARG:HG3	2.37	0.58
15:p:54:LEU:HD12	15:p:76:HIS:HB2	1.84	0.58
15:p:104:GLY:O	15:p:107:ALA:HB3	2.03	0.58
17:r:14:VAL:CG2	17:r:98:ILE:HG13	2.31	0.58
22:w:20:LYS:HE2	22:w:20:LYS:HA	1.83	0.58
33:H:33:ASP:O	33:H:37:LYS:HG2	2.03	0.58
40:O:50:THR:CG2	53:3:975:A:H62	2.15	0.58
43:R:63:VAL:HG23	43:R:67:ASP:CB	2.32	0.58
53:3:149:A:H2'	53:3:150:U:C6	2.38	0.58
53:3:400:C:O2'	53:3:401:C:H5'	2.03	0.58
53:3:1519:A:H8	53:3:1519:A:OP2	1.85	0.58
54:1:1319:C:O2'	54:1:1320:C:H5'	2.03	0.58
54:1:1684:G:H2'	54:1:1685:C:H6	1.68	0.58
54:1:1923:U:C2	54:1:1924:C:C6	2.91	0.58
54:1:1928:A:O2'	54:1:1929:G:H5'	2.03	0.58
54:1:2308:G:H2'	54:1:2310:C:H5	1.68	0.58
54:1:2579:C:O2'	54:1:2580:U:H5'	2.03	0.58
10:k:71:ARG:O	10:k:73:ASP:N	2.34	0.58
21:v:30:ILE:HG12	21:v:91:PHE:HB2	1.85	0.58
24:y:42:LEU:HA	24:y:45:GLN:HG2	1.85	0.58
32:G:211:LEU:O	32:G:215:ALA:N	2.35	0.58
35:J:156:ARG:HA	35:J:158:LYS:HZ1	1.68	0.58
43:R:3:ILE:O	43:R:5:GLY:N	2.36	0.58
49:X:28:LYS:HD3	49:X:29:PRO:CD	2.33	0.58
51:Z:65:ARG:HB3	51:Z:67:THR:HG23	1.85	0.58
53:3:614:C:C3'	53:3:615:G:H5"	2.33	0.58
53:3:1249:C:H2'	53:3:1250:A:H5"	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1306:A:N6	53:3:1331:G:H1'	2.18	0.58
54:1:1292:G:H2'	54:1:1293:C:C6	2.38	0.58
54:1:2347:C:H2'	54:1:2348:U:C6	2.38	0.58
54:1:2488:G:H2'	54:1:2489:U:C6	2.39	0.58
3:d:99:LYS:O	3:d:103:GLY:N	2.35	0.58
23:x:4:CYS:HB2	23:x:32:LEU:CD2	2.32	0.58
24:y:8:GLU:CD	24:y:8:GLU:H	2.10	0.58
33:H:113:LYS:O	33:H:117:ASP:N	2.36	0.58
39:N:34:LEU:HD21	39:N:48:ARG:HE	1.69	0.58
45:T:35:ILE:HD13	45:T:59:VAL:HG22	1.85	0.58
47:V:60:ILE:HG22	47:V:74:LEU:HA	1.86	0.58
54:1:279:A:C2	54:1:362:A:H4'	2.39	0.58
54:1:1661:G:O2'	54:1:1662:U:H5'	2.02	0.58
54:1:2479:U:C3'	54:1:2480:C:H5"	2.33	0.58
54:1:2567:G:H2'	54:1:2568:U:C6	2.38	0.58
57:6:21:A:N6	57:6:46:G:H2'	2.18	0.58
2:c:15:PHE:CE2	15:p:54:LEU:HD11	2.37	0.58
5:f:68:ARG:HD3	5:f:68:ARG:C	2.29	0.58
7:h:11:ILE:O	7:h:15:VAL:HG23	2.02	0.58
34:I:66:VAL:C	34:I:67:LEU:HD12	2.28	0.58
50:Y:14:GLU:O	50:Y:17:ARG:HB3	2.03	0.58
51:Z:17:ARG:O	51:Z:20:ARG:HB3	2.03	0.58
53:3:54:C:H2'	53:3:352:C:N4	2.18	0.58
54:1:433:C:H2'	54:1:434:U:C6	2.37	0.58
54:1:562:U:H2'	54:1:572:A:O4'	2.03	0.58
54:1:1924:C:H3'	54:1:1925:C:C5	2.38	0.58
54:1:2031:A:H3'	54:1:2031:A:OP2	2.04	0.58
1:b:85:ASN:O	1:b:85:ASN:ND2	2.30	0.58
2:c:15:PHE:CD1	2:c:21:SER:HB3	2.38	0.58
10:k:15:GLY:HA3	10:k:50:GLY:HA3	1.85	0.58
24:y:1:MET:H2	24:y:4:LYS:HD3	1.68	0.58
26:A:12:ILE:HD11	26:A:14:ALA:HB2	1.85	0.58
34:I:2:ARG:HD2	34:I:114:ARG:NE	2.18	0.58
35:J:74:ALA:HB3	35:J:146:MET:HE1	1.86	0.58
41:P:124:LYS:O	51:Z:34:ARG:NH1	2.35	0.58
46:U:6:LEU:HD22	46:U:17:TYR:CB	2.32	0.58
54:1:589:U:H2'	54:1:590:A:C8	2.39	0.58
54:1:758:C:O2	54:1:758:C:H2'	2.03	0.58
54:1:842:U:H2'	54:1:843:G:C8	2.39	0.58
54:1:2241:A:H2'	54:1:2242:G:C8	2.38	0.58
54:1:2671:G:H2'	54:1:2672:U:H6	1.62	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:92:LEU:HB2	1:b:102:TYR:CE1	2.39	0.58
1:b:144:GLU:OE2	1:b:188:ARG:HB2	2.03	0.58
1:b:229:HIS:CD2	1:b:230:PRO:HD2	2.29	0.58
3:d:47:LYS:HD3	3:d:51:GLU:HB3	1.84	0.58
10:k:29:HIS:ND1	54:1:2675:A:H4'	2.18	0.58
20:u:6:ARG:HH22	20:u:26:ASN:HA	1.69	0.58
20:u:39:ASN:OD1	20:u:64:ILE:HB	2.04	0.58
33:H:53:ARG:HE	33:H:68:HIS:CD2	2.21	0.58
36:K:45:ARG:NH1	48:W:66:LEU:HD21	2.18	0.58
40:O:29:ALA:O	40:O:33:GLY:N	2.34	0.58
44:S:15:LEU:HB3	44:S:54:SER:CB	2.32	0.58
52:a:45:ALA:O	52:a:213:SER:HB2	2.03	0.58
54:1:1341:G:P	54:1:1397:U:H3	2.27	0.58
54:1:1758:U:C5	54:1:2696:U:H5'	2.39	0.58
54:1:1911:U:H2'	54:1:1918:A:C2	2.38	0.58
54:1:2147:A:N7	54:1:2148:G:H1'	2.18	0.58
56:5:14:A:H2'	56:5:15:G:O4'	2.04	0.58
1:b:211:ARG:O	1:b:214:GLY:N	2.36	0.58
8:i:72:THR:HG23	8:i:73:PRO:CD	2.34	0.58
11:l:38:GLN:HG2	54:1:832:U:H5'	1.85	0.58
11:l:55:MET:HE1	11:l:59:ARG:NH2	2.19	0.58
12:m:120:ALA:O	12:m:123:LYS:N	2.36	0.58
14:o:87:ILE:N	14:o:87:ILE:HD12	2.19	0.58
27:B:2:VAL:HG22	54:1:2015:A:C2	2.39	0.58
35:J:45:VAL:O	35:J:71:ILE:HG22	2.03	0.58
43:R:101:THR:HG21	53:3:1226:C:OP2	2.04	0.58
53:3:250:A:H4'	53:3:251:G:O5'	2.04	0.58
53:3:614:C:H2'	53:3:615:G:C5'	2.32	0.58
53:3:971:G:C8	53:3:1365:G:H4'	2.38	0.58
54:1:640:C:H2'	54:1:641:U:C6	2.39	0.58
54:1:962:G:H21	54:1:2250:G:H1	1.50	0.58
54:1:1790:C:H2'	54:1:1791:A:C8	2.38	0.58
54:1:2328:A:H2'	54:1:2329:U:C6	2.38	0.58
54:1:2329:U:H2'	54:1:2330:G:C8	2.39	0.58
54:1:2483:C:H3'	54:1:2484:G:H5"	1.84	0.58
54:1:2605:U:H2'	54:1:2606:C:H6	1.65	0.58
2:c:15:PHE:HE2	15:p:54:LEU:HD11	1.69	0.58
2:c:33:ARG:HH22	2:c:74:GLU:HB3	1.69	0.58
2:c:155:VAL:HG23	54:1:2619:C:O4'	2.03	0.58
10:k:22:ILE:HG22	54:1:1952:A:C6	2.38	0.58
11:l:112:LEU:HD23	54:1:637:A:H5"	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:35:ILE:HB	14:o:102:ARG:NH1	2.19	0.58
16:q:18:LYS:HD2	16:q:21:LYS:HE2	1.86	0.58
16:q:102:LYS:O	16:q:106:THR:N	2.28	0.58
17:r:14:VAL:HG23	17:r:18:GLN:HB3	1.85	0.58
23:x:36:ARG:HG2	23:x:47:THR:HG22	1.85	0.58
30:E:39:ARG:O	30:E:43:LEU:HD13	2.04	0.58
33:H:27:GLU:O	33:H:31:ASN:ND2	2.33	0.58
34:I:10:LEU:HB3	34:I:62:ARG:HD2	1.86	0.58
40:O:35:GLN:HG2	40:O:77:VAL:HG12	1.86	0.58
50:Y:82:ILE:HG13	50:Y:83:ASN:N	2.19	0.58
53:3:690:G:H2'	53:3:691:G:O4'	2.04	0.58
54:1:155:A:H2'	54:1:156:A:O4'	2.04	0.58
54:1:232:G:OP2	54:1:232:G:H8	1.87	0.58
54:1:849:A:H2'	54:1:850:U:C6	2.38	0.58
54:1:1548:A:H2'	54:1:1549:A:C8	2.38	0.58
54:1:2137:U:H3	54:1:2154:A:H61	1.50	0.58
2:c:4:LEU:HD22	2:c:101:PHE:HE2	1.68	0.58
4:e:107:VAL:HG12	4:e:113:PHE:CE1	2.38	0.58
11:l:9:ALA:HB3	11:l:12:SER:HB2	1.85	0.58
11:l:33:ARG:HH21	11:l:40:SER:HA	1.67	0.58
31:F:18:LYS:HZ3	31:F:21:GLY:HA2	1.68	0.58
33:H:9:ILE:HD12	44:S:97:LYS:NZ	2.18	0.58
47:V:3:LYS:HG2	47:V:4:ILE:N	2.15	0.58
53:3:1270:G:H2'	53:3:1271:A:H8	1.67	0.58
54:1:596:U:H2'	54:1:597:G:C8	2.38	0.58
54:1:1246:A:H2'	54:1:1247:A:O4'	2.04	0.58
54:1:1486:U:H2'	54:1:1487:U:C6	2.38	0.58
54:1:1536:C:H4'	54:1:1537:G:N2	2.19	0.58
54:1:1741:C:H2'	54:1:1742:U:C6	2.39	0.58
3:d:48:THR:O	3:d:52:VAL:HG23	2.03	0.58
3:d:58:LYS:NZ	54:1:675:A:H4'	2.19	0.58
16:q:108:LEU:HD23	17:r:48:LYS:HD2	1.85	0.58
37:L:29:LEU:HD21	37:L:41:ILE:HD13	1.85	0.58
38:M:14:ARG:HB2	38:M:14:ARG:NH1	2.19	0.58
44:S:73:LEU:C	44:S:75:LYS:H	2.11	0.58
53:3:206:C:C2'	53:3:207:C:H5'	2.32	0.58
54:1:784:G:H5'	54:1:785:G:OP1	2.03	0.58
54:1:1372:U:O2'	54:1:1373:A:H5'	2.04	0.58
3:d:28:VAL:O	3:d:32:VAL:HG12	2.03	0.57
15:p:112:ARG:HH11	15:p:112:ARG:HG3	1.69	0.57
16:q:32:ARG:HB2	54:1:581:C:OP1	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:5:HIS:ND1	33:H:7:ASN:HB3	2.19	0.57
34:I:40:HIS:C	34:I:42:ALA:H	2.12	0.57
41:P:67:GLU:HG2	41:P:68:ARG:N	2.18	0.57
41:P:85:VAL:HG11	41:P:92:ARG:HG3	1.85	0.57
53:3:235:C:H2'	53:3:236:A:H8	1.66	0.57
53:3:259:G:H2'	53:3:260:G:H8	1.68	0.57
53:3:1413:A:C2'	53:3:1414:U:H5'	2.34	0.57
54:1:182:A:H2'	54:1:183:C:C6	2.39	0.57
54:1:1829:A:H3'	54:1:1830:C:H6	1.67	0.57
54:1:2134:A:C6	54:1:2157:G:H1'	2.39	0.57
54:1:2135:A:H4'	54:1:2159:G:O2'	2.04	0.57
54:1:2634:A:H2'	54:1:2635:A:C8	2.39	0.57
2:c:81:GLU:OE1	54:1:2636:C:H4'	2.04	0.57
3:d:68:ALA:HA	54:1:1255:U:C5	2.38	0.57
8:i:134:SER:HA	54:1:1077:A:H1'	1.86	0.57
15:p:47:ILE:HA	15:p:96:LEU:CD1	2.35	0.57
16:q:57:ARG:HA	16:q:60:TRP:HE3	1.69	0.57
21:v:51:GLN:HA	21:v:56:PHE:CG	2.39	0.57
31:F:14:CYS:HA	31:F:27:CYS:HB2	1.87	0.57
53:3:321:A:O2'	53:3:322:C:H5'	2.05	0.57
53:3:408:A:H2'	53:3:409:U:C6	2.39	0.57
54:1:286:U:H2'	54:1:287:G:H8	1.67	0.57
54:1:529:A:C4	54:1:2023:C:C5	2.92	0.57
54:1:1056:G:O2'	54:1:1103:A:N6	2.37	0.57
54:1:1130:U:H3	54:1:2025:C:H5"	1.69	0.57
54:1:1637:A:H2'	54:1:1638:C:C6	2.40	0.57
56:5:72:G:HO2'	56:5:73:A:H8	1.51	0.57
8:i:101:SER:HA	8:i:140:GLU:O	2.05	0.57
18:s:69:LEU:HD12	18:s:109:ASP:HB3	1.86	0.57
20:u:23:LYS:HD3	20:u:24:VAL:N	2.19	0.57
30:E:31:ILE:HD11	54:1:2391:G:O3'	2.05	0.57
36:K:53:LYS:HD2	36:K:54:LEU:O	2.04	0.57
38:M:111:THR:HG22	38:M:113:ARG:H	1.69	0.57
53:3:651:C:H2'	53:3:652:U:C6	2.39	0.57
53:3:1323:G:H2'	53:3:1324:A:C8	2.39	0.57
54:1:629:G:H2'	54:1:630:G:H8	1.67	0.57
54:1:2228:G:H2'	54:1:2229:U:C6	2.39	0.57
54:1:2834:G:H2'	54:1:2879:A:H61	1.69	0.57
4:e:16:MET:HE1	4:e:24:VAL:HA	1.86	0.57
5:f:125:PRO:HG2	5:f:126:THR:H	1.69	0.57
11:l:61:LEU:O	54:1:2393:U:H4'	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:77:ILE:HD12	11:l:77:ILE:N	2.19	0.57
15:p:72:VAL:HG22	15:p:72:VAL:O	2.04	0.57
30:E:32:LEU:H	30:E:32:LEU:HD12	1.68	0.57
32:G:16:GLY:HA3	32:G:40:ILE:H	1.69	0.57
32:G:71:THR:HB	32:G:72:LYS:HD3	1.87	0.57
35:J:155:LYS:HB3	38:M:65:PHE:HB2	1.86	0.57
40:O:7:ARG:O	40:O:101:SER:HB2	2.05	0.57
40:O:8:ILE:HG23	40:O:99:GLN:O	2.03	0.57
41:P:48:GLY:O	41:P:50:GLY:N	2.37	0.57
53:3:1225:A:H5'	53:3:1226:C:OP2	2.04	0.57
53:3:1360:A:H2'	53:3:1361:G:O4'	2.04	0.57
54:1:26:G:H1'	54:1:514:A:N6	2.20	0.57
54:1:1229:C:H2'	54:1:1230:A:H8	1.68	0.57
54:1:1605:C:H2'	54:1:1606:C:O4'	2.05	0.57
54:1:1670:C:H3'	54:1:1671:U:C6	2.39	0.57
54:1:2176:A:H2'	54:1:2177:C:C6	2.39	0.57
4:e:23:SER:OG	55:2:55:U:H4'	2.04	0.57
6:g:6:LEU:N	6:g:35:LYS:O	2.38	0.57
10:k:113:MET:N	10:k:113:MET:HE2	2.19	0.57
12:m:74:THR:HA	12:m:90:GLU:OE1	2.03	0.57
14:o:43:ASN:ND2	14:o:46:GLU:HG2	2.20	0.57
16:q:57:ARG:NH1	16:q:91:ARG:HD2	2.19	0.57
20:u:31:GLY:O	20:u:66:VAL:HG23	2.03	0.57
23:x:29:LEU:HD12	54:1:2230:G:H5"	1.86	0.57
30:E:1:PRO:HG2	54:1:591:U:H1'	1.87	0.57
32:G:9:LEU:HD12	32:G:14:HIS:CE1	2.40	0.57
39:N:54:VAL:HG11	39:N:93:LEU:HD22	1.86	0.57
46:U:18:GLN:O	46:U:20:VAL:HG12	2.04	0.57
51:Z:39:LYS:O	51:Z:43:GLU:HG2	2.05	0.57
53:3:56:U:H2'	53:3:57:G:C8	2.40	0.57
54:1:2345:G:H4'	54:1:2346:A:H5"	1.86	0.57
54:1:2710:C:H2'	54:1:2711:A:C8	2.39	0.57
54:1:2739:U:H5"	54:1:2763:G:O6	2.04	0.57
56:5:41:A:H2'	56:5:42:G:O4'	2.04	0.57
3:d:31:VAL:HG21	3:d:104:ALA:HB2	1.85	0.57
4:e:43:ILE:CG2	4:e:78:ILE:HD13	2.34	0.57
6:g:41:LYS:HG3	6:g:42:LYS:N	2.18	0.57
8:i:109:ALA:HA	8:i:112:LYS:HB3	1.86	0.57
18:s:38:TYR:CD2	27:B:27:LEU:HD11	2.38	0.57
22:w:66:GLU:HB3	22:w:68:LYS:HG3	1.85	0.57
32:G:61:SER:HA	32:G:223:GLY:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:67:LEU:HD22	32:G:160:LEU:HG	1.86	0.57
34:I:11:SER:HA	34:I:18:LEU:CD1	2.35	0.57
44:S:2:LYS:HD2	53:3:1049:U:O2'	2.05	0.57
53:3:1293:C:H2'	53:3:1294:G:C8	2.40	0.57
54:1:161:A:H3'	54:1:162:U:H5"	1.86	0.57
54:1:1821:A:H2'	54:1:1822:C:C6	2.40	0.57
54:1:2432:A:H1'	57:6:75:C:O4'	2.04	0.57
21:v:59:GLU:OE2	21:v:61:LEU:HD23	2.04	0.57
23:x:6:VAL:HG23	23:x:50:VAL:CG1	2.35	0.57
24:y:24:GLU:OE1	24:y:42:LEU:HB3	2.04	0.57
24:y:26:PHE:HA	24:y:29:ARG:HH11	1.68	0.57
32:G:34:ARG:O	32:G:37:VAL:HG12	2.05	0.57
33:H:129:PHE:HD1	33:H:129:PHE:H	1.52	0.57
34:I:100:VAL:O	34:I:104:MET:N	2.34	0.57
37:L:1:PRO:HG2	37:L:2:ARG:H	1.69	0.57
38:M:113:ARG:NE	38:M:113:ARG:HA	2.19	0.57
48:W:58:ILE:O	48:W:62:ARG:HG3	2.05	0.57
49:X:35:ARG:HB2	49:X:71:GLY:HA2	1.85	0.57
53:3:772:U:H2'	53:3:773:G:O4'	2.05	0.57
53:3:1236:A:H2'	53:3:1237:C:C6	2.40	0.57
53:3:1413:A:O2'	53:3:1414:U:H5'	2.05	0.57
54:1:1082:U:H2'	54:1:1083:U:O4'	2.04	0.57
54:1:1856:U:C2'	54:1:1857:G:H5'	2.34	0.57
54:1:2151:U:H2'	54:1:2152:G:H5'	1.85	0.57
8:i:77:VAL:HA	8:i:80:LYS:NZ	2.20	0.57
12:m:68:PHE:HD2	12:m:70:ASP:HB3	1.70	0.57
13:n:20:MET:CE	13:n:40:LYS:HE2	2.31	0.57
15:p:88:ARG:O	15:p:112:ARG:HG2	2.05	0.57
41:P:108:ASN:O	41:P:109:ILE:HD13	2.04	0.57
42:Q:26:CYS:HB3	42:Q:27:PRO:HD2	1.86	0.57
42:Q:114:SER:OG	53:3:501:C:O3'	2.18	0.57
49:X:79:TYR:CE1	53:3:1226:C:H5'	2.40	0.57
53:3:415:A:H2'	53:3:416:G:O4'	2.04	0.57
53:3:429:U:H3	53:3:431:A:H62	1.52	0.57
53:3:1218:C:H2'	53:3:1219:A:C8	2.39	0.57
53:3:1243:C:H2'	53:3:1244:G:C8	2.40	0.57
53:3:1323:G:H2'	53:3:1324:A:H8	1.69	0.57
54:1:239:C:H2'	54:1:240:C:O4'	2.05	0.57
54:1:629:G:H2'	54:1:630:G:C8	2.40	0.57
54:1:813:U:O2'	54:1:1225:G:H1'	2.05	0.57
54:1:1197:G:H2'	54:1:1198:U:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2131:U:H5'	54:1:2132:U:C5'	2.30	0.57
54:1:2163:A:H2'	54:1:2164:C:H5'	1.87	0.57
54:1:2446:G:H2'	54:1:2447:G:H5"	1.86	0.57
2:c:148:GLN:N	2:c:148:GLN:OE1	2.35	0.57
10:k:1:MET:O	10:k:2:ILE:HD13	2.05	0.57
20:u:47:PRO:HB3	20:u:53:GLN:O	2.04	0.57
40:O:48:ARG:HH22	53:3:1368:A:H1'	1.69	0.57
49:X:38:THR:HA	49:X:69:LYS:HA	1.86	0.57
53:3:383:A:H4'	53:3:455:G:H5'	1.87	0.57
53:3:599:C:H2'	53:3:600:A:C8	2.39	0.57
53:3:1526:G:H2'	53:3:1527:U:H6	1.69	0.57
54:1:622:G:H2'	54:1:623:C:H6	1.70	0.57
54:1:818:G:N1	54:1:1188:U:OP2	2.32	0.57
54:1:1107:G:H2'	54:1:1108:U:H6	1.70	0.57
54:1:1563:U:H2'	54:1:1564:C:C6	2.40	0.57
54:1:2646:C:C4	54:1:2647:U:C4	2.93	0.57
1:b:246:PRO:HG2	1:b:247:TRP:CE3	2.40	0.57
32:G:67:LEU:HB3	32:G:160:LEU:HA	1.85	0.57
34:I:90:LEU:HD13	34:I:190:LEU:HD11	1.87	0.57
53:3:234:C:H2'	53:3:235:C:H6	1.68	0.57
53:3:920:U:O2'	53:3:921:U:H5'	2.05	0.57
53:3:1273:C:H2'	53:3:1274:A:O4'	2.05	0.57
54:1:554:U:H2'	54:1:555:G:O4'	2.04	0.57
54:1:663:G:C3'	54:1:664:G:H5"	2.35	0.57
54:1:2785:C:H2'	54:1:2786:U:C6	2.39	0.57
2:c:146:ILE:HG23	2:c:147:GLY:N	2.20	0.56
3:d:170:ARG:HH21	3:d:170:ARG:HG3	1.69	0.56
8:i:131:THR:HG22	8:i:135:MET:HG3	1.86	0.56
9:j:96:ARG:NH1	9:j:126:ALA:HB2	2.18	0.56
11:l:3:LEU:HD23	11:l:3:LEU:C	2.30	0.56
11:l:93:ASN:C	11:l:95:LEU:H	2.12	0.56
11:l:100:ILE:HG13	11:l:101:ILE:HD12	1.87	0.56
15:p:3:ILE:HD12	15:p:3:ILE:H	1.69	0.56
15:p:38:ARG:HB2	15:p:38:ARG:NH2	2.20	0.56
19:t:2:ILE:O	19:t:5:GLU:N	2.32	0.56
22:w:34:VAL:HG11	22:w:41:PHE:CD2	2.39	0.56
30:E:21:PHE:H	30:E:48:MET:HE3	1.69	0.56
35:J:23:THR:HA	35:J:28:ARG:HA	1.87	0.56
36:K:38:ARG:NH2	36:K:99:ALA:HB3	2.19	0.56
47:V:47:ASP:HA	47:V:74:LEU:HD21	1.85	0.56
48:W:58:ILE:CD1	48:W:67:LEU:HD13	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:39:VAL:HG11	52:a:179:ASP:H	1.70	0.56
53:3:947:G:H2'	53:3:948:C:H6	1.70	0.56
53:3:1245:C:H2'	53:3:1246:A:H8	1.70	0.56
53:3:1349:A:H2'	53:3:1350:A:O4'	2.05	0.56
53:3:1479:C:H2'	53:3:1480:A:H8	1.70	0.56
54:1:64:A:H2'	54:1:65:U:H6	1.69	0.56
54:1:816:C:H2'	54:1:817:C:C6	2.40	0.56
1:b:17:LYS:HD3	54:1:1565:C:H5"	1.87	0.56
4:e:92:GLY:N	4:e:95:MET:HE3	2.20	0.56
18:s:42:LYS:O	18:s:45:VAL:HG12	2.04	0.56
23:x:6:VAL:HG23	23:x:50:VAL:HG12	1.87	0.56
32:G:163:ILE:HD11	32:G:213:LEU:HD21	1.87	0.56
40:O:100:ILE:HD12	40:O:100:ILE:N	2.20	0.56
44:S:63:CYS:HB3	44:S:68:ARG:H	1.69	0.56
52:a:190:GLU:HA	52:a:193:LEU:HB3	1.87	0.56
53:3:813:U:H2'	53:3:814:A:H5"	1.87	0.56
53:3:1304:G:H1'	53:3:1333:A:H61	1.69	0.56
54:1:259:G:O2'	54:1:260:G:H5'	2.04	0.56
54:1:1013:C:H2'	54:1:1014:A:C8	2.39	0.56
54:1:1114:C:H2'	54:1:1115:G:C8	2.40	0.56
54:1:1229:C:H2'	54:1:1230:A:C8	2.40	0.56
54:1:1287:A:O2'	54:1:1288:G:H5'	2.05	0.56
54:1:1722:A:H62	54:1:1738:G:H1'	1.70	0.56
54:1:1805:A:H2'	54:1:1806:C:C6	2.39	0.56
54:1:2223:G:H2'	54:1:2224:G:H5'	1.86	0.56
1:b:70:LYS:HD2	1:b:99:GLU:CD	2.30	0.56
1:b:206:LYS:HD2	54:1:729:G:N9	2.20	0.56
1:b:259:ASN:C	1:b:261:ARG:H	2.12	0.56
2:c:156:PHE:HD1	9:j:81:ILE:HD13	1.70	0.56
3:d:23:PHE:HB2	3:d:114:ARG:NH2	2.19	0.56
4:e:121:PHE:CE1	4:e:127:TYR:HB2	2.40	0.56
10:k:32:TYR:CD2	10:k:32:TYR:N	2.73	0.56
12:m:15:GLY:O	12:m:16:ARG:HD3	2.05	0.56
12:m:22:GLN:O	12:m:24:THR:HG23	2.05	0.56
13:n:24:MET:HG2	13:n:44:LEU:HD13	1.87	0.56
19:t:15:HIS:HB3	19:t:31:VAL:HG13	1.86	0.56
22:w:12:SER:HB3	54:1:2262:U:OP2	2.05	0.56
28:C:35:LEU:CD1	28:C:37:LYS:HB2	2.35	0.56
31:F:23:ILE:HD12	31:F:23:ILE:N	2.20	0.56
35:J:15:ILE:HD12	35:J:15:ILE:N	2.21	0.56
35:J:110:MET:HE3	35:J:139:THR:OG1	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:16:LYS:HG3	37:L:17:PHE:CD1	2.41	0.56
41:P:22:ILE:HD12	41:P:85:VAL:HG22	1.87	0.56
42:Q:25:ALA:HB1	53:3:554:A:H5'	1.87	0.56
46:U:20:VAL:HG23	46:U:34:GLU:O	2.06	0.56
47:V:30:HIS:CE1	47:V:32:ILE:H	2.23	0.56
47:V:40:THR:HG22	53:3:280:C:H5	1.69	0.56
49:X:39:ILE:HG23	49:X:43:MET:HB2	1.86	0.56
49:X:45:GLY:HA2	49:X:60:PHE:CE1	2.40	0.56
52:a:204:ALA:C	52:a:206:GLY:H	2.13	0.56
53:3:123:U:H5"	53:3:311:C:O2'	2.05	0.56
53:3:362:G:N2	53:3:364:A:H3'	2.20	0.56
53:3:580:C:H2'	53:3:581:G:O4'	2.05	0.56
53:3:1121:U:H2'	53:3:1122:U:H6	1.67	0.56
53:3:1197:A:C2'	53:3:1198:G:H5"	2.35	0.56
54:1:250:G:H5"	54:1:250:G:H8	1.71	0.56
54:1:565:C:H2'	54:1:566:U:C6	2.39	0.56
54:1:666:A:H2'	54:1:667:U:C6	2.40	0.56
54:1:730:A:C2	54:1:731:C:C6	2.93	0.56
54:1:1086:A:H5"	54:1:1087:G:O5'	2.05	0.56
54:1:1713:A:C6	54:1:1716:U:H1'	2.40	0.56
54:1:1999:C:H2'	54:1:2000:C:C6	2.38	0.56
54:1:2024:G:H2'	54:1:2025:C:C6	2.39	0.56
54:1:2066:C:O2'	54:1:2067:G:H5'	2.05	0.56
54:1:2142:A:H2'	54:1:2143:C:C6	2.40	0.56
54:1:2178:C:H2'	54:1:2179:C:C5	2.40	0.56
54:1:2222:C:H2'	54:1:2223:G:H5"	1.88	0.56
2:c:146:ILE:HD13	2:c:155:VAL:HG11	1.88	0.56
4:e:28:PRO:HA	4:e:158:THR:O	2.05	0.56
9:j:90:GLU:O	9:j:93:ILE:HG13	2.05	0.56
11:l:128:THR:HG23	11:l:131:ALA:H	1.69	0.56
13:n:77:ALA:O	13:n:81:ASN:HB3	2.06	0.56
14:o:43:ASN:ND2	14:o:46:GLU:H	2.01	0.56
16:q:47:ARG:HH21	16:q:47:ARG:HG3	1.69	0.56
30:E:9:ALA:O	30:E:12:ARG:N	2.37	0.56
30:E:27:ASN:OD1	54:1:2392:A:H5'	2.06	0.56
36:K:44:ARG:HB3	36:K:44:ARG:HH11	1.69	0.56
38:M:26:MET:HE1	38:M:60:LEU:HD12	1.88	0.56
42:Q:33:CYS:SG	42:Q:52:CYS:HB2	2.45	0.56
51:Z:6:ARG:HG2	51:Z:6:ARG:HH11	1.71	0.56
53:3:480:U:H6	53:3:480:U:H5'	1.71	0.56
53:3:911:U:H2'	53:3:912:C:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1210:C:O2'	53:3:1211:U:H5'	2.06	0.56
54:1:962:G:O2'	54:1:963:U:H5'	2.05	0.56
54:1:1107:G:H2'	54:1:1108:U:C6	2.40	0.56
54:1:1565:C:O2'	54:1:1566:A:H5"	2.05	0.56
54:1:1664:A:N6	54:1:1996:C:H42	2.02	0.56
54:1:2231:U:H2'	54:1:2232:C:H6	1.71	0.56
54:1:2259:U:H2'	54:1:2260:C:C6	2.37	0.56
54:1:2648:G:H2'	54:1:2649:C:H6	1.68	0.56
55:2:4:C:OP1	55:2:4:C:H4'	2.05	0.56
1:b:251:THR:OG1	1:b:252:LYS:N	2.38	0.56
7:h:50:VAL:HG13	54:1:1083:U:OP1	2.06	0.56
9:j:17:VAL:N	9:j:138:GLN:O	2.39	0.56
10:k:7:MET:HE1	10:k:44:LYS:HG3	1.88	0.56
16:q:5:ARG:NH1	54:1:585:G:N7	2.52	0.56
18:s:65:ASP:OD2	18:s:68:ASP:HB3	2.06	0.56
25:z:11:SER:OG	25:z:13:ILE:HG12	2.05	0.56
32:G:18:GLN:O	32:G:19:THR:HB	2.05	0.56
34:I:28:ASP:HB2	34:I:31:CYS:SG	2.45	0.56
35:J:40:ASP:OD2	35:J:42:ASN:HB3	2.05	0.56
39:N:91:GLU:HA	39:N:94:ARG:HB2	1.87	0.56
44:S:66:THR:HG21	44:S:82:LYS:HE3	1.85	0.56
46:U:35:ARG:O	46:U:35:ARG:HD3	2.06	0.56
47:V:16:MET:HE3	47:V:19:SER:CB	2.35	0.56
47:V:29:LYS:HB2	47:V:36:PHE:CE1	2.41	0.56
53:3:26:A:N6	53:3:558:G:H1'	2.20	0.56
53:3:418:C:H2'	53:3:419:C:C6	2.40	0.56
53:3:779:C:H2'	53:3:780:A:O4'	2.05	0.56
1:b:12:ARG:HA	1:b:15:VAL:CG2	2.36	0.56
3:d:163:ASN:HB2	54:1:322:A:OP2	2.05	0.56
16:q:50:ARG:HD3	54:1:1156:A:N7	2.20	0.56
23:x:71:ARG:HA	23:x:71:ARG:NH1	2.12	0.56
34:I:38:GLY:HA3	53:3:542:G:H5'	1.87	0.56
34:I:103:ARG:HD3	34:I:167:PRO:HG2	1.88	0.56
35:J:67:ARG:H	35:J:67:ARG:HD2	1.70	0.56
35:J:133:ILE:HD12	35:J:133:ILE:N	2.12	0.56
37:L:87:PRO:HD3	37:L:147:ASN:ND2	2.20	0.56
38:M:4:ASP:OD2	38:M:7:ALA:HB2	2.06	0.56
42:Q:85:ARG:HG3	42:Q:87:LYS:N	2.20	0.56
50:Y:23:ARG:O	50:Y:26:MET:HG2	2.06	0.56
52:a:62:ALA:HB1	52:a:160:GLN:NE2	2.13	0.56
53:3:996:A:H2'	53:3:997:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1436:U:H2'	53:3:1437:A:H8	1.67	0.56
53:3:1536:C:H2'	53:3:1537:U:H6	1.71	0.56
54:1:12:U:O2	54:1:12:U:H2'	2.06	0.56
54:1:201:C:O2'	54:1:202:U:H5'	2.06	0.56
54:1:367:G:N2	54:1:368:A:H1'	2.20	0.56
54:1:717:C:C4	54:1:718:A:H1'	2.41	0.56
54:1:1260:A:O2'	54:1:1261:C:H5'	2.05	0.56
54:1:2290:G:H4'	54:1:2381:A:O2'	2.04	0.56
54:1:2498:C:O2'	54:1:2499:C:H5'	2.05	0.56
57:6:36:U:H2'	57:6:37:A:C8	2.41	0.56
8:i:136:GLY:C	8:i:137:LEU:HD12	2.29	0.56
12:m:42:THR:HA	12:m:93:VAL:HG12	1.86	0.56
14:o:76:LYS:O	14:o:80:GLU:HG3	2.06	0.56
20:u:4:ILE:HD12	20:u:4:ILE:N	2.20	0.56
20:u:39:ASN:N	20:u:39:ASN:ND2	2.53	0.56
33:H:107:LYS:HG2	33:H:110:LEU:HD12	1.87	0.56
34:I:97:LEU:HB2	34:I:134:TYR:HB3	1.88	0.56
35:J:138:ALA:O	35:J:141:ASP:HB3	2.05	0.56
39:N:82:ILE:O	39:N:86:LEU:HD13	2.06	0.56
49:X:34:SER:O	49:X:70:LEU:HD11	2.06	0.56
50:Y:42:ASP:OD1	50:Y:46:ALA:HB2	2.06	0.56
53:3:323:U:H2'	53:3:324:G:O4'	2.06	0.56
53:3:1005:A:H4'	53:3:1037:C:H1'	1.87	0.56
54:1:1982:U:O2'	54:1:1983:G:H5'	2.04	0.56
54:1:2248:C:C2'	54:1:2249:U:H5'	2.36	0.56
55:2:53:A:H2'	55:2:54:G:O4'	2.06	0.56
1:b:123:ILE:HG23	1:b:191:LEU:HD11	1.87	0.56
1:b:245:THR:HG1	1:b:246:PRO:HD2	1.70	0.56
3:d:29:HIS:CD2	11:l:8:PRO:HB3	2.41	0.56
4:e:39:VAL:O	54:1:2307:G:O6	2.24	0.56
10:k:87:LEU:HD22	10:k:92:GLU:O	2.06	0.56
13:n:61:ALA:O	13:n:65:LEU:HD13	2.06	0.56
15:p:105:LYS:HE2	15:p:105:LYS:HA	1.88	0.56
32:G:20:ARG:HG3	32:G:21:TYR:CD1	2.41	0.56
37:L:90:VAL:HG22	37:L:91:ARG:N	2.21	0.56
47:V:66:LEU:O	53:3:265:G:H4'	2.06	0.56
49:X:35:ARG:HB2	49:X:71:GLY:CA	2.35	0.56
51:Z:19:LYS:HE2	51:Z:24:LYS:N	2.08	0.56
53:3:131:A:H2'	53:3:132:C:C6	2.41	0.56
53:3:370:C:H2'	53:3:371:A:C8	2.41	0.56
54:1:157:C:H2'	54:1:158:U:O4'	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:522:A:H2'	54:1:523:C:H6	1.71	0.56
54:1:522:A:H2'	54:1:523:C:C6	2.41	0.56
54:1:2078:C:H2'	54:1:2079:U:H6	1.70	0.56
54:1:2315:G:H2'	54:1:2316:G:H8	1.71	0.56
4:e:2:LYS:O	4:e:6:TYR:N	2.29	0.56
4:e:147:ARG:HB3	4:e:149:ARG:NH1	2.20	0.56
12:m:65:ILE:HG22	12:m:103:TYR:CD1	2.41	0.56
17:r:22:LEU:HD12	17:r:94:THR:HB	1.87	0.56
17:r:25:LEU:HD12	17:r:94:THR:HG21	1.86	0.56
23:x:69:GLU:O	23:x:73:ARG:HB2	2.06	0.56
31:F:10:LEU:HD22	31:F:33:HIS:CD2	2.41	0.56
33:H:58:ARG:HD3	33:H:63:ILE:HD13	1.87	0.56
43:R:2:ARG:HG2	43:R:8:ILE:HD11	1.87	0.56
43:R:104:ASN:HB3	53:3:948:C:OP2	2.06	0.56
44:S:76:PHE:O	44:S:78:LEU:HG	2.06	0.56
53:3:461:A:H2'	53:3:462:G:C8	2.41	0.56
53:3:744:C:H2'	53:3:745:G:C8	2.41	0.56
53:3:766:A:C2'	53:3:767:A:H5'	2.36	0.56
53:3:884:U:H5"	53:3:885:G:OP1	2.06	0.56
54:1:1450:G:H2'	54:1:1451:C:C6	2.41	0.56
54:1:2347:C:C2	54:1:2348:U:C5	2.94	0.56
17:r:25:LEU:N	17:r:94:THR:OG1	2.38	0.56
21:v:18:ARG:HA	21:v:21:ARG:NH2	2.21	0.56
32:G:110:ILE:H	32:G:110:ILE:HD12	1.71	0.56
35:J:137:ARG:O	35:J:140:ILE:HG22	2.05	0.56
37:L:78:ARG:HH12	53:3:1382:C:C1'	2.19	0.56
46:U:70:ARG:HG2	46:U:70:ARG:NH1	2.17	0.56
53:3:29:U:O2'	53:3:30:U:H5'	2.06	0.56
53:3:33:A:H2'	53:3:34:C:H6	1.70	0.56
53:3:382:A:H2'	53:3:383:A:C8	2.40	0.56
53:3:478:A:H2'	53:3:479:U:O4'	2.06	0.56
54:1:730:A:O2'	54:1:731:C:H5'	2.06	0.56
54:1:1055:G:H2'	54:1:1056:G:O4'	2.05	0.56
54:1:1149:G:H2'	54:1:1150:C:C6	2.41	0.56
55:2:1:U:O4	55:2:119:A:N1	2.38	0.56
3:d:189:THR:O	3:d:193:VAL:HG23	2.06	0.55
4:e:135:ILE:HG13	4:e:140:ILE:HG21	1.88	0.55
5:f:66:THR:HG21	54:1:2757:A:N1	2.21	0.55
5:f:70:LEU:HD12	54:1:2747:G:H4'	1.87	0.55
8:i:93:ASN:C	8:i:94:LYS:HD3	2.31	0.55
33:H:189:HIS:CB	33:H:194:VAL:HG22	2.35	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:33:ILE:HG13	34:I:34:GLU:N	2.21	0.55
36:K:4:TYR:CE1	36:K:71:ILE:HG21	2.39	0.55
52:a:45:ALA:N	52:a:215:SER:OG	2.38	0.55
52:a:220:ALA:HB1	54:1:2176:A:H4'	1.88	0.55
53:3:994:A:C5	53:3:1216:A:H4'	2.42	0.55
54:1:74:A:H4'	54:1:75:G:O5'	2.05	0.55
54:1:738:G:O2'	54:1:739:A:H5'	2.06	0.55
54:1:1001:A:H2'	54:1:1002:G:O4'	2.06	0.55
54:1:1670:C:H3'	54:1:1671:U:H6	1.70	0.55
54:1:1688:U:O2'	54:1:1700:A:N7	2.34	0.55
54:1:2836:U:H2'	54:1:2837:A:H8	1.69	0.55
54:1:2869:G:O2'	54:1:2870:C:H5'	2.06	0.55
5:f:156:TYR:CZ	54:1:2531:A:H5"	2.42	0.55
8:i:91:LYS:O	8:i:94:LYS:HE2	2.06	0.55
12:m:17:ASN:O	12:m:18:ARG:HG3	2.05	0.55
17:r:58:VAL:H	17:r:102:SER:CB	2.19	0.55
32:G:17:HIS:HB2	32:G:202:ASN:ND2	2.21	0.55
34:I:45:PRO:HG2	34:I:47:LEU:H	1.71	0.55
43:R:52:ILE:O	43:R:56:ARG:HG3	2.05	0.55
44:S:20:PHE:HE2	44:S:55:SER:HB3	1.70	0.55
45:T:63:ARG:O	45:T:66:LEU:HB2	2.07	0.55
47:V:20:ILE:HG22	47:V:45:VAL:HB	1.87	0.55
51:Z:41:THR:O	51:Z:44:ARG:HB3	2.06	0.55
53:3:35:G:H2'	53:3:36:C:H6	1.70	0.55
53:3:585:G:H2'	53:3:586:C:H6	1.71	0.55
54:1:45:G:H5"	54:1:46:G:C5'	2.26	0.55
54:1:900:A:H2'	54:1:901:C:O4'	2.07	0.55
54:1:1310:G:H1'	54:1:1611:C:H5"	1.89	0.55
54:1:2228:G:H2'	54:1:2229:U:H6	1.71	0.55
54:1:2234:G:O2'	54:1:2235:G:H5'	2.05	0.55
57:6:60:U:H2'	57:6:61:C:C5	2.41	0.55
12:m:45:GLN:NE2	54:1:2485:G:H5"	2.21	0.55
26:A:8:LYS:O	26:A:27:THR:HA	2.06	0.55
26:A:37:CYS:H	26:A:41:HIS:HB2	1.71	0.55
30:E:53:ASP:O	30:E:55:GLY:N	2.39	0.55
33:H:177:LEU:HD23	53:3:1112:C:C4	2.41	0.55
34:I:22:SER:OG	34:I:109:THR:HG22	2.05	0.55
39:N:49:GLN:O	39:N:53:LEU:HG	2.06	0.55
40:O:52:LEU:HD21	40:O:62:ARG:NH1	2.20	0.55
49:X:30:LEU:HB2	49:X:48:ILE:HG22	1.87	0.55
52:a:46:VAL:O	52:a:170:ILE:HG23	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:403:C:H2'	53:3:404:G:O4'	2.06	0.55
53:3:407:U:H2'	53:3:408:A:C8	2.41	0.55
53:3:1522:U:O2'	53:3:1523:G:H5'	2.06	0.55
54:1:1024:G:C3'	54:1:1025:G:H5"	2.30	0.55
54:1:1278:C:H2'	54:1:1279:G:C8	2.39	0.55
3:d:98:LYS:HG3	54:1:607:U:P	2.46	0.55
4:e:147:ARG:HG3	4:e:148:VAL:N	2.20	0.55
10:k:29:HIS:HD1	54:1:2675:A:H4'	1.71	0.55
10:k:105:ARG:NE	10:k:108:ARG:HE	2.05	0.55
32:G:29:PHE:N	32:G:29:PHE:CD1	2.75	0.55
33:H:99:GLN:H	33:H:99:GLN:CD	2.14	0.55
35:J:159:SER:HB3	35:J:162:GLU:OE1	2.06	0.55
36:K:11:HIS:ND1	36:K:12:PRO:HD2	2.20	0.55
43:R:80:MET:SD	43:R:91:ARG:HD2	2.45	0.55
50:Y:38:ILE:HD13	50:Y:81:GLN:HB3	1.89	0.55
53:3:92:U:C2'	53:3:93:U:H5'	2.31	0.55
54:1:2302:U:H2'	54:1:2303:G:C8	2.42	0.55
54:1:2874:C:O2	54:1:2874:C:H2'	2.05	0.55
3:d:98:LYS:HB3	3:d:102:ARG:NH2	2.21	0.55
4:e:142:TYR:HA	4:e:145:VAL:CG1	2.36	0.55
4:e:147:ARG:CG	4:e:148:VAL:H	2.19	0.55
7:h:64:VAL:C	7:h:66:GLY:H	2.15	0.55
9:j:109:LEU:O	9:j:111:LYS:HD3	2.07	0.55
12:m:75:GLU:HA	54:1:957:C:OP2	2.07	0.55
33:H:189:HIS:HB3	33:H:194:VAL:HG22	1.87	0.55
36:K:20:GLY:O	36:K:23:GLU:HB3	2.05	0.55
37:L:3:ARG:HB3	37:L:4:ARG:NH1	2.20	0.55
49:X:35:ARG:HH22	49:X:74:ALA:HB3	1.70	0.55
54:1:141:G:H3'	54:1:142:A:O4'	2.06	0.55
54:1:191:A:H2'	54:1:192:C:C6	2.41	0.55
54:1:519:U:H2'	54:1:520:G:C8	2.42	0.55
54:1:687:C:H2'	54:1:688:U:O4'	2.06	0.55
54:1:1654:A:N3	54:1:1655:A:C8	2.75	0.55
54:1:2816:G:O2'	54:1:2817:U:H5'	2.07	0.55
54:1:2836:U:H2'	54:1:2837:A:C8	2.42	0.55
56:5:26:A:N6	56:5:44:G:N1	2.32	0.55
1:b:206:LYS:HB2	54:1:729:G:C5	2.40	0.55
2:c:146:ILE:HG12	2:c:155:VAL:HG11	1.88	0.55
3:d:12:LEU:HD23	3:d:13:THR:N	2.22	0.55
4:e:124:ARG:HH12	54:1:2316:G:H4'	1.71	0.55
9:j:113:PRO:HG3	54:1:529:A:OP2	2.05	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:34:HIS:HB3	14:o:65:THR:HG22	1.89	0.55
17:r:22:LEU:CD1	17:r:94:THR:HB	2.36	0.55
35:J:113:VAL:HG11	35:J:139:THR:HG21	1.88	0.55
42:Q:49:ARG:HH22	53:3:522:C:H41	1.51	0.55
47:V:48:GLU:O	47:V:49:ASN:HB2	2.05	0.55
48:W:12:PHE:CD2	48:W:13:THR:HG22	2.41	0.55
50:Y:43:LYS:O	50:Y:47:GLN:HB2	2.07	0.55
52:a:196:LEU:HD12	52:a:208:TYR:HE2	1.71	0.55
53:3:817:C:H4'	53:3:818:G:H5"	1.89	0.55
53:3:1229:A:H2'	53:3:1230:C:H6	1.72	0.55
53:3:1368:A:O2'	53:3:1369:C:H5'	2.06	0.55
54:1:638:G:H2'	54:1:639:U:C6	2.41	0.55
54:1:1331:G:O2'	54:1:1332:G:H5"	2.06	0.55
54:1:1482:G:N1	54:1:1508:A:C2	2.75	0.55
54:1:1551:A:O2'	54:1:1552:A:H5'	2.07	0.55
1:b:29:PHE:CD2	1:b:31:PRO:HD2	2.41	0.55
1:b:148:GLY:O	54:1:2205:A:H5'	2.06	0.55
10:k:93:GLN:HG3	10:k:114:LYS:HE3	1.87	0.55
12:m:40:ARG:HG3	12:m:93:VAL:HG21	1.88	0.55
13:n:48:VAL:HG13	13:n:49:GLU:N	2.20	0.55
13:n:50:PRO:O	13:n:53:THR:HB	2.07	0.55
15:p:54:LEU:HD12	15:p:76:HIS:CB	2.36	0.55
15:p:102:ARG:HB3	15:p:106:ALA:HB3	1.87	0.55
23:x:58:ILE:HD13	23:x:66:VAL:HG11	1.88	0.55
25:z:39:ASP:OD2	25:z:44:ARG:NH1	2.40	0.55
32:G:99:MET:HA	32:G:106:VAL:HG21	1.88	0.55
33:H:83:VAL:HA	33:H:86:LEU:HD12	1.89	0.55
34:I:100:VAL:HG12	34:I:104:MET:HG2	1.89	0.55
53:3:306:A:C2'	53:3:307:C:H5"	2.36	0.55
53:3:1143:G:H2'	53:3:1144:G:C8	2.42	0.55
53:3:1435:G:H2'	53:3:1436:U:C6	2.41	0.55
54:1:195:A:H61	54:1:198:C:H3'	1.71	0.55
54:1:565:C:H2'	54:1:566:U:H6	1.72	0.55
54:1:1175:A:C3'	54:1:1176:U:H5'	2.25	0.55
54:1:1264:A:H3'	54:1:1265:A:H5"	1.88	0.55
57:6:17:C:H3'	57:6:17(A):U:H6	1.71	0.55
57:6:47:U:C5'	57:6:48:C:H5'	2.36	0.55
1:b:109:LEU:HD12	1:b:113:ASP:OD2	2.07	0.55
3:d:83:VAL:HG23	3:d:86:ALA:HB2	1.88	0.55
13:n:87:PHE:CE2	13:n:94:TYR:HB3	2.42	0.55
15:p:105:LYS:HE2	15:p:105:LYS:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:17:SER:H	19:t:20:ALA:HB3	1.72	0.55
20:u:40:LEU:HD22	20:u:40:LEU:N	2.22	0.55
34:I:57:LYS:HD2	34:I:203:TYR:OH	2.06	0.55
35:J:52:ALA:HB2	35:J:61:LYS:CD	2.36	0.55
35:J:125:LYS:HE2	53:3:9:G:OP2	2.07	0.55
36:K:38:ARG:HH22	36:K:99:ALA:C	2.15	0.55
36:K:71:ILE:HG13	36:K:72:ASP:H	1.70	0.55
44:S:4:SER:OG	53:3:1216:A:H5"	2.05	0.55
45:T:68:TYR:CE1	45:T:72:LYS:HG3	2.42	0.55
49:X:54:ARG:HD2	53:3:958:A:C4	2.41	0.55
53:3:813:U:H2'	53:3:814:A:C5'	2.36	0.55
53:3:1064:G:H1'	53:3:1190:G:H21	1.71	0.55
54:1:132:G:H2'	54:1:133:U:C6	2.42	0.55
54:1:1304:A:C2'	54:1:1305:C:H5"	2.34	0.55
54:1:1437:C:H2'	54:1:1438:U:C6	2.42	0.55
54:1:2078:C:H5'	54:1:2434:A:H4'	1.89	0.55
56:5:13:C:C2'	56:5:14:A:H5"	2.37	0.55
1:b:212:TRP:HZ3	54:1:764:A:OP2	1.90	0.55
5:f:115:GLN:C	5:f:117:PRO:HD3	2.31	0.55
8:i:90:GLY:CA	54:1:1063:G:N7	2.69	0.55
19:t:61:LEU:HD12	19:t:61:LEU:C	2.32	0.55
22:w:39:THR:C	22:w:41:PHE:N	2.64	0.55
29:D:34:ARG:NH2	29:D:39:ARG:HG2	2.21	0.55
34:I:92:LEU:HD23	34:I:92:LEU:C	2.32	0.55
40:O:41:PRO:HB3	53:3:1151:A:H1'	1.88	0.55
42:Q:35:ARG:HB3	42:Q:35:ARG:NH1	2.22	0.55
44:S:46:LYS:O	44:S:49:THR:N	2.39	0.55
51:Z:61:ARG:HG3	51:Z:62:GLU:N	2.13	0.55
51:Z:61:ARG:O	51:Z:63:ASN:ND2	2.37	0.55
53:3:371:A:H1'	53:3:482:A:H1'	1.89	0.55
53:3:419:C:H5"	53:3:513:C:H4'	1.88	0.55
54:1:621:A:H2'	54:1:622:G:H5'	1.89	0.55
54:1:714:U:O5'	54:1:714:U:H6	1.90	0.55
54:1:765:C:H2'	54:1:766:U:H6	1.69	0.55
54:1:1663:G:H5'	54:1:2687:U:OP1	2.07	0.55
54:1:1715:G:O2'	54:1:1716:U:H6	1.90	0.55
54:1:1965:C:H3'	54:1:1966:A:C8	2.42	0.55
54:1:2093:G:O2'	54:1:2094:A:H5'	2.07	0.55
2:c:149:ASN:O	2:c:152:PRO:HD2	2.06	0.55
3:d:79:ARG:HD3	54:1:1258:U:H4'	1.89	0.55
9:j:104:ALA:O	9:j:108:MET:HE3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:14:SER:HA	13:n:17:ARG:NH2	2.22	0.55
22:w:71:LYS:HB2	22:w:73:ARG:HH11	1.71	0.55
28:C:5:ARG:HH21	28:C:23:THR:HG23	1.71	0.55
32:G:20:ARG:HG3	32:G:21:TYR:HD1	1.72	0.55
37:L:68:VAL:HG12	37:L:137:ARG:HD2	1.89	0.55
42:Q:50:LYS:O	42:Q:66:ILE:HD13	2.06	0.55
53:3:407:U:H2'	53:3:408:A:H8	1.71	0.55
53:3:1137:C:H4'	53:3:1138:G:N3	2.22	0.55
54:1:381:G:O2'	54:1:382:A:H5'	2.07	0.55
54:1:468:G:H2'	54:1:469:G:C8	2.42	0.55
54:1:967:U:H2'	54:1:968:C:H6	1.70	0.55
54:1:1434:A:H2'	54:1:1435:G:H8	1.71	0.55
54:1:1660:G:O2'	54:1:1661:G:H5'	2.06	0.55
54:1:1827:U:H2'	54:1:1828:G:O4'	2.06	0.55
54:1:2345:G:H21	54:1:2381:A:H3'	1.71	0.55
54:1:2444:G:C3'	54:1:2445:G:H5"	2.37	0.55
59:1:3001:FME:HB2	60:5:101:PRO:CD	2.36	0.55
1:b:86:ARG:HG2	1:b:87:SER:H	1.71	0.54
1:b:144:GLU:HG2	1:b:188:ARG:O	2.06	0.54
5:f:46:ASP:OD1	5:f:47:ASN:ND2	2.37	0.54
11:l:36:LYS:HE2	54:1:807:U:OP1	2.06	0.54
13:n:18:GLN:O	13:n:22:ARG:HG2	2.07	0.54
22:w:36:GLN:OE1	22:w:40:LYS:N	2.40	0.54
36:K:72:ASP:O	36:K:76:THR:HG23	2.07	0.54
37:L:59:GLU:O	37:L:63:VAL:HG23	2.07	0.54
40:O:78:GLU:OE2	40:O:79:PRO:HD2	2.07	0.54
46:U:8:ARG:HD2	46:U:17:TYR:CE1	2.41	0.54
53:3:663:A:H5'	53:3:836:G:OP1	2.06	0.54
53:3:900:A:H2'	53:3:901:A:C8	2.43	0.54
53:3:1143:G:H2'	53:3:1144:G:H8	1.72	0.54
54:1:1048:A:C8	54:1:1049:C:H5	2.24	0.54
54:1:2657:A:H2'	54:1:2658:C:H5'	1.89	0.54
55:2:3:C:H3'	55:2:4:C:H5"	1.89	0.54
3:d:44:ARG:HG3	3:d:87:ALA:HB1	1.89	0.54
9:j:1:MET:HG2	9:j:2:LYS:H	1.72	0.54
12:m:30:SER:N	12:m:105:MET:O	2.38	0.54
17:r:34:GLU:HB3	17:r:58:VAL:CG2	2.37	0.54
21:v:42:LEU:HD12	21:v:42:LEU:O	2.07	0.54
32:G:96:LEU:H	32:G:99:MET:HE3	1.72	0.54
38:M:98:LEU:HD12	38:M:99:GLY:N	2.22	0.54
39:N:10:ARG:HG3	39:N:105:ARG:HH21	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:358:U:H2'	53:3:359:G:C8	2.42	0.54
53:3:1105:A:H2'	53:3:1106:G:H8	1.72	0.54
54:1:184:C:H2'	54:1:185:G:C8	2.42	0.54
54:1:248:G:H4'	54:1:248:G:OP1	2.07	0.54
54:1:255:A:H2'	54:1:256:A:O4'	2.06	0.54
54:1:814:C:O2'	54:1:815:C:H5'	2.07	0.54
54:1:1270:C:H5"	54:1:1271:G:O5'	2.07	0.54
54:1:1979:U:O2'	54:1:1980:G:H5'	2.07	0.54
54:1:2121:G:H2'	54:1:2122:U:C4'	2.38	0.54
54:1:2323:G:O2'	54:1:2324:U:H5'	2.08	0.54
54:1:2461:A:H1'	54:1:2492:U:N3	2.22	0.54
54:1:2606:C:H2'	54:1:2607:G:C8	2.41	0.54
1:b:43:ASN:OD1	1:b:45:ASN:HB2	2.07	0.54
13:n:14:SER:HA	13:n:17:ARG:HH22	1.72	0.54
13:n:79:LEU:HD13	13:n:83:LEU:HB2	1.87	0.54
14:o:83:LEU:HD11	14:o:114:GLY:C	2.31	0.54
16:q:13:HIS:O	16:q:17:LEU:HD22	2.08	0.54
32:G:28:PRO:HD2	32:G:29:PHE:CE1	2.43	0.54
32:G:113:LEU:HD23	32:G:113:LEU:C	2.32	0.54
34:I:12:ARG:NH1	34:I:36:ALA:HB3	2.22	0.54
37:L:14:ASP:HB3	37:L:18:GLY:CA	2.38	0.54
38:M:66:GLN:HB2	38:M:68:LYS:HG2	1.89	0.54
40:O:6:ILE:O	40:O:7:ARG:HD2	2.07	0.54
43:R:109:LYS:HE2	53:3:1227:A:OP2	2.07	0.54
53:3:802:A:H2'	53:3:803:G:H5'	1.89	0.54
53:3:1096:C:H2'	53:3:1097:C:C6	2.43	0.54
54:1:182:A:H2'	54:1:183:C:H6	1.71	0.54
54:1:1747:U:H2'	54:1:1748:C:C6	2.42	0.54
54:1:2315:G:H2'	54:1:2316:G:C8	2.42	0.54
1:b:170:TYR:HD1	1:b:184:GLU:HA	1.73	0.54
7:h:58:THR:HA	7:h:63:ALA:HB3	1.88	0.54
10:k:104:THR:O	10:k:106:GLU:N	2.40	0.54
17:r:38:VAL:HG13	17:r:54:VAL:H	1.73	0.54
24:y:55:THR:O	24:y:58:ASN:HB3	2.08	0.54
28:C:24:LYS:CG	28:C:26:LYS:HE3	2.37	0.54
30:E:30:HIS:NE2	54:1:2392:A:OP1	2.40	0.54
30:E:51:LYS:HG3	30:E:52:GLY:N	2.23	0.54
33:H:139:ASN:O	33:H:142:ARG:HD3	2.08	0.54
40:O:6:ILE:HD12	40:O:6:ILE:N	2.14	0.54
42:Q:89:LEU:HD23	42:Q:90:PRO:N	2.21	0.54
44:S:5:MET:HE2	44:S:8:ARG:NH1	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:T:27:GLN:O	45:T:31:LEU:HD23	2.06	0.54
51:Z:16:ARG:HB3	51:Z:16:ARG:CZ	2.36	0.54
53:3:551:U:H2'	53:3:552:U:H6	1.71	0.54
53:3:797:C:O2'	53:3:798:U:H5'	2.07	0.54
53:3:1477:U:H2'	53:3:1478:U:H6	1.71	0.54
54:1:279:A:C2'	54:1:280:U:H5'	2.36	0.54
54:1:1560:G:H2'	54:1:1560:G:N3	2.23	0.54
54:1:2286:G:H4'	54:1:2287:A:O4'	2.06	0.54
54:1:2636:C:H2'	54:1:2637:U:H6	1.73	0.54
2:c:97:SER:HB3	2:c:99:GLU:OE2	2.07	0.54
6:g:53:GLU:HG2	6:g:54:LEU:CD1	2.37	0.54
12:m:31:PHE:HB3	12:m:130:PHE:CE1	2.42	0.54
14:o:73:ALA:O	14:o:76:LYS:HB2	2.07	0.54
15:p:20:ARG:HB3	15:p:23:ASP:OD2	2.08	0.54
15:p:59:THR:HG22	15:p:72:VAL:CB	2.37	0.54
23:x:1:SER:O	23:x:3:VAL:N	2.41	0.54
32:G:75:ALA:O	32:G:79:VAL:HG23	2.07	0.54
32:G:120:SER:HA	32:G:125:PHE:HB3	1.89	0.54
33:H:63:ILE:H	33:H:96:VAL:CG2	2.20	0.54
34:I:11:SER:HA	34:I:18:LEU:HD13	1.90	0.54
34:I:27:ILE:HG13	34:I:28:ASP:OD1	2.08	0.54
37:L:123:LEU:O	37:L:127:ALA:N	2.39	0.54
38:M:6:ILE:HD11	38:M:31:LEU:HG	1.90	0.54
38:M:6:ILE:HD12	38:M:35:ILE:HD12	1.89	0.54
46:U:14:ARG:HH12	53:3:618:C:H1'	1.73	0.54
52:a:207:VAL:HB	52:a:210:LYS:HD3	1.89	0.54
53:3:947:G:H2'	53:3:948:C:C6	2.43	0.54
54:1:803:U:C2'	54:1:804:A:H5'	2.37	0.54
54:1:1055:G:H3'	54:1:1056:G:H8	1.72	0.54
54:1:1829:A:C4	54:1:1830:C:C6	2.96	0.54
54:1:2318:G:H2'	54:1:2319:G:O4'	2.07	0.54
54:1:2395:C:H2'	54:1:2396:G:O4'	2.08	0.54
54:1:2464:G:H2'	54:1:2465:C:H6	1.72	0.54
4:e:4:HIS:HB2	4:e:96:TRP:CD2	2.43	0.54
5:f:88:LEU:HD13	5:f:128:THR:O	2.07	0.54
9:j:108:MET:HE2	54:1:1138:G:N3	2.22	0.54
12:m:20:LEU:HD12	21:v:81:PRO:HG2	1.89	0.54
12:m:41:LEU:HB3	12:m:46:ILE:HD11	1.90	0.54
20:u:93:ARG:HH11	20:u:102:ILE:HG21	1.73	0.54
32:G:95:TRP:CZ2	32:G:100:LEU:HD23	2.37	0.54
32:G:130:LYS:H	32:G:130:LYS:CD	2.20	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:126:ARG:HB3	33:H:126:ARG:HH11	1.73	0.54
33:H:174:LEU:O	33:H:175:HIS:ND1	2.40	0.54
35:J:37:VAL:HG12	35:J:116:VAL:HG21	1.89	0.54
37:L:65:LEU:HD11	37:L:100:MET:HG2	1.90	0.54
47:V:40:THR:HG22	53:3:280:C:H41	1.72	0.54
53:3:285:C:H2'	53:3:286:C:H6	1.71	0.54
53:3:350:G:O2'	53:3:351:G:H5'	2.08	0.54
53:3:459:A:H2'	53:3:460:A:C8	2.42	0.54
53:3:766:A:O2'	53:3:767:A:H5'	2.07	0.54
53:3:1206:G:H2'	53:3:1207:G:C5'	2.35	0.54
53:3:1278:G:H3'	53:3:1278:G:N3	2.23	0.54
54:1:1839:G:H5'	54:1:1839:G:H8	1.72	0.54
54:1:2162:G:N3	54:1:2162:G:H2'	2.22	0.54
1:b:86:ARG:NH1	54:1:1817:G:H5"	2.23	0.54
5:f:41:GLU:HA	5:f:54:ARG:HH21	1.73	0.54
11:l:64:PHE:HB3	30:E:24:LYS:HE3	1.89	0.54
12:m:38:ARG:HH12	55:2:90:C:C4'	2.19	0.54
12:m:41:LEU:HD23	12:m:96:ILE:HG13	1.89	0.54
16:q:50:ARG:HH11	16:q:50:ARG:HG3	1.72	0.54
21:v:74:ALA:HA	21:v:91:PHE:HA	1.89	0.54
23:x:11:PRO:HB3	23:x:29:LEU:HD23	1.89	0.54
23:x:60:LYS:HZ3	54:1:372:G:C4'	2.21	0.54
28:C:35:LEU:CD1	28:C:37:LYS:HE3	2.37	0.54
36:K:29:ILE:HG22	36:K:34:GLY:HA3	1.90	0.54
37:L:48:THR:HB	37:L:120:ALA:CB	2.37	0.54
37:L:109:LYS:CG	37:L:110:ARG:H	2.16	0.54
38:M:113:ARG:HA	38:M:113:ARG:HE	1.72	0.54
49:X:30:LEU:HD12	49:X:48:ILE:CG2	2.38	0.54
52:a:15:VAL:HG21	52:a:222:VAL:HG21	1.90	0.54
52:a:54:LYS:C	52:a:56:ASP:H	2.16	0.54
53:3:817:C:H4'	53:3:818:G:C5'	2.37	0.54
53:3:952:U:H2'	53:3:953:G:H8	1.72	0.54
53:3:1305:G:H1'	53:3:1332:A:N6	2.23	0.54
53:3:1415:G:H2'	53:3:1416:G:C8	2.41	0.54
54:1:598:U:H2'	54:1:599:A:C8	2.43	0.54
54:1:785:G:H2'	54:1:786:C:H6	1.73	0.54
54:1:1103:A:H5"	54:1:1104:C:H5	1.72	0.54
54:1:1158:C:O2'	54:1:1159:U:H5'	2.08	0.54
54:1:1694:C:H5'	54:1:1695:G:C5	2.43	0.54
54:1:1891:G:H2'	54:1:1892:C:H6	1.73	0.54
54:1:2168:G:H2'	54:1:2168:G:N3	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:5:13:C:H2'	56:5:14:A:H5"	1.89	0.54
1:b:254:LYS:O	1:b:255:LYS:C	2.51	0.54
9:j:36:LEU:HD22	9:j:121:LYS:HG3	1.90	0.54
15:p:4:ILE:N	15:p:4:ILE:HD12	2.23	0.54
28:C:24:LYS:HG3	28:C:26:LYS:HE3	1.88	0.54
32:G:127:LYS:C	32:G:128:LEU:HD12	2.33	0.54
33:H:118:SER:O	33:H:122:GLN:HG3	2.08	0.54
34:I:64:TYR:O	34:I:66:VAL:HG13	2.07	0.54
35:J:159:SER:HB3	35:J:162:GLU:CD	2.33	0.54
37:L:92:PRO:O	37:L:95:ARG:HG2	2.08	0.54
37:L:147:ASN:C	37:L:149:ALA:H	2.14	0.54
38:M:26:MET:O	38:M:57:GLU:HG3	2.07	0.54
38:M:80:PRO:HA	38:M:83:ARG:NH1	2.23	0.54
42:Q:113:ARG:HH21	42:Q:120:ARG:HH11	1.56	0.54
43:R:25:GLY:H	53:3:1329:A:H5"	1.72	0.54
52:a:170:ILE:CG2	52:a:171:ILE:H	2.19	0.54
53:3:26:A:H61	53:3:558:G:H1'	1.72	0.54
53:3:796:C:O2'	53:3:797:C:H5'	2.08	0.54
53:3:1075:U:H2'	53:3:1076:U:C6	2.42	0.54
53:3:1294:G:O2'	53:3:1295:U:H5'	2.07	0.54
53:3:1403:C:H6	53:3:1403:C:O5'	1.91	0.54
54:1:56:A:O2'	54:1:57:C:H5'	2.08	0.54
54:1:176:A:O2'	54:1:177:G:H5'	2.08	0.54
54:1:663:G:C2'	54:1:664:G:H5"	2.38	0.54
54:1:1308:A:N7	54:1:1309:G:C5	2.76	0.54
54:1:2131:U:O5'	54:1:2133:G:H4'	2.08	0.54
2:c:55:LYS:HB2	2:c:76:GLY:O	2.07	0.54
2:c:121:THR:HB	2:c:127:PHE:CD2	2.41	0.54
2:c:146:ILE:CG1	2:c:155:VAL:HG11	2.37	0.54
4:e:106:ALA:O	4:e:110:ILE:HG13	2.08	0.54
9:j:14:ASP:H	9:j:52:ASP:CB	2.19	0.54
11:l:64:PHE:CB	30:E:24:LYS:HE3	2.38	0.54
12:m:53:MET:HG2	12:m:116:ALA:O	2.08	0.54
13:n:96:ARG:HG2	13:n:98:LEU:HD21	1.88	0.54
17:r:5:PHE:HB3	17:r:59:ILE:HD12	1.90	0.54
17:r:49:ILE:HB	17:r:51:VAL:H	1.73	0.54
35:J:139:THR:O	35:J:142:GLY:N	2.41	0.54
40:O:54:SER:HB2	53:3:1060:U:H4'	1.90	0.54
42:Q:98:ARG:HB3	42:Q:116:TYR:CB	2.38	0.54
50:Y:43:LYS:HD2	50:Y:86:ALA:HB2	1.90	0.54
52:a:15:VAL:O	52:a:16:ASP:HB2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:39:G:O2'	53:3:40:C:H5'	2.08	0.54
53:3:214:C:H2'	53:3:215:C:C6	2.42	0.54
53:3:299:G:C6	53:3:300:A:C6	2.96	0.54
53:3:694:A:C2	53:3:695:A:H1'	2.43	0.54
53:3:803:G:H2'	53:3:804:U:C6	2.42	0.54
53:3:1450:U:H2'	53:3:1452:C:O4'	2.07	0.54
53:3:1499:A:O2'	53:3:1500:A:H5'	2.08	0.54
54:1:268:C:H2'	54:1:269:C:H6	1.73	0.54
54:1:1120:G:H2'	54:1:1121:C:C6	2.43	0.54
54:1:1719:G:H2'	54:1:1720:U:O4'	2.08	0.54
54:1:1722:A:N6	54:1:1738:G:O2'	2.40	0.54
54:1:1741:C:H2'	54:1:1742:U:H6	1.72	0.54
54:1:1920:C:C4'	54:1:1921:G:OP1	2.53	0.54
54:1:2059:A:N6	54:1:2503:A:H2'	2.22	0.54
54:1:2285:C:H5'	54:1:2288:A:N6	2.23	0.54
54:1:2419:U:H2'	54:1:2420:C:C5	2.43	0.54
54:1:2848:G:O2'	54:1:2867:G:N2	2.41	0.54
3:d:84:THR:O	3:d:85:PHE:CD1	2.61	0.54
11:l:65:GLY:C	54:1:2415:G:H4'	2.33	0.54
16:q:59:LEU:HD23	16:q:59:LEU:O	2.07	0.54
20:u:65:GLN:OE1	54:1:328:U:H4'	2.08	0.54
23:x:9:LYS:O	23:x:30:PRO:HG3	2.08	0.54
25:z:15:ARG:HG2	25:z:15:ARG:HH11	1.73	0.54
32:G:222:GLU:O	32:G:224:ARG:HD3	2.08	0.54
34:I:81:LEU:CG	34:I:82:LYS:H	2.17	0.54
35:J:98:ALA:O	35:J:101:GLY:N	2.41	0.54
41:P:108:ASN:HA	51:Z:6:ARG:HA	1.90	0.54
43:R:22:TYR:HB3	43:R:65:GLU:CG	2.38	0.54
51:Z:32:ARG:C	51:Z:32:ARG:HD3	2.33	0.54
53:3:300:A:H1'	53:3:565:U:O2	2.08	0.54
54:1:886:A:N3	54:1:886:A:H2'	2.23	0.54
54:1:2469:A:H2'	54:1:2470:G:O4'	2.08	0.54
55:2:91:C:H2'	55:2:92:C:C6	2.43	0.54
2:c:56:LYS:HB3	2:c:59:ARG:CB	2.34	0.53
4:e:39:VAL:HG13	4:e:40:GLY:H	1.71	0.53
5:f:102:ILE:CG2	5:f:104:LEU:HD22	2.38	0.53
7:h:59:LEU:C	7:h:61:ARG:H	2.16	0.53
12:m:91:TYR:C	12:m:91:TYR:HD2	2.16	0.53
29:D:3:ARG:HD2	54:1:1613:G:O2'	2.08	0.53
37:L:14:ASP:CG	37:L:15:PRO:HD2	2.33	0.53
46:U:3:THR:O	46:U:21:VAL:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:U:28:ARG:HB2	46:U:28:ARG:NH2	2.24	0.53
51:Z:33:ARG:CG	51:Z:34:ARG:HG3	2.37	0.53
53:3:392:C:H2'	53:3:393:A:H8	1.71	0.53
53:3:509:A:H5'	53:3:509:A:C8	2.39	0.53
53:3:806:C:O2'	53:3:807:A:H5'	2.07	0.53
53:3:1030:U:H3'	53:3:1031:C:H5'	1.90	0.53
54:1:717:C:H2'	54:1:718:A:C5'	2.38	0.53
54:1:935:C:H2'	54:1:936:A:C8	2.43	0.53
54:1:1239:G:H2'	54:1:1240:U:O4'	2.08	0.53
54:1:2099:U:H3	54:1:2190:G:H1	1.56	0.53
56:5:9:A:N3	56:5:45:G:H2'	2.22	0.53
57:6:71:C:O2'	57:6:72:A:H5'	2.08	0.53
1:b:86:ARG:CG	1:b:87:SER:H	2.20	0.53
10:k:1:MET:C	10:k:2:ILE:HD13	2.33	0.53
11:l:95:LEU:HD23	11:l:100:ILE:HD11	1.91	0.53
22:w:19:VAL:HG13	22:w:34:VAL:HG22	1.90	0.53
32:G:17:HIS:HB2	32:G:202:ASN:HD22	1.73	0.53
35:J:101:GLY:N	35:J:121:ASN:HB3	2.23	0.53
37:L:101:ARG:HH12	53:3:939:G:H4'	1.72	0.53
46:U:14:ARG:HE	46:U:42:ILE:HD12	1.72	0.53
47:V:23:ALA:C	47:V:24:ILE:HD12	2.32	0.53
49:X:25:GLY:C	49:X:27:LYS:H	2.16	0.53
52:a:41:SER:H	52:a:217:THR:HB	1.74	0.53
53:3:211:G:H2'	53:3:212:G:H5'	1.90	0.53
53:3:540:G:H2'	53:3:541:G:O4'	2.08	0.53
53:3:613:C:H2'	53:3:614:C:H6	1.73	0.53
53:3:751:U:H2'	53:3:752:G:H5'	1.90	0.53
53:3:1305:G:N2	53:3:1331:G:H2'	2.22	0.53
54:1:819:A:C4	54:1:1189:A:C2	2.96	0.53
54:1:826:U:H5"	54:1:2429:G:P	2.49	0.53
54:1:878:A:H3'	54:1:879:G:H8	1.73	0.53
54:1:1932:A:H2'	54:1:1933:G:O4'	2.08	0.53
55:2:94:A:H2'	55:2:95:U:O4'	2.08	0.53
57:6:46:G:H5'	57:6:47:U:OP2	2.08	0.53
3:d:69:ARG:HD3	54:1:674:G:H1'	1.89	0.53
3:d:155:GLU:O	3:d:159:LEU:HG	2.08	0.53
4:e:24:VAL:HG23	4:e:25:MET:N	2.23	0.53
9:j:78:THR:HG21	54:1:2642:G:OP1	2.08	0.53
10:k:31:ARG:HB2	10:k:32:TYR:HD2	1.70	0.53
32:G:74:ALA:O	32:G:206:ILE:HD13	2.09	0.53
34:I:18:LEU:HD12	34:I:18:LEU:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:87:GLU:CD	34:I:187:ARG:HB2	2.33	0.53
37:L:87:PRO:HG3	37:L:147:ASN:O	2.09	0.53
48:W:18:GLN:HG2	48:W:19:GLU:N	2.21	0.53
53:3:158:G:H2'	53:3:159:G:O4'	2.07	0.53
53:3:1270:G:H2'	53:3:1271:A:C8	2.43	0.53
54:1:610:C:H2'	54:1:611:C:C6	2.43	0.53
54:1:1171:G:H2'	54:1:1172:C:O4'	2.08	0.53
54:1:1386:C:H2'	54:1:1387:A:H8	1.71	0.53
54:1:2841:C:H2'	54:1:2842:G:C8	2.43	0.53
1:b:11:GLY:C	1:b:13:ARG:H	2.15	0.53
1:b:201:LEU:CD2	53:3:773:G:H5"	2.38	0.53
3:d:175:ILE:CG2	3:d:180:LEU:HD11	2.38	0.53
7:h:74:ASP:O	7:h:77:VAL:HG12	2.09	0.53
9:j:29:ALA:HA	9:j:32:LEU:HD12	1.91	0.53
9:j:58:ASN:HA	9:j:127:GLY:O	2.08	0.53
10:k:78:ARG:C	10:k:79:PHE:HD1	2.15	0.53
10:k:114:LYS:O	10:k:118:LEU:HD12	2.08	0.53
12:m:41:LEU:HD11	12:m:125:PRO:HD2	1.90	0.53
16:q:48:ASP:C	16:q:50:ARG:H	2.16	0.53
16:q:65:ASN:HA	16:q:75:TYR:HB2	1.91	0.53
24:y:13:GLU:O	24:y:17:GLU:N	2.39	0.53
37:L:105:GLU:O	37:L:108:ARG:HB2	2.09	0.53
39:N:10:ARG:HG3	39:N:105:ARG:NE	2.23	0.53
44:S:64:ARG:N	44:S:77:GLY:O	2.37	0.53
46:U:55:ASP:O	46:U:59:HIS:N	2.29	0.53
53:3:556:C:O2'	53:3:557:G:H5'	2.07	0.53
53:3:1305:G:H1'	53:3:1332:A:H62	1.74	0.53
54:1:645:C:H2'	54:1:647:G:N7	2.23	0.53
54:1:809:G:O2'	54:1:810:U:H5'	2.09	0.53
54:1:2055:C:H5'	54:1:2056:G:O5'	2.08	0.53
1:b:23:LEU:HD21	1:b:82:TYR:HB2	1.90	0.53
2:c:33:ARG:HB2	2:c:51:THR:CG2	2.38	0.53
2:c:208:LYS:HE2	54:1:2732:G:OP1	2.07	0.53
4:e:140:ILE:N	4:e:140:ILE:HD12	2.24	0.53
5:f:169:ARG:HA	5:f:169:ARG:NE	2.22	0.53
10:k:92:GLU:CD	10:k:92:GLU:N	2.57	0.53
11:l:23:ILE:HG22	17:r:82:HIS:NE2	2.24	0.53
15:p:19:PHE:HE1	15:p:58:PHE:CD2	2.26	0.53
16:q:43:GLN:OE1	17:r:77:PHE:HB3	2.08	0.53
16:q:47:ARG:HG3	16:q:47:ARG:NH2	2.24	0.53
16:q:60:TRP:O	16:q:64:ILE:HG12	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:14:THR:HG22	20:u:18:LYS:HD2	1.91	0.53
20:u:17:ASP:HB3	20:u:20:LYS:HD2	1.90	0.53
33:H:146:LYS:O	33:H:170:GLY:HA3	2.08	0.53
33:H:174:LEU:HD23	33:H:181:ILE:CD1	2.39	0.53
34:I:10:LEU:CD2	34:I:62:ARG:HH11	2.19	0.53
38:M:95:MET:HB3	38:M:99:GLY:H	1.73	0.53
39:N:29:ILE:HD11	39:N:37:TYR:CB	2.38	0.53
48:W:33:THR:HG23	48:W:36:GLY:H	1.73	0.53
49:X:13:HIS:ND1	53:3:1014:A:H5"	2.23	0.53
53:3:85:U:H5"	53:3:86:G:H5'	1.90	0.53
53:3:131:A:H2'	53:3:132:C:H6	1.72	0.53
53:3:148:G:C3'	53:3:149:A:H5"	2.38	0.53
53:3:181:A:H2'	53:3:182:A:C8	2.43	0.53
53:3:1019:A:H2'	53:3:1020:G:O4'	2.08	0.53
53:3:1314:C:H2'	53:3:1315:U:C6	2.43	0.53
54:1:1090:A:N6	54:1:1101:U:H3	2.06	0.53
54:1:1845:G:O2'	54:1:1846:G:H5'	2.08	0.53
54:1:1989:G:O2'	54:1:1990:C:H5'	2.08	0.53
54:1:2016:U:H2'	54:1:2017:U:C6	2.43	0.53
54:1:2034:U:H6	54:1:2034:U:H5'	1.74	0.53
3:d:131:THR:HG22	3:d:160:ALA:CA	2.37	0.53
7:h:71:CYS:O	7:h:73:LYS:N	2.41	0.53
8:i:90:GLY:H	8:i:92:PRO:HD3	1.72	0.53
8:i:104:GLN:O	8:i:107:GLU:HG3	2.09	0.53
8:i:106:GLN:O	8:i:110:GLN:HB2	2.08	0.53
11:l:100:ILE:O	11:l:101:ILE:HD12	2.08	0.53
16:q:89:ILE:HG22	16:q:94:LEU:HG	1.90	0.53
19:t:54:GLU:HG2	19:t:88:LYS:HB2	1.91	0.53
40:O:10:LEU:HD12	40:O:10:LEU:O	2.09	0.53
40:O:55:PRO:HG2	40:O:56:HIS:H	1.74	0.53
46:U:10:GLY:HA2	53:3:624:C:H4'	1.91	0.53
47:V:13:SER:HB3	47:V:21:VAL:HB	1.90	0.53
54:1:538:A:H2'	54:1:539:G:O4'	2.08	0.53
54:1:678:C:H2'	54:1:679:C:C6	2.44	0.53
54:1:906:U:H2'	54:1:907:G:C5'	2.33	0.53
54:1:1189:A:H2'	54:1:1190:G:H5'	1.91	0.53
54:1:2290:G:H2'	54:1:2291:U:H6	1.72	0.53
54:1:2578:G:O2'	54:1:2579:C:H5'	2.09	0.53
54:1:2846:G:H2'	54:1:2847:U:O4'	2.09	0.53
55:2:39:A:H2'	55:2:40:U:C6	2.44	0.53
1:b:62:ARG:O	1:b:64:VAL:HG23	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:124:LYS:H	1:b:191:LEU:CD1	2.21	0.53
6:g:12:LEU:HD11	6:g:25:TYR:HE2	1.73	0.53
9:j:99:ARG:O	9:j:102:GLU:N	2.42	0.53
10:k:4:GLU:HG2	10:k:22:ILE:O	2.07	0.53
15:p:38:ARG:HH21	15:p:38:ARG:CB	2.22	0.53
16:q:2:ARG:HD2	54:1:1248:G:C2	2.42	0.53
23:x:26:ARG:NH2	54:1:2232:C:P	2.82	0.53
25:z:23:LEU:HD11	25:z:53:MET:CE	2.39	0.53
34:I:10:LEU:HD22	34:I:62:ARG:HD3	1.90	0.53
35:J:98:ALA:CB	35:J:123:LEU:HD13	2.38	0.53
42:Q:107:LYS:HE2	42:Q:107:LYS:CA	2.38	0.53
47:V:24:ILE:HD12	47:V:24:ILE:N	2.23	0.53
53:3:320:A:H2'	53:3:321:A:C8	2.43	0.53
53:3:546:A:H4'	53:3:548:G:O3'	2.08	0.53
54:1:149:A:H2'	54:1:150:U:C6	2.44	0.53
54:1:2721:A:H1'	54:1:2873:A:C8	2.43	0.53
57:6:55:U:H2'	57:6:57:A:OP2	2.08	0.53
1:b:52:HIS:NE2	54:1:1824:G:OP2	2.41	0.53
13:n:17:ARG:HH21	13:n:17:ARG:HG3	1.73	0.53
32:G:66:ILE:HG12	32:G:88:GLN:HG3	1.91	0.53
34:I:97:LEU:O	34:I:101:VAL:HG23	2.09	0.53
34:I:100:VAL:HG21	34:I:136:VAL:HG21	1.91	0.53
37:L:25:PHE:O	37:L:28:ILE:HG22	2.09	0.53
42:Q:54:VAL:HG21	42:Q:81:ILE:HD11	1.91	0.53
46:U:34:GLU:HG2	46:U:56:ARG:NH2	2.21	0.53
47:V:17:GLU:O	47:V:18:LYS:HB2	2.09	0.53
49:X:32:THR:HG23	49:X:50:VAL:HG23	1.91	0.53
53:3:59:A:H3'	53:3:331:G:H22	1.73	0.53
53:3:68:G:H5'	53:3:171:A:O2'	2.09	0.53
53:3:166:U:H2'	53:3:167:A:C8	2.44	0.53
53:3:181:A:N6	53:3:194:C:H2'	2.24	0.53
53:3:977:A:H1'	53:3:982:U:O4	2.09	0.53
54:1:1646:C:H5"	54:1:1647:U:H5'	1.89	0.53
54:1:1906:G:H2'	54:1:1907:G:O4'	2.09	0.53
54:1:2544:G:H2'	54:1:2545:G:O4'	2.08	0.53
57:6:47:U:H5"	57:6:48:C:OP1	2.08	0.53
2:c:84:LEU:HB3	2:c:88:GLU:OE2	2.09	0.53
2:c:116:LYS:HD2	54:1:2724:U:OP1	2.07	0.53
2:c:119:ALA:HB3	2:c:165:MET:CB	2.38	0.53
4:e:107:VAL:HA	4:e:110:ILE:CD1	2.39	0.53
6:g:50:ARG:HA	6:g:53:GLU:HB3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:27:ARG:HG2	23:x:27:ARG:NH1	2.24	0.53
26:A:1:MET:N	55:2:40:U:H3	2.07	0.53
40:O:86:ALA:O	40:O:90:LEU:HD12	2.08	0.53
41:P:20:ALA:HB2	41:P:81:LEU:HD11	1.89	0.53
43:R:10:ASP:HA	43:R:44:ILE:CG2	2.38	0.53
43:R:23:GLY:O	53:3:1329:A:H4'	2.08	0.53
49:X:14:LEU:HD23	49:X:15:LEU:N	2.24	0.53
50:Y:52:GLU:C	50:Y:55:PRO:HD2	2.34	0.53
52:a:21:TYR:O	52:a:224:VAL:HA	2.09	0.53
53:3:474:G:H2'	53:3:475:C:H6	1.74	0.53
53:3:903:G:O2'	53:3:904:U:H5'	2.09	0.53
53:3:986:U:H2'	53:3:987:G:C8	2.44	0.53
54:1:39:G:H2'	54:1:40:U:H6	1.71	0.53
54:1:104:A:H2'	54:1:105:C:H6	1.73	0.53
54:1:1934:C:O2'	54:1:1935:G:H5'	2.09	0.53
54:1:2901:C:H2'	54:1:2902:C:C6	2.44	0.53
2:c:200:ASP:C	2:c:201:LEU:HD12	2.33	0.53
5:f:171:LYS:HE3	54:1:2530:A:N7	2.24	0.53
7:h:34:THR:HG22	54:1:1056:G:H5'	1.89	0.53
7:h:41:LEU:HB2	54:1:1082:U:O2'	2.09	0.53
10:k:64:ARG:HB2	10:k:79:PHE:CZ	2.42	0.53
14:o:98:GLN:O	14:o:100:HIS:N	2.41	0.53
14:o:110:ALA:HB1	14:o:115:LEU:HD23	1.91	0.53
16:q:73:ILE:HG12	16:q:74:SER:N	2.24	0.53
20:u:71:ILE:HD13	20:u:82:VAL:HG11	1.90	0.53
23:x:4:CYS:SG	23:x:51:SER:N	2.81	0.53
26:A:12:ILE:HG21	26:A:26:SER:HB3	1.91	0.53
27:B:2:VAL:CG1	54:1:2016:U:H1'	2.38	0.53
30:E:3:ILE:HG12	30:E:4:LYS:O	2.09	0.53
30:E:26:ALA:O	30:E:43:LEU:HD23	2.08	0.53
33:H:123:LEU:HD21	33:H:195:ILE:HG21	1.91	0.53
38:M:88:LYS:HE2	38:M:116:ARG:O	2.08	0.53
39:N:71:ILE:H	39:N:71:ILE:CD1	2.18	0.53
39:N:113:LYS:CE	53:3:1367:C:H3'	2.39	0.53
41:P:35:ASP:OD2	41:P:39:ASN:HB2	2.08	0.53
46:U:8:ARG:HB3	46:U:28:ARG:NH1	2.22	0.53
52:a:60:ARG:HB2	52:a:163:TYR:O	2.09	0.53
52:a:172:HIS:HB2	54:1:2122:U:O2'	2.09	0.53
53:3:411:A:H1'	53:3:413:G:H1'	1.90	0.53
53:3:1118:U:H2'	53:3:1119:C:H6	1.74	0.53
54:1:373:U:O2'	54:1:423:A:H1'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:799:G:H5”	54:1:800:A:C2’	2.36	0.53
54:1:825:A:H2’	54:1:826:U:C6	2.44	0.53
54:1:879:G:H2’	54:1:880:G:C8	2.44	0.53
54:1:914:G:H5’	54:1:915:C:OP2	2.09	0.53
54:1:1111:A:H2’	54:1:1111:A:N3	2.25	0.53
54:1:2104:C:H2’	54:1:2105:U:C6	2.44	0.53
57:6:21:A:H61	57:6:46:G:H2’	1.74	0.53
3:d:192:ALA:O	3:d:195:GLN:HB2	2.09	0.52
10:k:23:LYS:HG3	10:k:24:VAL:O	2.09	0.52
11:l:19:LEU:HD13	11:l:31:GLY:HA3	1.91	0.52
12:m:68:PHE:CG	12:m:69:PRO:HD2	2.44	0.52
13:n:79:LEU:O	13:n:81:ASN:N	2.42	0.52
13:n:96:ARG:HG3	54:1:2882:A:H5’	1.91	0.52
14:o:14:ALA:O	14:o:18:LEU:HD13	2.09	0.52
15:p:102:ARG:HH21	54:1:1755:A:H5’	1.74	0.52
23:x:30:PRO:HA	54:1:396:G:O3’	2.09	0.52
26:A:16:CYS:SG	26:A:17:SER:N	2.82	0.52
31:F:10:LEU:HB2	31:F:14:CYS:SG	2.48	0.52
32:G:107:ARG:HA	32:G:110:ILE:HD13	1.91	0.52
33:H:110:LEU:HD13	33:H:203:LYS:HE3	1.90	0.52
34:I:150:LYS:HA	34:I:155:LYS:NZ	2.24	0.52
35:J:57:ALA:O	35:J:61:LYS:HB2	2.09	0.52
39:N:108:ARG:HG3	53:3:1347:G:O5’	2.09	0.52
41:P:118:ASN:ND2	53:3:717:U:O3’	2.42	0.52
42:Q:33:CYS:HA	42:Q:54:VAL:HA	1.90	0.52
42:Q:106:VAL:HG12	42:Q:107:LYS:N	2.24	0.52
50:Y:33:LYS:O	50:Y:37:ALA:N	2.42	0.52
53:3:24:U:O2’	53:3:25:C:H5’	2.09	0.52
53:3:306:A:C3’	53:3:307:C:H5”	2.39	0.52
54:1:158:U:H2’	54:1:159:G:O4’	2.09	0.52
54:1:246:C:O2’	54:1:385:C:H4’	2.09	0.52
54:1:718:A:C2’	54:1:719:C:H5’	2.39	0.52
54:1:831:G:O2’	54:1:832:U:H5’	2.09	0.52
54:1:1924:C:H3’	54:1:1925:C:H5	1.73	0.52
54:1:2248:C:H2’	54:1:2249:U:H5’	1.90	0.52
54:1:2740:A:H2’	54:1:2741:A:H8	1.74	0.52
1:b:180:MET:CE	1:b:268:ARG:HE	2.18	0.52
2:c:151:THR:HB	54:1:2572:A:OP2	2.09	0.52
3:d:76:PRO:CB	3:d:84:THR:HG22	2.39	0.52
3:d:109:LEU:HD13	3:d:112:LEU:CD1	2.36	0.52
5:f:84:LYS:HB3	5:f:132:LEU:HD11	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:30:ARG:HG3	54:1:2674:G:H4'	1.91	0.52
10:k:77:ILE:HG22	10:k:79:PHE:CD1	2.44	0.52
19:t:3:ARG:HH11	19:t:3:ARG:HG3	1.73	0.52
19:t:8:LEU:HD12	24:y:26:PHE:HB2	1.90	0.52
32:G:159:ALA:HB1	32:G:183:PHE:HE2	1.75	0.52
34:I:59:LYS:O	34:I:63:ILE:HG13	2.09	0.52
36:K:5:GLU:HA	36:K:63:ASN:H	1.74	0.52
41:P:93:GLU:HB3	41:P:97:ARG:HH21	1.72	0.52
45:T:71:ARG:NH1	45:T:72:LYS:HE2	2.24	0.52
46:U:5:ARG:HD3	53:3:376:G:H4'	1.91	0.52
53:3:1244:G:H2'	53:3:1245:C:C6	2.45	0.52
53:3:1339:A:H3'	53:3:1340:A:H8	1.73	0.52
53:3:1535:C:H2'	53:3:1536:C:C5	2.44	0.52
54:1:503:A:H4'	54:1:505:A:H5"	1.91	0.52
54:1:946:C:H2'	54:1:947:A:H8	1.75	0.52
54:1:1112:G:H2'	54:1:1113:U:C6	2.44	0.52
54:1:1449:G:O2'	54:1:1450:G:H5'	2.10	0.52
54:1:1829:A:C8	54:1:1830:C:C5	2.97	0.52
54:1:2644:G:H3'	54:1:2645:G:N2	2.23	0.52
54:1:2697:G:H2'	54:1:2698:U:O4'	2.09	0.52
1:b:237:ARG:HG3	54:1:2591:C:P	2.49	0.52
7:h:4:ASN:HB3	54:1:1046:A:C4	2.44	0.52
17:r:4:VAL:HG22	17:r:13:ARG:HA	1.91	0.52
29:D:1:MET:CE	54:1:752:A:H5"	2.39	0.52
30:E:9:ALA:O	30:E:11:LYS:N	2.42	0.52
30:E:36:ALA:O	30:E:39:ARG:N	2.42	0.52
37:L:20:GLU:H	37:L:20:GLU:CD	2.17	0.52
37:L:49:LEU:HD22	37:L:123:LEU:CD1	2.39	0.52
44:S:5:MET:HB3	44:S:62:ARG:HH12	1.74	0.52
44:S:66:THR:HG23	44:S:82:LYS:HE3	1.89	0.52
48:W:59:LYS:HD3	53:3:734:G:O2'	2.10	0.52
48:W:61:ALA:CB	48:W:67:LEU:HD12	2.39	0.52
51:Z:33:ARG:HG2	51:Z:34:ARG:HG3	1.91	0.52
53:3:304:U:H2'	53:3:305:G:C8	2.44	0.52
53:3:394:G:O2'	53:3:395:C:H5'	2.09	0.52
53:3:1243:C:H2'	53:3:1244:G:H8	1.74	0.52
54:1:955:U:H3	54:1:962:G:H1	1.56	0.52
54:1:1678:A:H2'	54:1:1679:A:O4'	2.10	0.52
54:1:1869:G:H3'	54:1:1870:C:C5'	2.39	0.52
54:1:2427:C:H5"	54:1:2428:G:OP1	2.09	0.52
55:2:104:A:H2'	55:2:105:G:O4'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:83:VAL:O	3:d:85:PHE:N	2.32	0.52
7:h:11:ILE:O	7:h:15:VAL:N	2.43	0.52
9:j:111:LYS:HD3	9:j:111:LYS:H	1.75	0.52
10:k:64:ARG:HG2	10:k:83:ALA:H	1.74	0.52
24:y:30:MET:HE2	24:y:30:MET:N	2.24	0.52
32:G:116:LEU:HB3	32:G:140:LEU:HB2	1.90	0.52
32:G:166:ASP:O	32:G:169:HIS:N	2.31	0.52
33:H:124:GLU:HA	33:H:190:THR:HG22	1.91	0.52
34:I:68:GLU:O	34:I:71:PHE:N	2.42	0.52
36:K:50:PRO:HG3	36:K:55:HIS:CE1	2.44	0.52
39:N:113:LYS:HE3	53:3:1367:C:H3'	1.90	0.52
39:N:114:LYS:HE2	39:N:120:ALA:O	2.10	0.52
42:Q:52:CYS:N	42:Q:66:ILE:HD11	2.24	0.52
53:3:683:G:O2'	53:3:684:U:H5'	2.09	0.52
53:3:1278:G:H4'	53:3:1279:G:C4	2.45	0.52
53:3:1513:A:H2'	53:3:1514:G:H8	1.75	0.52
54:1:160:A:H2'	54:1:161:A:C8	2.43	0.52
54:1:362:A:N3	54:1:362:A:H2'	2.25	0.52
54:1:610:C:H2'	54:1:611:C:H6	1.74	0.52
54:1:672:C:C2'	54:1:673:C:H5'	2.39	0.52
54:1:1053:C:C3'	54:1:1054:A:H5"	2.39	0.52
54:1:1087:G:N2	54:1:1103:A:H1'	2.25	0.52
54:1:1273:U:H4'	54:1:1275:A:OP1	2.10	0.52
54:1:1441:G:H2'	54:1:1442:U:C6	2.45	0.52
54:1:1475:G:O2'	54:1:1476:U:H6	1.93	0.52
54:1:1956:U:O2	54:1:1956:U:C2'	2.55	0.52
54:1:1998:A:H2'	54:1:1999:C:C6	2.44	0.52
54:1:2273:A:H2'	54:1:2274:A:C8	2.44	0.52
54:1:2547:A:H2'	54:1:2548:U:C6	2.44	0.52
54:1:2818:U:H4'	54:1:2837:A:C4'	2.39	0.52
55:2:115:A:H2'	55:2:116:G:C8	2.44	0.52
2:c:154:LYS:HZ2	54:1:2024:G:H4'	1.75	0.52
3:d:29:HIS:O	3:d:33:VAL:HG23	2.10	0.52
3:d:97:ASN:HD21	54:1:658:U:H1'	1.74	0.52
4:e:69:ALA:HB3	4:e:80:GLN:HA	1.91	0.52
4:e:172:PHE:O	4:e:173:ASP:HB2	2.09	0.52
5:f:70:LEU:HD12	54:1:2747:G:C4'	2.40	0.52
5:f:102:ILE:HG22	5:f:104:LEU:HD22	1.92	0.52
9:j:57:LEU:O	9:j:58:ASN:HB2	2.09	0.52
10:k:32:TYR:OH	54:1:1996:C:C5	2.63	0.52
14:o:87:ILE:HD12	14:o:87:ILE:H	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:D:31:LEU:O	29:D:35:ARG:HG3	2.10	0.52
32:G:165:ALA:CB	32:G:186:VAL:HG12	2.37	0.52
37:L:113:LYS:HB3	37:L:117:LEU:HD21	1.91	0.52
38:M:113:ARG:HH21	38:M:116:ARG:HB3	1.75	0.52
40:O:33:GLY:HA2	40:O:80:THR:HG21	1.92	0.52
50:Y:57:VAL:O	50:Y:61:ALA:N	2.42	0.52
50:Y:83:ASN:O	50:Y:86:ALA:N	2.41	0.52
52:a:46:VAL:HB	52:a:171:ILE:HG22	1.90	0.52
53:3:267:C:H2'	53:3:268:U:C6	2.44	0.52
53:3:418:C:H2'	53:3:419:C:H6	1.74	0.52
53:3:988:G:H1'	53:3:1015:G:H22	1.74	0.52
53:3:1304:G:H1'	53:3:1333:A:N6	2.25	0.52
54:1:31:C:O2'	54:1:32:C:H5'	2.10	0.52
54:1:801:G:H3'	54:1:802:A:C5'	2.39	0.52
54:1:1444:G:H2'	54:1:1445:G:C8	2.43	0.52
54:1:2296:U:H5"	54:1:2297:A:OP1	2.08	0.52
54:1:2385:C:O2'	54:1:2386:A:H5'	2.09	0.52
54:1:2398:U:H2'	54:1:2399:G:H8	1.73	0.52
1:b:43:ASN:CG	1:b:45:ASN:H	2.17	0.52
9:j:14:ASP:N	9:j:52:ASP:HB2	2.23	0.52
9:j:21:THR:HG22	9:j:21:THR:O	2.08	0.52
11:l:112:LEU:HD23	54:1:637:A:C5'	2.39	0.52
12:m:121:ALA:HA	12:m:124:LEU:HD11	1.91	0.52
13:n:17:ARG:O	13:n:20:MET:HB3	2.09	0.52
14:o:64:TYR:CE2	55:2:51:G:H5"	2.45	0.52
15:p:24:THR:HG23	15:p:44:GLY:O	2.10	0.52
16:q:105:PHE:O	16:q:109:VAL:HG23	2.08	0.52
33:H:63:ILE:H	33:H:96:VAL:HG23	1.75	0.52
39:N:123:ARG:HG3	39:N:124:PRO:CD	2.33	0.52
40:O:45:ARG:HD2	53:3:1254:A:OP2	2.09	0.52
42:Q:49:ARG:HH12	53:3:522:C:H41	1.57	0.52
42:Q:85:ARG:HD2	42:Q:92:VAL:O	2.10	0.52
43:R:15:VAL:O	43:R:19:THR:HG23	2.10	0.52
51:Z:19:LYS:HE3	51:Z:23:GLU:OE1	2.08	0.52
52:a:192:LEU:O	52:a:196:LEU:N	2.34	0.52
53:3:7:A:H5"	53:3:298:A:O4'	2.09	0.52
54:1:149:A:H2'	54:1:150:U:H6	1.75	0.52
54:1:768:G:N2	54:1:1379:U:H1'	2.24	0.52
54:1:818:G:H2'	54:1:1187:G:N2	2.25	0.52
54:1:1102:C:H2'	54:1:1103:A:O4'	2.10	0.52
54:1:2479:U:C2'	54:1:2480:C:H5"	2.39	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2760:C:O2'	54:1:2761:A:H5'	2.09	0.52
1:b:264:LYS:HE2	1:b:265:PHE:CZ	2.45	0.52
8:i:123:ALA:HA	8:i:126:ARG:HG2	1.92	0.52
16:q:110:GLU:O	16:q:114:ALA:N	2.38	0.52
23:x:4:CYS:SG	23:x:50:VAL:HA	2.49	0.52
30:E:21:PHE:N	30:E:48:MET:HE3	2.25	0.52
32:G:65:LYS:HB2	32:G:158:ASP:N	2.25	0.52
46:U:16:PHE:C	46:U:16:PHE:CD2	2.87	0.52
49:X:5:LYS:HZ3	49:X:6:LYS:CD	2.21	0.52
50:Y:42:ASP:HB2	50:Y:45:ALA:HB3	1.92	0.52
52:a:27:ILE:HG12	52:a:224:VAL:HG11	1.92	0.52
52:a:217:THR:HG23	54:1:2124:G:H21	1.75	0.52
53:3:596:A:H5'	53:3:596:A:H8	1.74	0.52
54:1:52:A:O2'	54:1:53:A:H5'	2.10	0.52
54:1:248:G:H5'	54:1:249:C:H5'	1.90	0.52
54:1:468:G:H2'	54:1:469:G:H8	1.73	0.52
54:1:714:U:H2'	54:1:716:A:C5	2.44	0.52
54:1:1328:A:H2'	54:1:1330:C:C4	2.44	0.52
54:1:1794:A:O2'	54:1:1795:C:H5'	2.10	0.52
54:1:1832:C:H2'	54:1:1833:C:O4'	2.10	0.52
54:1:2163:A:H3'	54:1:2164:C:C5'	2.39	0.52
54:1:2411:A:O2'	54:1:2412:A:H5'	2.09	0.52
54:1:2526:G:H2'	54:1:2527:C:H6	1.74	0.52
2:c:2:ILE:HG12	2:c:90:PHE:CE2	2.45	0.52
2:c:147:GLY:O	54:1:2052:A:H5'	2.09	0.52
9:j:17:VAL:HG23	9:j:138:GLN:O	2.10	0.52
10:k:10:VAL:HG11	10:k:16:ALA:HB3	1.92	0.52
11:l:56:PRO:O	11:l:60:ARG:HB2	2.09	0.52
14:o:33:ARG:HG3	14:o:34:HIS:ND1	2.25	0.52
21:v:48:MET:SD	21:v:86:LEU:HD13	2.50	0.52
26:A:32:LEU:HD12	26:A:32:LEU:O	2.10	0.52
34:I:174:ALA:O	34:I:177:MET:HE2	2.10	0.52
35:J:88:HIS:CD2	35:J:137:ARG:HB3	2.45	0.52
35:J:107:GLY:O	35:J:111:ARG:HG2	2.09	0.52
39:N:71:ILE:HD12	39:N:71:ILE:N	2.19	0.52
40:O:52:LEU:HD12	44:S:80:ARG:NE	2.25	0.52
42:Q:82:ARG:HB3	42:Q:82:ARG:HH11	1.75	0.52
49:X:12:LEU:O	49:X:15:LEU:N	2.43	0.52
51:Z:20:ARG:HH12	53:3:1538:C:H1'	1.75	0.52
53:3:1079:G:H2'	53:3:1080:A:C8	2.44	0.52
54:1:679:C:O2'	54:1:680:C:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1179:G:C4	54:1:1180:U:H1’	2.45	0.52
54:1:1317:G:H2’	54:1:1318:U:O4’	2.10	0.52
54:1:1869:G:H3’	54:1:1870:C:H5”	1.92	0.52
54:1:2345:G:N3	54:1:2381:A:H2’	2.25	0.52
54:1:2370:G:H2’	54:1:2371:G:C8	2.44	0.52
54:1:2444:G:C2’	54:1:2445:G:H5”	2.40	0.52
56:5:22:G:H2’	56:5:23:C:C6	2.45	0.52
56:5:27:A:O2’	56:5:28:C:H5’	2.10	0.52
56:5:50:G:H2’	56:5:51:A:H1’	1.92	0.52
1:b:231:HIS:HA	1:b:241:LYS:CE	2.40	0.52
4:e:29:ARG:N	4:e:158:THR:OG1	2.42	0.52
5:f:82:PHE:CE2	5:f:137:LYS:HB2	2.45	0.52
11:l:122:VAL:HG21	11:l:142:ILE:HG23	1.90	0.52
18:s:36:LEU:CD1	18:s:48:LYS:HA	2.39	0.52
21:v:1:MET:SD	21:v:2:PHE:N	2.83	0.52
24:y:9:LYS:CB	24:y:12:GLU:HB2	2.29	0.52
32:G:95:TRP:HD1	32:G:99:MET:HE3	1.74	0.52
35:J:131:ASN:OD1	35:J:132:PRO:HD2	2.10	0.52
37:L:24:LYS:NZ	37:L:28:ILE:HB	2.25	0.52
47:V:20:ILE:CG2	47:V:45:VAL:HB	2.40	0.52
47:V:30:HIS:HE1	47:V:32:ILE:CG1	2.23	0.52
50:Y:65:LEU:O	50:Y:65:LEU:HD23	2.10	0.52
53:3:160:A:H1’	53:3:344:A:C8	2.44	0.52
53:3:1182:G:H5’	53:3:1184:G:H5’	1.92	0.52
54:1:215:G:C4’	54:1:216:A:H4’	2.39	0.52
54:1:1000:A:H2’	54:1:1001:A:C8	2.45	0.52
54:1:1346:G:O2’	54:1:1347:A:H5’	2.10	0.52
54:1:1468:U:H2’	54:1:1522:A:N6	2.24	0.52
54:1:1607:C:H5’	54:1:1607:C:H6	1.75	0.52
54:1:2151:U:C2’	54:1:2152:G:H5’	2.40	0.52
54:1:2176:A:H2’	54:1:2177:C:H6	1.74	0.52
54:1:2257:U:O2’	54:1:2258:C:H5’	2.10	0.52
2:c:124:ARG:HE	2:c:125:TRP:HE1	1.56	0.52
3:d:41:GLN:HG2	3:d:43:THR:HG23	1.91	0.52
4:e:21:TYR:HB3	4:e:26:GLN:HB3	1.91	0.52
5:f:162:ARG:HB3	5:f:162:ARG:HH21	1.75	0.52
8:i:118:GLY:HA3	8:i:124:MET:HG3	1.91	0.52
10:k:86:LEU:HD12	10:k:86:LEU:N	2.25	0.52
11:l:50:PHE:CZ	11:l:52:GLY:HA2	2.45	0.52
12:m:76:LYS:HG2	54:1:956:G:H5”	1.92	0.52
15:p:89:GLY:HA2	15:p:110:LYS:O	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:v:73:LYS:O	21:v:92:VAL:N	2.43	0.52
22:w:15:LYS:C	22:w:16:ARG:HD2	2.35	0.52
29:D:10:LEU:HD21	29:D:14:ARG:HH22	1.74	0.52
30:E:37:THR:HG21	54:1:2348:U:OP2	2.10	0.52
32:G:96:LEU:HG	32:G:99:MET:HE2	1.90	0.52
34:I:11:SER:OG	34:I:17:ASP:HA	2.10	0.52
34:I:155:LYS:HA	34:I:158:LEU:HD23	1.91	0.52
35:J:96:GLN:HB2	35:J:123:LEU:HB2	1.92	0.52
35:J:142:GLY:O	35:J:145:ASN:N	2.42	0.52
36:K:51:ILE:C	36:K:53:LYS:H	2.16	0.52
38:M:65:PHE:CD2	38:M:66:GLN:HG2	2.45	0.52
44:S:5:MET:SD	53:3:982:U:H5"	2.50	0.52
49:X:77:ARG:CZ	53:3:1222:G:H5"	2.38	0.52
49:X:79:TYR:OH	53:3:1226:C:H4'	2.09	0.52
50:Y:56:ILE:O	50:Y:60:GLN:HG2	2.10	0.52
53:3:662:U:H2'	53:3:663:A:C8	2.45	0.52
53:3:1182:G:H5'	53:3:1184:G:C5'	2.39	0.52
53:3:1343:G:H2'	53:3:1344:C:C6	2.45	0.52
53:3:1535:C:H2'	53:3:1536:C:C6	2.44	0.52
54:1:279:A:H2'	54:1:280:U:C5'	2.40	0.52
54:1:813:U:O2'	54:1:814:C:H5'	2.10	0.52
54:1:1475:G:HO2'	54:1:1476:U:H6	1.56	0.52
54:1:1842:G:H2'	54:1:1843:C:H6	1.75	0.52
54:1:2112:G:H3'	54:1:2113:U:H5	1.74	0.52
54:1:2552:U:O2	54:1:2552:U:O5'	2.28	0.52
57:6:56:C:H3'	57:6:57:A:C8	2.45	0.52
1:b:195:GLY:C	1:b:196:ASN:CG	2.77	0.51
3:d:111:GLU:CD	3:d:112:LEU:N	2.68	0.51
7:h:5:LEU:HD12	7:h:8:LYS:HD3	1.92	0.51
12:m:21:ALA:HB2	12:m:97:GLN:HB2	1.91	0.51
12:m:41:LEU:HD23	12:m:96:ILE:HG12	1.90	0.51
13:n:78:LYS:HG3	13:n:82:GLU:HB2	1.92	0.51
17:r:63:VAL:HA	17:r:96:VAL:HG12	1.92	0.51
24:y:42:LEU:O	24:y:45:GLN:HG2	2.10	0.51
24:y:52:ARG:O	24:y:56:LEU:HG	2.09	0.51
27:B:46:GLY:O	27:B:53:VAL:HG12	2.10	0.51
32:G:95:TRP:CD1	32:G:99:MET:HE3	2.46	0.51
33:H:70:ALA:HA	33:H:105:VAL:CG1	2.40	0.51
33:H:83:VAL:O	33:H:87:ARG:N	2.42	0.51
37:L:43:TYR:O	37:L:46:LEU:N	2.44	0.51
43:R:22:TYR:CD2	43:R:68:LEU:HD12	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:149:A:H2'	53:3:150:U:H6	1.75	0.51
53:3:346:G:C2'	53:3:347:G:H5'	2.40	0.51
53:3:1113:C:O2'	53:3:1114:C:H5'	2.10	0.51
53:3:1354:U:H2'	53:3:1355:G:C8	2.45	0.51
54:1:1186:G:N2	54:1:1187:G:H1'	2.26	0.51
54:1:1304:A:H2'	54:1:1305:C:C5'	2.37	0.51
54:1:1744:A:H3'	54:1:1745:A:H8	1.75	0.51
1:b:143:VAL:C	1:b:151:GLY:HA2	2.34	0.51
11:l:59:ARG:HD2	54:1:250:G:H4'	1.92	0.51
16:q:69:ARG:C	16:q:71:ASN:N	2.68	0.51
16:q:74:SER:O	16:q:78:PHE:N	2.43	0.51
22:w:25:GLU:CD	54:1:923:G:H4'	2.35	0.51
32:G:18:GLN:HG2	32:G:189:ASN:HB2	1.92	0.51
33:H:5:HIS:O	33:H:8:GLY:N	2.42	0.51
36:K:9:MET:HB2	36:K:85:ILE:O	2.10	0.51
37:L:32:ASP:OD2	53:3:1351:U:H4'	2.09	0.51
37:L:87:PRO:HD3	37:L:147:ASN:HD21	1.74	0.51
39:N:52:GLU:N	39:N:56:MET:HB2	2.24	0.51
48:W:11:ARG:H	48:W:11:ARG:HD3	1.75	0.51
52:a:214:ILE:C	52:a:221:GLY:HA3	2.35	0.51
52:a:220:ALA:CB	54:1:2176:A:H5'	2.39	0.51
53:3:372:C:N4	53:3:387:U:H2'	2.26	0.51
53:3:839:C:H2'	53:3:840:C:H6	1.75	0.51
54:1:532:A:H4'	54:1:533:G:O4'	2.09	0.51
54:1:834:G:H1'	54:1:2358:A:N3	2.25	0.51
56:5:20:U:H2'	56:5:21:A:C5'	2.37	0.51
1:b:154:ALA:HB2	1:b:161:VAL:HG23	1.92	0.51
3:d:23:PHE:CZ	3:d:28:VAL:HG21	2.45	0.51
3:d:45:ALA:HA	3:d:87:ALA:O	2.10	0.51
3:d:143:LEU:HB3	3:d:146:VAL:CG1	2.38	0.51
5:f:51:PHE:HZ	5:f:71:LEU:HD13	1.75	0.51
10:k:98:ARG:C	10:k:99:ILE:HD12	2.34	0.51
11:l:77:ILE:HD13	11:l:109:LYS:O	2.11	0.51
11:l:132:ARG:NH1	11:l:142:ILE:HB	2.25	0.51
19:t:1:MET:HE2	19:t:3:ARG:HD2	1.92	0.51
23:x:21:LEU:HD12	23:x:21:LEU:N	2.26	0.51
35:J:152:VAL:HG21	38:M:98:LEU:HD13	1.91	0.51
41:P:43:TRP:CZ3	41:P:45:THR:HG23	2.45	0.51
53:3:599:C:H2'	53:3:600:A:H8	1.75	0.51
53:3:638:U:H2'	53:3:639:G:O4'	2.09	0.51
54:1:197:A:H2'	54:1:198:C:O4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2196:C:H2'	54:1:2197:U:C6	2.45	0.51
54:1:2626:C:O2'	54:1:2627:G:H5'	2.10	0.51
54:1:2845:U:O2'	54:1:2846:G:H5'	2.10	0.51
2:c:81:GLU:CD	54:1:2636:C:H4'	2.36	0.51
3:d:181:ILE:HG22	11:l:3:LEU:HB2	1.92	0.51
4:e:142:TYR:HA	4:e:145:VAL:HG12	1.91	0.51
5:f:126:THR:HG22	5:f:127:GLN:N	2.25	0.51
11:l:51:GLU:O	11:l:54:GLN:HB3	2.10	0.51
31:F:20:ASP:HA	54:1:2757:A:OP2	2.11	0.51
47:V:24:ILE:O	47:V:40:THR:HA	2.09	0.51
49:X:9:PHE:CE2	53:3:1318:A:H4'	2.46	0.51
53:3:458:U:H2'	53:3:459:A:C8	2.45	0.51
53:3:1182:G:H4'	53:3:1183:U:H5"	1.91	0.51
53:3:1512:U:H2'	53:3:1513:A:C8	2.45	0.51
54:1:308:G:C8	54:1:501:A:H1'	2.45	0.51
54:1:437:U:H2'	54:1:438:G:C8	2.46	0.51
54:1:519:U:H2'	54:1:520:G:H8	1.76	0.51
54:1:1526:C:H2'	54:1:1527:G:O4'	2.11	0.51
54:1:1605:C:H4'	54:1:1610:A:N6	2.25	0.51
54:1:1635:A:H2'	54:1:1636:U:O4'	2.10	0.51
54:1:1794:A:H2'	54:1:1795:C:H6	1.75	0.51
54:1:1842:G:H2'	54:1:1843:C:C6	2.46	0.51
54:1:1957:C:O2'	54:1:1958:C:H5'	2.10	0.51
54:1:1970:A:OP1	54:1:1970:A:H4'	2.11	0.51
54:1:2041:U:C2	54:1:2042:A:C8	2.99	0.51
54:1:2697:G:H2'	54:1:2698:U:C6	2.44	0.51
54:1:2713:U:H3'	54:1:2714:G:H5"	1.91	0.51
55:2:58:A:H2'	55:2:59:A:O4'	2.10	0.51
2:c:13:ARG:O	2:c:14:ILE:HD13	2.11	0.51
5:f:146:ASP:O	5:f:149:ALA:N	2.41	0.51
7:h:72:LEU:O	7:h:75:ALA:N	2.43	0.51
10:k:54:LYS:HD2	10:k:54:LYS:C	2.36	0.51
12:m:7:THR:HG22	12:m:8:LYS:N	2.26	0.51
16:q:108:LEU:HD23	17:r:48:LYS:CD	2.40	0.51
16:q:110:GLU:HA	16:q:113:LYS:HB3	1.93	0.51
24:y:43:LEU:HD12	24:y:44:LYS:N	2.25	0.51
27:B:9:ARG:NH2	27:B:9:ARG:HB3	2.26	0.51
29:D:16:HIS:O	29:D:43:THR:OG1	2.28	0.51
32:G:101:THR:HG21	53:3:1101:A:N6	2.15	0.51
32:G:113:LEU:HB2	32:G:143:LEU:HD23	1.91	0.51
33:H:52:SER:OG	33:H:68:HIS:HB3	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:71:PHE:O	34:I:74:TYR:N	2.44	0.51
41:P:108:ASN:C	41:P:109:ILE:HD13	2.36	0.51
53:3:560:A:C4'	53:3:561:U:H5'	2.39	0.51
53:3:590:U:H2'	53:3:591:U:C6	2.45	0.51
53:3:620:C:H2'	53:3:621:A:O4'	2.11	0.51
53:3:1340:A:O2'	53:3:1341:U:H5'	2.10	0.51
54:1:263:G:H2'	54:1:264:C:C4'	2.41	0.51
54:1:940:G:H2'	54:1:941:A:O4'	2.09	0.51
54:1:1788:C:H2'	54:1:1789:A:C8	2.41	0.51
54:1:2086:U:H2'	54:1:2087:G:C8	2.45	0.51
54:1:2556:C:H2'	54:1:2557:G:O4'	2.11	0.51
54:1:2697:G:O2'	54:1:2698:U:H5'	2.11	0.51
54:1:2815:C:O2'	54:1:2816:G:H5'	2.10	0.51
56:5:18:G:N2	56:5:57:G:H2'	2.26	0.51
57:6:18:G:H1	57:6:55:U:H1'	1.76	0.51
1:b:12:ARG:NH2	54:1:728:G:H5"	2.26	0.51
2:c:29:VAL:HG23	2:c:29:VAL:O	2.10	0.51
2:c:173:GLN:HE22	54:1:2731:G:C4'	2.24	0.51
7:h:23:LEU:H	7:h:23:LEU:CD1	2.17	0.51
24:y:17:GLU:O	24:y:21:LEU:HG	2.11	0.51
34:I:28:ASP:CG	34:I:29:THR:H	2.19	0.51
48:W:51:GLN:O	48:W:54:LEU:HB3	2.09	0.51
52:a:30:LEU:HD12	52:a:33:LEU:HB3	1.93	0.51
53:3:713:G:H2'	53:3:714:G:C8	2.45	0.51
53:3:714:G:H2'	53:3:715:A:C8	2.45	0.51
54:1:248:G:C5'	54:1:249:C:H5'	2.41	0.51
54:1:541:A:H2'	54:1:542:C:H6	1.72	0.51
54:1:714:U:O2'	54:1:717:C:H5	1.93	0.51
54:1:946:C:H2'	54:1:947:A:C8	2.45	0.51
54:1:1176:U:H2'	54:1:1177:G:C8	2.46	0.51
54:1:1747:U:H2'	54:1:1748:C:H6	1.76	0.51
54:1:1759:A:H1'	54:1:2696:U:O2	2.09	0.51
54:1:2266:A:C4'	54:1:2267:A:C2	2.89	0.51
54:1:2361:G:O2'	54:1:2362:C:H5'	2.11	0.51
55:2:76:G:O2'	55:2:77:U:H5'	2.10	0.51
1:b:23:LEU:HD21	1:b:82:TYR:CA	2.41	0.51
5:f:27:GLY:O	5:f:28:LYS:HG2	2.10	0.51
6:g:41:LYS:HG3	6:g:42:LYS:H	1.75	0.51
12:m:33:LEU:HD23	12:m:103:TYR:CD2	2.42	0.51
33:H:63:ILE:HD12	33:H:64:ARG:H	1.75	0.51
33:H:67:ILE:HD11	33:H:100:ILE:HD11	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:2:ARG:HD2	34:I:114:ARG:CD	2.40	0.51
44:S:19:TYR:O	44:S:23:ARG:N	2.38	0.51
50:Y:34:VAL:HG22	50:Y:49:ALA:C	2.36	0.51
51:Z:6:ARG:C	51:Z:8:ASN:H	2.19	0.51
53:3:157:U:O2'	53:3:158:G:H5'	2.11	0.51
53:3:298:A:H2'	53:3:299:G:O4'	2.11	0.51
53:3:451:A:H4'	53:3:452:A:O4'	2.11	0.51
53:3:571:U:H2'	53:3:572:A:H5"	1.92	0.51
53:3:710:G:H2'	53:3:711:G:H8	1.74	0.51
54:1:445:C:H2'	54:1:446:G:O4'	2.11	0.51
54:1:1197:G:H2'	54:1:1198:U:H6	1.76	0.51
54:1:1965:C:H3'	54:1:1966:A:H8	1.76	0.51
54:1:2787:C:O2'	54:1:2788:C:H5'	2.10	0.51
1:b:179:GLU:HG3	1:b:179:GLU:O	2.11	0.51
2:c:55:LYS:HD3	2:c:59:ARG:O	2.11	0.51
7:h:77:VAL:O	7:h:77:VAL:HG22	2.11	0.51
9:j:16:TYR:HB3	9:j:140:LEU:HB2	1.92	0.51
11:l:51:GLU:HG2	54:1:833:A:O2'	2.10	0.51
12:m:41:LEU:HA	12:m:45:GLN:OE1	2.10	0.51
13:n:96:ARG:HD3	54:1:2882:A:OP1	2.11	0.51
15:p:19:PHE:N	15:p:19:PHE:CD2	2.79	0.51
15:p:32:VAL:HA	15:p:36:LYS:O	2.11	0.51
18:s:6:LYS:HG3	54:1:494:G:H4'	1.93	0.51
33:H:125:ARG:HG3	33:H:127:VAL:HG23	1.91	0.51
34:I:28:ASP:C	34:I:30:LYS:H	2.18	0.51
39:N:70:GLY:HA3	53:3:1371:G:O3'	2.09	0.51
48:W:12:PHE:CG	48:W:13:THR:N	2.79	0.51
53:3:313:A:H2'	53:3:314:C:C6	2.46	0.51
54:1:104:A:H2'	54:1:105:C:C6	2.46	0.51
54:1:2163:A:C2'	54:1:2164:C:H5'	2.41	0.51
54:1:2859:G:H2'	54:1:2860:A:C8	2.45	0.51
3:d:44:ARG:HG3	3:d:87:ALA:CB	2.41	0.51
3:d:146:VAL:HA	3:d:185:LYS:O	2.10	0.51
4:e:91:ARG:CB	4:e:91:ARG:NH2	2.74	0.51
6:g:26:ALA:HA	6:g:30:LEU:CG	2.39	0.51
10:k:1:MET:N	10:k:32:TYR:HB3	2.25	0.51
18:s:98:LYS:HE2	54:1:1323:C:OP1	2.11	0.51
19:t:91:GLN:O	19:t:91:GLN:HG2	2.10	0.51
32:G:80:LYS:HG3	32:G:90:PHE:CZ	2.45	0.51
34:I:2:ARG:HG3	34:I:114:ARG:NH1	2.26	0.51
34:I:90:LEU:O	34:I:94:GLU:HB2	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:120:LYS:O	34:I:145:ARG:HD3	2.11	0.51
34:I:202:LEU:HD23	34:I:202:LEU:C	2.36	0.51
35:J:76:ASN:HB2	35:J:81:GLN:OE1	2.11	0.51
37:L:75:LYS:NZ	37:L:77:ARG:HH11	2.08	0.51
37:L:110:ARG:NH1	37:L:112:ASP:OD2	2.44	0.51
40:O:80:THR:HG23	40:O:83:THR:HG23	1.93	0.51
43:R:33:LEU:O	43:R:38:ILE:N	2.43	0.51
44:S:72:PHE:CZ	44:S:77:GLY:HA2	2.45	0.51
49:X:4:LEU:C	49:X:6:LYS:N	2.68	0.51
53:3:186:C:H2'	53:3:187:G:O4'	2.11	0.51
53:3:376:G:O2'	53:3:377:G:H5'	2.11	0.51
54:1:375:G:O2'	54:1:376:G:H5'	2.11	0.51
54:1:705:A:H2'	54:1:706:A:C8	2.43	0.51
54:1:1550:C:H2'	54:1:1551:A:H8	1.76	0.51
54:1:1637:A:H2'	54:1:1638:C:H6	1.76	0.51
54:1:1858:A:N6	54:1:1884:G:H1'	2.26	0.51
54:1:2030:A:C2	54:1:2499:C:H5"	2.46	0.51
54:1:2173:A:N3	54:1:2173:A:H2'	2.26	0.51
54:1:2243:U:H2'	54:1:2244:U:H6	1.74	0.51
54:1:2577:A:H5"	54:1:2578:G:H5'	1.92	0.51
54:1:2740:A:H2'	54:1:2741:A:C8	2.46	0.51
56:5:70:C:H2'	56:5:71:C:C6	2.45	0.51
1:b:231:HIS:HE1	1:b:243:PRO:HA	1.75	0.51
4:e:72:SER:HB2	4:e:79:ARG:HE	1.76	0.51
4:e:101:ARG:HB2	4:e:105:ILE:CD1	2.41	0.51
13:n:29:VAL:HG13	13:n:83:LEU:HD11	1.93	0.51
13:n:103:ARG:NH2	54:1:1287:A:H5'	2.25	0.51
15:p:50:ARG:HG2	15:p:52:ARG:CG	2.41	0.51
31:F:27:CYS:C	31:F:29:ALA:H	2.19	0.51
33:H:177:LEU:HD23	53:3:1112:C:N3	2.24	0.51
34:I:124:VAL:HG23	34:I:141:VAL:O	2.10	0.51
34:I:142:VAL:N	34:I:179:GLY:O	2.23	0.51
35:J:45:VAL:O	35:J:71:ILE:N	2.44	0.51
35:J:164:LEU:HD12	35:J:165:GLY:OXT	2.11	0.51
36:K:42:TRP:CH2	36:K:61:LEU:HD13	2.46	0.51
36:K:53:LYS:HD2	36:K:54:LEU:N	2.27	0.51
38:M:80:PRO:HA	38:M:83:ARG:HH12	1.76	0.51
43:R:100:ARG:NH1	53:3:950:U:C6	2.79	0.51
52:a:202:THR:C	52:a:204:ALA:H	2.18	0.51
53:3:407:U:O5'	53:3:407:U:H6	1.94	0.51
53:3:439:U:H2'	53:3:440:C:O4'	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1081:A:O2'	53:3:1082:A:H5'	2.11	0.51
53:3:1474:U:H2'	53:3:1475:G:O4'	2.09	0.51
53:3:1483:A:H2	54:1:1959:G:N3	2.09	0.51
54:1:365:U:H2'	54:1:366:C:C6	2.46	0.51
54:1:1670:C:O2'	54:1:1994:C:H4'	2.11	0.51
54:1:2163:A:H3'	54:1:2164:C:H5'	1.91	0.51
54:1:2286:G:H5"	54:1:2287:A:OP1	2.11	0.51
54:1:2462:C:H2'	54:1:2463:C:H6	1.72	0.51
55:2:30:C:C2'	55:2:31:C:H5'	2.40	0.51
56:5:22:G:H2'	56:5:23:C:H6	1.76	0.51
22:w:41:PHE:CG	22:w:76:ILE:HD11	2.45	0.50
25:z:29:ARG:NH2	54:1:1183:U:H4'	2.26	0.50
33:H:20:THR:HB	33:H:57:GLU:HG2	1.93	0.50
33:H:107:LYS:HB3	33:H:110:LEU:HD12	1.93	0.50
52:a:51:ASP:CG	52:a:52:ALA:H	2.18	0.50
53:3:232:G:H2'	53:3:233:C:C6	2.45	0.50
53:3:298:A:H2'	53:3:299:G:C8	2.46	0.50
53:3:934:C:H5	53:3:1344:C:H2'	1.75	0.50
53:3:1030:U:H3'	53:3:1031:C:C5'	2.42	0.50
54:1:118:A:OP2	54:1:119:A:H2'	2.10	0.50
54:1:493:G:O2'	54:1:494:G:H5'	2.12	0.50
54:1:825:A:H2'	54:1:826:U:H6	1.75	0.50
54:1:848:C:H2'	54:1:849:A:C8	2.44	0.50
54:1:2818:U:H4'	54:1:2837:A:H4'	1.93	0.50
54:1:2852:G:H2'	54:1:2853:C:O4'	2.11	0.50
57:6:47:U:H5"	57:6:48:C:H5'	1.93	0.50
4:e:116:LEU:HD21	4:e:174:PHE:CE2	2.46	0.50
4:e:134:GLN:OE1	4:e:149:ARG:HB2	2.11	0.50
9:j:76:HIS:CE1	9:j:85:LYS:HB2	2.45	0.50
10:k:31:ARG:HB2	10:k:32:TYR:CE2	2.46	0.50
10:k:40:LYS:HE2	10:k:89:ASN:OD1	2.11	0.50
11:l:50:PHE:CE2	11:l:52:GLY:HA2	2.46	0.50
11:l:111:ILE:HD11	54:1:636:G:C5	2.46	0.50
18:s:29:VAL:HG13	18:s:30:SER:N	2.26	0.50
21:v:18:ARG:HG2	21:v:21:ARG:NH2	2.26	0.50
27:B:49:ARG:HD2	54:1:2884:U:C6	2.46	0.50
33:H:174:LEU:HD23	33:H:181:ILE:HD13	1.92	0.50
35:J:148:SER:OG	35:J:151:MET:HE3	2.12	0.50
37:L:8:GLN:NE2	37:L:9:ARG:O	2.44	0.50
40:O:24:GLU:OE2	40:O:25:ILE:HG12	2.11	0.50
41:P:120:CYS:HB3	53:3:777:A:H2	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:V:16:MET:HE3	47:V:19:SER:HB3	1.93	0.50
52:a:23:ILE:HG23	52:a:24:ASN:N	2.26	0.50
53:3:27:G:H2'	53:3:28:A:O4'	2.11	0.50
53:3:458:U:H2'	53:3:459:A:H8	1.76	0.50
53:3:918:A:H2'	53:3:919:A:C8	2.46	0.50
53:3:1510:C:H2'	53:3:1511:G:C8	2.46	0.50
54:1:25:U:H2'	54:1:26:G:O4'	2.11	0.50
54:1:277:G:H4'	54:1:278:A:C5	2.47	0.50
54:1:414:C:H2'	54:1:415:A:C8	2.46	0.50
54:1:1097:U:H2'	54:1:1098:A:O4'	2.11	0.50
54:1:1794:A:H2'	54:1:1795:C:C6	2.45	0.50
54:1:1885:A:C2'	54:1:1886:U:H5'	2.41	0.50
54:1:2074:U:H2'	54:1:2075:U:H6	1.76	0.50
56:5:38:A:H3'	56:5:39:C:H6	1.77	0.50
4:e:11:VAL:HA	4:e:14:LYS:CE	2.35	0.50
4:e:13:LYS:HA	4:e:16:MET:CG	2.37	0.50
7:h:59:LEU:HD21	54:1:1047:G:H8	1.76	0.50
10:k:32:TYR:HH	54:1:1996:C:H5	1.57	0.50
11:l:66:PHE:HE1	54:1:2415:G:H1'	1.76	0.50
11:l:122:VAL:CG2	11:l:142:ILE:HG23	2.40	0.50
23:x:35:HIS:ND1	23:x:36:ARG:O	2.42	0.50
28:C:8:ILE:HD13	28:C:24:LYS:HB2	1.93	0.50
33:H:132:ALA:O	33:H:136:ALA:N	2.35	0.50
33:H:178:ARG:NH2	33:H:206:ILE:HD12	2.25	0.50
39:N:97:LEU:O	39:N:100:ALA:N	2.44	0.50
40:O:6:ILE:H	40:O:6:ILE:CD1	2.11	0.50
48:W:28:LEU:HD13	48:W:67:LEU:HD11	1.94	0.50
53:3:32:A:H2'	53:3:33:A:C8	2.45	0.50
53:3:349:A:O2'	53:3:350:G:H5'	2.10	0.50
53:3:710:G:H2'	53:3:711:G:C8	2.46	0.50
53:3:730:G:C2'	53:3:731:G:H5'	2.41	0.50
53:3:1310:G:O2'	53:3:1311:A:H5'	2.11	0.50
54:1:721:A:H2'	54:1:722:A:C8	2.46	0.50
54:1:884:U:H3	54:1:892:A:H61	1.60	0.50
54:1:1299:G:H5"	54:1:1300:G:OP1	2.12	0.50
54:1:2236:U:H2'	54:1:2237:G:O4'	2.10	0.50
54:1:2308:G:H2'	54:1:2310:C:C5	2.46	0.50
54:1:2515:C:O2'	54:1:2516:A:H5'	2.11	0.50
1:b:12:ARG:HA	1:b:15:VAL:HG23	1.91	0.50
2:c:78:GLY:O	2:c:79:LEU:HG	2.11	0.50
5:f:174:LYS:HB2	54:1:2529:G:H5'	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:20:MET:O	10:k:41:ILE:HB	2.12	0.50
10:k:71:ARG:HG2	10:k:75:SER:HB3	1.94	0.50
10:k:91:SER:O	10:k:93:GLN:N	2.44	0.50
29:D:41:ARG:NH2	29:D:41:ARG:HB3	2.27	0.50
31:F:12:ARG:HH21	31:F:12:ARG:HG3	1.77	0.50
32:G:65:LYS:O	32:G:159:ALA:N	2.45	0.50
33:H:130:ARG:O	33:H:134:LYS:HG2	2.11	0.50
37:L:45:ALA:O	37:L:120:ALA:HB2	2.12	0.50
37:L:129:ASN:C	37:L:134:VAL:HG21	2.36	0.50
39:N:6:TYR:C	39:N:85:ALA:HA	2.36	0.50
41:P:30:ILE:HG23	41:P:45:THR:CG2	2.41	0.50
41:P:35:ASP:C	41:P:37:GLN:H	2.20	0.50
42:Q:72:ASN:HD21	42:Q:104:SER:N	2.09	0.50
52:a:27:ILE:HG21	52:a:186:LYS:N	2.26	0.50
52:a:64:VAL:HG23	52:a:66:PRO:HD3	1.93	0.50
53:3:373:A:H2'	53:3:374:A:H8	1.75	0.50
53:3:1409:C:O2'	53:3:1410:A:H5'	2.11	0.50
53:3:1522:U:H2'	53:3:1523:G:C8	2.43	0.50
54:1:268:C:H2'	54:1:269:C:C6	2.47	0.50
54:1:1586:A:H2'	54:1:1587:G:O4'	2.11	0.50
54:1:1722:A:N6	54:1:1738:G:H1'	2.26	0.50
54:1:1815:A:H8	54:1:1815:A:OP1	1.94	0.50
54:1:1982:U:C2'	54:1:1983:G:H5'	2.41	0.50
54:1:2000:C:O2'	54:1:2001:C:H5'	2.12	0.50
54:1:2096:C:O2	54:1:2096:C:H2'	2.12	0.50
54:1:2134:A:H2'	54:1:2134:A:N3	2.26	0.50
54:1:2641:G:H2'	54:1:2642:G:H8	1.74	0.50
54:1:2646:C:H2'	54:1:2647:U:O4'	2.11	0.50
2:c:154:LYS:NZ	54:1:2024:G:H4'	2.26	0.50
3:d:142:ALA:C	3:d:143:LEU:HD12	2.36	0.50
3:d:149:ILE:CG2	3:d:188:MET:HA	2.42	0.50
4:e:104:THR:HA	26:A:38:SER:HB2	1.92	0.50
4:e:116:LEU:HD23	4:e:176:PHE:H	1.76	0.50
5:f:120:ILE:CG2	5:f:121:THR:N	2.74	0.50
15:p:20:ARG:NH2	15:p:112:ARG:HE	2.10	0.50
17:r:49:ILE:HG22	17:r:54:VAL:HA	1.94	0.50
19:t:2:ILE:O	19:t:4:GLU:N	2.44	0.50
20:u:6:ARG:NH2	20:u:26:ASN:HA	2.26	0.50
23:x:11:PRO:HG3	23:x:30:PRO:HD2	1.94	0.50
34:I:27:ILE:CG1	34:I:28:ASP:H	2.24	0.50
35:J:160:VAL:HG23	35:J:161:GLU:N	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:O:10:LEU:O	40:O:72:ARG:N	2.39	0.50
40:O:17:LEU:HD21	40:O:94:ALA:O	2.11	0.50
44:S:30:ILE:O	44:S:34:ASN:ND2	2.36	0.50
44:S:39:ASP:OD2	44:S:40:ARG:N	2.45	0.50
44:S:46:LYS:HD3	44:S:49:THR:HB	1.92	0.50
49:X:50:VAL:O	49:X:56:HIS:HA	2.11	0.50
50:Y:24:ARG:HA	50:Y:65:LEU:HD11	1.94	0.50
51:Z:57:LYS:O	51:Z:60:ALA:N	2.42	0.50
53:3:34:C:O2'	53:3:35:G:H5'	2.11	0.50
53:3:400:C:H2'	53:3:401:C:H6	1.76	0.50
53:3:864:A:H2'	53:3:865:A:C8	2.47	0.50
54:1:337:C:H2'	54:1:338:G:O4'	2.11	0.50
54:1:593:U:H2'	54:1:594:U:C6	2.46	0.50
54:1:1103:A:H2'	54:1:1103:A:N3	2.25	0.50
54:1:1512:C:H2'	54:1:1513:U:C6	2.46	0.50
54:1:1982:U:H5'	54:1:1982:U:C6	2.45	0.50
54:1:2828:G:O2'	54:1:2829:A:H5'	2.12	0.50
57:6:42:G:H3'	57:6:43:A:H8	1.77	0.50
9:j:101:ILE:HD12	9:j:101:ILE:N	2.26	0.50
10:k:79:PHE:CD1	10:k:79:PHE:N	2.79	0.50
14:o:75:GLY:HA3	14:o:109:ALA:HB3	1.93	0.50
15:p:43:GLU:O	15:p:62:LYS:HD3	2.12	0.50
15:p:49:ILE:HA	15:p:58:PHE:HA	1.93	0.50
16:q:73:ILE:HD11	16:q:77:LYS:CB	2.42	0.50
16:q:73:ILE:HD11	16:q:77:LYS:HB3	1.94	0.50
24:y:19:LEU:O	24:y:20:ASN:C	2.54	0.50
32:G:44:LYS:O	32:G:48:MET:SD	2.70	0.50
34:I:115:GLN:NE2	34:I:115:GLN:CA	2.72	0.50
43:R:113:LYS:HB2	43:R:114:PRO:HD3	1.93	0.50
44:S:7:ALA:O	44:S:10:VAL:HG12	2.11	0.50
44:S:32:ASP:C	44:S:34:ASN:H	2.18	0.50
47:V:17:GLU:OE2	53:3:273:U:H1'	2.12	0.50
53:3:68:G:H22	53:3:101:A:H2	1.59	0.50
53:3:655:A:H2'	53:3:656:G:C8	2.46	0.50
53:3:1151:A:H2'	53:3:1152:A:C8	2.46	0.50
53:3:1483:A:H2'	53:3:1484:C:C5'	2.38	0.50
54:1:437:U:H2'	54:1:438:G:H8	1.77	0.50
54:1:715:A:H8	54:1:715:A:OP1	1.94	0.50
54:1:1727:C:H2'	54:1:1728:C:C6	2.47	0.50
54:1:1878:G:H2'	54:1:1879:C:C6	2.47	0.50
56:5:40:C:O2'	56:5:41:A:H8	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:40:GLY:HA2	4:e:84:ILE:HD11	1.92	0.50
7:h:55:VAL:HA	54:1:1084:A:C4'	2.41	0.50
15:p:96:LEU:O	15:p:99:LEU:HD23	2.11	0.50
22:w:15:LYS:HE2	22:w:15:LYS:CA	2.38	0.50
24:y:28:LEU:HA	24:y:31:GLN:HG3	1.93	0.50
30:E:26:ALA:O	30:E:27:ASN:HB2	2.11	0.50
33:H:32:LEU:CD1	44:S:76:PHE:HB3	2.41	0.50
33:H:57:GLU:O	33:H:59:PRO:HD3	2.11	0.50
37:L:55:LYS:CD	37:L:60:ALA:HB2	2.35	0.50
37:L:148:LYS:HG3	37:L:148:LYS:O	2.11	0.50
41:P:41:LEU:HD13	41:P:78:ILE:HD11	1.94	0.50
41:P:98:ALA:O	41:P:102:ALA:HB2	2.11	0.50
42:Q:113:ARG:NE	42:Q:121:PRO:HD3	2.26	0.50
43:R:18:LEU:O	43:R:21:ILE:HG13	2.12	0.50
44:S:2:LYS:O	44:S:4:SER:N	2.44	0.50
46:U:5:ARG:NH2	46:U:24:SER:O	2.45	0.50
53:3:169:C:H2'	53:3:170:U:C6	2.46	0.50
53:3:483:C:H2'	53:3:484:G:H8	1.74	0.50
53:3:530:G:H3'	53:3:531:U:C5'	2.40	0.50
53:3:899:C:C5	53:3:900:A:N7	2.80	0.50
53:3:986:U:H2'	53:3:987:G:O4'	2.12	0.50
53:3:1119:C:H2'	53:3:1120:C:H6	1.76	0.50
53:3:1162:C:H2'	53:3:1163:A:C8	2.47	0.50
53:3:1465:A:H2'	53:3:1466:C:C6	2.46	0.50
54:1:520:G:H2'	54:1:521:U:H6	1.76	0.50
54:1:1773:A:H2'	54:1:1774:C:O4'	2.11	0.50
54:1:1920:C:O2	54:1:1921:G:H3'	2.12	0.50
54:1:2347:C:H2'	54:1:2348:U:H6	1.76	0.50
54:1:2405:G:O2'	54:1:2412:A:N6	2.44	0.50
54:1:2808:G:H4'	54:1:2809:A:O5'	2.11	0.50
9:j:116:ARG:HB3	9:j:120:ARG:HH22	1.77	0.50
10:k:107:LEU:O	10:k:109:SER:N	2.45	0.50
18:s:44:ALA:HA	18:s:47:VAL:HG12	1.92	0.50
21:v:87:GLN:OE1	21:v:87:GLN:HA	2.12	0.50
30:E:61:LEU:N	30:E:61:LEU:HD23	2.26	0.50
32:G:18:GLN:CG	32:G:189:ASN:HB2	2.41	0.50
32:G:110:ILE:HD12	32:G:110:ILE:N	2.26	0.50
32:G:217:ALA:O	32:G:221:ARG:HG3	2.12	0.50
33:H:34:SER:O	33:H:37:LYS:HB2	2.12	0.50
46:U:46:LYS:O	46:U:47:GLU:HB2	2.12	0.50
48:W:12:PHE:H	48:W:47:ARG:NH1	2.10	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y:35:TYR:OH	53:3:259:G:H5'	2.11	0.50
51:Z:5:VAL:CG1	51:Z:16:ARG:HD2	2.41	0.50
53:3:483:C:H3'	53:3:484:G:H2'	1.94	0.50
53:3:742:G:O2'	53:3:743:A:H5'	2.12	0.50
53:3:786:G:H2'	53:3:787:A:O4'	2.11	0.50
53:3:1105:A:H2'	53:3:1106:G:C8	2.46	0.50
53:3:1255:G:H2'	53:3:1279:G:H1	1.77	0.50
54:1:492:A:H2'	54:1:493:G:O4'	2.11	0.50
54:1:594:U:H2'	54:1:595:C:H6	1.74	0.50
54:1:883:G:H2'	54:1:884:U:C5	2.47	0.50
54:1:925:A:H2'	54:1:926:G:C8	2.47	0.50
54:1:966:G:H2'	54:1:967:U:C6	2.47	0.50
54:1:1137:G:O2'	54:1:1138:G:H5'	2.12	0.50
54:1:2029:G:O6	54:1:2032:G:H5"	2.12	0.50
1:b:206:LYS:HD2	54:1:729:G:C5	2.46	0.50
3:d:130:LYS:HA	3:d:130:LYS:HE2	1.93	0.50
10:k:15:GLY:O	10:k:47:ILE:HG12	2.12	0.50
17:r:43:ASN:HB2	17:r:45:GLU:H	1.77	0.50
18:s:3:THR:HG21	18:s:58:ALA:HA	1.94	0.50
22:w:39:THR:O	22:w:41:PHE:N	2.44	0.50
23:x:53:LYS:O	23:x:57:VAL:HG23	2.11	0.50
25:z:30:ARG:HG2	25:z:33:HIS:HB2	1.93	0.50
29:D:24:THR:O	29:D:28:ARG:HG3	2.11	0.50
32:G:16:GLY:CA	32:G:40:ILE:HG13	2.41	0.50
32:G:65:LYS:H	32:G:158:ASP:HB3	1.76	0.50
34:I:154:VAL:O	34:I:158:LEU:N	2.45	0.50
35:J:155:LYS:CD	38:M:70:VAL:HG23	2.40	0.50
36:K:42:TRP:HH2	36:K:61:LEU:HD13	1.76	0.50
40:O:28:THR:CG2	40:O:86:ALA:HB1	2.34	0.50
44:S:8:ARG:O	44:S:11:LYS:HG3	2.12	0.50
49:X:69:LYS:HE3	53:3:1319:A:H5"	1.92	0.50
52:a:187:GLU:O	52:a:191:ALA:N	2.42	0.50
53:3:695:A:H2'	53:3:696:A:C8	2.47	0.50
53:3:945:G:H2'	53:3:945:G:N3	2.27	0.50
53:3:955:U:H3	53:3:1225:A:N6	2.09	0.50
53:3:1123:U:O2'	53:3:1124:G:H5'	2.12	0.50
54:1:340:A:H2'	54:1:341:C:O4'	2.12	0.50
54:1:371:A:N6	54:1:401:A:H3'	2.27	0.50
54:1:628:G:O2'	54:1:629:G:H5'	2.11	0.50
54:1:818:G:O2'	54:1:819:A:H5"	2.11	0.50
54:1:1523:U:H5"	54:1:1524:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2602:A:OP2	54:1:2603:G:H5”	2.10	0.50
54:1:2698:U:H2’	54:1:2699:C:C6	2.47	0.50
55:2:86:G:HO2’	55:2:87:U:H5	1.60	0.50
56:5:74:C:H2’	56:5:75:C:C6	2.47	0.50
2:c:151:THR:HG22	2:c:152:PRO:CD	2.42	0.49
9:j:64:VAL:HG21	9:j:89:PHE:CE2	2.47	0.49
10:k:66:LYS:HA	10:k:79:PHE:O	2.12	0.49
11:l:109:LYS:HZ1	54:1:635:C:H3’	1.77	0.49
14:o:34:HIS:HB3	14:o:65:THR:CG2	2.41	0.49
23:x:32:LEU:HD23	23:x:51:SER:HA	1.94	0.49
32:G:94:ARG:HH21	32:G:96:LEU:HD22	1.77	0.49
32:G:110:ILE:HG22	32:G:114:LYS:HG2	1.94	0.49
33:H:200:TRP:C	33:H:201:ILE:HD12	2.37	0.49
34:I:141:VAL:HA	34:I:180:THR:HA	1.93	0.49
37:L:47:GLU:HA	37:L:57:GLU:OE1	2.11	0.49
37:L:90:VAL:HG11	37:L:95:ARG:HB3	1.94	0.49
45:T:28:VAL:HG13	45:T:62:ARG:HG2	1.93	0.49
48:W:14:ALA:HB2	48:W:50:TYR:CE2	2.47	0.49
53:3:142:G:H2’	53:3:143:A:O4’	2.12	0.49
53:3:229:U:H2’	53:3:230:G:O4’	2.11	0.49
53:3:423:G:H2’	53:3:424:G:H5’	1.94	0.49
53:3:891:U:H2’	53:3:892:A:H8	1.77	0.49
53:3:903:G:H2’	53:3:904:U:H6	1.77	0.49
53:3:1171:A:H2’	53:3:1172:C:H6	1.72	0.49
54:1:524:G:O2’	54:1:525:U:H5’	2.12	0.49
54:1:630:G:H22	54:1:632:A:H3’	1.77	0.49
54:1:634:C:O5’	54:1:634:C:H6	1.95	0.49
54:1:720:U:H2’	54:1:721:A:H8	1.76	0.49
54:1:894:U:H2’	54:1:895:U:C4’	2.40	0.49
54:1:1259:G:O2’	54:1:1260:A:H5’	2.12	0.49
54:1:1878:G:H2’	54:1:1879:C:H6	1.78	0.49
54:1:2649:C:H2’	54:1:2650:U:H6	1.75	0.49
54:1:2694:G:O2’	54:1:2695:U:H5’	2.12	0.49
56:5:27:A:H2’	56:5:28:C:H6	1.77	0.49
1:b:124:LYS:N	1:b:191:LEU:HD13	2.27	0.49
4:e:28:PRO:HA	4:e:158:THR:HG1	1.76	0.49
5:f:2:ARG:NH2	54:1:2751:G:OP2	2.45	0.49
6:g:8:LYS:O	6:g:13:GLY:O	2.30	0.49
10:k:99:ILE:HG22	10:k:100:PHE:O	2.12	0.49
13:n:79:LEU:CD2	13:n:83:LEU:HD12	2.40	0.49
20:u:27:VAL:HG23	20:u:33:VAL:HG12	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:213:LEU:O	32:G:217:ALA:N	2.40	0.49
35:J:110:MET:O	35:J:114:LEU:HD12	2.12	0.49
46:U:22:ALA:HA	46:U:33:ILE:H	1.77	0.49
46:U:56:ARG:HA	46:U:59:HIS:HB3	1.94	0.49
53:3:83:C:C2'	53:3:84:U:H5"	2.36	0.49
53:3:731:G:O2'	53:3:732:C:H5'	2.12	0.49
53:3:923:A:H2'	53:3:924:C:O4'	2.11	0.49
54:1:371:A:H61	54:1:401:A:H3'	1.76	0.49
54:1:441:U:H2'	54:1:442:G:C8	2.47	0.49
54:1:1462:C:H2'	54:1:1463:C:C6	2.48	0.49
54:1:1827:U:O2'	54:1:1828:G:H5'	2.12	0.49
54:1:2250:G:H8	54:1:2250:G:O5'	1.95	0.49
1:b:92:LEU:HD23	1:b:92:LEU:C	2.38	0.49
2:c:175:LEU:CD1	2:c:193:VAL:HG12	2.43	0.49
3:d:170:ARG:HG3	3:d:170:ARG:NH2	2.27	0.49
4:e:101:ARG:HB2	4:e:105:ILE:HG12	1.94	0.49
10:k:76:VAL:HG12	15:p:72:VAL:HG12	1.93	0.49
14:o:110:ALA:O	14:o:115:LEU:HB3	2.12	0.49
15:p:105:LYS:NZ	15:p:108:ARG:NH2	2.59	0.49
16:q:66:ALA:O	16:q:69:ARG:HB2	2.12	0.49
17:r:3:ALA:N	17:r:14:VAL:O	2.41	0.49
26:A:11:GLU:HB3	26:A:25:ARG:NE	2.27	0.49
28:C:5:ARG:HB3	28:C:23:THR:OG1	2.11	0.49
28:C:29:LYS:HE2	54:1:2287:A:OP1	2.12	0.49
37:L:102:TRP:CE2	37:L:136:LYS:HD3	2.47	0.49
48:W:11:ARG:H	48:W:11:ARG:CD	2.25	0.49
51:Z:66:ARG:NH1	53:3:1099:G:H1'	2.26	0.49
53:3:129:A:H1'	53:3:130:A:C8	2.47	0.49
53:3:338:A:O2'	53:3:339:C:H5'	2.12	0.49
53:3:744:C:H2'	53:3:745:G:H8	1.76	0.49
53:3:1251:A:H2'	53:3:1252:A:C8	2.48	0.49
53:3:1499:A:H2'	53:3:1500:A:H8	1.76	0.49
54:1:37:C:H4'	54:1:451:U:OP1	2.11	0.49
54:1:96:C:O2'	54:1:97:C:H5'	2.12	0.49
54:1:200:U:H2'	54:1:201:C:C5'	2.41	0.49
54:1:226:A:H2'	54:1:227:A:O4'	2.12	0.49
54:1:441:U:O2'	54:1:442:G:H5'	2.12	0.49
54:1:943:A:O2'	54:1:944:C:H5'	2.12	0.49
54:1:1562:U:H2'	54:1:1563:U:C6	2.48	0.49
54:1:2093:G:H2'	54:1:2094:A:H8	1.77	0.49
54:1:2598:A:H8	54:1:2598:A:O5'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:86:G:H3'	55:2:88:C:H41	1.77	0.49
56:5:14:A:C2	56:5:22:G:H1'	2.47	0.49
2:c:2:ILE:HD12	2:c:2:ILE:N	2.27	0.49
2:c:146:ILE:HG12	2:c:155:VAL:CG1	2.42	0.49
7:h:59:LEU:C	7:h:61:ARG:N	2.69	0.49
12:m:78:LEU:HD12	12:m:78:LEU:O	2.13	0.49
14:o:12:THR:HA	14:o:15:ARG:HB2	1.93	0.49
14:o:54:VAL:O	14:o:54:VAL:HG22	2.12	0.49
19:t:57:VAL:HG22	19:t:58:VAL:N	2.28	0.49
20:u:9:GLU:HA	20:u:22:GLY:O	2.13	0.49
28:C:20:TYR:OH	54:1:2348:U:H5'	2.12	0.49
34:I:81:LEU:HG	34:I:82:LYS:N	2.20	0.49
37:L:110:ARG:HG3	37:L:110:ARG:O	2.13	0.49
38:M:14:ARG:HD3	38:M:74:ILE:HG22	1.93	0.49
43:R:25:GLY:N	53:3:1329:A:H5"	2.28	0.49
43:R:68:LEU:O	43:R:71:GLU:N	2.46	0.49
44:S:81:ILE:HG21	53:3:1202:U:H3	1.76	0.49
45:T:2:LEU:HD23	45:T:7:THR:HG22	1.93	0.49
45:T:42:PHE:CZ	45:T:51:SER:HB2	2.48	0.49
45:T:47:LYS:O	45:T:49:HIS:ND1	2.45	0.49
49:X:35:ARG:NH2	49:X:74:ALA:HB3	2.28	0.49
53:3:1198:G:H5'	53:3:1198:G:C8	2.39	0.49
53:3:1328:C:H2'	53:3:1329:A:H8	1.78	0.49
53:3:1464:U:H2'	53:3:1465:A:C8	2.47	0.49
53:3:1498:U:C5	58:4:17:U:H5"	2.48	0.49
53:3:1527:U:H2'	53:3:1528:U:H6	1.75	0.49
54:1:147:C:O2'	54:1:148:U:H5'	2.12	0.49
54:1:741:U:H2'	54:1:742:A:C8	2.45	0.49
54:1:1025:G:H1'	54:1:1135:C:C5'	2.41	0.49
54:1:1029:A:H2'	54:1:1030:C:H5'	1.95	0.49
54:1:1149:G:H2'	54:1:1150:C:H6	1.77	0.49
54:1:2026:U:O2'	54:1:2027:G:H5'	2.12	0.49
54:1:2694:G:H2'	54:1:2695:U:O4'	2.13	0.49
56:5:50:G:H2'	56:5:51:A:C1'	2.42	0.49
2:c:39:ASP:CA	2:c:46:ARG:HG2	2.40	0.49
4:e:100:GLU:HG3	4:e:101:ARG:N	2.27	0.49
5:f:61:TRP:O	5:f:65:GLY:N	2.35	0.49
5:f:162:ARG:HH21	5:f:162:ARG:CB	2.26	0.49
13:n:76:VAL:HG13	13:n:77:ALA:N	2.28	0.49
18:s:72:THR:HG1	18:s:108:SER:N	2.10	0.49
24:y:32:ALA:HB2	24:y:37:LEU:HD13	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:E:60:CYS:C	30:E:61:LEU:HD23	2.37	0.49
34:I:84:ASN:O	34:I:88:ASN:HB2	2.12	0.49
34:I:152:SER:HA	34:I:155:LYS:CD	2.42	0.49
38:M:121:GLY:O	53:3:599:C:H4'	2.11	0.49
40:O:40:ILE:HD11	53:3:1124:G:H4'	1.94	0.49
40:O:73:LEU:HD23	40:O:74:VAL:N	2.27	0.49
43:R:82:LEU:HD11	49:X:68:HIS:CD2	2.48	0.49
46:U:15:PRO:HD2	46:U:42:ILE:HG21	1.94	0.49
52:a:191:ALA:O	52:a:194:VAL:HG12	2.12	0.49
53:3:10:A:H2'	53:3:11:G:H8	1.78	0.49
53:3:392:C:H2'	53:3:393:A:C8	2.47	0.49
53:3:691:G:H2'	53:3:692:U:C6	2.31	0.49
53:3:977:A:H3'	53:3:977:A:N3	2.27	0.49
53:3:1201:A:H1'	53:3:1202:U:OP2	2.13	0.49
54:1:992:C:O2'	54:1:993:G:H5'	2.12	0.49
54:1:1193:G:O2'	54:1:1194:A:H5'	2.13	0.49
54:1:2027:G:H2'	54:1:2028:U:C6	2.48	0.49
54:1:2590:A:H2'	54:1:2591:C:H6	1.78	0.49
56:5:9:A:H5"	56:5:46:G:C1'	2.42	0.49
1:b:229:HIS:CD2	1:b:230:PRO:CD	2.94	0.49
4:e:157:THR:HB	4:e:168:LEU:HD23	1.94	0.49
9:j:95:ARG:NH1	9:j:96:ARG:HB2	2.27	0.49
10:k:1:MET:HG2	10:k:67:LYS:HB2	1.93	0.49
12:m:40:ARG:CG	12:m:93:VAL:HG21	2.43	0.49
12:m:44:ARG:HH21	12:m:44:ARG:HG3	1.78	0.49
17:r:77:PHE:CE2	17:r:79:ARG:HA	2.48	0.49
22:w:36:GLN:CD	22:w:39:THR:HA	2.37	0.49
25:z:1:ALA:HB3	25:z:38:GLU:HB2	1.94	0.49
33:H:45:GLU:O	33:H:46:LEU:HD23	2.11	0.49
36:K:19:PRO:HA	36:K:22:ILE:HD12	1.93	0.49
37:L:34:LYS:HB3	37:L:37:THR:OG1	2.12	0.49
41:P:126:ARG:HH22	53:3:693:G:P	2.35	0.49
52:a:26:ALA:HB1	52:a:222:VAL:CG1	2.34	0.49
53:3:358:U:H2'	53:3:359:G:H8	1.76	0.49
53:3:621:A:H2'	53:3:622:A:C8	2.48	0.49
53:3:766:A:H2'	53:3:767:A:C5'	2.43	0.49
53:3:819:A:H5'	53:3:820:U:C5	2.46	0.49
53:3:1328:C:H2'	53:3:1329:A:C8	2.48	0.49
53:3:1479:C:H2'	53:3:1480:A:C8	2.48	0.49
54:1:673:C:O2'	54:1:674:G:H5'	2.13	0.49
54:1:1248:G:H8	54:1:1248:G:OP1	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:177:ARG:HG2	4:e:177:ARG:HH11	1.77	0.49
6:g:40:THR:O	6:g:44:ILE:HG13	2.12	0.49
7:h:7:ASP:OD2	7:h:10:ALA:HB3	2.13	0.49
10:k:65:THR:OG1	10:k:68:GLY:N	2.46	0.49
21:v:88:HIS:ND1	21:v:89:ILE:N	2.61	0.49
23:x:42:GLU:C	23:x:43:LYS:HG2	2.37	0.49
25:z:15:ARG:HG2	25:z:15:ARG:NH1	2.28	0.49
30:E:53:ASP:OD2	54:1:2359:C:H4'	2.12	0.49
32:G:115:ASP:O	32:G:119:GLN:HG2	2.13	0.49
34:I:43:ARG:HG2	34:I:43:ARG:HH11	1.77	0.49
40:O:73:LEU:HD23	40:O:73:LEU:C	2.38	0.49
47:V:9:GLY:O	47:V:58:VAL:N	2.43	0.49
53:3:69:G:H2'	53:3:70:U:C6	2.47	0.49
53:3:259:G:C4	53:3:260:G:C8	3.01	0.49
53:3:597:G:H2'	53:3:598:U:H5'	1.93	0.49
53:3:984:C:O2'	53:3:985:C:H5'	2.12	0.49
53:3:1163:A:H2'	53:3:1164:G:C8	2.48	0.49
53:3:1337:G:H5"	53:3:1338:G:OP1	2.13	0.49
53:3:1489:G:H2'	53:3:1490:U:C6	2.46	0.49
54:1:446:G:H4'	54:1:449:A:N3	2.28	0.49
54:1:540:C:H2'	54:1:541:A:O4'	2.12	0.49
54:1:692:C:O2'	54:1:693:A:H5'	2.13	0.49
54:1:700:G:O2'	54:1:701:G:H5'	2.12	0.49
54:1:1365:A:N3	54:1:1365:A:H2'	2.27	0.49
54:1:1570:A:H2'	54:1:1571:A:C8	2.48	0.49
54:1:1654:A:H2'	54:1:1655:A:C8	2.39	0.49
54:1:1748:C:H2'	54:1:1749:A:C8	2.48	0.49
54:1:2624:G:O2'	54:1:2625:G:H5'	2.12	0.49
54:1:2639:A:C2	54:1:2778:A:O4'	2.66	0.49
20:u:61:GLU:O	20:u:61:GLU:CD	2.55	0.49
21:v:65:VAL:HG12	21:v:70:ILE:CD1	2.41	0.49
27:B:32:THR:OG1	27:B:50:GLY:HA2	2.13	0.49
32:G:162:VAL:HG22	32:G:163:ILE:N	2.27	0.49
33:H:89:VAL:HA	33:H:92:ASP:OD2	2.12	0.49
34:I:138:PRO:HB3	34:I:183:ARG:HA	1.95	0.49
35:J:108:GLY:C	35:J:110:MET:H	2.21	0.49
37:L:91:ARG:HB2	37:L:94:ARG:HB3	1.95	0.49
39:N:129:ARG:NE	57:6:33:U:H5	2.11	0.49
43:R:28:ARG:CZ	43:R:62:PHE:HD1	2.26	0.49
48:W:14:ALA:HB2	48:W:50:TYR:HE2	1.78	0.49
49:X:47:THR:HG22	49:X:60:PHE:CB	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Z:24:LYS:HE3	58:4:9:G:H4'	1.95	0.49
52:a:48:LEU:HD22	52:a:208:TYR:O	2.12	0.49
53:3:317:U:H2'	53:3:318:G:H8	1.77	0.49
53:3:479:U:C2'	53:3:480:U:H5"	2.42	0.49
53:3:751:U:C2'	53:3:752:G:H5'	2.43	0.49
53:3:962:C:H1'	53:3:1201:A:C6	2.48	0.49
53:3:1244:G:H2'	53:3:1245:C:H6	1.76	0.49
53:3:1305:G:O2'	53:3:1306:A:H8	1.95	0.49
53:3:1476:A:H2'	53:3:1477:U:C6	2.48	0.49
54:1:4:U:H2'	54:1:5:A:H8	1.78	0.49
54:1:193:U:O3'	54:1:803:U:H4'	2.13	0.49
54:1:1064:C:H41	54:1:1069:A:H3'	1.71	0.49
54:1:1313:U:C2'	54:1:1610:A:C2	2.93	0.49
54:1:1404:C:O2'	54:1:1405:U:H5'	2.12	0.49
54:1:1936:A:H2	54:1:1943:U:O2	1.96	0.49
54:1:2298:A:H2'	54:1:2299:U:O4'	2.13	0.49
54:1:2303:G:O2'	54:1:2304:G:H5'	2.12	0.49
54:1:2646:C:H2'	54:1:2647:U:C6	2.48	0.49
2:c:35:THR:HG22	2:c:73:VAL:HG21	1.95	0.49
6:g:4:ILE:HG22	6:g:17:ASP:O	2.13	0.49
9:j:27:ARG:HH11	9:j:27:ARG:HG3	1.77	0.49
11:l:30:THR:O	11:l:31:GLY:C	2.56	0.49
12:m:75:GLU:HB2	54:1:957:C:OP1	2.13	0.49
17:r:60:LYS:HB3	17:r:100:GLY:HA3	1.95	0.49
18:s:84:ARG:O	18:s:85:ILE:HD13	2.12	0.49
22:w:7:ARG:CB	22:w:7:ARG:HH11	2.25	0.49
29:D:25:LYS:HG3	29:D:26:ASN:N	2.27	0.49
32:G:53:LEU:HA	32:G:56:LEU:HD23	1.95	0.49
32:G:102:ASN:OD1	53:3:1074:G:H5'	2.13	0.49
33:H:112:ALA:HB2	33:H:201:ILE:HD13	1.93	0.49
41:P:112:VAL:O	41:P:112:VAL:HG12	2.13	0.49
42:Q:82:ARG:HB3	42:Q:82:ARG:NH1	2.28	0.49
47:V:74:LEU:HD12	47:V:74:LEU:C	2.37	0.49
51:Z:66:ARG:HB3	53:3:1167:A:C5	2.47	0.49
53:3:1039:G:H2'	53:3:1040:U:C6	2.47	0.49
53:3:1490:U:H2'	53:3:1491:G:O4'	2.13	0.49
54:1:191:A:C2	54:1:192:C:N3	2.81	0.49
54:1:1829:A:C2	54:1:1830:C:H1'	2.48	0.49
54:1:1987:A:O2'	54:1:1988:G:H5'	2.12	0.49
54:1:2350:C:H2'	54:1:2351:G:C8	2.48	0.49
54:1:2896:C:H2'	54:1:2897:U:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:7:TYR:O	4:e:12:VAL:HG23	2.13	0.49
5:f:41:GLU:HB3	5:f:52:GLY:O	2.12	0.49
5:f:125:PRO:HD2	5:f:129:GLU:O	2.13	0.49
9:j:81:ILE:HG23	9:j:82:GLY:N	2.27	0.49
11:l:38:GLN:O	11:l:41:ARG:HG2	2.13	0.49
11:l:57:LEU:HD12	30:E:56:LEU:HB2	1.94	0.49
15:p:83:ILE:HD12	15:p:83:ILE:N	2.28	0.49
18:s:5:ALA:HB3	18:s:54:ALA:HB2	1.94	0.49
32:G:52:ALA:CB	32:G:199:ILE:HD11	2.42	0.49
32:G:91:VAL:HG13	32:G:150:ILE:HD11	1.95	0.49
35:J:67:ARG:HD2	35:J:67:ARG:N	2.28	0.49
38:M:34:ALA:O	38:M:37:ASN:HB2	2.12	0.49
38:M:38:VAL:O	38:M:41:GLU:N	2.46	0.49
39:N:10:ARG:HG3	39:N:105:ARG:NH2	2.28	0.49
39:N:85:ALA:O	39:N:87:MET:N	2.46	0.49
41:P:35:ASP:O	41:P:37:GLN:N	2.45	0.49
45:T:24:THR:O	45:T:27:GLN:N	2.46	0.49
46:U:52:LEU:N	46:U:52:LEU:HD23	2.28	0.49
50:Y:38:ILE:CD1	50:Y:81:GLN:HB3	2.43	0.49
52:a:48:LEU:CD2	52:a:209:ILE:HA	2.43	0.49
52:a:185:LEU:HA	52:a:188:ASN:HB2	1.94	0.49
53:3:16:A:N1	53:3:919:A:H2	2.10	0.49
53:3:52:C:H2'	53:3:53:A:H8	1.78	0.49
53:3:675:A:H2'	53:3:676:A:C8	2.47	0.49
53:3:782:A:H4'	53:3:1514:G:O2'	2.13	0.49
53:3:839:C:H2'	53:3:840:C:C6	2.48	0.49
53:3:893:C:H2'	53:3:894:G:C8	2.48	0.49
54:1:289:G:H2'	54:1:290:U:O4'	2.13	0.49
54:1:494:G:H2'	54:1:495:G:H8	1.78	0.49
54:1:537:G:H22	54:1:555:G:H2'	1.77	0.49
54:1:818:G:H2'	54:1:1187:G:H22	1.78	0.49
54:1:1098:A:H2'	54:1:1099:G:C8	2.41	0.49
54:1:1909:C:O2	54:1:1909:C:H2'	2.11	0.49
54:1:2841:C:H2'	54:1:2842:G:H8	1.76	0.49
4:e:25:MET:SD	55:2:57:A:C4	3.06	0.48
5:f:27:GLY:O	5:f:29:ASN:N	2.44	0.48
11:l:73:ILE:O	11:l:106:GLU:N	2.45	0.48
12:m:36:VAL:HB	12:m:127:LYS:O	2.13	0.48
13:n:37:THR:O	13:n:40:LYS:N	2.46	0.48
22:w:60:ASP:OD2	22:w:61:GLY:N	2.46	0.48
24:y:8:GLU:HB2	24:y:13:GLU:OE2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:99:GLN:H	33:H:99:GLN:NE2	2.10	0.48
38:M:9:MET:O	38:M:13:ILE:HD12	2.13	0.48
38:M:113:ARG:HE	38:M:113:ARG:CA	2.26	0.48
43:R:49:GLU:HA	43:R:52:ILE:CB	2.39	0.48
48:W:49:LYS:HB2	53:3:835:U:OP1	2.13	0.48
51:Z:36:PHE:C	51:Z:38:GLU:N	2.64	0.48
52:a:49:GLY:N	52:a:210:LYS:HG3	2.28	0.48
53:3:405:U:O2	53:3:498:A:H2'	2.13	0.48
53:3:735:C:O2'	53:3:736:C:H5'	2.12	0.48
53:3:1452:C:H4'	53:3:1453:G:C2	2.47	0.48
53:3:1513:A:O2'	53:3:1514:G:H5'	2.12	0.48
54:1:290:U:O2'	54:1:291:G:H5'	2.13	0.48
54:1:810:U:O5'	54:1:810:U:H6	1.96	0.48
54:1:1061:U:H3'	54:1:1062:G:H5"	1.92	0.48
54:1:1438:U:O2'	54:1:1439:A:H5'	2.13	0.48
54:1:1908:C:H2'	54:1:1909:C:C4'	2.43	0.48
54:1:1991:U:H2'	54:1:1992:G:H5"	1.95	0.48
54:1:2448:A:OP1	54:1:2499:C:OP1	2.30	0.48
57:6:36:U:H2'	57:6:37:A:H8	1.76	0.48
7:h:7:ASP:O	7:h:11:ILE:HG12	2.13	0.48
8:i:77:VAL:HA	8:i:80:LYS:HZ3	1.78	0.48
12:m:51:ARG:HG2	12:m:55:ARG:HH12	1.77	0.48
20:u:86:PHE:CZ	20:u:91:LYS:HB3	2.48	0.48
21:v:3:THR:C	21:v:4:ILE:HD12	2.39	0.48
23:x:58:ILE:CD1	23:x:66:VAL:HG11	2.43	0.48
34:I:60:VAL:HA	34:I:63:ILE:HD12	1.95	0.48
35:J:153:ALA:HA	35:J:156:ARG:O	2.13	0.48
36:K:67:PRO:HG2	36:K:70:VAL:HG23	1.94	0.48
37:L:132:THR:O	37:L:135:LYS:HB3	2.13	0.48
40:O:56:HIS:CD2	40:O:57:VAL:HG13	2.48	0.48
44:S:53:ASP:HA	44:S:58:ARG:HG3	1.94	0.48
48:W:38:ILE:H	48:W:38:ILE:HD12	1.77	0.48
49:X:54:ARG:HB3	53:3:958:A:C2	2.49	0.48
50:Y:66:ILE:HG22	50:Y:68:LYS:N	2.27	0.48
53:3:304:U:O2'	53:3:305:G:H5'	2.12	0.48
53:3:537:G:H2'	53:3:538:G:C8	2.48	0.48
53:3:934:C:C5	53:3:1344:C:H2'	2.48	0.48
53:3:1170:A:H2'	53:3:1171:A:H5'	1.95	0.48
53:3:1490:U:O2'	53:3:1491:G:H5'	2.13	0.48
54:1:331:C:O2'	54:1:332:A:H5'	2.13	0.48
54:1:878:A:H2'	54:1:879:G:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:893:C:O2'	54:1:894:U:H5'	2.12	0.48
54:1:1405:U:H2'	54:1:1406:U:C6	2.48	0.48
54:1:1748:C:H2'	54:1:1749:A:H8	1.78	0.48
54:1:2152:G:H2'	54:1:2153:C:N1	2.28	0.48
54:1:2397:G:H2'	54:1:2398:U:C6	2.48	0.48
2:c:186:LEU:HD11	15:p:3:ILE:CG2	2.43	0.48
3:d:157:LEU:C	3:d:159:LEU:H	2.20	0.48
5:f:93:TYR:HD1	5:f:106:LEU:HA	1.79	0.48
5:f:102:ILE:HD11	5:f:116:LEU:CD2	2.43	0.48
8:i:121:ILE:O	8:i:125:THR:HG23	2.13	0.48
11:l:79:LEU:O	11:l:79:LEU:HD23	2.13	0.48
14:o:30:ARG:HG2	14:o:30:ARG:NH1	2.27	0.48
15:p:12:MET:HB2	15:p:76:HIS:CE1	2.49	0.48
19:t:63:VAL:HG13	19:t:63:VAL:O	2.13	0.48
22:w:13:GLU:O	22:w:15:LYS:HE3	2.14	0.48
23:x:71:ARG:HH11	23:x:71:ARG:CA	2.16	0.48
27:B:48:TYR:C	27:B:50:GLY:H	2.21	0.48
32:G:16:GLY:C	32:G:17:HIS:ND1	2.71	0.48
32:G:119:GLN:HB3	32:G:124:THR:H	1.78	0.48
34:I:2:ARG:HD2	34:I:114:ARG:HD3	1.95	0.48
42:Q:113:ARG:HG2	42:Q:113:ARG:HH11	1.79	0.48
43:R:70:ARG:O	43:R:74:MET:HG2	2.13	0.48
44:S:2:LYS:O	44:S:5:MET:N	2.46	0.48
53:3:760:G:H2'	53:3:761:G:H5'	1.94	0.48
54:1:140:C:H2'	54:1:141:G:H4'	1.96	0.48
54:1:257:C:H2'	54:1:258:G:O4'	2.14	0.48
54:1:1798:U:H4'	54:1:1803:A:O4'	2.13	0.48
54:1:2205:A:H2'	54:1:2206:C:C6	2.48	0.48
54:1:2708:G:O2'	54:1:2709:G:H5'	2.13	0.48
56:5:17:U:H2'	56:5:17(A):U:C5	2.47	0.48
8:i:78:LEU:HG	8:i:108:ILE:HG13	1.95	0.48
8:i:79:LEU:CD1	8:i:128:ILE:HG23	2.43	0.48
8:i:107:GLU:OE2	8:i:108:ILE:HB	2.13	0.48
8:i:123:ALA:O	8:i:126:ARG:HG2	2.13	0.48
9:j:40:HIS:CE1	9:j:41:LYS:HG3	2.48	0.48
9:j:118:MET:O	9:j:121:LYS:HG2	2.14	0.48
10:k:61:VAL:HG13	10:k:85:VAL:HG13	1.94	0.48
11:l:61:LEU:C	54:1:2393:U:H4'	2.38	0.48
15:p:102:ARG:HB3	15:p:106:ALA:CB	2.44	0.48
26:A:1:MET:H2	55:2:40:U:H3	1.61	0.48
30:E:15:LYS:NZ	30:E:19:GLY:HA2	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:67:LEU:N	32:G:159:ALA:O	2.44	0.48
46:U:53:ASP:OD2	46:U:55:ASP:HB3	2.12	0.48
49:X:35:ARG:HD3	53:3:1320:C:N3	2.28	0.48
49:X:79:TYR:CG	49:X:80:ARG:N	2.81	0.48
53:3:412:A:HO2'	53:3:413:G:H4'	1.73	0.48
53:3:448:A:H3'	53:3:449:G:C8	2.48	0.48
53:3:1181:G:H1'	53:3:1182:G:C5	2.49	0.48
53:3:1426:G:C2	53:3:1427:C:H1'	2.49	0.48
53:3:1434:A:H2'	53:3:1435:G:O4'	2.13	0.48
54:1:112:U:H2'	54:1:113:U:H5'	1.95	0.48
54:1:154:U:H2'	54:1:155:A:C8	2.49	0.48
54:1:515:A:H8	54:1:515:A:O5'	1.96	0.48
54:1:553:G:H2'	54:1:554:U:O4'	2.13	0.48
54:1:599:A:O2'	54:1:600:G:H5'	2.13	0.48
54:1:767:U:O2'	54:1:768:G:H5'	2.13	0.48
54:1:1259:G:H2'	54:1:1260:A:H8	1.78	0.48
54:1:1329:U:O2'	54:1:1330:C:H5'	2.13	0.48
54:1:1745:A:O2'	54:1:1746:A:H5'	2.14	0.48
54:1:1755:A:H2'	54:1:1756:G:H5'	1.95	0.48
54:1:1791:A:C2	54:1:1829:A:H4'	2.48	0.48
54:1:1936:A:H2	54:1:1943:U:H3	1.59	0.48
54:1:2169:A:H2'	54:1:2170:A:C8	2.48	0.48
54:1:2464:G:H2'	54:1:2465:C:C6	2.48	0.48
7:h:42:ARG:HH11	8:i:117:THR:HA	1.79	0.48
8:i:87:SER:HB2	8:i:97:VAL:CG1	2.44	0.48
9:j:49:ASP:HA	9:j:118:MET:HE1	1.94	0.48
11:l:93:ASN:O	11:l:94:THR:HB	2.13	0.48
12:m:110:GLU:O	12:m:114:ARG:N	2.45	0.48
14:o:67:ASN:ND2	14:o:69:ASP:OD1	2.46	0.48
32:G:83:ALA:CB	32:G:90:PHE:HB3	2.43	0.48
32:G:205:ALA:HB3	32:G:208:ALA:HB3	1.96	0.48
33:H:107:LYS:CB	33:H:110:LEU:HD12	2.44	0.48
34:I:10:LEU:HD22	34:I:62:ARG:CD	2.44	0.48
34:I:32:LYS:HZ2	34:I:36:ALA:HB2	1.76	0.48
39:N:23:GLY:N	39:N:59:LYS:O	2.38	0.48
42:Q:48:LEU:O	42:Q:50:LYS:HD3	2.12	0.48
42:Q:113:ARG:HE	42:Q:120:ARG:HA	1.78	0.48
43:R:31:ALA:O	43:R:35:ALA:N	2.46	0.48
49:X:9:PHE:CE1	53:3:1318:A:H5'	2.49	0.48
53:3:484:G:C5	53:3:486:U:H1'	2.48	0.48
53:3:629:A:H2'	53:3:630:A:O4'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:668:G:O2'	53:3:669:G:H5'	2.13	0.48
53:3:979:C:H1'	53:3:1317:C:N4	2.27	0.48
53:3:1230:C:H2'	53:3:1231:G:H8	1.78	0.48
54:1:727:A:H2'	54:1:728:G:O4'	2.13	0.48
54:1:816:C:O2'	54:1:817:C:H5'	2.12	0.48
54:1:1098:A:C2'	54:1:1099:G:H8	2.24	0.48
54:1:1186:G:H2'	54:1:1187:G:O4'	2.14	0.48
54:1:1315:C:H2'	54:1:1316:U:H6	1.79	0.48
54:1:1435:G:H2'	54:1:1436:G:H8	1.78	0.48
54:1:1670:C:H2'	54:1:1670:C:O2	2.13	0.48
54:1:1906:G:H3'	54:1:1907:G:H5"	1.92	0.48
54:1:2232:C:C2'	54:1:2233:U:H5'	2.43	0.48
54:1:2645:G:H3'	54:1:2646:C:H5'	1.95	0.48
54:1:2805:C:H2'	54:1:2806:C:C6	2.48	0.48
54:1:2815:C:HO2'	54:1:2816:G:H5'	1.79	0.48
55:2:49:C:H2'	55:2:50:A:H8	1.79	0.48
55:2:55:U:O2'	55:2:56:G:H5'	2.14	0.48
1:b:91:ALA:N	1:b:103:ILE:O	2.47	0.48
1:b:171:VAL:N	1:b:183:VAL:O	2.40	0.48
1:b:256:THR:OG1	54:1:1803:A:H4'	2.14	0.48
2:c:118:PHE:HE1	2:c:163:GLY:N	2.12	0.48
4:e:40:GLY:HA2	4:e:84:ILE:CD1	2.44	0.48
4:e:56:LEU:HD22	4:e:59:ILE:HG21	1.94	0.48
4:e:96:TRP:O	4:e:99:PHE:N	2.46	0.48
10:k:43:ILE:N	10:k:43:ILE:CD1	2.77	0.48
14:o:94:ARG:CB	14:o:94:ARG:HH21	2.26	0.48
17:r:49:ILE:HB	17:r:51:VAL:O	2.13	0.48
23:x:5:GLN:HG3	23:x:70:LEU:HD21	1.96	0.48
25:z:13:ILE:O	25:z:15:ARG:HG3	2.13	0.48
30:E:7:ARG:CZ	54:1:243:U:OP2	2.62	0.48
31:F:36:ARG:CG	31:F:37:GLN:N	2.75	0.48
35:J:100:GLU:HA	35:J:121:ASN:CG	2.38	0.48
35:J:155:LYS:HE2	38:M:65:PHE:HB3	1.95	0.48
39:N:75:ALA:O	39:N:78:ILE:N	2.47	0.48
40:O:84:VAL:O	40:O:88:MET:N	2.40	0.48
43:R:3:ILE:C	43:R:5:GLY:H	2.21	0.48
46:U:21:VAL:HG22	46:U:33:ILE:HD12	1.95	0.48
47:V:79:GLU:O	47:V:81:ALA:N	2.46	0.48
51:Z:54:ARG:O	51:Z:58:LYS:N	2.44	0.48
53:3:156:C:H2'	53:3:157:U:O4'	2.12	0.48
53:3:252:U:O2	53:3:252:U:C2'	2.61	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:607:A:H2'	53:3:608:A:C8	2.49	0.48
54:1:282:A:H2'	54:1:283:G:C8	2.49	0.48
54:1:516:C:H2'	54:1:517:C:C6	2.48	0.48
54:1:581:C:H2'	54:1:582:A:H8	1.77	0.48
54:1:727:A:O2'	54:1:728:G:H5'	2.14	0.48
54:1:861:A:H2'	54:1:862:G:O4'	2.13	0.48
54:1:1270:C:O5'	54:1:1270:C:H6	1.96	0.48
54:1:1664:A:C6	54:1:2726:A:C8	3.00	0.48
54:1:1903:G:C2	54:1:1904:G:C8	3.01	0.48
3:d:120:VAL:O	3:d:120:VAL:HG12	2.13	0.48
4:e:101:ARG:HB2	4:e:105:ILE:HD11	1.95	0.48
6:g:1:MET:N	6:g:21:VAL:O	2.44	0.48
7:h:5:LEU:HD12	7:h:8:LYS:CD	2.44	0.48
9:j:34:ARG:HH12	9:j:40:HIS:HB2	1.79	0.48
12:m:135:VAL:O	12:m:136:MET:HG2	2.12	0.48
16:q:104:ALA:O	16:q:108:LEU:HG	2.13	0.48
20:u:6:ARG:N	54:1:85:G:OP1	2.46	0.48
25:z:38:GLU:O	25:z:40:THR:N	2.47	0.48
30:E:8:GLY:O	30:E:12:ARG:NH2	2.47	0.48
37:L:46:LEU:CD2	37:L:57:GLU:HB3	2.44	0.48
38:M:34:ALA:HA	38:M:37:ASN:OD1	2.13	0.48
38:M:77:VAL:HG12	38:M:84:ILE:HD11	1.95	0.48
41:P:73:VAL:O	41:P:74:LYS:C	2.57	0.48
42:Q:4:ASN:O	42:Q:7:VAL:HG12	2.13	0.48
43:R:12:LYS:HB2	43:R:17:ALA:HB2	1.95	0.48
51:Z:50:SER:O	51:Z:53:LYS:N	2.46	0.48
53:3:147:G:H2'	53:3:148:G:C8	2.48	0.48
53:3:775:G:C2'	53:3:776:G:H5'	2.44	0.48
53:3:1151:A:H2'	53:3:1152:A:H8	1.79	0.48
53:3:1198:G:H2'	53:3:1199:U:C6	2.48	0.48
53:3:1217:C:O2'	53:3:1218:C:H5'	2.12	0.48
53:3:1346:A:H61	53:3:1374:A:H3'	1.79	0.48
54:1:129:C:O2'	54:1:130:C:H5'	2.14	0.48
54:1:156:A:H61	54:1:170:U:H3	1.60	0.48
54:1:201:C:C2	54:1:202:U:C6	3.02	0.48
54:1:687:C:H2'	54:1:688:U:H6	1.78	0.48
54:1:1446:C:H2'	54:1:1447:C:C6	2.49	0.48
54:1:1831:G:H2'	54:1:1832:C:C6	2.49	0.48
54:1:1948:G:O2'	54:1:1949:G:H5'	2.13	0.48
55:2:119:A:H2'	55:2:120:A:O4'	2.12	0.48
1:b:5:CYS:SG	1:b:15:VAL:HB	2.53	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:60:SER:HB2	4:e:90:LEU:HD11	1.94	0.48
5:f:106:LEU:HD23	5:f:106:LEU:H	1.78	0.48
8:i:120:ASP:HB2	8:i:123:ALA:CB	2.44	0.48
12:m:40:ARG:HD3	12:m:73:ILE:HD12	1.95	0.48
12:m:53:MET:O	12:m:57:VAL:HG22	2.14	0.48
12:m:120:ALA:O	12:m:122:ALA:N	2.46	0.48
13:n:70:THR:O	13:n:71:ARG:C	2.55	0.48
15:p:23:ASP:O	15:p:25:VAL:HG23	2.14	0.48
19:t:49:LYS:HZ2	19:t:50:LEU:CD2	2.27	0.48
21:v:76:ASP:H	21:v:90:ASP:CB	2.25	0.48
33:H:32:LEU:HD12	44:S:76:PHE:HB3	1.95	0.48
34:I:183:ARG:HG2	34:I:183:ARG:HH11	1.78	0.48
36:K:70:VAL:HA	36:K:73:GLU:HG2	1.96	0.48
39:N:89:TYR:HB3	39:N:93:LEU:HD12	1.94	0.48
47:V:30:HIS:HE1	47:V:32:ILE:HG13	1.79	0.48
51:Z:28:LEU:HD23	51:Z:29:ALA:N	2.29	0.48
53:3:538:G:H2'	53:3:539:A:H8	1.79	0.48
53:3:693:G:C5	53:3:694:A:N7	2.82	0.48
53:3:822:U:O2'	53:3:823:C:H5'	2.13	0.48
53:3:1218:C:H2'	53:3:1219:A:H8	1.78	0.48
54:1:864:G:O2'	54:1:865:C:H5'	2.14	0.48
54:1:1088:A:H4'	54:1:1089:A:H5'	1.94	0.48
54:1:1198:U:H2'	54:1:1199:U:C6	2.48	0.48
54:1:1920:C:H1'	54:1:1921:G:O5'	2.13	0.48
57:6:26:G:H2'	57:6:27:U:C5'	2.31	0.48
4:e:91:ARG:HH21	4:e:91:ARG:HB3	1.78	0.48
8:i:116:MET:SD	8:i:124:MET:HB3	2.54	0.48
9:j:69:ARG:HA	9:j:89:PHE:CD2	2.49	0.48
10:k:93:GLN:CD	10:k:93:GLN:H	2.22	0.48
14:o:102:ARG:O	14:o:106:LEU:N	2.36	0.48
16:q:48:ASP:O	16:q:50:ARG:N	2.46	0.48
19:t:66:LYS:HE3	54:1:1312:U:O2'	2.14	0.48
21:v:48:MET:O	21:v:48:MET:HE3	2.14	0.48
29:D:1:MET:HE1	54:1:752:A:O5'	2.13	0.48
34:I:159:GLU:O	34:I:162:GLU:HG2	2.14	0.48
35:J:100:GLU:C	35:J:102:THR:H	2.22	0.48
41:P:71:ASP:CG	41:P:74:LYS:HD2	2.39	0.48
42:Q:2:THR:O	42:Q:5:GLN:N	2.29	0.48
46:U:80:LYS:HD3	46:U:80:LYS:H	1.77	0.48
49:X:35:ARG:O	49:X:71:GLY:N	2.47	0.48
50:Y:30:PHE:O	50:Y:34:VAL:HG23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:675:A:H2'	53:3:676:A:H8	1.79	0.48
53:3:677:U:H3	53:3:713:G:H1	1.62	0.48
53:3:765:G:C6	53:3:812:G:C4	3.01	0.48
53:3:1499:A:C2	53:3:1500:A:C8	3.01	0.48
54:1:513:A:H2'	54:1:514:A:H8	1.79	0.48
54:1:1025:G:C4	54:1:1135:C:O4'	2.66	0.48
54:1:1544:A:H2'	54:1:1545:A:C8	2.48	0.48
54:1:1585:C:H2'	54:1:1586:A:H5'	1.95	0.48
54:1:1655:A:H3'	54:1:1656:C:C5	2.49	0.48
54:1:1722:A:H2'	54:1:1723:G:H8	1.79	0.48
54:1:2046:G:H2'	54:1:2047:C:H6	1.79	0.48
54:1:2131:U:OP1	54:1:2133:G:H4'	2.14	0.48
54:1:2163:A:C3'	54:1:2164:C:H5'	2.44	0.48
54:1:2231:U:O2'	54:1:2232:C:H5'	2.13	0.48
54:1:2280:G:C2'	54:1:2281:A:H5'	2.43	0.48
54:1:2624:G:C2'	54:1:2625:G:H5'	2.44	0.48
54:1:2803:G:O2'	54:1:2804:U:H5'	2.14	0.48
55:2:39:A:H2'	55:2:40:U:C5	2.49	0.48
2:c:121:THR:HG21	2:c:143:PRO:HD3	1.96	0.48
6:g:38:PRO:HG2	6:g:43:ASN:ND2	2.29	0.48
8:i:78:LEU:HG	8:i:108:ILE:CG1	2.44	0.48
12:m:13:HIS:CD2	54:1:910:A:C4	3.02	0.48
13:n:94:TYR:O	13:n:116:VAL:HG22	2.13	0.48
13:n:103:ARG:O	13:n:107:ASN:N	2.40	0.48
22:w:57:ALA:HA	22:w:78:ILE:HD11	1.96	0.48
34:I:36:ALA:N	34:I:37:PRO:HD3	2.29	0.48
36:K:91:ARG:HB3	53:3:737:C:OP1	2.14	0.48
37:L:12:LEU:HD12	37:L:12:LEU:O	2.14	0.48
37:L:27:ASN:ND2	53:3:1374:A:H4'	2.29	0.48
37:L:30:MET:HG2	37:L:38:ALA:HB3	1.96	0.48
39:N:54:VAL:HG23	39:N:55:ASP:H	1.77	0.48
39:N:64:ILE:HG22	39:N:65:THR:N	2.28	0.48
39:N:74:GLN:O	39:N:77:ALA:HB3	2.13	0.48
42:Q:13:ARG:HH22	53:3:303:A:H5"	1.79	0.48
50:Y:2:ASN:CG	50:Y:3:ILE:H	2.21	0.48
50:Y:47:GLN:HE22	50:Y:82:ILE:HD12	1.77	0.48
52:a:38:PHE:HZ	52:a:218:MET:HE2	1.79	0.48
53:3:585:G:C4	53:3:586:C:C5	3.01	0.48
53:3:1074:G:C6	53:3:1102:A:N6	2.81	0.48
53:3:1157:A:C2	53:3:1181:G:C4	3.02	0.48
53:3:1258:G:H2'	53:3:1259:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:531:C:C5	54:1:2035:G:C2	3.02	0.48
54:1:566:U:H4'	54:1:809:G:OP2	2.14	0.48
54:1:699:A:H3'	54:1:700:G:H8	1.79	0.48
54:1:797:G:O2'	54:1:798:G:H5'	2.14	0.48
54:1:1479:G:O2'	54:1:1480:C:H5'	2.14	0.48
54:1:1827:U:C2'	54:1:1828:G:H5'	2.43	0.48
54:1:1895:C:C2'	54:1:1896:G:H5"	2.43	0.48
54:1:2666:C:H2'	54:1:2667:C:O4'	2.14	0.48
55:2:99:A:C4	55:2:100:G:C8	3.02	0.48
55:2:114:C:H2'	55:2:115:A:C8	2.49	0.48
57:6:50:U:H2'	57:6:51:C:C6	2.49	0.48
1:b:78:GLU:OE1	1:b:79:ARG:HG2	2.13	0.47
1:b:231:HIS:ND1	1:b:239:PHE:CE1	2.81	0.47
9:j:16:TYR:O	9:j:55:ILE:HG22	2.13	0.47
11:l:128:THR:HG22	11:l:131:ALA:HB3	1.96	0.47
12:m:79:ALA:HA	54:1:2494:G:O2'	2.14	0.47
13:n:97:ILE:O	13:n:98:LEU:HD23	2.14	0.47
21:v:29:ILE:HD12	21:v:38:LEU:O	2.14	0.47
22:w:39:THR:C	22:w:41:PHE:H	2.21	0.47
37:L:69:ARG:NE	37:L:96:ASN:HB3	2.29	0.47
41:P:73:VAL:O	41:P:76:TYR:N	2.46	0.47
42:Q:35:ARG:HH11	42:Q:35:ARG:CA	2.27	0.47
42:Q:82:ARG:HD2	53:3:552:U:O4'	2.14	0.47
49:X:46:LEU:HD22	49:X:48:ILE:HG23	1.96	0.47
50:Y:27:MET:O	50:Y:31:ILE:HG13	2.14	0.47
50:Y:79:THR:O	50:Y:82:ILE:HG12	2.14	0.47
53:3:220:G:O2'	53:3:221:C:H5'	2.14	0.47
53:3:1119:C:H2'	53:3:1120:C:C6	2.49	0.47
53:3:1127:G:H5'	53:3:1280:A:O2'	2.14	0.47
53:3:1313:U:H2'	53:3:1314:C:C6	2.49	0.47
54:1:957:C:C2	54:1:959:A:C8	3.01	0.47
54:1:1274:A:C2	54:1:1645:G:O4'	2.67	0.47
54:1:1802:A:H2'	54:1:1803:A:H8	1.79	0.47
54:1:1910:G:H3'	54:1:1911:U:O2	2.14	0.47
54:1:2678:C:H2'	54:1:2679:A:O4'	2.14	0.47
54:1:2723:C:C4	54:1:2724:U:C5	3.01	0.47
54:1:2899:A:H2'	54:1:2900:A:H8	1.77	0.47
55:2:30:C:H2'	55:2:31:C:H5'	1.96	0.47
55:2:97:C:C2'	55:2:98:G:H5'	2.44	0.47
56:5:38:A:H2'	56:5:39:C:O4'	2.13	0.47
1:b:78:GLU:OE1	1:b:92:LEU:HD22	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:94:LEU:HD23	1:b:94:LEU:O	2.14	0.47
2:c:97:SER:OG	2:c:98:VAL:N	2.47	0.47
3:d:55:SER:H	3:d:73:ILE:HD11	1.78	0.47
3:d:59:PRO:HD2	3:d:70:SER:O	2.14	0.47
4:e:162:ASP:O	4:e:166:ARG:N	2.36	0.47
5:f:27:GLY:C	5:f:28:LYS:HG2	2.40	0.47
5:f:51:PHE:CZ	5:f:71:LEU:HD13	2.48	0.47
13:n:39:PRO:HG2	54:1:1651:G:H4'	1.96	0.47
13:n:73:ASN:HA	13:n:76:VAL:HG12	1.96	0.47
15:p:105:LYS:HE2	15:p:108:ARG:HH22	1.78	0.47
19:t:63:VAL:HG11	19:t:80:TRP:CE2	2.49	0.47
32:G:66:ILE:CD1	32:G:159:ALA:HB3	2.40	0.47
32:G:67:LEU:HD13	32:G:160:LEU:HD12	1.95	0.47
34:I:68:GLU:HG2	53:3:545:C:H5"	1.96	0.47
35:J:73:VAL:HG12	35:J:74:ALA:O	2.13	0.47
37:L:70:PRO:N	37:L:137:ARG:HH12	2.12	0.47
37:L:104:VAL:O	37:L:108:ARG:HG2	2.14	0.47
37:L:109:LYS:HG3	37:L:110:ARG:N	2.22	0.47
39:N:18:VAL:HG11	39:N:82:ILE:HA	1.96	0.47
39:N:93:LEU:HA	39:N:96:GLU:OE1	2.13	0.47
43:R:21:ILE:O	43:R:24:VAL:HG12	2.14	0.47
46:U:46:LYS:HZ2	46:U:48:GLU:N	2.12	0.47
52:a:177:LYS:O	52:a:185:LEU:HD21	2.15	0.47
53:3:94:G:C4'	53:3:95:C:H5'	2.30	0.47
53:3:766:A:H2'	53:3:767:A:H5'	1.96	0.47
53:3:789:U:C3'	53:3:790:A:H5"	2.44	0.47
53:3:1502:A:C8	53:3:1505:G:N2	2.78	0.47
54:1:510:C:O2'	54:1:511:U:H5'	2.13	0.47
54:1:649:G:H2'	54:1:650:C:C6	2.50	0.47
54:1:655:A:H4'	54:1:656:G:H5'	1.96	0.47
54:1:669:G:H2'	54:1:669:G:N3	2.29	0.47
54:1:803:U:O2'	54:1:804:A:H5'	2.14	0.47
54:1:1280:G:O2'	54:1:1281:G:H5'	2.15	0.47
54:1:1684:G:H2'	54:1:1685:C:C6	2.49	0.47
54:1:1789:A:C4	54:1:1790:C:C6	3.02	0.47
54:1:1860:G:H2'	54:1:1861:G:H8	1.77	0.47
54:1:2131:U:P	54:1:2133:G:H4'	2.55	0.47
54:1:2657:A:C2'	54:1:2658:C:H5'	2.44	0.47
5:f:66:THR:HG22	54:1:2747:G:O2'	2.14	0.47
5:f:97:VAL:C	5:f:98:LYS:HD2	2.38	0.47
8:i:89:SER:HA	8:i:92:PRO:CG	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:91:LYS:N	8:i:92:PRO:CD	2.77	0.47
12:m:54:THR:HA	12:m:57:VAL:HG22	1.96	0.47
16:q:26:ALA:O	16:q:28:SER:N	2.48	0.47
18:s:76:VAL:HG23	18:s:76:VAL:O	2.14	0.47
32:G:42:LEU:HG	32:G:46:VAL:HG23	1.96	0.47
32:G:72:LYS:C	32:G:74:ALA:H	2.22	0.47
32:G:130:LYS:O	32:G:134:LEU:N	2.47	0.47
32:G:206:ILE:HA	32:G:209:VAL:HG22	1.96	0.47
32:G:211:LEU:HD23	32:G:211:LEU:C	2.39	0.47
33:H:71:ARG:HG2	33:H:74:ILE:CD1	2.42	0.47
34:I:110:ARG:O	34:I:114:ARG:N	2.41	0.47
37:L:4:ARG:CD	37:L:4:ARG:N	2.78	0.47
37:L:66:GLU:HA	37:L:69:ARG:HH11	1.79	0.47
39:N:20:ILE:HG13	39:N:62:LEU:CD2	2.44	0.47
42:Q:54:VAL:O	42:Q:61:GLU:OE2	2.32	0.47
44:S:64:ARG:HA	44:S:64:ARG:NE	2.29	0.47
45:T:19:ASN:HB3	53:3:749:A:O2'	2.14	0.47
48:W:15:GLU:O	48:W:17:VAL:N	2.45	0.47
53:3:39:G:C2'	53:3:40:C:H5'	2.44	0.47
53:3:541:G:O2'	53:3:542:G:H5'	2.14	0.47
53:3:672:U:H2'	53:3:673:A:C8	2.49	0.47
53:3:1366:C:O5'	53:3:1366:C:H6	1.98	0.47
54:1:566:U:H2'	54:1:567:U:H6	1.79	0.47
54:1:1056:G:H1'	54:1:1103:A:N6	2.23	0.47
54:1:1810:A:H2'	54:1:1811:G:C4'	2.43	0.47
54:1:2150:C:H2'	54:1:2151:U:O4'	2.13	0.47
54:1:2321:U:H5"	54:1:2322:A:OP2	2.15	0.47
55:2:30:C:H2'	55:2:31:C:O4'	2.14	0.47
11:l:71:ALA:HA	11:l:74:THR:CG2	2.44	0.47
11:l:85:VAL:CG2	11:l:94:THR:HG22	2.45	0.47
12:m:69:PRO:O	12:m:93:VAL:O	2.31	0.47
14:o:25:ARG:HD2	14:o:93:ASP:HB2	1.95	0.47
32:G:182:VAL:HG23	32:G:195:VAL:HG13	1.95	0.47
34:I:118:SER:O	34:I:119:HIS:HD2	1.98	0.47
35:J:156:ARG:HG3	38:M:44:PHE:CD1	2.49	0.47
35:J:159:SER:HB3	35:J:162:GLU:OE2	2.13	0.47
36:K:38:ARG:HH22	36:K:99:ALA:CA	2.27	0.47
36:K:75:GLU:O	36:K:78:PHE:N	2.47	0.47
37:L:15:PRO:HG3	39:N:45:MET:HE2	1.96	0.47
38:M:79:ARG:HB2	38:M:82:LEU:H	1.78	0.47
44:S:63:CYS:HB3	44:S:67:GLY:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:T:81:ILE:HG13	45:T:82:GLU:N	2.28	0.47
46:U:47:GLU:O	46:U:48:GLU:HG2	2.14	0.47
52:a:44:VAL:HG12	52:a:214:ILE:HA	1.96	0.47
53:3:287:U:O2'	53:3:288:A:H5'	2.14	0.47
53:3:502:A:H2'	53:3:503:C:H6	1.75	0.47
54:1:520:G:H2'	54:1:521:U:C6	2.50	0.47
54:1:675:A:H2'	54:1:676:A:C8	2.49	0.47
54:1:736:C:H2'	54:1:737:C:C6	2.49	0.47
54:1:1516:G:O2'	54:1:1517:G:H5'	2.14	0.47
56:5:23:C:H2'	56:5:24:G:H8	1.79	0.47
56:5:70:C:H2'	56:5:71:C:H6	1.80	0.47
1:b:42:ARG:HH11	1:b:42:ARG:HG2	1.79	0.47
1:b:65:ASP:OD2	1:b:68:ARG:HA	2.14	0.47
3:d:45:ALA:HB3	54:1:38:A:H4'	1.96	0.47
4:e:6:TYR:O	4:e:11:VAL:HG23	2.14	0.47
11:l:100:ILE:HG13	11:l:101:ILE:CD1	2.45	0.47
16:q:20:ALA:HB1	16:q:28:SER:HA	1.95	0.47
20:u:98:ASN:O	20:u:99:SER:HB3	2.13	0.47
23:x:2:ARG:NH1	54:1:1365:A:OP1	2.48	0.47
31:F:18:LYS:HZ2	31:F:21:GLY:HA2	1.78	0.47
36:K:43:GLY:HA2	36:K:58:HIS:HE1	1.78	0.47
36:K:50:PRO:HG3	36:K:55:HIS:NE2	2.29	0.47
37:L:90:VAL:HG22	37:L:91:ARG:H	1.79	0.47
41:P:46:ALA:O	41:P:48:GLY:N	2.48	0.47
47:V:16:MET:HE3	47:V:19:SER:HB2	1.95	0.47
48:W:14:ALA:HB3	48:W:47:ARG:CZ	2.44	0.47
53:3:60:A:H2	53:3:107:G:N3	2.12	0.47
53:3:540:G:H2'	53:3:541:G:C8	2.50	0.47
53:3:1276:G:H2'	53:3:1277:C:C6	2.49	0.47
53:3:1340:A:C2'	53:3:1341:U:H5'	2.44	0.47
53:3:1465:A:H2'	53:3:1466:C:H6	1.80	0.47
54:1:558:U:H2'	54:1:559:G:C8	2.48	0.47
54:1:771:G:O2'	54:1:772:C:H5'	2.13	0.47
54:1:1258:U:H2'	54:1:1259:G:C8	2.49	0.47
54:1:1477:A:H2'	54:1:1478:G:O4'	2.14	0.47
54:1:1906:G:H2'	54:1:1907:G:C5'	2.40	0.47
54:1:2026:U:H2'	54:1:2027:G:O4'	2.14	0.47
54:1:2105:U:H2'	54:1:2106:U:O4'	2.14	0.47
1:b:124:LYS:HG3	1:b:125:PRO:HD2	1.96	0.47
1:b:269:ARG:NH1	1:b:271:SER:HB2	2.29	0.47
3:d:193:VAL:O	3:d:197:GLU:N	2.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:98:PHE:O	4:e:101:ARG:HG2	2.14	0.47
4:e:111:ARG:H	4:e:111:ARG:HD3	1.78	0.47
8:i:120:ASP:HB2	8:i:123:ALA:HB3	1.96	0.47
8:i:133:ARG:HG2	54:1:1077:A:O2'	2.15	0.47
11:l:63:LYS:HE2	54:1:2394:C:H5"	1.95	0.47
13:n:8:ARG:C	13:n:10:LEU:HD12	2.39	0.47
13:n:78:LYS:HA	13:n:82:GLU:OE1	2.15	0.47
14:o:2:ASP:HB3	14:o:5:SER:CB	2.42	0.47
16:q:40:LYS:HA	16:q:43:GLN:CG	2.43	0.47
19:t:61:LEU:HD21	19:t:82:LYS:HE3	1.95	0.47
21:v:89:ILE:HG21	21:v:91:PHE:CZ	2.49	0.47
24:y:9:LYS:HG2	24:y:10:SER:N	2.29	0.47
34:I:28:ASP:O	34:I:30:LYS:HG2	2.15	0.47
34:I:195:ASN:CG	34:I:198:LEU:HD23	2.40	0.47
40:O:53:ILE:HG22	40:O:61:ALA:O	2.14	0.47
42:Q:47:ALA:HB3	42:Q:49:ARG:NE	2.30	0.47
47:V:10:ARG:HH11	47:V:10:ARG:CB	2.28	0.47
47:V:18:LYS:O	47:V:46:HIS:HB2	2.15	0.47
50:Y:78:LEU:O	50:Y:82:ILE:N	2.47	0.47
52:a:30:LEU:HD21	52:a:178:VAL:HG12	1.97	0.47
53:3:505:G:H2'	53:3:506:G:C8	2.48	0.47
53:3:1401:G:C2'	53:3:1402:C:H5'	2.42	0.47
54:1:49:A:C4'	54:1:50:U:H5'	2.44	0.47
54:1:705:A:O2'	54:1:706:A:H5'	2.14	0.47
54:1:1286:A:H1'	54:1:1288:G:OP2	2.15	0.47
54:1:1715:G:H2'	54:1:1743:G:O6	2.15	0.47
54:1:2273:A:H2'	54:1:2274:A:H8	1.79	0.47
54:1:2380:C:H2'	54:1:2381:A:C8	2.50	0.47
1:b:182:LYS:HB2	1:b:267:VAL:CG2	2.44	0.47
2:c:118:PHE:HA	2:c:164:GLN:HA	1.96	0.47
3:d:145:ASP:OD2	3:d:183:PHE:HA	2.13	0.47
5:f:24:THR:HG23	5:f:33:THR:HG22	1.97	0.47
7:h:12:VAL:O	7:h:16:SER:N	2.43	0.47
8:i:75:ALA:O	8:i:79:LEU:HD12	2.15	0.47
9:j:17:VAL:HB	9:j:139:VAL:HA	1.96	0.47
12:m:65:ILE:HG13	12:m:65:ILE:O	2.14	0.47
14:o:25:ARG:HD2	14:o:93:ASP:CB	2.44	0.47
14:o:94:ARG:NH2	14:o:94:ARG:CB	2.77	0.47
21:v:44:HIS:CD2	21:v:85:LYS:HD2	2.50	0.47
22:w:7:ARG:NH1	22:w:7:ARG:HB3	2.29	0.47
22:w:15:LYS:HB2	22:w:17:LEU:HD13	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:B:49:ARG:HB3	27:B:49:ARG:CZ	2.45	0.47
27:B:51:ARG:N	27:B:51:ARG:HD2	2.28	0.47
28:C:26:LYS:HE2	28:C:26:LYS:HA	1.96	0.47
33:H:18:ASN:N	44:S:90:GLY:O	2.40	0.47
35:J:108:GLY:N	53:3:9:G:H4'	2.14	0.47
35:J:160:VAL:O	35:J:164:LEU:HG	2.15	0.47
36:K:3:HIS:O	36:K:92:THR:HA	2.14	0.47
36:K:54:LEU:CG	36:K:55:HIS:N	2.77	0.47
39:N:11:ARG:NH2	53:3:1347:G:O6	2.48	0.47
39:N:53:LEU:HD13	39:N:97:LEU:HD11	1.96	0.47
42:Q:11:ARG:HB3	53:3:562:U:H1'	1.97	0.47
42:Q:58:ASN:OD1	42:Q:60:PHE:HB2	2.14	0.47
49:X:15:LEU:HA	49:X:18:VAL:CG2	2.45	0.47
49:X:59:VAL:HG11	49:X:73:PHE:HB2	1.96	0.47
52:a:47:ASN:O	52:a:211:LYS:N	2.46	0.47
53:3:16:A:C2'	53:3:17:U:H5'	2.45	0.47
53:3:112:G:H22	53:3:315:A:H2	1.62	0.47
53:3:148:G:H2'	53:3:149:A:C5'	2.39	0.47
53:3:338:A:H2'	53:3:339:C:O4'	2.14	0.47
53:3:655:A:H2'	53:3:656:G:H8	1.80	0.47
53:3:889:A:C4	53:3:891:U:C4	3.03	0.47
53:3:962:C:H1'	53:3:1201:A:N6	2.30	0.47
53:3:989:U:O2'	53:3:990:C:H5'	2.14	0.47
53:3:1525:G:O2'	53:3:1526:G:H5'	2.14	0.47
54:1:37:C:H2'	54:1:38:A:O4'	2.15	0.47
54:1:169:G:H2'	54:1:170:U:C6	2.50	0.47
54:1:222:A:N1	54:1:233:A:H5'	2.29	0.47
54:1:494:G:H2'	54:1:495:G:C8	2.50	0.47
54:1:687:C:C2	54:1:688:U:C6	3.03	0.47
54:1:719:C:H2'	54:1:720:U:C6	2.50	0.47
54:1:851:C:H2'	54:1:852:U:C6	2.50	0.47
54:1:957:C:O2'	54:1:959:A:H5"	2.14	0.47
54:1:1395:A:O2'	54:1:1397:U:OP2	2.31	0.47
54:1:1417:C:H2'	54:1:1418:G:O4'	2.15	0.47
54:1:1445:G:H2'	54:1:1446:C:H6	1.79	0.47
54:1:1550:C:H2'	54:1:1551:A:C8	2.50	0.47
54:1:1590:A:O2'	54:1:1591:A:H5'	2.14	0.47
54:1:2073:C:H2'	54:1:2074:U:H6	1.80	0.47
54:1:2176:A:C8	54:1:2177:C:H5	2.33	0.47
54:1:2243:U:C2	54:1:2244:U:C5	3.02	0.47
54:1:2528:U:H2'	54:1:2530:A:O5'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2588:G:C6	54:1:2589:A:C5	3.03	0.47
54:1:2818:U:O2'	54:1:2819:G:H5'	2.14	0.47
55:2:79:G:O2'	55:2:80:U:H5'	2.15	0.47
1:b:71:ASP:HA	1:b:117:SER:OG	2.15	0.47
4:e:165:GLY:O	4:e:168:LEU:N	2.48	0.47
9:j:114:LEU:O	9:j:118:MET:N	2.47	0.47
10:k:1:MET:SD	54:1:1665:A:H1'	2.55	0.47
15:p:112:ARG:HG3	15:p:112:ARG:NH1	2.30	0.47
29:D:18:PHE:O	29:D:21:ARG:N	2.47	0.47
33:H:5:HIS:HE1	33:H:7:ASN:HB3	1.78	0.47
33:H:9:ILE:HD12	44:S:97:LYS:HZ1	1.79	0.47
33:H:73:GLY:O	33:H:76:ILE:N	2.47	0.47
33:H:156:LEU:HD23	33:H:156:LEU:H	1.79	0.47
34:I:33:ILE:HG13	34:I:34:GLU:HG3	1.97	0.47
36:K:13:ASP:OD1	36:K:13:ASP:N	2.47	0.47
40:O:11:LYS:HA	40:O:71:LEU:HA	1.96	0.47
41:P:13:LYS:O	41:P:14:GLN:HB2	2.14	0.47
45:T:53:ARG:NH1	53:3:728:A:C8	2.83	0.47
52:a:51:ASP:CG	52:a:52:ALA:N	2.73	0.47
53:3:965:U:H5'	53:3:969:A:O4'	2.15	0.47
53:3:969:A:O2'	53:3:970:C:H5'	2.15	0.47
53:3:1059:C:O2'	53:3:1060:U:H5'	2.15	0.47
54:1:50:U:H3'	54:1:51:G:H5'	1.96	0.47
54:1:128:C:O2'	54:1:129:C:H5'	2.13	0.47
54:1:336:C:O2'	54:1:337:C:H5'	2.14	0.47
54:1:449:A:C2'	54:1:450:G:H5'	2.45	0.47
54:1:532:A:H2'	54:1:532:A:N3	2.30	0.47
54:1:675:A:C4	54:1:804:A:C2	3.03	0.47
54:1:770:G:C3'	54:1:771:G:H5"	2.44	0.47
54:1:1066:U:H3'	54:1:1067:A:H5'	1.97	0.47
54:1:1790:C:H2'	54:1:1791:A:N7	2.29	0.47
54:1:2027:G:O2'	54:1:2028:U:H5'	2.15	0.47
54:1:2246:G:H2'	54:1:2247:A:C8	2.50	0.47
1:b:24:HIS:HB2	1:b:79:ARG:HD2	1.97	0.47
1:b:131:MET:HE3	1:b:187:CYS:HB2	1.95	0.47
9:j:93:ILE:HA	9:j:97:PRO:HA	1.95	0.47
11:l:133:ALA:HA	11:l:136:GLU:OE1	2.15	0.47
14:o:27:VAL:HG21	14:o:40:ILE:HD12	1.97	0.47
24:y:2:LYS:CG	24:y:3:ALA:N	2.69	0.47
34:I:146:GLU:C	34:I:148:ALA:H	2.23	0.47
35:J:11:GLN:HB3	35:J:116:VAL:HG12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:26:VAL:HG13	37:L:27:ASN:N	2.29	0.47
37:L:65:LEU:O	37:L:65:LEU:HD23	2.15	0.47
37:L:90:VAL:HG21	37:L:95:ARG:HA	1.96	0.47
40:O:88:MET:O	40:O:90:LEU:N	2.47	0.47
41:P:95:THR:O	41:P:98:ALA:HB3	2.15	0.47
41:P:101:ALA:C	41:P:103:GLY:N	2.73	0.47
50:Y:2:ASN:CG	50:Y:3:ILE:N	2.73	0.47
50:Y:28:ARG:HG3	50:Y:28:ARG:NH1	2.28	0.47
53:3:52:C:H2'	53:3:53:A:C8	2.50	0.47
53:3:350:G:H2'	53:3:351:G:C8	2.49	0.47
53:3:634:C:H2'	53:3:635:A:C8	2.50	0.47
54:1:17:G:H2'	54:1:18:U:C6	2.50	0.47
54:1:279:A:H2'	54:1:280:U:O4'	2.15	0.47
54:1:1348:C:C5	54:1:1349:C:C5	3.03	0.47
54:1:1423:G:H2'	54:1:1424:G:H8	1.80	0.47
54:1:1788:C:O2'	54:1:1789:A:H5'	2.15	0.47
54:1:1915:U:H2'	54:1:1916:A:H5'	1.97	0.47
54:1:2041:U:H2'	54:1:2042:A:O4'	2.14	0.47
54:1:2160:C:H2'	54:1:2161:C:O4'	2.15	0.47
54:1:2232:C:H2'	54:1:2233:U:C5'	2.45	0.47
54:1:2233:U:H2'	54:1:2234:G:C8	2.50	0.47
54:1:2380:C:H2'	54:1:2381:A:H8	1.79	0.47
55:2:24:G:H4'	55:2:25:U:H5	1.80	0.47
57:6:14:A:H2'	57:6:15:G:C8	2.50	0.47
57:6:16:C:O2	57:6:60:U:H4'	2.15	0.47
1:b:204:LEU:HD12	1:b:209:ALA:CB	2.38	0.47
1:b:221:GLY:HA3	1:b:229:HIS:ND1	2.29	0.47
3:d:23:PHE:CE2	3:d:25:GLU:HA	2.49	0.47
3:d:161:ALA:CB	3:d:169:VAL:HG23	2.45	0.47
9:j:96:ARG:NH1	9:j:97:PRO:HG2	2.29	0.47
11:l:10:GLU:OE2	54:1:598:U:H5"	2.15	0.47
12:m:41:LEU:CD1	12:m:125:PRO:HD2	2.44	0.47
12:m:86:LYS:NZ	54:1:955:U:C5'	2.75	0.47
13:n:24:MET:O	13:n:27:SER:N	2.48	0.47
15:p:8:GLU:OE1	15:p:54:LEU:HB3	2.15	0.47
17:r:79:ARG:O	17:r:81:LYS:HG2	2.14	0.47
19:t:62:VAL:HG12	19:t:63:VAL:N	2.30	0.47
20:u:14:THR:HG22	20:u:18:LYS:CE	2.45	0.47
21:v:30:ILE:CD1	21:v:72:VAL:HG11	2.44	0.47
33:H:174:LEU:HD11	33:H:200:TRP:CD1	2.50	0.47
33:H:201:ILE:N	33:H:201:ILE:CD1	2.74	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:9:LYS:O	34:I:12:ARG:N	2.48	0.47
34:I:28:ASP:CG	34:I:29:THR:N	2.72	0.47
34:I:74:TYR:CZ	34:I:96:ARG:HD2	2.50	0.47
34:I:153:ARG:NH1	53:3:437:U:H4'	2.27	0.47
35:J:12:GLU:HA	35:J:38:VAL:HG12	1.95	0.47
37:L:69:ARG:HE	37:L:96:ASN:HB3	1.79	0.47
37:L:145:GLU:C	37:L:147:ASN:N	2.73	0.47
39:N:29:ILE:O	39:N:32:ARG:N	2.41	0.47
42:Q:11:ARG:HG3	42:Q:11:ARG:NH1	2.28	0.47
49:X:4:LEU:CD2	49:X:9:PHE:HB2	2.43	0.47
50:Y:11:ILE:O	50:Y:14:GLU:N	2.48	0.47
53:3:132:C:O2'	53:3:133:U:H5'	2.14	0.47
53:3:151:A:H2'	53:3:152:A:O4'	2.15	0.47
53:3:194:C:O2'	53:3:195:A:H5'	2.15	0.47
53:3:484:G:C4'	53:3:485:U:H5"	2.30	0.47
53:3:585:G:H2'	53:3:586:C:C6	2.48	0.47
53:3:1255:G:H2'	53:3:1279:G:H22	1.79	0.47
53:3:1301:U:O2	53:3:1301:U:H2'	2.15	0.47
53:3:1424:U:H2'	53:3:1425:U:C6	2.50	0.47
54:1:14:A:C6	54:1:526:A:C2	3.03	0.47
54:1:596:U:C2	54:1:597:G:C8	3.03	0.47
54:1:691:C:H2'	54:1:692:C:C6	2.50	0.47
54:1:728:G:C4	54:1:730:A:C8	3.03	0.47
54:1:832:U:H2'	54:1:833:A:C8	2.49	0.47
54:1:997:G:H2'	54:1:998:C:C6	2.49	0.47
54:1:1295:C:H2'	54:1:1296:G:H8	1.79	0.47
54:1:1400:U:H2'	54:1:1401:G:C8	2.50	0.47
54:1:1565:C:O2'	54:1:1566:A:C8	2.68	0.47
54:1:1588:G:O2'	54:1:1589:U:H5'	2.15	0.47
54:1:1594:U:H2'	54:1:1595:C:C6	2.49	0.47
54:1:1789:A:C4	54:1:1790:C:C5	3.03	0.47
54:1:2071:A:C6	54:1:2072:C:N4	2.83	0.47
54:1:2240:U:O2'	54:1:2241:A:H5'	2.15	0.47
54:1:2280:G:O2'	54:1:2281:A:H5'	2.15	0.47
54:1:2290:G:H2'	54:1:2291:U:O4'	2.15	0.47
54:1:2466:C:O2'	54:1:2467:C:H5'	2.14	0.47
1:b:42:ARG:HE	1:b:48:ILE:HG12	1.80	0.46
4:e:126:ASN:HD22	4:e:126:ASN:N	2.12	0.46
5:f:10:VAL:HG11	5:f:16:VAL:HG11	1.96	0.46
8:i:72:THR:HG22	8:i:73:PRO:O	2.15	0.46
12:m:66:ARG:HB2	12:m:101:VAL:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:q:61:ILE:O	16:q:64:ILE:N	2.48	0.46
21:v:4:ILE:HD12	21:v:4:ILE:N	2.30	0.46
21:v:21:ARG:CD	21:v:87:GLN:OE1	2.61	0.46
22:w:8:ASN:ND2	54:1:2278:A:H5"	2.30	0.46
23:x:5:GLN:OE1	23:x:5:GLN:HA	2.14	0.46
26:A:33:ASN:CG	26:A:34:LEU:N	2.72	0.46
34:I:122:ILE:HD12	34:I:143:SER:O	2.14	0.46
37:L:4:ARG:HD2	37:L:4:ARG:N	2.30	0.46
37:L:110:ARG:O	37:L:118:ARG:HD3	2.15	0.46
40:O:7:ARG:HG3	40:O:75:ASP:CG	2.40	0.46
41:P:99:LEU:HA	41:P:102:ALA:HB3	1.97	0.46
44:S:63:CYS:HA	44:S:72:PHE:HE1	1.80	0.46
49:X:52:ASN:HB3	49:X:55:GLN:H	1.80	0.46
52:a:60:ARG:HD3	52:a:164:ARG:HG2	1.97	0.46
53:3:536:C:O2	53:3:536:C:H2'	2.14	0.46
53:3:917:G:H2'	53:3:918:A:C8	2.50	0.46
53:3:918:A:H2'	53:3:919:A:H8	1.78	0.46
53:3:1169:A:H2'	53:3:1170:A:C8	2.49	0.46
54:1:492:A:H8	54:1:492:A:O5'	1.98	0.46
54:1:1182:G:H2'	54:1:1183:U:C6	2.50	0.46
54:1:1722:A:H2'	54:1:1723:G:C8	2.50	0.46
54:1:2172:U:H5"	54:1:2175:C:H5	1.80	0.46
54:1:2265:U:C2	54:1:2266:A:N7	2.82	0.46
54:1:2686:G:H2'	54:1:2687:U:O4'	2.15	0.46
54:1:2854:G:H2'	54:1:2855:C:C6	2.50	0.46
1:b:42:ARG:N	1:b:42:ARG:HD2	2.29	0.46
1:b:143:VAL:O	1:b:152:GLN:N	2.36	0.46
1:b:259:ASN:C	1:b:261:ARG:N	2.74	0.46
7:h:37:LYS:HD2	7:h:54:VAL:CG1	2.33	0.46
10:k:39:ILE:HG13	10:k:41:ILE:CG2	2.46	0.46
11:l:111:ILE:HD11	54:1:636:G:C6	2.51	0.46
14:o:3:LYS:HE3	55:2:47:C:OP2	2.15	0.46
19:t:54:GLU:OE1	19:t:54:GLU:N	2.45	0.46
22:w:30:GLY:N	22:w:57:ALA:O	2.42	0.46
26:A:19:GLY:O	26:A:21:VAL:N	2.48	0.46
29:D:10:LEU:HD23	54:1:770:G:H5"	1.96	0.46
35:J:55:VAL:HG23	35:J:56:PRO:CD	2.45	0.46
35:J:61:LYS:HE3	53:3:1072:G:OP1	2.15	0.46
35:J:76:ASN:HB2	35:J:81:GLN:CD	2.39	0.46
37:L:135:LYS:O	37:L:139:ASP:HB2	2.15	0.46
42:Q:75:GLU:HG3	42:Q:76:HIS:ND1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y:8:LYS:C	50:Y:10:ALA:N	2.69	0.46
51:Z:52:VAL:HG11	53:3:723:U:O4	2.15	0.46
53:3:39:G:H2'	53:3:40:C:C5'	2.45	0.46
53:3:110:C:H2'	53:3:111:G:O4'	2.15	0.46
53:3:1095:U:P	53:3:1108:G:H1	2.38	0.46
53:3:1346:A:N1	53:3:1374:A:H5"	2.31	0.46
53:3:1413:A:H2'	53:3:1414:U:H5'	1.96	0.46
54:1:546:U:H2'	54:1:547:A:O4'	2.14	0.46
54:1:564:C:N4	54:1:565:C:N4	2.62	0.46
54:1:565:C:H5'	54:1:1253:A:N6	2.30	0.46
54:1:735:A:C8	54:1:736:C:C5	3.03	0.46
54:1:1178:C:O2'	54:1:1179:G:H8	1.98	0.46
54:1:1823:G:C4	54:1:1824:G:C8	3.04	0.46
54:1:1922:G:N9	54:1:1923:U:H1'	2.30	0.46
54:1:2526:G:H2'	54:1:2527:C:C6	2.49	0.46
54:1:2834:G:H2'	54:1:2879:A:N6	2.30	0.46
1:b:52:HIS:CE1	54:1:1824:G:OP2	2.68	0.46
4:e:106:ALA:O	4:e:110:ILE:N	2.48	0.46
10:k:94:PRO:HD2	10:k:114:LYS:HE2	1.97	0.46
14:o:24:THR:HG23	14:o:40:ILE:O	2.16	0.46
17:r:5:PHE:CE1	17:r:12:HIS:HB2	2.51	0.46
23:x:16:ASN:HB2	23:x:26:ARG:HB2	1.97	0.46
32:G:208:ALA:O	32:G:211:LEU:HB3	2.15	0.46
37:L:78:ARG:HH12	53:3:1382:C:H1'	1.79	0.46
40:O:66:GLU:OE1	40:O:68:ARG:HB2	2.15	0.46
44:S:84:ARG:HH12	53:3:1059:C:H4'	1.81	0.46
49:X:62:THR:H	49:X:65:MET:HE3	1.80	0.46
50:Y:43:LYS:CB	50:Y:86:ALA:HB2	2.43	0.46
51:Z:16:ARG:NH1	51:Z:16:ARG:CB	2.77	0.46
53:3:321:A:H4'	53:3:1436:U:H5'	1.97	0.46
54:1:952:G:C6	54:1:966:G:C6	3.03	0.46
54:1:1152:C:O2'	54:1:1153:C:H5'	2.14	0.46
54:1:1400:U:H2'	54:1:1401:G:H8	1.80	0.46
54:1:1951:U:O2	54:1:1953:A:H8	1.98	0.46
54:1:2026:U:O5'	54:1:2026:U:H6	1.98	0.46
54:1:2232:C:O2'	54:1:2233:U:H5'	2.15	0.46
1:b:180:MET:O	1:b:267:VAL:HB	2.16	0.46
2:c:112:THR:HA	2:c:169:ARG:HA	1.97	0.46
5:f:174:LYS:HG2	54:1:2529:G:H4'	1.97	0.46
6:g:47:PHE:C	6:g:49:ALA:H	2.22	0.46
12:m:73:ILE:HB	12:m:91:TYR:CE2	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:103:ARG:HE	54:1:1287:A:H5'	1.80	0.46
14:o:38:GLN:OE1	55:2:7:G:H1'	2.15	0.46
16:q:101:ASP:OD1	16:q:103:VAL:HB	2.15	0.46
33:H:35:ASP:O	33:H:38:VAL:HG22	2.15	0.46
34:I:167:PRO:HB2	34:I:170:LEU:HG	1.97	0.46
36:K:50:PRO:HD3	36:K:55:HIS:HE2	1.81	0.46
37:L:55:LYS:HD2	37:L:60:ALA:CB	2.36	0.46
37:L:122:GLU:HA	37:L:125:ASP:OD2	2.15	0.46
42:Q:13:ARG:HG2	42:Q:15:VAL:HA	1.96	0.46
42:Q:85:ARG:HD2	42:Q:93:ARG:HA	1.97	0.46
49:X:51:HIS:CD2	53:3:1220:G:H1'	2.50	0.46
52:a:23:ILE:HG23	52:a:24:ASN:H	1.80	0.46
53:3:129:A:H2	53:3:232:G:H22	1.61	0.46
53:3:636:U:H2'	53:3:637:C:H6	1.80	0.46
53:3:889:A:O4'	53:3:891:U:C6	2.68	0.46
54:1:226:A:H3'	54:1:227:A:H8	1.81	0.46
54:1:552:U:H2'	54:1:553:G:C8	2.51	0.46
54:1:785:G:C4	54:1:786:C:C5	3.04	0.46
54:1:1482:G:C6	54:1:1508:A:C2	3.03	0.46
54:1:1829:A:C3'	54:1:1830:C:H6	2.28	0.46
54:1:1975:G:C5	54:1:1976:U:C5	3.04	0.46
54:1:2083:G:C5	54:1:2084:C:C5	3.03	0.46
54:1:2143:C:O2'	54:1:2144:G:H5'	2.16	0.46
54:1:2514:U:H2'	54:1:2515:C:H6	1.76	0.46
56:5:1:C:H2'	56:5:2:G:C8	2.50	0.46
56:5:37:G:H2'	56:5:38:A:O4'	2.16	0.46
1:b:51:ARG:NH1	1:b:52:HIS:HD2	2.14	0.46
5:f:114:HIS:CG	5:f:115:GLN:H	2.33	0.46
15:p:109:ILE:N	15:p:109:ILE:CD1	2.79	0.46
24:y:6:LEU:HD23	24:y:56:LEU:HD22	1.98	0.46
25:z:5:LYS:O	25:z:6:ILE:HD13	2.16	0.46
26:A:43:PHE:CG	26:A:44:PHE:N	2.82	0.46
29:D:30:VAL:O	29:D:33:ARG:N	2.48	0.46
33:H:54:ILE:O	33:H:54:ILE:HG13	2.16	0.46
34:I:154:VAL:HA	34:I:157:ALA:HB3	1.96	0.46
37:L:145:GLU:C	37:L:147:ASN:H	2.24	0.46
38:M:94:VAL:HG11	38:M:127:TYR:HB3	1.98	0.46
38:M:124:ILE:HD12	38:M:124:ILE:N	2.29	0.46
39:N:53:LEU:HD13	39:N:97:LEU:CD1	2.46	0.46
45:T:63:ARG:HH11	45:T:63:ARG:HG2	1.81	0.46
48:W:41:SER:HB2	48:W:51:GLN:CD	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:21:ALA:CB	49:X:30:LEU:HD21	2.46	0.46
51:Z:33:ARG:HG2	51:Z:33:ARG:HH11	1.80	0.46
53:3:66:A:H4'	53:3:173:U:C5	2.50	0.46
53:3:855:U:H2'	53:3:856:C:C6	2.50	0.46
53:3:1221:G:H2'	53:3:1222:G:C8	2.50	0.46
53:3:1518:A:H2'	53:3:1519:A:N9	2.29	0.46
54:1:256:A:O2'	54:1:257:C:H5'	2.15	0.46
54:1:768:G:O2'	54:1:769:U:H5'	2.15	0.46
54:1:1106:G:O2'	54:1:1107:G:H5'	2.15	0.46
54:1:1480:C:H2'	54:1:1481:U:O4'	2.14	0.46
54:1:1706:C:O2'	54:1:1757:A:H5'	2.16	0.46
54:1:1801:A:H5"	54:1:2203:U:O2'	2.16	0.46
54:1:1829:A:H3'	54:1:1830:C:C5	2.51	0.46
54:1:1891:G:H2'	54:1:1892:C:C6	2.50	0.46
54:1:2725:A:C2'	54:1:2726:A:H2'	2.46	0.46
3:d:111:GLU:O	3:d:114:ARG:N	2.49	0.46
5:f:64:ALA:O	5:f:67:ALA:HB3	2.16	0.46
9:j:30:THR:HG21	54:1:1005:C:O2'	2.16	0.46
11:l:80:SER:O	11:l:82:LEU:N	2.45	0.46
11:l:129:LYS:HE2	11:l:129:LYS:CA	2.42	0.46
13:n:38:LEU:HB3	13:n:39:PRO:HD3	1.96	0.46
15:p:26:GLU:HB2	15:p:43:GLU:OE1	2.15	0.46
15:p:97:TYR:C	15:p:99:LEU:N	2.72	0.46
16:q:5:ARG:HD2	54:1:1250:G:H5"	1.96	0.46
18:s:78:GLU:OE2	54:1:517:C:H1'	2.15	0.46
18:s:84:ARG:CB	18:s:96:ILE:HD11	2.46	0.46
22:w:20:LYS:HE2	22:w:20:LYS:CA	2.46	0.46
26:A:37:CYS:H	26:A:41:HIS:CB	2.29	0.46
32:G:99:MET:C	32:G:100:LEU:HD22	2.40	0.46
34:I:176:LYS:HB2	34:I:178:GLU:OE1	2.15	0.46
39:N:20:ILE:HG13	39:N:62:LEU:HD23	1.97	0.46
40:O:37:ARG:HG2	40:O:75:ASP:O	2.15	0.46
44:S:15:LEU:HD12	44:S:53:ASP:HB2	1.98	0.46
45:T:74:VAL:HG12	45:T:78:THR:HG23	1.97	0.46
45:T:79:GLN:HE21	45:T:80:LEU:HB2	1.80	0.46
46:U:1:MET:HG3	53:3:135:C:O2	2.15	0.46
46:U:4:ILE:N	46:U:66:THR:O	2.48	0.46
52:a:43:ASP:HA	52:a:173:THR:O	2.16	0.46
52:a:64:VAL:HA	52:a:160:GLN:HG3	1.97	0.46
52:a:189:LEU:HD12	52:a:192:LEU:HD22	1.98	0.46
53:3:25:C:H2'	53:3:26:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:62:U:H2'	53:3:63:C:H6	1.77	0.46
53:3:550:G:H2'	53:3:551:U:H6	1.81	0.46
53:3:591:U:H2'	53:3:592:G:H8	1.81	0.46
53:3:981:U:O5'	53:3:981:U:H6	1.99	0.46
53:3:1530:G:H2'	53:3:1531:A:C8	2.51	0.46
54:1:133:U:O2'	54:1:134:G:H5'	2.16	0.46
54:1:195:A:H2'	54:1:198:C:N4	2.31	0.46
54:1:576:U:OP1	54:1:2503:A:OP1	2.33	0.46
54:1:1199:U:H2'	54:1:1200:C:C6	2.51	0.46
54:1:1301:A:H2'	54:1:1301:A:N3	2.30	0.46
54:1:1593:A:H2'	54:1:1594:U:C6	2.50	0.46
54:1:1770:G:H2'	54:1:1771:C:O4'	2.15	0.46
54:1:1900:A:H1'	54:1:1970:A:H2'	1.98	0.46
54:1:2043:C:H1'	54:1:2779:U:O4	2.14	0.46
54:1:2534:A:C2	54:1:2535:G:H1'	2.50	0.46
1:b:124:LYS:H	1:b:191:LEU:HD13	1.80	0.46
2:c:24:VAL:HG12	2:c:190:LYS:HA	1.97	0.46
2:c:184:ARG:HB2	2:c:186:LEU:HD23	1.97	0.46
4:e:35:LEU:HD13	4:e:88:VAL:HG13	1.96	0.46
10:k:40:LYS:HE3	54:1:2562:U:OP1	2.15	0.46
14:o:56:LYS:HA	14:o:59:ALA:HB3	1.96	0.46
18:s:52:GLU:O	18:s:55:ILE:N	2.49	0.46
20:u:72:PHE:CZ	20:u:74:ALA:HA	2.50	0.46
26:A:37:CYS:N	26:A:41:HIS:HB2	2.31	0.46
32:G:124:THR:HA	32:G:127:LYS:NZ	2.31	0.46
32:G:139:GLU:HA	32:G:142:LYS:HB3	1.98	0.46
33:H:22:PHE:CD2	40:O:97:ASP:HB2	2.51	0.46
33:H:71:ARG:HD3	33:H:71:ARG:N	2.31	0.46
36:K:75:GLU:HA	36:K:78:PHE:HD2	1.80	0.46
39:N:29:ILE:HG22	39:N:64:ILE:HB	1.98	0.46
41:P:64:VAL:HA	41:P:67:GLU:OE1	2.16	0.46
43:R:97:ARG:HD2	53:3:1308:U:OP2	2.16	0.46
43:R:102:LYS:HD2	53:3:1226:C:N4	2.29	0.46
46:U:51:ARG:HD2	46:U:52:LEU:N	2.31	0.46
51:Z:3:ILE:HG23	51:Z:4:LYS:H	1.80	0.46
51:Z:36:PHE:HB3	51:Z:39:LYS:HB2	1.97	0.46
51:Z:59:LEU:HD12	51:Z:59:LEU:N	2.31	0.46
52:a:178:VAL:HG11	52:a:216:THR:HG21	1.98	0.46
53:3:1163:A:H2'	53:3:1164:G:H8	1.81	0.46
53:3:1326:U:O2'	53:3:1327:C:H5'	2.16	0.46
54:1:4:U:H2'	54:1:5:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:467:G:C2’	54:1:468:G:H5’	2.46	0.46
54:1:576:U:H2’	54:1:577:G:C8	2.50	0.46
54:1:768:G:H2’	54:1:769:U:H6	1.81	0.46
54:1:877:A:H1’	54:1:900:A:N6	2.31	0.46
54:1:1045:C:H1’	54:1:1047:G:N2	2.30	0.46
54:1:1344:U:H4’	54:1:1384:A:N7	2.31	0.46
54:1:1631:G:H1’	54:1:1635:A:H61	1.79	0.46
54:1:1646:C:H5”	54:1:1647:U:C5’	2.45	0.46
54:1:2232:C:H2’	54:1:2233:U:H5’	1.97	0.46
54:1:2283:C:C4	54:1:2389:G:C5	3.04	0.46
54:1:2875:C:H2’	54:1:2876:G:H8	1.81	0.46
55:2:59:A:H2’	55:2:60:C:C6	2.50	0.46
1:b:13:ARG:NH1	1:b:13:ARG:HB2	2.30	0.46
1:b:130:PRO:C	1:b:132:ARG:H	2.23	0.46
2:c:119:ALA:HB3	2:c:165:MET:HB3	1.98	0.46
3:d:45:ALA:CB	54:1:38:A:H4’	2.46	0.46
4:e:98:PHE:HA	4:e:101:ARG:HE	1.81	0.46
5:f:71:LEU:HD23	5:f:71:LEU:C	2.40	0.46
7:h:59:LEU:HD21	54:1:1047:G:C8	2.51	0.46
9:j:45:THR:HG22	9:j:47:HIS:H	1.80	0.46
10:k:92:GLU:O	10:k:93:GLN:C	2.59	0.46
12:m:46:ILE:N	12:m:46:ILE:HD12	2.31	0.46
19:t:61:LEU:HD11	19:t:82:LYS:CE	2.43	0.46
28:C:25:ASN:OD1	28:C:28:THR:HG23	2.16	0.46
36:K:4:TYR:CD2	36:K:90:MET:O	2.68	0.46
37:L:47:GLU:HG3	37:L:57:GLU:OE1	2.15	0.46
40:O:45:ARG:HG2	40:O:47:GLU:OE2	2.16	0.46
40:O:56:HIS:CG	40:O:57:VAL:H	2.34	0.46
43:R:12:LYS:HD2	43:R:17:ALA:HB2	1.98	0.46
44:S:73:LEU:C	44:S:75:LYS:N	2.71	0.46
49:X:63:ASP:CG	49:X:64:GLU:N	2.74	0.46
52:a:200:LYS:HD3	52:a:200:LYS:C	2.41	0.46
53:3:197:A:H4’	53:3:198:G:O5’	2.16	0.46
53:3:556:C:H2’	53:3:557:G:O4’	2.16	0.46
53:3:952:U:H2’	53:3:953:G:C8	2.50	0.46
53:3:1499:A:N3	53:3:1500:A:C8	2.84	0.46
54:1:3:U:H2’	54:1:4:U:C6	2.51	0.46
54:1:257:C:H3’	54:1:258:G:H8	1.81	0.46
54:1:326:G:H2’	54:1:327:G:C8	2.51	0.46
54:1:717:C:H3’	54:1:718:A:H8	1.81	0.46
54:1:753:A:O2’	54:1:754:U:H5’	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1258:U:H2'	54:1:1259:G:H8	1.80	0.46
54:1:1357:C:H2'	54:1:1358:G:O4'	2.15	0.46
54:1:1824:G:O2'	54:1:1825:U:H5'	2.16	0.46
54:1:2071:A:C5	54:1:2072:C:C5	3.03	0.46
54:1:2428:G:H5"	54:1:2429:G:O5'	2.15	0.46
54:1:2444:G:H3'	54:1:2445:G:H5"	1.98	0.46
54:1:2750:A:H8	54:1:2750:A:OP1	1.98	0.46
1:b:49:THR:OG1	54:1:1805:A:N3	2.49	0.46
1:b:157:ALA:HB3	54:1:1820:U:O2'	2.16	0.46
3:d:43:THR:HB	54:1:38:A:N3	2.31	0.46
3:d:48:THR:C	3:d:50:ALA:H	2.23	0.46
4:e:24:VAL:C	4:e:26:GLN:H	2.24	0.46
5:f:29:ASN:HB3	5:f:78:VAL:HA	1.97	0.46
6:g:15:LEU:HD12	6:g:15:LEU:C	2.41	0.46
9:j:28:LEU:HG	9:j:32:LEU:HD11	1.98	0.46
14:o:16:ARG:HG2	54:1:2334:U:N3	2.31	0.46
32:G:22:TRP:CD1	32:G:22:TRP:H	2.34	0.46
37:L:60:ALA:HA	37:L:63:VAL:HB	1.98	0.46
39:N:105:ARG:HD2	39:N:105:ARG:O	2.15	0.46
45:T:61:GLN:CD	45:T:61:GLN:C	2.83	0.46
50:Y:52:GLU:O	50:Y:55:PRO:HD2	2.16	0.46
53:3:129:A:O2'	53:3:130:A:H5"	2.16	0.46
53:3:608:A:C4	53:3:609:A:C8	3.04	0.46
53:3:950:U:H2'	53:3:951:G:C8	2.51	0.46
53:3:969:A:H2'	53:3:970:C:O4'	2.16	0.46
53:3:1055:A:H8	53:3:1055:A:O5'	1.99	0.46
53:3:1277:C:H1'	53:3:1282:C:O2	2.16	0.46
54:1:591:U:H2'	54:1:592:A:C8	2.51	0.46
54:1:679:C:H2'	54:1:680:C:C6	2.50	0.46
54:1:858:G:C5	54:1:2268:A:C2	3.04	0.46
54:1:1112:G:H2'	54:1:1113:U:H6	1.79	0.46
54:1:1356:G:H2'	54:1:1357:C:H6	1.80	0.46
54:1:1442:U:H2'	54:1:1443:U:C6	2.51	0.46
54:1:1589:U:H2'	54:1:1590:A:C8	2.50	0.46
54:1:1688:U:H2'	54:1:1698:A:N6	2.31	0.46
54:1:2265:U:N3	54:1:2266:A:C5	2.84	0.46
55:2:5:U:O2'	55:2:6:G:H5'	2.15	0.46
5:f:75:VAL:O	5:f:78:VAL:HG22	2.16	0.46
12:m:31:PHE:HB3	12:m:130:PHE:HE1	1.80	0.46
15:p:102:ARG:HD3	15:p:106:ALA:HB1	1.97	0.46
22:w:70:PRO:C	22:w:71:LYS:HD3	2.41	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:4:CYS:N	23:x:32:LEU:HD11	2.30	0.46
23:x:66:VAL:O	23:x:70:LEU:HD13	2.15	0.46
27:B:24:VAL:HG13	27:B:25:THR:N	2.31	0.46
32:G:169:HIS:O	32:G:173:LYS:HG2	2.16	0.46
36:K:10:VAL:HG12	36:K:84:VAL:HG22	1.97	0.46
36:K:62:MET:HB3	36:K:64:VAL:HG13	1.97	0.46
39:N:108:ARG:NH1	53:3:1347:G:C4	2.83	0.46
39:N:108:ARG:HD2	53:3:1346:A:O2'	2.16	0.46
42:Q:74:GLN:O	42:Q:75:GLU:C	2.59	0.46
50:Y:78:LEU:HA	50:Y:81:GLN:HB2	1.97	0.46
52:a:27:ILE:HG21	52:a:186:LYS:HA	1.97	0.46
53:3:766:A:N6	53:3:814:A:C8	2.84	0.46
53:3:1202:U:H2'	53:3:1203:C:O4'	2.16	0.46
53:3:1282:C:O5'	53:3:1282:C:H6	1.99	0.46
54:1:50:U:H3'	54:1:51:G:C5'	2.46	0.46
54:1:383:C:O2	54:1:383:C:H2'	2.16	0.46
54:1:419:U:H2'	54:1:420:C:H6	1.77	0.46
54:1:1452:G:H8	54:1:1452:G:H5"	1.81	0.46
54:1:1697:G:H3'	54:1:1698:A:H5"	1.98	0.46
54:1:1827:U:H6	54:1:1827:U:O5'	1.98	0.46
54:1:2460:U:H2'	54:1:2461:A:O4'	2.15	0.46
54:1:2467:C:H2'	54:1:2468:A:O4'	2.15	0.46
54:1:2725:A:HO2'	54:1:2726:A:H2'	1.80	0.46
1:b:57:HIS:CD2	1:b:58:LYS:H	2.34	0.45
2:c:133:THR:HG23	2:c:134:HIS:CG	2.50	0.45
2:c:141:ARG:HH11	2:c:141:ARG:HG2	1.81	0.45
4:e:7:TYR:HA	4:e:11:VAL:HB	1.98	0.45
8:i:124:MET:HE2	54:1:1081:U:O2'	2.16	0.45
10:k:93:GLN:CG	10:k:114:LYS:HE3	2.46	0.45
12:m:41:LEU:HD21	12:m:126:ILE:CD1	2.47	0.45
16:q:69:ARG:HG2	16:q:69:ARG:HH21	1.80	0.45
17:r:68:ARG:HH22	17:r:90:ARG:HD3	1.81	0.45
30:E:1:PRO:HB2	54:1:591:U:H1'	1.98	0.45
32:G:19:THR:HG21	32:G:21:TYR:O	2.15	0.45
32:G:113:LEU:CA	32:G:143:LEU:HD23	2.46	0.45
32:G:187:ASP:C	32:G:189:ASN:H	2.25	0.45
33:H:41:TYR:CD2	33:H:42:LEU:HD23	2.51	0.45
37:L:137:ARG:HG2	37:L:137:ARG:HH11	1.81	0.45
40:O:70:HIS:ND1	53:3:1152:A:OP1	2.49	0.45
42:Q:32:VAL:HA	42:Q:78:VAL:HG23	1.97	0.45
42:Q:72:ASN:HD21	42:Q:104:SER:H	1.62	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:189:LEU:HD21	52:a:212:VAL:HB	1.98	0.45
53:3:229:U:H2'	53:3:230:G:C8	2.51	0.45
53:3:561:U:H2'	53:3:561:U:O2	2.16	0.45
53:3:711:G:O2'	53:3:712:A:H5'	2.15	0.45
53:3:950:U:H2'	53:3:951:G:H8	1.80	0.45
54:1:195:A:H2'	54:1:198:C:H41	1.81	0.45
54:1:573:U:O4	54:1:2030:A:H3'	2.16	0.45
54:1:1120:G:H2'	54:1:1121:C:H6	1.80	0.45
54:1:1307:A:C2	54:1:1622:G:C4	3.03	0.45
54:1:1681:G:N3	54:1:1762:A:H2'	2.31	0.45
54:1:1922:G:H2'	54:1:1923:U:C1'	2.46	0.45
54:1:1922:G:C2'	54:1:1923:U:H4'	2.41	0.45
54:1:2357:G:N2	54:1:2360:G:OP2	2.48	0.45
54:1:2660:A:H2'	54:1:2661:G:O4'	2.15	0.45
57:6:17:C:H3'	57:6:17(A):U:C6	2.51	0.45
1:b:107:LYS:N	1:b:193:GLU:O	2.46	0.45
2:c:133:THR:OG1	54:1:1675:C:C2	2.69	0.45
2:c:151:THR:HG22	2:c:152:PRO:HD3	1.97	0.45
2:c:157:LYS:HG2	54:1:2619:C:H5"	1.98	0.45
3:d:119:ILE:HB	3:d:186:VAL:O	2.17	0.45
4:e:35:LEU:HD12	4:e:35:LEU:N	2.31	0.45
4:e:68:LYS:HG2	4:e:69:ALA:N	2.31	0.45
7:h:35:VAL:HG13	54:1:1057:A:O2'	2.16	0.45
10:k:61:VAL:HG13	10:k:85:VAL:CG1	2.46	0.45
18:s:32:ALA:HB1	18:s:51:LEU:HD11	1.98	0.45
20:u:91:LYS:NZ	54:1:297:G:OP1	2.48	0.45
23:x:19:HIS:HB3	54:1:2080:A:OP1	2.16	0.45
27:B:9:ARG:CB	27:B:9:ARG:CZ	2.94	0.45
32:G:69:VAL:HA	32:G:91:VAL:HG23	1.99	0.45
32:G:224:ARG:HG2	32:G:225:SER:N	2.30	0.45
37:L:147:ASN:C	37:L:149:ALA:N	2.74	0.45
38:M:78:SER:HB2	38:M:124:ILE:O	2.15	0.45
39:N:113:LYS:HD3	53:3:1368:A:OP2	2.16	0.45
40:O:53:ILE:HG13	44:S:84:ARG:CD	2.45	0.45
46:U:19:VAL:HG13	46:U:37:GLY:C	2.41	0.45
50:Y:76:ALA:O	50:Y:77:ASN:C	2.58	0.45
51:Z:9:GLU:O	51:Z:11:PHE:CD1	2.67	0.45
52:a:27:ILE:HG23	52:a:185:LEU:HB2	1.97	0.45
53:3:1347:G:O2'	53:3:1348:U:C5	2.70	0.45
53:3:1519:A:OP2	53:3:1519:A:C8	2.67	0.45
54:1:186:G:O2'	54:1:187:G:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:934:U:H2'	54:1:935:C:C6	2.51	0.45
54:1:1047:G:H1'	54:1:1111:A:H62	1.82	0.45
54:1:2376:A:H2'	54:1:2377:A:O4'	2.16	0.45
1:b:83:ASP:HB2	1:b:90:ILE:CG2	2.45	0.45
1:b:130:PRO:CA	1:b:188:ARG:HG2	2.47	0.45
3:d:78:TRP:N	3:d:78:TRP:CD1	2.84	0.45
5:f:61:TRP:HA	5:f:61:TRP:CE3	2.52	0.45
6:g:1:MET:H2	6:g:21:VAL:H	1.64	0.45
11:l:21:ARG:HA	54:1:811:U:H2'	1.98	0.45
11:l:40:SER:O	54:1:671:C:N4	2.49	0.45
12:m:17:ASN:ND2	12:m:17:ASN:C	2.75	0.45
17:r:8:GLY:C	17:r:10:LYS:H	2.22	0.45
18:s:14:ALA:O	18:s:18:ARG:HB2	2.16	0.45
18:s:80:PRO:HB3	54:1:26:G:OP1	2.16	0.45
19:t:65:GLY:N	19:t:79:ASP:OD1	2.50	0.45
23:x:70:LEU:HD12	23:x:70:LEU:N	2.32	0.45
30:E:33:THR:HG22	30:E:34:LYS:N	2.30	0.45
33:H:145:ALA:HB3	33:H:148:ILE:HD11	1.99	0.45
39:N:43:ALA:O	39:N:46:VAL:HG22	2.16	0.45
39:N:64:ILE:CG2	39:N:78:ILE:HD12	2.46	0.45
42:Q:53:ARG:HH11	42:Q:53:ARG:HG3	1.82	0.45
49:X:61:VAL:HA	49:X:65:MET:CE	2.37	0.45
51:Z:34:ARG:NH1	51:Z:34:ARG:HG2	2.31	0.45
52:a:21:TYR:HE2	52:a:222:VAL:HG21	1.81	0.45
53:3:10:A:O2'	53:3:11:G:H5'	2.16	0.45
53:3:769:G:H4'	53:3:1513:A:H4'	1.97	0.45
53:3:1035:A:H8	53:3:1035:A:O5'	1.99	0.45
54:1:78:U:H2'	54:1:79:C:C6	2.51	0.45
54:1:289:G:H2'	54:1:290:U:C6	2.51	0.45
54:1:574:A:C4'	54:1:575:A:H5'	2.46	0.45
54:1:969:G:H2'	54:1:970:U:C6	2.52	0.45
54:1:1353:A:H2'	54:1:1354:A:C8	2.52	0.45
54:1:1387:A:H2'	54:1:1388:G:C8	2.52	0.45
54:1:1534:U:H2'	54:1:1536:C:O4'	2.16	0.45
54:1:1682:G:C8	54:1:1757:A:C2	3.04	0.45
54:1:1686:C:H2'	54:1:1687:G:C8	2.52	0.45
54:1:1790:C:C2'	54:1:1791:A:C8	2.99	0.45
54:1:2362:C:O2'	54:1:2363:G:H5'	2.15	0.45
54:1:2713:U:H3'	54:1:2714:G:C5'	2.46	0.45
12:m:34:LYS:HA	12:m:100:LYS:O	2.17	0.45
12:m:132:THR:HG22	12:m:133:LYS:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:26:LEU:HD23	14:o:92:PHE:HD1	1.81	0.45
18:s:82:MET:HB3	18:s:84:ARG:NH2	2.32	0.45
19:t:24:MET:O	19:t:28:ASN:HA	2.16	0.45
22:w:34:VAL:HG12	22:w:36:GLN:HB3	1.98	0.45
24:y:5:GLU:HA	24:y:8:GLU:OE1	2.16	0.45
30:E:9:ALA:C	30:E:11:LYS:N	2.73	0.45
34:I:160:LEU:HB3	34:I:164:ARG:HH21	1.82	0.45
37:L:2:ARG:HG2	53:3:933:G:OP2	2.16	0.45
43:R:95:PRO:HB2	43:R:99:GLN:HB2	1.98	0.45
46:U:19:VAL:HG13	46:U:37:GLY:O	2.17	0.45
46:U:70:ARG:O	46:U:70:ARG:HD3	2.16	0.45
49:X:38:THR:OG1	49:X:39:ILE:N	2.48	0.45
49:X:62:THR:H	49:X:65:MET:CE	2.30	0.45
52:a:20:GLN:HG2	52:a:21:TYR:N	2.31	0.45
53:3:487:A:H2'	53:3:488:C:O4'	2.17	0.45
53:3:524:G:O2'	53:3:525:C:H5'	2.15	0.45
53:3:585:G:C6	53:3:586:C:C4	3.04	0.45
53:3:671:G:H2'	53:3:672:U:O4'	2.17	0.45
53:3:1142:G:H2'	53:3:1143:G:O4'	2.16	0.45
53:3:1518:A:H2'	53:3:1519:A:C8	2.51	0.45
54:1:376:G:H2'	54:1:377:G:H8	1.81	0.45
54:1:445:C:O2'	54:1:446:G:H5'	2.17	0.45
54:1:457:A:N6	54:1:470:A:H5"	2.31	0.45
54:1:872:U:O2'	54:1:873:C:H5'	2.16	0.45
54:1:1315:C:H2'	54:1:1316:U:C6	2.52	0.45
54:1:2124:G:H3'	54:1:2125:G:C8	2.50	0.45
56:5:36:G:H2'	56:5:37:G:O4'	2.16	0.45
57:6:1:C:H1'	57:6:73:A:C2	2.52	0.45
2:c:13:ARG:HH11	54:1:2683:C:C4'	2.30	0.45
2:c:39:ASP:OD2	2:c:41:ALA:HB3	2.17	0.45
3:d:14:VAL:HA	3:d:197:GLU:OE2	2.16	0.45
4:e:151:LEU:HA	54:1:2305:U:C4	2.51	0.45
10:k:70:ARG:HH12	54:1:2684:U:C4'	2.29	0.45
14:o:27:VAL:HG12	14:o:28:VAL:N	2.30	0.45
14:o:31:THR:HB	14:o:34:HIS:O	2.17	0.45
17:r:4:VAL:HG22	17:r:13:ARG:CB	2.46	0.45
20:u:12:VAL:HB	20:u:20:LYS:H	1.81	0.45
29:D:35:ARG:HG2	29:D:35:ARG:HH11	1.81	0.45
32:G:94:ARG:HH21	32:G:96:LEU:CD2	2.30	0.45
32:G:161:PHE:CE1	32:G:216:VAL:HG21	2.50	0.45
33:H:108:PRO:HG2	33:H:109:GLU:OE1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:67:ARG:HH11	35:J:67:ARG:HG2	1.81	0.45
41:P:48:GLY:HA3	53:3:688:G:H5'	1.98	0.45
44:S:46:LYS:HG3	44:S:50:LEU:CD1	2.47	0.45
44:S:79:SER:O	44:S:83:VAL:HG12	2.17	0.45
45:T:3:SER:O	45:T:6:ALA:N	2.49	0.45
46:U:46:LYS:HD2	53:3:617:G:H4'	1.99	0.45
46:U:80:LYS:HD3	46:U:80:LYS:N	2.31	0.45
53:3:865:A:H2	53:3:918:A:H4'	1.81	0.45
53:3:1195:C:H5"	53:3:1196:A:OP2	2.16	0.45
53:3:1392:G:H2'	53:3:1393:U:H6	1.79	0.45
54:1:190:A:C6	54:1:191:A:C6	3.04	0.45
54:1:1560:G:C6	54:1:1561:C:C4	3.05	0.45
54:1:1595:C:H2'	54:1:1596:A:H8	1.80	0.45
54:1:1638:C:H1'	54:1:2698:U:O2'	2.15	0.45
54:1:1789:A:C2'	54:1:1790:C:H6	2.22	0.45
54:1:1866:A:H2'	54:1:1867:G:O4'	2.16	0.45
54:1:2170:A:H8	54:1:2170:A:O5'	1.99	0.45
54:1:2398:U:H2'	54:1:2399:G:C8	2.50	0.45
55:2:30:C:H2'	55:2:31:C:C5'	2.47	0.45
1:b:146:LYS:HA	1:b:184:GLU:OE2	2.17	0.45
3:d:112:LEU:CB	3:d:118:LEU:HD21	2.42	0.45
7:h:54:VAL:O	7:h:54:VAL:HG22	2.16	0.45
10:k:75:SER:OG	10:k:76:VAL:N	2.49	0.45
11:l:129:LYS:O	11:l:132:ARG:HB3	2.16	0.45
12:m:50:ARG:HG2	12:m:50:ARG:HH21	1.81	0.45
18:s:17:VAL:HG12	18:s:76:VAL:HG11	1.98	0.45
19:t:80:TRP:CD1	19:t:80:TRP:N	2.83	0.45
26:A:21:VAL:O	26:A:21:VAL:HG13	2.16	0.45
27:B:24:VAL:HG13	27:B:25:THR:H	1.80	0.45
32:G:71:THR:CG2	32:G:72:LYS:H	2.16	0.45
32:G:95:TRP:CZ3	32:G:170:ILE:HG23	2.52	0.45
33:H:78:LYS:HB3	33:H:79:LYS:HD2	1.98	0.45
33:H:134:LYS:O	33:H:138:GLN:HG3	2.17	0.45
34:I:96:ARG:O	34:I:100:VAL:HG23	2.16	0.45
39:N:9:GLY:O	39:N:16:ALA:HB3	2.16	0.45
40:O:57:VAL:HG11	53:3:963:G:H21	1.82	0.45
50:Y:24:ARG:HD3	50:Y:28:ARG:NH2	2.32	0.45
53:3:410:G:C6	53:3:429:U:H1'	2.51	0.45
54:1:464:U:C2	54:1:788:A:C6	3.04	0.45
54:1:1049:C:H2'	54:1:1050:A:H5'	1.97	0.45
54:1:1475:G:O2'	54:1:1476:U:C6	2.68	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1534:U:C6	54:1:1536:C:H1’	2.51	0.45
54:1:1773:A:C5	54:1:1829:A:H1’	2.51	0.45
54:1:2011:U:C2’	54:1:2012:G:H5’	2.46	0.45
54:1:2649:C:H2’	54:1:2650:U:C6	2.52	0.45
54:1:2679:A:O2’	54:1:2680:U:H5’	2.17	0.45
1:b:124:LYS:HD3	1:b:125:PRO:CD	2.47	0.45
4:e:116:LEU:HB2	4:e:175:PRO:HB2	1.96	0.45
5:f:79:THR:HG22	5:f:80:GLU:HG3	1.98	0.45
8:i:129:GLU:O	8:i:132:ALA:HB3	2.17	0.45
10:k:59:LYS:NZ	10:k:89:ASN:O	2.45	0.45
12:m:17:ASN:C	12:m:17:ASN:HD22	2.23	0.45
14:o:29:HIS:ND1	14:o:30:ARG:O	2.50	0.45
20:u:11:ILE:O	20:u:69:VAL:HG12	2.17	0.45
28:C:42:VAL:HG13	28:C:44:GLN:N	2.32	0.45
34:I:74:TYR:CE2	34:I:96:ARG:HD2	2.52	0.45
36:K:49:TYR:N	36:K:49:TYR:CD1	2.84	0.45
36:K:86:ARG:NH2	53:3:673:A:O3’	2.49	0.45
37:L:15:PRO:HB3	39:N:45:MET:CG	2.33	0.45
37:L:26:VAL:HG23	37:L:42:VAL:CG2	2.35	0.45
37:L:78:ARG:O	37:L:78:ARG:HG2	2.16	0.45
38:M:14:ARG:HH11	38:M:74:ILE:CG2	2.30	0.45
41:P:28:ASN:OD1	41:P:29:THR:N	2.50	0.45
42:Q:32:VAL:CA	42:Q:78:VAL:HG23	2.47	0.45
43:R:49:GLU:HA	43:R:52:ILE:H	1.81	0.45
45:T:66:LEU:O	45:T:69:LEU:N	2.50	0.45
48:W:55:ALA:O	48:W:58:ILE:HG22	2.17	0.45
50:Y:2:ASN:ND2	50:Y:3:ILE:H	2.15	0.45
53:3:236:A:H2’	53:3:237:G:C8	2.52	0.45
53:3:665:A:H1’	53:3:733:G:O4’	2.17	0.45
53:3:677:U:H2’	53:3:678:U:H6	1.78	0.45
53:3:939:G:H2’	53:3:940:C:C6	2.52	0.45
54:1:35:G:C6	54:1:36:G:N7	2.85	0.45
54:1:250:G:C6	54:1:251:A:C6	3.05	0.45
54:1:312:G:H4’	54:1:331:C:C2	2.52	0.45
54:1:471:A:H2’	54:1:472:A:O4’	2.16	0.45
54:1:513:A:H2’	54:1:514:A:C8	2.52	0.45
54:1:684:G:C5	54:1:774:G:C6	3.05	0.45
54:1:734:A:H2’	54:1:735:A:O4’	2.16	0.45
54:1:820:A:O5’	54:1:820:A:H8	2.00	0.45
54:1:1038:G:H2’	54:1:1039:A:H8	1.81	0.45
54:1:1295:C:H2’	54:1:1296:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1434:A:H2'	54:1:1435:G:C8	2.50	0.45
54:1:1821:A:H2'	54:1:1822:C:H6	1.82	0.45
54:1:2475:C:O2'	54:1:2476:A:H5'	2.17	0.45
54:1:2519:U:C4	54:1:2542:A:C5	3.05	0.45
57:6:25:C:C4	57:6:26:G:N7	2.84	0.45
1:b:11:GLY:C	1:b:13:ARG:N	2.75	0.45
1:b:138:SER:O	1:b:140:VAL:HG13	2.17	0.45
1:b:225:ASN:ND2	54:1:784:G:H8	2.14	0.45
2:c:59:ARG:O	2:c:59:ARG:HG3	2.17	0.45
3:d:121:VAL:O	3:d:189:THR:HA	2.17	0.45
4:e:140:ILE:HD12	4:e:140:ILE:H	1.82	0.45
8:i:93:ASN:OD1	54:1:1077:A:H5'	2.16	0.45
9:j:49:ASP:HA	9:j:118:MET:CE	2.46	0.45
10:k:13:ASN:OD1	10:k:13:ASN:N	2.50	0.45
13:n:28:LEU:HD13	13:n:34:ILE:HG12	1.99	0.45
14:o:49:VAL:HG21	14:o:82:ALA:HA	1.99	0.45
16:q:43:GLN:HA	16:q:43:GLN:HE21	1.82	0.45
18:s:89:ALA:C	18:s:91:GLY:H	2.24	0.45
19:t:29:THR:HG21	19:t:84:TYR:HB3	1.97	0.45
27:B:9:ARG:CZ	27:B:9:ARG:HB2	2.46	0.45
28:C:35:LEU:HD12	28:C:37:LYS:HB2	1.96	0.45
29:D:21:ARG:HH21	29:D:21:ARG:HG3	1.82	0.45
32:G:124:THR:HG23	32:G:127:LYS:CE	2.47	0.45
34:I:5:GLY:O	34:I:7:LYS:HD2	2.16	0.45
37:L:68:VAL:HG13	37:L:137:ARG:CD	2.47	0.45
37:L:138:GLU:O	37:L:142:ARG:N	2.49	0.45
38:M:45:ILE:HG13	38:M:45:ILE:O	2.16	0.45
40:O:66:GLU:CG	44:S:98:ALA:HB2	2.46	0.45
41:P:19:VAL:HG13	41:P:82:GLU:C	2.41	0.45
41:P:70:ALA:HA	41:P:73:VAL:HG22	1.99	0.45
44:S:25:GLU:HG3	44:S:26:LEU:N	2.32	0.45
44:S:41:TRP:CA	44:S:44:VAL:HG22	2.41	0.45
49:X:29:PRO:HA	49:X:47:THR:O	2.17	0.45
50:Y:34:VAL:HG22	50:Y:49:ALA:CB	2.46	0.45
50:Y:70:LYS:HA	50:Y:73:ARG:NH1	2.31	0.45
52:a:27:ILE:HG21	52:a:186:LYS:CA	2.47	0.45
53:3:104:G:O2'	53:3:105:G:H5'	2.17	0.45
53:3:443:C:O2'	53:3:444:G:H5'	2.16	0.45
53:3:737:C:H2'	53:3:738:C:C6	2.52	0.45
54:1:247:G:H4'	54:1:386:G:C4	2.52	0.45
54:1:429:A:H2'	54:1:430:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1723:G:H2'	54:1:1724:G:H5'	1.99	0.45
54:1:1907:G:O6	54:1:1923:U:O4	2.35	0.45
54:1:1910:G:N2	54:1:1921:G:H3'	2.32	0.45
55:2:33:G:O2'	55:2:34:A:H5'	2.16	0.45
55:2:64:G:H2'	55:2:65:U:C6	2.52	0.45
55:2:90:C:H2'	55:2:91:C:O4'	2.17	0.45
56:5:63:U:H2'	56:5:64:C:C6	2.51	0.45
2:c:115:GLY:O	54:1:2822:G:OP2	2.35	0.45
2:c:188:LEU:HD23	2:c:188:LEU:HA	1.82	0.45
4:e:122:ASP:OD2	54:1:2315:G:H1'	2.16	0.45
5:f:1:SER:HB3	54:1:2749:A:OP1	2.17	0.45
7:h:8:LYS:O	7:h:11:ILE:HB	2.17	0.45
12:m:64:TRP:HE1	54:1:873:C:C4'	2.29	0.45
14:o:43:ASN:HD22	14:o:45:SER:HB3	1.82	0.45
14:o:107:ALA:O	14:o:108:ASP:C	2.60	0.45
18:s:1:MET:HE1	18:s:58:ALA:HB1	1.99	0.45
24:y:21:LEU:O	24:y:25:GLN:HB3	2.17	0.45
30:E:53:ASP:O	30:E:54:LEU:C	2.60	0.45
34:I:103:ARG:CD	34:I:167:PRO:HG2	2.46	0.45
36:K:51:ILE:HG23	36:K:51:ILE:O	2.16	0.45
38:M:87:ARG:HG3	38:M:90:GLU:OE1	2.17	0.45
39:N:30:ASN:C	39:N:32:ARG:H	2.24	0.45
39:N:87:MET:SD	39:N:88:GLU:N	2.89	0.45
44:S:69:PRO:HG2	44:S:70:HIS:H	1.81	0.45
46:U:6:LEU:HD23	46:U:6:LEU:HA	1.79	0.45
46:U:70:ARG:HE	53:3:452:A:H1'	1.81	0.45
52:a:42:VAL:CG1	52:a:44:VAL:HG13	2.47	0.45
53:3:370:C:H2'	53:3:371:A:H8	1.81	0.45
53:3:401:C:O2'	53:3:402:G:H5'	2.17	0.45
53:3:417:G:H2'	53:3:418:C:C6	2.52	0.45
53:3:552:U:O2'	53:3:553:A:H5'	2.16	0.45
53:3:615:G:H2'	53:3:616:G:O4'	2.16	0.45
53:3:729:A:H2'	53:3:730:G:H8	1.81	0.45
53:3:961:U:O2	53:3:961:U:H2'	2.17	0.45
53:3:1121:U:H6	53:3:1121:U:O5'	1.98	0.45
53:3:1371:G:H2'	53:3:1372:U:C6	2.52	0.45
54:1:1082:U:H2'	54:1:1083:U:C4'	2.47	0.45
54:1:1186:G:H2'	54:1:1187:G:C8	2.51	0.45
54:1:1562:U:O2'	54:1:1563:U:H5'	2.17	0.45
54:1:2715:C:O5'	54:1:2715:C:H6	1.99	0.45
54:1:2786:U:O2'	54:1:2787:C:H5'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:5:40:C:H1'	56:5:41:A:OP1	2.16	0.45
57:6:9:G:OP1	57:6:13:C:N4	2.49	0.45
2:c:25:THR:HG22	2:c:26:VAL:N	2.31	0.45
3:d:193:VAL:HG12	3:d:197:GLU:HG3	1.98	0.45
5:f:85:LYS:CD	5:f:131:VAL:HG22	2.41	0.45
6:g:27:ARG:HH21	23:x:55:MET:HG2	1.81	0.45
9:j:131:ASN:C	9:j:133:ALA:H	2.25	0.45
10:k:115:ILE:O	10:k:118:LEU:N	2.50	0.45
11:l:29:LYS:NZ	54:1:567:U:OP2	2.50	0.45
14:o:98:GLN:OE1	14:o:98:GLN:HA	2.17	0.45
15:p:2:ASN:CA	15:p:5:LYS:HZ2	2.19	0.45
15:p:49:ILE:HG12	15:p:50:ARG:N	2.32	0.45
15:p:52:ARG:O	15:p:53:GLY:C	2.59	0.45
21:v:80:HIS:HB3	21:v:83:LYS:O	2.17	0.45
24:y:11:VAL:HA	24:y:14:LEU:CB	2.40	0.45
29:D:18:PHE:CE2	29:D:22:MET:HG3	2.52	0.45
32:G:131:LYS:O	32:G:134:LEU:HB3	2.17	0.45
33:H:179:ALA:HB1	33:H:202:PHE:CE1	2.52	0.45
34:I:191:SER:HB2	34:I:194:ILE:HG12	1.99	0.45
35:J:33:THR:HG22	35:J:51:LYS:CB	2.42	0.45
38:M:63:LYS:O	38:M:70:VAL:HG12	2.17	0.45
39:N:128:LYS:HE3	39:N:129:ARG:HH22	1.82	0.45
40:O:43:PRO:O	40:O:71:LEU:HD21	2.17	0.45
41:P:63:GLN:HB2	41:P:94:SER:OG	2.17	0.45
45:T:80:LEU:O	45:T:83:ARG:HG2	2.17	0.45
49:X:15:LEU:HA	49:X:18:VAL:HG23	1.99	0.45
50:Y:3:ILE:HG22	50:Y:3:ILE:O	2.17	0.45
50:Y:42:ASP:CG	50:Y:45:ALA:HB3	2.42	0.45
52:a:6:LYS:HE2	54:1:2132:U:C6	2.52	0.45
53:3:303:A:O2'	53:3:304:U:H5'	2.17	0.45
53:3:322:C:H2'	53:3:323:U:C6	2.52	0.45
53:3:356:A:O2'	53:3:368:U:H4'	2.17	0.45
53:3:399:G:H2'	53:3:400:C:C5	2.52	0.45
53:3:566:G:H8	53:3:566:G:OP1	2.00	0.45
53:3:783:C:O2'	53:3:784:A:H5'	2.17	0.45
53:3:1097:C:H2'	53:3:1098:C:C6	2.52	0.45
53:3:1498:U:C4	58:4:17:U:H5"	2.52	0.45
54:1:197:A:H4'	54:1:2069:G:OP2	2.17	0.45
54:1:278:A:C2	54:1:362:A:H1'	2.51	0.45
54:1:479:A:H4'	54:1:480:A:OP1	2.17	0.45
54:1:704:G:H2'	54:1:726:G:N2	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:825:A:H2'	54:1:826:U:O4'	2.17	0.45
54:1:962:G:C6	54:1:963:U:C4	3.05	0.45
54:1:1394:U:H2'	54:1:1395:A:O4'	2.16	0.45
54:1:1601:G:N7	54:1:1602:U:C4	2.85	0.45
54:1:1656:C:H2'	54:1:1657:U:H6	1.82	0.45
54:1:1726:C:C2'	54:1:1727:C:H5'	2.46	0.45
54:1:1837:C:O2	54:1:1927:A:H2	1.99	0.45
54:1:2333:A:H5"	54:1:2334:U:OP1	2.17	0.45
54:1:2364:C:H2'	54:1:2365:G:O4'	2.17	0.45
54:1:2549:G:C2'	54:1:2550:G:H5'	2.47	0.45
54:1:2756:U:H4'	54:1:2757:A:OP1	2.16	0.45
54:1:2855:C:O2'	54:1:2856:A:H5'	2.16	0.45
55:2:3:C:C3'	55:2:4:C:H5"	2.47	0.45
56:5:23:C:H2'	56:5:24:G:C8	2.51	0.45
1:b:44:ASN:HD21	54:1:1812:U:H1'	1.81	0.44
1:b:155:ARG:HB3	54:1:1818:U:H2'	2.00	0.44
3:d:161:ALA:HB2	3:d:169:VAL:HG23	1.98	0.44
6:g:12:LEU:HD11	6:g:25:TYR:CE2	2.52	0.44
11:l:92:LEU:HD22	11:l:125:LEU:CD1	2.47	0.44
11:l:93:ASN:C	11:l:95:LEU:N	2.75	0.44
14:o:32:PRO:HD2	55:2:29:A:OP2	2.16	0.44
19:t:58:VAL:HG23	19:t:83:ALA:HB1	1.99	0.44
19:t:88:LYS:C	19:t:90:GLY:H	2.25	0.44
25:z:31:ILE:O	54:1:1158:C:H4'	2.17	0.44
32:G:157:PRO:HB2	32:G:180:ILE:HG21	1.99	0.44
34:I:40:HIS:O	34:I:42:ALA:N	2.50	0.44
36:K:24:ARG:HH12	36:K:77:THR:HG21	1.81	0.44
41:P:114:PRO:HA	48:W:72:ARG:HH12	1.82	0.44
42:Q:47:ALA:HB3	42:Q:49:ARG:HE	1.82	0.44
50:Y:36:ALA:O	50:Y:39:GLU:HB2	2.18	0.44
52:a:43:ASP:O	52:a:215:SER:OG	2.24	0.44
53:3:113:G:H1'	53:3:354:G:H5"	1.98	0.44
53:3:394:G:H2'	53:3:395:C:H6	1.81	0.44
53:3:423:G:C2'	53:3:424:G:H5'	2.47	0.44
53:3:546:A:H5'	53:3:549:C:OP1	2.17	0.44
53:3:794:A:O2'	53:3:795:C:H5'	2.16	0.44
53:3:802:A:H2'	53:3:803:G:C5'	2.46	0.44
53:3:901:A:H8	53:3:901:A:O5'	2.00	0.44
53:3:975:A:H2	53:3:1365:G:H21	1.63	0.44
54:1:191:A:C2	54:1:192:C:C4	3.05	0.44
54:1:303:G:H2'	54:1:304:U:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:354:A:H2'	54:1:355:U:H6	1.81	0.44
54:1:768:G:H2'	54:1:769:U:C6	2.52	0.44
54:1:775:G:C5	54:1:794:A:C8	3.06	0.44
54:1:775:G:C6	54:1:794:A:C8	3.04	0.44
54:1:910:A:C4	54:1:911:A:N7	2.85	0.44
54:1:1077:A:H2'	54:1:1078:U:C5'	2.38	0.44
54:1:1300:G:H4'	54:1:1301:A:C5'	2.43	0.44
54:1:1423:G:H2'	54:1:1424:G:C8	2.51	0.44
54:1:1766:G:O2'	54:1:1767:G:H5'	2.17	0.44
54:1:1911:U:C6	54:1:1921:G:C2	3.05	0.44
54:1:1957:C:H2'	54:1:1958:C:H6	1.82	0.44
54:1:2135:A:C4'	54:1:2159:G:O2'	2.65	0.44
54:1:2609:U:O2'	54:1:2610:C:H5'	2.17	0.44
3:d:132:LYS:HD3	54:1:319:G:OP2	2.17	0.44
4:e:132:ARG:HG3	4:e:132:ARG:NH2	2.31	0.44
7:h:34:THR:OG1	54:1:1086:A:N7	2.48	0.44
9:j:59:ALA:O	9:j:61:LYS:N	2.50	0.44
10:k:79:PHE:HB3	15:p:69:VAL:HA	1.98	0.44
14:o:5:SER:O	14:o:8:ILE:HG22	2.17	0.44
15:p:19:PHE:HD2	15:p:19:PHE:N	2.12	0.44
15:p:38:ARG:C	15:p:39:LEU:HD22	2.42	0.44
20:u:53:GLN:N	20:u:54:PRO:CD	2.79	0.44
22:w:25:GLU:HG2	22:w:26:SER:N	2.32	0.44
33:H:107:LYS:O	33:H:110:LEU:N	2.47	0.44
33:H:122:GLN:O	33:H:127:VAL:HB	2.17	0.44
34:I:27:ILE:O	34:I:28:ASP:C	2.60	0.44
36:K:4:TYR:HD2	36:K:90:MET:O	1.99	0.44
36:K:44:ARG:HH11	36:K:44:ARG:CB	2.31	0.44
51:Z:64:ALA:O	51:Z:66:ARG:N	2.51	0.44
52:a:58:ASN:CG	52:a:60:ARG:HH21	2.25	0.44
53:3:766:A:C5	53:3:814:A:C5	3.05	0.44
54:1:570:G:O2'	54:1:571:U:H5'	2.18	0.44
54:1:1021:A:H1'	54:1:1123:C:H5"	2.00	0.44
54:1:1130:U:H4'	54:1:2515:C:C4'	2.48	0.44
54:1:1758:U:H3'	54:1:1759:A:C8	2.49	0.44
54:1:2884:U:H2'	54:1:2885:G:C8	2.52	0.44
1:b:147:PRO:HB3	1:b:186:ASP:OD2	2.16	0.44
2:c:4:LEU:HD13	2:c:101:PHE:CZ	2.53	0.44
4:e:101:ARG:O	4:e:105:ILE:HG12	2.15	0.44
5:f:102:ILE:HD12	5:f:102:ILE:H	1.81	0.44
11:l:95:LEU:C	11:l:97:ALA:N	2.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:40:ARG:HG3	12:m:93:VAL:CG2	2.46	0.44
12:m:41:LEU:HD21	12:m:126:ILE:HD13	1.98	0.44
13:n:10:LEU:HD12	13:n:10:LEU:N	2.32	0.44
15:p:77:SER:CB	15:p:79:VAL:HG12	2.48	0.44
21:v:82:TYR:CD1	21:v:82:TYR:N	2.86	0.44
23:x:42:GLU:O	23:x:44:ARG:HG2	2.17	0.44
26:A:12:ILE:CG2	26:A:26:SER:HB3	2.48	0.44
35:J:133:ILE:O	35:J:137:ARG:HG2	2.18	0.44
40:O:86:ALA:HA	40:O:90:LEU:HD12	1.99	0.44
40:O:98:VAL:HG13	40:O:98:VAL:O	2.17	0.44
44:S:84:ARG:NH1	53:3:1059:C:H4'	2.32	0.44
44:S:92:ILE:O	44:S:95:LEU:HB3	2.17	0.44
52:a:27:ILE:HG21	52:a:185:LEU:C	2.43	0.44
52:a:39:VAL:HG11	52:a:179:ASP:HB2	1.98	0.44
53:3:75:G:H2'	53:3:76:G:C8	2.53	0.44
53:3:607:A:C2	53:3:608:A:C4	3.05	0.44
53:3:636:U:H2'	53:3:637:C:C6	2.52	0.44
53:3:950:U:H4'	53:3:971:G:N1	2.32	0.44
53:3:1138:G:N3	53:3:1138:G:H2'	2.32	0.44
53:3:1424:U:H2'	53:3:1425:U:O4'	2.17	0.44
54:1:312:G:H5'	54:1:331:C:O2'	2.17	0.44
54:1:357:C:H2'	54:1:358:U:H6	1.80	0.44
54:1:957:C:C4	54:1:959:A:C5	3.05	0.44
54:1:1068:G:H1'	54:1:1096:A:C4'	2.46	0.44
54:1:1165:A:H2'	54:1:1166:G:H8	1.82	0.44
54:1:1505:A:H2'	54:1:1506:U:O4'	2.17	0.44
54:1:1561:C:H2'	54:1:1562:U:C6	2.52	0.44
54:1:1904:G:H1'	54:1:1927:A:N1	2.32	0.44
54:1:2052:A:O2'	54:1:2053:G:H5'	2.17	0.44
54:1:2345:G:H4'	54:1:2346:A:C5'	2.48	0.44
54:1:2605:U:C2	54:1:2606:C:C5	3.06	0.44
54:1:2715:C:C4	54:1:2716:C:C5	3.05	0.44
4:e:69:ALA:O	4:e:80:GLN:HG3	2.18	0.44
4:e:98:PHE:HA	4:e:101:ARG:NE	2.32	0.44
5:f:86:LEU:HD12	5:f:86:LEU:N	2.32	0.44
9:j:42:ALA:O	16:q:63:ARG:HG3	2.16	0.44
10:k:117:SER:C	10:k:119:ALA:H	2.25	0.44
12:m:54:THR:HA	12:m:57:VAL:CG2	2.46	0.44
19:t:6:ARG:HB3	19:t:6:ARG:HH11	1.83	0.44
33:H:111:ASP:O	33:H:115:VAL:HG23	2.18	0.44
34:I:59:LYS:CE	34:I:194:ILE:HG22	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:159:GLU:HG3	34:I:163:GLN:OE1	2.16	0.44
35:J:49:TYR:CG	35:J:49:TYR:O	2.71	0.44
35:J:123:LEU:HD21	53:3:6:G:H2'	2.00	0.44
39:N:86:LEU:HA	39:N:89:TYR:HD2	1.81	0.44
42:Q:98:ARG:NH1	42:Q:106:VAL:HG22	2.33	0.44
48:W:37:LYS:HB3	53:3:719:C:H1'	1.99	0.44
52:a:43:ASP:C	52:a:215:SER:O	2.60	0.44
53:3:36:C:O2'	53:3:37:U:H5'	2.18	0.44
53:3:204:G:H2'	53:3:205:A:H8	1.82	0.44
53:3:389:A:H3'	53:3:390:U:C6	2.43	0.44
53:3:506:G:H2'	53:3:507:C:O4'	2.17	0.44
53:3:514:C:H2'	53:3:515:G:H8	1.83	0.44
53:3:680:C:H2'	53:3:681:A:H8	1.83	0.44
53:3:810:C:O2'	53:3:811:C:H5'	2.17	0.44
53:3:1277:C:H1'	53:3:1282:C:C2	2.53	0.44
54:1:100:U:H4'	54:1:101:A:O4'	2.18	0.44
54:1:759:G:H2'	54:1:760:G:H8	1.83	0.44
54:1:823:C:H2'	54:1:824:U:C6	2.52	0.44
54:1:1019:U:H3	54:1:1142:A:N6	2.16	0.44
54:1:1047:G:H2'	54:1:1110:G:C2	2.52	0.44
54:1:1110:G:H2'	54:1:1111:A:H8	1.81	0.44
54:1:1981:A:H5"	54:1:1982:U:OP2	2.18	0.44
54:1:2143:C:C2'	54:1:2144:G:H5'	2.46	0.44
54:1:2164:C:H5	54:1:2165:C:N4	2.16	0.44
54:1:2671:G:C2	54:1:2672:U:C2	3.06	0.44
54:1:2709:G:C5	54:1:2710:C:C4	3.05	0.44
54:1:2898:U:H2'	54:1:2899:A:C8	2.53	0.44
56:5:2:G:C1'	56:5:3:G:OP1	2.63	0.44
57:6:57:A:H2'	57:6:58:A:H5'	2.00	0.44
1:b:212:TRP:CZ3	54:1:764:A:OP2	2.70	0.44
2:c:101:PHE:O	2:c:103:ASP:N	2.50	0.44
2:c:125:TRP:CE3	2:c:160:LYS:CD	3.00	0.44
3:d:149:ILE:HG22	3:d:188:MET:HA	1.99	0.44
4:e:115:GLY:CA	4:e:177:ARG:HE	2.29	0.44
5:f:51:PHE:CD2	5:f:68:ARG:HA	2.52	0.44
5:f:106:LEU:CD2	5:f:106:LEU:N	2.80	0.44
5:f:145:ALA:HB1	54:1:2744:G:O2'	2.16	0.44
9:j:97:PRO:O	9:j:100:VAL:HG12	2.18	0.44
11:l:38:GLN:C	11:l:40:SER:N	2.69	0.44
11:l:106:GLU:O	11:l:107:PHE:CG	2.69	0.44
14:o:9:ARG:HG3	14:o:9:ARG:HH11	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:q:61:ILE:HD12	16:q:75:TYR:OH	2.17	0.44
17:r:38:VAL:HG11	17:r:57:GLY:HA3	2.00	0.44
19:t:24:MET:HE1	19:t:30:ILE:HG13	1.98	0.44
24:y:28:LEU:O	24:y:31:GLN:HB2	2.18	0.44
27:B:21:LEU:C	27:B:21:LEU:HD12	2.43	0.44
34:I:150:LYS:HA	34:I:155:LYS:HE2	1.99	0.44
35:J:25:LYS:HG3	35:J:26:GLY:N	2.33	0.44
36:K:11:HIS:O	36:K:15:SER:N	2.51	0.44
37:L:145:GLU:OE2	37:L:145:GLU:HA	2.17	0.44
39:N:19:PHE:HB2	39:N:63:TYR:O	2.16	0.44
39:N:129:ARG:NE	57:6:33:U:C5	2.86	0.44
40:O:22:THR:OG1	40:O:23:ALA:N	2.51	0.44
42:Q:66:ILE:N	42:Q:66:ILE:CD1	2.80	0.44
42:Q:111:GLN:HB2	53:3:538:G:P	2.58	0.44
43:R:7:ASN:ND2	43:R:65:GLU:OE2	2.51	0.44
46:U:50:THR:OG1	46:U:51:ARG:N	2.51	0.44
48:W:32:ILE:CD1	48:W:67:LEU:HD22	2.47	0.44
52:a:204:ALA:C	52:a:206:GLY:N	2.76	0.44
53:3:53:A:C2	53:3:54:C:H1'	2.53	0.44
53:3:696:A:H2'	53:3:697:U:H6	1.83	0.44
53:3:802:A:C2'	53:3:803:G:H5'	2.48	0.44
53:3:1409:C:H5'	54:1:1916:A:C2	2.53	0.44
54:1:323:C:H2'	54:1:1205:A:N6	2.33	0.44
54:1:755:U:O2'	54:1:756:A:H5'	2.18	0.44
54:1:1068:G:O2'	54:1:1096:A:H4'	2.18	0.44
54:1:1198:U:H2'	54:1:1199:U:H6	1.82	0.44
54:1:1579:A:H2'	54:1:1580:A:H8	1.81	0.44
54:1:1908:C:C4	54:1:1909:C:C6	3.06	0.44
54:1:1909:C:C2'	54:1:1910:G:H8	2.30	0.44
54:1:2098:U:H2'	54:1:2099:U:O4'	2.17	0.44
54:1:2142:A:H2	54:1:2149:U:O2	2.00	0.44
54:1:2397:G:H2'	54:1:2398:U:H6	1.83	0.44
54:1:2553:G:H2'	54:1:2554:U:C4'	2.47	0.44
54:1:2645:G:H3'	54:1:2646:C:C5'	2.48	0.44
58:4:5:A:N3	58:4:5:A:H2'	2.32	0.44
1:b:90:ILE:HD12	1:b:102:TYR:CD1	2.52	0.44
2:c:39:ASP:OD1	2:c:39:ASP:N	2.50	0.44
10:k:58:LEU:CD2	10:k:58:LEU:N	2.80	0.44
15:p:29:VAL:O	15:p:39:LEU:HA	2.18	0.44
17:r:68:ARG:HH12	17:r:90:ARG:HB2	1.82	0.44
18:s:34:ASP:OD1	27:B:36:LYS:HE3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:3:ARG:HG3	19:t:3:ARG:NH1	2.33	0.44
20:u:35:VAL:HG23	20:u:38:ILE:HB	2.00	0.44
25:z:52:PHE:HD1	25:z:52:PHE:H	1.66	0.44
33:H:6:PRO:HG2	33:H:200:TRP:NE1	2.29	0.44
38:M:2:MET:HG2	38:M:2:MET:O	2.17	0.44
39:N:42:THR:HG22	39:N:43:ALA:N	2.24	0.44
44:S:62:ARG:HB2	44:S:67:GLY:C	2.42	0.44
45:T:42:PHE:HZ	45:T:51:SER:HB2	1.83	0.44
50:Y:30:PHE:CD2	50:Y:56:ILE:HG21	2.52	0.44
50:Y:34:VAL:O	50:Y:37:ALA:N	2.50	0.44
52:a:46:VAL:O	52:a:170:ILE:HA	2.17	0.44
53:3:224:U:H2'	53:3:225:C:C6	2.53	0.44
54:1:75:G:H2'	54:1:75:G:N3	2.33	0.44
54:1:123:G:H2'	54:1:124:G:C8	2.53	0.44
54:1:275:C:H2'	54:1:276:U:C5'	2.47	0.44
54:1:457:A:H61	54:1:470:A:H5"	1.82	0.44
54:1:778:G:C6	54:1:779:U:C2	3.05	0.44
54:1:805:G:OP2	54:1:806:C:N4	2.42	0.44
54:1:903:C:H2'	54:1:904:G:H8	1.82	0.44
54:1:1313:U:H5'	54:1:1314:C:OP2	2.17	0.44
54:1:1525:A:H2'	54:1:1526:C:O4'	2.18	0.44
54:1:1775:U:C2'	54:1:1776:G:H5'	2.46	0.44
54:1:1839:G:H2'	54:1:1840:G:O4'	2.17	0.44
54:1:1912:A:N6	54:1:1917:U:H5	2.08	0.44
54:1:1922:G:C5	54:1:1923:U:N1	2.86	0.44
54:1:2028:U:O5'	54:1:2028:U:H6	2.01	0.44
54:1:2111:U:H4'	54:1:2118:U:O2'	2.18	0.44
54:1:2686:G:O2'	54:1:2687:U:H5'	2.18	0.44
54:1:2784:U:H2'	54:1:2785:C:C6	2.52	0.44
1:b:47:ARG:HD3	54:1:773:U:O2'	2.17	0.44
1:b:253:GLY:HA2	54:1:1797:G:H5'	1.99	0.44
2:c:2:ILE:HG12	2:c:90:PHE:HE2	1.83	0.44
2:c:124:ARG:HD2	2:c:163:GLY:C	2.40	0.44
3:d:21:ARG:HG2	3:d:22:ASP:N	2.29	0.44
3:d:149:ILE:HD11	3:d:171:ASP:C	2.43	0.44
4:e:136:ILE:HG13	4:e:137:PHE:CD2	2.48	0.44
5:f:115:GLN:O	5:f:117:PRO:HD3	2.18	0.44
9:j:7:LYS:C	9:j:9:GLU:H	2.26	0.44
9:j:80:HIS:O	9:j:81:ILE:C	2.61	0.44
11:l:36:LYS:HE2	54:1:807:U:P	2.58	0.44
13:n:37:THR:HA	13:n:110:MET:CE	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:r:24:LYS:HA	17:r:94:THR:OG1	2.18	0.44
18:s:8:ARG:HG2	18:s:8:ARG:HH11	1.82	0.44
18:s:23:LEU:HD11	27:B:21:LEU:CD1	2.47	0.44
20:u:64:ILE:HG12	20:u:65:GLN:N	2.33	0.44
21:v:80:HIS:HB2	21:v:85:LYS:O	2.18	0.44
25:z:13:ILE:HG21	54:1:988:A:N7	2.33	0.44
29:D:35:ARG:HH22	54:1:54:G:C2'	2.28	0.44
32:G:206:ILE:HG23	32:G:207:ARG:N	2.33	0.44
32:G:223:GLY:O	32:G:225:SER:N	2.51	0.44
34:I:47:LEU:HD23	34:I:47:LEU:O	2.17	0.44
35:J:149:PRO:HA	35:J:152:VAL:CG1	2.45	0.44
38:M:112:ASP:HA	38:M:115:ALA:HB3	1.99	0.44
39:N:51:LEU:C	39:N:56:MET:HB2	2.42	0.44
39:N:93:LEU:O	39:N:97:LEU:HD23	2.18	0.44
50:Y:66:ILE:HG22	50:Y:67:HIS:N	2.32	0.44
53:3:390:U:H2'	53:3:391:G:C8	2.53	0.44
53:3:513:C:H2'	53:3:514:C:C6	2.52	0.44
53:3:549:C:H2'	53:3:550:G:O4'	2.18	0.44
53:3:678:U:O2'	53:3:679:C:H5'	2.18	0.44
53:3:684:U:H2'	53:3:685:G:O4'	2.18	0.44
53:3:898:G:N2	53:3:901:A:OP2	2.48	0.44
53:3:956:U:C2'	53:3:957:U:H5'	2.48	0.44
54:1:122:G:H2'	54:1:123:G:O4'	2.18	0.44
54:1:140:C:H42	54:1:1595:C:H4'	1.82	0.44
54:1:287:G:H2'	54:1:288:U:O4'	2.18	0.44
54:1:573:U:O2'	54:1:574:A:H3'	2.18	0.44
54:1:1142:A:C4	54:1:1144:A:N7	2.86	0.44
54:1:1600:C:O2'	54:1:1601:G:H5'	2.18	0.44
54:1:1754:A:C6	54:1:1755:A:C6	3.06	0.44
54:1:1979:U:C2'	54:1:1980:G:H5'	2.48	0.44
54:1:2634:A:O2'	54:1:2635:A:H5'	2.17	0.44
54:1:2811:G:O2'	54:1:2812:G:H5'	2.18	0.44
54:1:2839:G:H2'	54:1:2840:C:O4'	2.18	0.44
56:5:42:G:H2'	56:5:43:U:O4'	2.18	0.44
57:6:10:G:H2'	57:6:11:A:C8	2.53	0.44
1:b:47:ARG:HH11	1:b:47:ARG:HG3	1.82	0.44
1:b:264:LYS:HE3	54:1:2223:G:O3'	2.17	0.44
2:c:43:ASP:C	2:c:45:TYR:H	2.25	0.44
2:c:98:VAL:O	2:c:100:LEU:N	2.51	0.44
10:k:18:ARG:HB2	10:k:45:GLU:HB3	1.99	0.44
11:l:122:VAL:HG22	11:l:142:ILE:HA	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:65:ILE:HG22	12:m:103:TYR:HD1	1.81	0.44
21:v:31:TYR:HB3	21:v:37:PRO:HB3	1.99	0.44
22:w:46:ASN:HB3	22:w:59:ALA:HB3	2.00	0.44
24:y:31:GLN:HB3	24:y:37:LEU:HB2	2.00	0.44
28:C:35:LEU:HD12	28:C:35:LEU:O	2.17	0.44
32:G:71:THR:O	32:G:72:LYS:HB2	2.18	0.44
32:G:119:GLN:HB3	32:G:124:THR:N	2.33	0.44
33:H:83:VAL:HA	33:H:86:LEU:CD1	2.47	0.44
34:I:32:LYS:HG3	53:3:426:U:OP1	2.17	0.44
34:I:100:VAL:HG21	34:I:136:VAL:CG2	2.48	0.44
42:Q:89:LEU:O	42:Q:91:GLY:N	2.50	0.44
42:Q:115:LYS:O	42:Q:116:TYR:CD2	2.71	0.44
45:T:68:TYR:HB2	53:3:754:C:H4'	2.00	0.44
47:V:10:ARG:NH2	47:V:55:GLY:HA2	2.32	0.44
49:X:18:VAL:O	49:X:22:VAL:HG22	2.17	0.44
49:X:51:HIS:HA	49:X:56:HIS:HD2	1.83	0.44
53:3:285:C:H2'	53:3:286:C:C6	2.51	0.44
53:3:890:G:HO2'	53:3:891:U:H6	1.65	0.44
53:3:1245:C:H2'	53:3:1246:A:C8	2.52	0.44
54:1:460:A:C2	54:1:470:A:C5	3.06	0.44
54:1:817:C:N4	54:1:818:G:C6	2.86	0.44
54:1:1015:U:O2'	54:1:1016:G:H5'	2.18	0.44
54:1:1441:G:H2'	54:1:1442:U:H6	1.83	0.44
54:1:1909:C:C2	54:1:1910:G:C8	3.05	0.44
54:1:1910:G:N2	54:1:1921:G:C3'	2.80	0.44
54:1:2178:C:H2'	54:1:2178:C:O2	2.17	0.44
54:1:2180:U:O2	54:1:2180:U:H2'	2.18	0.44
1:b:1:ALA:O	1:b:17:LYS:O	2.36	0.44
1:b:42:ARG:NE	1:b:48:ILE:HG12	2.32	0.44
4:e:78:ILE:O	4:e:78:ILE:HG23	2.18	0.44
4:e:148:VAL:O	4:e:148:VAL:HG22	2.18	0.44
7:h:35:VAL:HG22	54:1:1057:A:O2'	2.18	0.44
7:h:37:LYS:CG	54:1:1085:A:H62	2.30	0.44
9:j:4:PHE:CD2	16:q:99:VAL:HG11	2.52	0.44
10:k:111:LYS:HG3	10:k:111:LYS:O	2.17	0.44
15:p:105:LYS:HZ3	15:p:108:ARG:NH2	2.16	0.44
16:q:61:ILE:HG23	16:q:75:TYR:CZ	2.53	0.44
17:r:22:LEU:CD1	17:r:25:LEU:HG	2.45	0.44
19:t:2:ILE:O	19:t:3:ARG:C	2.60	0.44
21:v:6:ALA:HB2	21:v:42:LEU:HB3	2.00	0.44
23:x:40:GLU:CD	23:x:40:GLU:N	2.67	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:z:9:THR:HG22	25:z:53:MET:C	2.43	0.44
26:A:25:ARG:HG2	26:A:25:ARG:HH11	1.82	0.44
28:C:34:GLU:HB3	28:C:47:ILE:HD11	1.98	0.44
32:G:65:LYS:H	32:G:158:ASP:CB	2.31	0.44
32:G:86:CYS:SG	32:G:221:ARG:HG2	2.58	0.44
33:H:25:THR:HG21	53:3:1256:A:OP1	2.17	0.44
34:I:27:ILE:CG1	34:I:28:ASP:N	2.81	0.44
35:J:122:VAL:HG22	35:J:123:LEU:N	2.32	0.44
37:L:35:LYS:O	37:L:39:GLU:N	2.51	0.44
37:L:68:VAL:HA	37:L:137:ARG:NE	2.32	0.44
39:N:27:ILE:CD1	39:N:34:LEU:HD22	2.36	0.44
39:N:78:ILE:O	39:N:82:ILE:HG12	2.18	0.44
40:O:39:PRO:HA	40:O:73:LEU:O	2.18	0.44
41:P:43:TRP:HA	41:P:69:CYS:SG	2.58	0.44
43:R:28:ARG:HB3	43:R:28:ARG:NH1	2.32	0.44
45:T:52:ARG:HG2	45:T:52:ARG:HH11	1.82	0.44
46:U:70:ARG:HH21	53:3:452:A:H1'	1.83	0.44
52:a:28:ALA:CB	52:a:182:ALA:HB1	2.48	0.44
52:a:41:SER:HA	52:a:177:LYS:HD2	2.00	0.44
52:a:189:LEU:HD23	52:a:224:VAL:HG21	2.00	0.44
53:3:910:C:O2'	53:3:911:U:H5'	2.18	0.44
53:3:944:G:N1	53:3:1338:G:OP2	2.50	0.44
53:3:969:A:C2'	53:3:970:C:H5'	2.47	0.44
53:3:1147:C:O2'	53:3:1148:U:H5'	2.17	0.44
53:3:1229:A:H2'	53:3:1230:C:C6	2.52	0.44
53:3:1252:A:H2'	53:3:1253:G:O4'	2.18	0.44
53:3:1388:C:O2'	53:3:1389:C:H5'	2.18	0.44
53:3:1413:A:H2'	53:3:1414:U:C5'	2.47	0.44
54:1:439:A:H2'	54:1:440:C:C6	2.53	0.44
54:1:782:A:C4'	54:1:783:A:H5'	2.42	0.44
54:1:1070:A:H2'	54:1:1097:U:OP1	2.17	0.44
54:1:1667:G:H4'	54:1:1668:A:OP1	2.18	0.44
54:1:2001:C:H1'	54:1:2689:U:C4	2.53	0.44
54:1:2179:C:H2'	54:1:2180:U:H6	1.83	0.44
54:1:2231:U:H2'	54:1:2232:C:C6	2.49	0.44
54:1:2393:U:O2'	54:1:2394:C:H5'	2.18	0.44
54:1:2479:U:H3'	54:1:2480:C:H5"	2.00	0.44
54:1:2715:C:H3'	54:1:2716:C:H5"	2.00	0.44
56:5:65:U:O2'	56:5:66:C:H5'	2.17	0.44
1:b:51:ARG:HH12	1:b:52:HIS:HD2	1.66	0.43
1:b:88:ALA:HA	1:b:196:ASN:HD22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:143:VAL:CG1	1:b:189:ALA:HB2	2.44	0.43
1:b:156:SER:C	1:b:159:THR:HG23	2.42	0.43
2:c:47:ALA:HB2	2:c:83:ARG:HA	2.00	0.43
4:e:135:ILE:HA	4:e:140:ILE:HG12	2.00	0.43
5:f:61:TRP:O	5:f:62:ALA:C	2.61	0.43
5:f:142:GLN:O	5:f:145:ALA:HB3	2.17	0.43
10:k:1:MET:HG2	10:k:67:LYS:CB	2.48	0.43
11:l:78:ARG:O	11:l:81:ASP:N	2.50	0.43
14:o:90:VAL:HG12	14:o:115:LEU:HD11	2.01	0.43
25:z:23:LEU:HD11	25:z:53:MET:HE2	2.00	0.43
33:H:72:PRO:O	33:H:76:ILE:HG12	2.18	0.43
36:K:5:GLU:O	36:K:7:VAL:HG23	2.18	0.43
41:P:123:PRO:HB2	41:P:125:LYS:CG	2.48	0.43
42:Q:35:ARG:HH11	42:Q:35:ARG:C	2.26	0.43
44:S:2:LYS:O	44:S:3:GLN:C	2.60	0.43
45:T:22:GLY:O	53:3:751:U:H1'	2.17	0.43
47:V:14:ASP:OD2	47:V:54:ILE:HB	2.17	0.43
53:3:27:G:O2'	53:3:28:A:H5'	2.18	0.43
53:3:123:U:OP1	53:3:312:C:H5'	2.18	0.43
53:3:1347:G:HO2'	53:3:1348:U:H5	1.63	0.43
53:3:1416:G:H2'	53:3:1417:G:O4'	2.18	0.43
54:1:1199:U:H2'	54:1:1200:C:H6	1.83	0.43
54:1:1487:U:H2'	54:1:1488:C:H6	1.81	0.43
54:1:1628:G:C6	54:1:1629:U:C4	3.06	0.43
54:1:1922:G:N7	54:1:1923:U:C6	2.85	0.43
54:1:2558:C:H2'	54:1:2559:C:O4'	2.18	0.43
54:1:2620:C:H2'	54:1:2621:G:O5'	2.18	0.43
2:c:52:THR:HG22	2:c:80:TRP:CZ3	2.53	0.43
2:c:61:THR:CB	2:c:63:PRO:HD2	2.41	0.43
8:i:78:LEU:HA	8:i:81:LYS:HG2	2.00	0.43
8:i:91:LYS:HB3	8:i:94:LYS:HE2	1.99	0.43
16:q:92:LYS:HD2	16:q:92:LYS:O	2.18	0.43
17:r:23:GLU:O	17:r:24:LYS:C	2.61	0.43
17:r:39:LEU:O	17:r:40:MET:HB3	2.17	0.43
24:y:31:GLN:C	24:y:37:LEU:HB2	2.43	0.43
25:z:40:THR:O	25:z:43:ILE:N	2.49	0.43
27:B:47:TYR:HA	27:B:51:ARG:O	2.17	0.43
33:H:77:GLY:HA3	33:H:82:ASP:OD2	2.19	0.43
34:I:187:ARG:HH12	34:I:196:GLU:HB3	1.83	0.43
38:M:26:MET:CE	38:M:60:LEU:HD12	2.48	0.43
41:P:34:THR:HB	41:P:38:GLY:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:25:ALA:HB1	53:3:554:A:C5'	2.48	0.43
43:R:19:THR:HG22	43:R:29:SER:OG	2.18	0.43
44:S:73:LEU:O	44:S:75:LYS:N	2.50	0.43
47:V:16:MET:HB3	47:V:19:SER:O	2.18	0.43
49:X:45:GLY:N	49:X:61:VAL:O	2.52	0.43
53:3:530:G:H3'	53:3:531:U:H5'	2.00	0.43
53:3:634:C:H2'	53:3:635:A:H8	1.81	0.43
54:1:341:C:H2'	54:1:342:A:C8	2.54	0.43
54:1:488:G:C2	54:1:491:G:H5"	2.53	0.43
54:1:523:C:O2'	54:1:524:G:H5'	2.17	0.43
54:1:949:G:O2'	54:1:950:G:H5'	2.18	0.43
54:1:974:G:C4	54:1:989:G:C2	3.06	0.43
54:1:1356:G:H2'	54:1:1357:C:C6	2.53	0.43
54:1:1632:A:N7	54:1:1633:G:C6	2.86	0.43
54:1:1935:G:C5	54:1:1962:C:C4	3.07	0.43
54:1:2529:G:OP2	54:1:2530:A:H5"	2.17	0.43
54:1:2733:A:H2'	54:1:2734:A:C8	2.53	0.43
55:2:81:G:H2'	55:2:82:U:O4'	2.18	0.43
56:5:1:C:H2'	56:5:2:G:H8	1.83	0.43
58:4:12:A:N3	58:4:12:A:H2'	2.34	0.43
2:c:13:ARG:HD3	2:c:15:PHE:CZ	2.53	0.43
2:c:151:THR:CG2	2:c:152:PRO:N	2.81	0.43
3:d:111:GLU:HA	3:d:114:ARG:HE	1.84	0.43
7:h:14:GLU:O	7:h:18:VAL:HG23	2.18	0.43
11:l:109:LYS:NZ	54:1:635:C:H3'	2.33	0.43
13:n:47:VAL:C	13:n:50:PRO:HD2	2.44	0.43
15:p:88:ARG:HB3	15:p:112:ARG:HD3	2.00	0.43
17:r:49:ILE:CG2	17:r:54:VAL:HA	2.48	0.43
22:w:7:ARG:CB	22:w:7:ARG:NH1	2.82	0.43
24:y:15:ASN:O	24:y:19:LEU:HG	2.18	0.43
25:z:28:LEU:HD23	25:z:28:LEU:C	2.43	0.43
30:E:24:LYS:HG2	30:E:25:HIS:N	2.33	0.43
32:G:8:MET:HE1	32:G:10:LYS:NZ	2.32	0.43
32:G:96:LEU:H	32:G:99:MET:CE	2.32	0.43
32:G:96:LEU:N	32:G:99:MET:HE3	2.32	0.43
32:G:100:LEU:HD22	32:G:100:LEU:N	2.34	0.43
33:H:146:LYS:HB2	33:H:202:PHE:CD2	2.43	0.43
34:I:1:ALA:O	34:I:67:LEU:HD11	2.18	0.43
35:J:96:GLN:NE2	53:3:7:A:C5	2.83	0.43
36:K:51:ILE:C	36:K:53:LYS:N	2.77	0.43
39:N:82:ILE:O	39:N:85:ALA:HB3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:O:48:ARG:NH2	53:3:1368:A:H1'	2.33	0.43
40:O:56:HIS:O	40:O:58:ASN:N	2.51	0.43
43:R:28:ARG:CZ	43:R:62:PHE:CD1	3.01	0.43
44:S:3:GLN:HB2	53:3:1047:G:O3'	2.18	0.43
49:X:43:MET:HE1	49:X:48:ILE:CG2	2.46	0.43
50:Y:54:GLN:HB3	50:Y:55:PRO:HD3	1.99	0.43
51:Z:33:ARG:HG2	51:Z:33:ARG:NH1	2.33	0.43
53:3:25:C:H2'	53:3:26:A:C8	2.54	0.43
53:3:259:G:H2'	53:3:260:G:C8	2.50	0.43
53:3:382:A:O2'	53:3:383:A:H5'	2.18	0.43
53:3:428:G:H8	53:3:428:G:OP1	2.01	0.43
53:3:692:U:O2	53:3:692:U:H2'	2.17	0.43
53:3:834:U:H2'	53:3:835:U:H6	1.80	0.43
53:3:951:G:H2'	53:3:952:U:H6	1.84	0.43
53:3:1070:U:O2'	53:3:1071:C:H5'	2.18	0.43
53:3:1488:G:O2'	53:3:1489:G:H5'	2.18	0.43
54:1:67:U:H2'	54:1:68:G:H8	1.82	0.43
54:1:236:C:O2'	54:1:237:C:H5'	2.18	0.43
54:1:820:A:H2'	54:1:821:A:C8	2.53	0.43
54:1:1020:A:C1'	54:1:1021:A:OP2	2.65	0.43
54:1:1065:U:H3'	54:1:1066:U:C5'	2.48	0.43
54:1:1087:G:H22	54:1:1103:A:H1'	1.82	0.43
54:1:1305:C:H42	54:1:1623:G:H1	1.65	0.43
54:1:1775:U:H2'	54:1:1776:G:H5'	1.99	0.43
54:1:1776:G:O2'	54:1:1777:U:H5'	2.18	0.43
54:1:2006:C:C2	54:1:2007:U:C5	3.06	0.43
54:1:2842:G:O2'	54:1:2843:G:H5'	2.18	0.43
54:1:2868:A:H3'	54:1:2869:G:C8	2.53	0.43
55:2:73:A:H2'	55:2:73:A:N3	2.32	0.43
56:5:20:U:C2'	56:5:21:A:H5"	2.42	0.43
2:c:141:ARG:HG2	2:c:141:ARG:NH1	2.33	0.43
2:c:187:LEU:HD13	2:c:187:LEU:HA	1.87	0.43
2:c:205:PRO:O	2:c:206:ALA:C	2.60	0.43
3:d:12:LEU:HD12	3:d:190:ALA:HB1	2.00	0.43
4:e:76:PHE:HZ	54:1:2308:G:N7	2.15	0.43
4:e:91:ARG:HA	4:e:95:MET:CE	2.48	0.43
10:k:7:MET:HB3	10:k:18:ARG:CZ	2.48	0.43
10:k:38:ILE:O	10:k:38:ILE:HG13	2.18	0.43
12:m:11:LYS:HE2	54:1:2277:G:O3'	2.18	0.43
23:x:9:LYS:HZ1	23:x:53:LYS:HB3	1.83	0.43
23:x:60:LYS:HZ3	54:1:372:G:C1'	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:40:HIS:C	34:I:42:ALA:N	2.76	0.43
34:I:47:LEU:CD2	34:I:52:VAL:HG13	2.48	0.43
34:I:48:SER:O	34:I:51:GLY:N	2.51	0.43
38:M:26:MET:C	38:M:57:GLU:HG3	2.43	0.43
41:P:38:GLY:O	41:P:39:ASN:C	2.61	0.43
44:S:33:VAL:O	44:S:33:VAL:HG22	2.18	0.43
53:3:293:G:C6	53:3:305:G:C2	3.06	0.43
53:3:1061:G:H2'	53:3:1062:U:O4'	2.19	0.43
53:3:1252:A:O2'	53:3:1253:G:H5'	2.17	0.43
53:3:1267:C:O2	53:3:1327:C:H4'	2.19	0.43
54:1:13:A:N1	54:1:525:U:H2'	2.33	0.43
54:1:871:U:H2'	54:1:872:U:H6	1.80	0.43
54:1:1113:U:O2'	54:1:1114:C:H5'	2.18	0.43
54:1:1347:A:H2'	54:1:1348:C:O4'	2.17	0.43
54:1:1656:C:O5'	54:1:1656:C:C6	2.69	0.43
54:1:1891:G:C4	54:1:1892:C:C5	3.06	0.43
54:1:1993:U:H2'	54:1:1994:C:O4'	2.19	0.43
54:1:2001:C:H2'	54:1:2002:G:O4'	2.18	0.43
54:1:2112:G:H3'	54:1:2113:U:C6	2.53	0.43
54:1:2114:A:H2'	54:1:2114:A:N3	2.33	0.43
54:1:2553:G:H3'	54:1:2554:U:C5'	2.40	0.43
55:2:53:A:O2'	55:2:54:G:H5'	2.17	0.43
57:6:33:U:H2'	57:6:35:A:OP2	2.17	0.43
1:b:23:LEU:HD21	1:b:82:TYR:CB	2.48	0.43
1:b:57:HIS:CD2	1:b:58:LYS:N	2.87	0.43
1:b:132:ARG:HH11	1:b:132:ARG:HG3	1.83	0.43
4:e:63:LYS:C	4:e:63:LYS:HD3	2.42	0.43
4:e:140:ILE:O	4:e:140:ILE:HG22	2.18	0.43
10:k:4:GLU:O	10:k:5:GLN:HB2	2.19	0.43
10:k:15:GLY:HA2	10:k:47:ILE:CD1	2.48	0.43
14:o:75:GLY:HA2	14:o:78:VAL:HG12	2.00	0.43
14:o:102:ARG:HG2	14:o:102:ARG:HH21	1.83	0.43
15:p:64:SER:O	15:p:65:ASN:C	2.60	0.43
16:q:59:LEU:C	16:q:59:LEU:CD2	2.89	0.43
19:t:6:ARG:HB3	19:t:6:ARG:NH1	2.33	0.43
24:y:3:ALA:HA	24:y:6:LEU:CD1	2.47	0.43
32:G:87:ASP:HB3	32:G:88:GLN:H	1.54	0.43
33:H:3:LYS:HA	53:3:1190:G:OP1	2.18	0.43
34:I:37:PRO:O	53:3:542:G:H5"	2.19	0.43
36:K:38:ARG:O	36:K:40:GLU:N	2.51	0.43
40:O:33:GLY:HA3	40:O:83:THR:CG2	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:T:81:ILE:O	45:T:85:GLY:N	2.52	0.43
46:U:14:ARG:NH2	53:3:618:C:H1'	2.30	0.43
46:U:16:PHE:C	46:U:16:PHE:HD2	2.26	0.43
47:V:47:ASP:HA	47:V:74:LEU:CD2	2.49	0.43
51:Z:14:ALA:O	51:Z:16:ARG:HG3	2.18	0.43
52:a:15:VAL:CG2	52:a:222:VAL:HG21	2.48	0.43
53:3:231:U:H2'	53:3:232:G:H8	1.83	0.43
53:3:396:C:C3'	53:3:397:A:H5"	2.49	0.43
53:3:585:G:C5	53:3:586:C:C5	3.06	0.43
53:3:1329:A:H2'	53:3:1330:U:H5'	2.00	0.43
53:3:1329:A:O2'	53:3:1330:U:H5'	2.18	0.43
53:3:1472:U:H2'	53:3:1473:G:O4'	2.18	0.43
54:1:557:C:H2'	54:1:558:U:C6	2.53	0.43
54:1:701:G:N2	54:1:702:U:H1'	2.33	0.43
54:1:830:G:H8	54:1:830:G:OP1	2.01	0.43
54:1:926:G:H2'	54:1:927:A:C8	2.53	0.43
54:1:1038:G:H2'	54:1:1039:A:C8	2.53	0.43
54:1:1400:U:O2'	54:1:1401:G:H5'	2.18	0.43
54:1:1844:C:H2'	54:1:1845:G:O4'	2.18	0.43
54:1:2053:G:O2'	54:1:2054:A:H5'	2.19	0.43
57:6:15:G:H22	57:6:48:C:H42	1.66	0.43
1:b:124:LYS:HD3	1:b:125:PRO:HD2	2.01	0.43
2:c:55:LYS:HD2	2:c:60:VAL:HG12	2.00	0.43
3:d:51:GLU:O	3:d:52:VAL:C	2.62	0.43
4:e:104:THR:O	26:A:38:SER:HB2	2.18	0.43
5:f:10:VAL:HG21	5:f:16:VAL:CG1	2.49	0.43
10:k:1:MET:HA	10:k:32:TYR:HB3	2.00	0.43
12:m:86:LYS:HG2	12:m:87:GLY:N	2.34	0.43
13:n:79:LEU:C	13:n:81:ASN:N	2.71	0.43
14:o:30:ARG:HA	14:o:35:ILE:HG13	2.01	0.43
16:q:53:LYS:HE3	54:1:994:C:H3'	2.00	0.43
20:u:21:ARG:HH11	20:u:21:ARG:HG3	1.84	0.43
31:F:9:LYS:HD2	31:F:10:LEU:O	2.19	0.43
33:H:83:VAL:HA	33:H:86:LEU:CG	2.48	0.43
34:I:74:TYR:OH	34:I:96:ARG:HD2	2.18	0.43
36:K:37:HIS:HB2	36:K:63:ASN:O	2.19	0.43
38:M:103:VAL:HG23	38:M:124:ILE:HA	2.01	0.43
42:Q:38:THR:HB	42:Q:50:LYS:HA	2.01	0.43
42:Q:106:VAL:HG11	42:Q:109:ARG:HD2	2.01	0.43
49:X:72:GLU:CD	53:3:1320:C:H4'	2.44	0.43
51:Z:14:ALA:O	51:Z:15:LEU:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:10:VAL:O	52:a:14:LYS:HG2	2.19	0.43
53:3:285:C:O2'	53:3:286:C:H5'	2.19	0.43
53:3:505:G:H2'	53:3:506:G:H8	1.84	0.43
53:3:596:A:H5'	53:3:596:A:C8	2.54	0.43
53:3:1087:G:H2'	53:3:1088:G:H5'	2.00	0.43
54:1:244:A:H2'	54:1:245:G:O4'	2.18	0.43
54:1:579:G:H2'	54:1:580:U:C6	2.53	0.43
54:1:645:C:O2'	54:1:646:U:H5'	2.19	0.43
54:1:842:U:H2'	54:1:843:G:H8	1.82	0.43
54:1:971:G:C6	54:1:972:A:N3	2.87	0.43
54:1:1511:G:O2'	54:1:1512:C:H5'	2.18	0.43
54:1:1715:G:H2'	54:1:1743:G:C6	2.54	0.43
54:1:1721:G:H22	54:1:1738:G:H2'	1.83	0.43
54:1:1773:A:C6	54:1:1774:C:O2	2.71	0.43
54:1:1897:G:O2'	54:1:1898:U:H5'	2.18	0.43
54:1:1925:C:O5'	54:1:1925:C:C6	2.52	0.43
54:1:2102:G:C2	54:1:2103:C:C2	3.06	0.43
54:1:2538:C:H2'	54:1:2539:C:C6	2.50	0.43
54:1:2564:A:C2	54:1:2647:U:H4'	2.54	0.43
55:2:62:C:H2'	55:2:63:C:C6	2.53	0.43
4:e:61:GLY:HA2	26:A:7:PRO:HG2	2.01	0.43
5:f:23:ILE:O	5:f:33:THR:HB	2.19	0.43
7:h:31:ARG:O	7:h:31:ARG:HG2	2.19	0.43
7:h:37:LYS:HE2	54:1:1084:A:N7	2.34	0.43
8:i:91:LYS:HB3	8:i:94:LYS:CE	2.49	0.43
9:j:26:GLY:HA3	54:1:1140:C:H5'	2.00	0.43
10:k:12:ASP:OD1	10:k:85:VAL:HG23	2.19	0.43
10:k:108:ARG:NH1	10:k:116:ILE:CD1	2.82	0.43
11:l:35:HIS:HB3	11:l:36:LYS:H	1.72	0.43
12:m:41:LEU:HD13	12:m:45:GLN:OE1	2.19	0.43
14:o:99:TYR:CD2	14:o:99:TYR:O	2.72	0.43
15:p:70:GLU:CD	15:p:70:GLU:N	2.77	0.43
16:q:75:TYR:O	16:q:78:PHE:N	2.52	0.43
18:s:58:ALA:HA	18:s:62:ASP:OD1	2.18	0.43
21:v:14:LYS:HB2	55:2:98:G:N1	2.31	0.43
22:w:73:ARG:HH11	22:w:73:ARG:CG	2.31	0.43
24:y:42:LEU:O	24:y:46:VAL:HG23	2.18	0.43
25:z:23:LEU:HD11	25:z:53:MET:HE1	2.00	0.43
29:D:27:GLY:O	29:D:30:VAL:HB	2.19	0.43
31:F:7:VAL:HG21	31:F:23:ILE:CG2	2.48	0.43
34:I:92:LEU:HD23	34:I:93:LEU:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:187:ARG:O	34:I:190:LEU:HG	2.18	0.43
35:J:88:HIS:CG	35:J:89:THR:H	2.36	0.43
39:N:98:ARG:HG2	39:N:98:ARG:HH11	1.84	0.43
39:N:118:ARG:NH2	53:3:1233:G:OP1	2.48	0.43
43:R:76:ILE:HG23	43:R:77:LYS:N	2.33	0.43
51:Z:19:LYS:O	51:Z:22:CYS:N	2.35	0.43
52:a:7:ARG:HG3	54:1:2129:C:OP2	2.18	0.43
53:3:73:C:O2'	53:3:74:A:H5'	2.18	0.43
53:3:162:A:H2'	53:3:163:C:C4'	2.48	0.43
53:3:389:A:H5"	53:3:390:U:H5	1.82	0.43
53:3:499:A:O4'	53:3:547:A:N6	2.52	0.43
53:3:1086:U:O5'	53:3:1086:U:H6	2.01	0.43
53:3:1391:U:H2'	53:3:1392:G:H8	1.84	0.43
53:3:1513:A:H2'	53:3:1514:G:C8	2.53	0.43
54:1:67:U:H2'	54:1:68:G:C8	2.54	0.43
54:1:564:C:O2'	54:1:565:C:H5'	2.19	0.43
54:1:1613:G:H2'	54:1:1617:C:H42	1.84	0.43
54:1:1889:A:H2'	54:1:1890:A:C8	2.54	0.43
54:1:1936:A:H2	54:1:1943:U:C2	2.37	0.43
54:1:2290:G:O2'	54:1:2381:A:H1'	2.19	0.43
1:b:130:PRO:HB2	1:b:132:ARG:HG2	2.00	0.43
1:b:145:MET:O	1:b:146:LYS:HG3	2.18	0.43
4:e:29:ARG:HB2	4:e:29:ARG:HH11	1.84	0.43
5:f:25:ILE:HD12	5:f:74:MET:HG2	2.01	0.43
8:i:112:LYS:HZ3	8:i:128:ILE:HD11	1.84	0.43
9:j:20:ALA:O	9:j:21:THR:C	2.62	0.43
11:l:2:ARG:HG2	11:l:2:ARG:HH11	1.84	0.43
13:n:49:GLU:HB2	13:n:50:PRO:HD3	2.01	0.43
16:q:86:SER:O	17:r:52:PRO:HD3	2.19	0.43
17:r:51:VAL:O	17:r:52:PRO:C	2.60	0.43
18:s:90:LYS:NZ	54:1:748:G:C4	2.86	0.43
33:H:110:LEU:HD13	33:H:203:LYS:CE	2.49	0.43
34:I:195:ASN:HD21	34:I:197:HIS:CE1	2.36	0.43
41:P:71:ASP:HA	41:P:74:LYS:HG3	2.01	0.43
41:P:108:ASN:HB2	51:Z:5:VAL:O	2.19	0.43
45:T:88:ARG:CZ	54:1:715:A:H4'	2.49	0.43
47:V:76:ARG:NH1	47:V:78:VAL:HG22	2.22	0.43
52:a:42:VAL:HG11	52:a:175:ILE:HD11	2.01	0.43
52:a:217:THR:CG2	52:a:218:MET:N	2.82	0.43
53:3:592:G:O2'	53:3:593:U:H5'	2.18	0.43
53:3:1170:A:H2'	53:3:1171:A:C5'	2.49	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1338:G:H2'	53:3:1339:A:C8	2.54	0.43
54:1:201:C:C4	54:1:202:U:C5	3.07	0.43
54:1:449:A:O2'	54:1:450:G:H5'	2.19	0.43
54:1:801:G:H3'	54:1:802:A:H5"	2.01	0.43
54:1:2046:G:H2'	54:1:2047:C:C6	2.53	0.43
54:1:2172:U:P	54:1:2174:C:H5	2.42	0.43
54:1:2298:A:H4'	54:1:2322:A:H4'	2.00	0.43
54:1:2465:C:O2'	54:1:2466:C:H5'	2.19	0.43
5:f:93:TYR:CD1	5:f:106:LEU:HA	2.52	0.43
5:f:102:ILE:HD11	5:f:116:LEU:HG	2.00	0.43
7:h:59:LEU:HB3	7:h:62:ARG:HB2	2.01	0.43
11:l:53:GLY:O	11:l:54:GLN:C	2.62	0.43
12:m:42:THR:HG1	12:m:44:ARG:HB2	1.84	0.43
12:m:125:PRO:HB3	54:1:2485:G:O3'	2.18	0.43
14:o:14:ALA:O	14:o:15:ARG:C	2.61	0.43
16:q:60:TRP:HZ2	16:q:92:LYS:HD3	1.82	0.43
16:q:65:ASN:OD1	16:q:69:ARG:NH2	2.48	0.43
18:s:75:PHE:N	18:s:75:PHE:CD1	2.87	0.43
18:s:89:ALA:C	18:s:91:GLY:N	2.76	0.43
27:B:49:ARG:HA	27:B:49:ARG:HH11	1.84	0.43
31:F:37:GLN:O	54:1:1124:G:O2'	2.28	0.43
32:G:58:LYS:HE2	32:G:58:LYS:CA	2.45	0.43
32:G:96:LEU:HB2	32:G:99:MET:HG3	2.01	0.43
32:G:141:GLU:O	32:G:145:ASN:N	2.40	0.43
33:H:148:ILE:HG13	33:H:201:ILE:HG23	2.00	0.43
35:J:28:ARG:HG3	35:J:28:ARG:O	2.19	0.43
40:O:11:LYS:HB3	40:O:71:LEU:CB	2.48	0.43
43:R:9:PRO:HA	43:R:17:ALA:HB1	1.99	0.43
50:Y:49:ALA:O	50:Y:52:GLU:HG3	2.18	0.43
50:Y:73:ARG:HD3	53:3:263:A:OP1	2.19	0.43
51:Z:57:LYS:HD2	51:Z:57:LYS:C	2.43	0.43
52:a:14:LYS:HB3	52:a:32:GLU:HG3	2.01	0.43
53:3:205:A:H2'	53:3:206:C:O4'	2.19	0.43
53:3:549:C:C2	53:3:550:G:C8	3.07	0.43
53:3:1280:A:O2'	53:3:1281:C:H5'	2.19	0.43
54:1:217:A:H2'	54:1:218:A:O4'	2.19	0.43
54:1:404:A:O2'	54:1:405:U:H5'	2.19	0.43
54:1:737:C:O2'	54:1:738:G:H5'	2.18	0.43
54:1:1259:G:H2'	54:1:1260:A:C8	2.53	0.43
54:1:1328:A:H2'	54:1:1330:C:C5	2.53	0.43
54:1:1765:U:H2'	54:1:1766:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1923:U:C2	54:1:1924:C:C5	3.07	0.43
54:1:2125:G:C6	54:1:2126:A:C2	3.07	0.43
54:1:2733:A:H2'	54:1:2734:A:H8	1.84	0.43
54:1:2784:U:H2'	54:1:2785:C:H6	1.84	0.43
54:1:2815:C:H2'	54:1:2816:G:H8	1.84	0.43
54:1:2846:G:O2'	54:1:2847:U:H5'	2.19	0.43
54:1:2849:U:H4'	54:1:2850:A:H5'	2.00	0.43
54:1:2897:U:O2'	54:1:2898:U:H5'	2.18	0.43
55:2:66:A:H5'	55:2:67:G:OP1	2.19	0.43
2:c:114:LYS:HE3	2:c:196:ALA:HB2	2.00	0.43
4:e:109:ARG:NH1	4:e:137:PHE:O	2.51	0.43
6:g:50:ARG:HG3	6:g:51:ARG:N	2.34	0.43
8:i:102:ARG:O	8:i:105:LEU:HB2	2.19	0.43
12:m:109:PRO:HB2	12:m:111:GLU:OE2	2.18	0.43
17:r:70:GLU:CD	17:r:70:GLU:N	2.77	0.43
27:B:48:TYR:O	27:B:49:ARG:HB2	2.18	0.43
29:D:41:ARG:CB	29:D:41:ARG:HH21	2.32	0.43
33:H:39:ARG:CG	33:H:54:ILE:HD11	2.29	0.43
33:H:136:ALA:HA	33:H:139:ASN:OD1	2.18	0.43
36:K:44:ARG:HA	36:K:58:HIS:HA	2.01	0.43
39:N:79:ARG:HD2	39:N:102:PHE:CE1	2.54	0.43
41:P:71:ASP:OD2	41:P:74:LYS:HD2	2.19	0.43
41:P:86:LYS:HD3	53:3:707:U:OP1	2.19	0.43
42:Q:36:VAL:HG23	42:Q:52:CYS:HA	2.01	0.43
42:Q:50:LYS:HD3	42:Q:50:LYS:N	2.33	0.43
44:S:7:ALA:HA	44:S:10:VAL:HG12	2.01	0.43
45:T:16:ARG:HB3	45:T:20:ASP:OD2	2.18	0.43
45:T:32:THR:HG22	45:T:36:ASN:OD1	2.19	0.43
47:V:66:LEU:O	53:3:265:G:C5'	2.66	0.43
48:W:52:ARG:HG2	48:W:56:ARG:HH22	1.84	0.43
48:W:57:ALA:O	48:W:60:ARG:HB2	2.19	0.43
52:a:15:VAL:HG21	52:a:222:VAL:HG11	1.99	0.43
53:3:45:G:H2'	53:3:46:G:C8	2.54	0.43
53:3:270:A:H2'	53:3:271:C:H6	1.84	0.43
54:1:202:U:O2'	54:1:203:A:H5'	2.19	0.43
54:1:805:G:H22	54:1:828:U:H5"	1.84	0.43
54:1:826:U:H5"	54:1:2428:G:O3'	2.19	0.43
54:1:857:G:H2'	54:1:858:G:O4'	2.19	0.43
54:1:859:G:O4'	54:1:2268:A:H1'	2.18	0.43
54:1:931:U:H5"	54:1:932:U:OP2	2.19	0.43
54:1:1558:C:O4'	54:1:1560:G:C8	2.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1838:C:N4	54:1:1898:U:H2'	2.34	0.43
54:1:1922:G:C5	54:1:1923:U:C2	3.07	0.43
58:4:11:U:C2'	58:4:12:A:H5"	2.43	0.43
1:b:132:ARG:C	1:b:133:ASN:HD22	2.27	0.42
2:c:48:ILE:HG23	2:c:84:LEU:HD21	2.01	0.42
2:c:156:PHE:CD2	2:c:156:PHE:N	2.70	0.42
2:c:203:VAL:HG12	2:c:204:LYS:N	2.34	0.42
4:e:24:VAL:O	4:e:27:VAL:HG13	2.19	0.42
5:f:70:LEU:O	5:f:73:SER:HB3	2.19	0.42
9:j:16:TYR:HB2	9:j:54:ILE:CD1	2.48	0.42
9:j:69:ARG:HH11	9:j:69:ARG:HG3	1.83	0.42
10:k:32:TYR:OH	54:1:1996:C:H5	2.01	0.42
12:m:120:ALA:O	12:m:121:ALA:C	2.61	0.42
13:n:37:THR:O	13:n:38:LEU:C	2.62	0.42
14:o:85:LYS:HB2	14:o:87:ILE:HD13	2.00	0.42
15:p:3:ILE:H	15:p:3:ILE:CD1	2.32	0.42
17:r:64:VAL:HB	17:r:95:ASP:O	2.18	0.42
18:s:25:ARG:NH1	18:s:25:ARG:HB2	2.34	0.42
19:t:54:GLU:O	19:t:87:LEU:HD23	2.19	0.42
22:w:16:ARG:HG3	54:1:2271:G:H5'	2.01	0.42
31:F:7:VAL:HG21	31:F:23:ILE:HG22	2.01	0.42
32:G:106:VAL:O	32:G:109:SER:HB3	2.19	0.42
33:H:107:LYS:HB3	33:H:110:LEU:HB2	1.99	0.42
33:H:117:ASP:O	33:H:120:THR:N	2.52	0.42
33:H:123:LEU:HD13	33:H:129:PHE:HB3	2.01	0.42
35:J:155:LYS:HE2	38:M:65:PHE:CB	2.49	0.42
35:J:158:LYS:O	35:J:159:SER:HB2	2.17	0.42
36:K:45:ARG:HG3	36:K:45:ARG:NH1	2.34	0.42
37:L:111:GLY:HA2	37:L:118:ARG:NH2	2.34	0.42
37:L:126:ALA:C	37:L:129:ASN:H	2.27	0.42
39:N:90:ASP:C	39:N:92:SER:N	2.74	0.42
39:N:119:LYS:NZ	53:3:1349:A:OP2	2.51	0.42
42:Q:33:CYS:HB2	42:Q:54:VAL:HG12	2.01	0.42
42:Q:65:TYR:HB2	42:Q:92:VAL:HG11	2.01	0.42
43:R:103:THR:OG1	43:R:104:ASN:N	2.52	0.42
47:V:64:ARG:HH21	47:V:66:LEU:HD22	1.83	0.42
49:X:22:VAL:HG23	49:X:23:GLU:N	2.32	0.42
52:a:166:ASP:HB2	52:a:170:ILE:O	2.19	0.42
53:3:218:U:O2'	53:3:219:U:H5'	2.19	0.42
53:3:425:G:H2'	53:3:426:U:C6	2.54	0.42
53:3:518:C:H5	53:3:530:G:OP2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1017:U:H2'	53:3:1018:G:C8	2.54	0.42
53:3:1118:U:H2'	53:3:1119:C:C6	2.52	0.42
54:1:323:C:H2'	54:1:1205:A:H61	1.83	0.42
54:1:633:A:H2'	54:1:634:C:O4'	2.19	0.42
54:1:677:A:C2'	54:1:678:C:H5'	2.49	0.42
54:1:1181:U:H2'	54:1:1182:G:H8	1.80	0.42
54:1:1337:G:O2'	54:1:1338:G:H5'	2.19	0.42
54:1:2046:G:C4	54:1:2047:C:C5	3.07	0.42
54:1:2051:A:C2	54:1:2052:A:N6	2.87	0.42
54:1:2093:G:N7	54:1:2225:A:H2'	2.34	0.42
54:1:2590:A:H2'	54:1:2591:C:C6	2.53	0.42
3:d:4:VAL:HA	3:d:11:ALA:HB2	2.01	0.42
7:h:11:ILE:HG22	7:h:15:VAL:HG23	2.01	0.42
7:h:34:THR:HG22	54:1:1056:G:C5'	2.50	0.42
14:o:82:ALA:HB1	14:o:87:ILE:HB	2.01	0.42
16:q:30:VAL:HG21	54:1:580:U:O3'	2.19	0.42
19:t:40:LYS:HG2	19:t:58:VAL:HG13	2.00	0.42
19:t:72:GLN:OE1	19:t:72:GLN:HA	2.19	0.42
22:w:26:SER:HA	22:w:61:GLY:O	2.19	0.42
23:x:10:ARG:HH11	23:x:10:ARG:HG2	1.83	0.42
24:y:14:LEU:HA	24:y:17:GLU:HB3	2.01	0.42
25:z:29:ARG:HH22	54:1:1183:U:H4'	1.84	0.42
32:G:71:THR:C	32:G:72:LYS:HD3	2.43	0.42
34:I:7:LYS:H	34:I:7:LYS:CD	2.28	0.42
34:I:68:GLU:O	34:I:69:ARG:C	2.62	0.42
35:J:55:VAL:N	35:J:56:PRO:HD2	2.33	0.42
35:J:122:VAL:C	35:J:123:LEU:HD12	2.44	0.42
36:K:14:GLN:O	36:K:17:GLN:N	2.49	0.42
36:K:38:ARG:O	36:K:38:ARG:HG2	2.19	0.42
38:M:113:ARG:NH2	38:M:116:ARG:HG2	2.34	0.42
42:Q:49:ARG:NH2	53:3:522:C:H41	2.16	0.42
44:S:22:LYS:C	44:S:24:ALA:H	2.27	0.42
44:S:41:TRP:O	44:S:45:LEU:N	2.38	0.42
44:S:68:ARG:HD3	44:S:79:SER:OG	2.19	0.42
44:S:80:ARG:HH11	44:S:80:ARG:CB	2.29	0.42
46:U:60:TRP:HA	46:U:63:GLN:HG2	2.00	0.42
47:V:78:VAL:C	47:V:79:GLU:HG2	2.44	0.42
48:W:38:ILE:HD12	48:W:38:ILE:N	2.34	0.42
48:W:47:ARG:O	48:W:50:TYR:N	2.50	0.42
50:Y:14:GLU:OE2	50:Y:14:GLU:HA	2.19	0.42
50:Y:72:ALA:O	50:Y:76:ALA:N	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:273:U:H2'	53:3:274:A:C5'	2.46	0.42
53:3:465:A:H2'	53:3:465:A:N3	2.34	0.42
53:3:945:G:C2	53:3:946:A:C8	3.07	0.42
53:3:979:C:H1'	53:3:1317:C:H41	1.83	0.42
53:3:1285:A:H5'	53:3:1286:U:C4	2.54	0.42
54:1:341:C:H2'	54:1:342:A:H8	1.83	0.42
54:1:409:G:H2'	54:1:410:G:H8	1.80	0.42
54:1:478:A:N1	54:1:500:G:H4'	2.33	0.42
54:1:481:G:O2'	54:1:506:G:N2	2.52	0.42
54:1:1219:U:H2'	54:1:1220:G:C8	2.54	0.42
54:1:2327:A:H2'	54:1:2328:A:C8	2.54	0.42
56:5:2:G:O2'	56:5:3:G:H8	2.01	0.42
2:c:133:THR:CB	54:1:1993:U:H4'	2.47	0.42
2:c:173:GLN:O	2:c:174:SER:HB2	2.19	0.42
3:d:181:ILE:CG2	11:l:3:LEU:HB2	2.50	0.42
5:f:4:ALA:O	5:f:6:ALA:N	2.46	0.42
5:f:154:GLU:HG3	5:f:157:LYS:H	1.83	0.42
10:k:1:MET:H2	10:k:32:TYR:HB3	1.84	0.42
10:k:77:ILE:O	10:k:79:PHE:CD1	2.72	0.42
11:l:118:THR:OG1	11:l:120:VAL:HG13	2.18	0.42
12:m:25:ASP:C	12:m:27:SER:H	2.27	0.42
12:m:135:VAL:HG11	21:v:57:TYR:CD2	2.54	0.42
14:o:25:ARG:NH2	14:o:25:ARG:HB3	2.34	0.42
15:p:30:TRP:CH2	15:p:39:LEU:HD21	2.54	0.42
17:r:14:VAL:HG22	17:r:15:SER:O	2.19	0.42
17:r:46:GLU:OE2	17:r:48:LYS:N	2.52	0.42
22:w:25:GLU:OE2	54:1:923:G:H4'	2.19	0.42
30:E:3:ILE:HG23	30:E:63:TYR:HE2	1.84	0.42
30:E:29:ARG:HD3	30:E:29:ARG:HA	1.76	0.42
33:H:5:HIS:HD1	33:H:7:ASN:HB3	1.85	0.42
33:H:26:LYS:HE3	53:3:1256:A:H3'	2.01	0.42
34:I:12:ARG:HH11	34:I:36:ALA:HB3	1.83	0.42
34:I:50:TYR:O	34:I:54:LEU:N	2.40	0.42
34:I:144:ILE:O	34:I:145:ARG:C	2.62	0.42
34:I:160:LEU:O	34:I:164:ARG:HB2	2.20	0.42
37:L:70:PRO:HA	37:L:137:ARG:HH12	1.84	0.42
41:P:115:ILE:O	41:P:115:ILE:HG13	2.19	0.42
49:X:10:ILE:CD1	49:X:15:LEU:HD22	2.45	0.42
52:a:7:ARG:HE	52:a:8:MET:HG3	1.83	0.42
52:a:10:VAL:HG13	52:a:14:LYS:HE2	2.00	0.42
53:3:179:A:H2'	53:3:180:U:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:903:G:H2'	53:3:904:U:C6	2.53	0.42
53:3:1000:A:H2'	53:3:1001:C:C6	2.55	0.42
53:3:1015:G:C6	53:3:1016:A:C6	3.07	0.42
54:1:202:U:H2'	54:1:203:A:O4'	2.19	0.42
54:1:414:C:H2'	54:1:415:A:H8	1.84	0.42
54:1:609:A:H2'	54:1:610:C:O4'	2.19	0.42
54:1:785:G:H2'	54:1:786:C:C6	2.52	0.42
54:1:1708:C:H2'	54:1:1709:U:C6	2.55	0.42
54:1:1804:C:H2'	54:1:1805:A:H8	1.84	0.42
54:1:1806:C:H2'	54:1:1807:G:O4'	2.19	0.42
54:1:1908:C:H2'	54:1:1909:C:O4'	2.19	0.42
54:1:2024:G:O2'	54:1:2025:C:H5'	2.19	0.42
54:1:2243:U:O2'	54:1:2244:U:H5'	2.19	0.42
54:1:2565:A:H2'	54:1:2566:A:O4'	2.19	0.42
55:2:119:A:N3	55:2:120:A:C1'	2.80	0.42
57:6:25:C:C2	57:6:26:G:C8	3.07	0.42
57:6:27:U:H6	57:6:27:U:H5'	1.84	0.42
4:e:97:GLU:H	4:e:97:GLU:CD	2.27	0.42
5:f:106:LEU:HD23	5:f:106:LEU:N	2.34	0.42
6:g:1:MET:O	6:g:20:ASN:HA	2.19	0.42
6:g:43:ASN:HA	6:g:46:PHE:CD2	2.54	0.42
12:m:13:HIS:CE1	54:1:954:G:H4'	2.54	0.42
13:n:21:PHE:HA	13:n:24:MET:HB3	2.01	0.42
13:n:112:TYR:CE1	27:B:54:ILE:HD11	2.55	0.42
15:p:17:PRO:O	15:p:19:PHE:HD2	2.02	0.42
17:r:85:LYS:NZ	54:1:1187:G:OP1	2.31	0.42
19:t:51:PHE:O	19:t:53:VAL:HG13	2.19	0.42
20:u:42:LYS:HB2	54:1:499:U:H4'	2.02	0.42
25:z:56:VAL:HG22	25:z:58:GLU:H	1.85	0.42
31:F:36:ARG:HH22	54:1:2741:A:H5"	1.84	0.42
33:H:74:ILE:HG22	33:H:74:ILE:O	2.19	0.42
33:H:107:LYS:CG	33:H:110:LEU:HD12	2.49	0.42
34:I:3:TYR:CE2	34:I:5:GLY:C	2.97	0.42
34:I:38:GLY:HA3	53:3:542:G:C5'	2.48	0.42
36:K:18:VAL:O	36:K:22:ILE:HG13	2.18	0.42
39:N:109:GLN:NE2	39:N:110:VAL:O	2.52	0.42
40:O:50:THR:HG21	53:3:975:A:N6	2.28	0.42
49:X:39:ILE:HD12	49:X:65:MET:O	2.19	0.42
52:a:43:ASP:OD2	54:1:2176:A:H2	2.02	0.42
53:3:150:U:O2'	53:3:151:A:H5'	2.19	0.42
53:3:299:G:O6	53:3:300:A:C6	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1074:G:C4	53:3:1075:U:C5	3.07	0.42
53:3:1174:G:H2'	53:3:1175:G:H8	1.83	0.42
53:3:1237:C:H4'	53:3:1334:G:N2	2.34	0.42
53:3:1259:C:C3'	53:3:1260:G:H5"	2.45	0.42
53:3:1401:G:H2'	53:3:1402:C:C5'	2.49	0.42
54:1:275:C:H2'	54:1:276:U:H5"	2.00	0.42
54:1:624:C:O2'	54:1:657:U:H5"	2.20	0.42
54:1:859:G:O2'	54:1:860:U:P	2.76	0.42
54:1:909:A:H2'	54:1:912:C:C5	2.54	0.42
54:1:962:G:H2'	54:1:963:U:C6	2.55	0.42
54:1:1348:C:C6	54:1:1349:C:C5	3.06	0.42
54:1:1584:U:H2'	54:1:1585:C:C4'	2.49	0.42
54:1:2468:A:N7	54:1:2476:A:N1	2.67	0.42
56:5:44:G:H2'	56:5:45:G:O4'	2.19	0.42
56:5:59:A:C2'	56:5:60:U:H5'	2.50	0.42
56:5:74:C:H2'	56:5:75:C:H6	1.84	0.42
1:b:42:ARG:HH21	1:b:48:ILE:HD11	1.84	0.42
2:c:151:THR:C	2:c:153:GLY:N	2.76	0.42
2:c:183:GLU:C	2:c:184:ARG:HG3	2.45	0.42
3:d:118:LEU:HD22	3:d:188:MET:CE	2.50	0.42
4:e:25:MET:HE1	55:2:57:A:C2	2.54	0.42
7:h:64:VAL:C	7:h:66:GLY:N	2.78	0.42
9:j:78:THR:HG22	9:j:83:GLY:CA	2.49	0.42
10:k:2:ILE:HG23	10:k:8:LEU:HD21	2.02	0.42
11:l:38:GLN:OE1	54:1:805:G:C4'	2.67	0.42
12:m:123:LYS:HD2	54:1:2484:G:H1'	2.01	0.42
14:o:87:ILE:H	14:o:87:ILE:CD1	2.32	0.42
19:t:69:ARG:HB2	19:t:69:ARG:HH11	1.85	0.42
20:u:48:VAL:N	20:u:53:GLN:HA	2.31	0.42
21:v:53:LYS:HB3	21:v:55:GLU:OE1	2.19	0.42
22:w:70:PRO:HB3	55:2:12:C:N4	2.34	0.42
28:C:10:LEU:HB2	28:C:20:TYR:O	2.19	0.42
32:G:67:LEU:HD13	32:G:160:LEU:CD1	2.50	0.42
34:I:8:LEU:HD23	53:3:429:U:P	2.60	0.42
34:I:60:VAL:HA	34:I:63:ILE:CD1	2.50	0.42
35:J:54:GLU:HB3	35:J:56:PRO:HD2	2.01	0.42
42:Q:65:TYR:C	42:Q:66:ILE:HD12	2.43	0.42
43:R:53:ASP:HA	43:R:56:ARG:HG3	2.00	0.42
48:W:55:ALA:O	48:W:59:LYS:HG3	2.20	0.42
53:3:171:A:H2'	53:3:172:A:C8	2.53	0.42
53:3:232:G:H1'	53:3:262:A:N1	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:541:G:HO2'	53:3:542:G:H5'	1.83	0.42
53:3:683:G:H2'	53:3:684:U:O4'	2.19	0.42
53:3:1134:G:H2'	53:3:1135:U:O4'	2.20	0.42
53:3:1329:A:C2'	53:3:1330:U:H5'	2.49	0.42
54:1:30:G:H4'	54:1:1215:G:H5'	2.02	0.42
54:1:56:A:O4'	54:1:127:A:C2	2.73	0.42
54:1:683:U:O5'	54:1:683:U:H6	2.02	0.42
54:1:784:G:OP2	54:1:2589:A:OP1	2.37	0.42
54:1:881:G:H2'	54:1:882:G:O4'	2.19	0.42
54:1:886:A:H8	54:1:890:C:H41	1.66	0.42
54:1:1006:C:O2'	54:1:1007:C:H5'	2.20	0.42
54:1:1298:C:H2'	54:1:1299:G:O4'	2.19	0.42
54:1:1401:G:H2'	54:1:1402:U:C6	2.54	0.42
54:1:1789:A:C5	54:1:1790:C:C5	3.08	0.42
54:1:1911:U:H5	54:1:1918:A:H2'	1.84	0.42
54:1:2020:A:C2	54:1:2022:U:H1'	2.54	0.42
54:1:2116:G:H1	54:1:2165:C:H42	1.65	0.42
54:1:2222:C:H2'	54:1:2223:G:O4'	2.19	0.42
54:1:2540:C:O2'	54:1:2541:A:H5'	2.19	0.42
1:b:48:ILE:HG22	1:b:48:ILE:O	2.19	0.42
1:b:86:ARG:HG2	1:b:88:ALA:N	2.23	0.42
4:e:39:VAL:HG11	4:e:49:LEU:HD13	2.01	0.42
4:e:98:PHE:HA	4:e:101:ARG:HG2	2.02	0.42
16:q:13:HIS:C	16:q:17:LEU:CD2	2.93	0.42
20:u:60:LYS:HG3	20:u:61:GLU:O	2.19	0.42
22:w:52:ASP:O	22:w:53:HIS:HB2	2.20	0.42
23:x:26:ARG:NH1	23:x:28:PHE:CE1	2.87	0.42
24:y:2:LYS:HD2	54:1:102:U:N3	2.33	0.42
29:D:18:PHE:C	29:D:20:ALA:N	2.74	0.42
32:G:67:LEU:HD23	32:G:68:PHE:C	2.44	0.42
34:I:195:ASN:OD1	34:I:196:GLU:N	2.52	0.42
37:L:69:ARG:C	37:L:137:ARG:NH1	2.78	0.42
37:L:78:ARG:CZ	53:3:1382:C:H1'	2.46	0.42
39:N:54:VAL:HG11	39:N:93:LEU:CD2	2.50	0.42
40:O:11:LYS:HB3	40:O:71:LEU:HB3	2.01	0.42
43:R:73:SER:O	43:R:76:ILE:HG22	2.19	0.42
45:T:61:GLN:HE22	45:T:65:LEU:CD1	2.33	0.42
49:X:79:TYR:CZ	49:X:80:ARG:HB3	2.54	0.42
52:a:8:MET:HA	52:a:11:ILE:HD12	2.00	0.42
52:a:8:MET:HE1	54:1:2174:C:OP1	2.19	0.42
52:a:61:GLY:O	52:a:162:ARG:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:386:C:O2'	53:3:387:U:H5'	2.19	0.42
53:3:390:U:H2'	53:3:391:G:H8	1.85	0.42
53:3:588:G:H2'	53:3:589:U:C6	2.54	0.42
53:3:605:U:O2'	53:3:606:G:H5'	2.20	0.42
53:3:1238:A:OP1	53:3:1335:U:H1'	2.20	0.42
54:1:560:C:O2'	54:1:561:G:H5'	2.20	0.42
54:1:607:U:O2'	54:1:608:A:H5'	2.19	0.42
54:1:611:C:H2'	54:1:612:G:H5'	2.02	0.42
54:1:687:C:H2'	54:1:688:U:C6	2.54	0.42
54:1:689:A:O2'	54:1:690:G:H5'	2.20	0.42
54:1:840:C:H2'	54:1:841:G:O4'	2.19	0.42
54:1:1227:G:H2'	54:1:1228:G:C8	2.55	0.42
54:1:1315:C:C2	54:1:1316:U:C5	3.07	0.42
54:1:1322:A:C5	54:1:1323:C:C5	3.08	0.42
54:1:1712:U:H3'	54:1:1713:A:H2'	2.01	0.42
54:1:2252:G:C6	54:1:2253:G:C6	3.07	0.42
54:1:2447:G:C4	54:1:2500:U:C5	3.07	0.42
54:1:2531:A:H2	54:1:2659:G:H1'	1.84	0.42
54:1:2625:G:C5	54:1:2626:C:C4	3.08	0.42
54:1:2881:U:O2'	54:1:2882:A:H5'	2.19	0.42
55:2:22:U:O2'	55:2:23:G:H5'	2.19	0.42
1:b:224:MET:CE	54:1:782:A:C2	2.95	0.42
3:d:58:LYS:O	3:d:59:PRO:C	2.63	0.42
4:e:2:LYS:HD2	4:e:2:LYS:C	2.45	0.42
4:e:39:VAL:O	4:e:41:GLU:N	2.46	0.42
4:e:90:LEU:HD23	4:e:90:LEU:HA	1.92	0.42
4:e:107:VAL:HB	4:e:108:PRO:HD3	2.00	0.42
7:h:37:LYS:HG3	54:1:1085:A:H62	1.85	0.42
7:h:37:LYS:CE	7:h:54:VAL:HG11	2.50	0.42
10:k:58:LEU:N	10:k:58:LEU:HD23	2.34	0.42
11:l:21:ARG:HH12	54:1:587:C:P	2.42	0.42
12:m:13:HIS:HD2	54:1:910:A:C4	2.38	0.42
12:m:123:LYS:HE2	54:1:2483:C:N3	2.34	0.42
13:n:98:LEU:HB2	13:n:112:TYR:HB2	2.02	0.42
14:o:92:PHE:CG	14:o:93:ASP:N	2.88	0.42
15:p:92:ARG:NH1	54:1:1753:G:H5"	2.35	0.42
21:v:6:ALA:CB	21:v:42:LEU:HB3	2.48	0.42
24:y:28:LEU:HA	24:y:31:GLN:CG	2.49	0.42
25:z:11:SER:HB3	54:1:988:A:P	2.59	0.42
26:A:41:HIS:CE1	26:A:42:PRO:HD2	2.54	0.42
29:D:41:ARG:NH2	29:D:41:ARG:CB	2.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:E:1:PRO:CG	54:1:591:U:H1'	2.49	0.42
34:I:123:MET:HB2	34:I:145:ARG:HA	2.00	0.42
38:M:98:LEU:HD12	38:M:98:LEU:C	2.43	0.42
39:N:115:VAL:CG2	40:O:62:ARG:HG3	2.49	0.42
41:P:44:ALA:HB3	41:P:69:CYS:HB2	2.01	0.42
42:Q:43:LYS:HG2	53:3:1492:A:O4'	2.19	0.42
42:Q:82:ARG:CG	53:3:552:U:H4'	2.49	0.42
44:S:30:ILE:HB	44:S:43:ALA:HB2	2.02	0.42
45:T:87:ARG:HD3	45:T:87:ARG:HA	1.79	0.42
53:3:89:U:H2'	53:3:90:C:H5'	2.01	0.42
53:3:424:G:O2'	53:3:425:G:H5'	2.20	0.42
53:3:575:G:O2'	53:3:821:G:H5'	2.19	0.42
53:3:616:G:O2'	53:3:617:G:H5'	2.20	0.42
53:3:1056:U:O2'	53:3:1057:G:H5'	2.20	0.42
53:3:1332:A:H2'	53:3:1333:A:O4'	2.18	0.42
53:3:1399:C:H4'	53:3:1400:C:O5'	2.19	0.42
54:1:226:A:H2'	54:1:227:A:C8	2.54	0.42
54:1:396:G:O2'	54:1:397:U:H5'	2.20	0.42
54:1:529:A:C2'	54:1:2023:C:H41	2.33	0.42
54:1:714:U:N3	54:1:716:A:H3'	2.35	0.42
54:1:817:C:C4	54:1:818:G:C5	3.08	0.42
54:1:821:A:H5"	54:1:822:G:O5'	2.20	0.42
54:1:942:G:H2'	54:1:943:A:C8	2.46	0.42
54:1:967:U:H2'	54:1:968:C:C5	2.52	0.42
54:1:974:G:H4'	54:1:975:A:O5'	2.19	0.42
54:1:1010:A:N3	54:1:1153:C:H1'	2.35	0.42
54:1:1274:A:N1	54:1:1645:G:H5'	2.35	0.42
54:1:1726:C:H2'	54:1:1727:C:H5'	2.02	0.42
54:1:2103:C:O2'	54:1:2104:C:H5'	2.20	0.42
54:1:2193:G:H2'	54:1:2194:U:H6	1.85	0.42
54:1:2197:U:O2'	54:1:2198:A:H5"	2.19	0.42
54:1:2458:G:N3	54:1:2490:G:N2	2.67	0.42
54:1:2483:C:C3'	54:1:2484:G:H5"	2.48	0.42
54:1:2897:U:H2'	54:1:2898:U:O4'	2.20	0.42
55:2:62:C:H2'	55:2:63:C:H6	1.84	0.42
1:b:262:THR:HG21	54:1:1800:C:OP2	2.20	0.42
2:c:119:ALA:HB3	2:c:165:MET:HB2	2.01	0.42
2:c:119:ALA:HB1	2:c:123:LYS:HB3	2.02	0.42
10:k:117:SER:C	10:k:119:ALA:N	2.78	0.42
15:p:77:SER:OG	15:p:78:PRO:HD2	2.19	0.42
23:x:14:GLY:O	23:x:26:ARG:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:F:36:ARG:HG2	31:F:37:GLN:HB3	2.02	0.42
33:H:19:SER:OG	33:H:39:ARG:NH2	2.53	0.42
34:I:130:ASN:HB3	53:3:619:U:H3	1.84	0.42
34:I:136:VAL:HG12	34:I:181:PHE:CD2	2.55	0.42
38:M:95:MET:O	38:M:98:LEU:HG	2.20	0.42
39:N:109:GLN:O	53:3:1347:G:H5"	2.19	0.42
40:O:77:VAL:O	40:O:77:VAL:HG22	2.18	0.42
40:O:89:ARG:HH11	40:O:89:ARG:HG3	1.83	0.42
43:R:29:SER:O	43:R:33:LEU:HD23	2.20	0.42
47:V:29:LYS:HB2	47:V:36:PHE:CD1	2.55	0.42
50:Y:46:ALA:O	50:Y:49:ALA:N	2.52	0.42
52:a:207:VAL:HB	52:a:210:LYS:HG2	2.02	0.42
53:3:426:U:O2'	53:3:427:U:H5'	2.20	0.42
53:3:538:G:H2'	53:3:539:A:C8	2.55	0.42
53:3:556:C:C2'	53:3:557:G:H5'	2.49	0.42
53:3:769:G:C2	53:3:770:C:C5	3.07	0.42
53:3:918:A:H2'	53:3:919:A:O4'	2.18	0.42
53:3:981:U:C2	53:3:982:U:C5	3.08	0.42
53:3:1540:U:O2	53:3:1540:U:H3'	2.20	0.42
54:1:350:G:H2'	54:1:351:C:C6	2.55	0.42
54:1:804:A:H2'	54:1:806:C:N4	2.35	0.42
54:1:947:A:O2'	54:1:984:A:H2	2.00	0.42
54:1:1075:C:C2'	54:1:1076:C:H5"	2.31	0.42
54:1:1104:C:H2'	54:1:1105:U:C6	2.55	0.42
54:1:1297:C:OP1	54:1:2710:C:H4'	2.19	0.42
54:1:1507:C:H2'	54:1:1508:A:O4'	2.20	0.42
54:1:1638:C:C3'	54:1:1639:C:H5"	2.50	0.42
54:1:1664:A:C5	54:1:2726:A:N7	2.88	0.42
54:1:1792:G:O2'	54:1:1793:C:H5'	2.19	0.42
54:1:2650:U:H2'	54:1:2651:C:C6	2.55	0.42
54:1:2788:C:H2'	54:1:2789:C:H6	1.80	0.42
54:1:2825:G:H3'	54:1:2826:A:H8	1.84	0.42
57:6:16:C:H4'	57:6:60:U:O2	2.20	0.42
5:f:68:ARG:HD3	5:f:69:ALA:N	2.35	0.42
5:f:70:LEU:HD12	54:1:2747:G:C5'	2.49	0.42
6:g:33:GLN:HG3	6:g:35:LYS:HZ3	1.85	0.42
7:h:12:VAL:C	7:h:15:VAL:H	2.28	0.42
11:l:50:PHE:HZ	54:1:196:A:C2	2.38	0.42
11:l:54:GLN:O	11:l:55:MET:C	2.62	0.42
11:l:132:ARG:HD2	11:l:142:ILE:CD1	2.48	0.42
14:o:79:ALA:HB2	14:o:110:ALA:HA	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:q:13:HIS:O	16:q:16:ILE:N	2.53	0.42
17:r:68:ARG:HH22	17:r:90:ARG:CD	2.33	0.42
20:u:54:PRO:O	20:u:55:GLY:C	2.62	0.42
25:z:50:VAL:O	25:z:50:VAL:HG23	2.20	0.42
29:D:33:ARG:HB2	29:D:33:ARG:NH2	2.35	0.42
31:F:8:LYS:O	31:F:10:LEU:HD12	2.20	0.42
32:G:20:ARG:HA	32:G:36:LYS:O	2.19	0.42
37:L:40:SER:HA	37:L:43:TYR:HD2	1.85	0.42
37:L:78:ARG:NH1	53:3:1382:C:H1'	2.34	0.42
38:M:85:TYR:CE1	38:M:123:GLU:HB2	2.54	0.42
38:M:113:ARG:NE	38:M:113:ARG:CA	2.82	0.42
40:O:5:ARG:HA	40:O:7:ARG:HH12	1.84	0.42
40:O:80:THR:O	40:O:82:LYS:N	2.46	0.42
42:Q:2:THR:HB	42:Q:5:GLN:OE1	2.20	0.42
43:R:1:ALA:HB2	43:R:52:ILE:HD13	2.01	0.42
43:R:44:ILE:HD12	43:R:47:LEU:HD13	2.02	0.42
45:T:21:THR:CG2	53:3:658:C:H1'	2.49	0.42
50:Y:2:ASN:HB3	53:3:332:G:OP2	2.20	0.42
52:a:23:ILE:HA	52:a:225:ASP:H	1.85	0.42
53:3:402:G:H2'	53:3:403:C:O4'	2.20	0.42
53:3:539:A:H2'	53:3:540:G:H8	1.81	0.42
53:3:550:G:H2'	53:3:551:U:C6	2.55	0.42
53:3:915:A:H2'	53:3:916:U:O4'	2.20	0.42
53:3:1027:C:H2'	53:3:1028:C:OP1	2.19	0.42
53:3:1339:A:C8	53:3:1340:A:C8	3.08	0.42
53:3:1458:G:H2'	53:3:1459:G:H8	1.85	0.42
54:1:542:C:C2'	54:1:543:G:H5'	2.49	0.42
54:1:582:A:H2'	54:1:583:G:C8	2.54	0.42
54:1:743:A:O2'	54:1:744:U:H5'	2.20	0.42
54:1:971:G:O6	54:1:972:A:C2	2.73	0.42
54:1:1022:G:C5	54:1:1140:C:C4	3.08	0.42
54:1:1606:C:H4'	54:1:1608:A:C2	2.54	0.42
54:1:1903:G:H2'	54:1:1903:G:N3	2.35	0.42
54:1:2011:U:H2'	54:1:2012:G:O4'	2.20	0.42
54:1:2088:A:H2'	54:1:2089:C:H6	1.84	0.42
54:1:2322:A:O2'	54:1:2323:G:H5'	2.19	0.42
54:1:2697:G:H2'	54:1:2698:U:H6	1.83	0.42
1:b:124:LYS:CD	1:b:125:PRO:HD2	2.49	0.42
1:b:129:LEU:HG	1:b:134:ILE:HD11	2.00	0.42
3:d:122:GLU:O	3:d:189:THR:HG23	2.19	0.42
4:e:97:GLU:CA	4:e:100:GLU:HG2	2.43	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:160:LYS:HB2	4:e:164:GLU:OE1	2.20	0.42
10:k:35:VAL:HG22	10:k:69:VAL:HG11	2.02	0.42
17:r:78:ARG:NH2	54:1:974:G:OP1	2.53	0.42
20:u:12:VAL:N	20:u:20:LYS:O	2.43	0.42
27:B:39:ARG:NH1	54:1:2885:G:N7	2.68	0.42
29:D:44:VAL:O	29:D:44:VAL:HG23	2.19	0.42
33:H:13:ILE:CD1	33:H:177:LEU:HD12	2.49	0.42
33:H:168:ARG:HG2	33:H:168:ARG:HH11	1.85	0.42
34:I:124:VAL:HA	34:I:142:VAL:HA	2.01	0.42
37:L:46:LEU:O	37:L:49:LEU:HB3	2.20	0.42
37:L:134:VAL:HG12	37:L:137:ARG:HD3	2.01	0.42
41:P:49:SER:HA	41:P:68:ARG:NH1	2.34	0.42
43:R:13:HIS:HB2	43:R:16:ILE:HG13	2.02	0.42
43:R:49:GLU:C	43:R:51:GLN:N	2.76	0.42
45:T:88:ARG:NH1	54:1:715:A:H4'	2.35	0.42
46:U:46:LYS:HE2	53:3:617:G:H5'	2.00	0.42
53:3:55:A:OP2	53:3:352:C:N4	2.53	0.42
53:3:813:U:C2'	53:3:814:A:C5'	2.96	0.42
53:3:1106:G:O2'	53:3:1107:C:H5'	2.20	0.42
54:1:19:A:O2'	54:1:20:C:H5'	2.20	0.42
54:1:49:A:C5'	54:1:51:G:O4'	2.62	0.42
54:1:118:A:O5'	54:1:119:A:H8	2.03	0.42
54:1:181:A:H2'	54:1:182:A:C8	2.54	0.42
54:1:327:G:H2'	54:1:328:U:O4'	2.20	0.42
54:1:529:A:C8	54:1:2023:C:N4	2.87	0.42
54:1:718:A:H2'	54:1:719:C:C5'	2.47	0.42
54:1:1230:A:H2'	54:1:1231:U:O4'	2.20	0.42
54:1:1241:A:H2'	54:1:1242:U:O4'	2.20	0.42
54:1:1410:G:H2'	54:1:1411:U:H6	1.84	0.42
54:1:1576:U:O2'	54:1:1577:C:H5'	2.20	0.42
54:1:1765:U:H2'	54:1:1766:G:H8	1.84	0.42
54:1:2438:U:H2'	54:1:2441:U:H5	1.85	0.42
54:1:2741:A:H2'	54:1:2742:G:O4'	2.20	0.42
56:5:3:G:O2'	56:5:4:C:OP2	2.33	0.42
1:b:86:ARG:CG	1:b:87:SER:N	2.83	0.41
1:b:243:PRO:O	1:b:250:GLN:HG3	2.20	0.41
2:c:121:THR:CB	2:c:127:PHE:HD2	2.31	0.41
3:d:100:MET:O	3:d:104:ALA:N	2.53	0.41
3:d:153:LEU:HD13	3:d:169:VAL:HG12	2.02	0.41
4:e:34:THR:HG21	54:1:2314:A:H5'	2.02	0.41
5:f:70:LEU:HD12	54:1:2747:G:H5'	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:153:PRO:HG3	5:f:162:ARG:HG2	2.02	0.41
9:j:9:GLU:N	9:j:9:GLU:CD	2.78	0.41
10:k:39:ILE:HG13	10:k:41:ILE:HG23	2.02	0.41
10:k:117:SER:O	10:k:119:ALA:N	2.53	0.41
14:o:30:ARG:HG2	14:o:31:THR:N	2.35	0.41
16:q:81:GLY:O	16:q:84:LYS:N	2.53	0.41
19:t:33:LYS:HA	19:t:82:LYS:HA	2.02	0.41
19:t:87:LEU:HD23	19:t:88:LYS:N	2.35	0.41
20:u:53:GLN:O	20:u:55:GLY:N	2.53	0.41
22:w:16:ARG:N	22:w:16:ARG:CD	2.78	0.41
24:y:2:LYS:O	24:y:6:LEU:HG	2.20	0.41
30:E:4:LYS:NZ	54:1:254:G:N7	2.66	0.41
32:G:8:MET:HB3	32:G:46:VAL:HG11	2.02	0.41
32:G:119:GLN:HA	32:G:123:GLY:HA3	2.02	0.41
33:H:188:ALA:N	33:H:195:ILE:O	2.50	0.41
33:H:189:HIS:HA	33:H:194:VAL:HA	2.02	0.41
34:I:144:ILE:N	34:I:144:ILE:HD12	2.35	0.41
37:L:27:ASN:HD22	53:3:1374:A:H4'	1.84	0.41
40:O:65:TYR:HB3	44:S:95:LEU:HD11	2.02	0.41
42:Q:113:ARG:HH22	42:Q:120:ARG:NH1	2.17	0.41
44:S:3:GLN:O	44:S:6:LYS:HB3	2.20	0.41
44:S:56:PRO:HA	44:S:59:GLN:HG3	2.02	0.41
51:Z:39:LYS:O	51:Z:42:THR:N	2.53	0.41
52:a:46:VAL:HG13	52:a:212:VAL:HA	2.00	0.41
52:a:169:GLY:O	52:a:170:ILE:HG13	2.20	0.41
53:3:607:A:C2	53:3:608:A:C5	3.08	0.41
53:3:819:A:H5'	53:3:820:U:H5	1.85	0.41
53:3:1074:G:C5	53:3:1075:U:C4	3.08	0.41
53:3:1300:G:O2'	53:3:1301:U:C5	2.73	0.41
53:3:1366:C:O2'	53:3:1367:C:H5'	2.20	0.41
54:1:176:A:H3'	54:1:177:G:N2	2.34	0.41
54:1:506:G:H4'	54:1:509:C:O2	2.19	0.41
54:1:649:G:H2'	54:1:650:C:O4'	2.20	0.41
54:1:886:A:C2	54:1:887:U:H4'	2.55	0.41
54:1:960:A:C8	54:1:962:G:C8	3.08	0.41
54:1:962:G:C5	54:1:963:U:C4	3.08	0.41
54:1:1047:G:H2'	54:1:1110:G:N2	2.35	0.41
54:1:1251:C:O2'	54:1:1252:G:H3'	2.19	0.41
54:1:1301:A:C6	54:1:1303:G:C4	3.08	0.41
54:1:1387:A:H2'	54:1:1388:G:H8	1.84	0.41
54:1:1431:A:O2'	54:1:1432:G:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1670:C:O5'	54:1:1671:U:H5	2.03	0.41
54:1:1684:G:O2'	54:1:1685:C:H5'	2.20	0.41
54:1:1831:G:N2	54:1:1975:G:H1'	2.35	0.41
54:1:1914:C:O2	54:1:1914:C:H3'	2.20	0.41
54:1:1928:A:H2'	54:1:1929:G:O4'	2.20	0.41
54:1:1930:G:HO2'	54:1:1931:U:H6	1.68	0.41
54:1:2011:U:H2'	54:1:2012:G:C5'	2.50	0.41
54:1:2041:U:O2'	54:1:2042:A:H5'	2.20	0.41
54:1:2458:G:C2	54:1:2490:G:N2	2.88	0.41
54:1:2700:A:H2'	54:1:2701:U:C6	2.55	0.41
56:5:25:C:C2	56:5:26:A:C8	3.08	0.41
57:6:19:G:H1'	57:6:57:A:C2	2.55	0.41
4:e:60:SER:CB	4:e:90:LEU:HD11	2.50	0.41
9:j:31:GLU:OE2	9:j:34:ARG:HD3	2.20	0.41
10:k:88:ASN:HB3	10:k:91:SER:H	1.84	0.41
11:l:48:ARG:HH21	30:E:6:VAL:CG2	2.34	0.41
13:n:17:ARG:NH2	13:n:17:ARG:HG3	2.35	0.41
13:n:103:ARG:HH21	54:1:1287:A:C5'	2.28	0.41
15:p:102:ARG:HH22	54:1:1755:A:P	2.43	0.41
16:q:20:ALA:O	16:q:23:TYR:CD1	2.73	0.41
16:q:48:ASP:C	16:q:50:ARG:N	2.76	0.41
17:r:4:VAL:HG22	17:r:13:ARG:HB2	2.03	0.41
19:t:32:LEU:C	19:t:32:LEU:HD12	2.44	0.41
21:v:25:LYS:CB	21:v:43:ASP:HA	2.50	0.41
32:G:13:VAL:HG23	32:G:207:ARG:HH21	1.86	0.41
32:G:150:ILE:O	32:G:151:LYS:C	2.63	0.41
32:G:185:ILE:N	32:G:185:ILE:CD1	2.83	0.41
34:I:56:GLU:CG	34:I:195:ASN:HB3	2.49	0.41
34:I:100:VAL:O	34:I:104:MET:HG2	2.20	0.41
35:J:39:GLY:N	35:J:116:VAL:HB	2.35	0.41
37:L:45:ALA:HB1	37:L:120:ALA:N	2.35	0.41
39:N:98:ARG:NH1	53:3:1178:G:N7	2.65	0.41
42:Q:86:VAL:HG22	42:Q:92:VAL:HB	2.02	0.41
44:S:9:GLU:OE2	44:S:10:VAL:HA	2.21	0.41
44:S:10:VAL:HG13	44:S:11:LYS:N	2.35	0.41
46:U:74:LEU:HA	46:U:77:GLU:CG	2.50	0.41
48:W:25:ILE:HG13	48:W:26:ALA:N	2.35	0.41
48:W:61:ALA:O	48:W:64:LEU:N	2.53	0.41
49:X:77:ARG:HD2	53:3:1225:A:O2'	2.19	0.41
53:3:102:G:H1'	53:3:152:A:O2'	2.19	0.41
53:3:393:A:C2	53:3:394:G:C8	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:737:C:H2'	53:3:738:C:H6	1.85	0.41
53:3:1354:U:H2'	53:3:1355:G:H8	1.84	0.41
53:3:1497:G:C5	53:3:1498:U:N3	2.88	0.41
53:3:1524:C:H2'	53:3:1525:G:C8	2.56	0.41
53:3:1526:G:C4	53:3:1527:U:C5	3.08	0.41
54:1:57:C:C2	54:1:58:G:C8	3.08	0.41
54:1:208:C:O2'	54:1:209:C:H5'	2.20	0.41
54:1:529:A:H2'	54:1:2023:C:H41	1.85	0.41
54:1:800:A:N1	54:1:802:A:C8	2.89	0.41
54:1:952:G:C6	54:1:953:G:N7	2.88	0.41
54:1:1394:U:H4'	54:1:1603:A:H4'	2.01	0.41
54:1:1537:G:C6	54:1:1538:G:H1'	2.55	0.41
54:1:1579:A:H2'	54:1:1580:A:C8	2.55	0.41
54:1:1744:A:H3'	54:1:1745:A:C8	2.54	0.41
54:1:2553:G:H2'	54:1:2554:U:O4'	2.20	0.41
54:1:2751:G:O2'	54:1:2752:C:H5'	2.21	0.41
54:1:2863:C:O2'	54:1:2864:G:H5'	2.20	0.41
1:b:89:ASN:H	1:b:196:ASN:HD21	1.67	0.41
1:b:176:ARG:NH2	54:1:1820:U:H5	2.18	0.41
3:d:176:ASP:OD2	3:d:179:SER:HB2	2.21	0.41
4:e:29:ARG:O	4:e:157:THR:HA	2.21	0.41
5:f:69:ALA:O	5:f:72:ASN:HB3	2.20	0.41
10:k:61:VAL:HG12	10:k:87:LEU:CG	2.50	0.41
10:k:104:THR:O	10:k:105:ARG:C	2.63	0.41
10:k:115:ILE:C	10:k:117:SER:N	2.77	0.41
11:l:59:ARG:NH1	54:1:250:G:OP1	2.54	0.41
12:m:53:MET:HE1	12:m:103:TYR:CG	2.55	0.41
16:q:100:PHE:O	16:q:101:ASP:C	2.63	0.41
29:D:33:ARG:O	29:D:36:ALA:HB3	2.20	0.41
33:H:8:GLY:C	33:H:10:ARG:H	2.28	0.41
33:H:179:ALA:HB1	33:H:202:PHE:HE1	1.85	0.41
36:K:6:ILE:O	36:K:62:MET:HG2	2.20	0.41
37:L:3:ARG:NE	53:3:932:C:OP1	2.54	0.41
39:N:66:VAL:HG22	39:N:67:LYS:N	2.34	0.41
39:N:105:ARG:HH11	39:N:105:ARG:HG3	1.85	0.41
43:R:109:LYS:NZ	53:3:1226:C:O2'	2.53	0.41
47:V:10:ARG:HB3	47:V:10:ARG:CZ	2.48	0.41
48:W:55:ALA:C	48:W:58:ILE:HG22	2.46	0.41
53:3:79:G:H2'	53:3:80:A:O4'	2.19	0.41
53:3:86:G:H4'	53:3:87:C:C6	2.55	0.41
53:3:211:G:C2'	53:3:212:G:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1402:C:O2	53:3:1500:A:N1	2.53	0.41
54:1:154:U:H2'	54:1:155:A:H8	1.84	0.41
54:1:276:U:N3	54:1:277:G:N2	2.69	0.41
54:1:565:C:C5'	54:1:1253:A:N6	2.83	0.41
54:1:825:A:C6	54:1:826:U:C4	3.08	0.41
54:1:918:A:H5"	55:2:97:C:O2'	2.20	0.41
54:1:1507:C:H2'	54:1:1508:A:C4'	2.50	0.41
54:1:1561:C:C2	54:1:1562:U:C5	3.09	0.41
54:1:1706:C:H2'	54:1:1757:A:OP2	2.20	0.41
54:1:1973:G:C2'	54:1:1974:C:H5'	2.50	0.41
54:1:2104:C:H2'	54:1:2105:U:H6	1.82	0.41
54:1:2178:C:H5'	54:1:2179:C:OP1	2.20	0.41
54:1:2493:U:C4	54:1:2494:G:C8	3.08	0.41
54:1:2532:G:N7	54:1:2533:U:C5	2.89	0.41
55:2:37:C:H2'	55:2:38:C:H5'	2.00	0.41
1:b:224:MET:HE2	54:1:782:A:N3	2.35	0.41
2:c:85:ALA:HB3	2:c:88:GLU:OE1	2.20	0.41
6:g:27:ARG:HD3	23:x:37:PHE:HE1	1.86	0.41
9:j:34:ARG:HB3	9:j:34:ARG:NH1	2.35	0.41
10:k:1:MET:CA	10:k:32:TYR:HB3	2.50	0.41
10:k:104:THR:C	10:k:106:GLU:N	2.78	0.41
10:k:112:PHE:H	10:k:113:MET:HE2	1.84	0.41
11:l:102:GLY:O	11:l:105:ILE:HG12	2.19	0.41
11:l:119:PRO:O	11:l:120:VAL:C	2.62	0.41
13:n:8:ARG:N	13:n:43:GLU:OE1	2.47	0.41
13:n:48:VAL:CG1	13:n:49:GLU:N	2.83	0.41
20:u:24:VAL:HG12	20:u:25:LYS:O	2.21	0.41
21:v:30:ILE:HA	21:v:91:PHE:O	2.20	0.41
22:w:47:VAL:CG2	22:w:55:LEU:HD12	2.50	0.41
25:z:37:ARG:HA	25:z:37:ARG:HD3	1.89	0.41
26:A:12:ILE:HG22	26:A:29:GLY:HA2	2.01	0.41
26:A:37:CYS:SG	26:A:41:HIS:HB2	2.60	0.41
38:M:10:LEU:HD12	38:M:74:ILE:CG1	2.43	0.41
39:N:122:ARG:HG2	39:N:122:ARG:NH1	2.33	0.41
44:S:81:ILE:HG21	53:3:1202:U:C4	2.52	0.41
48:W:37:LYS:HE3	48:W:37:LYS:HB2	1.91	0.41
52:a:65:LEU:HG	52:a:161:VAL:HG12	2.02	0.41
53:3:449:G:H1	53:3:484:G:H1	1.67	0.41
53:3:1124:G:O2'	53:3:1145:A:C6	2.73	0.41
54:1:23:G:H2'	54:1:24:G:C8	2.54	0.41
54:1:28:A:H2'	54:1:29:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:67:U:C2	54:1:68:G:C8	3.08	0.41
54:1:161:A:H1'	54:1:2208:C:H1'	2.02	0.41
54:1:172:A:O2'	54:1:173:A:H5'	2.21	0.41
54:1:190:A:C5	54:1:207:A:C2	3.08	0.41
54:1:250:G:N1	54:1:251:A:C2	2.89	0.41
54:1:459:U:H5'	54:1:459:U:C6	2.46	0.41
54:1:962:G:H2'	54:1:963:U:H6	1.84	0.41
54:1:1103:A:H2'	54:1:1104:C:OP1	2.19	0.41
54:1:1169:A:N6	54:1:1180:U:O4	2.53	0.41
54:1:1331:G:H2'	54:1:1332:G:H5"	1.99	0.41
54:1:1341:G:H2'	54:1:1397:U:O2	2.20	0.41
54:1:1412:U:H2'	54:1:1413:A:C8	2.55	0.41
54:1:1484:U:O2'	54:1:1485:U:H5'	2.19	0.41
54:1:1709:U:H2'	54:1:1710:G:C8	2.55	0.41
54:1:1773:A:C6	54:1:1774:C:C2	3.09	0.41
54:1:1908:C:O2'	54:1:1909:C:H5'	2.20	0.41
54:1:2208:C:H2'	54:1:2209:G:C8	2.55	0.41
54:1:2328:A:H8	54:1:2328:A:O5'	2.03	0.41
54:1:2692:G:HO2'	54:1:2693:G:H5'	1.83	0.41
1:b:225:ASN:ND2	54:1:784:G:C8	2.88	0.41
5:f:1:SER:C	5:f:3:VAL:N	2.77	0.41
5:f:37:ASN:HB3	5:f:40:VAL:HG23	2.03	0.41
10:k:104:THR:HG22	10:k:106:GLU:HB2	2.01	0.41
11:l:95:LEU:HD22	11:l:101:ILE:CD1	2.50	0.41
16:q:65:ASN:O	16:q:69:ARG:HG2	2.20	0.41
16:q:87:VAL:HG22	17:r:49:ILE:HD12	2.02	0.41
17:r:43:ASN:C	17:r:45:GLU:H	2.28	0.41
19:t:1:MET:HE1	54:1:141:G:O6	2.21	0.41
22:w:7:ARG:HH11	22:w:7:ARG:HB2	1.85	0.41
28:C:29:LYS:HG2	54:1:2286:G:OP1	2.20	0.41
29:D:14:ARG:HG3	29:D:14:ARG:NH2	2.32	0.41
32:G:84:LEU:O	32:G:85:SER:C	2.64	0.41
32:G:97:GLY:HA3	32:G:170:ILE:HD13	2.01	0.41
33:H:76:ILE:O	33:H:82:ASP:HB2	2.20	0.41
34:I:58:GLN:OE1	34:I:58:GLN:HA	2.19	0.41
34:I:194:ILE:HG13	34:I:194:ILE:O	2.19	0.41
35:J:82:HIS:CE1	35:J:146:MET:HG2	2.55	0.41
40:O:10:LEU:CD1	40:O:72:ARG:HB2	2.47	0.41
41:P:12:ARG:HA	41:P:76:TYR:HE1	1.86	0.41
42:Q:89:LEU:HD23	42:Q:89:LEU:C	2.44	0.41
44:S:19:TYR:HB3	44:S:23:ARG:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:T:26:VAL:O	45:T:29:ALA:HB3	2.20	0.41
49:X:43:MET:HE3	49:X:61:VAL:HG21	2.02	0.41
50:Y:31:ILE:HD13	50:Y:74:HIS:ND1	2.35	0.41
53:3:109:A:C4	53:3:327:A:C2	3.08	0.41
53:3:260:G:H2'	53:3:261:U:C6	2.56	0.41
53:3:499:A:C6	53:3:547:A:C8	3.08	0.41
53:3:663:A:H2'	53:3:664:G:C8	2.56	0.41
53:3:747:A:H2'	53:3:748:G:O4'	2.21	0.41
53:3:892:A:C5	53:3:893:C:C4	3.09	0.41
53:3:1006:G:N2	53:3:1007:U:H1'	2.35	0.41
53:3:1072:G:H2'	53:3:1073:U:C6	2.56	0.41
54:1:132:G:H2'	54:1:133:U:H6	1.85	0.41
54:1:263:G:C3'	54:1:264:C:H5"	2.48	0.41
54:1:362:A:H3'	54:1:363:G:H8	1.85	0.41
54:1:402:A:H2'	54:1:403:U:H5'	2.02	0.41
54:1:593:U:H2'	54:1:594:U:H6	1.85	0.41
54:1:694:U:OP2	54:1:694:U:C6	2.64	0.41
54:1:882:G:H22	54:1:894:U:H3	1.69	0.41
54:1:1180:U:O2	54:1:1180:U:H2'	2.20	0.41
54:1:1590:A:H2'	54:1:1591:A:H8	1.85	0.41
54:1:1885:A:H2'	54:1:1886:U:C5'	2.48	0.41
54:1:2028:U:O2'	54:1:2029:G:H5'	2.21	0.41
54:1:2272:U:H5"	54:1:2273:A:OP1	2.20	0.41
54:1:2341:G:H2'	54:1:2342:C:O4'	2.19	0.41
56:5:72:G:O2'	56:5:73:A:H8	2.02	0.41
1:b:57:HIS:HD2	1:b:58:LYS:H	1.66	0.41
1:b:179:GLU:CD	54:1:1799:G:C8	2.98	0.41
1:b:270:ARG:HD2	54:1:1819:A:H2	1.85	0.41
4:e:16:MET:O	4:e:20:ASN:N	2.53	0.41
4:e:46:LYS:HB3	4:e:50:ASP:OD2	2.21	0.41
4:e:71:LYS:HE3	4:e:71:LYS:HB2	1.85	0.41
5:f:101:VAL:HG13	5:f:114:HIS:O	2.20	0.41
5:f:136:ASP:OD2	5:f:139:VAL:HG23	2.21	0.41
5:f:162:ARG:CB	5:f:162:ARG:NH2	2.83	0.41
12:m:76:LYS:NZ	12:m:82:MET:HA	2.35	0.41
16:q:93:ILE:O	16:q:94:LEU:C	2.63	0.41
17:r:78:ARG:NH2	54:1:974:G:H5'	2.35	0.41
20:u:87:GLU:OE1	20:u:92:VAL:HG21	2.19	0.41
25:z:52:PHE:CD1	25:z:52:PHE:N	2.89	0.41
29:D:18:PHE:O	29:D:19:ARG:C	2.64	0.41
30:E:23:HIS:ND1	30:E:24:LYS:O	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:F:19:ARG:NE	54:1:2755:C:H2'	2.35	0.41
32:G:183:PHE:CE1	32:G:197:PHE:HD2	2.39	0.41
33:H:39:ARG:NH1	33:H:54:ILE:HG13	2.35	0.41
34:I:72:ARG:HH12	53:3:28:A:H5"	1.84	0.41
35:J:113:VAL:CG1	35:J:139:THR:HG21	2.51	0.41
38:M:66:GLN:CG	38:M:68:LYS:HZ1	2.34	0.41
39:N:24:ASN:O	39:N:26:LYS:N	2.54	0.41
41:P:53:GLY:O	41:P:56:LYS:HB3	2.20	0.41
43:R:96:VAL:O	43:R:96:VAL:HG12	2.21	0.41
44:S:46:LYS:HG3	44:S:50:LEU:HD11	2.02	0.41
46:U:21:VAL:HG12	46:U:34:GLU:O	2.21	0.41
53:3:74:A:H2'	53:3:75:G:C8	2.55	0.41
53:3:238:A:O2'	53:3:239:U:H5'	2.21	0.41
53:3:458:U:H3	53:3:474:G:H1	1.68	0.41
53:3:736:C:H2'	53:3:737:C:C6	2.55	0.41
53:3:1053:G:OP1	53:3:1053:G:H4'	2.20	0.41
53:3:1075:U:H2'	53:3:1076:U:H6	1.84	0.41
53:3:1144:G:N2	53:3:1146:A:H62	2.18	0.41
53:3:1206:G:H2'	53:3:1207:G:O4'	2.20	0.41
53:3:1350:A:H2'	53:3:1351:U:C6	2.56	0.41
54:1:122:G:O2'	54:1:123:G:H5'	2.20	0.41
54:1:402:A:C2'	54:1:403:U:H5'	2.50	0.41
54:1:431:U:O2'	54:1:432:A:H5'	2.21	0.41
54:1:713:G:H21	54:1:718:A:H62	1.68	0.41
54:1:1301:A:C2	54:1:1303:G:C5	3.09	0.41
54:1:1760:C:H2'	54:1:1761:C:H5'	2.03	0.41
54:1:1889:A:H2'	54:1:1890:A:H8	1.85	0.41
54:1:2065:C:H2'	54:1:2066:C:H6	1.85	0.41
54:1:2088:A:H2'	54:1:2089:C:C6	2.56	0.41
54:1:2387:U:O5'	54:1:2387:U:H6	2.03	0.41
54:1:2644:G:H3'	54:1:2645:G:C2	2.56	0.41
54:1:2898:U:H2'	54:1:2899:A:H8	1.86	0.41
55:2:114:C:H2'	55:2:115:A:H8	1.85	0.41
1:b:11:GLY:O	1:b:13:ARG:N	2.52	0.41
1:b:67:LYS:HB2	1:b:69:ASN:OD1	2.20	0.41
1:b:129:LEU:N	1:b:129:LEU:CD2	2.83	0.41
2:c:181:ASP:CG	2:c:184:ARG:HD3	2.44	0.41
7:h:42:ARG:HG3	8:i:119:ALA:N	2.36	0.41
8:i:76:ALA:HB2	54:1:1062:G:O2'	2.20	0.41
9:j:100:VAL:HG13	9:j:101:ILE:HD12	2.03	0.41
10:k:122:VAL:OXT	10:k:122:VAL:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:112:LEU:HD22	11:l:130:GLY:HA3	2.03	0.41
12:m:135:VAL:HG11	21:v:57:TYR:HD2	1.86	0.41
13:n:59:SER:O	13:n:63:ARG:HG2	2.20	0.41
13:n:85:PRO:HA	13:n:88:ALA:HB2	2.03	0.41
15:p:46:VAL:O	15:p:46:VAL:HG12	2.20	0.41
20:u:23:LYS:HD3	20:u:24:VAL:H	1.85	0.41
24:y:1:MET:HG2	24:y:2:LYS:N	2.35	0.41
28:C:42:VAL:HG13	28:C:44:GLN:H	1.84	0.41
32:G:11:ALA:O	32:G:14:HIS:CE1	2.73	0.41
32:G:57:ASN:HA	32:G:60:ALA:HB3	2.03	0.41
32:G:95:TRP:HD1	32:G:99:MET:CE	2.34	0.41
35:J:60:GLN:C	35:J:62:ALA:H	2.29	0.41
36:K:97:THR:HG23	36:K:97:THR:O	2.20	0.41
39:N:57:VAL:HG23	39:N:58:GLU:H	1.85	0.41
39:N:108:ARG:HG2	53:3:1347:G:O4’	2.20	0.41
42:Q:35:ARG:NH1	42:Q:35:ARG:C	2.79	0.41
42:Q:100:ALA:O	42:Q:101:LEU:C	2.64	0.41
43:R:48:SER:C	43:R:52:ILE:HG13	2.46	0.41
45:T:73:ASP:OD2	45:T:76:ARG:HG3	2.21	0.41
46:U:14:ARG:NH1	53:3:618:C:H1’	2.35	0.41
48:W:14:ALA:HB3	48:W:47:ARG:NH1	2.35	0.41
52:a:39:VAL:HG11	52:a:179:ASP:N	2.35	0.41
52:a:178:VAL:HA	52:a:185:LEU:HD21	2.01	0.41
53:3:16:A:O2’	53:3:17:U:H5’	2.20	0.41
53:3:162:A:H8	53:3:162:A:OP2	2.03	0.41
53:3:628:G:H2’	53:3:629:A:C8	2.55	0.41
53:3:765:G:C5	53:3:812:G:C2	3.09	0.41
53:3:1001:C:H2’	53:3:1002:G:H8	1.85	0.41
53:3:1097:C:H2’	53:3:1098:C:H6	1.86	0.41
53:3:1388:C:H2’	53:3:1389:C:H6	1.86	0.41
54:1:186:G:H2’	54:1:187:G:H8	1.86	0.41
54:1:288:U:H2’	54:1:289:G:H8	1.85	0.41
54:1:529:A:N6	54:1:2042:A:H1’	2.36	0.41
54:1:551:G:O2’	54:1:552:U:H5’	2.20	0.41
54:1:690:G:O2’	54:1:691:C:H5’	2.20	0.41
54:1:811:U:C2	54:1:1251:C:C5	3.09	0.41
54:1:948:C:H2’	54:1:949:G:H8	1.86	0.41
54:1:1063:G:H5”	54:1:1064:C:H5”	2.03	0.41
54:1:1664:A:H2’	54:1:1665:A:C8	2.55	0.41
54:1:1935:G:H3’	54:1:1962:C:H42	1.85	0.41
54:1:2262:U:O2’	54:1:2263:C:H5’	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2504:U:C2'	54:1:2505:G:H5'	2.51	0.41
55:2:24:G:H4'	55:2:25:U:C5	2.55	0.41
55:2:76:G:C2'	55:2:77:U:H5'	2.51	0.41
1:b:36:ASN:HB2	1:b:61:TYR:HB2	2.02	0.41
1:b:247:TRP:O	1:b:249:VAL:N	2.54	0.41
2:c:46:ARG:CZ	2:c:46:ARG:HB3	2.50	0.41
2:c:179:ARG:HG3	2:c:179:ARG:HH11	1.86	0.41
3:d:155:GLU:C	3:d:157:LEU:N	2.77	0.41
4:e:169:LEU:C	4:e:171:ALA:N	2.77	0.41
5:f:26:LYS:HD3	5:f:31:GLU:HB2	2.03	0.41
5:f:126:THR:HB	5:f:129:GLU:H	1.85	0.41
5:f:140:ILE:HG13	5:f:141:GLY:N	2.35	0.41
6:g:2:GLN:O	6:g:39:ALA:HB3	2.20	0.41
7:h:7:ASP:O	7:h:11:ILE:N	2.54	0.41
9:j:85:LYS:HD2	54:1:2641:G:OP1	2.21	0.41
12:m:42:THR:OG1	12:m:44:ARG:HB2	2.20	0.41
14:o:34:HIS:HA	14:o:66:GLY:HA2	2.03	0.41
14:o:49:VAL:CG1	14:o:81:ARG:HB2	2.51	0.41
16:q:101:ASP:CG	16:q:103:VAL:HB	2.46	0.41
19:t:88:LYS:C	19:t:90:GLY:N	2.76	0.41
20:u:17:ASP:HB3	20:u:20:LYS:CD	2.50	0.41
23:x:10:ARG:HG2	23:x:10:ARG:NH1	2.35	0.41
32:G:26:MET:HE1	32:G:186:VAL:HG21	2.02	0.41
33:H:69:THR:O	33:H:105:VAL:HG12	2.21	0.41
33:H:149:LYS:O	33:H:200:TRP:HE3	2.03	0.41
34:I:23:GLY:HA3	53:3:409:U:OP1	2.21	0.41
34:I:45:PRO:HG2	34:I:47:LEU:N	2.33	0.41
36:K:6:ILE:CD1	36:K:74:LEU:HD23	2.51	0.41
37:L:35:LYS:HB2	53:3:1373:G:C5'	2.51	0.41
39:N:87:MET:CG	39:N:88:GLU:H	2.34	0.41
40:O:35:GLN:HB3	40:O:76:ILE:HG23	2.03	0.41
41:P:101:ALA:C	41:P:103:GLY:H	2.28	0.41
42:Q:2:THR:O	42:Q:3:VAL:C	2.62	0.41
42:Q:53:ARG:HG3	42:Q:53:ARG:NH1	2.36	0.41
44:S:11:LYS:HD2	44:S:11:LYS:C	2.45	0.41
45:T:61:GLN:HE22	45:T:65:LEU:CG	2.29	0.41
50:Y:67:HIS:HE2	53:3:133:U:P	2.44	0.41
53:3:94:G:H4'	53:3:95:C:C5'	2.30	0.41
53:3:166:U:H2'	53:3:167:A:H8	1.85	0.41
53:3:300:A:O2'	53:3:564:C:N3	2.54	0.41
53:3:333:U:H2'	53:3:334:C:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:680:C:H2'	53:3:681:A:C8	2.56	0.41
53:3:767:A:C5	53:3:768:A:N7	2.89	0.41
53:3:1320:C:H2'	53:3:1321:U:C6	2.56	0.41
54:1:39:G:C4	54:1:40:U:C5	3.08	0.41
54:1:301:G:C6	54:1:317:G:C6	3.09	0.41
54:1:633:A:H2'	54:1:634:C:H5'	2.03	0.41
54:1:661:A:O2'	54:1:662:G:H5'	2.20	0.41
54:1:740:C:H42	54:1:757:G:H1	1.68	0.41
54:1:783:A:N7	54:1:785:G:C8	2.88	0.41
54:1:943:A:C2	54:1:944:C:C6	3.08	0.41
54:1:1075:C:H2'	54:1:1076:C:C5'	2.32	0.41
54:1:1197:G:O2'	54:1:1198:U:H5'	2.20	0.41
54:1:1435:G:O2'	54:1:1436:G:H5'	2.21	0.41
54:1:1735:A:H2'	54:1:1736:U:O4'	2.21	0.41
54:1:2072:C:O2	54:1:2072:C:H2'	2.21	0.41
54:1:2521:C:H2'	54:1:2522:U:C6	2.56	0.41
54:1:2555:U:H2'	54:1:2556:C:O4'	2.21	0.41
54:1:2830:C:O2'	54:1:2831:G:H5'	2.21	0.41
1:b:231:HIS:CE1	1:b:243:PRO:HA	2.55	0.41
1:b:262:THR:O	1:b:263:ASP:C	2.64	0.41
2:c:119:ALA:CB	2:c:165:MET:HB3	2.51	0.41
2:c:161:MET:SD	54:1:2049:G:N2	2.93	0.41
3:d:111:GLU:O	3:d:115:GLN:N	2.53	0.41
3:d:148:ILE:O	3:d:170:ARG:N	2.53	0.41
4:e:24:VAL:HG23	4:e:25:MET:H	1.84	0.41
4:e:29:ARG:HH11	4:e:29:ARG:CB	2.34	0.41
4:e:101:ARG:HB2	4:e:105:ILE:CG1	2.51	0.41
4:e:104:THR:O	4:e:108:PRO:HG2	2.21	0.41
7:h:33:VAL:HA	54:1:1055:G:O3'	2.21	0.41
7:h:56:ARG:C	7:h:58:THR:H	2.28	0.41
8:i:122:GLU:HA	8:i:125:THR:OG1	2.20	0.41
8:i:132:ALA:CB	8:i:137:LEU:HB2	2.50	0.41
10:k:12:ASP:HA	10:k:98:ARG:O	2.20	0.41
10:k:13:ASN:O	10:k:15:GLY:N	2.54	0.41
10:k:31:ARG:HH11	10:k:31:ARG:HG3	1.85	0.41
10:k:77:ILE:HG22	10:k:77:ILE:O	2.21	0.41
10:k:78:ARG:C	10:k:79:PHE:CD1	2.97	0.41
10:k:107:LEU:HD21	10:k:115:ILE:HG21	2.02	0.41
11:l:13:LYS:HA	11:l:13:LYS:HD3	1.76	0.41
11:l:71:ALA:HA	11:l:74:THR:HG22	2.03	0.41
11:l:92:LEU:HD22	11:l:125:LEU:HD12	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:115:LEU:O	13:n:117:ASP:N	2.54	0.41
14:o:33:ARG:HG3	14:o:34:HIS:N	2.29	0.41
15:p:74:GLN:O	15:p:75:THR:C	2.64	0.41
15:p:99:LEU:O	15:p:101:GLU:N	2.54	0.41
15:p:105:LYS:C	15:p:107:ALA:H	2.29	0.41
16:q:80:ASN:CG	54:1:1151:A:H4'	2.46	0.41
16:q:89:ILE:HD11	17:r:39:LEU:HB3	2.02	0.41
16:q:95:ALA:HA	16:q:98:ALA:HB3	2.02	0.41
18:s:94:ASP:OD2	54:1:2014:A:H5'	2.21	0.41
19:t:40:LYS:HE3	19:t:59:ASN:HA	2.02	0.41
19:t:58:VAL:HB	19:t:85:VAL:HG12	2.03	0.41
21:v:2:PHE:CE2	21:v:56:PHE:HA	2.56	0.41
21:v:21:ARG:HB3	21:v:85:LYS:NZ	2.35	0.41
28:C:7:LYS:NZ	54:1:2420:C:H5"	2.36	0.41
28:C:9:LYS:HG3	28:C:19:PHE:CD2	2.56	0.41
29:D:34:ARG:O	29:D:37:LYS:N	2.54	0.41
31:F:25:VAL:O	31:F:34:LYS:HA	2.21	0.41
32:G:24:PRO:C	32:G:26:MET:H	2.29	0.41
32:G:47:PRO:O	32:G:51:GLU:OE1	2.39	0.41
32:G:48:MET:HA	32:G:51:GLU:OE2	2.21	0.41
33:H:22:PHE:CZ	40:O:11:LYS:HE3	2.56	0.41
33:H:78:LYS:O	33:H:79:LYS:HB2	2.20	0.41
33:H:83:VAL:HA	33:H:86:LEU:HG	2.02	0.41
33:H:126:ARG:HB3	33:H:126:ARG:NH1	2.33	0.41
34:I:3:TYR:CZ	34:I:10:LEU:HD11	2.55	0.41
34:I:60:VAL:O	34:I:61:ARG:C	2.64	0.41
34:I:67:LEU:HB3	53:3:546:A:OP2	2.21	0.41
38:M:6:ILE:HG22	38:M:10:LEU:HD23	2.03	0.41
38:M:17:GLN:HB3	38:M:69:ALA:HB2	2.03	0.41
38:M:23:ALA:HB1	38:M:59:GLU:HG2	2.03	0.41
39:N:45:MET:SD	39:N:45:MET:N	2.93	0.41
40:O:24:GLU:HG2	40:O:92:LEU:HD12	2.03	0.41
40:O:26:VAL:O	40:O:30:LYS:HG2	2.20	0.41
40:O:26:VAL:HG13	40:O:36:VAL:HG11	2.02	0.41
40:O:44:THR:HG22	40:O:45:ARG:N	2.36	0.41
40:O:48:ARG:HH22	53:3:1368:A:C1'	2.32	0.41
42:Q:42:LYS:HG2	42:Q:43:LYS:H	1.86	0.41
42:Q:47:ALA:HB2	53:3:529:G:H22	1.86	0.41
44:S:55:SER:O	44:S:58:ARG:N	2.42	0.41
46:U:68:SER:O	46:U:71:VAL:HG12	2.20	0.41
50:Y:53:MET:SD	50:Y:53:MET:C	3.04	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Z:23:GLU:C	51:Z:25:ALA:H	2.29	0.41
51:Z:30:GLU:C	51:Z:32:ARG:H	2.29	0.41
52:a:15:VAL:CG1	52:a:16:ASP:H	2.23	0.41
52:a:166:ASP:HB2	52:a:170:ILE:C	2.46	0.41
52:a:183:ASP:O	52:a:186:LYS:HB3	2.20	0.41
52:a:192:LEU:HB3	52:a:196:LEU:HD23	2.02	0.41
53:3:100:G:N3	53:3:100:G:H2'	2.35	0.41
53:3:300:A:H2'	53:3:301:G:O4'	2.21	0.41
53:3:313:A:H2'	53:3:314:C:H6	1.85	0.41
53:3:346:G:H2'	53:3:347:G:H5'	2.02	0.41
53:3:472:U:H2'	53:3:473:U:C6	2.55	0.41
53:3:499:A:N3	53:3:500:G:H1'	2.36	0.41
53:3:503:C:O2'	53:3:504:C:H5'	2.21	0.41
53:3:505:G:C6	53:3:535:A:C2	3.09	0.41
53:3:725:G:O2'	53:3:726:C:H5'	2.21	0.41
53:3:1234:C:O2'	53:3:1235:U:H5'	2.21	0.41
53:3:1342:C:O2'	53:3:1343:G:H5'	2.20	0.41
53:3:1347:G:O2'	53:3:1348:U:H5	2.03	0.41
53:3:1410:A:H2'	53:3:1411:C:C6	2.55	0.41
53:3:1478:U:H2'	53:3:1479:C:C6	2.55	0.41
54:1:201:C:C2'	54:1:202:U:H5'	2.51	0.41
54:1:308:G:N2	54:1:329:G:H1'	2.36	0.41
54:1:335:C:H2'	54:1:336:C:C6	2.56	0.41
54:1:365:U:H2'	54:1:366:C:H6	1.86	0.41
54:1:426:C:O2'	54:1:427:U:H5'	2.20	0.41
54:1:464:U:C2	54:1:788:A:N1	2.89	0.41
54:1:513:A:O2'	54:1:514:A:H5'	2.21	0.41
54:1:524:G:H2'	54:1:525:U:C6	2.56	0.41
54:1:542:C:O2'	54:1:543:G:H5'	2.20	0.41
54:1:625:G:H2'	54:1:626:A:C8	2.55	0.41
54:1:826:U:OP1	54:1:2429:G:OP1	2.39	0.41
54:1:858:G:O2'	54:1:859:G:OP1	2.35	0.41
54:1:863:A:O2'	54:1:864:G:H5'	2.21	0.41
54:1:921:C:O2'	54:1:922:C:H5'	2.21	0.41
54:1:968:C:H2'	54:1:969:G:H8	1.86	0.41
54:1:975:A:N1	54:1:990:A:C8	2.89	0.41
54:1:1149:G:O2'	54:1:1150:C:H5'	2.20	0.41
54:1:1445:G:C5	54:1:1446:C:C5	3.09	0.41
54:1:1562:U:H2'	54:1:1563:U:H6	1.85	0.41
54:1:1738:G:O2'	54:1:1739:A:C8	2.74	0.41
54:1:1789:A:H2'	54:1:1790:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1907:G:C6	54:1:1908:C:C4	3.09	0.41
54:1:2047:C:O2'	54:1:2048:G:H5'	2.21	0.41
54:1:2452:C:H2'	54:1:2453:A:C8	2.56	0.41
54:1:2597:G:C6	54:1:2598:A:N6	2.89	0.41
55:2:43:C:H2'	55:2:44:G:H5"	2.02	0.41
55:2:51:G:O2'	55:2:52:A:H5'	2.21	0.41
55:2:105:G:O2'	55:2:106:G:H5'	2.21	0.41
57:6:29:G:O2'	57:6:30:G:H5'	2.20	0.41
4:e:39:VAL:CG1	4:e:40:GLY:N	2.84	0.41
5:f:120:ILE:HD12	5:f:134:GLY:CA	2.48	0.41
10:k:58:LEU:HD12	10:k:95:ILE:CD1	2.51	0.41
11:l:38:GLN:HB2	11:l:39:LYS:HG3	2.02	0.41
11:l:108:ALA:O	11:l:126:ARG:HG2	2.20	0.41
13:n:10:LEU:O	13:n:11:ASN:HB2	2.21	0.41
15:p:92:ARG:HH11	15:p:92:ARG:HG3	1.86	0.41
18:s:41:LYS:HE3	54:1:2010:G:OP2	2.21	0.41
18:s:51:LEU:HD23	18:s:51:LEU:C	2.46	0.41
19:t:56:GLU:HB2	19:t:86:THR:O	2.21	0.41
20:u:73:ASN:C	20:u:75:ALA:H	2.28	0.41
22:w:34:VAL:HB	22:w:55:LEU:HB2	2.03	0.41
23:x:56:ARG:HA	23:x:59:ASP:OD2	2.21	0.41
30:E:2:LYS:O	30:E:3:ILE:C	2.64	0.41
34:I:2:ARG:HG3	34:I:114:ARG:CZ	2.51	0.41
37:L:65:LEU:O	37:L:68:VAL:N	2.40	0.41
37:L:101:ARG:HH12	53:3:939:G:C5'	2.34	0.41
39:N:30:ASN:O	39:N:31:GLN:HB2	2.21	0.41
39:N:32:ARG:NH2	39:N:37:TYR:CE1	2.89	0.41
39:N:71:ILE:HD13	53:3:1372:U:H5'	2.02	0.41
42:Q:1:ALA:O	42:Q:2:THR:HB	2.21	0.41
43:R:9:PRO:HB2	43:R:17:ALA:HB3	2.02	0.41
46:U:3:THR:OG1	46:U:4:ILE:N	2.54	0.41
46:U:36:VAL:HG13	46:U:36:VAL:O	2.21	0.41
48:W:41:SER:OG	48:W:46:THR:HG22	2.21	0.41
51:Z:11:PHE:CZ	51:Z:14:ALA:HA	2.56	0.41
52:a:28:ALA:C	52:a:30:LEU:H	2.28	0.41
53:3:220:G:H2'	53:3:221:C:H6	1.85	0.41
53:3:270:A:H2'	53:3:271:C:C6	2.55	0.41
53:3:518:C:H5"	53:3:519:C:C6	2.56	0.41
53:3:767:A:C6	53:3:768:A:C5	3.08	0.41
53:3:883:C:H2'	53:3:884:U:C6	2.56	0.41
53:3:977:A:N6	53:3:1224:U:O5'	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1135:U:H2'	53:3:1137:C:O2	2.21	0.41
53:3:1531:A:H2'	53:3:1532:U:O4'	2.21	0.41
54:1:95:A:H2'	54:1:96:C:O4'	2.21	0.41
54:1:200:U:C2'	54:1:201:C:H5'	2.47	0.41
54:1:638:G:C5	54:1:639:U:C4	3.09	0.41
54:1:694:U:O2'	54:1:1378:A:H2	2.05	0.41
54:1:1081:U:O2	54:1:1081:U:H2'	2.20	0.41
54:1:1582:C:H6	54:1:1582:C:O5'	2.04	0.41
54:1:1825:U:H2'	54:1:1826:G:C8	2.56	0.41
54:1:1949:G:O2'	54:1:1950:G:H5'	2.21	0.41
54:1:2223:G:C2'	54:1:2224:G:H5'	2.51	0.41
54:1:2358:A:H8	54:1:2358:A:O5'	2.03	0.41
54:1:2408:U:H2'	54:1:2409:G:C8	2.56	0.41
54:1:2531:A:H2'	54:1:2532:G:O4'	2.21	0.41
54:1:2594:C:H2'	54:1:2595:G:O4'	2.21	0.41
54:1:2838:G:C4	54:1:2839:G:C8	3.09	0.41
1:b:218:THR:O	1:b:218:THR:HG23	2.21	0.40
3:d:128:ALA:HB3	3:d:133:LEU:CD2	2.38	0.40
4:e:70:ARG:HG2	4:e:71:LYS:HG3	2.02	0.40
5:f:154:GLU:HG3	5:f:156:TYR:HB2	2.03	0.40
6:g:23:ALA:HB1	6:g:27:ARG:HH12	1.86	0.40
10:k:8:LEU:CD2	10:k:82:ASN:HB3	2.51	0.40
10:k:25:LEU:CD1	10:k:59:LYS:HD3	2.50	0.40
12:m:41:LEU:CD2	12:m:96:ILE:HG13	2.51	0.40
12:m:75:GLU:N	12:m:75:GLU:OE1	2.54	0.40
13:n:84:GLY:H	13:n:85:PRO:HD2	1.86	0.40
18:s:29:VAL:CG1	18:s:30:SER:N	2.84	0.40
20:u:80:ASP:OD1	20:u:96:LYS:HB2	2.21	0.40
30:E:9:ALA:C	30:E:11:LYS:H	2.28	0.40
32:G:28:PRO:HB2	32:G:29:PHE:HD1	1.86	0.40
32:G:72:LYS:HE2	32:G:75:ALA:HB3	2.03	0.40
32:G:95:TRP:CH2	32:G:171:ALA:HA	2.55	0.40
32:G:130:LYS:HD2	32:G:130:LYS:N	2.29	0.40
33:H:45:GLU:C	33:H:46:LEU:HD23	2.46	0.40
37:L:100:MET:O	37:L:101:ARG:C	2.64	0.40
39:N:27:ILE:HB	39:N:34:LEU:HB2	2.03	0.40
42:Q:70:GLY:O	42:Q:98:ARG:NH2	2.55	0.40
47:V:22:VAL:O	47:V:42:LYS:HA	2.20	0.40
48:W:22:TYR:O	48:W:22:TYR:CG	2.73	0.40
49:X:62:THR:HG22	49:X:65:MET:HE2	2.01	0.40
51:Z:9:GLU:CD	51:Z:10:PRO:HD2	2.46	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:880:C:O2'	53:3:881:G:H5'	2.21	0.40
53:3:1060:U:H2'	53:3:1061:G:C8	2.56	0.40
53:3:1086:U:H3	53:3:1099:G:H22	1.68	0.40
54:1:1555:G:C8	54:1:1555:G:H5'	2.56	0.40
54:1:1868:C:C2'	54:1:1869:G:H5"	2.51	0.40
54:1:1936:A:H5"	54:1:1937:A:H5'	2.02	0.40
54:1:2128:G:H2'	54:1:2129:C:O4'	2.22	0.40
54:1:2592:G:C2'	54:1:2593:U:H5'	2.51	0.40
54:1:2818:U:O2'	54:1:2837:A:H5'	2.21	0.40
54:1:2848:G:H1'	54:1:2868:A:N6	2.35	0.40
1:b:80:LEU:C	1:b:81:GLU:OE1	2.65	0.40
2:c:55:LYS:N	2:c:75:ALA:O	2.48	0.40
4:e:143:ASP:OD1	43:R:69:ARG:HD2	2.21	0.40
4:e:153:ILE:HD12	4:e:153:ILE:N	2.36	0.40
10:k:8:LEU:HD22	10:k:82:ASN:HB3	2.03	0.40
10:k:32:TYR:N	10:k:32:TYR:HD2	2.16	0.40
13:n:79:LEU:HA	13:n:83:LEU:HB2	2.03	0.40
17:r:49:ILE:HD12	17:r:49:ILE:C	2.46	0.40
17:r:72:VAL:O	17:r:74:ILE:HD12	2.21	0.40
17:r:79:ARG:O	17:r:80:ARG:HB2	2.21	0.40
18:s:1:MET:SD	18:s:109:ASP:OD2	2.80	0.40
23:x:3:VAL:HG21	23:x:10:ARG:NH1	2.36	0.40
24:y:8:GLU:CD	24:y:8:GLU:N	2.78	0.40
24:y:38:GLN:HB3	24:y:39:GLN:HE21	1.86	0.40
35:J:100:GLU:C	35:J:102:THR:N	2.78	0.40
36:K:5:GLU:O	36:K:6:ILE:C	2.64	0.40
40:O:8:ILE:O	40:O:74:VAL:N	2.46	0.40
41:P:114:PRO:HA	48:W:72:ARG:NH1	2.35	0.40
44:S:52:ARG:NH1	44:S:58:ARG:HH12	2.16	0.40
49:X:51:HIS:CD2	49:X:53:GLY:HA2	2.56	0.40
53:3:17:U:H2'	53:3:18:C:H6	1.77	0.40
53:3:139:A:O2'	53:3:140:U:H5'	2.22	0.40
53:3:279:A:H5'	53:3:281:G:H5'	2.03	0.40
53:3:356:A:H2'	53:3:357:G:O4'	2.21	0.40
53:3:560:A:C6	53:3:566:G:O4'	2.74	0.40
53:3:590:U:H2'	53:3:591:U:H6	1.85	0.40
53:3:635:A:O2'	53:3:636:U:H5'	2.21	0.40
53:3:813:U:H2'	53:3:814:A:H5'	2.03	0.40
53:3:1273:C:O2'	53:3:1274:A:H5'	2.21	0.40
53:3:1388:C:H2'	53:3:1389:C:C6	2.56	0.40
53:3:1465:A:O2'	53:3:1466:C:H5'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:27:G:C5	54:1:512:G:C2	3.09	0.40
54:1:44:A:H2'	54:1:45:G:O4'	2.20	0.40
54:1:194:G:H2'	54:1:195:A:O4'	2.21	0.40
54:1:197:A:C2'	54:1:198:C:H5'	2.52	0.40
54:1:251:A:H2'	54:1:252:G:O4'	2.21	0.40
54:1:662:G:H2'	54:1:663:G:C8	2.52	0.40
54:1:803:U:H2'	54:1:804:A:H5'	2.04	0.40
54:1:1290:C:O2'	54:1:1291:C:H5'	2.22	0.40
54:1:1344:U:H3'	54:1:1345:C:H5'	2.03	0.40
54:1:1368:G:O2'	54:1:1369:G:H5'	2.21	0.40
54:1:1642:G:O2'	54:1:1643:G:H5'	2.21	0.40
54:1:2106:U:H6	54:1:2106:U:O5'	2.04	0.40
54:1:2164:C:C5	54:1:2165:C:N4	2.89	0.40
54:1:2328:A:H2'	54:1:2329:U:H6	1.82	0.40
54:1:2504:U:H2'	54:1:2505:G:H5'	2.02	0.40
54:1:2709:G:C4	54:1:2710:C:C5	3.10	0.40
54:1:2741:A:H2'	54:1:2742:G:H5'	2.03	0.40
1:b:7:PRO:O	1:b:8:THR:C	2.64	0.40
1:b:93:VAL:O	1:b:100:ARG:HA	2.22	0.40
1:b:171:VAL:CG2	1:b:185:ALA:HA	2.51	0.40
2:c:39:ASP:HA	2:c:46:ARG:CG	2.46	0.40
2:c:146:ILE:CG2	2:c:147:GLY:N	2.84	0.40
3:d:40:ARG:HB2	54:1:443:A:N7	2.36	0.40
4:e:21:TYR:HA	4:e:26:GLN:OE1	2.22	0.40
4:e:97:GLU:O	4:e:101:ARG:HG2	2.22	0.40
4:e:142:TYR:HA	4:e:145:VAL:HG13	2.02	0.40
10:k:35:VAL:HG12	10:k:65:THR:HG23	2.02	0.40
10:k:71:ARG:C	10:k:73:ASP:H	2.25	0.40
11:l:38:GLN:OE1	54:1:805:G:H4'	2.22	0.40
11:l:57:LEU:HA	11:l:60:ARG:NH1	2.36	0.40
11:l:88:GLY:HA2	11:l:120:VAL:HG12	2.02	0.40
11:l:109:LYS:NZ	54:1:636:G:N7	2.66	0.40
12:m:26:VAL:CG2	12:m:133:LYS:HA	2.45	0.40
13:n:3:HIS:CD2	54:1:2820:A:H4'	2.56	0.40
14:o:14:ALA:O	14:o:17:LYS:HB3	2.22	0.40
14:o:26:LEU:HD23	14:o:92:PHE:CD1	2.57	0.40
16:q:26:ALA:O	16:q:29:ARG:N	2.38	0.40
16:q:48:ASP:O	16:q:51:GLN:N	2.55	0.40
18:s:84:ARG:HB2	18:s:96:ILE:CD1	2.50	0.40
20:u:3:LYS:HB3	20:u:82:VAL:CG2	2.51	0.40
20:u:25:LYS:O	20:u:26:ASN:C	2.63	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:26:ARG:HG2	23:x:27:ARG:H	1.86	0.40
31:F:14:CYS:HA	31:F:27:CYS:CB	2.50	0.40
32:G:35:ASN:O	32:G:35:ASN:CG	2.64	0.40
33:H:62:SER:HA	33:H:96:VAL:HB	2.03	0.40
34:I:33:ILE:CG2	34:I:34:GLU:HG3	2.49	0.40
36:K:54:LEU:HG	36:K:55:HIS:H	1.82	0.40
36:K:67:PRO:HG2	36:K:70:VAL:CG2	2.51	0.40
37:L:50:ALA:O	37:L:54:GLY:HA2	2.21	0.40
38:M:4:ASP:HB2	38:M:80:PRO:HG3	2.02	0.40
45:T:11:VAL:HG13	45:T:12:SER:N	2.36	0.40
45:T:84:LEU:O	45:T:85:GLY:C	2.64	0.40
46:U:1:MET:CE	53:3:136:C:H5'	2.48	0.40
53:3:115:G:H1'	53:3:116:A:N7	2.36	0.40
53:3:121:U:H6	53:3:121:U:H2'	1.75	0.40
53:3:124:C:H2'	53:3:125:U:C6	2.56	0.40
53:3:785:G:O2'	53:3:786:G:H5'	2.21	0.40
53:3:926:G:C2	53:3:1505:G:C8	3.10	0.40
54:1:123:G:H2'	54:1:124:G:H8	1.86	0.40
54:1:367:G:C2	54:1:368:A:H1'	2.56	0.40
54:1:375:G:H2'	54:1:376:G:O4'	2.22	0.40
54:1:709:U:H2'	54:1:710:U:H6	1.81	0.40
54:1:757:G:C2	54:1:758:C:H1'	2.57	0.40
54:1:785:G:O2'	54:1:786:C:H5'	2.20	0.40
54:1:819:A:O2'	54:1:820:A:H5'	2.21	0.40
54:1:950:G:C5	54:1:951:C:C4	3.09	0.40
54:1:997:G:H2'	54:1:998:C:H6	1.86	0.40
54:1:1130:U:H6	54:1:1130:U:O5'	2.04	0.40
54:1:1182:G:H2'	54:1:1183:U:H6	1.87	0.40
54:1:1278:C:O2'	54:1:1279:G:H5'	2.21	0.40
54:1:1860:G:H2'	54:1:1861:G:C8	2.56	0.40
54:1:2147:A:H3'	54:1:2148:G:H4'	2.03	0.40
54:1:2368:C:H2'	54:1:2369:A:H8	1.86	0.40
54:1:2516:A:O2'	54:1:2517:C:H5'	2.21	0.40
54:1:2626:C:H2'	54:1:2627:G:O4'	2.21	0.40
54:1:2657:A:H2'	54:1:2658:C:O4'	2.21	0.40
57:6:18:G:H1'	57:6:58:A:C2	2.57	0.40
3:d:55:SER:OG	3:d:56:GLY:N	2.54	0.40
3:d:143:LEU:HD23	3:d:146:VAL:HG11	2.03	0.40
4:e:130:GLY:CA	54:1:2305:U:H5"	2.30	0.40
5:f:120:ILE:CD1	5:f:134:GLY:HA3	2.48	0.40
6:g:9:VAL:O	6:g:12:LEU:HB2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:46:ALA:HB3	10:k:54:LYS:HB2	2.02	0.40
15:p:92:ARG:O	15:p:93:LYS:HE3	2.21	0.40
27:B:43:THR:O	27:B:45:ASP:N	2.53	0.40
29:D:21:ARG:C	29:D:23:ALA:H	2.29	0.40
33:H:73:GLY:O	33:H:77:GLY:N	2.52	0.40
38:M:33:VAL:HA	38:M:36:ALA:HB3	2.04	0.40
43:R:27:THR:CG2	53:3:1328:C:H5"	2.38	0.40
43:R:106:ARG:HB2	53:3:948:C:P	2.62	0.40
46:U:19:VAL:HG22	46:U:36:VAL:O	2.22	0.40
50:Y:82:ILE:O	50:Y:86:ALA:N	2.50	0.40
51:Z:34:ARG:HB2	51:Z:36:PHE:CZ	2.56	0.40
52:a:216:THR:O	52:a:219:GLY:O	2.40	0.40
53:3:190:A:H2'	53:3:191:G:O4'	2.21	0.40
53:3:412:A:N1	53:3:414:A:H1'	2.35	0.40
53:3:597:G:C2'	53:3:598:U:H5'	2.51	0.40
53:3:886:G:C6	53:3:887:G:C5	3.10	0.40
53:3:1348:U:O2	53:3:1348:U:H2'	2.21	0.40
54:1:859:G:H22	54:1:916:G:H2'	1.83	0.40
54:1:967:U:C2	54:1:968:C:C5	3.09	0.40
54:1:1048:A:N7	54:1:1049:C:H5	2.20	0.40
54:1:1173:U:C6	54:1:1174:U:H1'	2.56	0.40
54:1:1443:U:H2'	54:1:1444:G:C8	2.57	0.40
54:1:1500:G:O2'	54:1:1501:G:H5'	2.21	0.40
54:1:1798:U:O2'	54:1:1802:A:N3	2.46	0.40
54:1:1799:G:C4'	54:1:1800:C:H5"	2.35	0.40
54:1:1907:G:O6	54:1:1923:U:C4	2.75	0.40
54:1:2011:U:H2'	54:1:2012:G:H5'	2.04	0.40
54:1:2307:G:C2	54:1:2311:A:C8	3.10	0.40
54:1:2512:C:H2'	54:1:2513:A:O4'	2.21	0.40
54:1:2523:G:O2'	54:1:2524:G:H5'	2.22	0.40
54:1:2570:G:H2'	54:1:2571:U:O4'	2.21	0.40
54:1:2682:A:O2'	54:1:2683:C:H5'	2.21	0.40
54:1:2720:U:O2'	54:1:2721:A:H5'	2.22	0.40
57:6:19:G:C1'	57:6:57:A:H2	2.33	0.40
3:d:109:LEU:O	3:d:110:SER:C	2.65	0.40
3:d:124:PHE:HE2	3:d:157:LEU:HD11	1.86	0.40
3:d:129:PRO:HG3	3:d:159:LEU:HD12	2.03	0.40
3:d:155:GLU:OE2	3:d:155:GLU:HA	2.22	0.40
3:d:181:ILE:HG23	11:l:2:ARG:CZ	2.52	0.40
4:e:28:PRO:HA	4:e:158:THR:OG1	2.21	0.40
4:e:33:ILE:HG23	4:e:153:ILE:HG23	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:j:34:ARG:NH1	9:j:34:ARG:CB	2.85	0.40
9:j:89:PHE:HE1	9:j:100:VAL:HG21	1.86	0.40
9:j:106:LYS:HB2	9:j:106:LYS:HE3	1.83	0.40
9:j:124:VAL:HG22	9:j:125:TYR:N	2.37	0.40
10:k:22:ILE:HG12	10:k:41:ILE:HA	2.04	0.40
10:k:71:ARG:NH1	10:k:106:GLU:HG2	2.36	0.40
12:m:66:ARG:HH11	12:m:66:ARG:CG	2.28	0.40
13:n:114:GLU:CD	13:n:114:GLU:C	2.90	0.40
14:o:33:ARG:HH11	14:o:33:ARG:HG2	1.85	0.40
14:o:81:ARG:NE	14:o:81:ARG:HA	2.37	0.40
15:p:3:ILE:O	15:p:7:LEU:HD23	2.21	0.40
17:r:4:VAL:HG22	17:r:13:ARG:CA	2.52	0.40
18:s:6:LYS:CB	18:s:104:THR:HG22	2.51	0.40
18:s:88:ARG:H	54:1:1614:A:H61	1.68	0.40
19:t:88:LYS:O	19:t:90:GLY:N	2.55	0.40
20:u:46:LYS:HA	54:1:483:A:H4'	2.03	0.40
20:u:93:ARG:NH1	20:u:102:ILE:HG21	2.35	0.40
21:v:36:ALA:HA	21:v:37:PRO:HD3	1.87	0.40
27:B:40:HIS:CD2	54:1:2816:G:H4'	2.57	0.40
29:D:18:PHE:O	29:D:20:ALA:N	2.54	0.40
29:D:21:ARG:C	29:D:23:ALA:N	2.79	0.40
30:E:43:LEU:N	30:E:43:LEU:HD12	2.36	0.40
32:G:206:ILE:O	32:G:209:VAL:HG22	2.21	0.40
33:H:181:ILE:HA	33:H:201:ILE:O	2.22	0.40
35:J:114:LEU:O	35:J:117:ALA:HB3	2.22	0.40
40:O:32:THR:OG1	40:O:82:LYS:HE2	2.21	0.40
40:O:33:GLY:CA	40:O:80:THR:HG21	2.51	0.40
41:P:36:ARG:CG	41:P:37:GLN:NE2	2.81	0.40
41:P:69:CYS:O	41:P:72:ALA:HB3	2.21	0.40
42:Q:10:PRO:HB3	47:V:33:TYR:OH	2.22	0.40
43:R:15:VAL:HG13	43:R:16:ILE:N	2.37	0.40
44:S:2:LYS:C	44:S:4:SER:N	2.80	0.40
45:T:41:HIS:O	45:T:45:HIS:HB2	2.21	0.40
45:T:55:LEU:HD12	45:T:55:LEU:O	2.22	0.40
47:V:63:CYS:HB3	47:V:73:THR:OG1	2.22	0.40
53:3:7:A:O4'	53:3:298:A:C8	2.74	0.40
53:3:54:C:C2'	53:3:352:C:H41	2.32	0.40
53:3:765:G:H2'	53:3:812:G:H21	1.86	0.40
53:3:911:U:H2'	53:3:912:C:H6	1.86	0.40
54:1:114:U:C2	54:1:115:C:C5	3.09	0.40
54:1:477:A:H2'	54:1:478:A:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:640:C:O2'	54:1:641:U:H5'	2.21	0.40
54:1:894:U:C2'	54:1:895:U:H4'	2.50	0.40
54:1:1301:A:N1	54:1:1303:G:C5	2.90	0.40
54:1:1369:G:O2'	54:1:1370:C:H5'	2.22	0.40
54:1:1512:C:H2'	54:1:1513:U:H6	1.85	0.40
54:1:1613:G:C2	54:1:1619:G:C5	3.10	0.40
54:1:2392:A:C8	54:1:2429:G:C2	3.09	0.40
54:1:2547:A:H1'	54:1:2566:A:C6	2.56	0.40
54:1:2638:G:H1'	54:1:2778:A:H61	1.87	0.40
54:1:2705:A:H2'	54:1:2706:A:O4'	2.21	0.40
54:1:2723:C:N4	54:1:2724:U:C4	2.89	0.40
54:1:2739:U:O2'	54:1:2740:A:H5'	2.21	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	b	269/271 (99%)	216 (80%)	50 (19%)	3 (1%)	11 43
2	c	207/209 (99%)	160 (77%)	43 (21%)	4 (2%)	6 33
3	d	199/201 (99%)	154 (77%)	43 (22%)	2 (1%)	12 45
4	e	175/177 (99%)	143 (82%)	29 (17%)	3 (2%)	7 35
5	f	174/176 (99%)	139 (80%)	30 (17%)	5 (3%)	3 24
6	g	55/149 (37%)	40 (73%)	11 (20%)	4 (7%)	1 6
7	h	77/131 (59%)	49 (64%)	26 (34%)	2 (3%)	4 26
8	i	69/141 (49%)	59 (86%)	9 (13%)	1 (1%)	9 39
9	j	140/142 (99%)	114 (81%)	24 (17%)	2 (1%)	9 39
10	k	120/122 (98%)	88 (73%)	28 (23%)	4 (3%)	3 21

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
11	l	141/143 (99%)	99 (70%)	37 (26%)	5 (4%)	3 20
12	m	134/136 (98%)	113 (84%)	17 (13%)	4 (3%)	3 23
13	n	118/120 (98%)	97 (82%)	20 (17%)	1 (1%)	16 50
14	o	114/116 (98%)	94 (82%)	18 (16%)	2 (2%)	6 34
15	p	112/114 (98%)	88 (79%)	23 (20%)	1 (1%)	14 47
16	q	115/117 (98%)	99 (86%)	14 (12%)	2 (2%)	7 35
17	r	101/103 (98%)	78 (77%)	22 (22%)	1 (1%)	12 45
18	s	108/110 (98%)	93 (86%)	14 (13%)	1 (1%)	14 47
19	t	91/93 (98%)	77 (85%)	12 (13%)	2 (2%)	5 29
20	u	100/102 (98%)	76 (76%)	21 (21%)	3 (3%)	3 23
21	v	92/94 (98%)	82 (89%)	10 (11%)	0	100 100
22	w	73/75 (97%)	59 (81%)	12 (16%)	2 (3%)	4 25
23	x	75/77 (97%)	64 (85%)	10 (13%)	1 (1%)	9 40
24	y	61/63 (97%)	53 (87%)	7 (12%)	1 (2%)	7 36
25	z	56/58 (97%)	50 (89%)	5 (9%)	1 (2%)	6 34
26	A	45/66 (68%)	32 (71%)	12 (27%)	1 (2%)	5 29
27	B	54/56 (96%)	38 (70%)	14 (26%)	2 (4%)	2 18
28	C	48/50 (96%)	41 (85%)	7 (15%)	0	100 100
29	D	44/46 (96%)	35 (80%)	9 (20%)	0	100 100
30	E	62/64 (97%)	49 (79%)	12 (19%)	1 (2%)	7 36
31	F	36/38 (95%)	26 (72%)	9 (25%)	1 (3%)	4 25
32	G	216/225 (96%)	170 (79%)	43 (20%)	3 (1%)	9 39
33	H	204/206 (99%)	172 (84%)	32 (16%)	0	100 100
34	I	203/205 (99%)	154 (76%)	48 (24%)	1 (0%)	24 59
35	J	155/157 (99%)	117 (76%)	36 (23%)	2 (1%)	9 40
36	K	98/100 (98%)	73 (74%)	24 (24%)	1 (1%)	12 45
37	L	149/151 (99%)	117 (78%)	30 (20%)	2 (1%)	9 40
38	M	127/129 (98%)	114 (90%)	10 (8%)	3 (2%)	4 28
39	N	125/127 (98%)	88 (70%)	34 (27%)	3 (2%)	4 28
40	O	96/98 (98%)	75 (78%)	17 (18%)	4 (4%)	2 16
41	P	114/116 (98%)	86 (75%)	23 (20%)	5 (4%)	2 15

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
42	Q	121/123 (98%)	85 (70%)	31 (26%)	5 (4%)	2 17
43	R	112/114 (98%)	96 (86%)	15 (13%)	1 (1%)	14 47
44	S	98/100 (98%)	74 (76%)	22 (22%)	2 (2%)	6 31
45	T	86/88 (98%)	75 (87%)	11 (13%)	0	100 100
46	U	80/82 (98%)	61 (76%)	16 (20%)	3 (4%)	2 18
47	V	78/80 (98%)	59 (76%)	19 (24%)	0	100 100
48	W	63/65 (97%)	48 (76%)	12 (19%)	3 (5%)	2 14
49	X	77/79 (98%)	61 (79%)	15 (20%)	1 (1%)	9 40
50	Y	83/85 (98%)	73 (88%)	10 (12%)	0	100 100
51	Z	63/65 (97%)	36 (57%)	20 (32%)	7 (11%)	0 2
52	a	130/223 (58%)	100 (77%)	26 (20%)	4 (3%)	3 22
All	All	5743/6178 (93%)	4539 (79%)	1092 (19%)	112 (2%)	8 31

All (112) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	h	72	LEU
10	k	92	GLU
10	k	105	ARG
11	l	38	GLN
11	l	39	LYS
14	o	34	HIS
24	y	24	GLU
31	F	11	CYS
35	J	87	VAL
39	N	90	ASP
41	P	13	LYS
51	Z	8	ASN
51	Z	37	TYR
51	Z	62	GLU
3	d	131	THR
4	e	113	PHE
5	f	28	LYS
6	g	9	VAL
17	r	54	VAL
25	z	14	GLY
26	A	3	LYS
32	G	88	GLN

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Mol	Chain	Res	Type
32	G	224	ARG
34	I	65	GLY
37	L	54	GLY
38	M	28	SER
38	M	47	ASP
38	M	78	SER
40	O	89	ARG
42	Q	15	VAL
42	Q	117	GLY
48	W	17	VAL
48	W	20	ILE
51	Z	34	ARG
51	Z	61	ARG
52	a	204	ALA
52	a	207	VAL
5	f	118	ALA
12	m	27	SER
16	q	27	ARG
19	t	3	ARG
19	t	35	ALA
23	x	2	ARG
27	B	44	ALA
30	E	54	LEU
39	N	91	GLU
40	O	43	PRO
41	P	14	GLN
42	Q	101	LEU
43	R	105	ALA
44	S	3	GLN
46	U	45	GLU
51	Z	65	ARG
3	d	62	GLN
4	e	75	GLY
6	g	8	LYS
6	g	10	ALA
7	h	60	LEU
9	j	60	ASP
10	k	14	SER
11	l	36	LYS
12	m	42	THR
20	u	51	LEU
22	w	40	LYS

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Mol	Chain	Res	Type
22	w	53	HIS
36	K	92	THR
39	N	57	VAL
41	P	39	ASN
46	U	47	GLU
46	U	80	LYS
48	W	71	ASP
52	a	6	LYS
52	a	16	ASP
1	b	7	PRO
1	b	96	LYS
2	c	99	GLU
2	c	102	ALA
2	c	129	THR
4	e	74	ALA
5	f	46	ASP
5	f	61	TRP
6	g	50	ARG
8	i	72	THR
9	j	83	GLY
10	k	104	THR
11	l	107	PHE
12	m	121	ALA
16	q	49	ARG
18	s	25	ARG
32	G	153	MET
37	L	112	ASP
41	P	91	GLY
44	S	74	ARG
51	Z	15	LEU
1	b	255	LYS
2	c	134	HIS
14	o	99	TYR
35	J	50	GLY
40	O	42	LEU
40	O	57	VAL
42	Q	33	CYS
49	X	27	LYS
42	Q	3	VAL
5	f	125	PRO
11	l	56	PRO
12	m	69	PRO

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Mol	Chain	Res	Type
13	n	116	VAL
15	p	53	GLY
27	B	46	GLY
41	P	47	GLY
20	u	55	GLY
20	u	54	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	b	216/216 (100%)	199 (92%)	17 (8%)	11 40
2	c	164/164 (100%)	154 (94%)	10 (6%)	17 49
3	d	165/165 (100%)	162 (98%)	3 (2%)	51 74
4	e	148/148 (100%)	145 (98%)	3 (2%)	48 72
5	f	137/137 (100%)	135 (98%)	2 (2%)	57 76
6	g	45/114 (40%)	44 (98%)	1 (2%)	45 71
7	h	62/100 (62%)	60 (97%)	2 (3%)	34 65
8	i	53/109 (49%)	50 (94%)	3 (6%)	18 51
9	j	116/116 (100%)	111 (96%)	5 (4%)	26 59
10	k	103/103 (100%)	93 (90%)	10 (10%)	8 32
11	l	102/102 (100%)	99 (97%)	3 (3%)	37 67
12	m	109/109 (100%)	99 (91%)	10 (9%)	8 33
13	n	100/100 (100%)	95 (95%)	5 (5%)	22 55
14	o	86/86 (100%)	84 (98%)	2 (2%)	44 70
15	p	99/99 (100%)	92 (93%)	7 (7%)	13 44
16	q	89/89 (100%)	83 (93%)	6 (7%)	15 47
17	r	84/84 (100%)	83 (99%)	1 (1%)	63 79
18	s	93/93 (100%)	89 (96%)	4 (4%)	26 59
19	t	80/80 (100%)	80 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	u	83/83 (100%)	80 (96%)	3 (4%)	31	63
21	v	78/78 (100%)	75 (96%)	3 (4%)	29	62
22	w	57/57 (100%)	54 (95%)	3 (5%)	20	53
23	x	67/67 (100%)	64 (96%)	3 (4%)	24	58
24	y	55/55 (100%)	55 (100%)	0	100	100
25	z	48/48 (100%)	46 (96%)	2 (4%)	26	60
26	A	43/59 (73%)	42 (98%)	1 (2%)	44	70
27	B	47/47 (100%)	47 (100%)	0	100	100
28	C	45/45 (100%)	44 (98%)	1 (2%)	45	71
29	D	38/38 (100%)	38 (100%)	0	100	100
30	E	51/51 (100%)	47 (92%)	4 (8%)	11	41
31	F	34/34 (100%)	33 (97%)	1 (3%)	37	67
32	G	180/186 (97%)	179 (99%)	1 (1%)	78	84
33	H	170/170 (100%)	168 (99%)	2 (1%)	63	79
34	I	172/172 (100%)	165 (96%)	7 (4%)	27	60
35	J	119/119 (100%)	115 (97%)	4 (3%)	32	64
36	K	87/87 (100%)	83 (95%)	4 (5%)	24	58
37	L	124/124 (100%)	123 (99%)	1 (1%)	73	82
38	M	104/104 (100%)	100 (96%)	4 (4%)	29	62
39	N	105/105 (100%)	104 (99%)	1 (1%)	68	80
40	O	86/86 (100%)	81 (94%)	5 (6%)	18	51
41	P	89/89 (100%)	87 (98%)	2 (2%)	45	71
42	Q	103/103 (100%)	97 (94%)	6 (6%)	18	51
43	R	92/92 (100%)	91 (99%)	1 (1%)	65	79
44	S	83/83 (100%)	78 (94%)	5 (6%)	17	50
45	T	76/76 (100%)	71 (93%)	5 (7%)	15	47
46	U	65/65 (100%)	61 (94%)	4 (6%)	16	49
47	V	74/74 (100%)	70 (95%)	4 (5%)	20	53
48	W	56/56 (100%)	56 (100%)	0	100	100
49	X	70/70 (100%)	66 (94%)	4 (6%)	18	51
50	Y	65/65 (100%)	64 (98%)	1 (2%)	57	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
51	Z	55/55 (100%)	53 (96%)	2 (4%)	31 63
52	a	110/174 (63%)	104 (94%)	6 (6%)	19 52
All	All	4782/5031 (95%)	4598 (96%)	184 (4%)	30 62

All (184) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	b	2	VAL
1	b	33	LEU
1	b	50	THR
1	b	59	GLN
1	b	85	ASN
1	b	129	LEU
1	b	140	VAL
1	b	143	VAL
1	b	145	MET
1	b	171	VAL
1	b	196	ASN
1	b	203	VAL
1	b	222	THR
1	b	237	ARG
1	b	238	ASN
1	b	241	LYS
1	b	251	THR
2	c	49	GLN
2	c	83	ARG
2	c	88	GLU
2	c	96	ILE
2	c	151	THR
2	c	156	PHE
2	c	171	THR
2	c	173	GLN
2	c	178	VAL
2	c	187	LEU
3	d	132	LYS
3	d	165	HIS
3	d	171	ASP
4	e	126	ASN
4	e	129	MET
4	e	145	VAL
5	f	10	VAL

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Mol	Chain	Res	Type
5	f	106	LEU
6	g	4	ILE
7	h	23	LEU
7	h	55	VAL
8	i	72	THR
8	i	79	LEU
8	i	138	VAL
9	j	5	THR
9	j	30	THR
9	j	57	LEU
9	j	70	THR
9	j	93	ILE
10	k	13	ASN
10	k	22	ILE
10	k	32	TYR
10	k	40	LYS
10	k	58	LEU
10	k	61	VAL
10	k	63	VAL
10	k	76	VAL
10	k	79	PHE
10	k	92	GLU
11	l	19	LEU
11	l	46	VAL
11	l	81	ASP
12	m	17	ASN
12	m	18	ARG
12	m	24	THR
12	m	90	GLU
12	m	91	TYR
12	m	95	LEU
12	m	110	GLU
12	m	124	LEU
12	m	125	PRO
12	m	126	ILE
13	n	12	ARG
13	n	20	MET
13	n	37	THR
13	n	54	LEU
13	n	95	THR
14	o	28	VAL
14	o	61	GLN

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Mol	Chain	Res	Type
15	p	12	MET
15	p	19	PHE
15	p	27	VAL
15	p	47	ILE
15	p	72	VAL
15	p	96	LEU
15	p	109	ILE
16	q	16	ILE
16	q	17	LEU
16	q	30	VAL
16	q	48	ASP
16	q	51	GLN
16	q	59	LEU
17	r	74	ILE
18	s	3	THR
18	s	4	ILE
18	s	75	PHE
18	s	103	ILE
20	u	4	ILE
20	u	39	ASN
20	u	61	GLU
21	v	59	GLU
21	v	61	LEU
21	v	70	ILE
22	w	39	THR
22	w	40	LYS
22	w	51	ARG
23	x	16	ASN
23	x	40	GLU
23	x	63	ILE
25	z	3	THR
25	z	28	LEU
26	A	36	VAL
28	C	11	VAL
30	E	3	ILE
30	E	29	ARG
30	E	41	ARG
30	E	61	LEU
31	F	17	VAL
32	G	29	PHE
33	H	187	GLU
33	H	201	ILE

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Mol	Chain	Res	Type
34	I	18	LEU
34	I	22	SER
34	I	40	HIS
34	I	68	GLU
34	I	73	ASN
34	I	125	ASN
34	I	190	LEU
35	J	79	THR
35	J	104	ILE
35	J	133	ILE
35	J	136	VAL
36	K	11	HIS
36	K	49	TYR
36	K	64	VAL
36	K	89	VAL
37	L	37	THR
38	M	10	LEU
38	M	24	VAL
38	M	120	LEU
38	M	128	VAL
39	N	54	VAL
40	O	6	ILE
40	O	66	GLU
40	O	71	LEU
40	O	80	THR
40	O	100	ILE
41	P	28	ASN
41	P	64	VAL
42	Q	23	LEU
42	Q	38	THR
42	Q	66	ILE
42	Q	78	VAL
42	Q	81	ILE
42	Q	116	TYR
43	R	53	ASP
44	S	8	ARG
44	S	9	GLU
44	S	56	PRO
44	S	81	ILE
44	S	88	MET
45	T	13	GLU
45	T	28	VAL

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Mol	Chain	Res	Type
45	T	62	ARG
45	T	66	LEU
45	T	84	LEU
46	U	16	PHE
46	U	19	VAL
46	U	28	ARG
46	U	70	ARG
47	V	6	THR
47	V	12	VAL
47	V	58	VAL
47	V	79	GLU
49	X	5	LYS
49	X	14	LEU
49	X	29	PRO
49	X	78	THR
50	Y	52	GLU
51	Z	11	PHE
51	Z	62	GLU
52	a	5	THR
52	a	7	ARG
52	a	15	VAL
52	a	44	VAL
52	a	166	ASP
52	a	217	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (78) such sidechains are listed below:

Mol	Chain	Res	Type
1	b	44	ASN
1	b	59	GLN
1	b	89	ASN
1	b	116	GLN
1	b	196	ASN
1	b	199	HIS
1	b	225	ASN
1	b	229	HIS
1	b	238	ASN
1	b	250	GLN
1	b	259	ASN
2	c	49	GLN
2	c	136	ASN
2	c	140	HIS

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Mol	Chain	Res	Type
2	c	173	GLN
3	d	41	GLN
3	d	90	GLN
3	d	92	HIS
3	d	97	ASN
3	d	195	GLN
4	e	20	ASN
5	f	29	ASN
8	i	110	GLN
9	j	40	HIS
9	j	80	HIS
14	o	19	GLN
14	o	43	ASN
14	o	104	GLN
15	p	76	HIS
17	r	12	HIS
18	s	40	ASN
19	t	92	ASN
20	u	39	ASN
20	u	73	ASN
20	u	98	ASN
24	y	38	GLN
24	y	39	GLN
24	y	41	HIS
24	y	45	GLN
25	z	19	HIS
31	F	35	GLN
32	G	14	HIS
32	G	23	ASN
32	G	119	GLN
32	G	189	ASN
32	G	202	ASN
33	H	24	ASN
33	H	99	GLN
33	H	139	ASN
34	I	35	GLN
34	I	99	ASN
34	I	135	GLN
34	I	151	GLN
35	J	11	GLN
35	J	60	GLN
35	J	76	ASN

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Mol	Chain	Res	Type
35	J	134	ASN
36	K	17	GLN
37	L	147	ASN
39	N	31	GLN
39	N	109	GLN
40	O	56	HIS
41	P	27	ASN
41	P	37	GLN
44	S	65	GLN
45	T	61	GLN
45	T	79	GLN
46	U	9	HIS
46	U	63	GLN
47	V	30	HIS
48	W	18	GLN
48	W	51	GLN
49	X	51	HIS
49	X	68	HIS
50	Y	12	GLN
51	Z	8	ASN
52	a	58	ASN
52	a	160	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
53	3	1538/1539 (99%)	207 (13%)	10 (0%)
54	1	2902/2903 (99%)	465 (16%)	27 (0%)
55	2	119/120 (99%)	14 (11%)	1 (0%)
56	5	76/77 (98%)	20 (26%)	2 (2%)
57	6	76/77 (98%)	20 (26%)	0
58	4	17/18 (94%)	4 (23%)	0
All	All	4728/4734 (99%)	730 (15%)	40 (0%)

All (730) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
53	3	6	G
53	3	7	A
53	3	8	A
53	3	9	G

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Mol	Chain	Res	Type
53	3	22	G
53	3	32	A
53	3	39	G
53	3	48	C
53	3	50	A
53	3	51	A
53	3	71	A
53	3	72	A
53	3	79	G
53	3	81	A
53	3	83	C
53	3	84	U
53	3	86	G
53	3	87	C
53	3	92	U
53	3	100	G
53	3	101	A
53	3	121	U
53	3	130	A
53	3	141	G
53	3	149	A
53	3	152	A
53	3	153	C
53	3	162	A
53	3	183	C
53	3	197	A
53	3	209	U
53	3	210	C
53	3	226	G
53	3	247	G
53	3	251	G
53	3	262	A
53	3	266	G
53	3	267	C
53	3	280	C
53	3	281	G
53	3	289	G
53	3	307	C
53	3	327	A
53	3	328	C
53	3	352	C
53	3	367	U

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Mol	Chain	Res	Type
53	3	369	G
53	3	372	C
53	3	406	G
53	3	411	A
53	3	412	A
53	3	422	C
53	3	429	U
53	3	438	U
53	3	452	A
53	3	462	G
53	3	467	U
53	3	468	A
53	3	474	G
53	3	480	U
53	3	484	G
53	3	485	U
53	3	486	U
53	3	495	A
53	3	496	A
53	3	497	G
53	3	508	U
53	3	509	A
53	3	511	C
53	3	518	C
53	3	531	U
53	3	532	A
53	3	547	A
53	3	561	U
53	3	564	C
53	3	572	A
53	3	573	A
53	3	575	G
53	3	576	C
53	3	577	G
53	3	596	A
53	3	615	G
53	3	633	G
53	3	639	G
53	3	652	U
53	3	653	U
53	3	665	A
53	3	688	G

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Mol	Chain	Res	Type
53	3	703	G
53	3	723	U
53	3	724	G
53	3	755	G
53	3	777	A
53	3	790	A
53	3	793	U
53	3	794	A
53	3	805	C
53	3	814	A
53	3	817	C
53	3	818	G
53	3	819	A
53	3	843	U
53	3	844	G
53	3	846	G
53	3	872	A
53	3	885	G
53	3	890	G
53	3	891	U
53	3	898	G
53	3	902	G
53	3	913	A
53	3	914	A
53	3	926	G
53	3	934	C
53	3	935	A
53	3	960	U
53	3	961	U
53	3	962	C
53	3	965	U
53	3	966	G
53	3	969	A
53	3	971	G
53	3	975	A
53	3	976	G
53	3	977	A
53	3	992	U
53	3	993	G
53	3	1004	A
53	3	1026	G
53	3	1027	C

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Mol	Chain	Res	Type
53	3	1028	C
53	3	1030	U
53	3	1031	C
53	3	1033	G
53	3	1034	G
53	3	1035	A
53	3	1053	G
53	3	1054	C
53	3	1055	A
53	3	1088	G
53	3	1094	G
53	3	1101	A
53	3	1130	A
53	3	1131	G
53	3	1136	C
53	3	1137	C
53	3	1138	G
53	3	1139	G
53	3	1146	A
53	3	1159	U
53	3	1182	G
53	3	1184	G
53	3	1191	A
53	3	1196	A
53	3	1198	G
53	3	1201	A
53	3	1202	U
53	3	1207	G
53	3	1212	U
53	3	1213	A
53	3	1225	A
53	3	1227	A
53	3	1228	C
53	3	1238	A
53	3	1240	U
53	3	1241	G
53	3	1250	A
53	3	1258	G
53	3	1260	G
53	3	1262	C
53	3	1275	A
53	3	1278	G

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Mol	Chain	Res	Type
53	3	1280	A
53	3	1286	U
53	3	1287	A
53	3	1300	G
53	3	1317	C
53	3	1323	G
53	3	1332	A
53	3	1336	C
53	3	1338	G
53	3	1346	A
53	3	1347	G
53	3	1362	A
53	3	1363	A
53	3	1364	U
53	3	1370	G
53	3	1381	U
53	3	1395	C
53	3	1411	C
53	3	1428	A
53	3	1446	A
53	3	1448	C
53	3	1451	U
53	3	1452	C
53	3	1487	G
53	3	1492	A
53	3	1503	A
53	3	1505	G
53	3	1506	U
53	3	1517	G
53	3	1519	A
53	3	1529	G
53	3	1530	G
53	3	1533	C
53	3	1536	C
53	3	1540	U
54	1	10	A
54	1	34	U
54	1	38	A
54	1	46	G
54	1	50	U
54	1	51	G
54	1	63	A

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Mol	Chain	Res	Type
54	1	71	A
54	1	74	A
54	1	75	G
54	1	102	U
54	1	103	A
54	1	119	A
54	1	120	U
54	1	138	U
54	1	139	U
54	1	140	C
54	1	141	G
54	1	142	A
54	1	158	U
54	1	162	U
54	1	163	C
54	1	178	G
54	1	181	A
54	1	196	A
54	1	199	A
54	1	216	A
54	1	221	A
54	1	222	A
54	1	232	G
54	1	233	A
54	1	248	G
54	1	249	C
54	1	255	A
54	1	264	C
54	1	266	G
54	1	276	U
54	1	281	C
54	1	294	A
54	1	311	A
54	1	323	C
54	1	324	A
54	1	330	A
54	1	353	C
54	1	361	G
54	1	369	U
54	1	371	A
54	1	372	G
54	1	386	G

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Mol	Chain	Res	Type
54	1	387	U
54	1	396	G
54	1	404	A
54	1	405	U
54	1	406	G
54	1	411	G
54	1	421	C
54	1	424	G
54	1	447	A
54	1	448	U
54	1	451	U
54	1	455	C
54	1	459	U
54	1	467	G
54	1	473	G
54	1	479	A
54	1	481	G
54	1	490	C
54	1	491	G
54	1	504	A
54	1	505	A
54	1	509	C
54	1	527	C
54	1	531	C
54	1	532	A
54	1	533	G
54	1	535	G
54	1	542	C
54	1	545	U
54	1	547	A
54	1	550	C
54	1	563	A
54	1	569	U
54	1	573	U
54	1	575	A
54	1	586	A
54	1	588	U
54	1	603	A
54	1	613	A
54	1	614	A
54	1	627	A
54	1	637	A

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Mol	Chain	Res	Type
54	1	645	C
54	1	646	U
54	1	654	A
54	1	655	A
54	1	664	G
54	1	668	A
54	1	669	G
54	1	670	A
54	1	678	C
54	1	686	U
54	1	687	C
54	1	694	U
54	1	695	G
54	1	699	A
54	1	715	A
54	1	717	C
54	1	718	A
54	1	730	A
54	1	747	C
54	1	771	G
54	1	775	G
54	1	776	G
54	1	779	U
54	1	782	A
54	1	783	A
54	1	784	G
54	1	785	G
54	1	789	A
54	1	805	G
54	1	812	C
54	1	819	A
54	1	827	U
54	1	828	U
54	1	830	G
54	1	845	A
54	1	846	U
54	1	858	G
54	1	859	G
54	1	860	U
54	1	876	C
54	1	886	A
54	1	887	U

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Mol	Chain	Res	Type
54	1	888	C
54	1	890	C
54	1	891	G
54	1	896	A
54	1	897	C
54	1	907	G
54	1	910	A
54	1	915	C
54	1	932	U
54	1	941	A
54	1	945	A
54	1	946	C
54	1	953	G
54	1	959	A
54	1	961	C
54	1	962	G
54	1	975	A
54	1	983	A
54	1	995	C
54	1	996	A
54	1	1012	U
54	1	1013	C
54	1	1021	A
54	1	1022	G
54	1	1025	G
54	1	1030	C
54	1	1033	U
54	1	1045	C
54	1	1046	A
54	1	1054	A
54	1	1057	A
54	1	1064	C
54	1	1065	U
54	1	1066	U
54	1	1068	G
54	1	1069	A
54	1	1070	A
54	1	1071	G
54	1	1072	C
54	1	1073	A
54	1	1076	C
54	1	1079	C

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Mol	Chain	Res	Type
54	1	1082	U
54	1	1083	U
54	1	1084	A
54	1	1085	A
54	1	1087	G
54	1	1088	A
54	1	1089	A
54	1	1090	A
54	1	1095	A
54	1	1097	U
54	1	1104	C
54	1	1106	G
54	1	1111	A
54	1	1130	U
54	1	1131	G
54	1	1132	U
54	1	1133	A
54	1	1135	C
54	1	1136	G
54	1	1144	A
54	1	1155	A
54	1	1173	U
54	1	1174	U
54	1	1175	A
54	1	1176	U
54	1	1178	C
54	1	1180	U
54	1	1181	U
54	1	1206	G
54	1	1212	G
54	1	1238	G
54	1	1247	A
54	1	1248	G
54	1	1250	G
54	1	1251	C
54	1	1253	A
54	1	1256	G
54	1	1265	A
54	1	1271	G
54	1	1272	A
54	1	1273	U
54	1	1275	A

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Mol	Chain	Res	Type
54	1	1300	G
54	1	1301	A
54	1	1302	A
54	1	1305	C
54	1	1332	G
54	1	1345	C
54	1	1352	U
54	1	1365	A
54	1	1383	A
54	1	1384	A
54	1	1416	G
54	1	1419	A
54	1	1420	A
54	1	1427	A
54	1	1428	C
54	1	1454	C
54	1	1461	C
54	1	1476	U
54	1	1481	U
54	1	1482	G
54	1	1490	A
54	1	1504	A
54	1	1515	A
54	1	1522	A
54	1	1523	U
54	1	1524	G
54	1	1531	C
54	1	1533	C
54	1	1534	U
54	1	1535	A
54	1	1536	C
54	1	1537	G
54	1	1555	G
54	1	1560	G
54	1	1566	A
54	1	1569	A
54	1	1578	U
54	1	1581	G
54	1	1585	C
54	1	1607	C
54	1	1608	A
54	1	1611	C

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Mol	Chain	Res	Type
54	1	1616	A
54	1	1639	C
54	1	1647	U
54	1	1648	U
54	1	1649	G
54	1	1660	G
54	1	1674	G
54	1	1675	C
54	1	1698	A
54	1	1699	G
54	1	1702	G
54	1	1713	A
54	1	1715	G
54	1	1716	U
54	1	1729	U
54	1	1730	C
54	1	1731	G
54	1	1732	C
54	1	1738	G
54	1	1758	U
54	1	1764	C
54	1	1773	A
54	1	1780	A
54	1	1782	U
54	1	1787	A
54	1	1791	A
54	1	1800	C
54	1	1801	A
54	1	1808	A
54	1	1811	G
54	1	1812	U
54	1	1816	C
54	1	1829	A
54	1	1833	C
54	1	1869	G
54	1	1870	C
54	1	1871	A
54	1	1884	G
54	1	1896	G
54	1	1901	A
54	1	1907	G
54	1	1912	A

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Mol	Chain	Res	Type
54	1	1913	A
54	1	1914	C
54	1	1920	C
54	1	1921	G
54	1	1922	G
54	1	1923	U
54	1	1925	C
54	1	1926	U
54	1	1930	G
54	1	1937	A
54	1	1938	A
54	1	1955	U
54	1	1963	U
54	1	1967	C
54	1	1970	A
54	1	1972	G
54	1	1982	U
54	1	1983	G
54	1	1991	U
54	1	1992	G
54	1	1993	U
54	1	1997	C
54	1	2004	G
54	1	2021	C
54	1	2022	U
54	1	2023	C
54	1	2030	A
54	1	2031	A
54	1	2034	U
54	1	2043	C
54	1	2055	C
54	1	2056	G
54	1	2060	A
54	1	2061	G
54	1	2062	A
54	1	2069	G
54	1	2072	C
54	1	2096	C
54	1	2097	A
54	1	2102	G
54	1	2108	A
54	1	2111	U

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Mol	Chain	Res	Type
54	1	2112	G
54	1	2113	U
54	1	2115	G
54	1	2116	G
54	1	2118	U
54	1	2119	A
54	1	2122	U
54	1	2123	G
54	1	2124	G
54	1	2125	G
54	1	2127	G
54	1	2129	C
54	1	2131	U
54	1	2132	U
54	1	2133	G
54	1	2134	A
54	1	2137	U
54	1	2138	G
54	1	2146	C
54	1	2148	G
54	1	2152	G
54	1	2156	G
54	1	2162	G
54	1	2164	C
54	1	2172	U
54	1	2173	A
54	1	2179	C
54	1	2191	A
54	1	2192	U
54	1	2198	A
54	1	2204	G
54	1	2211	A
54	1	2223	G
54	1	2225	A
54	1	2238	G
54	1	2239	G
54	1	2253	G
54	1	2273	A
54	1	2278	A
54	1	2283	C
54	1	2287	A
54	1	2297	A

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Mol	Chain	Res	Type
54	1	2305	U
54	1	2307	G
54	1	2309	A
54	1	2312	U
54	1	2320	U
54	1	2325	G
54	1	2327	A
54	1	2334	U
54	1	2344	U
54	1	2383	G
54	1	2385	C
54	1	2388	A
54	1	2392	A
54	1	2402	U
54	1	2406	A
54	1	2423	U
54	1	2428	G
54	1	2429	G
54	1	2430	A
54	1	2434	A
54	1	2441	U
54	1	2445	G
54	1	2448	A
54	1	2476	A
54	1	2480	C
54	1	2484	G
54	1	2494	G
54	1	2498	C
54	1	2502	G
54	1	2505	G
54	1	2518	A
54	1	2520	C
54	1	2529	G
54	1	2547	A
54	1	2554	U
54	1	2566	A
54	1	2567	G
54	1	2572	A
54	1	2573	C
54	1	2586	U
54	1	2602	A
54	1	2603	G

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Mol	Chain	Res	Type
54	1	2613	U
54	1	2623	G
54	1	2629	U
54	1	2646	C
54	1	2655	G
54	1	2663	G
54	1	2682	A
54	1	2689	U
54	1	2690	U
54	1	2714	G
54	1	2716	C
54	1	2733	A
54	1	2739	U
54	1	2748	A
54	1	2751	G
54	1	2764	A
54	1	2765	A
54	1	2778	A
54	1	2779	U
54	1	2790	U
54	1	2791	G
54	1	2797	U
54	1	2800	A
54	1	2808	G
54	1	2809	A
54	1	2820	A
54	1	2821	A
54	1	2833	U
54	1	2835	A
54	1	2850	A
54	1	2851	A
54	1	2867	G
54	1	2868	A
54	1	2874	C
54	1	2880	C
54	1	2883	A
54	1	2901	C
54	1	2902	C
55	2	4	C
55	2	13	G
55	2	15	A
55	2	35	C

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Mol	Chain	Res	Type
55	2	44	G
55	2	51	G
55	2	66	A
55	2	67	G
55	2	86	G
55	2	88	C
55	2	89	U
55	2	90	C
55	2	108	A
55	2	109	A
56	5	3	G
56	5	4	C
56	5	5	G
56	5	6	A
56	5	9	A
56	5	10	G
56	5	14	A
56	5	18	G
56	5	19	G
56	5	20	U
56	5	25	C
56	5	27	A
56	5	30	G
56	5	41	A
56	5	42	G
56	5	47	U
56	5	52	G
56	5	73	A
56	5	74	C
56	5	76	A
57	6	4	G
57	6	8	U
57	6	9	G
57	6	14	A
57	6	17	C
57	6	18	G
57	6	19	G
57	6	21	A
57	6	22	G
57	6	27	U
57	6	43	A
57	6	46	G

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Mol	Chain	Res	Type
57	6	47	U
57	6	48	C
57	6	49	G
57	6	56	C
57	6	57	A
57	6	61	C
57	6	70	G
57	6	73	A
58	4	6	G
58	4	8	A
58	4	10	G
58	4	12	A

All (40) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
53	3	86	G
53	3	485	U
53	3	845	A
53	3	884	U
53	3	890	G
53	3	1138	G
53	3	1181	G
53	3	1190	G
53	3	1201	A
53	3	1331	G
54	1	490	C
54	1	686	U
54	1	774	G
54	1	858	G
54	1	859	G
54	1	1020	A
54	1	1130	U
54	1	1132	U
54	1	1143	A
54	1	1332	G
54	1	1475	G
54	1	1715	G
54	1	1730	C
54	1	1801	A
54	1	1912	A
54	1	1920	C

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Mol	Chain	Res	Type
54	1	1925	C
54	1	2128	G
54	1	2238	G
54	1	2277	G
54	1	2286	G
54	1	2296	U
54	1	2326	C
54	1	2333	A
54	1	2391	G
54	1	2790	U
54	1	2808	G
55	2	88	C
56	5	2	G
56	5	40	C

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

2 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
59	FME	1	3001	60	8,9,10	0.57	0	8,9,11	0.86	0
60	PRO	5	101	56,59	6,7,8	0.51	0	7,8,10	1.30	1 (14%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
59	FME	1	3001	60	-	2/7/9/11	-
60	PRO	5	101	56,59	-	0/0/9/11	0/1/1/1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
60	5	101	PRO	O-C-CA	-2.68	117.89	124.77

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
59	1	3001	FME	O1-CN-N-CA
59	1	3001	FME	O-C-CA-CB

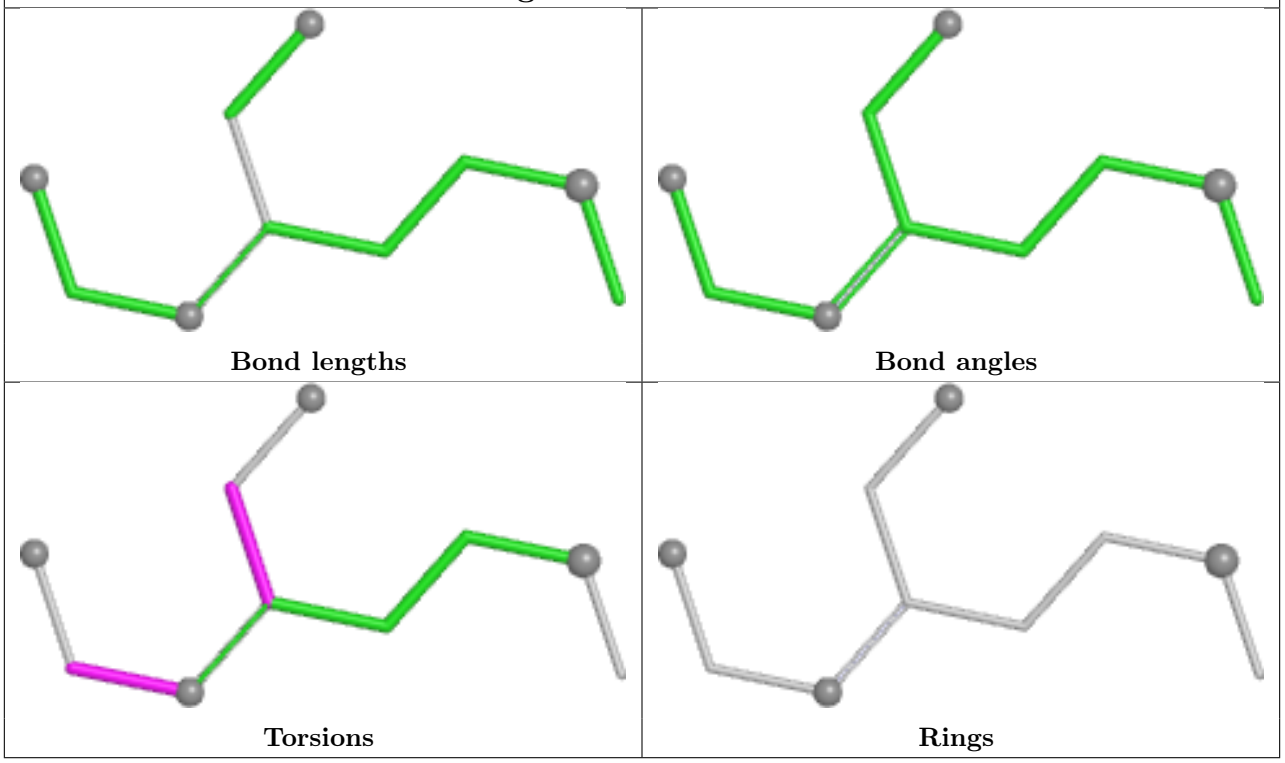
There are no ring outliers.

2 monomers are involved in 2 short contacts:

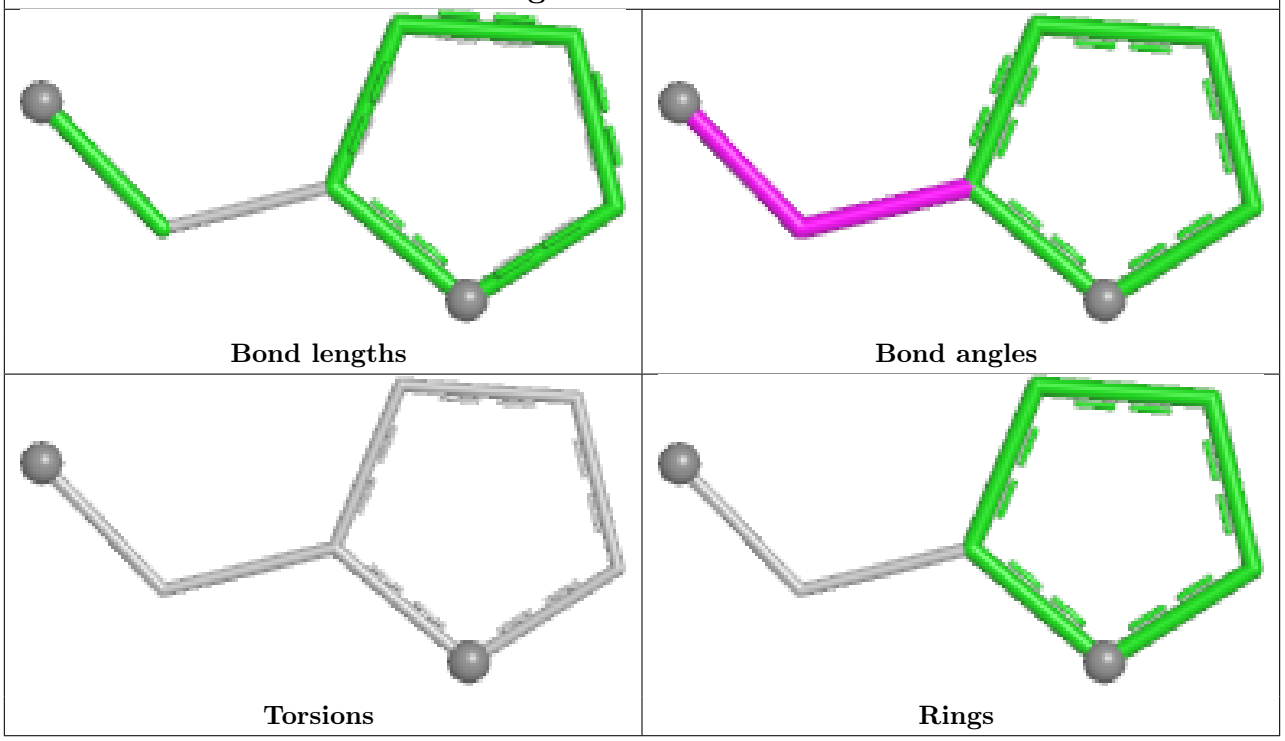
Mol	Chain	Res	Type	Clashes	Symm-Clashes
59	1	3001	FME	2	0
60	5	101	PRO	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand FME 1 3001



Ligand PRO 5 101



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.

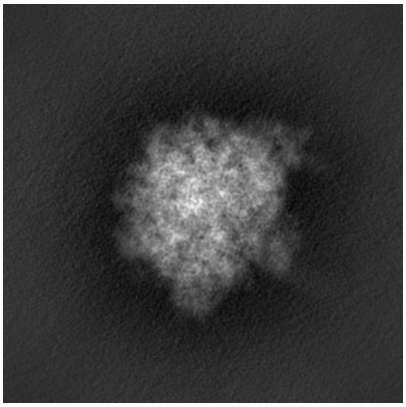
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-23528. These allow visual inspection of the internal detail of the map and identification of artifacts.

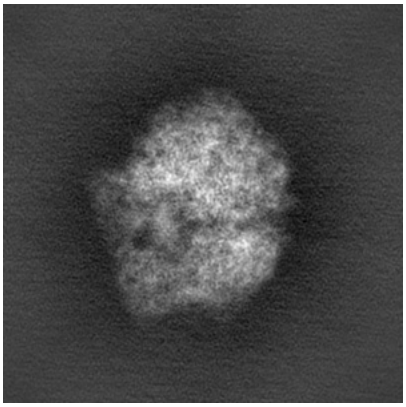
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

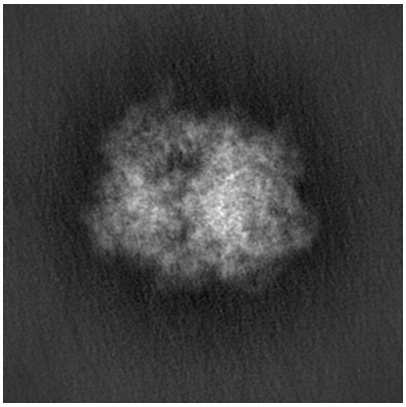
6.1.1 Primary map



X



Y

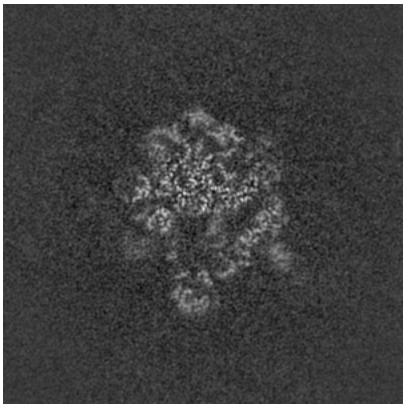


Z

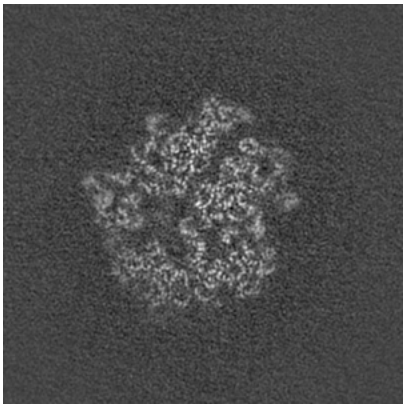
The images above show the map projected in three orthogonal directions.

6.2 Central slices

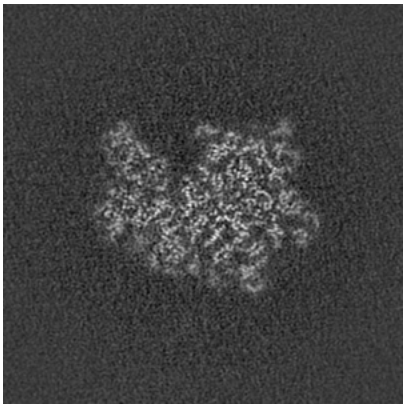
6.2.1 Primary map



X Index: 256



Y Index: 256

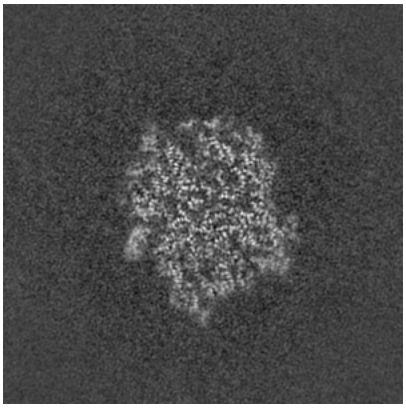


Z Index: 256

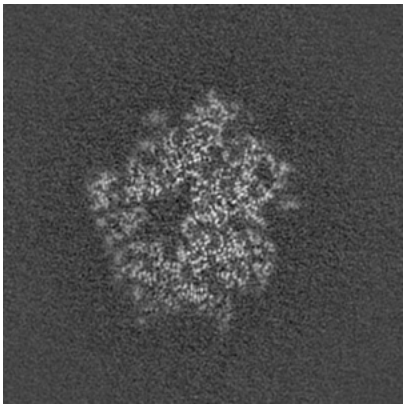
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

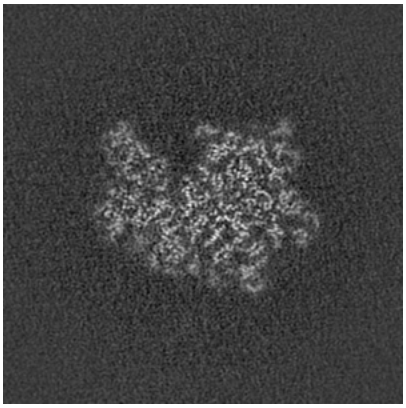
6.3.1 Primary map



X Index: 284



Y Index: 247

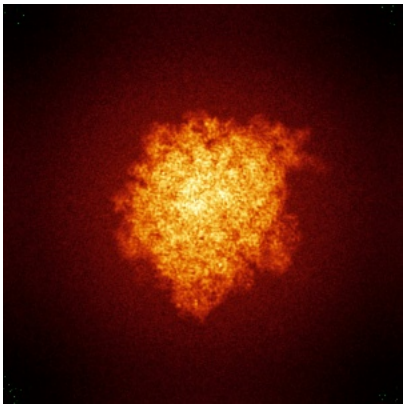


Z Index: 256

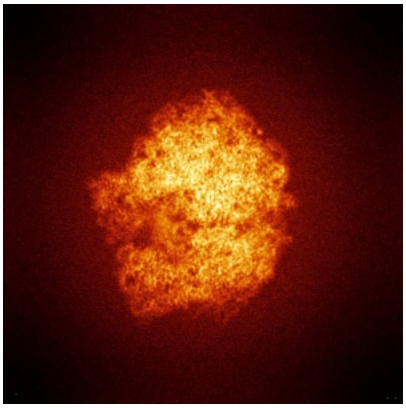
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

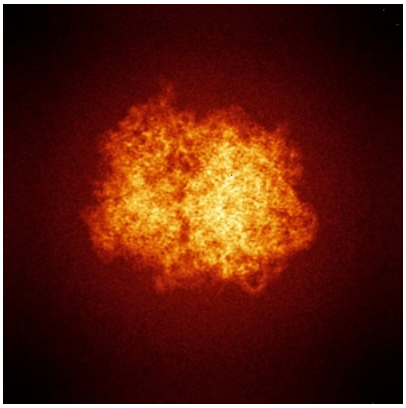
6.4.1 Primary map



X



Y



Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 3.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

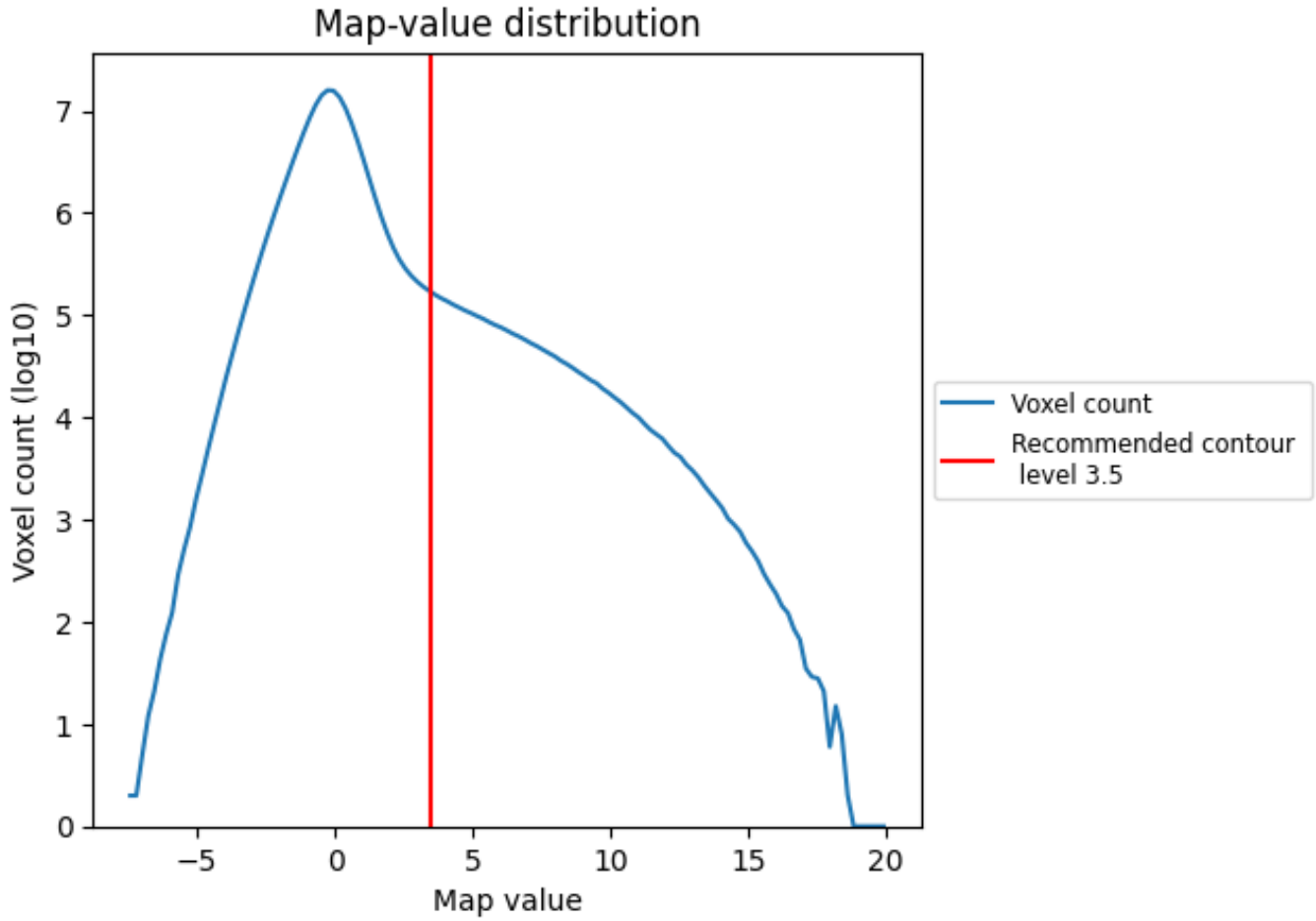
6.6 Mask visualisation (i)

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

7 Map analysis

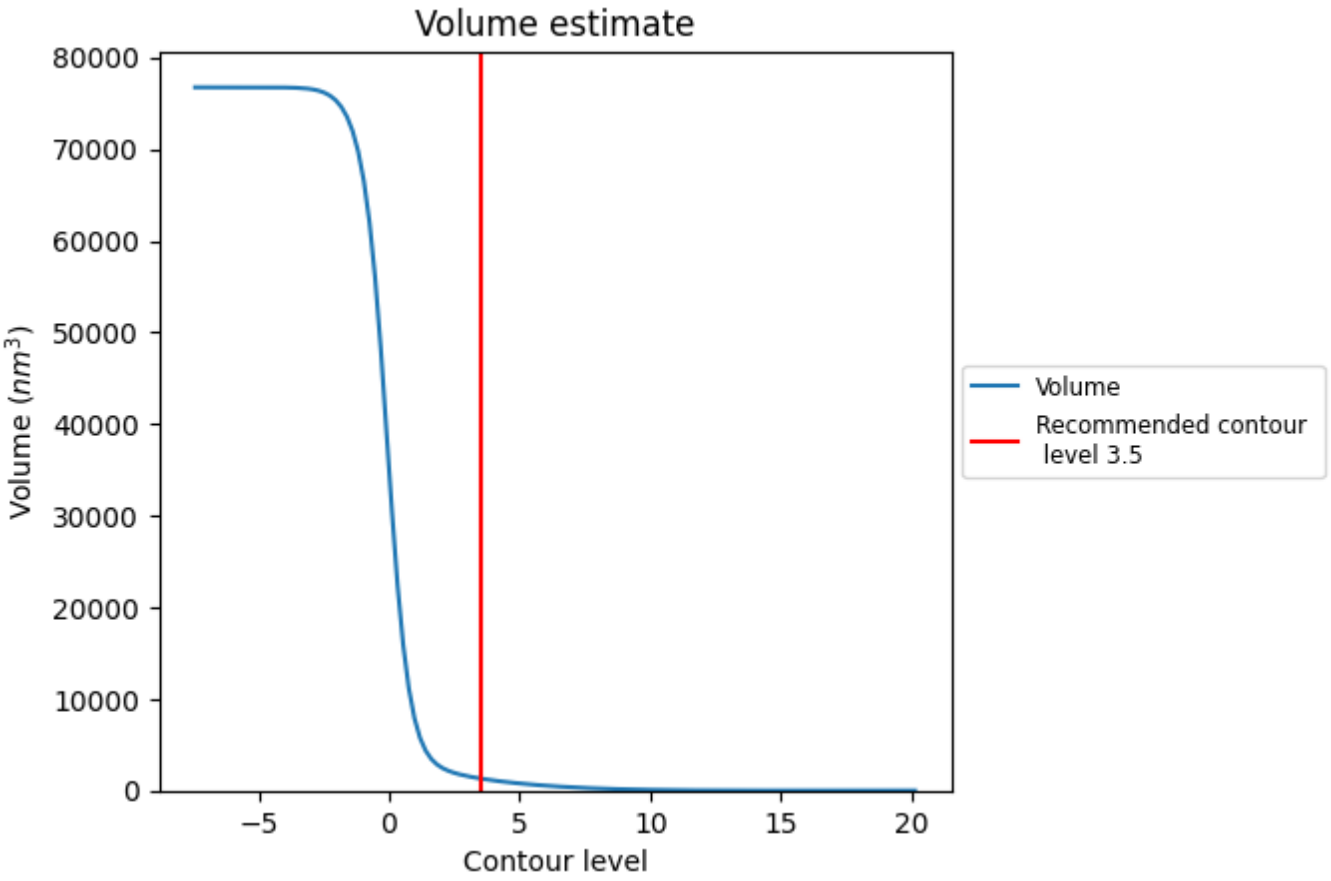
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

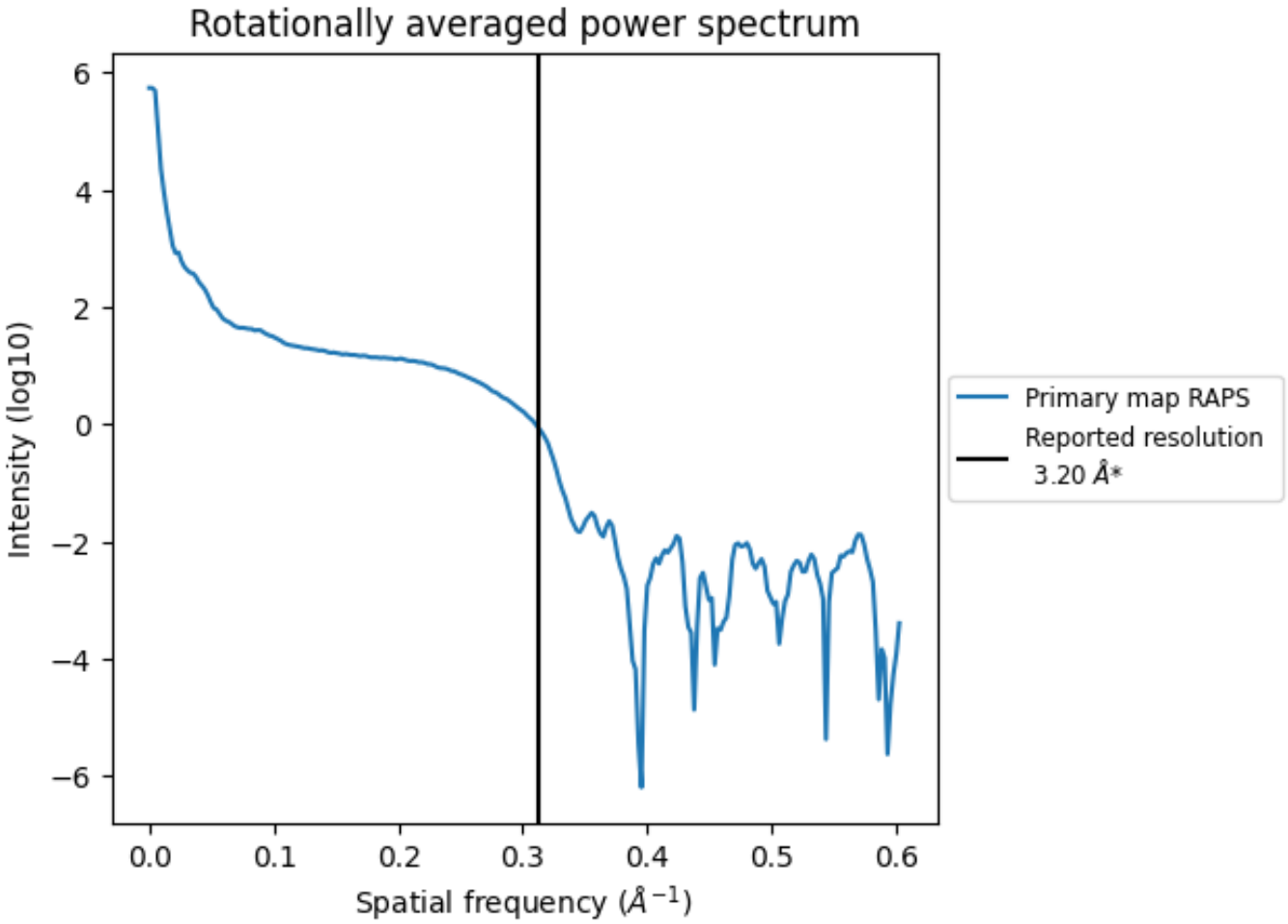
7.2 Volume estimate



The volume at the recommended contour level is 1314 nm^3; this corresponds to an approximate mass of 1187 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 0.312 Å^{-1}

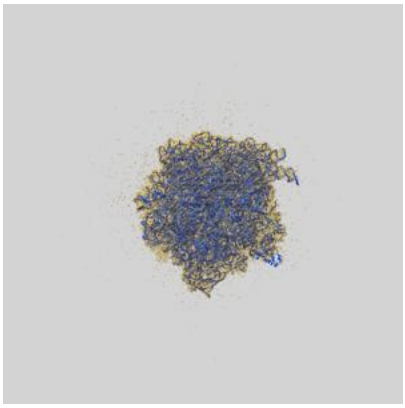
8 Fourier-Shell correlation

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

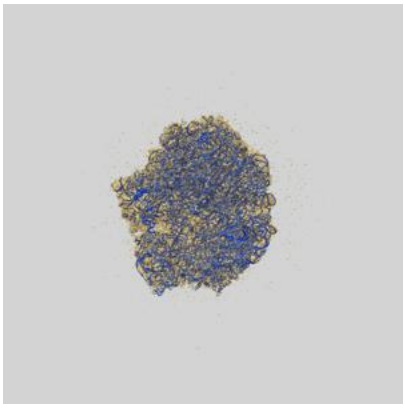
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-23528 and PDB model 7LV0. Per-residue inclusion information can be found in section 3 on page 16.

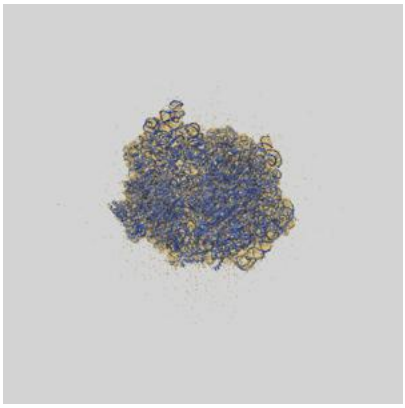
9.1 Map-model overlay



X



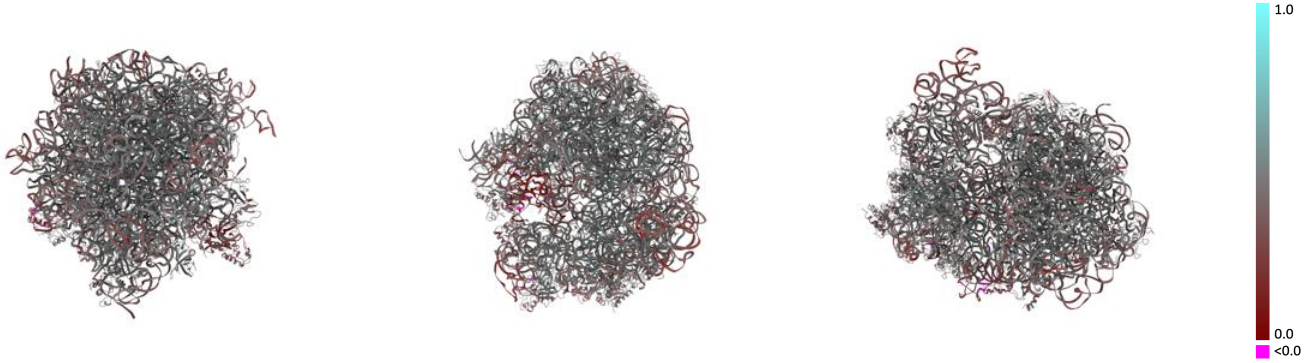
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 3.5 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.

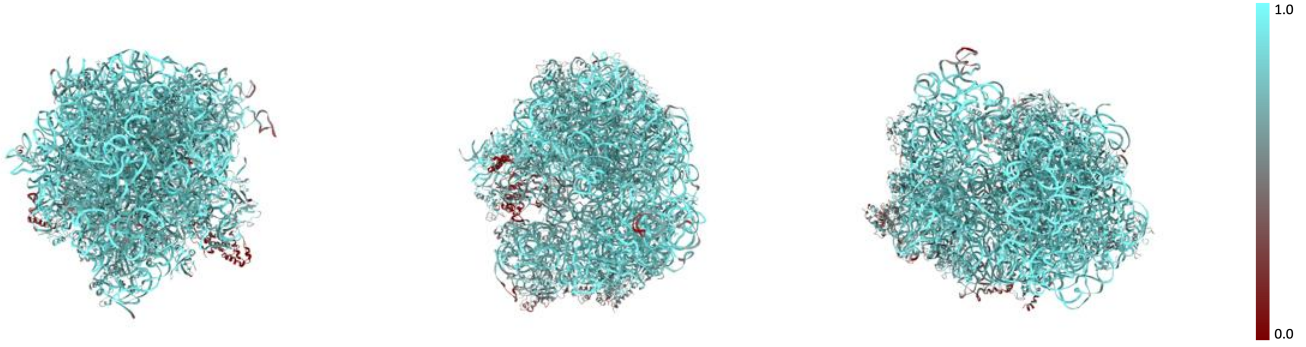
9.2 Q-score mapped to coordinate model



X Y Z

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

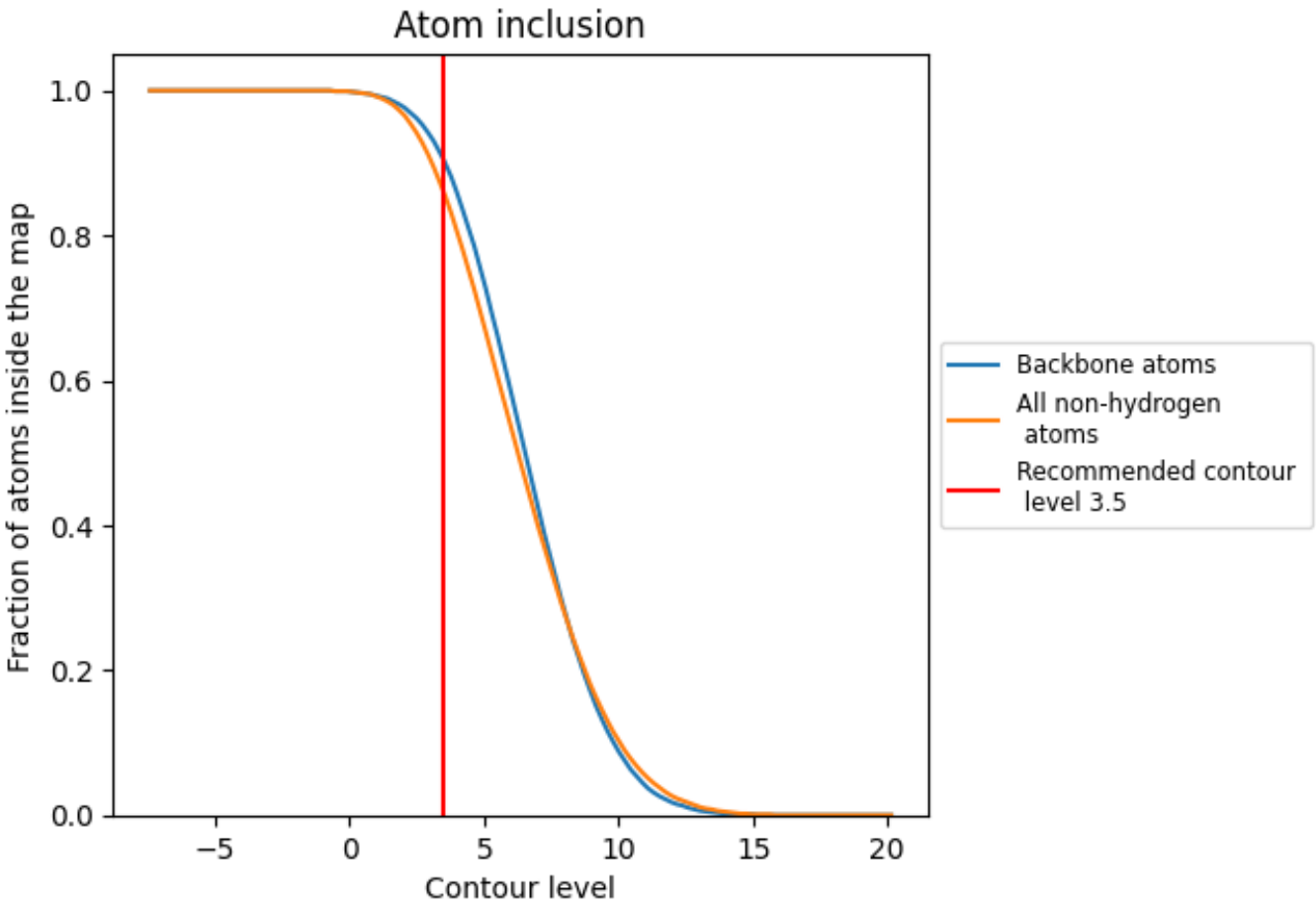
9.3 Atom inclusion mapped to coordinate model



X Y Z

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 (3.5).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 86% 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 (3.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8600	0.4370
1	0.9270	0.4380
2	0.9080	0.4150
3	0.9020	0.4310
4	0.6570	0.3070
5	0.7050	0.2740
6	0.9050	0.3510
A	0.5710	0.3670
B	0.8390	0.4880
C	0.7090	0.4790
D	0.8900	0.5110
E	0.8980	0.5100
F	0.8560	0.5040
G	0.4840	0.3990
H	0.6850	0.4550
I	0.6820	0.4320
J	0.8030	0.4770
K	0.7630	0.4250
L	0.6200	0.4110
M	0.7920	0.4840
N	0.6540	0.4230
O	0.5310	0.4210
P	0.8480	0.4650
Q	0.8650	0.4790
R	0.7010	0.4140
S	0.7390	0.4500
T	0.8550	0.4610
U	0.7750	0.4500
V	0.8250	0.4710
W	0.7920	0.4580
X	0.7590	0.4320
Y	0.7390	0.4260
Z	0.6720	0.4040
a	0.3450	0.2710
b	0.9170	0.5150

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Chain	Atom inclusion	Q-score
c	0.8090	0.4900
d	0.7280	0.4600
e	0.7140	0.4080
f	0.7400	0.4240
g	0.5700	0.4120
h	0.1070	0.2860
i	0.1700	0.2860
j	0.8350	0.4880
k	0.8400	0.4870
l	0.8360	0.4790
m	0.8480	0.4850
n	0.8440	0.4870
o	0.7650	0.4520
p	0.8110	0.4760
q	0.8460	0.4830
r	0.7370	0.4740
s	0.7890	0.4820
t	0.7880	0.4660
u	0.7060	0.4460
v	0.7980	0.4610
w	0.8500	0.5050
x	0.8880	0.4880
y	0.7200	0.4110
z	0.8030	0.4840