



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 01:09 AM UTC

PDB ID : 7K52 / pdb_00007k52
EMDB ID : EMD-22671
Title : Near post-translocated non-frameshifting(CCA-A) complex with EF-G and GTPCP (Structure III)
Authors : Demo, G.; Loveland, A.B.; Svidritskiy, E.; Gamper, H.B.; Hou, Y.M.; Korostelev, A.A.
Deposited on : 2020-09-16
Resolution : 3.40 Å(reported)
Based on initial models : 4V7D, 6ENJ, 5UYM, 4V9P

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

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

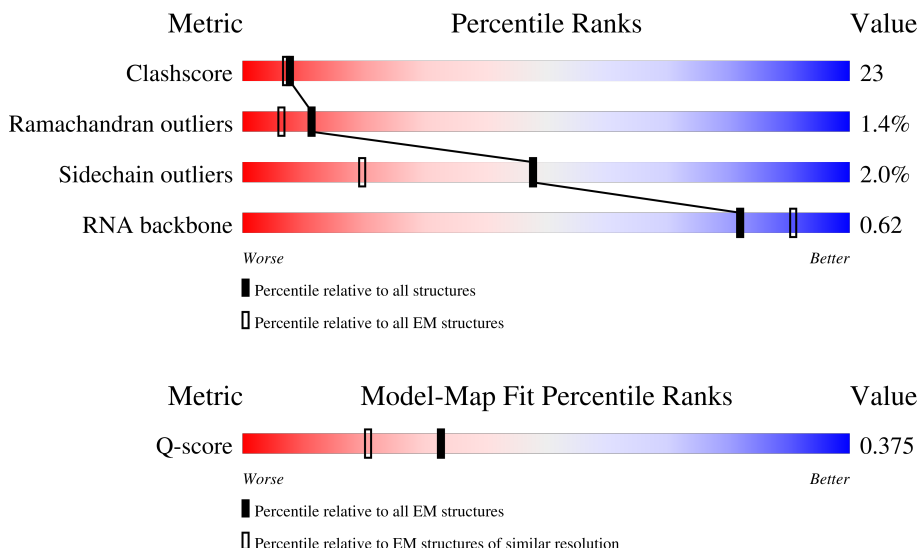
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 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	14717 (2.90 - 3.90)

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	
2	c	209	

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Mol	Chain	Length	Quality of chain
3	d	201	
4	e	177	
5	f	176	
6	g	149	
7	h	131	
8	i	141	
9	j	142	
10	k	122	
11	l	143	
12	m	136	
13	n	120	
14	o	116	
15	p	114	
16	q	117	
17	r	103	
18	s	110	
19	t	93	
20	u	102	
21	v	94	
22	w	75	
23	x	77	
24	y	63	
25	z	58	
26	A	66	
27	B	56	

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

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Mol	Chain	Length	Quality of chain
53	3	1539	6%37%56%6%
54	1	2903	45%48%6%
55	2	120	49%41%8%
56	5	77	56%34%10%
57	6	77	39%48%45%6%
58	4	16	19%56%31%12%
59	8	711	19%34%50%11%

2 Entry composition

There are 63 unique types of molecules in this entry. The entry contains 153370 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	125	Total	C	N	O	S	0	0
			936	590	166	179	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	h	84	Total	C	N	O	S	0	0
			633	397	114	118	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
8	i	74	Total	C	N	O	S	0	0
			551	358	91	99	3		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
26	A	66	Total	C	N	O	S	0	0
			523	323	99	95	6		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
54	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 55 is a RNA chain called 5S ribosomal RNA.

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

There is a discrepancy between the modelled and reference sequences:

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

- Molecule 56 is a RNA chain called tRNAPro.

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

- Molecule 57 is a RNA chain called tRNAfMet.

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

- Molecule 58 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	4	16	Total	C	N	O	P	0	0
			348	156	70	106	16		

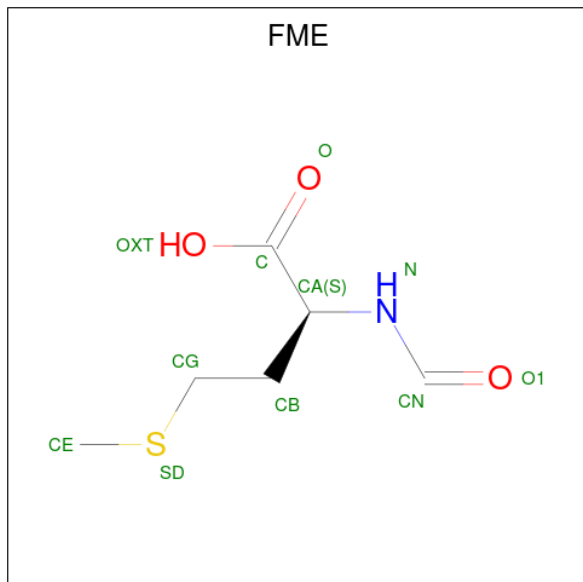
- Molecule 59 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	8	685	Total	C	N	O	S	0	0
			5312	3351	911	1025	25		

There are 8 discrepancies between the modelled and reference sequences:

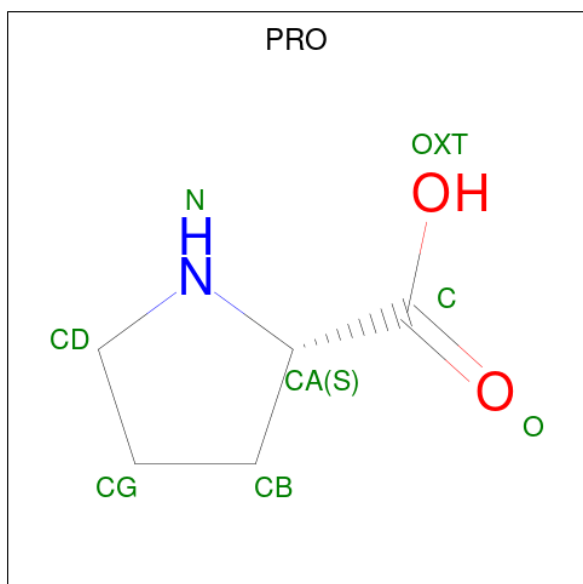
Chain	Residue	Modelled	Actual	Comment	Reference
8	705	LEU	-	expression tag	UNP U9XYS4
8	706	GLU	-	expression tag	UNP U9XYS4
8	707	HIS	-	expression tag	UNP U9XYS4
8	708	HIS	-	expression tag	UNP U9XYS4
8	709	HIS	-	expression tag	UNP U9XYS4
8	710	HIS	-	expression tag	UNP U9XYS4
8	711	HIS	-	expression tag	UNP U9XYS4
8	712	HIS	-	expression tag	UNP U9XYS4

- Molecule 60 is N-FORMYLMETHIONINE (CCD ID: FME) (formula: $C_6H_{11}NO_3S$) (labeled as "Ligand of Interest" by depositor).



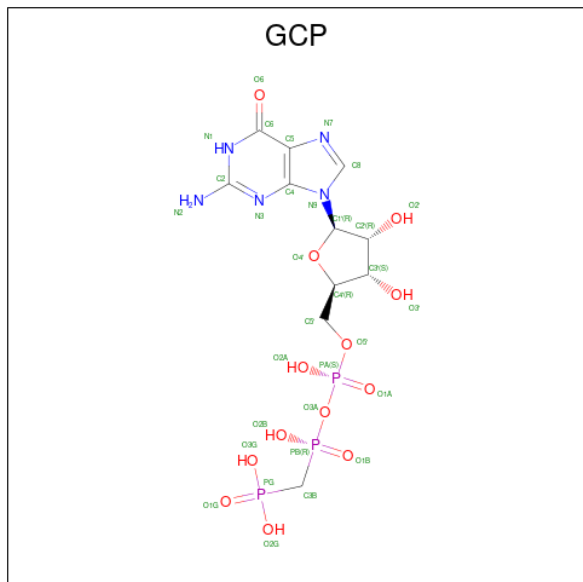
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
60	1	1	10	6	1	2	1	0

- Molecule 61 is PROLINE (CCD ID: PRO) (formula: $C_5H_9NO_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
61	5	1	7	5	1	1	0

- Molecule 62 is PHOSPHOMETHYLPHOSPHONIC ACID GUANYLATE ESTER (CCD ID: GCP) (formula: $C_{11}H_{18}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
62	8	1	Total	C	N	O	P	0
			32	11	5	13	3	

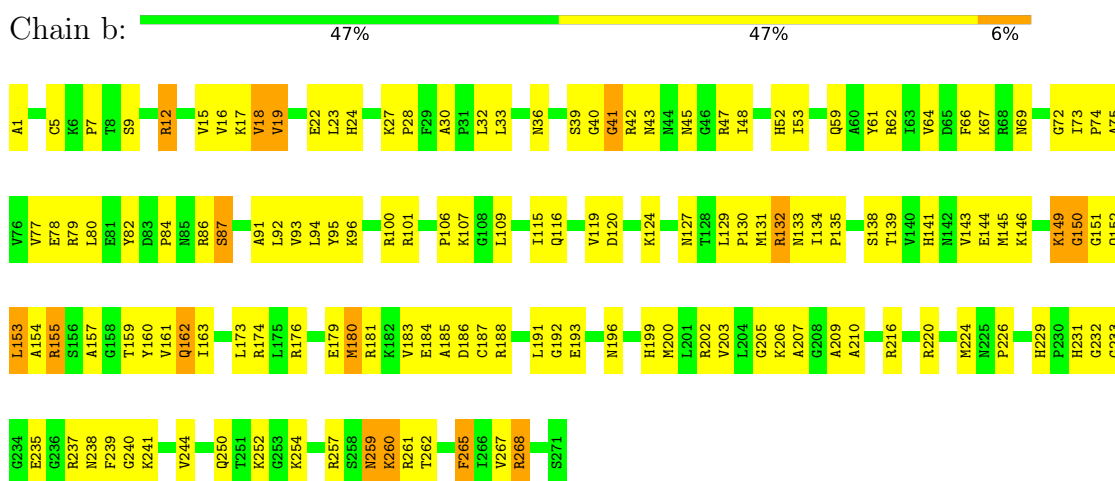
- Molecule 63 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
63	8	1	Total	Mg	0
			1	1	

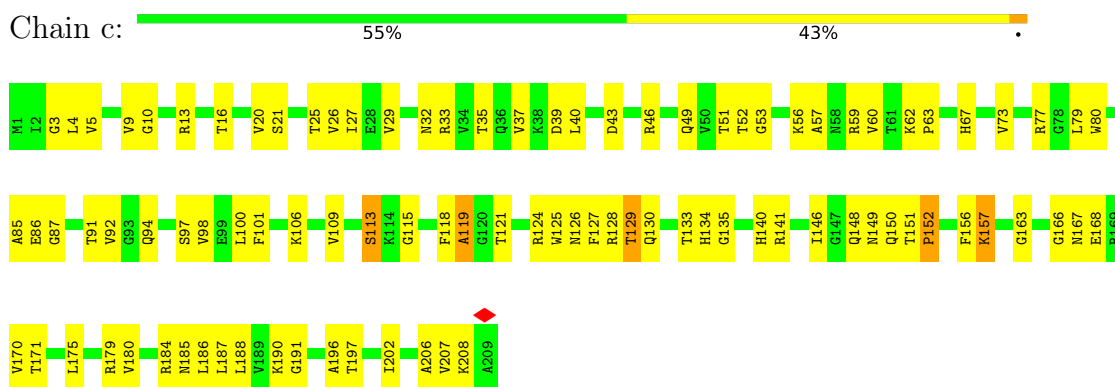
3 Residue-property plots

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.

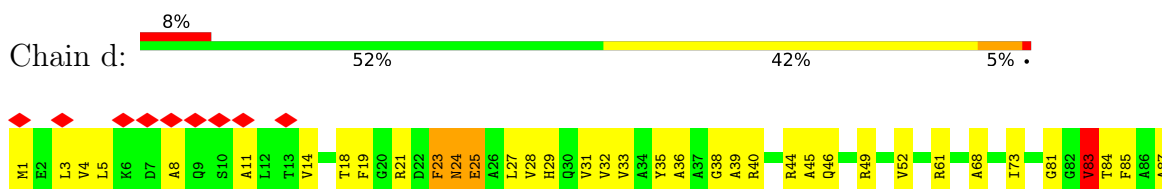
• Molecule 1: 50S ribosomal protein L2

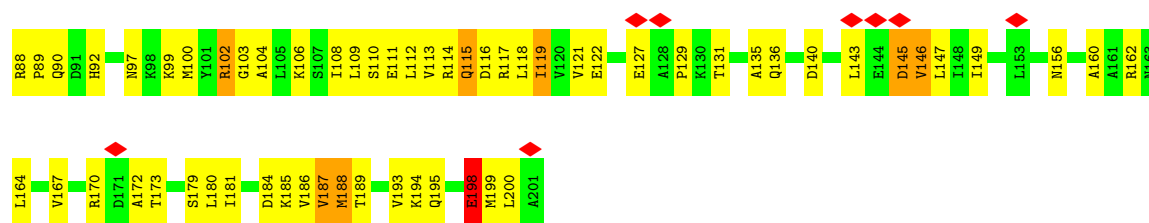


• Molecule 2: 50S ribosomal protein L3

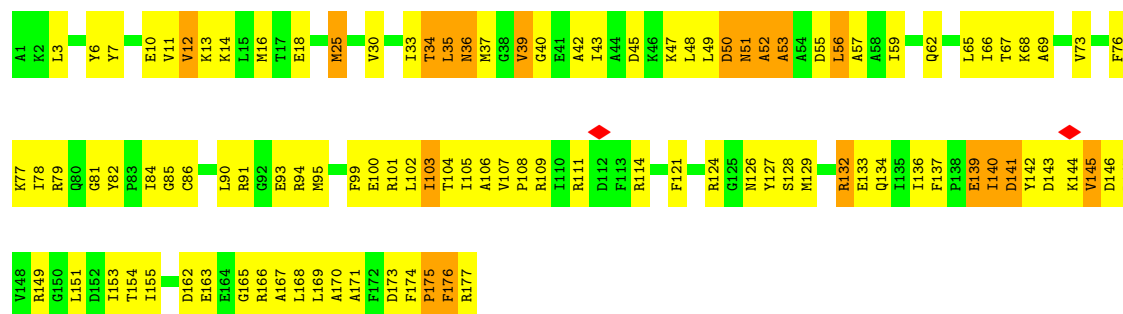


• Molecule 3: 50S ribosomal protein L4

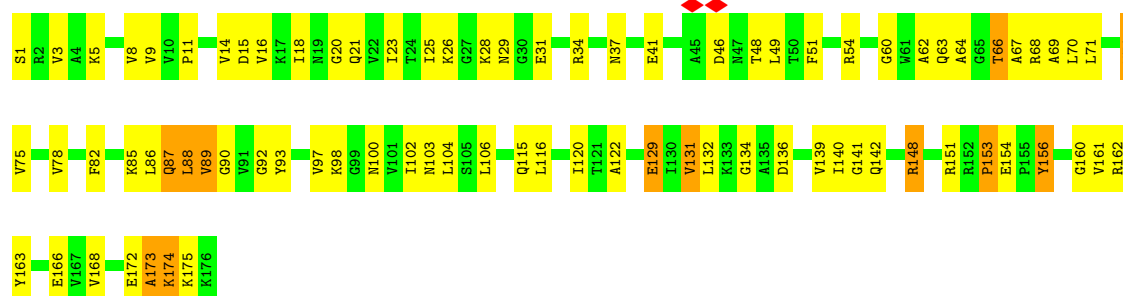




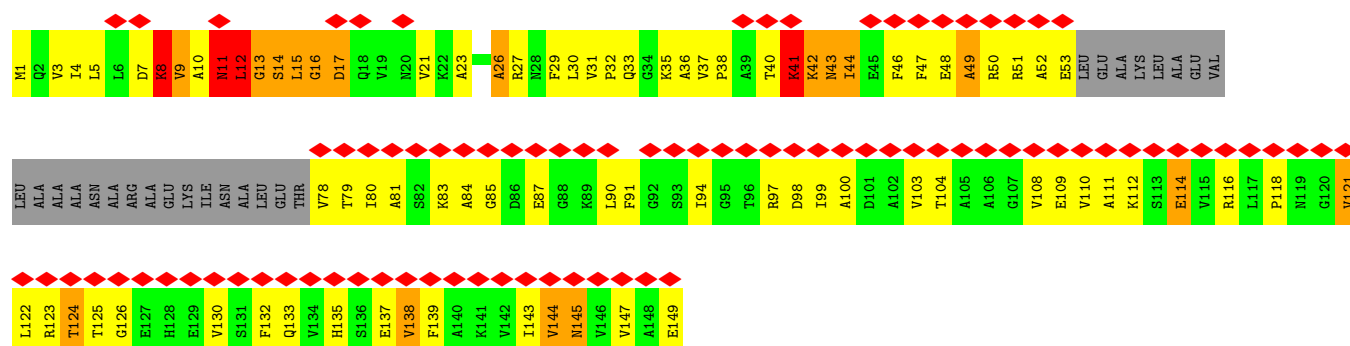
• Molecule 4: 50S ribosomal protein L5

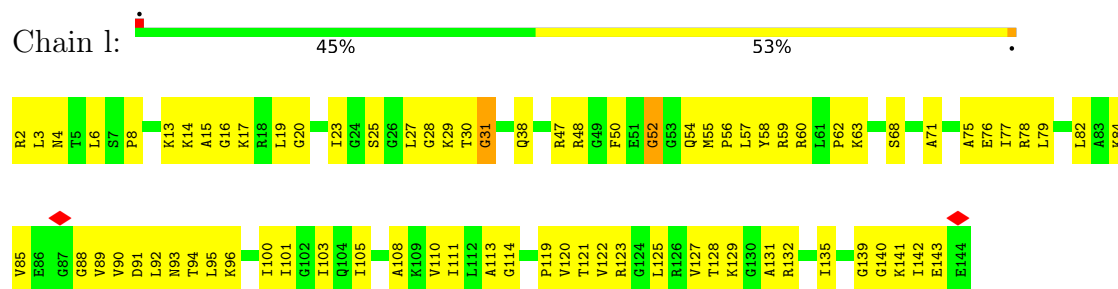


• Molecule 5: 50S ribosomal protein L6

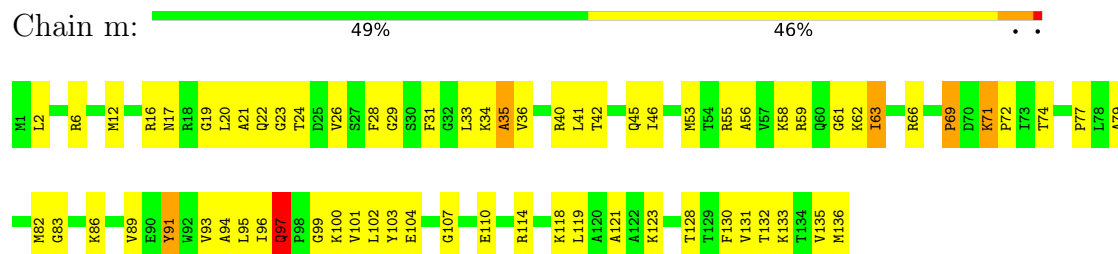


• Molecule 6: 50S ribosomal protein L9

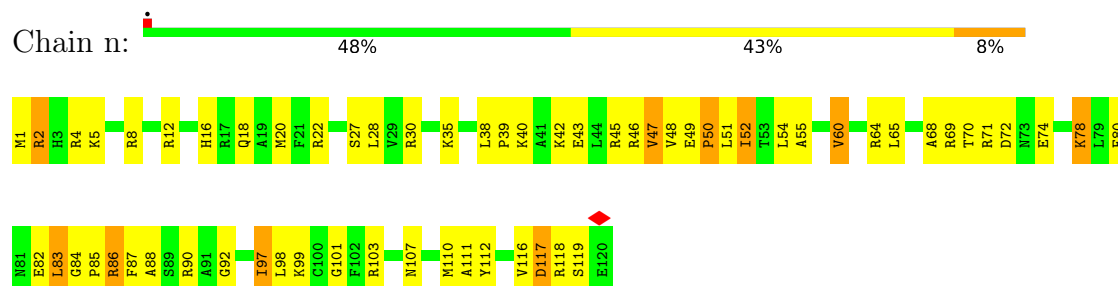




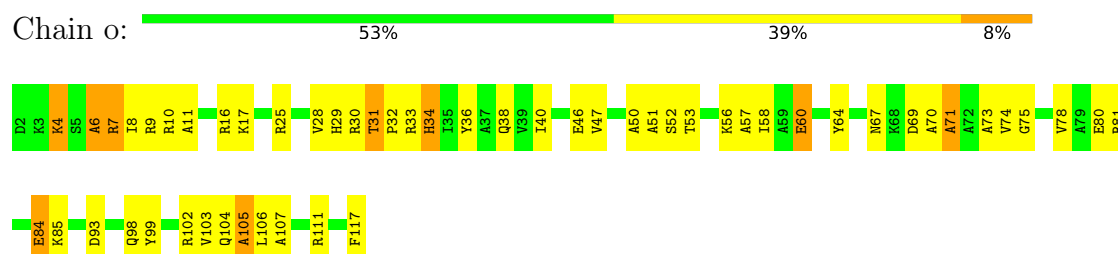
- Molecule 12: 50S ribosomal protein L16



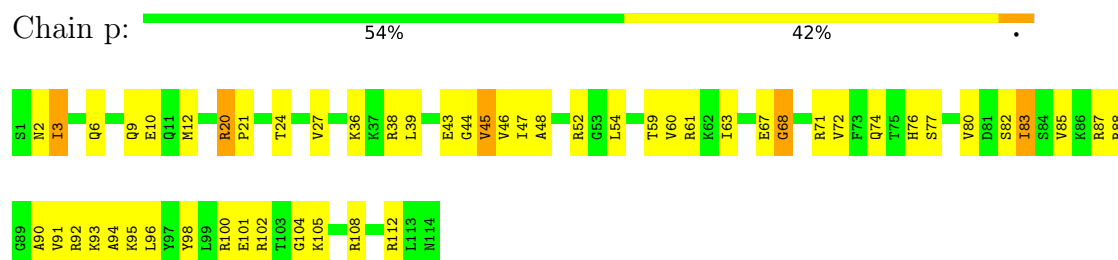
- Molecule 13: 50S ribosomal protein L17



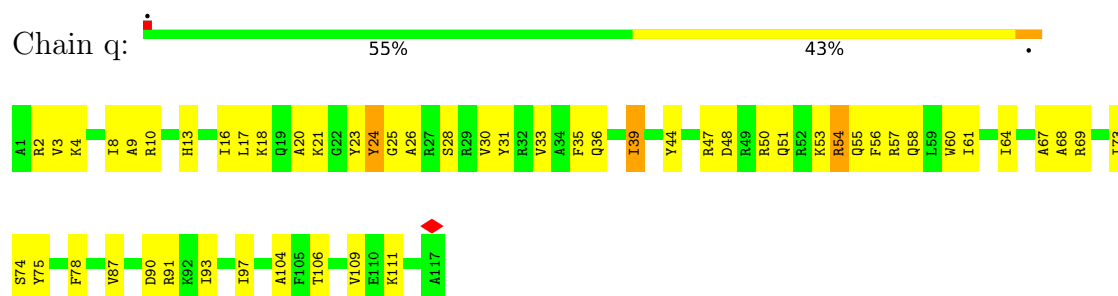
- Molecule 14: 50S ribosomal protein L18



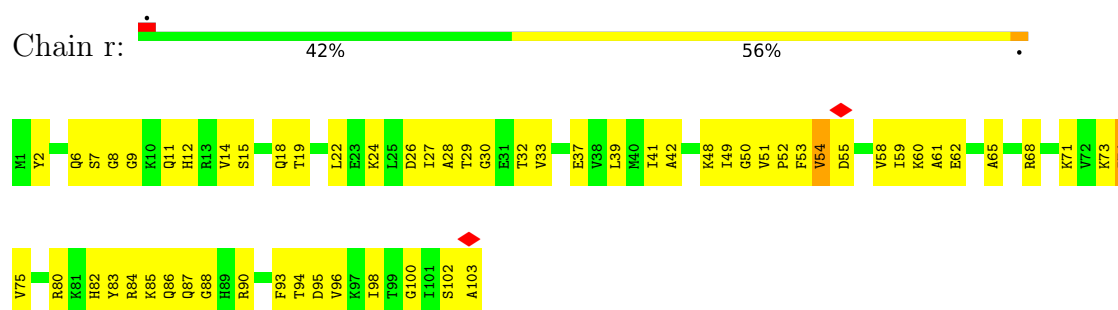
- Molecule 15: 50S ribosomal protein L19



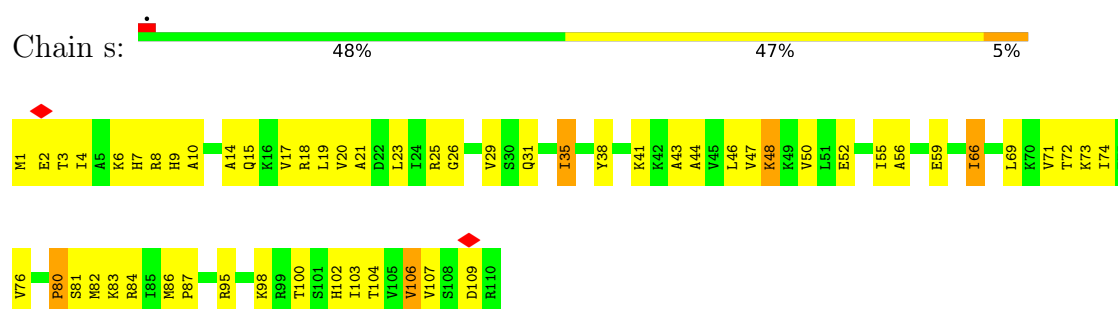
- Molecule 16: 50S ribosomal protein L20



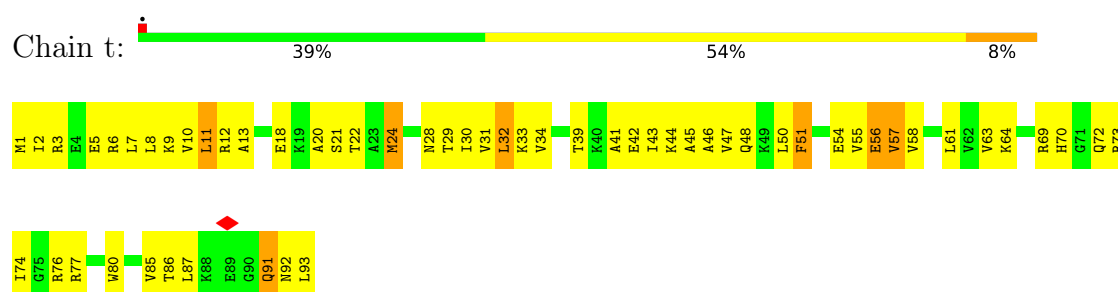
- Molecule 17: 50S ribosomal protein L21



- Molecule 18: 50S ribosomal protein L22

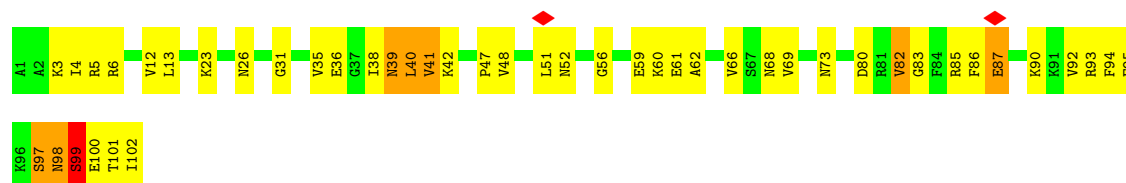


- Molecule 19: 50S ribosomal protein L23

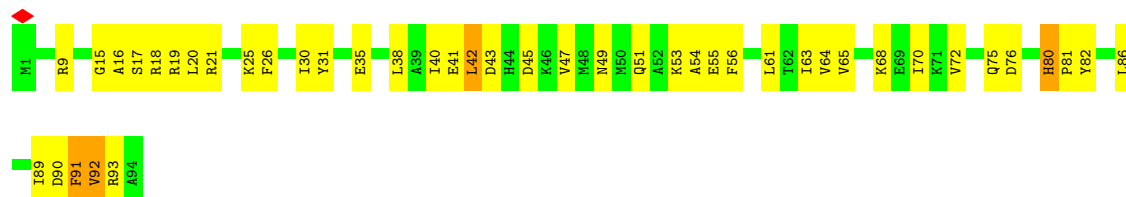


- Molecule 20: 50S ribosomal protein L24





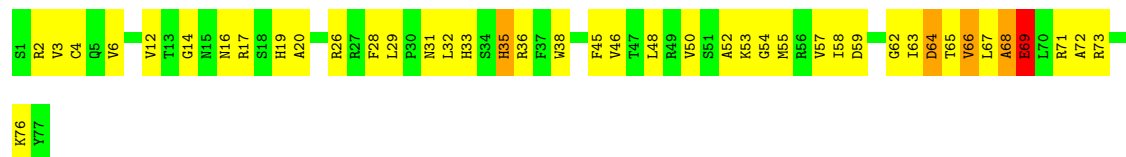
- Molecule 21: 50S ribosomal protein L25



- Molecule 22: 50S ribosomal protein L27



- Molecule 23: 50S ribosomal protein L28



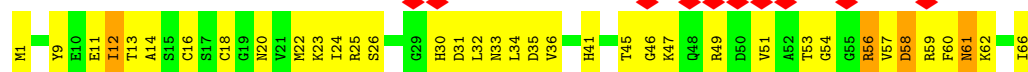
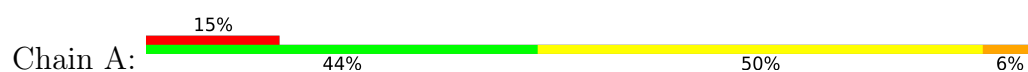
- Molecule 24: 50S ribosomal protein L29



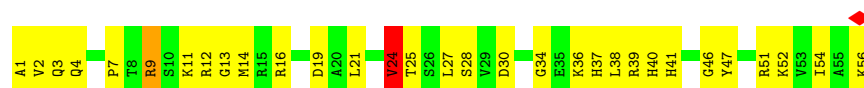
- Molecule 25: 50S ribosomal protein L30



- Molecule 26: 50S ribosomal protein L31



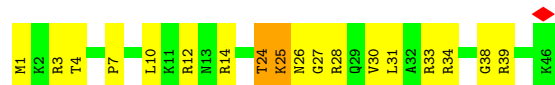
- Molecule 27: 50S ribosomal protein L32



- Molecule 28: 50S ribosomal protein L33



- Molecule 29: 50S ribosomal protein L34



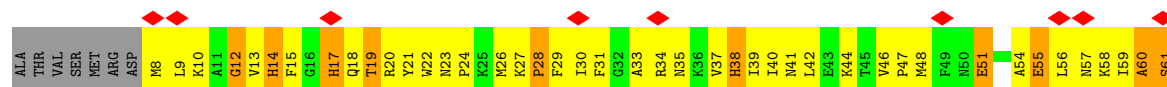
- Molecule 30: 50S ribosomal protein L35

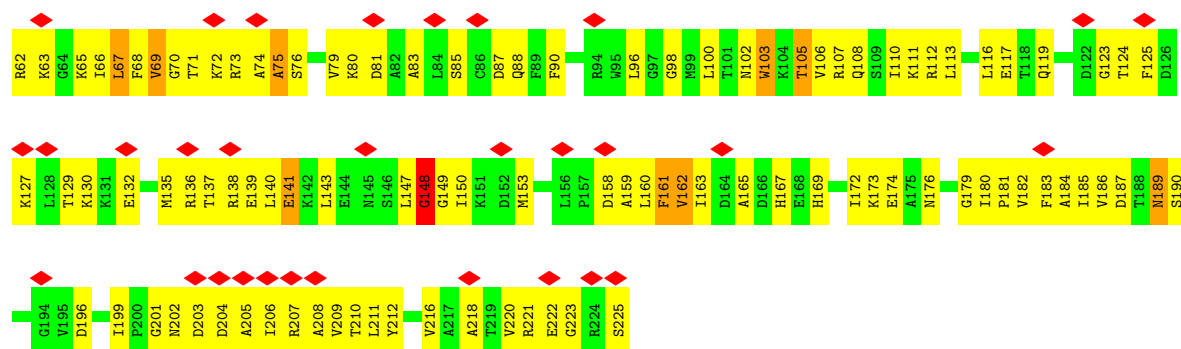


- Molecule 31: 50S ribosomal protein L36

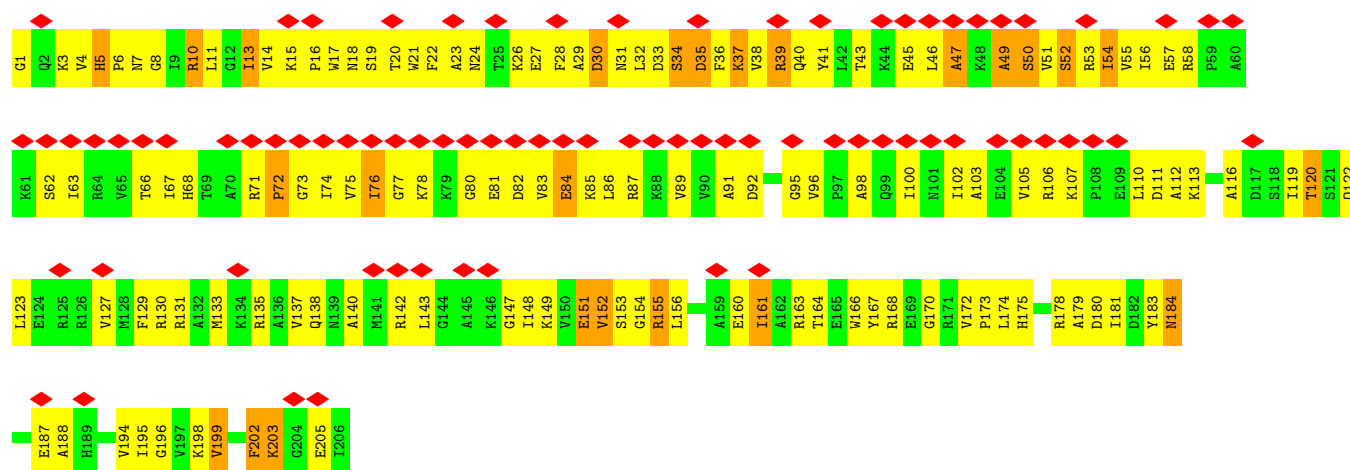


- Molecule 32: 30S ribosomal protein S2

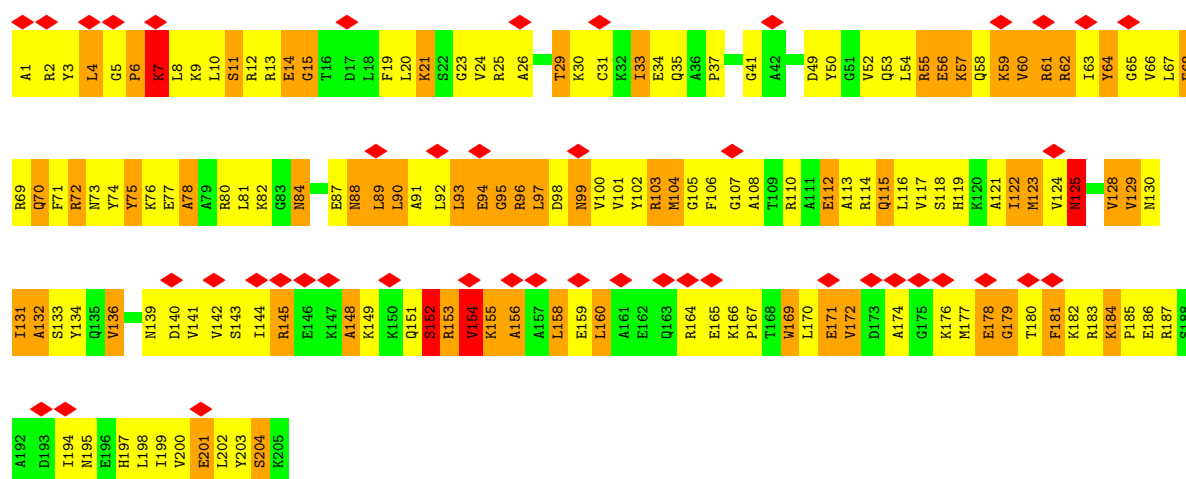
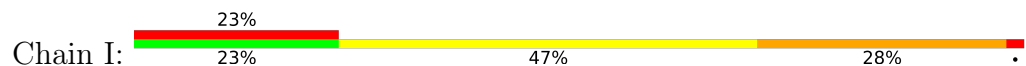




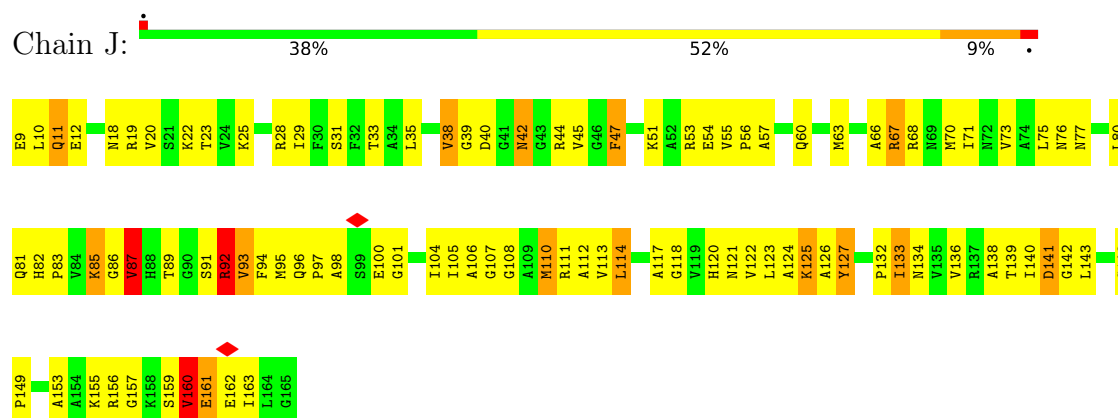
• Molecule 33: 30S ribosomal protein S3



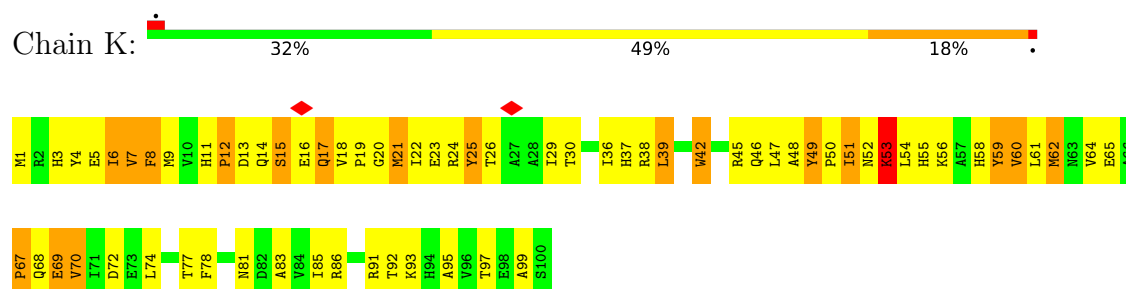
• Molecule 34: 30S ribosomal protein S4



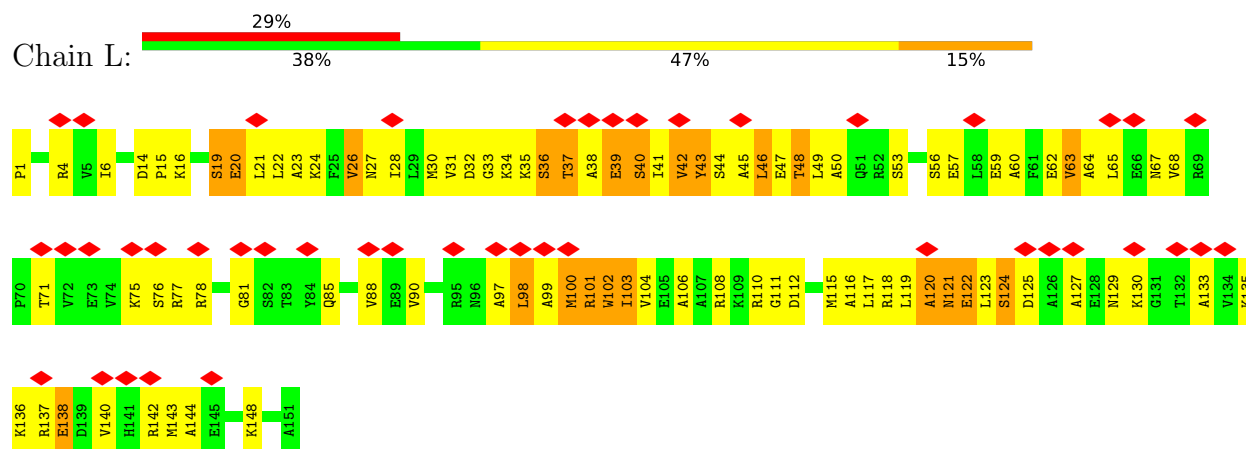
• Molecule 35: 30S ribosomal protein S5



- Molecule 36: 30S ribosomal protein S6



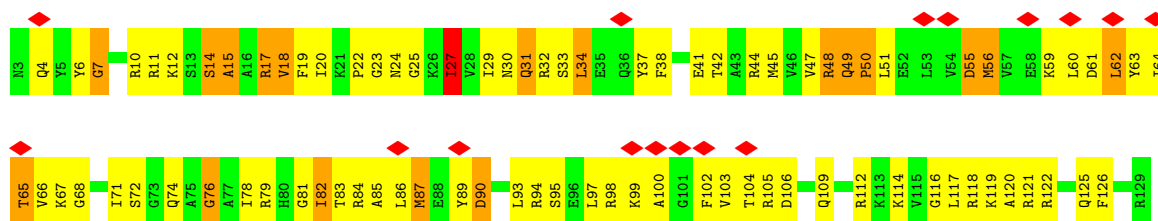
- Molecule 37: 30S ribosomal protein S7



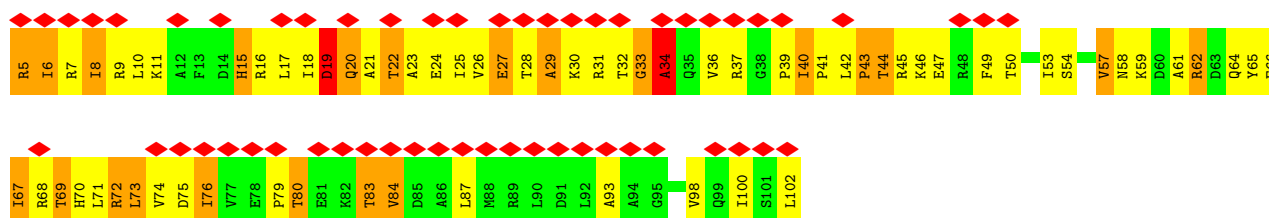
- Molecule 38: 30S ribosomal protein S8



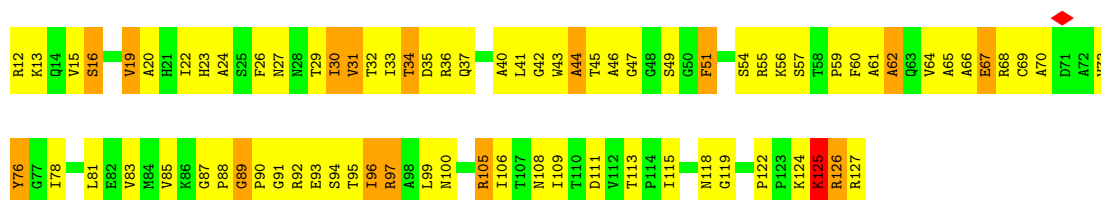
- Molecule 39: 30S ribosomal protein S9



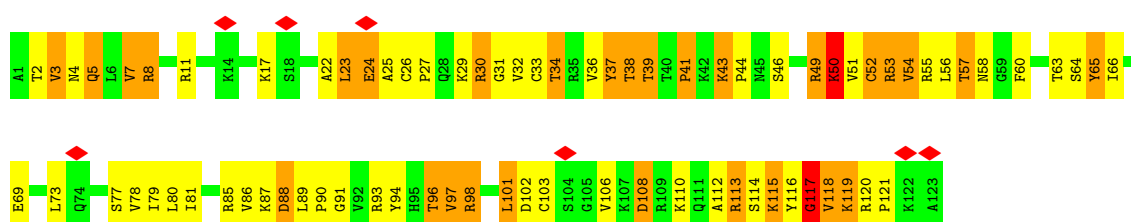
• Molecule 40: 30S ribosomal protein S10



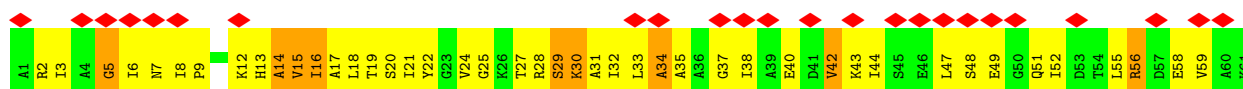
• Molecule 41: 30S ribosomal protein S11

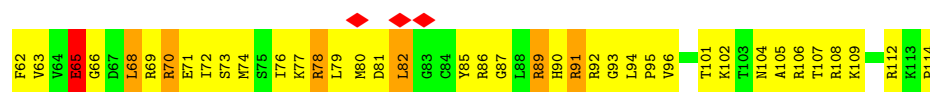


• Molecule 42: 30S ribosomal protein S12

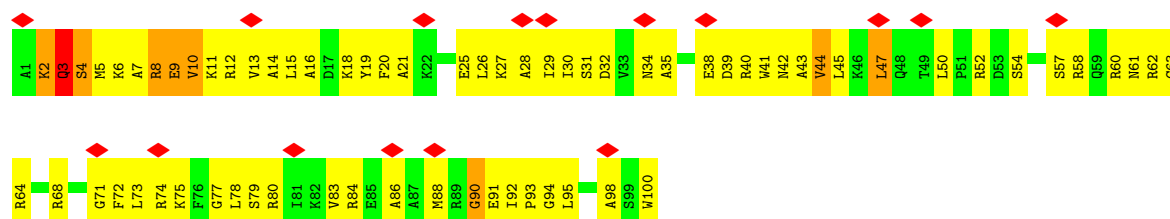


• Molecule 43: 30S ribosomal protein S13

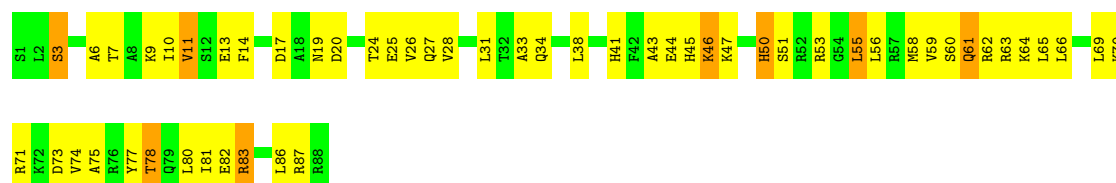




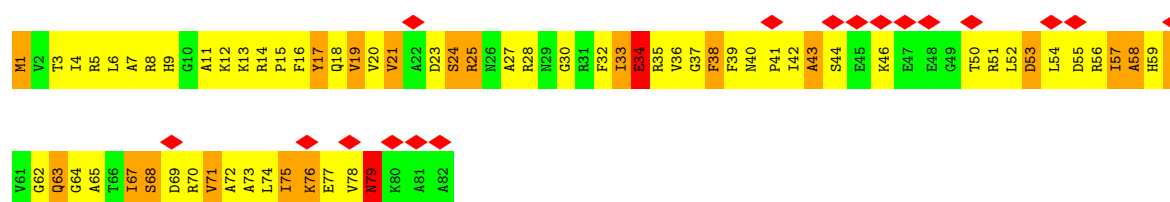
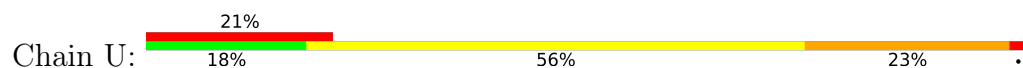
• Molecule 44: 30S ribosomal protein S14



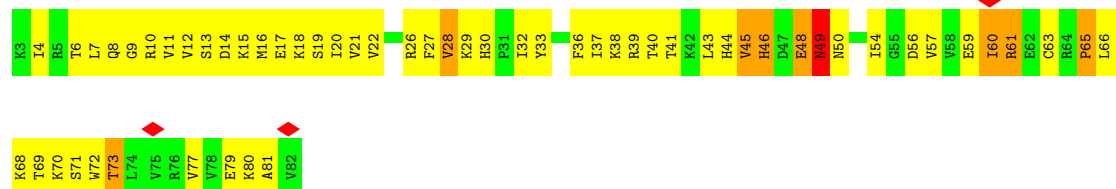
• Molecule 45: 30S ribosomal protein S15



• Molecule 46: 30S ribosomal protein S16

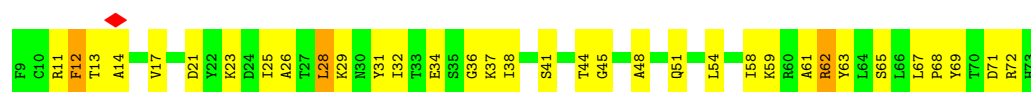


• Molecule 47: 30S ribosomal protein S17

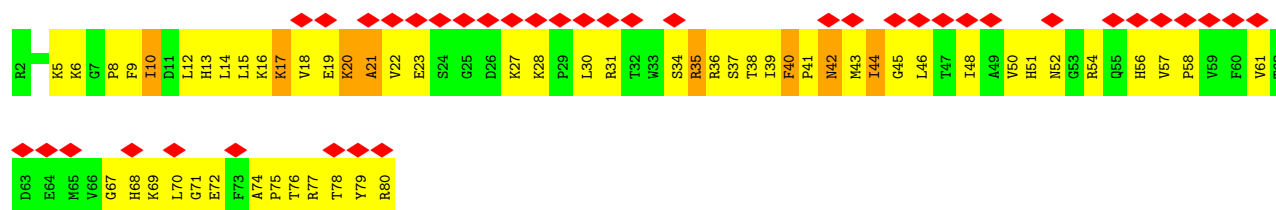


• Molecule 48: 30S ribosomal protein S18

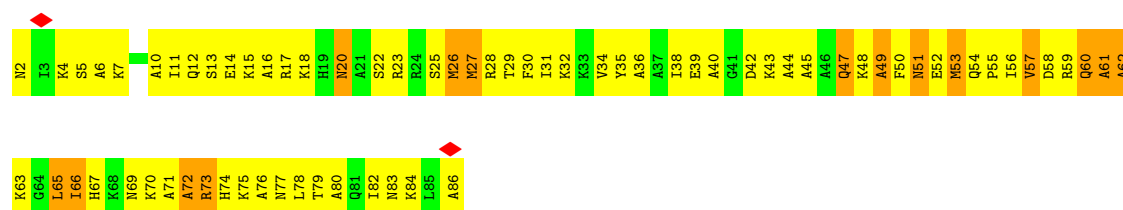
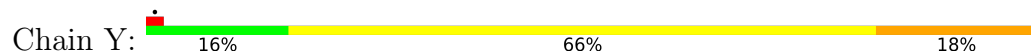




- Molecule 49: 30S ribosomal protein S19



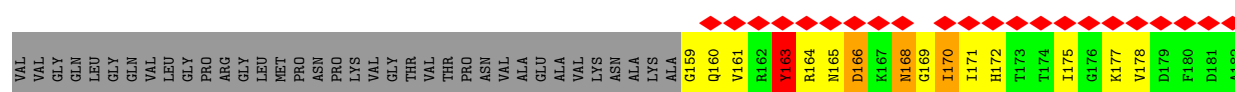
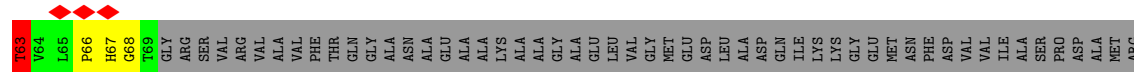
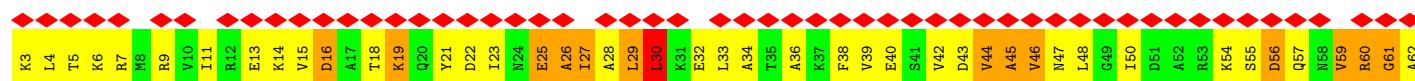
- Molecule 50: 30S ribosomal protein S20



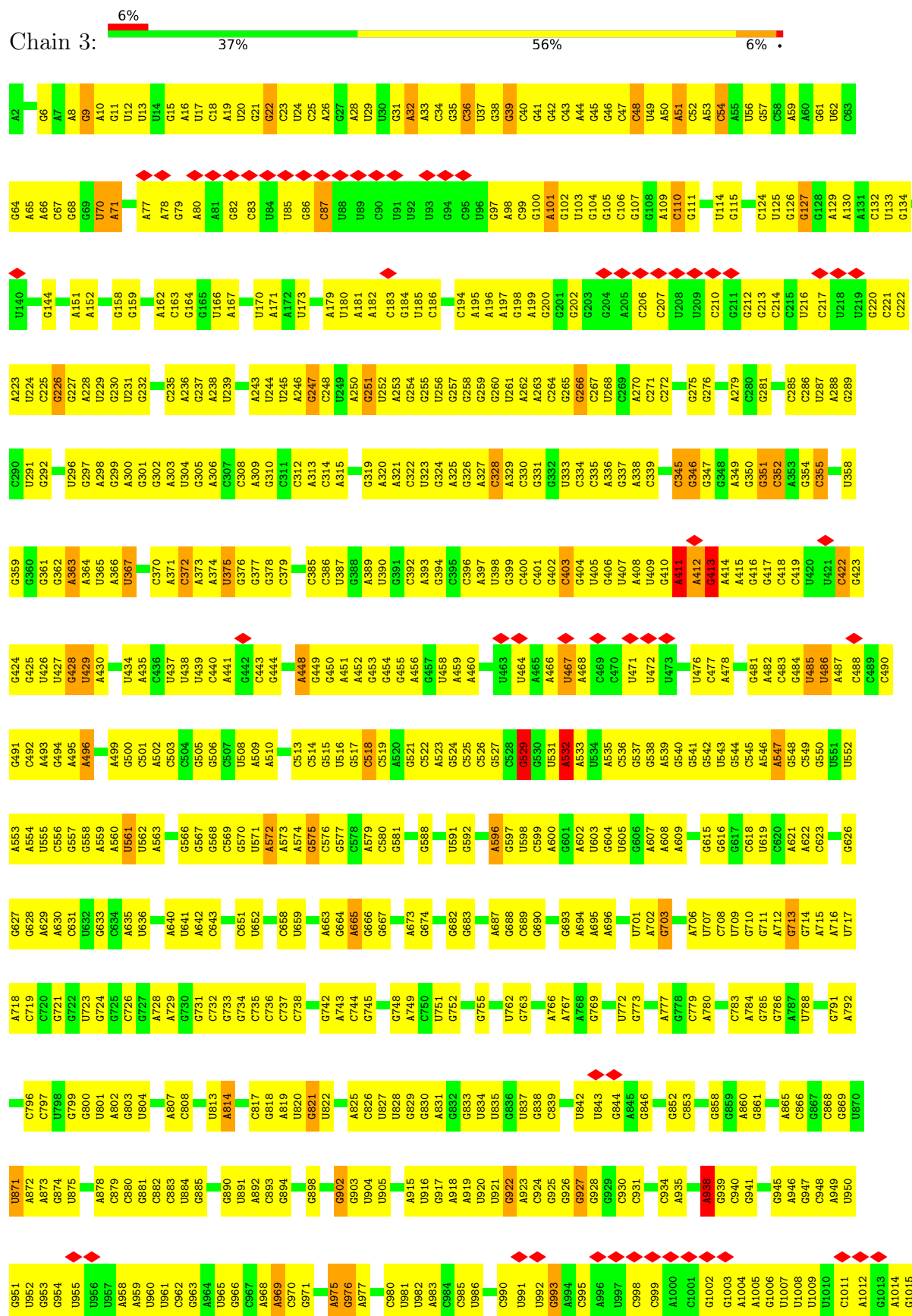
- Molecule 51: 30S ribosomal protein S21

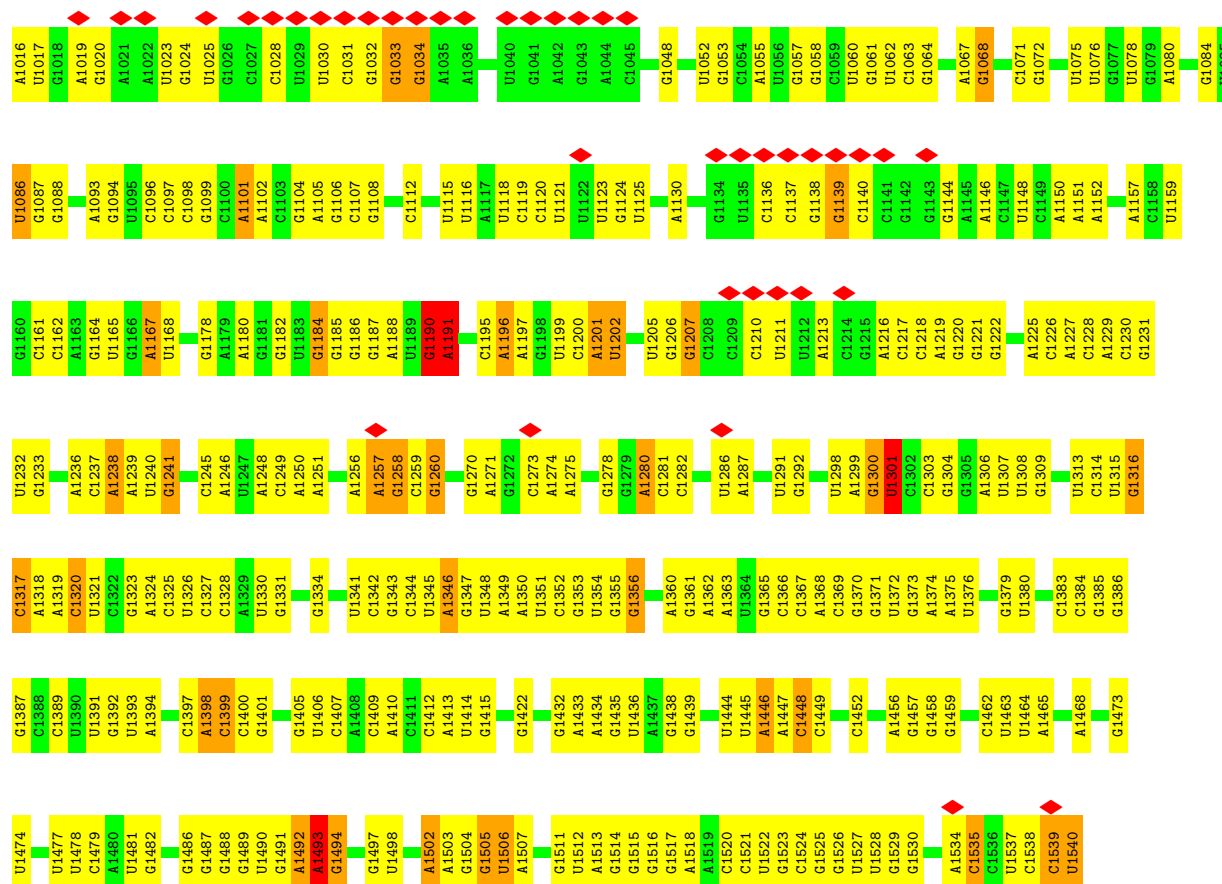


- Molecule 52: 50S ribosomal protein L1

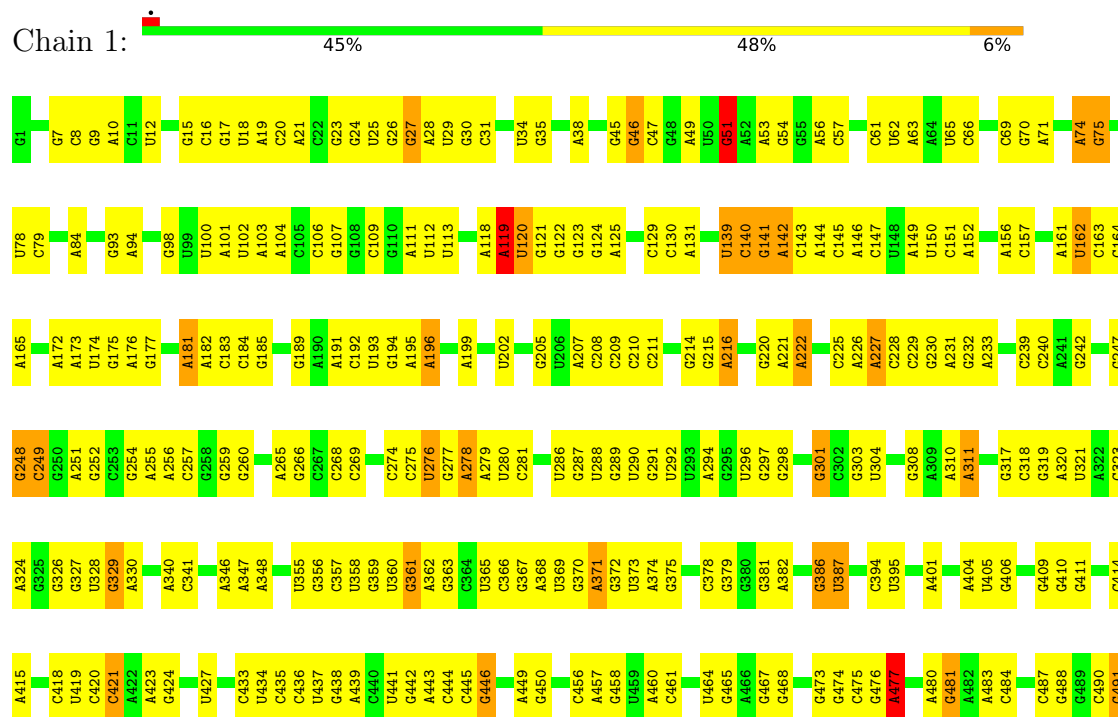


● Molecule 53: 16S ribosomal RNA





• Molecule 54: 23S ribosomal RNA

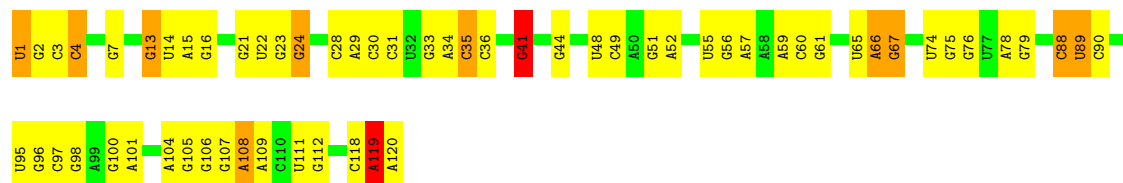


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G2707	G2625	U2537	C2463	G2383	G2318	G2239	A2170	U2106	A2030	G1845		A1676
G2708	G2626	C2538	G2464	C2385	U2320	U2241	A2171	G2107	A2031	G1846	A1772	
C2710	G2627	G2543	C2465	C2385	U2321	U2242	U2172	A2108		A1847	A1773	G1682
U2713	C2628	G2544	C2466	A2388	G2323	U2243	A2173	G2109	U2034	A1848	U1775	G1684
G2714	U2629	G2545	A2468	U2389	U2324	U2244	C2174	G2110	G2035	G1776	G1776	
C2715	G2630	U2546	A2469	U2390	U2325	U2245	C2175	U2111	G2036	U1856	U1777	U1688
C2716	G2631	A2547	G2470	G2391	G2326	U2246	C2176	G2112	A2037	G1857	U1778	A1689
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A2721	U2637	U2552		C2394	A2328	U2249	C2179	A2117	U2041	G1863		U1692
G2722	G2638	U2554	C2475	U2402	U2329	G2250	U2180	U2118	A2042	U1864	A1784	
C2723		U2555	A2476	C2403	G2330	G2251	U2181	U2119	C2043	U1865		G1695
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A2725	G2643	G2557	G2478	G2405	A2332	U2253	A2183	G2121	G2048	G1867	C1790	G1697
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U2743	A2660	C2573	U2500	U2424	U2349	A2278	U2197	U2133	G2067	C1893	A1808	U1720
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	U2690	G2605	G2522		A2368		C2222	C2150	U2015	A1916	U1825	U1747
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		U2617	G2458	U2457	A2377	A2314	C2232	G2158	U2026	G1930	C1838	
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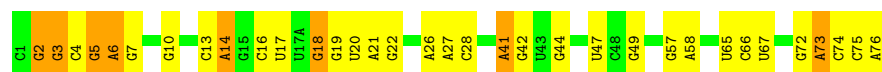
• Molecule 55: 5S ribosomal RNA

Chain 2: 49% 41% 8%



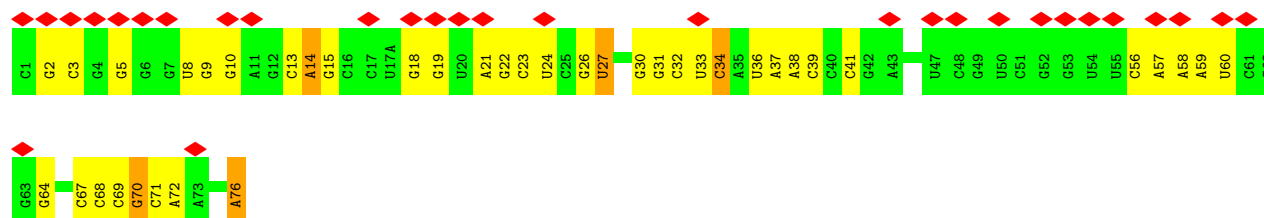
• Molecule 56: tRNA^{Pro}

Chain 5: 56% 34% 10%



• Molecule 57: tRNA^{fMet}

Chain 6: 39% 48% 45% 6%



• Molecule 58: mRNA

Chain 4: 19% 56% 31% 12%



• Molecule 59: Elongation factor G

Chain 8: 19% 34% 50% 11%





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	4612	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	47.5	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	130000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	22.957	Depositor
Minimum map value	-8.179	Depositor
Average map value	0.018	Depositor
Map value standard deviation	1.385	Depositor
Recommended contour level	3.7	Depositor
Map size (Å)	419.99997, 419.99997, 419.99997	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.05, 1.05, 1.05	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	b	0.88	11/2122 (0.5%)	1.15	17/2852 (0.6%)
2	c	0.79	3/1586 (0.2%)	1.12	10/2134 (0.5%)
3	d	1.05	14/1571 (0.9%)	1.19	17/2113 (0.8%)
4	e	1.01	13/1435 (0.9%)	1.18	13/1926 (0.7%)
5	f	0.92	5/1343 (0.4%)	1.18	16/1816 (0.9%)
6	g	1.95	27/946 (2.9%)	2.11	39/1275 (3.1%)
7	h	1.50	9/638 (1.4%)	1.33	11/860 (1.3%)
8	i	2.42	24/564 (4.3%)	1.90	30/768 (3.9%)
9	j	0.91	6/1152 (0.5%)	1.11	9/1551 (0.6%)
10	k	1.10	9/948 (0.9%)	1.37	11/1268 (0.9%)
11	l	0.69	0/1054	0.99	1/1403 (0.1%)
12	m	0.86	6/1093 (0.5%)	1.08	9/1460 (0.6%)
13	n	0.92	8/974 (0.8%)	1.13	7/1301 (0.5%)
14	o	1.08	11/902 (1.2%)	1.16	3/1209 (0.2%)
15	p	0.93	6/929 (0.6%)	1.16	9/1242 (0.7%)
16	q	0.92	7/960 (0.7%)	1.13	4/1278 (0.3%)
17	r	0.70	1/829 (0.1%)	1.11	7/1107 (0.6%)
18	s	1.01	6/864 (0.7%)	1.15	9/1156 (0.8%)
19	t	0.97	7/745 (0.9%)	1.17	10/994 (1.0%)
20	u	0.66	2/788 (0.3%)	1.00	6/1051 (0.6%)
21	v	0.76	3/766 (0.4%)	1.14	8/1025 (0.8%)
22	w	0.72	3/582 (0.5%)	1.00	0/769
23	x	1.06	5/635 (0.8%)	1.23	8/848 (0.9%)
24	y	1.18	8/510 (1.6%)	1.27	7/677 (1.0%)
25	z	0.83	1/453 (0.2%)	1.04	3/605 (0.5%)
26	A	1.06	6/532 (1.1%)	1.11	2/709 (0.3%)
27	B	0.67	1/450 (0.2%)	1.07	2/599 (0.3%)
28	C	0.82	2/417 (0.5%)	0.95	1/554 (0.2%)
29	D	0.93	2/380 (0.5%)	1.12	1/498 (0.2%)
30	E	0.97	3/513 (0.6%)	1.06	2/676 (0.3%)
31	F	0.72	0/303	1.10	3/397 (0.8%)
32	G	1.12	18/1736 (1.0%)	1.33	22/2338 (0.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	H	1.36	28/1652 (1.7%)	1.29	22/2225 (1.0%)
34	I	2.11	55/1665 (3.3%)	1.87	85/2227 (3.8%)
35	J	1.03	12/1170 (1.0%)	1.23	11/1573 (0.7%)
36	K	1.70	19/836 (2.3%)	1.56	28/1128 (2.5%)
37	L	1.66	30/1196 (2.5%)	1.54	28/1602 (1.7%)
38	M	1.22	16/989 (1.6%)	1.27	11/1326 (0.8%)
39	N	1.36	13/1034 (1.3%)	1.37	18/1375 (1.3%)
40	O	1.57	19/797 (2.4%)	1.51	20/1077 (1.9%)
41	P	1.27	12/886 (1.4%)	1.42	14/1195 (1.2%)
42	Q	1.41	18/969 (1.9%)	1.53	25/1300 (1.9%)
43	R	1.36	14/893 (1.6%)	1.42	20/1193 (1.7%)
44	S	1.16	9/817 (1.1%)	1.23	8/1088 (0.7%)
45	T	0.92	6/722 (0.8%)	1.10	3/964 (0.3%)
46	U	1.49	14/659 (2.1%)	1.57	23/884 (2.6%)
47	V	0.96	2/658 (0.3%)	1.15	6/881 (0.7%)
48	W	0.88	3/545 (0.6%)	1.07	3/731 (0.4%)
49	X	1.46	8/653 (1.2%)	1.43	12/877 (1.4%)
50	Y	1.37	13/671 (1.9%)	1.43	17/888 (1.9%)
51	Z	1.16	7/551 (1.3%)	1.31	9/728 (1.2%)
52	a	2.11	29/1034 (2.8%)	1.68	43/1387 (3.1%)
53	3	0.54	0/36963	0.58	13/57662 (0.0%)
54	1	0.48	0/69796	0.56	12/108888 (0.0%)
55	2	0.47	0/2872	0.55	2/4479 (0.0%)
56	5	0.47	0/1840	0.59	3/2868 (0.1%)
57	6	0.50	0/1832	0.61	1/2855 (0.0%)
58	4	0.52	0/391	0.66	0/608
59	8	1.42	97/5411 (1.8%)	1.42	112/7323 (1.5%)
All	All	0.82	651/166222 (0.4%)	0.85	846/247791 (0.3%)

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
6	g	0	4
34	I	0	2
35	J	0	1
36	K	0	1
46	U	0	1
53	3	0	11
54	1	0	37

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Mol	Chain	#Chirality outliers	#Planarity outliers
55	2	0	2
59	8	0	1
All	All	0	60

All (651) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	a	170	ILE	C-O	27.04	1.52	1.24
34	I	132	ALA	C-O	24.44	1.52	1.24
34	I	91	ALA	C-O	23.55	1.51	1.24
8	i	19	PRO	C-O	21.69	1.52	1.24
7	h	59	LEU	C-O	21.60	1.49	1.23
59	8	360	PHE	C-O	20.77	1.49	1.24
34	I	90	LEU	C-O	18.52	1.47	1.24
6	g	12	LEU	CA-C	-18.32	1.28	1.52
34	I	156	ALA	C-O	18.14	1.45	1.24
8	i	8	VAL	C-O	18.05	1.45	1.23
34	I	59	LYS	C-O	17.74	1.44	1.24
34	I	155	LYS	N-CA	17.72	1.69	1.46
52	a	26	ALA	C-O	17.43	1.41	1.23
37	L	99	ALA	C-O	17.35	1.44	1.24
52	a	61	GLY	C-O	16.79	1.41	1.23
36	K	53	LYS	C-O	-16.51	1.03	1.24
52	a	59	VAL	C-O	16.39	1.41	1.24
59	8	100	GLU	C-O	16.35	1.43	1.24
52	a	186	LYS	C-O	15.68	1.42	1.24
52	a	195	ALA	C-O	15.26	1.41	1.24
6	g	12	LEU	N-CA	-15.09	1.26	1.46
37	L	39	GLU	C-O	15.05	1.41	1.24
8	i	27	LEU	C-O	15.04	1.42	1.23
6	g	15	LEU	C-N	15.00	1.55	1.33
33	H	10	ARG	C-O	14.83	1.43	1.24
6	g	8	LYS	C-O	-14.70	1.04	1.23
37	L	38	ALA	C-O	14.58	1.42	1.24
52	a	161	VAL	C-O	14.44	1.44	1.24
8	i	54	ILE	C-O	14.43	1.42	1.24
40	O	80	THR	C-O	14.40	1.41	1.23
59	8	574	MET	C-O	14.35	1.40	1.24
59	8	650	THR	C-O	13.94	1.44	1.23
40	O	29	ALA	C-O	13.84	1.38	1.24
6	g	144	VAL	C-O	13.80	1.38	1.24
52	a	163	TYR	C-O	13.73	1.40	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	K	13	ASP	C-O	13.62	1.39	1.24
6	g	11	ASN	CA-C	-13.59	1.34	1.52
59	8	386	ILE	C-O	13.53	1.40	1.24
47	V	46	HIS	C-O	13.40	1.39	1.23
8	i	58	ILE	C-O	13.34	1.39	1.24
34	I	89	LEU	C-O	13.28	1.39	1.24
59	8	297	GLY	C-O	13.24	1.41	1.23
34	I	152	SER	C-O	-13.04	1.07	1.24
43	R	66	GLY	C-O	12.99	1.41	1.23
43	R	16	ILE	C-O	12.98	1.39	1.24
59	8	101	ARG	C-O	12.91	1.39	1.24
6	g	30	LEU	C-O	12.90	1.39	1.24
59	8	397	LEU	C-O	12.89	1.38	1.24
39	N	7	GLY	C-O	12.77	1.41	1.23
49	X	20	LYS	C-O	12.53	1.38	1.24
41	P	31	VAL	N-CA	12.50	1.60	1.46
42	Q	4	ASN	C-O	12.44	1.38	1.24
59	8	176	GLU	C-O	-12.41	1.08	1.24
8	i	36	GLU	C-O	12.37	1.38	1.24
40	O	76	ILE	C-O	12.37	1.38	1.23
34	I	88	ASN	C-O	12.13	1.38	1.24
10	k	112	PHE	C-O	12.12	1.39	1.24
49	X	68	HIS	C-O	11.98	1.39	1.23
36	K	20	GLY	C-O	11.95	1.38	1.23
49	X	61	VAL	C-O	11.87	1.35	1.23
23	x	65	THR	C-O	11.83	1.38	1.24
59	8	307	ALA	C-O	11.83	1.38	1.23
59	8	627	ASN	C-N	11.81	1.50	1.33
34	I	129	VAL	N-CA	11.77	1.59	1.46
32	G	159	ALA	C-O	11.74	1.38	1.23
5	f	148	ARG	C-O	11.69	1.37	1.24
6	g	130	VAL	C-O	11.66	1.35	1.24
8	i	8	VAL	N-CA	11.56	1.60	1.46
41	P	73	VAL	C-O	11.54	1.37	1.24
50	Y	57	VAL	C-O	11.49	1.37	1.24
34	I	141	VAL	C-O	11.45	1.37	1.24
36	K	59	TYR	C-O	11.38	1.38	1.23
3	d	194	LYS	C-O	11.33	1.37	1.24
3	d	36	ALA	C-O	11.31	1.37	1.24
3	d	35	TYR	C-O	11.29	1.37	1.24
34	I	169	TRP	C-O	11.22	1.37	1.24
39	N	33	SER	N-CA	11.22	1.60	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
39	N	81	GLY	C-O	11.17	1.37	1.23
37	L	117	LEU	C-O	11.15	1.36	1.24
7	h	10	ALA	C-O	11.15	1.38	1.24
37	L	37	THR	C-O	10.93	1.37	1.24
59	8	109	ALA	C-O	10.84	1.37	1.23
59	8	350	LEU	C-O	10.81	1.37	1.23
15	p	85	VAL	N-CA	10.80	1.59	1.46
34	I	61	ARG	C-O	10.73	1.36	1.24
8	i	56	VAL	C-O	10.69	1.35	1.23
39	N	82	ILE	C-O	10.68	1.36	1.24
36	K	51	ILE	N-CA	10.64	1.59	1.46
35	J	138	ALA	C-O	10.61	1.36	1.24
8	i	11	GLN	C-N	-10.48	1.21	1.33
34	I	60	VAL	C-O	10.47	1.37	1.24
52	a	63	THR	C-O	10.47	1.37	1.23
59	8	268	SER	C-O	10.39	1.35	1.23
39	N	18	VAL	C-O	10.38	1.37	1.23
59	8	438	LEU	C-O	10.35	1.37	1.24
42	Q	39	THR	C-O	10.23	1.36	1.23
59	8	295	ILE	C-O	10.21	1.35	1.24
59	8	467	ASP	C-O	10.21	1.35	1.24
59	8	347	ASP	C-O	10.14	1.36	1.24
36	K	21	MET	C-O	10.14	1.35	1.24
59	8	465	HIS	C-O	10.12	1.35	1.24
38	M	84	ILE	C-O	10.11	1.34	1.24
4	e	52	ALA	C-O	10.10	1.36	1.24
59	8	152	LEU	C-O	10.08	1.35	1.24
37	L	98	LEU	C-O	10.05	1.36	1.24
59	8	659	PRO	C-O	10.01	1.35	1.23
59	8	351	ASN	C-O	9.99	1.35	1.24
44	S	13	VAL	C-O	9.97	1.35	1.24
49	X	17	LYS	C-O	9.96	1.36	1.24
6	g	14	SER	N-CA	9.94	1.59	1.46
34	I	178	GLU	C-O	9.92	1.35	1.24
34	I	155	LYS	C-O	9.89	1.37	1.24
34	I	97	LEU	N-CA	9.89	1.58	1.46
32	G	51	GLU	C-O	9.83	1.35	1.24
37	L	122	GLU	C-O	9.82	1.35	1.24
33	H	32	LEU	C-O	9.77	1.36	1.24
8	i	12	VAL	C-O	9.67	1.34	1.24
37	L	116	ALA	C-O	9.66	1.35	1.24
42	Q	88	ASP	C-O	9.64	1.36	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	8	212	VAL	C-O	9.62	1.35	1.24
4	e	51	ASN	C-O	9.60	1.35	1.24
36	K	17	GLN	N-CA	9.60	1.57	1.46
12	m	119	LEU	C-O	9.57	1.36	1.24
10	k	110	GLU	C-O	-9.55	1.11	1.24
46	U	73	ALA	C-O	9.54	1.35	1.24
3	d	24	ASN	C-O	9.54	1.34	1.23
38	M	124	ILE	C-O	9.51	1.34	1.23
40	O	72	ARG	C-O	9.51	1.35	1.23
33	H	30	ASP	C-O	9.50	1.35	1.24
38	M	34	ALA	C-O	9.49	1.35	1.24
49	X	35	ARG	C-O	9.49	1.35	1.24
2	c	157	LYS	C-O	9.48	1.35	1.23
42	Q	103	CYS	C-O	9.47	1.34	1.23
8	i	40	ALA	C-O	9.46	1.36	1.24
32	G	69	VAL	C-O	9.42	1.34	1.24
10	k	112	PHE	C-N	9.40	1.46	1.34
34	I	94	GLU	N-CA	9.38	1.58	1.46
9	j	61	LYS	C-O	9.29	1.37	1.24
34	I	95	GLY	N-CA	9.26	1.59	1.45
46	U	57	ILE	C-O	9.26	1.35	1.24
52	a	63	THR	N-CA	9.26	1.57	1.45
36	K	12	PRO	C-O	9.22	1.36	1.24
52	a	196	LEU	C-O	9.21	1.35	1.24
34	I	11	SER	C-O	9.19	1.35	1.24
59	8	464	LEU	C-O	9.19	1.34	1.24
44	S	14	ALA	C-O	9.13	1.34	1.24
41	P	67	GLU	C-O	9.10	1.34	1.24
59	8	87	ILE	N-CA	9.10	1.57	1.46
39	N	67	LYS	C-O	9.09	1.34	1.23
59	8	514	GLN	C-O	9.09	1.35	1.24
19	t	86	THR	C-O	9.09	1.35	1.24
59	8	472	ARG	C-O	9.04	1.35	1.24
10	k	113	MET	N-CA	9.03	1.57	1.46
40	O	22	THR	C-O	9.01	1.34	1.24
8	i	58	ILE	N-CA	9.01	1.59	1.46
44	S	9	GLU	C-O	8.98	1.34	1.24
26	A	58	ASP	C-O	8.92	1.35	1.24
46	U	67	ILE	N-CA	8.91	1.57	1.46
59	8	360	PHE	C-N	8.91	1.46	1.33
3	d	188	MET	N-CA	8.90	1.56	1.45
7	h	24	SER	C-O	8.88	1.35	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	U	58	ALA	C-O	8.86	1.34	1.24
43	R	65	GLU	C-O	8.86	1.35	1.24
18	s	41	LYS	C-O	8.84	1.34	1.23
18	s	106	VAL	C-O	8.84	1.34	1.24
33	H	37	LYS	C-O	8.84	1.34	1.24
26	A	57	VAL	C-O	8.79	1.34	1.24
30	E	53	ASP	C-O	8.77	1.35	1.24
15	p	36	LYS	C-O	8.77	1.34	1.24
34	I	98	ASP	C-O	8.77	1.35	1.24
43	R	42	VAL	C-O	8.76	1.35	1.24
34	I	159	GLU	N-CA	8.75	1.57	1.46
40	O	30	LYS	C-O	8.72	1.34	1.24
37	L	19	SER	C-O	8.70	1.31	1.23
43	R	56	ARG	C-O	8.68	1.34	1.24
33	H	152	VAL	C-O	8.65	1.34	1.24
59	8	537	ILE	C-O	8.65	1.34	1.24
33	H	111	ASP	C-O	8.63	1.33	1.24
51	Z	56	ALA	C-O	8.61	1.34	1.24
34	I	95	GLY	CA-C	8.57	1.63	1.51
32	G	83	ALA	C-O	8.56	1.34	1.24
9	j	90	GLU	C-O	8.56	1.33	1.24
59	8	151	PHE	C-O	8.49	1.34	1.24
4	e	53	ALA	C-O	8.48	1.33	1.24
33	H	39	ARG	C-O	8.48	1.34	1.24
39	N	15	ALA	N-CA	8.45	1.56	1.46
42	Q	49	ARG	C-O	8.43	1.34	1.23
14	o	75	GLY	C-O	8.43	1.33	1.23
34	I	57	LYS	C-O	8.42	1.33	1.24
33	H	85	LYS	C-O	8.41	1.34	1.24
46	U	68	SER	C-O	8.39	1.36	1.24
42	Q	113	ARG	C-O	8.36	1.35	1.24
34	I	172	VAL	C-N	8.35	1.45	1.33
36	K	67	PRO	C-O	8.34	1.36	1.23
40	O	34	ALA	N-CA	8.34	1.56	1.46
34	I	145	ARG	C-O	8.30	1.33	1.23
42	Q	97	VAL	N-CA	8.27	1.58	1.47
34	I	132	ALA	CA-C	8.27	1.64	1.52
59	8	608	ALA	C-O	8.27	1.35	1.24
15	p	68	GLY	C-O	8.26	1.34	1.23
41	P	44	ALA	C-O	8.24	1.33	1.23
8	i	57	VAL	C-O	8.22	1.32	1.24
37	L	42	VAL	N-CA	8.21	1.56	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	e	132	ARG	C-O	8.20	1.36	1.23
1	b	180	MET	C-O	8.16	1.34	1.24
3	d	179	SER	C-O	8.12	1.33	1.24
44	S	8	ARG	C-O	8.12	1.33	1.24
37	L	103	ILE	N-CA	8.09	1.55	1.46
33	H	184	ASN	C-O	8.08	1.33	1.23
37	L	102	TRP	N-CA	8.08	1.56	1.46
33	H	36	PHE	C-O	8.06	1.33	1.24
14	o	58	ILE	C-O	8.05	1.33	1.24
4	e	50	ASP	C-O	8.04	1.33	1.24
36	K	69	GLU	C-O	8.03	1.33	1.24
6	g	35	LYS	C-O	8.00	1.34	1.24
43	R	29	SER	C-O	7.99	1.33	1.24
34	I	153	ARG	C-O	7.96	1.35	1.23
50	Y	66	ILE	N-CA	7.94	1.56	1.46
14	o	56	LYS	C-O	7.93	1.33	1.24
6	g	44	ILE	C-O	7.91	1.32	1.24
59	8	378	ARG	C-O	7.87	1.33	1.23
59	8	178	HIS	C-N	7.84	1.44	1.33
6	g	139	PHE	N-CA	7.84	1.55	1.45
8	i	54	ILE	N-CA	7.84	1.56	1.46
33	H	199	VAL	C-O	7.83	1.31	1.24
51	Z	49	ALA	C-O	7.82	1.33	1.24
1	b	210	ALA	C-O	7.81	1.33	1.24
59	8	68	THR	C-O	7.81	1.32	1.23
10	k	88	ASN	N-CA	7.80	1.55	1.46
24	y	40	SER	C-O	7.75	1.34	1.24
41	P	97	ARG	C-O	7.74	1.33	1.24
7	h	64	VAL	N-CA	7.74	1.57	1.46
43	R	20	SER	N-CA	7.71	1.55	1.46
59	8	95	PHE	C-O	7.70	1.33	1.24
28	C	18	HIS	C-O	7.64	1.32	1.24
18	s	80	PRO	C-O	7.63	1.32	1.23
38	M	36	ALA	C-O	7.63	1.33	1.24
33	H	140	ALA	C-O	7.58	1.33	1.24
3	d	121	VAL	N-CA	7.57	1.54	1.46
50	Y	4	LYS	C-O	7.57	1.33	1.23
8	i	39	LYS	C-O	7.55	1.32	1.24
59	8	99	VAL	C-O	7.54	1.33	1.24
25	z	42	ALA	C-O	7.54	1.32	1.24
46	U	21	VAL	C-O	7.53	1.35	1.23
59	8	277	ALA	C-O	7.46	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	f	74	MET	C-O	7.45	1.32	1.24
59	8	104	ARG	N-CA	7.45	1.56	1.46
3	d	187	VAL	C-O	7.43	1.32	1.24
40	O	84	VAL	N-CA	7.43	1.55	1.46
40	O	46	LYS	N-CA	7.42	1.54	1.45
59	8	569	TYR	C-O	7.42	1.31	1.24
34	I	154	VAL	C-O	7.41	1.34	1.24
48	W	61	ALA	C-O	7.36	1.33	1.24
42	Q	98	ARG	C-O	7.35	1.33	1.24
13	n	83	LEU	C-O	7.35	1.32	1.24
59	8	507	LYS	C-O	7.31	1.32	1.23
24	y	20	ASN	C-O	7.29	1.32	1.24
50	Y	61	ALA	N-CA	7.28	1.55	1.46
34	I	125	ASN	N-CA	7.28	1.55	1.46
33	H	202	PHE	C-O	7.27	1.32	1.24
8	i	19	PRO	CA-C	7.27	1.62	1.52
52	a	187	GLU	C-O	7.27	1.33	1.24
52	a	169	GLY	N-CA	7.25	1.55	1.45
8	i	24	GLY	N-CA	7.25	1.54	1.44
24	y	12	GLU	C-O	7.24	1.33	1.24
59	8	179	PHE	N-CA	7.23	1.55	1.46
33	H	120	THR	C-O	7.22	1.32	1.24
19	t	57	VAL	N-CA	7.22	1.54	1.46
16	q	54	ARG	C-O	7.21	1.32	1.24
33	H	29	ALA	C-O	7.21	1.33	1.24
34	I	112	GLU	C-O	7.20	1.32	1.24
6	g	43	ASN	N-CA	7.18	1.55	1.46
41	P	62	ALA	C-O	7.17	1.33	1.24
42	Q	119	LYS	N-CA	7.15	1.55	1.46
46	U	60	TRP	C-O	7.15	1.33	1.24
38	M	59	GLU	C-O	7.15	1.32	1.23
36	K	8	PHE	C-O	7.14	1.32	1.23
52	a	165	ASN	C-N	7.13	1.43	1.33
34	I	171	GLU	C-O	7.13	1.32	1.24
50	Y	27	MET	C-O	7.12	1.32	1.24
48	W	12	PHE	C-O	7.10	1.32	1.24
26	A	62	LYS	N-CA	7.09	1.55	1.46
14	o	7	ARG	C-O	7.06	1.32	1.24
59	8	280	ASP	C-O	7.05	1.32	1.24
29	D	24	THR	C-O	7.05	1.32	1.23
34	I	55	ARG	C-O	7.05	1.32	1.24
52	a	161	VAL	N-CA	7.05	1.54	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	k	92	GLU	C-O	-7.05	1.15	1.24
34	I	131	ILE	C-O	7.05	1.30	1.24
29	D	25	LYS	C-O	7.04	1.32	1.24
26	A	12	ILE	C-O	7.03	1.32	1.23
34	I	186	GLU	N-CA	7.01	1.56	1.46
45	T	50	HIS	C-O	7.00	1.32	1.24
36	K	16	GLU	N-CA	7.00	1.55	1.46
37	L	101	ARG	C-O	6.99	1.32	1.24
35	J	85	LYS	C-N	6.98	1.43	1.33
50	Y	69	ASN	C-O	-6.98	1.15	1.24
23	x	69	GLU	N-CA	6.97	1.55	1.46
44	S	79	SER	C-O	6.96	1.31	1.23
59	8	211	MET	C-O	6.95	1.33	1.24
32	G	65	LYS	C-O	6.95	1.32	1.23
59	8	125	THR	C-O	6.95	1.32	1.24
32	G	96	LEU	C-O	6.93	1.32	1.24
38	M	124	ILE	N-CA	6.93	1.54	1.46
35	J	133	ILE	C-O	6.93	1.32	1.24
47	V	60	ILE	C-O	6.92	1.30	1.24
6	g	99	ILE	C-O	6.91	1.31	1.24
30	E	23	HIS	C-O	6.91	1.32	1.23
33	H	151	GLU	C-O	6.91	1.32	1.23
50	Y	60	GLN	C-O	6.91	1.32	1.24
59	8	345	SER	C-N	6.90	1.42	1.33
6	g	116	ARG	N-CA	6.89	1.54	1.46
13	n	78	LYS	C-O	6.88	1.32	1.24
40	O	83	THR	C-O	6.87	1.33	1.23
34	I	56	GLU	C-O	6.86	1.32	1.24
35	J	161	GLU	C-O	6.85	1.31	1.24
40	O	73	LEU	C-O	6.84	1.32	1.24
38	M	4	ASP	C-O	6.83	1.32	1.24
59	8	346	GLY	N-CA	6.83	1.55	1.45
32	G	67	LEU	N-CA	6.81	1.54	1.45
6	g	132	PHE	C-O	6.80	1.32	1.24
6	g	15	LEU	C-O	6.79	1.34	1.23
15	p	47	ILE	N-CA	6.79	1.55	1.46
7	h	43	LYS	C-O	6.79	1.32	1.24
41	P	16	SER	C-O	6.79	1.32	1.24
59	8	264	VAL	N-CA	6.79	1.54	1.46
51	Z	48	LYS	C-O	6.78	1.32	1.24
16	q	67	ALA	C-O	6.77	1.32	1.24
37	L	121	ASN	N-CA	6.77	1.54	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	K	7	VAL	N-CA	6.77	1.54	1.46
40	O	40	ILE	N-CA	6.76	1.53	1.46
15	p	20	ARG	C-O	6.76	1.30	1.24
39	N	95	SER	C-O	6.76	1.32	1.24
18	s	3	THR	C-O	6.75	1.32	1.24
37	L	40	SER	C-O	6.74	1.32	1.24
8	i	35	MET	C-O	6.73	1.32	1.24
37	L	59	GLU	C-O	6.73	1.32	1.24
37	L	99	ALA	CA-C	6.72	1.61	1.52
39	N	48	ARG	C-O	6.72	1.32	1.24
24	y	47	ARG	C-O	6.72	1.31	1.24
5	f	66	THR	C-O	6.72	1.31	1.24
59	8	661	SER	C-O	6.70	1.31	1.24
38	M	15	ASN	C-O	6.70	1.32	1.24
6	g	26	ALA	C-O	6.70	1.31	1.24
59	8	157	GLN	C-O	6.70	1.32	1.24
59	8	25	THR	C-O	6.70	1.31	1.24
2	c	121	THR	C-O	6.69	1.31	1.24
44	S	4	SER	C-O	-6.68	1.16	1.24
51	Z	61	ARG	N-CA	6.67	1.55	1.46
36	K	68	GLN	C-O	6.67	1.31	1.24
52	a	46	VAL	C-O	6.67	1.30	1.24
41	P	60	PHE	C-O	6.64	1.32	1.24
37	L	36	SER	C-O	6.64	1.31	1.24
34	I	93	LEU	N-CA	6.63	1.55	1.46
52	a	30	LEU	N-CA	6.63	1.54	1.46
52	a	168	ASN	C-N	6.63	1.41	1.33
40	O	69	THR	N-CA	6.63	1.55	1.46
23	x	48	LEU	N-CA	6.62	1.54	1.46
46	U	32	PHE	C-N	6.61	1.41	1.33
59	8	432	GLY	C-O	6.61	1.32	1.23
3	d	170	ARG	C-O	6.59	1.32	1.23
52	a	190	GLU	C-N	6.58	1.42	1.33
27	B	13	GLY	C-O	6.57	1.31	1.23
59	8	424	THR	C-O	6.57	1.32	1.23
6	g	11	ASN	C-O	6.56	1.32	1.24
59	8	456	THR	C-O	6.55	1.31	1.23
37	L	125	ASP	N-CA	6.54	1.54	1.46
59	8	398	CYS	C-O	6.52	1.31	1.23
37	L	26	VAL	C-O	6.52	1.31	1.24
32	G	76	SER	C-O	6.51	1.32	1.24
9	j	22	GLY	N-CA	6.50	1.54	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	h	36	ASP	C-O	6.49	1.31	1.24
6	g	83	LYS	C-O	6.47	1.31	1.23
39	N	76	GLY	C-O	6.46	1.31	1.23
1	b	19	VAL	N-CA	6.46	1.54	1.46
33	H	35	ASP	C-O	6.46	1.32	1.24
51	Z	46	ARG	C-O	6.44	1.32	1.24
32	G	162	VAL	N-CA	6.43	1.54	1.46
3	d	25	GLU	N-CA	6.42	1.54	1.46
37	L	100	MET	C-O	6.42	1.32	1.24
42	Q	54	VAL	C-O	6.42	1.31	1.23
40	O	8	ILE	C-O	6.41	1.30	1.24
21	v	92	VAL	N-CA	6.41	1.53	1.46
14	o	6	ALA	C-O	6.40	1.31	1.24
34	I	68	GLU	C-O	-6.40	1.16	1.24
51	Z	60	ALA	N-CA	6.39	1.53	1.46
34	I	84	ASN	C-O	-6.38	1.16	1.23
18	s	106	VAL	C-N	6.37	1.40	1.33
39	N	94	ARG	C-O	6.37	1.32	1.24
9	j	98	GLU	C-O	6.37	1.31	1.24
59	8	624	PRO	C-O	6.36	1.32	1.24
16	q	16	ILE	C-O	6.35	1.31	1.24
28	C	5	ARG	N-CA	6.35	1.54	1.46
6	g	42	LYS	CA-C	-6.35	1.44	1.52
33	H	31	ASN	C-O	6.34	1.32	1.24
14	o	105	ALA	C-O	6.34	1.31	1.24
32	G	141	GLU	C-O	6.34	1.31	1.24
32	G	161	PHE	C-O	6.33	1.31	1.24
46	U	55	ASP	C-O	6.33	1.31	1.24
52	a	19	LYS	N-CA	6.31	1.53	1.46
50	Y	72	ALA	C-O	-6.31	1.16	1.24
52	a	190	GLU	N-CA	6.28	1.54	1.46
43	R	70	ARG	N-CA	6.26	1.54	1.46
19	t	10	VAL	C-O	6.26	1.31	1.24
35	J	120	HIS	C-O	6.26	1.31	1.24
18	s	35	ILE	C-O	6.25	1.29	1.23
32	G	148	GLY	C-O	6.24	1.32	1.23
59	8	557	ILE	C-O	6.24	1.31	1.24
46	U	53	ASP	C-O	6.24	1.30	1.23
4	e	93	GLU	C-O	6.24	1.31	1.24
59	8	112	VAL	N-CA	6.23	1.53	1.46
16	q	104	ALA	C-O	6.22	1.31	1.24
40	O	7	ARG	N-CA	6.22	1.53	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
42	Q	8	ARG	N-CA	6.22	1.54	1.46
32	G	202	ASN	N-CA	6.21	1.54	1.46
59	8	216	ASN	N-CA	6.21	1.54	1.46
44	S	90	GLY	C-O	6.20	1.32	1.23
50	Y	20	ASN	C-O	6.19	1.31	1.24
43	R	15	VAL	C-O	6.19	1.31	1.24
6	g	16	GLY	N-CA	6.18	1.54	1.45
34	I	159	GLU	C-O	6.17	1.31	1.24
59	8	86	ILE	N-CA	6.14	1.54	1.46
7	h	62	ARG	C-O	6.14	1.31	1.23
33	H	50	SER	N-CA	6.13	1.54	1.46
44	S	80	ARG	C-O	6.12	1.31	1.24
33	H	76	ILE	C-O	6.12	1.31	1.24
33	H	47	ALA	C-O	6.12	1.31	1.24
59	8	477	PHE	N-CA	6.11	1.53	1.46
16	q	53	LYS	C-O	6.10	1.31	1.24
59	8	128	ARG	C-O	6.10	1.31	1.24
45	T	61	GLN	C-O	6.09	1.31	1.24
52	a	44	VAL	C-O	6.09	1.31	1.24
12	m	35	ALA	C-O	6.09	1.31	1.24
41	P	108	ASN	C-O	6.08	1.30	1.23
34	I	91	ALA	CA-C	6.06	1.60	1.52
37	L	20	GLU	C-O	6.04	1.31	1.24
22	w	63	VAL	C-O	6.04	1.32	1.24
59	8	24	THR	C-O	6.03	1.31	1.24
37	L	125	ASP	C-O	6.02	1.32	1.24
49	X	78	THR	N-CA	6.02	1.54	1.45
50	Y	26	MET	C-O	6.01	1.31	1.24
33	H	33	ASP	C-O	6.00	1.31	1.24
33	H	155	ARG	C-O	5.98	1.31	1.24
45	T	3	SER	C-O	5.97	1.33	1.23
9	j	34	ARG	C-O	5.96	1.30	1.24
59	8	255	ARG	C-O	5.96	1.31	1.24
44	S	10	VAL	C-O	5.96	1.32	1.24
59	8	554	ASP	C-O	5.95	1.30	1.24
14	o	4	LYS	C-O	5.94	1.30	1.24
38	M	10	LEU	C-O	5.93	1.31	1.24
1	b	185	ALA	C-O	5.92	1.31	1.24
35	J	114	LEU	C-O	5.92	1.30	1.24
17	r	75	VAL	N-CA	5.91	1.53	1.46
59	8	535	GLU	N-CA	5.89	1.53	1.46
24	y	11	VAL	C-O	5.87	1.30	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	I	6	PRO	C-O	5.87	1.31	1.24
23	x	66	VAL	C-O	5.86	1.31	1.24
37	L	121	ASN	C-O	5.84	1.30	1.24
14	o	8	ILE	C-O	5.84	1.30	1.24
16	q	68	ALA	C-O	5.84	1.30	1.24
36	K	60	VAL	C-O	5.84	1.29	1.24
39	N	33	SER	CA-C	5.84	1.60	1.52
46	U	73	ALA	CA-C	5.84	1.60	1.52
43	R	14	ALA	N-CA	5.84	1.53	1.46
34	I	95	GLY	C-O	5.83	1.30	1.23
6	g	13	GLY	C-N	-5.83	1.25	1.33
34	I	180	THR	N-CA	5.83	1.53	1.46
23	x	64	ASP	C-O	5.82	1.30	1.24
34	I	134	TYR	N-CA	5.81	1.53	1.46
50	Y	7	LYS	N-CA	5.78	1.53	1.46
8	i	24	GLY	C-O	5.78	1.31	1.24
52	a	28	ALA	C-O	5.77	1.31	1.23
59	8	622	GLU	C-O	5.77	1.31	1.24
12	m	97	GLN	C-O	5.77	1.29	1.24
59	8	306	PRO	C-N	5.77	1.41	1.33
24	y	48	ARG	C-O	5.76	1.31	1.24
4	e	36	ASN	C-O	5.76	1.30	1.24
41	P	100	ASN	C-O	5.75	1.30	1.24
45	T	78	THR	C-O	5.74	1.30	1.24
12	m	118	LYS	C-O	5.74	1.31	1.24
35	J	38	VAL	C-O	5.73	1.30	1.23
13	n	47	VAL	C-O	5.73	1.30	1.23
40	O	5	ARG	N-CA	5.73	1.57	1.46
52	a	166	ASP	N-CA	5.71	1.53	1.46
6	g	100	ALA	C-O	5.70	1.30	1.24
36	K	13	ASP	CA-C	5.69	1.60	1.52
42	Q	5	GLN	C-O	5.69	1.30	1.24
4	e	12	VAL	C-N	5.68	1.41	1.33
14	o	30	ARG	N-CA	5.68	1.53	1.45
33	H	180	ASP	C-O	5.67	1.30	1.23
37	L	124	SER	C-O	5.67	1.30	1.24
52	a	165	ASN	C-O	5.66	1.30	1.23
59	8	555	LYS	C-O	5.65	1.30	1.24
35	J	67	ARG	C-O	5.65	1.30	1.24
59	8	142	ASN	N-CA	5.65	1.53	1.46
50	Y	53	MET	C-O	-5.64	1.16	1.24
3	d	146	VAL	N-CA	5.63	1.52	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	k	113	MET	CA-C	5.63	1.60	1.52
59	8	319	ALA	C-O	5.62	1.30	1.23
26	A	56	ARG	C-O	5.62	1.30	1.24
13	n	87	PHE	N-CA	5.61	1.52	1.46
37	L	43	TYR	N-CA	5.61	1.53	1.46
16	q	47	ARG	C-O	5.60	1.30	1.24
46	U	21	VAL	CA-C	5.60	1.58	1.53
59	8	115	ALA	N-CA	5.59	1.53	1.46
33	H	116	ALA	C-O	5.57	1.30	1.24
43	R	78	ARG	C-O	-5.57	1.17	1.24
37	L	135	LYS	C-O	5.57	1.30	1.24
30	E	39	ARG	C-O	5.57	1.30	1.24
46	U	34	GLU	C-O	5.56	1.30	1.23
35	J	127	TYR	N-CA	5.56	1.53	1.45
24	y	16	THR	N-CA	5.55	1.53	1.46
32	G	38	HIS	C-O	5.54	1.30	1.24
33	H	84	GLU	C-O	5.54	1.31	1.24
59	8	664	PHE	N-CA	5.54	1.52	1.46
4	e	174	PHE	N-CA	5.54	1.52	1.45
8	i	27	LEU	CA-C	5.53	1.59	1.52
34	I	134	TYR	CA-C	5.53	1.60	1.52
14	o	11	ALA	C-O	5.53	1.31	1.24
6	g	17	ASP	C-O	5.51	1.30	1.23
34	I	92	LEU	N-CA	5.51	1.52	1.46
5	f	62	ALA	C-O	5.50	1.30	1.24
40	O	27	GLU	C-O	5.49	1.30	1.24
10	k	37	ASP	N-CA	5.49	1.52	1.45
42	Q	50	LYS	C-O	5.48	1.30	1.24
3	d	39	ALA	N-CA	5.48	1.53	1.46
5	f	67	ALA	C-O	5.48	1.30	1.24
38	M	122	GLY	C-O	5.48	1.31	1.24
15	p	85	VAL	CA-C	5.47	1.59	1.52
4	e	36	ASN	N-CA	5.47	1.52	1.46
59	8	345	SER	C-O	5.46	1.30	1.24
2	c	196	ALA	C-O	5.46	1.31	1.23
34	I	70	GLN	C-O	-5.45	1.17	1.24
35	J	85	LYS	C-O	5.45	1.31	1.23
37	L	41	ILE	C-O	5.44	1.30	1.24
42	Q	37	TYR	C-O	5.44	1.29	1.23
37	L	77	ARG	N-CA	5.43	1.52	1.46
32	G	55	GLU	N-CA	5.43	1.53	1.46
33	H	5	HIS	C-O	5.43	1.30	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	b	135	PRO	C-O	5.43	1.30	1.23
50	Y	47	GLN	C-O	-5.42	1.17	1.24
59	8	523	TYR	C-O	-5.42	1.18	1.24
41	P	34	THR	N-CA	5.42	1.53	1.46
13	n	60	VAL	C-O	5.41	1.29	1.23
9	j	125	TYR	C-O	5.41	1.30	1.24
45	T	51	SER	C-O	5.40	1.30	1.24
38	M	60	LEU	C-O	5.40	1.30	1.23
59	8	129	GLN	C-O	5.38	1.30	1.24
32	G	14	HIS	C-O	5.38	1.30	1.24
19	t	41	ALA	C-O	5.38	1.30	1.24
13	n	52	ILE	C-O	5.37	1.30	1.24
43	R	69	ARG	C-O	5.37	1.30	1.24
59	8	26	THR	C-O	5.37	1.30	1.24
4	e	56	LEU	N-CA	5.37	1.53	1.46
8	i	40	ALA	N-CA	5.37	1.53	1.46
32	G	76	SER	N-CA	5.37	1.53	1.46
39	N	62	LEU	C-O	5.35	1.30	1.23
24	y	25	GLN	C-O	5.35	1.30	1.24
59	8	233	LEU	C-O	5.35	1.30	1.24
1	b	267	VAL	N-CA	5.35	1.53	1.46
38	M	31	LEU	C-O	5.34	1.30	1.24
52	a	189	LEU	C-O	5.34	1.30	1.24
59	8	200	VAL	N-CA	5.34	1.52	1.46
59	8	55	GLN	C-O	5.34	1.30	1.24
22	w	55	LEU	C-O	5.33	1.30	1.23
38	M	7	ALA	C-O	5.33	1.30	1.24
41	P	105	ARG	C-O	5.31	1.30	1.23
51	Z	60	ALA	C-N	5.31	1.42	1.33
8	i	44	LYS	N-CA	5.30	1.53	1.45
1	b	41	GLY	C-O	5.29	1.31	1.23
6	g	43	ASN	C-N	5.29	1.40	1.33
34	I	172	VAL	C-O	5.29	1.30	1.23
46	U	65	ALA	CA-C	5.29	1.59	1.52
21	v	64	VAL	N-CA	5.28	1.52	1.46
20	u	41	VAL	N-CA	5.27	1.53	1.46
14	o	34	HIS	C-O	5.26	1.30	1.24
34	I	122	ILE	C-O	5.26	1.29	1.24
59	8	663	MET	C-O	5.26	1.30	1.24
42	Q	119	LYS	CA-C	5.26	1.59	1.52
40	O	68	ARG	C-N	-5.26	1.26	1.33
12	m	77	PRO	C-O	5.26	1.29	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	b	150	GLY	C-O	5.25	1.31	1.23
19	t	54	GLU	C-O	5.25	1.30	1.24
21	v	45	ASP	C-O	5.25	1.30	1.24
59	8	593	PHE	C-O	5.25	1.30	1.24
10	k	9	ASN	C-O	5.25	1.30	1.24
59	8	96	THR	N-CA	5.25	1.52	1.46
7	h	14	GLU	N-CA	5.24	1.52	1.46
59	8	625	GLU	CA-C	5.24	1.58	1.52
42	Q	34	THR	C-O	5.22	1.30	1.23
49	X	21	ALA	N-CA	5.22	1.53	1.46
1	b	260	LYS	C-O	-5.22	1.17	1.24
43	R	49	GLU	C-O	5.21	1.30	1.24
59	8	178	HIS	C-O	5.21	1.31	1.24
59	8	126	VAL	C-O	5.21	1.30	1.24
38	M	49	LYS	C-O	5.19	1.30	1.23
34	I	160	LEU	N-CA	5.18	1.53	1.46
4	e	141	ASP	N-CA	5.18	1.52	1.46
52	a	208	TYR	N-CA	5.18	1.52	1.46
52	a	29	LEU	C-O	5.18	1.30	1.24
33	H	130	ARG	C-O	5.17	1.30	1.24
35	J	112	ALA	C-O	5.17	1.30	1.24
59	8	103	MET	N-CA	5.17	1.52	1.46
26	A	61	ASN	N-CA	5.17	1.52	1.46
3	d	135	ALA	C-O	5.16	1.30	1.24
20	u	99	SER	N-CA	-5.15	1.39	1.46
38	M	60	LEU	N-CA	5.15	1.52	1.45
52	a	199	ALA	N-CA	5.15	1.51	1.46
48	W	31	TYR	C-O	5.15	1.31	1.24
59	8	625	GLU	N-CA	5.15	1.52	1.46
19	t	63	VAL	C-O	5.15	1.29	1.24
38	M	86	LYS	C-O	5.14	1.30	1.23
59	8	245	GLU	C-O	5.14	1.30	1.24
13	n	18	GLN	C-O	5.14	1.30	1.24
59	8	103	MET	C-O	5.14	1.30	1.24
36	K	25	TYR	N-CA	5.13	1.52	1.46
45	T	33	ALA	C-O	5.13	1.30	1.24
59	8	360	PHE	N-CA	5.13	1.52	1.46
6	g	49	ALA	C-O	5.13	1.30	1.24
37	L	38	ALA	CA-C	5.13	1.59	1.52
42	Q	64	SER	N-CA	5.12	1.52	1.45
36	K	70	VAL	C-O	5.12	1.29	1.24
36	K	24	ARG	N-CA	5.11	1.52	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	i	7	TYR	CA-C	-5.10	1.46	1.52
19	t	21	SER	C-O	5.10	1.30	1.24
7	h	33	VAL	C-O	5.10	1.30	1.24
8	i	31	GLY	C-N	5.09	1.40	1.33
34	I	123	MET	C-O	5.09	1.29	1.23
34	I	182	LYS	N-CA	5.09	1.52	1.46
59	8	397	LEU	C-N	5.09	1.40	1.33
59	8	507	LYS	N-CA	5.09	1.52	1.46
1	b	268	ARG	N-CA	5.08	1.52	1.46
43	R	43	LYS	C-O	5.08	1.30	1.23
40	O	19	ASP	C-O	5.07	1.30	1.24
59	8	627	ASN	C-O	5.07	1.30	1.24
59	8	325	ALA	N-CA	5.07	1.52	1.46
59	8	650	THR	CA-C	5.07	1.59	1.52
59	8	535	GLU	C-O	5.06	1.30	1.23
1	b	138	SER	C-O	5.06	1.30	1.24
13	n	50	PRO	C-O	5.05	1.30	1.24
3	d	198	GLU	N-CA	5.05	1.52	1.46
34	I	96	ARG	C-N	5.04	1.40	1.33
34	I	14	GLU	C-N	5.04	1.41	1.33
22	w	25	GLU	C-O	5.03	1.29	1.24
42	Q	52	CYS	C-O	5.03	1.30	1.24
49	X	40	PHE	C-O	5.03	1.30	1.24
32	G	105	THR	C-O	5.03	1.30	1.23
59	8	341	GLY	C-O	5.02	1.32	1.23
4	e	145	VAL	N-CA	5.01	1.52	1.46
12	m	123	LYS	N-CA	5.01	1.52	1.46
35	J	77	ASN	N-CA	5.01	1.54	1.46

All (846) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	g	11	ASN	CA-C-N	-29.45	65.30	121.54
6	g	11	ASN	C-N-CA	-29.45	65.30	121.54
34	I	154	VAL	CA-C-N	-14.39	96.33	121.66
34	I	154	VAL	C-N-CA	-14.39	96.33	121.66
10	k	112	PHE	CA-C-N	-14.28	99.53	120.38
10	k	112	PHE	C-N-CA	-14.28	99.53	120.38
59	8	85	ASN	CA-C-N	-13.59	105.03	123.10
59	8	85	ASN	C-N-CA	-13.59	105.03	123.10
52	a	165	ASN	N-CA-C	13.31	127.55	110.24
34	I	152	SER	O-C-N	-12.96	105.36	122.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	g	11	ASN	O-C-N	12.31	136.72	122.20
59	8	345	SER	CA-C-N	-11.79	103.59	121.51
59	8	345	SER	C-N-CA	-11.79	103.59	121.51
34	I	132	ALA	CA-C-O	11.44	133.73	120.92
59	8	178	HIS	CA-C-N	-11.37	103.18	121.26
59	8	178	HIS	C-N-CA	-11.37	103.18	121.26
6	g	121	VAL	N-CA-C	11.36	121.33	110.42
42	Q	117	GLY	CA-C-N	-11.33	108.48	123.10
42	Q	117	GLY	C-N-CA	-11.33	108.48	123.10
37	L	99	ALA	CA-C-O	11.24	132.47	120.55
36	K	50	PRO	CA-C-N	-11.18	105.60	122.70
36	K	50	PRO	C-N-CA	-11.18	105.60	122.70
52	a	18	THR	CA-C-N	-11.06	107.45	122.72
52	a	18	THR	C-N-CA	-11.06	107.45	122.72
44	S	21	ALA	N-CA-C	-10.92	98.94	114.12
41	P	30	ILE	CA-C-N	-10.64	108.37	123.06
41	P	30	ILE	C-N-CA	-10.64	108.37	123.06
41	P	126	ARG	N-CA-C	10.54	123.25	110.91
59	8	360	PHE	O-C-N	10.47	135.76	123.30
6	g	11	ASN	CA-C-O	10.43	131.49	119.18
8	i	11	GLN	CA-C-N	10.39	134.38	120.77
8	i	11	GLN	C-N-CA	10.39	134.38	120.77
37	L	46	LEU	N-CA-C	-10.21	99.13	111.69
42	Q	114	SER	N-CA-C	-10.14	100.91	113.18
37	L	124	SER	CA-C-N	-10.10	104.79	122.26
37	L	124	SER	C-N-CA	-10.10	104.79	122.26
34	I	96	ARG	CA-C-N	-10.05	103.23	122.53
34	I	96	ARG	C-N-CA	-10.05	103.23	122.53
8	i	57	VAL	CA-C-N	-9.96	109.36	123.11
8	i	57	VAL	C-N-CA	-9.96	109.36	123.11
13	n	119	SER	N-CA-C	-9.96	101.77	112.93
52	a	208	TYR	N-CA-C	9.90	122.99	111.11
36	K	13	ASP	CA-C-O	9.84	131.15	120.82
52	a	168	ASN	CA-C-N	-9.79	103.35	120.87
52	a	168	ASN	C-N-CA	-9.79	103.35	120.87
6	g	11	ASN	N-CA-C	-9.64	99.15	113.61
6	g	15	LEU	CA-C-O	-9.63	109.73	122.44
34	I	94	GLU	N-CA-C	9.61	125.20	113.38
15	p	83	ILE	O-C-N	-9.58	112.72	123.07
6	g	13	GLY	O-C-N	-9.52	114.83	123.88
59	8	264	VAL	N-CA-C	9.47	121.90	108.36
46	U	32	PHE	CA-C-N	-9.46	109.33	120.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	U	32	PHE	C-N-CA	-9.46	109.33	120.88
40	O	39	PRO	CA-C-N	-9.38	114.41	123.04
40	O	39	PRO	C-N-CA	-9.38	114.41	123.04
14	o	84	GLU	N-CA-C	-9.36	101.79	113.02
40	O	67	ILE	CA-C-O	9.36	129.72	120.27
37	L	41	ILE	CA-C-N	-9.24	107.31	120.42
37	L	41	ILE	C-N-CA	-9.24	107.31	120.42
10	k	110	GLU	O-C-N	-9.22	110.33	122.59
6	g	44	ILE	N-CA-C	-9.17	101.93	110.82
40	O	67	ILE	O-C-N	-9.09	113.73	123.18
34	I	158	LEU	CA-C-N	-9.05	107.43	120.29
34	I	158	LEU	C-N-CA	-9.05	107.43	120.29
59	8	360	PHE	CA-C-O	-9.03	110.61	120.36
34	I	65	GLY	CA-C-N	-8.99	112.65	122.27
34	I	65	GLY	C-N-CA	-8.99	112.65	122.27
59	8	625	GLU	N-CA-C	8.97	124.84	114.62
15	p	83	ILE	CA-C-O	8.91	130.14	120.43
6	g	15	LEU	O-C-N	8.86	134.13	123.33
13	n	86	ARG	CA-C-N	-8.83	108.63	122.49
13	n	86	ARG	C-N-CA	-8.83	108.63	122.49
37	L	101	ARG	CA-C-N	-8.76	105.79	120.68
37	L	101	ARG	C-N-CA	-8.76	105.79	120.68
8	i	21	PRO	N-CA-C	8.73	121.35	110.70
23	x	29	LEU	CA-C-O	8.68	125.74	119.32
32	G	66	ILE	CA-C-N	-8.61	109.19	122.62
32	G	66	ILE	C-N-CA	-8.61	109.19	122.62
34	I	91	ALA	CA-C-O	8.61	129.67	120.55
34	I	204	SER	N-CA-C	-8.57	102.02	111.36
39	N	14	SER	CA-C-N	-8.56	110.74	122.30
39	N	14	SER	C-N-CA	-8.56	110.74	122.30
42	Q	96	THR	CA-C-N	-8.55	112.39	122.22
42	Q	96	THR	C-N-CA	-8.55	112.39	122.22
43	R	69	ARG	CA-C-N	-8.54	108.16	120.29
43	R	69	ARG	C-N-CA	-8.54	108.16	120.29
34	I	95	GLY	N-CA-C	8.53	129.57	115.66
39	N	31	GLN	CA-C-O	8.53	131.38	120.81
59	8	6	PRO	N-CA-C	-8.52	99.99	112.26
46	U	65	ALA	N-CA-C	8.51	122.75	110.24
52	a	190	GLU	CA-C-N	-8.51	108.88	120.28
52	a	190	GLU	C-N-CA	-8.51	108.88	120.28
3	d	186	VAL	CA-C-O	8.47	129.20	120.39
32	G	103	TRP	N-CA-C	8.44	120.10	111.07

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	X	20	LYS	CA-C-N	-8.44	106.37	121.14
49	X	20	LYS	C-N-CA	-8.44	106.37	121.14
34	I	155	LYS	CA-C-O	8.43	129.13	119.27
8	i	23	VAL	CA-C-N	-8.39	108.70	121.87
8	i	23	VAL	C-N-CA	-8.39	108.70	121.87
34	I	156	ALA	CA-C-N	-8.38	106.72	120.72
34	I	156	ALA	C-N-CA	-8.38	106.72	120.72
17	r	50	GLY	N-CA-C	-8.38	102.05	112.77
7	h	63	ALA	CA-C-N	-8.33	106.81	120.64
7	h	63	ALA	C-N-CA	-8.33	106.81	120.64
32	G	57	ASN	N-CA-C	-8.30	102.60	112.89
35	J	85	LYS	CA-C-N	-8.29	105.17	121.41
35	J	85	LYS	C-N-CA	-8.29	105.17	121.41
33	H	203	LYS	CA-C-N	-8.26	113.61	121.46
33	H	203	LYS	C-N-CA	-8.26	113.61	121.46
15	p	47	ILE	N-CA-C	8.25	123.36	113.22
39	N	17	ARG	CA-C-N	-8.20	111.94	123.17
39	N	17	ARG	C-N-CA	-8.20	111.94	123.17
18	s	106	VAL	CA-C-N	-8.19	113.58	122.59
18	s	106	VAL	C-N-CA	-8.19	113.58	122.59
37	L	102	TRP	CA-C-N	-8.18	110.05	120.60
37	L	102	TRP	C-N-CA	-8.18	110.05	120.60
52	a	161	VAL	O-C-N	8.18	132.01	122.69
59	8	104	ARG	CA-C-N	-8.17	112.90	122.63
59	8	104	ARG	C-N-CA	-8.17	112.90	122.63
59	8	534	TYR	CA-C-N	-8.14	109.47	121.76
59	8	534	TYR	C-N-CA	-8.14	109.47	121.76
3	d	186	VAL	O-C-N	-8.12	114.59	123.20
8	i	7	TYR	CA-C-N	-8.12	111.99	123.03
8	i	7	TYR	C-N-CA	-8.12	111.99	123.03
46	U	73	ALA	CA-C-O	8.09	129.12	120.55
21	v	91	PHE	CA-C-N	-8.05	112.30	122.37
21	v	91	PHE	C-N-CA	-8.05	112.30	122.37
52	a	27	ILE	CA-C-N	-8.01	108.59	122.36
52	a	27	ILE	C-N-CA	-8.01	108.59	122.36
43	R	6	ILE	N-CA-C	8.00	125.99	109.34
6	g	85	GLY	O-C-N	-7.97	116.65	123.59
6	g	15	LEU	CA-C-N	7.89	136.88	121.41
6	g	15	LEU	C-N-CA	7.89	136.88	121.41
34	I	133	SER	CA-C-N	-7.87	109.72	120.82
34	I	133	SER	C-N-CA	-7.87	109.72	120.82
34	I	129	VAL	N-CA-C	7.86	119.80	108.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	P	51	PHE	N-CA-C	7.86	120.10	110.91
52	a	189	LEU	CA-C-N	-7.84	107.41	121.14
52	a	189	LEU	C-N-CA	-7.84	107.41	121.14
34	I	128	VAL	CA-C-N	-7.83	112.25	123.06
34	I	128	VAL	C-N-CA	-7.83	112.25	123.06
35	J	112	ALA	CA-C-N	-7.83	109.31	120.42
35	J	112	ALA	C-N-CA	-7.83	109.31	120.42
9	j	21	THR	CA-C-N	-7.80	107.93	122.05
9	j	21	THR	C-N-CA	-7.80	107.93	122.05
37	L	103	ILE	N-CA-C	7.80	118.55	110.36
34	I	95	GLY	O-C-N	-7.79	111.20	122.19
34	I	91	ALA	CA-C-N	-7.76	110.07	120.54
34	I	91	ALA	C-N-CA	-7.76	110.07	120.54
44	S	2	LYS	N-CA-C	-7.76	101.83	110.91
19	t	56	GLU	CA-C-N	-7.75	113.43	122.11
19	t	56	GLU	C-N-CA	-7.75	113.43	122.11
1	b	267	VAL	CA-C-N	-7.72	112.10	122.99
1	b	267	VAL	C-N-CA	-7.72	112.10	122.99
49	X	76	THR	CA-C-O	7.72	128.90	120.80
59	8	663	MET	N-CA-C	7.69	121.93	112.54
59	8	306	PRO	N-CA-C	7.66	124.42	111.32
51	Z	59	LEU	CA-C-N	-7.62	109.96	122.08
51	Z	59	LEU	C-N-CA	-7.62	109.96	122.08
34	I	15	GLY	N-CA-C	-7.62	104.81	115.32
12	m	99	GLY	CA-C-N	-7.60	112.51	123.00
12	m	99	GLY	C-N-CA	-7.60	112.51	123.00
59	8	322	PHE	N-CA-C	7.59	122.43	112.72
34	I	172	VAL	CA-C-O	-7.58	116.04	122.63
21	v	54	ALA	N-CA-C	7.54	119.50	111.28
59	8	177	GLU	N-CA-C	-7.53	104.70	114.04
59	8	663	MET	CA-C-N	-7.53	110.18	120.87
59	8	663	MET	C-N-CA	-7.53	110.18	120.87
39	N	55	ASP	N-CA-C	7.52	120.84	110.24
59	8	142	ASN	N-CA-C	7.48	121.31	112.93
7	h	43	LYS	N-CA-C	-7.46	103.13	111.71
8	i	8	VAL	CA-C-O	-7.43	114.35	121.64
32	G	17	HIS	N-CA-C	7.43	119.33	108.86
37	L	39	GLU	CA-C-N	-7.43	108.59	121.66
37	L	39	GLU	C-N-CA	-7.43	108.59	121.66
12	m	71	LYS	CA-C-O	7.39	125.35	119.59
34	I	93	LEU	CA-C-N	-7.37	109.50	122.26
34	I	93	LEU	C-N-CA	-7.37	109.50	122.26

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
50	Y	65	LEU	CA-C-N	-7.35	108.73	121.97
50	Y	65	LEU	C-N-CA	-7.35	108.73	121.97
59	8	262	ILE	O-C-N	-7.34	115.33	123.03
34	I	96	ARG	N-CA-C	7.33	120.20	110.53
51	Z	61	ARG	N-CA-C	7.32	121.90	113.19
52	a	203	GLN	CA-C-N	-7.31	110.71	121.24
52	a	203	GLN	C-N-CA	-7.31	110.71	121.24
6	g	137	GLU	CA-C-O	7.31	127.88	119.18
34	I	59	LYS	CA-C-N	-7.31	108.32	120.30
34	I	59	LYS	C-N-CA	-7.31	108.32	120.30
37	L	144	ALA	N-CA-C	-7.29	102.72	111.69
32	G	75	ALA	N-CA-C	-7.29	102.37	113.89
49	X	44	ILE	CA-C-N	-7.29	111.10	122.69
49	X	44	ILE	C-N-CA	-7.29	111.10	122.69
7	h	13	ALA	CA-C-N	-7.28	110.52	120.28
7	h	13	ALA	C-N-CA	-7.28	110.52	120.28
34	I	62	ARG	CA-C-N	-7.27	110.09	120.42
34	I	62	ARG	C-N-CA	-7.27	110.09	120.42
3	d	119	ILE	O-C-N	-7.21	115.47	123.26
13	n	60	VAL	N-CA-C	-7.21	105.61	111.81
38	M	7	ALA	CA-C-N	-7.21	110.62	120.28
38	M	7	ALA	C-N-CA	-7.21	110.62	120.28
21	v	80	HIS	N-CA-C	-7.19	100.70	109.83
21	v	91	PHE	CA-C-O	7.18	128.22	120.32
10	k	87	LEU	CA-C-N	-7.18	110.68	120.87
10	k	87	LEU	C-N-CA	-7.18	110.68	120.87
47	V	48	GLU	N-CA-C	-7.16	98.56	109.95
46	U	65	ALA	O-C-N	-7.16	114.47	123.06
40	O	39	PRO	N-CA-C	7.14	127.18	112.47
40	O	33	GLY	CA-C-N	-7.13	107.92	121.54
40	O	33	GLY	C-N-CA	-7.13	107.92	121.54
59	8	488	VAL	N-CA-C	7.11	119.18	108.80
34	I	155	LYS	N-CA-C	-7.10	104.42	113.23
6	g	48	GLU	N-CA-C	-7.04	105.51	112.97
4	e	143	ASP	N-CA-C	-7.03	105.05	112.93
36	K	59	TYR	O-C-N	7.03	132.34	123.19
39	N	50	PRO	CA-C-N	-7.02	109.86	123.13
39	N	50	PRO	C-N-CA	-7.02	109.86	123.13
4	e	144	LYS	CA-C-N	-6.97	109.42	121.97
4	e	144	LYS	C-N-CA	-6.97	109.42	121.97
18	s	106	VAL	O-C-N	6.97	131.17	122.66
59	8	432	GLY	N-CA-C	-6.97	104.04	113.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	O	41	PRO	N-CA-C	6.96	123.42	113.47
50	Y	7	LYS	N-CA-C	6.96	119.71	111.71
46	U	76	LYS	CA-C-N	-6.94	110.98	120.28
46	U	76	LYS	C-N-CA	-6.94	110.98	120.28
34	I	201	GLU	N-CA-C	-6.93	103.78	111.82
49	X	45	GLY	CA-C-O	6.92	126.92	119.03
53	3	1201	A	C2'-C3'-O3'	6.92	119.89	109.50
35	J	141	ASP	CA-C-N	-6.92	112.30	119.98
35	J	141	ASP	C-N-CA	-6.92	112.30	119.98
51	Z	44	ARG	N-CA-C	-6.91	103.83	111.36
34	I	95	GLY	CA-C-O	6.91	132.81	119.54
38	M	123	GLU	CA-C-N	-6.91	112.20	122.01
38	M	123	GLU	C-N-CA	-6.91	112.20	122.01
8	i	8	VAL	O-C-N	6.88	130.59	122.95
34	I	122	ILE	O-C-N	6.88	130.11	122.75
59	8	359	ARG	CA-C-N	-6.87	113.30	122.99
59	8	359	ARG	C-N-CA	-6.87	113.30	122.99
30	E	17	GLY	N-CA-C	6.87	120.47	112.50
47	V	73	THR	CA-C-N	-6.86	111.70	121.50
47	V	73	THR	C-N-CA	-6.86	111.70	121.50
36	K	42	TRP	CA-C-N	-6.84	111.08	122.43
36	K	42	TRP	C-N-CA	-6.84	111.08	122.43
59	8	85	ASN	CA-C-O	6.83	127.65	120.54
34	I	61	ARG	N-CA-C	6.79	118.68	111.28
5	f	131	VAL	CA-C-N	-6.79	113.64	123.00
5	f	131	VAL	C-N-CA	-6.79	113.64	123.00
2	c	119	ALA	N-CA-C	6.78	120.21	110.10
17	r	30	GLY	N-CA-C	6.78	121.93	114.40
34	I	156	ALA	CA-C-O	6.76	127.72	120.55
36	K	23	GLU	CA-C-N	-6.76	111.65	120.44
36	K	23	GLU	C-N-CA	-6.76	111.65	120.44
3	d	119	ILE	CA-C-N	-6.75	114.81	123.19
3	d	119	ILE	C-N-CA	-6.75	114.81	123.19
33	H	202	PHE	O-C-N	6.74	131.07	123.05
50	Y	6	ALA	CA-C-N	-6.73	110.58	120.28
50	Y	6	ALA	C-N-CA	-6.73	110.58	120.28
1	b	162	GLN	CA-C-N	-6.72	114.08	122.48
1	b	162	GLN	C-N-CA	-6.72	114.08	122.48
59	8	314	ASP	CA-C-N	-6.72	111.17	121.92
59	8	314	ASP	C-N-CA	-6.72	111.17	121.92
36	K	16	GLU	CA-C-N	-6.71	111.94	122.73
36	K	16	GLU	C-N-CA	-6.71	111.94	122.73

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	K	99	ALA	N-CA-C	6.70	120.74	110.36
27	B	24	VAL	N-CA-C	-6.69	106.33	111.62
54	1	1130	U	C2'-C3'-O3'	6.68	119.53	109.50
40	O	20	GLN	N-CA-C	-6.68	104.39	112.54
59	8	627	ASN	CA-C-N	-6.68	108.78	121.54
59	8	627	ASN	C-N-CA	-6.68	108.78	121.54
13	n	111	ALA	CA-C-N	-6.67	113.89	122.77
13	n	111	ALA	C-N-CA	-6.67	113.89	122.77
34	I	172	VAL	CA-C-N	-6.67	109.93	120.60
34	I	172	VAL	C-N-CA	-6.67	109.93	120.60
32	G	34	ARG	N-CA-C	-6.65	104.42	112.54
34	I	104	MET	N-CA-C	-6.65	105.03	113.01
46	U	25	ARG	N-CA-C	-6.64	104.05	111.28
59	8	102	SER	CA-C-N	-6.63	109.32	121.52
59	8	102	SER	C-N-CA	-6.63	109.32	121.52
4	e	12	VAL	CA-C-N	-6.62	111.60	120.54
4	e	12	VAL	C-N-CA	-6.62	111.60	120.54
8	i	12	VAL	N-CA-C	-6.62	103.35	110.23
43	R	109	LYS	CA-C-N	-6.61	111.49	121.87
43	R	109	LYS	C-N-CA	-6.61	111.49	121.87
59	8	472	ARG	CA-C-O	6.59	127.46	119.49
46	U	75	ILE	N-CA-C	-6.58	102.87	111.09
35	J	92	ARG	O-C-N	-6.57	114.18	122.26
34	I	90	LEU	CA-C-N	-6.56	111.49	120.28
34	I	90	LEU	C-N-CA	-6.56	111.49	120.28
3	d	119	ILE	CA-C-O	6.55	127.27	120.39
31	F	21	GLY	CA-C-O	6.55	125.98	119.04
53	3	1301	U	N1-C1'-C2'	6.54	121.81	112.00
34	I	14	GLU	CA-C-N	-6.52	110.25	122.05
34	I	14	GLU	C-N-CA	-6.52	110.25	122.05
59	8	594	LYS	N-CA-C	-6.52	103.67	111.69
46	U	71	VAL	N-CA-C	-6.52	104.40	110.53
59	8	584	HIS	CA-C-O	6.51	127.48	120.38
29	D	7	PRO	N-CA-C	6.51	121.44	111.15
50	Y	60	GLN	CA-C-N	-6.50	109.86	120.72
50	Y	60	GLN	C-N-CA	-6.50	109.86	120.72
41	P	29	THR	CA-C-O	6.50	128.44	120.25
59	8	627	ASN	CA-C-O	-6.49	111.45	119.18
8	i	57	VAL	O-C-N	6.49	130.27	123.26
9	j	92	MET	N-CA-C	-6.49	104.62	112.54
59	8	650	THR	CA-C-O	6.48	127.16	119.06
17	r	73	LYS	CA-C-O	6.47	128.00	120.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	3	1190	G	C2'-C3'-O3'	6.47	119.21	109.50
37	L	117	LEU	CA-C-O	6.47	127.61	120.82
59	8	155	VAL	CA-C-N	-6.47	112.03	120.44
59	8	155	VAL	C-N-CA	-6.47	112.03	120.44
8	i	31	GLY	CA-C-N	-6.47	114.29	122.37
8	i	31	GLY	C-N-CA	-6.47	114.29	122.37
39	N	86	LEU	N-CA-C	6.46	122.28	113.37
46	U	65	ALA	CA-C-O	6.45	127.99	120.96
34	I	90	LEU	CA-C-O	6.45	127.29	119.49
7	h	41	LEU	N-CA-C	-6.45	105.38	113.18
55	2	119	A	N9-C1'-C2'	6.45	121.67	112.00
54	1	1328	A	N9-C1'-C2'	6.44	121.66	112.00
9	j	90	GLU	CA-C-O	6.43	127.78	120.90
32	G	88	GLN	N-CA-C	6.43	119.55	110.23
1	b	265	PHE	CA-C-N	-6.42	113.72	122.91
1	b	265	PHE	C-N-CA	-6.42	113.72	122.91
49	X	10	ILE	N-CA-C	-6.42	98.41	108.81
42	Q	113	ARG	N-CA-C	6.41	120.71	113.02
35	J	92	ARG	N-CA-C	6.40	120.40	112.59
19	t	86	THR	O-C-N	6.40	130.50	123.27
43	R	19	THR	CA-C-N	-6.39	112.14	120.44
43	R	19	THR	C-N-CA	-6.39	112.14	120.44
19	t	11	LEU	N-CA-C	6.38	118.79	110.43
46	U	67	ILE	N-CA-C	6.38	119.86	109.78
50	Y	49	ALA	N-CA-C	-6.38	104.41	111.36
50	Y	57	VAL	CA-C-O	6.37	127.93	121.17
3	d	186	VAL	CA-C-N	-6.37	114.80	123.14
3	d	186	VAL	C-N-CA	-6.37	114.80	123.14
8	i	19	PRO	CA-C-O	6.36	132.18	120.60
6	g	13	GLY	CA-C-N	-6.35	109.40	121.54
6	g	13	GLY	C-N-CA	-6.35	109.40	121.54
43	R	82	LEU	N-CA-C	-6.35	104.44	111.36
52	a	195	ALA	CA-C-N	-6.35	109.73	120.58
52	a	195	ALA	C-N-CA	-6.35	109.73	120.58
37	L	120	ALA	CA-C-N	-6.34	111.69	120.38
37	L	120	ALA	C-N-CA	-6.34	111.69	120.38
23	x	20	ALA	N-CA-C	-6.33	105.56	113.28
2	c	113	SER	N-CA-C	6.33	118.72	110.43
36	K	17	GLN	N-CA-C	6.33	119.93	112.72
59	8	467	ASP	CA-C-N	-6.32	111.45	120.42
59	8	467	ASP	C-N-CA	-6.32	111.45	120.42
37	L	130	LYS	N-CA-C	-6.31	104.04	112.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	8	101	ARG	CA-C-O	6.31	127.44	120.82
59	8	431	MET	N-CA-C	-6.31	103.93	111.69
38	M	18	ALA	CA-C-N	-6.29	111.00	122.38
38	M	18	ALA	C-N-CA	-6.29	111.00	122.38
43	R	20	SER	N-CA-C	6.29	117.80	111.07
33	H	87	ARG	CA-C-N	-6.29	112.35	120.65
33	H	87	ARG	C-N-CA	-6.29	112.35	120.65
59	8	566	LEU	N-CA-C	-6.28	101.98	111.34
59	8	628	THR	N-CA-C	6.27	124.16	110.80
59	8	100	GLU	CA-C-O	6.27	127.19	120.55
1	b	87	SER	N-CA-C	-6.26	104.11	112.94
37	L	40	SER	CA-C-N	-6.26	111.71	120.53
37	L	40	SER	C-N-CA	-6.26	111.71	120.53
45	T	83	ARG	N-CA-C	-6.25	105.68	113.55
59	8	355	ALA	N-CA-C	-6.24	105.62	113.23
34	I	136	VAL	N-CA-C	6.24	117.07	108.84
4	e	139	GLU	CA-C-O	6.22	127.02	119.49
24	y	43	LEU	CA-C-N	-6.22	112.43	120.65
24	y	43	LEU	C-N-CA	-6.22	112.43	120.65
59	8	176	GLU	O-C-N	-6.22	114.32	122.59
34	I	61	ARG	O-C-N	6.21	128.71	122.12
42	Q	7	VAL	CA-C-N	-6.21	111.47	120.29
42	Q	7	VAL	C-N-CA	-6.21	111.47	120.29
52	a	25	GLU	CA-C-O	6.21	126.87	119.60
42	Q	65	TYR	CA-C-N	-6.20	114.42	123.10
42	Q	65	TYR	C-N-CA	-6.20	114.42	123.10
20	u	39	ASN	CA-C-O	6.20	127.09	120.46
40	O	40	ILE	N-CA-C	-6.20	100.74	108.05
6	g	5	LEU	N-CA-C	6.19	118.90	110.55
37	L	99	ALA	O-C-N	-6.19	115.56	122.12
59	8	306	PRO	CA-C-N	-6.17	111.07	121.94
59	8	306	PRO	C-N-CA	-6.17	111.07	121.94
43	R	89	ARG	N-CA-C	-6.17	104.45	112.23
23	x	46	VAL	CA-C-O	6.17	126.50	120.27
33	H	39	ARG	CA-C-N	-6.15	112.04	120.28
33	H	39	ARG	C-N-CA	-6.15	112.04	120.28
40	O	29	ALA	N-CA-C	-6.14	107.62	114.62
42	Q	53	ARG	CA-C-N	-6.14	114.25	123.27
42	Q	53	ARG	C-N-CA	-6.14	114.25	123.27
20	u	40	LEU	N-CA-C	6.12	118.69	108.96
59	8	84	ILE	CA-C-O	6.12	126.75	120.39
36	K	5	GLU	CA-C-O	6.12	127.11	120.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	j	81	ILE	N-CA-C	6.12	122.06	109.34
7	h	43	LYS	CA-C-N	-6.11	110.29	120.68
7	h	43	LYS	C-N-CA	-6.11	110.29	120.68
37	L	39	GLU	CA-C-O	6.11	127.03	120.55
52	a	55	SER	N-CA-C	6.11	117.63	110.97
6	g	114	GLU	CA-C-N	-6.10	114.56	123.10
6	g	114	GLU	C-N-CA	-6.10	114.56	123.10
52	a	170	ILE	O-C-N	6.10	129.79	123.20
52	a	59	VAL	CA-C-O	6.09	126.28	120.25
40	O	44	THR	N-CA-C	6.08	119.05	110.23
32	G	54	ALA	CA-C-N	-6.08	110.35	120.68
32	G	54	ALA	C-N-CA	-6.08	110.35	120.68
59	8	606	LYS	CA-C-N	-6.08	112.78	122.08
59	8	606	LYS	C-N-CA	-6.08	112.78	122.08
41	P	29	THR	O-C-N	-6.07	115.25	123.14
59	8	329	PHE	N-CA-C	-6.07	104.95	112.72
3	d	23	PHE	CA-C-O	6.06	127.22	120.43
52	a	198	LYS	CA-C-N	-6.05	112.80	122.66
52	a	198	LYS	C-N-CA	-6.05	112.80	122.66
5	f	69	ALA	CA-C-N	-6.04	112.59	120.44
5	f	69	ALA	C-N-CA	-6.04	112.59	120.44
24	y	60	LYS	CA-C-N	-6.04	109.90	122.03
24	y	60	LYS	C-N-CA	-6.04	109.90	122.03
50	Y	78	LEU	N-CA-C	-6.02	104.63	111.07
36	K	70	VAL	CA-C-N	-6.01	110.97	120.47
36	K	70	VAL	C-N-CA	-6.01	110.97	120.47
53	3	1167	A	N9-C1'-C2'	6.01	121.01	112.00
39	N	56	MET	N-CA-C	-6.01	105.61	113.12
10	k	36	GLY	CA-C-N	-6.00	112.44	122.64
10	k	36	GLY	C-N-CA	-6.00	112.44	122.64
59	8	207	ILE	N-CA-C	6.00	115.50	108.96
8	i	58	ILE	O-C-N	6.00	128.85	123.03
34	I	88	ASN	CA-C-O	6.00	126.78	120.42
36	K	39	LEU	N-CA-C	-6.00	103.11	110.61
23	x	46	VAL	O-C-N	-6.00	116.94	123.18
41	P	19	VAL	CA-C-O	5.98	125.55	120.22
36	K	6	ILE	CA-C-N	-5.97	115.32	123.14
36	K	6	ILE	C-N-CA	-5.97	115.32	123.14
6	g	16	GLY	N-CA-C	5.97	127.33	113.18
33	H	35	ASP	CA-C-N	-5.97	112.28	120.28
33	H	35	ASP	C-N-CA	-5.97	112.28	120.28
59	8	123	SER	N-CA-C	-5.97	104.85	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	g	8	LYS	CA-C-O	-5.97	113.33	120.55
32	G	14	HIS	O-C-N	5.96	128.87	121.84
34	I	21	LYS	CA-C-N	-5.95	113.76	122.86
34	I	21	LYS	C-N-CA	-5.95	113.76	122.86
23	x	68	ALA	CA-C-N	-5.95	110.57	120.68
23	x	68	ALA	C-N-CA	-5.95	110.57	120.68
2	c	152	PRO	N-CA-C	-5.95	105.78	113.57
18	s	44	ALA	CA-C-N	-5.95	113.07	120.56
18	s	44	ALA	C-N-CA	-5.95	113.07	120.56
40	O	29	ALA	CA-C-O	5.93	126.01	118.54
39	N	31	GLN	O-C-N	-5.93	111.95	122.21
34	I	178	GLU	CA-C-O	5.92	126.75	120.36
46	U	75	ILE	CA-C-N	-5.92	111.88	120.29
46	U	75	ILE	C-N-CA	-5.92	111.88	120.29
59	8	103	MET	CA-C-N	-5.91	109.99	120.99
59	8	103	MET	C-N-CA	-5.91	109.99	120.99
32	G	75	ALA	CA-C-N	-5.90	111.78	120.28
32	G	75	ALA	C-N-CA	-5.90	111.78	120.28
59	8	623	THR	CA-C-N	5.90	127.21	119.84
59	8	623	THR	C-N-CA	5.90	127.21	119.84
1	b	18	VAL	CA-C-N	-5.89	111.37	121.97
1	b	18	VAL	C-N-CA	-5.89	111.37	121.97
34	I	64	TYR	N-CA-C	5.89	120.59	113.17
54	1	2343	U	N1-C1'-C2'	5.88	120.83	112.00
48	W	62	ARG	N-CA-C	-5.88	104.95	111.36
8	i	6	ALA	N-CA-C	5.88	117.96	110.61
59	8	196	ALA	N-CA-C	-5.88	104.73	112.72
34	I	99	ASN	N-CA-C	-5.87	104.29	112.45
47	V	45	VAL	N-CA-C	5.86	117.03	108.53
1	b	67	LYS	N-CA-C	5.86	117.75	111.36
25	z	45	GLY	CA-C-N	-5.86	112.43	120.28
25	z	45	GLY	C-N-CA	-5.86	112.43	120.28
54	1	477	A	N9-C1'-C2'	5.86	120.78	112.00
50	Y	4	LYS	CA-C-O	5.85	128.37	121.58
34	I	123	MET	CA-C-N	-5.85	115.32	123.10
34	I	123	MET	C-N-CA	-5.85	115.32	123.10
54	1	1020	A	C2'-C3'-O3'	5.85	118.27	109.50
59	8	476	GLU	CA-C-N	-5.85	113.37	122.67
59	8	476	GLU	C-N-CA	-5.85	113.37	122.67
38	M	54	THR	N-CA-C	-5.83	107.16	114.56
34	I	98	ASP	CA-C-N	-5.82	109.23	121.64
34	I	98	ASP	C-N-CA	-5.82	109.23	121.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	i	43	ALA	CA-C-N	-5.82	113.01	122.26
8	i	43	ALA	C-N-CA	-5.82	113.01	122.26
34	I	72	ARG	N-CA-C	-5.81	105.03	111.36
41	P	76	TYR	CA-C-N	-5.81	110.03	121.41
41	P	76	TYR	C-N-CA	-5.81	110.03	121.41
59	8	86	ILE	N-CA-C	5.80	116.22	107.75
21	v	90	ASP	CA-C-O	5.80	126.49	120.40
43	R	34	ALA	N-CA-C	-5.80	105.04	111.36
45	T	43	ALA	N-CA-C	-5.80	105.04	111.36
59	8	236	LYS	N-CA-C	-5.79	104.97	111.28
59	8	349	VAL	CA-C-N	-5.79	113.14	121.42
59	8	349	VAL	C-N-CA	-5.79	113.14	121.42
15	p	83	ILE	CA-C-N	-5.79	113.83	122.74
15	p	83	ILE	C-N-CA	-5.79	113.83	122.74
12	m	121	ALA	CA-C-N	-5.78	111.35	120.60
12	m	121	ALA	C-N-CA	-5.78	111.35	120.60
34	I	11	SER	N-CA-C	-5.78	105.06	111.71
37	L	41	ILE	O-C-N	5.78	127.56	121.89
17	r	74	ILE	CA-C-N	-5.78	115.64	123.10
17	r	74	ILE	C-N-CA	-5.78	115.64	123.10
53	3	375	U	N1-C1'-C2'	5.77	120.65	112.00
5	f	129	GLU	CA-C-N	-5.76	114.93	122.94
5	f	129	GLU	C-N-CA	-5.76	114.93	122.94
52	a	165	ASN	CA-C-N	-5.76	110.55	121.54
52	a	165	ASN	C-N-CA	-5.76	110.55	121.54
3	d	146	VAL	N-CA-C	5.75	116.76	108.48
40	O	84	VAL	N-CA-C	5.75	121.30	109.34
52	a	166	ASP	O-C-N	-5.74	114.95	122.59
5	f	156	TYR	N-CA-C	-5.74	105.37	112.72
59	8	468	ILE	CA-C-N	-5.73	112.45	120.53
59	8	468	ILE	C-N-CA	-5.73	112.45	120.53
59	8	557	ILE	CA-C-N	-5.73	112.15	120.29
59	8	557	ILE	C-N-CA	-5.73	112.15	120.29
26	A	58	ASP	CA-C-O	5.73	126.42	119.49
53	3	938	A	N9-C1'-C2'	5.72	120.58	112.00
15	p	83	ILE	N-CA-C	5.72	116.52	108.17
40	O	57	VAL	N-CA-C	5.71	121.22	109.34
25	z	42	ALA	CA-C-O	5.71	126.60	120.55
59	8	215	ALA	CA-C-N	-5.71	110.98	120.68
59	8	215	ALA	C-N-CA	-5.71	110.98	120.68
6	g	83	LYS	CA-C-O	5.70	127.17	120.96
28	C	41	VAL	N-CA-C	-5.70	106.15	111.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	g	126	GLY	O-C-N	5.69	130.10	122.70
1	b	180	MET	O-C-N	5.69	130.63	123.23
47	V	28	VAL	N-CA-C	5.69	115.83	107.75
59	8	98	GLU	CA-C-N	-5.69	112.34	120.42
59	8	98	GLU	C-N-CA	-5.69	112.34	120.42
59	8	178	HIS	N-CA-C	-5.68	106.39	113.15
42	Q	43	LYS	N-CA-C	5.68	122.37	109.81
49	X	23	GLU	CA-C-N	-5.68	113.23	122.26
49	X	23	GLU	C-N-CA	-5.68	113.23	122.26
6	g	42	LYS	CA-C-N	-5.68	109.94	121.18
6	g	42	LYS	C-N-CA	-5.68	109.94	121.18
3	d	145	ASP	CA-C-N	-5.68	115.23	123.06
3	d	145	ASP	C-N-CA	-5.68	115.23	123.06
8	i	39	LYS	CA-C-N	-5.67	111.04	120.68
8	i	39	LYS	C-N-CA	-5.67	111.04	120.68
44	S	14	ALA	CA-C-O	5.67	126.43	120.42
35	J	87	VAL	N-CA-C	5.67	121.13	109.34
36	K	13	ASP	O-C-N	-5.67	116.23	122.07
2	c	175	LEU	CA-C-O	5.67	126.78	120.43
17	r	29	THR	N-CA-C	5.67	117.32	111.03
24	y	32	ALA	N-CA-C	-5.67	105.18	111.36
42	Q	117	GLY	N-CA-C	5.66	126.60	113.18
8	i	27	LEU	CA-C-O	5.66	125.03	118.97
5	f	173	ALA	N-CA-C	-5.66	101.53	109.96
34	I	184	LYS	CA-C-O	5.65	127.90	120.16
39	N	100	ALA	N-CA-C	-5.65	105.33	114.09
48	W	31	TYR	CA-C-N	-5.64	113.26	122.57
48	W	31	TYR	C-N-CA	-5.64	113.26	122.57
32	G	38	HIS	CA-C-N	-5.64	115.59	123.10
32	G	38	HIS	C-N-CA	-5.64	115.59	123.10
43	R	30	LYS	N-CA-C	-5.64	105.28	111.82
59	8	262	ILE	CA-C-O	5.64	128.76	121.32
6	g	145	ASN	CA-C-N	-5.63	115.29	123.06
6	g	145	ASN	C-N-CA	-5.63	115.29	123.06
52	a	29	LEU	CA-C-N	-5.63	110.78	121.54
52	a	29	LEU	C-N-CA	-5.63	110.78	121.54
52	a	45	ALA	CA-C-N	-5.63	113.73	122.69
52	a	45	ALA	C-N-CA	-5.63	113.73	122.69
54	1	2629	U	N1-C1'-C2'	5.63	120.44	112.00
38	M	3	GLN	N-CA-C	-5.62	106.75	113.21
50	Y	62	ALA	N-CA-C	-5.62	106.47	113.15
59	8	179	PHE	N-CA-C	5.61	118.72	110.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	H	198	LYS	CA-C-N	-5.61	114.62	122.75
33	H	198	LYS	C-N-CA	-5.61	114.62	122.75
52	a	206	GLY	O-C-N	-5.60	117.22	123.10
20	u	39	ASN	CA-C-N	-5.60	114.75	122.30
20	u	39	ASN	C-N-CA	-5.60	114.75	122.30
16	q	56	PHE	CA-C-N	-5.59	112.78	120.28
16	q	56	PHE	C-N-CA	-5.59	112.78	120.28
34	I	171	GLU	O-C-N	5.59	129.87	123.27
59	8	5	THR	N-CA-C	5.59	122.16	109.81
6	g	41	LYS	O-C-N	-5.58	115.17	122.59
10	k	112	PHE	O-C-N	5.58	130.01	122.59
11	l	96	LYS	N-CA-C	-5.58	105.29	111.71
51	Z	60	ALA	CA-C-N	-5.58	108.46	121.52
51	Z	60	ALA	C-N-CA	-5.58	108.46	121.52
15	p	45	VAL	O-C-N	-5.57	116.97	122.76
4	e	34	THR	CA-C-O	5.57	126.50	120.32
50	Y	73	ARG	N-CA-C	-5.56	104.43	111.11
59	8	115	ALA	N-CA-C	5.56	118.06	111.33
59	8	140	PHE	O-C-N	-5.56	116.77	123.27
52	a	160	GLN	CA-C-N	-5.56	113.70	122.64
52	a	160	GLN	C-N-CA	-5.56	113.70	122.64
1	b	262	THR	CA-C-N	-5.55	110.20	121.18
1	b	262	THR	C-N-CA	-5.55	110.20	121.18
53	3	413	G	N9-C1'-C2'	5.55	120.32	112.00
30	E	53	ASP	CA-C-O	5.54	125.75	119.27
6	g	138	VAL	N-CA-C	5.54	115.83	107.80
59	8	626	GLU	N-CA-C	5.54	120.04	113.12
14	o	28	VAL	O-C-N	-5.53	117.37	123.18
15	p	45	VAL	CA-C-N	-5.53	115.93	123.12
15	p	45	VAL	C-N-CA	-5.53	115.93	123.12
6	g	85	GLY	CA-C-O	5.53	128.18	121.88
59	8	575	GLY	CA-C-N	-5.53	115.96	122.93
59	8	575	GLY	C-N-CA	-5.53	115.96	122.93
31	F	32	LYS	CA-C-N	-5.53	112.38	122.38
31	F	32	LYS	C-N-CA	-5.53	112.38	122.38
53	3	198	G	N9-C1'-C2'	5.53	120.29	112.00
40	O	44	THR	CA-C-O	5.52	127.27	121.19
43	R	5	GLY	CA-C-N	-5.52	112.04	121.97
43	R	5	GLY	C-N-CA	-5.52	112.04	121.97
3	d	25	GLU	N-CA-C	5.51	117.73	111.11
18	s	72	THR	CA-C-N	-5.51	114.25	122.74
18	s	72	THR	C-N-CA	-5.51	114.25	122.74

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	d	38	GLY	CA-C-N	-5.51	111.52	120.72
3	d	38	GLY	C-N-CA	-5.51	111.52	120.72
42	Q	108	ASP	N-CA-C	5.51	117.90	111.02
38	M	45	ILE	CA-C-O	5.50	127.10	120.67
34	I	132	ALA	N-CA-C	5.50	120.44	111.37
36	K	20	GLY	CA-C-O	5.50	126.94	121.00
8	i	20	SER	N-CA-C	5.49	121.95	109.81
34	I	103	ARG	N-CA-C	-5.49	105.45	111.82
39	N	81	GLY	CA-C-O	5.49	126.40	120.75
59	8	593	PHE	CA-C-N	-5.49	111.20	120.58
59	8	593	PHE	C-N-CA	-5.49	111.20	120.58
1	b	153	LEU	N-CA-C	5.48	117.95	110.55
32	G	201	GLY	CA-C-N	-5.48	111.07	121.54
32	G	201	GLY	C-N-CA	-5.48	111.07	121.54
59	8	280	ASP	CA-C-N	-5.48	111.98	120.31
59	8	280	ASP	C-N-CA	-5.48	111.98	120.31
4	e	36	ASN	N-CA-C	5.48	118.17	109.24
18	s	81	SER	CA-C-O	5.47	126.24	120.33
53	3	448	A	N9-C1'-C2'	5.47	120.20	112.00
8	i	63	ASP	CA-C-N	-5.46	114.33	122.36
8	i	63	ASP	C-N-CA	-5.46	114.33	122.36
42	Q	24	GLU	N-CA-C	-5.46	102.45	110.42
59	8	351	ASN	CA-C-O	5.46	126.30	120.46
59	8	452	GLU	CA-C-N	-5.45	113.79	122.29
59	8	452	GLU	C-N-CA	-5.45	113.79	122.29
49	X	78	THR	N-CA-C	5.45	117.35	110.33
54	1	421	C	N1-C1'-C2'	5.44	120.16	112.00
57	6	27	U	N1-C1'-C2'	5.44	120.16	112.00
59	8	304	ASP	N-CA-C	5.44	121.12	113.56
59	8	140	PHE	CA-C-O	5.44	126.00	120.24
1	b	12	ARG	N-CA-C	-5.43	106.42	113.16
12	m	97	GLN	CA-C-N	-5.43	114.10	119.92
12	m	97	GLN	C-N-CA	-5.43	114.10	119.92
17	r	53	PHE	N-CA-C	-5.43	104.55	110.91
46	U	73	ALA	O-C-N	-5.43	116.36	122.12
34	I	92	LEU	N-CA-C	5.42	117.62	111.11
4	e	173	ASP	N-CA-C	5.41	119.19	112.58
42	Q	115	LYS	N-CA-C	-5.41	100.20	109.24
20	u	73	ASN	N-CA-C	5.40	117.25	111.36
14	o	71	ALA	N-CA-C	-5.40	105.47	111.36
46	U	38	PHE	N-CA-C	5.40	115.36	108.24
33	H	180	ASP	O-C-N	5.39	128.88	122.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	H	34	SER	CA-C-N	-5.39	112.11	120.31
33	H	34	SER	C-N-CA	-5.39	112.11	120.31
36	K	30	THR	N-CA-C	-5.39	106.21	112.89
50	Y	6	ALA	N-CA-C	-5.39	106.29	112.92
46	U	79	ASN	N-CA-C	5.39	122.27	110.80
47	V	61	ARG	N-CA-C	5.39	116.46	108.86
34	I	33	ILE	N-CA-C	5.38	116.29	110.21
59	8	627	ASN	N-CA-C	-5.38	106.71	113.28
3	d	186	VAL	N-CA-C	5.38	115.61	107.75
54	1	2501	C	N1-C1'-C2'	5.38	120.07	112.00
43	R	92	ARG	CA-C-N	-5.38	112.86	122.16
43	R	92	ARG	C-N-CA	-5.38	112.86	122.16
32	G	189	ASN	N-CA-C	-5.37	104.99	112.03
40	O	62	ARG	N-CA-C	5.37	117.57	109.41
59	8	71	PHE	CA-C-N	-5.37	112.46	121.75
59	8	71	PHE	C-N-CA	-5.37	112.46	121.75
43	R	91	ARG	CA-C-N	-5.36	114.07	122.49
43	R	91	ARG	C-N-CA	-5.36	114.07	122.49
2	c	25	THR	CA-C-N	-5.36	116.16	123.12
2	c	25	THR	C-N-CA	-5.36	116.16	123.12
44	S	44	VAL	N-CA-C	-5.36	106.28	112.98
38	M	39	LEU	CA-C-N	-5.35	112.69	120.29
38	M	39	LEU	C-N-CA	-5.35	112.69	120.29
43	R	68	LEU	CA-C-N	-5.35	113.32	120.54
43	R	68	LEU	C-N-CA	-5.35	113.32	120.54
34	I	159	GLU	CA-C-N	-5.34	110.60	121.18
34	I	159	GLU	C-N-CA	-5.34	110.60	121.18
59	8	105	VAL	N-CA-C	5.34	116.74	111.67
7	h	39	THR	N-CA-C	-5.34	106.08	113.18
6	g	43	ASN	N-CA-C	-5.33	106.61	113.01
19	t	22	THR	CA-C-N	-5.33	111.81	121.14
19	t	22	THR	C-N-CA	-5.33	111.81	121.14
39	N	48	ARG	CA-C-O	5.33	124.69	118.77
32	G	160	LEU	CA-C-N	-5.33	115.59	123.05
32	G	160	LEU	C-N-CA	-5.33	115.59	123.05
27	B	9	ARG	N-CA-C	-5.32	105.53	112.23
5	f	88	LEU	CA-C-N	-5.32	116.11	122.22
5	f	88	LEU	C-N-CA	-5.32	116.11	122.22
34	I	172	VAL	O-C-N	5.32	126.43	121.96
6	g	137	GLU	CA-C-N	-5.32	116.21	123.12
6	g	137	GLU	C-N-CA	-5.32	116.21	123.12
42	Q	65	TYR	N-CA-C	5.31	118.14	109.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	a	56	ASP	CA-C-N	-5.31	113.78	122.54
52	a	56	ASP	C-N-CA	-5.31	113.78	122.54
34	I	184	LYS	CA-C-N	-5.30	113.21	119.84
34	I	184	LYS	C-N-CA	-5.30	113.21	119.84
21	v	63	ILE	CA-C-N	-5.30	116.12	122.90
21	v	63	ILE	C-N-CA	-5.30	116.12	122.90
36	K	5	GLU	O-C-N	-5.30	117.11	123.31
39	N	90	ASP	N-CA-C	5.30	122.09	110.80
45	T	11	VAL	N-CA-C	-5.30	104.80	110.36
34	I	186	GLU	N-CA-C	5.30	117.32	109.69
54	1	2287	A	N9-C1'-C2'	5.30	119.94	112.00
54	1	2529	G	N9-C1'-C2'	5.29	119.94	112.00
32	G	54	ALA	N-CA-C	-5.29	105.51	111.28
36	K	15	SER	CA-C-N	-5.29	111.88	120.72
36	K	15	SER	C-N-CA	-5.29	111.88	120.72
59	8	86	ILE	CA-C-N	-5.29	115.54	122.37
59	8	86	ILE	C-N-CA	-5.29	115.54	122.37
37	L	101	ARG	O-C-N	5.29	127.72	122.12
52	a	206	GLY	CA-C-O	5.28	127.94	122.24
54	1	1313	U	N1-C1'-C2'	5.28	119.92	112.00
1	b	265	PHE	CA-C-O	5.28	125.87	119.11
59	8	569	TYR	O-C-N	5.27	125.83	121.35
44	S	57	SER	CA-C-N	-5.27	114.38	122.60
44	S	57	SER	C-N-CA	-5.27	114.38	122.60
34	I	179	GLY	CA-C-N	-5.27	113.31	122.37
34	I	179	GLY	C-N-CA	-5.27	113.31	122.37
34	I	148	ALA	CA-C-N	-5.26	113.07	122.07
34	I	148	ALA	C-N-CA	-5.26	113.07	122.07
40	O	6	ILE	CA-C-N	-5.26	115.73	123.00
40	O	6	ILE	C-N-CA	-5.26	115.73	123.00
50	Y	51	ASN	N-CA-C	-5.26	105.54	111.28
36	K	49	TYR	CA-C-O	5.26	124.86	119.76
20	u	87	GLU	N-CA-C	5.26	122.00	110.80
6	g	10	ALA	CA-C-N	-5.25	114.11	122.29
6	g	10	ALA	C-N-CA	-5.25	114.11	122.29
8	i	40	ALA	CA-C-N	-5.25	112.84	120.29
8	i	40	ALA	C-N-CA	-5.25	112.84	120.29
56	5	2	G	C2'-C3'-O3'	5.25	117.37	109.50
59	8	397	LEU	O-C-N	5.25	129.45	123.31
4	e	12	VAL	N-CA-C	-5.24	104.86	110.36
37	L	46	LEU	CA-C-N	-5.24	113.27	120.28
37	L	46	LEU	C-N-CA	-5.24	113.27	120.28

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	U	64	GLY	CA-C-N	-5.24	113.56	121.05
46	U	64	GLY	C-N-CA	-5.24	113.56	121.05
55	2	41	G	N9-C1'-C2'	5.24	119.85	112.00
13	n	2	ARG	N-CA-C	5.23	118.41	111.30
5	f	87	GLN	CA-C-N	-5.22	116.05	122.84
5	f	87	GLN	C-N-CA	-5.22	116.05	122.84
42	Q	4	ASN	CA-C-O	5.22	126.30	120.82
36	K	62	MET	N-CA-C	5.21	119.39	112.72
34	I	153	ARG	CA-C-O	5.21	126.09	119.78
46	U	77	GLU	N-CA-C	5.21	116.96	111.28
36	K	24	ARG	N-CA-C	5.21	116.64	111.07
59	8	585	ASP	CA-C-N	5.21	131.34	121.97
59	8	585	ASP	C-N-CA	5.21	131.34	121.97
41	P	15	VAL	N-CA-C	-5.20	101.16	109.17
24	y	28	LEU	CA-C-N	-5.20	113.26	120.38
24	y	28	LEU	C-N-CA	-5.20	113.26	120.38
33	H	151	GLU	CA-C-N	-5.20	116.03	123.10
33	H	151	GLU	C-N-CA	-5.20	116.03	123.10
34	I	93	LEU	N-CA-C	5.20	119.11	112.87
41	P	125	LYS	N-CA-C	5.19	121.85	110.80
39	N	27	ILE	CA-C-N	-5.18	116.35	123.14
39	N	27	ILE	C-N-CA	-5.18	116.35	123.14
16	q	24	TYR	CA-C-O	5.18	127.04	121.55
51	Z	21	SER	N-CA-C	-5.18	106.74	113.16
12	m	40	ARG	CA-C-O	5.18	126.52	120.20
5	f	153	PRO	CA-C-N	-5.18	113.73	120.67
5	f	153	PRO	C-N-CA	-5.18	113.73	120.67
54	l	1930	G	N9-C1'-C2'	5.17	119.76	112.00
4	e	103	ILE	N-CA-C	5.17	115.38	110.42
33	H	49	ALA	CA-C-N	-5.17	111.66	121.54
33	H	49	ALA	C-N-CA	-5.17	111.66	121.54
37	L	138	GLU	N-CA-C	-5.16	105.34	111.69
39	N	49	GLN	N-CA-C	5.16	119.77	112.75
59	8	428	GLN	N-CA-C	5.16	119.83	111.37
52	a	60	ARG	CA-C-N	-5.15	111.00	120.84
52	a	60	ARG	C-N-CA	-5.15	111.00	120.84
16	q	39	ILE	N-CA-C	-5.15	105.52	110.72
34	I	7	LYS	N-CA-C	5.15	121.77	110.80
42	Q	8	ARG	N-CA-C	5.15	116.97	111.36
46	U	24	SER	N-CA-C	-5.15	106.51	112.89
4	e	35	LEU	CA-C-N	-5.15	115.62	122.72
4	e	35	LEU	C-N-CA	-5.15	115.62	122.72

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	S	47	LEU	CA-C-N	-5.15	113.06	122.38
44	S	47	LEU	C-N-CA	-5.15	113.06	122.38
10	k	61	VAL	CA-C-N	-5.14	113.76	120.91
10	k	61	VAL	C-N-CA	-5.14	113.76	120.91
51	Z	60	ALA	O-C-N	5.14	128.68	122.20
10	k	103	VAL	N-CA-C	-5.14	102.55	108.82
42	Q	30	ARG	N-CA-C	5.14	117.08	107.99
51	Z	49	ALA	N-CA-C	-5.14	105.76	111.36
53	3	428	G	N9-C1'-C2'	5.13	121.70	114.00
32	G	60	ALA	N-CA-C	-5.13	105.87	111.82
52	a	187	GLU	CA-C-O	5.13	125.70	119.49
52	a	62	ALA	CA-C-N	-5.13	110.55	121.32
52	a	62	ALA	C-N-CA	-5.13	110.55	121.32
5	f	89	VAL	N-CA-C	5.12	113.98	106.55
26	A	54	GLY	N-CA-C	5.12	118.51	111.54
34	I	75	TYR	N-CA-C	-5.12	106.14	112.38
56	5	3	G	N9-C1'-C2'	5.12	121.68	114.00
33	H	13	ILE	CA-C-N	-5.12	112.76	121.97
33	H	13	ILE	C-N-CA	-5.12	112.76	121.97
59	8	137	ARG	CA-C-N	-5.12	116.45	123.46
59	8	137	ARG	C-N-CA	-5.12	116.45	123.46
49	X	42	ASN	CA-C-N	-5.11	113.96	122.08
49	X	42	ASN	C-N-CA	-5.11	113.96	122.08
41	P	97	ARG	N-CA-C	-5.10	105.80	111.36
33	H	164	THR	CA-C-N	-5.10	113.35	122.32
33	H	164	THR	C-N-CA	-5.10	113.35	122.32
50	Y	36	ALA	N-CA-C	-5.10	105.61	111.07
19	t	18	GLU	N-CA-C	-5.09	105.62	111.07
23	x	72	ALA	CA-C-N	-5.09	114.34	122.29
23	x	72	ALA	C-N-CA	-5.09	114.34	122.29
41	P	96	ILE	CA-C-N	-5.09	113.06	120.29
41	P	96	ILE	C-N-CA	-5.09	113.06	120.29
35	J	125	LYS	O-C-N	-5.09	117.68	123.48
46	U	68	SER	CA-C-O	5.09	128.22	121.46
6	g	139	PHE	N-CA-C	5.08	117.37	110.35
6	g	43	ASN	CA-C-N	-5.08	113.47	120.74
6	g	43	ASN	C-N-CA	-5.08	113.47	120.74
35	J	110	MET	N-CA-C	-5.08	106.24	112.90
19	t	24	MET	CA-C-N	-5.08	113.00	122.09
19	t	24	MET	C-N-CA	-5.08	113.00	122.09
36	K	51	ILE	N-CA-C	-5.07	100.22	107.78
50	Y	5	SER	N-CA-C	5.07	118.30	112.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	5	41	A	C2'-C3'-O3'	5.07	121.31	113.70
42	Q	97	VAL	N-CA-C	5.06	113.89	106.55
53	3	1191	A	N9-C1'-C2'	5.06	119.59	112.00
42	Q	113	ARG	O-C-N	5.06	128.92	122.39
8	i	53	PRO	CA-C-N	-5.06	112.78	122.13
8	i	53	PRO	C-N-CA	-5.06	112.78	122.13
46	U	19	VAL	N-CA-C	5.06	115.51	108.84
5	f	92	GLY	N-CA-C	-5.05	108.09	115.72
9	j	92	MET	CA-C-N	-5.05	113.24	120.42
9	j	92	MET	C-N-CA	-5.05	113.24	120.42
37	L	38	ALA	CA-C-O	5.05	125.78	119.97
2	c	126	ASN	CA-C-N	-5.05	113.70	120.87
2	c	126	ASN	C-N-CA	-5.05	113.70	120.87
34	I	158	LEU	O-C-N	5.05	127.47	122.12
59	8	109	ALA	CA-C-N	-5.05	116.57	122.93
59	8	109	ALA	C-N-CA	-5.05	116.57	122.93
1	b	132	ARG	N-CA-C	-5.05	106.04	113.61
7	h	37	LYS	N-CA-C	5.04	117.17	111.02
42	Q	38	THR	CA-C-N	-5.04	114.76	122.62
42	Q	38	THR	C-N-CA	-5.04	114.76	122.62
7	h	50	VAL	N-CA-C	5.04	115.81	110.72
18	s	48	LYS	N-CA-C	-5.04	105.68	111.07
34	I	89	LEU	CA-C-O	5.04	126.07	120.63
19	t	51	PHE	N-CA-C	-5.03	106.92	113.16
40	O	30	LYS	O-C-N	5.03	127.53	122.09
53	3	1493	A	C2'-C3'-O3'	5.03	121.25	113.70
59	8	111	MET	CA-C-N	-5.03	113.92	120.91
59	8	111	MET	C-N-CA	-5.03	113.92	120.91
2	c	175	LEU	O-C-N	-5.02	117.36	123.13
12	m	97	GLN	CA-C-O	5.02	125.61	120.64
2	c	121	THR	CA-C-O	5.01	125.86	120.55
9	j	57	LEU	CA-C-N	-5.01	115.12	122.19
9	j	57	LEU	C-N-CA	-5.01	115.12	122.19
53	3	1346	A	N9-C1'-C2'	5.01	119.52	112.00
52	a	164	ARG	CA-C-N	-5.00	113.47	120.82
52	a	164	ARG	C-N-CA	-5.00	113.47	120.82
3	d	115	GLN	N-CA-C	-5.00	107.03	113.23
34	I	78	ALA	N-CA-C	-5.00	105.54	111.69

There are no chirality outliers.

All (60) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
54	1	1060	U	Sidechain
54	1	119	A	Sidechain
54	1	1204	A	Sidechain
54	1	1212	G	Sidechain
54	1	1328	A	Sidechain
54	1	1377	G	Sidechain
54	1	1432	G	Sidechain
54	1	1647	U	Sidechain
54	1	1698	A	Sidechain
54	1	1775	U	Sidechain
54	1	1814	G	Sidechain
54	1	1828	G	Sidechain
54	1	1937	A	Sidechain
54	1	196	A	Sidechain
54	1	2061	G	Sidechain
54	1	2266	A	Sidechain
54	1	2273	A	Sidechain
54	1	2444	G	Sidechain
54	1	2447	G	Sidechain
54	1	2475	C	Sidechain
54	1	2501	C	Sidechain
54	1	2529	G	Sidechain
54	1	2532	G	Sidechain
54	1	2684	U	Sidechain
54	1	27	G	Sidechain
54	1	2732	G	Sidechain
54	1	446	G	Sidechain
54	1	450	G	Sidechain
54	1	476	G	Sidechain
54	1	477	A	Sidechain
54	1	500	G	Sidechain
54	1	501	A	Sidechain
54	1	506	G	Sidechain
54	1	51	G	Sidechain
54	1	512	G	Sidechain
54	1	727	A	Sidechain
54	1	775	G	Sidechain
55	2	1	U	Sidechain
55	2	119	A	Sidechain
53	3	1316	G	Sidechain
53	3	1356	G	Sidechain
53	3	1538	C	Sidechain
53	3	266	G	Sidechain

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Mol	Chain	Res	Type	Group
53	3	411	A	Sidechain
53	3	448	A	Sidechain
53	3	529	G	Sidechain
53	3	532	A	Sidechain
53	3	827	U	Sidechain
53	3	898	G	Sidechain
53	3	938	A	Sidechain
59	8	623	THR	Mainchain
34	I	152	SER	Mainchain
34	I	154	VAL	Mainchain
35	J	92	ARG	Mainchain
36	K	53	LYS	Mainchain
46	U	17	TYR	Sidechain
6	g	11	ASN	Mainchain
6	g	13	GLY	Mainchain,Peptide
6	g	8	LYS	Mainchain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	b	2083	0	2157	127	0
2	c	1565	0	1616	83	0
3	d	1552	0	1619	85	0
4	e	1411	0	1447	118	0
5	f	1323	0	1374	67	0
6	g	936	0	959	73	0
7	h	633	0	666	52	0
8	i	551	0	577	39	0
9	j	1129	0	1162	52	0
10	k	939	0	1012	69	0
11	l	1045	0	1117	90	0
12	m	1074	0	1157	65	0
13	n	961	0	1000	60	0
14	o	892	0	923	41	0
15	p	917	0	965	63	0
16	q	947	0	1022	46	0
17	r	816	0	839	53	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	s	857	0	922	50	0
19	t	739	0	807	49	0
20	u	780	0	834	32	0
21	v	753	0	780	44	0
22	w	575	0	592	35	0
23	x	625	0	655	35	0
24	y	509	0	543	31	0
25	z	449	0	491	24	0
26	A	523	0	524	36	0
27	B	444	0	461	40	0
28	C	410	0	440	29	0
29	D	377	0	418	18	0
30	E	504	0	574	29	0
31	F	302	0	343	19	0
32	G	1705	0	1732	136	0
33	H	1625	0	1699	131	0
34	I	1643	0	1710	245	0
35	J	1157	0	1199	93	0
36	K	818	0	808	63	0
37	L	1182	0	1240	77	0
38	M	979	0	1034	70	0
39	N	1022	0	1070	92	0
40	O	787	0	828	89	0
41	P	870	0	878	72	0
42	Q	955	0	1019	114	0
43	R	884	0	944	93	0
44	S	805	0	847	91	0
45	T	714	0	737	45	0
46	U	649	0	666	100	0
47	V	649	0	691	87	0
48	W	536	0	552	36	0
49	X	638	0	665	78	0
50	Y	665	0	714	75	0
51	Z	545	0	579	54	0
52	a	1027	0	1092	101	0
53	3	33012	0	16618	985	0
54	1	62317	0	31346	1296	0
55	2	2568	0	1303	75	0
56	5	1647	0	831	20	0
57	6	1640	0	837	27	0
58	4	348	0	175	8	0
59	8	5312	0	5283	426	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
60	1	10	0	10	1	0
61	5	7	0	7	0	0
62	8	32	0	14	2	0
63	8	1	0	0	0	0
All	All	153370	0	105124	5842	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 23.

All (5842) 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)
34:I:155:LYS:N	34:I:155:LYS:CA	1.69	1.53
54:1:45:G:H5''	54:1:46:G:H5'	1.28	1.13
34:I:131:ILE:HG23	53:3:403:C:H5'	1.13	1.13
41:P:118:ASN:HD22	53:3:717:U:H4'	1.12	1.11
36:K:46:GLN:HA	36:K:56:LYS:HG3	1.34	1.09
34:I:154:VAL:C	34:I:155:LYS:CA	2.28	1.07
54:1:1906:G:H2'	54:1:1907:G:H5''	1.37	1.06
59:8:418:ILE:HA	59:8:486:PRO:HG3	1.09	1.05
54:1:2277:G:H2'	54:1:2278:A:H5''	1.33	1.04
15:p:59:THR:HG22	15:p:72:VAL:HG12	1.37	1.04
44:S:58:ARG:HH22	53:3:980:C:H4'	1.17	1.03
53:3:1398:A:H4'	53:3:1399:C:OP2	1.56	1.02
15:p:38:ARG:HE	53:3:345:C:H5'	1.24	1.02
7:h:37:LYS:HG3	7:h:41:LEU:HD12	1.38	1.00
44:S:73:LEU:HD12	44:S:83:VAL:HG21	1.42	1.00
43:R:15:VAL:HG23	43:R:16:ILE:HD12	1.42	0.99
18:s:1:MET:HE3	18:s:2:GLU:H	1.23	0.99
54:1:2660:A:H4'	59:8:121:PRO:HG3	1.41	0.99
37:L:35:LYS:HE2	53:3:1373:G:H5''	1.40	0.99
59:8:504:LYS:H	59:8:599:ILE:HD11	1.25	0.99
47:V:12:VAL:HB	47:V:21:VAL:HG13	1.42	0.99
56:5:26:A:H61	56:5:44:G:H1	0.99	0.99
52:a:14:LYS:HD3	52:a:32:GLU:HB2	1.45	0.98
18:s:66:ILE:H	18:s:66:ILE:HD12	1.27	0.98
56:5:13:C:H2'	56:5:14:A:H5''	1.47	0.97
34:I:97:LEU:HD21	34:I:122:ILE:HG21	1.44	0.97
44:S:5:MET:HE3	53:3:982:U:H5''	1.46	0.97
54:1:1133:A:H4'	54:1:1134:A:H5''	1.47	0.96
33:H:138:GLN:HE22	33:H:142:ARG:HB3	1.28	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:46:GLN:HB3	3:d:83:VAL:HG21	1.46	0.96
8:i:21:PRO:HB2	8:i:22:PRO:HD3	1.48	0.96
9:j:101:ILE:H	9:j:101:ILE:HD12	1.32	0.95
15:p:20:ARG:HD3	15:p:112:ARG:HH12	1.28	0.95
59:8:585:ASP:O	59:8:587:ASP:N	2.00	0.95
41:P:118:ASN:HB2	53:3:718:A:H5'	1.49	0.95
38:M:88:LYS:HE3	38:M:119:GLY:HA2	1.47	0.94
53:3:922:G:H21	53:3:1398:A:H8	1.02	0.94
12:m:82:MET:HE3	12:m:83:GLY:H	1.32	0.94
59:8:230:SER:HB3	59:8:233:LEU:HD13	1.50	0.94
34:I:90:LEU:HD13	34:I:187:ARG:HB2	1.50	0.94
11:l:108:ALA:HB3	11:l:125:LEU:HD22	1.48	0.93
31:F:23:ILE:H	31:F:23:ILE:HD12	1.33	0.93
4:e:73:VAL:H	4:e:78:ILE:HG13	1.33	0.93
35:J:107:GLY:HA3	53:3:9:G:H5'	1.51	0.93
15:p:3:ILE:H	15:p:3:ILE:HD12	1.35	0.92
11:l:23:ILE:H	11:l:23:ILE:HD12	1.35	0.92
18:s:69:LEU:HD12	18:s:109:ASP:HA	1.51	0.92
47:V:20:ILE:HG23	47:V:45:VAL:HB	1.49	0.92
54:1:2048:G:H2'	54:1:2049:G:H5''	1.52	0.92
35:J:76:ASN:HB2	35:J:81:GLN:NE2	1.84	0.91
52:a:44:VAL:HG22	52:a:214:ILE:HG22	1.48	0.91
2:c:156:PHE:HB3	9:j:81:ILE:HG12	1.52	0.91
42:Q:97:VAL:HG12	53:3:35:G:H5'	1.52	0.91
53:3:813:U:H2'	53:3:814:A:H5''	1.52	0.91
8:i:11:GLN:HB2	8:i:56:VAL:HG12	1.52	0.91
40:O:6:ILE:HD13	40:O:83:THR:HG21	1.50	0.91
4:e:79:ARG:HG3	4:e:79:ARG:HH21	1.33	0.91
1:b:154:ALA:HB2	1:b:161:VAL:HG23	1.53	0.91
37:L:112:ASP:HB2	37:L:118:ARG:HB3	1.50	0.91
53:3:328:C:H5'	53:3:329:A:H5'	1.53	0.91
53:3:552:U:H2'	53:3:553:A:C8	2.05	0.91
35:J:28:ARG:HH22	53:3:15:G:H4'	1.35	0.90
53:3:715:A:H2'	53:3:716:A:C8	2.06	0.90
18:s:83:LYS:HD2	18:s:95:ARG:HE	1.36	0.90
54:1:1912:A:H62	54:1:1917:U:H3	1.11	0.90
41:P:127:ARG:HG3	51:Z:34:ARG:HH22	1.36	0.90
22:w:37:ARG:HA	22:w:37:ARG:HE	1.35	0.90
54:1:2114:A:H61	54:1:2117:A:H62	0.92	0.89
34:I:115:GLN:HB3	34:I:153:ARG:HH22	1.35	0.89
29:D:3:ARG:HD3	29:D:4:THR:H	1.37	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2297:A:N1	54:1:2321:U:H5	1.70	0.89
10:k:121:GLU:HG2	10:k:122:VAL:HG23	1.52	0.89
40:O:6:ILE:HB	40:O:76:ILE:HB	1.54	0.89
8:i:11:GLN:O	8:i:54:ILE:O	1.91	0.88
59:8:334:THR:HG21	59:8:388:LEU:HD22	1.55	0.88
43:R:3:ILE:HG12	43:R:7:ASN:HB2	1.55	0.88
5:f:88:LEU:HD21	5:f:93:TYR:HB3	1.55	0.88
40:O:66:GLU:HB2	44:S:98:ALA:HB2	1.53	0.88
54:1:2715:C:H2'	54:1:2716:C:H5''	1.56	0.88
52:a:47:ASN:HB3	52:a:210:LYS:HB2	1.52	0.88
54:1:2423:U:O2'	54:1:2425:A:H2'	1.74	0.88
59:8:418:ILE:HA	59:8:486:PRO:CG	2.01	0.88
53:3:516:U:H3	53:3:533:A:H62	1.21	0.88
53:3:65:A:H4'	53:3:66:A:H5''	1.56	0.87
32:G:70:GLY:HA3	32:G:79:VAL:HG21	1.54	0.87
46:U:16:PHE:HE2	46:U:18:GLN:HE21	1.20	0.87
18:s:4:ILE:HG22	18:s:106:VAL:HG22	1.57	0.87
42:Q:49:ARG:HD2	42:Q:89:LEU:HD11	1.56	0.87
53:3:1016:A:H4'	53:3:1218:C:H4'	1.56	0.87
34:I:103:ARG:HG3	34:I:170:LEU:HD21	1.54	0.87
14:o:31:THR:HG23	14:o:32:PRO:HD2	1.54	0.87
34:I:117:VAL:HG13	34:I:122:ILE:HG13	1.57	0.87
18:s:26:GLY:HA2	18:s:71:VAL:O	1.75	0.86
59:8:226:ALA:HA	59:8:255:ARG:HH22	1.39	0.86
14:o:40:ILE:HG12	14:o:47:VAL:HG12	1.57	0.86
44:S:16:ALA:HA	44:S:54:SER:HA	1.54	0.86
53:3:517:G:H1	53:3:532:A:H5''	1.39	0.86
59:8:512:ARG:HG2	59:8:514:GLN:HG2	1.57	0.86
33:H:71:ARG:HD3	33:H:74:ILE:HD12	1.57	0.86
53:3:1088:G:H21	53:3:1167:A:H61	1.20	0.86
57:6:36:U:H2'	57:6:37:A:C8	2.10	0.86
59:8:288:SER:H	59:8:291:ASP:HB2	1.40	0.86
6:g:4:ILE:HG23	6:g:37:VAL:HG13	1.56	0.85
7:h:33:VAL:HG12	54:1:1055:G:H5''	1.57	0.85
49:X:27:LYS:HG2	49:X:28:LYS:H	1.40	0.85
1:b:129:LEU:HD13	1:b:133:ASN:HB2	1.58	0.85
34:I:122:ILE:O	34:I:128:VAL:HA	1.77	0.85
59:8:194:ASN:HD21	59:8:203:GLU:HG3	1.41	0.85
42:Q:38:THR:HG22	42:Q:50:LYS:HA	1.59	0.85
53:3:126:G:H2'	53:3:127:G:O4'	1.76	0.85
12:m:12:MET:HA	54:1:910:A:H62	1.39	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2156:G:H2'	54:1:2157:G:H5'	1.59	0.84
53:3:56:U:H2'	53:3:57:G:H8	1.41	0.84
53:3:1502:A:H8	53:3:1505:G:H22	1.20	0.84
11:l:29:LYS:HE3	54:1:566:U:H5''	1.57	0.84
54:1:828:U:H2'	54:1:829:A:C8	2.13	0.84
53:3:373:A:H4'	53:3:451:A:H62	1.41	0.84
53:3:1259:C:H3'	53:3:1260:G:H5''	1.58	0.84
59:8:245:GLU:O	59:8:248:ILE:HG12	1.76	0.84
4:e:109:ARG:HG3	43:R:2:ARG:HH21	1.41	0.84
50:Y:48:LYS:HA	50:Y:51:ASN:HD22	1.42	0.84
53:3:1513:A:H2'	53:3:1514:G:C8	2.13	0.84
59:8:61:ILE:HB	62:8:801:GCP:O1G	1.77	0.84
32:G:71:THR:HG22	32:G:72:LYS:H	1.42	0.84
34:I:61:ARG:NH1	34:I:68:GLU:HG2	1.93	0.84
34:I:117:VAL:HG22	34:I:122:ILE:HD11	1.58	0.84
39:N:83:THR:HG21	39:N:102:PHE:HB3	1.57	0.84
41:P:34:THR:HG22	41:P:40:ALA:HA	1.59	0.84
43:R:13:HIS:HB2	43:R:16:ILE:HD13	1.59	0.84
53:3:1513:A:H2'	53:3:1514:G:H8	1.42	0.83
10:k:43:ILE:HD12	10:k:56:ASP:HB2	1.60	0.83
34:I:121:ALA:HB1	34:I:144:ILE:HG23	1.60	0.83
46:U:71:VAL:O	46:U:75:ILE:HG13	1.78	0.83
47:V:4:ILE:H	47:V:4:ILE:HD12	1.43	0.83
4:e:48:LEU:HD11	4:e:147:ARG:HE	1.42	0.83
43:R:106:ARG:HD2	43:R:112:ARG:HB2	1.61	0.83
54:1:275:C:H2'	54:1:276:U:H4'	1.61	0.83
11:l:56:PRO:HD2	11:l:59:ARG:HD3	1.60	0.83
49:X:18:VAL:HG13	49:X:43:MET:HB3	1.59	0.83
52:a:54:LYS:HD3	52:a:57:GLN:NE2	1.93	0.83
15:p:61:ARG:HH22	15:p:100:ARG:HA	1.43	0.83
39:N:22:PRO:HA	39:N:60:LEU:HA	1.59	0.83
54:1:704:G:H1'	54:1:727:A:H61	1.43	0.82
2:c:151:THR:HB	2:c:152:PRO:HD3	1.61	0.82
19:t:64:LYS:H	19:t:64:LYS:HD2	1.43	0.82
32:G:185:ILE:HA	32:G:199:ILE:HB	1.59	0.82
33:H:196:GLY:H	53:3:1057:G:H4'	1.44	0.82
54:1:2114:A:H61	54:1:2117:A:N6	1.76	0.82
54:1:2277:G:C2'	54:1:2278:A:H5''	2.09	0.82
57:6:13:C:H2'	57:6:14:A:H5''	1.62	0.82
46:U:44:SER:HB3	46:U:46:LYS:HG2	1.59	0.82
47:V:56:ASP:HB2	47:V:81:ALA:HB2	1.62	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:102:ARG:HB2	3:d:102:ARG:HH21	1.44	0.82
54:1:121:G:H4'	54:1:149:A:H5'	1.62	0.82
21:v:65:VAL:HG13	21:v:68:LYS:HB2	1.62	0.82
59:8:169:LEU:HD21	59:8:263:LEU:HD22	1.61	0.81
59:8:670:LEU:HD21	59:8:678:ALA:HB3	1.62	0.81
29:D:34:ARG:CZ	29:D:39:ARG:HD2	2.11	0.81
35:J:28:ARG:NH2	53:3:15:G:H4'	1.94	0.81
39:N:17:ARG:HB3	39:N:65:THR:HG23	1.61	0.81
33:H:17:TRP:HE1	44:S:93:PRO:HA	1.45	0.81
34:I:59:LYS:HD3	34:I:194:ILE:HG12	1.62	0.81
34:I:81:LEU:HB3	34:I:88:ASN:HD22	1.45	0.81
39:N:56:MET:HG2	39:N:60:LEU:HD11	1.62	0.81
56:5:26:A:N6	56:5:44:G:H1	1.78	0.81
13:n:38:LEU:HD21	13:n:42:LYS:HE2	1.62	0.81
33:H:156:LEU:HD11	33:H:163:ARG:HE	1.46	0.81
34:I:8:LEU:HD23	53:3:429:U:H5'	1.63	0.81
34:I:131:ILE:HG23	53:3:403:C:C5'	2.04	0.81
46:U:67:ILE:H	46:U:67:ILE:HD12	1.44	0.81
59:8:189:LYS:HD3	59:8:204:TYR:OH	1.80	0.81
33:H:68:HIS:HA	33:H:103:ALA:HB3	1.63	0.81
44:S:60:ARG:CZ	53:3:981:U:H1'	2.11	0.81
47:V:30:HIS:HD2	47:V:33:TYR:H	1.29	0.81
54:1:1053:C:H2'	54:1:1054:A:H5''	1.61	0.81
54:1:1906:G:C2'	54:1:1907:G:H5''	2.09	0.81
47:V:26:ARG:NH1	47:V:26:ARG:HB3	1.96	0.81
52:a:170:ILE:HD13	54:1:2177:C:O2	1.81	0.81
54:1:2104:C:H2'	54:1:2105:U:C6	2.15	0.81
20:u:95:PHE:O	20:u:99:SER:HA	1.81	0.80
1:b:149:LYS:HD3	54:1:2204:G:H4'	1.62	0.80
39:N:72:SER:HB2	53:3:1373:G:OP2	1.81	0.80
42:Q:69:GLU:HB3	53:3:521:G:OP1	1.80	0.80
7:h:8:LYS:O	7:h:12:VAL:HG23	1.82	0.80
7:h:50:VAL:HG13	54:1:1083:U:OP2	1.82	0.80
53:3:1369:C:H2'	53:3:1370:G:C8	2.17	0.80
30:E:30:HIS:ND1	30:E:31:ILE:HG12	1.95	0.80
1:b:160:TYR:HB3	1:b:193:GLU:HG2	1.63	0.80
3:d:181:ILE:HG23	11:l:2:ARG:HE	1.45	0.80
33:H:72:PRO:HA	33:H:102:ILE:HD11	1.62	0.80
39:N:29:ILE:HD13	39:N:38:PHE:HE1	1.46	0.80
15:p:20:ARG:HD3	15:p:112:ARG:NH1	1.96	0.80
41:P:12:ARG:HG3	41:P:13:LYS:H	1.46	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:V:11:VAL:HG13	47:V:20:ILE:HD11	1.62	0.80
7:h:55:VAL:HA	54:1:1084:A:H5''	1.64	0.80
38:M:52:GLY:HA3	38:M:56:PRO:HA	1.63	0.79
15:p:90:ALA:HB2	15:p:112:ARG:HA	1.64	0.79
44:S:30:ILE:HG22	44:S:43:ALA:HB2	1.64	0.79
49:X:18:VAL:O	49:X:22:VAL:HG23	1.82	0.79
12:m:12:MET:HE1	12:m:71:LYS:HZ3	1.48	0.79
42:Q:117:GLY:C	53:3:36:C:H5'	2.07	0.79
59:8:278:MET:O	59:8:282:VAL:HG23	1.81	0.79
27:B:39:ARG:HG3	27:B:40:HIS:ND1	1.98	0.79
35:J:96:GLN:HG3	35:J:97:PRO:HD2	1.64	0.79
49:X:40:PHE:H	49:X:43:MET:HE3	1.48	0.79
47:V:16:MET:HB3	47:V:19:SER:HB2	1.64	0.79
52:a:23:ILE:H	52:a:23:ILE:HD12	1.47	0.79
55:2:119:A:C2	55:2:120:A:H1'	2.18	0.79
59:8:618:LYS:HE3	59:8:685:LEU:HD11	1.64	0.79
32:G:163:ILE:HG13	32:G:185:ILE:HD11	1.64	0.79
53:3:591:U:H2'	53:3:592:G:C8	2.18	0.79
2:c:56:LYS:HZ3	2:c:59:ARG:HB2	1.48	0.78
14:o:33:ARG:HE	55:2:52:A:H62	1.29	0.78
32:G:42:LEU:HD23	32:G:42:LEU:H	1.47	0.78
44:S:25:GLU:HA	44:S:28:ALA:HB3	1.65	0.78
50:Y:66:ILE:HD12	50:Y:70:LYS:NZ	1.98	0.78
53:3:714:G:H2'	53:3:715:A:C8	2.18	0.78
54:1:974:G:H1'	54:1:975:A:C8	2.17	0.78
59:8:152:LEU:O	59:8:155:VAL:HG12	1.83	0.78
51:Z:9:GLU:HB2	51:Z:10:PRO:HD3	1.63	0.78
53:3:386:C:H2'	53:3:387:U:H5'	1.65	0.78
38:M:46:GLU:HB3	38:M:61:THR:HB	1.66	0.78
34:I:116:LEU:HD21	34:I:144:ILE:HG12	1.65	0.78
53:3:56:U:H2'	53:3:57:G:C8	2.19	0.78
54:1:1936:A:H2	54:1:1943:U:H3	1.30	0.78
6:g:104:THR:HA	6:g:109:GLU:HA	1.64	0.78
35:J:60:GLN:O	35:J:63:MET:HG2	1.83	0.78
42:Q:108:ASP:H	42:Q:118:VAL:HG11	1.48	0.78
54:1:1912:A:H5''	59:8:507:LYS:HD2	1.64	0.78
17:r:58:VAL:H	17:r:102:SER:HB2	1.47	0.78
54:1:799:G:H5''	54:1:800:A:H2'	1.66	0.78
54:1:2452:C:H42	54:1:2504:U:H3	1.31	0.78
38:M:100:ILE:HG13	38:M:128:VAL:HB	1.64	0.78
53:3:271:C:H2'	53:3:272:C:C6	2.18	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:315:GLU:HB3	59:8:316:PRO:HD2	1.65	0.78
40:O:53:ILE:O	53:3:1060:U:H5'	1.83	0.78
53:3:358:U:H2'	53:3:359:G:C8	2.19	0.78
59:8:50:MET:HE1	59:8:366:MET:HE2	1.63	0.78
59:8:618:LYS:HB3	59:8:683:GLU:HB2	1.66	0.78
50:Y:47:GLN:HG3	50:Y:51:ASN:HD21	1.49	0.78
54:1:1675:C:H2'	54:1:1676:A:O4'	1.84	0.78
59:8:194:ASN:HB2	59:8:201:THR:HB	1.66	0.78
11:l:17:LYS:HD3	54:1:663:G:H5''	1.65	0.78
34:I:50:TYR:HB3	53:3:509:A:OP1	1.83	0.77
54:1:207:A:H2'	54:1:208:C:O4'	1.84	0.77
54:1:2443:C:H2'	54:1:2444:G:H8	1.49	0.77
6:g:46:PHE:HA	6:g:49:ALA:HB3	1.66	0.77
39:N:50:PRO:HB2	39:N:51:LEU:HD22	1.66	0.77
39:N:50:PRO:HD3	39:N:79:ARG:HG3	1.63	0.77
53:3:1502:A:H5'	53:3:1504:G:N7	1.98	0.77
40:O:6:ILE:HG21	40:O:76:ILE:HD12	1.66	0.77
53:3:499:A:N3	53:3:500:G:H1'	2.00	0.77
54:1:2114:A:N6	54:1:2117:A:H62	1.77	0.77
14:o:71:ALA:HB1	14:o:106:LEU:HB2	1.65	0.77
34:I:52:VAL:HG23	34:I:198:LEU:HD22	1.67	0.77
42:Q:54:VAL:HG12	42:Q:55:ARG:H	1.50	0.77
44:S:58:ARG:HH22	53:3:980:C:C4'	1.97	0.77
53:3:64:G:H4'	53:3:65:A:H3'	1.67	0.77
53:3:49:U:H3	53:3:362:G:H1'	1.49	0.77
59:8:82:HIS:CD2	59:8:283:ILE:HG21	2.20	0.77
34:I:49:ASP:O	34:I:52:VAL:HG22	1.85	0.77
34:I:121:ALA:HB2	34:I:148:ALA:HB3	1.67	0.77
46:U:5:ARG:NH2	53:3:376:G:H4'	1.99	0.77
53:3:449:G:H1	53:3:484:G:H1	1.30	0.77
35:J:107:GLY:HA2	53:3:8:A:H1'	1.67	0.77
35:J:133:ILE:H	35:J:133:ILE:HD12	1.48	0.77
47:V:46:HIS:HA	47:V:70:LYS:HZ1	1.50	0.77
53:3:1409:C:H2'	53:3:1410:A:C8	2.19	0.77
54:1:2243:U:H2'	54:1:2244:U:C6	2.20	0.77
54:1:2682:A:H61	54:1:2728:U:H1'	1.50	0.77
38:M:6:ILE:HD13	38:M:32:LYS:HG2	1.65	0.76
51:Z:18:PHE:HA	51:Z:21:SER:HB3	1.67	0.76
54:1:859:G:H1'	54:1:860:U:H5	1.50	0.76
54:1:2048:G:C2'	54:1:2049:G:H5''	2.14	0.76
54:1:2134:A:N6	54:1:2157:G:H4'	2.00	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:19:ILE:HG12	59:8:20:ASP:N	1.99	0.76
59:8:236:LYS:HD3	59:8:243:LEU:HD22	1.67	0.76
2:c:26:VAL:HG12	2:c:186:LEU:HD12	1.66	0.76
34:I:68:GLU:HG3	53:3:545:C:H5''	1.67	0.76
54:1:799:G:H3'	54:1:800:A:H8	1.50	0.76
53:3:405:U:H3'	53:3:406:G:H5'	1.66	0.76
59:8:97:ILE:HG21	59:8:444:SER:HB2	1.66	0.76
59:8:166:PRO:HB3	59:8:262:ILE:HB	1.65	0.76
3:d:106:LYS:HG2	3:d:200:LEU:HD23	1.67	0.76
32:G:28:PRO:HB2	32:G:29:PHE:CD1	2.20	0.76
53:3:1409:C:H2'	53:3:1410:A:H8	1.51	0.76
35:J:54:GLU:HG2	35:J:56:PRO:HD2	1.68	0.76
37:L:106:ALA:HB3	37:L:122:GLU:OE1	1.86	0.76
41:P:118:ASN:ND2	53:3:717:U:H4'	1.96	0.76
54:1:49:A:H5'	54:1:51:G:O4'	1.86	0.76
59:8:17:ALA:HB3	59:8:23:LYS:HE2	1.68	0.76
19:t:30:ILE:HG12	19:t:32:LEU:HD22	1.68	0.76
34:I:74:TYR:HE1	34:I:96:ARG:HH12	1.32	0.76
1:b:100:ARG:O	1:b:101:ARG:HG3	1.86	0.76
2:c:113:SER:OG	2:c:168:GLU:HG2	1.85	0.76
14:o:64:TYR:HD2	14:o:67:ASN:HD22	1.31	0.76
22:w:24:GLY:HA2	22:w:62:LYS:NZ	2.01	0.76
37:L:27:ASN:HB3	53:3:1374:A:O2'	1.85	0.76
59:8:65:SER:HB2	59:8:87:ILE:HD11	1.68	0.76
16:q:20:ALA:HA	16:q:23:TYR:CE2	2.21	0.76
35:J:96:GLN:HB3	35:J:123:LEU:HB2	1.68	0.75
54:1:940:G:H2'	54:1:941:A:H5''	1.66	0.75
25:z:4:ILE:HG22	25:z:37:ARG:O	1.86	0.75
53:3:1354:U:H2'	53:3:1355:G:C8	2.21	0.75
59:8:309:ARG:HH22	59:8:405:ILE:HD13	1.51	0.75
1:b:132:ARG:HG3	1:b:133:ASN:OD1	1.85	0.75
38:M:12:ARG:HB3	38:M:24:VAL:HG11	1.69	0.75
1:b:95:TYR:HE2	1:b:101:ARG:HD2	1.50	0.75
3:d:149:ILE:HD11	3:d:172:ALA:HA	1.68	0.75
34:I:11:SER:HB2	34:I:20:LEU:HD12	1.68	0.75
46:U:51:ARG:HD3	46:U:52:LEU:N	2.01	0.75
53:3:1366:C:H2'	53:3:1367:C:C6	2.22	0.75
59:8:135:VAL:HG13	59:8:137:ARG:HD2	1.68	0.75
22:w:43:ALA:HB2	22:w:55:LEU:HD22	1.67	0.75
27:B:1:ALA:H3	54:1:2056:G:H21	1.33	0.75
39:N:10:ARG:HD2	53:3:1118:U:OP1	1.85	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:79:THR:HA	6:g:145:ASN:HB3	1.69	0.75
34:I:124:VAL:HG12	34:I:142:VAL:HA	1.69	0.75
49:X:5:LYS:HG3	49:X:6:LYS:H	1.51	0.75
53:3:459:A:H2'	53:3:460:A:C8	2.22	0.75
54:1:220:G:H22	54:1:427:U:H2'	1.51	0.75
9:j:114:LEU:HG	9:j:118:MET:HE2	1.67	0.75
18:s:20:VAL:HG21	18:s:43:ALA:HB3	1.69	0.75
32:G:72:LYS:HG2	32:G:167:HIS:ND1	2.02	0.75
37:L:143:MET:HE1	57:6:41:C:H4'	1.67	0.75
49:X:43:MET:HB2	49:X:46:LEU:HD12	1.69	0.75
34:I:176:LYS:HE3	34:I:178:GLU:HB3	1.69	0.75
53:3:107:G:H5''	53:3:134:G:H21	1.51	0.75
41:P:95:THR:HG23	41:P:96:ILE:H	1.51	0.75
59:8:647:SER:HA	59:8:652:VAL:HG12	1.68	0.75
4:e:3:LEU:HA	4:e:6:TYR:HB3	1.67	0.74
5:f:16:VAL:HG11	5:f:49:LEU:HD21	1.69	0.74
11:l:55:MET:HE2	54:1:2392:A:H2	1.52	0.74
37:L:19:SER:HB3	37:L:22:LEU:HD23	1.69	0.74
9:j:7:LYS:O	9:j:11:VAL:HG23	1.87	0.74
12:m:41:LEU:HG	12:m:96:ILE:HG13	1.69	0.74
15:p:61:ARG:NH2	15:p:100:ARG:HA	2.02	0.74
1:b:23:LEU:HD21	1:b:82:TYR:N	2.03	0.74
37:L:1:PRO:HD2	37:L:4:ARG:HB2	1.69	0.74
53:3:1218:C:H2'	53:3:1219:A:C8	2.21	0.74
3:d:73:ILE:H	3:d:73:ILE:HD12	1.51	0.74
3:d:143:LEU:HD22	3:d:146:VAL:HG11	1.69	0.74
26:A:58:ASP:HA	26:A:61:ASN:ND2	2.02	0.74
33:H:56:ILE:HD12	33:H:63:ILE:HD11	1.69	0.74
52:a:54:LYS:HD3	52:a:57:GLN:HE22	1.51	0.74
53:3:59:A:H1'	53:3:354:G:N2	2.02	0.74
53:3:179:A:H61	53:3:196:A:H62	1.34	0.74
30:E:31:ILE:HD11	54:1:2391:G:H5'	1.69	0.74
44:S:2:LYS:HA	53:3:1048:G:H5''	1.70	0.74
53:3:1392:G:H2'	53:3:1393:U:C6	2.22	0.74
53:3:1398:A:N3	53:3:1398:A:H2'	2.02	0.74
11:l:20:GLY:HA2	11:l:28:GLY:HA2	1.68	0.74
32:G:218:ALA:HA	32:G:221:ARG:HH12	1.51	0.74
15:p:52:ARG:HH22	54:1:2720:U:H5''	1.51	0.74
18:s:19:LEU:HG	27:B:21:LEU:HG	1.68	0.74
32:G:8:MET:SD	32:G:10:LYS:HE3	2.27	0.74
38:M:49:LYS:HG3	38:M:51:GLU:HG3	1.70	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:18:GLN:O	32:G:19:THR:HB	1.88	0.74
47:V:39:ARG:HG2	47:V:39:ARG:HH11	1.53	0.74
50:Y:67:HIS:NE2	53:3:132:C:H5''	2.03	0.74
4:e:109:ARG:HG3	43:R:2:ARG:NH2	2.02	0.74
18:s:82:MET:HB3	18:s:84:ARG:HH22	1.51	0.74
36:K:3:HIS:H	36:K:92:THR:HG22	1.52	0.74
12:m:31:PHE:HB3	12:m:130:PHE:HE1	1.53	0.74
34:I:94:GLU:HG3	34:I:185:PRO:HB2	1.70	0.74
51:Z:25:ALA:HA	51:Z:28:LEU:HB3	1.70	0.74
53:3:591:U:H2'	53:3:592:G:H8	1.52	0.74
54:1:310:A:O2'	54:1:311:A:H5''	1.88	0.74
54:1:2591:C:H2'	54:1:2592:G:C8	2.22	0.74
54:1:2591:C:H2'	54:1:2592:G:H8	1.53	0.74
59:8:574:MET:SD	59:8:576:ILE:HB	2.27	0.74
46:U:9:HIS:O	46:U:16:PHE:HB3	1.87	0.73
54:1:2512:C:H2'	54:1:2513:A:O4'	1.88	0.73
57:6:31:G:H2'	57:6:32:C:H5'	1.70	0.73
26:A:11:GLU:HA	26:A:25:ARG:HA	1.68	0.73
33:H:17:TRP:HZ2	44:S:92:ILE:O	1.71	0.73
46:U:20:VAL:HG23	46:U:34:GLU:O	1.89	0.73
47:V:16:MET:CE	53:3:276:G:H5'	2.17	0.73
53:3:518:C:C5	53:3:529:G:H2'	2.23	0.73
18:s:86:MET:HE3	18:s:87:PRO:HD2	1.70	0.73
29:D:25:LYS:HA	29:D:28:ARG:NH2	2.03	0.73
34:I:53:GLN:HA	34:I:198:LEU:HB3	1.69	0.73
40:O:15:HIS:HB3	40:O:70:HIS:CD2	2.23	0.73
46:U:5:ARG:CZ	53:3:376:G:H4'	2.17	0.73
34:I:13:ARG:HA	34:I:37:PRO:HB3	1.69	0.73
34:I:195:ASN:ND2	34:I:197:HIS:HB2	2.03	0.73
44:S:35:ALA:O	44:S:40:ARG:HG3	1.89	0.73
51:Z:16:ARG:HB2	51:Z:19:LYS:HD3	1.68	0.73
54:1:2743:U:H2'	54:1:2744:G:H5''	1.70	0.73
34:I:6:PRO:HB2	34:I:9:LYS:NZ	2.04	0.73
42:Q:46:SER:HB3	53:3:518:C:H1'	1.70	0.73
53:3:1354:U:H2'	53:3:1355:G:H8	1.52	0.73
54:1:2243:U:H2'	54:1:2244:U:H6	1.54	0.73
19:t:64:LYS:HD2	19:t:64:LYS:N	2.04	0.73
34:I:54:LEU:HD13	53:3:509:A:H1'	1.70	0.73
40:O:47:GLU:HB2	40:O:67:ILE:HG13	1.69	0.73
53:3:65:A:H5'	53:3:200:G:C5'	2.19	0.73
53:3:231:U:H2'	53:3:232:G:H8	1.52	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:z:35:VAL:HG22	25:z:36:GLU:H	1.54	0.73
30:E:61:LEU:HD12	30:E:61:LEU:O	1.88	0.73
44:S:47:LEU:HD21	53:3:1317:C:H4'	1.70	0.73
53:3:358:U:H2'	53:3:359:G:H8	1.52	0.73
53:3:1341:U:O2'	53:3:1342:C:H5'	1.89	0.73
34:I:115:GLN:HB2	53:3:407:U:H5'	1.71	0.73
37:L:81:GLY:HA3	58:4:14:A:O2'	1.89	0.73
39:N:74:GLN:O	39:N:78:ILE:HG13	1.89	0.73
46:U:12:LYS:HG2	46:U:13:LYS:HG2	1.70	0.73
13:n:38:LEU:HD11	13:n:99:LYS:HE2	1.71	0.72
16:q:111:LYS:HD3	17:r:48:LYS:HD3	1.71	0.72
44:S:39:ASP:HA	44:S:42:ASN:HB2	1.71	0.72
33:H:149:LYS:HD3	33:H:168:ARG:HB3	1.71	0.72
42:Q:120:ARG:HB2	42:Q:121:PRO:HD2	1.71	0.72
43:R:85:TYR:O	43:R:89:ARG:HG2	1.89	0.72
54:1:2345:G:N3	54:1:2381:A:H2'	2.03	0.72
6:g:110:VAL:HG22	6:g:111:ALA:H	1.54	0.72
14:o:64:TYR:HB3	14:o:67:ASN:ND2	2.03	0.72
16:q:30:VAL:HG12	16:q:33:VAL:H	1.54	0.72
3:d:118:LEU:HD11	3:d:188:MET:HG3	1.71	0.72
35:J:93:VAL:HG21	35:J:139:THR:HG22	1.71	0.72
49:X:35:ARG:HH11	49:X:35:ARG:HG2	1.54	0.72
53:3:499:A:H1'	53:3:500:G:C8	2.24	0.72
53:3:813:U:C2'	53:3:814:A:H5''	2.18	0.72
59:8:174:GLY:HA3	59:8:179:PHE:HA	1.71	0.72
59:8:351:ASN:OD1	59:8:353:VAL:HG12	1.89	0.72
1:b:32:LEU:C	1:b:33:LEU:HD12	2.14	0.72
7:h:61:ARG:HB3	54:1:1046:A:H4'	1.71	0.72
20:u:39:ASN:HB3	20:u:62:ALA:HB3	1.71	0.72
5:f:71:LEU:O	5:f:75:VAL:HG23	1.89	0.72
36:K:19:PRO:HA	36:K:22:ILE:HD12	1.71	0.72
53:3:252:U:O2	53:3:252:U:H2'	1.89	0.72
53:3:693:G:H5''	58:4:15:A:OP1	1.90	0.72
21:v:75:GLN:HB2	21:v:92:VAL:HG23	1.70	0.72
25:z:37:ARG:NH2	54:1:929:U:H4'	2.04	0.72
34:I:8:LEU:CD2	53:3:429:U:H5'	2.19	0.72
54:1:2286:G:H5''	54:1:2287:A:OP1	1.89	0.72
7:h:7:ASP:O	7:h:11:ILE:HG12	1.90	0.72
32:G:33:ALA:HB2	32:G:39:ILE:HD11	1.71	0.72
13:n:20:MET:HE2	54:1:1277:G:H5'	1.72	0.72
16:q:18:LYS:O	16:q:21:LYS:HG2	1.90	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:155:LYS:N	34:I:156:ALA:H	1.88	0.72
55:2:1:U:C5	55:2:2:G:N7	2.58	0.72
9:j:40:HIS:CE1	9:j:41:LYS:HG3	2.25	0.71
10:k:76:VAL:H	15:p:72:VAL:HG22	1.55	0.71
34:I:155:LYS:N	34:I:156:ALA:N	2.38	0.71
35:J:42:ASN:ND2	35:J:42:ASN:O	2.23	0.71
2:c:184:ARG:HB3	2:c:186:LEU:HD23	1.72	0.71
7:h:11:ILE:O	7:h:15:VAL:HG23	1.90	0.71
39:N:79:ARG:HD2	39:N:102:PHE:HE1	1.55	0.71
39:N:118:ARG:HB2	39:N:122:ARG:HB3	1.72	0.71
53:3:422:C:H4'	53:3:423:G:N2	2.04	0.71
54:1:2248:C:H2'	54:1:2249:U:H5'	1.72	0.71
10:k:108:ARG:HG3	10:k:113:MET:HE1	1.70	0.71
13:n:103:ARG:HD3	13:n:110:MET:HE2	1.71	0.71
34:I:87:GLU:OE1	34:I:90:LEU:HD12	1.90	0.71
52:a:48:LEU:HD11	52:a:171:ILE:HB	1.72	0.71
47:V:19:SER:HA	47:V:70:LYS:HZ3	1.53	0.71
53:3:1366:C:H2'	53:3:1367:C:H6	1.55	0.71
7:h:77:VAL:C	7:h:79:PRO:HD2	2.15	0.71
21:v:9:ARG:HG2	21:v:41:GLU:HB2	1.73	0.71
41:P:35:ASP:OD2	41:P:37:GLN:HB2	1.91	0.71
42:Q:97:VAL:CG1	53:3:35:G:H5'	2.20	0.71
54:1:848:C:H2'	54:1:849:A:H8	1.56	0.71
54:1:2175:C:H2'	54:1:2176:A:C8	2.25	0.71
59:8:54:GLU:HA	59:8:57:GLN:HG2	1.72	0.71
34:I:66:VAL:HG22	34:I:96:ARG:HH22	1.56	0.71
36:K:18:VAL:HB	36:K:19:PRO:HD3	1.72	0.71
40:O:15:HIS:HB3	40:O:70:HIS:NE2	2.06	0.71
52:a:4:LEU:HB3	52:a:9:ARG:HG2	1.72	0.71
54:1:2329:U:H2'	54:1:2330:G:H8	1.56	0.71
37:L:21:LEU:H	37:L:21:LEU:HD12	1.56	0.71
54:1:827:U:H4'	54:1:828:U:C5	2.25	0.71
54:1:1779:U:H5	54:1:1784:A:N7	1.88	0.71
19:t:92:ASN:C	19:t:93:LEU:HD12	2.16	0.71
43:R:22:TYR:HB3	43:R:65:GLU:HA	1.72	0.71
53:3:330:C:H2'	53:3:331:G:H5'	1.73	0.71
53:3:483:C:H2'	53:3:484:G:C8	2.24	0.71
47:V:69:THR:HG23	47:V:70:LYS:HG3	1.72	0.71
54:1:1367:A:H2'	54:1:1368:G:H5'	1.71	0.71
54:1:1827:U:O2'	54:1:1828:G:H5'	1.90	0.71
54:1:2715:C:C2'	54:1:2716:C:H5''	2.19	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:12:MET:HE1	12:m:71:LYS:NZ	2.06	0.71
23:x:67:LEU:HB3	23:x:71:ARG:HH12	1.55	0.71
30:E:3:ILE:HG21	30:E:62:PRO:HG2	1.72	0.71
34:I:2:ARG:NH2	34:I:114:ARG:HD3	2.05	0.71
53:3:515:G:H2'	53:3:516:U:C6	2.26	0.71
54:1:577:G:H2'	54:1:578:G:C8	2.26	0.71
59:8:94:ASP:OD1	59:8:465:HIS:HB2	1.91	0.71
59:8:158:ILE:HG21	59:8:166:PRO:HG3	1.73	0.71
59:8:349:VAL:HG21	59:8:397:LEU:HD21	1.72	0.71
32:G:71:THR:O	32:G:72:LYS:HB2	1.90	0.70
34:I:4:LEU:HD13	53:3:406:G:H5''	1.73	0.70
40:O:65:TYR:HB3	44:S:95:LEU:HD11	1.73	0.70
46:U:13:LYS:O	46:U:14:ARG:HD2	1.91	0.70
52:a:23:ILE:O	52:a:27:ILE:HG12	1.90	0.70
42:Q:41:PRO:HG2	42:Q:49:ARG:NH1	2.06	0.70
51:Z:33:ARG:HH11	51:Z:33:ARG:HG3	1.56	0.70
3:d:145:ASP:HB3	3:d:184:ASP:HB2	1.73	0.70
13:n:35:LYS:HB3	13:n:112:TYR:CE1	2.26	0.70
20:u:3:LYS:C	20:u:4:ILE:HD12	2.16	0.70
49:X:17:LYS:HG2	49:X:30:LEU:HD23	1.73	0.70
21:v:72:VAL:HG12	21:v:93:ARG:HA	1.73	0.70
27:B:1:ALA:N	54:1:2056:G:H21	1.89	0.70
32:G:19:THR:HG23	32:G:21:TYR:H	1.54	0.70
34:I:183:ARG:HH11	34:I:184:LYS:H	1.38	0.70
54:1:2328:A:H2'	54:1:2329:U:C6	2.25	0.70
28:C:36:LYS:HA	28:C:47:ILE:HA	1.74	0.70
43:R:47:LEU:HB3	43:R:52:ILE:HD11	1.73	0.70
47:V:41:THR:HG22	47:V:43:LEU:HG	1.73	0.70
56:5:4:C:O2'	56:5:5:G:H5'	1.91	0.70
29:D:26:ASN:CG	54:1:682:G:H5'	2.17	0.70
40:O:37:ARG:HD3	53:3:1124:G:H5''	1.73	0.70
41:P:91:GLY:O	41:P:95:THR:HG22	1.90	0.70
54:1:1796:U:H2'	54:1:1797:G:H8	1.54	0.70
54:1:2156:G:C2'	54:1:2157:G:H5'	2.21	0.70
59:8:491:ARG:HG2	59:8:570:PRO:HB2	1.73	0.70
46:U:16:PHE:HB2	46:U:40:ASN:ND2	2.07	0.70
47:V:14:ASP:HA	47:V:20:ILE:HA	1.74	0.70
54:1:435:C:H2'	54:1:436:C:H5'	1.72	0.70
3:d:115:GLN:HB3	3:d:117:ARG:HD3	1.74	0.70
54:1:2788:C:H2'	54:1:2789:C:C6	2.27	0.70
59:8:364:VAL:HB	59:8:371:ARG:HB3	1.72	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:440:LYS:HD2	59:8:441:GLU:N	2.06	0.70
12:m:63:ILE:HD12	12:m:63:ILE:N	2.07	0.70
17:r:27:ILE:HG22	17:r:28:ALA:H	1.56	0.70
32:G:26:MET:HA	32:G:26:MET:HE3	1.73	0.70
35:J:82:HIS:HB2	35:J:83:PRO:HD2	1.74	0.70
47:V:19:SER:HA	47:V:70:LYS:NZ	2.06	0.70
49:X:10:ILE:HB	49:X:14:LEU:HD23	1.72	0.70
54:1:1307:A:H2'	54:1:1308:A:H5'	1.73	0.70
11:l:95:LEU:HB3	11:l:100:ILE:HD11	1.72	0.70
32:G:46:VAL:HB	32:G:47:PRO:HD3	1.74	0.70
33:H:21:TRP:HB3	33:H:58:ARG:H	1.57	0.70
34:I:4:LEU:CD1	53:3:406:G:H5''	2.21	0.70
3:d:29:HIS:CE1	11:l:8:PRO:HB3	2.27	0.69
16:q:23:TYR:HD1	54:1:533:G:H5'	1.56	0.69
33:H:203:LYS:HA	33:H:203:LYS:HE2	1.72	0.69
42:Q:34:THR:O	42:Q:53:ARG:HB3	1.91	0.69
42:Q:112:ALA:HB2	53:3:503:C:OP2	1.92	0.69
53:3:195:A:H2'	53:3:196:A:C8	2.27	0.69
54:1:1821:A:H2'	54:1:1822:C:C6	2.27	0.69
54:1:1141:U:H4'	54:1:1142:A:O4'	1.92	0.69
54:1:2248:C:C2'	54:1:2249:U:H5'	2.22	0.69
5:f:162:ARG:CZ	5:f:168:VAL:HG11	2.22	0.69
16:q:57:ARG:O	16:q:61:ILE:HG13	1.91	0.69
19:t:1:MET:HG2	19:t:2:ILE:H	1.56	0.69
34:I:25:ARG:HG2	34:I:25:ARG:HH11	1.58	0.69
46:U:50:THR:HG21	46:U:78:VAL:HG21	1.73	0.69
47:V:26:ARG:HB3	47:V:26:ARG:HH11	1.56	0.69
50:Y:66:ILE:HD12	50:Y:70:LYS:HZ2	1.56	0.69
52:a:190:GLU:O	52:a:194:VAL:HG23	1.91	0.69
54:1:995:C:H6	54:1:995:C:H5'	1.57	0.69
8:i:57:VAL:HG23	8:i:71:LYS:NZ	2.07	0.69
38:M:64:TYR:HD1	38:M:69:ALA:HA	1.58	0.69
53:3:53:A:H2'	53:3:54:C:O4'	1.93	0.69
53:3:320:A:H2'	53:3:321:A:C8	2.28	0.69
54:1:704:G:H1'	54:1:727:A:N6	2.07	0.69
43:R:51:GLN:O	43:R:55:LEU:HD23	1.92	0.69
3:d:32:VAL:HG11	11:l:6:LEU:HD13	1.74	0.69
26:A:22:MET:HE3	26:A:23:LYS:H	1.57	0.69
59:8:603:GLU:HA	59:8:606:LYS:HG2	1.75	0.69
26:A:56:ARG:HH22	49:X:67:GLY:H	1.38	0.69
41:P:122:PRO:HB2	51:Z:33:ARG:HA	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:U:3:THR:HG21	46:U:24:SER:HB3	1.73	0.69
54:1:717:C:H2'	54:1:718:A:H5'	1.74	0.69
54:1:864:G:O2'	54:1:865:C:H5'	1.93	0.69
59:8:100:GLU:HA	59:8:103:MET:HE2	1.75	0.69
59:8:520:ILE:HB	59:8:576:ILE:HD11	1.74	0.69
3:d:18:THR:HG23	3:d:200:LEU:HD22	1.72	0.69
33:H:160:GLU:OE2	33:H:161:ILE:HG23	1.93	0.69
34:I:73:ASN:O	34:I:76:LYS:HB2	1.93	0.69
34:I:131:ILE:CD1	53:3:403:C:H4'	2.22	0.69
47:V:20:ILE:HG12	47:V:21:VAL:H	1.57	0.69
53:3:36:C:H2'	53:3:37:U:O4'	1.93	0.69
53:3:373:A:H2'	53:3:374:A:H8	1.57	0.69
53:3:521:G:H21	53:3:536:C:H5'	1.58	0.69
1:b:106:PRO:HG2	1:b:109:LEU:HB2	1.75	0.69
9:j:115:GLY:HA2	9:j:118:MET:HE3	1.74	0.69
42:Q:33:CYS:SG	42:Q:36:VAL:HG23	2.33	0.69
50:Y:59:ARG:NH1	50:Y:59:ARG:HB2	2.08	0.69
53:3:459:A:H2'	53:3:460:A:H8	1.58	0.69
53:3:537:G:H2'	53:3:538:G:C8	2.28	0.69
54:1:2329:U:H2'	54:1:2330:G:C8	2.27	0.69
59:8:15:ILE:HA	59:8:110:VAL:HG12	1.73	0.69
59:8:435:LEU:HD23	59:8:473:MET:HE1	1.74	0.69
16:q:23:TYR:CD1	54:1:533:G:H5'	2.28	0.68
33:H:175:HIS:CD2	53:3:1108:G:H5'	2.28	0.68
44:S:7:ALA:HA	44:S:10:VAL:HG12	1.74	0.68
46:U:5:ARG:NH2	46:U:28:ARG:HB2	2.08	0.68
53:3:65:A:H5'	53:3:200:G:H5'	1.74	0.68
54:1:962:G:H21	54:1:2250:G:H1	1.39	0.68
8:i:12:VAL:HG23	8:i:13:ALA:H	1.58	0.68
11:l:68:SER:HB3	11:l:71:ALA:HB3	1.75	0.68
33:H:10:ARG:NH2	33:H:174:LEU:HA	2.08	0.68
44:S:62:ARG:HH21	53:3:981:U:H5''	1.57	0.68
53:3:1005:A:H2'	53:3:1006:G:O4'	1.94	0.68
54:1:1979:U:O2'	54:1:1980:G:H5'	1.92	0.68
59:8:97:ILE:HA	59:8:100:GLU:HB3	1.76	0.68
2:c:125:TRP:HB2	2:c:127:PHE:CE1	2.28	0.68
4:e:102:LEU:HA	4:e:106:ALA:HB3	1.76	0.68
22:w:21:ARG:HB2	22:w:33:ILE:HG23	1.74	0.68
23:x:67:LEU:HB3	23:x:71:ARG:NH1	2.07	0.68
39:N:116:GLY:C	39:N:117:LEU:HD12	2.19	0.68
40:O:59:LYS:HE2	40:O:62:ARG:NH2	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:19:VAL:HG21	41:P:36:ARG:HA	1.74	0.68
42:Q:31:GLY:HA2	42:Q:56:LEU:HA	1.74	0.68
45:T:80:LEU:HD12	45:T:81:ILE:N	2.08	0.68
54:1:2179:C:H2'	54:1:2180:U:C6	2.28	0.68
33:H:202:PHE:CZ	33:H:205:GLU:HG3	2.27	0.68
34:I:131:ILE:HD12	53:3:403:C:H4'	1.76	0.68
38:M:94:VAL:HG21	38:M:101:ALA:HB2	1.74	0.68
39:N:98:ARG:HD2	39:N:103:VAL:HG21	1.75	0.68
54:1:1683:U:H2'	54:1:1684:G:H8	1.58	0.68
2:c:3:GLY:C	2:c:4:LEU:HD12	2.19	0.68
22:w:24:GLY:HA2	22:w:62:LYS:HZ2	1.58	0.68
23:x:76:LYS:HE2	23:x:76:LYS:HA	1.76	0.68
54:1:2047:C:H2'	54:1:2048:G:H8	1.59	0.68
59:8:175:ALA:H	59:8:178:HIS:HB3	1.59	0.68
13:n:90:ARG:HH12	54:1:2880:C:H4'	1.59	0.68
37:L:56:SER:O	37:L:60:ALA:N	2.25	0.68
46:U:18:GLN:HB3	46:U:35:ARG:HE	1.57	0.68
59:8:321:ALA:HA	59:8:336:PHE:HA	1.74	0.68
27:B:11:LYS:HA	27:B:14:MET:HE3	1.75	0.68
34:I:100:VAL:HA	34:I:103:ARG:HB3	1.75	0.68
53:3:715:A:H2'	53:3:716:A:H8	1.57	0.68
53:3:791:G:N2	53:3:1497:G:H4'	2.09	0.68
54:1:548:G:H2'	54:1:549:G:O4'	1.93	0.68
59:8:18:HIS:CD2	59:8:19:ILE:HG22	2.27	0.68
59:8:428:GLN:HA	59:8:431:MET:HB3	1.76	0.68
10:k:97:THR:O	10:k:118:LEU:HD13	1.94	0.68
34:I:132:ALA:H	53:3:403:C:H5''	1.59	0.68
39:N:121:ARG:HD3	53:3:1348:U:H4'	1.76	0.68
59:8:226:ALA:HA	59:8:255:ARG:NH2	2.08	0.68
13:n:97:ILE:HD12	13:n:97:ILE:N	2.08	0.68
50:Y:30:PHE:O	50:Y:34:VAL:HG23	1.93	0.68
50:Y:59:ARG:HB2	50:Y:59:ARG:HH11	1.59	0.68
53:3:1150:A:H2'	53:3:1151:A:C8	2.29	0.68
56:5:13:C:C2'	56:5:14:A:H5''	2.21	0.68
13:n:97:ILE:HD12	13:n:97:ILE:H	1.58	0.68
33:H:18:ASN:HB3	33:H:39:ARG:NH2	2.09	0.68
35:J:85:LYS:HD2	35:J:92:ARG:HH22	1.59	0.68
35:J:160:VAL:HG13	35:J:161:GLU:OE2	1.93	0.68
50:Y:74:HIS:HA	50:Y:77:ASN:ND2	2.09	0.68
53:3:701:U:H4'	53:3:703:G:H1'	1.74	0.68
55:2:13:G:H21	55:2:16:G:H1'	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:343:VAL:O	59:8:376:GLU:HA	1.93	0.68
34:I:103:ARG:HG3	34:I:170:LEU:CD2	2.22	0.67
54:1:222:A:H61	54:1:232:G:H1'	1.59	0.67
55:2:118:C:H2'	55:2:119:A:H8	1.59	0.67
7:h:1:MET:HG3	7:h:2:ALA:H	1.60	0.67
19:t:47:VAL:HG13	19:t:51:PHE:HD2	1.59	0.67
52:a:63:THR:HG21	52:a:192:LEU:HD12	1.75	0.67
53:3:1306:A:N6	53:3:1331:G:H1'	2.09	0.67
54:1:1815:A:O4'	54:1:1817:G:H1'	1.95	0.67
32:G:17:HIS:CG	32:G:18:GLN:H	2.11	0.67
44:S:86:ALA:HB1	44:S:91:GLU:HB2	1.76	0.67
51:Z:7:GLU:HB2	51:Z:11:PHE:HB3	1.76	0.67
54:1:1360:G:H22	54:1:2214:C:H42	1.42	0.67
8:i:11:GLN:OE1	8:i:56:VAL:HB	1.94	0.67
32:G:212:TYR:O	32:G:216:VAL:HG23	1.93	0.67
36:K:52:ASN:O	36:K:53:LYS:HB3	1.93	0.67
39:N:15:ALA:O	39:N:66:VAL:HG23	1.95	0.67
49:X:35:ARG:HD3	53:3:1220:G:O3'	1.94	0.67
53:3:132:C:H2'	53:3:133:U:C6	2.29	0.67
54:1:2564:A:C2	54:1:2647:U:H4'	2.29	0.67
8:i:25:PRO:HB2	54:1:1095:A:H61	1.59	0.67
53:3:517:G:C2	53:3:531:U:H4'	2.30	0.67
53:3:526:C:H2'	53:3:527:G:O4'	1.94	0.67
54:1:680:C:H2'	54:1:681:G:C8	2.30	0.67
55:2:3:C:H2'	55:2:4:C:H5''	1.75	0.67
55:2:119:A:C2	55:2:120:A:C4	2.81	0.67
59:8:663:MET:HG2	59:8:682:MET:HE2	1.76	0.67
2:c:129:THR:HG23	2:c:130:GLN:O	1.94	0.67
33:H:18:ASN:HB3	33:H:39:ARG:HH22	1.59	0.67
37:L:42:VAL:O	37:L:46:LEU:N	2.26	0.67
47:V:77:VAL:HG11	47:V:80:LYS:HG3	1.77	0.67
51:Z:36:PHE:C	51:Z:38:GLU:H	2.03	0.67
51:Z:40:PRO:HA	51:Z:43:GLU:HG2	1.75	0.67
3:d:118:LEU:HD21	3:d:188:MET:HE2	1.77	0.67
33:H:23:ALA:HB3	33:H:28:PHE:HD1	1.59	0.67
38:M:2:MET:HE1	53:3:588:G:H4'	1.77	0.67
42:Q:38:THR:HB	42:Q:49:ARG:O	1.95	0.67
54:1:1138:G:H2'	54:1:1139:G:O4'	1.94	0.67
59:8:194:ASN:HD22	59:8:201:THR:HB	1.58	0.67
22:w:32:ILE:HD12	22:w:32:ILE:N	2.10	0.67
32:G:19:THR:OG1	32:G:20:ARG:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:8:ARG:NH1	42:Q:8:ARG:HB2	2.10	0.67
46:U:39:PHE:HD1	46:U:50:THR:HG1	1.41	0.67
53:3:1216:A:H2'	53:3:1217:C:C6	2.29	0.67
54:1:680:C:H2'	54:1:681:G:H8	1.60	0.67
15:p:91:VAL:HG23	15:p:93:LYS:H	1.60	0.67
30:E:50:SER:HB3	30:E:53:ASP:OD2	1.95	0.67
35:J:92:ARG:O	35:J:93:VAL:C	2.37	0.67
53:3:386:C:C2'	53:3:387:U:H5'	2.24	0.67
54:1:615:U:H5''	54:1:616:A:OP2	1.94	0.67
54:1:2508:G:H1	54:1:2580:U:H3	1.41	0.67
4:e:39:VAL:HG11	4:e:49:LEU:HD13	1.77	0.67
18:s:29:VAL:HG11	18:s:55:ILE:HG21	1.77	0.67
35:J:22:LYS:HB3	35:J:29:ILE:CG2	2.25	0.67
36:K:14:GLN:O	36:K:17:GLN:N	2.26	0.67
41:P:22:ILE:HB	41:P:85:VAL:HA	1.76	0.67
42:Q:73:LEU:HD21	42:Q:102:ASP:HB3	1.77	0.67
48:W:58:ILE:O	48:W:62:ARG:HG2	1.94	0.67
53:3:403:C:N4	53:3:547:A:H5'	2.09	0.67
54:1:1199:U:H2'	54:1:1200:C:C6	2.30	0.67
59:8:138:ILE:HD13	59:8:282:VAL:HG22	1.75	0.67
2:c:59:ARG:HH11	54:1:2830:C:H3'	1.59	0.66
4:e:100:GLU:OE2	4:e:104:THR:HB	1.95	0.66
32:G:103:TRP:HA	32:G:106:VAL:HG12	1.74	0.66
33:H:155:ARG:HD3	53:3:1055:A:H2'	1.77	0.66
53:3:308:C:H2'	53:3:309:A:C8	2.30	0.66
54:1:1020:A:H1'	54:1:1021:A:OP2	1.95	0.66
2:c:40:LEU:H	2:c:40:LEU:HD12	1.59	0.66
21:v:80:HIS:ND1	21:v:81:PRO:HD2	2.10	0.66
34:I:75:TYR:CE1	34:I:203:TYR:HB3	2.30	0.66
38:M:95:MET:O	38:M:98:LEU:HG	1.94	0.66
41:P:88:PRO:HG2	41:P:89:GLY:H	1.60	0.66
49:X:35:ARG:HA	49:X:70:LEU:HD12	1.76	0.66
53:3:537:G:H2'	53:3:538:G:H8	1.59	0.66
59:8:223:ILE:HA	59:8:226:ALA:HB3	1.76	0.66
9:j:101:ILE:H	9:j:101:ILE:CD1	2.07	0.66
27:B:1:ALA:N	54:1:2056:G:N2	2.43	0.66
32:G:182:VAL:HG12	32:G:196:ASP:OD2	1.95	0.66
34:I:54:LEU:HD13	53:3:509:A:C1'	2.25	0.66
36:K:48:ALA:HB1	48:W:68:PRO:HG3	1.77	0.66
42:Q:49:ARG:HH21	53:3:522:C:H41	1.43	0.66
44:S:45:LEU:HD11	49:X:12:LEU:HG	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:V:11:VAL:HB	47:V:56:ASP:H	1.60	0.66
52:a:50:ILE:HG22	52:a:57:GLN:HB3	1.76	0.66
53:3:162:A:H2'	53:3:163:C:O4'	1.94	0.66
53:3:220:G:H2'	53:3:221:C:H6	1.59	0.66
9:j:53:TYR:C	9:j:54:ILE:HD12	2.20	0.66
15:p:88:ARG:NH2	15:p:88:ARG:HB3	2.10	0.66
28:C:3:GLY:N	54:1:2283:C:H5'	2.10	0.66
46:U:15:PRO:HG2	46:U:41:PRO:HG2	1.78	0.66
53:3:543:U:H2'	53:3:544:G:H8	1.61	0.66
4:e:48:LEU:HD11	4:e:147:ARG:NE	2.11	0.66
23:x:12:VAL:HG22	23:x:28:PHE:HB2	1.78	0.66
32:G:148:GLY:O	32:G:150:ILE:N	2.28	0.66
35:J:92:ARG:O	35:J:93:VAL:O	2.13	0.66
40:O:47:GLU:CB	40:O:67:ILE:HG13	2.26	0.66
53:3:1481:U:H2'	53:3:1482:G:C8	2.31	0.66
54:1:176:A:H3'	54:1:177:G:H21	1.59	0.66
8:i:55:PRO:HG2	8:i:71:LYS:HE2	1.76	0.66
13:n:4:ARG:HD2	54:1:2820:A:C4	2.30	0.66
26:A:56:ARG:HH12	49:X:67:GLY:HA3	1.59	0.66
34:I:6:PRO:HB2	34:I:9:LYS:HZ1	1.58	0.66
42:Q:86:VAL:HG21	42:Q:89:LEU:HB2	1.76	0.66
46:U:6:LEU:HG	46:U:19:VAL:HA	1.76	0.66
52:a:57:GLN:HG3	52:a:203:GLN:HB3	1.78	0.66
53:3:481:G:H21	53:3:482:A:N6	1.94	0.66
54:1:2118:U:H5	54:1:2149:U:H1'	1.60	0.66
54:1:2443:C:H2'	54:1:2444:G:C8	2.28	0.66
54:1:2800:A:H3'	54:1:2801:G:H5'	1.78	0.66
59:8:691:PRO:O	59:8:695:ALA:N	2.23	0.66
17:r:14:VAL:HG21	17:r:98:ILE:HG13	1.77	0.66
41:P:125:LYS:HE3	53:3:797:C:OP1	1.95	0.66
45:T:34:GLN:HG2	45:T:58:MET:HE1	1.77	0.66
46:U:15:PRO:HD2	46:U:42:ILE:HD13	1.76	0.66
53:3:370:C:H2'	53:3:371:A:H8	1.60	0.66
53:3:813:U:H2'	53:3:814:A:C5'	2.26	0.66
54:1:222:A:N6	54:1:232:G:H1'	2.10	0.66
54:1:2557:G:H2'	54:1:2558:C:C6	2.30	0.66
55:2:60:C:H2'	55:2:61:G:H8	1.60	0.66
59:8:97:ILE:O	59:8:101:ARG:N	2.26	0.66
11:l:50:PHE:CZ	11:l:52:GLY:HA2	2.31	0.66
35:J:39:GLY:HA2	35:J:70:MET:HE1	1.78	0.66
36:K:52:ASN:HD22	36:K:85:ILE:HG21	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:113:THR:O	41:P:115:ILE:HD12	1.96	0.66
53:3:501:C:H2'	53:3:502:A:H8	1.59	0.66
54:1:2106:U:H2'	54:1:2107:G:C8	2.29	0.66
59:8:415:VAL:HG23	59:8:416:ILE:H	1.59	0.66
4:e:33:ILE:HB	4:e:90:LEU:CD1	2.26	0.66
16:q:87:VAL:HG13	17:r:49:ILE:HD11	1.78	0.66
34:I:52:VAL:O	34:I:198:LEU:HD13	1.96	0.66
54:1:1872:A:H2'	54:1:1873:G:O4'	1.96	0.66
1:b:141:HIS:ND1	1:b:192:GLY:O	2.29	0.66
12:m:33:LEU:HD23	12:m:33:LEU:C	2.21	0.66
13:n:90:ARG:HH21	13:n:116:VAL:HG11	1.60	0.66
22:w:42:HIS:NE2	22:w:73:ARG:HD3	2.11	0.66
33:H:110:LEU:HD22	33:H:203:LYS:HZ1	1.61	0.66
47:V:46:HIS:HA	47:V:70:LYS:NZ	2.09	0.66
53:3:548:G:H2'	53:3:549:C:C6	2.31	0.66
54:1:1908:C:H2'	54:1:1909:C:H6	1.61	0.66
54:1:2404:U:H2'	54:1:2405:G:O4'	1.96	0.66
38:M:95:MET:SD	38:M:98:LEU:HD11	2.35	0.65
39:N:20:ILE:HD11	39:N:60:LEU:HD22	1.78	0.65
54:1:1186:G:H2'	54:1:1187:G:O4'	1.97	0.65
54:1:2281:A:O2'	54:1:2282:G:H5'	1.96	0.65
10:k:76:VAL:C	10:k:77:ILE:HD12	2.22	0.65
15:p:88:ARG:HD3	15:p:112:ARG:HB3	1.76	0.65
31:F:23:ILE:H	31:F:23:ILE:CD1	2.09	0.65
35:J:23:THR:HA	35:J:28:ARG:HA	1.78	0.65
52:a:213:SER:HA	52:a:223:ALA:HA	1.78	0.65
6:g:79:THR:HG23	6:g:145:ASN:ND2	2.11	0.65
8:i:4:VAL:HA	8:i:7:TYR:HE1	1.61	0.65
14:o:31:THR:HG22	14:o:33:ARG:H	1.62	0.65
23:x:53:LYS:O	23:x:57:VAL:HG23	1.95	0.65
8:i:20:SER:HB3	8:i:21:PRO:HD3	1.79	0.65
17:r:33:VAL:HG23	17:r:61:ALA:HB3	1.79	0.65
34:I:56:GLU:O	34:I:199:ILE:HD11	1.95	0.65
41:P:47:GLY:HA2	41:P:56:LYS:HG3	1.79	0.65
52:a:38:PHE:CZ	52:a:218:MET:HE3	2.30	0.65
53:3:222:C:H2'	53:3:223:A:H8	1.60	0.65
54:1:481:G:H1'	54:1:506:G:H21	1.61	0.65
54:1:1683:U:H2'	54:1:1684:G:C8	2.31	0.65
12:m:33:LEU:HD21	12:m:128:THR:HB	1.79	0.65
47:V:16:MET:HE2	53:3:275:G:O2'	1.97	0.65
51:Z:67:THR:C	53:3:1167:A:C8	2.75	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:30:ILE:HD12	41:P:45:THR:HG22	1.78	0.65
51:Z:43:GLU:HA	51:Z:46:ARG:HG2	1.78	0.65
54:1:528:A:N1	54:1:2042:A:H2'	2.12	0.65
54:1:2241:A:H2'	54:1:2242:G:C8	2.30	0.65
54:1:2533:U:H2'	54:1:2534:A:H5'	1.78	0.65
1:b:143:VAL:HB	1:b:153:LEU:HB2	1.79	0.65
3:d:21:ARG:HG2	3:d:110:SER:OG	1.97	0.65
32:G:103:TRP:CZ2	32:G:107:ARG:HD3	2.31	0.65
34:I:69:ARG:HB2	53:3:546:A:OP1	1.97	0.65
59:8:24:THR:HG23	59:8:89:THR:HG22	1.79	0.65
46:U:33:ILE:N	46:U:33:ILE:HD12	2.11	0.65
46:U:54:LEU:HA	46:U:57:ILE:HB	1.77	0.65
50:Y:27:MET:SD	50:Y:31:ILE:HD11	2.37	0.65
54:1:118:A:OP2	54:1:119:A:H5''	1.97	0.65
54:1:340:A:H2'	54:1:341:C:O4'	1.96	0.65
54:1:2638:G:H1'	54:1:2778:A:H61	1.62	0.65
55:2:48:U:H2'	55:2:49:C:H6	1.61	0.65
1:b:86:ARG:HG2	1:b:86:ARG:HH11	1.62	0.65
4:e:140:ILE:N	4:e:140:ILE:HD12	2.12	0.65
9:j:56:VAL:HB	9:j:124:VAL:HG12	1.78	0.65
12:m:35:ALA:HA	12:m:128:THR:HG22	1.79	0.65
24:y:42:LEU:O	24:y:46:VAL:HG23	1.97	0.65
34:I:81:LEU:HB3	34:I:88:ASN:HB3	1.79	0.65
38:M:88:LYS:HG3	38:M:119:GLY:C	2.22	0.65
53:3:1456:A:H2'	53:3:1457:G:C8	2.32	0.65
54:1:176:A:H3'	54:1:177:G:N2	2.12	0.65
54:1:2296:U:H5''	54:1:2297:A:OP1	1.96	0.65
54:1:2547:A:H2'	54:1:2548:U:C6	2.32	0.65
54:1:2661:G:H5''	59:8:19:ILE:HD13	1.78	0.65
3:d:1:MET:HB2	3:d:14:VAL:HG23	1.79	0.65
4:e:10:GLU:OE2	4:e:11:VAL:HG23	1.97	0.65
11:l:119:PRO:HA	11:l:140:GLY:H	1.62	0.65
15:p:52:ARG:NH2	54:1:2720:U:H5''	2.11	0.65
34:I:31:CYS:SG	34:I:33:ILE:HB	2.36	0.65
35:J:105:ILE:HD11	35:J:123:LEU:HD23	1.77	0.65
36:K:18:VAL:O	36:K:22:ILE:HG13	1.96	0.65
43:R:9:PRO:HB2	43:R:44:ILE:HG13	1.79	0.65
54:1:2537:U:H2'	54:1:2538:C:C6	2.32	0.65
59:8:235:GLU:OE2	59:8:236:LYS:HG3	1.97	0.65
4:e:69:ALA:HB3	4:e:82:TYR:H	1.62	0.64
10:k:2:ILE:HB	10:k:33:ALA:HB3	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:123:ARG:HG3	11:l:143:GLU:OE2	1.97	0.64
14:o:17:LYS:NZ	54:1:2380:C:H5'	2.11	0.64
15:p:88:ARG:NH2	15:p:112:ARG:HH21	1.96	0.64
25:z:37:ARG:HH21	54:1:929:U:H4'	1.62	0.64
33:H:7:ASN:O	33:H:11:LEU:HG	1.96	0.64
53:3:946:A:H2'	53:3:947:G:H8	1.62	0.64
53:3:1369:C:H2'	53:3:1370:G:H8	1.62	0.64
54:1:1105:U:H2'	54:1:1106:G:H5''	1.78	0.64
59:8:121:PRO:O	59:8:124:GLU:HG2	1.97	0.64
2:c:46:ARG:CZ	2:c:86:GLU:HA	2.27	0.64
5:f:29:ASN:HB2	5:f:78:VAL:HA	1.80	0.64
24:y:2:LYS:HG3	24:y:3:ALA:H	1.63	0.64
34:I:117:VAL:HG13	34:I:122:ILE:CG1	2.28	0.64
45:T:55:LEU:C	45:T:55:LEU:HD12	2.22	0.64
53:3:558:G:H2'	53:3:559:A:C2	2.32	0.64
56:5:6:A:O2'	56:5:7:G:H5'	1.97	0.64
19:t:44:LYS:HA	19:t:55:VAL:HG11	1.79	0.64
32:G:31:PHE:HB2	32:G:39:ILE:HB	1.79	0.64
39:N:11:ARG:HG2	39:N:12:LYS:HG3	1.79	0.64
43:R:18:LEU:HD13	43:R:32:ILE:HB	1.78	0.64
43:R:44:ILE:HG23	43:R:47:LEU:HD12	1.78	0.64
46:U:52:LEU:O	46:U:54:LEU:HD12	1.98	0.64
47:V:16:MET:HE1	53:3:276:G:H5'	1.80	0.64
53:3:34:C:H2'	53:3:35:G:C8	2.32	0.64
53:3:437:U:H2'	53:3:438:U:O4'	1.97	0.64
54:1:1077:A:H2'	54:1:1078:U:H5'	1.79	0.64
54:1:2660:A:C2	59:8:671:ARG:HD3	2.31	0.64
13:n:2:ARG:HA	13:n:5:LYS:HD2	1.79	0.64
39:N:79:ARG:HD2	39:N:102:PHE:CE1	2.32	0.64
44:S:18:LYS:HE3	44:S:19:TYR:CE2	2.32	0.64
53:3:477:C:H2'	53:3:478:A:C8	2.33	0.64
54:1:441:U:H2'	54:1:442:G:C8	2.32	0.64
54:1:481:G:H1'	54:1:506:G:N2	2.12	0.64
54:1:2179:C:H2'	54:1:2180:U:H6	1.60	0.64
4:e:90:LEU:HD12	4:e:90:LEU:O	1.97	0.64
5:f:162:ARG:NH1	5:f:168:VAL:HG11	2.12	0.64
18:s:1:MET:HE3	18:s:2:GLU:N	2.05	0.64
39:N:50:PRO:HG3	39:N:82:ILE:HD12	1.79	0.64
39:N:105:ARG:HD2	53:3:1118:U:H5'	1.79	0.64
52:a:38:PHE:HZ	52:a:218:MET:HE3	1.60	0.64
53:3:398:U:H2'	53:3:399:G:H8	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:409:U:H2'	53:3:410:G:C8	2.32	0.64
54:1:1469:A:H2'	54:1:1470:A:H8	1.62	0.64
54:1:1821:A:H2'	54:1:1822:C:H6	1.62	0.64
54:1:2811:G:H2'	54:1:2812:G:C8	2.32	0.64
55:2:66:A:H5''	55:2:67:G:OP1	1.96	0.64
1:b:226:PRO:HG3	1:b:233:GLY:CA	2.28	0.64
4:e:107:VAL:HB	4:e:108:PRO:HD3	1.80	0.64
6:g:135:HIS:HB3	6:g:138:VAL:HB	1.78	0.64
19:t:32:LEU:N	19:t:32:LEU:HD23	2.12	0.64
34:I:81:LEU:HD13	34:I:88:ASN:HB3	1.79	0.64
37:L:32:ASP:HB2	37:L:34:LYS:NZ	2.11	0.64
42:Q:117:GLY:CA	53:3:36:C:H5'	2.27	0.64
54:1:215:G:H4'	54:1:216:A:H4'	1.79	0.64
5:f:25:ILE:HD11	5:f:71:LEU:HD22	1.78	0.64
6:g:81:ALA:HB1	6:g:149:GLU:HB2	1.78	0.64
26:A:58:ASP:HA	26:A:61:ASN:HD22	1.60	0.64
47:V:11:VAL:HA	47:V:22:VAL:HG22	1.79	0.64
50:Y:70:LYS:HA	50:Y:73:ARG:NH1	2.12	0.64
52:a:3:LYS:HB2	54:1:2107:G:H5''	1.78	0.64
52:a:5:THR:C	52:a:9:ARG:HG3	2.22	0.64
52:a:183:ASP:O	52:a:187:GLU:HG2	1.98	0.64
53:3:403:C:H42	53:3:547:A:H5'	1.63	0.64
53:3:1280:A:O2'	53:3:1281:C:H5'	1.98	0.64
54:1:1807:G:H2'	54:1:1808:A:H5'	1.80	0.64
4:e:102:LEU:HD21	4:e:129:MET:HE3	1.79	0.64
6:g:40:THR:O	6:g:42:LYS:N	2.31	0.64
9:j:35:ARG:HA	9:j:40:HIS:HD2	1.62	0.64
34:I:63:ILE:O	34:I:110:ARG:HD2	1.98	0.64
54:1:1469:A:H2'	54:1:1470:A:C8	2.33	0.64
59:8:93:VAL:HG21	59:8:122:GLN:OE1	1.98	0.64
13:n:38:LEU:HD23	13:n:38:LEU:C	2.23	0.64
32:G:206:ILE:HG13	32:G:207:ARG:H	1.63	0.64
59:8:101:ARG:HH22	59:8:443:PRO:HD2	1.63	0.64
8:i:12:VAL:HG23	8:i:13:ALA:N	2.13	0.63
10:k:6:THR:HG23	54:1:1666:G:O3'	1.98	0.63
13:n:55:ALA:HB1	13:n:84:GLY:HA2	1.80	0.63
32:G:27:LYS:HD2	32:G:30:ILE:HD11	1.80	0.63
53:3:39:G:O6	53:3:547:A:H2'	1.98	0.63
53:3:105:G:H2'	53:3:106:C:C6	2.34	0.63
53:3:367:U:H3	53:3:393:A:H2	1.39	0.63
53:3:1306:A:H2'	53:3:1307:U:O4'	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:182:A:H2'	54:1:183:C:H6	1.62	0.63
54:1:2464:G:H2'	54:1:2465:C:H6	1.62	0.63
55:2:55:U:H2'	55:2:56:G:C8	2.33	0.63
9:j:135:GLN:NE2	54:1:7:G:H1'	2.12	0.63
32:G:113:LEU:HD22	32:G:147:LEU:HD12	1.80	0.63
38:M:24:VAL:O	38:M:59:GLU:HA	1.97	0.63
43:R:106:ARG:CD	43:R:112:ARG:HB2	2.29	0.63
53:3:1412:C:H2'	53:3:1413:A:H8	1.64	0.63
54:1:251:A:H2'	54:1:252:G:O4'	1.98	0.63
59:8:418:ILE:CA	59:8:486:PRO:HG3	2.04	0.63
59:8:475:ARG:HH11	59:8:475:ARG:HA	1.62	0.63
1:b:235:GLU:HB2	54:1:2599:G:N7	2.13	0.63
15:p:43:GLU:HG2	15:p:44:GLY:H	1.62	0.63
33:H:10:ARG:HH22	33:H:174:LEU:HA	1.60	0.63
33:H:83:VAL:HG13	33:H:100:ILE:HG21	1.79	0.63
37:L:22:LEU:O	37:L:26:VAL:HG23	1.99	0.63
37:L:50:ALA:HA	37:L:53:SER:OG	1.99	0.63
49:X:27:LYS:HG2	49:X:28:LYS:HG2	1.79	0.63
50:Y:45:ALA:HA	50:Y:48:LYS:HB2	1.80	0.63
54:1:858:G:H5'	54:1:859:G:OP2	1.98	0.63
3:d:40:ARG:HD2	54:1:443:A:C5	2.33	0.63
40:O:33:GLY:HA2	40:O:80:THR:HG21	1.80	0.63
53:3:54:C:N4	53:3:352:C:H2'	2.14	0.63
53:3:596:A:H3'	53:3:596:A:OP2	1.99	0.63
54:1:703:U:H2'	54:1:704:G:O4'	1.98	0.63
1:b:244:VAL:HG12	1:b:250:GLN:HA	1.81	0.63
4:e:163:GLU:HA	4:e:166:ARG:HH11	1.63	0.63
7:h:37:LYS:HG3	7:h:41:LEU:CD1	2.22	0.63
14:o:33:ARG:NE	55:2:52:A:H62	1.95	0.63
32:G:206:ILE:O	32:G:210:THR:HG23	1.99	0.63
35:J:100:GLU:HA	35:J:121:ASN:ND2	2.13	0.63
35:J:132:PRO:O	35:J:136:VAL:HG23	1.97	0.63
36:K:18:VAL:HG21	36:K:58:HIS:CD2	2.33	0.63
40:O:16:ARG:NH2	53:3:1152:A:H4'	2.12	0.63
44:S:2:LYS:O	44:S:5:MET:N	2.31	0.63
47:V:17:GLU:O	47:V:18:LYS:HB2	1.97	0.63
47:V:43:LEU:HD13	47:V:72:TRP:CZ2	2.33	0.63
53:3:1405:G:O2'	53:3:1406:U:H5'	1.98	0.63
53:3:1432:G:H1'	53:3:1468:A:N6	2.14	0.63
54:1:1747:U:H2'	54:1:1748:C:C6	2.34	0.63
55:2:3:C:H3'	55:2:4:C:H5''	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:115:ALA:HB3	59:8:149:ALA:HB1	1.80	0.63
4:e:33:ILE:HB	4:e:90:LEU:HD11	1.80	0.63
4:e:79:ARG:HG3	4:e:79:ARG:NH2	2.12	0.63
18:s:7:HIS:CE1	18:s:10:ALA:HB2	2.34	0.63
54:1:1386:C:H2'	54:1:1387:A:H8	1.64	0.63
21:v:17:SER:O	21:v:20:LEU:HD23	1.98	0.63
34:I:155:LYS:N	34:I:155:LYS:C	2.54	0.63
44:S:72:PHE:CZ	44:S:74:ARG:HA	2.34	0.63
46:U:67:ILE:HD12	46:U:67:ILE:N	2.13	0.63
53:3:270:A:H2'	53:3:271:C:C6	2.34	0.63
53:3:807:A:H2'	53:3:808:C:C6	2.34	0.63
53:3:865:A:H2'	53:3:866:C:C6	2.34	0.63
53:3:1522:U:H2'	53:3:1523:G:H8	1.63	0.63
59:8:86:ILE:HD12	59:8:86:ILE:N	2.14	0.63
59:8:502:GLU:HA	59:8:519:VAL:HA	1.79	0.63
33:H:17:TRP:NE1	44:S:93:PRO:HA	2.13	0.63
53:3:1239:A:H62	53:3:1299:A:H2	1.47	0.63
54:1:848:C:H2'	54:1:849:A:C8	2.33	0.63
54:1:2715:C:C3'	54:1:2716:C:H5''	2.28	0.63
59:8:30:ILE:HD12	59:8:279:LEU:HD21	1.79	0.63
3:d:173:THR:HA	3:d:199:MET:HE1	1.80	0.63
8:i:10:LEU:HD21	8:i:26:ALA:HB1	1.80	0.63
50:Y:12:GLN:HA	50:Y:15:LYS:HE2	1.81	0.63
53:3:16:A:O2'	53:3:17:U:H5'	1.98	0.63
54:1:492:A:H2'	54:1:493:G:O4'	1.99	0.63
1:b:16:VAL:HB	1:b:203:VAL:HG22	1.80	0.62
35:J:108:GLY:H	53:3:9:G:H4'	1.62	0.62
53:3:1432:G:H1'	53:3:1468:A:H62	1.64	0.62
54:1:1908:C:H2'	54:1:1909:C:C6	2.34	0.62
54:1:2731:G:H2'	54:1:2732:G:C8	2.34	0.62
59:8:550:ILE:HB	59:8:551:PRO:HD3	1.81	0.62
1:b:237:ARG:NH1	54:1:2590:A:H5''	2.14	0.62
10:k:115:ILE:HD12	10:k:115:ILE:N	2.14	0.62
13:n:22:ARG:HG3	13:n:70:THR:H	1.64	0.62
53:3:373:A:H2'	53:3:374:A:C8	2.34	0.62
59:8:508:GLN:HA	59:8:513:GLY:HA2	1.80	0.62
11:l:85:VAL:HG12	11:l:94:THR:HG22	1.79	0.62
11:l:91:ASP:O	11:l:95:LEU:HG	1.99	0.62
12:m:42:THR:O	12:m:46:ILE:HG12	1.98	0.62
22:w:33:ILE:HD12	22:w:33:ILE:N	2.14	0.62
23:x:73:ARG:HB2	23:x:73:ARG:NH1	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:y:19:LEU:HB3	24:y:23:ARG:HH11	1.64	0.62
32:G:179:GLY:C	32:G:180:ILE:HD12	2.24	0.62
33:H:80:GLY:O	33:H:84:GLU:HG2	1.98	0.62
33:H:110:LEU:HD22	33:H:203:LYS:NZ	2.13	0.62
40:O:29:ALA:HB1	40:O:36:VAL:HG11	1.81	0.62
50:Y:47:GLN:HG3	50:Y:51:ASN:ND2	2.12	0.62
53:3:185:U:H2'	53:3:186:C:C6	2.34	0.62
59:8:169:LEU:CD1	59:8:263:LEU:HB3	2.29	0.62
16:q:10:ARG:NH1	54:1:582:A:H5''	2.14	0.62
43:R:52:ILE:HG22	43:R:56:ARG:HG3	1.81	0.62
54:1:662:G:O2'	54:1:663:G:H5'	1.99	0.62
4:e:100:GLU:OE1	26:A:24:ILE:HG21	1.98	0.62
10:k:76:VAL:HG22	15:p:72:VAL:HG22	1.81	0.62
14:o:81:ARG:O	14:o:85:LYS:HB2	1.98	0.62
20:u:85:ARG:HG3	20:u:92:VAL:HG23	1.81	0.62
35:J:35:LEU:HD21	35:J:136:VAL:HG21	1.81	0.62
44:S:20:PHE:HZ	44:S:47:LEU:HD12	1.65	0.62
49:X:50:VAL:HG22	49:X:70:LEU:HD13	1.82	0.62
59:8:72:TRP:CZ2	59:8:276:GLN:HG2	2.34	0.62
33:H:53:ARG:HH11	33:H:68:HIS:HD2	1.46	0.62
36:K:51:ILE:HD11	48:W:65:SER:HB2	1.81	0.62
43:R:9:PRO:HG2	43:R:44:ILE:HG21	1.80	0.62
43:R:106:ARG:HD2	43:R:112:ARG:N	2.15	0.62
54:1:100:U:H4'	54:1:101:A:O4'	1.99	0.62
54:1:182:A:H2'	54:1:183:C:C6	2.34	0.62
54:1:191:A:H2'	54:1:192:C:C6	2.35	0.62
54:1:1856:U:H2'	54:1:1857:G:O4'	2.00	0.62
59:8:31:LEU:HA	59:8:34:THR:HG22	1.82	0.62
59:8:431:MET:HE3	59:8:435:LEU:HG	1.80	0.62
3:d:104:ALA:O	3:d:108:ILE:HG13	2.00	0.62
14:o:31:THR:HG23	14:o:32:PRO:CD	2.28	0.62
14:o:51:ALA:HB3	14:o:78:VAL:HG22	1.80	0.62
18:s:59:GLU:OE2	18:s:66:ILE:HD11	2.00	0.62
39:N:98:ARG:HD2	39:N:103:VAL:CG2	2.30	0.62
41:P:124:LYS:HE2	53:3:1523:G:OP1	2.00	0.62
59:8:120:GLN:HB3	59:8:123:SER:OG	2.00	0.62
59:8:498:VAL:HG22	59:8:499:THR:H	1.65	0.62
1:b:52:HIS:NE2	54:1:1824:G:OP2	2.33	0.62
2:c:190:LYS:HE2	54:1:2729:G:H4'	1.82	0.62
13:n:47:VAL:C	13:n:50:PRO:HD2	2.25	0.62
33:H:58:ARG:HE	33:H:63:ILE:HD13	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:27:ILE:N	39:N:27:ILE:HD12	2.15	0.62
53:3:114:U:O2'	53:3:115:G:H5'	2.00	0.62
53:3:314:C:O2'	53:3:315:A:H5'	1.97	0.62
53:3:1216:A:H2'	53:3:1217:C:H6	1.65	0.62
54:1:2700:A:H2'	54:1:2701:U:C6	2.34	0.62
59:8:6:PRO:HB3	59:8:9:ARG:HH21	1.63	0.62
2:c:179:ARG:HB3	2:c:188:LEU:HD12	1.82	0.62
5:f:156:TYR:CE2	54:1:2531:A:H4'	2.35	0.62
6:g:40:THR:C	6:g:42:LYS:H	2.07	0.62
8:i:57:VAL:HG23	8:i:71:LYS:HZ2	1.64	0.62
35:J:40:ASP:OD2	35:J:44:ARG:HB2	2.00	0.62
46:U:8:ARG:HA	46:U:16:PHE:O	2.00	0.62
46:U:16:PHE:HE2	46:U:18:GLN:NE2	1.95	0.62
52:a:44:VAL:HA	52:a:214:ILE:HA	1.82	0.62
53:3:349:A:H2'	53:3:350:G:O4'	2.00	0.62
53:3:501:C:H2'	53:3:502:A:C8	2.35	0.62
54:1:1307:A:C2'	54:1:1308:A:H5'	2.29	0.62
59:8:686:LYS:HG2	59:8:687:TYR:H	1.64	0.62
5:f:136:ASP:OD2	5:f:139:VAL:HG23	1.99	0.62
10:k:7:MET:CE	10:k:20:MET:HE3	2.30	0.62
13:n:85:PRO:HA	13:n:88:ALA:HB2	1.82	0.62
30:E:56:LEU:HD12	30:E:56:LEU:H	1.64	0.62
53:3:337:G:H2'	53:3:338:A:C8	2.35	0.62
53:3:505:G:P	53:3:535:A:H5'	2.40	0.62
5:f:142:GLN:OE1	54:1:2761:A:H1'	2.00	0.61
11:l:79:LEU:HD12	11:l:114:GLY:H	1.65	0.61
15:p:38:ARG:NE	53:3:345:C:H5'	2.06	0.61
39:N:17:ARG:NH2	39:N:19:PHE:HE2	1.98	0.61
42:Q:78:VAL:HG13	42:Q:101:LEU:HD13	1.82	0.61
47:V:17:GLU:O	47:V:17:GLU:HG2	2.00	0.61
47:V:20:ILE:HG12	47:V:21:VAL:N	2.15	0.61
59:8:214:LEU:HA	59:8:217:GLU:HB3	1.82	0.61
6:g:7:ASP:HA	6:g:15:LEU:CD1	2.29	0.61
16:q:87:VAL:HG21	16:q:111:LYS:HE2	1.81	0.61
34:I:56:GLU:OE1	34:I:198:LEU:HD12	2.00	0.61
38:M:35:ILE:HG22	38:M:102:VAL:HG11	1.81	0.61
49:X:10:ILE:HD11	49:X:15:LEU:HD13	1.82	0.61
53:3:1236:A:H2'	53:3:1237:C:C6	2.35	0.61
55:2:48:U:H2'	55:2:49:C:C6	2.34	0.61
3:d:102:ARG:HH21	3:d:102:ARG:CB	2.11	0.61
7:h:60:LEU:HD12	54:1:1110:G:O6	1.99	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:q:2:ARG:HH22	16:q:4:LYS:HG2	1.64	0.61
28:C:10:LEU:HA	28:C:50:GLU:HA	1.82	0.61
29:D:24:THR:HG23	29:D:27:GLY:H	1.65	0.61
31:F:23:ILE:HD12	31:F:23:ILE:N	2.10	0.61
44:S:71:GLY:HA2	53:3:975:A:O2'	2.00	0.61
59:8:194:ASN:ND2	59:8:203:GLU:HG3	2.15	0.61
26:A:33:ASN:C	26:A:34:LEU:HD12	2.25	0.61
33:H:6:PRO:HD2	33:H:183:TYR:CD2	2.35	0.61
36:K:52:ASN:ND2	36:K:85:ILE:HG21	2.15	0.61
53:3:377:G:H2'	53:3:378:G:C8	2.34	0.61
54:1:794:A:H2'	54:1:795:C:C6	2.36	0.61
4:e:12:VAL:O	4:e:16:MET:HG3	1.99	0.61
11:l:23:ILE:H	11:l:23:ILE:CD1	2.11	0.61
18:s:69:LEU:HD12	18:s:109:ASP:CA	2.28	0.61
34:I:1:ALA:HB1	34:I:67:LEU:HD11	1.82	0.61
35:J:20:VAL:HG11	53:3:1080:A:H5''	1.82	0.61
47:V:4:ILE:HD12	47:V:4:ILE:N	2.15	0.61
53:3:1206:G:H2'	53:3:1207:G:O4'	2.00	0.61
53:3:1298:U:H4'	53:3:1299:A:O4'	2.01	0.61
54:1:78:U:H2'	54:1:79:C:C6	2.35	0.61
54:1:639:U:H2'	54:1:640:C:C6	2.36	0.61
54:1:1506:U:H2'	54:1:1507:C:C6	2.36	0.61
54:1:2834:G:O2'	54:1:2835:A:H5'	2.00	0.61
55:2:65:U:H3'	55:2:108:A:N6	2.14	0.61
59:8:228:GLU:HB2	59:8:255:ARG:HH11	1.65	0.61
10:k:86:LEU:HB3	10:k:95:ILE:HD12	1.81	0.61
19:t:6:ARG:HA	19:t:9:LYS:HD3	1.83	0.61
22:w:39:THR:H	54:1:2331:G:H4'	1.64	0.61
36:K:22:ILE:HD13	36:K:39:LEU:HD11	1.81	0.61
43:R:28:ARG:HH21	43:R:62:PHE:HB2	1.66	0.61
45:T:55:LEU:O	45:T:58:MET:HG2	2.01	0.61
46:U:28:ARG:HH12	53:3:390:U:H4'	1.66	0.61
53:3:946:A:H2'	53:3:947:G:C8	2.35	0.61
53:3:1514:G:O2'	53:3:1515:G:H5'	2.01	0.61
54:1:28:A:H2'	54:1:29:U:H6	1.66	0.61
54:1:475:C:H4'	54:1:510:C:H5'	1.82	0.61
59:8:486:PRO:HB2	59:8:664:PHE:CE1	2.35	0.61
5:f:1:SER:HB2	54:1:2749:A:H5''	1.83	0.61
34:I:24:VAL:HG11	53:3:409:U:H5'	1.82	0.61
53:3:70:U:H5''	53:3:71:A:OP1	2.01	0.61
54:1:2450:A:O2'	54:1:2451:A:H5'	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:3:C:C3'	55:2:4:C:H5''	2.30	0.61
59:8:84:ILE:HG22	59:8:86:ILE:HD11	1.83	0.61
7:h:55:VAL:HG23	7:h:84:TYR:HB2	1.83	0.61
35:J:23:THR:HG22	53:3:1398:A:H62	1.63	0.61
52:a:175:ILE:HG21	52:a:188:ASN:HB3	1.83	0.61
53:3:250:A:H4'	53:3:252:U:C6	2.35	0.61
54:1:1510:G:H2'	54:1:1511:G:H8	1.66	0.61
54:1:2120:G:H2'	54:1:2121:G:C8	2.36	0.61
54:1:2291:U:H2'	54:1:2292:U:C6	2.35	0.61
59:8:349:VAL:HG23	59:8:358:GLU:HB2	1.81	0.61
59:8:362:ARG:HB2	59:8:386:ILE:HB	1.83	0.61
5:f:140:ILE:HG13	5:f:141:GLY:N	2.16	0.61
6:g:43:ASN:HA	6:g:46:PHE:HB2	1.83	0.61
12:m:2:LEU:HD12	12:m:2:LEU:H	1.65	0.61
13:n:38:LEU:CD1	13:n:99:LYS:HE2	2.31	0.61
17:r:15:SER:O	17:r:18:GLN:HG2	2.01	0.61
35:J:105:ILE:HA	35:J:111:ARG:HH12	1.65	0.61
43:R:28:ARG:NH2	43:R:62:PHE:HB2	2.16	0.61
50:Y:74:HIS:HA	50:Y:77:ASN:HD21	1.65	0.61
54:1:1352:U:O2'	54:1:1353:A:H5'	2.00	0.61
2:c:157:LYS:HE3	54:1:2619:C:OP1	2.00	0.61
31:F:14:CYS:SG	31:F:33:HIS:HB3	2.41	0.61
32:G:35:ASN:HD22	32:G:37:VAL:HG21	1.66	0.61
53:3:458:U:H2'	53:3:459:A:C8	2.36	0.61
53:3:651:C:H2'	53:3:652:U:C6	2.36	0.61
1:b:129:LEU:HD11	1:b:134:ILE:HG12	1.82	0.60
3:d:102:ARG:HB2	3:d:102:ARG:NH2	2.14	0.60
14:o:64:TYR:HB3	14:o:67:ASN:HD21	1.65	0.60
41:P:49:SER:HA	41:P:68:ARG:HH11	1.66	0.60
49:X:69:LYS:HB2	53:3:1320:C:O4'	2.01	0.60
51:Z:49:ALA:O	51:Z:52:VAL:HG12	2.01	0.60
53:3:378:G:H2'	53:3:379:C:C6	2.35	0.60
53:3:558:G:H2'	53:3:559:A:H2	1.64	0.60
53:3:1352:C:H2'	53:3:1353:G:C8	2.36	0.60
54:1:460:A:H2'	54:1:461:C:O4'	2.00	0.60
54:1:796:C:H2'	54:1:797:G:C8	2.36	0.60
59:8:51:ASP:HB3	59:8:57:GLN:OE1	2.01	0.60
59:8:169:LEU:HD11	59:8:263:LEU:HB3	1.82	0.60
15:p:3:ILE:H	15:p:3:ILE:CD1	2.08	0.60
37:L:102:TRP:CZ3	37:L:136:LYS:HD3	2.34	0.60
39:N:45:MET:SD	39:N:48:ARG:HD2	2.41	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:S:4:SER:O	44:S:8:ARG:N	2.32	0.60
54:1:1893:C:H2'	54:1:1894:C:H5'	1.82	0.60
54:1:2412:A:H2'	54:1:2413:G:O4'	2.00	0.60
59:8:668:THR:HA	59:8:671:ARG:CG	2.31	0.60
53:3:1352:C:H2'	53:3:1353:G:H8	1.67	0.60
53:3:1486:G:H2'	53:3:1487:G:C8	2.36	0.60
54:1:1068:G:H2'	54:1:1069:A:O4'	2.01	0.60
59:8:18:HIS:CD2	59:8:122:GLN:HB2	2.35	0.60
2:c:125:TRP:HB2	2:c:127:PHE:HE1	1.66	0.60
33:H:34:SER:HA	33:H:37:LYS:HD3	1.83	0.60
35:J:22:LYS:HB3	35:J:29:ILE:HG23	1.83	0.60
40:O:53:ILE:HG12	53:3:1060:U:H5''	1.82	0.60
43:R:56:ARG:O	43:R:59:VAL:HG22	2.01	0.60
46:U:25:ARG:NH2	53:3:230:G:H4'	2.16	0.60
52:a:38:PHE:HE2	52:a:217:THR:HG21	1.66	0.60
53:3:350:G:H2'	53:3:351:G:C8	2.37	0.60
55:2:2:G:H2'	55:2:3:C:H6	1.65	0.60
59:8:232:GLU:HA	59:8:235:GLU:HG3	1.83	0.60
59:8:427:ASP:O	59:8:431:MET:N	2.35	0.60
59:8:522:MET:SD	59:8:604:GLY:HA3	2.41	0.60
33:H:15:LYS:HE3	33:H:16:PRO:HD2	1.82	0.60
48:W:32:ILE:HD13	48:W:67:LEU:HD13	1.83	0.60
53:3:1379:G:O2'	53:3:1380:U:H5'	2.01	0.60
54:1:2066:C:O2'	54:1:2067:G:H5'	2.02	0.60
54:1:2229:U:H2'	54:1:2230:G:H8	1.66	0.60
37:L:104:VAL:O	37:L:108:ARG:HG2	2.01	0.60
53:3:915:A:H2'	53:3:916:U:H5'	1.83	0.60
54:1:580:U:H2'	54:1:581:C:C6	2.36	0.60
6:g:79:THR:HG23	6:g:145:ASN:HD22	1.67	0.60
9:j:101:ILE:HD12	9:j:101:ILE:N	2.10	0.60
16:q:58:GLN:HA	16:q:61:ILE:HD12	1.83	0.60
20:u:40:LEU:HB3	20:u:59:GLU:OE2	2.01	0.60
32:G:150:ILE:HG12	32:G:153:MET:HE2	1.82	0.60
33:H:187:GLU:HA	33:H:196:GLY:HA2	1.82	0.60
34:I:56:GLU:HG3	34:I:199:ILE:HG13	1.84	0.60
38:M:72:GLU:HB3	38:M:129:ALA:O	2.01	0.60
44:S:40:ARG:CZ	49:X:6:LYS:HG2	2.32	0.60
46:U:16:PHE:CE2	46:U:18:GLN:HG3	2.36	0.60
47:V:40:THR:HG22	47:V:41:THR:N	2.17	0.60
49:X:35:ARG:HH22	49:X:74:ALA:HB1	1.67	0.60
53:3:65:A:H4'	53:3:66:A:C5'	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:255:G:H2'	53:3:256:U:C6	2.37	0.60
53:3:1325:C:O2'	53:3:1326:U:H5'	2.02	0.60
53:3:1412:C:H2'	53:3:1413:A:C8	2.36	0.60
57:6:57:A:H2'	57:6:58:A:H5'	1.84	0.60
59:8:6:PRO:CB	59:8:9:ARG:HH21	2.15	0.60
59:8:343:VAL:O	59:8:343:VAL:HG13	2.02	0.60
1:b:145:MET:HE2	1:b:153:LEU:HD21	1.84	0.60
5:f:174:LYS:O	5:f:175:LYS:HD2	2.01	0.60
51:Z:24:LYS:O	51:Z:24:LYS:HD3	2.02	0.60
52:a:36:ALA:HB1	52:a:38:PHE:CE1	2.37	0.60
54:1:74:A:H4'	54:1:75:G:O5'	2.02	0.60
54:1:503:A:H4'	54:1:505:A:H5''	1.83	0.60
54:1:1874:C:H2'	54:1:1875:G:O4'	2.01	0.60
54:1:2661:G:H5''	59:8:19:ILE:CD1	2.32	0.60
59:8:169:LEU:HD11	59:8:263:LEU:HD13	1.84	0.60
59:8:184:ASP:HB3	59:8:189:LYS:HB2	1.82	0.60
5:f:70:LEU:O	5:f:74:MET:HG2	2.02	0.60
17:r:37:GLU:O	17:r:39:LEU:HD12	2.01	0.60
34:I:7:LYS:HD2	34:I:20:LEU:HD22	1.83	0.60
34:I:81:LEU:HD13	34:I:88:ASN:C	2.27	0.60
38:M:63:LYS:HG2	38:M:70:VAL:HG21	1.82	0.60
43:R:21:ILE:HG23	43:R:65:GLU:HB2	1.84	0.60
54:1:435:C:C2'	54:1:436:C:H5'	2.32	0.60
54:1:1364:G:H5'	54:1:1809:A:H1'	1.82	0.60
54:1:1846:G:H2'	54:1:1847:A:O4'	2.01	0.60
54:1:2071:A:H2'	54:1:2072:C:C6	2.37	0.60
59:8:154:VAL:O	59:8:158:ILE:HG13	2.02	0.60
9:j:95:ARG:HG2	9:j:96:ARG:HG3	1.84	0.60
15:p:96:LEU:HD22	15:p:98:TYR:HE1	1.67	0.60
34:I:84:ASN:HB3	34:I:87:GLU:HB2	1.84	0.60
34:I:200:VAL:O	34:I:204:SER:N	2.34	0.60
36:K:25:TYR:O	36:K:29:ILE:HG12	2.01	0.60
40:O:19:ASP:HA	40:O:22:THR:OG1	2.01	0.60
40:O:42:LEU:CD1	40:O:73:LEU:HG	2.31	0.60
43:R:30:LYS:O	43:R:34:ALA:N	2.35	0.60
54:1:45:G:H5''	54:1:46:G:C5'	2.20	0.60
59:8:33:TYR:HB3	59:8:72:TRP:HZ3	1.67	0.60
20:u:5:ARG:NH1	20:u:93:ARG:HD3	2.17	0.59
21:v:26:PHE:CE1	21:v:47:VAL:HG21	2.37	0.59
26:A:13:THR:OG1	26:A:31:ASP:HA	2.01	0.59
40:O:84:VAL:O	40:O:84:VAL:HG22	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:86:VAL:CG2	42:Q:89:LEU:HB2	2.32	0.59
53:3:370:C:H2'	53:3:371:A:C8	2.37	0.59
53:3:783:C:O2'	53:3:784:A:H5'	2.02	0.59
54:1:1028:A:H2'	54:1:1029:A:C8	2.37	0.59
54:1:1078:U:H4'	54:1:1079:C:H5''	1.84	0.59
54:1:2361:G:H2'	54:1:2362:C:H6	1.67	0.59
54:1:2834:G:H2'	54:1:2879:A:N6	2.17	0.59
9:j:84:ILE:HG23	9:j:84:ILE:O	2.02	0.59
25:z:40:THR:HG22	25:z:43:ILE:HG12	1.84	0.59
26:A:47:LYS:O	26:A:51:VAL:HG23	2.01	0.59
27:B:54:ILE:HG23	27:B:56:LYS:H	1.67	0.59
34:I:170:LEU:HB3	34:I:181:PHE:HE1	1.66	0.59
35:J:73:VAL:HG11	35:J:143:LEU:HB3	1.83	0.59
40:O:59:LYS:HE2	40:O:62:ARG:HH22	1.67	0.59
44:S:11:LYS:HG2	44:S:15:LEU:HD11	1.83	0.59
44:S:27:LYS:O	44:S:31:SER:HB2	2.02	0.59
54:1:473:G:O2'	54:1:474:G:H5'	2.02	0.59
54:1:594:U:H2'	54:1:595:C:C6	2.38	0.59
1:b:231:HIS:HA	1:b:241:LYS:HD2	1.84	0.59
33:H:107:LYS:HB3	33:H:143:LEU:HD21	1.82	0.59
34:I:2:ARG:NE	34:I:114:ARG:HE	2.00	0.59
46:U:20:VAL:HB	46:U:35:ARG:HB3	1.83	0.59
51:Z:9:GLU:HB2	51:Z:10:PRO:CD	2.30	0.59
59:8:15:ILE:HA	59:8:110:VAL:CG1	2.32	0.59
8:i:19:PRO:O	8:i:23:VAL:HB	2.02	0.59
12:m:6:ARG:HD2	12:m:6:ARG:O	2.01	0.59
32:G:218:ALA:HA	32:G:221:ARG:NH1	2.16	0.59
33:H:202:PHE:HZ	33:H:205:GLU:HG3	1.67	0.59
34:I:50:TYR:CD2	53:3:508:U:H4'	2.38	0.59
34:I:56:GLU:CB	34:I:198:LEU:HB2	2.33	0.59
34:I:202:LEU:O	34:I:202:LEU:HD23	2.02	0.59
35:J:33:THR:HG22	35:J:51:LYS:HB3	1.85	0.59
41:P:61:ALA:O	41:P:64:VAL:HG12	2.02	0.59
53:3:26:A:N6	53:3:558:G:H1'	2.17	0.59
54:1:940:G:H2'	54:1:941:A:C5'	2.33	0.59
54:1:2246:G:H2'	54:1:2247:A:C8	2.37	0.59
59:8:103:MET:CE	59:8:129:GLN:HB3	2.32	0.59
59:8:236:LYS:CD	59:8:243:LEU:HD22	2.32	0.59
59:8:324:ILE:HD13	59:8:334:THR:HA	1.84	0.59
59:8:612:LEU:O	59:8:689:GLU:HA	2.02	0.59
8:i:10:LEU:O	8:i:55:PRO:HA	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:35:VAL:HG22	10:k:69:VAL:HG11	1.84	0.59
14:o:25:ARG:HD2	14:o:93:ASP:OD2	2.03	0.59
17:r:60:LYS:NZ	17:r:100:GLY:HA3	2.18	0.59
20:u:31:GLY:O	20:u:66:VAL:HG23	2.01	0.59
33:H:110:LEU:HG	33:H:143:LEU:HD23	1.83	0.59
36:K:6:ILE:HD13	36:K:74:LEU:HD11	1.84	0.59
39:N:50:PRO:HB2	39:N:51:LEU:CD2	2.31	0.59
41:P:95:THR:HG23	41:P:96:ILE:N	2.16	0.59
53:3:364:A:O2'	53:3:365:U:H5'	2.03	0.59
53:3:1251:A:O2'	53:3:1370:G:H5'	2.03	0.59
54:1:1083:U:H2'	54:1:1085:A:OP2	2.02	0.59
54:1:1437:C:H2'	54:1:1438:U:C6	2.38	0.59
59:8:616:ILE:O	59:8:617:MET:HE2	2.02	0.59
7:h:13:ALA:O	7:h:17:GLU:HG3	2.03	0.59
10:k:111:LYS:C	10:k:113:MET:N	2.60	0.59
11:l:78:ARG:NH2	54:1:626:A:H2'	2.17	0.59
29:D:1:MET:HE1	29:D:3:ARG:HE	1.67	0.59
32:G:28:PRO:HB2	32:G:29:PHE:HD1	1.66	0.59
34:I:68:GLU:HG3	53:3:545:C:C5'	2.33	0.59
40:O:54:SER:HB3	40:O:58:ASN:HB2	1.84	0.59
50:Y:59:ARG:HH11	50:Y:59:ARG:CB	2.15	0.59
53:3:965:U:H1'	53:3:969:A:C2	2.36	0.59
54:1:1746:A:H2'	54:1:1747:U:C6	2.38	0.59
7:h:33:VAL:CG1	54:1:1055:G:H5''	2.30	0.59
21:v:42:LEU:N	21:v:42:LEU:HD23	2.18	0.59
43:R:3:ILE:HG12	43:R:7:ASN:CB	2.30	0.59
53:3:271:C:H2'	53:3:272:C:H6	1.66	0.59
54:1:2475:C:H2'	54:1:2476:A:H5'	1.85	0.59
54:1:2629:U:O2'	54:1:2630:G:H5''	2.03	0.59
59:8:501:VAL:HG11	59:8:604:GLY:N	2.17	0.59
3:d:8:ALA:HB2	3:d:122:GLU:OE1	2.02	0.59
19:t:1:MET:HE1	54:1:143:C:O2'	2.03	0.59
26:A:14:ALA:HA	26:A:32:LEU:HB3	1.84	0.59
33:H:17:TRP:CZ2	44:S:92:ILE:O	2.56	0.59
33:H:18:ASN:HB2	44:S:90:GLY:O	2.03	0.59
33:H:133:MET:O	33:H:137:VAL:HG23	2.02	0.59
42:Q:51:VAL:HG22	42:Q:52:CYS:H	1.67	0.59
43:R:77:LYS:O	43:R:81:ASP:N	2.34	0.59
43:R:78:ARG:HA	43:R:81:ASP:HB2	1.85	0.59
47:V:16:MET:HE3	53:3:276:G:H5'	1.84	0.59
53:3:35:G:H2'	53:3:36:C:C6	2.38	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1033:G:H2'	53:3:1034:G:H5''	1.85	0.59
54:1:2048:G:C3'	54:1:2049:G:H5''	2.32	0.59
59:8:324:ILE:HG23	59:8:333:LEU:O	2.02	0.59
59:8:492:GLU:OE2	59:8:566:LEU:HG	2.02	0.59
59:8:494:ILE:HA	59:8:610:PRO:HA	1.84	0.59
59:8:616:ILE:C	59:8:617:MET:HE2	2.28	0.59
3:d:83:VAL:O	3:d:85:PHE:N	2.36	0.59
3:d:111:GLU:HG3	3:d:115:GLN:HG2	1.85	0.59
7:h:34:THR:HG21	54:1:1057:A:H1'	1.85	0.59
11:l:135:ILE:HB	11:l:142:ILE:HD11	1.85	0.59
12:m:69:PRO:HA	12:m:94:ALA:HB2	1.84	0.59
24:y:18:LEU:CD2	24:y:22:LEU:HD12	2.32	0.59
32:G:48:MET:HE3	32:G:51:GLU:HB2	1.83	0.59
32:G:100:LEU:HB2	32:G:174:GLU:HG2	1.83	0.59
37:L:101:ARG:CZ	53:3:939:G:H4'	2.32	0.59
39:N:29:ILE:HA	39:N:64:ILE:HB	1.84	0.59
42:Q:66:ILE:HG13	42:Q:96:THR:HG21	1.85	0.59
53:3:1307:U:H2'	53:3:1308:U:C6	2.37	0.59
54:1:1053:C:C2'	54:1:1054:A:H5''	2.29	0.59
54:1:1394:U:H4'	54:1:1603:A:H4'	1.85	0.59
54:1:2134:A:C6	54:1:2157:G:H4'	2.38	0.59
59:8:315:GLU:HB2	59:8:340:SER:HB3	1.85	0.59
2:c:4:LEU:HD23	2:c:29:VAL:HG11	1.84	0.59
5:f:82:PHE:HB3	5:f:140:ILE:HD13	1.85	0.59
15:p:3:ILE:HD12	15:p:3:ILE:N	2.12	0.59
17:r:60:LYS:HZ2	17:r:100:GLY:HA3	1.67	0.59
17:r:60:LYS:HG2	17:r:100:GLY:HA3	1.84	0.59
34:I:183:ARG:H	34:I:183:ARG:HD3	1.67	0.59
48:W:32:ILE:HD12	48:W:36:GLY:HA2	1.85	0.59
3:d:129:PRO:HA	3:d:160:ALA:HB2	1.83	0.58
4:e:146:ASP:O	4:e:147:ARG:HB2	2.02	0.58
11:l:63:LYS:HD3	54:1:2394:C:H5''	1.84	0.58
26:A:16:CYS:SG	26:A:20:ASN:HB3	2.43	0.58
46:U:21:VAL:O	46:U:33:ILE:HD13	2.02	0.58
50:Y:65:LEU:HG	50:Y:66:ILE:HD13	1.84	0.58
53:3:216:U:H2'	53:3:217:C:C6	2.38	0.58
54:1:2327:A:H2'	54:1:2328:A:C8	2.38	0.58
59:8:22:GLY:HA2	62:8:801:GCP:O2A	2.03	0.58
1:b:62:ARG:NH1	1:b:84:PRO:HD2	2.19	0.58
9:j:65:THR:O	9:j:68:LYS:HE2	2.03	0.58
32:G:18:GLN:NE2	32:G:204:ASP:OD2	2.30	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:40:SER:HA	37:L:43:TYR:CD2	2.38	0.58
39:N:18:VAL:HG23	39:N:63:TYR:C	2.28	0.58
53:3:1383:C:H4'	57:6:34:C:C6	2.38	0.58
54:1:1802:A:H2'	54:1:1803:A:C8	2.37	0.58
55:2:65:U:H3'	55:2:108:A:H61	1.68	0.58
1:b:32:LEU:O	1:b:33:LEU:HD12	2.03	0.58
1:b:196:ASN:ND2	1:b:199:HIS:HB2	2.18	0.58
5:f:115:GLN:H	5:f:115:GLN:CD	2.11	0.58
33:H:138:GLN:NE2	33:H:142:ARG:HB3	2.10	0.58
34:I:56:GLU:CG	34:I:199:ILE:HG13	2.33	0.58
34:I:190:LEU:CG	34:I:191:SER:H	2.17	0.58
49:X:71:GLY:HA2	49:X:74:ALA:HB3	1.85	0.58
51:Z:34:ARG:HD2	51:Z:36:PHE:CZ	2.39	0.58
53:3:945:G:H21	53:3:1334:G:H4'	1.67	0.58
53:3:1237:C:H4'	53:3:1334:G:N2	2.18	0.58
53:3:1539:C:C6	53:3:1539:C:OP2	2.56	0.58
54:1:995:C:H5'	54:1:995:C:C6	2.37	0.58
54:1:2129:C:H2'	54:1:2159:G:H22	1.66	0.58
59:8:193:TRP:HA	59:8:202:PHE:HA	1.84	0.58
59:8:364:VAL:HA	59:8:372:GLU:O	2.02	0.58
1:b:154:ALA:HA	1:b:159:THR:HG22	1.85	0.58
3:d:111:GLU:O	3:d:115:GLN:N	2.36	0.58
19:t:5:GLU:HA	19:t:8:LEU:HD12	1.85	0.58
27:B:24:VAL:HG13	27:B:25:THR:H	1.69	0.58
34:I:96:ARG:O	34:I:100:VAL:HG23	2.03	0.58
47:V:46:HIS:CD2	47:V:66:LEU:HD13	2.38	0.58
53:3:66:A:H61	53:3:103:U:H3	1.52	0.58
53:3:471:U:H2'	53:3:472:U:C6	2.39	0.58
53:3:1248:A:H2'	53:3:1249:C:C6	2.38	0.58
53:3:1343:G:H2'	53:3:1344:C:C6	2.38	0.58
53:3:1444:U:H2'	53:3:1445:U:C6	2.38	0.58
54:1:1796:U:H2'	54:1:1797:G:C8	2.35	0.58
54:1:2619:C:O2'	54:1:2620:C:H5'	2.02	0.58
59:8:154:VAL:HG12	59:8:158:ILE:HD11	1.84	0.58
59:8:349:VAL:HG21	59:8:360:PHE:HE1	1.68	0.58
59:8:668:THR:HA	59:8:671:ARG:HG2	1.85	0.58
2:c:118:PHE:CE1	2:c:163:GLY:HA2	2.39	0.58
2:c:151:THR:CB	2:c:152:PRO:HD3	2.33	0.58
4:e:34:THR:HB	4:e:154:THR:CG2	2.33	0.58
11:l:77:ILE:HD12	11:l:77:ILE:N	2.19	0.58
13:n:90:ARG:NH1	54:1:2880:C:H4'	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:543:U:H2'	53:3:544:G:C8	2.37	0.58
54:1:727:A:O2'	54:1:728:G:H5'	2.03	0.58
54:1:1019:U:H2'	54:1:1020:A:C8	2.37	0.58
54:1:2233:U:H2'	54:1:2234:G:C8	2.38	0.58
59:8:171:LEU:HB2	59:8:183:VAL:HG22	1.84	0.58
59:8:627:ASN:O	59:8:631:VAL:HG23	2.03	0.58
6:g:47:PHE:C	6:g:49:ALA:H	2.10	0.58
11:l:141:LYS:HD3	11:l:141:LYS:H	1.69	0.58
19:t:56:GLU:OE1	19:t:57:VAL:HG12	2.03	0.58
22:w:32:ILE:HD12	22:w:32:ILE:H	1.67	0.58
28:C:11:VAL:HG23	28:C:51:ALA:HB3	1.84	0.58
40:O:45:ARG:HB2	40:O:69:THR:HB	1.84	0.58
42:Q:79:ILE:O	42:Q:101:LEU:HD12	2.03	0.58
53:3:602:A:H2'	53:3:603:U:C6	2.38	0.58
54:1:494:G:H2'	54:1:495:G:C8	2.39	0.58
54:1:1285:A:H2'	54:1:1286:A:H5'	1.84	0.58
54:1:1664:A:H61	54:1:1996:C:H42	1.49	0.58
59:8:62:THR:HG21	59:8:89:THR:HB	1.84	0.58
59:8:134:LYS:HB3	59:8:259:ASN:OD1	2.02	0.58
59:8:452:GLU:OE2	59:8:453:SER:HB2	2.03	0.58
3:d:97:ASN:ND2	3:d:100:MET:HE2	2.19	0.58
4:e:3:LEU:O	4:e:7:TYR:N	2.35	0.58
6:g:121:VAL:O	6:g:122:LEU:HB2	2.03	0.58
33:H:149:LYS:HE3	33:H:172:VAL:HG21	1.85	0.58
34:I:15:GLY:HA2	34:I:34:GLU:HG3	1.84	0.58
43:R:17:ALA:HB2	43:R:44:ILE:HD11	1.85	0.58
52:a:172:HIS:HB3	54:1:2123:G:H4'	1.84	0.58
53:3:298:A:H2'	53:3:299:G:O4'	2.03	0.58
53:3:416:G:H2'	53:3:417:G:H8	1.69	0.58
53:3:1210:C:H2'	53:3:1211:U:H5'	1.86	0.58
54:1:796:C:H2'	54:1:797:G:H8	1.67	0.58
54:1:2467:C:H2'	54:1:2468:A:O4'	2.03	0.58
59:8:103:MET:HE1	59:8:129:GLN:HB3	1.86	0.58
59:8:170:GLN:O	59:8:171:LEU:HD22	2.04	0.58
59:8:249:LYS:HG2	59:8:285:TYR:HE1	1.68	0.58
59:8:618:LYS:HE3	59:8:685:LEU:HD21	1.85	0.58
5:f:153:PRO:HA	5:f:160:GLY:HA3	1.86	0.58
10:k:36:GLY:HA2	10:k:62:VAL:O	2.04	0.58
15:p:88:ARG:CB	15:p:88:ARG:HH21	2.16	0.58
18:s:86:MET:HE3	18:s:87:PRO:CD	2.33	0.58
33:H:129:PHE:CE2	33:H:156:LEU:HB2	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:75:LEU:HD22	35:J:118:GLY:O	2.03	0.58
53:3:1033:G:H2'	53:3:1034:G:C4'	2.34	0.58
54:1:948:C:H2'	54:1:949:G:H8	1.69	0.58
54:1:2047:C:H2'	54:1:2048:G:C8	2.39	0.58
54:1:2073:C:O2'	54:1:2074:U:H5'	2.04	0.58
3:d:23:PHE:N	3:d:114:ARG:HH22	2.02	0.58
14:o:106:LEU:C	14:o:106:LEU:HD23	2.29	0.58
29:D:30:VAL:O	29:D:34:ARG:HG2	2.04	0.58
31:F:4:ARG:HB3	54:1:2466:C:OP1	2.04	0.58
35:J:160:VAL:O	35:J:163:ILE:HG12	2.03	0.58
50:Y:44:ALA:O	50:Y:48:LYS:HG3	2.03	0.58
53:3:37:U:H2'	53:3:38:G:H8	1.67	0.58
53:3:163:C:H2'	53:3:164:G:O4'	2.03	0.58
53:3:1015:G:O2'	53:3:1016:A:H5'	2.03	0.58
53:3:1229:A:H2'	53:3:1230:C:C6	2.38	0.58
54:1:794:A:H2'	54:1:795:C:H6	1.69	0.58
54:1:799:G:H3'	54:1:800:A:C8	2.36	0.58
54:1:2241:A:H2'	54:1:2242:G:H8	1.68	0.58
54:1:2267:A:H5''	54:1:2268:A:H5'	1.86	0.58
59:8:505:HIS:O	59:8:515:TYR:HA	2.03	0.58
5:f:51:PHE:HE2	5:f:71:LEU:HD12	1.68	0.58
9:j:5:THR:HG22	9:j:6:ALA:O	2.04	0.58
24:y:1:MET:H1	24:y:4:LYS:NZ	2.01	0.58
42:Q:29:LYS:O	42:Q:80:LEU:HD12	2.02	0.58
49:X:12:LEU:HD23	49:X:12:LEU:C	2.29	0.58
53:3:54:C:H41	53:3:352:C:H2'	1.69	0.58
53:3:257:G:H2'	53:3:258:G:H8	1.68	0.58
54:1:1981:A:H5''	54:1:1982:U:OP2	2.04	0.58
54:1:2317:A:H2'	54:1:2318:G:O4'	2.04	0.58
59:8:143:LYS:O	59:8:144:MET:HE2	2.04	0.58
1:b:59:GLN:HA	54:1:1568:G:H5'	1.86	0.57
6:g:3:VAL:CG1	6:g:36:ALA:HB1	2.34	0.57
10:k:87:LEU:HB3	10:k:92:GLU:O	2.04	0.57
12:m:22:GLN:HB3	54:1:907:G:H5'	1.84	0.57
16:q:51:GLN:O	16:q:55:GLN:HG3	2.04	0.57
18:s:73:LYS:HB2	18:s:106:VAL:HG21	1.84	0.57
20:u:56:GLY:N	54:1:483:A:O2'	2.37	0.57
37:L:14:ASP:OD1	37:L:15:PRO:HD2	2.04	0.57
53:3:202:G:H21	53:3:466:A:H61	1.52	0.57
53:3:408:A:H2'	53:3:409:U:O4'	2.04	0.57
54:1:65:U:H2'	54:1:66:C:C6	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1367:A:C2'	54:1:1368:G:H5'	2.33	0.57
54:1:1637:A:H5'	54:1:1760:C:O2'	2.04	0.57
59:8:16:SER:HA	59:8:90:PRO:HG2	1.85	0.57
59:8:560:GLN:HE21	59:8:598:SER:HB3	1.67	0.57
13:n:72:ASP:OD2	13:n:74:GLU:HB3	2.04	0.57
28:C:21:THR:HG21	54:1:2419:U:H4'	1.85	0.57
35:J:96:GLN:N	35:J:123:LEU:O	2.37	0.57
48:W:41:SER:HA	48:W:44:THR:OG1	2.04	0.57
53:3:904:U:H2'	53:3:905:U:C6	2.39	0.57
53:3:1477:U:H2'	53:3:1478:U:C6	2.39	0.57
55:2:3:C:C2'	55:2:4:C:H5''	2.33	0.57
2:c:91:THR:HG23	2:c:94:GLN:HB2	1.85	0.57
41:P:126:ARG:HH11	41:P:126:ARG:HG3	1.69	0.57
51:Z:66:ARG:HD2	53:3:1099:G:H5'	1.86	0.57
53:3:396:C:H2'	53:3:397:A:H5''	1.85	0.57
53:3:945:G:N2	53:3:1334:G:H4'	2.19	0.57
54:1:1079:C:H2'	54:1:1080:A:C8	2.40	0.57
54:1:2834:G:H2'	54:1:2879:A:H61	1.69	0.57
59:8:472:ARG:O	59:8:476:GLU:HB2	2.05	0.57
2:c:5:VAL:H	2:c:32:ASN:HD21	1.50	0.57
2:c:101:PHE:O	2:c:180:VAL:HG21	2.03	0.57
4:e:134:GLN:HB3	4:e:149:ARG:O	2.05	0.57
7:h:33:VAL:HG12	54:1:1055:G:C5'	2.30	0.57
7:h:78:GLY:N	7:h:79:PRO:HD2	2.19	0.57
12:m:42:THR:OG1	12:m:45:GLN:HG3	2.04	0.57
12:m:97:GLN:N	12:m:97:GLN:NE2	2.53	0.57
32:G:33:ALA:HB3	32:G:37:VAL:H	1.69	0.57
39:N:50:PRO:C	39:N:51:LEU:HD22	2.28	0.57
42:Q:38:THR:HA	42:Q:51:VAL:HG12	1.86	0.57
51:Z:65:ARG:HE	51:Z:65:ARG:N	2.02	0.57
54:1:1319:C:O2'	54:1:1320:C:H5'	2.05	0.57
54:1:2557:G:H2'	54:1:2558:C:H6	1.70	0.57
57:6:13:C:C2'	57:6:14:A:H5''	2.34	0.57
59:8:66:ALA:O	59:8:87:ILE:HD12	2.05	0.57
59:8:170:GLN:HG2	59:8:182:VAL:HB	1.85	0.57
59:8:414:PRO:HB3	59:8:446:ARG:HD3	1.86	0.57
1:b:15:VAL:HG22	1:b:205:GLY:HA3	1.86	0.57
1:b:18:VAL:CG2	1:b:202:ARG:HB2	2.34	0.57
9:j:27:ARG:HG3	54:1:1012:U:H3	1.69	0.57
10:k:66:LYS:HD3	54:1:1666:G:OP1	2.04	0.57
31:F:7:VAL:HB	31:F:25:VAL:HG21	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:119:GLN:O	32:G:124:THR:N	2.36	0.57
33:H:119:ILE:O	33:H:123:LEU:HG	2.04	0.57
34:I:25:ARG:HG2	34:I:25:ARG:NH1	2.19	0.57
39:N:42:THR:HB	39:N:71:ILE:HG21	1.86	0.57
53:3:230:G:O2'	53:3:231:U:H5'	2.04	0.57
53:3:259:G:H2'	53:3:260:G:H8	1.70	0.57
54:1:139:U:H5'	54:1:140:C:OP1	2.04	0.57
54:1:558:U:H2'	54:1:559:G:C8	2.40	0.57
54:1:1161:C:H2'	54:1:1162:G:H8	1.69	0.57
5:f:51:PHE:CE2	5:f:71:LEU:HD12	2.40	0.57
6:g:81:ALA:HB2	6:g:147:VAL:HB	1.85	0.57
38:M:14:ARG:NH1	53:3:875:U:O2'	2.37	0.57
40:O:65:TYR:CE2	44:S:84:ARG:HA	2.40	0.57
41:P:109:ILE:O	51:Z:5:VAL:HG12	2.04	0.57
43:R:101:THR:CG2	53:3:1226:C:H2'	2.34	0.57
53:3:711:G:O2'	53:3:712:A:H5'	2.03	0.57
53:3:1306:A:H62	53:3:1331:G:H1'	1.69	0.57
54:1:370:G:H2'	54:1:423:A:N7	2.19	0.57
54:1:2475:C:C2'	54:1:2476:A:H5'	2.35	0.57
54:1:2682:A:O2'	54:1:2683:C:H5'	2.05	0.57
6:g:26:ALA:O	6:g:31:VAL:HG23	2.04	0.57
11:l:75:ALA:HB2	11:l:105:ILE:HD12	1.87	0.57
22:w:37:ARG:HA	22:w:37:ARG:NE	2.13	0.57
34:I:95:GLY:O	34:I:136:VAL:HG12	2.04	0.57
40:O:42:LEU:HD13	40:O:71:LEU:CD2	2.35	0.57
42:Q:25:ALA:C	42:Q:27:PRO:HD3	2.30	0.57
43:R:27:THR:HG21	53:3:1328:C:H5''	1.85	0.57
45:T:73:ASP:OD2	45:T:75:ALA:HB3	2.05	0.57
50:Y:10:ALA:O	50:Y:14:GLU:HG3	2.05	0.57
52:a:39:VAL:HG11	52:a:177:LYS:HD3	1.85	0.57
53:3:393:A:H2'	53:3:394:G:C8	2.40	0.57
53:3:555:U:H2'	53:3:556:C:C6	2.39	0.57
53:3:1019:A:H2'	53:3:1020:G:O4'	2.05	0.57
54:1:1444:G:H2'	54:1:1445:G:H8	1.70	0.57
1:b:154:ALA:HA	1:b:159:THR:CG2	2.35	0.57
6:g:3:VAL:HG11	6:g:36:ALA:HB1	1.85	0.57
6:g:29:PHE:CE1	6:g:33:GLN:HG3	2.40	0.57
13:n:28:LEU:HD23	13:n:48:VAL:HG21	1.87	0.57
33:H:71:ARG:O	33:H:75:VAL:HG23	2.04	0.57
34:I:72:ARG:O	34:I:75:TYR:HB3	2.05	0.57
42:Q:30:ARG:NH2	42:Q:57:THR:HB	2.19	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:T:25:GLU:H	45:T:25:GLU:CD	2.12	0.57
45:T:28:VAL:HG13	45:T:62:ARG:HG3	1.85	0.57
45:T:63:ARG:HH11	45:T:87:ARG:HH22	1.52	0.57
53:3:98:A:H2'	53:3:99:C:C6	2.40	0.57
54:1:268:C:H2'	54:1:269:C:H6	1.70	0.57
54:1:1817:G:N2	54:1:1818:U:H1'	2.20	0.57
54:1:2498:C:O2'	54:1:2499:C:H5'	2.05	0.57
55:2:119:A:C2	55:2:120:A:C1'	2.87	0.57
59:8:17:ALA:C	59:8:23:LYS:HE2	2.30	0.57
12:m:28:PHE:HB2	12:m:104:GLU:OE1	2.04	0.57
19:t:3:ARG:O	19:t:7:LEU:HG	2.04	0.57
31:F:12:ARG:HH22	54:1:1091:G:H1'	1.68	0.57
32:G:137:THR:O	32:G:141:GLU:HG3	2.05	0.57
34:I:66:VAL:HG22	34:I:96:ARG:NH2	2.20	0.57
34:I:108:ALA:N	34:I:112:GLU:OE1	2.36	0.57
38:M:60:LEU:N	38:M:60:LEU:HD23	2.19	0.57
39:N:121:ARG:HH12	53:3:1345:U:H5''	1.70	0.57
46:U:12:LYS:HE2	46:U:13:LYS:HE2	1.87	0.57
52:a:7:ARG:HG3	52:a:7:ARG:NH2	2.20	0.57
53:3:483:C:H2'	53:3:484:G:H8	1.67	0.57
53:3:1256:A:H1'	53:3:1258:G:C4	2.38	0.57
54:1:176:A:O2'	54:1:177:G:H5'	2.05	0.57
54:1:222:A:N1	54:1:233:A:H5''	2.20	0.57
54:1:741:U:H2'	54:1:742:A:H8	1.70	0.57
54:1:2233:U:H2'	54:1:2234:G:H8	1.69	0.57
54:1:2287:A:O2'	54:1:2288:A:H2'	2.04	0.57
57:6:68:C:H2'	57:6:69:C:O4'	2.05	0.57
1:b:162:GLN:OE1	1:b:174:ARG:HD2	2.04	0.57
3:d:23:PHE:HB2	3:d:114:ARG:NH2	2.20	0.57
4:e:101:ARG:HA	4:e:105:ILE:HD11	1.86	0.57
35:J:114:LEU:HD13	35:J:122:VAL:HG21	1.87	0.57
39:N:51:LEU:HB2	39:N:56:MET:HG3	1.87	0.57
48:W:21:ASP:OD2	48:W:23:LYS:HB2	2.05	0.57
53:3:49:U:N3	53:3:362:G:H1'	2.20	0.57
53:3:67:C:H2'	53:3:68:G:C8	2.40	0.57
53:3:235:C:H2'	53:3:236:A:C8	2.39	0.57
53:3:882:C:O2'	53:3:883:C:H5'	2.05	0.57
53:3:917:G:H2'	53:3:918:A:C8	2.40	0.57
53:3:1229:A:H2'	53:3:1230:C:H6	1.70	0.57
56:5:49:G:H1	56:5:65:U:H3	1.53	0.57
1:b:69:ASN:OD1	1:b:101:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:268:ARG:HG2	1:b:268:ARG:HH11	1.70	0.56
7:h:31:ARG:HH12	54:1:1054:A:P	2.28	0.56
12:m:82:MET:CE	12:m:83:GLY:H	2.10	0.56
37:L:22:LEU:O	37:L:26:VAL:N	2.36	0.56
53:3:338:A:H61	53:3:351:G:H1	1.53	0.56
53:3:386:C:H2'	53:3:387:U:C5'	2.33	0.56
4:e:163:GLU:HA	4:e:166:ARG:NH1	2.20	0.56
6:g:31:VAL:HB	6:g:32:PRO:HD3	1.87	0.56
33:H:81:GLU:HA	33:H:84:GLU:CG	2.35	0.56
53:3:490:C:H2'	53:3:491:G:C8	2.39	0.56
54:1:554:U:H2'	54:1:555:G:O4'	2.04	0.56
54:1:644:A:H61	54:1:2349:G:H21	1.51	0.56
54:1:804:A:H2'	54:1:806:C:C4	2.40	0.56
54:1:2266:A:H4'	54:1:2267:A:N3	2.20	0.56
57:6:59:A:O2'	57:6:60:U:H5'	2.04	0.56
3:d:73:ILE:HD12	3:d:73:ILE:N	2.20	0.56
4:e:99:PHE:O	4:e:103:ILE:HG12	2.06	0.56
17:r:7:SER:O	17:r:9:GLY:N	2.33	0.56
17:r:24:LYS:HA	17:r:94:THR:OG1	2.05	0.56
27:B:12:ARG:HG2	27:B:12:ARG:HH11	1.71	0.56
33:H:55:VAL:HB	33:H:66:THR:HB	1.86	0.56
34:I:8:LEU:HD13	34:I:21:LYS:HE2	1.87	0.56
34:I:54:LEU:CD1	53:3:509:A:H1'	2.34	0.56
35:J:80:LEU:HD13	35:J:122:VAL:HG12	1.87	0.56
35:J:133:ILE:HD12	35:J:133:ILE:N	2.18	0.56
37:L:115:MET:HA	37:L:118:ARG:HG2	1.87	0.56
39:N:18:VAL:HG21	39:N:62:LEU:HD12	1.87	0.56
39:N:78:ILE:O	39:N:82:ILE:HG13	2.05	0.56
41:P:41:LEU:HD22	41:P:76:TYR:CE1	2.41	0.56
42:Q:77:SER:HB2	42:Q:102:ASP:CG	2.30	0.56
42:Q:106:VAL:N	42:Q:118:VAL:HG22	2.19	0.56
43:R:18:LEU:O	43:R:24:VAL:HG23	2.04	0.56
46:U:39:PHE:HD1	46:U:50:THR:OG1	1.88	0.56
49:X:52:ASN:HB2	49:X:75:PRO:O	2.06	0.56
52:a:30:LEU:HD11	52:a:185:LEU:HD11	1.86	0.56
53:3:440:C:H2'	53:3:441:A:O4'	2.05	0.56
54:1:1866:A:H2'	54:1:1867:G:O4'	2.05	0.56
54:1:2646:C:H2'	54:1:2647:U:O4'	2.04	0.56
59:8:512:ARG:CG	59:8:514:GLN:HG2	2.33	0.56
59:8:623:THR:O	59:8:628:THR:HG22	2.04	0.56
1:b:12:ARG:HH21	54:1:728:G:C5'	2.18	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:130:PRO:HA	1:b:188:ARG:HA	1.87	0.56
2:c:109:VAL:O	2:c:171:THR:HG23	2.05	0.56
11:l:89:VAL:HA	11:l:121:THR:O	2.04	0.56
19:t:29:THR:HG23	19:t:85:VAL:O	2.06	0.56
31:f:11:CYS:SG	31:f:14:CYS:N	2.79	0.56
35:j:93:VAL:HG23	35:j:110:MET:SD	2.45	0.56
36:k:3:HIS:HB2	36:k:92:THR:HA	1.88	0.56
42:q:23:LEU:HB3	42:q:26:CYS:HB3	1.87	0.56
49:x:30:LEU:HD22	49:x:48:ILE:HG22	1.87	0.56
50:y:2:ASN:CG	53:3:59:A:H61	2.13	0.56
52:a:15:VAL:HG21	52:a:33:LEU:HD21	1.86	0.56
53:3:26:A:H61	53:3:558:G:H1'	1.69	0.56
53:3:37:U:O5'	53:3:37:U:H6	1.89	0.56
53:3:126:G:H2'	53:3:127:G:C1'	2.35	0.56
54:1:28:A:H2'	54:1:29:U:C6	2.39	0.56
5:f:90:GLY:HA3	5:f:93:TYR:CD2	2.41	0.56
12:m:33:LEU:HD21	12:m:128:THR:CB	2.36	0.56
13:n:2:ARG:HB2	13:n:5:LYS:HB2	1.86	0.56
34:i:56:GLU:HG2	34:i:198:LEU:HB2	1.88	0.56
34:i:101:VAL:HB	34:i:113:ALA:HB1	1.86	0.56
45:t:9:LYS:O	45:t:13:GLU:N	2.38	0.56
46:u:70:ARG:HG2	53:3:375:U:H5''	1.86	0.56
53:3:693:G:C5'	58:4:15:A:OP1	2.53	0.56
53:3:1524:C:H2'	53:3:1525:G:C8	2.40	0.56
54:1:1132:U:H2'	54:1:1133:A:C8	2.41	0.56
54:1:1935:G:H1'	54:1:1964:G:N2	2.20	0.56
58:4:16:A:H2'	58:4:17:U:C6	2.40	0.56
59:8:114:CYS:SG	59:8:143:LYS:HG3	2.45	0.56
59:8:522:MET:HB2	59:8:574:MET:HG2	1.88	0.56
59:8:596:ALA:O	59:8:599:ILE:HG12	2.05	0.56
11:l:13:LYS:HE3	54:1:1245:G:OP1	2.05	0.56
19:t:61:LEU:C	19:t:61:LEU:HD12	2.31	0.56
27:b:1:ALA:H1	54:1:2056:G:N2	2.03	0.56
34:i:58:GLN:HA	34:i:58:GLN:HE21	1.71	0.56
34:i:143:SER:HB3	34:i:178:GLU:HA	1.88	0.56
44:s:25:GLU:HB2	44:s:29:ILE:HG13	1.88	0.56
49:x:79:TYR:CE1	53:3:1226:C:H4'	2.40	0.56
54:1:558:U:H2'	54:1:559:G:H8	1.71	0.56
54:1:1038:G:H2'	54:1:1039:A:C8	2.40	0.56
59:8:106:LEU:O	59:8:106:LEU:HD12	2.05	0.56
59:8:222:LEU:O	59:8:226:ALA:N	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:51:ARG:HH11	6:g:51:ARG:HG3	1.70	0.56
17:r:26:ASP:O	17:r:27:ILE:HD13	2.05	0.56
24:y:17:GLU:HB2	24:y:53:VAL:HG11	1.88	0.56
37:L:40:SER:HA	37:L:43:TYR:HD2	1.71	0.56
49:X:5:LYS:HG3	49:X:6:LYS:N	2.18	0.56
53:3:312:C:H2'	53:3:313:A:C8	2.40	0.56
53:3:621:A:H2'	53:3:622:A:C8	2.41	0.56
53:3:1435:G:H2'	53:3:1436:U:C6	2.41	0.56
54:1:194:G:N2	54:1:202:U:H1'	2.21	0.56
54:1:1181:U:H2'	54:1:1182:G:C8	2.41	0.56
59:8:52:TRP:NE1	59:8:53:MET:HE2	2.21	0.56
6:g:110:VAL:HG22	6:g:111:ALA:N	2.19	0.56
7:h:39:THR:O	7:h:43:LYS:N	2.39	0.56
8:i:21:PRO:HB2	8:i:22:PRO:CD	2.29	0.56
22:w:45:ALA:O	22:w:46:ASN:HB2	2.06	0.56
34:I:7:LYS:HB2	34:I:20:LEU:HD13	1.88	0.56
41:P:118:ASN:HD22	53:3:717:U:C4'	2.01	0.56
54:1:690:G:H2'	54:1:691:C:C6	2.40	0.56
54:1:765:C:H2'	54:1:766:U:C6	2.41	0.56
54:1:969:G:H2'	54:1:970:U:C6	2.41	0.56
54:1:1635:A:H2'	54:1:1636:U:O4'	2.05	0.56
54:1:2520:C:O2'	54:1:2521:C:H5'	2.05	0.56
59:8:11:ARG:HH11	59:8:283:ILE:HA	1.70	0.56
59:8:663:MET:HG2	59:8:682:MET:CE	2.35	0.56
15:p:2:ASN:O	15:p:6:GLN:HG3	2.06	0.56
16:q:30:VAL:HG13	54:1:581:C:OP1	2.06	0.56
21:v:18:ARG:HA	21:v:21:ARG:CD	2.36	0.56
25:z:15:ARG:HE	25:z:52:PHE:HE2	1.52	0.56
37:L:35:LYS:CE	53:3:1373:G:H5''	2.26	0.56
42:Q:8:ARG:HB2	42:Q:8:ARG:CZ	2.36	0.56
43:R:12:LYS:CD	43:R:17:ALA:HA	2.35	0.56
46:U:40:ASN:HB3	46:U:43:ALA:HB2	1.88	0.56
51:Z:23:GLU:C	51:Z:25:ALA:H	2.14	0.56
52:a:23:ILE:H	52:a:23:ILE:CD1	2.19	0.56
53:3:225:C:H2'	53:3:226:G:H5''	1.88	0.56
53:3:346:G:C2'	53:3:347:G:H5'	2.36	0.56
54:1:2106:U:H2'	54:1:2107:G:H8	1.71	0.56
55:2:1:U:H3'	55:2:1:U:H6	1.71	0.56
5:f:9:VAL:HA	5:f:48:THR:HG22	1.87	0.56
13:n:78:LYS:HG3	13:n:83:LEU:HD23	1.87	0.56
16:q:10:ARG:HH11	54:1:582:A:H5''	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:53:ARG:HH12	53:3:1072:G:P	2.29	0.56
50:Y:2:ASN:N	53:3:331:G:H4'	2.21	0.56
53:3:985:C:H2'	53:3:986:U:C6	2.41	0.56
53:3:1414:U:H2'	53:3:1415:G:H8	1.71	0.56
53:3:1494:G:O2'	54:1:1912:A:O2'	2.24	0.56
54:1:225:C:H2'	54:1:226:A:O4'	2.05	0.56
54:1:487:C:H2'	54:1:488:G:O4'	2.05	0.56
54:1:494:G:H2'	54:1:495:G:H8	1.72	0.56
54:1:704:G:H2'	54:1:726:G:N2	2.21	0.56
54:1:2364:C:H2'	54:1:2365:G:O4'	2.05	0.56
6:g:84:ALA:HA	6:g:91:PHE:HB2	1.88	0.55
14:o:10:ARG:HD3	54:1:2295:C:OP2	2.06	0.55
15:p:52:ARG:HG2	15:p:52:ARG:HH11	1.71	0.55
28:C:9:LYS:HE3	28:C:19:PHE:CD2	2.41	0.55
49:X:8:PRO:HB2	49:X:40:PHE:HE1	1.70	0.55
53:3:769:G:H4'	53:3:1513:A:H4'	1.87	0.55
54:1:446:G:H4'	54:1:449:A:N3	2.21	0.55
55:2:2:G:C6	55:2:119:A:N6	2.74	0.55
3:d:189:THR:O	3:d:193:VAL:HG23	2.06	0.55
11:l:29:LYS:CE	54:1:566:U:H5''	2.35	0.55
11:l:82:LEU:HD21	11:l:120:VAL:HG11	1.88	0.55
13:n:90:ARG:HG2	13:n:90:ARG:HH11	1.72	0.55
18:s:73:LYS:HB2	18:s:106:VAL:CG2	2.36	0.55
39:N:6:TYR:OH	53:3:1148:U:H5'	2.06	0.55
47:V:28:VAL:O	47:V:37:ILE:N	2.39	0.55
53:3:439:U:H3'	53:3:440:C:C6	2.42	0.55
54:1:1176:U:H2'	54:1:1177:G:C8	2.41	0.55
54:1:1689:A:H2'	54:1:1690:A:C8	2.41	0.55
54:1:2577:A:H2'	54:1:2614:A:N6	2.21	0.55
55:2:104:A:H2'	55:2:105:G:O4'	2.06	0.55
56:5:72:G:O2'	56:5:73:A:H5'	2.06	0.55
9:j:76:HIS:CE1	9:j:85:LYS:HB2	2.42	0.55
11:l:48:ARG:HB2	11:l:48:ARG:HH11	1.70	0.55
11:l:111:ILE:N	11:l:111:ILE:HD12	2.21	0.55
13:n:20:MET:HE2	54:1:1277:G:C5'	2.36	0.55
53:3:20:U:H2'	53:3:21:G:O4'	2.05	0.55
53:3:1522:U:O2'	53:3:1523:G:H5'	2.07	0.55
53:3:1527:U:H2'	53:3:1528:U:C6	2.41	0.55
54:1:2286:G:H5'	54:1:2287:A:H1'	1.87	0.55
59:8:286:LEU:HD12	59:8:287:PRO:HD2	1.87	0.55
59:8:303:LYS:NZ	59:8:305:THR:HG21	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:3:LEU:HD12	3:d:14:VAL:HG11	1.88	0.55
3:d:118:LEU:HD11	3:d:188:MET:HE2	1.89	0.55
18:s:29:VAL:HG21	18:s:69:LEU:HD23	1.89	0.55
25:z:23:LEU:HD21	25:z:53:MET:SD	2.47	0.55
32:G:69:VAL:HG23	32:G:161:PHE:O	2.06	0.55
32:G:206:ILE:HG13	32:G:207:ARG:N	2.21	0.55
33:H:52:SER:HB3	33:H:68:HIS:O	2.06	0.55
37:L:19:SER:CB	37:L:22:LEU:HD23	2.36	0.55
37:L:42:VAL:HG12	37:L:46:LEU:HB2	1.87	0.55
42:Q:81:ILE:HG23	42:Q:94:TYR:HB3	1.88	0.55
42:Q:112:ALA:HA	53:3:502:A:P	2.46	0.55
53:3:1391:U:H2'	53:3:1392:G:C8	2.41	0.55
59:8:136:PRO:HB2	59:8:287:PRO:HD3	1.87	0.55
6:g:7:ASP:HA	6:g:15:LEU:HD12	1.88	0.55
6:g:124:THR:HG22	6:g:125:THR:H	1.71	0.55
7:h:41:LEU:HD13	54:1:1083:U:O5'	2.07	0.55
15:p:82:SER:C	15:p:83:ILE:HD12	2.32	0.55
16:q:17:LEU:O	16:q:17:LEU:HD23	2.07	0.55
34:I:64:TYR:CZ	34:I:93:LEU:HB3	2.42	0.55
41:P:33:ILE:HD11	41:P:70:ALA:HA	1.88	0.55
44:S:32:ASP:HB3	44:S:34:ASN:OD1	2.07	0.55
47:V:4:ILE:H	47:V:4:ILE:CD1	2.17	0.55
53:3:1522:U:H2'	53:3:1523:G:C8	2.42	0.55
54:1:2092:U:H4'	54:1:2093:G:H5''	1.88	0.55
54:1:2246:G:H2'	54:1:2247:A:H8	1.70	0.55
54:1:2297:A:H62	54:1:2319:G:H1'	1.72	0.55
59:8:359:ARG:HG3	59:8:360:PHE:N	2.21	0.55
59:8:584:HIS:O	59:8:585:ASP:C	2.49	0.55
1:b:86:ARG:HG2	1:b:86:ARG:NH1	2.20	0.55
11:l:58:TYR:O	30:E:12:ARG:HD2	2.06	0.55
37:L:49:LEU:HD22	37:L:123:LEU:HD13	1.88	0.55
38:M:88:LYS:HB2	38:M:121:GLY:N	2.22	0.55
40:O:15:HIS:HD2	40:O:16:ARG:NH1	2.04	0.55
41:P:88:PRO:O	41:P:92:ARG:HD3	2.07	0.55
42:Q:30:ARG:HG2	42:Q:30:ARG:HH11	1.71	0.55
47:V:67:SER:OG	47:V:70:LYS:HD3	2.07	0.55
50:Y:50:PHE:HA	50:Y:53:MET:HG2	1.87	0.55
53:3:259:G:H2'	53:3:260:G:C8	2.41	0.55
53:3:321:A:O2'	53:3:322:C:H5'	2.06	0.55
53:3:852:G:H2'	53:3:853:C:C6	2.42	0.55
54:1:1149:G:H2'	54:1:1150:C:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2642:G:O2'	54:1:2643:G:H5'	2.06	0.55
59:8:17:ALA:CB	59:8:23:LYS:HE2	2.35	0.55
1:b:119:VAL:HB	6:g:91:PHE:CE1	2.42	0.55
4:e:47:LYS:HA	4:e:50:ASP:HB2	1.88	0.55
4:e:65:LEU:CD1	55:2:41:G:H21	2.19	0.55
14:o:103:VAL:HG23	14:o:104:GLN:H	1.70	0.55
18:s:4:ILE:CG2	18:s:106:VAL:HG22	2.34	0.55
35:J:18:ASN:CG	35:J:19:ARG:H	2.15	0.55
54:1:1045:C:OP1	54:1:1047:G:H5'	2.06	0.55
54:1:2328:A:H2'	54:1:2329:U:H6	1.71	0.55
55:2:1:U:H5	55:2:2:G:N7	2.02	0.55
3:d:4:VAL:C	3:d:5:LEU:HD12	2.31	0.55
4:e:102:LEU:HB2	4:e:137:PHE:HE1	1.72	0.55
4:e:141:ASP:O	4:e:142:TYR:HB3	2.07	0.55
6:g:103:VAL:HG12	6:g:108:VAL:HB	1.88	0.55
25:z:40:THR:OG1	25:z:41:PRO:HD2	2.07	0.55
50:Y:83:ASN:HA	50:Y:86:ALA:HB3	1.89	0.55
51:Z:34:ARG:HB3	51:Z:36:PHE:CE2	2.42	0.55
52:a:212:VAL:O	52:a:224:VAL:HG22	2.07	0.55
53:3:500:G:H2'	53:3:501:C:C6	2.42	0.55
54:1:488:G:H22	54:1:491:G:H5''	1.71	0.55
54:1:1614:A:H2'	54:1:1615:C:H5'	1.87	0.55
54:1:2875:C:H2'	54:1:2876:G:C8	2.42	0.55
59:8:667:ALA:O	59:8:671:ARG:HG2	2.07	0.55
3:d:164:LEU:HB2	3:d:167:VAL:HB	1.88	0.55
10:k:71:ARG:HB2	10:k:73:ASP:OD1	2.07	0.55
17:r:19:THR:HG23	17:r:96:VAL:O	2.06	0.55
35:J:47:PHE:H	35:J:47:PHE:HD1	1.55	0.55
42:Q:43:LYS:HE2	42:Q:44:PRO:HD3	1.88	0.55
43:R:24:VAL:HG12	43:R:28:ARG:CG	2.37	0.55
43:R:25:GLY:O	43:R:29:SER:N	2.36	0.55
47:V:22:VAL:HB	47:V:45:VAL:HG21	1.87	0.55
52:a:46:VAL:HB	52:a:171:ILE:HG22	1.88	0.55
53:3:82:G:H2'	53:3:83:C:O4'	2.07	0.55
53:3:1383:C:H4'	57:6:34:C:H6	1.72	0.55
54:1:214:G:H2'	54:1:215:G:C8	2.42	0.55
54:1:562:U:H2'	54:1:572:A:O4'	2.07	0.55
59:8:30:ILE:CD1	59:8:279:LEU:HD21	2.37	0.55
59:8:309:ARG:HG2	59:8:316:PRO:HG2	1.88	0.55
2:c:128:ARG:HA	54:1:1997:C:OP1	2.07	0.55
3:d:162:ARG:HH11	54:1:321:U:H1'	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:62:LYS:NZ	54:l:874:G:H5'	2.21	0.55
14:o:31:THR:HG22	14:o:33:ARG:O	2.07	0.55
32:G:33:ALA:HB2	32:G:39:ILE:CD1	2.35	0.55
33:H:181:ILE:HG12	33:H:202:PHE:CD1	2.41	0.55
35:J:82:HIS:CD2	38:M:95:MET:HG2	2.42	0.55
37:L:148:LYS:HE3	41:P:51:PHE:HZ	1.72	0.55
40:O:44:THR:H	53:3:1151:A:H5'	1.72	0.55
41:P:26:PHE:CE2	41:P:88:PRO:HG3	2.42	0.55
42:Q:54:VAL:HG21	42:Q:79:ILE:HD11	1.89	0.55
46:U:69:ASP:O	46:U:72:ALA:N	2.40	0.55
47:V:46:HIS:CG	47:V:66:LEU:HD13	2.42	0.55
51:Z:29:ALA:HA	51:Z:32:ARG:HD3	1.88	0.55
52:a:66:PRO:HG2	52:a:67:HIS:ND1	2.22	0.55
52:a:218:MET:CG	54:1:2174:C:H1'	2.37	0.55
53:3:216:U:H2'	53:3:217:C:H6	1.71	0.55
53:3:902:G:H2'	53:3:903:G:H8	1.72	0.55
53:3:954:G:H2'	53:3:955:U:O4'	2.07	0.55
53:3:1086:U:H2'	53:3:1087:G:H8	1.72	0.55
53:3:1219:A:H2'	53:3:1220:G:C8	2.42	0.55
53:3:1458:G:H2'	53:3:1459:G:H8	1.72	0.55
54:1:2228:G:H2'	54:1:2229:U:C6	2.42	0.55
55:2:78:A:H2'	55:2:79:G:O4'	2.07	0.55
11:l:29:LYS:HD3	17:r:82:HIS:HD2	1.72	0.54
11:l:76:GLU:C	11:l:77:ILE:HD12	2.32	0.54
32:G:58:LYS:O	32:G:62:ARG:HG2	2.07	0.54
33:H:137:VAL:HG21	33:H:167:TYR:HD2	1.72	0.54
39:N:20:ILE:HD11	39:N:60:LEU:HD13	1.90	0.54
39:N:29:ILE:HG21	39:N:38:PHE:CE1	2.43	0.54
42:Q:49:ARG:CD	42:Q:89:LEU:HD11	2.34	0.54
46:U:39:PHE:HA	46:U:50:THR:HA	1.89	0.54
51:Z:33:ARG:HG3	51:Z:33:ARG:NH1	2.21	0.54
53:3:552:U:H2'	53:3:553:A:H8	1.65	0.54
53:3:1239:A:N6	53:3:1299:A:H2	2.03	0.54
54:1:326:G:H2'	54:1:327:G:H8	1.72	0.54
54:1:691:C:H2'	54:1:692:C:H6	1.72	0.54
54:1:1386:C:H2'	54:1:1387:A:C8	2.42	0.54
55:2:66:A:N1	55:2:107:G:H2'	2.22	0.54
59:8:5:THR:CG2	59:8:378:ARG:HE	2.21	0.54
3:d:109:LEU:HD13	3:d:112:LEU:HD12	1.88	0.54
6:g:7:ASP:CG	6:g:8:LYS:H	2.15	0.54
10:k:115:ILE:HD12	10:k:115:ILE:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:98:GLN:O	14:o:103:VAL:HG21	2.07	0.54
33:H:41:TYR:O	33:H:45:GLU:N	2.41	0.54
38:M:17:GLN:OE1	38:M:62:LEU:HD13	2.07	0.54
39:N:18:VAL:HG22	39:N:19:PHE:N	2.22	0.54
42:Q:73:LEU:HD22	42:Q:77:SER:OG	2.07	0.54
44:S:72:PHE:HE1	44:S:77:GLY:HA2	1.72	0.54
49:X:14:LEU:O	49:X:18:VAL:HG23	2.07	0.54
50:Y:25:SER:CB	53:3:1458:G:H5'	2.37	0.54
52:a:36:ALA:HB1	52:a:38:PHE:CD1	2.41	0.54
52:a:201:PRO:HB2	52:a:204:ALA:HB2	1.88	0.54
53:3:304:U:O2'	53:3:305:G:H5'	2.07	0.54
53:3:522:C:O2'	53:3:523:A:H5'	2.08	0.54
53:3:731:G:O2'	53:3:732:C:H5'	2.07	0.54
53:3:981:U:H2'	53:3:982:U:C5	2.42	0.54
54:1:582:A:H2'	54:1:583:G:C8	2.42	0.54
54:1:804:A:H2'	54:1:806:C:N4	2.22	0.54
54:1:1071:G:OP1	54:1:1071:G:H3'	2.07	0.54
59:8:130:ALA:O	59:8:134:LYS:N	2.40	0.54
4:e:48:LEU:CD1	4:e:147:ARG:HE	2.16	0.54
6:g:121:VAL:HB	6:g:123:ARG:HG3	1.89	0.54
11:l:95:LEU:HD22	11:l:100:ILE:HD11	1.89	0.54
15:p:88:ARG:HB3	15:p:88:ARG:HH21	1.72	0.54
16:q:69:ARG:HH22	16:q:74:SER:HB3	1.73	0.54
17:r:59:ILE:CG2	17:r:98:ILE:HD12	2.38	0.54
40:O:37:ARG:HH11	53:3:1124:G:H5'	1.72	0.54
42:Q:119:LYS:HD2	53:3:37:U:OP2	2.07	0.54
43:R:95:PRO:HA	43:R:108:ARG:HG2	1.90	0.54
47:V:26:ARG:HH11	47:V:26:ARG:CB	2.21	0.54
47:V:57:VAL:HG21	47:V:79:GLU:OE1	2.07	0.54
48:W:72:ARG:HA	48:W:72:ARG:HE	1.71	0.54
53:3:976:G:N2	53:3:1362:A:H2'	2.22	0.54
54:1:1198:U:H2'	54:1:1199:U:C6	2.42	0.54
54:1:1688:U:H2'	54:1:1698:A:N6	2.22	0.54
54:1:2257:U:O2'	54:1:2258:C:H5'	2.06	0.54
54:1:2514:U:H2'	54:1:2515:C:C6	2.42	0.54
59:8:24:THR:HG23	59:8:89:THR:CG2	2.37	0.54
59:8:521:ASP:O	59:8:576:ILE:HD12	2.07	0.54
4:e:43:ILE:HG23	4:e:84:ILE:HD13	1.89	0.54
4:e:45:ASP:HB2	4:e:48:LEU:HB2	1.90	0.54
12:m:28:PHE:H	12:m:104:GLU:CD	2.15	0.54
33:H:71:ARG:CD	33:H:74:ILE:HD12	2.34	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:104:MET:HG2	34:I:170:LEU:HD22	1.90	0.54
34:I:121:ALA:CB	34:I:148:ALA:HB3	2.36	0.54
41:P:32:THR:OG1	41:P:43:TRP:HB3	2.08	0.54
46:U:78:VAL:O	46:U:78:VAL:HG12	2.07	0.54
53:3:78:A:H2'	53:3:79:G:O4'	2.08	0.54
53:3:124:C:O2'	53:3:125:U:H5'	2.08	0.54
53:3:455:G:H2'	53:3:456:A:H8	1.71	0.54
53:3:860:A:H2'	53:3:861:G:O4'	2.08	0.54
54:1:150:U:H2'	54:1:151:C:C6	2.43	0.54
54:1:687:C:H2'	54:1:688:U:O4'	2.06	0.54
54:1:1432:G:H2'	54:1:1433:A:C8	2.42	0.54
54:1:1656:C:H2'	54:1:1657:U:H6	1.73	0.54
54:1:2373:G:H2'	54:1:2374:C:C6	2.42	0.54
59:8:29:ARG:HA	59:8:29:ARG:NE	2.23	0.54
59:8:318:SER:HB3	59:8:340:SER:H	1.73	0.54
1:b:62:ARG:HH12	1:b:84:PRO:HD2	1.73	0.54
1:b:207:ALA:HB2	54:1:1790:C:O2'	2.08	0.54
4:e:55:ASP:O	4:e:59:ILE:HG13	2.07	0.54
9:j:31:GLU:HG2	9:j:142:ILE:HG12	1.89	0.54
14:o:32:PRO:HD2	55:2:29:A:OP2	2.08	0.54
42:Q:110:LYS:O	42:Q:113:ARG:NH1	2.40	0.54
45:T:6:ALA:O	45:T:10:ILE:HG13	2.07	0.54
46:U:51:ARG:HD3	46:U:51:ARG:C	2.32	0.54
47:V:37:ILE:HG22	47:V:38:LYS:N	2.22	0.54
53:3:182:A:C2	53:3:224:U:H5'	2.43	0.54
53:3:1349:A:H1'	53:3:1374:A:N6	2.23	0.54
53:3:1383:C:O2'	57:6:34:C:H5''	2.08	0.54
54:1:1183:U:H2'	54:1:1184:U:C6	2.43	0.54
54:1:1912:A:C5'	59:8:507:LYS:HD2	2.35	0.54
54:1:2151:U:H2'	54:1:2152:G:C8	2.42	0.54
54:1:2376:A:H2'	54:1:2377:A:O4'	2.08	0.54
54:1:2714:G:H2'	54:1:2715:C:C6	2.42	0.54
59:8:252:LEU:O	59:8:256:VAL:HG22	2.08	0.54
59:8:603:GLU:HA	59:8:606:LYS:CG	2.37	0.54
4:e:67:THR:N	4:e:85:GLY:O	2.37	0.54
8:i:44:LYS:O	8:i:48:ILE:HG12	2.08	0.54
17:r:80:ARG:NH1	54:1:571:U:H3'	2.22	0.54
20:u:86:PHE:HA	20:u:90:LYS:O	2.08	0.54
25:z:35:VAL:HG22	25:z:36:GLU:N	2.21	0.54
28:C:44:GLN:HG3	28:C:45:HIS:H	1.73	0.54
32:G:113:LEU:HD22	32:G:147:LEU:CD1	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:63:ILE:HG22	33:H:96:VAL:HG23	1.89	0.54
34:I:13:ARG:HG3	34:I:14:GLU:OE2	2.08	0.54
35:J:67:ARG:O	35:J:70:MET:HG2	2.07	0.54
39:N:99:LYS:O	39:N:99:LYS:HG2	2.07	0.54
51:Z:25:ALA:HB1	51:Z:29:ALA:HB2	1.90	0.54
53:3:524:G:H2'	53:3:525:C:C6	2.42	0.54
53:3:1502:A:H8	53:3:1505:G:N2	1.96	0.54
54:1:1297:C:H2'	54:1:1298:C:C6	2.43	0.54
54:1:1564:C:H2'	54:1:1565:C:O4'	2.07	0.54
11:I:48:ARG:HB2	11:I:48:ARG:NH1	2.23	0.54
22:w:61:GLY:HA3	22:w:81:GLU:H	1.72	0.54
34:I:10:LEU:HA	34:I:13:ARG:HB3	1.90	0.54
38:M:94:VAL:HB	38:M:99:GLY:O	2.08	0.54
39:N:49:GLN:N	39:N:50:PRO:HD2	2.22	0.54
42:Q:49:ARG:HB3	42:Q:65:TYR:OH	2.08	0.54
43:R:22:TYR:CE1	53:3:1330:U:H4'	2.43	0.54
46:U:27:ALA:HB3	46:U:30:GLY:HA3	1.88	0.54
48:W:25:ILE:HD12	48:W:28:LEU:HD22	1.89	0.54
52:a:56:ASP:HB2	52:a:203:GLN:HB2	1.90	0.54
53:3:376:G:H1	53:3:387:U:H3	1.53	0.54
53:3:1527:U:O2'	53:3:1528:U:H5'	2.08	0.54
54:1:582:A:H2'	54:1:583:G:H8	1.71	0.54
54:1:1403:A:H2'	54:1:1404:C:C6	2.43	0.54
54:1:2443:C:O2'	54:1:2444:G:H5'	2.08	0.54
54:1:2543:G:H2'	54:1:2544:G:C8	2.43	0.54
54:1:2848:G:O2'	54:1:2868:A:N6	2.40	0.54
55:2:56:G:H4'	55:2:57:A:H8	1.72	0.54
4:e:105:ILE:HG13	4:e:106:ALA:N	2.22	0.54
6:g:1:MET:HE1	23:x:59:ASP:OD2	2.08	0.54
8:i:11:GLN:HB3	8:i:55:PRO:HA	1.88	0.54
26:A:56:ARG:HH12	49:X:67:GLY:CA	2.21	0.54
32:G:162:VAL:N	32:G:183:PHE:O	2.26	0.54
34:I:139:ASN:HA	34:I:181:PHE:O	2.08	0.54
34:I:170:LEU:HD12	34:I:170:LEU:O	2.07	0.54
44:S:47:LEU:CD2	53:3:1317:C:H4'	2.36	0.54
50:Y:72:ALA:O	50:Y:76:ALA:N	2.32	0.54
51:Z:25:ALA:O	51:Z:29:ALA:N	2.41	0.54
52:a:214:ILE:N	52:a:222:VAL:O	2.41	0.54
53:3:418:C:H2'	53:3:419:C:C6	2.43	0.54
53:3:428:G:H4'	53:3:429:U:O5'	2.06	0.54
53:3:1383:C:Cl'	57:6:34:C:H5''	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:151:C:H2'	54:1:152:A:C8	2.43	0.54
54:1:741:U:H2'	54:1:742:A:C8	2.43	0.54
54:1:1739:A:H2'	54:1:1740:G:O4'	2.08	0.54
54:1:2393:U:O2'	54:1:2394:C:H5'	2.07	0.54
54:1:2692:G:H2'	54:1:2693:G:H8	1.72	0.54
59:8:278:MET:SD	59:8:282:VAL:HG21	2.48	0.54
4:e:76:PHE:O	4:e:77:LYS:HG2	2.08	0.54
10:k:108:ARG:CG	10:k:113:MET:HE1	2.38	0.54
20:u:82:VAL:HG12	20:u:83:GLY:H	1.72	0.54
33:H:10:ARG:HG3	33:H:10:ARG:HH11	1.71	0.54
34:I:58:GLN:HA	34:I:58:GLN:NE2	2.23	0.54
40:O:64:GLN:O	44:S:98:ALA:N	2.37	0.54
42:Q:38:THR:CG2	42:Q:50:LYS:HA	2.36	0.54
42:Q:120:ARG:CD	53:3:37:U:H5''	2.38	0.54
52:a:171:ILE:HG23	52:a:171:ILE:O	2.07	0.54
53:3:61:G:H2'	53:3:62:U:C6	2.43	0.54
53:3:450:G:N2	53:3:482:A:H61	2.06	0.54
53:3:1033:G:H2'	53:3:1034:G:C5'	2.36	0.54
53:3:1052:U:O4	53:3:1200:C:H2'	2.07	0.54
54:1:2811:G:H2'	54:1:2812:G:H8	1.71	0.54
55:2:23:G:H2'	55:2:24:G:C8	2.42	0.54
59:8:11:ARG:NH1	59:8:283:ILE:O	2.40	0.54
59:8:620:GLU:HA	59:8:654:ILE:O	2.07	0.54
3:d:195:GLN:HA	3:d:198:GLU:OE2	2.07	0.54
4:e:79:ARG:HH21	4:e:79:ARG:CG	2.13	0.54
27:B:11:LYS:CA	27:B:14:MET:HE3	2.38	0.54
31:F:17:VAL:HG12	31:F:18:LYS:N	2.23	0.54
32:G:31:PHE:CE2	32:G:41:ASN:HA	2.43	0.54
34:I:190:LEU:HG	34:I:191:SER:H	1.71	0.54
35:J:95:MET:HA	35:J:124:ALA:HA	1.90	0.54
37:L:101:ARG:NH1	53:3:939:G:H4'	2.23	0.54
38:M:9:MET:HB2	38:M:26:MET:HE1	1.89	0.54
40:O:8:ILE:HD12	40:O:100:ILE:HG22	1.88	0.54
43:R:106:ARG:HD2	43:R:112:ARG:CB	2.33	0.54
44:S:38:GLU:O	44:S:42:ASN:N	2.40	0.54
46:U:16:PHE:CZ	46:U:38:PHE:HB2	2.43	0.54
49:X:35:ARG:HG2	49:X:35:ARG:NH1	2.22	0.54
54:1:362:A:H3'	54:1:363:G:H8	1.73	0.54
54:1:2070:A:H2'	54:1:2071:A:O4'	2.08	0.54
54:1:2086:U:H2'	54:1:2087:G:C8	2.43	0.54
54:1:2721:A:H2'	54:1:2722:G:O4'	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2747:G:O6	54:1:2755:C:H5''	2.08	0.54
59:8:317:PHE:HA	59:8:341:GLY:HA3	1.90	0.54
59:8:487:GLN:HG3	59:8:488:VAL:H	1.73	0.54
1:b:18:VAL:HB	1:b:202:ARG:HH21	1.72	0.53
1:b:155:ARG:NH2	54:1:1818:U:H6	2.06	0.53
7:h:71:CYS:HB3	7:h:74:ASP:OD2	2.08	0.53
13:n:101:GLY:H	27:B:41:HIS:HD2	1.55	0.53
15:p:48:ALA:HB1	15:p:95:LYS:NZ	2.23	0.53
19:t:46:ALA:O	19:t:50:LEU:HG	2.08	0.53
32:G:13:VAL:HG13	32:G:15:PHE:CE1	2.43	0.53
32:G:110:ILE:HG12	32:G:147:LEU:HD13	1.89	0.53
33:H:56:ILE:HG23	33:H:63:ILE:CD1	2.38	0.53
48:W:37:LYS:HB3	53:3:719:C:O2'	2.07	0.53
54:1:172:A:H2'	54:1:173:A:C8	2.43	0.53
54:1:1199:U:H2'	54:1:1200:C:H6	1.72	0.53
54:1:2514:U:H2'	54:1:2515:C:H6	1.73	0.53
54:1:2700:A:H2'	54:1:2701:U:H6	1.73	0.53
54:1:2743:U:C2'	54:1:2744:G:H5''	2.37	0.53
1:b:93:VAL:HG12	1:b:94:LEU:N	2.23	0.53
1:b:254:LYS:O	54:1:1797:G:H4'	2.09	0.53
5:f:11:PRO:HB2	5:f:14:VAL:HG23	1.89	0.53
21:v:26:PHE:HE2	21:v:89:ILE:HG13	1.73	0.53
21:v:31:TYR:CZ	21:v:92:VAL:HG22	2.43	0.53
33:H:91:ALA:O	33:H:95:GLY:N	2.42	0.53
35:J:104:ILE:CD1	35:J:122:VAL:HG22	2.39	0.53
42:Q:119:LYS:HG3	53:3:37:U:OP1	2.09	0.53
46:U:39:PHE:CD2	46:U:74:LEU:HD13	2.43	0.53
52:a:25:GLU:O	52:a:29:LEU:HB2	2.08	0.53
53:3:1014:A:C2	53:3:1219:A:H1'	2.44	0.53
53:3:1319:A:H4'	53:3:1320:C:C5	2.43	0.53
54:1:873:C:H2'	54:1:874:G:H8	1.73	0.53
54:1:942:G:H2'	54:1:943:A:O4'	2.08	0.53
59:8:445:PHE:HB2	59:8:459:ALA:O	2.07	0.53
6:g:11:ASN:CB	6:g:12:LEU:HB2	2.38	0.53
7:h:3:LEU:HD21	54:1:1043:C:OP1	2.08	0.53
31:F:17:VAL:HG11	31:F:19:ARG:HG3	1.90	0.53
32:G:19:THR:HG21	32:G:21:TYR:CD2	2.42	0.53
33:H:56:ILE:HG23	33:H:63:ILE:HD11	1.90	0.53
37:L:75:LYS:HD2	37:L:88:VAL:HG11	1.91	0.53
38:M:115:ALA:HA	38:M:118:ALA:HB3	1.90	0.53
40:O:57:VAL:HG13	40:O:58:ASN:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:U:18:GLN:HG2	46:U:35:ARG:HH21	1.72	0.53
50:Y:31:ILE:HG22	50:Y:35:TYR:CE2	2.43	0.53
53:3:130:A:H2'	53:3:130:A:N3	2.24	0.53
53:3:424:G:O2'	53:3:425:G:H5'	2.08	0.53
53:3:1097:C:H2'	53:3:1098:C:H6	1.74	0.53
54:1:2167:U:H3	54:1:2170:A:H62	1.55	0.53
54:1:2579:C:O2'	54:1:2580:U:H5'	2.08	0.53
54:1:2715:C:H2'	54:1:2716:C:C5'	2.32	0.53
54:1:2861:U:H2'	54:1:2862:G:H8	1.73	0.53
57:6:59:A:C2'	57:6:60:U:H5'	2.38	0.53
59:8:413:GLU:O	59:8:461:MET:HE1	2.08	0.53
59:8:635:LEU:HD21	59:8:666:TYR:OH	2.09	0.53
3:d:99:LYS:HZ2	54:1:605:G:H5''	1.73	0.53
10:k:87:LEU:HD22	10:k:92:GLU:O	2.09	0.53
15:p:83:ILE:HD12	15:p:83:ILE:N	2.23	0.53
32:G:185:ILE:HG22	32:G:199:ILE:HG21	1.90	0.53
43:R:78:ARG:O	43:R:82:LEU:N	2.31	0.53
43:R:93:GLY:O	43:R:108:ARG:HG3	2.09	0.53
52:a:7:ARG:NH2	54:1:2128:G:H5'	2.23	0.53
53:3:16:A:N1	53:3:919:A:C2	2.76	0.53
54:1:172:A:H2'	54:1:173:A:H8	1.72	0.53
2:c:33:ARG:HH22	2:c:52:THR:HA	1.74	0.53
4:e:147:ARG:HB3	4:e:149:ARG:NE	2.24	0.53
4:e:167:ALA:O	4:e:171:ALA:N	2.42	0.53
6:g:11:ASN:HB3	6:g:12:LEU:HB2	1.89	0.53
8:i:21:PRO:CB	8:i:22:PRO:HD3	2.30	0.53
12:m:82:MET:SD	54:1:956:G:H4'	2.48	0.53
17:r:27:ILE:HG22	17:r:28:ALA:N	2.23	0.53
32:G:75:ALA:O	32:G:79:VAL:HG23	2.08	0.53
32:G:216:VAL:O	32:G:220:VAL:HG23	2.08	0.53
38:M:79:ARG:HB2	38:M:80:PRO:HD2	1.90	0.53
43:R:15:VAL:HG13	43:R:33:LEU:HD22	1.91	0.53
52:a:21:TYR:HD2	52:a:222:VAL:HG13	1.73	0.53
52:a:190:GLU:O	52:a:194:VAL:N	2.40	0.53
53:3:673:A:H2'	53:3:674:G:C8	2.44	0.53
53:3:779:C:H2'	53:3:780:A:O4'	2.09	0.53
53:3:1219:A:H2'	53:3:1220:G:H8	1.73	0.53
54:1:151:C:H2'	54:1:152:A:H8	1.74	0.53
54:1:189:G:H2'	54:1:205:G:N2	2.24	0.53
54:1:704:G:H2'	54:1:726:G:H22	1.73	0.53
54:1:1073:A:H2'	54:1:1074:G:O4'	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2036:C:H2'	54:1:2037:A:C8	2.44	0.53
54:1:2262:U:H2'	54:1:2263:C:H6	1.74	0.53
54:1:2628:C:H3'	54:1:2629:U:H5'	1.90	0.53
54:1:2849:U:H4'	54:1:2868:A:N1	2.23	0.53
59:8:103:MET:SD	59:8:129:GLN:HB3	2.49	0.53
59:8:166:PRO:HA	59:8:262:ILE:H	1.73	0.53
9:j:37:ARG:HH21	9:j:37:ARG:HG3	1.74	0.53
12:m:41:LEU:HG	12:m:96:ILE:CG1	2.38	0.53
22:w:62:LYS:HG3	22:w:81:GLU:HG3	1.91	0.53
30:E:22:LYS:HB3	30:E:48:MET:HE1	1.91	0.53
34:I:72:ARG:HG2	34:I:76:LYS:HZ3	1.72	0.53
34:I:183:ARG:HD3	34:I:183:ARG:N	2.22	0.53
35:J:45:VAL:HG12	35:J:117:ALA:HA	1.91	0.53
40:O:50:THR:HG22	40:O:62:ARG:HD3	1.89	0.53
43:R:96:VAL:HG11	53:3:1309:G:OP1	2.09	0.53
44:S:4:SER:HB3	53:3:1216:A:H5''	1.91	0.53
50:Y:53:MET:O	50:Y:57:VAL:N	2.31	0.53
51:Z:16:ARG:HB3	51:Z:16:ARG:HH11	1.74	0.53
53:3:458:U:H2'	53:3:459:A:H8	1.73	0.53
53:3:952:U:H2'	53:3:953:G:H8	1.74	0.53
54:1:1405:U:H2'	54:1:1406:U:C6	2.43	0.53
54:1:2196:C:O2'	54:1:2197:U:H5'	2.09	0.53
54:1:2286:G:H4'	54:1:2287:A:O4'	2.08	0.53
59:8:56:GLU:O	59:8:60:GLY:N	2.38	0.53
59:8:286:LEU:CD1	59:8:287:PRO:HD2	2.39	0.53
59:8:352:SER:HB3	59:8:404:ILE:HG12	1.89	0.53
59:8:370:LYS:HZ3	59:8:372:GLU:HA	1.74	0.53
5:f:1:SER:O	5:f:5:LYS:N	2.41	0.53
5:f:34:ARG:HH22	54:1:2759:G:H1'	1.74	0.53
24:y:23:ARG:O	24:y:25:GLN:N	2.42	0.53
34:I:10:LEU:HG	34:I:62:ARG:HH12	1.73	0.53
34:I:75:TYR:CZ	34:I:203:TYR:HB3	2.44	0.53
35:J:89:THR:HB	35:J:134:ASN:OD1	2.08	0.53
40:O:11:LYS:HE3	40:O:71:LEU:HD13	1.90	0.53
45:T:45:HIS:O	45:T:47:LYS:N	2.42	0.53
53:3:231:U:H2'	53:3:232:G:C8	2.40	0.53
53:3:1144:G:H21	53:3:1146:A:H62	1.56	0.53
54:1:437:U:H2'	54:1:438:G:H8	1.74	0.53
54:1:2025:C:H2'	54:1:2026:U:C6	2.44	0.53
55:2:60:C:H2'	55:2:61:G:C8	2.42	0.53
1:b:23:LEU:HD23	1:b:24:HIS:N	2.23	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:206:LYS:HE2	54:1:729:G:OP2	2.08	0.53
2:c:128:ARG:HD3	54:1:1996:C:H5''	1.91	0.53
6:g:87:GLU:HG3	36:K:17:GLN:NE2	2.24	0.53
8:i:7:TYR:CD2	8:i:57:VAL:HG13	2.44	0.53
9:j:53:TYR:CE1	9:j:121:LYS:HG2	2.44	0.53
28:C:43:ARG:NH2	54:1:643:A:H1'	2.23	0.53
31:F:17:VAL:CG1	31:F:19:ARG:HG3	2.37	0.53
34:I:7:LYS:HB2	34:I:20:LEU:HD22	1.90	0.53
34:I:155:LYS:N	34:I:155:LYS:CB	2.66	0.53
36:K:12:PRO:CD	36:K:54:LEU:HD22	2.39	0.53
39:N:121:ARG:NH1	53:3:1345:U:H5''	2.24	0.53
40:O:59:LYS:O	40:O:59:LYS:HG3	2.09	0.53
44:S:26:LEU:O	44:S:30:ILE:HB	2.09	0.53
44:S:60:ARG:NE	53:3:981:U:H1'	2.22	0.53
45:T:55:LEU:O	45:T:59:VAL:HG23	2.08	0.53
53:3:235:C:H2'	53:3:236:A:H8	1.74	0.53
53:3:1120:C:H2'	53:3:1121:U:C6	2.43	0.53
54:1:65:U:H2'	54:1:66:C:H6	1.73	0.53
54:1:174:U:H2'	54:1:175:G:C8	2.43	0.53
54:1:310:A:C2'	54:1:311:A:H5''	2.37	0.53
54:1:1179:G:C5	54:1:1180:U:H1'	2.44	0.53
54:1:1297:C:H2'	54:1:1298:C:H6	1.74	0.53
54:1:1447:C:H2'	54:1:1448:G:H8	1.72	0.53
54:1:2547:A:H2'	54:1:2548:U:H6	1.74	0.53
54:1:2845:U:H2'	54:1:2846:G:C8	2.44	0.53
55:2:106:G:H2'	55:2:107:G:O4'	2.08	0.53
59:8:620:GLU:O	59:8:680:TYR:HA	2.09	0.53
2:c:127:PHE:CD2	54:1:2512:C:H5''	2.44	0.53
7:h:34:THR:O	7:h:37:LYS:HB3	2.09	0.53
11:l:79:LEU:HD12	11:l:114:GLY:N	2.23	0.53
34:I:89:LEU:C	34:I:89:LEU:HD23	2.34	0.53
37:L:63:VAL:HG12	37:L:127:ALA:HB1	1.91	0.53
40:O:17:LEU:HD21	40:O:93:ALA:HB1	1.90	0.53
53:3:925:G:C2	53:3:927:G:C8	2.97	0.53
53:3:990:C:H2'	53:3:991:U:O4'	2.09	0.53
54:1:2553:G:H3'	54:1:2554:U:H5''	1.90	0.53
54:1:2714:G:H2'	54:1:2715:C:H6	1.73	0.53
56:5:16:C:O2'	56:5:17:U:H5'	2.09	0.53
59:8:523:TYR:N	59:8:575:GLY:O	2.42	0.53
1:b:27:LYS:HG3	1:b:28:PRO:HD2	1.90	0.53
6:g:112:LYS:HE2	54:1:2220:U:H5''	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:h:45:GLY:HA2	7:h:49:GLY:HA2	1.90	0.53
8:i:29:GLN:NE2	54:l:1096:A:H61	2.07	0.53
14:o:6:ALA:O	14:o:9:ARG:HG2	2.08	0.53
16:q:90:ASP:OD1	16:q:93:ILE:HG12	2.09	0.53
31:f:25:VAL:O	31:f:25:VAL:HG12	2.09	0.53
32:g:205:ALA:HB3	32:g:208:ALA:HB3	1.89	0.53
37:l:49:LEU:HB2	37:l:123:LEU:HD13	1.91	0.53
37:l:78:ARG:HD2	37:l:81:GLY:O	2.09	0.53
38:m:103:VAL:HA	38:m:124:ILE:HA	1.91	0.53
44:s:39:ASP:O	44:s:43:ALA:N	2.42	0.53
52:a:5:THR:O	52:a:9:ARG:N	2.38	0.53
53:3:132:C:H2'	53:3:133:U:H6	1.72	0.53
53:3:349:A:O2'	53:3:350:G:H5'	2.09	0.53
53:3:434:U:H2'	53:3:435:A:C8	2.44	0.53
53:3:1308:U:H2'	53:3:1309:G:H8	1.74	0.53
53:3:1368:A:O2'	53:3:1369:C:H5'	2.08	0.53
54:1:2183:A:H2'	54:1:2184:A:C8	2.44	0.53
54:1:2605:U:H2'	54:1:2606:C:C6	2.43	0.53
59:8:168:PRO:HA	59:8:264:VAL:HB	1.90	0.53
30:e:12:ARG:HH21	30:e:12:ARG:HG3	1.73	0.52
40:o:9:ARG:HG3	40:o:71:LEU:HD11	1.91	0.52
40:o:83:THR:HG23	40:o:87:LEU:HD12	1.90	0.52
41:p:22:ILE:HG23	41:p:31:VAL:HG22	1.91	0.52
42:q:89:LEU:HD12	42:q:89:LEU:N	2.24	0.52
46:u:56:ARG:HD3	46:u:59:HIS:HB3	1.90	0.52
53:3:297:G:H4'	53:3:557:G:H4'	1.91	0.52
54:1:277:G:H4'	54:1:278:A:C5	2.44	0.52
54:1:1468:U:H2'	54:1:1522:A:N6	2.24	0.52
54:1:2724:U:H2'	54:1:2725:A:C8	2.44	0.52
57:6:34:C:H6	57:6:34:C:H5'	1.73	0.52
59:8:6:PRO:HB2	59:8:9:ARG:HE	1.74	0.52
9:j:135:GLN:HE22	54:1:7:G:H1'	1.74	0.52
10:k:22:ILE:HD11	10:k:40:LYS:CG	2.38	0.52
15:p:63:ILE:HA	15:p:68:GLY:HA2	1.91	0.52
19:t:6:ARG:O	19:t:6:ARG:HD3	2.10	0.52
29:d:3:ARG:HD3	29:d:4:THR:N	2.18	0.52
32:g:17:HIS:CG	32:g:18:GLN:N	2.78	0.52
32:g:61:SER:O	32:g:63:LYS:HD2	2.09	0.52
34:i:8:LEU:HB2	53:3:430:A:OP1	2.10	0.52
35:j:82:HIS:CG	38:m:95:MET:HG2	2.44	0.52
36:k:14:GLN:HG2	36:k:83:ALA:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:35:LYS:O	37:L:39:GLU:HG3	2.08	0.52
38:M:94:VAL:CG2	38:M:101:ALA:HB2	2.39	0.52
40:O:27:GLU:C	40:O:29:ALA:H	2.18	0.52
47:V:46:HIS:CA	47:V:70:LYS:HZ1	2.19	0.52
53:3:1139:G:H5''	53:3:1140:C:H5	1.74	0.52
54:1:533:G:H2'	54:1:534:U:O4'	2.10	0.52
54:1:813:U:H2'	54:1:814:C:H6	1.74	0.52
54:1:1040:A:O2'	54:1:1041:G:H5'	2.09	0.52
54:1:2156:G:H2'	54:1:2157:G:C5'	2.35	0.52
54:1:2788:C:H2'	54:1:2789:C:H6	1.74	0.52
59:8:546:PRO:HB2	59:8:549:TYR:CD2	2.44	0.52
5:f:129:GLU:OE1	5:f:131:VAL:HG23	2.09	0.52
6:g:31:VAL:HB	6:g:32:PRO:CD	2.40	0.52
23:x:16:ASN:OD1	23:x:26:ARG:HD2	2.10	0.52
30:E:31:ILE:O	30:E:31:ILE:HG13	2.08	0.52
33:H:81:GLU:HA	33:H:84:GLU:HG2	1.91	0.52
34:I:61:ARG:NH2	34:I:67:LEU:HA	2.24	0.52
39:N:117:LEU:HD12	39:N:117:LEU:N	2.25	0.52
42:Q:73:LEU:CD2	42:Q:102:ASP:HB3	2.39	0.52
52:a:168:ASN:HB3	52:a:170:ILE:CD1	2.39	0.52
53:3:227:G:O2'	53:3:228:A:H5'	2.09	0.52
53:3:871:U:H5''	53:3:872:A:OP2	2.09	0.52
53:3:1097:C:H2'	53:3:1098:C:C6	2.44	0.52
53:3:1318:A:H2'	53:3:1319:A:H5'	1.92	0.52
54:1:1999:C:H2'	54:1:2000:C:H6	1.74	0.52
54:1:2393:U:H2'	54:1:2394:C:C6	2.44	0.52
59:8:72:TRP:HZ2	59:8:276:GLN:HG2	1.73	0.52
59:8:84:ILE:HD12	59:8:84:ILE:N	2.23	0.52
59:8:381:ASP:C	59:8:382:ILE:HD12	2.33	0.52
4:e:102:LEU:HD13	4:e:137:PHE:CE1	2.43	0.52
4:e:128:SER:HA	4:e:153:ILE:O	2.10	0.52
11:l:30:THR:HG22	54:1:810:U:O4	2.09	0.52
40:O:47:GLU:HB2	40:O:67:ILE:O	2.10	0.52
48:W:41:SER:O	48:W:45:GLY:N	2.41	0.52
49:X:17:LYS:HA	49:X:20:LYS:HE2	1.90	0.52
53:3:296:U:H2'	53:3:297:G:O4'	2.09	0.52
53:3:1146:A:H2'	53:3:1146:A:N3	2.24	0.52
53:3:1258:G:H2'	53:3:1259:C:C6	2.45	0.52
54:1:329:G:O4'	54:1:477:A:H1'	2.09	0.52
54:1:534:U:H2'	54:1:535:G:C8	2.45	0.52
54:1:2221:G:O2'	54:1:2222:C:H5'	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:186:VAL:HG13	59:8:187:LYS:HG3	1.92	0.52
59:8:256:VAL:HG12	59:8:261:ILE:HG13	1.90	0.52
7:h:27:VAL:O	7:h:83:ALA:N	2.42	0.52
10:k:111:LYS:C	10:k:113:MET:H	2.16	0.52
11:l:62:PRO:HG2	30:E:24:LYS:HB3	1.92	0.52
15:p:24:THR:HB	15:p:87:ARG:HB3	1.91	0.52
44:S:63:CYS:HB3	44:S:68:ARG:H	1.74	0.52
53:3:450:G:H2'	53:3:481:G:H1	1.72	0.52
53:3:1540:U:O2	53:3:1540:U:H3'	2.10	0.52
54:1:26:G:H2'	54:1:27:G:O4'	2.09	0.52
54:1:378:C:O2'	54:1:379:G:H5'	2.10	0.52
54:1:861:A:H2'	54:1:862:G:O4'	2.09	0.52
55:2:119:A:H2	55:2:120:A:H1'	1.68	0.52
56:5:10:G:C2	56:5:26:A:H1'	2.44	0.52
59:8:487:GLN:OE1	59:8:487:GLN:HA	2.09	0.52
1:b:5:CYS:SG	1:b:17:LYS:HE2	2.50	0.52
7:h:70:GLU:HG3	7:h:71:CYS:SG	2.50	0.52
11:l:95:LEU:HB2	11:l:101:ILE:HD11	1.89	0.52
13:n:99:LYS:NZ	54:1:2816:G:H5''	2.25	0.52
18:s:107:VAL:HG13	18:s:107:VAL:O	2.10	0.52
23:x:73:ARG:HB2	23:x:73:ARG:HH11	1.74	0.52
31:F:27:CYS:SG	31:F:28:SER:N	2.83	0.52
32:G:158:ASP:O	32:G:180:ILE:HG23	2.10	0.52
33:H:22:PHE:HE2	40:O:11:LYS:HG3	1.75	0.52
34:I:158:LEU:HD11	34:I:174:ALA:HA	1.91	0.52
34:I:183:ARG:HG2	34:I:184:LYS:N	2.25	0.52
40:O:18:ILE:O	40:O:22:THR:N	2.43	0.52
40:O:42:LEU:HD12	40:O:73:LEU:HG	1.91	0.52
46:U:71:VAL:HG12	46:U:75:ILE:CG1	2.39	0.52
50:Y:80:ALA:O	50:Y:84:LYS:N	2.42	0.52
52:a:34:ALA:HA	52:a:40:GLU:OE1	2.09	0.52
53:3:415:A:H2'	53:3:416:G:O4'	2.09	0.52
53:3:800:G:H2'	53:3:801:U:C5	2.44	0.52
53:3:1383:C:H1'	57:6:34:C:H5''	1.91	0.52
54:1:656:G:H2'	54:1:657:U:C6	2.45	0.52
54:1:825:A:H2'	54:1:826:U:C6	2.45	0.52
59:8:227:ALA:HA	59:8:233:LEU:HB3	1.91	0.52
3:d:88:ARG:HB3	3:d:89:PRO:HD2	1.92	0.52
18:s:48:LYS:O	18:s:52:GLU:HG3	2.10	0.52
31:F:36:ARG:HG3	31:F:37:GLN:HG2	1.90	0.52
42:Q:37:TYR:O	42:Q:51:VAL:O	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:50:LYS:HD3	42:Q:50:LYS:N	2.25	0.52
42:Q:54:VAL:HG12	42:Q:55:ARG:N	2.22	0.52
43:R:86:ARG:HB2	43:R:96:VAL:HG13	1.92	0.52
43:R:101:THR:HG21	53:3:1226:C:H2'	1.91	0.52
44:S:12:ARG:NH1	44:S:58:ARG:HB3	2.25	0.52
46:U:38:PHE:N	46:U:51:ARG:O	2.42	0.52
46:U:62:GLY:O	46:U:63:GLN:NE2	2.40	0.52
46:U:71:VAL:O	46:U:75:ILE:N	2.43	0.52
49:X:18:VAL:CG1	49:X:43:MET:HB3	2.37	0.52
53:3:385:C:H2'	53:3:386:C:C6	2.45	0.52
53:3:1123:U:O2'	53:3:1124:G:H5'	2.10	0.52
53:3:1227:A:H2'	53:3:1228:C:H5'	1.92	0.52
53:3:1343:G:H2'	53:3:1344:C:H6	1.72	0.52
53:3:1494:G:HO2'	54:1:1912:A:HO2'	1.53	0.52
54:1:220:G:N2	54:1:427:U:H2'	2.20	0.52
54:1:841:G:H2'	54:1:842:U:C6	2.45	0.52
54:1:2121:G:H2'	54:1:2122:U:O4'	2.08	0.52
54:1:2224:G:H4'	54:1:2226:C:O2	2.09	0.52
54:1:2331:G:H2'	54:1:2332:C:C6	2.45	0.52
54:1:2749:A:OP2	54:1:2751:G:H5''	2.10	0.52
2:c:140:HIS:HB2	54:1:1657:U:OP1	2.10	0.52
16:q:61:ILE:HG23	16:q:75:TYR:CZ	2.45	0.52
19:t:50:LEU:HD13	24:y:26:PHE:CZ	2.45	0.52
30:E:44:ARG:N	30:E:45:PRO:HD2	2.25	0.52
32:G:67:LEU:HD23	32:G:68:PHE:N	2.24	0.52
34:I:70:GLN:O	34:I:74:TYR:N	2.35	0.52
34:I:151:GLN:O	34:I:152:SER:HB2	2.08	0.52
34:I:154:VAL:O	34:I:155:LYS:CA	2.57	0.52
37:L:67:ASN:HB3	37:L:129:ASN:HB3	1.91	0.52
39:N:51:LEU:CB	39:N:56:MET:HG3	2.40	0.52
41:P:32:THR:HG23	41:P:42:GLY:O	2.10	0.52
43:R:12:LYS:HD3	43:R:17:ALA:HA	1.91	0.52
43:R:102:LYS:HE3	53:3:954:G:O6	2.09	0.52
46:U:5:ARG:NH2	46:U:28:ARG:HA	2.25	0.52
49:X:54:ARG:HG2	49:X:54:ARG:HH11	1.74	0.52
53:3:736:C:H2'	53:3:737:C:C6	2.44	0.52
53:3:920:U:H1'	53:3:1080:A:C2	2.44	0.52
54:1:717:C:C2'	54:1:718:A:H5'	2.40	0.52
54:1:1111:A:H2'	54:1:1111:A:N3	2.24	0.52
54:1:1510:G:H2'	54:1:1511:G:C8	2.43	0.52
54:1:2537:U:H2'	54:1:2538:C:H6	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:120:ASP:N	6:g:91:PHE:HE1	2.08	0.52
3:d:149:ILE:HG22	3:d:187:VAL:O	2.10	0.52
11:l:29:LYS:O	11:l:30:THR:OG1	2.25	0.52
13:n:52:ILE:HD12	13:n:52:ILE:N	2.25	0.52
17:r:32:THR:HA	17:r:62:GLU:HA	1.92	0.52
25:z:40:THR:CG2	25:z:43:ILE:HG12	2.40	0.52
34:I:19:PHE:HE2	34:I:63:ILE:HG12	1.73	0.52
35:J:104:ILE:HA	35:J:121:ASN:HA	1.91	0.52
38:M:100:ILE:HG13	38:M:100:ILE:O	2.10	0.52
40:O:53:ILE:HG23	53:3:1060:U:H4'	1.90	0.52
43:R:44:ILE:HA	43:R:47:LEU:HG	1.92	0.52
43:R:89:ARG:NH2	43:R:94:LEU:HB3	2.25	0.52
52:a:22:ASP:O	52:a:26:ALA:N	2.39	0.52
53:3:1270:G:H2'	53:3:1271:A:H8	1.75	0.52
55:2:118:C:H2'	55:2:119:A:C8	2.43	0.52
59:8:188:MET:HE1	59:8:216:ASN:HA	1.91	0.52
59:8:522:MET:HA	59:8:576:ILE:HA	1.92	0.52
1:b:94:LEU:HD23	1:b:95:TYR:O	2.09	0.52
5:f:154:GLU:OE1	5:f:156:TYR:HB2	2.10	0.52
30:E:3:ILE:HG22	30:E:4:LYS:O	2.09	0.52
40:O:29:ALA:HB3	40:O:36:VAL:HG21	1.91	0.52
44:S:58:ARG:NH2	53:3:980:C:H4'	2.02	0.52
53:3:580:C:H2'	53:3:581:G:O4'	2.09	0.52
53:3:1319:A:H4'	53:3:1320:C:H5	1.74	0.52
53:3:1392:G:H2'	53:3:1393:U:H6	1.69	0.52
54:1:278:A:H2'	54:1:278:A:N3	2.25	0.52
54:1:279:A:H2'	54:1:280:U:H5'	1.92	0.52
54:1:326:G:H2'	54:1:327:G:C8	2.45	0.52
54:1:1579:A:H2'	54:1:1580:A:C8	2.45	0.52
54:1:1882:U:H2'	54:1:1883:U:C6	2.44	0.52
56:5:27:A:H2'	56:5:28:C:C6	2.45	0.52
59:8:431:MET:HE1	59:8:473:MET:SD	2.50	0.52
2:c:148:GLN:CD	2:c:148:GLN:N	2.67	0.51
4:e:114:ARG:HH21	4:e:114:ARG:HG3	1.74	0.51
10:k:32:TYR:HH	54:1:1996:C:H5	1.56	0.51
10:k:76:VAL:HG22	15:p:72:VAL:CG2	2.40	0.51
16:q:30:VAL:CG1	16:q:33:VAL:HG23	2.40	0.51
18:s:31:GLN:O	18:s:35:ILE:HG13	2.10	0.51
19:t:28:ASN:ND2	19:t:87:LEU:O	2.43	0.51
32:G:165:ALA:O	32:G:169:HIS:HB3	2.09	0.51
32:G:187:ASP:HB2	32:G:203:ASP:OD1	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:110:MET:O	35:J:113:VAL:HG12	2.10	0.51
36:K:42:TRP:HB3	36:K:45:ARG:NH2	2.25	0.51
38:M:110:MET:HE1	38:M:115:ALA:HA	1.92	0.51
42:Q:110:LYS:O	42:Q:113:ARG:HD2	2.10	0.51
46:U:20:VAL:HG23	46:U:34:GLU:C	2.34	0.51
47:V:20:ILE:O	47:V:45:VAL:N	2.40	0.51
48:W:12:PHE:CD2	48:W:13:THR:HG22	2.45	0.51
53:3:46:G:HO2'	53:3:365:U:H1'	1.74	0.51
53:3:493:A:H2'	53:3:494:G:O4'	2.10	0.51
53:3:554:A:H2'	53:3:555:U:C6	2.44	0.51
54:1:242:G:N2	54:1:254:G:H2'	2.25	0.51
54:1:1079:C:H2'	54:1:1080:A:H8	1.74	0.51
54:1:1833:C:O2'	54:1:1834:U:H5'	2.10	0.51
59:8:97:ILE:HG21	59:8:442:ASP:OD2	2.10	0.51
59:8:458:ILE:HD12	59:8:459:ALA:H	1.75	0.51
2:c:4:LEU:HD13	2:c:101:PHE:CE2	2.45	0.51
3:d:109:LEU:O	3:d:113:VAL:HG23	2.09	0.51
4:e:76:PHE:C	4:e:77:LYS:HG2	2.35	0.51
16:q:2:ARG:HD2	54:1:1248:G:C6	2.44	0.51
27:B:46:GLY:HA3	27:B:54:ILE:HG22	1.93	0.51
28:C:18:HIS:NE2	28:C:20:TYR:HE2	2.08	0.51
37:L:102:TRP:CD1	37:L:106:ALA:HB2	2.46	0.51
40:O:8:ILE:HB	40:O:74:VAL:CG2	2.39	0.51
46:U:70:ARG:O	46:U:74:LEU:HG	2.10	0.51
53:3:427:U:H2'	53:3:428:G:C8	2.45	0.51
54:1:575:A:O2'	54:1:576:U:H5'	2.11	0.51
54:1:849:A:H2'	54:1:850:U:C6	2.45	0.51
54:1:1475:G:O2'	54:1:1476:U:H6	1.93	0.51
57:6:70:G:H5'	57:6:70:G:H8	1.74	0.51
59:8:11:ARG:HB2	59:8:84:ILE:HA	1.91	0.51
59:8:17:ALA:HB3	59:8:23:LYS:HG2	1.92	0.51
59:8:301:ASP:OD2	59:8:304:ASP:N	2.44	0.51
59:8:446:ARG:HD2	59:8:446:ARG:N	2.26	0.51
1:b:155:ARG:NH2	54:1:1818:U:OP2	2.43	0.51
1:b:257:ARG:HD3	54:1:1799:G:OP1	2.10	0.51
4:e:175:PRO:O	4:e:176:PHE:HB2	2.10	0.51
31:F:17:VAL:HG12	31:F:18:LYS:H	1.75	0.51
32:G:38:HIS:C	32:G:39:ILE:HD12	2.35	0.51
32:G:75:ALA:HB2	32:G:209:VAL:HG21	1.92	0.51
32:G:81:ASP:O	32:G:85:SER:N	2.42	0.51
32:G:162:VAL:O	32:G:184:ALA:HA	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:132:ALA:N	53:3:403:C:H5''	2.25	0.51
34:I:190:LEU:HG	34:I:191:SER:N	2.25	0.51
35:J:155:LYS:HE2	38:M:70:VAL:HG13	1.93	0.51
36:K:38:ARG:HD3	36:K:97:THR:OG1	2.10	0.51
39:N:64:ILE:HG22	39:N:65:THR:N	2.26	0.51
42:Q:113:ARG:O	42:Q:117:GLY:HA2	2.11	0.51
42:Q:119:LYS:HA	53:3:36:C:O3'	2.10	0.51
44:S:3:GLN:HG3	44:S:6:LYS:HD3	1.92	0.51
53:3:443:C:H2'	53:3:444:G:C8	2.44	0.51
53:3:499:A:H1'	53:3:500:G:N9	2.25	0.51
53:3:784:A:H2'	53:3:785:G:C8	2.46	0.51
53:3:1326:U:H2'	53:3:1327:C:C6	2.45	0.51
54:1:1213:A:N6	54:1:1236:G:H1'	2.26	0.51
54:1:1296:G:H2'	54:1:1297:C:C6	2.46	0.51
54:1:2231:U:H2'	54:1:2232:C:C6	2.45	0.51
1:b:259:ASN:C	1:b:261:ARG:H	2.17	0.51
3:d:68:ALA:HA	54:1:1255:U:C5	2.45	0.51
4:e:35:LEU:HG	4:e:153:ILE:HG12	1.93	0.51
8:i:6:ALA:HB1	8:i:30:GLN:OE1	2.10	0.51
9:j:36:LEU:CD2	9:j:54:ILE:HD13	2.40	0.51
12:m:2:LEU:HD12	12:m:2:LEU:N	2.24	0.51
12:m:97:GLN:N	12:m:97:GLN:HE21	2.09	0.51
15:p:74:GLN:HB2	15:p:77:SER:HB2	1.92	0.51
26:A:14:ALA:CB	26:A:32:LEU:HD23	2.40	0.51
40:O:83:THR:HG23	40:O:87:LEU:CD1	2.40	0.51
42:Q:43:LYS:CE	42:Q:44:PRO:HD3	2.40	0.51
42:Q:91:GLY:O	42:Q:93:ARG:HG3	2.10	0.51
47:V:44:HIS:CD2	47:V:44:HIS:N	2.75	0.51
50:Y:14:GLU:O	50:Y:17:ARG:HG3	2.10	0.51
50:Y:25:SER:HB3	53:3:1458:G:H5''	1.92	0.51
53:3:23:C:O2'	53:3:24:U:H5'	2.09	0.51
53:3:47:C:H4'	53:3:48:C:H5''	1.93	0.51
53:3:129:A:H2	53:3:130:A:C2	2.28	0.51
53:3:335:C:H2'	53:3:336:A:H8	1.76	0.51
53:3:742:G:O2'	53:3:743:A:H5'	2.11	0.51
53:3:1259:C:H3'	53:3:1260:G:C5'	2.36	0.51
53:3:1457:G:H2'	53:3:1458:G:H8	1.75	0.51
54:1:940:G:C2'	54:1:941:A:H5''	2.37	0.51
54:1:1301:A:H2'	54:1:1301:A:N3	2.25	0.51
54:1:1444:G:H2'	54:1:1445:G:C8	2.46	0.51
54:1:1801:A:H5''	54:1:2203:U:H2'	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:72:GLY:C	1:b:73:ILE:HD12	2.35	0.51
2:c:152:PRO:HA	54:1:1130:U:N3	2.25	0.51
23:x:62:GLY:O	23:x:66:VAL:HG23	2.11	0.51
32:G:60:ALA:CB	32:G:223:GLY:HA3	2.41	0.51
32:G:132:GLU:HA	32:G:135:MET:HG2	1.92	0.51
37:L:44:SER:O	37:L:48:THR:HG23	2.09	0.51
38:M:10:LEU:CD1	38:M:76:ARG:HB2	2.41	0.51
47:V:49:ASN:O	47:V:49:ASN:ND2	2.39	0.51
53:3:245:U:O2'	53:3:246:A:H5'	2.09	0.51
53:3:1115:U:H2'	53:3:1116:U:O4'	2.11	0.51
54:1:1306:C:H41	54:1:1606:C:H2'	1.75	0.51
54:1:2741:A:H2'	54:1:2742:G:O4'	2.11	0.51
59:8:309:ARG:NH2	59:8:405:ILE:HD13	2.22	0.51
1:b:206:LYS:CE	54:1:729:G:OP2	2.59	0.51
15:p:54:LEU:HA	15:p:76:HIS:CD2	2.45	0.51
23:x:14:GLY:HA3	23:x:28:PHE:HE2	1.76	0.51
24:y:17:GLU:O	24:y:21:LEU:HG	2.10	0.51
33:H:26:LYS:NZ	33:H:27:GLU:HB3	2.25	0.51
34:I:102:TYR:C	34:I:105:GLY:H	2.18	0.51
37:L:119:LEU:O	37:L:119:LEU:HD23	2.11	0.51
38:M:76:ARG:HG3	38:M:125:ILE:O	2.11	0.51
40:O:23:ALA:O	40:O:27:GLU:N	2.42	0.51
41:P:109:ILE:HB	51:Z:5:VAL:CG1	2.41	0.51
45:T:71:ARG:HG3	45:T:71:ARG:HH11	1.76	0.51
49:X:71:GLY:HA3	53:3:1320:C:H1'	1.92	0.51
52:a:166:ASP:CG	54:1:2122:U:H4'	2.35	0.51
53:3:346:G:H2'	53:3:347:G:H5'	1.91	0.51
53:3:630:A:H2'	53:3:631:C:O4'	2.10	0.51
53:3:880:C:O2'	53:3:881:G:H5'	2.11	0.51
53:3:959:A:C2	53:3:1222:G:O4'	2.64	0.51
54:1:520:G:H2'	54:1:521:U:C6	2.46	0.51
54:1:2457:U:O2'	54:1:2458:G:H5'	2.10	0.51
4:e:105:ILE:HG13	4:e:106:ALA:H	1.75	0.51
5:f:85:LYS:HG3	5:f:131:VAL:HG22	1.93	0.51
10:k:99:ILE:HD13	10:k:115:ILE:HG23	1.91	0.51
11:l:3:LEU:HD23	54:1:1203:U:H5'	1.92	0.51
33:H:194:VAL:CG2	53:3:1205:U:H4'	2.41	0.51
34:I:2:ARG:CZ	34:I:114:ARG:HD3	2.41	0.51
34:I:183:ARG:NH1	34:I:184:LYS:H	2.08	0.51
39:N:23:GLY:H	39:N:59:LYS:C	2.18	0.51
39:N:23:GLY:O	39:N:59:LYS:N	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:O:33:GLY:O	40:O:34:ALA:HB3	2.11	0.51
42:Q:32:VAL:HG22	42:Q:78:VAL:HG23	1.93	0.51
52:a:7:ARG:HG3	52:a:7:ARG:HH21	1.74	0.51
52:a:9:ARG:O	52:a:13:GLU:HG3	2.11	0.51
53:3:97:G:H2'	53:3:98:A:O4'	2.10	0.51
53:3:1063:C:H2'	53:3:1064:G:C8	2.46	0.51
54:1:809:G:O2'	54:1:810:U:H5'	2.10	0.51
54:1:962:G:O2'	54:1:963:U:H5'	2.11	0.51
54:1:1773:A:C2'	54:1:1774:C:H5'	2.40	0.51
54:1:2489:U:O2'	54:1:2490:G:H5'	2.10	0.51
54:1:2737:G:H2'	54:1:2738:A:C8	2.46	0.51
55:2:55:U:O2'	55:2:56:G:H5'	2.10	0.51
59:8:330:VAL:HG23	59:8:331:GLY:H	1.74	0.51
59:8:499:THR:HG23	59:8:500:ASP:OD1	2.11	0.51
4:e:121:PHE:HZ	4:e:169:LEU:HD22	1.76	0.51
4:e:162:ASP:O	4:e:166:ARG:N	2.37	0.51
5:f:98:LYS:NZ	5:f:103:ASN:HB2	2.25	0.51
7:h:27:VAL:HG13	7:h:83:ALA:HB3	1.93	0.51
11:l:122:VAL:O	11:l:143:GLU:HG2	2.11	0.51
12:m:74:THR:HG22	12:m:89:VAL:HA	1.92	0.51
26:A:59:ARG:HH11	26:A:59:ARG:HG3	1.75	0.51
31:F:7:VAL:HG22	31:F:38:GLY:HA3	1.92	0.51
37:L:71:THR:O	37:L:90:VAL:HG12	2.11	0.51
42:Q:86:VAL:CG2	42:Q:89:LEU:HD13	2.41	0.51
44:S:52:ARG:HA	44:S:52:ARG:NE	2.26	0.51
46:U:60:TRP:CD1	46:U:60:TRP:H	2.29	0.51
47:V:14:ASP:O	47:V:16:MET:N	2.43	0.51
50:Y:53:MET:O	50:Y:54:GLN:C	2.52	0.51
51:Z:34:ARG:HB3	51:Z:36:PHE:CZ	2.45	0.51
53:3:65:A:H5'	53:3:200:G:H5''	1.93	0.51
53:3:107:G:C5'	53:3:134:G:H21	2.20	0.51
53:3:129:A:H2	53:3:130:A:N1	2.09	0.51
3:d:5:LEU:HD13	3:d:11:ALA:HA	1.93	0.51
3:d:146:VAL:HA	3:d:185:LYS:O	2.11	0.51
4:e:100:GLU:OE1	26:A:24:ILE:HD13	2.10	0.51
9:j:74:TYR:CD2	9:j:92:MET:HE2	2.46	0.51
11:l:57:LEU:HD13	11:l:60:ARG:HH11	1.75	0.51
17:r:74:ILE:HD13	54:1:992:C:H4'	1.92	0.51
23:x:38:TRP:HE3	23:x:45:PHE:CE1	2.29	0.51
33:H:76:ILE:HG13	33:H:77:GLY:N	2.24	0.51
36:K:37:HIS:HB3	36:K:97:THR:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:K:52:ASN:O	36:K:53:LYS:CB	2.59	0.51
44:S:12:ARG:HH11	44:S:58:ARG:HE	1.59	0.51
53:3:330:C:C2'	53:3:331:G:H5'	2.39	0.51
53:3:1067:A:H2'	53:3:1093:A:H4'	1.92	0.51
54:1:367:G:H2'	54:1:368:A:O4'	2.10	0.51
54:1:609:A:H2'	54:1:610:C:O4'	2.11	0.51
54:1:882:G:C2	54:1:883:G:H1'	2.46	0.51
54:1:1278:C:H2'	54:1:1279:G:C8	2.46	0.51
54:1:1717:A:H2'	54:1:1718:G:O4'	2.11	0.51
59:8:53:MET:O	59:8:56:GLU:HG2	2.11	0.51
59:8:72:TRP:CD1	59:8:283:ILE:HD12	2.46	0.51
59:8:194:ASN:HB2	59:8:201:THR:CB	2.40	0.51
59:8:286:LEU:HG	59:8:287:PRO:HD2	1.92	0.51
1:b:73:ILE:HD12	1:b:73:ILE:N	2.25	0.51
3:d:52:VAL:HG21	3:d:81:GLY:O	2.10	0.51
4:e:39:VAL:HG13	4:e:40:GLY:N	2.25	0.51
11:l:85:VAL:HG11	11:l:90:VAL:HG12	1.91	0.51
12:m:34:LYS:HE3	12:m:131:VAL:HG21	1.93	0.51
16:q:91:ARG:HG3	16:q:91:ARG:HH11	1.76	0.51
17:r:41:ILE:HG21	17:r:103:ALA:HB2	1.93	0.51
22:w:61:GLY:HA2	22:w:81:GLU:HB2	1.92	0.51
32:G:130:LYS:C	32:G:130:LYS:HD3	2.35	0.51
34:I:12:ARG:HH22	53:3:428:G:H3'	1.76	0.51
34:I:80:ARG:O	34:I:80:ARG:HD3	2.11	0.51
42:Q:41:PRO:HB3	42:Q:88:ASP:O	2.11	0.51
47:V:17:GLU:O	47:V:17:GLU:CG	2.59	0.51
50:Y:47:GLN:O	50:Y:51:ASN:N	2.34	0.51
53:3:180:U:H2'	53:3:181:A:O4'	2.10	0.51
53:3:570:G:H2'	53:3:571:U:C6	2.46	0.51
53:3:694:A:H2'	53:3:695:A:H5'	1.93	0.51
53:3:1071:C:H2'	53:3:1072:G:H8	1.76	0.51
53:3:1084:G:H5'	53:3:1102:A:OP2	2.10	0.51
54:1:26:G:O2'	54:1:27:G:H5'	2.11	0.51
54:1:1672:A:C2	54:1:2582:G:H5'	2.46	0.51
54:1:2185:U:H2'	54:1:2186:G:C8	2.46	0.51
54:1:2361:G:H2'	54:1:2362:C:C6	2.46	0.51
54:1:2520:C:C6	54:1:2567:G:H1'	2.46	0.51
59:8:29:ARG:HA	59:8:29:ARG:HE	1.76	0.51
59:8:218:TRP:O	59:8:221:ASN:HB2	2.11	0.51
3:d:85:PHE:CE2	54:1:587:C:H5'	2.47	0.50
5:f:100:ASN:O	5:f:116:LEU:N	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:41:LYS:HA	6:g:44:ILE:HD12	1.94	0.50
14:o:80:GLU:O	14:o:84:GLU:N	2.42	0.50
15:p:87:ARG:HG2	15:p:87:ARG:HH11	1.76	0.50
34:I:70:GLN:H	34:I:70:GLN:CD	2.19	0.50
40:O:22:THR:O	40:O:26:VAL:HG23	2.10	0.50
41:P:106:ILE:HB	51:Z:11:PHE:CE2	2.46	0.50
43:R:7:ASN:ND2	43:R:9:PRO:HG3	2.25	0.50
45:T:74:VAL:O	45:T:78:THR:HG23	2.10	0.50
46:U:6:LEU:HD22	46:U:17:TYR:HB3	1.91	0.50
50:Y:23:ARG:O	50:Y:26:MET:HG3	2.11	0.50
52:a:163:TYR:CD2	52:a:171:ILE:HD11	2.46	0.50
53:3:17:U:H2'	53:3:18:C:C6	2.46	0.50
53:3:41:G:H2'	53:3:42:G:H8	1.76	0.50
53:3:1118:U:H2'	53:3:1119:C:C6	2.46	0.50
54:1:247:G:H4'	54:1:386:G:C6	2.46	0.50
54:1:1434:A:H2'	54:1:1435:G:H8	1.77	0.50
54:1:1825:U:H2'	54:1:1826:G:C8	2.46	0.50
54:1:2213:U:H2'	54:1:2214:C:H5'	1.93	0.50
54:1:2781:A:H5''	54:1:2782:G:H5'	1.93	0.50
59:8:585:ASP:C	59:8:587:ASP:N	2.63	0.50
59:8:686:LYS:HG2	59:8:687:TYR:N	2.25	0.50
1:b:143:VAL:O	1:b:152:GLN:N	2.39	0.50
10:k:77:ILE:HD12	10:k:77:ILE:N	2.27	0.50
13:n:8:ARG:HG3	13:n:8:ARG:HH21	1.76	0.50
22:w:33:ILE:HD12	22:w:33:ILE:H	1.76	0.50
29:D:34:ARG:NH2	29:D:39:ARG:HD2	2.25	0.50
34:I:67:LEU:HB3	53:3:546:A:OP2	2.11	0.50
36:K:67:PRO:HG2	36:K:70:VAL:HG23	1.93	0.50
43:R:74:MET:O	43:R:78:ARG:N	2.45	0.50
46:U:16:PHE:CE1	46:U:38:PHE:HB2	2.46	0.50
46:U:39:PHE:CD1	46:U:50:THR:OG1	2.63	0.50
50:Y:11:ILE:HA	50:Y:14:GLU:HG3	1.93	0.50
53:3:579:A:H2'	53:3:580:C:C6	2.46	0.50
53:3:830:G:O2'	53:3:831:A:H5'	2.11	0.50
53:3:1481:U:H2'	53:3:1482:G:H8	1.75	0.50
54:1:565:C:O2'	54:1:566:U:H5'	2.11	0.50
54:1:2286:G:H5'	54:1:2287:A:C1'	2.41	0.50
55:2:119:A:N3	55:2:120:A:C1'	2.74	0.50
59:8:136:PRO:HB3	59:8:257:LEU:HA	1.93	0.50
1:b:124:LYS:C	1:b:191:LEU:HD23	2.36	0.50
3:d:73:ILE:H	3:d:73:ILE:CD1	2.23	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:24:THR:HG22	12:m:24:THR:O	2.11	0.50
14:o:99:TYR:HE1	14:o:107:ALA:CB	2.24	0.50
24:y:18:LEU:O	24:y:22:LEU:HB2	2.11	0.50
33:H:19:SER:O	44:S:93:PRO:HG3	2.12	0.50
34:I:89:LEU:HD23	34:I:89:LEU:O	2.10	0.50
34:I:115:GLN:HG3	34:I:119:HIS:CE1	2.46	0.50
34:I:117:VAL:HG22	34:I:122:ILE:CD1	2.38	0.50
34:I:183:ARG:HG2	34:I:184:LYS:H	1.75	0.50
39:N:89:TYR:HB2	39:N:93:LEU:HD13	1.93	0.50
53:3:31:G:H5'	53:3:306:A:C2	2.46	0.50
53:3:59:A:H2'	53:3:59:A:N3	2.25	0.50
53:3:309:A:H2'	53:3:310:G:H8	1.76	0.50
53:3:418:C:H2'	53:3:419:C:H6	1.77	0.50
53:3:713:G:H2'	53:3:714:G:C8	2.46	0.50
53:3:1360:A:H2'	53:3:1361:G:H5'	1.93	0.50
54:1:593:U:H2'	54:1:594:U:C6	2.46	0.50
54:1:2001:C:H1'	54:1:2689:U:C4	2.47	0.50
57:6:30:G:H2'	57:6:31:G:C8	2.46	0.50
59:8:22:GLY:O	59:8:26:THR:N	2.35	0.50
59:8:349:VAL:HG21	59:8:360:PHE:CE1	2.46	0.50
59:8:666:TYR:O	59:8:670:LEU:N	2.44	0.50
2:c:37:VAL:HG23	2:c:92:VAL:HG22	1.92	0.50
3:d:27:LEU:O	3:d:31:VAL:HG23	2.11	0.50
7:h:37:LYS:NZ	54:1:1086:A:H61	2.10	0.50
15:p:38:ARG:NH2	15:p:39:LEU:O	2.45	0.50
22:w:55:LEU:HD12	22:w:76:ILE:HD12	1.93	0.50
36:K:49:TYR:CE1	48:W:65:SER:HA	2.47	0.50
40:O:6:ILE:HD12	40:O:76:ILE:HG21	1.94	0.50
43:R:24:VAL:HG12	43:R:28:ARG:HG2	1.94	0.50
50:Y:59:ARG:O	50:Y:62:ALA:HB3	2.11	0.50
50:Y:75:LYS:O	50:Y:79:THR:N	2.43	0.50
52:a:42:VAL:CG2	52:a:178:VAL:HG12	2.42	0.50
53:3:225:C:C3'	53:3:226:G:H5''	2.42	0.50
53:3:1493:A:N7	59:8:591:LEU:HD21	2.25	0.50
54:1:359:G:H2'	54:1:360:U:O4'	2.10	0.50
54:1:645:C:H2'	54:1:647:G:N7	2.26	0.50
54:1:669:G:H2'	54:1:669:G:N3	2.26	0.50
54:1:828:U:H4'	54:1:831:G:N1	2.27	0.50
54:1:1744:A:H3'	54:1:1745:A:H8	1.75	0.50
54:1:2262:U:O2'	54:1:2263:C:H5'	2.11	0.50
54:1:2617:U:C2'	54:1:2618:G:H5'	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:15:ILE:HG23	59:8:110:VAL:HG11	1.93	0.50
59:8:612:LEU:HD11	59:8:698:VAL:HG11	1.93	0.50
5:f:8:VAL:HG22	5:f:68:ARG:CZ	2.42	0.50
5:f:70:LEU:O	5:f:74:MET:N	2.34	0.50
12:m:35:ALA:HB2	12:m:102:LEU:HD11	1.92	0.50
13:n:117:ASP:O	13:n:118:ARG:HB2	2.12	0.50
17:r:84:ARG:HH21	17:r:84:ARG:HG3	1.76	0.50
33:H:154:GLY:HA3	33:H:195:ILE:HG23	1.94	0.50
34:I:13:ARG:HD3	34:I:13:ARG:C	2.37	0.50
34:I:99:ASN:ND2	34:I:110:ARG:HD3	2.27	0.50
34:I:172:VAL:O	34:I:172:VAL:HG13	2.12	0.50
43:R:104:ASN:O	43:R:105:ALA:HB3	2.12	0.50
45:T:17:ASP:OD2	45:T:19:ASN:HB3	2.11	0.50
46:U:25:ARG:NH2	53:3:230:G:C4'	2.74	0.50
47:V:30:HIS:CD2	47:V:33:TYR:H	2.19	0.50
48:W:62:ARG:HH21	48:W:69:TYR:HA	1.77	0.50
53:3:313:A:H2'	53:3:314:C:C6	2.47	0.50
53:3:518:C:H5''	53:3:519:C:C6	2.47	0.50
53:3:570:G:H5'	53:3:820:U:O4'	2.11	0.50
53:3:1236:A:H4'	53:3:1304:G:H4'	1.93	0.50
54:1:696:G:O2'	54:1:697:G:H5'	2.12	0.50
54:1:948:C:H2'	54:1:949:G:C8	2.46	0.50
54:1:1210:G:P	54:1:1212:G:H5'	2.52	0.50
54:1:1577:C:H2'	54:1:1578:U:O4'	2.11	0.50
54:1:1662:U:H2'	54:1:1663:G:O4'	2.11	0.50
59:8:29:ARG:HB3	59:8:275:VAL:HG11	1.92	0.50
59:8:112:VAL:HG13	59:8:140:PHE:HD2	1.77	0.50
12:m:22:GLN:CB	54:1:907:G:H5'	2.41	0.50
33:H:105:VAL:HG22	33:H:107:LYS:H	1.76	0.50
44:S:12:ARG:HH11	44:S:58:ARG:NE	2.10	0.50
48:W:38:ILE:HD12	48:W:38:ILE:N	2.27	0.50
53:3:308:C:H2'	53:3:309:A:H8	1.75	0.50
53:3:938:A:N3	53:3:1376:U:H1'	2.26	0.50
53:3:1273:C:H2'	53:3:1274:A:O4'	2.11	0.50
54:1:386:G:H3'	54:1:387:U:C5'	2.42	0.50
54:1:549:G:H2'	54:1:550:C:H6	1.76	0.50
54:1:1233:C:H2'	54:1:1234:U:H6	1.77	0.50
54:1:2123:G:H2'	54:1:2124:G:C8	2.47	0.50
55:2:88:C:H5''	55:2:89:U:OP1	2.12	0.50
59:8:97:ILE:CG2	59:8:444:SER:HB2	2.40	0.50
5:f:37:ASN:HD22	5:f:63:GLN:CD	2.20	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:174:LYS:HD2	54:1:2529:G:H4'	1.94	0.50
9:j:28:LEU:HD21	9:j:32:LEU:HD11	1.92	0.50
13:n:49:GLU:HB2	13:n:50:PRO:HD3	1.93	0.50
25:z:8:GLN:NE2	25:z:23:LEU:HD23	2.26	0.50
25:z:24:LEU:O	25:z:24:LEU:HD23	2.11	0.50
32:G:37:VAL:HG12	32:G:38:HIS:N	2.26	0.50
32:G:42:LEU:H	32:G:42:LEU:CD2	2.22	0.50
37:L:136:LYS:O	37:L:140:VAL:HG23	2.11	0.50
40:O:10:LEU:HB3	40:O:98:VAL:HG23	1.94	0.50
44:S:72:PHE:CE2	44:S:74:ARG:HA	2.47	0.50
45:T:63:ARG:HH11	45:T:87:ARG:NH2	2.09	0.50
53:3:12:U:H2'	53:3:13:U:H5''	1.93	0.50
53:3:312:C:H2'	53:3:313:A:H8	1.76	0.50
53:3:327:A:O2'	53:3:328:C:H4'	2.12	0.50
53:3:363:A:O2'	53:3:364:A:H5'	2.12	0.50
53:3:569:C:H5'	53:3:574:A:N6	2.26	0.50
1:b:16:VAL:H	1:b:203:VAL:CG2	2.25	0.50
1:b:259:ASN:O	1:b:260:LYS:HB2	2.12	0.50
11:l:48:ARG:NH1	54:1:666:A:H4'	2.25	0.50
13:n:69:ARG:C	13:n:71:ARG:H	2.20	0.50
17:r:2:TYR:CE1	17:r:42:ALA:HB3	2.47	0.50
36:K:45:ARG:O	36:K:56:LYS:HA	2.11	0.50
37:L:46:LEU:HD21	37:L:57:GLU:HG2	1.94	0.50
47:V:11:VAL:CG1	47:V:20:ILE:HD11	2.36	0.50
53:3:373:A:C4'	53:3:451:A:H62	2.18	0.50
53:3:389:A:C6	53:3:390:U:H1'	2.47	0.50
53:3:411:A:C4	53:3:413:G:H1'	2.47	0.50
53:3:555:U:H2'	53:3:556:C:H6	1.77	0.50
53:3:1308:U:H2'	53:3:1309:G:C8	2.47	0.50
54:1:786:C:O2'	54:1:787:C:H5'	2.12	0.50
54:1:1366:A:H2'	54:1:1367:A:O4'	2.11	0.50
59:8:439:ALA:HA	59:8:445:PHE:CZ	2.47	0.50
59:8:501:VAL:HG11	59:8:604:GLY:CA	2.41	0.50
1:b:36:ASN:HB2	1:b:61:TYR:HB2	1.92	0.50
1:b:139:THR:HG23	1:b:160:TYR:HD2	1.77	0.50
1:b:200:MET:HE2	54:1:1820:U:C2	2.47	0.50
6:g:8:LYS:O	6:g:9:VAL:C	2.54	0.50
9:j:14:ASP:O	9:j:52:ASP:HB3	2.12	0.50
28:C:36:LYS:HE2	28:C:47:ILE:HD11	1.92	0.50
33:H:151:GLU:HG3	33:H:166:TRP:HB3	1.94	0.50
39:N:41:GLU:O	39:N:44:ARG:HD3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:O:20:GLN:O	40:O:24:GLU:HB2	2.12	0.50
40:O:64:GLN:HE22	44:S:100:TRP:HH2	1.60	0.50
52:a:21:TYR:CD2	52:a:222:VAL:HG13	2.46	0.50
53:3:64:G:C4'	53:3:65:A:H3'	2.41	0.50
53:3:222:C:H2'	53:3:223:A:C8	2.45	0.50
53:3:323:U:H2'	53:3:324:G:O4'	2.11	0.50
53:3:367:U:N3	53:3:393:A:H2	2.06	0.50
53:3:1064:G:H1'	53:3:1190:G:N2	2.27	0.50
53:3:1238:A:H2	53:3:1241:G:N3	2.10	0.50
54:1:141:G:H3'	54:1:142:A:O4'	2.12	0.50
54:1:594:U:H2'	54:1:595:C:H6	1.76	0.50
54:1:1054:A:H2'	54:1:1055:G:O4'	2.12	0.50
54:1:1086:A:H3'	54:1:1086:A:N3	2.27	0.50
54:1:2350:C:H2'	54:1:2351:G:O4'	2.11	0.50
59:8:18:HIS:CD2	59:8:19:ILE:H	2.30	0.50
59:8:388:LEU:N	59:8:388:LEU:HD12	2.27	0.50
1:b:30:ALA:HA	1:b:33:LEU:HD13	1.93	0.49
1:b:75:ALA:HB1	1:b:93:VAL:CG1	2.42	0.49
11:l:132:ARG:HG3	11:l:142:ILE:HD12	1.94	0.49
17:r:80:ARG:HH12	54:1:571:U:H3'	1.76	0.49
19:t:64:LYS:H	19:t:64:LYS:CD	2.17	0.49
22:w:21:ARG:HA	22:w:25:GLU:OE1	2.11	0.49
41:P:45:THR:HB	53:3:689:C:OP1	2.12	0.49
53:3:300:A:H2'	53:3:301:G:O4'	2.12	0.49
54:1:290:U:H2'	54:1:291:G:H8	1.77	0.49
54:1:441:U:H2'	54:1:442:G:H8	1.76	0.49
54:1:543:G:H8	54:1:543:G:H5'	1.76	0.49
54:1:1000:A:H2'	54:1:1001:A:C8	2.47	0.49
54:1:1045:C:H5'	54:1:1046:A:H5''	1.93	0.49
54:1:1362:C:H2'	54:1:1363:C:O4'	2.12	0.49
54:1:1746:A:H2'	54:1:1747:U:H6	1.76	0.49
54:1:2660:A:H2'	54:1:2661:G:O4'	2.12	0.49
10:k:98:ARG:HD2	53:3:339:C:OP2	2.12	0.49
11:l:4:ASN:O	54:1:1243:C:H1'	2.12	0.49
11:l:91:ASP:CG	11:l:92:LEU:H	2.21	0.49
15:p:20:ARG:NH2	15:p:112:ARG:HH11	2.10	0.49
15:p:54:LEU:HA	15:p:76:HIS:HD2	1.77	0.49
17:r:14:VAL:HA	17:r:18:GLN:NE2	2.27	0.49
17:r:51:VAL:O	17:r:52:PRO:C	2.54	0.49
34:I:23:GLY:HA3	34:I:108:ALA:O	2.11	0.49
34:I:25:ARG:HH21	34:I:30:LYS:HE3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:56:GLU:CG	34:I:198:LEU:HB2	2.42	0.49
34:I:190:LEU:HD12	34:I:191:SER:H	1.78	0.49
37:L:120:ALA:O	37:L:124:SER:N	2.43	0.49
40:O:53:ILE:HG12	53:3:1060:U:C5'	2.41	0.49
43:R:37:GLY:O	43:R:38:ILE:HD13	2.12	0.49
43:R:48:SER:O	43:R:52:ILE:HG12	2.11	0.49
44:S:20:PHE:CE2	44:S:50:LEU:HD12	2.47	0.49
46:U:51:ARG:NH1	46:U:51:ARG:HG2	2.28	0.49
50:Y:34:VAL:O	50:Y:38:ILE:HG13	2.11	0.49
53:3:404:G:H1	53:3:499:A:H62	1.60	0.49
53:3:517:G:N1	53:3:532:A:H5''	2.18	0.49
53:3:838:G:H2'	53:3:839:C:C6	2.46	0.49
53:3:916:U:H2'	53:3:917:G:H8	1.77	0.49
54:1:274:C:H2'	54:1:275:C:O4'	2.12	0.49
54:1:2555:U:H2'	54:1:2556:C:H5'	1.94	0.49
55:2:29:A:H2'	55:2:30:C:C6	2.47	0.49
59:8:170:GLN:CD	59:8:182:VAL:HG21	2.37	0.49
59:8:450:ASP:CB	59:8:455:GLN:H	2.25	0.49
1:b:176:ARG:HH12	54:1:1820:U:H5	1.58	0.49
1:b:235:GLU:HB2	54:1:2599:G:C8	2.48	0.49
1:b:238:ASN:ND2	54:1:2599:G:O6	2.45	0.49
6:g:51:ARG:HG3	6:g:51:ARG:NH1	2.28	0.49
10:k:7:MET:HE1	10:k:20:MET:HE3	1.95	0.49
12:m:82:MET:HE3	12:m:83:GLY:N	2.14	0.49
13:n:64:ARG:HH21	13:n:64:ARG:HG3	1.78	0.49
15:p:92:ARG:HD2	54:1:1753:G:OP1	2.12	0.49
15:p:100:ARG:HB3	15:p:101:GLU:OE2	2.13	0.49
16:q:57:ARG:HA	16:q:60:TRP:CE3	2.48	0.49
23:x:16:ASN:CG	23:x:26:ARG:HD2	2.36	0.49
24:y:39:GLN:HB3	24:y:41:HIS:CE1	2.48	0.49
34:I:9:LYS:O	34:I:13:ARG:N	2.45	0.49
37:L:62:GLU:O	37:L:65:LEU:N	2.44	0.49
39:N:12:LYS:HA	39:N:109:GLN:HE22	1.77	0.49
39:N:72:SER:HB3	53:3:1372:U:OP1	2.11	0.49
42:Q:79:ILE:C	42:Q:101:LEU:HD12	2.38	0.49
42:Q:85:ARG:HA	42:Q:93:ARG:HA	1.94	0.49
45:T:81:ILE:HG13	45:T:82:GLU:N	2.27	0.49
46:U:14:ARG:HB3	46:U:42:ILE:HD11	1.94	0.49
50:Y:72:ALA:HA	50:Y:75:LYS:HB2	1.93	0.49
53:3:560:A:H4'	53:3:561:U:H5'	1.93	0.49
53:3:1218:C:H2'	53:3:1219:A:H8	1.75	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1843:C:H2'	54:1:1844:C:C6	2.47	0.49
54:1:2208:C:H2'	54:1:2209:G:C8	2.48	0.49
54:1:2544:G:O2'	54:1:2545:G:H5'	2.12	0.49
59:8:612:LEU:HD11	59:8:698:VAL:CG1	2.42	0.49
3:d:173:THR:HA	3:d:199:MET:CE	2.42	0.49
6:g:23:ALA:HB3	54:1:2093:G:OP1	2.12	0.49
13:n:1:MET:HA	54:1:1654:A:OP1	2.12	0.49
17:r:65:ALA:H	17:r:95:ASP:HB2	1.77	0.49
23:x:55:MET:SD	54:1:2091:C:H4'	2.53	0.49
25:z:37:ARG:CZ	54:1:929:U:H4'	2.43	0.49
30:E:28:LEU:O	30:E:28:LEU:HD23	2.12	0.49
32:G:13:VAL:O	32:G:208:ALA:HB2	2.13	0.49
32:G:163:ILE:O	32:G:185:ILE:HG13	2.12	0.49
33:H:83:VAL:HG13	33:H:100:ILE:CG2	2.41	0.49
34:I:117:VAL:HA	34:I:122:ILE:HG12	1.94	0.49
34:I:197:HIS:O	34:I:201:GLU:N	2.38	0.49
37:L:32:ASP:HB2	37:L:34:LYS:HZ1	1.77	0.49
40:O:17:LEU:CD2	40:O:93:ALA:HB1	2.43	0.49
46:U:54:LEU:O	46:U:58:ALA:N	2.44	0.49
53:3:858:G:O6	53:3:869:G:H3'	2.12	0.49
53:3:1315:U:H2'	53:3:1316:G:O4'	2.12	0.49
54:1:156:A:H2'	54:1:157:C:C6	2.47	0.49
54:1:528:A:C2	54:1:2042:A:H2'	2.47	0.49
54:1:638:G:H2'	54:1:639:U:C6	2.46	0.49
54:1:859:G:H1'	54:1:860:U:C5	2.39	0.49
54:1:1565:C:O2'	54:1:1566:A:H2'	2.13	0.49
54:1:2372:U:H2'	54:1:2373:G:C8	2.47	0.49
54:1:2393:U:H2'	54:1:2394:C:H6	1.76	0.49
59:8:19:ILE:HG12	59:8:20:ASP:H	1.76	0.49
59:8:324:ILE:HG22	59:8:325:ALA:N	2.28	0.49
59:8:415:VAL:HG23	59:8:416:ILE:N	2.25	0.49
3:d:44:ARG:HH12	54:1:1248:G:P	2.35	0.49
4:e:109:ARG:HH21	4:e:109:ARG:HG2	1.78	0.49
4:e:124:ARG:NH1	54:1:2316:G:H4'	2.26	0.49
7:h:64:VAL:O	7:h:68:PRO:HD3	2.12	0.49
27:B:16:ARG:HA	27:B:19:ASP:OD2	2.11	0.49
33:H:20:THR:O	33:H:57:GLU:HA	2.12	0.49
34:I:75:TYR:O	34:I:78:ALA:HB3	2.11	0.49
34:I:131:ILE:HD13	53:3:403:C:H4'	1.93	0.49
38:M:10:LEU:HD22	38:M:74:ILE:HD11	1.94	0.49
44:S:2:LYS:NZ	44:S:2:LYS:HB3	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:S:26:LEU:O	44:S:26:LEU:HD23	2.12	0.49
53:3:985:C:H2'	53:3:986:U:H6	1.76	0.49
53:3:1489:G:O2'	53:3:1490:U:H5'	2.13	0.49
54:1:112:U:C2'	54:1:113:U:H5'	2.42	0.49
54:1:2074:U:H2'	54:1:2075:U:C6	2.47	0.49
55:2:33:G:H2'	55:2:34:A:O4'	2.12	0.49
59:8:519:VAL:HG12	59:8:580:PHE:C	2.37	0.49
59:8:671:ARG:HB2	59:8:676:GLY:HA2	1.95	0.49
1:b:87:SER:O	1:b:157:ALA:HB2	2.13	0.49
7:h:58:THR:HG21	7:h:82:ILE:H	1.77	0.49
12:m:2:LEU:H	12:m:2:LEU:CD1	2.25	0.49
13:n:8:ARG:HD2	13:n:43:GLU:HG2	1.95	0.49
27:B:11:LYS:HA	27:B:14:MET:HG2	1.94	0.49
33:H:37:LYS:O	33:H:40:GLN:HG2	2.12	0.49
34:I:66:VAL:HG12	34:I:67:LEU:N	2.27	0.49
34:I:155:LYS:HA	34:I:177:MET:HE1	1.94	0.49
44:S:5:MET:CE	53:3:982:U:H5''	2.33	0.49
46:U:5:ARG:HH21	46:U:28:ARG:HB2	1.75	0.49
47:V:12:VAL:N	47:V:21:VAL:O	2.44	0.49
52:a:11:ILE:O	52:a:15:VAL:HG23	2.13	0.49
53:3:36:C:H2'	53:3:37:U:C5'	2.43	0.49
53:3:225:C:H3'	53:3:226:G:H5''	1.95	0.49
53:3:410:G:H2'	53:3:429:U:C5	2.48	0.49
53:3:1068:G:OP2	53:3:1068:G:H8	1.95	0.49
53:3:1118:U:H2'	53:3:1119:C:H6	1.77	0.49
53:3:1326:U:H2'	53:3:1327:C:H6	1.77	0.49
54:1:381:G:O2'	54:1:382:A:H5'	2.12	0.49
54:1:743:A:O2'	54:1:744:U:H5'	2.12	0.49
54:1:1891:G:H2'	54:1:1892:C:H6	1.78	0.49
54:1:2339:C:H2'	54:1:2340:A:H8	1.77	0.49
59:8:519:VAL:CG1	59:8:580:PHE:HB3	2.43	0.49
6:g:97:ARG:HH21	54:1:2220:U:H4'	1.77	0.49
8:i:9:LYS:HD2	54:1:1061:U:OP1	2.13	0.49
21:v:30:ILE:HD13	21:v:91:PHE:HB2	1.93	0.49
32:G:100:LEU:HD12	32:G:174:GLU:HB3	1.95	0.49
34:I:33:ILE:HG12	34:I:34:GLU:N	2.27	0.49
36:K:12:PRO:O	36:K:15:SER:HB3	2.12	0.49
37:L:30:MET:CE	37:L:33:GLY:HA2	2.43	0.49
37:L:148:LYS:HE3	41:P:51:PHE:CZ	2.47	0.49
38:M:100:ILE:CG1	38:M:128:VAL:HB	2.37	0.49
39:N:83:THR:HB	39:N:97:LEU:HD21	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:114:LYS:NZ	53:3:1187:G:H5''	2.27	0.49
49:X:9:PHE:CE2	49:X:36:ARG:HD2	2.48	0.49
53:3:107:G:H5''	53:3:134:G:N2	2.25	0.49
53:3:361:G:H2'	53:3:362:G:O4'	2.13	0.49
53:3:404:G:H1	53:3:499:A:N6	2.11	0.49
53:3:772:U:O2'	53:3:773:G:H5'	2.13	0.49
53:3:947:G:H2'	53:3:948:C:C6	2.47	0.49
53:3:952:U:H2'	53:3:953:G:C8	2.47	0.49
54:1:693:A:H2'	54:1:694:U:C6	2.48	0.49
54:1:1645:G:OP1	54:1:1646:C:H5'	2.11	0.49
54:1:2000:C:O2'	54:1:2001:C:H5'	2.13	0.49
59:8:286:LEU:CG	59:8:287:PRO:HD2	2.43	0.49
59:8:427:ASP:OD1	59:8:479:VAL:HG13	2.12	0.49
2:c:9:VAL:HG13	2:c:9:VAL:O	2.13	0.49
8:i:72:THR:HG22	8:i:73:PRO:O	2.13	0.49
10:k:48:PRO:CG	53:3:1422:G:H5'	2.43	0.49
10:k:99:ILE:HD12	10:k:118:LEU:HB2	1.94	0.49
11:l:141:LYS:HD3	11:l:141:LYS:N	2.27	0.49
12:m:53:MET:HE1	12:m:103:TYR:CG	2.48	0.49
17:r:88:GLY:O	54:1:1224:U:H4'	2.13	0.49
21:v:26:PHE:HE1	21:v:47:VAL:HG21	1.78	0.49
23:x:73:ARG:HH11	23:x:73:ARG:CB	2.25	0.49
32:G:44:LYS:O	32:G:47:PRO:HD2	2.12	0.49
32:G:186:VAL:HB	32:G:190:SER:OG	2.13	0.49
33:H:120:THR:HG23	33:H:188:ALA:CB	2.42	0.49
34:I:154:VAL:C	34:I:155:LYS:HA	2.32	0.49
35:J:23:THR:HG22	53:3:1398:A:N6	2.27	0.49
42:Q:2:THR:O	42:Q:5:GLN:N	2.45	0.49
43:R:8:ILE:HG23	43:R:8:ILE:O	2.12	0.49
46:U:3:THR:HG22	46:U:24:SER:N	2.28	0.49
52:a:200:LYS:HD2	52:a:201:PRO:HD2	1.94	0.49
53:3:376:G:O2'	53:3:377:G:H5'	2.13	0.49
54:1:189:G:H2'	54:1:205:G:H22	1.78	0.49
54:1:569:U:O2	54:1:947:A:H4'	2.13	0.49
54:1:1367:A:H2'	54:1:1368:G:C5'	2.40	0.49
54:1:1904:G:H2'	54:1:1905:C:O4'	2.12	0.49
54:1:1994:C:H2'	54:1:1995:U:C6	2.48	0.49
54:1:2190:G:H2'	54:1:2191:A:H8	1.78	0.49
59:8:612:LEU:HD12	59:8:695:ALA:HA	1.93	0.49
12:m:29:GLY:H	12:m:104:GLU:CD	2.20	0.49
15:p:59:THR:CG2	15:p:72:VAL:HG12	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:42:LYS:CE	54:1:499:U:H5''	2.42	0.49
32:G:138:ARG:HA	32:G:141:GLU:OE1	2.12	0.49
32:G:182:VAL:HG22	32:G:183:PHE:N	2.28	0.49
34:I:10:LEU:CD1	34:I:62:ARG:HH12	2.26	0.49
39:N:29:ILE:HD13	39:N:38:PHE:CE1	2.37	0.49
47:V:40:THR:HG22	47:V:41:THR:H	1.78	0.49
49:X:35:ARG:HH12	49:X:74:ALA:HB1	1.78	0.49
50:Y:25:SER:O	50:Y:29:THR:HG23	2.13	0.49
51:Z:36:PHE:O	51:Z:38:GLU:N	2.46	0.49
53:3:303:A:O2'	53:3:555:U:H4'	2.12	0.49
53:3:868:C:H2'	53:3:869:G:O4'	2.12	0.49
53:3:981:U:H2'	53:3:982:U:H5	1.77	0.49
54:1:45:G:C5'	54:1:46:G:H5'	2.20	0.49
54:1:1105:U:C2'	54:1:1106:G:H5''	2.42	0.49
54:1:1827:U:C2'	54:1:1828:G:H5'	2.43	0.49
54:1:2027:G:H2'	54:1:2028:U:C6	2.48	0.49
54:1:2343:U:O2'	54:1:2344:U:H5'	2.13	0.49
59:8:318:SER:O	59:8:339:TYR:N	2.46	0.49
3:d:32:VAL:HG13	3:d:33:VAL:N	2.28	0.49
4:e:33:ILE:HB	4:e:90:LEU:HD12	1.95	0.49
8:i:11:GLN:HB2	8:i:56:VAL:CG1	2.33	0.49
10:k:71:ARG:HB3	10:k:72:PRO:HD2	1.95	0.49
11:l:23:ILE:HD13	17:r:84:ARG:HD3	1.94	0.49
12:m:95:LEU:O	12:m:96:ILE:HD13	2.12	0.49
19:t:39:THR:OG1	19:t:42:GLU:HG3	2.13	0.49
28:C:7:LYS:HA	28:C:23:THR:HA	1.94	0.49
32:G:59:ILE:HD12	32:G:59:ILE:N	2.28	0.49
37:L:64:ALA:HA	37:L:127:ALA:HA	1.93	0.49
41:P:19:VAL:N	41:P:34:THR:O	2.46	0.49
43:R:7:ASN:HD21	43:R:9:PRO:HG3	1.78	0.49
46:U:3:THR:HG22	46:U:24:SER:H	1.78	0.49
46:U:36:VAL:HG13	46:U:36:VAL:O	2.13	0.49
47:V:15:LYS:HG3	47:V:15:LYS:O	2.13	0.49
47:V:46:HIS:CB	47:V:70:LYS:HZ1	2.25	0.49
50:Y:54:GLN:N	50:Y:55:PRO:HD2	2.28	0.49
53:3:46:G:O2'	53:3:365:U:H1'	2.13	0.49
53:3:64:G:C5'	53:3:65:A:H3'	2.42	0.49
53:3:398:U:H2'	53:3:399:G:C8	2.47	0.49
53:3:1432:G:O2'	53:3:1468:A:N6	2.46	0.49
53:3:1512:U:H2'	53:3:1513:A:C8	2.47	0.49
54:1:691:C:H2'	54:1:692:C:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:709:U:H2'	54:1:710:U:C6	2.48	0.49
54:1:1189:A:H2'	54:1:1190:G:H5'	1.95	0.49
54:1:2061:G:H22	60:1:3001:FME:HCN	1.76	0.49
54:1:2297:A:N6	54:1:2319:G:H1'	2.28	0.49
54:1:2896:C:H2'	54:1:2897:U:C6	2.47	0.49
59:8:670:LEU:C	59:8:670:LEU:HD23	2.37	0.49
2:c:151:THR:HB	54:1:2571:U:O2'	2.12	0.48
2:c:197:THR:HB	54:1:2820:A:N1	2.28	0.48
4:e:133:GLU:HB2	4:e:136:ILE:HG23	1.94	0.48
5:f:68:ARG:HD3	5:f:68:ARG:C	2.38	0.48
5:f:142:GLN:HE22	54:1:2744:G:H21	1.61	0.48
9:j:54:ILE:HD12	9:j:54:ILE:N	2.28	0.48
22:w:64:LYS:HB2	22:w:79:GLU:OE1	2.12	0.48
32:G:12:GLY:O	32:G:14:HIS:ND1	2.46	0.48
32:G:29:PHE:CD1	32:G:29:PHE:N	2.80	0.48
32:G:185:ILE:HG22	32:G:199:ILE:CG2	2.42	0.48
33:H:4:VAL:HG22	33:H:5:HIS:N	2.28	0.48
37:L:47:GLU:O	37:L:49:LEU:N	2.46	0.48
40:O:5:ARG:HB3	40:O:79:PRO:HB3	1.95	0.48
43:R:85:TYR:O	43:R:89:ARG:N	2.45	0.48
44:S:20:PHE:CZ	44:S:47:LEU:HD12	2.46	0.48
46:U:51:ARG:HG2	46:U:51:ARG:HH11	1.78	0.48
47:V:48:GLU:O	47:V:49:ASN:C	2.55	0.48
52:a:46:VAL:HB	52:a:171:ILE:CG2	2.43	0.48
54:1:8:C:O2'	54:1:9:G:H5'	2.13	0.48
54:1:75:G:H2'	54:1:75:G:N3	2.28	0.48
54:1:444:C:O2'	54:1:445:C:H5'	2.13	0.48
54:1:1074:G:H2'	54:1:1075:C:C6	2.48	0.48
54:1:1417:C:H4'	54:1:1587:G:H21	1.77	0.48
54:1:2231:U:H2'	54:1:2232:C:H6	1.78	0.48
54:1:2715:C:H3'	54:1:2716:C:H5''	1.95	0.48
13:n:82:GLU:O	13:n:86:ARG:HB2	2.13	0.48
14:o:34:HIS:HA	14:o:53:THR:OG1	2.13	0.48
27:B:24:VAL:HG13	27:B:25:THR:N	2.28	0.48
29:D:10:LEU:HD23	54:1:770:G:H5''	1.95	0.48
32:G:35:ASN:ND2	32:G:37:VAL:HG21	2.28	0.48
34:I:19:PHE:CE2	34:I:63:ILE:HG12	2.47	0.48
34:I:97:LEU:HD21	34:I:122:ILE:CG2	2.31	0.48
38:M:98:LEU:HD12	38:M:98:LEU:C	2.37	0.48
41:P:24:ALA:HB1	41:P:89:GLY:HA3	1.95	0.48
44:S:11:LYS:O	44:S:15:LEU:HG	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:V:8:GLN:HG3	47:V:9:GLY:N	2.28	0.48
52:a:59:VAL:CG1	52:a:201:PRO:HG3	2.44	0.48
53:3:604:G:H2'	53:3:605:U:C6	2.49	0.48
53:3:1270:G:H2'	53:3:1271:A:C8	2.49	0.48
54:1:69:C:H2'	54:1:70:G:H8	1.77	0.48
54:1:1508:A:H2'	54:1:1509:A:O4'	2.14	0.48
54:1:2103:C:H2'	54:1:2104:C:C6	2.49	0.48
54:1:2372:U:H2'	54:1:2373:G:H8	1.78	0.48
54:1:2533:U:C2'	54:1:2534:A:H5'	2.41	0.48
54:1:2661:G:H5''	59:8:19:ILE:HG21	1.95	0.48
59:8:161:ARG:NH1	59:8:161:ARG:HB2	2.27	0.48
59:8:337:ARG:HD3	59:8:382:ILE:HD11	1.95	0.48
59:8:445:PHE:C	59:8:446:ARG:HD2	2.38	0.48
3:d:29:HIS:NE2	11:l:8:PRO:HB3	2.29	0.48
5:f:3:VAL:HG12	5:f:68:ARG:HD2	1.94	0.48
6:g:40:THR:C	6:g:42:LYS:N	2.71	0.48
21:v:80:HIS:HE1	21:v:82:TYR:CE1	2.31	0.48
29:D:12:ARG:HH21	29:D:12:ARG:HG3	1.79	0.48
32:G:67:LEU:HG	32:G:90:PHE:HA	1.95	0.48
33:H:82:ASP:O	33:H:86:LEU:HD23	2.13	0.48
34:I:10:LEU:CG	34:I:62:ARG:HH12	2.26	0.48
35:J:10:LEU:C	35:J:10:LEU:HD12	2.38	0.48
35:J:156:ARG:HD2	35:J:157:GLY:N	2.28	0.48
36:K:3:HIS:HA	36:K:65:GLU:HA	1.95	0.48
41:P:115:ILE:HD12	41:P:115:ILE:H	1.79	0.48
42:Q:51:VAL:HG22	42:Q:52:CYS:N	2.27	0.48
42:Q:57:THR:HG21	53:3:363:A:OP1	2.13	0.48
46:U:17:TYR:CZ	53:3:375:U:H4'	2.48	0.48
51:Z:54:ARG:O	51:Z:57:LYS:HE3	2.13	0.48
53:3:392:C:H2'	53:3:393:A:O4'	2.13	0.48
53:3:709:U:H2'	53:3:710:G:C8	2.49	0.48
54:1:146:A:H2'	54:1:147:C:C6	2.48	0.48
54:1:192:C:H2'	54:1:193:U:H5'	1.95	0.48
54:1:1010:A:N3	54:1:1153:C:H1'	2.28	0.48
54:1:2087:G:H2'	54:1:2088:A:H8	1.78	0.48
54:1:2543:G:H2'	54:1:2544:G:H8	1.77	0.48
54:1:2800:A:H3'	54:1:2801:G:C5'	2.42	0.48
54:1:2861:U:H2'	54:1:2862:G:C8	2.48	0.48
2:c:184:ARG:N	2:c:184:ARG:HD3	2.29	0.48
18:s:66:ILE:H	18:s:66:ILE:CD1	2.04	0.48
18:s:84:ARG:HH21	18:s:84:ARG:HG2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:v:26:PHE:CE2	21:v:89:ILE:HG13	2.48	0.48
34:I:54:LEU:HD22	34:I:55:ARG:NH2	2.28	0.48
34:I:81:LEU:HB3	34:I:88:ASN:ND2	2.21	0.48
34:I:190:LEU:CD1	34:I:191:SER:H	2.26	0.48
36:K:47:LEU:HD12	36:K:55:HIS:HA	1.94	0.48
37:L:115:MET:O	37:L:118:ARG:HG2	2.13	0.48
38:M:78:SER:OG	38:M:83:ARG:HA	2.12	0.48
45:T:58:MET:O	45:T:61:GLN:HB3	2.13	0.48
46:U:11:ALA:HB1	53:3:44:A:OP1	2.13	0.48
47:V:13:SER:O	47:V:20:ILE:HA	2.13	0.48
50:Y:25:SER:HB3	53:3:1458:G:OP1	2.13	0.48
53:3:695:A:H2'	53:3:696:A:C8	2.47	0.48
53:3:788:U:H3	53:3:792:A:H2'	1.78	0.48
54:1:112:U:H2'	54:1:113:U:H5'	1.96	0.48
54:1:164:C:H2'	54:1:165:A:O4'	2.13	0.48
54:1:493:G:O2'	54:1:494:G:H5'	2.13	0.48
54:1:690:G:H2'	54:1:691:C:H6	1.77	0.48
55:2:29:A:H2'	55:2:30:C:O4'	2.14	0.48
59:8:522:MET:CE	59:8:604:GLY:HA3	2.43	0.48
1:b:224:MET:O	1:b:232:GLY:HA2	2.14	0.48
7:h:55:VAL:HA	54:1:1084:A:C5'	2.39	0.48
8:i:25:PRO:HD3	59:8:645:GLN:O	2.12	0.48
12:m:55:ARG:HG3	12:m:55:ARG:HH21	1.78	0.48
19:t:69:ARG:HE	19:t:74:ILE:HG22	1.79	0.48
20:u:6:ARG:NH2	20:u:26:ASN:HB3	2.29	0.48
32:G:132:GLU:HG3	32:G:136:ARG:HD3	1.95	0.48
32:G:186:VAL:N	32:G:199:ILE:O	2.46	0.48
34:I:25:ARG:HG2	34:I:26:ALA:H	1.78	0.48
46:U:44:SER:CB	46:U:46:LYS:HG2	2.36	0.48
48:W:62:ARG:NH2	48:W:69:TYR:HA	2.28	0.48
50:Y:53:MET:HA	50:Y:56:ILE:HB	1.94	0.48
53:3:41:G:H2'	53:3:42:G:C8	2.47	0.48
53:3:971:G:H1'	53:3:1365:G:O2'	2.13	0.48
53:3:1516:G:H2'	53:3:1518:A:OP2	2.13	0.48
54:1:144:A:H2'	54:1:145:C:C6	2.49	0.48
54:1:210:C:H2'	54:1:211:C:C6	2.48	0.48
54:1:1013:C:H2'	54:1:1014:A:C8	2.49	0.48
54:1:1549:A:H2'	54:1:1550:C:C6	2.48	0.48
54:1:2167:U:H1'	54:1:2169:A:H62	1.77	0.48
54:1:2185:U:H2'	54:1:2186:G:H8	1.76	0.48
54:1:2224:G:H4'	54:1:2226:C:C2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2464:G:H2'	54:1:2465:C:C6	2.44	0.48
54:1:2843:G:O2'	54:1:2844:G:H5'	2.13	0.48
59:8:193:TRP:HH2	59:8:276:GLN:HB2	1.78	0.48
2:c:97:SER:O	2:c:100:LEU:HD13	2.13	0.48
3:d:19:PHE:HE2	3:d:188:MET:HE1	1.79	0.48
5:f:122:ALA:HA	5:f:132:LEU:HA	1.95	0.48
5:f:132:LEU:HD12	5:f:132:LEU:O	2.12	0.48
5:f:172:GLU:H	5:f:172:GLU:CD	2.20	0.48
7:h:27:VAL:CG1	7:h:83:ALA:HB3	2.43	0.48
10:k:104:THR:HG22	10:k:105:ARG:H	1.79	0.48
13:n:90:ARG:NH2	13:n:116:VAL:HG11	2.26	0.48
21:v:30:ILE:HG22	21:v:93:ARG:HG3	1.95	0.48
33:H:131:ARG:O	33:H:135:ARG:HG3	2.14	0.48
34:I:116:LEU:CD2	34:I:144:ILE:HG12	2.38	0.48
35:J:28:ARG:NH2	53:3:15:G:C4'	2.72	0.48
35:J:94:PHE:O	35:J:125:LYS:N	2.42	0.48
35:J:108:GLY:C	35:J:110:MET:H	2.22	0.48
35:J:159:SER:O	35:J:162:GLU:N	2.47	0.48
36:K:56:LYS:HD3	36:K:56:LYS:N	2.28	0.48
38:M:17:GLN:NE2	38:M:69:ALA:HB1	2.29	0.48
39:N:25:GLY:HA2	39:N:60:LEU:O	2.13	0.48
42:Q:86:VAL:HG21	42:Q:89:LEU:HD13	1.96	0.48
43:R:72:ILE:HG22	43:R:76:ILE:CD1	2.43	0.48
51:Z:23:GLU:HG2	51:Z:24:LYS:H	1.79	0.48
53:3:32:A:H2'	53:3:33:A:C8	2.48	0.48
53:3:47:C:H4'	53:3:48:C:C5'	2.43	0.48
53:3:829:G:O2'	53:3:830:G:H5'	2.13	0.48
54:1:414:C:H2'	54:1:415:A:C8	2.48	0.48
54:1:1077:A:C2'	54:1:1078:U:H5'	2.42	0.48
54:1:2037:A:H2'	54:1:2038:G:C8	2.49	0.48
54:1:2229:U:H2'	54:1:2230:G:C8	2.48	0.48
54:1:2371:G:O2'	54:1:2372:U:H5'	2.14	0.48
54:1:2428:G:H5''	54:1:2429:G:O5'	2.13	0.48
54:1:2488:G:O2'	54:1:2489:U:H5'	2.13	0.48
55:2:35:C:H2'	55:2:36:C:H5'	1.96	0.48
2:c:29:VAL:O	2:c:185:ASN:HB3	2.14	0.48
6:g:8:LYS:NZ	6:g:15:LEU:HD22	2.28	0.48
21:v:42:LEU:HD23	21:v:42:LEU:H	1.78	0.48
33:H:18:ASN:CB	33:H:39:ARG:HH22	2.24	0.48
35:J:12:GLU:HA	35:J:38:VAL:HG12	1.95	0.48
37:L:21:LEU:H	37:L:21:LEU:CD1	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:6:TYR:O	39:N:87:MET:HE1	2.13	0.48
39:N:30:ASN:O	39:N:31:GLN:HB2	2.13	0.48
48:W:62:ARG:HG3	48:W:62:ARG:HH11	1.79	0.48
49:X:20:LYS:HG3	49:X:21:ALA:N	2.29	0.48
53:3:229:U:H2'	53:3:230:G:O4'	2.14	0.48
53:3:579:A:H5'	53:3:728:A:H1'	1.96	0.48
53:3:938:A:C2	53:3:1376:U:H1'	2.48	0.48
54:1:1023:U:H2'	54:1:1024:G:H5'	1.96	0.48
59:8:225:SER:O	59:8:255:ARG:NH1	2.46	0.48
59:8:366:MET:HB2	59:8:371:ARG:NH1	2.29	0.48
4:e:34:THR:HB	4:e:154:THR:HG23	1.94	0.48
7:h:37:LYS:CG	7:h:41:LEU:HD12	2.28	0.48
17:r:6:GLN:HG3	17:r:39:LEU:HD11	1.96	0.48
20:u:23:LYS:O	20:u:35:VAL:HG13	2.14	0.48
33:H:149:LYS:CD	33:H:168:ARG:HB3	2.42	0.48
33:H:179:ALA:HB1	33:H:202:PHE:CE1	2.49	0.48
41:P:16:SER:O	41:P:78:ILE:HA	2.13	0.48
41:P:20:ALA:HB3	41:P:83:VAL:HA	1.96	0.48
41:P:97:ARG:HB2	41:P:97:ARG:HH11	1.78	0.48
42:Q:120:ARG:HG2	53:3:37:U:OP1	2.14	0.48
46:U:72:ALA:O	46:U:76:LYS:HG2	2.14	0.48
47:V:63:CYS:HB3	47:V:73:THR:OG1	2.13	0.48
51:Z:16:ARG:HB3	51:Z:16:ARG:NH1	2.28	0.48
53:3:1301:U:O2	53:3:1301:U:H2'	2.13	0.48
53:3:1448:C:H2'	53:3:1449:C:C6	2.49	0.48
54:1:156:A:H2'	54:1:157:C:H6	1.79	0.48
54:1:588:U:H2'	54:1:589:U:C6	2.49	0.48
54:1:947:A:H2'	54:1:948:C:C6	2.47	0.48
54:1:1260:A:O2'	54:1:1261:C:H5'	2.14	0.48
54:1:1846:G:H2'	54:1:1847:A:C1'	2.44	0.48
59:8:460:GLY:HA3	59:8:466:LEU:HD11	1.94	0.48
4:e:84:ILE:O	4:e:84:ILE:HG13	2.13	0.48
23:x:31:ASN:ND2	54:1:2230:G:H1'	2.28	0.48
23:x:67:LEU:O	23:x:68:ALA:C	2.57	0.48
32:G:55:GLU:O	32:G:58:LYS:HB3	2.14	0.48
34:I:37:PRO:HD2	34:I:41:GLY:HA3	1.96	0.48
37:L:148:LYS:CE	41:P:51:PHE:HZ	2.26	0.48
38:M:82:LEU:O	38:M:84:ILE:HG13	2.14	0.48
42:Q:93:ARG:HB2	42:Q:94:TYR:CE2	2.49	0.48
53:3:513:C:O2'	53:3:514:C:H5'	2.13	0.48
53:3:852:G:H2'	53:3:853:C:H6	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:940:C:H2'	53:3:941:G:H8	1.79	0.48
53:3:965:U:H1'	53:3:969:A:N3	2.27	0.48
54:1:106:C:H2'	54:1:107:G:H8	1.78	0.48
54:1:368:A:C2'	54:1:369:U:H5'	2.43	0.48
54:1:803:U:O2'	54:1:804:A:H5'	2.13	0.48
54:1:2366:A:H2'	54:1:2367:G:O4'	2.13	0.48
54:1:2801:G:H2'	54:1:2802:G:C8	2.48	0.48
55:2:119:A:N3	55:2:120:A:H1'	2.28	0.48
59:8:101:ARG:HH11	59:8:101:ARG:HG3	1.79	0.48
1:b:144:GLU:HB2	1:b:187:CYS:HB3	1.96	0.48
1:b:184:GLU:HG3	1:b:186:ASP:H	1.79	0.48
4:e:127:TYR:HB3	4:e:155:ILE:HB	1.96	0.48
6:g:42:LYS:O	6:g:46:PHE:N	2.45	0.48
7:h:26:VAL:HB	7:h:82:ILE:HD12	1.96	0.48
8:i:12:VAL:CG2	8:i:13:ALA:H	2.25	0.48
9:j:19:ASP:HA	9:j:57:LEU:CD1	2.43	0.48
25:z:31:ILE:C	25:z:33:HIS:H	2.22	0.48
26:A:22:MET:CE	26:A:23:LYS:H	2.27	0.48
27:B:4:GLN:O	54:1:2017:U:H4'	2.14	0.48
32:G:35:ASN:HD22	32:G:37:VAL:CG2	2.26	0.48
34:I:12:ARG:HD3	34:I:31:CYS:O	2.13	0.48
34:I:115:GLN:HB2	53:3:407:U:C5'	2.42	0.48
36:K:8:PHE:CE2	36:K:21:MET:HE1	2.49	0.48
40:O:53:ILE:HG22	40:O:61:ALA:O	2.14	0.48
43:R:3:ILE:HG13	43:R:3:ILE:O	2.14	0.48
44:S:40:ARG:NH1	49:X:6:LYS:NZ	2.62	0.48
46:U:14:ARG:NE	46:U:42:ILE:HD12	2.29	0.48
49:X:54:ARG:HD3	53:3:958:A:C4	2.49	0.48
53:3:521:G:N2	53:3:536:C:H5'	2.28	0.48
53:3:1413:A:H2	53:3:1487:G:H22	1.61	0.48
54:1:2705:A:H2'	54:1:2706:A:O4'	2.14	0.48
56:5:73:A:N3	56:5:73:A:H2'	2.28	0.48
1:b:74:PRO:O	1:b:96:LYS:HG2	2.14	0.47
4:e:37:MET:HB2	4:e:56:LEU:HD21	1.95	0.47
4:e:66:ILE:HG22	4:e:86:CYS:SG	2.54	0.47
5:f:66:THR:O	5:f:70:LEU:HD23	2.13	0.47
8:i:50:LYS:O	8:i:52:LEU:HD12	2.14	0.47
13:n:38:LEU:HB3	13:n:39:PRO:HD3	1.96	0.47
14:o:17:LYS:HZ3	54:1:2380:C:H5'	1.77	0.47
16:q:69:ARG:HG2	16:q:69:ARG:HH21	1.79	0.47
30:E:37:THR:HA	30:E:40:LYS:HE3	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:39:ILE:HD12	32:G:39:ILE:N	2.29	0.47
32:G:113:LEU:HD13	32:G:143:LEU:HB3	1.96	0.47
34:I:50:TYR:CG	53:3:508:U:H4'	2.49	0.47
34:I:122:ILE:HB	34:I:129:VAL:H	1.79	0.47
34:I:123:MET:HB2	34:I:145:ARG:HB2	1.96	0.47
35:J:133:ILE:H	35:J:133:ILE:CD1	2.21	0.47
42:Q:32:VAL:O	42:Q:33:CYS:HB2	2.13	0.47
45:T:14:PHE:CB	45:T:26:VAL:HG22	2.44	0.47
46:U:37:GLY:HA2	46:U:51:ARG:HD2	1.95	0.47
50:Y:34:VAL:O	50:Y:38:ILE:N	2.39	0.47
50:Y:57:VAL:HG13	50:Y:58:ASP:N	2.29	0.47
51:Z:23:GLU:HG2	51:Z:24:LYS:N	2.29	0.47
53:3:36:C:O2'	53:3:37:U:H5'	2.13	0.47
53:3:170:U:O2'	53:3:171:A:H5'	2.13	0.47
53:3:456:A:H61	53:3:476:U:H3	1.61	0.47
53:3:1256:A:H1'	53:3:1258:G:N9	2.29	0.47
53:3:1506:U:O2'	53:3:1507:A:H5'	2.14	0.47
54:1:2193:G:H2'	54:1:2194:U:C6	2.49	0.47
54:1:2295:C:H2'	54:1:2296:U:H6	1.79	0.47
54:1:2297:A:N1	54:1:2321:U:C5	2.63	0.47
54:1:2572:A:OP1	54:1:2574:G:H4'	2.14	0.47
55:2:21:G:O2'	55:2:22:U:H5'	2.14	0.47
59:8:80:GLU:HG3	59:8:82:HIS:HE2	1.77	0.47
59:8:103:MET:C	59:8:105:VAL:N	2.72	0.47
59:8:567:ALA:HB3	59:8:569:TYR:CE2	2.49	0.47
3:d:147:LEU:HD23	3:d:180:LEU:HD23	1.96	0.47
5:f:151:ARG:O	5:f:161:VAL:HG22	2.14	0.47
11:l:48:ARG:HD2	30:E:59:ALA:O	2.14	0.47
24:y:1:MET:HA	24:y:4:LYS:HB2	1.96	0.47
28:C:47:ILE:N	28:C:47:ILE:HD12	2.29	0.47
30:E:41:ARG:HA	30:E:44:ARG:HH21	1.79	0.47
34:I:115:GLN:CD	53:3:406:G:HO2'	2.21	0.47
34:I:190:LEU:CG	34:I:191:SER:N	2.76	0.47
36:K:9:MET:HE2	36:K:86:ARG:HB3	1.96	0.47
38:M:34:ALA:HB1	38:M:109:VAL:HG21	1.96	0.47
42:Q:31:GLY:CA	42:Q:56:LEU:HA	2.42	0.47
43:R:114:PRO:CG	53:3:1228:C:H5''	2.44	0.47
49:X:13:HIS:O	49:X:17:LYS:N	2.44	0.47
52:a:175:ILE:HG22	52:a:192:LEU:HD11	1.95	0.47
53:3:105:G:H2'	53:3:106:C:H6	1.78	0.47
53:3:1006:G:O2'	53:3:1007:U:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1313:U:O2'	53:3:1314:C:H5'	2.14	0.47
54:1:765:C:H2'	54:1:766:U:H6	1.78	0.47
54:1:1005:C:H2'	54:1:1006:C:C6	2.49	0.47
54:1:1505:A:H2'	54:1:1506:U:C6	2.49	0.47
59:8:33:TYR:HB3	59:8:72:TRP:CZ3	2.47	0.47
59:8:216:ASN:O	59:8:220:GLN:N	2.47	0.47
2:c:190:LYS:HG2	2:c:191:GLY:N	2.29	0.47
10:k:22:ILE:HD11	10:k:40:LYS:HG2	1.96	0.47
10:k:102:PRO:HD2	15:p:67:GLU:OE1	2.14	0.47
12:m:53:MET:O	12:m:56:ALA:N	2.47	0.47
12:m:58:LYS:O	12:m:59:ARG:HG2	2.14	0.47
14:o:111:ARG:NH2	14:o:117:PHE:OXT	2.47	0.47
18:s:9:HIS:CD2	18:s:102:HIS:HE1	2.32	0.47
27:B:51:ARG:HH21	27:B:51:ARG:HG3	1.78	0.47
30:E:54:LEU:O	30:E:58:ILE:HG13	2.14	0.47
34:I:100:VAL:O	34:I:104:MET:N	2.41	0.47
38:M:45:ILE:HG23	38:M:61:THR:O	2.15	0.47
52:a:68:GLY:HA2	52:a:159:GLY:HA2	1.95	0.47
53:3:396:C:C3'	53:3:397:A:H5''	2.44	0.47
53:3:412:A:N1	53:3:414:A:H1'	2.29	0.47
53:3:640:A:O2'	53:3:641:U:H5'	2.13	0.47
54:1:813:U:O2'	54:1:814:C:H5'	2.14	0.47
54:1:2139:U:H2'	54:1:2140:G:C8	2.49	0.47
59:8:337:ARG:HD3	59:8:382:ILE:CD1	2.45	0.47
2:c:67:HIS:C	2:c:67:HIS:HD1	2.23	0.47
3:d:45:ALA:HB2	54:1:38:A:H4'	1.96	0.47
5:f:120:ILE:HD12	5:f:134:GLY:HA3	1.97	0.47
17:r:54:VAL:HG12	17:r:55:ASP:N	2.28	0.47
28:C:12:SER:HA	28:C:48:TYR:CD2	2.50	0.47
37:L:103:ILE:HG23	37:L:122:GLU:HB3	1.95	0.47
41:P:105:ARG:NH1	41:P:106:ILE:O	2.46	0.47
42:Q:85:ARG:NH2	42:Q:87:LYS:HA	2.30	0.47
43:R:21:ILE:HB	43:R:24:VAL:CG2	2.44	0.47
52:a:43:ASP:HB3	52:a:215:SER:O	2.15	0.47
53:3:766:A:H2'	53:3:767:A:O4'	2.14	0.47
54:1:832:U:H2'	54:1:833:A:C8	2.49	0.47
54:1:841:G:H2'	54:1:842:U:H6	1.79	0.47
54:1:1060:U:O2	54:1:1088:A:H8	1.97	0.47
54:1:1296:G:H2'	54:1:1297:C:H6	1.78	0.47
54:1:1558:C:O4'	54:1:1560:G:C8	2.68	0.47
57:6:33:U:H2'	57:6:34:C:H3'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:194:ASN:HD21	59:8:203:GLU:CG	2.20	0.47
59:8:416:ILE:O	59:8:460:GLY:N	2.46	0.47
1:b:24:HIS:CG	1:b:79:ARG:HD2	2.49	0.47
2:c:125:TRP:CB	2:c:127:PHE:HE1	2.28	0.47
10:k:32:TYR:OH	54:1:1996:C:H5	1.96	0.47
10:k:76:VAL:O	15:p:71:ARG:HG3	2.14	0.47
19:t:6:ARG:HD3	19:t:6:ARG:C	2.40	0.47
22:w:37:ARG:HE	22:w:37:ARG:CA	2.17	0.47
23:x:54:GLY:O	23:x:58:ILE:HG13	2.14	0.47
30:E:51:LYS:HA	30:E:54:LEU:HG	1.95	0.47
34:I:158:LEU:O	34:I:158:LEU:HD23	2.14	0.47
36:K:7:VAL:HG22	36:K:61:LEU:HD13	1.96	0.47
37:L:98:LEU:HD12	37:L:101:ARG:HD2	1.96	0.47
38:M:29:SER:O	38:M:33:VAL:HG23	2.14	0.47
40:O:28:THR:HG23	40:O:31:ARG:HH21	1.79	0.47
52:a:168:ASN:O	52:a:170:ILE:HG13	2.15	0.47
53:3:490:C:H2'	53:3:491:G:H8	1.79	0.47
53:3:521:G:O2'	53:3:522:C:H5'	2.14	0.47
53:3:545:C:H2'	53:3:546:A:C8	2.49	0.47
54:1:1507:C:H2'	54:1:1508:A:C4'	2.45	0.47
54:1:1560:G:H2'	54:1:1560:G:N3	2.30	0.47
55:2:29:A:H2'	55:2:30:C:H6	1.79	0.47
59:8:184:ASP:O	59:8:188:MET:N	2.48	0.47
59:8:252:LEU:HD23	59:8:255:ARG:HH21	1.79	0.47
2:c:184:ARG:CB	2:c:186:LEU:HD23	2.43	0.47
3:d:118:LEU:CD2	3:d:188:MET:HE2	2.44	0.47
4:e:111:ARG:NH2	4:e:111:ARG:HB3	2.29	0.47
10:k:15:GLY:O	10:k:47:ILE:HG22	2.15	0.47
10:k:25:LEU:CD2	54:1:2562:U:H4'	2.44	0.47
12:m:12:MET:HG3	12:m:72:PRO:HG2	1.96	0.47
17:r:58:VAL:HG23	17:r:102:SER:OG	2.14	0.47
18:s:8:ARG:O	18:s:9:HIS:HB2	2.15	0.47
28:C:26:LYS:HD2	28:C:27:ARG:N	2.29	0.47
32:G:27:LYS:N	32:G:28:PRO:CD	2.77	0.47
32:G:73:ARG:HB3	32:G:73:ARG:HH11	1.79	0.47
33:H:89:VAL:O	33:H:92:ASP:HB3	2.15	0.47
38:M:79:ARG:HD2	53:3:878:A:OP1	2.14	0.47
42:Q:93:ARG:C	42:Q:94:TYR:CD2	2.93	0.47
49:X:72:GLU:HG2	53:3:1320:C:H4'	1.96	0.47
51:Z:28:LEU:HD23	51:Z:28:LEU:C	2.40	0.47
53:3:287:U:O2'	53:3:288:A:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:366:A:H1'	53:3:394:G:H22	1.80	0.47
53:3:492:C:H2'	53:3:493:A:C8	2.50	0.47
53:3:940:C:H2'	53:3:941:G:C8	2.49	0.47
53:3:1185:G:H2'	53:3:1186:G:O4'	2.14	0.47
53:3:1191:A:H2'	53:3:1191:A:N3	2.30	0.47
53:3:1324:A:H2'	53:3:1325:C:H6	1.80	0.47
54:1:419:U:H2'	54:1:420:C:C6	2.49	0.47
54:1:1170:C:H2'	54:1:1171:G:C8	2.49	0.47
54:1:1231:U:H2'	54:1:1232:G:H8	1.79	0.47
54:1:2756:U:H4'	54:1:2757:A:OP1	2.13	0.47
59:8:256:VAL:HG23	59:8:257:LEU:HD12	1.96	0.47
59:8:501:VAL:HG12	59:8:603:GLU:HB3	1.95	0.47
1:b:160:TYR:CB	1:b:193:GLU:HG2	2.42	0.47
2:c:53:GLY:HA3	2:c:77:ARG:HG2	1.97	0.47
2:c:135:GLY:O	54:1:2580:U:H5''	2.14	0.47
2:c:184:ARG:HG2	2:c:184:ARG:HH21	1.79	0.47
4:e:69:ALA:H	4:e:82:TYR:N	2.13	0.47
7:h:37:LYS:HZ2	54:1:1086:A:H61	1.62	0.47
10:k:88:ASN:N	10:k:93:GLN:O	2.44	0.47
13:n:92:GLY:HA3	54:1:2839:G:H21	1.80	0.47
16:q:26:ALA:C	16:q:28:SER:H	2.23	0.47
27:B:9:ARG:HG2	27:B:9:ARG:HH21	1.79	0.47
30:E:57:VAL:O	30:E:61:LEU:HG	2.14	0.47
33:H:43:THR:HG23	33:H:51:VAL:HG11	1.96	0.47
33:H:137:VAL:HG13	33:H:148:ILE:HG23	1.97	0.47
33:H:166:TRP:HZ3	33:H:168:ARG:HG2	1.80	0.47
35:J:148:SER:HB2	35:J:149:PRO:HD2	1.95	0.47
36:K:48:ALA:HB1	48:W:68:PRO:CG	2.44	0.47
37:L:137:ARG:O	37:L:140:VAL:HB	2.14	0.47
37:L:148:LYS:HZ1	41:P:51:PHE:HZ	1.62	0.47
42:Q:55:ARG:HA	42:Q:60:PHE:O	2.14	0.47
46:U:33:ILE:HD12	46:U:33:ILE:H	1.78	0.47
53:3:37:U:H2'	53:3:38:G:C8	2.49	0.47
53:3:337:G:H2'	53:3:338:A:H8	1.78	0.47
53:3:373:A:H5'	53:3:481:G:H5'	1.97	0.47
53:3:467:U:H5'	53:3:468:A:OP2	2.15	0.47
53:3:707:U:H2'	53:3:708:C:C6	2.50	0.47
53:3:1023:U:H2'	53:3:1024:G:C8	2.49	0.47
53:3:1324:A:H2'	53:3:1325:C:C6	2.49	0.47
53:3:1348:U:O2	53:3:1348:U:H2'	2.12	0.47
54:1:75:G:H22	54:1:111:A:H2	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:268:C:H2'	54:1:269:C:C6	2.49	0.47
54:1:759:G:H2'	54:1:760:G:H8	1.78	0.47
54:1:1581:G:H2'	54:1:1582:C:C6	2.49	0.47
54:1:1747:U:H2'	54:1:1748:C:H6	1.78	0.47
54:1:1921:G:O2'	54:1:1922:G:H5'	2.15	0.47
54:1:2216:G:H2'	54:1:2217:G:H8	1.80	0.47
54:1:2238:G:H2'	54:1:2238:G:N3	2.30	0.47
54:1:2282:G:H4'	54:1:2389:G:O2'	2.15	0.47
54:1:2391:G:H2'	54:1:2424:C:N4	2.29	0.47
54:1:2570:G:O2'	54:1:2571:U:H5'	2.15	0.47
54:1:2888:C:H2'	54:1:2889:C:C6	2.49	0.47
55:2:119:A:C2	55:2:120:A:N9	2.82	0.47
59:8:154:VAL:O	59:8:157:GLN:HG2	2.15	0.47
59:8:267:GLY:HA2	59:8:274:GLY:HA3	1.97	0.47
59:8:519:VAL:O	59:8:519:VAL:HG13	2.14	0.47
59:8:540:ILE:HD13	59:8:579:HIS:O	2.15	0.47
59:8:614:GLU:N	59:8:688:ASP:O	2.34	0.47
3:d:99:LYS:NZ	54:1:605:G:H5''	2.30	0.47
4:e:3:LEU:HD12	4:e:3:LEU:N	2.30	0.47
6:g:4:ILE:HA	6:g:17:ASP:O	2.15	0.47
6:g:12:LEU:O	6:g:12:LEU:HD22	2.15	0.47
6:g:46:PHE:CA	6:g:49:ALA:HB3	2.41	0.47
11:l:93:ASN:O	11:l:94:THR:HB	2.14	0.47
13:n:55:ALA:HA	13:n:80:PHE:CE1	2.49	0.47
18:s:98:LYS:HD3	54:1:2012:G:OP1	2.14	0.47
23:x:66:VAL:O	23:x:69:GLU:HG2	2.15	0.47
26:A:46:GLY:HA2	26:A:49:ARG:HG2	1.95	0.47
33:H:24:ASN:HB2	33:H:27:GLU:OE1	2.15	0.47
36:K:36:ILE:HG13	36:K:37:HIS:N	2.30	0.47
40:O:36:VAL:HG12	40:O:76:ILE:HG23	1.97	0.47
40:O:72:ARG:HG2	40:O:72:ARG:HH11	1.79	0.47
51:Z:16:ARG:NH2	51:Z:19:LYS:HE2	2.29	0.47
52:a:168:ASN:HB3	52:a:170:ILE:HD12	1.97	0.47
53:3:31:G:C4	53:3:306:A:H1'	2.50	0.47
53:3:1228:C:H2'	53:3:1229:A:C8	2.50	0.47
54:1:279:A:C2'	54:1:280:U:H5'	2.44	0.47
54:1:542:C:H2'	54:1:543:G:H5''	1.97	0.47
54:1:1057:A:H2'	54:1:1057:A:N3	2.30	0.47
54:1:1239:G:H2'	54:1:1240:U:O4'	2.15	0.47
54:1:1656:C:C2	54:1:1657:U:C5	3.03	0.47
54:1:1998:A:H2'	54:1:1999:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2087:G:H2'	54:1:2088:A:C8	2.50	0.47
54:1:2220:U:H2'	54:1:2221:G:C8	2.50	0.47
54:1:2756:U:H1'	54:1:2757:A:H5''	1.97	0.47
55:2:105:G:O2'	55:2:106:G:H5'	2.14	0.47
59:8:197:ASP:O	59:8:272:ASN:ND2	2.48	0.47
59:8:348:THR:HG23	59:8:359:ARG:HH11	1.80	0.47
2:c:146:ILE:HD11	54:1:2052:A:C8	2.50	0.47
3:d:40:ARG:HD2	54:1:443:A:C6	2.49	0.47
6:g:114:GLU:HA	6:g:133:GLN:HB3	1.97	0.47
10:k:15:GLY:HA2	10:k:47:ILE:HG22	1.97	0.47
12:m:19:GLY:C	12:m:20:LEU:HD12	2.40	0.47
13:n:112:TYR:CE2	27:B:54:ILE:HD11	2.50	0.47
20:u:95:PHE:N	20:u:100:GLU:O	2.46	0.47
22:w:41:PHE:O	22:w:55:LEU:HD11	2.14	0.47
32:G:127:LYS:HE2	32:G:127:LYS:HA	1.97	0.47
32:G:222:GLU:OE2	32:G:225:SER:HB2	2.15	0.47
34:I:115:GLN:OE1	53:3:406:G:O2'	2.32	0.47
43:R:18:LEU:CD1	43:R:32:ILE:HB	2.44	0.47
46:U:39:PHE:CZ	46:U:74:LEU:HD22	2.49	0.47
54:1:194:G:H2'	54:1:195:A:O4'	2.15	0.47
54:1:1794:A:H2'	54:1:1795:C:C6	2.50	0.47
54:1:1965:C:H5'	54:1:1966:A:OP2	2.15	0.47
54:1:2303:G:O2'	54:1:2304:G:H5'	2.15	0.47
54:1:2730:C:O2'	54:1:2731:G:H5'	2.14	0.47
59:8:450:ASP:HB2	59:8:455:GLN:O	2.15	0.47
1:b:16:VAL:H	1:b:203:VAL:HG23	1.78	0.47
1:b:77:VAL:HG13	1:b:91:ALA:HB1	1.96	0.47
2:c:115:GLY:HA2	2:c:166:GLY:HA3	1.95	0.47
2:c:167:ASN:ND2	54:1:2821:A:O3'	2.48	0.47
4:e:43:ILE:HG22	4:e:82:TYR:CE2	2.49	0.47
6:g:103:VAL:CG1	6:g:108:VAL:HB	2.45	0.47
11:l:119:PRO:CA	11:l:140:GLY:H	2.28	0.47
17:r:68:ARG:O	17:r:93:PHE:HE1	1.98	0.47
26:A:49:ARG:O	26:A:53:THR:HG23	2.14	0.47
28:C:47:ILE:HD12	28:C:47:ILE:H	1.80	0.47
32:G:27:LYS:CD	32:G:30:ILE:HD11	2.43	0.47
36:K:1:MET:HG2	36:K:67:PRO:HB3	1.95	0.47
41:P:85:VAL:HG23	41:P:111:ASP:HA	1.95	0.47
45:T:77:TYR:O	45:T:80:LEU:HG	2.16	0.47
46:U:39:PHE:HB2	46:U:50:THR:HG23	1.97	0.47
50:Y:42:ASP:OD2	50:Y:45:ALA:HB3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:Z:7:GLU:OE2	51:Z:15:LEU:HB3	2.15	0.47
53:3:521:G:C2'	53:3:522:C:H5'	2.45	0.47
53:3:1161:C:O2'	53:3:1162:C:H5'	2.15	0.47
54:1:666:A:H2'	54:1:667:U:C6	2.49	0.47
54:1:1416:G:H2'	54:1:1417:C:C6	2.50	0.47
54:1:1662:U:O2'	54:1:1663:G:H5'	2.15	0.47
59:8:430:LYS:O	59:8:434:ALA:N	2.47	0.47
4:e:12:VAL:HG12	4:e:16:MET:HE2	1.98	0.46
6:g:49:ALA:O	6:g:53:GLU:HG3	2.15	0.46
10:k:8:LEU:HD22	10:k:82:ASN:HB3	1.97	0.46
10:k:18:ARG:HB3	10:k:45:GLU:OE1	2.14	0.46
11:l:23:ILE:HD12	11:l:23:ILE:N	2.16	0.46
15:p:52:ARG:HG2	15:p:52:ARG:NH1	2.30	0.46
18:s:84:ARG:O	18:s:95:ARG:HA	2.15	0.46
19:t:12:ARG:HD3	24:y:29:ARG:HD2	1.98	0.46
19:t:30:ILE:CG1	19:t:32:LEU:HD22	2.41	0.46
21:v:25:LYS:HG2	21:v:43:ASP:HA	1.98	0.46
23:x:33:HIS:N	23:x:50:VAL:O	2.45	0.46
34:I:116:LEU:HD21	34:I:144:ILE:CG1	2.41	0.46
37:L:49:LEU:O	37:L:53:SER:N	2.48	0.46
39:N:12:LYS:C	39:N:14:SER:H	2.22	0.46
40:O:57:VAL:HG13	40:O:58:ASN:N	2.30	0.46
42:Q:8:ARG:NH1	42:Q:8:ARG:CB	2.78	0.46
42:Q:23:LEU:HD23	42:Q:29:LYS:HD3	1.97	0.46
46:U:13:LYS:C	46:U:14:ARG:HD2	2.41	0.46
48:W:59:LYS:HD3	53:3:734:G:O2'	2.15	0.46
52:a:16:ASP:OD2	52:a:19:LYS:HB2	2.15	0.46
52:a:166:ASP:OD1	54:1:2122:U:H4'	2.15	0.46
52:a:218:MET:HG2	54:1:2174:C:O2'	2.15	0.46
53:3:70:U:H4'	53:3:71:A:C8	2.50	0.46
53:3:427:U:H2'	53:3:428:G:H8	1.79	0.46
53:3:1237:C:OP1	53:3:1238:A:H1'	2.14	0.46
54:1:297:G:H2'	54:1:298:G:O4'	2.14	0.46
54:1:445:C:O2'	54:1:446:G:H5'	2.14	0.46
59:8:111:MET:HE1	59:8:130:ALA:HB2	1.96	0.46
59:8:135:VAL:O	59:8:137:ARG:HD3	2.15	0.46
59:8:140:PHE:HD1	59:8:265:THR:HG23	1.81	0.46
59:8:446:ARG:HG2	59:8:446:ARG:HH11	1.80	0.46
59:8:493:THR:HG22	59:8:613:LEU:HG	1.97	0.46
3:d:90:GLN:HG3	3:d:92:HIS:CE1	2.50	0.46
11:l:79:LEU:HB2	11:l:114:GLY:O	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:x:17:ARG:HG3	23:x:17:ARG:NH1	2.30	0.46
34:I:9:LYS:HG2	34:I:12:ARG:HH21	1.80	0.46
38:M:35:ILE:O	38:M:38:VAL:N	2.48	0.46
38:M:44:PHE:HE2	38:M:100:ILE:HG12	1.79	0.46
38:M:55:LYS:O	38:M:57:GLU:OE2	2.34	0.46
40:O:83:THR:CG2	40:O:87:LEU:HD12	2.45	0.46
41:P:64:VAL:HA	41:P:67:GLU:OE1	2.14	0.46
44:S:9:GLU:OE1	44:S:60:ARG:HB3	2.15	0.46
46:U:44:SER:HB3	46:U:46:LYS:HE2	1.97	0.46
53:3:64:G:H5'	53:3:66:A:OP1	2.15	0.46
53:3:499:A:H1'	53:3:500:G:C1'	2.45	0.46
53:3:567:G:H2'	53:3:568:G:O4'	2.14	0.46
53:3:923:A:H2'	53:3:924:C:C6	2.50	0.46
53:3:969:A:H2'	53:3:970:C:H5'	1.98	0.46
53:3:1164:G:O2'	53:3:1165:U:H5'	2.14	0.46
53:3:1220:G:O2'	53:3:1221:G:H5'	2.15	0.46
53:3:1493:A:O2'	53:3:1494:G:OP1	2.21	0.46
54:1:511:U:H2'	54:1:512:G:H5'	1.97	0.46
54:1:1161:C:H2'	54:1:1162:G:C8	2.50	0.46
54:1:1233:C:H2'	54:1:1234:U:C6	2.51	0.46
54:1:1507:C:C2'	54:1:1508:A:H4'	2.45	0.46
54:1:2038:G:H2'	54:1:2039:U:C6	2.51	0.46
54:1:2240:U:O2'	54:1:2241:A:H5'	2.15	0.46
54:1:2649:C:H2'	54:1:2650:U:H6	1.80	0.46
54:1:2689:U:O2	54:1:2713:U:H5''	2.15	0.46
55:2:2:G:O6	55:2:119:A:N6	2.48	0.46
55:2:51:G:H2'	55:2:52:A:O4'	2.14	0.46
2:c:149:ASN:O	2:c:152:PRO:HD2	2.15	0.46
3:d:3:LEU:CD1	3:d:14:VAL:HG11	2.45	0.46
9:j:57:LEU:C	9:j:57:LEU:HD12	2.40	0.46
17:r:14:VAL:HG23	17:r:18:GLN:HE21	1.81	0.46
23:x:6:VAL:HG23	23:x:50:VAL:HG12	1.97	0.46
36:K:11:HIS:HB3	36:K:14:GLN:HB2	1.98	0.46
38:M:38:VAL:O	38:M:42:GLU:HG2	2.15	0.46
43:R:14:ALA:HA	43:R:17:ALA:HB3	1.97	0.46
43:R:15:VAL:HG23	43:R:16:ILE:N	2.31	0.46
44:S:12:ARG:NH1	44:S:58:ARG:NE	2.63	0.46
46:U:25:ARG:CB	46:U:25:ARG:HH11	2.28	0.46
47:V:7:LEU:HG	47:V:61:ARG:HD3	1.97	0.46
49:X:35:ARG:NH1	49:X:51:HIS:O	2.49	0.46
53:3:31:G:H5'	53:3:306:A:N1	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:158:G:H2'	53:3:159:G:O4'	2.16	0.46
53:3:181:A:H62	53:3:194:C:H2'	1.81	0.46
53:3:237:G:H2'	53:3:238:A:C8	2.49	0.46
53:3:291:U:H2'	53:3:292:G:C8	2.50	0.46
53:3:549:C:H2'	53:3:550:G:C8	2.50	0.46
54:1:679:C:H2'	54:1:680:C:C6	2.51	0.46
54:1:754:U:O2'	54:1:755:U:H5'	2.16	0.46
54:1:873:C:H2'	54:1:874:G:C8	2.50	0.46
54:1:1120:G:H2'	54:1:1121:C:O4'	2.15	0.46
54:1:1545:A:H2'	54:1:1546:G:O4'	2.15	0.46
54:1:2625:G:H2'	54:1:2626:C:C6	2.51	0.46
54:1:2698:U:H2'	54:1:2699:C:C6	2.50	0.46
55:2:59:A:H2'	55:2:60:C:C6	2.50	0.46
2:c:133:THR:HG23	2:c:134:HIS:CD2	2.51	0.46
4:e:3:LEU:HA	4:e:6:TYR:CB	2.41	0.46
4:e:13:LYS:HA	4:e:16:MET:HE3	1.98	0.46
11:l:25:SER:C	11:l:27:LEU:H	2.23	0.46
21:v:75:GLN:CB	21:v:92:VAL:HG23	2.40	0.46
24:y:19:LEU:C	24:y:23:ARG:HD3	2.40	0.46
25:z:19:HIS:O	25:z:23:LEU:HD13	2.16	0.46
27:B:3:GLN:OE1	27:B:7:PRO:HD3	2.16	0.46
32:G:129:THR:HB	32:G:132:GLU:HB2	1.98	0.46
34:I:61:ARG:HH12	34:I:68:GLU:HG2	1.75	0.46
35:J:149:PRO:O	35:J:153:ALA:N	2.34	0.46
42:Q:17:LYS:HD2	42:Q:17:LYS:C	2.41	0.46
42:Q:30:ARG:HG2	42:Q:30:ARG:NH1	2.30	0.46
46:U:4:ILE:HG12	46:U:21:VAL:HG13	1.97	0.46
46:U:13:LYS:NZ	53:3:392:C:H5'	2.31	0.46
46:U:52:LEU:HG	46:U:54:LEU:HG	1.98	0.46
49:X:5:LYS:HB3	53:3:1313:U:OP2	2.16	0.46
50:Y:2:ASN:CG	53:3:59:A:N6	2.74	0.46
50:Y:45:ALA:O	50:Y:49:ALA:N	2.37	0.46
51:Z:36:PHE:C	51:Z:38:GLU:N	2.68	0.46
53:3:485:U:H5'	53:3:486:U:OP2	2.15	0.46
53:3:1435:G:H2'	53:3:1436:U:H6	1.78	0.46
54:1:373:U:H4'	54:1:423:A:O2'	2.15	0.46
54:1:527:C:C2	54:1:2779:U:H2'	2.50	0.46
54:1:935:C:H2'	54:1:936:A:H8	1.80	0.46
54:1:1026:G:H2'	54:1:1027:A:H8	1.81	0.46
54:1:1275:A:C6	54:1:1296:G:H4'	2.51	0.46
54:1:1736:U:H2'	54:1:1737:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1772:A:H2'	54:1:1773:A:H4'	1.97	0.46
54:1:2190:G:H2'	54:1:2191:A:C8	2.50	0.46
54:1:2617:U:H2'	54:1:2618:G:H5'	1.97	0.46
54:1:2636:C:H2'	54:1:2637:U:C6	2.50	0.46
59:8:184:ASP:N	59:8:189:LYS:O	2.46	0.46
59:8:414:PRO:HB2	59:8:459:ALA:HB1	1.96	0.46
5:f:86:LEU:HB2	5:f:162:ARG:O	2.15	0.46
12:m:26:VAL:HG21	12:m:132:THR:C	2.40	0.46
19:t:92:ASN:O	19:t:93:LEU:HD12	2.16	0.46
24:y:18:LEU:C	24:y:18:LEU:HD23	2.41	0.46
30:E:12:ARG:HG3	30:E:12:ARG:NH2	2.31	0.46
33:H:129:PHE:CZ	33:H:156:LEU:HB2	2.50	0.46
34:I:67:LEU:O	34:I:71:PHE:N	2.38	0.46
42:Q:22:ALA:HB3	42:Q:94:TYR:CE1	2.50	0.46
43:R:15:VAL:HG23	43:R:16:ILE:H	1.81	0.46
43:R:85:TYR:CE2	53:3:1321:U:H4'	2.50	0.46
45:T:38:LEU:O	45:T:41:HIS:N	2.49	0.46
46:U:5:ARG:NH1	53:3:377:G:H5'	2.30	0.46
46:U:70:ARG:CG	53:3:375:U:H5''	2.44	0.46
49:X:54:ARG:HB3	53:3:958:A:C2	2.51	0.46
51:Z:59:LEU:C	51:Z:59:LEU:HD12	2.41	0.46
52:a:14:LYS:HB3	52:a:32:GLU:OE2	2.15	0.46
53:3:396:C:C2'	53:3:397:A:H5''	2.46	0.46
54:1:222:A:C2	54:1:233:A:H5''	2.51	0.46
54:1:1593:A:H2'	54:1:1594:U:C6	2.50	0.46
54:1:1979:U:C2'	54:1:1980:G:H5'	2.46	0.46
54:1:1999:C:H2'	54:1:2000:C:C6	2.50	0.46
54:1:2264:C:O2'	54:1:2265:U:H5'	2.16	0.46
54:1:2394:C:H42	57:6:76:A:H2	1.62	0.46
59:8:365:GLN:O	59:8:371:ARG:HA	2.16	0.46
59:8:375:LYS:HD3	59:8:375:LYS:N	2.31	0.46
59:8:623:THR:O	59:8:623:THR:HG23	2.15	0.46
1:b:144:GLU:HG2	1:b:151:GLY:N	2.30	0.46
5:f:174:LYS:HG3	54:1:2529:G:H5'	1.97	0.46
6:g:12:LEU:HD22	6:g:12:LEU:C	2.41	0.46
15:p:10:GLU:OE1	15:p:10:GLU:HA	2.16	0.46
20:u:39:ASN:CB	20:u:62:ALA:HB3	2.44	0.46
21:v:30:ILE:HG12	21:v:40:ILE:CG1	2.46	0.46
25:z:4:ILE:N	25:z:37:ARG:O	2.48	0.46
27:B:47:TYR:CE1	27:B:52:LYS:HB2	2.51	0.46
33:H:71:ARG:HB3	33:H:74:ILE:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:110:LEU:CD2	33:H:143:LEU:HD23	2.46	0.46
34:I:69:ARG:HH22	53:3:548:G:H5'	1.81	0.46
34:I:104:MET:HB3	34:I:106:PHE:CE2	2.50	0.46
34:I:131:ILE:HD12	53:3:403:C:C4'	2.43	0.46
34:I:164:ARG:HB2	34:I:164:ARG:NH1	2.31	0.46
35:J:106:ALA:HB1	35:J:110:MET:HE3	1.97	0.46
36:K:22:ILE:O	36:K:26:THR:HG22	2.16	0.46
42:Q:32:VAL:C	42:Q:54:VAL:HG13	2.40	0.46
42:Q:88:ASP:O	42:Q:90:PRO:HD3	2.15	0.46
43:R:13:HIS:HA	43:R:42:VAL:O	2.15	0.46
45:T:3:SER:O	45:T:7:THR:HG23	2.15	0.46
45:T:80:LEU:HD12	45:T:81:ILE:HG23	1.98	0.46
46:U:67:ILE:HG22	46:U:68:SER:N	2.30	0.46
49:X:36:ARG:NH2	53:3:1317:C:H42	2.13	0.46
53:3:399:G:H2'	53:3:400:C:H6	1.79	0.46
53:3:401:C:O2'	53:3:402:G:H5'	2.14	0.46
53:3:452:A:H2'	53:3:453:G:O4'	2.16	0.46
53:3:518:C:H5''	53:3:519:C:C5	2.50	0.46
54:1:69:C:H2'	54:1:70:G:C8	2.50	0.46
54:1:441:U:O2'	54:1:442:G:H5'	2.15	0.46
54:1:1307:A:H2'	54:1:1308:A:C5'	2.45	0.46
54:1:1635:A:C2'	54:1:1636:U:H5'	2.45	0.46
54:1:2026:U:H2'	54:1:2027:G:C8	2.51	0.46
55:2:2:G:H2'	55:2:3:C:C6	2.47	0.46
59:8:233:LEU:HA	59:8:236:LYS:HD2	1.97	0.46
59:8:492:GLU:O	59:8:571:VAL:HG13	2.16	0.46
1:b:78:GLU:HG2	1:b:79:ARG:HG2	1.97	0.46
1:b:174:ARG:HA	1:b:179:GLU:O	2.16	0.46
2:c:202:ILE:HD12	2:c:202:ILE:N	2.30	0.46
13:n:2:ARG:HG3	13:n:2:ARG:HH11	1.79	0.46
13:n:40:LYS:HE3	54:1:1651:G:OP1	2.15	0.46
16:q:93:ILE:O	16:q:97:ILE:HG13	2.16	0.46
28:C:46:VAL:HG12	28:C:47:ILE:N	2.31	0.46
32:G:35:ASN:ND2	32:G:37:VAL:CG2	2.79	0.46
37:L:31:VAL:HG13	37:L:31:VAL:O	2.16	0.46
39:N:104:THR:HG23	53:3:1180:A:H5''	1.98	0.46
40:O:40:ILE:HD13	53:3:1125:U:C6	2.50	0.46
40:O:66:GLU:O	44:S:95:LEU:HA	2.16	0.46
41:P:54:SER:HB3	53:3:694:A:OP1	2.15	0.46
41:P:59:PRO:HB3	41:P:90:PRO:O	2.15	0.46
46:U:67:ILE:H	46:U:67:ILE:CD1	2.22	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:W:25:ILE:O	48:W:29:LYS:N	2.48	0.46
53:3:252:U:O2	53:3:252:U:C2'	2.61	0.46
53:3:500:G:C6	53:3:546:A:C2	3.03	0.46
53:3:838:G:H2'	53:3:839:C:H6	1.80	0.46
53:3:969:A:C2'	53:3:970:C:H5'	2.46	0.46
54:1:215:G:C4'	54:1:216:A:H4'	2.44	0.46
54:1:277:G:H4'	54:1:278:A:N7	2.31	0.46
54:1:937:C:H2'	54:1:938:G:C8	2.51	0.46
54:1:1139:G:O2'	54:1:1140:C:H5'	2.15	0.46
54:1:1259:G:O2'	54:1:1260:A:H5'	2.15	0.46
54:1:1447:C:H2'	54:1:1448:G:C8	2.50	0.46
54:1:1900:A:H2	54:1:1970:A:C6	2.33	0.46
54:1:2363:G:O2'	54:1:2364:C:H5'	2.15	0.46
59:8:183:VAL:HA	59:8:190:ALA:HA	1.96	0.46
59:8:189:LYS:HD3	59:8:204:TYR:HH	1.78	0.46
59:8:382:ILE:HD12	59:8:382:ILE:N	2.30	0.46
2:c:27:ILE:HD11	2:c:187:LEU:HD23	1.97	0.46
3:d:149:ILE:HG21	3:d:188:MET:HG2	1.97	0.46
3:d:181:ILE:HG23	11:l:2:ARG:NE	2.22	0.46
4:e:25:MET:O	4:e:25:MET:HG3	2.14	0.46
15:p:94:ALA:HB2	54:1:2848:G:C8	2.51	0.46
16:q:3:VAL:HG12	16:q:4:LYS:N	2.31	0.46
19:t:50:LEU:HD13	24:y:26:PHE:HZ	1.80	0.46
20:u:13:LEU:HB2	20:u:68:ASN:O	2.16	0.46
20:u:82:VAL:HG12	20:u:83:GLY:N	2.31	0.46
20:u:97:SER:O	20:u:98:ASN:HB3	2.15	0.46
21:v:16:ALA:O	21:v:19:ARG:HB3	2.15	0.46
24:y:2:LYS:HG3	24:y:3:ALA:N	2.28	0.46
26:A:14:ALA:HB2	26:A:32:LEU:HD23	1.97	0.46
27:B:30:ASP:HB3	27:B:34:GLY:H	1.81	0.46
34:I:24:VAL:CG1	53:3:409:U:H5'	2.46	0.46
34:I:68:GLU:HG3	53:3:545:C:OP1	2.15	0.46
34:I:164:ARG:HB2	34:I:164:ARG:CZ	2.46	0.46
35:J:54:GLU:HB3	35:J:57:ALA:HB3	1.98	0.46
35:J:68:ARG:HH11	35:J:68:ARG:HG3	1.81	0.46
36:K:6:ILE:CD1	36:K:74:LEU:HD11	2.46	0.46
39:N:29:ILE:O	39:N:32:ARG:N	2.44	0.46
42:Q:117:GLY:HA2	53:3:36:C:H5'	1.95	0.46
44:S:12:ARG:HA	44:S:15:LEU:HD12	1.97	0.46
47:V:11:VAL:HB	47:V:56:ASP:N	2.28	0.46
48:W:54:LEU:O	48:W:58:ILE:HG12	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:50:VAL:CG2	49:X:70:LEU:HD13	2.46	0.46
50:Y:28:ARG:O	50:Y:32:LYS:HG2	2.15	0.46
50:Y:44:ALA:O	50:Y:48:LYS:N	2.40	0.46
53:3:950:U:H2'	53:3:951:G:H8	1.81	0.46
53:3:1491:G:O2'	53:3:1492:A:H5''	2.16	0.46
54:1:2649:C:H2'	54:1:2650:U:C6	2.51	0.46
57:6:23:C:H2'	57:6:24:U:C6	2.51	0.46
59:8:93:VAL:O	59:8:94:ASP:CB	2.64	0.46
59:8:154:VAL:HG12	59:8:158:ILE:CD1	2.46	0.46
59:8:177:GLU:C	59:8:179:PHE:N	2.73	0.46
59:8:353:VAL:N	59:8:404:ILE:HD13	2.31	0.46
59:8:428:GLN:O	59:8:432:GLY:N	2.42	0.46
59:8:502:GLU:HG3	59:8:504:LYS:NZ	2.31	0.46
1:b:155:ARG:NH1	54:1:1818:U:H5	2.14	0.46
2:c:170:VAL:HG22	2:c:171:THR:N	2.31	0.46
2:c:207:VAL:HG13	2:c:208:LYS:N	2.31	0.46
10:k:115:ILE:O	10:k:118:LEU:N	2.49	0.46
11:l:82:LEU:CD2	11:l:120:VAL:HG11	2.46	0.46
40:O:40:ILE:HD11	53:3:1124:G:H4'	1.98	0.46
43:R:80:MET:HE1	43:R:91:ARG:HG3	1.97	0.46
49:X:79:TYR:CG	49:X:80:ARG:N	2.84	0.46
53:3:66:A:O3'	53:3:199:A:H4'	2.16	0.46
53:3:491:G:H2'	53:3:492:C:C6	2.50	0.46
53:3:1120:C:H2'	53:3:1121:U:H6	1.81	0.46
54:1:1268:A:H1'	54:1:2013:A:N6	2.31	0.46
54:1:1434:A:H2'	54:1:1435:G:C8	2.51	0.46
54:1:2195:U:H2'	54:1:2196:C:H6	1.81	0.46
54:1:2295:C:H2'	54:1:2296:U:C6	2.50	0.46
54:1:2391:G:O2'	54:1:2429:G:N2	2.49	0.46
59:8:127:TRP:CH2	59:8:262:ILE:HG13	2.51	0.46
59:8:220:GLN:HA	59:8:223:ILE:HG12	1.98	0.46
59:8:396:THR:HB	59:8:404:ILE:HB	1.98	0.46
6:g:42:LYS:O	6:g:46:PHE:CD2	2.68	0.46
14:o:4:LYS:HE3	14:o:7:ARG:HH21	1.80	0.46
17:r:14:VAL:HG21	17:r:98:ILE:CG1	2.45	0.46
17:r:83:TYR:HE1	17:r:85:LYS:HE3	1.80	0.46
18:s:7:HIS:ND1	18:s:10:ALA:HB2	2.31	0.46
18:s:9:HIS:HD2	18:s:102:HIS:HE1	1.63	0.46
21:v:25:LYS:HD3	21:v:41:GLU:OE2	2.16	0.46
23:x:69:GLU:HB2	23:x:73:ARG:HE	1.81	0.46
33:H:7:ASN:HB3	44:S:88:MET:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:155:ARG:HD3	53:3:1055:A:C2'	2.43	0.46
34:I:37:PRO:HD2	34:I:41:GLY:CA	2.46	0.46
37:L:48:THR:OG1	37:L:120:ALA:HB2	2.16	0.46
41:P:23:HIS:ND1	53:3:706:A:H5''	2.31	0.46
42:Q:50:LYS:HD3	42:Q:50:LYS:H	1.79	0.46
47:V:43:LEU:HD21	53:3:236:A:H5''	1.98	0.46
52:a:33:LEU:HD11	52:a:222:VAL:HG21	1.98	0.46
52:a:67:HIS:CD2	52:a:184:LYS:HE3	2.50	0.46
53:3:893:C:H2'	53:3:894:G:C8	2.51	0.46
53:3:1478:U:H2'	53:3:1479:C:H6	1.80	0.46
54:1:15:G:O2'	54:1:16:C:H5'	2.16	0.46
54:1:555:G:HO2'	54:1:556:A:H8	1.63	0.46
54:1:1331:G:O2'	54:1:1332:G:H5''	2.16	0.46
54:1:1539:U:H2'	54:1:1540:G:H8	1.81	0.46
54:1:1570:A:H2'	54:1:1571:A:C8	2.51	0.46
54:1:2004:G:H2'	54:1:2005:A:O4'	2.16	0.46
54:1:2662:A:H2'	54:1:2663:G:O4'	2.16	0.46
55:2:118:C:C2	55:2:119:A:N7	2.84	0.46
58:4:13:A:O2'	58:4:14:A:H5'	2.16	0.46
59:8:175:ALA:O	59:8:177:GLU:N	2.46	0.46
59:8:502:GLU:HB3	59:8:519:VAL:HG23	1.98	0.46
1:b:45:ASN:C	1:b:47:ARG:H	2.24	0.45
3:d:112:LEU:O	3:d:116:ASP:N	2.49	0.45
4:e:108:PRO:HB3	26:A:41:HIS:CD2	2.51	0.45
4:e:126:ASN:HA	4:e:155:ILE:O	2.16	0.45
10:k:109:SER:O	10:k:111:LYS:N	2.45	0.45
12:m:55:ARG:O	12:m:58:LYS:HD3	2.16	0.45
14:o:16:ARG:HG2	14:o:16:ARG:HH21	1.81	0.45
27:B:11:LYS:HA	27:B:14:MET:CE	2.44	0.45
28:C:18:HIS:HB3	28:C:39:ASP:OD1	2.15	0.45
29:D:27:GLY:O	29:D:31:LEU:HD13	2.16	0.45
34:I:68:GLU:HA	34:I:71:PHE:HB3	1.99	0.45
43:R:35:ALA:HB3	43:R:58:GLU:CD	2.41	0.45
43:R:106:ARG:HD2	43:R:112:ARG:CA	2.46	0.45
53:3:35:G:H2'	53:3:36:C:C5	2.52	0.45
54:1:161:A:H3'	54:1:162:U:H5''	1.98	0.45
54:1:1709:U:H2'	54:1:1710:G:C8	2.51	0.45
54:1:1810:A:H2'	54:1:1811:G:H5'	1.97	0.45
54:1:2131:U:O5'	54:1:2133:G:H4'	2.17	0.45
54:1:2345:G:H21	54:1:2381:A:H3'	1.79	0.45
56:5:66:C:H2'	56:5:67:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:5:74:C:O2'	56:5:75:C:H5'	2.16	0.45
59:8:14:GLY:HA2	59:8:87:ILE:O	2.16	0.45
59:8:52:TRP:CD1	59:8:52:TRP:H	2.34	0.45
59:8:186:VAL:HG21	59:8:285:TYR:OH	2.16	0.45
1:b:80:LEU:HD23	1:b:91:ALA:HB2	1.99	0.45
1:b:124:LYS:O	1:b:191:LEU:HD23	2.16	0.45
3:d:118:LEU:CD1	3:d:188:MET:HG3	2.45	0.45
4:e:39:VAL:CG1	4:e:49:LEU:HD13	2.45	0.45
10:k:44:LYS:O	10:k:54:LYS:HG3	2.16	0.45
11:l:78:ARG:HE	11:l:113:ALA:CB	2.29	0.45
24:y:55:THR:O	24:y:58:ASN:HB3	2.16	0.45
25:z:43:ILE:O	25:z:46:MET:N	2.49	0.45
27:B:27:LEU:HB3	27:B:36:LYS:HD2	1.98	0.45
32:G:23:ASN:HB2	32:G:189:ASN:HA	1.98	0.45
33:H:30:ASP:HA	44:S:64:ARG:NH1	2.31	0.45
34:I:106:PHE:HB3	34:I:154:VAL:CG1	2.46	0.45
34:I:187:ARG:HH11	34:I:187:ARG:HG3	1.81	0.45
37:L:47:GLU:C	37:L:49:LEU:H	2.25	0.45
38:M:95:MET:HE3	38:M:129:ALA:HB1	1.97	0.45
40:O:10:LEU:HD23	40:O:10:LEU:H	1.81	0.45
46:U:1:MET:O	46:U:23:ASP:HA	2.16	0.45
46:U:53:ASP:O	46:U:57:ILE:HG13	2.16	0.45
47:V:29:LYS:HA	47:V:36:PHE:HA	1.96	0.45
47:V:39:ARG:HH11	47:V:39:ARG:CG	2.25	0.45
53:3:37:U:O5'	53:3:37:U:C6	2.69	0.45
54:1:150:U:H2'	54:1:151:C:H6	1.80	0.45
54:1:581:C:H2'	54:1:582:A:H8	1.81	0.45
54:1:805:G:H22	54:1:828:U:H5''	1.81	0.45
54:1:1706:C:C2	54:1:1757:A:H5'	2.51	0.45
54:1:2105:U:H2'	54:1:2106:U:O4'	2.15	0.45
59:8:450:ASP:HB3	59:8:454:ASN:N	2.31	0.45
59:8:519:VAL:HG11	59:8:580:PHE:HB3	1.99	0.45
9:j:29:ALA:HB3	9:j:108:MET:HE1	1.98	0.45
11:l:88:GLY:O	11:l:121:THR:N	2.44	0.45
13:n:60:VAL:HG13	54:1:1454:C:O2'	2.17	0.45
15:p:43:GLU:CG	15:p:44:GLY:H	2.28	0.45
19:t:1:MET:HG2	19:t:2:ILE:N	2.28	0.45
20:u:51:LEU:HD23	20:u:51:LEU:O	2.16	0.45
23:x:4:CYS:HA	23:x:32:LEU:HD21	1.98	0.45
24:y:14:LEU:HD23	24:y:14:LEU:C	2.42	0.45
31:F:32:LYS:HE2	54:1:2478:A:OP1	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:175:HIS:CG	53:3:1108:G:H5'	2.51	0.45
36:K:6:ILE:HD12	36:K:62:MET:HG3	1.99	0.45
37:L:45:ALA:HB1	37:L:119:LEU:HD22	1.97	0.45
39:N:4:GLN:HA	39:N:20:ILE:O	2.16	0.45
42:Q:34:THR:N	42:Q:53:ARG:O	2.50	0.45
44:S:2:LYS:O	44:S:4:SER:N	2.49	0.45
45:T:14:PHE:HB2	45:T:26:VAL:HG22	1.98	0.45
45:T:44:GLU:HG3	45:T:45:HIS:ND1	2.31	0.45
47:V:59:GLU:O	47:V:60:ILE:HD13	2.16	0.45
51:Z:7:GLU:OE2	51:Z:15:LEU:HD13	2.17	0.45
52:a:170:ILE:HD12	54:1:2121:G:N2	2.32	0.45
53:3:1385:G:H2'	53:3:1386:G:H8	1.81	0.45
54:1:394:C:H2'	54:1:395:U:O4'	2.16	0.45
54:1:502:A:H2'	54:1:503:A:H5'	1.98	0.45
54:1:527:C:C4	54:1:2779:U:H2'	2.52	0.45
54:1:532:A:H2'	54:1:532:A:N3	2.32	0.45
54:1:613:A:H2'	54:1:613:A:N3	2.32	0.45
54:1:1013:C:H2'	54:1:1014:A:H8	1.81	0.45
54:1:1656:C:H2'	54:1:1657:U:C6	2.50	0.45
54:1:1790:C:H2'	54:1:1791:A:C8	2.51	0.45
54:1:2013:A:H61	54:1:2613:U:H3	1.63	0.45
54:1:2848:G:O2'	54:1:2849:U:H5'	2.16	0.45
59:8:232:GLU:HA	59:8:235:GLU:CG	2.47	0.45
59:8:559:GLU:HG3	59:8:560:GLN:N	2.31	0.45
4:e:102:LEU:HD12	4:e:106:ALA:HB3	1.98	0.45
6:g:80:ILE:O	6:g:147:VAL:N	2.49	0.45
10:k:104:THR:O	10:k:107:LEU:HD23	2.16	0.45
15:p:105:LYS:O	15:p:108:ARG:HG2	2.16	0.45
21:v:18:ARG:HA	21:v:21:ARG:HG2	1.98	0.45
25:z:40:THR:HG23	25:z:43:ILE:H	1.81	0.45
32:G:112:ARG:NH1	32:G:116:LEU:HD11	2.31	0.45
33:H:51:VAL:O	33:H:51:VAL:HG13	2.16	0.45
34:I:12:ARG:HA	34:I:33:ILE:HG13	1.97	0.45
35:J:55:VAL:HB	35:J:56:PRO:CD	2.46	0.45
40:O:28:THR:O	40:O:28:THR:HG22	2.16	0.45
40:O:67:ILE:HA	44:S:94:GLY:O	2.17	0.45
42:Q:39:THR:O	42:Q:41:PRO:HD3	2.16	0.45
43:R:72:ILE:HG22	43:R:76:ILE:HG13	1.98	0.45
49:X:12:LEU:O	49:X:16:LYS:HD3	2.16	0.45
53:3:54:C:C2	53:3:352:C:C4	3.04	0.45
53:3:103:U:H2'	53:3:104:G:H5'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1011:C:H2'	53:3:1012:A:H8	1.81	0.45
53:3:1464:U:H2'	53:3:1465:A:C8	2.52	0.45
54:1:571:U:C4	54:1:2030:A:C6	3.04	0.45
54:1:577:G:O2'	54:1:1254:A:OP1	2.35	0.45
54:1:671:C:H2'	54:1:672:C:H6	1.81	0.45
54:1:706:A:H2'	54:1:707:G:O4'	2.16	0.45
54:1:937:C:H2'	54:1:938:G:H8	1.81	0.45
54:1:950:G:H2'	54:1:951:C:C6	2.52	0.45
54:1:1133:A:H4'	54:1:1134:A:C5'	2.32	0.45
54:1:1357:C:H2'	54:1:1358:G:O4'	2.16	0.45
54:1:2092:U:H4'	54:1:2093:G:C5'	2.46	0.45
59:8:303:LYS:HG3	59:8:305:THR:HG23	1.98	0.45
1:b:239:PHE:CG	1:b:240:GLY:N	2.84	0.45
6:g:97:ARG:HG2	6:g:112:LYS:NZ	2.32	0.45
7:h:33:VAL:O	7:h:36:ASP:N	2.46	0.45
7:h:63:ALA:HB1	7:h:84:TYR:CZ	2.51	0.45
10:k:63:VAL:HG12	10:k:107:LEU:HD11	1.98	0.45
20:u:94:PHE:HA	20:u:101:THR:HA	1.99	0.45
24:y:22:LEU:O	24:y:26:PHE:HB3	2.16	0.45
27:B:30:ASP:HB3	27:B:34:GLY:N	2.32	0.45
32:G:80:LYS:HG3	32:G:90:PHE:CZ	2.51	0.45
33:H:106:ARG:HG2	33:H:106:ARG:HH21	1.82	0.45
39:N:24:ASN:O	39:N:61:ASP:HB3	2.17	0.45
40:O:17:LEU:HD23	40:O:17:LEU:C	2.41	0.45
42:Q:119:LYS:HA	53:3:37:U:P	2.56	0.45
43:R:79:LEU:HB3	43:R:87:GLY:HA2	1.99	0.45
46:U:43:ALA:O	46:U:44:SER:HB2	2.16	0.45
50:Y:35:TYR:O	50:Y:39:GLU:HG2	2.16	0.45
53:3:834:U:H2'	53:3:835:U:C6	2.52	0.45
53:3:902:G:H2'	53:3:903:G:C8	2.51	0.45
53:3:924:C:H2'	53:3:925:G:C8	2.52	0.45
53:3:982:U:H4'	53:3:983:A:O5'	2.17	0.45
53:3:1015:G:H2'	53:3:1016:A:O4'	2.16	0.45
54:1:286:U:H2'	54:1:287:G:C8	2.51	0.45
54:1:414:C:H2'	54:1:415:A:H8	1.81	0.45
54:1:876:C:H2'	54:1:877:A:O4'	2.16	0.45
54:1:1036:G:O2'	54:1:1037:G:H5'	2.16	0.45
54:1:2018:G:O2'	54:1:2019:A:H5'	2.16	0.45
54:1:2836:U:H2'	54:1:2837:A:H8	1.82	0.45
59:8:102:SER:O	59:8:106:LEU:HG	2.17	0.45
59:8:175:ALA:C	59:8:177:GLU:H	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:666:TYR:CZ	59:8:670:LEU:HD12	2.51	0.45
2:c:49:GLN:NE2	2:c:79:LEU:HD13	2.32	0.45
4:e:37:MET:HB3	4:e:86:CYS:HB2	1.99	0.45
5:f:64:ALA:O	5:f:68:ARG:N	2.47	0.45
13:n:69:ARG:HG3	13:n:69:ARG:HH21	1.82	0.45
17:r:59:ILE:HG21	17:r:98:ILE:HD12	1.98	0.45
20:u:95:PHE:CE2	20:u:102:ILE:HG12	2.51	0.45
27:B:11:LYS:N	27:B:14:MET:HE3	2.32	0.45
33:H:107:LYS:HD3	33:H:143:LEU:HG	1.99	0.45
33:H:110:LEU:CG	33:H:143:LEU:HD23	2.46	0.45
36:K:51:ILE:HD11	48:W:65:SER:CB	2.45	0.45
36:K:77:THR:O	36:K:81:ASN:HB2	2.15	0.45
37:L:20:GLU:O	37:L:23:ALA:HB3	2.16	0.45
38:M:77:VAL:HG21	38:M:127:TYR:CZ	2.52	0.45
39:N:72:SER:O	39:N:76:GLY:N	2.39	0.45
40:O:43:PRO:HD3	53:3:1150:A:O2'	2.15	0.45
40:O:65:TYR:HE2	44:S:84:ARG:HA	1.81	0.45
42:Q:32:VAL:HA	42:Q:78:VAL:HG23	1.99	0.45
44:S:7:ALA:HA	44:S:10:VAL:CG1	2.43	0.45
53:3:434:U:H2'	53:3:435:A:H8	1.81	0.45
53:3:443:C:H2'	53:3:444:G:H8	1.82	0.45
53:3:924:C:H2'	53:3:925:G:H8	1.81	0.45
53:3:1101:A:H4'	53:3:1102:A:O5'	2.16	0.45
53:3:1238:A:C8	53:3:1303:C:H1'	2.51	0.45
53:3:1434:A:H8	53:3:1434:A:O5'	2.00	0.45
54:1:109:C:H4'	54:1:348:A:H4'	1.99	0.45
54:1:230:G:O2'	54:1:231:A:H5'	2.16	0.45
54:1:851:C:H2'	54:1:852:U:C6	2.52	0.45
54:1:1103:A:H3'	54:1:1104:C:H6	1.82	0.45
54:1:1178:C:O2	54:1:1178:C:H2'	2.16	0.45
54:1:1300:G:H4'	54:1:1301:A:H5'	1.97	0.45
54:1:1340:U:C5	54:1:1603:A:C8	3.05	0.45
54:1:1430:G:H2'	54:1:1431:A:C8	2.51	0.45
54:1:2061:G:H5'	54:1:2503:A:C2	2.51	0.45
54:1:2813:A:O2'	54:1:2814:A:H5'	2.15	0.45
59:8:112:VAL:HG13	59:8:140:PHE:CD2	2.51	0.45
2:c:106:LYS:HB2	2:c:206:ALA:HB2	1.98	0.45
2:c:129:THR:OG1	2:c:140:HIS:O	2.29	0.45
5:f:37:ASN:ND2	5:f:63:GLN:OE1	2.41	0.45
5:f:86:LEU:C	5:f:86:LEU:HD12	2.42	0.45
10:k:22:ILE:HD11	10:k:40:LYS:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:64:ARG:HB2	10:k:83:ALA:HB3	1.99	0.45
11:l:84:LYS:C	11:l:84:LYS:HD3	2.42	0.45
11:l:103:ILE:HD12	54:1:259:G:H4'	1.98	0.45
12:m:21:ALA:HB1	12:m:100:LYS:HD3	1.99	0.45
13:n:54:LEU:O	13:n:80:PHE:HE1	1.99	0.45
22:w:16:ARG:HG2	54:1:2356:U:O3'	2.17	0.45
22:w:58:LYS:HE3	54:1:2366:A:H4'	1.97	0.45
27:B:28:SER:O	27:B:36:LYS:HA	2.16	0.45
32:G:22:TRP:HB3	32:G:38:HIS:NE2	2.31	0.45
32:G:163:ILE:HD11	32:G:209:VAL:HG11	1.98	0.45
33:H:183:TYR:HA	33:H:199:VAL:O	2.17	0.45
34:I:4:LEU:HD22	53:3:406:G:O3'	2.16	0.45
34:I:171:GLU:O	34:I:179:GLY:HA3	2.16	0.45
34:I:187:ARG:HG3	34:I:187:ARG:NH1	2.31	0.45
37:L:110:ARG:HG2	37:L:121:ASN:HD22	1.81	0.45
42:Q:11:ARG:NH1	53:3:563:A:H2	2.14	0.45
45:T:24:THR:CG2	45:T:69:LEU:HD12	2.46	0.45
51:Z:23:GLU:CG	51:Z:24:LYS:H	2.29	0.45
52:a:7:ARG:HH11	52:a:38:PHE:HE1	1.64	0.45
53:3:801:U:H2'	53:3:802:A:C8	2.52	0.45
54:1:1308:A:H2'	54:1:1309:G:O4'	2.16	0.45
54:1:1857:G:N2	54:1:1884:G:H2'	2.32	0.45
54:1:1988:G:O2'	54:1:1989:G:H5'	2.17	0.45
54:1:2526:G:H2'	54:1:2527:C:C6	2.52	0.45
5:f:173:ALA:O	5:f:174:LYS:C	2.60	0.45
6:g:12:LEU:C	6:g:12:LEU:CD2	2.90	0.45
12:m:16:ARG:HG2	12:m:16:ARG:HH11	1.82	0.45
15:p:9:GLN:HA	15:p:12:MET:HB3	1.99	0.45
28:C:9:LYS:HE3	28:C:19:PHE:CE2	2.52	0.45
33:H:78:LYS:C	33:H:80:GLY:H	2.25	0.45
33:H:112:ALA:HB3	33:H:184:ASN:OD1	2.17	0.45
34:I:2:ARG:CZ	34:I:4:LEU:HD23	2.46	0.45
34:I:56:GLU:HB2	34:I:198:LEU:HB2	1.98	0.45
35:J:87:VAL:HA	35:J:91:SER:O	2.16	0.45
43:R:63:VAL:HG11	43:R:71:GLU:OE1	2.17	0.45
47:V:60:ILE:CG2	47:V:72:TRP:HB3	2.47	0.45
49:X:31:ARG:HA	49:X:56:HIS:NE2	2.32	0.45
51:Z:6:ARG:O	51:Z:7:GLU:C	2.60	0.45
51:Z:24:LYS:HD3	51:Z:24:LYS:C	2.42	0.45
53:3:10:A:O2'	53:3:11:G:H5'	2.16	0.45
53:3:693:G:N9	58:4:16:A:H5'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:701:U:C4'	53:3:703:G:H1'	2.45	0.45
53:3:878:A:H2'	53:3:879:C:C6	2.51	0.45
53:3:1438:G:O2'	53:3:1439:G:H5'	2.17	0.45
54:1:93:G:N2	54:1:94:A:H1'	2.32	0.45
54:1:121:G:H2'	54:1:122:G:H8	1.81	0.45
54:1:123:G:O2'	54:1:124:G:H5'	2.17	0.45
54:1:445:C:C2'	54:1:446:G:H5'	2.47	0.45
54:1:572:A:H5''	54:1:573:U:OP2	2.17	0.45
54:1:1373:A:H5'	54:1:2212:A:H1'	1.99	0.45
54:1:2863:C:H2'	54:1:2864:G:H8	1.82	0.45
59:8:75:MET:HE2	59:8:77:LYS:H	1.82	0.45
59:8:370:LYS:NZ	59:8:372:GLU:HA	2.31	0.45
59:8:536:PHE:HA	59:8:576:ILE:HG23	1.98	0.45
1:b:173:LEU:O	1:b:180:MET:HA	2.17	0.45
2:c:77:ARG:HH21	2:c:77:ARG:HG3	1.81	0.45
4:e:57:ALA:HA	4:e:62:GLN:O	2.17	0.45
4:e:102:LEU:O	4:e:107:VAL:HG23	2.17	0.45
6:g:4:ILE:HD11	6:g:47:PHE:CD2	2.52	0.45
12:m:23:GLY:O	12:m:100:LYS:HD2	2.17	0.45
19:t:69:ARG:NE	19:t:74:ILE:HG22	2.31	0.45
23:x:36:ARG:HG2	23:x:45:PHE:HB3	1.98	0.45
24:y:14:LEU:O	24:y:17:GLU:HB3	2.17	0.45
30:E:56:LEU:HD12	30:E:56:LEU:N	2.31	0.45
32:G:47:PRO:O	32:G:51:GLU:N	2.46	0.45
32:G:123:GLY:O	32:G:125:PHE:HD1	1.99	0.45
34:I:10:LEU:HD12	34:I:62:ARG:HH12	1.82	0.45
34:I:54:LEU:O	34:I:57:LYS:N	2.50	0.45
35:J:80:LEU:HD13	35:J:122:VAL:CG1	2.47	0.45
36:K:52:ASN:ND2	36:K:85:ILE:CG2	2.80	0.45
36:K:69:GLU:HA	36:K:72:ASP:OD2	2.16	0.45
37:L:97:ALA:HA	37:L:100:MET:HE3	1.99	0.45
38:M:45:ILE:HG22	38:M:46:GLU:O	2.16	0.45
40:O:42:LEU:HD13	40:O:71:LEU:HD21	1.98	0.45
41:P:64:VAL:O	41:P:67:GLU:HB2	2.17	0.45
44:S:11:LYS:HG2	44:S:15:LEU:CD1	2.47	0.45
48:W:34:GLU:H	48:W:34:GLU:CD	2.25	0.45
50:Y:73:ARG:NH2	53:3:261:U:C5	2.85	0.45
53:3:694:A:C2'	53:3:695:A:H5'	2.47	0.45
53:3:785:G:O2'	53:3:786:G:H5'	2.16	0.45
53:3:1008:U:H2'	53:3:1009:U:C6	2.52	0.45
54:1:779:U:H2'	54:1:780:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1507:C:H2'	54:1:1508:A:H4'	1.99	0.45
54:1:1550:C:H2'	54:1:1551:A:C8	2.52	0.45
54:1:1695:G:H2'	54:1:1696:G:O4'	2.17	0.45
54:1:1710:G:H2'	54:1:1711:A:C8	2.52	0.45
54:1:1810:A:C2'	54:1:1811:G:H5'	2.47	0.45
54:1:2055:C:H5'	54:1:2056:G:O5'	2.16	0.45
55:2:119:A:C2	55:2:120:A:N3	2.85	0.45
59:8:11:ARG:HB2	59:8:84:ILE:HG13	1.97	0.45
59:8:431:MET:CE	59:8:435:LEU:HG	2.47	0.45
2:c:10:GLY:H	2:c:197:THR:HG23	1.82	0.45
2:c:91:THR:CG2	2:c:94:GLN:HB2	2.46	0.45
4:e:103:ILE:HG13	4:e:104:THR:N	2.32	0.45
9:j:66:GLY:C	9:j:68:LYS:H	2.25	0.45
16:q:13:HIS:HA	16:q:31:TYR:CE1	2.52	0.45
17:r:68:ARG:NH1	17:r:90:ARG:HB2	2.32	0.45
18:s:25:ARG:HH11	18:s:25:ARG:HG3	1.81	0.45
22:w:63:VAL:HG12	22:w:64:LYS:N	2.32	0.45
23:x:17:ARG:HG3	23:x:17:ARG:HH11	1.82	0.45
34:I:129:VAL:HG22	53:3:619:U:O2	2.16	0.45
35:J:47:PHE:O	35:J:66:ALA:HA	2.17	0.45
39:N:27:ILE:HB	39:N:34:LEU:CB	2.47	0.45
39:N:32:ARG:HH11	39:N:37:TYR:HE1	1.64	0.45
44:S:26:LEU:HA	44:S:30:ILE:HD12	1.99	0.45
44:S:40:ARG:NH1	49:X:6:LYS:HZ2	2.14	0.45
46:U:52:LEU:HD23	46:U:54:LEU:HD11	1.99	0.45
52:a:46:VAL:HG22	52:a:212:VAL:HG13	1.99	0.45
53:3:43:C:H1'	53:3:622:A:C2	2.52	0.45
53:3:110:C:H2'	53:3:111:G:H5'	1.97	0.45
53:3:238:A:H2'	53:3:239:U:O4'	2.17	0.45
53:3:694:A:O2'	57:6:39:C:H4'	2.17	0.45
53:3:825:A:H2'	53:3:826:C:H6	1.82	0.45
54:1:520:G:H2'	54:1:521:U:H6	1.82	0.45
54:1:935:C:H2'	54:1:936:A:C8	2.52	0.45
54:1:1038:G:H2'	54:1:1039:A:H8	1.78	0.45
54:1:1053:C:C3'	54:1:1054:A:H5''	2.47	0.45
54:1:1306:C:N4	54:1:1606:C:H2'	2.32	0.45
54:1:2122:U:O2'	54:1:2123:G:H5'	2.17	0.45
54:1:2208:C:H2'	54:1:2209:G:H8	1.82	0.45
54:1:2243:U:C2	54:1:2244:U:C5	3.05	0.45
54:1:2323:G:O2'	54:1:2324:U:H5'	2.17	0.45
54:1:2636:C:H2'	54:1:2637:U:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2743:U:C3'	54:1:2744:G:H5''	2.47	0.45
55:2:1:U:H3'	55:2:1:U:C6	2.52	0.45
59:8:501:VAL:HG21	59:8:522:MET:SD	2.56	0.45
59:8:598:SER:HA	59:8:601:PHE:HB3	1.99	0.45
59:8:618:LYS:N	59:8:683:GLU:O	2.34	0.45
1:b:107:LYS:N	1:b:193:GLU:O	2.37	0.44
1:b:181:ARG:HE	1:b:265:PHE:HB3	1.81	0.44
2:c:184:ARG:HG2	2:c:184:ARG:NH2	2.33	0.44
4:e:109:ARG:HG2	4:e:109:ARG:NH2	2.32	0.44
7:h:58:THR:HG23	54:1:1107:G:H5''	1.98	0.44
8:i:23:VAL:HG13	8:i:26:ALA:HB3	1.99	0.44
11:l:110:VAL:C	11:l:111:ILE:HD12	2.42	0.44
15:p:45:VAL:HG12	15:p:46:VAL:N	2.32	0.44
19:t:77:ARG:HH11	19:t:77:ARG:HG3	1.82	0.44
20:u:38:ILE:N	20:u:61:GLU:OE1	2.50	0.44
26:A:60:PHE:CD2	49:X:41:PRO:HD3	2.52	0.44
32:G:19:THR:CG2	32:G:21:TYR:H	2.27	0.44
33:H:35:ASP:HB3	33:H:58:ARG:HH22	1.82	0.44
33:H:67:ILE:O	33:H:103:ALA:N	2.49	0.44
35:J:104:ILE:HD12	35:J:122:VAL:HG22	1.98	0.44
37:L:32:ASP:HB2	37:L:34:LYS:HZ3	1.78	0.44
37:L:47:GLU:C	37:L:49:LEU:N	2.74	0.44
38:M:104:SER:HB3	38:M:123:GLU:HB3	1.99	0.44
40:O:49:PHE:HE1	44:S:75:LYS:HG3	1.82	0.44
40:O:73:LEU:HB3	40:O:75:ASP:OD2	2.17	0.44
47:V:67:SER:CB	53:3:254:G:H5''	2.47	0.44
50:Y:66:ILE:HG22	50:Y:67:HIS:H	1.82	0.44
53:3:109:A:C6	53:3:326:G:C6	3.05	0.44
53:3:372:C:H42	53:3:389:A:H62	1.64	0.44
53:3:505:G:O2'	53:3:506:G:H5'	2.17	0.44
53:3:516:U:H3	53:3:533:A:N6	2.01	0.44
53:3:539:A:H2'	53:3:540:G:C8	2.52	0.44
54:1:46:G:H2'	54:1:47:C:C6	2.52	0.44
54:1:226:A:H2'	54:1:227:A:C8	2.52	0.44
54:1:616:A:H2'	54:1:617:G:O4'	2.16	0.44
54:1:1066:U:H3'	54:1:1067:A:C5'	2.47	0.44
54:1:2303:G:H2'	54:1:2304:G:O4'	2.17	0.44
55:2:95:U:H2'	55:2:96:G:C8	2.52	0.44
57:6:37:A:H2'	57:6:38:A:O4'	2.16	0.44
59:8:14:GLY:HA3	59:8:106:LEU:HD23	1.98	0.44
59:8:116:VAL:O	59:8:117:GLY:C	2.60	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:343:VAL:HG12	59:8:377:VAL:HB	1.99	0.44
59:8:435:LEU:CD2	59:8:473:MET:HE1	2.46	0.44
59:8:520:ILE:HG22	59:8:578:LEU:HD13	1.99	0.44
1:b:43:ASN:HB2	54:1:1812:U:O2'	2.18	0.44
2:c:35:THR:HG23	2:c:51:THR:HG22	1.98	0.44
4:e:68:LYS:HB3	4:e:81:GLY:C	2.42	0.44
8:i:27:LEU:HD23	8:i:28:GLY:N	2.32	0.44
9:j:87:ALA:HA	9:j:91:GLU:OE2	2.17	0.44
11:l:79:LEU:HG	11:l:111:ILE:O	2.17	0.44
15:p:6:GLN:O	15:p:10:GLU:HG2	2.17	0.44
27:B:2:VAL:HG12	27:B:3:GLN:N	2.32	0.44
28:C:5:ARG:HG3	28:C:5:ARG:HH11	1.83	0.44
41:P:59:PRO:HB2	41:P:94:SER:CB	2.47	0.44
42:Q:2:THR:HB	42:Q:5:GLN:HG3	2.00	0.44
47:V:39:ARG:HG2	47:V:39:ARG:NH1	2.26	0.44
49:X:52:ASN:HD22	49:X:57:VAL:HB	1.82	0.44
50:Y:30:PHE:HB2	50:Y:53:MET:HE2	1.98	0.44
50:Y:74:HIS:O	50:Y:75:LYS:C	2.58	0.44
52:a:57:GLN:HE21	52:a:203:GLN:HG2	1.82	0.44
52:a:163:TYR:HD2	52:a:171:ILE:HD11	1.82	0.44
53:3:484:G:H4'	53:3:485:U:H5''	1.98	0.44
53:3:1011:C:H2'	53:3:1012:A:C8	2.53	0.44
54:1:368:A:H2'	54:1:369:U:H5'	1.99	0.44
54:1:506:G:H4'	54:1:509:C:O2	2.17	0.44
54:1:1023:U:H4'	54:1:1123:C:OP1	2.18	0.44
54:1:1709:U:H2'	54:1:1710:G:H8	1.81	0.44
54:1:2863:C:H2'	54:1:2864:G:C8	2.53	0.44
56:5:10:G:N2	56:5:26:A:H1'	2.32	0.44
57:6:37:A:N1	58:4:16:A:C2	2.86	0.44
59:8:84:ILE:HG22	59:8:86:ILE:CD1	2.47	0.44
59:8:135:VAL:O	59:8:137:ARG:NH1	2.46	0.44
59:8:216:ASN:HA	59:8:219:HIS:HB3	1.98	0.44
59:8:235:GLU:HA	59:8:238:LEU:HB2	1.98	0.44
59:8:599:ILE:HG13	59:8:600:ALA:N	2.32	0.44
59:8:614:GLU:HG2	59:8:688:ASP:O	2.18	0.44
1:b:18:VAL:CG2	1:b:202:ARG:HE	2.30	0.44
2:c:35:THR:HG22	2:c:73:VAL:HG21	1.99	0.44
4:e:94:ARG:NH2	26:A:1:MET:HE1	2.31	0.44
4:e:101:ARG:NH2	26:A:9:TYR:HE1	2.16	0.44
12:m:63:ILE:N	12:m:63:ILE:CD1	2.77	0.44
13:n:30:ARG:HB2	13:n:30:ARG:NH1	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:67:ASN:H	14:o:70:ALA:HB3	1.83	0.44
22:w:13:GLU:HB3	22:w:15:LYS:NZ	2.32	0.44
29:D:34:ARG:O	29:D:38:GLY:N	2.50	0.44
32:G:9:LEU:HD12	32:G:14:HIS:CE1	2.52	0.44
32:G:72:LYS:C	32:G:74:ALA:H	2.25	0.44
34:I:169:TRP:CD1	34:I:170:LEU:HG	2.52	0.44
38:M:88:LYS:HB2	38:M:121:GLY:H	1.82	0.44
39:N:119:LYS:NZ	53:3:1350:A:N7	2.61	0.44
42:Q:17:LYS:HD2	42:Q:17:LYS:O	2.17	0.44
43:R:107:THR:HG21	53:3:1306:A:C2	2.52	0.44
44:S:12:ARG:O	44:S:16:ALA:N	2.50	0.44
46:U:70:ARG:HB3	53:3:376:G:OP2	2.18	0.44
48:W:59:LYS:HD3	53:3:735:C:H5'	1.99	0.44
49:X:35:ARG:HH11	49:X:50:VAL:HG12	1.82	0.44
53:3:225:C:C2'	53:3:226:G:H5''	2.47	0.44
53:3:495:A:H4'	53:3:496:A:OP1	2.16	0.44
53:3:618:C:C5'	53:3:619:U:H5''	2.47	0.44
53:3:628:G:H2'	53:3:629:A:O4'	2.17	0.44
53:3:682:G:O2'	53:3:683:G:H5'	2.18	0.44
53:3:837:U:H2'	53:3:838:G:H8	1.81	0.44
53:3:1300:G:HO2'	53:3:1301:U:H6	1.62	0.44
53:3:1307:U:H2'	53:3:1308:U:H6	1.79	0.44
53:3:1349:A:H61	53:3:1373:G:H1'	1.83	0.44
53:3:1370:G:O2'	53:3:1371:G:H5'	2.17	0.44
54:1:7:G:H2'	54:1:8:C:C6	2.53	0.44
54:1:573:U:O2'	54:1:574:A:H3'	2.16	0.44
54:1:880:G:H2'	54:1:881:G:H8	1.82	0.44
54:1:1103:A:H3'	54:1:1104:C:C6	2.53	0.44
54:1:1442:U:H2'	54:1:1443:U:C6	2.52	0.44
54:1:1548:A:H2'	54:1:1549:A:C8	2.52	0.44
54:1:2024:G:OP2	54:1:2034:U:H4'	2.18	0.44
54:1:2554:U:H2'	54:1:2555:U:C6	2.52	0.44
54:1:2842:G:O2'	54:1:2843:G:H5'	2.18	0.44
59:8:188:MET:HG3	59:8:207:ILE:HD11	2.00	0.44
59:8:283:ILE:O	59:8:283:ILE:HG22	2.18	0.44
59:8:627:ASN:O	59:8:628:THR:C	2.60	0.44
3:d:5:LEU:HD22	3:d:8:ALA:HB3	1.99	0.44
4:e:127:TYR:O	4:e:154:THR:HA	2.18	0.44
12:m:21:ALA:HB2	12:m:97:GLN:HB2	1.98	0.44
12:m:42:THR:HA	12:m:93:VAL:HG12	1.98	0.44
16:q:18:LYS:HD2	16:q:18:LYS:C	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:13:ALA:CB	24:y:33:ALA:HB1	2.48	0.44
21:v:53:LYS:HG2	21:v:55:GLU:OE1	2.17	0.44
24:y:24:GLU:HB3	24:y:28:LEU:CD1	2.47	0.44
27:B:28:SER:HB2	27:B:37:HIS:CE1	2.52	0.44
34:I:160:LEU:C	34:I:160:LEU:HD23	2.42	0.44
36:K:26:THR:HA	36:K:29:ILE:HG12	1.99	0.44
40:O:58:ASN:ND2	53:3:1061:G:H4'	2.33	0.44
41:P:55:ARG:HG3	41:P:55:ARG:HH11	1.83	0.44
43:R:8:ILE:O	43:R:8:ILE:HG12	2.17	0.44
45:T:44:GLU:C	45:T:46:LYS:H	2.25	0.44
47:V:27:PHE:HA	47:V:38:LYS:HA	1.99	0.44
53:3:560:A:H5'	53:3:566:G:N2	2.32	0.44
53:3:665:A:O4'	53:3:733:G:H1'	2.17	0.44
53:3:803:G:H2'	53:3:804:U:C6	2.52	0.44
53:3:825:A:H2'	53:3:826:C:C6	2.52	0.44
53:3:1002:G:H2'	53:3:1003:G:O4'	2.18	0.44
54:1:23:G:H2'	54:1:24:G:C8	2.52	0.44
54:1:129:C:H2'	54:1:130:C:C6	2.52	0.44
54:1:1773:A:N7	54:1:1829:A:H1'	2.32	0.44
54:1:1817:G:H2'	54:1:1817:G:N3	2.33	0.44
54:1:2027:G:O2'	54:1:2028:U:H5'	2.17	0.44
54:1:2039:U:H2'	54:1:2040:G:C8	2.53	0.44
54:1:2109:U:H2'	54:1:2110:G:C8	2.52	0.44
54:1:2521:C:H2'	54:1:2522:U:C6	2.52	0.44
54:1:2708:G:O2'	54:1:2709:G:H5'	2.17	0.44
55:2:30:C:H2'	55:2:31:C:O4'	2.17	0.44
6:g:94:ILE:HB	6:g:98:ASP:OD2	2.18	0.44
8:i:10:LEU:CD2	8:i:26:ALA:HB1	2.46	0.44
11:l:95:LEU:HB2	11:l:101:ILE:CD1	2.47	0.44
17:r:83:TYR:CE1	17:r:85:LYS:HE3	2.52	0.44
23:x:38:TRP:HB2	23:x:45:PHE:CE1	2.53	0.44
32:G:24:PRO:HB3	53:3:828:U:H2'	1.99	0.44
32:G:68:PHE:HB3	32:G:79:VAL:CG1	2.48	0.44
32:G:173:LYS:HA	32:G:176:ASN:OD1	2.18	0.44
34:I:101:VAL:HG11	34:I:116:LEU:HD23	1.98	0.44
38:M:60:LEU:HD23	38:M:60:LEU:H	1.82	0.44
41:P:59:PRO:HA	41:P:62:ALA:HB3	2.00	0.44
42:Q:49:ARG:HB3	42:Q:65:TYR:CE1	2.53	0.44
44:S:52:ARG:HB2	53:3:1219:A:OP1	2.18	0.44
45:T:28:VAL:HG22	45:T:65:LEU:HD12	2.00	0.44
51:Z:66:ARG:O	53:3:1167:A:N7	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:736:C:H2'	53:3:737:C:H6	1.82	0.44
54:1:318:C:H2'	54:1:319:G:H8	1.83	0.44
54:1:744:U:C2'	54:1:745:G:H5'	2.47	0.44
54:1:818:G:N1	54:1:1188:U:OP2	2.35	0.44
54:1:1726:C:H2'	54:1:1727:C:C6	2.53	0.44
54:1:2419:U:H2'	54:1:2420:C:C6	2.52	0.44
54:1:2455:G:H2'	54:1:2456:C:C6	2.52	0.44
57:6:14:A:H2'	57:6:15:G:O4'	2.17	0.44
59:8:80:GLU:O	59:8:82:HIS:CD2	2.71	0.44
59:8:235:GLU:HA	59:8:238:LEU:CG	2.47	0.44
1:b:1:ALA:N	1:b:19:VAL:O	2.50	0.44
1:b:237:ARG:HH11	54:1:2590:A:H5''	1.82	0.44
3:d:18:THR:CG2	3:d:200:LEU:HD22	2.45	0.44
4:e:14:LYS:O	4:e:18:GLU:HG3	2.17	0.44
6:g:80:ILE:HG22	6:g:81:ALA:N	2.33	0.44
9:j:78:THR:OG1	9:j:83:GLY:HA3	2.18	0.44
14:o:74:VAL:O	14:o:78:VAL:HG23	2.18	0.44
16:q:73:ILE:HG21	16:q:109:VAL:HG13	2.00	0.44
18:s:80:PRO:O	18:s:100:THR:OG1	2.33	0.44
20:u:42:LYS:HE2	54:1:499:U:H5''	2.00	0.44
20:u:48:VAL:HG23	20:u:52:ASN:O	2.18	0.44
34:I:8:LEU:HB3	53:3:429:U:OP1	2.17	0.44
34:I:96:ARG:HB2	34:I:99:ASN:HB3	2.00	0.44
36:K:49:TYR:O	36:K:51:ILE:HG13	2.17	0.44
42:Q:87:LYS:HD3	53:3:525:C:P	2.57	0.44
44:S:7:ALA:HB1	53:3:995:C:H5'	1.99	0.44
48:W:26:ALA:O	48:W:29:LYS:HB3	2.18	0.44
49:X:10:ILE:HD11	49:X:15:LEU:HB2	2.00	0.44
52:a:7:ARG:HB2	54:1:2129:C:OP2	2.18	0.44
53:3:216:U:H4'	53:3:464:U:H4'	1.99	0.44
53:3:807:A:H2'	53:3:808:C:H6	1.79	0.44
53:3:1096:C:H2'	53:3:1097:C:C6	2.53	0.44
53:3:1256:A:H1'	53:3:1258:G:C8	2.53	0.44
54:1:7:G:H2'	54:1:8:C:H6	1.83	0.44
54:1:20:C:H2'	54:1:21:A:C8	2.53	0.44
54:1:488:G:N2	54:1:491:G:H5''	2.31	0.44
54:1:760:G:C2'	54:1:761:A:H5'	2.47	0.44
54:1:1433:A:H2'	54:1:1434:A:C8	2.53	0.44
54:1:2120:G:H2'	54:1:2121:G:H8	1.79	0.44
54:1:2163:A:H2'	54:1:2164:C:H5'	1.99	0.44
59:8:80:GLU:O	59:8:82:HIS:NE2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:42:ARG:HH11	1:b:42:ARG:HG2	1.81	0.44
3:d:162:ARG:NH1	54:l:321:U:H1'	2.33	0.44
4:e:13:LYS:HA	4:e:16:MET:CE	2.48	0.44
5:f:89:VAL:HG21	5:f:162:ARG:HE	1.83	0.44
10:k:64:ARG:O	10:k:82:ASN:HA	2.18	0.44
16:q:44:TYR:HD2	54:l:533:G:H21	1.62	0.44
28:C:4:ILE:O	28:C:4:ILE:HG22	2.18	0.44
34:I:8:LEU:HD22	34:I:21:LYS:HE3	1.98	0.44
34:I:105:GLY:C	34:I:107:GLY:H	2.25	0.44
39:N:7:GLY:N	39:N:85:ALA:HB2	2.33	0.44
39:N:126:PHE:O	53:3:1342:C:H4'	2.18	0.44
41:P:66:ALA:HA	41:P:69:CYS:HB3	2.00	0.44
42:Q:32:VAL:HA	42:Q:78:VAL:HA	1.99	0.44
43:R:9:PRO:HG2	43:R:44:ILE:CG2	2.47	0.44
43:R:114:PRO:HG2	53:3:1228:C:H5''	2.00	0.44
47:V:10:ARG:N	47:V:22:VAL:HG13	2.33	0.44
49:X:9:PHE:HE2	49:X:36:ARG:HD2	1.82	0.44
51:Z:29:ALA:HA	51:Z:32:ARG:CD	2.48	0.44
53:3:541:G:H2'	53:3:542:G:H8	1.83	0.44
53:3:607:A:H2'	53:3:608:A:C8	2.52	0.44
54:l:433:C:O2'	54:l:434:U:H5'	2.18	0.44
54:l:1500:G:H2'	54:l:1501:G:H8	1.82	0.44
54:l:1802:A:H2'	54:l:1803:A:H8	1.82	0.44
54:l:2795:C:H2'	54:l:2796:U:O4'	2.17	0.44
59:8:232:GLU:O	59:8:236:LYS:HG3	2.18	0.44
1:b:42:ARG:NH1	1:b:48:ILE:HB	2.33	0.44
4:e:127:TYR:HD2	4:e:155:ILE:HD12	1.83	0.44
4:e:127:TYR:CD2	4:e:155:ILE:HD12	2.53	0.44
9:j:16:TYR:HB3	9:j:140:LEU:HB2	2.00	0.44
15:p:20:ARG:O	15:p:21:PRO:C	2.59	0.44
15:p:43:GLU:HG2	15:p:44:GLY:N	2.32	0.44
18:s:17:VAL:HG12	18:s:76:VAL:HG21	2.00	0.44
19:t:91:GLN:H	19:t:91:GLN:CD	2.25	0.44
21:v:26:PHE:CZ	21:v:47:VAL:HG21	2.52	0.44
28:C:9:LYS:HB3	28:C:52:LYS:O	2.17	0.44
32:G:8:MET:HG2	32:G:10:LYS:HG3	1.99	0.44
32:G:72:LYS:HE3	32:G:167:HIS:ND1	2.33	0.44
33:H:81:GLU:CA	33:H:84:GLU:HG2	2.48	0.44
34:I:102:TYR:HD2	34:I:110:ARG:HG2	1.83	0.44
34:I:164:ARG:NH1	34:I:164:ARG:CB	2.81	0.44
37:L:16:LYS:HD2	37:L:43:TYR:CD1	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:M:4:ASP:OD1	38:M:76:ARG:NH1	2.51	0.44
39:N:51:LEU:HB2	39:N:56:MET:HE2	1.99	0.44
40:O:21:ALA:HA	40:O:24:GLU:HB3	2.00	0.44
43:R:7:ASN:CG	43:R:9:PRO:HD3	2.43	0.44
43:R:25:GLY:O	43:R:28:ARG:N	2.51	0.44
43:R:31:ALA:HA	43:R:34:ALA:HB3	1.99	0.44
47:V:68:LYS:HB3	53:3:254:G:OP1	2.17	0.44
52:a:175:ILE:CG2	52:a:188:ASN:HB3	2.48	0.44
53:3:66:A:H2'	53:3:67:C:H5'	1.99	0.44
53:3:194:C:O2'	53:3:195:A:H5'	2.17	0.44
53:3:502:A:O2'	53:3:503:C:H5'	2.18	0.44
53:3:522:C:H2'	53:3:523:A:O4'	2.18	0.44
53:3:930:C:O2'	53:3:931:C:H5'	2.18	0.44
53:3:950:U:H4'	53:3:971:G:C2	2.53	0.44
54:1:146:A:H2'	54:1:147:C:H6	1.82	0.44
54:1:1728:G:C4	54:1:1730:A:C8	3.06	0.44
54:1:1425:G:O2'	54:1:1426:G:H5'	2.18	0.44
54:1:1908:C:C2	54:1:1909:C:C5	3.06	0.44
54:1:1994:C:H2'	54:1:1995:U:H6	1.82	0.44
54:1:1999:C:H5''	54:1:2723:C:O2'	2.17	0.44
54:1:2049:G:O2'	54:1:2050:C:H5'	2.17	0.44
54:1:2144:G:H1'	54:1:2147:A:H61	1.83	0.44
54:1:2391:G:H4'	54:1:2392:A:OP1	2.17	0.44
54:1:2897:U:H2'	54:1:2898:U:C6	2.52	0.44
59:8:93:VAL:HG12	59:8:94:ASP:N	2.33	0.44
59:8:584:HIS:O	59:8:585:ASP:O	2.36	0.44
59:8:584:HIS:C	59:8:585:ASP:O	2.61	0.44
3:d:149:ILE:HG23	3:d:149:ILE:O	2.17	0.44
10:k:104:THR:HG22	10:k:105:ARG:N	2.32	0.44
12:m:86:LYS:HE3	54:1:956:G:OP2	2.18	0.44
14:o:69:ASP:O	14:o:73:ALA:N	2.44	0.44
18:s:18:ARG:NH1	54:1:518:G:OP1	2.50	0.44
18:s:38:TYR:CG	27:B:38:LEU:HD21	2.53	0.44
21:v:35:GLU:CD	21:v:35:GLU:N	2.75	0.44
22:w:12:SER:OG	54:1:2262:U:H5	2.00	0.44
24:y:38:GLN:OE1	24:y:38:GLN:HA	2.17	0.44
30:E:23:HIS:HD2	30:E:49:VAL:HG22	1.83	0.44
33:H:46:LEU:HD22	33:H:75:VAL:HG13	2.00	0.44
34:I:155:LYS:HA	34:I:177:MET:CE	2.48	0.44
36:K:15:SER:O	36:K:18:VAL:HG23	2.17	0.44
38:M:10:LEU:HD12	38:M:76:ARG:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:17:ARG:HH22	39:N:19:PHE:HE2	1.62	0.44
41:P:46:ALA:HB2	41:P:65:ALA:HB2	1.99	0.44
49:X:35:ARG:O	49:X:70:LEU:HB2	2.17	0.44
52:a:46:VAL:O	52:a:170:ILE:HA	2.18	0.44
53:3:1058:G:H1	53:3:1199:U:H3	1.66	0.44
53:3:1478:U:H2'	53:3:1479:C:C6	2.53	0.44
53:3:1511:G:O2'	53:3:1512:U:H5'	2.18	0.44
54:1:310:A:O2'	54:1:311:A:H2'	2.18	0.44
54:1:1001:A:H2'	54:1:1002:G:O4'	2.17	0.44
54:1:1027:A:C6	54:1:1126:A:C4	3.06	0.44
54:1:1924:C:H2'	54:1:1925:C:C6	2.53	0.44
54:1:2027:G:H2'	54:1:2028:U:H6	1.83	0.44
54:1:2168:G:H2'	54:1:2168:G:N3	2.32	0.44
57:6:30:G:H2'	57:6:31:G:H8	1.82	0.44
59:8:244:THR:HG23	59:8:247:GLU:HB2	2.00	0.44
59:8:359:ARG:CG	59:8:360:PHE:N	2.81	0.44
59:8:626:GLU:HG2	59:8:627:ASN:N	2.33	0.44
4:e:151:LEU:C	4:e:151:LEU:HD12	2.41	0.43
5:f:41:GLU:HG3	5:f:54:ARG:HB2	2.00	0.43
17:r:15:SER:H	17:r:18:GLN:CD	2.26	0.43
19:t:45:ALA:O	19:t:48:GLN:HB3	2.18	0.43
21:v:82:TYR:CD1	21:v:82:TYR:N	2.85	0.43
23:x:52:ALA:HA	23:x:55:MET:HG3	1.99	0.43
24:y:3:ALA:HA	24:y:6:LEU:HB2	1.99	0.43
26:A:45:THR:O	26:A:49:ARG:N	2.41	0.43
27:B:47:TYR:CZ	27:B:52:LYS:HD3	2.52	0.43
31:F:24:ARG:HH12	54:1:2742:G:P	2.41	0.43
33:H:120:THR:HA	33:H:123:LEU:HD12	1.99	0.43
35:J:73:VAL:HG13	35:J:143:LEU:O	2.17	0.43
36:K:9:MET:HA	36:K:58:HIS:O	2.18	0.43
39:N:84:ARG:HH11	39:N:84:ARG:HG3	1.83	0.43
40:O:9:ARG:HH11	40:O:11:LYS:HZ3	1.66	0.43
46:U:7:ALA:O	46:U:17:TYR:HA	2.17	0.43
50:Y:61:ALA:C	50:Y:63:LYS:H	2.24	0.43
52:a:7:ARG:CZ	54:1:2128:G:H5'	2.48	0.43
53:3:49:U:O2'	53:3:50:A:H2'	2.17	0.43
53:3:502:A:C6	53:3:544:G:C6	3.06	0.43
54:1:181:A:H2'	54:1:182:A:C8	2.53	0.43
54:1:259:G:O2'	54:1:260:G:H5'	2.17	0.43
54:1:418:C:H2'	54:1:419:U:C6	2.53	0.43
54:1:1765:U:H2'	54:1:1766:G:H8	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1996:C:H6	54:1:1996:C:OP1	2.00	0.43
54:1:2248:C:H2'	54:1:2249:U:C5'	2.43	0.43
54:1:2581:G:H2'	54:1:2581:G:N3	2.33	0.43
54:1:2709:G:H2'	54:1:2710:C:C6	2.53	0.43
54:1:2783:U:H2'	54:1:2784:U:C6	2.53	0.43
1:b:7:PRO:O	54:1:1695:G:H1'	2.19	0.43
1:b:64:VAL:CG2	1:b:86:ARG:NH2	2.82	0.43
6:g:110:VAL:HG23	6:g:114:GLU:OE1	2.18	0.43
12:m:34:LYS:HE3	12:m:131:VAL:HG11	2.00	0.43
20:u:51:LEU:HD23	20:u:51:LEU:C	2.42	0.43
23:x:35:HIS:ND1	23:x:36:ARG:N	2.66	0.43
25:z:35:VAL:HG22	25:z:37:ARG:NH1	2.34	0.43
27:B:2:VAL:HG12	27:B:3:GLN:H	1.82	0.43
32:G:22:TRP:CH2	32:G:27:LYS:HD3	2.53	0.43
32:G:28:PRO:HB2	32:G:29:PHE:CE1	2.53	0.43
32:G:74:ALA:O	32:G:206:ILE:HG22	2.18	0.43
38:M:74:ILE:HG23	38:M:74:ILE:O	2.17	0.43
39:N:12:LYS:C	39:N:14:SER:N	2.75	0.43
43:R:70:ARG:HA	43:R:73:SER:HB2	1.99	0.43
46:U:39:PHE:CE2	46:U:74:LEU:HD22	2.53	0.43
47:V:67:SER:HB3	53:3:255:G:P	2.58	0.43
52:a:206:GLY:CA	54:1:1860:G:H5''	2.48	0.43
53:3:54:C:O2	53:3:54:C:H2'	2.17	0.43
53:3:86:G:H5''	53:3:87:C:OP1	2.18	0.43
53:3:544:G:H2'	53:3:545:C:O4'	2.19	0.43
53:3:833:G:H2'	53:3:834:U:O4'	2.18	0.43
53:3:1520:C:H2'	53:3:1521:C:C6	2.53	0.43
54:1:209:C:O2'	54:1:210:C:H5'	2.18	0.43
54:1:365:U:H2'	54:1:366:C:C6	2.52	0.43
54:1:595:C:H2'	54:1:596:U:H6	1.83	0.43
54:1:721:A:H2'	54:1:722:A:C8	2.54	0.43
54:1:1000:A:C8	54:1:1154:G:N2	2.86	0.43
54:1:1213:A:H2'	54:1:1214:A:H8	1.84	0.43
54:1:2180:U:H2'	54:1:2181:U:O4'	2.18	0.43
54:1:2545:G:H2'	54:1:2546:U:O4'	2.18	0.43
54:1:2671:G:H2'	54:1:2672:U:C6	2.53	0.43
58:4:17:U:H2'	58:4:18:G:C8	2.53	0.43
59:8:612:LEU:HD21	59:8:698:VAL:HG11	2.00	0.43
1:b:268:ARG:HG2	1:b:268:ARG:NH1	2.32	0.43
6:g:7:ASP:CA	6:g:15:LEU:HD12	2.48	0.43
11:l:62:PRO:HB3	54:1:2393:U:H5''	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:36:TYR:CD1	14:o:52:SER:HB2	2.54	0.43
15:p:20:ARG:CZ	15:p:112:ARG:HH11	2.32	0.43
18:s:6:LYS:HB3	18:s:104:THR:HG23	2.00	0.43
18:s:46:LEU:O	18:s:50:VAL:HG23	2.17	0.43
33:H:155:ARG:NH1	53:3:1055:A:H1'	2.32	0.43
38:M:2:MET:SD	38:M:4:ASP:C	3.01	0.43
40:O:11:LYS:HB2	40:O:70:HIS:O	2.18	0.43
40:O:15:HIS:O	40:O:18:ILE:HG22	2.18	0.43
41:P:106:ILE:O	51:Z:11:PHE:HZ	2.00	0.43
45:T:53:ARG:HH21	53:3:579:A:H4'	1.82	0.43
47:V:10:ARG:C	47:V:22:VAL:HG13	2.43	0.43
49:X:35:ARG:HH11	49:X:50:VAL:CG1	2.30	0.43
50:Y:58:ASP:O	50:Y:61:ALA:N	2.52	0.43
51:Z:16:ARG:HB2	51:Z:19:LYS:CD	2.43	0.43
52:a:45:ALA:O	52:a:213:SER:N	2.51	0.43
53:3:102:G:H2'	53:3:103:U:C6	2.54	0.43
53:3:426:U:H2'	53:3:427:U:C6	2.53	0.43
53:3:1323:G:H2'	53:3:1324:A:C8	2.54	0.43
54:1:239:C:H2'	54:1:240:C:O4'	2.18	0.43
54:1:327:G:O2'	54:1:328:U:H5'	2.18	0.43
54:1:346:A:C2	54:1:347:A:H1'	2.53	0.43
54:1:523:C:O2'	54:1:524:G:H5'	2.19	0.43
54:1:892:A:H2'	54:1:893:C:C6	2.53	0.43
54:1:1404:C:O2'	54:1:1405:U:H5'	2.18	0.43
54:1:2423:U:H1'	54:1:2425:A:C5	2.53	0.43
54:1:2704:C:H2'	54:1:2705:A:O4'	2.18	0.43
54:1:2723:C:H2'	54:1:2724:U:O4'	2.18	0.43
59:8:18:HIS:HE1	59:8:121:PRO:HD2	1.84	0.43
59:8:93:VAL:HG21	59:8:122:GLN:CG	2.48	0.43
1:b:224:MET:HB3	54:1:782:A:N3	2.33	0.43
4:e:37:MET:SD	4:e:52:ALA:HB1	2.59	0.43
6:g:47:PHE:O	6:g:52:ALA:HB3	2.19	0.43
6:g:143:ILE:HG22	6:g:144:VAL:N	2.33	0.43
9:j:104:ALA:O	9:j:108:MET:HE3	2.19	0.43
11:l:29:LYS:HE3	54:1:566:U:C5'	2.40	0.43
15:p:92:ARG:HD3	54:1:1753:G:H5''	1.99	0.43
19:t:33:LYS:HG2	19:t:80:TRP:CE3	2.53	0.43
19:t:74:ILE:O	19:t:74:ILE:HG13	2.16	0.43
29:D:24:THR:O	29:D:28:ARG:NH1	2.52	0.43
30:E:37:THR:HG21	54:1:2348:U:OP2	2.19	0.43
33:H:72:PRO:HA	33:H:102:ILE:CD1	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:K:86:ARG:HG3	48:W:63:TYR:CZ	2.53	0.43
38:M:21:LYS:HD3	38:M:21:LYS:HA	1.90	0.43
42:Q:50:LYS:O	42:Q:66:ILE:HD13	2.19	0.43
42:Q:66:ILE:HD12	42:Q:66:ILE:N	2.33	0.43
43:R:87:GLY:O	43:R:91:ARG:N	2.51	0.43
44:S:2:LYS:C	44:S:4:SER:N	2.75	0.43
46:U:16:PHE:CZ	46:U:18:GLN:HG3	2.53	0.43
50:Y:2:ASN:HB2	53:3:331:G:O2'	2.19	0.43
50:Y:82:ILE:HG13	50:Y:83:ASN:N	2.32	0.43
53:3:285:C:H2'	53:3:286:C:C6	2.53	0.43
53:3:335:C:H2'	53:3:336:A:C8	2.54	0.43
53:3:626:G:H2'	53:3:627:G:H8	1.83	0.43
53:3:1088:G:N2	53:3:1167:A:H61	2.02	0.43
53:3:1497:G:C2'	53:3:1498:U:H5'	2.49	0.43
54:1:20:C:H2'	54:1:21:A:H8	1.83	0.43
54:1:28:A:O2'	54:1:29:U:H5'	2.18	0.43
54:1:542:C:H2'	54:1:543:G:C5'	2.48	0.43
54:1:581:C:H2'	54:1:582:A:C8	2.52	0.43
54:1:783:A:H2'	54:1:784:G:H5'	2.01	0.43
54:1:1149:G:H2'	54:1:1150:C:H6	1.82	0.43
54:1:1533:C:OP2	54:1:1533:C:H6	2.01	0.43
54:1:1936:A:H3'	54:1:1937:A:H5'	2.00	0.43
54:1:2193:G:H2'	54:1:2194:U:H6	1.84	0.43
54:1:2488:G:H2'	54:1:2489:U:C6	2.53	0.43
54:1:2665:A:O2'	54:1:2666:C:H5'	2.18	0.43
55:2:1:U:O4	55:2:2:G:C6	2.71	0.43
2:c:39:ASP:O	2:c:43:ASP:N	2.51	0.43
3:d:23:PHE:HE2	3:d:25:GLU:HG3	1.82	0.43
4:e:134:GLN:NE2	4:e:145:VAL:HG21	2.32	0.43
4:e:140:ILE:HD12	4:e:140:ILE:H	1.82	0.43
5:f:86:LEU:HD12	5:f:87:GLN:N	2.33	0.43
9:j:27:ARG:HG3	54:1:1012:U:N3	2.34	0.43
16:q:60:TRP:O	16:q:64:ILE:HG13	2.18	0.43
33:H:13:ILE:HG22	33:H:14:VAL:CG2	2.49	0.43
33:H:63:ILE:HG23	33:H:98:ALA:HA	2.01	0.43
35:J:20:VAL:HG11	53:3:1080:A:C5'	2.46	0.43
42:Q:97:VAL:HG12	53:3:35:G:C5'	2.36	0.43
43:R:85:TYR:CE2	43:R:89:ARG:HD3	2.53	0.43
45:T:86:LEU:C	45:T:86:LEU:HD12	2.43	0.43
50:Y:14:GLU:O	50:Y:18:LYS:HG3	2.18	0.43
52:a:214:ILE:HG13	52:a:222:VAL:HB	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:891:U:O2'	53:3:892:A:H5'	2.18	0.43
53:3:1237:C:C4'	53:3:1334:G:N2	2.80	0.43
54:1:69:C:O2'	54:1:70:G:H5'	2.17	0.43
54:1:753:A:O2'	54:1:754:U:H5'	2.18	0.43
54:1:1392:A:H62	54:1:1393:A:N6	2.16	0.43
54:1:1409:U:H2'	54:1:1410:G:C8	2.54	0.43
54:1:1468:U:H2'	54:1:1522:A:H61	1.82	0.43
54:1:2692:G:H2'	54:1:2693:G:C8	2.52	0.43
55:2:28:C:H2'	55:2:29:A:C8	2.53	0.43
59:8:113:TYR:O	59:8:141:VAL:HA	2.19	0.43
1:b:18:VAL:HG23	1:b:202:ARG:HE	1.83	0.43
4:e:65:LEU:HD11	55:2:41:G:H21	1.82	0.43
5:f:15:ASP:O	5:f:25:ILE:HA	2.19	0.43
7:h:37:LYS:HZ3	54:1:1086:A:N6	2.16	0.43
7:h:56:ARG:HA	7:h:83:ALA:HA	2.01	0.43
12:m:28:PHE:N	12:m:104:GLU:OE2	2.51	0.43
13:n:46:ARG:O	13:n:50:PRO:HG2	2.18	0.43
13:n:47:VAL:O	13:n:50:PRO:HD2	2.17	0.43
26:A:66:ILE:HG12	26:A:66:ILE:O	2.18	0.43
29:D:38:GLY:O	54:1:458:G:H3'	2.18	0.43
33:H:160:GLU:HA	53:3:1055:A:O2'	2.18	0.43
43:R:79:LEU:HD12	43:R:90:HIS:CD2	2.53	0.43
49:X:50:VAL:HG12	49:X:51:HIS:N	2.32	0.43
50:Y:27:MET:O	50:Y:31:ILE:HG13	2.18	0.43
52:a:27:ILE:HD12	52:a:186:LYS:HB2	2.01	0.43
52:a:60:ARG:HG2	52:a:61:GLY:N	2.33	0.43
53:3:110:C:H2'	53:3:111:G:O4'	2.19	0.43
53:3:133:U:H4'	53:3:325:A:O2'	2.18	0.43
53:3:427:U:H3'	53:3:428:G:H2'	2.01	0.43
53:3:542:G:O2'	53:3:543:U:H5'	2.18	0.43
53:3:615:G:H2'	53:3:616:G:H5'	2.01	0.43
53:3:1157:A:N6	53:3:1178:G:H1'	2.34	0.43
53:3:1350:A:H2'	53:3:1351:U:O4'	2.18	0.43
54:1:184:C:H2'	54:1:185:G:H8	1.84	0.43
54:1:437:U:H2'	54:1:438:G:C8	2.54	0.43
54:1:1335:C:H2'	54:1:1336:A:C8	2.53	0.43
54:1:1476:U:H2'	54:1:1477:A:H8	1.84	0.43
54:1:1682:G:C2	54:1:1757:A:O4'	2.71	0.43
54:1:1955:U:H5	54:1:2557:G:N2	2.17	0.43
54:1:2339:C:H2'	54:1:2340:A:C8	2.54	0.43
59:8:22:GLY:O	59:8:23:LYS:C	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:494:ILE:HA	59:8:610:PRO:CA	2.48	0.43
3:d:23:PHE:HB2	3:d:114:ARG:HH22	1.83	0.43
3:d:87:ALA:C	3:d:88:ARG:HD2	2.44	0.43
4:e:127:TYR:HB3	4:e:155:ILE:HD12	2.00	0.43
6:g:4:ILE:HD11	6:g:47:PHE:CE2	2.54	0.43
7:h:37:LYS:NZ	54:1:1086:A:N6	2.66	0.43
7:h:37:LYS:HE3	7:h:38:MET:HG2	1.99	0.43
14:o:38:GLN:HB3	14:o:50:ALA:CB	2.48	0.43
17:r:11:GLN:C	17:r:12:HIS:CG	2.96	0.43
19:t:73:ARG:NH2	54:1:456:C:C2	2.86	0.43
23:x:35:HIS:ND1	23:x:35:HIS:C	2.77	0.43
25:z:40:THR:O	25:z:43:ILE:N	2.51	0.43
29:D:26:ASN:ND2	54:1:682:G:H5'	2.33	0.43
32:G:113:LEU:O	32:G:117:GLU:HG2	2.18	0.43
32:G:169:HIS:O	32:G:172:ILE:N	2.52	0.43
34:I:12:ARG:HG2	34:I:33:ILE:HA	2.00	0.43
35:J:82:HIS:HB3	38:M:96:ALA:HB2	2.00	0.43
38:M:28:SER:HB3	38:M:58:LEU:CB	2.49	0.43
43:R:101:THR:HG22	53:3:1226:C:H2'	2.00	0.43
48:W:11:ARG:HH21	48:W:11:ARG:HG2	1.83	0.43
48:W:12:PHE:CG	48:W:13:THR:N	2.85	0.43
48:W:62:ARG:HG3	48:W:62:ARG:NH1	2.34	0.43
48:W:71:ASP:OD1	51:Z:3:ILE:HD12	2.18	0.43
51:Z:39:LYS:HB3	51:Z:40:PRO:HD3	2.00	0.43
52:a:23:ILE:HD12	52:a:23:ILE:N	2.24	0.43
52:a:40:GLU:HA	52:a:217:THR:OG1	2.18	0.43
53:3:486:U:O2	53:3:486:U:H2'	2.17	0.43
53:3:689:C:H2'	53:3:690:G:O4'	2.18	0.43
54:1:689:A:O2'	54:1:690:G:H5'	2.18	0.43
54:1:1229:C:H2'	54:1:1230:A:H8	1.83	0.43
54:1:2326:C:O5'	54:1:2326:C:H6	2.02	0.43
54:1:2489:U:C2'	54:1:2490:G:H5'	2.49	0.43
54:1:2516:A:O2'	54:1:2517:C:H5'	2.18	0.43
54:1:2545:G:O2'	54:1:2546:U:H5'	2.19	0.43
54:1:2673:G:H2'	54:1:2674:G:H8	1.83	0.43
55:2:22:U:H2'	55:2:23:G:C8	2.54	0.43
59:8:7:ILE:C	59:8:9:ARG:H	2.26	0.43
59:8:244:THR:HG23	59:8:247:GLU:CB	2.49	0.43
59:8:415:VAL:N	59:8:460:GLY:O	2.51	0.43
1:b:30:ALA:O	1:b:33:LEU:HD13	2.19	0.43
15:p:94:ALA:HB2	54:1:2848:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:p:95:LYS:HA	15:p:95:LYS:HD3	1.82	0.43
17:r:71:LYS:HE3	17:r:88:GLY:HA3	2.01	0.43
21:v:30:ILE:HG12	21:v:40:ILE:HG12	2.01	0.43
27:B:51:ARG:HG3	27:B:51:ARG:NH2	2.33	0.43
32:G:19:THR:H	32:G:37:VAL:HG13	1.83	0.43
32:G:108:GLN:HG3	32:G:111:LYS:HE3	2.01	0.43
34:I:62:ARG:HD3	34:I:62:ARG:HA	1.79	0.43
34:I:64:TYR:HB3	34:I:96:ARG:CZ	2.49	0.43
34:I:72:ARG:NH1	34:I:76:LYS:HE2	2.34	0.43
34:I:125:ASN:ND2	34:I:140:ASP:OD1	2.44	0.43
34:I:160:LEU:HD23	34:I:160:LEU:O	2.19	0.43
38:M:109:VAL:HG23	38:M:109:VAL:O	2.17	0.43
39:N:104:THR:HG22	39:N:106:ASP:H	1.83	0.43
41:P:81:LEU:C	41:P:81:LEU:HD12	2.43	0.43
46:U:33:ILE:N	46:U:33:ILE:CD1	2.79	0.43
47:V:14:ASP:HA	47:V:19:SER:O	2.18	0.43
47:V:30:HIS:CD2	47:V:32:ILE:H	2.37	0.43
53:3:62:U:O5'	53:3:62:U:H6	2.01	0.43
53:3:1463:U:H2'	53:3:1464:U:C6	2.54	0.43
53:3:1487:G:O2'	53:3:1488:G:H5'	2.19	0.43
54:1:1561:C:O2'	54:1:1562:U:H5'	2.18	0.43
54:1:1720:U:H2'	54:1:1721:G:O4'	2.19	0.43
54:1:2172:U:O5'	54:1:2174:C:H5	2.02	0.43
54:1:2480:C:H2'	54:1:2481:G:O4'	2.19	0.43
54:1:2631:G:O2'	54:1:2632:A:H5'	2.19	0.43
54:1:2875:C:H2'	54:1:2876:G:H8	1.82	0.43
59:8:55:GLN:HE22	59:8:472:ARG:HH11	1.67	0.43
2:c:4:LEU:HD21	2:c:98:VAL:HA	2.01	0.43
4:e:94:ARG:HG3	26:A:9:TYR:CE2	2.54	0.43
7:h:30:SER:HB2	7:h:81:LEU:HD13	2.00	0.43
8:i:57:VAL:HG23	8:i:71:LYS:HZ1	1.80	0.43
9:j:113:PRO:HD2	54:1:558:U:OP1	2.19	0.43
9:j:117:ALA:C	9:j:119:PHE:H	2.26	0.43
11:l:29:LYS:HE3	54:1:566:U:OP1	2.19	0.43
13:n:12:ARG:HH21	13:n:12:ARG:HG3	1.84	0.43
15:p:88:ARG:NH2	15:p:88:ARG:CB	2.77	0.43
16:q:35:PHE:O	16:q:39:ILE:HG13	2.19	0.43
18:s:18:ARG:NH1	54:1:518:G:H4'	2.33	0.43
24:y:1:MET:HE2	24:y:4:LYS:HE2	2.00	0.43
28:C:11:VAL:CG2	28:C:51:ALA:HB3	2.47	0.43
30:E:63:TYR:CE2	54:1:242:G:H5''	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:17:TRP:HA	33:H:17:TRP:CE3	2.54	0.43
34:I:1:ALA:HA	53:3:546:A:C6	2.53	0.43
34:I:54:LEU:C	34:I:56:GLU:N	2.75	0.43
37:L:36:SER:HA	37:L:39:GLU:HG3	2.01	0.43
38:M:50:VAL:HG22	38:M:50:VAL:O	2.19	0.43
39:N:119:LYS:C	39:N:121:ARG:H	2.26	0.43
40:O:6:ILE:CG2	40:O:76:ILE:HD12	2.44	0.43
41:P:33:ILE:HG22	41:P:41:LEU:HD12	2.01	0.43
42:Q:54:VAL:HG21	42:Q:79:ILE:CD1	2.49	0.43
45:T:17:ASP:C	45:T:19:ASN:H	2.25	0.43
49:X:15:LEU:O	49:X:19:GLU:HG2	2.19	0.43
52:a:5:THR:O	52:a:9:ARG:HG3	2.18	0.43
53:3:423:G:H2'	53:3:424:G:H5'	1.99	0.43
53:3:884:U:H4'	53:3:885:G:H5''	2.00	0.43
53:3:962:C:H2'	53:3:963:G:H8	1.82	0.43
54:1:973:A:H5'	54:1:1188:U:H1'	2.01	0.43
54:1:1666:G:C2'	54:1:1667:G:H5'	2.49	0.43
54:1:1791:A:C2	54:1:1829:A:H4'	2.53	0.43
56:5:6:A:C2'	56:5:7:G:H5'	2.49	0.43
59:8:195:ASP:OD2	59:8:199:GLY:N	2.41	0.43
59:8:222:LEU:C	59:8:222:LEU:HD23	2.44	0.43
1:b:16:VAL:CB	1:b:203:VAL:HG22	2.48	0.43
1:b:115:ILE:HG22	1:b:116:GLN:N	2.34	0.43
2:c:62:LYS:HB2	2:c:63:PRO:HD3	2.01	0.43
2:c:149:ASN:CG	2:c:150:GLN:H	2.25	0.43
10:k:18:ARG:HG2	10:k:18:ARG:HH11	1.83	0.43
12:m:91:TYR:N	12:m:91:TYR:CD1	2.86	0.43
15:p:105:LYS:HD3	53:3:1433:A:OP1	2.18	0.43
17:r:51:VAL:O	17:r:52:PRO:O	2.36	0.43
21:v:65:VAL:HG13	21:v:65:VAL:O	2.19	0.43
24:y:19:LEU:O	24:y:23:ARG:HD3	2.18	0.43
32:G:67:LEU:O	32:G:161:PHE:HB3	2.19	0.43
33:H:58:ARG:HA	33:H:62:SER:O	2.18	0.43
38:M:4:ASP:OD1	38:M:80:PRO:HD3	2.19	0.43
39:N:55:ASP:O	39:N:59:LYS:HD2	2.19	0.43
39:N:119:LYS:O	39:N:121:ARG:N	2.52	0.43
43:R:78:ARG:O	43:R:82:LEU:HG	2.18	0.43
47:V:37:ILE:CG2	47:V:38:LYS:N	2.82	0.43
47:V:65:PRO:O	53:3:265:G:H4'	2.19	0.43
49:X:5:LYS:HE3	49:X:5:LYS:HB2	1.93	0.43
51:Z:11:PHE:O	51:Z:13:VAL:N	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:45:G:H2'	53:3:46:G:O4'	2.18	0.43
53:3:319:G:H2'	53:3:320:A:H8	1.83	0.43
53:3:526:C:H2'	53:3:527:G:C4'	2.49	0.43
53:3:575:G:O2'	53:3:821:G:H5'	2.19	0.43
53:3:948:C:H2'	53:3:949:A:H8	1.84	0.43
53:3:993:G:H2'	53:3:995:C:H41	1.84	0.43
54:1:8:C:H2'	54:1:9:G:O4'	2.19	0.43
54:1:53:A:H2'	54:1:54:G:O4'	2.19	0.43
54:1:744:U:H2'	54:1:745:G:H5'	2.01	0.43
54:1:807:U:H2'	54:1:808:G:H8	1.84	0.43
54:1:969:G:H2'	54:1:970:U:H6	1.84	0.43
54:1:1029:A:H2'	54:1:1030:C:O4'	2.18	0.43
54:1:1213:A:H62	54:1:1236:G:H1'	1.83	0.43
54:1:1990:C:H2'	54:1:1991:U:C6	2.54	0.43
54:1:2096:C:O2'	54:1:2097:A:H5'	2.19	0.43
54:1:2392:A:H2'	54:1:2393:U:C6	2.54	0.43
57:6:58:A:H1'	57:6:60:U:OP2	2.19	0.43
1:b:78:GLU:OE2	1:b:92:LEU:HD23	2.19	0.42
2:c:40:LEU:HD12	2:c:40:LEU:N	2.28	0.42
4:e:103:ILE:HG13	4:e:104:THR:H	1.84	0.42
4:e:128:SER:O	54:1:2304:G:H4'	2.18	0.42
11:l:52:GLY:O	11:l:54:GLN:N	2.45	0.42
19:t:76:ARG:HG2	19:t:76:ARG:HH11	1.83	0.42
23:x:3:VAL:N	23:x:32:LEU:HD11	2.34	0.42
26:A:18:CYS:SG	26:A:36:VAL:HA	2.59	0.42
26:A:35:ASP:OD2	43:R:2:ARG:NH1	2.51	0.42
32:G:182:VAL:CG1	32:G:196:ASP:H	2.32	0.42
34:I:12:ARG:NH2	53:3:428:G:H3'	2.34	0.42
34:I:29:THR:O	34:I:31:CYS:N	2.49	0.42
34:I:66:VAL:HG12	34:I:67:LEU:O	2.19	0.42
35:J:55:VAL:HB	35:J:56:PRO:HD3	2.01	0.42
37:L:21:LEU:HD12	37:L:21:LEU:N	2.29	0.42
37:L:45:ALA:CB	37:L:119:LEU:HD13	2.49	0.42
42:Q:78:VAL:CG1	42:Q:101:LEU:HD13	2.46	0.42
49:X:38:THR:HG22	49:X:69:LYS:NZ	2.34	0.42
53:3:1314:C:H2'	53:3:1315:U:C6	2.54	0.42
53:3:1342:C:H2'	53:3:1343:G:C8	2.54	0.42
53:3:1350:A:O2'	53:3:1351:U:H5'	2.18	0.42
54:1:78:U:H2'	54:1:79:C:H6	1.81	0.42
54:1:845:A:N3	54:1:845:A:H3'	2.34	0.42
54:1:1891:G:H2'	54:1:1892:C:C6	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2327:A:C2	54:1:2388:A:C2	3.07	0.42
54:1:2427:C:H5''	54:1:2429:G:H5'	2.01	0.42
59:8:54:GLU:O	59:8:57:GLN:N	2.52	0.42
59:8:157:GLN:HA	59:8:160:THR:OG1	2.19	0.42
59:8:219:HIS:O	59:8:222:LEU:HB3	2.19	0.42
59:8:232:GLU:O	59:8:235:GLU:HG3	2.19	0.42
59:8:564:GLY:N	59:8:568:GLY:HA2	2.34	0.42
1:b:155:ARG:NH2	54:1:1818:U:C6	2.87	0.42
2:c:40:LEU:H	2:c:40:LEU:CD1	2.31	0.42
9:j:17:VAL:HG23	9:j:137:PRO:HB2	2.01	0.42
9:j:27:ARG:O	9:j:30:THR:HB	2.19	0.42
13:n:65:LEU:O	13:n:68:ALA:HB3	2.18	0.42
16:q:91:ARG:HG3	16:q:91:ARG:NH1	2.33	0.42
21:v:9:ARG:HH12	55:2:76:G:H5''	1.85	0.42
32:G:19:THR:HG23	32:G:21:TYR:N	2.27	0.42
32:G:56:LEU:HB3	32:G:220:VAL:HG22	2.02	0.42
33:H:24:ASN:O	33:H:28:PHE:HB2	2.19	0.42
34:I:3:TYR:O	34:I:5:GLY:N	2.52	0.42
36:K:3:HIS:HB3	36:K:95:ALA:HB2	2.00	0.42
36:K:3:HIS:N	36:K:92:THR:HG22	2.27	0.42
43:R:22:TYR:CD2	43:R:68:LEU:HD23	2.54	0.42
45:T:44:GLU:O	45:T:45:HIS:HB2	2.19	0.42
48:W:12:PHE:C	48:W:14:ALA:H	2.27	0.42
48:W:63:TYR:HE1	53:3:673:A:H4'	1.84	0.42
53:3:77:A:H2'	53:3:78:A:H8	1.83	0.42
53:3:212:G:H2'	53:3:213:G:H8	1.84	0.42
53:3:367:U:N3	53:3:393:A:C2	2.68	0.42
53:3:1157:A:H61	53:3:1178:G:H1'	1.84	0.42
53:3:1398:A:N3	53:3:1398:A:C2'	2.79	0.42
54:1:130:C:H2'	54:1:131:A:O4'	2.18	0.42
54:1:140:C:H5''	54:1:141:G:OP2	2.19	0.42
54:1:538:A:H2'	54:1:539:G:O4'	2.19	0.42
54:1:942:G:O2'	54:1:943:A:H5'	2.18	0.42
54:1:974:G:N3	54:1:974:G:H2'	2.34	0.42
54:1:1833:C:O2	54:1:1969:A:H2	2.01	0.42
54:1:1863:G:H2'	54:1:1864:U:O4'	2.19	0.42
54:1:2650:U:H2'	54:1:2651:C:H6	1.84	0.42
55:2:100:G:H2'	55:2:101:A:O4'	2.18	0.42
59:8:18:HIS:CD2	59:8:19:ILE:N	2.87	0.42
9:j:117:ALA:C	9:j:119:PHE:N	2.75	0.42
13:n:47:VAL:O	13:n:51:LEU:HD23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:97:ILE:HG22	13:n:98:LEU:N	2.33	0.42
14:o:17:LYS:HZ1	54:1:2380:C:H5'	1.81	0.42
16:q:23:TYR:HB2	16:q:28:SER:HB3	2.00	0.42
17:r:80:ARG:HH22	54:1:572:A:P	2.42	0.42
18:s:14:ALA:O	18:s:15:GLN:C	2.60	0.42
21:v:30:ILE:HB	21:v:38:LEU:HB3	2.01	0.42
24:y:1:MET:N	24:y:4:LYS:NZ	2.67	0.42
32:G:15:PHE:O	32:G:40:ILE:N	2.52	0.42
34:I:60:VAL:HG22	34:I:194:ILE:HG21	2.01	0.42
35:J:9:GLU:CD	35:J:9:GLU:N	2.78	0.42
35:J:70:MET:O	35:J:71:ILE:HD13	2.19	0.42
39:N:121:ARG:HB2	53:3:1349:A:OP1	2.18	0.42
40:O:37:ARG:CD	53:3:1124:G:H5''	2.45	0.42
46:U:14:ARG:HB3	46:U:42:ILE:CD1	2.50	0.42
50:Y:71:ALA:O	50:Y:75:LYS:HG3	2.19	0.42
52:a:6:LYS:HG3	52:a:7:ARG:N	2.35	0.42
53:3:404:G:H2'	53:3:405:U:C5	2.54	0.42
53:3:439:U:H3'	53:3:440:C:H6	1.83	0.42
53:3:537:G:H2'	53:3:538:G:O4'	2.19	0.42
53:3:618:C:H5''	53:3:619:U:H5''	2.01	0.42
54:1:358:U:H2'	54:1:359:G:C8	2.55	0.42
54:1:464:U:H2'	54:1:465:G:O4'	2.18	0.42
54:1:758:C:O2	54:1:758:C:H2'	2.18	0.42
54:1:1431:A:O2'	54:1:1432:G:H5'	2.19	0.42
54:1:1562:U:H2'	54:1:1563:U:O4'	2.18	0.42
54:1:2184:A:H2'	54:1:2185:U:O4'	2.19	0.42
54:1:2307:G:H4'	54:1:2308:G:O4'	2.20	0.42
59:8:72:TRP:CD1	59:8:73:SER:N	2.88	0.42
1:b:144:GLU:HG2	1:b:151:GLY:CA	2.50	0.42
1:b:181:ARG:O	1:b:183:VAL:HG23	2.20	0.42
1:b:226:PRO:HG3	1:b:233:GLY:HA3	1.99	0.42
3:d:61:ARG:HH21	3:d:61:ARG:HG3	1.84	0.42
3:d:119:ILE:O	3:d:187:VAL:HG23	2.19	0.42
3:d:136:GLN:HG3	3:d:140:ASP:OD2	2.18	0.42
4:e:39:VAL:HG12	4:e:84:ILE:O	2.20	0.42
5:f:102:ILE:HD11	5:f:122:ALA:CB	2.49	0.42
5:f:104:LEU:HB3	5:f:106:LEU:HG	2.01	0.42
9:j:117:ALA:HA	9:j:120:ARG:HG3	2.02	0.42
12:m:33:LEU:CD2	12:m:128:THR:HB	2.48	0.42
17:r:86:GLN:O	17:r:87:GLN:HB2	2.19	0.42
18:s:19:LEU:HG	27:B:21:LEU:CG	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:s:19:LEU:O	27:B:21:LEU:HD12	2.19	0.42
18:s:73:LYS:O	18:s:106:VAL:N	2.52	0.42
19:t:30:ILE:CG2	19:t:85:VAL:HB	2.49	0.42
33:H:194:VAL:HG23	53:3:1205:U:H4'	2.02	0.42
34:I:172:VAL:O	34:I:172:VAL:HG22	2.19	0.42
35:J:89:THR:O	35:J:89:THR:HG22	2.18	0.42
35:J:136:VAL:O	35:J:140:ILE:HG13	2.20	0.42
41:P:27:ASN:HA	41:P:57:SER:OG	2.20	0.42
42:Q:34:THR:HG1	42:Q:53:ARG:C	2.26	0.42
47:V:63:CYS:SG	47:V:72:TRP:N	2.92	0.42
49:X:39:ILE:HG22	49:X:40:PHE:N	2.34	0.42
53:3:301:G:H2'	53:3:302:G:H8	1.84	0.42
53:3:320:A:H2'	53:3:321:A:H8	1.81	0.42
53:3:509:A:N7	53:3:510:A:N6	2.67	0.42
53:3:947:G:H2'	53:3:948:C:H6	1.85	0.42
53:3:1231:G:H2'	53:3:1232:U:C6	2.54	0.42
53:3:1256:A:O2'	53:3:1257:A:H5''	2.20	0.42
54:1:671:C:H2'	54:1:672:C:C6	2.54	0.42
54:1:676:A:H62	54:1:802:A:H61	1.67	0.42
54:1:723:C:H2'	54:1:724:U:C6	2.54	0.42
54:1:851:C:H2'	54:1:852:U:H6	1.84	0.42
54:1:955:U:H3	54:1:962:G:H1	1.66	0.42
54:1:1264:A:H1'	54:1:2015:A:N6	2.34	0.42
54:1:1475:G:HO2'	54:1:1476:U:H6	1.57	0.42
54:1:2520:C:C5	54:1:2567:G:H1'	2.55	0.42
55:2:3:C:H3'	55:2:4:C:C5'	2.48	0.42
55:2:30:C:C2'	55:2:31:C:H5'	2.49	0.42
55:2:111:U:H2'	55:2:112:G:H8	1.85	0.42
56:5:27:A:H2'	56:5:28:C:H6	1.83	0.42
59:8:236:LYS:O	59:8:241:GLU:N	2.47	0.42
59:8:348:THR:HG22	59:8:359:ARG:HD3	2.02	0.42
59:8:474:LYS:HA	59:8:479:VAL:H	1.85	0.42
59:8:561:LEU:HD21	59:8:574:MET:HE3	2.01	0.42
1:b:146:LYS:HB2	1:b:149:LYS:HB2	2.01	0.42
3:d:24:ASN:O	3:d:28:VAL:HG23	2.19	0.42
5:f:20:GLY:O	5:f:21:GLN:NE2	2.46	0.42
5:f:71:LEU:HD23	5:f:74:MET:HG3	2.01	0.42
5:f:163:TYR:HB2	5:f:166:GLU:HB2	2.01	0.42
8:i:63:ASP:O	8:i:64:ARG:HB3	2.19	0.42
16:q:24:TYR:H	54:1:533:G:P	2.42	0.42
16:q:33:VAL:O	16:q:36:GLN:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:r:74:ILE:CD1	54:1:992:C:H4'	2.48	0.42
26:A:12:ILE:HD12	26:A:32:LEU:HD22	2.02	0.42
28:C:16:THR:OG1	28:C:17:GLY:N	2.53	0.42
30:E:30:HIS:O	30:E:31:ILE:C	2.62	0.42
33:H:166:TRP:CZ3	33:H:168:ARG:HG2	2.55	0.42
33:H:178:ARG:HG2	53:3:1112:C:O2	2.19	0.42
33:H:203:LYS:HE2	33:H:203:LYS:CA	2.45	0.42
35:J:19:ARG:HA	35:J:31:SER:O	2.20	0.42
37:L:4:ARG:HA	37:L:4:ARG:NE	2.35	0.42
39:N:18:VAL:HG21	39:N:62:LEU:HB2	2.02	0.42
39:N:27:ILE:HD13	39:N:34:LEU:HD23	2.02	0.42
39:N:56:MET:HG2	39:N:60:LEU:CD1	2.44	0.42
39:N:125:GLN:NE2	53:3:1233:G:OP2	2.48	0.42
40:O:25:ILE:HD11	40:O:87:LEU:HD22	2.02	0.42
42:Q:24:GLU:O	42:Q:25:ALA:HB3	2.20	0.42
42:Q:79:ILE:HD11	42:Q:81:ILE:HD11	2.01	0.42
49:X:57:VAL:HA	49:X:58:PRO:HD3	1.90	0.42
52:a:184:LYS:O	52:a:188:ASN:ND2	2.53	0.42
53:3:403:C:H2'	53:3:404:G:C8	2.55	0.42
53:3:658:C:H2'	53:3:659:U:C6	2.54	0.42
53:3:1195:C:H5''	53:3:1196:A:OP2	2.18	0.42
53:3:1291:U:H2'	53:3:1292:G:C8	2.54	0.42
54:1:1308:A:N7	54:1:1309:G:C5	2.88	0.42
54:1:1344:U:H3'	54:1:1345:C:H5'	2.00	0.42
54:1:2036:C:H2'	54:1:2037:A:H8	1.83	0.42
54:1:2355:G:H2'	54:1:2356:U:O4'	2.20	0.42
54:1:2821:A:H2'	54:1:2822:G:O4'	2.19	0.42
55:2:1:U:C6	55:2:1:U:C3'	3.02	0.42
59:8:135:VAL:HG13	59:8:137:ARG:CD	2.42	0.42
59:8:299:LEU:HD11	59:8:307:ALA:HB3	2.01	0.42
59:8:448:TRP:HB2	59:8:457:ILE:HB	2.01	0.42
1:b:131:MET:SD	1:b:131:MET:N	2.92	0.42
3:d:45:ALA:HB3	54:1:38:A:H5'	2.01	0.42
4:e:49:LEU:O	4:e:53:ALA:N	2.53	0.42
5:f:18:ILE:CD1	5:f:23:ILE:HD12	2.50	0.42
5:f:148:ARG:HA	5:f:161:VAL:HG23	2.01	0.42
8:i:7:TYR:HD2	8:i:57:VAL:HG13	1.82	0.42
8:i:57:VAL:O	8:i:68:PHE:HA	2.19	0.42
11:l:14:LYS:O	11:l:15:ALA:HB3	2.19	0.42
18:s:6:LYS:O	54:1:494:G:H4'	2.18	0.42
19:t:34:VAL:HG21	19:t:43:ILE:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:42:HIS:O	22:w:75:PHE:HA	2.20	0.42
26:A:30:HIS:ND1	26:A:30:HIS:O	2.52	0.42
32:G:22:TRP:HB3	32:G:38:HIS:CE1	2.53	0.42
33:H:35:ASP:HB3	33:H:58:ARG:NH2	2.35	0.42
34:I:69:ARG:O	34:I:73:ASN:N	2.41	0.42
34:I:72:ARG:HG2	34:I:76:LYS:NZ	2.34	0.42
34:I:82:LYS:O	34:I:88:ASN:ND2	2.53	0.42
34:I:166:LYS:N	34:I:167:PRO:HD3	2.34	0.42
38:M:30:LYS:HE3	53:3:643:C:OP1	2.19	0.42
41:P:126:ARG:HD2	53:3:796:C:O3'	2.19	0.42
42:Q:120:ARG:HD2	53:3:37:U:H5''	2.02	0.42
44:S:41:TRP:O	44:S:44:VAL:HG22	2.20	0.42
49:X:43:MET:O	49:X:44:ILE:C	2.61	0.42
50:Y:16:ALA:O	50:Y:20:ASN:HB2	2.19	0.42
50:Y:40:ALA:HB3	50:Y:42:ASP:OD1	2.20	0.42
52:a:40:GLU:HB2	52:a:178:VAL:HG21	2.02	0.42
52:a:42:VAL:HG22	52:a:178:VAL:HG12	2.02	0.42
53:3:20:U:O2'	53:3:21:G:H5'	2.20	0.42
53:3:1250:A:H2	53:3:1370:G:H1'	1.84	0.42
54:1:355:U:H2'	54:1:356:G:H8	1.85	0.42
54:1:419:U:H2'	54:1:420:C:H6	1.85	0.42
54:1:940:G:H2'	54:1:941:A:C4'	2.50	0.42
54:1:1080:A:C2	54:1:1081:U:H1'	2.55	0.42
54:1:1661:G:O2'	54:1:1662:U:H5'	2.20	0.42
54:1:2082:A:H2'	54:1:2083:G:O4'	2.20	0.42
54:1:2195:U:H2'	54:1:2196:C:C6	2.55	0.42
54:1:2884:U:H2'	54:1:2885:G:H8	1.84	0.42
59:8:121:PRO:HB2	59:8:122:GLN:HE21	1.85	0.42
59:8:171:LEU:HB2	59:8:183:VAL:CG2	2.47	0.42
59:8:450:ASP:HB3	59:8:455:GLN:H	1.84	0.42
1:b:124:LYS:HB3	1:b:127:ASN:ND2	2.34	0.42
2:c:152:PRO:HA	54:1:1130:U:C2	2.54	0.42
4:e:132:ARG:HD2	4:e:132:ARG:N	2.34	0.42
7:h:8:LYS:O	7:h:11:ILE:HB	2.19	0.42
7:h:80:THR:O	7:h:81:LEU:C	2.62	0.42
10:k:114:LYS:HB2	10:k:114:LYS:HE3	1.85	0.42
11:l:16:GLY:HA2	54:1:662:G:O3'	2.19	0.42
11:l:47:ARG:HG3	11:l:47:ARG:HH21	1.85	0.42
11:l:95:LEU:HB3	11:l:100:ILE:CD1	2.45	0.42
11:l:128:THR:OG1	11:l:131:ALA:HB3	2.19	0.42
12:m:79:ALA:HA	54:1:2494:G:O2'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:97:ILE:H	13:n:97:ILE:CD1	2.28	0.42
14:o:36:TYR:HD1	14:o:52:SER:CB	2.32	0.42
18:s:55:ILE:HG13	18:s:56:ALA:N	2.35	0.42
34:I:8:LEU:HD12	34:I:8:LEU:HA	1.80	0.42
34:I:165:GLU:O	34:I:166:LYS:HB2	2.20	0.42
38:M:32:LYS:O	38:M:35:ILE:HG12	2.20	0.42
40:O:102:LEU:N	40:O:102:LEU:HD12	2.34	0.42
41:P:55:ARG:HG3	41:P:55:ARG:NH1	2.34	0.42
41:P:119:GLY:HA2	53:3:716:A:N3	2.35	0.42
43:R:106:ARG:HG3	53:3:947:G:OP1	2.19	0.42
48:W:23:LYS:O	48:W:25:ILE:N	2.47	0.42
50:Y:43:LYS:C	50:Y:43:LYS:HD3	2.45	0.42
52:a:163:TYR:N	52:a:163:TYR:CD1	2.88	0.42
53:3:151:A:H2'	53:3:152:A:O4'	2.19	0.42
53:3:251:G:H4'	53:3:252:U:O5'	2.20	0.42
53:3:748:G:H2'	53:3:749:A:C8	2.55	0.42
54:1:516:C:H2'	54:1:517:C:C6	2.55	0.42
54:1:853:C:O2'	54:1:854:C:H5'	2.19	0.42
54:1:1165:A:H2'	54:1:1166:G:H8	1.85	0.42
54:1:1278:C:H2'	54:1:1279:G:H8	1.84	0.42
54:1:1300:G:H4'	54:1:1301:A:C5'	2.50	0.42
54:1:1528:A:H2'	54:1:1529:G:O4'	2.20	0.42
54:1:1682:G:H2'	54:1:1683:U:C6	2.55	0.42
54:1:2415:G:H2'	54:1:2416:C:C6	2.55	0.42
54:1:2447:G:C8	54:1:2501:C:C6	3.08	0.42
54:1:2648:G:H2'	54:1:2649:C:O4'	2.19	0.42
55:2:89:U:H5'	55:2:90:C:C6	2.55	0.42
59:8:72:TRP:HD1	59:8:283:ILE:HD12	1.82	0.42
59:8:111:MET:HE2	59:8:137:ARG:HG2	2.01	0.42
59:8:249:LYS:HG2	59:8:285:TYR:CE1	2.52	0.42
1:b:39:SER:O	1:b:41:GLY:N	2.52	0.42
2:c:119:ALA:HB1	2:c:124:ARG:HB2	2.01	0.42
4:e:166:ARG:O	4:e:170:ALA:N	2.42	0.42
5:f:28:LYS:HG2	5:f:78:VAL:O	2.20	0.42
5:f:34:ARG:HG3	5:f:34:ARG:HH11	1.84	0.42
6:g:78:VAL:O	6:g:145:ASN:N	2.48	0.42
10:k:115:ILE:N	10:k:115:ILE:CD1	2.81	0.42
14:o:29:HIS:CD2	55:2:7:G:H5''	2.55	0.42
17:r:22:LEU:O	17:r:94:THR:N	2.53	0.42
23:x:63:ILE:HG23	23:x:64:ASP:N	2.35	0.42
25:z:10:ARG:HH21	25:z:10:ARG:HG3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:1:GLY:N	53:3:1060:U:H5	2.18	0.42
33:H:72:PRO:HG2	33:H:73:GLY:H	1.85	0.42
34:I:5:GLY:HA3	34:I:6:PRO:HD3	1.91	0.42
34:I:59:LYS:HG2	34:I:194:ILE:HD13	2.02	0.42
34:I:64:TYR:HB2	34:I:66:VAL:HG23	2.01	0.42
35:J:89:THR:HG21	53:3:1078:U:C2	2.55	0.42
41:P:126:ARG:HG3	41:P:126:ARG:NH1	2.34	0.42
44:S:2:LYS:O	44:S:3:GLN:C	2.63	0.42
45:T:60:SER:O	45:T:64:LYS:HG3	2.19	0.42
49:X:69:LYS:HE3	53:3:1319:A:H5'	2.01	0.42
52:a:38:PHE:HB2	54:1:2126:A:OP1	2.20	0.42
53:3:225:C:H2'	53:3:226:G:C5'	2.50	0.42
53:3:354:G:H2'	53:3:355:C:H5'	2.02	0.42
53:3:518:C:C6	53:3:529:G:H2'	2.55	0.42
53:3:539:A:H2'	53:3:540:G:H8	1.83	0.42
53:3:1016:A:H2'	53:3:1017:U:O4'	2.20	0.42
53:3:1231:G:H2'	53:3:1232:U:H6	1.84	0.42
53:3:1525:G:H2'	53:3:1526:G:H8	1.83	0.42
53:3:1534:A:O2'	53:3:1535:C:C6	2.72	0.42
54:1:17:G:H2'	54:1:18:U:C6	2.55	0.42
54:1:409:G:H2'	54:1:410:G:C8	2.55	0.42
54:1:971:G:H2'	54:1:972:A:O4'	2.20	0.42
54:1:1440:U:H2'	54:1:1441:G:C8	2.55	0.42
54:1:1923:U:H2'	54:1:1924:C:C6	2.55	0.42
54:1:2368:C:H2'	54:1:2369:A:C8	2.55	0.42
55:2:97:C:C2'	55:2:98:G:H5'	2.49	0.42
59:8:19:ILE:O	59:8:20:ASP:HB3	2.19	0.42
59:8:72:TRP:CH2	59:8:276:GLN:HG2	2.55	0.42
59:8:146:ARG:HG2	59:8:147:MET:N	2.35	0.42
59:8:400:PRO:O	59:8:401:ASP:HB2	2.19	0.42
59:8:416:ILE:HG22	59:8:460:GLY:C	2.44	0.42
2:c:3:GLY:O	2:c:4:LEU:HD12	2.19	0.42
2:c:133:THR:OG1	2:c:134:HIS:N	2.53	0.42
3:d:31:VAL:HG21	3:d:104:ALA:HB2	2.01	0.42
5:f:148:ARG:HG2	5:f:148:ARG:HH11	1.84	0.42
6:g:49:ALA:O	6:g:51:ARG:N	2.53	0.42
8:i:71:LYS:HB3	8:i:72:THR:H	1.58	0.42
9:j:81:ILE:HG21	54:1:2514:U:H4'	2.01	0.42
10:k:15:GLY:HA3	10:k:50:GLY:HA3	2.01	0.42
11:l:38:GLN:HB2	54:1:831:G:O2'	2.20	0.42
11:l:129:LYS:HB2	54:1:636:G:OP1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:33:LEU:C	12:m:33:LEU:CD2	2.91	0.42
12:m:97:GLN:HE21	12:m:97:GLN:H	1.67	0.42
18:s:47:VAL:HG12	18:s:103:ILE:HD13	2.02	0.42
28:C:36:LYS:HG2	28:C:45:HIS:ND1	2.35	0.42
30:E:18:LYS:HB3	30:E:18:LYS:HE2	1.85	0.42
32:G:158:ASP:O	32:G:181:PRO:HD2	2.19	0.42
33:H:10:ARG:HH22	33:H:174:LEU:CA	2.28	0.42
35:J:75:LEU:O	35:J:75:LEU:HD12	2.20	0.42
36:K:4:TYR:N	36:K:64:VAL:O	2.51	0.42
41:P:24:ALA:O	41:P:87:GLY:HA3	2.20	0.42
43:R:21:ILE:CG2	43:R:65:GLU:HB2	2.50	0.42
43:R:79:LEU:HD11	53:3:1309:G:H5''	2.02	0.42
45:T:14:PHE:CZ	45:T:83:ARG:HD3	2.55	0.42
47:V:6:THR:O	47:V:7:LEU:HD23	2.19	0.42
51:Z:16:ARG:CZ	51:Z:19:LYS:HE2	2.50	0.42
53:3:454:G:H2'	53:3:455:G:H8	1.84	0.42
53:3:821:G:H2'	53:3:822:U:C6	2.55	0.42
53:3:1096:C:H2'	53:3:1097:C:H6	1.85	0.42
54:1:184:C:H2'	54:1:185:G:C8	2.55	0.42
54:1:371:A:N6	54:1:401:A:H5''	2.34	0.42
54:1:420:C:H2'	54:1:421:C:O4'	2.20	0.42
54:1:438:G:H2'	54:1:439:A:C8	2.55	0.42
54:1:723:C:H2'	54:1:724:U:O4'	2.20	0.42
54:1:784:G:N7	54:1:792:A:C5	2.88	0.42
54:1:1326:U:H2'	54:1:1327:A:H8	1.85	0.42
54:1:1797:G:C6	54:1:1823:G:C6	3.08	0.42
59:8:19:ILE:CG1	59:8:20:ASP:N	2.78	0.42
59:8:23:LYS:O	59:8:27:THR:HG23	2.20	0.42
59:8:177:GLU:C	59:8:179:PHE:H	2.28	0.42
1:b:94:LEU:HD23	1:b:94:LEU:C	2.44	0.42
1:b:119:VAL:HG22	1:b:130:PRO:HD2	2.02	0.42
1:b:144:GLU:HG2	1:b:151:GLY:HA2	2.01	0.42
3:d:145:ASP:HB3	3:d:184:ASP:CB	2.48	0.42
6:g:27:ARG:HG2	6:g:27:ARG:HH11	1.84	0.42
8:i:12:VAL:CG2	8:i:13:ALA:N	2.80	0.42
10:k:32:TYR:OH	54:1:1996:C:C5	2.72	0.42
13:n:70:THR:O	13:n:71:ARG:C	2.63	0.42
15:p:45:VAL:O	15:p:60:VAL:HA	2.20	0.42
18:s:21:ALA:C	18:s:23:LEU:H	2.28	0.42
19:t:57:VAL:HG22	19:t:58:VAL:N	2.33	0.42
28:C:39:ASP:OD2	28:C:41:VAL:HB	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:98:GLY:O	32:G:102:ASN:HB3	2.19	0.42
32:G:103:TRP:NE1	32:G:107:ARG:HB2	2.35	0.42
35:J:86:GLY:O	35:J:87:VAL:C	2.63	0.42
36:K:14:GLN:C	36:K:17:GLN:H	2.23	0.42
36:K:55:HIS:HB3	36:K:56:LYS:HD3	2.02	0.42
41:P:45:THR:O	41:P:49:SER:N	2.53	0.42
43:R:16:ILE:HD12	43:R:16:ILE:N	2.34	0.42
45:T:17:ASP:OD2	45:T:19:ASN:CB	2.68	0.42
45:T:27:GLN:O	45:T:31:LEU:HG	2.20	0.42
46:U:34:GLU:HG3	46:U:60:TRP:CZ2	2.55	0.42
46:U:35:ARG:HH11	46:U:35:ARG:HG3	1.84	0.42
47:V:44:HIS:CD2	47:V:44:HIS:H	2.36	0.42
49:X:69:LYS:HD2	53:3:1320:C:O4'	2.19	0.42
53:3:39:G:O2'	53:3:40:C:H5'	2.19	0.42
53:3:68:G:H22	53:3:101:A:H2	1.67	0.42
53:3:237:G:H2'	53:3:238:A:H8	1.84	0.42
53:3:549:C:O5'	53:3:549:C:H6	2.03	0.42
53:3:917:G:H2'	53:3:918:A:H8	1.84	0.42
53:3:1237:C:C4'	53:3:1334:G:H21	2.32	0.42
53:3:1250:A:C2	53:3:1370:G:H1'	2.55	0.42
53:3:1360:A:C2'	53:3:1361:G:H5'	2.50	0.42
54:1:226:A:H2'	54:1:227:A:O4'	2.19	0.42
54:1:256:A:O2'	54:1:257:C:H5'	2.20	0.42
54:1:433:C:H2'	54:1:434:U:C6	2.55	0.42
54:1:1427:A:H4'	54:1:1428:C:O4'	2.20	0.42
54:1:2609:U:O2'	54:1:2610:C:H5'	2.20	0.42
54:1:2758:A:H2'	54:1:2759:G:H5'	2.01	0.42
54:1:2801:G:H2'	54:1:2802:G:H8	1.83	0.42
54:1:2816:G:H2'	54:1:2817:U:C6	2.55	0.42
1:b:119:VAL:HG22	1:b:130:PRO:CD	2.50	0.41
4:e:127:TYR:O	4:e:155:ILE:N	2.53	0.41
9:j:36:LEU:O	9:j:51:GLY:HA3	2.19	0.41
10:k:34:GLY:O	10:k:35:VAL:C	2.63	0.41
12:m:61:GLY:HA2	12:m:107:GLY:HA3	2.00	0.41
16:q:106:THR:O	16:q:109:VAL:N	2.52	0.41
18:s:19:LEU:CG	27:B:21:LEU:HG	2.45	0.41
19:t:32:LEU:HD23	19:t:32:LEU:H	1.85	0.41
20:u:4:ILE:HD12	20:u:4:ILE:N	2.33	0.41
20:u:41:VAL:HB	54:1:480:A:H4'	2.01	0.41
21:v:18:ARG:HA	21:v:21:ARG:HD3	2.01	0.41
21:v:80:HIS:ND1	21:v:81:PRO:CD	2.79	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:70:GLN:HA	34:I:73:ASN:HB2	2.02	0.41
46:U:56:ARG:HG2	46:U:56:ARG:HH11	1.85	0.41
49:X:14:LEU:O	49:X:18:VAL:N	2.49	0.41
49:X:54:ARG:HD3	53:3:958:A:N9	2.35	0.41
50:Y:66:ILE:HG21	50:Y:71:ALA:H	1.85	0.41
53:3:333:U:H2'	53:3:334:C:C6	2.54	0.41
53:3:500:G:O2'	53:3:547:A:N1	2.51	0.41
53:3:799:G:H2'	53:3:800:G:O4'	2.20	0.41
54:1:578:G:H21	54:1:1252:G:H21	1.66	0.41
54:1:657:U:H2'	54:1:658:U:C6	2.55	0.41
54:1:1109:C:H2'	54:1:1110:G:O4'	2.19	0.41
54:1:1137:G:H2'	54:1:1138:G:H8	1.85	0.41
54:1:2348:U:O2'	54:1:2349:G:H5'	2.20	0.41
54:1:2370:G:H2'	54:1:2371:G:O4'	2.20	0.41
54:1:2570:G:H2'	54:1:2571:U:O4'	2.20	0.41
56:5:18:G:P	56:5:18:G:H8	2.43	0.41
59:8:421:GLU:O	59:8:422:PRO:C	2.62	0.41
59:8:450:ASP:HB2	59:8:455:GLN:H	1.85	0.41
59:8:619:VAL:HG23	59:8:619:VAL:O	2.20	0.41
2:c:5:VAL:H	2:c:32:ASN:ND2	2.17	0.41
2:c:33:ARG:NH2	2:c:52:THR:HA	2.35	0.41
3:d:5:LEU:CD1	3:d:11:ALA:HA	2.49	0.41
4:e:91:ARG:HA	4:e:95:MET:HB2	2.02	0.41
6:g:90:LEU:HG	6:g:91:PHE:H	1.86	0.41
11:l:129:LYS:HE2	54:1:636:G:OP1	2.20	0.41
13:n:90:ARG:NH2	54:1:2881:U:H5'	2.36	0.41
16:q:24:TYR:N	54:1:533:G:OP1	2.53	0.41
30:E:53:ASP:OD1	54:1:2359:C:H4'	2.20	0.41
33:H:6:PRO:O	33:H:10:ARG:HB2	2.19	0.41
36:K:26:THR:HA	36:K:29:ILE:HD11	2.02	0.41
40:O:37:ARG:HB3	40:O:75:ASP:O	2.19	0.41
40:O:49:PHE:CE1	44:S:75:LYS:HG3	2.54	0.41
42:Q:73:LEU:HD22	42:Q:77:SER:CB	2.51	0.41
44:S:19:TYR:CD2	44:S:50:LEU:HD22	2.55	0.41
45:T:78:THR:O	45:T:81:ILE:HG12	2.21	0.41
46:U:71:VAL:HG12	46:U:75:ILE:HG13	2.02	0.41
47:V:10:ARG:O	47:V:22:VAL:HA	2.20	0.41
50:Y:48:LYS:CA	50:Y:51:ASN:HD22	2.22	0.41
52:a:7:ARG:O	52:a:11:ILE:HG13	2.20	0.41
53:3:166:U:H2'	53:3:167:A:C8	2.55	0.41
53:3:319:G:H2'	53:3:320:A:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:608:A:H2'	53:3:609:A:O4'	2.19	0.41
53:3:748:G:H2'	53:3:749:A:H8	1.84	0.41
53:3:915:A:C2'	53:3:916:U:H5'	2.48	0.41
54:1:61:C:H2'	54:1:62:U:H5'	2.01	0.41
54:1:103:A:H2'	54:1:104:A:O4'	2.21	0.41
54:1:601:C:H2'	54:1:602:A:O4'	2.20	0.41
54:1:890:C:H2'	54:1:891:G:H5'	2.01	0.41
54:1:1773:A:H2'	54:1:1774:C:H5'	2.01	0.41
54:1:2411:A:H2'	54:1:2412:A:C8	2.55	0.41
54:1:2658:C:H2'	54:1:2659:G:O4'	2.20	0.41
59:8:93:VAL:HG21	59:8:122:GLN:HG3	2.01	0.41
59:8:686:LYS:CG	59:8:687:TYR:N	2.83	0.41
1:b:22:GLU:OE2	1:b:22:GLU:N	2.52	0.41
1:b:66:PHE:CE1	1:b:155:ARG:HD2	2.55	0.41
1:b:77:VAL:CG1	1:b:91:ALA:HB1	2.51	0.41
2:c:85:ALA:C	2:c:87:GLY:H	2.27	0.41
9:j:17:VAL:HB	9:j:139:VAL:HA	2.02	0.41
10:k:19:VAL:HG11	10:k:41:ILE:HD12	2.02	0.41
10:k:94:PRO:HG3	10:k:114:LYS:HD2	2.01	0.41
20:u:36:GLU:O	20:u:36:GLU:HG2	2.20	0.41
21:v:18:ARG:HA	21:v:21:ARG:CG	2.51	0.41
22:w:26:SER:HA	22:w:62:LYS:HA	2.02	0.41
25:z:13:ILE:HG12	54:1:989:G:C8	2.55	0.41
31:F:7:VAL:O	31:F:7:VAL:HG23	2.20	0.41
34:I:25:ARG:HG2	34:I:26:ALA:N	2.34	0.41
38:M:88:LYS:HA	38:M:91:LEU:HG	2.02	0.41
39:N:68:GLY:HA2	53:3:1250:A:O3'	2.20	0.41
42:Q:87:LYS:HD3	53:3:525:C:OP1	2.20	0.41
45:T:55:LEU:HD12	45:T:56:LEU:N	2.35	0.41
47:V:28:VAL:HG22	47:V:29:LYS:N	2.35	0.41
52:a:216:THR:O	52:a:217:THR:C	2.63	0.41
53:3:389:A:H3'	53:3:390:U:H6	1.85	0.41
53:3:597:G:C8	53:3:598:U:C5	3.09	0.41
53:3:622:A:H3'	53:3:623:C:C6	2.55	0.41
53:3:971:G:H1'	53:3:1365:G:HO2'	1.86	0.41
53:3:1184:G:C2	53:3:1185:G:C8	3.09	0.41
53:3:1492:A:N1	54:1:1913:A:H2'	2.35	0.41
54:1:118:A:H2'	54:1:120:U:O4	2.21	0.41
54:1:634:C:H2'	54:1:635:C:C6	2.55	0.41
54:1:1019:U:H2'	54:1:1020:A:H8	1.82	0.41
54:1:1409:U:H2'	54:1:1410:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1808:A:H3'	54:1:1809:A:C8	2.56	0.41
54:1:1893:C:C2'	54:1:1894:C:H5'	2.47	0.41
54:1:2028:U:H2'	54:1:2029:G:O4'	2.20	0.41
54:1:2472:G:C5	54:1:2475:C:C4	3.08	0.41
54:1:2648:G:N2	54:1:2649:C:H1'	2.35	0.41
55:2:1:U:C5	55:2:2:G:C8	3.08	0.41
59:8:243:LEU:HB2	59:8:248:ILE:HG22	2.01	0.41
59:8:411:PHE:N	59:8:411:PHE:CD1	2.88	0.41
3:d:49:ARG:O	3:d:49:ARG:HG3	2.20	0.41
4:e:127:TYR:CE2	4:e:129:MET:HB3	2.56	0.41
6:g:16:GLY:HA3	6:g:47:PHE:CZ	2.56	0.41
9:j:28:LEU:HD23	9:j:28:LEU:C	2.45	0.41
16:q:8:ILE:HG13	16:q:9:ALA:N	2.35	0.41
18:s:74:ILE:O	18:s:74:ILE:HG23	2.20	0.41
19:t:69:ARG:HA	19:t:73:ARG:O	2.20	0.41
22:w:34:VAL:HG21	22:w:76:ILE:CD1	2.50	0.41
22:w:50:GLY:C	22:w:52:ASP:H	2.28	0.41
23:x:38:TRP:HE3	23:x:45:PHE:CZ	2.39	0.41
33:H:49:ALA:O	33:H:50:SER:OG	2.33	0.41
33:H:52:SER:HA	33:H:113:LYS:HG2	2.02	0.41
34:I:23:GLY:HA3	34:I:108:ALA:CA	2.51	0.41
34:I:74:TYR:HE1	34:I:96:ARG:NH1	2.10	0.41
35:J:10:LEU:HD12	35:J:11:GLN:N	2.34	0.41
38:M:72:GLU:HB3	38:M:129:ALA:C	2.45	0.41
42:Q:23:LEU:O	42:Q:24:GLU:C	2.62	0.41
42:Q:33:CYS:N	42:Q:54:VAL:HG13	2.35	0.41
42:Q:58:ASN:OD1	42:Q:60:PHE:CD2	2.74	0.41
50:Y:48:LYS:O	50:Y:52:GLU:HG3	2.20	0.41
53:3:403:C:H42	53:3:547:A:C5'	2.32	0.41
53:3:968:A:H8	53:3:968:A:OP1	2.04	0.41
53:3:1406:U:H2'	53:3:1407:C:O4'	2.20	0.41
53:3:1462:C:H2'	53:3:1463:U:C6	2.56	0.41
53:3:1488:G:O2'	53:3:1489:G:H5'	2.21	0.41
54:1:28:A:N6	54:1:512:G:H1'	2.36	0.41
54:1:248:G:O5'	54:1:249:C:H5'	2.21	0.41
54:1:301:G:C6	54:1:317:G:C6	3.09	0.41
54:1:483:A:H2'	54:1:484:C:O4'	2.20	0.41
54:1:527:C:N3	54:1:2779:U:H2'	2.35	0.41
54:1:1526:C:H2'	54:1:1527:G:O4'	2.19	0.41
54:1:1572:A:O2'	54:1:1573:G:H5'	2.20	0.41
54:1:1777:U:O2'	54:1:1778:U:H5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1906:G:C3'	54:1:1907:G:H5''	2.49	0.41
54:1:2078:C:H2'	54:1:2079:U:C6	2.56	0.41
54:1:2552:U:C6	54:1:2554:U:H5'	2.54	0.41
55:2:51:G:N2	55:2:52:A:H1'	2.35	0.41
59:8:173:ILE:HB	59:8:181:GLY:O	2.19	0.41
59:8:442:ASP:OD1	59:8:444:SER:N	2.53	0.41
59:8:578:LEU:HD12	59:8:579:HIS:N	2.35	0.41
1:b:220:ARG:HG3	54:1:1789:A:OP1	2.20	0.41
4:e:3:LEU:HD21	4:e:103:ILE:HD11	2.02	0.41
10:k:15:GLY:CA	10:k:47:ILE:HG22	2.50	0.41
11:l:93:ASN:C	11:l:95:LEU:H	2.28	0.41
11:l:110:VAL:HB	11:l:127:VAL:HG13	2.02	0.41
14:o:102:ARG:O	14:o:105:ALA:HB3	2.20	0.41
17:r:74:ILE:N	17:r:87:GLN:O	2.46	0.41
21:v:20:LEU:HG	21:v:25:LYS:O	2.21	0.41
21:v:42:LEU:N	21:v:42:LEU:CD2	2.82	0.41
21:v:51:GLN:OE1	21:v:86:LEU:HD21	2.20	0.41
21:v:56:PHE:CE1	21:v:61:LEU:HD13	2.56	0.41
32:G:139:GLU:O	32:G:143:LEU:N	2.33	0.41
33:H:1:GLY:N	53:3:1060:U:C5	2.88	0.41
33:H:122:GLN:HB3	33:H:127:VAL:HG11	2.02	0.41
33:H:155:ARG:O	33:H:156:LEU:C	2.64	0.41
34:I:37:PRO:HD2	34:I:41:GLY:O	2.20	0.41
34:I:59:LYS:CD	34:I:194:ILE:HG12	2.42	0.41
36:K:74:LEU:CD2	36:K:78:PHE:HE2	2.34	0.41
37:L:115:MET:HA	37:L:118:ARG:CD	2.50	0.41
38:M:10:LEU:HD22	38:M:74:ILE:CD1	2.50	0.41
39:N:18:VAL:CG2	39:N:62:LEU:HB2	2.51	0.41
39:N:38:PHE:HE2	39:N:47:VAL:HG21	1.85	0.41
44:S:7:ALA:CA	44:S:10:VAL:HG12	2.49	0.41
45:T:66:LEU:O	45:T:70:LYS:N	2.43	0.41
49:X:35:ARG:NH1	49:X:50:VAL:CG1	2.83	0.41
50:Y:56:ILE:O	50:Y:60:GLN:NE2	2.53	0.41
52:a:38:PHE:CE2	52:a:217:THR:HG21	2.50	0.41
53:3:206:C:H2'	53:3:207:C:O4'	2.20	0.41
53:3:599:C:H2'	53:3:600:A:H8	1.86	0.41
53:3:689:C:O2'	53:3:690:G:H5'	2.21	0.41
53:3:737:C:H2'	53:3:738:C:H6	1.85	0.41
53:3:1413:A:O2'	53:3:1414:U:H5'	2.20	0.41
54:1:616:A:H2'	54:1:617:G:C8	2.55	0.41
54:1:649:G:H2'	54:1:650:C:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1370:C:H2'	54:1:1371:G:O4'	2.21	0.41
54:1:1594:U:O2'	54:1:1595:C:H5'	2.21	0.41
54:1:1881:C:H2'	54:1:1882:U:O4'	2.21	0.41
54:1:2298:A:H2'	54:1:2299:U:O4'	2.20	0.41
54:1:2655:G:H2'	54:1:2664:G:O6	2.20	0.41
59:8:128:ARG:NE	59:8:128:ARG:HA	2.36	0.41
59:8:155:VAL:O	59:8:159:LYS:HG3	2.20	0.41
59:8:586:VAL:HG23	59:8:587:ASP:N	2.36	0.41
1:b:206:LYS:HG3	1:b:209:ALA:H	1.86	0.41
4:e:47:LYS:O	4:e:51:ASN:N	2.44	0.41
4:e:136:ILE:HG13	4:e:137:PHE:N	2.34	0.41
5:f:26:LYS:HD3	5:f:31:GLU:OE2	2.20	0.41
10:k:102:PRO:HB3	10:k:121:GLU:HB3	2.03	0.41
12:m:71:LYS:HB3	12:m:93:VAL:O	2.20	0.41
12:m:91:TYR:N	12:m:91:TYR:HD1	2.19	0.41
13:n:4:ARG:HA	54:1:2820:A:OP1	2.21	0.41
16:q:2:ARG:HD2	54:1:1248:G:C5	2.56	0.41
18:s:20:VAL:CG2	18:s:43:ALA:HB3	2.45	0.41
21:v:15:GLY:O	21:v:19:ARG:HB2	2.20	0.41
21:v:17:SER:OG	21:v:21:ARG:NH1	2.54	0.41
21:v:49:ASN:OD1	54:1:1040:A:H4'	2.19	0.41
26:A:66:ILE:O	26:A:66:ILE:HG23	2.21	0.41
29:D:30:VAL:HG22	29:D:33:ARG:HH12	1.86	0.41
32:G:102:ASN:ND2	32:G:105:THR:CG2	2.84	0.41
33:H:138:GLN:HE22	33:H:142:ARG:CB	2.15	0.41
34:I:24:VAL:HG21	53:3:408:A:O3'	2.21	0.41
34:I:63:ILE:O	34:I:110:ARG:CD	2.67	0.41
34:I:77:GLU:O	34:I:81:LEU:HG	2.21	0.41
35:J:141:ASP:CG	35:J:142:GLY:N	2.78	0.41
42:Q:3:VAL:O	42:Q:7:VAL:HG23	2.20	0.41
44:S:68:ARG:NH1	53:3:1202:U:O4'	2.50	0.41
46:U:71:VAL:HG12	46:U:75:ILE:HD11	2.01	0.41
47:V:29:LYS:HG3	47:V:36:PHE:CE1	2.55	0.41
48:W:11:ARG:HG2	48:W:12:PHE:N	2.35	0.41
49:X:35:ARG:HH22	49:X:74:ALA:CB	2.32	0.41
50:Y:53:MET:O	50:Y:56:ILE:N	2.53	0.41
50:Y:72:ALA:HA	50:Y:75:LYS:HD3	2.03	0.41
52:a:3:LYS:HB3	54:1:2107:G:OP1	2.20	0.41
52:a:63:THR:HB	52:a:195:ALA:HB2	2.03	0.41
53:3:487:A:H2'	53:3:488:C:O4'	2.21	0.41
53:3:602:A:H2'	53:3:603:U:H6	1.82	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:927:G:O2'	53:3:928:G:H5'	2.21	0.41
53:3:1355:G:H2'	53:3:1356:G:C8	2.55	0.41
53:3:1389:C:O5'	53:3:1389:C:H6	2.02	0.41
54:1:721:A:H2'	54:1:722:A:H8	1.86	0.41
54:1:1184:U:O2'	54:1:1185:G:H5'	2.20	0.41
54:1:1335:C:H2'	54:1:1336:A:H8	1.85	0.41
54:1:1550:C:H2'	54:1:1551:A:H8	1.85	0.41
54:1:2314:A:H2'	54:1:2315:G:H8	1.85	0.41
54:1:2437:G:O2'	54:1:2438:U:H5'	2.20	0.41
54:1:2577:A:H2'	54:1:2614:A:H62	1.84	0.41
56:5:66:C:H2'	56:5:67:U:H6	1.86	0.41
59:8:614:GLU:OE2	59:8:659:PRO:HB3	2.21	0.41
59:8:640:GLY:HA2	59:8:657:GLU:O	2.21	0.41
1:b:203:VAL:HG23	1:b:203:VAL:O	2.21	0.41
2:c:77:ARG:HG3	2:c:77:ARG:O	2.20	0.41
2:c:129:THR:OG1	2:c:141:ARG:HG2	2.21	0.41
3:d:127:GLU:O	3:d:156:ASN:ND2	2.53	0.41
4:e:111:ARG:HH21	4:e:111:ARG:CB	2.34	0.41
4:e:165:GLY:O	4:e:168:LEU:HB3	2.20	0.41
5:f:142:GLN:HE21	5:f:142:GLN:HA	1.86	0.41
7:h:50:VAL:HG13	54:1:1083:U:P	2.60	0.41
11:l:91:ASP:CG	11:l:92:LEU:N	2.78	0.41
11:l:93:ASN:O	11:l:94:THR:CB	2.68	0.41
16:q:54:ARG:HG3	54:1:1155:A:OP1	2.21	0.41
19:t:30:ILE:HG23	19:t:85:VAL:HB	2.02	0.41
20:u:80:ASP:OD2	20:u:95:PHE:HB3	2.21	0.41
23:x:19:HIS:ND1	23:x:19:HIS:C	2.78	0.41
27:B:12:ARG:NH2	54:1:517:C:OP1	2.54	0.41
30:E:33:THR:HG22	54:1:2420:C:OP1	2.20	0.41
33:H:13:ILE:HG22	33:H:14:VAL:HG23	2.01	0.41
33:H:23:ALA:HB3	33:H:28:PHE:CD1	2.48	0.41
34:I:115:GLN:HB3	34:I:153:ARG:NH2	2.18	0.41
34:I:118:SER:HA	34:I:130:ASN:HA	2.03	0.41
34:I:122:ILE:CG2	34:I:124:VAL:HG13	2.50	0.41
35:J:98:ALA:O	35:J:101:GLY:N	2.54	0.41
40:O:53:ILE:HG22	40:O:61:ALA:C	2.45	0.41
42:Q:120:ARG:HB2	42:Q:121:PRO:CD	2.46	0.41
47:V:61:ARG:HA	47:V:61:ARG:HD2	1.80	0.41
49:X:41:PRO:O	49:X:44:ILE:HG13	2.21	0.41
53:3:79:G:O2'	53:3:80:A:H5'	2.21	0.41
53:3:267:C:C2'	53:3:268:U:H5'	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:571:U:H2'	53:3:572:A:H5''	2.03	0.41
53:3:744:C:H2'	53:3:745:G:H8	1.85	0.41
53:3:1057:G:H2'	53:3:1058:G:O4'	2.21	0.41
53:3:1106:G:H2'	53:3:1107:C:C6	2.56	0.41
53:3:1383:C:H2'	53:3:1384:C:C6	2.56	0.41
53:3:1458:G:H2'	53:3:1459:G:C8	2.54	0.41
53:3:1473:G:O2'	53:3:1474:U:H5'	2.20	0.41
54:1:1301:A:N1	54:1:1303:G:C5	2.88	0.41
54:1:1388:G:O2'	54:1:1389:G:H5'	2.20	0.41
54:1:1549:A:H2'	54:1:1550:C:H6	1.86	0.41
54:1:1748:C:H2'	54:1:1749:A:C8	2.55	0.41
54:1:1809:A:H2'	54:1:1810:A:C8	2.56	0.41
54:1:2314:A:H2'	54:1:2315:G:C8	2.56	0.41
54:1:2437:G:H2'	54:1:2438:U:C6	2.55	0.41
54:1:2462:C:H1'	54:1:2491:U:O4	2.21	0.41
59:8:55:GLN:HG2	59:8:56:GLU:N	2.36	0.41
59:8:354:LYS:O	59:8:355:ALA:HB3	2.20	0.41
59:8:498:VAL:HG22	59:8:499:THR:N	2.32	0.41
59:8:615:PRO:HB3	59:8:687:TYR:CE1	2.56	0.41
59:8:686:LYS:HE3	59:8:686:LYS:HB3	1.91	0.41
1:b:134:ILE:HD12	1:b:163:ILE:HD11	2.02	0.41
4:e:101:ARG:HH22	26:A:9:TYR:HE1	1.67	0.41
5:f:142:GLN:HA	5:f:142:GLN:NE2	2.36	0.41
6:g:16:GLY:HA3	6:g:47:PHE:HZ	1.85	0.41
7:h:18:VAL:O	7:h:21:GLY:N	2.52	0.41
7:h:57:ASN:HB2	7:h:62:ARG:HD2	2.03	0.41
8:i:11:GLN:NE2	8:i:54:ILE:HB	2.36	0.41
10:k:25:LEU:HD22	54:1:2562:U:H4'	2.02	0.41
10:k:115:ILE:H	10:k:115:ILE:CD1	2.32	0.41
15:p:27:VAL:HG13	15:p:83:ILE:HG13	2.02	0.41
16:q:24:TYR:O	16:q:25:GLY:C	2.63	0.41
22:w:43:ALA:HB1	22:w:47:VAL:HB	2.02	0.41
29:D:14:ARG:HH21	29:D:14:ARG:HG3	1.86	0.41
32:G:75:ALA:CB	32:G:209:VAL:HG21	2.49	0.41
32:G:180:ILE:HD12	32:G:180:ILE:N	2.36	0.41
32:G:208:ALA:O	32:G:211:LEU:HB3	2.20	0.41
34:I:71:PHE:O	34:I:75:TYR:N	2.48	0.41
34:I:82:LYS:H	34:I:88:ASN:ND2	2.19	0.41
34:I:103:ARG:CG	34:I:169:TRP:HE1	2.34	0.41
35:J:111:ARG:HH11	35:J:111:ARG:HG3	1.86	0.41
36:K:11:HIS:O	36:K:15:SER:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:K:36:ILE:HD12	36:K:64:VAL:HB	2.03	0.41
37:L:68:VAL:HG21	37:L:133:ALA:HB1	2.03	0.41
37:L:110:ARG:NH1	37:L:111:GLY:O	2.54	0.41
37:L:138:GLU:O	37:L:142:ARG:N	2.52	0.41
43:R:3:ILE:CG1	43:R:7:ASN:HB2	2.36	0.41
44:S:100:TRP:HB2	53:3:1115:U:H4'	2.03	0.41
45:T:53:ARG:HG2	45:T:53:ARG:HH11	1.86	0.41
47:V:11:VAL:CG1	47:V:54:ILE:HA	2.50	0.41
47:V:40:THR:CG2	47:V:41:THR:N	2.83	0.41
50:Y:66:ILE:CG2	50:Y:70:LYS:HB3	2.51	0.41
53:3:363:A:H2'	53:3:364:A:O4'	2.21	0.41
53:3:549:C:H2'	53:3:550:G:H8	1.84	0.41
53:3:1024:G:C2'	53:3:1025:U:H5'	2.50	0.41
53:3:1107:C:C4	53:3:1108:G:N7	2.89	0.41
54:1:24:G:O2'	54:1:25:U:H5'	2.21	0.41
54:1:112:U:H2'	54:1:113:U:O4'	2.20	0.41
54:1:374:A:H2'	54:1:375:G:O4'	2.21	0.41
54:1:625:G:O2'	54:1:626:A:H5'	2.21	0.41
54:1:766:U:H2'	54:1:767:U:H6	1.85	0.41
54:1:828:U:H4'	54:1:831:G:C2	2.55	0.41
54:1:1218:G:O2'	54:1:1219:U:H5'	2.20	0.41
54:1:2122:U:H2'	54:1:2123:G:O4'	2.20	0.41
54:1:2257:U:H2'	54:1:2258:C:C6	2.56	0.41
54:1:2737:G:H2'	54:1:2738:A:H8	1.85	0.41
54:1:2869:G:H2'	54:1:2870:C:O4'	2.20	0.41
59:8:111:MET:CE	59:8:130:ALA:HB2	2.50	0.41
59:8:136:PRO:HB2	59:8:287:PRO:CD	2.50	0.41
59:8:166:PRO:CB	59:8:262:ILE:HB	2.44	0.41
59:8:465:HIS:O	59:8:469:ILE:HG12	2.21	0.41
1:b:229:HIS:ND1	1:b:229:HIS:C	2.79	0.41
1:b:229:HIS:CE1	1:b:231:HIS:H	2.37	0.41
1:b:252:LYS:HD3	54:1:1901:A:H4'	2.01	0.41
3:d:131:THR:HG21	54:1:320:A:H2'	2.03	0.41
4:e:36:ASN:ND2	54:1:2313:C:O4'	2.53	0.41
4:e:42:ALA:HB2	4:e:49:LEU:HB2	2.03	0.41
4:e:101:ARG:HD2	4:e:139:GLU:CD	2.46	0.41
4:e:175:PRO:O	4:e:176:PHE:CB	2.68	0.41
6:g:4:ILE:CG2	6:g:37:VAL:HG13	2.40	0.41
8:i:24:GLY:HA2	59:8:646:GLU:HA	2.01	0.41
9:j:113:PRO:HD2	54:1:558:U:P	2.60	0.41
9:j:117:ALA:O	9:j:120:ARG:N	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:71:ARG:C	10:k:73:ASP:H	2.29	0.41
11:l:3:LEU:CD2	54:l:1203:U:H5'	2.51	0.41
11:l:95:LEU:HD22	11:l:100:ILE:CD1	2.51	0.41
11:l:139:GLY:O	11:l:140:GLY:C	2.64	0.41
12:m:82:MET:HE1	54:l:956:G:H5'	2.02	0.41
13:n:8:ARG:HB2	13:n:43:GLU:HG3	2.03	0.41
13:n:48:VAL:O	13:n:51:LEU:N	2.54	0.41
14:o:29:HIS:HB3	14:o:36:TYR:HB2	2.03	0.41
14:o:33:ARG:HG2	14:o:34:HIS:N	2.35	0.41
15:p:48:ALA:HB1	15:p:95:LYS:HZ3	1.86	0.41
15:p:101:GLU:O	15:p:102:ARG:C	2.64	0.41
17:r:39:LEU:O	17:r:49:ILE:HG23	2.21	0.41
17:r:59:ILE:HG22	17:r:98:ILE:HD12	2.03	0.41
24:y:5:GLU:HA	24:y:8:GLU:OE2	2.21	0.41
27:B:11:LYS:HA	27:B:14:MET:SD	2.61	0.41
27:B:54:ILE:CG1	27:B:56:LYS:HD3	2.51	0.41
28:C:5:ARG:HG3	28:C:5:ARG:NH1	2.36	0.41
28:C:14:ALA:C	28:C:16:THR:H	2.29	0.41
32:G:169:HIS:HA	32:G:172:ILE:HD12	2.03	0.41
33:H:147:GLY:HA2	33:H:170:GLY:HA3	2.02	0.41
33:H:173:PRO:HG2	33:H:181:ILE:HD11	2.03	0.41
34:I:149:LYS:HD2	34:I:177:MET:SD	2.60	0.41
35:J:134:ASN:ND2	53:3:19:A:OP1	2.53	0.41
36:K:91:ARG:N	36:K:93:LYS:HZ1	2.19	0.41
37:L:30:MET:HE3	37:L:33:GLY:HA2	2.02	0.41
39:N:7:GLY:HA3	39:N:85:ALA:HB2	2.02	0.41
39:N:17:ARG:O	39:N:65:THR:N	2.52	0.41
39:N:41:GLU:O	39:N:44:ARG:CD	2.69	0.41
40:O:9:ARG:HH11	40:O:11:LYS:NZ	2.19	0.41
44:S:100:TRP:OXT	53:3:1186:G:N2	2.54	0.41
45:T:7:THR:O	45:T:11:VAL:HG23	2.21	0.41
47:V:6:THR:HA	47:V:61:ARG:CG	2.50	0.41
49:X:34:SER:OG	49:X:37:SER:HB3	2.21	0.41
49:X:40:PHE:HB3	49:X:42:ASN:OD1	2.21	0.41
51:Z:49:ALA:HA	53:3:723:U:O4	2.21	0.41
52:a:15:VAL:HG13	52:a:222:VAL:HG22	2.01	0.41
52:a:66:PRO:HG2	52:a:67:HIS:CE1	2.55	0.41
53:3:604:G:H2'	53:3:605:U:H6	1.84	0.41
53:3:1130:A:N6	53:3:1144:G:H1'	2.35	0.41
53:3:1446:A:O2'	53:3:1447:A:H5'	2.20	0.41
53:3:1511:G:H2'	53:3:1512:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:56:A:H2'	54:1:57:C:C6	2.55	0.41
54:1:288:U:H2'	54:1:289:G:C8	2.56	0.41
54:1:514:A:O2'	54:1:515:A:H5'	2.20	0.41
54:1:950:G:H2'	54:1:951:C:H6	1.86	0.41
54:1:1403:A:H2'	54:1:1404:C:H6	1.84	0.41
54:1:1495:A:H2'	54:1:1496:A:C8	2.56	0.41
54:1:1500:G:H2'	54:1:1501:G:C8	2.55	0.41
54:1:1642:G:O2'	54:1:1643:G:H5'	2.20	0.41
54:1:1710:G:H2'	54:1:1711:A:H8	1.86	0.41
54:1:1837:C:H2'	54:1:1838:C:H5'	2.01	0.41
54:1:1948:G:O2'	54:1:1949:G:H5'	2.21	0.41
54:1:2650:U:H2'	54:1:2651:C:C6	2.56	0.41
54:1:2849:U:C6	54:1:2867:G:N2	2.89	0.41
55:2:2:G:C5	55:2:3:C:C5	3.09	0.41
55:2:14:U:O2	55:2:107:G:H4'	2.20	0.41
55:2:74:U:H2'	55:2:75:G:O4'	2.20	0.41
55:2:97:C:H2'	55:2:98:G:H5'	2.01	0.41
57:6:26:G:N2	57:6:27:U:H1'	2.36	0.41
59:8:75:MET:HG2	59:8:79:TYR:HB2	2.02	0.41
59:8:318:SER:HB3	59:8:340:SER:N	2.36	0.41
59:8:458:ILE:HD12	59:8:459:ALA:N	2.36	0.41
59:8:501:VAL:HG23	59:8:520:ILE:O	2.20	0.41
59:8:542:GLY:O	59:8:544:VAL:N	2.54	0.41
2:c:5:VAL:HG11	2:c:80:TRP:CZ3	2.56	0.41
2:c:13:ARG:HD2	2:c:21:SER:OG	2.21	0.41
4:e:177:ARG:HH11	4:e:177:ARG:HG2	1.86	0.41
7:h:67:THR:C	7:h:69:PHE:H	2.29	0.41
10:k:98:ARG:NH1	53:3:338:A:H3'	2.35	0.41
12:m:66:ARG:HG3	12:m:101:VAL:O	2.21	0.41
12:m:110:GLU:OE2	12:m:114:ARG:HB2	2.21	0.41
14:o:25:ARG:HG2	14:o:25:ARG:HH21	1.86	0.41
14:o:57:ALA:HA	14:o:60:GLU:OE2	2.21	0.41
16:q:50:ARG:HH11	16:q:50:ARG:HG3	1.86	0.41
19:t:24:MET:O	19:t:28:ASN:HA	2.21	0.41
19:t:32:LEU:N	19:t:32:LEU:CD2	2.82	0.41
22:w:24:GLY:HA2	22:w:62:LYS:HZ1	1.80	0.41
32:G:29:PHE:O	32:G:30:ILE:HG23	2.21	0.41
32:G:72:LYS:O	32:G:74:ALA:N	2.54	0.41
32:G:140:LEU:HD23	32:G:140:LEU:O	2.21	0.41
34:I:72:ARG:O	34:I:76:LYS:HG2	2.21	0.41
34:I:197:HIS:O	34:I:201:GLU:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:28:ARG:HH22	53:3:15:G:C4'	2.19	0.41
36:K:11:HIS:HB2	36:K:83:ALA:HA	2.03	0.41
40:O:16:ARG:HA	40:O:16:ARG:NE	2.36	0.41
45:T:34:GLN:HG2	45:T:58:MET:CE	2.49	0.41
48:W:28:LEU:HG	48:W:58:ILE:CD1	2.51	0.41
49:X:10:ILE:HD13	49:X:40:PHE:CD2	2.56	0.41
50:Y:44:ALA:HB1	50:Y:48:LYS:HE2	2.02	0.41
53:3:21:G:H2'	53:3:22:G:C8	2.55	0.41
53:3:25:C:H2'	53:3:26:A:H8	1.85	0.41
53:3:28:A:H2'	53:3:29:U:O4'	2.22	0.41
53:3:247:G:O2'	53:3:248:C:H5'	2.21	0.41
53:3:262:A:H2'	53:3:263:A:C8	2.56	0.41
53:3:386:C:O2'	53:3:387:U:H5'	2.21	0.41
53:3:949:A:H2'	53:3:950:U:C6	2.56	0.41
53:3:1187:G:O2'	53:3:1188:A:H5'	2.21	0.41
53:3:1365:G:H2'	53:3:1365:G:N3	2.36	0.41
53:3:1524:C:H2'	53:3:1525:G:H8	1.84	0.41
54:1:18:U:H2'	54:1:19:A:C8	2.56	0.41
54:1:30:G:H2'	54:1:31:C:C6	2.55	0.41
54:1:973:A:O4'	54:1:1188:U:C6	2.74	0.41
54:1:1112:G:H2'	54:1:1113:U:C6	2.55	0.41
59:8:422:PRO:HB3	59:8:427:ASP:HB2	2.03	0.41
59:8:564:GLY:O	59:8:566:LEU:N	2.50	0.41
2:c:57:ALA:O	2:c:60:VAL:HG12	2.21	0.40
4:e:101:ARG:NH2	26:A:26:SER:HA	2.36	0.40
5:f:89:VAL:HB	5:f:160:GLY:H	1.85	0.40
7:h:80:THR:O	7:h:82:ILE:HG12	2.21	0.40
9:j:27:ARG:HG2	9:j:27:ARG:HH11	1.86	0.40
9:j:35:ARG:HA	9:j:40:HIS:CD2	2.49	0.40
10:k:18:ARG:HG2	10:k:18:ARG:NH1	2.36	0.40
10:k:76:VAL:H	15:p:72:VAL:CG2	2.30	0.40
17:r:41:ILE:HD13	17:r:103:ALA:HA	2.02	0.40
20:u:47:PRO:HG3	54:1:484:C:OP1	2.21	0.40
21:v:70:ILE:HG22	21:v:72:VAL:HG13	2.03	0.40
22:w:19:VAL:HG12	22:w:20:LYS:N	2.37	0.40
22:w:32:ILE:N	22:w:32:ILE:CD1	2.80	0.40
26:A:56:ARG:HH21	26:A:56:ARG:HG2	1.86	0.40
28:C:16:THR:OG1	28:C:41:VAL:HG11	2.20	0.40
28:C:46:VAL:HG12	28:C:47:ILE:H	1.87	0.40
32:G:71:THR:HG22	32:G:72:LYS:N	2.21	0.40
33:H:54:ILE:HG22	33:H:67:ILE:HA	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:94:PHE:N	35:J:125:LYS:O	2.47	0.40
36:K:8:PHE:HE2	36:K:21:MET:HE1	1.86	0.40
36:K:19:PRO:HA	36:K:22:ILE:CD1	2.45	0.40
39:N:114:LYS:HB2	39:N:117:LEU:HD13	2.04	0.40
39:N:122:ARG:NE	53:3:1350:A:OP1	2.53	0.40
40:O:50:THR:OG1	40:O:64:GLN:HG2	2.21	0.40
42:Q:8:ARG:CB	42:Q:8:ARG:HH11	2.34	0.40
42:Q:11:ARG:HD2	53:3:562:U:H1'	2.03	0.40
42:Q:23:LEU:O	42:Q:26:CYS:HB3	2.21	0.40
42:Q:106:VAL:HG21	42:Q:116:TYR:HD1	1.86	0.40
43:R:16:ILE:HD12	43:R:16:ILE:H	1.86	0.40
44:S:84:ARG:NH1	44:S:88:MET:SD	2.94	0.40
47:V:67:SER:OG	53:3:254:G:H5''	2.21	0.40
49:X:17:LYS:O	49:X:20:LYS:HG2	2.21	0.40
50:Y:48:LYS:O	50:Y:51:ASN:HB2	2.21	0.40
53:3:41:G:C6	53:3:402:G:C6	3.10	0.40
53:3:243:A:H4'	53:3:244:U:H3'	2.03	0.40
53:3:500:G:N2	53:3:546:A:H1'	2.35	0.40
53:3:666:G:H5'	53:3:726:C:H1'	2.02	0.40
53:3:762:U:H2'	53:3:763:G:H8	1.86	0.40
53:3:830:G:H2'	53:3:831:A:H8	1.86	0.40
53:3:872:A:H2'	53:3:872:A:N3	2.36	0.40
53:3:1060:U:H2'	53:3:1061:G:H8	1.86	0.40
54:1:288:U:H2'	54:1:289:G:H8	1.86	0.40
54:1:296:U:H2'	54:1:297:G:H8	1.86	0.40
54:1:303:G:H2'	54:1:304:U:C6	2.56	0.40
54:1:580:U:H2'	54:1:581:C:H6	1.81	0.40
54:1:1141:U:H4'	54:1:1142:A:C1'	2.51	0.40
54:1:1182:G:O2'	54:1:1183:U:H5'	2.21	0.40
54:1:1315:C:O2'	54:1:1316:U:H5'	2.21	0.40
54:1:2026:U:O5'	54:1:2026:U:H6	2.03	0.40
56:5:57:G:H2'	56:5:58:A:H5'	2.02	0.40
59:8:65:SER:HB2	59:8:87:ILE:CD1	2.46	0.40
59:8:161:ARG:HH11	59:8:161:ARG:CB	2.33	0.40
1:b:139:THR:HG23	1:b:160:TYR:CD2	2.55	0.40
11:l:52:GLY:C	11:l:54:GLN:H	2.29	0.40
11:l:55:MET:O	11:l:60:ARG:NH2	2.55	0.40
16:q:30:VAL:HG11	16:q:33:VAL:HG23	2.02	0.40
16:q:74:SER:O	16:q:78:PHE:N	2.53	0.40
17:r:14:VAL:HG23	17:r:18:GLN:NE2	2.35	0.40
19:t:8:LEU:O	24:y:29:ARG:NH1	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:w:56:PHE:CZ	54:1:2365:G:H4'	2.56	0.40
25:z:24:LEU:HD23	25:z:24:LEU:C	2.45	0.40
32:G:110:ILE:HG12	32:G:147:LEU:CD1	2.50	0.40
32:G:163:ILE:O	32:G:163:ILE:HG12	2.21	0.40
33:H:153:SER:O	53:3:1057:G:H5''	2.21	0.40
33:H:194:VAL:HG21	53:3:1205:U:H4'	2.01	0.40
35:J:45:VAL:O	35:J:71:ILE:N	2.46	0.40
37:L:148:LYS:NZ	41:P:51:PHE:HZ	2.19	0.40
40:O:9:ARG:HH11	40:O:9:ARG:HG2	1.86	0.40
49:X:52:ASN:ND2	49:X:57:VAL:HB	2.36	0.40
50:Y:13:SER:HG	53:3:323:U:C4'	2.34	0.40
53:3:130:A:O2'	53:3:264:C:H5'	2.21	0.40
53:3:151:A:H62	53:3:170:U:H3	1.69	0.40
53:3:998:C:O2'	53:3:999:C:H5'	2.20	0.40
53:3:1104:G:O2'	53:3:1105:A:H5'	2.22	0.40
53:3:1386:G:H2'	53:3:1387:G:H8	1.86	0.40
54:1:278:A:C2	54:1:361:G:N2	2.90	0.40
54:1:373:U:H2'	54:1:374:A:H8	1.87	0.40
54:1:467:G:O2'	54:1:468:G:H5'	2.21	0.40
54:1:705:A:H2'	54:1:706:A:H8	1.85	0.40
54:1:759:G:H2'	54:1:760:G:C8	2.55	0.40
54:1:917:A:H5''	54:1:2268:A:H61	1.86	0.40
54:1:1429:G:H2'	54:1:1430:G:H8	1.86	0.40
54:1:1691:C:O2'	54:1:1692:U:H5'	2.21	0.40
54:1:2037:A:H2'	54:1:2038:G:H8	1.86	0.40
54:1:2368:C:H2'	54:1:2369:A:H8	1.85	0.40
54:1:2625:G:H2'	54:1:2626:C:O4'	2.21	0.40
59:8:235:GLU:HA	59:8:238:LEU:HD12	2.03	0.40
1:b:48:ILE:HG22	54:1:779:U:OP1	2.20	0.40
1:b:216:ARG:HH11	1:b:216:ARG:HG2	1.85	0.40
2:c:16:THR:HG23	2:c:20:VAL:O	2.22	0.40
3:d:111:GLU:HG3	3:d:115:GLN:CG	2.49	0.40
7:h:12:VAL:HA	7:h:15:VAL:HB	2.02	0.40
9:j:35:ARG:HD3	9:j:40:HIS:CD2	2.56	0.40
12:m:132:THR:HG22	12:m:133:LYS:N	2.35	0.40
12:m:135:VAL:C	12:m:136:MET:HG3	2.46	0.40
20:u:12:VAL:HA	20:u:69:VAL:HG12	2.04	0.40
33:H:71:ARG:HD3	33:H:74:ILE:CD1	2.41	0.40
34:I:151:GLN:O	34:I:152:SER:CB	2.70	0.40
34:I:198:LEU:O	34:I:202:LEU:HB2	2.21	0.40
35:J:125:LYS:HD2	35:J:126:ALA:H	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:K:7:VAL:HA	36:K:60:VAL:O	2.21	0.40
37:L:24:LYS:O	37:L:28:ILE:HG13	2.21	0.40
38:M:85:TYR:CD2	53:3:598:U:H4'	2.56	0.40
39:N:27:ILE:HB	39:N:34:LEU:HB2	2.02	0.40
39:N:71:ILE:HD11	53:3:1248:A:C2	2.56	0.40
39:N:105:ARG:HG2	39:N:105:ARG:HH11	1.86	0.40
41:P:93:GLU:O	41:P:94:SER:C	2.63	0.40
44:S:2:LYS:CA	53:3:1048:G:H5''	2.46	0.40
46:U:69:ASP:C	46:U:71:VAL:N	2.77	0.40
53:3:663:A:H2'	53:3:664:G:O4'	2.21	0.40
53:3:721:G:C2	53:3:733:G:C6	3.10	0.40
53:3:728:A:H2'	53:3:729:A:C8	2.57	0.40
53:3:874:G:O2'	53:3:875:U:H5'	2.20	0.40
53:3:939:G:N2	53:3:1375:A:H2	2.20	0.40
53:3:1062:U:H2'	53:3:1063:C:C6	2.57	0.40
53:3:1075:U:H2'	53:3:1076:U:C6	2.55	0.40
53:3:1190:G:OP1	53:3:1190:G:H3'	2.21	0.40
54:1:291:G:H2'	54:1:292:U:C6	2.56	0.40
54:1:1260:A:H2'	54:1:1261:C:H6	1.85	0.40
54:1:1297:C:OP1	54:1:2710:C:H4'	2.21	0.40
54:1:1494:A:H2	54:1:1579:A:H4'	1.86	0.40
54:1:1563:U:H2'	54:1:1564:C:C6	2.57	0.40
54:1:2230:G:H2'	54:1:2231:U:C6	2.56	0.40
54:1:2447:G:C4	54:1:2500:U:C5	3.09	0.40
54:1:2536:G:H2'	54:1:2537:U:O4'	2.22	0.40
54:1:2570:G:C2'	54:1:2571:U:H5'	2.50	0.40
55:2:111:U:H2'	55:2:112:G:C8	2.57	0.40
59:8:619:VAL:HA	59:8:681:THR:O	2.21	0.40
2:c:27:ILE:HG13	2:c:27:ILE:O	2.20	0.40
3:d:99:LYS:O	3:d:103:GLY:N	2.50	0.40
4:e:69:ALA:O	4:e:81:GLY:N	2.47	0.40
5:f:97:VAL:HG22	5:f:102:ILE:HG12	2.03	0.40
6:g:8:LYS:HZ2	6:g:15:LEU:HD22	1.86	0.40
6:g:38:PRO:O	6:g:43:ASN:HB2	2.22	0.40
11:l:19:LEU:HD22	11:l:31:GLY:CA	2.51	0.40
13:n:27:SER:O	13:n:30:ARG:N	2.54	0.40
13:n:45:ARG:C	13:n:47:VAL:H	2.28	0.40
19:t:20:ALA:HA	19:t:31:VAL:HG21	2.02	0.40
21:v:26:PHE:O	21:v:42:LEU:HD23	2.22	0.40
21:v:51:GLN:OE1	21:v:86:LEU:HD11	2.21	0.40
24:y:20:ASN:O	24:y:25:GLN:HB3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:z:29:ARG:O	25:z:30:ARG:HG3	2.21	0.40
37:L:76:SER:HB2	37:L:85:GLN:HB3	2.04	0.40
39:N:112:ARG:NH1	39:N:114:LYS:CD	2.84	0.40
41:P:12:ARG:HG3	41:P:13:LYS:N	2.26	0.40
41:P:44:ALA:HB3	41:P:69:CYS:HB2	2.03	0.40
41:P:106:ILE:HB	51:Z:11:PHE:HE2	1.85	0.40
42:Q:22:ALA:HB3	42:Q:94:TYR:CZ	2.57	0.40
42:Q:115:LYS:HB2	42:Q:115:LYS:HE3	1.93	0.40
43:R:15:VAL:HG11	43:R:40:GLU:OE1	2.22	0.40
43:R:33:LEU:O	43:R:37:GLY:N	2.54	0.40
44:S:27:LYS:HD3	44:S:47:LEU:HD13	2.03	0.40
45:T:50:HIS:CE1	53:3:667:G:H4'	2.57	0.40
46:U:18:GLN:OE1	46:U:35:ARG:NE	2.55	0.40
47:V:63:CYS:SG	47:V:71:SER:C	3.04	0.40
48:W:48:ALA:O	48:W:51:GLN:HB3	2.21	0.40
49:X:30:LEU:HD12	49:X:30:LEU:N	2.36	0.40
52:a:7:ARG:HH21	52:a:7:ARG:CG	2.35	0.40
53:3:51:A:H4'	53:3:52:C:C5'	2.51	0.40
53:3:635:A:H2'	53:3:636:U:C6	2.56	0.40
53:3:751:U:H2'	53:3:752:G:H5'	2.03	0.40
53:3:939:G:O2'	53:3:940:C:H5'	2.22	0.40
53:3:1238:A:N7	53:3:1303:C:H1'	2.36	0.40
53:3:1239:A:N6	53:3:1299:A:C2	2.74	0.40
53:3:1504:G:OP1	53:3:1507:A:H4'	2.21	0.40
54:1:357:C:H2'	54:1:358:U:C6	2.55	0.40
54:1:568:U:H2'	54:1:570:G:OP2	2.22	0.40
54:1:818:G:O2'	54:1:819:A:H5''	2.22	0.40
54:1:859:G:O2'	54:1:860:U:C6	2.69	0.40
54:1:1101:U:H2'	54:1:1102:C:H6	1.85	0.40
54:1:1139:G:HO2'	54:1:1140:C:H5'	1.86	0.40
54:1:1625:C:H2'	54:1:1626:A:O4'	2.21	0.40
59:8:652:VAL:O	59:8:652:VAL:HG23	2.20	0.40
4:e:103:ILE:HA	4:e:107:VAL:CG2	2.52	0.40
9:j:80:HIS:ND1	9:j:81:ILE:N	2.70	0.40
10:k:111:LYS:O	10:k:113:MET:N	2.55	0.40
11:l:131:ALA:O	11:l:135:ILE:HG12	2.21	0.40
19:t:11:LEU:HD13	19:t:34:VAL:HG12	2.04	0.40
19:t:70:HIS:O	19:t:72:GLN:N	2.52	0.40
20:u:41:VAL:CG2	20:u:60:LYS:HB2	2.52	0.40
23:x:2:ARG:HH11	23:x:2:ARG:HG3	1.87	0.40
26:A:60:PHE:CE1	49:X:67:GLY:HA2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:35:ASP:O	33:H:38:VAL:HG22	2.22	0.40
34:I:15:GLY:CA	34:I:34:GLU:HG3	2.50	0.40
34:I:64:TYR:OH	34:I:93:LEU:HD13	2.21	0.40
34:I:199:ILE:HG22	34:I:203:TYR:CD2	2.56	0.40
35:J:92:ARG:HB2	35:J:127:TYR:O	2.22	0.40
41:P:96:ILE:O	41:P:99:LEU:HB3	2.21	0.40
44:S:27:LYS:HD3	44:S:47:LEU:HD22	2.03	0.40
44:S:34:ASN:CG	44:S:35:ALA:N	2.79	0.40
45:T:50:HIS:ND1	53:3:667:G:H4'	2.37	0.40
45:T:74:VAL:O	45:T:77:TYR:HB3	2.21	0.40
47:V:39:ARG:CG	47:V:39:ARG:NH1	2.83	0.40
50:Y:48:LYS:O	50:Y:52:GLU:N	2.49	0.40
51:Z:56:ALA:O	51:Z:59:LEU:HG	2.22	0.40
52:a:7:ARG:HD2	54:1:2128:G:O3'	2.22	0.40
52:a:168:ASN:CB	52:a:170:ILE:HD12	2.51	0.40
53:3:256:U:H2'	53:3:257:G:H8	1.86	0.40
53:3:354:G:H2'	53:3:355:C:C5'	2.52	0.40
53:3:401:C:H4'	53:3:622:A:O4'	2.22	0.40
53:3:502:A:H4'	53:3:550:G:H4'	2.04	0.40
53:3:628:G:O2'	53:3:629:A:H5'	2.21	0.40
53:3:1245:C:H2'	53:3:1246:A:C8	2.56	0.40
53:3:1351:U:O2'	53:3:1352:C:H5'	2.22	0.40
53:3:1521:C:H2'	53:3:1522:U:C6	2.57	0.40
54:1:308:G:N2	54:1:329:G:H1'	2.37	0.40
54:1:1182:G:H2'	54:1:1183:U:O4'	2.22	0.40
54:1:1637:A:H2'	54:1:1638:C:C6	2.57	0.40
54:1:1719:G:H2'	54:1:1720:U:C6	2.57	0.40
54:1:2358:A:H2'	54:1:2359:C:O4'	2.21	0.40
54:1:2469:A:H2'	54:1:2470:G:O4'	2.22	0.40
54:1:2670:A:O2'	54:1:2671:G:H5'	2.22	0.40
59:8:144:MET:HE2	59:8:144:MET:HA	2.04	0.40
59:8:195:ASP:C	59:8:197:ASP:H	2.29	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%)	223 (83%)	43 (16%)	3 (1%)	11	38
2	c	207/209 (99%)	177 (86%)	30 (14%)	0	100	100
3	d	199/201 (99%)	166 (83%)	31 (16%)	2 (1%)	12	40
4	e	175/177 (99%)	141 (81%)	31 (18%)	3 (2%)	7	28
5	f	174/176 (99%)	155 (89%)	17 (10%)	2 (1%)	11	38
6	g	121/149 (81%)	99 (82%)	17 (14%)	5 (4%)	2	15
7	h	82/131 (63%)	57 (70%)	23 (28%)	2 (2%)	4	22
8	i	72/141 (51%)	52 (72%)	19 (26%)	1 (1%)	9	31
9	j	140/142 (99%)	119 (85%)	20 (14%)	1 (1%)	18	47
10	k	120/122 (98%)	102 (85%)	16 (13%)	2 (2%)	7	28
11	l	141/143 (99%)	110 (78%)	29 (21%)	2 (1%)	9	31
12	m	134/136 (98%)	115 (86%)	18 (13%)	1 (1%)	18	47
13	n	118/120 (98%)	97 (82%)	20 (17%)	1 (1%)	16	44
14	o	114/116 (98%)	94 (82%)	20 (18%)	0	100	100
15	p	112/114 (98%)	97 (87%)	14 (12%)	1 (1%)	14	42
16	q	115/117 (98%)	106 (92%)	9 (8%)	0	100	100
17	r	101/103 (98%)	82 (81%)	17 (17%)	2 (2%)	6	25
18	s	108/110 (98%)	91 (84%)	17 (16%)	0	100	100
19	t	91/93 (98%)	78 (86%)	13 (14%)	0	100	100
20	u	100/102 (98%)	80 (80%)	16 (16%)	4 (4%)	2	15
21	v	92/94 (98%)	78 (85%)	14 (15%)	0	100	100
22	w	73/75 (97%)	63 (86%)	10 (14%)	0	100	100
23	x	75/77 (97%)	70 (93%)	5 (7%)	0	100	100
24	y	61/63 (97%)	55 (90%)	5 (8%)	1 (2%)	7	29
25	z	56/58 (97%)	53 (95%)	2 (4%)	1 (2%)	6	26
26	A	64/66 (97%)	51 (80%)	13 (20%)	0	100	100
27	B	54/56 (96%)	44 (82%)	10 (18%)	0	100	100
28	C	48/50 (96%)	42 (88%)	6 (12%)	0	100	100
29	D	44/46 (96%)	37 (84%)	7 (16%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	E	62/64 (97%)	50 (81%)	10 (16%)	2 (3%)	3	17
31	F	36/38 (95%)	30 (83%)	6 (17%)	0	100	100
32	G	216/225 (96%)	173 (80%)	37 (17%)	6 (3%)	4	19
33	H	204/206 (99%)	177 (87%)	23 (11%)	4 (2%)	6	25
34	I	203/205 (99%)	160 (79%)	39 (19%)	4 (2%)	6	25
35	J	155/157 (99%)	122 (79%)	28 (18%)	5 (3%)	3	17
36	K	98/100 (98%)	83 (85%)	15 (15%)	0	100	100
37	L	149/151 (99%)	129 (87%)	17 (11%)	3 (2%)	6	25
38	M	127/129 (98%)	109 (86%)	17 (13%)	1 (1%)	16	44
39	N	125/127 (98%)	103 (82%)	20 (16%)	2 (2%)	7	29
40	O	96/98 (98%)	74 (77%)	20 (21%)	2 (2%)	5	24
41	P	114/116 (98%)	95 (83%)	17 (15%)	2 (2%)	6	26
42	Q	121/123 (98%)	82 (68%)	33 (27%)	6 (5%)	1	10
43	R	112/114 (98%)	92 (82%)	18 (16%)	2 (2%)	6	26
44	S	98/100 (98%)	81 (83%)	16 (16%)	1 (1%)	12	40
45	T	86/88 (98%)	74 (86%)	11 (13%)	1 (1%)	10	35
46	U	80/82 (98%)	61 (76%)	17 (21%)	2 (2%)	4	21
47	V	78/80 (98%)	58 (74%)	17 (22%)	3 (4%)	2	15
48	W	63/65 (97%)	55 (87%)	7 (11%)	1 (2%)	7	29
49	X	77/79 (98%)	65 (84%)	12 (16%)	0	100	100
50	Y	83/85 (98%)	73 (88%)	10 (12%)	0	100	100
51	Z	63/65 (97%)	38 (60%)	22 (35%)	3 (5%)	2	11
52	a	130/223 (58%)	113 (87%)	15 (12%)	2 (2%)	8	30
59	8	681/711 (96%)	552 (81%)	121 (18%)	8 (1%)	10	35
All	All	6517/6889 (95%)	5383 (83%)	1040 (16%)	94 (1%)	11	31

All (94) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	d	84	THR
4	e	175	PRO
4	e	176	PHE
6	g	14	SER
6	g	50	ARG

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Mol	Chain	Res	Type
7	h	80	THR
17	r	54	VAL
24	y	24	GLU
30	E	31	ILE
34	I	7	LYS
35	J	87	VAL
39	N	90	ASP
45	T	46	LYS
51	Z	8	ASN
59	8	501	VAL
59	8	586	VAL
59	8	624	PRO
5	f	174	LYS
6	g	9	VAL
6	g	41	LYS
32	G	19	THR
32	G	87	ASP
32	G	149	GLY
33	H	3	LYS
34	I	4	LEU
35	J	93	VAL
37	L	6	ILE
41	P	89	GLY
42	Q	101	LEU
42	Q	117	GLY
51	Z	12	ASP
51	Z	37	TYR
59	8	78	GLN
59	8	628	THR
1	b	40	GLY
7	h	81	LEU
9	j	81	ILE
20	u	97	SER
33	H	47	ALA
34	I	29	THR
34	I	125	ASN
35	J	11	GLN
35	J	25	LYS
40	O	43	PRO
43	R	5	GLY
43	R	65	GLU
44	S	3	GLN

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Mol	Chain	Res	Type
46	U	43	ALA
48	W	17	VAL
59	8	543	GLY
1	b	149	LYS
11	l	31	GLY
11	l	52	GLY
20	u	87	GLU
20	u	98	ASN
40	O	34	ALA
41	P	125	LYS
42	Q	23	LEU
42	Q	41	PRO
47	V	49	ASN
52	a	30	LEU
59	8	198	GLN
4	e	39	VAL
10	k	110	GLU
12	m	69	PRO
13	n	117	ASP
20	u	99	SER
32	G	28	PRO
37	L	48	THR
39	N	120	ALA
52	a	200	LYS
32	G	148	GLY
42	Q	98	ARG
46	U	79	ASN
47	V	50	ASN
8	i	4	VAL
35	J	160	VAL
38	M	91	LEU
5	f	60	GLY
25	z	13	ILE
1	b	150	GLY
6	g	118	PRO
10	k	35	VAL
17	r	8	GLY
30	E	62	PRO
32	G	12	GLY
33	H	72	PRO
3	d	83	VAL
37	L	63	VAL

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Mol	Chain	Res	Type
42	Q	3	VAL
47	V	65	PRO
15	p	104	GLY
33	H	8	GLY
59	8	212	VAL

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	66
2	c	164/164 (100%)	163 (99%)	1 (1%)	78	80
3	d	165/165 (100%)	162 (98%)	3 (2%)	51	67
4	e	148/148 (100%)	145 (98%)	3 (2%)	48	65
5	f	137/137 (100%)	136 (99%)	1 (1%)	76	78
6	g	98/114 (86%)	94 (96%)	4 (4%)	27	52
7	h	66/100 (66%)	64 (97%)	2 (3%)	36	59
8	i	60/109 (55%)	59 (98%)	1 (2%)	53	67
9	j	116/116 (100%)	114 (98%)	2 (2%)	53	67
10	k	103/103 (100%)	102 (99%)	1 (1%)	68	75
11	l	102/102 (100%)	102 (100%)	0	100	100
12	m	109/109 (100%)	104 (95%)	5 (5%)	24	50
13	n	100/100 (100%)	97 (97%)	3 (3%)	36	59
14	o	86/86 (100%)	83 (96%)	3 (4%)	32	56
15	p	99/99 (100%)	97 (98%)	2 (2%)	48	65
16	q	89/89 (100%)	88 (99%)	1 (1%)	65	74
17	r	84/84 (100%)	84 (100%)	0	100	100
18	s	93/93 (100%)	92 (99%)	1 (1%)	65	74
19	t	80/80 (100%)	78 (98%)	2 (2%)	42	62
20	u	83/83 (100%)	82 (99%)	1 (1%)	63	72

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
21	v	78/78 (100%)	76 (97%)	2 (3%)	40	61
22	w	57/57 (100%)	56 (98%)	1 (2%)	51	67
23	x	67/67 (100%)	65 (97%)	2 (3%)	36	59
24	y	55/55 (100%)	55 (100%)	0	100	100
25	z	48/48 (100%)	48 (100%)	0	100	100
26	A	59/59 (100%)	59 (100%)	0	100	100
27	B	47/47 (100%)	46 (98%)	1 (2%)	47	64
28	C	45/45 (100%)	44 (98%)	1 (2%)	45	63
29	D	38/38 (100%)	38 (100%)	0	100	100
30	E	51/51 (100%)	50 (98%)	1 (2%)	48	65
31	F	34/34 (100%)	33 (97%)	1 (3%)	37	60
32	G	180/186 (97%)	179 (99%)	1 (1%)	78	80
33	H	170/170 (100%)	166 (98%)	4 (2%)	43	62
34	I	172/172 (100%)	169 (98%)	3 (2%)	53	67
35	J	119/119 (100%)	116 (98%)	3 (2%)	42	62
36	K	87/87 (100%)	86 (99%)	1 (1%)	65	74
37	L	124/124 (100%)	123 (99%)	1 (1%)	73	77
38	M	104/104 (100%)	102 (98%)	2 (2%)	50	66
39	N	105/105 (100%)	101 (96%)	4 (4%)	29	54
40	O	86/86 (100%)	83 (96%)	3 (4%)	32	56
41	P	89/89 (100%)	89 (100%)	0	100	100
42	Q	103/103 (100%)	99 (96%)	4 (4%)	28	53
43	R	92/92 (100%)	92 (100%)	0	100	100
44	S	83/83 (100%)	80 (96%)	3 (4%)	31	56
45	T	76/76 (100%)	74 (97%)	2 (3%)	40	61
46	U	65/65 (100%)	60 (92%)	5 (8%)	12	37
47	V	74/74 (100%)	73 (99%)	1 (1%)	59	70
48	W	56/56 (100%)	55 (98%)	1 (2%)	51	67
49	X	70/70 (100%)	69 (99%)	1 (1%)	59	70
50	Y	65/65 (100%)	64 (98%)	1 (2%)	57	69
51	Z	55/55 (100%)	52 (94%)	3 (6%)	19	46

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	a	110/174 (63%)	107 (97%)	3 (3%)	39	60
59	8	566/585 (97%)	552 (98%)	14 (2%)	42	62
All	All	5428/5616 (97%)	5319 (98%)	109 (2%)	48	65

All (109) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	b	9	SER
1	b	53	ILE
1	b	155	ARG
1	b	259	ASN
2	c	129	THR
3	d	83	VAL
3	d	102	ARG
3	d	198	GLU
4	e	25	MET
4	e	30	VAL
4	e	140	ILE
5	f	46	ASP
6	g	11	ASN
6	g	12	LEU
6	g	21	VAL
6	g	124	THR
7	h	14	GLU
7	h	50	VAL
8	i	18	ASN
9	j	88	THR
9	j	101	ILE
10	k	37	ASP
12	m	17	ASN
12	m	36	VAL
12	m	63	ILE
12	m	91	TYR
12	m	97	GLN
13	n	16	HIS
13	n	97	ILE
13	n	107	ASN
14	o	31	THR
14	o	46	GLU
14	o	60	GLU
15	p	3	ILE

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Mol	Chain	Res	Type
15	p	80	VAL
16	q	48	ASP
18	s	66	ILE
19	t	32	LEU
19	t	91	GLN
20	u	82	VAL
21	v	42	LEU
21	v	76	ASP
22	w	32	ILE
23	x	35	HIS
23	x	69	GLU
27	B	24	VAL
28	C	46	VAL
30	E	61	LEU
31	F	23	ILE
32	G	61	SER
33	H	52	SER
33	H	54	ILE
33	H	152	VAL
33	H	161	ILE
34	I	35	GLN
34	I	115	GLN
34	I	181	PHE
35	J	42	ASN
35	J	47	PHE
35	J	160	VAL
36	K	59	TYR
37	L	37	THR
38	M	3	GLN
38	M	60	LEU
39	N	27	ILE
39	N	34	LEU
39	N	65	THR
39	N	87	MET
40	O	15	HIS
40	O	19	ASP
40	O	32	THR
42	Q	50	LYS
42	Q	57	THR
42	Q	63	THR
42	Q	118	VAL
44	S	3	GLN

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Mol	Chain	Res	Type
44	S	61	ASN
44	S	78	LEU
45	T	20	ASP
45	T	55	LEU
46	U	1	MET
46	U	33	ILE
46	U	34	GLU
46	U	63	GLN
46	U	79	ASN
47	V	49	ASN
48	W	28	LEU
49	X	77	ARG
50	Y	22	SER
51	Z	11	PHE
51	Z	23	GLU
51	Z	35	GLU
52	a	16	ASP
52	a	63	THR
52	a	163	TYR
59	8	11	ARG
59	8	19	ILE
59	8	24	THR
59	8	145	ASP
59	8	167	VAL
59	8	201	THR
59	8	244	THR
59	8	409	MET
59	8	442	ASP
59	8	487	GLN
59	8	507	LYS
59	8	624	PRO
59	8	645	GLN
59	8	648	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (89) such sidechains are listed below:

Mol	Chain	Res	Type
1	b	36	ASN
1	b	85	ASN
1	b	196	ASN
1	b	225	ASN
2	c	32	ASN

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Mol	Chain	Res	Type
2	c	49	GLN
2	c	134	HIS
2	c	173	GLN
3	d	41	GLN
3	d	90	GLN
3	d	115	GLN
3	d	195	GLN
4	e	20	ASN
4	e	134	GLN
5	f	87	GLN
5	f	142	GLN
6	g	145	ASN
9	j	76	HIS
10	k	9	ASN
11	l	38	GLN
12	m	97	GLN
13	n	13	ASN
13	n	73	ASN
14	o	61	GLN
15	p	6	GLN
15	p	55	HIS
15	p	114	ASN
16	q	51	GLN
17	r	18	GLN
17	r	87	GLN
18	s	9	HIS
18	s	31	GLN
18	s	40	ASN
19	t	48	GLN
22	w	46	ASN
22	w	53	HIS
23	x	22	ASN
24	y	41	HIS
26	A	61	ASN
32	G	35	ASN
32	G	50	ASN
32	G	102	ASN
33	H	2	GLN
33	H	7	ASN
33	H	68	HIS
33	H	99	GLN
33	H	175	HIS

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Mol	Chain	Res	Type
34	I	58	GLN
34	I	88	ASN
34	I	130	ASN
34	I	195	ASN
35	J	11	GLN
35	J	81	GLN
35	J	121	ASN
35	J	134	ASN
35	J	145	ASN
36	K	52	ASN
37	L	67	ASN
37	L	121	ASN
38	M	37	ASN
38	M	66	GLN
38	M	117	GLN
39	N	24	ASN
41	P	28	ASN
41	P	108	ASN
41	P	118	ASN
43	R	7	ASN
44	S	70	HIS
45	T	19	ASN
45	T	49	HIS
46	U	9	HIS
47	V	30	HIS
47	V	44	HIS
48	W	53	GLN
50	Y	51	ASN
50	Y	69	ASN
52	a	24	ASN
52	a	57	GLN
52	a	188	ASN
52	a	203	GLN
59	8	18	HIS
59	8	142	ASN
59	8	165	ASN
59	8	192	ASN
59	8	194	ASN
59	8	254	GLN
59	8	538	ASN
59	8	560	GLN
59	8	579	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
53	3	1538/1539 (99%)	169 (10%)	5 (0%)
54	1	2902/2903 (99%)	350 (12%)	11 (0%)
55	2	119/120 (99%)	12 (10%)	2 (1%)
56	5	76/77 (98%)	13 (17%)	2 (2%)
57	6	76/77 (98%)	19 (25%)	0
58	4	15/16 (93%)	3 (20%)	0
All	All	4726/4732 (99%)	566 (11%)	20 (0%)

All (566) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
53	3	6	G
53	3	9	G
53	3	22	G
53	3	32	A
53	3	36	C
53	3	39	G
53	3	48	C
53	3	51	A
53	3	54	C
53	3	71	A
53	3	85	U
53	3	87	C
53	3	100	G
53	3	101	A
53	3	110	C
53	3	127	G
53	3	144	G
53	3	173	U
53	3	183	C
53	3	184	G
53	3	197	A
53	3	210	C
53	3	214	C
53	3	226	G
53	3	247	G
53	3	251	G
53	3	253	A
53	3	266	G
53	3	279	A
53	3	281	G

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Mol	Chain	Res	Type
53	3	289	G
53	3	328	C
53	3	345	C
53	3	346	G
53	3	351	G
53	3	352	C
53	3	355	C
53	3	363	A
53	3	367	U
53	3	372	C
53	3	403	C
53	3	411	A
53	3	412	A
53	3	413	G
53	3	422	C
53	3	429	U
53	3	467	U
53	3	485	U
53	3	486	U
53	3	496	A
53	3	518	C
53	3	529	G
53	3	532	A
53	3	547	A
53	3	561	U
53	3	572	A
53	3	573	A
53	3	575	G
53	3	576	C
53	3	577	G
53	3	596	A
53	3	633	G
53	3	642	A
53	3	665	A
53	3	687	A
53	3	688	G
53	3	702	A
53	3	703	G
53	3	713	G
53	3	724	G
53	3	755	G
53	3	777	A

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Mol	Chain	Res	Type
53	3	814	A
53	3	817	C
53	3	818	G
53	3	819	A
53	3	821	G
53	3	842	U
53	3	843	U
53	3	844	G
53	3	846	G
53	3	871	U
53	3	873	A
53	3	890	G
53	3	902	G
53	3	921	U
53	3	922	G
53	3	926	G
53	3	927	G
53	3	934	C
53	3	935	A
53	3	960	U
53	3	961	U
53	3	966	G
53	3	969	A
53	3	975	A
53	3	976	G
53	3	977	A
53	3	992	U
53	3	993	G
53	3	1004	A
53	3	1028	C
53	3	1030	U
53	3	1031	C
53	3	1032	G
53	3	1033	G
53	3	1034	G
53	3	1053	G
53	3	1068	G
53	3	1086	U
53	3	1094	G
53	3	1101	A
53	3	1136	C
53	3	1137	C

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Mol	Chain	Res	Type
53	3	1138	G
53	3	1139	G
53	3	1159	U
53	3	1168	U
53	3	1182	G
53	3	1184	G
53	3	1191	A
53	3	1196	A
53	3	1197	A
53	3	1201	A
53	3	1202	U
53	3	1207	G
53	3	1213	A
53	3	1225	A
53	3	1238	A
53	3	1240	U
53	3	1241	G
53	3	1257	A
53	3	1258	G
53	3	1260	G
53	3	1275	A
53	3	1278	G
53	3	1280	A
53	3	1282	C
53	3	1286	U
53	3	1287	A
53	3	1300	G
53	3	1301	U
53	3	1317	C
53	3	1320	C
53	3	1346	A
53	3	1347	G
53	3	1363	A
53	3	1394	A
53	3	1397	C
53	3	1398	A
53	3	1399	C
53	3	1400	C
53	3	1401	G
53	3	1446	A
53	3	1448	C
53	3	1452	C

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Mol	Chain	Res	Type
53	3	1492	A
53	3	1494	G
53	3	1502	A
53	3	1503	A
53	3	1505	G
53	3	1506	U
53	3	1517	G
53	3	1529	G
53	3	1530	G
53	3	1535	C
53	3	1537	U
53	3	1539	C
53	3	1540	U
54	1	10	A
54	1	12	U
54	1	34	U
54	1	35	G
54	1	46	G
54	1	51	G
54	1	63	A
54	1	71	A
54	1	74	A
54	1	75	G
54	1	84	A
54	1	98	G
54	1	102	U
54	1	119	A
54	1	120	U
54	1	125	A
54	1	139	U
54	1	140	C
54	1	141	G
54	1	142	A
54	1	162	U
54	1	163	C
54	1	181	A
54	1	196	A
54	1	199	A
54	1	216	A
54	1	221	A
54	1	222	A
54	1	228	C

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Mol	Chain	Res	Type
54	1	229	C
54	1	248	G
54	1	249	C
54	1	255	A
54	1	265	A
54	1	266	G
54	1	276	U
54	1	278	A
54	1	281	C
54	1	294	A
54	1	301	G
54	1	311	A
54	1	323	C
54	1	324	A
54	1	329	G
54	1	330	A
54	1	361	G
54	1	371	A
54	1	372	G
54	1	386	G
54	1	387	U
54	1	404	A
54	1	405	U
54	1	406	G
54	1	411	G
54	1	424	G
54	1	457	A
54	1	481	G
54	1	491	G
54	1	504	A
54	1	505	A
54	1	529	A
54	1	530	G
54	1	531	C
54	1	532	A
54	1	543	G
54	1	545	U
54	1	547	A
54	1	563	A
54	1	573	U
54	1	574	A
54	1	575	A

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Mol	Chain	Res	Type
54	1	588	U
54	1	603	A
54	1	614	A
54	1	616	A
54	1	627	A
54	1	637	A
54	1	646	U
54	1	654	A
54	1	669	G
54	1	686	U
54	1	687	C
54	1	695	G
54	1	730	A
54	1	747	C
54	1	752	A
54	1	764	A
54	1	776	G
54	1	782	A
54	1	784	G
54	1	785	G
54	1	789	A
54	1	805	G
54	1	812	C
54	1	819	A
54	1	827	U
54	1	828	U
54	1	830	G
54	1	845	A
54	1	846	U
54	1	847	U
54	1	858	G
54	1	859	G
54	1	860	U
54	1	878	A
54	1	886	A
54	1	887	U
54	1	896	A
54	1	897	C
54	1	910	A
54	1	932	U
54	1	941	A
54	1	946	C

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Mol	Chain	Res	Type
54	1	959	A
54	1	961	C
54	1	974	G
54	1	983	A
54	1	995	C
54	1	996	A
54	1	1005	C
54	1	1012	U
54	1	1013	C
54	1	1021	A
54	1	1022	G
54	1	1033	U
54	1	1046	A
54	1	1047	G
54	1	1054	A
54	1	1060	U
54	1	1062	G
54	1	1063	G
54	1	1064	C
54	1	1065	U
54	1	1066	U
54	1	1068	G
54	1	1070	A
54	1	1071	G
54	1	1079	C
54	1	1084	A
54	1	1088	A
54	1	1104	C
54	1	1106	G
54	1	1111	A
54	1	1131	G
54	1	1132	U
54	1	1133	A
54	1	1135	C
54	1	1142	A
54	1	1174	U
54	1	1175	A
54	1	1177	G
54	1	1180	U
54	1	1212	G
54	1	1251	C
54	1	1253	A

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Mol	Chain	Res	Type
54	1	1256	G
54	1	1271	G
54	1	1272	A
54	1	1275	A
54	1	1300	G
54	1	1301	A
54	1	1329	U
54	1	1330	C
54	1	1332	G
54	1	1345	C
54	1	1365	A
54	1	1378	A
54	1	1379	U
54	1	1383	A
54	1	1395	A
54	1	1398	C
54	1	1416	G
54	1	1419	A
54	1	1420	A
54	1	1454	C
54	1	1461	C
54	1	1467	U
54	1	1476	U
54	1	1482	G
54	1	1490	A
54	1	1491	G
54	1	1498	C
54	1	1504	A
54	1	1515	A
54	1	1524	G
54	1	1533	C
54	1	1535	A
54	1	1536	C
54	1	1555	G
54	1	1559	U
54	1	1560	G
54	1	1569	A
54	1	1581	G
54	1	1584	U
54	1	1585	C
54	1	1608	A
54	1	1611	C

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Mol	Chain	Res	Type
54	1	1616	A
54	1	1646	C
54	1	1647	U
54	1	1648	U
54	1	1674	G
54	1	1715	G
54	1	1729	U
54	1	1730	C
54	1	1738	G
54	1	1758	U
54	1	1764	C
54	1	1773	A
54	1	1780	A
54	1	1800	C
54	1	1801	A
54	1	1802	A
54	1	1808	A
54	1	1816	C
54	1	1847	A
54	1	1848	A
54	1	1871	A
54	1	1901	A
54	1	1906	G
54	1	1907	G
54	1	1913	A
54	1	1914	C
54	1	1915	U
54	1	1929	G
54	1	1930	G
54	1	1937	A
54	1	1938	A
54	1	1955	U
54	1	1966	A
54	1	1967	C
54	1	1970	A
54	1	1971	U
54	1	1972	G
54	1	1982	U
54	1	1991	U
54	1	1993	U
54	1	1997	C
54	1	2022	U

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Mol	Chain	Res	Type
54	1	2023	C
54	1	2031	A
54	1	2036	C
54	1	2043	C
54	1	2049	G
54	1	2055	C
54	1	2056	G
54	1	2060	A
54	1	2061	G
54	1	2062	A
54	1	2069	G
54	1	2072	C
54	1	2093	G
54	1	2096	C
54	1	2098	U
54	1	2110	G
54	1	2111	U
54	1	2112	G
54	1	2113	U
54	1	2114	A
54	1	2118	U
54	1	2119	A
54	1	2131	U
54	1	2132	U
54	1	2133	G
54	1	2145	C
54	1	2147	A
54	1	2162	G
54	1	2171	A
54	1	2172	U
54	1	2173	A
54	1	2189	U
54	1	2198	A
54	1	2199	A
54	1	2203	U
54	1	2204	G
54	1	2213	U
54	1	2225	A
54	1	2238	G
54	1	2239	G
54	1	2259	U
54	1	2278	A

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Mol	Chain	Res	Type
54	1	2283	C
54	1	2287	A
54	1	2297	A
54	1	2305	U
54	1	2309	A
54	1	2325	G
54	1	2327	A
54	1	2334	U
54	1	2337	G
54	1	2350	C
54	1	2354	C
54	1	2383	G
54	1	2385	C
54	1	2392	A
54	1	2402	U
54	1	2406	A
54	1	2423	U
54	1	2424	C
54	1	2429	G
54	1	2430	A
54	1	2435	A
54	1	2441	U
54	1	2448	A
54	1	2476	A
54	1	2498	C
54	1	2502	G
54	1	2503	A
54	1	2505	G
54	1	2518	A
54	1	2529	G
54	1	2547	A
54	1	2554	U
54	1	2566	A
54	1	2567	G
54	1	2572	A
54	1	2602	A
54	1	2603	G
54	1	2609	U
54	1	2613	U
54	1	2646	C
54	1	2655	G
54	1	2682	A

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Mol	Chain	Res	Type
54	1	2689	U
54	1	2690	U
54	1	2714	G
54	1	2716	C
54	1	2733	A
54	1	2744	G
54	1	2748	A
54	1	2757	A
54	1	2764	A
54	1	2765	A
54	1	2778	A
54	1	2779	U
54	1	2791	G
54	1	2797	U
54	1	2799	A
54	1	2800	A
54	1	2801	G
54	1	2809	A
54	1	2820	A
54	1	2821	A
54	1	2833	U
54	1	2849	U
54	1	2867	G
54	1	2868	A
54	1	2872	A
54	1	2880	C
54	1	2884	U
55	2	4	C
55	2	13	G
55	2	15	A
55	2	24	G
55	2	35	C
55	2	41	G
55	2	44	G
55	2	67	G
55	2	88	C
55	2	89	U
55	2	108	A
55	2	109	A
56	5	3	G
56	5	5	G
56	5	6	A

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Mol	Chain	Res	Type
56	5	14	A
56	5	18	G
56	5	19	G
56	5	20	U
56	5	21	A
56	5	22	G
56	5	42	G
56	5	47	U
56	5	73	A
56	5	76	A
57	6	2	G
57	6	3	C
57	6	5	G
57	6	8	U
57	6	9	G
57	6	10	G
57	6	14	A
57	6	18	G
57	6	19	G
57	6	21	A
57	6	22	G
57	6	34	C
57	6	56	C
57	6	64	G
57	6	67	C
57	6	70	G
57	6	71	C
57	6	72	A
57	6	76	A
58	4	12	A
58	4	15	A
58	4	16	A

All (20) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
53	3	70	U
53	3	1190	G
53	3	1201	A
53	3	1398	A
53	3	1493	A
54	1	227	A

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Mol	Chain	Res	Type
54	1	490	C
54	1	859	G
54	1	1020	A
54	1	1130	U
54	1	1475	G
54	1	1914	C
54	1	2296	U
54	1	2326	C
54	1	2391	G
54	1	2756	U
55	2	66	A
55	2	88	C
56	5	2	G
56	5	41	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 1 is monoatomic - leaving 3 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
60	FME	1	3001	61	8,9,10	0.62	0	8,9,11	0.92	0
62	GCP	8	801	63	32,34,34	2.15	5 (15%)	49,54,54	2.50	16 (32%)
61	PRO	5	101	60,56	6,7,8	0.59	0	7,8,10	1.01	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
60	FME	1	3001	61	-	1/7/9/11	-
62	GCP	8	801	63	-	9/19/38/38	0/3/3/3
61	PRO	5	101	60,56	-	0/0/9/11	0/1/1/1

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	8	801	GCP	PA-O3A	-7.98	1.50	1.59
62	8	801	GCP	PB-O3A	-5.66	1.52	1.58
62	8	801	GCP	PG-O3G	-3.69	1.46	1.55
62	8	801	GCP	O4'-C1'	2.66	1.48	1.42
62	8	801	GCP	PB-O2B	-2.14	1.51	1.56

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	8	801	GCP	C1'-N9-C4	8.41	151.33	126.49
62	8	801	GCP	C1'-N9-C8	-8.36	102.98	126.73
62	8	801	GCP	O3A-PA-O1A	-4.61	96.84	110.70
62	8	801	GCP	O3G-PG-O2G	4.27	120.13	107.96
62	8	801	GCP	O2G-PG-C3B	-3.91	96.91	106.40
62	8	801	GCP	O2B-PB-O1B	3.88	122.57	109.95
62	8	801	GCP	O3'-C3'-C4'	-3.57	100.82	111.08
62	8	801	GCP	O4'-C1'-C2'	-3.27	99.61	106.62
62	8	801	GCP	O2A-PA-O5'	-2.96	94.16	107.57
62	8	801	GCP	PB-O3A-PA	2.71	141.21	132.37
62	8	801	GCP	O4'-C4'-C5'	2.69	117.94	109.33
62	8	801	GCP	O2A-PA-O3A	2.61	114.32	107.27
62	8	801	GCP	O3G-PG-O1G	-2.38	106.22	112.39
62	8	801	GCP	C3'-C2'-C1'	-2.19	97.31	101.46
62	8	801	GCP	O2A-PA-O1A	2.17	122.54	112.44
62	8	801	GCP	O1B-PB-C3B	2.09	114.56	109.05

There are no chirality outliers.

All (10) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
60	1	3001	FME	O1-CN-N-CA

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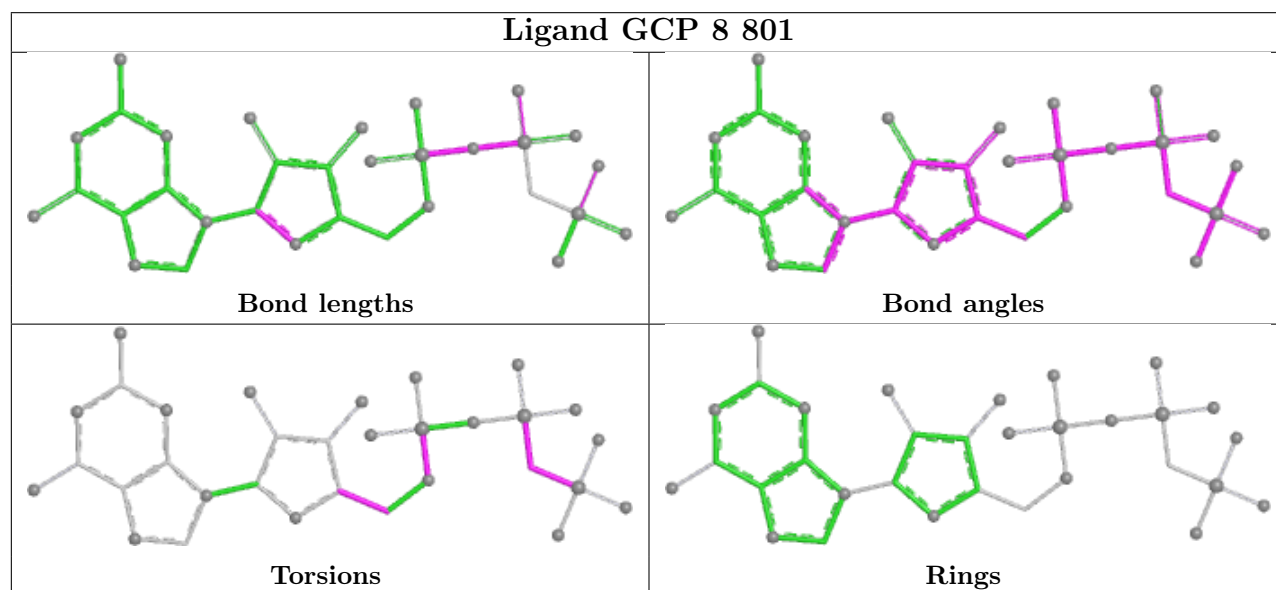
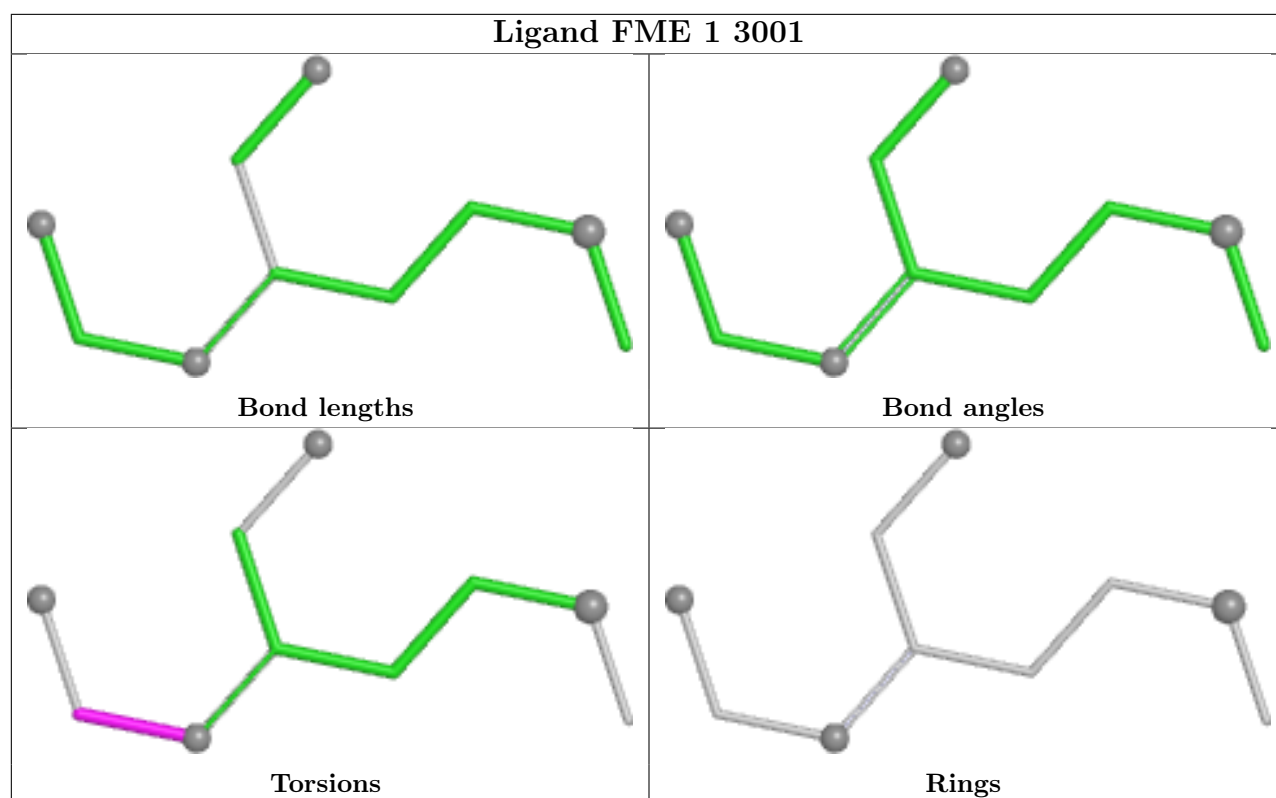
Mol	Chain	Res	Type	Atoms
62	8	801	GCP	PB-C3B-PG-O1G
62	8	801	GCP	PG-C3B-PB-O1B
62	8	801	GCP	C5'-O5'-PA-O1A
62	8	801	GCP	PB-C3B-PG-O2G
62	8	801	GCP	PB-C3B-PG-O3G
62	8	801	GCP	C5'-O5'-PA-O3A
62	8	801	GCP	C5'-O5'-PA-O2A
62	8	801	GCP	O4'-C4'-C5'-O5'
62	8	801	GCP	C3'-C4'-C5'-O5'

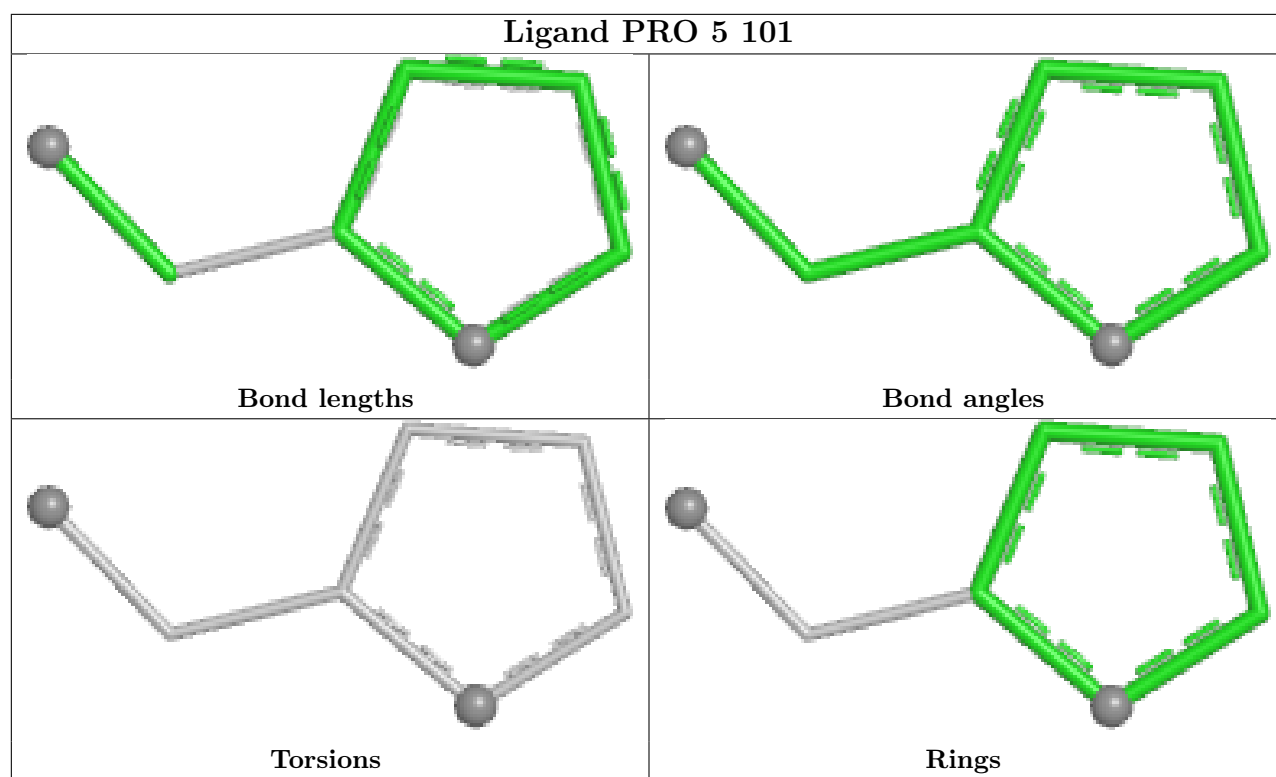
There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	1	3001	FME	1	0
62	8	801	GCP	2	0

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





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.

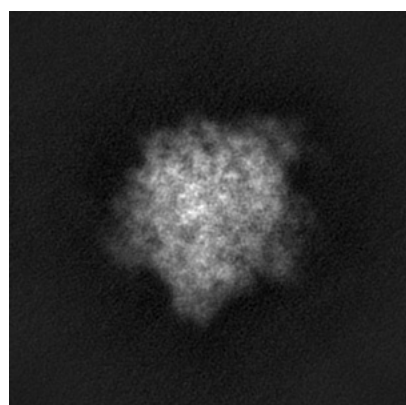
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-22671. These allow visual inspection of the internal detail of the map and identification of artifacts.

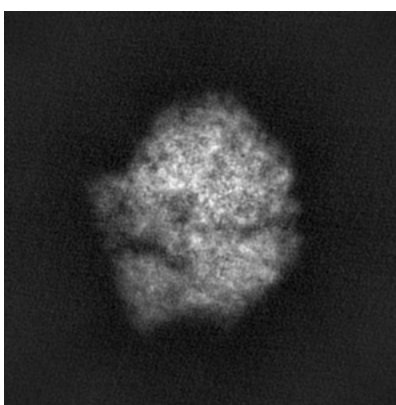
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

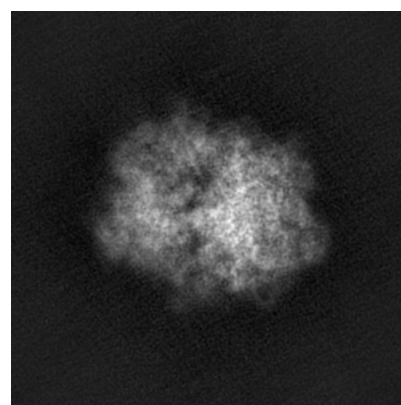
6.1.1 Primary map



X



Y

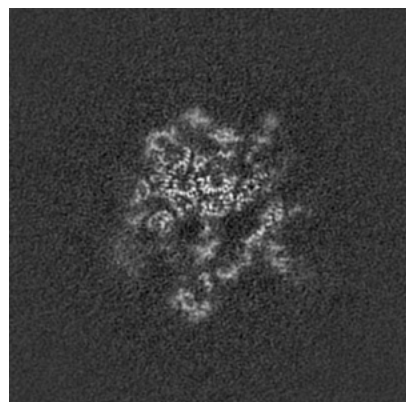


Z

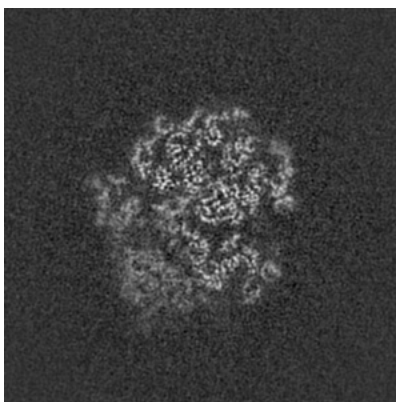
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

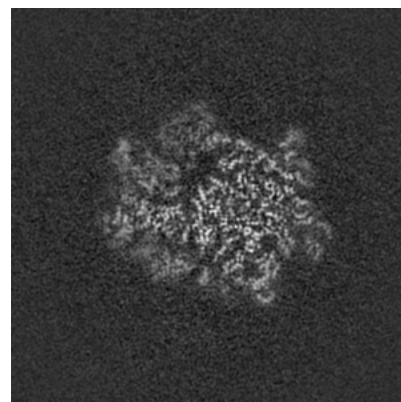
6.2.1 Primary map



X Index: 200



Y Index: 200

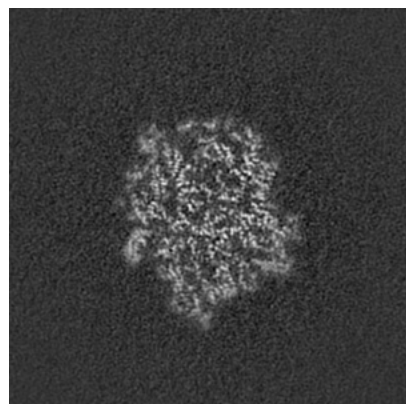


Z Index: 200

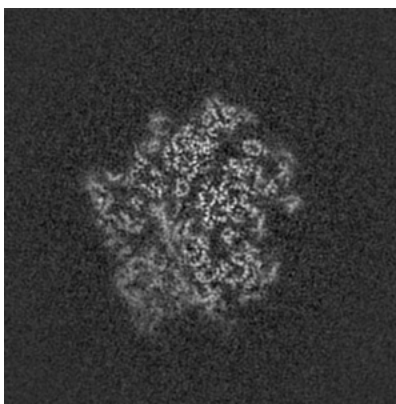
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

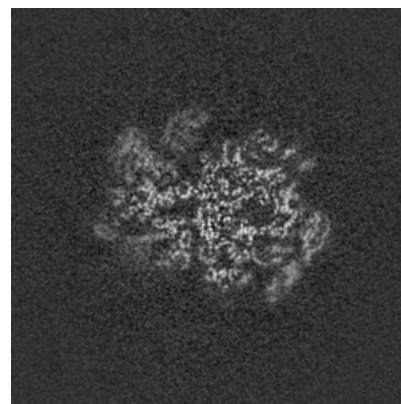
6.3.1 Primary map



X Index: 225



Y Index: 193

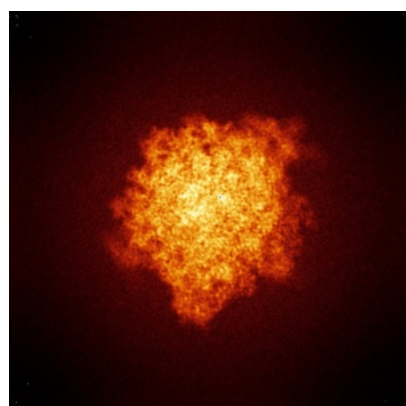


Z Index: 214

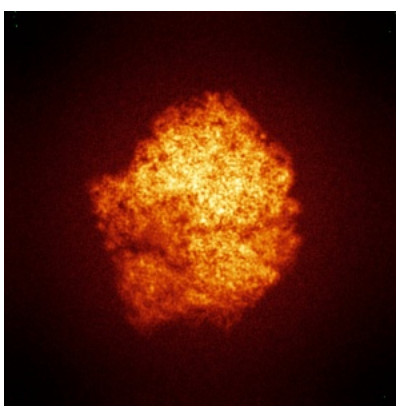
The images above show the largest variance slices of the map in three orthogonal directions.

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

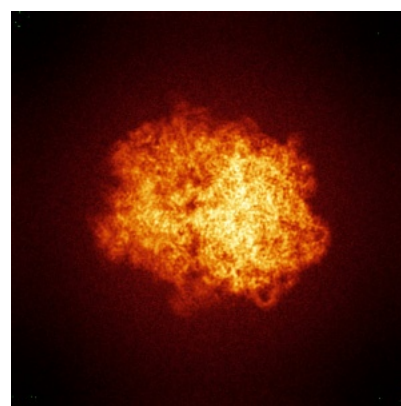
6.4.1 Primary map



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

This section was not generated.

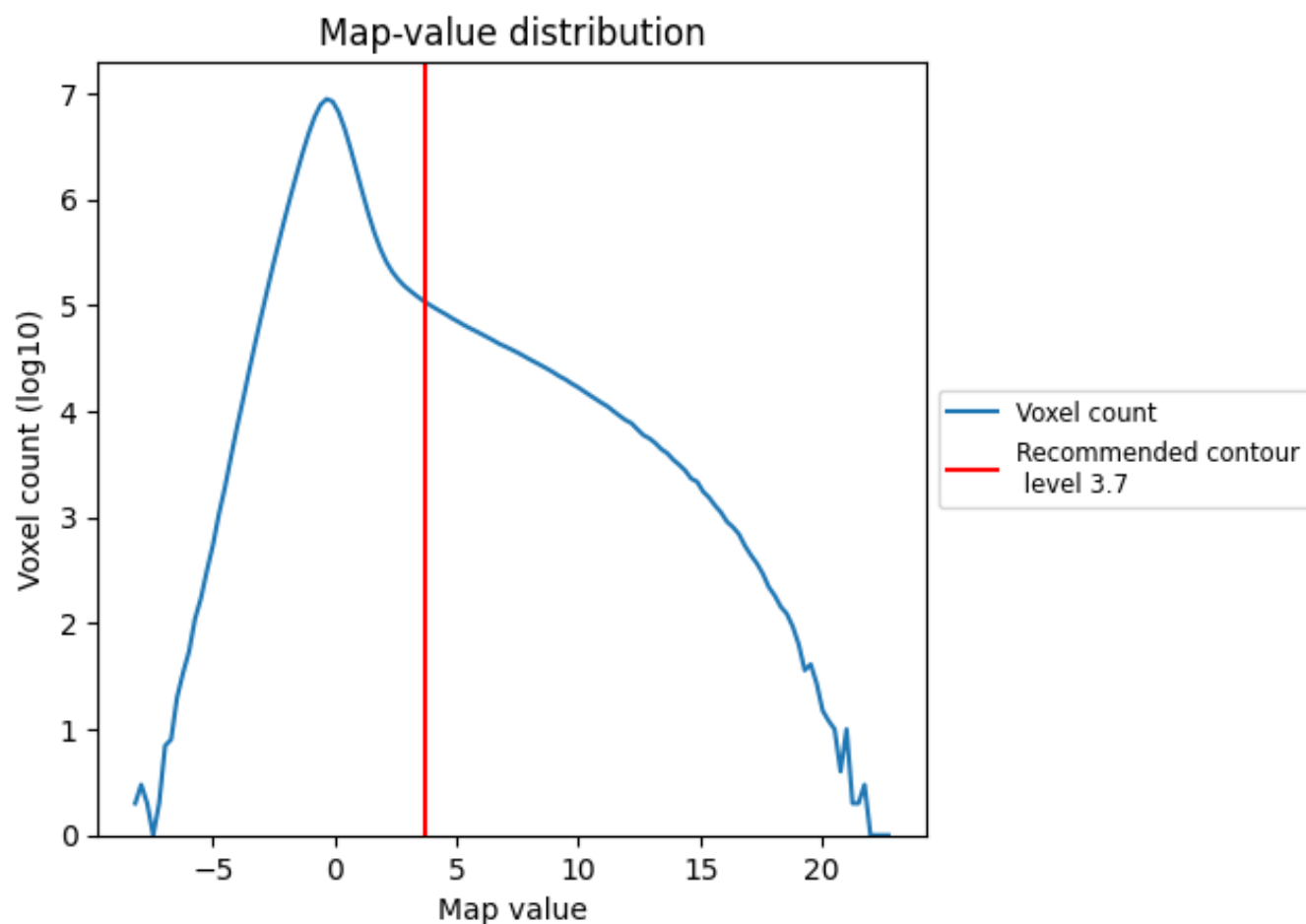
6.6 Mask visualisation

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

7 Map analysis [i](#)

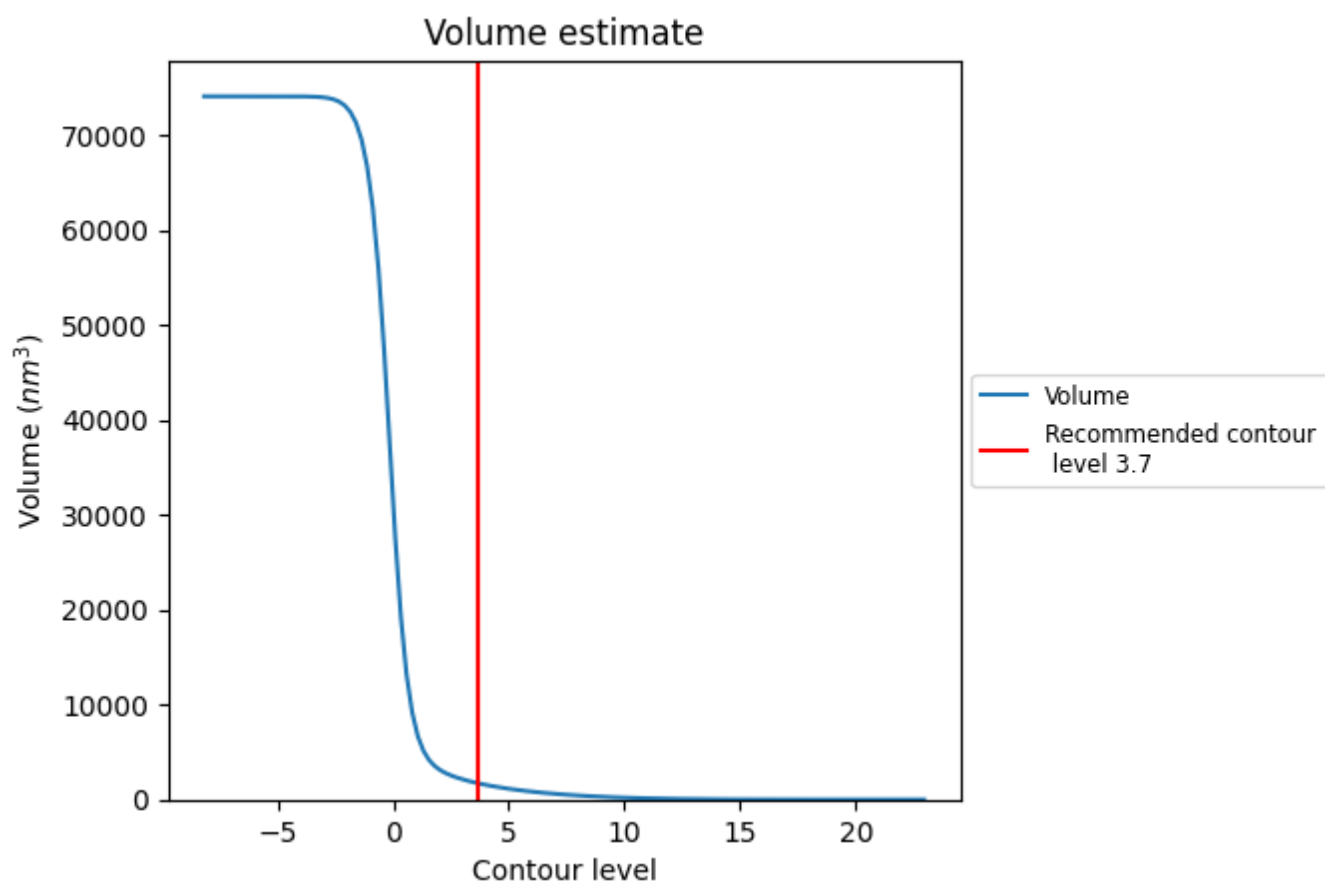
This section contains the results of statistical analysis of the map.

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.

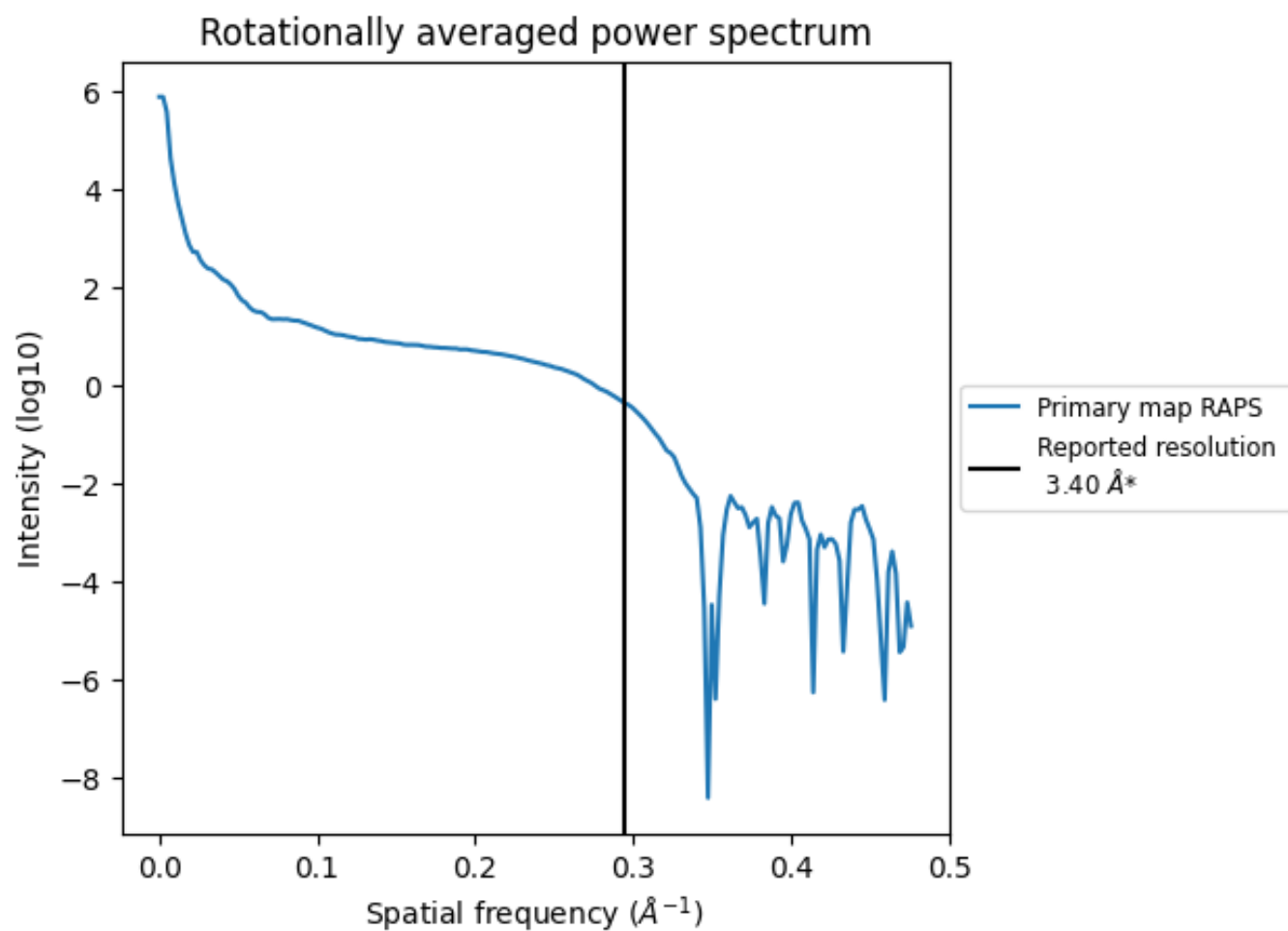
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1699 nm³; this corresponds to an approximate mass of 1535 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 0.294 Å⁻¹

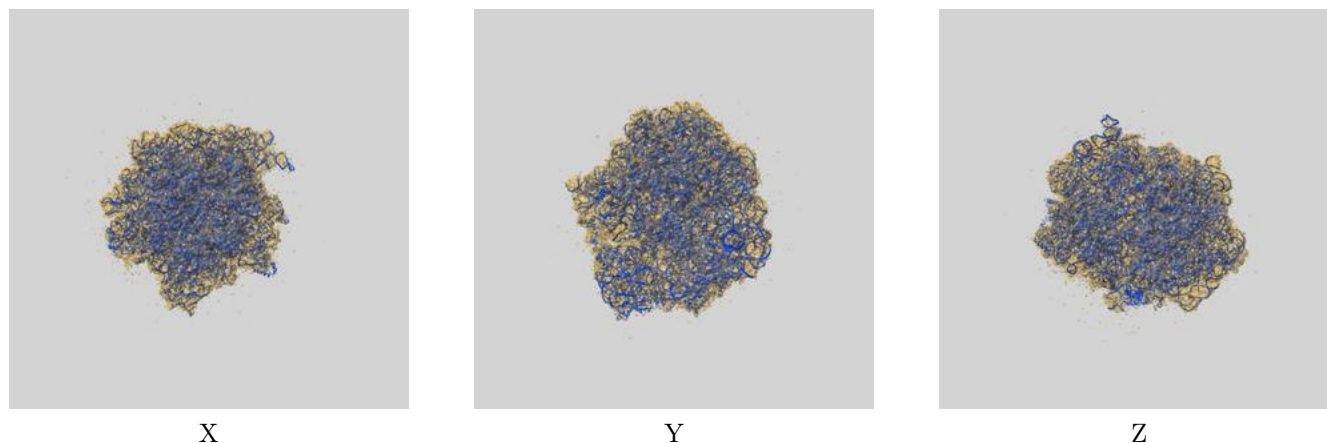
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

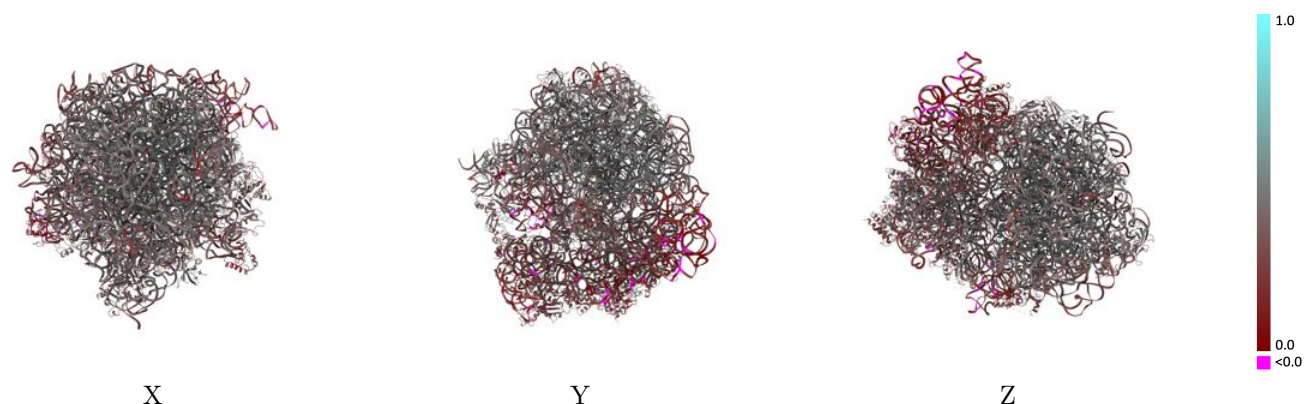
This section contains information regarding the fit between EMDB map EMD-22671 and PDB model 7K52. Per-residue inclusion information can be found in section [3](#) on page [17](#).

9.1 Map-model overlay [i](#)



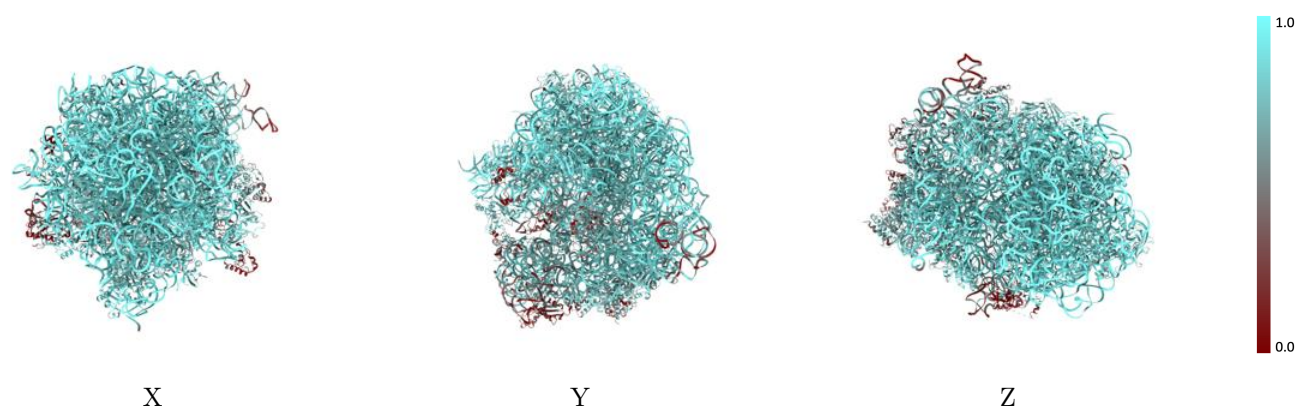
The images above show the 3D surface view of the map at the recommended contour level 3.7 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



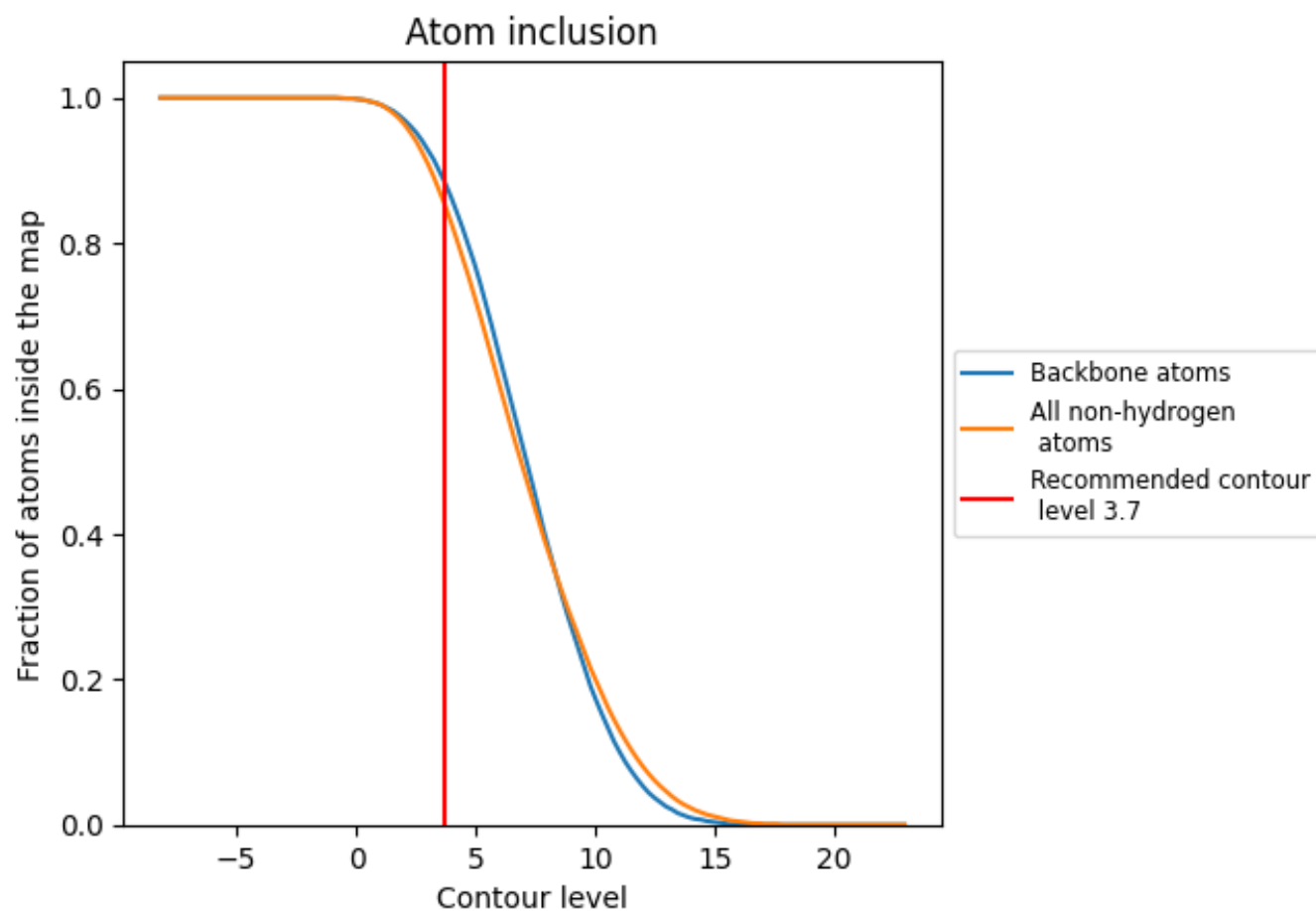
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (3.7).

9.4 Atom inclusion [i](#)



At the recommended contour level, 88% of all backbone atoms, 86% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (3.7) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8550	 0.3750
1	 0.9560	 0.4180
2	 0.9690	 0.3950
3	 0.8560	 0.3000
4	 0.6720	 0.2250
5	 0.9290	 0.3290
6	 0.4910	 0.1360
8	 0.6390	 0.3430
A	 0.7090	 0.3430
B	 0.8900	 0.4540
C	 0.6470	 0.4040
D	 0.8900	 0.4550
E	 0.9180	 0.4870
F	 0.8700	 0.4560
G	 0.6130	 0.3470
H	 0.4950	 0.3260
I	 0.6370	 0.2430
J	 0.8470	 0.4140
K	 0.8330	 0.3990
L	 0.5880	 0.3090
M	 0.8240	 0.4020
N	 0.6870	 0.3060
O	 0.4410	 0.3080
P	 0.8710	 0.3910
Q	 0.8020	 0.3300
R	 0.6970	 0.3050
S	 0.6720	 0.3240
T	 0.8610	 0.3930
U	 0.6810	 0.2790
V	 0.7990	 0.3440
W	 0.8350	 0.3980
X	 0.4570	 0.2840
Y	 0.7750	 0.3070
Z	 0.7050	 0.3310
a	 0.1560	 0.2200



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Chain	Atom inclusion	Q-score
b	 0.9170	 0.4800
c	 0.8870	 0.4620
d	 0.7820	 0.4270
e	 0.7980	 0.3590
f	 0.8180	 0.4050
g	 0.2440	 0.2780
h	 0.2220	 0.2420
i	 0.2390	 0.2360
j	 0.8900	 0.4520
k	 0.8700	 0.4680
l	 0.8750	 0.4530
m	 0.8850	 0.4710
n	 0.9080	 0.4600
o	 0.8620	 0.4090
p	 0.8640	 0.4490
q	 0.9020	 0.4630
r	 0.8470	 0.4400
s	 0.8550	 0.4540
t	 0.8220	 0.4260
u	 0.8100	 0.4070
v	 0.8250	 0.4320
w	 0.8750	 0.4720
x	 0.9000	 0.4540
y	 0.7870	 0.3780
z	 0.8720	 0.4460