



Full wwPDB EM Validation Report ⓘ

Mar 26, 2026 – 10:49 PM UTC

PDB ID : 6OG7 / pdb_00006og7
EMDB ID : EMD-20052
Title : 70S termination complex with RF2 bound to the UGA codon. Non-rotated ribosome with RF2 bound (Structure II)
Authors : Svidritskiy, E.; Demo, G.; Loveland, A.B.; Xu, C.; Korostelev, A.A.
Deposited on : 2019-04-01
Resolution : 3.30 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
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

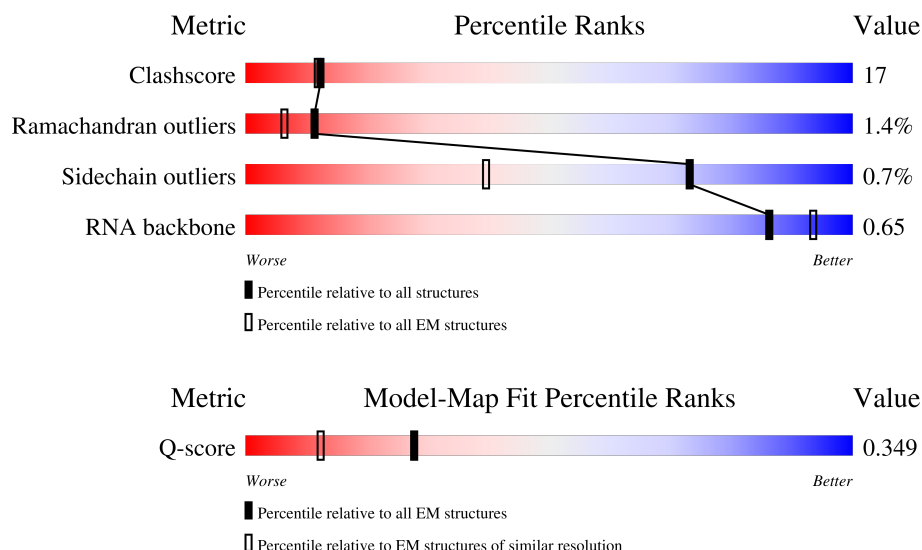
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 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.



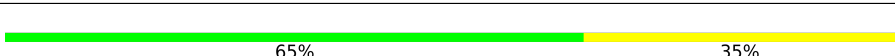
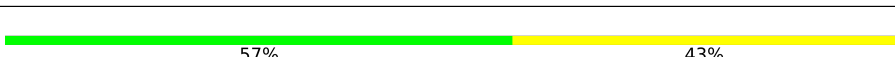
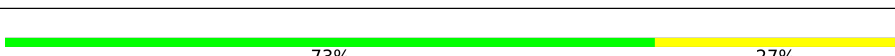
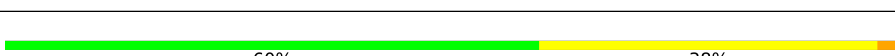
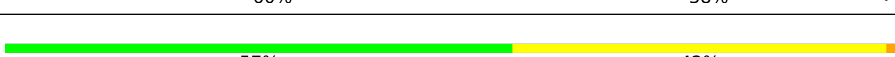
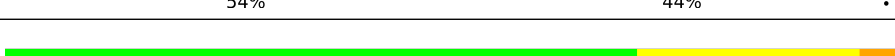
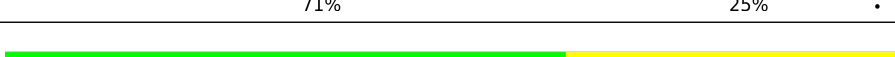
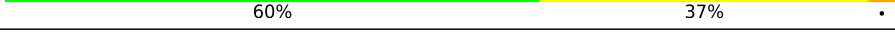
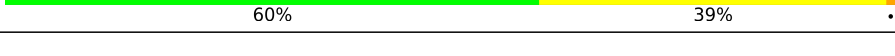
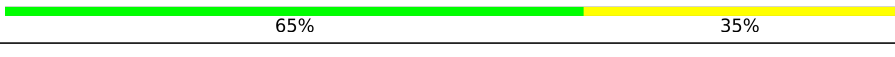
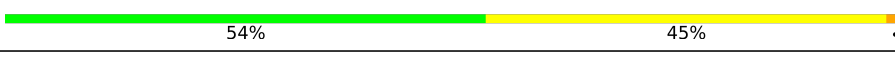
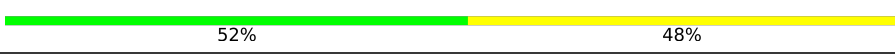
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	15087 (2.80 - 3.80)

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

Mol	Chain	Length	Quality of chain
1	b	271	61% 39% .
2	c	209	68% 31% .
3	d	201	58% 40% .

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Mol	Chain	Length	Quality of chain
4	e	177	
5	f	176	
6	g	149	
7	j	142	
8	k	122	
9	l	143	
10	m	136	
11	n	120	
12	o	116	
13	p	114	
14	q	117	
15	r	103	
16	s	110	
17	t	93	
18	u	102	
19	v	94	
20	w	75	
21	x	77	
22	y	63	
23	z	58	
24	B	56	
25	C	50	
26	D	46	
27	E	64	
28	F	38	

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Mol	Chain	Length	Quality of chain
29	G	225	
30	H	206	
31	I	205	
32	J	157	
33	K	101	
34	L	151	
35	M	129	
36	N	127	
37	O	98	
38	P	116	
39	Q	123	
40	R	114	
41	S	100	
42	T	88	
43	U	82	
44	V	80	
45	W	65	
46	X	79	
47	Y	85	
48	Z	65	
49	a	223	
50	3	1539	
51	1	2903	
52	2	120	
53	5	77	

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Mol	Chain	Length	Quality of chain
54	4	27	33% 41% 26%
55	8	372	25% 50% 46% • •

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 147794 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
1	b	271	Total	C	N	O	S	0	0
			2083	1288	423	365	7		

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

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

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

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

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

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

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

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

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

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

- Molecule 7 is a protein called 50S ribosomal protein L13.

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

- Molecule 8 is a protein called 50S ribosomal protein L14.

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

- Molecule 9 is a protein called 50S ribosomal protein L15.

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

- Molecule 10 is a protein called 50S ribosomal protein L16.

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

- Molecule 11 is a protein called 50S ribosomal protein L17.

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

- Molecule 12 is a protein called 50S ribosomal protein L18.

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

- Molecule 13 is a protein called 50S ribosomal protein L19.

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

- Molecule 14 is a protein called 50S ribosomal protein L20.

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

- Molecule 15 is a protein called 50S ribosomal protein L21.

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

- Molecule 16 is a protein called 50S ribosomal protein L22.

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

- Molecule 17 is a protein called 50S ribosomal protein L23.

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

- Molecule 18 is a protein called 50S ribosomal protein L24.

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

- Molecule 19 is a protein called 50S ribosomal protein L25.

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

- Molecule 20 is a protein called 50S ribosomal protein L27.

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

- Molecule 21 is a protein called 50S ribosomal protein L28.

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

- Molecule 22 is a protein called 50S ribosomal protein L29.

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

- Molecule 23 is a protein called 50S ribosomal protein L30.

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

- Molecule 24 is a protein called 50S ribosomal protein L32.

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

- Molecule 25 is a protein called 50S ribosomal protein L33.

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

- Molecule 26 is a protein called 50S ribosomal protein L34.

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

- Molecule 27 is a protein called 50S ribosomal protein L35.

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

- Molecule 28 is a protein called 50S ribosomal protein L36.

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

- Molecule 29 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	G	225	Total	C	N	O	S	0	0
			1757	1111	315	323	8		

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

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

- Molecule 31 is a protein called 30S ribosomal protein S4.

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

- Molecule 32 is a protein called 30S ribosomal protein S5.

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

- Molecule 33 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	K	101	Total	C	N	O	S	0	0
			824	520	149	149	6		

- Molecule 34 is a protein called 30S ribosomal protein S7.

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

- Molecule 35 is a protein called 30S ribosomal protein S8.

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

- Molecule 36 is a protein called 30S ribosomal protein S9.

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

- Molecule 37 is a protein called 30S ribosomal protein S10.

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

- Molecule 38 is a protein called 30S ribosomal protein S11.

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

- Molecule 39 is a protein called 30S ribosomal protein S12.

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

- Molecule 40 is a protein called 30S ribosomal protein S13.

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

- Molecule 41 is a protein called 30S ribosomal protein S14.

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

- Molecule 42 is a protein called 30S ribosomal protein S15.

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

- Molecule 43 is a protein called 30S ribosomal protein S16.

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

- Molecule 44 is a protein called 30S ribosomal protein S17.

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

- Molecule 45 is a protein called 30S ribosomal protein S18.

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

- Molecule 46 is a protein called 30S ribosomal protein S19.

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

- Molecule 47 is a protein called 30S ribosomal protein S20.

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

- Molecule 48 is a protein called 30S ribosomal protein S21.

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

- Molecule 49 is a protein called 50S ribosomal protein L1.

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

- Molecule 50 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	3	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

- Molecule 51 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	1	2903	Total	C	N	O	P	0	0
			62317	27801	11468	20146	2902		

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 52 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	2	120	Total	C	N	O	P	0	0
			2568	1145	471	833	119		

- Molecule 53 is a RNA chain called tRNA^{fMet}.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	5	75	Total	C	N	O	P	0	0
			1598	713	289	522	74		

- Molecule 54 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	4	20	Total	C	N	O	P	0	0
			437	197	91	130	19		

- Molecule 55 is a protein called Peptide chain release factor RF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	8	361	Total	C	N	O	S	0	0
			2860	1758	503	589	10		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
8	-6	MET	-	expression tag	UNP P07012
8	-5	HIS	-	expression tag	UNP P07012
8	-4	HIS	-	expression tag	UNP P07012
8	-3	HIS	-	expression tag	UNP P07012
8	-2	HIS	-	expression tag	UNP P07012
8	-1	HIS	-	expression tag	UNP P07012
8	0	HIS	-	expression tag	UNP P07012

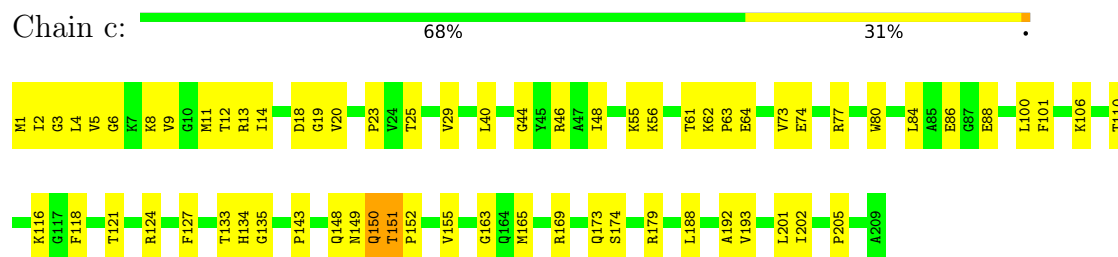
3 Residue-property plots [i](#)

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.

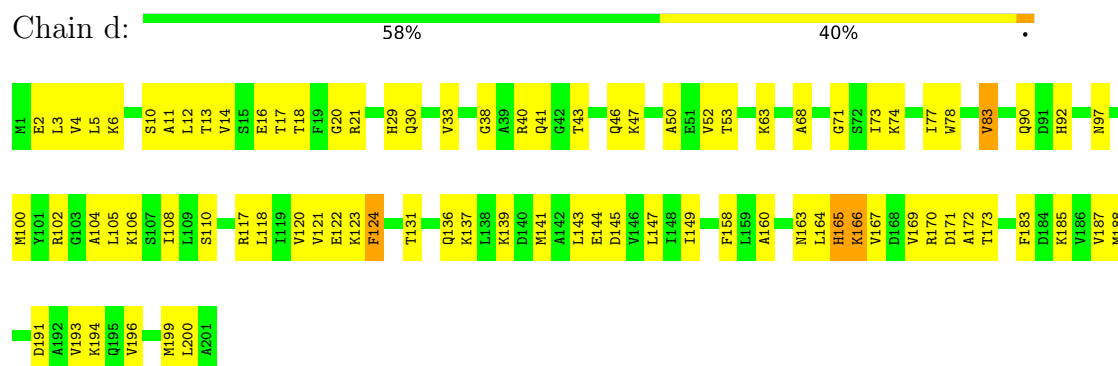
• Molecule 1: 50S ribosomal protein L2



• Molecule 2: 50S ribosomal protein L3

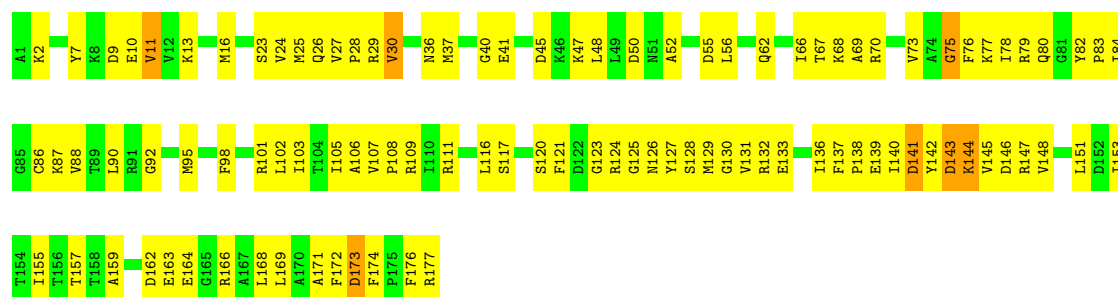


• Molecule 3: 50S ribosomal protein L4



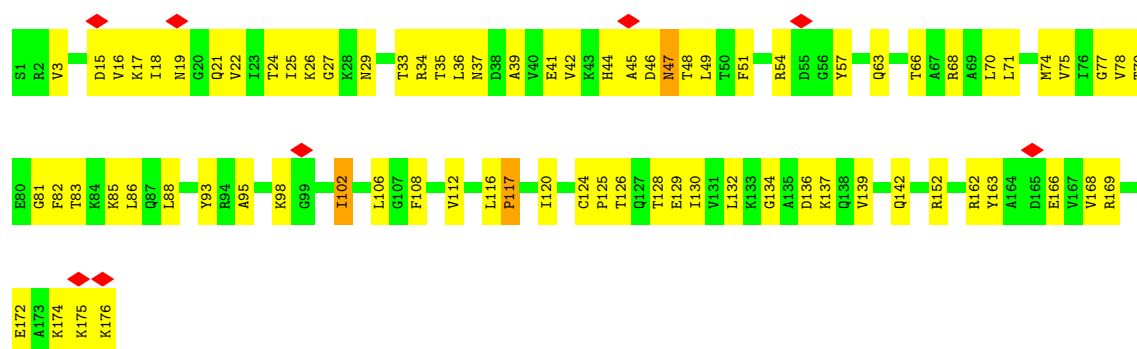
• Molecule 4: 50S ribosomal protein L5

Chain e: 



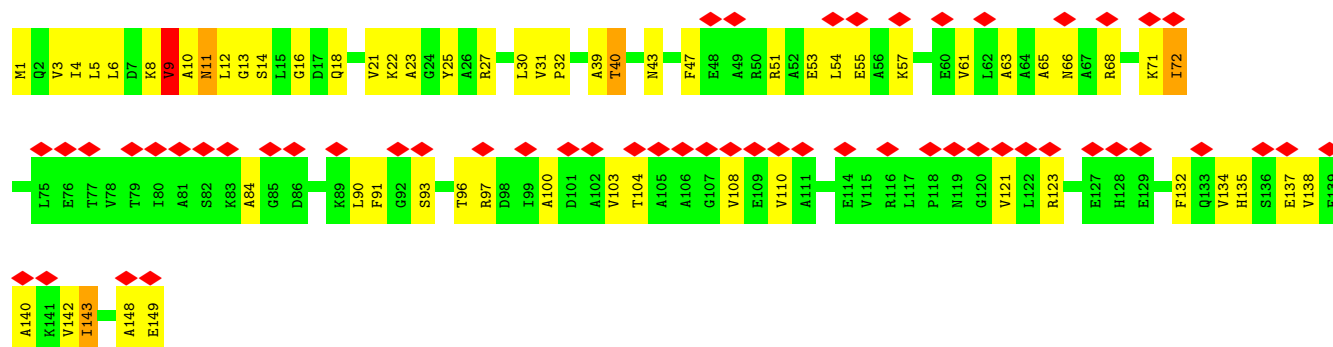
• Molecule 5: 50S ribosomal protein L6

Chain f: 



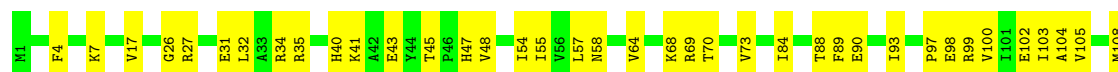
• Molecule 6: 50S ribosomal protein L9

Chain g: 



• Molecule 7: 50S ribosomal protein L13

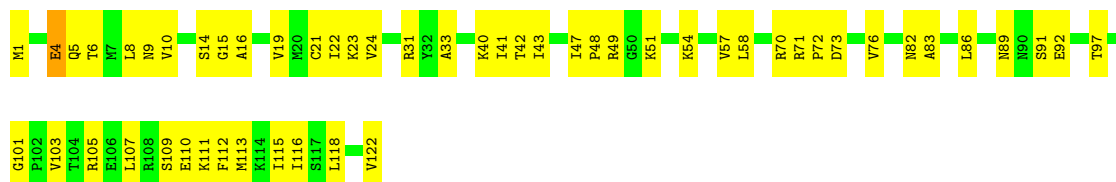
Chain j: 





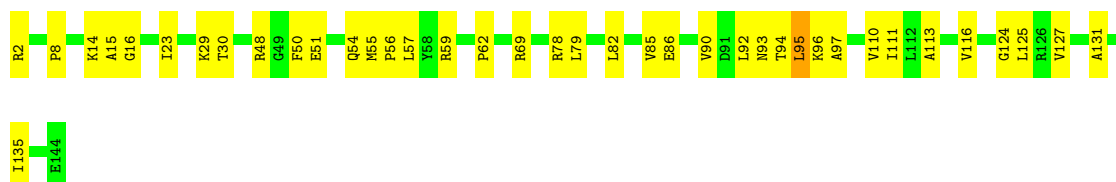
- Molecule 8: 50S ribosomal protein L14

Chain k: 57% 43%



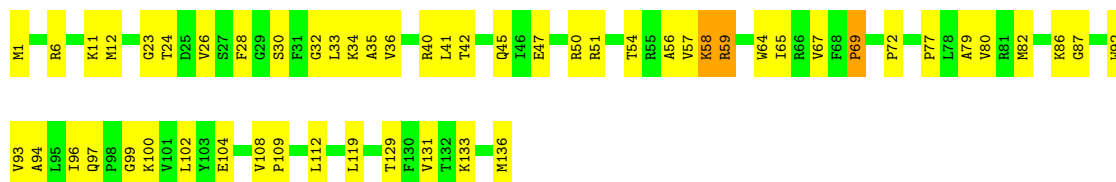
- Molecule 9: 50S ribosomal protein L15

Chain l: 73% 27%



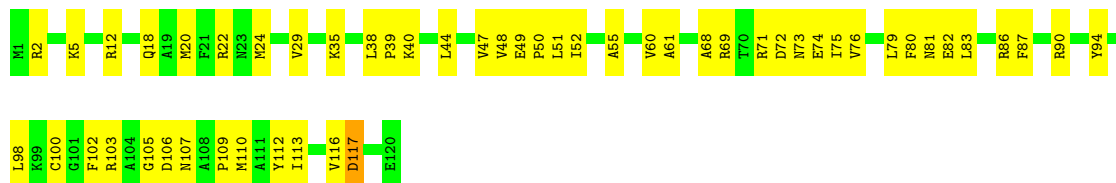
- Molecule 10: 50S ribosomal protein L16

Chain m: 60% 38%



- Molecule 11: 50S ribosomal protein L17

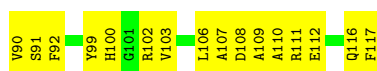
Chain n: 57% 42%



- Molecule 12: 50S ribosomal protein L18

Chain o: 54% 44%

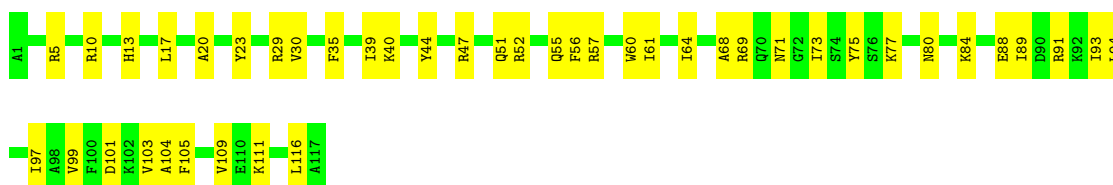




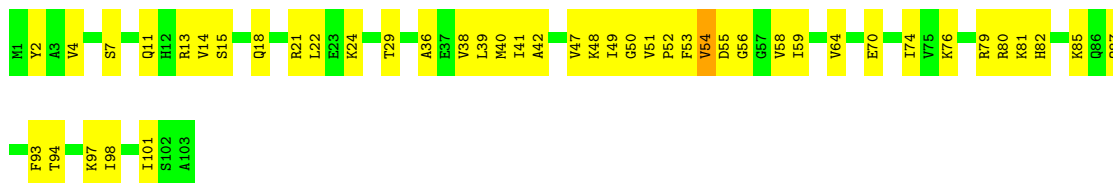
- Molecule 13: 50S ribosomal protein L19



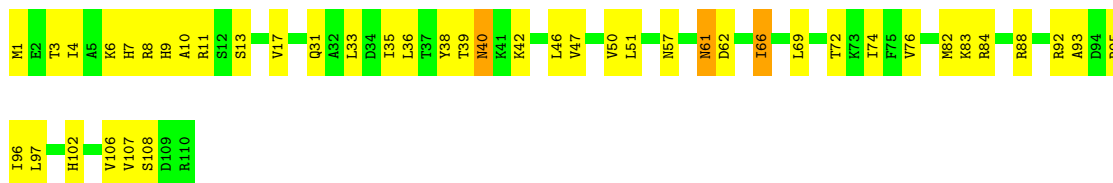
- Molecule 14: 50S ribosomal protein L20



- Molecule 15: 50S ribosomal protein L21



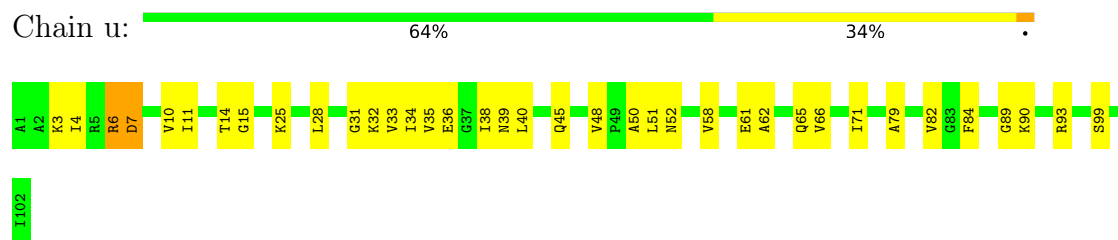
- Molecule 16: 50S ribosomal protein L22



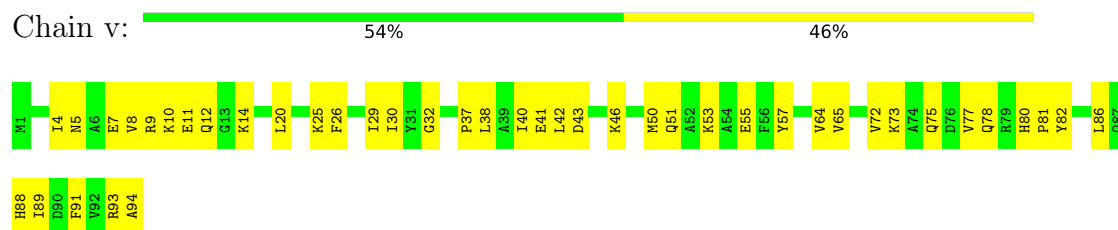
- Molecule 17: 50S ribosomal protein L23



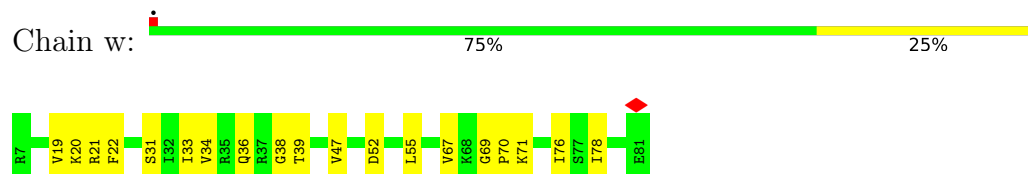
- Molecule 18: 50S ribosomal protein L24



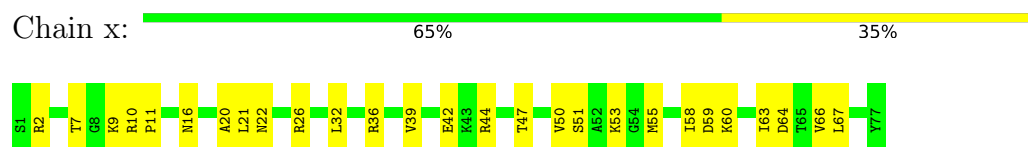
- Molecule 19: 50S ribosomal protein L25



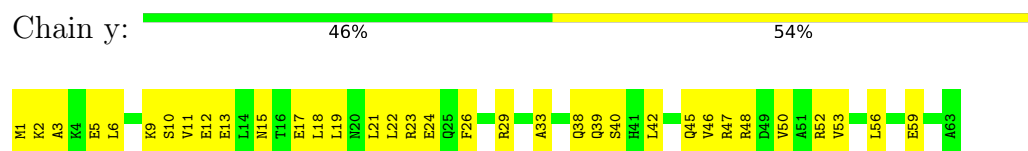
- Molecule 20: 50S ribosomal protein L27



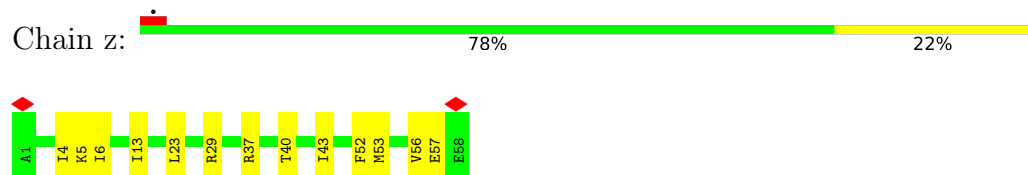
- Molecule 21: 50S ribosomal protein L28



- Molecule 22: 50S ribosomal protein L29



- Molecule 23: 50S ribosomal protein L30



- Molecule 24: 50S ribosomal protein L32





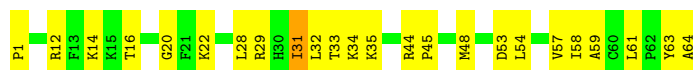
- Molecule 25: 50S ribosomal protein L33



- Molecule 26: 50S ribosomal protein L34



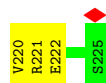
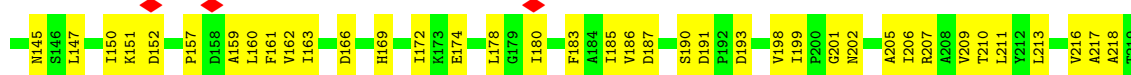
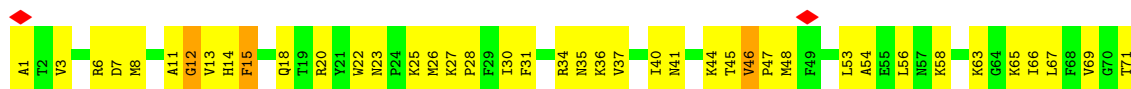
- Molecule 27: 50S ribosomal protein L35



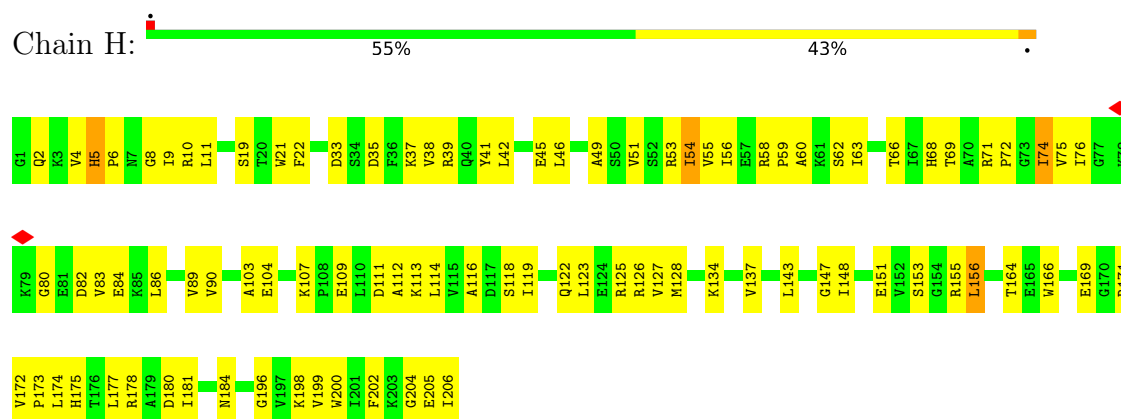
- Molecule 28: 50S ribosomal protein L36



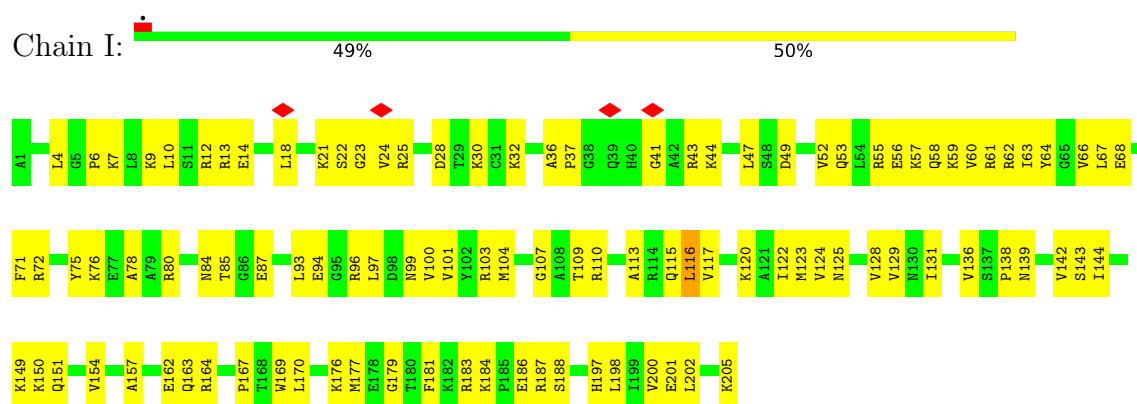
- Molecule 29: 30S ribosomal protein S2



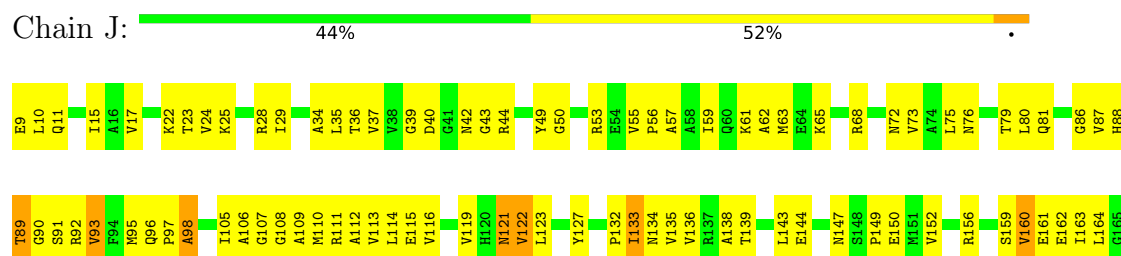
- Molecule 30: 30S ribosomal protein S3



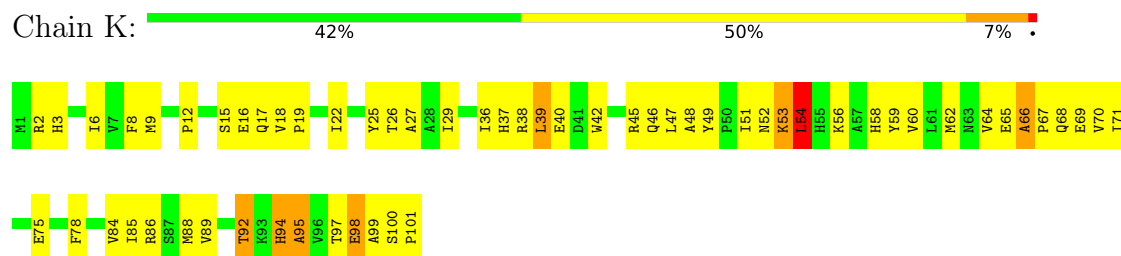
- Molecule 31: 30S ribosomal protein S4



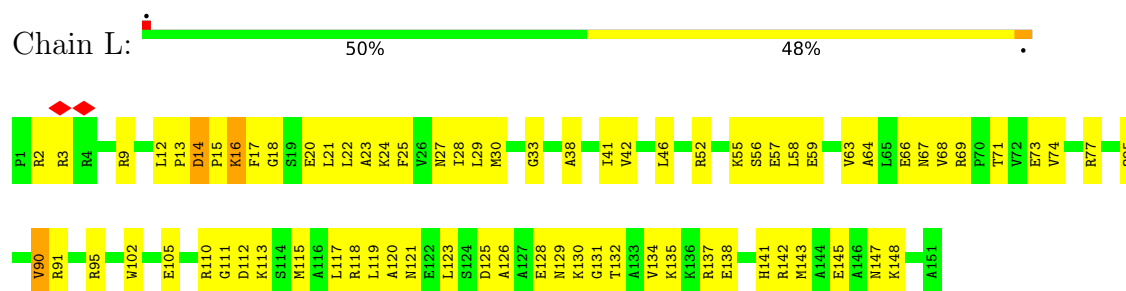
- Molecule 32: 30S ribosomal protein S5



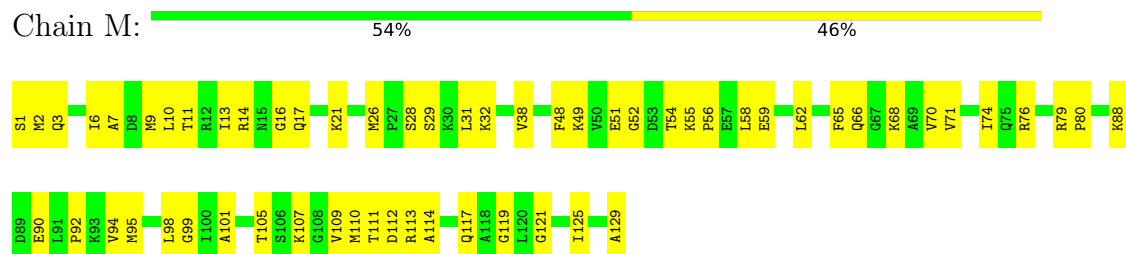
- Molecule 33: 30S ribosomal protein S6



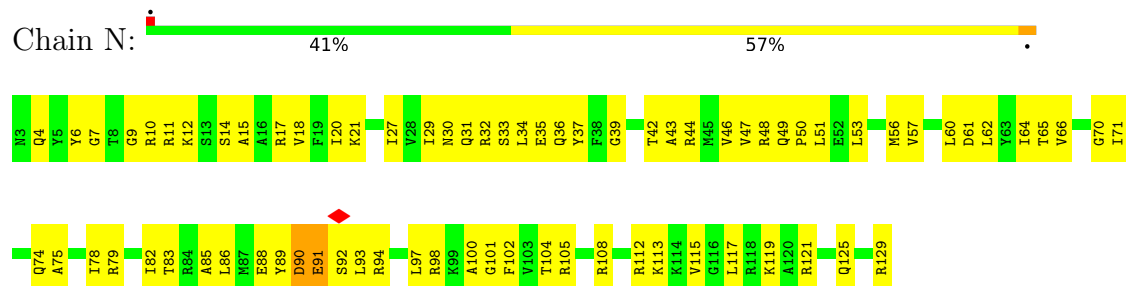
- Molecule 34: 30S ribosomal protein S7



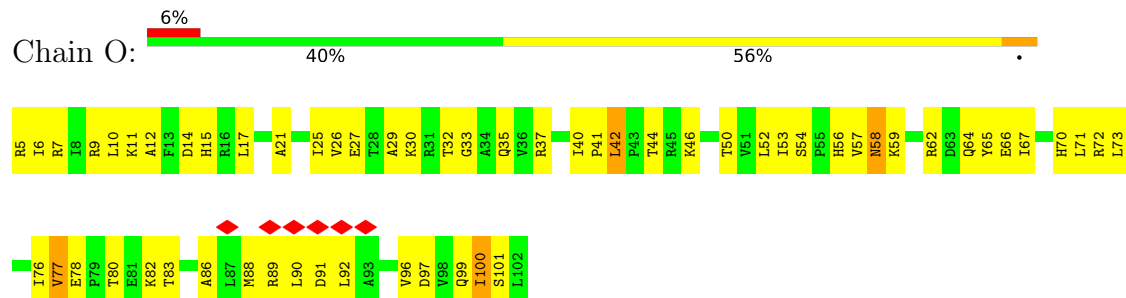
- Molecule 35: 30S ribosomal protein S8



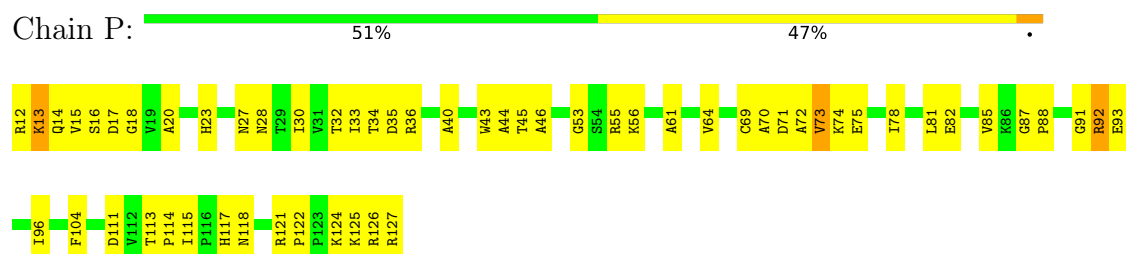
- Molecule 36: 30S ribosomal protein S9



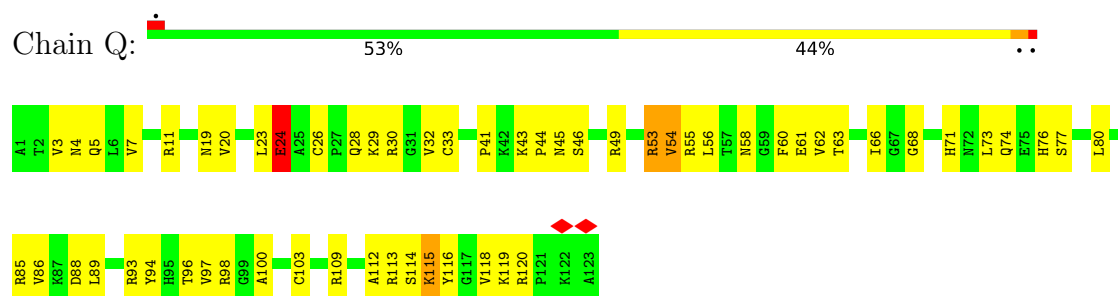
- Molecule 37: 30S ribosomal protein S10



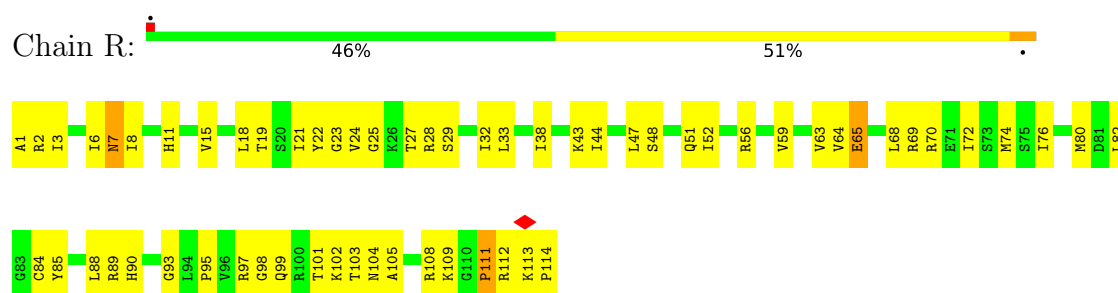
- Molecule 38: 30S ribosomal protein S11



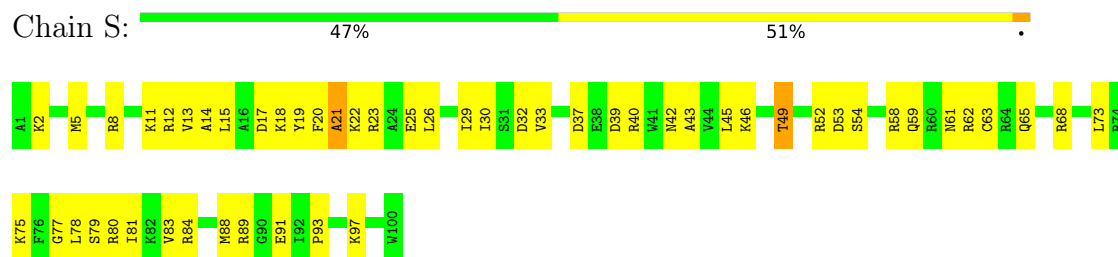
- Molecule 39: 30S ribosomal protein S12



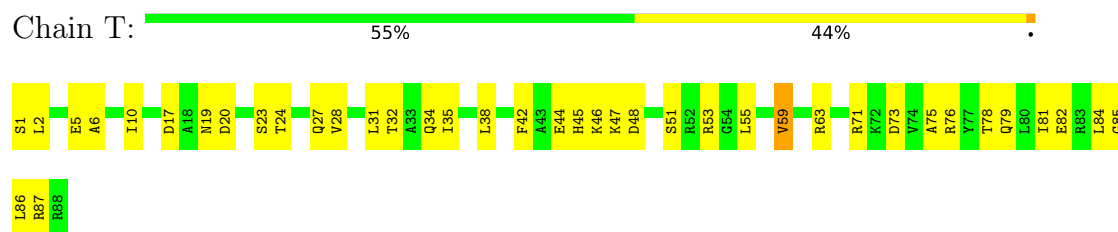
- Molecule 40: 30S ribosomal protein S13



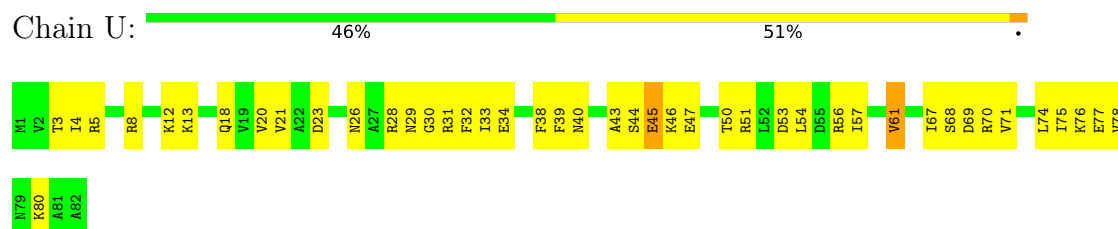
- Molecule 41: 30S ribosomal protein S14



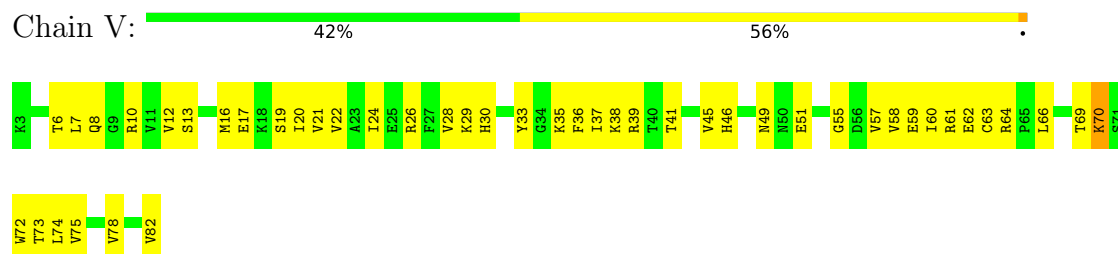
- Molecule 42: 30S ribosomal protein S15



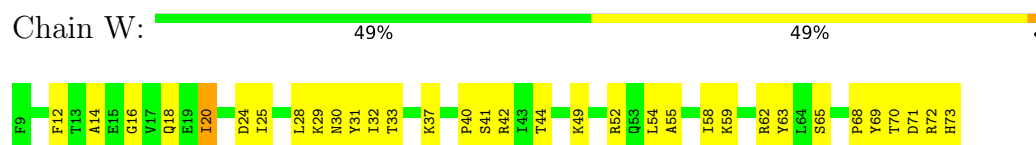
- Molecule 43: 30S ribosomal protein S16



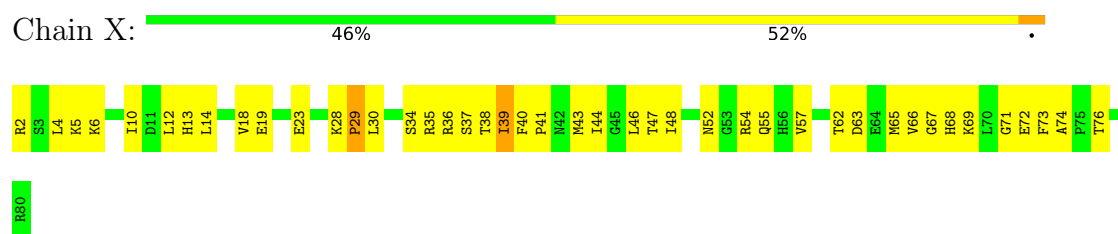
• Molecule 44: 30S ribosomal protein S17



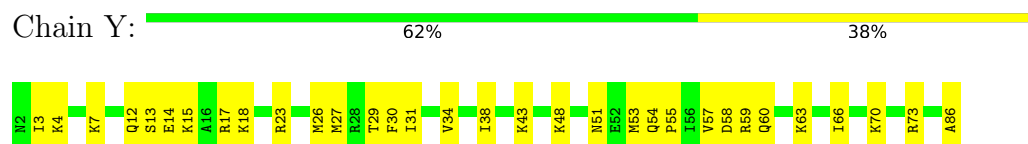
• Molecule 45: 30S ribosomal protein S18



• Molecule 46: 30S ribosomal protein S19



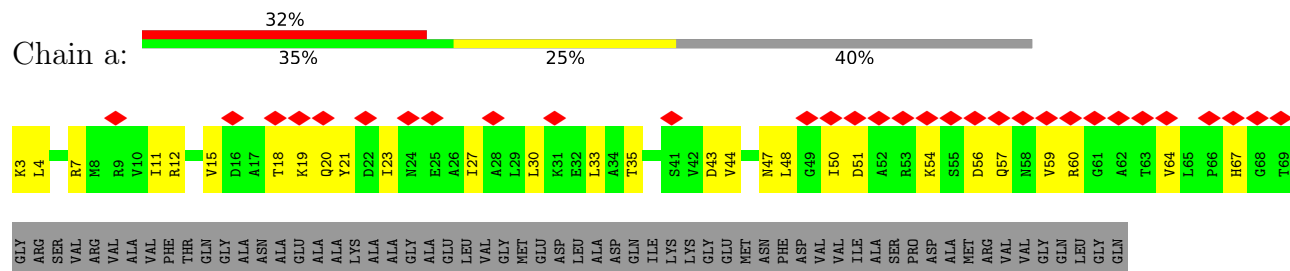
• Molecule 47: 30S ribosomal protein S20

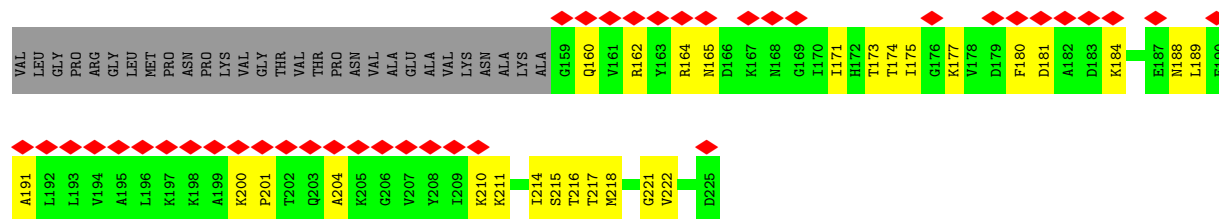


• Molecule 48: 30S ribosomal protein S21

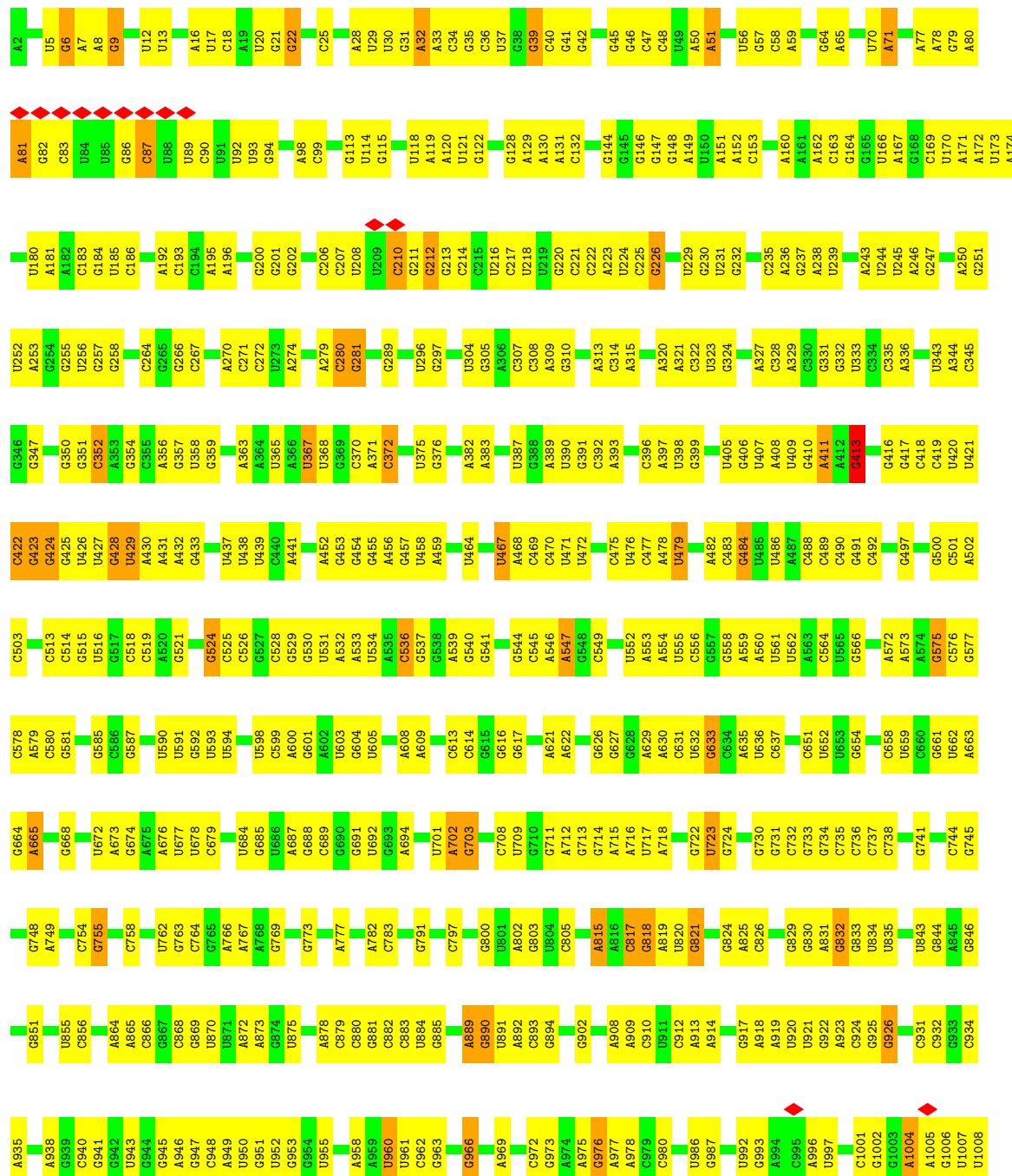


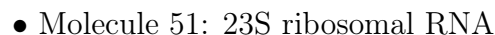
• Molecule 49: 50S ribosomal protein L1

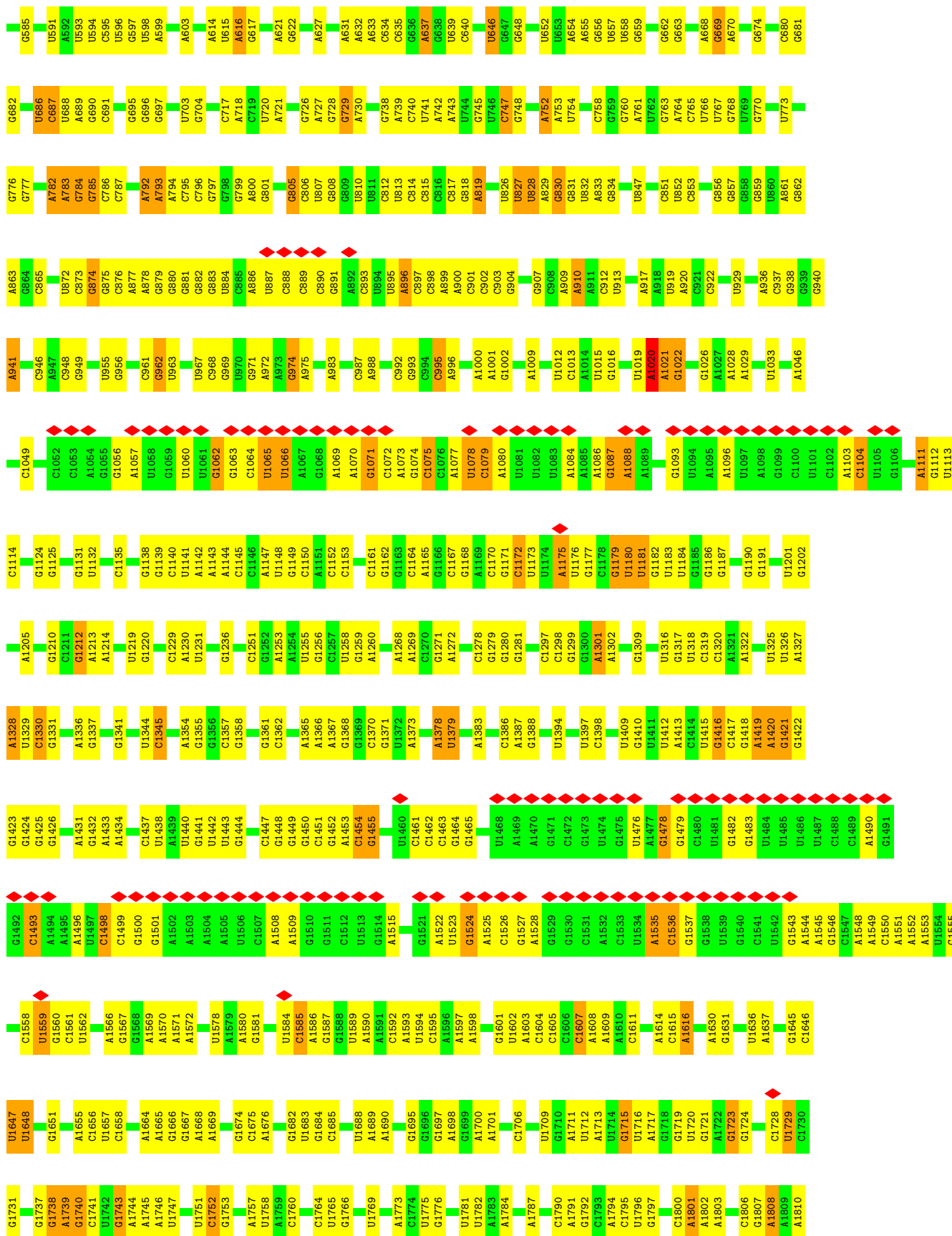


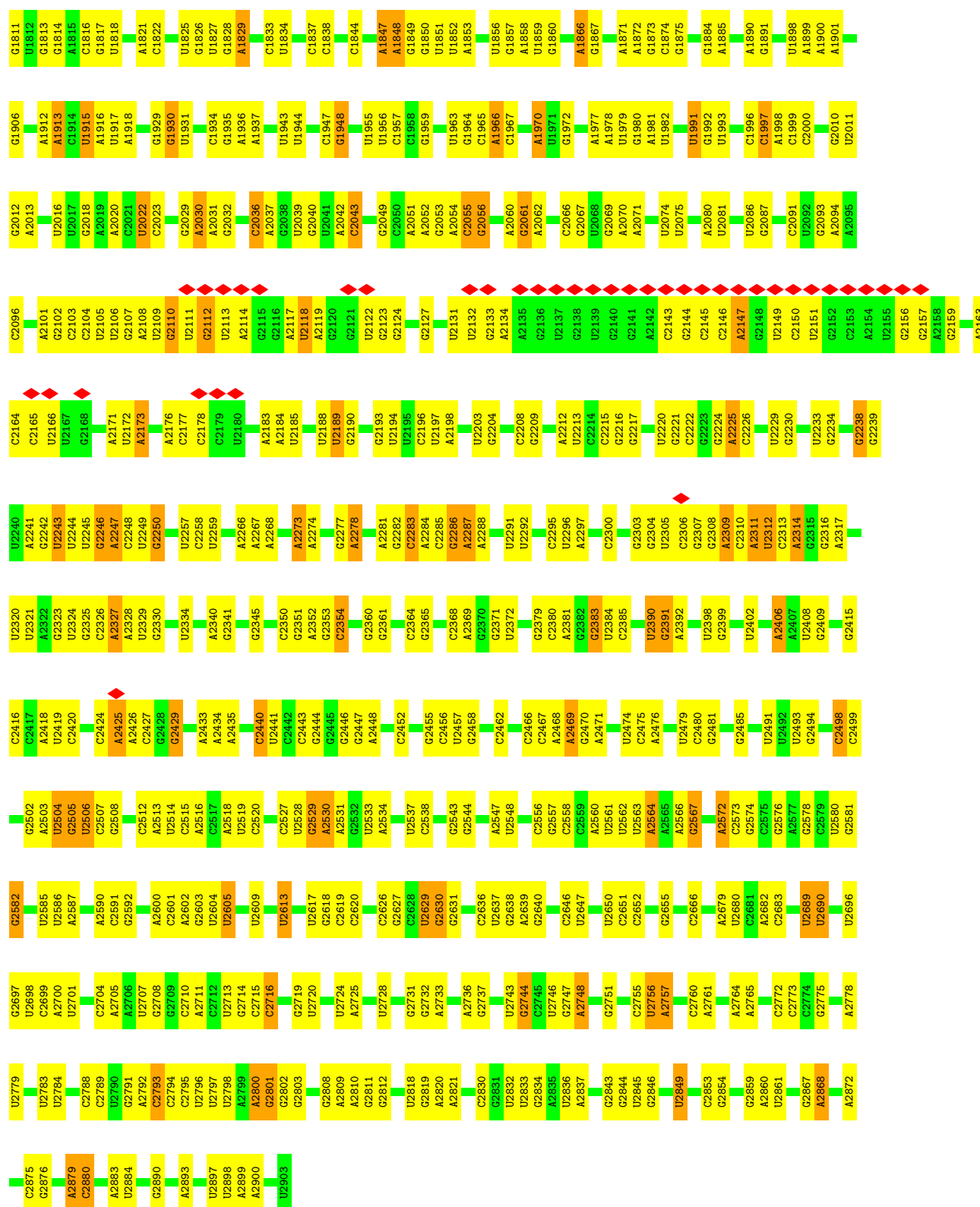


• Molecule 50: 16S ribosomal RNA



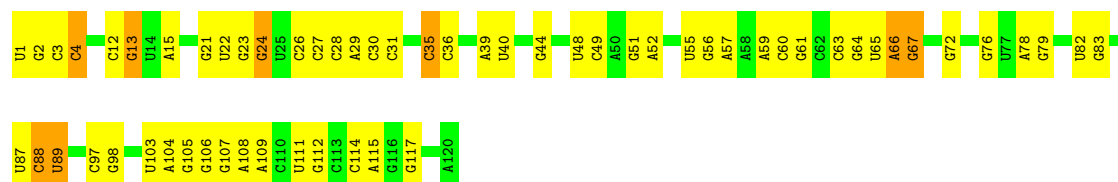






• Molecule 52: 5S ribosomal RNA

Chain 2: 50% 43% 7%



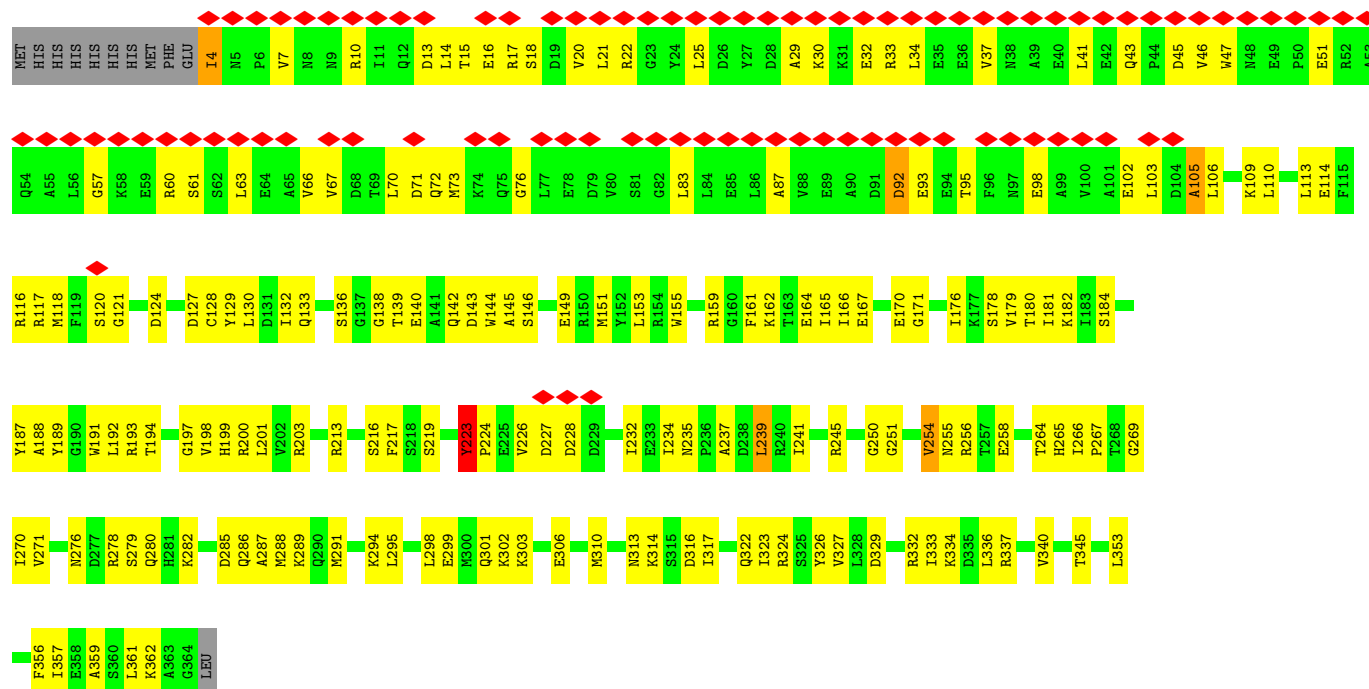
• Molecule 53: tRNAfMet



• Molecule 54: mRNA



• Molecule 55: Peptide chain release factor RF2



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	62029	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	29.4	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	8.334	Depositor
Minimum map value	-1.958	Depositor
Average map value	0.005	Depositor
Map value standard deviation	0.480	Depositor
Recommended contour level	0.9	Depositor
Map size ($\text{\AA}$)	416.208, 416.208, 416.208	wwPDB
Map dimensions	312, 312, 312	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.334, 1.334, 1.334	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	b	0.28	0/2122	0.82	1/2852 (0.0%)
2	c	0.29	0/1586	0.76	0/2134
3	d	0.27	0/1571	0.75	0/2113
4	e	0.30	0/1435	0.89	3/1926 (0.2%)
5	f	0.29	0/1343	0.83	0/1816
6	g	0.30	0/1122	0.91	4/1515 (0.3%)
7	j	0.29	0/1152	0.74	2/1551 (0.1%)
8	k	0.27	0/948	0.76	0/1268
9	l	0.28	0/1054	0.83	3/1403 (0.2%)
10	m	0.27	0/1093	0.77	0/1460
11	n	0.27	0/974	0.78	1/1301 (0.1%)
12	o	0.28	0/902	0.81	1/1209 (0.1%)
13	p	0.26	0/929	0.72	0/1242
14	q	0.27	0/960	0.79	0/1278
15	r	0.28	0/829	0.83	1/1107 (0.1%)
16	s	0.28	0/864	0.79	0/1156
17	t	0.27	0/745	0.80	1/994 (0.1%)
18	u	0.26	0/788	0.74	0/1051
19	v	0.27	0/766	0.77	0/1025
20	w	0.26	0/582	0.76	1/769 (0.1%)
21	x	0.27	0/635	0.75	0/848
22	y	0.27	0/510	0.76	0/677
23	z	0.28	0/453	0.77	0/605
24	B	0.26	0/450	0.67	0/599
25	C	0.29	0/417	0.67	0/554
26	D	0.29	0/380	0.83	2/498 (0.4%)
27	E	0.29	0/513	0.71	0/676
28	F	0.30	0/303	0.83	0/397
29	G	0.30	0/1788	0.79	0/2408
30	H	0.29	0/1652	0.82	2/2225 (0.1%)
31	I	0.28	0/1665	0.83	1/2227 (0.0%)
32	J	0.29	0/1170	0.83	1/1573 (0.1%)
33	K	0.30	0/843	0.87	3/1140 (0.3%)
34	L	0.27	0/1196	0.89	4/1602 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	M	0.28	0/989	0.83	0/1326
36	N	0.27	0/1034	0.92	2/1375 (0.1%)
37	O	0.29	0/797	0.82	1/1077 (0.1%)
38	P	0.32	0/886	0.94	3/1195 (0.3%)
39	Q	0.28	0/969	0.91	3/1300 (0.2%)
40	R	0.30	0/893	0.86	0/1193
41	S	0.27	0/817	0.84	2/1088 (0.2%)
42	T	0.27	0/722	0.78	1/964 (0.1%)
43	U	0.29	0/659	0.79	1/884 (0.1%)
44	V	0.27	0/658	0.72	0/881
45	W	0.30	0/545	0.83	0/731
46	X	0.30	0/653	0.86	1/877 (0.1%)
47	Y	0.28	0/671	0.87	1/888 (0.1%)
48	Z	0.31	0/551	0.94	3/728 (0.4%)
49	a	0.28	0/1034	0.86	0/1387
50	3	0.40	0/36963	0.49	0/57662
51	1	0.40	0/69796	0.49	1/108888 (0.0%)
52	2	0.40	0/2872	0.48	0/4479
53	5	0.40	0/1785	0.49	0/2782
54	4	0.39	0/493	0.52	0/769
55	8	0.27	0/2900	0.91	8/3908 (0.2%)
All	All	0.37	0/160427	0.60	58/239581 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
50	3	0	3
51	1	0	10
All	All	0	13

There are no bond length outliers.

All (58) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	N	57	VAL	N-CA-C	9.45	120.26	110.62
39	Q	114	SER	N-CA-C	-8.72	101.73	111.14
38	P	74	LYS	N-CA-C	-7.05	103.94	112.54
39	Q	115	LYS	N-CA-C	-7.01	100.11	110.48
15	r	50	GLY	N-CA-C	-6.95	103.88	112.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	8	223	TYR	CA-C-N	6.86	128.41	119.84
55	8	223	TYR	C-N-CA	6.86	128.41	119.84
48	Z	33	ARG	N-CA-C	6.73	117.37	107.88
9	l	92	LEU	N-CA-C	-6.69	104.06	111.36
39	Q	54	VAL	N-CA-C	6.66	118.27	109.21
37	O	77	VAL	N-CA-C	6.58	117.08	110.23
38	P	73	VAL	N-CA-C	-6.56	105.74	113.42
9	l	96	LYS	N-CA-C	-6.37	104.21	112.23
48	Z	64	ALA	N-CA-C	6.34	115.79	108.49
41	S	49	THR	N-CA-C	-6.19	104.64	111.82
46	X	29	PRO	N-CA-C	-6.10	103.48	112.26
48	Z	49	ALA	N-CA-C	-5.96	104.71	111.14
55	8	145	ALA	N-CA-C	-5.89	104.94	111.36
32	J	160	VAL	N-CA-C	5.87	116.33	110.23
42	T	59	VAL	N-CA-C	-5.87	106.00	111.45
11	n	68	ALA	N-CA-C	-5.77	104.89	111.07
30	H	5	HIS	CA-C-N	5.76	126.16	119.47
30	H	5	HIS	C-N-CA	5.76	126.16	119.47
43	U	61	VAL	N-CA-C	-5.70	104.97	110.72
38	P	75	GLU	N-CA-C	-5.68	105.17	111.36
6	g	30	LEU	N-CA-C	5.67	117.15	110.97
1	b	87	SER	N-CA-C	-5.66	106.92	113.88
33	K	66	ALA	N-CA-C	5.63	114.61	108.14
55	8	287	ALA	N-CA-C	-5.60	105.25	111.36
17	t	13	ALA	N-CA-C	5.59	113.17	108.13
12	o	63	LYS	N-CA-C	-5.59	105.49	112.93
26	D	6	GLN	CA-C-N	5.54	125.86	119.93
26	D	6	GLN	C-N-CA	5.54	125.86	119.93
34	L	90	VAL	N-CA-C	5.50	116.05	110.05
4	e	30	VAL	N-CA-C	-5.50	102.42	109.30
36	N	88	GLU	N-CA-C	-5.43	106.61	113.18
51	1	1020	A	C2'-C3'-O3'	5.42	117.63	109.50
20	w	52	ASP	N-CA-C	-5.40	105.92	112.88
34	L	16	LYS	N-CA-C	-5.35	108.52	114.62
33	K	26	THR	N-CA-C	-5.33	105.64	111.82
55	8	105	ALA	N-CA-C	-5.29	105.57	112.23
6	g	40	THR	N-CA-C	-5.28	102.94	110.59
55	8	76	GLY	N-CA-C	-5.25	105.98	113.86
9	l	95	LEU	N-CA-C	-5.25	105.16	112.45
4	e	141	ASP	N-CA-C	5.21	117.59	108.52
4	e	11	VAL	N-CA-C	5.20	115.34	110.30
6	g	9	VAL	N-CA-C	5.19	120.14	109.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	8	228	ASP	N-CA-C	5.18	116.75	108.41
6	g	63	ALA	N-CA-C	-5.16	105.74	111.36
7	j	45	THR	CA-C-N	5.13	125.43	119.47
7	j	45	THR	C-N-CA	5.13	125.43	119.47
34	L	14	ASP	CA-C-N	5.11	126.22	119.84
34	L	14	ASP	C-N-CA	5.11	126.22	119.84
55	8	313	ASN	N-CA-C	-5.09	107.06	113.28
33	K	27	ALA	N-CA-C	-5.08	105.93	111.82
31	I	44	LYS	N-CA-C	5.03	116.41	110.07
47	Y	13	SER	N-CA-C	-5.01	106.00	111.82
41	S	21	ALA	N-CA-C	-5.01	105.42	113.28

There are no chirality outliers.

All (13) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
51	1	1328	A	Sidechain
51	1	1647	U	Sidechain
51	1	2061	G	Sidechain
51	1	2109	U	Sidechain
51	1	2273	A	Sidechain
51	1	2391	G	Sidechain
51	1	446	G	Sidechain
51	1	500	G	Sidechain
51	1	501	A	Sidechain
51	1	51	G	Sidechain
50	3	413	G	Sidechain
50	3	428	G	Sidechain
50	3	938	A	Sidechain

5.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of 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	100	0
2	c	1565	0	1616	62	0
3	d	1552	0	1619	70	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	e	1411	0	1447	115	0
5	f	1323	0	1374	67	0
6	g	1111	0	1148	61	0
7	j	1129	0	1162	36	0
8	k	939	0	1012	44	0
9	l	1045	0	1117	38	0
10	m	1074	0	1157	49	0
11	n	961	0	1000	39	0
12	o	892	0	923	42	0
13	p	917	0	965	36	0
14	q	947	0	1022	37	0
15	r	816	0	839	38	0
16	s	857	0	922	37	0
17	t	739	0	807	34	0
18	u	780	0	834	24	0
19	v	753	0	780	35	0
20	w	575	0	592	17	0
21	x	625	0	655	26	0
22	y	509	0	543	34	0
23	z	449	0	491	15	0
24	B	444	0	461	25	0
25	C	410	0	440	19	0
26	D	377	0	418	20	0
27	E	504	0	574	25	0
28	F	302	0	343	10	0
29	G	1757	0	1787	104	0
30	H	1625	0	1699	94	0
31	I	1643	0	1710	102	0
32	J	1157	0	1199	85	0
33	K	824	0	815	67	0
34	L	1182	0	1240	70	0
35	M	979	0	1034	49	0
36	N	1022	0	1070	78	0
37	O	787	0	828	65	0
38	P	870	0	878	58	0
39	Q	955	0	1019	57	0
40	R	884	0	944	73	0
41	S	805	0	847	64	0
42	T	714	0	737	30	0
43	U	649	0	666	47	0
44	V	649	0	691	47	0
45	W	536	0	552	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
46	X	638	0	665	46	0
47	Y	665	0	714	21	0
48	Z	545	0	579	55	0
49	a	1027	0	1092	58	0
50	3	33012	0	16618	763	0
51	1	62317	0	31346	1111	0
52	2	2568	0	1303	58	0
53	5	1598	0	815	47	0
54	4	437	0	219	10	0
55	8	2860	0	2758	165	0
All	All	147794	0	100243	4204	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 17.

All (4204) 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)
4:e:120:SER:HA	51:1:2303:G:H4'	1.27	1.15
13:p:52:ARG:HH22	51:1:2720:U:H5''	1.21	1.06
32:J:80:LEU:HD13	32:J:122:VAL:HG11	1.39	1.03
55:8:266:ILE:HG13	55:8:267:PRO:HD3	1.41	1.02
33:K:3:HIS:H	33:K:92:THR:HG22	1.23	1.01
51:1:1645:G:H5''	51:1:1646:C:H5'	1.42	1.01
37:O:42:LEU:HD11	37:O:73:LEU:HG	1.41	1.01
32:J:107:GLY:HA3	50:3:9:G:H5'	1.37	1.00
39:Q:23:LEU:HD13	39:Q:29:LYS:HE2	1.44	0.99
36:N:53:LEU:HD22	36:N:97:LEU:HD12	1.43	0.99
47:Y:70:LYS:HG3	47:Y:73:ARG:HH22	1.29	0.98
31:I:9:LYS:HG2	31:I:12:ARG:HH21	1.29	0.97
3:d:117:ARG:HH12	9:l:2:ARG:HG2	1.27	0.96
29:G:186:VAL:HG13	29:G:190:SER:HB2	1.47	0.96
50:3:1259:C:H3'	50:3:1260:G:H5''	1.48	0.96
10:m:45:GLN:HE21	51:1:2485:G:H5''	1.31	0.96
35:M:10:LEU:HD22	35:M:74:ILE:HD11	1.47	0.96
43:U:31:ARG:HB2	50:3:310:G:H5''	1.47	0.96
37:O:50:THR:HG22	37:O:64:GLN:HG2	1.49	0.95
1:b:106:PRO:HD2	1:b:109:LEU:HD22	1.49	0.94
3:d:30:GLN:HE22	51:1:659:G:H21	1.16	0.93
46:X:52:ASN:HD21	46:X:55:GLN:HE21	1.08	0.92
51:1:1527:G:H21	51:1:1545:A:H62	1.15	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:U:40:ASN:HD22	43:U:43:ALA:HB2	1.36	0.91
13:p:59:THR:HG22	13:p:72:VAL:HG12	1.51	0.91
7:j:31:GLU:HG2	7:j:142:ILE:HG12	1.48	0.91
35:M:49:LYS:HE2	35:M:59:GLU:HG3	1.51	0.91
1:b:146:LYS:HB2	1:b:149:LYS:HB2	1.53	0.91
36:N:32:ARG:HD2	36:N:36:GLN:HE21	1.36	0.91
49:a:181:ASP:HB2	49:a:184:LYS:HG2	1.51	0.90
39:Q:113:ARG:HB2	39:Q:118:VAL:HB	1.53	0.90
38:P:121:ARG:HD2	38:P:122:PRO:HD2	1.53	0.90
33:K:3:HIS:HB2	33:K:92:THR:HA	1.53	0.90
12:o:2:ASP:N	12:o:5:SER:HG	1.70	0.90
1:b:131:MET:HE2	1:b:187:CYS:HB2	1.51	0.89
29:G:8:MET:HB3	29:G:13:VAL:HG21	1.53	0.89
51:1:2629:U:H4'	51:1:2630:G:H5''	1.55	0.89
40:R:6:ILE:HG13	40:R:7:ASN:H	1.37	0.88
4:e:107:VAL:HB	4:e:108:PRO:HD3	1.55	0.88
40:R:27:THR:HG21	50:3:1328:C:H5''	1.55	0.88
47:Y:70:LYS:HA	47:Y:73:ARG:HH12	1.39	0.88
51:1:2245:U:H5'	51:1:2246:G:H5''	1.53	0.88
40:R:64:VAL:HG12	40:R:65:GLU:H	1.37	0.88
40:R:63:VAL:HG12	40:R:68:LEU:HD12	1.56	0.87
50:3:327:A:O2'	50:3:328:C:H4'	1.74	0.87
51:1:2792:A:H2'	51:1:2793:C:H5''	1.57	0.87
9:l:59:ARG:NH1	9:l:59:ARG:HB3	1.89	0.86
17:t:8:LEU:HD13	22:y:21:LEU:HB3	1.57	0.86
39:Q:28:GLN:HG3	39:Q:80:LEU:HD21	1.55	0.86
50:3:831:A:H2'	50:3:832:G:H5''	1.55	0.86
33:K:52:ASN:O	33:K:53:LYS:HG2	1.74	0.85
35:M:28:SER:HB2	35:M:58:LEU:HB2	1.58	0.85
39:Q:56:LEU:HD12	39:Q:60:PHE:HB3	1.58	0.85
51:1:876:C:H2'	51:1:877:A:H5'	1.58	0.85
4:e:78:ILE:HG23	4:e:84:ILE:HD12	1.58	0.85
3:d:105:LEU:HD23	3:d:200:LEU:HD11	1.58	0.85
50:3:225:C:H2'	50:3:226:G:H5''	1.59	0.84
34:L:24:LYS:HA	34:L:27:ASN:HD22	1.42	0.84
9:l:59:ARG:HB3	9:l:59:ARG:HH11	1.41	0.84
51:1:277:G:H5'	51:1:278:A:H5'	1.59	0.84
51:1:1179:G:H2'	51:1:1180:U:H4'	1.60	0.84
55:8:170:GLU:HG3	55:8:176:ILE:HG22	1.60	0.84
43:U:76:LYS:HE2	43:U:76:LYS:HA	1.58	0.84
9:l:62:PRO:HB2	27:E:29:ARG:HH11	1.43	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:26:LEU:HA	41:S:30:ILE:HD12	1.59	0.83
51:1:2242:G:H2'	51:1:2243:U:H5''	1.58	0.83
34:L:64:ALA:HA	34:L:67:ASN:HD22	1.43	0.83
18:u:36:GLU:HA	18:u:61:GLU:HG2	1.59	0.83
49:a:174:THR:HG21	51:1:2124:G:H4'	1.60	0.83
51:1:1847:A:H2'	51:1:1848:A:H5''	1.61	0.83
37:O:40:ILE:HB	37:O:73:LEU:HB2	1.59	0.83
43:U:46:LYS:HE3	50:3:617:G:H4'	1.60	0.83
51:1:1073:A:H1'	51:1:2474:U:H4'	1.61	0.82
38:P:118:ASN:HB2	50:3:718:A:H5'	1.62	0.82
51:1:875:G:H1	51:1:902:C:H42	1.27	0.82
4:e:131:VAL:HG21	4:e:136:ILE:HG21	1.60	0.82
33:K:48:ALA:HB1	45:W:68:PRO:HG3	1.60	0.82
36:N:121:ARG:HG3	50:3:1348:U:H4'	1.59	0.82
18:u:33:VAL:HG13	18:u:66:VAL:HG22	1.62	0.82
51:1:2277:G:H2'	51:1:2278:A:H5''	1.62	0.82
51:1:1103:A:H3'	51:1:1104:C:H5''	1.62	0.82
39:Q:86:VAL:HG21	39:Q:89:LEU:HB2	1.62	0.81
32:J:36:THR:HG21	32:J:63:MET:HE2	1.62	0.81
36:N:91:GLU:HA	36:N:94:ARG:HB2	1.62	0.81
51:1:2800:A:H3'	51:1:2801:G:H5'	1.63	0.81
32:J:133:ILE:H	32:J:133:ILE:HD12	1.45	0.81
50:3:212:G:H2'	50:3:213:G:H8	1.46	0.81
51:1:310:A:O2'	51:1:311:A:H2'	1.81	0.81
29:G:46:VAL:HG23	29:G:47:PRO:HD3	1.62	0.81
37:O:88:MET:HE3	37:O:89:ARG:H	1.43	0.81
4:e:28:PRO:HG2	4:e:168:LEU:HD21	1.61	0.81
35:M:9:MET:HG3	35:M:26:MET:SD	2.21	0.81
37:O:59:LYS:HE3	37:O:62:ARG:HH21	1.44	0.80
1:b:16:VAL:HB	1:b:203:VAL:HG12	1.61	0.80
4:e:30:VAL:HA	4:e:157:THR:HG22	1.63	0.80
51:1:85:G:H2'	51:1:86:G:H5''	1.62	0.80
45:W:59:LYS:HD2	50:3:735:C:H5'	1.63	0.80
2:c:151:THR:OG1	2:c:152:PRO:HD3	1.81	0.79
35:M:16:GLY:HA2	35:M:21:LYS:HD3	1.64	0.79
46:X:14:LEU:O	46:X:18:VAL:HG23	1.83	0.79
4:e:147:ARG:HG2	4:e:148:VAL:H	1.46	0.79
34:L:129:ASN:HA	34:L:134:VAL:HG21	1.65	0.79
37:O:56:HIS:ND1	37:O:57:VAL:HG23	1.97	0.79
43:U:33:ILE:HG22	43:U:34:GLU:HG2	1.63	0.79
50:3:516:U:H3	50:3:533:A:H62	1.28	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:R:70:ARG:HB3	40:R:74:MET:HE3	1.64	0.78
41:S:40:ARG:HH22	46:X:6:LYS:HD2	1.48	0.78
51:1:1912:A:H62	51:1:1917:U:H3	1.31	0.78
52:2:3:C:H3'	52:2:4:C:H5''	1.64	0.78
50:3:151:A:H62	50:3:170:U:H3	1.31	0.78
41:S:52:ARG:HD2	50:3:1317:C:H42	1.48	0.78
51:1:511:U:H2'	51:1:512:G:H5'	1.65	0.78
37:O:35:GLN:HG2	37:O:78:GLU:HG2	1.62	0.78
30:H:59:PRO:HG2	30:H:62:SER:HB3	1.65	0.78
38:P:118:ASN:HD22	50:3:717:U:H4'	1.48	0.78
51:1:1020:A:H1'	51:1:1021:A:OP2	1.84	0.78
33:K:18:VAL:HG11	33:K:58:HIS:CD2	2.19	0.78
48:Z:48:LYS:HG2	50:3:723:U:H5	1.47	0.78
40:R:32:ILE:HD13	40:R:59:VAL:HG12	1.66	0.77
6:g:103:VAL:HB	6:g:108:VAL:HB	1.65	0.77
44:V:63:CYS:SG	44:V:73:THR:HG23	2.25	0.77
51:1:1668:A:H4'	51:1:1669:A:H5'	1.67	0.77
16:s:83:LYS:HD2	16:s:95:ARG:HD3	1.66	0.77
34:L:113:LYS:HB2	34:L:117:LEU:HD21	1.66	0.77
36:N:27:ILE:HB	36:N:34:LEU:HB2	1.67	0.77
50:3:664:G:H22	50:3:741:G:H1	1.33	0.77
50:3:1345:U:H4'	50:3:1346:A:H8	1.50	0.77
51:1:1717:A:H62	51:1:1743:G:H21	1.33	0.77
19:v:38:LEU:HD23	19:v:93:ARG:HH22	1.48	0.76
32:J:132:PRO:O	32:J:135:VAL:HG12	1.86	0.76
47:Y:70:LYS:HA	47:Y:73:ARG:NH1	2.00	0.76
16:s:82:MET:HB3	16:s:84:ARG:HH22	1.49	0.76
44:V:30:HIS:HD2	44:V:33:TYR:H	1.31	0.76
22:y:9:LYS:HD2	22:y:12:GLU:H	1.50	0.76
50:3:77:A:H2'	50:3:78:A:H8	1.50	0.76
51:1:2563:U:H2'	51:1:2564:A:H5''	1.68	0.76
21:x:10:ARG:NH1	21:x:10:ARG:HB2	2.00	0.76
36:N:27:ILE:HD12	36:N:34:LEU:HD22	1.68	0.76
46:X:52:ASN:ND2	46:X:55:GLN:HE21	1.82	0.76
51:1:2530:A:H1'	51:1:2534:A:H61	1.49	0.76
49:a:50:ILE:HG13	49:a:51:ASP:H	1.51	0.76
51:1:2508:G:H1	51:1:2580:U:H5	1.32	0.76
55:8:357:ILE:O	55:8:361:LEU:HB2	1.84	0.76
46:X:36:ARG:HD2	50:3:1318:A:H1'	1.68	0.75
4:e:41:GLU:HG2	4:e:48:LEU:HD23	1.67	0.75
12:o:51:ALA:HB3	12:o:78:VAL:HG12	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1417:C:H1'	51:1:1586:A:H61	1.50	0.75
51:1:1801:A:H5''	51:1:2203:U:H2'	1.68	0.75
10:m:42:THR:OG1	10:m:45:GLN:HG3	1.86	0.75
10:m:45:GLN:NE2	51:1:2485:G:H5''	2.02	0.75
36:N:83:THR:HG21	36:N:102:PHE:HB3	1.68	0.75
36:N:17:ARG:HB2	36:N:65:THR:HG23	1.68	0.75
51:1:2792:A:C2'	51:1:2793:C:H5''	2.17	0.75
41:S:80:ARG:O	41:S:83:VAL:HG22	1.87	0.75
51:1:2286:G:H4'	51:1:2287:A:O5'	1.85	0.75
19:v:10:LYS:HG3	19:v:11:GLU:HG3	1.69	0.75
52:2:3:C:C3'	52:2:4:C:H5''	2.17	0.75
55:8:201:LEU:HB3	55:8:216:SER:HB3	1.66	0.75
31:I:59:LYS:O	31:I:63:ILE:HG13	1.87	0.75
15:r:54:VAL:HG23	15:r:55:ASP:H	1.52	0.75
27:E:54:LEU:O	27:E:57:VAL:HG12	1.87	0.75
31:I:9:LYS:HG2	31:I:12:ARG:NH2	2.02	0.75
51:1:1721:G:N2	51:1:1738:G:H1'	2.02	0.75
51:1:2156:G:H2'	51:1:2157:G:H5'	1.67	0.75
7:j:7:LYS:HG3	51:1:538:A:H4'	1.69	0.74
19:v:20:LEU:HD21	19:v:41:GLU:HG3	1.68	0.74
51:1:1141:U:H4'	51:1:1142:A:O4'	1.87	0.74
45:W:16:GLY:O	45:W:18:GLN:HG3	1.87	0.74
51:1:615:U:H5''	51:1:616:A:OP2	1.87	0.74
33:K:12:PRO:HD3	33:K:54:LEU:HD21	1.68	0.74
34:L:68:VAL:HG12	34:L:134:VAL:HG22	1.68	0.74
5:f:120:ILE:HD12	5:f:134:GLY:HA2	1.69	0.74
18:u:50:ALA:O	18:u:51:LEU:HG	1.88	0.74
34:L:110:ARG:HH12	34:L:121:ASN:HB2	1.52	0.74
48:Z:28:LEU:HA	48:Z:31:VAL:HG12	1.68	0.74
51:1:2164:C:H41	51:1:2171:A:H61	1.34	0.74
4:e:23:SER:HB3	4:e:26:GLN:HE22	1.53	0.74
26:D:24:THR:HG23	26:D:27:GLY:H	1.52	0.73
50:3:560:A:H5'	50:3:566:G:H21	1.53	0.73
50:3:1236:A:H4'	50:3:1304:G:H4'	1.70	0.73
50:3:1306:A:N6	50:3:1331:G:H1'	2.03	0.73
5:f:19:ASN:HB2	5:f:22:VAL:HG13	1.70	0.73
8:k:21:CYS:HA	8:k:41:ILE:HG22	1.67	0.73
49:a:11:ILE:HD11	49:a:35:THR:HB	1.71	0.73
53:5:24:U:H2'	53:5:25:C:C6	2.24	0.73
6:g:96:THR:HG23	6:g:97:ARG:H	1.54	0.73
3:d:124:PHE:HE2	3:d:187:VAL:HG11	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:l:110:VAL:HB	9:l:127:VAL:HG13	1.69	0.73
4:e:52:ALA:HA	4:e:55:ASP:OD2	1.89	0.73
46:X:12:LEU:HD12	46:X:13:HIS:N	2.03	0.73
50:3:1457:G:H2'	50:3:1458:G:H8	1.54	0.73
30:H:80:GLY:O	30:H:84:GLU:HG2	1.88	0.73
51:1:121:G:H4'	51:1:149:A:H5'	1.70	0.73
30:H:71:ARG:HB3	30:H:74:ILE:HD13	1.71	0.73
50:3:560:A:H5'	50:3:566:G:N2	2.04	0.73
51:1:2800:A:H3'	51:1:2801:G:C5'	2.18	0.73
1:b:94:LEU:HD13	1:b:100:ARG:HG3	1.70	0.73
2:c:1:MET:HG2	2:c:2:ILE:CD1	2.19	0.73
5:f:136:ASP:HB3	5:f:139:VAL:HG22	1.71	0.73
50:3:1280:A:O2'	50:3:1281:C:H5'	1.88	0.73
51:1:63:A:H2'	51:1:64:A:C8	2.23	0.73
4:e:102:LEU:HA	4:e:106:ALA:HB3	1.69	0.72
30:H:119:ILE:HG12	30:H:123:LEU:HD23	1.70	0.72
49:a:19:LYS:HG2	49:a:20:GLN:H	1.53	0.72
51:1:1874:C:H2'	51:1:1875:G:O4'	1.88	0.72
51:1:2242:G:C2'	51:1:2243:U:H5''	2.17	0.72
42:T:55:LEU:O	42:T:59:VAL:HG23	1.88	0.72
51:1:362:A:H3'	51:1:363:G:H8	1.55	0.72
51:1:1373:A:H5'	51:1:2212:A:H1'	1.71	0.72
50:3:1144:G:H2'	50:3:1145:A:C8	2.24	0.72
51:1:1394:U:H4'	51:1:1603:A:H4'	1.70	0.72
50:3:212:G:H2'	50:3:213:G:C8	2.25	0.72
8:k:40:LYS:HD2	8:k:57:VAL:HG12	1.70	0.72
3:d:30:GLN:NE2	51:1:659:G:H21	1.87	0.72
50:3:831:A:C2'	50:3:832:G:H5''	2.19	0.72
5:f:15:ASP:HB3	5:f:26:LYS:HB3	1.71	0.72
55:8:266:ILE:CG1	55:8:267:PRO:HD3	2.17	0.72
27:E:57:VAL:HG13	27:E:58:ILE:HD12	1.71	0.72
39:Q:23:LEU:CD1	39:Q:29:LYS:HE2	2.20	0.72
48:Z:35:GLU:HG3	48:Z:36:PHE:N	2.04	0.72
50:3:195:A:H2'	50:3:196:A:C8	2.25	0.72
2:c:55:LYS:HD2	2:c:77:ARG:HA	1.70	0.72
29:G:69:VAL:HG23	29:G:160:LEU:HD11	1.72	0.72
36:N:115:VAL:HG23	37:O:62:ARG:HH11	1.55	0.71
40:R:11:HIS:HA	40:R:43:LYS:HD2	1.72	0.71
51:1:1848:A:H2'	51:1:1849:G:H8	1.53	0.71
41:S:37:ASP:OD2	41:S:39:ASP:HB3	1.90	0.71
43:U:5:ARG:HB2	50:3:376:G:H5''	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:64:G:H4'	50:3:65:A:H3'	1.72	0.71
51:1:2163:A:H2'	51:1:2164:C:H5'	1.72	0.71
34:L:110:ARG:O	34:L:110:ARG:HD2	1.90	0.71
51:1:2797:U:H3'	51:1:2798:U:H5'	1.71	0.71
30:H:175:HIS:ND1	50:3:1108:G:H5'	2.05	0.71
50:3:946:A:H2'	50:3:947:G:H8	1.56	0.71
1:b:106:PRO:HG2	1:b:109:LEU:HB2	1.72	0.71
7:j:17:VAL:HG13	7:j:137:PRO:HB2	1.73	0.71
29:G:23:ASN:ND2	29:G:25:LYS:HB2	2.06	0.71
20:w:33:ILE:HG22	20:w:34:VAL:HG13	1.72	0.71
33:K:40:GLU:CD	33:K:99:ALA:HB2	2.15	0.71
41:S:73:LEU:HD12	41:S:83:VAL:HG11	1.73	0.71
3:d:117:ARG:NH1	9:l:2:ARG:HG2	2.05	0.71
29:G:72:LYS:HE2	29:G:74:ALA:HB3	1.71	0.71
32:J:75:LEU:HD23	32:J:75:LEU:H	1.55	0.71
50:3:208:U:H2'	50:3:210:C:H1'	1.73	0.71
50:3:529:G:H4'	50:3:533:A:C2	2.25	0.71
50:3:1408:A:H2'	50:3:1409:C:H6	1.56	0.71
51:1:2245:U:H5'	51:1:2246:G:C5'	2.20	0.71
15:r:15:SER:H	15:r:18:GLN:HE21	1.38	0.70
50:3:396:C:H2'	50:3:397:A:H5''	1.73	0.70
50:3:1236:A:H2'	50:3:1237:C:C6	2.26	0.70
2:c:56:LYS:NZ	51:1:2830:C:H5''	2.07	0.70
2:c:179:ARG:HB3	2:c:188:LEU:HD12	1.73	0.70
10:m:64:TRP:HE1	51:1:873:C:H4'	1.55	0.70
50:3:1259:C:H3'	50:3:1260:G:C5'	2.21	0.70
26:D:9:VAL:HG12	51:1:1309:G:OP1	1.90	0.70
33:K:68:GLN:O	33:K:71:ILE:HG22	1.91	0.70
6:g:57:LYS:O	6:g:61:VAL:HG23	1.91	0.70
55:8:72:GLN:C	55:8:109:LYS:HZ1	1.99	0.70
4:e:131:VAL:HG21	4:e:136:ILE:HD13	1.72	0.70
51:1:1723:G:H3'	51:1:1724:G:H8	1.56	0.70
30:H:112:ALA:HB3	30:H:184:ASN:HD22	1.57	0.70
51:1:2156:G:C2'	51:1:2157:G:H5'	2.22	0.70
51:1:2452:C:H42	51:1:2504:U:H3	1.38	0.70
27:E:61:LEU:HD12	27:E:61:LEU:O	1.91	0.70
38:P:33:ILE:HD12	38:P:73:VAL:HG11	1.72	0.70
7:j:26:GLY:HA3	51:1:1140:C:H5'	1.72	0.70
48:Z:35:GLU:HG3	48:Z:36:PHE:H	1.57	0.70
1:b:77:VAL:HG21	1:b:109:LEU:HD11	1.74	0.70
33:K:12:PRO:CD	33:K:54:LEU:HD21	2.22	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Z:39:LYS:HA	48:Z:42:THR:HG22	1.74	0.70
50:3:405:U:H3'	50:3:406:G:H5'	1.73	0.70
4:e:142:TYR:O	4:e:144:LYS:N	2.25	0.69
15:r:15:SER:H	15:r:18:GLN:NE2	1.91	0.69
30:H:171:ARG:HG2	30:H:173:PRO:HD3	1.72	0.69
37:O:44:THR:HG21	37:O:70:HIS:HD2	1.57	0.69
39:Q:11:ARG:HD2	50:3:562:U:H1'	1.74	0.69
48:Z:9:GLU:HB3	48:Z:10:PRO:HD3	1.74	0.69
49:a:19:LYS:HG2	49:a:20:GLN:N	2.06	0.69
50:3:1026:G:H22	50:3:1035:A:H2	1.40	0.69
51:1:2188:U:H3'	51:1:2189:U:H5''	1.74	0.69
51:1:2242:G:C3'	51:1:2243:U:H5''	2.22	0.69
43:U:57:ILE:O	43:U:61:VAL:HG23	1.91	0.69
50:3:1292:G:H2'	50:3:1293:C:C6	2.27	0.69
51:1:2353:G:H2'	51:1:2354:C:H5''	1.75	0.69
51:1:2792:A:C3'	51:1:2793:C:H5''	2.22	0.69
5:f:116:LEU:HD11	5:f:120:ILE:HB	1.74	0.69
51:1:2528:U:C2'	51:1:2529:G:H5''	2.21	0.69
50:3:673:A:H2'	50:3:674:G:C8	2.27	0.69
38:P:92:ARG:HG2	38:P:92:ARG:HH11	1.58	0.69
8:k:76:VAL:H	13:p:72:VAL:HG22	1.58	0.69
11:n:38:LEU:HB3	11:n:39:PRO:HD3	1.75	0.69
21:x:63:ILE:O	21:x:66:VAL:HG12	1.92	0.69
31:I:100:VAL:O	31:I:104:MET:HG3	1.93	0.69
34:L:77:ARG:O	34:L:77:ARG:HD3	1.93	0.69
34:L:110:ARG:NH1	34:L:121:ASN:HB2	2.08	0.69
51:1:322:A:H5'	51:1:340:A:H1'	1.74	0.69
51:1:2277:G:C2'	51:1:2278:A:H5''	2.23	0.69
50:3:758:C:H4'	50:3:880:C:H4'	1.72	0.69
51:1:1168:G:H1	51:1:1181:U:H3	1.39	0.69
2:c:8:LYS:HB2	2:c:201:LEU:HD11	1.75	0.69
34:L:29:LEU:HD23	34:L:29:LEU:O	1.93	0.69
40:R:3:ILE:HG13	40:R:56:ARG:HG2	1.74	0.69
31:I:150:LYS:HA	31:I:154:VAL:HG12	1.75	0.68
51:1:876:C:C2'	51:1:877:A:H5'	2.23	0.68
51:1:1299:G:H4'	51:1:1301:A:C8	2.28	0.68
2:c:135:GLY:HA2	51:1:743:A:OP1	1.93	0.68
24:B:39:ARG:HD3	24:B:40:HIS:N	2.08	0.68
36:N:51:LEU:HB3	36:N:56:MET:HG2	1.74	0.68
55:8:15:THR:HG23	55:8:73:MET:HE1	1.75	0.68
55:8:200:ARG:HB2	55:8:322:GLN:OE1	1.92	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:103:ILE:HB	4:e:172:PHE:CE2	2.28	0.68
41:S:79:SER:O	41:S:83:VAL:HG13	1.93	0.68
4:e:40:GLY:HA2	4:e:84:ILE:HG22	1.75	0.68
9:l:90:VAL:HG13	9:l:95:LEU:HD21	1.76	0.68
31:I:129:VAL:HG12	31:I:131:ILE:H	1.57	0.68
33:K:66:ALA:HB1	33:K:67:PRO:HD2	1.76	0.68
35:M:101:ALA:HB3	35:M:112:ASP:HB3	1.75	0.68
50:3:782:A:H62	50:3:800:G:H21	1.40	0.68
55:8:7:VAL:O	55:8:10:ARG:HG2	1.93	0.68
50:3:225:C:C2'	50:3:226:G:H5''	2.22	0.68
50:3:855:U:H2'	50:3:856:C:C6	2.29	0.68
51:1:1063:G:H22	51:1:1075:C:H42	1.41	0.68
12:o:40:ILE:N	12:o:40:ILE:HD12	2.08	0.68
34:L:58:LEU:HD22	34:L:59:GLU:OE2	1.93	0.68
29:G:12:GLY:HA2	29:G:14:HIS:CE1	2.29	0.68
50:3:56:U:H2'	50:3:57:G:C8	2.28	0.68
50:3:715:A:H2'	50:3:716:A:H8	1.59	0.68
30:H:41:TYR:O	30:H:45:GLU:HG2	1.93	0.68
51:1:2286:G:H5'	51:1:2287:A:OP1	1.93	0.68
51:1:2313:C:O2'	51:1:2314:A:H5'	1.93	0.68
32:J:133:ILE:O	32:J:136:VAL:HG22	1.93	0.68
50:3:926:G:H22	54:4:15:A:H3'	1.59	0.68
51:1:655:A:H4'	51:1:656:G:H5'	1.76	0.67
13:p:83:ILE:HD12	13:p:83:ILE:N	2.09	0.67
44:V:6:THR:C	44:V:7:LEU:HD12	2.18	0.67
51:1:1817:G:N2	51:1:1818:U:H1'	2.09	0.67
5:f:34:ARG:HH12	5:f:70:LEU:HD12	1.59	0.67
29:G:217:ALA:HB1	29:G:221:ARG:HH12	1.58	0.67
38:P:70:ALA:O	38:P:73:VAL:HG22	1.93	0.67
51:1:2104:C:H42	51:1:2185:U:H3	1.43	0.67
51:1:2629:U:H5''	51:1:2630:G:OP1	1.95	0.67
5:f:172:GLU:HB3	5:f:176:LYS:OXT	1.94	0.67
49:a:59:VAL:HG21	49:a:171:ILE:HD11	1.76	0.67
55:8:22:ARG:HH22	55:8:67:VAL:HG13	1.59	0.67
55:8:41:LEU:O	55:8:41:LEU:HD23	1.95	0.67
3:d:46:GLN:HB3	3:d:83:VAL:HG11	1.75	0.67
17:t:53:VAL:HG21	17:t:87:LEU:HD22	1.76	0.67
29:G:151:LYS:HG3	29:G:152:ASP:H	1.59	0.67
40:R:28:ARG:O	40:R:32:ILE:HG13	1.94	0.67
50:3:940:C:H2'	50:3:941:G:C8	2.30	0.67
51:1:1872:A:H2'	51:1:1873:G:O4'	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:w:36:GLN:NE2	20:w:39:THR:HA	2.09	0.67
29:G:8:MET:HB3	29:G:13:VAL:CG2	2.25	0.67
51:1:1848:A:H2'	51:1:1849:G:C8	2.28	0.67
51:1:1873:G:H2'	51:1:1874:C:C6	2.30	0.67
2:c:1:MET:HG2	2:c:2:ILE:HD12	1.77	0.67
7:j:32:LEU:HD22	7:j:54:ILE:HG21	1.76	0.67
33:K:99:ALA:HB1	33:K:101:PRO:HD2	1.77	0.67
36:N:9:GLY:C	36:N:10:ARG:HD3	2.20	0.67
53:5:66:C:H2'	53:5:67:C:C6	2.29	0.67
55:8:4:ILE:N	55:8:4:ILE:HD12	2.10	0.67
10:m:40:ARG:HB3	10:m:93:VAL:HG21	1.75	0.67
40:R:64:VAL:HG12	40:R:65:GLU:N	2.10	0.67
41:S:26:LEU:HD11	41:S:43:ALA:HA	1.77	0.67
41:S:88:MET:HE1	41:S:97:LYS:HD2	1.76	0.67
49:a:47:ASN:OD1	49:a:211:LYS:HD2	1.94	0.67
5:f:102:ILE:HD12	5:f:102:ILE:N	2.09	0.67
8:k:58:LEU:HD11	8:k:86:LEU:HD22	1.77	0.67
13:p:90:ALA:HB2	13:p:112:ARG:HA	1.77	0.67
36:N:20:ILE:HB	36:N:60:LEU:HD12	1.77	0.67
51:1:717:C:H2'	51:1:718:A:H5'	1.77	0.67
55:8:162:LYS:HB2	55:8:184:SER:OG	1.95	0.67
13:p:92:ARG:HD3	51:1:1753:G:H5''	1.75	0.67
21:x:16:ASN:HD21	21:x:26:ARG:HD2	1.60	0.67
31:I:32:LYS:HE2	31:I:32:LYS:HA	1.77	0.66
55:8:144:TRP:CG	55:8:201:LEU:HD22	2.30	0.66
5:f:37:ASN:HD22	5:f:39:ALA:HB3	1.60	0.66
31:I:56:GLU:HG2	31:I:198:LEU:HB2	1.76	0.66
37:O:37:ARG:HG3	50:3:1124:G:H5''	1.76	0.66
51:1:49:A:H5'	51:1:51:G:O4'	1.95	0.66
50:3:17:U:H2'	50:3:18:C:C6	2.30	0.66
50:3:57:G:H2'	50:3:58:C:C6	2.30	0.66
25:C:28:THR:HG23	25:C:29:LYS:HG2	1.75	0.66
29:G:65:LYS:HB2	29:G:157:PRO:HA	1.78	0.66
49:a:44:VAL:HG22	49:a:214:ILE:HG22	1.78	0.66
50:3:224:U:H2'	50:3:225:C:C6	2.30	0.66
51:1:2849:U:H4'	51:1:2868:A:C2	2.31	0.66
1:b:22:GLU:OE2	1:b:80:LEU:HD22	1.96	0.66
3:d:191:ASP:O	3:d:194:LYS:HG2	1.95	0.66
29:G:27:LYS:HB3	29:G:28:PRO:HD3	1.78	0.66
32:J:133:ILE:HD12	32:J:133:ILE:N	2.10	0.66
42:T:42:PHE:CD2	42:T:55:LEU:HD22	2.31	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:X:5:LYS:HG3	46:X:6:LYS:HG3	1.78	0.66
51:1:2345:G:N3	51:1:2381:A:H2'	2.11	0.66
30:H:151:GLU:HG2	30:H:166:TRP:HB2	1.78	0.66
36:N:27:ILE:HD13	36:N:47:VAL:HG21	1.76	0.66
50:3:1001:C:H2'	50:3:1002:G:C8	2.30	0.66
39:Q:5:GLN:HE22	50:3:882:C:H41	1.41	0.66
49:a:50:ILE:HG12	49:a:57:GLN:HE21	1.61	0.66
51:1:940:G:H2'	51:1:941:A:H5''	1.78	0.66
51:1:1073:A:H2'	51:1:1074:G:H5'	1.78	0.66
55:8:356:PHE:C	55:8:361:LEU:HD23	2.21	0.66
2:c:61:THR:OG1	2:c:64:GLU:HG3	1.96	0.66
6:g:11:ASN:ND2	6:g:12:LEU:HD13	2.10	0.66
22:y:19:LEU:HA	22:y:23:ARG:HE	1.61	0.66
24:B:2:VAL:HG21	51:1:2016:U:H1'	1.77	0.66
37:O:100:ILE:HD12	37:O:100:ILE:N	2.11	0.66
50:3:1345:U:H4'	50:3:1346:A:C8	2.30	0.66
51:1:1645:G:H5''	51:1:1646:C:C5'	2.24	0.66
52:2:3:C:H2'	52:2:4:C:H5''	1.78	0.66
19:v:30:ILE:HB	19:v:38:LEU:HB2	1.78	0.66
30:H:54:ILE:HD12	30:H:54:ILE:N	2.11	0.66
38:P:28:ASN:ND2	38:P:56:LYS:HD2	2.10	0.66
4:e:23:SER:HB3	4:e:26:GLN:NE2	2.10	0.65
50:3:1010:U:H2'	50:3:1011:C:C6	2.30	0.65
6:g:65:ALA:HA	6:g:68:ARG:HD2	1.78	0.65
10:m:58:LYS:O	10:m:59:ARG:HG2	1.96	0.65
21:x:58:ILE:HD11	21:x:63:ILE:HG13	1.78	0.65
29:G:14:HIS:O	29:G:15:PHE:O	2.14	0.65
50:3:1308:U:H2'	50:3:1309:G:H8	1.61	0.65
55:8:16:GLU:O	55:8:20:VAL:HG23	1.96	0.65
55:8:265:HIS:CD2	55:8:267:PRO:HD2	2.31	0.65
13:p:109:ILE:N	13:p:109:ILE:HD12	2.12	0.65
19:v:77:VAL:HG12	19:v:89:ILE:HD12	1.78	0.65
31:I:115:GLN:HE22	50:3:406:G:H1'	1.61	0.65
44:V:74:LEU:HD23	44:V:75:VAL:N	2.11	0.65
50:3:769:G:H4'	50:3:1513:A:H4'	1.77	0.65
48:Z:48:LYS:HG2	50:3:723:U:C5	2.28	0.65
50:3:147:G:H2'	50:3:148:G:C8	2.32	0.65
50:3:613:C:H2'	50:3:614:C:C6	2.32	0.65
50:3:1330:U:H2'	50:3:1331:G:O4'	1.96	0.65
2:c:25:THR:HG21	2:c:193:VAL:HG22	1.78	0.65
50:3:252:U:O2	50:3:252:U:H2'	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:783:A:H2'	51:1:784:G:H4'	1.77	0.65
5:f:27:GLY:HA3	5:f:78:VAL:HG22	1.78	0.65
15:r:76:LYS:HB2	15:r:85:LYS:HB3	1.79	0.65
27:E:44:ARG:HB3	27:E:45:PRO:HD3	1.77	0.65
34:L:38:ALA:O	34:L:41:ILE:HG22	1.97	0.65
42:T:71:ARG:HH21	50:3:754:C:H5'	1.62	0.65
44:V:45:VAL:HG11	44:V:60:ILE:HD12	1.79	0.65
50:3:57:G:H2'	50:3:58:C:H6	1.60	0.65
6:g:66:ASN:HD21	6:g:134:VAL:CG2	2.10	0.65
33:K:9:MET:HE1	33:K:51:ILE:CD1	2.27	0.65
48:Z:44:ARG:HH12	50:3:723:U:H5'	1.62	0.65
50:3:321:A:H4'	50:3:1436:U:H5'	1.78	0.65
51:1:1807:G:H2'	51:1:1808:A:H5'	1.79	0.65
50:3:1033:G:H2'	50:3:1034:G:H5''	1.79	0.65
50:3:1506:U:O2'	50:3:1507:A:H5'	1.97	0.65
52:2:88:C:H4'	52:2:89:U:OP1	1.95	0.65
1:b:48:ILE:HD11	1:b:51:ARG:HA	1.79	0.65
32:J:107:GLY:HA2	50:3:8:A:H1'	1.77	0.65
33:K:18:VAL:CG2	33:K:19:PRO:HD3	2.26	0.65
45:W:20:ILE:N	45:W:20:ILE:HD12	2.12	0.65
50:3:235:C:H2'	50:3:236:A:H8	1.62	0.65
51:1:548:G:N7	51:1:549:G:H1'	2.12	0.65
51:1:2600:A:O2'	51:1:2601:C:H5'	1.97	0.65
1:b:49:THR:HG21	51:1:1813:G:H1'	1.78	0.64
4:e:23:SER:HB3	4:e:26:GLN:OE1	1.98	0.64
37:O:9:ARG:HD3	37:O:73:LEU:HD21	1.79	0.64
50:3:515:G:H2'	50:3:516:U:C6	2.31	0.64
12:o:76:LYS:O	12:o:80:GLU:HG3	1.96	0.64
4:e:47:LYS:HA	4:e:50:ASP:OD2	1.97	0.64
31:I:97:LEU:O	31:I:101:VAL:HG23	1.97	0.64
40:R:27:THR:CG2	50:3:1328:C:H5''	2.27	0.64
51:1:1074:G:C3'	51:1:1075:C:H5''	2.27	0.64
51:1:2563:U:C2'	51:1:2564:A:H5''	2.26	0.64
6:g:143:ILE:HD12	6:g:143:ILE:N	2.11	0.64
31:I:80:ARG:O	31:I:80:ARG:HD3	1.97	0.64
31:I:103:ARG:HE	31:I:169:TRP:HZ2	1.46	0.64
31:I:149:LYS:HE3	31:I:176:LYS:NZ	2.12	0.64
35:M:111:THR:HG23	35:M:114:ALA:H	1.62	0.64
36:N:70:GLY:HA3	50:3:1371:G:O3'	1.98	0.64
29:G:166:ASP:OD1	29:G:190:SER:HA	1.97	0.64
40:R:44:ILE:HA	40:R:47:LEU:HD12	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:X:39:ILE:HD12	46:X:39:ILE:N	2.13	0.64
50:3:1346:A:H2'	50:3:1347:G:H4'	1.78	0.64
51:1:1415:U:H2'	51:1:1416:G:H4'	1.80	0.64
51:1:2277:G:C3'	51:1:2278:A:H5''	2.27	0.64
2:c:19:GLY:HA2	13:p:78:PRO:HB2	1.80	0.64
10:m:67:VAL:HG12	10:m:100:LYS:HE3	1.80	0.64
11:n:29:VAL:HG21	11:n:75:ILE:HG23	1.79	0.64
25:C:8:ILE:HB	25:C:50:GLU:OE1	1.97	0.64
2:c:173:GLN:NE2	51:1:2772:C:H5'	2.12	0.64
50:3:736:C:H2'	50:3:737:C:H6	1.63	0.64
51:1:275:C:H3'	51:1:276:U:H5''	1.79	0.64
1:b:244:VAL:HG12	1:b:250:GLN:HA	1.78	0.64
4:e:120:SER:CA	51:1:2303:G:H4'	2.17	0.64
12:o:100:HIS:HD2	52:2:48:U:H4'	1.63	0.64
16:s:42:LYS:HB2	51:1:2010:G:H5''	1.79	0.64
18:u:39:ASN:HB3	18:u:62:ALA:HB3	1.78	0.64
20:w:69:GLY:H	52:2:12:C:H5	1.45	0.64
36:N:119:LYS:HG3	50:3:1349:A:OP1	1.97	0.64
51:1:488:G:N2	51:1:491:G:H5''	2.13	0.64
51:1:1326:U:H2'	51:1:1327:A:H8	1.62	0.64
44:V:46:HIS:HB2	44:V:70:LYS:CG	2.28	0.64
48:Z:59:LEU:HD12	48:Z:60:ALA:N	2.12	0.64
50:3:715:A:H2'	50:3:716:A:C8	2.32	0.64
55:8:194:THR:HB	55:8:361:LEU:HD12	1.79	0.64
55:8:254:VAL:HG21	55:8:256:ARG:HH12	1.63	0.64
16:s:4:ILE:HG22	16:s:106:VAL:HG22	1.80	0.64
19:v:72:VAL:HG12	19:v:93:ARG:HA	1.80	0.64
29:G:41:ASN:ND2	29:G:44:LYS:HG3	2.12	0.64
30:H:74:ILE:HD12	30:H:74:ILE:N	2.13	0.64
51:1:1745:A:H2'	51:1:1746:A:H8	1.62	0.64
2:c:56:LYS:HZ1	51:1:2830:C:H5''	1.62	0.63
35:M:49:LYS:HB3	35:M:51:GLU:OE1	1.98	0.63
50:3:1172:C:H2'	50:3:1173:U:C6	2.33	0.63
50:3:1390:U:H2'	50:3:1391:U:C6	2.33	0.63
51:1:2533:U:H2'	51:1:2534:A:O4'	1.98	0.63
4:e:145:VAL:HG22	4:e:146:ASP:N	2.13	0.63
10:m:109:PRO:HG2	10:m:112:LEU:CB	2.27	0.63
29:G:46:VAL:HG23	29:G:47:PRO:CD	2.28	0.63
51:1:1745:A:H2'	51:1:1746:A:C8	2.32	0.63
51:1:2360:G:H2'	51:1:2361:G:H5'	1.80	0.63
55:8:324:ARG:HD2	55:8:326:TYR:OH	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:76:VAL:H	13:p:72:VAL:CG2	2.11	0.63
21:x:10:ARG:HB2	21:x:10:ARG:HH11	1.60	0.63
30:H:9:ILE:HG23	30:H:10:ARG:HG3	1.79	0.63
50:3:908:A:H2'	50:3:909:A:C8	2.34	0.63
52:2:3:C:C2'	52:2:4:C:H5''	2.28	0.63
7:j:57:LEU:HD21	7:j:130:HIS:HD2	1.63	0.63
31:I:143:SER:C	31:I:144:ILE:HD12	2.22	0.63
33:K:67:PRO:HG2	33:K:70:VAL:HG12	1.79	0.63
36:N:4:GLN:HE22	50:3:1130:A:H4'	1.64	0.63
50:3:736:C:H2'	50:3:737:C:C6	2.33	0.63
50:3:1457:G:H2'	50:3:1458:G:C8	2.33	0.63
51:1:544:C:H2'	51:1:545:U:C6	2.34	0.63
51:1:2189:U:H2'	51:1:2190:G:H8	1.63	0.63
2:c:149:ASN:O	2:c:152:PRO:HD2	1.99	0.63
4:e:123:GLY:H	4:e:126:ASN:HD21	1.47	0.63
8:k:70:ARG:HG2	8:k:76:VAL:HG12	1.80	0.63
29:G:131:LYS:O	29:G:135:MET:HG2	1.99	0.63
50:3:29:U:O2'	50:3:30:U:H5'	1.99	0.63
4:e:131:VAL:HG11	4:e:136:ILE:HD13	1.81	0.63
29:G:209:VAL:HG22	29:G:213:LEU:HG	1.79	0.63
34:L:38:ALA:O	34:L:42:VAL:HG23	1.99	0.63
51:1:1454:C:H2'	51:1:1455:G:H5'	1.81	0.63
52:2:55:U:H2'	52:2:56:G:C8	2.34	0.63
55:8:127:ASP:HA	55:8:188:ALA:HB3	1.81	0.63
50:3:632:U:H3'	50:3:633:G:H5'	1.81	0.63
51:1:275:C:H2'	51:1:276:U:H4'	1.81	0.63
51:1:1447:C:H2'	51:1:1448:G:H8	1.64	0.63
30:H:46:LEU:HD23	30:H:46:LEU:H	1.63	0.63
33:K:25:TYR:O	33:K:29:ILE:HG13	1.98	0.63
40:R:76:ILE:O	40:R:80:MET:HG2	1.98	0.63
44:V:24:ILE:HB	44:V:41:THR:OG1	1.98	0.63
50:3:320:A:H2'	50:3:321:A:C8	2.34	0.63
6:g:134:VAL:HG23	6:g:135:HIS:H	1.62	0.63
25:C:5:ARG:HD3	51:1:2285:C:OP2	1.99	0.63
26:D:10:LEU:HD23	51:1:770:G:H5''	1.80	0.63
50:3:831:A:C3'	50:3:832:G:H5''	2.29	0.63
51:1:1450:G:H21	51:1:1452:G:H1	1.45	0.63
55:8:67:VAL:HG12	55:8:71:ASP:OD2	1.98	0.63
4:e:24:VAL:HG23	4:e:25:MET:HE2	1.81	0.62
7:j:27:ARG:NH2	51:1:1142:A:H4'	2.14	0.62
28:F:31:PRO:HB2	51:1:2527:C:H5''	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:U:67:ILE:N	43:U:67:ILE:HD12	2.14	0.62
50:3:1096:C:H2'	50:3:1097:C:C6	2.34	0.62
50:3:1171:A:H2'	50:3:1172:C:C6	2.34	0.62
51:1:2572:A:H5'	51:1:2574:G:H4'	1.80	0.62
55:8:337:ARG:NH2	55:8:361:LEU:HD11	2.14	0.62
2:c:116:LYS:HG3	2:c:165:MET:HE2	1.81	0.62
9:l:93:ASN:C	9:l:95:LEU:H	2.07	0.62
39:Q:33:CYS:H	39:Q:54:VAL:HG13	1.64	0.62
41:S:5:MET:HA	41:S:8:ARG:HD3	1.81	0.62
50:3:50:A:H4'	50:3:51:A:H5'	1.80	0.62
50:3:406:G:H2'	50:3:407:U:H6	1.65	0.62
51:1:1706:C:C2	51:1:1757:A:H5'	2.34	0.62
6:g:68:ARG:O	6:g:71:LYS:HB3	1.99	0.62
6:g:72:ILE:H	6:g:72:ILE:HD12	1.63	0.62
11:n:18:GLN:HE21	11:n:22:ARG:NH1	1.97	0.62
30:H:180:ASP:HB3	30:H:204:GLY:HA3	1.80	0.62
51:1:488:G:H22	51:1:491:G:H5''	1.62	0.62
29:G:130:LYS:O	29:G:134:LEU:HD13	1.98	0.62
32:J:76:ASN:HB2	32:J:81:GLN:HG3	1.81	0.62
49:a:47:ASN:HB2	49:a:211:LYS:HB3	1.80	0.62
50:3:1172:C:H2'	50:3:1173:U:H6	1.64	0.62
19:v:72:VAL:HA	19:v:94:ALA:H	1.65	0.62
39:Q:109:ARG:HH12	50:3:537:G:H5''	1.64	0.62
50:3:216:U:H2'	50:3:217:C:C6	2.35	0.62
50:3:416:G:H2'	50:3:417:G:C8	2.35	0.62
50:3:986:U:H2'	50:3:987:G:C8	2.34	0.62
55:8:109:LYS:O	55:8:113:LEU:HD13	2.00	0.62
1:b:227:VAL:HG21	51:1:784:G:C6	2.34	0.62
3:d:144:GLU:HG2	3:d:145:ASP:H	1.65	0.62
4:e:67:THR:HB	4:e:87:LYS:HG2	1.81	0.62
5:f:93:TYR:CD2	5:f:106:LEU:HD22	2.34	0.62
14:q:55:GLN:NE2	51:1:559:G:H1'	2.15	0.62
31:I:113:ALA:O	31:I:117:VAL:HG23	1.99	0.62
31:I:149:LYS:HG2	31:I:150:LYS:HG2	1.82	0.62
34:L:137:ARG:HD3	34:L:141:HIS:CE1	2.35	0.62
50:3:1534:A:H2'	50:3:1535:C:C6	2.34	0.62
51:1:1558:C:H5''	51:1:1559:U:C6	2.34	0.62
51:1:1744:A:H3'	51:1:1745:A:C8	2.34	0.62
51:1:2246:G:HO2'	51:1:2247:A:H8	1.48	0.62
55:8:224:PRO:HB2	55:8:226:VAL:HG22	1.81	0.62
1:b:204:LEU:HD12	51:1:1791:A:H5''	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:37:ASN:HD21	5:f:63:GLN:HB3	1.65	0.62
6:g:40:THR:HG22	6:g:43:ASN:HB2	1.81	0.62
10:m:41:LEU:HD23	10:m:96:ILE:HG13	1.82	0.62
46:X:52:ASN:HD21	46:X:55:GLN:NE2	1.90	0.62
50:3:231:U:H2'	50:3:232:G:H8	1.64	0.62
51:1:1947:C:H2'	51:1:1948:G:H5''	1.82	0.62
4:e:73:VAL:HG12	4:e:75:GLY:H	1.63	0.62
24:B:24:VAL:HG13	24:B:25:THR:H	1.65	0.62
29:G:6:ARG:O	29:G:6:ARG:HD3	1.99	0.62
41:S:77:GLY:C	41:S:78:LEU:HD12	2.25	0.62
51:1:85:G:C2'	51:1:86:G:H5''	2.28	0.62
55:8:176:ILE:HD12	55:8:179:VAL:CG1	2.30	0.62
1:b:29:PHE:O	1:b:33:LEU:HD13	2.00	0.62
1:b:43:ASN:HD21	1:b:45:ASN:HD22	1.45	0.62
8:k:4:GLU:OE2	8:k:5:GLN:HG2	2.00	0.62
12:o:31:THR:HG23	12:o:32:PRO:HD2	1.82	0.62
22:y:9:LYS:NZ	22:y:11:VAL:HB	2.14	0.62
32:J:160:VAL:HG13	32:J:161:GLU:H	1.65	0.62
37:O:27:GLU:OE1	37:O:30:LYS:HB2	2.00	0.62
43:U:8:ARG:HE	50:3:391:G:H5''	1.63	0.62
50:3:225:C:C3'	50:3:226:G:H5''	2.30	0.62
50:3:762:U:H2'	50:3:763:G:C8	2.35	0.62
51:1:1713:A:H1'	51:1:1715:G:O2'	1.99	0.62
51:1:1856:U:H2'	51:1:1857:G:O4'	2.00	0.62
51:1:2114:A:H61	51:1:2117:A:H62	1.47	0.62
52:2:66:A:H5''	52:2:67:G:OP1	1.99	0.62
2:c:1:MET:C	2:c:2:ILE:HD12	2.25	0.62
13:p:30:TRP:CE3	13:p:37:LYS:HG2	2.35	0.62
16:s:66:ILE:H	16:s:66:ILE:HD12	1.64	0.62
29:G:90:PHE:HE2	29:G:92:ASN:HD22	1.48	0.62
41:S:13:VAL:HA	41:S:59:GLN:HE22	1.65	0.62
49:a:175:ILE:HB	49:a:188:ASN:HD22	1.65	0.62
51:1:1077:A:H2'	51:1:1078:U:H4'	1.82	0.62
51:1:2528:U:H2'	51:1:2529:G:H5''	1.80	0.62
55:8:241:ILE:N	55:8:241:ILE:HD12	2.14	0.62
4:e:109:ARG:HH21	4:e:109:ARG:HG2	1.64	0.61
38:P:34:THR:HA	38:P:40:ALA:HA	1.82	0.61
49:a:64:VAL:HG22	49:a:160:GLN:OE1	2.00	0.61
50:3:1010:U:H2'	50:3:1011:C:H6	1.65	0.61
3:d:63:LYS:HD2	51:1:2444:G:OP2	2.00	0.61
4:e:125:GLY:HA3	4:e:159:ALA:HB3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:B:39:ARG:HG3	24:B:40:HIS:ND1	2.14	0.61
49:a:11:ILE:HG22	49:a:15:VAL:HG23	1.82	0.61
16:s:88:ARG:HH11	51:1:747:C:H2'	1.64	0.61
50:3:1412:C:H2'	50:3:1413:A:C8	2.35	0.61
51:1:1664:A:H61	51:1:1996:C:H42	1.48	0.61
41:S:5:MET:HB3	41:S:62:ARG:NH1	2.16	0.61
41:S:25:GLU:HB2	41:S:29:ILE:HD11	1.81	0.61
50:3:1118:U:H2'	50:3:1119:C:C6	2.34	0.61
51:1:2295:C:O2'	51:1:2296:U:H5'	2.00	0.61
51:1:2353:G:C3'	51:1:2354:C:H5''	2.30	0.61
6:g:96:THR:HG23	6:g:97:ARG:N	2.16	0.61
16:s:66:ILE:HD12	16:s:66:ILE:N	2.16	0.61
17:t:11:LEU:HD22	17:t:32:LEU:HD23	1.82	0.61
21:x:20:ALA:HB3	21:x:22:ASN:ND2	2.15	0.61
29:G:202:ASN:ND2	29:G:205:ALA:H	1.97	0.61
50:3:1404:C:H2'	50:3:1405:G:C8	2.35	0.61
53:5:22:G:H2'	53:5:23:C:C6	2.35	0.61
55:8:191:TRP:C	55:8:192:LEU:HD12	2.24	0.61
12:o:33:ARG:HB2	52:2:52:A:H62	1.65	0.61
32:J:133:ILE:H	32:J:133:ILE:CD1	2.13	0.61
32:J:143:LEU:HD12	32:J:144:GLU:N	2.14	0.61
36:N:78:ILE:O	36:N:82:ILE:HG13	2.01	0.61
46:X:71:GLY:HA3	50:3:1320:C:H1'	1.83	0.61
50:3:25:C:H5'	50:3:524:G:H1'	1.83	0.61
22:y:5:GLU:O	22:y:56:LEU:HD13	2.00	0.61
38:P:118:ASN:HD22	50:3:717:U:C4'	2.13	0.61
39:Q:97:VAL:HG23	39:Q:100:ALA:HB2	1.81	0.61
50:3:791:G:H22	50:3:1497:G:H4'	1.64	0.61
50:3:1306:A:H62	50:3:1331:G:H1'	1.65	0.61
51:1:9:G:H21	51:1:2800:A:H61	1.47	0.61
51:1:704:G:H1'	51:1:727:A:H61	1.63	0.61
29:G:206:ILE:O	29:G:209:VAL:HG12	2.01	0.61
32:J:15:ILE:HD12	32:J:15:ILE:N	2.15	0.61
33:K:22:ILE:CG2	33:K:39:LEU:HD11	2.30	0.61
34:L:24:LYS:O	34:L:28:ILE:HG13	2.01	0.61
50:3:131:A:H2'	50:3:132:C:C6	2.36	0.61
51:1:1186:G:H2'	51:1:1187:G:O4'	2.01	0.61
51:1:1810:A:H2'	51:1:1811:G:O4'	1.99	0.61
53:5:63:G:H2'	53:5:64:G:H8	1.64	0.61
4:e:145:VAL:HG22	4:e:146:ASP:H	1.66	0.61
50:3:416:G:H2'	50:3:417:G:H8	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:4:19:U:H3	55:8:138:GLY:HA3	1.66	0.61
55:8:232:ILE:HG23	55:8:234:ILE:HG22	1.83	0.61
5:f:163:TYR:HB2	5:f:166:GLU:HG2	1.83	0.61
7:j:27:ARG:HH22	51:1:1142:A:H4'	1.66	0.61
22:y:19:LEU:O	22:y:23:ARG:HB2	2.01	0.61
32:J:23:THR:HA	32:J:28:ARG:HA	1.83	0.61
39:Q:85:ARG:HA	39:Q:93:ARG:HA	1.83	0.61
51:1:1508:A:H2'	51:1:1509:A:O4'	2.00	0.61
1:b:123:ILE:HD12	1:b:123:ILE:N	2.16	0.60
5:f:22:VAL:HG22	5:f:33:THR:HG22	1.82	0.60
30:H:74:ILE:HD12	30:H:74:ILE:H	1.65	0.60
41:S:25:GLU:O	41:S:30:ILE:HG13	2.01	0.60
11:n:2:ARG:O	11:n:2:ARG:HD3	2.01	0.60
43:U:71:VAL:O	43:U:75:ILE:HG13	2.01	0.60
51:1:1367:A:H2'	51:1:1368:G:H5'	1.82	0.60
51:1:2743:U:C3'	51:1:2744:G:H5''	2.31	0.60
49:a:50:ILE:HG13	49:a:51:ASP:N	2.15	0.60
50:3:946:A:H2'	50:3:947:G:C8	2.36	0.60
55:8:121:GLY:HA3	55:8:193:ARG:HH12	1.66	0.60
3:d:145:ASP:HA	3:d:166:LYS:HB3	1.83	0.60
8:k:110:GLU:HA	8:k:113:MET:HG2	1.84	0.60
9:l:124:GLY:C	9:l:125:LEU:HD12	2.27	0.60
51:1:902:C:O2	51:1:902:C:H2'	2.01	0.60
51:1:1464:G:H2'	51:1:1465:G:C8	2.37	0.60
51:1:2795:C:H2'	51:1:2796:U:H5'	1.84	0.60
21:x:16:ASN:ND2	21:x:26:ARG:HD2	2.17	0.60
37:O:10:LEU:HD23	37:O:10:LEU:H	1.67	0.60
37:O:41:PRO:HG3	50:3:1150:A:N3	2.16	0.60
4:e:105:ILE:HD12	4:e:138:PRO:HG3	1.83	0.60
18:u:3:LYS:HD3	18:u:82:VAL:HB	1.84	0.60
24:B:24:VAL:HG13	24:B:25:THR:N	2.17	0.60
29:G:213:LEU:HA	29:G:216:VAL:HG22	1.81	0.60
51:1:2743:U:H3'	51:1:2744:G:H5''	1.83	0.60
5:f:3:VAL:O	5:f:68:ARG:HD3	2.02	0.60
16:s:6:LYS:O	51:1:494:G:H4'	2.00	0.60
22:y:10:SER:HA	22:y:13:GLU:OE2	2.02	0.60
31:I:4:LEU:HD11	50:3:406:G:H5''	1.83	0.60
50:3:70:U:H4'	50:3:71:A:H8	1.67	0.60
15:r:7:SER:HB2	15:r:22:LEU:HD22	1.84	0.60
16:s:31:GLN:O	16:s:35:ILE:HG12	2.02	0.60
29:G:199:ILE:HD12	29:G:199:ILE:N	2.17	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:a:4:LEU:HD22	49:a:12:ARG:HD3	1.83	0.60
50:3:243:A:H4'	50:3:244:U:H3'	1.82	0.60
50:3:1170:A:H2'	50:3:1171:A:O4'	2.01	0.60
51:1:593:U:H2'	51:1:594:U:C6	2.37	0.60
51:1:1478:G:N2	51:1:1560:G:H1'	2.17	0.60
51:1:1791:A:N1	51:1:1829:A:H4'	2.17	0.60
53:5:50:U:H2'	53:5:51:C:C6	2.37	0.60
8:k:112:PHE:HB3	8:k:115:ILE:HD12	1.84	0.60
11:n:47:VAL:C	11:n:50:PRO:HD2	2.26	0.60
29:G:96:LEU:HD12	29:G:147:LEU:HD21	1.84	0.60
42:T:75:ALA:O	42:T:79:GLN:HG2	2.02	0.60
50:3:424:G:H2'	50:3:425:G:C8	2.37	0.60
51:1:2849:U:H4'	51:1:2868:A:N1	2.16	0.60
15:r:41:ILE:N	15:r:41:ILE:HD12	2.17	0.60
40:R:25:GLY:H	50:3:1329:A:H5''	1.67	0.60
4:e:56:LEU:HD21	4:e:151:LEU:HD11	1.83	0.59
15:r:40:MET:C	15:r:41:ILE:HD12	2.27	0.59
25:C:37:LYS:HB2	25:C:48:TYR:CD2	2.37	0.59
32:J:17:VAL:HG12	32:J:34:ALA:HB2	1.83	0.59
42:T:31:LEU:O	42:T:35:ILE:HG13	2.02	0.59
50:3:406:G:H2'	50:3:407:U:C6	2.36	0.59
51:1:492:A:H2'	51:1:493:G:O4'	2.01	0.59
51:1:1802:A:H2'	51:1:1803:A:C8	2.36	0.59
51:1:2093:G:N7	51:1:2225:A:H2'	2.16	0.59
2:c:48:ILE:HG23	2:c:84:LEU:HD21	1.84	0.59
10:m:109:PRO:HG2	10:m:112:LEU:HB2	1.83	0.59
29:G:102:ASN:O	29:G:106:VAL:HG23	2.02	0.59
33:K:16:GLU:HB2	33:K:17:GLN:OE1	2.03	0.59
48:Z:7:GLU:HB3	48:Z:11:PHE:HB3	1.84	0.59
53:5:41:C:H2'	53:5:42:G:H8	1.67	0.59
4:e:163:GLU:HG3	4:e:164:GLU:HG2	1.84	0.59
31:I:162:GLU:HB2	31:I:163:GLN:HE22	1.67	0.59
49:a:3:LYS:C	49:a:4:LEU:HD12	2.27	0.59
50:3:1137:C:H5'	50:3:1138:G:H5'	1.83	0.59
50:3:1346:A:H2'	50:3:1346:A:N3	2.17	0.59
51:1:2328:A:H2'	51:1:2329:U:C6	2.37	0.59
55:8:87:ALA:HA	55:8:92:ASP:OD1	2.02	0.59
3:d:21:ARG:HG2	3:d:110:SER:OG	2.02	0.59
11:n:47:VAL:O	11:n:50:PRO:HD2	2.03	0.59
22:y:9:LYS:HZ3	22:y:11:VAL:HB	1.67	0.59
34:L:58:LEU:O	34:L:58:LEU:HD23	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:6:ILE:HB	37:O:76:ILE:HB	1.84	0.59
40:R:97:ARG:HB3	40:R:99:GLN:OE1	2.03	0.59
49:a:59:VAL:HG23	49:a:165:ASN:HB3	1.83	0.59
49:a:215:SER:CB	51:1:2176:A:H1'	2.32	0.59
50:3:424:G:H2'	50:3:425:G:H8	1.66	0.59
50:3:1502:A:C8	50:3:1505:G:N2	2.68	0.59
51:1:85:G:H2'	51:1:86:G:C5'	2.33	0.59
51:1:433:C:O2'	51:1:434:U:H5'	2.03	0.59
9:l:51:GLU:HG3	9:l:54:GLN:HB3	1.84	0.59
43:U:46:LYS:HG3	43:U:47:GLU:H	1.68	0.59
50:3:216:U:H4'	50:3:464:U:H4'	1.85	0.59
51:1:75:G:H22	51:1:111:A:H2	1.51	0.59
55:8:83:LEU:HD21	55:8:98:GLU:OE1	2.02	0.59
4:e:11:VAL:HG13	4:e:171:ALA:HB1	1.84	0.59
13:p:33:GLU:HG2	13:p:36:LYS:HB2	1.82	0.59
19:v:53:LYS:HB3	19:v:55:GLU:OE1	2.02	0.59
23:z:6:ILE:HD12	23:z:6:ILE:N	2.17	0.59
31:I:100:VAL:HG21	31:I:136:VAL:HG21	1.84	0.59
31:I:162:GLU:HB2	31:I:163:GLN:NE2	2.17	0.59
34:L:119:LEU:O	34:L:119:LEU:HD23	2.02	0.59
37:O:11:LYS:HB3	37:O:71:LEU:HG	1.83	0.59
40:R:2:ARG:HA	40:R:6:ILE:O	2.03	0.59
55:8:203:ARG:HA	55:8:329:ASP:OD2	2.02	0.59
1:b:191:LEU:HD23	1:b:192:GLY:N	2.17	0.59
15:r:4:VAL:HG12	15:r:13:ARG:HA	1.85	0.59
20:w:22:PHE:CD2	51:1:922:C:H1'	2.37	0.59
20:w:38:GLY:HA2	51:1:2330:G:H21	1.67	0.59
29:G:3:VAL:HG13	29:G:7:ASP:OD2	2.03	0.59
32:J:53:ARG:HH22	50:3:1071:C:H5'	1.68	0.59
33:K:9:MET:HE2	33:K:86:ARG:HB2	1.85	0.59
36:N:89:TYR:HB3	36:N:93:LEU:HD13	1.83	0.59
39:Q:41:PRO:HB2	39:Q:88:ASP:OD1	2.03	0.59
40:R:21:ILE:N	40:R:21:ILE:HD12	2.18	0.59
44:V:12:VAL:HB	44:V:21:VAL:HG13	1.82	0.59
50:3:830:G:H2'	50:3:831:A:C8	2.37	0.59
50:3:1497:G:O2'	50:3:1498:U:H5'	2.01	0.59
51:1:49:A:C5'	51:1:51:G:H5'	2.33	0.59
51:1:1431:A:H2'	51:1:1432:G:C8	2.38	0.59
3:d:163:ASN:HB2	51:1:322:A:OP2	2.02	0.59
29:G:26:MET:HE2	29:G:187:ASP:O	2.03	0.59
31:I:24:VAL:HG22	50:3:409:U:H5''	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:701:U:H4'	50:3:703:G:H1'	1.83	0.59
51:1:1069:A:H1'	51:1:1096:A:H5''	1.85	0.59
51:1:1213:A:N6	51:1:1236:G:H1'	2.17	0.59
51:1:1278:C:H2'	51:1:1279:G:H8	1.68	0.59
55:8:144:TRP:CD1	55:8:201:LEU:HD22	2.38	0.59
4:e:37:MET:HB2	4:e:151:LEU:HD13	1.85	0.59
7:j:104:ALA:O	7:j:108:MET:HE3	2.02	0.59
8:k:15:GLY:O	8:k:47:ILE:HG12	2.03	0.59
29:G:71:THR:HG22	29:G:92:ASN:O	2.02	0.59
36:N:34:LEU:HD21	36:N:48:ARG:HH12	1.65	0.59
50:3:162:A:H2'	50:3:163:C:H5'	1.83	0.59
55:8:117:ARG:HA	55:8:362:LYS:HE3	1.83	0.59
20:w:33:ILE:HD12	20:w:33:ILE:N	2.18	0.59
24:B:2:VAL:HG22	24:B:3:GLN:N	2.17	0.59
36:N:61:ASP:C	36:N:62:LEU:HD22	2.28	0.59
49:a:214:ILE:HG12	49:a:222:VAL:O	2.03	0.59
51:1:549:G:H2'	51:1:550:C:C6	2.38	0.59
51:1:767:U:H2'	51:1:768:G:H8	1.67	0.59
51:1:890:C:H2'	51:1:891:G:H5'	1.84	0.59
51:1:2286:G:H4'	51:1:2287:A:O4'	2.02	0.59
51:1:2795:C:C2'	51:1:2796:U:H5'	2.33	0.59
1:b:71:ASP:O	1:b:73:ILE:HD12	2.03	0.58
2:c:14:ILE:HA	13:p:11:GLN:HE22	1.68	0.58
16:s:33:LEU:HD23	16:s:51:LEU:HD23	1.84	0.58
19:v:73:LYS:HG3	19:v:94:ALA:HB2	1.85	0.58
31:I:100:VAL:HA	31:I:103:ARG:HB2	1.85	0.58
31:I:149:LYS:HE3	31:I:176:LYS:HZ3	1.68	0.58
50:3:271:C:H2'	50:3:272:C:C6	2.38	0.58
50:3:952:U:H2'	50:3:953:G:H8	1.68	0.58
51:1:2480:C:H2'	51:1:2481:G:O4'	2.03	0.58
55:8:170:GLU:HA	55:8:176:ILE:HA	1.85	0.58
1:b:52:HIS:CE1	1:b:218:THR:HG23	2.38	0.58
6:g:72:ILE:HD12	6:g:72:ILE:N	2.18	0.58
14:q:77:LYS:O	14:q:116:LEU:HD11	2.02	0.58
22:y:15:ASN:O	22:y:19:LEU:HD23	2.03	0.58
24:B:10:SER:O	24:B:14:MET:HG3	2.02	0.58
31:I:122:ILE:N	31:I:122:ILE:HD12	2.18	0.58
32:J:24:VAL:HG22	32:J:25:LYS:N	2.18	0.58
34:L:30:MET:HE1	50:3:1373:G:O2'	2.03	0.58
37:O:35:GLN:CG	37:O:78:GLU:HG2	2.33	0.58
38:P:118:ASN:ND2	50:3:717:U:H4'	2.15	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:P:122:PRO:HB2	48:Z:33:ARG:HA	1.85	0.58
55:8:63:LEU:O	55:8:67:VAL:HG23	2.04	0.58
5:f:18:ILE:HD12	5:f:18:ILE:N	2.18	0.58
19:v:38:LEU:HD23	19:v:93:ARG:NH2	2.15	0.58
30:H:116:ALA:O	30:H:119:ILE:HG22	2.03	0.58
38:P:33:ILE:HG13	38:P:69:CYS:SG	2.43	0.58
44:V:49:ASN:O	44:V:51:GLU:HG2	2.03	0.58
50:3:926:G:N2	54:4:15:A:H3'	2.17	0.58
50:3:1308:U:H2'	50:3:1309:G:C8	2.37	0.58
51:1:119:A:H4'	51:1:120:U:H5'	1.86	0.58
51:1:511:U:C2'	51:1:512:G:H5'	2.33	0.58
51:1:1448:G:H2'	51:1:1449:G:H8	1.69	0.58
55:8:25:LEU:HD13	55:8:30:LYS:HD2	1.85	0.58
3:d:52:VAL:HG23	3:d:74:LYS:HD2	1.84	0.58
4:e:131:VAL:HG11	4:e:136:ILE:CD1	2.33	0.58
5:f:54:ARG:HD2	5:f:57:TYR:HE2	1.68	0.58
51:1:74:A:H4'	51:1:75:G:O5'	2.03	0.58
4:e:121:PHE:CE2	4:e:166:ARG:HG2	2.39	0.58
13:p:104:GLY:HA3	50:3:1432:G:OP1	2.02	0.58
14:q:13:HIS:O	14:q:17:LEU:HD13	2.02	0.58
29:G:98:GLY:O	29:G:102:ASN:HB3	2.03	0.58
32:J:24:VAL:HG22	32:J:25:LYS:H	1.68	0.58
33:K:52:ASN:C	33:K:53:LYS:HG2	2.29	0.58
36:N:32:ARG:HD2	36:N:36:GLN:NE2	2.13	0.58
41:S:29:ILE:HA	41:S:32:ASP:OD2	2.03	0.58
50:3:604:G:H2'	50:3:605:U:O4'	2.04	0.58
50:3:1486:G:H2'	50:3:1487:G:C8	2.39	0.58
51:1:669:G:H2'	51:1:669:G:N3	2.17	0.58
51:1:784:G:HO2'	51:1:785:G:H8	1.52	0.58
51:1:974:G:H1'	51:1:975:A:C8	2.38	0.58
51:1:1074:G:H2'	51:1:1075:C:H5''	1.86	0.58
2:c:118:PHE:CE1	2:c:163:GLY:HA2	2.39	0.58
4:e:116:LEU:HD13	4:e:129:MET:HG2	1.85	0.58
5:f:17:LYS:C	5:f:18:ILE:HD12	2.28	0.58
10:m:82:MET:HA	10:m:82:MET:HE2	1.86	0.58
32:J:93:VAL:HG22	32:J:95:MET:SD	2.44	0.58
32:J:107:GLY:HA3	50:3:9:G:C5'	2.23	0.58
32:J:112:ALA:HA	32:J:115:GLU:HG2	1.85	0.58
34:L:41:ILE:HG12	34:L:115:MET:HB3	1.85	0.58
40:R:68:LEU:O	40:R:72:ILE:HG12	2.04	0.58
50:3:501:C:H2'	50:3:502:A:H8	1.67	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:792:A:H4'	51:1:793:A:O5'	2.04	0.58
51:1:917:A:H5''	51:1:2268:A:H61	1.68	0.58
51:1:1170:C:H2'	51:1:1171:G:C8	2.38	0.58
51:1:2105:U:H2'	51:1:2106:U:O4'	2.02	0.58
51:1:2591:C:H2'	51:1:2592:G:H8	1.69	0.58
1:b:140:VAL:O	1:b:161:VAL:HG12	2.03	0.58
3:d:47:LYS:O	3:d:83:VAL:HB	2.04	0.58
14:q:57:ARG:O	14:q:61:ILE:HG12	2.04	0.58
29:G:35:ASN:O	29:G:37:VAL:HG23	2.03	0.58
31:I:10:LEU:CD2	31:I:62:ARG:HD2	2.34	0.58
33:K:51:ILE:C	33:K:53:LYS:H	2.12	0.58
34:L:46:LEU:HG	34:L:57:GLU:OE1	2.04	0.58
50:3:113:G:H2'	50:3:114:U:C6	2.38	0.58
50:3:419:C:O2'	50:3:420:U:H5'	2.04	0.58
50:3:1319:A:H61	50:3:1361:G:H21	1.52	0.58
51:1:937:C:H2'	51:1:938:G:H8	1.69	0.58
51:1:1447:C:H1'	51:1:1544:A:H2	1.69	0.58
51:1:1464:G:H2'	51:1:1465:G:H8	1.68	0.58
51:1:2353:G:C2'	51:1:2354:C:H5''	2.33	0.58
12:o:51:ALA:HB3	12:o:78:VAL:CG1	2.34	0.58
29:G:186:VAL:HG13	29:G:190:SER:CB	2.30	0.58
31:I:66:VAL:HG12	31:I:67:LEU:H	1.69	0.58
51:1:133:U:H3	51:1:146:A:H61	1.50	0.58
51:1:752:A:O2'	51:1:1781:U:H5'	2.03	0.58
1:b:30:ALA:HB3	1:b:31:PRO:HD3	1.86	0.58
14:q:101:ASP:OD2	14:q:103:VAL:HG22	2.04	0.58
27:E:32:LEU:HD23	27:E:35:LYS:HD2	1.85	0.58
29:G:151:LYS:HG3	29:G:152:ASP:N	2.18	0.58
42:T:86:LEU:HD12	42:T:87:ARG:N	2.19	0.58
50:3:220:G:H2'	50:3:221:C:H6	1.69	0.58
50:3:791:G:N2	50:3:1497:G:H4'	2.19	0.58
51:1:362:A:H3'	51:1:363:G:C8	2.37	0.58
51:1:435:C:H2'	51:1:436:C:H5'	1.85	0.58
51:1:1149:G:H2'	51:1:1150:C:C6	2.38	0.58
51:1:2818:U:H4'	51:1:2837:A:H4'	1.85	0.58
53:5:57:A:H2'	53:5:58:A:H5'	1.84	0.58
55:8:187:TYR:HB3	55:8:191:TRP:CD1	2.38	0.58
1:b:123:ILE:HG23	1:b:191:LEU:HD11	1.85	0.58
12:o:89:ASP:HA	12:o:116:GLN:HB2	1.85	0.58
17:t:8:LEU:CD1	22:y:21:LEU:HB3	2.31	0.58
31:I:25:ARG:HD2	50:3:410:G:P	2.44	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:L:2:ARG:HG3	50:3:1380:U:C5	2.38	0.58
39:Q:115:LYS:O	39:Q:116:TYR:HB2	2.03	0.58
41:S:5:MET:HB3	41:S:62:ARG:HH12	1.69	0.58
50:3:59:A:H5''	50:3:387:U:H5''	1.84	0.58
50:3:235:C:H2'	50:3:236:A:C8	2.39	0.58
51:1:2039:U:H2'	51:1:2040:G:C8	2.39	0.58
52:2:23:G:H2'	52:2:24:G:C8	2.38	0.58
55:8:30:LYS:O	55:8:34:LEU:HD23	2.04	0.58
55:8:234:ILE:CG1	55:8:239:LEU:HD11	2.34	0.58
4:e:132:ARG:HG3	4:e:133:GLU:H	1.69	0.57
7:j:69:ARG:O	7:j:90:GLU:HG3	2.04	0.57
14:q:55:GLN:HE22	51:1:559:G:H1'	1.66	0.57
28:F:24:ARG:HG2	28:F:36:ARG:HB2	1.86	0.57
50:3:1513:A:H2'	50:3:1514:G:C8	2.39	0.57
51:1:2173:A:H2'	51:1:2173:A:N3	2.19	0.57
51:1:2504:U:C3'	51:1:2505:G:H5''	2.33	0.57
51:1:2514:U:H2'	51:1:2515:C:C6	2.39	0.57
3:d:5:LEU:HB3	3:d:10:SER:H	1.69	0.57
3:d:77:ILE:HG13	3:d:78:TRP:HD1	1.68	0.57
5:f:22:VAL:CG2	5:f:33:THR:HG22	2.34	0.57
19:v:26:PHE:HE2	19:v:89:ILE:HG12	1.69	0.57
30:H:75:VAL:O	30:H:82:ASP:HB2	2.05	0.57
44:V:30:HIS:ND1	44:V:37:ILE:HD11	2.19	0.57
50:3:222:C:H2'	50:3:223:A:C8	2.39	0.57
50:3:515:G:H2'	50:3:516:U:H6	1.68	0.57
51:1:889:C:H2'	51:1:890:C:H5'	1.86	0.57
51:1:1019:U:H3	51:1:1142:A:H62	1.51	0.57
53:5:41:C:H2'	53:5:42:G:C8	2.39	0.57
4:e:116:LEU:HB3	4:e:129:MET:HE3	1.85	0.57
29:G:218:ALA:O	29:G:222:GLU:HG2	2.04	0.57
30:H:151:GLU:HG2	30:H:166:TRP:CB	2.34	0.57
31:I:24:VAL:HG22	50:3:409:U:C5'	2.33	0.57
48:Z:54:ARG:HA	48:Z:57:LYS:NZ	2.18	0.57
50:3:166:U:H2'	50:3:167:A:C8	2.39	0.57
50:3:469:C:H2'	50:3:470:C:C6	2.39	0.57
50:3:1458:G:H2'	50:3:1459:G:H8	1.70	0.57
51:1:1817:G:C2	51:1:1818:U:H1'	2.38	0.57
24:B:2:VAL:HG22	24:B:3:GLN:H	1.69	0.57
31:I:37:PRO:HD2	31:I:41:GLY:HA3	1.86	0.57
48:Z:39:LYS:CG	48:Z:40:PRO:HD3	2.34	0.57
51:1:526:A:N6	51:1:2626:C:H4'	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1357:C:H2'	51:1:1358:G:O4'	2.05	0.57
51:1:1528:A:H62	51:1:1543:G:H21	1.50	0.57
12:o:68:LYS:HA	12:o:102:ARG:HG2	1.87	0.57
29:G:94:ARG:HD2	50:3:1100:C:OP2	2.05	0.57
30:H:35:ASP:HA	30:H:38:VAL:HG12	1.85	0.57
44:V:46:HIS:CG	44:V:70:LYS:HD3	2.40	0.57
53:5:25:C:C2	53:5:26:G:C8	2.93	0.57
55:8:298:LEU:O	55:8:301:GLN:HG3	2.03	0.57
4:e:9:ASP:O	4:e:13:LYS:HG2	2.04	0.57
7:j:99:ARG:O	7:j:103:ILE:HG13	2.04	0.57
10:m:45:GLN:HE21	51:1:2485:G:C5'	2.12	0.57
18:u:28:LEU:HD12	18:u:32:LYS:HB2	1.85	0.57
26:D:12:ARG:NE	26:D:44:VAL:HG21	2.19	0.57
27:E:33:THR:HG23	51:1:2420:C:OP1	2.05	0.57
30:H:86:LEU:O	30:H:90:VAL:HG22	2.03	0.57
30:H:198:LYS:HE3	50:3:1058:G:OP1	2.04	0.57
39:Q:119:LYS:HA	50:3:36:C:H5''	1.87	0.57
44:V:46:HIS:HB2	44:V:70:LYS:HG3	1.85	0.57
50:3:603:U:H2'	50:3:604:G:H8	1.69	0.57
50:3:677:U:H3	50:3:713:G:H22	1.51	0.57
50:3:1354:U:H2'	50:3:1355:G:H8	1.69	0.57
51:1:1440:U:H2'	51:1:1441:G:C8	2.40	0.57
51:1:2233:U:H2'	51:1:2234:G:H8	1.69	0.57
4:e:129:MET:HB3	4:e:153:ILE:HG13	1.85	0.57
9:l:16:GLY:HA2	51:1:662:G:O3'	2.05	0.57
30:H:5:HIS:HB3	41:S:88:MET:HG2	1.85	0.57
31:I:66:VAL:HG12	31:I:67:LEU:N	2.20	0.57
32:J:160:VAL:HG13	32:J:161:GLU:N	2.19	0.57
50:3:389:A:H3'	50:3:390:U:H6	1.69	0.57
51:1:2810:A:H2'	51:1:2811:G:O4'	2.05	0.57
53:5:6:G:O2'	53:5:7:G:H5'	2.05	0.57
55:8:333:ILE:HG13	55:8:345:THR:HG22	1.87	0.57
4:e:70:ARG:HG3	4:e:80:GLN:HB3	1.87	0.57
29:G:180:ILE:N	29:G:180:ILE:HD12	2.20	0.57
32:J:88:HIS:O	32:J:134:ASN:ND2	2.37	0.57
32:J:149:PRO:HG2	32:J:150:GLU:OE2	2.04	0.57
37:O:80:THR:HG23	37:O:83:THR:HG22	1.84	0.57
51:1:1443:U:H2'	51:1:1444:G:H8	1.68	0.57
22:y:22:LEU:HD23	22:y:22:LEU:O	2.03	0.57
24:B:16:ARG:HA	24:B:19:ASP:OD2	2.04	0.57
29:G:41:ASN:O	29:G:45:THR:HG23	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:I:49:ASP:O	31:I:53:GLN:HG3	2.05	0.57
32:J:44:ARG:HH11	32:J:72:ASN:HD22	1.52	0.57
35:M:52:GLY:HA3	35:M:56:PRO:HA	1.86	0.57
38:P:87:GLY:H	38:P:113:THR:HG22	1.69	0.57
49:a:7:ARG:HH21	49:a:35:THR:HG23	1.70	0.57
50:3:21:G:H2'	50:3:22:G:C8	2.40	0.57
50:3:762:U:H2'	50:3:763:G:H8	1.69	0.57
50:3:865:A:H2'	50:3:866:C:C6	2.40	0.57
50:3:878:A:H2'	50:3:879:C:C6	2.40	0.57
3:d:163:ASN:OD1	51:1:323:C:H5''	2.05	0.57
12:o:49:VAL:HG21	12:o:82:ALA:HA	1.86	0.57
22:y:9:LYS:HD2	22:y:12:GLU:N	2.18	0.57
31:I:75:TYR:HE1	31:I:200:VAL:HG23	1.70	0.57
33:K:100:SER:N	33:K:101:PRO:HD2	2.19	0.57
35:M:113:ARG:O	35:M:117:GLN:HG3	2.05	0.57
51:1:548:G:H3'	51:1:549:G:H4'	1.86	0.57
51:1:2860:A:H2'	51:1:2861:U:H5'	1.86	0.57
6:g:8:LYS:O	6:g:9:VAL:O	2.23	0.56
31:I:186:GLU:HG3	31:I:188:SER:H	1.70	0.56
36:N:17:ARG:HB2	36:N:65:THR:CG2	2.33	0.56
38:P:61:ALA:O	38:P:64:VAL:HG12	2.05	0.56
42:T:17:ASP:OD2	42:T:19:ASN:HB2	2.05	0.56
50:3:114:U:O2'	50:3:115:G:H5'	2.05	0.56
50:3:458:U:H2'	50:3:459:A:C8	2.40	0.56
50:3:869:G:H4'	50:3:872:A:C8	2.39	0.56
51:1:2086:U:H2'	51:1:2087:G:C8	2.40	0.56
5:f:66:THR:O	5:f:70:LEU:HD23	2.05	0.56
5:f:116:LEU:CD1	5:f:120:ILE:HB	2.35	0.56
11:n:55:ALA:HA	11:n:80:PHE:CE1	2.41	0.56
18:u:65:GLN:HE21	51:1:328:U:H4'	1.70	0.56
39:Q:3:VAL:O	39:Q:7:VAL:HG23	2.05	0.56
41:S:20:PHE:O	41:S:21:ALA:HB3	2.04	0.56
48:Z:35:GLU:CG	48:Z:36:PHE:H	2.17	0.56
51:1:1319:C:O2'	51:1:1320:C:H5'	2.05	0.56
55:8:29:ALA:O	55:8:33:ARG:HG2	2.04	0.56
1:b:106:PRO:HD2	1:b:109:LEU:CD2	2.31	0.56
1:b:163:ILE:HA	1:b:173:LEU:HD23	1.87	0.56
2:c:151:THR:CB	2:c:152:PRO:HD3	2.35	0.56
4:e:98:PHE:O	4:e:102:LEU:HG	2.04	0.56
18:u:3:LYS:HB3	18:u:82:VAL:HG21	1.88	0.56
29:G:198:VAL:C	29:G:199:ILE:HD12	2.30	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G:202:ASN:HD21	29:G:205:ALA:H	1.54	0.56
30:H:109:GLU:HB2	30:H:143:LEU:CD1	2.36	0.56
37:O:57:VAL:HG21	50:3:963:G:H21	1.68	0.56
40:R:15:VAL:O	40:R:19:THR:HG23	2.05	0.56
42:T:78:THR:O	42:T:82:GLU:HG2	2.05	0.56
45:W:72:ARG:NE	45:W:72:ARG:HA	2.20	0.56
46:X:30:LEU:HB2	46:X:48:ILE:HG22	1.87	0.56
49:a:67:HIS:CE1	49:a:184:LYS:HB2	2.40	0.56
50:3:1540:U:O2	50:3:1540:U:H3'	2.04	0.56
51:1:1873:G:H2'	51:1:1874:C:H6	1.69	0.56
55:8:241:ILE:HD12	55:8:241:ILE:H	1.69	0.56
16:s:66:ILE:HA	16:s:69:LEU:HD12	1.87	0.56
26:D:11:LYS:HZ1	51:1:686:U:H5''	1.70	0.56
32:J:93:VAL:HG21	32:J:139:THR:HG22	1.87	0.56
32:J:147:ASN:ND2	32:J:152:VAL:HG13	2.20	0.56
33:K:9:MET:HE1	33:K:51:ILE:HD12	1.88	0.56
36:N:11:ARG:NH1	36:N:12:LYS:HB2	2.20	0.56
36:N:70:GLY:O	36:N:74:GLN:HG3	2.05	0.56
50:3:1497:G:C2'	50:3:1498:U:H5'	2.35	0.56
51:1:78:U:H2'	51:1:79:C:C6	2.41	0.56
51:1:742:A:H2'	51:1:743:A:C8	2.40	0.56
51:1:2898:U:H2'	51:1:2899:A:C8	2.40	0.56
55:8:14:LEU:O	55:8:14:LEU:HD23	2.06	0.56
55:8:276:ASN:HB3	55:8:286:GLN:OE1	2.06	0.56
55:8:294:LYS:O	55:8:298:LEU:HD23	2.06	0.56
1:b:235:GLU:H	1:b:238:ASN:HD21	1.53	0.56
5:f:17:LYS:HB3	5:f:24:THR:HB	1.87	0.56
23:z:52:PHE:CZ	23:z:53:MET:HE2	2.40	0.56
35:M:54:THR:HG23	35:M:55:LYS:HG3	1.88	0.56
46:X:10:ILE:HD13	46:X:40:PHE:HE2	1.70	0.56
51:1:419:U:H2'	51:1:420:C:C6	2.41	0.56
51:1:703:U:H2'	51:1:704:G:O4'	2.05	0.56
4:e:36:ASN:OD1	51:1:2313:C:H4'	2.05	0.56
4:e:62:GLN:H	4:e:62:GLN:CD	2.13	0.56
6:g:1:MET:HE1	21:x:59:ASP:OD2	2.05	0.56
46:X:19:GLU:O	46:X:23:GLU:HG2	2.05	0.56
48:Z:5:VAL:HG13	48:Z:19:LYS:NZ	2.20	0.56
51:1:1553:A:H2'	51:1:1553:A:N3	2.20	0.56
51:1:2788:C:H2'	51:1:2789:C:C6	2.40	0.56
53:5:63:G:H2'	53:5:64:G:C8	2.41	0.56
17:t:28:ASN:ND2	17:t:87:LEU:HD12	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:J:123:LEU:HD12	32:J:123:LEU:O	2.04	0.56
36:N:18:VAL:HG13	36:N:64:ILE:HD12	1.88	0.56
40:R:11:HIS:CA	40:R:43:LYS:HD2	2.35	0.56
44:V:8:GLN:NE2	44:V:59:GLU:OE2	2.39	0.56
51:1:558:U:H2'	51:1:559:G:H8	1.71	0.56
51:1:2249:U:H3'	51:1:2250:G:H5'	1.88	0.56
16:s:97:LEU:HD12	16:s:97:LEU:N	2.21	0.56
32:J:107:GLY:CA	50:3:9:G:H5'	2.23	0.56
50:3:662:U:H2'	50:3:663:A:C8	2.41	0.56
50:3:1414:U:H2'	50:3:1415:G:H8	1.71	0.56
52:2:66:A:H2'	52:2:107:G:O6	2.06	0.56
4:e:23:SER:HB3	4:e:26:GLN:CD	2.31	0.56
4:e:29:ARG:HH12	52:2:31:C:H4'	1.71	0.56
32:J:65:LYS:HA	32:J:68:ARG:HH11	1.71	0.56
33:K:18:VAL:HG23	33:K:19:PRO:HD3	1.87	0.56
43:U:39:PHE:CD1	43:U:50:THR:HG22	2.41	0.56
44:V:60:ILE:CG2	44:V:72:TRP:HB3	2.35	0.56
49:a:215:SER:HB3	51:1:2176:A:H1'	1.88	0.56
50:3:1408:A:H2'	50:3:1409:C:C6	2.39	0.56
51:1:1060:U:H3	51:1:1088:A:H62	1.53	0.56
51:1:2039:U:H2'	51:1:2040:G:H8	1.71	0.56
5:f:35:THR:C	5:f:36:LEU:HD12	2.31	0.56
8:k:22:ILE:HD13	8:k:42:THR:HG23	1.87	0.56
27:E:14:LYS:HB3	27:E:22:LYS:HE2	1.88	0.56
29:G:110:ILE:HD11	29:G:151:LYS:HA	1.88	0.56
31:I:64:TYR:CE2	31:I:93:LEU:HB3	2.40	0.56
34:L:56:SER:HB3	34:L:59:GLU:OE1	2.06	0.56
6:g:31:VAL:N	6:g:32:PRO:HD2	2.21	0.55
12:o:31:THR:CG2	12:o:32:PRO:HD2	2.35	0.55
12:o:90:VAL:HG22	12:o:91:SER:N	2.21	0.55
43:U:20:VAL:HG23	43:U:34:GLU:C	2.31	0.55
50:3:636:U:H2'	50:3:637:C:C6	2.42	0.55
50:3:1346:A:C2'	50:3:1347:G:H4'	2.36	0.55
51:1:2105:U:C2'	51:1:2106:U:H5'	2.36	0.55
52:2:106:G:H2'	52:2:107:G:O4'	2.06	0.55
3:d:137:LYS:O	3:d:141:MET:HG2	2.06	0.55
39:Q:53:ARG:HH11	39:Q:53:ARG:HG3	1.71	0.55
50:3:926:G:C2	54:4:15:A:H2'	2.40	0.55
50:3:1304:G:H21	50:3:1333:A:H62	1.54	0.55
51:1:437:U:H2'	51:1:438:G:C8	2.41	0.55
51:1:458:G:O2'	51:1:459:U:H5	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:2241:A:H2'	51:1:2242:G:H8	1.70	0.55
54:4:8:A:H2'	54:4:9:G:H8	1.70	0.55
1:b:224:MET:SD	1:b:229:HIS:HB2	2.46	0.55
9:l:78:ARG:NH2	9:l:78:ARG:HB3	2.22	0.55
13:p:30:TRP:CD2	13:p:37:LYS:HE2	2.41	0.55
14:q:105:PHE:O	14:q:109:VAL:HG23	2.06	0.55
30:H:134:LYS:O	30:H:137:VAL:HG22	2.06	0.55
31:I:151:GLN:NE2	50:3:437:U:H4'	2.21	0.55
33:K:48:ALA:HB1	45:W:68:PRO:CG	2.35	0.55
40:R:114:PRO:HG2	50:3:1228:C:OP1	2.06	0.55
42:T:48:ASP:HB3	42:T:51:SER:HB2	1.89	0.55
45:W:58:ILE:O	45:W:62:ARG:HG3	2.07	0.55
50:3:358:U:H2'	50:3:359:G:C8	2.42	0.55
50:3:824:G:H2'	50:3:825:A:H8	1.71	0.55
51:1:192:C:H2'	51:1:193:U:H5'	1.87	0.55
51:1:1721:G:C8	51:1:1721:G:H5'	2.41	0.55
51:1:1746:A:H2'	51:1:1747:U:H6	1.71	0.55
1:b:42:ARG:HH11	1:b:42:ARG:HG3	1.71	0.55
12:o:4:LYS:O	12:o:8:ILE:HG13	2.05	0.55
30:H:39:ARG:NH1	41:S:91:GLU:OE1	2.40	0.55
39:Q:4:ASN:HD21	50:3:585:G:H4'	1.71	0.55
50:3:931:C:H2'	50:3:932:C:C6	2.41	0.55
51:1:441:U:O2'	51:1:442:G:H5'	2.06	0.55
51:1:2248:C:H2'	51:1:2249:U:H5'	1.89	0.55
55:8:30:LYS:HD3	55:8:63:LEU:HD22	1.87	0.55
4:e:66:ILE:O	4:e:66:ILE:HG23	2.06	0.55
10:m:12:MET:HA	51:1:910:A:H62	1.72	0.55
26:D:34:ARG:NE	26:D:42:LEU:O	2.37	0.55
31:I:9:LYS:HE2	50:3:428:G:OP2	2.07	0.55
37:O:42:LEU:HD21	37:O:73:LEU:HD12	1.89	0.55
42:T:42:PHE:CE2	42:T:55:LEU:HD22	2.41	0.55
46:X:66:VAL:HG13	46:X:67:GLY:N	2.22	0.55
48:Z:39:LYS:HG2	48:Z:40:PRO:HD3	1.88	0.55
51:1:639:U:H2'	51:1:640:C:C6	2.41	0.55
51:1:948:C:H2'	51:1:949:G:C8	2.41	0.55
51:1:1837:C:H2'	51:1:1899:A:H61	1.71	0.55
1:b:43:ASN:HD21	1:b:45:ASN:ND2	2.03	0.55
8:k:14:SER:O	8:k:51:LYS:HG2	2.07	0.55
14:q:52:ARG:HG2	51:1:995:C:H5''	1.88	0.55
15:r:74:ILE:N	15:r:74:ILE:HD12	2.22	0.55
36:N:108:ARG:HB3	50:3:1347:G:C8	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Q:112:ALA:HB2	50:3:503:C:OP2	2.06	0.55
46:X:35:ARG:HH11	50:3:1221:G:H5''	1.72	0.55
50:3:552:U:H2'	50:3:553:A:H8	1.71	0.55
50:3:591:U:H2'	50:3:592:G:C8	2.42	0.55
51:1:720:U:H2'	51:1:721:A:H8	1.69	0.55
51:1:1447:C:H2'	51:1:1448:G:C8	2.42	0.55
51:1:2070:A:O2'	51:1:2071:A:H5'	2.07	0.55
51:1:2163:A:C2'	51:1:2164:C:H5'	2.37	0.55
53:5:69:C:H2'	53:5:70:G:H8	1.70	0.55
4:e:41:GLU:CG	4:e:48:LEU:HD23	2.35	0.55
14:q:93:ILE:O	14:q:97:ILE:HG13	2.06	0.55
29:G:107:ARG:O	29:G:111:LYS:HG3	2.06	0.55
30:H:8:GLY:HA2	30:H:11:LEU:HG	1.89	0.55
47:Y:70:LYS:HG3	47:Y:73:ARG:NH2	2.11	0.55
51:1:112:U:H2'	51:1:113:U:H5'	1.87	0.55
51:1:745:G:O2'	51:1:748:G:H1'	2.06	0.55
51:1:2724:U:H2'	51:1:2725:A:C8	2.42	0.55
54:4:18:G:H3'	54:4:19:U:H5'	1.87	0.55
2:c:62:LYS:N	2:c:63:PRO:HD2	2.22	0.55
4:e:147:ARG:HG2	4:e:148:VAL:N	2.20	0.55
8:k:113:MET:HA	8:k:113:MET:HE2	1.89	0.55
9:l:51:GLU:OE1	9:l:56:PRO:HA	2.06	0.55
10:m:69:PRO:HA	10:m:94:ALA:HB2	1.89	0.55
20:w:55:LEU:HD12	20:w:76:ILE:HD12	1.88	0.55
31:I:6:PRO:HB2	31:I:9:LYS:HG3	1.89	0.55
41:S:52:ARG:NH1	50:3:1219:A:H5''	2.22	0.55
50:3:17:U:H2'	50:3:18:C:H6	1.72	0.55
51:1:226:A:H2'	51:1:227:A:C8	2.41	0.55
3:d:3:LEU:HD23	3:d:14:VAL:HG21	1.88	0.55
4:e:169:LEU:HB3	4:e:174:PHE:HD2	1.72	0.55
9:l:79:LEU:H	9:l:113:ALA:HB3	1.71	0.55
18:u:48:VAL:HG22	18:u:50:ALA:H	1.72	0.55
30:H:147:GLY:HA3	30:H:202:PHE:HB3	1.88	0.55
34:L:130:LYS:HD2	34:L:130:LYS:C	2.31	0.55
39:Q:71:HIS:HB2	39:Q:73:LEU:HD13	1.89	0.55
44:V:46:HIS:HB2	44:V:70:LYS:HD3	1.87	0.55
50:3:118:U:H2'	50:3:119:A:H5'	1.89	0.55
50:3:160:A:H61	50:3:347:G:N2	2.05	0.55
51:1:873:C:H2'	51:1:874:G:H5''	1.88	0.55
51:1:1558:C:H4'	51:1:1559:U:O5'	2.07	0.55
51:1:1827:U:O2'	51:1:1828:G:H5'	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:30:GLN:HE22	51:1:659:G:N2	1.96	0.55
3:d:170:ARG:HH21	3:d:170:ARG:HG3	1.72	0.55
6:g:121:VAL:HG22	6:g:121:VAL:O	2.06	0.55
31:I:138:PRO:HA	31:I:181:PHE:HD2	1.72	0.55
45:W:70:THR:HG22	45:W:71:ASP:OD2	2.06	0.55
50:3:908:A:H2'	50:3:909:A:H8	1.71	0.55
50:3:1391:U:H2'	50:3:1392:G:C8	2.42	0.55
50:3:1524:C:H2'	50:3:1525:G:C8	2.42	0.55
51:1:5:A:H2'	51:1:6:A:C8	2.41	0.55
51:1:799:G:H5''	51:1:800:A:H2'	1.88	0.55
51:1:876:C:H2'	51:1:877:A:C5'	2.34	0.55
51:1:879:G:H2'	51:1:880:G:C8	2.42	0.55
51:1:895:U:H2'	51:1:897:C:C4	2.42	0.55
51:1:1071:G:OP1	51:1:1071:G:H3'	2.05	0.55
51:1:1675:C:H2'	51:1:1676:A:O4'	2.06	0.55
51:1:2242:G:H3'	51:1:2243:U:H5''	1.89	0.55
1:b:152:GLN:HG3	51:1:1818:U:O4	2.07	0.54
42:T:63:ARG:HH12	42:T:87:ARG:HH12	1.55	0.54
45:W:25:ILE:HA	45:W:28:LEU:HB2	1.89	0.54
49:a:162:ARG:HB3	49:a:164:ARG:HH12	1.73	0.54
51:1:69:C:O2'	51:1:70:G:H5'	2.07	0.54
51:1:704:G:H2'	51:1:726:G:N2	2.22	0.54
51:1:2193:G:H2'	51:1:2194:U:C6	2.42	0.54
51:1:2853:C:H2'	51:1:2854:G:H8	1.72	0.54
53:5:64:G:H2'	53:5:65:C:H6	1.71	0.54
53:5:68:C:H2'	53:5:69:C:C6	2.42	0.54
1:b:13:ARG:HH12	51:1:1977:A:H2	1.54	0.54
3:d:53:THR:HG21	51:1:452:G:H8	1.71	0.54
6:g:9:VAL:HG23	6:g:13:GLY:HA3	1.88	0.54
10:m:50:ARG:HD2	10:m:50:ARG:C	2.32	0.54
10:m:77:PRO:HB2	10:m:80:VAL:HG23	1.88	0.54
19:v:29:ILE:HD12	19:v:38:LEU:O	2.07	0.54
25:C:11:VAL:HG13	25:C:49:LYS:HG3	1.90	0.54
29:G:23:ASN:HD21	29:G:25:LYS:HB2	1.70	0.54
30:H:107:LYS:HD3	30:H:143:LEU:HD11	1.88	0.54
40:R:95:PRO:CG	40:R:101:THR:HG22	2.37	0.54
50:3:455:G:H2'	50:3:456:A:C8	2.42	0.54
51:1:872:U:H2'	51:1:873:C:C6	2.42	0.54
51:1:1111:A:H2'	51:1:1112:G:H4'	1.90	0.54
51:1:2636:C:H2'	51:1:2637:U:C6	2.43	0.54
52:2:2:G:H2'	52:2:3:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:3:C:H3'	52:2:4:C:C5'	2.35	0.54
55:8:301:GLN:NE2	55:8:302:LYS:HB3	2.22	0.54
6:g:21:VAL:HG22	6:g:22:LYS:N	2.22	0.54
19:v:30:ILE:HD13	19:v:91:PHE:HB2	1.89	0.54
24:B:39:ARG:HD3	24:B:40:HIS:H	1.70	0.54
38:P:55:ARG:NH1	38:P:55:ARG:HB3	2.22	0.54
39:Q:62:VAL:HG22	39:Q:63:THR:N	2.22	0.54
41:S:39:ASP:HA	41:S:42:ASN:HD21	1.72	0.54
48:Z:62:GLU:H	48:Z:62:GLU:CD	2.15	0.54
50:3:518:C:OP2	50:3:530:G:H4'	2.06	0.54
50:3:917:G:H2'	50:3:918:A:C8	2.42	0.54
50:3:1241:G:H2'	50:3:1242:G:H8	1.72	0.54
51:1:937:C:H2'	51:1:938:G:C8	2.42	0.54
51:1:948:C:H2'	51:1:949:G:H8	1.72	0.54
51:1:1278:C:H2'	51:1:1279:G:C8	2.41	0.54
51:1:1386:C:H2'	51:1:1387:A:C8	2.42	0.54
5:f:116:LEU:HD13	5:f:120:ILE:O	2.08	0.54
21:x:63:ILE:O	21:x:67:LEU:HD13	2.06	0.54
36:N:129:ARG:HH11	36:N:129:ARG:HG3	1.71	0.54
38:P:117:HIS:HB2	50:3:674:G:H21	1.72	0.54
40:R:6:ILE:HG13	40:R:7:ASN:N	2.16	0.54
44:V:46:HIS:HB3	44:V:73:THR:HG22	1.88	0.54
51:1:446:G:H4'	51:1:449:A:N3	2.22	0.54
51:1:1751:U:H2'	51:1:1752:C:H5'	1.89	0.54
51:1:2101:A:H2'	51:1:2102:G:H8	1.73	0.54
51:1:2233:U:H2'	51:1:2234:G:C8	2.42	0.54
52:2:29:A:H2'	52:2:30:C:C6	2.42	0.54
2:c:155:VAL:HG21	51:1:2618:G:H21	1.72	0.54
11:n:18:GLN:HE21	11:n:22:ARG:HH11	1.55	0.54
12:o:29:HIS:HB3	12:o:36:TYR:HB2	1.88	0.54
16:s:7:HIS:CD2	16:s:10:ALA:HB2	2.43	0.54
17:t:77:ARG:HD3	51:1:64:A:H5'	1.88	0.54
30:H:59:PRO:HD2	30:H:63:ILE:HA	1.90	0.54
30:H:109:GLU:HB2	30:H:143:LEU:HD13	1.90	0.54
40:R:22:TYR:CE1	50:3:1330:U:H4'	2.43	0.54
44:V:58:VAL:HG23	44:V:60:ILE:HD11	1.89	0.54
50:3:730:G:H2'	50:3:731:G:H5'	1.89	0.54
51:1:648:G:H5''	51:1:2352:A:H5'	1.89	0.54
51:1:1657:U:H2'	51:1:1658:C:H6	1.73	0.54
51:1:2188:U:H2'	51:1:2189:U:C4'	2.38	0.54
52:2:66:A:H4'	52:2:67:G:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:K:40:GLU:OE2	33:K:99:ALA:HB2	2.07	0.54
44:V:57:VAL:HG13	44:V:78:VAL:HG23	1.88	0.54
50:3:113:G:H1'	50:3:354:G:H5''	1.90	0.54
51:1:2013:A:H61	51:1:2613:U:H3	1.54	0.54
51:1:2398:U:H2'	51:1:2399:G:C8	2.41	0.54
1:b:16:VAL:HB	1:b:203:VAL:CG1	2.34	0.54
1:b:70:LYS:O	1:b:117:SER:HB3	2.08	0.54
1:b:209:ALA:HA	1:b:212:TRP:CE2	2.43	0.54
7:j:70:THR:HG22	7:j:90:GLU:CD	2.32	0.54
11:n:100:CYS:HA	24:B:42:ILE:HG12	1.89	0.54
14:q:88:GLU:OE1	15:r:52:PRO:HB3	2.08	0.54
22:y:17:GLU:HG3	22:y:53:VAL:HG11	1.90	0.54
32:J:79:THR:HB	32:J:121:ASN:ND2	2.23	0.54
33:K:97:THR:OG1	33:K:98:GLU:N	2.41	0.54
47:Y:3:ILE:HG23	47:Y:3:ILE:O	2.08	0.54
50:3:737:C:H2'	50:3:738:C:C6	2.43	0.54
50:3:1052:U:H2'	50:3:1200:C:H41	1.73	0.54
51:1:549:G:H2'	51:1:550:C:C5	2.43	0.54
51:1:2636:C:H2'	51:1:2637:U:H6	1.72	0.54
55:8:34:LEU:O	55:8:37:VAL:HG22	2.08	0.54
55:8:258:GLU:OE2	55:8:278:ARG:HD2	2.07	0.54
1:b:243:PRO:C	1:b:251:THR:HG22	2.33	0.54
3:d:4:VAL:HA	3:d:11:ALA:HA	1.89	0.54
4:e:147:ARG:CG	4:e:148:VAL:H	2.17	0.54
6:g:84:ALA:HB2	6:g:90:LEU:HD12	1.90	0.54
7:j:4:PHE:CD2	14:q:99:VAL:HG11	2.42	0.54
14:q:47:ARG:HH21	14:q:51:GLN:NE2	2.06	0.54
24:B:5:ASN:ND2	51:1:2020:A:H62	2.05	0.54
30:H:8:GLY:HA3	41:S:88:MET:SD	2.48	0.54
31:I:103:ARG:HD2	31:I:169:TRP:HE1	1.71	0.54
32:J:9:GLU:OE1	32:J:9:GLU:N	2.41	0.54
37:O:12:ALA:HB2	37:O:96:VAL:HG13	1.89	0.54
38:P:27:ASN:ND2	50:3:691:G:N7	2.56	0.54
48:Z:32:ARG:HH11	48:Z:32:ARG:HG3	1.73	0.54
50:3:245:U:O2'	50:3:246:A:H5'	2.08	0.54
51:1:1448:G:H2'	51:1:1449:G:C8	2.43	0.54
51:1:2189:U:H2'	51:1:2190:G:C8	2.43	0.54
55:8:118:MET:HA	55:8:118:MET:HE3	1.89	0.54
1:b:128:THR:OG1	1:b:190:THR:HG22	2.07	0.54
3:d:143:LEU:HD22	3:d:185:LYS:HG3	1.89	0.54
6:g:100:ALA:O	6:g:104:THR:HG23	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:l:50:PHE:HZ	51:1:196:A:C2	2.26	0.54
18:u:6:ARG:NH2	18:u:7:ASP:OD2	2.41	0.54
21:x:42:GLU:HB3	21:x:44:ARG:HE	1.73	0.54
24:B:30:ASP:HB3	24:B:34:GLY:H	1.73	0.54
40:R:105:ALA:HA	50:3:948:C:OP1	2.07	0.54
41:S:2:LYS:HE3	41:S:5:MET:CG	2.38	0.54
50:3:513:C:H2'	50:3:514:C:C6	2.43	0.54
50:3:1513:A:H2'	50:3:1514:G:H8	1.73	0.54
51:1:738:G:O2'	51:1:739:A:H5'	2.08	0.54
3:d:171:ASP:O	3:d:173:THR:N	2.38	0.54
4:e:123:GLY:H	4:e:126:ASN:ND2	2.06	0.54
17:t:54:GLU:HG3	17:t:88:LYS:HE2	1.88	0.54
23:z:5:LYS:C	23:z:6:ILE:HD12	2.33	0.54
40:R:63:VAL:HG12	40:R:68:LEU:CD1	2.35	0.54
50:3:555:U:H2'	50:3:556:C:C6	2.43	0.54
51:1:5:A:H2'	51:1:6:A:H8	1.73	0.54
51:1:1386:C:H2'	51:1:1387:A:H8	1.73	0.54
55:8:29:ALA:O	55:8:32:GLU:HG3	2.07	0.54
1:b:35:LYS:NZ	1:b:37:SER:HB2	2.24	0.53
3:d:53:THR:HG21	51:1:452:G:C8	2.43	0.53
7:j:64:VAL:HB	7:j:68:LYS:HE3	1.89	0.53
12:o:75:GLY:HA3	12:o:109:ALA:HB3	1.89	0.53
12:o:107:ALA:O	12:o:111:ARG:HD3	2.07	0.53
13:p:3:ILE:N	13:p:3:ILE:HD12	2.23	0.53
30:H:4:VAL:O	30:H:6:PRO:HD3	2.09	0.53
31:I:100:VAL:HG21	31:I:136:VAL:CG2	2.39	0.53
39:Q:49:ARG:CB	39:Q:89:LEU:HD11	2.38	0.53
46:X:46:LEU:HB3	46:X:48:ILE:HG23	1.89	0.53
50:3:684:U:H2'	50:3:685:G:O4'	2.07	0.53
50:3:748:G:H2'	50:3:749:A:H8	1.73	0.53
50:3:825:A:H2'	50:3:826:C:C6	2.43	0.53
51:1:1179:G:C2'	51:1:1180:U:H4'	2.33	0.53
51:1:1370:C:H2'	51:1:1371:G:O4'	2.08	0.53
51:1:1979:U:O2'	51:1:1980:G:H5'	2.08	0.53
51:1:2215:C:H2'	51:1:2216:G:C8	2.43	0.53
51:1:2353:G:H3'	51:1:2354:C:H5''	1.91	0.53
51:1:2700:A:H2'	51:1:2701:U:C6	2.43	0.53
53:5:25:C:H2'	53:5:26:G:H8	1.73	0.53
4:e:123:GLY:N	4:e:126:ASN:HD21	2.06	0.53
6:g:108:VAL:HG12	6:g:110:VAL:HG13	1.89	0.53
10:m:56:ALA:HB2	10:m:119:LEU:HD12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:n:44:LEU:HD23	11:n:113:ILE:HD13	1.89	0.53
14:q:29:ARG:HH11	14:q:29:ARG:HG3	1.73	0.53
31:I:61:ARG:NH1	31:I:61:ARG:HB3	2.23	0.53
36:N:49:GLN:N	36:N:50:PRO:HD2	2.24	0.53
50:3:1167:A:H2'	50:3:1167:A:N3	2.22	0.53
51:1:1049:C:O2	51:1:1049:C:H2'	2.07	0.53
51:1:1171:G:H3'	51:1:1172:C:H4'	1.89	0.53
51:1:2455:G:H2'	51:1:2456:C:C6	2.43	0.53
2:c:106:LYS:HD3	2:c:174:SER:HB2	1.90	0.53
29:G:185:ILE:HG23	29:G:185:ILE:O	2.08	0.53
32:J:43:GLY:O	32:J:73:VAL:HG12	2.08	0.53
43:U:68:SER:HB3	43:U:71:VAL:HG12	1.89	0.53
51:1:176:A:O2'	51:1:177:G:H5'	2.08	0.53
51:1:2243:U:H2'	51:1:2244:U:H6	1.73	0.53
51:1:2743:U:H2'	51:1:2744:G:H5''	1.90	0.53
6:g:137:GLU:HG2	6:g:138:VAL:N	2.24	0.53
25:C:30:PRO:HG2	25:C:31:GLU:OE2	2.08	0.53
26:D:12:ARG:CZ	26:D:44:VAL:HG21	2.38	0.53
27:E:14:LYS:HD3	27:E:22:LYS:HE2	1.89	0.53
31:I:68:GLU:HA	31:I:71:PHE:HB2	1.90	0.53
31:I:107:GLY:H	31:I:157:ALA:HB1	1.74	0.53
49:a:15:VAL:HG13	49:a:221:GLY:O	2.09	0.53
50:3:146:G:O2'	50:3:147:G:H5'	2.08	0.53
51:1:222:A:H61	51:1:232:G:H1'	1.72	0.53
51:1:742:A:H2'	51:1:743:A:H8	1.74	0.53
51:1:1164:C:H2'	51:1:1165:A:H8	1.73	0.53
55:8:60:ARG:HD2	55:8:61:SER:N	2.23	0.53
11:n:94:TYR:C	11:n:116:VAL:HG23	2.34	0.53
31:I:72:ARG:HG3	31:I:76:LYS:HE2	1.90	0.53
33:K:67:PRO:HG2	33:K:70:VAL:CG1	2.39	0.53
36:N:33:SER:OG	36:N:36:GLN:HG2	2.07	0.53
50:3:1218:C:H2'	50:3:1219:A:C8	2.44	0.53
51:1:783:A:H2'	51:1:784:G:C4'	2.38	0.53
51:1:2710:C:H2'	51:1:2711:A:C8	2.43	0.53
53:5:48:C:H2'	53:5:59:A:H4'	1.90	0.53
53:5:66:C:H2'	53:5:67:C:H6	1.74	0.53
55:8:117:ARG:HG2	55:8:117:ARG:HH11	1.73	0.53
1:b:229:HIS:ND1	1:b:230:PRO:HD2	2.24	0.53
2:c:12:THR:HG21	13:p:4:ILE:HG23	1.91	0.53
6:g:54:LEU:HD22	6:g:55:GLU:OE2	2.08	0.53
7:j:102:GLU:HA	7:j:105:VAL:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:I:144:ILE:HD12	31:I:144:ILE:N	2.23	0.53
32:J:105:ILE:HD11	32:J:123:LEU:HB3	1.90	0.53
37:O:80:THR:O	37:O:83:THR:HG22	2.09	0.53
38:P:88:PRO:HA	38:P:92:ARG:HD2	1.89	0.53
40:R:95:PRO:HG3	40:R:101:THR:HG22	1.90	0.53
48:Z:64:ALA:O	48:Z:65:ARG:HB2	2.09	0.53
50:3:250:A:H4'	50:3:252:U:C6	2.44	0.53
50:3:475:C:H2'	50:3:476:U:C6	2.43	0.53
50:3:825:A:H2'	50:3:826:C:H6	1.74	0.53
50:3:1164:G:H2'	50:3:1165:U:C6	2.43	0.53
50:3:1412:C:H2'	50:3:1413:A:H8	1.72	0.53
50:3:1435:G:H2'	50:3:1436:U:C6	2.44	0.53
51:1:2747:G:O6	51:1:2755:C:H5''	2.09	0.53
55:8:92:ASP:OD2	55:8:95:THR:HB	2.09	0.53
4:e:62:GLN:HE22	4:e:90:LEU:HD23	1.72	0.53
11:n:73:ASN:HA	11:n:76:VAL:HG22	1.91	0.53
15:r:41:ILE:HB	15:r:47:VAL:CG1	2.39	0.53
26:D:44:VAL:HG13	26:D:44:VAL:O	2.09	0.53
27:E:57:VAL:CG1	27:E:58:ILE:HD12	2.37	0.53
29:G:91:VAL:O	29:G:91:VAL:HG13	2.09	0.53
29:G:115:ASP:O	29:G:119:GLN:HG2	2.08	0.53
36:N:43:ALA:HB1	36:N:46:VAL:HG13	1.91	0.53
37:O:53:ILE:HG13	41:S:84:ARG:NE	2.23	0.53
40:R:44:ILE:HD13	40:R:47:LEU:HD12	1.89	0.53
50:3:533:A:O2'	50:3:534:U:H5''	2.09	0.53
1:b:81:GLU:HB3	1:b:90:ILE:HG13	1.90	0.53
1:b:203:VAL:HG23	51:1:1792:G:C5'	2.39	0.53
12:o:108:ASP:HA	12:o:111:ARG:HB2	1.89	0.53
29:G:69:VAL:CG2	29:G:160:LEU:HD11	2.39	0.53
29:G:191:ASP:HB2	29:G:193:ASP:OD1	2.08	0.53
33:K:22:ILE:HG21	33:K:39:LEU:HD11	1.91	0.53
50:3:59:A:H3'	50:3:331:G:H22	1.73	0.53
50:3:70:U:H2'	50:3:94:G:O6	2.09	0.53
50:3:676:A:H2'	50:3:677:U:C6	2.44	0.53
51:1:1849:G:H2'	51:1:1850:G:H8	1.73	0.53
3:d:136:GLN:NE2	3:d:139:LYS:HD3	2.24	0.53
6:g:40:THR:HG23	6:g:43:ASN:H	1.72	0.53
10:m:108:VAL:HB	10:m:109:PRO:HD2	1.91	0.53
17:t:24:MET:O	17:t:24:MET:HE3	2.09	0.53
31:I:124:VAL:HG22	31:I:125:ASN:ND2	2.23	0.53
41:S:63:CYS:HB3	41:S:68:ARG:H	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:229:U:H2'	50:3:230:G:C8	2.43	0.53
50:3:947:G:H4'	50:3:1332:A:H2	1.73	0.53
50:3:1527:U:O2'	50:3:1528:U:H5'	2.09	0.53
51:1:367:G:H2'	51:1:368:A:O4'	2.08	0.53
51:1:466:A:H2'	51:1:467:G:H5'	1.90	0.53
51:1:1074:G:C2'	51:1:1075:C:H5''	2.39	0.53
4:e:101:ARG:HG3	4:e:105:ILE:HD11	1.91	0.53
15:r:70:GLU:H	15:r:70:GLU:CD	2.17	0.53
17:t:13:ALA:HB1	22:y:33:ALA:CB	2.39	0.53
21:x:39:VAL:HG12	21:x:42:GLU:H	1.74	0.53
29:G:56:LEU:C	29:G:56:LEU:HD23	2.34	0.53
37:O:29:ALA:O	37:O:33:GLY:N	2.41	0.53
40:R:112:ARG:HD3	50:3:1229:A:OP2	2.09	0.53
42:T:23:SER:O	42:T:27:GLN:HG3	2.09	0.53
46:X:36:ARG:CD	50:3:1318:A:H1'	2.38	0.53
50:3:884:U:H4'	50:3:885:G:H5''	1.91	0.53
51:1:437:U:H2'	51:1:438:G:H8	1.74	0.53
51:1:729:G:H4'	51:1:763:G:H5'	1.90	0.53
51:1:2229:U:H2'	51:1:2230:G:H8	1.74	0.53
51:1:2843:G:O2'	51:1:2844:G:H5'	2.08	0.53
55:8:117:ARG:HA	55:8:362:LYS:CE	2.39	0.53
4:e:172:PHE:O	4:e:173:ASP:HB2	2.09	0.52
6:g:22:LYS:HB3	51:1:2093:G:H5'	1.91	0.52
10:m:109:PRO:HG2	10:m:112:LEU:HB3	1.91	0.52
25:C:39:ASP:OD2	25:C:42:VAL:HG22	2.09	0.52
26:D:4:THR:HG22	51:1:687:C:H1'	1.90	0.52
31:I:96:ARG:O	31:I:100:VAL:HG23	2.09	0.52
31:I:183:ARG:HD2	31:I:183:ARG:C	2.34	0.52
33:K:85:ILE:HG22	33:K:86:ARG:HG2	1.91	0.52
36:N:51:LEU:HD12	36:N:56:MET:HA	1.91	0.52
39:Q:4:ASN:HD22	44:V:35:LYS:HE2	1.73	0.52
46:X:76:THR:HG21	50:3:1221:G:H4'	1.90	0.52
47:Y:59:ARG:O	47:Y:63:LYS:HG2	2.08	0.52
50:3:271:C:H2'	50:3:272:C:H6	1.73	0.52
50:3:590:U:H2'	50:3:591:U:C6	2.44	0.52
50:3:661:G:O2'	50:3:662:U:H5'	2.08	0.52
50:3:1402:C:H2'	50:3:1403:C:O4'	2.09	0.52
51:1:1021:A:H2'	51:1:1022:G:H4'	1.91	0.52
19:v:5:ASN:HA	19:v:64:VAL:HB	1.90	0.52
21:x:10:ARG:HH11	21:x:10:ARG:CB	2.21	0.52
24:B:52:LYS:HE2	24:B:55:ALA:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:P:53:GLY:H	38:P:56:LYS:HE3	1.74	0.52
41:S:2:LYS:HE3	41:S:5:MET:HG3	1.91	0.52
50:3:128:G:O2'	50:3:129:A:H5'	2.08	0.52
50:3:1306:A:N6	50:3:1331:G:O2'	2.43	0.52
51:1:85:G:C3'	51:1:86:G:H5''	2.38	0.52
51:1:286:U:H2'	51:1:287:G:C8	2.44	0.52
51:1:554:U:H2'	51:1:555:G:O4'	2.09	0.52
51:1:2398:U:H2'	51:1:2399:G:H8	1.74	0.52
1:b:50:THR:HG21	51:1:1814:G:H4'	1.91	0.52
1:b:269:ARG:HG2	1:b:269:ARG:HH11	1.74	0.52
2:c:148:GLN:O	51:1:2052:A:H4'	2.09	0.52
3:d:3:LEU:HB3	3:d:120:VAL:HG21	1.91	0.52
7:j:70:THR:HG22	7:j:90:GLU:OE1	2.09	0.52
16:s:35:ILE:O	16:s:39:THR:HG23	2.10	0.52
17:t:15:HIS:HB2	17:t:33:LYS:HG3	1.92	0.52
39:Q:30:ARG:HB3	50:3:363:A:OP2	2.09	0.52
39:Q:86:VAL:HG23	39:Q:89:LEU:H	1.74	0.52
46:X:14:LEU:C	46:X:18:VAL:HG23	2.34	0.52
47:Y:54:GLN:N	47:Y:55:PRO:HD2	2.24	0.52
50:3:1001:C:H2'	50:3:1002:G:H8	1.73	0.52
50:3:1026:G:N2	50:3:1027:C:C2	2.77	0.52
51:1:63:A:H2'	51:1:64:A:H8	1.73	0.52
51:1:1769:U:H5''	51:1:1959:G:OP1	2.10	0.52
51:1:2215:C:H2'	51:1:2216:G:H8	1.72	0.52
7:j:113:PRO:HA	7:j:116:ARG:HH21	1.75	0.52
30:H:58:ARG:NH1	30:H:63:ILE:HD12	2.25	0.52
31:I:58:GLN:HE21	31:I:62:ARG:HG2	1.75	0.52
31:I:94:GLU:HA	31:I:99:ASN:ND2	2.25	0.52
46:X:28:LYS:O	46:X:30:LEU:HD12	2.09	0.52
50:3:185:U:H2'	50:3:186:C:C6	2.44	0.52
50:3:236:A:H2'	50:3:237:G:C8	2.44	0.52
50:3:501:C:H2'	50:3:502:A:C8	2.44	0.52
51:1:784:G:O2'	51:1:785:G:H8	1.92	0.52
51:1:1297:C:OP1	51:1:2710:C:H4'	2.10	0.52
51:1:1524:G:H2'	51:1:1525:A:H8	1.74	0.52
51:1:1825:U:H2'	51:1:1826:G:C8	2.45	0.52
51:1:2242:G:H2'	51:1:2243:U:C5'	2.35	0.52
11:n:98:LEU:HD13	24:B:53:VAL:HG21	1.92	0.52
16:s:1:MET:HG3	16:s:3:THR:HG23	1.92	0.52
17:t:50:LEU:HD12	17:t:50:LEU:N	2.24	0.52
29:G:40:ILE:HD13	29:G:201:GLY:HA2	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G:107:ARG:O	29:G:110:ILE:HG22	2.09	0.52
30:H:112:ALA:HB1	30:H:199:VAL:HG13	1.92	0.52
33:K:46:GLN:HA	33:K:56:LYS:HA	1.90	0.52
37:O:99:GLN:C	37:O:100:ILE:HD12	2.34	0.52
50:3:1458:G:H2'	50:3:1459:G:C8	2.44	0.52
51:1:1060:U:O4'	51:1:1062:G:H5''	2.09	0.52
51:1:1113:U:H2'	51:1:1114:C:C6	2.45	0.52
51:1:2266:A:H4'	51:1:2267:A:N3	2.24	0.52
51:1:2679:A:O2'	51:1:2680:U:H5'	2.09	0.52
51:1:2808:G:H2'	51:1:2890:G:C6	2.45	0.52
8:k:23:LYS:NZ	51:1:2548:U:H1'	2.25	0.52
8:k:116:ILE:HD12	8:k:116:ILE:N	2.25	0.52
9:l:93:ASN:OD1	9:l:94:THR:HG23	2.08	0.52
10:m:11:LYS:HD3	10:m:86:LYS:HD3	1.90	0.52
16:s:93:ALA:HB2	51:1:1614:A:C2	2.44	0.52
33:K:38:ARG:HD3	33:K:97:THR:HA	1.91	0.52
37:O:65:TYR:CE1	41:S:97:LYS:HG2	2.45	0.52
41:S:5:MET:HE3	41:S:62:ARG:HH22	1.75	0.52
50:3:651:C:H2'	50:3:652:U:C6	2.44	0.52
50:3:1096:C:H2'	50:3:1097:C:H6	1.75	0.52
51:1:1936:A:H2	51:1:1943:U:H3	1.58	0.52
51:1:2246:G:O2'	51:1:2247:A:H8	1.93	0.52
51:1:2457:U:O2'	51:1:2458:G:H5'	2.10	0.52
55:8:266:ILE:HG13	55:8:267:PRO:CD	2.29	0.52
1:b:219:VAL:HG21	51:1:782:A:N7	2.25	0.52
3:d:122:GLU:HG2	3:d:123:LYS:N	2.22	0.52
17:t:2:ILE:HG23	17:t:5:GLU:HB2	1.92	0.52
19:v:32:GLY:HA3	19:v:93:ARG:HB3	1.90	0.52
24:B:33:SER:OG	24:B:35:GLU:HG3	2.10	0.52
24:B:47:TYR:CE1	24:B:52:LYS:HB2	2.45	0.52
29:G:133:ALA:O	29:G:137:THR:HG23	2.10	0.52
49:a:200:LYS:HD2	49:a:201:PRO:HD2	1.91	0.52
50:3:1007:U:H2'	50:3:1008:U:C6	2.45	0.52
50:3:1305:G:H1'	50:3:1332:A:N6	2.25	0.52
50:3:1332:A:H2'	50:3:1333:A:C8	2.44	0.52
51:1:2797:U:H5''	51:1:2798:U:OP2	2.10	0.52
52:2:60:C:H2'	52:2:61:G:H8	1.74	0.52
55:8:291:MET:HE3	55:8:291:MET:O	2.09	0.52
10:m:26:VAL:HG11	10:m:133:LYS:HA	1.91	0.52
14:q:60:TRP:O	14:q:64:ILE:HG13	2.10	0.52
17:t:50:LEU:HD23	22:y:26:PHE:CE2	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:z:4:ILE:HD11	23:z:56:VAL:CG2	2.40	0.52
25:C:46:VAL:HG22	25:C:47:ILE:N	2.25	0.52
37:O:80:THR:HG23	37:O:83:THR:CG2	2.40	0.52
43:U:77:GLU:OE1	50:3:452:A:H4'	2.09	0.52
50:3:217:C:H2'	50:3:218:U:C6	2.45	0.52
50:3:304:U:O2'	50:3:305:G:H5'	2.10	0.52
50:3:593:U:H2'	50:3:594:U:C6	2.45	0.52
51:1:49:A:H5'	51:1:51:G:C5'	2.40	0.52
51:1:1079:C:H2'	51:1:1080:A:C8	2.45	0.52
51:1:1701:A:H4'	51:1:1766:G:H5'	1.92	0.52
53:5:14:A:H2'	53:5:15:G:H5'	1.92	0.52
2:c:18:ASP:OD2	2:c:20:VAL:HG23	2.09	0.52
2:c:148:GLN:CG	2:c:152:PRO:HG2	2.39	0.52
9:l:23:ILE:HG23	15:r:82:HIS:CE1	2.45	0.52
15:r:51:VAL:CG2	15:r:52:PRO:HD2	2.40	0.52
22:y:2:LYS:O	22:y:6:LEU:HD23	2.09	0.52
34:L:74:VAL:HG21	34:L:143:MET:HE1	1.91	0.52
40:R:11:HIS:C	40:R:43:LYS:HD2	2.35	0.52
40:R:24:VAL:HA	50:3:1329:A:H5''	1.91	0.52
50:3:1042:A:H2'	50:3:1043:G:C8	2.45	0.52
51:1:473:G:O2'	51:1:474:G:H5'	2.10	0.52
51:1:1442:U:H2'	51:1:1443:U:C6	2.44	0.52
55:8:30:LYS:HA	55:8:33:ARG:HG2	1.92	0.52
55:8:43:GLN:O	55:8:46:VAL:HG13	2.09	0.52
1:b:207:ALA:HB2	51:1:1790:C:O2'	2.08	0.52
3:d:170:ARG:HG3	3:d:170:ARG:NH2	2.25	0.52
8:k:6:THR:HG23	51:1:1666:G:H4'	1.91	0.52
10:m:28:PHE:N	10:m:104:GLU:OE2	2.43	0.52
19:v:14:LYS:HB2	52:2:98:G:H1	1.75	0.52
27:E:61:LEU:HD13	27:E:64:ALA:HB3	1.91	0.52
30:H:46:LEU:HD23	30:H:46:LEU:N	2.25	0.52
41:S:58:ARG:HH21	50:3:980:C:H4'	1.74	0.52
51:1:291:G:H1	51:1:349:U:H3	1.58	0.52
51:1:729:G:H3'	51:1:729:G:N3	2.25	0.52
51:1:1111:A:C2'	51:1:1112:G:H4'	2.40	0.52
51:1:1791:A:N1	51:1:1829:A:C4'	2.73	0.52
51:1:2122:U:C2'	51:1:2123:G:H5'	2.40	0.52
8:k:8:LEU:HD22	8:k:82:ASN:HB3	1.92	0.51
11:n:24:MET:HE1	11:n:40:LYS:CD	2.40	0.51
22:y:47:ARG:O	22:y:50:VAL:HG12	2.09	0.51
30:H:5:HIS:HB3	41:S:88:MET:CG	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:N:15:ALA:O	36:N:66:VAL:HG13	2.09	0.51
37:O:7:ARG:HB3	37:O:101:SER:OG	2.11	0.51
50:3:1512:U:H2'	50:3:1513:A:C8	2.45	0.51
51:1:1258:U:H2'	51:1:1259:G:C8	2.46	0.51
51:1:1746:A:H2'	51:1:1747:U:C6	2.45	0.51
51:1:2528:U:O2'	51:1:2529:G:H3'	2.10	0.51
52:2:66:A:N1	52:2:107:G:H3'	2.25	0.51
53:5:64:G:H2'	53:5:65:C:C6	2.45	0.51
55:8:201:LEU:HD21	55:8:203:ARG:HD3	1.91	0.51
2:c:4:LEU:HD13	2:c:101:PHE:CZ	2.46	0.51
17:t:12:ARG:O	22:y:29:ARG:HG2	2.10	0.51
32:J:36:THR:HG22	32:J:62:ALA:HB1	1.91	0.51
37:O:54:SER:CB	37:O:58:ASN:HB2	2.40	0.51
38:P:78:ILE:HD12	38:P:78:ILE:N	2.25	0.51
38:P:92:ARG:HG2	38:P:92:ARG:NH1	2.23	0.51
41:S:45:LEU:HD11	46:X:12:LEU:HA	1.92	0.51
43:U:23:ASP:HB3	43:U:26:ASN:HD22	1.75	0.51
50:3:25:C:H41	50:3:559:A:H61	1.57	0.51
50:3:950:U:H2'	50:3:951:G:C8	2.46	0.51
50:3:1326:U:O2'	50:3:1327:C:H5'	2.09	0.51
51:1:796:C:H2'	51:1:797:G:C8	2.45	0.51
51:1:1087:G:N2	51:1:1103:A:H1'	2.25	0.51
51:1:2591:C:H2'	51:1:2592:G:C8	2.45	0.51
51:1:2802:G:H2'	51:1:2803:G:C8	2.45	0.51
5:f:86:LEU:HB2	5:f:130:ILE:HG23	1.92	0.51
11:n:2:ARG:HA	11:n:5:LYS:HD2	1.91	0.51
33:K:22:ILE:HG23	33:K:39:LEU:HD11	1.92	0.51
33:K:42:TRP:HB3	33:K:45:ARG:NH2	2.25	0.51
35:M:28:SER:HB3	35:M:56:PRO:HB2	1.92	0.51
36:N:46:VAL:HG21	36:N:75:ALA:HB1	1.91	0.51
41:S:30:ILE:HG22	41:S:40:ARG:HG2	1.92	0.51
44:V:46:HIS:HB2	44:V:70:LYS:CD	2.41	0.51
50:3:603:U:H2'	50:3:604:G:C8	2.45	0.51
50:3:1230:C:H5'	53:5:30:G:H5''	1.92	0.51
51:1:174:U:H2'	51:1:175:G:C8	2.45	0.51
51:1:826:U:H5''	51:1:2429:G:P	2.51	0.51
51:1:1935:G:H1'	51:1:1964:G:N2	2.25	0.51
51:1:2229:U:H2'	51:1:2230:G:C8	2.45	0.51
51:1:2527:C:H2'	51:1:2528:U:C6	2.44	0.51
1:b:20:ASN:HB3	1:b:23:LEU:HG	1.93	0.51
1:b:48:ILE:HG23	1:b:48:ILE:O	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:u:65:GLN:HG3	51:1:328:U:O3'	2.10	0.51
19:v:78:GLN:HB3	19:v:88:HIS:H	1.75	0.51
22:y:56:LEU:HA	22:y:59:GLU:HG2	1.92	0.51
23:z:4:ILE:HG23	23:z:6:ILE:HD11	1.92	0.51
30:H:6:PRO:HG2	30:H:200:TRP:HE1	1.74	0.51
31:I:49:ASP:O	31:I:52:VAL:HG12	2.10	0.51
37:O:59:LYS:HE3	37:O:62:ARG:NH2	2.20	0.51
38:P:34:THR:HG22	38:P:40:ALA:HB2	1.91	0.51
40:R:82:LEU:HD11	46:X:65:MET:HG2	1.93	0.51
43:U:31:ARG:HG2	43:U:32:PHE:N	2.25	0.51
48:Z:9:GLU:HB3	48:Z:10:PRO:CD	2.39	0.51
50:3:352:C:H4'	50:3:354:G:OP1	2.10	0.51
50:3:745:G:H5'	50:3:851:G:H21	1.76	0.51
50:3:1270:G:H2'	50:3:1271:A:H8	1.76	0.51
51:1:1740:G:H2'	51:1:1741:C:H6	1.75	0.51
51:1:2066:C:O2'	51:1:2067:G:H5'	2.10	0.51
51:1:2637:U:H2'	51:1:2638:G:O4'	2.11	0.51
2:c:11:MET:HE1	2:c:192:ALA:HB2	1.91	0.51
3:d:102:ARG:O	3:d:106:LYS:HG3	2.10	0.51
10:m:35:ALA:HB2	10:m:102:LEU:HD11	1.92	0.51
10:m:93:VAL:HG22	10:m:94:ALA:N	2.26	0.51
29:G:159:ALA:HB1	29:G:183:PHE:HE2	1.75	0.51
30:H:71:ARG:O	30:H:75:VAL:HG23	2.11	0.51
45:W:20:ILE:HD12	45:W:20:ILE:H	1.74	0.51
46:X:40:PHE:HB2	46:X:43:MET:HE3	1.93	0.51
50:3:392:C:H2'	50:3:393:A:H8	1.75	0.51
50:3:1049:U:H5'	50:3:1201:A:H5'	1.92	0.51
51:1:1074:G:H3'	51:1:1075:C:H5''	1.93	0.51
51:1:1138:G:H2'	51:1:1139:G:O4'	2.11	0.51
53:5:69:C:H2'	53:5:70:G:C8	2.45	0.51
55:8:199:HIS:HA	55:8:322:GLN:HE22	1.76	0.51
55:8:250:GLY:HA2	55:8:254:VAL:CG2	2.40	0.51
3:d:16:GLU:OE2	3:d:20:GLY:HA3	2.10	0.51
4:e:103:ILE:HD12	4:e:172:PHE:CD1	2.45	0.51
11:n:82:GLU:OE2	11:n:86:ARG:HD3	2.10	0.51
29:G:80:LYS:HG3	29:G:90:PHE:CZ	2.46	0.51
44:V:37:ILE:HG22	44:V:38:LYS:N	2.25	0.51
46:X:66:VAL:HG13	46:X:67:GLY:H	1.76	0.51
50:3:21:G:H21	50:3:914:A:H62	1.56	0.51
50:3:815:A:H5''	50:3:817:C:N4	2.25	0.51
51:1:1079:C:H2'	51:1:1080:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1682:G:H2'	51:1:1683:U:C6	2.46	0.51
51:1:2340:A:H2'	51:1:2341:G:H8	1.75	0.51
1:b:36:ASN:HB2	1:b:61:TYR:HB2	1.92	0.51
29:G:41:ASN:HD22	29:G:44:LYS:HG3	1.75	0.51
33:K:15:SER:O	33:K:18:VAL:HG22	2.10	0.51
35:M:17:GLN:OE1	35:M:62:LEU:HD23	2.10	0.51
39:Q:74:GLN:HB2	39:Q:76:HIS:CE1	2.45	0.51
40:R:64:VAL:CG1	40:R:65:GLU:H	2.17	0.51
46:X:30:LEU:HD12	46:X:30:LEU:H	1.76	0.51
48:Z:39:LYS:N	48:Z:40:PRO:CD	2.74	0.51
50:3:945:G:H2'	50:3:945:G:N3	2.26	0.51
51:1:873:C:C3'	51:1:874:G:H5''	2.40	0.51
51:1:901:C:H2'	51:1:902:C:C6	2.46	0.51
51:1:1794:A:H2'	51:1:1795:C:C6	2.46	0.51
53:5:5:G:O2'	53:5:6:G:H5'	2.11	0.51
55:8:144:TRP:CE2	55:8:201:LEU:HB2	2.46	0.51
55:8:239:LEU:HA	55:8:264:THR:O	2.11	0.51
55:8:245:ARG:NH1	55:8:245:ARG:HB2	2.25	0.51
2:c:110:THR:HG21	2:c:169:ARG:HH11	1.75	0.51
30:H:76:ILE:HA	30:H:83:VAL:HG23	1.92	0.51
32:J:92:ARG:O	32:J:93:VAL:C	2.53	0.51
39:Q:58:ASN:HD21	39:Q:60:PHE:HB2	1.75	0.51
44:V:74:LEU:HD23	44:V:74:LEU:C	2.35	0.51
50:3:12:U:H4'	50:3:526:C:H4'	1.91	0.51
50:3:323:U:H2'	50:3:324:G:O4'	2.11	0.51
50:3:350:G:H2'	50:3:351:G:C8	2.46	0.51
50:3:552:U:H2'	50:3:553:A:C8	2.46	0.51
50:3:1245:C:H2'	50:3:1246:A:C8	2.45	0.51
51:1:20:C:H2'	51:1:21:A:C8	2.46	0.51
51:1:616:A:H2'	51:1:617:G:O4'	2.10	0.51
51:1:690:G:H2'	51:1:691:C:H6	1.75	0.51
51:1:1065:U:H5'	51:1:1066:U:H5''	1.93	0.51
51:1:2425:A:H5''	51:1:2426:A:H2'	1.92	0.51
32:J:87:VAL:HG21	32:J:92:ARG:NH1	2.26	0.51
35:M:17:GLN:HE21	35:M:71:VAL:HG23	1.75	0.51
38:P:93:GLU:HA	38:P:96:ILE:HD12	1.92	0.51
50:3:98:A:H2'	50:3:99:C:C6	2.45	0.51
51:1:296:U:H2'	51:1:297:G:C8	2.46	0.51
51:1:974:G:N3	51:1:974:G:H2'	2.26	0.51
51:1:1917:U:C2'	51:1:1918:A:H5'	2.40	0.51
51:1:2036:C:H2'	51:1:2037:A:H8	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:2:48:U:H2'	52:2:49:C:C6	2.46	0.51
4:e:24:VAL:HG23	4:e:25:MET:CE	2.40	0.51
4:e:148:VAL:O	4:e:148:VAL:HG22	2.11	0.51
6:g:21:VAL:HG22	6:g:22:LYS:H	1.76	0.51
8:k:97:THR:O	8:k:118:LEU:HD13	2.10	0.51
15:r:24:LYS:HA	15:r:94:THR:OG1	2.11	0.51
30:H:134:LYS:HA	30:H:137:VAL:HG22	1.93	0.51
40:R:23:GLY:HA2	40:R:68:LEU:HD21	1.93	0.51
50:3:713:G:H2'	50:3:714:G:C8	2.46	0.51
51:1:704:G:H2'	51:1:726:G:H22	1.76	0.51
51:1:1201:U:H2'	51:1:1202:G:H8	1.75	0.51
51:1:1432:G:H2'	51:1:1433:A:C8	2.45	0.51
51:1:2074:U:H2'	51:1:2075:U:C6	2.46	0.51
51:1:2224:G:H4'	51:1:2226:C:C2	2.46	0.51
55:8:124:ASP:O	55:8:187:TYR:HA	2.11	0.51
55:8:165:ILE:HA	55:8:181:ILE:HG22	1.92	0.51
55:8:234:ILE:HD11	55:8:239:LEU:HD11	1.93	0.51
2:c:46:ARG:HE	2:c:84:LEU:HB2	1.76	0.50
9:l:69:ARG:HE	51:1:2406:A:H2	1.59	0.50
14:q:23:TYR:CD1	51:1:533:G:H5'	2.46	0.50
15:r:14:VAL:HG21	15:r:98:ILE:HG13	1.93	0.50
27:E:34:LYS:HD3	51:1:2390:U:C5'	2.41	0.50
28:F:15:LYS:HB2	28:F:26:ILE:HG23	1.93	0.50
31:I:120:LYS:HZ2	50:3:439:U:H4'	1.76	0.50
45:W:33:THR:HG22	45:W:37:LYS:H	1.77	0.50
50:3:554:A:H2'	50:3:555:U:C6	2.46	0.50
50:3:948:C:H2'	50:3:949:A:H8	1.76	0.50
50:3:976:G:H2'	50:3:1362:A:N1	2.26	0.50
50:3:1171:A:H2'	50:3:1172:C:H6	1.73	0.50
51:1:297:G:H2'	51:1:298:G:O4'	2.11	0.50
51:1:1298:C:H2'	51:1:1299:G:O4'	2.11	0.50
51:1:1316:U:H2'	51:1:1317:G:H8	1.75	0.50
51:1:1657:U:H2'	51:1:1658:C:C6	2.46	0.50
1:b:94:LEU:HD21	51:1:1501:G:H4'	1.92	0.50
9:l:116:VAL:O	9:l:116:VAL:HG13	2.11	0.50
10:m:108:VAL:HB	10:m:112:LEU:HD23	1.93	0.50
12:o:33:ARG:O	12:o:33:ARG:HG2	2.10	0.50
12:o:43:ASN:ND2	12:o:45:SER:OG	2.44	0.50
20:w:67:VAL:HG22	20:w:67:VAL:O	2.12	0.50
31:I:25:ARG:HD2	50:3:410:G:OP2	2.11	0.50
34:L:9:ARG:NH1	50:3:1376:U:O4	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y:26:MET:HG2	47:Y:30:PHE:CE2	2.46	0.50
47:Y:57:VAL:HG13	47:Y:58:ASP:N	2.26	0.50
50:3:35:G:H2'	50:3:36:C:C6	2.47	0.50
50:3:77:A:H2'	50:3:78:A:C8	2.39	0.50
50:3:163:C:H2'	50:3:164:G:O4'	2.10	0.50
50:3:437:U:HO2'	50:3:438:U:H5'	1.76	0.50
50:3:734:G:H2'	50:3:735:C:C6	2.47	0.50
51:1:144:A:H2'	51:1:145:C:C6	2.45	0.50
51:1:296:U:H2'	51:1:297:G:H8	1.74	0.50
51:1:807:U:H2'	51:1:808:G:H8	1.75	0.50
51:1:1794:A:H2'	51:1:1795:C:H6	1.77	0.50
51:1:2519:U:H5'	51:1:2567:G:H21	1.76	0.50
53:5:44:A:O2'	53:5:45:G:H5'	2.12	0.50
4:e:117:SER:HA	4:e:177:ARG:OXT	2.11	0.50
6:g:11:ASN:HD22	6:g:12:LEU:HD13	1.75	0.50
10:m:1:MET:HA	10:m:47:GLU:HG3	1.92	0.50
16:s:88:ARG:H	51:1:1614:A:H61	1.60	0.50
20:w:34:VAL:HG22	20:w:55:LEU:HB2	1.92	0.50
31:I:28:ASP:C	31:I:30:LYS:H	2.18	0.50
36:N:93:LEU:HD23	36:N:93:LEU:C	2.35	0.50
47:Y:14:GLU:OE2	47:Y:18:LYS:HD3	2.12	0.50
50:3:410:G:H2'	50:3:429:U:C4	2.47	0.50
50:3:889:A:H5'	50:3:891:U:O4'	2.12	0.50
50:3:918:A:H2'	50:3:919:A:O4'	2.11	0.50
50:3:955:U:H3	50:3:1225:A:H61	1.60	0.50
50:3:1237:C:H4'	50:3:1334:G:N2	2.27	0.50
51:1:171:U:H2'	51:1:172:A:H8	1.76	0.50
51:1:727:A:O2'	51:1:728:G:H5'	2.11	0.50
53:5:22:G:H2'	53:5:23:C:H6	1.76	0.50
55:8:22:ARG:HH21	55:8:70:LEU:HB2	1.75	0.50
55:8:197:GLY:HA3	55:8:323:ILE:HG13	1.92	0.50
2:c:46:ARG:HH21	2:c:84:LEU:HD13	1.76	0.50
4:e:62:GLN:HE21	4:e:88:VAL:CG2	2.25	0.50
30:H:86:LEU:HA	30:H:89:VAL:HG12	1.93	0.50
35:M:17:GLN:HG3	35:M:71:VAL:HB	1.93	0.50
36:N:60:LEU:N	36:N:60:LEU:HD23	2.26	0.50
38:P:27:ASN:ND2	50:3:691:G:C8	2.79	0.50
41:S:19:TYR:HB3	41:S:23:ARG:HD3	1.93	0.50
46:X:29:PRO:HA	46:X:47:THR:HG23	1.93	0.50
49:a:30:LEU:C	49:a:30:LEU:HD12	2.36	0.50
51:1:171:U:H2'	51:1:172:A:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:968:C:H2'	51:1:969:G:C8	2.47	0.50
51:1:1387:A:H2'	51:1:1388:G:C8	2.46	0.50
51:1:2196:C:O2'	51:1:2197:U:H5'	2.11	0.50
55:8:191:TRP:O	55:8:192:LEU:HD12	2.11	0.50
1:b:123:ILE:HD12	1:b:123:ILE:H	1.75	0.50
1:b:140:VAL:HG12	1:b:191:LEU:HA	1.93	0.50
8:k:19:VAL:HG21	8:k:41:ILE:HD12	1.94	0.50
25:C:9:LYS:HE3	25:C:19:PHE:CE2	2.46	0.50
30:H:72:PRO:HD3	30:H:104:GLU:CB	2.41	0.50
31:I:170:LEU:C	31:I:170:LEU:HD12	2.36	0.50
36:N:50:PRO:HD3	36:N:79:ARG:HG3	1.92	0.50
37:O:32:THR:O	37:O:82:LYS:HE2	2.11	0.50
41:S:89:ARG:HG2	41:S:91:GLU:OE2	2.12	0.50
49:a:216:THR:HG22	49:a:217:THR:N	2.27	0.50
50:3:166:U:H2'	50:3:167:A:H8	1.76	0.50
50:3:358:U:H2'	50:3:359:G:H8	1.75	0.50
50:3:544:G:H2'	50:3:545:C:C6	2.47	0.50
50:3:830:G:H2'	50:3:831:A:H8	1.77	0.50
51:1:49:A:H5'	51:1:51:G:H5'	1.93	0.50
51:1:256:A:O2'	51:1:257:C:H5'	2.11	0.50
51:1:741:U:H2'	51:1:742:A:C8	2.47	0.50
55:8:10:ARG:HH22	55:8:103:LEU:CD1	2.24	0.50
4:e:37:MET:HE2	4:e:86:CYS:SG	2.51	0.50
12:o:27:VAL:HG22	12:o:28:VAL:N	2.27	0.50
14:q:101:ASP:OD1	14:q:104:ALA:HB2	2.12	0.50
32:J:123:LEU:HD12	32:J:123:LEU:C	2.37	0.50
50:3:220:G:O2'	50:3:221:C:H5'	2.12	0.50
50:3:673:A:H2'	50:3:674:G:H8	1.74	0.50
50:3:734:G:H2'	50:3:735:C:H6	1.77	0.50
50:3:1271:A:H2'	50:3:1272:G:C8	2.47	0.50
50:3:1354:U:H2'	50:3:1355:G:C8	2.45	0.50
50:3:1385:G:H2'	50:3:1386:G:C8	2.47	0.50
50:3:1476:A:H2'	50:3:1477:U:C6	2.47	0.50
51:1:388:G:H2'	51:1:390:U:H5	1.77	0.50
51:1:873:C:H2'	51:1:874:G:C4'	2.40	0.50
55:8:170:GLU:N	55:8:170:GLU:OE2	2.45	0.50
1:b:13:ARG:NH1	51:1:1977:A:H2	2.10	0.50
1:b:73:ILE:HD12	1:b:73:ILE:N	2.27	0.50
3:d:71:GLY:N	51:1:674:G:H5''	2.27	0.50
4:e:109:ARG:HG2	4:e:109:ARG:NH2	2.27	0.50
4:e:168:LEU:O	4:e:171:ALA:HB3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:n:72:ASP:OD2	11:n:74:GLU:HB3	2.11	0.50
22:y:50:VAL:O	22:y:53:VAL:HG12	2.12	0.50
31:I:22:SER:OG	31:I:109:THR:HG22	2.11	0.50
31:I:142:VAL:HG12	31:I:179:GLY:O	2.12	0.50
31:I:197:HIS:O	31:I:201:GLU:HG3	2.11	0.50
42:T:34:GLN:O	42:T:38:LEU:HD13	2.12	0.50
45:W:49:LYS:HA	45:W:52:ARG:NH2	2.27	0.50
49:a:44:VAL:N	49:a:173:THR:O	2.42	0.50
49:a:188:ASN:HA	49:a:191:ALA:HB3	1.94	0.50
50:3:238:A:O2'	50:3:239:U:H5'	2.12	0.50
50:3:1342:C:H2'	50:3:1343:G:C8	2.46	0.50
51:1:327:G:O2'	51:1:328:U:H5'	2.12	0.50
51:1:340:A:H2'	51:1:341:C:O4'	2.12	0.50
51:1:940:G:C2'	51:1:941:A:H5''	2.41	0.50
51:1:1112:G:H2'	51:1:1113:U:C6	2.46	0.50
51:1:2802:G:H2'	51:1:2803:G:H8	1.76	0.50
4:e:121:PHE:CZ	4:e:166:ARG:HG2	2.47	0.50
5:f:116:LEU:HD23	5:f:117:PRO:N	2.27	0.50
5:f:142:GLN:NE2	51:1:2761:A:H1'	2.27	0.50
12:o:63:LYS:HD3	12:o:63:LYS:C	2.37	0.50
29:G:96:LEU:HB2	29:G:99:MET:HG3	1.94	0.50
31:I:23:GLY:HA3	50:3:409:U:OP1	2.12	0.50
34:L:12:LEU:HD12	34:L:13:PRO:HD2	1.93	0.50
39:Q:29:LYS:HE3	50:3:363:A:OP1	2.12	0.50
39:Q:49:ARG:HG3	39:Q:89:LEU:HD21	1.94	0.50
39:Q:58:ASN:ND2	39:Q:60:PHE:HB2	2.27	0.50
44:V:46:HIS:ND1	44:V:70:LYS:HD3	2.26	0.50
44:V:60:ILE:HG22	44:V:72:TRP:HB3	1.93	0.50
50:3:966:G:N2	53:5:34:C:H5'	2.27	0.50
51:1:133:U:H2'	51:1:134:G:C8	2.46	0.50
51:1:184:C:H4'	51:1:217:A:C2	2.46	0.50
51:1:740:C:H5'	51:1:1784:A:C2'	2.41	0.50
51:1:1859:U:H2'	51:1:1860:G:H8	1.77	0.50
51:1:2112:G:H2'	51:1:2112:G:N3	2.27	0.50
51:1:2216:G:H2'	51:1:2217:G:H8	1.77	0.50
55:8:199:HIS:HB3	55:8:326:TYR:HE2	1.76	0.50
4:e:131:VAL:CG2	4:e:136:ILE:HG21	2.38	0.50
9:l:78:ARG:NH2	9:l:113:ALA:HB1	2.27	0.50
10:m:58:LYS:O	10:m:59:ARG:CG	2.59	0.50
17:t:11:LEU:HD22	17:t:32:LEU:CD2	2.41	0.50
21:x:21:LEU:HB2	51:1:200:U:H4'	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:G:13:VAL:O	29:G:13:VAL:HG12	2.10	0.50
35:M:105:THR:HG22	35:M:121:GLY:O	2.12	0.50
38:P:114:PRO:HA	50:3:676:A:H5''	1.93	0.50
40:R:18:LEU:HD21	40:R:32:ILE:HD12	1.92	0.50
49:a:174:THR:CG2	51:1:2124:G:H4'	2.39	0.50
50:3:962:C:H2'	50:3:963:G:C8	2.46	0.50
50:3:1005:A:H2'	50:3:1006:G:O4'	2.12	0.50
50:3:1033:G:H2'	50:3:1034:G:C5'	2.42	0.50
50:3:1052:U:H2'	50:3:1200:C:N4	2.27	0.50
50:3:1119:C:H2'	50:3:1120:C:C6	2.46	0.50
51:1:64:A:H2'	51:1:65:U:C6	2.47	0.50
51:1:151:C:H2'	51:1:152:A:H8	1.76	0.50
51:1:962:G:H2'	51:1:963:U:C6	2.47	0.50
51:1:2105:U:O2'	51:1:2106:U:H5'	2.11	0.50
51:1:2329:U:H2'	51:1:2330:G:H8	1.76	0.50
51:1:2834:G:H1'	51:1:2883:A:H61	1.76	0.50
55:8:106:LEU:HD23	55:8:109:LYS:HD2	1.93	0.50
55:8:226:VAL:HG23	55:8:226:VAL:O	2.12	0.50
1:b:18:VAL:CG1	1:b:202:ARG:HH21	2.25	0.49
2:c:3:GLY:C	2:c:4:LEU:HD12	2.36	0.49
4:e:79:ARG:HG2	4:e:79:ARG:HH21	1.77	0.49
14:q:30:VAL:HG13	51:1:580:U:O3'	2.11	0.49
16:s:8:ARG:HE	16:s:102:HIS:CD2	2.29	0.49
17:t:2:ILE:CG2	17:t:5:GLU:HB2	2.42	0.49
18:u:4:ILE:HD12	18:u:71:ILE:HG23	1.93	0.49
41:S:68:ARG:HG2	41:S:68:ARG:HH11	1.76	0.49
44:V:20:ILE:HG23	44:V:45:VAL:HB	1.94	0.49
50:3:130:A:O2'	50:3:264:C:H5'	2.11	0.49
51:1:181:A:H2'	51:1:182:A:C8	2.47	0.49
51:1:388:G:H2'	51:1:390:U:C5	2.47	0.49
51:1:879:G:H2'	51:1:880:G:H8	1.77	0.49
51:1:2639:A:H2'	51:1:2640:G:O4'	2.12	0.49
51:1:2646:C:H2'	51:1:2647:U:O4'	2.12	0.49
2:c:9:VAL:HG13	2:c:9:VAL:O	2.13	0.49
31:I:138:PRO:HG2	31:I:184:LYS:HZ2	1.77	0.49
34:L:85:GLN:HE21	34:L:143:MET:HE1	1.77	0.49
34:L:102:TRP:HA	34:L:105:GLU:OE2	2.12	0.49
40:R:85:TYR:O	40:R:89:ARG:HG2	2.13	0.49
41:S:52:ARG:CZ	50:3:1219:A:H5''	2.42	0.49
44:V:16:MET:HG3	44:V:19:SER:C	2.36	0.49
50:3:25:C:C5'	50:3:524:G:H1'	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:79:G:O2'	50:3:80:A:H5'	2.12	0.49
50:3:476:U:H2'	50:3:477:C:C6	2.46	0.49
50:3:744:C:H2'	50:3:745:G:H8	1.77	0.49
51:1:668:A:H2'	51:1:670:A:H62	1.77	0.49
51:1:1437:C:H1'	51:1:1515:A:C2	2.47	0.49
51:1:1441:G:H2'	51:1:1442:U:C6	2.46	0.49
51:1:1825:U:H2'	51:1:1826:G:H8	1.76	0.49
51:1:2801:G:H2'	51:1:2802:G:C8	2.47	0.49
51:1:2834:G:H1'	51:1:2883:A:N6	2.27	0.49
55:8:200:ARG:N	55:8:322:GLN:HE22	2.11	0.49
1:b:213:ARG:HG2	1:b:213:ARG:HH11	1.77	0.49
1:b:260:LYS:HA	1:b:263:ASP:OD1	2.12	0.49
4:e:28:PRO:HB2	4:e:168:LEU:HD11	1.93	0.49
5:f:120:ILE:HD12	5:f:134:GLY:CA	2.41	0.49
6:g:134:VAL:HG23	6:g:135:HIS:N	2.27	0.49
24:B:24:VAL:HG22	24:B:26:SER:H	1.77	0.49
29:G:135:MET:CE	29:G:138:ARG:HH12	2.24	0.49
30:H:69:THR:HG21	30:H:75:VAL:HG21	1.93	0.49
32:J:9:GLU:HG2	32:J:10:LEU:HD13	1.92	0.49
32:J:76:ASN:O	32:J:79:THR:HG22	2.12	0.49
35:M:98:LEU:HD23	35:M:98:LEU:H	1.78	0.49
36:N:125:GLN:HE22	50:3:943:U:H1'	1.77	0.49
37:O:92:LEU:HD12	37:O:92:LEU:N	2.26	0.49
39:Q:85:ARG:NH1	39:Q:93:ARG:HG2	2.27	0.49
40:R:24:VAL:HG23	40:R:28:ARG:HB3	1.95	0.49
42:T:44:GLU:HG3	42:T:45:HIS:CD2	2.47	0.49
44:V:13:SER:H	44:V:21:VAL:HG13	1.77	0.49
48:Z:41:THR:O	48:Z:45:LYS:HG3	2.12	0.49
50:3:180:U:H2'	50:3:181:A:O4'	2.12	0.49
50:3:920:U:H2'	50:3:921:U:C6	2.46	0.49
50:3:1004:A:H2'	50:3:1005:A:O4'	2.11	0.49
51:1:184:C:H2'	51:1:185:G:H8	1.77	0.49
51:1:856:G:H2'	51:1:857:G:C8	2.47	0.49
51:1:1336:A:H2'	51:1:1337:G:H8	1.78	0.49
51:1:1548:A:H2'	51:1:1549:A:C8	2.47	0.49
51:1:2368:C:H2'	51:1:2369:A:H8	1.78	0.49
51:1:2630:G:H2'	51:1:2631:G:H8	1.77	0.49
51:1:2651:C:O2'	51:1:2652:C:H5'	2.12	0.49
55:8:151:MET:SD	55:8:353:LEU:HD11	2.53	0.49
1:b:159:THR:HG22	1:b:160:TYR:N	2.27	0.49
2:c:150:GLN:O	2:c:151:THR:C	2.55	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:5:LEU:HD12	6:g:5:LEU:N	2.26	0.49
17:t:61:LEU:C	17:t:61:LEU:HD12	2.37	0.49
39:Q:113:ARG:HH21	39:Q:120:ARG:HG3	1.77	0.49
42:T:63:ARG:HH12	42:T:87:ARG:NH1	2.10	0.49
46:X:40:PHE:HB3	46:X:41:PRO:HD2	1.94	0.49
50:3:396:C:C2'	50:3:397:A:H5''	2.40	0.49
50:3:865:A:H5'	50:3:1078:U:O4	2.12	0.49
50:3:1384:C:H2'	50:3:1385:G:C8	2.46	0.49
50:3:1507:A:H2'	50:3:1508:A:C8	2.47	0.49
51:1:621:A:C2	51:1:622:G:H1'	2.47	0.49
51:1:796:C:H2'	51:1:797:G:H8	1.77	0.49
51:1:1367:A:C2'	51:1:1368:G:H5'	2.43	0.49
51:1:1442:U:H2'	51:1:1443:U:H6	1.77	0.49
51:1:1597:A:H5''	51:1:1598:A:H5'	1.94	0.49
7:j:27:ARG:HH11	7:j:27:ARG:HG3	1.76	0.49
25:C:21:THR:HG23	27:E:33:THR:HG22	1.94	0.49
29:G:44:LYS:O	29:G:48:MET:HE2	2.13	0.49
29:G:75:ALA:O	29:G:79:VAL:HG23	2.11	0.49
32:J:17:VAL:HG12	32:J:34:ALA:CB	2.43	0.49
33:K:36:ILE:HA	33:K:64:VAL:HG23	1.95	0.49
34:L:30:MET:HE3	34:L:33:GLY:HA2	1.95	0.49
36:N:20:ILE:HG22	36:N:62:LEU:HD13	1.94	0.49
49:a:177:LYS:HG2	49:a:180:PHE:CD2	2.48	0.49
50:3:405:U:H3'	50:3:406:G:C5'	2.43	0.49
50:3:1388:C:H2'	50:3:1389:C:C6	2.48	0.49
51:1:1479:G:O2'	51:1:1561:C:H5'	2.12	0.49
51:1:1802:A:H2'	51:1:1803:A:H8	1.75	0.49
4:e:145:VAL:HG22	4:e:147:ARG:H	1.76	0.49
7:j:34:ARG:HH12	7:j:40:HIS:HA	1.76	0.49
8:k:24:VAL:HG23	8:k:33:ALA:HB2	1.93	0.49
11:n:72:ASP:HB3	11:n:75:ILE:HG12	1.94	0.49
18:u:6:ARG:HG3	18:u:7:ASP:H	1.76	0.49
30:H:171:ARG:HB2	50:3:1106:G:H5''	1.94	0.49
33:K:12:PRO:O	33:K:15:SER:HB3	2.12	0.49
39:Q:68:GLY:O	50:3:521:G:H5'	2.13	0.49
39:Q:73:LEU:HA	39:Q:77:SER:OG	2.12	0.49
50:3:78:A:C2	50:3:79:G:H1'	2.48	0.49
50:3:148:G:H1	50:3:174:A:H61	1.60	0.49
50:3:702:A:C4'	51:1:1848:A:H1'	2.42	0.49
51:1:225:C:H2'	51:1:226:A:O4'	2.13	0.49
51:1:830:G:H22	51:1:2446:G:H5'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1167:C:H2'	51:1:1168:G:C8	2.48	0.49
51:1:1419:A:O2'	51:1:1420:A:H5'	2.13	0.49
51:1:1462:C:H2'	51:1:1463:C:C6	2.47	0.49
51:1:1688:U:H2'	51:1:1698:A:N6	2.27	0.49
55:8:18:SER:HB3	55:8:70:LEU:HD22	1.94	0.49
55:8:234:ILE:HG23	55:8:234:ILE:O	2.13	0.49
2:c:121:THR:HG21	2:c:143:PRO:HG3	1.94	0.49
6:g:53:GLU:N	6:g:53:GLU:OE2	2.46	0.49
32:J:152:VAL:HG23	32:J:163:ILE:HD12	1.94	0.49
36:N:90:ASP:O	36:N:92:SER:N	2.46	0.49
39:Q:53:ARG:HD2	39:Q:61:GLU:OE2	2.13	0.49
41:S:46:LYS:HA	41:S:49:THR:HG23	1.94	0.49
50:3:5:U:H4'	50:3:6:G:C8	2.47	0.49
50:3:70:U:H4'	50:3:71:A:C8	2.47	0.49
50:3:162:A:C2'	50:3:163:C:H5'	2.42	0.49
50:3:437:U:O2'	50:3:438:U:H5'	2.12	0.49
50:3:488:C:H2'	50:3:489:C:H6	1.78	0.49
50:3:880:C:H2'	50:3:881:G:H8	1.78	0.49
50:3:1436:U:H2'	50:3:1437:A:H8	1.78	0.49
51:1:897:C:H2'	51:1:898:C:C6	2.47	0.49
51:1:1415:U:C2'	51:1:1416:G:H4'	2.41	0.49
51:1:1956:U:H2'	51:1:1957:C:H5'	1.95	0.49
51:1:2164:C:H2'	51:1:2165:C:H5'	1.93	0.49
51:1:2443:C:H2'	51:1:2444:G:H8	1.78	0.49
51:1:2556:C:H2'	51:1:2557:G:O4'	2.13	0.49
51:1:2898:U:H2'	51:1:2899:A:H8	1.76	0.49
53:5:62:C:H2'	53:5:63:G:H8	1.77	0.49
55:8:167:GLU:HB3	55:8:180:THR:HG22	1.94	0.49
10:m:86:LYS:HA	51:1:956:G:OP1	2.13	0.49
13:p:31:VAL:HG22	13:p:38:ARG:O	2.13	0.49
25:C:5:ARG:CZ	25:C:24:LYS:HA	2.42	0.49
29:G:163:ILE:HA	29:G:185:ILE:HG22	1.95	0.49
30:H:178:ARG:HH21	50:3:1112:C:H4'	1.78	0.49
36:N:129:ARG:HG3	36:N:129:ARG:NH1	2.27	0.49
38:P:18:GLY:O	38:P:81:LEU:HB2	2.13	0.49
50:3:514:C:H2'	50:3:515:G:H8	1.78	0.49
50:3:1144:G:H21	50:3:1146:A:H62	1.60	0.49
50:3:1305:G:H1'	50:3:1332:A:H62	1.77	0.49
51:1:255:A:H2'	51:1:256:A:O4'	2.12	0.49
51:1:807:U:H2'	51:1:808:G:C8	2.48	0.49
51:1:1890:A:H2'	51:1:1891:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:2329:U:H2'	51:1:2330:G:C8	2.48	0.49
55:8:356:PHE:O	55:8:361:LEU:HD23	2.13	0.49
4:e:162:ASP:O	4:e:166:ARG:HG3	2.13	0.49
5:f:36:LEU:HD12	5:f:36:LEU:N	2.28	0.49
11:n:60:VAL:HG13	11:n:61:ALA:N	2.28	0.49
16:s:82:MET:HB3	16:s:84:ARG:NH2	2.21	0.49
21:x:10:ARG:HG3	21:x:11:PRO:HD2	1.93	0.49
31:I:116:LEU:CD1	31:I:122:ILE:HD11	2.42	0.49
32:J:35:LEU:HB2	32:J:49:TYR:HD1	1.78	0.49
33:K:2:ARG:HG3	33:K:68:GLN:HE22	1.78	0.49
35:M:80:PRO:HG2	50:3:878:A:C5'	2.43	0.49
38:P:91:GLY:O	38:P:93:GLU:N	2.46	0.49
38:P:92:ARG:HG2	38:P:92:ARG:O	2.12	0.49
41:S:33:VAL:HG21	50:3:1272:G:H4'	1.94	0.49
43:U:28:ARG:HE	43:U:29:ASN:ND2	2.11	0.49
44:V:28:VAL:HG22	44:V:29:LYS:N	2.28	0.49
50:3:558:G:H2'	50:3:559:A:C2	2.47	0.49
50:3:909:A:H2'	50:3:910:C:O4'	2.13	0.49
50:3:1086:U:H2'	50:3:1087:G:H8	1.78	0.49
51:1:2743:U:C2'	51:1:2744:G:H5''	2.43	0.49
55:8:133:GLN:HG3	55:8:178:SER:OG	2.13	0.49
3:d:17:THR:HG23	3:d:18:THR:HG23	1.95	0.49
4:e:40:GLY:HA2	4:e:84:ILE:CG2	2.42	0.49
8:k:49:ARG:HH22	50:3:1422:G:H4'	1.77	0.49
25:C:5:ARG:NH1	25:C:24:LYS:HA	2.26	0.49
29:G:66:ILE:CD1	29:G:159:ALA:HB3	2.43	0.49
30:H:127:VAL:HG22	30:H:128:MET:N	2.28	0.49
33:K:100:SER:N	33:K:101:PRO:CD	2.76	0.49
39:Q:46:SER:OG	50:3:518:C:H1'	2.13	0.49
40:R:113:LYS:N	40:R:114:PRO:HD2	2.28	0.49
43:U:54:LEU:HA	43:U:57:ILE:HD12	1.95	0.49
48:Z:56:ALA:O	48:Z:59:LEU:HG	2.12	0.49
49:a:27:ILE:HD11	49:a:189:LEU:HD12	1.95	0.49
50:3:82:G:H2'	50:3:83:C:H5'	1.95	0.49
50:3:151:A:H2'	50:3:152:A:O4'	2.13	0.49
50:3:514:C:H2'	50:3:515:G:C8	2.47	0.49
50:3:737:C:H2'	50:3:738:C:H6	1.76	0.49
50:3:962:C:H2'	50:3:963:G:H8	1.78	0.49
51:1:883:G:H2'	51:1:884:U:C5	2.48	0.49
51:1:968:C:H2'	51:1:969:G:H8	1.78	0.49
51:1:1443:U:H2'	51:1:1444:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:8:176:ILE:HD12	55:8:179:VAL:HG11	1.94	0.49
1:b:94:LEU:HD13	1:b:100:ARG:HH11	1.78	0.48
2:c:110:THR:HB	2:c:202:ILE:HB	1.95	0.48
16:s:93:ALA:HB2	51:1:1614:A:N1	2.27	0.48
18:u:89:GLY:C	18:u:90:LYS:HD3	2.38	0.48
22:y:6:LEU:HD22	22:y:56:LEU:HD21	1.95	0.48
29:G:22:TRP:HZ2	50:3:829:G:H4'	1.76	0.48
37:O:44:THR:HG22	37:O:70:HIS:HA	1.93	0.48
39:Q:19:ASN:OD1	39:Q:20:VAL:HG13	2.13	0.48
39:Q:66:ILE:HG21	39:Q:71:HIS:CD2	2.48	0.48
44:V:37:ILE:HG22	44:V:38:LYS:H	1.78	0.48
50:3:1106:G:O2'	50:3:1107:C:H5'	2.12	0.48
51:1:247:G:H4'	51:1:386:G:C6	2.47	0.48
51:1:895:U:H2'	51:1:897:C:C5	2.48	0.48
51:1:1069:A:N6	51:1:1073:A:H62	2.11	0.48
51:1:1229:C:H2'	51:1:1230:A:C8	2.48	0.48
51:1:2529:G:H5'	51:1:2530:A:H5''	1.95	0.48
55:8:30:LYS:HG3	55:8:33:ARG:NH2	2.28	0.48
55:8:167:GLU:HB3	55:8:180:THR:CG2	2.43	0.48
1:b:51:ARG:O	1:b:52:HIS:HB2	2.12	0.48
4:e:2:LYS:HD3	4:e:2:LYS:C	2.38	0.48
8:k:10:VAL:HG21	8:k:16:ALA:O	2.13	0.48
30:H:148:ILE:CG2	30:H:169:GLU:HB3	2.43	0.48
32:J:40:ASP:OD2	32:J:42:ASN:HB2	2.13	0.48
39:Q:32:VAL:HB	39:Q:55:ARG:HB3	1.95	0.48
50:3:529:G:C4'	50:3:533:A:C2	2.96	0.48
51:1:226:A:H2'	51:1:227:A:H8	1.76	0.48
51:1:366:C:C3'	51:1:367:G:H5''	2.43	0.48
51:1:826:U:H2'	51:1:828:U:O4'	2.13	0.48
51:1:2360:G:C2'	51:1:2361:G:H5'	2.42	0.48
51:1:2512:C:H2'	51:1:2513:A:O4'	2.12	0.48
52:2:63:C:H2'	52:2:64:G:C8	2.48	0.48
2:c:1:MET:HE3	2:c:2:ILE:HD13	1.95	0.48
6:g:16:GLY:HA2	6:g:47:PHE:CE2	2.49	0.48
6:g:143:ILE:HD12	6:g:143:ILE:H	1.77	0.48
15:r:59:ILE:HG23	15:r:101:ILE:HD13	1.95	0.48
22:y:5:GLU:HB3	22:y:56:LEU:CD1	2.44	0.48
32:J:53:ARG:NH2	50:3:1071:C:H5'	2.27	0.48
33:K:67:PRO:HB2	33:K:69:GLU:OE1	2.13	0.48
36:N:29:ILE:HG22	36:N:64:ILE:HB	1.94	0.48
48:Z:11:PHE:CG	48:Z:12:ASP:N	2.81	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:a:18:THR:HG22	51:1:2105:U:H5''	1.94	0.48
50:3:45:G:H2'	50:3:46:G:H8	1.78	0.48
51:1:577:G:H2'	51:1:578:G:C8	2.48	0.48
51:1:903:C:O2'	51:1:904:G:H5'	2.12	0.48
51:1:1316:U:H2'	51:1:1317:G:C8	2.48	0.48
51:1:1437:C:H2'	51:1:1438:U:C6	2.48	0.48
51:1:1571:A:H2'	51:1:1572:A:C8	2.48	0.48
51:1:1585:C:H2'	51:1:1586:A:O4'	2.13	0.48
51:1:2220:U:H2'	51:1:2221:G:H8	1.78	0.48
51:1:2241:A:H2'	51:1:2242:G:C8	2.48	0.48
51:1:2528:U:O2'	51:1:2529:G:H5''	2.14	0.48
51:1:2875:C:H2'	51:1:2876:G:C8	2.48	0.48
52:2:2:G:H2'	52:2:3:C:H6	1.79	0.48
55:8:51:GLU:OE1	55:8:51:GLU:N	2.44	0.48
5:f:71:LEU:O	5:f:75:VAL:HG23	2.13	0.48
6:g:23:ALA:O	6:g:27:ARG:HG2	2.14	0.48
10:m:33:LEU:HD12	10:m:129:THR:O	2.12	0.48
13:p:52:ARG:NH2	51:1:2720:U:H5''	2.07	0.48
29:G:3:VAL:HG21	29:G:211:LEU:HD21	1.95	0.48
30:H:19:SER:HA	30:H:56:ILE:HB	1.96	0.48
41:S:33:VAL:O	41:S:33:VAL:HG23	2.13	0.48
47:Y:23:ARG:NH2	47:Y:60:GLN:NE2	2.62	0.48
48:Z:59:LEU:HD12	48:Z:59:LEU:C	2.38	0.48
50:3:513:C:H2'	50:3:514:C:H6	1.78	0.48
50:3:1436:U:H2'	50:3:1437:A:C8	2.48	0.48
51:1:581:C:H2'	51:1:582:A:H8	1.78	0.48
51:1:967:U:H2'	51:1:968:C:C6	2.48	0.48
51:1:1015:U:H2'	51:1:1016:G:C8	2.48	0.48
51:1:1111:A:O2'	51:1:1112:G:H4'	2.13	0.48
55:8:164:GLU:HB3	55:8:182:LYS:HB3	1.94	0.48
3:d:46:GLN:CB	3:d:83:VAL:HG11	2.43	0.48
3:d:50:ALA:HB2	51:1:801:G:C8	2.48	0.48
8:k:71:ARG:HB2	8:k:73:ASP:OD1	2.13	0.48
29:G:135:MET:HE1	29:G:138:ARG:HH12	1.78	0.48
32:J:57:ALA:O	32:J:61:LYS:HG2	2.14	0.48
34:L:90:VAL:HG22	34:L:91:ARG:N	2.26	0.48
40:R:25:GLY:N	50:3:1329:A:H5''	2.27	0.48
42:T:6:ALA:O	42:T:10:ILE:HG13	2.13	0.48
44:V:10:ARG:C	44:V:22:VAL:HG13	2.38	0.48
46:X:5:LYS:HD2	50:3:1314:C:OP2	2.13	0.48
48:Z:35:GLU:CG	48:Z:36:PHE:N	2.71	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:45:G:H2'	50:3:46:G:C8	2.48	0.48
50:3:802:A:H2'	50:3:803:G:O4'	2.14	0.48
50:3:1158:C:H3'	50:3:1158:C:O2	2.13	0.48
50:3:1254:A:H5'	50:3:1356:G:H4'	1.96	0.48
50:3:1516:G:H2'	50:3:1518:A:OP2	2.14	0.48
51:1:9:G:H22	51:1:2629:U:H2'	1.79	0.48
51:1:414:C:H2'	51:1:415:A:H8	1.78	0.48
51:1:1268:A:H2'	51:1:1269:A:O4'	2.14	0.48
51:1:1558:C:H5''	51:1:1559:U:H6	1.79	0.48
51:1:1700:A:H2'	51:1:1701:A:H5'	1.94	0.48
51:1:2080:A:H2'	51:1:2081:U:H6	1.78	0.48
51:1:2504:U:H2'	51:1:2505:G:H5''	1.94	0.48
51:1:2690:U:O2'	51:1:2872:A:H1'	2.13	0.48
4:e:103:ILE:HB	4:e:172:PHE:CZ	2.48	0.48
5:f:18:ILE:HG21	5:f:42:VAL:HG21	1.94	0.48
9:l:48:ARG:HD2	27:E:59:ALA:O	2.13	0.48
13:p:109:ILE:HD12	13:p:109:ILE:H	1.75	0.48
19:v:20:LEU:HG	19:v:25:LYS:O	2.13	0.48
29:G:54:ALA:O	29:G:58:LYS:HG3	2.12	0.48
34:L:68:VAL:CG1	34:L:134:VAL:HG22	2.40	0.48
36:N:18:VAL:HG13	36:N:64:ILE:CD1	2.44	0.48
37:O:12:ALA:HB2	37:O:96:VAL:HG22	1.95	0.48
37:O:70:HIS:HB3	37:O:72:ARG:HH12	1.79	0.48
40:R:23:GLY:O	50:3:1329:A:H4'	2.13	0.48
46:X:68:HIS:HB3	46:X:72:GLU:HG3	1.96	0.48
49:a:217:THR:HG23	49:a:218:MET:N	2.28	0.48
50:3:113:G:H2'	50:3:114:U:H6	1.78	0.48
51:1:444:C:O2'	51:1:445:C:H5'	2.13	0.48
51:1:1161:C:H2'	51:1:1162:G:H8	1.78	0.48
51:1:1424:G:H2'	51:1:1425:G:O4'	2.13	0.48
51:1:2247:A:H2'	51:1:2248:C:C6	2.49	0.48
51:1:2498:C:H6	51:1:2498:C:H5'	1.78	0.48
51:1:2743:U:H2'	51:1:2744:G:C4'	2.43	0.48
55:8:130:LEU:HD23	55:8:130:LEU:C	2.39	0.48
55:8:239:LEU:O	55:8:241:ILE:HD12	2.13	0.48
55:8:285:ASP:O	55:8:289:LYS:HG2	2.14	0.48
1:b:132:ARG:HG3	1:b:133:ASN:OD1	2.14	0.48
4:e:141:ASP:C	4:e:143:ASP:H	2.21	0.48
12:o:106:LEU:C	12:o:106:LEU:HD23	2.38	0.48
16:s:66:ILE:H	16:s:66:ILE:CD1	2.27	0.48
20:w:20:LYS:C	20:w:21:ARG:HD2	2.39	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:H:72:PRO:HG3	30:H:104:GLU:HG2	1.94	0.48
32:J:105:ILE:HG13	32:J:123:LEU:HA	1.96	0.48
38:P:85:VAL:HG23	38:P:111:ASP:OD1	2.13	0.48
50:3:1324:A:H2'	50:3:1325:C:C6	2.48	0.48
51:1:2457:U:H5	51:1:2494:G:H1	1.61	0.48
51:1:2849:U:H5'	51:1:2868:A:N6	2.28	0.48
5:f:136:ASP:HB3	5:f:139:VAL:CG2	2.41	0.48
17:t:1:MET:HG2	17:t:3:ARG:H	1.79	0.48
26:D:34:ARG:NH2	26:D:39:ARG:HD2	2.29	0.48
29:G:94:ARG:NH1	29:G:96:LEU:HD23	2.29	0.48
33:K:8:PHE:CD2	33:K:84:VAL:HG23	2.49	0.48
36:N:17:ARG:CZ	36:N:65:THR:HG21	2.43	0.48
50:3:32:A:H2'	50:3:33:A:H8	1.79	0.48
50:3:419:C:C2'	50:3:420:U:H5'	2.44	0.48
50:3:748:G:H2'	50:3:749:A:C8	2.47	0.48
50:3:868:C:H2'	50:3:869:G:O4'	2.13	0.48
50:3:1071:C:H2'	50:3:1072:G:H8	1.79	0.48
50:3:1219:A:H2'	50:3:1220:G:C8	2.49	0.48
51:1:20:C:H2'	51:1:21:A:H8	1.77	0.48
51:1:532:A:H4'	51:1:533:G:C8	2.49	0.48
51:1:901:C:H2'	51:1:902:C:H6	1.79	0.48
51:1:1478:G:H21	51:1:1560:G:H1'	1.79	0.48
51:1:1796:U:H2'	51:1:1797:G:H8	1.79	0.48
51:1:2707:U:H2'	51:1:2708:G:H8	1.78	0.48
51:1:2834:G:H2'	51:1:2879:A:H61	1.78	0.48
53:5:35:A:H2'	53:5:36:U:C6	2.48	0.48
53:5:52:G:H2'	53:5:53:G:H8	1.79	0.48
55:8:10:ARG:HH22	55:8:103:LEU:HD11	1.79	0.48
5:f:98:LYS:O	5:f:98:LYS:HD2	2.14	0.48
9:l:57:LEU:HD22	27:E:53:ASP:HB3	1.95	0.48
16:s:36:LEU:HD13	16:s:47:VAL:HG13	1.95	0.48
24:B:39:ARG:NE	51:1:2884:U:H3	2.11	0.48
25:C:5:ARG:HH21	25:C:23:THR:HG23	1.79	0.48
30:H:2:GLN:NE2	50:3:1191:A:OP2	2.47	0.48
30:H:22:PHE:CD2	37:O:97:ASP:HB2	2.49	0.48
32:J:106:ALA:HB1	32:J:110:MET:HB3	1.96	0.48
36:N:30:ASN:ND2	36:N:65:THR:HA	2.28	0.48
40:R:99:GLN:HB3	50:3:949:A:OP1	2.13	0.48
48:Z:39:LYS:HA	48:Z:42:THR:CG2	2.44	0.48
50:3:1052:U:O4	50:3:1200:C:H2'	2.13	0.48
50:3:1157:A:H61	50:3:1178:G:H1'	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1318:A:H2'	50:3:1319:A:H5'	1.95	0.48
51:1:52:A:H2'	51:1:53:A:H8	1.79	0.48
51:1:133:U:H2'	51:1:134:G:H8	1.79	0.48
51:1:532:A:H2'	51:1:532:A:N3	2.28	0.48
51:1:740:C:H5'	51:1:1784:A:H2'	1.96	0.48
51:1:955:U:H3	51:1:962:G:H1	1.62	0.48
51:1:2327:A:H2'	51:1:2328:A:C8	2.48	0.48
51:1:2406:A:H4'	51:1:2408:U:OP2	2.13	0.48
51:1:2563:U:C3'	51:1:2564:A:H5''	2.43	0.48
2:c:4:LEU:HD11	2:c:100:LEU:HD23	1.96	0.48
3:d:40:ARG:HG2	51:1:443:A:N7	2.28	0.48
9:l:55:MET:HE3	51:1:2392:A:C2	2.48	0.48
15:r:39:LEU:O	15:r:49:ILE:HG23	2.13	0.48
31:l:7:LYS:HG2	50:3:430:A:OP2	2.13	0.48
32:J:96:GLN:OE1	32:J:123:LEU:HD21	2.14	0.48
34:L:73:GLU:HG2	34:L:90:VAL:HB	1.95	0.48
36:N:17:ARG:NH2	50:3:1129:C:H5''	2.28	0.48
40:R:23:GLY:HA2	40:R:68:LEU:CD2	2.44	0.48
43:U:70:ARG:O	43:U:74:LEU:HG	2.14	0.48
50:3:398:U:H2'	50:3:399:G:H8	1.78	0.48
50:3:890:G:O2'	50:3:891:U:C5	2.67	0.48
50:3:1241:G:H2'	50:3:1242:G:C8	2.48	0.48
51:1:445:C:O2'	51:1:446:G:H5'	2.13	0.48
51:1:572:A:H61	51:1:2029:G:H21	1.61	0.48
51:1:813:U:H2'	51:1:814:C:H6	1.79	0.48
51:1:1318:U:H2'	51:1:1319:C:C6	2.48	0.48
51:1:1417:C:H2'	51:1:1418:G:C8	2.48	0.48
51:1:2051:A:H2'	51:1:2578:G:OP1	2.14	0.48
51:1:2243:U:H2'	51:1:2244:U:C6	2.49	0.48
51:1:2746:U:O4	51:1:2755:C:H4'	2.13	0.48
55:8:254:VAL:HG21	55:8:256:ARG:NH1	2.27	0.48
1:b:45:ASN:O	51:1:773:U:H4'	2.14	0.47
2:c:88:GLU:N	2:c:88:GLU:OE2	2.47	0.47
3:d:149:ILE:HD13	3:d:188:MET:SD	2.54	0.47
3:d:165:HIS:HE1	51:1:1205:A:H2'	1.79	0.47
6:g:54:LEU:HD23	6:g:54:LEU:C	2.39	0.47
10:m:109:PRO:HD2	10:m:112:LEU:HD23	1.96	0.47
23:z:13:ILE:HD12	51:1:988:A:C8	2.49	0.47
23:z:52:PHE:CD2	52:2:83:G:H4'	2.49	0.47
25:C:29:LYS:HG3	51:1:2286:G:H5''	1.95	0.47
29:G:1:ALA:O	29:G:53:LEU:HD13	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:H:143:LEU:HD23	30:H:143:LEU:C	2.38	0.47
50:3:169:C:H2'	50:3:170:U:C6	2.49	0.47
51:1:366:C:H2'	51:1:367:G:H5''	1.94	0.47
51:1:646:U:O4	51:1:2368:C:H1'	2.14	0.47
51:1:1147:A:H2'	51:1:1148:U:C6	2.49	0.47
51:1:1387:A:H2'	51:1:1388:G:H8	1.79	0.47
51:1:1409:U:H2'	51:1:1410:G:C8	2.48	0.47
51:1:1637:A:H5'	51:1:1760:C:O2'	2.14	0.47
51:1:2101:A:H2'	51:1:2102:G:C8	2.49	0.47
51:1:2811:G:H2'	51:1:2812:G:C8	2.49	0.47
52:2:21:G:O2'	52:2:22:U:H5'	2.14	0.47
52:2:78:A:H2'	52:2:79:G:O4'	2.14	0.47
3:d:118:LEU:HD11	3:d:188:MET:HG3	1.96	0.47
3:d:158:PHE:HA	3:d:169:VAL:HG11	1.96	0.47
4:e:45:ASP:HB3	4:e:48:LEU:HB2	1.95	0.47
15:r:51:VAL:HG22	15:r:52:PRO:HD2	1.95	0.47
20:w:19:VAL:HG12	20:w:34:VAL:HG12	1.96	0.47
21:x:7:THR:OG1	21:x:9:LYS:HG3	2.14	0.47
27:E:16:THR:HG21	27:E:48:MET:HE1	1.96	0.47
31:I:116:LEU:HD13	31:I:122:ILE:HD11	1.95	0.47
31:I:167:PRO:HB2	31:I:170:LEU:HG	1.96	0.47
33:K:94:HIS:O	33:K:95:ALA:C	2.57	0.47
36:N:42:THR:HA	36:N:44:ARG:HH11	1.79	0.47
37:O:35:GLN:O	37:O:76:ILE:HG23	2.13	0.47
50:3:1202:U:H2'	50:3:1203:C:O4'	2.14	0.47
50:3:1502:A:H8	50:3:1505:G:N2	2.10	0.47
51:1:356:G:H2'	51:1:357:C:C6	2.48	0.47
51:1:741:U:H2'	51:1:742:A:H8	1.79	0.47
51:1:873:C:H2'	51:1:874:G:C5'	2.44	0.47
51:1:1259:G:H2'	51:1:1260:A:C8	2.49	0.47
51:1:1344:U:H3'	51:1:1345:C:H5'	1.96	0.47
51:1:1525:A:H2'	51:1:1526:C:O4'	2.13	0.47
51:1:2710:C:H2'	51:1:2711:A:H8	1.79	0.47
51:1:2743:U:H2'	51:1:2744:G:C5'	2.45	0.47
52:2:63:C:H2'	52:2:64:G:H8	1.79	0.47
55:8:188:ALA:O	55:8:192:LEU:HD13	2.14	0.47
1:b:7:PRO:O	51:1:1695:G:H1'	2.15	0.47
14:q:5:ARG:HH22	51:1:1251:C:H6	1.62	0.47
21:x:36:ARG:HA	21:x:47:THR:HA	1.96	0.47
33:K:86:ARG:HH11	33:K:86:ARG:HG3	1.80	0.47
36:N:53:LEU:HD12	36:N:53:LEU:N	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:500:G:H2'	50:3:501:C:C6	2.49	0.47
50:3:1062:U:H2'	50:3:1063:C:C6	2.50	0.47
50:3:1255:G:H2'	50:3:1279:G:H1	1.78	0.47
51:1:161:A:H3'	51:1:162:U:H5''	1.94	0.47
51:1:2379:G:H2'	51:1:2380:C:C6	2.50	0.47
51:1:2836:U:H2'	51:1:2837:A:C8	2.50	0.47
1:b:196:ASN:ND2	1:b:199:HIS:HB2	2.29	0.47
4:e:84:ILE:HG22	4:e:84:ILE:O	2.14	0.47
5:f:125:PRO:HD2	5:f:129:GLU:O	2.14	0.47
8:k:48:PRO:HB3	50:3:1422:G:H5'	1.96	0.47
24:B:39:ARG:O	24:B:40:HIS:HB2	2.13	0.47
30:H:206:ILE:OXT	30:H:206:ILE:HG12	2.14	0.47
31:I:187:ARG:HD2	31:I:187:ARG:O	2.15	0.47
38:P:23:HIS:HB3	38:P:30:ILE:CG2	2.44	0.47
39:Q:4:ASN:ND2	50:3:585:G:H4'	2.29	0.47
42:T:47:LYS:HB2	50:3:668:G:H4'	1.96	0.47
42:T:53:ARG:NH2	50:3:579:A:H4'	2.28	0.47
48:Z:44:ARG:NH1	50:3:723:U:H5'	2.28	0.47
50:3:171:A:H2'	50:3:172:A:C8	2.50	0.47
50:3:407:U:H2'	50:3:408:A:H8	1.78	0.47
50:3:1123:U:H2'	50:3:1124:G:C8	2.49	0.47
51:1:52:A:C5	51:1:118:A:C2	3.02	0.47
51:1:940:G:C3'	51:1:941:A:H5''	2.45	0.47
51:1:1827:U:C2'	51:1:1828:G:H5'	2.45	0.47
51:1:1916:A:H2'	51:1:1917:U:H6	1.79	0.47
51:1:2122:U:H2'	51:1:2123:G:H5'	1.96	0.47
51:1:2353:G:H2'	51:1:2354:C:C5'	2.43	0.47
51:1:2440:C:H4'	51:1:2587:A:H4'	1.95	0.47
55:8:194:THR:CB	55:8:361:LEU:HD12	2.43	0.47
3:d:41:GLN:HG3	3:d:43:THR:HG23	1.97	0.47
5:f:77:GLY:HA2	5:f:81:GLY:HA2	1.95	0.47
8:k:5:GLN:HG3	51:1:1669:A:O4'	2.14	0.47
10:m:32:GLY:O	10:m:131:VAL:HG22	2.14	0.47
14:q:56:PHE:HZ	51:1:536:G:H4'	1.78	0.47
14:q:91:ARG:HG2	14:q:91:ARG:HH11	1.78	0.47
18:u:35:VAL:HG13	18:u:38:ILE:HB	1.96	0.47
23:z:37:ARG:NH2	51:1:929:U:H4'	2.30	0.47
30:H:74:ILE:H	30:H:74:ILE:CD1	2.28	0.47
32:J:59:ILE:O	32:J:63:MET:HG2	2.15	0.47
36:N:17:ARG:CZ	50:3:1129:C:H5''	2.45	0.47
36:N:44:ARG:HD3	36:N:44:ARG:N	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:14:ALA:O	41:S:17:ASP:OD2	2.32	0.47
51:1:696:G:O2'	51:1:697:G:H5'	2.14	0.47
51:1:768:G:N2	51:1:1379:U:H1'	2.30	0.47
51:1:1175:A:H3'	51:1:1176:U:H5'	1.95	0.47
51:1:1837:C:H2'	51:1:1899:A:N6	2.29	0.47
51:1:2036:C:H2'	51:1:2037:A:C8	2.49	0.47
11:n:39:PRO:HG2	51:1:1651:G:H4'	1.96	0.47
14:q:68:ALA:HB1	14:q:73:ILE:HG23	1.96	0.47
26:D:12:ARG:NH1	26:D:44:VAL:HG21	2.30	0.47
26:D:12:ARG:HH21	26:D:12:ARG:HG3	1.79	0.47
34:L:17:PHE:HZ	34:L:46:LEU:HD21	1.80	0.47
34:L:113:LYS:HB3	50:3:1297:G:H21	1.79	0.47
35:M:17:GLN:HE22	35:M:70:VAL:HG12	1.80	0.47
38:P:126:ARG:HB2	48:Z:33:ARG:NE	2.29	0.47
39:Q:98:ARG:HD2	39:Q:103:CYS:SG	2.54	0.47
50:3:32:A:H2'	50:3:33:A:C8	2.50	0.47
50:3:129:A:O2'	50:3:130:A:H5''	2.15	0.47
50:3:389:A:H3'	50:3:390:U:C6	2.50	0.47
50:3:711:G:O2'	50:3:712:A:H5'	2.15	0.47
50:3:1413:A:H2	50:3:1487:G:H22	1.61	0.47
50:3:1496:C:H1'	50:3:1517:G:H22	1.79	0.47
51:1:419:U:H2'	51:1:420:C:H6	1.79	0.47
51:1:1015:U:H2'	51:1:1016:G:H8	1.80	0.47
51:1:2011:U:H2'	51:1:2012:G:O4'	2.15	0.47
51:1:2221:G:O2'	51:1:2222:C:H5'	2.14	0.47
51:1:2273:A:H2'	51:1:2274:A:C8	2.50	0.47
2:c:5:VAL:HG11	2:c:80:TRP:CZ3	2.49	0.47
3:d:164:LEU:HB2	3:d:167:VAL:HG11	1.97	0.47
5:f:88:LEU:HD22	5:f:95:ALA:HB2	1.96	0.47
6:g:132:PHE:HE2	6:g:142:VAL:HG21	1.79	0.47
8:k:48:PRO:HA	50:3:1422:G:OP1	2.15	0.47
9:l:78:ARG:CZ	9:l:113:ALA:HB1	2.44	0.47
12:o:8:ILE:O	12:o:12:THR:HG23	2.15	0.47
12:o:26:LEU:HD13	12:o:39:VAL:HG22	1.96	0.47
12:o:33:ARG:HB2	52:2:52:A:N6	2.28	0.47
15:r:4:VAL:HG22	15:r:40:MET:HB3	1.96	0.47
19:v:4:ILE:HG12	19:v:50:MET:HE1	1.96	0.47
19:v:78:GLN:HB3	19:v:88:HIS:N	2.29	0.47
30:H:53:ARG:HG3	30:H:68:HIS:HB2	1.97	0.47
31:I:36:ALA:N	31:I:37:PRO:HD3	2.28	0.47
33:K:49:TYR:CE1	45:W:65:SER:HA	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:M:3:GLN:O	50:3:587:G:H4'	2.14	0.47
35:M:74:ILE:HG23	35:M:74:ILE:O	2.14	0.47
36:N:39:GLY:O	36:N:44:ARG:HG3	2.14	0.47
49:a:23:ILE:HG13	49:a:189:LEU:HD13	1.96	0.47
50:3:120:A:H1'	50:3:122:G:N7	2.29	0.47
50:3:488:C:H2'	50:3:489:C:C6	2.49	0.47
50:3:882:C:O2'	50:3:883:C:H5'	2.14	0.47
50:3:960:U:O2'	50:3:1223:C:H5'	2.14	0.47
50:3:1120:C:H2'	50:3:1121:U:C6	2.49	0.47
50:3:1230:C:C5'	53:5:30:G:H5''	2.45	0.47
50:3:1369:C:H2'	50:3:1370:G:H8	1.80	0.47
51:1:765:C:H2'	51:1:766:U:C6	2.50	0.47
51:1:1028:A:H2'	51:1:1029:A:H8	1.80	0.47
51:1:1418:G:O6	51:1:1578:U:H3'	2.15	0.47
51:1:1535:A:H3'	51:1:1536:C:H5'	1.96	0.47
51:1:1847:A:C2'	51:1:1848:A:H5''	2.38	0.47
51:1:2515:C:H2'	51:1:2516:A:H8	1.79	0.47
51:1:2581:G:H4'	51:1:2582:G:H5'	1.97	0.47
51:1:2590:A:N1	51:1:2604:U:H5	2.13	0.47
51:1:2689:U:O2	51:1:2713:U:H5''	2.15	0.47
51:1:2698:U:H2'	51:1:2699:C:C6	2.50	0.47
52:2:82:U:H2'	52:2:83:G:C8	2.50	0.47
53:5:62:C:H2'	53:5:63:G:C8	2.50	0.47
55:8:93:GLU:CD	55:8:93:GLU:H	2.23	0.47
55:8:270:ILE:HG12	55:8:294:LYS:HG2	1.96	0.47
55:8:332:ARG:HH21	55:8:334:LYS:NZ	2.13	0.47
5:f:82:PHE:CE2	5:f:137:LYS:HB2	2.49	0.47
16:s:72:THR:HG21	16:s:108:SER:HB2	1.97	0.47
29:G:147:LEU:HD22	29:G:150:ILE:HD11	1.97	0.47
32:J:55:VAL:N	32:J:56:PRO:HD2	2.30	0.47
32:J:164:LEU:C	32:J:164:LEU:HD12	2.40	0.47
34:L:112:ASP:C	34:L:113:LYS:HD2	2.39	0.47
35:M:65:PHE:CD2	35:M:66:GLN:HG2	2.50	0.47
37:O:46:LYS:HB3	37:O:66:GLU:CD	2.40	0.47
40:R:22:TYR:HB3	40:R:65:GLU:OE2	2.15	0.47
45:W:70:THR:HG22	45:W:71:ASP:N	2.30	0.47
47:Y:43:LYS:HD2	47:Y:86:ALA:HB3	1.96	0.47
49:a:47:ASN:HD21	51:1:2177:C:H4'	1.80	0.47
49:a:200:LYS:HZ1	49:a:204:ALA:HB3	1.80	0.47
50:3:335:C:H2'	50:3:336:A:H8	1.80	0.47
50:3:715:A:H5''	50:3:805:C:O2'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:865:A:H2'	50:3:866:C:H6	1.77	0.47
51:1:813:U:H2'	51:1:814:C:C6	2.50	0.47
51:1:1302:A:H5''	51:1:1607:C:O2'	2.14	0.47
51:1:1437:C:H2'	51:1:1438:U:H6	1.80	0.47
51:1:1851:U:H2'	51:1:1852:U:O4'	2.15	0.47
51:1:2107:G:H2'	51:1:2108:A:O4'	2.14	0.47
51:1:2707:U:H2'	51:1:2708:G:C8	2.50	0.47
52:2:103:U:H2'	52:2:104:A:H8	1.79	0.47
55:8:322:GLN:HE21	55:8:324:ARG:H	1.63	0.47
2:c:40:LEU:HD13	2:c:44:GLY:C	2.40	0.47
5:f:22:VAL:HA	5:f:35:THR:HA	1.96	0.47
9:l:85:VAL:HG22	9:l:86:GLU:N	2.30	0.47
10:m:40:ARG:HB3	10:m:93:VAL:CG2	2.42	0.47
12:o:99:TYR:HA	12:o:103:VAL:HG21	1.97	0.47
13:p:28:LYS:HB3	13:p:39:LEU:HD11	1.97	0.47
15:r:47:VAL:O	15:r:47:VAL:HG13	2.15	0.47
18:u:84:PHE:CE1	18:u:93:ARG:HG2	2.50	0.47
19:v:30:ILE:HG22	19:v:93:ARG:HH21	1.80	0.47
29:G:18:GLN:HE22	29:G:36:LYS:HE2	1.80	0.47
37:O:21:ALA:O	37:O:25:ILE:HG12	2.15	0.47
38:P:45:THR:HG22	38:P:46:ALA:H	1.80	0.47
40:R:90:HIS:HE1	50:3:1308:U:H4'	1.79	0.47
48:Z:50:SER:HA	48:Z:53:LYS:HE3	1.96	0.47
50:3:1346:A:O2'	50:3:1347:G:H4'	2.14	0.47
50:3:1425:U:H2'	50:3:1426:G:H8	1.80	0.47
50:3:1496:C:H2'	50:3:1497:G:C8	2.49	0.47
51:1:208:C:H2'	51:1:209:C:H6	1.79	0.47
51:1:690:G:H2'	51:1:691:C:C6	2.49	0.47
51:1:995:C:H6	51:1:995:C:H5'	1.80	0.47
51:1:1229:C:H2'	51:1:1230:A:H8	1.80	0.47
51:1:1378:A:H1'	51:1:1379:U:C5	2.50	0.47
51:1:1592:C:H2'	51:1:1593:A:H8	1.80	0.47
51:1:1601:G:C2'	51:1:1602:U:H5'	2.44	0.47
51:1:1614:A:H2'	51:1:1615:C:H5'	1.96	0.47
51:1:1775:U:H2'	51:1:1776:G:O4'	2.15	0.47
51:1:1859:U:H2'	51:1:1860:G:C8	2.50	0.47
51:1:2462:C:H1'	51:1:2491:U:O4	2.15	0.47
51:1:2746:U:H2'	51:1:2747:G:O4'	2.15	0.47
1:b:64:VAL:HG23	1:b:102:TYR:C	2.40	0.47
2:c:124:ARG:HA	2:c:165:MET:SD	2.55	0.47
8:k:105:ARG:NH1	8:k:122:VAL:HG13	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:q:20:ALA:HA	14:q:23:TYR:CE2	2.50	0.47
17:t:59:ASN:OD1	17:t:84:TYR:HB2	2.15	0.47
27:E:16:THR:HG22	27:E:20:GLY:C	2.40	0.47
29:G:217:ALA:O	29:G:220:VAL:HG12	2.15	0.47
33:K:18:VAL:HG11	33:K:58:HIS:HD2	1.73	0.47
34:L:63:VAL:O	34:L:67:ASN:ND2	2.48	0.47
36:N:34:LEU:CD2	36:N:48:ARG:HH12	2.27	0.47
36:N:104:THR:HG23	50:3:1180:A:H5'	1.96	0.47
41:S:20:PHE:C	41:S:22:LYS:H	2.22	0.47
43:U:53:ASP:OD2	43:U:56:ARG:HG2	2.14	0.47
43:U:67:ILE:CG2	43:U:71:VAL:HG13	2.45	0.47
44:V:26:ARG:NH1	44:V:28:VAL:HB	2.30	0.47
50:3:413:G:N2	50:3:428:G:H1'	2.30	0.47
50:3:1456:A:H2'	50:3:1457:G:O4'	2.15	0.47
50:3:1478:U:H2'	50:3:1479:C:H6	1.79	0.47
51:1:191:A:H2'	51:1:192:C:C6	2.49	0.47
51:1:753:A:H2'	51:1:754:U:C6	2.50	0.47
51:1:896:A:H5'	51:1:897:C:H5''	1.97	0.47
51:1:1028:A:H2'	51:1:1029:A:C8	2.51	0.47
51:1:1161:C:H2'	51:1:1162:G:C8	2.50	0.47
51:1:1259:G:H2'	51:1:1260:A:H8	1.80	0.47
51:1:1299:G:C4'	51:1:1301:A:C8	2.97	0.47
51:1:1498:C:H2'	51:1:1499:C:H6	1.79	0.47
51:1:1630:A:H2'	51:1:1631:G:O4'	2.15	0.47
51:1:2760:C:O2'	51:1:2761:A:H5'	2.15	0.47
53:5:57:A:C2'	53:5:58:A:H5'	2.45	0.47
55:8:30:LYS:HG3	55:8:33:ARG:CZ	2.45	0.47
1:b:204:LEU:HB2	51:1:1791:A:H4'	1.96	0.46
3:d:149:ILE:HG21	3:d:188:MET:SD	2.54	0.46
5:f:162:ARG:HH12	5:f:168:VAL:HG12	1.80	0.46
12:o:12:THR:O	12:o:15:ARG:HB2	2.14	0.46
12:o:45:SER:OG	12:o:46:GLU:OE2	2.33	0.46
29:G:211:LEU:HD23	29:G:211:LEU:C	2.39	0.46
33:K:12:PRO:HD2	33:K:54:LEU:HD21	1.96	0.46
33:K:18:VAL:HG22	33:K:19:PRO:HD3	1.95	0.46
36:N:53:LEU:HD21	36:N:102:PHE:CE2	2.50	0.46
50:3:722:G:H1	50:3:733:G:H1	1.61	0.46
50:3:996:A:H2'	50:3:997:U:C6	2.50	0.46
4:e:159:ALA:HB1	4:e:164:GLU:HB2	1.97	0.46
10:m:97:GLN:OE1	10:m:97:GLN:N	2.48	0.46
14:q:56:PHE:CZ	51:1:536:G:H4'	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:t:6:ARG:O	17:t:10:VAL:HG23	2.14	0.46
17:t:92:ASN:ND2	17:t:93:LEU:HG	2.30	0.46
30:H:33:ASP:O	30:H:37:LYS:HG2	2.15	0.46
30:H:46:LEU:HG	30:H:51:VAL:HG21	1.98	0.46
34:L:21:LEU:C	34:L:21:LEU:HD23	2.41	0.46
38:P:125:LYS:HB2	50:3:797:C:OP1	2.14	0.46
41:S:12:ARG:HG2	41:S:59:GLN:HG2	1.98	0.46
42:T:84:LEU:HD23	42:T:86:LEU:HD23	1.97	0.46
45:W:24:ASP:O	45:W:28:LEU:HD13	2.16	0.46
49:a:11:ILE:HG22	49:a:15:VAL:CG2	2.45	0.46
50:3:458:U:H2'	50:3:459:A:H8	1.81	0.46
50:3:536:C:H2'	50:3:537:G:C8	2.51	0.46
50:3:1144:G:H21	50:3:1146:A:N6	2.13	0.46
50:3:1293:C:H2'	50:3:1294:G:C8	2.49	0.46
50:3:1410:A:H2'	50:3:1411:C:C6	2.50	0.46
51:1:103:A:H2'	51:1:104:A:O4'	2.15	0.46
51:1:861:A:H2'	51:1:862:G:O4'	2.15	0.46
51:1:1000:A:H2'	51:1:1001:A:C8	2.50	0.46
51:1:1167:C:H2'	51:1:1168:G:H8	1.80	0.46
51:1:2469:A:H2'	51:1:2470:G:O4'	2.15	0.46
53:5:71:C:O2'	53:5:72:A:H5'	2.14	0.46
4:e:73:VAL:HG21	51:1:2311:A:H4'	1.97	0.46
17:t:2:ILE:HG22	17:t:2:ILE:O	2.16	0.46
21:x:55:MET:SD	51:1:2091:C:H4'	2.56	0.46
30:H:119:ILE:O	30:H:123:LEU:HD23	2.15	0.46
31:I:202:LEU:HD23	31:I:202:LEU:C	2.40	0.46
34:L:74:VAL:HG21	34:L:143:MET:CE	2.45	0.46
37:O:10:LEU:HD23	37:O:10:LEU:N	2.29	0.46
38:P:17:ASP:OD1	38:P:82:GLU:OE1	2.33	0.46
39:Q:24:GLU:C	39:Q:26:CYS:H	2.24	0.46
40:R:2:ARG:N	40:R:7:ASN:O	2.41	0.46
40:R:103:THR:HG23	40:R:104:ASN:N	2.30	0.46
43:U:44:SER:H	43:U:46:LYS:HZ2	1.63	0.46
44:V:82:VAL:HG22	44:V:82:VAL:OXT	2.15	0.46
50:3:20:U:H2'	50:3:21:G:O4'	2.16	0.46
50:3:598:U:H2'	50:3:599:C:H6	1.81	0.46
50:3:629:A:H2'	50:3:630:A:O4'	2.15	0.46
51:1:873:C:H3'	51:1:874:G:H5''	1.97	0.46
51:1:1422:G:H2'	51:1:1423:G:H8	1.80	0.46
51:1:1550:C:H2'	51:1:1551:A:C8	2.51	0.46
51:1:2022:U:O2'	51:1:2617:U:H5'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:2029:G:O6	51:1:2032:G:H5''	2.15	0.46
3:d:29:HIS:NE2	9:l:8:PRO:HD3	2.30	0.46
5:f:83:THR:HG23	5:f:132:LEU:O	2.15	0.46
6:g:6:LEU:HD23	6:g:47:PHE:HE1	1.80	0.46
11:n:69:ARG:C	11:n:71:ARG:H	2.23	0.46
13:p:90:ALA:N	13:p:110:LYS:O	2.47	0.46
15:r:85:LYS:HE2	51:1:815:C:OP2	2.15	0.46
25:C:9:LYS:HE3	25:C:19:PHE:CD2	2.50	0.46
27:E:32:LEU:HD13	51:1:2419:U:OP2	2.15	0.46
36:N:117:LEU:HD12	36:N:117:LEU:N	2.30	0.46
37:O:40:ILE:HD12	50:3:1125:U:C6	2.49	0.46
38:P:71:ASP:O	38:P:72:ALA:HB3	2.16	0.46
41:S:58:ARG:NH2	50:3:980:C:H4'	2.31	0.46
43:U:76:LYS:HA	43:U:76:LYS:CE	2.38	0.46
49:a:200:LYS:NZ	49:a:204:ALA:HB3	2.30	0.46
50:3:367:U:O2'	50:3:368:U:H4'	2.16	0.46
50:3:560:A:C5'	50:3:566:G:N2	2.77	0.46
50:3:631:C:H3'	50:3:632:U:H5'	1.97	0.46
51:1:971:G:H2'	51:1:972:A:O4'	2.15	0.46
51:1:2134:A:H2	51:1:2159:G:H4'	1.81	0.46
52:2:55:U:O2'	52:2:56:G:H5'	2.16	0.46
55:8:136:SER:HB2	55:8:217:PHE:HD2	1.79	0.46
2:c:55:LYS:CD	2:c:77:ARG:HA	2.43	0.46
4:e:130:GLY:N	51:1:2304:G:O2'	2.48	0.46
29:G:100:LEU:HD12	29:G:174:GLU:HB2	1.95	0.46
32:J:86:GLY:O	32:J:138:ALA:HB1	2.15	0.46
34:L:24:LYS:HA	34:L:27:ASN:ND2	2.22	0.46
34:L:142:ARG:HB2	34:L:142:ARG:NH1	2.30	0.46
38:P:81:LEU:HD22	38:P:104:PHE:HB3	1.98	0.46
40:R:22:TYR:HD2	40:R:65:GLU:HA	1.80	0.46
42:T:1:SER:HA	42:T:34:GLN:HE22	1.79	0.46
43:U:5:ARG:HD2	50:3:376:G:H4'	1.98	0.46
49:a:4:LEU:HD12	49:a:4:LEU:N	2.31	0.46
51:1:1328:A:H2'	51:1:1330:C:C4	2.51	0.46
51:1:1668:A:C4'	51:1:1669:A:H5'	2.41	0.46
51:1:1916:A:H2'	51:1:1917:U:C6	2.50	0.46
51:1:2581:G:H2'	51:1:2581:G:N3	2.29	0.46
1:b:155:ARG:HG3	51:1:1818:U:H5''	1.96	0.46
2:c:8:LYS:HB2	2:c:201:LEU:CD1	2.44	0.46
6:g:27:ARG:HA	6:g:31:VAL:HG12	1.97	0.46
7:j:131:ASN:ND2	51:1:6:A:H5'	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:z:40:THR:HG23	23:z:43:ILE:H	1.81	0.46
28:F:13:ASN:HD21	28:F:28:SER:C	2.23	0.46
32:J:89:THR:O	50:3:864:A:H5'	2.16	0.46
34:L:27:ASN:HB3	50:3:1374:A:O2'	2.16	0.46
34:L:117:LEU:HD12	34:L:118:ARG:N	2.30	0.46
35:M:76:ARG:HD2	35:M:125:ILE:O	2.15	0.46
38:P:91:GLY:C	38:P:93:GLU:H	2.23	0.46
50:3:41:G:H2'	50:3:42:G:H8	1.81	0.46
50:3:313:A:H2'	50:3:314:C:C6	2.51	0.46
50:3:321:A:H2'	50:3:322:C:C6	2.51	0.46
51:1:467:G:O2'	51:1:468:G:H5'	2.16	0.46
51:1:2467:C:H2'	51:1:2468:A:O4'	2.16	0.46
1:b:155:ARG:HD3	51:1:1818:U:C6	2.51	0.46
1:b:203:VAL:HG23	51:1:1792:G:H5''	1.97	0.46
8:k:43:ILE:O	8:k:54:LYS:HG3	2.15	0.46
9:l:29:LYS:O	9:l:30:THR:OG1	2.29	0.46
11:n:103:ARG:HG2	11:n:105:GLY:H	1.80	0.46
13:p:14:GLN:NE2	13:p:14:GLN:H	2.13	0.46
13:p:105:LYS:HA	13:p:108:ARG:CD	2.46	0.46
16:s:46:LEU:O	16:s:50:VAL:HG23	2.15	0.46
29:G:180:ILE:HD12	29:G:180:ILE:H	1.80	0.46
31:I:10:LEU:HD21	31:I:62:ARG:HD2	1.97	0.46
32:J:121:ASN:OD1	32:J:122:VAL:HG13	2.15	0.46
34:L:130:LYS:HD2	34:L:131:GLY:N	2.31	0.46
37:O:32:THR:HG23	37:O:83:THR:HB	1.96	0.46
37:O:35:GLN:HG2	37:O:78:GLU:CG	2.41	0.46
42:T:32:THR:OG1	42:T:84:LEU:HD21	2.15	0.46
43:U:18:GLN:HA	43:U:38:PHE:HA	1.98	0.46
48:Z:32:ARG:HE	48:Z:33:ARG:HG2	1.79	0.46
48:Z:48:LYS:HA	48:Z:51:ALA:CB	2.46	0.46
49:a:217:THR:HG23	49:a:218:MET:H	1.80	0.46
50:3:82:G:C2'	50:3:83:C:H5'	2.44	0.46
50:3:192:A:H2'	50:3:193:C:C6	2.51	0.46
50:3:356:A:H2'	50:3:357:G:O4'	2.16	0.46
50:3:744:C:H2'	50:3:745:G:C8	2.51	0.46
50:3:1033:G:C2'	50:3:1034:G:H5''	2.44	0.46
50:3:1289:A:H2'	50:3:1290:G:H5'	1.97	0.46
50:3:1369:C:H2'	50:3:1370:G:C8	2.51	0.46
51:1:366:C:H3'	51:1:367:G:H5''	1.97	0.46
51:1:1738:G:H4'	51:1:1739:A:O5'	2.15	0.46
51:1:1947:C:C2'	51:1:1948:G:H5''	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:2055:C:H5'	51:1:2056:G:O5'	2.16	0.46
52:2:39:A:O2'	52:2:40:U:H5'	2.16	0.46
55:8:340:VAL:O	55:8:340:VAL:HG13	2.15	0.46
4:e:116:LEU:CB	4:e:129:MET:HE3	2.46	0.46
5:f:124:CYS:HB3	5:f:130:ILE:HD13	1.97	0.46
7:j:105:VAL:HG11	7:j:122:LEU:CD2	2.45	0.46
28:F:4:ARG:HB2	51:1:2466:C:OP1	2.16	0.46
30:H:21:TRP:CE2	41:S:93:PRO:HG2	2.51	0.46
43:U:44:SER:H	43:U:46:LYS:NZ	2.14	0.46
50:3:371:A:H2'	50:3:372:C:O4'	2.16	0.46
50:3:469:C:H2'	50:3:470:C:H6	1.80	0.46
50:3:598:U:H2'	50:3:599:C:C6	2.50	0.46
50:3:678:U:H2'	50:3:679:C:C6	2.50	0.46
51:1:151:C:H2'	51:1:152:A:C8	2.51	0.46
51:1:226:A:H5''	51:1:257:C:O2'	2.15	0.46
51:1:805:G:H5'	51:1:806:C:C5	2.51	0.46
51:1:1164:C:H2'	51:1:1165:A:C8	2.50	0.46
51:1:2208:C:H2'	51:1:2209:G:C8	2.51	0.46
51:1:2323:G:H2'	51:1:2324:U:O4'	2.16	0.46
51:1:2323:G:O2'	51:1:2324:U:H5'	2.16	0.46
55:8:146:SER:O	55:8:149:GLU:HB3	2.16	0.46
4:e:7:TYR:OH	4:e:29:ARG:HG2	2.15	0.46
6:g:5:LEU:HD23	6:g:9:VAL:HG21	1.97	0.46
13:p:105:LYS:HA	13:p:108:ARG:HG3	1.98	0.46
22:y:42:LEU:O	22:y:46:VAL:HG23	2.15	0.46
26:D:21:ARG:HH21	26:D:21:ARG:HG2	1.81	0.46
26:D:24:THR:HG23	26:D:27:GLY:N	2.26	0.46
30:H:42:LEU:HD23	30:H:42:LEU:C	2.41	0.46
30:H:68:HIS:HA	30:H:103:ALA:O	2.15	0.46
35:M:107:LYS:HB2	35:M:110:MET:HE1	1.98	0.46
36:N:33:SER:H	36:N:36:GLN:CD	2.24	0.46
38:P:93:GLU:HA	38:P:96:ILE:CD1	2.46	0.46
40:R:111:PRO:HD2	40:R:113:LYS:NZ	2.31	0.46
41:S:68:ARG:HH22	41:S:80:ARG:HE	1.62	0.46
49:a:11:ILE:O	49:a:15:VAL:HG23	2.16	0.46
49:a:19:LYS:HD2	49:a:21:TYR:CE1	2.51	0.46
49:a:43:ASP:N	49:a:215:SER:O	2.39	0.46
50:3:149:A:H61	50:3:172:A:H62	1.62	0.46
50:3:1477:U:H2'	50:3:1478:U:C6	2.51	0.46
51:1:4:U:H2'	51:1:5:A:C8	2.50	0.46
51:1:576:U:H2'	51:1:577:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1181:U:H2'	51:1:1182:G:C8	2.51	0.46
51:1:1826:G:H2'	51:1:1827:U:C6	2.50	0.46
51:1:1981:A:H5''	51:1:1982:U:OP2	2.16	0.46
1:b:64:VAL:HA	1:b:102:TYR:HB2	1.97	0.46
2:c:13:ARG:HG2	13:p:55:HIS:HE1	1.79	0.46
9:l:59:ARG:HH11	9:l:59:ARG:CB	2.20	0.46
15:r:54:VAL:HG23	15:r:55:ASP:N	2.27	0.46
22:y:42:LEU:HA	22:y:45:GLN:HG2	1.97	0.46
30:H:148:ILE:HG23	30:H:169:GLU:HB3	1.98	0.46
36:N:100:ALA:HB3	36:N:102:PHE:CE2	2.50	0.46
40:R:43:LYS:O	40:R:47:LEU:HG	2.15	0.46
40:R:104:ASN:O	40:R:105:ALA:HB3	2.14	0.46
49:a:215:SER:OG	51:1:2176:A:H1'	2.15	0.46
50:3:357:G:OP1	50:3:367:U:H5''	2.16	0.46
50:3:426:U:H2'	50:3:427:U:C6	2.51	0.46
50:3:470:C:H2'	50:3:471:U:C6	2.51	0.46
50:3:482:A:N3	50:3:482:A:H2'	2.31	0.46
50:3:524:G:H2'	50:3:525:C:C6	2.51	0.46
50:3:1273:C:H2'	50:3:1274:A:O4'	2.15	0.46
51:1:286:U:H2'	51:1:287:G:H8	1.82	0.46
51:1:1452:G:C5'	51:1:1453:A:H5'	2.46	0.46
51:1:2383:G:O2'	51:1:2384:U:H5'	2.16	0.46
51:1:2576:G:H5'	51:1:2578:G:N7	2.31	0.46
51:1:2794:C:H2'	51:1:2795:C:C6	2.51	0.46
52:2:104:A:H2'	52:2:105:G:O4'	2.16	0.46
53:5:29:G:H2'	53:5:30:G:H8	1.80	0.46
55:8:140:GLU:O	55:8:143:ASP:OD2	2.33	0.46
2:c:13:ARG:NH2	51:1:2683:C:H4'	2.31	0.45
4:e:116:LEU:HB3	4:e:129:MET:CE	2.46	0.45
12:o:39:VAL:HG12	12:o:48:LEU:HD12	1.98	0.45
18:u:10:VAL:HG12	18:u:71:ILE:HA	1.97	0.45
25:C:14:ALA:HB2	25:C:46:VAL:HG11	1.97	0.45
29:G:93:HIS:HB2	29:G:145:ASN:O	2.15	0.45
32:J:39:GLY:HA3	32:J:116:VAL:HB	1.98	0.45
32:J:147:ASN:HD22	32:J:152:VAL:HG13	1.81	0.45
34:L:29:LEU:HD13	34:L:42:VAL:HG22	1.99	0.45
37:O:88:MET:O	37:O:89:ARG:HB3	2.15	0.45
41:S:53:ASP:O	41:S:54:SER:HB3	2.17	0.45
44:V:13:SER:O	44:V:20:ILE:HG13	2.15	0.45
48:Z:53:LYS:O	48:Z:57:LYS:HG3	2.16	0.45
50:3:423:G:H2'	50:3:424:G:H4'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1114:C:H2'	50:3:1115:U:C6	2.51	0.45
51:1:6:A:H2'	51:1:7:G:H8	1.81	0.45
51:1:1020:A:C1'	51:1:1021:A:OP2	2.60	0.45
51:1:1056:G:H4'	51:1:1086:A:H8	1.81	0.45
51:1:1838:C:N4	51:1:1898:U:H2'	2.32	0.45
52:2:111:U:H2'	52:2:112:G:H8	1.81	0.45
1:b:264:LYS:HE2	51:1:2224:G:OP1	2.16	0.45
10:m:6:ARG:HD2	10:m:6:ARG:O	2.16	0.45
12:o:26:LEU:HD23	12:o:92:PHE:HD1	1.81	0.45
12:o:106:LEU:HD23	12:o:106:LEU:O	2.17	0.45
13:p:3:ILE:HD12	13:p:3:ILE:H	1.80	0.45
22:y:38:GLN:H	22:y:38:GLN:CD	2.23	0.45
26:D:11:LYS:NZ	51:1:686:U:H5''	2.31	0.45
27:E:16:THR:HG22	27:E:20:GLY:CA	2.46	0.45
28:F:7:VAL:HG12	28:F:35:GLN:HG3	1.98	0.45
29:G:125:PHE:CE1	29:G:136:ARG:HD3	2.52	0.45
30:H:128:MET:HE2	30:H:128:MET:HA	1.98	0.45
31:I:43:ARG:HG2	31:I:43:ARG:HH11	1.80	0.45
36:N:6:TYR:HE1	36:N:17:ARG:HA	1.80	0.45
40:R:33:LEU:HD12	40:R:38:ILE:HB	1.98	0.45
44:V:69:THR:O	44:V:70:LYS:C	2.60	0.45
50:3:45:G:H5''	50:3:307:C:O2'	2.16	0.45
50:3:453:G:H2'	50:3:454:G:C8	2.51	0.45
50:3:1401:G:H2'	50:3:1402:C:O4'	2.16	0.45
51:1:52:A:H2'	51:1:53:A:C8	2.51	0.45
51:1:96:C:O2'	51:1:97:C:H5'	2.15	0.45
51:1:445:C:C2'	51:1:446:G:H5'	2.46	0.45
51:1:680:C:H2'	51:1:681:G:C8	2.51	0.45
51:1:919:U:H2'	51:1:920:A:O4'	2.17	0.45
51:1:1416:G:H2'	51:1:1417:C:C6	2.51	0.45
51:1:2247:A:H2'	51:1:2248:C:H6	1.80	0.45
51:1:2853:C:H2'	51:1:2854:G:C8	2.50	0.45
52:2:72:G:H21	52:2:104:A:H62	1.64	0.45
53:5:43:A:O2'	53:5:44:A:H5'	2.16	0.45
1:b:213:ARG:HG2	1:b:213:ARG:NH1	2.31	0.45
3:d:136:GLN:HE22	3:d:139:LYS:HD3	1.81	0.45
4:e:7:TYR:HA	4:e:11:VAL:CG2	2.46	0.45
4:e:68:LYS:HA	4:e:83:PRO:HA	1.99	0.45
4:e:127:TYR:HB3	4:e:155:ILE:HB	1.99	0.45
5:f:41:GLU:HA	5:f:54:ARG:HH21	1.82	0.45
5:f:75:VAL:O	5:f:78:VAL:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:88:LEU:HD11	5:f:106:LEU:HD21	1.98	0.45
6:g:132:PHE:HB2	6:g:140:ALA:HB3	1.98	0.45
17:t:39:THR:OG1	17:t:42:GLU:HG3	2.16	0.45
21:x:32:LEU:HD12	21:x:50:VAL:C	2.41	0.45
29:G:67:LEU:O	29:G:160:LEU:HD12	2.17	0.45
30:H:156:LEU:HD12	30:H:156:LEU:O	2.16	0.45
32:J:87:VAL:HA	32:J:91:SER:O	2.17	0.45
33:K:75:GLU:HA	33:K:78:PHE:HD2	1.80	0.45
34:L:46:LEU:HG	34:L:57:GLU:CD	2.41	0.45
37:O:7:ARG:HG2	37:O:7:ARG:HH11	1.82	0.45
38:P:121:ARG:HG2	38:P:121:ARG:HH11	1.82	0.45
40:R:48:SER:OG	40:R:51:GLN:HG3	2.16	0.45
40:R:103:THR:HG23	40:R:104:ASN:H	1.82	0.45
51:1:150:U:H2'	51:1:151:C:C6	2.51	0.45
51:1:372:G:HO2'	51:1:373:U:H5	1.64	0.45
51:1:458:G:O2'	51:1:459:U:C5	2.67	0.45
51:1:657:U:H2'	51:1:658:U:C6	2.51	0.45
51:1:688:U:H2'	51:1:689:A:H8	1.81	0.45
51:1:1019:U:H3	51:1:1142:A:N6	2.15	0.45
51:1:1330:C:H2'	51:1:1331:G:H8	1.81	0.45
51:1:1594:U:H2'	51:1:1595:C:C6	2.52	0.45
51:1:1689:A:H2'	51:1:1690:A:C8	2.51	0.45
51:1:1791:A:C2	51:1:1829:A:H4'	2.51	0.45
51:1:2257:U:O2'	51:1:2258:C:H5'	2.16	0.45
51:1:2287:A:H2'	51:1:2288:A:H2'	1.98	0.45
51:1:2506:U:H4'	55:8:255:ASN:ND2	2.31	0.45
55:8:110:LEU:C	55:8:110:LEU:HD23	2.41	0.45
1:b:100:ARG:HH22	51:1:1500:G:H4'	1.80	0.45
2:c:148:GLN:HG2	2:c:152:PRO:HG2	1.99	0.45
3:d:12:LEU:HD23	3:d:193:VAL:HG11	1.99	0.45
4:e:25:MET:HB3	52:2:57:A:C5	2.51	0.45
9:l:93:ASN:O	9:l:94:THR:OG1	2.30	0.45
10:m:24:THR:HG22	10:m:99:GLY:O	2.16	0.45
10:m:50:ARG:HD2	10:m:50:ARG:O	2.17	0.45
16:s:11:ARG:HD2	51:1:1322:A:OP1	2.17	0.45
16:s:57:ASN:HA	16:s:61:ASN:HD22	1.81	0.45
24:B:43:THR:OG1	24:B:47:TYR:HB2	2.17	0.45
26:D:3:ARG:HH21	26:D:3:ARG:HG3	1.82	0.45
32:J:9:GLU:C	32:J:10:LEU:HD12	2.41	0.45
34:L:117:LEU:HD12	34:L:117:LEU:C	2.41	0.45
38:P:124:LYS:HD2	38:P:124:LYS:C	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:X:44:ILE:HD12	46:X:63:ASP:HA	1.98	0.45
48:Z:32:ARG:HG3	48:Z:32:ARG:NH1	2.31	0.45
48:Z:35:GLU:C	48:Z:37:TYR:H	2.25	0.45
50:3:252:U:O2	50:3:253:A:C8	2.70	0.45
50:3:314:C:O2'	50:3:315:A:H5'	2.16	0.45
50:3:1059:C:H2'	50:3:1060:U:C6	2.51	0.45
51:1:64:A:H2'	51:1:65:U:H6	1.81	0.45
51:1:717:C:C2'	51:1:718:A:H5'	2.45	0.45
51:1:805:G:H5'	51:1:806:C:H5	1.82	0.45
51:1:1566:A:O2'	51:1:1567:G:H5'	2.17	0.45
51:1:1666:G:O2'	51:1:1667:G:H5'	2.16	0.45
51:1:2122:U:H2'	51:1:2123:G:O4'	2.17	0.45
53:5:26:G:C2	53:5:27:U:C6	3.05	0.45
3:d:68:ALA:HA	51:1:1255:U:C6	2.51	0.45
8:k:10:VAL:HG11	8:k:16:ALA:HB3	1.99	0.45
8:k:31:ARG:HG2	8:k:31:ARG:HH11	1.82	0.45
11:n:12:ARG:CZ	11:n:20:MET:HE1	2.46	0.45
12:o:80:GLU:O	12:o:84:GLU:HG3	2.16	0.45
13:p:4:ILE:O	13:p:8:GLU:HG3	2.16	0.45
14:q:57:ARG:HG3	14:q:57:ARG:HH11	1.81	0.45
14:q:69:ARG:HG2	14:q:69:ARG:HH21	1.82	0.45
16:s:74:ILE:HG23	16:s:74:ILE:O	2.17	0.45
22:y:2:LYS:HG3	22:y:3:ALA:N	2.31	0.45
29:G:72:LYS:C	29:G:74:ALA:H	2.24	0.45
34:L:66:GLU:HA	34:L:69:ARG:HB2	1.98	0.45
35:M:7:ALA:O	35:M:11:THR:HG23	2.16	0.45
35:M:13:ILE:N	35:M:13:ILE:HD12	2.32	0.45
36:N:10:ARG:HG2	36:N:10:ARG:HH11	1.82	0.45
37:O:26:VAL:O	37:O:30:LYS:HG2	2.17	0.45
39:Q:45:ASN:HD22	50:3:528:C:H41	1.63	0.45
44:V:61:ARG:HG3	44:V:62:GLU:O	2.16	0.45
50:3:893:C:H2'	50:3:894:G:C8	2.51	0.45
50:3:1071:C:H2'	50:3:1072:G:C8	2.51	0.45
51:1:69:C:H2'	51:1:70:G:C8	2.51	0.45
51:1:899:A:H2'	51:1:900:A:C8	2.51	0.45
51:1:1190:G:H2'	51:1:1191:G:H8	1.81	0.45
51:1:1201:U:H2'	51:1:1202:G:C8	2.50	0.45
51:1:1636:U:H2'	51:1:1637:A:C8	2.51	0.45
51:1:1744:A:H3'	51:1:1745:A:H8	1.77	0.45
51:1:1765:U:H2'	51:1:1766:G:H8	1.81	0.45
53:5:10:G:N2	53:5:26:G:H1'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:5:48:C:C2'	53:5:59:A:H4'	2.47	0.45
55:8:327:VAL:HB	55:8:332:ARG:HB3	1.99	0.45
3:d:104:ALA:O	3:d:108:ILE:HG13	2.16	0.45
4:e:24:VAL:O	4:e:27:VAL:HG12	2.17	0.45
6:g:68:ARG:O	6:g:72:ILE:HD12	2.16	0.45
18:u:48:VAL:CG1	18:u:52:ASN:HB3	2.46	0.45
27:E:58:ILE:HD12	27:E:58:ILE:N	2.31	0.45
41:S:68:ARG:HG2	41:S:68:ARG:NH1	2.32	0.45
42:T:44:GLU:O	42:T:45:HIS:HB2	2.17	0.45
42:T:86:LEU:HD12	42:T:86:LEU:C	2.41	0.45
48:Z:23:GLU:O	48:Z:24:LYS:C	2.59	0.45
50:3:257:G:H2'	50:3:258:G:H8	1.81	0.45
50:3:335:C:H2'	50:3:336:A:C8	2.52	0.45
50:3:1319:A:H4'	50:3:1320:C:C5	2.51	0.45
51:1:440:C:H2'	51:1:441:U:H6	1.82	0.45
51:1:2220:U:H2'	51:1:2221:G:C8	2.52	0.45
51:1:2795:C:H2'	51:1:2796:U:C5'	2.46	0.45
52:2:48:U:H2'	52:2:49:C:H6	1.81	0.45
4:e:124:ARG:NH2	51:1:2316:G:H4'	2.32	0.45
7:j:26:GLY:HA3	51:1:1140:C:C5'	2.45	0.45
8:k:9:ASN:O	8:k:83:ALA:HA	2.16	0.45
17:t:4:GLU:OE1	22:y:18:LEU:HD11	2.16	0.45
17:t:68:LYS:HB2	17:t:77:ARG:NH1	2.32	0.45
31:I:55:ARG:HA	31:I:58:GLN:HB3	1.99	0.45
33:K:47:LEU:HB3	45:W:65:SER:OG	2.16	0.45
40:R:32:ILE:CD1	40:R:59:VAL:HG12	2.44	0.45
44:V:16:MET:HG3	44:V:19:SER:O	2.17	0.45
45:W:55:ALA:HB1	45:W:59:LYS:HZ1	1.82	0.45
46:X:34:SER:OG	46:X:37:SER:HB2	2.17	0.45
47:Y:48:LYS:HA	47:Y:51:ASN:HD21	1.81	0.45
48:Z:48:LYS:HA	48:Z:51:ALA:HB3	1.99	0.45
50:3:33:A:H2'	50:3:34:C:C6	2.51	0.45
50:3:864:A:H2'	50:3:865:A:C8	2.51	0.45
50:3:1039:G:H2'	50:3:1040:U:C6	2.52	0.45
51:1:112:U:C2'	51:1:113:U:H5'	2.46	0.45
51:1:596:U:H2'	51:1:597:G:C8	2.51	0.45
51:1:873:C:C2'	51:1:874:G:H5''	2.47	0.45
51:1:890:C:C2'	51:1:891:G:H5'	2.46	0.45
51:1:1336:A:H2'	51:1:1337:G:C8	2.51	0.45
51:1:2543:G:H2'	51:1:2544:G:C8	2.52	0.45
52:2:1:U:H2'	52:2:2:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:16:MET:HE3	4:e:27:VAL:HB	1.99	0.45
4:e:62:GLN:HE22	4:e:90:LEU:CD2	2.30	0.45
16:s:13:SER:O	16:s:17:VAL:HG23	2.16	0.45
16:s:96:ILE:C	16:s:97:LEU:HD12	2.41	0.45
30:H:155:ARG:O	30:H:156:LEU:C	2.59	0.45
35:M:80:PRO:HG2	50:3:878:A:H5''	1.99	0.45
50:3:491:G:O2'	50:3:492:C:H5'	2.15	0.45
50:3:1486:G:H2'	50:3:1487:G:H8	1.82	0.45
51:1:662:G:O2'	51:1:663:G:H5'	2.17	0.45
51:1:1144:A:H2'	51:1:1145:C:C6	2.52	0.45
51:1:1721:G:H1'	51:1:1738:G:N2	2.32	0.45
51:1:2093:G:O6	51:1:2225:A:H5''	2.17	0.45
51:1:2731:G:H2'	51:1:2732:G:C8	2.51	0.45
3:d:29:HIS:O	3:d:33:VAL:HG23	2.17	0.45
15:r:2:TYR:CE1	15:r:42:ALA:HB3	2.52	0.45
25:C:33:LEU:HD11	51:1:2286:G:N7	2.32	0.45
31:I:32:LYS:HE2	31:I:32:LYS:CA	2.47	0.45
35:M:49:LYS:O	35:M:58:LEU:HD12	2.17	0.45
38:P:15:VAL:HG22	38:P:16:SER:N	2.31	0.45
41:S:5:MET:HA	41:S:8:ARG:CD	2.44	0.45
50:3:524:G:H2'	50:3:525:C:H6	1.81	0.45
50:3:580:C:H2'	50:3:581:G:O4'	2.16	0.45
50:3:672:U:H2'	50:3:673:A:C8	2.52	0.45
50:3:1162:C:H2'	50:3:1163:A:H8	1.82	0.45
51:1:6:A:H2'	51:1:7:G:C8	2.52	0.45
51:1:581:C:H2'	51:1:582:A:C8	2.52	0.45
51:1:881:G:H2'	51:1:882:G:H8	1.82	0.45
51:1:1965:C:H3'	51:1:1966:A:H2'	1.99	0.45
51:1:2809:A:H2'	51:1:2809:A:N3	2.32	0.45
52:2:103:U:H2'	52:2:104:A:C8	2.52	0.45
3:d:164:LEU:O	3:d:167:VAL:HG12	2.17	0.45
5:f:116:LEU:HG	5:f:117:PRO:HD2	1.99	0.45
10:m:57:VAL:C	10:m:59:ARG:H	2.25	0.45
11:n:107:ASN:OD1	16:s:40:ASN:HB3	2.17	0.45
30:H:4:VAL:HG22	30:H:5:HIS:N	2.32	0.45
32:J:92:ARG:HB2	32:J:127:TYR:HB2	1.99	0.45
36:N:30:ASN:C	36:N:32:ARG:H	2.23	0.45
37:O:41:PRO:HG3	50:3:1150:A:C2	2.52	0.45
43:U:39:PHE:HD1	43:U:50:THR:HG22	1.78	0.45
50:3:405:U:C3'	50:3:406:G:H5'	2.44	0.45
50:3:427:U:H2'	50:3:428:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:575:G:O2'	50:3:821:G:H5'	2.17	0.45
50:3:626:G:H2'	50:3:627:G:C8	2.51	0.45
50:3:1033:G:H2'	50:3:1034:G:C4'	2.47	0.45
50:3:1521:C:H2'	50:3:1522:U:C6	2.52	0.45
51:1:227:A:O2'	51:1:228:C:H4'	2.17	0.45
51:1:368:A:H2'	51:1:369:U:O4'	2.17	0.45
51:1:634:C:H2'	51:1:635:C:H6	1.82	0.45
51:1:760:G:H2'	51:1:761:A:O4'	2.17	0.45
51:1:1421:G:H4'	51:1:1493:C:H41	1.82	0.45
51:1:1695:G:H3'	51:1:1695:G:N3	2.32	0.45
51:1:1947:C:H2'	51:1:1948:G:C5'	2.46	0.45
51:1:2350:C:H2'	51:1:2351:G:O4'	2.17	0.45
51:1:2446:G:H2'	51:1:2447:G:H5''	1.98	0.45
55:8:149:GLU:O	55:8:153:LEU:HG	2.17	0.45
55:8:198:VAL:HG11	55:8:317:ILE:HA	1.99	0.45
55:8:336:LEU:HD23	55:8:336:LEU:H	1.82	0.45
2:c:23:PRO:HG3	51:1:2728:U:O2'	2.17	0.44
5:f:172:GLU:HB3	5:f:176:LYS:C	2.41	0.44
20:w:19:VAL:HG12	20:w:34:VAL:CG1	2.47	0.44
30:H:153:SER:HB3	30:H:164:THR:HG23	1.99	0.44
31:I:110:ARG:HG2	31:I:110:ARG:HH11	1.83	0.44
33:K:6:ILE:HG12	33:K:89:VAL:HG12	1.98	0.44
33:K:49:TYR:HB3	45:W:73:HIS:CE1	2.52	0.44
33:K:100:SER:OG	33:K:101:PRO:HD3	2.17	0.44
35:M:88:LYS:HD3	35:M:119:GLY:C	2.41	0.44
37:O:14:ASP:OD2	37:O:17:LEU:HD13	2.16	0.44
41:S:13:VAL:HA	41:S:59:GLN:NE2	2.30	0.44
41:S:80:ARG:HG3	41:S:81:ILE:N	2.31	0.44
43:U:21:VAL:HG12	43:U:33:ILE:HD12	1.99	0.44
50:3:945:G:C2	50:3:946:A:C8	3.05	0.44
50:3:1165:U:H2'	50:3:1166:G:O4'	2.16	0.44
51:1:505:A:H2'	51:1:506:G:H5'	1.99	0.44
51:1:758:C:O2	51:1:758:C:H2'	2.17	0.44
51:1:765:C:H2'	51:1:766:U:H6	1.82	0.44
51:1:962:G:H2'	51:1:963:U:H6	1.81	0.44
51:1:2216:G:H2'	51:1:2217:G:C8	2.52	0.44
51:1:2514:U:H2'	51:1:2515:C:H6	1.81	0.44
51:1:2626:C:H2'	51:1:2627:G:C8	2.52	0.44
51:1:2736:A:H2'	51:1:2737:G:C8	2.52	0.44
53:5:23:C:H2'	53:5:24:U:C6	2.52	0.44
55:8:234:ILE:HG13	55:8:239:LEU:HD11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:97:ASN:HB2	3:d:100:MET:HB2	2.00	0.44
20:w:47:VAL:HG22	20:w:78:ILE:HG13	1.98	0.44
29:G:46:VAL:N	29:G:47:PRO:HD2	2.32	0.44
29:G:63:LYS:HE3	29:G:65:LYS:HE3	1.99	0.44
34:L:141:HIS:O	34:L:145:GLU:HB2	2.18	0.44
37:O:14:ASP:OD1	37:O:17:LEU:HB3	2.17	0.44
37:O:86:ALA:O	37:O:90:LEU:HB3	2.17	0.44
41:S:11:LYS:O	41:S:15:LEU:HD23	2.17	0.44
46:X:35:ARG:HH11	50:3:1221:G:C5'	2.30	0.44
46:X:52:ASN:HB2	46:X:76:THR:HG22	1.99	0.44
50:3:28:A:H2'	50:3:29:U:C6	2.52	0.44
50:3:591:U:H2'	50:3:592:G:H8	1.81	0.44
50:3:1233:G:H2'	50:3:1234:C:C6	2.51	0.44
50:3:1256:A:O2'	50:3:1257:A:H5''	2.16	0.44
51:1:196:A:O2'	51:1:197:A:H5'	2.18	0.44
51:1:594:U:H2'	51:1:595:C:H6	1.81	0.44
51:1:992:C:H2'	51:1:993:G:C8	2.52	0.44
51:1:1326:U:H2'	51:1:1327:A:C8	2.48	0.44
51:1:1545:A:H2'	51:1:1546:G:H5'	1.98	0.44
51:1:1806:C:H2'	51:1:1807:G:O4'	2.18	0.44
51:1:2093:G:O2'	51:1:2094:A:H5'	2.17	0.44
6:g:4:ILE:HD13	6:g:47:PHE:CG	2.53	0.44
6:g:18:GLN:HE22	6:g:39:ALA:HB2	1.81	0.44
12:o:92:PHE:HB2	12:o:117:PHE:CD2	2.53	0.44
21:x:63:ILE:HG23	21:x:64:ASP:N	2.32	0.44
29:G:162:VAL:HG12	29:G:163:ILE:N	2.32	0.44
32:J:44:ARG:HH11	32:J:44:ARG:HG2	1.83	0.44
34:L:52:ARG:NH1	34:L:120:ALA:HB1	2.32	0.44
34:L:111:GLY:HA2	34:L:118:ARG:CZ	2.47	0.44
34:L:137:ARG:HH11	34:L:137:ARG:HG3	1.81	0.44
38:P:13:LYS:HD2	38:P:13:LYS:N	2.32	0.44
38:P:20:ALA:HA	38:P:33:ILE:HA	1.99	0.44
39:Q:120:ARG:HG3	39:Q:120:ARG:HH11	1.82	0.44
43:U:47:GLU:OE2	50:3:616:G:H4'	2.18	0.44
43:U:70:ARG:HG2	50:3:375:U:H5''	1.99	0.44
44:V:10:ARG:O	44:V:22:VAL:HG13	2.17	0.44
50:3:47:C:H5'	50:3:365:U:C2	2.52	0.44
50:3:152:A:H2'	50:3:153:C:H5'	1.98	0.44
50:3:270:A:H2'	50:3:271:C:C6	2.52	0.44
50:3:470:C:H2'	50:3:471:U:H6	1.82	0.44
50:3:1038:C:H2'	50:3:1039:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1493:A:H2'	50:3:1494:G:H5'	1.99	0.44
51:1:36:G:O2'	51:1:37:C:H5'	2.17	0.44
51:1:782:A:H4'	51:1:783:A:H5'	1.98	0.44
51:1:1416:G:N2	51:1:1585:C:H41	2.16	0.44
51:1:1479:G:H5'	51:1:1560:G:H21	1.83	0.44
51:1:2808:G:H2'	51:1:2890:G:O6	2.18	0.44
52:2:65:U:H2'	52:2:66:A:H5'	2.00	0.44
55:8:4:ILE:N	55:8:4:ILE:CD1	2.81	0.44
55:8:271:VAL:O	55:8:271:VAL:HG13	2.17	0.44
1:b:89:ASN:OD1	1:b:196:ASN:HB2	2.18	0.44
3:d:149:ILE:HG23	3:d:188:MET:HA	2.00	0.44
4:e:116:LEU:HD13	4:e:129:MET:CG	2.46	0.44
5:f:37:ASN:ND2	5:f:63:GLN:HB3	2.30	0.44
13:p:20:ARG:HB3	13:p:21:PRO:HD2	1.99	0.44
14:q:40:LYS:HG3	14:q:44:TYR:CE2	2.52	0.44
29:G:8:MET:HE2	29:G:46:VAL:HG13	1.99	0.44
30:H:82:ASP:O	30:H:86:LEU:HD23	2.16	0.44
31:I:18:LEU:HD12	31:I:18:LEU:N	2.33	0.44
36:N:11:ARG:NH2	36:N:108:ARG:HD2	2.32	0.44
38:P:117:HIS:HB2	50:3:674:G:N2	2.32	0.44
40:R:70:ARG:HH11	40:R:70:ARG:HG3	1.82	0.44
47:Y:27:MET:O	47:Y:31:ILE:HG13	2.17	0.44
47:Y:29:THR:HG21	50:3:1457:G:H5''	1.98	0.44
50:3:370:C:H2'	50:3:371:A:C8	2.52	0.44
50:3:870:U:H4'	50:3:872:A:OP2	2.17	0.44
50:3:1157:A:H5'	50:3:1158:C:C5	2.52	0.44
51:1:558:U:H2'	51:1:559:G:C8	2.51	0.44
51:1:596:U:H2'	51:1:597:G:H8	1.82	0.44
51:1:1412:U:H2'	51:1:1413:A:C8	2.52	0.44
51:1:1709:U:O2'	51:1:2859:G:H1'	2.18	0.44
51:1:2836:U:H2'	51:1:2837:A:H8	1.82	0.44
52:2:51:G:H2'	52:2:52:A:O4'	2.17	0.44
55:8:306:GLU:O	55:8:310:MET:HG2	2.18	0.44
1:b:203:VAL:HG23	51:1:1792:G:H5'	1.99	0.44
5:f:16:VAL:HG21	5:f:44:HIS:NE2	2.32	0.44
7:j:35:ARG:HA	7:j:40:HIS:HD2	1.82	0.44
12:o:110:ALA:HB3	12:o:117:PHE:HZ	1.82	0.44
14:q:61:ILE:HD12	14:q:75:TYR:OH	2.17	0.44
31:I:128:VAL:O	31:I:128:VAL:HG13	2.17	0.44
34:L:142:ARG:CB	34:L:142:ARG:HH11	2.30	0.44
36:N:29:ILE:HD11	36:N:37:TYR:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:53:ILE:HG12	50:3:1060:U:H5'	1.98	0.44
50:3:70:U:H2'	50:3:94:G:C6	2.52	0.44
50:3:343:U:O2'	50:3:344:A:H2'	2.18	0.44
50:3:654:G:N2	50:3:755:G:H5'	2.32	0.44
50:3:665:A:O4'	50:3:733:G:H1'	2.17	0.44
50:3:917:G:H2'	50:3:918:A:H8	1.83	0.44
50:3:1059:C:H2'	50:3:1060:U:H6	1.83	0.44
50:3:1481:U:H2'	50:3:1482:G:C8	2.52	0.44
51:1:817:C:H2'	51:1:818:G:O4'	2.18	0.44
51:1:1440:U:H2'	51:1:1441:G:H8	1.82	0.44
51:1:1447:C:H1'	51:1:1544:A:C2	2.49	0.44
51:1:1858:A:H1'	51:1:1885:A:C2	2.53	0.44
51:1:2320:U:H5'	51:1:2321:U:C4	2.52	0.44
51:1:2504:U:C2'	51:1:2505:G:H5''	2.48	0.44
55:8:213:ARG:NE	55:8:329:ASP:OD1	2.51	0.44
2:c:155:VAL:O	51:1:2619:C:H5'	2.18	0.44
3:d:144:GLU:HG2	3:d:145:ASP:N	2.30	0.44
6:g:84:ALA:HA	6:g:91:PHE:H	1.82	0.44
7:j:17:VAL:HG12	7:j:55:ILE:HB	1.98	0.44
12:o:40:ILE:N	12:o:40:ILE:CD1	2.78	0.44
12:o:56:LYS:HA	12:o:59:ALA:HB3	2.00	0.44
17:t:5:GLU:H	17:t:5:GLU:CD	2.25	0.44
29:G:104:LYS:NZ	50:3:1073:U:H4'	2.32	0.44
31:I:66:VAL:HB	31:I:71:PHE:CZ	2.53	0.44
32:J:89:THR:HG23	50:3:864:A:H5''	2.00	0.44
37:O:89:ARG:HG2	37:O:89:ARG:HH11	1.82	0.44
40:R:69:ARG:HG2	40:R:69:ARG:HH11	1.82	0.44
40:R:84:CYS:HB3	46:X:73:PHE:CE1	2.53	0.44
42:T:73:ASP:OD2	42:T:76:ARG:HG3	2.18	0.44
44:V:10:ARG:HH11	44:V:55:GLY:HA2	1.82	0.44
44:V:61:ARG:NH1	44:V:62:GLU:O	2.50	0.44
48:Z:44:ARG:HD2	48:Z:45:LYS:N	2.32	0.44
50:3:478:A:H2'	50:3:479:U:O4'	2.18	0.44
50:3:678:U:H2'	50:3:679:C:H6	1.81	0.44
50:3:782:A:H62	50:3:800:G:N2	2.13	0.44
50:3:1391:U:H2'	50:3:1392:G:H8	1.83	0.44
50:3:1411:C:H2'	50:3:1412:C:C6	2.52	0.44
51:1:833:A:H2'	51:1:834:G:H8	1.83	0.44
51:1:862:G:H2'	51:1:863:A:O4'	2.18	0.44
51:1:1354:A:H2'	51:1:1355:G:O4'	2.17	0.44
51:1:1570:A:H2'	51:1:1571:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1715:G:H2'	51:1:1716:U:H5	1.83	0.44
3:d:196:VAL:HA	3:d:199:MET:HB3	2.00	0.44
5:f:112:VAL:HG23	5:f:112:VAL:O	2.17	0.44
15:r:49:ILE:O	15:r:49:ILE:HG13	2.18	0.44
15:r:74:ILE:HB	15:r:87:GLN:HB3	2.00	0.44
30:H:172:VAL:HG12	30:H:174:LEU:HG	2.00	0.44
30:H:181:ILE:HG12	30:H:202:PHE:HD1	1.82	0.44
35:M:6:ILE:HD11	35:M:31:LEU:HD23	2.00	0.44
36:N:112:ARG:HH21	50:3:1187:G:H4'	1.83	0.44
39:Q:80:LEU:HB3	39:Q:97:VAL:CG2	2.48	0.44
41:S:18:LYS:HE3	41:S:19:TYR:CZ	2.53	0.44
50:3:255:G:H2'	50:3:256:U:C6	2.52	0.44
50:3:418:C:H2'	50:3:419:C:C6	2.53	0.44
50:3:1020:G:H2'	50:3:1021:A:H8	1.82	0.44
50:3:1091:U:H2'	50:3:1093:A:OP2	2.18	0.44
50:3:1293:C:H2'	50:3:1294:G:H8	1.82	0.44
50:3:1384:C:H2'	50:3:1385:G:H8	1.83	0.44
51:1:2308:G:H2'	51:1:2309:A:H5'	1.98	0.44
51:1:2340:A:H2'	51:1:2341:G:C8	2.53	0.44
51:1:2537:U:H2'	51:1:2538:C:H6	1.83	0.44
51:1:2630:G:H2'	51:1:2631:G:C8	2.53	0.44
51:1:2897:U:H2'	51:1:2898:U:C6	2.53	0.44
6:g:3:VAL:HG22	6:g:4:ILE:N	2.33	0.44
9:l:30:THR:HG22	51:1:810:U:O4	2.18	0.44
12:o:109:ALA:O	12:o:112:GLU:HB3	2.18	0.44
29:G:213:LEU:HA	29:G:216:VAL:CG2	2.46	0.44
30:H:125:ARG:C	30:H:126:ARG:HD3	2.42	0.44
31:I:123:MET:HA	31:I:128:VAL:HA	1.98	0.44
34:L:46:LEU:O	34:L:57:GLU:HG2	2.18	0.44
34:L:69:ARG:CG	34:L:95:ARG:HG2	2.48	0.44
35:M:79:ARG:HB2	35:M:80:PRO:HD2	2.00	0.44
35:M:90:GLU:O	35:M:92:PRO:HD3	2.18	0.44
36:N:82:ILE:O	36:N:86:LEU:HG	2.17	0.44
36:N:105:ARG:HG2	50:3:1117:A:O3'	2.17	0.44
44:V:10:ARG:NH1	44:V:55:GLY:HA2	2.33	0.44
45:W:30:ASN:N	45:W:30:ASN:HD22	2.15	0.44
45:W:70:THR:HG22	45:W:71:ASP:H	1.83	0.44
49:a:177:LYS:H	49:a:180:PHE:HD2	1.65	0.44
50:3:308:C:H2'	50:3:309:A:H8	1.83	0.44
50:3:411:A:C2	50:3:431:A:N6	2.86	0.44
50:3:832:G:H2'	50:3:833:G:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:182:A:O2'	51:1:183:C:H5'	2.18	0.44
51:1:1592:C:H2'	51:1:1593:A:C8	2.52	0.44
51:1:1740:G:H2'	51:1:1741:C:C6	2.51	0.44
51:1:2638:G:H22	51:1:2775:G:H2'	1.82	0.44
55:8:66:VAL:O	55:8:70:LEU:HG	2.18	0.44
55:8:336:LEU:HD23	55:8:336:LEU:N	2.33	0.44
4:e:102:LEU:C	4:e:107:VAL:HG23	2.43	0.44
6:g:31:VAL:N	6:g:32:PRO:CD	2.80	0.44
6:g:39:ALA:HA	6:g:43:ASN:HD22	1.82	0.44
7:j:98:GLU:O	7:j:102:GLU:HG2	2.18	0.44
15:r:79:ARG:O	15:r:80:ARG:HG2	2.18	0.44
21:x:50:VAL:HG22	21:x:51:SER:N	2.33	0.44
29:G:130:LYS:NZ	50:3:1160:G:H4'	2.33	0.44
29:G:161:PHE:HA	29:G:183:PHE:HB2	2.00	0.44
37:O:17:LEU:HD23	37:O:17:LEU:C	2.43	0.44
43:U:40:ASN:HD22	43:U:43:ALA:CB	2.19	0.44
45:W:54:LEU:O	45:W:58:ILE:HG12	2.18	0.44
46:X:38:THR:HA	46:X:69:LYS:HA	2.00	0.44
50:3:252:U:O2	50:3:253:A:N7	2.50	0.44
50:3:889:A:O3'	50:3:890:G:H4'	2.18	0.44
50:3:1138:G:H3'	50:3:1138:G:N3	2.32	0.44
50:3:1478:U:H2'	50:3:1479:C:C6	2.52	0.44
51:1:75:G:H2'	51:1:75:G:N3	2.33	0.44
51:1:174:U:H2'	51:1:175:G:H8	1.82	0.44
51:1:184:C:H2'	51:1:185:G:C8	2.53	0.44
51:1:890:C:C3'	51:1:891:G:H5'	2.48	0.44
51:1:1549:A:H2'	51:1:1550:C:C6	2.53	0.44
51:1:2143:C:H2'	51:1:2144:G:O4'	2.18	0.44
52:2:26:C:O2	52:2:117:G:H1'	2.18	0.44
52:2:29:A:H2'	52:2:30:C:H6	1.83	0.44
55:8:139:THR:HA	55:8:142:GLN:NE2	2.33	0.44
3:d:68:ALA:HA	51:1:1255:U:C5	2.53	0.43
5:f:85:LYS:C	5:f:86:LEU:HD22	2.43	0.43
6:g:123:ARG:HG2	6:g:123:ARG:O	2.18	0.43
16:s:17:VAL:HG12	16:s:76:VAL:HG21	2.00	0.43
18:u:40:LEU:HD21	18:u:61:GLU:OE2	2.18	0.43
19:v:80:HIS:ND1	19:v:81:PRO:HD2	2.33	0.43
21:x:9:LYS:NZ	21:x:53:LYS:HD3	2.32	0.43
30:H:107:LYS:HB3	30:H:143:LEU:HD11	1.99	0.43
31:I:120:LYS:NZ	50:3:439:U:H4'	2.33	0.43
33:K:69:GLU:H	33:K:69:GLU:CD	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:P:23:HIS:O	38:P:30:ILE:HG22	2.18	0.43
38:P:45:THR:HG22	38:P:46:ALA:N	2.33	0.43
46:X:35:ARG:NH1	50:3:1221:G:H5'	2.32	0.43
48:Z:38:GLU:C	48:Z:38:GLU:OE2	2.61	0.43
48:Z:53:LYS:C	48:Z:57:LYS:HZ3	2.26	0.43
49:a:54:LYS:HG3	49:a:56:ASP:H	1.83	0.43
50:3:332:G:O2'	50:3:333:U:H5'	2.17	0.43
50:3:428:G:H4'	50:3:429:U:O5'	2.18	0.43
50:3:467:U:H5'	50:3:468:A:OP2	2.18	0.43
50:3:540:G:H2'	50:3:541:G:C8	2.52	0.43
50:3:926:G:C2	50:3:1505:G:C8	3.06	0.43
50:3:950:U:H2'	50:3:951:G:H8	1.83	0.43
50:3:1366:C:H2'	50:3:1367:C:H6	1.83	0.43
51:1:637:A:C6	51:1:652:U:H4'	2.53	0.43
51:1:1426:G:H1'	51:1:1572:A:N6	2.32	0.43
51:1:2053:G:O2'	51:1:2054:A:H5'	2.18	0.43
51:1:2080:A:H2'	51:1:2081:U:C6	2.52	0.43
51:1:2537:U:H2'	51:1:2538:C:C6	2.53	0.43
51:1:2619:C:H2'	51:1:2620:C:C6	2.52	0.43
55:8:25:LEU:C	55:8:25:LEU:HD12	2.42	0.43
55:8:279:SER:OG	55:8:282:LYS:HB2	2.18	0.43
3:d:2:GLU:HB3	3:d:11:ALA:HB1	2.00	0.43
3:d:131:THR:HG22	3:d:160:ALA:O	2.17	0.43
4:e:129:MET:O	4:e:153:ILE:N	2.50	0.43
4:e:145:VAL:CG2	4:e:146:ASP:N	2.80	0.43
4:e:151:LEU:HD22	4:e:151:LEU:N	2.32	0.43
5:f:51:PHE:CZ	5:f:71:LEU:HD22	2.53	0.43
6:g:16:GLY:HA2	6:g:47:PHE:CZ	2.53	0.43
12:o:26:LEU:HD12	12:o:38:GLN:O	2.18	0.43
12:o:58:ILE:O	12:o:62:LEU:HG	2.18	0.43
19:v:8:VAL:HG22	19:v:9:ARG:N	2.33	0.43
20:w:47:VAL:CG2	20:w:78:ILE:HG13	2.49	0.43
25:C:18:HIS:ND1	25:C:19:PHE:N	2.66	0.43
37:O:42:LEU:HD21	37:O:73:LEU:CD1	2.47	0.43
39:Q:28:GLN:HB2	39:Q:80:LEU:HG	2.00	0.43
40:R:76:ILE:HG22	40:R:80:MET:CG	2.48	0.43
44:V:60:ILE:HG22	44:V:72:TRP:HE3	1.83	0.43
50:3:782:A:H2'	50:3:783:C:H5'	2.00	0.43
50:3:1413:A:O2'	50:3:1414:U:H5'	2.18	0.43
51:1:1571:A:H2'	51:1:1572:A:H8	1.82	0.43
51:1:1752:C:H2'	51:1:1753:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1915:U:H2'	51:1:1916:A:O4'	2.19	0.43
51:1:2193:G:H2'	51:1:2194:U:H6	1.81	0.43
51:1:2277:G:H3'	51:1:2278:A:H5''	1.97	0.43
51:1:2379:G:H2'	51:1:2380:C:H6	1.84	0.43
51:1:2576:G:H3'	51:1:2576:G:N3	2.33	0.43
51:1:2792:A:H3'	51:1:2793:C:H5''	1.97	0.43
54:4:16:A:H2'	54:4:17:U:C6	2.52	0.43
55:8:129:TYR:CE1	55:8:166:ILE:HG13	2.52	0.43
1:b:131:MET:HG3	1:b:187:CYS:O	2.19	0.43
3:d:38:GLY:HA3	51:1:615:U:O2	2.17	0.43
3:d:90:GLN:HE21	3:d:92:HIS:CE1	2.37	0.43
3:d:147:LEU:HD13	3:d:183:PHE:CD2	2.53	0.43
5:f:25:ILE:HD12	5:f:74:MET:HG2	1.98	0.43
6:g:31:VAL:CG1	6:g:32:PRO:HD3	2.48	0.43
8:k:58:LEU:C	8:k:58:LEU:HD12	2.44	0.43
8:k:91:SER:C	8:k:92:GLU:OE2	2.62	0.43
10:m:26:VAL:HG13	10:m:133:LYS:HD2	2.00	0.43
10:m:30:SER:HA	10:m:133:LYS:HB2	2.00	0.43
10:m:34:LYS:HE3	10:m:131:VAL:HG11	1.99	0.43
15:r:79:ARG:HG2	15:r:80:ARG:NH1	2.33	0.43
29:G:83:ALA:HA	29:G:86:CYS:SG	2.58	0.43
31:I:60:VAL:HA	31:I:63:ILE:HD12	2.00	0.43
34:L:123:LEU:HA	34:L:126:ALA:HB3	1.99	0.43
35:M:17:GLN:HE21	35:M:71:VAL:H	1.66	0.43
38:P:15:VAL:HG21	38:P:35:ASP:OD1	2.18	0.43
42:T:24:THR:O	42:T:28:VAL:HG23	2.18	0.43
46:X:72:GLU:OE2	50:3:1320:C:H4'	2.18	0.43
50:3:489:C:O2'	50:3:490:C:H5'	2.18	0.43
50:3:635:A:H2'	50:3:636:U:C6	2.53	0.43
50:3:1270:G:H2'	50:3:1271:A:C8	2.53	0.43
51:1:129:C:H2'	51:1:130:C:C6	2.53	0.43
51:1:786:C:O2'	51:1:787:C:H5'	2.18	0.43
51:1:1418:G:H21	51:1:1580:A:H62	1.65	0.43
51:1:1930:G:O2'	51:1:1931:U:C5	2.70	0.43
51:1:2470:G:H2'	51:1:2471:A:C8	2.53	0.43
52:2:60:C:H2'	52:2:61:G:C8	2.52	0.43
55:8:316:ASP:O	55:8:317:ILE:HD13	2.18	0.43
4:e:145:VAL:CG2	4:e:146:ASP:H	2.31	0.43
8:k:71:ARG:HB3	8:k:72:PRO:HD2	1.99	0.43
13:p:83:ILE:N	13:p:83:ILE:CD1	2.80	0.43
13:p:105:LYS:HA	13:p:108:ARG:HD3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:v:51:GLN:HG2	19:v:86:LEU:HD11	1.98	0.43
24:B:37:HIS:CD2	24:B:43:THR:HG22	2.53	0.43
32:J:143:LEU:HD12	32:J:143:LEU:C	2.44	0.43
34:L:20:GLU:HA	34:L:23:ALA:HB3	1.99	0.43
43:U:69:ASP:OD1	43:U:70:ARG:N	2.46	0.43
44:V:28:VAL:HG12	44:V:39:ARG:HG2	2.00	0.43
50:3:279:A:H4'	50:3:281:G:C8	2.53	0.43
50:3:540:G:H2'	50:3:541:G:H8	1.82	0.43
50:3:545:C:H2'	50:3:546:A:O4'	2.19	0.43
50:3:1119:C:H2'	50:3:1120:C:H6	1.81	0.43
51:1:357:C:O2'	51:1:358:U:H5'	2.18	0.43
51:1:366:C:H2'	51:1:367:G:C4'	2.49	0.43
51:1:598:U:H2'	51:1:599:A:C8	2.53	0.43
51:1:940:G:H2'	51:1:941:A:C5'	2.47	0.43
51:1:1689:A:H2'	51:1:1690:A:H8	1.82	0.43
51:1:1740:G:O2'	51:1:1741:C:H5'	2.18	0.43
51:1:2030:A:N3	51:1:2499:C:H5''	2.33	0.43
51:1:2149:U:H2'	51:1:2150:C:O4'	2.18	0.43
51:1:2320:U:H5'	51:1:2321:U:N3	2.33	0.43
51:1:2704:C:H2'	51:1:2705:A:O4'	2.17	0.43
55:8:70:LEU:HA	55:8:73:MET:HB3	2.00	0.43
55:8:189:TYR:CZ	55:8:224:PRO:HD3	2.53	0.43
1:b:35:LYS:HZ1	1:b:37:SER:HB2	1.82	0.43
1:b:153:LEU:HD13	1:b:175:LEU:HD21	1.99	0.43
3:d:165:HIS:CE1	51:1:1205:A:H2'	2.54	0.43
5:f:168:VAL:HG22	5:f:169:ARG:N	2.33	0.43
5:f:174:LYS:HG2	5:f:175:LYS:HG2	1.99	0.43
15:r:11:GLN:N	15:r:11:GLN:OE1	2.51	0.43
17:t:34:VAL:HG11	17:t:43:ILE:HD13	2.01	0.43
18:u:11:ILE:HG21	18:u:79:ALA:HB2	2.01	0.43
21:x:9:LYS:HZ2	21:x:53:LYS:HB3	1.84	0.43
30:H:177:LEU:HD13	50:3:1113:C:H1'	2.00	0.43
31:I:164:ARG:HG2	31:I:164:ARG:HH11	1.83	0.43
32:J:35:LEU:HD13	32:J:133:ILE:HA	2.01	0.43
33:K:3:HIS:N	33:K:92:THR:HG22	2.08	0.43
38:P:32:THR:HG23	38:P:43:TRP:HB3	2.00	0.43
41:S:26:LEU:HD12	41:S:30:ILE:HD12	2.00	0.43
43:U:8:ARG:HD2	43:U:28:ARG:NH1	2.33	0.43
46:X:10:ILE:HG21	46:X:40:PHE:CE2	2.54	0.43
50:3:56:U:H2'	50:3:57:G:H8	1.77	0.43
50:3:924:C:H2'	50:3:925:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1251:A:O2'	50:3:1370:G:H5'	2.18	0.43
50:3:1292:G:H2'	50:3:1293:C:H6	1.79	0.43
51:1:598:U:H2'	51:1:599:A:H8	1.84	0.43
51:1:1139:G:O2'	51:1:1140:C:H5'	2.18	0.43
51:1:1210:G:O5'	51:1:1212:G:H5'	2.18	0.43
51:1:1684:G:H2'	51:1:1685:C:C6	2.54	0.43
51:1:1719:G:H2'	51:1:1720:U:O4'	2.17	0.43
51:1:2860:A:C2'	51:1:2861:U:H5'	2.48	0.43
51:1:2875:C:H2'	51:1:2876:G:H8	1.83	0.43
52:2:12:C:O2'	52:2:13:G:H4'	2.17	0.43
53:5:52:G:H2'	53:5:53:G:C8	2.53	0.43
3:d:145:ASP:OD2	3:d:183:PHE:HA	2.19	0.43
5:f:152:ARG:HH22	51:1:2743:U:H4'	1.82	0.43
22:y:38:GLN:HE21	22:y:39:GLN:HG3	1.84	0.43
30:H:53:ARG:C	30:H:54:ILE:HD12	2.44	0.43
30:H:113:LYS:HB2	30:H:184:ASN:CG	2.43	0.43
30:H:171:ARG:HA	50:3:1106:G:O3'	2.18	0.43
31:I:149:LYS:NZ	31:I:177:MET:HE3	2.34	0.43
32:J:22:LYS:HB3	32:J:29:ILE:CG2	2.49	0.43
33:K:15:SER:HA	33:K:18:VAL:HG13	2.01	0.43
40:R:27:THR:OG1	50:3:1328:C:OP1	2.31	0.43
41:S:39:ASP:HA	41:S:42:ASN:ND2	2.32	0.43
49:a:48:LEU:HD11	49:a:171:ILE:CD1	2.49	0.43
50:3:456:A:H2'	50:3:457:G:C8	2.53	0.43
50:3:1139:G:H4'	50:3:1140:C:H5	1.84	0.43
50:3:1193:G:H2'	50:3:1194:U:H6	1.83	0.43
51:1:680:C:H2'	51:1:681:G:H8	1.84	0.43
51:1:1853:A:N1	51:1:2087:G:H1'	2.33	0.43
51:1:2281:A:H2'	51:1:2282:G:O4'	2.19	0.43
51:1:2772:C:H2'	51:1:2773:C:C6	2.53	0.43
51:1:2811:G:H2'	51:1:2812:G:H8	1.82	0.43
1:b:93:VAL:HG22	1:b:94:LEU:N	2.34	0.43
2:c:150:GLN:HG3	51:1:2572:A:N7	2.34	0.43
4:e:69:ALA:H	4:e:83:PRO:HA	1.84	0.43
5:f:19:ASN:HB2	5:f:22:VAL:CG1	2.45	0.43
7:j:84:ILE:HG23	7:j:84:ILE:O	2.19	0.43
18:u:31:GLY:O	18:u:66:VAL:HG23	2.18	0.43
19:v:65:VAL:HG23	19:v:65:VAL:O	2.18	0.43
39:Q:53:ARG:HG3	39:Q:53:ARG:NH1	2.33	0.43
41:S:5:MET:SD	41:S:8:ARG:HD3	2.59	0.43
43:U:78:VAL:O	43:U:78:VAL:HG12	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:X:2:ARG:N	50:3:1312:G:N7	2.66	0.43
50:3:952:U:H2'	50:3:953:G:C8	2.50	0.43
50:3:1305:G:H22	50:3:1331:G:H2'	1.84	0.43
51:1:580:U:H2'	51:1:581:C:C6	2.54	0.43
51:1:687:C:H6	51:1:687:C:H5'	1.82	0.43
51:1:1001:A:H2'	51:1:1002:G:O4'	2.18	0.43
51:1:1056:G:H4'	51:1:1086:A:C8	2.54	0.43
51:1:1366:A:H2'	51:1:1367:A:O4'	2.18	0.43
51:1:1589:U:H2'	51:1:1590:A:C8	2.53	0.43
51:1:1604:C:H2'	51:1:1605:C:C6	2.53	0.43
51:1:1782:U:H3	51:1:2586:U:H3	1.66	0.43
51:1:1821:A:H2'	51:1:1822:C:C6	2.54	0.43
51:1:1874:C:C2'	51:1:1875:G:H5'	2.48	0.43
51:1:2788:C:H2'	51:1:2789:C:H6	1.83	0.43
51:1:2818:U:H4'	51:1:2837:A:C4'	2.48	0.43
53:5:10:G:H2'	53:5:11:A:C8	2.53	0.43
55:8:73:MET:SD	55:8:73:MET:C	3.02	0.43
1:b:176:ARG:HG2	1:b:176:ARG:HH11	1.83	0.43
9:l:79:LEU:HD23	9:l:82:LEU:HD11	1.99	0.43
11:n:90:ARG:HD2	51:1:2880:C:O2'	2.19	0.43
15:r:29:THR:HG23	15:r:29:THR:O	2.19	0.43
21:x:66:VAL:HG13	21:x:67:LEU:HD12	2.00	0.43
27:E:63:TYR:CE2	51:1:242:G:H5''	2.54	0.43
37:O:52:LEU:N	37:O:52:LEU:HD12	2.34	0.43
40:R:56:ARG:O	40:R:59:VAL:HG22	2.19	0.43
43:U:67:ILE:HG22	43:U:71:VAL:HG13	2.00	0.43
45:W:12:PHE:C	45:W:14:ALA:H	2.27	0.43
47:Y:12:GLN:HA	47:Y:15:LYS:HE2	2.01	0.43
50:3:206:C:H2'	50:3:207:C:O4'	2.18	0.43
50:3:321:A:H2'	50:3:322:C:H6	1.82	0.43
50:3:407:U:H2'	50:3:408:A:C8	2.53	0.43
50:3:518:C:H4'	50:3:519:C:H5''	2.01	0.43
50:3:730:G:C2'	50:3:731:G:H5'	2.48	0.43
50:3:986:U:H2'	50:3:987:G:H8	1.79	0.43
50:3:1388:C:H2'	50:3:1389:C:H6	1.83	0.43
51:1:634:C:H2'	51:1:635:C:C6	2.53	0.43
51:1:992:C:H2'	51:1:993:G:H8	1.83	0.43
51:1:1551:A:H2'	51:1:1552:A:O4'	2.19	0.43
51:1:2845:U:H2'	51:1:2846:G:C8	2.53	0.43
3:d:6:LYS:HD2	3:d:6:LYS:C	2.43	0.43
8:k:101:GLY:HA2	13:p:65:ASN:HD22	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:m:36:VAL:HG13	19:v:82:TYR:CD2	2.54	0.43
13:p:21:PRO:HD3	13:p:49:ILE:HD12	2.01	0.43
15:r:79:ARG:O	15:r:81:LYS:HG2	2.18	0.43
22:y:13:GLU:HB2	22:y:53:VAL:HG23	2.01	0.43
22:y:19:LEU:HD22	22:y:23:ARG:HH21	1.84	0.43
29:G:30:ILE:HG13	29:G:31:PHE:N	2.33	0.43
30:H:46:LEU:HB2	30:H:49:ALA:HB3	2.01	0.43
31:I:13:ARG:HD2	31:I:55:ARG:HH21	1.84	0.43
32:J:22:LYS:HG3	50:3:1081:A:H5'	2.01	0.43
32:J:108:GLY:O	32:J:109:ALA:HB3	2.19	0.43
32:J:121:ASN:O	32:J:122:VAL:O	2.37	0.43
50:3:89:U:H2'	50:3:90:C:O4'	2.18	0.43
50:3:579:A:H2'	50:3:580:C:C6	2.54	0.43
50:3:1429:A:H2'	50:3:1430:A:H8	1.84	0.43
50:3:1515:G:O2'	50:3:1516:G:H5'	2.19	0.43
51:1:457:A:N1	51:1:470:A:H5''	2.34	0.43
51:1:633:A:H2'	51:1:634:C:H5'	2.00	0.43
51:1:912:C:O2'	51:1:913:U:H5'	2.18	0.43
51:1:2475:C:H42	51:1:2529:G:H22	1.66	0.43
53:5:67:C:O2'	53:5:68:C:H5'	2.18	0.43
55:8:47:TRP:CD1	55:8:47:TRP:H	2.37	0.43
55:8:57:GLY:O	55:8:60:ARG:HG3	2.19	0.43
55:8:128:CYS:HB3	55:8:189:TYR:HB2	2.01	0.43
1:b:123:ILE:HG23	1:b:191:LEU:CD1	2.48	0.43
2:c:101:PHE:HE1	2:c:205:PRO:HG3	1.83	0.43
14:q:69:ARG:HG2	14:q:69:ARG:NH2	2.34	0.43
19:v:75:GLN:HE22	52:2:104:A:H5'	1.83	0.43
23:z:37:ARG:NH1	51:1:929:U:H5'	2.34	0.43
28:F:7:VAL:HG22	28:F:38:GLY:HA2	2.00	0.43
29:G:109:SER:O	29:G:112:ARG:HB3	2.19	0.43
30:H:6:PRO:O	30:H:9:ILE:HG22	2.18	0.43
30:H:89:VAL:HG13	30:H:90:VAL:N	2.33	0.43
30:H:112:ALA:HB3	30:H:184:ASN:ND2	2.29	0.43
33:K:18:VAL:HG23	33:K:19:PRO:CD	2.49	0.43
35:M:6:ILE:HB	35:M:76:ARG:HH12	1.84	0.43
35:M:62:LEU:N	35:M:62:LEU:HD12	2.34	0.43
37:O:59:LYS:HD3	50:3:973:G:OP1	2.18	0.43
38:P:55:ARG:HB3	38:P:55:ARG:CZ	2.49	0.43
43:U:12:LYS:O	43:U:13:LYS:HB2	2.19	0.43
45:W:40:PRO:HB2	45:W:42:ARG:HG2	2.01	0.43
50:3:296:U:H2'	50:3:297:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:1139:G:H4'	50:3:1140:C:C5	2.54	0.43
50:3:1444:U:O2'	50:3:1445:U:H5'	2.18	0.43
51:1:69:C:H2'	51:1:70:G:H8	1.84	0.43
51:1:270:A:N1	51:1:369:U:H4'	2.34	0.43
51:1:1182:G:H2'	51:1:1183:U:C6	2.54	0.43
51:1:2818:U:H2'	51:1:2819:G:H8	1.84	0.43
55:8:14:LEU:HD23	55:8:14:LEU:C	2.44	0.43
1:b:132:ARG:HH12	6:g:93:SER:HB3	1.84	0.42
2:c:121:THR:HB	2:c:127:PHE:CD2	2.54	0.42
6:g:11:ASN:CG	6:g:12:LEU:H	2.27	0.42
9:l:14:LYS:O	9:l:15:ALA:HB3	2.18	0.42
10:m:12:MET:HE1	51:1:909:A:H4'	2.01	0.42
12:o:116:GLN:O	12:o:117:PHE:HB3	2.19	0.42
21:x:2:ARG:O	21:x:11:PRO:HD3	2.18	0.42
23:z:4:ILE:HG23	23:z:6:ILE:CD1	2.49	0.42
31:I:198:LEU:N	31:I:198:LEU:HD12	2.34	0.42
33:K:37:HIS:NE2	33:K:95:ALA:HB1	2.34	0.42
35:M:14:ARG:HD2	50:3:875:U:O2'	2.19	0.42
40:R:99:GLN:OE1	40:R:99:GLN:N	2.52	0.42
41:S:42:ASN:O	41:S:46:LYS:HG2	2.19	0.42
42:T:1:SER:HB3	50:3:741:G:OP2	2.19	0.42
50:3:236:A:H2'	50:3:237:G:H8	1.82	0.42
50:3:411:A:C6	50:3:429:U:C4	3.07	0.42
50:3:1346:A:H1'	50:3:1348:U:O4'	2.19	0.42
51:1:481:G:O2'	51:1:506:G:N2	2.51	0.42
51:1:827:U:H4'	51:1:828:U:C6	2.54	0.42
51:1:1450:G:O2'	51:1:1451:C:H5'	2.19	0.42
51:1:1561:C:H2'	51:1:1562:U:C6	2.54	0.42
51:1:1584:U:C5	51:1:1585:C:H1'	2.54	0.42
51:1:1655:A:H2'	51:1:1656:C:O4'	2.19	0.42
51:1:1711:A:O2'	51:1:1712:U:H5'	2.18	0.42
51:1:2150:C:H2'	51:1:2151:U:O4'	2.19	0.42
51:1:2312:U:C2'	51:1:2313:C:H5'	2.48	0.42
55:8:117:ARG:HG2	55:8:117:ARG:NH1	2.33	0.42
1:b:43:ASN:ND2	1:b:45:ASN:H	2.17	0.42
10:m:23:GLY:HA2	51:1:907:G:OP1	2.19	0.42
16:s:1:MET:HG2	16:s:62:ASP:OD2	2.19	0.42
19:v:40:ILE:HG22	19:v:42:LEU:HD12	2.01	0.42
20:w:70:PRO:HG2	20:w:71:LYS:HE2	2.01	0.42
29:G:116:LEU:HD23	29:G:140:LEU:HA	2.01	0.42
31:I:84:ASN:O	31:I:87:GLU:HG2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:N:7:GLY:HA3	36:N:85:ALA:HB2	2.00	0.42
40:R:109:LYS:HD2	50:3:1227:A:OP2	2.19	0.42
43:U:3:THR:OG1	43:U:4:ILE:N	2.52	0.42
43:U:67:ILE:HD12	43:U:67:ILE:H	1.79	0.42
45:W:31:TYR:HB3	45:W:54:LEU:HD21	2.00	0.42
50:3:621:A:H2'	50:3:622:A:C8	2.54	0.42
50:3:1161:C:H2'	50:3:1162:C:O4'	2.19	0.42
50:3:1201:A:H4'	50:3:1203:C:OP2	2.18	0.42
50:3:1237:C:O2'	50:3:1335:U:H5'	2.20	0.42
50:3:1352:C:H2'	50:3:1353:G:H8	1.84	0.42
50:3:1493:A:N6	51:1:1913:A:H1'	2.34	0.42
50:3:1497:G:H2'	50:3:1498:U:H5'	2.01	0.42
51:1:420:C:O2'	51:1:421:C:H5'	2.19	0.42
51:1:2208:C:H2'	51:1:2209:G:H8	1.84	0.42
51:1:2560:A:H2'	51:1:2561:U:C6	2.54	0.42
51:1:2700:A:H2'	51:1:2701:U:H6	1.81	0.42
55:8:130:LEU:HD21	55:8:132:ILE:HG13	2.01	0.42
55:8:142:GLN:OE1	55:8:171:GLY:HA3	2.19	0.42
3:d:163:ASN:ND2	51:1:320:A:N3	2.67	0.42
4:e:73:VAL:HG11	51:1:2311:A:O4'	2.20	0.42
5:f:174:LYS:HG3	51:1:2529:G:H4'	2.01	0.42
10:m:51:ARG:O	10:m:54:THR:HG22	2.20	0.42
11:n:35:LYS:HB2	11:n:112:TYR:CE1	2.53	0.42
14:q:80:ASN:O	14:q:84:LYS:HG3	2.19	0.42
15:r:53:PHE:O	15:r:54:VAL:C	2.61	0.42
19:v:43:ASP:OD2	19:v:46:LYS:HG3	2.19	0.42
22:y:48:ARG:HB3	22:y:52:ARG:HH22	1.84	0.42
31:I:149:LYS:HZ3	31:I:177:MET:HE3	1.84	0.42
31:I:205:LYS:HA	50:3:8:A:N7	2.34	0.42
34:L:132:THR:HA	34:L:135:LYS:HB3	2.00	0.42
36:N:21:LYS:HB2	36:N:61:ASP:OD1	2.19	0.42
44:V:39:ARG:HH11	50:3:280:C:H1'	1.84	0.42
48:Z:11:PHE:O	48:Z:13:VAL:HG12	2.19	0.42
48:Z:49:ALA:HA	50:3:723:U:O4	2.18	0.42
48:Z:61:ARG:HH11	48:Z:61:ARG:HG3	1.85	0.42
49:a:48:LEU:HD11	49:a:171:ILE:HD11	2.00	0.42
50:3:200:G:H2'	50:3:201:G:C8	2.54	0.42
50:3:418:C:H2'	50:3:419:C:O4'	2.19	0.42
50:3:766:A:H2'	50:3:767:A:O4'	2.20	0.42
50:3:834:U:H2'	50:3:835:U:C6	2.54	0.42
50:3:1319:A:H4'	50:3:1320:C:H5	1.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:281:C:H2'	51:1:282:A:C8	2.54	0.42
51:1:1697:G:H4'	51:1:1978:A:H5''	2.00	0.42
55:8:191:TRP:O	55:8:357:ILE:HD13	2.20	0.42
2:c:110:THR:HG21	2:c:169:ARG:NH1	2.34	0.42
3:d:73:ILE:O	3:d:73:ILE:HG12	2.19	0.42
4:e:109:ARG:HG2	4:e:109:ARG:O	2.18	0.42
5:f:174:LYS:HB2	51:1:2531:A:P	2.59	0.42
7:j:97:PRO:O	7:j:100:VAL:HG22	2.19	0.42
12:o:33:ARG:O	12:o:65:THR:HG23	2.20	0.42
15:r:21:ARG:HG3	15:r:93:PHE:CD2	2.54	0.42
18:u:14:THR:OG1	18:u:15:GLY:N	2.50	0.42
23:z:4:ILE:HG22	23:z:37:ARG:O	2.19	0.42
23:z:23:LEU:HD11	23:z:53:MET:SD	2.60	0.42
29:G:166:ASP:CG	29:G:190:SER:HA	2.45	0.42
33:K:8:PHE:O	33:K:60:VAL:HG12	2.19	0.42
36:N:21:LYS:O	36:N:60:LEU:HB2	2.20	0.42
36:N:65:THR:HG23	36:N:65:THR:O	2.19	0.42
39:Q:73:LEU:HD12	39:Q:73:LEU:N	2.34	0.42
41:S:20:PHE:O	41:S:21:ALA:CB	2.67	0.42
43:U:8:ARG:HG2	43:U:8:ARG:HH11	1.84	0.42
48:Z:65:ARG:HD3	50:3:1088:G:H4'	2.01	0.42
50:3:1271:A:H2'	50:3:1272:G:H8	1.83	0.42
51:1:351:C:H2'	51:1:352:A:H8	1.83	0.42
51:1:2188:U:C3'	51:1:2189:U:H5''	2.45	0.42
51:1:2285:C:O2'	51:1:2287:A:H1'	2.20	0.42
55:8:87:ALA:HA	55:8:92:ASP:CG	2.45	0.42
55:8:176:ILE:HD12	55:8:179:VAL:HG13	1.99	0.42
1:b:143:VAL:HG22	1:b:189:ALA:HB1	2.01	0.42
1:b:179:GLU:HB2	1:b:270:ARG:HB3	2.01	0.42
1:b:224:MET:HB3	1:b:228:ASP:HB2	2.00	0.42
2:c:116:LYS:HG3	2:c:165:MET:CE	2.47	0.42
9:l:94:THR:HA	9:l:97:ALA:HB3	2.02	0.42
10:m:11:LYS:HE3	10:m:87:GLY:O	2.19	0.42
11:n:49:GLU:HB2	11:n:50:PRO:HD3	2.02	0.42
16:s:38:TYR:CE2	24:B:27:LEU:HD11	2.54	0.42
29:G:96:LEU:O	29:G:99:MET:HG3	2.19	0.42
31:I:63:ILE:O	31:I:110:ARG:HD2	2.19	0.42
36:N:113:LYS:HG2	50:3:1368:A:OP2	2.19	0.42
38:P:115:ILE:HG12	48:Z:28:LEU:HD21	2.01	0.42
39:Q:43:LYS:N	39:Q:44:PRO:HD2	2.34	0.42
43:U:70:ARG:HE	43:U:74:LEU:HD21	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:3:36:C:H2'	50:3:37:U:O4'	2.19	0.42
50:3:889:A:H5'	50:3:891:U:C1'	2.50	0.42
50:3:1033:G:C3'	50:3:1034:G:H5''	2.50	0.42
50:3:1128:C:H2'	50:3:1129:C:C6	2.53	0.42
50:3:1366:C:H2'	50:3:1367:C:C6	2.54	0.42
50:3:1454:G:H2'	50:3:1455:G:O4'	2.18	0.42
51:1:18:U:H2'	51:1:19:A:C8	2.55	0.42
51:1:315:G:O2'	51:1:316:C:H5'	2.19	0.42
51:1:594:U:H2'	51:1:595:C:C6	2.54	0.42
51:1:889:C:C2'	51:1:890:C:H5'	2.50	0.42
51:1:1072:C:N4	51:1:1093:G:H1	2.17	0.42
51:1:1682:G:H2'	51:1:1683:U:H6	1.83	0.42
51:1:1900:A:H1'	51:1:1970:A:H2'	2.02	0.42
55:8:235:ASN:ND2	55:8:237:ALA:CB	2.83	0.42
1:b:131:MET:CE	1:b:187:CYS:HB2	2.34	0.42
2:c:6:GLY:HA3	2:c:29:VAL:HG22	2.02	0.42
2:c:73:VAL:HG12	2:c:74:GLU:N	2.34	0.42
5:f:27:GLY:HA3	5:f:78:VAL:CG2	2.48	0.42
7:j:58:ASN:HA	7:j:126:ALA:O	2.19	0.42
7:j:89:PHE:O	7:j:93:ILE:HG12	2.20	0.42
9:l:93:ASN:C	9:l:95:LEU:N	2.74	0.42
10:m:65:ILE:HG13	10:m:65:ILE:O	2.19	0.42
11:n:103:ARG:HH21	11:n:110:MET:HE1	1.83	0.42
14:q:10:ARG:HH22	51:1:29:U:H1'	1.84	0.42
14:q:29:ARG:HG3	14:q:29:ARG:NH1	2.35	0.42
17:t:73:ARG:NE	17:t:73:ARG:HA	2.34	0.42
17:t:76:ARG:HG2	17:t:76:ARG:HH11	1.84	0.42
23:z:29:ARG:HG2	23:z:29:ARG:HH21	1.85	0.42
24:B:54:ILE:HG22	24:B:56:LYS:HB2	2.02	0.42
28:F:18:LYS:HA	28:F:23:ILE:HA	2.01	0.42
30:H:19:SER:O	41:S:93:PRO:HG3	2.20	0.42
30:H:196:GLY:H	50:3:1057:G:H4'	1.84	0.42
31:I:10:LEU:HD23	31:I:62:ARG:HB3	2.01	0.42
31:I:167:PRO:HB3	31:I:169:TRP:CE2	2.54	0.42
32:J:111:ARG:HH11	32:J:111:ARG:HG3	1.85	0.42
32:J:159:SER:OG	32:J:162:GLU:HB2	2.18	0.42
35:M:9:MET:O	35:M:13:ILE:HD13	2.20	0.42
35:M:95:MET:O	35:M:98:LEU:HD23	2.19	0.42
38:P:44:ALA:HB3	38:P:69:CYS:HB2	2.01	0.42
39:Q:120:ARG:HB2	50:3:37:U:C5'	2.49	0.42
40:R:114:PRO:OXT	50:3:1228:C:H5''	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:65:GLN:HE21	41:S:78:LEU:HG	1.85	0.42
42:T:5:GLU:OE2	42:T:5:GLU:N	2.51	0.42
50:3:12:U:H2'	50:3:13:U:H5''	2.00	0.42
50:3:86:G:H4'	50:3:87:C:C5	2.54	0.42
50:3:390:U:H2'	50:3:391:G:C8	2.55	0.42
51:1:490:C:O2'	51:1:491:G:P	2.77	0.42
51:1:1917:U:O2'	51:1:1918:A:H5'	2.20	0.42
51:1:2650:U:H2'	51:1:2651:C:H6	1.85	0.42
53:5:10:G:C2	53:5:26:G:H1'	2.55	0.42
54:4:8:A:H2'	54:4:9:G:C8	2.53	0.42
55:8:17:ARG:HH12	55:8:113:LEU:CB	2.32	0.42
1:b:4:LYS:HG3	1:b:16:VAL:HG22	2.00	0.42
4:e:169:LEU:HD12	4:e:176:PHE:HE1	1.85	0.42
7:j:73:VAL:HG12	7:j:88:THR:HG22	2.00	0.42
16:s:88:ARG:HB2	16:s:92:ARG:HG3	2.00	0.42
29:G:15:PHE:HE1	29:G:34:ARG:HG2	1.84	0.42
29:G:94:ARG:NE	50:3:1100:C:C5	2.87	0.42
29:G:96:LEU:HB2	29:G:99:MET:CG	2.49	0.42
31:I:150:LYS:HA	31:I:154:VAL:CG1	2.47	0.42
32:J:75:LEU:H	32:J:75:LEU:CD2	2.30	0.42
34:L:16:LYS:HG2	34:L:17:PHE:CD1	2.55	0.42
34:L:55:LYS:N	34:L:55:LYS:HD3	2.34	0.42
34:L:71:THR:O	34:L:90:VAL:HG12	2.20	0.42
35:M:1:SER:O	35:M:2:MET:C	2.63	0.42
43:U:74:LEU:O	43:U:77:GLU:HB3	2.20	0.42
48:Z:6:ARG:HG2	48:Z:8:ASN:HD22	1.85	0.42
49:a:47:ASN:O	49:a:210:LYS:HG2	2.20	0.42
50:3:16:A:O2'	50:3:17:U:H5'	2.20	0.42
50:3:216:U:H2'	50:3:217:C:H6	1.81	0.42
50:3:438:U:O2'	50:3:439:U:C5	2.72	0.42
50:3:1364:U:O2'	50:3:1365:G:H5'	2.19	0.42
51:1:475:C:H4'	51:1:510:C:H5'	2.01	0.42
51:1:1454:C:C2'	51:1:1455:G:H5'	2.49	0.42
51:1:1833:C:O2'	51:1:1834:U:H5'	2.20	0.42
51:1:1999:C:H2'	51:1:2000:C:H6	1.84	0.42
51:1:2183:A:H2'	51:1:2184:A:H8	1.85	0.42
51:1:2415:G:H2'	51:1:2416:C:H6	1.83	0.42
51:1:2455:G:H2'	51:1:2456:C:H6	1.82	0.42
51:1:2493:U:H1'	55:8:280:GLN:HB2	2.02	0.42
53:5:67:C:H2'	53:5:68:C:H6	1.84	0.42
55:8:22:ARG:NH2	55:8:67:VAL:HA	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:2:GLU:OE2	3:d:13:THR:HA	2.19	0.42
4:e:76:PHE:O	4:e:77:LYS:C	2.62	0.42
6:g:72:ILE:CG2	6:g:108:VAL:HG22	2.50	0.42
17:t:61:LEU:HB3	51:1:1341:G:H4'	2.01	0.42
17:t:61:LEU:HB3	51:1:1341:G:H5'	2.02	0.42
25:C:8:ILE:HG12	25:C:22:THR:O	2.19	0.42
30:H:74:ILE:N	30:H:74:ILE:CD1	2.82	0.42
30:H:111:ASP:OD2	30:H:114:LEU:HG	2.19	0.42
31:I:170:LEU:HD12	31:I:170:LEU:O	2.19	0.42
35:M:105:THR:OG1	35:M:110:MET:HE3	2.20	0.42
36:N:30:ASN:O	36:N:31:GLN:HB2	2.19	0.42
42:T:78:THR:HA	42:T:81:ILE:HG12	2.02	0.42
43:U:38:PHE:CE1	43:U:51:ARG:HD3	2.54	0.42
44:V:46:HIS:CB	44:V:70:LYS:HD3	2.49	0.42
50:3:432:A:H2'	50:3:433:G:O4'	2.20	0.42
50:3:608:A:H2'	50:3:609:A:O4'	2.20	0.42
50:3:1301:U:O2	50:3:1301:U:H2'	2.20	0.42
51:1:162:U:C2'	51:1:163:C:H5'	2.50	0.42
51:1:215:G:O3'	51:1:216:A:H4'	2.20	0.42
51:1:1213:A:O2'	51:1:1214:A:H5'	2.19	0.42
51:1:1409:U:H2'	51:1:1410:G:H8	1.85	0.42
51:1:1422:G:H1'	51:1:1496:A:H61	1.85	0.42
51:1:2110:G:H5''	51:1:2118:U:H2'	2.02	0.42
51:1:2291:U:H2'	51:1:2292:U:C6	2.54	0.42
51:1:2757:A:H2'	51:1:2757:A:N3	2.35	0.42
52:2:35:C:C2'	52:2:36:C:H5'	2.49	0.42
55:8:102:GLU:O	55:8:105:ALA:HB3	2.19	0.42
1:b:42:ARG:HG3	1:b:42:ARG:NH1	2.33	0.42
1:b:163:ILE:HG23	1:b:163:ILE:O	2.20	0.42
1:b:259:ASN:C	1:b:261:ARG:H	2.28	0.42
5:f:29:ASN:ND2	5:f:79:THR:O	2.52	0.42
31:I:149:LYS:C	31:I:150:LYS:HG2	2.45	0.42
33:K:88:MET:HB3	45:W:63:TYR:HE2	1.85	0.42
34:L:134:VAL:O	34:L:138:GLU:HG2	2.20	0.42
40:R:29:SER:O	40:R:33:LEU:HD23	2.20	0.42
40:R:93:GLY:HA2	40:R:108:ARG:HH12	1.85	0.42
43:U:38:PHE:CZ	43:U:51:ARG:HD3	2.55	0.42
49:a:180:PHE:CD1	49:a:184:LYS:HD2	2.54	0.42
50:3:39:G:H2'	50:3:40:C:C6	2.55	0.42
50:3:832:G:H2'	50:3:833:G:C8	2.55	0.42
50:3:1098:C:H2'	50:3:1099:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:542:C:H2'	51:1:543:G:C8	2.55	0.42
51:1:832:U:H2'	51:1:833:A:C8	2.55	0.42
51:1:1751:U:C2'	51:1:1752:C:H5'	2.50	0.42
51:1:2715:C:H3'	51:1:2716:C:H5''	2.00	0.42
55:8:10:ARG:O	55:8:13:ASP:HB3	2.19	0.42
1:b:75:ALA:HB2	1:b:95:TYR:CD1	2.55	0.42
1:b:243:PRO:O	1:b:251:THR:HG22	2.20	0.42
4:e:92:GLY:O	4:e:95:MET:HB3	2.20	0.42
4:e:107:VAL:HB	4:e:108:PRO:CD	2.39	0.42
5:f:126:THR:HG23	5:f:128:THR:H	1.84	0.42
7:j:47:HIS:ND1	7:j:48:VAL:HG23	2.35	0.42
14:q:5:ARG:NH1	51:1:585:G:N7	2.67	0.42
14:q:111:LYS:CD	15:r:48:LYS:HD2	2.50	0.42
30:H:151:GLU:HA	30:H:166:TRP:HA	2.01	0.42
32:J:56:PRO:O	32:J:59:ILE:HG12	2.20	0.42
32:J:110:MET:O	32:J:113:VAL:HG12	2.19	0.42
33:K:6:ILE:O	33:K:62:MET:HE2	2.19	0.42
37:O:65:TYR:HD1	41:S:97:LYS:HA	1.84	0.42
38:P:127:ARG:HB2	48:Z:34:ARG:HH22	1.85	0.42
40:R:6:ILE:O	40:R:8:ILE:HG13	2.20	0.42
40:R:82:LEU:HG	46:X:73:PHE:HE1	1.85	0.42
44:V:29:LYS:HA	44:V:36:PHE:HD1	1.85	0.42
48:Z:54:ARG:HH22	54:4:7:G:P	2.43	0.42
50:3:328:C:H5'	50:3:329:A:H5'	2.01	0.42
50:3:429:U:H4'	50:3:430:A:O5'	2.19	0.42
50:3:663:A:H2'	50:3:664:G:O4'	2.20	0.42
50:3:708:C:H2'	50:3:709:U:C6	2.55	0.42
50:3:926:G:N1	54:4:15:A:H2'	2.35	0.42
51:1:792:A:O2'	51:1:793:A:OP2	2.35	0.42
51:1:936:A:H2'	51:1:937:C:C6	2.55	0.42
51:1:1147:A:H2'	51:1:1148:U:H6	1.85	0.42
51:1:1857:G:N2	51:1:1884:G:H2'	2.35	0.42
51:1:1874:C:H2'	51:1:1875:G:C5'	2.50	0.42
51:1:2122:U:H2'	51:1:2123:G:C5'	2.50	0.42
51:1:2519:U:H5'	51:1:2567:G:N2	2.35	0.42
51:1:2736:A:H2'	51:1:2737:G:H8	1.84	0.42
52:2:3:C:C3'	52:2:4:C:C5'	2.94	0.42
52:2:97:C:H2'	52:2:98:G:O4'	2.20	0.42
55:8:144:TRP:NE1	55:8:201:LEU:HD13	2.35	0.42
1:b:123:ILE:N	1:b:123:ILE:CD1	2.83	0.41
4:e:172:PHE:O	4:e:173:ASP:CB	2.68	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:j:41:LYS:HB3	7:j:43:GLU:OE1	2.20	0.41
8:k:42:THR:HG22	8:k:57:VAL:HG22	2.02	0.41
10:m:79:ALA:HB2	55:8:279:SER:HB3	2.02	0.41
11:n:40:LYS:HE3	11:n:40:LYS:HB2	1.88	0.41
11:n:79:LEU:C	11:n:81:ASN:H	2.28	0.41
21:x:60:LYS:HD3	51:1:372:G:O4'	2.20	0.41
23:z:5:LYS:HB2	23:z:57:GLU:HG3	2.02	0.41
26:D:34:ARG:NH2	26:D:39:ARG:CD	2.84	0.41
29:G:169:HIS:HA	29:G:172:ILE:HD12	2.01	0.41
29:G:207:ARG:O	29:G:210:THR:OG1	2.35	0.41
31:I:78:ALA:CB	31:I:85:THR:HG23	2.50	0.41
33:K:3:HIS:HD2	33:K:92:THR:HB	1.84	0.41
35:M:66:GLN:C	35:M:68:LYS:H	2.28	0.41
43:U:45:GLU:CD	43:U:45:GLU:H	2.28	0.41
46:X:62:THR:HG22	46:X:63:ASP:N	2.35	0.41
48:Z:31:VAL:O	48:Z:31:VAL:HG22	2.19	0.41
49:a:216:THR:HG22	49:a:217:THR:H	1.85	0.41
50:3:422:C:H4'	50:3:423:G:N2	2.35	0.41
50:3:471:U:H2'	50:3:472:U:C6	2.55	0.41
50:3:922:G:H2'	50:3:923:A:C8	2.56	0.41
50:3:1156:G:H21	50:3:1179:A:H61	1.68	0.41
50:3:1352:C:H2'	50:3:1353:G:C8	2.55	0.41
51:1:8:C:H2'	51:1:9:G:O4'	2.20	0.41
51:1:128:C:H2'	51:1:129:C:C6	2.55	0.41
51:1:1866:A:H2'	51:1:1867:G:O4'	2.20	0.41
51:1:2102:G:H2'	51:1:2103:C:H5'	2.01	0.41
51:1:2238:G:H2'	51:1:2238:G:N3	2.34	0.41
51:1:2364:C:H2'	51:1:2365:G:O4'	2.20	0.41
55:8:265:HIS:O	55:8:269:GLY:N	2.46	0.41
4:e:116:LEU:HD13	4:e:129:MET:SD	2.60	0.41
7:j:57:LEU:HD12	7:j:57:LEU:N	2.34	0.41
7:j:131:ASN:HD22	51:1:6:A:H5'	1.84	0.41
8:k:24:VAL:CG2	8:k:33:ALA:HB2	2.50	0.41
13:p:59:THR:CG2	13:p:72:VAL:HG12	2.37	0.41
28:F:22:VAL:O	28:F:22:VAL:HG13	2.20	0.41
28:F:37:GLN:O	51:1:1124:G:O2'	2.35	0.41
32:J:35:LEU:C	32:J:35:LEU:HD23	2.45	0.41
33:K:3:HIS:HA	33:K:65:GLU:HA	2.02	0.41
34:L:128:GLU:HG3	34:L:130:LYS:HG3	2.01	0.41
39:Q:62:VAL:HG21	39:Q:94:TYR:CE2	2.55	0.41
46:X:54:ARG:HB3	50:3:958:A:C2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Z:19:LYS:O	48:Z:24:LYS:HB2	2.20	0.41
50:3:539:A:H2'	50:3:540:G:C8	2.55	0.41
50:3:1060:U:O2'	50:3:1061:G:H5'	2.21	0.41
50:3:1133:G:H2'	50:3:1134:G:C8	2.55	0.41
50:3:1197:A:H2'	50:3:1198:G:H5''	2.02	0.41
50:3:1424:U:H2'	50:3:1425:U:O4'	2.20	0.41
51:1:290:U:H2'	51:1:291:G:H8	1.85	0.41
51:1:390:U:H4'	51:1:391:A:H5''	2.02	0.41
51:1:552:U:H2'	51:1:553:G:H8	1.85	0.41
51:1:902:C:O2	51:1:902:C:C2'	2.68	0.41
51:1:2418:A:H2'	51:1:2419:U:O4'	2.21	0.41
51:1:2561:U:H2'	51:1:2562:U:O4'	2.20	0.41
51:1:2580:U:O2	51:1:2580:U:O4'	2.38	0.41
52:2:12:C:H1'	52:2:15:A:C2	2.55	0.41
55:8:295:LEU:O	55:8:299:GLU:HG3	2.20	0.41
1:b:109:LEU:O	1:b:110:LYS:HD3	2.21	0.41
8:k:31:ARG:HG2	8:k:31:ARG:NH1	2.35	0.41
10:m:72:PRO:HD3	10:m:92:TRP:CZ3	2.55	0.41
11:n:48:VAL:HG13	11:n:49:GLU:N	2.35	0.41
13:p:5:LYS:O	13:p:9:GLN:HG2	2.19	0.41
16:s:57:ASN:O	16:s:61:ASN:HB2	2.21	0.41
29:G:27:LYS:O	29:G:30:ILE:HG22	2.21	0.41
30:H:126:ARG:HG2	30:H:126:ARG:HH11	1.84	0.41
31:I:78:ALA:C	31:I:85:THR:HG23	2.46	0.41
32:J:15:ILE:HD11	32:J:37:VAL:HG12	2.02	0.41
34:L:22:LEU:O	34:L:25:PHE:HB3	2.20	0.41
36:N:35:GLU:HA	36:N:39:GLY:HA3	2.02	0.41
36:N:91:GLU:C	36:N:93:LEU:N	2.77	0.41
39:Q:66:ILE:HA	39:Q:96:THR:OG1	2.20	0.41
45:W:20:ILE:N	45:W:20:ILE:CD1	2.82	0.41
47:Y:34:VAL:O	47:Y:38:ILE:HG13	2.20	0.41
50:3:878:A:H2'	50:3:879:C:H6	1.83	0.41
50:3:946:A:H4'	50:3:1333:A:O2'	2.20	0.41
50:3:1245:C:H2'	50:3:1246:A:H8	1.86	0.41
50:3:1522:U:H2'	50:3:1523:G:H8	1.86	0.41
51:1:114:U:O2	51:1:114:U:H2'	2.21	0.41
51:1:281:C:H2'	51:1:282:A:H8	1.86	0.41
51:1:366:C:H2'	51:1:367:G:C5'	2.49	0.41
51:1:483:A:H3'	51:1:484:C:H6	1.85	0.41
51:1:1934:C:O2'	51:1:1935:G:H5'	2.20	0.41
51:1:2408:U:H2'	51:1:2409:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:24:VAL:HG13	8:k:24:VAL:O	2.19	0.41
30:H:112:ALA:O	30:H:199:VAL:HG11	2.21	0.41
31:I:61:ARG:NH1	31:I:61:ARG:CB	2.83	0.41
32:J:132:PRO:C	32:J:135:VAL:HG12	2.44	0.41
33:K:45:ARG:HB3	33:K:59:TYR:HD2	1.84	0.41
36:N:11:ARG:HH11	36:N:12:LYS:HB2	1.86	0.41
36:N:101:GLY:O	36:N:102:PHE:HB2	2.20	0.41
46:X:5:LYS:HB2	50:3:1313:U:OP1	2.21	0.41
50:3:131:A:H2'	50:3:132:C:H6	1.84	0.41
50:3:692:U:H2'	50:3:694:A:OP2	2.20	0.41
51:1:150:U:H2'	51:1:151:C:H6	1.85	0.41
51:1:164:C:H2'	51:1:165:A:H5'	2.02	0.41
51:1:1361:G:H2'	51:1:1362:C:C6	2.55	0.41
51:1:1609:A:H1'	51:1:1616:A:C1'	2.50	0.41
51:1:1917:U:H2'	51:1:1918:A:H5'	2.03	0.41
51:1:2506:U:H2'	51:1:2507:C:C5	2.55	0.41
55:8:21:LEU:HD13	55:8:116:ARG:NH2	2.35	0.41
1:b:73:ILE:HD12	1:b:73:ILE:H	1.85	0.41
1:b:104:LEU:HD12	1:b:104:LEU:N	2.36	0.41
2:c:13:ARG:HG2	13:p:55:HIS:CE1	2.55	0.41
10:m:136:MET:SD	19:v:57:TYR:HB3	2.60	0.41
11:n:113:ILE:O	11:n:113:ILE:HG23	2.21	0.41
26:D:26:ASN:CG	51:1:682:G:H5'	2.45	0.41
32:J:156:ARG:HH22	32:J:163:ILE:HB	1.85	0.41
33:K:2:ARG:HD2	33:K:68:GLN:OE1	2.20	0.41
33:K:53:LYS:HA	33:K:53:LYS:HE2	2.01	0.41
33:K:97:THR:HG23	33:K:98:GLU:OE2	2.20	0.41
35:M:94:VAL:HB	35:M:99:GLY:C	2.46	0.41
40:R:1:ALA:N	40:R:52:ILE:HD13	2.35	0.41
45:W:62:ARG:HB3	45:W:69:TYR:CE1	2.55	0.41
46:X:57:VAL:HG13	46:X:57:VAL:O	2.20	0.41
50:3:471:U:H2'	50:3:472:U:H6	1.85	0.41
50:3:545:C:O2'	50:3:549:C:H5''	2.20	0.41
50:3:578:C:H2'	50:3:579:A:C8	2.55	0.41
50:3:735:C:H2'	50:3:736:C:H6	1.85	0.41
50:3:1310:G:O2'	50:3:1311:A:H5'	2.20	0.41
50:3:1379:G:O2'	50:3:1380:U:H5'	2.21	0.41
51:1:253:C:H2'	51:1:254:G:O4'	2.20	0.41
51:1:351:C:H2'	51:1:352:A:C8	2.55	0.41
51:1:852:U:H2'	51:1:853:C:C6	2.56	0.41
51:1:1152:C:H2'	51:1:1153:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1796:U:H2'	51:1:1797:G:C8	2.55	0.41
51:1:2368:C:H2'	51:1:2369:A:C8	2.54	0.41
51:1:2371:G:O2'	51:1:2372:U:H5'	2.19	0.41
51:1:2751:G:H2'	51:1:2751:G:N3	2.36	0.41
52:2:24:G:H1'	52:2:27:C:H42	1.85	0.41
52:2:97:C:C2'	52:2:98:G:H5'	2.50	0.41
53:5:48:C:O2'	53:5:59:A:H4'	2.20	0.41
53:5:68:C:H2'	53:5:69:C:H6	1.84	0.41
55:8:159:ARG:HB3	55:8:161:PHE:CE2	2.55	0.41
1:b:124:LYS:HG2	1:b:125:PRO:HD2	2.03	0.41
6:g:21:VAL:HG21	6:g:25:TYR:HD2	1.86	0.41
8:k:1:MET:HG2	51:1:1665:A:H1'	2.01	0.41
9:l:69:ARG:HH12	51:1:244:A:H4'	1.86	0.41
11:n:103:ARG:HD2	11:n:106:ASP:OD2	2.21	0.41
17:t:53:VAL:CG2	17:t:87:LEU:HD22	2.48	0.41
19:v:7:GLU:HG3	19:v:41:GLU:HB3	2.02	0.41
31:l:67:LEU:HD12	50:3:547:A:OP2	2.20	0.41
33:K:42:TRP:HE3	33:K:59:TYR:HB3	1.86	0.41
35:M:95:MET:SD	35:M:129:ALA:HB1	2.61	0.41
36:N:115:VAL:HG23	37:O:62:ARG:NH1	2.29	0.41
37:O:5:ARG:HD3	37:O:77:VAL:O	2.20	0.41
39:Q:41:PRO:HA	39:Q:89:LEU:HD23	2.02	0.41
49:a:4:LEU:CD2	49:a:12:ARG:HD3	2.48	0.41
49:a:43:ASP:OD1	51:1:2124:G:H1'	2.20	0.41
49:a:60:ARG:HD2	49:a:164:ARG:HD2	2.02	0.41
50:3:81:A:H2	50:3:89:U:H3	1.68	0.41
50:3:600:A:H2'	50:3:601:G:C8	2.55	0.41
50:3:621:A:H2'	50:3:622:A:H8	1.85	0.41
50:3:658:C:H2'	50:3:659:U:C6	2.55	0.41
50:3:763:G:H2'	50:3:764:C:C6	2.54	0.41
50:3:1020:G:H2'	50:3:1021:A:C8	2.56	0.41
50:3:1216:A:H2'	50:3:1217:C:C6	2.56	0.41
51:1:28:A:H1'	51:1:513:A:C2	2.56	0.41
51:1:155:A:H2'	51:1:156:A:H8	1.84	0.41
51:1:1956:U:C2'	51:1:1957:C:H5'	2.51	0.41
55:8:155:TRP:CZ3	55:8:192:LEU:HD11	2.55	0.41
55:8:288:MET:HA	55:8:291:MET:HB3	2.03	0.41
1:b:204:LEU:HD13	1:b:210:ALA:HB2	2.01	0.41
2:c:61:THR:HB	2:c:63:PRO:HD2	2.02	0.41
4:e:140:ILE:HD11	4:e:144:LYS:HE3	2.03	0.41
6:g:66:ASN:HD21	6:g:134:VAL:HB	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:k:109:SER:C	8:k:111:LYS:H	2.28	0.41
9:l:78:ARG:HB3	9:l:113:ALA:CB	2.51	0.41
11:n:47:VAL:O	11:n:51:LEU:HG	2.20	0.41
11:n:48:VAL:O	11:n:52:ILE:HG13	2.20	0.41
14:q:35:PHE:O	14:q:39:ILE:HG13	2.21	0.41
16:s:9:HIS:CE1	16:s:82:MET:HE1	2.55	0.41
26:D:26:ASN:O	26:D:30:VAL:HG23	2.20	0.41
29:G:71:THR:HG22	29:G:92:ASN:C	2.45	0.41
30:H:4:VAL:HB	50:3:1190:G:OP2	2.20	0.41
31:I:75:TYR:CE1	31:I:200:VAL:HG23	2.54	0.41
32:J:15:ILE:N	32:J:15:ILE:CD1	2.83	0.41
35:M:38:VAL:HG21	35:M:109:VAL:HG22	2.02	0.41
39:Q:23:LEU:HD13	39:Q:29:LYS:CE	2.32	0.41
39:Q:109:ARG:NH1	50:3:537:G:H5''	2.34	0.41
41:S:83:VAL:HG23	41:S:84:ARG:N	2.35	0.41
44:V:74:LEU:HD23	44:V:75:VAL:C	2.46	0.41
48:Z:5:VAL:HG21	48:Z:16:ARG:HB3	2.03	0.41
48:Z:66:ARG:O	48:Z:66:ARG:HG3	2.19	0.41
50:3:213:G:H2'	50:3:214:C:O4'	2.21	0.41
50:3:370:C:H2'	50:3:371:A:H8	1.86	0.41
50:3:398:U:H2'	50:3:399:G:C8	2.56	0.41
50:3:817:C:H4'	50:3:818:G:H5''	2.02	0.41
50:3:891:U:O2'	50:3:892:A:H5'	2.21	0.41
50:3:925:G:H1'	50:3:1502:A:C4	2.56	0.41
51:1:302:C:H2'	51:1:303:G:H8	1.84	0.41
51:1:323:C:H2'	51:1:1205:A:N1	2.36	0.41
51:1:1746:A:O2'	51:1:1747:U:H5'	2.21	0.41
51:1:1849:G:H2'	51:1:1850:G:C8	2.53	0.41
52:2:87:U:H5''	52:2:88:C:OP2	2.20	0.41
55:8:113:LEU:O	55:8:117:ARG:N	2.54	0.41
2:c:4:LEU:HD13	2:c:101:PHE:CE2	2.55	0.41
3:d:121:VAL:HG22	3:d:122:GLU:N	2.36	0.41
3:d:124:PHE:CE2	3:d:187:VAL:HG11	2.44	0.41
4:e:68:LYS:HD3	4:e:83:PRO:HG3	2.03	0.41
4:e:82:TYR:HA	4:e:83:PRO:HD3	1.85	0.41
8:k:105:ARG:HG3	8:k:105:ARG:HH11	1.85	0.41
11:n:83:LEU:HD22	11:n:83:LEU:N	2.35	0.41
15:r:64:VAL:CG2	15:r:97:LYS:HB2	2.51	0.41
19:v:37:PRO:C	19:v:38:LEU:HD22	2.45	0.41
32:J:97:PRO:O	32:J:98:ALA:C	2.64	0.41
35:M:29:SER:OG	35:M:32:LYS:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:S:30:ILE:CG2	41:S:40:ARG:HG2	2.51	0.41
45:W:41:S:HA	45:W:44:THR:OG1	2.21	0.41
47:Y:17:ARG:HH11	47:Y:17:ARG:HG3	1.86	0.41
48:Z:19:LYS:HB3	48:Z:24:LYS:HG3	2.01	0.41
50:3:428:G:H8	50:3:428:G:OP1	2.04	0.41
50:3:1015:G:H2'	50:3:1016:A:O4'	2.21	0.41
50:3:1306:A:O2'	50:3:1307:U:H5'	2.20	0.41
51:1:414:C:H2'	51:1:415:A:C8	2.56	0.41
51:1:466:A:C2'	51:1:467:G:H5'	2.50	0.41
51:1:487:C:H2'	51:1:488:G:O4'	2.20	0.41
51:1:2283:C:H2'	51:1:2284:A:O4'	2.21	0.41
53:5:9:G:H5'	53:5:11:A:OP2	2.20	0.41
55:8:13:ASP:HA	55:8:16:GLU:OE2	2.20	0.41
1:b:254:LYS:HD2	51:1:1844:C:OP1	2.21	0.41
4:e:120:S:HA	51:1:2303:G:C4'	2.20	0.41
4:e:131:VAL:HG22	4:e:132:ARG:N	2.36	0.41
5:f:48:THR:OG1	5:f:49:LEU:N	2.53	0.41
6:g:4:ILE:HG22	6:g:43:ASN:HD21	1.85	0.41
6:g:47:PHE:HA	6:g:51:ARG:CG	2.51	0.41
6:g:65:ALA:HA	6:g:68:ARG:CD	2.49	0.41
6:g:132:PHE:CE2	6:g:142:VAL:HG21	2.55	0.41
9:l:79:LEU:HG	9:l:111:ILE:O	2.21	0.41
11:n:87:PHE:CZ	11:n:117:ASP:HB2	2.56	0.41
11:n:102:PHE:HE1	11:n:109:PRO:HG3	1.86	0.41
14:q:89:ILE:HG22	14:q:94:LEU:HG	2.02	0.41
19:v:53:LYS:HB3	19:v:55:GLU:CD	2.45	0.41
20:w:31:S:O	20:w:33:ILE:HD12	2.21	0.41
27:E:12:ARG:HH21	27:E:12:ARG:HG3	1.85	0.41
27:E:28:LEU:C	27:E:28:LEU:HD23	2.46	0.41
29:G:6:ARG:HD3	29:G:6:ARG:C	2.46	0.41
29:G:20:ARG:HA	50:3:830:G:H4'	2.02	0.41
29:G:187:ASP:OD1	29:G:202:ASN:HA	2.21	0.41
31:I:21:LYS:O	31:I:21:LYS:HG2	2.21	0.41
31:I:122:ILE:N	31:I:122:ILE:CD1	2.84	0.41
32:J:96:GLN:HG3	32:J:97:PRO:HD2	2.02	0.41
32:J:114:LEU:O	32:J:119:VAL:HG22	2.20	0.41
34:L:29:LEU:HD23	34:L:29:LEU:C	2.45	0.41
34:L:125:ASP:OD2	34:L:131:GLY:HA3	2.21	0.41
35:M:49:LYS:HB2	35:M:59:GLU:HG3	2.03	0.41
36:N:10:ARG:HA	36:N:14:S:O	2.20	0.41
36:N:98:ARG:NH2	50:3:1178:G:C8	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:O:88:MET:HE3	37:O:89:ARG:N	2.21	0.41
37:O:91:ASP:C	37:O:92:LEU:HD12	2.46	0.41
38:P:12:ARG:C	38:P:14:GLN:H	2.29	0.41
39:Q:62:VAL:HG22	39:Q:63:THR:H	1.85	0.41
39:Q:115:LYS:O	39:Q:116:TYR:CB	2.68	0.41
41:S:75:LYS:HE3	50:3:1357:A:H5''	2.01	0.41
48:Z:17:ARG:HH11	48:Z:17:ARG:HG3	1.86	0.41
50:3:82:G:H2'	50:3:83:C:C5'	2.51	0.41
50:3:731:G:O2'	50:3:732:C:H5'	2.20	0.41
50:3:912:C:H2'	50:3:913:A:C8	2.56	0.41
50:3:1007:U:H2'	50:3:1008:U:H6	1.85	0.41
50:3:1091:U:H5'	50:3:1171:A:O2'	2.21	0.41
50:3:1198:G:H5'	50:3:1198:G:H8	1.85	0.41
50:3:1315:U:H2'	50:3:1316:G:O4'	2.19	0.41
51:1:4:U:H2'	51:1:5:A:H8	1.86	0.41
51:1:107:G:H2'	51:1:108:G:H8	1.86	0.41
51:1:192:C:C2'	51:1:193:U:H5'	2.51	0.41
51:1:304:U:H2'	51:1:305:C:C6	2.56	0.41
51:1:505:A:C2'	51:1:506:G:H5'	2.51	0.41
51:1:631:A:H2'	51:1:632:A:O4'	2.20	0.41
51:1:1124:G:H2'	51:1:1125:G:O4'	2.21	0.41
51:1:1325:U:H5''	51:1:1648:U:OP2	2.20	0.41
51:1:1664:A:N3	51:1:1664:A:H2'	2.36	0.41
51:1:1997:C:O2'	51:1:1998:A:H5'	2.21	0.41
51:1:2150:C:O2'	51:1:2151:U:H5'	2.21	0.41
51:1:2345:G:H21	51:1:2381:A:H3'	1.85	0.41
51:1:2564:A:C2	51:1:2647:U:H4'	2.56	0.41
51:1:2604:U:O2'	51:1:2605:U:H6	2.04	0.41
51:1:2756:U:H1'	51:1:2757:A:H5''	2.03	0.41
53:5:38:A:H2'	53:5:39:C:O4'	2.21	0.41
55:8:67:VAL:O	55:8:71:ASP:N	2.54	0.41
55:8:223:TYR:CD1	55:8:223:TYR:N	2.89	0.41
55:8:314:LYS:O	55:8:314:LYS:HG2	2.21	0.41
2:c:12:THR:CG2	13:p:4:ILE:HG23	2.50	0.41
4:e:137:PHE:O	4:e:139:GLU:N	2.54	0.41
6:g:148:ALA:O	6:g:149:GLU:OXT	2.39	0.41
7:j:105:VAL:O	7:j:109:LEU:HG	2.21	0.41
9:l:131:ALA:O	9:l:135:ILE:HG13	2.21	0.41
17:t:58:VAL:HG23	17:t:58:VAL:O	2.21	0.41
18:u:45:GLN:HB2	18:u:58:VAL:HG22	2.03	0.41
19:v:12:GLN:HB2	52:2:76:G:OP1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:w:55:LEU:CD1	20:w:76:ILE:HD12	2.50	0.41
22:y:1:MET:O	22:y:5:GLU:OE1	2.38	0.41
30:H:196:GLY:N	50:3:1057:G:H4'	2.36	0.41
32:J:105:ILE:HG13	32:J:105:ILE:O	2.21	0.41
33:K:45:ARG:HB3	33:K:59:TYR:CD2	2.55	0.41
35:M:49:LYS:HB2	35:M:59:GLU:CG	2.51	0.41
44:V:64:ARG:NE	44:V:66:LEU:HD21	2.36	0.41
45:W:29:LYS:HD3	45:W:32:ILE:HD11	2.03	0.41
50:3:92:U:O2'	50:3:93:U:H5'	2.21	0.41
50:3:201:G:H2'	50:3:202:G:O4'	2.21	0.41
50:3:483:C:H2'	50:3:484:G:C8	2.56	0.41
50:3:1507:A:H2'	50:3:1508:A:H8	1.86	0.41
51:1:987:C:H2'	51:1:988:A:O4'	2.20	0.41
51:1:1183:U:H2'	51:1:1184:U:C6	2.56	0.41
51:1:1219:U:H2'	51:1:1220:G:C8	2.56	0.41
51:1:2747:G:H2'	51:1:2748:A:C8	2.56	0.41
1:b:123:ILE:H	1:b:123:ILE:CD1	2.33	0.40
2:c:133:THR:OG1	2:c:134:HIS:N	2.52	0.40
4:e:79:ARG:HG2	4:e:79:ARG:NH2	2.36	0.40
4:e:120:SER:HB2	51:1:2303:G:O2'	2.21	0.40
5:f:108:PHE:HA	51:1:2666:C:H42	1.85	0.40
5:f:174:LYS:HA	51:1:2529:G:H4'	2.03	0.40
15:r:36:ALA:HB2	15:r:58:VAL:HG12	2.02	0.40
26:D:6:GLN:HA	26:D:7:PRO:HD2	1.89	0.40
30:H:119:ILE:HG12	30:H:123:LEU:CD2	2.46	0.40
34:L:14:ASP:HA	34:L:15:PRO:HD3	1.75	0.40
34:L:137:ARG:HD2	34:L:137:ARG:C	2.46	0.40
36:N:6:TYR:HA	36:N:18:VAL:O	2.20	0.40
37:O:15:HIS:CD2	50:3:1152:A:H5'	2.56	0.40
38:P:111:ASP:HB2	48:Z:16:ARG:NH2	2.36	0.40
42:T:2:LEU:HG	42:T:34:GLN:OE1	2.20	0.40
43:U:8:ARG:HD2	43:U:28:ARG:CZ	2.51	0.40
45:W:49:LYS:HB2	50:3:835:U:OP1	2.22	0.40
50:3:382:A:O2'	50:3:383:A:H5'	2.21	0.40
50:3:978:A:H61	50:3:1316:G:H1'	1.86	0.40
50:3:1155:A:H2'	50:3:1156:G:O4'	2.21	0.40
50:3:1246:A:H2'	50:3:1247:U:C6	2.56	0.40
50:3:1347:G:N2	50:3:1373:G:H2'	2.36	0.40
51:1:794:A:H2'	51:1:795:C:C6	2.56	0.40
51:1:851:C:H2'	51:1:852:U:C6	2.56	0.40
51:1:1280:G:O2'	51:1:1281:G:H5'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:1417:C:H4'	51:1:1587:G:H21	1.86	0.40
51:1:2146:C:H4'	51:1:2147:A:C5	2.56	0.40
51:1:2443:C:H2'	51:1:2444:G:C8	2.56	0.40
51:1:2719:G:H4'	51:1:2846:G:O3'	2.21	0.40
51:1:2832:U:H1'	51:1:2834:G:C2	2.56	0.40
55:8:45:ASP:C	55:8:47:TRP:H	2.29	0.40
55:8:110:LEU:O	55:8:114:GLU:N	2.51	0.40
15:r:59:ILE:HG23	15:r:101:ILE:CD1	2.51	0.40
19:v:7:GLU:O	19:v:41:GLU:N	2.46	0.40
24:B:24:VAL:CG1	24:B:25:THR:H	2.34	0.40
27:E:1:PRO:H2	51:1:591:U:H1'	1.86	0.40
29:G:101:THR:HG22	29:G:178:LEU:HD11	2.03	0.40
34:L:58:LEU:HD23	34:L:58:LEU:C	2.46	0.40
35:M:48:PHE:HD2	35:M:58:LEU:HD11	1.87	0.40
38:P:33:ILE:CD1	38:P:73:VAL:HG11	2.47	0.40
38:P:126:ARG:NH2	50:3:692:U:H5''	2.37	0.40
40:R:88:LEU:N	40:R:88:LEU:HD22	2.36	0.40
46:X:39:ILE:N	46:X:39:ILE:CD1	2.83	0.40
47:Y:66:ILE:HG23	47:Y:70:LYS:HD3	2.03	0.40
49:a:33:LEU:HD13	49:a:221:GLY:HA2	2.03	0.40
50:3:1142:G:H2'	50:3:1143:G:H5'	2.02	0.40
51:1:92:U:H2'	51:1:93:G:H5'	2.02	0.40
51:1:406:G:H2'	51:1:407:G:H8	1.86	0.40
51:1:438:G:H2'	51:1:439:A:H8	1.86	0.40
51:1:873:C:H2'	51:1:874:G:O4'	2.21	0.40
51:1:1431:A:H2'	51:1:1432:G:H8	1.84	0.40
51:1:1728:C:O2'	51:1:1729:U:H5''	2.21	0.40
51:1:2104:C:H2'	51:1:2105:U:O4'	2.21	0.40
51:1:2783:U:O2'	51:1:2784:U:H5'	2.21	0.40
55:8:322:GLN:HE21	55:8:324:ARG:N	2.18	0.40
1:b:18:VAL:O	1:b:18:VAL:HG13	2.21	0.40
7:j:114:LEU:O	7:j:118:MET:HG2	2.21	0.40
8:k:22:ILE:HG12	8:k:40:LYS:O	2.21	0.40
8:k:103:VAL:HB	8:k:107:LEU:HD13	2.03	0.40
14:q:71:ASN:OD1	14:q:109:VAL:HG21	2.22	0.40
14:q:75:TYR:HE2	51:1:1153:C:H5'	1.86	0.40
18:u:25:LYS:HZ1	18:u:34:ILE:HG22	1.86	0.40
21:x:55:MET:O	21:x:58:ILE:HG22	2.22	0.40
27:E:31:ILE:HG13	27:E:31:ILE:O	2.21	0.40
29:G:85:SER:O	29:G:221:ARG:HD3	2.21	0.40
30:H:55:VAL:HB	30:H:66:THR:HB	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:I:14:GLU:OE2	31:I:55:ARG:HG3	2.22	0.40
31:I:139:ASN:HA	31:I:181:PHE:O	2.21	0.40
32:J:50:GLY:H	32:J:62:ALA:HB2	1.86	0.40
37:O:59:LYS:HB2	50:3:972:C:H4'	2.03	0.40
40:R:21:ILE:N	40:R:21:ILE:CD1	2.84	0.40
46:X:35:ARG:NH2	46:X:74:ALA:HB3	2.36	0.40
47:Y:4:LYS:O	47:Y:7:LYS:HG2	2.21	0.40
50:3:253:A:N6	50:3:274:A:N1	2.69	0.40
50:3:820:U:H3'	50:3:821:G:C5'	2.52	0.40
50:3:1024:G:H2'	50:3:1025:U:O4'	2.21	0.40
50:3:1409:C:H5'	51:1:1916:A:N1	2.36	0.40
50:3:1462:C:H2'	50:3:1463:U:C6	2.57	0.40
51:1:330:A:H8	51:1:1210:G:C6	2.40	0.40
51:1:579:G:H4'	51:1:2018:G:H5''	2.03	0.40
51:1:1433:A:O2'	51:1:1434:A:H5'	2.21	0.40
51:1:2899:A:H2'	51:1:2900:A:C8	2.57	0.40
55:8:51:GLU:H	55:8:51:GLU:CD	2.29	0.40
55:8:132:ILE:HG23	55:8:219:SER:O	2.22	0.40
55:8:303:LYS:HE2	55:8:303:LYS:HB3	1.96	0.40
4:e:128:SER:HB3	51:1:2303:G:O2'	2.21	0.40
4:e:153:ILE:HG13	4:e:153:ILE:O	2.21	0.40
5:f:21:GLN:NE2	5:f:37:ASN:O	2.54	0.40
6:g:25:TYR:HB2	51:1:2093:G:O2'	2.21	0.40
11:n:24:MET:HE1	11:n:40:LYS:HD3	2.03	0.40
16:s:107:VAL:O	16:s:107:VAL:HG13	2.20	0.40
17:t:88:LYS:C	17:t:90:GLY:H	2.29	0.40
22:y:40:SER:HB2	51:1:61:C:O4'	2.21	0.40
30:H:109:GLU:HB2	30:H:143:LEU:HD12	2.03	0.40
31:I:61:ARG:HB3	31:I:61:ARG:CZ	2.52	0.40
35:M:80:PRO:HG2	50:3:878:A:H5'	2.03	0.40
38:P:45:THR:HG21	50:3:689:C:OP1	2.22	0.40
40:R:113:LYS:N	40:R:114:PRO:CD	2.84	0.40
42:T:71:ARG:HH11	42:T:71:ARG:HG3	1.85	0.40
43:U:46:LYS:HG3	43:U:47:GLU:N	2.34	0.40
47:Y:53:MET:SD	47:Y:53:MET:C	3.04	0.40
49:a:47:ASN:N	49:a:47:ASN:HD22	2.18	0.40
50:3:608:A:C2	50:3:609:A:H1'	2.56	0.40
50:3:1358:U:H3	50:3:1363:A:H61	1.69	0.40
50:3:1487:G:O2'	50:3:1488:G:H5'	2.21	0.40
51:1:208:C:H2'	51:1:209:C:C6	2.57	0.40
51:1:818:G:C2'	51:1:819:A:H5''	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:1:833:A:H2'	51:1:834:G:C8	2.57	0.40
51:1:1230:A:H2'	51:1:1231:U:C6	2.56	0.40
51:1:1601:G:H2'	51:1:1602:U:H5'	2.04	0.40
51:1:1787:A:H2'	51:1:1787:A:N3	2.36	0.40
51:1:2042:A:H2'	51:1:2043:C:H5'	2.03	0.40
51:1:2504:U:H3'	51:1:2505:G:H5''	2.02	0.40
51:1:2557:G:H2'	51:1:2558:C:C6	2.57	0.40
51:1:2629:U:H4'	51:1:2630:G:C5'	2.40	0.40
51:1:2696:U:H2'	51:1:2697:G:C8	2.56	0.40
51:1:2789:C:H2'	51:1:2893:A:N7	2.37	0.40
52:2:59:A:H2'	52:2:60:C:C6	2.56	0.40
52:2:114:C:H2'	52:2:115:A:H8	1.86	0.40
55:8:234:ILE:CD1	55:8:239:LEU:HD11	2.50	0.40
1:b:200:MET:HE3	50:3:773:G:H4'	2.03	0.40
5:f:46:ASP:OD2	5:f:47:ASN:OD1	2.39	0.40
5:f:116:LEU:HD23	5:f:116:LEU:C	2.46	0.40
15:r:38:VAL:CG2	15:r:59:ILE:HG13	2.51	0.40
22:y:6:LEU:CD2	22:y:56:LEU:HD21	2.51	0.40
30:H:54:ILE:N	30:H:54:ILE:CD1	2.81	0.40
30:H:118:SER:O	30:H:122:GLN:HG3	2.21	0.40
31:I:57:LYS:HE3	31:I:57:LYS:HB3	1.98	0.40
32:J:44:ARG:HG2	32:J:72:ASN:ND2	2.36	0.40
34:L:85:GLN:HB3	34:L:147:ASN:ND2	2.36	0.40
34:L:148:LYS:HE3	34:L:148:LYS:HB3	1.95	0.40
37:O:67:ILE:HG13	37:O:67:ILE:O	2.21	0.40
38:P:17:ASP:HB3	38:P:36:ARG:HH21	1.87	0.40
40:R:98:GLY:HA3	50:3:1322:C:H5''	2.03	0.40
40:R:102:LYS:HE2	50:3:952:U:O4	2.21	0.40
50:3:390:U:H2'	50:3:391:G:H8	1.86	0.40
50:3:1032:G:N3	50:3:1032:G:H3'	2.36	0.40
50:3:1287:A:C2	50:3:1353:G:H1'	2.56	0.40
50:3:1390:U:H2'	50:3:1391:U:H6	1.82	0.40
51:1:10:A:H2	51:1:2800:A:H2'	1.87	0.40
51:1:279:A:H2'	51:1:280:U:O4'	2.21	0.40
51:1:1330:C:H2'	51:1:1331:G:C8	2.55	0.40
51:1:1524:G:H2'	51:1:1525:A:C8	2.55	0.40
51:1:1723:G:H3'	51:1:1724:G:C8	2.46	0.40
51:1:1991:U:H2'	51:1:1992:G:H5''	2.03	0.40
51:1:1998:A:H2'	51:1:1999:C:C6	2.57	0.40
52:2:28:C:H2'	52:2:29:A:C8	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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%)	238 (88%)	30 (11%)	1 (0%)	30	60
2	c	207/209 (99%)	190 (92%)	15 (7%)	2 (1%)	12	40
3	d	199/201 (99%)	175 (88%)	20 (10%)	4 (2%)	6	27
4	e	175/177 (99%)	136 (78%)	34 (19%)	5 (3%)	3	21
5	f	174/176 (99%)	154 (88%)	17 (10%)	3 (2%)	7	30
6	g	147/149 (99%)	114 (78%)	29 (20%)	4 (3%)	4	22
7	j	140/142 (99%)	130 (93%)	10 (7%)	0	100	100
8	k	120/122 (98%)	106 (88%)	13 (11%)	1 (1%)	16	45
9	l	141/143 (99%)	122 (86%)	19 (14%)	0	100	100
10	m	134/136 (98%)	117 (87%)	15 (11%)	2 (2%)	8	32
11	n	118/120 (98%)	103 (87%)	14 (12%)	1 (1%)	16	45
12	o	114/116 (98%)	104 (91%)	10 (9%)	0	100	100
13	p	112/114 (98%)	95 (85%)	17 (15%)	0	100	100
14	q	115/117 (98%)	109 (95%)	6 (5%)	0	100	100
15	r	101/103 (98%)	85 (84%)	14 (14%)	2 (2%)	6	27
16	s	108/110 (98%)	94 (87%)	12 (11%)	2 (2%)	6	28
17	t	91/93 (98%)	79 (87%)	11 (12%)	1 (1%)	11	39
18	u	100/102 (98%)	84 (84%)	13 (13%)	3 (3%)	3	20
19	v	92/94 (98%)	83 (90%)	9 (10%)	0	100	100
20	w	73/75 (97%)	63 (86%)	10 (14%)	0	100	100
21	x	75/77 (97%)	74 (99%)	1 (1%)	0	100	100
22	y	61/63 (97%)	57 (93%)	3 (5%)	1 (2%)	7	31
23	z	56/58 (97%)	52 (93%)	4 (7%)	0	100	100
24	B	54/56 (96%)	52 (96%)	1 (2%)	1 (2%)	6	28
25	C	48/50 (96%)	45 (94%)	3 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
26	D	44/46 (96%)	37 (84%)	7 (16%)	0	100	100
27	E	62/64 (97%)	57 (92%)	4 (6%)	1 (2%)	7	31
28	F	36/38 (95%)	30 (83%)	6 (17%)	0	100	100
29	G	223/225 (99%)	191 (86%)	28 (13%)	4 (2%)	6	29
30	H	204/206 (99%)	185 (91%)	17 (8%)	2 (1%)	12	40
31	I	203/205 (99%)	178 (88%)	24 (12%)	1 (0%)	24	55
32	J	155/157 (99%)	134 (86%)	14 (9%)	7 (4%)	2	13
33	K	99/101 (98%)	83 (84%)	9 (9%)	7 (7%)	1	6
34	L	149/151 (99%)	128 (86%)	19 (13%)	2 (1%)	9	35
35	M	127/129 (98%)	113 (89%)	14 (11%)	0	100	100
36	N	125/127 (98%)	101 (81%)	21 (17%)	3 (2%)	4	24
37	O	96/98 (98%)	82 (85%)	12 (12%)	2 (2%)	5	26
38	P	114/116 (98%)	94 (82%)	18 (16%)	2 (2%)	6	29
39	Q	121/123 (98%)	94 (78%)	26 (22%)	1 (1%)	16	45
40	R	112/114 (98%)	97 (87%)	12 (11%)	3 (3%)	4	22
41	S	98/100 (98%)	83 (85%)	14 (14%)	1 (1%)	12	40
42	T	86/88 (98%)	79 (92%)	5 (6%)	2 (2%)	5	25
43	U	80/82 (98%)	64 (80%)	14 (18%)	2 (2%)	4	23
44	V	78/80 (98%)	62 (80%)	14 (18%)	2 (3%)	4	23
45	W	63/65 (97%)	58 (92%)	5 (8%)	0	100	100
46	X	77/79 (98%)	70 (91%)	6 (8%)	1 (1%)	9	35
47	Y	83/85 (98%)	79 (95%)	4 (5%)	0	100	100
48	Z	63/65 (97%)	43 (68%)	14 (22%)	6 (10%)	0	3
49	a	130/223 (58%)	117 (90%)	13 (10%)	0	100	100
55	8	359/372 (96%)	318 (89%)	36 (10%)	5 (1%)	9	33
All	All	6011/6213 (97%)	5238 (87%)	686 (11%)	87 (1%)	11	33

All (87) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	c	150	GLN
3	d	172	ALA
4	e	143	ASP

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Mol	Chain	Res	Type
5	f	45	ALA
5	f	47	ASN
6	g	9	VAL
6	g	10	ALA
6	g	11	ASN
10	m	59	ARG
15	r	54	VAL
22	y	24	GLU
27	E	31	ILE
29	G	15	PHE
32	J	93	VAL
32	J	122	VAL
33	K	54	LEU
33	K	92	THR
33	K	98	GLU
36	N	91	GLU
40	R	65	GLU
44	V	17	GLU
48	Z	8	ASN
48	Z	24	LYS
48	Z	34	ARG
8	k	89	ASN
11	n	117	ASP
17	t	89	GLU
18	u	99	SER
29	G	11	ALA
30	H	156	LEU
32	J	98	ALA
36	N	90	ASP
37	O	58	ASN
38	P	92	ARG
40	R	7	ASN
44	V	70	LYS
48	Z	62	GLU
4	e	75	GLY
4	e	111	ARG
6	g	14	SER
15	r	56	GLY
18	u	6	ARG
18	u	7	ASP
29	G	94	ARG
32	J	11	GLN

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Mol	Chain	Res	Type
32	J	121	ASN
33	K	94	HIS
33	K	95	ALA
55	8	120	SER
55	8	239	LEU
2	c	86	GLU
3	d	166	LYS
4	e	173	ASP
10	m	69	PRO
16	s	40	ASN
24	B	25	THR
32	J	89	THR
34	L	18	GLY
37	O	42	LEU
39	Q	24	GLU
43	U	80	LYS
48	Z	63	ASN
55	8	254	VAL
1	b	154	ALA
3	d	165	HIS
4	e	144	LYS
16	s	61	ASN
30	H	60	ALA
33	K	39	LEU
33	K	53	LYS
40	R	111	PRO
42	T	46	LYS
43	U	30	GLY
46	X	4	LEU
5	f	117	PRO
31	I	47	LEU
34	L	3	ARG
38	P	13	LYS
41	S	61	ASN
42	T	85	GLY
48	Z	36	PHE
55	8	359	ALA
3	d	83	VAL
32	J	90	GLY
29	G	12	GLY
36	N	71	ILE
55	8	251	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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%)	212 (98%)	4 (2%)	50	68
2	c	164/164 (100%)	163 (99%)	1 (1%)	78	81
3	d	165/165 (100%)	164 (99%)	1 (1%)	78	81
4	e	148/148 (100%)	147 (99%)	1 (1%)	76	80
5	f	137/137 (100%)	136 (99%)	1 (1%)	76	80
6	g	114/114 (100%)	112 (98%)	2 (2%)	51	70
7	j	116/116 (100%)	116 (100%)	0	100	100
8	k	103/103 (100%)	102 (99%)	1 (1%)	68	76
9	l	102/102 (100%)	102 (100%)	0	100	100
10	m	109/109 (100%)	108 (99%)	1 (1%)	70	78
11	n	100/100 (100%)	100 (100%)	0	100	100
12	o	86/86 (100%)	85 (99%)	1 (1%)	63	75
13	p	99/99 (100%)	95 (96%)	4 (4%)	28	56
14	q	89/89 (100%)	89 (100%)	0	100	100
15	r	84/84 (100%)	84 (100%)	0	100	100
16	s	93/93 (100%)	92 (99%)	1 (1%)	65	76
17	t	80/80 (100%)	80 (100%)	0	100	100
18	u	83/83 (100%)	83 (100%)	0	100	100
19	v	78/78 (100%)	78 (100%)	0	100	100
20	w	57/57 (100%)	57 (100%)	0	100	100
21	x	67/67 (100%)	67 (100%)	0	100	100
22	y	55/55 (100%)	55 (100%)	0	100	100
23	z	48/48 (100%)	48 (100%)	0	100	100
24	B	47/47 (100%)	47 (100%)	0	100	100
25	C	45/45 (100%)	45 (100%)	0	100	100
26	D	38/38 (100%)	38 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	E	51/51 (100%)	51 (100%)	0	100	100
28	F	34/34 (100%)	34 (100%)	0	100	100
29	G	186/186 (100%)	184 (99%)	2 (1%)	65	76
30	H	170/170 (100%)	167 (98%)	3 (2%)	51	70
31	I	172/172 (100%)	171 (99%)	1 (1%)	78	81
32	J	119/119 (100%)	118 (99%)	1 (1%)	73	79
33	K	88/88 (100%)	87 (99%)	1 (1%)	65	76
34	L	124/124 (100%)	124 (100%)	0	100	100
35	M	104/104 (100%)	104 (100%)	0	100	100
36	N	105/105 (100%)	105 (100%)	0	100	100
37	O	86/86 (100%)	85 (99%)	1 (1%)	63	75
38	P	89/89 (100%)	89 (100%)	0	100	100
39	Q	103/103 (100%)	101 (98%)	2 (2%)	50	68
40	R	92/92 (100%)	92 (100%)	0	100	100
41	S	83/83 (100%)	83 (100%)	0	100	100
42	T	76/76 (100%)	75 (99%)	1 (1%)	61	74
43	U	65/65 (100%)	64 (98%)	1 (2%)	57	72
44	V	74/74 (100%)	74 (100%)	0	100	100
45	W	56/56 (100%)	55 (98%)	1 (2%)	51	70
46	X	70/70 (100%)	69 (99%)	1 (1%)	59	73
47	Y	65/65 (100%)	65 (100%)	0	100	100
48	Z	55/55 (100%)	55 (100%)	0	100	100
49	a	110/174 (63%)	110 (100%)	0	100	100
55	8	307/318 (96%)	303 (99%)	4 (1%)	61	74
All	All	5007/5082 (98%)	4970 (99%)	37 (1%)	73	80

All (37) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	b	66	PHE
1	b	123	ILE
1	b	129	LEU
1	b	263	ASP
2	c	151	THR

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Mol	Chain	Res	Type
3	d	124	PHE
4	e	10	GLU
5	f	102	ILE
6	g	72	ILE
6	g	143	ILE
8	k	4	GLU
10	m	58	LYS
12	o	40	ILE
13	p	14	GLN
13	p	33	GLU
13	p	83	ILE
13	p	109	ILE
16	s	66	ILE
29	G	46	VAL
29	G	108	GLN
30	H	54	ILE
30	H	74	ILE
30	H	205	GLU
31	I	116	LEU
32	J	133	ILE
33	K	54	LEU
37	O	100	ILE
39	Q	24	GLU
39	Q	53	ARG
42	T	20	ASP
43	U	45	GLU
45	W	20	ILE
46	X	39	ILE
55	8	4	ILE
55	8	92	ASP
55	8	223	TYR
55	8	227	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (142) such sidechains are listed below:

Mol	Chain	Res	Type
1	b	43	ASN
1	b	44	ASN
1	b	45	ASN
1	b	59	GLN
1	b	152	GLN
1	b	196	ASN

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Mol	Chain	Res	Type
2	c	140	HIS
2	c	150	GLN
2	c	173	GLN
2	c	185	ASN
3	d	9	GLN
3	d	30	GLN
3	d	90	GLN
3	d	92	HIS
3	d	136	GLN
3	d	165	HIS
3	d	195	GLN
4	e	62	GLN
5	f	37	ASN
5	f	87	GLN
5	f	100	ASN
6	g	2	GLN
6	g	18	GLN
6	g	43	ASN
6	g	66	ASN
7	j	58	ASN
7	j	131	ASN
7	j	135	GLN
8	k	88	ASN
9	l	35	HIS
9	l	38	GLN
9	l	54	GLN
10	m	22	GLN
11	n	18	GLN
11	n	62	ASN
12	o	38	GLN
12	o	100	HIS
13	p	11	GLN
13	p	14	GLN
13	p	55	HIS
13	p	65	ASN
14	q	19	GLN
14	q	51	GLN
14	q	55	GLN
15	r	18	GLN
15	r	87	GLN
16	s	7	HIS
16	s	57	ASN

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Mol	Chain	Res	Type
16	s	102	HIS
18	u	53	GLN
18	u	68	ASN
19	v	5	ASN
19	v	12	GLN
20	w	53	HIS
20	w	72	ASN
21	x	15	ASN
21	x	16	ASN
21	x	22	ASN
22	y	27	ASN
22	y	38	GLN
22	y	58	ASN
23	z	8	GLN
24	B	3	GLN
24	B	5	ASN
26	D	13	ASN
28	F	13	ASN
29	G	14	HIS
29	G	23	ASN
29	G	41	ASN
29	G	50	ASN
29	G	102	ASN
29	G	145	ASN
29	G	202	ASN
30	H	2	GLN
30	H	31	ASN
30	H	139	ASN
30	H	184	ASN
31	I	53	GLN
31	I	58	GLN
31	I	88	ASN
31	I	115	GLN
31	I	125	ASN
31	I	151	GLN
31	I	163	GLN
32	J	72	ASN
32	J	131	ASN
32	J	145	ASN
33	K	81	ASN
34	L	27	ASN
34	L	51	GLN

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Mol	Chain	Res	Type
34	L	67	ASN
34	L	129	ASN
35	M	3	GLN
35	M	17	GLN
35	M	37	ASN
35	M	66	GLN
36	N	4	GLN
36	N	30	ASN
36	N	36	GLN
36	N	125	GLN
37	O	70	HIS
37	O	99	GLN
38	P	27	ASN
38	P	118	ASN
39	Q	4	ASN
39	Q	5	GLN
39	Q	45	ASN
40	R	11	HIS
41	S	3	GLN
41	S	59	GLN
41	S	65	GLN
42	T	34	GLN
42	T	36	ASN
42	T	41	HIS
42	T	45	HIS
43	U	18	GLN
43	U	26	ASN
43	U	40	ASN
43	U	63	GLN
44	V	30	HIS
45	W	18	GLN
45	W	30	ASN
45	W	73	HIS
46	X	52	ASN
47	Y	47	GLN
47	Y	51	ASN
47	Y	54	GLN
47	Y	69	ASN
48	Z	8	ASN
49	a	20	GLN
49	a	47	ASN
49	a	57	GLN

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Mol	Chain	Res	Type
49	a	188	ASN
55	8	5	ASN
55	8	38	ASN
55	8	43	GLN
55	8	112	GLN
55	8	199	HIS
55	8	265	HIS
55	8	301	GLN
55	8	322	GLN
55	8	355	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
50	3	1538/1539 (99%)	150 (9%)	0
51	1	2902/2903 (99%)	374 (12%)	8 (0%)
52	2	119/120 (99%)	9 (7%)	2 (1%)
53	5	74/77 (96%)	7 (9%)	0
54	4	19/27 (70%)	3 (15%)	0
All	All	4652/4666 (99%)	543 (11%)	10 (0%)

All (543) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
50	3	6	G
50	3	7	A
50	3	9	G
50	3	22	G
50	3	31	G
50	3	32	A
50	3	39	G
50	3	48	C
50	3	51	A
50	3	71	A
50	3	81	A
50	3	87	C
50	3	121	U
50	3	144	G
50	3	173	U
50	3	183	C
50	3	184	G

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Mol	Chain	Res	Type
50	3	210	C
50	3	211	G
50	3	212	G
50	3	226	G
50	3	247	G
50	3	251	G
50	3	266	G
50	3	267	C
50	3	280	C
50	3	281	G
50	3	289	G
50	3	345	C
50	3	352	C
50	3	367	U
50	3	372	C
50	3	411	A
50	3	413	G
50	3	421	U
50	3	422	C
50	3	423	G
50	3	424	G
50	3	429	U
50	3	441	A
50	3	467	U
50	3	479	U
50	3	484	G
50	3	486	U
50	3	497	G
50	3	524	G
50	3	531	U
50	3	532	A
50	3	536	C
50	3	547	A
50	3	561	U
50	3	564	C
50	3	572	A
50	3	573	A
50	3	575	G
50	3	576	C
50	3	577	G
50	3	633	G
50	3	665	A

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Mol	Chain	Res	Type
50	3	687	A
50	3	688	G
50	3	702	A
50	3	703	G
50	3	723	U
50	3	724	G
50	3	755	G
50	3	777	A
50	3	815	A
50	3	817	C
50	3	818	G
50	3	819	A
50	3	821	G
50	3	832	G
50	3	843	U
50	3	844	G
50	3	846	G
50	3	873	A
50	3	889	A
50	3	890	G
50	3	902	G
50	3	926	G
50	3	934	C
50	3	935	A
50	3	960	U
50	3	961	U
50	3	966	G
50	3	969	A
50	3	975	A
50	3	976	G
50	3	977	A
50	3	992	U
50	3	993	G
50	3	1004	A
50	3	1020	G
50	3	1028	C
50	3	1031	C
50	3	1033	G
50	3	1034	G
50	3	1053	G
50	3	1054	C
50	3	1055	A

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Mol	Chain	Res	Type
50	3	1094	G
50	3	1101	A
50	3	1136	C
50	3	1137	C
50	3	1138	G
50	3	1139	G
50	3	1159	U
50	3	1168	U
50	3	1169	A
50	3	1182	G
50	3	1184	G
50	3	1196	A
50	3	1198	G
50	3	1201	A
50	3	1202	U
50	3	1213	A
50	3	1225	A
50	3	1226	C
50	3	1227	A
50	3	1238	A
50	3	1241	G
50	3	1258	G
50	3	1260	G
50	3	1275	A
50	3	1278	G
50	3	1280	A
50	3	1282	C
50	3	1286	U
50	3	1287	A
50	3	1300	G
50	3	1317	C
50	3	1336	C
50	3	1346	A
50	3	1347	G
50	3	1363	A
50	3	1364	U
50	3	1378	C
50	3	1395	C
50	3	1446	A
50	3	1452	C
50	3	1492	A
50	3	1493	A

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Mol	Chain	Res	Type
50	3	1503	A
50	3	1506	U
50	3	1517	G
50	3	1529	G
50	3	1530	G
50	3	1535	C
50	3	1540	U
51	1	10	A
51	1	34	U
51	1	35	G
51	1	46	G
51	1	51	G
51	1	63	A
51	1	71	A
51	1	74	A
51	1	75	G
51	1	86	G
51	1	118	A
51	1	120	U
51	1	138	U
51	1	139	U
51	1	140	C
51	1	141	G
51	1	162	U
51	1	163	C
51	1	181	A
51	1	196	A
51	1	215	G
51	1	216	A
51	1	221	A
51	1	222	A
51	1	228	C
51	1	229	C
51	1	248	G
51	1	250	G
51	1	255	A
51	1	265	A
51	1	266	G
51	1	276	U
51	1	278	A
51	1	281	C
51	1	284	U

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Mol	Chain	Res	Type
51	1	312	G
51	1	323	C
51	1	324	A
51	1	329	G
51	1	330	A
51	1	362	A
51	1	367	G
51	1	371	A
51	1	372	G
51	1	386	G
51	1	387	U
51	1	391	A
51	1	404	A
51	1	406	G
51	1	411	G
51	1	422	A
51	1	424	G
51	1	451	U
51	1	455	C
51	1	458	G
51	1	481	G
51	1	491	G
51	1	504	A
51	1	505	A
51	1	529	A
51	1	530	G
51	1	531	C
51	1	532	A
51	1	545	U
51	1	548	G
51	1	549	G
51	1	550	C
51	1	563	A
51	1	571	U
51	1	573	U
51	1	575	A
51	1	603	A
51	1	614	A
51	1	616	A
51	1	627	A
51	1	637	A
51	1	646	U

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Mol	Chain	Res	Type
51	1	654	A
51	1	669	G
51	1	686	U
51	1	687	C
51	1	695	G
51	1	729	G
51	1	730	A
51	1	747	C
51	1	752	A
51	1	764	A
51	1	776	G
51	1	777	G
51	1	782	A
51	1	783	A
51	1	784	G
51	1	785	G
51	1	792	A
51	1	793	A
51	1	805	G
51	1	812	C
51	1	819	A
51	1	827	U
51	1	828	U
51	1	829	A
51	1	830	G
51	1	831	G
51	1	847	U
51	1	859	G
51	1	865	C
51	1	874	G
51	1	878	A
51	1	886	A
51	1	887	U
51	1	888	C
51	1	893	C
51	1	896	A
51	1	910	A
51	1	941	A
51	1	946	C
51	1	961	C
51	1	962	G
51	1	974	G

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Mol	Chain	Res	Type
51	1	983	A
51	1	995	C
51	1	996	A
51	1	1009	A
51	1	1012	U
51	1	1013	C
51	1	1021	A
51	1	1022	G
51	1	1026	G
51	1	1033	U
51	1	1046	A
51	1	1057	A
51	1	1062	G
51	1	1064	C
51	1	1065	U
51	1	1066	U
51	1	1070	A
51	1	1071	G
51	1	1075	C
51	1	1078	U
51	1	1079	C
51	1	1084	A
51	1	1087	G
51	1	1088	A
51	1	1104	C
51	1	1111	A
51	1	1131	G
51	1	1132	U
51	1	1135	C
51	1	1143	A
51	1	1172	C
51	1	1173	U
51	1	1175	A
51	1	1177	G
51	1	1179	G
51	1	1180	U
51	1	1181	U
51	1	1212	G
51	1	1253	A
51	1	1256	G
51	1	1271	G
51	1	1272	A

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Mol	Chain	Res	Type
51	1	1301	A
51	1	1329	U
51	1	1330	C
51	1	1345	C
51	1	1365	A
51	1	1378	A
51	1	1379	U
51	1	1383	A
51	1	1397	U
51	1	1398	C
51	1	1416	G
51	1	1419	A
51	1	1420	A
51	1	1421	G
51	1	1454	C
51	1	1455	G
51	1	1461	C
51	1	1476	U
51	1	1478	G
51	1	1482	G
51	1	1483	G
51	1	1490	A
51	1	1493	C
51	1	1498	C
51	1	1522	A
51	1	1523	U
51	1	1524	G
51	1	1535	A
51	1	1536	C
51	1	1537	G
51	1	1555	G
51	1	1559	U
51	1	1569	A
51	1	1581	G
51	1	1585	C
51	1	1607	C
51	1	1608	A
51	1	1611	C
51	1	1616	A
51	1	1647	U
51	1	1648	U
51	1	1674	G

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Mol	Chain	Res	Type
51	1	1715	G
51	1	1723	G
51	1	1729	U
51	1	1731	G
51	1	1737	G
51	1	1738	G
51	1	1739	A
51	1	1740	G
51	1	1743	G
51	1	1752	C
51	1	1758	U
51	1	1764	C
51	1	1773	A
51	1	1800	C
51	1	1801	A
51	1	1808	A
51	1	1816	C
51	1	1829	A
51	1	1847	A
51	1	1848	A
51	1	1866	A
51	1	1871	A
51	1	1901	A
51	1	1906	G
51	1	1913	A
51	1	1915	U
51	1	1929	G
51	1	1930	G
51	1	1937	A
51	1	1944	U
51	1	1948	G
51	1	1955	U
51	1	1963	U
51	1	1966	A
51	1	1967	C
51	1	1970	A
51	1	1972	G
51	1	1991	U
51	1	1993	U
51	1	1997	C
51	1	2022	U
51	1	2023	C

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Mol	Chain	Res	Type
51	1	2030	A
51	1	2031	A
51	1	2036	C
51	1	2043	C
51	1	2049	G
51	1	2055	C
51	1	2056	G
51	1	2060	A
51	1	2061	G
51	1	2062	A
51	1	2069	G
51	1	2096	C
51	1	2110	G
51	1	2111	U
51	1	2112	G
51	1	2113	U
51	1	2118	U
51	1	2119	A
51	1	2127	G
51	1	2131	U
51	1	2132	U
51	1	2133	G
51	1	2145	C
51	1	2147	A
51	1	2166	U
51	1	2172	U
51	1	2173	A
51	1	2178	C
51	1	2189	U
51	1	2198	A
51	1	2204	G
51	1	2213	U
51	1	2225	A
51	1	2238	G
51	1	2239	G
51	1	2243	U
51	1	2246	G
51	1	2247	A
51	1	2250	G
51	1	2259	U
51	1	2278	A
51	1	2283	C

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Mol	Chain	Res	Type
51	1	2286	G
51	1	2287	A
51	1	2297	A
51	1	2300	C
51	1	2305	U
51	1	2306	C
51	1	2307	G
51	1	2309	A
51	1	2310	C
51	1	2311	A
51	1	2312	U
51	1	2314	A
51	1	2317	A
51	1	2325	G
51	1	2327	A
51	1	2334	U
51	1	2354	C
51	1	2383	G
51	1	2385	C
51	1	2390	U
51	1	2391	G
51	1	2402	U
51	1	2406	A
51	1	2424	C
51	1	2425	A
51	1	2427	C
51	1	2429	G
51	1	2433	A
51	1	2434	A
51	1	2435	A
51	1	2440	C
51	1	2441	U
51	1	2448	A
51	1	2469	A
51	1	2476	A
51	1	2479	U
51	1	2498	C
51	1	2502	G
51	1	2503	A
51	1	2504	U
51	1	2505	G
51	1	2506	U

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Mol	Chain	Res	Type
51	1	2518	A
51	1	2520	C
51	1	2529	G
51	1	2530	A
51	1	2547	A
51	1	2564	A
51	1	2566	A
51	1	2567	G
51	1	2572	A
51	1	2573	C
51	1	2582	G
51	1	2585	U
51	1	2602	A
51	1	2603	G
51	1	2605	U
51	1	2609	U
51	1	2613	U
51	1	2629	U
51	1	2630	G
51	1	2655	G
51	1	2682	A
51	1	2689	U
51	1	2690	U
51	1	2714	G
51	1	2716	C
51	1	2733	A
51	1	2744	G
51	1	2748	A
51	1	2757	A
51	1	2764	A
51	1	2765	A
51	1	2778	A
51	1	2779	U
51	1	2791	G
51	1	2793	C
51	1	2800	A
51	1	2801	G
51	1	2820	A
51	1	2821	A
51	1	2833	U
51	1	2849	U
51	1	2867	G

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Mol	Chain	Res	Type
51	1	2868	A
51	1	2879	A
51	1	2880	C
52	2	4	C
52	2	13	G
52	2	24	G
52	2	35	C
52	2	44	G
52	2	67	G
52	2	89	U
52	2	108	A
52	2	109	A
53	5	9	G
53	5	17(A)	U
53	5	19	G
53	5	20	U
53	5	59	A
53	5	61	C
53	5	74	C
54	4	12	A
54	4	13	A
54	4	24	A

All (10) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
51	1	421	C
51	1	490	C
51	1	792	A
51	1	1020	A
51	1	1738	G
51	1	2286	G
51	1	2326	C
51	1	2756	U
52	2	66	A
52	2	88	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 [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

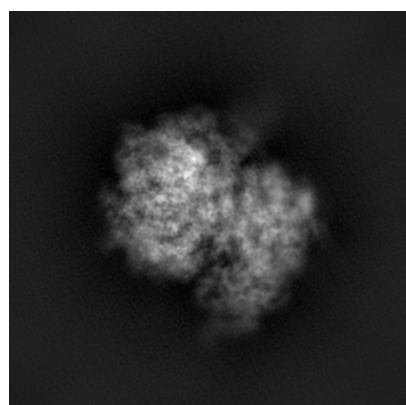
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-20052. These allow visual inspection of the internal detail of the map and identification of artifacts.

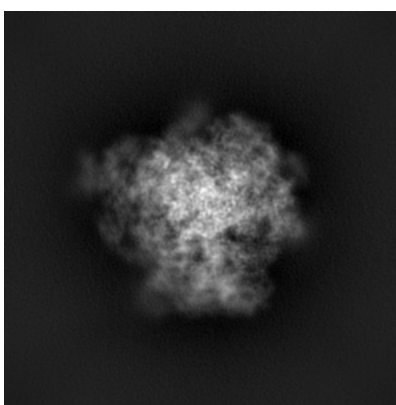
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

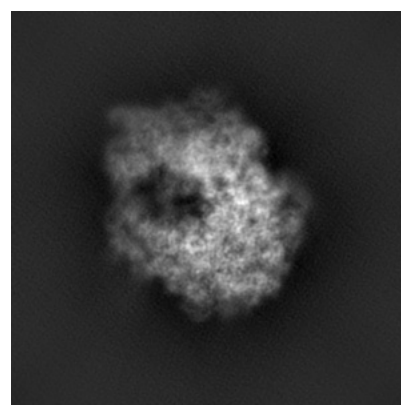
6.1.1 Primary map



X



Y

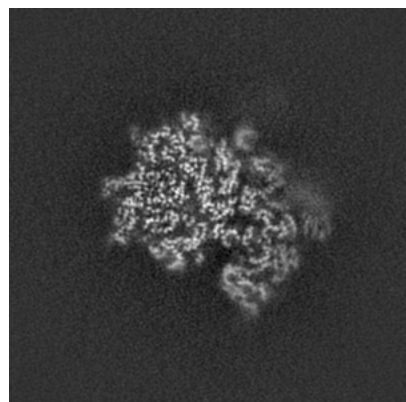


Z

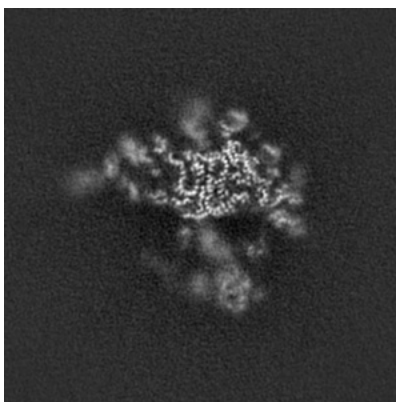
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

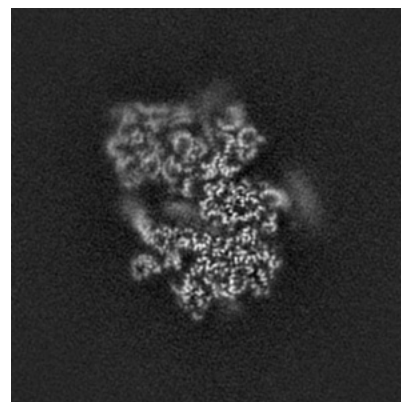
6.2.1 Primary map



X Index: 156



Y Index: 156

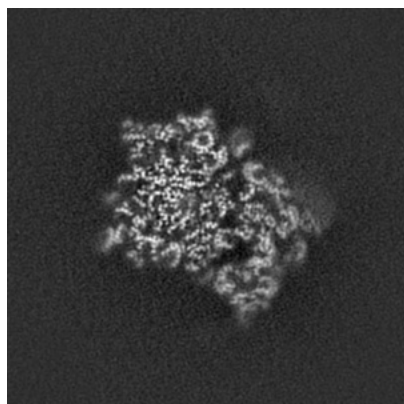


Z Index: 156

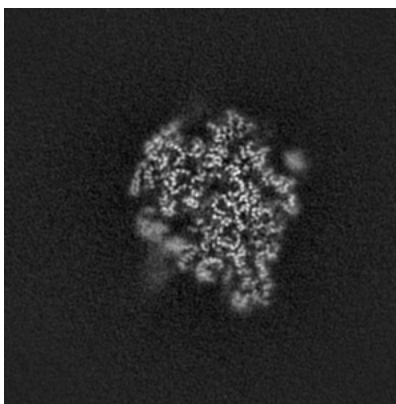
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

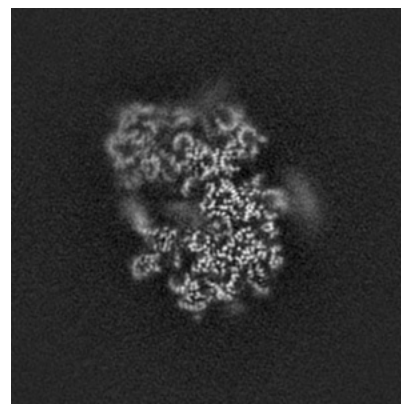
6.3.1 Primary map



X Index: 162



Y Index: 137

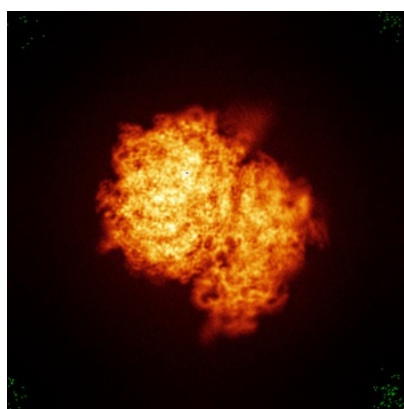


Z Index: 154

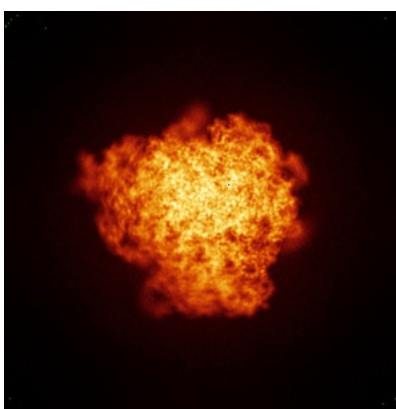
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

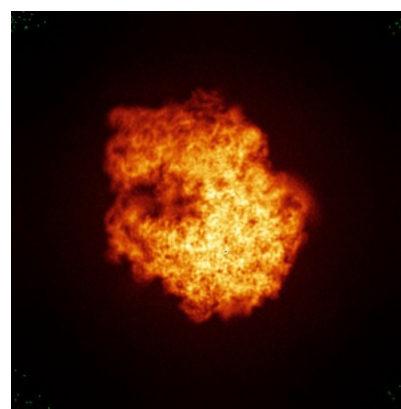
6.4.1 Primary map



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 0.9. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

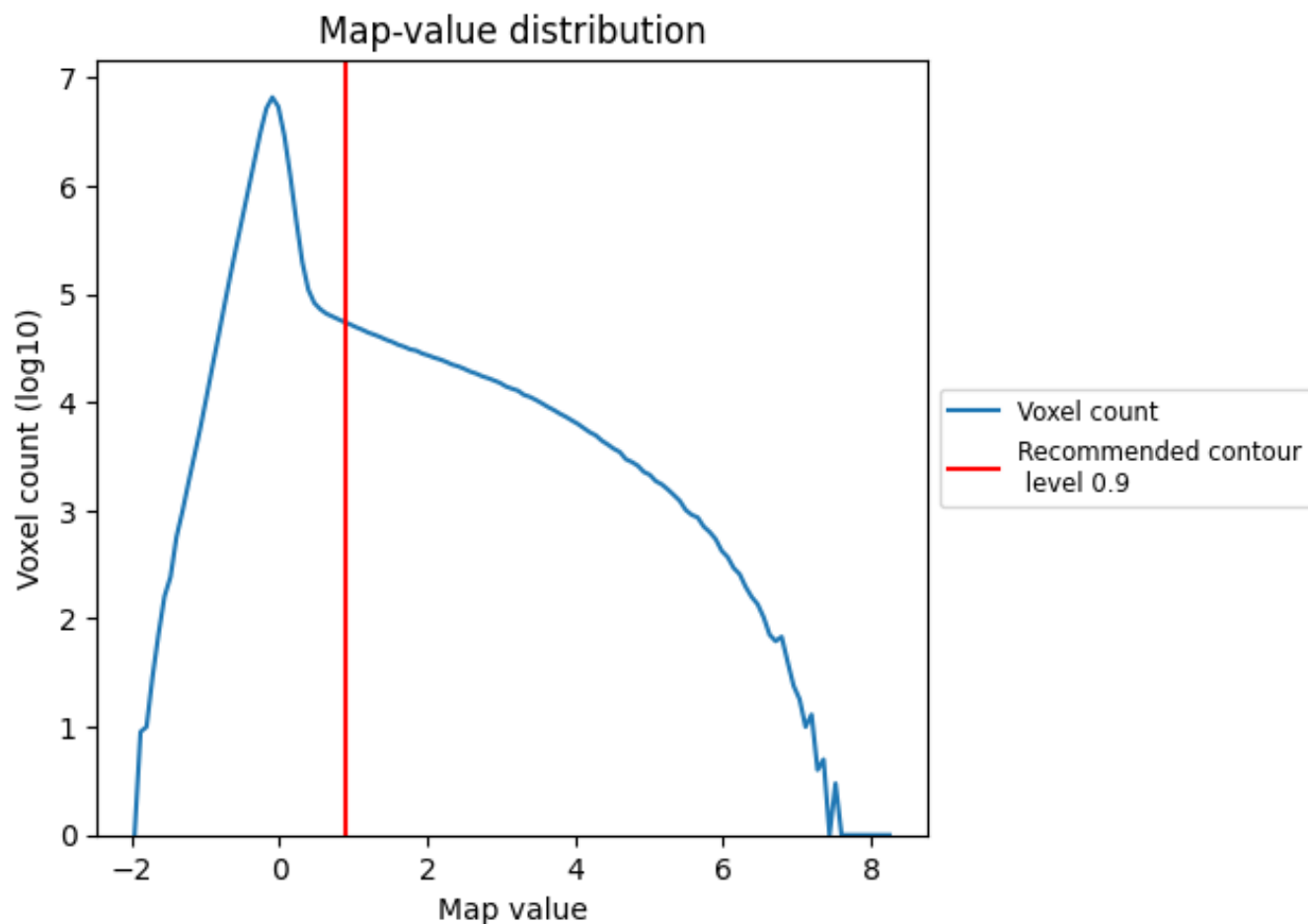
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

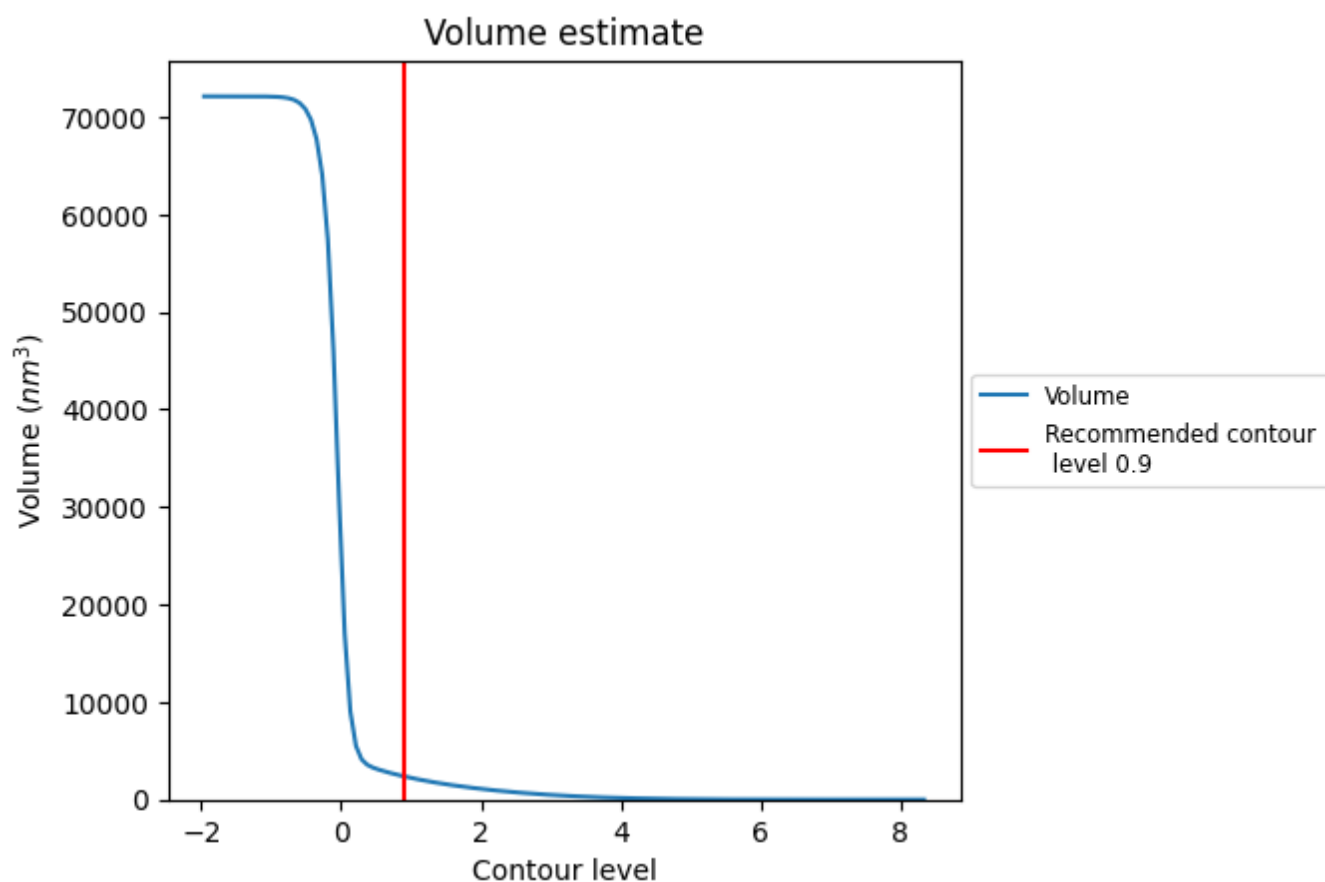
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

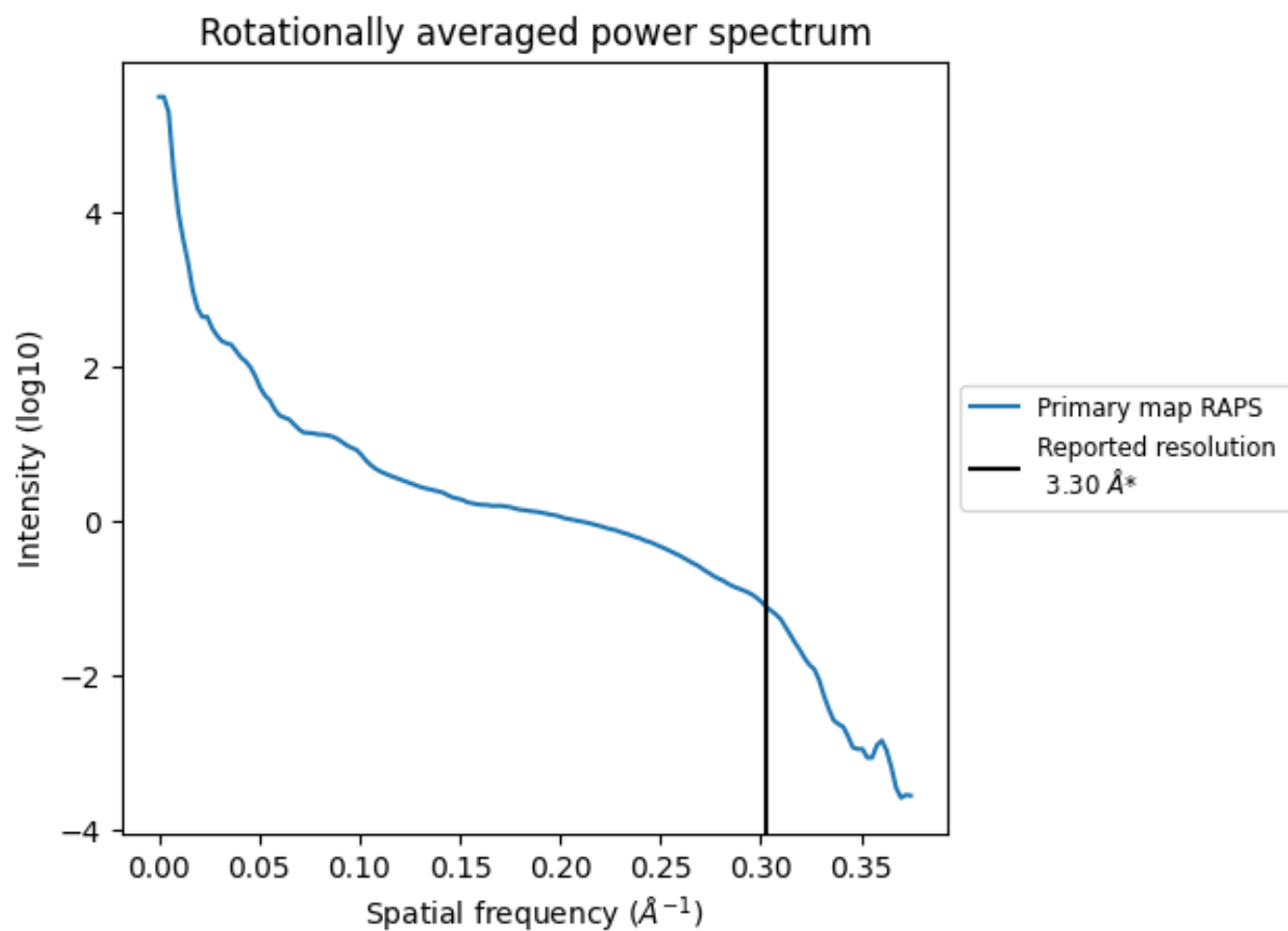
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2382 nm³; this corresponds to an approximate mass of 2152 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.303 $\text{\AA}^{-1}$

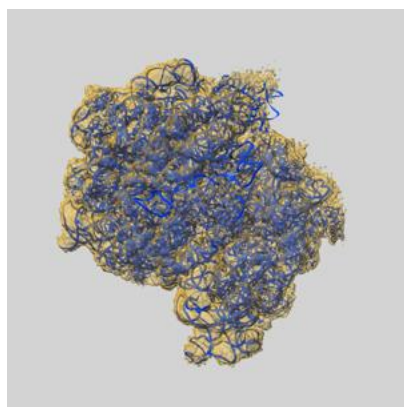
8 Fourier-Shell correlation

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

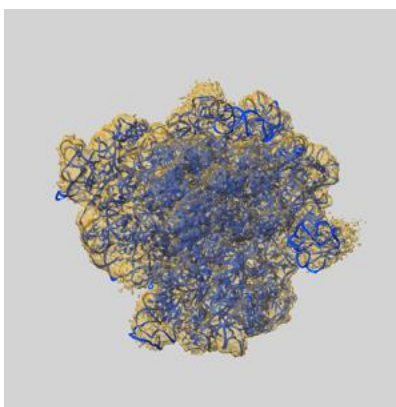
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-20052 and PDB model 6OG7. Per-residue inclusion information can be found in section 3 on page 15.

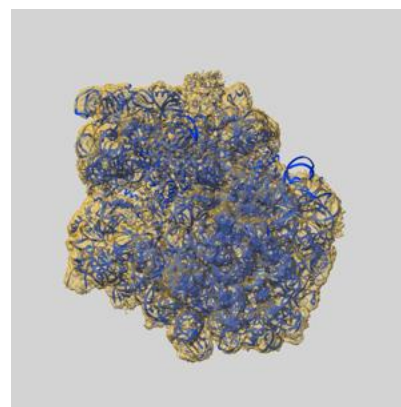
9.1 Map-model overlay [i](#)



X



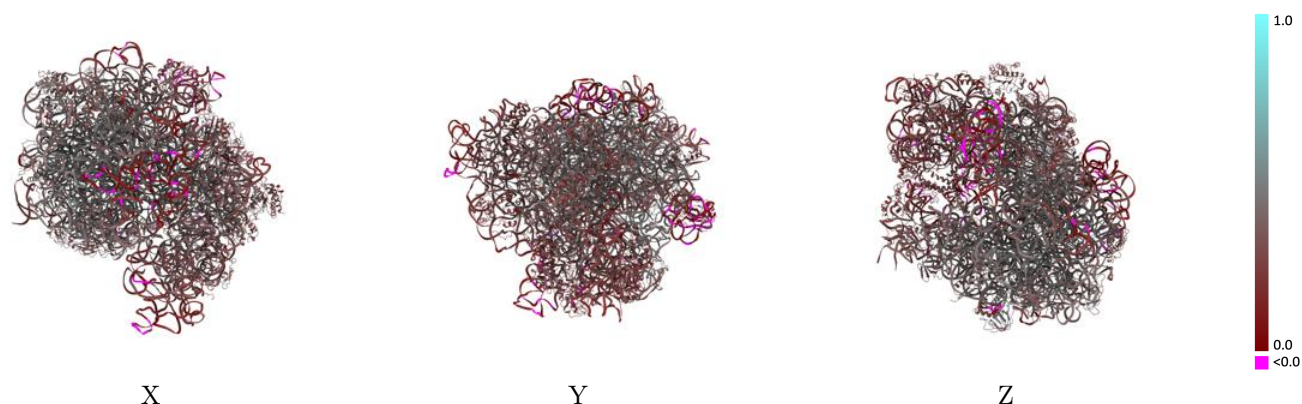
Y



Z

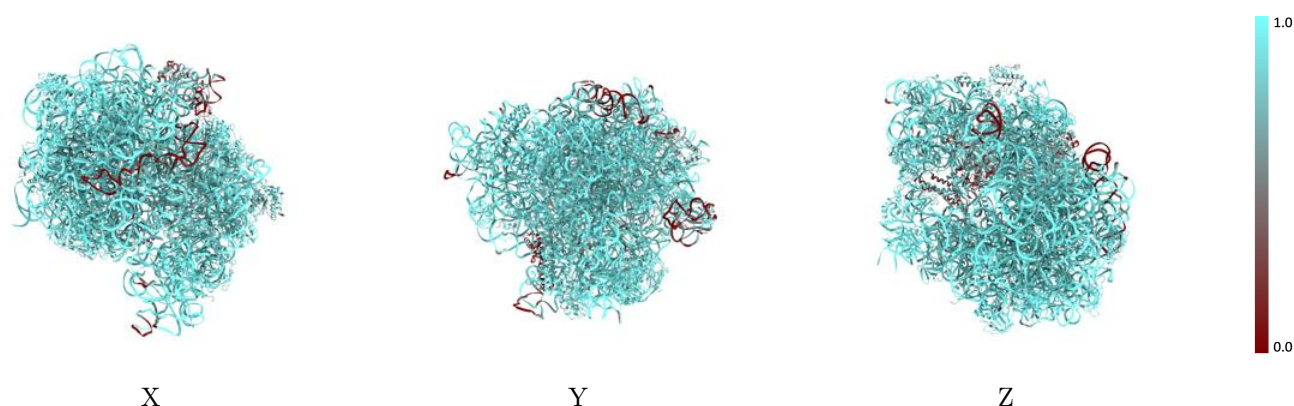
The images above show the 3D surface view of the map at the recommended contour level 0.9 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



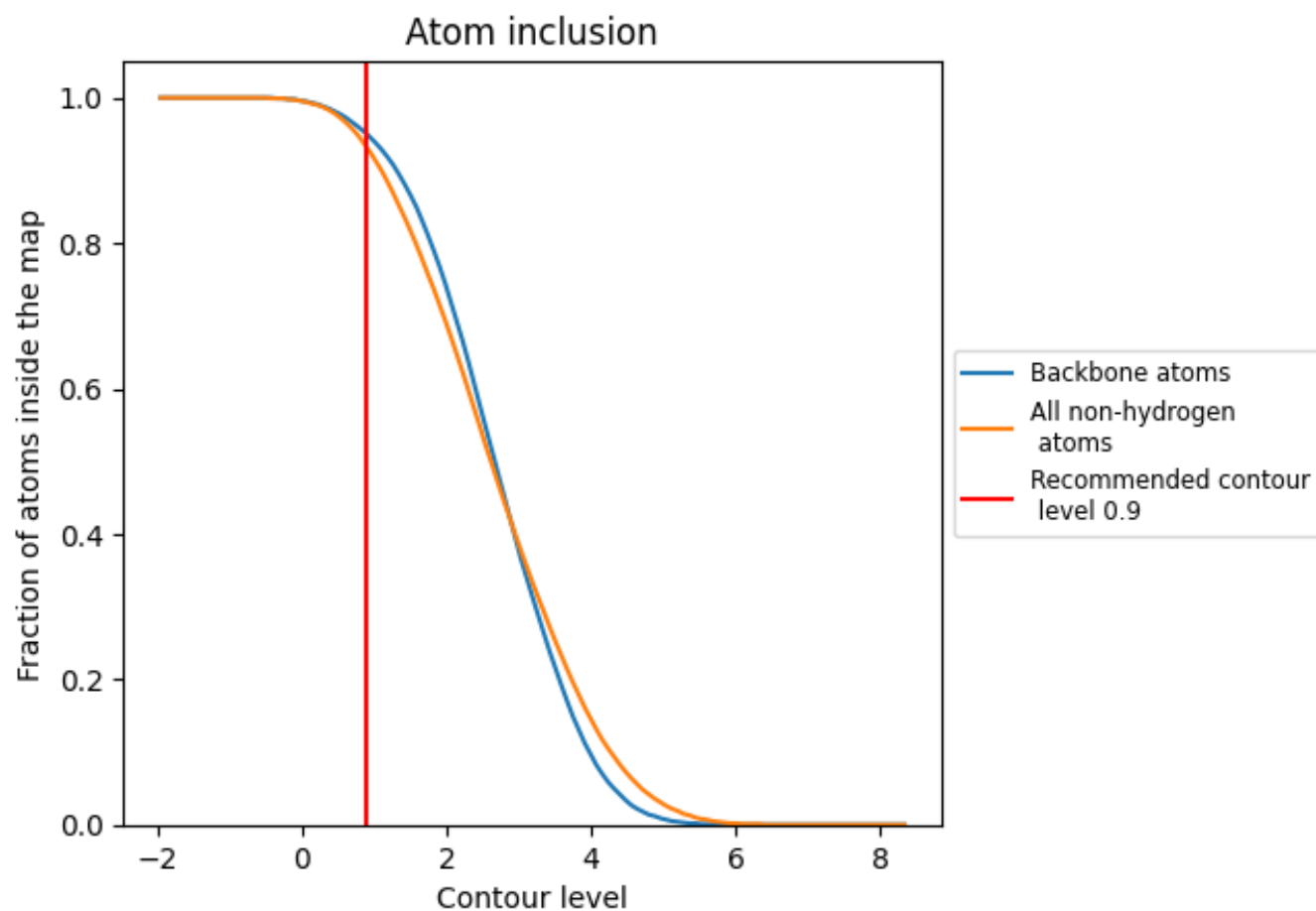
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.9).

9.4 Atom inclusion [i](#)



At the recommended contour level, 95% of all backbone atoms, 93% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.9) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9310	 0.3490
1	 0.9370	 0.3690
2	 0.9910	 0.3340
3	 0.9680	 0.3160
4	 0.9570	 0.2540
5	 0.8550	 0.1860
8	 0.6700	 0.2940
B	 0.9600	 0.4290
C	 0.9150	 0.4070
D	 0.9410	 0.4450
E	 0.9550	 0.4410
F	 0.9490	 0.3630
G	 0.7860	 0.3040
H	 0.8950	 0.3290
I	 0.8980	 0.2750
J	 0.9480	 0.3590
K	 0.9700	 0.3310
L	 0.9270	 0.2710
M	 0.9620	 0.3600
N	 0.9410	 0.2700
O	 0.8280	 0.2760
P	 0.9540	 0.3600
Q	 0.9160	 0.3680
R	 0.9370	 0.2450
S	 0.9190	 0.2780
T	 0.9570	 0.3290
U	 0.9550	 0.3360
V	 0.9720	 0.3540
W	 0.9320	 0.3000
X	 0.9740	 0.2860
Y	 0.9510	 0.3010
Z	 0.8760	 0.2910
a	 0.4300	 0.1770
b	 0.9540	 0.4330
c	 0.9680	 0.4440



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Chain	Atom inclusion	Q-score
d	 0.9420	 0.4110
e	 0.9480	 0.2480
f	 0.8200	 0.3010
g	 0.5290	 0.3080
j	 0.9610	 0.4240
k	 0.9460	 0.4230
l	 0.9530	 0.4260
m	 0.9610	 0.4180
n	 0.9690	 0.4310
o	 0.9680	 0.3590
p	 0.9600	 0.4200
q	 0.9670	 0.4230
r	 0.9500	 0.4300
s	 0.9370	 0.4360
t	 0.9540	 0.4110
u	 0.9560	 0.4020
v	 0.9470	 0.3900
w	 0.9450	 0.4390
x	 0.9620	 0.4160
y	 0.9340	 0.3500
z	 0.9360	 0.4150