



Full wwPDB EM Validation Report ⓘ

Mar 6, 2026 – 11:54 PM UTC

PDB ID : 7K51 / pdb_00007k51
EMDB ID : EMD-22670
Title : Mid-translocated non-frameshifting(CCA-A) complex with EF-G and GDPCP (Structure II)
Authors : Demo, G.; Loveland, A.B.; Svidritskiy, E.; Gamper, H.B.; Hou, Y.M.; Korostelev, A.A.
Deposited on : 2020-09-16
Resolution : 3.50 Å(reported)
Based on initial models : 4V7D, 5UYM, 6ENJ, 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:

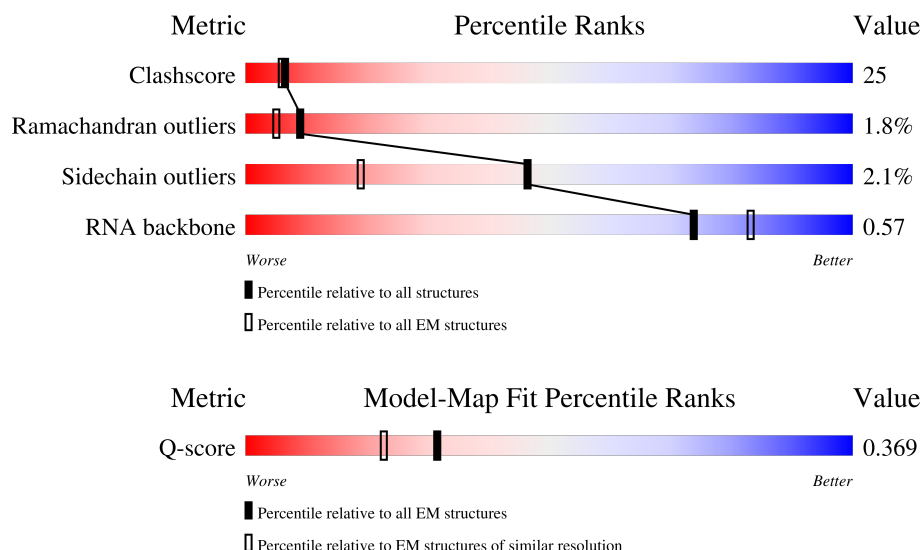
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data 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 3.50 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	13950 (3.00 - 4.00)

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	31%57%11%
54	1	2903	41%51%8%
55	2	120	39%52%9%
56	5	77	42%49%9%
57	6	77	39%47%13%
58	4	16	31%25%44%25%6%
59	8	711	9%31%52%13%

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		

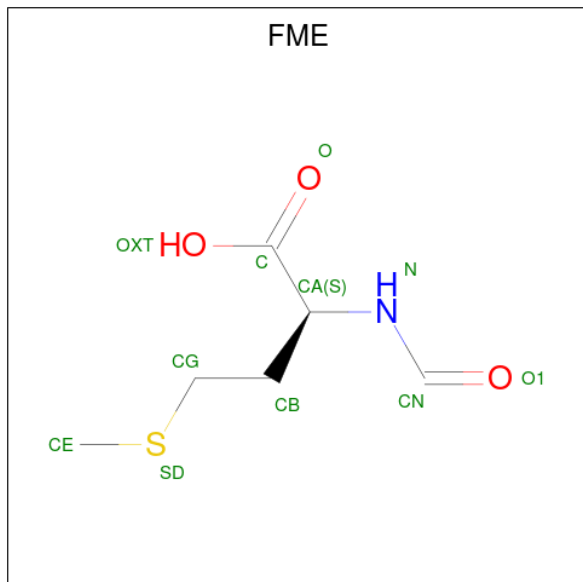
- Molecule 59 is a protein called Elongation factor G.

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:

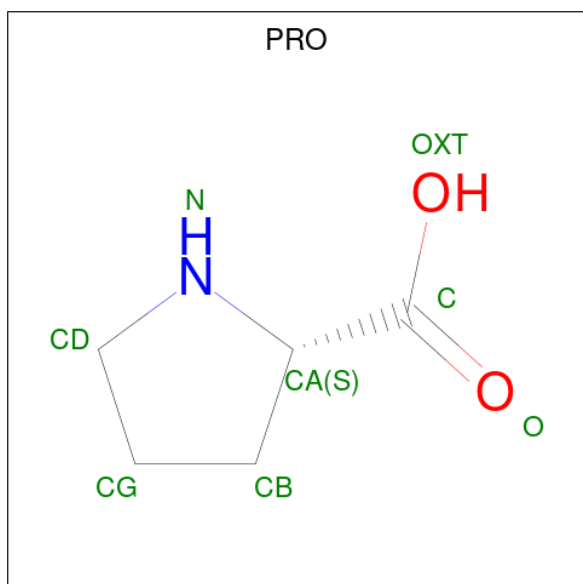
Chain	Residue	Modelled	Actual	Comment	Reference
8	705	LEU	-	expression tag	UNP H4UQ46
8	706	GLU	-	expression tag	UNP H4UQ46
8	707	HIS	-	expression tag	UNP H4UQ46
8	708	HIS	-	expression tag	UNP H4UQ46
8	709	HIS	-	expression tag	UNP H4UQ46
8	710	HIS	-	expression tag	UNP H4UQ46
8	711	HIS	-	expression tag	UNP H4UQ46
8	712	HIS	-	expression tag	UNP H4UQ46

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



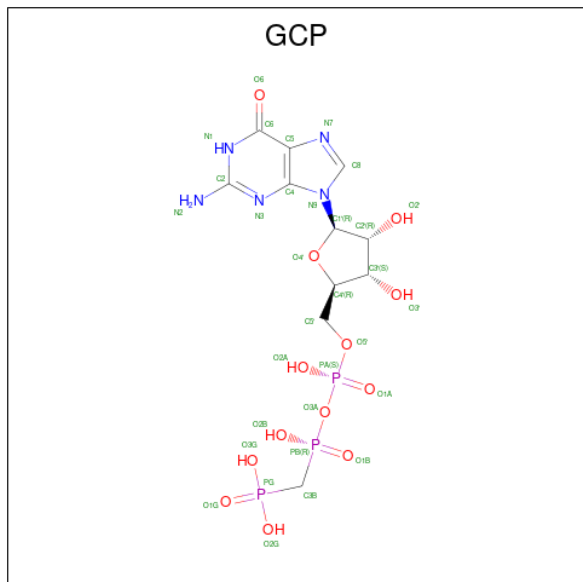
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
60	1	1	10	6	1	2	1	0

- 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	

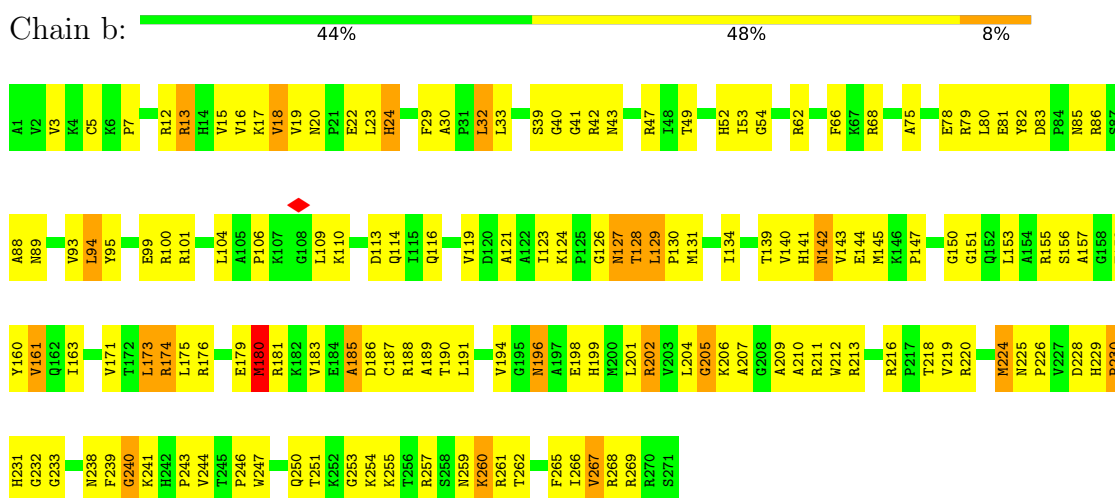
- Molecule 63 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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.

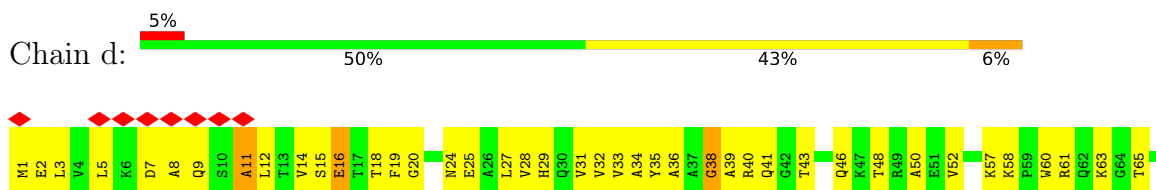
• Molecule 1: 50S ribosomal protein L2

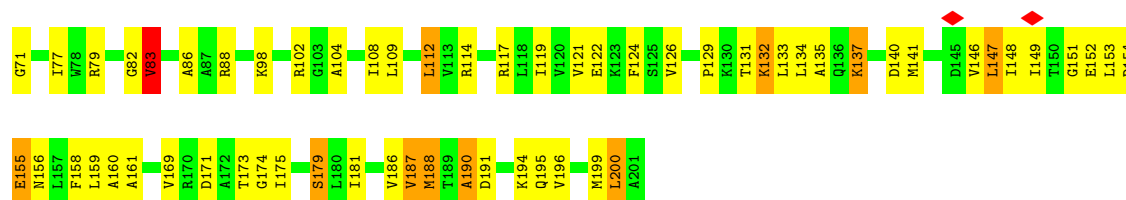


• Molecule 2: 50S ribosomal protein L3

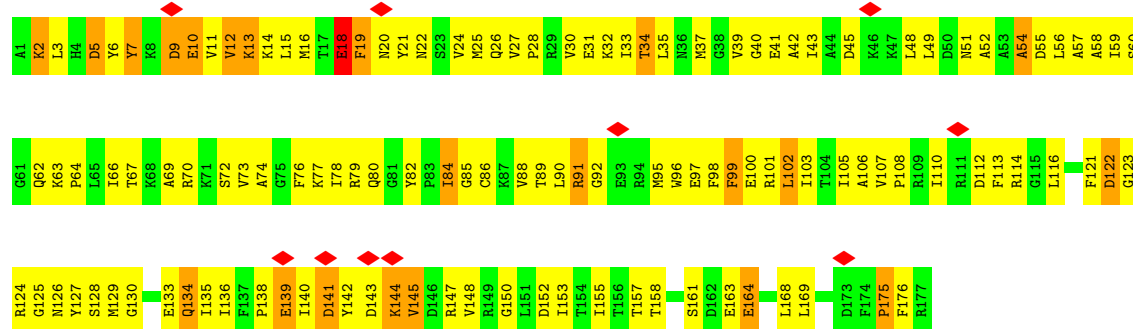


• Molecule 3: 50S ribosomal protein L4

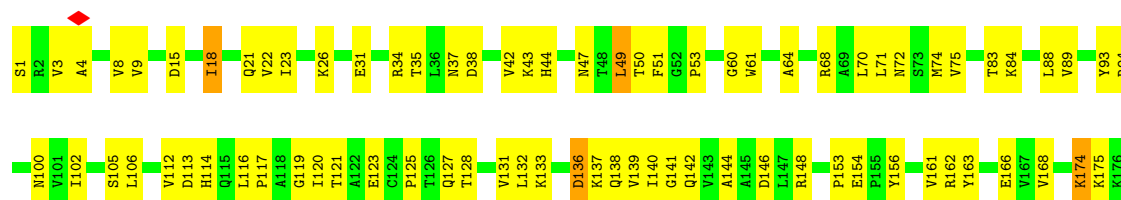




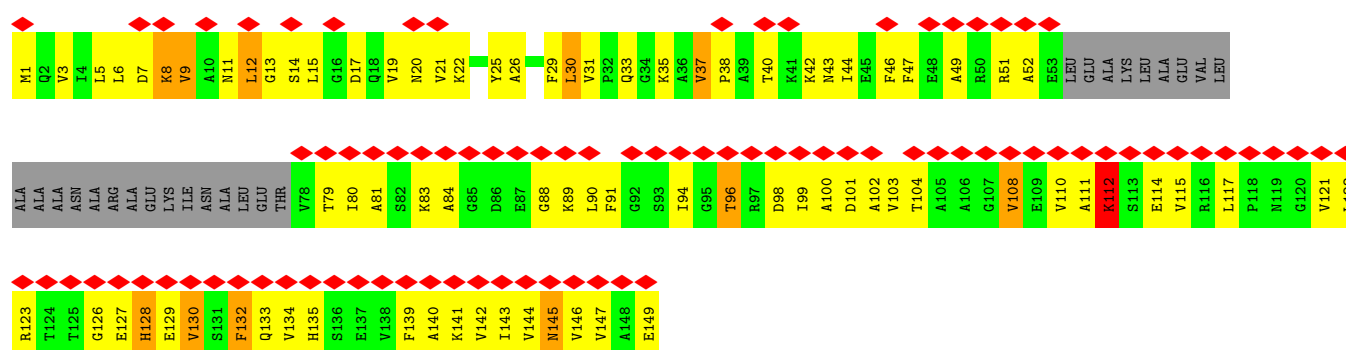
• Molecule 4: 50S ribosomal protein L5



• Molecule 5: 50S ribosomal protein L6

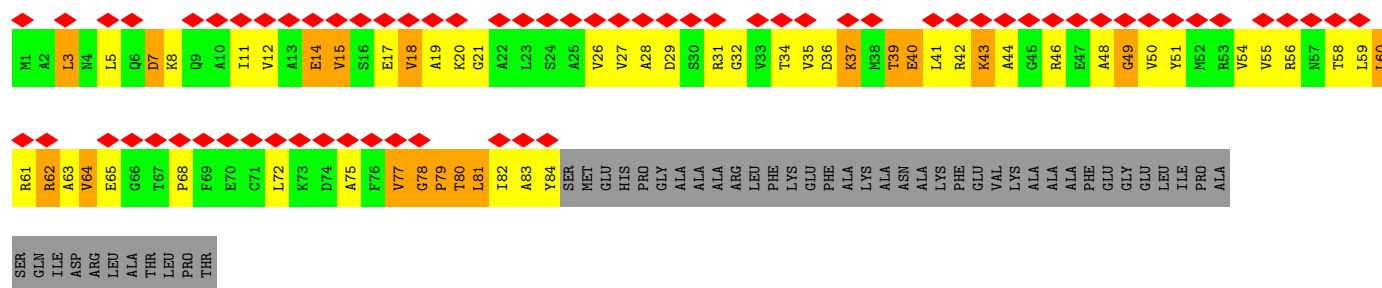


• Molecule 6: 50S ribosomal protein L9

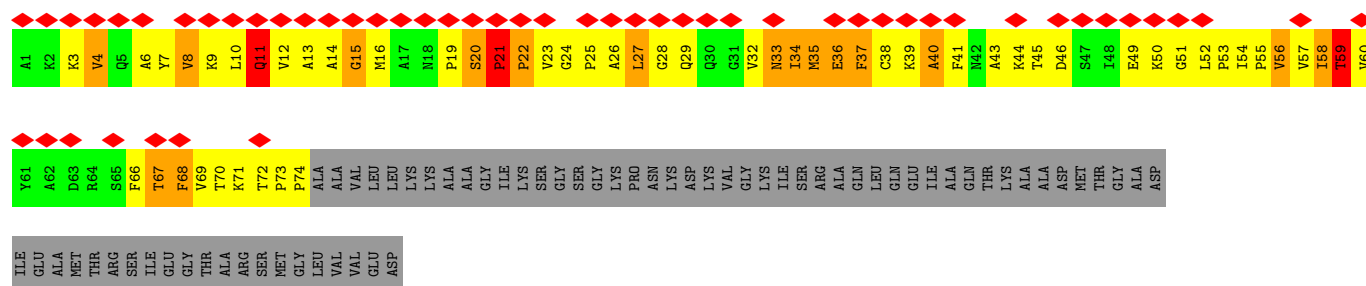
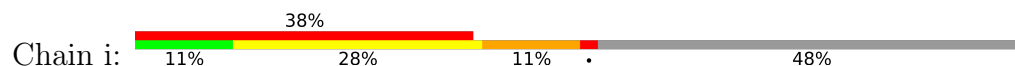


• Molecule 7: 50S ribosomal protein L10

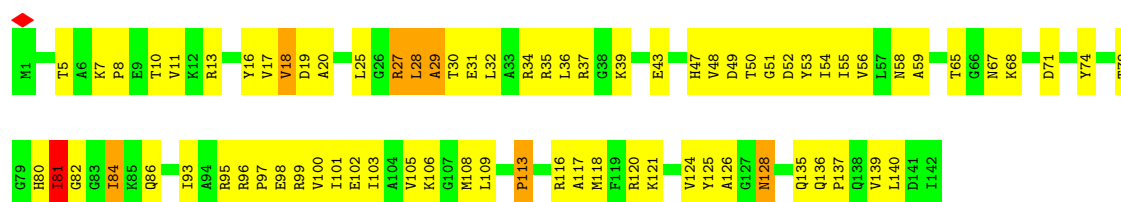




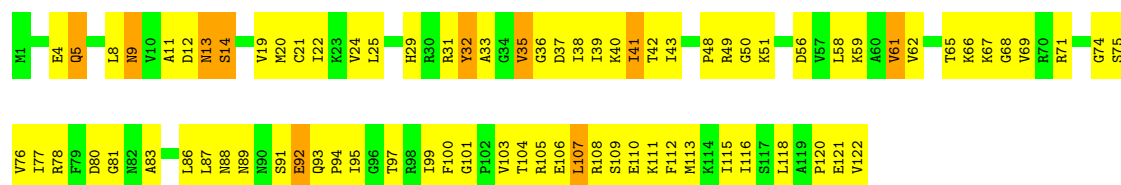
• Molecule 8: 50S ribosomal protein L11



• Molecule 9: 50S ribosomal protein L13



• Molecule 10: 50S ribosomal protein L14

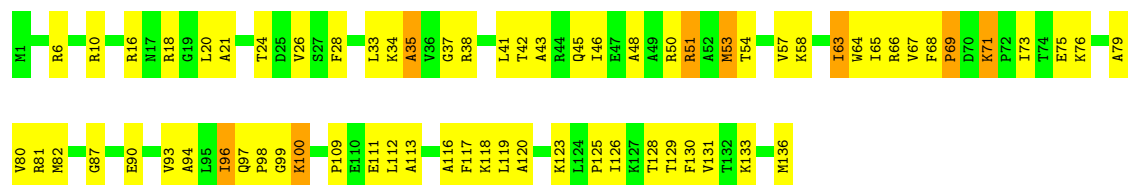


• Molecule 11: 50S ribosomal protein L15

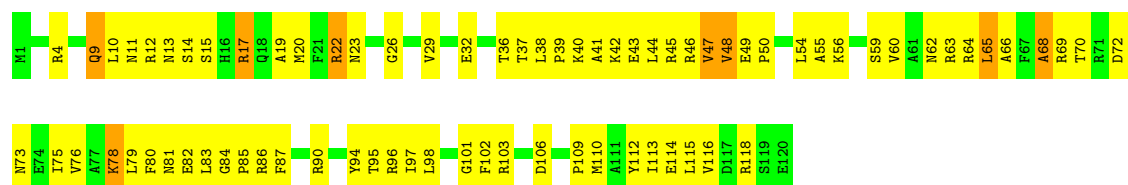




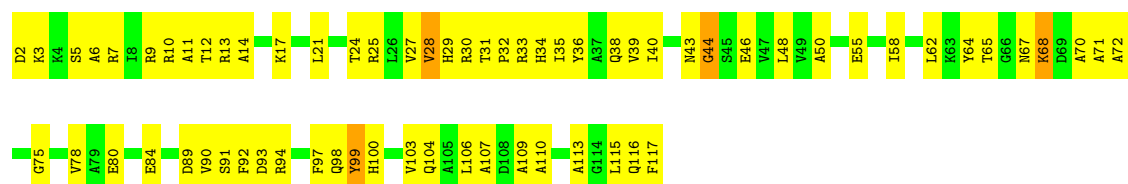
• Molecule 12: 50S ribosomal protein L16



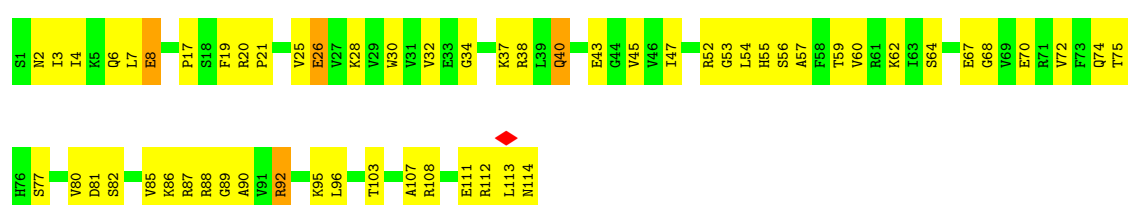
• Molecule 13: 50S ribosomal protein L17



• Molecule 14: 50S ribosomal protein L18

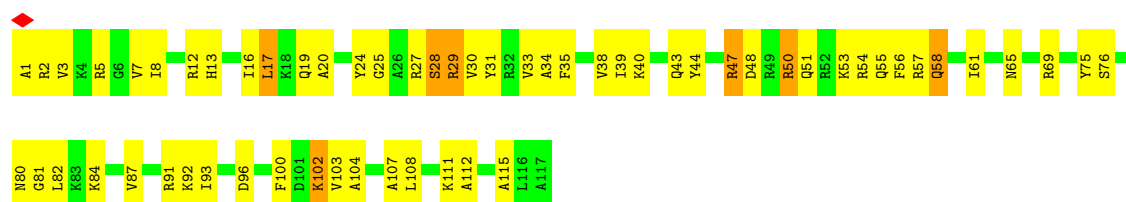


• Molecule 15: 50S ribosomal protein L19

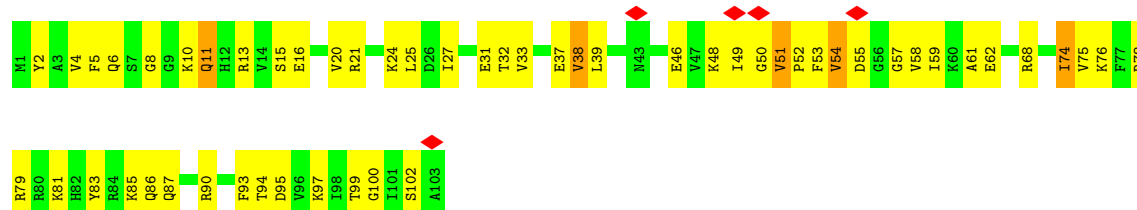


• Molecule 16: 50S ribosomal protein L20

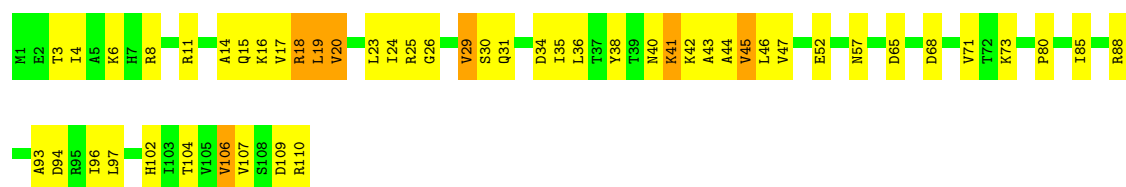




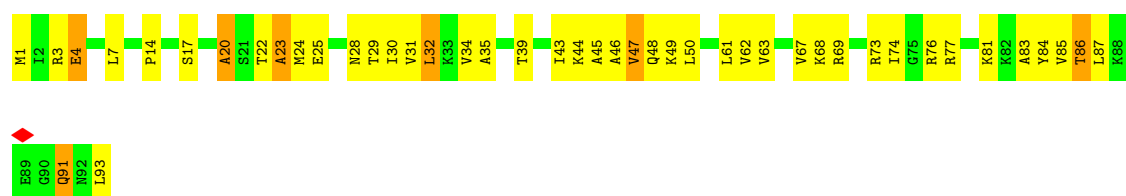
• Molecule 17: 50S ribosomal protein L21



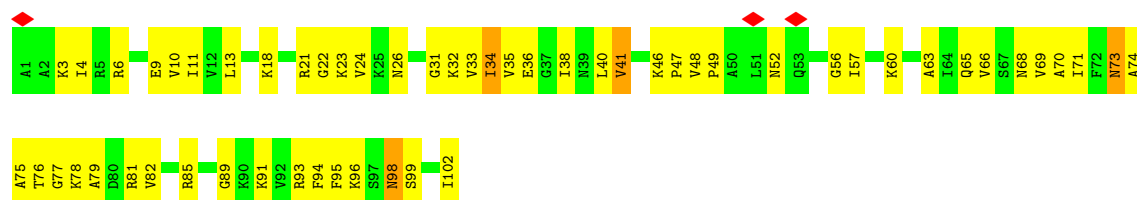
• Molecule 18: 50S ribosomal protein L22



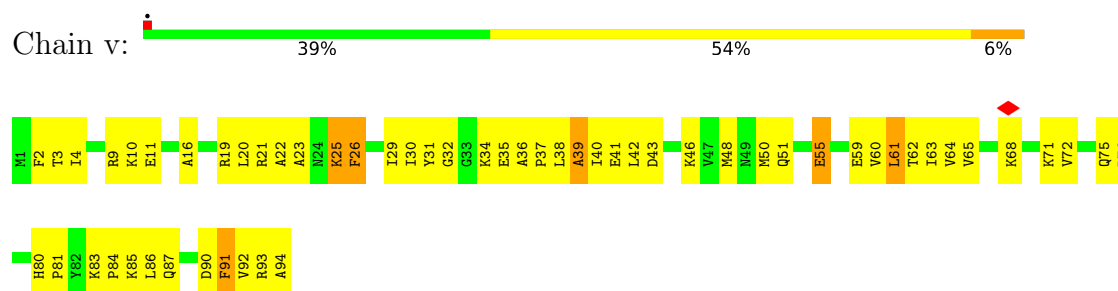
• Molecule 19: 50S ribosomal protein L23



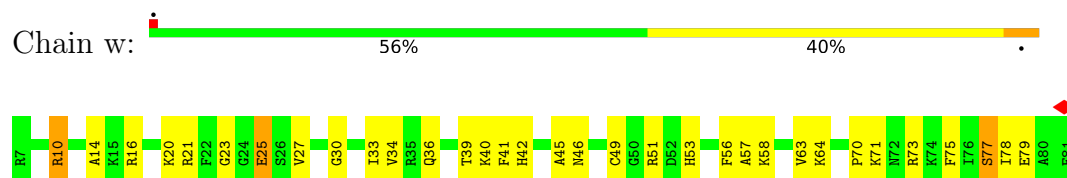
• Molecule 20: 50S ribosomal protein L24



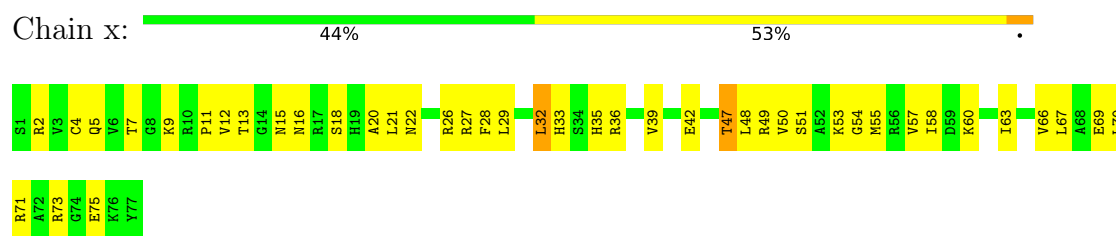
• Molecule 21: 50S ribosomal protein L25



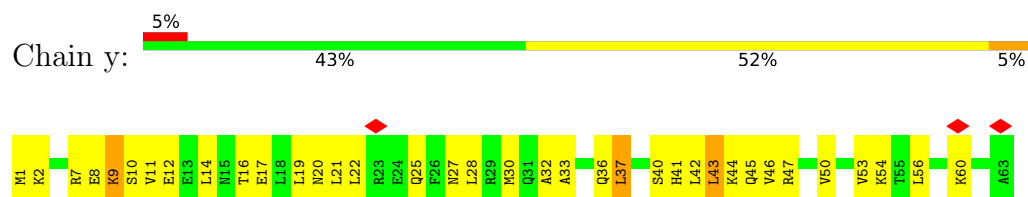
- Molecule 22: 50S ribosomal protein L27



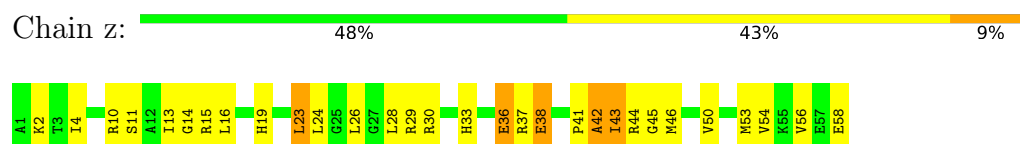
- Molecule 23: 50S ribosomal protein L28



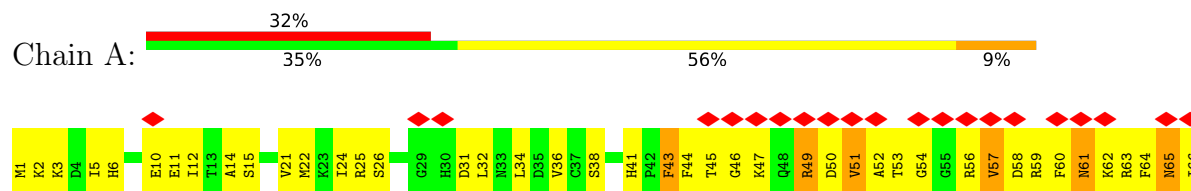
- Molecule 24: 50S ribosomal protein L29



- Molecule 25: 50S ribosomal protein L30



- Molecule 26: 50S ribosomal protein L31



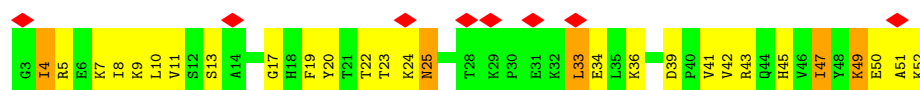
- Molecule 27: 50S ribosomal protein L32

Chain B: 



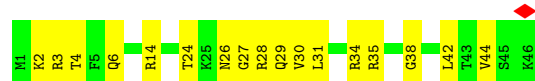
- Molecule 28: 50S ribosomal protein L33

Chain C: 

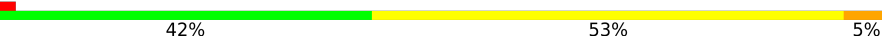


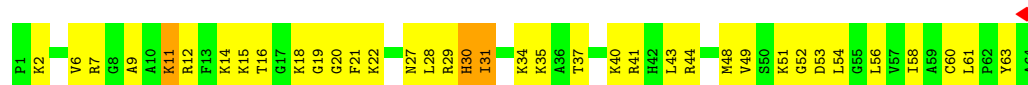
- Molecule 29: 50S ribosomal protein L34

Chain D: 



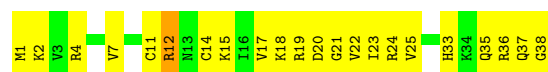
- Molecule 30: 50S ribosomal protein L35

Chain E: 

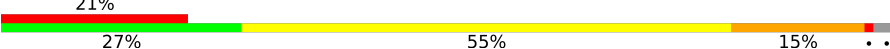


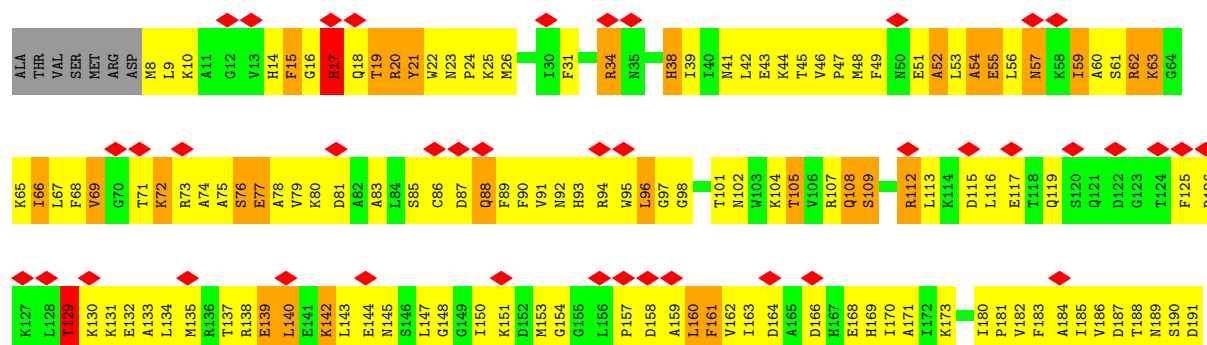
- Molecule 31: 50S ribosomal protein L36

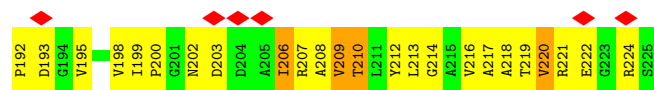
Chain F: 



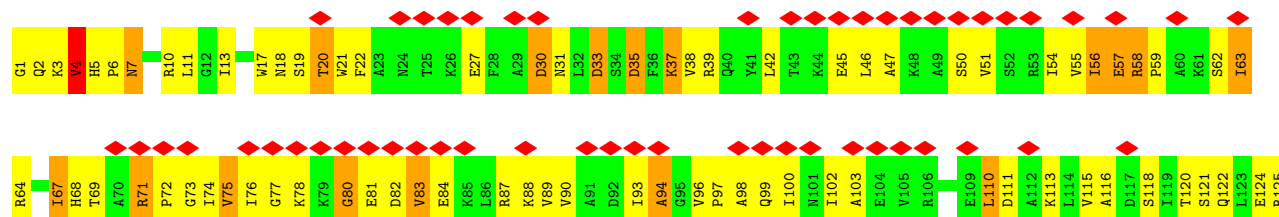
- Molecule 32: 30S ribosomal protein S2

Chain G: 

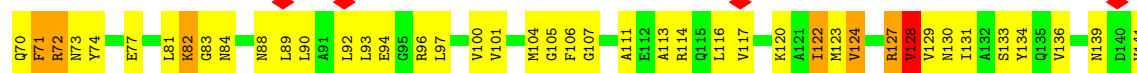




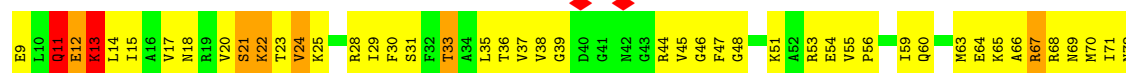
• Molecule 33: 30S ribosomal protein S3

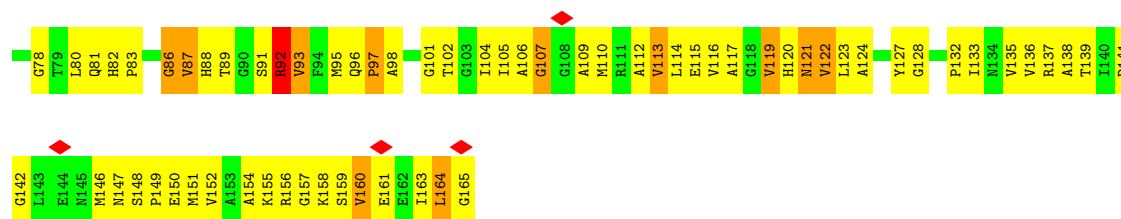


• Molecule 34: 30S ribosomal protein S4

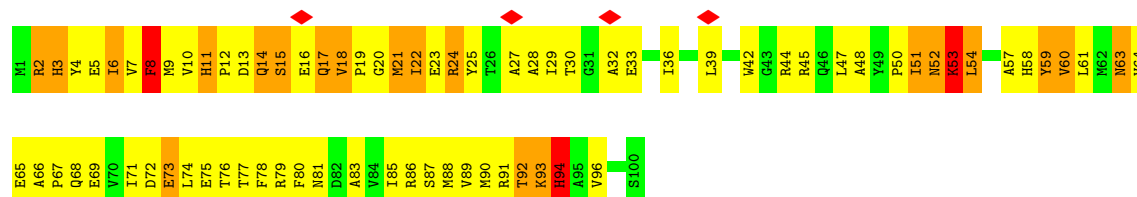


• Molecule 35: 30S ribosomal protein S5

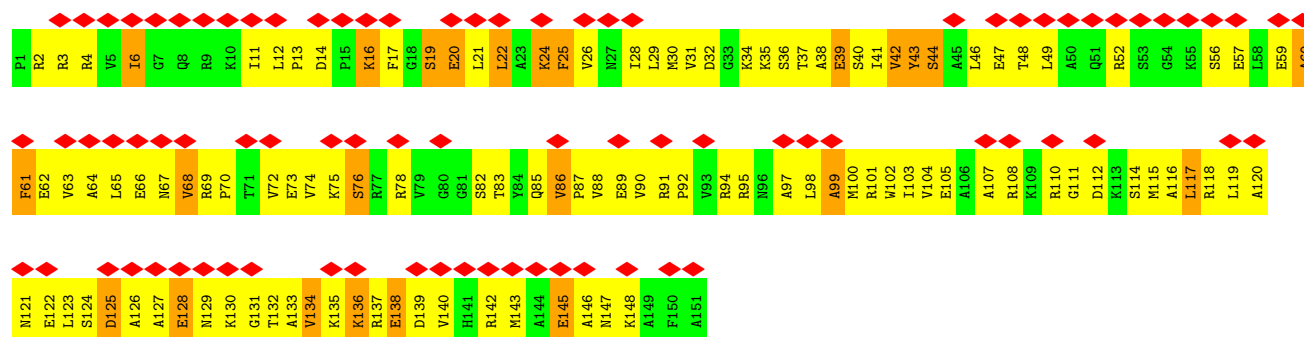




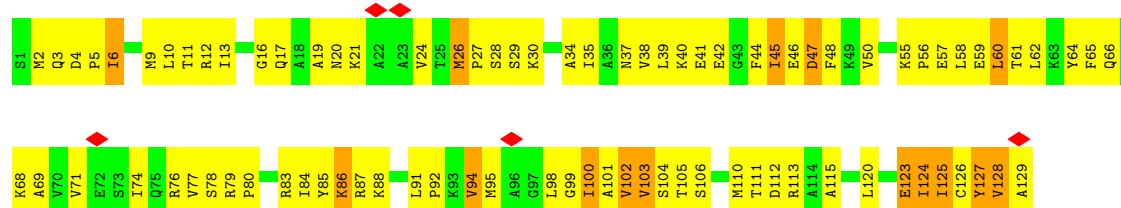
• Molecule 36: 30S ribosomal protein S6



• Molecule 37: 30S ribosomal protein S7

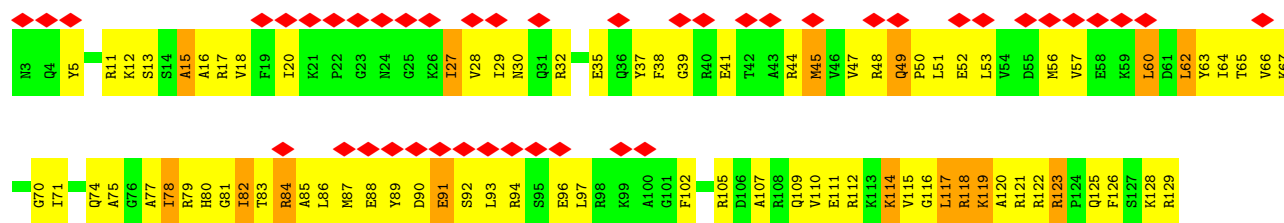


• Molecule 38: 30S ribosomal protein S8

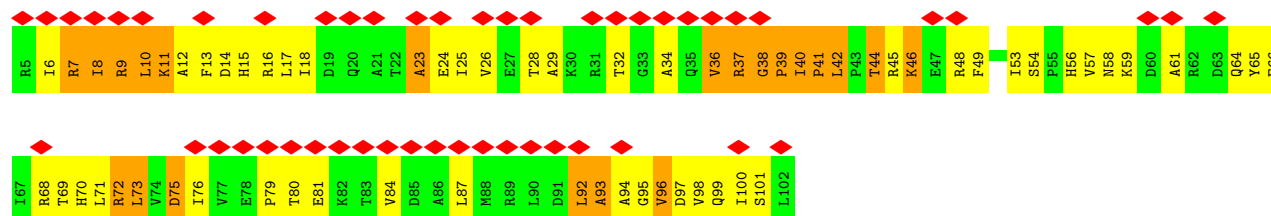


• Molecule 39: 30S ribosomal protein S9

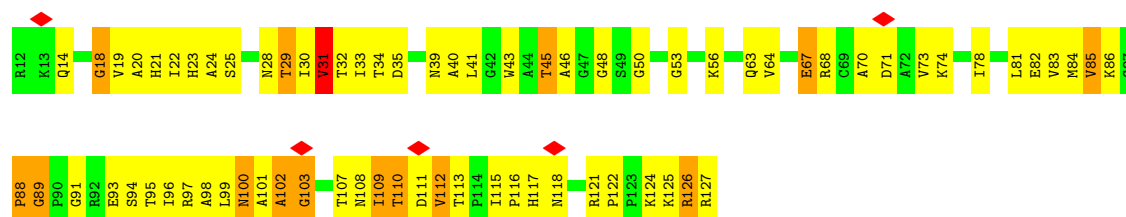




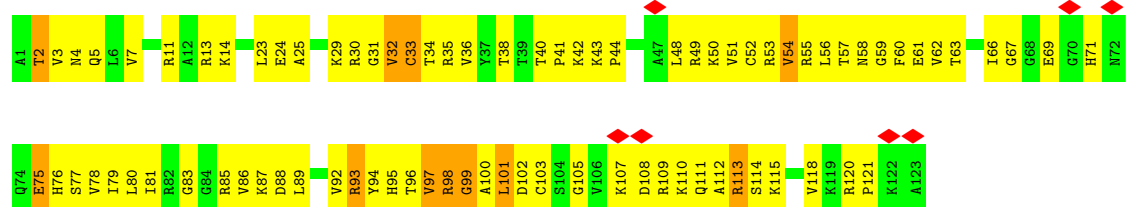
• Molecule 40: 30S ribosomal protein S10



• Molecule 41: 30S ribosomal protein S11

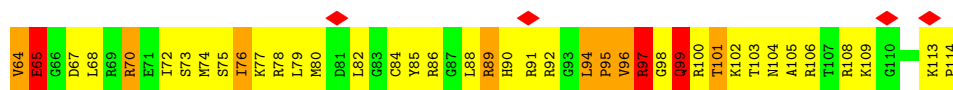


• Molecule 42: 30S ribosomal protein S12

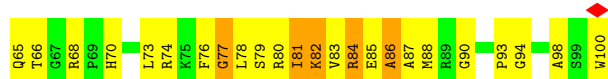
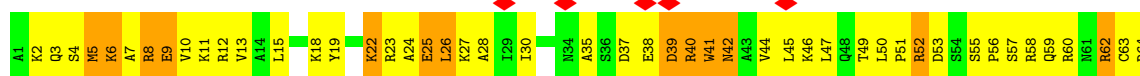


• Molecule 43: 30S ribosomal protein S13

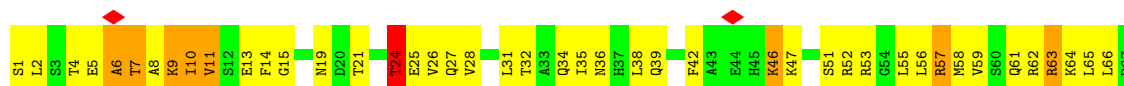




- Molecule 44: 30S ribosomal protein S14



- Molecule 45: 30S ribosomal protein S15



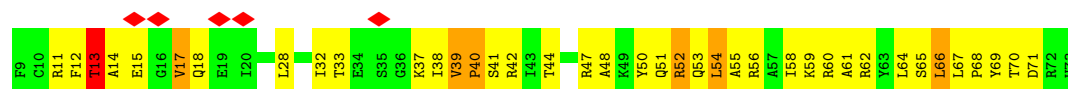
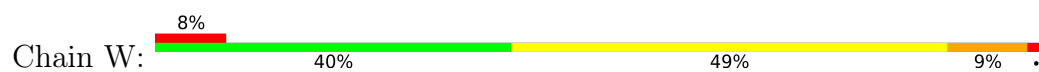
- Molecule 46: 30S ribosomal protein S16



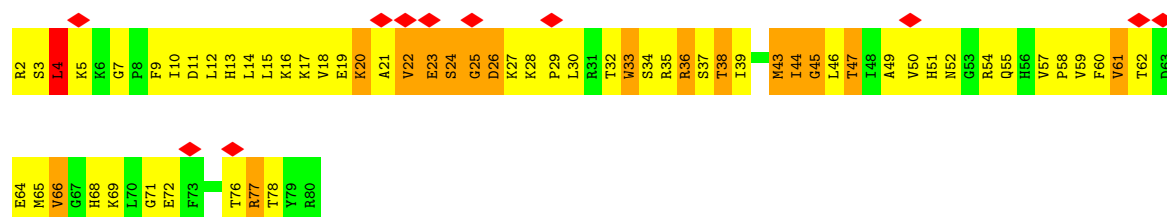
- Molecule 47: 30S ribosomal protein S17



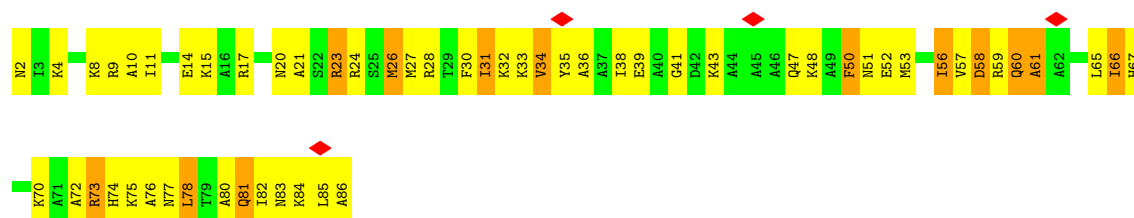
- Molecule 48: 30S ribosomal protein S18



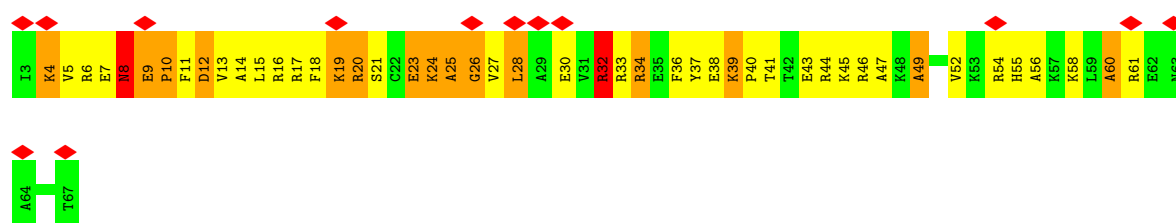
• Molecule 49: 30S ribosomal protein S19



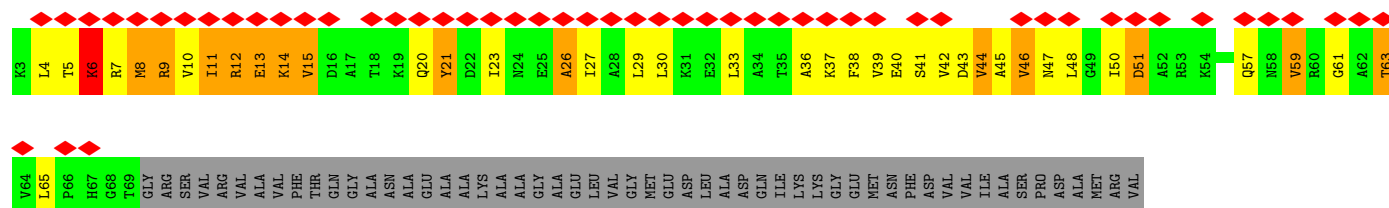
• Molecule 50: 30S ribosomal protein S20

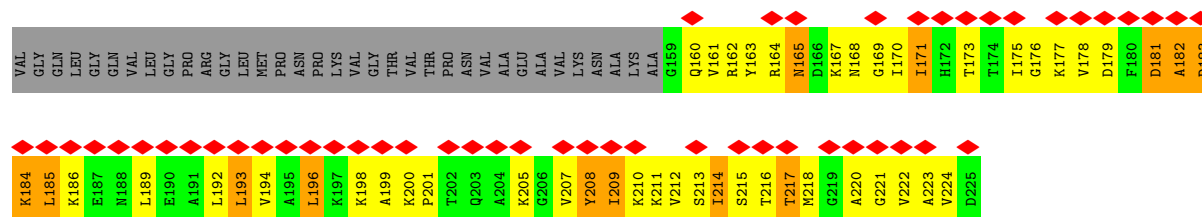


• Molecule 51: 30S ribosomal protein S21



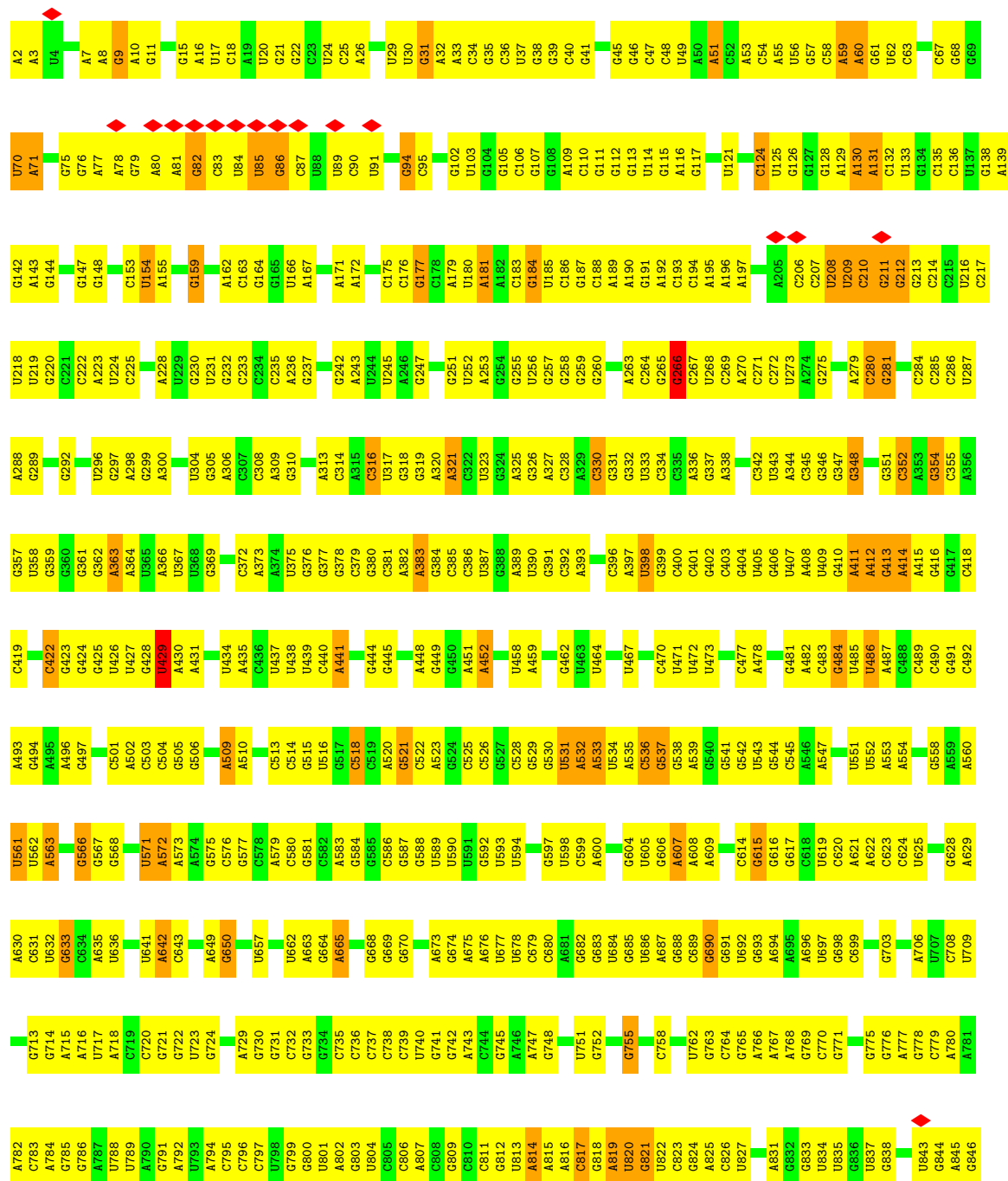
• Molecule 52: 50S ribosomal protein L1

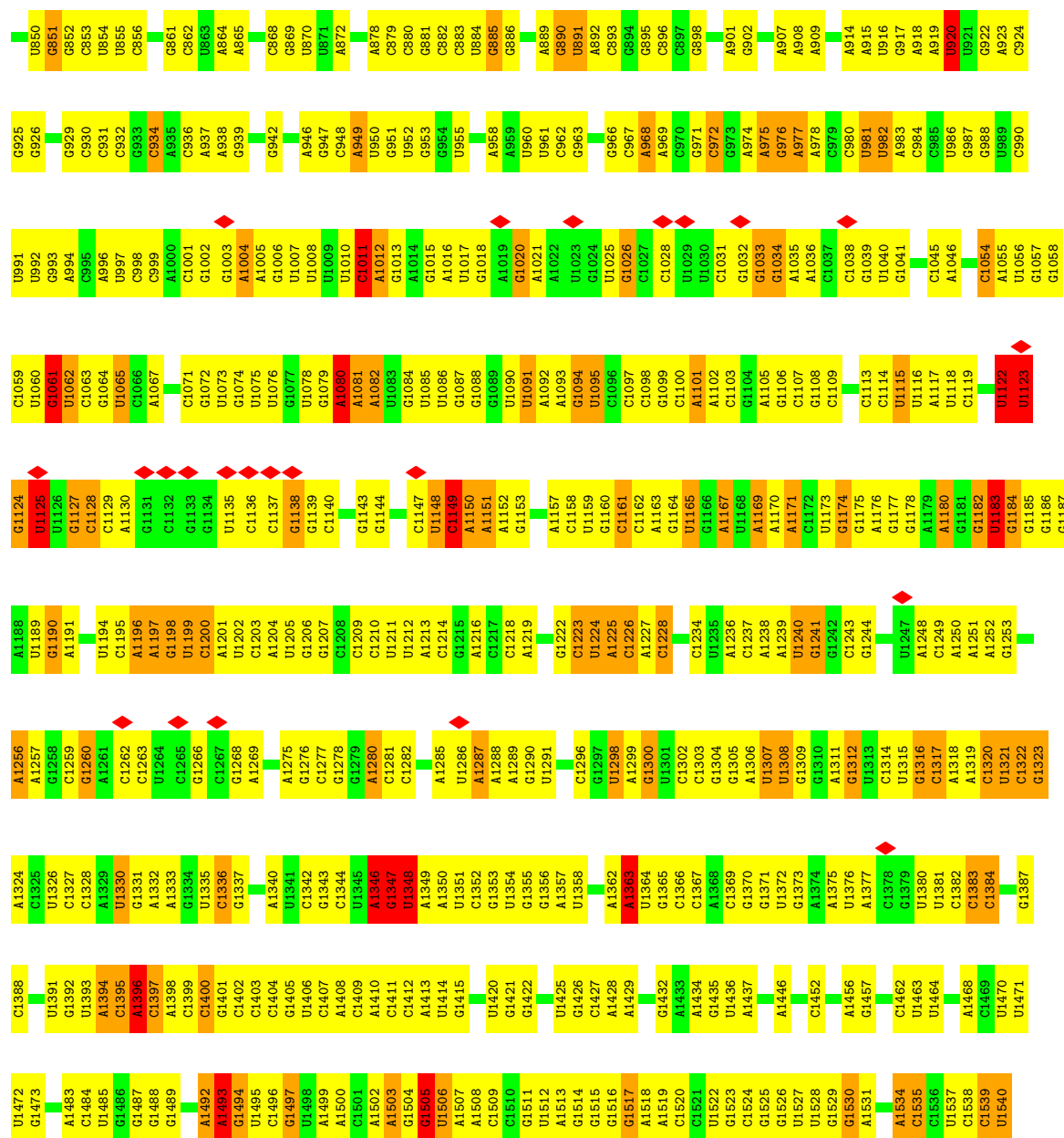




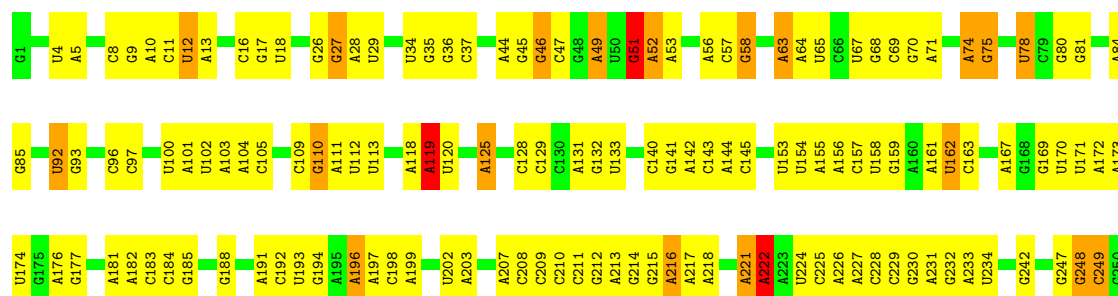
• Molecule 53: 16S ribosomal RNA

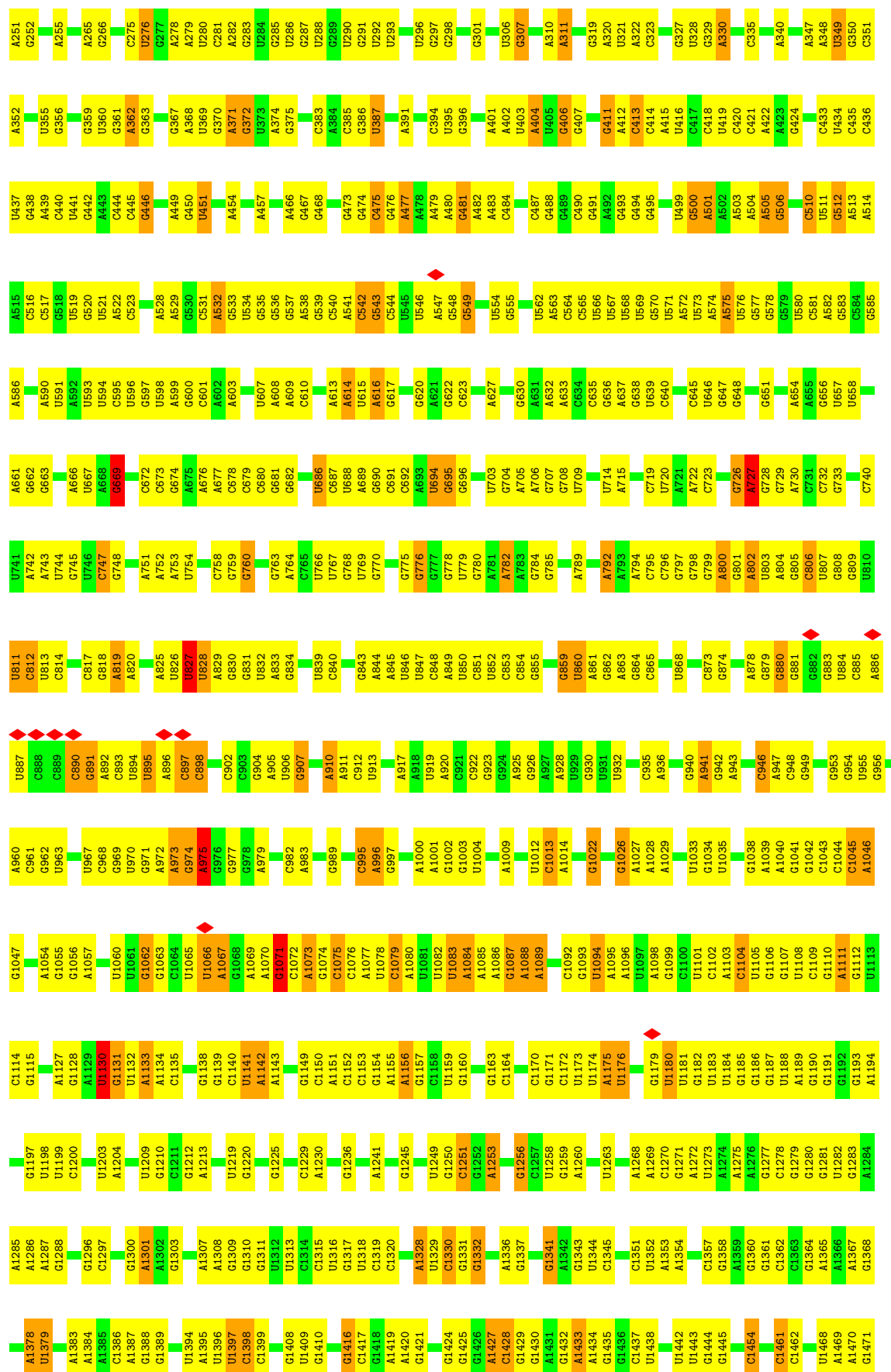
Chain 3: 31% 57% 11%



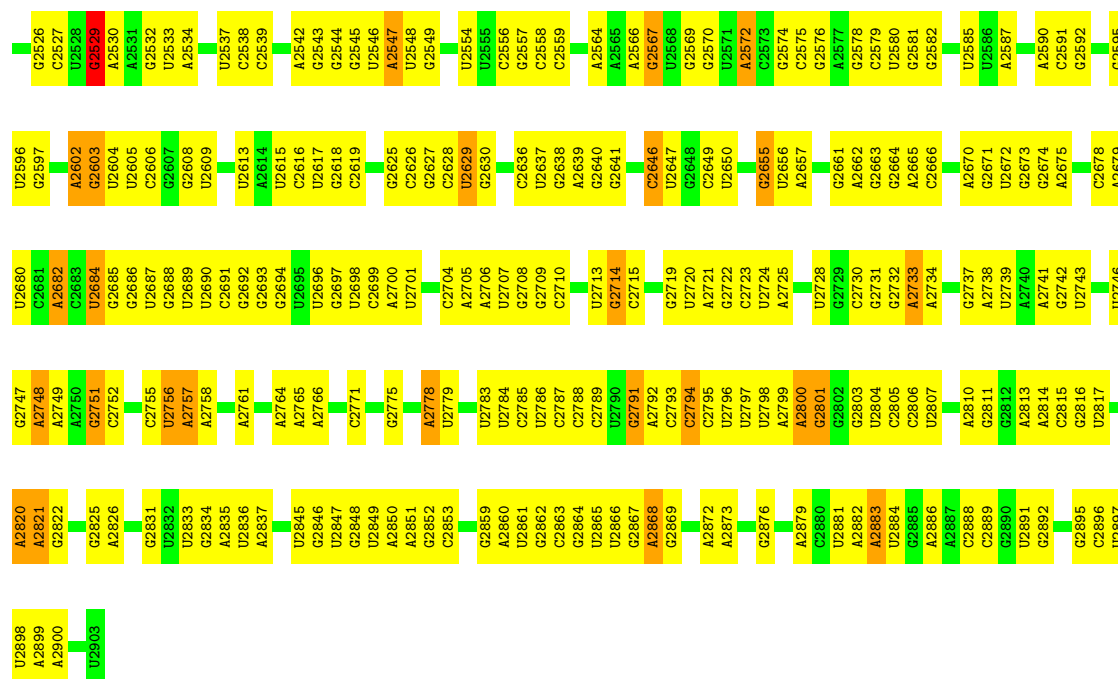


• Molecule 54: 23S ribosomal RNA

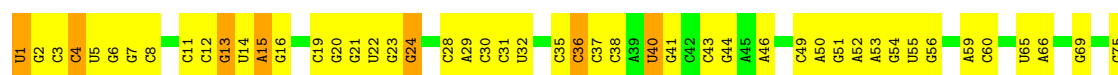




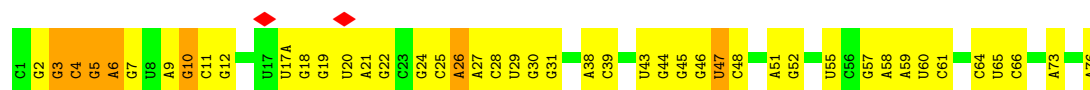
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C2379	C2380	C2381	C2382	G2383	G2384	C2385	A2386	A2387	A2388	G2389	U2390	C2391	A2392	U2393	C2394	C2395	G2396	G2400	U2401	U2402	G2403	U2404	G2405	A2406	A2407	U2408	A2411	A2412	U2413	G2414	G2415	C2416	G2417	A2418	U2419	U2423	C2424	C2427	G2428	G2429	A2430	U2431	A2432	A2435	C2440	U2441	C2442	G2443	G2444	G2447	A2448	U2449																			
A2311	U2312	G2313	A2314	G2315	G2316	A2317	G2318	G2319	G2320	U2321	G2325	G2326	A2327	U2328	A2329	G2330	G2331	G2332	A2333	U2334	A2335	A2336	C2339	A2340	U2343	U2344	G2345	A2346	C2347	U2348	G2349	C2350	G2351	U2356	G2357	A2358	G2359	G2360	G2361	G2362	G2363	G2364	G2365	A2366	G2367	G2368	A2369	G2370	G2371	U2372	G2373	U2376	A2377	A2378																	
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U1940	C1941	C1942	U1943	U1951	A1952	A1953	G1954	U1955	U1956	C1957	C1958	G1959	A1960	C1961	U1963	G1964	C1965	C1966	G1967	A1969	A1970	U1971	G1972	C1973	U1979	G1980	C1985	C1986	U1991	C1992	C1993	C1994	C1995	C1996	A1998	C1999	C2000	C2001	G2002	U2011	G2012	A2013	A2014	A2015	A2016	A2017	A2018	A2019	A2020	C2021	U2022	C2023	G2024	C2025																	
U2026	G2027	U2028	G2029	A2030	A2031	U2034	G2035	C2036	A2037	G2038	U2039	G2040	U2041	A2042	C2043	C2044	C2045	C2046	G2047	G2048	G2049	C2050	G2053	A2054	C2055	G2056	A2059	A2060	C2061	A2062	C2065	C2066	G2067	U2068	G2069	A2070	A2071	C2072	C2073	U2074	U2075	U2076	U2077	U2078	U2079	A2082	G2083	U2086	G2087	A2088	C2089	A2090	G2093																		
C2096	A2097	U2098	U2099	G2100	A2101	G2102	C2103	G2104	U2105	U2106	G2107	A2108	U2109	G2110	U2111	G2112	U2113	A2114	G2115	G2116	A2117	U2118	A2119	G2120	G2124	G2125	A2126	G2127	G2128	C2129	U2130	U2131	U2132	G2133	A2134	A2135	G2140	G2141	A2142	G2143	G2144	G2145	G2146	A2147	U2151	G2152	G2153	U2154	U2155	G2156	G2157	A2158	G2162	A2163																	
C2164	C2165	C2166	U2167	G2168	A2169	A2170	A2171	U2172	A2173	C2174	C2175	A2176	C2177	C2178	U2179	U2180	U2181	U2182	A2183	A2184	U2185	A2186	U2187	U2188	U2189	G2190	A2191	G2193	U2192	U2194	U2195	U2196	U2197	A2198	U2203	G2204	G2208	G2209	U2210	A2211	A2212	U2213	C2214	U2220	G2221	G2222	G2223	G2224	A2225	G2226	A2227	G2228	U2229	G2230	U2231	G2232															
U2233	G2234	G2235	U2236	G2237	G2238	G2239	U2240	A2241	G2242	U2243	U2244	U2245	G2246	A2247	G2248	U2249	G2250	G2255	A2266	A2267	A2268	G2271	U2272	A2273	A2274	G2277	A2278	G2279	G2280	A2281	G2282	C2283	G2286	A2287	G2290	U2291	U2292	G2293	U2296	A2297	A2298	G2301	U2302	G2303	G2304	U2305	G2306	G2307	G2308	A2309	G2310																				
A2311	U2312	G2313	A2314	G2315	G2316	A2317	G2318	G2319	G2320	U2321	G2325	G2326	A2327	U2328	A2329	G2330	G2331	G2332	A2333	U2334	A2335	A2336	C2339	A2340	U2343	U2344	G2345	A2346	C2347	U2348	G2349	C2350	G2351	U2356	G2357	A2358	G2359	G2360	G2361	G2362	G2363	G2364	G2365	A2366	G2367	G2368	A2369	G2370	G2371	U2372	G2373	U2376	A2377	A2378																	
C2379	C2380	A2381	C2382	G2383	G2384	C2385	A2386	A2387	A2388	G2389	U2390	C2391	A2392	U2393	C2394	C2395	G2396	G2400	U2401	U2402	G2403	U2404	G2405	A2406	A2407	U2408	A2411	A2412	U2413	G2414	G2415	C2416	G2417	A2418	U2419	U2423	C2424	C2427	G2428	G2429	A2430	U2431	A2432	A2435	C2440	U2441	C2442	G2443	G2444	G2447	A2448	U2449																			
A1549	C1550	C1551	A1552	G1555	G1558	C1559	G1560	U1561	U1562	G1563	U1564	U1565	C1566	C1567	C1568	A1569	A1570	A1571	A1572	U1576	C1577	U1578	A1583	U1584	C1585	A1586	G1587	G1588	U1589	A1590	A1591	C1592	A1593	U1594	C1595	A1596	A1597	A1598	U1599	C1600	A1603	A1608	A1609	C1611	A1614	C1615	U1616	A1617	A1618	U1619	A1620	A1621	A1622	A1623	A1624	A1625	A1626	A1627	A1628	A1629	A1630	A1631	A1632	A1633	A1634	A1635	A1636	A1637	A1638	C1639	A1640
C1472	G1473	U1474	G1475	U1476	G1477	G1478	G1479	C1480	U1481	G1482	G1483	U1484	U1485	U1486	U1487	C1488	C1489	A1490	C1498	G1499	G1500	A1501	C1502	A1503	C1507	A1508	A1509	G1510	G1511	C1512	A1515	A1522	U1523	G1524	A1528	G1529	A1532	C1533	U1534	A1535	C1536	G1537	G1538	U1539	G1540	C1541	U1542	G1543	A1544	A1545	C1546	G1547	A1548																		
A1641	G1642	C1643	C1644	G1645	C1646	U1647	U1648	U1649	G1653	A1654	A1655	C1656	U1657	C1658	A1664	A1665	G1666	G1667	A1668	A1669	C1670	U1671	G1674	G1681	G1682	U1683	G1684	C1685	A1689	A1690	G1695	G1702	G1703	U1709	G1710	U1713	U1714	G1715	U1716	A1717	G1718	U1719	U1720	G1721	A1722	G1723	G1724	A1725	C1726	C1727																					
U1796	G1797	U1798	G1799	C1800	A1801	A1802	C1806	G1807	A1808	A1809	A1810	G1811	C1816	A1817	U1818	A1819	U1820	A1821	G1822	C1823	G1824	U1825	G1826	U1827	A1828	A1829	C1830	G1831	C1832	C1833	U1834	C1837	C1838	G1842	C1843	C1844	G1845	G1846	A1847	U1851	U1852	A1853	A1854	U1855	U1856	U1857	A1858	U1859	G1860	G1861	C1868	U1869																			
A1872	G1873	U1874	G1875	G1878	C1879	U188																																																																	



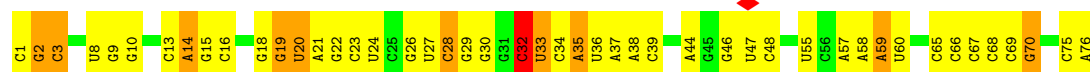
• Molecule 55: 5S ribosomal RNA



• Molecule 56: tRNA^{Pro}

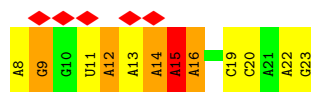


• Molecule 57: tRNA^{fMet}

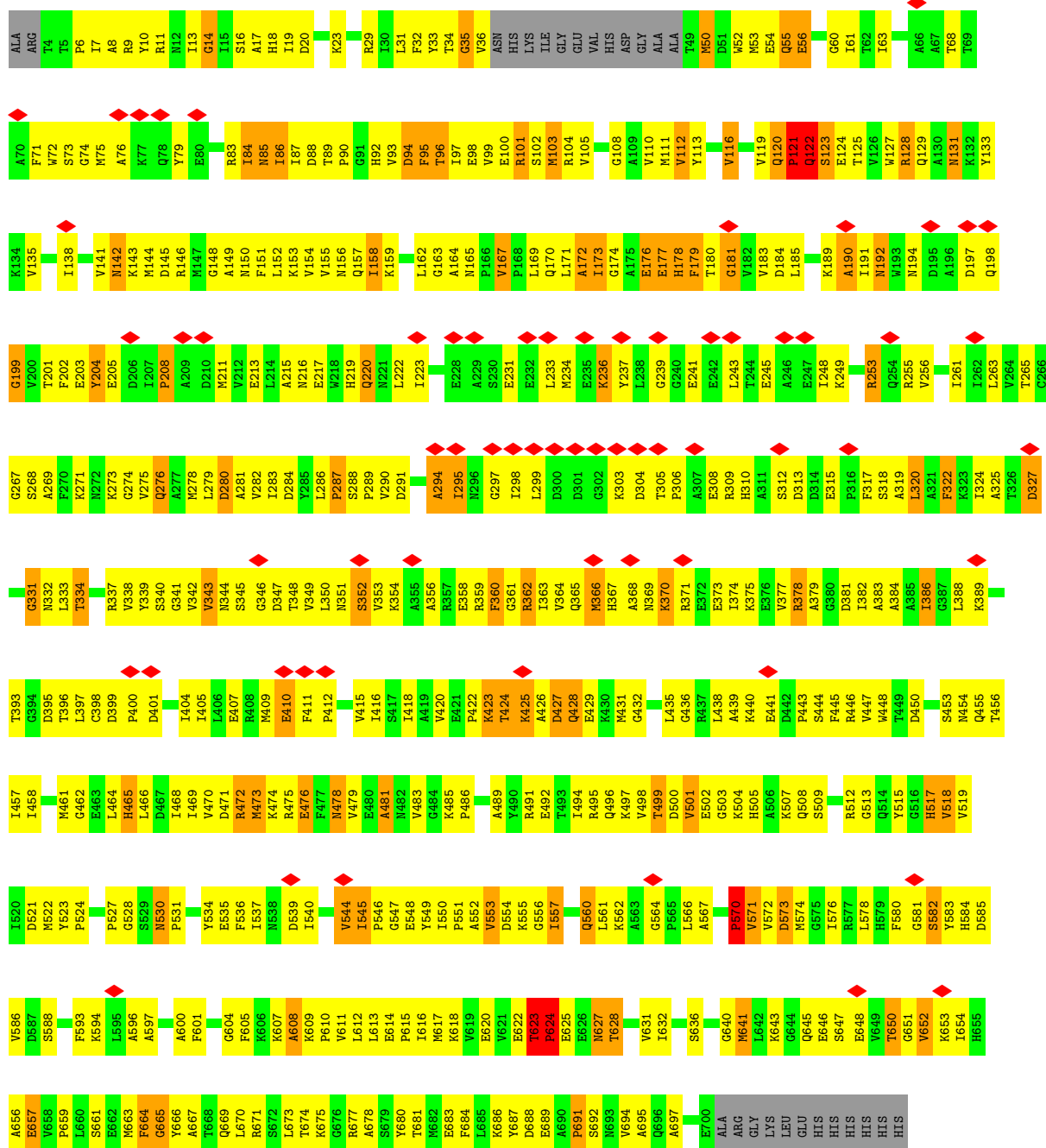


• Molecule 58: mRNA





• Molecule 59: Elongation factor G



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	3179	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	21.906	Depositor
Minimum map value	-8.364	Depositor
Average map value	0.019	Depositor
Map value standard deviation	1.404	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: FME, GCP, MG

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	0.98	19/2122 (0.9%)	1.17	17/2852 (0.6%)
2	c	0.95	9/1586 (0.6%)	1.27	17/2134 (0.8%)
3	d	1.15	16/1571 (1.0%)	1.30	30/2113 (1.4%)
4	e	1.22	18/1435 (1.3%)	1.34	25/1926 (1.3%)
5	f	1.01	9/1343 (0.7%)	1.15	13/1816 (0.7%)
6	g	1.88	24/946 (2.5%)	1.49	23/1275 (1.8%)
7	h	1.68	14/638 (2.2%)	1.61	21/860 (2.4%)
8	i	2.31	22/564 (3.9%)	2.03	29/768 (3.8%)
9	j	0.98	8/1152 (0.7%)	1.17	13/1551 (0.8%)
10	k	1.02	4/948 (0.4%)	1.29	15/1268 (1.2%)
11	l	0.74	3/1054 (0.3%)	1.08	6/1403 (0.4%)
12	m	1.14	12/1093 (1.1%)	1.26	14/1460 (1.0%)
13	n	0.93	8/974 (0.8%)	1.08	4/1301 (0.3%)
14	o	0.95	6/902 (0.7%)	1.16	9/1209 (0.7%)
15	p	0.81	5/929 (0.5%)	1.01	1/1242 (0.1%)
16	q	1.06	8/960 (0.8%)	1.21	5/1278 (0.4%)
17	r	0.69	0/829	1.02	2/1107 (0.2%)
18	s	1.18	10/864 (1.2%)	1.26	13/1156 (1.1%)
19	t	0.81	4/745 (0.5%)	1.05	3/994 (0.3%)
20	u	0.64	1/788 (0.1%)	0.96	4/1051 (0.4%)
21	v	0.91	5/766 (0.7%)	1.19	8/1025 (0.8%)
22	w	1.09	4/582 (0.7%)	1.16	4/769 (0.5%)
23	x	0.76	1/635 (0.2%)	1.01	2/848 (0.2%)
24	y	1.01	4/510 (0.8%)	1.15	2/677 (0.3%)
25	z	1.05	5/453 (1.1%)	1.00	2/605 (0.3%)
26	A	1.29	5/532 (0.9%)	1.32	8/709 (1.1%)
27	B	0.78	1/450 (0.2%)	1.08	4/599 (0.7%)
28	C	1.16	3/417 (0.7%)	1.09	3/554 (0.5%)
29	D	0.84	1/380 (0.3%)	1.15	2/498 (0.4%)
30	E	0.78	2/513 (0.4%)	0.93	2/676 (0.3%)
31	F	1.08	1/303 (0.3%)	1.00	1/397 (0.3%)
32	G	1.37	25/1736 (1.4%)	1.45	44/2338 (1.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	H	1.45	35/1652 (2.1%)	1.39	37/2225 (1.7%)
34	I	1.29	25/1665 (1.5%)	1.40	36/2227 (1.6%)
35	J	1.28	15/1170 (1.3%)	1.34	14/1573 (0.9%)
36	K	2.21	29/836 (3.5%)	1.77	31/1128 (2.7%)
37	L	1.51	24/1196 (2.0%)	1.50	32/1602 (2.0%)
38	M	1.23	15/989 (1.5%)	1.39	24/1326 (1.8%)
39	N	1.10	12/1034 (1.2%)	1.28	16/1375 (1.2%)
40	O	2.38	25/797 (3.1%)	1.78	32/1077 (3.0%)
41	P	1.35	13/886 (1.5%)	1.44	17/1195 (1.4%)
42	Q	0.87	3/969 (0.3%)	1.15	5/1300 (0.4%)
43	R	1.58	22/893 (2.5%)	1.60	17/1193 (1.4%)
44	S	1.49	18/817 (2.2%)	1.34	19/1088 (1.7%)
45	T	1.64	18/722 (2.5%)	1.44	18/964 (1.9%)
46	U	0.98	5/659 (0.8%)	1.11	5/884 (0.6%)
47	V	0.83	4/658 (0.6%)	0.97	3/881 (0.3%)
48	W	1.05	3/545 (0.6%)	1.30	10/731 (1.4%)
49	X	1.47	11/653 (1.7%)	1.66	24/877 (2.7%)
50	Y	1.49	15/671 (2.2%)	1.48	18/888 (2.0%)
51	Z	1.28	9/551 (1.6%)	1.64	17/728 (2.3%)
52	a	1.80	30/1034 (2.9%)	1.66	32/1387 (2.3%)
53	3	0.57	6/36963 (0.0%)	0.61	20/57662 (0.0%)
54	1	0.50	0/69796	0.57	16/108888 (0.0%)
55	2	0.48	0/2872	0.59	1/4479 (0.0%)
56	5	0.49	0/1840	0.63	0/2868
57	6	0.51	0/1832	0.65	2/2855 (0.1%)
58	4	0.54	0/391	0.72	3/608 (0.5%)
59	8	1.34	83/5411 (1.5%)	1.44	129/7323 (1.8%)
All	All	0.83	677/166222 (0.4%)	0.87	924/247791 (0.4%)

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
34	I	0	2
35	J	0	2
46	U	0	1
53	3	0	22
54	1	0	49
55	2	0	3
56	5	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
57	6	0	1
59	8	0	1
All	All	0	82

All (677) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	K	13	ASP	C-O	23.86	1.51	1.24
6	g	142	VAL	C-O	22.77	1.47	1.24
40	O	40	ILE	N-CA	22.43	1.74	1.46
40	O	73	LEU	C-O	21.73	1.50	1.23
40	O	39	PRO	C-N	21.67	1.57	1.33
6	g	132	PHE	C-O	21.62	1.52	1.23
8	i	35	MET	C-O	19.97	1.47	1.24
8	i	19	PRO	C-O	18.77	1.48	1.24
36	K	12	PRO	C-O	18.27	1.46	1.24
32	G	59	ILE	C-O	18.22	1.45	1.24
40	O	75	ASP	C-O	17.85	1.46	1.23
40	O	72	ARG	C-O	16.72	1.44	1.24
6	g	130	VAL	C-O	16.40	1.43	1.24
45	T	70	LYS	C-O	16.13	1.42	1.24
40	O	11	LYS	C-O	16.10	1.42	1.23
59	8	181	GLY	C-O	15.93	1.39	1.23
59	8	386	ILE	C-O	15.89	1.41	1.23
40	O	40	ILE	C-O	15.61	1.44	1.24
6	g	98	ASP	C-O	15.48	1.42	1.24
8	i	36	GLU	C-O	14.98	1.43	1.24
41	P	85	VAL	C-O	14.86	1.39	1.24
44	S	6	LYS	C-O	14.79	1.41	1.24
5	f	43	LYS	C-O	14.74	1.40	1.24
31	F	4	ARG	C-O	14.39	1.41	1.23
40	O	97	ASP	C-O	14.37	1.40	1.24
37	L	125	ASP	C-O	14.29	1.41	1.24
28	C	33	LEU	C-O	14.18	1.41	1.23
7	h	19	ALA	N-CA	14.18	1.64	1.46
36	K	16	GLU	N-CA	14.03	1.63	1.46
26	A	46	GLY	C-O	13.93	1.40	1.23
8	i	37	PHE	C-O	13.82	1.40	1.24
8	i	34	ILE	C-O	13.79	1.40	1.24
4	e	51	ASN	C-O	13.77	1.40	1.24
36	K	17	GLN	N-CA	13.73	1.65	1.46
36	K	66	ALA	C-O	13.64	1.36	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	a	214	ILE	C-O	13.56	1.37	1.24
7	h	15	VAL	C-O	13.49	1.40	1.24
22	w	27	VAL	C-O	13.39	1.38	1.23
26	A	47	LYS	C-O	13.26	1.41	1.24
50	Y	60	GLN	C-O	13.25	1.42	1.24
59	8	112	VAL	N-CA	12.96	1.62	1.46
3	d	36	ALA	C-O	12.95	1.39	1.24
33	H	128	MET	C-O	12.90	1.39	1.24
32	G	105	THR	C-O	12.76	1.40	1.24
34	I	198	LEU	C-O	12.75	1.40	1.24
52	a	208	TYR	C-O	12.69	1.34	1.23
39	N	75	ALA	C-O	12.59	1.40	1.24
36	K	21	MET	C-O	12.58	1.38	1.24
34	I	69	ARG	C-O	12.49	1.38	1.24
53	3	1123	U	N3-C4	12.45	1.63	1.38
43	R	101	THR	N-CA	12.33	1.60	1.46
59	8	276	GLN	C-O	12.28	1.38	1.24
52	a	59	VAL	C-O	12.18	1.39	1.24
59	8	553	VAL	N-CA	-12.17	1.32	1.46
37	L	21	LEU	C-O	12.08	1.39	1.24
43	R	56	ARG	C-O	12.08	1.39	1.24
33	H	132	ALA	C-O	12.06	1.38	1.24
4	e	9	ASP	C-O	12.02	1.37	1.24
6	g	140	ALA	N-CA	11.94	1.60	1.46
37	L	57	GLU	C-O	11.94	1.38	1.24
37	L	139	ASP	C-O	11.93	1.38	1.24
36	K	20	GLY	C-O	11.88	1.38	1.23
10	k	14	SER	C-O	11.87	1.39	1.24
41	P	109	ILE	C-O	11.87	1.35	1.24
52	a	185	LEU	N-CA	11.84	1.61	1.46
8	i	38	CYS	N-CA	11.83	1.61	1.46
45	T	7	THR	C-O	11.79	1.37	1.24
59	8	429	GLU	C-O	11.72	1.38	1.24
45	T	76	ARG	C-O	11.70	1.38	1.24
49	X	19	GLU	C-O	11.70	1.37	1.24
36	K	72	ASP	C-O	11.62	1.37	1.24
41	P	67	GLU	C-O	11.58	1.37	1.24
34	I	199	ILE	C-O	11.55	1.37	1.24
53	3	1123	U	N1-C6	11.54	1.61	1.38
53	3	1123	U	N1-C2	11.49	1.61	1.38
1	b	116	GLN	C-O	11.43	1.38	1.23
8	i	67	THR	C-O	11.36	1.38	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	H	129	PHE	C-O	11.33	1.37	1.24
18	s	16	LYS	C-O	11.31	1.37	1.24
59	8	472	ARG	C-O	11.29	1.37	1.24
6	g	101	ASP	C-O	11.27	1.37	1.24
18	s	106	VAL	C-O	11.24	1.37	1.24
40	O	29	ALA	C-O	11.24	1.36	1.24
59	8	176	GLU	C-O	-11.23	1.09	1.24
59	8	156	ASN	C-O	11.15	1.38	1.24
7	h	36	ASP	C-O	11.11	1.38	1.24
32	G	38	HIS	C-O	11.09	1.37	1.24
3	d	35	TYR	C-O	11.05	1.38	1.24
32	G	129	THR	C-O	11.03	1.37	1.23
12	m	35	ALA	C-O	10.92	1.36	1.23
18	s	41	LYS	C-O	10.92	1.38	1.23
46	U	75	ILE	C-O	10.91	1.36	1.24
12	m	119	LEU	C-O	10.89	1.37	1.24
59	8	16	SER	N-CA	10.87	1.59	1.46
7	h	59	LEU	C-O	10.86	1.36	1.23
36	K	60	VAL	C-O	10.79	1.35	1.23
7	h	37	LYS	C-O	10.78	1.37	1.24
34	I	155	LYS	N-CA	10.77	1.59	1.46
32	G	75	ALA	C-O	10.76	1.35	1.24
53	3	1123	U	C4-C5	10.75	1.65	1.43
35	J	78	GLY	C-O	10.71	1.38	1.24
33	H	103	ALA	C-O	10.69	1.36	1.23
52	a	47	ASN	C-O	10.69	1.37	1.23
36	K	51	ILE	N-CA	10.63	1.59	1.46
40	O	72	ARG	C-N	10.56	1.48	1.33
9	j	27	ARG	C-O	10.52	1.36	1.24
52	a	181	ASP	C-O	10.52	1.37	1.24
59	8	665	GLY	C-O	10.48	1.38	1.23
25	z	2	LYS	C-O	10.46	1.36	1.23
33	H	180	ASP	C-O	10.45	1.37	1.23
50	Y	73	ARG	C-O	10.45	1.36	1.24
43	R	76	ILE	C-O	10.35	1.35	1.24
14	o	30	ARG	N-CA	10.32	1.58	1.45
38	M	24	VAL	C-O	10.29	1.34	1.24
44	S	39	ASP	C-O	10.25	1.35	1.24
6	g	30	LEU	C-O	10.24	1.35	1.24
59	8	652	VAL	N-CA	10.22	1.58	1.46
59	8	561	LEU	C-O	10.21	1.37	1.24
35	J	92	ARG	C-O	-10.17	1.09	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	8	627	ASN	C-N	10.15	1.48	1.33
43	R	75	SER	C-O	10.14	1.35	1.24
3	d	188	MET	N-CA	10.13	1.58	1.46
33	H	30	ASP	C-O	10.09	1.35	1.24
36	K	11	HIS	C-O	10.09	1.36	1.23
59	8	659	PRO	C-O	10.03	1.34	1.23
53	3	1123	U	C5-C6	10.02	1.54	1.34
32	G	66	ILE	C-O	10.01	1.33	1.24
12	m	120	ALA	C-O	10.00	1.35	1.24
44	S	82	LYS	C-O	10.00	1.36	1.24
15	p	68	GLY	C-O	9.98	1.34	1.23
45	T	77	TYR	C-O	9.97	1.35	1.24
43	R	22	TYR	C-O	9.95	1.35	1.23
10	k	37	ASP	C-O	9.88	1.36	1.23
59	8	552	ALA	C-O	9.87	1.35	1.24
59	8	96	THR	N-CA	9.84	1.59	1.46
52	a	165	ASN	N-CA	9.82	1.57	1.45
49	X	20	LYS	C-O	9.77	1.35	1.24
49	X	66	VAL	C-O	9.76	1.34	1.23
35	J	64	GLU	C-O	9.74	1.35	1.24
45	T	74	VAL	C-O	9.73	1.35	1.24
52	a	161	VAL	C-O	9.72	1.36	1.23
44	S	5	MET	C-O	9.69	1.35	1.24
3	d	132	LYS	C-O	9.68	1.35	1.24
36	K	8	PHE	C-O	9.66	1.36	1.23
44	S	7	ALA	C-O	9.65	1.36	1.24
59	8	641	MET	C-O	9.59	1.35	1.23
41	P	31	VAL	N-CA	9.50	1.58	1.46
44	S	77	GLY	C-O	9.47	1.37	1.23
34	I	52	VAL	C-O	9.43	1.35	1.24
59	8	100	GLU	C-O	9.42	1.34	1.24
59	8	208	PRO	C-O	9.41	1.34	1.23
21	v	2	PHE	C-O	9.40	1.35	1.23
37	L	42	VAL	C-O	9.39	1.36	1.24
59	8	553	VAL	C-O	9.35	1.35	1.24
4	e	161	SER	C-O	9.31	1.35	1.23
39	N	27	ILE	C-O	9.30	1.34	1.24
49	X	9	PHE	C-O	9.28	1.35	1.23
40	O	37	ARG	N-CA	9.27	1.57	1.46
48	W	40	PRO	C-O	9.26	1.34	1.23
13	n	15	SER	C-O	9.25	1.34	1.24
34	I	152	SER	C-O	-9.23	1.12	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	a	44	VAL	C-O	9.20	1.35	1.24
35	J	65	LYS	C-O	9.20	1.34	1.24
50	Y	31	ILE	C-O	9.18	1.34	1.24
52	a	183	ASP	C-O	9.17	1.34	1.24
59	8	295	ILE	C-O	9.16	1.35	1.24
9	j	98	GLU	C-O	9.14	1.34	1.24
59	8	95	PHE	C-O	9.11	1.34	1.24
45	T	75	ALA	C-O	9.11	1.34	1.24
34	I	73	ASN	C-O	9.10	1.34	1.24
39	N	74	GLN	C-O	9.09	1.35	1.24
52	a	163	TYR	C-O	9.07	1.35	1.23
34	I	19	PHE	C-O	9.04	1.35	1.24
51	Z	5	VAL	C-O	8.99	1.33	1.24
40	O	10	LEU	C-O	8.94	1.35	1.24
59	8	650	THR	C-O	8.94	1.37	1.24
7	h	62	ARG	C-O	8.93	1.35	1.24
52	a	196	LEU	C-O	8.93	1.34	1.24
43	R	89	ARG	C-O	8.93	1.34	1.24
52	a	61	GLY	C-O	8.89	1.35	1.23
34	I	70	GLN	C-O	8.88	1.34	1.24
35	J	91	SER	C-O	8.88	1.35	1.23
27	B	46	GLY	C-O	8.85	1.35	1.23
59	8	253	ARG	C-O	8.83	1.34	1.24
8	i	59	THR	C-O	8.82	1.34	1.23
32	G	52	ALA	C-O	8.79	1.34	1.24
36	K	22	ILE	C-O	8.77	1.34	1.24
40	O	40	ILE	CA-CB	8.77	1.65	1.54
33	H	20	THR	C-O	8.74	1.34	1.23
30	E	53	ASP	C-O	8.66	1.35	1.24
59	8	94	ASP	C-O	-8.66	1.12	1.23
50	Y	58	ASP	C-O	8.65	1.34	1.24
35	J	87	VAL	N-CA	8.64	1.57	1.46
37	L	44	SER	C-O	8.63	1.34	1.24
46	U	79	ASN	N-CA	8.62	1.57	1.46
34	I	51	GLY	C-O	8.62	1.34	1.23
38	M	34	ALA	C-O	8.62	1.34	1.24
37	L	133	ALA	C-O	8.61	1.33	1.24
59	8	370	LYS	C-O	8.60	1.34	1.23
37	L	145	GLU	C-O	8.54	1.34	1.24
59	8	172	ALA	C-N	8.54	1.41	1.33
28	C	47	ILE	C-O	8.52	1.34	1.24
6	g	99	ILE	C-O	8.52	1.34	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	P	71	ASP	N-CA	8.49	1.57	1.46
36	K	13	ASP	CA-C	8.45	1.63	1.52
8	i	33	ASN	C-O	8.43	1.34	1.24
32	G	69	VAL	C-O	8.43	1.33	1.24
8	i	39	LYS	C-O	8.43	1.33	1.24
51	Z	41	THR	C-O	8.38	1.33	1.24
59	8	128	ARG	C-O	8.37	1.33	1.24
53	3	1123	U	C2-N3	8.36	1.54	1.37
4	e	52	ALA	C-O	8.35	1.34	1.24
36	K	16	GLU	C-O	8.35	1.33	1.24
52	a	41	SER	C-O	8.35	1.34	1.23
38	M	60	LEU	C-O	8.31	1.33	1.24
6	g	108	VAL	C-O	8.29	1.37	1.23
33	H	138	GLN	C-O	8.23	1.34	1.24
34	I	202	LEU	N-CA	8.21	1.57	1.46
6	g	142	VAL	N-CA	8.21	1.56	1.46
38	M	16	GLY	C-O	8.15	1.33	1.23
59	8	190	ALA	C-O	8.15	1.33	1.24
40	O	8	ILE	C-O	8.13	1.32	1.24
35	J	117	ALA	C-O	8.13	1.34	1.24
23	x	18	SER	N-CA	8.12	1.55	1.46
36	K	2	ARG	C-O	8.11	1.33	1.23
32	G	217	ALA	C-O	8.00	1.33	1.24
59	8	178	HIS	C-N	7.98	1.44	1.33
1	b	32	LEU	C-O	7.97	1.34	1.24
34	I	134	TYR	C-O	7.96	1.33	1.23
43	R	49	GLU	C-O	7.94	1.34	1.24
18	s	45	VAL	N-CA	7.92	1.56	1.46
59	8	544	VAL	C-O	7.91	1.36	1.23
59	8	55	GLN	C-O	7.90	1.33	1.24
48	W	52	ARG	C-O	7.89	1.33	1.24
59	8	608	ALA	C-O	7.88	1.34	1.24
59	8	360	PHE	C-O	7.87	1.33	1.24
44	S	84	ARG	C-O	7.87	1.33	1.24
22	w	46	ASN	C-O	7.84	1.33	1.24
32	G	96	LEU	C-O	7.83	1.33	1.24
8	i	58	ILE	C-N	7.82	1.44	1.33
33	H	97	PRO	C-O	7.81	1.34	1.23
37	L	61	PHE	N-CA	7.81	1.56	1.46
5	f	146	ASP	C-O	7.80	1.33	1.24
37	L	138	GLU	C-O	7.79	1.33	1.24
12	m	73	ILE	C-O	7.79	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	K	28	ALA	C-O	7.77	1.33	1.24
4	e	12	VAL	C-N	7.77	1.44	1.34
49	X	38	THR	N-CA	7.76	1.55	1.45
59	8	623	THR	C-O	-7.75	1.15	1.25
6	g	129	GLU	C-N	7.74	1.45	1.33
7	h	3	LEU	C-O	7.73	1.32	1.23
43	R	59	VAL	C-O	7.73	1.34	1.24
59	8	552	ALA	CA-C	7.73	1.62	1.52
3	d	137	LYS	C-O	7.73	1.33	1.24
45	T	64	LYS	C-O	7.69	1.32	1.24
59	8	428	GLN	N-CA	7.69	1.56	1.46
7	h	18	VAL	C-O	7.68	1.32	1.24
1	b	174	ARG	C-O	7.66	1.33	1.23
7	h	40	GLU	C-O	7.65	1.32	1.24
59	8	281	ALA	C-O	7.65	1.33	1.24
5	f	50	THR	N-CA	7.65	1.56	1.45
59	8	465	HIS	C-O	7.65	1.33	1.24
36	K	27	ALA	C-O	7.64	1.33	1.24
49	X	38	THR	C-N	7.63	1.44	1.33
14	o	116	GLN	C-O	7.62	1.33	1.23
7	h	40	GLU	N-CA	7.60	1.55	1.46
4	e	141	ASP	N-CA	7.59	1.55	1.46
16	q	76	SER	C-O	7.58	1.32	1.24
52	a	171	ILE	C-O	7.57	1.33	1.24
26	A	50	ASP	N-CA	7.56	1.56	1.46
50	Y	23	ARG	C-O	7.53	1.32	1.24
40	O	97	ASP	N-CA	7.53	1.55	1.46
34	I	196	GLU	C-O	7.52	1.33	1.24
52	a	26	ALA	C-O	7.49	1.33	1.24
10	k	115	ILE	C-O	7.47	1.32	1.24
2	c	140	HIS	C-O	7.46	1.33	1.24
2	c	189	VAL	N-CA	7.41	1.55	1.46
6	g	52	ALA	C-N	7.40	1.43	1.33
14	o	70	ALA	C-O	7.39	1.32	1.24
52	a	63	THR	C-O	7.39	1.33	1.23
49	X	24	SER	N-CA	7.38	1.55	1.46
59	8	87	ILE	N-CA	7.38	1.54	1.46
44	S	41	TRP	C-O	7.36	1.33	1.24
43	R	96	VAL	CA-C	7.34	1.62	1.52
39	N	93	LEU	C-O	7.34	1.33	1.24
5	f	139	VAL	C-O	7.33	1.32	1.24
45	T	10	ILE	C-O	7.33	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	m	118	LYS	C-O	7.33	1.32	1.24
36	K	3	HIS	C-O	7.32	1.32	1.23
39	N	78	ILE	N-CA	7.30	1.55	1.46
43	R	101	THR	CA-C	7.30	1.60	1.53
3	d	34	ALA	C-O	7.28	1.32	1.24
4	e	55	ASP	N-CA	7.28	1.55	1.46
33	H	69	THR	C-O	7.27	1.34	1.23
4	e	7	TYR	C-O	7.27	1.32	1.24
40	O	40	ILE	CA-C	7.25	1.60	1.52
32	G	206	ILE	C-O	7.23	1.32	1.24
47	V	37	ILE	C-O	7.22	1.33	1.23
45	T	24	THR	C-O	7.22	1.33	1.24
59	8	255	ARG	C-O	7.21	1.33	1.24
50	Y	56	ILE	C-O	7.20	1.32	1.24
8	i	27	LEU	C-O	7.20	1.33	1.24
38	M	86	LYS	C-O	7.19	1.31	1.23
9	j	20	ALA	N-CA	7.18	1.55	1.46
59	8	362	ARG	C-O	7.18	1.32	1.23
7	h	18	VAL	C-N	7.17	1.43	1.34
59	8	657	GLU	C-O	7.16	1.32	1.24
29	D	28	ARG	C-O	7.15	1.32	1.24
22	w	45	ALA	C-O	7.14	1.33	1.23
35	J	113	VAL	C-O	7.12	1.32	1.24
12	m	113	ALA	C-O	7.10	1.32	1.24
16	q	103	VAL	C-O	7.09	1.32	1.24
33	H	80	GLY	C-O	7.08	1.33	1.24
6	g	49	ALA	C-O	7.06	1.33	1.23
13	n	14	SER	C-O	7.06	1.32	1.24
50	Y	78	LEU	C-O	7.05	1.32	1.24
32	G	76	SER	C-O	7.03	1.32	1.24
49	X	43	MET	C-O	7.03	1.33	1.24
59	8	280	ASP	N-CA	7.03	1.54	1.46
38	M	125	ILE	N-CA	7.01	1.55	1.46
44	S	86	ALA	N-CA	7.01	1.55	1.46
3	d	190	ALA	C-O	6.99	1.32	1.24
41	P	110	THR	C-O	6.98	1.32	1.23
2	c	97	SER	N-CA	6.98	1.56	1.46
39	N	62	LEU	C-O	6.97	1.32	1.23
59	8	367	HIS	N-CA	6.96	1.54	1.46
13	n	17	ARG	C-O	6.95	1.32	1.24
35	J	13	LYS	C-O	6.94	1.32	1.24
45	T	6	ALA	C-O	6.94	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	G	109	SER	N-CA	6.91	1.55	1.46
43	R	51	GLN	C-O	6.90	1.33	1.24
59	8	624	PRO	C-O	6.89	1.32	1.24
3	d	196	VAL	C-O	6.87	1.33	1.24
6	g	96	THR	C-O	6.87	1.32	1.24
21	v	64	VAL	N-CA	6.86	1.54	1.46
6	g	129	GLU	C-O	6.86	1.31	1.23
43	R	29	SER	C-O	6.86	1.32	1.24
4	e	12	VAL	C-O	6.86	1.31	1.24
52	a	173	THR	N-CA	6.85	1.54	1.46
33	H	71	ARG	C-O	6.84	1.32	1.24
34	I	71	PHE	C-O	6.84	1.32	1.24
51	Z	23	GLU	C-O	6.84	1.30	1.24
44	S	6	LYS	CA-C	6.83	1.61	1.52
52	a	46	VAL	N-CA	6.82	1.54	1.46
33	H	118	SER	C-O	6.82	1.31	1.24
4	e	91	ARG	N-CA	6.80	1.54	1.45
38	M	100	ILE	C-O	6.80	1.32	1.24
16	q	53	LYS	C-O	6.80	1.31	1.24
59	8	180	THR	CA-C	6.79	1.60	1.52
14	o	90	VAL	N-CA	6.78	1.56	1.46
33	H	199	VAL	C-O	6.78	1.32	1.24
42	Q	4	ASN	C-O	6.77	1.31	1.24
18	s	80	PRO	C-O	6.75	1.33	1.23
33	H	56	ILE	C-O	6.75	1.30	1.24
36	K	6	ILE	C-O	6.74	1.30	1.24
16	q	12	ARG	C-O	6.72	1.31	1.24
2	c	33	ARG	N-CA	6.71	1.54	1.46
7	h	75	ALA	C-O	6.70	1.32	1.24
36	K	53	LYS	C-O	-6.69	1.15	1.24
33	H	58	ARG	N-CA	6.69	1.52	1.46
35	J	107	GLY	C-O	6.68	1.29	1.23
59	8	204	TYR	C-N	6.68	1.39	1.33
37	L	134	VAL	C-O	6.68	1.31	1.24
8	i	40	ALA	N-CA	6.68	1.54	1.46
42	Q	95	HIS	C-O	6.67	1.32	1.24
19	t	47	VAL	C-O	6.67	1.32	1.24
34	I	50	TYR	C-O	6.67	1.31	1.24
12	m	100	LYS	N-CA	6.66	1.54	1.46
1	b	260	LYS	C-O	-6.64	1.15	1.24
1	b	94	LEU	C-N	6.63	1.42	1.33
15	p	28	LYS	C-O	6.63	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	M	102	VAL	C-O	6.62	1.34	1.23
3	d	39	ALA	N-CA	6.60	1.54	1.46
40	O	11	LYS	N-CA	6.58	1.53	1.46
44	S	10	VAL	N-CA	6.58	1.54	1.46
59	8	180	THR	C-O	6.58	1.33	1.23
38	M	47	ASP	N-CA	6.57	1.55	1.46
37	L	117	LEU	C-O	6.55	1.31	1.24
3	d	133	LEU	C-O	6.55	1.31	1.24
18	s	31	GLN	C-O	6.55	1.31	1.24
32	G	142	LYS	C-O	6.54	1.32	1.24
33	H	69	THR	N-CA	6.54	1.55	1.46
38	M	128	VAL	N-CA	6.54	1.53	1.46
38	M	84	ILE	C-O	6.53	1.30	1.24
52	a	214	ILE	C-N	6.52	1.42	1.33
34	I	169	TRP	C-O	6.52	1.31	1.24
33	H	72	PRO	C-O	6.51	1.32	1.24
8	i	39	LYS	N-CA	6.50	1.54	1.46
16	q	102	LYS	C-O	6.49	1.32	1.24
6	g	17	ASP	C-O	6.48	1.31	1.23
12	m	43	ALA	C-O	6.47	1.31	1.24
59	8	157	GLN	C-O	6.47	1.32	1.24
4	e	2	LYS	C-O	6.46	1.32	1.24
40	O	7	ARG	N-CA	6.46	1.54	1.46
32	G	17	HIS	N-CA	6.45	1.54	1.46
6	g	128	HIS	C-O	6.44	1.32	1.24
51	Z	19	LYS	C-O	6.43	1.31	1.24
50	Y	33	LYS	C-O	6.43	1.32	1.24
34	I	57	LYS	C-O	6.41	1.31	1.24
59	8	158	ILE	C-O	6.41	1.32	1.24
8	i	22	PRO	C-N	6.40	1.42	1.33
13	n	78	LYS	C-O	6.40	1.31	1.24
16	q	50	ARG	C-O	6.39	1.32	1.24
9	j	113	PRO	C-O	6.39	1.32	1.24
50	Y	24	ARG	C-O	6.38	1.31	1.24
59	8	236	LYS	C-O	6.38	1.31	1.24
59	8	360	PHE	C-N	6.37	1.42	1.33
4	e	34	THR	C-O	6.36	1.30	1.23
43	R	7	ASN	C-O	6.35	1.31	1.24
37	L	25	PHE	N-CA	6.34	1.54	1.46
40	O	9	ARG	C-O	6.34	1.31	1.24
1	b	16	VAL	C-O	6.34	1.30	1.24
2	c	182	ALA	N-CA	6.33	1.54	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
59	8	657	GLU	N-CA	6.33	1.53	1.46
1	b	99	GLU	C-O	6.32	1.31	1.24
8	i	38	CYS	C-N	6.32	1.42	1.33
8	i	16	MET	N-CA	6.29	1.55	1.46
38	M	60	LEU	N-CA	6.29	1.53	1.46
8	i	38	CYS	C-O	6.29	1.32	1.24
33	H	35	ASP	C-O	6.29	1.31	1.24
44	S	40	ARG	C-O	6.27	1.32	1.24
43	R	16	ILE	C-O	6.26	1.31	1.24
59	8	178	HIS	C-O	6.26	1.33	1.24
24	y	43	LEU	C-O	6.26	1.31	1.24
40	O	24	GLU	C-O	6.26	1.31	1.24
10	k	41	ILE	N-CA	6.25	1.52	1.46
41	P	100	ASN	C-O	6.25	1.31	1.24
1	b	210	ALA	C-O	6.24	1.31	1.24
34	I	73	ASN	N-CA	6.23	1.54	1.46
33	H	73	GLY	C-O	6.23	1.31	1.24
12	m	96	ILE	C-O	6.22	1.30	1.24
36	K	9	MET	N-CA	6.22	1.53	1.45
8	i	20	SER	N-CA	-6.20	1.41	1.46
59	8	16	SER	C-O	6.19	1.31	1.23
1	b	173	LEU	C-O	6.19	1.32	1.23
14	o	68	LYS	C-O	6.19	1.31	1.24
59	8	628	THR	CA-C	6.18	1.61	1.52
47	V	45	VAL	N-CA	6.18	1.54	1.46
2	c	157	LYS	C-O	6.17	1.31	1.24
25	z	42	ALA	C-O	6.17	1.31	1.24
32	G	162	VAL	N-CA	6.16	1.53	1.46
44	S	8	ARG	C-O	6.16	1.31	1.24
59	8	546	PRO	C-O	6.16	1.28	1.24
28	C	25	ASN	C-O	6.15	1.31	1.23
25	z	43	ILE	C-O	6.15	1.31	1.24
59	8	231	GLU	C-O	6.14	1.31	1.24
5	f	50	THR	C-O	6.13	1.31	1.23
59	8	571	VAL	N-CA	6.13	1.52	1.46
50	Y	50	PHE	C-O	6.13	1.31	1.24
45	T	63	ARG	C-O	6.12	1.31	1.24
8	i	35	MET	CA-C	6.12	1.60	1.52
26	A	51	VAL	N-CA	6.11	1.53	1.46
38	M	39	LEU	C-O	6.11	1.31	1.24
50	Y	30	PHE	C-O	6.11	1.31	1.24
35	J	141	ASP	C-O	6.10	1.31	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	G	210	THR	N-CA	6.09	1.53	1.46
59	8	656	ALA	C-O	6.08	1.31	1.23
4	e	13	LYS	N-CA	6.06	1.54	1.46
36	K	8	PHE	N-CA	6.06	1.53	1.46
1	b	128	THR	N-CA	6.06	1.53	1.45
34	I	129	VAL	N-CA	6.05	1.56	1.45
37	L	43	TYR	C-O	6.03	1.31	1.24
49	X	47	THR	N-CA	6.02	1.52	1.46
15	p	26	GLU	C-O	6.00	1.31	1.24
45	T	51	SER	C-N	6.00	1.41	1.33
33	H	63	ILE	C-O	6.00	1.32	1.24
52	a	6	LYS	C-O	5.99	1.31	1.24
39	N	77	ALA	C-N	5.99	1.41	1.33
52	a	65	LEU	N-CA	5.98	1.53	1.46
59	8	552	ALA	C-N	5.98	1.41	1.34
51	Z	49	ALA	C-O	5.98	1.30	1.24
15	p	8	GLU	C-O	5.97	1.31	1.24
41	P	45	THR	C-O	5.97	1.31	1.23
33	H	188	ALA	C-O	5.96	1.31	1.24
14	o	71	ALA	C-O	5.96	1.30	1.24
11	l	94	THR	C-O	5.95	1.31	1.24
50	Y	60	GLN	N-CA	5.95	1.53	1.46
7	h	14	GLU	C-O	5.94	1.31	1.24
59	8	557	ILE	N-CA	5.94	1.53	1.46
36	K	73	GLU	C-O	5.92	1.31	1.24
12	m	53	MET	C-O	5.92	1.32	1.23
43	R	15	VAL	C-O	5.92	1.30	1.24
11	l	98	ALA	N-CA	5.92	1.53	1.46
35	J	142	GLY	C-O	5.92	1.30	1.23
49	X	22	VAL	C-O	5.92	1.30	1.24
59	8	628	THR	N-CA	5.91	1.53	1.46
9	j	125	TYR	C-O	5.90	1.31	1.23
21	v	25	LYS	C-O	5.90	1.31	1.23
33	H	7	ASN	C-O	5.89	1.30	1.24
45	T	25	GLU	C-O	5.89	1.31	1.24
52	a	13	GLU	C-N	5.88	1.41	1.33
5	f	136	ASP	C-O	5.87	1.31	1.23
2	c	184	ARG	C-N	5.86	1.42	1.33
34	I	122	ILE	C-O	5.86	1.31	1.24
59	8	378	ARG	C-O	5.86	1.30	1.23
5	f	72	ASN	C-O	5.86	1.30	1.24
37	L	20	GLU	C-O	5.86	1.31	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	s	3	THR	C-O	5.85	1.31	1.24
37	L	99	ALA	C-O	5.85	1.30	1.24
34	I	96	ARG	C-O	5.84	1.30	1.24
43	R	38	ILE	N-CA	5.83	1.53	1.46
22	w	25	GLU	C-O	5.82	1.30	1.23
40	O	39	PRO	C-O	5.81	1.31	1.23
18	s	15	GLN	C-O	5.81	1.31	1.24
6	g	37	VAL	C-O	5.79	1.31	1.24
7	h	78	GLY	N-CA	5.79	1.50	1.44
37	L	136	LYS	C-O	5.79	1.31	1.24
59	8	663	MET	C-O	5.79	1.31	1.24
37	L	22	LEU	C-O	5.78	1.31	1.24
2	c	121	THR	C-O	5.78	1.31	1.24
3	d	40	ARG	N-CA	5.77	1.53	1.46
4	e	84	ILE	C-O	5.75	1.31	1.23
59	8	483	VAL	N-CA	5.75	1.52	1.46
26	A	61	ASN	C-O	5.75	1.31	1.24
3	d	112	LEU	C-O	5.75	1.31	1.24
50	Y	77	ASN	N-CA	5.74	1.53	1.46
46	U	79	ASN	CA-C	5.74	1.60	1.52
41	P	102	ALA	C-N	5.73	1.41	1.33
41	P	112	VAL	N-CA	5.71	1.55	1.46
33	H	132	ALA	N-CA	5.71	1.53	1.46
24	y	40	SER	C-O	5.70	1.30	1.24
1	b	19	VAL	N-CA	5.70	1.53	1.46
33	H	130	ARG	C-O	5.70	1.30	1.24
45	T	78	THR	C-O	5.70	1.30	1.24
33	H	135	ARG	C-O	5.70	1.30	1.24
30	E	11	LYS	C-O	5.69	1.31	1.24
3	d	179	SER	C-O	5.68	1.30	1.24
6	g	102	ALA	N-CA	5.68	1.53	1.46
33	H	88	LYS	C-O	5.68	1.31	1.24
32	G	78	ALA	C-O	5.67	1.30	1.24
4	e	99	PHE	C-O	5.66	1.30	1.24
40	O	23	ALA	C-O	5.66	1.30	1.24
41	P	103	GLY	N-CA	5.66	1.53	1.45
18	s	18	ARG	C-O	5.66	1.30	1.24
9	j	80	HIS	C-O	5.63	1.30	1.23
33	H	195	ILE	C-O	5.63	1.29	1.24
25	z	33	HIS	C-O	5.63	1.30	1.23
6	g	126	GLY	C-O	5.61	1.31	1.23
36	K	14	GLN	C-O	5.60	1.32	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	a	63	THR	N-CA	5.60	1.53	1.46
37	L	97	ALA	C-O	5.60	1.30	1.24
44	S	6	LYS	N-CA	5.59	1.53	1.46
1	b	81	GLU	C-O	5.59	1.30	1.23
39	N	45	MET	C-O	5.59	1.31	1.24
59	8	473	MET	C-O	5.59	1.30	1.24
52	a	163	TYR	N-CA	5.58	1.53	1.45
34	I	84	ASN	N-CA	5.58	1.52	1.46
32	G	63	LYS	N-CA	5.58	1.55	1.46
46	U	19	VAL	C-O	5.57	1.29	1.24
59	8	560	GLN	C-O	5.57	1.30	1.24
45	T	57	ARG	C-O	5.56	1.30	1.24
38	M	87	ARG	C-O	5.56	1.31	1.23
43	R	53	ASP	N-CA	5.56	1.53	1.46
50	Y	61	ALA	C-O	5.55	1.30	1.24
51	Z	18	PHE	C-O	5.55	1.30	1.24
6	g	100	ALA	C-O	5.54	1.31	1.24
24	y	37	LEU	N-CA	5.54	1.52	1.46
36	K	15	SER	C-O	5.53	1.30	1.24
21	v	64	VAL	C-O	5.53	1.30	1.23
19	t	4	GLU	C-O	5.52	1.30	1.24
59	8	661	SER	C-O	5.51	1.30	1.24
45	T	74	VAL	CA-C	5.51	1.59	1.52
37	L	131	GLY	C-O	5.51	1.31	1.23
19	t	20	ALA	C-O	5.51	1.30	1.24
32	G	218	ALA	C-O	5.50	1.30	1.24
6	g	139	PHE	C-N	5.50	1.40	1.33
43	R	14	ALA	N-CA	5.50	1.53	1.46
24	y	9	LYS	C-O	5.49	1.31	1.23
1	b	95	TYR	N-CA	5.49	1.53	1.45
41	P	18	GLY	C-O	5.49	1.29	1.23
13	n	48	VAL	C-O	5.48	1.30	1.24
44	S	81	ILE	C-O	5.48	1.30	1.24
9	j	28	LEU	C-O	5.47	1.31	1.24
52	a	46	VAL	C-O	5.47	1.29	1.23
51	Z	26	GLY	N-CA	5.47	1.52	1.45
47	V	60	ILE	C-O	5.46	1.29	1.24
1	b	262	THR	C-N	5.46	1.41	1.33
59	8	383	ALA	C-O	5.46	1.29	1.24
52	a	51	ASP	C-O	5.45	1.30	1.23
13	n	22	ARG	C-O	5.44	1.30	1.24
5	f	114	HIS	N-CA	5.44	1.53	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	a	209	ILE	C-N	5.43	1.40	1.33
36	K	12	PRO	CA-C	5.42	1.60	1.52
16	q	58	GLN	C-O	5.42	1.30	1.24
50	Y	66	ILE	N-CA	5.42	1.52	1.46
49	X	61	VAL	C-O	5.41	1.30	1.24
40	O	37	ARG	CA-C	5.41	1.57	1.52
19	t	86	THR	C-O	5.41	1.30	1.24
37	L	120	ALA	C-O	5.40	1.30	1.24
40	O	46	LYS	N-CA	5.40	1.53	1.46
6	g	52	ALA	C-O	5.39	1.30	1.24
59	8	129	GLN	C-O	5.39	1.30	1.24
4	e	51	ASN	N-CA	5.38	1.52	1.46
15	p	82	SER	N-CA	5.37	1.52	1.46
2	c	38	LYS	C-O	5.37	1.30	1.24
5	f	144	ALA	C-O	5.36	1.30	1.24
32	G	77	GLU	C-O	5.36	1.30	1.24
32	G	140	LEU	C-O	5.36	1.30	1.24
4	e	145	VAL	N-CA	5.35	1.53	1.46
33	H	131	ARG	C-O	5.34	1.30	1.24
47	V	28	VAL	N-CA	5.33	1.52	1.46
59	8	234	MET	C-O	5.33	1.30	1.24
36	K	59	TYR	C-O	5.33	1.30	1.23
13	n	47	VAL	C-O	5.31	1.30	1.24
37	L	19	SER	C-O	5.31	1.30	1.23
16	q	47	ARG	C-O	5.29	1.30	1.24
33	H	68	HIS	C-O	5.29	1.30	1.23
33	H	177	LEU	N-CA	5.28	1.52	1.46
51	Z	60	ALA	C-N	5.28	1.41	1.33
34	I	40	HIS	C-O	5.28	1.31	1.24
39	N	114	LYS	C-O	5.28	1.30	1.23
44	S	87	ALA	N-CA	5.27	1.52	1.46
35	J	67	ARG	C-O	5.27	1.30	1.24
36	K	86	ARG	C-O	5.26	1.30	1.24
1	b	224	MET	C-O	5.26	1.31	1.23
11	l	73	ILE	C-O	5.26	1.30	1.24
59	8	120	GLN	C-O	5.25	1.30	1.24
52	a	11	ILE	C-O	-5.25	1.17	1.24
48	W	13	THR	C-O	5.24	1.30	1.24
6	g	145	ASN	C-O	5.24	1.30	1.23
35	J	11	GLN	C-O	5.23	1.30	1.24
35	J	18	ASN	C-O	5.23	1.30	1.23
44	S	9	GLU	N-CA	5.23	1.52	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
38	M	37	ASN	C-O	5.22	1.30	1.24
59	8	479	VAL	N-CA	5.22	1.53	1.46
32	G	130	LYS	C-O	5.21	1.30	1.24
20	u	41	VAL	C-O	5.20	1.29	1.24
34	I	22	SER	N-CA	5.20	1.52	1.46
59	8	641	MET	N-CA	5.19	1.52	1.45
59	8	664	PHE	N-CA	5.19	1.52	1.46
59	8	123	SER	C-N	5.19	1.41	1.33
18	s	19	LEU	N-CA	5.19	1.52	1.46
39	N	15	ALA	N-CA	5.18	1.52	1.46
8	i	27	LEU	CA-C	5.18	1.59	1.52
37	L	143	MET	N-CA	5.17	1.52	1.46
42	Q	54	VAL	C-O	5.17	1.29	1.23
43	R	33	LEU	C-O	5.17	1.31	1.24
43	R	21	ILE	C-O	5.16	1.29	1.24
1	b	225	ASN	C-O	5.16	1.30	1.23
3	d	11	ALA	N-CA	5.16	1.53	1.46
8	i	19	PRO	CA-C	5.15	1.59	1.52
39	N	77	ALA	C-O	5.14	1.30	1.24
1	b	180	MET	C-O	5.13	1.30	1.23
43	R	70	ARG	C-O	5.12	1.30	1.24
45	T	9	LYS	C-O	5.12	1.30	1.24
25	z	23	LEU	C-O	5.12	1.29	1.24
33	H	84	GLU	N-CA	5.11	1.52	1.46
3	d	121	VAL	N-CA	5.11	1.52	1.46
33	H	202	PHE	C-O	5.11	1.29	1.23
12	m	48	ALA	C-O	5.11	1.30	1.24
59	8	102	SER	C-O	5.10	1.29	1.24
40	O	10	LEU	C-N	5.09	1.39	1.33
59	8	101	ARG	C-O	5.09	1.30	1.24
39	N	49	GLN	N-CA	5.08	1.51	1.46
1	b	94	LEU	C-O	5.08	1.29	1.24
43	R	65	GLU	C-O	5.07	1.30	1.24
59	8	111	MET	CA-C	-5.06	1.46	1.52
45	T	26	VAL	C-O	5.06	1.29	1.24
3	d	148	ILE	C-O	5.06	1.30	1.24
13	n	65	LEU	C-O	5.05	1.29	1.24
32	G	221	ARG	N-CA	5.05	1.52	1.46
51	Z	47	ALA	C-O	5.05	1.29	1.24
1	b	19	VAL	C-O	5.05	1.29	1.24
33	H	150	VAL	C-O	5.04	1.30	1.24
21	v	55	GLU	C-O	5.04	1.30	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
37	L	47	GLU	N-CA	5.04	1.52	1.46
44	S	39	ASP	CA-C	5.04	1.59	1.52
32	G	139	GLU	C-O	5.03	1.29	1.24
9	j	29	ALA	C-O	5.03	1.29	1.24
52	a	217	THR	N-CA	5.03	1.52	1.46
59	8	692	SER	C-O	5.02	1.29	1.24
4	e	51	ASN	CA-C	5.02	1.59	1.52
12	m	123	LYS	N-CA	5.01	1.53	1.46
34	I	161	ALA	C-O	5.01	1.29	1.24
46	U	76	LYS	C-O	5.01	1.29	1.24
41	P	71	ASP	CA-C	5.00	1.59	1.52
33	H	193	GLY	C-O	5.00	1.30	1.23

All (924) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	K	13	ASP	CA-C-O	15.60	137.20	120.82
40	O	39	PRO	CA-C-O	-14.90	105.07	121.32
59	8	178	HIS	CA-C-N	-13.53	102.15	121.50
59	8	178	HIS	C-N-CA	-13.53	102.15	121.50
8	i	37	PHE	CA-C-N	-13.10	99.60	122.26
8	i	37	PHE	C-N-CA	-13.10	99.60	122.26
7	h	18	VAL	CA-C-N	-13.08	100.43	120.31
7	h	18	VAL	C-N-CA	-13.08	100.43	120.31
8	i	21	PRO	N-CA-C	12.73	126.23	110.70
40	O	39	PRO	N-CA-C	12.33	131.36	111.26
40	O	72	ARG	CA-C-N	-12.06	102.39	122.29
40	O	72	ARG	C-N-CA	-12.06	102.39	122.29
59	8	86	ILE	N-CA-C	11.89	123.73	106.85
43	R	99	GLN	O-C-N	-11.51	112.44	123.26
59	8	111	MET	CA-C-N	-11.20	108.56	122.90
59	8	111	MET	C-N-CA	-11.20	108.56	122.90
4	e	12	VAL	CA-C-N	-11.06	103.50	120.31
4	e	12	VAL	C-N-CA	-11.06	103.50	120.31
36	K	15	SER	CA-C-N	-11.00	105.54	120.28
36	K	15	SER	C-N-CA	-11.00	105.54	120.28
6	g	129	GLU	CA-C-N	-10.83	106.44	122.68
6	g	129	GLU	C-N-CA	-10.83	106.44	122.68
8	i	38	CYS	CA-C-N	-10.77	105.84	120.28
8	i	38	CYS	C-N-CA	-10.77	105.84	120.28
8	i	15	GLY	CA-C-N	-10.66	107.00	122.77
8	i	15	GLY	C-N-CA	-10.66	107.00	122.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
40	O	36	VAL	CA-C-N	-10.43	106.92	122.56
40	O	36	VAL	C-N-CA	-10.43	106.92	122.56
43	R	101	THR	N-CA-C	10.40	127.16	111.04
34	I	154	VAL	CA-C-N	-10.39	102.81	120.58
34	I	154	VAL	C-N-CA	-10.39	102.81	120.58
52	a	184	LYS	CA-C-N	-10.35	105.38	120.28
52	a	184	LYS	C-N-CA	-10.35	105.38	120.28
33	H	203	LYS	CA-C-N	-10.20	113.35	122.43
33	H	203	LYS	C-N-CA	-10.20	113.35	122.43
14	o	89	ASP	CA-C-N	-10.15	109.55	123.46
14	o	89	ASP	C-N-CA	-10.15	109.55	123.46
49	X	23	GLU	N-CA-C	10.15	121.93	111.07
55	2	1	U	N1-C1'-C2'	9.96	126.93	112.00
36	K	13	ASP	O-C-N	-9.84	111.93	122.07
39	N	77	ALA	CA-C-N	-9.80	104.86	120.55
39	N	77	ALA	C-N-CA	-9.80	104.86	120.55
51	Z	60	ALA	N-CA-C	-9.76	100.29	112.88
59	8	14	GLY	CA-C-O	9.76	130.21	120.64
49	X	66	VAL	CA-C-O	9.75	128.99	120.70
40	O	37	ARG	N-CA-C	9.63	125.33	112.13
59	8	123	SER	CA-C-N	-9.50	106.80	120.29
59	8	123	SER	C-N-CA	-9.50	106.80	120.29
43	R	96	VAL	N-CA-C	9.43	128.95	109.34
59	8	94	ASP	CA-C-O	9.37	126.86	119.18
41	P	29	THR	O-C-N	-9.33	112.86	123.40
59	8	627	ASN	CA-C-N	-9.32	103.74	121.54
59	8	627	ASN	C-N-CA	-9.32	103.74	121.54
14	o	28	VAL	O-C-N	-9.18	113.28	123.10
41	P	111	ASP	CA-C-N	-9.13	110.94	122.26
41	P	111	ASP	C-N-CA	-9.13	110.94	122.26
49	X	23	GLU	CA-C-N	-9.08	108.39	122.37
49	X	23	GLU	C-N-CA	-9.08	108.39	122.37
40	O	29	ALA	N-CA-C	-9.06	103.34	114.75
4	e	144	LYS	CA-C-N	-9.01	108.43	121.85
4	e	144	LYS	C-N-CA	-9.01	108.43	121.85
59	8	176	GLU	O-C-N	-9.00	110.62	122.59
59	8	94	ASP	N-CA-C	-8.96	99.89	113.51
59	8	14	GLY	O-C-N	-8.92	113.68	123.49
40	O	10	LEU	CA-C-N	-8.87	106.62	121.80
40	O	10	LEU	C-N-CA	-8.87	106.62	121.80
4	e	9	ASP	CA-C-O	8.86	131.28	120.56
59	8	50	MET	N-CA-C	8.77	121.92	110.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	I	47	LEU	N-CA-C	8.76	121.97	111.02
49	X	36	ARG	CA-C-N	-8.74	107.22	120.94
49	X	36	ARG	C-N-CA	-8.74	107.22	120.94
33	H	57	GLU	CA-C-N	-8.71	112.41	122.52
33	H	57	GLU	C-N-CA	-8.71	112.41	122.52
2	c	95	SER	CA-C-O	8.71	129.97	120.92
40	O	95	GLY	N-CA-C	-8.70	103.61	114.92
9	j	30	THR	CA-C-N	-8.70	107.09	120.31
9	j	30	THR	C-N-CA	-8.70	107.09	120.31
6	g	141	LYS	CA-C-N	-8.69	110.91	122.99
6	g	141	LYS	C-N-CA	-8.69	110.91	122.99
49	X	22	VAL	CA-C-N	-8.69	109.14	120.44
49	X	22	VAL	C-N-CA	-8.69	109.14	120.44
43	R	99	GLN	CA-C-O	8.66	130.96	121.26
34	I	201	GLU	CA-C-N	-8.65	106.27	120.72
34	I	201	GLU	C-N-CA	-8.65	106.27	120.72
43	R	95	PRO	N-CA-C	8.60	124.79	111.11
41	P	100	ASN	CA-C-O	8.57	129.63	120.55
35	J	121	ASN	N-CA-C	8.56	124.21	113.43
32	G	62	ARG	CA-C-N	-8.54	110.78	123.93
32	G	62	ARG	C-N-CA	-8.54	110.78	123.93
6	g	52	ALA	CA-C-N	-8.47	106.45	121.70
6	g	52	ALA	C-N-CA	-8.47	106.45	121.70
12	m	51	ARG	N-CA-C	-8.46	102.39	112.89
18	s	18	ARG	CA-C-N	-8.46	109.44	120.44
18	s	18	ARG	C-N-CA	-8.46	109.44	120.44
59	8	623	THR	CA-C-O	-8.46	112.99	119.59
49	X	45	GLY	CA-C-O	8.46	127.81	119.27
2	c	188	LEU	CA-C-N	-8.44	112.21	123.10
2	c	188	LEU	C-N-CA	-8.44	112.21	123.10
6	g	139	PHE	CA-C-N	-8.42	105.46	121.63
6	g	139	PHE	C-N-CA	-8.42	105.46	121.63
37	L	21	LEU	CA-C-N	-8.42	106.84	121.66
37	L	21	LEU	C-N-CA	-8.42	106.84	121.66
38	M	127	TYR	CA-C-N	-8.40	110.76	122.69
38	M	127	TYR	C-N-CA	-8.40	110.76	122.69
3	d	40	ARG	N-CA-C	8.35	121.17	109.15
32	G	96	LEU	CA-C-N	-8.34	112.18	120.10
32	G	96	LEU	C-N-CA	-8.34	112.18	120.10
51	Z	23	GLU	CA-C-O	8.31	127.78	119.97
5	f	49	LEU	CA-C-N	-8.27	109.12	122.36
5	f	49	LEU	C-N-CA	-8.27	109.12	122.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	K	16	GLU	CA-C-N	-8.26	102.20	121.52
36	K	16	GLU	C-N-CA	-8.26	102.20	121.52
32	G	96	LEU	CA-C-O	8.25	129.40	120.32
32	G	19	THR	N-CA-C	8.23	121.09	108.42
59	8	428	GLN	N-CA-C	8.21	122.26	111.75
39	N	75	ALA	CA-C-O	8.20	129.39	119.97
2	c	184	ARG	CA-C-N	-8.19	110.64	122.19
2	c	184	ARG	C-N-CA	-8.19	110.64	122.19
40	O	39	PRO	O-C-N	8.17	132.82	122.85
52	a	199	ALA	N-CA-C	-8.17	103.13	113.43
14	o	28	VAL	CA-C-O	8.16	129.81	120.67
34	I	22	SER	N-CA-C	8.10	123.71	112.04
52	a	13	GLU	CA-C-N	-8.09	107.00	122.53
52	a	13	GLU	C-N-CA	-8.09	107.00	122.53
52	a	181	ASP	CA-C-O	8.08	132.07	120.51
1	b	94	LEU	CA-C-N	-8.07	106.59	120.95
1	b	94	LEU	C-N-CA	-8.07	106.59	120.95
34	I	128	VAL	CA-C-N	-8.03	113.67	122.27
34	I	128	VAL	C-N-CA	-8.03	113.67	122.27
46	U	24	SER	N-CA-C	8.00	120.71	111.11
37	L	86	VAL	CA-C-O	7.99	124.09	119.94
44	S	6	LYS	CA-C-O	7.98	129.01	120.55
51	Z	4	LYS	CA-C-N	-7.98	112.69	123.14
51	Z	4	LYS	C-N-CA	-7.98	112.69	123.14
34	I	152	SER	O-C-N	-7.97	111.99	122.59
37	L	19	SER	O-C-N	-7.92	114.81	123.52
2	c	97	SER	N-CA-C	7.89	118.96	108.07
8	i	27	LEU	CA-C-O	7.89	127.58	118.90
44	S	8	ARG	CA-C-N	-7.87	109.11	120.29
44	S	8	ARG	C-N-CA	-7.87	109.11	120.29
4	e	89	THR	CA-C-O	7.87	129.10	120.92
32	G	20	ARG	N-CA-C	-7.84	102.25	112.68
59	8	594	LYS	N-CA-C	-7.83	102.68	111.14
32	G	95	TRP	CA-C-O	7.80	128.21	120.88
8	i	67	THR	N-CA-C	-7.79	97.45	109.52
41	P	29	THR	CA-C-O	7.79	129.93	120.27
48	W	14	ALA	N-CA-C	-7.79	103.04	112.54
26	A	43	PHE	N-CA-C	-7.78	103.75	113.55
59	8	204	TYR	CA-C-N	-7.76	110.75	122.23
59	8	204	TYR	C-N-CA	-7.76	110.75	122.23
8	i	35	MET	CA-C-O	7.75	128.95	120.82
26	A	49	ARG	CA-C-N	-7.74	108.03	121.66

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
26	A	49	ARG	C-N-CA	-7.74	108.03	121.66
24	y	36	GLN	CA-C-N	-7.74	109.88	120.87
24	y	36	GLN	C-N-CA	-7.74	109.88	120.87
35	J	36	THR	CA-C-N	-7.73	112.19	122.94
35	J	36	THR	C-N-CA	-7.73	112.19	122.94
59	8	287	PRO	N-CA-C	7.72	122.87	110.21
52	a	162	ARG	CA-C-N	-7.71	109.87	122.82
52	a	162	ARG	C-N-CA	-7.71	109.87	122.82
5	f	112	VAL	N-CA-C	7.70	118.93	109.30
49	X	38	THR	CA-C-N	-7.70	112.43	123.06
49	X	38	THR	C-N-CA	-7.70	112.43	123.06
36	K	16	GLU	O-C-N	7.70	130.28	122.12
21	v	61	LEU	CA-C-N	-7.69	112.84	122.84
21	v	61	LEU	C-N-CA	-7.69	112.84	122.84
48	W	39	VAL	N-CA-C	7.68	115.23	108.63
46	U	79	ASN	N-CA-C	7.66	127.12	110.80
7	h	65	GLU	CA-C-N	-7.65	109.06	122.83
7	h	65	GLU	C-N-CA	-7.65	109.06	122.83
59	8	112	VAL	N-CA-C	7.64	119.15	107.99
9	j	81	ILE	N-CA-C	7.64	125.23	109.34
11	l	95	LEU	N-CA-C	-7.64	103.42	112.89
41	P	102	ALA	CA-C-N	-7.59	106.52	121.41
41	P	102	ALA	C-N-CA	-7.59	106.52	121.41
7	h	31	ARG	N-CA-C	-7.57	105.99	114.62
59	8	628	THR	N-CA-C	7.56	126.91	110.80
35	J	87	VAL	N-CA-C	7.55	125.05	109.34
36	K	13	ASP	CA-C-N	-7.54	107.22	122.31
36	K	13	ASP	C-N-CA	-7.54	107.22	122.31
50	Y	60	GLN	CA-C-O	7.54	129.00	119.12
37	L	42	VAL	N-CA-C	-7.52	101.36	111.44
4	e	164	GLU	CA-C-N	-7.48	110.72	120.22
4	e	164	GLU	C-N-CA	-7.48	110.72	120.22
59	8	279	LEU	CA-C-N	-7.46	110.28	120.28
59	8	279	LEU	C-N-CA	-7.46	110.28	120.28
4	e	22	ASN	N-CA-C	7.46	119.31	111.03
51	Z	21	SER	CA-C-N	-7.41	111.41	121.71
51	Z	21	SER	C-N-CA	-7.41	111.41	121.71
1	b	161	VAL	CA-C-N	-7.38	111.88	122.94
1	b	161	VAL	C-N-CA	-7.38	111.88	122.94
59	8	35	GLY	N-CA-C	-7.37	105.66	115.32
36	K	17	GLN	N-CA-C	7.37	121.96	113.19
51	Z	25	ALA	CA-C-N	-7.34	111.09	120.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	Z	25	ALA	C-N-CA	-7.34	111.09	120.34
42	Q	98	ARG	N-CA-C	7.34	120.23	108.41
32	G	209	VAL	N-CA-C	-7.31	103.33	110.72
59	8	85	ASN	CA-C-O	7.31	128.14	120.54
21	v	35	GLU	N-CA-C	7.30	119.95	110.53
38	M	123	GLU	CA-C-N	-7.30	113.63	123.12
38	M	123	GLU	C-N-CA	-7.30	113.63	123.12
51	Z	10	PRO	N-CA-C	7.29	127.48	112.47
36	K	24	ARG	CA-C-N	-7.27	110.74	120.63
36	K	24	ARG	C-N-CA	-7.27	110.74	120.63
43	R	32	ILE	N-CA-C	-7.26	103.38	110.72
35	J	119	VAL	CA-C-N	-7.26	109.09	122.09
35	J	119	VAL	C-N-CA	-7.26	109.09	122.09
8	i	58	ILE	CA-C-N	-7.25	111.28	122.16
8	i	58	ILE	C-N-CA	-7.25	111.28	122.16
41	P	31	VAL	N-CA-C	7.25	118.72	108.36
59	8	123	SER	N-CA-C	-7.24	103.71	112.54
9	j	29	ALA	CA-C-N	-7.24	109.31	120.31
9	j	29	ALA	C-N-CA	-7.24	109.31	120.31
59	8	178	HIS	N-CA-C	-7.24	104.58	113.19
35	J	101	GLY	N-CA-C	-7.24	105.41	114.16
8	i	22	PRO	CA-C-N	-7.23	108.96	121.97
8	i	22	PRO	C-N-CA	-7.23	108.96	121.97
43	R	52	ILE	CA-C-N	-7.21	110.50	120.38
43	R	52	ILE	C-N-CA	-7.21	110.50	120.38
34	I	52	VAL	CA-C-N	-7.18	108.48	120.68
34	I	52	VAL	C-N-CA	-7.18	108.48	120.68
59	8	173	ILE	N-CA-C	7.17	117.55	107.37
8	i	39	LYS	CA-C-N	-7.16	108.35	121.52
8	i	39	LYS	C-N-CA	-7.16	108.35	121.52
4	e	54	ALA	CA-C-N	-7.15	110.89	120.54
4	e	54	ALA	C-N-CA	-7.15	110.89	120.54
9	j	18	VAL	CA-C-O	7.14	127.93	120.36
43	R	99	GLN	N-CA-C	7.14	119.22	107.73
52	a	11	ILE	N-CA-C	-7.14	102.05	112.04
57	6	32	C	C2'-C3'-O3'	7.13	124.39	113.70
37	L	19	SER	CA-C-O	7.12	128.36	120.31
2	c	95	SER	CA-C-N	-7.12	112.73	122.91
2	c	95	SER	C-N-CA	-7.12	112.73	122.91
59	8	555	LYS	CA-C-N	-7.10	112.09	119.98
59	8	555	LYS	C-N-CA	-7.10	112.09	119.98
12	m	99	GLY	CA-C-N	-7.08	112.20	122.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	m	99	GLY	C-N-CA	-7.08	112.20	122.19
6	g	101	ASP	CA-C-N	-7.08	110.23	120.29
6	g	101	ASP	C-N-CA	-7.08	110.23	120.29
16	q	28	SER	N-CA-C	-7.08	105.83	114.75
48	W	17	VAL	N-CA-C	7.06	124.03	109.34
52	a	164	ARG	CA-C-N	-7.04	109.74	122.12
52	a	164	ARG	C-N-CA	-7.04	109.74	122.12
49	X	43	MET	CA-C-N	-7.03	111.07	120.50
49	X	43	MET	C-N-CA	-7.03	111.07	120.50
52	a	9	ARG	N-CA-C	-7.03	103.37	112.23
3	d	186	VAL	O-C-N	-7.03	115.47	122.99
7	h	43	LYS	N-CA-C	-7.03	103.70	111.36
37	L	22	LEU	N-CA-C	-7.03	104.52	113.23
35	J	89	THR	N-CA-C	7.03	119.80	111.02
53	3	1122	U	N1-C1'-C2'	7.01	122.51	112.00
38	M	45	ILE	O-C-N	-7.00	115.61	123.10
52	a	44	VAL	O-C-N	6.99	129.82	122.62
52	a	168	ASN	N-CA-C	-6.99	105.68	114.56
39	N	78	ILE	CA-C-N	-6.99	111.11	120.54
39	N	78	ILE	C-N-CA	-6.99	111.11	120.54
38	M	11	THR	N-CA-C	-6.98	103.75	111.36
59	8	410	GLU	N-CA-C	6.98	120.83	109.59
32	G	162	VAL	N-CA-C	6.96	117.92	108.17
3	d	186	VAL	CA-C-O	6.94	128.12	120.48
27	B	9	ARG	N-CA-C	-6.94	103.80	111.36
59	8	284	ASP	CA-C-N	-6.92	111.49	122.08
59	8	284	ASP	C-N-CA	-6.92	111.49	122.08
20	u	73	ASN	N-CA-C	6.92	118.90	111.36
41	P	70	ALA	CA-C-N	-6.92	108.33	121.54
41	P	70	ALA	C-N-CA	-6.92	108.33	121.54
59	8	322	PHE	N-CA-C	6.91	122.12	112.93
53	3	1149	C	N1-C1'-C2'	6.90	122.36	112.00
23	x	16	ASN	CA-C-O	6.90	127.75	120.36
31	F	12	ARG	N-CA-C	-6.89	104.74	113.43
43	R	94	LEU	CA-C-O	6.88	127.45	120.64
18	s	44	ALA	CA-C-N	-6.87	109.61	120.47
18	s	44	ALA	C-N-CA	-6.87	109.61	120.47
41	P	100	ASN	N-CA-C	-6.85	103.81	111.28
59	8	94	ASP	O-C-N	-6.84	115.19	121.89
7	h	49	GLY	N-CA-C	6.82	119.32	110.45
45	T	10	ILE	CA-C-N	-6.82	111.80	120.60
45	T	10	ILE	C-N-CA	-6.82	111.80	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	l	1130	U	C2'-C3'-O3'	6.82	119.72	109.50
20	u	77	GLY	N-CA-C	-6.80	105.36	114.95
41	P	29	THR	CA-C-N	-6.80	114.23	123.14
41	P	29	THR	C-N-CA	-6.80	114.23	123.14
38	M	37	ASN	CA-C-N	-6.80	112.20	120.70
38	M	37	ASN	C-N-CA	-6.80	112.20	120.70
36	K	50	PRO	CA-C-N	-6.79	109.76	121.97
36	K	50	PRO	C-N-CA	-6.79	109.76	121.97
49	X	25	GLY	N-CA-C	6.79	129.26	113.18
7	h	18	VAL	O-C-N	6.78	129.63	122.17
8	i	13	ALA	N-CA-C	6.78	120.71	108.17
32	G	209	VAL	CA-C-N	-6.77	110.53	120.28
32	G	209	VAL	C-N-CA	-6.77	110.53	120.28
53	3	1128	C	N1-C1'-C2'	6.75	122.13	112.00
48	W	71	ASP	N-CA-C	6.75	119.48	111.71
36	K	17	GLN	CA-C-N	-6.75	115.99	120.24
36	K	17	GLN	C-N-CA	-6.75	115.99	120.24
10	k	61	VAL	CA-C-N	-6.74	111.55	120.91
10	k	61	VAL	C-N-CA	-6.74	111.55	120.91
59	8	479	VAL	CA-C-O	6.73	126.21	120.22
11	l	97	ALA	CA-C-N	-6.73	111.90	122.73
11	l	97	ALA	C-N-CA	-6.73	111.90	122.73
29	D	28	ARG	CA-C-N	-6.72	110.30	121.92
29	D	28	ARG	C-N-CA	-6.72	110.30	121.92
59	8	545	ILE	N-CA-C	-6.72	100.41	107.60
59	8	570	PRO	CA-C-N	-6.72	112.07	122.68
59	8	570	PRO	C-N-CA	-6.72	112.07	122.68
49	X	24	SER	CA-C-N	-6.71	108.26	121.41
49	X	24	SER	C-N-CA	-6.71	108.26	121.41
10	k	107	LEU	N-CA-C	-6.70	103.71	114.09
28	C	50	GLU	N-CA-C	6.69	120.38	110.48
44	S	9	GLU	CA-C-N	-6.68	111.98	120.60
44	S	9	GLU	C-N-CA	-6.68	111.98	120.60
32	G	75	ALA	N-CA-C	-6.68	106.34	114.75
59	8	517	HIS	CA-C-N	-6.68	113.50	122.98
59	8	517	HIS	C-N-CA	-6.68	113.50	122.98
44	S	39	ASP	CA-C-O	6.67	128.41	121.07
33	H	131	ARG	CA-C-N	-6.67	111.77	120.44
33	H	131	ARG	C-N-CA	-6.67	111.77	120.44
40	O	40	ILE	CB-CA-C	-6.67	99.22	111.36
59	8	656	ALA	CA-C-N	-6.66	113.72	123.05
59	8	656	ALA	C-N-CA	-6.66	113.72	123.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	a	171	ILE	O-C-N	6.66	129.48	122.62
1	b	127	ASN	CA-C-N	-6.66	112.14	122.59
1	b	127	ASN	C-N-CA	-6.66	112.14	122.59
51	Z	60	ALA	CA-C-N	-6.66	111.11	122.56
51	Z	60	ALA	C-N-CA	-6.66	111.11	122.56
53	3	1396	A	C2'-C3'-O3'	6.65	119.48	109.50
38	M	125	ILE	N-CA-C	6.64	116.79	110.74
59	8	220	GLN	N-CA-C	-6.64	104.12	111.36
34	I	167	PRO	N-CA-C	6.64	120.83	111.33
7	h	39	THR	CA-C-N	-6.63	111.89	120.65
7	h	39	THR	C-N-CA	-6.63	111.89	120.65
1	b	262	THR	CA-C-N	-6.62	109.66	120.72
1	b	262	THR	C-N-CA	-6.62	109.66	120.72
34	I	163	GLN	CA-C-N	-6.62	114.56	122.44
34	I	163	GLN	C-N-CA	-6.62	114.56	122.44
12	m	35	ALA	O-C-N	6.62	130.71	123.10
59	8	596	ALA	CA-C-N	-6.61	111.85	120.44
59	8	596	ALA	C-N-CA	-6.61	111.85	120.44
3	d	187	VAL	CA-C-N	-6.60	113.04	122.94
3	d	187	VAL	C-N-CA	-6.60	113.04	122.94
34	I	169	TRP	N-CA-C	6.60	118.27	111.14
52	a	14	LYS	N-CA-C	-6.59	104.88	113.12
7	h	40	GLU	N-CA-C	6.59	118.16	110.97
9	j	18	VAL	O-C-N	-6.58	116.09	123.20
9	j	106	LYS	N-CA-C	-6.58	104.51	112.54
1	b	262	THR	N-CA-C	-6.58	104.89	113.17
48	W	55	ALA	CA-C-N	-6.57	109.34	120.58
48	W	55	ALA	C-N-CA	-6.57	109.34	120.58
40	O	40	ILE	O-C-N	6.54	128.55	121.10
59	8	95	PHE	CA-C-N	-6.53	110.15	120.60
59	8	95	PHE	C-N-CA	-6.53	110.15	120.60
32	G	206	ILE	CA-C-O	6.53	128.94	120.78
11	l	115	GLU	N-CA-C	6.53	119.18	111.02
32	G	18	GLN	N-CA-C	6.52	123.51	113.28
40	O	72	ARG	O-C-N	6.52	131.06	123.30
45	T	19	ASN	CA-C-N	-6.51	112.05	122.66
45	T	19	ASN	C-N-CA	-6.51	112.05	122.66
21	v	91	PHE	CA-C-N	-6.48	114.27	122.37
21	v	91	PHE	C-N-CA	-6.48	114.27	122.37
40	O	29	ALA	CA-C-O	6.48	125.86	118.47
23	x	16	ASN	O-C-N	-6.46	115.86	123.22
51	Z	39	LYS	N-CA-C	-6.45	104.48	113.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	X	66	VAL	O-C-N	-6.45	116.95	121.85
4	e	9	ASP	O-C-N	-6.44	114.91	122.32
54	1	1328	A	N9-C1'-C2'	6.43	121.65	112.00
8	i	16	MET	N-CA-C	-6.42	95.11	107.57
42	Q	97	VAL	CA-C-O	6.42	128.56	121.04
3	d	135	ALA	CA-C-N	-6.40	110.58	120.31
3	d	135	ALA	C-N-CA	-6.40	110.58	120.31
26	A	36	VAL	N-CA-C	6.40	115.83	106.55
38	M	45	ILE	CA-C-O	6.39	127.83	120.67
40	O	44	THR	CA-C-O	6.39	128.53	121.56
52	a	8	MET	CA-C-N	-6.39	109.82	120.68
52	a	8	MET	C-N-CA	-6.39	109.82	120.68
40	O	76	ILE	CA-C-O	6.37	127.07	120.39
59	8	172	ALA	CA-C-N	-6.36	112.08	122.33
59	8	172	ALA	C-N-CA	-6.36	112.08	122.33
33	H	50	SER	N-CA-C	6.34	118.33	110.91
33	H	37	LYS	CA-C-N	-6.34	111.44	121.02
33	H	37	LYS	C-N-CA	-6.34	111.44	121.02
34	I	129	VAL	N-CA-C	6.34	118.20	109.46
50	Y	36	ALA	N-CA-C	-6.33	104.38	111.28
52	a	171	ILE	CA-C-O	-6.33	115.25	121.58
6	g	30	LEU	N-CA-C	6.33	118.71	111.11
18	s	16	LYS	CA-C-O	6.33	127.32	120.55
33	H	177	LEU	N-CA-C	6.33	121.81	111.37
49	X	33	TRP	N-CA-C	-6.33	106.15	114.31
37	L	46	LEU	CA-C-N	-6.32	111.31	120.29
37	L	46	LEU	C-N-CA	-6.32	111.31	120.29
54	1	2391	G	C4'-C3'-O3'	6.32	118.88	109.40
40	O	38	GLY	CA-C-O	6.32	130.55	121.52
59	8	432	GLY	CA-C-N	-6.32	111.32	120.29
59	8	432	GLY	C-N-CA	-6.32	111.32	120.29
19	t	23	ALA	CA-C-N	-6.31	112.05	120.63
19	t	23	ALA	C-N-CA	-6.31	112.05	120.63
18	s	19	LEU	CA-C-N	-6.30	112.62	120.56
18	s	19	LEU	C-N-CA	-6.30	112.62	120.56
59	8	366	MET	CA-C-N	-6.29	112.34	120.65
59	8	366	MET	C-N-CA	-6.29	112.34	120.65
59	8	90	PRO	N-CA-C	-6.29	105.99	113.86
53	3	1183	U	C2'-C3'-O3'	6.29	118.93	109.50
4	e	9	ASP	CA-C-N	-6.28	111.81	122.11
4	e	9	ASP	C-N-CA	-6.28	111.81	122.11
39	N	117	LEU	N-CA-C	-6.27	100.37	109.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	j	20	ALA	N-CA-C	6.26	120.62	112.92
7	h	20	LYS	N-CA-C	-6.26	105.22	112.92
13	n	68	ALA	N-CA-C	-6.26	104.46	111.28
53	3	1115	U	N1-C1'-C2'	6.26	121.38	112.00
37	L	16	LYS	N-CA-C	-6.25	103.57	112.13
26	A	3	LYS	N-CA-C	6.24	118.83	110.35
51	Z	54	ARG	N-CA-C	-6.23	104.59	111.82
5	f	113	ASP	CA-C-N	-6.22	112.09	122.17
5	f	113	ASP	C-N-CA	-6.22	112.09	122.17
36	K	39	LEU	N-CA-C	-6.22	103.15	112.54
49	X	34	SER	N-CA-C	6.22	118.58	108.63
59	8	180	THR	N-CA-C	-6.22	105.59	113.43
6	g	98	ASP	CA-C-N	-6.22	111.59	120.42
6	g	98	ASP	C-N-CA	-6.22	111.59	120.42
37	L	42	VAL	CA-C-N	-6.21	112.00	120.44
37	L	42	VAL	C-N-CA	-6.21	112.00	120.44
5	f	43	LYS	O-C-N	6.20	131.31	123.12
32	G	105	THR	CA-C-O	6.20	127.11	119.97
32	G	60	ALA	N-CA-C	-6.20	105.68	113.18
53	3	1080	A	C4'-C3'-O3'	-6.20	103.70	113.00
6	g	139	PHE	N-CA-C	6.20	118.32	110.33
6	g	139	PHE	O-C-N	6.19	129.99	122.68
59	8	181	GLY	CA-C-O	6.19	128.63	121.33
59	8	294	ALA	N-CA-C	6.19	119.46	110.42
35	J	137	ARG	N-CA-C	-6.19	104.43	112.23
41	P	100	ASN	CA-C-N	-6.18	112.95	122.60
41	P	100	ASN	C-N-CA	-6.18	112.95	122.60
45	T	51	SER	CA-C-N	-6.18	112.00	120.28
45	T	51	SER	C-N-CA	-6.18	112.00	120.28
59	8	479	VAL	O-C-N	-6.17	117.42	122.97
59	8	468	ILE	CA-C-N	-6.17	112.65	120.60
59	8	468	ILE	C-N-CA	-6.17	112.65	120.60
5	f	47	ASN	N-CA-C	-6.16	103.71	111.11
1	b	18	VAL	CA-C-N	-6.16	115.11	123.12
1	b	18	VAL	C-N-CA	-6.16	115.11	123.12
2	c	8	LYS	CA-C-N	-6.16	116.94	122.97
2	c	8	LYS	C-N-CA	-6.16	116.94	122.97
35	J	164	LEU	N-CA-C	-6.15	105.53	113.16
33	H	132	ALA	CA-C-N	-6.15	112.45	120.44
33	H	132	ALA	C-N-CA	-6.15	112.45	120.44
37	L	60	ALA	CA-C-N	-6.14	110.77	120.60
37	L	60	ALA	C-N-CA	-6.14	110.77	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	w	77	SER	CA-C-N	-6.13	114.41	122.94
22	w	77	SER	C-N-CA	-6.13	114.41	122.94
5	f	174	LYS	N-CA-C	6.13	123.86	110.80
32	G	15	PHE	N-CA-C	6.13	117.65	110.97
32	G	57	ASN	N-CA-C	-6.13	104.52	111.07
36	K	52	ASN	N-CA-C	-6.12	105.05	113.56
11	l	92	LEU	N-CA-C	-6.12	104.52	111.07
38	M	123	GLU	CA-C-O	6.12	127.90	120.92
32	G	206	ILE	O-C-N	-6.11	114.93	122.57
53	3	1493	A	C2'-C3'-O3'	6.11	122.86	113.70
3	d	188	MET	N-CA-C	6.10	119.34	109.40
9	j	84	ILE	CA-C-N	-6.10	112.56	122.81
9	j	84	ILE	C-N-CA	-6.10	112.56	122.81
18	s	35	ILE	N-CA-C	6.10	116.84	110.62
59	8	585	ASP	N-CA-C	6.10	118.46	111.02
7	h	63	ALA	CA-C-N	-6.09	112.76	120.56
7	h	63	ALA	C-N-CA	-6.09	112.76	120.56
59	8	121	PRO	N-CA-C	6.09	125.01	112.47
33	H	132	ALA	N-CA-C	6.08	117.58	111.07
59	8	331	GLY	N-CA-C	6.08	118.65	111.35
45	T	11	VAL	N-CA-C	6.08	116.74	110.36
8	i	68	PHE	N-CA-C	6.08	119.56	110.14
59	8	156	ASN	CA-C-O	6.07	126.95	119.97
40	O	34	ALA	N-CA-C	6.07	123.73	110.80
59	8	110	VAL	CA-C-O	6.07	127.46	120.67
34	I	169	TRP	CA-C-O	6.06	126.94	120.70
59	8	192	ASN	CA-C-N	-6.06	111.92	122.64
59	8	192	ASN	C-N-CA	-6.06	111.92	122.64
59	8	327	ASP	N-CA-C	6.05	119.70	110.50
3	d	36	ALA	CA-C-O	6.05	126.96	120.55
8	i	37	PHE	N-CA-C	6.04	118.36	111.11
38	M	102	VAL	O-C-N	6.04	129.07	122.36
42	Q	114	SER	N-CA-C	-6.04	104.81	111.82
2	c	180	VAL	O-C-N	-6.04	116.84	123.18
7	h	64	VAL	N-CA-C	6.04	116.20	110.53
50	Y	26	MET	CA-C-N	-6.04	112.59	120.44
50	Y	26	MET	C-N-CA	-6.04	112.59	120.44
3	d	179	SER	CA-C-N	-6.03	112.43	120.63
3	d	179	SER	C-N-CA	-6.03	112.43	120.63
49	X	44	ILE	CA-C-N	-6.03	114.95	123.08
49	X	44	ILE	C-N-CA	-6.03	114.95	123.08
42	Q	99	GLY	N-CA-C	-6.02	106.21	114.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
41	P	100	ASN	O-C-N	-6.01	115.75	122.12
35	J	164	LEU	CA-C-N	-6.00	110.91	121.70
35	J	164	LEU	C-N-CA	-6.00	110.91	121.70
12	m	79	ALA	CA-C-N	-5.99	115.08	122.93
12	m	79	ALA	C-N-CA	-5.99	115.08	122.93
59	8	88	ASP	N-CA-C	5.99	116.14	108.24
37	L	136	LYS	CA-C-N	-5.98	110.35	120.58
37	L	136	LYS	C-N-CA	-5.98	110.35	120.58
33	H	62	SER	CA-C-N	-5.97	112.94	122.50
33	H	62	SER	C-N-CA	-5.97	112.94	122.50
2	c	111	GLY	O-C-N	-5.97	116.76	123.62
4	e	5	ASP	N-CA-C	-5.97	104.85	111.36
52	a	209	ILE	CA-C-N	-5.96	112.65	122.79
52	a	209	ILE	C-N-CA	-5.96	112.65	122.79
13	n	9	GLN	N-CA-C	5.96	117.58	111.14
59	8	52	TRP	N-CA-C	5.96	118.51	109.63
10	k	39	ILE	CA-C-N	-5.96	114.50	122.72
10	k	39	ILE	C-N-CA	-5.96	114.50	122.72
20	u	89	GLY	N-CA-C	-5.95	106.37	113.99
45	T	76	ARG	CA-C-N	-5.95	112.30	120.28
45	T	76	ARG	C-N-CA	-5.95	112.30	120.28
3	d	147	LEU	CA-C-O	5.95	126.66	120.30
40	O	76	ILE	O-C-N	-5.95	116.84	123.26
52	a	221	GLY	CA-C-N	-5.94	116.05	122.59
52	a	221	GLY	C-N-CA	-5.94	116.05	122.59
43	R	64	VAL	N-CA-C	5.93	117.72	109.29
1	b	269	ARG	N-CA-C	5.93	117.71	110.41
39	N	93	LEU	CA-C-O	5.91	125.40	118.90
37	L	142	ARG	CA-C-N	-5.91	113.20	122.65
37	L	142	ARG	C-N-CA	-5.91	113.20	122.65
44	S	41	TRP	CA-C-N	-5.90	110.48	120.58
44	S	41	TRP	C-N-CA	-5.90	110.48	120.58
59	8	663	MET	CA-C-N	-5.90	110.26	121.54
59	8	663	MET	C-N-CA	-5.90	110.26	121.54
45	T	78	THR	CA-C-N	-5.90	112.38	120.28
45	T	78	THR	C-N-CA	-5.90	112.38	120.28
51	Z	20	ARG	CA-C-N	-5.90	110.67	121.52
51	Z	20	ARG	C-N-CA	-5.90	110.67	121.52
40	O	9	ARG	CA-C-N	-5.89	113.05	122.53
40	O	9	ARG	C-N-CA	-5.89	113.05	122.53
52	a	15	VAL	N-CA-C	-5.89	101.20	109.21
46	U	76	LYS	CA-C-O	5.88	126.79	120.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	K	15	SER	O-C-N	5.88	128.35	122.12
32	G	18	GLN	N-CA-CB	-5.87	107.47	114.17
54	1	1818	U	N1-C1'-C2'	5.87	120.81	112.00
53	3	1347	G	N9-C1'-C2'	5.87	120.81	112.00
34	I	82	LYS	CA-C-N	-5.87	116.87	121.86
34	I	82	LYS	C-N-CA	-5.87	116.87	121.86
59	8	556	GLY	CA-C-N	-5.86	112.10	120.42
59	8	556	GLY	C-N-CA	-5.86	112.10	120.42
38	M	124	ILE	CA-C-N	-5.86	113.73	120.88
38	M	124	ILE	C-N-CA	-5.86	113.73	120.88
39	N	96	GLU	N-CA-C	-5.86	105.63	112.89
52	a	6	LYS	CA-C-O	5.86	128.88	120.51
53	3	563	A	N9-C1'-C2'	5.85	120.78	112.00
16	q	29	ARG	CA-C-O	5.85	125.22	118.97
33	H	75	VAL	CA-C-N	-5.84	111.76	120.82
33	H	75	VAL	C-N-CA	-5.84	111.76	120.82
7	h	35	VAL	N-CA-C	-5.84	104.67	110.62
34	I	82	LYS	CA-C-O	5.83	128.17	121.28
39	N	13	SER	CA-C-O	5.83	126.92	119.16
52	a	21	TYR	N-CA-C	5.83	118.40	110.35
22	w	30	GLY	CA-C-O	5.83	125.44	118.97
50	Y	81	GLN	CA-C-N	-5.83	112.14	120.42
50	Y	81	GLN	C-N-CA	-5.83	112.14	120.42
54	1	477	A	N9-C1'-C2'	5.83	120.74	112.00
26	A	47	LYS	CA-C-O	5.83	126.55	119.38
54	1	747	C	N1-C1'-C2'	5.82	120.74	112.00
9	j	101	ILE	CA-C-N	-5.80	112.50	120.28
9	j	101	ILE	C-N-CA	-5.80	112.50	120.28
53	3	1011	C	N1-C1'-C2'	5.80	120.70	112.00
13	n	11	ASN	N-CA-C	5.80	119.43	111.54
8	i	6	ALA	N-CA-C	-5.80	103.93	113.50
59	8	320	LEU	CA-C-O	5.79	126.69	120.32
59	8	697	ALA	N-CA-C	-5.79	106.06	113.01
37	L	148	LYS	N-CA-C	5.78	118.47	109.52
38	M	26	MET	N-CA-C	5.77	113.42	108.22
18	s	106	VAL	CA-C-N	-5.77	115.27	122.48
18	s	106	VAL	C-N-CA	-5.77	115.27	122.48
35	J	21	SER	N-CA-C	5.77	117.37	109.18
43	R	59	VAL	CA-C-N	-5.77	109.76	121.18
43	R	59	VAL	C-N-CA	-5.77	109.76	121.18
11	l	100	ILE	N-CA-C	-5.76	107.65	113.47
32	G	108	GLN	CA-C-N	-5.76	111.97	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	G	108	GLN	C-N-CA	-5.76	111.97	120.38
16	q	56	PHE	CA-C-N	-5.75	112.58	120.28
16	q	56	PHE	C-N-CA	-5.75	112.58	120.28
46	U	46	LYS	N-CA-C	-5.75	105.37	112.72
12	m	24	THR	N-CA-C	5.75	123.04	110.80
12	m	119	LEU	CA-C-O	5.74	126.50	120.42
53	3	1312	G	N9-C1'-C2'	5.73	120.60	112.00
4	e	89	THR	O-C-N	-5.73	115.41	122.68
8	i	20	SER	N-CA-C	5.73	120.28	112.55
37	L	24	LYS	CA-C-N	-5.73	112.54	120.38
37	L	24	LYS	C-N-CA	-5.73	112.54	120.38
18	s	20	VAL	N-CA-C	5.72	115.92	110.42
44	S	41	TRP	N-CA-C	-5.72	105.56	112.54
8	i	49	GLU	N-CA-C	5.72	118.74	110.28
43	R	51	GLN	CA-C-N	-5.72	110.92	120.30
43	R	51	GLN	C-N-CA	-5.72	110.92	120.30
38	M	125	ILE	CA-C-N	-5.71	111.17	121.62
38	M	125	ILE	C-N-CA	-5.71	111.17	121.62
6	g	143	ILE	CA-C-N	-5.71	115.01	122.94
6	g	143	ILE	C-N-CA	-5.71	115.01	122.94
12	m	38	ARG	CA-C-N	-5.71	113.73	121.27
12	m	38	ARG	C-N-CA	-5.71	113.73	121.27
12	m	48	ALA	CA-C-N	-5.70	113.53	122.65
12	m	48	ALA	C-N-CA	-5.70	113.53	122.65
53	3	1505	G	N9-C1'-C2'	5.70	120.55	112.00
45	T	79	GLN	CA-C-N	-5.69	112.21	120.29
45	T	79	GLN	C-N-CA	-5.69	112.21	120.29
34	I	18	LEU	N-CA-C	5.68	119.83	113.02
54	1	158	U	N1-C1'-C2'	5.67	120.51	112.00
34	I	83	GLY	N-CA-C	5.67	118.43	111.45
8	i	36	GLU	CA-C-N	-5.67	112.88	120.54
8	i	36	GLU	C-N-CA	-5.67	112.88	120.54
59	8	86	ILE	CA-C-N	-5.67	112.90	120.50
59	8	86	ILE	C-N-CA	-5.67	112.90	120.50
44	S	42	ASN	CA-C-N	-5.67	112.62	120.38
44	S	42	ASN	C-N-CA	-5.67	112.62	120.38
32	G	54	ALA	CA-C-N	-5.66	112.25	120.29
32	G	54	ALA	C-N-CA	-5.66	112.25	120.29
37	L	107	ALA	CA-C-N	-5.66	111.27	120.72
37	L	107	ALA	C-N-CA	-5.66	111.27	120.72
33	H	4	VAL	N-CA-C	5.65	121.10	109.34
47	V	27	PHE	CA-C-N	-5.65	114.57	122.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	V	27	PHE	C-N-CA	-5.65	114.57	122.71
59	8	332	ASN	N-CA-C	5.65	118.86	108.58
4	e	51	ASN	CA-C-O	5.64	126.53	120.55
40	O	44	THR	O-C-N	-5.64	116.20	122.86
1	b	202	ARG	CA-C-N	-5.64	114.85	122.91
1	b	202	ARG	C-N-CA	-5.64	114.85	122.91
33	H	68	HIS	CA-C-N	-5.63	112.73	123.32
33	H	68	HIS	C-N-CA	-5.63	112.73	123.32
3	d	82	GLY	N-CA-C	5.63	126.53	113.18
37	L	68	VAL	N-CA-C	-5.63	107.26	112.83
7	h	36	ASP	CA-C-O	5.62	126.44	119.97
20	u	98	ASN	N-CA-C	-5.62	106.55	113.41
59	8	85	ASN	CA-C-N	-5.62	115.23	123.10
59	8	85	ASN	C-N-CA	-5.62	115.23	123.10
36	K	75	GLU	CA-C-N	-5.62	112.95	120.54
36	K	75	GLU	C-N-CA	-5.62	112.95	120.54
40	O	96	VAL	CA-C-N	-5.62	114.85	122.77
40	O	96	VAL	C-N-CA	-5.62	114.85	122.77
2	c	184	ARG	N-CA-C	-5.62	106.01	112.92
3	d	200	LEU	N-CA-C	5.62	117.26	111.03
34	I	158	LEU	N-CA-C	-5.62	105.93	112.89
28	C	49	LYS	CA-C-N	-5.61	112.07	121.39
28	C	49	LYS	C-N-CA	-5.61	112.07	121.39
59	8	158	ILE	CA-C-N	-5.60	112.23	121.92
59	8	158	ILE	C-N-CA	-5.60	112.23	121.92
44	S	39	ASP	O-C-N	-5.60	116.09	122.08
8	i	56	VAL	CA-C-N	-5.59	115.38	122.43
8	i	56	VAL	C-N-CA	-5.59	115.38	122.43
32	G	63	LYS	CA-C-N	-5.59	113.59	120.64
32	G	63	LYS	C-N-CA	-5.59	113.59	120.64
50	Y	80	ALA	CA-C-N	-5.59	111.83	121.66
50	Y	80	ALA	C-N-CA	-5.59	111.83	121.66
5	f	139	VAL	CA-C-N	-5.58	112.81	120.46
5	f	139	VAL	C-N-CA	-5.58	112.81	120.46
12	m	71	LYS	O-C-N	-5.58	117.92	121.27
51	Z	28	LEU	N-CA-C	-5.58	105.20	111.28
32	G	97	GLY	N-CA-C	5.58	118.34	111.93
2	c	95	SER	N-CA-C	5.58	117.80	107.99
33	H	202	PHE	CA-C-N	-5.58	113.78	122.42
33	H	202	PHE	C-N-CA	-5.58	113.78	122.42
18	s	38	TYR	CA-C-O	5.57	126.17	119.59
48	W	69	TYR	N-CA-C	-5.57	105.28	111.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	4	15	A	N9-C1'-C2'	5.57	120.35	112.00
59	8	89	THR	N-CA-C	5.57	122.11	109.81
59	8	627	ASN	CA-C-O	-5.55	112.55	119.38
40	O	92	LEU	N-CA-C	5.55	122.62	110.80
58	4	14	A	N9-C1'-C2'	5.55	120.32	112.00
10	k	41	ILE	N-CA-C	5.54	118.09	108.95
38	M	59	GLU	CA-C-N	-5.53	115.19	122.99
38	M	59	GLU	C-N-CA	-5.53	115.19	122.99
48	W	60	ARG	N-CA-C	-5.53	105.16	111.07
10	k	5	GLN	N-CA-C	-5.52	106.12	112.86
36	K	23	GLU	CA-C-N	-5.52	112.33	120.28
36	K	23	GLU	C-N-CA	-5.52	112.33	120.28
59	8	32	PHE	N-CA-C	-5.52	105.26	111.28
6	g	14	SER	N-CA-C	5.52	117.95	110.06
27	B	53	VAL	CA-C-N	-5.52	111.25	120.30
27	B	53	VAL	C-N-CA	-5.52	111.25	120.30
50	Y	34	VAL	CA-C-N	-5.51	112.34	120.28
50	Y	34	VAL	C-N-CA	-5.51	112.34	120.28
40	O	73	LEU	O-C-N	5.51	129.66	123.27
39	N	75	ALA	CA-C-N	-5.50	110.62	121.41
39	N	75	ALA	C-N-CA	-5.50	110.62	121.41
14	o	28	VAL	CA-C-N	-5.50	115.01	122.77
14	o	28	VAL	C-N-CA	-5.50	115.01	122.77
5	f	18	ILE	O-C-N	-5.50	117.46	123.18
6	g	112	LYS	N-CA-C	5.50	117.71	111.11
39	N	27	ILE	CA-C-N	-5.50	115.47	123.06
39	N	27	ILE	C-N-CA	-5.50	115.47	123.06
59	8	131	ASN	CA-C-N	-5.50	111.95	120.31
59	8	131	ASN	C-N-CA	-5.50	111.95	120.31
59	8	427	ASP	CA-C-N	-5.49	112.36	120.38
59	8	427	ASP	C-N-CA	-5.49	112.36	120.38
6	g	132	PHE	O-C-N	5.49	129.11	122.85
34	I	41	GLY	N-CA-C	5.49	119.32	112.73
34	I	72	ARG	CA-C-N	-5.49	112.86	120.38
34	I	72	ARG	C-N-CA	-5.49	112.86	120.38
59	8	691	PRO	N-CA-C	5.49	118.91	111.22
26	A	46	GLY	CA-C-O	5.49	126.93	121.00
33	H	35	ASP	CA-C-O	5.49	126.37	120.55
3	d	114	ARG	CA-C-N	-5.48	113.37	122.08
3	d	114	ARG	C-N-CA	-5.48	113.37	122.08
54	1	501	A	N9-C1'-C2'	5.48	120.22	112.00
36	K	18	VAL	N-CA-C	5.48	120.55	112.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	c	95	SER	O-C-N	-5.47	115.73	122.68
37	L	128	GLU	CA-C-N	-5.46	114.26	122.07
37	L	128	GLU	C-N-CA	-5.46	114.26	122.07
59	8	110	VAL	O-C-N	-5.46	117.25	123.10
48	W	66	LEU	N-CA-C	-5.46	105.43	111.71
34	I	127	ARG	CA-C-O	5.46	126.54	120.43
53	3	1396	A	C4'-C3'-O3'	5.45	117.58	109.40
6	g	130	VAL	O-C-N	5.44	128.64	122.98
33	H	33	ASP	CA-C-N	-5.44	112.99	120.28
33	H	33	ASP	C-N-CA	-5.44	112.99	120.28
3	d	155	GLU	N-CA-C	-5.44	105.45	111.71
59	8	659	PRO	CA-C-O	5.43	127.83	121.31
41	P	46	ALA	N-CA-C	-5.43	105.52	111.82
18	s	18	ARG	O-C-N	5.42	127.73	122.09
4	e	12	VAL	O-C-N	5.42	127.22	121.91
36	K	72	ASP	CA-C-O	5.42	126.29	120.55
59	8	116	VAL	CA-C-N	-5.41	110.80	121.41
59	8	116	VAL	C-N-CA	-5.41	110.80	121.41
45	T	77	TYR	CA-C-N	-5.41	112.97	120.38
45	T	77	TYR	C-N-CA	-5.41	112.97	120.38
6	g	102	ALA	N-CA-C	5.41	117.25	111.36
3	d	9	GLN	CA-C-O	5.41	127.51	120.81
17	r	51	VAL	CA-C-N	-5.40	114.14	119.92
17	r	51	VAL	C-N-CA	-5.40	114.14	119.92
7	h	75	ALA	CA-C-O	5.40	126.02	119.49
44	S	86	ALA	N-CA-C	5.39	120.34	113.55
39	N	82	ILE	N-CA-C	-5.39	105.25	110.42
53	3	1348	U	N1-C1'-C2'	5.39	120.08	112.00
44	S	25	GLU	N-CA-C	-5.38	105.81	112.38
53	3	1363	A	N9-C1'-C2'	5.38	120.07	112.00
5	f	18	ILE	N-CA-C	5.38	115.73	107.77
10	k	112	PHE	CA-C-N	-5.38	112.54	120.28
10	k	112	PHE	C-N-CA	-5.38	112.54	120.28
59	8	481	ALA	O-C-N	-5.38	116.63	123.24
10	k	50	GLY	CA-C-N	-5.37	112.15	120.31
10	k	50	GLY	C-N-CA	-5.37	112.15	120.31
54	1	58	G	N9-C1'-C2'	5.37	120.05	112.00
45	T	10	ILE	N-CA-C	5.36	115.57	110.42
50	Y	80	ALA	N-CA-C	5.35	116.81	110.97
54	1	2529	G	N9-C1'-C2'	5.35	120.03	112.00
2	c	93	GLY	CA-C-O	5.35	125.53	119.59
54	1	2174	C	N1-C1'-C2'	5.35	120.02	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	h	77	VAL	CA-C-N	-5.35	113.48	121.87
7	h	77	VAL	C-N-CA	-5.35	113.48	121.87
53	3	1538	C	N1-C1'-C2'	5.34	120.01	112.00
47	V	49	ASN	N-CA-C	5.34	122.17	110.80
13	n	22	ARG	N-CA-C	-5.33	105.36	111.07
25	z	38	GLU	CA-C-N	-5.33	114.16	122.05
25	z	38	GLU	C-N-CA	-5.33	114.16	122.05
32	G	160	LEU	CA-C-O	5.33	126.79	120.66
59	8	641	MET	O-C-N	5.33	129.80	123.24
3	d	152	GLU	CA-C-O	5.33	126.18	120.32
32	G	95	TRP	O-C-N	-5.33	116.28	122.89
42	Q	115	LYS	N-CA-C	-5.33	102.57	110.46
59	8	692	SER	N-CA-C	5.33	117.52	111.02
8	i	11	GLN	CA-C-N	5.33	130.03	122.09
8	i	11	GLN	C-N-CA	5.33	130.03	122.09
32	G	88	GLN	CA-C-N	-5.33	115.49	123.00
32	G	88	GLN	C-N-CA	-5.33	115.49	123.00
59	8	103	MET	CA-C-N	-5.33	113.14	120.28
59	8	103	MET	C-N-CA	-5.33	113.14	120.28
26	A	57	VAL	N-CA-C	-5.32	104.39	111.05
33	H	7	ASN	N-CA-C	-5.32	104.53	111.02
51	Z	26	GLY	N-CA-C	-5.32	105.88	113.86
6	g	141	LYS	N-CA-C	5.31	118.40	109.95
4	e	102	LEU	CA-C-N	-5.31	111.15	120.29
4	e	102	LEU	C-N-CA	-5.31	111.15	120.29
53	3	1346	A	N9-C1'-C2'	5.31	119.97	112.00
44	S	82	LYS	CA-C-O	5.31	126.06	119.79
32	G	208	ALA	CA-C-N	-5.31	112.89	120.42
32	G	208	ALA	C-N-CA	-5.31	112.89	120.42
36	K	30	THR	CA-C-N	-5.29	113.50	120.22
36	K	30	THR	C-N-CA	-5.29	113.50	120.22
50	Y	33	LYS	CA-C-N	-5.29	113.89	120.56
50	Y	33	LYS	C-N-CA	-5.29	113.89	120.56
59	8	14	GLY	CA-C-N	-5.29	116.06	123.10
59	8	14	GLY	C-N-CA	-5.29	116.06	123.10
50	Y	76	ALA	CA-C-N	-5.28	113.20	120.28
50	Y	76	ALA	C-N-CA	-5.28	113.20	120.28
50	Y	21	ALA	N-CA-C	-5.28	105.61	111.36
1	b	13	ARG	N-CA-C	5.28	116.72	110.97
45	T	6	ALA	N-CA-C	-5.28	105.42	111.07
3	d	186	VAL	CA-C-N	-5.27	116.65	123.19
3	d	186	VAL	C-N-CA	-5.27	116.65	123.19

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	8	177	GLU	N-CA-C	-5.27	107.86	114.56
3	d	147	LEU	O-C-N	-5.27	117.16	123.27
32	G	161	PHE	CA-C-N	-5.26	116.66	123.19
32	G	161	PHE	C-N-CA	-5.26	116.66	123.19
49	X	45	GLY	CA-C-N	-5.26	112.66	121.39
49	X	45	GLY	C-N-CA	-5.26	112.66	121.39
52	a	160	GLN	CA-C-N	-5.26	115.46	122.77
52	a	160	GLN	C-N-CA	-5.26	115.46	122.77
4	e	139	GLU	CA-C-N	-5.26	116.28	123.12
4	e	139	GLU	C-N-CA	-5.26	116.28	123.12
45	T	51	SER	N-CA-C	-5.26	105.55	111.28
59	8	121	PRO	CA-C-O	5.25	130.16	120.60
32	G	220	VAL	CA-C-N	-5.25	113.24	120.28
32	G	220	VAL	C-N-CA	-5.25	113.24	120.28
59	8	389	LYS	N-CA-C	5.25	119.18	111.04
3	d	39	ALA	CA-C-N	-5.25	113.47	121.66
3	d	39	ALA	C-N-CA	-5.25	113.47	121.66
22	w	27	VAL	O-C-N	5.25	128.87	123.04
40	O	38	GLY	O-C-N	-5.25	116.52	121.77
37	L	139	ASP	CA-C-N	-5.25	113.13	120.53
37	L	139	ASP	C-N-CA	-5.25	113.13	120.53
59	8	276	GLN	CA-C-O	5.24	126.11	120.55
52	a	59	VAL	O-C-N	5.24	128.91	122.72
21	v	62	THR	O-C-N	-5.24	116.81	123.05
32	G	117	GLU	N-CA-C	-5.24	105.65	111.36
36	K	94	HIS	N-CA-C	-5.24	103.12	110.50
34	I	31	CYS	N-CA-C	5.23	117.15	110.61
37	L	39	GLU	N-CA-C	-5.23	105.70	111.71
59	8	84	ILE	CA-C-O	5.22	126.62	121.09
59	8	360	PHE	CA-C-N	-5.22	111.18	121.41
59	8	360	PHE	C-N-CA	-5.22	111.18	121.41
7	h	7	ASP	N-CA-C	5.22	116.82	111.03
33	H	133	MET	N-CA-C	5.22	116.65	111.07
43	R	94	LEU	O-C-N	-5.21	117.48	121.55
59	8	294	ALA	CA-C-O	5.21	126.16	120.95
59	8	180	THR	CA-C-O	5.21	125.84	119.64
33	H	67	ILE	N-CA-C	5.20	115.98	107.24
34	I	60	VAL	N-CA-C	-5.20	105.64	110.53
59	8	84	ILE	N-CA-C	5.20	114.27	106.42
50	Y	56	ILE	CA-C-N	-5.20	113.91	120.56
50	Y	56	ILE	C-N-CA	-5.20	113.91	120.56
34	I	82	LYS	O-C-N	-5.20	117.12	123.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	f	18	ILE	CA-C-O	5.19	125.52	120.27
53	3	1125	U	N1-C1'-C2'	5.19	119.79	112.00
33	H	129	PHE	N-CA-C	5.19	117.34	111.11
32	G	112	ARG	N-CA-C	-5.19	105.52	111.07
48	W	54	LEU	N-CA-C	5.19	116.79	111.03
3	d	83	VAL	N-CA-C	5.19	120.13	109.34
46	U	65	ALA	CA-C-O	5.19	126.60	120.58
36	K	7	VAL	CA-C-N	-5.18	112.10	121.69
36	K	7	VAL	C-N-CA	-5.18	112.10	121.69
39	N	38	PHE	N-CA-C	-5.18	105.24	112.03
59	8	476	GLU	CA-C-N	-5.18	114.46	122.49
59	8	476	GLU	C-N-CA	-5.18	114.46	122.49
14	o	44	GLY	N-CA-C	5.18	120.89	114.37
59	8	573	ASP	CA-C-N	-5.17	116.11	122.84
59	8	573	ASP	C-N-CA	-5.17	116.11	122.84
33	H	110	LEU	CA-C-N	-5.17	114.10	121.50
33	H	110	LEU	C-N-CA	-5.17	114.10	121.50
33	H	179	ALA	CA-C-N	-5.17	115.26	123.12
33	H	179	ALA	C-N-CA	-5.17	115.26	123.12
40	O	97	ASP	N-CA-C	-5.17	99.86	108.34
59	8	352	SER	N-CA-C	5.17	117.82	111.82
54	1	669	G	N9-C1'-C2'	5.17	119.75	112.00
40	O	11	LYS	O-C-N	5.16	128.68	123.26
33	H	83	VAL	N-CA-C	-5.16	105.47	110.42
43	R	104	ASN	N-CA-C	5.16	117.83	109.79
33	H	94	ALA	N-CA-C	-5.16	105.73	112.23
38	M	19	ALA	CA-C-N	-5.16	114.57	122.61
38	M	19	ALA	C-N-CA	-5.16	114.57	122.61
40	O	93	ALA	N-CA-C	5.15	121.78	110.80
30	E	56	LEU	CA-C-N	-5.15	112.33	120.47
30	E	56	LEU	C-N-CA	-5.15	112.33	120.47
1	b	255	LYS	N-CA-C	-5.15	102.02	109.59
58	4	9	G	N9-C1'-C2'	5.15	119.72	112.00
37	L	76	SER	N-CA-C	5.14	117.77	110.10
10	k	9	ASN	CA-C-N	-5.14	114.00	121.71
10	k	9	ASN	C-N-CA	-5.14	114.00	121.71
38	M	45	ILE	CA-C-N	-5.14	115.91	123.00
38	M	45	ILE	C-N-CA	-5.14	115.91	123.00
39	N	84	ARG	N-CA-C	-5.14	107.18	113.50
57	6	32	C	O3'-P-O5'	-5.14	96.30	104.00
32	G	105	THR	CA-C-N	-5.13	113.14	120.42
32	G	105	THR	C-N-CA	-5.13	113.14	120.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	d	38	GLY	CA-C-N	-5.13	112.17	121.14
3	d	38	GLY	C-N-CA	-5.13	112.17	121.14
3	d	35	TYR	CA-C-O	5.12	125.86	119.97
32	G	160	LEU	O-C-N	-5.12	117.02	123.27
54	l	2501	C	N1-C1'-C2'	5.12	119.68	112.00
35	J	128	GLY	O-C-N	-5.12	117.90	122.86
14	o	29	HIS	CA-C-N	-5.11	113.32	122.07
14	o	29	HIS	C-N-CA	-5.11	113.32	122.07
32	G	220	VAL	N-CA-C	-5.11	105.72	110.53
15	p	28	LYS	O-C-N	5.11	129.32	123.29
54	l	727	A	N9-C1'-C2'	5.10	119.65	112.00
52	a	200	LYS	N-CA-C	5.10	121.08	109.81
54	l	1313	U	N1-C1'-C2'	5.10	119.65	112.00
59	8	95	PHE	CA-C-O	5.10	126.50	121.20
4	e	139	GLU	O-C-N	-5.09	115.81	122.59
38	M	47	ASP	N-CA-C	5.09	117.39	111.02
10	k	32	TYR	N-CA-C	5.09	117.69	109.40
16	q	40	LYS	N-CA-C	-5.09	105.73	111.28
52	a	208	TYR	O-C-N	5.08	127.87	122.38
59	8	122	GLN	CA-C-N	-5.08	112.24	120.72
59	8	122	GLN	C-N-CA	-5.08	112.24	120.72
4	e	89	THR	CA-C-N	-5.07	116.00	123.00
4	e	89	THR	C-N-CA	-5.07	116.00	123.00
27	B	14	MET	N-CA-C	5.07	116.62	111.14
54	l	1071	G	N9-C1'-C2'	5.07	119.61	112.00
59	8	102	SER	N-CA-C	5.07	117.19	111.11
10	k	39	ILE	CA-C-O	5.07	126.99	121.67
37	L	105	GLU	CA-C-N	-5.05	112.69	120.88
37	L	105	GLU	C-N-CA	-5.05	112.69	120.88
2	c	180	VAL	CA-C-O	5.05	125.83	120.48
53	3	1080	A	N9-C1'-C2'	5.05	119.58	112.00
59	8	341	GLY	N-CA-C	5.05	123.83	112.01
44	S	26	LEU	N-CA-C	-5.05	106.81	112.87
33	H	179	ALA	N-CA-C	5.04	117.04	110.43
59	8	623	THR	CA-C-N	5.04	126.14	119.84
59	8	623	THR	C-N-CA	5.04	126.14	119.84
3	d	147	LEU	CA-C-N	-5.04	115.70	122.91
3	d	147	LEU	C-N-CA	-5.04	115.70	122.91
12	m	109	PRO	N-CA-C	5.04	118.27	111.22
44	S	10	VAL	CA-C-N	-5.03	112.66	120.31
44	S	10	VAL	C-N-CA	-5.03	112.66	120.31
19	t	91	GLN	N-CA-C	5.03	117.88	110.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	S	60	ARG	N-CA-C	-5.02	106.66	112.89
49	X	38	THR	N-CA-C	5.02	118.14	110.36
33	H	128	MET	CA-C-O	5.02	126.47	120.70
52	a	6	LYS	O-C-N	-5.02	115.92	122.59
59	8	689	GLU	N-CA-C	5.01	117.57	110.10
21	v	39	ALA	CA-C-N	-5.01	116.14	123.06
21	v	39	ALA	C-N-CA	-5.01	116.14	123.06
34	I	54	LEU	CA-C-N	-5.01	113.57	120.28
34	I	54	LEU	C-N-CA	-5.01	113.57	120.28
59	8	627	ASN	N-CA-C	-5.01	106.43	112.54
34	I	63	ILE	N-CA-C	-5.01	107.95	112.96
34	I	73	ASN	CA-C-N	-5.01	113.83	120.79
34	I	73	ASN	C-N-CA	-5.01	113.83	120.79
36	K	28	ALA	CA-C-O	5.00	125.86	120.55
1	b	267	VAL	N-CA-C	-5.00	106.80	111.45
34	I	201	GLU	O-C-N	5.00	127.49	122.09

There are no chirality outliers.

All (82) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
54	1	119	A	Sidechain
54	1	1204	A	Sidechain
54	1	1241	A	Sidechain
54	1	1263	U	Sidechain
54	1	1328	A	Sidechain
54	1	1433	A	Sidechain
54	1	1647	U	Sidechain
54	1	1755	A	Sidechain
54	1	1828	G	Sidechain
54	1	1905	C	Sidechain
54	1	1937	A	Sidechain
54	1	196	A	Sidechain
54	1	1991	U	Sidechain
54	1	1996	C	Sidechain
54	1	2061	G	Sidechain
54	1	222	A	Sidechain
54	1	2244	U	Sidechain
54	1	2266	A	Sidechain
54	1	2273	A	Sidechain
54	1	2344	U	Sidechain
54	1	2391	G	Sidechain

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Mol	Chain	Res	Type	Group
54	1	2447	G	Sidechain
54	1	247	G	Sidechain
54	1	2529	G	Sidechain
54	1	2532	G	Sidechain
54	1	27	G	Sidechain
54	1	2848	G	Sidechain
54	1	2883	A	Sidechain
54	1	307	G	Sidechain
54	1	370	G	Sidechain
54	1	446	G	Sidechain
54	1	450	G	Sidechain
54	1	454	A	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	52	A	Sidechain
54	1	726	G	Sidechain
54	1	727	A	Sidechain
54	1	775	G	Sidechain
54	1	827	U	Sidechain
54	1	868	U	Sidechain
54	1	895	U	Sidechain
54	1	973	A	Sidechain
54	1	975	A	Sidechain
55	2	1	U	Sidechain
55	2	119	A	Sidechain
55	2	24	G	Sidechain
53	3	1020	G	Sidechain
53	3	1061	G	Sidechain
53	3	1082	A	Sidechain
53	3	1122	U	Sidechain
53	3	1123	U	Sidechain
53	3	1149	C	Sidechain
53	3	1150	A	Sidechain
53	3	1171	A	Sidechain
53	3	124	C	Sidechain
53	3	1316	G	Sidechain
53	3	1330	U	Sidechain

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Mol	Chain	Res	Type	Group
53	3	1363	A	Sidechain
53	3	159	G	Sidechain
53	3	266	G	Sidechain
53	3	383	A	Sidechain
53	3	429	U	Sidechain
53	3	566	G	Sidechain
53	3	820	U	Sidechain
53	3	872	A	Sidechain
53	3	898	G	Sidechain
53	3	920	U	Sidechain
53	3	938	A	Sidechain
56	5	26	A	Sidechain
57	6	44	A	Sidechain
59	8	623	THR	Mainchain
34	I	152	SER	Mainchain
34	I	154	VAL	Mainchain
35	J	86	GLY	Mainchain
35	J	92	ARG	Mainchain
46	U	78	VAL	Mainchain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	b	2083	0	2157	161	0
2	c	1565	0	1616	116	0
3	d	1552	0	1619	89	0
4	e	1411	0	1447	130	0
5	f	1323	0	1374	75	0
6	g	936	0	961	82	0
7	h	633	0	666	56	0
8	i	551	0	577	62	0
9	j	1129	0	1162	63	0
10	k	939	0	1012	84	0
11	l	1045	0	1117	89	0
12	m	1074	0	1157	50	0
13	n	961	0	1000	69	0
14	o	892	0	923	56	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	p	917	0	965	74	0
16	q	947	0	1022	64	0
17	r	816	0	839	52	0
18	s	857	0	922	37	0
19	t	739	0	807	52	0
20	u	780	0	834	55	0
21	v	753	0	780	50	0
22	w	575	0	592	33	0
23	x	625	0	655	42	0
24	y	509	0	543	26	0
25	z	449	0	491	33	0
26	A	523	0	524	57	0
27	B	444	0	461	30	0
28	C	410	0	440	24	0
29	D	377	0	418	25	0
30	E	504	0	574	43	0
31	F	302	0	343	17	0
32	G	1705	0	1732	151	0
33	H	1625	0	1699	139	0
34	I	1643	0	1710	138	0
35	J	1157	0	1199	105	0
36	K	818	0	808	67	0
37	L	1182	0	1240	121	0
38	M	979	0	1034	93	0
39	N	1022	0	1070	117	0
40	O	787	0	827	102	0
41	P	870	0	878	91	0
42	Q	955	0	1019	108	0
43	R	884	0	944	111	0
44	S	805	0	847	92	0
45	T	714	0	737	60	0
46	U	649	0	666	71	0
47	V	649	0	691	57	0
48	W	536	0	552	34	0
49	X	638	0	665	76	0
50	Y	665	0	714	62	0
51	Z	545	0	579	57	0
52	a	1027	0	1092	108	0
53	3	33012	0	16618	1181	0
54	1	62317	0	31346	1463	0
55	2	2568	0	1303	72	0
56	5	1647	0	831	32	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	6	1640	0	837	39	0
58	4	348	0	175	20	0
59	8	5312	0	5283	470	0
60	1	10	0	10	2	0
61	5	7	0	7	1	0
62	8	32	0	14	5	0
63	8	1	0	0	0	0
All	All	153370	0	105125	6522	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 25.

All (6522) 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)
40:O:40:ILE:N	40:O:40:ILE:CA	1.74	1.50
40:O:40:ILE:HA	53:3:1123:U:C5	1.46	1.48
40:O:40:ILE:CA	53:3:1123:U:C4	1.98	1.46
40:O:40:ILE:CA	53:3:1123:U:C5	2.08	1.35
40:O:40:ILE:HA	53:3:1123:U:C4	1.64	1.22
54:1:45:G:H5''	54:1:46:G:H5'	1.25	1.15
19:t:22:THR:HA	19:t:25:GLU:HG2	1.30	1.13
46:U:31:ARG:HB2	53:3:310:G:H5''	1.27	1.12
43:R:95:PRO:HB2	53:3:1307:U:O3'	1.52	1.10
6:g:9:VAL:HG12	6:g:11:ASN:H	1.09	1.10
37:L:28:ILE:HD12	37:L:100:MET:HB3	1.32	1.09
53:3:1148:U:H3'	53:3:1149:C:H4'	1.34	1.09
54:1:1175:A:H3'	54:1:1176:U:H5'	1.32	1.09
59:8:97:ILE:HD11	59:8:443:PRO:HG2	1.33	1.09
40:O:39:PRO:O	53:3:1123:U:C5	2.06	1.07
54:1:109:C:H2'	54:1:110:G:H5''	1.37	1.06
43:R:97:ARG:C	53:3:1308:U:H5''	1.82	1.04
53:3:85:U:H5''	53:3:86:G:H5'	1.39	1.04
39:N:17:ARG:HH21	39:N:65:THR:HG21	1.21	1.03
45:T:1:SER:HA	45:T:34:GLN:HE22	1.24	1.03
1:b:226:PRO:HG3	1:b:233:GLY:HA2	1.40	1.03
42:Q:113:ARG:HH12	53:3:36:C:H4'	1.22	1.03
46:U:5:ARG:HB2	53:3:376:G:H5''	1.39	1.03
45:T:42:PHE:HB3	45:T:52:ARG:HH12	1.22	1.02
59:8:342:VAL:HG12	59:8:378:ARG:HA	1.41	1.02
53:3:980:C:H3'	53:3:981:U:H5''	1.38	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:309:ARG:HD2	59:8:339:TYR:HB3	1.40	1.02
59:8:469:ILE:HG22	59:8:473:MET:HE2	1.39	1.02
8:i:21:PRO:HB2	8:i:22:PRO:HD3	1.38	1.02
48:W:41:SER:HB3	48:W:51:GLN:HG3	1.42	1.02
49:X:39:ILE:HG23	49:X:43:MET:HB2	1.40	1.02
17:r:54:VAL:HG23	17:r:55:ASP:H	1.26	1.01
41:P:118:ASN:HD22	53:3:717:U:H4'	1.20	1.01
59:8:192:ASN:HB3	59:8:203:GLU:HB2	1.41	1.01
40:O:40:ILE:CA	53:3:1123:U:C6	2.43	1.00
59:8:470:VAL:HA	59:8:473:MET:HE3	1.43	1.00
53:3:153:C:H2'	53:3:154:U:H5''	1.42	1.00
1:b:86:ARG:NH1	1:b:155:ARG:HH21	1.60	1.00
54:1:1912:A:H62	54:1:1917:U:H3	1.09	0.99
15:p:59:THR:HG22	15:p:72:VAL:HG12	1.40	0.99
53:3:405:U:H3'	53:3:406:G:H5'	1.44	0.98
46:U:70:ARG:HH12	53:3:451:A:H5'	1.27	0.98
53:3:440:C:H2'	53:3:441:A:H5''	1.45	0.98
53:3:531:U:H4'	53:3:532:A:H5'	1.43	0.98
59:8:174:GLY:HA3	59:8:178:HIS:HB3	1.43	0.98
53:3:1061:G:H2'	53:3:1062:U:H4'	1.44	0.97
54:1:1959:G:H2'	54:1:1960:A:H5''	1.47	0.97
56:5:26:A:N6	56:5:44:G:H1	1.61	0.97
40:O:7:ARG:HB2	40:O:101:SER:HB3	1.46	0.97
1:b:86:ARG:HH12	1:b:155:ARG:HH21	0.96	0.96
11:l:23:ILE:H	11:l:23:ILE:HD12	1.29	0.96
58:4:14:A:H2'	58:4:15:A:H4'	1.45	0.96
54:1:275:C:H2'	54:1:276:U:H4'	1.46	0.96
54:1:1906:G:H2'	54:1:1907:G:H5''	1.47	0.96
44:S:84:ARG:HH22	53:3:1059:C:H4'	1.31	0.96
4:e:62:GLN:HE22	4:e:90:LEU:HB3	1.31	0.95
41:P:34:THR:HG22	41:P:40:ALA:HA	1.49	0.95
53:3:1412:C:H2'	53:3:1413:A:C8	2.01	0.95
1:b:181:ARG:HD3	1:b:266:ILE:HD13	1.47	0.95
40:O:40:ILE:HG13	53:3:1123:U:C6	2.01	0.95
59:8:534:TYR:HB2	59:8:574:MET:HB2	1.47	0.95
53:3:1088:G:H21	53:3:1167:A:H61	1.14	0.95
38:M:28:SER:HB2	38:M:58:LEU:HB2	1.45	0.94
39:N:41:GLU:HG3	53:3:1291:U:H4'	1.49	0.94
51:Z:24:LYS:O	51:Z:26:GLY:N	1.98	0.94
39:N:123:ARG:HH21	39:N:123:ARG:HB3	1.32	0.94
40:O:40:ILE:CA	53:3:1123:U:N3	2.30	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:6:69:C:H2'	57:6:70:G:H5''	1.46	0.94
8:i:12:VAL:HA	8:i:54:ILE:O	1.68	0.93
50:Y:27:MET:HG2	50:Y:56:ILE:HG22	1.48	0.93
59:8:99:VAL:HG12	59:8:103:MET:HE1	1.50	0.93
5:f:8:VAL:HB	5:f:49:LEU:HB2	1.51	0.93
53:3:1032:G:H21	53:3:1033:G:H4'	1.29	0.93
52:a:217:THR:HA	54:1:2124:G:H21	1.32	0.93
6:g:11:ASN:HD22	6:g:12:LEU:HD22	1.34	0.92
9:j:95:ARG:HD2	9:j:99:ARG:HH12	1.30	0.92
52:a:23:ILE:HG12	52:a:224:VAL:HB	1.51	0.92
38:M:3:GLN:HE22	53:3:878:A:H1'	1.33	0.92
8:i:11:GLN:HB3	8:i:23:VAL:HG21	1.52	0.91
32:G:224:ARG:HA	32:G:224:ARG:HE	1.34	0.91
3:d:155:GLU:HA	3:d:158:PHE:HB3	1.53	0.91
54:1:1702:G:H2'	54:1:1703:G:H5''	1.51	0.91
34:I:13:ARG:HD2	34:I:37:PRO:HB3	1.53	0.91
57:6:15:G:H22	57:6:48:C:H42	1.19	0.91
9:j:29:ALA:HB1	9:j:108:MET:HE1	1.53	0.91
33:H:122:GLN:HA	33:H:125:ARG:HH12	1.36	0.91
52:a:5:THR:H	52:a:8:MET:HB2	1.36	0.91
29:D:3:ARG:HE	29:D:4:THR:H	1.15	0.91
59:8:20:ASP:HA	62:8:801:GCP:H3B1	1.50	0.91
19:t:28:ASN:HD21	19:t:87:LEU:HB2	1.32	0.90
43:R:100:ARG:HD2	53:3:1224:U:H1'	1.53	0.90
15:p:92:ARG:HH12	54:1:1753:G:H5''	1.36	0.90
18:s:20:VAL:HG21	18:s:43:ALA:HB3	1.53	0.90
35:J:107:GLY:HA3	53:3:9:G:H5'	1.52	0.90
54:1:1082:U:H3'	54:1:1083:U:H5''	1.53	0.90
57:6:32:C:H4'	57:6:33:U:OP1	1.72	0.90
57:6:46:G:H2'	57:6:47:U:H5'	1.51	0.90
5:f:116:LEU:HD21	5:f:120:ILE:HB	1.51	0.90
44:S:70:HIS:HB3	53:3:974:A:H5'	1.50	0.90
53:3:1412:C:H2'	53:3:1413:A:H8	1.36	0.90
59:8:494:ILE:HG22	59:8:610:PRO:HG3	1.54	0.90
59:8:56:GLU:HB3	59:8:63:ILE:HG13	1.52	0.89
10:k:22:ILE:HD11	10:k:40:LYS:HG3	1.55	0.89
20:u:95:PHE:HB2	20:u:98:ASN:HB3	1.51	0.89
52:a:189:LEU:HD21	52:a:224:VAL:HG21	1.54	0.89
33:H:182:ASP:HB2	33:H:201:ILE:HB	1.54	0.89
34:I:104:MET:HE1	34:I:179:GLY:HA3	1.54	0.89
3:d:18:THR:HG23	3:d:200:LEU:HD22	1.53	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:35:ARG:H	42:Q:75:GLU:HG3	1.33	0.88
53:3:1299:A:H2'	53:3:1300:G:H4'	1.53	0.88
54:1:1868:C:H3'	54:1:1869:G:H5''	1.55	0.88
36:K:2:ARG:HB3	36:K:92:THR:HG22	1.56	0.88
54:1:2508:G:H1	54:1:2580:U:H3	1.21	0.88
54:1:2731:G:H2'	54:1:2732:G:C8	2.09	0.88
53:3:531:U:H5''	53:3:532:A:OP1	1.73	0.88
53:3:1123:U:H2'	53:3:1124:G:H5'	1.56	0.88
43:R:28:ARG:HH22	43:R:61:LYS:HG2	1.38	0.88
6:g:9:VAL:HG12	6:g:11:ASN:N	1.88	0.87
54:1:2591:C:H2'	54:1:2592:G:C8	2.10	0.87
39:N:114:LYS:HE3	53:3:1187:G:H5'	1.56	0.87
54:1:291:G:H1	54:1:349:U:H3	1.23	0.87
54:1:704:G:H1'	54:1:727:A:H61	1.39	0.87
51:Z:9:GLU:HG3	51:Z:10:PRO:HD3	1.55	0.86
22:w:36:GLN:NE2	22:w:39:THR:HA	1.90	0.86
1:b:86:ARG:HH11	54:1:1817:G:H5''	1.38	0.86
53:3:1222:G:H2'	53:3:1223:C:H5''	1.58	0.86
57:6:13:C:H2'	57:6:14:A:H5''	1.55	0.86
40:O:39:PRO:O	53:3:1123:U:C4	2.09	0.86
42:Q:80:LEU:HD12	42:Q:100:ALA:HB1	1.56	0.86
1:b:23:LEU:HD13	1:b:82:TYR:HB2	1.56	0.86
59:8:189:LYS:NZ	59:8:191:ILE:HG12	1.91	0.86
36:K:21:MET:HA	36:K:24:ARG:NH1	1.91	0.85
59:8:550:ILE:HB	59:8:551:PRO:HD3	1.58	0.85
53:3:1170:A:H2'	53:3:1171:A:H5'	1.58	0.85
47:V:24:ILE:HB	47:V:41:THR:HB	1.59	0.84
59:8:362:ARG:HH21	59:8:386:ILE:HG21	1.41	0.84
5:f:84:LYS:HB2	5:f:132:LEU:HD11	1.59	0.84
49:X:33:TRP:HA	49:X:51:HIS:HB3	1.59	0.84
54:1:2155:U:H2'	54:1:2156:G:H5'	1.57	0.84
5:f:136:ASP:OD2	5:f:138:GLN:HB3	1.77	0.84
57:6:69:C:C2'	57:6:70:G:H5''	2.06	0.84
1:b:119:VAL:HB	6:g:91:PHE:CE1	2.12	0.84
8:i:56:VAL:HG23	8:i:70:THR:HB	1.59	0.84
38:M:104:SER:HB3	38:M:123:GLU:HG3	1.59	0.84
32:G:67:LEU:HG	32:G:157:PRO:HG3	1.58	0.84
37:L:100:MET:O	37:L:103:ILE:HG22	1.77	0.84
37:L:76:SER:HB2	37:L:85:GLN:NE2	1.92	0.84
59:8:10:TYR:HA	59:8:83:ARG:HB3	1.59	0.84
44:S:68:ARG:HE	44:S:80:ARG:HH12	1.21	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:O:39:PRO:HB3	53:3:1122:U:H2'	1.59	0.83
53:3:624:C:H2'	53:3:625:U:C6	2.12	0.83
59:8:325:ALA:HB3	59:8:333:LEU:HB2	1.60	0.83
39:N:118:ARG:HB3	39:N:122:ARG:HB3	1.58	0.83
41:P:43:TRP:HE1	53:3:686:U:H4'	1.44	0.83
53:3:1137:C:H4'	53:3:1138:G:N2	1.93	0.83
54:1:2452:C:H42	54:1:2504:U:H3	1.27	0.83
53:3:1065:U:H5''	53:3:1190:G:H22	1.42	0.83
53:3:789:U:H2'	53:3:791:G:OP2	1.78	0.83
54:1:690:G:H2'	54:1:691:C:C6	2.14	0.83
6:g:7:ASP:HB2	6:g:35:LYS:HD2	1.60	0.83
11:l:59:ARG:HA	30:E:12:ARG:NH2	1.93	0.83
49:X:4:LEU:HG	49:X:7:GLY:O	1.78	0.83
16:q:30:VAL:HG12	16:q:33:VAL:H	1.43	0.83
52:a:27:ILE:HD13	52:a:186:LYS:HB2	1.61	0.83
52:a:29:LEU:HD23	52:a:222:VAL:HG22	1.60	0.83
18:s:73:LYS:HB3	18:s:106:VAL:HB	1.60	0.82
43:R:98:GLY:N	53:3:1308:U:OP2	2.11	0.82
10:k:35:VAL:HG12	10:k:69:VAL:HG12	1.60	0.82
50:Y:2:ASN:HB3	53:3:332:G:H5'	1.61	0.82
52:a:181:ASP:O	52:a:183:ASP:N	2.12	0.82
54:1:1779:U:H5	54:1:1784:A:N7	1.77	0.82
54:1:1856:U:H2'	54:1:1857:G:O4'	1.80	0.82
6:g:8:LYS:O	6:g:9:VAL:HG23	1.80	0.82
53:3:1164:G:H21	53:3:1165:U:H3	1.23	0.82
41:P:23:HIS:HB3	41:P:30:ILE:HG12	1.61	0.82
32:G:76:SER:HB2	32:G:92:ASN:HB2	1.60	0.82
53:3:33:A:H2'	53:3:34:C:C6	2.14	0.82
53:3:980:C:H3'	53:3:981:U:C5'	2.10	0.82
2:c:34:VAL:HA	2:c:50:VAL:HG12	1.59	0.82
15:p:3:ILE:H	15:p:3:ILE:HD12	1.44	0.82
27:B:54:ILE:HG23	27:B:56:LYS:H	1.44	0.82
12:m:65:ILE:HG13	12:m:67:VAL:H	1.43	0.81
53:3:955:U:H3	53:3:1225:A:H61	1.28	0.81
26:A:53:THR:HG21	49:X:21:ALA:HA	1.62	0.81
35:J:132:PRO:HG2	35:J:133:ILE:HD12	1.62	0.81
42:Q:49:ARG:HG3	42:Q:89:LEU:HD21	1.62	0.81
45:T:55:LEU:O	45:T:59:VAL:HG23	1.78	0.81
49:X:62:THR:HG22	49:X:64:GLU:H	1.45	0.81
54:1:2129:C:H2'	54:1:2130:U:H5'	1.62	0.81
42:Q:86:VAL:HG23	42:Q:88:ASP:H	1.45	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:971:G:H2'	54:1:972:A:O4'	1.81	0.81
3:d:61:ARG:HH11	3:d:65:THR:HG23	1.44	0.81
34:I:100:VAL:HG21	34:I:136:VAL:HG21	1.63	0.81
59:8:142:ASN:HD21	59:8:269:ALA:H	1.29	0.81
3:d:71:GLY:N	54:1:674:G:H5''	1.96	0.81
37:L:3:ARG:NH1	53:3:1092:A:H4'	1.95	0.81
52:a:210:LYS:HE3	52:a:211:LYS:HE2	1.61	0.81
53:3:811:C:H4'	53:3:901:A:H61	1.44	0.81
41:P:63:GLN:HG3	41:P:98:ALA:HB2	1.62	0.81
51:Z:32:ARG:HD3	51:Z:32:ARG:H	1.44	0.81
2:c:124:ARG:HD2	2:c:165:MET:HG2	1.61	0.81
42:Q:67:GLY:H	42:Q:98:ARG:HH21	1.24	0.81
52:a:42:VAL:HG22	52:a:216:THR:HG22	1.60	0.81
53:3:313:A:H2'	53:3:314:C:C6	2.15	0.81
46:U:48:GLU:HG2	46:U:49:GLY:H	1.45	0.80
1:b:43:ASN:HD22	1:b:49:THR:HG23	1.46	0.80
9:j:96:ARG:HD2	9:j:99:ARG:HH11	1.45	0.80
10:k:92:GLU:HG3	10:k:111:LYS:HE3	1.62	0.80
59:8:351:ASN:HB3	59:8:354:LYS:HE3	1.63	0.80
37:L:72:VAL:HA	37:L:90:VAL:HG23	1.61	0.80
53:3:1306:A:H61	53:3:1331:G:H1'	1.47	0.80
34:I:8:LEU:HD23	53:3:429:U:H5'	1.64	0.80
54:1:222:A:N6	54:1:232:G:H1'	1.97	0.80
10:k:110:GLU:HA	10:k:113:MET:HG2	1.63	0.80
27:B:51:ARG:HB3	27:B:53:VAL:HG13	1.64	0.80
45:T:24:THR:HG21	45:T:69:LEU:HD13	1.62	0.80
56:5:4:C:O2'	56:5:5:G:H5'	1.81	0.80
8:i:72:THR:HB	8:i:73:PRO:HD2	1.63	0.80
40:O:41:PRO:HB3	53:3:1150:A:C2	2.16	0.80
44:S:68:ARG:NE	44:S:80:ARG:HH12	1.79	0.80
53:3:715:A:H2'	53:3:716:A:C8	2.16	0.80
54:1:109:C:C2'	54:1:110:G:H5''	2.11	0.80
1:b:106:PRO:HG2	1:b:109:LEU:HB2	1.63	0.80
19:t:22:THR:HA	19:t:25:GLU:CG	2.09	0.80
26:A:11:GLU:HA	26:A:25:ARG:HA	1.64	0.80
28:C:4:ILE:H	28:C:4:ILE:HD12	1.47	0.80
53:3:962:C:H2'	53:3:963:G:H8	1.45	0.80
53:3:730:G:H2'	53:3:731:G:H5'	1.64	0.80
12:m:75:GLU:HB3	12:m:90:GLU:HG3	1.64	0.80
49:X:3:SER:HB2	49:X:69:LYS:HE2	1.64	0.80
54:1:1077:A:H2'	54:1:1078:U:H5'	1.63	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2277:G:H2'	54:1:2278:A:H5''	1.62	0.79
59:8:170:GLN:HA	59:8:185:LEU:HD13	1.63	0.79
4:e:102:LEU:HD12	4:e:103:ILE:N	1.97	0.79
52:a:170:ILE:HG21	54:1:2177:C:H4'	1.64	0.79
57:6:38:A:H2'	57:6:39:C:H5'	1.62	0.79
40:O:40:ILE:C	53:3:1123:U:C4	2.60	0.79
39:N:35:GLU:HA	39:N:39:GLY:HA3	1.62	0.79
59:8:534:TYR:HA	59:8:574:MET:H	1.47	0.79
53:3:1394:A:H3'	53:3:1395:C:H5'	1.63	0.79
54:1:2547:A:H2'	54:1:2548:U:C6	2.18	0.79
58:4:22:A:H1'	59:8:512:ARG:NH1	1.98	0.79
23:x:27:ARG:NH1	23:x:29:LEU:HD21	1.97	0.79
33:H:155:ARG:HG2	33:H:158:GLY:HA2	1.63	0.79
34:I:8:LEU:HD21	34:I:30:LYS:HB3	1.65	0.79
39:N:117:LEU:HG	39:N:123:ARG:HG2	1.65	0.79
14:o:94:ARG:HD3	54:1:2376:A:H61	1.48	0.79
54:1:1906:G:C2'	54:1:1907:G:H5''	2.11	0.79
8:i:7:TYR:HB2	8:i:59:THR:HA	1.62	0.79
46:U:54:LEU:HD23	46:U:57:ILE:HD12	1.64	0.79
56:5:26:A:H61	56:5:44:G:H1	1.28	0.79
33:H:149:LYS:HB3	33:H:200:TRP:HD1	1.48	0.78
47:V:46:HIS:HB2	47:V:70:LYS:HD2	1.64	0.78
52:a:10:VAL:O	52:a:14:LYS:N	2.16	0.78
54:1:1597:A:H5''	54:1:1598:A:H5'	1.65	0.78
54:1:1807:G:H2'	54:1:1808:A:H5'	1.62	0.78
2:c:46:ARG:HH12	2:c:84:LEU:HD23	1.48	0.78
54:1:2328:A:H2'	54:1:2329:U:C6	2.17	0.78
59:8:495:ARG:HH21	59:8:611:VAL:HB	1.48	0.78
7:h:62:ARG:HH22	54:1:1106:G:H5'	1.47	0.78
39:N:117:LEU:HD23	39:N:121:ARG:HA	1.64	0.78
1:b:159:THR:H	1:b:194:VAL:HB	1.49	0.78
8:i:55:PRO:HG2	8:i:71:LYS:HB2	1.64	0.78
19:t:23:ALA:HB1	19:t:29:THR:HB	1.65	0.78
37:L:104:VAL:HG13	37:L:108:ARG:HH11	1.49	0.78
53:3:1149:C:H2'	53:3:1150:A:H1'	1.65	0.78
9:j:47:HIS:ND1	9:j:48:VAL:HG23	1.99	0.78
53:3:396:C:H2'	53:3:397:A:H5''	1.65	0.78
53:3:1148:U:H3'	53:3:1149:C:C4'	2.12	0.78
54:1:355:U:H2'	54:1:356:G:H8	1.49	0.78
3:d:131:THR:HG23	54:1:321:U:H5''	1.66	0.78
53:3:1073:U:H2'	53:3:1074:G:H8	1.47	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:20:GLY:HA2	11:l:28:GLY:HA2	1.65	0.78
57:6:59:A:H2'	57:6:60:U:H5'	1.65	0.78
10:k:21:CYS:HA	10:k:41:ILE:HG22	1.66	0.78
53:3:977:A:H1'	53:3:1223:C:N3	1.99	0.78
59:8:501:VAL:HG21	59:8:604:GLY:HA2	1.66	0.78
11:l:14:LYS:HE2	11:l:14:LYS:HA	1.65	0.77
18:s:43:ALA:HA	18:s:46:LEU:HD12	1.65	0.77
53:3:1017:U:H2'	53:3:1018:G:C8	2.19	0.77
7:h:27:VAL:HG13	7:h:83:ALA:HB3	1.66	0.77
21:v:21:ARG:HA	21:v:25:LYS:O	1.84	0.77
12:m:82:MET:HE2	54:1:960:A:H61	1.47	0.77
34:I:39:GLN:HA	53:3:426:U:H4'	1.67	0.77
41:P:121:ARG:HD3	53:3:779:C:H1'	1.66	0.77
19:t:22:THR:CA	19:t:25:GLU:HG2	2.13	0.77
21:v:72:VAL:HG12	21:v:93:ARG:HA	1.67	0.77
26:A:38:SER:HA	26:A:41:HIS:HB3	1.67	0.77
45:T:27:GLN:OE1	53:3:657:U:H4'	1.85	0.77
50:Y:72:ALA:HB1	53:3:186:C:H5'	1.66	0.77
54:1:2297:A:N1	54:1:2321:U:H5	1.83	0.77
35:J:86:GLY:HA3	35:J:93:VAL:HB	1.65	0.77
39:N:44:ARG:H	39:N:44:ARG:HD3	1.49	0.77
49:X:4:LEU:HD13	49:X:5:LYS:H	1.50	0.77
54:1:2691:C:H2'	54:1:2692:G:H8	1.49	0.77
39:N:87:MET:HA	39:N:94:ARG:HE	1.50	0.77
51:Z:13:VAL:HG22	51:Z:14:ALA:H	1.50	0.77
53:3:962:C:H2'	53:3:963:G:C8	2.20	0.77
54:1:1028:A:H2'	54:1:1029:A:C8	2.19	0.77
35:J:82:HIS:HB2	35:J:83:PRO:HD2	1.66	0.76
39:N:64:ILE:HD13	39:N:78:ILE:HG21	1.66	0.76
39:N:83:THR:HG21	39:N:102:PHE:HB3	1.66	0.76
54:1:2457:U:H3	54:1:2494:G:H1	1.32	0.76
59:8:13:ILE:HB	59:8:86:ILE:HG22	1.67	0.76
59:8:155:VAL:O	59:8:158:ILE:HG22	1.84	0.76
32:G:131:LYS:HD3	53:3:1158:C:H4'	1.68	0.76
32:G:160:LEU:HB2	32:G:182:VAL:HG12	1.66	0.76
46:U:7:ALA:HB3	46:U:18:GLN:HG3	1.66	0.76
52:a:210:LYS:HG2	52:a:211:LYS:HG3	1.66	0.76
10:k:51:LYS:HE2	10:k:95:ILE:HG22	1.64	0.76
26:A:2:LYS:HB2	26:A:5:ILE:HD11	1.68	0.76
37:L:41:ILE:HD11	37:L:116:ALA:H	1.48	0.76
38:M:17:GLN:HG3	38:M:71:VAL:HB	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:84:ALA:HA	6:g:91:PHE:H	1.50	0.76
53:3:1392:G:H2'	53:3:1393:U:C6	2.20	0.76
59:8:138:ILE:HD13	59:8:286:LEU:HD11	1.67	0.76
59:8:167:VAL:HG13	59:8:263:LEU:HA	1.68	0.76
7:h:8:LYS:O	7:h:12:VAL:HG23	1.83	0.76
12:m:34:LYS:HE3	12:m:131:VAL:HG11	1.67	0.76
12:m:69:PRO:HA	12:m:94:ALA:HB2	1.68	0.76
38:M:74:ILE:HG13	38:M:128:VAL:HG22	1.66	0.76
53:3:153:C:C2'	53:3:154:U:H5''	2.14	0.76
3:d:46:GLN:HB3	3:d:83:VAL:HG21	1.67	0.76
13:n:76:VAL:HA	13:n:79:LEU:HD12	1.68	0.76
53:3:1298:U:H5'	53:3:1299:A:N3	2.00	0.76
54:1:742:A:H2'	54:1:743:A:C8	2.21	0.76
54:1:2143:C:H2'	54:1:2144:G:H5'	1.66	0.76
59:8:491:ARG:HD2	59:8:570:PRO:HB2	1.66	0.76
33:H:141:MET:HA	33:H:145:ALA:HB3	1.68	0.76
52:a:193:LEU:HG	52:a:212:VAL:HG21	1.68	0.76
53:3:525:C:H2'	53:3:526:C:C6	2.20	0.76
54:1:1083:U:H2'	54:1:1085:A:OP2	1.85	0.76
29:D:31:LEU:HB3	29:D:35:ARG:HH12	1.49	0.76
53:3:923:A:H2'	53:3:924:C:C6	2.21	0.76
32:G:184:ALA:HB2	32:G:195:VAL:HG11	1.66	0.76
53:3:1259:C:H3'	53:3:1260:G:H5''	1.66	0.76
53:3:1502:A:H8	53:3:1505:G:H22	1.31	0.76
54:1:1893:C:H2'	54:1:1894:C:H5'	1.67	0.76
59:8:236:LYS:HG2	59:8:243:LEU:HD21	1.68	0.76
38:M:46:GLU:O	38:M:61:THR:HB	1.86	0.75
2:c:33:ARG:HD3	2:c:73:VAL:HB	1.67	0.75
51:Z:24:LYS:C	51:Z:26:GLY:H	1.93	0.75
53:3:398:U:H2'	53:3:399:G:C8	2.21	0.75
1:b:23:LEU:HD21	1:b:89:ASN:HD21	1.51	0.75
4:e:28:PRO:HA	4:e:158:THR:OG1	1.86	0.75
53:3:207:C:H1'	53:3:213:G:N2	2.01	0.75
53:3:967:C:H2'	53:3:968:A:N7	2.02	0.75
59:8:422:PRO:HB3	59:8:431:MET:HE2	1.67	0.75
35:J:93:VAL:HG11	35:J:139:THR:HG22	1.69	0.75
33:H:178:ARG:HH21	33:H:206:ILE:HB	1.49	0.75
34:I:198:LEU:O	34:I:201:GLU:HG3	1.86	0.75
49:X:45:GLY:H	49:X:61:VAL:HB	1.52	0.75
53:3:1330:U:H2'	53:3:1331:G:O4'	1.87	0.75
53:3:1387:G:H2'	53:3:1388:C:C6	2.22	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:94:ARG:HB3	5:f:127:GLN:HG2	1.68	0.75
53:3:958:A:C2	53:3:986:U:H4'	2.22	0.75
53:3:1079:G:C2	53:3:1080:A:N7	2.55	0.75
59:8:670:LEU:HD21	59:8:678:ALA:HB3	1.67	0.75
23:x:27:ARG:HH12	23:x:29:LEU:HD21	1.49	0.75
33:H:58:ARG:HG2	33:H:63:ILE:HA	1.69	0.75
39:N:111:GLU:HG3	39:N:112:ARG:H	1.51	0.75
41:P:22:ILE:HG13	41:P:31:VAL:HG13	1.68	0.75
43:R:97:ARG:HA	53:3:1308:U:H6	1.52	0.75
53:3:1352:C:H2'	53:3:1353:G:C8	2.22	0.75
54:1:2391:G:H1'	54:1:2429:G:N2	2.00	0.75
59:8:171:LEU:HD13	59:8:211:MET:HE2	1.68	0.75
35:J:152:VAL:HA	35:J:155:LYS:HG2	1.69	0.74
43:R:96:VAL:HG13	53:3:1307:U:O2	1.87	0.74
17:r:81:LYS:HD2	54:1:973:A:H5''	1.68	0.74
9:j:17:VAL:HG23	9:j:137:PRO:HB2	1.70	0.74
52:a:196:LEU:HB3	52:a:208:TYR:HE2	1.52	0.74
54:1:1133:A:H4'	54:1:1134:A:H5''	1.69	0.74
54:1:1394:U:H4'	54:1:1603:A:H4'	1.68	0.74
8:i:11:GLN:HE21	8:i:56:VAL:HG11	1.53	0.74
51:Z:23:GLU:O	51:Z:24:LYS:C	2.30	0.74
53:3:321:A:H61	53:3:332:G:H1	1.35	0.74
54:1:593:U:H2'	54:1:594:U:C6	2.23	0.74
1:b:181:ARG:HA	1:b:267:VAL:HG23	1.70	0.74
22:w:10:ARG:NH1	22:w:10:ARG:HB2	2.02	0.74
23:x:32:LEU:HD11	23:x:49:ARG:HG2	1.68	0.74
42:Q:11:ARG:HD2	53:3:562:U:H1'	1.68	0.74
55:2:3:C:H2'	55:2:4:C:H5''	1.70	0.74
16:q:80:ASN:HD22	54:1:1151:A:H4'	1.53	0.74
43:R:96:VAL:HA	53:3:1308:U:O4'	1.87	0.74
4:e:140:ILE:HG22	4:e:142:TYR:H	1.51	0.74
28:C:34:GLU:HG2	28:C:49:LYS:HA	1.69	0.74
41:P:127:ARG:HB3	41:P:127:ARG:HH11	1.52	0.74
43:R:99:GLN:HG2	43:R:100:ARG:H	1.52	0.74
53:3:1269:A:H4'	53:3:1326:U:H4'	1.70	0.74
57:6:33:U:H2'	57:6:35:A:OP2	1.86	0.74
59:8:183:VAL:HA	59:8:190:ALA:HA	1.70	0.74
7:h:62:ARG:NH2	54:1:1106:G:H5'	2.02	0.74
54:1:1959:G:C2'	54:1:1960:A:H5''	2.18	0.74
39:N:17:ARG:NH2	39:N:65:THR:HG21	2.01	0.74
40:O:40:ILE:HG12	53:3:1125:U:C6	2.22	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:98:ALA:HB2	35:J:123:LEU:HD22	1.70	0.73
53:3:677:U:H2'	53:3:678:U:H6	1.52	0.73
53:3:1323:G:H2'	53:3:1324:A:C8	2.22	0.73
43:R:33:LEU:O	43:R:37:GLY:HA2	1.88	0.73
54:1:1066:U:H3'	54:1:1067:A:C5'	2.19	0.73
59:8:424:THR:O	59:8:426:ALA:N	2.21	0.73
21:v:48:MET:HA	21:v:51:GLN:HG3	1.70	0.73
42:Q:51:VAL:HG22	42:Q:52:CYS:H	1.53	0.73
20:u:32:LYS:HB3	20:u:63:ALA:HB1	1.68	0.73
33:H:155:ARG:HG2	33:H:158:GLY:CA	2.18	0.73
53:3:608:A:H3'	53:3:609:A:H8	1.53	0.73
55:2:115:A:H2'	55:2:116:G:C8	2.23	0.73
8:i:60:VAL:HA	8:i:66:PHE:HB3	1.70	0.73
52:a:46:VAL:O	52:a:170:ILE:HA	1.88	0.73
53:3:1026:G:H22	53:3:1035:A:H2	1.33	0.73
53:3:49:U:H3	53:3:362:G:H1'	1.54	0.73
5:f:3:VAL:HG22	5:f:68:ARG:HD3	1.70	0.73
3:d:181:ILE:HG23	11:l:2:ARG:HG3	1.71	0.73
35:J:38:VAL:HG23	35:J:70:MET:HE1	1.70	0.73
59:8:435:LEU:HD21	59:8:473:MET:SD	2.29	0.73
11:l:18:ARG:HH22	54:1:1249:U:H2'	1.54	0.73
11:l:135:ILE:HG21	11:l:142:ILE:HD11	1.70	0.73
37:L:74:VAL:HA	37:L:87:PRO:HA	1.68	0.73
48:W:58:ILE:HG22	48:W:62:ARG:HD2	1.69	0.73
54:1:37:C:H4'	54:1:451:U:OP1	1.89	0.73
3:d:109:LEU:HD13	3:d:112:LEU:HD12	1.70	0.72
54:1:2800:A:H3'	54:1:2801:G:H5'	1.69	0.72
13:n:79:LEU:HD23	13:n:83:LEU:HD12	1.69	0.72
39:N:123:ARG:HB3	39:N:123:ARG:NH2	2.04	0.72
53:3:131:A:H2'	53:3:132:C:C6	2.24	0.72
53:3:1074:G:H2'	53:3:1075:U:C6	2.23	0.72
54:1:2075:U:H2'	54:1:2238:G:H22	1.54	0.72
4:e:105:ILE:HD13	26:A:22:MET:HE3	1.70	0.72
39:N:111:GLU:HG3	39:N:112:ARG:N	2.03	0.72
54:1:568:U:H2'	54:1:570:G:OP2	1.88	0.72
10:k:71:ARG:HB2	10:k:75:SER:HB2	1.70	0.72
37:L:135:LYS:HA	37:L:138:GLU:HG2	1.71	0.72
40:O:15:HIS:HB3	40:O:70:HIS:CD2	2.25	0.72
1:b:86:ARG:NH1	54:1:1817:G:H5''	2.05	0.72
4:e:130:GLY:HA2	4:e:152:ASP:HA	1.70	0.72
9:j:7:LYS:O	9:j:11:VAL:HG23	1.89	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:C:9:LYS:HG3	28:C:19:PHE:CD2	2.25	0.72
38:M:76:ARG:HH12	38:M:79:ARG:HA	1.55	0.72
55:2:65:U:H2'	55:2:66:A:H5'	1.70	0.72
59:8:549:TYR:O	59:8:553:VAL:HG12	1.89	0.72
41:P:30:ILE:HD11	53:3:706:A:H4'	1.70	0.72
53:3:1280:A:O2'	53:3:1281:C:H5'	1.89	0.72
54:1:917:A:H5''	54:1:2268:A:H61	1.55	0.72
1:b:159:THR:HG22	1:b:160:TYR:H	1.52	0.72
5:f:174:LYS:HG3	5:f:175:LYS:N	2.05	0.72
23:x:60:LYS:NZ	54:1:372:G:H5''	2.04	0.72
40:O:59:LYS:HB2	53:3:972:C:H4'	1.70	0.72
41:P:96:ILE:O	41:P:100:ASN:N	2.23	0.72
42:Q:107:LYS:HG2	42:Q:108:ASP:H	1.54	0.72
53:3:1323:G:H2'	53:3:1324:A:H8	1.51	0.72
1:b:86:ARG:HH12	1:b:155:ARG:NH2	1.81	0.72
5:f:142:GLN:HA	5:f:142:GLN:HE21	1.54	0.72
54:1:703:U:H2'	54:1:704:G:O4'	1.90	0.72
54:1:1175:A:H3'	54:1:1176:U:C5'	2.18	0.72
54:1:2788:C:H2'	54:1:2789:C:C6	2.25	0.72
37:L:30:MET:HE1	37:L:34:LYS:C	2.14	0.71
39:N:17:ARG:HH21	39:N:65:THR:CG2	1.99	0.71
43:R:100:ARG:HH21	43:R:102:LYS:HB2	1.55	0.71
49:X:36:ARG:HB3	53:3:1320:C:H41	1.53	0.71
59:8:174:GLY:HA3	59:8:178:HIS:CB	2.20	0.71
5:f:174:LYS:HG3	5:f:175:LYS:H	1.55	0.71
6:g:81:ALA:HB1	6:g:149:GLU:HB2	1.72	0.71
27:B:50:GLY:C	27:B:51:ARG:HD2	2.15	0.71
34:I:89:LEU:HD12	34:I:92:LEU:HD12	1.69	0.71
47:V:39:ARG:HH22	53:3:237:G:H5''	1.54	0.71
53:3:437:U:H2'	53:3:438:U:O4'	1.89	0.71
53:3:1391:U:H2'	53:3:1392:G:C8	2.24	0.71
59:8:399:ASP:HB3	59:8:400:PRO:HD3	1.72	0.71
9:j:68:LYS:HA	9:j:71:ASP:HB2	1.72	0.71
28:C:39:ASP:OD2	28:C:41:VAL:HB	1.90	0.71
33:H:71:ARG:O	33:H:74:ILE:HG22	1.89	0.71
49:X:52:ASN:HD21	49:X:54:ARG:HB2	1.55	0.71
54:1:676:A:H62	54:1:802:A:H61	1.39	0.71
6:g:26:ALA:O	6:g:31:VAL:HG23	1.89	0.71
8:i:27:LEU:HD11	8:i:37:PHE:CE1	2.25	0.71
15:p:88:ARG:HB2	15:p:112:ARG:HH21	1.55	0.71
37:L:31:VAL:HG13	37:L:34:LYS:NZ	2.06	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:126:ARG:HH21	53:3:692:U:H5''	1.55	0.71
47:V:11:VAL:HG13	47:V:20:ILE:HD11	1.72	0.71
51:Z:17:ARG:HA	51:Z:20:ARG:HG2	1.73	0.71
53:3:697:U:H4'	53:3:786:G:H4'	1.71	0.71
53:3:980:C:C3'	53:3:981:U:H5''	2.18	0.71
57:6:13:C:C2'	57:6:14:A:H5''	2.19	0.71
13:n:96:ARG:HG3	13:n:116:VAL:HG22	1.71	0.71
50:Y:23:ARG:O	50:Y:26:MET:HG3	1.90	0.71
54:1:1028:A:H2'	54:1:1029:A:H8	1.54	0.71
33:H:78:LYS:O	33:H:81:GLU:HG2	1.90	0.71
41:P:118:ASN:HB2	53:3:718:A:H5'	1.72	0.71
53:3:1079:G:C2'	53:3:1080:A:H5'	2.20	0.71
53:3:1079:G:O2'	53:3:1080:A:H5'	1.90	0.71
38:M:125:ILE:H	38:M:125:ILE:HD12	1.55	0.71
40:O:72:ARG:C	40:O:73:LEU:HD12	2.15	0.71
54:1:1571:A:H2'	54:1:1572:A:C8	2.24	0.71
59:8:540:ILE:HD11	59:8:578:LEU:HG	1.72	0.71
16:q:48:ASP:HA	16:q:51:GLN:HG2	1.71	0.71
53:3:1149:C:H2'	53:3:1150:A:C1'	2.20	0.71
9:j:118:MET:HA	9:j:121:LYS:HE2	1.71	0.71
32:G:66:ILE:HG22	32:G:159:ALA:HB3	1.72	0.71
45:T:42:PHE:HB3	45:T:52:ARG:NH1	2.03	0.71
1:b:238:ASN:HD22	54:1:2595:G:H1	1.38	0.71
7:h:3:LEU:HD23	7:h:3:LEU:H	1.55	0.71
17:r:74:ILE:H	17:r:74:ILE:HD12	1.56	0.71
19:t:28:ASN:ND2	19:t:87:LEU:HB2	2.04	0.71
38:M:6:ILE:HD12	38:M:6:ILE:H	1.55	0.71
42:Q:52:CYS:SG	42:Q:66:ILE:HD11	2.31	0.71
43:R:33:LEU:HD23	43:R:40:GLU:HA	1.73	0.71
43:R:76:ILE:HG22	43:R:80:MET:HE1	1.71	0.71
50:Y:47:GLN:HE22	50:Y:82:ILE:HD12	1.56	0.71
54:1:2074:U:H2'	54:1:2075:U:C6	2.26	0.71
59:8:494:ILE:HG23	59:8:574:MET:HE1	1.73	0.71
6:g:89:LYS:HE2	6:g:89:LYS:HA	1.72	0.70
59:8:253:ARG:O	59:8:256:VAL:HG22	1.91	0.70
4:e:147:ARG:HG3	4:e:148:VAL:H	1.56	0.70
53:3:1164:G:N2	53:3:1171:A:H61	1.89	0.70
59:8:167:VAL:CG1	59:8:263:LEU:HA	2.20	0.70
6:g:26:ALA:HA	6:g:30:LEU:HD12	1.72	0.70
20:u:48:VAL:HG12	20:u:52:ASN:HB2	1.72	0.70
24:y:42:LEU:O	24:y:46:VAL:HG23	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:71:GLY:H	54:1:674:G:H5''	1.55	0.70
40:O:38:GLY:O	53:3:1123:U:H3'	1.92	0.70
59:8:275:VAL:HG23	59:8:276:GLN:H	1.56	0.70
59:8:278:MET:O	59:8:282:VAL:HG23	1.92	0.70
1:b:213:ARG:HE	54:1:1566:A:H5'	1.54	0.70
1:b:240:GLY:O	1:b:241:LYS:HG3	1.92	0.70
6:g:81:ALA:HB2	6:g:147:VAL:HG23	1.71	0.70
11:l:59:ARG:HA	30:E:12:ARG:HH22	1.55	0.70
20:u:32:LYS:HE2	20:u:65:GLN:NE2	2.06	0.70
33:H:42:LEU:HD12	33:H:54:ILE:HD12	1.74	0.70
35:J:31:SER:HB2	35:J:53:ARG:HA	1.73	0.70
53:3:981:U:H3'	53:3:982:U:H5''	1.72	0.70
54:1:2298:A:H62	54:1:2318:G:H21	1.39	0.70
59:8:233:LEU:HA	59:8:236:LYS:HE2	1.74	0.70
2:c:11:MET:HG2	2:c:25:THR:HG22	1.73	0.70
4:e:78:ILE:HD13	54:1:2311:A:N3	2.06	0.70
23:x:60:LYS:HZ3	54:1:372:G:H5''	1.56	0.70
40:O:59:LYS:CB	53:3:972:C:H4'	2.21	0.70
59:8:349:VAL:HA	59:8:399:ASP:HA	1.73	0.70
37:L:102:TRP:CD1	37:L:136:LYS:HB3	2.27	0.70
52:a:46:VAL:HG22	52:a:212:VAL:HA	1.72	0.70
11:l:4:ASN:C	11:l:4:ASN:HD22	1.99	0.70
30:E:30:HIS:ND1	30:E:31:ILE:HG22	2.06	0.70
38:M:86:LYS:HD3	38:M:124:ILE:HD12	1.72	0.70
53:3:16:A:C2'	53:3:17:U:H5'	2.22	0.70
32:G:185:ILE:HA	32:G:199:ILE:O	1.91	0.70
53:3:990:C:H2'	53:3:991:U:O4'	1.92	0.70
4:e:35:LEU:HD22	4:e:153:ILE:HD12	1.74	0.70
13:n:32:GLU:HG3	13:n:115:LEU:HD12	1.74	0.70
30:E:30:HIS:CE1	30:E:31:ILE:HG22	2.27	0.70
44:S:35:ALA:HB1	44:S:37:ASP:OD1	1.92	0.70
53:3:440:C:C2'	53:3:441:A:H5''	2.19	0.70
55:2:88:C:H5''	55:2:89:U:OP1	1.92	0.70
37:L:12:LEU:HD12	37:L:13:PRO:HD2	1.72	0.69
45:T:88:ARG:HH21	54:1:714:U:H5''	1.57	0.69
2:c:161:MET:SD	54:1:2050:C:H1'	2.32	0.69
11:l:26:GLY:C	11:l:27:LEU:HD12	2.16	0.69
38:M:10:LEU:HD23	38:M:13:ILE:HD12	1.74	0.69
40:O:6:ILE:HD11	40:O:79:PRO:HA	1.73	0.69
41:P:108:ASN:HD22	51:Z:6:ARG:HD3	1.57	0.69
45:T:88:ARG:HD3	45:T:88:ARG:N	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2404:U:H2'	54:1:2405:G:O4'	1.92	0.69
2:c:96:ILE:HD11	2:c:100:LEU:HD21	1.74	0.69
8:i:25:PRO:HB3	59:8:647:SER:H	1.57	0.69
29:D:3:ARG:HE	29:D:4:THR:N	1.89	0.69
36:K:21:MET:HA	36:K:24:ARG:HH12	1.57	0.69
43:R:96:VAL:HG12	43:R:108:ARG:CG	2.21	0.69
53:3:1079:G:H2'	53:3:1080:A:H5'	1.74	0.69
54:1:2724:U:H2'	54:1:2725:A:C8	2.28	0.69
10:k:93:GLN:NE2	10:k:94:PRO:HD2	2.07	0.69
34:I:130:ASN:HD22	53:3:619:U:H3	1.37	0.69
54:1:92:U:H2'	54:1:93:G:H5'	1.74	0.69
55:2:65:U:H3'	55:2:108:A:H61	1.57	0.69
34:I:143:SER:HB3	34:I:178:GLU:HG3	1.74	0.69
40:O:59:LYS:HE2	53:3:972:C:O3'	1.93	0.69
53:3:85:U:H5'	53:3:87:C:H42	1.57	0.69
54:1:2628:C:H3'	54:1:2629:U:H5'	1.73	0.69
4:e:138:PRO:O	4:e:139:GLU:HG2	1.91	0.69
40:O:44:THR:HG23	53:3:1151:A:H4'	1.72	0.69
43:R:96:VAL:H	43:R:108:ARG:HG3	1.56	0.69
59:8:494:ILE:HD11	59:8:523:TYR:C	2.17	0.69
49:X:62:THR:H	49:X:65:MET:HE3	1.55	0.69
54:1:546:U:H1'	54:1:548:G:C6	2.26	0.69
59:8:503:GLY:HA3	59:8:600:ALA:HB2	1.74	0.69
3:d:2:GLU:HB3	3:d:11:ALA:HB1	1.73	0.69
6:g:38:PRO:O	6:g:43:ASN:ND2	2.25	0.69
10:k:104:THR:HA	10:k:122:VAL:HG11	1.74	0.69
19:t:7:LEU:HD13	19:t:46:ALA:HA	1.75	0.69
34:I:37:PRO:HD2	34:I:41:GLY:O	1.93	0.69
53:3:1073:U:H2'	53:3:1074:G:C8	2.25	0.69
54:1:859:G:H1'	54:1:860:U:H5	1.57	0.69
54:1:2345:G:N3	54:1:2381:A:H2'	2.08	0.69
5:f:153:PRO:HG3	5:f:161:VAL:O	1.93	0.69
10:k:8:LEU:HD23	10:k:9:ASN:N	2.07	0.69
40:O:57:VAL:HG22	40:O:58:ASN:H	1.58	0.69
41:P:73:VAL:HG23	41:P:78:ILE:HG21	1.73	0.69
43:R:97:ARG:HA	53:3:1308:U:C6	2.28	0.69
53:3:1088:G:H21	53:3:1167:A:N6	1.90	0.69
53:3:1123:U:C2'	53:3:1124:G:H5'	2.23	0.69
54:1:2699:C:H2'	54:1:2700:A:C8	2.27	0.69
10:k:88:ASN:HB3	10:k:91:SER:O	1.93	0.69
29:D:34:ARG:HD3	54:1:467:G:OP2	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:E:15:LYS:NZ	30:E:19:GLY:HA2	2.08	0.69
35:J:113:VAL:HG13	35:J:114:LEU:HD22	1.73	0.69
53:3:551:U:H2'	53:3:552:U:C6	2.28	0.69
53:3:1223:C:H5'	53:3:1223:C:H6	1.57	0.69
53:3:1411:C:H2'	53:3:1412:C:C6	2.28	0.69
54:1:481:G:H1'	54:1:506:G:N2	2.08	0.69
13:n:13:ASN:HA	54:1:2002:G:H5'	1.74	0.68
33:H:122:GLN:HA	33:H:125:ARG:NH1	2.06	0.68
36:K:48:ALA:HB1	48:W:68:PRO:HG3	1.75	0.68
39:N:5:TYR:HD2	39:N:20:ILE:HG23	1.56	0.68
46:U:21:VAL:HG21	46:U:60:TRP:NE1	2.07	0.68
53:3:31:G:H21	53:3:47:C:H5''	1.58	0.68
54:1:1170:C:H2'	54:1:1171:G:C8	2.28	0.68
54:1:1868:C:C3'	54:1:1869:G:H5''	2.23	0.68
54:1:2071:A:H2'	54:1:2072:C:C6	2.27	0.68
16:q:82:LEU:HB3	16:q:87:VAL:HB	1.75	0.68
53:3:106:C:H2'	53:3:107:G:H8	1.57	0.68
54:1:2514:U:H2'	54:1:2515:C:C6	2.29	0.68
59:8:472:ARG:O	59:8:476:GLU:HB2	1.93	0.68
11:l:73:ILE:HG22	11:l:106:GLU:H	1.57	0.68
25:z:4:ILE:HG22	25:z:37:ARG:C	2.18	0.68
27:B:2:VAL:HG12	54:1:2015:A:C2	2.27	0.68
44:S:68:ARG:NH2	44:S:80:ARG:HH22	1.92	0.68
54:1:2455:G:H2'	54:1:2456:C:C6	2.27	0.68
59:8:448:TRP:HB2	59:8:457:ILE:HB	1.74	0.68
10:k:19:VAL:HG21	10:k:41:ILE:HD12	1.74	0.68
53:3:834:U:H2'	53:3:835:U:C6	2.29	0.68
54:1:49:A:H5'	54:1:51:G:O4'	1.92	0.68
54:1:766:U:H2'	54:1:767:U:C6	2.28	0.68
23:x:2:ARG:HH12	23:x:29:LEU:HD13	1.58	0.68
34:I:187:ARG:O	34:I:190:LEU:HG	1.92	0.68
42:Q:29:LYS:HB3	42:Q:81:ILE:HG23	1.74	0.68
53:3:537:G:H5'	53:3:537:G:H8	1.58	0.68
53:3:604:G:H2'	53:3:605:U:C6	2.29	0.68
53:3:1347:G:H1'	53:3:1348:U:H5	1.57	0.68
59:8:398:CYS:SG	59:8:404:ILE:HA	2.34	0.68
36:K:54:LEU:H	36:K:54:LEU:HD12	1.58	0.68
41:P:121:ARG:HD3	53:3:779:C:C1'	2.24	0.68
46:U:74:LEU:O	46:U:78:VAL:HG12	1.92	0.68
54:1:577:G:H2'	54:1:578:G:C8	2.29	0.68
54:1:1186:G:H2'	54:1:1187:G:O4'	1.93	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:536:PHE:HB2	59:8:576:ILE:HD11	1.76	0.68
1:b:244:VAL:HG12	1:b:250:GLN:HA	1.76	0.68
4:e:102:LEU:O	4:e:107:VAL:HG23	1.94	0.68
24:y:9:LYS:HG2	24:y:10:SER:H	1.59	0.68
42:Q:33:CYS:HB3	42:Q:76:HIS:N	2.08	0.68
42:Q:36:VAL:HG12	42:Q:52:CYS:HB2	1.76	0.68
42:Q:56:LEU:HD11	42:Q:62:VAL:HG22	1.76	0.68
43:R:98:GLY:N	53:3:1308:U:H5''	2.08	0.68
44:S:55:SER:HB3	44:S:58:ARG:HG3	1.75	0.68
53:3:26:A:N6	53:3:558:G:H1'	2.09	0.68
53:3:852:G:H2'	53:3:853:C:C6	2.29	0.68
53:3:924:C:H2'	53:3:925:G:C8	2.28	0.68
53:3:1402:C:H2'	53:3:1403:C:O4'	1.94	0.68
54:1:807:U:H2'	54:1:808:G:H8	1.58	0.68
55:2:13:G:H21	55:2:16:G:H1'	1.59	0.68
59:8:189:LYS:HZ2	59:8:191:ILE:HG12	1.59	0.68
10:k:104:THR:HB	10:k:106:GLU:OE2	1.93	0.68
53:3:908:A:H2'	53:3:909:A:H8	1.59	0.68
54:1:1047:G:H2'	54:1:1110:G:H22	1.58	0.68
54:1:2691:C:H2'	54:1:2692:G:C8	2.28	0.68
57:6:2:G:H2'	57:6:3:C:C6	2.28	0.68
14:o:39:VAL:HG12	14:o:48:LEU:HD12	1.76	0.68
43:R:39:ALA:HB3	43:R:42:VAL:HG13	1.74	0.68
52:a:212:VAL:HB	52:a:224:VAL:HG22	1.76	0.68
53:3:599:C:H2'	53:3:600:A:H8	1.59	0.68
53:3:783:C:H2'	53:3:784:A:C8	2.29	0.68
53:3:936:C:H1'	53:3:1383:C:H41	1.58	0.68
53:3:996:A:H2'	53:3:997:U:C6	2.28	0.68
53:3:1099:G:H2'	53:3:1100:C:O4'	1.93	0.68
53:3:1206:G:H3'	53:3:1207:G:H8	1.58	0.68
59:8:518:VAL:HG21	59:8:597:ALA:HA	1.76	0.68
8:i:11:GLN:CB	8:i:23:VAL:HG21	2.24	0.68
9:j:36:LEU:HD22	9:j:54:ILE:HD12	1.76	0.68
10:k:35:VAL:HG23	10:k:36:GLY:H	1.59	0.68
16:q:80:ASN:ND2	54:1:1151:A:H4'	2.08	0.68
40:O:7:ARG:HH12	53:3:1124:G:H5''	1.58	0.68
41:P:21:HIS:C	41:P:22:ILE:HD12	2.18	0.68
53:3:769:G:H4'	53:3:1513:A:H4'	1.75	0.68
54:1:1924:C:H2'	54:1:1925:C:C6	2.28	0.68
54:1:2327:A:H2'	54:1:2328:A:C8	2.29	0.68
54:1:2512:C:H2'	54:1:2513:A:O4'	1.95	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:502:GLU:HG2	59:8:519:VAL:HB	1.74	0.68
34:I:191:SER:HB3	34:I:193:ASP:OD1	1.94	0.67
53:3:541:G:H2'	53:3:542:G:H8	1.59	0.67
18:s:65:ASP:OD2	18:s:68:ASP:HB2	1.93	0.67
32:G:113:LEU:HD13	32:G:143:LEU:HB2	1.76	0.67
39:N:90:ASP:HA	39:N:94:ARG:HD2	1.76	0.67
41:P:116:PRO:C	41:P:117:HIS:HD1	2.01	0.67
50:Y:27:MET:HG2	50:Y:56:ILE:CG2	2.22	0.67
53:3:501:C:H2'	53:3:502:A:C8	2.28	0.67
53:3:1252:A:H2'	53:3:1253:G:H8	1.58	0.67
53:3:1354:U:H2'	53:3:1355:G:C8	2.29	0.67
53:3:1513:A:H2'	53:3:1514:G:H8	1.59	0.67
54:1:4:U:H2'	54:1:5:A:H8	1.59	0.67
2:c:133:THR:HG21	54:1:1993:U:H4'	1.74	0.67
4:e:28:PRO:HB2	4:e:168:LEU:HD22	1.75	0.67
4:e:110:ILE:HB	4:e:113:PHE:HB2	1.75	0.67
14:o:94:ARG:HD3	54:1:2376:A:N6	2.09	0.67
16:q:13:HIS:O	16:q:16:ILE:HG22	1.94	0.67
43:R:95:PRO:HA	43:R:108:ARG:HG3	1.77	0.67
53:3:271:C:H2'	53:3:272:C:C6	2.29	0.67
54:1:2180:U:H2'	54:1:2181:U:H5'	1.76	0.67
32:G:150:ILE:HG22	32:G:153:MET:HB2	1.76	0.67
33:H:116:ALA:HB1	33:H:186:SER:HB3	1.77	0.67
59:8:53:MET:CG	59:8:63:ILE:HD12	2.25	0.67
59:8:97:ILE:CD1	59:8:443:PRO:HG2	2.19	0.67
14:o:24:THR:HG23	14:o:40:ILE:O	1.94	0.67
34:I:14:GLU:OE1	34:I:16:THR:HB	1.95	0.67
53:3:588:G:H2'	53:3:589:U:C6	2.29	0.67
53:3:1002:G:H2'	53:3:1003:G:O4'	1.94	0.67
53:3:1321:U:H5''	53:3:1322:C:H5''	1.77	0.67
54:1:222:A:H61	54:1:232:G:H1'	1.58	0.67
54:1:310:A:H2'	54:1:311:A:H5''	1.76	0.67
59:8:504:LYS:HA	59:8:517:HIS:HA	1.76	0.67
33:H:174:LEU:HD23	33:H:181:ILE:HD13	1.77	0.67
40:O:38:GLY:C	53:3:1123:U:H5''	2.20	0.67
44:S:15:LEU:HD22	44:S:18:LYS:HE3	1.75	0.67
53:3:1317:C:H3'	53:3:1318:A:H8	1.60	0.67
54:1:615:U:H5''	54:1:616:A:OP2	1.94	0.67
59:8:299:LEU:HB2	59:8:304:ASP:HA	1.75	0.67
4:e:15:LEU:O	4:e:18:GLU:HB2	1.94	0.67
6:g:8:LYS:HA	6:g:15:LEU:HB2	1.75	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:72:ASP:OD2	13:n:75:ILE:HG12	1.95	0.67
37:L:16:LYS:HD2	37:L:43:TYR:CE2	2.30	0.67
47:V:45:VAL:HG21	47:V:60:ILE:HG12	1.76	0.67
50:Y:75:LYS:HA	50:Y:78:LEU:HB2	1.75	0.67
53:3:501:C:H2'	53:3:502:A:H8	1.59	0.67
59:8:53:MET:HG3	59:8:63:ILE:HD12	1.77	0.67
18:s:4:ILE:HG22	18:s:106:VAL:HG22	1.76	0.67
20:u:73:ASN:ND2	20:u:76:THR:HG23	2.10	0.67
34:I:82:LYS:NZ	53:3:2:A:H4'	2.09	0.67
39:N:111:GLU:HG3	39:N:114:LYS:HZ2	1.60	0.67
43:R:99:GLN:HG2	43:R:100:ARG:N	2.08	0.67
53:3:608:A:H2'	53:3:609:A:O4'	1.94	0.67
54:1:371:A:H61	54:1:401:A:H3'	1.60	0.67
54:1:2865:U:H5''	54:1:2866:U:H2'	1.77	0.67
10:k:32:TYR:OH	54:1:1996:C:H5	1.78	0.67
19:t:76:ARG:HB3	19:t:76:ARG:HH11	1.59	0.67
26:A:53:THR:HG22	49:X:25:GLY:O	1.94	0.67
34:I:101:VAL:HG21	34:I:117:VAL:HG21	1.77	0.67
52:a:12:ARG:HB3	52:a:12:ARG:CZ	2.24	0.67
54:1:64:A:H2'	54:1:65:U:C6	2.29	0.67
3:d:1:MET:HB2	3:d:14:VAL:HG23	1.76	0.67
41:P:122:PRO:HB2	51:Z:33:ARG:HA	1.77	0.67
46:U:19:VAL:HG22	46:U:36:VAL:HG13	1.75	0.67
53:3:693:G:H5'	58:4:15:A:OP1	1.94	0.67
1:b:128:THR:C	1:b:129:LEU:HD23	2.20	0.66
5:f:89:VAL:HG21	5:f:162:ARG:CZ	2.24	0.66
30:E:41:ARG:HA	30:E:44:ARG:HH12	1.59	0.66
42:Q:58:ASN:HD21	42:Q:60:PHE:HD2	1.43	0.66
54:1:766:U:H2'	54:1:767:U:H6	1.59	0.66
54:1:1311:G:H21	54:1:1603:A:H62	1.39	0.66
54:1:1315:C:H2'	54:1:1316:U:C6	2.30	0.66
54:1:2235:G:H2'	54:1:2236:U:C6	2.29	0.66
57:6:46:G:C2'	57:6:47:U:H5'	2.25	0.66
19:t:76:ARG:HB3	19:t:76:ARG:NH1	2.09	0.66
32:G:23:ASN:OD1	32:G:25:LYS:HB2	1.95	0.66
34:I:201:GLU:OE2	34:I:202:LEU:HG	1.94	0.66
41:P:43:TRP:HE1	53:3:686:U:C4'	2.08	0.66
51:Z:36:PHE:C	51:Z:38:GLU:H	2.03	0.66
54:1:694:U:H2'	54:1:695:G:H5''	1.77	0.66
59:8:324:ILE:HG21	59:8:440:LYS:NZ	2.10	0.66
59:8:498:VAL:HG11	59:8:522:MET:HG3	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:k:43:ILE:HD12	10:k:56:ASP:HB2	1.77	0.66
40:O:46:LYS:HE3	40:O:48:ARG:HH22	1.61	0.66
53:3:26:A:H61	53:3:558:G:H1'	1.60	0.66
53:3:1387:G:H2'	53:3:1388:C:H6	1.60	0.66
54:1:310:A:C2'	54:1:311:A:H5''	2.26	0.66
54:1:2389:G:H5''	54:1:2390:U:H5'	1.77	0.66
23:x:12:VAL:HG23	23:x:28:PHE:HB2	1.77	0.66
49:X:44:ILE:HA	49:X:61:VAL:HG11	1.75	0.66
53:3:1091:U:H2'	53:3:1092:A:C8	2.30	0.66
10:k:80:ASP:OD1	15:p:67:GLU:HB2	1.96	0.66
23:x:13:THR:HG21	54:1:188:G:H5'	1.78	0.66
32:G:69:VAL:HG12	32:G:91:VAL:HG21	1.77	0.66
37:L:16:LYS:HD3	37:L:17:PHE:CE1	2.31	0.66
44:S:15:LEU:HA	44:S:18:LYS:HG2	1.77	0.66
48:W:58:ILE:O	48:W:62:ARG:HG3	1.96	0.66
53:3:1010:U:H2'	53:3:1011:C:O4'	1.95	0.66
53:3:1194:U:H2'	53:3:1195:C:H5'	1.76	0.66
54:1:2391:G:H2'	54:1:2424:C:H41	1.59	0.66
1:b:219:VAL:HG22	54:1:1789:A:H5'	1.77	0.66
9:j:95:ARG:HD2	9:j:99:ARG:NH1	2.07	0.66
33:H:39:ARG:HH22	33:H:56:ILE:HB	1.60	0.66
35:J:110:MET:O	35:J:114:LEU:HD23	1.95	0.66
36:K:52:ASN:HB3	36:K:54:LEU:HD13	1.77	0.66
37:L:28:ILE:CD1	37:L:100:MET:HB3	2.18	0.66
43:R:97:ARG:H	53:3:1308:U:C5'	2.08	0.66
53:3:1032:G:N2	53:3:1033:G:H4'	2.05	0.66
53:3:1062:U:O2	53:3:1194:U:O4	2.14	0.66
53:3:1436:U:H2'	53:3:1437:A:C8	2.30	0.66
59:8:492:GLU:HG3	59:8:612:LEU:HD23	1.77	0.66
9:j:117:ALA:HA	9:j:120:ARG:HH21	1.61	0.66
37:L:16:LYS:HD3	37:L:17:PHE:HE1	1.60	0.66
53:3:85:U:H5'	53:3:87:C:N4	2.10	0.66
53:3:664:G:H22	53:3:741:G:H1	1.43	0.66
54:1:799:G:H3'	54:1:800:A:H2'	1.78	0.66
54:1:2314:A:H2'	54:1:2315:G:C8	2.31	0.66
8:i:11:GLN:HE21	8:i:56:VAL:CG1	2.09	0.66
33:H:33:ASP:O	33:H:37:LYS:HG2	1.96	0.66
33:H:149:LYS:HD3	33:H:168:ARG:HB3	1.77	0.66
34:I:52:VAL:HG23	34:I:53:GLN:NE2	2.11	0.66
43:R:96:VAL:HG22	43:R:96:VAL:O	1.96	0.66
54:1:11:C:H2'	54:1:12:U:H5''	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:191:A:H2'	54:1:192:C:C6	2.30	0.66
54:1:215:G:H4'	54:1:216:A:H4'	1.77	0.66
54:1:481:G:H1'	54:1:506:G:H21	1.61	0.66
54:1:2564:A:C2	54:1:2647:U:H4'	2.31	0.66
22:w:36:GLN:OE1	22:w:41:PHE:HB2	1.95	0.66
32:G:20:ARG:HG3	32:G:21:TYR:HD1	1.60	0.66
32:G:216:VAL:O	32:G:220:VAL:HG23	1.96	0.66
37:L:49:LEU:HD11	37:L:124:SER:OG	1.96	0.66
53:3:673:A:H2'	53:3:674:G:C8	2.31	0.66
59:8:53:MET:O	59:8:56:GLU:HG3	1.96	0.66
2:c:9:VAL:HB	2:c:26:VAL:HG23	1.76	0.66
8:i:14:ALA:HB2	8:i:54:ILE:HG21	1.78	0.66
26:A:14:ALA:HB3	26:A:22:MET:HG3	1.77	0.66
33:H:55:VAL:C	33:H:56:ILE:HD12	2.21	0.66
41:P:23:HIS:HB3	41:P:30:ILE:CG1	2.25	0.66
49:X:36:ARG:HB3	53:3:1320:C:N4	2.10	0.66
53:3:347:G:H2'	53:3:348:G:H5''	1.77	0.66
53:3:541:G:H2'	53:3:542:G:C8	2.31	0.66
54:1:690:G:H2'	54:1:691:C:H6	1.60	0.66
54:1:2183:A:H2'	54:1:2184:A:C8	2.30	0.66
59:8:535:GLU:O	59:8:576:ILE:HG12	1.95	0.66
7:h:41:LEU:HD21	7:h:54:VAL:CG1	2.26	0.65
10:k:93:GLN:HE21	10:k:94:PRO:HD2	1.61	0.65
12:m:63:ILE:HD12	12:m:63:ILE:N	2.11	0.65
23:x:70:LEU:HB3	23:x:75:GLU:HB2	1.77	0.65
53:3:193:C:H2'	53:3:194:C:C6	2.31	0.65
33:H:3:LYS:H	33:H:3:LYS:HD2	1.59	0.65
53:3:493:A:H2'	53:3:494:G:H5'	1.77	0.65
54:1:1361:G:H2'	54:1:1362:C:C6	2.32	0.65
59:8:624:PRO:O	59:8:650:THR:O	2.15	0.65
5:f:154:GLU:HG2	5:f:156:TYR:H	1.61	0.65
30:E:31:ILE:HD11	30:E:34:LYS:HE3	1.78	0.65
32:G:164:ASP:OD2	32:G:166:ASP:HB3	1.96	0.65
40:O:41:PRO:HD3	53:3:1123:U:O4	1.97	0.65
42:Q:32:VAL:HG23	42:Q:33:CYS:H	1.61	0.65
50:Y:41:GLY:HA2	50:Y:85:LEU:HD21	1.76	0.65
54:1:1027:A:C2	54:1:2488:G:H5'	2.30	0.65
23:x:2:ARG:O	23:x:11:PRO:HD3	1.96	0.65
41:P:74:LYS:HA	41:P:74:LYS:HE2	1.79	0.65
52:a:212:VAL:HB	52:a:224:VAL:CG2	2.26	0.65
59:8:142:ASN:HD21	59:8:269:ALA:N	1.94	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:z:4:ILE:HG13	25:z:58:GLU:HA	1.79	0.65
35:J:44:ARG:NH2	35:J:70:MET:HB2	2.11	0.65
43:R:97:ARG:N	53:3:1307:U:H3'	2.10	0.65
53:3:1164:G:N3	53:3:1165:U:O4	2.30	0.65
54:1:674:G:H2'	54:1:804:A:H61	1.61	0.65
59:8:33:TYR:HB3	59:8:72:TRP:HZ3	1.62	0.65
31:F:18:LYS:HE3	31:F:21:GLY:HA2	1.78	0.65
40:O:40:ILE:CA	53:3:1123:U:C2	2.74	0.65
42:Q:35:ARG:N	42:Q:75:GLU:HG3	2.09	0.65
53:3:412:A:H62	53:3:431:A:H61	1.44	0.65
54:1:776:G:H22	54:1:2072:C:H5'	1.62	0.65
54:1:1259:G:H2'	54:1:1260:A:C8	2.32	0.65
54:1:1571:A:H2'	54:1:1572:A:H8	1.62	0.65
54:1:2101:A:H2'	54:1:2102:G:C8	2.31	0.65
34:I:3:TYR:CE2	34:I:10:LEU:HD11	2.32	0.65
35:J:53:ARG:HB3	35:J:54:GLU:OE1	1.96	0.65
40:O:23:ALA:O	40:O:26:VAL:HG12	1.95	0.65
43:R:95:PRO:HB3	43:R:105:ALA:HB1	1.78	0.65
46:U:7:ALA:HB3	46:U:18:GLN:CG	2.27	0.65
53:3:373:A:O4'	53:3:481:G:H5'	1.97	0.65
53:3:1409:C:H2'	53:3:1410:A:H8	1.61	0.65
54:1:282:A:H2'	54:1:283:G:C8	2.32	0.65
54:1:2075:U:H2'	54:1:2238:G:N2	2.12	0.65
1:b:226:PRO:HG3	1:b:233:GLY:CA	2.20	0.65
4:e:140:ILE:HA	4:e:144:LYS:HD3	1.79	0.65
10:k:65:THR:HG22	10:k:67:LYS:H	1.62	0.65
10:k:76:VAL:C	10:k:77:ILE:HD12	2.22	0.65
12:m:51:ARG:HA	12:m:54:THR:HG22	1.79	0.65
38:M:76:ARG:HA	38:M:126:CYS:HB3	1.77	0.65
39:N:91:GLU:HA	39:N:94:ARG:HB2	1.78	0.65
45:T:63:ARG:O	45:T:66:LEU:HD23	1.96	0.65
53:3:398:U:H2'	53:3:399:G:H8	1.59	0.65
53:3:1222:G:C2'	53:3:1223:C:H5''	2.27	0.65
54:1:1259:G:H2'	54:1:1260:A:H8	1.62	0.65
55:2:23:G:H2'	55:2:24:G:C8	2.32	0.65
59:8:73:SER:OG	59:8:79:TYR:HB3	1.96	0.65
13:n:38:LEU:HB3	13:n:39:PRO:HD3	1.78	0.65
33:H:149:LYS:HE3	33:H:166:TRP:CE3	2.31	0.65
36:K:3:HIS:O	36:K:92:THR:HA	1.96	0.65
53:3:106:C:H2'	53:3:107:G:C8	2.32	0.65
54:1:533:G:H2'	54:1:534:U:C6	2.32	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1709:U:H2'	54:1:1710:G:C8	2.32	0.65
54:1:2066:C:O2'	54:1:2067:G:H5'	1.96	0.65
56:5:29:U:H2'	56:5:30:G:C8	2.31	0.65
59:8:553:VAL:HG23	59:8:597:ALA:HB2	1.79	0.65
6:g:111:ALA:O	6:g:115:VAL:HG23	1.97	0.65
8:i:27:LEU:HD11	8:i:37:PHE:HE1	1.62	0.65
17:r:76:LYS:HB2	17:r:85:LYS:HB3	1.79	0.65
24:y:9:LYS:HB3	24:y:12:GLU:OE1	1.97	0.65
34:I:12:ARG:HH22	53:3:428:G:H3'	1.62	0.65
36:K:47:LEU:HD12	36:K:51:ILE:HG21	1.79	0.65
36:K:88:MET:HE3	36:K:90:MET:SD	2.37	0.65
43:R:78:ARG:O	43:R:82:LEU:HD13	1.97	0.65
53:3:1299:A:C2'	53:3:1300:G:H4'	2.25	0.65
54:1:2296:U:H5''	54:1:2297:A:OP1	1.97	0.65
59:8:11:ARG:HH12	59:8:283:ILE:HG23	1.62	0.65
3:d:129:PRO:HG3	3:d:156:ASN:HA	1.78	0.64
9:j:84:ILE:HB	54:1:1131:G:H5'	1.78	0.64
15:p:62:LYS:HE2	15:p:64:SER:HB3	1.78	0.64
51:Z:11:PHE:HB2	51:Z:15:LEU:HD12	1.78	0.64
53:3:920:U:H1'	53:3:1080:A:C6	2.31	0.64
53:3:1514:G:O2'	53:3:1515:G:H5'	1.98	0.64
59:8:298:ILE:HG22	59:8:306:PRO:HG3	1.78	0.64
4:e:31:GLU:H	4:e:157:THR:HA	1.62	0.64
33:H:39:ARG:NH2	33:H:56:ILE:HB	2.12	0.64
34:I:167:PRO:HG2	34:I:170:LEU:HD21	1.80	0.64
36:K:68:GLN:HA	36:K:71:ILE:HG22	1.78	0.64
44:S:4:SER:O	44:S:8:ARG:HG2	1.98	0.64
53:3:216:U:H4'	53:3:464:U:H4'	1.79	0.64
53:3:919:A:H2'	53:3:920:U:C6	2.31	0.64
53:3:1302:C:O2'	53:3:1303:C:H5'	1.97	0.64
2:c:46:ARG:NH1	2:c:84:LEU:HD23	2.13	0.64
6:g:103:VAL:HB	6:g:108:VAL:O	1.97	0.64
16:q:16:ILE:HD11	16:q:38:VAL:HG21	1.78	0.64
17:r:38:VAL:HG11	17:r:57:GLY:HA3	1.79	0.64
53:3:1170:A:C2'	53:3:1171:A:H5'	2.28	0.64
59:8:68:THR:HB	59:8:86:ILE:HG13	1.80	0.64
17:r:74:ILE:HB	17:r:87:GLN:HB2	1.80	0.64
43:R:28:ARG:NH2	43:R:61:LYS:HG2	2.12	0.64
46:U:25:ARG:O	53:3:111:G:H5'	1.97	0.64
53:3:1054:C:H5'	53:3:1196:A:H2'	1.80	0.64
54:1:1378:A:H1'	54:1:1379:U:C5	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:101:ARG:HB2	59:8:409:MET:HE1	1.78	0.64
1:b:140:VAL:HG22	1:b:141:HIS:H	1.62	0.64
34:I:37:PRO:HD2	34:I:41:GLY:C	2.23	0.64
40:O:40:ILE:CG1	53:3:1123:U:C6	2.79	0.64
41:P:96:ILE:HA	41:P:99:LEU:HB2	1.78	0.64
53:3:1081:A:H3'	53:3:1082:A:H8	1.62	0.64
54:1:1702:G:C2'	54:1:1703:G:H5''	2.24	0.64
54:1:2104:C:H2'	54:1:2105:U:C6	2.33	0.64
1:b:243:PRO:C	1:b:251:THR:HG22	2.23	0.64
9:j:13:ARG:NH2	9:j:13:ARG:HB2	2.12	0.64
14:o:110:ALA:HB1	14:o:115:LEU:HD12	1.78	0.64
26:A:51:VAL:HG22	26:A:52:ALA:H	1.63	0.64
42:Q:29:LYS:HB3	42:Q:81:ILE:CG2	2.27	0.64
50:Y:66:ILE:HG22	50:Y:67:HIS:H	1.63	0.64
53:3:529:G:H4'	53:3:533:A:C2	2.33	0.64
54:1:917:A:H5''	54:1:2268:A:N6	2.12	0.64
55:2:29:A:H2'	55:2:30:C:C6	2.31	0.64
59:8:142:ASN:ND2	59:8:269:ALA:H	1.94	0.64
59:8:504:LYS:HB2	59:8:517:HIS:CD2	2.32	0.64
18:s:96:ILE:HG22	54:1:2013:A:H4'	1.79	0.64
35:J:86:GLY:O	35:J:88:HIS:N	2.31	0.64
35:J:160:VAL:HG13	35:J:161:GLU:H	1.63	0.64
42:Q:31:GLY:HA3	42:Q:54:VAL:CG1	2.28	0.64
43:R:85:TYR:HA	43:R:88:LEU:HD12	1.80	0.64
49:X:39:ILE:CG2	49:X:43:MET:HB2	2.22	0.64
54:1:2208:C:H2'	54:1:2209:G:C8	2.32	0.64
59:8:11:ARG:HB3	59:8:13:ILE:HD11	1.80	0.64
59:8:213:GLU:O	59:8:217:GLU:HG2	1.98	0.64
32:G:62:ARG:O	32:G:63:LYS:HB2	1.95	0.64
40:O:39:PRO:HB3	53:3:1122:U:C2'	2.28	0.64
49:X:18:VAL:HG11	49:X:43:MET:HE2	1.79	0.64
53:3:631:C:H3'	53:3:632:U:H5'	1.78	0.64
59:8:216:ASN:HA	59:8:219:HIS:HB3	1.80	0.64
1:b:32:LEU:HD11	1:b:101:ARG:HH21	1.63	0.64
32:G:41:ASN:HD22	32:G:44:LYS:HG2	1.63	0.64
33:H:1:GLY:HA3	33:H:3:LYS:NZ	2.11	0.64
46:U:63:GLN:NE2	53:3:228:A:H5'	2.13	0.64
53:3:116:A:H2'	53:3:117:G:O4'	1.98	0.64
53:3:976:G:N2	53:3:1362:A:H2'	2.13	0.64
53:3:1065:U:H5''	53:3:1190:G:N2	2.12	0.64
53:3:1317:C:H3'	53:3:1318:A:C8	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:11:ARG:HG3	59:8:11:ARG:HH11	1.63	0.64
59:8:431:MET:HE2	59:8:481:ALA:HB2	1.79	0.64
1:b:30:ALA:HA	1:b:33:LEU:HD12	1.80	0.64
8:i:21:PRO:HB2	8:i:22:PRO:CD	2.20	0.64
44:S:47:LEU:CD2	53:3:1317:C:H4'	2.27	0.64
53:3:758:C:H4'	53:3:880:C:H4'	1.80	0.64
53:3:855:U:H2'	53:3:856:C:C6	2.33	0.64
53:3:1513:A:H2'	53:3:1514:G:C8	2.32	0.64
13:n:50:PRO:O	13:n:54:LEU:HD23	1.97	0.63
28:C:5:ARG:NH1	28:C:25:ASN:HB2	2.13	0.63
43:R:97:ARG:HG3	43:R:97:ARG:HH11	1.61	0.63
50:Y:27:MET:SD	50:Y:57:VAL:HA	2.37	0.63
52:a:29:LEU:HD23	52:a:222:VAL:CG2	2.28	0.63
54:1:1684:G:H2'	54:1:1685:C:C6	2.34	0.63
54:1:2605:U:H2'	54:1:2606:C:C6	2.33	0.63
59:8:416:ILE:HD11	59:8:667:ALA:H	1.63	0.63
1:b:106:PRO:HD2	1:b:109:LEU:HD13	1.79	0.63
4:e:7:TYR:O	4:e:11:VAL:HB	1.98	0.63
23:x:5:GLN:HG2	23:x:48:LEU:HD22	1.80	0.63
38:M:4:ASP:HB2	38:M:80:PRO:HG3	1.80	0.63
40:O:12:ALA:HB2	40:O:96:VAL:HG22	1.81	0.63
51:Z:44:ARG:HH11	51:Z:44:ARG:HG3	1.64	0.63
52:a:30:LEU:HD21	52:a:185:LEU:HD13	1.77	0.63
54:1:1853:A:H2'	54:1:1854:A:C8	2.34	0.63
54:1:2174:C:H2'	54:1:2175:C:O4'	1.99	0.63
54:1:2328:A:H2'	54:1:2329:U:H6	1.62	0.63
2:c:200:ASP:O	2:c:201:LEU:HD23	1.99	0.63
32:G:198:VAL:HG22	32:G:200:PRO:HD3	1.79	0.63
41:P:68:ARG:NH1	41:P:68:ARG:HB3	2.14	0.63
53:3:78:A:H61	53:3:91:U:H3	1.44	0.63
53:3:937:A:H61	53:3:1377:A:H1'	1.62	0.63
54:1:1360:G:H22	54:1:2214:C:H42	1.46	0.63
54:1:1683:U:H2'	54:1:1684:G:C8	2.33	0.63
54:1:1689:A:H2'	54:1:1690:A:C8	2.33	0.63
54:1:2243:U:H2'	54:1:2244:U:H6	1.62	0.63
54:1:2243:U:H2'	54:1:2244:U:C6	2.34	0.63
2:c:13:ARG:NH1	15:p:55:HIS:HA	2.13	0.63
12:m:65:ILE:HD11	12:m:67:VAL:HB	1.81	0.63
21:v:65:VAL:HG13	21:v:68:LYS:HB2	1.79	0.63
32:G:153:MET:HE3	32:G:154:GLY:H	1.64	0.63
53:3:1251:A:O2'	53:3:1370:G:H5'	1.97	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2153:C:H2'	54:1:2154:A:H8	1.63	0.63
58:4:22:A:N6	59:8:586:VAL:HB	2.13	0.63
59:8:622:GLU:HA	59:8:652:VAL:O	1.99	0.63
24:y:9:LYS:HD3	24:y:11:VAL:HG12	1.78	0.63
25:z:11:SER:HB2	54:1:989:G:OP2	1.98	0.63
36:K:68:GLN:O	36:K:71:ILE:HG22	1.98	0.63
37:L:126:ALA:HA	37:L:134:VAL:HG13	1.81	0.63
53:3:33:A:H2'	53:3:34:C:H6	1.60	0.63
53:3:180:U:H3	53:3:195:A:H62	1.45	0.63
54:1:1779:U:C5	54:1:1784:A:N7	2.63	0.63
57:6:15:G:N2	57:6:48:C:H42	1.95	0.63
22:w:33:ILE:HD11	22:w:57:ALA:HB2	1.79	0.63
26:A:60:PHE:HD1	53:3:1012:A:H5''	1.62	0.63
38:M:6:ILE:HD12	38:M:6:ILE:N	2.13	0.63
44:S:26:LEU:HA	44:S:30:ILE:HD12	1.80	0.63
52:a:4:LEU:HB3	52:a:9:ARG:HG3	1.79	0.63
54:1:632:A:H2'	54:1:633:A:C8	2.33	0.63
54:1:1747:U:H2'	54:1:1748:C:C6	2.32	0.63
23:x:32:LEU:HA	23:x:51:SER:HA	1.81	0.63
38:M:3:GLN:NE2	53:3:878:A:H1'	2.11	0.63
38:M:40:LYS:HE3	38:M:48:PHE:HD1	1.62	0.63
39:N:105:ARG:O	39:N:105:ARG:HD3	1.99	0.63
53:3:85:U:C5'	53:3:86:G:H5'	2.23	0.63
53:3:1218:C:H2'	53:3:1219:A:H8	1.63	0.63
54:1:46:G:H2'	54:1:47:C:C6	2.33	0.63
54:1:290:U:H2'	54:1:291:G:C8	2.34	0.63
54:1:581:C:H2'	54:1:582:A:C8	2.33	0.63
54:1:1387:A:H5'	54:1:1469:A:H1'	1.80	0.63
54:1:2493:U:H2'	54:1:2494:G:H5''	1.80	0.63
4:e:99:PHE:O	4:e:102:LEU:HG	1.98	0.63
17:r:54:VAL:HG23	17:r:55:ASP:N	2.07	0.63
34:I:45:PRO:HB2	34:I:47:LEU:HG	1.80	0.63
34:I:123:MET:HE1	34:I:145:ARG:HA	1.81	0.63
34:I:170:LEU:HB2	34:I:181:PHE:HA	1.79	0.63
36:K:36:ILE:HG22	36:K:64:VAL:HG23	1.80	0.63
53:3:745:G:H5''	53:3:851:G:H1'	1.79	0.63
54:1:2557:G:H2'	54:1:2558:C:C6	2.34	0.63
55:2:30:C:H2'	55:2:31:C:H5'	1.80	0.63
59:8:350:LEU:HD21	59:8:401:ASP:HA	1.81	0.63
7:h:39:THR:O	7:h:43:LYS:HG2	1.99	0.63
11:l:19:LEU:HD13	11:l:27:LEU:HB3	1.81	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:s:6:LYS:O	54:1:494:G:H4'	1.98	0.63
19:t:17:SER:H	19:t:20:ALA:HB3	1.62	0.63
47:V:64:ARG:HD2	53:3:264:C:O4'	1.99	0.63
53:3:560:A:H5'	53:3:566:G:N2	2.14	0.63
53:3:880:C:H2'	53:3:881:G:H8	1.64	0.63
54:1:2291:U:H2'	54:1:2292:U:C6	2.34	0.63
59:8:85:ASN:OD1	59:8:382:ILE:HD11	1.98	0.63
59:8:104:ARG:HH12	59:8:409:MET:HB3	1.64	0.63
1:b:153:LEU:HD23	1:b:175:LEU:HD11	1.80	0.62
8:i:59:THR:HG21	8:i:69:VAL:HG23	1.80	0.62
13:n:47:VAL:C	13:n:50:PRO:HD2	2.23	0.62
23:x:70:LEU:HD22	23:x:75:GLU:HG3	1.80	0.62
30:E:37:THR:HA	30:E:40:LYS:HE3	1.81	0.62
40:O:9:ARG:HA	40:O:73:LEU:HG	1.79	0.62
41:P:93:GLU:HG3	41:P:96:ILE:HD11	1.80	0.62
43:R:89:ARG:O	43:R:94:LEU:HB2	1.98	0.62
54:1:940:G:H2'	54:1:941:A:H5''	1.81	0.62
54:1:2089:C:H2'	54:1:2090:A:C8	2.34	0.62
54:1:2591:C:H2'	54:1:2592:G:H8	1.63	0.62
6:g:112:LYS:HA	6:g:115:VAL:HB	1.82	0.62
23:x:60:LYS:HD3	54:1:372:G:C8	2.34	0.62
31:F:7:VAL:HG22	31:F:38:GLY:HA3	1.81	0.62
39:N:49:GLN:O	39:N:53:LEU:HD13	1.99	0.62
43:R:96:VAL:HG23	53:3:1308:U:N1	2.14	0.62
43:R:97:ARG:N	53:3:1308:U:O5'	2.27	0.62
53:3:1321:U:H5''	53:3:1322:C:H2'	1.81	0.62
54:1:1095:A:H1'	59:8:632:ILE:HD12	1.80	0.62
54:1:2188:U:H2'	54:1:2189:U:C6	2.35	0.62
59:8:494:ILE:HG13	59:8:524:PRO:HB3	1.81	0.62
15:p:30:TRP:NE1	15:p:81:ASP:HB2	2.14	0.62
35:J:45:VAL:HG13	35:J:71:ILE:HB	1.82	0.62
36:K:4:TYR:HB3	36:K:89:VAL:HG13	1.79	0.62
42:Q:113:ARG:NH1	53:3:36:C:H4'	2.05	0.62
53:3:1381:U:H2'	53:3:1382:C:H5'	1.79	0.62
54:1:598:U:H2'	54:1:599:A:C8	2.34	0.62
57:6:59:A:C2'	57:6:60:U:H5'	2.30	0.62
59:8:219:HIS:O	59:8:223:ILE:HG12	1.99	0.62
59:8:495:ARG:HD2	59:8:609:LYS:NZ	2.14	0.62
5:f:83:THR:HG22	5:f:133:LYS:HG2	1.80	0.62
9:j:67:ASN:HB2	9:j:71:ASP:OD2	2.00	0.62
33:H:149:LYS:HE3	33:H:166:TRP:HE3	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:151:GLU:O	33:H:197:VAL:HA	1.99	0.62
53:3:544:G:H2'	53:3:545:C:C6	2.35	0.62
53:3:1017:U:H2'	53:3:1018:G:H8	1.60	0.62
54:1:2102:G:H2'	54:1:2103:C:O4'	1.99	0.62
54:1:2415:G:H2'	54:1:2416:C:C6	2.34	0.62
54:1:2543:G:H2'	54:1:2544:G:C8	2.34	0.62
54:1:2661:G:H5''	59:8:19:ILE:HG21	1.80	0.62
2:c:114:LYS:HD3	54:1:2723:C:OP1	1.98	0.62
28:C:8:ILE:HD13	28:C:24:LYS:HB2	1.81	0.62
32:G:163:ILE:O	32:G:185:ILE:HB	2.00	0.62
44:S:64:ARG:HA	44:S:64:ARG:HE	1.64	0.62
46:U:28:ARG:HH12	53:3:391:G:H5'	1.64	0.62
53:3:16:A:O2'	53:3:17:U:H5'	1.99	0.62
53:3:677:U:H2'	53:3:678:U:C6	2.34	0.62
53:3:1005:A:H2'	53:3:1006:G:O4'	2.00	0.62
54:1:74:A:H4'	54:1:75:G:O5'	2.00	0.62
54:1:1001:A:H2'	54:1:1002:G:O4'	2.00	0.62
54:1:1936:A:H2	54:1:1943:U:H3	1.46	0.62
10:k:78:ARG:HD2	15:p:70:GLU:OE2	1.99	0.62
12:m:10:ARG:NH2	56:5:64:C:H5''	2.14	0.62
19:t:61:LEU:O	19:t:81:LYS:HG3	2.00	0.62
19:t:68:LYS:HA	19:t:68:LYS:HE2	1.82	0.62
26:A:2:LYS:HG3	55:2:43:C:P	2.40	0.62
34:I:60:VAL:O	34:I:63:ILE:HG22	2.00	0.62
39:N:20:ILE:HA	39:N:62:LEU:HB3	1.80	0.62
39:N:45:MET:O	39:N:48:ARG:HG2	1.98	0.62
39:N:51:LEU:HB3	39:N:56:MET:HG3	1.81	0.62
43:R:18:LEU:HD21	43:R:55:LEU:HD11	1.80	0.62
52:a:42:VAL:HB	52:a:175:ILE:HG12	1.80	0.62
53:3:1080:A:H2'	53:3:1081:A:H4'	1.80	0.62
54:1:1859:U:H2'	54:1:1860:G:H8	1.63	0.62
54:1:2346:A:H3'	54:1:2347:C:H5''	1.80	0.62
4:e:39:VAL:HG12	4:e:84:ILE:O	2.00	0.62
11:l:32:GLY:HA2	54:1:1190:G:H5''	1.81	0.62
16:q:61:ILE:HG23	16:q:75:TYR:CZ	2.35	0.62
40:O:40:ILE:C	53:3:1123:U:N3	2.57	0.62
42:Q:85:ARG:HG2	42:Q:87:LYS:H	1.65	0.62
45:T:31:LEU:HD12	45:T:62:ARG:HB2	1.80	0.62
53:3:635:A:H2'	53:3:636:U:C6	2.35	0.62
53:3:883:C:H2'	53:3:884:U:C6	2.35	0.62
54:1:207:A:H2'	54:1:208:C:O4'	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2277:G:C2'	54:1:2278:A:H5''	2.29	0.62
55:2:28:C:H2'	55:2:29:A:C8	2.35	0.62
59:8:469:ILE:O	59:8:473:MET:HG3	1.99	0.62
10:k:22:ILE:HD11	10:k:40:LYS:CG	2.28	0.62
10:k:32:TYR:HH	54:1:1996:C:H5	1.47	0.62
15:p:88:ARG:HE	15:p:112:ARG:HE	1.48	0.62
16:q:30:VAL:HG11	16:q:33:VAL:HG23	1.82	0.62
28:C:4:ILE:HD12	28:C:4:ILE:N	2.13	0.62
32:G:8:MET:N	32:G:46:VAL:HG11	2.15	0.62
42:Q:32:VAL:HA	42:Q:78:VAL:HA	1.82	0.62
53:3:40:C:H2'	53:3:41:G:H8	1.65	0.62
53:3:257:G:H2'	53:3:258:G:H8	1.63	0.62
53:3:470:C:H2'	53:3:471:U:C6	2.34	0.62
53:3:1506:U:O2'	53:3:1507:A:H5'	2.00	0.62
54:1:1487:U:H2'	54:1:1488:C:C6	2.35	0.62
54:1:2834:G:O2'	54:1:2835:A:H5'	1.99	0.62
54:1:2845:U:H2'	54:1:2846:G:C8	2.35	0.62
14:o:27:VAL:HA	14:o:93:ASP:HB3	1.81	0.62
41:P:113:THR:O	41:P:115:ILE:HD12	1.99	0.62
42:Q:42:LYS:HG2	42:Q:44:PRO:HD2	1.81	0.62
53:3:924:C:H2'	53:3:925:G:H8	1.65	0.62
53:3:1436:U:H2'	53:3:1437:A:H8	1.65	0.62
54:1:4:U:H2'	54:1:5:A:C8	2.33	0.62
59:8:56:GLU:HB3	59:8:63:ILE:CG1	2.28	0.62
1:b:238:ASN:ND2	54:1:2595:G:H1	1.98	0.62
32:G:31:PHE:HB2	32:G:39:ILE:HB	1.82	0.62
41:P:127:ARG:HB3	41:P:127:ARG:NH1	2.15	0.62
43:R:3:ILE:HG21	43:R:55:LEU:HD23	1.82	0.62
53:3:1114:C:H1'	53:3:1115:U:C4	2.35	0.62
54:1:2515:C:H2'	54:1:2516:A:H8	1.64	0.62
59:8:562:LYS:O	59:8:570:PRO:HG3	2.00	0.62
2:c:46:ARG:NH1	2:c:46:ARG:HB3	2.15	0.61
14:o:55:GLU:HG2	55:2:116:G:H5'	1.81	0.61
35:J:59:ILE:O	35:J:63:MET:HG2	1.99	0.61
36:K:52:ASN:O	36:K:53:LYS:HB2	1.99	0.61
42:Q:54:VAL:HG12	42:Q:56:LEU:HD23	1.81	0.61
42:Q:83:GLY:HA2	42:Q:94:TYR:HD1	1.65	0.61
52:a:43:ASP:O	52:a:215:SER:HB2	2.00	0.61
53:3:252:U:O2	53:3:252:U:H2'	1.99	0.61
53:3:477:C:H2'	53:3:478:A:C8	2.35	0.61
54:1:1138:G:H2'	54:1:1139:G:O4'	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1357:C:H2'	54:1:1358:G:O4'	1.99	0.61
57:6:47:U:H5''	57:6:48:C:H5'	1.82	0.61
4:e:163:GLU:CD	4:e:163:GLU:H	2.09	0.61
11:l:70:LYS:HD2	54:1:633:A:H5''	1.82	0.61
46:U:19:VAL:HG13	46:U:36:VAL:O	2.00	0.61
54:1:2345:G:H21	54:1:2381:A:H3'	1.65	0.61
59:8:56:GLU:O	59:8:60:GLY:N	2.33	0.61
59:8:349:VAL:HG21	59:8:360:PHE:HE1	1.64	0.61
2:c:46:ARG:HD3	2:c:86:GLU:HG3	1.81	0.61
15:p:47:ILE:HA	15:p:96:LEU:HD12	1.81	0.61
16:q:54:ARG:HH12	54:1:977:G:H5'	1.65	0.61
20:u:32:LYS:HE2	20:u:65:GLN:HE22	1.63	0.61
32:G:20:ARG:NH2	53:3:831:A:H5'	2.14	0.61
40:O:46:LYS:HE3	40:O:48:ARG:NH2	2.14	0.61
53:3:379:C:H2'	53:3:380:G:C8	2.35	0.61
53:3:1074:G:H2'	53:3:1075:U:H6	1.65	0.61
54:1:362:A:H3'	54:1:363:G:H8	1.64	0.61
54:1:1433:A:H2'	54:1:1434:A:C8	2.36	0.61
15:p:89:GLY:C	15:p:112:ARG:HB2	2.25	0.61
30:E:54:LEU:O	30:E:58:ILE:HG13	2.00	0.61
37:L:28:ILE:HD12	37:L:100:MET:CB	2.21	0.61
49:X:14:LEU:HD21	49:X:32:THR:HG23	1.81	0.61
54:1:575:A:O2'	54:1:576:U:H5'	2.00	0.61
54:1:1056:G:H5''	54:1:1057:A:O4'	2.01	0.61
54:1:2281:A:O2'	54:1:2282:G:H5'	2.01	0.61
59:8:101:ARG:HH22	59:8:443:PRO:HD2	1.65	0.61
16:q:27:ARG:NH2	54:1:532:A:H3'	2.15	0.61
27:B:27:LEU:HD21	27:B:36:LYS:HD3	1.81	0.61
32:G:132:GLU:HA	32:G:135:MET:HB2	1.82	0.61
33:H:71:ARG:HH11	33:H:74:ILE:HD12	1.65	0.61
36:K:88:MET:CG	36:K:90:MET:HE3	2.30	0.61
47:V:11:VAL:CG1	47:V:20:ILE:HD11	2.30	0.61
47:V:23:ALA:HA	47:V:42:LYS:HA	1.82	0.61
53:3:908:A:H2'	53:3:909:A:C8	2.36	0.61
59:8:352:SER:HB3	59:8:404:ILE:HD13	1.82	0.61
1:b:66:PHE:HB3	1:b:150:GLY:O	2.00	0.61
1:b:163:ILE:HA	1:b:173:LEU:HD23	1.81	0.61
15:p:3:ILE:HD12	15:p:3:ILE:N	2.14	0.61
37:L:31:VAL:HG22	37:L:32:ASP:OD2	2.00	0.61
37:L:101:ARG:HH12	53:3:939:G:H4'	1.66	0.61
41:P:126:ARG:HH21	53:3:692:U:C5'	2.12	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:271:C:H2'	53:3:272:C:H6	1.65	0.61
53:3:762:U:H2'	53:3:763:G:H8	1.65	0.61
53:3:1523:G:H2'	53:3:1524:C:C6	2.36	0.61
54:1:694:U:C3'	54:1:695:G:H5''	2.30	0.61
54:1:1769:U:O2'	54:1:1770:G:H5'	2.00	0.61
54:1:1846:G:H2'	54:1:1847:A:O4'	2.00	0.61
54:1:1874:C:H2'	54:1:1875:G:O4'	2.00	0.61
59:8:101:ARG:NH2	59:8:443:PRO:HD2	2.14	0.61
1:b:175:LEU:HB2	1:b:179:GLU:O	2.00	0.61
11:l:23:ILE:H	11:l:23:ILE:CD1	2.05	0.61
14:o:13:ARG:HG2	14:o:13:ARG:HH11	1.66	0.61
15:p:8:GLU:HG3	15:p:54:LEU:HB2	1.82	0.61
18:s:8:ARG:HG2	18:s:102:HIS:ND1	2.16	0.61
25:z:41:PRO:HA	25:z:44:ARG:HB3	1.82	0.61
33:H:155:ARG:HH11	33:H:155:ARG:CG	2.14	0.61
34:I:190:LEU:HD13	34:I:194:ILE:HD11	1.82	0.61
37:L:104:VAL:HG13	37:L:108:ARG:NH1	2.16	0.61
47:V:58:VAL:HG13	47:V:76:ARG:O	2.01	0.61
51:Z:56:ALA:O	51:Z:60:ALA:N	2.34	0.61
53:3:889:A:H61	53:3:907:A:H3'	1.65	0.61
53:3:1127:G:C2	53:3:1128:C:H1'	2.36	0.61
53:3:1394:A:H3'	53:3:1395:C:C5'	2.31	0.61
54:1:1093:G:H3'	54:1:1094:U:H5''	1.83	0.61
54:1:1139:G:O2'	54:1:1140:C:H5'	2.00	0.61
3:d:63:LYS:HD2	54:1:2444:G:OP2	1.99	0.61
12:m:26:VAL:HG11	12:m:133:LYS:HB2	1.83	0.61
12:m:37:GLY:O	12:m:98:PRO:HG3	2.01	0.61
33:H:5:HIS:HA	33:H:183:TYR:HE2	1.66	0.61
34:I:19:PHE:CD2	34:I:63:ILE:HD11	2.35	0.61
43:R:18:LEU:HD13	43:R:32:ILE:HB	1.83	0.61
52:a:15:VAL:HG21	52:a:220:ALA:HB3	1.82	0.61
53:3:1012:A:H2	53:3:1017:U:H3	1.49	0.61
53:3:1013:G:H2'	53:3:1015:G:OP2	2.00	0.61
54:1:2086:U:H2'	54:1:2087:G:C8	2.35	0.61
3:d:57:LYS:HD3	3:d:58:LYS:N	2.16	0.61
13:n:103:ARG:NH1	54:1:1287:A:H5'	2.15	0.61
30:E:27:ASN:OD1	54:1:2392:A:H5''	2.00	0.61
32:G:22:TRP:HB3	32:G:38:HIS:CE1	2.35	0.61
32:G:129:THR:HB	32:G:131:LYS:HG2	1.82	0.61
38:M:104:SER:HB2	38:M:125:ILE:HD11	1.81	0.61
46:U:6:LEU:HD11	46:U:70:ARG:HG2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:192:LEU:O	52:a:196:LEU:HD23	2.00	0.61
53:3:1305:G:N2	53:3:1331:G:H2'	2.16	0.61
54:1:2537:U:H2'	54:1:2538:C:C6	2.36	0.61
55:2:28:C:H2'	55:2:29:A:H8	1.65	0.61
2:c:118:PHE:CE1	2:c:163:GLY:HA2	2.36	0.61
3:d:3:LEU:HB2	3:d:12:LEU:HB2	1.81	0.61
4:e:15:LEU:O	4:e:15:LEU:HD23	2.00	0.61
7:h:41:LEU:HD13	54:1:1083:U:H4'	1.82	0.61
11:l:73:ILE:N	11:l:73:ILE:HD12	2.16	0.61
14:o:64:TYR:HB3	14:o:67:ASN:ND2	2.16	0.61
16:q:2:ARG:HG2	16:q:2:ARG:HH21	1.65	0.61
20:u:13:LEU:O	20:u:18:LYS:HG3	2.01	0.61
30:E:9:ALA:HB3	30:E:61:LEU:HD21	1.83	0.61
32:G:150:ILE:N	32:G:150:ILE:HD12	2.16	0.61
38:M:21:LYS:O	38:M:62:LEU:HD12	2.01	0.61
39:N:105:ARG:HD3	39:N:105:ARG:C	2.26	0.61
41:P:22:ILE:HB	41:P:85:VAL:HG12	1.81	0.61
52:a:213:SER:HA	52:a:223:ALA:HA	1.83	0.61
53:3:823:C:H2'	53:3:824:G:H8	1.64	0.61
53:3:1268:G:H1'	53:3:1327:C:H5'	1.83	0.61
54:1:156:A:H2'	54:1:157:C:C6	2.36	0.61
54:1:828:U:H2'	54:1:829:A:C8	2.35	0.61
54:1:906:U:H2'	54:1:907:G:H5''	1.83	0.61
54:1:1071:G:H1'	54:1:1089:A:N7	2.16	0.61
54:1:1709:U:H2'	54:1:1710:G:H8	1.66	0.61
54:1:2078:C:O2'	54:1:2079:U:H5'	2.00	0.61
54:1:2688:G:H1'	54:1:2721:A:H61	1.66	0.61
55:2:51:G:H2'	55:2:52:A:O4'	2.01	0.61
6:g:115:VAL:HG13	6:g:132:PHE:CE1	2.36	0.60
13:n:13:ASN:HA	54:1:2002:G:C5'	2.30	0.60
23:x:39:VAL:HG12	23:x:42:GLU:H	1.66	0.60
33:H:149:LYS:HB3	33:H:200:TRP:CD1	2.32	0.60
37:L:63:VAL:HG22	37:L:127:ALA:HB1	1.83	0.60
51:Z:7:GLU:HB2	51:Z:11:PHE:HB3	1.83	0.60
53:3:16:A:H2'	53:3:17:U:H5'	1.83	0.60
54:1:1319:C:O2'	54:1:1320:C:H5'	2.01	0.60
54:1:1468:U:H2'	54:1:1522:A:H61	1.66	0.60
5:f:93:TYR:CD1	5:f:106:LEU:HA	2.37	0.60
19:t:39:THR:O	19:t:43:ILE:HG13	1.99	0.60
26:A:62:LYS:NZ	49:X:20:LYS:HB2	2.15	0.60
32:G:45:THR:HG21	32:G:200:PRO:O	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:45:GLU:HG3	33:H:46:LEU:HG	1.83	0.60
37:L:29:LEU:HD23	37:L:29:LEU:O	2.02	0.60
37:L:64:ALA:HB1	37:L:126:ALA:HB3	1.82	0.60
37:L:129:ASN:HA	37:L:134:VAL:HG11	1.82	0.60
42:Q:38:THR:HG22	42:Q:50:LYS:HA	1.83	0.60
45:T:55:LEU:HD23	45:T:56:LEU:N	2.16	0.60
53:3:762:U:H2'	53:3:763:G:C8	2.36	0.60
2:c:179:ARG:HB2	2:c:188:LEU:HD12	1.83	0.60
5:f:21:GLN:NE2	5:f:38:ASP:HA	2.17	0.60
32:G:26:MET:HB3	32:G:192:PRO:HG3	1.83	0.60
34:I:104:MET:HE1	34:I:179:GLY:CA	2.29	0.60
53:3:1425:U:H2'	53:3:1426:G:H8	1.66	0.60
53:3:1434:A:H2'	53:3:1435:G:C8	2.35	0.60
59:8:462:GLY:O	59:8:466:LEU:HD13	2.02	0.60
1:b:78:GLU:CD	1:b:100:ARG:HH12	2.08	0.60
3:d:31:VAL:HG21	3:d:104:ALA:HB2	1.82	0.60
17:r:74:ILE:HD12	17:r:74:ILE:N	2.16	0.60
18:s:19:LEU:HB3	27:B:21:LEU:HB2	1.82	0.60
26:A:59:ARG:HA	26:A:62:LYS:HG2	1.83	0.60
32:G:26:MET:HE3	32:G:188:THR:HA	1.83	0.60
34:I:104:MET:HE3	34:I:106:PHE:HE2	1.65	0.60
36:K:25:TYR:O	36:K:29:ILE:HG12	2.01	0.60
38:M:102:VAL:HG12	38:M:125:ILE:HD13	1.83	0.60
40:O:15:HIS:ND1	40:O:16:ARG:N	2.48	0.60
47:V:57:VAL:HG12	47:V:79:GLU:HB3	1.83	0.60
49:X:22:VAL:HB	49:X:23:GLU:OE2	2.02	0.60
51:Z:23:GLU:O	51:Z:24:LYS:O	2.19	0.60
53:3:947:G:H2'	53:3:948:C:C6	2.35	0.60
59:8:294:ALA:HB3	59:8:308:GLU:HB2	1.82	0.60
59:8:613:LEU:HB3	59:8:687:TYR:HB3	1.82	0.60
1:b:22:GLU:HB3	1:b:80:LEU:HD12	1.83	0.60
1:b:159:THR:HG22	1:b:160:TYR:N	2.16	0.60
5:f:18:ILE:HD12	5:f:44:HIS:HB2	1.81	0.60
35:J:14:LEU:CD1	35:J:35:LEU:H	2.14	0.60
38:M:95:MET:HB3	38:M:98:LEU:HB3	1.83	0.60
53:3:538:G:H2'	53:3:539:A:H8	1.67	0.60
53:3:934:C:C5	53:3:1344:C:H2'	2.36	0.60
53:3:977:A:H2'	53:3:978:A:H5''	1.83	0.60
53:3:1125:U:H3'	53:3:1127:G:OP2	2.01	0.60
53:3:1169:A:H2'	53:3:1170:A:C8	2.37	0.60
54:1:1074:G:H2'	54:1:1075:C:C6	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1174:U:O2'	54:1:1175:A:H5'	2.01	0.60
54:1:2286:G:H4'	54:1:2287:A:O5'	2.00	0.60
54:1:2415:G:H2'	54:1:2416:C:H6	1.65	0.60
59:8:465:HIS:O	59:8:469:ILE:HG13	2.01	0.60
3:d:50:ALA:HB2	54:1:801:G:C8	2.37	0.60
20:u:35:VAL:HB	20:u:38:ILE:HG13	1.84	0.60
25:z:46:MET:O	25:z:50:VAL:HG22	2.00	0.60
28:C:9:LYS:HE2	28:C:52:LYS:O	2.01	0.60
41:P:91:GLY:C	41:P:93:GLU:H	2.09	0.60
48:W:32:ILE:HG22	48:W:38:ILE:HG22	1.84	0.60
53:3:166:U:H2'	53:3:167:A:C8	2.36	0.60
53:3:521:G:O2'	53:3:522:C:H5'	2.01	0.60
53:3:730:G:C2'	53:3:731:G:H5'	2.31	0.60
54:1:1179:G:N7	54:1:1180:U:H1'	2.17	0.60
54:1:1548:A:H2'	54:1:1549:A:C8	2.36	0.60
54:1:1827:U:O2'	54:1:1828:G:H5'	2.02	0.60
54:1:2163:A:H2'	54:1:2164:C:H5'	1.83	0.60
54:1:2469:A:H2'	54:1:2470:G:O4'	2.02	0.60
57:6:67:C:H2'	57:6:68:C:C6	2.36	0.60
59:8:94:ASP:OD1	59:8:464:LEU:HB2	2.02	0.60
59:8:496:GLN:HB3	59:8:609:LYS:HE3	1.84	0.60
23:x:32:LEU:HD23	23:x:32:LEU:C	2.26	0.60
23:x:53:LYS:O	23:x:57:VAL:HG23	2.00	0.60
33:H:67:ILE:HD12	33:H:102:ILE:HG22	1.82	0.60
39:N:20:ILE:HD11	39:N:60:LEU:HD12	1.83	0.60
40:O:38:GLY:N	53:3:1124:G:OP2	2.32	0.60
43:R:22:TYR:HE1	53:3:1330:U:H4'	1.64	0.60
46:U:5:ARG:CB	53:3:376:G:H5'	2.23	0.60
59:8:364:VAL:HA	59:8:373:GLU:HA	1.84	0.60
4:e:10:GLU:O	4:e:14:LYS:N	2.31	0.60
7:h:80:THR:O	7:h:82:ILE:HG12	2.01	0.60
10:k:99:ILE:HG22	10:k:100:PHE:N	2.17	0.60
35:J:15:ILE:HD11	35:J:37:VAL:HG12	1.84	0.60
36:K:6:ILE:HD11	36:K:78:PHE:CE2	2.37	0.60
40:O:44:THR:HG21	40:O:70:HIS:ND1	2.16	0.60
41:P:97:ARG:HA	41:P:97:ARG:NE	2.16	0.60
42:Q:110:LYS:HD3	53:3:539:A:P	2.42	0.60
48:W:54:LEU:O	48:W:58:ILE:HG12	2.00	0.60
52:a:51:ASP:HB2	52:a:57:GLN:OE1	2.02	0.60
53:3:434:U:H2'	53:3:435:A:H8	1.65	0.60
53:3:1534:A:H4'	53:3:1535:C:OP1	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1681:G:N3	54:1:1762:A:H2'	2.17	0.60
4:e:121:PHE:HZ	4:e:169:LEU:HD12	1.67	0.60
4:e:128:SER:O	54:1:2304:G:H4'	2.02	0.60
39:N:83:THR:HG22	39:N:97:LEU:HD11	1.82	0.60
44:S:65:GLN:HB2	44:S:78:LEU:HD22	1.84	0.60
46:U:53:ASP:OD2	46:U:55:ASP:HB2	2.01	0.60
52:a:27:ILE:HB	52:a:182:ALA:HB1	1.83	0.60
53:3:60:A:P	53:3:387:U:H4'	2.42	0.60
53:3:1095:U:H5'	53:3:1109:C:O2	2.01	0.60
53:3:1354:U:H2'	53:3:1355:G:H8	1.67	0.60
54:1:1771:C:H2'	54:1:1772:A:C8	2.37	0.60
54:1:2230:G:H2'	54:1:2231:U:C6	2.36	0.60
1:b:43:ASN:HD22	1:b:49:THR:CG2	2.13	0.60
10:k:97:THR:O	10:k:118:LEU:HD13	2.02	0.60
15:p:108:ARG:HH12	53:3:1464:U:P	2.24	0.60
20:u:34:ILE:N	20:u:34:ILE:HD12	2.17	0.60
34:I:167:PRO:HG2	34:I:170:LEU:CD2	2.32	0.60
44:S:41:TRP:HE1	49:X:10:ILE:HD13	1.66	0.60
52:a:217:THR:CA	54:1:2124:G:H21	2.10	0.60
53:3:1150:A:N7	53:3:1151:A:C6	2.70	0.60
53:3:1342:C:H2'	53:3:1343:G:C8	2.36	0.60
54:1:883:G:H2'	54:1:884:U:H6	1.67	0.60
54:1:2152:G:H2'	54:1:2153:C:O4'	2.02	0.60
13:n:48:VAL:HG13	13:n:49:GLU:N	2.16	0.59
15:p:77:SER:O	15:p:80:VAL:HG22	2.01	0.59
32:G:23:ASN:HB2	32:G:189:ASN:HA	1.84	0.59
32:G:206:ILE:O	32:G:209:VAL:HG22	2.02	0.59
34:I:43:ARG:HH11	34:I:44:LYS:H	1.50	0.59
37:L:112:ASP:H	37:L:118:ARG:HD3	1.67	0.59
42:Q:69:GLU:OE1	53:3:521:G:H4'	2.02	0.59
54:1:2037:A:H2'	54:1:2038:G:C8	2.37	0.59
59:8:104:ARG:NH1	59:8:409:MET:HB3	2.17	0.59
59:8:177:GLU:C	59:8:179:PHE:N	2.60	0.59
2:c:161:MET:HE1	54:1:2619:C:O2	2.01	0.59
4:e:58:ALA:HB1	4:e:139:GLU:HG3	1.84	0.59
4:e:107:VAL:HB	4:e:108:PRO:HD3	1.83	0.59
8:i:21:PRO:CB	8:i:22:PRO:HD3	2.23	0.59
16:q:57:ARG:O	16:q:61:ILE:HG13	2.03	0.59
20:u:11:ILE:HG22	20:u:70:ALA:O	2.02	0.59
26:A:53:THR:CB	49:X:24:SER:HB3	2.32	0.59
32:G:83:ALA:HA	32:G:88:GLN:HB2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:S:45:LEU:HD11	49:X:12:LEU:HB2	1.83	0.59
44:S:58:ARG:HH21	53:3:980:C:H4'	1.67	0.59
53:3:434:U:H2'	53:3:435:A:C8	2.37	0.59
53:3:696:A:O2'	53:3:697:U:H5'	2.01	0.59
53:3:1071:C:H2'	53:3:1072:G:H8	1.67	0.59
53:3:1080:A:C2	53:3:1081:A:O2'	2.54	0.59
53:3:1237:C:O2'	53:3:1335:U:H5'	2.03	0.59
53:3:1356:G:H2'	53:3:1357:A:C8	2.37	0.59
54:1:349:U:H2'	54:1:350:G:H8	1.67	0.59
59:8:450:ASP:O	59:8:454:ASN:N	2.36	0.59
59:8:527:PRO:HB2	59:8:686:LYS:HE3	1.83	0.59
6:g:33:GLN:HG3	6:g:35:LYS:HE2	1.84	0.59
7:h:14:GLU:HA	7:h:17:GLU:HG2	1.84	0.59
13:n:29:VAL:HG12	13:n:78:LYS:HG2	1.84	0.59
13:n:45:ARG:HD3	13:n:97:ILE:HD11	1.84	0.59
15:p:3:ILE:H	15:p:3:ILE:CD1	2.12	0.59
17:r:54:VAL:CG2	17:r:55:ASP:H	2.06	0.59
19:t:28:ASN:CG	19:t:91:GLN:HG2	2.26	0.59
40:O:38:GLY:N	53:3:1123:U:H5''	2.18	0.59
44:S:53:ASP:HA	44:S:58:ARG:HH11	1.68	0.59
50:Y:27:MET:CE	50:Y:60:GLN:HB2	2.32	0.59
50:Y:27:MET:O	50:Y:31:ILE:HG13	2.02	0.59
53:3:176:C:H2'	53:3:177:G:N3	2.17	0.59
54:1:1300:G:H4'	54:1:1301:A:H5'	1.82	0.59
54:1:2798:U:H4'	54:1:2799:A:C4	2.38	0.59
29:D:14:ARG:HD3	54:1:125:A:H5'	1.84	0.59
34:I:205:LYS:HA	53:3:8:A:N7	2.18	0.59
37:L:70:PRO:HG3	37:L:102:TRP:HZ3	1.66	0.59
38:M:71:VAL:HA	38:M:129:ALA:O	2.02	0.59
43:R:114:PRO:HG2	53:3:1228:C:OP1	2.03	0.59
44:S:27:LYS:HG3	44:S:47:LEU:HD22	1.83	0.59
45:T:32:THR:OG1	45:T:84:LEU:HD23	2.02	0.59
46:U:51:ARG:HD2	46:U:52:LEU:N	2.17	0.59
53:3:292:G:H21	53:3:608:A:H61	1.49	0.59
53:3:934:C:H5	53:3:1344:C:H2'	1.67	0.59
53:3:1130:A:H62	53:3:1143:G:H21	1.51	0.59
53:3:1432:G:H1'	53:3:1468:A:N6	2.17	0.59
54:1:2405:G:H2'	54:1:2411:A:N6	2.16	0.59
59:8:522:MET:HB3	59:8:576:ILE:HG22	1.84	0.59
2:c:194:PRO:HA	54:1:2680:U:H5'	1.84	0.59
4:e:32:LYS:HD3	4:e:91:ARG:HH11	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:8:VAL:HG11	8:i:10:LEU:HD12	1.84	0.59
9:j:36:LEU:O	9:j:51:GLY:HA3	2.03	0.59
10:k:29:HIS:O	10:k:31:ARG:HD2	2.03	0.59
13:n:38:LEU:HD11	13:n:42:LYS:HE2	1.83	0.59
33:H:1:GLY:HA3	33:H:3:LYS:HZ1	1.65	0.59
33:H:20:THR:HA	44:S:93:PRO:HG3	1.85	0.59
35:J:161:GLU:HA	35:J:164:LEU:HG	1.83	0.59
43:R:95:PRO:HB2	53:3:1308:U:P	2.43	0.59
44:S:12:ARG:HG3	44:S:12:ARG:HH11	1.68	0.59
50:Y:32:LYS:O	50:Y:32:LYS:HD3	2.02	0.59
54:1:2101:A:H2'	54:1:2102:G:H8	1.65	0.59
54:1:2301:C:H2'	54:1:2302:U:C6	2.38	0.59
54:1:2707:U:H2'	54:1:2708:G:H8	1.66	0.59
2:c:62:LYS:HB2	2:c:63:PRO:HD3	1.84	0.59
2:c:207:VAL:HG13	2:c:208:LYS:H	1.67	0.59
13:n:118:ARG:NH2	13:n:118:ARG:HB3	2.18	0.59
32:G:20:ARG:HG3	32:G:21:TYR:CD1	2.37	0.59
47:V:52:CYS:HB2	47:V:56:ASP:OD1	2.03	0.59
51:Z:36:PHE:HB3	51:Z:39:LYS:HG2	1.85	0.59
53:3:34:C:H2'	53:3:35:G:C8	2.38	0.59
53:3:505:G:H2'	53:3:506:G:C8	2.37	0.59
53:3:1130:A:H62	53:3:1143:G:N2	1.99	0.59
53:3:1409:C:H2'	53:3:1410:A:C8	2.38	0.59
54:1:1670:C:H2'	54:1:1671:U:O4'	2.03	0.59
54:1:2061:G:N2	60:1:3001:FME:HCN	2.17	0.59
2:c:207:VAL:HG13	2:c:208:LYS:HD3	1.83	0.59
8:i:8:VAL:HG11	8:i:27:LEU:HB3	1.84	0.59
12:m:34:LYS:CE	12:m:131:VAL:HG11	2.32	0.59
30:E:2:LYS:HG3	54:1:242:G:C8	2.38	0.59
45:T:13:GLU:HG2	45:T:83:ARG:HH21	1.68	0.59
45:T:68:TYR:CZ	45:T:72:LYS:HD3	2.38	0.59
47:V:47:ASP:HB3	47:V:74:LEU:HB3	1.84	0.59
53:3:60:A:OP2	53:3:387:U:H4'	2.02	0.59
53:3:708:C:H2'	53:3:709:U:C6	2.36	0.59
53:3:731:G:H2'	53:3:732:C:C6	2.38	0.59
53:3:1462:C:H2'	53:3:1463:U:C6	2.38	0.59
54:1:1082:U:H3'	54:1:1083:U:C5'	2.29	0.59
59:8:496:GLN:NE2	59:8:609:LYS:HG2	2.18	0.59
18:s:57:ASN:OD1	54:1:495:G:H1'	2.03	0.59
32:G:184:ALA:CB	32:G:195:VAL:HG11	2.33	0.59
34:I:39:GLN:HB2	53:3:541:G:H4'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:111:GLU:CG	39:N:112:ARG:N	2.65	0.59
40:O:15:HIS:O	40:O:18:ILE:HG22	2.03	0.59
44:S:66:THR:CG2	44:S:82:LYS:HD2	2.33	0.59
53:3:29:U:O2'	53:3:30:U:H5'	2.03	0.59
53:3:330:C:H42	53:3:354:G:H1'	1.67	0.59
53:3:988:G:H21	53:3:1015:G:H21	1.49	0.59
53:3:1013:G:H21	53:3:1015:G:H3'	1.67	0.59
54:1:528:A:C2	54:1:2042:A:H2'	2.38	0.59
54:1:704:G:H1'	54:1:727:A:N6	2.14	0.59
54:1:796:C:H2'	54:1:797:G:H8	1.67	0.59
59:8:310:HIS:HB3	59:8:315:GLU:HG3	1.83	0.59
1:b:18:VAL:HG12	1:b:198:GLU:OE2	2.03	0.59
4:e:134:GLN:OE1	4:e:135:ILE:HG23	2.03	0.59
6:g:9:VAL:HG21	6:g:13:GLY:HA3	1.84	0.59
13:n:98:LEU:HB2	13:n:112:TYR:HB2	1.85	0.59
30:E:21:PHE:HB2	30:E:49:VAL:HG21	1.85	0.59
34:I:101:VAL:O	34:I:105:GLY:N	2.36	0.59
34:I:104:MET:HE3	34:I:106:PHE:CE2	2.37	0.59
47:V:29:LYS:HB2	47:V:36:PHE:CE1	2.37	0.59
47:V:39:ARG:HA	53:3:280:C:O2	2.03	0.59
51:Z:34:ARG:HG2	51:Z:34:ARG:HH11	1.66	0.59
52:a:181:ASP:O	52:a:182:ALA:C	2.44	0.59
53:3:1160:G:N3	53:3:1160:G:H2'	2.17	0.59
53:3:1197:A:H3'	53:3:1197:A:OP2	2.03	0.59
54:1:630:G:N2	54:1:632:A:H3'	2.18	0.59
54:1:1794:A:H2'	54:1:1795:C:H6	1.67	0.59
59:8:189:LYS:HZ1	59:8:191:ILE:HG12	1.65	0.59
2:c:33:ARG:HG2	2:c:33:ARG:HH21	1.68	0.59
4:e:24:VAL:O	4:e:27:VAL:HG12	2.02	0.59
9:j:81:ILE:HG23	9:j:82:GLY:N	2.18	0.59
37:L:31:VAL:HG13	37:L:34:LYS:HZ3	1.67	0.59
38:M:101:ALA:HB3	38:M:112:ASP:HB3	1.85	0.59
53:3:827:U:H2'	53:3:870:U:O4	2.03	0.59
54:1:1022:G:H22	54:1:1142:A:H2	1.50	0.59
54:1:2547:A:H2'	54:1:2548:U:C5	2.38	0.59
59:8:120:GLN:OE1	59:8:675:LYS:HD3	2.02	0.59
2:c:59:ARG:HD2	54:1:2831:G:OP2	2.02	0.58
9:j:8:PRO:HG3	9:j:48:VAL:HG13	1.85	0.58
19:t:62:VAL:HG12	19:t:63:VAL:N	2.18	0.58
23:x:36:ARG:HA	23:x:47:THR:HA	1.85	0.58
33:H:78:LYS:HE2	33:H:78:LYS:HA	1.83	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:126:PHE:HB3	53:3:1342:C:H4'	1.86	0.58
41:P:88:PRO:HG2	41:P:89:GLY:H	1.66	0.58
45:T:27:GLN:O	45:T:31:LEU:HD23	2.03	0.58
50:Y:28:ARG:NH1	53:3:1437:A:H5''	2.18	0.58
53:3:1101:A:H4'	53:3:1102:A:O5'	2.02	0.58
53:3:1183:U:H1'	53:3:1184:G:OP1	2.03	0.58
54:1:193:U:O2'	54:1:194:G:H5'	2.02	0.58
54:1:581:C:H2'	54:1:582:A:H8	1.66	0.58
54:1:729:G:H4'	54:1:763:G:H5'	1.85	0.58
54:1:2025:C:H2'	54:1:2026:U:C6	2.37	0.58
59:8:14:GLY:N	59:8:108:GLY:O	2.31	0.58
59:8:268:SER:OG	59:8:271:LYS:HB2	2.03	0.58
3:d:29:HIS:CE1	11:l:8:PRO:HB3	2.38	0.58
23:x:32:LEU:HD21	23:x:49:ARG:CG	2.33	0.58
27:B:21:LEU:HD23	27:B:22:THR:N	2.18	0.58
53:3:1210:C:H4'	53:3:1214:C:N4	2.18	0.58
53:3:1252:A:H2'	53:3:1253:G:C8	2.37	0.58
54:1:112:U:H2'	54:1:113:U:H5'	1.85	0.58
54:1:230:G:O2'	54:1:231:A:H5'	2.03	0.58
54:1:2391:G:H1'	54:1:2429:G:H22	1.66	0.58
8:i:28:GLY:HA2	8:i:32:VAL:H	1.67	0.58
28:C:13:SER:HB3	28:C:49:LYS:HG3	1.85	0.58
34:I:55:ARG:HH22	53:3:543:U:H4'	1.67	0.58
37:L:35:LYS:CG	53:3:1373:G:H5''	2.32	0.58
44:S:56:PRO:HD2	53:3:1317:C:OP1	2.04	0.58
45:T:86:LEU:HD12	45:T:86:LEU:O	2.02	0.58
50:Y:50:PHE:HD1	50:Y:78:LEU:HD12	1.67	0.58
52:a:39:VAL:HG13	52:a:179:ASP:HB2	1.85	0.58
53:3:70:U:H5''	53:3:71:A:OP1	2.03	0.58
53:3:317:U:H2'	53:3:318:G:H8	1.68	0.58
53:3:551:U:H2'	53:3:552:U:H6	1.67	0.58
53:3:976:G:H2'	53:3:1362:A:N1	2.18	0.58
53:3:1495:U:H2'	53:3:1496:C:C6	2.39	0.58
56:5:10:G:H3'	56:5:10:G:OP2	2.02	0.58
59:8:56:GLU:HB2	59:8:61:ILE:O	2.02	0.58
59:8:428:GLN:HA	59:8:431:MET:HB2	1.86	0.58
59:8:440:LYS:HD2	59:8:441:GLU:N	2.18	0.58
3:d:195:GLN:O	3:d:199:MET:HG3	2.04	0.58
6:g:96:THR:HB	6:g:112:LYS:HD2	1.84	0.58
16:q:69:ARG:HB2	16:q:69:ARG:NH2	2.18	0.58
33:H:83:VAL:O	33:H:87:ARG:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:M:6:ILE:CG2	38:M:76:ARG:HE	2.15	0.58
48:W:37:LYS:HD2	51:Z:23:GLU:OE1	2.03	0.58
52:a:42:VAL:HB	52:a:175:ILE:CG1	2.33	0.58
53:3:510:A:N3	53:3:543:U:H1'	2.19	0.58
53:3:1081:A:H3'	53:3:1082:A:C8	2.38	0.58
54:1:69:C:O2'	54:1:70:G:H5'	2.04	0.58
54:1:1093:G:C3'	54:1:1094:U:H5''	2.32	0.58
54:1:1300:G:H4'	54:1:1301:A:C5'	2.34	0.58
55:2:2:G:C6	55:2:119:A:N3	2.70	0.58
55:2:87:U:H5''	55:2:88:C:OP2	2.03	0.58
12:m:71:LYS:HB3	12:m:93:VAL:O	2.03	0.58
13:n:55:ALA:HA	13:n:80:PHE:CE1	2.39	0.58
15:p:88:ARG:HE	15:p:112:ARG:NE	2.00	0.58
16:q:82:LEU:HD22	16:q:87:VAL:HG11	1.84	0.58
25:z:24:LEU:HD21	54:1:930:G:H1'	1.84	0.58
30:E:31:ILE:HG23	30:E:31:ILE:O	2.01	0.58
32:G:101:THR:HG21	53:3:1075:U:H5'	1.85	0.58
39:N:78:ILE:O	39:N:82:ILE:HG13	2.04	0.58
39:N:80:HIS:HE2	39:N:105:ARG:HA	1.67	0.58
42:Q:36:VAL:HG12	42:Q:52:CYS:CB	2.33	0.58
53:3:505:G:OP2	53:3:535:A:H5'	2.04	0.58
54:1:1361:G:H2'	54:1:1362:C:H6	1.66	0.58
54:1:2389:G:C5'	54:1:2390:U:H5'	2.33	0.58
56:5:46:G:H2'	56:5:47:U:H4'	1.85	0.58
59:8:158:ILE:CD1	59:8:162:LEU:HD13	2.34	0.58
59:8:194:ASN:HB2	59:8:201:THR:H	1.68	0.58
2:c:172:VAL:HG21	2:c:194:PRO:HD3	1.85	0.58
4:e:15:LEU:HD13	4:e:27:VAL:HG23	1.84	0.58
8:i:20:SER:HB3	8:i:21:PRO:HD3	1.85	0.58
34:I:127:ARG:HA	34:I:127:ARG:HE	1.68	0.58
34:I:178:GLU:HG2	34:I:179:GLY:H	1.69	0.58
35:J:104:ILE:N	35:J:120:HIS:O	2.36	0.58
39:N:105:ARG:NH1	39:N:107:ALA:HA	2.17	0.58
45:T:5:GLU:HA	45:T:8:ALA:HB3	1.85	0.58
45:T:6:ALA:O	45:T:9:LYS:HG2	2.03	0.58
53:3:715:A:H2'	53:3:716:A:H8	1.68	0.58
53:3:1144:G:H21	53:3:1147:C:H42	1.51	0.58
54:1:580:U:H2'	54:1:581:C:C6	2.38	0.58
54:1:2498:C:O2'	54:1:2499:C:H5'	2.03	0.58
54:1:2699:C:H2'	54:1:2700:A:H8	1.68	0.58
59:8:133:TYR:HB3	59:8:135:VAL:HG23	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:o:2:ASP:HB3	14:o:5:SER:OG	2.04	0.58
14:o:17:LYS:O	14:o:21:LEU:HG	2.03	0.58
21:v:10:LYS:HG3	21:v:11:GLU:HG3	1.85	0.58
26:A:14:ALA:HB3	26:A:22:MET:CG	2.32	0.58
43:R:95:PRO:HG2	53:3:1308:U:OP1	2.04	0.58
52:a:208:TYR:HD2	52:a:209:ILE:HG23	1.68	0.58
53:3:587:G:H1'	53:3:755:G:N2	2.18	0.58
53:3:861:G:O2'	53:3:862:C:H5'	2.03	0.58
54:1:705:A:H2'	54:1:706:A:H8	1.69	0.58
54:1:807:U:H2'	54:1:808:G:C8	2.38	0.58
54:1:2297:A:N1	54:1:2321:U:C5	2.70	0.58
54:1:2405:G:H2'	54:1:2411:A:H62	1.68	0.58
4:e:39:VAL:HG11	4:e:49:LEU:HD13	1.84	0.58
6:g:29:PHE:HB2	54:1:2198:A:N3	2.19	0.58
9:j:128:ASN:HD22	9:j:128:ASN:C	2.11	0.58
10:k:11:ALA:HB2	10:k:83:ALA:HB1	1.85	0.58
26:A:45:THR:O	26:A:49:ARG:HG2	2.04	0.58
37:L:26:VAL:O	37:L:30:MET:HG2	2.04	0.58
39:N:41:GLU:HG3	53:3:1291:U:C4'	2.29	0.58
39:N:112:ARG:HE	44:S:100:TRP:CD1	2.21	0.58
40:O:46:LYS:CB	40:O:68:ARG:HG2	2.34	0.58
53:3:412:A:N6	53:3:431:A:H61	2.02	0.58
53:3:1164:G:C2	53:3:1171:A:N6	2.70	0.58
54:1:1825:U:H2'	54:1:1826:G:H8	1.69	0.58
59:8:20:ASP:CA	62:8:801:GCP:H3B1	2.28	0.58
59:8:33:TYR:HB3	59:8:72:TRP:CZ3	2.38	0.58
3:d:131:THR:HG22	3:d:160:ALA:O	2.04	0.58
4:e:56:LEU:HA	4:e:59:ILE:HG22	1.86	0.58
15:p:88:ARG:HG3	15:p:113:LEU:H	1.68	0.58
32:G:206:ILE:HG13	32:G:207:ARG:H	1.67	0.58
33:H:120:THR:HG23	33:H:188:ALA:HB2	1.84	0.58
34:I:2:ARG:HB2	34:I:4:LEU:HD23	1.84	0.58
34:I:116:LEU:HD13	34:I:153:ARG:HH22	1.69	0.58
39:N:87:MET:HB3	39:N:94:ARG:HH21	1.68	0.58
39:N:123:ARG:HB2	53:3:1343:G:O3'	2.04	0.58
40:O:87:LEU:HB3	40:O:100:ILE:HG21	1.86	0.58
41:P:43:TRP:NE1	53:3:686:U:H4'	2.16	0.58
46:U:25:ARG:HB2	53:3:110:C:H4'	1.85	0.58
46:U:59:HIS:O	46:U:63:GLN:HG2	2.04	0.58
47:V:45:VAL:HG12	47:V:46:HIS:N	2.17	0.58
53:3:408:A:H2'	53:3:409:U:O4'	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:489:C:H2'	53:3:490:C:C6	2.39	0.58
53:3:649:A:H3'	53:3:650:G:H5''	1.85	0.58
53:3:1025:U:H4'	53:3:1026:G:H8	1.67	0.58
53:3:1059:C:H2'	53:3:1060:U:O4'	2.04	0.58
53:3:1526:G:H2'	53:3:1527:U:C6	2.39	0.58
54:1:355:U:H2'	54:1:356:G:C8	2.34	0.58
54:1:2487:G:H2'	54:1:2488:G:H8	1.69	0.58
55:2:65:U:C2'	55:2:66:A:H5'	2.33	0.58
59:8:499:THR:HG23	59:8:500:ASP:H	1.68	0.58
9:j:65:THR:HG21	54:1:1141:U:H5''	1.86	0.58
10:k:13:ASN:C	10:k:13:ASN:HD22	2.12	0.58
10:k:78:ARG:HH12	15:p:72:VAL:HG13	1.69	0.58
33:H:63:ILE:HG22	33:H:96:VAL:HG23	1.85	0.58
39:N:16:ALA:HA	39:N:66:VAL:HA	1.86	0.58
39:N:112:ARG:HE	44:S:100:TRP:NE1	2.00	0.58
41:P:98:ALA:O	41:P:102:ALA:HB2	2.02	0.58
42:Q:53:ARG:NH2	42:Q:61:GLU:HG3	2.19	0.58
45:T:24:THR:HG22	45:T:69:LEU:HD22	1.86	0.58
46:U:8:ARG:HD3	46:U:17:TYR:CE1	2.39	0.58
48:W:33:THR:HG22	48:W:37:LYS:O	2.03	0.58
53:3:1186:G:H2'	53:3:1187:G:C8	2.39	0.58
54:1:45:G:C5'	54:1:46:G:H5'	2.16	0.58
54:1:159:G:H1'	54:1:167:A:N6	2.18	0.58
54:1:2286:G:H5''	54:1:2287:A:OP1	2.04	0.58
55:2:65:U:H3'	55:2:108:A:N6	2.18	0.58
5:f:70:LEU:O	5:f:74:MET:HG3	2.03	0.57
7:h:41:LEU:HB3	54:1:1082:U:O3'	2.03	0.57
22:w:77:SER:O	22:w:78:ILE:HD13	2.04	0.57
35:J:37:VAL:HG22	35:J:116:VAL:HG21	1.84	0.57
37:L:35:LYS:HG2	53:3:1373:G:H5''	1.86	0.57
46:U:18:GLN:HG3	46:U:18:GLN:O	2.04	0.57
47:V:7:LEU:HG	47:V:8:GLN:H	1.68	0.57
53:3:222:C:H2'	53:3:223:A:C8	2.39	0.57
53:3:444:G:H2'	53:3:445:G:C8	2.39	0.57
53:3:676:A:H2'	53:3:677:U:C6	2.39	0.57
54:1:2185:U:H2'	54:1:2186:G:C8	2.39	0.57
55:2:2:G:H2'	55:2:3:C:C6	2.38	0.57
33:H:128:MET:HE2	33:H:131:ARG:HB2	1.86	0.57
34:I:144:ILE:N	34:I:144:ILE:HD12	2.19	0.57
35:J:149:PRO:O	35:J:152:VAL:HG22	2.03	0.57
37:L:128:GLU:HG3	37:L:130:LYS:HG2	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:R:76:ILE:CG2	43:R:80:MET:HE1	2.34	0.57
46:U:38:PHE:CE1	46:U:51:ARG:HB3	2.38	0.57
53:3:317:U:H2'	53:3:318:G:C8	2.38	0.57
53:3:614:C:C3'	53:3:615:G:H5''	2.34	0.57
53:3:1164:G:N2	53:3:1171:A:N6	2.53	0.57
54:1:161:A:H3'	54:1:162:U:H5''	1.85	0.57
54:1:1038:G:H2'	54:1:1039:A:C8	2.39	0.57
54:1:1859:U:H2'	54:1:1860:G:C8	2.40	0.57
4:e:39:VAL:HG13	4:e:40:GLY:N	2.19	0.57
5:f:71:LEU:O	5:f:75:VAL:HG23	2.04	0.57
7:h:78:GLY:N	7:h:79:PRO:HD2	2.18	0.57
18:s:109:ASP:OD2	18:s:110:ARG:HG3	2.04	0.57
26:A:22:MET:HE1	26:A:24:ILE:CD1	2.35	0.57
29:D:31:LEU:HB3	29:D:35:ARG:NH1	2.18	0.57
31:F:36:ARG:NE	31:F:37:GLN:HG2	2.20	0.57
34:I:90:LEU:HD13	34:I:190:LEU:HD22	1.84	0.57
34:I:131:ILE:HD12	34:I:131:ILE:N	2.19	0.57
35:J:114:LEU:HD12	35:J:119:VAL:HG21	1.86	0.57
53:3:642:A:H2'	53:3:643:C:C6	2.39	0.57
53:3:1061:G:C2'	53:3:1062:U:H4'	2.28	0.57
54:1:864:G:H2'	54:1:865:C:C6	2.39	0.57
54:1:1746:A:H2'	54:1:1747:U:C6	2.39	0.57
1:b:202:ARG:HD3	1:b:213:ARG:HH22	1.69	0.57
6:g:103:VAL:HB	6:g:108:VAL:HB	1.87	0.57
9:j:47:HIS:CE1	9:j:48:VAL:HG23	2.39	0.57
17:r:2:TYR:HB3	17:r:15:SER:OG	2.05	0.57
21:v:93:ARG:NH1	21:v:93:ARG:HB2	2.19	0.57
32:G:20:ARG:HH22	53:3:831:A:H5'	1.69	0.57
44:S:80:ARG:O	44:S:83:VAL:HG12	2.04	0.57
50:Y:57:VAL:HG13	50:Y:58:ASP:N	2.19	0.57
53:3:536:C:H2'	53:3:537:G:H5'	1.85	0.57
53:3:1007:U:H2'	53:3:1008:U:C6	2.38	0.57
54:1:467:G:O2'	54:1:468:G:H5'	2.04	0.57
56:5:44:G:H2'	56:5:45:G:O4'	2.05	0.57
57:6:32:C:H2'	57:6:33:U:C6	2.39	0.57
59:8:425:LYS:O	59:8:428:GLN:N	2.37	0.57
5:f:21:GLN:HE21	5:f:38:ASP:HA	1.69	0.57
5:f:142:GLN:HA	5:f:142:GLN:NE2	2.18	0.57
25:z:16:LEU:HD11	55:2:82:U:H5''	1.86	0.57
31:F:1:MET:N	54:1:2526:G:H21	2.03	0.57
34:I:104:MET:HE2	34:I:142:VAL:HG13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:64:ILE:HD13	39:N:78:ILE:CG2	2.34	0.57
53:3:128:G:O2'	53:3:129:A:H5'	2.05	0.57
53:3:410:G:H2'	53:3:429:U:C5	2.39	0.57
53:3:1392:G:H2'	53:3:1393:U:H6	1.69	0.57
54:1:679:C:H2'	54:1:680:C:C6	2.40	0.57
55:2:55:U:H2'	55:2:56:G:C8	2.39	0.57
59:8:371:ARG:HD2	59:8:371:ARG:N	2.20	0.57
59:8:501:VAL:HG11	59:8:607:LYS:HG3	1.87	0.57
3:d:16:GLU:O	3:d:20:GLY:N	2.37	0.57
3:d:77:ILE:HG23	54:1:1256:G:H21	1.69	0.57
21:v:3:THR:C	21:v:4:ILE:HD12	2.30	0.57
26:A:63:ARG:O	53:3:1011:C:H5''	2.04	0.57
30:E:21:PHE:O	30:E:49:VAL:HG23	2.05	0.57
38:M:28:SER:CB	38:M:58:LEU:HB2	2.29	0.57
42:Q:120:ARG:HG3	42:Q:121:PRO:HD2	1.87	0.57
51:Z:13:VAL:HG22	51:Z:14:ALA:N	2.17	0.57
53:3:448:A:H3'	53:3:449:G:C8	2.38	0.57
54:1:415:A:H2'	54:1:416:U:C6	2.38	0.57
54:1:813:U:H2'	54:1:814:C:C6	2.39	0.57
54:1:2455:G:H2'	54:1:2456:C:H6	1.66	0.57
54:1:2849:U:H4'	54:1:2868:A:C2	2.40	0.57
59:8:34:THR:HG21	59:8:84:ILE:HD11	1.86	0.57
59:8:605:PHE:CZ	59:8:610:PRO:HG2	2.40	0.57
2:c:125:TRP:HB2	2:c:127:PHE:CE1	2.40	0.57
9:j:25:LEU:O	9:j:29:ALA:N	2.37	0.57
14:o:62:LEU:CD1	14:o:65:THR:HG22	2.34	0.57
29:D:26:ASN:CG	54:1:682:G:H5'	2.29	0.57
34:I:158:LEU:O	34:I:158:LEU:HD23	2.04	0.57
36:K:77:THR:O	36:K:81:ASN:N	2.37	0.57
39:N:71:ILE:HD11	53:3:1289:A:H61	1.69	0.57
43:R:96:VAL:CA	53:3:1307:U:H2'	2.34	0.57
46:U:71:VAL:O	46:U:74:LEU:HB2	2.05	0.57
49:X:52:ASN:ND2	49:X:54:ARG:HB2	2.19	0.57
52:a:201:PRO:HD2	52:a:208:TYR:CE1	2.40	0.57
53:3:1186:G:H2'	53:3:1187:G:H8	1.70	0.57
54:1:546:U:H1'	54:1:548:G:N1	2.19	0.57
54:1:1429:G:H2'	54:1:1430:G:H8	1.69	0.57
54:1:2078:C:H2'	54:1:2079:U:C6	2.40	0.57
2:c:32:ASN:O	2:c:96:ILE:HG22	2.05	0.57
4:e:25:MET:CE	55:2:55:U:H1'	2.35	0.57
5:f:116:LEU:HD11	5:f:120:ILE:CG2	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:g:3:VAL:HG22	6:g:38:PRO:HA	1.87	0.57
9:j:81:ILE:HG23	9:j:82:GLY:H	1.70	0.57
14:o:72:ALA:HA	14:o:106:LEU:HA	1.87	0.57
23:x:2:ARG:HB2	23:x:11:PRO:HG3	1.85	0.57
23:x:70:LEU:HD23	23:x:73:ARG:HE	1.70	0.57
24:y:9:LYS:HG2	24:y:10:SER:N	2.19	0.57
25:z:13:ILE:HG23	25:z:14:GLY:N	2.20	0.57
29:D:3:ARG:NE	29:D:4:THR:H	1.94	0.57
36:K:88:MET:HG2	36:K:90:MET:HE3	1.86	0.57
40:O:73:LEU:O	53:3:1123:U:H1'	2.05	0.57
49:X:27:LYS:O	49:X:28:LYS:HG3	2.05	0.57
50:Y:74:HIS:O	50:Y:78:LEU:HD23	2.04	0.57
53:3:484:G:H5'	53:3:486:U:H5'	1.87	0.57
53:3:1159:U:O4	53:3:1182:G:H1'	2.05	0.57
54:1:402:A:H2'	54:1:403:U:H5'	1.85	0.57
54:1:833:A:H2'	54:1:834:G:H8	1.69	0.57
54:1:890:C:H2'	54:1:891:G:H5'	1.87	0.57
2:c:35:THR:O	2:c:92:VAL:HG13	2.05	0.57
2:c:178:VAL:HB	2:c:188:LEU:HB2	1.85	0.57
20:u:46:LYS:NZ	20:u:49:PRO:HD3	2.20	0.57
22:w:70:PRO:HD3	55:2:12:C:N4	2.20	0.57
31:F:17:VAL:HG12	31:F:19:ARG:HG3	1.86	0.57
40:O:14:ASP:HB3	40:O:17:LEU:HD12	1.87	0.57
41:P:53:GLY:O	41:P:56:LYS:HG2	2.05	0.57
43:R:96:VAL:C	53:3:1307:U:H2'	2.30	0.57
52:a:205:LYS:HE3	54:1:1861:G:H5''	1.86	0.57
55:2:5:U:H2'	55:2:6:G:C8	2.40	0.57
55:2:11:C:H2'	55:2:12:C:O4'	2.05	0.57
4:e:2:LYS:HE3	4:e:100:GLU:OE1	2.04	0.57
32:G:109:SER:HA	32:G:112:ARG:HG3	1.87	0.57
38:M:10:LEU:HD22	38:M:74:ILE:CD1	2.35	0.57
38:M:20:ASN:HA	38:M:64:TYR:CE1	2.39	0.57
38:M:85:TYR:CE1	38:M:123:GLU:HB3	2.40	0.57
39:N:15:ALA:HB3	39:N:67:LYS:O	2.05	0.57
52:a:201:PRO:HD2	52:a:208:TYR:HE1	1.70	0.57
53:3:1125:U:O2	53:3:1125:U:H2'	2.04	0.57
54:1:359:G:H2'	54:1:360:U:O4'	2.04	0.57
54:1:1593:A:H2'	54:1:1594:U:C6	2.40	0.57
54:1:2231:U:O2'	54:1:2232:C:H5'	2.05	0.57
55:2:119:A:N7	55:2:120:A:C8	2.72	0.57
59:8:324:ILE:HB	59:8:441:GLU:HG2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:174:ARG:HG3	1:b:180:MET:HE3	1.86	0.56
4:e:7:TYR:HA	4:e:11:VAL:CG2	2.35	0.56
5:f:123:GLU:HB2	5:f:131:VAL:HG13	1.86	0.56
6:g:117:LEU:HD13	6:g:121:VAL:HA	1.86	0.56
7:h:27:VAL:HG11	7:h:40:GLU:OE2	2.05	0.56
11:l:73:ILE:HG22	11:l:73:ILE:O	2.04	0.56
13:n:102:PHE:HE1	13:n:109:PRO:HG3	1.69	0.56
42:Q:86:VAL:HG23	42:Q:88:ASP:N	2.17	0.56
52:a:37:LYS:HB2	54:1:2127:G:C5'	2.35	0.56
53:3:257:G:H2'	53:3:258:G:C8	2.40	0.56
53:3:614:C:H3'	53:3:615:G:H5''	1.86	0.56
53:3:958:A:H2	53:3:986:U:H4'	1.67	0.56
54:1:67:U:H2'	54:1:68:G:H8	1.70	0.56
54:1:433:C:O2'	54:1:434:U:H5'	2.05	0.56
54:1:694:U:C2'	54:1:695:G:H5''	2.35	0.56
55:2:59:A:H2'	55:2:60:C:C6	2.40	0.56
58:4:22:A:H2'	58:4:23:G:H5'	1.87	0.56
59:8:641:MET:SD	59:8:657:GLU:HB2	2.44	0.56
11:l:57:LEU:HA	11:l:60:ARG:NE	2.21	0.56
20:u:78:LYS:HD2	20:u:79:ALA:N	2.20	0.56
26:A:58:ASP:OD1	26:A:61:ASN:HB3	2.05	0.56
32:G:48:MET:O	32:G:52:ALA:N	2.36	0.56
33:H:10:ARG:NH1	33:H:176:THR:O	2.37	0.56
33:H:142:ARG:HG3	33:H:143:LEU:CD1	2.35	0.56
37:L:65:LEU:CD2	37:L:69:ARG:HH12	2.17	0.56
37:L:91:ARG:O	37:L:95:ARG:N	2.35	0.56
43:R:98:GLY:C	53:3:1308:U:OP2	2.47	0.56
53:3:347:G:H2'	53:3:348:G:C5'	2.33	0.56
53:3:1137:C:H4'	53:3:1138:G:H21	1.67	0.56
54:1:1060:U:O4'	54:1:1062:G:H5'	2.04	0.56
54:1:1468:U:H2'	54:1:1522:A:N6	2.19	0.56
54:1:2484:G:O2'	54:1:2485:G:H5'	2.05	0.56
54:1:2662:A:H2'	54:1:2663:G:O4'	2.05	0.56
59:8:515:TYR:HB3	59:8:588:SER:OG	2.05	0.56
2:c:33:ARG:HH22	2:c:52:THR:HA	1.70	0.56
4:e:72:SER:OG	4:e:79:ARG:HA	2.05	0.56
6:g:7:ASP:HB3	6:g:35:LYS:HB3	1.87	0.56
8:i:57:VAL:HB	8:i:69:VAL:HB	1.88	0.56
10:k:22:ILE:HG12	10:k:40:LYS:O	2.05	0.56
33:H:5:HIS:HA	33:H:183:TYR:CE2	2.39	0.56
33:H:58:ARG:HH11	33:H:58:ARG:HG3	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:155:ARG:HG3	33:H:155:ARG:NH1	2.20	0.56
34:I:60:VAL:HG21	34:I:199:ILE:HD11	1.86	0.56
37:L:65:LEU:HG	37:L:69:ARG:NH1	2.20	0.56
38:M:30:LYS:HB3	53:3:590:U:OP1	2.05	0.56
39:N:71:ILE:HD11	53:3:1289:A:N6	2.19	0.56
39:N:80:HIS:CE1	39:N:84:ARG:HD3	2.40	0.56
39:N:122:ARG:HD2	53:3:1343:G:O2'	2.05	0.56
40:O:7:ARG:HB2	40:O:101:SER:CB	2.29	0.56
44:S:73:LEU:H	44:S:73:LEU:HD12	1.70	0.56
46:U:52:LEU:O	46:U:52:LEU:HD12	2.05	0.56
46:U:67:ILE:N	46:U:67:ILE:HD12	2.19	0.56
48:W:48:ALA:O	48:W:52:ARG:N	2.37	0.56
50:Y:70:LYS:HD3	50:Y:74:HIS:CE1	2.41	0.56
53:3:235:C:H2'	53:3:236:A:C8	2.40	0.56
53:3:403:C:H2'	53:3:404:G:H8	1.71	0.56
53:3:470:C:H2'	53:3:471:U:H6	1.69	0.56
53:3:1144:G:H21	53:3:1147:C:N4	2.02	0.56
53:3:1352:C:H2'	53:3:1353:G:H8	1.70	0.56
54:1:215:G:C4'	54:1:216:A:H4'	2.35	0.56
54:1:1309:G:H2'	54:1:1310:G:O4'	2.06	0.56
54:1:1502:A:H2'	54:1:1503:A:C8	2.41	0.56
54:1:1684:G:H2'	54:1:1685:C:H6	1.68	0.56
54:1:2078:C:H2'	54:1:2079:U:H6	1.70	0.56
54:1:2569:G:O2'	54:1:2570:G:H5'	2.05	0.56
54:1:2795:C:H2'	54:1:2796:U:O4'	2.05	0.56
4:e:116:LEU:HD21	4:e:127:TYR:HE2	1.70	0.56
16:q:57:ARG:HE	16:q:91:ARG:HD2	1.70	0.56
21:v:75:GLN:HB2	21:v:92:VAL:HG23	1.87	0.56
29:D:26:ASN:O	29:D:30:VAL:HG23	2.05	0.56
32:G:150:ILE:HG22	32:G:150:ILE:O	2.05	0.56
33:H:18:ASN:OD1	33:H:55:VAL:HA	2.04	0.56
34:I:12:ARG:NH2	53:3:428:G:H3'	2.20	0.56
34:I:131:ILE:HG22	34:I:133:SER:H	1.70	0.56
35:J:149:PRO:HG2	35:J:150:GLU:OE2	2.05	0.56
36:K:44:ARG:HA	36:K:58:HIS:HA	1.87	0.56
38:M:65:PHE:CD2	38:M:66:GLN:HG2	2.40	0.56
38:M:123:GLU:OE2	53:3:643:C:H1'	2.06	0.56
44:S:18:LYS:HG3	44:S:19:TYR:N	2.19	0.56
53:3:82:G:H2'	53:3:83:C:H5'	1.87	0.56
53:3:392:C:H2'	53:3:393:A:C8	2.41	0.56
53:3:1366:C:H2'	53:3:1367:C:H6	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1432:G:H1'	53:3:1468:A:H62	1.69	0.56
54:1:1823:G:O2'	54:1:1824:G:H5'	2.06	0.56
54:1:1954:G:N2	54:1:1956:U:H3	2.03	0.56
54:1:2247:A:H2'	54:1:2248:C:C6	2.40	0.56
11:l:72:ALA:C	11:l:73:ILE:HD12	2.31	0.56
12:m:97:GLN:O	12:m:100:LYS:HG3	2.06	0.56
14:o:3:LYS:NZ	55:2:46:A:H5''	2.20	0.56
18:s:11:ARG:N	18:s:11:ARG:HD2	2.21	0.56
18:s:26:GLY:N	18:s:71:VAL:O	2.38	0.56
24:y:17:GLU:OE1	24:y:53:VAL:HB	2.06	0.56
32:G:81:ASP:O	32:G:85:SER:HB3	2.06	0.56
37:L:41:ILE:HD11	37:L:116:ALA:N	2.20	0.56
39:N:44:ARG:HD3	39:N:44:ARG:N	2.21	0.56
43:R:106:ARG:HA	43:R:109:LYS:HB3	1.87	0.56
50:Y:53:MET:HE3	50:Y:78:LEU:HG	1.87	0.56
53:3:629:A:H2'	53:3:630:A:O4'	2.06	0.56
53:3:803:G:H2'	53:3:804:U:O4'	2.06	0.56
53:3:1259:C:H3'	53:3:1260:G:C5'	2.34	0.56
53:3:1306:A:H2'	53:3:1307:U:H6	1.70	0.56
54:1:446:G:H4'	54:1:449:A:N3	2.21	0.56
54:1:1009:A:H2	54:1:1154:G:H4'	1.70	0.56
54:1:1469:A:H2'	54:1:1470:A:H8	1.70	0.56
54:1:2418:A:H2'	54:1:2419:U:H5'	1.87	0.56
59:8:666:TYR:CE2	59:8:670:LEU:HD12	2.41	0.56
10:k:121:GLU:CD	10:k:122:VAL:HG23	2.31	0.56
26:A:53:THR:HB	49:X:24:SER:HB3	1.88	0.56
34:I:97:LEU:O	34:I:97:LEU:HD23	2.05	0.56
42:Q:73:LEU:HD12	42:Q:73:LEU:N	2.21	0.56
43:R:18:LEU:HB2	43:R:29:SER:HB2	1.87	0.56
46:U:19:VAL:HG22	46:U:36:VAL:CG1	2.36	0.56
49:X:4:LEU:CD1	49:X:5:LYS:H	2.16	0.56
53:3:179:A:H61	53:3:196:A:H62	1.54	0.56
53:3:219:U:H2'	53:3:220:G:H8	1.69	0.56
53:3:1218:C:H2'	53:3:1219:A:C8	2.39	0.56
54:1:833:A:H2'	54:1:834:G:C8	2.41	0.56
54:1:1417:C:H4'	54:1:1587:G:H21	1.69	0.56
59:8:446:ARG:HD2	59:8:446:ARG:N	2.21	0.56
2:c:12:THR:CG2	15:p:4:ILE:HG23	2.36	0.56
2:c:101:PHE:HD1	2:c:104:VAL:HG11	1.71	0.56
19:t:29:THR:OG1	19:t:86:THR:HG22	2.05	0.56
19:t:31:VAL:HG22	19:t:84:TYR:CE1	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:t:76:ARG:HH11	19:t:76:ARG:CB	2.19	0.56
21:v:21:ARG:HG2	21:v:21:ARG:O	2.06	0.56
25:z:15:ARG:HG2	25:z:15:ARG:HH11	1.71	0.56
32:G:187:ASP:OD2	32:G:203:ASP:HB3	2.06	0.56
37:L:135:LYS:HA	37:L:138:GLU:CG	2.36	0.56
38:M:12:ARG:HG2	53:3:826:C:H4'	1.87	0.56
39:N:70:GLY:HA3	53:3:1371:G:O3'	2.06	0.56
43:R:3:ILE:C	43:R:5:GLY:H	2.13	0.56
53:3:597:G:H2'	53:3:598:U:H5'	1.88	0.56
53:3:855:U:H2'	53:3:856:C:H6	1.69	0.56
53:3:1093:A:H2'	53:3:1094:G:H5'	1.86	0.56
54:1:173:A:H2'	54:1:174:U:C6	2.41	0.56
54:1:503:A:H4'	54:1:505:A:H5''	1.88	0.56
54:1:528:A:N1	54:1:2042:A:H2'	2.21	0.56
54:1:825:A:H2'	54:1:826:U:C6	2.41	0.56
54:1:1471:G:H2'	54:1:1472:C:C6	2.40	0.56
54:1:1775:U:H2'	54:1:1776:G:O4'	2.06	0.56
54:1:2061:G:H22	60:1:3001:FME:HCN	1.71	0.56
54:1:2638:G:H1'	54:1:2778:A:H61	1.71	0.56
54:1:2707:U:H2'	54:1:2708:G:C8	2.41	0.56
55:2:30:C:C2'	55:2:31:C:H5'	2.35	0.56
59:8:670:LEU:C	59:8:670:LEU:HD23	2.30	0.56
1:b:52:HIS:CE1	1:b:218:THR:HG23	2.40	0.56
9:j:17:VAL:CG2	9:j:137:PRO:HB2	2.35	0.56
32:G:143:LEU:HD22	32:G:147:LEU:HD12	1.87	0.56
33:H:4:VAL:HG23	53:3:1190:G:H5''	1.87	0.56
33:H:185:THR:OG1	33:H:198:LYS:HG2	2.06	0.56
34:I:170:LEU:HD23	34:I:170:LEU:H	1.71	0.56
41:P:121:ARG:HD2	53:3:778:G:H21	1.70	0.56
43:R:97:ARG:CA	53:3:1308:U:H6	2.17	0.56
52:a:20:GLN:HG3	52:a:211:LYS:HD2	1.88	0.56
52:a:42:VAL:HG23	52:a:176:GLY:O	2.06	0.56
53:3:764:C:H2'	53:3:765:G:O4'	2.05	0.56
53:3:821:G:H2'	53:3:822:U:C6	2.41	0.56
53:3:852:G:H2'	53:3:853:C:H6	1.69	0.56
53:3:1057:G:H2'	53:3:1058:G:O4'	2.06	0.56
53:3:1158:C:C6	53:3:1160:G:H1'	2.40	0.56
53:3:1288:A:O2'	53:3:1353:G:H5'	2.06	0.56
54:1:722:A:H2'	54:1:723:C:C6	2.41	0.56
54:1:1378:A:H1'	54:1:1379:U:C6	2.41	0.56
54:1:1484:U:H2'	54:1:1485:U:C6	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:119:A:N6	55:2:120:A:N3	2.54	0.56
59:8:245:GLU:CD	59:8:245:GLU:H	2.13	0.56
59:8:364:VAL:HG22	59:8:365:GLN:N	2.21	0.56
59:8:471:ASP:HA	59:8:474:LYS:HB2	1.86	0.56
5:f:60:GLY:O	5:f:64:ALA:N	2.36	0.56
5:f:70:LEU:HD11	54:1:2758:A:H2	1.71	0.56
7:h:56:ARG:HD2	54:1:1084:A:C2	2.40	0.56
9:j:27:ARG:HH22	54:1:1142:A:H4'	1.70	0.56
12:m:35:ALA:HA	12:m:128:THR:HG22	1.87	0.56
12:m:42:THR:HG22	12:m:45:GLN:NE2	2.21	0.56
18:s:40:ASN:O	18:s:41:LYS:HG2	2.05	0.56
19:t:43:ILE:O	19:t:47:VAL:HG23	2.06	0.56
32:G:67:LEU:HD23	32:G:89:PHE:HB2	1.86	0.56
33:H:171:ARG:HB3	33:H:173:PRO:HD3	1.88	0.56
35:J:21:SER:HA	35:J:30:PHE:HA	1.88	0.56
41:P:93:GLU:O	41:P:96:ILE:HG12	2.06	0.56
53:3:1523:G:H2'	53:3:1524:C:H6	1.71	0.56
54:1:759:G:H2'	54:1:760:G:C8	2.41	0.56
54:1:1434:A:H2'	54:1:1435:G:H8	1.71	0.56
54:1:2318:G:H2'	54:1:2319:G:O4'	2.05	0.56
59:8:61:ILE:HA	62:8:801:GCP:O1G	2.06	0.56
59:8:97:ILE:HD13	59:8:444:SER:HB2	1.86	0.56
59:8:545:ILE:HG23	59:8:545:ILE:O	2.05	0.56
7:h:39:THR:O	7:h:43:LYS:N	2.39	0.56
11:l:79:LEU:HD22	11:l:135:ILE:HD11	1.86	0.56
22:w:64:LYS:HB2	22:w:79:GLU:OE1	2.06	0.56
25:z:36:GLU:H	25:z:36:GLU:CD	2.14	0.56
32:G:164:ASP:O	32:G:168:GLU:HB2	2.06	0.56
32:G:187:ASP:HB3	32:G:189:ASN:OD1	2.05	0.56
35:J:31:SER:HB3	35:J:53:ARG:HD3	1.88	0.56
39:N:17:ARG:HE	39:N:65:THR:CB	2.19	0.56
41:P:109:ILE:N	41:P:109:ILE:HD12	2.21	0.56
50:Y:48:LYS:O	50:Y:52:GLU:HG2	2.06	0.56
52:a:6:LYS:O	52:a:10:VAL:HG23	2.06	0.56
53:3:129:A:H1'	53:3:130:A:C8	2.41	0.56
53:3:1164:G:N2	53:3:1165:U:H3	1.98	0.56
54:1:679:C:H2'	54:1:680:C:H6	1.71	0.56
54:1:1386:C:H2'	54:1:1387:A:H8	1.70	0.56
54:1:2543:G:H2'	54:1:2544:G:H8	1.69	0.56
55:2:4:C:H2'	55:2:5:U:O4'	2.06	0.56
59:8:101:ARG:O	59:8:105:VAL:HG23	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:125:TRP:CD2	2:c:160:LYS:HD3	2.41	0.55
4:e:105:ILE:HB	26:A:34:LEU:HD13	1.87	0.55
16:q:100:PHE:HB2	17:r:13:ARG:HH12	1.71	0.55
20:u:13:LEU:HD13	20:u:68:ASN:O	2.06	0.55
33:H:175:HIS:ND1	53:3:1108:G:H5'	2.21	0.55
35:J:152:VAL:HG21	38:M:98:LEU:HD11	1.87	0.55
39:N:80:HIS:HE1	39:N:84:ARG:HD3	1.71	0.55
42:Q:58:ASN:ND2	42:Q:60:PHE:CD2	2.73	0.55
43:R:97:ARG:H	53:3:1308:U:P	2.30	0.55
44:S:26:LEU:HD12	44:S:26:LEU:H	1.71	0.55
47:V:59:GLU:C	47:V:60:ILE:HD12	2.31	0.55
50:Y:4:LYS:HG3	53:3:332:G:OP1	2.06	0.55
52:a:45:ALA:O	52:a:213:SER:N	2.40	0.55
53:3:231:U:H2'	53:3:232:G:H8	1.70	0.55
53:3:484:G:H4'	53:3:485:U:O5'	2.05	0.55
53:3:608:A:H3'	53:3:609:A:C8	2.38	0.55
53:3:1269:A:C4'	53:3:1326:U:H4'	2.36	0.55
54:1:1026:G:H2'	54:1:1027:A:H8	1.68	0.55
54:1:1599:U:H2'	54:1:1600:C:C6	2.41	0.55
54:1:1715:G:H22	54:1:1743:G:H2'	1.72	0.55
54:1:1919:A:H2'	54:1:1920:C:H5'	1.88	0.55
54:1:2493:U:C3'	54:1:2494:G:H5''	2.36	0.55
54:1:2850:A:H2'	54:1:2851:A:C8	2.41	0.55
59:8:400:PRO:O	59:8:401:ASP:HB2	2.05	0.55
8:i:55:PRO:HD3	8:i:74:PRO:HD3	1.89	0.55
16:q:17:LEU:O	16:q:20:ALA:N	2.38	0.55
17:r:11:GLN:NE2	17:r:11:GLN:N	2.54	0.55
18:s:11:ARG:HD2	18:s:11:ARG:H	1.72	0.55
19:t:93:LEU:OXT	19:t:93:LEU:HD23	2.06	0.55
20:u:48:VAL:CG1	20:u:52:ASN:HB2	2.36	0.55
25:z:29:ARG:HE	54:1:1183:U:H5''	1.70	0.55
33:H:3:LYS:HD2	33:H:3:LYS:N	2.21	0.55
35:J:81:GLN:HG3	35:J:147:ASN:O	2.05	0.55
37:L:68:VAL:O	37:L:70:PRO:HD3	2.06	0.55
42:Q:73:LEU:HD12	42:Q:73:LEU:H	1.71	0.55
45:T:55:LEU:HD11	54:1:715:A:H2	1.72	0.55
53:3:868:C:H2'	53:3:869:G:O4'	2.05	0.55
53:3:955:U:H3	53:3:1225:A:N6	2.01	0.55
53:3:1125:U:O4	53:3:1280:A:N7	2.40	0.55
54:1:474:G:O2'	54:1:475:C:H5''	2.06	0.55
54:1:1396:U:H5''	54:1:1397:U:OP2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2220:U:H2'	54:1:2221:G:H8	1.72	0.55
59:8:416:ILE:HD12	59:8:665:GLY:HA2	1.88	0.55
1:b:29:PHE:HE2	1:b:32:LEU:HD23	1.72	0.55
1:b:144:GLU:HB2	1:b:187:CYS:HB3	1.88	0.55
13:n:10:LEU:HD12	13:n:17:ARG:HD2	1.86	0.55
19:t:62:VAL:HG12	19:t:63:VAL:H	1.71	0.55
30:E:37:THR:O	30:E:41:ARG:N	2.38	0.55
32:G:159:ALA:C	32:G:160:LEU:HD12	2.31	0.55
33:H:185:THR:CG2	33:H:198:LYS:HG2	2.37	0.55
37:L:114:SER:HA	53:3:1240:U:OP1	2.07	0.55
53:3:544:G:H2'	53:3:545:C:H6	1.71	0.55
53:3:821:G:H2'	53:3:822:U:H6	1.70	0.55
54:1:1000:A:H2'	54:1:1001:A:C8	2.41	0.55
54:1:1179:G:H3'	54:1:1180:U:H4'	1.87	0.55
59:8:104:ARG:HH11	59:8:104:ARG:HG3	1.71	0.55
15:p:20:ARG:HB3	15:p:21:PRO:HD2	1.87	0.55
19:t:61:LEU:N	19:t:61:LEU:HD23	2.22	0.55
32:G:112:ARG:HG2	32:G:112:ARG:HH11	1.72	0.55
37:L:73:GLU:HG3	37:L:74:VAL:N	2.20	0.55
53:3:691:G:H1'	53:3:696:A:N6	2.22	0.55
53:3:1372:U:H2'	53:3:1373:G:H5'	1.88	0.55
54:1:796:C:H2'	54:1:797:G:C8	2.40	0.55
54:1:1806:C:H2'	54:1:1807:G:O4'	2.06	0.55
54:1:2457:U:O2'	54:1:2458:G:H5'	2.06	0.55
59:8:29:ARG:HA	59:8:29:ARG:HE	1.72	0.55
59:8:450:ASP:HB3	59:8:453:SER:OG	2.07	0.55
1:b:121:ALA:HB1	1:b:127:ASN:HD22	1.71	0.55
4:e:39:VAL:O	4:e:41:GLU:HG3	2.06	0.55
20:u:57:ILE:N	20:u:57:ILE:HD12	2.21	0.55
22:w:33:ILE:HG22	22:w:34:VAL:HG23	1.87	0.55
22:w:42:HIS:HB3	22:w:75:PHE:CE1	2.42	0.55
32:G:69:VAL:HA	32:G:91:VAL:CG2	2.36	0.55
36:K:2:ARG:HG2	36:K:2:ARG:HH11	1.71	0.55
38:M:12:ARG:HH12	38:M:27:PRO:HD3	1.72	0.55
40:O:65:TYR:HA	44:S:98:ALA:H	1.71	0.55
42:Q:48:LEU:HD22	53:3:520:A:OP1	2.06	0.55
42:Q:67:GLY:N	42:Q:98:ARG:HE	2.03	0.55
43:R:100:ARG:NH2	43:R:102:LYS:HB2	2.19	0.55
47:V:10:ARG:HG2	47:V:10:ARG:HH11	1.71	0.55
53:3:920:U:H4'	53:3:1080:A:N1	2.22	0.55
53:3:1114:C:H1'	53:3:1115:U:O4	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1381:U:C2'	53:3:1382:C:H5'	2.36	0.55
53:3:1500:A:H5''	53:3:1508:A:H5''	1.87	0.55
54:1:851:C:H2'	54:1:852:U:C6	2.41	0.55
54:1:1087:G:O2'	54:1:1089:A:H5'	2.07	0.55
54:1:1589:U:H2'	54:1:1590:A:C8	2.42	0.55
54:1:1645:G:H5''	54:1:1646:C:H5'	1.88	0.55
1:b:23:LEU:CD1	1:b:82:TYR:HB2	2.32	0.55
1:b:140:VAL:HG22	1:b:141:HIS:N	2.21	0.55
1:b:243:PRO:O	1:b:250:GLN:OE1	2.25	0.55
2:c:133:THR:HG23	2:c:134:HIS:CD2	2.42	0.55
6:g:26:ALA:HA	6:g:30:LEU:HB2	1.89	0.55
9:j:36:LEU:CD2	9:j:54:ILE:HD12	2.35	0.55
10:k:99:ILE:HG22	10:k:100:PHE:H	1.72	0.55
21:v:26:PHE:CE1	21:v:42:LEU:HG	2.42	0.55
35:J:45:VAL:CG1	35:J:71:ILE:HB	2.36	0.55
37:L:49:LEU:HD22	37:L:123:LEU:CD1	2.37	0.55
41:P:118:ASN:ND2	53:3:717:U:H4'	2.05	0.55
43:R:96:VAL:HG23	53:3:1308:U:C1'	2.37	0.55
44:S:68:ARG:HH21	44:S:80:ARG:HH22	1.54	0.55
47:V:15:LYS:O	53:3:275:G:H4'	2.07	0.55
51:Z:39:LYS:HB2	51:Z:40:PRO:HD3	1.88	0.55
53:3:669:G:H2'	53:3:670:G:H8	1.70	0.55
54:1:92:U:C2'	54:1:93:G:H5'	2.37	0.55
54:1:1810:A:H2'	54:1:1811:G:O4'	2.06	0.55
54:1:2391:G:H5''	54:1:2392:A:OP1	2.07	0.55
54:1:2649:C:H2'	54:1:2650:U:H6	1.72	0.55
54:1:2698:U:H2'	54:1:2699:C:C6	2.42	0.55
54:1:2741:A:H2'	54:1:2742:G:O4'	2.07	0.55
5:f:51:PHE:HZ	5:f:71:LEU:HD13	1.71	0.55
5:f:93:TYR:HD1	5:f:106:LEU:HA	1.72	0.55
8:i:4:VAL:HG21	54:1:1098:A:H4'	1.89	0.55
35:J:15:ILE:HD12	35:J:15:ILE:N	2.22	0.55
37:L:24:LYS:HG2	37:L:28:ILE:HG13	1.88	0.55
39:N:48:ARG:O	39:N:52:GLU:N	2.40	0.55
39:N:119:LYS:HD3	39:N:120:ALA:CB	2.37	0.55
40:O:7:ARG:HD3	40:O:75:ASP:HB2	1.87	0.55
40:O:45:ARG:HA	40:O:45:ARG:CZ	2.36	0.55
41:P:118:ASN:HD22	53:3:717:U:C4'	2.07	0.55
43:R:6:ILE:HG12	43:R:6:ILE:O	2.06	0.55
43:R:72:ILE:O	43:R:76:ILE:HG13	2.06	0.55
45:T:53:ARG:HH21	53:3:579:A:H4'	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:50:VAL:O	49:X:57:VAL:HG12	2.06	0.55
50:Y:50:PHE:O	50:Y:53:MET:HG3	2.06	0.55
50:Y:73:ARG:NH1	53:3:263:A:OP2	2.40	0.55
53:3:946:A:H2'	53:3:947:G:H8	1.71	0.55
53:3:1251:A:H2'	53:3:1252:A:O4'	2.07	0.55
54:1:282:A:H2'	54:1:283:G:H8	1.70	0.55
54:1:566:U:O2'	54:1:567:U:H5'	2.07	0.55
54:1:879:G:H2'	54:1:880:G:O4'	2.07	0.55
54:1:2604:U:O2'	54:1:2605:U:H5'	2.07	0.55
6:g:122:LEU:HD22	6:g:128:HIS:ND1	2.22	0.55
11:l:93:ASN:O	11:l:94:THR:HB	2.06	0.55
21:v:16:ALA:O	21:v:19:ARG:HG2	2.06	0.55
26:A:2:LYS:HB2	26:A:5:ILE:CD1	2.35	0.55
33:H:151:GLU:HB3	33:H:198:LYS:H	1.72	0.55
38:M:94:VAL:HG12	38:M:95:MET:SD	2.47	0.55
41:P:115:ILE:HD12	41:P:115:ILE:H	1.71	0.55
53:3:1086:U:H2'	53:3:1087:G:C8	2.41	0.55
54:1:371:A:N6	54:1:401:A:H3'	2.21	0.55
54:1:849:A:H2'	54:1:850:U:C6	2.42	0.55
54:1:1013:C:H2'	54:1:1014:A:H8	1.72	0.55
54:1:1190:G:H2'	54:1:1191:G:H8	1.72	0.55
54:1:2649:C:H2'	54:1:2650:U:C6	2.42	0.55
59:8:494:ILE:HD11	59:8:524:PRO:N	2.21	0.55
59:8:545:ILE:HG21	59:8:550:ILE:HD11	1.87	0.55
3:d:14:VAL:HG23	3:d:14:VAL:O	2.07	0.55
4:e:67:THR:N	4:e:85:GLY:O	2.31	0.55
5:f:174:LYS:HD2	5:f:175:LYS:HE2	1.88	0.55
23:x:12:VAL:CG2	23:x:28:PHE:HB2	2.37	0.55
23:x:32:LEU:HD23	23:x:33:HIS:N	2.22	0.55
32:G:169:HIS:ND1	32:G:170:ILE:HG13	2.22	0.55
35:J:12:GLU:O	35:J:13:LYS:HB3	2.07	0.55
37:L:73:GLU:O	37:L:88:VAL:N	2.39	0.55
45:T:6:ALA:O	45:T:10:ILE:HG13	2.07	0.55
50:Y:47:GLN:O	50:Y:51:ASN:ND2	2.39	0.55
50:Y:72:ALA:CB	53:3:186:C:H5'	2.35	0.55
53:3:491:G:O2'	53:3:492:C:H5'	2.05	0.55
53:3:991:U:C4	53:3:1212:U:H4'	2.42	0.55
54:1:1269:A:H2'	54:1:1270:C:C6	2.42	0.55
54:1:1825:U:H2'	54:1:1826:G:C8	2.41	0.55
54:1:2230:G:H2'	54:1:2231:U:H6	1.70	0.55
54:1:2407:A:H2'	54:1:2408:U:C6	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2493:U:H2'	54:1:2494:G:C5'	2.37	0.55
3:d:14:VAL:HB	3:d:19:PHE:CD2	2.42	0.55
6:g:1:MET:N	6:g:21:VAL:O	2.40	0.55
10:k:61:VAL:HB	10:k:87:LEU:HD11	1.88	0.55
14:o:43:ASN:HD21	14:o:46:GLU:CD	2.15	0.55
33:H:87:ARG:HG2	33:H:87:ARG:HH11	1.70	0.55
39:N:27:ILE:N	39:N:27:ILE:HD12	2.22	0.55
53:3:77:A:H2'	53:3:78:A:H8	1.72	0.55
53:3:110:C:H2'	53:3:111:G:O4'	2.07	0.55
53:3:665:A:O4'	53:3:733:G:H1'	2.07	0.55
53:3:837:U:H2'	53:3:838:G:H8	1.72	0.55
53:3:1237:C:H4'	53:3:1300:G:H22	1.72	0.55
53:3:1522:U:H2'	53:3:1523:G:H8	1.71	0.55
54:1:184:C:H2'	54:1:185:G:H8	1.72	0.55
54:1:2026:U:H2'	54:1:2027:G:C8	2.42	0.55
12:m:76:LYS:HD2	12:m:87:GLY:HA2	1.89	0.54
41:P:107:THR:HG22	51:Z:6:ARG:HD2	1.89	0.54
51:Z:23:GLU:HG2	51:Z:27:VAL:HG11	1.88	0.54
54:1:287:G:H2'	54:1:288:U:C6	2.42	0.54
54:1:974:G:H1'	54:1:975:A:C8	2.42	0.54
54:1:1609:A:H1'	54:1:1616:A:H1'	1.90	0.54
54:1:2089:C:H2'	54:1:2090:A:H8	1.71	0.54
59:8:31:LEU:O	59:8:35:GLY:N	2.37	0.54
59:8:113:TYR:HE1	59:8:123:SER:HG	1.53	0.54
59:8:298:ILE:HA	59:8:306:PRO:HG3	1.88	0.54
6:g:96:THR:HB	6:g:112:LYS:HG3	1.87	0.54
11:l:37:GLY:O	11:l:41:ARG:NH2	2.40	0.54
15:p:38:ARG:NH2	15:p:40:GLN:HB3	2.22	0.54
24:y:16:THR:O	24:y:20:ASN:N	2.35	0.54
34:I:169:TRP:NE1	34:I:170:LEU:HD22	2.22	0.54
38:M:85:TYR:C	38:M:86:LYS:HD2	2.32	0.54
53:3:287:U:O2'	53:3:288:A:H5'	2.07	0.54
53:3:684:U:H2'	53:3:685:G:O4'	2.07	0.54
53:3:1079:G:H2'	53:3:1080:A:C5'	2.36	0.54
53:3:1086:U:H2'	53:3:1087:G:H8	1.72	0.54
53:3:1383:C:HO2'	53:3:1384:C:H6	1.54	0.54
54:1:1565:C:O2'	54:1:1566:A:H2'	2.06	0.54
54:1:1664:A:H61	54:1:1996:C:H42	1.53	0.54
54:1:2888:C:H2'	54:1:2889:C:H6	1.72	0.54
54:1:2898:U:H2'	54:1:2899:A:C8	2.42	0.54
55:2:19:C:H2'	55:2:20:G:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:5:27:A:H2'	56:5:28:C:H5'	1.89	0.54
59:8:539:ASP:HB3	59:8:578:LEU:O	2.07	0.54
2:c:125:TRP:HB2	2:c:127:PHE:CD1	2.43	0.54
3:d:124:PHE:CE1	3:d:137:LYS:HE2	2.42	0.54
5:f:100:ASN:O	5:f:116:LEU:HB3	2.07	0.54
26:A:63:ARG:HH12	49:X:16:LYS:HG3	1.72	0.54
30:E:54:LEU:HG	30:E:58:ILE:HD11	1.89	0.54
32:G:31:PHE:O	32:G:38:HIS:HA	2.07	0.54
33:H:89:VAL:HG13	33:H:90:VAL:N	2.22	0.54
38:M:104:SER:HB3	38:M:123:GLU:CG	2.34	0.54
39:N:29:ILE:HG21	39:N:37:TYR:CD2	2.42	0.54
40:O:37:ARG:HB3	53:3:1124:G:OP2	2.08	0.54
42:Q:29:LYS:HG3	42:Q:30:ARG:N	2.23	0.54
46:U:37:GLY:HA2	46:U:51:ARG:CZ	2.37	0.54
53:3:105:G:H21	53:3:380:G:H5'	1.71	0.54
53:3:632:U:H3'	53:3:633:G:H5'	1.90	0.54
53:3:765:G:N2	53:3:813:U:H5	2.05	0.54
53:3:1306:A:H2'	53:3:1307:U:C6	2.43	0.54
54:1:666:A:H2'	54:1:667:U:C6	2.43	0.54
54:1:1482:G:H1'	54:1:1509:A:C2	2.42	0.54
54:1:1682:G:H2'	54:1:1683:U:C6	2.42	0.54
54:1:1760:C:H2'	54:1:1761:C:H5'	1.89	0.54
54:1:2241:A:H2'	54:1:2242:G:C8	2.42	0.54
59:8:18:HIS:CD2	59:8:19:ILE:HG22	2.43	0.54
59:8:158:ILE:HD11	59:8:162:LEU:HD13	1.89	0.54
59:8:646:GLU:O	59:8:652:VAL:HG13	2.08	0.54
59:8:691:PRO:HG2	59:8:694:VAL:CG2	2.37	0.54
1:b:216:ARG:HH11	1:b:216:ARG:HG2	1.73	0.54
19:t:3:ARG:HH11	19:t:3:ARG:HG3	1.72	0.54
20:u:18:LYS:HD2	54:1:310:A:OP1	2.07	0.54
20:u:40:LEU:HD23	20:u:40:LEU:H	1.73	0.54
28:C:4:ILE:H	28:C:4:ILE:CD1	2.19	0.54
53:3:162:A:H2'	53:3:163:C:H5'	1.88	0.54
53:3:373:A:H61	53:3:391:G:H1'	1.70	0.54
53:3:735:C:H2'	53:3:736:C:H6	1.72	0.54
54:1:813:U:H2'	54:1:814:C:H6	1.72	0.54
54:1:1170:C:H2'	54:1:1171:G:N7	2.22	0.54
54:1:1727:C:H2'	54:1:1728:C:O4'	2.07	0.54
2:c:38:LYS:HD2	2:c:43:ASP:OD2	2.08	0.54
4:e:59:ILE:O	4:e:101:ARG:NH1	2.41	0.54
7:h:17:GLU:O	7:h:21:GLY:HA3	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:14:ASP:HB2	37:L:17:PHE:O	2.08	0.54
39:N:60:LEU:HD23	39:N:60:LEU:H	1.71	0.54
48:W:28:LEU:HD11	48:W:58:ILE:HD13	1.89	0.54
52:a:45:ALA:HB3	52:a:213:SER:HB2	1.89	0.54
54:1:1594:U:H2'	54:1:1595:C:C6	2.42	0.54
54:1:1735:A:H2'	54:1:1736:U:O4'	2.08	0.54
54:1:2834:G:H2'	54:1:2879:A:N6	2.22	0.54
56:5:11:C:H2'	56:5:12:G:C8	2.42	0.54
59:8:309:ARG:CD	59:8:339:TYR:HB3	2.27	0.54
1:b:68:ARG:HG2	1:b:68:ARG:HH11	1.73	0.54
4:e:28:PRO:HG2	4:e:168:LEU:HD13	1.89	0.54
6:g:115:VAL:HG13	6:g:132:PHE:CD1	2.42	0.54
11:l:133:ALA:O	11:l:137:ALA:N	2.41	0.54
32:G:168:GLU:O	32:G:171:ALA:HB3	2.08	0.54
43:R:90:HIS:CE1	53:3:1308:U:H1'	2.43	0.54
45:T:55:LEU:HD11	54:1:715:A:C2	2.43	0.54
53:3:580:C:H2'	53:3:581:G:O4'	2.08	0.54
53:3:674:G:H2'	53:3:675:A:H8	1.73	0.54
54:1:1548:A:H2'	54:1:1549:A:H8	1.72	0.54
54:1:2180:U:H2'	54:1:2180:U:O2	2.06	0.54
54:1:2813:A:H2'	54:1:2814:A:H8	1.72	0.54
54:1:2888:C:H2'	54:1:2889:C:C6	2.42	0.54
59:8:18:HIS:HD2	59:8:19:ILE:HG22	1.73	0.54
59:8:144:MET:HE3	59:8:149:ALA:HB1	1.90	0.54
59:8:445:PHE:C	59:8:446:ARG:HD2	2.32	0.54
59:8:495:ARG:HD2	59:8:609:LYS:HZ1	1.73	0.54
1:b:176:ARG:HH11	1:b:176:ARG:HG3	1.73	0.54
4:e:133:GLU:HB3	4:e:135:ILE:HG12	1.90	0.54
11:l:82:LEU:HD11	11:l:90:VAL:HG21	1.90	0.54
15:p:26:GLU:HG2	15:p:43:GLU:HB2	1.89	0.54
33:H:27:GLU:HA	33:H:30:ASP:OD2	2.07	0.54
35:J:151:MET:O	35:J:155:LYS:N	2.41	0.54
42:Q:112:ALA:HB2	53:3:503:C:OP2	2.07	0.54
42:Q:113:ARG:NE	42:Q:120:ARG:HA	2.23	0.54
52:a:42:VAL:HG22	52:a:216:THR:CG2	2.34	0.54
53:3:219:U:H2'	53:3:220:G:C8	2.42	0.54
53:3:1162:C:O2'	53:3:1163:A:H5'	2.07	0.54
54:1:843:G:H2'	54:1:844:A:H8	1.72	0.54
54:1:1507:C:H2'	54:1:1508:A:O4'	2.06	0.54
54:1:1791:A:C2	54:1:1829:A:H4'	2.42	0.54
54:1:2208:C:H2'	54:1:2209:G:H8	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2220:U:H2'	54:1:2221:G:C8	2.42	0.54
56:5:26:A:H62	56:5:44:G:H1	1.51	0.54
59:8:95:PHE:O	59:8:99:VAL:HG23	2.07	0.54
59:8:184:ASP:HB2	59:8:189:LYS:HE3	1.90	0.54
59:8:289:PRO:HB3	59:8:337:ARG:HH22	1.72	0.54
59:8:349:VAL:HG21	59:8:360:PHE:CE1	2.41	0.54
59:8:566:LEU:HD23	59:8:566:LEU:O	2.08	0.54
6:g:121:VAL:HG22	6:g:123:ARG:HE	1.73	0.54
12:m:18:ARG:HG3	12:m:18:ARG:HH21	1.72	0.54
33:H:98:ALA:O	33:H:100:ILE:HG13	2.08	0.54
36:K:18:VAL:CG1	36:K:19:PRO:HD3	2.38	0.54
37:L:104:VAL:O	37:L:108:ARG:HG2	2.08	0.54
41:P:95:THR:O	41:P:99:LEU:N	2.41	0.54
50:Y:17:ARG:HA	50:Y:20:ASN:HB2	1.89	0.54
50:Y:70:LYS:HG3	50:Y:73:ARG:HH21	1.72	0.54
52:a:36:ALA:HB1	52:a:38:PHE:CD1	2.43	0.54
53:3:991:U:H3	53:3:1213:A:H8	1.56	0.54
53:3:1105:A:H2'	53:3:1106:G:H8	1.72	0.54
53:3:1530:G:H2'	53:3:1531:A:C8	2.42	0.54
54:1:542:C:H2'	54:1:543:G:H5'	1.90	0.54
54:1:1301:A:H2'	54:1:1301:A:N3	2.23	0.54
54:1:1891:G:H2'	54:1:1892:C:C6	2.43	0.54
54:1:2108:A:C2'	54:1:2109:U:H5'	2.38	0.54
54:1:2267:A:H5''	54:1:2268:A:H5'	1.90	0.54
59:8:75:MET:HB3	59:8:79:TYR:HB2	1.88	0.54
59:8:424:THR:O	59:8:425:LYS:C	2.50	0.54
59:8:617:MET:SD	59:8:684:PHE:HA	2.47	0.54
2:c:8:LYS:HB2	2:c:201:LEU:HD11	1.90	0.54
4:e:129:MET:O	4:e:153:ILE:N	2.33	0.54
6:g:3:VAL:HG13	6:g:37:VAL:O	2.07	0.54
10:k:86:LEU:O	10:k:95:ILE:HG13	2.08	0.54
29:D:14:ARG:HH21	29:D:14:ARG:HG3	1.73	0.54
33:H:6:PRO:O	33:H:10:ARG:HD2	2.08	0.54
38:M:50:VAL:HB	38:M:58:LEU:HD12	1.90	0.54
39:N:5:TYR:CD2	39:N:20:ILE:HG23	2.41	0.54
39:N:119:LYS:HD3	39:N:120:ALA:N	2.22	0.54
42:Q:43:LYS:HB3	53:3:1492:A:OP1	2.07	0.54
47:V:18:LYS:HE3	47:V:46:HIS:CE1	2.43	0.54
47:V:61:ARG:O	47:V:73:THR:N	2.37	0.54
53:3:731:G:H2'	53:3:732:C:H6	1.73	0.54
54:1:401:A:H2'	54:1:402:A:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:539:G:H2'	54:1:540:C:H6	1.73	0.54
54:1:543:G:H5'	54:1:543:G:H8	1.72	0.54
54:1:598:U:H2'	54:1:599:A:H8	1.73	0.54
54:1:728:G:H3'	54:1:729:G:H5'	1.90	0.54
54:1:1095:A:H3'	54:1:1096:A:C8	2.43	0.54
54:1:1213:A:H62	54:1:1236:G:H1'	1.72	0.54
54:1:1916:A:H2'	54:1:1917:U:C6	2.43	0.54
54:1:2462:C:H2'	54:1:2463:C:C6	2.43	0.54
59:8:17:ALA:HB3	59:8:23:LYS:HE3	1.90	0.54
59:8:494:ILE:HG22	59:8:610:PRO:CG	2.32	0.54
59:8:540:ILE:HG13	59:8:545:ILE:CG2	2.38	0.54
7:h:3:LEU:H	7:h:3:LEU:CD2	2.21	0.54
32:G:55:GLU:O	32:G:59:ILE:HG12	2.08	0.54
33:H:174:LEU:HD11	33:H:200:TRP:CD2	2.43	0.54
37:L:136:LYS:O	37:L:140:VAL:HG23	2.07	0.54
44:S:80:ARG:HA	44:S:83:VAL:HG12	1.88	0.54
46:U:47:GLU:HG2	46:U:48:GLU:H	1.73	0.54
52:a:63:THR:HG21	52:a:192:LEU:HD13	1.89	0.54
53:3:67:C:H2'	53:3:68:G:C8	2.43	0.54
53:3:412:A:N1	53:3:414:A:H1'	2.22	0.54
53:3:493:A:C2'	53:3:494:G:H5'	2.38	0.54
53:3:882:C:O2'	53:3:883:C:H5'	2.07	0.54
54:1:153:U:H2'	54:1:154:U:C6	2.43	0.54
54:1:580:U:H2'	54:1:581:C:H6	1.72	0.54
54:1:884:U:H3	54:1:892:A:H61	1.55	0.54
54:1:1794:A:H2'	54:1:1795:C:C6	2.42	0.54
54:1:2039:U:H2'	54:1:2040:G:C8	2.43	0.54
54:1:2895:G:H2'	54:1:2896:C:C6	2.42	0.54
59:8:312:SER:HB2	59:8:315:GLU:HG2	1.90	0.54
59:8:381:ASP:CG	59:8:382:ILE:H	2.16	0.54
4:e:141:ASP:O	4:e:142:TYR:HB3	2.07	0.53
19:t:61:LEU:HD13	54:1:1341:G:H5'	1.88	0.53
21:v:20:LEU:HD23	21:v:20:LEU:C	2.33	0.53
25:z:30:ARG:HD3	25:z:30:ARG:N	2.24	0.53
34:I:27:ILE:N	34:I:27:ILE:HD12	2.23	0.53
34:I:47:LEU:HB3	34:I:52:VAL:HG13	1.90	0.53
39:N:29:ILE:CD1	39:N:66:VAL:HG12	2.38	0.53
43:R:91:ARG:NH1	43:R:91:ARG:HB2	2.23	0.53
43:R:96:VAL:HG12	43:R:108:ARG:HG3	1.90	0.53
51:Z:23:GLU:O	51:Z:27:VAL:HG22	2.08	0.53
52:a:38:PHE:CE2	52:a:217:THR:HG21	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:915:A:H2'	53:3:916:U:H5'	1.91	0.53
54:1:1683:U:H2'	54:1:1684:G:H8	1.72	0.53
59:8:396:THR:HG21	59:8:405:ILE:O	2.08	0.53
2:c:13:ARG:HH11	15:p:55:HIS:HA	1.73	0.53
4:e:116:LEU:HD11	4:e:129:MET:SD	2.48	0.53
21:v:4:ILE:HD12	21:v:4:ILE:N	2.24	0.53
30:E:15:LYS:HZ1	30:E:19:GLY:HA2	1.73	0.53
32:G:68:PHE:O	32:G:91:VAL:HG22	2.08	0.53
33:H:59:PRO:HB3	40:O:94:ALA:HB2	1.89	0.53
35:J:161:GLU:OE2	35:J:164:LEU:HD21	2.08	0.53
40:O:42:LEU:CD1	40:O:71:LEU:HD22	2.38	0.53
47:V:17:GLU:OE2	53:3:255:G:H1'	2.09	0.53
50:Y:34:VAL:O	50:Y:38:ILE:HG13	2.07	0.53
53:3:133:U:H4'	53:3:325:A:O2'	2.08	0.53
53:3:492:C:H2'	53:3:493:A:C8	2.42	0.53
54:1:854:C:H2'	54:1:855:G:H8	1.73	0.53
54:1:2390:U:H2'	54:1:2391:G:H8	1.74	0.53
54:1:2529:G:OP2	54:1:2530:A:H5''	2.08	0.53
54:1:2704:C:H2'	54:1:2705:A:O4'	2.07	0.53
57:6:23:C:H2'	57:6:24:U:C6	2.43	0.53
59:8:544:VAL:HG21	59:8:580:PHE:HE1	1.73	0.53
2:c:207:VAL:HG21	54:1:2771:C:H4'	1.91	0.53
6:g:79:THR:CG2	6:g:147:VAL:HG13	2.39	0.53
10:k:24:VAL:HG13	10:k:33:ALA:HB2	1.91	0.53
18:s:8:ARG:HG2	18:s:102:HIS:CE1	2.43	0.53
20:u:3:LYS:C	20:u:4:ILE:HD12	2.33	0.53
38:M:80:PRO:HG2	53:3:878:A:H5''	1.89	0.53
53:3:162:A:C2'	53:3:163:C:H5'	2.38	0.53
53:3:1088:G:N2	53:3:1167:A:H61	1.96	0.53
53:3:1524:C:H2'	53:3:1525:G:C8	2.44	0.53
54:1:225:C:H2'	54:1:226:A:O4'	2.08	0.53
54:1:445:C:O2'	54:1:446:G:H5'	2.08	0.53
54:1:1979:U:O2'	54:1:1980:G:H5'	2.07	0.53
54:1:2377:A:H2'	54:1:2378:A:C8	2.42	0.53
2:c:182:ALA:HB3	2:c:183:GLU:OE2	2.09	0.53
3:d:131:THR:CG2	54:1:321:U:H5''	2.37	0.53
13:n:82:GLU:O	13:n:86:ARG:HB2	2.08	0.53
15:p:8:GLU:CG	15:p:54:LEU:HB2	2.39	0.53
17:r:32:THR:HB	17:r:62:GLU:OE2	2.08	0.53
32:G:19:THR:HG21	32:G:22:TRP:HA	1.90	0.53
35:J:24:VAL:HG21	35:J:29:ILE:HD12	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:17:ARG:HB2	39:N:65:THR:OG1	2.08	0.53
39:N:129:ARG:HH11	39:N:129:ARG:HG3	1.73	0.53
42:Q:110:LYS:NZ	42:Q:111:GLN:HG2	2.22	0.53
43:R:70:ARG:O	43:R:73:SER:HB2	2.07	0.53
47:V:4:ILE:HG22	47:V:5:ARG:N	2.23	0.53
50:Y:50:PHE:CD1	50:Y:78:LEU:HD12	2.44	0.53
53:3:208:U:H4'	53:3:209:U:C5	2.43	0.53
53:3:357:G:O2'	53:3:358:U:H5'	2.08	0.53
53:3:868:C:O2'	53:3:869:G:H5'	2.08	0.53
54:1:483:A:H2'	54:1:484:C:O4'	2.08	0.53
54:1:890:C:H2'	54:1:891:G:C5'	2.39	0.53
54:1:2493:U:H3'	54:1:2494:G:H5''	1.90	0.53
59:8:19:ILE:HG13	62:8:801:GCP:O2G	2.08	0.53
59:8:359:ARG:NH1	59:8:361:GLY:HA2	2.23	0.53
59:8:362:ARG:NH2	59:8:386:ILE:HG21	2.16	0.53
1:b:253:GLY:O	54:1:1844:C:H5'	2.09	0.53
3:d:117:ARG:HH12	11:l:2:ARG:HB2	1.73	0.53
29:D:3:ARG:NE	29:D:3:ARG:HA	2.24	0.53
32:G:143:LEU:O	32:G:148:GLY:N	2.40	0.53
34:I:90:LEU:HD23	34:I:93:LEU:HD12	1.90	0.53
35:J:55:VAL:HB	35:J:56:PRO:CD	2.39	0.53
38:M:40:LYS:HE2	38:M:47:ASP:HA	1.90	0.53
39:N:5:TYR:CD1	39:N:88:GLU:HG2	2.43	0.53
39:N:80:HIS:O	39:N:84:ARG:HG2	2.08	0.53
43:R:7:ASN:ND2	43:R:21:ILE:HA	2.23	0.53
50:Y:41:GLY:HA2	50:Y:85:LEU:CD2	2.39	0.53
53:3:714:G:H2'	53:3:715:A:C8	2.44	0.53
53:3:892:A:H2'	53:3:893:C:H6	1.73	0.53
53:3:922:G:H2'	53:3:923:A:C8	2.44	0.53
53:3:1239:A:O4'	53:3:1241:G:H1'	2.09	0.53
54:1:532:A:H4'	54:1:533:G:C8	2.43	0.53
54:1:1558:C:O4'	54:1:1560:G:C8	2.62	0.53
54:1:2487:G:H2'	54:1:2488:G:C8	2.43	0.53
59:8:18:HIS:CE1	59:8:121:PRO:HG2	2.43	0.53
59:8:93:VAL:HG22	59:8:94:ASP:N	2.24	0.53
59:8:176:GLU:OE2	59:8:177:GLU:HG3	2.07	0.53
1:b:32:LEU:HD11	1:b:101:ARG:NH2	2.23	0.53
4:e:139:GLU:HG2	4:e:140:ILE:HD12	1.91	0.53
5:f:102:ILE:HD12	5:f:102:ILE:N	2.24	0.53
9:j:65:THR:HG21	54:1:1141:U:C5'	2.39	0.53
25:z:4:ILE:HG23	25:z:37:ARG:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:124:GLU:HG2	33:H:190:THR:HG22	1.89	0.53
35:J:133:ILE:HD12	35:J:133:ILE:H	1.73	0.53
38:M:6:ILE:H	38:M:6:ILE:CD1	2.22	0.53
46:U:48:GLU:CG	46:U:49:GLY:H	2.20	0.53
49:X:33:TRP:HA	49:X:51:HIS:CB	2.36	0.53
51:Z:58:LYS:O	51:Z:61:ARG:HG2	2.08	0.53
52:a:23:ILE:CG1	52:a:224:VAL:HB	2.31	0.53
53:3:31:G:C8	53:3:306:A:H1'	2.44	0.53
53:3:212:G:H2'	53:3:213:G:O4'	2.08	0.53
53:3:571:U:O5'	53:3:571:U:H6	1.92	0.53
53:3:1013:G:H1'	53:3:1015:G:N7	2.24	0.53
54:1:639:U:H2'	54:1:640:C:C6	2.43	0.53
54:1:962:G:O2'	54:1:963:U:H5'	2.09	0.53
54:1:1923:U:H2'	54:1:1924:C:C6	2.44	0.53
58:4:15:A:H5'	58:4:16:A:OP2	2.09	0.53
1:b:86:ARG:HH22	1:b:155:ARG:HE	1.55	0.53
17:r:11:GLN:N	17:r:11:GLN:HE21	2.06	0.53
20:u:31:GLY:O	20:u:66:VAL:HG23	2.09	0.53
32:G:113:LEU:HB2	32:G:143:LEU:CD1	2.38	0.53
32:G:113:LEU:HB2	32:G:143:LEU:HD12	1.91	0.53
35:J:156:ARG:C	35:J:158:LYS:HD3	2.34	0.53
44:S:73:LEU:HD22	44:S:76:PHE:HD2	1.74	0.53
47:V:7:LEU:CG	47:V:8:GLN:H	2.22	0.53
50:Y:10:ALA:O	50:Y:14:GLU:HG2	2.08	0.53
51:Z:11:PHE:CG	51:Z:12:ASP:N	2.77	0.53
52:a:44:VAL:HG11	52:a:192:LEU:HD23	1.91	0.53
53:3:59:A:H1'	53:3:354:G:N2	2.23	0.53
53:3:1206:G:N3	53:3:1206:G:H2'	2.23	0.53
53:3:1210:C:H4'	53:3:1214:C:C4	2.44	0.53
53:3:1336:C:H5'	53:3:1337:G:C2	2.44	0.53
53:3:1508:A:H2'	53:3:1509:C:C6	2.44	0.53
54:1:1752:C:O2'	54:1:1753:G:H5'	2.09	0.53
54:1:2788:C:H2'	54:1:2789:C:H6	1.72	0.53
54:1:2834:G:H2'	54:1:2879:A:H61	1.74	0.53
57:6:65:C:O2'	57:6:66:C:H5'	2.09	0.53
59:8:352:SER:HB3	59:8:404:ILE:CD1	2.38	0.53
1:b:140:VAL:HG23	1:b:191:LEU:HA	1.91	0.53
2:c:11:MET:O	54:1:2682:A:H5'	2.07	0.53
2:c:148:GLN:CD	2:c:148:GLN:N	2.66	0.53
4:e:16:MET:HG3	4:e:21:TYR:HD2	1.74	0.53
22:w:10:ARG:HB2	22:w:10:ARG:HH11	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:y:1:MET:H1	54:1:102:U:H3	1.57	0.53
25:z:4:ILE:CG2	25:z:37:ARG:HB2	2.39	0.53
28:C:10:LEU:HD23	28:C:22:THR:HG22	1.90	0.53
29:D:34:ARG:O	29:D:38:GLY:N	2.42	0.53
44:S:49:THR:C	44:S:50:LEU:HD12	2.34	0.53
45:T:68:TYR:O	45:T:72:LYS:HG2	2.08	0.53
53:3:336:A:H2'	53:3:337:G:C8	2.44	0.53
53:3:1093:A:C2'	53:3:1094:G:H5'	2.37	0.53
54:1:8:C:O2'	54:1:9:G:H5'	2.09	0.53
54:1:769:U:O2'	54:1:770:G:H5'	2.09	0.53
54:1:1336:A:H2'	54:1:1337:G:H8	1.73	0.53
54:1:2224:G:H4'	54:1:2226:C:O2	2.09	0.53
55:2:3:C:C2'	55:2:4:C:H5''	2.38	0.53
59:8:667:ALA:HA	59:8:670:LEU:HB3	1.90	0.53
1:b:196:ASN:O	1:b:196:ASN:ND2	2.32	0.53
2:c:207:VAL:HG13	2:c:208:LYS:N	2.24	0.53
3:d:117:ARG:NH1	11:l:2:ARG:HD2	2.24	0.53
10:k:8:LEU:HD11	10:k:62:VAL:HG12	1.91	0.53
13:n:4:ARG:HG2	13:n:4:ARG:HH11	1.73	0.53
15:p:88:ARG:HG3	15:p:112:ARG:HB3	1.90	0.53
19:t:30:ILE:HG13	19:t:32:LEU:HD22	1.89	0.53
26:A:51:VAL:HG22	26:A:52:ALA:N	2.24	0.53
28:C:17:GLY:O	28:C:19:PHE:HD1	1.92	0.53
33:H:7:ASN:O	33:H:11:LEU:HG	2.09	0.53
34:I:2:ARG:HH12	34:I:4:LEU:HB3	1.73	0.53
37:L:60:ALA:O	37:L:63:VAL:HG12	2.09	0.53
37:L:70:PRO:HG3	37:L:102:TRP:CZ3	2.44	0.53
38:M:125:ILE:HD12	38:M:125:ILE:N	2.21	0.53
39:N:11:ARG:HH11	39:N:12:LYS:HB2	1.73	0.53
41:P:25:SER:N	41:P:28:ASN:O	2.42	0.53
42:Q:80:LEU:HG	42:Q:101:LEU:HB2	1.91	0.53
43:R:16:ILE:H	43:R:16:ILE:HD12	1.73	0.53
46:U:53:ASP:HB3	46:U:56:ARG:CG	2.38	0.53
49:X:69:LYS:HE3	53:3:1319:A:H5''	1.90	0.53
53:3:1483:A:H2'	53:3:1484:C:H5'	1.91	0.53
54:1:1152:C:H2'	54:1:1153:C:H6	1.74	0.53
54:1:1657:U:H2'	54:1:1658:C:H6	1.73	0.53
54:1:2463:C:H2'	54:1:2464:G:H8	1.73	0.53
59:8:294:ALA:HB1	59:8:309:ARG:H	1.72	0.53
59:8:457:ILE:N	59:8:457:ILE:HD12	2.24	0.53
59:8:534:TYR:CB	59:8:574:MET:HB2	2.31	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:86:ARG:NH1	1:b:155:ARG:NH2	2.44	0.53
2:c:54:ALA:HA	2:c:76:GLY:HA2	1.90	0.53
2:c:177:VAL:HG22	2:c:178:VAL:N	2.23	0.53
9:j:97:PRO:HG2	9:j:126:ALA:HB2	1.89	0.53
11:l:69:ARG:HH11	11:l:69:ARG:HG3	1.74	0.53
11:l:82:LEU:HD21	11:l:120:VAL:HG11	1.90	0.53
14:o:62:LEU:HD13	14:o:65:THR:HG22	1.89	0.53
32:G:86:CYS:SG	32:G:220:VAL:HB	2.49	0.53
32:G:131:LYS:HB3	53:3:1158:C:O2'	2.08	0.53
37:L:134:VAL:HG23	37:L:135:LYS:N	2.24	0.53
38:M:92:PRO:HG3	38:M:127:TYR:HE1	1.74	0.53
39:N:20:ILE:HD11	39:N:60:LEU:HB2	1.89	0.53
40:O:44:THR:HB	40:O:69:THR:O	2.09	0.53
53:3:193:C:H2'	53:3:194:C:H6	1.73	0.53
53:3:299:G:C6	53:3:300:A:C6	2.97	0.53
53:3:1305:G:H1'	53:3:1332:A:N6	2.24	0.53
54:1:538:A:H2'	54:1:539:G:O4'	2.09	0.53
54:1:852:U:H2'	54:1:853:C:C6	2.44	0.53
59:8:320:LEU:HD12	59:8:395:ASP:O	2.09	0.53
59:8:373:GLU:HG2	59:8:374:ILE:N	2.24	0.53
8:i:44:LYS:HZ1	8:i:70:THR:HG21	1.74	0.52
9:j:139:VAL:HG13	9:j:139:VAL:O	2.09	0.52
11:l:101:ILE:HG13	11:l:102:GLY:N	2.24	0.52
11:l:103:ILE:HB	11:l:104:GLN:OE1	2.09	0.52
17:r:24:LYS:HA	17:r:94:THR:OG1	2.09	0.52
20:u:94:PHE:HD2	20:u:99:SER:HA	1.75	0.52
21:v:80:HIS:ND1	21:v:81:PRO:HD2	2.24	0.52
27:B:27:LEU:CD2	27:B:36:LYS:HD3	2.38	0.52
33:H:185:THR:HG22	33:H:187:GLU:OE2	2.07	0.52
34:I:150:LYS:HA	34:I:155:LYS:HG2	1.90	0.52
52:a:15:VAL:CG2	52:a:33:LEU:HD21	2.39	0.52
53:3:1055:A:H61	53:3:1205:U:H3	1.55	0.52
53:3:1152:A:H2'	53:3:1153:G:H8	1.75	0.52
53:3:1180:A:O2'	53:3:1184:G:H1'	2.08	0.52
54:1:67:U:H2'	54:1:68:G:C8	2.44	0.52
54:1:859:G:H1'	54:1:860:U:C5	2.43	0.52
54:1:2679:A:O2'	54:1:2680:U:H5'	2.08	0.52
54:1:2862:G:H2'	54:1:2863:C:C6	2.44	0.52
55:2:5:U:H2'	55:2:6:G:H8	1.74	0.52
59:8:623:THR:CG2	59:8:631:VAL:HG21	2.39	0.52
2:c:84:LEU:HD11	2:c:88:GLU:HG3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:175:ILE:HD12	3:d:175:ILE:N	2.24	0.52
8:i:58:ILE:HG22	8:i:60:VAL:HG23	1.91	0.52
9:j:117:ALA:CA	9:j:120:ARG:HH21	2.22	0.52
21:v:29:ILE:O	21:v:91:PHE:HB2	2.09	0.52
34:I:13:ARG:CD	34:I:37:PRO:HB3	2.32	0.52
34:I:38:GLY:H	34:I:41:GLY:HA3	1.74	0.52
35:J:110:MET:HA	35:J:113:VAL:HG12	1.91	0.52
35:J:133:ILE:HD12	35:J:133:ILE:N	2.25	0.52
40:O:42:LEU:HD12	40:O:71:LEU:HD22	1.90	0.52
41:P:19:VAL:HA	41:P:81:LEU:HG	1.91	0.52
42:Q:73:LEU:HD11	42:Q:103:CYS:SG	2.49	0.52
49:X:54:ARG:HD2	53:3:958:A:C5	2.45	0.52
53:3:674:G:H2'	53:3:675:A:C8	2.45	0.52
53:3:782:A:H2'	53:3:783:C:H5'	1.92	0.52
53:3:813:U:H2'	53:3:814:A:C5'	2.39	0.52
53:3:821:G:O2'	53:3:822:U:H5'	2.09	0.52
53:3:1311:A:H2'	53:3:1312:G:O4'	2.08	0.52
54:1:181:A:H2'	54:1:182:A:C8	2.44	0.52
54:1:511:U:H2'	54:1:512:G:H5'	1.91	0.52
54:1:1045:C:OP1	54:1:1047:G:H4'	2.10	0.52
54:1:1188:U:O2'	54:1:1189:A:H5'	2.10	0.52
54:1:2228:G:H2'	54:1:2229:U:C6	2.44	0.52
54:1:2313:C:H2'	54:1:2314:A:C8	2.44	0.52
54:1:2665:A:O2'	54:1:2666:C:H5'	2.09	0.52
55:2:19:C:H2'	55:2:20:G:C8	2.45	0.52
2:c:47:ALA:HA	2:c:84:LEU:HB2	1.92	0.52
4:e:10:GLU:OE2	4:e:11:VAL:HG23	2.10	0.52
12:m:41:LEU:HD12	12:m:96:ILE:HD11	1.91	0.52
18:s:14:ALA:O	18:s:18:ARG:HG2	2.10	0.52
23:x:5:GLN:HB3	23:x:50:VAL:HG12	1.90	0.52
24:y:11:VAL:O	24:y:14:LEU:HB3	2.10	0.52
32:G:125:PHE:CG	32:G:126:ASP:N	2.78	0.52
35:J:165:GLY:O	38:M:113:ARG:HD2	2.08	0.52
39:N:112:ARG:HH11	39:N:112:ARG:HG3	1.74	0.52
42:Q:13:ARG:HD2	42:Q:14:LYS:N	2.24	0.52
44:S:2:LYS:O	44:S:5:MET:N	2.40	0.52
53:3:806:C:O2'	53:3:807:A:H5'	2.08	0.52
53:3:1306:A:N6	53:3:1331:G:H1'	2.21	0.52
53:3:1332:A:H2'	53:3:1333:A:H8	1.74	0.52
53:3:1539:C:O2'	53:3:1540:U:H5'	2.08	0.52
54:1:297:G:H2'	54:1:298:G:O4'	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1838:C:N4	54:1:1898:U:H2'	2.24	0.52
54:1:2505:G:H2'	54:1:2576:G:O6	2.09	0.52
2:c:108:ASP:OD1	2:c:173:GLN:HG2	2.10	0.52
3:d:61:ARG:HH11	3:d:65:THR:CG2	2.18	0.52
4:e:121:PHE:CZ	4:e:169:LEU:HD12	2.45	0.52
5:f:137:LYS:HE2	54:1:2746:U:H5''	1.90	0.52
5:f:142:GLN:OE1	54:1:2761:A:H1'	2.08	0.52
9:j:56:VAL:HB	9:j:124:VAL:HG12	1.90	0.52
16:q:1:ALA:O	16:q:3:VAL:HG23	2.09	0.52
17:r:97:LYS:HE3	17:r:99:THR:HG22	1.91	0.52
27:B:39:ARG:CZ	54:1:2884:U:H3	2.22	0.52
32:G:96:LEU:HD13	53:3:1103:C:H5''	1.91	0.52
45:T:31:LEU:HB3	45:T:62:ARG:HD3	1.90	0.52
46:U:20:VAL:HA	46:U:36:VAL:HG12	1.90	0.52
53:3:361:G:H2'	53:3:362:G:O4'	2.09	0.52
53:3:406:G:O2'	53:3:407:U:H5'	2.09	0.52
53:3:459:A:H61	53:3:473:U:H3	1.58	0.52
53:3:1185:G:C6	53:3:1186:G:C2	2.97	0.52
53:3:1202:U:H2'	53:3:1203:C:O4'	2.09	0.52
54:1:861:A:H2'	54:1:862:G:O4'	2.09	0.52
54:1:1739:A:H2'	54:1:1740:G:O4'	2.09	0.52
54:1:2557:G:H2'	54:1:2558:C:H6	1.75	0.52
59:8:295:ILE:HD13	59:8:407:GLU:OE2	2.09	0.52
59:8:492:GLU:C	59:8:571:VAL:HG13	2.34	0.52
59:8:624:PRO:O	59:8:651:GLY:HA2	2.08	0.52
1:b:143:VAL:HB	1:b:153:LEU:HB2	1.91	0.52
1:b:220:ARG:HD2	54:1:1827:U:OP2	2.10	0.52
2:c:129:THR:OG1	2:c:140:HIS:O	2.27	0.52
3:d:147:LEU:HD11	3:d:179:SER:HB3	1.90	0.52
6:g:29:PHE:HB2	54:1:2198:A:C4	2.44	0.52
7:h:18:VAL:C	7:h:21:GLY:H	2.17	0.52
15:p:30:TRP:HE1	15:p:81:ASP:HB2	1.74	0.52
20:u:4:ILE:HD12	20:u:4:ILE:N	2.24	0.52
26:A:5:ILE:HG13	26:A:6:HIS:N	2.23	0.52
32:G:116:LEU:HA	32:G:119:GLN:HB2	1.90	0.52
33:H:42:LEU:HD12	33:H:54:ILE:CD1	2.38	0.52
34:I:154:VAL:O	34:I:158:LEU:N	2.42	0.52
36:K:11:HIS:CE1	36:K:85:ILE:HD11	2.44	0.52
51:Z:34:ARG:HB3	51:Z:36:PHE:CE1	2.44	0.52
53:3:163:C:H2'	53:3:164:G:O4'	2.09	0.52
53:3:224:U:H2'	53:3:225:C:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:403:C:H2'	53:3:404:G:C8	2.43	0.52
53:3:588:G:H2'	53:3:589:U:H6	1.72	0.52
53:3:823:C:H2'	53:3:824:G:C8	2.43	0.52
53:3:1366:C:H2'	53:3:1367:C:C6	2.44	0.52
54:1:286:U:H2'	54:1:287:G:C8	2.44	0.52
54:1:543:G:H2'	54:1:544:C:O4'	2.10	0.52
54:1:2891:U:H2'	54:1:2892:G:C8	2.43	0.52
59:8:6:PRO:HB2	59:8:9:ARG:HG3	1.92	0.52
59:8:363:ILE:HD13	59:8:377:VAL:HG21	1.90	0.52
59:8:553:VAL:HB	59:8:593:PHE:HB3	1.91	0.52
4:e:147:ARG:HG3	4:e:147:ARG:HH11	1.75	0.52
10:k:58:LEU:HD22	10:k:95:ILE:CD1	2.39	0.52
10:k:122:VAL:OXT	10:k:122:VAL:HG12	2.10	0.52
12:m:67:VAL:HG12	12:m:68:PHE:N	2.25	0.52
13:n:22:ARG:HG3	13:n:70:THR:HA	1.91	0.52
15:p:25:VAL:HG12	15:p:85:VAL:HA	1.90	0.52
36:K:10:VAL:HG12	36:K:11:HIS:N	2.25	0.52
40:O:41:PRO:CD	53:3:1123:U:O4	2.58	0.52
53:3:513:C:H2'	53:3:514:C:C6	2.44	0.52
53:3:1353:G:O2'	53:3:1354:U:H5'	2.10	0.52
53:3:1484:C:H2'	53:3:1485:U:C6	2.45	0.52
54:1:479:A:O2'	54:1:481:G:H5'	2.10	0.52
54:1:532:A:H2'	54:1:532:A:N3	2.24	0.52
54:1:669:G:H2'	54:1:669:G:N3	2.24	0.52
54:1:2155:U:C2'	54:1:2156:G:H5'	2.34	0.52
54:1:2273:A:H2'	54:1:2274:A:C8	2.45	0.52
54:1:2314:A:H2'	54:1:2315:G:H8	1.71	0.52
54:1:2493:U:C2'	54:1:2494:G:H5''	2.39	0.52
59:8:50:MET:HG2	59:8:368:ALA:HB1	1.92	0.52
1:b:181:ARG:HD3	1:b:266:ILE:CD1	2.32	0.52
2:c:148:GLN:HB2	2:c:152:PRO:HG3	1.91	0.52
4:e:76:PHE:HE2	54:1:2310:C:H2'	1.75	0.52
5:f:163:TYR:H	5:f:166:GLU:HB3	1.73	0.52
7:h:29:ASP:HB3	7:h:32:GLY:HA3	1.92	0.52
16:q:16:ILE:HG21	16:q:31:TYR:CD1	2.44	0.52
22:w:20:LYS:HB3	22:w:21:ARG:NH1	2.25	0.52
30:E:30:HIS:ND1	30:E:31:ILE:N	2.57	0.52
34:I:127:ARG:HA	34:I:127:ARG:NE	2.24	0.52
37:L:63:VAL:HG22	37:L:127:ALA:CB	2.39	0.52
39:N:118:ARG:N	39:N:122:ARG:O	2.43	0.52
53:3:216:U:H2'	53:3:217:C:C6	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:413:G:O2'	53:3:414:A:H5''	2.09	0.52
53:3:483:C:H2'	53:3:484:G:C8	2.45	0.52
53:3:1240:U:H5'	53:3:1241:G:H8	1.73	0.52
54:1:533:G:H2'	54:1:534:U:H6	1.74	0.52
54:1:1777:U:O2'	54:1:1778:U:H5'	2.10	0.52
54:1:2248:C:C2'	54:1:2249:U:H5'	2.40	0.52
54:1:2897:U:H2'	54:1:2898:U:C6	2.45	0.52
55:2:31:C:H2'	55:2:32:U:C6	2.44	0.52
55:2:118:C:H2'	55:2:119:A:O4'	2.10	0.52
59:8:53:MET:HG2	59:8:63:ILE:HD12	1.92	0.52
59:8:303:LYS:HB2	59:8:305:THR:HG23	1.90	0.52
59:8:486:PRO:HD2	59:8:664:PHE:CD1	2.44	0.52
59:8:503:GLY:N	59:8:518:VAL:O	2.43	0.52
59:8:648:GLU:HG2	59:8:651:GLY:C	2.34	0.52
1:b:181:ARG:HG3	1:b:265:PHE:C	2.35	0.52
3:d:131:THR:HG22	3:d:160:ALA:HA	1.91	0.52
9:j:25:LEU:HD23	9:j:25:LEU:C	2.34	0.52
13:n:47:VAL:O	13:n:50:PRO:HD2	2.09	0.52
26:A:22:MET:HE1	26:A:24:ILE:HD13	1.92	0.52
32:G:46:VAL:HB	32:G:47:PRO:HD3	1.92	0.52
33:H:161:ILE:HG13	33:H:163:ARG:HG2	1.92	0.52
37:L:122:GLU:HA	37:L:125:ASP:HB2	1.92	0.52
38:M:2:MET:HE2	38:M:2:MET:HA	1.91	0.52
39:N:17:ARG:HH22	53:3:1129:C:H5'	1.75	0.52
53:3:34:C:H2'	53:3:35:G:H8	1.74	0.52
53:3:1287:A:H2'	53:3:1288:A:C8	2.45	0.52
53:3:1396:A:O2'	53:3:1397:C:OP2	2.20	0.52
54:1:942:G:H2'	54:1:943:A:O4'	2.09	0.52
54:1:1287:A:O2'	54:1:1288:G:H5'	2.10	0.52
54:1:1831:G:H2'	54:1:1832:C:C6	2.45	0.52
54:1:2036:C:H2'	54:1:2037:A:C8	2.45	0.52
57:6:69:C:H2'	57:6:70:G:C5'	2.32	0.52
59:8:492:GLU:HB2	59:8:571:VAL:HG22	1.92	0.52
13:n:48:VAL:HG13	13:n:49:GLU:H	1.74	0.52
15:p:25:VAL:HG12	15:p:85:VAL:HG13	1.91	0.52
25:z:29:ARG:NE	54:1:1183:U:H5''	2.24	0.52
26:A:1:MET:HB2	26:A:6:HIS:CD2	2.45	0.52
32:G:115:ASP:O	32:G:119:GLN:HG2	2.10	0.52
33:H:46:LEU:HB3	33:H:51:VAL:HB	1.91	0.52
33:H:155:ARG:CG	33:H:158:GLY:HA2	2.36	0.52
34:I:12:ARG:HB2	34:I:31:CYS:SG	2.49	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:72:ARG:NH1	34:I:72:ARG:HB2	2.25	0.52
38:M:100:ILE:HD11	38:M:128:VAL:HB	1.92	0.52
43:R:16:ILE:HD12	43:R:16:ILE:N	2.25	0.52
46:U:42:ILE:O	46:U:44:SER:N	2.43	0.52
49:X:62:THR:HB	49:X:65:MET:HG2	1.92	0.52
51:Z:36:PHE:C	51:Z:38:GLU:N	2.67	0.52
52:a:38:PHE:HB3	54:1:2126:A:H5'	1.92	0.52
53:3:195:A:H2'	53:3:196:A:C8	2.45	0.52
54:1:1273:U:H4'	54:1:1275:A:OP1	2.10	0.52
54:1:2039:U:H2'	54:1:2040:G:H8	1.74	0.52
54:1:2082:A:H2'	54:1:2083:G:O4'	2.10	0.52
54:1:2135:A:H8	54:1:2156:G:H21	1.58	0.52
54:1:2688:G:H1'	54:1:2721:A:N6	2.25	0.52
4:e:21:TYR:OH	4:e:27:VAL:HB	2.09	0.52
7:h:68:PRO:HB3	7:h:72:LEU:HD13	1.91	0.52
10:k:58:LEU:HD12	10:k:58:LEU:O	2.10	0.52
11:l:55:MET:HE1	11:l:59:ARG:NH2	2.25	0.52
12:m:54:THR:HA	12:m:57:VAL:HG22	1.90	0.52
13:n:46:ARG:NH2	13:n:46:ARG:HB3	2.25	0.52
14:o:68:LYS:HE3	55:2:49:C:O3'	2.09	0.52
31:F:20:ASP:C	31:F:22:VAL:H	2.18	0.52
32:G:89:PHE:HB3	32:G:150:ILE:HG13	1.92	0.52
38:M:45:ILE:HG21	38:M:60:LEU:HB3	1.91	0.52
50:Y:70:LYS:HA	50:Y:73:ARG:HB3	1.91	0.52
53:3:189:A:H2'	53:3:190:A:O4'	2.10	0.52
53:3:599:C:H2'	53:3:600:A:C8	2.44	0.52
53:3:730:G:H2'	53:3:766:A:H5'	1.91	0.52
53:3:1012:A:H2	53:3:1017:U:C2	2.28	0.52
53:3:1404:C:H2'	53:3:1405:G:C8	2.44	0.52
53:3:1503:A:H5'	53:3:1531:A:H1'	1.92	0.52
54:1:362:A:H3'	54:1:363:G:C8	2.44	0.52
54:1:2475:C:C2'	54:1:2476:A:H5'	2.39	0.52
54:1:2515:C:H2'	54:1:2516:A:C8	2.44	0.52
59:8:173:ILE:O	59:8:179:PHE:HD2	1.93	0.52
59:8:544:VAL:HG21	59:8:580:PHE:CE1	2.45	0.52
1:b:142:ASN:O	1:b:142:ASN:ND2	2.34	0.51
6:g:9:VAL:C	6:g:11:ASN:H	2.18	0.51
8:i:8:VAL:O	8:i:58:ILE:N	2.44	0.51
21:v:76:ASP:H	21:v:90:ASP:HB3	1.73	0.51
27:B:47:TYR:HA	27:B:51:ARG:O	2.10	0.51
35:J:148:SER:O	35:J:152:VAL:HG13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:L:29:LEU:HD23	37:L:29:LEU:C	2.35	0.51
41:P:73:VAL:CG2	41:P:78:ILE:HG21	2.37	0.51
43:R:1:ALA:HB1	43:R:8:ILE:HG23	1.92	0.51
46:U:1:MET:HE3	53:3:378:G:OP1	2.10	0.51
53:3:210:C:H4'	53:3:211:G:N2	2.25	0.51
53:3:682:G:O2'	53:3:683:G:H5'	2.10	0.51
53:3:729:A:H2'	53:3:730:G:H8	1.74	0.51
53:3:1321:U:C5'	53:3:1322:C:H5''	2.39	0.51
53:3:1403:C:H6	53:3:1403:C:O5'	1.93	0.51
54:1:1511:G:H2'	54:1:1512:C:C6	2.45	0.51
54:1:1528:A:H2'	54:1:1529:G:O4'	2.10	0.51
54:1:1592:C:H2'	54:1:1593:A:C8	2.45	0.51
54:1:2317:A:H2'	54:1:2318:G:O4'	2.10	0.51
54:1:2332:C:H1'	54:1:2336:A:H2	1.74	0.51
54:1:2520:C:C6	54:1:2567:G:H1'	2.45	0.51
54:1:2556:C:H2'	54:1:2557:G:O4'	2.10	0.51
57:6:38:A:C2'	57:6:39:C:H5'	2.37	0.51
4:e:40:GLY:CA	4:e:84:ILE:HD11	2.40	0.51
10:k:38:ILE:N	10:k:38:ILE:HD12	2.26	0.51
16:q:111:LYS:HB2	17:r:48:LYS:CE	2.39	0.51
19:t:69:ARG:HD2	19:t:69:ARG:C	2.35	0.51
32:G:113:LEU:HD11	32:G:144:GLU:OE2	2.10	0.51
33:H:125:ARG:HG2	33:H:125:ARG:O	2.10	0.51
37:L:2:ARG:HG2	53:3:1380:U:O4	2.11	0.51
39:N:80:HIS:NE2	39:N:105:ARG:HA	2.25	0.51
39:N:119:LYS:HG3	39:N:120:ALA:H	1.75	0.51
41:P:32:THR:HG22	41:P:34:THR:HG23	1.91	0.51
43:R:84:CYS:SG	49:X:72:GLU:HB3	2.51	0.51
53:3:258:G:H1	53:3:268:U:H3	1.58	0.51
53:3:279:A:H4'	53:3:281:G:C8	2.45	0.51
53:3:1250:A:H3'	53:3:1251:A:C8	2.45	0.51
54:1:1434:A:H2'	54:1:1435:G:C8	2.45	0.51
54:1:1747:U:H2'	54:1:1748:C:H6	1.73	0.51
54:1:2693:G:H2'	54:1:2694:G:H8	1.75	0.51
57:6:2:G:H2'	57:6:3:C:H6	1.72	0.51
59:8:512:ARG:HD2	59:8:512:ARG:C	2.35	0.51
59:8:571:VAL:HG12	59:8:572:VAL:N	2.25	0.51
59:8:608:ALA:C	59:8:609:LYS:HG3	2.35	0.51
1:b:171:VAL:HG23	1:b:185:ALA:HB2	1.92	0.51
4:e:7:TYR:HA	4:e:11:VAL:HG21	1.92	0.51
7:h:42:ARG:O	7:h:46:ARG:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:56:VAL:HA	8:i:70:THR:HA	1.92	0.51
26:A:43:PHE:CD1	26:A:44:PHE:HD1	2.28	0.51
32:G:206:ILE:HG13	32:G:207:ARG:N	2.26	0.51
33:H:149:LYS:O	33:H:199:VAL:HA	2.10	0.51
34:I:26:ALA:HB3	34:I:27:ILE:HD12	1.91	0.51
35:J:56:PRO:HA	35:J:59:ILE:HG12	1.92	0.51
37:L:104:VAL:HA	37:L:108:ARG:NH1	2.25	0.51
45:T:73:ASP:OD2	45:T:76:ARG:HG3	2.10	0.51
46:U:60:TRP:HB3	46:U:65:ALA:HB3	1.92	0.51
53:3:321:A:N6	53:3:332:G:H1	2.05	0.51
53:3:538:G:H2'	53:3:539:A:C8	2.46	0.51
53:3:806:C:H2'	53:3:807:A:H8	1.75	0.51
54:1:1287:A:C2	54:1:1649:G:H4'	2.44	0.51
54:1:2463:C:H2'	54:1:2464:G:C8	2.46	0.51
59:8:133:TYR:CB	59:8:135:VAL:HG23	2.39	0.51
59:8:530:ASN:O	59:8:530:ASN:ND2	2.36	0.51
1:b:143:VAL:HG12	1:b:144:GLU:O	2.10	0.51
2:c:27:ILE:HB	2:c:187:LEU:HB3	1.92	0.51
4:e:28:PRO:HG3	4:e:164:GLU:HG2	1.92	0.51
4:e:39:VAL:HG13	4:e:84:ILE:HD12	1.93	0.51
6:g:80:ILE:HG22	6:g:81:ALA:N	2.24	0.51
7:h:27:VAL:HG11	7:h:40:GLU:CD	2.35	0.51
9:j:32:LEU:O	9:j:36:LEU:HD23	2.11	0.51
15:p:30:TRP:CE3	15:p:37:LYS:HE3	2.46	0.51
17:r:37:GLU:HB3	17:r:53:PHE:CD1	2.46	0.51
34:I:187:ARG:HH12	34:I:192:ALA:HA	1.76	0.51
35:J:71:ILE:HG22	35:J:72:ASN:N	2.25	0.51
36:K:18:VAL:HG13	36:K:19:PRO:HD3	1.93	0.51
39:N:29:ILE:HD11	39:N:66:VAL:HG12	1.91	0.51
42:Q:31:GLY:HA3	42:Q:54:VAL:HG13	1.93	0.51
42:Q:41:PRO:HA	42:Q:89:LEU:HD23	1.93	0.51
43:R:14:ALA:HB3	43:R:33:LEU:HD21	1.92	0.51
52:a:182:ALA:O	52:a:185:LEU:N	2.44	0.51
53:3:51:A:H61	53:3:314:C:H1'	1.75	0.51
53:3:376:G:O2'	53:3:377:G:H5'	2.10	0.51
53:3:426:U:H2'	53:3:427:U:C6	2.46	0.51
53:3:864:A:H2'	53:3:865:A:C8	2.45	0.51
53:3:950:U:H2'	53:3:951:G:H8	1.76	0.51
53:3:1150:A:N6	53:3:1151:A:C2	2.78	0.51
54:1:827:U:H4'	54:1:828:U:C5	2.45	0.51
54:1:1087:G:H3'	54:1:1087:G:OP2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1720:U:H2'	54:1:1721:G:O4'	2.11	0.51
54:1:2246:G:H2'	54:1:2247:A:C8	2.45	0.51
54:1:2292:U:H2'	54:1:2293:G:C8	2.46	0.51
54:1:2784:U:H2'	54:1:2785:C:C6	2.46	0.51
59:8:623:THR:HG22	59:8:631:VAL:HG21	1.92	0.51
59:8:645:GLN:HA	59:8:653:LYS:O	2.10	0.51
2:c:55:LYS:HG3	2:c:76:GLY:O	2.11	0.51
7:h:27:VAL:HG21	7:h:40:GLU:OE1	2.10	0.51
8:i:44:LYS:HZ3	8:i:68:PHE:HB2	1.76	0.51
15:p:2:ASN:HB2	15:p:3:ILE:HD12	1.92	0.51
27:B:13:GLY:HA3	54:1:16:C:H5''	1.90	0.51
34:I:39:GLN:HG2	53:3:426:U:O2'	2.11	0.51
34:I:51:GLY:HA2	53:3:509:A:H4'	1.91	0.51
35:J:71:ILE:HG22	35:J:72:ASN:H	1.76	0.51
37:L:61:PHE:O	37:L:65:LEU:HB2	2.10	0.51
43:R:97:ARG:N	53:3:1308:U:C5'	2.74	0.51
44:S:26:LEU:HD12	44:S:26:LEU:N	2.26	0.51
45:T:11:VAL:O	45:T:15:GLY:N	2.43	0.51
49:X:29:PRO:HB3	49:X:58:PRO:HG3	1.93	0.51
50:Y:66:ILE:HG22	50:Y:67:HIS:N	2.23	0.51
53:3:1016:A:H3'	53:3:1017:U:C6	2.46	0.51
54:1:413:C:H2'	54:1:414:C:H6	1.75	0.51
54:1:1093:G:H2'	54:1:1094:U:H5''	1.92	0.51
54:1:1409:U:H2'	54:1:1410:G:C8	2.46	0.51
54:1:2011:U:H2'	54:1:2012:G:O4'	2.11	0.51
54:1:2047:C:H2'	54:1:2048:G:H8	1.73	0.51
54:1:2859:G:H2'	54:1:2860:A:C8	2.46	0.51
59:8:150:ASN:HB3	59:8:153:LYS:HB2	1.93	0.51
59:8:359:ARG:CZ	59:8:361:GLY:HA2	2.41	0.51
59:8:498:VAL:HG11	59:8:522:MET:H	1.74	0.51
59:8:620:GLU:HA	59:8:654:ILE:O	2.10	0.51
2:c:109:VAL:HG23	2:c:175:LEU:HD12	1.93	0.51
7:h:41:LEU:HD21	7:h:54:VAL:HG12	1.91	0.51
13:n:66:ALA:O	13:n:69:ARG:N	2.42	0.51
23:x:70:LEU:HA	23:x:73:ARG:HB3	1.93	0.51
32:G:169:HIS:CE1	32:G:170:ILE:HG13	2.46	0.51
33:H:10:ARG:NH1	33:H:179:ALA:HB3	2.25	0.51
35:J:59:ILE:HG13	35:J:60:GLN:N	2.26	0.51
39:N:116:GLY:N	53:3:1367:C:OP1	2.41	0.51
40:O:41:PRO:HB3	53:3:1150:A:N3	2.25	0.51
41:P:18:GLY:HA2	41:P:35:ASP:HA	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:S:65:GLN:OE1	44:S:82:LYS:HB3	2.11	0.51
45:T:28:VAL:O	45:T:31:LEU:HB2	2.11	0.51
46:U:44:SER:O	46:U:46:LYS:HG2	2.10	0.51
53:3:560:A:H4'	53:3:561:U:H5'	1.91	0.51
53:3:616:G:O2'	53:3:617:G:H5'	2.11	0.51
53:3:1012:A:H2	53:3:1017:U:O2	1.94	0.51
54:1:251:A:H2'	54:1:252:G:O4'	2.10	0.51
54:1:751:A:H2'	54:1:789:A:C2	2.45	0.51
54:1:1609:A:H1'	54:1:1616:A:C1'	2.41	0.51
54:1:2114:A:H2'	54:1:2114:A:N3	2.26	0.51
54:1:2520:C:O2'	54:1:2521:C:H5'	2.10	0.51
59:8:145:ASP:HA	59:8:176:GLU:HA	1.93	0.51
59:8:222:LEU:C	59:8:222:LEU:HD23	2.36	0.51
59:8:557:ILE:HA	59:8:560:GLN:HB3	1.92	0.51
1:b:142:ASN:O	1:b:189:ALA:HA	2.11	0.51
5:f:162:ARG:NH1	5:f:168:VAL:HG21	2.26	0.51
6:g:114:GLU:HB2	6:g:133:GLN:O	2.11	0.51
17:r:37:GLU:HB3	17:r:53:PHE:CE1	2.44	0.51
20:u:46:LYS:HZ3	20:u:49:PRO:HD3	1.75	0.51
34:I:117:VAL:HG13	34:I:122:ILE:HG13	1.91	0.51
43:R:33:LEU:CD2	43:R:40:GLU:HA	2.40	0.51
44:S:3:GLN:OE1	44:S:6:LYS:HD2	2.10	0.51
46:U:35:ARG:HD2	46:U:36:VAL:N	2.25	0.51
51:Z:13:VAL:HG13	51:Z:15:LEU:HG	1.92	0.51
53:3:62:U:H2'	53:3:63:C:C6	2.45	0.51
53:3:1061:G:H2'	53:3:1062:U:C4'	2.30	0.51
53:3:1225:A:H5'	53:3:1226:C:OP2	2.11	0.51
53:3:1414:U:H2'	53:3:1415:G:H8	1.76	0.51
54:1:1076:C:H2'	54:1:1077:A:O4'	2.10	0.51
54:1:1316:U:H2'	54:1:1317:G:H8	1.76	0.51
54:1:2662:A:H8	54:1:2662:A:O5'	1.93	0.51
54:1:2691:C:H5'	54:1:2872:A:O4'	2.11	0.51
59:8:275:VAL:HG23	59:8:276:GLN:N	2.25	0.51
10:k:109:SER:C	10:k:111:LYS:H	2.18	0.51
13:n:60:VAL:HG13	54:1:1454:C:O2'	2.11	0.51
14:o:106:LEU:O	14:o:106:LEU:HD23	2.10	0.51
20:u:48:VAL:N	20:u:52:ASN:O	2.43	0.51
27:B:42:ILE:HB	27:B:46:GLY:HA2	1.92	0.51
32:G:21:TYR:HD1	32:G:21:TYR:H	1.56	0.51
32:G:116:LEU:HB3	32:G:140:LEU:HD13	1.92	0.51
34:I:53:GLN:HG2	34:I:201:GLU:CG	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:169:TRP:CE2	34:I:170:LEU:HD22	2.46	0.51
39:N:90:ASP:O	39:N:92:SER:N	2.43	0.51
51:Z:13:VAL:CG1	51:Z:15:LEU:HG	2.41	0.51
53:3:59:A:H61	53:3:331:G:H1'	1.76	0.51
53:3:624:C:H2'	53:3:625:U:C5	2.46	0.51
53:3:948:C:O2'	53:3:949:A:H5'	2.11	0.51
53:3:1007:U:H2'	53:3:1008:U:H6	1.74	0.51
53:3:1210:C:H2'	53:3:1211:U:O4'	2.11	0.51
53:3:1369:C:H2'	53:3:1370:G:O4'	2.10	0.51
54:1:383:C:H41	54:1:385:C:H2'	1.75	0.51
54:1:473:G:O2'	54:1:474:G:H5'	2.11	0.51
54:1:704:G:H2'	54:1:726:G:H22	1.76	0.51
54:1:753:A:H2'	54:1:754:U:C6	2.46	0.51
54:1:1197:G:H2'	54:1:1198:U:H6	1.75	0.51
54:1:1318:U:H2'	54:1:1319:C:C6	2.45	0.51
54:1:1908:C:H2'	54:1:1909:C:C6	2.46	0.51
59:8:640:GLY:HA2	59:8:657:GLU:O	2.10	0.51
1:b:83:ASP:OD1	1:b:85:ASN:ND2	2.38	0.51
1:b:254:LYS:HE2	54:1:1844:C:OP1	2.11	0.51
4:e:140:ILE:HG21	4:e:145:VAL:HG13	1.92	0.51
8:i:11:GLN:NE2	8:i:56:VAL:HG11	2.24	0.51
8:i:59:THR:O	8:i:59:THR:OG1	2.29	0.51
11:l:68:SER:HB2	54:1:632:A:H4'	1.92	0.51
15:p:52:ARG:HE	54:1:2845:U:H4'	1.76	0.51
18:s:34:ASP:HB3	27:B:27:LEU:HD22	1.93	0.51
30:E:7:ARG:HB3	30:E:11:LYS:NZ	2.26	0.51
32:G:45:THR:HG23	32:G:200:PRO:HD2	1.93	0.51
35:J:93:VAL:HG12	35:J:95:MET:SD	2.51	0.51
38:M:103:VAL:HG11	38:M:112:ASP:HA	1.93	0.51
40:O:10:LEU:HB3	40:O:98:VAL:HG23	1.93	0.51
43:R:88:LEU:HD13	43:R:92:ARG:NH2	2.26	0.51
43:R:99:GLN:HB2	53:3:1307:U:H5''	1.92	0.51
43:R:101:THR:HG22	43:R:105:ALA:HB2	1.93	0.51
46:U:12:LYS:O	46:U:13:LYS:HG2	2.10	0.51
51:Z:44:ARG:HG3	51:Z:44:ARG:NH1	2.25	0.51
53:3:60:A:H5''	53:3:386:C:O2'	2.11	0.51
53:3:784:A:H2'	53:3:785:G:H8	1.76	0.51
54:1:441:U:O2'	54:1:442:G:H5'	2.10	0.51
54:1:883:G:H2'	54:1:884:U:C6	2.45	0.51
54:1:1868:C:H3'	54:1:1869:G:C5'	2.35	0.51
55:2:2:G:C6	55:2:119:A:C2	2.98	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:11:ARG:HB2	59:8:83:ARG:O	2.10	0.51
59:8:445:PHE:HE1	59:8:458:ILE:HG23	1.76	0.51
1:b:32:LEU:CD1	1:b:101:ARG:HH21	2.24	0.51
1:b:119:VAL:HG22	1:b:130:PRO:CD	2.40	0.51
5:f:84:LYS:HB2	5:f:132:LEU:CD1	2.38	0.51
6:g:5:LEU:HD13	6:g:9:VAL:CG2	2.40	0.51
13:n:56:LYS:HE3	13:n:87:PHE:O	2.10	0.51
14:o:39:VAL:CG1	14:o:48:LEU:HD12	2.41	0.51
16:q:27:ARG:HH11	16:q:27:ARG:HG2	1.75	0.51
32:G:224:ARG:HA	32:G:224:ARG:NE	2.15	0.51
34:I:131:ILE:HD12	34:I:131:ILE:H	1.73	0.51
41:P:96:ILE:HD13	51:Z:16:ARG:NH1	2.25	0.51
46:U:70:ARG:O	46:U:74:LEU:HD23	2.11	0.51
53:3:36:C:H2'	53:3:37:U:C6	2.47	0.51
53:3:59:A:H2'	53:3:59:A:N3	2.25	0.51
53:3:967:C:H2'	53:3:968:A:C8	2.45	0.51
53:3:1502:A:H5'	53:3:1504:G:N7	2.26	0.51
54:1:656:G:H2'	54:1:657:U:C6	2.46	0.51
54:1:678:C:O2'	54:1:679:C:H5'	2.11	0.51
59:8:192:ASN:O	59:8:202:PHE:HB2	2.11	0.51
2:c:194:PRO:HA	54:1:2680:U:C5'	2.41	0.50
8:i:51:GLY:O	8:i:52:LEU:HD12	2.11	0.50
15:p:47:ILE:HG22	15:p:96:LEU:HD12	1.92	0.50
15:p:52:ARG:NH2	54:1:2720:U:H5''	2.26	0.50
17:r:5:PHE:HB3	17:r:59:ILE:HD12	1.93	0.50
21:v:60:VAL:HG12	21:v:71:LYS:HB3	1.93	0.50
21:v:63:ILE:HD12	21:v:63:ILE:N	2.26	0.50
23:x:32:LEU:HD21	23:x:49:ARG:HG3	1.92	0.50
26:A:14:ALA:HB2	26:A:32:LEU:HD23	1.92	0.50
36:K:54:LEU:H	36:K:54:LEU:CD1	2.24	0.50
37:L:70:PRO:HA	37:L:137:ARG:HD2	1.91	0.50
39:N:122:ARG:HG2	53:3:1350:A:OP1	2.10	0.50
45:T:63:ARG:NH2	45:T:88:ARG:NH2	2.59	0.50
53:3:284:C:H2'	53:3:285:C:C6	2.47	0.50
53:3:936:C:H2'	53:3:937:A:O4'	2.11	0.50
53:3:1405:G:O2'	53:3:1406:U:H5'	2.11	0.50
54:1:118:A:OP2	54:1:119:A:H5''	2.11	0.50
54:1:708:G:H2'	54:1:709:U:C6	2.46	0.50
54:1:1330:C:O2'	54:1:1331:G:H5'	2.11	0.50
54:1:1469:A:H2'	54:1:1470:A:C8	2.45	0.50
54:1:2027:G:O2'	54:1:2028:U:H5'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:2:G:H2'	55:2:3:C:H6	1.76	0.50
57:6:26:G:N2	57:6:27:U:H1'	2.26	0.50
59:8:34:THR:HG22	59:8:72:TRP:HB2	1.93	0.50
59:8:119:VAL:HG13	59:8:119:VAL:O	2.10	0.50
59:8:171:LEU:HB3	59:8:183:VAL:HG21	1.94	0.50
59:8:489:ALA:HB1	59:8:491:ARG:NE	2.26	0.50
59:8:492:GLU:CG	59:8:612:LEU:HD23	2.40	0.50
59:8:669:GLN:O	59:8:673:LEU:HD13	2.10	0.50
11:l:62:PRO:HB2	30:E:29:ARG:NH2	2.27	0.50
12:m:53:MET:HG3	12:m:116:ALA:HB1	1.92	0.50
16:q:54:ARG:HH12	54:1:977:G:C5'	2.24	0.50
24:y:19:LEU:HA	24:y:22:LEU:HB2	1.93	0.50
32:G:168:GLU:HB3	32:G:171:ALA:HB3	1.92	0.50
33:H:155:ARG:HH11	33:H:155:ARG:HG3	1.76	0.50
33:H:185:THR:HG23	33:H:198:LYS:HG2	1.93	0.50
35:J:25:LYS:HG2	53:3:922:G:O3'	2.11	0.50
36:K:93:LYS:HE3	36:K:96:VAL:CG2	2.41	0.50
41:P:97:ARG:HA	41:P:97:ARG:HE	1.76	0.50
44:S:40:ARG:NH1	44:S:44:VAL:HG13	2.25	0.50
50:Y:65:LEU:O	50:Y:66:ILE:HD13	2.12	0.50
53:3:411:A:C4	53:3:413:G:H1'	2.46	0.50
54:1:279:A:H2'	54:1:280:U:O4'	2.11	0.50
54:1:613:A:H4'	54:1:614:A:N7	2.26	0.50
54:1:1047:G:H2'	54:1:1110:G:N2	2.24	0.50
54:1:1213:A:N6	54:1:1236:G:H1'	2.26	0.50
54:1:1801:A:H5''	54:1:2203:U:H2'	1.93	0.50
54:1:1959:G:C3'	54:1:1960:A:H5''	2.41	0.50
54:1:2391:G:H2'	54:1:2424:C:N4	2.25	0.50
59:8:13:ILE:HB	59:8:86:ILE:CG2	2.39	0.50
59:8:274:GLY:O	59:8:278:MET:HB2	2.11	0.50
59:8:436:GLY:HA2	59:8:439:ALA:HB3	1.93	0.50
59:8:618:LYS:HB3	59:8:683:GLU:HG2	1.92	0.50
1:b:119:VAL:HG22	1:b:130:PRO:HG2	1.94	0.50
5:f:88:LEU:HB2	5:f:128:THR:O	2.11	0.50
9:j:113:PRO:HA	9:j:116:ARG:NH2	2.25	0.50
11:l:41:ARG:NH1	54:1:807:U:OP2	2.45	0.50
15:p:112:ARG:HG2	15:p:114:ASN:H	1.75	0.50
18:s:52:GLU:OE1	54:1:488:G:H5'	2.11	0.50
32:G:15:PHE:HD1	32:G:15:PHE:H	1.59	0.50
35:J:68:ARG:HG3	35:J:69:ASN:OD1	2.11	0.50
39:N:11:ARG:NH1	39:N:12:LYS:HB2	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:U:44:SER:O	46:U:46:LYS:N	2.45	0.50
53:3:396:C:C2'	53:3:397:A:H5''	2.38	0.50
53:3:1369:C:H2'	53:3:1370:G:C8	2.46	0.50
54:1:35:G:H2'	54:1:36:G:O4'	2.12	0.50
54:1:638:G:H2'	54:1:639:U:C6	2.46	0.50
54:1:811:U:H5'	54:1:811:U:H6	1.77	0.50
54:1:1209:U:H2'	54:1:1210:G:H21	1.76	0.50
54:1:2602:A:H5'	54:1:2603:G:OP1	2.11	0.50
55:2:53:A:H2'	55:2:54:G:H5'	1.93	0.50
59:8:344:ASN:N	59:8:347:ASP:OD2	2.41	0.50
4:e:2:LYS:HB3	4:e:100:GLU:OE1	2.11	0.50
4:e:43:ILE:HG21	4:e:78:ILE:HG22	1.93	0.50
10:k:25:LEU:HD13	10:k:59:LYS:HE3	1.92	0.50
10:k:121:GLU:OE2	10:k:122:VAL:HG23	2.12	0.50
11:l:14:LYS:HE2	11:l:14:LYS:CA	2.39	0.50
15:p:52:ARG:HH22	54:1:2720:U:H5''	1.75	0.50
23:x:15:ASN:C	23:x:26:ARG:HG2	2.36	0.50
35:J:102:THR:HA	35:J:121:ASN:OD1	2.11	0.50
37:L:98:LEU:O	37:L:101:ARG:HB3	2.10	0.50
38:M:60:LEU:HD12	38:M:60:LEU:N	2.26	0.50
38:M:79:ARG:HD2	53:3:878:A:P	2.50	0.50
42:Q:66:ILE:HD12	42:Q:66:ILE:N	2.27	0.50
51:Z:32:ARG:H	51:Z:32:ARG:CD	2.12	0.50
51:Z:52:VAL:O	51:Z:55:HIS:HB3	2.11	0.50
53:3:531:U:H4'	53:3:532:A:C5'	2.28	0.50
53:3:1149:C:H2'	53:3:1150:A:O4'	2.10	0.50
53:3:1315:U:H2'	53:3:1316:G:O4'	2.11	0.50
54:1:197:A:H2'	54:1:198:C:O4'	2.12	0.50
54:1:221:A:H1'	54:1:233:A:H1'	1.94	0.50
54:1:224:U:O4	54:1:420:C:H5'	2.12	0.50
54:1:565:C:H4'	54:1:1253:A:C6	2.46	0.50
54:1:600:G:H2'	54:1:601:C:C6	2.46	0.50
59:8:342:VAL:HB	59:8:377:VAL:O	2.11	0.50
59:8:349:VAL:HG12	59:8:399:ASP:HB2	1.93	0.50
59:8:435:LEU:O	59:8:439:ALA:N	2.45	0.50
59:8:498:VAL:HG23	59:8:607:LYS:HB2	1.93	0.50
2:c:49:GLN:HA	2:c:80:TRP:O	2.11	0.50
2:c:133:THR:CG2	54:1:1993:U:H4'	2.41	0.50
2:c:165:MET:HE2	2:c:165:MET:HA	1.92	0.50
6:g:114:GLU:HG3	6:g:134:VAL:HA	1.93	0.50
9:j:99:ARG:HA	9:j:102:GLU:HG2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:16:ARG:HG2	12:m:16:ARG:HH11	1.76	0.50
21:v:9:ARG:HG2	21:v:41:GLU:HB2	1.94	0.50
26:A:63:ARG:NH2	49:X:13:HIS:HA	2.26	0.50
32:G:134:LEU:HA	32:G:137:THR:HB	1.92	0.50
35:J:22:LYS:O	35:J:29:ILE:N	2.39	0.50
36:K:6:ILE:HA	36:K:88:MET:O	2.11	0.50
36:K:42:TRP:HE3	36:K:59:TYR:HB3	1.76	0.50
39:N:17:ARG:N	39:N:65:THR:O	2.44	0.50
40:O:7:ARG:CB	40:O:101:SER:HB3	2.31	0.50
42:Q:13:ARG:HD2	42:Q:14:LYS:H	1.77	0.50
43:R:92:ARG:HB2	43:R:94:LEU:HG	1.92	0.50
45:T:53:ARG:NH2	53:3:579:A:H4'	2.27	0.50
48:W:11:ARG:HD2	53:3:845:A:O4'	2.11	0.50
49:X:49:ALA:HB2	49:X:58:PRO:HG3	1.93	0.50
53:3:892:A:H2'	53:3:893:C:C6	2.47	0.50
53:3:1415:G:H1	53:3:1485:U:H3	1.58	0.50
54:1:1336:A:H2'	54:1:1337:G:C8	2.46	0.50
54:1:1416:G:H2'	54:1:1417:C:C6	2.47	0.50
54:1:2114:A:O2'	54:1:2167:U:H5'	2.10	0.50
4:e:59:ILE:HD11	4:e:98:PHE:HE1	1.77	0.50
4:e:62:GLN:NE2	4:e:90:LEU:HB3	2.13	0.50
5:f:121:THR:OG1	5:f:133:LYS:HB2	2.11	0.50
7:h:11:ILE:O	7:h:15:VAL:HG23	2.11	0.50
7:h:60:LEU:HD11	54:1:1047:G:N7	2.25	0.50
13:n:82:GLU:O	13:n:85:PRO:HG2	2.11	0.50
18:s:42:LYS:O	18:s:45:VAL:HG12	2.12	0.50
21:v:30:ILE:HD12	21:v:40:ILE:HG13	1.94	0.50
21:v:34:LYS:O	21:v:34:LYS:HD3	2.11	0.50
35:J:112:ALA:O	35:J:115:GLU:HB3	2.11	0.50
38:M:40:LYS:HE3	38:M:48:PHE:CD1	2.45	0.50
39:N:28:VAL:HG23	39:N:63:TYR:HA	1.94	0.50
45:T:52:ARG:HH11	45:T:52:ARG:HG3	1.76	0.50
46:U:31:ARG:CB	53:3:310:G:H5''	2.18	0.50
47:V:16:MET:HE1	47:V:21:VAL:HG12	1.92	0.50
54:1:2277:G:C3'	54:1:2278:A:H5''	2.42	0.50
54:1:2331:G:H2'	54:1:2332:C:C6	2.47	0.50
2:c:131:ASP:HB3	2:c:133:THR:H	1.77	0.50
3:d:48:THR:C	3:d:50:ALA:H	2.19	0.50
6:g:79:THR:HG21	6:g:147:VAL:HG13	1.93	0.50
6:g:94:ILE:HD11	6:g:146:VAL:HG22	1.94	0.50
7:h:54:VAL:HG13	54:1:1084:A:C5'	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:6:ARG:HG3	20:u:26:ASN:HA	1.94	0.50
36:K:14:GLN:O	36:K:17:GLN:N	2.45	0.50
38:M:77:VAL:N	38:M:125:ILE:O	2.44	0.50
39:N:29:ILE:HD11	39:N:66:VAL:H	1.76	0.50
43:R:99:GLN:CG	43:R:100:ARG:N	2.75	0.50
45:T:57:ARG:HB3	45:T:57:ARG:NH1	2.26	0.50
52:a:23:ILE:HG12	52:a:224:VAL:CB	2.35	0.50
53:3:298:A:H2'	53:3:299:G:O4'	2.11	0.50
53:3:333:U:H2'	53:3:334:C:C6	2.45	0.50
53:3:444:G:H2'	53:3:445:G:H8	1.76	0.50
53:3:801:U:H2'	53:3:802:A:C8	2.46	0.50
53:3:1020:G:H2'	53:3:1021:A:O4'	2.10	0.50
54:1:226:A:H2'	54:1:227:A:C8	2.46	0.50
54:1:347:A:H2'	54:1:348:A:C8	2.45	0.50
54:1:1771:C:H2'	54:1:1772:A:H8	1.76	0.50
58:4:22:A:H61	59:8:586:VAL:HB	1.75	0.50
3:d:132:LYS:HE2	54:1:319:G:OP2	2.12	0.50
4:e:91:ARG:HA	4:e:95:MET:HB2	1.94	0.50
21:v:31:TYR:HB3	21:v:37:PRO:HB3	1.93	0.50
23:x:2:ARG:HH11	23:x:2:ARG:HG3	1.76	0.50
26:A:56:ARG:O	26:A:59:ARG:HB3	2.11	0.50
37:L:119:LEU:O	37:L:123:LEU:HG	2.11	0.50
41:P:116:PRO:C	41:P:117:HIS:ND1	2.67	0.50
42:Q:31:GLY:HA2	42:Q:55:ARG:O	2.12	0.50
46:U:21:VAL:HG11	46:U:60:TRP:CE2	2.47	0.50
47:V:46:HIS:HB2	47:V:70:LYS:CD	2.39	0.50
50:Y:15:LYS:C	50:Y:15:LYS:HD3	2.37	0.50
52:a:26:ALA:HB3	52:a:224:VAL:HG12	1.93	0.50
52:a:30:LEU:HD21	52:a:185:LEU:CD1	2.42	0.50
53:3:1060:U:H2'	53:3:1061:G:H5'	1.94	0.50
53:3:1075:U:H2'	53:3:1076:U:C6	2.46	0.50
53:3:1152:A:H2'	53:3:1153:G:C8	2.46	0.50
54:1:414:C:H2'	54:1:415:A:C8	2.47	0.50
54:1:539:G:H2'	54:1:540:C:C6	2.47	0.50
54:1:590:A:H2'	54:1:591:U:C6	2.46	0.50
54:1:1689:A:H2'	54:1:1690:A:H8	1.76	0.50
54:1:2813:A:H2'	54:1:2814:A:C8	2.46	0.50
54:1:2825:G:H2'	54:1:2826:A:H5'	1.94	0.50
56:5:24:G:H2'	56:5:25:C:H6	1.76	0.50
59:8:350:LEU:HD23	59:8:398:CYS:O	2.12	0.50
2:c:149:ASN:HB3	54:1:2572:A:OP2	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:5:LEU:CD2	3:d:8:ALA:H	2.24	0.50
4:e:79:ARG:HG2	4:e:80:GLN:H	1.76	0.50
5:f:116:LEU:HD23	5:f:117:PRO:O	2.12	0.50
7:h:28:ALA:HB1	7:h:81:LEU:HG	1.93	0.50
8:i:27:LEU:HD23	8:i:27:LEU:H	1.76	0.50
9:j:19:ASP:OD1	9:j:58:ASN:HB2	2.11	0.50
10:k:65:THR:HG22	10:k:67:LYS:N	2.26	0.50
12:m:26:VAL:CG1	12:m:133:LYS:HB2	2.41	0.50
32:G:9:LEU:HG	32:G:14:HIS:CE1	2.47	0.50
33:H:155:ARG:CG	33:H:155:ARG:NH1	2.74	0.50
39:N:121:ARG:O	53:3:1344:C:H5'	2.12	0.50
44:S:66:THR:HG23	44:S:82:LYS:HD2	1.93	0.50
46:U:60:TRP:HB3	46:U:65:ALA:CB	2.42	0.50
50:Y:35:TYR:HA	50:Y:38:ILE:CG1	2.42	0.50
53:3:592:G:H2'	53:3:593:U:O4'	2.12	0.50
54:1:75:G:H22	54:1:111:A:H2	1.60	0.50
54:1:645:C:H2'	54:1:647:G:C8	2.47	0.50
54:1:894:U:H2'	54:1:895:U:O4'	2.11	0.50
54:1:1639:C:O2'	54:1:1640:A:H5'	2.11	0.50
54:1:1657:U:H2'	54:1:1658:C:C6	2.47	0.50
54:1:1843:C:H2'	54:1:1844:C:C6	2.47	0.50
54:1:2134:A:H2'	54:1:2135:A:C4'	2.42	0.50
54:1:2366:A:H2'	54:1:2367:G:O4'	2.12	0.50
54:1:2537:U:H2'	54:1:2538:C:H6	1.77	0.50
59:8:104:ARG:HD2	59:8:104:ARG:C	2.35	0.50
59:8:498:VAL:CG1	59:8:522:MET:H	2.25	0.50
59:8:517:HIS:HB3	59:8:582:SER:OG	2.12	0.50
1:b:7:PRO:HB3	1:b:13:ARG:HG3	1.94	0.49
1:b:224:MET:O	1:b:232:GLY:HA2	2.11	0.49
2:c:133:THR:HG23	2:c:134:HIS:CG	2.47	0.49
6:g:9:VAL:C	6:g:11:ASN:N	2.69	0.49
9:j:78:THR:CG2	54:1:2641:G:H5''	2.42	0.49
10:k:19:VAL:CG2	10:k:41:ILE:HD12	2.41	0.49
12:m:33:LEU:HD12	12:m:117:PHE:HD1	1.75	0.49
12:m:76:LYS:CD	12:m:87:GLY:HA2	2.42	0.49
17:r:8:GLY:C	17:r:10:LYS:H	2.19	0.49
22:w:63:VAL:HA	22:w:78:ILE:CD1	2.42	0.49
23:x:71:ARG:HB2	23:x:71:ARG:HH11	1.77	0.49
37:L:38:ALA:HA	37:L:41:ILE:HG22	1.94	0.49
42:Q:113:ARG:HH21	42:Q:120:ARG:HB2	1.77	0.49
53:3:54:C:N4	53:3:352:C:H2'	2.27	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:362:G:H2'	53:3:364:A:OP2	2.11	0.49
53:3:920:U:O2'	53:3:1080:A:C2	2.61	0.49
53:3:1495:U:H2'	53:3:1496:C:H6	1.77	0.49
54:1:394:C:H2'	54:1:395:U:O4'	2.12	0.49
54:1:727:A:H2'	54:1:728:G:C8	2.47	0.49
54:1:1539:U:H2'	54:1:1540:G:H8	1.76	0.49
54:1:1821:A:H2'	54:1:1822:C:C6	2.48	0.49
54:1:1891:G:H2'	54:1:1892:C:H6	1.76	0.49
54:1:2000:C:H2'	54:1:2001:C:H6	1.76	0.49
54:1:2000:C:O2'	54:1:2001:C:H5'	2.12	0.49
54:1:2307:G:H4'	54:1:2308:G:O4'	2.12	0.49
1:b:231:HIS:HA	1:b:241:LYS:HE3	1.92	0.49
3:d:24:ASN:O	3:d:28:VAL:HG23	2.12	0.49
4:e:116:LEU:HD21	4:e:127:TYR:CE2	2.47	0.49
6:g:11:ASN:CG	6:g:12:LEU:H	2.20	0.49
6:g:42:LYS:HG2	6:g:46:PHE:CE2	2.46	0.49
9:j:49:ASP:OD2	9:j:121:LYS:HD3	2.11	0.49
15:p:32:VAL:HG12	15:p:34:GLY:H	1.77	0.49
18:s:85:ILE:CG2	18:s:93:ALA:HB1	2.41	0.49
33:H:47:ALA:HA	33:H:51:VAL:HG12	1.92	0.49
36:K:8:PHE:N	36:K:8:PHE:CD1	2.80	0.49
38:M:110:MET:SD	38:M:115:ALA:N	2.85	0.49
40:O:7:ARG:N	40:O:101:SER:O	2.42	0.49
41:P:33:ILE:O	41:P:41:LEU:HB2	2.12	0.49
42:Q:23:LEU:HB2	42:Q:58:ASN:ND2	2.28	0.49
49:X:2:ARG:C	49:X:4:LEU:H	2.20	0.49
50:Y:72:ALA:HB1	53:3:186:C:C5'	2.40	0.49
50:Y:81:GLN:HA	50:Y:84:LYS:HB3	1.95	0.49
52:a:59:VAL:HG22	52:a:165:ASN:HD22	1.77	0.49
53:3:124:C:H2'	53:3:125:U:C6	2.47	0.49
53:3:1012:A:H2	53:3:1017:U:N3	2.09	0.49
53:3:1527:U:O2'	53:3:1528:U:H5'	2.12	0.49
54:1:818:G:O2'	54:1:819:A:H5''	2.13	0.49
54:1:2244:U:H2'	54:1:2245:U:C6	2.47	0.49
56:5:38:A:H2'	56:5:39:C:O4'	2.11	0.49
59:8:540:ILE:HD12	59:8:580:PHE:HA	1.95	0.49
1:b:243:PRO:O	1:b:251:THR:HG22	2.12	0.49
6:g:84:ALA:HA	6:g:90:LEU:HA	1.95	0.49
7:h:34:THR:HG23	54:1:1055:G:O2'	2.13	0.49
9:j:52:ASP:O	9:j:54:ILE:HG13	2.12	0.49
10:k:86:LEU:HB3	10:k:95:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:n:49:GLU:OE2	13:n:95:THR:HG22	2.13	0.49
17:r:93:PHE:HE2	17:r:95:ASP:OD2	1.94	0.49
22:w:21:ARG:HG2	22:w:21:ARG:HH11	1.77	0.49
23:x:63:ILE:HG13	23:x:67:LEU:HD13	1.93	0.49
30:E:21:PHE:HB2	30:E:49:VAL:CG2	2.42	0.49
33:H:142:ARG:HG3	33:H:143:LEU:HD12	1.94	0.49
34:I:88:ASN:O	34:I:92:LEU:HG	2.11	0.49
35:J:37:VAL:HA	35:J:47:PHE:HA	1.94	0.49
36:K:15:SER:O	36:K:18:VAL:HG12	2.12	0.49
36:K:47:LEU:HB3	48:W:65:SER:OG	2.11	0.49
36:K:60:VAL:HG12	36:K:61:LEU:N	2.26	0.49
41:P:93:GLU:O	41:P:97:ARG:HG2	2.12	0.49
41:P:126:ARG:N	41:P:126:ARG:HH11	2.10	0.49
43:R:95:PRO:O	53:3:1308:U:O5'	2.30	0.49
43:R:96:VAL:HG13	53:3:1307:U:C2	2.47	0.49
48:W:47:ARG:HD3	48:W:50:TYR:CE2	2.48	0.49
49:X:39:ILE:HG23	49:X:43:MET:CB	2.28	0.49
49:X:49:ALA:HA	49:X:58:PRO:HA	1.93	0.49
51:Z:34:ARG:HB3	51:Z:36:PHE:CZ	2.47	0.49
53:3:57:G:H2'	53:3:58:C:H6	1.77	0.49
54:1:233:A:H2'	54:1:234:U:O4'	2.12	0.49
54:1:1654:A:O2'	54:1:1655:A:H5'	2.12	0.49
54:1:2836:U:H2'	54:1:2837:A:H8	1.77	0.49
2:c:3:GLY:O	2:c:4:LEU:HD23	2.12	0.49
4:e:63:LYS:H	26:A:6:HIS:HD1	1.59	0.49
5:f:68:ARG:HG2	5:f:68:ARG:HH11	1.77	0.49
5:f:174:LYS:HB2	5:f:175:LYS:HG3	1.93	0.49
7:h:18:VAL:HA	7:h:21:GLY:HA3	1.94	0.49
10:k:77:ILE:HD12	10:k:77:ILE:N	2.27	0.49
10:k:103:VAL:O	10:k:122:VAL:HB	2.12	0.49
11:l:55:MET:HE1	11:l:59:ARG:HH21	1.77	0.49
11:l:60:ARG:O	54:1:2393:U:H5'	2.12	0.49
17:r:68:ARG:HB3	17:r:90:ARG:HE	1.77	0.49
22:w:58:LYS:CD	54:1:2366:A:H4'	2.41	0.49
24:y:30:MET:SD	24:y:30:MET:C	2.95	0.49
30:E:15:LYS:HE2	30:E:19:GLY:O	2.12	0.49
31:F:33:HIS:O	31:F:35:GLN:HG2	2.12	0.49
33:H:57:GLU:HG3	33:H:64:ARG:HB3	1.94	0.49
33:H:173:PRO:HA	53:3:1107:C:O3'	2.11	0.49
36:K:8:PHE:HB3	36:K:87:SER:HA	1.94	0.49
37:L:83:THR:O	37:L:83:THR:HG22	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:R:99:GLN:CB	53:3:1307:U:H5''	2.42	0.49
50:Y:82:ILE:HG13	50:Y:83:ASN:N	2.27	0.49
53:3:153:C:C3'	53:3:154:U:H5''	2.42	0.49
53:3:216:U:H2'	53:3:217:C:H6	1.77	0.49
53:3:270:A:H2'	53:3:271:C:C6	2.47	0.49
53:3:1026:G:N3	53:3:1026:G:H2'	2.27	0.49
53:3:1033:G:O2'	53:3:1034:G:H5''	2.12	0.49
53:3:1033:G:C2'	53:3:1034:G:H5''	2.42	0.49
54:1:554:U:H2'	54:1:555:G:O4'	2.12	0.49
54:1:662:G:O2'	54:1:663:G:H5'	2.11	0.49
54:1:1667:G:H22	54:1:1991:U:H3'	1.77	0.49
54:1:1900:A:H1'	54:1:1970:A:O2'	2.13	0.49
54:1:2235:G:H2'	54:1:2236:U:H6	1.77	0.49
59:8:399:ASP:CB	59:8:400:PRO:HD3	2.41	0.49
1:b:131:MET:HE3	1:b:188:ARG:HA	1.92	0.49
1:b:206:LYS:HG2	54:1:729:G:N7	2.27	0.49
2:c:122:VAL:O	2:c:126:ASN:N	2.38	0.49
3:d:58:LYS:HE2	3:d:60:TRP:O	2.12	0.49
4:e:45:ASP:HB2	4:e:48:LEU:HD22	1.94	0.49
5:f:94:ARG:HB3	5:f:127:GLN:CG	2.41	0.49
16:q:48:ASP:O	16:q:51:GLN:N	2.45	0.49
19:t:32:LEU:N	19:t:32:LEU:HD23	2.27	0.49
21:v:42:LEU:N	21:v:42:LEU:HD23	2.27	0.49
33:H:38:VAL:HG23	33:H:39:ARG:NH1	2.26	0.49
36:K:18:VAL:O	36:K:22:ILE:HG13	2.12	0.49
37:L:26:VAL:O	37:L:30:MET:N	2.45	0.49
39:N:115:VAL:O	39:N:117:LEU:N	2.45	0.49
41:P:97:ARG:HE	41:P:97:ARG:CA	2.26	0.49
46:U:75:ILE:HA	46:U:78:VAL:CG1	2.42	0.49
53:3:46:G:N2	53:3:366:A:H1'	2.28	0.49
53:3:415:A:H2'	53:3:416:G:O4'	2.13	0.49
53:3:1343:G:H2'	53:3:1344:C:O4'	2.12	0.49
54:1:705:A:H2'	54:1:706:A:C8	2.47	0.49
54:1:828:U:H4'	54:1:831:G:N1	2.26	0.49
54:1:890:C:H2'	54:1:891:G:C4'	2.42	0.49
54:1:1695:G:H3'	54:1:1695:G:N3	2.27	0.49
54:1:1857:G:H1'	54:1:1885:A:N6	2.27	0.49
54:1:2105:U:H2'	54:1:2106:U:H5'	1.94	0.49
56:5:30:G:H2'	56:5:31:G:H8	1.76	0.49
57:6:18:G:O6	57:6:55:U:H1'	2.13	0.49
59:8:440:LYS:HD2	59:8:440:LYS:C	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:502:GLU:HA	59:8:519:VAL:HA	1.94	0.49
8:i:44:LYS:NZ	8:i:68:PHE:HB2	2.28	0.49
10:k:25:LEU:CD1	10:k:59:LYS:HE3	2.43	0.49
14:o:35:ILE:C	14:o:36:TYR:HD2	2.20	0.49
16:q:28:SER:OG	16:q:29:ARG:HD3	2.13	0.49
26:A:44:PHE:CD2	26:A:45:THR:HG23	2.48	0.49
29:D:44:VAL:HG13	29:D:44:VAL:O	2.13	0.49
31:F:11:CYS:C	31:F:12:ARG:HD3	2.36	0.49
37:L:91:ARG:HB3	37:L:92:PRO:HD2	1.93	0.49
46:U:70:ARG:NH1	53:3:452:A:H1'	2.28	0.49
49:X:32:THR:O	49:X:51:HIS:N	2.45	0.49
53:3:542:G:O2'	53:3:543:U:H5'	2.11	0.49
53:3:768:A:H4'	53:3:1523:G:H21	1.76	0.49
54:1:414:C:H2'	54:1:415:A:H8	1.78	0.49
54:1:974:G:N3	54:1:974:G:H2'	2.28	0.49
54:1:1353:A:H2'	54:1:1354:A:C8	2.47	0.49
54:1:1433:A:H2'	54:1:1434:A:H8	1.75	0.49
54:1:2581:G:H4'	54:1:2582:G:C8	2.47	0.49
59:8:75:MET:SD	59:8:76:ALA:N	2.86	0.49
59:8:324:ILE:HG21	59:8:440:LYS:HZ1	1.77	0.49
59:8:368:ALA:O	59:8:369:ASN:ND2	2.45	0.49
11:l:57:LEU:HG	11:l:58:TYR:N	2.28	0.49
27:B:8:THR:CG2	54:1:2020:A:H5'	2.43	0.49
33:H:168:ARG:HD2	33:H:168:ARG:O	2.13	0.49
34:I:8:LEU:HG	34:I:31:CYS:SG	2.52	0.49
38:M:88:LYS:O	38:M:91:LEU:HG	2.13	0.49
42:Q:110:LYS:HD3	53:3:539:A:OP1	2.12	0.49
43:R:18:LEU:HD11	43:R:33:LEU:HD13	1.95	0.49
43:R:96:VAL:N	43:R:108:ARG:HG3	2.27	0.49
44:S:45:LEU:HD21	49:X:12:LEU:HD13	1.94	0.49
48:W:38:ILE:HD11	53:3:720:C:H1'	1.94	0.49
48:W:54:LEU:HD23	48:W:54:LEU:C	2.37	0.49
49:X:3:SER:O	49:X:4:LEU:HB2	2.12	0.49
52:a:189:LEU:HD21	52:a:224:VAL:CG2	2.36	0.49
54:1:1331:G:O2'	54:1:1332:G:H5''	2.12	0.49
54:1:2247:A:H2'	54:1:2248:C:H6	1.76	0.49
54:1:2516:A:O2'	54:1:2517:C:H5'	2.12	0.49
54:1:2572:A:OP1	54:1:2574:G:H4'	2.12	0.49
56:5:29:U:H2'	56:5:30:G:H8	1.73	0.49
1:b:180:MET:HE2	1:b:268:ARG:NH2	2.27	0.49
2:c:129:THR:CB	2:c:141:ARG:HG3	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:f:1:SER:HB2	54:1:2749:A:OP1	2.13	0.49
10:k:4:GLU:CD	10:k:5:GLN:HG2	2.38	0.49
16:q:48:ASP:HA	16:q:51:GLN:CG	2.42	0.49
17:r:27:ILE:HB	17:r:31:GLU:HG3	1.94	0.49
33:H:186:SER:OG	33:H:197:VAL:HB	2.12	0.49
38:M:105:THR:HG21	38:M:120:LEU:HD13	1.94	0.49
40:O:92:LEU:O	40:O:96:VAL:HB	2.13	0.49
42:Q:85:ARG:HA	42:Q:93:ARG:HA	1.95	0.49
44:S:45:LEU:HD13	49:X:10:ILE:HG13	1.95	0.49
48:W:40:PRO:HB3	53:3:720:C:H5''	1.94	0.49
51:Z:40:PRO:HA	51:Z:43:GLU:HB3	1.94	0.49
53:3:503:C:H2'	53:3:504:C:C6	2.48	0.49
53:3:521:G:C2'	53:3:522:C:H5'	2.43	0.49
53:3:850:U:H2'	53:3:851:G:H5'	1.93	0.49
54:1:100:U:H4'	54:1:101:A:O4'	2.12	0.49
54:1:580:U:O2'	54:1:581:C:H5'	2.12	0.49
54:1:1149:G:H2'	54:1:1150:C:C6	2.48	0.49
54:1:1842:G:H2'	54:1:1843:C:H6	1.77	0.49
55:2:30:C:H2'	55:2:31:C:C5'	2.42	0.49
59:8:189:LYS:HE2	59:8:204:TYR:CZ	2.47	0.49
59:8:267:GLY:HA3	59:8:274:GLY:HA3	1.94	0.49
59:8:410:GLU:OE1	59:8:443:PRO:HB2	2.13	0.49
1:b:198:GLU:HG3	1:b:201:LEU:HD12	1.95	0.49
1:b:209:ALA:HA	1:b:212:TRP:CE2	2.47	0.49
2:c:106:LYS:HA	2:c:175:LEU:O	2.13	0.49
3:d:1:MET:N	3:d:14:VAL:O	2.37	0.49
5:f:154:GLU:OE2	5:f:156:TYR:HB2	2.13	0.49
7:h:58:THR:OG1	7:h:82:ILE:HB	2.13	0.49
13:n:84:GLY:N	13:n:85:PRO:HD2	2.28	0.49
20:u:66:VAL:O	20:u:69:VAL:HG22	2.13	0.49
32:G:150:ILE:CG2	32:G:153:MET:HB2	2.42	0.49
33:H:133:MET:O	33:H:137:VAL:HG23	2.13	0.49
34:I:19:PHE:HD2	34:I:63:ILE:HD11	1.77	0.49
34:I:61:ARG:O	34:I:65:GLY:N	2.46	0.49
36:K:45:ARG:O	36:K:57:ALA:N	2.46	0.49
37:L:101:ARG:NH1	53:3:939:G:H5'	2.28	0.49
38:M:42:GLU:HG2	38:M:100:ILE:HG21	1.95	0.49
44:S:86:ALA:O	44:S:90:GLY:N	2.43	0.49
50:Y:58:ASP:O	50:Y:61:ALA:HB3	2.13	0.49
52:a:178:VAL:HG23	52:a:179:ASP:N	2.28	0.49
53:3:485:U:H5''	53:3:486:U:OP2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1067:A:H2'	53:3:1093:A:O2'	2.12	0.49
53:3:1305:G:H1'	53:3:1332:A:H62	1.77	0.49
54:1:729:G:O2'	54:1:763:G:H4'	2.13	0.49
54:1:1092:C:H2'	54:1:1093:G:H5'	1.94	0.49
55:2:119:A:N6	55:2:120:A:C4	2.80	0.49
59:8:208:PRO:HG2	59:8:211:MET:CG	2.43	0.49
59:8:450:ASP:HB2	59:8:455:GLN:N	2.27	0.49
1:b:62:ARG:HG3	1:b:62:ARG:HH11	1.76	0.49
4:e:62:GLN:HA	26:A:6:HIS:HB3	1.94	0.49
4:e:103:ILE:HD12	4:e:107:VAL:HG21	1.95	0.49
5:f:23:ILE:O	5:f:34:ARG:N	2.46	0.49
6:g:94:ILE:CD1	6:g:146:VAL:HG22	2.43	0.49
8:i:29:GLN:HB2	54:1:1095:A:N6	2.28	0.49
17:r:2:TYR:CD2	17:r:13:ARG:HG2	2.48	0.49
25:z:41:PRO:O	25:z:45:GLY:N	2.38	0.49
35:J:106:ALA:HB2	35:J:124:ALA:HB3	1.94	0.49
38:M:10:LEU:HD22	38:M:74:ILE:HD11	1.94	0.49
44:S:57:SER:C	44:S:59:GLN:H	2.21	0.49
49:X:26:ASP:O	49:X:27:LYS:HB3	2.12	0.49
52:a:59:VAL:HG22	52:a:165:ASN:ND2	2.26	0.49
53:3:1308:U:H2'	53:3:1309:G:O5'	2.13	0.49
54:1:176:A:O2'	54:1:177:G:H5'	2.13	0.49
54:1:367:G:H2'	54:1:368:A:O4'	2.13	0.49
54:1:445:C:C2'	54:1:446:G:H5'	2.43	0.49
54:1:1722:A:H2'	54:1:1723:G:O4'	2.12	0.49
54:1:2625:G:H2'	54:1:2626:C:C6	2.48	0.49
54:1:2747:G:O6	54:1:2755:C:H5''	2.12	0.49
55:2:106:G:H2'	55:2:107:G:O4'	2.13	0.49
56:5:65:U:H2'	56:5:66:C:O4'	2.12	0.49
57:6:15:G:H2'	57:6:16:C:H5'	1.94	0.49
59:8:351:ASN:HB3	59:8:354:LYS:CE	2.40	0.49
59:8:641:MET:HG2	59:8:643:LYS:HG2	1.93	0.49
2:c:113:SER:HB3	2:c:170:VAL:HG21	1.94	0.48
4:e:3:LEU:O	4:e:6:TYR:HB3	2.12	0.48
4:e:64:PRO:HB3	4:e:88:VAL:HG13	1.94	0.48
7:h:26:VAL:HB	7:h:82:ILE:HG23	1.94	0.48
9:j:93:ILE:HD13	9:j:100:VAL:HG21	1.95	0.48
19:t:17:SER:N	19:t:20:ALA:HB3	2.27	0.48
19:t:32:LEU:HD23	19:t:83:ALA:O	2.13	0.48
20:u:81:ARG:HD3	54:1:335:C:H5''	1.94	0.48
33:H:178:ARG:NH2	33:H:206:ILE:HD12	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:39:GLY:HA2	35:J:70:MET:CE	2.42	0.48
42:Q:80:LEU:HD12	42:Q:100:ALA:CB	2.37	0.48
44:S:81:ILE:C	44:S:82:LYS:HE2	2.37	0.48
47:V:25:GLU:HA	47:V:39:ARG:O	2.12	0.48
53:3:112:G:O2'	53:3:113:G:H5'	2.13	0.48
53:3:114:U:O2'	53:3:115:G:H5'	2.13	0.48
53:3:389:A:H3'	53:3:390:U:H6	1.78	0.48
53:3:1097:C:H2'	53:3:1098:C:C6	2.48	0.48
54:1:132:G:H2'	54:1:133:U:C6	2.48	0.48
54:1:348:A:H3'	54:1:349:U:H5''	1.94	0.48
54:1:565:C:H4'	54:1:1253:A:N6	2.28	0.48
54:1:1301:A:N1	54:1:1303:G:C5	2.81	0.48
54:1:1934:C:O2'	54:1:1935:G:H5'	2.13	0.48
54:1:2169:A:H2'	54:1:2170:A:O4'	2.12	0.48
59:8:31:LEU:HA	59:8:34:THR:OG1	2.13	0.48
59:8:36:VAL:O	59:8:36:VAL:HG12	2.13	0.48
59:8:420:VAL:HG11	59:8:458:ILE:HD12	1.94	0.48
59:8:616:ILE:HB	59:8:686:LYS:O	2.11	0.48
13:n:4:ARG:HG2	13:n:4:ARG:NH1	2.28	0.48
15:p:95:LYS:HE2	54:1:2847:U:OP1	2.13	0.48
15:p:103:THR:O	15:p:107:ALA:N	2.46	0.48
16:q:2:ARG:HG2	54:1:446:G:OP1	2.13	0.48
17:r:78:ARG:HH22	54:1:974:G:H4'	1.77	0.48
22:w:39:THR:O	22:w:39:THR:HG22	2.13	0.48
26:A:64:PHE:HB2	53:3:1012:A:OP1	2.13	0.48
30:E:2:LYS:HG3	54:1:242:G:N7	2.27	0.48
32:G:170:ILE:HA	32:G:173:LYS:HB3	1.95	0.48
36:K:47:LEU:HD12	36:K:51:ILE:CG2	2.41	0.48
37:L:6:ILE:HD11	53:3:1377:A:N7	2.27	0.48
41:P:28:ASN:HA	41:P:56:LYS:NZ	2.29	0.48
41:P:64:VAL:O	41:P:67:GLU:HB2	2.14	0.48
42:Q:51:VAL:HG22	42:Q:52:CYS:N	2.23	0.48
44:S:11:LYS:O	44:S:15:LEU:HG	2.13	0.48
53:3:230:G:O2'	53:3:231:U:H5'	2.13	0.48
54:1:1092:C:C2'	54:1:1093:G:H5'	2.43	0.48
54:1:1398:C:H2'	54:1:1399:C:C6	2.48	0.48
54:1:1549:A:H2'	54:1:1550:C:C6	2.48	0.48
54:1:1941:C:H1'	54:1:1965:C:N3	2.28	0.48
54:1:2655:G:O2'	54:1:2656:U:H5	1.96	0.48
56:5:11:C:H2'	56:5:12:G:H8	1.76	0.48
59:8:167:VAL:HG11	59:8:263:LEU:HD23	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:88:ALA:HB3	1:b:104:LEU:HD11	1.95	0.48
5:f:22:VAL:HG22	5:f:35:THR:HG23	1.95	0.48
9:j:37:ARG:HB3	9:j:39:LYS:HG3	1.95	0.48
10:k:32:TYR:OH	54:1:1996:C:C5	2.62	0.48
13:n:97:ILE:O	13:n:98:LEU:HD23	2.13	0.48
14:o:38:GLN:HB3	14:o:50:ALA:HA	1.94	0.48
18:s:97:LEU:HD12	18:s:97:LEU:N	2.28	0.48
19:t:3:ARG:HG3	19:t:3:ARG:NH1	2.28	0.48
20:u:78:LYS:HD2	20:u:79:ALA:O	2.12	0.48
24:y:50:VAL:O	24:y:54:LYS:HG3	2.13	0.48
32:G:80:LYS:HG3	32:G:90:PHE:CZ	2.49	0.48
33:H:111:ASP:O	33:H:115:VAL:HG23	2.12	0.48
34:I:113:ALA:O	34:I:117:VAL:HG23	2.13	0.48
34:I:187:ARG:HD2	34:I:190:LEU:HD11	1.94	0.48
35:J:24:VAL:HG13	53:3:922:G:H5'	1.95	0.48
39:N:49:GLN:HA	39:N:52:GLU:HB2	1.96	0.48
41:P:21:HIS:HB2	41:P:32:THR:HB	1.95	0.48
45:T:86:LEU:O	45:T:87:ARG:HG3	2.12	0.48
46:U:20:VAL:HG22	46:U:21:VAL:N	2.29	0.48
46:U:39:PHE:CD1	46:U:74:LEU:HD11	2.48	0.48
49:X:44:ILE:HA	49:X:61:VAL:CG1	2.43	0.48
53:3:89:U:H2'	53:3:90:C:H5'	1.95	0.48
54:1:743:A:O2'	54:1:744:U:H5'	2.14	0.48
54:1:834:G:H1'	54:1:2358:A:N3	2.29	0.48
54:1:1278:C:H2'	54:1:1279:G:H8	1.77	0.48
54:1:1351:C:H4'	54:1:1572:A:O4'	2.14	0.48
54:1:1478:G:O2'	54:1:1479:G:H5'	2.14	0.48
1:b:260:LYS:HB3	54:1:2227:A:H5''	1.94	0.48
3:d:18:THR:CG2	3:d:200:LEU:HD22	2.36	0.48
9:j:105:VAL:HG12	9:j:109:LEU:HD13	1.94	0.48
10:k:48:PRO:HB2	10:k:49:ARG:NH2	2.28	0.48
10:k:105:ARG:HD2	10:k:108:ARG:HH21	1.78	0.48
15:p:8:GLU:HG3	15:p:54:LEU:CB	2.43	0.48
15:p:38:ARG:HH22	15:p:40:GLN:HB3	1.77	0.48
22:w:16:ARG:NE	54:1:2356:U:H4'	2.29	0.48
24:y:28:LEU:O	24:y:32:ALA:N	2.44	0.48
32:G:158:ASP:O	32:G:181:PRO:HD2	2.13	0.48
41:P:115:ILE:HD12	41:P:115:ILE:N	2.28	0.48
51:Z:16:ARG:HG2	51:Z:20:ARG:HH21	1.79	0.48
53:3:1004:A:H1'	53:3:1036:A:H61	1.78	0.48
53:3:1347:G:H4'	53:3:1348:U:C6	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:64:A:H2'	54:1:65:U:H6	1.76	0.48
54:1:144:A:H2'	54:1:145:C:C6	2.47	0.48
54:1:818:G:H2'	54:1:1187:G:H22	1.78	0.48
54:1:890:C:C2'	54:1:891:G:H5'	2.43	0.48
54:1:1280:G:O2'	54:1:1281:G:H5'	2.14	0.48
54:1:1904:G:N2	54:1:1905:C:H1'	2.28	0.48
54:1:1915:U:H3'	54:1:1916:A:C8	2.49	0.48
54:1:1972:G:H2'	54:1:1973:G:H8	1.78	0.48
54:1:2227:A:H2'	54:1:2228:G:O4'	2.13	0.48
54:1:2475:C:H2'	54:1:2476:A:H5'	1.95	0.48
54:1:2637:U:H2'	54:1:2638:G:O4'	2.13	0.48
59:8:450:ASP:N	59:8:455:GLN:O	2.39	0.48
4:e:116:LEU:HB3	4:e:176:PHE:H	1.77	0.48
6:g:47:PHE:HA	6:g:51:ARG:HB2	1.95	0.48
11:l:134:ALA:O	11:l:137:ALA:HB3	2.12	0.48
14:o:72:ALA:HB1	14:o:109:ALA:HB2	1.94	0.48
18:s:20:VAL:HG21	18:s:43:ALA:CB	2.34	0.48
19:t:67:VAL:O	19:t:68:LYS:HE2	2.13	0.48
24:y:27:ASN:HD22	24:y:27:ASN:N	2.12	0.48
29:D:14:ARG:HG3	29:D:14:ARG:NH2	2.28	0.48
33:H:129:PHE:CZ	33:H:130:ARG:HG3	2.47	0.48
34:I:97:LEU:HD23	34:I:101:VAL:HG23	1.95	0.48
37:L:3:ARG:HH21	53:3:932:C:H4'	1.79	0.48
40:O:38:GLY:HA2	53:3:1123:U:OP2	2.13	0.48
46:U:5:ARG:HD2	53:3:376:G:H4'	1.95	0.48
47:V:8:GLN:HG2	47:V:59:GLU:HA	1.95	0.48
47:V:13:SER:O	47:V:20:ILE:HG13	2.13	0.48
48:W:39:VAL:HG13	48:W:40:PRO:HD2	1.95	0.48
53:3:49:U:N3	53:3:362:G:H1'	2.27	0.48
53:3:583:A:H2'	53:3:584:G:O4'	2.13	0.48
53:3:604:G:H2'	53:3:605:U:H6	1.77	0.48
53:3:1097:C:H2'	53:3:1098:C:H6	1.78	0.48
54:1:418:C:H2'	54:1:419:U:C6	2.49	0.48
54:1:570:G:O2'	54:1:571:U:H5'	2.13	0.48
54:1:803:U:O2'	54:1:804:A:H5'	2.12	0.48
54:1:1039:A:H2'	54:1:1040:A:C8	2.48	0.48
54:1:1367:A:H2'	54:1:1368:G:H5'	1.95	0.48
54:1:1480:C:H2'	54:1:1481:U:C6	2.49	0.48
54:1:2140:G:H2'	54:1:2141:G:C8	2.49	0.48
59:8:393:THR:HG21	59:8:443:PRO:HB3	1.94	0.48
59:8:522:MET:HE3	59:8:605:PHE:HA	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:205:GLY:HA2	54:1:1791:A:O2'	2.13	0.48
2:c:33:ARG:HG2	2:c:33:ARG:NH2	2.28	0.48
3:d:151:GLY:HA3	3:d:191:ASP:OD2	2.13	0.48
9:j:28:LEU:HD23	9:j:28:LEU:C	2.39	0.48
11:l:13:LYS:HE3	54:1:1245:G:OP1	2.13	0.48
15:p:52:ARG:HH21	54:1:2846:G:H5'	1.78	0.48
32:G:53:LEU:HD21	32:G:216:VAL:HG22	1.95	0.48
38:M:20:ASN:HA	38:M:64:TYR:CZ	2.49	0.48
41:P:96:ILE:HG13	41:P:97:ARG:HE	1.78	0.48
46:U:45:GLU:CD	46:U:45:GLU:H	2.20	0.48
47:V:28:VAL:O	47:V:36:PHE:HA	2.12	0.48
49:X:46:LEU:O	49:X:61:VAL:HG23	2.13	0.48
52:a:165:ASN:HA	52:a:171:ILE:HD12	1.96	0.48
53:3:560:A:C5'	53:3:566:G:N2	2.76	0.48
53:3:824:G:H2'	53:3:825:A:H8	1.78	0.48
53:3:1234:C:H1'	53:3:1364:U:O2	2.14	0.48
54:1:616:A:H2'	54:1:617:G:O4'	2.13	0.48
54:1:1105:U:H2'	54:1:1106:G:H8	1.78	0.48
54:1:1908:C:H2'	54:1:1909:C:H6	1.78	0.48
54:1:2363:G:O2'	54:1:2364:C:H5'	2.13	0.48
54:1:2670:A:H2'	54:1:2671:G:C8	2.49	0.48
54:1:2795:C:O2'	54:1:2796:U:H5'	2.14	0.48
55:2:88:C:H3'	55:2:88:C:P	2.54	0.48
59:8:192:ASN:O	59:8:203:GLU:N	2.36	0.48
59:8:450:ASP:HB2	59:8:455:GLN:H	1.77	0.48
59:8:475:ARG:HG3	59:8:475:ARG:HH11	1.79	0.48
59:8:535:GLU:OE2	59:8:537:ILE:HG23	2.13	0.48
1:b:109:LEU:C	1:b:109:LEU:HD23	2.39	0.48
1:b:144:GLU:OE2	1:b:188:ARG:HB2	2.13	0.48
2:c:118:PHE:HE1	2:c:163:GLY:HA2	1.78	0.48
11:l:141:LYS:HG2	11:l:143:GLU:OE1	2.12	0.48
12:m:63:ILE:HD12	12:m:63:ILE:H	1.79	0.48
13:n:22:ARG:HB2	13:n:22:ARG:NH2	2.29	0.48
13:n:46:ARG:CB	13:n:46:ARG:HH21	2.27	0.48
13:n:114:GLU:OE2	13:n:118:ARG:HD3	2.13	0.48
26:A:58:ASP:O	26:A:62:LYS:HG2	2.13	0.48
27:B:39:ARG:HD3	54:1:2886:A:N1	2.29	0.48
32:G:53:LEU:O	32:G:57:ASN:N	2.46	0.48
34:I:58:GLN:HE22	34:I:61:ARG:HH21	1.60	0.48
35:J:14:LEU:HD12	35:J:35:LEU:C	2.39	0.48
36:K:51:ILE:HG23	36:K:51:ILE:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:P:30:ILE:HG22	41:P:45:THR:CG2	2.44	0.48
42:Q:89:LEU:HB2	42:Q:92:VAL:HB	1.94	0.48
43:R:98:GLY:O	43:R:99:GLN:HB2	2.14	0.48
46:U:15:PRO:HG2	46:U:41:PRO:HG3	1.96	0.48
49:X:45:GLY:HA2	49:X:60:PHE:CE1	2.49	0.48
53:3:56:U:H2'	53:3:57:G:C8	2.49	0.48
53:3:313:A:H2'	53:3:314:C:H6	1.74	0.48
53:3:742:G:H2'	53:3:743:A:H8	1.79	0.48
53:3:1016:A:H2'	53:3:1017:U:O4'	2.12	0.48
54:1:1060:U:H3	54:1:1088:A:H8	1.56	0.48
54:1:2266:A:H4'	54:1:2267:A:O5'	2.13	0.48
54:1:2343:U:O2'	54:1:2344:U:H5'	2.13	0.48
54:1:2418:A:C2'	54:1:2419:U:H5'	2.44	0.48
59:8:544:VAL:O	59:8:544:VAL:HG12	2.14	0.48
1:b:181:ARG:HG3	1:b:266:ILE:HA	1.95	0.48
3:d:146:VAL:HG22	3:d:147:LEU:N	2.29	0.48
5:f:34:ARG:NH1	5:f:70:LEU:HD13	2.29	0.48
6:g:134:VAL:HG23	6:g:135:HIS:H	1.79	0.48
7:h:27:VAL:HG11	7:h:40:GLU:OE1	2.13	0.48
9:j:25:LEU:HD23	9:j:29:ALA:HB2	1.96	0.48
9:j:43:GLU:OE1	16:q:102:LYS:HE2	2.13	0.48
14:o:97:PHE:O	14:o:98:GLN:C	2.56	0.48
15:p:32:VAL:C	15:p:34:GLY:H	2.22	0.48
16:q:39:ILE:O	16:q:43:GLN:N	2.39	0.48
20:u:24:VAL:HG13	20:u:34:ILE:H	1.78	0.48
33:H:87:ARG:HE	33:H:99:GLN:HA	1.79	0.48
34:I:8:LEU:CD2	53:3:429:U:H5'	2.40	0.48
35:J:14:LEU:HD12	35:J:35:LEU:O	2.13	0.48
35:J:98:ALA:CB	35:J:123:LEU:HD22	2.43	0.48
37:L:14:ASP:H	37:L:19:SER:H	1.61	0.48
37:L:28:ILE:O	37:L:28:ILE:HG22	2.13	0.48
40:O:13:PHE:CD2	44:S:93:PRO:HB2	2.48	0.48
53:3:20:U:H2'	53:3:21:G:O4'	2.14	0.48
53:3:669:G:H2'	53:3:670:G:C8	2.49	0.48
53:3:735:C:H2'	53:3:736:C:C6	2.49	0.48
54:1:632:A:H2'	54:1:633:A:H8	1.79	0.48
54:1:1924:C:H2'	54:1:1925:C:H6	1.76	0.48
54:1:2443:C:H2'	54:1:2444:G:H8	1.78	0.48
56:5:38:A:H2'	56:5:39:C:H6	1.78	0.48
59:8:142:ASN:OD1	59:8:269:ALA:HB2	2.12	0.48
2:c:38:LYS:HD2	2:c:43:ASP:CG	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:200:LEU:N	3:d:200:LEU:HD12	2.28	0.48
6:g:11:ASN:ND2	6:g:12:LEU:H	2.12	0.48
6:g:25:TYR:CE2	6:g:30:LEU:HD11	2.49	0.48
27:B:15:ARG:HG3	27:B:16:ARG:N	2.28	0.48
32:G:61:SER:O	32:G:63:LYS:HD2	2.14	0.48
33:H:77:GLY:HA3	33:H:82:ASP:OD2	2.14	0.48
34:I:77:GLU:O	34:I:81:LEU:HG	2.14	0.48
39:N:5:TYR:CE1	39:N:88:GLU:HG2	2.49	0.48
51:Z:6:ARG:O	51:Z:7:GLU:C	2.56	0.48
52:a:38:PHE:HE2	52:a:217:THR:HG21	1.78	0.48
53:3:206:C:H2'	53:3:207:C:O4'	2.13	0.48
53:3:266:G:N3	53:3:266:G:H5''	2.28	0.48
53:3:347:G:H2'	53:3:348:G:C4'	2.43	0.48
53:3:528:C:H4'	53:3:535:A:C6	2.49	0.48
53:3:854:U:H2'	53:3:855:U:C5	2.48	0.48
54:1:522:A:H2'	54:1:523:C:C6	2.48	0.48
54:1:1487:U:H2'	54:1:1488:C:H6	1.77	0.48
54:1:2059:A:N6	54:1:2503:A:H2'	2.29	0.48
54:1:2196:C:O2'	54:1:2197:U:H5'	2.14	0.48
54:1:2291:U:H2'	54:1:2292:U:H6	1.78	0.48
59:8:162:LEU:HD23	59:8:162:LEU:C	2.38	0.48
59:8:337:ARG:HG2	59:8:382:ILE:HG22	1.96	0.48
59:8:545:ILE:HD11	59:8:549:TYR:HB2	1.96	0.48
1:b:41:GLY:CA	1:b:53:ILE:HD11	2.44	0.48
2:c:91:THR:HG23	2:c:94:GLN:HB2	1.95	0.48
6:g:128:HIS:HB2	6:g:144:VAL:HB	1.96	0.48
7:h:64:VAL:O	7:h:68:PRO:HD3	2.14	0.48
21:v:21:ARG:HE	21:v:87:GLN:HA	1.78	0.48
23:x:71:ARG:HB2	23:x:71:ARG:NH1	2.29	0.48
33:H:21:TRP:H	44:S:93:PRO:CG	2.26	0.48
36:K:18:VAL:HG21	36:K:60:VAL:HG21	1.96	0.48
42:Q:29:LYS:O	42:Q:81:ILE:HG22	2.14	0.48
42:Q:33:CYS:HB3	42:Q:76:HIS:H	1.77	0.48
43:R:90:HIS:NE2	53:3:1308:U:O2'	2.45	0.48
48:W:42:ARG:HG2	48:W:42:ARG:HH11	1.78	0.48
52:a:7:ARG:HA	52:a:10:VAL:HB	1.96	0.48
53:3:159:G:H1'	53:3:162:A:H62	1.78	0.48
53:3:256:U:H2'	53:3:257:G:C8	2.49	0.48
53:3:560:A:H5'	53:3:566:G:H22	1.78	0.48
53:3:628:G:H2'	53:3:629:A:C8	2.49	0.48
53:3:1327:C:O2'	53:3:1328:C:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:92:U:H2'	54:1:93:G:C5'	2.43	0.48
54:1:413:C:H6	54:1:413:C:O5'	1.97	0.48
54:1:1799:G:C6	54:1:1819:A:C8	3.02	0.48
54:1:1954:G:H21	54:1:1956:U:H3	1.60	0.48
54:1:2473:U:H1'	59:8:636:SER:HB2	1.96	0.48
54:1:2861:U:H2'	54:1:2862:G:H8	1.78	0.48
55:2:104:A:H2'	55:2:105:G:O4'	2.14	0.48
59:8:239:GLY:C	59:8:241:GLU:H	2.22	0.48
1:b:209:ALA:O	1:b:212:TRP:CD1	2.67	0.47
2:c:33:ARG:NH2	2:c:52:THR:HA	2.29	0.47
13:n:10:LEU:O	13:n:12:ARG:HD2	2.14	0.47
17:r:33:VAL:HG23	17:r:61:ALA:HB3	1.95	0.47
19:t:68:LYS:HG2	19:t:77:ARG:HG2	1.95	0.47
21:v:48:MET:HE1	21:v:84:PRO:C	2.39	0.47
22:w:10:ARG:HB2	22:w:10:ARG:CZ	2.44	0.47
25:z:10:ARG:HH21	25:z:10:ARG:HG3	1.78	0.47
30:E:16:THR:HG21	30:E:48:MET:SD	2.54	0.47
32:G:69:VAL:HG12	32:G:91:VAL:CG2	2.42	0.47
32:G:134:LEU:O	32:G:138:ARG:N	2.42	0.47
33:H:89:VAL:HG13	33:H:90:VAL:H	1.79	0.47
35:J:96:GLN:O	35:J:122:VAL:HG23	2.14	0.47
36:K:69:GLU:CD	36:K:69:GLU:H	2.21	0.47
42:Q:66:ILE:HG13	42:Q:96:THR:HG21	1.95	0.47
44:S:8:ARG:O	44:S:11:LYS:HG2	2.14	0.47
46:U:14:ARG:HH21	46:U:42:ILE:HD12	1.79	0.47
52:a:23:ILE:HG22	52:a:186:LYS:HG3	1.95	0.47
52:a:33:LEU:HD13	52:a:220:ALA:H	1.77	0.47
52:a:177:LYS:NZ	54:1:2125:G:H5'	2.28	0.47
53:3:57:G:H2'	53:3:58:C:C6	2.49	0.47
53:3:89:U:C2'	53:3:90:C:H5'	2.44	0.47
53:3:1071:C:H2'	53:3:1072:G:C8	2.48	0.47
53:3:1289:A:H2'	53:3:1290:G:H5'	1.96	0.47
53:3:1296:C:H4'	53:3:1302:C:N4	2.28	0.47
54:1:2128:G:H1'	54:1:2173:A:O2'	2.14	0.47
54:1:2462:C:H2'	54:1:2463:C:H6	1.79	0.47
54:1:2721:A:H2'	54:1:2722:G:O4'	2.13	0.47
54:1:2845:U:H2'	54:1:2846:G:H8	1.76	0.47
56:5:5:G:O2'	56:5:6:A:H8	1.97	0.47
59:8:104:ARG:HD2	59:8:104:ARG:O	2.14	0.47
59:8:144:MET:O	59:8:149:ALA:HB2	2.13	0.47
2:c:12:THR:HG21	15:p:4:ILE:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:117:ARG:HH12	11:l:2:ARG:HD2	1.78	0.47
4:e:112:ASP:OD1	4:e:114:ARG:HD2	2.14	0.47
6:g:96:THR:HB	6:g:112:LYS:CD	2.44	0.47
10:k:12:ASP:OD2	10:k:14:SER:HB3	2.14	0.47
11:l:82:LEU:O	11:l:84:LYS:N	2.47	0.47
16:q:24:TYR:HE1	54:1:17:G:H4'	1.78	0.47
18:s:107:VAL:HG13	18:s:107:VAL:O	2.14	0.47
20:u:40:LEU:HD23	20:u:40:LEU:N	2.28	0.47
22:w:40:LYS:HE2	54:1:2330:G:H4'	1.97	0.47
24:y:28:LEU:HD22	24:y:37:LEU:HD22	1.95	0.47
27:B:18:HIS:HE1	54:1:2045:C:O2	1.96	0.47
29:D:27:GLY:C	29:D:29:GLN:N	2.71	0.47
32:G:161:PHE:HA	32:G:183:PHE:HD2	1.80	0.47
33:H:42:LEU:HD13	33:H:54:ILE:HG21	1.96	0.47
34:I:169:TRP:HB2	34:I:183:ARG:O	2.14	0.47
35:J:17:VAL:HG23	35:J:33:THR:O	2.14	0.47
36:K:5:GLU:HA	36:K:63:ASN:HA	1.96	0.47
43:R:97:ARG:HB2	53:3:1307:U:H3'	1.96	0.47
45:T:63:ARG:HE	45:T:87:ARG:NH1	2.12	0.47
49:X:3:SER:CB	49:X:69:LYS:HE2	2.39	0.47
53:3:1114:C:C1'	53:3:1115:U:O4	2.63	0.47
54:1:1185:G:H5''	54:1:1186:G:OP1	2.14	0.47
54:1:2452:C:N4	54:1:2504:U:H3	2.05	0.47
54:1:2720:U:O2'	54:1:2721:A:H5'	2.14	0.47
59:8:127:TRP:CZ2	59:8:164:ALA:HB2	2.48	0.47
3:d:147:LEU:HD23	3:d:147:LEU:C	2.39	0.47
3:d:191:ASP:HA	3:d:194:LYS:HZ1	1.79	0.47
4:e:30:VAL:HA	4:e:157:THR:HG22	1.96	0.47
5:f:51:PHE:CE2	5:f:68:ARG:HA	2.49	0.47
6:g:40:THR:H	6:g:43:ASN:HB3	1.79	0.47
18:s:23:LEU:HD11	27:B:21:LEU:HD22	1.95	0.47
19:t:23:ALA:O	19:t:28:ASN:N	2.47	0.47
21:v:83:LYS:HB3	21:v:85:LYS:HZ2	1.79	0.47
27:B:52:LYS:HG3	27:B:52:LYS:O	2.14	0.47
32:G:26:MET:CE	32:G:188:THR:HA	2.44	0.47
36:K:71:ILE:HD12	36:K:74:LEU:HD13	1.95	0.47
37:L:26:VAL:HG11	37:L:35:LYS:HE2	1.96	0.47
40:O:38:GLY:CA	53:3:1123:U:H5''	2.45	0.47
45:T:5:GLU:O	45:T:9:LYS:N	2.40	0.47
45:T:31:LEU:CD1	45:T:62:ARG:HB2	2.43	0.47
46:U:31:ARG:HD2	53:3:310:G:O3'	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:V:13:SER:HB3	47:V:21:VAL:CG1	2.45	0.47
47:V:60:ILE:HD12	47:V:60:ILE:N	2.30	0.47
50:Y:4:LYS:HZ3	53:3:331:G:H2'	1.78	0.47
50:Y:35:TYR:O	50:Y:39:GLU:N	2.40	0.47
50:Y:59:ARG:HB3	50:Y:59:ARG:HH11	1.79	0.47
53:3:147:G:H2'	53:3:148:G:C8	2.49	0.47
53:3:217:C:H2'	53:3:218:U:C6	2.48	0.47
53:3:614:C:H2'	53:3:615:G:O4'	2.15	0.47
53:3:721:G:H4'	53:3:722:G:O4'	2.14	0.47
53:3:1493:A:O2'	53:3:1494:G:OP1	2.19	0.47
54:1:84:A:H4'	54:1:85:G:O5'	2.14	0.47
54:1:306:U:H2'	54:1:307:G:O4'	2.14	0.47
54:1:691:C:O2'	54:1:692:C:H5'	2.13	0.47
54:1:832:U:H2'	54:1:833:A:C8	2.49	0.47
54:1:1386:C:H2'	54:1:1387:A:C8	2.47	0.47
54:1:1998:A:H2'	54:1:1999:C:C6	2.50	0.47
54:1:2358:A:H2'	54:1:2359:C:O4'	2.14	0.47
54:1:2545:G:O2'	54:1:2546:U:H5'	2.14	0.47
57:6:28:C:H6	57:6:28:C:H5'	1.80	0.47
59:8:93:VAL:C	59:8:95:PHE:H	2.23	0.47
59:8:165:ASN:HB3	59:8:261:ILE:HG22	1.95	0.47
59:8:171:LEU:HB3	59:8:183:VAL:CG2	2.44	0.47
59:8:553:VAL:HG23	59:8:593:PHE:O	2.15	0.47
1:b:106:PRO:HG2	1:b:109:LEU:CB	2.38	0.47
1:b:180:MET:N	1:b:180:MET:SD	2.86	0.47
2:c:40:LEU:O	2:c:44:GLY:HA2	2.15	0.47
8:i:10:LEU:HB3	8:i:11:GLN:H	1.47	0.47
8:i:55:PRO:HG3	8:i:74:PRO:HG3	1.97	0.47
20:u:11:ILE:HA	20:u:21:ARG:HA	1.96	0.47
21:v:20:LEU:HD11	21:v:41:GLU:HG3	1.96	0.47
22:w:16:ARG:HE	54:1:2356:U:H4'	1.78	0.47
25:z:19:HIS:O	25:z:23:LEU:HG	2.14	0.47
39:N:50:PRO:HD3	39:N:79:ARG:HG3	1.95	0.47
42:Q:33:CYS:HB2	42:Q:76:HIS:O	2.14	0.47
44:S:42:ASN:O	44:S:46:LYS:HG3	2.15	0.47
45:T:62:ARG:O	45:T:63:ARG:C	2.56	0.47
53:3:629:A:C2	53:3:630:A:H1'	2.50	0.47
53:3:1276:G:H2'	53:3:1277:C:O4'	2.14	0.47
54:1:191:A:C2	54:1:192:C:C2	3.02	0.47
54:1:1542:U:H2'	54:1:1543:G:O4'	2.13	0.47
54:1:1667:G:H1	54:1:1991:U:H3'	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:32:VAL:HG21	11:l:6:LEU:HD12	1.96	0.47
3:d:137:LYS:HA	3:d:140:ASP:OD2	2.15	0.47
5:f:26:LYS:HA	5:f:31:GLU:HA	1.97	0.47
5:f:34:ARG:HB2	5:f:74:MET:HE1	1.97	0.47
5:f:116:LEU:HD11	5:f:120:ILE:HG21	1.97	0.47
6:g:81:ALA:HB2	6:g:147:VAL:CG2	2.40	0.47
14:o:32:PRO:HD2	55:2:29:A:OP2	2.14	0.47
15:p:74:GLN:HB2	15:p:77:SER:HB2	1.96	0.47
17:r:38:VAL:HG13	17:r:54:VAL:HG22	1.97	0.47
25:z:29:ARG:HG2	25:z:29:ARG:HH21	1.78	0.47
26:A:1:MET:HB2	26:A:6:HIS:HD2	1.79	0.47
30:E:31:ILE:HG23	30:E:35:LYS:NZ	2.30	0.47
32:G:53:LEU:HD13	32:G:219:THR:HG21	1.95	0.47
35:J:45:VAL:O	35:J:71:ILE:N	2.41	0.47
37:L:25:PHE:CE1	37:L:103:ILE:HD13	2.50	0.47
37:L:36:SER:O	37:L:40:SER:N	2.48	0.47
38:M:9:MET:O	38:M:13:ILE:HG13	2.14	0.47
42:Q:109:ARG:O	42:Q:118:VAL:HG11	2.15	0.47
44:S:2:LYS:NZ	53:3:983:A:H4'	2.29	0.47
44:S:51:PRO:HG2	44:S:53:ASP:OD2	2.15	0.47
53:3:61:G:H2'	53:3:62:U:O4'	2.14	0.47
53:3:381:C:H2'	53:3:382:A:C8	2.49	0.47
53:3:509:A:H2	53:3:544:G:O4'	1.96	0.47
53:3:622:A:H3'	53:3:623:C:H6	1.79	0.47
53:3:779:C:H2'	53:3:780:A:O4'	2.15	0.47
53:3:1298:U:H5'	53:3:1299:A:C2	2.49	0.47
54:1:438:G:H2'	54:1:439:A:C8	2.50	0.47
54:1:848:C:H2'	54:1:849:A:H8	1.80	0.47
54:1:904:G:H2'	54:1:905:A:H8	1.79	0.47
54:1:1999:C:H1'	54:1:2687:U:O2'	2.13	0.47
54:1:2332:C:C1'	54:1:2336:A:H2	2.26	0.47
1:b:83:ASP:OD2	1:b:86:ARG:HG2	2.14	0.47
1:b:153:LEU:HD12	1:b:153:LEU:N	2.28	0.47
3:d:12:LEU:H	3:d:12:LEU:HD12	1.80	0.47
6:g:7:ASP:O	6:g:8:LYS:C	2.57	0.47
10:k:20:MET:HB3	10:k:42:THR:CG2	2.45	0.47
16:q:27:ARG:HH22	54:1:532:A:H3'	1.78	0.47
18:s:41:LYS:HG3	27:B:21:LEU:HD11	1.97	0.47
33:H:58:ARG:HG3	33:H:58:ARG:NH1	2.29	0.47
33:H:147:GLY:HA2	33:H:170:GLY:HA3	1.96	0.47
35:J:20:VAL:HG21	53:3:1080:A:OP1	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:151:MET:O	35:J:155:LYS:HG2	2.13	0.47
39:N:60:LEU:HD23	39:N:60:LEU:N	2.30	0.47
40:O:46:LYS:HB2	40:O:68:ARG:HG2	1.97	0.47
40:O:53:ILE:HG12	53:3:1060:U:C5'	2.45	0.47
41:P:108:ASN:C	41:P:109:ILE:HD12	2.39	0.47
52:a:30:LEU:HA	52:a:33:LEU:HB2	1.96	0.47
53:3:15:G:C6	53:3:16:A:C6	3.03	0.47
53:3:1488:G:O2'	53:3:1489:G:H5'	2.15	0.47
54:1:677:A:O2'	54:1:2071:A:H5'	2.13	0.47
54:1:1043:C:C2'	54:1:1044:C:H5'	2.45	0.47
54:1:1066:U:H3'	54:1:1067:A:H5''	1.97	0.47
54:1:1424:G:H2'	54:1:1425:G:O4'	2.13	0.47
54:1:1427:A:H4'	54:1:1428:C:O4'	2.14	0.47
54:1:2709:G:H2'	54:1:2710:C:C6	2.50	0.47
54:1:2803:G:H2'	54:1:2804:U:H6	1.79	0.47
55:2:21:G:O2'	55:2:22:U:H5'	2.15	0.47
1:b:139:THR:CG2	1:b:160:TYR:HB2	2.44	0.47
2:c:46:ARG:NH1	2:c:86:GLU:HA	2.30	0.47
2:c:142:VAL:HB	2:c:143:PRO:HD2	1.95	0.47
2:c:164:GLN:HE22	54:1:2822:G:H5''	1.79	0.47
4:e:12:VAL:HG13	4:e:13:LYS:N	2.30	0.47
4:e:45:ASP:HB3	4:e:48:LEU:HD13	1.96	0.47
6:g:5:LEU:HD13	6:g:9:VAL:HG23	1.96	0.47
7:h:56:ARG:HG2	54:1:1106:G:O2'	2.14	0.47
9:j:5:THR:HG21	54:1:537:G:O3'	2.15	0.47
9:j:10:THR:HG22	9:j:10:THR:O	2.15	0.47
9:j:18:VAL:N	9:j:55:ILE:O	2.44	0.47
10:k:35:VAL:HG23	10:k:36:GLY:N	2.26	0.47
11:l:52:GLY:C	11:l:54:GLN:H	2.22	0.47
11:l:79:LEU:CD2	11:l:135:ILE:HD11	2.45	0.47
13:n:9:GLN:HB3	54:1:1653:G:C6	2.50	0.47
13:n:32:GLU:CG	13:n:115:LEU:HB2	2.45	0.47
15:p:52:ARG:H	15:p:56:SER:HB3	1.78	0.47
15:p:87:ARG:HB3	15:p:111:GLU:OE1	2.14	0.47
20:u:10:VAL:HA	20:u:71:ILE:HA	1.96	0.47
20:u:33:VAL:HG13	20:u:66:VAL:HG22	1.96	0.47
27:B:46:GLY:HA3	27:B:54:ILE:HG21	1.97	0.47
31:F:24:ARG:HH22	31:F:36:ARG:HD3	1.80	0.47
32:G:104:LYS:O	32:G:107:ARG:HG2	2.15	0.47
33:H:17:TRP:CH2	44:S:94:GLY:HA2	2.49	0.47
33:H:87:ARG:HD2	33:H:98:ALA:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:89:VAL:O	33:H:93:ILE:HD13	2.15	0.47
34:I:100:VAL:HG21	34:I:136:VAL:HG11	1.96	0.47
34:I:163:GLN:HB3	34:I:164:ARG:HD2	1.96	0.47
37:L:75:LYS:HB3	37:L:88:VAL:HB	1.95	0.47
37:L:147:ASN:ND2	41:P:63:GLN:OE1	2.48	0.47
41:P:28:ASN:HD21	41:P:30:ILE:HG23	1.80	0.47
42:Q:2:THR:CG2	42:Q:5:GLN:NE2	2.78	0.47
42:Q:29:LYS:HE2	42:Q:57:THR:CG2	2.45	0.47
42:Q:73:LEU:HD21	42:Q:103:CYS:SG	2.55	0.47
43:R:25:GLY:O	43:R:29:SER:N	2.40	0.47
46:U:46:LYS:HE3	53:3:617:G:H5''	1.96	0.47
46:U:70:ARG:HB2	53:3:375:U:OP1	2.15	0.47
47:V:67:SER:HA	53:3:265:G:O2'	2.15	0.47
49:X:18:VAL:HG21	49:X:43:MET:HE2	1.97	0.47
51:Z:33:ARG:O	51:Z:34:ARG:HG3	2.14	0.47
53:3:531:U:C4'	53:3:532:A:H5'	2.30	0.47
53:3:614:C:H2'	53:3:615:G:H5''	1.97	0.47
53:3:739:C:H2'	53:3:740:U:O4'	2.14	0.47
53:3:1209:C:O2'	53:3:1210:C:H5'	2.15	0.47
53:3:1311:A:C2	53:3:1312:G:H1'	2.50	0.47
53:3:1516:G:H2'	53:3:1518:A:OP2	2.14	0.47
54:1:109:C:C3'	54:1:110:G:H5''	2.44	0.47
54:1:172:A:H2'	54:1:173:A:C8	2.50	0.47
54:1:191:A:H2'	54:1:192:C:H6	1.77	0.47
54:1:758:C:O2	54:1:758:C:H2'	2.14	0.47
54:1:1229:C:H2'	54:1:1230:A:C8	2.49	0.47
54:1:2297:A:H62	54:1:2319:G:H1'	1.80	0.47
54:1:2646:C:H2'	54:1:2647:U:O4'	2.13	0.47
57:6:15:G:H22	57:6:48:C:N4	2.00	0.47
58:4:22:A:C6	59:8:586:VAL:HB	2.49	0.47
59:8:104:ARG:HH21	59:8:320:LEU:HD21	1.80	0.47
59:8:550:ILE:HB	59:8:551:PRO:CD	2.38	0.47
59:8:625:GLU:O	59:8:628:THR:HG22	2.14	0.47
1:b:30:ALA:HA	1:b:33:LEU:CD1	2.44	0.47
1:b:119:VAL:HG22	1:b:130:PRO:CG	2.45	0.47
1:b:231:HIS:O	1:b:241:LYS:HE3	2.15	0.47
1:b:259:ASN:C	1:b:261:ARG:H	2.23	0.47
3:d:153:LEU:HD13	3:d:171:ASP:HB2	1.97	0.47
8:i:51:GLY:C	8:i:52:LEU:HD12	2.40	0.47
9:j:13:ARG:HB2	9:j:13:ARG:CZ	2.45	0.47
11:l:18:ARG:NH2	54:1:1249:U:H2'	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:133:ALA:HA	11:l:136:GLU:HB2	1.97	0.47
12:m:20:LEU:HD23	21:v:81:PRO:HG2	1.97	0.47
20:u:41:VAL:HG22	20:u:60:LYS:O	2.15	0.47
23:x:2:ARG:NH1	23:x:29:LEU:HD13	2.28	0.47
34:I:124:VAL:HA	34:I:141:VAL:O	2.14	0.47
34:I:127:ARG:HD3	53:3:619:U:H4'	1.95	0.47
34:I:149:LYS:HD2	34:I:150:LYS:NZ	2.30	0.47
38:M:95:MET:CB	38:M:98:LEU:HB3	2.43	0.47
43:R:89:ARG:HD3	43:R:94:LEU:HD13	1.96	0.47
49:X:57:VAL:HG13	49:X:57:VAL:O	2.15	0.47
53:3:3:A:C2	53:3:629:A:H1'	2.50	0.47
53:3:323:U:O4	53:3:327:A:N7	2.47	0.47
53:3:1250:A:H2	53:3:1370:G:H1'	1.79	0.47
53:3:1311:A:N3	53:3:1312:G:H1'	2.29	0.47
54:1:1641:A:H2'	54:1:1642:G:O4'	2.15	0.47
54:1:2579:C:O2'	54:1:2580:U:H5'	2.15	0.47
59:8:220:GLN:HG2	59:8:237:TYR:OH	2.14	0.47
59:8:346:GLY:HA2	59:8:360:PHE:O	2.14	0.47
2:c:58:ASN:O	2:c:59:ARG:NH1	2.48	0.47
3:d:48:THR:O	3:d:52:VAL:HG23	2.15	0.47
7:h:54:VAL:HG13	54:1:1084:A:H5'	1.97	0.47
14:o:106:LEU:HD23	14:o:106:LEU:C	2.40	0.47
15:p:52:ARG:NE	54:1:2845:U:H4'	2.30	0.47
25:z:50:VAL:O	25:z:54:VAL:HG22	2.15	0.47
29:D:24:THR:HG23	29:D:27:GLY:N	2.30	0.47
32:G:52:ALA:HA	32:G:55:GLU:OE2	2.15	0.47
32:G:139:GLU:O	32:G:142:LYS:HB3	2.15	0.47
34:I:19:PHE:CE2	34:I:63:ILE:HD11	2.50	0.47
34:I:122:ILE:HD13	34:I:144:ILE:HA	1.95	0.47
34:I:184:LYS:HA	34:I:185:PRO:HD3	1.80	0.47
36:K:2:ARG:NE	36:K:68:GLN:OE1	2.48	0.47
36:K:91:ARG:HG3	53:3:737:C:OP1	2.15	0.47
37:L:41:ILE:HG12	37:L:115:MET:HB3	1.96	0.47
49:X:37:SER:O	49:X:69:LYS:HA	2.14	0.47
52:a:9:ARG:O	52:a:13:GLU:N	2.36	0.47
53:3:264:C:H2'	53:3:265:G:C8	2.49	0.47
53:3:553:A:H2'	53:3:554:A:H8	1.79	0.47
53:3:635:A:H2'	53:3:636:U:H6	1.79	0.47
53:3:1032:G:H21	53:3:1033:G:C4'	2.15	0.47
54:1:172:A:H2'	54:1:173:A:H8	1.80	0.47
54:1:327:G:O2'	54:1:328:U:H5'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:444:C:O2'	54:1:445:C:H5'	2.15	0.47
54:1:609:A:H2'	54:1:610:C:O4'	2.13	0.47
54:1:804:A:H2'	54:1:806:C:C4	2.50	0.47
54:1:922:C:H2'	54:1:923:G:C8	2.50	0.47
54:1:1159:U:H2'	54:1:1160:G:H8	1.80	0.47
59:8:61:ILE:HG22	62:8:801:GCP:O1G	2.15	0.47
59:8:471:ASP:HA	59:8:474:LYS:CB	2.45	0.47
3:d:154:ASP:OD2	3:d:156:ASN:HB3	2.14	0.47
4:e:122:ASP:CG	4:e:123:GLY:H	2.23	0.47
4:e:148:VAL:O	4:e:148:VAL:HG12	2.15	0.47
8:i:7:TYR:CB	8:i:59:THR:HA	2.41	0.47
8:i:25:PRO:HD3	59:8:646:GLU:HG3	1.97	0.47
10:k:113:MET:HA	10:k:116:ILE:HG22	1.96	0.47
12:m:42:THR:O	12:m:46:ILE:HG13	2.14	0.47
17:r:2:TYR:HA	17:r:15:SER:HA	1.97	0.47
17:r:4:VAL:O	17:r:39:LEU:N	2.44	0.47
19:t:29:THR:HA	19:t:85:VAL:O	2.14	0.47
28:C:47:ILE:N	28:C:47:ILE:HD12	2.30	0.47
33:H:27:GLU:HB2	33:H:30:ASP:HB2	1.96	0.47
35:J:149:PRO:HA	35:J:152:VAL:HG22	1.97	0.47
35:J:164:LEU:C	35:J:164:LEU:HD12	2.40	0.47
36:K:29:ILE:O	36:K:32:ALA:N	2.47	0.47
37:L:75:LYS:CB	37:L:88:VAL:HB	2.45	0.47
40:O:6:ILE:HG23	40:O:87:LEU:HD11	1.95	0.47
45:T:63:ARG:HH11	45:T:63:ARG:HG3	1.80	0.47
47:V:7:LEU:HG	47:V:8:GLN:N	2.28	0.47
51:Z:8:ASN:OD1	51:Z:10:PRO:HD2	2.13	0.47
52:a:175:ILE:HG13	52:a:176:GLY:N	2.29	0.47
52:a:220:ALA:O	52:a:222:VAL:N	2.48	0.47
53:3:116:A:O2'	53:3:117:G:H5'	2.14	0.47
53:3:885:G:H2'	53:3:886:G:H8	1.80	0.47
53:3:1078:U:C4	53:3:1079:G:C6	3.03	0.47
53:3:1350:A:H2'	53:3:1351:U:C6	2.49	0.47
54:1:862:G:H2'	54:1:863:A:O4'	2.15	0.47
54:1:1071:G:H1'	54:1:1089:A:C5	2.50	0.47
54:1:2236:U:O2'	54:1:2237:G:H5'	2.15	0.47
54:1:2392:A:O2'	54:1:2393:U:H5'	2.15	0.47
54:1:2798:U:H4'	54:1:2799:A:N3	2.30	0.47
59:8:181:GLY:HA3	59:8:191:ILE:O	2.15	0.47
59:8:474:LYS:O	59:8:478:ASN:HA	2.15	0.47
59:8:554:ASP:O	59:8:557:ILE:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:27:VAL:CG2	4:e:28:PRO:HD2	2.45	0.46
5:f:70:LEU:HD11	54:1:2758:A:C2	2.49	0.46
13:n:96:ARG:HG3	13:n:116:VAL:CG2	2.44	0.46
16:q:7:VAL:HG13	16:q:8:ILE:N	2.30	0.46
20:u:24:VAL:HG22	20:u:35:VAL:HG22	1.97	0.46
29:D:3:ARG:HH11	29:D:4:THR:HG23	1.80	0.46
30:E:44:ARG:NH1	30:E:44:ARG:HB2	2.29	0.46
33:H:76:ILE:HB	33:H:80:GLY:HA2	1.97	0.46
34:I:101:VAL:HG13	34:I:106:PHE:HB2	1.97	0.46
35:J:51:LYS:C	35:J:51:LYS:HD3	2.40	0.46
38:M:80:PRO:HA	38:M:83:ARG:CZ	2.46	0.46
40:O:41:PRO:N	53:3:1123:U:O4	2.49	0.46
40:O:48:ARG:NH1	53:3:1253:G:H5''	2.30	0.46
42:Q:3:VAL:O	42:Q:7:VAL:HG23	2.15	0.46
42:Q:67:GLY:H	42:Q:98:ARG:NH2	2.01	0.46
43:R:78:ARG:HG3	49:X:64:GLU:CD	2.41	0.46
53:3:880:C:H2'	53:3:881:G:C8	2.48	0.46
53:3:1248:A:O2'	53:3:1249:C:H5'	2.15	0.46
53:3:1288:A:H1'	53:3:1353:G:H4'	1.96	0.46
53:3:1314:C:H2'	53:3:1315:U:C6	2.51	0.46
53:3:1317:C:H5''	53:3:1318:A:N7	2.30	0.46
54:1:351:C:H2'	54:1:352:A:H8	1.80	0.46
54:1:1098:A:C2'	54:1:1099:G:H5'	2.45	0.46
54:1:1188:U:C2'	54:1:1189:A:H5'	2.45	0.46
54:1:1893:C:H2'	54:1:1894:C:C5'	2.42	0.46
54:1:2454:G:C2	54:1:2499:C:N3	2.83	0.46
54:1:2803:G:H2'	54:1:2804:U:C6	2.50	0.46
58:4:12:A:H3'	58:4:13:A:H5'	1.97	0.46
59:8:124:GLU:O	59:8:128:ARG:N	2.44	0.46
59:8:567:ALA:HB2	59:8:612:LEU:HD21	1.97	0.46
1:b:123:ILE:HB	36:K:80:PHE:CE2	2.49	0.46
3:d:12:LEU:HD12	3:d:12:LEU:N	2.29	0.46
4:e:105:ILE:O	4:e:108:PRO:HD2	2.15	0.46
4:e:124:ARG:O	4:e:126:ASN:ND2	2.48	0.46
5:f:23:ILE:HD12	5:f:23:ILE:N	2.30	0.46
20:u:91:LYS:NZ	54:1:296:U:H4'	2.30	0.46
21:v:76:ASP:N	21:v:90:ASP:HB3	2.30	0.46
26:A:2:LYS:HG3	55:2:43:C:OP1	2.16	0.46
32:G:41:ASN:HD22	32:G:44:LYS:CG	2.26	0.46
33:H:129:PHE:HE2	33:H:165:GLU:HG3	1.78	0.46
38:M:113:ARG:HG2	38:M:113:ARG:HH11	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Q:38:THR:HG22	42:Q:50:LYS:HG3	1.98	0.46
46:U:78:VAL:HG13	46:U:78:VAL:O	2.15	0.46
53:3:116:A:C2	53:3:117:G:H1'	2.50	0.46
53:3:741:G:O2'	53:3:742:G:H5'	2.16	0.46
53:3:946:A:H2'	53:3:947:G:C8	2.50	0.46
53:3:998:C:O2'	53:3:999:C:H5'	2.16	0.46
53:3:1211:U:H5''	53:3:1213:A:O4'	2.14	0.46
54:1:214:G:H2'	54:1:215:G:C8	2.51	0.46
54:1:925:A:H2'	54:1:926:G:C8	2.51	0.46
54:1:1589:U:H2'	54:1:1590:A:H8	1.81	0.46
54:1:2234:G:O2'	54:1:2235:G:H5'	2.15	0.46
59:8:97:ILE:HG13	59:8:101:ARG:HH21	1.79	0.46
59:8:345:SER:HB3	59:8:375:LYS:HA	1.96	0.46
2:c:96:ILE:CD1	2:c:100:LEU:HD21	2.45	0.46
3:d:41:GLN:HG3	3:d:43:THR:HG23	1.97	0.46
4:e:11:VAL:HA	4:e:14:LYS:HB3	1.96	0.46
11:l:85:VAL:HG11	11:l:94:THR:O	2.16	0.46
14:o:11:ALA:O	14:o:14:ALA:N	2.48	0.46
16:q:65:ASN:HA	16:q:75:TYR:HB2	1.98	0.46
16:q:93:ILE:HD12	17:r:13:ARG:HB2	1.96	0.46
19:t:3:ARG:O	19:t:7:LEU:HG	2.15	0.46
20:u:33:VAL:C	20:u:34:ILE:HD12	2.39	0.46
32:G:186:VAL:HG13	32:G:198:VAL:HG23	1.96	0.46
35:J:12:GLU:O	35:J:13:LYS:CB	2.62	0.46
39:N:112:ARG:HG2	39:N:114:LYS:NZ	2.30	0.46
40:O:15:HIS:HA	40:O:18:ILE:HG22	1.98	0.46
41:P:68:ARG:HB3	41:P:68:ARG:CZ	2.45	0.46
44:S:47:LEU:HD23	53:3:1317:C:O3'	2.16	0.46
44:S:82:LYS:HA	44:S:85:GLU:HG2	1.97	0.46
45:T:35:ILE:O	45:T:39:GLN:N	2.49	0.46
45:T:36:ASN:HA	45:T:39:GLN:CG	2.45	0.46
46:U:20:VAL:HG22	46:U:21:VAL:H	1.79	0.46
53:3:45:G:H2'	53:3:46:G:H8	1.79	0.46
53:3:242:G:O2'	53:3:243:A:H5'	2.16	0.46
53:3:333:U:H2'	53:3:334:C:H6	1.79	0.46
53:3:729:A:H2'	53:3:730:G:C8	2.50	0.46
53:3:1256:A:O2'	53:3:1257:A:H5''	2.16	0.46
53:3:1266:G:N2	53:3:1268:G:H3'	2.30	0.46
54:1:728:G:H3'	54:1:729:G:C5'	2.45	0.46
54:1:1193:G:O2'	54:1:1194:A:H5'	2.15	0.46
54:1:1576:U:O2'	54:1:1577:C:H5'	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1727:C:O2'	54:1:1728:C:H5'	2.15	0.46
54:1:1750:G:O2'	54:1:1751:U:H5'	2.15	0.46
54:1:1786:A:H1'	54:1:1938:A:N6	2.29	0.46
54:1:1809:A:H2'	54:1:1810:A:C8	2.50	0.46
54:1:1882:U:H2'	54:1:1883:U:C6	2.50	0.46
54:1:1951:U:H2'	54:1:1953:A:OP2	2.16	0.46
54:1:2070:A:H2'	54:1:2071:A:C8	2.50	0.46
54:1:2807:U:H3	54:1:2891:U:H3	1.62	0.46
59:8:601:PHE:O	59:8:605:PHE:N	2.46	0.46
4:e:5:ASP:O	4:e:9:ASP:N	2.48	0.46
4:e:76:PHE:HB3	54:1:2311:A:C2	2.50	0.46
8:i:66:PHE:N	8:i:66:PHE:CD1	2.83	0.46
13:n:36:THR:HG23	13:n:41:ALA:HB2	1.97	0.46
15:p:7:LEU:O	15:p:7:LEU:HD23	2.15	0.46
17:r:38:VAL:O	17:r:53:PHE:HA	2.15	0.46
24:y:41:HIS:O	24:y:45:GLN:HG3	2.14	0.46
25:z:4:ILE:N	25:z:37:ARG:O	2.48	0.46
26:A:53:THR:HB	49:X:24:SER:C	2.40	0.46
30:E:22:LYS:HB3	30:E:48:MET:HE1	1.98	0.46
33:H:38:VAL:HG12	33:H:93:ILE:HG22	1.98	0.46
35:J:70:MET:O	35:J:71:ILE:HD13	2.15	0.46
37:L:49:LEU:HD22	37:L:123:LEU:HD12	1.96	0.46
38:M:26:MET:HE2	38:M:58:LEU:HD23	1.98	0.46
38:M:80:PRO:O	53:3:586:C:H4'	2.16	0.46
42:Q:23:LEU:CD2	42:Q:29:LYS:HE3	2.46	0.46
42:Q:87:LYS:HG2	42:Q:87:LYS:O	2.16	0.46
48:W:64:LEU:HB2	48:W:66:LEU:HG	1.97	0.46
53:3:376:G:H2'	53:3:377:G:H8	1.79	0.46
53:3:486:U:H2'	53:3:487:A:H8	1.81	0.46
53:3:815:A:H4'	53:3:817:C:C5	2.50	0.46
53:3:977:A:H4'	53:3:981:U:O2	2.15	0.46
54:1:672:C:H2'	54:1:673:C:C6	2.49	0.46
54:1:794:A:H2'	54:1:795:C:C6	2.50	0.46
54:1:1343:G:N3	54:1:1343:G:H2'	2.30	0.46
54:1:1665:A:O2'	54:1:1666:G:H5'	2.16	0.46
54:1:1906:G:C3'	54:1:1907:G:H5''	2.45	0.46
54:1:2618:G:H2'	54:1:2619:C:C6	2.50	0.46
54:1:2638:G:H1'	54:1:2778:A:N6	2.31	0.46
1:b:106:PRO:HG3	1:b:126:GLY:HA2	1.97	0.46
1:b:131:MET:HB3	1:b:171:VAL:HG21	1.97	0.46
2:c:101:PHE:CD1	2:c:104:VAL:HG11	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:54:ALA:HA	4:e:57:ALA:HB3	1.98	0.46
7:h:54:VAL:HA	7:h:84:TYR:O	2.15	0.46
11:l:131:ALA:O	11:l:135:ILE:HG12	2.16	0.46
21:v:61:LEU:N	21:v:72:VAL:O	2.47	0.46
34:I:61:ARG:NH1	34:I:66:VAL:O	2.48	0.46
34:I:178:GLU:HG2	34:I:179:GLY:N	2.31	0.46
34:I:190:LEU:C	34:I:190:LEU:HD12	2.41	0.46
37:L:114:SER:O	37:L:117:LEU:HB3	2.15	0.46
38:M:86:LYS:HD3	38:M:124:ILE:CD1	2.44	0.46
40:O:15:HIS:HB3	40:O:70:HIS:NE2	2.30	0.46
40:O:49:PHE:O	40:O:64:GLN:HA	2.15	0.46
41:P:126:ARG:NH1	53:3:796:C:O3'	2.47	0.46
43:R:10:ASP:O	43:R:12:LYS:HG3	2.16	0.46
43:R:12:LYS:O	43:R:44:ILE:HG12	2.15	0.46
52:a:189:LEU:HD11	52:a:212:VAL:HG12	1.96	0.46
53:3:516:U:H3	53:3:533:A:H62	1.63	0.46
53:3:947:G:H2'	53:3:948:C:H6	1.81	0.46
53:3:986:U:H2'	53:3:987:G:C8	2.51	0.46
53:3:1243:C:H2'	53:3:1244:G:C8	2.50	0.46
53:3:1402:C:H3'	53:3:1403:C:C6	2.49	0.46
53:3:1463:U:H2'	53:3:1464:U:C6	2.51	0.46
54:1:217:A:H2'	54:1:218:A:O4'	2.15	0.46
54:1:776:G:N2	54:1:2072:C:H5'	2.28	0.46
54:1:797:G:H2'	54:1:798:G:C8	2.50	0.46
54:1:967:U:H2'	54:1:968:C:C6	2.51	0.46
54:1:1038:G:H2'	54:1:1039:A:H8	1.81	0.46
54:1:1107:G:H2'	54:1:1108:U:C6	2.50	0.46
54:1:2070:A:H2'	54:1:2071:A:O4'	2.16	0.46
54:1:2684:U:H2'	54:1:2685:G:O4'	2.16	0.46
55:2:110:C:H2'	55:2:111:U:C6	2.51	0.46
59:8:211:MET:SD	59:8:215:ALA:HB2	2.56	0.46
59:8:422:PRO:HB3	59:8:481:ALA:HB2	1.98	0.46
1:b:129:LEU:HD23	1:b:129:LEU:N	2.30	0.46
1:b:199:HIS:CE1	1:b:202:ARG:HH22	2.33	0.46
4:e:63:LYS:N	26:A:6:HIS:HD1	2.13	0.46
4:e:105:ILE:HG13	4:e:106:ALA:N	2.30	0.46
6:g:3:VAL:HG13	6:g:37:VAL:C	2.41	0.46
6:g:40:THR:O	6:g:44:ILE:HG13	2.16	0.46
24:y:44:LYS:HA	24:y:47:ARG:NH2	2.31	0.46
26:A:58:ASP:O	26:A:62:LYS:N	2.47	0.46
30:E:14:LYS:HB2	30:E:22:LYS:CG	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:127:VAL:HG22	33:H:128:MET:N	2.31	0.46
35:J:55:VAL:HB	35:J:56:PRO:HD3	1.96	0.46
41:P:28:ASN:HA	41:P:56:LYS:HZ1	1.81	0.46
42:Q:56:LEU:HD12	42:Q:60:PHE:HB2	1.97	0.46
43:R:86:ARG:O	43:R:89:ARG:HB2	2.15	0.46
43:R:101:THR:HG22	43:R:105:ALA:CB	2.46	0.46
48:W:13:THR:HG21	48:W:50:TYR:HB3	1.96	0.46
48:W:51:GLN:O	48:W:54:LEU:HB3	2.16	0.46
52:a:8:MET:HE3	54:1:2129:C:H5'	1.97	0.46
53:3:292:G:N2	53:3:608:A:H61	2.14	0.46
53:3:622:A:H2'	53:3:623:C:O4'	2.15	0.46
53:3:792:A:H1'	53:3:794:A:N7	2.30	0.46
53:3:1456:A:H2'	53:3:1457:G:C8	2.50	0.46
54:1:403:U:H5''	54:1:404:A:OP1	2.16	0.46
54:1:893:C:H2'	54:1:894:U:H6	1.81	0.46
54:1:1285:A:H2'	54:1:1286:A:H5'	1.97	0.46
54:1:1878:G:H2'	54:1:1879:C:C6	2.50	0.46
54:1:2297:A:N6	54:1:2319:G:H1'	2.31	0.46
54:1:2350:C:H2'	54:1:2351:G:O4'	2.15	0.46
54:1:2810:A:H2'	54:1:2811:G:O4'	2.15	0.46
58:4:12:A:C3'	58:4:13:A:H5'	2.45	0.46
59:8:583:TYR:HB2	59:8:588:SER:CB	2.46	0.46
59:8:613:LEU:HA	59:8:688:ASP:O	2.16	0.46
4:e:105:ILE:HD12	26:A:34:LEU:HD11	1.98	0.46
5:f:23:ILE:HB	5:f:34:ARG:HB3	1.97	0.46
7:h:50:VAL:HG22	54:1:1082:U:OP1	2.16	0.46
7:h:50:VAL:HA	54:1:1083:U:OP2	2.16	0.46
7:h:80:THR:O	7:h:81:LEU:C	2.58	0.46
10:k:19:VAL:HG12	10:k:43:ILE:HA	1.98	0.46
12:m:21:ALA:HB2	12:m:97:GLN:O	2.15	0.46
13:n:10:LEU:HD11	13:n:43:GLU:HG2	1.97	0.46
14:o:17:LYS:NZ	54:1:2380:C:H5'	2.30	0.46
14:o:103:VAL:HG23	14:o:104:GLN:N	2.30	0.46
15:p:2:ASN:HD21	54:1:2876:G:H5''	1.80	0.46
19:t:45:ALA:O	19:t:49:LYS:HD3	2.15	0.46
22:w:56:PHE:CE2	54:1:2365:G:H4'	2.50	0.46
33:H:147:GLY:HA3	33:H:171:ARG:O	2.16	0.46
38:M:103:VAL:HG13	38:M:110:MET:O	2.15	0.46
39:N:20:ILE:CD1	39:N:60:LEU:HD12	2.44	0.46
41:P:101:ALA:C	41:P:103:GLY:N	2.72	0.46
46:U:21:VAL:O	46:U:32:PHE:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:207:VAL:HG23	54:1:1860:G:OP1	2.15	0.46
53:3:25:C:O2'	53:3:26:A:H5'	2.15	0.46
53:3:59:A:N6	53:3:331:G:H1'	2.31	0.46
53:3:162:A:H2'	53:3:163:C:C5'	2.46	0.46
53:3:679:C:O2'	53:3:680:C:H5'	2.16	0.46
53:3:1059:C:O2'	53:3:1060:U:H5'	2.16	0.46
54:1:955:U:H3	54:1:962:G:H1	1.62	0.46
54:1:1827:U:C2'	54:1:1828:G:H5'	2.45	0.46
54:1:2104:C:H42	54:1:2185:U:H3	1.63	0.46
54:1:2418:A:H2'	54:1:2419:U:C5'	2.44	0.46
54:1:2473:U:H1'	59:8:636:SER:CB	2.46	0.46
54:1:2730:C:O2'	54:1:2731:G:H5'	2.15	0.46
57:6:19:G:H5''	57:6:20:U:C5	2.51	0.46
59:8:445:PHE:CE1	59:8:458:ILE:HG23	2.50	0.46
59:8:564:GLY:HA3	59:8:571:VAL:CG2	2.46	0.46
1:b:42:ARG:N	1:b:42:ARG:HD2	2.31	0.46
10:k:4:GLU:OE2	10:k:5:GLN:HG2	2.16	0.46
11:l:78:ARG:HB2	11:l:81:ASP:OD2	2.15	0.46
13:n:101:GLY:O	13:n:110:MET:HB2	2.16	0.46
21:v:43:ASP:OD2	21:v:46:LYS:HG2	2.16	0.46
21:v:55:GLU:O	21:v:59:GLU:HG3	2.15	0.46
23:x:32:LEU:HD21	23:x:49:ARG:HG2	1.97	0.46
25:z:26:LEU:O	25:z:28:LEU:HG	2.16	0.46
27:B:3:GLN:HB3	54:1:2615:U:H1'	1.96	0.46
32:G:49:PHE:CZ	32:G:53:LEU:HD11	2.51	0.46
32:G:129:THR:O	32:G:132:GLU:OE2	2.34	0.46
33:H:21:TRP:CE3	33:H:31:ASN:ND2	2.83	0.46
33:H:87:ARG:HH21	33:H:99:GLN:HG2	1.81	0.46
35:J:160:VAL:HG13	35:J:161:GLU:N	2.28	0.46
36:K:18:VAL:HA	36:K:21:MET:SD	2.56	0.46
37:L:16:LYS:HD2	37:L:43:TYR:CD2	2.51	0.46
38:M:29:SER:HB2	53:3:589:U:H5''	1.98	0.46
39:N:86:LEU:HD23	39:N:89:TYR:HB2	1.98	0.46
41:P:125:LYS:O	41:P:126:ARG:HB2	2.16	0.46
41:P:126:ARG:HH11	41:P:126:ARG:CA	2.28	0.46
42:Q:29:LYS:N	42:Q:81:ILE:O	2.49	0.46
43:R:22:TYR:CE1	53:3:1330:U:H4'	2.49	0.46
43:R:102:LYS:HE2	53:3:1226:C:N4	2.30	0.46
47:V:30:HIS:CD2	47:V:32:ILE:HG22	2.51	0.46
53:3:382:A:O2'	53:3:383:A:H5'	2.16	0.46
53:3:593:U:H2'	53:3:594:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:814:A:N7	53:3:816:A:C4	2.84	0.46
54:1:279:A:C2'	54:1:280:U:H5'	2.46	0.46
54:1:935:C:H2'	54:1:936:A:H8	1.79	0.46
54:1:1454:C:OP2	54:1:1454:C:H3'	2.15	0.46
54:1:1854:A:N6	54:1:1888:G:H1'	2.31	0.46
54:1:1909:C:H2'	54:1:1910:G:H8	1.81	0.46
59:8:128:ARG:HA	59:8:131:ASN:HD21	1.80	0.46
59:8:455:GLN:HG2	59:8:456:THR:H	1.79	0.46
11:l:16:GLY:O	11:l:17:LYS:C	2.59	0.46
17:r:75:VAL:HG13	17:r:86:GLN:HE22	1.80	0.46
29:D:3:ARG:NH1	29:D:4:THR:HG23	2.31	0.46
29:D:6:GLN:O	54:1:686:U:H1'	2.15	0.46
30:E:28:LEU:HD11	30:E:43:LEU:HB2	1.98	0.46
34:I:12:ARG:HD3	34:I:31:CYS:O	2.15	0.46
34:I:23:GLY:HA3	53:3:408:A:O3'	2.16	0.46
43:R:64:VAL:HG22	43:R:67:ASP:OD2	2.15	0.46
44:S:27:LYS:HD2	44:S:27:LYS:O	2.16	0.46
49:X:14:LEU:O	49:X:18:VAL:HG23	2.16	0.46
53:3:77:A:H2'	53:3:78:A:C8	2.49	0.46
53:3:424:G:O2'	53:3:425:G:H5'	2.16	0.46
53:3:813:U:H2'	53:3:814:A:H5'	1.97	0.46
53:3:1080:A:H2'	53:3:1081:A:C4'	2.45	0.46
53:3:1123:U:C3'	53:3:1124:G:H5'	2.46	0.46
54:1:28:A:H1'	54:1:513:A:C2	2.51	0.46
54:1:170:U:H2'	54:1:171:U:C6	2.51	0.46
54:1:348:A:H2'	54:1:349:U:C4'	2.46	0.46
54:1:946:C:H2'	54:1:947:A:C8	2.51	0.46
54:1:1364:G:H5'	54:1:1809:A:H1'	1.97	0.46
54:1:1744:A:C2	54:1:1745:A:H1'	2.51	0.46
54:1:1998:A:H2'	54:1:1999:C:H6	1.80	0.46
54:1:2661:G:C5'	59:8:19:ILE:HG21	2.45	0.46
59:8:54:GLU:HG2	59:8:55:GLN:OE1	2.15	0.46
59:8:317:PHE:CZ	59:8:319:ALA:HB2	2.51	0.46
59:8:501:VAL:CG2	59:8:604:GLY:HA2	2.41	0.46
16:q:30:VAL:HG12	16:q:33:VAL:N	2.21	0.46
16:q:44:TYR:HD1	16:q:47:ARG:HH11	1.62	0.46
20:u:95:PHE:CZ	20:u:102:ILE:HG12	2.51	0.46
24:y:2:LYS:HD2	54:1:78:U:OP2	2.16	0.46
31:F:1:MET:H1	54:1:2526:G:H21	1.64	0.46
32:G:41:ASN:ND2	32:G:44:LYS:HG2	2.29	0.46
32:G:80:LYS:HA	32:G:90:PHE:CG	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:212:TYR:O	32:G:216:VAL:HG23	2.16	0.46
34:I:124:VAL:O	34:I:127:ARG:N	2.46	0.46
44:S:66:THR:HG21	44:S:82:LYS:HD2	1.97	0.46
50:Y:67:HIS:HE1	53:3:132:C:O3'	1.98	0.46
53:3:316:C:H1'	53:3:351:G:N2	2.31	0.46
53:3:819:A:H5'	53:3:820:U:H5	1.81	0.46
53:3:917:G:O2'	53:3:918:A:H5'	2.15	0.46
54:1:546:U:H2'	54:1:547:A:H4'	1.97	0.46
54:1:753:A:H2'	54:1:754:U:H6	1.81	0.46
54:1:1682:G:C8	54:1:1757:A:C2	3.04	0.46
58:4:8:A:H62	58:4:9:G:N2	2.14	0.46
58:4:19:C:H2'	58:4:20:C:O4'	2.16	0.46
59:8:71:PHE:CZ	59:8:83:ARG:HG3	2.51	0.46
59:8:194:ASN:N	59:8:201:THR:O	2.49	0.46
59:8:370:LYS:HD3	59:8:371:ARG:H	1.80	0.46
59:8:447:VAL:HA	59:8:457:ILE:O	2.16	0.46
1:b:157:ALA:HA	1:b:194:VAL:HG11	1.98	0.45
2:c:8:LYS:HD3	2:c:196:ALA:O	2.16	0.45
2:c:59:ARG:NE	2:c:59:ARG:HA	2.31	0.45
2:c:101:PHE:HE1	2:c:205:PRO:HD3	1.81	0.45
4:e:27:VAL:HG23	4:e:28:PRO:HD2	1.97	0.45
5:f:116:LEU:CD2	5:f:120:ILE:HB	2.35	0.45
5:f:140:ILE:HG13	5:f:141:GLY:N	2.30	0.45
7:h:3:LEU:HA	54:1:1044:C:P	2.55	0.45
10:k:66:LYS:HE3	10:k:81:GLY:H	1.79	0.45
11:l:104:GLN:OE1	11:l:104:GLN:N	2.49	0.45
13:n:17:ARG:HH21	13:n:17:ARG:HB2	1.81	0.45
14:o:3:LYS:HZ3	55:2:46:A:H5''	1.79	0.45
16:q:96:ASP:O	16:q:100:PHE:N	2.48	0.45
28:C:43:ARG:NH1	54:1:2370:G:H4'	2.30	0.45
33:H:155:ARG:HH11	33:H:155:ARG:CB	2.28	0.45
35:J:96:GLN:HB3	35:J:123:LEU:HD21	1.98	0.45
36:K:32:ALA:O	36:K:33:GLU:HB2	2.16	0.45
36:K:89:VAL:O	36:K:90:MET:HE2	2.16	0.45
38:M:112:ASP:CG	38:M:113:ARG:N	2.74	0.45
39:N:123:ARG:NH2	39:N:123:ARG:CB	2.76	0.45
42:Q:29:LYS:HG3	42:Q:30:ARG:H	1.80	0.45
44:S:73:LEU:HD12	44:S:73:LEU:N	2.30	0.45
45:T:58:MET:O	45:T:61:GLN:HB3	2.16	0.45
47:V:5:ARG:HD2	53:3:636:U:H5'	1.97	0.45
48:W:58:ILE:HG22	48:W:62:ARG:CD	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y:70:LYS:CG	50:Y:73:ARG:HH21	2.28	0.45
51:Z:46:ARG:O	51:Z:49:ALA:HB3	2.16	0.45
52:a:5:THR:OG1	52:a:8:MET:HE3	2.16	0.45
53:3:256:U:H2'	53:3:257:G:H8	1.81	0.45
53:3:296:U:H2'	53:3:297:G:H8	1.81	0.45
53:3:384:G:H2'	53:3:385:C:C6	2.51	0.45
53:3:514:C:H2'	53:3:515:G:C8	2.51	0.45
53:3:745:G:C5'	53:3:851:G:H1'	2.45	0.45
53:3:1127:G:H2'	53:3:1128:C:O4'	2.16	0.45
53:3:1346:A:H2'	53:3:1346:A:N3	2.32	0.45
54:1:897:C:H2'	54:1:898:C:C6	2.51	0.45
54:1:941:A:H2'	54:1:942:G:C8	2.52	0.45
54:1:1791:A:N6	54:1:1828:G:H1'	2.31	0.45
54:1:2037:A:H2'	54:1:2038:G:H8	1.79	0.45
54:1:2108:A:H2'	54:1:2109:U:H5'	1.97	0.45
54:1:2292:U:H2'	54:1:2293:G:H8	1.80	0.45
54:1:2864:G:H2'	54:1:2865:U:O4'	2.17	0.45
1:b:204:LEU:O	1:b:206:LYS:N	2.49	0.45
3:d:16:GLU:O	3:d:19:PHE:N	2.36	0.45
3:d:181:ILE:CG2	11:l:2:ARG:HG3	2.45	0.45
4:e:107:VAL:O	4:e:110:ILE:HG13	2.16	0.45
11:l:3:LEU:HD23	54:1:1203:U:H5'	1.98	0.45
11:l:76:GLU:HB2	11:l:111:ILE:HD11	1.98	0.45
11:l:109:LYS:HE2	11:l:128:THR:HG22	1.97	0.45
13:n:73:ASN:O	13:n:76:VAL:HG12	2.17	0.45
14:o:6:ALA:O	14:o:10:ARG:N	2.44	0.45
22:w:36:GLN:HE21	22:w:39:THR:HA	1.74	0.45
24:y:28:LEU:HB3	24:y:43:LEU:HD21	1.98	0.45
30:E:6:VAL:HG21	30:E:60:CYS:HB2	1.98	0.45
31:F:2:LYS:HB2	31:F:35:GLN:HB3	1.98	0.45
32:G:16:GLY:O	32:G:17:HIS:ND1	2.49	0.45
33:H:148:ILE:HG23	33:H:169:GLU:HB3	1.97	0.45
35:J:150:GLU:O	35:J:154:ALA:N	2.37	0.45
39:N:18:VAL:HA	39:N:64:ILE:HG23	1.97	0.45
39:N:49:GLN:N	39:N:50:PRO:HD2	2.30	0.45
40:O:32:THR:O	40:O:80:THR:HG21	2.16	0.45
41:P:19:VAL:O	41:P:33:ILE:HA	2.15	0.45
42:Q:99:GLY:HA2	42:Q:105:GLY:H	1.80	0.45
44:S:73:LEU:HD22	44:S:76:PHE:CD2	2.51	0.45
51:Z:44:ARG:HG3	51:Z:45:LYS:N	2.32	0.45
53:3:181:A:N6	53:3:194:C:H2'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:737:C:H2'	53:3:738:C:C6	2.51	0.45
53:3:1040:U:H2'	53:3:1041:G:H8	1.81	0.45
53:3:1243:C:H2'	53:3:1244:G:H8	1.81	0.45
54:1:96:C:H2'	54:1:97:C:C6	2.51	0.45
54:1:184:C:H2'	54:1:185:G:C8	2.49	0.45
54:1:466:A:H2'	54:1:467:G:H5'	1.98	0.45
54:1:516:C:O2'	54:1:517:C:H5'	2.16	0.45
54:1:839:U:H2'	54:1:840:C:C6	2.52	0.45
54:1:873:C:H2'	54:1:874:G:C8	2.51	0.45
54:1:947:A:H2'	54:1:948:C:C6	2.51	0.45
56:5:30:G:H2'	56:5:31:G:C8	2.51	0.45
56:5:48:C:C2	56:5:59:A:H1'	2.52	0.45
1:b:109:LEU:HD23	1:b:110:LYS:N	2.32	0.45
6:g:7:ASP:CB	6:g:35:LYS:HB3	2.47	0.45
7:h:28:ALA:HB1	7:h:81:LEU:CG	2.46	0.45
15:p:92:ARG:NH1	54:1:1753:G:H5''	2.18	0.45
17:r:6:GLN:HA	17:r:10:LYS:O	2.16	0.45
19:t:34:VAL:HG23	19:t:35:ALA:O	2.16	0.45
22:w:23:GLY:HA2	22:w:63:VAL:HB	1.97	0.45
26:A:58:ASP:O	26:A:61:ASN:N	2.49	0.45
27:B:39:ARG:NH1	54:1:2884:U:H3	2.14	0.45
30:E:41:ARG:NH2	54:1:2350:C:H5	2.14	0.45
33:H:3:LYS:H	33:H:3:LYS:CD	2.28	0.45
35:J:23:THR:HA	35:J:28:ARG:HA	1.99	0.45
35:J:157:GLY:C	35:J:159:SER:H	2.24	0.45
36:K:67:PRO:HB2	36:K:69:GLU:OE1	2.16	0.45
37:L:63:VAL:HG13	37:L:64:ALA:N	2.31	0.45
37:L:129:ASN:HA	37:L:134:VAL:HG21	1.98	0.45
38:M:5:PRO:HG2	38:M:6:ILE:HD12	1.98	0.45
39:N:79:ARG:O	39:N:83:THR:HG23	2.15	0.45
39:N:112:ARG:NE	44:S:100:TRP:NE1	2.63	0.45
40:O:10:LEU:HD23	40:O:10:LEU:H	1.81	0.45
40:O:44:THR:HA	40:O:71:LEU:HD12	1.98	0.45
41:P:82:GLU:HG3	41:P:107:THR:HB	1.97	0.45
43:R:113:LYS:HB3	43:R:114:PRO:HD3	1.98	0.45
53:3:24:U:H2'	53:3:25:C:C6	2.52	0.45
53:3:138:G:H2'	53:3:139:A:O4'	2.16	0.45
53:3:532:A:OP2	53:3:532:A:H8	1.99	0.45
53:3:950:U:H2'	53:3:951:G:C8	2.51	0.45
53:3:1495:U:H2'	53:3:1496:C:O4'	2.17	0.45
54:1:118:A:OP2	54:1:119:A:H2'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:248:G:H3'	54:1:249:C:C5'	2.47	0.45
54:1:510:C:H2'	54:1:511:U:H5'	1.99	0.45
54:1:706:A:H2'	54:1:707:G:O4'	2.16	0.45
54:1:854:C:H2'	54:1:855:G:C8	2.51	0.45
54:1:1817:G:H2'	54:1:1817:G:N3	2.30	0.45
54:1:1959:G:H2'	54:1:1960:A:C5'	2.31	0.45
54:1:2692:G:O2'	54:1:2693:G:H5'	2.16	0.45
54:1:2783:U:O2'	54:1:2784:U:H5'	2.17	0.45
57:6:1:C:H2'	57:6:2:G:H8	1.80	0.45
59:8:149:ALA:O	59:8:151:PHE:N	2.49	0.45
59:8:184:ASP:N	59:8:189:LYS:O	2.34	0.45
59:8:508:GLN:OE1	59:8:513:GLY:HA3	2.16	0.45
7:h:58:THR:OG1	7:h:77:VAL:O	2.33	0.45
9:j:74:TYR:O	9:j:86:GLN:HA	2.16	0.45
21:v:83:LYS:HB3	21:v:85:LYS:NZ	2.31	0.45
28:C:9:LYS:HG3	28:C:19:PHE:CG	2.50	0.45
32:G:22:TRP:CD1	32:G:22:TRP:H	2.35	0.45
32:G:137:THR:HA	32:G:140:LEU:HB3	1.98	0.45
33:H:46:LEU:O	33:H:51:VAL:N	2.50	0.45
34:I:64:TYR:CE2	34:I:93:LEU:HD13	2.52	0.45
34:I:100:VAL:CG2	34:I:136:VAL:HG21	2.41	0.45
35:J:150:GLU:CD	35:J:150:GLU:H	2.24	0.45
36:K:88:MET:SD	48:W:64:LEU:HD21	2.57	0.45
37:L:73:GLU:HG2	37:L:88:VAL:CG1	2.46	0.45
41:P:25:SER:OG	41:P:28:ASN:HB3	2.17	0.45
46:U:52:LEU:HD12	46:U:52:LEU:C	2.42	0.45
52:a:177:LYS:HZ3	54:1:2125:G:H5'	1.82	0.45
53:3:36:C:H2'	53:3:37:U:H6	1.79	0.45
53:3:347:G:C2'	53:3:348:G:H5''	2.43	0.45
53:3:439:U:H2'	53:3:440:C:O4'	2.17	0.45
53:3:649:A:H2'	53:3:650:G:C4'	2.46	0.45
53:3:689:C:H2'	53:3:690:G:O4'	2.16	0.45
53:3:768:A:H4'	53:3:1523:G:N2	2.32	0.45
53:3:813:U:H2'	53:3:814:A:H5''	1.98	0.45
53:3:1002:G:O2'	53:3:1003:G:H5'	2.16	0.45
54:1:182:A:O2'	54:1:183:C:H5'	2.16	0.45
54:1:2313:C:H2'	54:1:2314:A:H8	1.79	0.45
54:1:2390:U:H2'	54:1:2391:G:C8	2.51	0.45
54:1:2626:C:O2'	54:1:2627:G:H5'	2.16	0.45
54:1:2670:A:H2'	54:1:2671:G:H8	1.81	0.45
59:8:116:VAL:HG12	59:8:148:GLY:O	2.15	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:169:LEU:HD11	59:8:263:LEU:HB3	1.98	0.45
59:8:535:GLU:N	59:8:574:MET:O	2.49	0.45
59:8:573:ASP:O	59:8:574:MET:HE2	2.15	0.45
4:e:18:GLU:O	4:e:20:ASN:N	2.47	0.45
4:e:37:MET:HB3	4:e:86:CYS:SG	2.57	0.45
5:f:8:VAL:N	5:f:49:LEU:O	2.49	0.45
7:h:28:ALA:CB	7:h:81:LEU:HG	2.46	0.45
8:i:32:VAL:O	8:i:33:ASN:C	2.59	0.45
9:j:135:GLN:O	9:j:136:GLN:C	2.58	0.45
10:k:86:LEU:HD22	10:k:86:LEU:N	2.31	0.45
11:l:135:ILE:HG21	11:l:142:ILE:CD1	2.44	0.45
14:o:6:ALA:O	14:o:10:ARG:HB2	2.17	0.45
16:q:108:LEU:HD23	17:r:48:LYS:HD2	1.98	0.45
19:t:24:MET:SD	19:t:30:ILE:HB	2.55	0.45
21:v:51:GLN:HG2	21:v:86:LEU:HD11	1.99	0.45
23:x:54:GLY:O	23:x:58:ILE:HG13	2.16	0.45
23:x:66:VAL:HA	23:x:69:GLU:OE2	2.17	0.45
28:C:20:TYR:OH	54:1:2348:U:H5'	2.17	0.45
36:K:76:THR:N	36:K:79:ARG:HH21	2.14	0.45
37:L:65:LEU:HG	37:L:69:ARG:HH12	1.80	0.45
38:M:6:ILE:HG21	38:M:76:ARG:HE	1.80	0.45
38:M:110:MET:HG2	38:M:111:THR:N	2.31	0.45
41:P:30:ILE:HG22	41:P:45:THR:HB	1.98	0.45
41:P:118:ASN:CB	53:3:718:A:H5'	2.44	0.45
43:R:3:ILE:C	43:R:5:GLY:N	2.75	0.45
44:S:24:ALA:O	44:S:28:ALA:N	2.44	0.45
45:T:46:LYS:O	45:T:46:LYS:HG2	2.16	0.45
48:W:47:ARG:HB2	48:W:50:TYR:CD2	2.52	0.45
49:X:39:ILE:O	49:X:66:VAL:O	2.35	0.45
52:a:23:ILE:HA	52:a:224:VAL:CG1	2.47	0.45
52:a:217:THR:HG22	52:a:218:MET:HG3	1.98	0.45
53:3:336:A:H2'	53:3:337:G:H8	1.82	0.45
53:3:401:C:H2'	53:3:402:G:C8	2.52	0.45
54:1:374:A:H2'	54:1:375:G:O4'	2.16	0.45
54:1:383:C:N4	54:1:385:C:H2'	2.31	0.45
54:1:825:A:H2'	54:1:826:U:H6	1.82	0.45
54:1:1111:A:H2'	54:1:1112:G:H4'	1.98	0.45
54:1:1442:U:H2'	54:1:1443:U:C6	2.51	0.45
54:1:1917:U:O2'	54:1:1918:A:H5'	2.17	0.45
54:1:2053:G:O2'	54:1:2054:A:H5'	2.16	0.45
54:1:2852:G:H2'	54:1:2853:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:350:LEU:HD23	59:8:350:LEU:N	2.32	0.45
59:8:381:ASP:CG	59:8:382:ILE:N	2.74	0.45
59:8:456:THR:C	59:8:457:ILE:HD12	2.42	0.45
4:e:69:ALA:H	4:e:82:TYR:H	1.65	0.45
10:k:12:ASP:OD1	10:k:86:LEU:HD23	2.17	0.45
10:k:106:GLU:CD	10:k:106:GLU:H	2.24	0.45
20:u:46:LYS:HD3	20:u:47:PRO:C	2.42	0.45
25:z:24:LEU:O	25:z:24:LEU:HD23	2.16	0.45
26:A:65:ASN:O	26:A:66:ILE:HB	2.17	0.45
32:G:22:TRP:CZ2	32:G:24:PRO:HG3	2.52	0.45
32:G:46:VAL:O	32:G:49:PHE:HB3	2.16	0.45
35:J:132:PRO:HG2	35:J:133:ILE:CD1	2.41	0.45
39:N:18:VAL:HG22	39:N:78:ILE:HG23	1.97	0.45
40:O:46:LYS:HA	40:O:68:ARG:HA	1.98	0.45
41:P:97:ARG:NE	41:P:97:ARG:CA	2.79	0.45
42:Q:113:ARG:NH1	42:Q:118:VAL:O	2.50	0.45
43:R:14:ALA:HB1	43:R:33:LEU:HD11	1.99	0.45
43:R:91:ARG:CB	43:R:91:ARG:HH11	2.29	0.45
48:W:59:LYS:HA	48:W:62:ARG:HB2	1.99	0.45
49:X:26:ASP:OD1	49:X:30:LEU:HG	2.17	0.45
53:3:175:C:H2'	53:3:176:C:C6	2.52	0.45
53:3:342:C:O2'	53:3:343:U:H5'	2.17	0.45
53:3:607:A:O2'	53:3:608:A:H5'	2.17	0.45
54:1:499:U:H2'	54:1:500:G:O4'	2.17	0.45
54:1:569:U:H1'	54:1:947:A:O4'	2.17	0.45
54:1:919:U:H2'	54:1:920:A:O4'	2.16	0.45
54:1:2019:A:H2	54:1:2035:G:H22	1.64	0.45
54:1:2332:C:H1'	54:1:2336:A:C2	2.51	0.45
54:1:2714:G:H2'	54:1:2715:C:C6	2.51	0.45
59:8:96:THR:OG1	59:8:461:MET:HE1	2.16	0.45
59:8:105:VAL:HG21	59:8:322:PHE:CG	2.51	0.45
3:d:19:PHE:HE1	3:d:109:LEU:HD12	1.82	0.45
3:d:98:LYS:HB3	3:d:102:ARG:NH2	2.32	0.45
6:g:96:THR:HB	6:g:112:LYS:CG	2.47	0.45
10:k:105:ARG:C	10:k:107:LEU:H	2.25	0.45
16:q:107:ALA:HB2	17:r:46:GLU:HG3	1.99	0.45
17:r:16:GLU:HG3	17:r:100:GLY:HA2	1.99	0.45
19:t:3:ARG:NH2	54:1:143:C:H4'	2.32	0.45
22:w:63:VAL:HG12	22:w:64:LYS:N	2.32	0.45
30:E:44:ARG:NH1	30:E:44:ARG:CB	2.80	0.45
32:G:210:THR:O	32:G:214:GLY:N	2.37	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:H:19:SER:HA	33:H:56:ILE:O	2.17	0.45
33:H:129:PHE:CE2	33:H:130:ARG:HG3	2.52	0.45
34:I:2:ARG:HH21	34:I:111:ALA:HB1	1.81	0.45
34:I:123:MET:HG3	34:I:128:VAL:HB	1.98	0.45
37:L:65:LEU:HA	37:L:68:VAL:HG12	1.99	0.45
38:M:94:VAL:HG12	38:M:99:GLY:HA3	1.99	0.45
40:O:42:LEU:HD12	40:O:71:LEU:HD13	1.99	0.45
44:S:50:LEU:HD12	44:S:50:LEU:N	2.31	0.45
45:T:1:SER:HA	45:T:34:GLN:NE2	2.09	0.45
45:T:14:PHE:HE1	45:T:83:ARG:HG2	1.80	0.45
47:V:16:MET:HB2	47:V:19:SER:O	2.17	0.45
47:V:20:ILE:HG22	47:V:45:VAL:O	2.17	0.45
47:V:30:HIS:NE2	47:V:32:ILE:HG22	2.31	0.45
53:3:458:U:H2'	53:3:459:A:C8	2.51	0.45
53:3:586:C:H2'	53:3:587:G:O4'	2.16	0.45
53:3:1020:G:C2	53:3:1021:A:H1'	2.52	0.45
53:3:1040:U:H2'	53:3:1041:G:C8	2.52	0.45
53:3:1519:A:C8	53:3:1520:C:H1'	2.52	0.45
54:1:49:A:C5'	54:1:51:G:H5'	2.46	0.45
54:1:818:G:C2'	54:1:819:A:H5''	2.47	0.45
54:1:819:A:O2'	54:1:820:A:H5'	2.16	0.45
54:1:1093:G:C2'	54:1:1094:U:H5''	2.46	0.45
54:1:1114:C:H2'	54:1:1115:G:C8	2.52	0.45
54:1:1893:C:C2'	54:1:1894:C:H5'	2.43	0.45
54:1:1998:A:O2'	54:1:1999:C:H5'	2.16	0.45
54:1:2514:U:H2'	54:1:2515:C:C5	2.51	0.45
54:1:2629:U:O2'	54:1:2630:G:H5''	2.17	0.45
57:6:38:A:H2'	57:6:39:C:C5'	2.40	0.45
59:8:17:ALA:HB2	59:8:112:VAL:H	1.82	0.45
59:8:19:ILE:HD12	59:8:92:HIS:NE2	2.32	0.45
59:8:72:TRP:HE1	59:8:74:GLY:HA2	1.81	0.45
59:8:416:ILE:HD11	59:8:667:ALA:CB	2.46	0.45
1:b:163:ILE:HG12	1:b:173:LEU:HD21	1.99	0.45
2:c:129:THR:HB	2:c:141:ARG:HG3	1.98	0.45
5:f:1:SER:OG	54:1:2749:A:H5''	2.17	0.45
6:g:84:ALA:CA	6:g:91:PHE:H	2.23	0.45
6:g:110:VAL:HG13	6:g:114:GLU:CG	2.47	0.45
11:l:41:ARG:HH21	11:l:41:ARG:HG2	1.82	0.45
12:m:6:ARG:HG3	12:m:6:ARG:O	2.17	0.45
14:o:98:GLN:O	14:o:100:HIS:N	2.50	0.45
19:t:3:ARG:NH2	54:1:142:A:O2'	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:56:GLY:C	20:u:57:ILE:HD12	2.42	0.45
32:G:34:ARG:HG2	32:G:34:ARG:HH11	1.82	0.45
32:G:69:VAL:HG22	32:G:161:PHE:O	2.16	0.45
32:G:105:THR:HA	32:G:108:GLN:HE22	1.80	0.45
32:G:186:VAL:HB	32:G:190:SER:HB2	1.98	0.45
32:G:219:THR:O	32:G:222:GLU:HB3	2.16	0.45
35:J:88:HIS:HB3	35:J:138:ALA:HA	1.98	0.45
40:O:40:ILE:HG12	53:3:1125:U:C5	2.52	0.45
41:P:124:LYS:HD2	41:P:124:LYS:C	2.42	0.45
42:Q:77:SER:HB2	42:Q:102:ASP:HB3	1.98	0.45
44:S:47:LEU:HG	53:3:1317:C:H4'	1.98	0.45
50:Y:70:LYS:HD2	50:Y:70:LYS:C	2.42	0.45
52:a:184:LYS:N	52:a:184:LYS:HD2	2.32	0.45
53:3:40:C:H2'	53:3:41:G:C8	2.47	0.45
53:3:159:G:H1'	53:3:162:A:N6	2.32	0.45
53:3:330:C:OP2	53:3:330:C:H4'	2.17	0.45
53:3:514:C:H2'	53:3:515:G:H8	1.82	0.45
53:3:939:G:H21	53:3:1375:A:H2	1.65	0.45
53:3:1004:A:H2'	53:3:1005:A:O4'	2.15	0.45
53:3:1268:G:O2'	53:3:1269:A:H5'	2.17	0.45
53:3:1434:A:H2'	53:3:1435:G:O4'	2.17	0.45
54:1:620:G:H2'	54:1:620:G:N3	2.32	0.45
54:1:1183:U:H2'	54:1:1184:U:C6	2.52	0.45
54:1:2065:C:H1'	54:1:2449:U:H3	1.82	0.45
54:1:2581:G:H4'	54:1:2582:G:H8	1.81	0.45
59:8:125:THR:O	59:8:128:ARG:HB2	2.16	0.45
59:8:150:ASN:O	59:8:154:VAL:HG23	2.17	0.45
1:b:171:VAL:HB	1:b:183:VAL:HG23	1.99	0.45
2:c:130:GLN:O	2:c:131:ASP:C	2.59	0.45
5:f:3:VAL:HG11	54:1:2748:A:H4'	1.99	0.45
6:g:26:ALA:CA	6:g:30:LEU:HD12	2.43	0.45
17:r:51:VAL:O	17:r:52:PRO:C	2.58	0.45
20:u:23:LYS:HG3	20:u:36:GLU:OE1	2.17	0.45
30:E:35:LYS:O	30:E:40:LYS:HE2	2.16	0.45
34:I:59:LYS:HA	34:I:62:ARG:HB2	1.99	0.45
37:L:78:ARG:HA	37:L:82:SER:O	2.17	0.45
42:Q:29:LYS:C	42:Q:81:ILE:HG22	2.42	0.45
44:S:12:ARG:HG3	44:S:12:ARG:NH1	2.32	0.45
49:X:5:LYS:HB2	53:3:1314:C:OP2	2.17	0.45
49:X:45:GLY:N	49:X:61:VAL:HB	2.28	0.45
53:3:285:C:H2'	53:3:286:C:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:448:A:H3'	53:3:449:G:H8	1.82	0.45
53:3:530:G:H3'	53:3:531:U:C5'	2.47	0.45
53:3:878:A:H2'	53:3:879:C:O4'	2.16	0.45
54:1:194:G:N2	54:1:202:U:H1'	2.32	0.45
54:1:213:A:H2'	54:1:214:G:C8	2.52	0.45
54:1:740:C:H5''	54:1:1784:A:OP1	2.16	0.45
54:1:971:G:C2	54:1:972:A:H1'	2.52	0.45
54:1:1594:U:H2'	54:1:1595:C:H6	1.80	0.45
54:1:2674:G:H2'	54:1:2675:A:C8	2.52	0.45
57:6:27:U:H2'	57:6:28:C:H5'	1.99	0.45
58:4:14:A:H2'	58:4:15:A:C4'	2.32	0.45
59:8:97:ILE:HG23	59:8:98:GLU:HG3	1.99	0.45
59:8:184:ASP:HB3	59:8:189:LYS:HG3	1.99	0.45
8:i:8:VAL:HG21	8:i:27:LEU:HB2	1.98	0.45
10:k:35:VAL:HG12	10:k:69:VAL:CG1	2.41	0.45
12:m:35:ALA:HB1	12:m:126:ILE:HD12	1.99	0.45
14:o:31:THR:HG22	14:o:32:PRO:HD2	1.99	0.45
14:o:110:ALA:HA	14:o:113:ALA:HB3	1.99	0.45
15:p:2:ASN:O	15:p:6:GLN:HG3	2.17	0.45
15:p:52:ARG:HG3	15:p:52:ARG:HH11	1.81	0.45
18:s:29:VAL:HG12	18:s:30:SER:N	2.32	0.45
32:G:68:PHE:HB3	32:G:79:VAL:HG11	1.98	0.45
32:G:91:VAL:CG1	32:G:150:ILE:HD11	2.47	0.45
32:G:94:ARG:N	32:G:94:ARG:HD3	2.32	0.45
32:G:133:ALA:O	32:G:137:THR:N	2.42	0.45
34:I:4:LEU:HD12	34:I:4:LEU:O	2.17	0.45
35:J:107:GLY:HA2	53:3:8:A:H1'	1.99	0.45
39:N:30:ASN:C	39:N:32:ARG:H	2.25	0.45
40:O:53:ILE:HD11	53:3:1060:U:OP1	2.16	0.45
42:Q:32:VAL:O	42:Q:79:ILE:HD12	2.16	0.45
43:R:68:LEU:O	43:R:72:ILE:HG13	2.17	0.45
43:R:95:PRO:HB3	43:R:105:ALA:CB	2.45	0.45
43:R:98:GLY:CA	53:3:1308:U:OP2	2.64	0.45
47:V:58:VAL:HB	47:V:60:ILE:HD11	1.99	0.45
50:Y:35:TYR:HA	50:Y:38:ILE:HD12	1.99	0.45
53:3:952:U:H2'	53:3:953:G:H8	1.82	0.45
53:3:1038:C:H2'	53:3:1039:G:C8	2.52	0.45
54:1:56:A:O2'	54:1:57:C:H5'	2.17	0.45
54:1:1461:C:H2'	54:1:1462:C:C6	2.51	0.45
54:1:1599:U:H2'	54:1:1600:C:H6	1.82	0.45
54:1:2693:G:H2'	54:1:2694:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2862:G:H2'	54:1:2863:C:H6	1.82	0.45
55:2:78:A:H2'	55:2:79:G:O4'	2.16	0.45
56:5:9:A:H5''	56:5:46:G:H1'	1.99	0.45
58:4:11:U:H2'	58:4:12:A:H4'	1.98	0.45
59:8:19:ILE:HB	59:8:92:HIS:CG	2.52	0.45
59:8:337:ARG:HD3	59:8:338:VAL:N	2.32	0.45
1:b:42:ARG:HH11	1:b:42:ARG:HG2	1.81	0.44
1:b:259:ASN:OD1	1:b:261:ARG:HG2	2.17	0.44
2:c:35:THR:H	2:c:50:VAL:HA	1.81	0.44
4:e:16:MET:HA	4:e:21:TYR:CB	2.46	0.44
4:e:18:GLU:HB3	4:e:19:PHE:CD1	2.52	0.44
4:e:30:VAL:HG13	4:e:30:VAL:O	2.17	0.44
5:f:3:VAL:O	5:f:68:ARG:HD2	2.17	0.44
5:f:42:VAL:HG23	5:f:51:PHE:HE1	1.82	0.44
10:k:48:PRO:HB3	53:3:1422:G:C5'	2.47	0.44
11:l:33:ARG:NH2	11:l:39:LYS:O	2.49	0.44
11:l:54:GLN:OE1	54:1:825:A:H1'	2.16	0.44
12:m:50:ARG:HG2	12:m:50:ARG:HH21	1.81	0.44
15:p:57:ALA:HA	15:p:75:THR:HG23	1.98	0.44
18:s:17:VAL:O	18:s:18:ARG:C	2.58	0.44
29:D:2:LYS:HE2	29:D:6:GLN:HG3	1.99	0.44
32:G:71:THR:O	32:G:72:LYS:C	2.60	0.44
33:H:87:ARG:HG2	33:H:87:ARG:NH1	2.31	0.44
34:I:171:GLU:N	34:I:180:THR:O	2.45	0.44
35:J:132:PRO:O	35:J:135:VAL:HG12	2.17	0.44
37:L:25:PHE:CZ	37:L:119:LEU:HD11	2.52	0.44
38:M:28:SER:HB3	38:M:56:PRO:HB2	1.97	0.44
40:O:8:ILE:HG21	40:O:25:ILE:HD13	1.99	0.44
41:P:121:ARG:HD2	53:3:778:G:N2	2.33	0.44
43:R:79:LEU:HD12	43:R:79:LEU:N	2.32	0.44
44:S:52:ARG:O	44:S:58:ARG:HD2	2.17	0.44
44:S:73:LEU:O	44:S:77:GLY:N	2.46	0.44
51:Z:9:GLU:CG	51:Z:10:PRO:HD3	2.38	0.44
52:a:29:LEU:HB3	52:a:222:VAL:HG11	1.98	0.44
53:3:232:G:H2'	53:3:233:C:H6	1.81	0.44
53:3:319:G:O2'	53:3:320:A:H5'	2.17	0.44
53:3:802:A:H2'	53:3:803:G:O4'	2.16	0.44
53:3:936:C:O2'	53:3:937:A:H5'	2.17	0.44
53:3:1363:A:H2'	53:3:1365:G:C8	2.52	0.44
53:3:1407:C:O2'	53:3:1408:A:H5'	2.17	0.44
54:1:287:G:H2'	54:1:288:U:H6	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:744:U:H2'	54:1:745:G:O4'	2.17	0.44
54:1:843:G:H2'	54:1:844:A:C8	2.50	0.44
54:1:863:A:O2'	54:1:864:G:H5'	2.17	0.44
54:1:1079:C:H2'	54:1:1080:A:C8	2.51	0.44
54:1:1409:U:H2'	54:1:1410:G:H8	1.80	0.44
54:1:1562:U:O2'	54:1:1563:U:H5'	2.17	0.44
54:1:2246:G:H2'	54:1:2247:A:H8	1.80	0.44
2:c:124:ARG:HE	2:c:165:MET:HE3	1.82	0.44
2:c:170:VAL:HG12	2:c:171:THR:N	2.32	0.44
4:e:129:MET:HE2	4:e:129:MET:HA	1.98	0.44
4:e:150:GLY:HA3	54:1:2305:U:C2	2.52	0.44
5:f:137:LYS:HG2	54:1:2746:U:H5''	1.98	0.44
7:h:14:GLU:O	7:h:18:VAL:HG23	2.17	0.44
10:k:4:GLU:O	10:k:5:GLN:HB2	2.18	0.44
11:l:132:ARG:O	11:l:136:GLU:N	2.45	0.44
20:u:24:VAL:HG12	20:u:26:ASN:H	1.82	0.44
20:u:81:ARG:NH2	20:u:96:LYS:HG3	2.31	0.44
21:v:36:ALA:O	21:v:38:LEU:N	2.50	0.44
22:w:21:ARG:HD2	22:w:25:GLU:OE1	2.16	0.44
30:E:14:LYS:HB2	30:E:22:LYS:HG2	1.99	0.44
35:J:82:HIS:HB2	35:J:83:PRO:CD	2.42	0.44
45:T:36:ASN:O	45:T:39:GLN:HB2	2.17	0.44
46:U:14:ARG:HH21	46:U:42:ILE:CD1	2.31	0.44
46:U:67:ILE:HG23	46:U:71:VAL:HG12	1.99	0.44
47:V:21:VAL:HG23	47:V:44:HIS:CD2	2.53	0.44
49:X:55:GLN:OE1	49:X:55:GLN:HA	2.17	0.44
49:X:77:ARG:HD3	53:3:1225:A:H4'	1.99	0.44
53:3:102:G:H2'	53:3:103:U:C6	2.52	0.44
53:3:515:G:H2'	53:3:516:U:O4'	2.18	0.44
53:3:624:C:H2'	53:3:625:U:H6	1.76	0.44
53:3:730:G:C3'	53:3:731:G:H5'	2.48	0.44
53:3:1117:A:H2'	53:3:1118:U:C6	2.53	0.44
53:3:1401:G:H2'	53:3:1402:C:O4'	2.17	0.44
53:3:1411:C:H2'	53:3:1412:C:H6	1.78	0.44
54:1:28:A:O2'	54:1:29:U:H5'	2.17	0.44
54:1:440:C:H2'	54:1:441:U:H6	1.82	0.44
54:1:884:U:H2'	54:1:885:C:H5'	1.98	0.44
54:1:1408:G:H2'	54:1:1409:U:C6	2.52	0.44
54:1:2053:G:H2'	54:1:2054:A:O4'	2.17	0.44
54:1:2372:U:H2'	54:1:2373:G:H8	1.83	0.44
54:1:2392:A:C2	54:1:2393:U:C2	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2756:U:H1'	54:1:2757:A:H5''	1.99	0.44
57:6:1:C:H2'	57:6:2:G:C8	2.53	0.44
59:8:71:PHE:CE2	59:8:83:ARG:HG3	2.51	0.44
59:8:327:ASP:OD2	59:8:333:LEU:HG	2.16	0.44
59:8:422:PRO:CB	59:8:431:MET:HG3	2.47	0.44
1:b:24:HIS:CG	1:b:79:ARG:HD3	2.52	0.44
2:c:152:PRO:O	2:c:154:LYS:N	2.49	0.44
6:g:110:VAL:HG11	6:g:134:VAL:HG12	1.98	0.44
7:h:7:ASP:O	7:h:11:ILE:HG12	2.17	0.44
12:m:28:PHE:HB3	12:m:64:TRP:CZ3	2.52	0.44
13:n:96:ARG:HG2	54:1:2881:U:H4'	1.99	0.44
14:o:67:ASN:HA	55:2:50:A:OP2	2.17	0.44
15:p:108:ARG:HE	53:3:1463:U:P	2.41	0.44
19:t:73:ARG:HG2	19:t:73:ARG:HH21	1.83	0.44
31:F:17:VAL:CG1	31:F:19:ARG:HG3	2.47	0.44
34:I:116:LEU:HD13	34:I:153:ARG:NH2	2.33	0.44
34:I:120:LYS:HG3	34:I:130:ASN:OD1	2.17	0.44
36:K:91:ARG:N	53:3:737:C:OP1	2.50	0.44
37:L:59:GLU:HA	37:L:62:GLU:OE1	2.17	0.44
37:L:66:GLU:HG3	37:L:67:ASN:N	2.32	0.44
39:N:81:GLY:O	39:N:85:ALA:N	2.50	0.44
40:O:40:ILE:CB	53:3:1123:U:C6	3.00	0.44
43:R:86:ARG:HB3	53:3:1309:G:OP1	2.17	0.44
51:Z:34:ARG:HG2	51:Z:34:ARG:NH1	2.31	0.44
52:a:178:VAL:HG12	52:a:216:THR:HG21	1.99	0.44
53:3:259:G:O2'	53:3:260:G:H5'	2.17	0.44
53:3:563:A:C2	53:3:567:G:C5	3.05	0.44
53:3:696:A:C2'	53:3:697:U:H5'	2.47	0.44
53:3:736:C:H2'	53:3:737:C:C6	2.53	0.44
53:3:766:A:H2'	53:3:767:A:O4'	2.17	0.44
53:3:1079:G:C2'	53:3:1080:A:C5'	2.94	0.44
54:1:319:G:O2'	54:1:320:A:H5'	2.18	0.44
54:1:1281:G:H2'	54:1:1282:U:C6	2.53	0.44
54:1:1378:A:C1'	54:1:1379:U:C5	2.99	0.44
54:1:1665:A:H2'	54:1:1666:G:O4'	2.17	0.44
54:1:1935:G:H1'	54:1:1964:G:N2	2.32	0.44
54:1:2177:C:H2'	54:1:2178:C:C1'	2.47	0.44
54:1:2224:G:H4'	54:1:2226:C:C2	2.53	0.44
54:1:2233:U:H2'	54:1:2234:G:H8	1.83	0.44
54:1:2248:C:H2'	54:1:2249:U:H5'	1.98	0.44
54:1:2329:U:H2'	54:1:2330:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:5:6:A:H2'	56:5:7:G:H5'	1.99	0.44
59:8:177:GLU:C	59:8:179:PHE:H	2.26	0.44
59:8:236:LYS:CG	59:8:243:LEU:HD21	2.44	0.44
59:8:245:GLU:O	59:8:248:ILE:HG12	2.17	0.44
59:8:580:PHE:CG	59:8:581:GLY:N	2.85	0.44
1:b:12:ARG:HH21	1:b:15:VAL:HG11	1.82	0.44
3:d:129:PRO:CG	3:d:159:LEU:HD12	2.48	0.44
4:e:34:THR:HG23	4:e:88:VAL:O	2.18	0.44
4:e:74:ALA:O	4:e:77:LYS:N	2.49	0.44
5:f:51:PHE:HE2	5:f:68:ARG:HA	1.83	0.44
8:i:50:LYS:O	8:i:52:LEU:HD13	2.16	0.44
11:l:111:ILE:HD13	54:1:636:G:N2	2.33	0.44
11:l:127:VAL:HG21	11:l:142:ILE:HG23	2.00	0.44
13:n:38:LEU:CD1	13:n:42:LYS:HE2	2.47	0.44
28:C:36:LYS:HA	28:C:47:ILE:HA	1.99	0.44
32:G:80:LYS:HA	32:G:90:PHE:CD2	2.53	0.44
32:G:184:ALA:O	32:G:199:ILE:N	2.40	0.44
37:L:35:LYS:HG3	53:3:1373:G:H5''	1.97	0.44
37:L:76:SER:HA	37:L:86:VAL:H	1.83	0.44
38:M:76:ARG:NH1	38:M:78:SER:O	2.50	0.44
40:O:14:ASP:OD2	40:O:17:LEU:HG	2.17	0.44
40:O:81:GLU:O	40:O:84:VAL:HG12	2.18	0.44
43:R:101:THR:C	43:R:103:THR:H	2.25	0.44
44:S:5:MET:HA	44:S:8:ARG:HG2	1.99	0.44
44:S:26:LEU:H	44:S:26:LEU:CD1	2.31	0.44
45:T:63:ARG:NH2	45:T:88:ARG:HH22	2.16	0.44
46:U:53:ASP:OD2	46:U:56:ARG:HG2	2.16	0.44
50:Y:8:LYS:HA	50:Y:11:ILE:HG22	1.99	0.44
53:3:179:A:H2'	53:3:180:U:C6	2.52	0.44
53:3:751:U:C2'	53:3:752:G:H5'	2.47	0.44
53:3:806:C:H2'	53:3:807:A:C8	2.52	0.44
53:3:890:G:HO2'	53:3:891:U:H6	1.63	0.44
53:3:1097:C:H2'	53:3:1098:C:O4'	2.16	0.44
53:3:1148:U:H3'	53:3:1149:C:C5'	2.47	0.44
54:1:169:G:H2'	54:1:170:U:C6	2.51	0.44
54:1:767:U:O2'	54:1:768:G:H5'	2.17	0.44
54:1:1614:A:H2'	54:1:1615:C:H5'	1.99	0.44
54:1:1917:U:C2'	54:1:1918:A:H5'	2.47	0.44
54:1:2102:G:O2'	54:1:2103:C:H5'	2.17	0.44
54:1:2232:C:H2'	54:1:2233:U:C6	2.52	0.44
54:1:2417:C:H2'	54:1:2418:A:H8	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2731:G:H2'	54:1:2732:G:H8	1.77	0.44
59:8:354:LYS:CD	59:8:356:ALA:HB3	2.48	0.44
59:8:366:MET:HG2	59:8:384:ALA:HB2	1.98	0.44
1:b:147:PRO:HG2	1:b:186:ASP:HB2	1.99	0.44
1:b:246:PRO:HD2	1:b:247:TRP:CE3	2.52	0.44
3:d:19:PHE:CD1	3:d:109:LEU:HB3	2.53	0.44
4:e:10:GLU:O	4:e:13:LYS:N	2.50	0.44
7:h:56:ARG:NE	7:h:83:ALA:HB2	2.33	0.44
10:k:58:LEU:HD22	10:k:95:ILE:HD11	2.00	0.44
12:m:51:ARG:C	12:m:53:MET:H	2.24	0.44
13:n:103:ARG:HD2	13:n:106:ASP:OD1	2.17	0.44
17:r:11:GLN:HG2	17:r:39:LEU:HD22	1.98	0.44
19:t:68:LYS:HE2	19:t:68:LYS:CA	2.48	0.44
26:A:60:PHE:O	26:A:64:PHE:N	2.51	0.44
32:G:113:LEU:HD22	32:G:143:LEU:HB3	1.99	0.44
36:K:78:PHE:HA	36:K:81:ASN:HB2	2.00	0.44
43:R:96:VAL:HG12	43:R:108:ARG:CD	2.46	0.44
53:3:45:G:H2'	53:3:46:G:C8	2.53	0.44
53:3:82:G:C2'	53:3:83:C:H5'	2.48	0.44
53:3:181:A:H62	53:3:194:C:H2'	1.82	0.44
53:3:190:A:H2'	53:3:191:G:O4'	2.18	0.44
53:3:212:G:H2'	53:3:213:G:H8	1.83	0.44
53:3:253:A:H61	53:3:273:U:H3	1.64	0.44
53:3:269:C:H2'	53:3:270:A:C8	2.53	0.44
53:3:309:A:O2'	53:3:310:G:H5'	2.17	0.44
53:3:677:U:H3	53:3:713:G:H1	1.65	0.44
53:3:1001:C:H2'	53:3:1002:G:O4'	2.17	0.44
53:3:1161:C:H2'	53:3:1162:C:C6	2.53	0.44
53:3:1311:A:H2'	53:3:1312:G:C4'	2.48	0.44
54:1:44:A:H2'	54:1:45:G:O4'	2.17	0.44
54:1:52:A:H2'	54:1:53:A:C8	2.53	0.44
54:1:613:A:H4'	54:1:614:A:C8	2.53	0.44
54:1:688:U:H2'	54:1:689:A:H8	1.81	0.44
54:1:881:G:H2'	54:1:881:G:N3	2.33	0.44
54:1:902:C:O5'	54:1:902:C:H6	2.00	0.44
54:1:2047:C:H2'	54:1:2048:G:C8	2.51	0.44
54:1:2720:U:H2'	54:1:2721:A:C8	2.53	0.44
56:5:59:A:H2'	56:5:60:U:O4'	2.17	0.44
59:8:71:PHE:CE2	59:8:83:ARG:NH1	2.85	0.44
59:8:495:ARG:NH2	59:8:611:VAL:HB	2.25	0.44
1:b:93:VAL:HG12	1:b:94:LEU:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:b:144:GLU:HA	1:b:151:GLY:HA2	2.00	0.44
1:b:229:HIS:ND1	1:b:230:PRO:N	2.66	0.44
2:c:172:VAL:CG2	2:c:194:PRO:HD3	2.47	0.44
3:d:174:GLY:C	3:d:175:ILE:HD12	2.43	0.44
5:f:125:PRO:HD3	5:f:131:VAL:HG12	1.99	0.44
6:g:40:THR:HB	6:g:43:ASN:HB2	1.99	0.44
6:g:115:VAL:HA	6:g:132:PHE:HB3	2.00	0.44
9:j:59:ALA:HB3	9:j:126:ALA:HA	2.00	0.44
11:l:4:ASN:C	11:l:4:ASN:ND2	2.67	0.44
11:l:4:ASN:ND2	11:l:4:ASN:O	2.45	0.44
11:l:121:THR:HG22	11:l:141:LYS:HB3	2.00	0.44
14:o:92:PHE:HB2	14:o:117:PHE:CD2	2.53	0.44
15:p:30:TRP:CD1	15:p:81:ASP:HB2	2.52	0.44
16:q:27:ARG:HG2	16:q:27:ARG:NH1	2.32	0.44
16:q:58:GLN:CG	54:1:1009:A:H5'	2.47	0.44
19:t:30:ILE:HG23	19:t:85:VAL:HB	2.00	0.44
21:v:20:LEU:C	21:v:22:ALA:H	2.26	0.44
23:x:7:THR:OG1	23:x:9:LYS:HG3	2.18	0.44
26:A:15:SER:HA	26:A:21:VAL:HG13	2.00	0.44
30:E:6:VAL:CG2	30:E:60:CYS:HB2	2.48	0.44
33:H:90:VAL:O	33:H:94:ALA:N	2.43	0.44
34:I:41:GLY:O	34:I:43:ARG:N	2.51	0.44
36:K:44:ARG:HA	36:K:57:ALA:O	2.18	0.44
37:L:38:ALA:O	37:L:42:VAL:N	2.36	0.44
38:M:78:SER:HB2	38:M:124:ILE:O	2.18	0.44
38:M:79:ARG:HB2	38:M:80:PRO:HD2	1.99	0.44
46:U:21:VAL:HG21	46:U:60:TRP:CE2	2.52	0.44
48:W:58:ILE:C	48:W:62:ARG:HG3	2.43	0.44
52:a:167:LYS:HD2	52:a:167:LYS:O	2.17	0.44
53:3:46:G:C2	53:3:366:A:H1'	2.52	0.44
53:3:113:G:H2'	53:3:114:U:C6	2.52	0.44
53:3:537:G:H5'	53:3:537:G:C8	2.46	0.44
53:3:1076:U:O5'	53:3:1076:U:H6	2.01	0.44
53:3:1102:A:O2'	53:3:1103:C:H5'	2.17	0.44
53:3:1176:A:H2'	53:3:1177:G:O4'	2.17	0.44
53:3:1428:A:H2'	53:3:1429:A:O4'	2.18	0.44
54:1:630:G:N2	54:1:633:A:OP2	2.50	0.44
54:1:732:C:H2'	54:1:733:G:O4'	2.18	0.44
54:1:827:U:H4'	54:1:828:U:C6	2.53	0.44
54:1:1331:G:C2'	54:1:1332:G:H5''	2.47	0.44
54:1:1583:A:H4'	54:1:1585:C:C2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2443:C:O2'	54:1:2444:G:H5'	2.18	0.44
54:1:2545:G:C2'	54:1:2546:U:H5'	2.47	0.44
54:1:2805:C:H2'	54:1:2806:C:C6	2.52	0.44
54:1:2860:A:H2'	54:1:2861:U:H5'	1.99	0.44
59:8:425:LYS:HA	59:8:428:GLN:CB	2.47	0.44
1:b:20:ASN:C	1:b:22:GLU:H	2.25	0.44
1:b:141:HIS:O	1:b:190:THR:N	2.51	0.44
1:b:213:ARG:NE	54:1:1566:A:H5'	2.30	0.44
13:n:4:ARG:HD2	54:1:2820:A:N3	2.33	0.44
13:n:59:SER:O	13:n:62:ASN:N	2.51	0.44
14:o:11:ALA:O	14:o:12:THR:C	2.61	0.44
30:E:15:LYS:HD2	30:E:20:GLY:O	2.18	0.44
33:H:63:ILE:HG23	33:H:98:ALA:HA	1.99	0.44
33:H:64:ARG:HH11	33:H:64:ARG:HG3	1.82	0.44
33:H:124:GLU:HG2	33:H:190:THR:CG2	2.48	0.44
34:I:196:GLU:O	34:I:200:VAL:HG23	2.18	0.44
35:J:80:LEU:HD22	35:J:80:LEU:N	2.33	0.44
36:K:10:VAL:HG13	36:K:83:ALA:C	2.42	0.44
36:K:18:VAL:O	36:K:21:MET:HB2	2.18	0.44
41:P:91:GLY:HA2	41:P:94:SER:OG	2.18	0.44
48:W:37:LYS:HZ3	51:Z:23:GLU:HG3	1.83	0.44
49:X:4:LEU:HD22	49:X:4:LEU:HA	1.81	0.44
49:X:14:LEU:HD11	49:X:33:TRP:CZ3	2.52	0.44
51:Z:20:ARG:HA	51:Z:24:LYS:HB2	2.00	0.44
52:a:44:VAL:HG11	52:a:192:LEU:CD2	2.47	0.44
53:3:109:A:C6	53:3:326:G:C6	3.06	0.44
53:3:399:G:H2'	53:3:400:C:H6	1.82	0.44
53:3:567:G:H2'	53:3:568:G:O4'	2.18	0.44
53:3:895:G:H2'	53:3:896:C:C6	2.52	0.44
54:1:745:G:O2'	54:1:748:G:H1'	2.18	0.44
54:1:1062:G:C6	54:1:1063:G:N2	2.86	0.44
54:1:1461:C:H2'	54:1:1462:C:H6	1.83	0.44
54:1:1485:U:H2'	54:1:1486:U:H6	1.83	0.44
54:1:1796:U:H2'	54:1:1797:G:C8	2.53	0.44
54:1:1985:C:O2'	54:1:1986:C:H5'	2.17	0.44
54:1:2163:A:C2'	54:1:2164:C:H5'	2.48	0.44
54:1:2625:G:H2'	54:1:2626:C:O4'	2.18	0.44
57:6:36:U:H2'	57:6:37:A:O4'	2.16	0.44
59:8:124:GLU:OE2	59:8:162:LEU:HA	2.18	0.44
59:8:351:ASN:HB2	59:8:397:LEU:HD23	1.99	0.44
59:8:540:ILE:HG21	59:8:545:ILE:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:674:THR:O	59:8:677:ARG:HD3	2.17	0.44
1:b:119:VAL:HB	6:g:91:PHE:CD1	2.51	0.44
1:b:131:MET:HE3	1:b:188:ARG:CA	2.48	0.44
4:e:59:ILE:HG23	4:e:60:SER:N	2.32	0.44
11:l:95:LEU:HB3	11:l:101:ILE:HG23	1.99	0.44
16:q:111:LYS:HB2	17:r:48:LYS:HE3	1.99	0.44
22:w:36:GLN:HE22	22:w:39:THR:HA	1.80	0.44
23:x:4:CYS:HB3	23:x:9:LYS:H	1.82	0.44
25:z:38:GLU:OE1	54:1:928:A:H4'	2.18	0.44
26:A:10:GLU:O	26:A:26:SER:N	2.38	0.44
29:D:27:GLY:O	29:D:29:GLN:N	2.51	0.44
33:H:135:ARG:O	33:H:139:ASN:ND2	2.51	0.44
37:L:70:PRO:HB3	37:L:137:ARG:HG3	1.99	0.44
52:a:30:LEU:HD23	52:a:214:ILE:HG21	2.00	0.44
52:a:181:ASP:C	52:a:183:ASP:N	2.76	0.44
53:3:142:G:O2'	53:3:143:A:H5'	2.18	0.44
53:3:937:A:H61	53:3:1377:A:C1'	2.27	0.44
53:3:1320:C:O2'	53:3:1321:U:O5'	2.34	0.44
54:1:419:U:H2'	54:1:420:C:C6	2.53	0.44
54:1:911:A:H5''	54:1:912:C:H5''	2.00	0.44
54:1:970:U:H2'	54:1:971:G:C8	2.53	0.44
54:1:1163:G:H2'	54:1:1164:C:H6	1.83	0.44
54:1:1315:C:H2'	54:1:1316:U:H6	1.82	0.44
54:1:1545:A:H2'	54:1:1546:G:O4'	2.18	0.44
54:1:1937:A:N6	54:1:1940:U:H5	2.15	0.44
54:1:2255:G:O2'	56:5:3:G:H5''	2.17	0.44
1:b:18:VAL:O	1:b:18:VAL:HG23	2.18	0.44
1:b:23:LEU:HD22	1:b:82:TYR:N	2.33	0.44
1:b:131:MET:HG2	1:b:187:CYS:O	2.18	0.44
4:e:40:GLY:HA2	4:e:84:ILE:HD11	2.00	0.44
5:f:53:PRO:HG3	5:f:61:TRP:CD1	2.53	0.44
6:g:6:LEU:HB2	6:g:35:LYS:C	2.42	0.44
7:h:44:ALA:O	7:h:49:GLY:N	2.51	0.44
8:i:35:MET:SD	8:i:36:GLU:N	2.91	0.44
8:i:55:PRO:HG3	8:i:74:PRO:CG	2.48	0.44
8:i:55:PRO:CD	8:i:74:PRO:HD3	2.47	0.44
10:k:8:LEU:HD21	10:k:83:ALA:C	2.43	0.44
15:p:90:ALA:N	15:p:112:ARG:HB2	2.32	0.44
16:q:104:ALA:O	16:q:107:ALA:HB3	2.18	0.44
20:u:48:VAL:HG12	20:u:52:ASN:O	2.18	0.44
24:y:7:ARG:HD3	24:y:8:GLU:OE1	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:y:44:LYS:HA	24:y:47:ARG:HH22	1.83	0.44
28:C:36:LYS:NZ	28:C:45:HIS:HB3	2.32	0.44
33:H:21:TRP:O	44:S:93:PRO:HG2	2.17	0.44
33:H:155:ARG:HG2	33:H:158:GLY:C	2.43	0.44
33:H:194:VAL:O	33:H:195:ILE:HD13	2.18	0.44
37:L:22:LEU:HD12	37:L:22:LEU:N	2.33	0.44
39:N:91:GLU:CA	39:N:94:ARG:HB2	2.45	0.44
45:T:71:ARG:HD2	45:T:71:ARG:C	2.43	0.44
50:Y:9:ARG:HD3	53:3:107:G:O6	2.17	0.44
53:3:783:C:H2'	53:3:784:A:H8	1.81	0.44
53:3:1061:G:C2	53:3:1062:U:H1'	2.53	0.44
53:3:1472:U:H2'	53:3:1473:G:C8	2.53	0.44
53:3:1487:G:O2'	53:3:1488:G:H5'	2.17	0.44
54:1:8:C:H2'	54:1:9:G:O4'	2.17	0.44
54:1:211:C:H2'	54:1:212:G:C8	2.53	0.44
54:1:404:A:O2'	54:1:406:G:C8	2.70	0.44
54:1:535:G:O2'	54:1:536:G:H5'	2.17	0.44
54:1:657:U:H2'	54:1:658:U:C6	2.53	0.44
54:1:1098:A:H2'	54:1:1099:G:H5'	1.98	0.44
54:1:1111:A:O2'	54:1:1112:G:H4'	2.18	0.44
54:1:1130:U:O5'	54:1:1130:U:H6	2.01	0.44
54:1:1715:G:N2	54:1:1743:G:H2'	2.33	0.44
54:1:2074:U:H2'	54:1:2075:U:H6	1.81	0.44
54:1:2339:C:H2'	54:1:2340:A:C8	2.53	0.44
54:1:2899:A:O2'	54:1:2900:A:H5'	2.17	0.44
55:2:11:C:C2'	55:2:12:C:H5'	2.47	0.44
59:8:189:LYS:HB2	59:8:205:GLU:O	2.18	0.44
59:8:233:LEU:HD11	59:8:243:LEU:HD13	1.99	0.44
59:8:248:ILE:HG13	59:8:249:LYS:N	2.33	0.44
59:8:334:THR:HG21	59:8:388:LEU:HB2	2.00	0.44
59:8:540:ILE:HG13	59:8:545:ILE:HG21	2.00	0.44
59:8:540:ILE:HG13	59:8:545:ILE:HG22	1.99	0.44
1:b:126:GLY:O	1:b:190:THR:HG23	2.18	0.43
1:b:239:PHE:HE2	54:1:1902:C:H5''	1.83	0.43
3:d:27:LEU:O	3:d:31:VAL:HG23	2.18	0.43
10:k:13:ASN:C	10:k:13:ASN:ND2	2.75	0.43
15:p:85:VAL:HG12	15:p:86:LYS:N	2.33	0.43
16:q:84:LYS:HD2	16:q:115:ALA:O	2.17	0.43
20:u:36:GLU:H	20:u:36:GLU:CD	2.26	0.43
23:x:35:HIS:CD2	23:x:55:MET:HE1	2.53	0.43
28:C:42:VAL:HG22	28:C:42:VAL:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:E:41:ARG:HA	30:E:44:ARG:NH1	2.29	0.43
33:H:121:SER:HA	33:H:124:GLU:HB2	2.00	0.43
37:L:94:ARG:HH12	37:L:98:LEU:HD11	1.83	0.43
37:L:110:ARG:O	37:L:118:ARG:HD3	2.17	0.43
38:M:44:PHE:HE2	38:M:100:ILE:HD13	1.82	0.43
39:N:5:TYR:HB2	39:N:20:ILE:HG23	2.00	0.43
39:N:115:VAL:C	39:N:117:LEU:H	2.26	0.43
40:O:54:SER:OG	40:O:61:ALA:HB3	2.18	0.43
42:Q:29:LYS:O	42:Q:81:ILE:N	2.44	0.43
42:Q:50:LYS:HD2	42:Q:50:LYS:N	2.33	0.43
42:Q:73:LEU:H	42:Q:73:LEU:CD1	2.30	0.43
42:Q:88:ASP:O	42:Q:89:LEU:HD23	2.18	0.43
43:R:64:VAL:O	43:R:68:LEU:N	2.45	0.43
45:T:63:ARG:HG3	45:T:63:ARG:NH1	2.33	0.43
47:V:44:HIS:O	47:V:70:LYS:HG3	2.17	0.43
52:a:8:MET:CE	54:1:2129:C:H5'	2.48	0.43
52:a:36:ALA:HB1	52:a:38:PHE:CE1	2.52	0.43
53:3:425:G:O2'	53:3:426:U:H5'	2.18	0.43
53:3:742:G:H2'	53:3:743:A:C8	2.52	0.43
53:3:795:C:H1'	53:3:1506:U:C5	2.53	0.43
53:3:922:G:H2'	53:3:923:A:H8	1.83	0.43
53:3:1534:A:O2'	53:3:1535:C:O5'	2.36	0.43
54:1:292:U:H2'	54:1:293:U:C6	2.53	0.43
54:1:1344:U:H4'	54:1:1384:A:C5	2.53	0.43
54:1:1473:G:O2'	54:1:1474:U:H5'	2.18	0.43
54:1:1642:G:O2'	54:1:1643:G:H5'	2.18	0.43
54:1:2678:C:O2'	54:1:2679:A:H5'	2.18	0.43
54:1:2786:U:H2'	54:1:2787:C:H6	1.83	0.43
59:8:674:THR:O	59:8:675:LYS:HB2	2.18	0.43
3:d:122:GLU:HA	3:d:190:ALA:HB2	1.99	0.43
4:e:127:TYR:HB3	4:e:155:ILE:HD12	1.99	0.43
5:f:22:VAL:C	5:f:23:ILE:HD12	2.43	0.43
5:f:42:VAL:HG23	5:f:51:PHE:CE1	2.53	0.43
6:g:83:LYS:O	6:g:90:LEU:HD12	2.18	0.43
6:g:96:THR:CB	6:g:112:LYS:HD2	2.46	0.43
9:j:7:LYS:HD3	54:1:538:A:O3'	2.18	0.43
11:l:60:ARG:O	54:1:2393:U:H4'	2.18	0.43
12:m:82:MET:HE1	54:1:956:G:C1'	2.49	0.43
16:q:34:ALA:O	16:q:38:VAL:HG23	2.18	0.43
17:r:74:ILE:H	17:r:74:ILE:CD1	2.28	0.43
30:E:18:LYS:HB2	54:1:651:G:H5'	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:N:29:ILE:O	39:N:32:ARG:N	2.50	0.43
45:T:2:LEU:HG	45:T:6:ALA:HB3	1.99	0.43
47:V:24:ILE:O	47:V:41:THR:N	2.43	0.43
47:V:74:LEU:C	47:V:74:LEU:HD23	2.43	0.43
49:X:14:LEU:HD11	49:X:33:TRP:HZ3	1.83	0.43
50:Y:57:VAL:CG1	50:Y:58:ASP:N	2.81	0.43
52:a:189:LEU:HD11	52:a:212:VAL:CG1	2.49	0.43
53:3:79:G:C2'	53:3:80:A:H5'	2.49	0.43
53:3:692:U:H2'	53:3:694:A:OP2	2.19	0.43
53:3:767:A:H2'	53:3:768:A:O4'	2.18	0.43
53:3:803:G:O2'	53:3:804:U:H5'	2.17	0.43
54:1:391:A:H2'	54:1:391:A:N3	2.33	0.43
54:1:1296:G:O2'	54:1:1297:C:H5'	2.18	0.43
54:1:1444:G:H2'	54:1:1445:G:C8	2.53	0.43
54:1:2372:U:H2'	54:1:2373:G:C8	2.53	0.43
54:1:2386:A:H2'	54:1:2387:U:C6	2.53	0.43
54:1:2467:C:H2'	54:1:2468:A:O4'	2.18	0.43
54:1:2705:A:H2'	54:1:2706:A:O4'	2.18	0.43
54:1:2751:G:O2'	54:1:2752:C:H5'	2.17	0.43
2:c:149:ASN:HD22	54:1:2575:C:H5'	1.84	0.43
3:d:109:LEU:HA	3:d:112:LEU:HD12	2.01	0.43
4:e:18:GLU:HB3	4:e:19:PHE:H	1.56	0.43
4:e:66:ILE:HA	4:e:86:CYS:HA	2.00	0.43
9:j:37:ARG:HA	9:j:118:MET:HE3	2.00	0.43
11:l:54:GLN:O	11:l:54:GLN:HG2	2.15	0.43
13:n:79:LEU:C	13:n:81:ASN:H	2.26	0.43
14:o:6:ALA:HB3	14:o:10:ARG:HH11	1.82	0.43
16:q:17:LEU:C	16:q:19:GLN:N	2.76	0.43
17:r:68:ARG:CB	17:r:90:ARG:HE	2.31	0.43
20:u:96:LYS:C	20:u:98:ASN:H	2.26	0.43
23:x:48:LEU:HB3	23:x:50:VAL:HG13	2.01	0.43
26:A:59:ARG:NH2	49:X:17:LYS:HE2	2.32	0.43
27:B:9:ARG:O	27:B:13:GLY:N	2.50	0.43
32:G:65:LYS:HD2	32:G:89:PHE:HE2	1.83	0.43
34:I:2:ARG:NH1	34:I:4:LEU:HB3	2.32	0.43
34:I:100:VAL:O	34:I:104:MET:HG2	2.18	0.43
38:M:80:PRO:HA	38:M:83:ARG:NE	2.34	0.43
39:N:67:LYS:HD3	53:3:1148:U:O2	2.18	0.43
44:S:74:ARG:HH11	44:S:74:ARG:HG3	1.84	0.43
47:V:10:ARG:HG2	47:V:10:ARG:NH1	2.32	0.43
51:Z:16:ARG:HH21	51:Z:19:LYS:HZ3	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:17:U:H2'	53:3:18:C:C6	2.53	0.43
53:3:70:U:H2'	53:3:94:G:N7	2.34	0.43
53:3:693:G:H1	53:3:788:U:H4'	1.84	0.43
54:1:155:A:H2'	54:1:156:A:C8	2.53	0.43
54:1:622:G:O2'	54:1:623:C:H5'	2.17	0.43
54:1:948:C:H2'	54:1:949:G:H8	1.84	0.43
54:1:953:G:O2'	54:1:954:G:H5'	2.18	0.43
54:1:1837:C:H2'	54:1:1899:A:H61	1.82	0.43
54:1:1932:A:H2'	54:1:1933:G:O4'	2.19	0.43
54:1:2443:C:H2'	54:1:2444:G:C8	2.54	0.43
54:1:2646:C:O5'	54:1:2646:C:H6	2.02	0.43
54:1:2852:G:H2'	54:1:2853:C:H6	1.83	0.43
55:2:92:C:H2'	55:2:93:C:C6	2.53	0.43
59:8:101:ARG:HA	59:8:409:MET:SD	2.58	0.43
1:b:156:SER:HB2	54:1:1818:U:H5'	1.99	0.43
1:b:209:ALA:O	1:b:213:ARG:HG2	2.17	0.43
3:d:98:LYS:HE2	54:1:607:U:H5''	2.00	0.43
5:f:84:LYS:O	5:f:132:LEU:HG	2.17	0.43
9:j:13:ARG:HD2	9:j:53:TYR:CZ	2.54	0.43
11:l:3:LEU:HD23	54:1:1203:U:H4'	2.01	0.43
13:n:72:ASP:HB3	13:n:75:ILE:HG12	2.01	0.43
14:o:58:ILE:HG22	14:o:62:LEU:HD11	2.01	0.43
16:q:44:TYR:O	16:q:48:ASP:N	2.48	0.43
16:q:92:LYS:HE3	54:1:995:C:O2'	2.19	0.43
18:s:43:ALA:O	18:s:46:LEU:HB2	2.19	0.43
22:w:20:LYS:HB3	22:w:21:ARG:HH12	1.83	0.43
31:F:23:ILE:HD12	31:F:38:GLY:O	2.19	0.43
39:N:5:TYR:HB2	39:N:20:ILE:CG2	2.48	0.43
52:a:48:LEU:C	52:a:50:ILE:H	2.25	0.43
53:3:308:C:H2'	53:3:309:A:H8	1.82	0.43
53:3:536:C:C2'	53:3:537:G:H5'	2.49	0.43
53:3:1287:A:H61	53:3:1371:G:C1'	2.32	0.43
54:1:57:C:H2'	54:1:58:G:O4'	2.18	0.43
54:1:797:G:H2'	54:1:798:G:H8	1.81	0.43
54:1:1278:C:H2'	54:1:1279:G:C8	2.52	0.43
54:1:1476:U:H3	54:1:1515:A:H62	1.66	0.43
54:1:2233:U:H2'	54:1:2234:G:C8	2.53	0.43
54:1:2290:G:H2'	54:1:2291:U:C6	2.54	0.43
54:1:2526:G:H2'	54:1:2527:C:C6	2.54	0.43
54:1:2671:G:H2'	54:1:2672:U:C6	2.54	0.43
54:1:2814:A:H2'	54:1:2815:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:2:G:N1	55:2:119:A:N3	2.66	0.43
55:2:3:C:C3'	55:2:4:C:H5''	2.49	0.43
55:2:115:A:H2'	55:2:116:G:H8	1.79	0.43
57:6:14:A:H2'	57:6:15:G:O4'	2.18	0.43
59:8:365:GLN:HB2	59:8:374:ILE:HD11	2.00	0.43
59:8:438:LEU:HD22	59:8:438:LEU:N	2.33	0.43
59:8:584:HIS:N	59:8:588:SER:OG	2.51	0.43
1:b:181:ARG:CA	1:b:267:VAL:HG23	2.44	0.43
2:c:135:GLY:O	2:c:136:ASN:C	2.61	0.43
5:f:148:ARG:HA	5:f:161:VAL:HB	1.99	0.43
11:l:2:ARG:HA	11:l:2:ARG:HE	1.83	0.43
16:q:5:ARG:CB	16:q:8:ILE:HD11	2.48	0.43
17:r:25:LEU:HD13	17:r:33:VAL:HG11	1.99	0.43
22:w:10:ARG:HH11	22:w:10:ARG:N	2.17	0.43
23:x:13:THR:CG2	54:1:188:G:H5'	2.48	0.43
24:y:56:LEU:O	24:y:60:LYS:HG2	2.18	0.43
26:A:53:THR:H	49:X:27:LYS:HB2	1.84	0.43
28:C:34:GLU:OE1	28:C:49:LYS:HD3	2.18	0.43
32:G:14:HIS:C	32:G:202:ASN:ND2	2.77	0.43
33:H:110:LEU:C	33:H:110:LEU:HD23	2.44	0.43
34:I:64:TYR:CE2	34:I:93:LEU:HB3	2.53	0.43
35:J:31:SER:CB	35:J:53:ARG:HD3	2.47	0.43
38:M:113:ARG:HG2	38:M:113:ARG:NH1	2.33	0.43
42:Q:71:HIS:C	42:Q:71:HIS:ND1	2.77	0.43
43:R:72:ILE:HG22	43:R:76:ILE:CD1	2.48	0.43
43:R:97:ARG:HG3	43:R:97:ARG:NH1	2.32	0.43
47:V:45:VAL:CG1	47:V:46:HIS:N	2.81	0.43
52:a:40:GLU:OE2	52:a:218:MET:N	2.42	0.43
53:3:55:A:N6	53:3:357:G:H1'	2.33	0.43
53:3:990:C:H2'	53:3:991:U:C1'	2.49	0.43
53:3:1350:A:H2'	53:3:1351:U:H6	1.84	0.43
53:3:1499:A:N3	53:3:1499:A:H2'	2.33	0.43
54:1:792:A:C4	54:1:2440:C:C2	3.07	0.43
54:1:940:G:H2'	54:1:941:A:C5'	2.49	0.43
54:1:1077:A:C2'	54:1:1078:U:H5'	2.42	0.43
54:1:1182:G:H2'	54:1:1183:U:C6	2.53	0.43
54:1:1857:G:H22	54:1:1884:G:H2'	1.83	0.43
54:1:1878:G:H2'	54:1:1879:C:H6	1.83	0.43
54:1:2380:C:H2'	54:1:2381:A:C8	2.53	0.43
54:1:2380:C:H2'	54:1:2381:A:H8	1.83	0.43
54:1:2575:C:H2'	54:1:2578:G:O6	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:4:14:A:C2'	58:4:15:A:H4'	2.30	0.43
59:8:93:VAL:O	59:8:94:ASP:CB	2.66	0.43
59:8:310:HIS:CB	59:8:315:GLU:HG3	2.47	0.43
59:8:318:SER:N	59:8:340:SER:HB3	2.33	0.43
59:8:620:GLU:HG2	59:8:681:THR:HB	2.00	0.43
3:d:5:LEU:HD21	3:d:7:ASP:HB2	2.01	0.43
10:k:71:ARG:HH11	10:k:71:ARG:HG3	1.84	0.43
13:n:46:ARG:NH2	13:n:46:ARG:CB	2.82	0.43
22:w:21:ARG:NH1	22:w:21:ARG:HG2	2.34	0.43
26:A:2:LYS:HG2	55:2:40:U:C5	2.53	0.43
26:A:59:ARG:HA	26:A:62:LYS:CG	2.49	0.43
26:A:64:PHE:O	26:A:66:ILE:N	2.51	0.43
32:G:79:VAL:HA	32:G:213:LEU:HD21	2.01	0.43
32:G:147:LEU:O	32:G:151:LYS:N	2.52	0.43
34:I:186:GLU:O	34:I:189:ASP:HB2	2.19	0.43
35:J:105:ILE:HG13	35:J:105:ILE:O	2.18	0.43
38:M:106:SER:O	53:3:641:U:H4'	2.17	0.43
41:P:86:LYS:HD3	41:P:112:VAL:HG23	1.99	0.43
47:V:22:VAL:O	47:V:43:LEU:N	2.49	0.43
49:X:21:ALA:O	49:X:22:VAL:C	2.62	0.43
53:3:31:G:N2	53:3:47:C:H5''	2.27	0.43
53:3:713:G:H2'	53:3:714:G:C8	2.54	0.43
53:3:814:A:C8	53:3:816:A:C8	3.07	0.43
53:3:919:A:H2'	53:3:920:U:H6	1.80	0.43
53:3:975:A:H4'	53:3:1358:U:O2'	2.18	0.43
53:3:1375:A:H2'	53:3:1376:U:C6	2.53	0.43
53:3:1511:G:O2'	53:3:1512:U:H5'	2.18	0.43
53:3:1517:G:C6	53:3:1518:A:C5	3.07	0.43
54:1:80:G:H2'	54:1:81:G:C8	2.54	0.43
54:1:368:A:H2'	54:1:369:U:O4'	2.19	0.43
54:1:383:C:H5''	54:1:385:C:OP2	2.18	0.43
54:1:979:A:H2'	54:1:982:C:H42	1.83	0.43
54:1:1042:G:H2'	54:1:1043:C:O4'	2.19	0.43
54:1:2391:G:O2'	54:1:2429:G:N2	2.52	0.43
54:1:2432:A:H1'	57:6:75:C:O4'	2.19	0.43
54:1:2493:U:H2'	54:1:2494:G:C4'	2.48	0.43
54:1:2737:G:H2'	54:1:2738:A:C8	2.53	0.43
54:1:2786:U:H2'	54:1:2787:C:C6	2.53	0.43
56:5:57:G:H2'	56:5:58:A:H5'	2.01	0.43
59:8:56:GLU:HB3	59:8:63:ILE:CD1	2.48	0.43
59:8:74:GLY:HA3	59:8:280:ASP:OD1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:120:GLN:N	59:8:121:PRO:CD	2.81	0.43
59:8:216:ASN:O	59:8:220:GLN:N	2.47	0.43
59:8:327:ASP:HB2	59:8:331:GLY:H	1.83	0.43
59:8:423:LYS:O	59:8:427:ASP:OD2	2.37	0.43
59:8:521:ASP:O	59:8:576:ILE:HA	2.19	0.43
1:b:30:ALA:O	1:b:32:LEU:N	2.52	0.43
1:b:124:LYS:HG3	1:b:127:ASN:OD1	2.18	0.43
1:b:145:MET:HE1	1:b:181:ARG:NH2	2.33	0.43
2:c:156:PHE:CD1	9:j:81:ILE:HG13	2.53	0.43
3:d:32:VAL:HG23	3:d:33:VAL:N	2.34	0.43
11:l:39:LYS:HG3	54:1:832:U:OP1	2.18	0.43
13:n:94:TYR:O	13:n:116:VAL:HG23	2.19	0.43
16:q:57:ARG:HE	16:q:91:ARG:CD	2.31	0.43
17:r:20:VAL:HG12	17:r:21:ARG:N	2.32	0.43
32:G:62:ARG:HB3	32:G:62:ARG:HH11	1.82	0.43
32:G:191:ASP:OD1	32:G:193:ASP:HB3	2.19	0.43
35:J:135:VAL:HG13	35:J:136:VAL:N	2.34	0.43
37:L:56:SER:HB3	37:L:59:GLU:HG2	2.00	0.43
37:L:101:ARG:HA	37:L:104:VAL:HG23	2.01	0.43
39:N:111:GLU:HG3	39:N:114:LYS:NZ	2.29	0.43
40:O:87:LEU:HD22	40:O:100:ILE:HG22	2.01	0.43
42:Q:29:LYS:HZ1	42:Q:58:ASN:CG	2.27	0.43
42:Q:32:VAL:HG22	42:Q:55:ARG:HB3	2.00	0.43
43:R:14:ALA:HA	43:R:17:ALA:HB3	2.01	0.43
51:Z:28:LEU:C	51:Z:30:GLU:H	2.27	0.43
52:a:21:TYR:CE2	52:a:29:LEU:HD22	2.54	0.43
53:3:126:G:OP1	53:3:606:G:H5'	2.18	0.43
53:3:179:A:O2'	53:3:180:U:H5'	2.17	0.43
53:3:513:C:H2'	53:3:514:C:H6	1.82	0.43
53:3:621:A:H2'	53:3:622:A:C8	2.53	0.43
53:3:1060:U:C2'	53:3:1061:G:H5'	2.49	0.43
53:3:1406:U:O4'	53:3:1518:A:H4'	2.19	0.43
54:1:154:U:H2'	54:1:155:A:C8	2.53	0.43
54:1:1073:A:H2'	54:1:1074:G:O4'	2.19	0.43
54:1:1532:A:H2'	54:1:1533:C:C6	2.53	0.43
54:1:1796:U:H2'	54:1:1797:G:H8	1.84	0.43
54:1:1824:G:O2'	54:1:1825:U:H5'	2.19	0.43
54:1:1999:C:O2'	54:1:2000:C:H5'	2.19	0.43
54:1:2243:U:C2	54:1:2244:U:C5	3.06	0.43
59:8:104:ARG:NH1	59:8:104:ARG:HG3	2.32	0.43
59:8:150:ASN:CB	59:8:153:LYS:HB2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:8:691:PRO:O	59:8:695:ALA:N	2.46	0.43
1:b:202:ARG:CD	1:b:213:ARG:HH22	2.29	0.43
2:c:105:LYS:O	2:c:177:VAL:HG12	2.18	0.43
3:d:191:ASP:HA	3:d:194:LYS:NZ	2.33	0.43
4:e:25:MET:HE1	55:2:54:G:N2	2.33	0.43
6:g:134:VAL:HG23	6:g:135:HIS:N	2.33	0.43
9:j:99:ARG:O	9:j:103:ILE:HG13	2.18	0.43
20:u:32:LYS:CE	20:u:65:GLN:HE22	2.29	0.43
21:v:75:GLN:CB	21:v:92:VAL:HG23	2.47	0.43
23:x:20:ALA:HB3	23:x:22:ASN:OD1	2.19	0.43
25:z:24:LEU:HD23	25:z:24:LEU:C	2.43	0.43
26:A:14:ALA:HB3	26:A:22:MET:SD	2.59	0.43
34:I:18:LEU:O	34:I:19:PHE:HB2	2.19	0.43
37:L:38:ALA:O	37:L:42:VAL:HG23	2.19	0.43
40:O:36:VAL:HG22	53:3:1123:U:H5'	2.01	0.43
49:X:77:ARG:HG2	53:3:1322:C:OP2	2.19	0.43
52:a:8:MET:O	52:a:11:ILE:HG22	2.19	0.43
53:3:494:G:O2'	53:3:496:A:H1'	2.19	0.43
53:3:1393:U:H2'	53:3:1395:C:H5	1.83	0.43
54:1:104:A:O2'	54:1:105:C:H5'	2.18	0.43
54:1:873:C:H2'	54:1:874:G:H8	1.82	0.43
54:1:1219:U:H2'	54:1:1220:G:C8	2.53	0.43
54:1:1826:G:H2'	54:1:1827:U:C6	2.54	0.43
54:1:2000:C:H2'	54:1:2001:C:C6	2.54	0.43
59:8:33:TYR:HE1	59:8:275:VAL:CG2	2.31	0.43
59:8:192:ASN:CB	59:8:203:GLU:HB2	2.30	0.43
59:8:298:ILE:HG22	59:8:306:PRO:CG	2.48	0.43
59:8:352:SER:HB3	59:8:404:ILE:CG1	2.48	0.43
59:8:358:GLU:HA	59:8:358:GLU:OE2	2.19	0.43
59:8:522:MET:HA	59:8:576:ILE:HA	2.00	0.43
59:8:605:PHE:CE1	59:8:610:PRO:HG2	2.53	0.43
1:b:231:HIS:O	1:b:232:GLY:C	2.61	0.43
2:c:202:ILE:HD12	2:c:202:ILE:N	2.33	0.43
4:e:78:ILE:HG21	54:1:2311:A:C2	2.53	0.43
6:g:7:ASP:CB	6:g:35:LYS:HD2	2.40	0.43
7:h:3:LEU:HG	7:h:5:LEU:H	1.83	0.43
14:o:99:TYR:CE1	14:o:104:GLN:HA	2.53	0.43
18:s:88:ARG:HG3	18:s:94:ASP:OD2	2.19	0.43
20:u:9:GLU:OE2	20:u:22:GLY:N	2.52	0.43
28:C:33:LEU:HD22	54:1:2286:G:H2'	2.00	0.43
31:F:25:VAL:HB	31:F:35:GLN:HG3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:G:77:GLU:O	32:G:80:LYS:HB3	2.19	0.43
33:H:2:GLN:HG2	33:H:2:GLN:O	2.19	0.43
33:H:18:ASN:CG	33:H:55:VAL:HA	2.44	0.43
33:H:148:ILE:HA	33:H:200:TRP:O	2.18	0.43
34:I:9:LYS:O	34:I:13:ARG:N	2.37	0.43
35:J:11:GLN:O	35:J:38:VAL:HA	2.18	0.43
36:K:53:LYS:O	36:K:54:LEU:C	2.61	0.43
37:L:99:ALA:HA	37:L:102:TRP:HE3	1.84	0.43
39:N:118:ARG:HH11	39:N:118:ARG:HG3	1.84	0.43
44:S:8:ARG:HH11	44:S:8:ARG:HG3	1.83	0.43
46:U:71:VAL:HA	46:U:74:LEU:HD23	2.00	0.43
50:Y:35:TYR:HA	50:Y:38:ILE:HB	2.01	0.43
53:3:186:C:H2'	53:3:187:G:O4'	2.18	0.43
53:3:337:G:H2'	53:3:338:A:C8	2.54	0.43
53:3:401:C:H2'	53:3:402:G:H8	1.84	0.43
53:3:483:C:H2'	53:3:484:G:H8	1.83	0.43
53:3:597:G:C2'	53:3:598:U:H5'	2.47	0.43
53:3:996:A:H2'	53:3:997:U:C5	2.54	0.43
53:3:1057:G:H2'	53:3:1058:G:C8	2.54	0.43
53:3:1184:G:H2'	53:3:1185:G:H5'	2.00	0.43
53:3:1524:C:H2'	53:3:1525:G:H8	1.84	0.43
53:3:1530:G:H2'	53:3:1531:A:N7	2.34	0.43
54:1:56:A:H2'	54:1:57:C:O4'	2.19	0.43
54:1:828:U:H3	54:1:829:A:H62	1.67	0.43
54:1:848:C:H2'	54:1:849:A:C8	2.54	0.43
54:1:1054:A:O2'	54:1:1055:G:H5'	2.19	0.43
54:1:2228:G:H2'	54:1:2229:U:H6	1.83	0.43
55:2:7:G:H2'	55:2:8:C:C6	2.54	0.43
59:8:71:PHE:HZ	59:8:83:ARG:HH11	1.67	0.43
59:8:364:VAL:HG22	59:8:365:GLN:H	1.83	0.43
2:c:40:LEU:HD12	2:c:41:ALA:N	2.33	0.43
2:c:84:LEU:HG	2:c:86:GLU:H	1.83	0.43
2:c:208:LYS:HG3	54:1:2733:A:C2	2.54	0.43
3:d:98:LYS:O	3:d:102:ARG:HD3	2.19	0.43
4:e:39:VAL:HG13	4:e:40:GLY:H	1.82	0.43
4:e:73:VAL:CG2	4:e:78:ILE:HD11	2.49	0.43
5:f:9:VAL:HG13	5:f:9:VAL:O	2.19	0.43
8:i:3:LYS:HG3	8:i:4:VAL:H	1.84	0.43
8:i:12:VAL:HB	8:i:53:PRO:HA	2.00	0.43
9:j:31:GLU:O	9:j:34:ARG:HB3	2.18	0.43
11:l:79:LEU:HD21	11:l:110:VAL:HG11	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:l:118:THR:O	11:l:120:VAL:N	2.51	0.43
13:n:90:ARG:NH2	13:n:116:VAL:HG11	2.34	0.43
14:o:7:ARG:HH11	14:o:97:PHE:HZ	1.67	0.43
14:o:13:ARG:HB2	54:1:2334:U:O3'	2.18	0.43
16:q:65:ASN:CG	16:q:69:ARG:HH22	2.26	0.43
16:q:100:PHE:CB	17:r:13:ARG:HH12	2.31	0.43
18:s:36:LEU:HD13	18:s:47:VAL:HG13	2.00	0.43
21:v:4:ILE:HD13	21:v:63:ILE:HG13	2.00	0.43
27:B:15:ARG:HH21	27:B:15:ARG:HB2	1.83	0.43
29:D:27:GLY:O	29:D:30:VAL:N	2.50	0.43
32:G:160:LEU:CD1	32:G:180:ILE:HG21	2.49	0.43
34:I:41:GLY:C	34:I:43:ARG:H	2.27	0.43
34:I:69:ARG:HD3	34:I:72:ARG:NH2	2.34	0.43
34:I:71:PHE:O	34:I:74:TYR:HB2	2.19	0.43
35:J:14:LEU:HD11	35:J:35:LEU:H	1.82	0.43
35:J:38:VAL:HG22	35:J:66:ALA:HB1	1.99	0.43
35:J:92:ARG:HB2	35:J:127:TYR:CB	2.49	0.43
37:L:25:PHE:HB2	37:L:100:MET:HE3	2.00	0.43
37:L:39:GLU:O	37:L:43:TYR:HB2	2.18	0.43
39:N:64:ILE:HG22	39:N:65:THR:N	2.33	0.43
40:O:10:LEU:HD23	40:O:10:LEU:N	2.33	0.43
40:O:46:LYS:HB3	40:O:68:ARG:HG2	2.01	0.43
42:Q:81:ILE:HD11	42:Q:94:TYR:HB3	2.00	0.43
47:V:20:ILE:HG12	47:V:21:VAL:N	2.33	0.43
48:W:41:SER:HA	48:W:44:THR:CG2	2.49	0.43
50:Y:27:MET:HE2	50:Y:60:GLN:HB2	2.00	0.43
52:a:196:LEU:HB3	52:a:208:TYR:CE2	2.42	0.43
53:3:284:C:H2'	53:3:285:C:H6	1.82	0.43
54:1:402:A:C2'	54:1:403:U:H5'	2.49	0.43
54:1:514:A:N3	54:1:581:C:O2'	2.52	0.43
54:1:522:A:H2'	54:1:523:C:H6	1.84	0.43
54:1:814:C:H1'	54:1:1225:G:H21	1.84	0.43
54:1:904:G:H2'	54:1:905:A:C8	2.54	0.43
54:1:1040:A:O2'	54:1:1041:G:H5'	2.19	0.43
54:1:1101:U:H2'	54:1:1102:C:H6	1.83	0.43
54:1:1184:U:O2'	54:1:1185:G:H5'	2.19	0.43
54:1:1501:G:O2'	54:1:1502:A:H5'	2.19	0.43
54:1:1717:A:H2'	54:1:1718:G:O4'	2.18	0.43
54:1:1842:G:H2'	54:1:1843:C:C6	2.54	0.43
54:1:1999:C:H5''	54:1:2723:C:O2'	2.18	0.43
54:1:2044:C:O5'	54:1:2044:C:H6	2.02	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:2393:U:O2'	54:1:2394:C:H5'	2.19	0.43
58:4:22:A:H1'	59:8:512:ARG:HH11	1.79	0.43
59:8:7:ILE:HG13	59:8:8:ALA:N	2.34	0.43
59:8:287:PRO:HB2	59:8:291:ASP:HB2	2.00	0.43
59:8:478:ASN:O	59:8:478:ASN:ND2	2.42	0.43
59:8:485:LYS:HD3	59:8:485:LYS:HA	1.83	0.43
59:8:497:LYS:HG3	59:8:523:TYR:CD1	2.54	0.43
1:b:207:ALA:HB2	54:1:1790:C:O2'	2.18	0.42
2:c:10:GLY:HA3	15:p:4:ILE:HD11	2.01	0.42
3:d:14:VAL:O	3:d:15:SER:C	2.59	0.42
4:e:78:ILE:HG21	54:1:2311:A:H2	1.84	0.42
5:f:163:TYR:HB2	5:f:166:GLU:HB2	2.01	0.42
16:q:111:LYS:HE2	17:r:50:GLY:HA2	2.00	0.42
21:v:72:VAL:HA	21:v:94:ALA:H	1.83	0.42
38:M:74:ILE:HA	38:M:127:TYR:O	2.18	0.42
38:M:110:MET:HG2	38:M:111:THR:H	1.84	0.42
41:P:20:ALA:N	41:P:81:LEU:HD11	2.35	0.42
41:P:34:THR:HB	41:P:39:ASN:O	2.18	0.42
42:Q:23:LEU:HD22	42:Q:29:LYS:HE3	2.01	0.42
44:S:57:SER:C	44:S:59:GLN:N	2.77	0.42
46:U:70:ARG:NH1	53:3:451:A:H5'	2.11	0.42
47:V:39:ARG:NH1	47:V:39:ARG:HB3	2.33	0.42
47:V:43:LEU:HD21	53:3:236:A:H5''	2.01	0.42
50:Y:72:ALA:HA	50:Y:75:LYS:HE3	1.99	0.42
52:a:26:ALA:CB	52:a:224:VAL:HG12	2.49	0.42
53:3:1534:A:H62	58:4:11:U:H5''	1.84	0.42
54:1:210:C:O2'	54:1:211:C:H5'	2.18	0.42
54:1:437:U:H2'	54:1:438:G:H8	1.84	0.42
54:1:521:U:H2'	54:1:522:A:C8	2.54	0.42
54:1:1105:U:H2'	54:1:1106:G:C8	2.53	0.42
54:1:1127:A:H2'	54:1:1128:G:H5''	2.01	0.42
54:1:1174:U:H4'	54:1:1176:U:O2	2.19	0.42
54:1:1437:C:H2'	54:1:1438:U:C6	2.54	0.42
54:1:1857:G:H1'	54:1:1885:A:H61	1.84	0.42
54:1:2098:U:H2'	54:1:2099:U:O4'	2.20	0.42
54:1:2103:C:H2'	54:1:2104:C:C6	2.53	0.42
54:1:2238:G:H2'	54:1:2238:G:N3	2.33	0.42
54:1:2417:C:H2'	54:1:2418:A:C8	2.54	0.42
54:1:2538:C:O2'	54:1:2539:C:H5'	2.19	0.42
54:1:2863:C:O2'	54:1:2864:G:H5'	2.18	0.42
55:2:6:G:O2'	55:2:7:G:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:2:14:U:O2	55:2:107:G:H4'	2.19	0.42
59:8:19:ILE:HD12	59:8:92:HIS:CE1	2.54	0.42
59:8:179:PHE:HB3	59:8:273:LYS:HE2	1.99	0.42
1:b:40:GLY:HA2	1:b:54:GLY:HA3	2.01	0.42
1:b:161:VAL:HG21	1:b:175:LEU:HD13	2.01	0.42
2:c:129:THR:OG1	2:c:141:ARG:HA	2.18	0.42
2:c:207:VAL:HG21	54:1:2771:C:C5'	2.49	0.42
3:d:46:GLN:CB	3:d:83:VAL:HG11	2.49	0.42
9:j:18:VAL:O	9:j:56:VAL:HA	2.18	0.42
10:k:68:GLY:HA3	10:k:77:ILE:O	2.19	0.42
10:k:74:GLY:O	15:p:74:GLN:NE2	2.52	0.42
11:l:56:PRO:HB3	11:l:58:TYR:CE1	2.54	0.42
12:m:111:GLU:HA	12:m:111:GLU:OE2	2.19	0.42
13:n:19:ALA:HA	13:n:22:ARG:NH2	2.33	0.42
13:n:38:LEU:CG	13:n:42:LYS:HE2	2.49	0.42
13:n:48:VAL:CG1	13:n:49:GLU:N	2.82	0.42
14:o:25:ARG:HA	14:o:91:SER:HB2	2.00	0.42
15:p:8:GLU:OE2	15:p:54:LEU:HB3	2.19	0.42
15:p:87:ARG:NH2	15:p:111:GLU:HB2	2.34	0.42
16:q:2:ARG:HH21	16:q:2:ARG:CG	2.31	0.42
16:q:50:ARG:HG2	54:1:1156:A:C8	2.54	0.42
20:u:85:ARG:HG3	20:u:94:PHE:CE1	2.54	0.42
25:z:56:VAL:HG22	25:z:58:GLU:H	1.84	0.42
27:B:13:GLY:HA3	54:1:16:C:C5'	2.49	0.42
27:B:24:VAL:HG23	27:B:26:SER:H	1.84	0.42
33:H:10:ARG:HH12	33:H:179:ALA:HB3	1.84	0.42
33:H:10:ARG:CZ	33:H:181:ILE:HD12	2.49	0.42
33:H:39:ARG:HA	33:H:54:ILE:HD11	2.01	0.42
35:J:156:ARG:O	35:J:158:LYS:N	2.47	0.42
39:N:128:LYS:HG3	39:N:129:ARG:HG3	2.00	0.42
43:R:91:ARG:HB2	43:R:91:ARG:HH11	1.84	0.42
44:S:62:ARG:O	44:S:63:CYS:C	2.62	0.42
50:Y:59:ARG:HB3	50:Y:59:ARG:NH1	2.34	0.42
51:Z:9:GLU:HG3	51:Z:10:PRO:CD	2.37	0.42
51:Z:36:PHE:O	51:Z:38:GLU:HG2	2.19	0.42
53:3:67:C:H2'	53:3:68:G:H8	1.83	0.42
53:3:358:U:H2'	53:3:359:G:C8	2.53	0.42
53:3:423:G:H2'	53:3:424:G:H5'	2.00	0.42
53:3:981:U:C3'	53:3:982:U:H5''	2.47	0.42
53:3:1107:C:H2'	53:3:1108:G:O4'	2.19	0.42
54:1:202:U:O2'	54:1:203:A:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:511:U:C2'	54:1:512:G:H5'	2.49	0.42
54:1:1079:C:H2'	54:1:1080:A:H8	1.84	0.42
54:1:1669:A:O3'	54:1:2549:G:H5'	2.18	0.42
54:1:2108:A:N1	54:1:2182:U:H1'	2.34	0.42
54:1:2134:A:H2'	54:1:2135:A:C5'	2.49	0.42
54:1:2407:A:H2'	54:1:2408:U:H6	1.81	0.42
54:1:2616:C:O2'	54:1:2617:U:H5'	2.19	0.42
54:1:2714:G:H2'	54:1:2715:C:H6	1.83	0.42
55:2:100:G:H2'	55:2:101:A:O4'	2.19	0.42
59:8:93:VAL:H	59:8:122:GLN:HG2	1.84	0.42
59:8:152:LEU:HD23	59:8:152:LEU:H	1.83	0.42
59:8:171:LEU:H	59:8:183:VAL:CG2	2.32	0.42
59:8:418:ILE:HD13	59:8:466:LEU:HD23	2.00	0.42
59:8:497:LYS:HD3	59:8:497:LYS:N	2.34	0.42
1:b:75:ALA:HB1	1:b:93:VAL:HG12	2.01	0.42
2:c:46:ARG:HH12	2:c:84:LEU:CD2	2.26	0.42
2:c:85:ALA:O	2:c:86:GLU:HB3	2.19	0.42
2:c:178:VAL:O	2:c:179:ARG:HG3	2.18	0.42
12:m:66:ARG:HH11	12:m:66:ARG:HG3	1.83	0.42
13:n:37:THR:CG2	13:n:103:ARG:HH21	2.32	0.42
14:o:6:ALA:CB	14:o:10:ARG:HH11	2.32	0.42
15:p:108:ARG:HH11	53:3:1463:U:C5'	2.33	0.42
20:u:73:ASN:O	20:u:74:ALA:HB3	2.19	0.42
21:v:23:ALA:O	21:v:25:LYS:HG3	2.20	0.42
30:E:31:ILE:O	30:E:31:ILE:CG2	2.68	0.42
32:G:45:THR:O	32:G:48:MET:HB2	2.19	0.42
34:I:147:LYS:H	34:I:147:LYS:HG3	1.62	0.42
39:N:47:VAL:O	39:N:82:ILE:HD12	2.19	0.42
40:O:66:GLU:N	44:S:98:ALA:HB2	2.34	0.42
40:O:72:ARG:HG2	40:O:72:ARG:HH11	1.84	0.42
41:P:88:PRO:HD3	51:Z:28:LEU:HD23	2.01	0.42
42:Q:88:ASP:HB2	53:3:523:A:N1	2.35	0.42
42:Q:113:ARG:NH2	42:Q:120:ARG:HB2	2.34	0.42
44:S:9:GLU:HG3	44:S:13:VAL:HG23	2.01	0.42
50:Y:31:ILE:HG21	50:Y:74:HIS:HD2	1.84	0.42
50:Y:60:GLN:O	50:Y:65:LEU:HB3	2.19	0.42
52:a:26:ALA:HB1	52:a:222:VAL:HG12	2.00	0.42
53:3:53:A:C2	53:3:54:C:H1'	2.55	0.42
53:3:515:G:C5	53:3:516:U:C4	3.06	0.42
54:1:661:A:H2'	54:1:662:G:H8	1.84	0.42
54:1:826:U:H5''	54:1:2428:G:O3'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:1026:G:H1'	54:1:1134:A:C2	2.54	0.42
54:1:1152:C:O2'	54:1:1153:C:H5'	2.19	0.42
54:1:1551:A:H2'	54:1:1552:A:O4'	2.18	0.42
54:1:2105:U:H2'	54:1:2106:U:C5'	2.49	0.42
54:1:2232:C:H2'	54:1:2233:U:H6	1.84	0.42
54:1:2400:G:O2'	54:1:2401:U:H5'	2.19	0.42
54:1:2460:U:C2	54:1:2461:A:C8	3.07	0.42
54:1:2696:U:H2'	54:1:2697:G:C8	2.53	0.42
59:8:127:TRP:CE2	59:8:162:LEU:HD21	2.54	0.42
59:8:171:LEU:H	59:8:183:VAL:HG22	1.84	0.42
59:8:370:LYS:HD3	59:8:371:ARG:N	2.35	0.42
59:8:502:GLU:HG2	59:8:519:VAL:CB	2.47	0.42
2:c:30:GLU:HG3	2:c:31:ALA:N	2.35	0.42
3:d:108:ILE:O	3:d:112:LEU:HG	2.19	0.42
3:d:149:ILE:HD12	3:d:188:MET:HG2	2.01	0.42
4:e:70:ARG:HB3	54:1:2312:U:OP1	2.18	0.42
4:e:78:ILE:CG2	54:1:2311:A:H2	2.31	0.42
8:i:41:PHE:HA	8:i:68:PHE:HE2	1.85	0.42
11:l:93:ASN:C	11:l:95:LEU:H	2.25	0.42
12:m:16:ARG:HG2	12:m:16:ARG:NH1	2.34	0.42
13:n:79:LEU:O	13:n:81:ASN:N	2.52	0.42
15:p:52:ARG:O	15:p:53:GLY:C	2.63	0.42
19:t:30:ILE:CG2	19:t:85:VAL:HB	2.49	0.42
21:v:32:GLY:O	21:v:93:ARG:HD2	2.19	0.42
25:z:26:LEU:HD21	25:z:43:ILE:HG23	2.00	0.42
32:G:67:LEU:CG	32:G:157:PRO:HG3	2.40	0.42
32:G:209:VAL:CG2	32:G:210:THR:N	2.82	0.42
33:H:174:LEU:HD11	33:H:200:TRP:CE2	2.54	0.42
34:I:131:ILE:HG12	53:3:620:C:C2	2.54	0.42
37:L:25:PHE:HB2	37:L:100:MET:CE	2.49	0.42
37:L:34:LYS:HE3	53:3:1241:G:OP1	2.18	0.42
41:P:96:ILE:HG13	41:P:97:ARG:N	2.34	0.42
42:Q:30:ARG:HH11	42:Q:78:VAL:HG11	1.84	0.42
42:Q:97:VAL:HG12	42:Q:100:ALA:HB2	2.00	0.42
43:R:96:VAL:N	53:3:1307:U:H2'	2.34	0.42
49:X:36:ARG:HD2	53:3:1318:A:O2'	2.20	0.42
53:3:354:G:N3	53:3:354:G:H2'	2.33	0.42
53:3:784:A:H2'	53:3:785:G:C8	2.54	0.42
53:3:811:C:C5	53:3:812:G:C6	3.08	0.42
53:3:1164:G:N1	53:3:1171:A:N6	2.67	0.42
53:3:1356:G:O2'	53:3:1357:A:H5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:156:A:H2'	54:1:157:C:H6	1.83	0.42
54:1:411:G:H4'	54:1:412:A:C5'	2.50	0.42
54:1:493:G:H2'	54:1:494:G:O4'	2.20	0.42
54:1:541:A:H2'	54:1:542:C:C6	2.54	0.42
54:1:1043:C:O2'	54:1:1044:C:H5'	2.20	0.42
54:1:2028:U:H2'	54:1:2029:G:O4'	2.19	0.42
59:8:105:VAL:HG11	59:8:322:PHE:CE1	2.55	0.42
59:8:365:GLN:HB2	59:8:374:ILE:CD1	2.49	0.42
59:8:475:ARG:HG3	59:8:475:ARG:NH1	2.34	0.42
59:8:496:GLN:HG3	59:8:497:LYS:O	2.19	0.42
1:b:12:ARG:HA	1:b:12:ARG:HE	1.84	0.42
2:c:32:ASN:HB2	2:c:96:ILE:HG23	2.01	0.42
2:c:151:THR:HB	2:c:152:PRO:HD3	2.00	0.42
3:d:141:MET:N	3:d:141:MET:SD	2.92	0.42
4:e:116:LEU:HB2	4:e:175:PRO:HB2	2.01	0.42
6:g:22:LYS:O	6:g:25:TYR:N	2.53	0.42
8:i:8:VAL:HG12	8:i:9:LYS:H	1.85	0.42
8:i:14:ALA:HB1	8:i:45:THR:HG21	2.02	0.42
10:k:92:GLU:OE1	10:k:92:GLU:N	2.43	0.42
11:l:12:SER:O	11:l:13:LYS:HD3	2.19	0.42
13:n:44:LEU:HD23	13:n:113:ILE:HD13	2.01	0.42
14:o:3:LYS:HD3	55:2:30:C:OP1	2.20	0.42
14:o:9:ARG:HG3	14:o:9:ARG:HH11	1.84	0.42
16:q:24:TYR:CG	16:q:25:GLY:N	2.87	0.42
26:A:63:ARG:O	53:3:1011:C:C5'	2.67	0.42
29:D:3:ARG:HE	29:D:3:ARG:HA	1.85	0.42
33:H:35:ASP:O	33:H:39:ARG:HG2	2.18	0.42
33:H:113:LYS:HE2	33:H:184:ASN:CG	2.44	0.42
34:I:139:ASN:HA	34:I:182:LYS:HA	2.00	0.42
36:K:2:ARG:HD2	53:3:738:C:OP1	2.19	0.42
37:L:25:PHE:CE2	37:L:42:VAL:HG13	2.54	0.42
39:N:117:LEU:O	39:N:118:ARG:C	2.62	0.42
40:O:39:PRO:HD3	53:3:1122:U:H3'	2.00	0.42
40:O:56:HIS:ND1	53:3:1199:U:H5'	2.35	0.42
40:O:57:VAL:HG22	40:O:58:ASN:N	2.29	0.42
41:P:34:THR:HA	41:P:41:LEU:HG	2.01	0.42
42:Q:111:GLN:HB2	53:3:538:G:OP2	2.19	0.42
44:S:25:GLU:HG2	44:S:26:LEU:HD12	2.01	0.42
44:S:100:TRP:HB3	53:3:1115:U:H1'	2.00	0.42
46:U:66:THR:C	46:U:67:ILE:HD12	2.44	0.42
48:W:47:ARG:HB2	48:W:50:TYR:HD2	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:55:A:H61	53:3:357:G:H1'	1.84	0.42
53:3:56:U:H2'	53:3:57:G:H8	1.83	0.42
53:3:60:A:H5''	53:3:387:U:H5'	2.01	0.42
53:3:75:G:H2'	53:3:76:G:O4'	2.20	0.42
53:3:614:C:C2'	53:3:615:G:H5''	2.50	0.42
53:3:764:C:H2'	53:3:765:G:C8	2.55	0.42
54:1:63:A:H2'	54:1:64:A:H8	1.85	0.42
54:1:440:C:H2'	54:1:441:U:C6	2.55	0.42
54:1:519:U:H2'	54:1:520:G:C8	2.55	0.42
54:1:1086:A:H1'	54:1:1103:A:H61	1.85	0.42
54:1:1152:C:H2'	54:1:1153:C:C6	2.54	0.42
54:1:2339:C:H2'	54:1:2340:A:H8	1.84	0.42
54:1:2368:C:H2'	54:1:2369:A:H8	1.83	0.42
54:1:2542:A:H5''	54:1:2766:A:O2'	2.19	0.42
54:1:2580:U:C2'	54:1:2581:G:H5'	2.50	0.42
56:5:43:U:H2'	56:5:44:G:H8	1.84	0.42
58:4:11:U:C3'	58:4:12:A:H4'	2.48	0.42
59:8:183:VAL:HG11	59:8:211:MET:CE	2.49	0.42
3:d:161:ALA:HB3	3:d:169:VAL:CG2	2.50	0.42
5:f:119:GLY:O	5:f:120:ILE:HD13	2.20	0.42
13:n:62:ASN:O	13:n:65:LEU:HB3	2.20	0.42
15:p:88:ARG:HB2	15:p:112:ARG:NH2	2.29	0.42
25:z:4:ILE:HG22	25:z:37:ARG:O	2.18	0.42
25:z:41:PRO:O	25:z:42:ALA:C	2.62	0.42
26:A:41:HIS:O	26:A:44:PHE:CE1	2.72	0.42
33:H:46:LEU:CD2	33:H:75:VAL:HG22	2.50	0.42
35:J:105:ILE:HG13	35:J:123:LEU:HA	2.02	0.42
37:L:3:ARG:O	37:L:4:ARG:C	2.62	0.42
38:M:76:ARG:HA	38:M:126:CYS:CB	2.47	0.42
39:N:123:ARG:HH21	39:N:123:ARG:CB	2.18	0.42
40:O:98:VAL:HG22	40:O:99:GLN:N	2.34	0.42
41:P:91:GLY:C	41:P:93:GLU:N	2.78	0.42
42:Q:53:ARG:HA	42:Q:63:THR:HA	2.01	0.42
43:R:86:ARG:HD2	53:3:1309:G:P	2.60	0.42
44:S:42:ASN:O	44:S:46:LYS:N	2.37	0.42
47:V:6:THR:OG1	47:V:7:LEU:N	2.52	0.42
49:X:10:ILE:HB	49:X:15:LEU:HD21	2.02	0.42
52:a:45:ALA:HA	52:a:171:ILE:O	2.19	0.42
53:3:131:A:OP1	53:3:263:A:H4'	2.18	0.42
53:3:377:G:H2'	53:3:378:G:C8	2.55	0.42
53:3:607:A:H2'	53:3:608:A:H8	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1183:U:H3'	53:3:1183:U:OP1	2.20	0.42
53:3:1262:C:H2'	53:3:1263:C:H5'	2.01	0.42
53:3:1534:A:H1'	53:3:1535:C:C5	2.55	0.42
54:1:435:C:H2'	54:1:436:C:H5'	2.01	0.42
54:1:548:G:H2'	54:1:549:G:O4'	2.19	0.42
54:1:647:G:H2'	54:1:648:G:C8	2.55	0.42
54:1:1960:A:O2'	54:1:1961:C:H5'	2.19	0.42
54:1:2030:A:C2	54:1:2499:C:H5''	2.54	0.42
54:1:2151:U:H2'	54:1:2152:G:C8	2.54	0.42
54:1:2190:G:H2'	54:1:2191:A:H8	1.83	0.42
54:1:2331:G:H2'	54:1:2332:C:O4'	2.19	0.42
54:1:2587:A:N6	54:1:2608:G:H1'	2.35	0.42
54:1:2719:G:H4'	54:1:2846:G:O3'	2.19	0.42
58:4:12:A:H3'	58:4:13:A:C5'	2.50	0.42
59:8:564:GLY:HA3	59:8:571:VAL:HG23	2.01	0.42
1:b:43:ASN:ND2	1:b:47:ARG:O	2.53	0.42
1:b:75:ALA:HB1	1:b:93:VAL:CG1	2.50	0.42
2:c:53:GLY:O	2:c:76:GLY:HA2	2.20	0.42
3:d:48:THR:C	3:d:50:ALA:N	2.77	0.42
8:i:15:GLY:HA3	8:i:50:LYS:HB3	2.00	0.42
9:j:8:PRO:HG3	9:j:48:VAL:CG1	2.48	0.42
14:o:34:HIS:HB3	14:o:36:TYR:HE2	1.84	0.42
20:u:73:ASN:ND2	20:u:75:ALA:HB3	2.34	0.42
35:J:80:LEU:HD23	35:J:122:VAL:HB	2.00	0.42
36:K:69:GLU:O	36:K:73:GLU:HG3	2.19	0.42
36:K:93:LYS:CG	36:K:94:HIS:N	2.83	0.42
37:L:111:GLY:HA2	37:L:118:ARG:CZ	2.49	0.42
38:M:80:PRO:HG2	53:3:878:A:C5'	2.50	0.42
44:S:38:GLU:O	44:S:39:ASP:C	2.63	0.42
45:T:55:LEU:HD21	54:1:715:A:C2	2.55	0.42
53:3:343:U:O2'	53:3:344:A:H2'	2.19	0.42
53:3:437:U:H2'	53:3:438:U:C4'	2.50	0.42
53:3:994:A:C2	53:3:1216:A:H4'	2.54	0.42
53:3:1159:U:H3	53:3:1182:G:H1'	1.83	0.42
53:3:1198:G:C5	53:3:1199:U:C4	3.08	0.42
53:3:1472:U:H2'	53:3:1473:G:H8	1.84	0.42
53:3:1507:A:H2'	53:3:1508:A:C8	2.55	0.42
54:1:78:U:O5'	54:1:78:U:H6	2.02	0.42
54:1:233:A:C2	54:1:234:U:H1'	2.54	0.42
54:1:594:U:H2'	54:1:595:C:C6	2.55	0.42
54:1:680:C:H2'	54:1:681:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:1:968:C:H2'	54:1:969:G:C8	2.55	0.42
54:1:1219:U:H2'	54:1:1220:G:H8	1.84	0.42
54:1:1537:G:H3'	54:1:1537:G:N3	2.35	0.42
54:1:1551:A:O2'	54:1:1552:A:H5'	2.19	0.42
54:1:1727:C:C2'	54:1:1728:C:H5'	2.49	0.42
54:1:2024:G:H2'	54:1:2025:C:H6	1.85	0.42
54:1:2307:G:N2	54:1:2311:A:C8	2.87	0.42
54:1:2543:G:H21	54:1:2646:C:H5''	1.85	0.42
54:1:2590:A:H2'	54:1:2591:C:H6	1.84	0.42
59:8:6:PRO:HB2	59:8:9:ARG:HB2	2.00	0.42
59:8:7:ILE:CG2	59:8:313:ASP:OD2	2.67	0.42
59:8:288:SER:OG	59:8:290:VAL:HG12	2.20	0.42
1:b:140:VAL:O	1:b:161:VAL:HG12	2.19	0.42
1:b:196:ASN:ND2	1:b:199:HIS:HB2	2.35	0.42
5:f:93:TYR:HA	5:f:105:SER:O	2.19	0.42
7:h:37:LYS:C	7:h:39:THR:H	2.28	0.42
15:p:90:ALA:HB2	15:p:112:ARG:HA	2.01	0.42
18:s:11:ARG:HH11	18:s:11:ARG:HG3	1.84	0.42
20:u:13:LEU:HD13	20:u:68:ASN:C	2.44	0.42
32:G:138:ARG:HD3	32:G:138:ARG:HA	1.75	0.42
34:I:191:SER:O	34:I:192:ALA:HB3	2.19	0.42
42:Q:98:ARG:NH1	42:Q:98:ARG:HG3	2.34	0.42
42:Q:109:ARG:HD2	53:3:537:G:O3'	2.20	0.42
45:T:47:LYS:HB2	53:3:668:G:H4'	2.02	0.42
47:V:7:LEU:CG	47:V:8:GLN:N	2.83	0.42
50:Y:70:LYS:HA	50:Y:73:ARG:CB	2.49	0.42
53:3:264:C:H2'	53:3:265:G:O4'	2.20	0.42
53:3:422:C:H4'	53:3:423:G:N2	2.35	0.42
53:3:528:C:H4'	53:3:535:A:N6	2.34	0.42
53:3:1173:U:H2'	53:3:1174:G:O5'	2.19	0.42
54:1:310:A:H1'	54:1:330:A:C2	2.55	0.42
54:1:570:G:C2'	54:1:571:U:H5'	2.49	0.42
54:1:1151:A:H2'	54:1:1152:C:C6	2.54	0.42
54:1:1229:C:H2'	54:1:1230:A:H8	1.83	0.42
54:1:2221:G:O2'	54:1:2222:C:H5'	2.20	0.42
54:1:2415:G:C4	54:1:2416:C:C5	3.08	0.42
54:1:2816:G:O2'	54:1:2817:U:H5'	2.19	0.42
55:2:16:G:N2	55:2:69:G:H1'	2.35	0.42
59:8:143:LYS:HB3	59:8:146:ARG:HD3	2.02	0.42
59:8:317:PHE:CD2	59:8:343:VAL:HG23	2.55	0.42
1:b:163:ILE:HG12	1:b:173:LEU:CD2	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:124:ARG:CD	2:c:165:MET:HG2	2.39	0.42
6:g:88:GLY:O	6:g:89:LYS:HE2	2.19	0.42
7:h:41:LEU:HD13	54:1:1082:U:H2'	2.01	0.42
8:i:40:ALA:HB3	8:i:66:PHE:CZ	2.55	0.42
10:k:87:LEU:HB3	10:k:92:GLU:O	2.20	0.42
11:l:55:MET:O	11:l:56:PRO:C	2.63	0.42
11:l:57:LEU:HB2	11:l:60:ARG:NH1	2.34	0.42
11:l:122:VAL:CG1	11:l:125:LEU:HD13	2.50	0.42
13:n:23:ASN:O	13:n:26:GLY:N	2.52	0.42
14:o:67:ASN:O	14:o:68:LYS:C	2.63	0.42
20:u:40:LEU:H	20:u:40:LEU:CD2	2.33	0.42
21:v:46:LYS:O	21:v:50:MET:HG2	2.19	0.42
27:B:8:THR:HG22	54:1:2020:A:H5'	2.01	0.42
30:E:63:TYR:CE2	54:1:242:G:H5''	2.55	0.42
34:I:77:GLU:O	34:I:81:LEU:N	2.47	0.42
34:I:97:LEU:HD22	34:I:117:VAL:HG11	2.02	0.42
34:I:131:ILE:H	34:I:131:ILE:CD1	2.32	0.42
35:J:81:GLN:HG2	35:J:146:MET:SD	2.60	0.42
36:K:18:VAL:HA	36:K:21:MET:CG	2.50	0.42
36:K:89:VAL:C	36:K:90:MET:HE2	2.44	0.42
37:L:39:GLU:HG3	37:L:43:TYR:CZ	2.55	0.42
37:L:78:ARG:HB3	37:L:83:THR:HA	2.02	0.42
39:N:83:THR:CG2	39:N:97:LEU:HD11	2.48	0.42
52:a:15:VAL:HG23	52:a:33:LEU:HD21	2.02	0.42
52:a:30:LEU:C	52:a:30:LEU:HD12	2.45	0.42
53:3:222:C:H2'	53:3:223:A:H8	1.79	0.42
53:3:614:C:H2'	53:3:615:G:C4'	2.49	0.42
53:3:799:G:H3'	53:3:800:G:H8	1.85	0.42
53:3:1200:C:H1'	53:3:1204:A:N6	2.35	0.42
53:3:1236:A:H4'	53:3:1304:G:H4'	2.02	0.42
54:1:521:U:H2'	54:1:522:A:H8	1.85	0.42
54:1:586:A:H2	54:1:809:G:N3	2.18	0.42
54:1:719:C:H2'	54:1:720:U:C6	2.54	0.42
54:1:946:C:H2'	54:1:947:A:H8	1.84	0.42
54:1:962:G:H2'	54:1:963:U:C6	2.55	0.42
54:1:1092:C:H2'	54:1:1093:G:C5'	2.50	0.42
54:1:1095:A:H3'	54:1:1096:A:H8	1.82	0.42
54:1:1773:A:C5	54:1:1829:A:H1'	2.55	0.42
54:1:2657:A:H62	54:1:2664:G:H21	1.67	0.42
54:1:2836:U:H2'	54:1:2837:A:C8	2.54	0.42
59:8:411:PHE:CD1	59:8:411:PHE:N	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:c:46:ARG:HH11	2:c:86:GLU:HA	1.84	0.42
3:d:5:LEU:CD1	3:d:12:LEU:HD11	2.49	0.42
6:g:127:GLU:HA	6:g:145:ASN:OD1	2.20	0.42
11:l:46:VAL:HG11	11:l:50:PHE:CD2	2.55	0.42
24:y:19:LEU:CD1	24:y:22:LEU:HD23	2.49	0.42
33:H:3:LYS:HA	53:3:1190:G:H5'	2.02	0.42
33:H:22:PHE:CE2	40:O:11:LYS:HG3	2.55	0.42
37:L:48:THR:O	37:L:52:ARG:N	2.43	0.42
38:M:40:LYS:HE2	38:M:47:ASP:N	2.35	0.42
40:O:48:ARG:HH12	53:3:1253:G:H5''	1.84	0.42
41:P:24:ALA:HA	41:P:29:THR:HA	2.01	0.42
42:Q:85:ARG:HG2	42:Q:86:VAL:N	2.34	0.42
42:Q:99:GLY:HA2	42:Q:105:GLY:N	2.35	0.42
43:R:14:ALA:O	43:R:18:LEU:HG	2.20	0.42
43:R:74:MET:O	43:R:77:LYS:HG3	2.20	0.42
46:U:63:GLN:HE21	53:3:228:A:H5'	1.82	0.42
52:a:37:LYS:HD2	54:1:2127:G:H5''	2.02	0.42
53:3:22:G:H5''	53:3:561:U:O2	2.20	0.42
53:3:135:C:H2'	53:3:136:C:H5'	2.01	0.42
53:3:285:C:H2'	53:3:286:C:C6	2.54	0.42
53:3:518:C:H2'	53:3:530:G:H21	1.85	0.42
53:3:572:A:H5''	53:3:917:G:H4'	2.01	0.42
53:3:730:G:C2'	53:3:766:A:H5'	2.50	0.42
53:3:741:G:H2'	53:3:742:G:O4'	2.19	0.42
53:3:782:A:C2'	53:3:783:C:H5'	2.50	0.42
53:3:1016:A:C4	53:3:1017:U:H1'	2.55	0.42
53:3:1084:G:H2'	53:3:1085:U:C5	2.55	0.42
53:3:1174:G:O2'	53:3:1175:G:H5'	2.20	0.42
53:3:1227:A:H2'	53:3:1227:A:N3	2.35	0.42
54:1:208:C:H2'	54:1:209:C:H6	1.84	0.42
54:1:437:U:H2'	54:1:438:G:C8	2.55	0.42
54:1:566:U:H4'	54:1:809:G:OP2	2.20	0.42
54:1:1996:C:H6	54:1:1996:C:OP1	2.03	0.42
54:1:2093:G:H21	54:1:2198:A:N6	2.18	0.42
54:1:2450:A:OP1	54:1:2497:A:H2'	2.19	0.42
59:8:142:ASN:HD22	59:8:142:ASN:HA	1.69	0.42
59:8:144:MET:HE2	59:8:172:ALA:CB	2.50	0.42
59:8:572:VAL:HG23	59:8:573:ASP:OD2	2.20	0.42
59:8:573:ASP:C	59:8:574:MET:HE2	2.44	0.42
1:b:5:CYS:SG	1:b:17:LYS:HE2	2.60	0.41
1:b:42:ARG:HH12	54:1:690:G:H21	1.66	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:3:LEU:HD12	3:d:12:LEU:HB2	2.02	0.41
4:e:6:TYR:O	4:e:10:GLU:OE2	2.37	0.41
11:l:30:THR:O	11:l:31:GLY:C	2.62	0.41
17:r:39:LEU:O	17:r:49:ILE:HG23	2.20	0.41
19:t:61:LEU:HB3	54:1:1341:G:H4'	2.02	0.41
20:u:46:LYS:HD3	20:u:47:PRO:N	2.35	0.41
21:v:65:VAL:HG13	21:v:65:VAL:O	2.20	0.41
28:C:11:VAL:HG23	28:C:51:ALA:HB3	2.01	0.41
29:D:34:ARG:HB3	29:D:42:LEU:HD12	2.01	0.41
33:H:142:ARG:HG3	33:H:143:LEU:HD13	2.02	0.41
35:J:159:SER:HB2	35:J:163:ILE:HG12	2.02	0.41
42:Q:32:VAL:HG23	42:Q:34:THR:H	1.85	0.41
53:3:154:U:H2'	53:3:155:A:H8	1.84	0.41
53:3:770:C:O2'	53:3:771:G:H5'	2.20	0.41
53:3:775:G:H2'	53:3:776:G:H5'	2.01	0.41
53:3:1106:G:O2'	53:3:1107:C:H5'	2.20	0.41
54:1:26:G:C6	54:1:27:G:N1	2.88	0.41
54:1:585:G:O6	54:1:1251:C:H2'	2.20	0.41
54:1:1779:U:H2'	54:1:1783:A:N7	2.35	0.41
54:1:2247:A:O2'	54:1:2248:C:H5'	2.19	0.41
54:1:2371:G:O2'	54:1:2372:U:H5'	2.20	0.41
54:1:2580:U:H2'	54:1:2581:G:H5'	2.02	0.41
59:8:113:TYR:CD1	59:8:119:VAL:HG11	2.55	0.41
59:8:338:VAL:CG1	59:8:379:ALA:HA	2.50	0.41
1:b:40:GLY:HA2	1:b:54:GLY:CA	2.50	0.41
3:d:57:LYS:HD2	3:d:58:LYS:O	2.20	0.41
9:j:11:VAL:HG11	9:j:50:THR:HA	2.01	0.41
14:o:80:GLU:O	14:o:84:GLU:HG3	2.20	0.41
21:v:93:ARG:HB2	21:v:93:ARG:CZ	2.50	0.41
32:G:91:VAL:HG13	32:G:150:ILE:HD11	2.02	0.41
33:H:21:TRP:H	44:S:93:PRO:HG2	1.85	0.41
33:H:46:LEU:HD22	33:H:75:VAL:HG22	2.01	0.41
34:I:23:GLY:HA3	53:3:409:U:H5'	2.01	0.41
34:I:59:LYS:O	34:I:63:ILE:N	2.53	0.41
35:J:63:MET:C	35:J:67:ARG:NH1	2.78	0.41
37:L:132:THR:O	37:L:136:LYS:HG2	2.20	0.41
39:N:11:ARG:HH11	39:N:11:ARG:HG3	1.84	0.41
39:N:112:ARG:HG3	39:N:112:ARG:NH1	2.35	0.41
43:R:56:ARG:CB	43:R:56:ARG:HH11	2.33	0.41
44:S:80:ARG:HH11	44:S:80:ARG:HG2	1.85	0.41
47:V:9:GLY:O	47:V:57:VAL:HA	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:X:59:VAL:HG23	49:X:59:VAL:O	2.20	0.41
52:a:7:ARG:O	52:a:11:ILE:N	2.35	0.41
53:3:363:A:H2'	53:3:364:A:O4'	2.19	0.41
53:3:1117:A:H2'	53:3:1118:U:H6	1.84	0.41
54:1:26:G:H1'	54:1:514:A:H61	1.86	0.41
54:1:291:G:O2'	54:1:292:U:H5'	2.19	0.41
54:1:310:A:O2'	54:1:311:A:H5''	2.20	0.41
54:1:348:A:C3'	54:1:349:U:H5''	2.50	0.41
54:1:546:U:H2'	54:1:547:A:C4'	2.50	0.41
54:1:778:G:H2'	54:1:779:U:C6	2.55	0.41
54:1:910:A:N1	54:1:2277:G:H1'	2.35	0.41
54:1:1388:G:O2'	54:1:1389:G:H5'	2.20	0.41
54:1:1432:G:H2'	54:1:1433:A:C8	2.54	0.41
54:1:1498:C:H2'	54:1:1499:C:H6	1.84	0.41
54:1:1826:G:H2'	54:1:1827:U:H6	1.85	0.41
54:1:2766:A:N3	54:1:2766:A:H2'	2.35	0.41
59:8:158:ILE:HD12	59:8:162:LEU:HD13	2.01	0.41
59:8:173:ILE:N	59:8:179:PHE:CE2	2.88	0.41
59:8:560:GLN:HA	59:8:560:GLN:NE2	2.35	0.41
2:c:36:GLN:HG2	2:c:37:VAL:N	2.35	0.41
3:d:79:ARG:HD3	54:1:1258:U:H4'	2.02	0.41
4:e:124:ARG:HH11	4:e:124:ARG:HG3	1.85	0.41
7:h:34:THR:O	7:h:37:LYS:HB3	2.21	0.41
7:h:48:ALA:HB3	7:h:51:TYR:CE1	2.55	0.41
11:l:54:GLN:O	11:l:55:MET:C	2.64	0.41
11:l:135:ILE:HG22	11:l:140:GLY:O	2.20	0.41
16:q:81:GLY:HA3	16:q:112:ALA:HB1	2.02	0.41
16:q:91:ARG:HG3	16:q:91:ARG:HH11	1.85	0.41
18:s:14:ALA:C	18:s:18:ARG:HG2	2.45	0.41
31:F:15:LYS:O	31:F:25:VAL:HG13	2.21	0.41
32:G:186:VAL:HG11	32:G:192:PRO:HB3	2.02	0.41
33:H:38:VAL:HG23	33:H:39:ARG:HH11	1.86	0.41
35:J:45:VAL:HG22	35:J:46:GLY:N	2.35	0.41
40:O:7:ARG:HD3	40:O:75:ASP:CG	2.45	0.41
42:Q:30:ARG:HD2	42:Q:78:VAL:HG21	2.01	0.41
42:Q:97:VAL:HG12	42:Q:100:ALA:CB	2.50	0.41
43:R:89:ARG:HA	43:R:94:LEU:HD12	2.02	0.41
44:S:41:TRP:NE1	49:X:10:ILE:HD13	2.32	0.41
46:U:73:ALA:HA	46:U:76:LYS:HG2	2.03	0.41
47:V:54:ILE:HG23	47:V:54:ILE:O	2.19	0.41
52:a:36:ALA:HB2	52:a:218:MET:SD	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:a:194:VAL:CG1	52:a:198:LYS:HD3	2.50	0.41
53:3:212:G:H2'	53:3:213:G:C8	2.55	0.41
53:3:304:U:O2'	53:3:305:G:H5'	2.21	0.41
53:3:553:A:H2'	53:3:554:A:C8	2.54	0.41
54:1:17:G:H2'	54:1:18:U:C6	2.56	0.41
54:1:128:C:H2'	54:1:129:C:H6	1.84	0.41
54:1:132:G:H2'	54:1:133:U:H6	1.85	0.41
54:1:320:A:H4'	54:1:322:A:N7	2.36	0.41
54:1:812:C:O2'	54:1:813:U:H5'	2.20	0.41
54:1:1043:C:H2'	54:1:1044:C:H5'	2.02	0.41
54:1:1057:A:H2'	54:1:1057:A:N3	2.36	0.41
54:1:2193:G:H2'	54:1:2194:U:H6	1.84	0.41
54:1:2455:G:C4	54:1:2456:C:C5	3.09	0.41
54:1:2639:A:N6	54:1:2775:G:O2'	2.53	0.41
54:1:2881:U:O2'	54:1:2882:A:H5'	2.20	0.41
55:2:13:G:O2'	55:2:15:A:H2'	2.20	0.41
58:4:12:A:H5'	58:4:13:A:OP2	2.20	0.41
59:8:97:ILE:HB	59:8:444:SER:HB2	2.02	0.41
59:8:415:VAL:HG23	59:8:680:TYR:HE1	1.86	0.41
59:8:504:LYS:HB2	59:8:517:HIS:CG	2.56	0.41
59:8:583:TYR:N	59:8:583:TYR:CD1	2.88	0.41
1:b:218:THR:O	54:1:1789:A:H5''	2.21	0.41
4:e:103:ILE:HA	4:e:107:VAL:CG2	2.50	0.41
5:f:34:ARG:NE	5:f:34:ARG:HA	2.35	0.41
8:i:55:PRO:HB2	8:i:71:LYS:HE3	2.01	0.41
11:l:2:ARG:HE	11:l:2:ARG:CA	2.33	0.41
12:m:42:THR:HG22	12:m:45:GLN:CD	2.45	0.41
12:m:46:ILE:HG13	12:m:46:ILE:H	1.67	0.41
15:p:17:PRO:O	15:p:19:PHE:HD1	2.03	0.41
17:r:58:VAL:HG23	17:r:102:SER:OG	2.20	0.41
19:t:49:LYS:HD2	19:t:49:LYS:N	2.35	0.41
32:G:68:PHE:CE2	32:G:88:GLN:HB3	2.56	0.41
34:I:53:GLN:HG3	34:I:198:LEU:HB3	2.03	0.41
38:M:94:VAL:HB	38:M:99:GLY:C	2.45	0.41
39:N:125:GLN:CD	53:3:942:G:H21	2.29	0.41
46:U:48:GLU:HG2	46:U:49:GLY:N	2.25	0.41
52:a:46:VAL:HG22	52:a:212:VAL:HG13	2.02	0.41
52:a:169:GLY:C	52:a:170:ILE:HD12	2.45	0.41
53:3:1185:G:O6	53:3:1186:G:C2	2.73	0.41
53:3:1185:G:O6	53:3:1186:G:N1	2.54	0.41
53:3:1250:A:C2	53:3:1370:G:H1'	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1317:C:H5''	53:3:1318:A:C8	2.55	0.41
54:1:395:U:H2'	54:1:396:G:C8	2.56	0.41
54:1:817:C:H2'	54:1:818:G:O4'	2.19	0.41
54:1:1073:A:H2'	54:1:1074:G:H5'	2.02	0.41
54:1:1103:A:OP2	54:1:1104:C:H5	2.04	0.41
54:1:1307:A:C2'	54:1:1308:A:H5'	2.50	0.41
54:1:1637:A:H5'	54:1:1760:C:O2'	2.20	0.41
54:1:1725:U:H3	54:1:1735:A:H61	1.66	0.41
54:1:2793:C:H2'	54:1:2794:C:C6	2.55	0.41
54:1:2850:A:H2'	54:1:2851:A:H8	1.82	0.41
57:6:18:G:H1	57:6:55:U:H6	1.68	0.41
59:8:313:ASP:OD1	59:8:378:ARG:HB3	2.21	0.41
1:b:42:ARG:NH1	54:1:691:C:H1'	2.34	0.41
4:e:90:LEU:HD12	4:e:90:LEU:O	2.19	0.41
5:f:21:GLN:NE2	5:f:37:ASN:O	2.53	0.41
7:h:8:LYS:HG3	54:1:1046:A:N1	2.36	0.41
9:j:16:TYR:CD1	9:j:140:LEU:HB2	2.56	0.41
12:m:42:THR:HG23	12:m:45:GLN:H	1.84	0.41
13:n:20:MET:HE1	13:n:40:LYS:HE2	2.03	0.41
14:o:43:ASN:OD1	14:o:44:GLY:N	2.54	0.41
15:p:32:VAL:HG22	15:p:37:LYS:HA	2.02	0.41
18:s:43:ALA:HA	18:s:46:LEU:CD1	2.42	0.41
21:v:36:ALA:O	21:v:38:LEU:HD12	2.21	0.41
21:v:39:ALA:O	21:v:40:ILE:HD13	2.20	0.41
22:w:51:ARG:C	22:w:53:HIS:H	2.27	0.41
24:y:19:LEU:HD12	24:y:22:LEU:HD23	2.02	0.41
26:A:12:ILE:HD12	26:A:31:ASP:C	2.46	0.41
27:B:38:LEU:HD23	27:B:38:LEU:HA	1.92	0.41
32:G:98:GLY:O	32:G:102:ASN:HB3	2.21	0.41
34:I:2:ARG:HG2	34:I:114:ARG:CZ	2.50	0.41
34:I:25:ARG:HG2	34:I:27:ILE:O	2.19	0.41
34:I:90:LEU:O	34:I:94:GLU:HG2	2.20	0.41
35:J:165:GLY:C	38:M:113:ARG:HD2	2.45	0.41
37:L:91:ARG:NE	37:L:92:PRO:HD2	2.36	0.41
37:L:136:LYS:HD3	37:L:136:LYS:HA	1.80	0.41
39:N:51:LEU:HB3	39:N:56:MET:CG	2.48	0.41
39:N:109:GLN:O	39:N:110:VAL:C	2.63	0.41
39:N:112:ARG:HD2	44:S:100:TRP:O	2.20	0.41
42:Q:55:ARG:HH22	42:Q:59:GLY:HA2	1.85	0.41
44:S:8:ARG:HG3	44:S:8:ARG:NH1	2.34	0.41
44:S:22:LYS:HG3	44:S:23:ARG:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:Y:2:ASN:HB2	53:3:333:U:P	2.61	0.41
50:Y:23:ARG:HD3	50:Y:60:GLN:HE21	1.85	0.41
51:Z:11:PHE:C	51:Z:13:VAL:H	2.28	0.41
53:3:482:A:H2'	53:3:483:C:O4'	2.19	0.41
53:3:552:U:H2'	53:3:553:A:C8	2.55	0.41
53:3:620:C:H2'	53:3:621:A:O4'	2.21	0.41
53:3:1157:A:N6	53:3:1178:G:H1'	2.36	0.41
54:1:520:G:H2'	54:1:521:U:H6	1.86	0.41
54:1:596:U:H2'	54:1:597:G:C8	2.56	0.41
54:1:661:A:H2'	54:1:662:G:C8	2.55	0.41
54:1:780:G:H2'	54:1:782:A:N7	2.36	0.41
54:1:819:A:C4	54:1:1189:A:C2	3.09	0.41
54:1:996:A:H2'	54:1:997:G:H8	1.85	0.41
54:1:1111:A:C2'	54:1:1112:G:H4'	2.50	0.41
54:1:1172:C:H2'	54:1:1173:U:O4'	2.20	0.41
54:1:1549:A:H2'	54:1:1550:C:H6	1.85	0.41
54:1:2241:A:H2'	54:1:2242:G:H8	1.86	0.41
54:1:2329:U:H2'	54:1:2330:G:C8	2.55	0.41
54:1:2558:C:O2'	54:1:2559:C:H5'	2.20	0.41
56:5:27:A:C2'	56:5:28:C:H5'	2.51	0.41
59:8:6:PRO:O	59:8:10:TYR:HD1	2.04	0.41
59:8:54:GLU:HG2	59:8:55:GLN:N	2.36	0.41
59:8:108:GLY:HA3	59:8:286:LEU:HD23	2.02	0.41
59:8:411:PHE:N	59:8:412:PRO:HD3	2.36	0.41
59:8:522:MET:CB	59:8:576:ILE:HG22	2.50	0.41
1:b:179:GLU:HG3	1:b:268:ARG:O	2.20	0.41
3:d:38:GLY:HA3	54:1:615:U:C2	2.55	0.41
4:e:3:LEU:C	4:e:3:LEU:HD12	2.45	0.41
4:e:138:PRO:O	4:e:139:GLU:CG	2.62	0.41
5:f:1:SER:H2	5:f:4:ALA:CB	2.34	0.41
10:k:38:ILE:HD12	10:k:38:ILE:H	1.83	0.41
13:n:17:ARG:HB2	13:n:17:ARG:NH2	2.36	0.41
13:n:63:ARG:CZ	54:1:1454:C:H5'	2.50	0.41
15:p:30:TRP:CD2	15:p:37:LYS:HE3	2.56	0.41
17:r:79:ARG:HH21	17:r:79:ARG:CB	2.34	0.41
19:t:1:MET:O	19:t:4:GLU:N	2.54	0.41
25:z:44:ARG:HG2	25:z:44:ARG:HH21	1.86	0.41
30:E:44:ARG:CB	30:E:44:ARG:HH11	2.34	0.41
30:E:51:LYS:HG3	30:E:52:GLY:N	2.36	0.41
31:F:12:ARG:N	31:F:12:ARG:CD	2.84	0.41
32:G:115:ASP:C	32:G:119:GLN:HG2	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:I:105:GLY:O	34:I:107:GLY:N	2.52	0.41
34:I:149:LYS:HD2	34:I:150:LYS:HZ2	1.86	0.41
35:J:86:GLY:C	35:J:88:HIS:H	2.28	0.41
36:K:93:LYS:HE3	36:K:96:VAL:HG21	2.03	0.41
37:L:37:THR:O	37:L:40:SER:HB2	2.20	0.41
37:L:43:TYR:O	37:L:44:SER:C	2.63	0.41
38:M:12:ARG:NH1	38:M:26:MET:HA	2.36	0.41
39:N:119:LYS:CG	39:N:120:ALA:N	2.84	0.41
40:O:53:ILE:HD11	44:S:88:MET:HE1	2.02	0.41
41:P:110:THR:HG22	51:Z:4:LYS:HA	2.02	0.41
44:S:82:LYS:O	44:S:85:GLU:HB2	2.21	0.41
45:T:13:GLU:HG2	45:T:83:ARG:NH2	2.32	0.41
45:T:61:GLN:O	45:T:65:LEU:HG	2.20	0.41
46:U:44:SER:HB3	46:U:46:LYS:HE2	2.03	0.41
48:W:13:THR:C	48:W:15:GLU:N	2.76	0.41
52:a:23:ILE:HA	52:a:224:VAL:HB	2.03	0.41
52:a:42:VAL:HG11	52:a:214:ILE:HG23	2.01	0.41
52:a:48:LEU:HB3	52:a:50:ILE:HG12	2.03	0.41
53:3:112:G:C2'	53:3:113:G:H5'	2.49	0.41
53:3:252:U:O2	53:3:252:U:C2'	2.68	0.41
53:3:429:U:H3	53:3:431:A:H62	1.68	0.41
53:3:531:U:OP1	53:3:532:A:OP1	2.39	0.41
53:3:649:A:H2'	53:3:650:G:O4'	2.19	0.41
53:3:662:U:H2'	53:3:663:A:C8	2.56	0.41
53:3:767:A:C4	53:3:768:A:C8	3.08	0.41
53:3:891:U:O2'	53:3:892:A:H5'	2.20	0.41
54:1:406:G:H2'	54:1:407:G:C8	2.56	0.41
54:1:695:G:H2'	54:1:696:G:O5'	2.20	0.41
54:1:912:C:O2'	54:1:913:U:H5'	2.20	0.41
54:1:962:G:H21	54:1:2250:G:H1	1.68	0.41
54:1:1277:G:O2'	54:1:1278:C:H5'	2.21	0.41
54:1:1916:A:H2'	54:1:1917:U:H6	1.85	0.41
54:1:2733:A:O2'	54:1:2734:A:H5'	2.21	0.41
54:1:2791:G:H2'	54:1:2792:A:O4'	2.20	0.41
57:6:29:G:N2	57:6:30:G:H1'	2.34	0.41
59:8:11:ARG:HG3	59:8:11:ARG:NH1	2.31	0.41
59:8:353:VAL:HG13	59:8:354:LYS:N	2.35	0.41
59:8:614:GLU:HB2	59:8:615:PRO:HD2	2.01	0.41
1:b:39:SER:O	1:b:41:GLY:N	2.54	0.41
1:b:113:ASP:CG	1:b:114:GLN:H	2.29	0.41
1:b:181:ARG:HG3	1:b:265:PHE:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:e:33:ILE:HB	4:e:90:LEU:HD11	2.02	0.41
4:e:110:ILE:HG12	4:e:136:ILE:HG21	2.01	0.41
6:g:12:LEU:N	6:g:12:LEU:HD23	2.36	0.41
8:i:27:LEU:O	8:i:32:VAL:HG23	2.20	0.41
13:n:37:THR:HG23	13:n:103:ARG:HH21	1.85	0.41
14:o:99:TYR:CZ	14:o:104:GLN:HG3	2.55	0.41
15:p:45:VAL:O	15:p:60:VAL:HA	2.20	0.41
18:s:6:LYS:HB3	18:s:104:THR:HG23	2.02	0.41
24:y:21:LEU:O	24:y:25:GLN:HB3	2.20	0.41
26:A:57:VAL:O	26:A:60:PHE:HB2	2.20	0.41
32:G:41:ASN:OD1	32:G:43:GLU:OE1	2.39	0.41
35:J:48:GLY:HA3	35:J:66:ALA:HB2	2.02	0.41
37:L:60:ALA:HA	37:L:63:VAL:HG12	2.03	0.41
37:L:121:ASN:O	37:L:125:ASP:N	2.50	0.41
38:M:6:ILE:O	38:M:9:MET:HB3	2.21	0.41
38:M:68:LYS:HG2	38:M:69:ALA:O	2.21	0.41
42:Q:69:GLU:HA	53:3:521:G:O5'	2.20	0.41
44:S:79:SER:OG	44:S:82:LYS:HG2	2.21	0.41
45:T:68:TYR:HE1	45:T:71:ARG:HH21	1.68	0.41
47:V:18:LYS:HG2	47:V:18:LYS:O	2.20	0.41
49:X:47:THR:HA	49:X:60:PHE:HA	2.02	0.41
53:3:82:G:C3'	53:3:83:C:H5'	2.51	0.41
53:3:171:A:H2'	53:3:172:A:C8	2.56	0.41
53:3:175:C:H2'	53:3:176:C:H6	1.84	0.41
53:3:300:A:H8	53:3:300:A:O5'	2.04	0.41
53:3:437:U:C2'	53:3:438:U:H5'	2.51	0.41
53:3:813:U:C2'	53:3:814:A:H5''	2.51	0.41
53:3:1470:U:O2'	53:3:1471:U:H5'	2.20	0.41
54:1:26:G:H2'	54:1:27:G:O4'	2.20	0.41
54:1:75:G:H2'	54:1:75:G:N3	2.35	0.41
54:1:387:U:H5'	54:1:387:U:H6	1.84	0.41
54:1:562:U:O4'	54:1:2036:C:H5'	2.21	0.41
54:1:676:A:H62	54:1:802:A:N6	2.13	0.41
54:1:1823:G:C2'	54:1:1824:G:H5'	2.51	0.41
54:1:2036:C:H2'	54:1:2037:A:H8	1.84	0.41
54:1:2783:U:H2'	54:1:2784:U:C6	2.56	0.41
55:2:55:U:O2'	55:2:56:G:H5'	2.21	0.41
56:5:9:A:N3	56:5:45:G:H2'	2.35	0.41
59:8:425:LYS:HA	59:8:428:GLN:HB2	2.03	0.41
2:c:151:THR:HB	2:c:152:PRO:CD	2.51	0.41
8:i:35:MET:SD	8:i:36:GLU:HB2	2.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:i:54:ILE:O	8:i:54:ILE:HG23	2.21	0.41
10:k:69:VAL:O	10:k:76:VAL:HA	2.21	0.41
12:m:76:LYS:HE2	12:m:80:VAL:HG11	2.03	0.41
14:o:68:LYS:HE3	55:2:49:C:H4'	2.02	0.41
14:o:99:TYR:HE1	14:o:107:ALA:CB	2.34	0.41
17:r:38:VAL:HG11	17:r:57:GLY:CA	2.48	0.41
17:r:78:ARG:HG2	17:r:83:TYR:CD2	2.56	0.41
32:G:69:VAL:HA	32:G:91:VAL:HG23	2.03	0.41
33:H:13:ILE:HD13	53:3:1113:C:H4'	2.03	0.41
35:J:86:GLY:N	35:J:93:VAL:O	2.54	0.41
37:L:88:VAL:HG22	37:L:89:GLU:N	2.36	0.41
40:O:53:ILE:HG12	53:3:1060:U:H5'	2.02	0.41
46:U:53:ASP:O	46:U:56:ARG:HB2	2.20	0.41
51:Z:33:ARG:O	51:Z:34:ARG:CG	2.69	0.41
53:3:764:C:H2'	53:3:765:G:H8	1.85	0.41
53:3:1123:U:O4	53:3:1150:A:N1	2.54	0.41
53:3:1355:G:O2'	53:3:1356:G:H5'	2.20	0.41
54:1:322:A:H5'	54:1:340:A:H1'	2.02	0.41
54:1:1034:G:H2'	54:1:1035:U:C6	2.55	0.41
54:1:1716:U:O2'	54:1:1717:A:H5'	2.20	0.41
54:1:1744:A:H3'	54:1:1745:A:H8	1.85	0.41
54:1:1913:A:H5''	59:8:507:LYS:NZ	2.35	0.41
54:1:2070:A:H2'	54:1:2071:A:H8	1.84	0.41
54:1:2412:A:H2'	54:1:2413:G:O4'	2.19	0.41
54:1:2685:G:H2'	54:1:2686:G:C8	2.56	0.41
54:1:2742:G:O2'	54:1:2743:U:H5'	2.21	0.41
54:1:2850:A:C2	54:1:2869:G:H4'	2.55	0.41
1:b:257:ARG:HD3	54:1:1799:G:OP1	2.21	0.41
2:c:4:LEU:HD22	2:c:32:ASN:HD22	1.85	0.41
2:c:35:THR:N	2:c:49:GLN:O	2.52	0.41
2:c:139:SER:O	2:c:140:HIS:C	2.63	0.41
3:d:3:LEU:O	3:d:11:ALA:HA	2.20	0.41
6:g:9:VAL:HB	6:g:13:GLY:O	2.21	0.41
6:g:19:VAL:HG12	6:g:20:ASN:N	2.36	0.41
6:g:103:VAL:HG23	6:g:104:THR:N	2.36	0.41
7:h:58:THR:HG21	7:h:82:ILE:H	1.85	0.41
8:i:23:VAL:O	8:i:26:ALA:N	2.54	0.41
10:k:76:VAL:H	15:p:72:VAL:HG22	1.86	0.41
11:l:136:GLU:C	11:l:139:GLY:H	2.29	0.41
12:m:82:MET:HE1	54:1:956:G:H1'	2.03	0.41
12:m:125:PRO:HB3	54:1:2485:G:O3'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:m:129:THR:OG1	12:m:130:PHE:N	2.54	0.41
14:o:75:GLY:O	14:o:78:VAL:HG12	2.21	0.41
16:q:54:ARG:HH22	54:l:1155:A:H4'	1.86	0.41
16:q:57:ARG:NH1	16:q:57:ARG:HG2	2.36	0.41
16:q:107:ALA:CB	17:r:46:GLU:HG3	2.51	0.41
19:t:44:LYS:O	19:t:48:GLN:HG2	2.20	0.41
20:u:24:VAL:HG12	20:u:26:ASN:N	2.36	0.41
22:w:71:LYS:HB2	22:w:73:ARG:HG3	2.02	0.41
29:D:27:GLY:C	29:D:29:GLN:H	2.27	0.41
32:G:8:MET:O	32:G:10:LYS:HD3	2.20	0.41
32:G:34:ARG:HG2	32:G:34:ARG:NH1	2.35	0.41
32:G:42:LEU:C	32:G:44:LYS:H	2.29	0.41
32:G:51:GLU:O	32:G:54:ALA:HB3	2.20	0.41
32:G:55:GLU:HG2	32:G:56:LEU:N	2.35	0.41
32:G:65:LYS:O	32:G:157:PRO:HB2	2.20	0.41
32:G:83:ALA:HB1	32:G:88:GLN:C	2.46	0.41
32:G:93:HIS:CD2	32:G:145:ASN:HB2	2.56	0.41
32:G:93:HIS:O	32:G:94:ARG:C	2.63	0.41
33:H:149:LYS:CD	33:H:168:ARG:HB3	2.46	0.41
35:J:67:ARG:O	35:J:70:MET:HG2	2.20	0.41
35:J:158:LYS:HD3	35:J:158:LYS:N	2.35	0.41
36:K:3:HIS:NE2	36:K:65:GLU:OE2	2.53	0.41
37:L:90:VAL:HG12	37:L:95:ARG:HA	2.03	0.41
38:M:35:ILE:O	38:M:38:VAL:N	2.54	0.41
39:N:56:MET:HA	39:N:60:LEU:HD21	2.02	0.41
42:Q:24:GLU:O	42:Q:25:ALA:HB3	2.21	0.41
42:Q:77:SER:HB2	42:Q:102:ASP:CG	2.45	0.41
43:R:3:ILE:HG13	43:R:7:ASN:HB3	2.02	0.41
44:S:51:PRO:O	44:S:53:ASP:N	2.54	0.41
48:W:33:THR:CG2	48:W:37:LYS:HB2	2.51	0.41
48:W:39:VAL:CG1	48:W:40:PRO:HD2	2.50	0.41
49:X:4:LEU:CG	49:X:7:GLY:O	2.60	0.41
51:Z:27:VAL:O	51:Z:30:GLU:HB3	2.20	0.41
53:3:10:A:O2'	53:3:11:G:H5'	2.21	0.41
53:3:37:U:O2'	53:3:38:G:H5'	2.21	0.41
53:3:192:A:O2'	53:3:193:C:H5'	2.21	0.41
53:3:255:G:H2'	53:3:256:U:C6	2.55	0.41
53:3:296:U:H2'	53:3:297:G:C8	2.55	0.41
53:3:525:C:H2'	53:3:526:C:H6	1.82	0.41
53:3:552:U:H2'	53:3:553:A:H8	1.86	0.41
53:3:1062:U:H3'	53:3:1063:C:C5	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:1305:G:H22	53:3:1331:G:H2'	1.86	0.41
53:3:1420:U:H2'	53:3:1421:G:C8	2.56	0.41
54:1:128:C:O2'	54:1:129:C:H5'	2.20	0.41
54:1:191:A:O2'	54:1:192:C:H5'	2.21	0.41
54:1:202:U:H2'	54:1:203:A:O4'	2.20	0.41
54:1:519:U:H2'	54:1:520:G:H8	1.86	0.41
54:1:922:C:H2'	54:1:923:G:H8	1.85	0.41
54:1:1186:G:H2'	54:1:1187:G:H8	1.85	0.41
54:1:1268:A:H2'	54:1:1269:A:O4'	2.21	0.41
54:1:1282:U:H2'	54:1:1283:G:O4'	2.21	0.41
54:1:1511:G:H2'	54:1:1512:C:H6	1.84	0.41
54:1:1751:U:H2'	54:1:1752:C:C6	2.56	0.41
54:1:1773:A:H2'	54:1:1774:C:H5'	2.03	0.41
54:1:1822:C:H2'	54:1:1823:G:H8	1.86	0.41
54:1:1851:U:H2'	54:1:1852:U:O4'	2.21	0.41
54:1:1909:C:H2'	54:1:1910:G:C8	2.55	0.41
54:1:2673:G:O2'	54:1:2674:G:H5'	2.21	0.41
54:1:2700:A:H2'	54:1:2701:U:H6	1.85	0.41
54:1:2814:A:H2'	54:1:2815:C:H6	1.85	0.41
54:1:2846:G:H2'	54:1:2847:U:O4'	2.21	0.41
54:1:2895:G:H2'	54:1:2896:C:H6	1.82	0.41
55:2:75:G:H2'	55:2:76:G:C8	2.56	0.41
57:6:14:A:H2'	57:6:15:G:H5'	2.03	0.41
57:6:57:A:H2'	57:6:58:A:H5'	2.02	0.41
59:8:53:MET:HB3	59:8:56:GLU:HG2	2.02	0.41
59:8:122:GLN:C	59:8:124:GLU:N	2.76	0.41
59:8:317:PHE:HA	59:8:340:SER:O	2.20	0.41
59:8:425:LYS:C	59:8:428:GLN:H	2.29	0.41
59:8:505:HIS:O	59:8:515:TYR:HA	2.21	0.41
59:8:609:LYS:N	59:8:610:PRO:HD3	2.36	0.41
59:8:615:PRO:HA	59:8:687:TYR:CD2	2.56	0.41
59:8:627:ASN:CB	59:8:674:THR:HG22	2.50	0.41
59:8:670:LEU:HD23	59:8:671:ARG:N	2.36	0.41
2:c:36:GLN:NE2	2:c:38:LYS:HD3	2.35	0.41
3:d:86:ALA:O	3:d:88:ARG:HD2	2.21	0.41
4:e:97:GLU:CD	4:e:97:GLU:C	2.89	0.41
5:f:116:LEU:HA	5:f:117:PRO:HD3	1.94	0.41
7:h:61:ARG:HG3	54:1:1046:A:H4'	2.03	0.41
13:n:64:ARG:O	13:n:68:ALA:N	2.47	0.41
15:p:19:PHE:CD1	15:p:19:PHE:N	2.89	0.41
18:s:24:ILE:O	18:s:25:ARG:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:u:93:ARG:HB3	20:u:102:ILE:HD12	2.03	0.41
32:G:68:PHE:HE2	32:G:88:GLN:HB3	1.86	0.41
32:G:163:ILE:HG13	32:G:185:ILE:HD12	2.03	0.41
34:I:53:GLN:O	34:I:56:GLU:HG3	2.21	0.41
34:I:97:LEU:O	34:I:101:VAL:HG23	2.21	0.41
35:J:30:PHE:H	35:J:30:PHE:HD1	1.68	0.41
37:L:145:GLU:O	37:L:146:ALA:C	2.64	0.41
38:M:55:LYS:O	38:M:57:GLU:HG2	2.21	0.41
38:M:95:MET:HB2	38:M:99:GLY:N	2.35	0.41
40:O:41:PRO:CB	53:3:1150:A:C2	2.98	0.41
42:Q:32:VAL:HG23	42:Q:33:CYS:N	2.33	0.41
45:T:4:THR:O	45:T:7:THR:OG1	2.38	0.41
50:Y:2:ASN:CB	53:3:332:G:H5'	2.40	0.41
50:Y:4:LYS:NZ	53:3:331:G:H2'	2.35	0.41
51:Z:11:PHE:CB	51:Z:15:LEU:HD12	2.48	0.41
51:Z:34:ARG:CB	51:Z:36:PHE:CZ	3.04	0.41
52:a:7:ARG:HH21	52:a:7:ARG:HG3	1.86	0.41
52:a:37:LYS:HB2	54:1:2127:G:H5'	2.03	0.41
53:3:347:G:C3'	53:3:348:G:H5''	2.51	0.41
53:3:405:U:C3'	53:3:406:G:H5'	2.31	0.41
53:3:418:C:H2'	53:3:419:C:C6	2.56	0.41
53:3:765:G:N2	53:3:812:G:H1'	2.35	0.41
53:3:775:G:C2'	53:3:776:G:H5'	2.50	0.41
53:3:1011:C:O2	53:3:1011:C:H2'	2.20	0.41
54:1:438:G:H2'	54:1:439:A:H8	1.85	0.41
54:1:487:C:H2'	54:1:488:G:O4'	2.20	0.41
54:1:564:C:O2'	54:1:565:C:H5'	2.21	0.41
54:1:582:A:H2'	54:1:583:G:C8	2.55	0.41
54:1:1108:U:H2'	54:1:1109:C:O4'	2.21	0.41
54:1:1199:U:H2'	54:1:1200:C:C6	2.56	0.41
54:1:1748:C:H2'	54:1:1749:A:C8	2.56	0.41
54:1:1768:C:H2'	54:1:1769:U:C6	2.56	0.41
54:1:1956:U:C2'	54:1:1957:C:H5'	2.51	0.41
54:1:2395:C:H2'	54:1:2396:G:O4'	2.21	0.41
54:1:2821:A:H2'	54:1:2822:G:C8	2.55	0.41
56:5:26:A:C5	56:5:27:A:C8	3.09	0.41
59:8:127:TRP:CZ2	59:8:162:LEU:HD21	2.56	0.41
59:8:553:VAL:CG2	59:8:597:ALA:HB2	2.49	0.41
1:b:68:ARG:CG	1:b:128:THR:HG21	2.51	0.40
1:b:171:VAL:HB	1:b:183:VAL:CG2	2.51	0.40
1:b:211:ARG:HD2	1:b:211:ARG:HA	1.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:d:119:ILE:O	3:d:187:VAL:HA	2.21	0.40
4:e:124:ARG:NH1	54:1:2316:G:H4'	2.35	0.40
4:e:141:ASP:C	4:e:143:ASP:H	2.28	0.40
6:g:1:MET:O	6:g:20:ASN:HA	2.21	0.40
10:k:93:GLN:HG3	10:k:94:PRO:HD2	2.02	0.40
12:m:81:ARG:HD3	54:1:2496:C:OP2	2.21	0.40
12:m:136:MET:SD	21:v:75:GLN:O	2.78	0.40
18:s:19:LEU:HB3	27:B:21:LEU:CB	2.51	0.40
22:w:49:CYS:SG	22:w:53:HIS:HA	2.61	0.40
23:x:35:HIS:HD1	23:x:36:ARG:H	1.68	0.40
25:z:38:GLU:N	25:z:38:GLU:CD	2.79	0.40
26:A:43:PHE:CG	26:A:44:PHE:N	2.89	0.40
37:L:11:ILE:HD12	37:L:20:GLU:HB3	2.02	0.40
42:Q:31:GLY:O	42:Q:78:VAL:HA	2.21	0.40
43:R:1:ALA:O	43:R:8:ILE:HG23	2.20	0.40
45:T:31:LEU:O	45:T:35:ILE:HG13	2.21	0.40
45:T:55:LEU:HD23	45:T:56:LEU:CA	2.50	0.40
47:V:27:PHE:HA	47:V:37:ILE:O	2.21	0.40
47:V:41:THR:HG23	53:3:237:G:OP1	2.20	0.40
48:W:53:GLN:HA	48:W:56:ARG:HH21	1.87	0.40
51:Z:33:ARG:HH11	51:Z:33:ARG:HG3	1.86	0.40
53:3:24:U:H2'	53:3:25:C:H6	1.84	0.40
53:3:31:G:H5'	53:3:306:A:C2	2.56	0.40
53:3:184:G:H2'	53:3:185:U:C6	2.57	0.40
53:3:472:U:H2'	53:3:473:U:C6	2.56	0.40
53:3:771:G:C6	53:3:809:G:C6	3.09	0.40
54:1:192:C:H2'	54:1:193:U:H5'	2.03	0.40
54:1:1682:G:C2	54:1:1757:A:O4'	2.74	0.40
54:1:2238:G:N3	54:1:2238:G:C2'	2.83	0.40
54:1:2639:A:H2'	54:1:2640:G:O4'	2.21	0.40
55:2:36:C:N4	55:2:49:C:O2'	2.54	0.40
59:8:159:LYS:O	59:8:163:GLY:HA2	2.21	0.40
59:8:428:GLN:O	59:8:428:GLN:NE2	2.54	0.40
1:b:142:ASN:HD22	1:b:142:ASN:C	2.25	0.40
3:d:126:VAL:HG11	3:d:134:LEU:HD13	2.04	0.40
4:e:92:GLY:O	4:e:96:TRP:HD1	2.04	0.40
6:g:130:VAL:HG21	6:g:132:PHE:CE1	2.57	0.40
10:k:88:ASN:O	10:k:89:ASN:C	2.64	0.40
10:k:101:GLY:O	10:k:120:PRO:HD2	2.21	0.40
12:m:112:LEU:HD23	12:m:112:LEU:O	2.21	0.40
14:o:92:PHE:CE2	14:o:94:ARG:HG2	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:q:5:ARG:HH22	54:1:1251:C:H5''	1.86	0.40
19:t:69:ARG:HG2	19:t:74:ILE:HD13	2.03	0.40
21:v:63:ILE:HD13	21:v:72:VAL:HG22	2.02	0.40
22:w:71:LYS:HG3	22:w:73:ARG:NH2	2.35	0.40
25:z:10:ARG:HG3	25:z:10:ARG:NH2	2.36	0.40
28:C:7:LYS:HA	28:C:23:THR:HG22	2.01	0.40
33:H:194:VAL:HG22	53:3:1056:U:O2	2.22	0.40
34:I:43:ARG:HG3	34:I:44:LYS:N	2.35	0.40
34:I:139:ASN:N	34:I:181:PHE:O	2.53	0.40
37:L:100:MET:O	37:L:104:VAL:HG23	2.20	0.40
40:O:7:ARG:HD3	40:O:75:ASP:CB	2.51	0.40
41:P:126:ARG:HH22	53:3:797:C:P	2.44	0.40
42:Q:30:ARG:O	42:Q:57:THR:N	2.49	0.40
42:Q:30:ARG:CG	42:Q:78:VAL:HB	2.51	0.40
44:S:52:ARG:HH11	44:S:52:ARG:HG2	1.86	0.40
53:3:917:G:H2'	53:3:918:A:C8	2.56	0.40
53:3:1158:C:C5	53:3:1160:G:H1'	2.56	0.40
54:1:608:A:H2'	54:1:609:A:C8	2.56	0.40
54:1:645:C:H2'	54:1:647:G:N7	2.37	0.40
54:1:1965:C:H3'	54:1:1966:A:H8	1.86	0.40
54:1:2286:G:H4'	54:1:2287:A:O4'	2.21	0.40
54:1:2336:A:H1'	54:1:2385:C:O4'	2.21	0.40
54:1:2533:U:H2'	54:1:2534:A:H5'	2.03	0.40
54:1:2585:U:N3	61:5:101:PRO:HB2	2.35	0.40
54:1:2596:U:H2'	54:1:2597:G:O4'	2.21	0.40
59:8:138:ILE:O	59:8:138:ILE:HG13	2.20	0.40
59:8:620:GLU:O	59:8:680:TYR:HB2	2.20	0.40
1:b:29:PHE:CE2	1:b:32:LEU:HD23	2.53	0.40
1:b:130:PRO:O	1:b:134:ILE:HG13	2.21	0.40
1:b:231:HIS:HA	1:b:241:LYS:CE	2.52	0.40
2:c:54:ALA:HA	2:c:75:ALA:O	2.21	0.40
2:c:125:TRP:CE3	2:c:160:LYS:HD3	2.56	0.40
3:d:25:GLU:OE2	11:l:6:LEU:HD22	2.21	0.40
3:d:131:THR:HG23	54:1:321:U:C5'	2.46	0.40
4:e:129:MET:N	4:e:153:ILE:O	2.51	0.40
10:k:51:LYS:CE	10:k:95:ILE:HG22	2.42	0.40
19:t:3:ARG:O	19:t:7:LEU:N	2.44	0.40
19:t:50:LEU:N	19:t:50:LEU:HD12	2.37	0.40
21:v:4:ILE:HB	21:v:63:ILE:HG13	2.03	0.40
31:F:18:LYS:HG3	31:F:18:LYS:O	2.21	0.40
32:G:72:LYS:O	32:G:74:ALA:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:J:9:GLU:OE1	35:J:9:GLU:N	2.55	0.40
35:J:109:ALA:O	35:J:113:VAL:HG12	2.20	0.40
41:P:19:VAL:HG11	41:P:84:MET:CE	2.52	0.40
43:R:64:VAL:O	43:R:65:GLU:C	2.64	0.40
44:S:13:VAL:HG22	44:S:59:GLN:OE1	2.21	0.40
44:S:82:LYS:HE2	44:S:82:LYS:N	2.36	0.40
45:T:38:LEU:HD11	53:3:740:U:H4'	2.04	0.40
49:X:35:ARG:HB3	49:X:71:GLY:CA	2.51	0.40
49:X:76:THR:O	49:X:78:THR:N	2.54	0.40
53:3:889:A:N6	53:3:907:A:H3'	2.34	0.40
53:3:1045:C:H2'	53:3:1046:A:O4'	2.22	0.40
53:3:1177:G:H2'	53:3:1178:G:O4'	2.21	0.40
53:3:1239:A:C4'	53:3:1241:G:H1'	2.51	0.40
53:3:1426:G:H2'	53:3:1427:C:O4'	2.21	0.40
54:1:1666:G:C2'	54:1:1667:G:H5'	2.51	0.40
54:1:2075:U:H3'	54:1:2238:G:H21	1.86	0.40
54:1:2176:A:O2'	54:1:2177:C:H5'	2.22	0.40
54:1:2213:U:H5''	54:1:2214:C:OP2	2.21	0.40
54:1:2732:G:H3'	54:1:2733:A:C5'	2.51	0.40
55:2:36:C:H5''	55:2:38:C:N4	2.36	0.40
59:8:294:ALA:HB1	59:8:309:ARG:N	2.36	0.40
59:8:496:GLN:HG3	59:8:497:LYS:N	2.35	0.40
1:b:3:VAL:O	1:b:17:LYS:N	2.45	0.40
3:d:155:GLU:HB3	3:d:159:LEU:HG	2.04	0.40
4:e:39:VAL:CG1	4:e:40:GLY:N	2.85	0.40
4:e:147:ARG:HG3	4:e:147:ARG:NH1	2.36	0.40
8:i:43:ALA:O	8:i:46:ASP:OD1	2.38	0.40
12:m:51:ARG:C	12:m:53:MET:N	2.80	0.40
14:o:28:VAL:HG22	14:o:93:ASP:O	2.22	0.40
16:q:51:GLN:O	16:q:55:GLN:HB2	2.22	0.40
21:v:26:PHE:N	21:v:26:PHE:CD1	2.90	0.40
25:z:15:ARG:HG3	25:z:53:MET:CE	2.51	0.40
28:C:24:LYS:HZ3	28:C:33:LEU:HG	1.87	0.40
33:H:64:ARG:HG3	33:H:64:ARG:NH1	2.37	0.40
34:I:82:LYS:HZ3	53:3:2:A:H4'	1.82	0.40
38:M:38:VAL:O	38:M:41:GLU:HB3	2.21	0.40
39:N:28:VAL:HG22	39:N:62:LEU:O	2.22	0.40
40:O:53:ILE:HG12	53:3:1060:U:H5''	2.03	0.40
41:P:48:GLY:C	41:P:50:GLY:H	2.30	0.40
41:P:83:VAL:HB	41:P:109:ILE:HG23	2.03	0.40
45:T:28:VAL:HA	45:T:31:LEU:HD23	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:503:C:H2'	53:3:504:C:H6	1.84	0.40
53:3:536:C:H2'	53:3:537:G:H8	1.87	0.40
53:3:678:U:H4'	53:3:778:G:OP1	2.21	0.40
53:3:930:C:H2'	53:3:931:C:H6	1.86	0.40
53:3:1090:U:O2	53:3:1090:U:H2'	2.21	0.40
53:3:1327:C:C2'	53:3:1328:C:H5'	2.52	0.40
53:3:1435:G:H2'	53:3:1436:U:C6	2.57	0.40
53:3:1496:C:H2'	53:3:1497:G:O4'	2.21	0.40
54:1:285:G:C6	54:1:356:G:C6	3.10	0.40
54:1:635:C:H2'	54:1:636:G:C8	2.56	0.40
54:1:954:G:O2'	54:1:955:U:H5'	2.22	0.40
54:1:1003:G:H2'	54:1:1004:U:C6	2.57	0.40
54:1:1479:G:H2'	54:1:1480:C:C6	2.55	0.40
54:1:2348:U:O2'	54:1:2349:G:H5'	2.21	0.40
54:1:2700:A:H2'	54:1:2701:U:C6	2.57	0.40
56:5:18:G:H1	56:5:55:U:H6	1.69	0.40
56:5:51:A:O2'	56:5:52:G:H5'	2.22	0.40
3:d:79:ARG:HH11	3:d:79:ARG:HG3	1.86	0.40
3:d:171:ASP:O	3:d:173:THR:N	2.48	0.40
8:i:11:GLN:NE2	8:i:11:GLN:O	2.55	0.40
9:j:35:ARG:HB3	9:j:54:ILE:HD11	2.04	0.40
9:j:116:ARG:O	9:j:120:ARG:N	2.51	0.40
10:k:25:LEU:HB2	10:k:38:ILE:O	2.21	0.40
10:k:104:THR:HA	10:k:122:VAL:CG1	2.47	0.40
15:p:32:VAL:HG12	15:p:34:GLY:N	2.37	0.40
16:q:35:PHE:CZ	16:q:39:ILE:HD11	2.57	0.40
19:t:14:PRO:HD2	24:y:33:ALA:CB	2.51	0.40
22:w:14:ALA:HB1	54:1:2271:G:OP1	2.22	0.40
32:G:101:THR:HG23	53:3:1074:G:O2'	2.22	0.40
33:H:19:SER:HB3	33:H:21:TRP:CD1	2.57	0.40
33:H:54:ILE:HB	33:H:56:ILE:HD11	2.02	0.40
33:H:174:LEU:CD2	33:H:181:ILE:HD13	2.47	0.40
34:I:170:LEU:CD2	34:I:170:LEU:H	2.34	0.40
36:K:11:HIS:NE2	36:K:54:LEU:HD21	2.37	0.40
40:O:9:ARG:HG3	40:O:73:LEU:HD21	2.03	0.40
45:T:55:LEU:HD23	45:T:55:LEU:C	2.47	0.40
46:U:28:ARG:NH1	53:3:390:U:O3'	2.54	0.40
48:W:61:ALA:HB1	48:W:67:LEU:HG	2.03	0.40
49:X:38:THR:HA	49:X:68:HIS:O	2.21	0.40
50:Y:43:LYS:HE2	50:Y:86:ALA:HA	2.02	0.40
52:a:42:VAL:CG2	52:a:216:THR:HG22	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:3:440:C:C3'	53:3:441:A:H5''	2.51	0.40
53:3:708:C:H2'	53:3:709:U:H6	1.81	0.40
53:3:747:A:H2'	53:3:748:G:O4'	2.21	0.40
53:3:833:G:H2'	53:3:834:U:C6	2.55	0.40
53:3:1288:A:C1'	53:3:1353:G:H4'	2.52	0.40
53:3:1349:A:C2'	53:3:1350:A:H5'	2.52	0.40
53:3:1400:C:O5'	53:3:1400:C:H6	2.04	0.40
54:1:897:C:H2'	54:1:898:C:C5	2.55	0.40
54:1:940:G:C2'	54:1:941:A:H5''	2.47	0.40
54:1:1341:G:C2	54:1:1398:C:H4'	2.56	0.40
54:1:1444:G:H2'	54:1:1445:G:H8	1.86	0.40
54:1:1834:U:O4'	54:1:1969:A:C2	2.74	0.40
54:1:1853:A:N1	54:1:2087:G:H1'	2.37	0.40
54:1:1872:A:H2'	54:1:1873:G:O4'	2.21	0.40
59:8:158:ILE:O	59:8:162:LEU:HB3	2.22	0.40
59:8:197:ASP:C	59:8:199:GLY:H	2.29	0.40
59:8:297:GLY:O	59:8:306:PRO:HA	2.21	0.40
59:8:415:VAL:HG13	59:8:416:ILE:N	2.37	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%)	42 (16%)	4 (2%)	8	37
2	c	207/209 (99%)	174 (84%)	31 (15%)	2 (1%)	12	44
3	d	199/201 (99%)	165 (83%)	32 (16%)	2 (1%)	12	44
4	e	175/177 (99%)	143 (82%)	26 (15%)	6 (3%)	3	23
5	f	174/176 (99%)	150 (86%)	24 (14%)	0	100	100
6	g	121/149 (81%)	92 (76%)	26 (22%)	3 (2%)	4	28

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	h	82/131 (63%)	57 (70%)	20 (24%)	5 (6%)	1	12
8	i	72/141 (51%)	49 (68%)	18 (25%)	5 (7%)	1	10
9	j	140/142 (99%)	121 (86%)	18 (13%)	1 (1%)	18	51
10	k	120/122 (98%)	96 (80%)	22 (18%)	2 (2%)	7	35
11	l	141/143 (99%)	106 (75%)	29 (21%)	6 (4%)	2	18
12	m	134/136 (98%)	113 (84%)	19 (14%)	2 (2%)	8	37
13	n	118/120 (98%)	92 (78%)	26 (22%)	0	100	100
14	o	114/116 (98%)	98 (86%)	15 (13%)	1 (1%)	14	47
15	p	112/114 (98%)	96 (86%)	16 (14%)	0	100	100
16	q	115/117 (98%)	106 (92%)	9 (8%)	0	100	100
17	r	101/103 (98%)	84 (83%)	16 (16%)	1 (1%)	12	44
18	s	108/110 (98%)	94 (87%)	13 (12%)	1 (1%)	14	47
19	t	91/93 (98%)	79 (87%)	12 (13%)	0	100	100
20	u	100/102 (98%)	82 (82%)	18 (18%)	0	100	100
21	v	92/94 (98%)	78 (85%)	14 (15%)	0	100	100
22	w	73/75 (97%)	62 (85%)	11 (15%)	0	100	100
23	x	75/77 (97%)	68 (91%)	7 (9%)	0	100	100
24	y	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
25	z	56/58 (97%)	48 (86%)	8 (14%)	0	100	100
26	A	64/66 (97%)	54 (84%)	8 (12%)	2 (3%)	3	25
27	B	54/56 (96%)	46 (85%)	8 (15%)	0	100	100
28	C	48/50 (96%)	42 (88%)	6 (12%)	0	100	100
29	D	44/46 (96%)	33 (75%)	11 (25%)	0	100	100
30	E	62/64 (97%)	52 (84%)	9 (14%)	1 (2%)	7	36
31	F	36/38 (95%)	31 (86%)	5 (14%)	0	100	100
32	G	216/225 (96%)	175 (81%)	36 (17%)	5 (2%)	5	30
33	H	204/206 (99%)	177 (87%)	26 (13%)	1 (0%)	24	57
34	I	203/205 (99%)	161 (79%)	40 (20%)	2 (1%)	12	44
35	J	155/157 (99%)	123 (79%)	24 (16%)	8 (5%)	1	14
36	K	98/100 (98%)	84 (86%)	10 (10%)	4 (4%)	2	19
37	L	149/151 (99%)	121 (81%)	28 (19%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	M	127/129 (98%)	109 (86%)	17 (13%)	1 (1%)	16	49
39	N	125/127 (98%)	97 (78%)	25 (20%)	3 (2%)	4	29
40	O	96/98 (98%)	80 (83%)	14 (15%)	2 (2%)	5	31
41	P	114/116 (98%)	84 (74%)	27 (24%)	3 (3%)	4	27
42	Q	121/123 (98%)	89 (74%)	28 (23%)	4 (3%)	3	23
43	R	112/114 (98%)	90 (80%)	20 (18%)	2 (2%)	6	34
44	S	98/100 (98%)	72 (74%)	24 (24%)	2 (2%)	6	32
45	T	86/88 (98%)	78 (91%)	6 (7%)	2 (2%)	5	30
46	U	80/82 (98%)	63 (79%)	12 (15%)	5 (6%)	1	12
47	V	78/80 (98%)	59 (76%)	18 (23%)	1 (1%)	9	39
48	W	63/65 (97%)	53 (84%)	8 (13%)	2 (3%)	3	24
49	X	77/79 (98%)	56 (73%)	18 (23%)	3 (4%)	2	20
50	Y	83/85 (98%)	75 (90%)	8 (10%)	0	100	100
51	Z	63/65 (97%)	37 (59%)	19 (30%)	7 (11%)	0	5
52	a	130/223 (58%)	104 (80%)	24 (18%)	2 (2%)	8	37
59	8	681/711 (96%)	541 (79%)	125 (18%)	15 (2%)	5	30
All	All	6517/6889 (95%)	5319 (82%)	1080 (17%)	118 (2%)	9	34

All (118) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	b	205	GLY
3	d	83	VAL
4	e	19	PHE
4	e	122	ASP
6	g	9	VAL
7	h	80	THR
8	i	11	GLN
10	k	35	VAL
11	l	85	VAL
12	m	58	LYS
14	o	99	TYR
17	r	54	VAL
26	A	65	ASN
30	E	31	ILE
32	G	73	ARG

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Mol	Chain	Res	Type
35	J	87	VAL
35	J	93	VAL
36	K	54	LEU
36	K	92	THR
36	K	93	LYS
39	N	57	VAL
42	Q	32	VAL
43	R	65	GLU
46	U	43	ALA
46	U	45	GLU
46	U	79	ASN
47	V	49	ASN
51	Z	8	ASN
51	Z	25	ALA
59	8	121	PRO
59	8	425	LYS
59	8	582	SER
59	8	624	PRO
11	l	31	GLY
32	G	34	ARG
33	H	4	VAL
35	J	13	LYS
35	J	160	VAL
39	N	91	GLU
39	N	118	ARG
41	P	89	GLY
44	S	62	ARG
48	W	17	VAL
49	X	4	LEU
51	Z	32	ARG
52	a	6	LYS
52	a	182	ALA
59	8	199	GLY
59	8	423	LYS
59	8	501	VAL
1	b	185	ALA
2	c	140	HIS
3	d	16	GLU
4	e	42	ALA
4	e	125	GLY
6	g	8	LYS
7	h	60	LEU

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Mol	Chain	Res	Type
7	h	81	LEU
10	k	92	GLU
11	l	86	GLU
32	G	87	ASP
35	J	12	GLU
36	K	53	LYS
42	Q	33	CYS
42	Q	101	LEU
44	S	52	ARG
49	X	77	ARG
51	Z	24	LYS
51	Z	34	ARG
59	8	509	SER
1	b	240	GLY
11	l	54	GLN
32	G	17	HIS
32	G	72	LYS
34	I	42	ALA
40	O	93	ALA
41	P	14	GLN
51	Z	37	TYR
59	8	424	THR
1	b	24	HIS
2	c	153	GLY
4	e	18	GLU
6	g	12	LEU
8	i	34	ILE
9	j	81	ILE
18	s	29	VAL
34	I	20	LEU
35	J	11	GLN
35	J	122	VAL
43	R	97	ARG
45	T	46	LYS
48	W	12	PHE
49	X	26	ASP
51	Z	12	ASP
59	8	198	GLN
59	8	548	GLU
8	i	24	GLY
11	l	16	GLY
41	P	88	PRO

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Mol	Chain	Res	Type
42	Q	75	GLU
45	T	24	THR
59	8	528	GLY
7	h	55	VAL
12	m	69	PRO
38	M	94	VAL
4	e	175	PRO
8	i	21	PRO
11	l	56	PRO
46	U	49	GLY
26	A	54	GLY
35	J	97	PRO
40	O	41	PRO
46	U	37	GLY
59	8	547	GLY
8	i	4	VAL
7	h	79	PRO
59	8	531	PRO
59	8	570	PRO

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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%)	210 (97%)	6 (3%)	38	61
2	c	164/164 (100%)	163 (99%)	1 (1%)	78	79
3	d	165/165 (100%)	165 (100%)	0	100	100
4	e	148/148 (100%)	144 (97%)	4 (3%)	39	62
5	f	137/137 (100%)	136 (99%)	1 (1%)	76	78
6	g	98/114 (86%)	97 (99%)	1 (1%)	68	75
7	h	66/100 (66%)	66 (100%)	0	100	100
8	i	60/109 (55%)	57 (95%)	3 (5%)	22	48
9	j	116/116 (100%)	115 (99%)	1 (1%)	70	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	k	103/103 (100%)	102 (99%)	1 (1%)	68	75
11	l	102/102 (100%)	97 (95%)	5 (5%)	22	48
12	m	109/109 (100%)	108 (99%)	1 (1%)	70	76
13	n	100/100 (100%)	100 (100%)	0	100	100
14	o	86/86 (100%)	85 (99%)	1 (1%)	63	73
15	p	99/99 (100%)	97 (98%)	2 (2%)	48	67
16	q	89/89 (100%)	88 (99%)	1 (1%)	65	74
17	r	84/84 (100%)	81 (96%)	3 (4%)	31	57
18	s	93/93 (100%)	93 (100%)	0	100	100
19	t	80/80 (100%)	79 (99%)	1 (1%)	61	72
20	u	83/83 (100%)	81 (98%)	2 (2%)	43	64
21	v	78/78 (100%)	77 (99%)	1 (1%)	61	72
22	w	57/57 (100%)	56 (98%)	1 (2%)	51	69
23	x	67/67 (100%)	64 (96%)	3 (4%)	24	50
24	y	55/55 (100%)	55 (100%)	0	100	100
25	z	48/48 (100%)	47 (98%)	1 (2%)	47	66
26	A	59/59 (100%)	59 (100%)	0	100	100
27	B	47/47 (100%)	45 (96%)	2 (4%)	26	51
28	C	45/45 (100%)	44 (98%)	1 (2%)	45	65
29	D	38/38 (100%)	38 (100%)	0	100	100
30	E	51/51 (100%)	50 (98%)	1 (2%)	48	67
31	F	34/34 (100%)	33 (97%)	1 (3%)	37	60
32	G	180/186 (97%)	176 (98%)	4 (2%)	45	65
33	H	170/170 (100%)	168 (99%)	2 (1%)	63	73
34	I	172/172 (100%)	169 (98%)	3 (2%)	53	70
35	J	119/119 (100%)	115 (97%)	4 (3%)	32	57
36	K	87/87 (100%)	84 (97%)	3 (3%)	32	57
37	L	124/124 (100%)	123 (99%)	1 (1%)	73	77
38	M	104/104 (100%)	102 (98%)	2 (2%)	50	68
39	N	105/105 (100%)	102 (97%)	3 (3%)	37	60
40	O	86/86 (100%)	84 (98%)	2 (2%)	44	64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	P	89/89 (100%)	87 (98%)	2 (2%)	45	65
42	Q	103/103 (100%)	98 (95%)	5 (5%)	22	48
43	R	92/92 (100%)	90 (98%)	2 (2%)	45	65
44	S	83/83 (100%)	82 (99%)	1 (1%)	63	73
45	T	76/76 (100%)	74 (97%)	2 (3%)	40	62
46	U	65/65 (100%)	63 (97%)	2 (3%)	35	59
47	V	74/74 (100%)	72 (97%)	2 (3%)	39	62
48	W	56/56 (100%)	53 (95%)	3 (5%)	20	46
49	X	70/70 (100%)	68 (97%)	2 (3%)	37	60
50	Y	65/65 (100%)	65 (100%)	0	100	100
51	Z	55/55 (100%)	52 (94%)	3 (6%)	19	46
52	a	110/174 (63%)	108 (98%)	2 (2%)	51	69
59	8	566/585 (97%)	550 (97%)	16 (3%)	38	61
All	All	5428/5616 (97%)	5317 (98%)	111 (2%)	46	67

All (111) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	b	129	LEU
1	b	142	ASN
1	b	180	MET
1	b	196	ASN
1	b	228	ASP
1	b	230	PRO
2	c	1	MET
4	e	10	GLU
4	e	18	GLU
4	e	26	GLN
4	e	134	GLN
5	f	15	ASP
6	g	112	LYS
8	i	8	VAL
8	i	59	THR
8	i	67	THR
9	j	128	ASN
10	k	13	ASN
11	l	4	ASN

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Mol	Chain	Res	Type
11	l	23	ILE
11	l	57	LEU
11	l	104	GLN
11	l	111	ILE
12	m	63	ILE
14	o	33	ARG
15	p	40	GLN
15	p	92	ARG
16	q	17	LEU
17	r	11	GLN
17	r	38	VAL
17	r	74	ILE
19	t	32	LEU
20	u	34	ILE
20	u	82	VAL
21	v	26	PHE
22	w	10	ARG
23	x	21	LEU
23	x	32	LEU
23	x	47	THR
25	z	36	GLU
27	B	14	MET
27	B	15	ARG
28	C	4	ILE
30	E	30	HIS
31	F	14	CYS
32	G	17	HIS
32	G	21	TYR
32	G	55	GLU
32	G	129	THR
33	H	152	VAL
33	H	155	ARG
34	I	124	VAL
34	I	128	VAL
34	I	173	ASP
35	J	22	LYS
35	J	24	VAL
35	J	33	THR
35	J	97	PRO
36	K	8	PHE
36	K	63	ASN
36	K	94	HIS

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Mol	Chain	Res	Type
37	L	6	ILE
38	M	6	ILE
38	M	103	VAL
39	N	60	LEU
39	N	119	LYS
39	N	123	ARG
40	O	28	THR
40	O	42	LEU
41	P	31	VAL
41	P	126	ARG
42	Q	2	THR
42	Q	40	THR
42	Q	73	LEU
42	Q	93	ARG
42	Q	113	ARG
43	R	97	ARG
43	R	99	GLN
44	S	22	LYS
45	T	21	THR
45	T	86	LEU
46	U	19	VAL
46	U	79	ASN
47	V	19	SER
47	V	56	ASP
48	W	13	THR
48	W	18	GLN
48	W	70	THR
49	X	4	LEU
49	X	11	ASP
51	Z	8	ASN
51	Z	9	GLU
51	Z	32	ARG
52	a	12	ARG
52	a	193	LEU
59	8	56	GLU
59	8	121	PRO
59	8	122	GLN
59	8	141	VAL
59	8	142	ASN
59	8	167	VAL
59	8	179	PHE
59	8	265	THR

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Mol	Chain	Res	Type
59	8	334	THR
59	8	343	VAL
59	8	348	THR
59	8	478	ASN
59	8	499	THR
59	8	518	VAL
59	8	530	ASN
59	8	624	PRO

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (77) such sidechains are listed below:

Mol	Chain	Res	Type
1	b	59	GLN
1	b	127	ASN
2	c	42	ASN
2	c	49	GLN
2	c	134	HIS
2	c	167	ASN
3	d	30	GLN
3	d	94	GLN
3	d	195	GLN
4	e	80	GLN
5	f	21	GLN
5	f	127	GLN
5	f	142	GLN
6	g	11	ASN
8	i	11	GLN
10	k	93	GLN
11	l	38	GLN
11	l	93	ASN
12	m	97	GLN
13	n	11	ASN
13	n	62	ASN
13	n	73	ASN
13	n	107	ASN
14	o	38	GLN
15	p	55	HIS
16	q	19	GLN
16	q	36	GLN
17	r	11	GLN
17	r	86	GLN
18	s	40	ASN

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Mol	Chain	Res	Type
19	t	28	ASN
20	u	52	ASN
20	u	65	GLN
20	u	73	ASN
24	y	41	HIS
29	D	6	GLN
32	G	41	ASN
32	G	57	ASN
32	G	93	HIS
32	G	145	ASN
32	G	167	HIS
33	H	101	ASN
33	H	122	GLN
36	K	11	HIS
36	K	14	GLN
37	L	85	GLN
37	L	129	ASN
37	L	147	ASN
38	M	3	GLN
38	M	17	GLN
38	M	117	GLN
40	O	99	GLN
41	P	108	ASN
41	P	118	ASN
45	T	34	GLN
45	T	36	ASN
45	T	41	HIS
48	W	30	ASN
48	W	53	GLN
49	X	52	ASN
49	X	56	HIS
50	Y	19	HIS
50	Y	20	ASN
50	Y	74	HIS
52	a	165	ASN
52	a	168	ASN
59	8	18	HIS
59	8	57	GLN
59	8	142	ASN
59	8	156	ASN
59	8	198	GLN
59	8	219	HIS

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Mol	Chain	Res	Type
59	8	272	ASN
59	8	369	ASN
59	8	482	ASN
59	8	505	HIS
59	8	627	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
53	3	1538/1539 (99%)	245 (15%)	6 (0%)
54	1	2902/2903 (99%)	392 (13%)	12 (0%)
55	2	119/120 (99%)	14 (11%)	1 (0%)
56	5	76/77 (98%)	14 (18%)	1 (1%)
57	6	76/77 (98%)	17 (22%)	1 (1%)
58	4	15/16 (93%)	3 (20%)	0
All	All	4726/4732 (99%)	685 (14%)	21 (0%)

All (685) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
53	3	7	A
53	3	9	G
53	3	31	G
53	3	32	A
53	3	39	G
53	3	48	C
53	3	51	A
53	3	59	A
53	3	60	A
53	3	71	A
53	3	81	A
53	3	82	G
53	3	84	U
53	3	85	U
53	3	86	G
53	3	94	G
53	3	95	C
53	3	121	U
53	3	130	A
53	3	131	A
53	3	144	G

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Mol	Chain	Res	Type
53	3	154	U
53	3	177	G
53	3	181	A
53	3	183	C
53	3	184	G
53	3	188	C
53	3	197	A
53	3	208	U
53	3	209	U
53	3	210	C
53	3	211	G
53	3	212	G
53	3	214	C
53	3	245	U
53	3	247	G
53	3	251	G
53	3	266	G
53	3	267	C
53	3	280	C
53	3	281	G
53	3	289	G
53	3	316	C
53	3	321	A
53	3	328	C
53	3	330	C
53	3	345	C
53	3	346	G
53	3	348	G
53	3	352	C
53	3	354	G
53	3	355	C
53	3	363	A
53	3	367	U
53	3	369	G
53	3	372	C
53	3	398	U
53	3	411	A
53	3	412	A
53	3	413	G
53	3	414	A
53	3	422	C
53	3	429	U

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Mol	Chain	Res	Type
53	3	430	A
53	3	441	A
53	3	452	A
53	3	462	G
53	3	467	U
53	3	484	G
53	3	486	U
53	3	497	G
53	3	509	A
53	3	518	C
53	3	521	G
53	3	531	U
53	3	532	A
53	3	533	A
53	3	534	U
53	3	536	C
53	3	537	G
53	3	547	A
53	3	561	U
53	3	571	U
53	3	572	A
53	3	573	A
53	3	575	G
53	3	576	C
53	3	577	G
53	3	607	A
53	3	615	G
53	3	633	G
53	3	642	A
53	3	650	G
53	3	665	A
53	3	687	A
53	3	688	G
53	3	690	G
53	3	698	G
53	3	699	C
53	3	703	G
53	3	723	U
53	3	724	G
53	3	755	G
53	3	777	A
53	3	814	A

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Mol	Chain	Res	Type
53	3	817	C
53	3	818	G
53	3	819	A
53	3	821	G
53	3	843	U
53	3	844	G
53	3	846	G
53	3	851	G
53	3	885	G
53	3	890	G
53	3	891	U
53	3	902	G
53	3	914	A
53	3	920	U
53	3	926	G
53	3	929	G
53	3	934	C
53	3	949	A
53	3	960	U
53	3	961	U
53	3	966	G
53	3	968	A
53	3	969	A
53	3	971	G
53	3	972	C
53	3	975	A
53	3	976	G
53	3	977	A
53	3	981	U
53	3	982	U
53	3	984	C
53	3	992	U
53	3	993	G
53	3	1004	A
53	3	1011	C
53	3	1012	A
53	3	1026	G
53	3	1028	C
53	3	1031	C
53	3	1033	G
53	3	1034	G
53	3	1054	C

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Mol	Chain	Res	Type
53	3	1061	G
53	3	1062	U
53	3	1064	G
53	3	1065	U
53	3	1080	A
53	3	1081	A
53	3	1091	U
53	3	1094	G
53	3	1095	U
53	3	1101	A
53	3	1116	U
53	3	1119	C
53	3	1122	U
53	3	1123	U
53	3	1124	G
53	3	1125	U
53	3	1127	G
53	3	1135	U
53	3	1136	C
53	3	1138	G
53	3	1139	G
53	3	1140	C
53	3	1148	U
53	3	1149	C
53	3	1151	A
53	3	1161	C
53	3	1165	U
53	3	1167	A
53	3	1169	A
53	3	1174	G
53	3	1180	A
53	3	1182	G
53	3	1183	U
53	3	1184	G
53	3	1189	U
53	3	1190	G
53	3	1191	A
53	3	1196	A
53	3	1197	A
53	3	1198	G
53	3	1199	U
53	3	1200	C

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Mol	Chain	Res	Type
53	3	1201	A
53	3	1223	C
53	3	1224	U
53	3	1225	A
53	3	1226	C
53	3	1228	C
53	3	1238	A
53	3	1240	U
53	3	1241	G
53	3	1256	A
53	3	1260	G
53	3	1275	A
53	3	1278	G
53	3	1280	A
53	3	1282	C
53	3	1285	A
53	3	1286	U
53	3	1287	A
53	3	1298	U
53	3	1300	G
53	3	1307	U
53	3	1308	U
53	3	1317	C
53	3	1320	C
53	3	1321	U
53	3	1322	C
53	3	1323	G
53	3	1336	C
53	3	1340	A
53	3	1346	A
53	3	1347	G
53	3	1348	U
53	3	1383	C
53	3	1384	C
53	3	1394	A
53	3	1395	C
53	3	1397	C
53	3	1398	A
53	3	1399	C
53	3	1400	C
53	3	1446	A
53	3	1452	C

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Mol	Chain	Res	Type
53	3	1492	A
53	3	1494	G
53	3	1497	G
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	1534	A
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	13	A
54	1	34	U
54	1	46	G
54	1	49	A
54	1	51	G
54	1	63	A
54	1	71	A
54	1	74	A
54	1	75	G
54	1	78	U
54	1	92	U
54	1	103	A
54	1	110	G
54	1	119	A
54	1	120	U
54	1	125	A
54	1	131	A
54	1	140	C
54	1	141	G
54	1	162	U
54	1	163	C
54	1	196	A
54	1	199	A
54	1	216	A
54	1	221	A
54	1	222	A

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Mol	Chain	Res	Type
54	1	228	C
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	301	G
54	1	311	A
54	1	323	C
54	1	329	G
54	1	330	A
54	1	349	U
54	1	361	G
54	1	362	A
54	1	371	A
54	1	372	G
54	1	386	G
54	1	387	U
54	1	404	A
54	1	406	G
54	1	411	G
54	1	413	C
54	1	422	A
54	1	424	G
54	1	451	U
54	1	457	A
54	1	475	C
54	1	480	A
54	1	481	G
54	1	482	A
54	1	491	G
54	1	504	A
54	1	505	A
54	1	510	C
54	1	529	A
54	1	531	C
54	1	532	A
54	1	542	C

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Mol	Chain	Res	Type
54	1	543	G
54	1	549	G
54	1	563	A
54	1	572	A
54	1	573	U
54	1	574	A
54	1	575	A
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	694	U
54	1	695	G
54	1	730	A
54	1	747	C
54	1	752	A
54	1	760	G
54	1	764	A
54	1	776	G
54	1	782	A
54	1	784	G
54	1	785	G
54	1	792	A
54	1	800	A
54	1	802	A
54	1	805	G
54	1	806	C
54	1	811	U
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

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Mol	Chain	Res	Type
54	1	859	G
54	1	860	U
54	1	878	A
54	1	880	G
54	1	886	A
54	1	887	U
54	1	890	C
54	1	891	G
54	1	896	A
54	1	897	C
54	1	898	C
54	1	907	G
54	1	910	A
54	1	932	U
54	1	941	A
54	1	946	C
54	1	961	C
54	1	974	G
54	1	975	A
54	1	983	A
54	1	995	C
54	1	996	A
54	1	1012	U
54	1	1013	C
54	1	1022	G
54	1	1026	G
54	1	1033	U
54	1	1045	C
54	1	1046	A
54	1	1062	G
54	1	1065	U
54	1	1066	U
54	1	1067	A
54	1	1069	A
54	1	1070	A
54	1	1071	G
54	1	1072	C
54	1	1073	A
54	1	1075	C
54	1	1079	C
54	1	1083	U
54	1	1084	A

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Mol	Chain	Res	Type
54	1	1087	G
54	1	1088	A
54	1	1089	A
54	1	1094	U
54	1	1104	C
54	1	1111	A
54	1	1131	G
54	1	1132	U
54	1	1133	A
54	1	1135	C
54	1	1141	U
54	1	1142	A
54	1	1143	A
54	1	1156	A
54	1	1157	G
54	1	1175	A
54	1	1176	U
54	1	1180	U
54	1	1181	U
54	1	1212	G
54	1	1250	G
54	1	1251	C
54	1	1253	A
54	1	1256	G
54	1	1271	G
54	1	1272	A
54	1	1301	A
54	1	1329	U
54	1	1330	C
54	1	1332	G
54	1	1341	G
54	1	1345	C
54	1	1352	U
54	1	1365	A
54	1	1378	A
54	1	1379	U
54	1	1383	A
54	1	1395	A
54	1	1397	U
54	1	1398	C
54	1	1416	G
54	1	1419	A

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Mol	Chain	Res	Type
54	1	1420	A
54	1	1421	G
54	1	1427	A
54	1	1428	C
54	1	1454	C
54	1	1461	C
54	1	1476	U
54	1	1482	G
54	1	1490	A
54	1	1498	C
54	1	1503	A
54	1	1510	G
54	1	1515	A
54	1	1524	G
54	1	1533	C
54	1	1535	A
54	1	1536	C
54	1	1537	G
54	1	1555	G
54	1	1560	G
54	1	1569	A
54	1	1578	U
54	1	1584	U
54	1	1585	C
54	1	1598	A
54	1	1608	A
54	1	1611	C
54	1	1616	A
54	1	1647	U
54	1	1648	U
54	1	1654	A
54	1	1674	G
54	1	1703	G
54	1	1713	A
54	1	1715	G
54	1	1729	U
54	1	1730	C
54	1	1731	G
54	1	1732	C
54	1	1738	G
54	1	1758	U
54	1	1764	C

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Mol	Chain	Res	Type
54	1	1773	A
54	1	1800	C
54	1	1801	A
54	1	1802	A
54	1	1808	A
54	1	1816	C
54	1	1829	A
54	1	1869	G
54	1	1880	U
54	1	1906	G
54	1	1907	G
54	1	1913	A
54	1	1914	C
54	1	1929	G
54	1	1930	G
54	1	1933	G
54	1	1937	A
54	1	1938	A
54	1	1955	U
54	1	1960	A
54	1	1963	U
54	1	1967	C
54	1	1969	A
54	1	1970	A
54	1	1972	G
54	1	1991	U
54	1	1993	U
54	1	1997	C
54	1	2022	U
54	1	2023	C
54	1	2030	A
54	1	2031	A
54	1	2034	U
54	1	2036	C
54	1	2043	C
54	1	2055	C
54	1	2056	G
54	1	2060	A
54	1	2061	G
54	1	2062	A
54	1	2069	G
54	1	2072	C

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Mol	Chain	Res	Type
54	1	2096	C
54	1	2106	U
54	1	2111	U
54	1	2112	G
54	1	2113	U
54	1	2115	G
54	1	2117	A
54	1	2118	U
54	1	2119	A
54	1	2120	G
54	1	2127	G
54	1	2131	U
54	1	2132	U
54	1	2133	G
54	1	2135	A
54	1	2145	C
54	1	2146	C
54	1	2147	A
54	1	2157	G
54	1	2162	G
54	1	2166	U
54	1	2172	U
54	1	2173	A
54	1	2178	C
54	1	2189	U
54	1	2198	A
54	1	2204	G
54	1	2210	U
54	1	2211	A
54	1	2213	U
54	1	2225	A
54	1	2238	G
54	1	2239	G
54	1	2278	A
54	1	2279	G
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

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Mol	Chain	Res	Type
54	1	2334	U
54	1	2345	G
54	1	2347	C
54	1	2350	C
54	1	2357	G
54	1	2361	G
54	1	2382	G
54	1	2383	G
54	1	2385	C
54	1	2391	G
54	1	2392	A
54	1	2402	U
54	1	2406	A
54	1	2423	U
54	1	2427	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	2490	G
54	1	2494	G
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	2629	U
54	1	2636	C
54	1	2646	C
54	1	2655	G

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Mol	Chain	Res	Type
54	1	2682	A
54	1	2684	U
54	1	2689	U
54	1	2690	U
54	1	2713	U
54	1	2714	G
54	1	2728	U
54	1	2733	A
54	1	2739	U
54	1	2748	A
54	1	2751	G
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	2794	C
54	1	2797	U
54	1	2800	A
54	1	2801	G
54	1	2820	A
54	1	2821	A
54	1	2833	U
54	1	2867	G
54	1	2868	A
54	1	2873	A
54	1	2883	A
55	2	4	C
55	2	13	G
55	2	15	A
55	2	35	C
55	2	36	C
55	2	37	C
55	2	40	U
55	2	41	G
55	2	44	G
55	2	88	C
55	2	89	U
55	2	90	C
55	2	108	A
55	2	109	A

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Mol	Chain	Res	Type
56	5	3	G
56	5	4	C
56	5	5	G
56	5	6	A
56	5	10	G
56	5	17(A)	U
56	5	19	G
56	5	20	U
56	5	21	A
56	5	22	G
56	5	47	U
56	5	61	C
56	5	73	A
56	5	76	A
57	6	2	G
57	6	3	C
57	6	8	U
57	6	9	G
57	6	10	G
57	6	14	A
57	6	19	G
57	6	20	U
57	6	21	A
57	6	22	G
57	6	28	C
57	6	33	U
57	6	34	C
57	6	35	A
57	6	59	A
57	6	70	G
57	6	76	A
58	4	12	A
58	4	15	A
58	4	16	A

All (21) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
53	3	70	U
53	3	890	G
53	3	1183	U
53	3	1396	A

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Mol	Chain	Res	Type
53	3	1493	A
53	3	1534	A
54	1	421	C
54	1	481	G
54	1	490	C
54	1	859	G
54	1	1130	U
54	1	1475	G
54	1	1730	C
54	1	2286	G
54	1	2296	U
54	1	2326	C
54	1	2391	G
54	1	2756	U
55	2	88	C
56	5	2	G
57	6	32	C

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

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

5.5 Carbohydrates [i](#)

There are no 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	1.13	0	8,9,11	0.87	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
62	GCP	8	801	63	32,34,34	2.20	6 (18%)	49,54,54	2.41	17 (34%)
61	PRO	5	101	56,60	6,7,8	0.46	0	7,8,10	1.31	1 (14%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
60	FME	1	3001	61	-	2/7/9/11	-
62	GCP	8	801	63	-	8/19/38/38	0/3/3/3
61	PRO	5	101	56,60	-	0/0/9/11	0/1/1/1

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
62	8	801	GCP	PA-O3A	-7.92	1.50	1.59
62	8	801	GCP	PB-O3A	-6.61	1.51	1.58
62	8	801	GCP	PG-O3G	-2.60	1.49	1.55
62	8	801	GCP	PB-O2B	-2.53	1.50	1.56
62	8	801	GCP	C1'-N9	2.46	1.54	1.47
62	8	801	GCP	PG-O2G	-2.10	1.50	1.55

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	8	801	GCP	C1'-N9-C8	-7.68	104.91	126.73
62	8	801	GCP	C1'-N9-C4	7.34	148.18	126.49
62	8	801	GCP	O3A-PA-O1A	-4.53	97.09	110.70
62	8	801	GCP	O3G-PG-O2G	4.37	120.42	107.96
62	8	801	GCP	O2G-PG-C3B	-3.83	97.11	106.40
62	8	801	GCP	O4'-C1'-C2'	-3.74	98.60	106.62
62	8	801	GCP	O2B-PB-O1B	3.71	122.02	109.95
62	8	801	GCP	O3'-C3'-C4'	-3.28	101.65	111.08
62	8	801	GCP	O2A-PA-O5'	-2.91	94.39	107.57
62	8	801	GCP	O1B-PB-C3B	2.42	115.43	109.05
61	5	101	PRO	O-C-CA	-2.41	118.57	124.77
62	8	801	GCP	O2A-PA-O1A	2.35	123.38	112.44
62	8	801	GCP	O3G-PG-O1G	-2.32	106.38	112.39
62	8	801	GCP	PB-O3A-PA	2.31	139.92	132.37
62	8	801	GCP	O4'-C4'-C5'	2.23	116.47	109.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	8	801	GCP	C2'-C1'-N9	2.20	119.37	113.25
62	8	801	GCP	O2A-PA-O3A	2.09	112.92	107.27
62	8	801	GCP	C5-C4-N3	2.08	131.69	128.39

There are no chirality outliers.

All (10) torsion outliers are listed below:

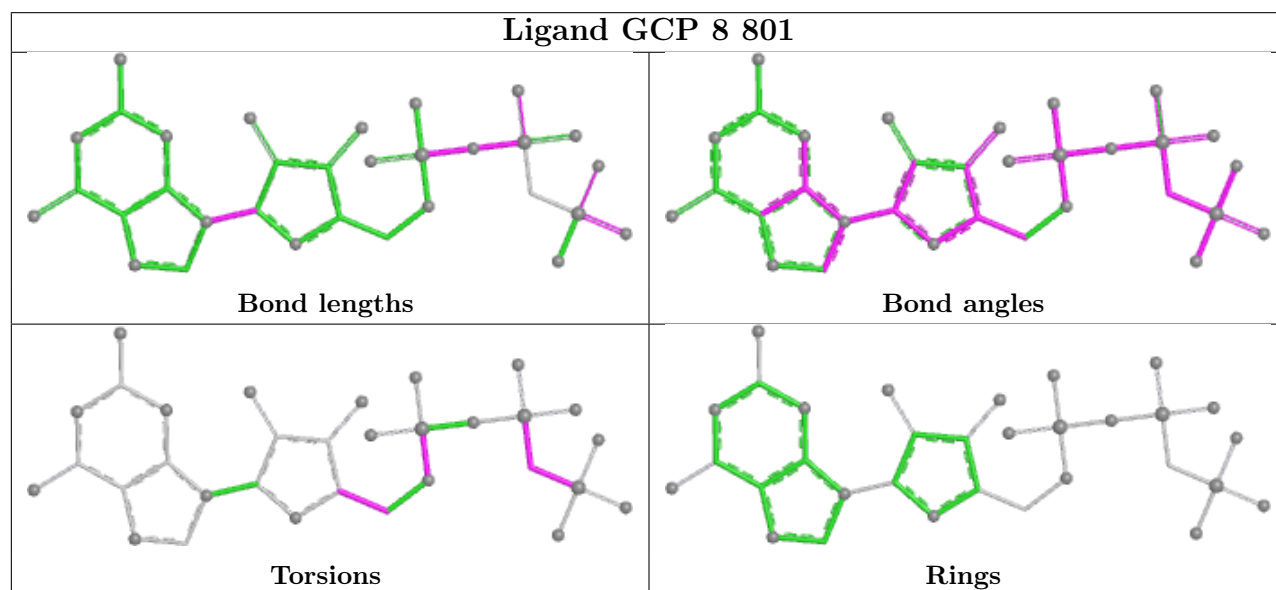
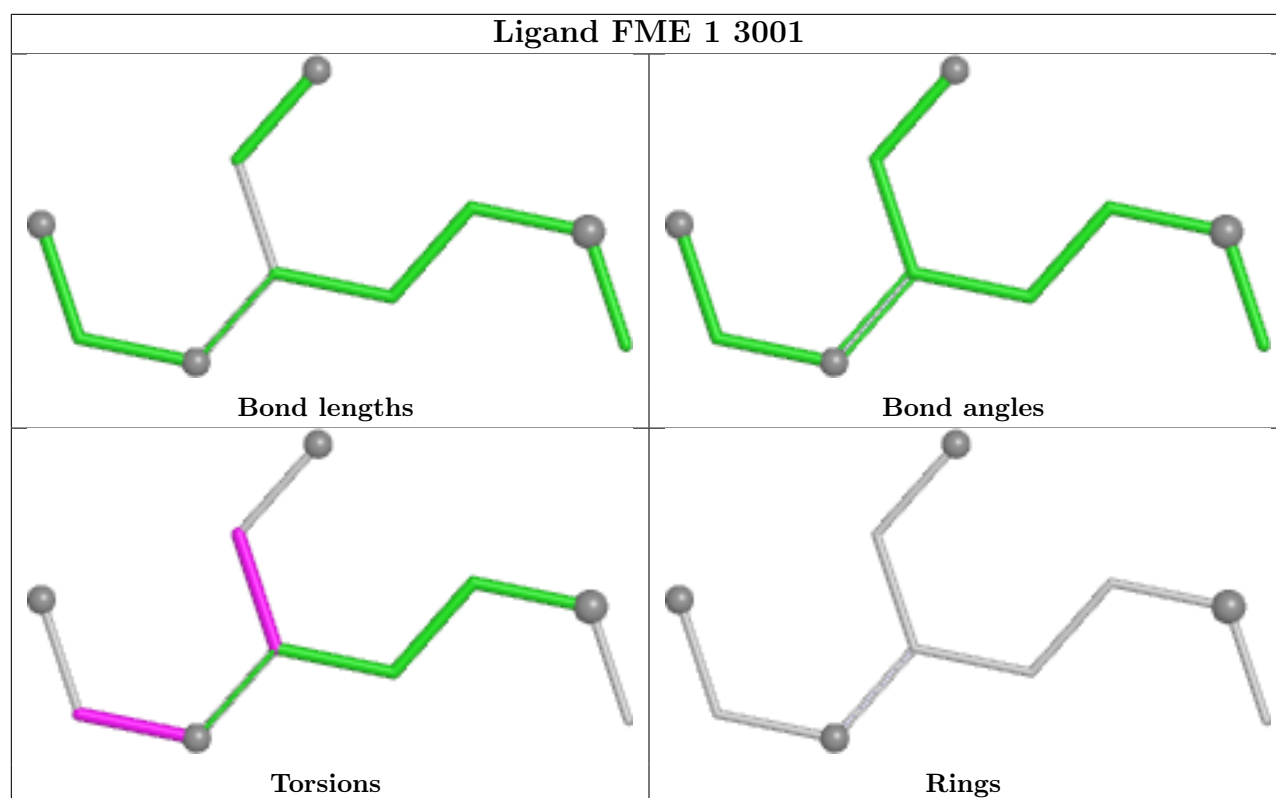
Mol	Chain	Res	Type	Atoms
60	1	3001	FME	O1-CN-N-CA
60	1	3001	FME	O-C-CA-CB
62	8	801	GCP	PB-C3B-PG-O1G
62	8	801	GCP	PB-C3B-PG-O2G
62	8	801	GCP	PG-C3B-PB-O1B
62	8	801	GCP	C5'-O5'-PA-O1A
62	8	801	GCP	O4'-C4'-C5'-O5'
62	8	801	GCP	C3'-C4'-C5'-O5'
62	8	801	GCP	PB-C3B-PG-O3G
62	8	801	GCP	C5'-O5'-PA-O3A

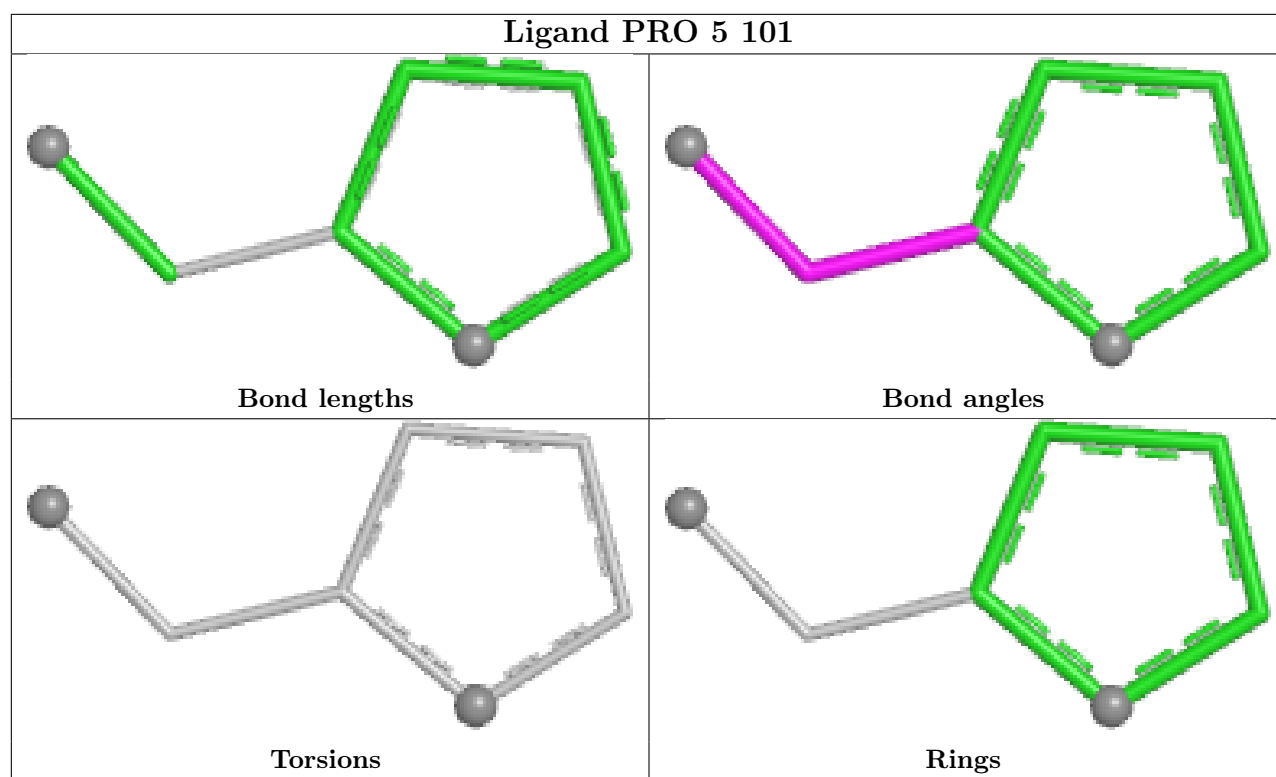
There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	1	3001	FME	2	0
62	8	801	GCP	5	0
61	5	101	PRO	1	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.

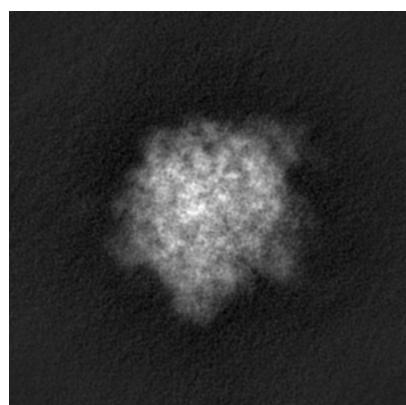
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-22670. These allow visual inspection of the internal detail of the map and identification of artifacts.

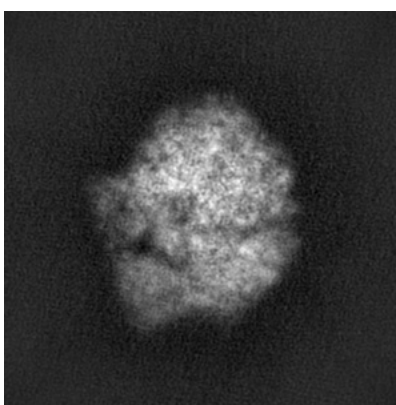
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

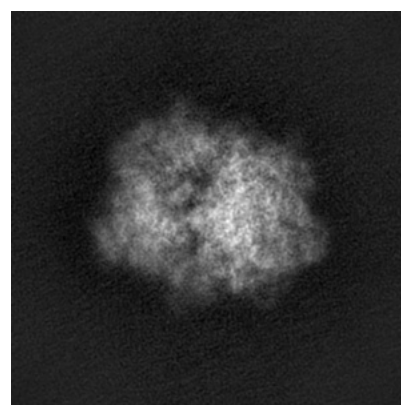
6.1.1 Primary map



X



Y

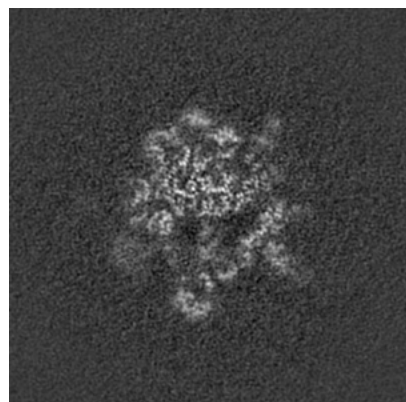


Z

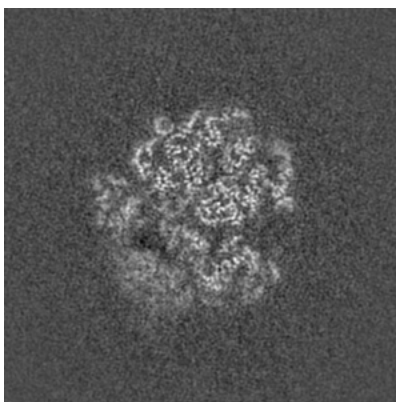
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

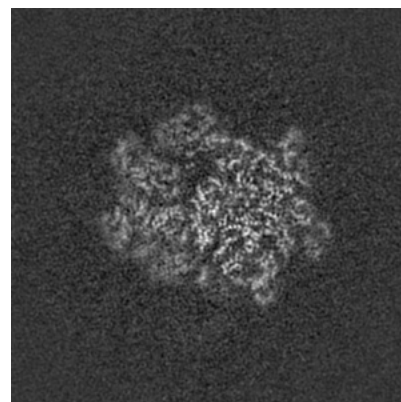
6.2.1 Primary map



X Index: 200



Y Index: 200

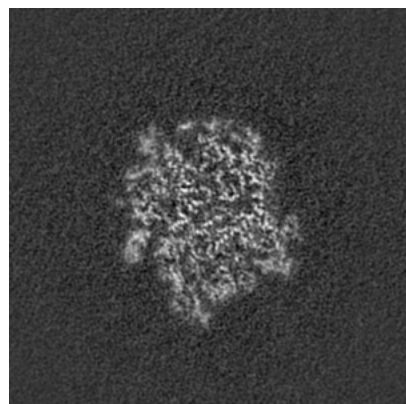


Z Index: 200

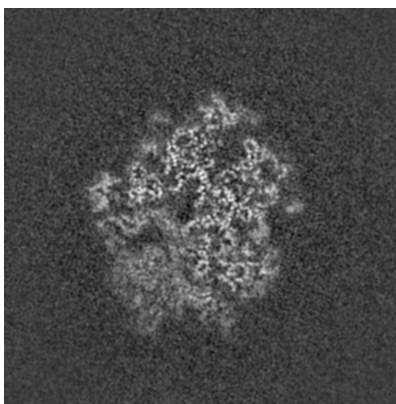
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

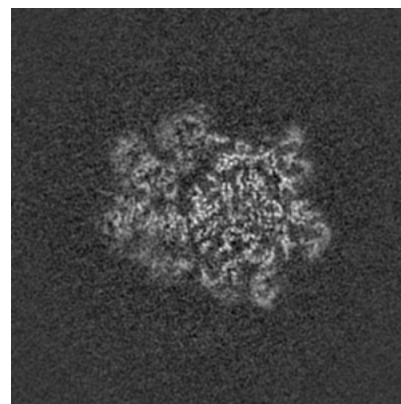
6.3.1 Primary map



X Index: 223



Y Index: 189

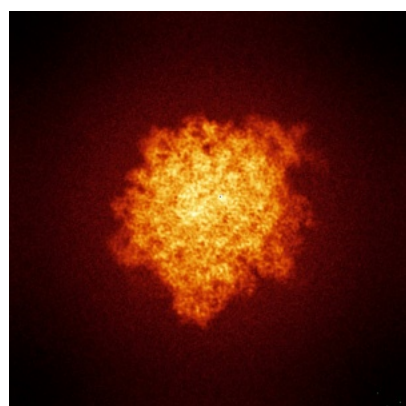


Z Index: 203

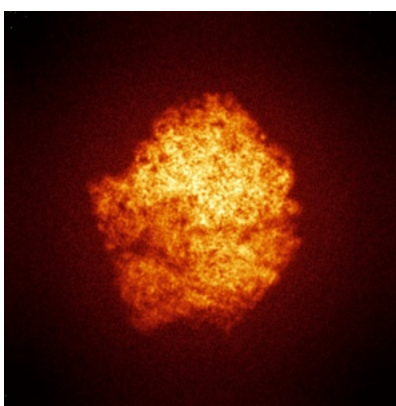
The images above show the largest variance slices of the map in three orthogonal directions.

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

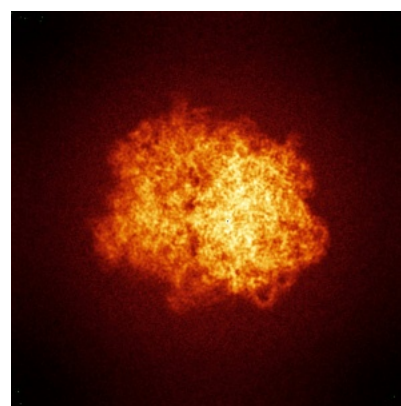
6.4.1 Primary map



X



Y

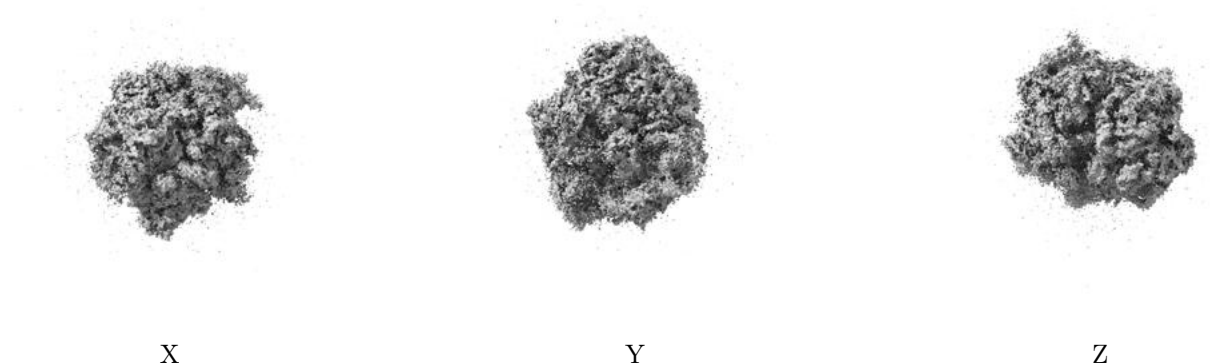


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 3.7. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

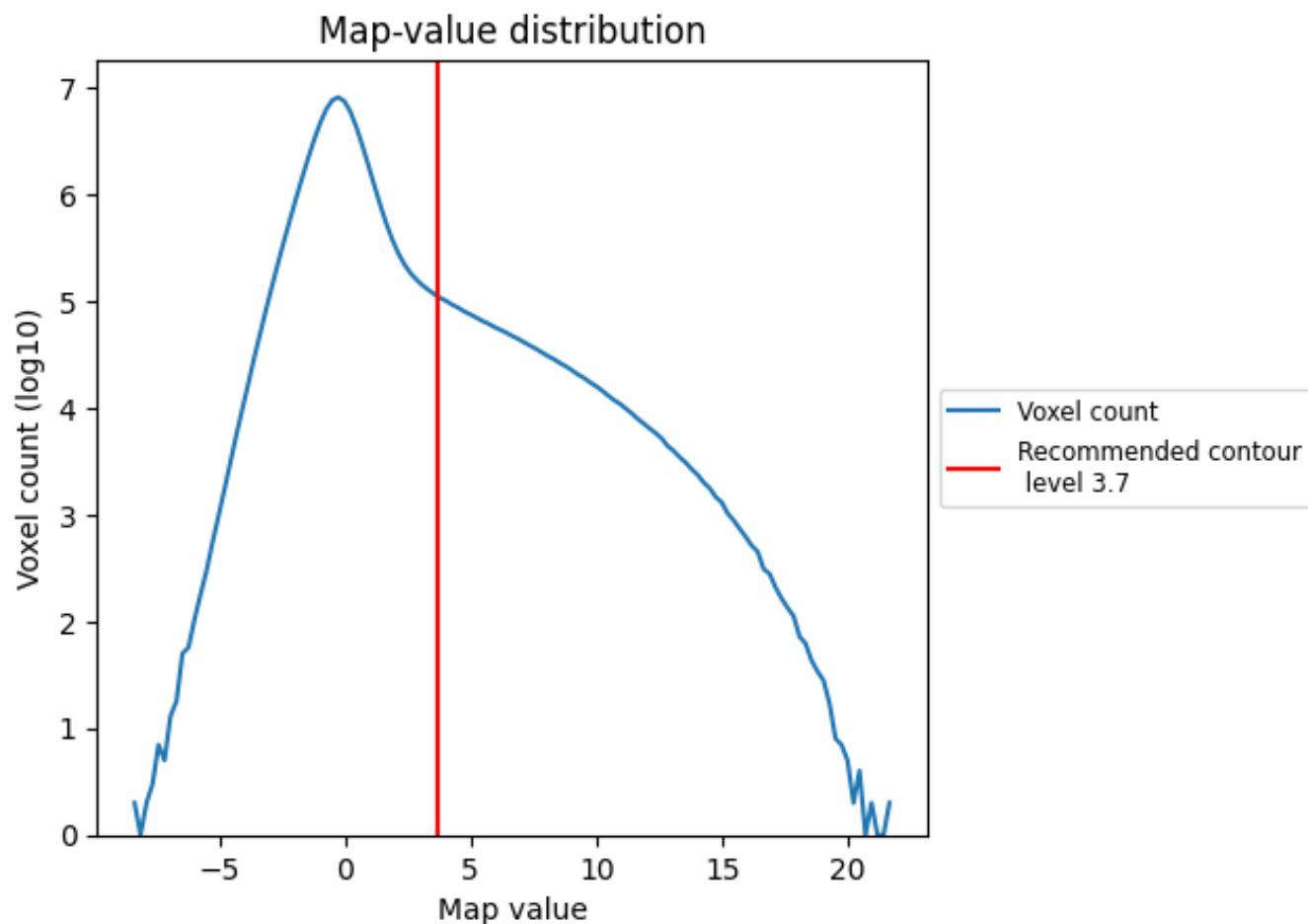
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

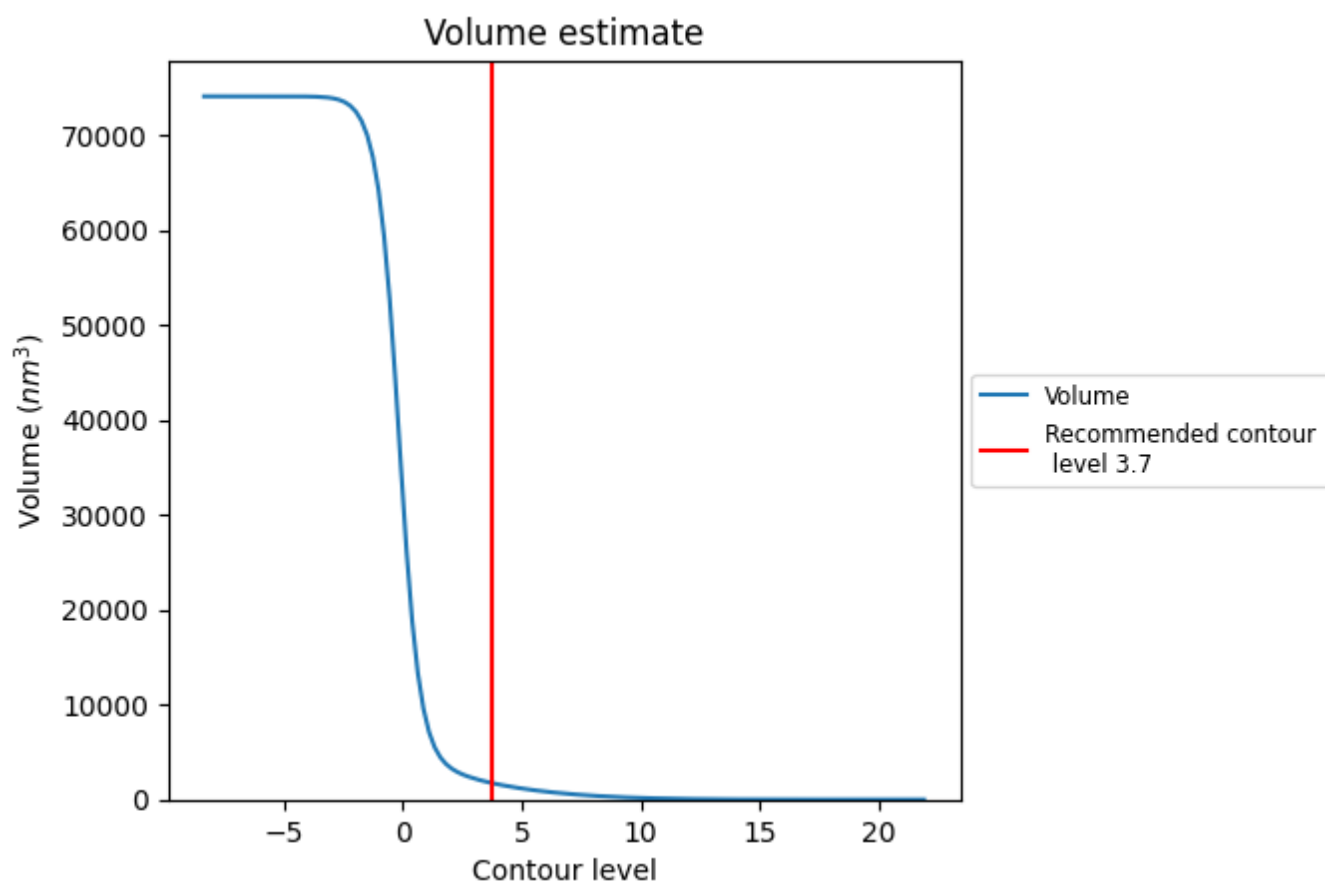
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

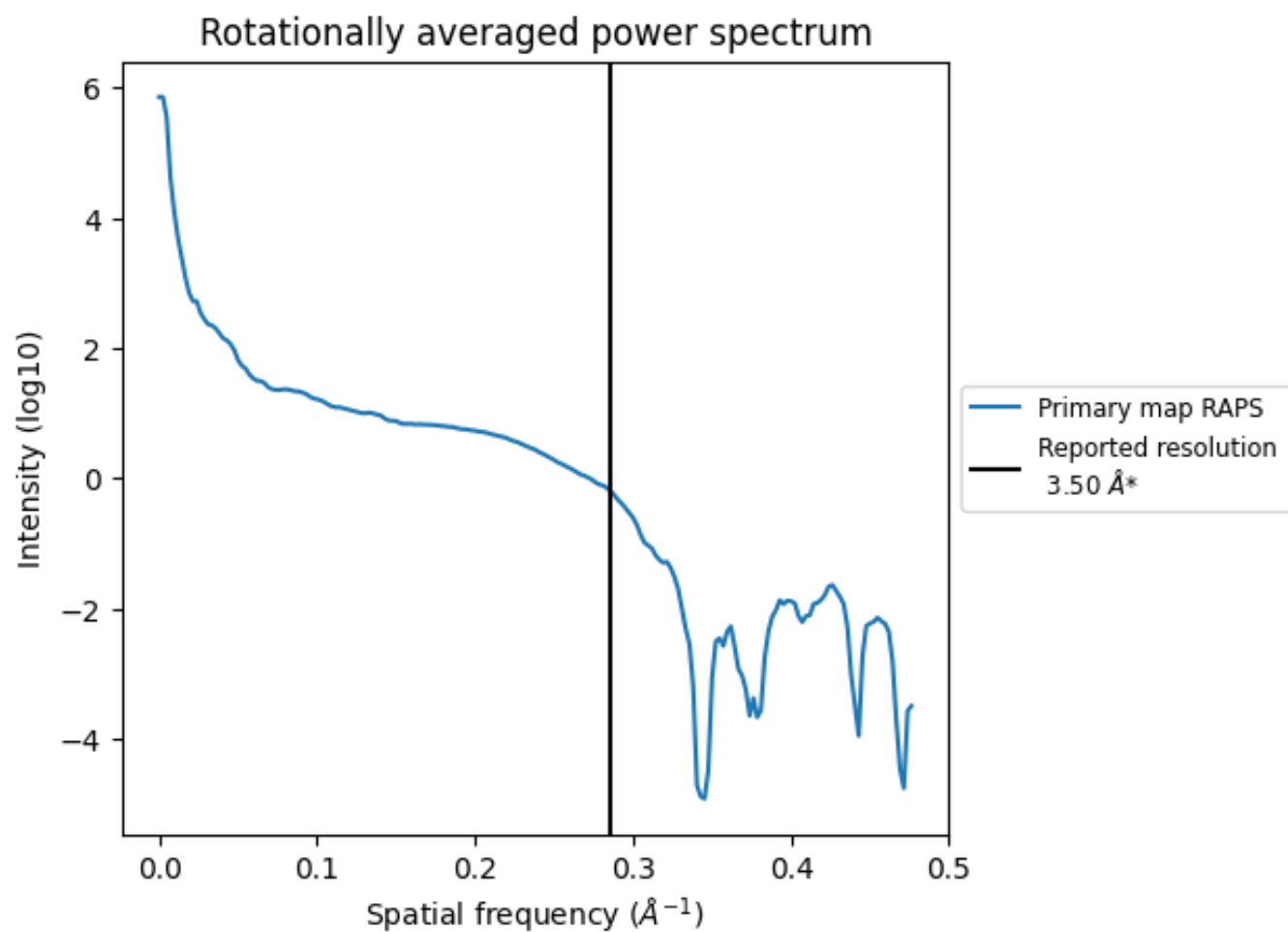
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1761 nm³; this corresponds to an approximate mass of 1590 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 0.286 Å⁻¹

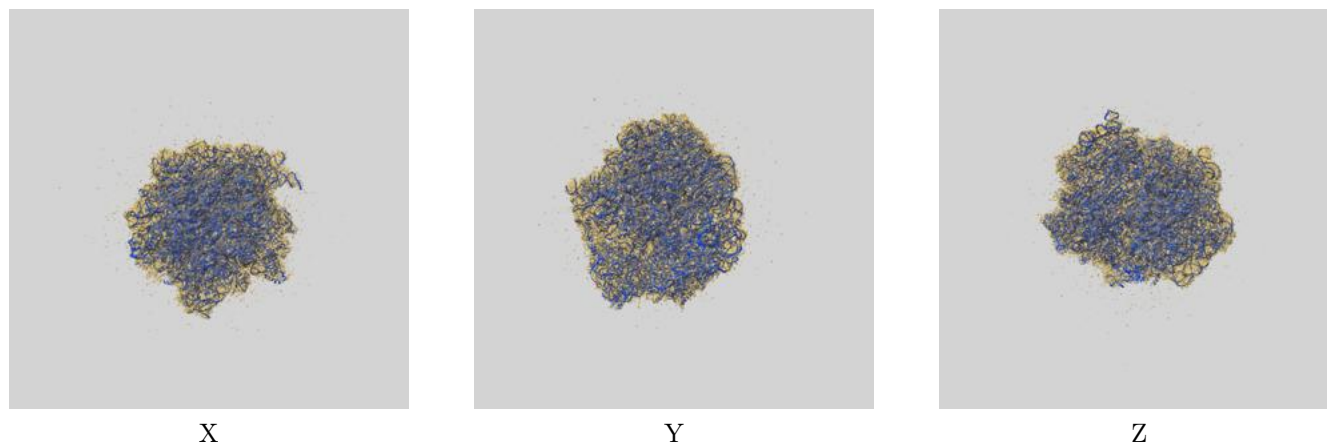
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit [i](#)

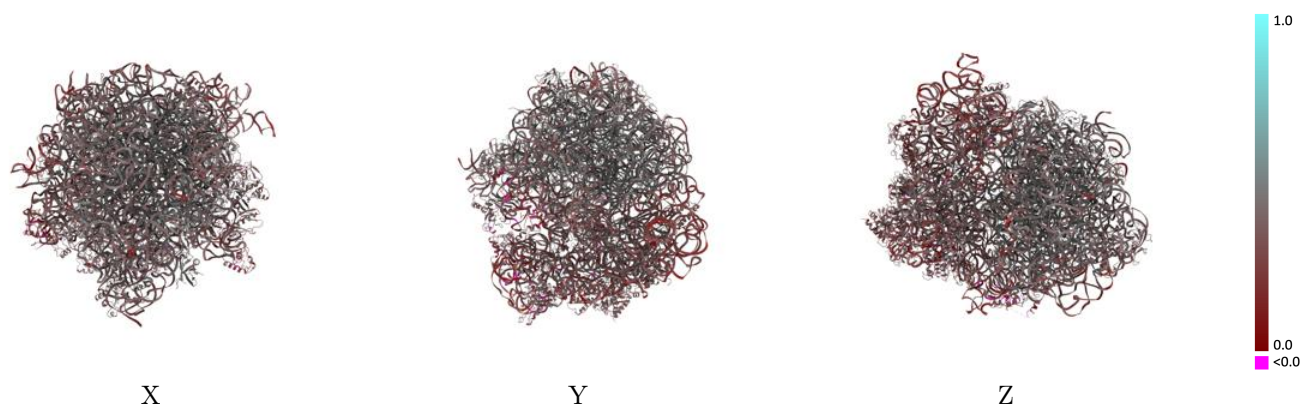
This section contains information regarding the fit between EMDB map EMD-22670 and PDB model 7K51. Per-residue inclusion information can be found in section [3](#) on page [17](#).

9.1 Map-model overlay [i](#)



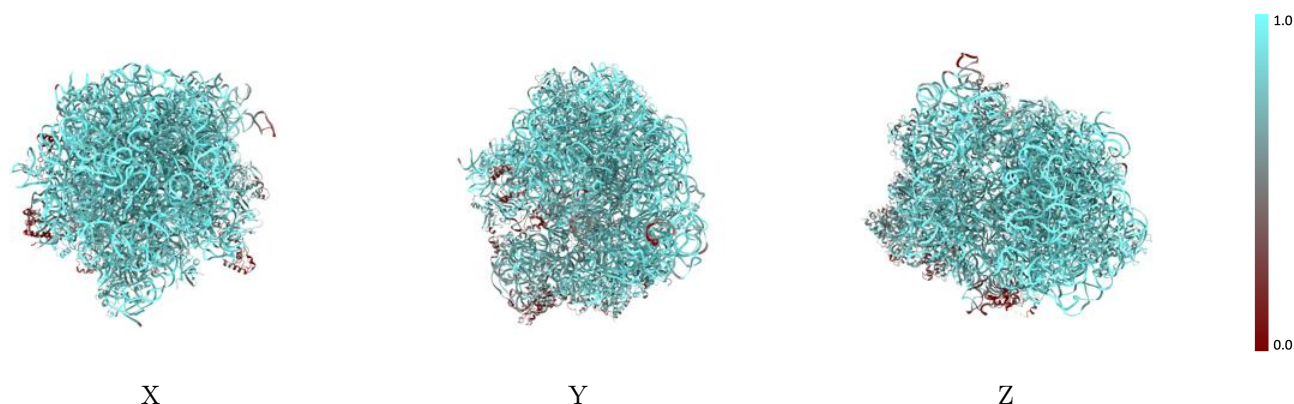
The images above show the 3D surface view of the map at the recommended contour level 3.7 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



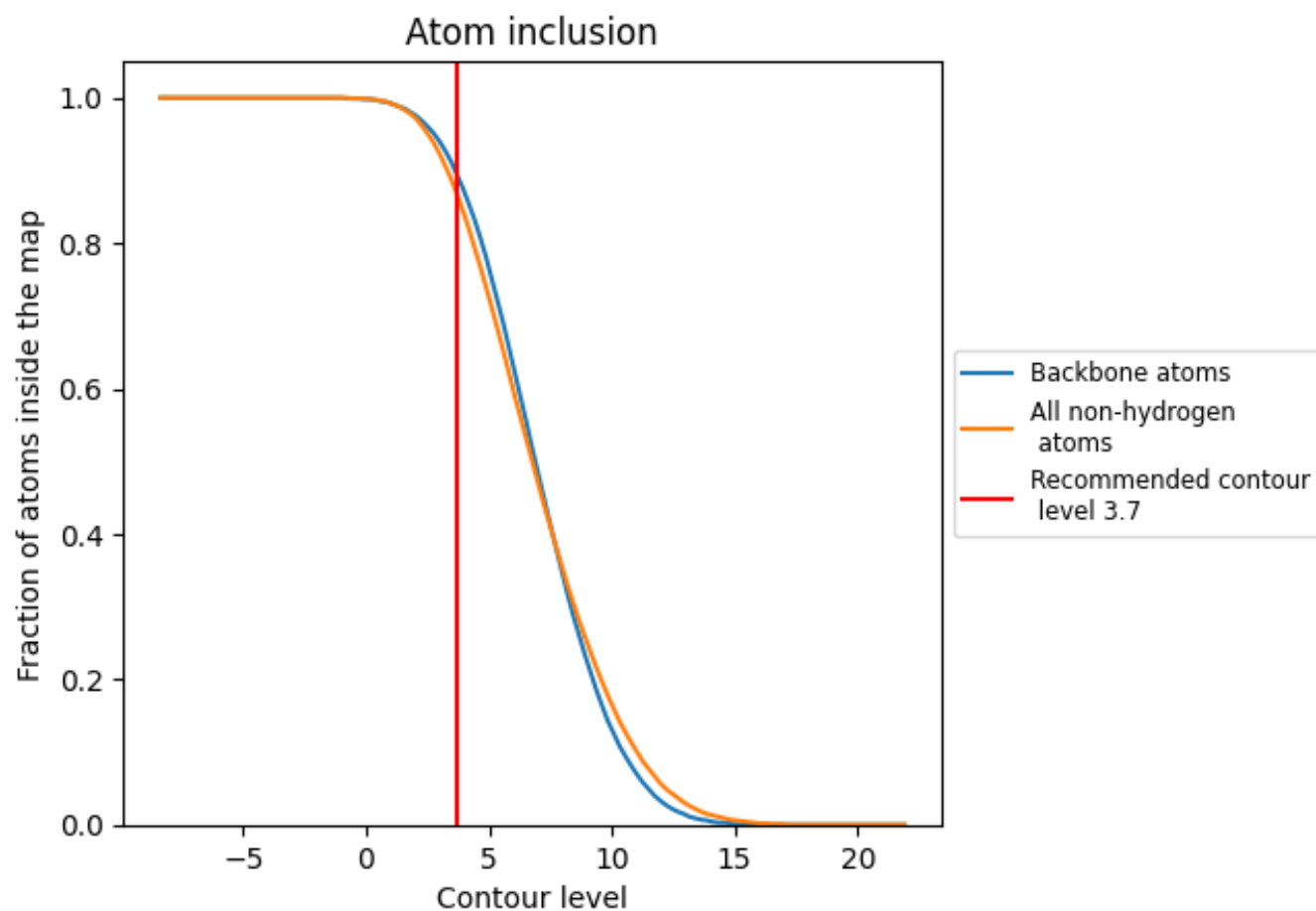
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 89% of all backbone atoms, 87% 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	 0.8670	 0.3690
1	 0.9600	 0.4030
2	 0.9510	 0.3720
3	 0.8870	 0.3140
4	 0.6520	 0.2280
5	 0.8080	 0.2890
6	 0.8420	 0.2660
8	 0.7170	 0.3480
A	 0.6130	 0.2710
B	 0.8970	 0.4310
C	 0.6320	 0.3830
D	 0.9070	 0.4600
E	 0.8720	 0.4550
F	 0.8730	 0.4570
G	 0.5820	 0.3250
H	 0.5880	 0.3240
I	 0.7540	 0.3240
J	 0.8330	 0.3820
K	 0.7840	 0.3490
L	 0.3720	 0.2830
M	 0.8290	 0.3810
N	 0.5530	 0.2890
O	 0.4070	 0.2980
P	 0.8250	 0.3530
Q	 0.8140	 0.3820
R	 0.5070	 0.2930
S	 0.7420	 0.3140
T	 0.8350	 0.3440
U	 0.8010	 0.3660
V	 0.7950	 0.3460
W	 0.8020	 0.3390
X	 0.6980	 0.3040
Y	 0.7780	 0.3160
Z	 0.6200	 0.3060
a	 0.2230	 0.2200



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Chain	Atom inclusion	Q-score
b	 0.9020	 0.4470
c	 0.8800	 0.4440
d	 0.7820	 0.4080
e	 0.7850	 0.3540
f	 0.8420	 0.3980
g	 0.2730	 0.2880
h	 0.2270	 0.2420
i	 0.2630	 0.2480
j	 0.8790	 0.4450
k	 0.8610	 0.4460
l	 0.8810	 0.4330
m	 0.8870	 0.4510
n	 0.9060	 0.4370
o	 0.8440	 0.3980
p	 0.8940	 0.4390
q	 0.8820	 0.4370
r	 0.8220	 0.4180
s	 0.8680	 0.4340
t	 0.8290	 0.4110
u	 0.8150	 0.3930
v	 0.8420	 0.4320
w	 0.8870	 0.4550
x	 0.8970	 0.4300
y	 0.7560	 0.3580
z	 0.8720	 0.4430