



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 09:22 PM UTC

PDB ID : 7PIS / pdb_00007pis
EMDB ID : EMD-13449
Title : 70S ribosome with EF-G, A*- and P/E-site tRNAs in pseudouridimycin-treated Mycoplasma pneumoniae cells
Authors : Xue, L.; Lenz, S.; Rappsilber, J.; Mahamid, J.
Deposited on : 2021-08-23
Resolution : 15.00 Å (reported)
Based on initial models : 7OOC, 7OOD, 4V7C, 4V7D

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

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

A user guide is available at

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

The types of validation reports are described at

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

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

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

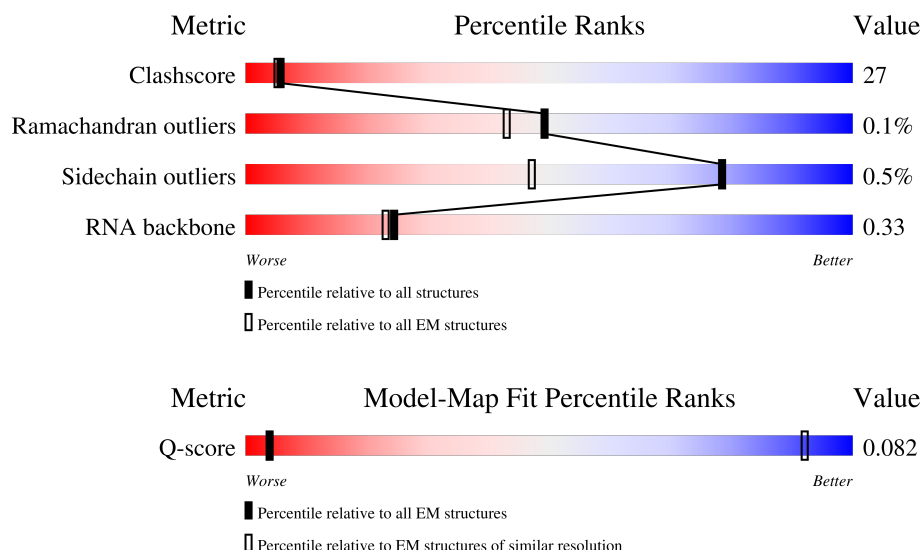
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 15.00 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.



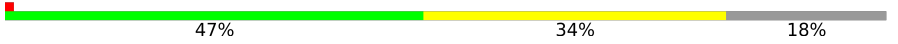
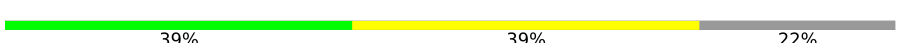
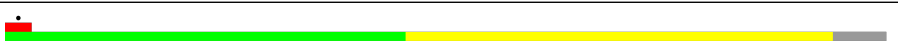
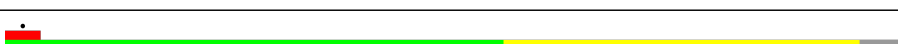
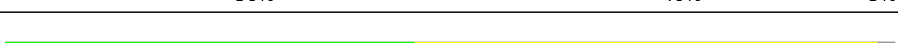
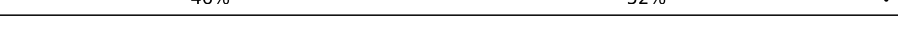
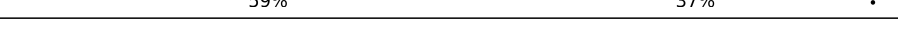
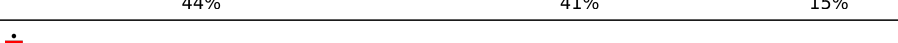
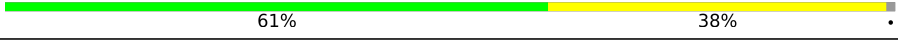
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	37 (14.50 - 15.50)

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	0	48	
2	1	59	
3	2	37	

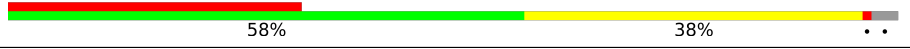
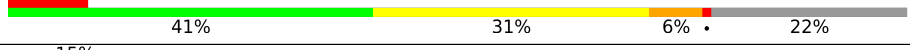
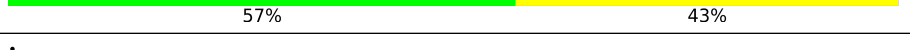
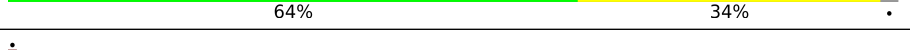
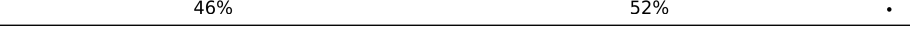
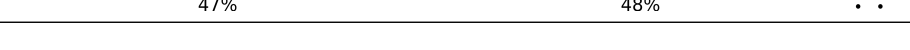
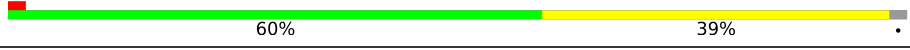
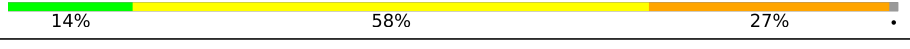
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Mol	Chain	Length	Quality of chain
4	9	688	
5	A	294	
6	B	273	
7	C	205	
8	D	219	
9	E	215	
10	F	155	
11	G	142	
12	H	132	
13	I	108	
14	J	121	
15	K	139	
16	L	124	
17	M	61	
18	N	86	
19	O	94	
20	P	85	
21	Q	104	
22	R	87	
23	S	87	
24	T	60	
25	W	122	
26	a	287	
27	b	287	
28	c	212	

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Mol	Chain	Length	Quality of chain
29	d	180	
30	e	184	
31	f	149	
32	g	161	
33	h	137	
34	i	146	
35	j	122	
36	k	151	
37	l	139	
38	m	124	
39	n	116	
40	o	119	
41	p	127	
42	q	100	
43	r	159	
44	s	237	
45	t	111	
46	u	104	
47	v	65	
48	w	111	
49	x	97	
50	y	57	
51	z	53	
52	3	2907	
53	4	108	

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Mol	Chain	Length	Quality of chain
54	5	1520	13% 59% 27%
55	6	76	17% 51% 32%
55	8	76	16% 54% 30%

2 Entry composition

There are 55 unique types of molecules in this entry. The entry contains 151980 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 L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	47	Total	C	N	O	S	0	0
			380	236	81	61	2		

- Molecule 2 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	59	Total	C	N	O	S	0	0
			477	300	99	77	1		

- Molecule 3 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	37	Total	C	N	O	S	0	0
			304	189	65	46	4		

- Molecule 4 is a protein called Elongation factor G.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	9	682	Total	C	N	O	S	0	0
			5326	3369	911	1021	25		

- Molecule 5 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	A	240	Total	C	N	O	S	0	0
			1921	1226	334	352	9		

- Molecule 6 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	B	215	Total	C	N	O	S	0	0
			1698	1073	313	307	5		

- Molecule 7 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	C	203	Total	C	N	O	S	0	0
			1660	1051	314	290	5		

- Molecule 8 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	D	153	Total	C	N	O	S	0	0
			1173	742	226	202	3		

- Molecule 9 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	E	167	Total	C	N	O	S	0	0
			1362	857	240	263	2		

- Molecule 10 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	F	154	Total	C	N	O	S	0	0
			1246	785	239	216	6		

- Molecule 11 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	G	141	Total	C	N	O	S	0	0
			1110	723	193	192	2		

- Molecule 12 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	H	128	Total	C	N	O	S	0	0
			1028	655	191	181	1		

- Molecule 13 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	I	101	Total	C	N	O	S	0	0
			809	523	142	143	1		

- Molecule 14 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	J	114	Total	C	N	O	S	0	0
			829	514	153	156	6		

- Molecule 15 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	K	136	Total	C	N	O	S	0	0
			1076	680	213	181	2		

- Molecule 16 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	L	118	Total	C	N	O		0	0
			951	594	191	166			

- Molecule 17 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	M	60	Total	C	N	O	S	0	0
			474	302	96	72	4		

- Molecule 18 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	N	83	Total	C	N	O		0	0
			673	428	125	120			

- Molecule 19 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	O	80	Total	C	N	O	S	0	0
			646	414	119	111	2		

- Molecule 20 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	P	83	Total	C	N	O		0	0
			675	425	135	115			

- Molecule 21 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	Q	65	Total	C	N	O	S	0	0
			535	342	103	86	4		

- Molecule 22 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	R	84	Total	C	N	O	S	0	0
			682	435	127	118	2		

- Molecule 23 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	S	77	Total	C	N	O		0	0
			629	383	135	111			

- Molecule 24 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	T	53	Total	C	N	O	S	0	0
			471	295	103	72	1		

- Molecule 25 is a protein called 50S ribosomal protein L7/L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	W	69	Total	C	N	O	S	0	0
			534	342	87	103	2		

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	a	285	Total	C	N	O	S	0	0
			2225	1385	437	397	6		

- Molecule 27 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	229	Total	C	N	O	S	0	0
			1762	1119	318	318	7		

- Molecule 28 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	c	210	Total	C	N	O	S	0	0
			1644	1047	297	297	3		

- Molecule 29 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	175	Total	C	N	O	S	0	0
			1388	893	245	246	4		

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	176	Total	C	N	O	S	0	0
			1396	899	247	250			

- Molecule 31 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	145	Total	C	N	O	S	0	0
			1160	746	204	207	3		

- Molecule 32 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	g	126	Total	C	N	O	S	0	0
			960	612	167	178	3		

- Molecule 33 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	h	128	Total	C	N	O	S	0	0
			959	616	160	177	6		

- Molecule 34 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	i	144	Total	C	N	O	S	0	0
			1164	737	213	209	5		

- Molecule 35 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	j	122	Total	C	N	O	S	0	0
			944	595	178	167	4		

- Molecule 36 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	148	Total	C	N	O		0	0
			1153	731	226	196			

- Molecule 37 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	136	Total	C	N	O	S	0	0
			1079	694	196	182	7		

- Molecule 38 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	119	Total	C	N	O	S	0	0
			958	609	175	171	3		

- Molecule 39 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	n	112	Total	C	N	O	S	0	0
			889	557	175	155	2		

- Molecule 40 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	o	115	Total	C	N	O	S	0	0
			938	592	180	165	1		

- Molecule 41 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	p	114	Total	C	N	O	S	0	0
			947	603	188	154	2		

- Molecule 42 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	q	99	Total	C	N	O	S	0	0
			811	525	148	134	4		

- Molecule 43 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	r	139	Total	C	N	O	S	0	0
			1068	663	207	191	7		

- Molecule 44 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	s	92	Total	C	N	O	S	0	0
			720	475	122	122	1		

- Molecule 45 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	t	111	Total	C	N	O	S	0	0
			872	550	166	153	3		

- Molecule 46 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	u	86	Total	C	N	O	S	0	0
			657	409	130	117	1		

- Molecule 47 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	v	63	Total	C	N	O	S	0	0
			513	317	108	87	1		

- Molecule 48 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	w	100	Total	C	N	O		0	0
			818	517	153	148			

- Molecule 49 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	x	44	Total	C	N	O	S	0	0
			344	221	55	64	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
50	y	56	Total	C	N	O	S	0	0
			452	274	98	75	5		

- Molecule 51 is a protein called 50S ribosomal protein L33 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	z	50	Total	C	N	O	S	0	0
			408	255	81	68	4		

- Molecule 52 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	3	2878	Total	C	N	O	P	0	0
			61664	27558	11236	19995	2875		

- Molecule 53 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	4	105	Total	C	N	O	P	0	0
			2239	1003	409	724	103		

- Molecule 54 is a RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	5	1493	Total	C	N	O	P	0	0
			31943	14279	5792	10382	1490		

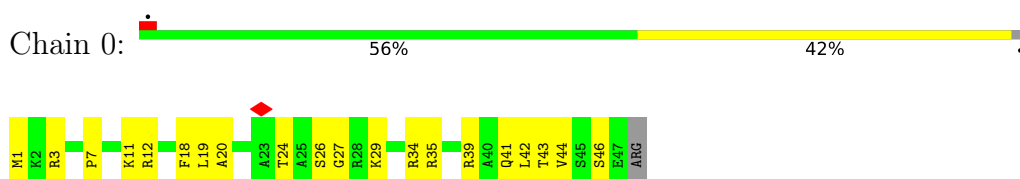
- Molecule 55 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	6	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		
55	8	76	Total	C	N	O	P	0	0
			1618	723	289	531	75		

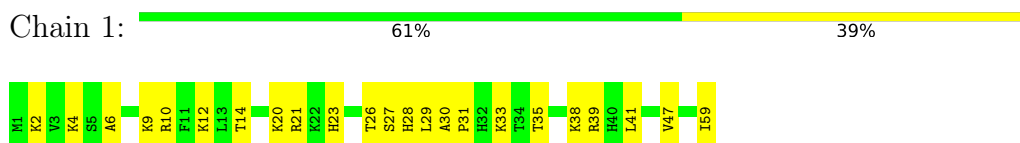
3 Residue-property plots

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.

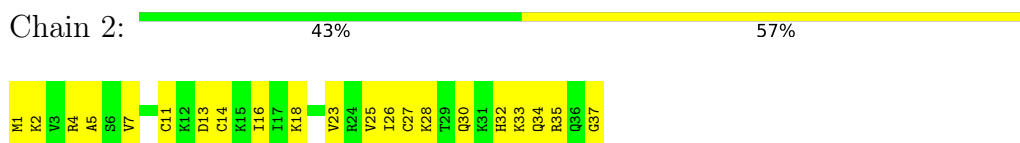
- Molecule 1: 50S ribosomal protein L34



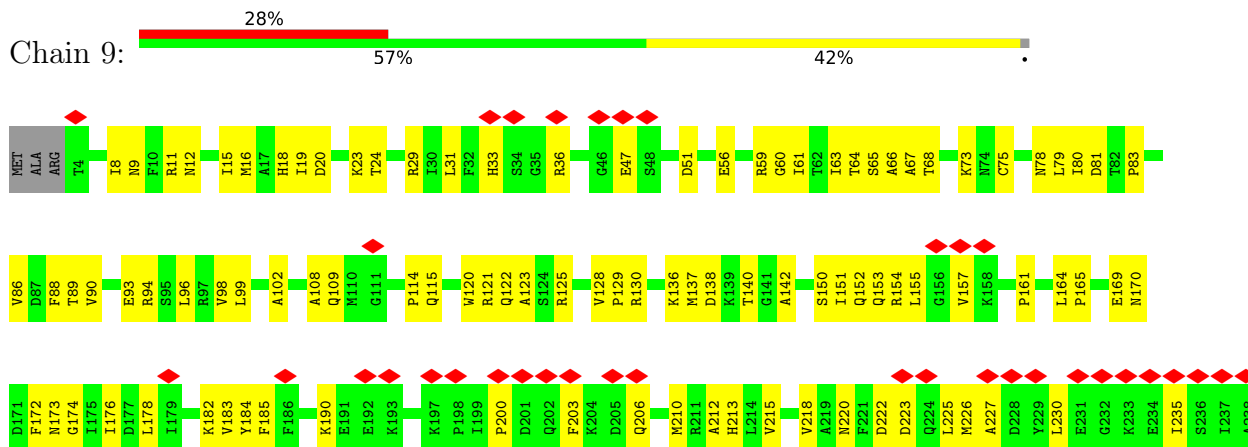
- Molecule 2: 50S ribosomal protein L35

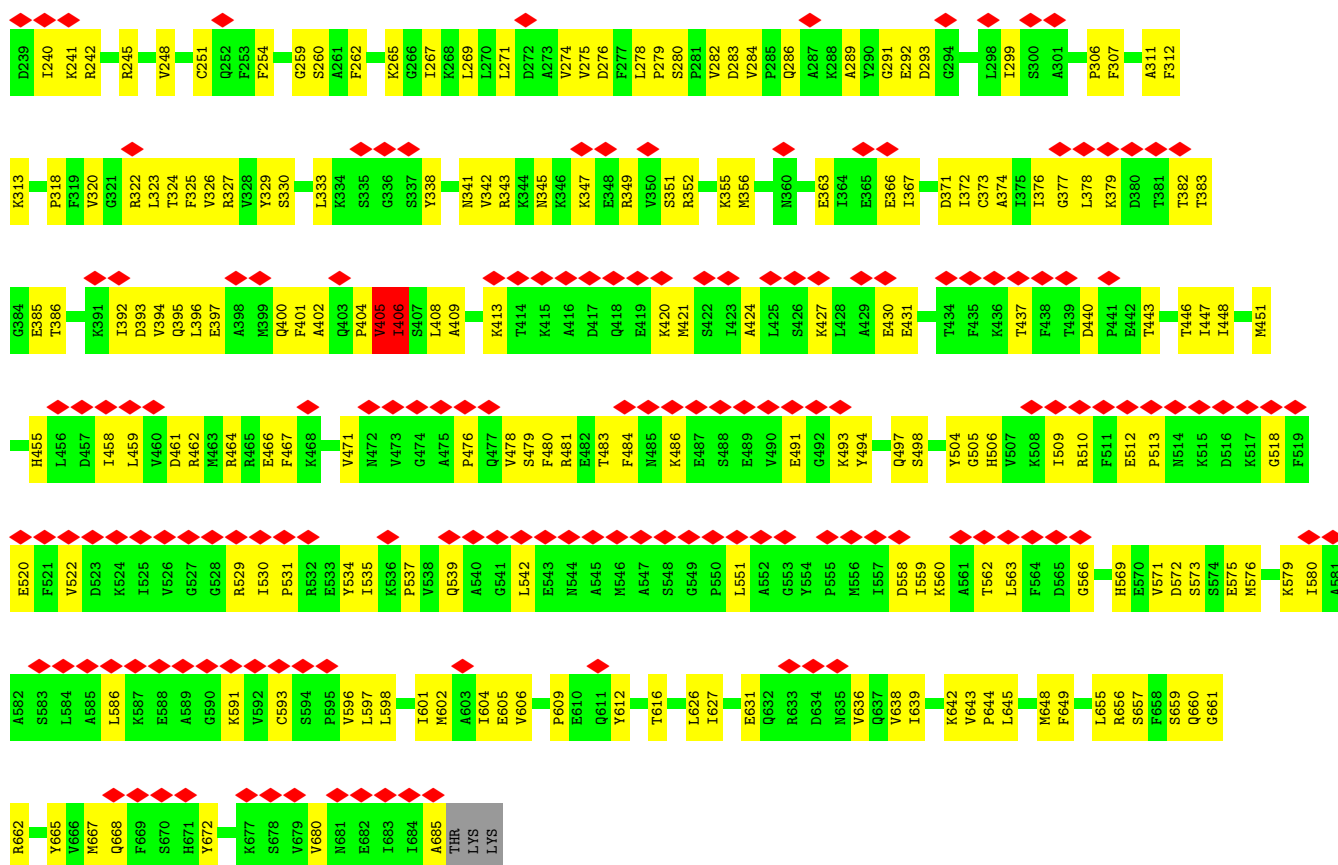


- Molecule 3: 50S ribosomal protein L36

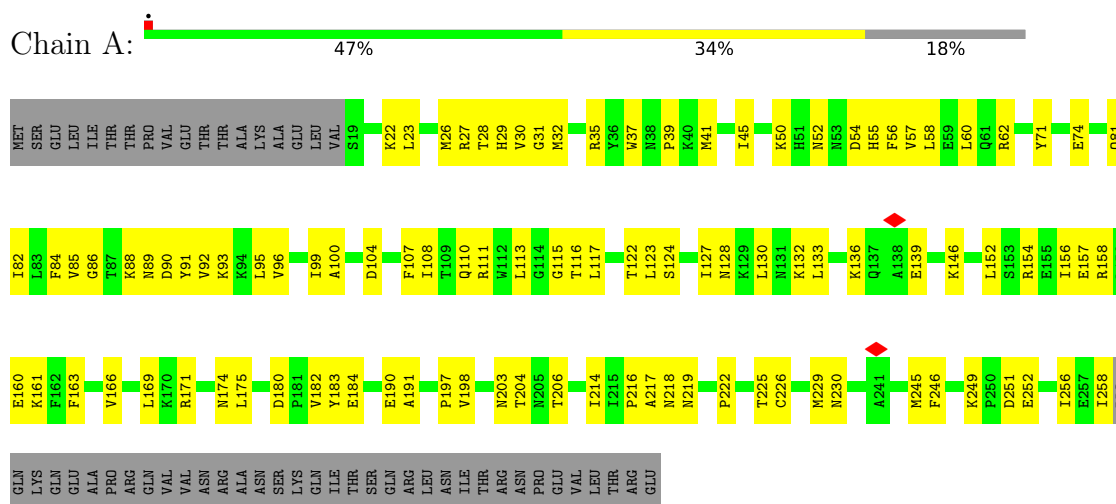


- Molecule 4: Elongation factor G

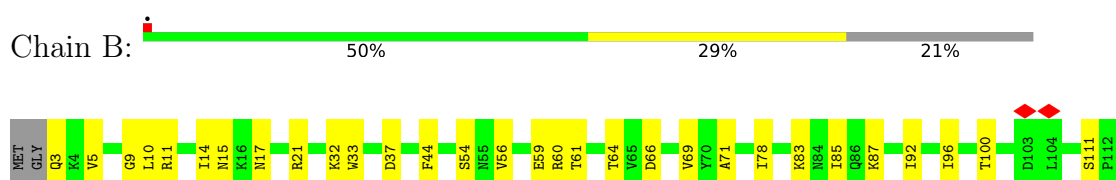


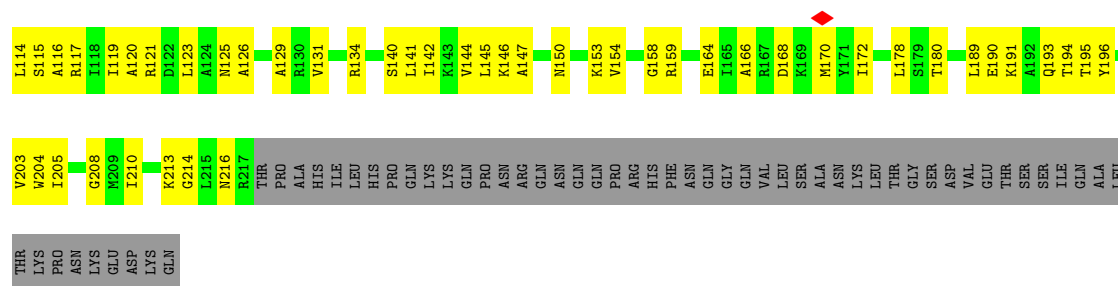


• Molecule 5: 30S ribosomal protein S2



• Molecule 6: 30S ribosomal protein S3

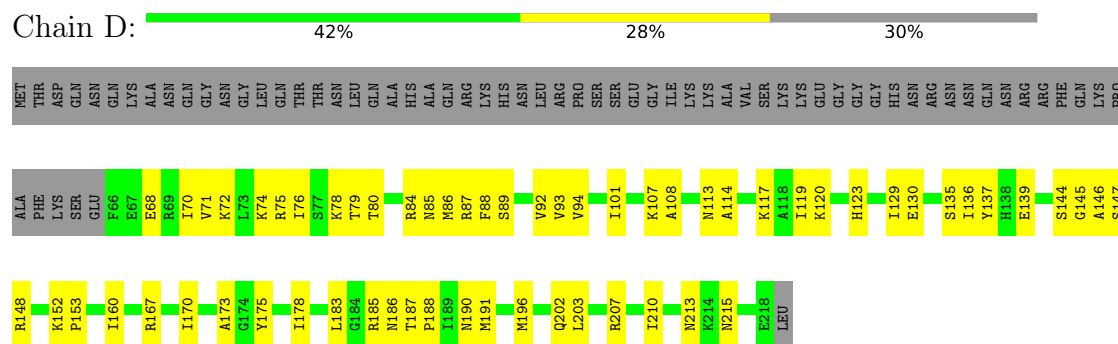




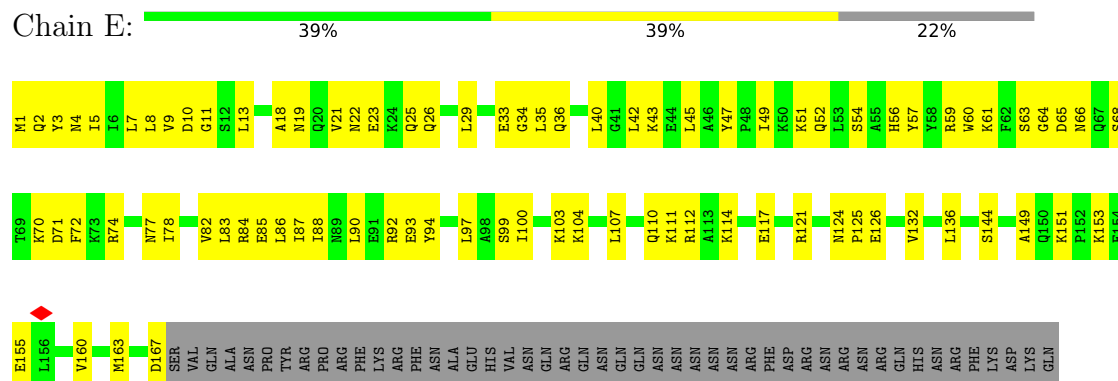
• Molecule 7: 30S ribosomal protein S4



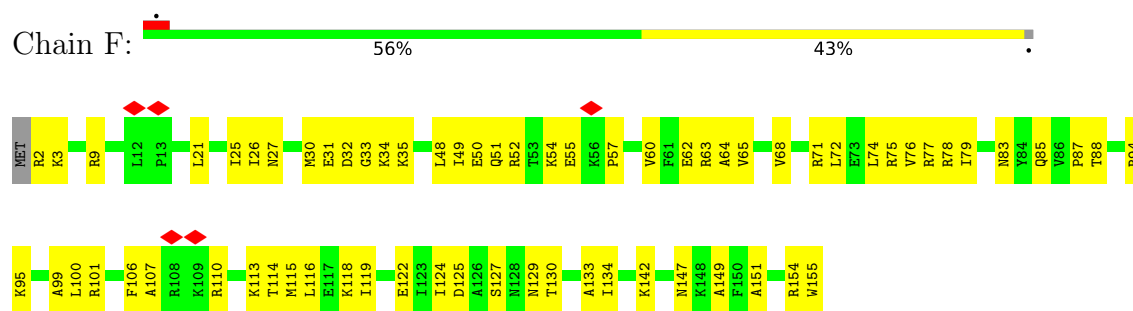
• Molecule 8: 30S ribosomal protein S5



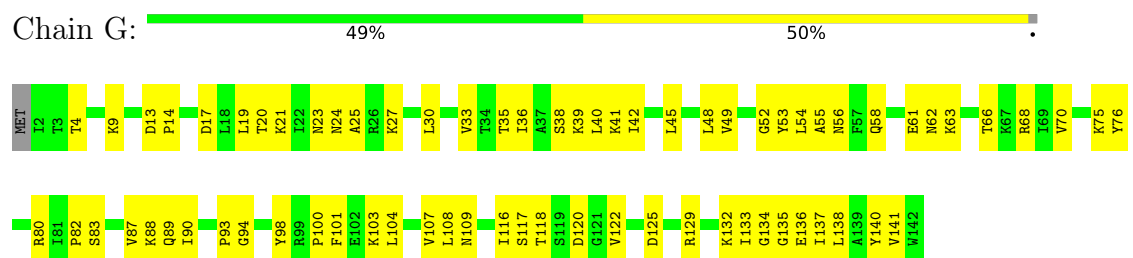
• Molecule 9: 30S ribosomal protein S6



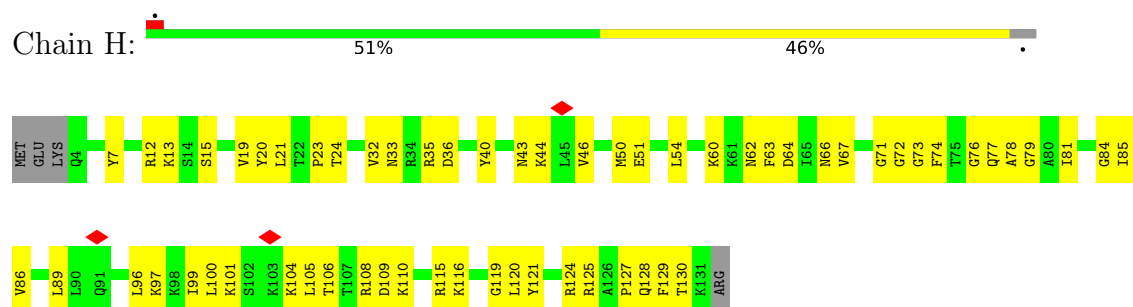
- Molecule 10: 30S ribosomal protein S7



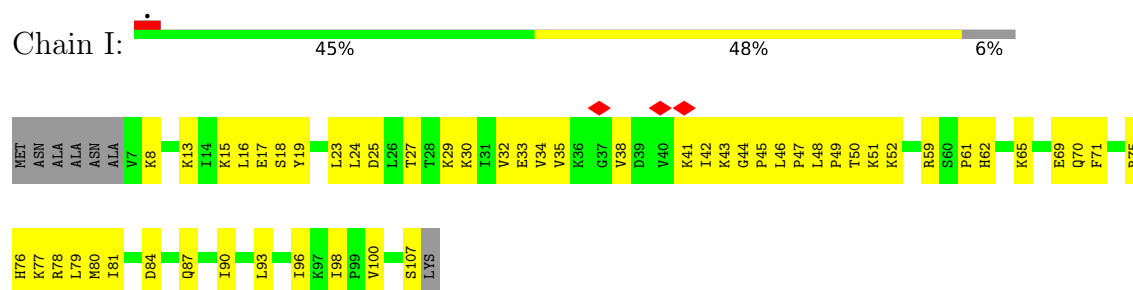
- Molecule 11: 30S ribosomal protein S8



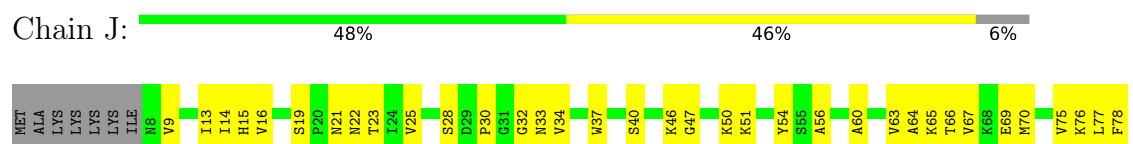
- Molecule 12: 30S ribosomal protein S9



- Molecule 13: 30S ribosomal protein S10

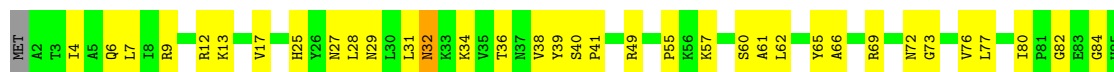


- Molecule 14: 30S ribosomal protein S11

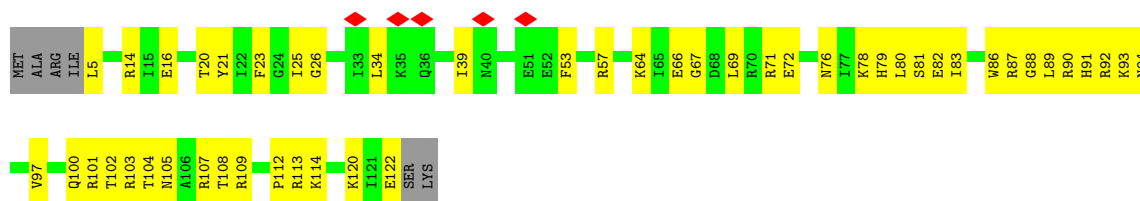




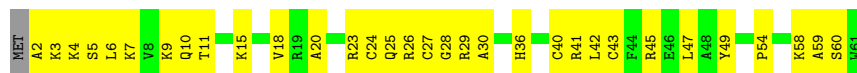
- Molecule 15: 30S ribosomal protein S12



- Molecule 16: 30S ribosomal protein S13



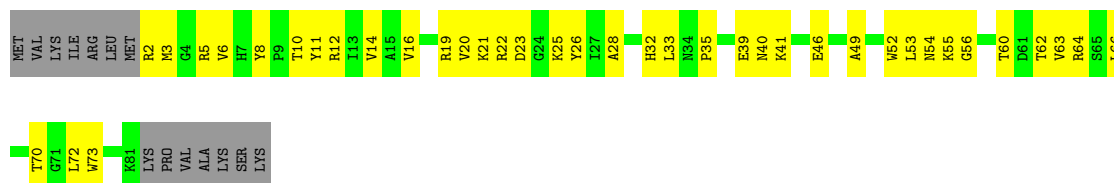
- Molecule 17: 30S ribosomal protein S14 type Z



- Molecule 18: 30S ribosomal protein S15



- Molecule 19: 30S ribosomal protein S16



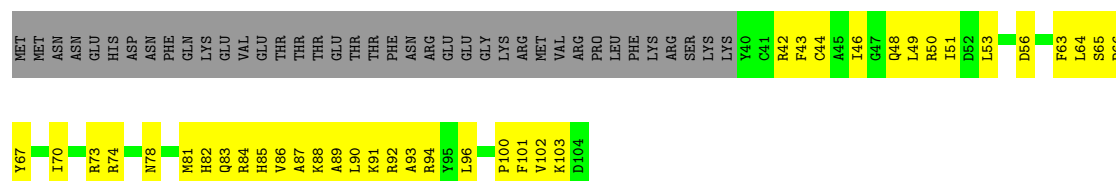
- Molecule 20: 30S ribosomal protein S17

Chain P:  55% 42%



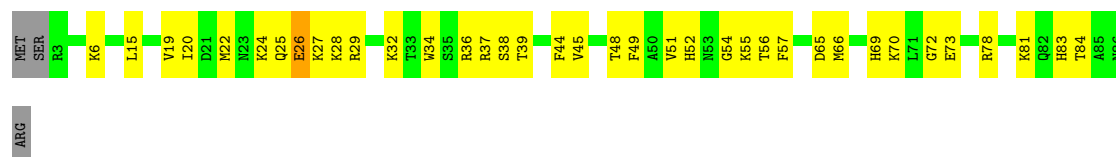
- Molecule 21: 30S ribosomal protein S18

Chain Q:  26% 37% 38%



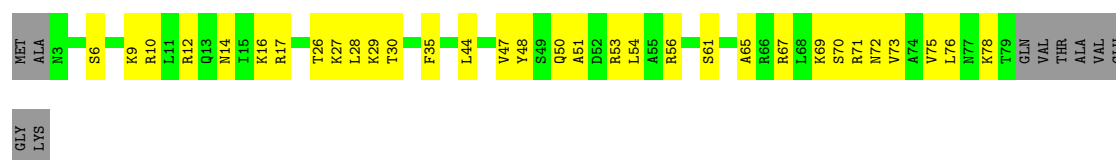
- Molecule 22: 30S ribosomal protein S19

Chain R:  54% 41%



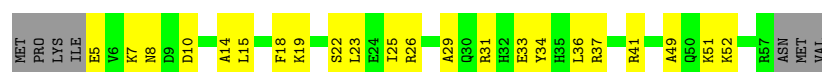
- Molecule 23: 30S ribosomal protein S20

Chain S:  52% 37% 11%

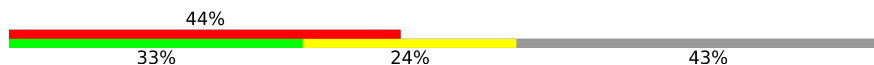


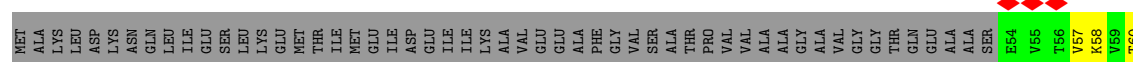
- Molecule 24: 30S ribosomal protein S21

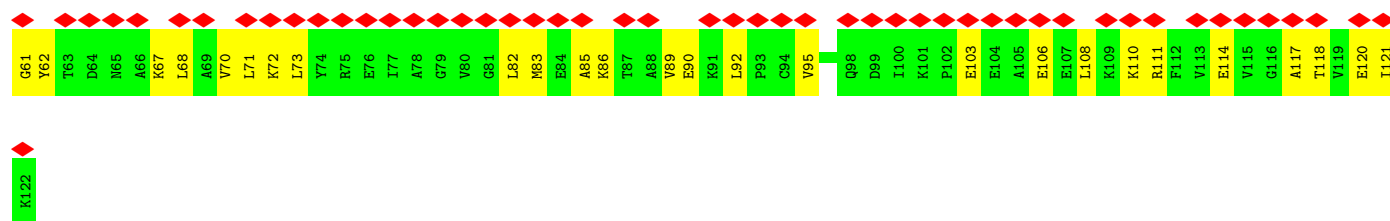
Chain T:  52% 37% 12%



- Molecule 25: 50S ribosomal protein L7/L12

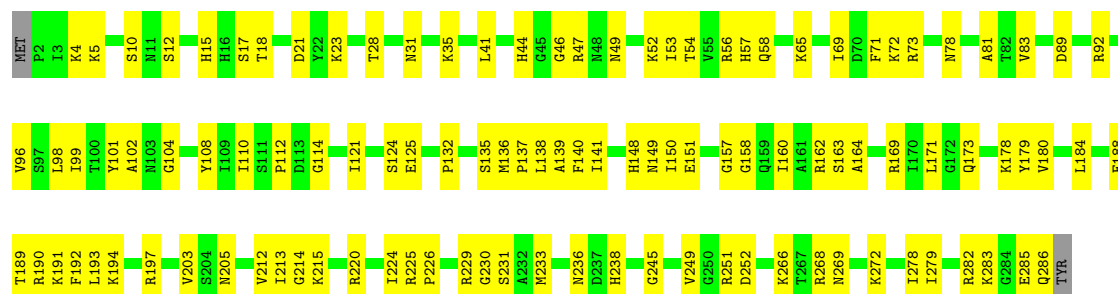
Chain W:  33% 24% 43%





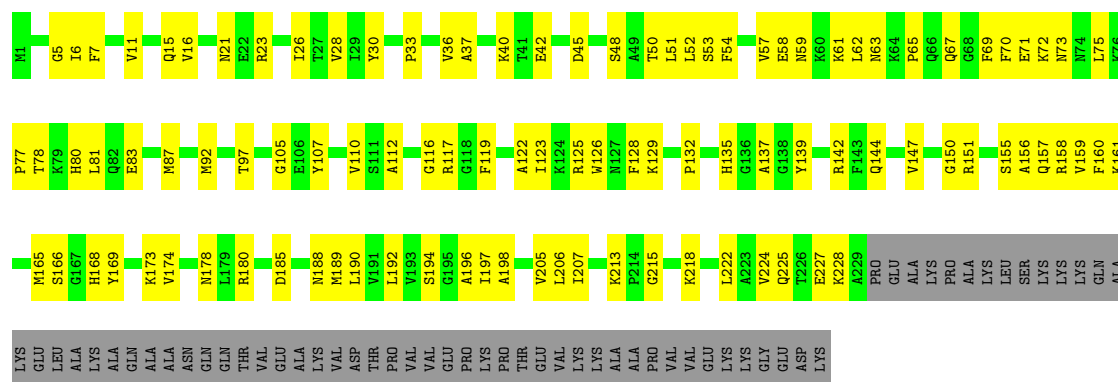
• Molecule 26: 50S ribosomal protein L2

Chain a: 61% 38%



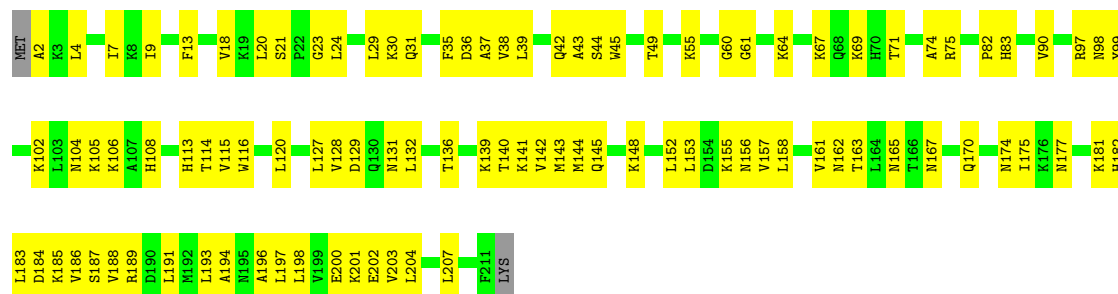
• Molecule 27: 50S ribosomal protein L3

Chain b: 44% 36% 20%

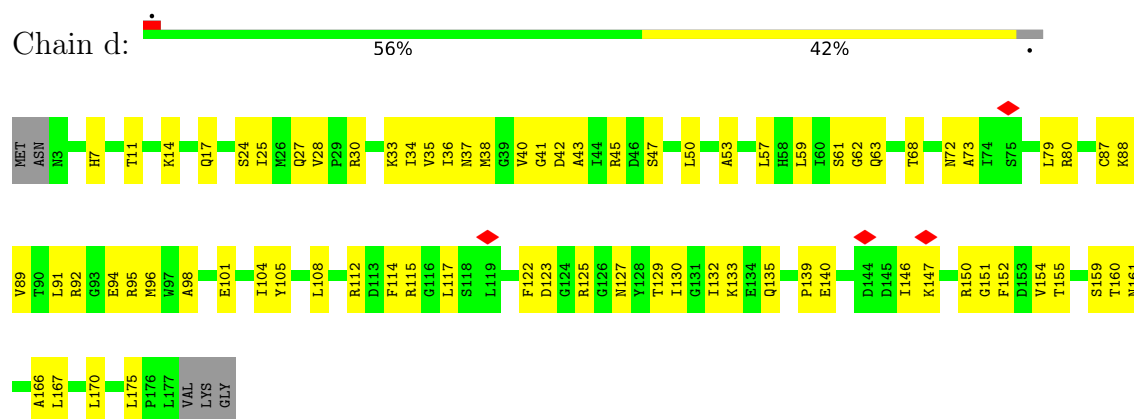


• Molecule 28: 50S ribosomal protein L4

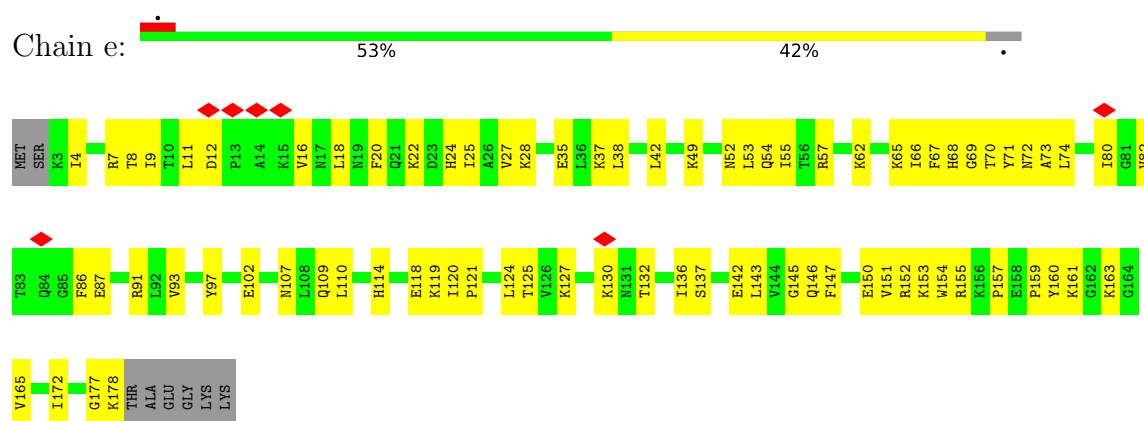
Chain c: 53% 46%



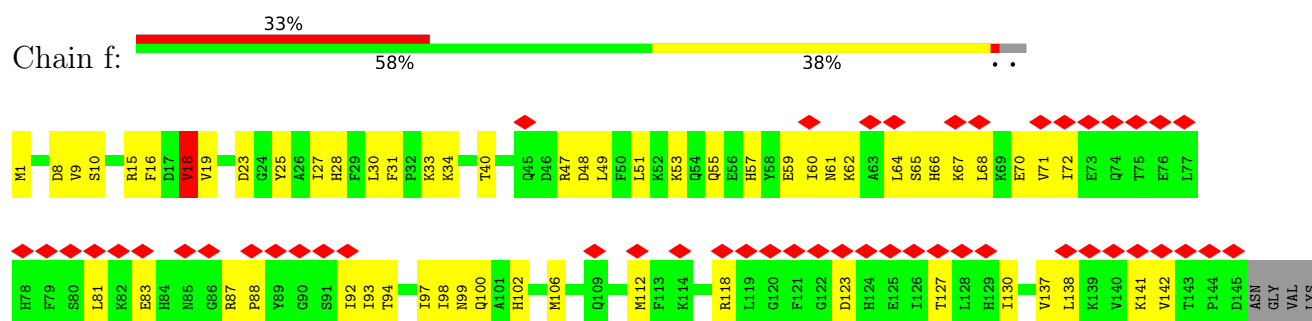
- Molecule 29: 50S ribosomal protein L5



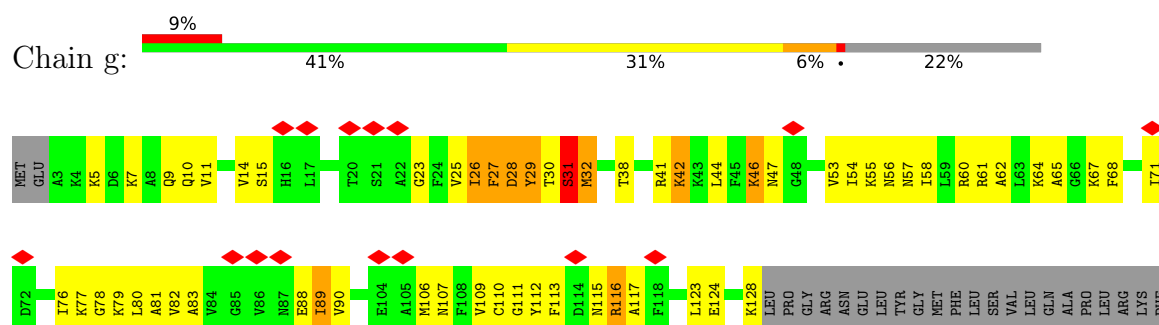
- Molecule 30: 50S ribosomal protein L6



- Molecule 31: 50S ribosomal protein L9



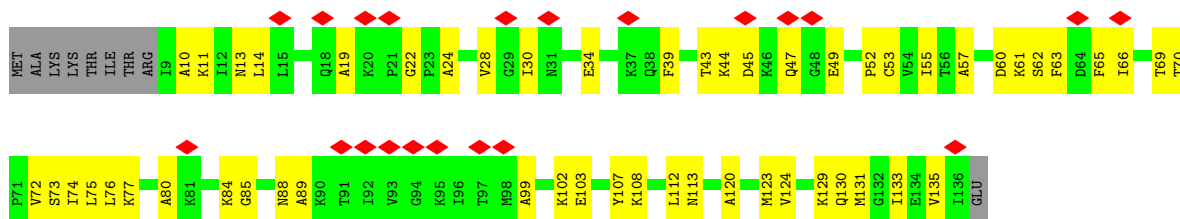
- Molecule 32: 50S ribosomal protein L10



LEU
TYR
ALA
LEU
GLU
ALA
VAL
LYS
ALA
ALA
LYS

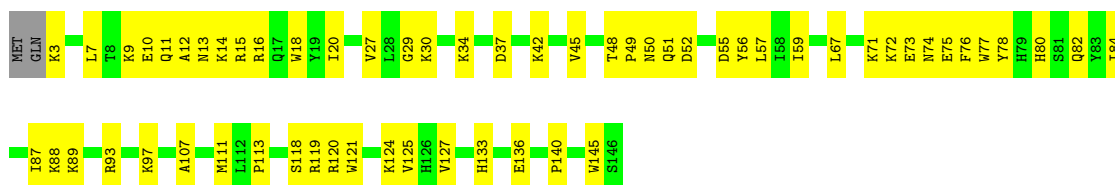
• Molecule 33: 50S ribosomal protein L11

Chain h: 15% 54% 39% 7%



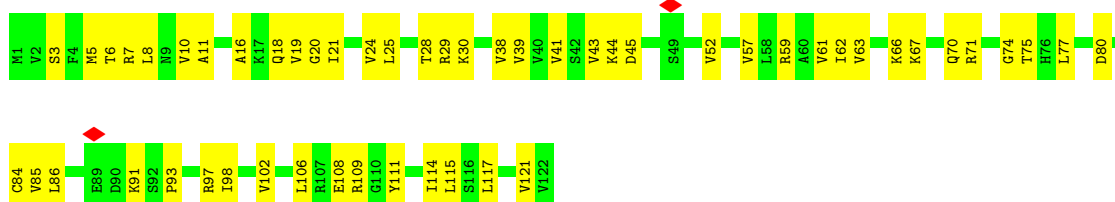
• Molecule 34: 50S ribosomal protein L13

Chain i: 58% 40% 2%



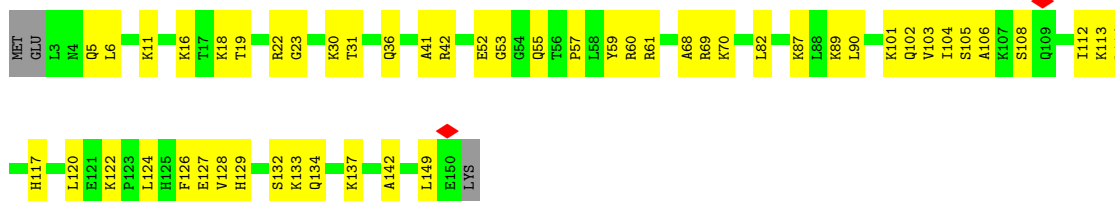
• Molecule 35: 50S ribosomal protein L14

Chain j: 57% 43% 0%



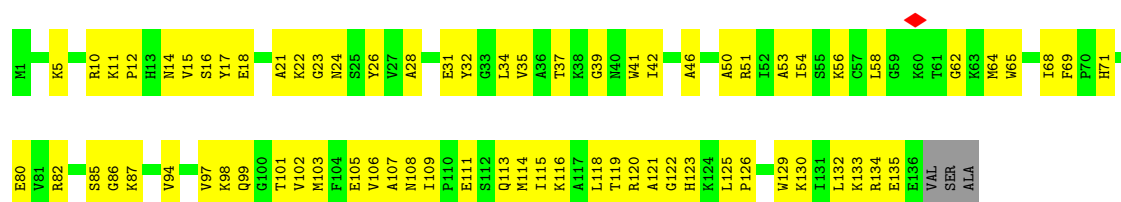
• Molecule 36: 50S ribosomal protein L15

Chain k: 64% 34% 2%



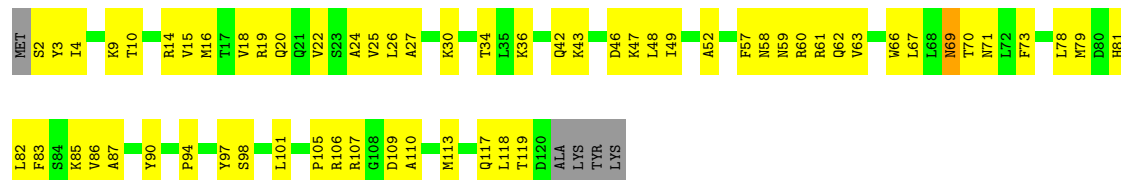
• Molecule 37: 50S ribosomal protein L16

Chain l: 46% 52% 2%



• Molecule 38: 50S ribosomal protein L17

Chain m: 47% 48%



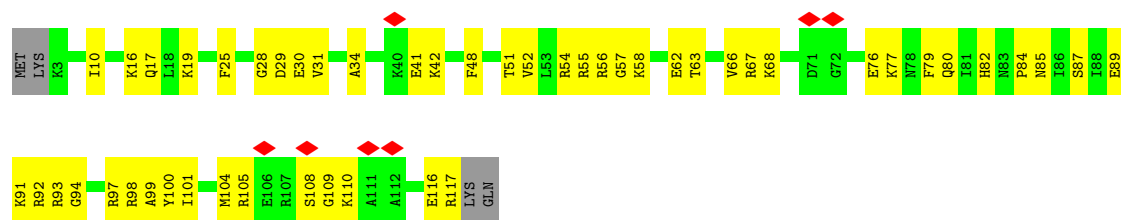
• Molecule 39: 50S ribosomal protein L18

Chain n: 49% 47%



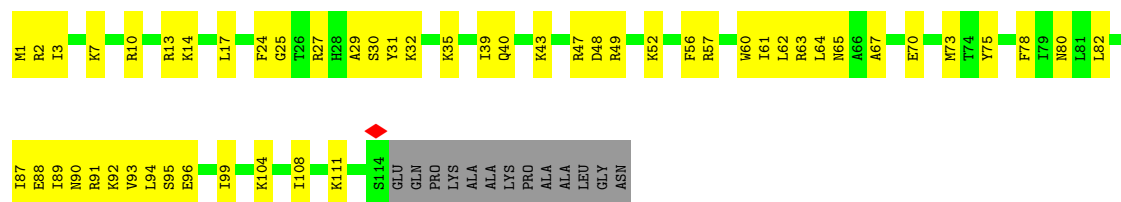
• Molecule 40: 50S ribosomal protein L19

Chain o: 6% 54% 43%

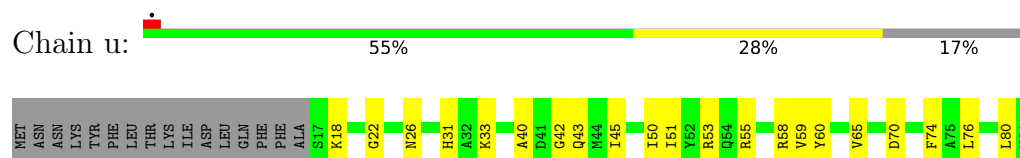


• Molecule 41: 50S ribosomal protein L20

Chain p: 49% 41% 10%



• Molecule 42: 50S ribosomal protein L21





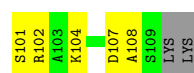
- Molecule 47: 50S ribosomal protein L28

Chain v: 57% 40% .



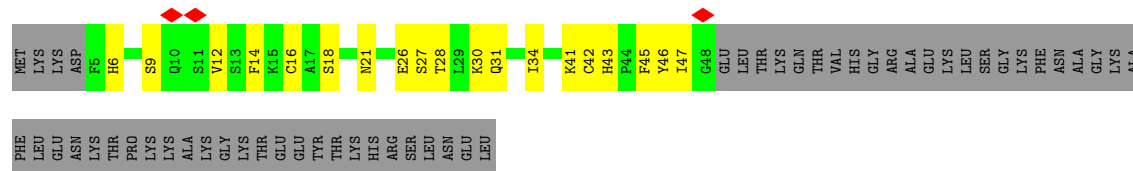
- Molecule 48: 50S ribosomal protein L29

Chain w: 57% 33% 10%



- Molecule 49: 50S ribosomal protein L31

Chain x: 26% 20% 55%



- Molecule 50: 50S ribosomal protein L32

Chain y: 60% 39% .



- Molecule 51: 50S ribosomal protein L33 1

Chain z: 47% 47% 6%



- Molecule 52: 23S ribosomal RNA

Chain 3: 14% 58% 27%

U939	U940	A943	U944	U945	A946	A947	A948	C949	U950	C951	U952	G953	A954	A955	U956	U957	C958	C959	U960	U961	U962	U963	A964	U965	U966	U967	U968	U969	U970	U971	C972	U973	G974	G975	C976	A977	G978	U979	C980	A981	G982	A983	C984	A985	G986	U987	G988	G989	G990	G991	G992	A993	U994	A995	U996	U997	U998	U999																																																																																																																																																																																																																																																																																																																																																																																																																																														
U819	U820	C821	C822	A823	A824	U825	C826	C827	A828	C829	U830	U831	C832	C833	C834	U835	U836	U837	U838	A839	U840	C841	U842	U843	C844	U845	U846	C847	U848	U849	U850	U851	U852	A853	A854	A855	A856	U857	A858	C859	U860	U861	U862	U863	C864	C865	C866	C867	C868	U869	U870	A871	C872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890	U891	U892	U893	U894	U895	U896	U897	U898	U899	U900	U901	U902	U903	U904	U905	U906	U907	U908	U909	U910	U911	U912	U913	U914	U915	U916	U917	U918	U919	U920	U921	U922	A	C	C	U	A	G928	G929	C930	G931	U932	U933	U934	U935	U936	U937	U938	U939	U940	U941	U942	U943	U944	U945	U946	U947	U948	U949	U950	U951	U952	U953	U954	U955	U956	U957	U958	U959	U960	U961	U962	U963	U964	U965	U966	U967	U968	U969	U970	U971	U972	U973	U974	U975	U976	U977	U978	U979	U980	U981	U982	U983	U984	U985	U986	U987	U988	U989	U990	U991	U992	U993	U994	U995	U996	U997	U998	U999																																																																																																																																																																																																																																																																																																																				
U758	U759	G760	G761	U762	A763	U764	G765	C766	C767	U768	A769	A770	C771	C772	C773	A774	C775	U776	C777	U778	U779	U780	U781	U782	U783	U784	U785	A786	U787	U788	U789	U790	U791	C792	C793	A794	A795	A796	U797	A798	U799	C800	U801	U802	U803	U804	U805	U806	U807	U808	U809	U810	U811	U812	U813	U814	U815	U816	U817	U818	U819	U820	U821	U822	U823	U824	U825	U826	U827	U828	U829	U830	U831	U832	U833	U834	U835	U836	U837	U838	U839	U840	U841	U842	U843	U844	U845	U846	U847	U848	U849	U850	U851	U852	U853	U854	U855	U856	U857	U858	U859	U860	U861	U862	U863	U864	U865	U866	U867	U868	U869	U870	U871	U872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890	U891	U892	U893	U894	U895	U896	U897	U898	U899	U900	U901	U902	U903	U904	U905	U906	U907	U908	U909	U910	U911	U912	U913	U914	U915	U916	U917	U918	U919	U920	U921	U922	U923	U924	U925	U926	U927	U928	U929	U930	U931	U932	U933	U934	U935	U936	U937	U938	U939	U940	U941	U942	U943	U944	U945	U946	U947	U948	U949	U950	U951	U952	U953	U954	U955	U956	U957	U958	U959	U960	U961	U962	U963	U964	U965	U966	U967	U968	U969	U970	U971	U972	U973	U974	U975	U976	U977	U978	U979	U980	U981	U982	U983	U984	U985	U986	U987	U988	U989	U990	U991	U992	U993	U994	U995	U996	U997	U998	U999																																																																																																																																																																																																																																																							
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U511	C512	A513	A514	A515	A516	C517	U518	A519	A520	C521	C522	A523	C524	U525	A526	U527	U528	C529	C530	C531	A532	U533	U534	A535	U536	U537	A538	U539	U540	U541	A542	C543	A544	U545	U546	C547	A548	A549	A550	C551	C552	A553	U554	A555	U556	U557	C558	C559	U560	A561	C562	A563	C564	U565	U566	U567	C568	U569	A570	U571	U572	U573	U574	U575	U576	U577	U578	U579	U580	U581	U582	U583	U584	U585	U586	U587	U588	U589	U590	U591	U592	U593	U594	U595	U596	U597	U598	U599	U600	U601	U602	C603	A604	C605	C606	U607	A608	U609	C610	A611	U612	C613	C614	U615	U616	U617	U618	U619	U620	U621	U622	U623	U624	U625	U626	U627	U628	U629	U630	U631	U632	U633	U634	U635	U636	U637	U638	U639	U640	U641	U642	U643	U644	U645	U646	U647	U648	U649	U650	U651	U652	U653	U654	U655	U656	U657	U658	U659	U660	U661	U662	U663	U664	U665	U666	U667	U668	U669	U670	U671	U672	U673	U674	U675	U676	U677	U678	U679	U680	U681	U682	U683	U684	U685	U686	U687	U688	U689	U690	U691	U692	U693	U694	U695	U696	U697	U698	U699	U700	U701	U702	U703	U704	U705	U706	U707	U708	U709	U710	U711	U712	U713	U714	U715	U716	U717	U718	U719	U720	U721	U722	U723	U724	U725	U726	U727	U728	U729	U730	U731	U732	U733	U734	U735	U736	U737	U738	U739	U740	U741	U742	U743	U744	U745	U746	U747	U748	U749	U750	U751	U752	U753	U754	U755	U756	U757	U758	U759	U760	U761	U762	U763	U764	U765	U766	U767	U768	U769	U770	U771	U772	U773	U774	U775	U776	U777	U778	U779	U780	U781	U782	U783	U784	U785	U786	U787	U788	U789	U790	U791	U792	U793	U794	U795	U796	U797	U798	U799	U800	U801	U802	U803	U804	U805	U806	U807	U808	U809	U810	U811	U812	U813	U814	U815	U816	U817	U818	U819	U820	U821	U822	U823	U824	U825	U826	U827	U828	U829	U830	U831	U832	U833	U834	U835	U836	U837	U838	U839	U840	U841	U842	U843	U844	U845	U846	U847	U848	U849	U850	U851	U852	U853	U854	U855	U856	U857	U858	U859	U860	U861	U862	U863	U864	U865	U866	U867	U868	U869	U870	U871	U872	U873	U874	U875	U876	U877	U878	U879	U880	U881	U882	U883	U884	U885	U886	U887	U888	U889	U890	U891	U892	U893	U894	U895	U896	U897	U898	U899	U900	U901	U902	U903	U904	U905	U906	U907	U908	U909	U910	U911	U912	U913	U914	U915	U916	U917	U918	U919	U920	U921	U922	U923	U924	U925	U926	U927	U928	U929	U930	U931	U932	U933	U934	U935	U936	U937	U938	U939	U940	U941	U942	U943	U944	U945	U946	U947	U948	U949	U950	U951	U952	U953	U954	U955	U956	U957	U958	U959	U960	U961	U962	U963	U964	U965	U966	U967	U968	U969	U970	U971	U972	U973	U974	U975	U976	U977	U978	U979	U980	U981	U982	U983	U984	U985	U986	U987	U988	U989	U990	U991	U992	U993	U994	U995	U996	U997	U998	U999
U429	U430	U431	U432	U433	U434	U435	U436	U437	U438	U439	U440	U441	U442	U443	U444	U445	U446	U447	U448	U449	U450	U451	U452	U453	U454	U455	U456	U457	U458	U459	U460	U461	U462	U463	U464	U465	U466	U467	U468																																																																																																																																																																																																																																																																																																																																																																																																																																																																	

G1876	G1814	A1750	C1432	A1370	C1247	A1186	G1124	A1063	U1000
G1879	U1815	A1751		G1371	A1248	C1187	U1125	A1064	C1001
A1880	A1816	A1752	A1435	U1372	A1249	C1187	U1126	G1065	A1002
C1881	A1817	G1753	C1436	C1373	U1250	G1189	C1127	G1066	U1003
G1882	G1818		A1437	U1374	G1251	U1128	U1129	A1067	U1004
A1883	G1819		G1438	G1375	G1252	A1191	G1128	U1068	G1005
A1884	U1820	C1759	A1439	G1376	G1253	U1192	A1130	G1069	U1006
G1885	G1821	G1760	U1440	U1377	U1254	U1193	A1131	C1007	C1007
C1886	A1822	G1698	A1441	C1378	G1255	U1194	C1132	A1008	A1008
U1887	U1823	A1762	C1442	C1379	A1256	U1196	A1133	A1009	A1009
G1887	G1824	G1763	A1443	U1380	G1257	U1196	G1104	G1010	G1010
A1888	U1825	U1764	C1444	A1381	G1258	G1197	G1134	A1011	A1011
G1889	A1826	G1765	U1445	A1382	A1259	U1198	C1137	U1076	G1012
U1890	U1827	A1766	G1446	G1383	U1260	A1199	A1138	U1077	
A1891	A1828	C1704	A1447	C1384	U1261	U1200	C1139	C1078	A1016
A1892	U1829	U1705	U1448	U1385	G1262	A1201	U1140	U1079	
C1893	G1830	A1769	G1449	G1386	G1263		U1141	A1080	A1019
G1894	G1831	A1770	A1450	G1387	U1264	A1204	U1142	A1081	G1020
A1895	G1832	C1771	A1451	G1388	G1265	U1205	U1143	A1082	C1021
A1896	G1833	G1772	A1452	G1389	G1266	U1206	C1144	A1083	G1022
A1897	U1834	A1773	U1453		A1267	U1207	G1145	C1084	C1023
G1898	G1835	G1774	G1454	A1393	U1268	A1208	A1146	A1085	A1024
	A1836	A1712	A1455	A1394	C1269	U1209	G1147	G1086	G1025
A1902	C1837	G1775	A1456	A1395	A1270	A1210	U1148	C1087	A1026
A1903	A1838	G1777	A1457	A1396	A1271	U1211	G1149	U1027	U1027
G1906	G1839	G1778	A1458	G1397	A1272	C1212	U1150	A1089	C1028
A1907	C1840	G1779	A1459	C1398	U1273	U1213	U1151	G1090	A1029
A1908	U1841	C1717	C1531	G1399	A1274	U1214		G1091	U1030
G1909	G1842	C1718	G1464	U1400	C1275	G1215	U1154	A1092	A1031
C1910	C1843	U1719	U1465	A1401	A1276	U1216	G1155	U1093	A1032
G1911	C1844	G1783	U1466	G1402	A1277	G1217	C1156	G1094	A1033
A1912	A1845	U1784	U1467	G1403	G1278	G1218	G1157	U1095	A1034
G1913	G1846	U1785		C1404	U1279	U1219	C1158	U1096	U1035
G1914	U1847	U1786	A1472	G1405	G1280	U1220	G1159	G1097	A1036
C1915	G1848	A1787	C1473	A1406	A1281	G1221	G1160	G1098	A1037
G1916	G1849	G1788	C1474	U1407	G1282	A1222	A1161	C1099	G1038
C1917	G1850	G1789	C1475	G1408	A1283	C1223	A1162	U1100	G1039
	U1851	U1790	A1541	G1409	A1284	G1224	G1163	U1101	U1040
U1918	G1852	A1791	G1542	A1410	U1285	A1225	A1164	A1102	C1041
A1919		A1792	U1543	C1411	G1286	G1226	U1165	G1103	C1042
A1920	A1855	A1793	G1544	A1412		C1227	G1166	A1104	C1043
C1921	G1856	C1731	A1545	A1413	G1289	U1228	U1167	A1105	C1044
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A1925	A1861	G1675	U1482	G1417		U1232	G1171	G1109	A1048
A1926	A1862	G1676	G1483	U1417	U1293	A1233	G1172	C1110	U1049
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C1928	A1864	U1678	A1485	U1419	A1295	U1235	G1174	A1112	U1051
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U1930	G1866	A1680	U1487	U1421	U1297	G1237	U1176	G1114	C1053
C1931	G1867	G1741	U1488	U1422	A1298	U1238	A1177	G1115	U1054
G1932	A1868	U1681	G1489	A1423	A1299	G1239	A1178	U1116	A1055
C1933	G1869	C1742	U1490	U1424	C1300	U1240	G1179	U1117	A1056
A1934	U1870	G1683	G1567	U1425	G1301	G1241	G1180	U1118	G1057
G1935	A1869	U1744	A1568	A1426	U1302	U1242	A1181	A1119	A1058
A1936	C1871	A1684	A1569	C1427	U1303	G1243	U1182	A1120	G1059
G1937	U1872	U1745	U1495	U1428	U1304	A1244	A1183	A1121	A1061
U1938	A1873	G1685	A1496	G1429	G1305	G1245	G1184	G1122	G1060
	G1874	U1746	A1497	U1498	G1306				
	C1875	A1688	G1499	A1431	G1307	U1246	U1185	A1123	A1062

A2814	G2753	G2629	G2668	U2508	A2443	A2382	A2318	G2254	U2193	A2130	A2067	C2003	G1940
G2815	U2754	U2630	A2669	C2609	G2444	G2382	A2319	A2255	G2194	G2131	G2068	G2004	C1941
A2816	G2755	G2631	U2670	G2510	U2449	A2384	A2320	C2256	U2195	G2132	G2069	G2005	C1942
C2819	G2756	C2632	U2571	A2511	U2449	A2385	C2321	U2257	G2196	A2133	C2070	C2006	A1943
G2820	A2757	G2633	A2572	U2512	C2450	A2386	G2322	G2258	U2197	G2134	C2071	U2007	A1944
U2821	G2758	C2634	A2573	G2513	C2451	U2387	U2323	G2259	G2198	U2137	C2072	A2008	A1945
U2822	G2759	G2635	A2574	U2514	G2452	C2388	A2324	G2260	C2199	A2137	C2073	U2009	U1946
C2823	G2760	U2636	G2575	C2515	G2453	A2389	U2325	G2261	U2200	U2138	G2074	A2010	U1951
A2824	A2761	A2637	A2576	G2516	G2454	A2390	G2326	C2262	G2201	G2139	G2075	G2011	A1952
G2825	C2700	G2638	G2577	A2517	A2455	U2391	U2327	G2263	U2202	A2140	G2076	A2012	G1953
A2826	A2762	A2639	A2578	C2518	G2456	U2392	A2328	U2264	U2203	A2141	A2077	U2015	C1954
G2827	G2763	A2701	A2579	U2519	U2457	C2393	G2329	C2265	C2204	U2142	G2078	G2016	G1955
A2828	U2764	A2640	U2579	C2520	A2458	A2394	A2330	C2266	U2005	G2143	G2079	G2017	G1956
C2829	A2765	A2641	A2580	U2521	A2458	U2395	G2331	C2268	A2206	C2144	C2080	U2018	U1957
U2830	A2766	G2642	C2581	A2522	A2461	A2396	U2332	C2269	U2207	A2145	U2081	A2020	A1959
G2831	G2767	A2643	U2582	C2523	G2462	A2400	G2333	C2271	U2208	A2146	U2082	A2021	A1960
A2832	U2768	U2644	U2524	U2524	G2463	U2398	U2334	C2272	G2211	U2147	G2083	A2022	A1961
G2833	A2769	G2645	C2525	C2525	G2464	A2401	A2335	C2273	U2212	U2148	C2091	U2029	U1962
C2834	G2770	U2646	G2526	U2527	U2465	U2402	A2336	U2274	G2213	U2149	G2092	U2030	U1963
U2835	C2711	A2647	A2528	U2527	G2466	C2407	U2337	A2275	A2214	C2150	U2088	C2031	C1969
A2836	G2712	U2648	C2529	C2528	A2467	U2409	G2338	A2276	C2215	A2151	A2089	A2026	C1964
G2837	A2713	A2650	U2530	U2529	U2468	G2404	G2339	A2277	U2216	U2152	G2090	G2027	C1965
U2838	G2714	G2651	U2531	U2531	A2469	U2405	U2340	A2278	G2223	U2153	C2091	G2028	G1966
A2839	U2715	U2652	C2532	C2532	U2470	U2406	G2341	G2279	U2217	A2154	U2092	U2029	U1967
U2840	G2716	G2653	U2533	A2538	C2471	G2412	U2342	G2280	C2224	G2155	U2093	A2030	C1968
A2841	G2717	U2654	A2539	U2539	G2472	U2413	G2349	U2281	G2225	U2162	U2099	G2036	U1974
G2842	C2718	U2655	G2540	G2540	C2473	U2414	C2350	G2282	U2226	U2163	U2100	A2037	G1975
U2843	G2719	A2656	C2541	U2541	G2474	U2415	U2351	U2291	U2227	G2164	A2101	A2038	A1976
G2844	A2720	G2657	U2542	G2543	C2475	U2416	U2352	A2292	C2228	A2165	U2102	G2039	A1977
U2845	C2721	U2658	U2543	G2544	A2476	G2417	G2353	C2293	C2229	C2103	C2103	A2040	U1978
A2846	G2722	G2659	U2544	U2545	U2477	G2418	A2354	C2294	A2230	C2104	A2104	C2041	G1979
U2847	U2725	A2660	U2546	U2546	U2478	U2419	C2355	A2295	G2232	G2105	G2105	A2042	G1980
A2848	G2726	G2661	C2547	C2547	U2479	U2420	U2356	A2296	U2233	A2171	G2106	C2043	U1981
G2849	U2727	U2662	U2548	U2548	G2480	U2421	G2357	G2297	C2234	A2172	A2107	G2044	G1982
U2850	G2728	A2663	A2549	A2549	U2481	G2422	U2358	G2298	C2234	G2173	C2108	C2045	U1983
G2851	A2729	G2664	U2550	U2550	U2482	G2423	G2359	U2299	G2235	G2174	A2109	G2046	A1984
U2852	G2730	U2665	U2551	G2551	U2483	C2424	G2360	A2300	U2236	U2175	U2110	U2047	U1985
G2853	U2731	A2666	G2552	G2552	U2484	C2425	A2362	U2303	U2237	G2176	U2111	C1986	C1986
U2854	A2732	U2667	U2553	U2553	G2485	U2426	A2366	U2304	G2238	G2177	A2112	G2050	C1987
A2855	G2733	G2668	U2554	U2554	U2486	U2427	A2366	U2304	U2239	A2178	U2113	G2051	A1988
G2856	U2734	A2669	U2555	U2555	U2487	G2428	U2369	A2306	U2240	A2179	C2114	C2052	U1989
U2857	G2735	G2670	U2556	U2556	U2488	U2429	G2370	A2307	A2241	U2180	A2115	G2053	C1990
A2858	A2736	U2671	C2557	C2557	U2489	G2430	U2371	G2307	G2242	A2181	U2116	C2054	U1991
U2859	G2737	C2618	G2558	G2558	U2490	C2425	A2372	U2308	U2243	C2182	G2117	A2055	C1992
G2860	U2738	U2619	C2559	C2559	U2491	U2426	G2372	U2309	U2244	U2183	A2121	A2056	U1993
U2861	A2739	A2620	U2560	U2560	U2492	A2426	G2373	A2309	G2245	A2184	C2122	C2057	U1994
G2862	G2740	G2621	U2561	U2561	U2493	U2427	A2374	A2310	G2246	A2185	G2122	G2058	G1995
A2863	U2741	U2622	U2562	U2562	U2494	G2428	A2375	G2311	A2241	C2186	A2123	G2059	A1996
U2864	A2742	A2623	U2563	U2563	U2495	G2429	G2376	G2312	G2248	C2187	A2124	G2060	C1997
G2865	U2743	C2618	U2564	U2564	U2496	G2430	U2377	U2313	G2249	U2188	A2125	A2061	U1998
A2866	U2744	U2624	U2565	U2565	U2497	C2425	G2378	U2314	G2250	U2189	A2126	G2062	G1999
U2867	A2745	G2625	U2566	U2566	U2498	U2426	G2379	G2315	U2251	G2190	G2127	G2063	U2000
G2868	G2746	U2626	U2567	U2567	U2499	A2426	G2380	G2316	U2252	G2191	U2129	A2066	U2002
U2869	U2747	A2627	U2568	U2568	U2500	A2427	A2381	A2317	U2253	U2192	U2129		
G2870	A2748	U2628	U2569	U2569	U2501	G2428	A2382						
A2871	U2749	G2629	U2570	U2570	U2502	U2429	A2383						
U2872	G2750	U2630	U2571	U2571	U2503	U2430	A2384						
G2873	A2751	A2631	U2572	U2572	U2504	U2431	A2385						
U2874	U2752	U2632	U2573	U2573	U2505	U2432	A2386						
A2875	G2753	U2633	U2574	U2574	U2506	U2433	A2387						
			U2634	U2634	U2507	U2434	A2388						
			U2635	U2635	U2508	U2435	A2389						
			U2636	U2636	U2509	U2436	A2390						
			U2637	U2637	U2510	U2437	A2391						
			U2638	U2638	U2511	U2438	A2392						
			U2639	U2639	U2512	U2439	A2393						
			U2640	U2640	U2513	U2440	A2394						
			U2641	U2641	U2514	U2441	A2395						
			U2642	U2642	U2515	U2442	A2396						
			U2643	U2643	U2516	U2443	A2397						
			U2644	U2644	U2517	U2444	A2398						
			U2645	U2645	U2518	U2445	A2399						
			U2646	U2646	U2519	U2446	A2400						
			U2647	U2647	U2520	U2447	A2401						
			U2648	U2648	U2521	U2448	A2402						
			U2649	U2649	U2522	U2449	A2403						
			U2650	U2650	U2523	U2450	A2404						
			U2651	U2651	U2524	U2451	A2405						
			U2652	U2652	U2525	U2452	A2406						
			U2653	U2653	U2526	U2453	A2407						
			U2654	U2654	U2527	U2454	A2408						
			U2655	U2655	U2528	U2455	A2409						
			U2656	U2656	U2529	U2456	A2410						
			U2657	U2657	U2530	U2457	A2411						
			U2658	U2658	U2531	U2458	A2412						
			U2659	U2659	U2532	U2459	A2413						
			U2660	U2660	U2533	U2460	A2414						
			U2661	U2661	U2534	U2461	A2415						
			U2662	U2662	U2535	U2462	A2416						
			U2663	U2663	U2536	U2463	A2417						
			U2664	U2664	U2537	U2464	A2418						
			U2665	U2665	U2538	U2465	A2419						
			U2666	U2666	U2539	U2466	A2420						
			U2667	U2667	U2540	U2467	A2421						
			U2668	U2668	U2541	U2468	A2422						
			U2669	U2669	U2542	U2469	A2423						
			U2670	U2670	U2543	U2470	A2424						
			U2671	U2671	U2544	U2471	A2425						
			U2672	U2672	U2545	U2472	A2426						
			U2673	U2673	U2546	U2473	A2427						
			U2674	U2674	U2547	U2474	A2428						
			U2675	U2675	U2548	U2475	A2429						
			U2676	U2676	U2549	U2476	A2430						
			U2677	U2677	U2550	U2477	A2431						
			U2678	U2678	U2551	U2478	A2432						
			U2679	U2679	U2552	U2479	A2433						
			U2680	U2680	U2553	U2480	A2434						
			U2681	U2681	U2554	U2481	A2435						
			U2682	U2682	U2555	U2482	A2436						

G2876	G2877	G2878	G2879	G2880	G2881	G2882	G2883	G2884	G2885	G2886	G2887	G2888	G2889	G2890	G2891	G2892	G2893	G2894	G2895	G2896	G2897	G2898	G2899	G2900	U	A	U	U	U	G	G	A
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● Molecule 53: 5S ribosomal RNA

Chain 4: 15% 50% 32% .

U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20	U21	U22	U23	U24	U25	U26	U27	U28	U29	U30	U31	U32	U33	U34	U35	U36	U37	U38	U39	U40	U41	U42	U43	U44	U45	U46	U47	U48	U49	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59	U60	U61	U62	U63
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G64	G65	G66	G67	G68	G69	G70	G71	G72	G73	G74	G75	G76	G77	G78	G79	G80	U	U	U	C84	A85	G86	G87	G88	G89	G90	G91	G92	G93	G94	G95	G96	G97	G98	G99	G100	G101	G102	G103	G104	G105	G106	G107	G108
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● Molecule 54: 16S ribosomal RNA

Chain 5: 13% 59% 27% .

U	U	U	U	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14	U15	U16	U17	U18	U19	U20	U21	U22	U23	U24	U25	U26	U27	U28	U29	U30	U31	U32	U33	U34	U35	U36	U37	U38	U39	U40	U41	U42	U43	U44	U45	U46	U47	U48	U49	U50	U51	U52	U53	U54	U55	U56	U57	U58	U59	U60	U61
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G62	G63	G64	G65	G66	G67	G68	G69	G70	G71	G72	G73	G74	G75	G76	G77	G78	G79	G80	G81	G82	G83	G84	G85	G86	G87	G88	G89	G90	G91	G92	G93	G94	G95	G96	G97	G98	G99	G100	G101	G102	G103	G104	G105	G106	G107	G108	G109	G110	G111	G112	G113	G114	G115	G116	G117	G118	G119	G120	G121	G122
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U123	U124	U125	U126	U127	U128	U129	U130	U131	U132	U133	U134	U135	U136	U137	U138	U139	U140	U141	U142	U143	U144	U145	U146	U147	U148	U149	U150	U151	U152	U153	U154	U155	U156	U157	U158	U159	U160	U161	U162	U163	U164	U165	U166	U167	U168	U169	U170	U171	U172	U173	U174	U175	U176	U177	U178	U179	U180	U181	U182	U183	U184	U185	U186	U187	U188	U189	U190	U191	U192	U193	U194	U195	U196
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A197	A198	A199	A200	A201	A202	A203	A204	A205	A206	A207	A208	A209	A210	A211	A212	A213	A214	A215	A216	A217	A218	A219	A220	A221	A222	A223	A224	A225	A226	A227	A228	A229	A230	A231	A232	A233	A234	A235	A236	A237	A238	A239	A240	A241	A242	A243	A244	A245	A246	A247	A248	A249	A250	A251	A252	A253	A254	A255	A256	A257	A258	A259	A260	A261
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G261	G262	G263	G264	G265	G266	G267	G268	G269	G270	G271	G272	G273	G274	G275	G276	G277	G278	G279	G280	G281	G282	G283	G284	G285	G286	G287	G288	G289	G290	G291	G292	G293	G294	G295	G296	G297	G298	G299	G300	G301	G302	G303	G304	G305	G306	G307	G308	G309	G310	G311	G312	G313	G314	G315	G316	G317	G318	G319	G320	G321	G322	G323	G324	G325	G326
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C324	A325	C326	G327	C328	C329	C330	C331	C332	C333	C334	C335	C336	C337	C338	C339	C340	C341	C342	C343	C344	C345	C346	C347	C348	C349	C350	C351	C352	C353	C354	C355	C356	C357	C358	C359	C360	C361	C362	C363	C364	C365	C366	C367	C368	C369	C370	C371	C372	C373	C374	C375	C376	C377	C378	C379	C380	C381	C382	C383	C384	C385	C386	C387	C388	C389	C390	C391	C392	C393	C394	C395	C396	C397	C398	C399	C400	C401	C402	C403	C404	C405	C406	C407	C408	C409	C410	C411	C412	C413	C414	C415	C416	C417	C418	C419	C420	C421	C422	C423	C424	C425	C426	C427	C428	C429	C430	C431	C432	C433	C434	C435	C436	C437	C438	C439	C440	C441	C442	C443	C444
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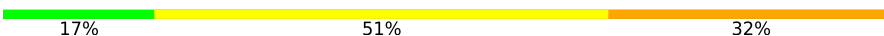
G384	A385	U386	G387	G388	G389	G390	G391	G392	G393	G394	G395	G396	G397	G398	G399	G400	G401	G402	G403	G404	G405	G406	G407	G408	G409	G410	G411	G412	G413	G414	G415	G416	G417	G418	G419	G420	G421	G422	G423	G424	G425	G426	G427	G428	G429	G430	G431	G432	G433	G434	G435	G436	G437	G438	G439	G440	G441	G442	G443	G444
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A445	A446	A447	A448	A449	A450	A451	A452	A453	A454	A455	A456	A457	A458	A459	A460	A461	A462	A463	A464	A465	A466	A467	A468	A469	A470	A471	A472	A473	A474	A475	A476	A477	A478	A479	A480	A481	A482	A483	A484	A485	A486	A487	A488	A489	A490	A491	A492	A493	A494	A495	A496	A497	A498	A499	A500	A501	A502	A503	A504	A505	A506	A507	A508	A509	A510	A511	A512	A513	A514	A515	A516	A517	A518	A519	A520	A521	A522	A523	A524	A525	A526	A527	A528	A529	A530	A531	A532	A533	A534	A535	A536	A537	A538	A539	A540	A541	A542	A543	A544	A545	A546	A547	A548	A549	A550	A551	A552	A553	A554	A555	A556	A557	A558	A559	A560	A561	A562	A563	A564	A565	A566	A567	A568	A569	A570	A571	A572	A573	A574	A575	A576	A577	A578	A579	A580	A581	A582	A583	A584	A585	A586	A587	A588	A589	A590	A591	A592	A593	A594	A595	A596	A597	A598	A599	A600	A601	A602	A603	A604	A605	A606	A607	A608	A609	A610	A611	A612	A613	A614	A615	A616	A617	A618	A619	A620	A621	A622	A623	A624	A625	A626	A627	A628	A629	A630	A631	A632	A633	A634	A635	A636	A637	A638	A639	A640	A641	A642	A643	A644	A645	A646	A647	A648	A649	A650	A651	A652	A653	A654	A655	A656	A657	A658	A659	A660	A661	A662	A663	A664	A665	A666	A667	A668	A669	A670	A671	A672	A673	A674	A675	A676	A677	A678	A679	A680	A681	A682	A683	A684	A685	A686	A687	A688	A689	A690	A691	A692	A693	A694	A695	A696	A697	A698	A699	A700	A701	A702	A703	A704	A705	A706	A707	A708	A709	A710	A711	A712	A713	A714	A715	A716	A717	A718	A719	A720	A721	A722	A723	A724	A725	A726	A727	A728	A729	A730	A731	A732	A733	A734	A735	A736	A737	A738	A739	A740	A741	A742	A743	A744	A745	A746	A747	A748	A749	A750	A751	A752	A753	A754	A755	A756	A757	A758	A759	A760	A761	A762	A763	A764	A765	A766	A767	A768	A769	A770	A771	A772	A773	A774	A775	A776	A777	A778	A779	A780	A781	A782	A783	A784	A785	A786	A787	A788	A789	A790	A791	A792	A793	A794	A795	A796	A797	A798	A799	A800	A801	A802	A803	A804	A805	A806	A807	A808	A809	A810	A811	A812	A813	A814	A815	A816	A817	A818	A819	A820	A821	A822	A823	A824	A825	A826	A827	A828	A829	A830	A831	A832	A833	A834	A835	A836	A837	A838	A839	A840	A841	A842	A843	A844	A845	A846	A847	A848	A849	A850	A851	A852	A853	A854	A855	A856	A857	A858	A859	A860	A861	A862	A863	A864	A865	A866	A867	A868	A869	A870	A871	A872	A873	A874	A875	A876	A877	A878	A879	A880	A881	A882	A883	A884	A885	A886	A887	A888	A889	A890	A891	A892	A893	A894	A895	A896	A897	A898	A899	A900	A901	A902	A903	A904	A905	A906	A907	A908	A909	A910	A911	A912	A913	A914	A915	A916	A917	A918	A919	A920	A921	A922	A923	A924	A925	A926	A927	A928	A929	A930	A931	A932	A933	A934	A935	A936	A937	A938	A939	A940	A941	A942	A943	A944	A945	A946	A947	A948	A949	A950	A951	A952	A953	A954	A955	A956	A957	A958	A959	A960	A961	A962	A963	A964	A965	A966	A967	A968	A969	A970	A971	A972	A973	A974	A975	A976	A977	A978	A979	A980	A981	A982	A983	A984	A985	A986	A987	A988	A989	A990	A991	A992	A993	A994	A995	A996	A997	A998	A999	A1000
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U506	U507	U508	U509	U510	U511	U512	U513	U514	U515	U516	U517	U518	U519	U520	U521	U522	U523	U524	U525	U526	U527	U528	U529	U530	U531	U532	U533	U534	U535	U536	U537	U538	U539	U540	U541	U542	U543	U544	U545	U546	U547	U548	U549	U550	U551	U552	U553	U554	U555	U556	U557	U558	U559	U560	U561	U562	U563	U564	U565	U566	U567	U568	U569	U570	U571	U572	U573	U574	U575	U576	U577	U578	U579	U580	U581	U582	U583	U584	U585	U586	U587	U588	U589	U590	U591	U592	U593	U594	U595	U596	U597	U598	U599	U600	U601	U602	U603	U604	U605	U606	U607	U608	U609	U610	U611	U612	U613	U614	U615	U616	U617	U618	U619	U620	U621	U622	U623	U624	U625	U626	U627	U628	U629	U630	U631	U632	U633	U634	U635	U636	U637	U638	U639	U640	U641	U642	U643	U644	U645	U646	U647	U648	U649	U650	U651	U652	U653	U654	U655	U656	U657	U658	U659	U660	U661	U662	U663	U664	U665	U666	U667	U668	U669	U670	U671	U672	U673	U674	U675	U676	U677	U678	U679	U680	U681	U682	U683	U684	U685	U686	U687	U688	U689	U690	U691	U692	U693	U694	U695	U696	U697	U698	U699	U700	U701	U702	U703	U704	U705	U706	U707	U708	U709	U710	U711	U712	U713	U714	U715	U716	U717	U718	U719	U720	U721	U722	U723	U724	U725	U726	U727	U728	U729	U730	U731	U732	U733	
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G690	A813	G874	U938	G1003	G1063	G1123	C1184	A1244	G1305	U1365	A1432	A1493	G690
A691	C814	G875	G939	U1004	U1064	U1124	C1185	A1245	A1306	U1366	G1433	A1494	A691
A692	G815	G753	G940	U1005	G1065	C1125	U1186	A1246	A1307	G1367	G1434	C1495	A692
A693	A816	C754	A941	U1006	U1066	U1126	U1187	A1247	G1308	G1368	G1435	G1496	A693
G694	U817	U755	G942	U1007	G1067	G1128	A1188	U1248	U1309	A1369	A1436	U1497	G694
U695	U818	G879	C943	G1008	C1068	U1129	U1189	G1251	C1310	C1370	A1437	G1498	U695
	G819	G881	A944	G1009	U1069	C1129	G1190	G1252	G1311	A1371	U1438	G1499	
U698	A820	U882	U945	A1010	G1070	G1130	U1191	C1253	G1312	C1372	U1439	G1500	U698
A699	U821	A883	G946	A1011	A1071	G1131	C1192	A1254	A1313	A1373	U1440	U1501	A699
G700	A822	G762	U947	A1012	G1072	G1132	U1193	A1255	A1314	C1374	G1441	U1502	G700
A701	C823	A763	U948	C1013	A1073	G1133	A1194	A1256	A1315	C1375	C1442	U1503	A701
U702	U824	A764	G949	U1014	U1074	C1134	G1195	U1257	C1316	G1376	A1443	G1504	U702
A703	A825	A765	C950	U1015	G1075	U1135	G1196	U1258	A1317	C1377	G1444	G1505	A703
U704	G826	G766	U951	A1016	U1076	G1136	G1197	U1259	C1318	C1378	G1445	U1506	U704
	C827	U767	U952	U1017	U1077	G1137	U1198	U1260	U1319	C1379	U1446	U1507	
A705	U828	G768	A953	U1018	G1078	U1138	U1199	U1261	A1320	G1380	U1447	C1508	A705
G706	G829	U769	U954	G1019	G1079	A1139	G1200	G1262	G1321	U1381	A1448	A1509	G706
A707	U830	G770	U955	G	G	U1140	C1201	U1263	U1322	G1382	G1449	C	A707
G708	U831	G771	U956	A	U1081	U1141	A1202	A1264	A1323	A1383	C1450	U	G708
A709	C832	G772	C957	A895	U1082	G1142	A1203	G1270	A1324	A1384	A1451	C	A709
G710	G833	G773	G958	G896	A1083	C1143	A1204	U1271	U1325	A1385	C1452	U	G710
A711	G834	A774	G959	A897	A1084	A1144	C1205	U1272	C1326	C1386	G1453	C	A711
A713	G835	G775	U961	A898	U1085	A1145	G1206	G1276	G1327	U1387	G1454	U	A713
C714	C836	C776	G961	U899	U1086	A1146	G1207	G1268	C1328	A1388	G1455	U	C714
A715	G837	A777	G964	A	U1087	U1147	G1208	U1269	G1329	U1389	U1456	U	A715
C716	A838	A778	A964	A901	C1088	U1148	C1209	G1270	A1330	G1390	G1457	C	C716
A717	U839	A779	C965	A902	C1089	U1149	U1210	U1271	A1331	A1391	A1458	U	A717
C718	C840	U780	A966	A903	G1090	G1150	A1211	C1272	U1332	A1392		A	C718
G719	C841	A781	G968	C904	A1031	C1151	C1212	A1273	C1333	G1393	G1461	G	G719
U720	C842	G782	A969	U905	G1032	G1152	A1213	G1274	A1334	C1394	G1462	G35	U720
G721	C843	G783	C906	C906	U1033	G1153	A1214	U1275	G1335	C1395	A1463	A36	G721
C722	U844	A784	A907	A907	C1034	A1154	U1215	U1276	C1336	A1401	G1464	A37	C722
G723	C845	G785	A972	A908	G1035	A1155	G1216	C1277	A1337	U1402	G1465	A38	G723
A724	G846	A786	A973	A909	A1036	G1156	G1217	G1278	A1338	U1403	U1466	A39	A724
G725	C847	G788	C974	C910	G1037	G1157	C1218	G1279	A1339	U1404	A1467	A40	G725
A726	U848	A789	C975	C975	G1038	A1158	C1219	A1280	G1340	U1405	A1468	C41	A726
G727	G850	G790	U976	U977	C1039	A1159	A1220	U1281	U1341	U1406	G1469	C42	G727
U728	U851	A791	U981	U981	U1040	G1160	A1221	U1282	C1342	A1407	U1470	G43	U728
C729	G852	C792	U982	G1041	A1101	G1161	U1222	G1283	G1343	A1408	C1471	U44	C729
A730	C853	G793	U983	G1042	A1102	G1162	A1223	A1284	C1344	A1411	G1472	G45	A730
C731	A854	C794	G983	U1043	C1103	U1163	C1224	G1285	G1345	C1412	U1473	U46	C731
A732	G855	C795	A984	C1045	C1104	U1164	A1225	U1286	G1346	G1413	A1474	G47	A732
C733	U855	A796	C985	U1046	C1105	G1165	A1226	G1287	U1347	G1414	A1475	U48	C733
G735	A858	G797	U986	U1047	C1106	A1166	A1227	C1288	G1348	G1415	A1476	C49	G735
U736	A859	U798	U987	U1047	U1107	C1167	C1228	U1289	U1349	U1416	A1477	G50	U736
A737	C860	A799	G988	G1048	A1108	G1168	A1229	G1290	A1350	U1417	A1478	G51	A737
G738	A861	G800	A989	U1049	U1109	U1169	G1230	C1291	U1351	G1418	G1479	C52	G738
U739	C862	U801	C990	U1050	C1110	C1170	U1231	A1292	A1352		G1480		U739
G740	C863	C802	A991	U1051	G1111	A1171	C1232	U1293	C1353	A1421	U1481	U55	G740
C741	U864	C803	U992	G1052	U1112	A1172	G1233	U1294	G1354	A1422	A1482	U56	C741
A804	U865	A804	U993	U1053	U1113	U1173	C1234	U1295	U1355	C1423	G1483	C57	A804
C805	A866	C805	U995	C1054	A1114	U1174	C1235	C1296	G1356	C1424	C1484	G58	C805
A806	A867	A806	U996	U1055	G1115	C1175	A1236	G1297	U1357	A1425	C1485	A59	A806
C807	G868	C807	G997	U1056	U1116	A1176	G1237	U1298	U1358	U1426	C1486	U60	C807
U745	U869	U808	G998	C1057	U1117	U1177	C1238	G1299	C1359	U1427	U1487	U61	U745
A746	U870	C808	C999	U1058	A1118	C1178	U1239	C1300	G1360	U1428	A1488	C62	A746
C747	A871	C809	C999	G1059	C1119	A1179	U1240	U1301	G1361	A1429	C1489	U63	C747
U748	U872	U810	A1000	U1060	C1120	G1180	G1241	C1302	U1362	G1429	G1490	G64	U748
A811	C872	A811	U935	U1061	U1121	U1181	U1242	C1303	U1363	A1431	G1491	C65	A811
U750	U873	A812	G937	C1062	U1122		A1243	U1304	C1364		G1492	C66	U750

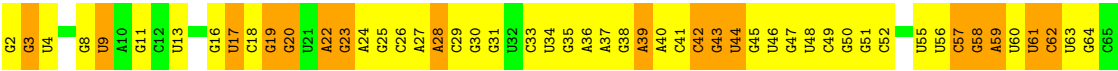
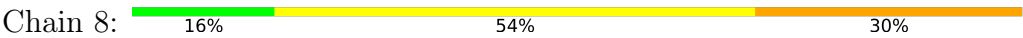
● Molecule 55: tRNA-Phe

Chain 6:  17% 51% 32%

G2	U55
G3	U56
U4	C57
	G58
G8	A59
U9	U60
U10	U61
G11	U62
C12	U63
U13	G64
	C65
G16	C66
U17	
C18	
G19	
G20	
U21	
A22	
G23	
C24	
G25	
C26	
A27	
A28	
C29	
G30	
C33	
U34	
G35	
A36	
A37	
G38	
A39	
A40	
C41	
C42	
G43	
U44	
G45	
U46	
G47	
U48	
C49	
G50	
G51	
C52	
U55	
U56	
C57	
G58	
A59	
U60	
U61	
C62	
U63	
G64	
C65	
C66	



● Molecule 55: tRNA-Phe



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	627	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 ($e^-/\text{\AA}^2$)	3.2	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3750	Depositor
Magnification	81000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.988	Depositor
Minimum map value	-0.372	Depositor
Average map value	0.020	Depositor
Map value standard deviation	0.098	Depositor
Recommended contour level	0.22	Depositor
Map size (Å)	435.328, 435.328, 435.328	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7005, 1.7005, 1.7005	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.30	0/383	0.51	0/504
2	1	0.15	0/484	0.41	0/637
3	2	0.17	0/306	0.40	0/401
4	9	0.22	0/5419	0.51	3/7307 (0.0%)
5	A	0.17	0/1954	0.44	0/2642
6	B	0.13	0/1721	0.38	0/2323
7	C	0.17	0/1691	0.47	0/2267
8	D	0.17	0/1188	0.44	0/1593
9	E	0.17	0/1384	0.48	0/1867
10	F	0.16	0/1266	0.46	0/1700
11	G	0.21	0/1126	0.44	0/1517
12	H	0.17	0/1044	0.45	0/1395
13	I	0.15	0/820	0.45	1/1103 (0.1%)
14	J	0.17	0/844	0.51	2/1136 (0.2%)
15	K	0.34	0/1094	0.61	0/1468
16	L	0.16	0/962	0.48	0/1289
17	M	0.14	0/483	0.43	0/643
18	N	0.15	0/679	0.42	0/907
19	O	0.14	0/659	0.47	0/885
20	P	0.15	0/684	0.44	0/913
21	Q	0.26	0/545	0.66	0/730
22	R	0.20	0/698	0.55	1/936 (0.1%)
23	S	0.16	0/631	0.37	0/838
24	T	0.22	0/475	0.46	0/621
25	W	0.21	0/538	0.59	0/722
26	a	0.15	0/2267	0.45	0/3044
27	b	0.15	0/1795	0.45	0/2412
28	c	0.17	0/1671	0.47	0/2246
29	d	0.17	0/1409	0.49	0/1894
30	e	0.16	0/1420	0.43	0/1912
31	f	0.24	0/1183	0.51	0/1587
32	g	0.49	0/969	0.82	2/1295 (0.2%)
33	h	0.17	0/968	0.53	1/1298 (0.1%)
34	i	0.14	0/1186	0.39	0/1592

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
35	j	0.15	0/953	0.45	0/1275
36	k	0.16	0/1170	0.44	0/1559
37	l	0.21	0/1104	0.56	0/1481
38	m	0.15	0/973	0.44	0/1309
39	n	0.23	0/897	0.52	0/1198
40	o	0.23	0/948	0.54	0/1262
41	p	0.17	0/961	0.46	0/1278
42	q	0.18	0/828	0.54	0/1111
43	r	0.15	0/1077	0.47	0/1441
44	s	0.15	0/732	0.47	0/988
45	t	0.15	0/879	0.49	0/1165
46	u	0.15	0/665	0.39	0/884
47	v	0.17	0/519	0.46	0/695
48	w	0.17	0/826	0.45	0/1104
49	x	0.17	0/353	0.47	0/474
50	y	0.34	0/457	0.55	0/601
51	z	0.23	0/412	0.49	0/547
52	3	0.12	0/69073	0.30	0/107710
53	4	0.12	0/2505	0.34	0/3902
54	5	0.12	0/35768	0.30	0/55764
55	6	0.16	0/1808	0.42	0/2817
55	8	0.16	0/1808	0.42	0/2817
All	All	0.15	0/164662	0.37	10/245006 (0.0%)

There are no bond length outliers.

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	R	26	GLU	N-CA-C	-7.13	100.71	111.34
33	h	28	VAL	N-CA-C	-6.92	106.06	112.43
32	g	30	THR	CB-CA-C	6.81	121.56	111.89
14	J	118	LYS	CA-C-N	6.19	129.28	120.49
14	J	118	LYS	C-N-CA	6.19	129.28	120.49
13	I	38	VAL	N-CA-C	-5.90	107.75	113.53
4	9	405	VAL	CA-C-O	-5.38	114.65	121.48
4	9	573	SER	N-CA-C	-5.11	104.63	111.02
4	9	404	PRO	N-CA-C	-5.08	102.31	110.74
32	g	30	THR	CA-C-O	-5.06	115.97	121.84

There are no chirality outliers.

There are no planarity outliers.

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	0	380	0	429	24	0
2	1	477	0	530	26	0
3	2	304	0	350	21	0
4	9	5326	0	5343	241	0
5	A	1921	0	1973	76	0
6	B	1698	0	1768	55	0
7	C	1660	0	1719	119	0
8	D	1173	0	1267	55	0
9	E	1362	0	1377	85	0
10	F	1246	0	1308	61	0
11	G	1110	0	1226	59	0
12	H	1028	0	1094	56	0
13	I	809	0	894	50	0
14	J	829	0	855	55	0
15	K	1076	0	1170	69	0
16	L	951	0	1014	54	0
17	M	474	0	509	40	0
18	N	673	0	730	33	0
19	O	646	0	677	37	0
20	P	675	0	728	31	0
21	Q	535	0	562	62	0
22	R	682	0	691	40	0
23	S	629	0	681	33	0
24	T	471	0	522	19	0
25	W	534	0	572	22	0
26	a	2225	0	2301	98	0
27	b	1762	0	1808	99	0
28	c	1644	0	1731	106	0
29	d	1388	0	1469	78	0
30	e	1396	0	1481	69	0
31	f	1160	0	1172	44	0
32	g	960	0	1014	51	0
33	h	959	0	1039	51	0
34	i	1164	0	1192	55	0
35	j	944	0	1019	50	0
36	k	1153	0	1256	53	0
37	l	1079	0	1134	68	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	m	958	0	1011	53	0
39	n	889	0	952	50	0
40	o	938	0	1008	62	0
41	p	947	0	1028	62	0
42	q	811	0	858	45	0
43	r	1068	0	1150	55	0
44	s	720	0	803	28	0
45	t	872	0	972	54	0
46	u	657	0	695	28	0
47	v	513	0	560	31	0
48	w	818	0	870	38	0
49	x	344	0	333	16	0
50	y	452	0	472	32	0
51	z	408	0	440	36	0
52	3	61664	0	30954	3017	0
53	4	2239	0	1137	103	0
54	5	31943	0	16058	1639	0
55	6	1618	0	821	60	0
55	8	1618	0	821	55	0
All	All	151980	0	105548	6675	0

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

All (6675) 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)
54:5:661:G:H1	54:5:738:A:N6	1.27	1.32
54:5:69:G:N2	54:5:137:A:C2	1.98	1.31
40:o:92:ARG:CD	40:o:116:GLU:O	1.77	1.31
52:3:1762:A:N6	52:3:2702:G:H21	1.40	1.19
52:3:1762:A:H61	52:3:2702:G:N2	1.39	1.18
54:5:69:G:N2	54:5:137:A:H2	1.32	1.16
52:3:2122:G:N2	52:3:2179:A:H61	1.48	1.10
34:i:3:LYS:N	42:q:12:TYR:HH	1.49	1.09
52:3:2061:A:N6	52:3:2585:A:C2	2.23	1.05
52:3:1067:A:C2	52:3:1157:G:N1	2.26	1.04
39:n:29:VAL:HB	39:n:44:TRP:O	1.57	1.03
52:3:1067:A:H2	52:3:1157:G:N1	1.56	1.03
52:3:335:G:N2	52:3:350:C:C2	2.26	1.03
40:o:92:ARG:HD3	40:o:116:GLU:O	0.85	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:134:G:H1	54:5:160:A:H2	1.08	1.01
52:3:2122:G:H21	52:3:2179:A:N6	1.58	1.01
19:O:11:TYR:HB3	19:O:33:LEU:O	1.59	1.00
52:3:2061:A:N6	52:3:2585:A:H2	1.58	1.00
52:3:37:G:H21	52:3:485:A:N6	1.60	0.99
52:3:439:U:H3	52:3:459:A:N6	1.60	0.99
52:3:2534:G:H1	52:3:2545:U:H3	1.04	0.99
52:3:2108:C:N4	52:3:2109:A:H62	1.61	0.99
52:3:2149:U:H3	52:3:2156:G:H1	0.99	0.98
52:3:1873:A:H62	52:3:1882:G:H21	1.00	0.98
52:3:2665:A:H62	52:3:2672:G:N2	1.61	0.98
52:3:633:G:H1	52:3:692:U:H3	1.03	0.98
52:3:1245:G:H1	52:3:1264:U:H3	1.07	0.98
52:3:37:G:H21	52:3:485:A:H61	1.00	0.98
54:5:1217:G:H1	54:5:1269:U:H3	0.98	0.97
52:3:596:G:H1	52:3:611:A:H61	1.06	0.97
54:5:684:A:H62	54:5:700:G:N2	1.61	0.97
52:3:2665:A:H62	52:3:2672:G:H21	1.05	0.97
52:3:517:G:H1	52:3:544:U:H3	1.02	0.96
52:3:1944:A:N6	52:3:1971:G:H21	1.64	0.96
54:5:1138:U:H3	54:5:1149:G:H1	0.99	0.96
52:3:2108:C:N4	52:3:2109:A:N6	2.14	0.96
54:5:1401:A:H2	54:5:1449:G:N1	1.63	0.95
54:5:826:G:H1	54:5:851:U:H3	0.95	0.95
29:d:132:ILE:O	29:d:151:GLY:HA3	1.65	0.94
52:3:729:U:H3	52:3:803:G:H1	1.14	0.94
52:3:1873:A:H62	52:3:1882:G:N2	1.64	0.94
54:5:830:U:H3	54:5:847:G:H1	1.02	0.94
52:3:2665:A:N6	52:3:2672:G:H21	1.64	0.94
37:l:109:ILE:HB	37:l:114:MET:HE2	1.49	0.94
52:3:2405:G:H1	52:3:2427:U:H3	1.08	0.94
52:3:1777:G:H1	52:3:1989:U:H3	1.06	0.94
54:5:499:U:H3	54:5:542:G:H1	1.16	0.94
54:5:1133:A:N1	54:5:1153:G:C2	2.35	0.94
52:3:1919:A:N6	52:3:1924:U:H3	1.66	0.93
52:3:341:G:N2	52:3:364:A:H61	1.66	0.93
52:3:2755:G:H21	52:3:2765:A:N6	1.66	0.93
52:3:341:G:H21	52:3:364:A:H61	0.99	0.93
52:3:2122:G:H21	52:3:2179:A:H61	1.07	0.92
54:5:253:G:H1	54:5:265:U:H3	1.12	0.92
44:s:2:ASP:N	52:3:146:G:HO2'	1.67	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:899:A:N1	52:3:951:C:N4	2.17	0.92
52:3:1385:U:H3	52:3:1402:G:H1	1.12	0.92
52:3:1944:A:H61	52:3:1971:G:N2	1.69	0.91
52:3:439:U:H3	52:3:459:A:H62	0.97	0.91
54:5:1133:A:N6	54:5:1153:G:C4	2.39	0.91
54:5:1134:C:O2	54:5:1156:G:N2	2.04	0.91
54:5:1401:A:C2	54:5:1449:G:N1	2.36	0.91
52:3:569:U:H3	52:3:592:G:H1	1.15	0.90
52:3:2299:U:H3	52:3:2349:G:H1	0.91	0.90
52:3:325:G:H1	52:3:383:U:H3	1.15	0.90
12:H:12:ARG:HD3	12:H:79:GLY:HA3	1.54	0.89
52:3:37:G:N2	52:3:485:A:H61	1.70	0.89
40:o:92:ARG:CZ	40:o:117:ARG:HA	2.03	0.89
52:3:2465:U:H3	52:3:2502:G:H1	1.13	0.89
52:3:990:G:H1	52:3:999:U:H3	1.21	0.89
52:3:1067:A:H2	52:3:1157:G:H1	0.92	0.89
54:5:684:A:N6	54:5:700:G:H21	1.69	0.89
4:9:481:ARG:HH21	4:9:672:TYR:HB3	1.36	0.89
52:3:1873:A:N6	52:3:1882:G:H21	1.69	0.89
54:5:1065:G:H1	54:5:1074:U:H3	1.14	0.88
52:3:1944:A:H61	52:3:1971:G:H21	0.95	0.88
52:3:61:U:H3	52:3:70:G:H1	1.21	0.88
53:4:4:G:OP1	53:4:22:G:N2	2.05	0.88
52:3:335:G:N1	52:3:350:C:N3	2.22	0.87
17:M:2:ALA:N	54:5:1039:G:HO2'	1.70	0.87
41:p:29:ALA:HB1	52:3:550:A:H5''	1.57	0.87
28:c:140:THR:HA	28:c:143:MET:HE3	1.56	0.87
1:0:3:ARG:HD2	52:3:1646:G:H21	1.40	0.87
37:l:35:VAL:O	37:l:130:LYS:HB3	1.74	0.87
54:5:661:G:N2	54:5:738:A:N1	2.22	0.86
52:3:2316:G:H1	52:3:2319:A:H62	1.21	0.86
52:3:341:G:H21	52:3:364:A:N6	1.72	0.86
52:3:1437:A:H61	52:3:1627:U:H3	1.19	0.86
52:3:996:A:H1'	52:3:2503:G:H21	1.40	0.86
54:5:1038:G:H21	54:5:1190:G:H5'	1.40	0.86
12:H:86:VAL:HG21	12:H:105:LEU:HB3	1.56	0.86
54:5:684:A:N6	54:5:700:G:N2	2.24	0.86
54:5:1259:G:H3'	54:5:1260:U:H5'	1.57	0.86
29:d:37:ASN:ND2	52:3:2320:U:O2'	2.10	0.85
54:5:368:C:N4	54:5:384:G:OP2	2.08	0.85
52:3:986:G:H1	52:3:1003:U:H3	1.19	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2706:U:H3	52:3:2717:G:H1	1.21	0.85
37:l:62:GLY:HA2	37:l:108:ASN:HB2	1.59	0.85
52:3:1027:U:H3	52:3:1198:G:H1	1.23	0.84
52:3:2645:U:H3	52:3:2784:A:H62	1.25	0.84
52:3:1077:G:H22	52:3:1148:U:H2'	1.42	0.84
52:3:1766:A:H62	52:3:2705:G:H1'	1.39	0.84
52:3:2755:G:H21	52:3:2765:A:H62	1.25	0.84
28:c:75:ARG:HH22	52:3:2067:A:H62	1.23	0.84
52:3:1343:C:HO2'	52:3:1420:A:HO2'	1.24	0.84
20:P:74:ARG:HG2	54:5:230:G:H4'	1.60	0.84
51:z:8:ARG:HH21	51:z:51:LYS:HA	1.41	0.84
52:3:1706:C:OP1	52:3:2516:G:N2	2.11	0.83
54:5:1394:G:H1	54:5:1456:U:H3	1.23	0.83
4:9:226:MET:HG2	25:W:71:LEU:HD11	1.58	0.83
52:3:335:G:N2	52:3:350:C:O2	2.11	0.83
52:3:1639:C:O2	52:3:1642:G:N2	2.11	0.83
54:5:455:U:H3	54:5:472:G:H1	1.25	0.83
1:0:42:LEU:HD12	1:0:43:THR:HG23	1.59	0.83
52:3:742:G:H1	52:3:759:U:H3	1.24	0.83
54:5:1401:A:H2	54:5:1449:G:H1	0.85	0.83
52:3:1932:C:H42	52:3:1936:G:H22	1.22	0.83
52:3:2441:A:OP2	55:8:76:C:N4	2.11	0.83
4:9:325:PHE:HE1	4:9:356:MET:HE2	1.42	0.82
52:3:1807:C:O2	52:3:1824:G:O6	1.97	0.82
34:i:111:MET:HE2	52:3:1173:G:H21	1.43	0.82
54:5:1142:G:N2	54:5:1145:A:OP2	2.12	0.82
52:3:596:G:H1	52:3:611:A:N6	1.75	0.82
52:3:2291:U:O2	52:3:2333:G:O6	1.98	0.82
52:3:1968:C:C4	52:3:1969:C:N4	2.47	0.82
54:5:60:A:H5''	54:5:383:U:H4'	1.60	0.82
9:E:7:LEU:HD12	9:E:82:VAL:HG21	1.62	0.82
52:3:2031:C:H2'	52:3:2032:G:H8	1.44	0.81
52:3:1445:U:HO2'	52:3:1621:U:HO2'	1.20	0.81
54:5:514:U:O2'	54:5:517:C:N3	2.12	0.81
15:K:127:ARG:N	54:5:500:G:OP1	2.13	0.81
7:C:58:GLN:NE2	54:5:543:C:OP1	2.13	0.81
54:5:1046:A:N6	54:5:1175:C:O2	2.13	0.81
52:3:362:U:N3	52:3:369:C:N4	2.29	0.81
52:3:1778:G:H21	52:3:1793:A:H5'	1.44	0.81
24:T:51:LYS:HG3	54:5:1509:A:H1'	1.63	0.81
52:3:1708:G:H22	52:3:1998:U:H3	1.27	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2755:G:N2	52:3:2765:A:H62	1.79	0.81
52:3:2059:G:O6	52:3:2625:U:O4	1.99	0.81
54:5:1477:A:H2'	54:5:1479:G:H5'	1.62	0.81
54:5:658:G:N2	54:5:833:G:O2'	2.14	0.81
8:D:148:ARG:HB2	8:D:183:LEU:HB2	1.62	0.80
16:L:122:GLU:HB3	55:6:41:C:H1'	1.64	0.80
19:O:19:ARG:HB2	54:5:95:C:H4'	1.62	0.80
52:3:1310:U:H3	52:3:1314:A:H62	1.26	0.80
4:9:94:ARG:NH2	4:9:431:GLU:O	2.14	0.80
6:B:59:GLU:HB2	13:I:100:VAL:HG21	1.63	0.80
54:5:367:A:N6	54:5:386:U:O4	2.15	0.80
12:H:127:PRO:HB3	54:5:1207:U:H4'	1.63	0.80
17:M:41:ARG:NH1	54:5:968:G:O2'	2.13	0.80
52:3:2108:C:H42	52:3:2109:A:N6	1.77	0.80
13:I:15:LYS:HE2	54:5:1254:A:H5''	1.64	0.80
52:3:900:G:N2	52:3:903:A:H61	1.78	0.80
52:3:1522:U:HO2'	52:3:1611:C:HO2'	1.24	0.80
12:H:32:VAL:HG21	12:H:81:ILE:HD12	1.65	0.79
25:W:73:LEU:HD11	25:W:111:ARG:HB3	1.62	0.79
52:3:1932:C:N4	52:3:1936:G:H22	1.81	0.79
54:5:833:G:H1	54:5:844:U:H3	0.85	0.79
15:K:123:ARG:O	15:K:127:ARG:NH2	2.14	0.79
29:d:57:LEU:HD12	29:d:87:CYS:HB3	1.64	0.79
30:e:4:ILE:HG23	52:3:2759:G:H1'	1.64	0.79
53:4:35:C:N4	53:4:46:C:O2	2.14	0.79
11:G:61:GLU:HG2	11:G:68:ARG:HG2	1.65	0.79
30:e:93:VAL:O	30:e:163:LYS:HA	1.83	0.79
52:3:2005:G:N2	52:3:2694:A:O2'	2.16	0.79
52:3:2458:A:N6	52:3:2509:C:O2	2.15	0.79
52:3:788:G:H2'	52:3:789:A:H8	1.46	0.79
7:C:73:ARG:NH1	54:5:618:U:O2'	2.15	0.79
9:E:97:LEU:HD13	54:5:658:G:H4'	1.64	0.79
26:a:18:THR:H	26:a:212:VAL:HB	1.48	0.79
52:3:439:U:O4	52:3:459:A:N7	2.16	0.78
54:5:659:U:O2	54:5:740:G:O6	2.02	0.78
2:1:4:LYS:HD3	52:3:251:G:H1	1.47	0.78
9:E:84:ARG:NH2	54:5:669:U:O2'	2.16	0.78
52:3:900:G:H21	52:3:903:A:H61	1.29	0.78
52:3:1932:C:H42	52:3:1936:G:N2	1.82	0.78
52:3:1968:C:N4	52:3:1969:C:H42	1.81	0.78
13:I:47:PRO:HA	13:I:78:ARG:HA	1.64	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:166:SER:HG	52:3:2056:A:HO2'	1.31	0.78
29:d:92:ARG:NH2	53:4:41:C:N3	2.30	0.78
54:5:827:C:O2	54:5:850:G:N2	2.16	0.78
52:3:2635:G:N2	52:3:2785:G:OP2	2.17	0.78
7:C:3:TYR:OH	54:5:400:G:O5'	2.02	0.78
29:d:133:LYS:HG2	52:3:2313:U:H4'	1.64	0.78
52:3:1809:A:C6	52:3:1824:G:N2	2.52	0.78
52:3:2316:G:N2	52:3:2319:A:N7	2.31	0.78
33:h:130:GLN:HE21	33:h:131:MET:HE3	1.48	0.78
52:3:1027:U:O4	52:3:1198:G:O6	2.02	0.78
52:3:2515:C:O2'	55:6:76:C:O2	2.02	0.78
4:9:86:VAL:HG21	52:3:2668:A:H2	1.49	0.77
54:5:1133:A:C2	54:5:1153:G:N2	2.52	0.77
52:3:122:G:H4'	52:3:152:A:H5'	1.65	0.77
52:3:1836:A:N7	52:3:1983:U:O2	2.16	0.77
52:3:1262:G:H2'	52:3:1263:G:H8	1.48	0.77
52:3:1923:A:N6	54:5:1383:A:O2'	2.17	0.77
52:3:2114:C:N4	52:3:2115:A:N6	2.31	0.77
52:3:2634:C:H2'	52:3:2635:G:H8	1.48	0.77
31:f:62:LYS:O	31:f:66:HIS:ND1	2.18	0.77
52:3:81:C:H2'	52:3:82:G:C8	2.20	0.77
2:1:33:LYS:NZ	52:3:2427:U:OP1	2.18	0.77
54:5:515:G:H1'	54:5:528:G:H4'	1.67	0.77
4:9:307:PHE:HA	4:9:330:SER:O	1.85	0.77
7:C:118:ASN:ND2	54:5:399:C:O3'	2.18	0.77
52:3:294:G:H4'	52:3:301:G:H4'	1.66	0.77
54:5:650:A:O2'	54:5:651:G:N7	2.17	0.77
52:3:2305:C:H41	52:3:2326:G:H2'	1.49	0.77
54:5:1133:A:C6	54:5:1153:G:N3	2.53	0.77
41:p:10:ARG:NH2	52:3:548:A:N3	2.34	0.76
43:r:87:PRO:HG2	52:3:1301:G:H22	1.50	0.76
52:3:1237:G:H2'	52:3:1238:A:H8	1.49	0.76
52:3:1862:A:O2'	52:3:2095:A:O2'	2.01	0.76
54:5:212:G:HO2'	54:5:466:U:H3	0.77	0.76
37:l:17:TYR:OH	37:l:39:GLY:O	2.03	0.76
52:3:1376:G:N2	52:3:1632:C:O2	2.18	0.76
55:8:26:C:N4	55:8:44:U:O4	2.18	0.76
21:Q:44:CYS:SG	21:Q:82:HIS:NE2	2.59	0.76
25:W:67:LYS:HA	25:W:70:VAL:HG12	1.68	0.76
52:3:824:A:N6	52:3:1647:A:O2'	2.18	0.76
55:6:26:C:N4	55:6:44:U:O4	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:37:TRP:CZ3	5:A:39:PRO:HA	2.21	0.76
52:3:725:G:H1	52:3:807:U:H3	0.80	0.76
52:3:1919:A:N7	52:3:1924:U:O4	2.18	0.76
52:3:2645:U:O4	52:3:2784:A:N7	2.19	0.76
39:n:14:ARG:NH2	52:3:2342:U:O2	2.17	0.76
52:3:122:G:H2'	52:3:123:G:C8	2.20	0.76
52:3:163:A:N7	52:3:169:U:O2	2.18	0.76
52:3:2688:C:N4	52:3:2733:A:OP2	2.19	0.76
54:5:348:C:N3	54:5:352:A:N6	2.33	0.76
27:b:16:VAL:HB	27:b:26:ILE:HG13	1.65	0.76
52:3:780:G:O2'	52:3:783:G:N3	2.19	0.76
54:5:598:U:O2	54:5:635:G:O6	2.02	0.76
38:m:42:GLN:HG2	38:m:98:SER:HB2	1.67	0.75
54:5:655:G:O6	54:5:744:U:C4	2.39	0.75
13:I:45:PRO:HB2	13:I:78:ARG:HH11	1.51	0.75
36:k:36:GLN:NE2	52:3:845:U:O4	2.19	0.75
52:3:1111:C:H2'	52:3:1112:A:H8	1.51	0.75
54:5:372:G:O6	54:5:383:U:C4	2.39	0.75
16:L:86:TRP:HH2	16:L:90:ARG:HH21	1.33	0.75
52:3:481:C:O2	52:3:485:A:C2	2.39	0.75
54:5:170:A:H2'	54:5:171:A:H8	1.51	0.75
54:5:754:U:O2'	54:5:873:U:O2	2.04	0.75
52:3:362:U:O2	52:3:369:C:C4	2.40	0.75
52:3:1053:C:O2'	52:3:1155:G:N2	2.20	0.75
52:3:1093:U:O2	52:3:1115:G:O6	2.05	0.75
50:y:4:GLN:NE2	52:3:1294:G:N3	2.33	0.75
52:3:1662:G:H2'	52:3:1663:G:C8	2.22	0.75
52:3:2801:U:H2'	52:3:2808:A:H61	1.51	0.75
22:R:81:LYS:NZ	54:5:1202:A:N7	2.34	0.75
38:m:107:ARG:HG2	43:r:42:LYS:HE2	1.68	0.75
52:3:1408:G:H2'	52:3:1409:G:H8	1.49	0.75
52:3:2208:U:O4	52:3:2232:G:N2	2.20	0.75
52:3:2699:C:N4	52:3:2726:G:O6	2.19	0.75
54:5:1331:A:N6	54:5:1340:G:O6	2.15	0.75
55:6:23:G:N7	55:6:47:G:N2	2.34	0.75
33:h:112:LEU:HD23	52:3:1094:G:H5'	1.69	0.75
54:5:826:G:O6	54:5:851:U:O4	2.04	0.75
52:3:1870:G:O2'	52:3:2419:A:O2'	2.04	0.75
52:3:1960:A:O2'	52:3:2557:G:N2	2.20	0.75
54:5:941:A:O2'	54:5:1307:A:N3	2.19	0.75
14:J:21:ASN:ND2	54:5:688:G:N7	2.35	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:u:26:ASN:ND2	52:3:2287:G:N7	2.35	0.75
52:3:1324:A:OP1	52:3:2717:G:O2'	2.05	0.75
54:5:1401:A:N1	54:5:1449:G:O6	2.19	0.75
17:M:45:ARG:HH22	54:5:1050:U:H4'	1.52	0.74
29:d:72:ASN:ND2	52:3:2307:G:OP1	2.19	0.74
52:3:2273:U:H3'	52:3:2274:A:H2'	1.69	0.74
53:4:26:C:O2'	53:4:57:G:N2	2.20	0.74
14:J:14:ILE:HG13	14:J:75:VAL:HG21	1.67	0.74
32:g:27:PHE:HA	32:g:109:VAL:HB	1.69	0.74
52:3:2727:G:N2	52:3:2876:G:O6	2.19	0.74
54:5:144:U:O2	54:5:149:G:N2	2.18	0.74
54:5:765:A:H3'	54:5:766:G:H8	1.51	0.74
19:O:5:ARG:HG3	19:O:8:TYR:HB3	1.68	0.74
52:3:1509:U:H3	52:3:1530:G:H1	1.34	0.74
54:5:499:U:H2'	54:5:500:G:C8	2.23	0.74
54:5:1389:U:O2	54:5:1461:G:O6	2.05	0.74
54:5:1405:U:O2	54:5:1445:G:N2	2.20	0.74
52:3:432:G:N2	52:3:2239:U:O2'	2.21	0.74
52:3:865:A:N6	52:3:2453:G:N3	2.35	0.74
52:3:953:G:H5'	53:4:90:G:H5'	1.69	0.74
9:E:97:LEU:HG	9:E:99:SER:H	1.52	0.74
16:L:34:LEU:HA	16:L:39:ILE:HD12	1.69	0.74
38:m:94:PRO:O	52:3:2843:G:N2	2.20	0.74
52:3:1999:G:H5'	52:3:2001:C:H41	1.52	0.74
11:G:19:LEU:HD22	11:G:89:GLN:HG2	1.70	0.74
23:S:51:ALA:HB1	23:S:65:ALA:HB1	1.67	0.74
52:3:1583:G:O2'	52:3:1584:U:O5'	2.05	0.74
54:5:965:C:O2'	54:5:1206:G:N3	2.21	0.74
54:5:1322:U:O2	54:5:1349:A:N7	2.21	0.74
4:9:67:ALA:HB1	4:9:372:ILE:HD12	1.69	0.74
12:H:33:ASN:HD22	12:H:35:ARG:HH11	1.36	0.74
52:3:1380:U:O2	52:3:1408:G:C2	2.41	0.74
12:H:71:GLY:HA2	54:5:1225:A:H4'	1.69	0.74
39:n:12:HIS:HE2	39:n:31:MET:HB3	1.53	0.74
52:3:640:U:O2	52:3:658:G:O6	2.05	0.74
52:3:1623:U:H2'	52:3:1624:A:H8	1.53	0.74
52:3:2131:G:O6	52:3:2182:C:N4	2.18	0.74
52:3:2451:C:H2'	52:3:2452:G:H8	1.52	0.74
9:E:86:LEU:HD13	21:Q:96:LEU:HD11	1.70	0.74
33:h:80:ALA:HB2	33:h:133:ILE:HD12	1.70	0.74
52:3:72:G:N2	52:3:73:A:N1	2.35	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:897:A:N3	53:4:77:G:O2'	2.20	0.74
52:3:1000:U:O2'	52:3:2281:A:N3	2.21	0.74
52:3:1487:U:O2'	52:3:2710:G:N2	2.21	0.74
52:3:2755:G:N2	52:3:2765:A:N6	2.33	0.74
54:5:65:G:H4'	54:5:66:A:H3'	1.70	0.74
54:5:250:G:H2'	54:5:251:G:H8	1.53	0.74
54:5:365:U:OP2	54:5:384:G:N2	2.21	0.74
7:C:87:VAL:HG22	7:C:91:ARG:HE	1.52	0.74
32:g:28:ASP:H	32:g:109:VAL:HG21	1.51	0.74
52:3:353:G:H22	52:3:357:A:H62	1.34	0.74
52:3:2300:A:HO2'	52:3:2383:G:HO2'	1.33	0.74
41:p:7:LYS:HD3	52:3:1245:G:H5''	1.68	0.73
54:5:372:G:H2'	54:5:373:A:C8	2.23	0.73
54:5:1060:C:O2	54:5:1097:G:N2	2.18	0.73
28:c:106:LYS:N	52:3:640:U:OP1	2.20	0.73
23:S:67:ARG:NH2	54:5:256:G:N7	2.36	0.73
46:u:85:LYS:HD3	52:3:893:A:H5''	1.70	0.73
52:3:1647:A:H62	52:3:1651:C:H42	1.35	0.73
52:3:1876:G:N2	52:3:1879:A:OP2	2.20	0.73
22:R:39:THR:HA	22:R:70:LYS:HG2	1.70	0.73
52:3:760:G:H2'	52:3:761:G:C4	2.24	0.73
52:3:1845:C:H4'	52:3:1846:A:H5'	1.70	0.73
52:3:1919:A:H62	52:3:1924:U:H3	0.81	0.73
52:3:1958:U:H3	52:3:1961:A:HO2'	1.34	0.73
53:4:16:G:N1	53:4:63:U:N3	2.37	0.73
8:D:84:ARG:HH11	54:5:1371:A:H1'	1.51	0.73
10:F:2:ARG:N	54:5:928:G:N7	2.36	0.73
42:q:86:ARG:NH2	52:3:1253:G:OP2	2.21	0.73
45:t:9:LYS:NZ	45:t:21:SER:OG	2.22	0.73
52:3:1790:U:O2'	52:3:2615:G:N3	2.20	0.73
4:9:11:ARG:HH12	4:9:275:VAL:HA	1.54	0.73
4:9:408:LEU:HA	4:9:476:PRO:HG3	1.71	0.73
52:3:53:G:H1	52:3:121:U:HO2'	1.34	0.73
52:3:849:C:H1'	52:3:1255:G:H21	1.52	0.73
52:3:1348:C:H42	52:3:1359:C:H5	1.36	0.73
54:5:169:G:N2	54:5:219:A:O2'	2.22	0.73
54:5:775:G:N2	54:5:801:U:O2	2.22	0.73
29:d:62:GLY:HA3	29:d:95:ARG:HG2	1.71	0.73
30:e:11:LEU:HB2	30:e:53:LEU:HG	1.70	0.73
52:3:193:G:H2'	52:3:209:G:H22	1.53	0.73
52:3:334:A:O2'	52:3:352:C:O2	2.07	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2108:C:C4	52:3:2109:A:N6	2.56	0.73
54:5:827:C:N3	54:5:850:G:N1	2.33	0.73
52:3:2132:G:H21	52:3:2181:A:H62	1.37	0.73
54:5:462:G:O2'	54:5:465:A:N6	2.20	0.73
35:j:66:LYS:HB3	52:3:1699:A:H4'	1.71	0.72
52:3:1104:A:H4'	52:3:1105:A:H2'	1.70	0.72
52:3:2706:U:O4	52:3:2717:G:O6	2.07	0.72
52:3:2828:C:H3'	52:3:2829:G:H21	1.53	0.72
55:8:23:G:N7	55:8:47:G:N2	2.34	0.72
4:9:535:ILE:O	4:9:539:GLN:NE2	2.21	0.72
26:a:12:SER:HB2	52:3:1782:U:H5'	1.70	0.72
52:3:562:C:N4	52:3:2787:U:OP2	2.22	0.72
52:3:1803:U:O2	52:3:1830:G:N2	2.21	0.72
52:3:2334:U:H3	52:3:2397:G:H1	0.79	0.72
9:E:92:ARG:HH12	21:Q:88:LYS:HB2	1.54	0.72
52:3:25:G:H2'	52:3:26:G:H8	1.53	0.72
52:3:1509:U:O4	52:3:1530:G:O6	2.08	0.72
52:3:2059:G:H1	52:3:2625:U:H3	0.77	0.72
15:K:29:ASN:HB2	54:5:51:A:H62	1.53	0.72
28:c:174:ASN:ND2	52:3:354:C:O2	2.21	0.72
52:3:2414:U:OP2	52:3:2419:A:N6	2.22	0.72
52:3:2812:U:O2'	52:3:2814:A:N7	2.21	0.72
45:t:103:VAL:HG12	45:t:110:THR:HA	1.72	0.72
46:u:22:GLY:O	52:3:2263:G:N2	2.22	0.72
52:3:522:C:H2'	52:3:523:A:H8	1.54	0.72
52:3:1228:G:O6	52:3:1279:U:O2	2.06	0.72
52:3:2533:A:H2'	52:3:2534:G:H8	1.53	0.72
54:5:40:G:O2'	54:5:41:C:O4'	2.05	0.72
54:5:660:A:N6	54:5:739:G:H1	1.88	0.72
54:5:1041:G:H2'	54:5:1042:G:C8	2.25	0.72
54:5:1230:G:H3'	54:5:1254:A:H61	1.53	0.72
27:b:63:ASN:HB2	52:3:2815:G:H5''	1.71	0.72
32:g:31:SER:HB2	32:g:79:LYS:HD2	1.72	0.72
41:p:24:PHE:HE1	52:3:567:U:H2'	1.54	0.72
52:3:293:G:H21	52:3:302:G:H4'	1.55	0.72
52:3:1464:G:N2	52:3:1590:U:O2	2.21	0.72
52:3:1502:A:O2'	52:3:1541:A:N6	2.21	0.72
52:3:2099:U:OP1	52:3:2207:A:O2'	2.08	0.72
4:9:451:MET:SD	4:9:455:HIS:ND1	2.57	0.72
4:9:606:VAL:O	4:9:638:VAL:HA	1.89	0.72
52:3:683:G:N3	52:3:2358:U:O2'	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1058:A:H5''	54:5:1361:G:H21	1.53	0.72
35:j:108:GLU:HG3	35:j:109:ARG:HG2	1.70	0.72
52:3:1456:C:H42	52:3:1604:A:H62	1.38	0.72
52:3:2551:G:H2'	52:3:2552:G:C8	2.25	0.72
54:5:902:A:H2'	54:5:903:A:H8	1.54	0.72
3:2:2:LYS:HA	3:2:35:ARG:HH11	1.55	0.72
7:C:8:PHE:HD2	54:5:426:U:H5''	1.55	0.72
10:F:76:VAL:HG12	10:F:85:GLN:HE22	1.55	0.72
28:c:30:LYS:NZ	52:3:634:C:OP2	2.23	0.72
35:j:7:ARG:HG2	52:3:1701:G:H5''	1.72	0.72
43:r:7:GLN:HB2	43:r:50:LEU:HD21	1.71	0.72
52:3:1387:A:N7	52:3:1400:U:O2	2.23	0.72
52:3:2094:A:H2'	52:3:2095:A:H8	1.53	0.72
52:3:1794:A:H4'	52:3:2598:C:H5'	1.72	0.71
52:3:2753:C:H42	52:3:2768:U:H3	1.38	0.71
54:5:882:U:H4'	54:5:1463:A:H4'	1.72	0.71
16:L:107:ARG:NH1	54:5:942:G:N7	2.38	0.71
39:n:4:ARG:HH11	53:4:28:C:H5'	1.55	0.71
43:r:82:MET:HB2	43:r:98:LYS:O	1.90	0.71
52:3:65:A:N7	52:3:93:A:N6	2.37	0.71
52:3:313:G:H2'	52:3:314:G:H1'	1.72	0.71
52:3:733:C:O2'	52:3:769:A:N6	2.23	0.71
54:5:354:U:H2'	54:5:355:A:H8	1.54	0.71
52:3:2026:A:H61	52:3:2042:A:H61	1.37	0.71
52:3:2683:G:O6	52:3:2740:U:O4	2.08	0.71
14:J:67:VAL:HG12	14:J:70:MET:HE2	1.72	0.71
52:3:2092:U:H3	52:3:2242:G:H1	1.38	0.71
52:3:2704:U:H2'	52:3:2705:G:C8	2.25	0.71
54:5:62:G:O2'	54:5:374:G:N2	2.24	0.71
54:5:70:A:H2'	54:5:71:A:H8	1.54	0.71
23:S:10:ARG:NH2	54:5:92:G:N7	2.37	0.71
52:3:414:C:N4	52:3:435:U:H3	1.88	0.71
52:3:677:U:H3	52:3:683:G:H1	1.38	0.71
52:3:2190:G:H2'	52:3:2191:G:H8	1.56	0.71
54:5:660:A:N6	54:5:739:G:N1	2.38	0.71
4:9:8:ILE:HG13	4:9:280:SER:HB2	1.72	0.71
4:9:12:ASN:HB2	4:9:99:LEU:HA	1.72	0.71
51:z:5:ARG:NH1	52:3:2292:A:OP2	2.23	0.71
52:3:274:A:OP2	52:3:294:G:N1	2.22	0.71
52:3:957:G:H21	52:3:2277:A:H5'	1.55	0.71
52:3:2589:G:OP2	52:3:2589:G:N2	2.13	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:232:G:N2	54:5:631:C:O3'	2.24	0.71
54:5:569:U:OP2	54:5:572:A:N6	2.23	0.71
7:C:9:LYS:NZ	54:5:540:U:OP1	2.23	0.71
26:a:169:ARG:NH1	54:5:709:A:O2'	2.24	0.71
52:3:749:U:N3	52:3:752:C:OP2	2.22	0.71
54:5:592:A:H2	54:5:642:A:H61	1.39	0.71
54:5:1060:C:N3	54:5:1097:G:N1	2.31	0.71
54:5:1172:A:C6	54:5:1173:A:N6	2.59	0.71
52:3:1067:A:N1	52:3:1157:G:O6	2.24	0.71
52:3:2530:U:H3	52:3:2551:G:H1	1.35	0.71
52:3:243:U:O2	52:3:262:G:N2	2.23	0.71
52:3:414:C:H42	52:3:435:U:H3	1.38	0.71
52:3:1057:G:N2	52:3:1177:A:N7	2.36	0.71
52:3:1504:G:O6	52:3:1539:U:O4	2.09	0.71
52:3:2057:C:H42	52:3:2626:A:H61	1.37	0.71
52:3:2058:G:H2'	52:3:2622:A:H61	1.56	0.71
52:3:1245:G:O6	52:3:1264:U:O4	2.08	0.71
52:3:1968:C:N4	52:3:1969:C:N4	2.38	0.71
52:3:1060:G:H3'	52:3:1061:A:H5'	1.73	0.70
52:3:1810:A:H3'	52:3:1811:A:H8	1.56	0.70
27:b:83:GLU:OE1	52:3:2643:A:O2'	2.09	0.70
37:l:86:GLY:HA2	52:3:2284:G:H5'	1.71	0.70
52:3:2122:G:N2	52:3:2179:A:N6	2.23	0.70
52:3:2241:A:H2'	52:3:2242:G:H8	1.54	0.70
52:3:2461:A:H2	52:3:2507:C:H41	1.36	0.70
54:5:317:A:N7	54:5:324:C:O2'	2.23	0.70
54:5:818:A:H2'	54:5:819:G:H8	1.56	0.70
29:d:42:ASP:HA	29:d:45:ARG:HE	1.56	0.70
34:i:42:LYS:HE2	52:3:1042:C:H5''	1.73	0.70
36:k:60:ARG:NH1	52:3:2401:U:O2	2.24	0.70
52:3:2666:C:N4	52:3:2667:G:O6	2.24	0.70
23:S:10:ARG:HE	23:S:17:ARG:HH22	1.37	0.70
52:3:228:A:N6	52:3:455:G:O2'	2.24	0.70
52:3:2475:C:O2	52:3:2492:G:N2	2.24	0.70
54:5:765:A:N3	54:5:1487:U:O2'	2.25	0.70
4:9:325:PHE:CE1	4:9:356:MET:HE2	2.25	0.70
6:B:17:ASN:ND2	6:B:216:ASN:OD1	2.24	0.70
52:3:2330:A:H61	52:3:2343:A:H61	1.39	0.70
52:3:2393:C:H2'	52:3:2394:A:C8	2.26	0.70
54:5:1151:A:H2'	54:5:1152:G:C8	2.25	0.70
55:6:20:G:H21	55:6:58:G:H2'	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:31:ARG:NH2	54:5:423:U:OP1	2.24	0.70
9:E:97:LEU:HB3	9:E:100:ILE:HG22	1.73	0.70
26:a:179:TYR:H	26:a:193:LEU:HA	1.55	0.70
28:c:75:ARG:HB3	52:3:709:G:H1'	1.73	0.70
54:5:366:C:H2'	54:5:367:A:C8	2.26	0.70
12:H:108:ARG:NH2	12:H:109:ASP:OD1	2.25	0.70
33:h:22:GLY:HA2	52:3:1103:G:H1	1.54	0.70
52:3:610:G:O2'	52:3:1284:A:OP1	2.09	0.70
12:H:43:ASN:H	54:5:1265:U:H4'	1.57	0.70
27:b:225:GLN:HB3	40:o:84:PRO:HB3	1.73	0.70
30:e:9:ILE:HB	30:e:53:LEU:HB2	1.72	0.70
54:5:70:A:H2'	54:5:71:A:C8	2.27	0.70
40:o:54:ARG:HB3	40:o:100:TYR:CD1	2.26	0.70
40:o:56:ARG:NH2	52:3:2692:U:OP2	2.25	0.70
52:3:249:G:N2	52:3:422:A:O2'	2.25	0.70
52:3:865:A:OP1	52:3:2073:C:O2'	2.08	0.70
52:3:1807:C:O2	52:3:1824:G:C6	2.45	0.70
54:5:111:A:H5'	54:5:602:G:H21	1.57	0.70
4:9:494:TYR:O	4:9:504:TYR:HA	1.91	0.70
28:c:18:VAL:HB	28:c:127:LEU:HD23	1.74	0.70
52:3:342:G:N2	52:3:513:A:OP1	2.25	0.70
52:3:1689:A:H61	52:3:2012:A:H1'	1.57	0.70
52:3:2541:C:H2'	52:3:2542:A:C8	2.27	0.70
4:9:86:VAL:HG21	52:3:2668:A:C2	2.27	0.69
5:A:191:ALA:HB1	5:A:198:VAL:HG21	1.74	0.69
29:d:135:GLN:N	29:d:150:ARG:O	2.25	0.69
51:z:24:ASN:ND2	52:3:2294:A:OP2	2.25	0.69
52:3:1200:U:H3	52:3:1215:G:H1	0.76	0.69
46:u:92:LYS:NZ	52:3:2340:U:OP1	2.22	0.69
52:3:1785:U:H3	52:3:1792:A:H62	1.40	0.69
52:3:2534:G:N2	52:3:2545:U:O2	2.24	0.69
54:5:536:U:H2'	54:5:537:A:C8	2.26	0.69
28:c:129:ASP:OD2	28:c:131:ASN:ND2	2.25	0.69
54:5:100:G:H21	54:5:102:G:H1	1.41	0.69
4:9:94:ARG:NH1	4:9:312:PHE:O	2.25	0.69
19:O:16:VAL:HG23	19:O:20:VAL:HG12	1.72	0.69
52:3:203:A:N6	52:3:2442:A:N7	2.41	0.69
52:3:675:U:N3	52:3:685:G:N1	2.39	0.69
52:3:900:G:H21	52:3:903:A:N6	1.89	0.69
55:8:43:G:C2	55:8:44:U:H1'	2.26	0.69
8:D:75:ARG:HA	8:D:88:PHE:HA	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:16:VAL:HG21	27:b:192:LEU:HD11	1.72	0.69
52:3:222:A:H2	52:3:239:U:H4'	1.56	0.69
52:3:1294:G:H3'	52:3:1295:A:H2'	1.74	0.69
52:3:2652:U:OP2	52:3:2653:G:N2	2.26	0.69
54:5:358:G:O2'	54:5:360:A:N6	2.22	0.69
54:5:670:G:H2'	54:5:671:G:C8	2.27	0.69
54:5:1172:A:N6	54:5:1173:A:N6	2.41	0.69
4:9:291:GLY:HA3	4:9:394:VAL:HG23	1.74	0.69
10:F:87:PRO:HD2	10:F:151:ALA:HB2	1.74	0.69
28:c:55:LYS:NZ	52:3:709:G:OP2	2.25	0.69
45:t:52:THR:HG22	45:t:53:LYS:H	1.56	0.69
52:3:81:C:H2'	52:3:82:G:H8	1.57	0.69
52:3:82:G:H21	52:3:328:A:H1'	1.56	0.69
52:3:130:C:H2'	52:3:131:C:C6	2.27	0.69
52:3:1091:G:N1	52:3:1137:C:OP2	2.26	0.69
54:5:134:G:N1	54:5:160:A:H2	1.88	0.69
54:5:660:A:N1	54:5:739:G:N2	2.40	0.69
54:5:897:A:H2'	54:5:898:A:H8	1.57	0.69
54:5:1224:C:N4	54:5:1262:A:OP2	2.25	0.69
7:C:53:GLN:HA	7:C:195:TYR:HB3	1.72	0.69
36:k:16:LYS:HE2	52:3:1225:A:H62	1.57	0.69
52:3:61:U:H1'	52:3:75:A:H2'	1.75	0.69
52:3:2307:G:O6	52:3:2325:U:O2	2.09	0.69
6:B:3:GLN:N	54:5:1052:G:OP2	2.26	0.69
7:C:44:SER:HB2	54:5:504:A:H5'	1.75	0.69
52:3:680:A:H2	52:3:2377:A:H1'	1.57	0.69
52:3:1508:G:C6	52:3:1532:A:C2	2.80	0.69
52:3:2533:A:H2'	52:3:2534:G:C8	2.28	0.69
54:5:22:G:H2'	54:5:23:G:C8	2.28	0.69
54:5:198:A:H2'	54:5:199:A:H2'	1.73	0.69
54:5:1006:A:N7	54:5:1016:A:N6	2.40	0.69
54:5:1223:A:N6	54:5:1263:A:OP2	2.26	0.69
55:6:43:G:C2	55:6:44:U:H1'	2.26	0.69
21:Q:42:ARG:HG3	21:Q:63:PHE:HZ	1.57	0.69
28:c:140:THR:HG22	28:c:144:MET:HE3	1.73	0.69
54:5:317:A:H4'	54:5:1411:A:H4'	1.73	0.69
54:5:350:G:N2	54:5:384:G:O2'	2.26	0.69
54:5:376:G:N2	54:5:379:A:OP2	2.20	0.69
55:8:20:G:H21	55:8:58:G:H2'	1.57	0.69
12:H:24:THR:O	12:H:62:ASN:ND2	2.26	0.69
16:L:14:ARG:NH1	54:5:1276:U:O4	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:20:PHE:HD1	30:e:25:ILE:HD12	1.58	0.69
52:3:362:U:H3	52:3:369:C:N4	1.91	0.69
4:9:601:ILE:HD12	4:9:644:PRO:HA	1.74	0.68
11:G:35:THR:HG22	11:G:36:ILE:H	1.57	0.68
21:Q:94:ARG:HB3	21:Q:101:PHE:HA	1.76	0.68
30:e:24:HIS:HB3	30:e:35:GLU:HB3	1.75	0.68
30:e:127:LYS:NZ	30:e:137:SER:OG	2.26	0.68
37:l:129:TRP:HE1	52:3:1065:G:H5''	1.58	0.68
52:3:500:U:O2'	52:3:501:G:OP1	2.11	0.68
52:3:887:A:N6	52:3:964:A:N3	2.41	0.68
52:3:2332:U:H3'	52:3:2333:G:H4'	1.75	0.68
54:5:1213:A:N6	54:5:1275:U:O2'	2.25	0.68
1:0:24:THR:HG23	1:0:27:GLY:H	1.57	0.68
4:9:343:ARG:HH11	4:9:396:LEU:HB3	1.58	0.68
17:M:29:ARG:HD2	17:M:41:ARG:HH22	1.57	0.68
35:j:59:ARG:NH1	52:3:2570:U:OP1	2.26	0.68
36:k:42:ARG:HD3	52:3:841:C:H41	1.57	0.68
38:m:49:ILE:HG23	38:m:87:ALA:HA	1.74	0.68
45:t:90:LYS:HD2	45:t:105:LYS:HA	1.73	0.68
46:u:65:VAL:HG22	46:u:97:VAL:HG23	1.75	0.68
52:3:725:G:N2	52:3:807:U:O2	2.22	0.68
52:3:1807:C:N3	52:3:1824:G:N1	2.40	0.68
52:3:2887:A:H5'	52:3:2888:U:H5''	1.73	0.68
54:5:1261:A:H2'	54:5:1262:A:C8	2.29	0.68
26:a:54:THR:HG21	52:3:1820:U:H1'	1.74	0.68
50:y:13:ARG:HD3	52:3:1293:U:H5''	1.75	0.68
52:3:1063:A:N6	52:3:1161:A:OP1	2.25	0.68
52:3:1841:U:O2	52:3:1979:G:N2	2.25	0.68
54:5:1406:U:H3	54:5:1444:G:H1	1.39	0.68
3:2:1:MET:HB3	3:2:35:ARG:HG3	1.75	0.68
7:C:4:THR:HG21	7:C:7:ILE:HA	1.76	0.68
26:a:220:ARG:NH1	52:3:799:A:N3	2.42	0.68
40:o:100:TYR:OH	40:o:105:ARG:NH2	2.26	0.68
52:3:1004:U:H2'	52:3:1005:G:H8	1.58	0.68
21:Q:84:ARG:NH1	54:5:718:A:N7	2.42	0.68
27:b:45:ASP:OD1	52:3:2792:C:O2'	2.11	0.68
52:3:18:G:H2'	52:3:19:G:H8	1.56	0.68
52:3:524:G:N2	52:3:527:A:C5	2.62	0.68
20:P:13:VAL:HA	20:P:24:VAL:HA	1.76	0.68
43:r:53:SER:HA	52:3:523:A:H1'	1.75	0.68
52:3:272:C:N4	52:3:296:U:OP2	2.26	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:955:A:N6	52:3:2276:A:OP2	2.27	0.68
52:3:988:G:O6	52:3:1002:A:N6	2.27	0.68
52:3:1159:C:H2'	52:3:1160:G:H8	1.58	0.68
52:3:2849:G:O6	52:3:2875:U:O2	2.11	0.68
54:5:830:U:O2	54:5:847:G:N2	2.20	0.68
9:E:99:SER:OG	54:5:835:G:OP1	2.12	0.68
27:b:59:ASN:OD1	27:b:67:GLN:NE2	2.27	0.68
28:c:75:ARG:NH2	52:3:2067:A:N7	2.40	0.68
37:l:87:LYS:HE3	52:3:991:G:H5''	1.75	0.68
52:3:515:A:O2'	52:3:516:A:OP2	2.10	0.68
52:3:561:A:H1'	52:3:2050:G:H21	1.59	0.68
52:3:684:A:H2'	52:3:685:G:H8	1.59	0.68
54:5:40:G:N2	54:5:400:G:H1'	2.08	0.68
16:L:101:ARG:NH1	54:5:946:G:O6	2.27	0.68
52:3:2700:C:O2	52:3:2851:U:O2'	2.12	0.68
52:3:2865:U:H2'	52:3:2866:A:C8	2.29	0.68
6:B:153:LYS:HG2	6:B:172:ILE:HG12	1.76	0.68
36:k:52:GLU:O	52:3:867:G:N2	2.27	0.68
42:q:10:LYS:HE2	52:3:1030:U:H2'	1.75	0.68
44:s:58:LEU:HD22	52:3:1368:U:H3'	1.76	0.68
47:v:29:TRP:HB3	52:3:432:G:H1'	1.75	0.68
52:3:362:U:O2	52:3:369:C:N3	2.27	0.68
52:3:1869:G:H1	52:3:1887:U:H3	1.41	0.68
54:5:15:U:H3	54:5:19:C:H41	1.42	0.68
4:9:151:ILE:HG23	4:9:152:GLN:HE21	1.58	0.68
27:b:224:VAL:HG22	40:o:16:LYS:HB3	1.75	0.68
28:c:4:LEU:HB2	28:c:20:LEU:HD11	1.75	0.68
52:3:1293:U:H3'	52:3:1294:G:C8	2.29	0.68
52:3:1698:A:H62	52:3:1999:G:H22	1.42	0.68
52:3:2896:G:H4'	52:3:2897:G:H21	1.58	0.68
26:a:173:GLN:HG3	26:a:180:VAL:HG23	1.75	0.67
47:v:34:GLN:OE1	52:3:2236:G:N2	2.26	0.67
52:3:650:G:H2'	52:3:651:A:C8	2.29	0.67
52:3:772:C:H1'	52:3:801:U:H4'	1.75	0.67
54:5:169:G:H21	54:5:220:U:H5'	1.59	0.67
54:5:671:G:O6	54:5:713:A:N1	2.28	0.67
54:5:805:C:H2'	54:5:806:A:C8	2.29	0.67
14:J:111:HIS:NE2	54:5:715:A:N3	2.42	0.67
26:a:78:ASN:ND2	31:f:88:PRO:O	2.28	0.67
43:r:114:ARG:HD2	43:r:117:LEU:HD12	1.76	0.67
45:t:40:ASN:ND2	52:3:363:G:O6	2.27	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:y:13:ARG:NH1	52:3:552:C:OP1	2.27	0.67
52:3:413:G:O2'	52:3:1887:U:OP1	2.10	0.67
52:3:628:A:H2'	52:3:629:G:C8	2.28	0.67
52:3:666:G:N2	52:3:669:A:OP2	2.26	0.67
52:3:856:A:H61	52:3:1008:A:H2'	1.60	0.67
52:3:893:A:H2'	52:3:894:G:C8	2.29	0.67
52:3:1733:G:O2'	52:3:1735:A:OP2	2.12	0.67
52:3:1821:G:H3'	52:3:1822:A:H2'	1.75	0.67
54:5:433:C:H2'	54:5:434:U:H6	1.60	0.67
54:5:810:U:O2	54:5:1486:C:O2'	2.12	0.67
8:D:187:THR:OG1	54:5:20:C:OP2	2.11	0.67
20:P:41:ARG:HH22	20:P:43:LYS:HD2	1.58	0.67
22:R:52:HIS:HE1	54:5:1195:G:H21	1.42	0.67
35:j:38:VAL:HG12	35:j:61:VAL:HG22	1.75	0.67
54:5:97:G:H5'	54:5:385:A:H4'	1.75	0.67
54:5:1086:U:O2	54:5:1145:A:O2'	2.10	0.67
52:3:750:A:O2'	52:3:751:A:OP1	2.11	0.67
52:3:2638:G:H5'	52:3:2898:A:H8	1.59	0.67
4:9:109:GLN:NE2	52:3:2664:U:O3'	2.28	0.67
4:9:539:GLN:HA	4:9:542:LEU:HD23	1.76	0.67
7:C:60:MET:HE1	7:C:193:GLU:HA	1.75	0.67
9:E:4:ASN:OD1	21:Q:50:ARG:NH2	2.28	0.67
19:O:33:LEU:HD22	19:O:66:LEU:HD11	1.76	0.67
52:3:107:C:O2	52:3:328:A:O2'	2.13	0.67
52:3:653:G:H2'	52:3:654:G:H8	1.59	0.67
54:5:317:A:N1	54:5:328:G:O6	2.27	0.67
54:5:394:U:H2'	54:5:395:G:C8	2.30	0.67
4:9:320:VAL:HB	4:9:376:ILE:HD11	1.77	0.67
17:M:60:SER:OG	54:5:1105:C:O2	2.12	0.67
27:b:23:ARG:NH2	52:3:2690:U:O2	2.27	0.67
52:3:1217:G:H2'	52:3:1218:G:C8	2.29	0.67
52:3:1295:A:OP1	52:3:2021:A:N6	2.27	0.67
52:3:2131:G:N1	52:3:2182:C:N3	2.35	0.67
54:5:401:U:OP1	54:5:493:A:N6	2.27	0.67
54:5:938:U:H2'	54:5:939:G:H8	1.59	0.67
52:3:2855:A:H62	52:3:2870:U:H5	1.41	0.67
54:5:568:G:H4'	54:5:816:A:H3'	1.77	0.67
54:5:1072:G:H2'	54:5:1073:A:H8	1.60	0.67
54:5:1228:C:H2'	54:5:1229:A:C8	2.30	0.67
1:O:35:ARG:NH2	52:3:56:G:N3	2.42	0.67
4:9:386:THR:HG21	4:9:395:GLN:H	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:27:LYS:NZ	54:5:406:G:OP2	2.28	0.67
26:a:269:ASN:HD22	26:a:272:LYS:HD3	1.59	0.67
50:y:7:ARG:NH2	52:3:2026:A:OP1	2.28	0.67
52:3:665:C:O2'	52:3:675:U:O2	2.11	0.67
52:3:893:A:H2	52:3:957:G:H22	1.43	0.67
52:3:2451:C:H2'	52:3:2452:G:C8	2.30	0.67
52:3:2700:C:O2'	52:3:2851:U:O2	2.13	0.67
52:3:2704:U:H2'	52:3:2705:G:H8	1.60	0.67
54:5:245:U:H3	54:5:271:G:H1	1.41	0.67
54:5:778:A:OP2	54:5:797:G:N2	2.27	0.67
4:9:480:PHE:HB3	4:9:597:LEU:HD23	1.76	0.67
36:k:105:SER:O	36:k:108:SER:OG	2.12	0.67
39:n:49:ASN:HD22	53:4:7:G:H21	1.41	0.67
52:3:50:G:N2	52:3:180:A:N7	2.42	0.67
52:3:2699:C:N3	52:3:2726:G:N1	2.41	0.67
9:E:77:ASN:ND2	54:5:668:U:O3'	2.28	0.67
16:L:120:LYS:HA	54:5:949:G:H4'	1.77	0.67
52:3:602:U:O2'	52:3:1019:A:N6	2.28	0.67
52:3:939:U:H2'	52:3:940:A:H8	1.58	0.67
52:3:1884:A:H3'	52:3:1885:G:H8	1.59	0.67
52:3:2007:U:O2'	52:3:2697:C:N3	2.27	0.67
52:3:2154:A:H2'	52:3:2155:G:H4'	1.77	0.67
54:5:722:G:OP1	54:5:847:G:N2	2.27	0.67
54:5:955:U:H4'	54:5:956:U:H5''	1.77	0.67
23:S:28:LEU:HD13	23:S:54:LEU:HD22	1.77	0.66
26:a:104:GLY:HA3	52:3:1525:G:H21	1.60	0.66
28:c:44:SER:H	52:3:479:A:H62	1.42	0.66
52:3:1446:G:N2	52:3:1613:A:OP2	2.29	0.66
52:3:1810:A:N6	52:3:1829:U:O2'	2.26	0.66
54:5:265:U:H2'	54:5:266:A:C8	2.30	0.66
54:5:966:A:H62	54:5:1208:G:H21	1.43	0.66
2:1:39:ARG:NH2	52:3:2356:U:OP2	2.28	0.66
9:E:99:SER:O	9:E:103:LYS:NZ	2.23	0.66
13:I:17:GLU:HG2	13:I:77:LYS:HD2	1.78	0.66
27:b:227:GLU:HG2	40:o:19:LYS:HB3	1.76	0.66
52:3:574:G:N1	52:3:587:U:N3	2.43	0.66
52:3:874:U:O2'	52:3:1222:A:N3	2.28	0.66
52:3:1371:G:H21	52:3:1412:A:H1'	1.58	0.66
52:3:1798:A:H61	52:3:1835:G:H1'	1.59	0.66
54:5:721:G:OP2	54:5:829:G:N2	2.28	0.66
54:5:975:C:H42	54:5:1334:A:H61	1.40	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1369:A:N6	54:5:1475:A:O2'	2.28	0.66
10:F:50:GLU:HB3	10:F:57:PRO:HG3	1.78	0.66
52:3:433:A:O2'	52:3:2238:G:N2	2.29	0.66
52:3:596:G:H2'	52:3:597:C:C6	2.30	0.66
52:3:1200:U:H5'	52:3:1254:U:C4	2.30	0.66
54:5:56:A:H62	54:5:353:G:H21	1.43	0.66
27:b:198:ALA:HA	52:3:2688:C:H5'	1.77	0.66
29:d:140:GLU:OE1	49:x:27:SER:OG	2.13	0.66
38:m:118:LEU:HG	38:m:119:THR:HG23	1.78	0.66
52:3:1338:G:H22	52:3:1637:A:H61	1.41	0.66
13:I:27:THR:HG23	13:I:98:ILE:HD12	1.77	0.66
26:a:135:SER:OG	26:a:197:ARG:NH2	2.29	0.66
45:t:90:LYS:N	45:t:103:VAL:O	2.29	0.66
52:3:18:G:H2'	52:3:19:G:C8	2.31	0.66
54:5:381:C:H2'	54:5:382:U:C6	2.30	0.66
5:A:154:ARG:NH2	54:5:1087:C:O2'	2.28	0.66
7:C:18:LEU:HB2	7:C:23:LYS:HD2	1.77	0.66
8:D:152:LYS:H	8:D:178:ILE:HD11	1.60	0.66
19:O:25:LYS:HB2	54:5:306:G:H5''	1.76	0.66
26:a:213:ILE:HB	52:3:1798:A:H5''	1.78	0.66
52:3:608:A:OP2	52:3:2507:C:O2'	2.13	0.66
52:3:1447:A:OP2	52:3:1611:C:N4	2.28	0.66
52:3:2058:G:N2	52:3:2059:G:O6	2.27	0.66
54:5:90:G:H21	54:5:375:C:H4'	1.59	0.66
54:5:170:A:H2'	54:5:171:A:C8	2.30	0.66
17:M:18:VAL:HG21	54:5:1291:C:H41	1.61	0.66
26:a:282:ARG:HG2	26:a:283:LYS:HG3	1.77	0.66
28:c:175:ILE:HG22	28:c:177:ASN:H	1.61	0.66
52:3:2745:G:H2'	52:3:2746:A:C8	2.31	0.66
52:3:2825:A:O2'	52:3:2830:A:N1	2.26	0.66
54:5:599:G:H22	54:5:634:U:H2'	1.60	0.66
9:E:3:TYR:OH	9:E:65:ASP:O	2.09	0.66
12:H:12:ARG:O	12:H:15:SER:HB2	1.96	0.66
50:y:4:GLN:HE21	52:3:2022:A:H62	1.44	0.66
52:3:311:G:H1	52:3:396:A:HO2'	1.42	0.66
54:5:40:G:H22	54:5:400:G:H1'	1.60	0.66
10:F:34:LYS:HG2	54:5:1347:U:H1'	1.77	0.66
16:L:16:GLU:HB2	16:L:34:LEU:HD13	1.78	0.66
20:P:18:ASN:ND2	54:5:249:U:O2'	2.29	0.66
52:3:574:G:O6	52:3:587:U:O4	2.14	0.66
54:5:1237:G:H1	54:5:1248:U:H3	1.44	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:7:TYR:HH	54:5:1124:U:HO2'	1.01	0.66
27:b:173:LYS:NZ	52:3:2781:C:OP1	2.29	0.66
33:h:70:THR:O	33:h:108:LYS:NZ	2.24	0.66
43:r:1:MET:N	43:r:107:LEU:O	2.29	0.66
52:3:622:U:H2'	52:3:623:A:C8	2.30	0.66
52:3:2339:G:O2'	52:3:2344:A:N6	2.22	0.66
54:5:62:G:N2	54:5:374:G:O2'	2.28	0.66
15:K:57:LYS:HB3	54:5:1467:A:H1'	1.77	0.65
28:c:187:SER:OG	52:3:651:A:N3	2.29	0.65
52:3:199:A:H61	52:3:202:C:H3'	1.62	0.65
52:3:1836:A:H5''	52:3:1837:C:H5	1.60	0.65
52:3:2406:U:H2'	52:3:2407:G:C8	2.31	0.65
53:4:13:G:N2	53:4:97:A:O2'	2.29	0.65
54:5:579:G:N1	54:5:756:A:OP2	2.21	0.65
54:5:1468:A:O2'	54:5:1469:G:O5'	2.13	0.65
28:c:83:HIS:O	52:3:1286:G:N2	2.29	0.65
30:e:91:ARG:HH22	30:e:132:THR:HG22	1.61	0.65
45:t:10:VAL:HB	45:t:74:LEU:HD22	1.77	0.65
52:3:135:A:H2'	52:3:136:G:C8	2.31	0.65
52:3:335:G:C2	52:3:350:C:C2	2.83	0.65
52:3:403:U:H4'	52:3:404:C:O5'	1.96	0.65
52:3:842:U:O2'	52:3:2067:A:N1	2.28	0.65
52:3:1524:C:H2'	52:3:1525:G:H8	1.60	0.65
52:3:2655:U:H3	52:3:2681:G:H1	1.44	0.65
54:5:593:A:O2'	54:5:596:U:O4	2.11	0.65
54:5:671:G:H1	54:5:713:A:H2	1.42	0.65
54:5:682:G:O6	54:5:700:G:O2'	2.12	0.65
54:5:1212:C:H5'	54:5:1277:C:H1'	1.78	0.65
41:p:82:LEU:HB3	41:p:87:ILE:HD12	1.79	0.65
42:q:67:LYS:NZ	52:3:1255:G:OP1	2.29	0.65
44:s:56:ASN:ND2	52:3:1426:C:OP1	2.28	0.65
52:3:970:U:OP2	52:3:972:C:N4	2.29	0.65
52:3:1306:G:H2'	52:3:1307:G:H8	1.60	0.65
52:3:1385:U:O4	52:3:1402:G:O6	2.14	0.65
52:3:1780:A:H5'	52:3:1796:A:H61	1.62	0.65
52:3:2315:G:N2	52:3:2319:A:O2'	2.26	0.65
54:5:942:G:N2	54:5:1209:C:O2	2.28	0.65
54:5:1133:A:C2	54:5:1153:G:C2	2.85	0.65
54:5:1379:C:O2	54:5:1494:A:O2'	2.13	0.65
11:G:38:SER:HB2	11:G:41:LYS:HG3	1.78	0.65
52:3:1113:U:O2'	52:3:1123:A:OP1	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1370:A:C5	52:3:1425:U:O2	2.49	0.65
52:3:1940:G:H1	52:3:1974:U:H3	0.75	0.65
52:3:2441:A:H5'	55:8:76:C:H5	1.61	0.65
52:3:2603:G:H2'	52:3:2604:U:H3'	1.78	0.65
54:5:1313:A:H2	55:8:31:G:H1'	1.61	0.65
4:9:9:ASN:HB3	4:9:75:CYS:HA	1.77	0.65
40:o:100:TYR:CE2	52:3:2726:G:H4'	2.32	0.65
51:z:5:ARG:HH21	52:3:2293:C:H5	1.43	0.65
52:3:1095:U:H4'	52:3:1096:U:H5'	1.79	0.65
52:3:1370:A:N7	52:3:1425:U:C2	2.64	0.65
52:3:1907:A:H5''	52:3:1977:A:H5'	1.78	0.65
52:3:2155:G:H2'	52:3:2156:G:H8	1.61	0.65
54:5:134:G:N1	54:5:160:A:C2	2.52	0.65
54:5:289:U:H5'	54:5:608:G:H1'	1.78	0.65
4:9:373:CYS:SG	4:9:374:ALA:N	2.70	0.65
9:E:40:LEU:HD11	9:E:59:ARG:HB2	1.79	0.65
26:a:151:GLU:HB3	26:a:158:GLY:HA2	1.78	0.65
52:3:2138:U:H1'	52:3:2140:G:C4	2.31	0.65
3:2:7:VAL:HG13	3:2:37:GLY:HA3	1.79	0.65
4:9:225:LEU:HD13	4:9:235:ILE:HD13	1.77	0.65
27:b:129:LYS:HB3	52:3:2519:U:H5''	1.77	0.65
31:f:23:ASP:OD2	31:f:28:HIS:ND1	2.30	0.65
47:v:51:SER:OG	52:3:433:A:OP1	2.12	0.65
52:3:163:A:N7	52:3:169:U:C2	2.65	0.65
52:3:610:G:H2'	52:3:611:A:C8	2.32	0.65
52:3:730:G:O6	52:3:802:U:O2	2.14	0.65
7:C:19:LEU:HB2	7:C:23:LYS:HG3	1.77	0.65
7:C:96:ARG:NH1	54:5:399:C:OP1	2.30	0.65
18:N:62:ARG:NH1	54:5:753:C:OP1	2.30	0.65
52:3:412:A:H3'	52:3:413:G:H8	1.62	0.65
52:3:1724:A:H61	52:3:1731:G:H2'	1.62	0.65
43:r:15:GLN:OE1	50:y:17:ARG:NH1	2.30	0.65
48:w:49:ARG:NH1	52:3:78:C:OP1	2.30	0.65
52:3:362:U:C2	52:3:369:C:N4	2.65	0.65
52:3:841:C:O2	52:3:2452:G:O2'	2.13	0.65
52:3:1519:A:OP2	52:3:1520:A:N6	2.29	0.65
53:4:75:U:OP2	53:4:88:G:N1	2.30	0.65
54:5:256:G:N2	54:5:257:U:O4	2.30	0.65
54:5:795:U:H2'	54:5:796:A:H8	1.62	0.65
12:H:44:LYS:NZ	12:H:74:PHE:O	2.27	0.65
41:p:89:ILE:HG22	42:q:39:LEU:HD23	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:q:1:MET:H3	42:q:16:GLU:H	1.43	0.65
52:3:1370:A:C5	52:3:1425:U:C2	2.84	0.65
52:3:1473:C:O2	52:3:1580:G:N2	2.30	0.65
52:3:1520:A:H2'	52:3:1521:A:C4	2.32	0.65
52:3:1746:U:H3	52:3:1753:G:H1	1.45	0.65
52:3:1837:C:H2'	52:3:1838:A:C8	2.31	0.65
52:3:2316:G:H1	52:3:2319:A:N6	1.94	0.65
54:5:7:U:O2'	54:5:294:A:OP1	2.14	0.65
54:5:580:C:O2	54:5:756:A:N6	2.30	0.65
54:5:708:A:H2'	54:5:709:A:C8	2.32	0.65
6:B:154:VAL:HG22	6:B:203:VAL:HG12	1.78	0.64
52:3:823:A:OP1	52:3:826:C:N4	2.30	0.64
52:3:1399:G:HO2'	52:3:2221:U:HO2'	1.43	0.64
52:3:2099:U:O4	52:3:2236:G:O6	2.15	0.64
52:3:2845:U:H2'	52:3:2846:A:O4'	1.98	0.64
54:5:1414:U:H2'	54:5:1415:G:H8	1.61	0.64
54:5:1468:A:O4'	55:6:38:G:O2'	2.15	0.64
4:9:498:SER:OG	54:5:515:G:N7	2.30	0.64
17:M:24:CYS:HB3	17:M:27:CYS:HB2	1.80	0.64
31:f:57:HIS:O	31:f:61:ASN:HB2	1.97	0.64
33:h:44:LYS:HA	33:h:47:GLN:HE21	1.60	0.64
34:i:74:ASN:HD21	52:3:1057:G:H5'	1.62	0.64
52:3:522:C:H2'	52:3:523:A:C8	2.32	0.64
52:3:1508:G:C6	52:3:1532:A:N1	2.65	0.64
52:3:1866:G:O6	52:3:1891:A:C6	2.51	0.64
52:3:2645:U:H3'	52:3:2646:G:H8	1.61	0.64
52:3:2662:A:N6	52:3:2674:C:OP2	2.30	0.64
16:L:21:TYR:OH	54:5:1278:G:O6	2.10	0.64
45:t:44:ARG:HB2	45:t:65:GLN:HB2	1.79	0.64
52:3:2254:G:H2'	52:3:2255:A:C8	2.32	0.64
52:3:2810:A:N7	52:3:2811:G:N2	2.44	0.64
54:5:368:C:O2	54:5:385:A:N6	2.31	0.64
4:9:16:MET:HE2	4:9:123:ALA:HB2	1.76	0.64
20:P:11:GLY:HA3	20:P:26:VAL:HG22	1.77	0.64
40:o:117:ARG:NH1	54:5:1436:C:O2	2.26	0.64
52:3:880:C:N4	52:3:968:U:O2'	2.29	0.64
52:3:1083:A:N6	52:3:1148:U:O2	2.30	0.64
52:3:2197:U:H2'	52:3:2198:G:C8	2.32	0.64
54:5:324:C:H4'	54:5:325:A:H5'	1.77	0.64
54:5:331:C:H2'	54:5:332:A:C8	2.32	0.64
54:5:710:G:H2'	54:5:711:G:C8	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:922:G:N2	54:5:1507:U:OP1	2.30	0.64
54:5:970:A:H4'	54:5:1338:A:H61	1.61	0.64
2:1:10:ARG:NH2	52:3:254:G:OP2	2.31	0.64
4:9:51:ASP:HB2	4:9:262:PHE:HE2	1.62	0.64
7:C:29:LYS:N	54:5:409:G:N7	2.44	0.64
7:C:38:HIS:NE2	54:5:539:G:N3	2.46	0.64
7:C:100:ILE:HG21	7:C:136:LEU:HD22	1.80	0.64
11:G:9:LYS:HD2	54:5:651:G:H5'	1.80	0.64
14:J:47:GLY:H	14:J:50:LYS:HE2	1.61	0.64
22:R:32:LYS:HE2	22:R:34:TRP:HE1	1.62	0.64
29:d:125:ARG:O	29:d:161:ASN:ND2	2.30	0.64
32:g:23:GLY:HA2	32:g:113:PHE:HA	1.79	0.64
34:i:111:MET:HE2	52:3:1173:G:N2	2.12	0.64
37:l:23:GLY:N	52:3:900:G:OP2	2.31	0.64
43:r:57:ASN:HD21	52:3:529:G:H21	1.45	0.64
44:s:41:LYS:HG3	44:s:52:PRO:HG2	1.78	0.64
52:3:645:C:H2'	52:3:646:A:C8	2.32	0.64
52:3:1517:G:N7	52:3:1521:A:N6	2.46	0.64
52:3:2458:A:N6	52:3:2509:C:C2	2.65	0.64
52:3:2638:G:H1'	52:3:2896:G:H5'	1.78	0.64
54:5:126:U:N3	54:5:220:U:O2	2.31	0.64
54:5:240:U:O4	54:5:899:U:O2'	2.15	0.64
54:5:367:A:C6	54:5:387:G:N1	2.66	0.64
54:5:493:A:H1'	54:5:494:A:O4'	1.96	0.64
54:5:987:U:O2'	54:5:1034:G:N7	2.31	0.64
23:S:16:LYS:NZ	54:5:88:A:OP1	2.24	0.64
24:T:31:ARG:NH2	54:5:716:C:OP1	2.30	0.64
34:i:80:HIS:HD2	34:i:87:ILE:HB	1.62	0.64
37:l:39:GLY:HA2	37:l:97:VAL:HG12	1.78	0.64
52:3:347:C:H2'	52:3:348:A:C8	2.32	0.64
52:3:611:A:H5'	52:3:1285:U:H4'	1.80	0.64
52:3:759:U:H3'	52:3:760:G:C8	2.32	0.64
52:3:1351:G:H2'	52:3:1352:G:C8	2.32	0.64
52:3:2469:A:H2'	52:3:2470:C:C6	2.32	0.64
54:5:96:G:H1	54:5:326:C:H41	1.44	0.64
54:5:288:A:O2'	54:5:607:A:N6	2.29	0.64
54:5:782:G:H2'	54:5:783:G:C8	2.33	0.64
2:1:33:LYS:HD3	2:1:41:LEU:HD12	1.79	0.64
4:9:24:THR:HG21	4:9:60:GLY:HA2	1.80	0.64
52:3:66:A:N6	52:3:93:A:N7	2.45	0.64
52:3:1295:A:N3	52:3:1296:G:N2	2.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:104:MET:HE1	7:C:167:VAL:HB	1.79	0.64
14:J:119:ARG:NH1	14:J:120:PRO:O	2.30	0.64
18:N:51:ARG:NH2	54:5:725:A:OP1	2.30	0.64
20:P:41:ARG:NH1	54:5:233:C:OP1	2.24	0.64
26:a:138:LEU:HA	26:a:141:ILE:HD12	1.79	0.64
29:d:38:MET:HE1	29:d:150:ARG:HB3	1.78	0.64
33:h:108:LYS:HE3	52:3:1094:G:H4'	1.80	0.64
40:o:57:GLY:N	52:3:2850:G:OP1	2.31	0.64
52:3:275:A:H2'	52:3:276:A:C4	2.33	0.64
52:3:647:G:N2	52:3:651:A:OP2	2.29	0.64
52:3:1429:G:H2'	52:3:1430:U:O4'	1.98	0.64
52:3:1775:G:H21	52:3:1964:C:H4'	1.61	0.64
53:4:95:G:H2'	53:4:96:G:C8	2.33	0.64
54:5:134:G:O6	54:5:160:A:N1	2.31	0.64
54:5:1383:A:H2'	54:5:1384:A:C8	2.32	0.64
54:5:1438:U:H2'	54:5:1439:G:C8	2.32	0.64
7:C:14:LEU:HB3	7:C:59:ARG:HG2	1.80	0.64
26:a:69:ILE:HG12	26:a:96:VAL:HG21	1.80	0.64
34:i:29:GLY:HA3	52:3:1175:C:H5'	1.79	0.64
35:j:57:VAL:HG21	52:3:2569:A:H5'	1.79	0.64
52:3:759:U:H3'	52:3:760:G:H8	1.63	0.64
52:3:864:A:N7	52:3:2255:A:O2'	2.31	0.64
52:3:1552:C:H2'	52:3:1553:G:C8	2.33	0.64
52:3:2336:A:H2'	52:3:2337:U:C6	2.33	0.64
54:5:133:G:H21	54:5:1422:A:H1'	1.62	0.64
54:5:1472:G:OP1	55:8:38:G:N2	2.30	0.64
4:9:129:PRO:HD2	4:9:284:VAL:HG23	1.80	0.64
29:d:125:ARG:HE	52:3:2324:A:H1'	1.63	0.64
31:f:68:LEU:HA	31:f:71:VAL:HG22	1.80	0.64
52:3:205:C:O2'	52:3:424:G:N1	2.30	0.64
52:3:680:A:H2'	52:3:682:A:H8	1.63	0.64
52:3:1588:A:O2'	52:3:1589:A:O5'	2.16	0.64
54:5:833:G:N2	54:5:844:U:O2	2.21	0.64
5:A:31:GLY:O	5:A:218:ASN:ND2	2.30	0.63
28:c:21:SER:HB3	28:c:204:LEU:HB3	1.80	0.63
32:g:29:TYR:HB3	32:g:106:MET:HG3	1.80	0.63
52:3:1055:A:N3	52:3:1056:A:N6	2.45	0.63
52:3:1265:G:H2'	52:3:1266:G:C4	2.32	0.63
52:3:2273:U:OP2	52:3:2274:A:O2'	2.15	0.63
52:3:2581:C:H42	55:6:76:C:H1'	1.63	0.63
54:5:1245:A:H2'	54:5:1246:A:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:35:ARG:N	5:A:52:ASN:HD22	1.96	0.63
28:c:128:VAL:HG21	28:c:198:LEU:HB3	1.79	0.63
52:3:1200:U:O2	52:3:1215:G:N2	2.23	0.63
52:3:1708:G:N2	52:3:1998:U:H3	1.96	0.63
52:3:1871:U:N3	52:3:1885:G:N1	2.46	0.63
52:3:2269:C:H1'	52:3:2396:A:H1'	1.81	0.63
54:5:331:C:H2'	54:5:332:A:H8	1.63	0.63
54:5:1062:C:H2'	54:5:1063:G:H8	1.62	0.63
54:5:1352:A:O2'	54:5:1354:G:O6	2.16	0.63
54:5:1417:U:H2'	54:5:1418:G:C8	2.33	0.63
52:3:2009:U:H2'	52:3:2010:A:H8	1.62	0.63
10:F:113:LYS:O	54:5:1272:C:N4	2.31	0.63
21:Q:42:ARG:HG3	21:Q:63:PHE:CZ	2.33	0.63
27:b:7:PHE:CE1	27:b:206:LEU:HD13	2.33	0.63
29:d:36:ILE:HG22	29:d:89:VAL:HB	1.81	0.63
52:3:526:G:N2	52:3:1348:C:OP1	2.30	0.63
52:3:2609:C:H2'	52:3:2611:G:C8	2.32	0.63
54:5:318:C:H2'	54:5:319:U:C6	2.33	0.63
54:5:585:G:N1	54:5:750:A:O2'	2.31	0.63
54:5:1330:A:H2'	54:5:1331:A:C8	2.34	0.63
7:C:198:GLU:OE2	8:D:167:ARG:NH2	2.31	0.63
15:K:133:LYS:HA	54:5:37:C:H5''	1.79	0.63
24:T:37:ARG:NH1	54:5:1502:G:N7	2.45	0.63
49:x:18:SER:OG	49:x:42:CYS:SG	2.57	0.63
52:3:684:A:H2'	52:3:685:G:C8	2.34	0.63
53:4:71:A:OP2	53:4:92:A:N6	2.29	0.63
5:A:158:ARG:NH1	54:5:1089:C:OP2	2.32	0.63
21:Q:44:CYS:HG	21:Q:82:HIS:HE2	1.44	0.63
45:t:93:MET:HB3	45:t:103:VAL:HG11	1.81	0.63
52:3:337:U:H2'	52:3:338:G:C8	2.33	0.63
52:3:442:G:N1	52:3:457:U:C2	2.67	0.63
52:3:1326:C:N4	52:3:1677:G:H1	1.97	0.63
52:3:1862:A:H2'	52:3:1863:G:O4'	1.99	0.63
52:3:1940:G:O6	52:3:1974:U:O4	2.16	0.63
52:3:2603:G:N2	52:3:2606:A:OP2	2.32	0.63
52:3:2758:A:O2'	52:3:2760:C:N4	2.31	0.63
54:5:29:G:N2	54:5:291:C:O2'	2.26	0.63
54:5:109:G:H22	54:5:232:G:H1	1.46	0.63
54:5:940:G:N2	54:5:1308:G:O2'	2.32	0.63
21:Q:74:ARG:NH2	24:T:49:ALA:O	2.32	0.63
47:v:26:ARG:NH1	52:3:192:U:OP2	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:z:19:TYR:OH	52:3:2355:C:O2'	2.16	0.63
52:3:2586:G:OP1	52:3:2622:A:N6	2.27	0.63
54:5:975:C:N4	54:5:1334:A:H61	1.97	0.63
54:5:1325:U:H3	54:5:1346:G:H1	1.46	0.63
20:P:18:ASN:HB2	20:P:21:THR:HB	1.81	0.63
37:l:32:TYR:CE1	37:l:133:LYS:HD2	2.34	0.63
44:s:55:VAL:HG22	44:s:83:ILE:HG12	1.81	0.63
48:w:91:LEU:HB2	52:3:1628:G:H5''	1.79	0.63
52:3:77:G:N1	52:3:113:U:N3	2.46	0.63
54:5:40:G:N2	54:5:437:U:O2	2.31	0.63
54:5:87:G:H2'	54:5:88:A:H8	1.64	0.63
54:5:537:A:H2'	54:5:538:G:O4'	1.98	0.63
54:5:590:G:H2'	54:5:591:A:H8	1.63	0.63
4:9:363:GLU:OE2	54:5:57:U:O2'	2.15	0.63
21:Q:78:ASN:HB2	21:Q:82:HIS:HB2	1.79	0.63
27:b:11:VAL:HB	40:o:10:ILE:HD11	1.81	0.63
30:e:97:TYR:HA	30:e:109:GLN:O	1.99	0.63
33:h:11:LYS:HB3	52:3:1133:A:H4'	1.79	0.63
38:m:69:ASN:HD22	38:m:69:ASN:C	2.07	0.63
45:t:91:TYR:H	52:3:332:G:P	2.22	0.63
52:3:1133:A:H3'	52:3:1134:G:H8	1.64	0.63
53:4:16:G:N2	53:4:63:U:O2	2.31	0.63
54:5:682:G:O2'	54:5:701:A:N6	2.30	0.63
54:5:1136:G:H1	54:5:1151:A:H2	1.44	0.63
54:5:1441:C:H2'	54:5:1442:A:C4	2.33	0.63
7:C:121:HIS:HE2	54:5:435:U:H4'	1.64	0.62
10:F:75:ARG:NH2	54:5:1353:C:N3	2.44	0.62
35:j:5:MET:N	35:j:21:ILE:O	2.27	0.62
40:o:58:LYS:H	52:3:2849:G:H5''	1.64	0.62
52:3:244:G:N2	52:3:260:A:OP2	2.31	0.62
52:3:328:A:N6	52:3:378:G:O2'	2.32	0.62
52:3:401:G:H3'	52:3:402:A:H5''	1.80	0.62
54:5:98:G:N2	54:5:311:A:N3	2.46	0.62
54:5:1060:C:N4	54:5:1097:G:O6	2.30	0.62
54:5:1338:A:O2'	54:5:1339:U:O5'	2.17	0.62
7:C:133:SER:HB3	54:5:398:G:H4'	1.81	0.62
14:J:32:GLY:O	54:5:680:G:N2	2.32	0.62
14:J:77:LEU:HB3	14:J:103:ILE:HD12	1.80	0.62
19:O:56:GLY:HA3	54:5:223:G:H21	1.64	0.62
52:3:220:A:H2'	52:3:221:A:O4'	1.99	0.62
52:3:647:G:O2'	52:3:651:A:N6	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:782:U:OP2	52:3:2619:C:O2'	2.18	0.62
52:3:1009:A:H1'	52:3:1218:G:H21	1.65	0.62
52:3:2207:A:H61	52:3:2232:G:H2'	1.64	0.62
54:5:793:C:N4	54:5:794:C:N4	2.47	0.62
10:F:48:LEU:HA	10:F:51:GLN:HG3	1.82	0.62
31:f:127:THR:HG23	31:f:137:VAL:HG12	1.80	0.62
34:i:76:PHE:HB3	34:i:89:LYS:HD3	1.81	0.62
36:k:114:LEU:HB2	36:k:132:SER:H	1.62	0.62
46:u:60:TYR:OH	52:3:2339:G:O3'	2.17	0.62
52:3:1959:A:N1	52:3:2568:G:N2	2.42	0.62
53:4:89:A:H3'	53:4:90:G:H8	1.64	0.62
54:5:590:G:H1	54:5:644:U:H3	1.45	0.62
54:5:830:U:H2'	54:5:831:C:C6	2.33	0.62
5:A:180:ASP:HB3	5:A:183:TYR:HB2	1.80	0.62
26:a:179:TYR:HB3	26:a:191:LYS:HB2	1.82	0.62
26:a:249:VAL:HG21	52:3:1909:C:H5''	1.81	0.62
32:g:7:LYS:HA	32:g:10:GLN:HE21	1.63	0.62
38:m:14:ARG:NH2	52:3:2009:U:OP1	2.32	0.62
40:o:34:ALA:HB3	40:o:87:SER:HB3	1.81	0.62
45:t:16:LYS:H	45:t:39:LEU:HD11	1.65	0.62
52:3:567:U:H4'	52:3:568:G:H8	1.65	0.62
52:3:779:C:H2'	52:3:780:G:H5'	1.80	0.62
52:3:1100:U:O2	52:3:1108:A:N6	2.31	0.62
52:3:1766:A:H2'	52:3:1767:A:C8	2.34	0.62
55:8:38:G:H3'	55:8:39:A:C8	2.35	0.62
6:B:10:LEU:HB2	17:M:58:LYS:HB2	1.80	0.62
26:a:78:ASN:H	26:a:124:SER:HB3	1.63	0.62
46:u:33:LYS:HB2	46:u:55:ARG:HH21	1.63	0.62
48:w:102:ARG:NH2	52:3:1627:U:OP1	2.32	0.62
52:3:353:G:H2'	52:3:354:C:C2	2.33	0.62
54:5:215:C:N4	54:5:216:G:O6	2.32	0.62
54:5:600:G:H2'	54:5:601:U:C6	2.35	0.62
54:5:764:A:H2'	54:5:765:A:C8	2.35	0.62
54:5:765:A:O2'	54:5:1498:G:N2	2.33	0.62
4:9:60:GLY:O	4:9:64:THR:OG1	2.17	0.62
4:9:67:ALA:HA	4:9:80:ILE:HG12	1.81	0.62
4:9:323:LEU:HB3	4:9:356:MET:HE3	1.81	0.62
8:D:146:ALA:HB3	54:5:20:C:H5''	1.80	0.62
26:a:164:ALA:HB1	26:a:205:ASN:HB3	1.80	0.62
28:c:4:LEU:HB3	28:c:127:LEU:HB2	1.81	0.62
28:c:128:VAL:HG13	28:c:132:LEU:HD11	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:f:33:LYS:NZ	31:f:130:ILE:O	2.26	0.62
35:j:29:ARG:NH2	52:3:2683:G:O2'	2.32	0.62
52:3:2195:U:H2'	52:3:2196:G:C8	2.34	0.62
54:5:415:C:OP1	54:5:511:A:O2'	2.17	0.62
54:5:600:G:H1	54:5:633:U:H3	1.47	0.62
54:5:671:G:N1	54:5:713:A:C2	2.67	0.62
54:5:1062:C:H2'	54:5:1063:G:C8	2.35	0.62
55:6:38:G:H3'	55:6:39:A:C8	2.35	0.62
2:1:35:THR:HB	2:1:39:ARG:HH21	1.64	0.62
5:A:249:LYS:NZ	5:A:251:ASP:O	2.31	0.62
6:B:61:THR:O	6:B:64:THR:HB	2.00	0.62
10:F:129:ASN:HA	10:F:134:ILE:HG13	1.82	0.62
11:G:21:LYS:HB3	11:G:33:VAL:HG11	1.81	0.62
27:b:150:GLY:O	52:3:2059:G:O2'	2.18	0.62
44:s:45:GLU:HG2	44:s:51:LYS:HA	1.82	0.62
52:3:2054:C:O2'	52:3:2827:A:N1	2.31	0.62
52:3:2819:C:H2'	52:3:2820:G:H8	1.63	0.62
54:5:957:C:O2'	54:5:1176:A:N6	2.33	0.62
54:5:1345:G:H2'	54:5:1346:G:H8	1.64	0.62
54:5:1489:C:H2'	54:5:1490:G:C8	2.34	0.62
2:1:4:LYS:HD2	2:1:6:ALA:HB3	1.81	0.62
4:9:569:HIS:NE2	54:5:1184:C:OP2	2.33	0.62
7:C:91:ARG:HD2	7:C:181:PHE:HB3	1.80	0.62
10:F:76:VAL:HB	10:F:83:ASN:HD21	1.64	0.62
11:G:39:LYS:NZ	54:5:589:U:OP2	2.25	0.62
36:k:53:GLY:HA2	52:3:200:A:H2	1.65	0.62
52:3:154:U:H2'	52:3:155:A:C8	2.35	0.62
52:3:991:G:O2'	52:3:2284:G:OP2	2.17	0.62
52:3:1005:G:N2	52:3:1021:C:OP1	2.32	0.62
52:3:1016:A:N3	52:3:2044:C:O2'	2.31	0.62
52:3:1701:G:N1	52:3:1999:G:OP2	2.19	0.62
52:3:2339:G:H21	52:3:2344:A:H8	1.48	0.62
52:3:2376:C:H2'	52:3:2377:A:C8	2.35	0.62
52:3:2399:G:N1	52:3:2433:A:OP1	2.25	0.62
52:3:2603:G:O2'	52:3:2605:G:O6	2.18	0.62
53:4:34:U:O4	53:4:47:C:O2'	2.10	0.62
54:5:920:G:H4'	54:5:921:G:H3'	1.81	0.62
28:c:42:GLN:OE1	36:k:5:GLN:NE2	2.29	0.62
52:3:152:A:H61	52:3:180:A:H2	1.46	0.62
54:5:546:G:H2'	54:5:547:C:C6	2.35	0.62
54:5:778:A:O5'	54:5:1497:U:O2'	2.18	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1404:U:H2'	54:5:1405:U:C6	2.35	0.62
54:5:1489:C:H2'	54:5:1490:G:H8	1.65	0.62
5:A:95:LEU:O	5:A:99:ILE:HG12	2.00	0.62
32:g:14:VAL:HG11	32:g:58:ILE:HB	1.81	0.62
40:o:29:ASP:OD2	40:o:93:ARG:NH2	2.33	0.62
47:v:34:GLN:NE2	52:3:2098:U:O2'	2.33	0.62
52:3:481:C:O2	52:3:485:A:N1	2.33	0.62
52:3:517:G:N2	52:3:544:U:O2	2.32	0.62
54:5:684:A:N6	54:5:698:U:O4'	2.33	0.62
54:5:709:A:H2'	54:5:710:G:C8	2.35	0.62
54:5:1000:A:O2'	54:5:1030:G:OP1	2.18	0.62
9:E:136:LEU:HB2	54:5:834:G:H21	1.65	0.61
27:b:97:THR:HG22	27:b:189:MET:HE3	1.81	0.61
52:3:227:A:O2'	52:3:456:G:N3	2.31	0.61
52:3:1137:C:H2'	52:3:1138:A:H8	1.65	0.61
52:3:1772:G:H2'	52:3:1773:A:H8	1.65	0.61
54:5:63:U:O2'	54:5:375:C:O2	2.18	0.61
54:5:213:U:OP2	54:5:461:G:N2	2.30	0.61
54:5:808:C:H5''	54:5:896:G:N2	2.14	0.61
6:B:159:ARG:NH2	6:B:196:TYR:O	2.33	0.61
14:J:19:SER:OG	14:J:21:ASN:OD1	2.17	0.61
15:K:12:ARG:NH1	54:5:562:U:OP2	2.26	0.61
19:O:49:ALA:HB1	19:O:72:LEU:HD22	1.82	0.61
45:t:44:ARG:N	45:t:63:VAL:O	2.22	0.61
52:3:1445:U:H2'	52:3:1446:G:O4'	2.00	0.61
52:3:1737:G:O2'	54:5:1403:A:O2'	2.12	0.61
52:3:1761:C:H2'	52:3:1762:A:C8	2.35	0.61
54:5:69:G:C2	54:5:137:A:N1	2.67	0.61
54:5:409:G:O3'	54:5:425:G:N2	2.33	0.61
54:5:1068:G:N2	54:5:1071:A:OP2	2.24	0.61
55:8:68:G:O2'	55:8:69:A:O4'	2.17	0.61
4:9:605:GLU:OE1	4:9:668:GLN:NE2	2.32	0.61
7:C:8:PHE:CD2	54:5:426:U:H5''	2.35	0.61
7:C:63:MET:HE1	7:C:191:ILE:HG13	1.82	0.61
29:d:91:LEU:HD12	29:d:95:ARG:HB3	1.82	0.61
30:e:110:LEU:HD11	30:e:155:ARG:HB2	1.82	0.61
32:g:15:SER:HA	32:g:62:ALA:HA	1.82	0.61
40:o:93:ARG:NH1	52:3:2853:U:O4	2.32	0.61
42:q:67:LYS:HD2	42:q:86:ARG:HD3	1.82	0.61
52:3:599:U:O4	52:3:608:A:N6	2.33	0.61
52:3:780:G:H1'	52:3:785:A:H61	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1084:C:N4	52:3:2759:G:O6	2.32	0.61
52:3:1261:U:H2'	52:3:1262:G:C8	2.35	0.61
52:3:1310:U:O4	52:3:1314:A:N7	2.33	0.61
52:3:2299:U:O2	52:3:2382:A:O2'	2.17	0.61
54:5:1467:A:H5'	54:5:1468:A:H5''	1.81	0.61
55:6:68:G:O2'	55:6:69:A:O4'	2.17	0.61
4:9:18:HIS:HD1	4:9:86:VAL:HG23	1.64	0.61
5:A:89:ASN:OD1	5:A:90:ASP:N	2.29	0.61
15:K:128:SER:HB2	54:5:499:U:H4'	1.83	0.61
26:a:285:GLU:HG3	26:a:286:GLN:HG2	1.82	0.61
46:u:85:LYS:NZ	46:u:93:THR:OG1	2.28	0.61
52:3:351:G:H2'	52:3:352:C:C6	2.35	0.61
52:3:477:U:O2'	52:3:649:A:N1	2.33	0.61
52:3:730:G:N2	52:3:1656:A:O2'	2.33	0.61
52:3:823:A:H4'	52:3:824:A:H5''	1.81	0.61
52:3:899:A:O2'	53:4:90:G:N2	2.22	0.61
52:3:1208:A:N6	52:3:1210:A:O2'	2.33	0.61
52:3:1345:G:H2'	52:3:1346:G:C8	2.35	0.61
52:3:1534:A:HO2'	52:3:1535:A:H8	1.48	0.61
52:3:2439:U:O2	52:3:2441:A:N6	2.33	0.61
52:3:2696:G:N1	52:3:2728:U:OP2	2.31	0.61
54:5:887:C:H41	54:5:900:G:H21	1.46	0.61
54:5:957:C:H2'	54:5:958:G:C8	2.35	0.61
54:5:1289:U:O2	54:5:1334:A:O2'	2.18	0.61
2:1:26:THR:O	52:3:2428:C:N4	2.33	0.61
41:p:24:PHE:HD2	50:y:11:HIS:CE1	2.19	0.61
41:p:31:TYR:N	52:3:614:C:OP1	2.33	0.61
52:3:1053:C:H5''	52:3:1071:G:H1'	1.82	0.61
52:3:2663:G:N2	52:3:2673:A:O4'	2.33	0.61
52:3:2829:G:N2	52:3:2829:G:OP2	2.32	0.61
54:5:433:C:H2'	54:5:434:U:C6	2.35	0.61
54:5:988:G:H5''	54:5:991:A:H62	1.65	0.61
4:9:114:PRO:O	4:9:662:ARG:NH1	2.32	0.61
4:9:130:ARG:NH2	4:9:251:CYS:SG	2.72	0.61
27:b:15:GLN:NE2	40:o:80:GLN:OE1	2.33	0.61
38:m:106:ARG:HD2	38:m:109:ASP:HB2	1.81	0.61
39:n:58:LEU:HD13	53:4:106:A:H1'	1.82	0.61
52:3:558:C:O2'	52:3:574:G:N2	2.33	0.61
52:3:1156:C:OP1	52:3:1180:U:O2'	2.19	0.61
52:3:1806:G:O4'	52:3:1826:A:N6	2.33	0.61
52:3:2098:U:H3'	52:3:2099:U:H2'	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:35:C:H2'	54:5:36:G:C8	2.36	0.61
54:5:1229:A:H2'	54:5:1230:G:C8	2.34	0.61
55:6:38:G:H3'	55:6:39:A:H8	1.65	0.61
11:G:87:VAL:HG22	11:G:141:VAL:HG13	1.83	0.61
31:f:25:TYR:OH	47:v:37:LYS:O	2.17	0.61
35:j:91:LYS:HB3	35:j:111:TYR:H	1.65	0.61
38:m:109:ASP:OD1	52:3:2016:G:N2	2.32	0.61
39:n:96:SER:HA	53:4:45:C:H5''	1.82	0.61
52:3:1536:C:H2'	52:3:1537:A:H8	1.66	0.61
52:3:1957:G:N2	52:3:1992:C:O2'	2.31	0.61
52:3:2093:U:H2'	52:3:2094:A:C8	2.35	0.61
52:3:2125:U:OP1	52:3:2154:A:O2'	2.13	0.61
52:3:2220:A:O2'	52:3:2222:C:N4	2.33	0.61
52:3:2334:U:O4	52:3:2397:G:O6	2.19	0.61
52:3:2726:G:N2	52:3:2850:G:O2'	2.32	0.61
54:5:1300:C:H2'	54:5:1301:U:H6	1.66	0.61
54:5:1359:C:H2'	54:5:1360:G:H8	1.65	0.61
55:6:9:U:O2'	55:6:22:A:N1	2.31	0.61
26:a:114:GLY:HA3	26:a:132:PRO:HG2	1.82	0.61
41:p:1:MET:HE2	52:3:1231:G:H1'	1.82	0.61
52:3:596:G:N2	52:3:611:A:N1	2.44	0.61
52:3:858:A:H2'	52:3:859:G:C8	2.36	0.61
52:3:1020:G:OP1	52:3:1021:C:N4	2.24	0.61
54:5:189:C:H2'	54:5:190:A:H8	1.64	0.61
54:5:351:C:H1'	54:5:384:G:H1'	1.83	0.61
9:E:7:LEU:HB2	9:E:60:TRP:HZ3	1.65	0.61
34:i:3:LYS:N	42:q:12:TYR:OH	2.27	0.61
36:k:19:THR:HB	36:k:22:ARG:HB2	1.82	0.61
38:m:61:ARG:NH2	52:3:1482:U:O2	2.34	0.61
39:n:52:LEU:HD13	39:n:84:LEU:HD13	1.81	0.61
40:o:91:LYS:O	40:o:92:ARG:HG3	2.01	0.61
48:w:42:HIS:NE2	52:3:97:A:O2'	2.27	0.61
52:3:2557:G:H2'	52:3:2558:G:C8	2.36	0.61
52:3:2646:G:H1	52:3:2783:A:H2'	1.65	0.61
52:3:2784:A:O2'	52:3:2790:A:N7	2.33	0.61
54:5:273:C:O2	54:5:278:A:O2'	2.18	0.61
54:5:803:C:H2'	54:5:804:A:H8	1.65	0.61
18:N:51:ARG:NH1	54:5:577:G:O2'	2.33	0.61
29:d:155:THR:HG21	52:3:2322:G:H1'	1.83	0.61
35:j:8:LEU:HD11	35:j:84:CYS:SG	2.41	0.61
52:3:214:C:H2'	52:3:215:A:C8	2.36	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:918:G:O6	52:3:932:U:O2'	2.19	0.61
52:3:1348:C:H5	52:3:1357:U:H5''	1.65	0.61
54:5:821:U:H2'	54:5:822:A:C8	2.35	0.61
54:5:1098:C:H2'	54:5:1099:G:H8	1.65	0.61
54:5:1133:A:C6	54:5:1153:G:C4	2.88	0.61
2:1:33:LYS:HD2	2:1:38:LYS:HA	1.81	0.60
27:b:42:GLU:HG3	27:b:48:SER:HB2	1.82	0.60
47:v:10:ARG:NH1	52:3:433:A:OP2	2.34	0.60
52:3:774:A:N3	52:3:775:C:N4	2.47	0.60
52:3:1643:A:H4'	52:3:1650:A:H5'	1.83	0.60
52:3:1871:U:O2	52:3:1885:G:N2	2.33	0.60
52:3:2121:A:H3'	52:3:2122:G:H8	1.66	0.60
52:3:2229:C:H2'	52:3:2230:A:C8	2.35	0.60
52:3:2357:G:N1	52:3:2377:A:C6	2.68	0.60
54:5:242:A:N6	54:5:275:A:OP2	2.33	0.60
54:5:945:U:H2'	54:5:946:G:H8	1.66	0.60
54:5:1406:U:O2	54:5:1444:G:N2	2.28	0.60
4:9:102:ALA:HB3	4:9:130:ARG:HG2	1.81	0.60
4:9:437:THR:OG1	4:9:446:THR:OG1	2.17	0.60
5:A:92:VAL:HA	5:A:229:MET:HE1	1.83	0.60
15:K:130:TYR:OH	54:5:520:C:OP1	2.16	0.60
28:c:31:GLN:HB3	36:k:11:LYS:HZ2	1.65	0.60
28:c:98:ASN:ND2	52:3:624:U:OP1	2.33	0.60
48:w:41:PRO:O	48:w:44:ILE:HB	2.00	0.60
52:3:514:A:N6	52:3:535:G:O2'	2.35	0.60
52:3:1207:U:N3	52:3:1210:A:C6	2.69	0.60
52:3:2169:G:H4'	52:3:2170:A:H5''	1.82	0.60
52:3:2743:U:H2'	52:3:2744:A:C8	2.37	0.60
54:5:292:U:H2'	54:5:293:G:C8	2.37	0.60
54:5:316:G:H2'	54:5:317:A:C8	2.36	0.60
54:5:603:U:O2	54:5:630:G:N2	2.33	0.60
54:5:915:U:H2'	54:5:916:U:C6	2.37	0.60
4:9:222:ASP:OD2	4:9:242:ARG:NH1	2.34	0.60
6:B:54:SER:H	6:B:71:ALA:HA	1.65	0.60
10:F:115:MET:HG2	54:5:1214:A:H3'	1.84	0.60
32:g:112:TYR:HE1	32:g:123:LEU:HB2	1.66	0.60
36:k:120:LEU:HD23	36:k:124:LEU:HD11	1.82	0.60
52:3:1520:A:HO2'	52:3:1612:U:HO2'	1.35	0.60
52:3:1760:G:O2'	52:3:2702:G:O2'	2.17	0.60
52:3:2353:G:H1'	52:3:2389:A:H2'	1.84	0.60
52:3:2753:C:H2'	52:3:2754:U:C6	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:309:A:H2'	54:5:310:C:C6	2.36	0.60
54:5:886:A:H61	54:5:900:G:H1'	1.64	0.60
54:5:1376:G:O6	54:5:1479:G:N2	2.34	0.60
55:8:38:G:H3'	55:8:39:A:H8	1.65	0.60
7:C:114:ARG:NH1	54:5:399:C:OP1	2.35	0.60
10:F:34:LYS:HE3	54:5:1263:A:H2'	1.83	0.60
11:G:17:ASP:OD1	11:G:21:LYS:NZ	2.33	0.60
28:c:75:ARG:NH2	52:3:2067:A:H62	1.95	0.60
33:h:74:ILE:HD13	52:3:1098:G:H4'	1.82	0.60
39:n:64:ASN:OD1	39:n:70:ALA:N	2.34	0.60
43:r:129:VAL:HG11	52:3:579:U:H3'	1.82	0.60
52:3:612:G:O2'	52:3:2026:A:OP2	2.20	0.60
52:3:1200:U:O4	52:3:1215:G:O6	2.19	0.60
52:3:1501:U:O2	52:3:1542:G:N2	2.35	0.60
52:3:1558:A:H3'	52:3:1570:A:H61	1.67	0.60
54:5:72:A:H2'	54:5:73:G:C8	2.35	0.60
54:5:807:C:O2'	54:5:895:A:N6	2.35	0.60
54:5:989:A:N6	54:5:1188:A:N1	2.49	0.60
4:9:497:GLN:OE1	54:5:1042:G:N2	2.34	0.60
6:B:15:ASN:ND2	6:B:214:GLY:O	2.35	0.60
14:J:120:PRO:HB3	54:5:689:U:H5''	1.82	0.60
22:R:37:ARG:NH1	54:5:1194:A:OP1	2.33	0.60
40:o:54:ARG:HB3	40:o:100:TYR:HD1	1.64	0.60
52:3:163:A:N3	52:3:2216:U:O2'	2.27	0.60
52:3:274:A:H2'	52:3:275:A:C8	2.36	0.60
52:3:630:C:H2'	52:3:631:A:C8	2.36	0.60
52:3:1207:U:C4	52:3:1210:A:C6	2.90	0.60
54:5:498:G:N2	54:5:547:C:O2'	2.33	0.60
55:6:28:A:H2'	55:6:29:C:C2	2.36	0.60
14:J:16:VAL:HG22	14:J:25:VAL:HG12	1.81	0.60
52:3:912:A:N6	52:3:939:U:O4	2.34	0.60
52:3:1132:C:H2'	52:3:1133:A:O4'	2.01	0.60
52:3:1510:A:H2'	52:3:1511:C:C6	2.36	0.60
52:3:1699:A:H2'	52:3:1700:G:C8	2.36	0.60
52:3:2190:G:H2'	52:3:2191:G:C8	2.37	0.60
52:3:2271:C:H2'	52:3:2272:C:C6	2.37	0.60
52:3:2422:G:H2'	52:3:2423:G:H5'	1.83	0.60
54:5:457:A:H2'	54:5:458:G:H8	1.67	0.60
5:A:27:ARG:HG3	5:A:28:THR:HG23	1.82	0.60
12:H:54:LEU:HD23	12:H:89:LEU:HD11	1.84	0.60
14:J:33:ASN:HA	54:5:680:G:H21	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:59:C:H2'	52:3:60:G:C8	2.37	0.60
52:3:299:A:H2'	52:3:300:G:H8	1.67	0.60
52:3:481:C:O2	52:3:485:A:H2	1.84	0.60
52:3:1043:C:OP2	52:3:1046:A:N6	2.35	0.60
52:3:2465:U:O4	52:3:2502:G:O6	2.20	0.60
52:3:2832:G:H2'	52:3:2833:A:C8	2.37	0.60
54:5:422:A:H2'	54:5:423:U:C6	2.36	0.60
54:5:442:G:H2'	54:5:443:G:H8	1.67	0.60
54:5:641:U:H2'	54:5:642:A:H8	1.67	0.60
54:5:1055:G:O2'	54:5:1165:G:N2	2.34	0.60
54:5:1228:C:H2'	54:5:1229:A:H8	1.67	0.60
54:5:1322:U:C2	54:5:1349:A:N7	2.69	0.60
55:8:28:A:H2'	55:8:29:C:C2	2.36	0.60
22:R:34:TRP:HB3	22:R:51:VAL:HA	1.84	0.60
30:e:102:GLU:OE2	30:e:107:ASN:ND2	2.34	0.60
30:e:118:GLU:OE1	30:e:154:TRP:NE1	2.32	0.60
35:j:19:VAL:HG23	35:j:43:VAL:HA	1.84	0.60
44:s:7:LEU:HD21	44:s:40:VAL:HG13	1.83	0.60
48:w:48:ARG:NH2	52:3:61:U:O2'	2.34	0.60
52:3:47:G:O2'	52:3:471:A:N1	2.32	0.60
52:3:786:A:OP1	52:3:1648:A:N6	2.31	0.60
52:3:1313:G:N1	52:3:1357:U:OP1	2.32	0.60
52:3:2376:C:H2'	52:3:2377:A:H8	1.67	0.60
52:3:2557:G:H2'	52:3:2558:G:H8	1.67	0.60
54:5:339:U:O2'	54:5:340:A:H2'	2.02	0.60
54:5:367:A:N1	54:5:387:G:C2	2.69	0.60
54:5:659:U:O2	54:5:740:G:C6	2.53	0.60
54:5:1211:A:O2'	54:5:1308:G:N2	2.35	0.60
4:9:351:SER:OG	4:9:352:ARG:NH1	2.34	0.60
7:C:14:LEU:HD13	7:C:59:ARG:HA	1.82	0.60
7:C:121:HIS:CG	7:C:147:LYS:HD2	2.36	0.60
23:S:26:THR:HG22	54:5:1432:A:H4'	1.83	0.60
27:b:72:LYS:HD3	52:3:2794:U:H5''	1.84	0.60
29:d:68:THR:OG1	52:3:2321:C:OP1	2.19	0.60
52:3:663:A:N6	52:3:673:A:O5'	2.29	0.60
54:5:612:G:N2	54:5:624:U:O2	2.34	0.60
6:B:193:GLN:HE22	54:5:1180:U:H4'	1.67	0.60
10:F:63:ARG:HE	10:F:127:SER:HB3	1.67	0.60
20:P:4:ASN:HA	54:5:113:C:H5''	1.83	0.60
28:c:21:SER:H	28:c:204:LEU:HD22	1.66	0.60
33:h:10:ALA:HA	52:3:1133:A:H1'	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:n:19:ILE:O	39:n:22:THR:OG1	2.18	0.60
44:s:3:VAL:HG13	44:s:5:ASN:H	1.66	0.60
51:z:37:PHE:HE1	52:3:2379:G:H1'	1.66	0.60
52:3:409:A:H1'	52:3:411:U:C5	2.37	0.60
52:3:507:A:H2'	52:3:508:A:C8	2.37	0.60
52:3:1871:U:O2	52:3:1885:G:C2	2.55	0.60
52:3:2693:U:H2'	52:3:2694:A:C8	2.37	0.60
52:3:2705:G:H2'	52:3:2706:U:C6	2.37	0.60
52:3:2888:U:O2'	52:3:2890:G:H5'	2.02	0.60
54:5:1142:G:N1	54:5:1146:A:N1	2.50	0.60
4:9:274:VAL:HG13	4:9:278:LEU:HD22	1.83	0.59
5:A:203:ASN:OD1	5:A:219:ASN:ND2	2.34	0.59
9:E:7:LEU:HD13	9:E:85:GLU:HA	1.84	0.59
15:K:9:ARG:NH1	54:5:581:A:N1	2.50	0.59
16:L:81:SER:O	16:L:92:ARG:NH1	2.36	0.59
28:c:42:GLN:O	52:3:1232:U:O2'	2.20	0.59
39:n:105:LEU:O	39:n:108:ALA:HB3	2.02	0.59
52:3:486:G:N1	52:3:490:A:OP2	2.31	0.59
54:5:547:C:N4	54:5:548:G:O6	2.35	0.59
54:5:776:C:H2'	54:5:777:A:C8	2.37	0.59
54:5:1344:C:H2'	54:5:1345:G:C8	2.36	0.59
9:E:21:VAL:HG12	9:E:25:GLN:HE21	1.67	0.59
9:E:49:ILE:HG13	54:5:670:G:H5''	1.84	0.59
9:E:104:LYS:HZ1	21:Q:49:LEU:HD23	1.66	0.59
12:H:124:ARG:HH11	54:5:1318:C:H4'	1.68	0.59
15:K:27:ASN:HA	15:K:72:ASN:HB3	1.84	0.59
26:a:178:LYS:HA	26:a:194:LYS:HG2	1.84	0.59
27:b:142:ARG:HG2	52:3:1690:C:H5''	1.84	0.59
28:c:182:HIS:HB3	28:c:185:LYS:HB2	1.84	0.59
52:3:1423:A:H2'	52:3:1426:C:H41	1.66	0.59
52:3:1772:G:H2'	52:3:1773:A:C8	2.37	0.59
52:3:1940:G:N3	52:3:1980:G:O2'	2.35	0.59
54:5:1230:G:O2'	54:5:1233:G:N3	2.27	0.59
1:0:34:ARG:HE	1:0:42:LEU:HD23	1.67	0.59
5:A:57:VAL:HG21	5:A:60:LEU:HD12	1.83	0.59
26:a:35:LYS:HD3	52:3:1454:G:N7	2.17	0.59
37:l:126:PRO:HG3	52:3:2493:G:H4'	1.85	0.59
50:y:10:LYS:NZ	52:3:19:G:OP1	2.35	0.59
52:3:336:C:H2'	52:3:337:U:C6	2.37	0.59
52:3:1916:C:H2'	52:3:1917:G:H8	1.66	0.59
52:3:2516:G:H3'	52:3:2517:A:H8	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2645:U:H3'	52:3:2646:G:C8	2.37	0.59
52:3:2733:A:C8	52:3:2735:G:O6	2.55	0.59
53:4:90:G:H3'	53:4:91:A:H8	1.67	0.59
54:5:1316:C:H2'	54:5:1317:A:N7	2.17	0.59
55:8:63:U:H2'	55:8:64:G:H8	1.67	0.59
7:C:61:GLN:NE2	54:5:543:C:OP1	2.35	0.59
15:K:82:GLY:HA2	15:K:130:TYR:CE1	2.36	0.59
22:R:73:GLU:HB2	54:5:1294:U:H4'	1.85	0.59
38:m:4:ILE:HD11	52:3:789:A:H4'	1.84	0.59
48:w:65:TRP:HE3	52:3:146:G:H21	1.50	0.59
52:3:344:A:H4'	52:3:345:A:C8	2.37	0.59
52:3:595:U:H2'	52:3:605:A:H1'	1.84	0.59
52:3:640:U:O2	52:3:658:G:C6	2.55	0.59
52:3:1053:C:OP1	52:3:1071:G:O2'	2.20	0.59
52:3:2350:C:O2'	52:3:2382:A:H5''	2.02	0.59
54:5:94:A:H61	54:5:320:G:H1'	1.67	0.59
54:5:601:U:H2'	54:5:602:G:C8	2.37	0.59
54:5:1057:C:O2	54:5:1166:A:N6	2.35	0.59
54:5:1193:U:H2'	54:5:1194:A:C8	2.37	0.59
37:l:17:TYR:HE2	37:l:99:GLN:HE22	1.49	0.59
39:n:61:LYS:HD3	39:n:72:LEU:HD23	1.84	0.59
52:3:154:U:H2'	52:3:155:A:H8	1.68	0.59
52:3:339:U:O4	52:3:346:G:O6	2.21	0.59
52:3:440:C:H4'	52:3:441:U:H3'	1.84	0.59
52:3:703:A:N6	52:3:705:A:O2'	2.36	0.59
52:3:1820:U:O2'	52:3:1821:G:OP1	2.19	0.59
52:3:2266:C:C2	52:3:2434:A:H4'	2.37	0.59
54:5:75:A:N1	54:5:81:A:N6	2.50	0.59
54:5:674:U:H3	54:5:710:G:H1	1.51	0.59
54:5:719:G:H1	54:5:730:G:H1	1.51	0.59
4:9:226:MET:HE1	25:W:86:LYS:HZ1	1.66	0.59
5:A:30:VAL:HG12	5:A:56:PHE:H	1.67	0.59
8:D:108:ALA:HB3	8:D:114:ALA:HB2	1.84	0.59
10:F:30:MET:HE3	10:F:33:GLY:HA2	1.84	0.59
33:h:13:ASN:ND2	52:3:1096:U:O2'	2.32	0.59
38:m:81:HIS:CE1	38:m:85:LYS:HD2	2.37	0.59
52:3:630:C:H2'	52:3:631:A:H8	1.68	0.59
52:3:675:U:O2	52:3:685:G:N2	2.35	0.59
52:3:842:U:OP1	52:3:2453:G:O2'	2.21	0.59
52:3:2346:G:H2'	52:3:2347:G:H8	1.67	0.59
52:3:2351:U:O2'	52:3:2381:G:O2'	2.20	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2744:A:H2'	52:3:2745:G:C8	2.38	0.59
4:9:313:LYS:HB3	4:9:325:PHE:HB2	1.83	0.59
29:d:47:SER:O	29:d:147:LYS:NZ	2.34	0.59
48:w:50:LEU:O	48:w:53:THR:HG22	2.02	0.59
52:3:341:G:N2	52:3:343:A:H3'	2.17	0.59
52:3:709:G:H21	52:3:2452:G:H4'	1.66	0.59
52:3:855:A:N6	52:3:1009:A:OP1	2.33	0.59
52:3:888:A:H2'	52:3:889:G:C8	2.37	0.59
52:3:2789:A:H5''	52:3:2790:A:H5'	1.84	0.59
12:H:86:VAL:HA	12:H:89:LEU:HD12	1.84	0.59
33:h:72:VAL:HG12	33:h:76:LEU:HB2	1.85	0.59
34:i:14:LYS:O	34:i:16:ARG:NH1	2.35	0.59
37:l:11:LYS:O	52:3:2285:G:O2'	2.20	0.59
41:p:30:SER:HA	52:3:614:C:H5'	1.84	0.59
52:3:165:U:O2'	52:3:168:A:N6	2.36	0.59
52:3:1077:G:N1	52:3:1148:U:N3	2.51	0.59
52:3:1105:A:OP2	52:3:1110:C:N4	2.32	0.59
52:3:2248:C:H2'	52:3:2249:A:C8	2.37	0.59
52:3:2483:C:H42	52:3:2537:G:H22	1.51	0.59
52:3:2493:G:H2'	52:3:2494:C:H6	1.67	0.59
54:5:1149:G:H2'	54:5:1150:G:C8	2.38	0.59
8:D:78:LYS:NZ	54:5:1073:A:OP1	2.35	0.59
23:S:9:LYS:NZ	54:5:89:G:O6	2.32	0.59
52:3:2277:A:H3'	52:3:2278:G:H8	1.68	0.59
52:3:2534:G:O6	52:3:2545:U:O4	2.21	0.59
52:3:2683:G:O6	52:3:2740:U:C4	2.55	0.59
54:5:244:C:O2'	54:5:279:C:O2'	2.19	0.59
54:5:663:G:H2'	54:5:664:A:C8	2.38	0.59
55:6:63:U:H2'	55:6:64:G:H8	1.67	0.59
4:9:349:ARG:NH2	54:5:365:U:O2'	2.35	0.59
32:g:76:ILE:HG22	32:g:77:LYS:H	1.68	0.59
52:3:135:A:H2'	52:3:136:G:H8	1.68	0.59
52:3:201:A:H3'	52:3:202:C:H6	1.67	0.59
52:3:313:G:H2'	52:3:314:G:C1'	2.32	0.59
52:3:1111:C:H2'	52:3:1112:A:C8	2.36	0.59
52:3:1355:C:H4'	52:3:1356:G:OP1	2.03	0.59
52:3:1372:U:O2'	52:3:1373:C:OP1	2.21	0.59
52:3:1701:G:C4	52:3:1998:U:H5	2.21	0.59
52:3:2475:C:N4	52:3:2490:A:OP1	2.36	0.59
52:3:2819:C:H2'	52:3:2820:G:C8	2.38	0.59
54:5:947:U:O2'	54:5:964:A:N1	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:66:ALA:HB1	4:9:313:LYS:HG2	1.85	0.58
6:B:121:ARG:NH2	6:B:190:GLU:OE1	2.36	0.58
16:L:100:GLN:NE2	54:5:1281:U:OP1	2.30	0.58
26:a:10:SER:O	52:3:1729:G:O2'	2.19	0.58
26:a:269:ASN:HD21	52:3:1810:A:H5'	1.68	0.58
27:b:135:HIS:CD2	52:3:1705:U:H1'	2.37	0.58
39:n:98:TYR:CE1	39:n:103:ALA:HA	2.38	0.58
47:v:13:LEU:HB3	47:v:29:TRP:HB2	1.85	0.58
52:3:614:C:H2'	52:3:615:G:C8	2.38	0.58
52:3:1412:A:O2'	52:3:1432:C:O2	2.20	0.58
52:3:1962:U:O4	52:3:2565:G:N2	2.36	0.58
52:3:2071:C:H2'	52:3:2072:C:C6	2.38	0.58
52:3:2681:G:H2'	52:3:2682:A:C8	2.38	0.58
54:5:84:U:H2'	54:5:85:U:C6	2.37	0.58
54:5:1087:C:H2'	54:5:1088:C:C6	2.38	0.58
4:9:129:PRO:HG3	4:9:279:PRO:HD2	1.85	0.58
4:9:341:ASN:O	4:9:345:ASN:N	2.36	0.58
9:E:4:ASN:HB2	9:E:88:ILE:HB	1.85	0.58
10:F:107:ALA:HB1	10:F:119:ILE:HG13	1.83	0.58
29:d:61:SER:OG	29:d:63:GLN:O	2.19	0.58
30:e:125:THR:OG1	30:e:137:SER:OG	2.20	0.58
40:o:34:ALA:N	40:o:87:SER:O	2.31	0.58
44:s:58:LEU:HD11	44:s:80:LEU:HD12	1.85	0.58
52:3:64:U:O2'	52:3:92:U:O4	2.20	0.58
52:3:252:G:O2'	52:3:2440:A:N6	2.28	0.58
52:3:997:G:O2'	52:3:2038:A:N6	2.35	0.58
52:3:1089:A:H2'	52:3:1090:G:C8	2.38	0.58
52:3:1125:U:H2'	52:3:1126:G:O4'	2.03	0.58
52:3:1807:C:C2	52:3:1824:G:N1	2.71	0.58
52:3:2427:U:H2'	52:3:2428:C:C6	2.39	0.58
52:3:2591:G:OP2	55:6:77:A:N6	2.36	0.58
52:3:2766:A:H2'	52:3:2767:G:O4'	2.04	0.58
54:5:185:G:O2'	54:5:186:A:O4'	2.20	0.58
54:5:420:A:H3'	54:5:421:G:H8	1.67	0.58
54:5:675:U:H1'	54:5:774:A:H4'	1.85	0.58
54:5:1055:G:H21	54:5:1165:G:H1'	1.68	0.58
54:5:1193:U:H2'	54:5:1194:A:H8	1.68	0.58
54:5:1297:G:N3	54:5:1335:G:O2'	2.35	0.58
54:5:1317:A:H2'	54:5:1318:C:C6	2.38	0.58
12:H:21:LEU:HD21	12:H:85:ILE:HD12	1.85	0.58
52:3:277:C:H2'	52:3:278:U:C6	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:622:U:H2'	52:3:623:A:H8	1.68	0.58
52:3:638:A:H2'	52:3:639:G:C8	2.37	0.58
52:3:1002:A:H1'	52:3:2275:A:H62	1.67	0.58
52:3:1061:A:H2'	52:3:1062:A:H8	1.68	0.58
52:3:1621:U:H2'	52:3:1622:C:C6	2.38	0.58
52:3:2005:G:H2'	52:3:2006:C:C6	2.38	0.58
52:3:2865:U:H2'	52:3:2866:A:H8	1.68	0.58
54:5:61:A:N6	54:5:373:A:O2'	2.35	0.58
12:H:40:TYR:HD1	54:5:1223:A:H4'	1.68	0.58
14:J:64:ALA:HB2	14:J:93:PHE:HD1	1.67	0.58
22:R:55:LYS:HG3	22:R:56:THR:HG23	1.85	0.58
52:3:339:U:H3	52:3:346:G:H1	1.51	0.58
52:3:633:G:O6	52:3:692:U:O4	2.21	0.58
52:3:642:A:OP2	52:3:655:G:N1	2.34	0.58
52:3:1090:G:N2	52:3:1120:A:N3	2.50	0.58
54:5:283:U:H2'	54:5:284:A:H8	1.69	0.58
54:5:527:G:O2'	54:5:531:A:N6	2.37	0.58
54:5:775:G:H1	54:5:801:U:H3	1.49	0.58
55:6:41:C:H2'	55:6:42:C:C6	2.39	0.58
4:9:343:ARG:NH2	4:9:382:THR:OG1	2.36	0.58
7:C:117:VAL:HG22	7:C:122:VAL:HG21	1.84	0.58
7:C:148:THR:HA	7:C:151:ILE:HG12	1.85	0.58
8:D:78:LYS:H	8:D:85:ASN:HB2	1.69	0.58
8:D:101:ILE:HG12	8:D:196:MET:HE1	1.85	0.58
22:R:36:ARG:HG2	54:5:1195:G:H4'	1.85	0.58
38:m:59:ASN:O	38:m:63:VAL:HG12	2.04	0.58
39:n:36:LEU:HD13	53:4:29:C:N4	2.18	0.58
42:q:36:ASP:HA	42:q:54:ARG:HG3	1.84	0.58
42:q:47:ALA:HB3	42:q:48:PRO:HD3	1.84	0.58
42:q:52:LYS:O	42:q:52:LYS:HD3	2.03	0.58
42:q:76:GLN:NE2	52:3:604:A:O2'	2.36	0.58
52:3:26:G:H2'	52:3:27:U:H6	1.68	0.58
52:3:67:C:O2'	52:3:492:C:N3	2.34	0.58
52:3:118:G:N7	52:3:120:A:O2'	2.33	0.58
52:3:2336:A:H2'	52:3:2337:U:H6	1.67	0.58
54:5:1300:C:H2'	54:5:1301:U:C6	2.38	0.58
55:8:19:G:OP2	55:8:61:U:O2'	2.22	0.58
2:1:21:ARG:HG2	2:1:47:VAL:HG13	1.85	0.58
11:G:62:ASN:OD1	11:G:63:LYS:NZ	2.35	0.58
27:b:132:PRO:HG3	52:3:2518:C:H1'	1.85	0.58
33:h:70:THR:HG21	33:h:75:LEU:HD22	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:r:95:MET:O	52:3:2020:A:O2'	2.21	0.58
52:3:1070:U:H2'	52:3:1071:G:C8	2.38	0.58
52:3:1079:U:O2'	52:3:1146:A:N6	2.36	0.58
52:3:1414:C:H2'	52:3:1415:A:C8	2.37	0.58
52:3:1511:C:H2'	52:3:1512:A:C8	2.39	0.58
52:3:2696:G:H1'	52:3:2730:G:H22	1.67	0.58
52:3:2862:U:H2'	52:3:2863:G:C2	2.39	0.58
54:5:688:G:H22	54:5:692:A:H3'	1.69	0.58
55:8:41:C:H2'	55:8:42:C:C6	2.39	0.58
55:8:44:U:H2'	55:8:45:G:C8	2.38	0.58
27:b:28:VAL:HG13	27:b:190:LEU:HD21	1.85	0.58
52:3:195:A:H2'	52:3:196:G:C8	2.38	0.58
52:3:597:C:O2'	52:3:1283:A:N1	2.32	0.58
52:3:2036:G:H3'	52:3:2038:A:H5'	1.85	0.58
4:9:478:VAL:HG12	4:9:480:PHE:H	1.69	0.58
4:9:576:MET:HA	4:9:579:LYS:HG3	1.84	0.58
7:C:54:LEU:O	7:C:58:GLN:HG2	2.04	0.58
7:C:116:LEU:HD22	7:C:154:VAL:HG11	1.85	0.58
9:E:151:LYS:O	11:G:56:ASN:ND2	2.28	0.58
14:J:77:LEU:HD12	14:J:90:ILE:HD12	1.84	0.58
14:J:115:LYS:HZ3	54:5:1499:G:H5''	1.68	0.58
16:L:83:ILE:HD13	22:R:66:MET:HE1	1.85	0.58
26:a:31:ASN:ND2	52:3:1602:G:OP2	2.37	0.58
31:f:97:ILE:HA	31:f:100:GLN:HG3	1.85	0.58
36:k:89:LYS:HD3	36:k:122:LYS:HD3	1.85	0.58
42:q:1:MET:HE1	42:q:42:ASP:H	1.69	0.58
51:z:9:LEU:HD23	51:z:49:GLU:HG2	1.86	0.58
52:3:332:G:N2	52:3:375:U:O4	2.36	0.58
52:3:432:G:O6	52:3:433:A:N6	2.37	0.58
52:3:844:G:H4'	52:3:1283:A:H2'	1.86	0.58
52:3:860:C:H2'	52:3:861:U:O4'	2.04	0.58
52:3:1639:C:H3'	52:3:1640:G:H8	1.68	0.58
52:3:1976:A:H2'	52:3:1979:G:H21	1.69	0.58
52:3:2032:G:H2'	52:3:2033:G:C8	2.39	0.58
53:4:13:G:OP1	53:4:64:G:N2	2.36	0.58
54:5:526:C:N4	54:5:527:G:O6	2.36	0.58
54:5:825:A:H2'	54:5:826:G:O4'	2.03	0.58
55:8:44:U:H2'	55:8:45:G:H8	1.69	0.58
20:P:68:PRO:HA	20:P:74:ARG:HA	1.86	0.58
27:b:23:ARG:HB2	35:j:74:GLY:HA2	1.86	0.58
37:l:28:ALA:N	37:l:105:GLU:OE1	2.31	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:2:ARG:NH1	41:p:3:ILE:O	2.37	0.58
52:3:362:U:C2	52:3:369:C:C4	2.91	0.58
52:3:523:A:H2'	52:3:524:G:C8	2.39	0.58
52:3:1371:G:N2	52:3:1412:A:H1'	2.18	0.58
52:3:1478:U:O2'	52:3:1480:A:N6	2.36	0.58
52:3:1671:C:H2'	52:3:1672:C:C6	2.39	0.58
52:3:1930:U:H2'	52:3:1931:C:C6	2.38	0.58
52:3:1937:G:HO2'	52:3:1975:G:H1	1.50	0.58
52:3:2353:G:O6	52:3:2379:G:O6	2.22	0.58
52:3:2794:U:H2'	52:3:2795:C:H6	1.69	0.58
54:5:23:G:H2'	54:5:24:C:C6	2.38	0.58
54:5:706:U:H2'	54:5:707:G:H8	1.68	0.58
54:5:818:A:H2'	54:5:819:G:C8	2.39	0.58
54:5:1075:G:H21	54:5:1093:A:N6	2.02	0.58
54:5:1403:A:N1	54:5:1447:U:C4	2.71	0.58
2:1:27:SER:OG	52:3:2430:C:N4	2.36	0.58
12:H:73:GLY:O	12:H:76:GLY:N	2.37	0.58
26:a:160:ILE:HG23	52:3:1806:G:C2	2.39	0.58
30:e:146:GLN:HB2	52:3:2752:G:H21	1.68	0.58
52:3:785:A:O2'	52:3:787:C:OP1	2.22	0.58
52:3:1237:G:H2'	52:3:1238:A:C8	2.37	0.58
52:3:1414:C:H2'	52:3:1415:A:H8	1.69	0.58
52:3:1687:G:H4'	52:3:1688:A:H5''	1.83	0.58
52:3:1785:U:O4	52:3:1792:A:N7	2.36	0.58
52:3:1879:A:H3'	52:3:1880:G:H8	1.68	0.58
54:5:7:U:H2'	54:5:8:G:C8	2.39	0.58
54:5:69:G:N3	54:5:137:A:N1	2.51	0.58
54:5:600:G:N2	54:5:633:U:O2	2.30	0.58
54:5:708:A:H2'	54:5:709:A:H8	1.68	0.58
55:6:44:U:H2'	55:6:45:G:C8	2.38	0.58
4:9:626:LEU:HB2	4:9:642:LYS:HE3	1.85	0.57
10:F:79:ILE:HG12	10:F:155:TRP:CG	2.39	0.57
13:I:34:VAL:HG11	13:I:96:ILE:HG21	1.85	0.57
13:I:61:PRO:HA	17:M:42:LEU:HD11	1.86	0.57
52:3:380:A:H3'	52:3:381:A:H8	1.69	0.57
52:3:488:G:O2'	52:3:507:A:OP2	2.18	0.57
52:3:1557:G:O5'	52:3:1571:G:N2	2.36	0.57
52:3:1973:U:H4'	52:3:1974:U:H5'	1.85	0.57
52:3:2141:A:H8	52:3:2164:G:H21	1.50	0.57
52:3:2522:U:H2'	52:3:2523:C:C6	2.38	0.57
53:4:70:G:N1	53:4:93:U:OP2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:97:G:H2'	54:5:98:G:C8	2.39	0.57
54:5:343:G:H2'	54:5:344:G:C8	2.38	0.57
54:5:570:A:N6	54:5:858:A:N7	2.51	0.57
54:5:1011:A:H2'	54:5:1012:A:O4'	2.04	0.57
15:K:127:ARG:HA	15:K:132:ALA:HB3	1.86	0.57
18:N:66:TYR:HB2	54:5:751:C:H4'	1.85	0.57
19:O:54:ASN:ND2	54:5:124:U:OP1	2.36	0.57
31:f:15:ARG:HE	31:f:16:PHE:H	1.52	0.57
52:3:85:U:O2'	52:3:104:A:N6	2.37	0.57
52:3:604:A:O2'	52:3:608:A:N6	2.37	0.57
52:3:628:A:H2'	52:3:629:G:H8	1.69	0.57
52:3:1207:U:C4	52:3:1210:A:N1	2.72	0.57
52:3:1766:A:N6	52:3:2705:G:H1'	2.14	0.57
52:3:2094:A:H2'	52:3:2095:A:C8	2.37	0.57
54:5:55:C:H2'	54:5:348:C:H41	1.68	0.57
54:5:448:A:N6	54:5:478:G:OP2	2.37	0.57
54:5:831:C:H2'	54:5:832:G:H8	1.68	0.57
54:5:982:A:H2'	54:5:983:G:C8	2.39	0.57
54:5:1065:G:N2	54:5:1074:U:O2	2.24	0.57
54:5:1177:U:OP1	54:5:1178:C:N4	2.36	0.57
54:5:1283:G:H2'	54:5:1284:A:C8	2.39	0.57
55:6:19:G:OP2	55:6:61:U:O2'	2.22	0.57
4:9:479:SER:OG	4:9:481:ARG:NH1	2.35	0.57
4:9:491:GLU:OE2	4:9:506:HIS:ND1	2.35	0.57
10:F:94:ARG:HD2	54:5:1351:U:H4'	1.84	0.57
17:M:2:ALA:N	54:5:1039:G:O2'	2.35	0.57
18:N:62:ARG:NE	54:5:752:G:OP1	2.35	0.57
26:a:225:ARG:NH1	52:3:816:A:OP1	2.37	0.57
42:q:6:VAL:H	42:q:37:LYS:HZ3	1.51	0.57
42:q:87:GLN:NE2	52:3:1197:G:O2'	2.31	0.57
45:t:16:LYS:NZ	52:3:342:G:O2'	2.37	0.57
45:t:44:ARG:HD3	45:t:65:GLN:HG3	1.86	0.57
52:3:237:A:N6	52:3:268:C:O2'	2.38	0.57
52:3:567:U:O4	52:3:2028:G:O2'	2.22	0.57
52:3:1091:G:O2'	52:3:1138:A:N6	2.37	0.57
52:3:1814:G:H2'	52:3:1815:U:H2'	1.86	0.57
52:3:2671:G:H2'	52:3:2672:G:C8	2.39	0.57
54:5:403:A:H2'	54:5:404:A:H8	1.69	0.57
54:5:997:G:H22	54:5:1029:C:H1'	1.70	0.57
54:5:1154:A:H2'	54:5:1155:A:C8	2.40	0.57
55:8:57:C:O3'	55:8:58:G:N2	2.34	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:28:HIS:HB2	52:3:2430:C:C5	2.39	0.57
15:K:6:GLN:NE2	54:5:875:G:N7	2.52	0.57
26:a:65:LYS:HE2	52:3:1603:A:H4'	1.86	0.57
34:i:14:LYS:HG2	34:i:52:ASP:H	1.69	0.57
34:i:107:ALA:O	52:3:1173:G:O2'	2.21	0.57
36:k:112:ILE:HG22	36:k:128:VAL:HG12	1.87	0.57
37:l:10:ARG:NH1	52:3:2286:A:OP1	2.36	0.57
38:m:101:LEU:HD13	50:y:53:VAL:HG12	1.86	0.57
52:3:1543:U:H2'	52:3:1544:G:C8	2.39	0.57
54:5:296:A:O2'	54:5:562:U:O4	2.16	0.57
54:5:731:A:H2'	54:5:732:A:C8	2.39	0.57
54:5:735:C:H2'	54:5:736:U:C6	2.39	0.57
54:5:1267:G:H2'	54:5:1268:G:H8	1.69	0.57
4:9:78:ASN:ND2	4:9:371:ASP:OD1	2.37	0.57
9:E:2:GLN:H	9:E:90:LEU:HB2	1.69	0.57
16:L:93:LYS:HZ1	22:R:83:HIS:HB3	1.70	0.57
17:M:29:ARG:NH2	54:5:969:A:N7	2.52	0.57
20:P:21:THR:OG1	20:P:73:LYS:NZ	2.35	0.57
21:Q:73:ARG:NH2	21:Q:78:ASN:O	2.38	0.57
47:v:12:PRO:HB3	47:v:30:ASN:HA	1.86	0.57
52:3:512:G:O2'	52:3:537:A:N6	2.37	0.57
52:3:1009:A:H5'	52:3:1219:U:H1'	1.85	0.57
52:3:1370:A:N6	52:3:1425:U:H3	2.03	0.57
54:5:1059:G:N7	54:5:1085:G:H2'	2.19	0.57
55:6:11:G:C6	55:6:27:A:N6	2.72	0.57
55:8:11:G:C6	55:8:27:A:N6	2.73	0.57
4:9:626:LEU:H	4:9:642:LYS:HG2	1.69	0.57
43:r:5:ALA:HB1	43:r:50:LEU:HB3	1.85	0.57
45:t:14:THR:HG21	52:3:345:A:H62	1.70	0.57
52:3:79:U:H2'	52:3:80:U:C6	2.38	0.57
52:3:1297:U:N3	52:3:2020:A:N7	2.53	0.57
54:5:576:A:H2'	54:5:577:G:C8	2.39	0.57
54:5:704:U:H2'	54:5:705:A:C8	2.40	0.57
54:5:786:U:N3	54:5:789:A:OP2	2.34	0.57
55:6:44:U:H2'	55:6:45:G:H8	1.69	0.57
3:2:4:ARG:HG3	3:2:5:ALA:H	1.69	0.57
7:C:119:HIS:HD2	54:5:436:U:C5	2.22	0.57
10:F:60:VAL:HG11	10:F:124:ILE:HD13	1.86	0.57
32:g:55:LYS:HB3	32:g:58:ILE:HG12	1.86	0.57
40:o:58:LYS:NZ	52:3:2728:U:OP1	2.31	0.57
42:q:2:HIS:CE1	42:q:40:MET:HE3	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:80:U:H2'	52:3:81:C:C6	2.40	0.57
52:3:271:G:O2'	52:3:315:A:N6	2.37	0.57
52:3:337:U:H2'	52:3:338:G:H8	1.69	0.57
52:3:401:G:O2'	52:3:402:A:OP1	2.21	0.57
52:3:1616:G:N2	52:3:1617:U:H1'	2.20	0.57
52:3:2130:A:H61	52:3:2180:U:H4'	1.69	0.57
53:4:26:C:H2'	53:4:27:A:C8	2.40	0.57
54:5:799:A:N6	54:5:1498:G:O2'	2.37	0.57
28:c:200:GLU:HG2	28:c:202:GLU:H	1.67	0.57
43:r:13:SER:HB2	52:3:2019:G:OP2	2.04	0.57
52:3:162:G:H1'	52:3:170:A:H61	1.70	0.57
52:3:758:C:H2'	52:3:759:U:C6	2.39	0.57
52:3:1070:U:O4	52:3:1155:G:O6	2.22	0.57
52:3:1866:G:O6	52:3:1891:A:C5	2.58	0.57
52:3:2284:G:N2	52:3:2285:G:C2	2.73	0.57
52:3:2295:A:H62	52:3:2354:A:H8	1.52	0.57
52:3:2306:A:H3'	52:3:2307:G:H8	1.69	0.57
52:3:2591:G:O2'	52:3:2613:U:OP2	2.21	0.57
52:3:2599:C:N4	52:3:2600:G:O6	2.38	0.57
52:3:2835:G:N2	52:3:2887:A:O2'	2.37	0.57
53:4:22:G:H22	53:4:57:G:H1	1.51	0.57
54:5:373:A:H2'	54:5:374:G:C8	2.39	0.57
54:5:570:A:H1'	54:5:911:G:H21	1.69	0.57
54:5:859:A:OP1	54:5:1069:U:N3	2.32	0.57
54:5:1110:C:H2'	54:5:1111:G:C8	2.38	0.57
54:5:1141:U:HO2'	54:5:1142:G:H8	1.53	0.57
1:0:39:ARG:NH1	52:3:504:G:N7	2.52	0.57
9:E:65:ASP:HB2	9:E:68:SER:HB3	1.87	0.57
12:H:46:VAL:HG11	12:H:78:ALA:HB1	1.86	0.57
45:t:78:ASP:HB2	45:t:104:PHE:CE1	2.40	0.57
52:3:162:G:N1	52:3:169:U:OP2	2.32	0.57
52:3:488:G:N2	52:3:494:G:O4'	2.38	0.57
52:3:493:A:N6	52:3:507:A:OP2	2.37	0.57
52:3:742:G:O6	52:3:759:U:O4	2.22	0.57
52:3:1054:U:H2'	52:3:1055:A:C4	2.40	0.57
52:3:1294:G:H2'	52:3:2021:A:H62	1.69	0.57
52:3:1688:A:H1'	52:3:2827:A:H4'	1.87	0.57
52:3:1896:A:H61	52:3:2242:G:H1'	1.69	0.57
52:3:2009:U:H2'	52:3:2010:A:C8	2.38	0.57
52:3:2071:C:O3'	52:3:2259:G:N2	2.38	0.57
52:3:2599:C:H2'	52:3:2600:G:C8	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:503:G:H2'	54:5:504:A:H8	1.70	0.57
54:5:711:G:H2'	54:5:712:A:C8	2.40	0.57
54:5:1406:U:H2'	54:5:1407:A:C8	2.40	0.57
4:9:571:VAL:HB	54:5:1184:C:H41	1.70	0.57
7:C:70:GLN:OE1	7:C:96:ARG:NH1	2.37	0.57
9:E:13:LEU:O	9:E:56:HIS:NE2	2.38	0.57
17:M:23:ARG:HH11	17:M:28:GLY:HA2	1.70	0.57
22:R:19:VAL:HG21	22:R:44:PHE:HA	1.87	0.57
22:R:25:GLN:HB2	22:R:28:LYS:HG3	1.87	0.57
22:R:29:ARG:HD2	22:R:48:THR:HG23	1.86	0.57
27:b:70:PHE:HB3	27:b:75:LEU:HB2	1.86	0.57
29:d:159:SER:O	39:n:1:MET:N	2.38	0.57
36:k:22:ARG:HA	52:3:846:U:H2'	1.86	0.57
52:3:351:G:H2'	52:3:352:C:H6	1.70	0.57
52:3:626:A:H2'	52:3:627:U:C6	2.40	0.57
52:3:2814:A:H2'	52:3:2815:G:O4'	2.05	0.57
54:5:11:A:N3	54:5:505:C:O2'	2.38	0.57
54:5:380:G:H2'	54:5:381:C:C6	2.39	0.57
54:5:1002:A:N7	54:5:1019:G:C2	2.73	0.57
54:5:1138:U:O4	54:5:1139:A:N6	2.38	0.57
54:5:1175:C:H1'	54:5:1180:U:H3	1.69	0.57
2:1:10:ARG:HG3	36:k:59:TYR:HB2	1.87	0.56
13:I:59:ARG:HD3	54:5:1051:U:H4'	1.87	0.56
15:K:84:GLY:H	54:5:519:G:H5'	1.69	0.56
27:b:51:LEU:HD21	27:b:81:LEU:HD21	1.87	0.56
34:i:15:ARG:NH1	34:i:55:ASP:OD1	2.38	0.56
52:3:85:U:N3	52:3:103:G:O2'	2.25	0.56
52:3:439:U:O2'	52:3:458:A:N6	2.38	0.56
52:3:680:A:H2'	52:3:682:A:C8	2.40	0.56
52:3:796:A:H4'	52:3:798:G:H21	1.70	0.56
52:3:989:G:H2'	52:3:990:G:C8	2.40	0.56
52:3:1057:G:N2	52:3:1058:U:O4	2.38	0.56
52:3:2027:G:N2	52:3:2029:U:O4'	2.37	0.56
52:3:2353:G:O2'	52:3:2389:A:N3	2.30	0.56
52:3:2399:G:N2	52:3:2437:G:O4'	2.38	0.56
52:3:2840:U:O4	52:3:2841:A:N6	2.39	0.56
54:5:40:G:H21	54:5:437:U:H1'	1.69	0.56
54:5:62:G:O2'	54:5:381:C:O2	2.23	0.56
54:5:398:G:H2'	54:5:399:C:C6	2.40	0.56
54:5:413:G:O6	54:5:423:U:C4	2.58	0.56
54:5:499:U:H2'	54:5:500:G:H8	1.68	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:397:GLU:OE1	4:9:400:GLN:NE2	2.37	0.56
4:9:437:THR:HG1	4:9:446:THR:HG1	1.52	0.56
4:9:551:LEU:HD22	4:9:685:ALA:H	1.68	0.56
6:B:78:ILE:HA	6:B:85:ILE:HB	1.85	0.56
27:b:5:GLY:HA2	27:b:207:ILE:O	2.04	0.56
27:b:147:VAL:N	52:3:2059:G:OP1	2.38	0.56
32:g:78:GLY:HA2	52:3:1142:G:H1'	1.87	0.56
47:v:51:SER:O	47:v:55:LEU:N	2.38	0.56
52:3:723:U:O2'	52:3:821:C:O2'	2.17	0.56
52:3:816:A:H2'	52:3:1784:U:H1'	1.87	0.56
52:3:1758:C:H2'	52:3:1759:C:C6	2.40	0.56
52:3:1809:A:N6	52:3:1824:G:C2	2.73	0.56
52:3:2144:C:H2'	52:3:2145:A:C8	2.39	0.56
52:3:2348:U:H2'	52:3:2349:G:C8	2.40	0.56
54:5:157:A:H2'	54:5:158:A:C8	2.40	0.56
54:5:356:G:H2'	54:5:357:G:C8	2.40	0.56
54:5:628:A:H5'	54:5:629:U:C4	2.40	0.56
54:5:861:A:O2'	54:5:867:A:N1	2.28	0.56
54:5:1175:C:H5''	54:5:1176:A:H2'	1.87	0.56
4:9:11:ARG:HH22	4:9:275:VAL:HG22	1.70	0.56
4:9:215:VAL:HG12	4:9:240:ILE:HD11	1.87	0.56
8:D:70:ILE:HA	8:D:92:VAL:HG22	1.87	0.56
9:E:93:GLU:OE2	21:Q:85:HIS:NE2	2.38	0.56
13:I:16:LEU:O	13:I:77:LYS:HA	2.06	0.56
14:J:105:GLU:OE2	24:T:22:SER:OG	2.24	0.56
27:b:16:VAL:HG13	27:b:222:LEU:HD12	1.87	0.56
35:j:75:THR:HG23	40:o:80:GLN:HG3	1.87	0.56
41:p:90:ASN:HD22	41:p:108:ILE:HG21	1.69	0.56
41:p:104:LYS:HB3	42:q:40:MET:HE2	1.87	0.56
43:r:30:ALA:O	43:r:34:ASN:ND2	2.39	0.56
44:s:68:GLY:N	52:3:1363:C:OP2	2.38	0.56
52:3:277:C:H4'	52:3:303:C:H5'	1.87	0.56
52:3:318:U:H2'	52:3:319:G:C8	2.41	0.56
52:3:572:G:N2	52:3:588:G:O2'	2.30	0.56
52:3:841:C:OP1	52:3:865:A:O2'	2.22	0.56
52:3:1004:U:H2'	52:3:1005:G:C8	2.40	0.56
52:3:1061:A:H2'	52:3:1062:A:C8	2.40	0.56
52:3:1316:U:H1'	52:3:1355:C:H1'	1.88	0.56
52:3:1766:A:N3	52:3:2719:A:O2'	2.37	0.56
52:3:1867:G:H2'	52:3:1868:A:C8	2.39	0.56
52:3:1931:C:H2'	52:3:1932:C:H6	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2457:U:O2'	52:3:2509:C:N4	2.38	0.56
52:3:2515:C:H2'	52:3:2516:G:H8	1.69	0.56
52:3:2584:G:O2'	52:3:2587:U:OP2	2.15	0.56
52:3:2739:C:O2'	52:3:2740:U:H5'	2.05	0.56
53:4:42:G:N2	53:4:45:C:N3	2.50	0.56
54:5:53:U:H2'	54:5:54:A:C8	2.40	0.56
54:5:382:U:H2'	54:5:383:U:C6	2.40	0.56
54:5:555:G:H2'	54:5:556:G:C8	2.41	0.56
54:5:663:G:H2'	54:5:664:A:H8	1.69	0.56
54:5:1072:G:H2'	54:5:1073:A:C8	2.39	0.56
54:5:1110:C:H2'	54:5:1111:G:H8	1.70	0.56
54:5:1223:A:H2'	54:5:1224:C:C6	2.40	0.56
4:9:226:MET:HE1	25:W:86:LYS:NZ	2.19	0.56
6:B:125:ASN:O	6:B:129:ALA:CB	2.53	0.56
9:E:112:ARG:NH2	9:E:117:GLU:OE2	2.38	0.56
9:E:160:VAL:HG12	11:G:80:ARG:HH12	1.70	0.56
15:K:61:ALA:HB2	54:5:527:G:H1	1.69	0.56
19:O:11:TYR:CZ	54:5:371:U:H4'	2.39	0.56
34:i:11:GLN:HB3	52:3:573:A:H4'	1.86	0.56
37:l:54:ILE:HG13	37:l:121:ALA:HB2	1.88	0.56
39:n:72:LEU:HA	39:n:75:GLN:HB2	1.86	0.56
52:3:524:G:N2	52:3:526:G:H3'	2.21	0.56
52:3:1023:C:O2'	52:3:1036:A:N3	2.32	0.56
52:3:1342:C:H5''	52:3:1644:A:C6	2.40	0.56
52:3:1734:A:H3'	52:3:1735:A:H8	1.69	0.56
54:5:992:U:H3	54:5:1035:A:H61	1.52	0.56
20:P:68:PRO:HB3	20:P:74:ARG:HG3	1.88	0.56
22:R:51:VAL:O	22:R:57:PHE:HA	2.06	0.56
30:e:178:LYS:NZ	52:3:2667:G:O2'	2.38	0.56
48:w:104:LYS:HE2	52:3:1430:U:H5'	1.87	0.56
52:3:193:G:H2'	52:3:209:G:N2	2.20	0.56
52:3:519:A:N6	52:3:532:A:O2'	2.39	0.56
52:3:766:C:H2'	52:3:767:C:C6	2.40	0.56
52:3:1976:A:O2'	52:3:1979:G:N3	2.38	0.56
52:3:2895:A:O2'	52:3:2896:G:O4'	2.19	0.56
53:4:102:A:H2'	53:4:103:C:C6	2.40	0.56
54:5:1290:G:H22	54:5:1293:A:P	2.28	0.56
54:5:1364:C:H2'	54:5:1365:U:C6	2.41	0.56
5:A:41:MET:HE1	5:A:214:ILE:HD11	1.88	0.56
6:B:59:GLU:HG2	6:B:66:ASP:HB3	1.88	0.56
18:N:62:ARG:O	18:N:65:LYS:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:37:ALA:HA	27:b:75:LEU:HD21	1.86	0.56
52:3:562:C:N4	52:3:2785:G:O2'	2.37	0.56
52:3:567:U:H4'	52:3:568:G:C8	2.41	0.56
52:3:777:C:H42	52:3:790:U:H3	1.52	0.56
52:3:1411:C:O2	52:3:1412:A:N6	2.38	0.56
52:3:1518:C:H3'	52:3:1520:A:N6	2.20	0.56
52:3:1539:U:H2'	52:3:1540:G:O4'	2.05	0.56
52:3:2300:A:H5'	52:3:2386:A:N6	2.21	0.56
54:5:249:U:H2'	54:5:250:G:C8	2.41	0.56
54:5:438:A:N1	54:5:492:G:C2	2.74	0.56
5:A:100:ALA:HB2	5:A:107:PHE:HB3	1.87	0.56
36:k:68:ALA:O	52:3:2422:G:N2	2.38	0.56
52:3:683:G:H2'	52:3:684:A:C8	2.40	0.56
52:3:1067:A:N1	52:3:1157:G:C6	2.74	0.56
52:3:1077:G:H2'	52:3:1078:C:C6	2.40	0.56
52:3:1102:A:H8	52:3:1103:G:H3'	1.70	0.56
52:3:1809:A:C5	52:3:1824:G:N2	2.74	0.56
52:3:2103:C:H2'	52:3:2104:A:C8	2.40	0.56
52:3:2522:U:H2'	52:3:2523:C:H6	1.71	0.56
52:3:2820:G:N3	52:3:2887:A:O2'	2.33	0.56
54:5:205:U:H1'	54:5:465:A:N3	2.20	0.56
54:5:318:C:N4	54:5:324:C:O2	2.39	0.56
54:5:661:G:N1	54:5:738:A:N6	2.08	0.56
54:5:1363:U:H2'	54:5:1364:C:C6	2.40	0.56
4:9:59:ARG:HH11	4:9:63:ILE:HD11	1.70	0.56
7:C:16:PHE:HB2	7:C:59:ARG:HH11	1.69	0.56
19:O:20:VAL:HG21	19:O:25:LYS:HB3	1.87	0.56
25:W:82:LEU:O	25:W:86:LYS:HB3	2.06	0.56
30:e:161:LYS:HZ1	52:3:2667:G:H5'	1.71	0.56
32:g:124:GLU:O	32:g:128:LYS:NZ	2.29	0.56
43:r:9:ARG:HG3	43:r:80:PRO:HB2	1.87	0.56
44:s:19:ASN:HB3	44:s:26:LYS:HB3	1.87	0.56
50:y:4:GLN:HG3	52:3:2022:A:H62	1.70	0.56
52:3:450:C:H2'	52:3:451:A:C8	2.40	0.56
52:3:632:A:H2'	52:3:633:G:H8	1.70	0.56
52:3:855:A:OP2	52:3:1009:A:N6	2.36	0.56
52:3:1559:A:N6	52:3:1570:A:O4'	2.38	0.56
52:3:1960:A:O2'	52:3:2567:C:O2	2.23	0.56
52:3:2127:G:H2'	52:3:2128:G:C8	2.41	0.56
39:n:11:ARG:HA	39:n:14:ARG:HD3	1.88	0.56
43:r:2:ILE:HD12	43:r:62:HIS:HD2	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:t:88:LYS:HB3	45:t:105:LYS:H	1.70	0.56
51:z:5:ARG:NH2	52:3:2293:C:OP2	2.38	0.56
52:3:37:G:N2	52:3:485:A:N6	2.39	0.56
52:3:314:G:O2'	52:3:315:A:H5'	2.05	0.56
54:5:45:A:H2'	54:5:46:U:C6	2.41	0.56
54:5:491:U:H2'	54:5:492:G:C8	2.41	0.56
54:5:674:U:H3	54:5:710:G:H22	1.52	0.56
15:K:86:ASN:HB2	15:K:117:THR:HG23	1.88	0.56
51:z:24:ASN:HD21	51:z:27:LYS:HB2	1.72	0.56
52:3:335:G:C6	52:3:351:G:C6	2.94	0.56
52:3:454:G:H2'	52:3:455:G:H8	1.69	0.56
52:3:1043:C:H3'	52:3:1044:C:H2'	1.88	0.56
52:3:2005:G:H5''	52:3:2732:A:O2'	2.06	0.56
52:3:2705:G:H2'	52:3:2706:U:H6	1.70	0.56
52:3:2738:U:H2'	52:3:2739:C:C6	2.41	0.56
53:4:59:A:O2'	53:4:60:C:OP1	2.24	0.56
54:5:304:U:H2'	54:5:305:A:C8	2.40	0.56
54:5:372:G:O6	54:5:383:U:O4	2.23	0.56
4:9:98:VAL:HG22	4:9:327:ARG:HG3	1.88	0.55
11:G:24:ASN:OD1	54:5:868:G:N2	2.39	0.55
12:H:20:TYR:HB2	12:H:66:ASN:HB3	1.87	0.55
13:I:51:LYS:HA	54:5:1228:C:H5''	1.88	0.55
20:P:25:GLN:HB2	20:P:44:LYS:HE3	1.87	0.55
32:g:65:ALA:O	32:g:67:LYS:NZ	2.39	0.55
40:o:63:THR:HG22	40:o:80:GLN:HG2	1.87	0.55
43:r:71:VAL:HA	43:r:107:LEU:HD13	1.88	0.55
52:3:633:G:N2	52:3:692:U:O2	2.36	0.55
52:3:899:A:HO2'	53:4:90:G:H21	1.47	0.55
52:3:954:A:H3'	52:3:2276:A:H61	1.71	0.55
52:3:1176:U:O2	52:3:1177:A:N6	2.39	0.55
52:3:1945:A:O2'	52:3:2612:G:N2	2.39	0.55
52:3:2605:G:O2'	52:3:2606:A:O4'	2.20	0.55
54:5:754:U:H4'	54:5:819:G:N3	2.21	0.55
4:9:342:VAL:HG11	4:9:394:VAL:HG12	1.89	0.55
12:H:23:PRO:HA	12:H:62:ASN:HB3	1.87	0.55
28:c:140:THR:HB	52:3:354:C:H2'	1.87	0.55
29:d:150:ARG:NE	52:3:2314:U:O2	2.40	0.55
33:h:120:ALA:O	33:h:124:VAL:HG23	2.06	0.55
38:m:19:ARG:HG2	38:m:66:TRP:HA	1.89	0.55
43:r:31:ASP:HA	43:r:34:ASN:HD21	1.72	0.55
50:y:13:ARG:O	50:y:17:ARG:HG3	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:335:G:C2	52:3:350:C:O2	2.59	0.55
52:3:871:G:O6	52:3:978:G:N1	2.39	0.55
52:3:1627:U:H2'	52:3:1628:G:C8	2.41	0.55
52:3:2127:G:H2'	52:3:2128:G:H8	1.70	0.55
52:3:2297:G:H2'	52:3:2298:G:H8	1.70	0.55
52:3:2521:A:H2'	52:3:2522:U:C6	2.42	0.55
54:5:339:U:C4	54:5:341:C:N4	2.74	0.55
54:5:360:A:H2'	54:5:361:U:C2	2.41	0.55
54:5:401:U:H5''	54:5:493:A:N1	2.21	0.55
54:5:1197:G:H2'	54:5:1198:C:C6	2.41	0.55
4:9:121:ARG:HH22	4:9:155:LEU:HA	1.72	0.55
4:9:322:ARG:O	4:9:377:GLY:N	2.26	0.55
9:E:111:LYS:HE3	21:Q:46:ILE:HA	1.88	0.55
10:F:49:ILE:HG23	10:F:124:ILE:HD11	1.88	0.55
13:I:62:HIS:HB3	54:5:958:G:H21	1.71	0.55
16:L:101:ARG:HH22	16:L:104:THR:HG22	1.70	0.55
34:i:45:VAL:HB	41:p:99:ILE:HG21	1.88	0.55
37:l:22:LYS:HZ1	52:3:901:C:H5	1.54	0.55
37:l:35:VAL:HB	37:l:102:VAL:HG22	1.88	0.55
37:l:35:VAL:HG13	37:l:130:LYS:HB3	1.88	0.55
38:m:2:SER:OG	38:m:3:TYR:N	2.37	0.55
38:m:34:THR:HG22	38:m:113:MET:HE1	1.89	0.55
52:3:675:U:O4	52:3:685:G:O6	2.25	0.55
52:3:793:C:H2'	52:3:794:G:H8	1.71	0.55
52:3:906:G:H1	52:3:945:U:H3	1.54	0.55
52:3:1010:G:H5'	52:3:1217:G:O2'	2.06	0.55
52:3:1536:C:H2'	52:3:1537:A:C8	2.42	0.55
52:3:1931:C:H2'	52:3:1932:C:C6	2.41	0.55
52:3:2223:C:H2'	52:3:2224:A:C8	2.42	0.55
52:3:2268:C:O2	52:3:2396:A:O2'	2.18	0.55
52:3:2528:C:H2'	52:3:2529:C:C6	2.41	0.55
54:5:167:A:H2	54:5:197:A:H5'	1.71	0.55
54:5:332:A:H4'	54:5:1443:A:H2	1.71	0.55
54:5:445:A:OP2	54:5:482:G:N2	2.40	0.55
54:5:1507:U:OP2	54:5:1508:C:N4	2.39	0.55
1:0:18:PHE:HB2	1:0:43:THR:HG21	1.88	0.55
6:B:116:ALA:HB1	6:B:203:VAL:HG23	1.87	0.55
9:E:86:LEU:HB2	21:Q:96:LEU:HD21	1.88	0.55
29:d:41:GLY:HA3	52:3:2319:A:H2	1.72	0.55
30:e:125:THR:OG1	30:e:127:LYS:NZ	2.39	0.55
30:e:145:GLY:HA3	52:3:2753:C:O2'	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:335:G:O2'	52:3:336:C:O5'	2.24	0.55
52:3:561:A:O2'	52:3:2050:G:N3	2.37	0.55
52:3:852:C:OP1	52:3:1215:G:O2'	2.18	0.55
52:3:896:U:C2	52:3:897:A:C8	2.94	0.55
52:3:957:G:N2	52:3:2277:A:H5'	2.20	0.55
52:3:1418:U:N3	52:3:1423:A:N7	2.55	0.55
52:3:1803:U:H3	52:3:1830:G:H1	1.52	0.55
52:3:1994:U:H2'	52:3:1995:G:C8	2.41	0.55
52:3:2636:U:O2'	52:3:2790:A:OP1	2.24	0.55
53:4:53:U:H2'	53:4:54:U:C4	2.42	0.55
53:4:91:A:H2'	53:4:92:A:H8	1.71	0.55
54:5:24:C:H2'	54:5:25:U:C6	2.41	0.55
54:5:1277:C:H2'	54:5:1278:G:O4'	2.07	0.55
4:9:223:ASP:OD2	25:W:68:LEU:HD13	2.06	0.55
4:9:292:GLU:H	4:9:396:LEU:HB2	1.71	0.55
4:9:510:ARG:NH1	4:9:512:GLU:OE2	2.39	0.55
18:N:4:ASP:OD2	18:N:35:GLN:NE2	2.36	0.55
26:a:190:ARG:HD3	26:a:278:ILE:HG12	1.88	0.55
27:b:222:LEU:HD22	40:o:16:LYS:HB2	1.87	0.55
29:d:33:LYS:HB3	29:d:92:ARG:HE	1.72	0.55
52:3:37:G:O2'	52:3:490:A:O4'	2.20	0.55
52:3:245:U:OP1	52:3:259:A:N6	2.38	0.55
52:3:567:U:OP1	52:3:594:G:N2	2.40	0.55
52:3:1396:A:O2'	52:3:1815:U:O4	2.22	0.55
54:5:367:A:C6	54:5:387:G:C2	2.94	0.55
54:5:498:G:H2'	54:5:499:U:C6	2.40	0.55
54:5:858:A:H3'	54:5:859:A:H8	1.71	0.55
5:A:169:LEU:HD12	5:A:171:ARG:HG2	1.87	0.55
7:C:167:VAL:HA	7:C:179:VAL:H	1.72	0.55
11:G:118:THR:HB	11:G:133:ILE:HG22	1.89	0.55
15:K:65:TYR:HD2	15:K:77:LEU:HD11	1.70	0.55
16:L:105:ASN:ND2	54:5:944:A:N7	2.54	0.55
25:W:111:ARG:O	25:W:114:GLU:HG3	2.06	0.55
28:c:191:LEU:HA	28:c:197:LEU:HD13	1.89	0.55
37:l:15:VAL:HA	52:3:990:G:H5''	1.88	0.55
46:u:55:ARG:HD2	52:3:2395:U:H4'	1.89	0.55
52:3:364:A:O2'	52:3:1240:U:OP2	2.24	0.55
52:3:445:C:H2'	52:3:446:A:C8	2.41	0.55
52:3:1012:G:HO2'	52:3:1190:A:HO2'	1.53	0.55
52:3:1264:U:H2'	52:3:1265:G:H5'	1.89	0.55
52:3:1520:A:O2'	52:3:1612:U:O2'	2.09	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2030:A:H2'	52:3:2031:C:C6	2.41	0.55
52:3:2058:G:H2'	52:3:2622:A:N6	2.21	0.55
52:3:2315:G:N2	52:3:2320:U:O4'	2.39	0.55
52:3:2585:A:H2'	52:3:2622:A:C6	2.42	0.55
52:3:2752:G:H2'	52:3:2753:C:C6	2.42	0.55
52:3:2828:C:H3'	52:3:2829:G:N2	2.21	0.55
53:4:42:G:N3	53:4:45:C:N4	2.52	0.55
54:5:560:U:H5	54:5:878:U:C2	2.25	0.55
54:5:831:C:H2'	54:5:832:G:C8	2.41	0.55
5:A:37:TRP:HB2	5:A:204:THR:HG22	1.87	0.55
10:F:55:GLU:HG3	10:F:60:VAL:HG21	1.88	0.55
39:n:11:ARG:O	39:n:14:ARG:HG2	2.06	0.55
41:p:67:ALA:HA	41:p:70:GLU:HG2	1.89	0.55
42:q:28:PRO:HG3	42:q:31:LYS:HE3	1.87	0.55
43:r:2:ILE:HD12	43:r:62:HIS:CD2	2.41	0.55
52:3:20:C:O2	52:3:587:U:H4'	2.06	0.55
52:3:495:U:H2'	52:3:496:A:H8	1.72	0.55
52:3:1302:C:H5''	52:3:1652:A:C8	2.41	0.55
52:3:1780:A:H5'	52:3:1796:A:N6	2.22	0.55
52:3:2114:C:C4	52:3:2115:A:N6	2.75	0.55
52:3:2382:A:H2'	52:3:2383:G:C8	2.41	0.55
52:3:2683:G:H1	52:3:2740:U:H3	1.52	0.55
53:4:31:G:H2'	53:4:32:G:C8	2.41	0.55
54:5:76:G:N2	54:5:79:A:OP2	2.33	0.55
54:5:80:U:H2'	54:5:81:A:C8	2.42	0.55
54:5:536:U:H2'	54:5:537:A:H8	1.69	0.55
54:5:655:G:C6	54:5:744:U:N3	2.75	0.55
54:5:975:C:O2'	54:5:976:U:OP1	2.24	0.55
54:5:1115:G:N2	54:5:1116:U:O4	2.34	0.55
54:5:1241:G:N1	54:5:1244:A:OP2	2.36	0.55
54:5:1298:U:H5''	54:5:1337:U:H2'	1.87	0.55
54:5:1322:U:N3	54:5:1349:A:C8	2.70	0.55
55:8:9:U:O2'	55:8:22:A:N1	2.31	0.55
9:E:144:SER:HB2	11:G:4:THR:H	1.72	0.55
14:J:109:ILE:N	54:5:672:A:O2'	2.38	0.55
18:N:47:PHE:HA	18:N:50:LYS:HG2	1.88	0.55
26:a:102:ALA:O	52:3:1526:U:O2'	2.25	0.55
28:c:49:THR:HG21	52:3:478:G:H1'	1.87	0.55
35:j:102:VAL:HG21	35:j:114:ILE:HG22	1.89	0.55
38:m:57:PHE:HA	38:m:60:ARG:HG3	1.89	0.55
39:n:110:ARG:HH22	52:3:2384:A:H2'	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:448:A:N6	52:3:2419:A:O2'	2.40	0.55
52:3:1511:C:H2'	52:3:1512:A:H8	1.71	0.55
52:3:1718:C:N4	52:3:1739:G:O6	2.39	0.55
52:3:1809:A:N6	52:3:1824:G:N2	2.55	0.55
52:3:2752:G:OP2	52:3:2763:C:N4	2.40	0.55
54:5:16:G:O4'	54:5:1371:A:O2'	2.24	0.55
54:5:227:A:H2'	54:5:228:G:H8	1.72	0.55
54:5:247:G:N2	54:5:250:G:N7	2.54	0.55
54:5:671:G:H2'	54:5:672:A:C8	2.42	0.55
54:5:1471:C:H2'	54:5:1472:G:C8	2.42	0.55
8:D:144:SER:O	8:D:147:SER:OG	2.12	0.55
45:t:43:THR:HA	45:t:64:GLN:HA	1.89	0.55
51:z:9:LEU:HD11	51:z:32:LEU:HD23	1.88	0.55
52:3:359:G:H2'	52:3:360:G:C8	2.41	0.55
52:3:587:U:H2'	52:3:588:G:O4'	2.07	0.55
52:3:847:C:OP1	52:3:1280:G:O2'	2.24	0.55
52:3:962:U:H2'	52:3:963:U:C6	2.41	0.55
52:3:1330:U:H2'	52:3:1677:G:H21	1.72	0.55
52:3:1335:A:OP2	52:3:1640:G:N2	2.39	0.55
52:3:1928:G:H2'	52:3:1929:G:H8	1.70	0.55
53:4:3:U:O2'	53:4:24:A:N6	2.31	0.55
54:5:383:U:H2'	54:5:385:A:C8	2.41	0.55
54:5:490:U:H2'	54:5:491:U:C5	2.42	0.55
54:5:566:G:H1'	54:5:571:A:H62	1.70	0.55
54:5:1125:C:H2'	54:5:1126:U:C6	2.42	0.55
54:5:1133:A:N6	54:5:1153:G:N9	2.55	0.55
54:5:1401:A:N1	54:5:1449:G:C6	2.75	0.55
54:5:1508:C:H2'	54:5:1509:A:C5	2.42	0.55
22:R:29:ARG:HB3	22:R:48:THR:H	1.72	0.55
22:R:55:LYS:HD3	54:5:981:U:H4'	1.89	0.55
26:a:47:ARG:HE	52:3:808:U:H1'	1.72	0.55
28:c:97:ARG:HA	52:3:623:A:H5'	1.89	0.55
29:d:17:GLN:HB2	29:d:28:VAL:HG22	1.88	0.55
33:h:52:PRO:HD3	33:h:70:THR:HA	1.89	0.55
39:n:34:LYS:HG3	39:n:102:ILE:HD11	1.89	0.55
50:y:28:SER:N	50:y:37:LYS:O	2.40	0.55
52:3:25:G:H2'	52:3:26:G:C8	2.40	0.55
52:3:454:G:H2'	52:3:455:G:C8	2.42	0.55
52:3:1337:G:O6	52:3:1640:G:N2	2.36	0.55
52:3:1431:A:H2'	52:3:1432:C:C6	2.42	0.55
52:3:1916:C:H2'	52:3:1917:G:C8	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2200:U:H2'	52:3:2201:G:H8	1.71	0.55
54:5:503:G:H2'	54:5:504:A:C8	2.42	0.55
54:5:534:C:H2'	54:5:535:A:H8	1.71	0.55
54:5:688:G:H1'	54:5:693:A:N6	2.21	0.55
54:5:822:A:H2'	54:5:823:C:C6	2.41	0.55
2:1:31:PRO:HD2	51:z:4:LYS:HE3	1.89	0.54
4:9:509:ILE:HG12	4:9:563:LEU:HD12	1.89	0.54
7:C:17:SER:OG	7:C:24:GLU:OE1	2.23	0.54
15:K:40:SER:HA	54:5:359:A:N6	2.22	0.54
15:K:77:LEU:HB3	15:K:105:GLY:O	2.07	0.54
26:a:96:VAL:HG12	26:a:110:ILE:HD12	1.89	0.54
28:c:20:LEU:HD13	28:c:120:LEU:HD21	1.89	0.54
28:c:156:ASN:HB2	28:c:194:ALA:HA	1.89	0.54
31:f:9:VAL:H	31:f:34:LYS:HZ1	1.55	0.54
39:n:9:ARG:NH1	53:4:5:G:OP1	2.41	0.54
41:p:89:ILE:HG13	42:q:11:GLN:HE22	1.71	0.54
52:3:1269:C:H2'	52:3:1270:C:C6	2.42	0.54
52:3:1653:C:N4	52:3:1654:G:O6	2.40	0.54
52:3:2687:A:H2'	52:3:2688:C:C6	2.43	0.54
54:5:98:G:N2	54:5:350:G:OP2	2.40	0.54
54:5:849:A:H2'	54:5:850:G:C8	2.43	0.54
54:5:1225:A:H2'	54:5:1226:A:C8	2.42	0.54
54:5:1344:C:H2'	54:5:1345:G:H8	1.72	0.54
4:9:352:ARG:HH21	54:5:58:G:H1'	1.72	0.54
10:F:9:ARG:HH22	54:5:1319:U:H1'	1.72	0.54
13:I:16:LEU:HD12	13:I:78:ARG:HB2	1.89	0.54
14:J:28:SER:HA	14:J:34:VAL:HA	1.90	0.54
22:R:78:ARG:HH12	54:5:1198:C:P	2.30	0.54
32:g:27:PHE:O	32:g:81:ALA:HB3	2.07	0.54
32:g:60:ARG:HG3	32:g:71:ILE:HA	1.89	0.54
34:i:67:LEU:O	34:i:72:LYS:NZ	2.31	0.54
43:r:116:GLU:HA	43:r:119:LYS:HD2	1.88	0.54
44:s:48:TYR:O	44:s:92:SER:OG	2.23	0.54
52:3:131:C:H2'	52:3:132:G:H4'	1.89	0.54
52:3:167:A:H3'	52:3:168:A:H8	1.72	0.54
52:3:2375:A:H2'	52:3:2376:C:H6	1.71	0.54
54:5:169:G:H2'	54:5:170:A:O4'	2.07	0.54
54:5:1142:G:H21	54:5:1144:A:H3'	1.73	0.54
54:5:1412:C:N4	54:5:1413:G:O6	2.40	0.54
54:5:1473:U:O2'	54:5:1475:A:N6	2.40	0.54
4:9:609:PRO:HG2	4:9:662:ARG:HG3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:71:TYR:OH	9:E:163:MET:SD	2.65	0.54
7:C:202:ARG:HB3	54:5:293:G:OP1	2.06	0.54
15:K:131:GLY:O	15:K:133:LYS:NZ	2.40	0.54
35:j:98:ILE:HG12	35:j:117:LEU:HB2	1.88	0.54
36:k:117:HIS:HB3	52:3:673:A:H5''	1.89	0.54
41:p:63:ARG:NE	41:p:96:GLU:OE2	2.35	0.54
52:3:236:G:H22	52:3:456:G:H5''	1.73	0.54
52:3:439:U:N3	52:3:459:A:N6	2.35	0.54
52:3:756:A:H2'	52:3:757:A:C8	2.41	0.54
52:3:878:A:H2'	52:3:879:U:C6	2.42	0.54
52:3:900:G:H2'	52:3:901:C:C6	2.42	0.54
52:3:2836:U:H3	52:3:2887:A:H5''	1.72	0.54
54:5:111:A:H2'	54:5:112:U:O4'	2.07	0.54
54:5:168:A:H3'	54:5:169:G:H8	1.70	0.54
54:5:1042:G:H2'	54:5:1043:U:C6	2.42	0.54
54:5:1167:C:H2'	54:5:1168:G:O4'	2.07	0.54
54:5:1214:A:H62	54:5:1273:A:H62	1.55	0.54
54:5:1359:C:H2'	54:5:1360:G:C8	2.42	0.54
4:9:604:ILE:HD11	4:9:643:VAL:HB	1.88	0.54
5:A:81:GLN:H	5:A:174:ASN:HB2	1.72	0.54
12:H:97:LYS:HA	12:H:100:LEU:HB2	1.89	0.54
12:H:116:LYS:HD3	54:5:1343:G:C8	2.42	0.54
26:a:17:SER:HB2	26:a:214:GLY:HA3	1.89	0.54
28:c:23:GLY:HA2	28:c:113:HIS:CE1	2.43	0.54
28:c:69:LYS:HE3	52:3:2451:C:H5''	1.89	0.54
28:c:74:ALA:HB2	52:3:1286:G:H4'	1.90	0.54
40:o:28:GLY:H	40:o:104:MET:HE1	1.72	0.54
51:z:37:PHE:CE1	52:3:2379:G:H1'	2.41	0.54
52:3:64:U:O2'	52:3:66:A:N6	2.41	0.54
52:3:358:A:N6	52:3:373:U:O4'	2.40	0.54
52:3:500:U:HO2'	52:3:501:G:P	2.30	0.54
52:3:1380:U:O2'	52:3:1604:A:N3	2.32	0.54
52:3:2062:C:H4'	52:3:2063:G:H5''	1.88	0.54
52:3:2169:G:O2'	52:3:2174:G:N2	2.41	0.54
52:3:2793:U:H2'	52:3:2794:U:H6	1.73	0.54
54:5:363:U:O5'	54:5:390:G:N2	2.40	0.54
54:5:457:A:H2'	54:5:458:G:C8	2.41	0.54
54:5:625:U:H2'	54:5:626:G:C8	2.43	0.54
54:5:637:A:N7	54:5:638:A:N6	2.56	0.54
4:9:604:ILE:HD12	4:9:667:MET:SD	2.48	0.54
7:C:4:THR:HG22	7:C:5:GLY:H	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:M:26:ARG:NH1	17:M:43:CYS:SG	2.79	0.54
35:j:30:LYS:HD3	52:3:2682:A:O3'	2.08	0.54
36:k:53:GLY:HA2	52:3:200:A:C2	2.43	0.54
52:3:499:G:N1	52:3:501:G:OP2	2.40	0.54
52:3:877:G:H2'	52:3:878:A:C8	2.43	0.54
52:3:1006:U:H2'	52:3:1007:C:C6	2.42	0.54
52:3:1358:C:H2'	52:3:1359:C:C6	2.42	0.54
52:3:1611:C:H2'	52:3:1612:U:C6	2.42	0.54
52:3:1871:U:H3	52:3:1885:G:H1	1.49	0.54
52:3:2634:C:H2'	52:3:2635:G:C8	2.37	0.54
53:4:65:G:N7	53:4:98:A:N6	2.55	0.54
54:5:438:A:C6	54:5:492:G:N1	2.75	0.54
54:5:765:A:H5'	54:5:1499:G:H1'	1.90	0.54
54:5:766:G:OP2	54:5:800:G:O2'	2.18	0.54
54:5:949:G:H2'	54:5:950:C:C6	2.42	0.54
4:9:23:LYS:NZ	4:9:83:PRO:O	2.29	0.54
4:9:529:ARG:HH12	54:5:1186:U:H5'	1.72	0.54
13:I:48:LEU:HD21	13:I:79:LEU:HD22	1.89	0.54
27:b:180:ARG:HH22	52:3:2738:U:H5''	1.72	0.54
29:d:92:ARG:HG2	53:4:43:A:C8	2.43	0.54
32:g:26:ILE:HB	32:g:82:VAL:HA	1.90	0.54
34:i:27:VAL:HB	34:i:30:LYS:HB2	1.90	0.54
37:l:109:ILE:HB	37:l:114:MET:CE	2.31	0.54
45:t:89:ILE:HB	52:3:371:C:OP1	2.07	0.54
45:t:90:LYS:O	45:t:103:VAL:N	2.35	0.54
45:t:95:PRO:HD3	45:t:101:THR:HG22	1.89	0.54
52:3:402:A:H1'	52:3:403:U:H5'	1.88	0.54
52:3:758:C:H2'	52:3:759:U:H6	1.71	0.54
52:3:1214:U:C2	52:3:1215:G:H1'	2.43	0.54
54:5:123:U:H2'	54:5:124:U:H5	1.73	0.54
54:5:245:U:O2	54:5:271:G:N2	2.30	0.54
54:5:788:G:H1	54:5:1472:G:H4'	1.73	0.54
54:5:944:A:H2'	54:5:945:U:C6	2.42	0.54
4:9:18:HIS:ND1	4:9:86:VAL:HG23	2.23	0.54
4:9:90:VAL:HA	4:9:401:PHE:HD1	1.73	0.54
6:B:37:ASP:HB3	6:B:60:ARG:HD2	1.89	0.54
13:I:24:LEU:HD21	13:I:78:ARG:HG2	1.90	0.54
32:g:61:ARG:HA	32:g:64:LYS:HB3	1.90	0.54
44:s:68:GLY:H	52:3:1363:C:P	2.31	0.54
52:3:359:G:H2'	52:3:360:G:H8	1.73	0.54
52:3:674:G:H2'	52:3:675:U:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1672:C:H4'	52:3:2717:G:H21	1.73	0.54
52:3:1837:C:H2'	52:3:1838:A:H8	1.71	0.54
52:3:1871:U:O2	52:3:1884:A:N6	2.41	0.54
52:3:2032:G:H2'	52:3:2033:G:H8	1.73	0.54
52:3:2406:U:H2'	52:3:2407:G:H8	1.71	0.54
54:5:302:A:H5'	54:5:303:A:C8	2.42	0.54
54:5:655:G:C6	54:5:744:U:C4	2.95	0.54
54:5:920:G:H21	54:5:1477:A:H1'	1.73	0.54
2:1:12:LYS:HE2	52:3:667:A:H5''	1.90	0.54
4:9:173:ASN:HB2	4:9:184:TYR:CZ	2.42	0.54
10:F:101:ARG:NH2	54:5:935:U:O3'	2.41	0.54
15:K:65:TYR:CD2	15:K:77:LEU:HD11	2.43	0.54
16:L:64:LYS:HG3	16:L:69:LEU:HB2	1.90	0.54
21:Q:78:ASN:OD1	21:Q:83:GLN:NE2	2.41	0.54
26:a:269:ASN:HB2	26:a:272:LYS:HE2	1.90	0.54
31:f:10:SER:HA	31:f:27:ILE:HD12	1.90	0.54
35:j:7:ARG:NH2	52:3:1996:A:OP2	2.40	0.54
38:m:82:LEU:HD12	38:m:86:VAL:HB	1.89	0.54
52:3:73:A:OP2	52:3:113:U:O2'	2.17	0.54
52:3:794:G:H2'	52:3:795:G:C8	2.42	0.54
52:3:1819:G:H2'	52:3:1820:U:H6	1.73	0.54
52:3:1999:G:H5'	52:3:2001:C:N4	2.20	0.54
52:3:2100:G:H2'	52:3:2101:A:H8	1.72	0.54
53:4:66:A:H3'	53:4:67:G:H8	1.73	0.54
54:5:290:G:OP2	54:5:608:G:O2'	2.17	0.54
54:5:498:G:H2'	54:5:499:U:H6	1.73	0.54
54:5:1136:G:N7	54:5:1157:G:N1	2.53	0.54
54:5:1384:A:H2'	54:5:1385:A:H8	1.71	0.54
4:9:606:VAL:HB	4:9:639:ILE:HB	1.90	0.54
5:A:154:ARG:HD3	54:5:1144:A:H4'	1.89	0.54
14:J:23:THR:HG21	14:J:56:ALA:HB2	1.90	0.54
27:b:107:TYR:HE1	27:b:218:LYS:HE2	1.72	0.54
37:l:65:TRP:HB2	37:l:105:GLU:HG3	1.90	0.54
37:l:122:GLY:HA3	37:l:129:TRP:HD1	1.73	0.54
38:m:26:LEU:HD21	38:m:82:LEU:HB2	1.90	0.54
52:3:243:U:H3	52:3:262:G:H1	1.56	0.54
52:3:272:C:OP1	52:3:395:U:O2'	2.22	0.54
52:3:306:G:N1	52:3:399:G:N7	2.56	0.54
52:3:1473:C:H2'	52:3:1474:C:H6	1.73	0.54
52:3:1645:C:H2'	52:3:1646:G:C8	2.43	0.54
52:3:1705:U:N3	52:3:1707:U:H5''	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1868:A:N6	52:3:1889:U:O2	2.41	0.54
53:4:12:U:H3'	53:4:13:G:H2'	1.90	0.54
54:5:63:U:H4'	54:5:380:G:H21	1.72	0.54
54:5:74:U:O4	54:5:75:A:N6	2.40	0.54
54:5:299:U:H4'	54:5:553:C:H5'	1.90	0.54
54:5:381:C:O2'	54:5:382:U:H5'	2.07	0.54
54:5:432:U:H2'	54:5:433:C:C6	2.42	0.54
54:5:1142:G:O2'	54:5:1144:A:N7	2.36	0.54
4:9:47:GLU:HG3	4:9:190:LYS:HB2	1.90	0.54
5:A:74:GLU:HB2	9:E:167:ASP:HB2	1.89	0.54
14:J:114:CYS:SG	54:5:674:U:O2'	2.64	0.54
28:c:185:LYS:HE3	52:3:647:G:H4'	1.90	0.54
33:h:77:LYS:NZ	33:h:85:GLY:H	2.05	0.54
40:o:30:GLU:HA	40:o:51:THR:HA	1.89	0.54
51:z:15:ARG:O	52:3:2407:G:O2'	2.19	0.54
52:3:532:A:H2'	52:3:533:G:C8	2.43	0.54
52:3:1316:U:O2	52:3:1355:C:O2'	2.24	0.54
52:3:2468:U:C2	52:3:2469:A:C8	2.96	0.54
52:3:2646:G:H1'	52:3:2786:A:N6	2.22	0.54
52:3:2717:G:H2'	52:3:2718:C:C6	2.43	0.54
52:3:2754:U:H2'	52:3:2755:G:O4'	2.07	0.54
52:3:2799:U:O4	52:3:2813:A:N6	2.41	0.54
52:3:2869:U:H2'	52:3:2870:U:C4	2.43	0.54
52:3:2893:C:H2'	52:3:2894:G:O4'	2.07	0.54
54:5:534:C:H2'	54:5:535:A:C8	2.43	0.54
54:5:802:C:H2'	54:5:803:C:C6	2.42	0.54
54:5:976:U:H2'	54:5:977:U:C5	2.43	0.54
54:5:1246:A:H2'	54:5:1247:G:H8	1.73	0.54
16:L:104:THR:HB	54:5:1205:C:H41	1.72	0.53
26:a:23:LYS:NZ	52:3:1598:U:OP2	2.39	0.53
52:3:127:A:O2'	52:3:128:A:O4'	2.15	0.53
52:3:326:A:H2'	52:3:327:U:C6	2.43	0.53
52:3:1615:G:C2	52:3:1616:G:H1'	2.43	0.53
52:3:1672:C:H2'	52:3:1673:U:C6	2.42	0.53
52:3:1790:U:O3'	52:3:2615:G:O2'	2.23	0.53
52:3:2794:U:H2'	52:3:2795:C:C6	2.43	0.53
53:4:16:G:O6	53:4:63:U:O4	2.26	0.53
54:5:10:G:H2'	54:5:11:A:C8	2.43	0.53
54:5:407:A:N6	54:5:409:G:N3	2.55	0.53
54:5:705:A:H2'	54:5:706:U:C6	2.42	0.53
54:5:1150:G:H2'	54:5:1151:A:C8	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1321:G:HO2'	54:5:1348:G:H1	1.54	0.53
54:5:1388:A:H2'	54:5:1389:U:C6	2.43	0.53
5:A:225:THR:O	5:A:229:MET:HG2	2.08	0.53
16:L:72:GLU:O	16:L:76:ASN:ND2	2.41	0.53
25:W:61:GLY:HA3	25:W:118:THR:HB	1.90	0.53
27:b:122:ALA:HB2	27:b:165:MET:HA	1.90	0.53
27:b:151:ARG:O	52:3:2039:G:N2	2.42	0.53
30:e:124:LEU:HD21	30:e:143:LEU:HB2	1.90	0.53
39:n:29:VAL:HG21	39:n:46:PHE:CD2	2.43	0.53
39:n:82:VAL:HG11	39:n:113:GLY:HA3	1.89	0.53
41:p:24:PHE:CE1	52:3:567:U:H2'	2.40	0.53
42:q:24:LYS:HA	42:q:90:THR:OG1	2.08	0.53
48:w:49:ARG:HH21	52:3:76:A:H5'	1.74	0.53
52:3:155:A:H2'	52:3:156:A:C8	2.43	0.53
52:3:992:G:O6	52:3:994:U:O2'	2.23	0.53
52:3:1553:G:N1	52:3:1577:A:OP2	2.29	0.53
52:3:2334:U:O2	52:3:2397:G:N2	2.36	0.53
52:3:2383:G:O2'	52:3:2385:A:N6	2.40	0.53
52:3:2552:G:H2'	52:3:2553:G:C8	2.43	0.53
52:3:2753:C:N4	52:3:2768:U:H3	2.05	0.53
54:5:44:C:H2'	54:5:45:A:C8	2.42	0.53
54:5:395:G:H2'	54:5:396:C:C6	2.44	0.53
54:5:713:A:H2'	54:5:714:C:C6	2.44	0.53
54:5:794:C:H2'	54:5:795:U:C6	2.43	0.53
54:5:1329:G:H2'	54:5:1330:A:H8	1.72	0.53
6:B:21:ARG:HA	17:M:54:PRO:HG3	1.90	0.53
10:F:51:GLN:NE2	10:F:52:ARG:HG3	2.23	0.53
21:Q:81:MET:HE1	54:5:661:G:H5''	1.90	0.53
26:a:188:GLU:OE1	26:a:190:ARG:NH2	2.41	0.53
37:l:68:ILE:HG22	52:3:945:U:H5'	1.90	0.53
41:p:63:ARG:HB2	41:p:96:GLU:HG3	1.91	0.53
41:p:73:MET:HE1	41:p:78:PHE:HD1	1.74	0.53
43:r:77:ASN:CG	52:3:25:G:H21	2.16	0.53
45:t:99:LYS:HE3	52:3:85:U:H3'	1.89	0.53
52:3:175:A:H2'	52:3:176:U:C6	2.44	0.53
52:3:379:A:O2'	52:3:381:A:N6	2.39	0.53
52:3:1133:A:H3'	52:3:1134:G:C8	2.43	0.53
52:3:1876:G:O2'	52:3:1879:A:N6	2.41	0.53
52:3:2309:A:H2'	52:3:2310:C:C6	2.43	0.53
52:3:2422:G:C2'	52:3:2423:G:H5'	2.37	0.53
52:3:2470:C:H2'	52:3:2471:U:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:25:U:H2'	54:5:26:C:C6	2.43	0.53
5:A:158:ARG:HH12	54:5:1089:C:H5	1.55	0.53
6:B:56:VAL:HG12	6:B:69:VAL:HG22	1.90	0.53
7:C:63:MET:O	7:C:110:ARG:NH2	2.42	0.53
19:O:19:ARG:NH1	54:5:321:A:N1	2.57	0.53
26:a:236:ASN:ND2	52:3:828:A:N1	2.47	0.53
38:m:57:PHE:O	38:m:61:ARG:HG2	2.09	0.53
39:n:27:ARG:NH2	39:n:88:ASN:O	2.42	0.53
52:3:519:A:OP2	52:3:520:C:N4	2.33	0.53
52:3:660:U:N3	52:3:661:G:O6	2.35	0.53
52:3:841:C:O2'	52:3:2452:G:N3	2.41	0.53
52:3:1170:C:N4	52:3:1173:G:OP2	2.30	0.53
52:3:1248:A:H2'	52:3:1249:A:C8	2.44	0.53
52:3:1264:U:C2'	52:3:1265:G:H5'	2.38	0.53
52:3:1484:G:H2'	52:3:1485:A:C8	2.43	0.53
52:3:1814:G:N2	52:3:1817:A:OP2	2.38	0.53
52:3:2308:U:H2'	52:3:2309:A:H8	1.72	0.53
52:3:2575:G:H2'	52:3:2576:A:C8	2.44	0.53
52:3:2820:G:H2'	52:3:2821:U:C6	2.43	0.53
52:3:2885:U:H2'	52:3:2886:A:C8	2.44	0.53
53:4:58:C:H2'	53:4:59:A:C8	2.42	0.53
54:5:96:G:H22	54:5:326:C:H41	1.57	0.53
54:5:359:A:H2'	54:5:360:A:C8	2.43	0.53
54:5:459:C:H2'	54:5:460:A:O4'	2.08	0.53
54:5:576:A:H2'	54:5:577:G:H8	1.74	0.53
17:M:18:VAL:O	54:5:1334:A:N6	2.42	0.53
21:Q:44:CYS:HG	21:Q:82:HIS:CD2	2.26	0.53
21:Q:84:ARG:HH21	54:5:662:G:H5'	1.73	0.53
23:S:14:ASN:HB2	54:5:319:U:H1'	1.90	0.53
26:a:71:PHE:HZ	26:a:92:ARG:HH12	1.56	0.53
27:b:26:ILE:HD13	27:b:194:SER:HA	1.91	0.53
35:j:102:VAL:HG23	35:j:115:LEU:HD23	1.89	0.53
39:n:2:LYS:HE3	39:n:6:GLU:HB2	1.90	0.53
46:u:60:TYR:HE2	46:u:92:LYS:HE3	1.73	0.53
47:v:34:GLN:NE2	52:3:2237:U:O2	2.40	0.53
51:z:42:ARG:HH12	52:3:2377:A:H2	1.56	0.53
52:3:251:G:O2'	52:3:424:G:N2	2.42	0.53
52:3:442:G:N2	52:3:457:U:O2	2.40	0.53
52:3:740:A:H2'	52:3:741:A:O4'	2.09	0.53
52:3:938:A:H2'	52:3:939:U:C6	2.44	0.53
52:3:1451:A:H2'	52:3:1452:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1946:U:H4'	52:3:2611:G:N2	2.24	0.53
52:3:2100:G:H2'	52:3:2101:A:C8	2.44	0.53
52:3:2183:U:H2'	52:3:2184:A:C8	2.44	0.53
52:3:2558:G:H2'	52:3:2559:C:C6	2.44	0.53
53:4:12:U:H4'	53:4:67:G:H21	1.73	0.53
54:5:1002:A:C5	54:5:1019:G:N2	2.77	0.53
54:5:1139:A:N6	54:5:1149:G:O6	2.41	0.53
54:5:1345:G:H2'	54:5:1346:G:C8	2.44	0.53
3:2:1:MET:SD	3:2:33:LYS:HE2	2.48	0.53
22:R:81:LYS:HG3	22:R:84:THR:H	1.74	0.53
30:e:8:THR:OG1	30:e:52:ASN:OD1	2.25	0.53
46:u:58:ARG:HG3	52:3:2338:G:O2'	2.09	0.53
48:w:57:ILE:HG22	48:w:61:ARG:HH12	1.72	0.53
52:3:14:U:H5''	52:3:15:A:C8	2.43	0.53
52:3:119:A:H5'	52:3:120:A:C8	2.43	0.53
52:3:173:C:H2'	52:3:174:A:H8	1.74	0.53
52:3:1053:C:H2'	52:3:1054:U:C6	2.42	0.53
52:3:1229:U:H2'	52:3:1230:U:C6	2.44	0.53
52:3:1730:C:H2'	52:3:1731:G:O4'	2.08	0.53
52:3:2088:U:H2'	52:3:2089:A:H8	1.73	0.53
52:3:2259:G:C8	52:3:2458:A:H4'	2.43	0.53
52:3:2309:A:H2'	52:3:2310:C:H6	1.73	0.53
52:3:2444:G:N2	52:3:2606:A:N3	2.52	0.53
54:5:59:C:H2'	54:5:60:A:C8	2.44	0.53
54:5:317:A:H2'	54:5:318:C:C6	2.44	0.53
54:5:773:G:H4'	54:5:774:A:H8	1.73	0.53
54:5:1243:A:O2'	54:5:1244:A:O4'	2.25	0.53
54:5:1462:G:H2'	54:5:1463:A:H8	1.74	0.53
4:9:448:ILE:HD11	4:9:459:LEU:HD22	1.89	0.53
33:h:124:VAL:HG12	33:h:135:VAL:HG21	1.91	0.53
37:l:65:TRP:CD1	52:3:909:U:HO2'	2.27	0.53
38:m:30:LYS:HG2	38:m:117:GLN:HE21	1.73	0.53
45:t:63:VAL:HG22	45:t:64:GLN:H	1.73	0.53
45:t:70:PHE:HB2	45:t:73:LYS:HG3	1.91	0.53
51:z:8:ARG:NH2	51:z:51:LYS:HA	2.20	0.53
52:3:442:G:N1	52:3:457:U:N3	2.56	0.53
52:3:2766:A:H8	52:3:2766:A:OP2	1.90	0.53
53:4:58:C:H2'	53:4:59:A:H8	1.74	0.53
54:5:765:A:H3'	54:5:766:G:C8	2.39	0.53
54:5:1236:A:H3'	54:5:1237:G:H8	1.74	0.53
54:5:1481:U:O2'	54:5:1482:A:O5'	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:284:VAL:O	4:9:286:GLN:NE2	2.42	0.53
4:9:393:ASP:OD1	4:9:395:GLN:NE2	2.42	0.53
5:A:82:ILE:HG23	5:A:175:LEU:HD22	1.91	0.53
11:G:17:ASP:O	11:G:21:LYS:HG2	2.08	0.53
52:3:95:G:H2'	52:3:96:A:C8	2.43	0.53
52:3:230:G:H1	52:3:454:G:H21	1.54	0.53
52:3:293:G:O2'	52:3:302:G:OP1	2.27	0.53
52:3:362:U:C2	52:3:369:C:N3	2.77	0.53
52:3:442:G:C2	52:3:457:U:C2	2.97	0.53
52:3:762:A:H2'	52:3:763:G:C8	2.44	0.53
52:3:2331:G:H21	52:3:2345:G:C1'	2.21	0.53
52:3:2436:G:O2'	52:3:2437:G:N7	2.41	0.53
52:3:2552:G:N2	52:3:2654:U:O2'	2.42	0.53
52:3:2760:C:H2'	52:3:2761:A:C8	2.43	0.53
52:3:2858:A:C2'	52:3:2859:U:H5'	2.38	0.53
54:5:764:A:H2'	54:5:765:A:H8	1.72	0.53
54:5:773:G:H4'	54:5:774:A:C8	2.44	0.53
54:5:1305:G:H4'	54:5:1306:A:H5'	1.91	0.53
4:9:12:ASN:HA	4:9:78:ASN:HB2	1.89	0.53
7:C:98:ASP:OD2	7:C:114:ARG:NH2	2.42	0.53
12:H:97:LYS:HE2	12:H:106:THR:HG21	1.91	0.53
26:a:112:PRO:HA	26:a:203:VAL:HA	1.91	0.53
26:a:136:MET:HE1	26:a:140:PHE:HB2	1.91	0.53
27:b:58:GLU:OE2	27:b:61:LYS:NZ	2.40	0.53
29:d:63:GLN:HE22	29:d:92:ARG:H	1.57	0.53
29:d:129:THR:HB	52:3:2311:G:H21	1.74	0.53
34:i:113:PRO:HD3	52:3:1043:C:H4'	1.90	0.53
47:v:30:ASN:O	52:3:432:G:O2'	2.26	0.53
51:z:9:LEU:HB2	51:z:19:TYR:HB2	1.90	0.53
52:3:603:G:H1	52:3:2506:C:H4'	1.74	0.53
52:3:665:C:H4'	52:3:686:C:O2	2.09	0.53
52:3:707:C:H2'	52:3:708:C:C6	2.43	0.53
52:3:854:A:OP2	52:3:1218:G:N1	2.27	0.53
52:3:1431:A:O2'	52:3:1497:A:O2'	2.19	0.53
52:3:1509:U:C4	52:3:1530:G:O6	2.61	0.53
52:3:1627:U:H2'	52:3:1628:G:H8	1.73	0.53
52:3:1836:A:H2'	52:3:1836:A:N3	2.24	0.53
52:3:2099:U:O4	52:3:2236:G:C6	2.61	0.53
52:3:2300:A:H5'	52:3:2386:A:H61	1.73	0.53
54:5:101:A:H3'	54:5:102:G:H8	1.74	0.53
54:5:223:G:H2'	54:5:224:A:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:386:U:H2'	54:5:387:G:C8	2.44	0.53
54:5:437:U:H3'	54:5:438:A:H5''	1.91	0.53
54:5:1187:U:H4'	54:5:1188:A:C5	2.44	0.53
54:5:1214:A:H62	54:5:1273:A:N6	2.07	0.53
1:0:34:ARG:HB3	1:0:39:ARG:HB2	1.90	0.53
5:A:29:HIS:HD2	5:A:217:ALA:HB1	1.73	0.53
7:C:202:ARG:CZ	54:5:28:G:H4'	2.39	0.53
17:M:29:ARG:HH22	54:5:969:A:H62	1.56	0.53
28:c:67:LYS:H	28:c:71:THR:HG21	1.73	0.53
28:c:161:VAL:HG13	28:c:163:THR:HG22	1.90	0.53
31:f:18:VAL:HG12	31:f:18:VAL:O	2.07	0.53
32:g:56:ASN:HB3	52:3:1142:G:H5''	1.89	0.53
37:l:16:SER:HB3	37:l:18:GLU:OE1	2.09	0.53
39:n:36:LEU:HD13	53:4:29:C:H41	1.74	0.53
41:p:65:ASN:ND2	52:3:1047:A:OP2	2.42	0.53
46:u:31:HIS:ND1	52:3:2280:U:OP1	2.42	0.53
52:3:481:C:H2'	52:3:482:G:C8	2.44	0.53
52:3:1759:C:H4'	52:3:2865:U:H4'	1.90	0.53
52:3:1887:U:H2'	52:3:1888:U:C6	2.44	0.53
52:3:2427:U:H2'	52:3:2428:C:H6	1.72	0.53
52:3:2523:C:H2'	52:3:2524:U:C6	2.44	0.53
54:5:485:C:H2'	54:5:486:C:C6	2.43	0.53
54:5:692:A:H2	54:5:784:A:H1'	1.74	0.53
54:5:793:C:C4	54:5:794:C:N4	2.76	0.53
54:5:985:C:O2'	54:5:989:A:O5'	2.27	0.53
54:5:1059:G:O6	54:5:1085:G:O2'	2.13	0.53
54:5:1446:A:O2'	54:5:1447:U:O4'	2.13	0.53
4:9:484:PHE:CE2	4:9:513:PRO:HG3	2.44	0.52
7:C:195:TYR:HA	7:C:198:GLU:HG2	1.91	0.52
10:F:78:ARG:HG2	10:F:83:ASN:HB2	1.91	0.52
11:G:134:GLY:H	54:5:597:C:HO2'	1.55	0.52
15:K:123:ARG:HD3	54:5:536:U:OP1	2.08	0.52
19:O:21:LYS:HD3	54:5:96:G:H5''	1.91	0.52
33:h:53:CYS:HB3	33:h:65:PHE:HZ	1.74	0.52
36:k:55:GLN:OE1	52:3:860:C:O2'	2.24	0.52
44:s:9:LYS:HD3	48:w:34:ALA:HB2	1.92	0.52
47:v:33:LEU:HD13	47:v:49:LEU:HD13	1.92	0.52
52:3:449:C:O2'	52:3:1886:C:O2	2.27	0.52
52:3:859:G:H2'	52:3:860:C:C6	2.44	0.52
52:3:1306:G:H2'	52:3:1307:G:C8	2.44	0.52
52:3:1308:A:H2'	52:3:1309:G:C8	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1704:C:N4	52:3:1708:G:OP2	2.42	0.52
52:3:2161:G:H2'	52:3:2162:U:O4'	2.08	0.52
52:3:2200:U:H2'	52:3:2201:G:C8	2.43	0.52
54:5:690:G:H2'	54:5:691:A:C8	2.44	0.52
54:5:763:A:C2	54:5:764:A:H1'	2.44	0.52
54:5:822:A:H2'	54:5:823:C:H6	1.74	0.52
54:5:1329:G:H2'	54:5:1330:A:C8	2.44	0.52
54:5:1383:A:H2'	54:5:1384:A:H8	1.72	0.52
54:5:1394:G:N2	54:5:1456:U:O2	2.38	0.52
4:9:66:ALA:HB3	4:9:325:PHE:HE2	1.75	0.52
4:9:612:TYR:CG	4:9:659:SER:HB2	2.44	0.52
9:E:126:GLU:HG2	54:5:840:C:H4'	1.91	0.52
17:M:26:ARG:NH1	17:M:27:CYS:SG	2.82	0.52
19:O:62:THR:HG21	54:5:371:U:H5''	1.91	0.52
23:S:53:ARG:NH2	54:5:197:A:OP2	2.42	0.52
31:f:25:TYR:HE1	47:v:55:LEU:HD11	1.74	0.52
37:l:37:THR:HG22	37:l:130:LYS:HD3	1.90	0.52
40:o:87:SER:OG	40:o:89:GLU:OE2	2.25	0.52
41:p:25:GLY:HA2	50:y:10:LYS:HG2	1.91	0.52
51:z:42:ARG:HG3	52:3:679:A:C8	2.44	0.52
52:3:80:U:H2'	52:3:81:C:H6	1.74	0.52
52:3:625:G:H2'	52:3:626:A:C8	2.44	0.52
52:3:764:G:O2'	52:3:798:G:O3'	2.27	0.52
52:3:1624:A:H2'	52:3:1625:G:C8	2.44	0.52
52:3:1793:A:O3'	52:3:1945:A:N6	2.43	0.52
52:3:2132:G:N2	52:3:2181:A:H62	2.06	0.52
52:3:2206:A:O2'	52:3:2207:A:N7	2.42	0.52
52:3:2483:C:H42	52:3:2537:G:N2	2.07	0.52
52:3:2625:U:C2	52:3:2626:A:C8	2.97	0.52
54:5:298:G:H1'	54:5:554:C:H5'	1.91	0.52
54:5:669:U:H2'	54:5:670:G:C8	2.43	0.52
54:5:706:U:H2'	54:5:707:G:C8	2.43	0.52
54:5:1087:C:H2'	54:5:1088:C:H6	1.73	0.52
54:5:1132:G:O2'	54:5:1155:A:N6	2.37	0.52
4:9:665:TYR:HB2	4:9:667:MET:HE2	1.90	0.52
7:C:90:PHE:HD1	7:C:193:GLU:HB3	1.75	0.52
8:D:74:LYS:NZ	8:D:75:ARG:O	2.42	0.52
8:D:203:LEU:HD22	11:G:108:LEU:HD11	1.92	0.52
13:I:81:ILE:HD12	54:5:1116:U:H1'	1.91	0.52
16:L:86:TRP:CD2	54:5:1295:U:H4'	2.44	0.52
26:a:251:ARG:HD3	52:3:2082:U:H5''	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:f:66:HIS:O	31:f:70:GLU:OE1	2.27	0.52
39:n:101:ARG:NH1	53:4:48:A:OP2	2.42	0.52
40:o:48:PHE:HE2	40:o:66:VAL:HB	1.74	0.52
47:v:16:ASN:O	52:3:418:G:O2'	2.24	0.52
48:w:46:GLN:O	48:w:50:LEU:N	2.39	0.52
52:3:22:U:H3	52:3:555:A:H2	1.56	0.52
52:3:573:A:N6	52:3:588:G:H1'	2.24	0.52
52:3:1077:G:N1	52:3:1148:U:C2	2.77	0.52
52:3:1504:G:N3	52:3:1591:C:O2'	2.43	0.52
52:3:1647:A:H62	52:3:1651:C:N4	2.06	0.52
52:3:1946:U:H4'	52:3:2611:G:H21	1.75	0.52
52:3:1953:U:O4	52:3:1968:C:N4	2.42	0.52
52:3:1987:C:H3'	52:3:1988:A:H5''	1.91	0.52
52:3:2879:U:H2'	52:3:2880:A:C8	2.45	0.52
54:5:6:C:H42	54:5:294:A:HO2'	1.57	0.52
54:5:982:A:H2'	54:5:983:G:H8	1.74	0.52
55:8:2:G:H2'	55:8:3:G:H8	1.75	0.52
1:0:19:LEU:HB3	52:3:126:C:H5''	1.92	0.52
4:9:170:ASN:ND2	52:3:2662:A:OP2	2.40	0.52
4:9:481:ARG:HB2	4:9:598:LEU:HB2	1.91	0.52
10:F:27:ASN:OD1	10:F:35:LYS:HD2	2.10	0.52
11:G:94:GLY:HA2	54:5:584:C:H4'	1.91	0.52
15:K:105:GLY:H	54:5:905:U:H5''	1.74	0.52
34:i:20:ILE:HB	34:i:140:PRO:HB2	1.92	0.52
35:j:21:ILE:HA	35:j:41:VAL:HG12	1.92	0.52
36:k:128:VAL:O	36:k:149:LEU:N	2.39	0.52
37:l:122:GLY:HA3	37:l:129:TRP:CD1	2.44	0.52
50:y:39:PHE:HD2	52:3:2819:C:H1'	1.75	0.52
51:z:35:ASN:HB3	51:z:46:VAL:HG22	1.89	0.52
52:3:529:G:H2'	52:3:530:G:C8	2.45	0.52
52:3:558:C:H5''	52:3:575:C:O2'	2.08	0.52
52:3:602:U:H4'	52:3:982:G:H21	1.74	0.52
52:3:604:A:H61	52:3:2508:U:P	2.32	0.52
52:3:1154:U:H2'	52:3:1155:G:C8	2.44	0.52
52:3:2182:C:H2'	52:3:2183:U:O4'	2.10	0.52
52:3:2254:G:H2'	52:3:2255:A:H8	1.74	0.52
52:3:2348:U:H2'	52:3:2349:G:H8	1.73	0.52
52:3:2420:A:H2'	52:3:2421:U:O4'	2.10	0.52
52:3:2465:U:H2'	52:3:2466:G:C8	2.44	0.52
52:3:2478:G:H2'	52:3:2479:A:C8	2.43	0.52
52:3:2528:C:H2'	52:3:2529:C:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2733:A:N7	52:3:2735:G:C6	2.78	0.52
54:5:13:U:O2'	54:5:907:A:O2'	2.21	0.52
54:5:372:G:N1	54:5:383:U:N3	2.58	0.52
54:5:621:C:H2'	54:5:622:A:H8	1.74	0.52
54:5:888:A:H61	54:5:899:U:H1'	1.74	0.52
54:5:971:A:N1	54:5:1336:C:H2'	2.24	0.52
55:6:2:G:H2'	55:6:3:G:H8	1.75	0.52
4:9:333:LEU:N	4:9:366:GLU:OE1	2.42	0.52
9:E:107:LEU:O	9:E:111:LYS:HG2	2.09	0.52
11:G:120:ASP:OD1	54:5:637:A:O2'	2.27	0.52
16:L:78:LYS:O	16:L:82:GLU:N	2.35	0.52
18:N:17:LYS:HD3	54:5:747:C:H5''	1.92	0.52
26:a:136:MET:SD	26:a:137:PRO:HD2	2.49	0.52
34:i:121:TRP:HD1	34:i:124:LYS:HZ1	1.57	0.52
37:l:14:ASN:N	52:3:991:G:OP1	2.29	0.52
40:o:92:ARG:NH1	40:o:117:ARG:HA	2.25	0.52
47:v:30:ASN:O	52:3:2238:G:O2'	2.24	0.52
52:3:173:C:H2'	52:3:174:A:C8	2.44	0.52
52:3:724:A:N3	52:3:814:U:O2'	2.37	0.52
52:3:860:C:H4'	52:3:2436:G:C5	2.45	0.52
52:3:1058:U:O2'	52:3:1157:G:H5'	2.09	0.52
52:3:1450:G:O2'	52:3:1517:G:N3	2.38	0.52
52:3:2059:G:N2	52:3:2625:U:O2	2.36	0.52
52:3:2216:U:H2'	52:3:2217:G:C8	2.44	0.52
52:3:2502:G:H2'	52:3:2503:G:C8	2.45	0.52
53:4:38:U:H1'	53:4:43:A:H61	1.75	0.52
54:5:120:A:OP2	54:5:122:C:N4	2.43	0.52
54:5:292:U:O2'	54:5:554:C:O2	2.27	0.52
54:5:365:U:H2'	54:5:366:C:C5	2.44	0.52
54:5:502:C:H2'	54:5:509:C:H2'	1.92	0.52
54:5:957:C:H2'	54:5:958:G:H8	1.72	0.52
54:5:1006:A:H3'	54:5:1007:U:H6	1.73	0.52
54:5:1037:A:H61	54:5:1186:U:H2'	1.73	0.52
54:5:1133:A:N1	54:5:1153:G:N3	2.54	0.52
54:5:1240:U:H2'	54:5:1241:G:C8	2.45	0.52
54:5:1297:G:H2'	54:5:1298:U:O4'	2.09	0.52
11:G:39:LYS:HG3	11:G:40:LEU:HD12	1.91	0.52
13:I:35:VAL:HG21	13:I:42:ILE:HD13	1.90	0.52
27:b:30:TYR:HE1	27:b:188:ASN:HB3	1.75	0.52
28:c:162:ASN:HA	28:c:182:HIS:HD2	1.74	0.52
34:i:42:LYS:HA	41:p:62:LEU:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:l:34:LEU:HB2	37:l:118:LEU:HD22	1.92	0.52
52:3:170:A:N3	52:3:2217:G:O2'	2.37	0.52
52:3:299:A:H2'	52:3:300:G:C8	2.44	0.52
52:3:322:A:H2'	52:3:323:A:C8	2.44	0.52
52:3:433:A:H1'	52:3:2238:G:H21	1.73	0.52
52:3:688:U:H5''	52:3:689:U:O3'	2.10	0.52
52:3:713:C:H2'	52:3:714:G:C8	2.44	0.52
52:3:1099:C:N4	52:3:1105:A:OP1	2.43	0.52
54:5:248:U:O2'	54:5:271:G:N2	2.32	0.52
54:5:413:G:N2	54:5:538:G:O2'	2.41	0.52
54:5:589:U:H2'	54:5:590:G:C8	2.44	0.52
54:5:661:G:O2'	54:5:722:G:N3	2.43	0.52
54:5:897:A:H2'	54:5:898:A:C8	2.42	0.52
54:5:1044:G:N1	54:5:1049:G:O6	2.43	0.52
54:5:1191:U:H2'	54:5:1192:C:C6	2.45	0.52
54:5:1212:C:O2'	54:5:1275:U:O4	2.23	0.52
9:E:21:VAL:O	9:E:25:GLN:HG3	2.10	0.52
14:J:22:ASN:OD1	14:J:23:THR:N	2.43	0.52
14:J:28:SER:HB2	14:J:34:VAL:HG22	1.92	0.52
20:P:13:VAL:HG13	20:P:57:ASP:HA	1.92	0.52
22:R:15:LEU:HD22	22:R:38:SER:HB2	1.90	0.52
30:e:71:TYR:HA	30:e:74:LEU:HB2	1.92	0.52
34:i:42:LYS:NZ	52:3:1045:A:OP2	2.40	0.52
37:l:35:VAL:O	37:l:130:LYS:CB	2.53	0.52
38:m:110:ALA:O	52:3:2015:C:O2'	2.27	0.52
51:z:12:ASN:O	51:z:15:ARG:NH2	2.43	0.52
52:3:229:C:H3'	52:3:230:G:H8	1.75	0.52
52:3:764:G:O6	52:3:1781:C:N4	2.42	0.52
52:3:1228:G:C6	52:3:1279:U:O2	2.62	0.52
52:3:1294:G:P	52:3:1295:A:HO2'	2.33	0.52
52:3:1615:G:H3'	52:3:1616:G:H8	1.73	0.52
52:3:1926:A:C2	54:5:1470:U:H1'	2.45	0.52
52:3:2662:A:H62	52:3:2675:C:H41	1.56	0.52
53:4:71:A:H2'	53:4:72:A:H8	1.74	0.52
54:5:206:G:N2	54:5:209:A:OP2	2.37	0.52
54:5:1003:G:H22	54:5:1018:U:H2'	1.73	0.52
54:5:1283:G:H2'	54:5:1284:A:H8	1.73	0.52
54:5:1421:A:OP2	54:5:1424:C:N4	2.43	0.52
4:9:114:PRO:HG3	4:9:660:GLN:O	2.10	0.52
13:I:59:ARG:O	17:M:45:ARG:NH1	2.42	0.52
19:O:14:VAL:HB	19:O:26:TYR:HB3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:122:ALA:H	27:b:144:GLN:HG3	1.75	0.52
28:c:184:ASP:O	52:3:651:A:N6	2.41	0.52
29:d:92:ARG:HG2	53:4:43:A:H8	1.74	0.52
38:m:42:GLN:NE2	38:m:46:ASP:OD2	2.43	0.52
39:n:12:HIS:ND1	39:n:94:GLY:HA2	2.24	0.52
52:3:322:A:H2'	52:3:323:A:H8	1.75	0.52
52:3:606:G:H22	52:3:2038:A:P	2.32	0.52
52:3:853:G:N1	52:3:1219:U:OP2	2.33	0.52
52:3:1050:A:H2'	52:3:1051:U:C6	2.45	0.52
52:3:1694:A:H2'	52:3:1695:G:C8	2.45	0.52
52:3:1695:G:H1'	52:3:2721:C:H5	1.75	0.52
52:3:1968:C:N3	52:3:1969:C:N3	2.58	0.52
52:3:2194:G:H2'	52:3:2195:U:C6	2.45	0.52
52:3:2260:G:H2'	52:3:2261:G:C4	2.44	0.52
52:3:2333:G:OP1	52:3:2393:C:H5'	2.09	0.52
52:3:2564:C:H3'	52:3:2565:G:H8	1.74	0.52
52:3:2699:C:O2'	52:3:2875:U:O2'	2.23	0.52
52:3:2888:U:O2'	52:3:2889:U:O5'	2.24	0.52
54:5:58:G:H2'	54:5:59:C:O4'	2.10	0.52
54:5:575:A:H2'	54:5:576:A:H8	1.75	0.52
54:5:648:C:H2'	54:5:649:U:C6	2.45	0.52
54:5:762:G:H21	54:5:813:A:H61	1.58	0.52
54:5:1414:U:H2'	54:5:1415:G:C8	2.43	0.52
1:0:34:ARG:NH1	52:3:503:G:N7	2.56	0.52
4:9:65:SER:HB2	4:9:81:ASP:H	1.75	0.52
12:H:119:GLY:N	54:5:1342:C:OP1	2.31	0.52
26:a:83:VAL:HA	26:a:99:ILE:HG22	1.90	0.52
29:d:41:GLY:HA3	52:3:2319:A:C2	2.44	0.52
33:h:88:ASN:OD1	33:h:89:ALA:N	2.42	0.52
37:l:133:LYS:HE3	37:l:134:ARG:H	1.73	0.52
43:r:15:GLN:HE22	50:y:17:ARG:HD3	1.74	0.52
45:t:73:LYS:NZ	52:3:363:G:N7	2.54	0.52
52:3:202:C:O2'	52:3:203:A:H5'	2.10	0.52
52:3:369:C:H2'	52:3:370:C:C6	2.44	0.52
52:3:788:G:H2'	52:3:789:A:C8	2.36	0.52
52:3:1124:G:O2'	52:3:1126:G:N7	2.31	0.52
52:3:1426:C:H2'	52:3:1427:C:C6	2.45	0.52
52:3:1743:U:H1'	52:3:2863:G:H1'	1.91	0.52
52:3:1776:G:H2'	52:3:1777:G:H8	1.75	0.52
52:3:2104:A:H2'	52:3:2105:G:H8	1.74	0.52
54:5:48:C:H5''	54:5:361:U:H2'	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:712:A:H2'	54:5:713:A:C8	2.44	0.52
54:5:891:C:N4	54:5:892:G:O6	2.43	0.52
54:5:938:U:H2'	54:5:939:G:C8	2.42	0.52
54:5:1214:A:H1'	54:5:1216:G:C5	2.45	0.52
55:6:57:C:O3'	55:6:58:G:N2	2.34	0.52
2:1:6:ALA:O	2:1:10:ARG:HG2	2.10	0.52
15:K:29:ASN:ND2	54:5:51:A:N7	2.58	0.52
23:S:6:SER:HB3	54:5:62:G:N7	2.24	0.52
28:c:185:LYS:O	52:3:648:G:N2	2.43	0.52
29:d:94:GLU:HG3	53:4:32:G:OP1	2.10	0.52
41:p:24:PHE:CD2	50:y:11:HIS:CE1	2.98	0.52
48:w:7:LEU:HB3	48:w:57:ILE:HD11	1.92	0.52
52:3:339:U:C4	52:3:346:G:O6	2.63	0.52
52:3:611:A:H2'	52:3:2025:C:H5'	1.91	0.52
52:3:627:U:H2'	52:3:628:A:C8	2.45	0.52
52:3:646:A:C6	52:3:653:G:N1	2.78	0.52
52:3:662:U:H5''	52:3:663:A:H5''	1.91	0.52
52:3:1534:A:O2'	52:3:1535:A:H8	1.93	0.52
52:3:1692:A:H2'	52:3:1693:U:C6	2.44	0.52
52:3:2072:C:H2'	52:3:2073:C:C6	2.45	0.52
52:3:2842:G:H2'	52:3:2843:G:H8	1.75	0.52
52:3:2870:U:H4'	52:3:2871:G:H4'	1.91	0.52
54:5:155:C:H2'	54:5:156:U:C6	2.44	0.52
54:5:403:A:H2'	54:5:404:A:C8	2.45	0.52
54:5:570:A:H61	54:5:859:A:N6	2.08	0.52
54:5:1212:C:O2'	54:5:1274:G:N2	2.42	0.52
54:5:1393:A:C5	54:5:1394:G:H1'	2.45	0.52
6:B:178:LEU:O	54:5:1164:U:O2'	2.28	0.51
33:h:55:ILE:HG22	33:h:65:PHE:HE2	1.75	0.51
41:p:88:GLU:OE1	41:p:111:LYS:NZ	2.44	0.51
44:s:26:LYS:HE3	52:3:1426:C:H4'	1.91	0.51
52:3:990:G:O6	52:3:999:U:O4	2.27	0.51
52:3:1007:C:H2'	52:3:1008:A:O4'	2.09	0.51
52:3:1130:A:H2'	52:3:1131:A:C8	2.45	0.51
52:3:1344:U:H2'	52:3:1345:G:C8	2.44	0.51
52:3:1360:U:O2'	52:3:1643:A:N1	2.40	0.51
52:3:2241:A:H2'	52:3:2242:G:C8	2.41	0.51
52:3:2604:U:O2'	52:3:2605:G:O5'	2.28	0.51
54:5:95:C:H3'	54:5:96:G:H8	1.76	0.51
54:5:337:C:H2'	54:5:338:C:C6	2.46	0.51
54:5:945:U:H2'	54:5:946:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1009:G:H21	54:5:1012:A:H2	1.58	0.51
54:5:1054:C:O2'	54:5:1361:G:OP1	2.25	0.51
54:5:1074:U:H2'	54:5:1075:G:C4	2.46	0.51
6:B:140:SER:O	6:B:144:VAL:HG22	2.11	0.51
9:E:1:MET:N	9:E:90:LEU:HD22	2.26	0.51
14:J:15:HIS:CE1	54:5:704:U:H4'	2.45	0.51
16:L:101:ARG:NH1	54:5:947:U:O4	2.42	0.51
23:S:26:THR:HA	23:S:29:LYS:HG2	1.91	0.51
27:b:185:ASP:O	27:b:189:MET:N	2.43	0.51
28:c:152:LEU:HD22	28:c:157:VAL:HG21	1.91	0.51
37:l:123:HIS:CE1	52:3:1065:G:H4'	2.45	0.51
49:x:43:HIS:CD2	49:x:45:PHE:H	2.27	0.51
52:3:48:G:OP1	52:3:219:G:H5''	2.10	0.51
52:3:358:A:H2'	52:3:359:G:O4'	2.11	0.51
52:3:609:U:H4'	52:3:2510:G:C4	2.45	0.51
52:3:1049:U:O2	52:3:1184:U:N3	2.36	0.51
52:3:1060:G:H1	52:3:1175:C:N4	2.09	0.51
52:3:1496:A:H3'	52:3:1497:A:H8	1.75	0.51
52:3:1910:G:H2'	52:3:1911:G:C8	2.45	0.51
52:3:2151:G:O2'	52:3:2154:A:N6	2.43	0.51
52:3:2646:G:O2'	52:3:2647:A:N7	2.43	0.51
54:5:226:G:H2'	54:5:227:A:O4'	2.10	0.51
54:5:288:A:H2'	54:5:289:U:O4'	2.09	0.51
54:5:318:C:H2'	54:5:319:U:H6	1.72	0.51
54:5:918:A:H2'	54:5:919:C:C6	2.45	0.51
54:5:1467:A:C2	55:6:37:A:H1'	2.44	0.51
6:B:11:ARG:NH1	6:B:180:THR:O	2.41	0.51
6:B:21:ARG:HH11	13:I:23:LEU:HD13	1.76	0.51
9:E:49:ILE:HD13	9:E:83:LEU:HB3	1.93	0.51
11:G:109:ASN:O	11:G:109:ASN:ND2	2.43	0.51
14:J:22:ASN:ND2	54:5:686:C:OP1	2.43	0.51
15:K:80:ILE:HG13	15:K:110:ILE:HD12	1.91	0.51
28:c:116:TRP:CE2	28:c:191:LEU:HD21	2.45	0.51
28:c:136:THR:O	28:c:167:ASN:ND2	2.43	0.51
31:f:48:ASP:OD1	31:f:49:LEU:N	2.43	0.51
32:g:14:VAL:HG13	32:g:62:ALA:HB2	1.91	0.51
45:t:3:ARG:NH1	45:t:74:LEU:O	2.43	0.51
52:3:14:U:H5''	52:3:15:A:H8	1.75	0.51
52:3:17:G:H2'	52:3:18:G:C8	2.45	0.51
52:3:314:G:N2	52:3:315:A:O2'	2.43	0.51
52:3:1027:U:C4	52:3:1198:G:O6	2.63	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1246:U:H3	52:3:1263:G:H1	1.58	0.51
52:3:2031:C:H2'	52:3:2032:G:C8	2.34	0.51
52:3:2316:G:O2'	52:3:2317:A:N7	2.41	0.51
52:3:2812:U:H5'	52:3:2895:A:C6	2.46	0.51
54:5:7:U:H2'	54:5:8:G:H8	1.75	0.51
54:5:419:A:H1'	54:5:420:A:N3	2.25	0.51
54:5:710:G:H2'	54:5:711:G:H8	1.73	0.51
54:5:1240:U:H2'	54:5:1241:G:H8	1.75	0.51
54:5:1368:U:H2'	54:5:1370:C:H5	1.75	0.51
5:A:35:ARG:H	5:A:52:ASN:HD22	1.56	0.51
15:K:13:LYS:HE2	54:5:560:U:H3	1.75	0.51
22:R:78:ARG:NH1	54:5:1296:C:OP1	2.43	0.51
26:a:57:HIS:ND1	26:a:57:HIS:O	2.44	0.51
29:d:125:ARG:O	29:d:127:ASN:ND2	2.43	0.51
45:t:4:ILE:HG21	45:t:10:VAL:HG12	1.91	0.51
48:w:108:ALA:O	52:3:1544:G:N2	2.44	0.51
52:3:236:G:N2	52:3:456:G:H5''	2.26	0.51
52:3:488:G:O2'	52:3:493:A:N1	2.44	0.51
52:3:1196:U:H2'	52:3:1197:G:C8	2.45	0.51
52:3:1834:U:H5'	52:3:1978:U:H5''	1.91	0.51
52:3:1884:A:H3'	52:3:1885:G:C8	2.43	0.51
52:3:2072:C:H5'	52:3:2259:G:H21	1.75	0.51
52:3:2310:C:H2'	52:3:2311:G:C8	2.45	0.51
52:3:2490:A:H3'	52:3:2491:C:H6	1.75	0.51
54:5:20:C:H2'	54:5:21:U:H6	1.75	0.51
54:5:497:A:N1	54:5:544:A:O2'	2.41	0.51
54:5:652:A:O4'	54:5:752:G:H4'	2.11	0.51
54:5:778:A:H3'	54:5:779:A:H8	1.75	0.51
54:5:850:G:H2'	54:5:851:U:C6	2.45	0.51
54:5:903:A:N3	54:5:1388:A:O2'	2.44	0.51
54:5:1116:U:O2'	54:5:1117:U:H2'	2.10	0.51
7:C:2:LYS:HE3	7:C:114:ARG:HH11	1.75	0.51
8:D:117:LYS:O	8:D:120:LYS:HG3	2.11	0.51
10:F:76:VAL:HG12	10:F:85:GLN:NE2	2.22	0.51
16:L:103:ARG:HE	54:5:1201:C:N4	2.08	0.51
28:c:141:LYS:HD2	52:3:354:C:H41	1.75	0.51
30:e:66:ILE:HG23	52:3:2756:A:N3	2.26	0.51
35:j:93:PRO:HB3	35:j:114:ILE:HG12	1.92	0.51
36:k:41:ALA:O	52:3:706:C:N4	2.35	0.51
36:k:103:VAL:HA	52:3:638:A:H61	1.76	0.51
41:p:111:LYS:HZ1	42:q:47:ALA:HA	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:q:41:LEU:HB3	42:q:50:LEU:HD22	1.92	0.51
43:r:77:ASN:HB2	52:3:26:G:H1'	1.92	0.51
52:3:591:G:H2'	52:3:592:G:H8	1.75	0.51
52:3:632:A:H2'	52:3:633:G:C8	2.44	0.51
52:3:883:A:OP2	52:3:885:A:N6	2.43	0.51
52:3:965:U:H2'	52:3:966:U:C6	2.46	0.51
52:3:1159:C:H2'	52:3:1160:G:C8	2.42	0.51
52:3:1435:A:H2'	52:3:1436:C:C6	2.46	0.51
52:3:1557:G:O2'	52:3:1573:A:N6	2.44	0.51
52:3:1626:C:H2'	52:3:1627:U:C6	2.45	0.51
52:3:2636:U:H5''	52:3:2637:A:N7	2.25	0.51
52:3:2831:U:H2'	52:3:2832:G:H8	1.76	0.51
54:5:22:G:H5''	54:5:878:U:C4	2.46	0.51
54:5:68:C:O2'	54:5:157:A:N3	2.36	0.51
54:5:132:G:N2	54:5:1423:C:OP1	2.43	0.51
54:5:310:C:H2'	54:5:311:A:O4'	2.09	0.51
54:5:318:C:H41	54:5:324:C:H1'	1.76	0.51
54:5:501:A:H2'	54:5:502:C:C6	2.45	0.51
54:5:928:G:N2	54:5:1359:C:O2	2.37	0.51
54:5:1488:A:N6	54:5:1498:G:O6	2.44	0.51
15:K:41:PRO:HG3	54:5:33:A:H2	1.76	0.51
18:N:9:ILE:CD1	54:5:655:G:H5''	2.40	0.51
19:O:12:ARG:NH1	54:5:623:G:OP1	2.44	0.51
27:b:137:ALA:O	52:3:2587:U:O2'	2.27	0.51
43:r:15:GLN:NE2	50:y:17:ARG:HD3	2.25	0.51
43:r:117:LEU:HB3	52:3:23:A:O2'	2.11	0.51
51:z:32:LEU:HD21	51:z:34:LEU:HD12	1.93	0.51
52:3:277:C:H2'	52:3:278:U:H6	1.75	0.51
52:3:277:C:O4'	52:3:302:G:O2'	2.27	0.51
52:3:673:A:N6	52:3:687:G:O2'	2.44	0.51
52:3:709:G:H2'	52:3:839:A:H61	1.75	0.51
52:3:2034:G:H2'	52:3:2035:U:C6	2.45	0.51
52:3:2870:U:OP1	52:3:2872:A:H4'	2.11	0.51
54:5:118:C:H2'	54:5:119:U:C6	2.46	0.51
54:5:441:U:H2'	54:5:442:G:C8	2.45	0.51
54:5:621:C:H2'	54:5:622:A:C8	2.46	0.51
54:5:885:U:H2'	54:5:886:A:C8	2.46	0.51
54:5:1333:C:O2'	54:5:1334:A:H3'	2.11	0.51
5:A:226:CYS:O	5:A:230:ASN:ND2	2.39	0.51
7:C:34:ILE:HG13	7:C:39:GLY:HA2	1.92	0.51
7:C:97:LEU:HD23	7:C:132:PRO:HA	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:128:GLN:HA	54:5:1316:C:H4'	1.93	0.51
22:R:29:ARG:HB3	22:R:48:THR:N	2.26	0.51
26:a:163:SER:HB3	52:3:1825:U:H5''	1.93	0.51
27:b:7:PHE:CD1	27:b:206:LEU:HD13	2.45	0.51
30:e:65:LYS:O	30:e:68:HIS:ND1	2.41	0.51
32:g:107:ASN:O	32:g:109:VAL:HG23	2.10	0.51
37:l:62:GLY:HA3	37:l:109:ILE:HG12	1.92	0.51
38:m:36:LYS:HG2	52:3:1685:G:H4'	1.91	0.51
52:3:60:G:H2'	52:3:61:U:C6	2.46	0.51
52:3:354:C:O2'	52:3:356:A:OP2	2.26	0.51
52:3:480:C:H2'	52:3:481:C:H6	1.75	0.51
52:3:1116:U:H2'	52:3:1117:U:C5	2.44	0.51
52:3:1385:U:H2'	52:3:1386:G:O4'	2.11	0.51
52:3:1994:U:H2'	52:3:1995:G:H8	1.74	0.51
52:3:2054:C:H2'	52:3:2055:A:C8	2.45	0.51
54:5:659:U:O2'	54:5:740:G:N2	2.31	0.51
54:5:842:C:H2'	54:5:843:C:H6	1.75	0.51
54:5:880:G:O6	54:5:905:U:O2	2.29	0.51
54:5:1045:C:O2'	55:6:35:G:H4'	2.11	0.51
54:5:1245:A:H4'	54:5:1287:G:O2'	2.11	0.51
4:9:520:GLU:HB3	4:9:560:LYS:HD3	1.93	0.51
8:D:175:TYR:OH	8:D:202:GLN:OE1	2.28	0.51
10:F:32:ASP:HB3	10:F:34:LYS:HE2	1.92	0.51
14:J:63:VAL:HA	14:J:66:THR:HG22	1.93	0.51
15:K:34:LYS:NZ	54:5:102:G:OP2	2.36	0.51
27:b:157:GLN:NE2	52:3:2032:G:OP2	2.44	0.51
28:c:24:LEU:HB3	28:c:120:LEU:HD22	1.93	0.51
34:i:75:GLU:OE2	52:3:1175:C:N4	2.31	0.51
35:j:19:VAL:HA	35:j:44:LYS:H	1.75	0.51
36:k:61:ARG:O	52:3:2400:A:O2'	2.29	0.51
36:k:82:LEU:HD12	36:k:120:LEU:HB3	1.91	0.51
37:l:58:LEU:HD23	37:l:113:GLN:HG3	1.93	0.51
46:u:40:ALA:H	46:u:43:GLN:HE21	1.59	0.51
52:3:97:A:H2'	52:3:98:C:O4'	2.10	0.51
52:3:264:G:H21	52:3:643:A:H1'	1.76	0.51
52:3:1235:U:H5	52:3:1236:G:N7	2.09	0.51
52:3:1533:U:N3	52:3:1534:A:N3	2.53	0.51
52:3:2071:C:H2'	52:3:2072:C:H6	1.74	0.51
52:3:2259:G:H2'	52:3:2260:G:C8	2.45	0.51
52:3:2521:A:H2'	52:3:2522:U:H6	1.74	0.51
52:3:2538:A:O2'	52:3:2541:C:N4	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2696:G:O2'	52:3:2877:A:N6	2.42	0.51
54:5:437:U:O2	54:5:496:A:N6	2.29	0.51
54:5:554:C:H2'	54:5:555:G:C8	2.45	0.51
54:5:852:G:OP2	54:5:863:A:N6	2.44	0.51
55:6:22:A:N7	55:6:47:G:O2'	2.44	0.51
4:9:522:VAL:HB	4:9:562:THR:HG22	1.93	0.51
15:K:40:SER:HA	54:5:359:A:H62	1.76	0.51
15:K:134:LYS:HB2	54:5:498:G:H5''	1.93	0.51
22:R:37:ARG:HE	54:5:1291:C:H42	1.59	0.51
28:c:152:LEU:HD13	28:c:157:VAL:HG11	1.93	0.51
29:d:146:ILE:HG21	29:d:150:ARG:HG3	1.93	0.51
31:f:30:LEU:HD11	52:3:2207:A:H5'	1.93	0.51
31:f:92:ILE:HD12	31:f:118:ARG:HB2	1.93	0.51
32:g:112:TYR:CD2	32:g:117:ALA:HA	2.46	0.51
52:3:816:A:H5''	52:3:817:A:C8	2.46	0.51
52:3:855:A:N3	52:3:979:U:O2'	2.39	0.51
52:3:1406:A:O2'	52:3:1408:G:N7	2.44	0.51
52:3:1624:A:H2'	52:3:1625:G:H8	1.76	0.51
52:3:2195:U:H2'	52:3:2196:G:H8	1.75	0.51
52:3:2207:A:H61	52:3:2232:G:C2'	2.24	0.51
52:3:2300:A:OP1	52:3:2386:A:N6	2.44	0.51
52:3:2416:U:H2'	52:3:2417:G:C8	2.46	0.51
52:3:2676:G:H2'	52:3:2677:A:C8	2.46	0.51
53:4:77:G:C5	53:4:78:C:H1'	2.45	0.51
54:5:652:A:C4	54:5:653:G:H1'	2.45	0.51
54:5:724:G:OP1	54:5:739:G:O2'	2.22	0.51
54:5:859:A:H5''	54:5:1069:U:C4	2.46	0.51
54:5:1112:U:H2'	54:5:1113:U:C6	2.45	0.51
54:5:1219:C:H2'	54:5:1220:A:C8	2.46	0.51
4:9:176:ILE:HG12	4:9:182:LYS:HD2	1.93	0.51
4:9:323:LEU:HB3	4:9:356:MET:CE	2.39	0.51
7:C:105:GLY:HA3	7:C:161:GLY:HA2	1.93	0.51
8:D:89:SER:HB3	8:D:107:LYS:HG3	1.93	0.51
9:E:5:ILE:HG23	9:E:87:ILE:HD13	1.93	0.51
23:S:75:VAL:HA	23:S:78:LYS:HD3	1.92	0.51
26:a:269:ASN:ND2	52:3:1810:A:H5'	2.26	0.51
37:l:26:TYR:HB2	37:l:135:GLU:HB2	1.92	0.51
47:v:13:LEU:HD23	52:3:417:G:H22	1.76	0.51
51:z:42:ARG:HH11	52:3:2378:G:H1'	1.76	0.51
52:3:28:G:O2'	52:3:548:A:N6	2.39	0.51
52:3:416:C:H1'	52:3:2240:U:H4'	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:639:G:H2'	52:3:640:U:O4'	2.11	0.51
52:3:921:C:H2'	52:3:929:G:H22	1.75	0.51
52:3:1087:C:H2'	52:3:1088:A:C8	2.46	0.51
52:3:1645:C:H2'	52:3:1646:G:H8	1.75	0.51
52:3:1813:C:H2'	52:3:1814:G:C8	2.46	0.51
52:3:2255:A:H2'	52:3:2256:C:C6	2.45	0.51
52:3:2676:G:H2'	52:3:2677:A:H8	1.75	0.51
54:5:19:C:O2'	54:5:1070:G:N2	2.44	0.51
54:5:59:C:H2'	54:5:60:A:H8	1.76	0.51
54:5:365:U:O2	54:5:388:G:O6	2.29	0.51
54:5:673:A:H2'	54:5:674:U:H6	1.76	0.51
54:5:1214:A:H1'	54:5:1216:G:C6	2.46	0.51
54:5:1217:G:O6	54:5:1269:U:O4	2.29	0.51
5:A:88:LYS:HG2	5:A:89:ASN:H	1.76	0.50
9:E:2:GLN:HA	9:E:63:SER:HA	1.92	0.50
10:F:151:ALA:O	10:F:154:ARG:NH2	2.44	0.50
19:O:55:LYS:HE2	54:5:224:A:H4'	1.93	0.50
20:P:61:VAL:HB	20:P:77:ILE:HD11	1.92	0.50
21:Q:88:LYS:HA	54:5:732:A:H5''	1.93	0.50
22:R:78:ARG:HH11	54:5:1296:C:P	2.33	0.50
29:d:30:ARG:NH1	29:d:160:THR:OG1	2.44	0.50
30:e:62:LYS:HD3	52:3:1070:U:H5''	1.92	0.50
43:r:24:ILE:HD12	43:r:32:ALA:HB1	1.91	0.50
52:3:31:U:H2'	52:3:32:G:C8	2.46	0.50
52:3:312:U:H2'	52:3:313:G:N7	2.26	0.50
52:3:422:A:H3'	52:3:423:C:C6	2.47	0.50
52:3:1206:U:C2	52:3:1207:U:H5	2.29	0.50
52:3:1213:U:H2'	52:3:1214:U:H6	1.75	0.50
52:3:1510:A:H2'	52:3:1511:C:H6	1.75	0.50
52:3:1766:A:O2'	52:3:2720:C:OP1	2.28	0.50
52:3:1828:A:H2'	52:3:1829:U:C6	2.47	0.50
52:3:2631:G:H2'	52:3:2632:C:C6	2.46	0.50
52:3:2655:U:H2'	52:3:2656:G:C8	2.45	0.50
54:5:367:A:N6	54:5:387:G:N1	2.59	0.50
54:5:446:A:H3'	54:5:447:G:H8	1.76	0.50
54:5:641:U:H2'	54:5:642:A:C8	2.45	0.50
54:5:673:A:H2'	54:5:674:U:C6	2.45	0.50
54:5:833:G:H2'	54:5:834:G:H8	1.75	0.50
54:5:835:G:O6	54:5:843:C:N4	2.44	0.50
54:5:859:A:H2'	54:5:860:C:C6	2.46	0.50
54:5:1098:C:O2	54:5:1166:A:O2'	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:39:ARG:HH21	1:0:41:GLN:HB2	1.77	0.50
4:9:89:THR:HG21	4:9:402:ALA:H	1.75	0.50
7:C:66:ILE:HG21	7:C:96:ARG:HG2	1.92	0.50
9:E:66:ASN:O	54:5:735:C:H4'	2.11	0.50
15:K:128:SER:OG	54:5:548:G:N3	2.44	0.50
20:P:19:ALA:O	54:5:250:G:O2'	2.28	0.50
47:v:42:ASP:O	47:v:44:LYS:NZ	2.42	0.50
48:w:7:LEU:HD11	48:w:53:THR:OG1	2.11	0.50
48:w:33:LEU:HB2	48:w:38:LEU:HD22	1.94	0.50
52:3:407:U:H2'	52:3:440:C:N4	2.26	0.50
52:3:525:A:H2'	52:3:526:G:C8	2.46	0.50
52:3:530:G:H2'	52:3:531:G:C8	2.46	0.50
52:3:1020:G:OP2	52:3:1020:G:N2	2.32	0.50
52:3:1503:A:H3'	52:3:1504:G:H8	1.76	0.50
52:3:1699:A:H2'	52:3:1700:G:H8	1.75	0.50
52:3:2035:U:H2'	52:3:2036:G:O4'	2.11	0.50
52:3:2145:A:H2'	52:3:2146:A:O4'	2.11	0.50
52:3:2169:G:H21	52:3:2172:A:H2'	1.76	0.50
52:3:2388:C:H2'	52:3:2389:A:C8	2.46	0.50
52:3:2870:U:C6	52:3:2872:A:H1'	2.46	0.50
54:5:242:A:N6	54:5:274:A:O2'	2.44	0.50
54:5:261:G:H3'	54:5:263:C:H5	1.75	0.50
54:5:438:A:N6	54:5:439:U:O2	2.44	0.50
54:5:448:A:H4'	54:5:450:U:C6	2.46	0.50
54:5:448:A:H3'	54:5:449:A:H3'	1.92	0.50
55:8:2:G:H2'	55:8:3:G:C8	2.47	0.50
55:8:22:A:N7	55:8:47:G:O2'	2.44	0.50
3:2:18:LYS:NZ	52:3:1158:C:O2'	2.42	0.50
4:9:656:ARG:HG2	4:9:661:GLY:HA2	1.93	0.50
5:A:45:ILE:HG12	5:A:216:PRO:HB3	1.93	0.50
7:C:60:MET:HA	7:C:63:MET:HE3	1.93	0.50
13:I:61:PRO:HG3	54:5:1174:U:H1'	1.93	0.50
19:O:14:VAL:HG11	19:O:23:ASP:HA	1.93	0.50
27:b:156:ALA:O	27:b:157:GLN:HG2	2.11	0.50
28:c:45:TRP:HD1	52:3:649:A:H62	1.58	0.50
45:t:49:ASP:OD2	45:t:60:THR:N	2.44	0.50
52:3:1337:G:H22	52:3:1640:G:H1'	1.76	0.50
52:3:1393:A:H3'	52:3:1394:A:H8	1.76	0.50
52:3:1618:U:H5''	52:3:1619:A:C8	2.46	0.50
52:3:1639:C:H3'	52:3:1640:G:C8	2.46	0.50
52:3:1684:A:H2'	52:3:1685:G:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1846:A:C8	52:3:1934:A:C4	3.00	0.50
52:3:2155:G:H2'	52:3:2156:G:C8	2.45	0.50
52:3:2380:U:H2'	52:3:2381:G:C8	2.45	0.50
52:3:2419:A:H2'	52:3:2420:A:C8	2.47	0.50
52:3:2831:U:H2'	52:3:2832:G:C8	2.46	0.50
54:5:132:G:H2'	54:5:133:G:C8	2.46	0.50
54:5:189:C:H2'	54:5:190:A:C8	2.44	0.50
54:5:212:G:H5''	54:5:461:G:N2	2.26	0.50
54:5:597:C:H2'	54:5:598:U:O4'	2.12	0.50
54:5:886:A:H61	54:5:900:G:C1'	2.24	0.50
4:9:61:ILE:HD11	4:9:458:ILE:HG23	1.92	0.50
4:9:322:ARG:HG3	4:9:379:LYS:HG3	1.93	0.50
4:9:409:ALA:HA	4:9:447:ILE:HG23	1.93	0.50
7:C:115:GLN:NE2	54:5:434:U:O2	2.44	0.50
7:C:201:LYS:HD3	54:5:9:A:C8	2.46	0.50
9:E:121:ARG:HH11	9:E:124:ASN:HB2	1.76	0.50
10:F:94:ARG:HA	54:5:1351:U:H5''	1.93	0.50
11:G:109:ASN:O	11:G:109:ASN:CG	2.53	0.50
12:H:128:GLN:HG3	54:5:1207:U:OP1	2.10	0.50
15:K:25:HIS:HB3	15:K:39:TYR:HA	1.93	0.50
20:P:70:SER:HA	54:5:262:G:H5'	1.92	0.50
28:c:69:LYS:NZ	52:3:2451:C:OP2	2.36	0.50
28:c:97:ARG:HB2	28:c:99:TYR:CZ	2.46	0.50
31:f:102:HIS:HA	31:f:106:MET:O	2.11	0.50
32:g:32:MET:HB3	52:3:1119:A:N6	2.26	0.50
32:g:54:ILE:HG13	32:g:55:LYS:H	1.77	0.50
34:i:57:LEU:HD22	34:i:125:VAL:HG13	1.94	0.50
40:o:48:PHE:CE2	40:o:66:VAL:HB	2.46	0.50
42:q:24:LYS:HE3	52:3:1197:G:O3'	2.10	0.50
52:3:199:A:N3	52:3:254:G:N2	2.60	0.50
52:3:314:G:O6	52:3:393:C:N4	2.45	0.50
52:3:335:G:N1	52:3:350:C:C2	2.79	0.50
52:3:380:A:H3'	52:3:381:A:C8	2.47	0.50
52:3:515:A:N3	52:3:517:G:H5''	2.25	0.50
52:3:712:A:O2'	52:3:2078:A:H5'	2.10	0.50
52:3:757:A:H2'	52:3:758:C:C6	2.46	0.50
52:3:1318:U:H2'	52:3:1319:C:C6	2.47	0.50
52:3:1466:U:H5''	52:3:1584:U:O4	2.11	0.50
52:3:1954:C:H2'	52:3:1955:G:C8	2.46	0.50
52:3:2549:A:H4'	52:3:2774:A:H1'	1.92	0.50
52:3:2608:A:H2'	52:3:2609:C:C6	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:168:A:H3'	54:5:169:G:C8	2.46	0.50
54:5:290:G:O6	54:5:300:A:N6	2.44	0.50
54:5:844:U:H2'	54:5:845:C:C6	2.46	0.50
54:5:845:C:H2'	54:5:846:G:C8	2.47	0.50
4:9:121:ARG:HH12	4:9:155:LEU:HD22	1.75	0.50
6:B:96:ILE:HG13	6:B:100:THR:HB	1.94	0.50
7:C:38:HIS:HB3	54:5:509:C:H4'	1.94	0.50
8:D:213:ASN:HB3	11:G:52:GLY:HA2	1.94	0.50
10:F:27:ASN:HB3	54:5:1349:A:H4'	1.93	0.50
11:G:45:LEU:O	11:G:49:VAL:HG23	2.12	0.50
16:L:53:PHE:O	16:L:57:ARG:HG2	2.11	0.50
37:l:114:MET:O	37:l:118:LEU:HG	2.12	0.50
52:3:199:A:P	52:3:200:A:H4'	2.51	0.50
52:3:317:U:H2'	52:3:318:U:C6	2.47	0.50
52:3:400:A:H2'	52:3:401:G:C8	2.46	0.50
52:3:483:A:H1'	52:3:508:A:H5''	1.93	0.50
52:3:512:G:H4'	52:3:537:A:H61	1.76	0.50
52:3:1843:C:H2'	52:3:1844:C:C6	2.47	0.50
52:3:2021:A:O2'	52:3:2022:A:O4'	2.19	0.50
52:3:2072:C:H2'	52:3:2073:C:H6	1.76	0.50
52:3:2334:U:O2'	52:3:2396:A:N6	2.45	0.50
52:3:2633:C:H2'	52:3:2634:C:C6	2.46	0.50
52:3:2653:G:OP1	52:3:2683:G:N2	2.45	0.50
52:3:2740:U:H5''	52:3:2741:A:O4'	2.12	0.50
52:3:2765:A:H2'	52:3:2765:A:N3	2.26	0.50
53:4:46:C:H2'	53:4:47:C:C6	2.46	0.50
54:5:331:C:O2'	54:5:1408:A:N3	2.37	0.50
54:5:388:G:N3	54:5:479:A:O2'	2.44	0.50
54:5:1010:A:N3	54:5:1194:A:H1'	2.27	0.50
3:2:16:ILE:HG13	3:2:25:VAL:HG12	1.94	0.50
4:9:137:MET:HE1	4:9:165:PRO:HG3	1.94	0.50
4:9:176:ILE:HG23	4:9:182:LYS:HG2	1.94	0.50
4:9:657:SER:HB2	52:3:2669:G:H1	1.76	0.50
6:B:83:LYS:O	6:B:87:LYS:HG2	2.11	0.50
6:B:125:ASN:O	6:B:129:ALA:HB2	2.11	0.50
9:E:93:GLU:CD	21:Q:81:MET:HB3	2.37	0.50
10:F:72:LEU:HD21	10:F:147:ASN:HD21	1.76	0.50
21:Q:101:PHE:O	54:5:715:A:N6	2.44	0.50
26:a:15:HIS:HE1	52:3:764:G:H5''	1.75	0.50
28:c:75:ARG:NH1	52:3:1284:A:O2'	2.45	0.50
37:l:56:LYS:NZ	52:3:2490:A:N1	2.56	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:47:ARG:NE	52:3:593:C:O2'	2.44	0.50
41:p:73:MET:HE1	41:p:78:PHE:CD1	2.46	0.50
48:w:98:LEU:HB3	48:w:102:ARG:HH12	1.77	0.50
51:z:37:PHE:CD2	52:3:2356:U:H1'	2.47	0.50
52:3:188:G:H4'	52:3:221:A:H2	1.76	0.50
52:3:873:G:O2'	52:3:1221:G:N2	2.45	0.50
52:3:1275:C:H2'	52:3:1276:A:C8	2.46	0.50
52:3:1380:U:C2	52:3:1408:G:C2	2.99	0.50
52:3:1665:G:N2	52:3:1669:A:H62	2.08	0.50
52:3:2298:G:H2'	52:3:2299:U:H6	1.76	0.50
54:5:92:G:N1	54:5:93:A:H1'	2.27	0.50
54:5:336:U:O2	54:5:346:G:N2	2.44	0.50
54:5:658:G:O2'	54:5:834:G:OP1	2.27	0.50
54:5:723:C:H2'	54:5:724:G:H8	1.76	0.50
54:5:764:A:O2'	54:5:1499:G:N2	2.35	0.50
54:5:1328:C:H2'	54:5:1329:G:C8	2.46	0.50
54:5:1367:G:H2'	54:5:1368:U:C6	2.46	0.50
10:F:31:GLU:HB2	54:5:1215:U:C2	2.47	0.50
12:H:130:THR:O	54:5:1206:G:H5''	2.12	0.50
16:L:108:THR:HG21	54:5:1306:A:H8	1.77	0.50
19:O:6:VAL:HG11	54:5:389:A:OP1	2.12	0.50
26:a:230:GLY:N	52:3:1833:G:OP2	2.43	0.50
34:i:120:ARG:NH1	52:3:2787:U:O2	2.40	0.50
36:k:112:ILE:O	36:k:129:HIS:N	2.45	0.50
39:n:20:ARG:HD3	39:n:46:PHE:HD2	1.77	0.50
45:t:84:GLN:HE22	45:t:86:ILE:HG12	1.77	0.50
48:w:17:LYS:HD3	48:w:20:ILE:HD11	1.93	0.50
50:y:37:LYS:HD3	50:y:43:CYS:HB3	1.93	0.50
52:3:85:U:H3	52:3:103:G:HO2'	1.52	0.50
52:3:202:C:O2	52:3:203:A:H8	1.94	0.50
52:3:368:C:OP1	52:3:370:C:N4	2.45	0.50
52:3:653:G:H2'	52:3:654:G:C8	2.45	0.50
52:3:677:U:O4	52:3:683:G:O6	2.29	0.50
52:3:850:G:H4'	52:3:1200:U:O2'	2.12	0.50
52:3:1034:A:N6	52:3:1190:A:OP2	2.45	0.50
52:3:1295:A:H1'	52:3:1296:G:H21	1.76	0.50
52:3:1355:C:N4	52:3:1681:G:O2'	2.45	0.50
52:3:1430:U:O2'	52:3:1496:A:N6	2.45	0.50
52:3:1595:C:H2'	52:3:1596:U:H6	1.77	0.50
52:3:1848:U:C2	52:3:1849:G:C8	2.99	0.50
52:3:2069:A:N1	52:3:2511:A:N6	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2249:A:H2'	52:3:2250:G:C8	2.46	0.50
52:3:2274:A:H8	52:3:2274:A:OP1	1.95	0.50
52:3:2600:G:H2'	52:3:2601:U:H6	1.77	0.50
52:3:2638:G:H2'	52:3:2639:G:C8	2.46	0.50
52:3:2793:U:H2'	52:3:2794:U:C6	2.47	0.50
54:5:732:A:H2'	54:5:733:A:H8	1.76	0.50
54:5:972:A:H4'	54:5:976:U:H3	1.75	0.50
54:5:1393:A:C4	54:5:1394:G:H1'	2.47	0.50
55:6:2:G:H2'	55:6:3:G:C8	2.47	0.50
2:1:12:LYS:O	2:1:20:LYS:N	2.40	0.50
2:1:29:LEU:HB3	51:z:4:LYS:HE2	1.94	0.50
4:9:212:ALA:HA	4:9:215:VAL:HG22	1.94	0.50
9:E:110:GLN:HE22	9:E:125:PRO:HG3	1.77	0.50
10:F:125:ASP:HB3	10:F:130:THR:HB	1.93	0.50
39:n:27:ARG:HH22	39:n:88:ASN:HD22	1.60	0.50
52:3:24:U:H2'	52:3:25:G:H8	1.77	0.50
52:3:170:A:H2	52:3:2217:G:H4'	1.75	0.50
52:3:230:G:H1'	52:3:232:A:H61	1.76	0.50
52:3:419:A:N6	52:3:425:U:O2	2.44	0.50
52:3:443:C:H2'	52:3:444:C:C6	2.46	0.50
52:3:629:G:H2'	52:3:630:C:C6	2.46	0.50
52:3:898:A:H2'	52:3:899:A:C8	2.47	0.50
52:3:961:U:H2'	52:3:962:U:C2	2.47	0.50
52:3:1471:A:H61	52:3:1581:U:H3	1.60	0.50
52:3:1540:G:H2'	52:3:1541:A:H8	1.76	0.50
52:3:1702:A:O2'	52:3:1708:G:OP1	2.30	0.50
52:3:2060:G:N7	52:3:2585:A:N6	2.59	0.50
54:5:601:U:H2'	54:5:602:G:H8	1.76	0.50
54:5:1289:U:O2'	54:5:1334:A:O3'	2.26	0.50
4:9:421:MET:HA	4:9:424:ALA:HB3	1.93	0.50
8:D:80:THR:O	54:5:1373:A:N6	2.44	0.50
10:F:115:MET:O	10:F:119:ILE:HG22	2.11	0.50
14:J:67:VAL:HA	14:J:70:MET:HG2	1.94	0.50
15:K:84:GLY:O	15:K:112:ARG:NH1	2.45	0.50
27:b:73:ASN:HB2	27:b:75:LEU:HG	1.92	0.50
27:b:125:ARG:HE	27:b:169:TYR:HB2	1.77	0.50
45:t:78:ASP:HA	45:t:111:LEU:HD13	1.93	0.50
52:3:79:U:H2'	52:3:80:U:H6	1.77	0.50
52:3:313:G:O5'	52:3:313:G:H8	1.95	0.50
52:3:1665:G:H21	52:3:1669:A:H62	1.60	0.50
52:3:1886:C:H2'	52:3:1887:U:C6	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1937:G:N2	52:3:1975:G:H2'	2.27	0.50
52:3:2124:A:O2'	52:3:2126:A:OP2	2.29	0.50
52:3:2330:A:H61	52:3:2343:A:N6	2.07	0.50
52:3:2387:U:H2'	52:3:2388:C:C6	2.46	0.50
52:3:2721:C:O2'	52:3:2722:G:OP1	2.23	0.50
52:3:2798:A:H5'	52:3:2896:G:H21	1.77	0.50
52:3:2800:U:OP1	52:3:2806:A:N6	2.45	0.50
52:3:2812:U:H5'	52:3:2895:A:C5	2.47	0.50
53:4:70:G:O2'	53:4:71:A:O5'	2.30	0.50
54:5:605:A:H2'	54:5:606:A:C8	2.47	0.50
54:5:692:A:C2	54:5:784:A:H1'	2.47	0.50
54:5:973:A:N6	54:5:1290:G:O2'	2.44	0.50
54:5:1234:C:O2'	54:5:1258:U:O2	2.27	0.50
4:9:218:VAL:HG21	4:9:240:ILE:HD13	1.92	0.49
10:F:77:ARG:HG2	10:F:155:TRP:HE1	1.76	0.49
15:K:12:ARG:HG3	54:5:561:A:H5''	1.94	0.49
15:K:69:ARG:NH2	15:K:73:GLY:O	2.45	0.49
22:R:36:ARG:O	22:R:70:LYS:NZ	2.36	0.49
23:S:17:ARG:HH11	54:5:90:G:P	2.35	0.49
24:T:10:ASP:HB2	24:T:14:ALA:HB3	1.92	0.49
26:a:112:PRO:HB3	26:a:148:HIS:CE1	2.47	0.49
40:o:52:VAL:HG22	40:o:66:VAL:HG22	1.94	0.49
50:y:7:ARG:HB2	52:3:1293:U:H1'	1.94	0.49
52:3:132:G:H2'	52:3:133:G:C8	2.48	0.49
52:3:148:U:H2'	52:3:149:A:C8	2.46	0.49
52:3:177:U:H2'	52:3:178:A:C8	2.47	0.49
52:3:1379:C:H2'	52:3:1380:U:C6	2.47	0.49
52:3:1441:A:H2'	52:3:1442:G:C8	2.47	0.49
52:3:2144:C:H2'	52:3:2145:A:H8	1.77	0.49
54:5:167:A:C2	54:5:197:A:H5'	2.46	0.49
54:5:703:A:H2'	54:5:704:U:C6	2.46	0.49
54:5:742:C:H4'	54:5:833:G:H21	1.76	0.49
54:5:767:U:H2'	54:5:768:G:C8	2.47	0.49
54:5:774:A:H2'	54:5:775:G:C8	2.47	0.49
54:5:988:G:H5''	54:5:991:A:N6	2.27	0.49
54:5:1172:A:C6	54:5:1173:A:C6	3.00	0.49
54:5:1380:G:N3	54:5:1493:A:O2'	2.44	0.49
54:5:1439:G:C2	54:5:1440:U:C4	2.99	0.49
3:2:14:CYS:HA	3:2:27:CYS:HB3	1.94	0.49
7:C:121:HIS:CD2	7:C:147:LYS:HD2	2.47	0.49
13:I:16:LEU:HD21	13:I:80:MET:HE1	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:65:SER:C	21:Q:67:TYR:H	2.20	0.49
26:a:125:GLU:HA	26:a:137:PRO:HD3	1.94	0.49
28:c:158:LEU:HD21	28:c:186:VAL:HG21	1.94	0.49
30:e:178:LYS:HB2	52:3:2539:A:C8	2.47	0.49
40:o:67:ARG:NH1	40:o:76:GLU:OE2	2.44	0.49
45:t:91:TYR:HB2	52:3:331:A:H5''	1.94	0.49
48:w:53:THR:OG1	52:3:79:U:OP1	2.23	0.49
52:3:485:A:H3'	52:3:486:G:C8	2.47	0.49
52:3:625:G:H1	52:3:700:U:H3	1.58	0.49
52:3:735:G:H2'	52:3:736:G:C8	2.47	0.49
52:3:1531:C:H2'	52:3:1532:A:O4'	2.11	0.49
52:3:1856:G:H2'	52:3:1857:G:C8	2.47	0.49
52:3:2694:A:N6	52:3:2732:A:H61	2.10	0.49
54:5:22:G:H2'	54:5:23:G:H8	1.72	0.49
54:5:123:U:H2'	54:5:124:U:C5	2.47	0.49
54:5:1214:A:N6	54:5:1271:U:O4'	2.45	0.49
6:B:33:TRP:CD1	6:B:60:ARG:HE	2.30	0.49
8:D:191:MET:HE2	8:D:191:MET:N	2.27	0.49
10:F:52:ARG:HH22	10:F:124:ILE:HG13	1.77	0.49
11:G:38:SER:O	11:G:42:ILE:HG12	2.11	0.49
13:I:41:LYS:HB3	13:I:84:ASP:HB3	1.93	0.49
15:K:127:ARG:NH1	15:K:133:LYS:O	2.45	0.49
20:P:17:LYS:HD3	54:5:271:G:H5'	1.94	0.49
23:S:48:TYR:HE1	23:S:69:LYS:HB2	1.77	0.49
29:d:112:ARG:NH1	29:d:133:LYS:HB2	2.27	0.49
30:e:12:ASP:OD1	30:e:12:ASP:N	2.46	0.49
35:j:3:SER:OG	52:3:1700:G:N3	2.36	0.49
35:j:19:VAL:HG22	35:j:41:VAL:HB	1.94	0.49
37:l:51:ARG:HD2	37:l:64:MET:HE2	1.94	0.49
38:m:43:LYS:HE2	52:3:2842:G:H4'	1.93	0.49
38:m:71:ASN:HB3	52:3:1306:G:N2	2.27	0.49
41:p:92:LYS:HB2	52:3:1033:A:OP1	2.12	0.49
49:x:28:THR:HG22	49:x:30:LYS:HG2	1.92	0.49
52:3:77:G:N2	52:3:113:U:O2	2.45	0.49
52:3:1194:U:C2	52:3:1195:A:C8	3.00	0.49
52:3:2162:U:N3	52:3:2163:U:O4	2.44	0.49
52:3:2700:C:H1'	52:3:2851:U:H1'	1.94	0.49
52:3:2736:U:O2'	52:3:2737:G:H8	1.95	0.49
54:5:10:G:N2	54:5:506:U:OP1	2.45	0.49
54:5:366:C:H2'	54:5:367:A:H8	1.73	0.49
54:5:484:A:N7	54:5:485:C:N4	2.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:974:C:O2'	54:5:1194:A:OP2	2.29	0.49
54:5:1236:A:H4'	54:5:1258:U:H4'	1.94	0.49
4:9:248:VAL:HG12	4:9:254:PHE:HD1	1.77	0.49
9:E:84:ARG:NH1	9:E:85:GLU:OE2	2.46	0.49
9:E:94:TYR:CD1	21:Q:50:ARG:HB2	2.47	0.49
31:f:25:TYR:CE1	47:v:55:LEU:HD11	2.47	0.49
37:l:22:LYS:H	37:l:98:LYS:HD3	1.77	0.49
44:s:10:PRO:HG3	44:s:91:ILE:HD13	1.93	0.49
52:3:84:G:H2'	52:3:85:U:C6	2.46	0.49
52:3:152:A:H2'	52:3:153:U:C6	2.47	0.49
52:3:606:G:O2'	52:3:608:A:OP1	2.22	0.49
52:3:996:A:H1'	52:3:2503:G:N2	2.19	0.49
52:3:1234:U:H3'	52:3:1235:U:O2	2.12	0.49
52:3:1691:U:O4	52:3:1692:A:N6	2.45	0.49
52:3:1895:G:O3'	52:3:1896:A:H8	1.94	0.49
52:3:2005:G:H2'	52:3:2006:C:H6	1.77	0.49
52:3:2297:G:O6	52:3:2351:U:O2	2.31	0.49
52:3:2892:U:H2'	52:3:2893:C:C6	2.47	0.49
53:4:31:G:O6	53:4:48:A:N6	2.46	0.49
53:4:74:G:N2	53:4:90:G:O6	2.44	0.49
53:4:90:G:H3'	53:4:91:A:C8	2.48	0.49
54:5:682:G:H21	54:5:702:U:H5	1.60	0.49
54:5:777:A:N6	54:5:798:U:OP2	2.31	0.49
54:5:957:C:H1'	54:5:1176:A:H61	1.77	0.49
54:5:1179:A:H2'	54:5:1180:U:O4'	2.12	0.49
16:L:107:ARG:C	16:L:109:ARG:H	2.20	0.49
32:g:57:ASN:ND2	52:3:1081:A:O3'	2.40	0.49
39:n:72:LEU:HD12	39:n:75:GLN:HB2	1.94	0.49
40:o:101:ILE:HD12	40:o:104:MET:H	1.78	0.49
52:3:15:A:H61	52:3:560:U:H3'	1.78	0.49
52:3:35:U:O4	52:3:482:G:O2'	2.21	0.49
52:3:651:A:H2'	52:3:652:U:O4'	2.13	0.49
52:3:873:G:N2	52:3:1221:G:O2'	2.45	0.49
52:3:1052:A:H61	52:3:1181:A:N6	2.10	0.49
52:3:1077:G:O6	52:3:1148:U:C4	2.66	0.49
52:3:1193:U:H2'	52:3:1194:U:H6	1.77	0.49
52:3:1906:G:H1'	52:3:1909:C:H41	1.76	0.49
52:3:2108:C:N3	52:3:2109:A:N6	2.60	0.49
52:3:2358:U:H2'	52:3:2359:G:O4'	2.12	0.49
52:3:2655:U:H2'	52:3:2656:G:H8	1.77	0.49
52:3:2755:G:C2	52:3:2765:A:N6	2.80	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:813:A:OP1	54:5:1501:G:O2'	2.30	0.49
54:5:1472:G:H2'	54:5:1473:U:O4'	2.13	0.49
4:9:324:THR:HG21	4:9:378:LEU:HD23	1.93	0.49
7:C:18:LEU:HB2	7:C:23:LYS:CD	2.40	0.49
7:C:74:LEU:HD21	7:C:135:ILE:HG13	1.95	0.49
7:C:132:PRO:HD2	54:5:399:C:H4'	1.94	0.49
9:E:70:LYS:HE3	54:5:734:A:H2	1.78	0.49
12:H:96:LEU:HD12	12:H:99:ILE:HD11	1.95	0.49
22:R:36:ARG:HE	22:R:72:GLY:HA2	1.77	0.49
26:a:164:ALA:O	52:3:1827:U:O2'	2.21	0.49
27:b:185:ASP:O	27:b:189:MET:CA	2.60	0.49
31:f:57:HIS:O	31:f:61:ASN:CB	2.61	0.49
44:s:61:LYS:HD2	52:3:1340:U:H5	1.76	0.49
52:3:214:C:H2'	52:3:215:A:H8	1.75	0.49
52:3:729:U:O4	52:3:803:G:O6	2.31	0.49
52:3:1381:A:OP2	52:3:1405:G:N1	2.39	0.49
52:3:1473:C:H2'	52:3:1474:C:C6	2.47	0.49
52:3:1521:A:H1'	52:3:1612:U:H1'	1.93	0.49
52:3:1661:A:H2'	52:3:1662:G:C8	2.47	0.49
52:3:2224:A:H2'	52:3:2225:G:C8	2.47	0.49
54:5:116:A:N6	54:5:229:G:N3	2.61	0.49
54:5:144:U:H3	54:5:149:G:H1	1.59	0.49
54:5:354:U:H2'	54:5:355:A:C8	2.42	0.49
54:5:525:G:H21	54:5:533:A:H2	1.61	0.49
54:5:837:G:H21	54:5:841:C:H41	1.60	0.49
55:6:27:A:H61	55:6:45:G:H1	1.57	0.49
4:9:200:PRO:HD2	4:9:203:PHE:HB2	1.92	0.49
10:F:25:ILE:HG12	10:F:100:LEU:HD22	1.94	0.49
11:G:104:LEU:HD13	11:G:116:ILE:HD13	1.94	0.49
13:I:49:PRO:O	13:I:77:LYS:NZ	2.46	0.49
26:a:89:ASP:OD2	26:a:92:ARG:HB2	2.13	0.49
26:a:251:ARG:NH1	26:a:252:ASP:OD1	2.46	0.49
26:a:268:ARG:HD2	52:3:1805:U:H5''	1.94	0.49
31:f:1:MET:HE3	47:v:59:LYS:HG2	1.95	0.49
33:h:60:ASP:OD1	33:h:61:LYS:N	2.39	0.49
35:j:63:VAL:HG23	35:j:106:LEU:HD22	1.95	0.49
37:l:62:GLY:CA	37:l:107:ALA:O	2.61	0.49
38:m:69:ASN:C	38:m:69:ASN:ND2	2.70	0.49
46:u:58:ARG:NH2	46:u:58:ARG:O	2.46	0.49
52:3:251:G:HO2'	52:3:424:G:N2	2.10	0.49
52:3:591:G:H2'	52:3:592:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:751:A:H2'	52:3:752:C:C6	2.48	0.49
52:3:817:A:H4'	52:3:818:A:H5'	1.94	0.49
52:3:897:A:H3'	52:3:898:A:H8	1.77	0.49
52:3:1119:A:O2'	52:3:1120:A:O4'	2.25	0.49
52:3:1829:U:H2'	52:3:1830:G:H8	1.78	0.49
52:3:1832:G:H2'	52:3:1833:G:H8	1.77	0.49
52:3:1851:U:H2'	52:3:1852:G:C8	2.47	0.49
52:3:1856:G:H2'	52:3:1857:G:H8	1.78	0.49
52:3:1866:G:H2'	52:3:1867:G:H4'	1.95	0.49
52:3:2146:A:H2'	52:3:2147:G:C8	2.47	0.49
52:3:2745:G:H2'	52:3:2746:A:H8	1.75	0.49
54:5:104:A:H4'	54:5:105:A:C8	2.47	0.49
54:5:117:U:H2'	54:5:118:C:C6	2.47	0.49
54:5:434:U:H3	54:5:493:A:H8	1.57	0.49
54:5:649:U:O4	54:5:749:G:O2'	2.25	0.49
4:9:289:ALA:HB3	4:9:299:ILE:HD11	1.95	0.49
5:A:163:PHE:HB3	5:A:166:VAL:HG23	1.94	0.49
5:A:245:MET:HG3	5:A:246:PHE:N	2.28	0.49
7:C:28:GLY:HA2	54:5:408:U:O2	2.12	0.49
8:D:84:ARG:NH1	54:5:1371:A:H1'	2.25	0.49
13:I:51:LYS:HB2	13:I:75:ARG:CZ	2.42	0.49
18:N:39:HIS:O	18:N:43:ASN:N	2.46	0.49
27:b:117:ARG:HD2	27:b:169:TYR:HD2	1.77	0.49
28:c:24:LEU:HD23	28:c:116:TRP:HB3	1.94	0.49
29:d:7:HIS:O	29:d:11:THR:HG22	2.12	0.49
29:d:34:ILE:HD12	29:d:96:MET:HA	1.94	0.49
29:d:122:PHE:HE1	29:d:166:ALA:HB3	1.78	0.49
41:p:40:GLN:CD	52:3:596:G:H4'	2.38	0.49
43:r:133:GLN:HB3	43:r:137:MET:HE1	1.95	0.49
44:s:93:VAL:HG11	48:w:35:HIS:HE1	1.78	0.49
51:z:8:ARG:NH1	52:3:2427:U:H1'	2.27	0.49
52:3:347:C:H2'	52:3:348:A:H8	1.73	0.49
52:3:672:G:O2'	52:3:673:A:O4'	2.31	0.49
52:3:1001:C:H2'	52:3:1002:A:H8	1.77	0.49
52:3:1025:G:H4'	52:3:1026:A:H5'	1.94	0.49
52:3:1064:A:C8	52:3:1160:G:N2	2.79	0.49
52:3:1338:G:H22	52:3:1637:A:N6	2.10	0.49
52:3:1809:A:OP1	52:3:1822:A:N6	2.37	0.49
52:3:2681:G:H2'	52:3:2682:A:H8	1.77	0.49
52:3:2696:G:N2	52:3:2730:G:O6	2.46	0.49
52:3:2706:U:H2'	52:3:2707:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2869:U:H2'	52:3:2870:U:C5	2.47	0.49
52:3:2899:C:H2'	52:3:2900:U:O4'	2.11	0.49
53:4:22:G:H4'	53:4:23:A:C8	2.47	0.49
54:5:357:G:H2'	54:5:358:G:O4'	2.13	0.49
54:5:592:A:H2'	54:5:593:A:C8	2.48	0.49
54:5:934:G:H1	54:5:1318:C:N4	2.11	0.49
54:5:1065:G:H2'	54:5:1066:U:C6	2.47	0.49
54:5:1341:U:H2'	54:5:1342:C:C6	2.48	0.49
54:5:1439:G:H2'	54:5:1440:U:H6	1.77	0.49
1:0:1:MET:O	1:0:3:ARG:NH2	2.45	0.49
14:J:37:TRP:CD1	54:5:701:A:H61	2.31	0.49
18:N:45:LYS:HB2	54:5:665:G:H4'	1.94	0.49
21:Q:43:PHE:HB2	21:Q:82:HIS:HB3	1.94	0.49
27:b:185:ASP:O	27:b:189:MET:HA	2.13	0.49
29:d:14:LYS:NZ	29:d:25:ILE:HD12	2.27	0.49
29:d:167:LEU:HA	29:d:170:LEU:HD12	1.95	0.49
32:g:89:ILE:HD13	32:g:89:ILE:HA	1.70	0.49
42:q:9:SER:HB2	52:3:1195:A:N3	2.28	0.49
50:y:4:GLN:HE21	52:3:2022:A:N6	2.11	0.49
52:3:122:G:H2'	52:3:123:G:H8	1.75	0.49
52:3:201:A:H3'	52:3:202:C:C6	2.48	0.49
52:3:202:C:H2'	52:3:203:A:H2'	1.94	0.49
52:3:271:G:HO2'	52:3:315:A:N6	2.10	0.49
52:3:371:C:H2'	52:3:372:G:O4'	2.12	0.49
52:3:634:C:O2'	52:3:639:G:OP1	2.29	0.49
52:3:680:A:C2	52:3:2377:A:H1'	2.44	0.49
52:3:790:U:H2'	52:3:791:A:O4'	2.12	0.49
52:3:1158:C:H2'	52:3:1159:C:C6	2.48	0.49
52:3:1865:A:C5	52:3:1892:A:C8	3.01	0.49
52:3:1981:U:H2'	52:3:1982:G:C8	2.48	0.49
52:3:2205:U:H1'	52:3:2206:A:C8	2.47	0.49
52:3:2374:A:H3'	52:3:2375:A:C8	2.47	0.49
52:3:2499:U:O2'	52:3:2500:U:H5'	2.12	0.49
54:5:294:A:C6	54:5:295:G:C2	3.01	0.49
54:5:967:C:N4	54:5:968:G:O6	2.46	0.49
54:5:1363:U:H2'	54:5:1364:C:H6	1.76	0.49
9:E:132:VAL:HG21	54:5:837:G:H1'	1.95	0.49
10:F:21:LEU:HD13	10:F:65:VAL:HG21	1.95	0.49
15:K:17:VAL:HG22	54:5:24:C:H5''	1.94	0.49
15:K:112:ARG:O	15:K:130:TYR:N	2.44	0.49
26:a:72:LYS:HD2	52:3:2213:A:H4'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:h:112:LEU:HD22	52:3:1115:G:N2	2.28	0.49
52:3:344:A:H1'	52:3:346:G:N7	2.28	0.49
52:3:512:G:N2	52:3:515:A:OP1	2.38	0.49
52:3:711:A:H62	52:3:837:A:H61	1.61	0.49
52:3:864:A:C8	52:3:2256:C:H5'	2.48	0.49
52:3:1119:A:H1'	52:3:1140:U:O2'	2.12	0.49
52:3:1380:U:C2	52:3:1408:G:N1	2.81	0.49
52:3:1758:C:H2'	52:3:1759:C:H6	1.77	0.49
52:3:2426:A:H2'	52:3:2427:U:O4'	2.13	0.49
52:3:2646:G:N1	52:3:2783:A:H2'	2.27	0.49
54:5:223:G:H2'	54:5:224:A:H8	1.77	0.49
54:5:400:G:H1	54:5:497:A:H62	1.60	0.49
4:9:65:SER:H	4:9:81:ASP:HB3	1.78	0.48
4:9:183:VAL:HG11	4:9:269:LEU:HD13	1.94	0.48
4:9:437:THR:OG1	4:9:447:ILE:O	2.31	0.48
4:9:440:ASP:HB3	4:9:443:THR:HG22	1.95	0.48
5:A:26:MET:HE1	5:A:29:HIS:HB2	1.95	0.48
11:G:23:ASN:HB2	54:5:869:U:O2'	2.13	0.48
22:R:20:ILE:O	22:R:24:LYS:HG2	2.13	0.48
26:a:35:LYS:HB2	52:3:1455:A:C2	2.48	0.48
27:b:135:HIS:HA	52:3:1709:C:C2	2.48	0.48
28:c:115:VAL:HG11	28:c:188:VAL:HG12	1.95	0.48
33:h:30:ILE:HB	33:h:61:LYS:O	2.13	0.48
33:h:123:MET:HA	52:3:1115:G:H1'	1.93	0.48
40:o:58:LYS:HE2	52:3:2728:U:H5''	1.95	0.48
51:z:35:ASN:HA	51:z:46:VAL:HA	1.95	0.48
52:3:333:A:O2'	52:3:353:G:O3'	2.31	0.48
52:3:609:U:H4'	52:3:2510:G:C5	2.48	0.48
52:3:883:A:C6	52:3:884:A:C6	3.01	0.48
52:3:1437:A:N6	52:3:1627:U:H3	2.00	0.48
52:3:1466:U:H4'	52:3:1542:G:H4'	1.95	0.48
52:3:2253:U:H5''	52:3:2254:G:H5'	1.94	0.48
52:3:2601:U:H2'	52:3:2602:C:C6	2.48	0.48
54:5:13:U:O2'	54:5:908:A:OP2	2.27	0.48
54:5:134:G:C6	54:5:160:A:N1	2.81	0.48
54:5:469:C:H2'	54:5:470:U:C6	2.47	0.48
54:5:545:A:H2	54:5:546:G:N2	2.10	0.48
5:A:116:THR:O	5:A:123:LEU:HD23	2.13	0.48
10:F:74:LEU:HD22	10:F:85:GLN:HB3	1.93	0.48
29:d:88:LYS:HG2	52:3:2321:C:H5'	1.93	0.48
30:e:142:GLU:HB3	52:3:2767:G:H21	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:g:38:THR:HG23	33:h:113:ASN:HA	1.94	0.48
37:l:26:TYR:HA	37:l:132:LEU:HD21	1.94	0.48
37:l:82:ARG:NH1	52:3:2504:C:OP2	2.39	0.48
52:3:722:C:H2'	52:3:723:U:O4'	2.13	0.48
52:3:740:A:C6	52:3:762:A:C4	3.01	0.48
52:3:784:A:N6	52:3:788:G:H21	2.11	0.48
52:3:2151:G:H1'	52:3:2154:A:H61	1.78	0.48
52:3:2259:G:N7	52:3:2458:A:H4'	2.27	0.48
52:3:2493:G:H2'	52:3:2494:C:C6	2.48	0.48
52:3:2516:G:C4	52:3:2517:A:C8	3.01	0.48
52:3:2840:U:H2'	52:3:2841:A:C8	2.48	0.48
52:3:2863:G:O2'	52:3:2864:A:O4'	2.23	0.48
54:5:20:C:H2'	54:5:21:U:C6	2.48	0.48
54:5:288:A:C2	54:5:305:A:C6	3.01	0.48
54:5:369:A:H1'	54:5:478:G:O4'	2.13	0.48
54:5:787:A:N6	54:5:1473:U:OP1	2.46	0.48
54:5:1225:A:H61	54:5:1328:C:H4'	1.77	0.48
54:5:1415:G:H2'	54:5:1416:U:C6	2.49	0.48
4:9:656:ARG:HB3	52:3:2668:A:H62	1.79	0.48
7:C:124:LEU:HD12	7:C:142:VAL:HG12	1.95	0.48
11:G:20:THR:O	11:G:24:ASN:ND2	2.46	0.48
28:c:43:ALA:HB1	52:3:479:A:C6	2.48	0.48
30:e:57:ARG:NH1	30:e:65:LYS:HD3	2.28	0.48
32:g:57:ASN:HD21	52:3:1082:A:P	2.36	0.48
34:i:37:ASP:CG	34:i:42:LYS:HB2	2.38	0.48
39:n:27:ARG:HH22	39:n:88:ASN:ND2	2.11	0.48
52:3:833:C:H2'	52:3:834:G:C8	2.48	0.48
52:3:877:G:H2'	52:3:878:A:H8	1.78	0.48
52:3:1023:C:H2'	52:3:1024:A:O4'	2.13	0.48
52:3:1048:A:H2'	52:3:1049:U:C6	2.48	0.48
52:3:1063:A:OP2	52:3:1161:A:N6	2.46	0.48
52:3:1077:G:N2	52:3:1149:G:O4'	2.46	0.48
52:3:1327:G:H3'	52:3:1661:A:H62	1.77	0.48
52:3:1665:G:H2'	52:3:1669:A:H61	1.78	0.48
52:3:1682:C:H2'	52:3:1683:G:O4'	2.13	0.48
52:3:2088:U:H2'	52:3:2089:A:C8	2.49	0.48
54:5:64:C:OP1	54:5:379:A:N6	2.46	0.48
54:5:589:U:H2'	54:5:590:G:H8	1.77	0.48
54:5:808:C:H5''	54:5:896:G:H21	1.76	0.48
54:5:1010:A:H2'	54:5:1011:A:C4	2.48	0.48
54:5:1130:G:H2'	54:5:1131:A:H8	1.76	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1393:A:OP2	54:5:1457:G:N2	2.42	0.48
1:0:7:PRO:HB2	52:3:1337:G:H4'	1.95	0.48
2:1:59:ILE:HG22	52:3:625:G:H21	1.78	0.48
4:9:534:TYR:C	4:9:537:PRO:HD2	2.38	0.48
7:C:118:ASN:HA	7:C:132:PRO:HD3	1.94	0.48
9:E:2:GLN:HG2	9:E:90:LEU:HD13	1.96	0.48
9:E:149:ALA:HA	11:G:58:GLN:HG3	1.95	0.48
29:d:117:LEU:HB2	29:d:175:LEU:HD21	1.95	0.48
31:f:123:ASP:HB2	31:f:141:LYS:HD3	1.95	0.48
32:g:25:VAL:O	32:g:83:ALA:HB3	2.13	0.48
38:m:105:PRO:HG2	43:r:40:PRO:HB3	1.95	0.48
40:o:91:LYS:O	40:o:92:ARG:CG	2.61	0.48
42:q:1:MET:SD	42:q:2:HIS:CD2	3.07	0.48
45:t:106:LYS:HB2	52:3:334:A:H5''	1.95	0.48
46:u:76:LEU:HD12	52:3:2374:A:H4'	1.95	0.48
47:v:45:THR:O	47:v:45:THR:HG22	2.13	0.48
48:w:85:ASN:O	48:w:89:GLN:HG2	2.14	0.48
50:y:55:LYS:HG2	50:y:56:ALA:H	1.79	0.48
52:3:436:G:H21	52:3:437:A:N6	2.11	0.48
52:3:501:G:H2'	52:3:502:A:C8	2.48	0.48
52:3:571:A:H2'	52:3:572:G:O4'	2.14	0.48
52:3:899:A:N3	53:4:90:G:O2'	2.44	0.48
52:3:1348:C:H1'	52:3:1350:A:H62	1.77	0.48
52:3:2164:G:O2'	52:3:2165:A:O4'	2.25	0.48
52:3:2229:C:H2'	52:3:2230:A:H8	1.78	0.48
52:3:2479:A:H2'	52:3:2480:G:O4'	2.13	0.48
53:4:12:U:H1'	53:4:97:A:N3	2.29	0.48
53:4:60:C:H2'	53:4:61:A:H8	1.78	0.48
54:5:43:G:H2'	54:5:44:C:O4'	2.14	0.48
54:5:90:G:H2'	54:5:91:C:C6	2.48	0.48
54:5:236:C:H2'	54:5:237:A:H8	1.79	0.48
54:5:726:A:O2'	54:5:813:A:O2'	2.21	0.48
54:5:990:C:H2'	54:5:991:A:O4'	2.13	0.48
54:5:1034:G:H2'	54:5:1035:A:C8	2.48	0.48
54:5:1138:U:O2	54:5:1149:G:N2	2.37	0.48
4:9:327:ARG:HG2	4:9:372:ILE:HG22	1.95	0.48
7:C:97:LEU:HD21	7:C:129:VAL:HG21	1.94	0.48
15:K:12:ARG:HB3	54:5:560:U:O2'	2.12	0.48
16:L:91:HIS:CD2	16:L:97:VAL:HG21	2.48	0.48
26:a:229:ARG:HD3	52:3:1834:U:C5	2.49	0.48
32:g:112:TYR:HB2	32:g:117:ALA:HB2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:91:ARG:HD3	52:3:1033:A:H5'	1.95	0.48
43:r:82:MET:HB2	43:r:98:LYS:HB2	1.95	0.48
50:y:40:HIS:NE2	52:3:2887:A:H4'	2.29	0.48
52:3:19:G:H2'	52:3:20:C:H6	1.79	0.48
52:3:598:G:H2'	52:3:599:U:C6	2.48	0.48
52:3:1070:U:H2'	52:3:1071:G:H8	1.75	0.48
52:3:1104:A:O2'	52:3:1109:G:N7	2.47	0.48
52:3:1116:U:H2'	52:3:1117:U:C6	2.49	0.48
52:3:1140:U:H2'	52:3:1141:U:C5	2.49	0.48
52:3:1345:G:H2'	52:3:1346:G:H8	1.77	0.48
52:3:1423:A:H2'	52:3:1426:C:N4	2.28	0.48
52:3:1507:G:O2'	52:3:1508:G:P	2.71	0.48
52:3:1836:A:N7	52:3:1983:U:C2	2.82	0.48
52:3:2259:G:H2'	52:3:2260:G:H8	1.78	0.48
52:3:2795:C:H2'	52:3:2796:C:C6	2.49	0.48
52:3:2832:G:H2'	52:3:2833:A:H8	1.78	0.48
54:5:56:A:H62	54:5:353:G:N2	2.08	0.48
54:5:317:A:H2'	54:5:318:C:H6	1.78	0.48
54:5:803:C:H2'	54:5:804:A:C8	2.48	0.48
54:5:838:A:H2'	54:5:839:U:O4'	2.12	0.48
54:5:983:G:H21	54:5:1012:A:H8	1.61	0.48
54:5:1045:C:O5'	54:5:1171:A:O2'	2.31	0.48
54:5:1109:U:H1'	54:5:1154:A:C8	2.47	0.48
54:5:1172:A:N1	54:5:1173:A:C6	2.82	0.48
54:5:1246:A:H2'	54:5:1247:G:C8	2.49	0.48
54:5:1304:U:H3'	54:5:1305:G:H8	1.79	0.48
6:B:116:ALA:HB2	6:B:205:ILE:HG22	1.95	0.48
7:C:119:HIS:HB3	54:5:435:U:H4'	1.95	0.48
19:O:5:ARG:NH2	54:5:616:C:H1'	2.29	0.48
27:b:5:GLY:CA	27:b:207:ILE:O	2.62	0.48
28:c:24:LEU:HD13	28:c:120:LEU:HD13	1.94	0.48
32:g:53:VAL:HG22	32:g:80:LEU:C	2.38	0.48
35:j:10:VAL:HG23	35:j:86:LEU:H	1.79	0.48
52:3:297:G:H5''	52:3:457:U:OP1	2.13	0.48
52:3:409:A:N6	52:3:438:A:OP2	2.33	0.48
52:3:528:U:H2'	52:3:529:G:C8	2.49	0.48
52:3:540:A:O2'	52:3:544:U:O2'	2.17	0.48
52:3:686:C:N4	52:3:687:G:O6	2.46	0.48
52:3:853:G:N2	52:3:1221:G:O6	2.47	0.48
52:3:1006:U:H5''	52:3:1025:G:O6	2.13	0.48
52:3:1239:G:O2'	52:3:1267:A:N1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1310:U:H3'	52:3:1311:G:H8	1.79	0.48
52:3:1367:G:H1'	52:3:1421:A:C8	2.48	0.48
52:3:1871:U:C2	52:3:1885:G:N1	2.81	0.48
52:3:1992:C:O2'	52:3:1993:U:H5'	2.13	0.48
52:3:2068:G:N3	52:3:2070:C:N4	2.62	0.48
52:3:2246:G:O4'	52:3:2248:C:N4	2.46	0.48
52:3:2693:U:H2'	52:3:2694:A:H8	1.79	0.48
52:3:2866:A:H2'	52:3:2867:U:C6	2.49	0.48
54:5:409:G:N1	54:5:426:U:O5'	2.46	0.48
54:5:448:A:H2'	54:5:449:A:C8	2.48	0.48
54:5:616:C:N4	54:5:619:A:OP2	2.27	0.48
54:5:669:U:H2'	54:5:670:G:H8	1.78	0.48
54:5:732:A:H2'	54:5:733:A:C8	2.48	0.48
54:5:1008:G:N2	54:5:1012:A:N1	2.61	0.48
54:5:1262:A:H2'	54:5:1263:A:C8	2.48	0.48
54:5:1294:U:H2'	54:5:1295:U:C6	2.48	0.48
54:5:1334:A:H2'	54:5:1335:G:C8	2.48	0.48
54:5:1490:G:H2'	54:5:1491:A:C8	2.49	0.48
4:9:12:ASN:HD21	4:9:371:ASP:HA	1.78	0.48
4:9:537:PRO:HB3	4:9:579:LYS:HG3	1.96	0.48
4:9:627:ILE:HG23	4:9:639:ILE:HG23	1.95	0.48
7:C:4:THR:HG22	7:C:6:SER:H	1.79	0.48
7:C:70:GLN:CD	54:5:398:G:H5''	2.38	0.48
7:C:118:ASN:HD22	54:5:400:G:H5'	1.78	0.48
10:F:3:LYS:H	54:5:1355:U:H5	1.62	0.48
13:I:46:LEU:HD21	54:5:1116:U:C2	2.49	0.48
24:T:23:LEU:HA	24:T:26:ARG:HE	1.79	0.48
33:h:57:ALA:HA	33:h:60:ASP:O	2.13	0.48
34:i:9:LYS:HB2	34:i:48:THR:HG23	1.96	0.48
52:3:333:A:H61	52:3:367:G:H1'	1.79	0.48
52:3:730:G:C6	52:3:802:U:O2	2.66	0.48
52:3:1315:A:C8	52:3:1316:U:H5	2.31	0.48
52:3:1355:C:H2'	52:3:1356:G:N3	2.28	0.48
52:3:1437:A:H2'	52:3:1438:G:C8	2.48	0.48
52:3:1804:A:H2'	52:3:1805:U:C6	2.48	0.48
52:3:2600:G:H2'	52:3:2601:U:C6	2.49	0.48
52:3:2695:U:H2'	52:3:2696:G:O4'	2.13	0.48
53:4:106:A:N7	53:4:108:C:N4	2.61	0.48
54:5:113:C:H2'	54:5:114:C:O4'	2.14	0.48
54:5:971:A:C2	54:5:1338:A:H5'	2.49	0.48
54:5:1368:U:H2'	54:5:1370:C:C5	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1394:G:H2'	54:5:1395:C:C6	2.48	0.48
54:5:1495:C:N4	54:5:1496:G:O6	2.47	0.48
4:9:114:PRO:HG2	4:9:115:GLN:HG2	1.96	0.48
6:B:120:ALA:HB2	6:B:203:VAL:HG22	1.96	0.48
6:B:210:ILE:HG12	6:B:213:LYS:HE3	1.95	0.48
8:D:75:ARG:HH12	54:5:17:A:H5'	1.79	0.48
9:E:93:GLU:OE2	21:Q:81:MET:HB3	2.13	0.48
12:H:115:ARG:HH22	54:5:1160:G:N2	2.11	0.48
14:J:66:THR:O	14:J:70:MET:HG2	2.14	0.48
15:K:107:ARG:HH11	54:5:906:C:H5	1.62	0.48
24:T:5:GLU:OE2	24:T:25:ILE:HG13	2.13	0.48
27:b:135:HIS:CE1	52:3:1709:C:H5'	2.48	0.48
28:c:2:ALA:HB3	28:c:20:LEU:HD12	1.96	0.48
41:p:52:LYS:HE3	41:p:56:PHE:HE2	1.77	0.48
43:r:128:ARG:HD3	52:3:1248:A:H2	1.78	0.48
49:x:9:SER:HB3	49:x:27:SER:O	2.14	0.48
52:3:549:A:H2'	52:3:550:A:C8	2.49	0.48
52:3:767:C:H2'	52:3:768:G:O4'	2.14	0.48
52:3:898:A:H4'	53:4:76:A:O2'	2.14	0.48
52:3:1099:C:OP2	52:3:1105:A:N6	2.47	0.48
52:3:1620:A:H2'	52:3:1621:U:O4'	2.14	0.48
52:3:1845:C:H42	52:3:1908:A:H62	1.62	0.48
52:3:2189:U:H2'	52:3:2190:G:C8	2.49	0.48
52:3:2496:G:H2'	52:3:2497:U:C6	2.48	0.48
53:4:8:C:N3	53:4:9:C:N4	2.61	0.48
54:5:323:A:H1'	54:5:325:A:O4'	2.14	0.48
54:5:680:G:N2	54:5:704:U:O2	2.45	0.48
54:5:991:A:C2	54:5:1037:A:H1'	2.49	0.48
54:5:1197:G:N7	54:5:1296:C:N4	2.62	0.48
5:A:136:LYS:HA	5:A:139:GLU:HG2	1.95	0.48
6:B:21:ARG:HB2	13:I:19:TYR:OH	2.13	0.48
7:C:19:LEU:HG	7:C:23:LYS:HE2	1.94	0.48
7:C:74:LEU:HD13	7:C:92:VAL:HG12	1.95	0.48
10:F:115:MET:HE3	54:5:1214:A:H5''	1.96	0.48
17:M:36:HIS:CE1	54:5:1331:A:H4'	2.49	0.48
19:O:3:MET:HG3	19:O:10:THR:O	2.13	0.48
22:R:34:TRP:HZ3	54:5:1195:G:H1'	1.78	0.48
29:d:87:CYS:C	29:d:88:LYS:HD2	2.38	0.48
41:p:91:ARG:H	41:p:94:LEU:HD12	1.78	0.48
52:3:93:A:H4'	52:3:94:A:O4'	2.13	0.48
52:3:231:A:C6	52:3:454:G:H1'	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:453:U:H2'	52:3:454:G:C8	2.49	0.48
52:3:539:U:H4'	52:3:540:A:H5'	1.96	0.48
52:3:840:G:C6	52:3:2075:U:H5''	2.48	0.48
52:3:889:G:H2'	52:3:890:U:C6	2.49	0.48
52:3:1246:U:H2'	52:3:1247:C:C6	2.49	0.48
52:3:1376:G:OP2	52:3:1378:C:N4	2.43	0.48
52:3:1772:G:N2	52:3:1994:U:O2	2.45	0.48
52:3:2077:A:H2'	52:3:2078:A:C8	2.49	0.48
52:3:2471:U:H2'	52:3:2472:G:C8	2.48	0.48
52:3:2547:C:H2'	52:3:2548:G:C8	2.49	0.48
52:3:2749:A:H62	52:3:2771:G:H21	1.61	0.48
52:3:2798:A:H5''	52:3:2799:U:H5'	1.96	0.48
53:4:3:U:H2'	53:4:4:G:C8	2.48	0.48
53:4:89:A:C2	53:4:90:G:H1'	2.48	0.48
54:5:1109:U:H2'	54:5:1110:C:H6	1.79	0.48
54:5:1387:U:H2'	54:5:1388:A:O4'	2.14	0.48
54:5:1474:A:H1'	54:5:1494:A:H2'	1.96	0.48
55:8:66:C:N3	55:8:67:C:N4	2.61	0.48
4:9:98:VAL:HG13	4:9:327:ARG:HG3	1.95	0.48
4:9:483:THR:HA	4:9:559:ILE:HD11	1.96	0.48
4:9:591:LYS:HE2	4:9:591:LYS:HA	1.95	0.48
5:A:84:PHE:HB3	5:A:96:VAL:HG13	1.96	0.48
6:B:33:TRP:HD1	6:B:60:ARG:HH21	1.62	0.48
7:C:27:LYS:HD3	54:5:426:U:H6	1.79	0.48
12:H:104:LYS:O	12:H:104:LYS:HD3	2.14	0.48
18:N:20:GLY:H	54:5:747:C:H1'	1.78	0.48
26:a:149:ASN:HD22	26:a:162:ARG:HG2	1.78	0.48
27:b:222:LEU:HD21	40:o:17:GLN:HB3	1.96	0.48
28:c:75:ARG:HH22	52:3:2067:A:N6	2.00	0.48
30:e:163:LYS:HB2	30:e:163:LYS:HE3	1.62	0.48
31:f:27:ILE:HG23	52:3:2206:A:C4	2.47	0.48
32:g:5:LYS:O	32:g:9:GLN:OE1	2.32	0.48
32:g:11:VAL:HG22	32:g:58:ILE:HA	1.96	0.48
33:h:70:THR:H	33:h:107:TYR:HE2	1.60	0.48
33:h:103:GLU:O	33:h:107:TYR:HB2	2.14	0.48
38:m:15:VAL:HA	38:m:18:VAL:HG12	1.96	0.48
52:3:194:A:H8	52:3:209:G:N2	2.11	0.48
52:3:511:U:O2	52:3:515:A:N7	2.46	0.48
52:3:606:G:O6	52:3:2036:G:O2'	2.26	0.48
52:3:710:A:OP2	52:3:839:A:N6	2.47	0.48
52:3:1305:G:H2'	52:3:1306:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1465:U:H2'	52:3:1466:U:C6	2.49	0.48
52:3:1475:C:H2'	52:3:1476:C:H6	1.79	0.48
52:3:1537:A:H2'	52:3:1538:U:O4'	2.13	0.48
52:3:2131:G:C2	52:3:2183:U:H1'	2.49	0.48
52:3:2297:G:N2	52:3:2354:A:OP1	2.46	0.48
52:3:2308:U:H2'	52:3:2309:A:C8	2.49	0.48
52:3:2673:A:H2'	52:3:2674:C:C6	2.49	0.48
52:3:2773:A:H2	52:3:2774:A:H8	1.60	0.48
52:3:2867:U:H2'	52:3:2868:G:C8	2.49	0.48
53:4:12:U:H5'	53:4:68:C:H1'	1.94	0.48
54:5:28:G:H2'	54:5:29:G:C8	2.49	0.48
54:5:335:C:H2'	54:5:336:U:C6	2.49	0.48
54:5:524:C:C5	54:5:525:G:H1'	2.49	0.48
54:5:687:G:H1'	54:5:695:G:N2	2.28	0.48
54:5:1041:G:H2'	54:5:1042:G:H8	1.77	0.48
54:5:1078:G:H2'	54:5:1079:G:C8	2.49	0.48
54:5:1320:A:H61	54:5:1350:A:H5''	1.78	0.48
54:5:1354:G:H2'	54:5:1355:U:C6	2.49	0.48
4:9:108:ALA:H	4:9:136:LYS:HB2	1.79	0.47
5:A:41:MET:HE2	5:A:203:ASN:O	2.14	0.47
7:C:115:GLN:NE2	54:5:493:A:H62	2.12	0.47
13:I:13:LYS:NZ	54:5:1117:U:O4	2.35	0.47
20:P:9:LEU:HB2	20:P:63:ILE:O	2.14	0.47
33:h:24:ALA:HB2	52:3:1131:A:H61	1.79	0.47
35:j:77:LEU:HD13	40:o:77:LYS:HE2	1.96	0.47
37:l:69:PHE:HB3	37:l:71:HIS:CE1	2.49	0.47
52:3:307:C:H2'	52:3:308:A:C8	2.49	0.47
52:3:346:G:H4'	52:3:365:U:C2	2.48	0.47
52:3:410:G:H4'	52:3:411:U:O5'	2.14	0.47
52:3:1091:G:H2'	52:3:1137:C:N4	2.29	0.47
52:3:1720:C:H2'	52:3:1721:G:O4'	2.13	0.47
52:3:1810:A:H3'	52:3:1811:A:C8	2.43	0.47
52:3:2313:U:H2'	52:3:2314:U:C6	2.49	0.47
52:3:2701:A:O5'	52:3:2873:G:N2	2.42	0.47
53:4:12:U:O2'	53:4:97:A:O2'	2.18	0.47
54:5:587:A:H2'	54:5:588:U:H6	1.78	0.47
54:5:717:C:H2'	54:5:718:A:N7	2.29	0.47
54:5:837:G:N2	54:5:841:C:H41	2.11	0.47
54:5:940:G:N2	54:5:1308:G:HO2'	2.12	0.47
54:5:1012:A:O2'	54:5:1192:C:O2	2.27	0.47
55:8:45:G:H2'	55:8:46:U:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:T:29:ALA:O	24:T:33:GLU:HG3	2.14	0.47
25:W:57:VAL:HG11	25:W:108:LEU:HD13	1.95	0.47
26:a:5:LYS:HG2	26:a:18:THR:HG22	1.96	0.47
27:b:70:PHE:HZ	27:b:81:LEU:HB2	1.80	0.47
52:3:24:U:H2'	52:3:25:G:C8	2.49	0.47
52:3:352:C:H2'	52:3:353:G:O4'	2.15	0.47
52:3:474:U:H2'	52:3:475:A:C8	2.48	0.47
52:3:529:G:H2'	52:3:530:G:H8	1.78	0.47
52:3:618:G:H3'	52:3:1281:A:H61	1.79	0.47
52:3:669:A:H1'	52:3:2411:C:H4'	1.96	0.47
52:3:910:G:H2'	52:3:911:U:O4'	2.14	0.47
52:3:933:A:O2'	55:6:57:C:O4'	2.32	0.47
52:3:1200:U:H2'	52:3:1201:A:C8	2.49	0.47
52:3:1243:A:H2'	52:3:1244:A:H8	1.79	0.47
52:3:1380:U:O2	52:3:1408:G:N2	2.48	0.47
52:3:1725:G:N2	52:3:1985:A:OP1	2.47	0.47
52:3:1874:G:H2'	52:3:1875:C:C6	2.49	0.47
52:3:1928:G:H2'	52:3:1929:G:C8	2.49	0.47
52:3:2140:G:HO2'	52:3:2141:A:P	2.37	0.47
52:3:2334:U:HO2'	52:3:2396:A:N6	2.11	0.47
52:3:2624:C:H2'	52:3:2625:U:C6	2.50	0.47
52:3:2683:G:H2'	52:3:2684:G:C8	2.49	0.47
52:3:2824:A:H3'	52:3:2825:A:H8	1.79	0.47
54:5:212:G:H4'	54:5:462:G:H1'	1.96	0.47
54:5:538:G:H2'	54:5:539:G:C8	2.49	0.47
54:5:942:G:O3'	54:5:1280:A:O2'	2.32	0.47
54:5:1108:A:C4	54:5:1154:A:H2	2.32	0.47
54:5:1161:G:H2'	54:5:1162:G:C8	2.49	0.47
54:5:1468:A:HO2'	54:5:1469:G:P	2.36	0.47
7:C:133:SER:CB	54:5:398:G:H4'	2.44	0.47
9:E:1:MET:O	9:E:64:GLY:N	2.47	0.47
11:G:53:TYR:O	11:G:83:SER:OG	2.28	0.47
12:H:21:LEU:HD22	12:H:63:PHE:HB3	1.95	0.47
15:K:112:ARG:HG3	15:K:130:TYR:HA	1.96	0.47
27:b:50:THR:OG1	27:b:87:MET:O	2.32	0.47
30:e:120:ILE:HG12	30:e:147:PHE:CE1	2.50	0.47
34:i:49:PRO:HB2	52:3:591:G:O2'	2.14	0.47
36:k:101:LYS:HB2	36:k:103:VAL:HG23	1.96	0.47
38:m:71:ASN:HA	52:3:1321:C:H1'	1.95	0.47
39:n:14:ARG:NH2	52:3:2303:U:OP2	2.41	0.47
45:t:16:LYS:HE2	52:3:513:A:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:271:G:H2'	52:3:272:C:C6	2.49	0.47
52:3:443:C:H2'	52:3:444:C:H6	1.78	0.47
52:3:977:A:H3'	52:3:978:G:C8	2.49	0.47
52:3:1048:A:H4'	52:3:1049:U:OP1	2.13	0.47
52:3:1946:U:N3	52:3:1974:U:O2'	2.43	0.47
52:3:2212:U:H3	52:3:2228:U:H3	1.62	0.47
52:3:2551:G:C8	52:3:2774:A:H4'	2.48	0.47
52:3:2564:C:H3'	52:3:2565:G:C8	2.48	0.47
52:3:2849:G:O6	52:3:2875:U:C2	2.67	0.47
52:3:2849:G:H2'	52:3:2850:G:C8	2.49	0.47
4:9:462:ARG:NH2	4:9:466:GLU:OE1	2.44	0.47
4:9:616:THR:HG23	4:9:655:LEU:HD11	1.96	0.47
7:C:178:TYR:OH	7:C:181:PHE:HA	2.14	0.47
12:H:50:MET:HE1	12:H:81:ILE:HG13	1.96	0.47
18:N:22:ILE:HG13	18:N:66:TYR:HE2	1.80	0.47
27:b:67:GLN:O	27:b:71:GLU:HG2	2.15	0.47
29:d:57:LEU:HD12	29:d:87:CYS:CB	2.40	0.47
30:e:7:ARG:HA	52:3:1144:C:H1'	1.96	0.47
30:e:71:TYR:HD1	30:e:74:LEU:HD12	1.79	0.47
33:h:30:ILE:HD11	33:h:34:GLU:OE2	2.13	0.47
35:j:21:ILE:HG23	35:j:39:VAL:HB	1.96	0.47
47:v:20:HIS:ND1	52:3:2087:G:OP1	2.37	0.47
52:3:86:A:N6	52:3:101:C:O4'	2.46	0.47
52:3:108:G:N2	52:3:380:A:N1	2.63	0.47
52:3:280:A:H2'	52:3:281:U:C6	2.49	0.47
52:3:370:C:H2'	52:3:371:C:C6	2.49	0.47
52:3:445:C:H2'	52:3:446:A:H8	1.79	0.47
52:3:628:A:O2'	52:3:629:G:H5'	2.14	0.47
52:3:697:U:H2'	52:3:698:A:C8	2.49	0.47
52:3:720:A:C2	52:3:822:C:H1'	2.49	0.47
52:3:1244:A:H4'	52:3:1269:C:H4'	1.95	0.47
52:3:1396:A:H2'	52:3:1397:G:H8	1.79	0.47
52:3:1447:A:O2'	52:3:1448:U:H5''	2.13	0.47
52:3:1872:U:H1'	52:3:1883:A:H62	1.79	0.47
52:3:2276:A:H2'	52:3:2277:A:H5''	1.95	0.47
52:3:2321:C:H2'	52:3:2322:G:C8	2.49	0.47
54:5:42:G:H2'	54:5:43:G:C8	2.49	0.47
54:5:43:G:N2	54:5:620:A:N3	2.61	0.47
54:5:264:C:H2'	54:5:265:U:C6	2.49	0.47
54:5:665:G:H2'	54:5:666:U:C6	2.49	0.47
54:5:916:U:H2'	54:5:917:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1328:C:H2'	54:5:1329:G:H8	1.79	0.47
55:6:45:G:H2'	55:6:46:U:O4'	2.15	0.47
1:0:26:SER:OG	52:3:717:U:H5''	2.14	0.47
7:C:37:GLN:HG3	7:C:38:HIS:CE1	2.49	0.47
9:E:126:GLU:HA	54:5:840:C:H4'	1.97	0.47
10:F:79:ILE:HG23	10:F:155:TRP:HB2	1.97	0.47
11:G:116:ILE:HD12	11:G:125:ASP:HA	1.97	0.47
12:H:97:LYS:HZ3	12:H:101:LYS:HD3	1.78	0.47
22:R:36:ARG:NH1	54:5:1195:G:O2'	2.48	0.47
26:a:56:ARG:HG2	26:a:57:HIS:HD2	1.78	0.47
28:c:44:SER:H	52:3:479:A:N6	2.11	0.47
28:c:148:LYS:HG2	28:c:153:LEU:HD11	1.95	0.47
29:d:139:PRO:HG2	49:x:34:ILE:HD13	1.95	0.47
37:l:116:LYS:O	37:l:120:ARG:HG2	2.14	0.47
40:o:101:ILE:HD13	40:o:104:MET:HE2	1.96	0.47
44:s:28:VAL:HG22	44:s:82:VAL:HG12	1.95	0.47
44:s:52:PRO:HB3	44:s:85:LEU:HD23	1.97	0.47
45:t:86:ILE:HG13	52:3:336:C:OP1	2.14	0.47
52:3:170:A:H2'	52:3:171:G:O4'	2.14	0.47
52:3:197:U:H2'	52:3:198:G:C8	2.49	0.47
52:3:200:A:O2'	52:3:201:A:H5'	2.14	0.47
52:3:569:U:H2'	52:3:570:C:C6	2.49	0.47
52:3:774:A:H1'	52:3:775:C:H5	1.80	0.47
52:3:977:A:O2'	52:3:1221:G:H4'	2.14	0.47
52:3:1498:U:H2'	52:3:1499:C:C6	2.49	0.47
52:3:1763:G:N2	52:3:1765:G:O6	2.43	0.47
52:3:1866:G:C6	52:3:1891:A:C5	3.03	0.47
52:3:2413:G:N1	52:3:2419:A:OP2	2.48	0.47
52:3:2532:G:H2'	52:3:2533:A:O4'	2.14	0.47
52:3:2567:C:H2'	52:3:2568:G:C8	2.49	0.47
52:3:2713:A:H2'	52:3:2856:G:OP1	2.13	0.47
52:3:2759:G:H5'	52:3:2760:C:C5	2.50	0.47
54:5:81:A:H2'	54:5:82:C:O4'	2.14	0.47
54:5:85:U:H1'	54:5:86:A:N7	2.28	0.47
54:5:97:G:H1	54:5:311:A:H2	1.60	0.47
54:5:195:U:H2'	54:5:196:G:C8	2.49	0.47
54:5:1049:G:N1	54:5:1174:U:O2	2.46	0.47
55:6:3:G:O6	55:6:71:A:H2	1.98	0.47
5:A:111:ARG:HD3	5:A:184:GLU:HG2	1.95	0.47
14:J:13:ILE:HG12	14:J:76:LYS:HB2	1.97	0.47
18:N:19:VAL:HG22	54:5:747:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:98:LEU:HD12	26:a:108:TYR:CZ	2.50	0.47
29:d:38:MET:HE3	29:d:150:ARG:HH11	1.80	0.47
32:g:60:ARG:HH12	52:3:1081:A:H1'	1.79	0.47
37:l:85:SER:H	52:3:2283:C:H1'	1.80	0.47
45:t:41:LYS:HE3	45:t:64:GLN:HB3	1.96	0.47
52:3:57:G:N2	52:3:128:A:N3	2.58	0.47
52:3:794:G:O2'	52:3:1783:G:OP1	2.15	0.47
52:3:986:G:N2	52:3:1003:U:O2	2.33	0.47
52:3:1080:A:N6	52:3:1147:G:O6	2.48	0.47
52:3:1086:G:H2'	52:3:1087:C:O4'	2.14	0.47
52:3:1230:U:H2'	52:3:1231:G:C8	2.50	0.47
52:3:1766:A:C4	52:3:2719:A:N3	2.83	0.47
52:3:1777:G:OP1	52:3:1982:G:H5'	2.14	0.47
52:3:1792:A:O2'	52:3:1793:A:H2'	2.14	0.47
52:3:1937:G:N2	52:3:1938:U:O4	2.34	0.47
52:3:1968:C:C2	52:3:1969:C:N3	2.82	0.47
52:3:2146:A:H2'	52:3:2147:G:H8	1.79	0.47
52:3:2163:U:H2'	52:3:2164:G:C4	2.49	0.47
54:5:63:U:H3	54:5:90:G:H1	1.62	0.47
54:5:297:A:H2'	54:5:298:G:C8	2.49	0.47
54:5:855:G:O2'	54:5:868:G:O2'	2.28	0.47
54:5:860:C:H4'	54:5:914:A:H5'	1.96	0.47
54:5:1016:A:H2'	54:5:1017:A:C8	2.49	0.47
54:5:1031:A:H2'	54:5:1032:G:C8	2.49	0.47
54:5:1299:C:H2'	54:5:1300:C:C6	2.49	0.47
54:5:1321:G:H22	54:5:1349:A:P	2.38	0.47
4:9:89:THR:O	4:9:93:GLU:CB	2.63	0.47
4:9:90:VAL:HA	4:9:401:PHE:CD1	2.50	0.47
4:9:660:GLN:NE2	52:3:2668:A:H5'	2.30	0.47
5:A:133:LEU:HB3	5:A:156:ILE:HG12	1.97	0.47
5:A:157:GLU:O	5:A:161:LYS:HG2	2.13	0.47
5:A:219:ASN:HA	5:A:225:THR:HB	1.95	0.47
6:B:9:GLY:N	17:M:49:TYR:O	2.48	0.47
6:B:153:LYS:HB2	6:B:204:TRP:HB2	1.97	0.47
9:E:47:TYR:OH	21:Q:94:ARG:O	2.33	0.47
14:J:37:TRP:CG	54:5:701:A:H61	2.33	0.47
14:J:83:GLY:H	14:J:86:LYS:HD3	1.80	0.47
16:L:91:HIS:NE2	54:5:1283:G:OP1	2.40	0.47
18:N:9:ILE:HG13	18:N:28:LEU:HD21	1.97	0.47
20:P:13:VAL:HG23	20:P:24:VAL:HG22	1.95	0.47
21:Q:51:ILE:HB	21:Q:85:HIS:ND1	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:R:27:LYS:HE2	22:R:45:VAL:O	2.15	0.47
27:b:21:ASN:ND2	40:o:85:ASN:OD1	2.43	0.47
30:e:130:LYS:HZ1	30:e:132:THR:HB	1.80	0.47
32:g:11:VAL:CG2	32:g:58:ILE:HG22	2.45	0.47
34:i:50:ASN:HB2	52:3:590:U:O2	2.15	0.47
36:k:6:LEU:HA	52:3:1273:U:H1'	1.96	0.47
39:n:19:ILE:HD13	39:n:91:PHE:O	2.15	0.47
39:n:109:ALA:HB1	39:n:114:LEU:HD12	1.95	0.47
41:p:57:ARG:HA	41:p:60:TRP:CE3	2.50	0.47
42:q:1:MET:O	42:q:15:HIS:ND1	2.47	0.47
43:r:133:GLN:HA	43:r:136:LYS:HB2	1.97	0.47
51:z:17:ILE:HG12	52:3:2407:G:N3	2.29	0.47
51:z:38:CYS:HB2	51:z:47:HIS:CE1	2.50	0.47
52:3:92:U:OP2	52:3:93:A:H3'	2.14	0.47
52:3:103:G:H4'	52:3:104:A:H5'	1.97	0.47
52:3:153:U:H2'	52:3:154:U:H6	1.79	0.47
52:3:876:A:N6	52:3:877:G:O6	2.47	0.47
52:3:1011:A:N7	52:3:1025:G:N2	2.62	0.47
52:3:1263:G:H2'	52:3:1264:U:H6	1.78	0.47
52:3:1394:A:H3'	52:3:1395:A:H8	1.79	0.47
52:3:1412:A:H4'	52:3:1432:C:O2'	2.15	0.47
52:3:1437:A:H2'	52:3:1438:G:H8	1.78	0.47
52:3:1663:G:N3	52:3:2706:U:H4'	2.29	0.47
52:3:1777:G:H2'	52:3:1778:G:C8	2.49	0.47
52:3:1829:U:H2'	52:3:1830:G:C8	2.50	0.47
52:3:1870:G:HO2'	52:3:2419:A:HO2'	1.60	0.47
52:3:1934:A:H2'	52:3:1935:A:C8	2.50	0.47
52:3:1979:G:N1	52:3:1980:G:O6	2.47	0.47
52:3:2099:U:C4	52:3:2236:G:O6	2.67	0.47
52:3:2131:G:N2	52:3:2183:U:H1'	2.30	0.47
52:3:2284:G:N1	52:3:2285:G:C6	2.83	0.47
52:3:2330:A:H2'	52:3:2331:G:C8	2.50	0.47
52:3:2350:C:H2'	52:3:2351:U:O4'	2.15	0.47
52:3:2388:C:H2'	52:3:2389:A:H8	1.80	0.47
52:3:2424:C:H2'	52:3:2425:C:C6	2.49	0.47
52:3:2649:G:H2'	52:3:2650:A:C8	2.50	0.47
52:3:2664:U:N3	52:3:2665:A:N7	2.63	0.47
52:3:2711:C:H2'	52:3:2712:C:C6	2.49	0.47
52:3:2761:A:H3'	52:3:2762:U:C6	2.50	0.47
52:3:2795:C:H2'	52:3:2796:C:H6	1.79	0.47
52:3:2850:G:H2'	52:3:2851:U:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:4:7:G:H2'	53:4:8:C:O4'	2.15	0.47
54:5:20:C:O2'	54:5:570:A:N7	2.42	0.47
54:5:50:U:O4	54:5:360:A:N6	2.48	0.47
54:5:96:G:H22	54:5:326:C:N4	2.12	0.47
54:5:305:A:H1'	54:5:605:A:N1	2.30	0.47
54:5:319:U:H2'	54:5:320:G:C8	2.49	0.47
54:5:517:C:N4	54:5:527:G:O2'	2.48	0.47
54:5:671:G:N1	54:5:713:A:H2	2.09	0.47
54:5:736:U:H2'	54:5:737:U:O4'	2.15	0.47
54:5:785:U:H2'	54:5:786:U:C6	2.49	0.47
54:5:920:G:N3	54:5:1477:A:H1'	2.30	0.47
54:5:1138:U:O4	54:5:1149:G:O6	2.33	0.47
54:5:1145:A:H8	54:5:1146:A:C8	2.32	0.47
4:9:260:SER:N	4:9:265:LYS:O	2.47	0.47
4:9:656:ARG:HD3	52:3:2668:A:N6	2.30	0.47
5:A:86:GLY:H	5:A:108:ILE:HB	1.80	0.47
7:C:147:LYS:HE3	54:5:435:U:H5'	1.95	0.47
11:G:76:TYR:CZ	11:G:82:PRO:HB3	2.50	0.47
12:H:32:VAL:HG13	12:H:67:VAL:HB	1.96	0.47
12:H:129:PHE:HB3	54:5:1316:C:H5'	1.96	0.47
16:L:101:ARG:NH1	16:L:103:ARG:HB2	2.29	0.47
33:h:13:ASN:HB2	52:3:1096:U:H2'	1.97	0.47
38:m:57:PHE:HB2	38:m:61:ARG:HH21	1.80	0.47
48:w:41:PRO:HD2	52:3:96:A:H2	1.80	0.47
52:3:123:G:H3'	52:3:124:A:H8	1.79	0.47
52:3:207:C:OP2	52:3:208:A:H3'	2.14	0.47
52:3:344:A:H61	52:3:1240:U:H5''	1.80	0.47
52:3:596:G:H2'	52:3:597:C:H6	1.79	0.47
52:3:619:A:H62	52:3:1281:A:H2	1.62	0.47
52:3:625:G:H2'	52:3:626:A:H8	1.80	0.47
52:3:1299:A:H3'	52:3:1300:C:C6	2.50	0.47
52:3:1436:C:H2'	52:3:1437:A:H8	1.80	0.47
52:3:1677:G:H2'	52:3:1678:U:C6	2.50	0.47
52:3:2148:U:H2'	52:3:2149:U:H6	1.80	0.47
52:3:2276:A:O2'	52:3:2278:G:OP1	2.33	0.47
52:3:2387:U:H2'	52:3:2388:C:H6	1.80	0.47
52:3:2604:U:O5'	52:3:2604:U:H6	1.97	0.47
52:3:2694:A:H2'	52:3:2695:U:C6	2.49	0.47
52:3:2849:G:H2'	52:3:2850:G:H8	1.80	0.47
54:5:30:A:H2	54:5:552:U:H3	1.61	0.47
54:5:87:G:H2'	54:5:88:A:C8	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:116:A:H1'	54:5:117:U:H5'	1.97	0.47
54:5:365:U:H2'	54:5:366:C:C6	2.50	0.47
54:5:418:U:H3'	54:5:419:A:H2'	1.96	0.47
54:5:482:G:H4'	54:5:483:U:O5'	2.15	0.47
54:5:670:G:H2'	54:5:671:G:H8	1.77	0.47
54:5:1060:C:O2'	54:5:1167:C:O4'	2.31	0.47
54:5:1196:G:H2'	54:5:1197:G:C8	2.50	0.47
54:5:1338:A:H1'	54:5:1340:G:C8	2.49	0.47
12:H:15:SER:OG	12:H:72:GLY:HA3	2.14	0.47
25:W:62:TYR:HA	25:W:117:ALA:HA	1.97	0.47
26:a:190:ARG:HH22	52:3:1806:G:H8	1.63	0.47
34:i:10:GLU:N	34:i:48:THR:OG1	2.48	0.47
34:i:18:TRP:HA	34:i:56:TYR:HB2	1.96	0.47
36:k:133:LYS:O	36:k:137:LYS:HG2	2.15	0.47
43:r:61:ASN:OD1	52:3:531:G:N2	2.48	0.47
52:3:54:A:H61	52:3:182:C:H1'	1.79	0.47
52:3:432:G:O2'	52:3:2238:G:O2'	2.33	0.47
52:3:509:G:H2'	52:3:510:G:C8	2.49	0.47
52:3:1294:G:OP2	52:3:1295:A:O2'	2.30	0.47
52:3:1538:U:H2'	52:3:1539:U:C5	2.50	0.47
52:3:1743:U:H2'	52:3:1744:U:C6	2.50	0.47
52:3:2299:U:O4	52:3:2349:G:O6	2.32	0.47
52:3:2494:C:H2'	52:3:2495:A:C8	2.50	0.47
52:3:2640:A:H2'	52:3:2641:A:C8	2.49	0.47
52:3:2654:U:H2'	52:3:2655:U:O4'	2.14	0.47
53:4:75:U:H2'	53:4:76:A:C8	2.49	0.47
54:5:99:U:OP2	54:5:303:A:H4'	2.14	0.47
54:5:218:U:H2'	54:5:219:A:C8	2.50	0.47
54:5:413:G:N2	54:5:538:G:HO2'	2.12	0.47
54:5:442:G:H2'	54:5:443:G:C8	2.49	0.47
54:5:456:U:H2'	54:5:457:A:C8	2.49	0.47
54:5:558:U:H5''	54:5:560:U:H5'	1.97	0.47
54:5:711:G:H1'	54:5:774:A:C8	2.50	0.47
54:5:858:A:H3'	54:5:859:A:C8	2.49	0.47
54:5:1055:G:O6	54:5:1167:C:N4	2.48	0.47
54:5:1153:G:N2	54:5:1155:A:H3'	2.30	0.47
54:5:1289:U:H2'	54:5:1290:G:O4'	2.15	0.47
54:5:1405:U:H2'	54:5:1406:U:C6	2.50	0.47
4:9:66:ALA:HB3	4:9:325:PHE:CE2	2.50	0.47
16:L:113:ARG:N	54:5:941:A:OP1	2.48	0.47
26:a:220:ARG:HA	26:a:224:ILE:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:d:42:ASP:OD1	29:d:150:ARG:NH2	2.48	0.47
37:l:53:ALA:HA	37:l:56:LYS:HE3	1.96	0.47
52:3:96:A:H2'	52:3:97:A:O4'	2.14	0.47
52:3:440:C:H5'	52:3:441:U:C2	2.50	0.47
52:3:540:A:OP2	52:3:1265:G:H5''	2.15	0.47
52:3:867:G:H2'	52:3:868:C:C6	2.50	0.47
52:3:895:G:N2	52:3:953:G:H2'	2.30	0.47
52:3:1036:A:H2'	52:3:1037:A:C8	2.50	0.47
52:3:1063:A:N3	52:3:2494:C:O2'	2.47	0.47
52:3:1125:U:C4	52:3:1137:C:C2	3.02	0.47
52:3:1726:U:H2'	52:3:1728:A:C5	2.50	0.47
52:3:1832:G:H2'	52:3:1833:G:C8	2.50	0.47
52:3:2036:G:H2'	52:3:2038:A:OP1	2.15	0.47
52:3:2323:U:H2'	52:3:2324:A:C8	2.50	0.47
52:3:2328:A:H2	52:3:2331:G:O6	1.97	0.47
52:3:2684:G:H2'	52:3:2685:A:C8	2.50	0.47
54:5:579:G:H3'	54:5:755:U:O4	2.15	0.47
54:5:781:A:N1	54:5:796:A:N6	2.63	0.47
54:5:1186:U:O2'	54:5:1188:A:O4'	2.33	0.47
54:5:1417:U:H2'	54:5:1418:G:H8	1.76	0.47
55:8:63:U:H2'	55:8:64:G:C8	2.49	0.47
7:C:64:TYR:CE2	7:C:93:LEU:HB3	2.49	0.46
13:I:13:LYS:HG2	13:I:107:SER:HB3	1.96	0.46
15:K:82:GLY:HA3	15:K:112:ARG:NE	2.29	0.46
25:W:85:ALA:O	25:W:89:VAL:HG22	2.15	0.46
35:j:57:VAL:HG11	52:3:2569:A:H4'	1.97	0.46
52:3:15:A:N6	52:3:560:U:H3'	2.30	0.46
52:3:167:A:C2	52:3:168:A:H1'	2.50	0.46
52:3:736:G:H3'	52:3:737:U:H5''	1.96	0.46
52:3:897:A:C4	52:3:898:A:C8	3.03	0.46
52:3:1028:C:H2'	52:3:1029:A:C8	2.50	0.46
52:3:2096:U:H2'	52:3:2097:A:N7	2.30	0.46
52:3:2630:U:O2'	52:3:2829:G:N7	2.41	0.46
53:4:60:C:H2'	53:4:61:A:C8	2.51	0.46
54:5:239:A:N7	54:5:277:G:O2'	2.41	0.46
54:5:380:G:H2'	54:5:381:C:C5	2.50	0.46
54:5:809:G:H4'	54:5:810:U:C6	2.50	0.46
54:5:920:G:N2	54:5:1367:G:N3	2.62	0.46
54:5:1109:U:H2'	54:5:1110:C:C6	2.49	0.46
54:5:1177:U:H3'	54:5:1178:C:C6	2.50	0.46
54:5:1502:G:H2'	54:5:1503:U:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:6:66:C:N3	55:6:67:C:N4	2.61	0.46
1:0:7:PRO:HG3	52:3:1645:C:O2'	2.15	0.46
4:9:338:TYR:HB3	4:9:347:LYS:HB3	1.96	0.46
4:9:484:PHE:CD2	4:9:593:CYS:HB2	2.49	0.46
11:G:13:ASP:N	11:G:13:ASP:OD1	2.48	0.46
11:G:38:SER:OG	54:5:587:A:H5''	2.16	0.46
29:d:79:LEU:C	29:d:80:ARG:HD3	2.40	0.46
31:f:8:ASP:OD1	31:f:8:ASP:N	2.47	0.46
42:q:76:GLN:HA	52:3:598:G:H3'	1.97	0.46
51:z:8:ARG:HH21	51:z:51:LYS:CA	2.22	0.46
52:3:343:A:N3	52:3:363:G:O2'	2.47	0.46
52:3:662:U:H5''	52:3:663:A:C5'	2.45	0.46
52:3:1155:G:H2'	52:3:1156:C:O4'	2.15	0.46
52:3:1476:C:H4'	52:3:1554:A:H2	1.80	0.46
52:3:2170:A:N3	52:3:2180:U:O2'	2.46	0.46
53:4:55:A:H2'	53:4:56:A:C8	2.49	0.46
54:5:107:A:H2'	54:5:108:C:O4'	2.15	0.46
54:5:352:A:H1'	54:5:384:G:N2	2.31	0.46
54:5:1439:G:H2'	54:5:1440:U:C6	2.49	0.46
3:2:2:LYS:H	3:2:34:GLN:HA	1.80	0.46
3:2:18:LYS:HE3	3:2:23:VAL:HB	1.96	0.46
4:9:518:GLY:HA2	4:9:558:ASP:HA	1.98	0.46
7:C:90:PHE:CD1	7:C:193:GLU:HB3	2.50	0.46
11:G:40:LEU:HD11	54:5:639:A:O2'	2.15	0.46
12:H:20:TYR:CE1	54:5:1121:U:H2'	2.51	0.46
14:J:82:THR:HA	14:J:86:LYS:HD3	1.97	0.46
15:K:114:THR:HA	54:5:36:G:H5'	1.97	0.46
22:R:36:ARG:H	54:5:1195:G:H5'	1.79	0.46
28:c:158:LEU:HD11	28:c:181:LYS:HB2	1.97	0.46
30:e:22:LYS:HB3	30:e:42:LEU:H	1.80	0.46
41:p:3:ILE:HA	52:3:1230:U:H1'	1.96	0.46
48:w:41:PRO:HB2	52:3:63:U:H5'	1.97	0.46
49:x:6:HIS:NE2	49:x:9:SER:OG	2.42	0.46
52:3:179:A:H2'	52:3:180:A:C5	2.50	0.46
52:3:265:G:H2'	52:3:266:A:C8	2.50	0.46
52:3:293:G:H3'	52:3:294:G:C8	2.51	0.46
52:3:661:G:H4'	52:3:689:U:O4	2.15	0.46
52:3:711:A:N1	52:3:2076:G:O2'	2.42	0.46
52:3:819:U:O2'	52:3:827:G:OP2	2.33	0.46
52:3:920:G:H2'	52:3:921:C:O4'	2.16	0.46
52:3:932:U:H2'	52:3:934:C:N4	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1247:C:H2'	52:3:1248:A:C8	2.49	0.46
52:3:1261:U:H2'	52:3:1262:G:H8	1.78	0.46
52:3:1795:C:H2'	52:3:1796:A:O4'	2.15	0.46
52:3:1991:U:H2'	52:3:1992:C:C6	2.51	0.46
52:3:2070:C:O2	52:3:2070:C:H2'	2.15	0.46
52:3:2259:G:C2	52:3:2260:G:C5	3.03	0.46
52:3:2272:C:H2'	52:3:2273:U:C5	2.50	0.46
52:3:2598:C:H2'	52:3:2599:C:C6	2.51	0.46
52:3:2725:G:H2'	52:3:2726:G:C8	2.49	0.46
54:5:42:G:H2'	54:5:43:G:H8	1.81	0.46
54:5:655:G:N1	54:5:744:U:C2	2.83	0.46
54:5:807:C:H2'	54:5:808:C:C6	2.50	0.46
54:5:1294:U:O2'	54:5:1295:U:O4'	2.34	0.46
55:8:3:G:O6	55:8:71:A:H2	1.98	0.46
55:8:20:G:N2	55:8:57:C:C2	2.83	0.46
4:9:161:PRO:O	4:9:210:MET:HE2	2.15	0.46
9:E:26:GLN:HA	9:E:29:LEU:HB3	1.98	0.46
10:F:149:ALA:HB2	14:J:54:TYR:CD2	2.51	0.46
17:M:7:LYS:O	17:M:11:THR:HG23	2.16	0.46
27:b:174:VAL:HG11	52:3:2687:A:O5'	2.15	0.46
28:c:104:ASN:HA	52:3:640:U:H5''	1.97	0.46
30:e:118:GLU:HG2	30:e:151:VAL:HG22	1.96	0.46
35:j:115:LEU:HD22	35:j:121:VAL:HG13	1.96	0.46
36:k:122:LYS:O	36:k:124:LEU:HG	2.15	0.46
38:m:10:THR:O	38:m:14:ARG:N	2.47	0.46
44:s:36:SER:OG	52:3:1633:C:OP1	2.33	0.46
52:3:801:U:H2'	52:3:802:U:O4'	2.16	0.46
52:3:1298:A:H61	52:3:2019:G:H1'	1.81	0.46
52:3:1317:C:H2'	52:3:1318:U:C6	2.51	0.46
52:3:2299:U:O2	52:3:2349:G:N2	2.36	0.46
52:3:2335:A:N7	52:3:2396:A:C6	2.84	0.46
52:3:2434:A:O2'	52:3:2435:C:OP1	2.31	0.46
52:3:2757:A:H3'	52:3:2758:A:H2'	1.98	0.46
53:4:105:A:H2'	53:4:106:A:C8	2.50	0.46
54:5:265:U:H2'	54:5:266:A:H8	1.76	0.46
54:5:312:A:H2'	54:5:313:U:C6	2.50	0.46
54:5:490:U:H2'	54:5:491:U:C6	2.50	0.46
54:5:763:A:H3'	54:5:764:A:H8	1.79	0.46
54:5:932:A:C2	54:5:1354:G:N1	2.84	0.46
55:6:62:C:H2'	55:6:63:U:C6	2.50	0.46
55:8:27:A:H61	55:8:45:G:H1	1.58	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:12:ARG:HG3	52:3:721:G:H1	1.81	0.46
8:D:72:LYS:HE3	8:D:188:PRO:HB2	1.97	0.46
12:H:64:ASP:N	12:H:64:ASP:OD1	2.48	0.46
14:J:105:GLU:HB3	24:T:5:GLU:HB2	1.98	0.46
15:K:36:THR:HG22	15:K:38:VAL:HG12	1.98	0.46
15:K:49:ARG:NH1	54:5:1386:C:O3'	2.49	0.46
16:L:90:ARG:HB3	16:L:97:VAL:HG22	1.98	0.46
16:L:112:PRO:O	16:L:114:LYS:NZ	2.48	0.46
21:Q:43:PHE:CE2	21:Q:51:ILE:HG13	2.50	0.46
30:e:18:LEU:HD13	30:e:27:VAL:HG12	1.97	0.46
38:m:22:VAL:HA	38:m:25:VAL:HG12	1.96	0.46
39:n:64:ASN:HB2	39:n:73:VAL:HG21	1.96	0.46
48:w:49:ARG:O	48:w:53:THR:N	2.45	0.46
51:z:31:LYS:HB2	51:z:49:GLU:HB2	1.98	0.46
52:3:16:A:H1'	52:3:2633:C:H1'	1.97	0.46
52:3:339:U:O4	52:3:344:A:O2'	2.34	0.46
52:3:772:C:O2'	52:3:801:U:O3'	2.27	0.46
52:3:939:U:H2'	52:3:940:A:C8	2.46	0.46
52:3:1431:A:H2'	52:3:1432:C:H6	1.80	0.46
52:3:1785:U:C5	52:3:1791:A:H1'	2.50	0.46
52:3:1820:U:HO2'	52:3:1821:G:P	2.36	0.46
52:3:1881:C:H2'	52:3:1882:G:C8	2.50	0.46
52:3:2805:A:H2'	52:3:2898:A:H4'	1.97	0.46
53:4:69:C:H2'	53:4:70:G:O4'	2.15	0.46
54:5:400:G:N2	54:5:496:A:C8	2.77	0.46
54:5:683:G:H22	54:5:700:G:H1'	1.81	0.46
54:5:1313:A:H4'	55:8:42:C:O2'	2.15	0.46
55:6:20:G:N2	55:6:57:C:C2	2.83	0.46
4:9:56:GLU:N	52:3:2670:A:OP1	2.47	0.46
4:9:99:LEU:HD12	4:9:128:VAL:HG11	1.97	0.46
4:9:341:ASN:ND2	4:9:385:GLU:OE1	2.45	0.46
5:A:218:ASN:OD1	5:A:219:ASN:N	2.49	0.46
6:B:32:LYS:HE2	6:B:32:LYS:HB3	1.82	0.46
10:F:88:THR:HG21	54:5:1353:C:O2	2.16	0.46
19:O:56:GLY:HA3	54:5:223:G:N2	2.29	0.46
26:a:125:GLU:HG2	26:a:137:PRO:HG3	1.97	0.46
28:c:60:GLY:HA2	52:3:504:G:OP1	2.15	0.46
28:c:128:VAL:O	28:c:201:LYS:N	2.36	0.46
28:c:170:GLN:HG2	52:3:355:A:N3	2.31	0.46
29:d:40:VAL:HG22	29:d:150:ARG:NH1	2.30	0.46
31:f:94:THR:O	31:f:98:ILE:HG12	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:3:ILE:HG21	52:3:1277:A:H2	1.80	0.46
46:u:42:GLY:H	46:u:80:LEU:HD11	1.80	0.46
48:w:38:LEU:HG	48:w:40:LYS:H	1.81	0.46
48:w:45:ASN:O	48:w:49:ARG:HG2	2.16	0.46
52:3:222:A:C2	52:3:239:U:H4'	2.45	0.46
52:3:251:G:C6	52:3:253:C:H1'	2.51	0.46
52:3:307:C:H2'	52:3:308:A:H8	1.81	0.46
52:3:407:U:H2'	52:3:440:C:H42	1.81	0.46
52:3:590:U:H2'	52:3:591:G:C8	2.51	0.46
52:3:908:A:H2	52:3:944:U:C4	2.33	0.46
52:3:1384:C:H2'	52:3:1385:U:H6	1.80	0.46
52:3:1578:A:H2'	52:3:1579:G:O4'	2.16	0.46
52:3:1972:C:H3'	52:3:1973:U:H2'	1.96	0.46
52:3:2037:A:O2'	52:3:2507:C:H4'	2.16	0.46
52:3:2400:A:C2	52:3:2401:U:H1'	2.50	0.46
52:3:2408:G:H2'	52:3:2409:U:O4'	2.16	0.46
52:3:2531:C:H2'	52:3:2532:G:C8	2.50	0.46
52:3:2565:G:H2'	52:3:2566:C:C6	2.51	0.46
52:3:2842:G:H2'	52:3:2843:G:C8	2.51	0.46
54:5:445:A:H2'	54:5:446:A:H8	1.80	0.46
54:5:915:U:H4'	54:5:1072:G:O2'	2.16	0.46
54:5:920:G:H2'	54:5:922:G:C8	2.51	0.46
54:5:922:G:C2	54:5:923:G:H1'	2.51	0.46
54:5:1364:C:H2'	54:5:1365:U:H6	1.81	0.46
54:5:1493:A:H2'	54:5:1494:A:C8	2.50	0.46
55:8:62:C:H2'	55:8:63:U:C6	2.50	0.46
2:1:10:ARG:NH1	36:k:59:TYR:O	2.48	0.46
4:9:631:GLU:HB2	4:9:638:VAL:HG13	1.97	0.46
7:C:151:ILE:HG23	54:5:434:U:H5'	1.97	0.46
8:D:94:VAL:HG11	8:D:123:HIS:HA	1.96	0.46
14:J:9:VAL:HG21	14:J:30:PRO:HD2	1.97	0.46
16:L:23:PHE:CE1	54:5:1304:U:H4'	2.51	0.46
21:Q:63:PHE:CE2	21:Q:86:VAL:HG11	2.51	0.46
26:a:245:GLY:HA2	52:3:2599:C:H5	1.81	0.46
45:t:78:ASP:H	45:t:85:THR:HG1	1.59	0.46
52:3:20:C:O2'	52:3:587:U:H5''	2.16	0.46
52:3:221:A:N6	52:3:467:U:C2	2.84	0.46
52:3:512:G:H2'	52:3:514:A:N7	2.31	0.46
52:3:604:A:HO2'	52:3:608:A:N6	2.14	0.46
52:3:982:G:H2'	52:3:983:A:C8	2.51	0.46
52:3:1042:C:C2	52:3:1173:G:C2	3.03	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1371:G:H2'	52:3:1372:U:C6	2.50	0.46
52:3:1452:G:H2'	52:3:1453:U:C6	2.51	0.46
52:3:1490:G:N2	52:3:1554:A:O2'	2.44	0.46
52:3:1554:A:O4'	52:3:1577:A:N6	2.49	0.46
52:3:1867:G:O6	52:3:1889:U:O2	2.33	0.46
52:3:2470:C:H2'	52:3:2471:U:H6	1.80	0.46
52:3:2490:A:H2'	52:3:2490:A:N3	2.30	0.46
52:3:2601:U:H2'	52:3:2602:C:H6	1.81	0.46
52:3:2697:C:OP2	52:3:2876:G:N2	2.49	0.46
52:3:2851:U:H3'	52:3:2852:G:H8	1.81	0.46
54:5:7:U:O2'	54:5:294:A:O4'	2.34	0.46
54:5:68:C:OP1	54:5:201:G:O2'	2.27	0.46
54:5:69:G:H2'	54:5:70:A:O4'	2.15	0.46
54:5:106:C:H2'	54:5:231:U:C5	2.51	0.46
54:5:113:C:N3	54:5:230:G:N1	2.64	0.46
54:5:401:U:N3	54:5:497:A:N7	2.64	0.46
54:5:605:A:H2'	54:5:606:A:H8	1.80	0.46
54:5:628:A:H5'	54:5:629:U:C5	2.50	0.46
54:5:680:G:H2'	54:5:681:U:C6	2.49	0.46
54:5:811:A:H4'	54:5:1485:C:O2'	2.15	0.46
54:5:1048:G:H3'	54:5:1049:G:H8	1.81	0.46
54:5:1141:U:O2'	54:5:1142:G:H8	1.97	0.46
54:5:1450:C:H2'	54:5:1451:A:H8	1.80	0.46
55:8:17:U:O2	55:8:17:U:H2'	2.16	0.46
1:0:20:ALA:HB2	52:3:126:C:H5'	1.97	0.46
3:2:30:GLN:HB2	52:3:2536:U:OP1	2.16	0.46
4:9:68:THR:OG1	4:9:79:LEU:O	2.25	0.46
7:C:121:HIS:HA	7:C:145:LYS:HD3	1.98	0.46
11:G:40:LEU:HD23	11:G:138:LEU:HD11	1.98	0.46
12:H:121:TYR:HD2	12:H:125:ARG:HH22	1.64	0.46
17:M:5:SER:N	54:5:1191:U:OP1	2.45	0.46
21:Q:91:LYS:NZ	54:5:732:A:OP1	2.48	0.46
25:W:103:GLU:O	25:W:106:GLU:HG3	2.15	0.46
30:e:68:HIS:CG	30:e:69:GLY:N	2.83	0.46
31:f:83:GLU:OE2	31:f:87:ARG:N	2.48	0.46
34:i:71:LYS:HD3	52:3:1057:G:N7	2.30	0.46
42:q:32:GLU:OE2	42:q:56:VAL:HG12	2.15	0.46
52:3:245:U:P	52:3:259:A:H62	2.39	0.46
52:3:276:A:N3	52:3:406:C:H1'	2.31	0.46
52:3:352:C:C4	52:3:353:G:C2	3.04	0.46
52:3:661:G:N3	52:3:691:G:O2'	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:671:C:H2'	52:3:672:G:O4'	2.15	0.46
52:3:1076:U:H2'	52:3:1149:G:N2	2.30	0.46
52:3:1311:G:H1'	52:3:1357:U:O2	2.15	0.46
52:3:1582:G:O2'	52:3:1583:G:O4'	2.21	0.46
52:3:1599:C:O2'	52:3:1601:A:N7	2.39	0.46
52:3:2159:U:H2'	52:3:2160:U:C6	2.50	0.46
52:3:2349:G:H21	52:3:2383:G:H5'	1.79	0.46
52:3:2587:U:H2'	52:3:2588:U:H6	1.80	0.46
54:5:778:A:O2'	54:5:1497:U:O2	2.24	0.46
54:5:887:C:H41	54:5:900:G:N2	2.14	0.46
54:5:975:C:H3'	54:5:976:U:C5	2.51	0.46
54:5:1298:U:H5''	54:5:1337:U:H6	1.81	0.46
54:5:1347:U:H2'	54:5:1348:G:O4'	2.15	0.46
54:5:1485:C:H2'	54:5:1486:C:H6	1.80	0.46
55:8:39:A:H2'	55:8:40:A:C8	2.50	0.46
5:A:115:GLY:O	5:A:122:THR:OG1	2.32	0.46
9:E:43:LYS:HB2	9:E:57:TYR:CE1	2.51	0.46
13:I:13:LYS:HG3	13:I:79:LEU:HD11	1.98	0.46
17:M:60:SER:OG	54:5:1162:G:N2	2.49	0.46
20:P:4:ASN:ND2	20:P:65:GLU:O	2.48	0.46
29:d:95:ARG:HA	29:d:98:ALA:HB3	1.97	0.46
30:e:16:VAL:HA	30:e:28:LYS:O	2.16	0.46
31:f:81:LEU:HD23	31:f:142:VAL:HG12	1.97	0.46
38:m:30:LYS:HG2	38:m:117:GLN:NE2	2.31	0.46
40:o:76:GLU:OE2	40:o:105:ARG:HG2	2.16	0.46
45:t:12:VAL:HG21	45:t:69:ILE:HD11	1.98	0.46
46:u:82:LYS:NZ	46:u:83:TYR:O	2.49	0.46
52:3:9:G:N1	52:3:2900:U:O2	2.49	0.46
52:3:132:G:H2'	52:3:133:G:H8	1.81	0.46
52:3:299:A:OP1	52:3:299:A:H4'	2.16	0.46
52:3:959:C:H2'	52:3:960:A:C8	2.51	0.46
52:3:964:A:H2'	52:3:965:U:C6	2.51	0.46
52:3:1097:G:H2'	52:3:1098:G:C8	2.50	0.46
52:3:1366:G:H2'	52:3:1367:G:C8	2.51	0.46
52:3:1719:C:H2'	52:3:1720:C:H6	1.79	0.46
52:3:2160:U:H2'	52:3:2161:G:C8	2.50	0.46
52:3:2266:C:O2'	52:3:2435:C:O5'	2.33	0.46
52:3:2374:A:H3'	52:3:2375:A:H8	1.81	0.46
52:3:2469:A:H2'	52:3:2470:C:H6	1.77	0.46
52:3:2539:A:C6	52:3:2540:G:C6	3.04	0.46
53:4:40:U:H2'	53:4:41:C:C5	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:4:67:G:H2'	53:4:68:C:H6	1.81	0.46
54:5:352:A:H1'	54:5:384:G:H21	1.80	0.46
54:5:389:A:H2'	54:5:390:G:C8	2.51	0.46
54:5:640:C:H2'	54:5:641:U:C6	2.51	0.46
54:5:1120:A:O2'	54:5:1122:U:OP2	2.24	0.46
55:6:39:A:H2'	55:6:40:A:C8	2.50	0.46
11:G:66:THR:HA	54:5:648:C:O2'	2.15	0.46
16:L:86:TRP:O	16:L:89:LEU:HG	2.16	0.46
19:O:63:VAL:HG12	19:O:66:LEU:HD12	1.97	0.46
23:S:9:LYS:HG3	23:S:12:ARG:NH1	2.31	0.46
30:e:136:ILE:HG12	30:e:147:PHE:CD2	2.51	0.46
33:h:73:SER:O	33:h:77:LYS:HG3	2.16	0.46
40:o:98:ARG:HG2	52:3:2852:G:OP1	2.15	0.46
45:t:44:ARG:CZ	45:t:46:LYS:HA	2.46	0.46
45:t:94:ASP:OD1	45:t:94:ASP:N	2.49	0.46
48:w:43:LEU:HA	48:w:46:GLN:HB2	1.97	0.46
48:w:101:SER:OG	52:3:1431:A:OP2	2.26	0.46
50:y:57:TYR:CE1	52:3:1312:A:H5''	2.51	0.46
52:3:211:A:H2	52:3:715:G:H1'	1.80	0.46
52:3:276:A:N7	52:3:293:G:N2	2.49	0.46
52:3:469:C:H2'	52:3:470:U:H6	1.81	0.46
52:3:723:U:H2'	52:3:724:A:C8	2.51	0.46
52:3:745:U:H2'	52:3:746:G:C8	2.50	0.46
52:3:763:G:O2'	52:3:765:A:O4'	2.34	0.46
52:3:1043:C:OP2	52:3:1044:C:O2'	2.25	0.46
52:3:1227:C:H2'	52:3:1228:G:H8	1.81	0.46
52:3:1363:C:H2'	52:3:1364:A:C8	2.51	0.46
52:3:1512:A:N1	52:3:1513:A:N6	2.64	0.46
52:3:1618:U:H3'	52:3:1619:A:H8	1.80	0.46
52:3:1792:A:N1	52:3:2596:A:O2'	2.44	0.46
52:3:1966:G:H1'	54:5:1393:A:H1'	1.98	0.46
52:3:2101:A:H2'	52:3:2102:U:O4'	2.17	0.46
52:3:2677:A:H2'	52:3:2678:A:C8	2.51	0.46
53:4:2:U:H2'	53:4:3:U:O4'	2.16	0.46
53:4:63:U:H5	53:4:98:A:O2'	1.99	0.46
54:5:330:C:H2'	54:5:331:C:O4'	2.16	0.46
54:5:1287:G:H2'	54:5:1288:C:C6	2.51	0.46
54:5:1290:G:N2	54:5:1292:A:H3'	2.31	0.46
54:5:1320:A:N6	54:5:1350:A:H5''	2.31	0.46
7:C:9:LYS:HE3	7:C:35:PRO:HG2	1.97	0.45
11:G:48:LEU:HB3	11:G:54:LEU:HB2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:12:ARG:HA	12:H:108:ARG:NH2	2.31	0.45
12:H:78:ALA:O	12:H:81:ILE:HG12	2.16	0.45
13:I:16:LEU:HD11	13:I:80:MET:HE1	1.97	0.45
20:P:20:LYS:HE2	54:5:251:G:H5''	1.97	0.45
28:c:82:PRO:HB3	28:c:90:VAL:HG12	1.98	0.45
29:d:33:LYS:CB	29:d:92:ARG:HE	2.29	0.45
29:d:73:ALA:HB1	29:d:80:ARG:HG3	1.97	0.45
29:d:101:GLU:HG3	29:d:105:TYR:CD2	2.51	0.45
36:k:30:LYS:HD3	42:q:78:HIS:CD2	2.51	0.45
36:k:87:LYS:HB3	52:3:637:U:OP2	2.16	0.45
37:l:31:GLU:N	37:l:106:VAL:O	2.31	0.45
39:n:14:ARG:HD2	52:3:2342:U:O2'	2.16	0.45
43:r:57:ASN:C	43:r:62:HIS:HD1	2.23	0.45
43:r:77:ASN:CB	52:3:26:G:H1'	2.46	0.45
45:t:5:LYS:O	45:t:27:ILE:HD12	2.17	0.45
52:3:205:C:H2'	52:3:206:U:C5	2.50	0.45
52:3:442:G:C6	52:3:457:U:C4	3.04	0.45
52:3:674:G:H2'	52:3:675:U:H6	1.81	0.45
52:3:678:U:H1'	52:3:2357:G:O2'	2.16	0.45
52:3:786:A:C5	52:3:1647:A:H2'	2.51	0.45
52:3:791:A:H2'	52:3:792:G:O4'	2.16	0.45
52:3:1028:C:H2'	52:3:1029:A:H8	1.80	0.45
52:3:1078:C:H2'	52:3:1079:U:C6	2.51	0.45
52:3:1245:G:O6	52:3:1264:U:C4	2.69	0.45
52:3:1780:A:H2'	52:3:1781:C:C6	2.51	0.45
52:3:1819:G:H2'	52:3:1820:U:C6	2.49	0.45
52:3:2030:A:O2'	52:3:2031:C:H5'	2.16	0.45
52:3:2038:A:N3	52:3:2463:G:O2'	2.43	0.45
52:3:2292:A:O2'	52:3:2296:A:N6	2.44	0.45
54:5:353:G:H2'	54:5:354:U:C6	2.50	0.45
54:5:1007:U:H2'	54:5:1008:G:C8	2.51	0.45
54:5:1137:C:H2'	54:5:1138:U:C6	2.51	0.45
54:5:1216:G:H2'	54:5:1217:G:H8	1.81	0.45
54:5:1416:U:H3	54:5:1435:G:H1	1.65	0.45
54:5:1488:A:H2'	54:5:1489:C:C6	2.50	0.45
4:9:386:THR:HG23	4:9:396:LEU:HD23	1.97	0.45
4:9:576:MET:HA	4:9:579:LYS:CG	2.47	0.45
6:B:168:ASP:N	6:B:168:ASP:OD1	2.48	0.45
7:C:194:SER:O	7:C:197:VAL:HB	2.16	0.45
10:F:110:ARG:HB2	10:F:118:LYS:HD3	1.98	0.45
11:G:48:LEU:HD21	11:G:141:VAL:HG21	1.96	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:65:LYS:NZ	54:5:968:G:OP1	2.37	0.45
15:K:76:VAL:HG21	15:K:108:TYR:CE1	2.51	0.45
18:N:9:ILE:HD13	54:5:655:G:H5''	1.97	0.45
19:O:60:THR:O	19:O:64:ARG:NH1	2.48	0.45
21:Q:91:LYS:NZ	54:5:718:A:H61	2.14	0.45
21:Q:101:PHE:HD2	21:Q:102:VAL:HG23	1.81	0.45
27:b:57:VAL:O	27:b:77:PRO:HB2	2.16	0.45
29:d:123:ASP:OD2	52:3:2322:G:N2	2.44	0.45
30:e:114:HIS:HB2	52:3:2676:G:O4'	2.16	0.45
36:k:60:ARG:O	52:3:2401:U:O2'	2.26	0.45
39:n:53:ALA:HB1	39:n:80:LYS:HD3	1.98	0.45
44:s:14:GLU:HG2	52:3:1366:G:H4'	1.98	0.45
47:v:21:SER:HA	55:8:77:A:O2'	2.16	0.45
52:3:119:A:H5'	52:3:120:A:N7	2.31	0.45
52:3:434:G:H5''	52:3:2097:A:O4'	2.16	0.45
52:3:473:U:H2'	52:3:474:U:C6	2.51	0.45
52:3:511:U:H2'	52:3:512:G:C8	2.50	0.45
52:3:779:C:C2'	52:3:780:G:H5'	2.44	0.45
52:3:1048:A:O2'	52:3:1049:U:O5'	2.33	0.45
52:3:1354:U:C2'	52:3:1355:C:H5'	2.45	0.45
52:3:1868:A:H2'	52:3:1869:G:H8	1.80	0.45
52:3:2330:A:N6	52:3:2343:A:H61	2.10	0.45
52:3:2897:G:H4'	52:3:2898:A:O5'	2.15	0.45
54:5:682:G:H1	54:5:701:A:P	2.38	0.45
54:5:1141:U:OP2	54:5:1141:U:H2'	2.16	0.45
55:6:39:A:H2'	55:6:40:A:H8	1.80	0.45
4:9:311:ALA:HA	4:9:326:VAL:HG12	1.98	0.45
5:A:85:VAL:HG22	5:A:108:ILE:HG13	1.98	0.45
13:I:52:LYS:N	54:5:1228:C:OP1	2.49	0.45
13:I:71:PHE:C	17:M:59:ALA:HB2	2.41	0.45
16:L:5:LEU:HD23	16:L:25:ILE:HD13	1.97	0.45
18:N:4:ASP:O	18:N:8:ILE:HD12	2.16	0.45
21:Q:78:ASN:OD1	21:Q:78:ASN:N	2.49	0.45
26:a:139:ALA:HA	26:a:194:LYS:HB2	1.99	0.45
27:b:159:VAL:HB	52:3:2626:A:N3	2.32	0.45
28:c:181:LYS:HB3	28:c:186:VAL:HB	1.97	0.45
32:g:68:PHE:HA	32:g:116:ARG:HE	1.81	0.45
33:h:77:LYS:HE3	33:h:130:GLN:HE22	1.81	0.45
33:h:130:GLN:NE2	33:h:131:MET:HE3	2.24	0.45
34:i:78:TYR:CG	52:3:1167:U:H5''	2.51	0.45
35:j:67:LYS:HD3	52:3:1698:A:H1'	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:j:97:ARG:NH2	54:5:333:U:OP1	2.49	0.45
37:l:42:ILE:HD11	37:l:103:MET:HE2	1.98	0.45
38:m:90:TYR:OH	38:m:119:THR:N	2.37	0.45
40:o:48:PHE:HA	40:o:68:LYS:HD2	1.98	0.45
42:q:74:ILE:HG21	42:q:77:LYS:HD2	1.97	0.45
48:w:2:THR:OG1	48:w:3:VAL:N	2.49	0.45
49:x:43:HIS:HD2	49:x:45:PHE:H	1.64	0.45
52:3:198:G:H2'	52:3:199:A:O4'	2.17	0.45
52:3:231:A:N1	52:3:454:G:H1'	2.31	0.45
52:3:318:U:H2'	52:3:319:G:H8	1.81	0.45
52:3:760:G:H2'	52:3:761:G:C5	2.51	0.45
52:3:1336:A:H61	52:3:1640:G:H2'	1.82	0.45
52:3:1384:C:H2'	52:3:1385:U:C6	2.51	0.45
52:3:1551:U:H2'	52:3:1552:C:O4'	2.15	0.45
52:3:1731:G:H3'	52:3:1732:A:H8	1.81	0.45
52:3:2853:U:O2'	52:3:2870:U:O2	2.32	0.45
54:5:68:C:H1'	54:5:158:A:N3	2.31	0.45
54:5:273:C:H2'	54:5:274:A:O4'	2.16	0.45
54:5:407:A:N3	54:5:409:G:H5'	2.31	0.45
54:5:676:U:H2'	54:5:677:C:C6	2.51	0.45
54:5:752:G:H2'	54:5:753:C:C6	2.51	0.45
54:5:854:A:H2'	54:5:855:G:O4'	2.17	0.45
54:5:955:U:C6	54:5:1197:G:H4'	2.51	0.45
54:5:1068:G:H1	54:5:1071:A:P	2.40	0.45
54:5:1089:C:H2'	54:5:1090:G:C8	2.51	0.45
54:5:1101:A:H5''	54:5:1163:A:N6	2.31	0.45
54:5:1244:A:N3	54:5:1286:G:N2	2.59	0.45
54:5:1289:U:H1'	54:5:1335:G:H5'	1.98	0.45
54:5:1355:U:H1'	54:5:1358:U:O4	2.17	0.45
55:8:39:A:H2'	55:8:40:A:H8	1.80	0.45
4:9:109:GLN:H	4:9:136:LYS:HB3	1.81	0.45
4:9:420:LYS:NZ	4:9:467:PHE:O	2.34	0.45
4:9:531:PRO:HD2	4:9:534:TYR:HD2	1.82	0.45
5:A:113:LEU:HB3	54:5:1093:A:H4'	1.98	0.45
6:B:115:SER:O	6:B:119:ILE:HG12	2.17	0.45
8:D:87:ARG:NH1	54:5:1072:G:OP1	2.49	0.45
9:E:51:LYS:NZ	54:5:707:G:OP1	2.48	0.45
15:K:66:ALA:HB2	15:K:80:ILE:HD11	1.97	0.45
17:M:27:CYS:HB3	17:M:40:CYS:SG	2.56	0.45
22:R:19:VAL:HA	22:R:22:MET:HE3	1.98	0.45
28:c:102:LYS:O	52:3:694:U:O2'	2.27	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:115:VAL:HG13	28:c:191:LEU:HD23	1.99	0.45
29:d:79:LEU:O	29:d:80:ARG:HD3	2.17	0.45
34:i:80:HIS:HB3	52:3:1166:G:C5	2.51	0.45
36:k:102:GLN:O	52:3:638:A:N6	2.49	0.45
38:m:16:MET:SD	52:3:1323:A:H4'	2.56	0.45
44:s:64:THR:HG22	52:3:1342:C:H41	1.80	0.45
52:3:31:U:H2'	52:3:32:G:H8	1.81	0.45
52:3:337:U:C2	52:3:349:G:N2	2.84	0.45
52:3:355:A:H5'	52:3:356:A:N7	2.31	0.45
52:3:393:C:H2'	52:3:394:C:C6	2.51	0.45
52:3:619:A:N6	52:3:845:U:H5'	2.31	0.45
52:3:747:A:H2'	52:3:748:G:O4'	2.17	0.45
52:3:1060:G:H1	52:3:1175:C:H42	1.64	0.45
52:3:1067:A:H2	52:3:1157:G:C2	2.28	0.45
52:3:1213:U:H2'	52:3:1214:U:C6	2.51	0.45
52:3:1253:G:H2'	52:3:1255:G:OP2	2.17	0.45
52:3:1316:U:N3	52:3:1356:G:OP1	2.49	0.45
52:3:1361:U:H2'	52:3:1362:C:C6	2.51	0.45
52:3:1379:C:H2'	52:3:1380:U:H6	1.81	0.45
52:3:1476:C:H2'	52:3:1477:A:C8	2.51	0.45
52:3:1867:G:O6	52:3:1889:U:C2	2.69	0.45
52:3:2492:G:H2'	52:3:2493:G:C8	2.52	0.45
52:3:2718:C:H2'	52:3:2719:A:O4'	2.16	0.45
54:5:656:U:H2'	54:5:657:G:C8	2.51	0.45
54:5:974:C:C2	54:5:975:C:C5	3.04	0.45
9:E:86:LEU:HD11	21:Q:92:ARG:HD3	1.97	0.45
13:I:25:ASP:O	13:I:29:LYS:HG2	2.17	0.45
14:J:46:LYS:HD3	14:J:46:LYS:HA	1.78	0.45
16:L:94:ASN:O	16:L:109:ARG:HB3	2.17	0.45
26:a:124:SER:C	26:a:197:ARG:HH12	2.23	0.45
30:e:4:ILE:HD11	30:e:69:GLY:O	2.17	0.45
30:e:165:VAL:HG13	30:e:165:VAL:O	2.17	0.45
31:f:57:HIS:HA	31:f:60:ILE:HG12	1.98	0.45
37:l:23:GLY:HA3	52:3:945:U:P	2.57	0.45
40:o:108:SER:OG	40:o:109:GLY:N	2.49	0.45
52:3:37:G:H1'	52:3:490:A:N3	2.32	0.45
52:3:82:G:H2'	52:3:83:G:C8	2.51	0.45
52:3:163:A:H2	52:3:2216:U:O2	2.00	0.45
52:3:422:A:H3'	52:3:423:C:H6	1.81	0.45
52:3:840:G:OP2	52:3:841:C:N4	2.50	0.45
52:3:843:G:H2'	52:3:844:G:H8	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:937:A:OP2	52:3:938:A:N6	2.49	0.45
52:3:1196:U:H2'	52:3:1197:G:H8	1.80	0.45
52:3:1296:G:H1'	52:3:1297:U:C5	2.52	0.45
52:3:1609:U:H2'	52:3:1610:U:H6	1.81	0.45
52:3:1805:U:H2'	52:3:1826:A:N1	2.31	0.45
52:3:1846:A:C4	52:3:1847:G:C8	3.05	0.45
52:3:1881:C:H2'	52:3:1882:G:O4'	2.17	0.45
52:3:2185:C:H2'	52:3:2186:C:C6	2.52	0.45
52:3:2243:G:C6	52:3:2244:U:C4	3.05	0.45
52:3:2658:U:H2'	52:3:2659:U:C6	2.52	0.45
52:3:2716:U:N3	52:3:2717:G:N7	2.65	0.45
52:3:2791:U:H2'	52:3:2792:C:H6	1.82	0.45
52:3:2844:U:C2'	52:3:2845:U:H5'	2.47	0.45
54:5:8:G:N3	54:5:294:A:N6	2.65	0.45
54:5:363:U:O4'	54:5:390:G:N2	2.50	0.45
54:5:455:U:O4	54:5:472:G:O6	2.34	0.45
54:5:1198:C:OP1	54:5:1199:U:O2'	2.32	0.45
54:5:1368:U:H4'	54:5:1476:C:O2'	2.16	0.45
55:6:66:C:H2'	55:6:67:C:C5	2.52	0.45
4:9:19:ILE:HG13	4:9:20:ASP:H	1.81	0.45
4:9:274:VAL:O	4:9:278:LEU:HB2	2.17	0.45
5:A:29:HIS:CD2	5:A:217:ALA:HB1	2.52	0.45
7:C:88:ASN:OD1	7:C:91:ARG:NH1	2.49	0.45
7:C:119:HIS:HD2	54:5:436:U:H5	1.63	0.45
17:M:45:ARG:NH1	54:5:1050:U:O2'	2.50	0.45
22:R:24:LYS:HD3	22:R:24:LYS:HA	1.71	0.45
26:a:81:ALA:HA	26:a:101:TYR:HA	1.99	0.45
30:e:70:THR:HG23	52:3:2755:G:O2'	2.16	0.45
30:e:118:GLU:HG3	30:e:147:PHE:HE1	1.80	0.45
43:r:60:ASN:C	43:r:60:ASN:HD22	2.25	0.45
51:z:14:CYS:HB3	51:z:40:ARG:HH11	1.81	0.45
52:3:27:U:C4	52:3:28:G:C5	3.05	0.45
52:3:194:A:H2	52:3:834:G:H21	1.63	0.45
52:3:332:G:C2'	52:3:374:A:H61	2.29	0.45
52:3:694:U:H2'	52:3:695:G:C8	2.51	0.45
52:3:829:A:H2'	52:3:830:A:C8	2.51	0.45
52:3:975:G:N2	52:3:1222:A:O2'	2.50	0.45
52:3:1182:U:H2'	52:3:1183:A:C8	2.52	0.45
52:3:1300:C:H2'	52:3:1682:C:C6	2.52	0.45
52:3:2011:G:C4	52:3:2012:A:C8	3.05	0.45
52:3:2295:A:C5	52:3:2297:G:C8	3.05	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:410:A:N3	54:5:410:A:H2'	2.32	0.45
54:5:686:C:H2'	54:5:687:G:O4'	2.16	0.45
54:5:842:C:H2'	54:5:843:C:C6	2.52	0.45
54:5:851:U:H2'	54:5:852:G:O4'	2.16	0.45
54:5:886:A:H4'	54:5:1390:G:O2'	2.17	0.45
54:5:1038:G:H2'	54:5:1039:G:O4'	2.16	0.45
54:5:1195:G:H2'	54:5:1196:G:C8	2.51	0.45
4:9:306:PRO:HB2	4:9:392:ILE:HD12	1.98	0.45
4:9:509:ILE:HG21	4:9:586:LEU:HD22	1.97	0.45
6:B:123:LEU:HD13	6:B:140:SER:HB2	1.98	0.45
11:G:49:VAL:HG22	11:G:55:ALA:O	2.17	0.45
11:G:93:PRO:HB3	54:5:585:G:H4'	1.99	0.45
11:G:101:PHE:CD2	11:G:132:LYS:HA	2.52	0.45
27:b:107:TYR:HB2	27:b:215:GLY:HA2	1.98	0.45
27:b:110:VAL:HB	27:b:197:ILE:HD12	1.98	0.45
28:c:144:MET:SD	52:3:354:C:N4	2.89	0.45
29:d:104:ILE:HA	29:d:108:LEU:HG	1.99	0.45
48:w:48:ARG:NH2	52:3:76:A:OP2	2.41	0.45
49:x:43:HIS:HB3	49:x:46:TYR:HB2	1.98	0.45
50:y:16:ARG:HH21	52:3:1295:A:H3'	1.82	0.45
52:3:54:A:OP2	52:3:118:G:N2	2.47	0.45
52:3:274:A:C6	52:3:408:G:C6	3.04	0.45
52:3:462:C:H2'	52:3:463:U:C6	2.52	0.45
52:3:523:A:C6	52:3:524:G:O6	2.70	0.45
52:3:548:A:C4	52:3:549:A:C8	3.05	0.45
52:3:711:A:H62	52:3:837:A:N6	2.15	0.45
52:3:797:U:O2	52:3:1459:A:H5''	2.17	0.45
52:3:1051:U:H2'	52:3:1052:A:C8	2.51	0.45
52:3:1807:C:N4	52:3:1824:G:H22	2.15	0.45
52:3:1998:U:H2'	52:3:1999:G:H5''	1.98	0.45
52:3:2148:U:H2'	52:3:2149:U:C6	2.51	0.45
52:3:2262:C:H2'	52:3:2263:G:H8	1.81	0.45
52:3:2272:C:H2'	52:3:2273:U:C6	2.51	0.45
52:3:2284:G:H2'	52:3:2285:G:C8	2.52	0.45
54:5:573:G:O2'	54:5:818:A:H5'	2.15	0.45
54:5:688:G:N2	54:5:693:A:C8	2.85	0.45
54:5:700:G:H4'	54:5:701:A:H5'	1.98	0.45
54:5:711:G:H4'	54:5:772:G:H21	1.82	0.45
54:5:921:G:O2'	54:5:922:G:OP1	2.32	0.45
55:8:23:G:H2'	55:8:24:A:C8	2.52	0.45
6:B:111:SER:O	6:B:114:LEU:HD22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:62:TYR:OH	54:5:543:C:OP2	2.32	0.45
7:C:149:ILE:O	7:C:155:LYS:HE2	2.16	0.45
14:J:65:LYS:O	14:J:69:GLU:OE1	2.35	0.45
18:N:36:LEU:HB3	18:N:53:LEU:HD12	1.98	0.45
20:P:12:ILE:HG13	20:P:60:LYS:HG2	1.97	0.45
25:W:58:LYS:HZ1	25:W:95:VAL:HG13	1.81	0.45
26:a:81:ALA:HB2	26:a:101:TYR:CD2	2.51	0.45
28:c:35:PHE:O	28:c:39:LEU:HD13	2.16	0.45
28:c:183:LEU:HD11	28:c:203:VAL:HB	1.99	0.45
29:d:98:ALA:HB1	49:x:26:GLU:O	2.17	0.45
36:k:113:LYS:HG2	36:k:114:LEU:H	1.82	0.45
41:p:13:ARG:HB3	52:3:615:G:OP1	2.16	0.45
41:p:32:LYS:HB3	52:3:1282:G:H21	1.80	0.45
43:r:49:LYS:HD3	52:3:527:A:N1	2.32	0.45
43:r:114:ARG:NH2	52:3:23:A:N3	2.65	0.45
46:u:40:ALA:HB1	52:3:891:G:N2	2.32	0.45
52:3:28:G:H5'	52:3:1290:G:H4'	1.98	0.45
52:3:37:G:N2	52:3:485:A:C6	2.75	0.45
52:3:248:A:H62	52:3:258:G:N2	2.15	0.45
52:3:383:U:H2'	52:3:384:G:C8	2.51	0.45
52:3:534:U:H2'	52:3:535:G:O4'	2.17	0.45
52:3:665:C:H2'	52:3:666:G:C8	2.52	0.45
52:3:1050:A:H2	52:3:1182:U:H3	1.65	0.45
52:3:1665:G:H21	52:3:1669:A:N6	2.14	0.45
52:3:2051:G:H2'	52:3:2052:C:C6	2.51	0.45
52:3:2215:C:H2'	52:3:2216:U:C6	2.51	0.45
52:3:2378:G:H2'	52:3:2379:G:C8	2.52	0.45
52:3:2587:U:H2'	52:3:2588:U:C6	2.52	0.45
52:3:2624:C:H2'	52:3:2625:U:H6	1.82	0.45
52:3:2732:A:H2'	52:3:2733:A:C8	2.51	0.45
52:3:2856:G:H2'	52:3:2857:C:C6	2.52	0.45
52:3:2891:C:H2'	52:3:2892:U:C6	2.51	0.45
54:5:45:A:H2'	54:5:46:U:H6	1.81	0.45
54:5:67:U:H2'	54:5:68:C:C6	2.51	0.45
54:5:264:C:H2'	54:5:265:U:H6	1.82	0.45
54:5:315:G:H2'	54:5:316:G:C8	2.52	0.45
54:5:782:G:H2'	54:5:783:G:H8	1.82	0.45
54:5:1055:G:N2	54:5:1165:G:H1'	2.32	0.45
54:5:1405:U:H3	54:5:1445:G:H1	1.63	0.45
1:0:12:ARG:HB3	1:0:44:VAL:HG21	1.97	0.45
4:9:571:VAL:O	4:9:571:VAL:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:602:MET:HG2	4:9:604:ILE:HD13	1.98	0.45
8:D:160:ILE:CD1	8:D:178:ILE:HG22	2.47	0.45
26:a:52:LYS:HE3	52:3:813:G:H5'	1.99	0.45
27:b:151:ARG:H	27:b:155:SER:HB2	1.81	0.45
29:d:27:GLN:HG3	53:4:55:A:N3	2.32	0.45
33:h:69:THR:HG21	33:h:107:TYR:O	2.17	0.45
35:j:18:GLN:HB2	35:j:45:ASP:HB2	1.99	0.45
40:o:25:PHE:H	40:o:55:ARG:HH21	1.64	0.45
41:p:1:MET:HE1	52:3:1276:A:H2	1.82	0.45
52:3:28:G:H2'	52:3:29:G:C4	2.52	0.45
52:3:65:A:H3'	52:3:66:A:H8	1.82	0.45
52:3:442:G:O6	52:3:457:U:C4	2.70	0.45
52:3:579:U:O2'	52:3:581:A:OP2	2.34	0.45
52:3:596:G:OP2	52:3:605:A:O2'	2.21	0.45
52:3:769:A:C5	52:3:770:A:C8	3.05	0.45
52:3:769:A:H4'	52:3:1669:A:H4'	1.97	0.45
52:3:816:A:H5''	52:3:817:A:N7	2.31	0.45
52:3:964:A:H2'	52:3:965:U:C5	2.51	0.45
52:3:1838:A:N6	52:3:1982:G:O6	2.50	0.45
52:3:1954:C:H2'	52:3:1955:G:H8	1.82	0.45
52:3:2138:U:H5''	52:3:2139:C:H3'	1.98	0.45
52:3:2416:U:H2'	52:3:2417:G:H8	1.82	0.45
52:3:2475:C:N3	52:3:2492:G:N1	2.64	0.45
52:3:2480:G:N2	52:3:2487:U:O4	2.50	0.45
52:3:2619:C:H2'	52:3:2620:C:C6	2.52	0.45
54:5:143:U:H2'	54:5:144:U:C6	2.51	0.45
54:5:573:G:O2'	54:5:818:A:OP2	2.28	0.45
54:5:903:A:H1'	54:5:1389:U:H4'	1.98	0.45
54:5:988:G:N2	54:5:991:A:N1	2.65	0.45
54:5:1208:G:O2'	54:5:1340:G:H5''	2.17	0.45
54:5:1220:A:N1	54:5:1221:A:N6	2.65	0.45
55:6:59:A:O2'	55:6:62:C:N4	2.50	0.45
55:8:59:A:O2'	55:8:62:C:N4	2.50	0.45
8:D:185:ARG:HG3	8:D:186:ASN:N	2.31	0.45
11:G:27:LYS:O	54:5:854:A:O2'	2.35	0.45
15:K:55:PRO:HD2	15:K:61:ALA:H	1.80	0.45
17:M:6:LEU:O	17:M:10:GLN:HG2	2.17	0.45
21:Q:91:LYS:HD2	54:5:731:A:H4'	1.98	0.45
24:T:36:LEU:HD11	24:T:41:ARG:HB2	1.98	0.45
27:b:196:ALA:HB1	52:3:2688:C:H1'	1.99	0.45
38:m:26:LEU:HB3	38:m:78:LEU:HD21	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:o:100:TYR:HE2	52:3:2726:G:H4'	1.80	0.45
42:q:1:MET:HB3	42:q:16:GLU:HG3	1.98	0.45
43:r:58:ALA:O	43:r:63:GLY:N	2.49	0.45
52:3:189:U:H2'	52:3:190:G:C8	2.52	0.45
52:3:254:G:H2'	52:3:255:A:C8	2.52	0.45
52:3:561:A:H1'	52:3:2050:G:N2	2.31	0.45
52:3:625:G:O6	52:3:701:A:N6	2.49	0.45
52:3:759:U:H2'	52:3:760:G:O4'	2.16	0.45
52:3:898:A:O2'	53:4:76:A:N3	2.46	0.45
52:3:1160:G:O6	52:3:1161:A:N6	2.49	0.45
52:3:1588:A:H4'	52:3:1589:A:OP1	2.16	0.45
52:3:1646:G:O2'	52:3:1647:A:H5'	2.17	0.45
52:3:1867:G:C6	52:3:1889:U:O2	2.70	0.45
52:3:2623:U:H2'	52:3:2624:C:C6	2.52	0.45
54:5:861:A:H2'	54:5:862:C:C6	2.52	0.45
54:5:1380:G:O2'	54:5:1493:A:O3'	2.34	0.45
54:5:1454:G:H2'	54:5:1455:G:C8	2.51	0.45
1:0:46:SER:HG	52:3:128:A:N6	2.15	0.44
3:2:2:LYS:NZ	52:3:2535:C:O2	2.49	0.44
4:9:220:ASN:O	25:W:72:LYS:NZ	2.49	0.44
6:B:195:THR:HG23	6:B:196:TYR:HD1	1.81	0.44
7:C:6:SER:HB3	54:5:425:G:H5'	1.99	0.44
7:C:7:ILE:H	7:C:7:ILE:HD12	1.82	0.44
7:C:153:ILE:HG12	54:5:433:C:H1'	1.99	0.44
8:D:135:SER:HA	8:D:175:TYR:HB3	1.99	0.44
8:D:139:GLU:HG2	8:D:153:PRO:HD2	1.99	0.44
8:D:207:ARG:HA	8:D:207:ARG:HD2	1.79	0.44
9:E:36:GLN:OE1	9:E:36:GLN:N	2.50	0.44
15:K:99:ARG:HH21	15:K:107:ARG:HG2	1.82	0.44
17:M:9:LYS:NZ	54:5:975:C:H4'	2.32	0.44
21:Q:51:ILE:HG23	21:Q:56:ASP:OD2	2.18	0.44
25:W:86:LYS:NZ	25:W:90:GLU:OE1	2.50	0.44
30:e:87:GLU:HA	30:e:136:ILE:O	2.18	0.44
32:g:7:LYS:HG2	32:g:10:GLN:HE21	1.80	0.44
34:i:88:LYS:HZ3	52:3:2649:G:H5'	1.81	0.44
34:i:88:LYS:NZ	52:3:2649:G:H5'	2.32	0.44
41:p:2:ARG:HD3	52:3:1278:G:N3	2.32	0.44
41:p:91:ARG:HB2	41:p:94:LEU:HG	1.98	0.44
42:q:1:MET:HE1	42:q:41:LEU:HD12	1.99	0.44
47:v:18:ARG:NH1	47:v:23:THR:O	2.50	0.44
49:x:31:GLN:NE2	49:x:34:ILE:HD11	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:58:A:H2'	52:3:59:C:O4'	2.17	0.44
52:3:73:A:H5''	52:3:75:A:C8	2.53	0.44
52:3:331:A:H2'	52:3:332:G:O4'	2.17	0.44
52:3:364:A:C8	52:3:1240:U:H2'	2.52	0.44
52:3:528:U:H2'	52:3:529:G:H8	1.82	0.44
52:3:558:C:OP1	52:3:575:C:O2'	2.36	0.44
52:3:720:A:H2	52:3:822:C:H1'	1.81	0.44
52:3:734:A:C8	52:3:769:A:C6	3.05	0.44
52:3:812:G:H2'	52:3:813:G:C8	2.52	0.44
52:3:900:G:N2	52:3:903:A:N6	2.54	0.44
52:3:1247:C:H2'	52:3:1248:A:H8	1.82	0.44
52:3:1396:A:H2'	52:3:1397:G:C8	2.53	0.44
52:3:1442:G:H2'	52:3:1443:A:C8	2.52	0.44
52:3:2355:C:H2'	52:3:2356:U:C6	2.51	0.44
52:3:2376:C:C2	52:3:2377:A:N7	2.85	0.44
52:3:2644:U:H2'	52:3:2645:U:C6	2.52	0.44
52:3:2824:A:H62	52:3:2832:G:H21	1.65	0.44
54:5:95:C:C2	54:5:96:G:C8	3.05	0.44
54:5:348:C:H42	54:5:353:G:N2	2.15	0.44
54:5:444:G:H1'	54:5:484:A:H61	1.81	0.44
54:5:450:U:H2'	54:5:451:G:C8	2.52	0.44
54:5:608:G:H2'	54:5:609:G:H8	1.82	0.44
54:5:680:G:H1	54:5:704:U:H3	1.64	0.44
54:5:761:U:H2'	54:5:762:G:O4'	2.17	0.44
54:5:771:G:H2'	54:5:772:G:C8	2.52	0.44
54:5:891:C:H2'	54:5:892:G:C8	2.51	0.44
54:5:991:A:H2'	54:5:992:U:C6	2.51	0.44
55:6:17:U:O2	55:6:17:U:H2'	2.16	0.44
4:9:12:ASN:OD1	4:9:327:ARG:NH2	2.51	0.44
7:C:144:LEU:HB2	7:C:174:PHE:HB3	1.98	0.44
7:C:164:SER:OG	7:C:167:VAL:HG22	2.17	0.44
9:E:8:LEU:HD22	9:E:57:TYR:CD1	2.52	0.44
9:E:11:GLY:H	9:E:52:GLN:HG2	1.83	0.44
9:E:71:ASP:OD1	9:E:72:PHE:N	2.50	0.44
9:E:94:TYR:HA	21:Q:49:LEU:HG	1.99	0.44
9:E:121:ARG:NH1	9:E:124:ASN:HB2	2.32	0.44
15:K:28:LEU:HD23	15:K:28:LEU:H	1.82	0.44
16:L:64:LYS:HG2	16:L:69:LEU:HD13	1.99	0.44
26:a:58:GLN:HE22	52:3:1821:G:H4'	1.83	0.44
26:a:73:ARG:HD2	26:a:135:SER:HB3	1.99	0.44
27:b:227:GLU:HB2	40:o:87:SER:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:30:LYS:HD3	52:3:633:G:O5'	2.16	0.44
31:f:9:VAL:HG13	31:f:31:PHE:CE2	2.52	0.44
41:p:48:ASP:O	41:p:52:LYS:HG2	2.16	0.44
46:u:53:ARG:HD2	46:u:55:ARG:HH22	1.82	0.44
52:3:33:C:H2'	52:3:34:C:C6	2.51	0.44
52:3:1279:U:H2'	52:3:1280:G:C8	2.51	0.44
52:3:1836:A:H3'	52:3:1837:C:C6	2.52	0.44
52:3:1902:C:H2'	52:3:1903:A:C8	2.52	0.44
52:3:1926:A:H2	54:5:1470:U:H1'	1.80	0.44
52:3:2145:A:C6	52:3:2161:G:N1	2.86	0.44
52:3:2297:G:H2'	52:3:2298:G:C8	2.50	0.44
52:3:2300:A:O2'	52:3:2385:A:N6	2.50	0.44
52:3:2346:G:H2'	52:3:2347:G:C8	2.49	0.44
52:3:2571:U:N3	52:3:2574:A:OP2	2.48	0.44
54:5:141:A:H2'	54:5:142:G:C8	2.52	0.44
54:5:585:G:H22	54:5:750:A:H1'	1.81	0.44
54:5:855:G:H21	54:5:868:G:H5'	1.82	0.44
54:5:988:G:H2'	54:5:990:C:H41	1.82	0.44
54:5:1108:A:N6	54:5:1132:G:H22	2.14	0.44
55:8:36:A:H2'	55:8:37:A:O4'	2.17	0.44
2:1:14:THR:HB	52:3:665:C:OP1	2.17	0.44
4:9:427:LYS:O	4:9:430:GLU:HG2	2.17	0.44
5:A:175:LEU:HD12	5:A:197:PRO:HG2	1.98	0.44
6:B:150:ASN:OD1	6:B:208:GLY:HA2	2.16	0.44
7:C:202:ARG:NE	54:5:28:G:O2'	2.51	0.44
14:J:86:LYS:HD2	24:T:26:ARG:NH2	2.31	0.44
20:P:74:ARG:NH2	54:5:230:G:H5''	2.33	0.44
29:d:34:ILE:HB	29:d:91:LEU:HB2	1.98	0.44
30:e:4:ILE:HA	30:e:7:ARG:HB2	2.00	0.44
33:h:49:GLU:HG2	33:h:74:ILE:HG23	1.99	0.44
37:l:5:LYS:HB2	52:3:907:A:H4'	1.99	0.44
37:l:41:TRP:HB3	37:l:94:VAL:HG21	1.98	0.44
52:3:42:U:H2'	52:3:43:A:C8	2.52	0.44
52:3:165:U:OP1	52:3:2226:U:O2'	2.36	0.44
52:3:442:G:H2'	52:3:443:C:C6	2.52	0.44
52:3:456:G:C6	52:3:457:U:O4	2.70	0.44
52:3:514:A:N6	52:3:535:G:HO2'	2.15	0.44
52:3:852:C:H2'	52:3:853:G:O4'	2.17	0.44
52:3:874:U:H2'	52:3:875:G:C8	2.53	0.44
52:3:945:U:H2'	52:3:946:A:C8	2.52	0.44
52:3:1054:U:O2'	52:3:1056:A:N7	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1712:A:H1'	52:3:1998:U:O2	2.16	0.44
52:3:1928:G:C2	52:3:1929:G:C5	3.06	0.44
52:3:2461:A:N6	52:3:2462:G:O6	2.50	0.44
52:3:2741:A:H3'	52:3:2742:U:C6	2.52	0.44
53:4:21:G:C6	53:4:22:G:C6	3.05	0.44
54:5:253:G:O6	54:5:265:U:O4	2.35	0.44
54:5:254:G:H2'	54:5:255:G:C8	2.53	0.44
54:5:815:G:O2'	54:5:817:U:OP2	2.28	0.44
54:5:1036:C:H2'	54:5:1037:A:H8	1.83	0.44
55:6:36:A:H2'	55:6:37:A:O4'	2.17	0.44
55:8:69:A:C8	55:8:70:G:N7	2.86	0.44
4:9:90:VAL:HG22	4:9:94:ARG:HH21	1.82	0.44
8:D:79:THR:O	54:5:916:U:O2'	2.29	0.44
12:H:74:PHE:CE1	54:5:1347:U:H4'	2.53	0.44
12:H:77:GLN:O	12:H:81:ILE:HG23	2.16	0.44
15:K:86:ASN:H	15:K:112:ARG:HH22	1.66	0.44
16:L:20:THR:O	16:L:26:GLY:HA2	2.17	0.44
16:L:107:ARG:O	16:L:108:THR:HB	2.17	0.44
23:S:70:SER:HA	23:S:73:VAL:HG12	1.98	0.44
27:b:110:VAL:HA	27:b:206:LEU:O	2.18	0.44
28:c:7:ILE:HD12	28:c:13:PHE:CE1	2.53	0.44
31:f:93:ILE:HG22	52:3:2228:U:H4'	2.00	0.44
34:i:10:GLU:HB2	34:i:13:ASN:HB2	1.99	0.44
36:k:16:LYS:NZ	36:k:18:LYS:HG2	2.33	0.44
38:m:22:VAL:HG23	38:m:67:LEU:HD23	1.98	0.44
42:q:39:LEU:HD12	42:q:40:MET:H	1.82	0.44
52:3:356:A:H5'	52:3:374:A:H1'	2.00	0.44
52:3:411:U:H2'	52:3:436:G:H22	1.83	0.44
52:3:746:G:H2'	52:3:747:A:H8	1.83	0.44
52:3:883:A:H3'	52:3:884:A:C8	2.52	0.44
52:3:894:G:H21	52:3:2276:A:H2'	1.82	0.44
52:3:961:U:H2'	52:3:962:U:N3	2.32	0.44
52:3:1365:G:H2'	52:3:1366:G:C8	2.52	0.44
52:3:1465:U:O4	52:3:1589:A:N6	2.51	0.44
52:3:1598:U:H2'	52:3:1599:C:C6	2.53	0.44
52:3:1684:A:H2'	52:3:1685:G:C8	2.53	0.44
52:3:1790:U:H3'	52:3:1791:A:H5'	1.99	0.44
52:3:2090:G:O6	52:3:2244:U:O2	2.36	0.44
52:3:2561:G:H2'	52:3:2562:U:H4'	1.99	0.44
52:3:2675:C:C2	52:3:2676:G:C8	3.05	0.44
52:3:2733:A:O2'	52:3:2734:C:H3'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2792:C:H2'	52:3:2793:U:C6	2.53	0.44
54:5:410:A:H3'	54:5:411:A:H5''	1.98	0.44
54:5:671:G:C6	54:5:713:A:N1	2.86	0.44
54:5:1140:A:C2'	54:5:1141:U:H5'	2.48	0.44
54:5:1203:A:H2'	54:5:1204:A:C8	2.52	0.44
55:6:23:G:H2'	55:6:24:A:C8	2.52	0.44
7:C:1:MET:HG3	54:5:544:A:N6	2.33	0.44
7:C:96:ARG:HD2	7:C:97:LEU:H	1.81	0.44
7:C:151:ILE:HB	7:C:154:VAL:HG22	1.98	0.44
9:E:35:LEU:HD23	9:E:35:LEU:H	1.82	0.44
9:E:84:ARG:HE	9:E:85:GLU:H	1.65	0.44
14:J:115:LYS:NZ	54:5:1499:G:H5''	2.33	0.44
21:Q:91:LYS:HB2	54:5:732:A:H5'	1.99	0.44
25:W:57:VAL:HA	25:W:121:ILE:HD13	2.00	0.44
25:W:60:THR:OG1	25:W:120:GLU:OE1	2.32	0.44
28:c:105:LYS:HG2	52:3:653:G:OP2	2.18	0.44
33:h:72:VAL:HG23	33:h:108:LYS:NZ	2.33	0.44
36:k:120:LEU:HG	36:k:122:LYS:H	1.82	0.44
37:l:97:VAL:HG13	37:l:101:THR:OG1	2.17	0.44
38:m:109:ASP:O	52:3:2016:G:H1'	2.18	0.44
39:n:61:LYS:HD2	39:n:61:LYS:HA	1.68	0.44
40:o:97:ARG:HH22	52:3:2854:A:H5'	1.82	0.44
45:t:27:ILE:O	45:t:28:MET:HE2	2.18	0.44
52:3:394:C:H2'	52:3:395:U:H6	1.82	0.44
52:3:606:G:O2'	52:3:607:U:H3'	2.17	0.44
52:3:612:G:H2'	52:3:613:C:O4'	2.17	0.44
52:3:1389:G:H1'	52:3:2222:C:O2	2.18	0.44
52:3:1630:A:H2'	52:3:1631:A:C8	2.52	0.44
52:3:1759:C:H2'	52:3:1760:G:C8	2.53	0.44
52:3:1778:G:H2'	52:3:1779:G:C8	2.52	0.44
52:3:1813:C:H2'	52:3:1814:G:H8	1.82	0.44
52:3:2255:A:H2'	52:3:2256:C:H6	1.82	0.44
52:3:2356:U:H2'	52:3:2357:G:C8	2.53	0.44
54:5:98:G:H21	54:5:350:G:P	2.41	0.44
54:5:659:U:H5'	54:5:834:G:OP1	2.17	0.44
54:5:707:G:H2'	54:5:708:A:C8	2.53	0.44
54:5:1035:A:C8	54:5:1036:C:H1'	2.52	0.44
54:5:1131:A:H2'	54:5:1132:G:O4'	2.17	0.44
54:5:1172:A:H2'	54:5:1173:A:C8	2.53	0.44
54:5:1251:G:H2'	54:5:1252:C:C6	2.53	0.44
55:6:69:A:H8	55:6:70:G:N7	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:8:13:U:N3	55:8:25:G:C6	2.86	0.44
2:1:23:HIS:CG	2:1:41:LEU:HD22	2.52	0.44
4:9:327:ARG:HH11	4:9:329:TYR:HA	1.83	0.44
10:F:48:LEU:HD12	10:F:116:LEU:HB3	1.99	0.44
10:F:68:VAL:HG12	10:F:99:ALA:HA	2.00	0.44
14:J:21:ASN:HA	14:J:51:LYS:HE2	2.00	0.44
16:L:103:ARG:HE	54:5:1201:C:H41	1.65	0.44
21:Q:43:PHE:HE2	21:Q:51:ILE:HG13	1.82	0.44
24:T:7:LYS:HB2	24:T:18:PHE:HB2	2.00	0.44
27:b:40:LYS:O	27:b:48:SER:HA	2.17	0.44
27:b:62:LEU:O	27:b:67:GLN:HB2	2.17	0.44
28:c:141:LYS:O	28:c:145:GLN:HG2	2.18	0.44
35:j:75:THR:HG21	40:o:79:PHE:HA	1.99	0.44
37:l:87:LYS:HA	52:3:991:G:O3'	2.18	0.44
46:u:50:ILE:N	52:3:2362:A:O2'	2.41	0.44
47:v:29:TRP:CD1	52:3:2239:U:H5''	2.53	0.44
52:3:141:A:C8	52:3:1437:A:H1'	2.52	0.44
52:3:383:U:H2'	52:3:384:G:H8	1.82	0.44
52:3:570:C:H2'	52:3:571:A:H8	1.83	0.44
52:3:580:U:OP1	52:3:1250:A:H2'	2.18	0.44
52:3:604:A:H5'	52:3:2037:A:N7	2.32	0.44
52:3:1872:U:H1'	52:3:1883:A:N6	2.33	0.44
52:3:1896:A:H2'	52:3:1897:A:H8	1.82	0.44
52:3:2315:G:H4'	52:3:2316:G:H5''	2.00	0.44
52:3:2732:A:H2'	52:3:2733:A:H8	1.81	0.44
53:4:35:C:N3	53:4:46:C:H1'	2.32	0.44
54:5:98:G:H1'	54:5:350:G:H5'	2.00	0.44
54:5:301:G:H4'	54:5:302:A:H5''	1.99	0.44
54:5:398:G:H5'	54:5:619:A:C2	2.52	0.44
54:5:905:U:H2'	54:5:906:C:C6	2.53	0.44
54:5:951:U:H2'	54:5:952:U:C6	2.53	0.44
54:5:1297:G:O2'	54:5:1336:C:H1'	2.17	0.44
54:5:1313:A:OP2	54:5:1314:A:N6	2.51	0.44
54:5:1496:G:H2'	54:5:1497:U:C6	2.52	0.44
1:0:11:LYS:NZ	52:3:720:A:OP1	2.51	0.44
4:9:140:THR:O	52:3:2664:U:O2'	2.35	0.44
4:9:530:ILE:HG23	4:9:535:ILE:HD11	2.00	0.44
7:C:94:GLU:HG2	7:C:182:PRO:HG3	1.99	0.44
16:L:87:ARG:HE	16:L:97:VAL:HG11	1.82	0.44
19:O:46:GLU:HG3	19:O:70:THR:HB	1.98	0.44
21:Q:53:LEU:HD22	21:Q:93:ALA:HB2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:T:15:LEU:O	24:T:18:PHE:HB3	2.18	0.44
28:c:163:THR:HG23	28:c:165:ASN:N	2.33	0.44
29:d:151:GLY:N	52:3:2313:U:O2	2.35	0.44
30:e:49:LYS:NZ	30:e:54:GLN:HB2	2.32	0.44
38:m:24:ALA:HA	38:m:70:THR:OG1	2.16	0.44
42:q:85:HIS:NE2	42:q:87:GLN:HB2	2.33	0.44
52:3:388:U:H2'	52:3:389:C:C6	2.53	0.44
52:3:1080:A:H4'	52:3:1082:A:N3	2.33	0.44
52:3:1098:G:H2'	52:3:1099:C:C6	2.53	0.44
52:3:1314:A:C6	52:3:1357:U:C2	3.06	0.44
52:3:1695:G:H2'	52:3:1696:C:O4'	2.17	0.44
52:3:1836:A:N6	52:3:1983:U:O2'	2.51	0.44
52:3:1870:G:O3'	52:3:2419:A:H4'	2.17	0.44
52:3:2706:U:O4	52:3:2707:A:N6	2.51	0.44
52:3:2870:U:H6	52:3:2872:A:H1'	1.82	0.44
54:5:60:A:O2'	54:5:96:G:N2	2.51	0.44
54:5:129:U:O5'	54:5:198:A:N6	2.51	0.44
54:5:158:A:C6	54:5:160:A:H1'	2.53	0.44
54:5:315:G:H2'	54:5:316:G:H8	1.82	0.44
54:5:784:A:H3'	54:5:785:U:C6	2.52	0.44
54:5:883:A:H61	54:5:901:A:H5''	1.82	0.44
54:5:986:U:H1'	54:5:988:G:H8	1.83	0.44
55:6:71:A:H2'	55:6:71:A:N3	2.33	0.44
55:8:13:U:O4	55:8:25:G:O6	2.36	0.44
55:8:66:C:H2'	55:8:67:C:C5	2.52	0.44
5:A:104:ASP:OD1	5:A:104:ASP:N	2.45	0.44
5:A:117:LEU:HD23	5:A:190:GLU:HB3	1.99	0.44
5:A:124:SER:HA	5:A:127:ILE:HG12	2.00	0.44
7:C:90:PHE:CD2	7:C:187:LEU:HD22	2.53	0.44
9:E:47:TYR:CE2	21:Q:101:PHE:HB2	2.53	0.44
10:F:142:LYS:HA	10:F:142:LYS:HD3	1.84	0.44
15:K:134:LYS:HE3	15:K:136:LYS:HD3	1.99	0.44
26:a:41:LEU:HD23	26:a:41:LEU:H	1.83	0.44
29:d:42:ASP:OD1	29:d:42:ASP:N	2.45	0.44
30:e:160:TYR:CG	52:3:2539:A:H4'	2.53	0.44
33:h:45:ASP:OD1	33:h:45:ASP:N	2.50	0.44
33:h:99:ALA:O	33:h:102:LYS:HG3	2.18	0.44
34:i:67:LEU:HG	34:i:71:LYS:HB3	2.00	0.44
37:l:115:ILE:O	37:l:119:THR:HG23	2.18	0.44
46:u:74:PHE:HZ	52:3:2374:A:H5'	1.83	0.44
47:v:34:GLN:OE1	47:v:35:PRO:HD2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:164:A:N6	52:3:169:U:O2	2.51	0.44
52:3:312:U:N3	52:3:313:G:O6	2.51	0.44
52:3:360:G:H2'	52:3:361:G:C8	2.53	0.44
52:3:638:A:C5	52:3:661:G:O6	2.71	0.44
52:3:1487:U:H2'	52:3:1488:U:C6	2.52	0.44
52:3:1690:C:H2'	52:3:1691:U:C6	2.52	0.44
52:3:1986:C:H2'	52:3:1987:C:C6	2.53	0.44
52:3:2098:U:H5''	52:3:2099:U:H3'	2.00	0.44
52:3:2796:C:H2'	52:3:2797:C:O4'	2.18	0.44
53:4:73:U:C2	53:4:74:G:C8	3.06	0.44
54:5:321:A:H2'	54:5:322:G:C8	2.53	0.44
54:5:446:A:H3'	54:5:447:G:C8	2.53	0.44
54:5:530:A:N6	54:5:1181:G:O2'	2.51	0.44
54:5:723:C:H2'	54:5:724:G:C8	2.53	0.44
54:5:937:G:H2'	54:5:938:U:C6	2.52	0.44
54:5:1233:G:H2'	54:5:1234:C:C6	2.53	0.44
54:5:1383:A:N7	54:5:1469:G:N1	2.65	0.44
54:5:1450:C:H2'	54:5:1451:A:C8	2.53	0.44
55:6:13:U:N3	55:6:25:G:C6	2.86	0.44
55:8:27:A:H2'	55:8:27:A:N3	2.32	0.44
2:1:2:LYS:HD3	52:3:258:G:N7	2.33	0.44
4:9:96:LEU:HD13	4:9:123:ALA:HA	1.99	0.44
4:9:371:ASP:OD1	4:9:372:ILE:N	2.45	0.44
5:A:130:LEU:HD22	5:A:160:GLU:HG3	2.00	0.44
6:B:5:VAL:HG22	54:5:1051:U:OP1	2.18	0.44
7:C:86:ALA:HB2	7:C:197:VAL:HG21	2.00	0.44
8:D:135:SER:HB2	8:D:153:PRO:HA	2.00	0.44
13:I:59:ARG:NH2	54:5:1052:G:OP1	2.50	0.44
16:L:79:HIS:HB3	22:R:65:ASP:OD2	2.18	0.44
21:Q:53:LEU:HD21	21:Q:89:ALA:O	2.17	0.44
26:a:215:LYS:NZ	52:3:764:G:OP2	2.31	0.44
27:b:119:PHE:HA	27:b:168:HIS:HA	1.99	0.44
35:j:25:LEU:HD23	52:3:2571:U:H5''	2.00	0.44
41:p:24:PHE:O	41:p:27:ARG:HB2	2.18	0.44
41:p:61:ILE:CG1	41:p:92:LYS:HD3	2.48	0.44
42:q:87:GLN:HE22	52:3:1197:G:HO2'	1.59	0.44
45:t:4:ILE:CD1	45:t:74:LEU:HB3	2.48	0.44
51:z:31:LYS:HE3	51:z:49:GLU:HB2	1.99	0.44
52:3:407:U:OP2	52:3:439:U:H2'	2.18	0.44
52:3:518:A:OP2	52:3:542:A:N6	2.51	0.44
52:3:623:A:N6	52:3:703:A:N1	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1198:G:H8	52:3:1198:G:O5'	2.01	0.44
52:3:1354:U:O2'	52:3:2017:G:H1'	2.17	0.44
52:3:1703:A:H5''	52:3:1704:C:OP2	2.18	0.44
52:3:1735:A:H5'	52:3:1773:A:H5'	1.99	0.44
52:3:2108:C:H42	52:3:2109:A:H61	1.57	0.44
52:3:2305:C:N4	52:3:2326:G:H2'	2.25	0.44
52:3:2418:G:C2	52:3:2419:A:H1'	2.52	0.44
52:3:2595:A:N6	52:3:2615:G:H1	2.16	0.44
52:3:2639:G:H2'	52:3:2640:A:O4'	2.18	0.44
52:3:2733:A:H1'	52:3:2734:C:C5	2.53	0.44
54:5:159:U:OP2	54:5:160:A:N6	2.42	0.44
54:5:930:A:H1'	54:5:1359:C:O2	2.18	0.44
54:5:1076:U:O4'	54:5:1085:G:N1	2.51	0.44
54:5:1440:U:H2'	54:5:1441:C:O4'	2.18	0.44
4:9:172:PHE:CE1	4:9:259:GLY:HA2	2.53	0.43
4:9:271:LEU:O	4:9:275:VAL:HG23	2.17	0.43
4:9:661:GLY:HA3	52:3:2668:A:C6	2.53	0.43
8:D:170:ILE:HG23	8:D:175:TYR:HB2	2.00	0.43
12:H:54:LEU:HD12	12:H:60:LYS:HG2	2.00	0.43
14:J:78:PHE:CD1	14:J:104:ASN:HB2	2.53	0.43
23:S:61:SER:HB2	54:5:118:C:H4'	2.00	0.43
29:d:123:ASP:HB2	29:d:125:ARG:HD2	2.00	0.43
31:f:61:ASN:HA	31:f:64:LEU:HG	2.00	0.43
43:r:51:LEU:O	43:r:55:ILE:HG12	2.17	0.43
48:w:50:LEU:HA	48:w:53:THR:HG22	1.99	0.43
50:y:13:ARG:NH1	52:3:553:A:OP2	2.47	0.43
52:3:683:G:H2'	52:3:684:A:H8	1.80	0.43
52:3:1171:G:N2	52:3:2045:C:O3'	2.45	0.43
52:3:1200:U:H5'	52:3:1254:U:C5	2.53	0.43
52:3:1329:U:OP2	52:3:1659:C:N4	2.51	0.43
52:3:1584:U:H5'	52:3:1585:A:C5	2.53	0.43
52:3:1767:A:H2'	52:3:1768:G:C4	2.52	0.43
52:3:2227:U:C2	52:3:2228:U:C5	3.06	0.43
52:3:2486:A:H4'	52:3:2544:G:N2	2.33	0.43
52:3:2534:G:H5'	52:3:2751:C:H5'	2.00	0.43
52:3:2733:A:N7	52:3:2735:G:O6	2.51	0.43
52:3:2854:A:N6	52:3:2873:G:H4'	2.33	0.43
52:3:2888:U:O2'	52:3:2889:U:H3'	2.17	0.43
53:4:9:C:N4	53:4:100:G:H1	2.16	0.43
53:4:21:G:N7	53:4:54:U:O2'	2.51	0.43
54:5:402:G:H2'	54:5:403:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:955:U:H2'	54:5:1200:G:O6	2.17	0.43
3:2:2:LYS:HE2	52:3:2486:A:H5''	1.99	0.43
6:B:158:GLY:HA2	54:5:1048:G:H5'	2.00	0.43
6:B:191:LYS:HD2	54:5:1048:G:H21	1.84	0.43
11:G:14:PRO:HB3	11:G:41:LYS:HD2	1.98	0.43
13:I:65:LYS:HB2	54:5:967:C:H4'	2.00	0.43
15:K:55:PRO:HG2	15:K:60:SER:HA	2.00	0.43
25:W:60:THR:HA	25:W:92:LEU:O	2.18	0.43
27:b:222:LEU:HB3	40:o:16:LYS:HE2	2.00	0.43
28:c:29:LEU:HG	28:c:114:THR:HG23	2.00	0.43
28:c:139:LYS:O	28:c:142:VAL:HG12	2.18	0.43
28:c:157:VAL:HA	28:c:196:ALA:O	2.17	0.43
30:e:150:GLU:HA	30:e:153:LYS:HD3	1.99	0.43
34:i:74:ASN:ND2	52:3:1057:G:C8	2.87	0.43
36:k:23:GLY:HA3	52:3:848:U:OP2	2.19	0.43
36:k:30:LYS:HE2	52:3:845:U:C5	2.53	0.43
38:m:58:ASN:O	38:m:62:GLN:HG2	2.18	0.43
44:s:61:LYS:HD2	52:3:1340:U:C5	2.52	0.43
52:3:248:A:H61	52:3:422:A:H1'	1.83	0.43
52:3:408:G:H2'	52:3:408:G:OP2	2.18	0.43
52:3:408:G:O2'	52:3:460:G:OP1	2.26	0.43
52:3:423:C:O3'	52:3:424:G:H2'	2.18	0.43
52:3:799:A:H8	52:3:1782:U:O2	2.01	0.43
52:3:1056:A:H3'	52:3:1056:A:N3	2.33	0.43
52:3:1303:U:H5'	52:3:1680:A:OP2	2.18	0.43
52:3:1518:C:O2	52:3:1518:C:H2'	2.17	0.43
52:3:2104:A:H2'	52:3:2105:G:C8	2.52	0.43
52:3:2805:A:O2'	52:3:2896:G:OP1	2.33	0.43
52:3:2857:C:N4	52:3:2858:A:N6	2.66	0.43
54:5:37:C:H2'	54:5:38:U:O4'	2.18	0.43
54:5:260:C:H2'	54:5:261:G:O4'	2.18	0.43
54:5:575:A:H2'	54:5:576:A:C8	2.53	0.43
54:5:619:A:O2'	54:5:620:A:O5'	2.34	0.43
54:5:981:U:H2'	54:5:982:A:C8	2.54	0.43
54:5:1239:U:H2'	54:5:1240:U:C6	2.53	0.43
55:6:69:A:C8	55:6:70:G:N7	2.86	0.43
4:9:530:ILE:HD12	4:9:566:GLY:HA3	2.00	0.43
7:C:50:TYR:CD2	54:5:506:U:H4'	2.53	0.43
7:C:134:ILE:HD11	54:5:617:U:H2'	2.01	0.43
11:G:98:TYR:HA	11:G:136:GLU:HA	2.00	0.43
12:H:36:ASP:O	12:H:40:TYR:HB3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:51:GLU:HB2	12:H:54:LEU:HD12	1.99	0.43
16:L:80:LEU:HD21	16:L:87:ARG:CZ	2.47	0.43
20:P:71:ALA:H	54:5:262:G:H3'	1.84	0.43
23:S:27:LYS:O	23:S:30:THR:HG22	2.19	0.43
23:S:35:PHE:HZ	23:S:76:LEU:HB2	1.83	0.43
28:c:20:LEU:HD13	28:c:120:LEU:HD11	2.00	0.43
29:d:36:ILE:HA	29:d:154:VAL:HG12	1.99	0.43
31:f:99:ASN:HA	52:3:165:U:H5''	2.01	0.43
32:g:79:LYS:HD3	52:3:1119:A:N1	2.33	0.43
34:i:34:LYS:HE2	34:i:145:TRP:HD1	1.84	0.43
34:i:59:ILE:HG13	34:i:127:VAL:HG12	1.99	0.43
35:j:5:MET:HA	35:j:20:GLY:CA	2.49	0.43
39:n:57:SER:HA	39:n:62:LEU:HA	2.00	0.43
41:p:1:MET:N	52:3:1278:G:N7	2.53	0.43
52:3:23:A:H2'	52:3:24:U:C6	2.53	0.43
52:3:413:G:H2'	52:3:414:C:C6	2.53	0.43
52:3:496:A:C4	52:3:506:A:N6	2.86	0.43
52:3:614:C:H2'	52:3:615:G:H8	1.82	0.43
52:3:633:G:H2'	52:3:634:C:C6	2.52	0.43
52:3:675:U:C4	52:3:685:G:O6	2.72	0.43
52:3:1005:G:H2'	52:3:1006:U:C6	2.54	0.43
52:3:1176:U:H4'	52:3:1177:A:O4'	2.17	0.43
52:3:1541:A:N3	52:3:1541:A:H2'	2.33	0.43
52:3:1701:G:N2	52:3:2001:C:H42	2.16	0.43
52:3:1860:A:H2'	52:3:1861:A:C8	2.53	0.43
52:3:1871:U:H5''	52:3:2418:G:H2'	1.99	0.43
52:3:1922:U:H2'	52:3:1923:A:H5'	2.01	0.43
52:3:1973:U:O4'	52:3:2600:G:O2'	2.35	0.43
52:3:2192:U:H2'	52:3:2193:U:C5	2.53	0.43
54:5:83:U:H2'	54:5:84:U:C6	2.54	0.43
54:5:450:U:H2'	54:5:451:G:H8	1.84	0.43
54:5:684:A:N6	54:5:700:G:C2	2.82	0.43
54:5:1002:A:C5	54:5:1019:G:C2	3.06	0.43
54:5:1043:U:C4	54:5:1175:C:C2	3.06	0.43
54:5:1077:U:H3	54:5:1090:G:H22	1.66	0.43
54:5:1241:G:H2'	54:5:1243:A:N7	2.33	0.43
54:5:1267:G:H2'	54:5:1268:G:C8	2.51	0.43
54:5:1281:U:H2'	54:5:1282:U:O4'	2.18	0.43
54:5:1424:C:H2'	54:5:1425:A:O4'	2.18	0.43
55:8:71:A:H2'	55:8:71:A:N3	2.33	0.43
2:1:12:LYS:N	2:1:20:LYS:O	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:93:LYS:HB3	5:A:93:LYS:HE2	1.75	0.43
17:M:3:LYS:HE3	54:5:1040:U:H2'	2.00	0.43
18:N:36:LEU:HD22	18:N:49:SER:HB3	2.01	0.43
18:N:43:ASN:HB3	54:5:665:G:H1'	2.00	0.43
26:a:139:ALA:N	26:a:194:LYS:O	2.52	0.43
27:b:178:ASN:HD21	27:b:213:LYS:HE3	1.84	0.43
34:i:133:HIS:CE1	34:i:136:GLU:HG3	2.53	0.43
35:j:24:VAL:HG11	35:j:30:LYS:HB3	1.99	0.43
39:n:5:THR:OG1	53:4:28:C:OP1	2.36	0.43
42:q:90:THR:HG22	42:q:92:LEU:HB3	2.00	0.43
43:r:69:LEU:HA	43:r:109:ASP:HA	2.00	0.43
46:u:70:ASP:HB2	52:3:2372:C:H5'	1.99	0.43
48:w:88:LYS:O	48:w:91:LEU:HG	2.18	0.43
52:3:140:G:N2	52:3:142:A:H3'	2.33	0.43
52:3:491:A:H61	52:3:508:A:H2'	1.83	0.43
52:3:517:G:N1	52:3:544:U:N3	2.36	0.43
52:3:586:G:H2'	52:3:587:U:H6	1.83	0.43
52:3:612:G:C4	52:3:1292:A:C6	3.06	0.43
52:3:697:U:O4	52:3:698:A:N6	2.51	0.43
52:3:1409:G:H1'	52:3:1605:A:N1	2.33	0.43
52:3:1576:G:O2'	52:3:1577:A:H8	2.02	0.43
52:3:1860:A:N6	52:3:1896:A:C8	2.86	0.43
52:3:1866:G:H3'	52:3:1867:G:H4'	2.00	0.43
52:3:1879:A:H3'	52:3:1880:G:C8	2.50	0.43
52:3:2006:C:H2'	52:3:2007:U:O4'	2.18	0.43
52:3:2072:C:H1'	52:3:2457:U:H3	1.83	0.43
52:3:2178:A:OP2	52:3:2178:A:H8	2.00	0.43
52:3:2213:A:H2'	52:3:2214:A:C8	2.53	0.43
52:3:2252:U:H2'	52:3:2253:U:C6	2.53	0.43
52:3:2266:C:N3	52:3:2434:A:H4'	2.33	0.43
54:5:738:A:H2'	54:5:739:G:O4'	2.18	0.43
54:5:969:A:H4'	54:5:970:A:H3'	2.00	0.43
54:5:1230:G:H3'	54:5:1254:A:N6	2.28	0.43
55:8:24:A:H2'	55:8:25:G:C8	2.54	0.43
4:9:461:ASP:HA	4:9:464:ARG:HG2	2.00	0.43
4:9:604:ILE:HG23	4:9:667:MET:SD	2.58	0.43
5:A:22:LYS:NZ	5:A:252:GLU:OE1	2.51	0.43
7:C:17:SER:HG	7:C:24:GLU:CD	2.26	0.43
9:E:19:ASN:O	9:E:23:GLU:HG2	2.18	0.43
9:E:42:LEU:HB2	9:E:56:HIS:CE1	2.52	0.43
9:E:97:LEU:HD21	54:5:835:G:OP1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:30:LYS:O	13:I:33:GLU:HG2	2.18	0.43
15:K:134:LYS:HG3	15:K:136:LYS:HG3	2.00	0.43
19:O:64:ARG:HD3	19:O:73:TRP:HZ2	1.84	0.43
21:Q:44:CYS:SG	21:Q:49:LEU:HD13	2.59	0.43
26:a:229:ARG:NH2	52:3:1835:G:N7	2.66	0.43
27:b:36:VAL:HA	27:b:52:LEU:HD13	2.00	0.43
31:f:65:SER:O	31:f:68:LEU:HG	2.18	0.43
33:h:69:THR:HB	33:h:107:TYR:CE2	2.53	0.43
51:z:31:LYS:HE3	51:z:49:GLU:H	1.83	0.43
52:3:69:U:H2'	52:3:70:G:C8	2.53	0.43
52:3:306:G:H2'	52:3:307:C:H6	1.84	0.43
52:3:898:A:N1	52:3:899:A:N6	2.66	0.43
52:3:1368:U:O2'	52:3:1636:U:OP2	2.37	0.43
52:3:1403:G:H2'	52:3:1404:C:O4'	2.19	0.43
52:3:1635:G:H3'	52:3:1636:U:C6	2.54	0.43
52:3:1792:A:H5'	52:3:1989:U:H5'	1.99	0.43
52:3:1841:U:C2	52:3:1977:A:C8	3.07	0.43
52:3:2125:U:H5'	52:3:2154:A:H1'	2.00	0.43
52:3:2217:G:N1	52:3:2224:A:C6	2.86	0.43
52:3:2775:C:H2'	52:3:2776:U:C6	2.53	0.43
54:5:15:U:H2'	54:5:17:A:N7	2.34	0.43
54:5:217:U:H2'	54:5:218:U:C6	2.54	0.43
54:5:389:A:H2'	54:5:390:G:H8	1.83	0.43
54:5:451:G:C8	54:5:452:A:C8	3.06	0.43
54:5:508:A:O2'	54:5:540:U:O2	2.34	0.43
54:5:587:A:H2'	54:5:588:U:C6	2.54	0.43
54:5:711:G:H2'	54:5:712:A:H8	1.81	0.43
54:5:995:U:H3	54:5:1031:A:H61	1.66	0.43
54:5:1114:A:H2'	54:5:1115:G:C8	2.53	0.43
54:5:1170:C:H2'	54:5:1172:A:O4'	2.17	0.43
55:6:11:G:O6	55:6:45:G:O6	2.36	0.43
55:6:27:A:H2'	55:6:27:A:N3	2.32	0.43
55:8:11:G:O6	55:8:45:G:O6	2.36	0.43
6:B:117:ARG:NH1	6:B:189:LEU:O	2.47	0.43
8:D:185:ARG:NH1	54:5:20:C:H41	2.17	0.43
11:G:90:ILE:HG21	11:G:137:ILE:HB	2.01	0.43
14:J:14:ILE:HD11	14:J:67:VAL:HG21	2.01	0.43
14:J:116:PRO:HG2	24:T:34:TYR:HA	1.99	0.43
18:N:17:LYS:C	54:5:747:C:H4'	2.43	0.43
18:N:70:ASN:C	18:N:70:ASN:HD22	2.26	0.43
22:R:36:ARG:NH2	22:R:52:HIS:O	2.40	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:S:16:LYS:HE2	54:5:88:A:H5''	2.01	0.43
27:b:53:SER:HB2	27:b:78:THR:OG1	2.19	0.43
34:i:80:HIS:HB3	52:3:1166:G:C8	2.53	0.43
39:n:97:LYS:HB2	53:4:45:C:O2'	2.19	0.43
43:r:24:ILE:HG22	43:r:71:VAL:HG21	2.00	0.43
52:3:142:A:H2'	52:3:143:A:C8	2.54	0.43
52:3:153:U:H2'	52:3:154:U:C6	2.54	0.43
52:3:259:A:O2'	52:3:260:A:H5'	2.18	0.43
52:3:387:U:H2'	52:3:388:U:C6	2.54	0.43
52:3:408:G:O2'	52:3:459:A:H3'	2.18	0.43
52:3:781:U:H5''	52:3:782:U:H5'	2.01	0.43
52:3:1105:A:H5''	52:3:1107:C:OP2	2.18	0.43
52:3:1366:G:H2'	52:3:1367:G:H8	1.82	0.43
52:3:1874:G:H2'	52:3:1875:C:H6	1.84	0.43
52:3:1951:A:N6	52:3:2565:G:N3	2.65	0.43
52:3:2036:G:C5	52:3:2038:A:H5''	2.53	0.43
52:3:2319:A:O2'	52:3:2320:U:O4'	2.34	0.43
53:4:4:G:H5'	53:4:26:C:H1'	2.00	0.43
53:4:47:C:H2'	53:4:48:A:C8	2.53	0.43
54:5:13:U:C2	54:5:23:G:N1	2.86	0.43
54:5:34:A:H4'	54:5:359:A:H1'	1.99	0.43
54:5:370:A:H4'	54:5:448:A:H5'	2.01	0.43
54:5:407:A:C2	54:5:410:A:H8	2.36	0.43
54:5:1057:C:H2'	54:5:1058:A:C5	2.54	0.43
54:5:1140:A:H2'	54:5:1141:U:H5'	2.01	0.43
54:5:1245:A:H2'	54:5:1246:A:H8	1.78	0.43
54:5:1259:G:H3'	54:5:1260:U:C5'	2.39	0.43
54:5:1479:G:N3	54:5:1480:G:N2	2.65	0.43
55:8:4:U:C4	55:8:72:C:N4	2.87	0.43
55:8:69:A:H8	55:8:70:G:N7	2.15	0.43
1:0:41:GLN:HB3	52:3:499:G:O6	2.18	0.43
4:9:355:LYS:HD3	4:9:373:CYS:HA	2.00	0.43
4:9:596:VAL:HG23	4:9:680:VAL:HG21	2.00	0.43
4:9:648:MET:HE1	4:9:667:MET:HG3	2.01	0.43
5:A:26:MET:HG3	5:A:58:LEU:HD22	2.00	0.43
5:A:182:VAL:HG22	5:A:206:THR:HG23	2.01	0.43
6:B:44:PHE:HD2	6:B:92:ILE:HD11	1.83	0.43
8:D:84:ARG:HB2	8:D:86:MET:HE3	2.01	0.43
13:I:24:LEU:HD22	13:I:76:HIS:HB3	2.00	0.43
16:L:102:THR:O	54:5:1201:C:O2'	2.29	0.43
21:Q:70:ILE:HG13	54:5:716:C:O2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:S:28:LEU:HD12	23:S:50:GLN:HG3	1.99	0.43
24:T:10:ASP:HB2	24:T:14:ALA:CB	2.48	0.43
27:b:33:PRO:HA	27:b:189:MET:HE1	2.01	0.43
27:b:69:PHE:HA	52:3:2794:U:H4'	2.01	0.43
28:c:161:VAL:O	28:c:182:HIS:HA	2.19	0.43
32:g:7:LYS:HG2	32:g:10:GLN:NE2	2.34	0.43
38:m:2:SER:HA	52:3:1692:A:H1'	2.00	0.43
40:o:99:ALA:HB2	52:3:2852:G:H2'	2.01	0.43
48:w:3:VAL:HG12	48:w:7:LEU:HG	2.00	0.43
52:3:70:G:H2'	52:3:71:C:C6	2.54	0.43
52:3:1047:A:N6	52:3:1186:A:C5	2.87	0.43
52:3:1093:U:O2	52:3:1115:G:C6	2.72	0.43
52:3:1393:A:H3'	52:3:1394:A:C8	2.54	0.43
52:3:1617:U:H5'	52:3:1619:A:H1'	2.01	0.43
52:3:1723:A:H2'	52:3:1724:A:C8	2.53	0.43
52:3:1993:U:H2'	52:3:1994:U:C6	2.53	0.43
52:3:2213:A:H2'	52:3:2214:A:H8	1.83	0.43
54:5:227:A:H2'	54:5:228:G:C8	2.51	0.43
54:5:251:G:H2'	54:5:252:U:C6	2.54	0.43
54:5:293:G:N2	54:5:295:G:H3'	2.33	0.43
54:5:419:A:H1'	54:5:420:A:C2	2.54	0.43
54:5:1075:G:H21	54:5:1093:A:H61	1.65	0.43
54:5:1088:C:H1'	54:5:1144:A:H1'	2.00	0.43
54:5:1105:C:H2'	54:5:1106:U:O4'	2.19	0.43
54:5:1322:U:H2'	54:5:1323:A:C8	2.54	0.43
54:5:1422:A:O2'	54:5:1423:C:H5'	2.19	0.43
54:5:1431:A:H2'	54:5:1431:A:N3	2.33	0.43
55:6:13:U:O4	55:6:25:G:O6	2.36	0.43
55:6:19:G:N2	55:6:57:C:O2'	2.51	0.43
55:6:24:A:H2'	55:6:25:G:C8	2.54	0.43
55:8:43:G:N2	55:8:44:U:O2'	2.52	0.43
4:9:120:TRP:NE1	4:9:157:VAL:HG11	2.34	0.43
4:9:494:TYR:CD2	4:9:580:ILE:HD11	2.54	0.43
5:A:31:GLY:HA2	5:A:54:ASP:HB2	2.01	0.43
5:A:110:GLN:HB3	5:A:161:LYS:HB2	2.00	0.43
6:B:134:ARG:NH1	8:D:113:ASN:OD1	2.44	0.43
7:C:81:GLN:NE2	54:5:612:G:OP2	2.52	0.43
8:D:152:LYS:HE2	54:5:8:G:C6	2.54	0.43
10:F:52:ARG:C	10:F:54:LYS:H	2.26	0.43
10:F:54:LYS:HD3	10:F:54:LYS:HA	1.81	0.43
10:F:94:ARG:HB2	54:5:1352:A:P	2.58	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:I:59:ARG:NH1	13:I:69:GLU:OE1	2.51	0.43
16:L:23:PHE:CZ	54:5:1304:U:H4'	2.53	0.43
18:N:22:ILE:HG13	18:N:66:TYR:CE2	2.54	0.43
23:S:47:VAL:HG11	23:S:72:ASN:HD22	1.84	0.43
26:a:283:LYS:NZ	52:3:1804:A:OP1	2.32	0.43
30:e:177:GLY:HA3	52:3:2539:A:H5'	2.01	0.43
35:j:70:GLN:HB3	52:3:2736:U:H4'	2.00	0.43
37:l:120:ARG:NH1	52:3:1066:G:OP1	2.52	0.43
38:m:26:LEU:HD23	38:m:78:LEU:HG	2.00	0.43
41:p:32:LYS:NZ	52:3:611:A:O2'	2.51	0.43
50:y:40:HIS:CE1	52:3:2887:A:H4'	2.53	0.43
52:3:47:G:H5''	52:3:48:G:H5'	2.00	0.43
52:3:272:C:N4	52:3:295:U:O2'	2.52	0.43
52:3:275:A:N6	52:3:295:U:C2	2.87	0.43
52:3:494:G:O2'	52:3:505:G:O6	2.31	0.43
52:3:497:C:H2'	52:3:498:C:H6	1.83	0.43
52:3:524:G:H22	52:3:526:G:H3'	1.83	0.43
52:3:675:U:N3	52:3:685:G:C6	2.85	0.43
52:3:708:C:OP1	52:3:836:G:N2	2.52	0.43
52:3:713:C:H2'	52:3:714:G:H8	1.84	0.43
52:3:724:A:O4'	52:3:821:C:H1'	2.19	0.43
52:3:1337:G:H21	52:3:1642:G:H1	1.67	0.43
52:3:1544:G:C4	52:3:1545:A:C8	3.07	0.43
52:3:1610:U:H2'	52:3:1611:C:C6	2.54	0.43
52:3:2156:G:H2'	52:3:2157:A:C8	2.54	0.43
52:3:2276:A:C2'	52:3:2277:A:H5''	2.49	0.43
52:3:2462:G:C5	52:3:2463:G:C8	3.06	0.43
52:3:2852:G:O2'	52:3:2871:G:N2	2.51	0.43
54:5:123:U:H1'	54:5:223:G:N2	2.34	0.43
54:5:765:A:C5'	54:5:1499:G:H1'	2.48	0.43
54:5:892:G:N1	54:5:896:G:C6	2.87	0.43
54:5:1463:A:H2'	54:5:1464:G:C8	2.53	0.43
54:5:1477:A:H5''	54:5:1479:G:C8	2.53	0.43
4:9:29:ARG:CZ	4:9:267:ILE:HB	2.49	0.43
4:9:109:GLN:HE21	52:3:2665:A:P	2.42	0.43
4:9:153:GLN:NE2	4:9:154:ARG:HG3	2.34	0.43
4:9:413:LYS:NZ	4:9:471:VAL:HG23	2.34	0.43
6:B:142:ILE:HG22	6:B:146:LYS:HD3	2.00	0.43
6:B:194:THR:HG23	6:B:196:TYR:H	1.84	0.43
8:D:78:LYS:HG2	8:D:79:THR:H	1.84	0.43
20:P:41:ARG:HA	54:5:276:U:H3	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:65:PRO:HD3	52:3:2815:G:H5'	2.00	0.43
27:b:168:HIS:HB3	52:3:2629:G:O2'	2.19	0.43
31:f:31:PHE:CE1	31:f:112:MET:HE1	2.54	0.43
31:f:53:LYS:HG3	31:f:57:HIS:CE1	2.54	0.43
34:i:97:LYS:HA	34:i:97:LYS:HD3	1.94	0.43
36:k:132:SER:HB3	52:3:672:G:H3'	2.01	0.43
41:p:48:ASP:OD2	52:3:592:G:N2	2.52	0.43
41:p:89:ILE:HG13	42:q:11:GLN:NE2	2.33	0.43
42:q:76:GLN:H	52:3:598:G:P	2.40	0.43
44:s:76:LYS:HD2	52:3:60:G:P	2.58	0.43
49:x:14:PHE:CD2	49:x:34:ILE:HB	2.54	0.43
52:3:27:U:O2	52:3:27:U:H2'	2.18	0.43
52:3:117:C:H2'	52:3:118:G:C8	2.54	0.43
52:3:248:A:H62	52:3:258:G:H21	1.67	0.43
52:3:735:G:H2'	52:3:736:G:H8	1.82	0.43
52:3:754:U:H2'	52:3:755:C:H6	1.83	0.43
52:3:1101:U:O2	52:3:1104:A:H2'	2.18	0.43
52:3:1652:A:OP1	52:3:1680:A:O2'	2.37	0.43
52:3:1689:A:N6	52:3:2012:A:H1'	2.29	0.43
52:3:1985:A:H2'	52:3:1986:C:C6	2.54	0.43
52:3:2008:A:H2'	52:3:2009:U:C6	2.53	0.43
52:3:2396:A:N7	52:3:2397:G:C2	2.87	0.43
52:3:2402:C:H2'	52:3:2403:C:O4'	2.18	0.43
52:3:2405:G:H2'	52:3:2406:U:C6	2.54	0.43
52:3:2626:A:H2'	52:3:2627:U:O4'	2.19	0.43
52:3:2815:G:H2'	52:3:2816:A:C8	2.54	0.43
54:5:105:A:C8	54:5:107:A:C6	3.07	0.43
54:5:402:G:H2'	54:5:403:A:H8	1.84	0.43
54:5:661:G:H21	54:5:724:G:H5'	1.83	0.43
54:5:1166:A:H2'	54:5:1166:A:N3	2.33	0.43
54:5:1490:G:C2	54:5:1491:A:C4	3.07	0.43
55:6:43:G:N2	55:6:44:U:O2'	2.52	0.43
5:A:39:PRO:HG3	54:5:826:G:H1'	2.01	0.43
5:A:163:PHE:CE2	54:5:1094:C:H4'	2.54	0.43
10:F:26:ILE:HG22	10:F:35:LYS:HG2	2.00	0.43
13:I:44:GLY:N	54:5:1114:A:O2'	2.51	0.43
15:K:80:ILE:HG22	15:K:82:GLY:H	1.84	0.43
16:L:14:ARG:NE	54:5:1269:U:O2'	2.38	0.43
17:M:24:CYS:SG	17:M:25:GLN:N	2.92	0.43
21:Q:64:LEU:HD13	21:Q:90:LEU:HD22	2.00	0.43
23:S:48:TYR:CD1	23:S:69:LYS:HD3	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:4:ILE:HD12	30:e:72:ASN:HB3	2.01	0.43
32:g:41:ARG:HG2	52:3:1117:U:H4'	2.01	0.43
32:g:53:VAL:HG22	32:g:81:ALA:HA	1.99	0.43
33:h:77:LYS:HZ3	33:h:85:GLY:H	1.65	0.43
34:i:77:TRP:NE1	52:3:1174:G:OP1	2.39	0.43
36:k:90:LEU:HD11	36:k:101:LYS:HE3	2.00	0.43
42:q:34:GLN:NE2	42:q:56:VAL:HG13	2.34	0.43
47:v:13:LEU:HD11	52:3:418:G:H21	1.83	0.43
51:z:20:LEU:HD11	52:3:2426:A:O2'	2.19	0.43
52:3:250:U:H2'	52:3:251:G:C8	2.54	0.43
52:3:739:G:O2'	52:3:761:G:N1	2.51	0.43
52:3:861:U:H2'	52:3:863:U:O4'	2.19	0.43
52:3:886:U:H2'	52:3:887:A:C8	2.54	0.43
52:3:912:A:C5	52:3:940:A:N6	2.86	0.43
52:3:1035:U:H5''	52:3:1189:G:O6	2.19	0.43
52:3:1238:A:H3'	52:3:1239:G:H8	1.83	0.43
52:3:1263:G:C4	52:3:1264:U:C5	3.07	0.43
52:3:1622:C:H2'	52:3:1623:U:C6	2.53	0.43
52:3:1842:G:N3	52:3:1842:G:H2'	2.34	0.43
52:3:1885:G:H2'	52:3:1886:C:C6	2.54	0.43
52:3:1897:A:C2	52:3:1898:G:H1'	2.54	0.43
52:3:1975:G:H4'	52:3:1980:G:H5'	2.00	0.43
52:3:2011:G:H2'	52:3:2011:G:N3	2.32	0.43
52:3:2121:A:H3'	52:3:2122:G:C8	2.52	0.43
52:3:2129:U:H2'	52:3:2130:A:O4'	2.19	0.43
52:3:2298:G:H2'	52:3:2299:U:C6	2.53	0.43
52:3:2392:U:H2'	52:3:2394:A:OP1	2.19	0.43
52:3:2457:U:HO2'	52:3:2509:C:N4	2.16	0.43
52:3:2560:U:O4	52:3:2565:G:N1	2.52	0.43
52:3:2656:G:H2'	52:3:2657:C:C6	2.54	0.43
54:5:130:G:H2'	54:5:131:G:O4'	2.18	0.43
54:5:137:A:C5	54:5:138:A:C8	3.06	0.43
54:5:419:A:H4'	54:5:420:A:H5'	1.99	0.43
54:5:476:U:H2'	54:5:477:U:C6	2.54	0.43
54:5:1015:U:H2'	54:5:1016:A:C8	2.54	0.43
54:5:1119:C:H2'	54:5:1120:A:O4'	2.19	0.43
4:9:481:ARG:NH2	4:9:672:TYR:HB3	2.18	0.42
6:B:113:MET:HB2	6:B:147:ALA:HB2	2.00	0.42
8:D:68:GLU:HB3	8:D:119:ILE:HG23	2.01	0.42
8:D:129:ILE:HD12	8:D:175:TYR:OH	2.18	0.42
9:E:9:VAL:HG12	9:E:82:VAL:HG23	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:110:GLN:HE21	9:E:114:LYS:HE3	1.84	0.42
10:F:68:VAL:HG22	10:F:133:ALA:HB3	2.00	0.42
14:J:13:ILE:HG21	14:J:78:PHE:CD2	2.54	0.42
19:O:19:ARG:HH11	54:5:321:A:H61	1.67	0.42
20:P:20:LYS:HB2	20:P:49:ASN:HB2	1.99	0.42
24:T:19:LYS:HD3	24:T:19:LYS:HA	1.83	0.42
27:b:73:ASN:O	27:b:92:MET:HE2	2.18	0.42
27:b:227:GLU:H	40:o:19:LYS:HD2	1.84	0.42
28:c:90:VAL:HG11	52:3:707:C:H5''	2.01	0.42
36:k:57:PRO:O	36:k:61:ARG:N	2.52	0.42
36:k:134:GLN:HB2	52:3:673:A:OP1	2.18	0.42
38:m:79:MET:HE3	38:m:83:PHE:CD2	2.54	0.42
40:o:29:ASP:OD1	40:o:94:GLY:N	2.47	0.42
40:o:99:ALA:HB3	52:3:2852:G:C8	2.54	0.42
45:t:92:VAL:N	52:3:332:G:OP1	2.52	0.42
52:3:21:U:H2'	52:3:22:U:O4'	2.19	0.42
52:3:144:C:H2'	52:3:145:A:O4'	2.19	0.42
52:3:155:A:H2'	52:3:156:A:H8	1.83	0.42
52:3:334:A:H1'	52:3:367:G:H21	1.84	0.42
52:3:785:A:C4	52:3:788:G:H1'	2.54	0.42
52:3:816:A:O2'	52:3:1795:C:O2	2.36	0.42
52:3:847:C:H2'	52:3:848:U:C6	2.54	0.42
52:3:1477:A:H2	52:3:1488:U:H3	1.67	0.42
52:3:1508:G:OP2	52:3:1508:G:H4'	2.15	0.42
52:3:1555:G:H2'	52:3:1556:U:O4'	2.19	0.42
52:3:1721:G:N1	52:3:1734:A:OP1	2.51	0.42
52:3:2259:G:O2'	52:3:2260:G:H5'	2.18	0.42
52:3:2592:U:H5''	52:3:2593:U:OP2	2.18	0.42
54:5:169:G:N2	54:5:220:U:H5'	2.29	0.42
54:5:311:A:O2'	54:5:350:G:OP2	2.35	0.42
54:5:662:G:OP1	54:5:721:G:N2	2.52	0.42
54:5:943:C:H2'	54:5:944:A:C8	2.53	0.42
54:5:1069:U:H2'	54:5:1070:G:C5	2.54	0.42
4:9:15:ILE:HD11	4:9:79:LEU:HD11	2.01	0.42
4:9:392:ILE:HG12	4:9:393:ASP:OD1	2.18	0.42
4:9:481:ARG:NH2	4:9:672:TYR:CD1	2.87	0.42
5:A:222:PRO:HG3	5:A:256:ILE:HD12	2.02	0.42
6:B:126:ALA:O	6:B:131:VAL:HB	2.19	0.42
11:G:45:LEU:HD13	11:G:70:VAL:HG11	2.01	0.42
12:H:13:LYS:H	12:H:108:ARG:HH12	1.65	0.42
14:J:77:LEU:HD12	14:J:90:ILE:HG23	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:N:48:ILE:HG21	54:5:738:A:N3	2.34	0.42
19:O:53:LEU:HD11	19:O:72:LEU:HD21	2.01	0.42
21:Q:84:ARG:HD2	54:5:662:G:P	2.58	0.42
25:W:106:GLU:O	25:W:110:LYS:HG2	2.19	0.42
27:b:123:ILE:HD12	27:b:129:LYS:O	2.19	0.42
28:c:158:LEU:O	28:c:198:LEU:N	2.48	0.42
28:c:170:GLN:HB3	52:3:355:A:H1'	2.00	0.42
29:d:91:LEU:C	29:d:92:ARG:HD2	2.44	0.42
31:f:8:ASP:N	31:f:33:LYS:HD3	2.34	0.42
32:g:53:VAL:HB	52:3:1119:A:C2	2.54	0.42
33:h:62:SER:O	33:h:63:PHE:HD1	2.03	0.42
35:j:77:LEU:HD13	40:o:77:LYS:HG3	1.99	0.42
37:l:111:GLU:OE1	37:l:111:GLU:N	2.46	0.42
39:n:97:LYS:NZ	53:4:44:A:H2	2.17	0.42
41:p:35:LYS:HE2	52:3:1282:G:O6	2.19	0.42
46:u:18:LYS:HE3	52:3:2258:G:H5'	2.01	0.42
52:3:527:A:H8	52:3:528:U:C6	2.37	0.42
52:3:1503:A:H3'	52:3:1504:G:C8	2.53	0.42
52:3:1734:A:H62	54:5:1449:G:H5''	1.84	0.42
52:3:1744:U:H2'	52:3:1745:A:C8	2.54	0.42
52:3:1841:U:H5''	52:3:1842:G:H5'	2.02	0.42
52:3:2029:U:O2'	52:3:2625:U:H5'	2.18	0.42
52:3:2036:G:N1	52:3:2040:A:OP2	2.46	0.42
52:3:2299:U:H1'	52:3:2382:A:H1'	2.01	0.42
52:3:2332:U:H3'	52:3:2333:G:C5'	2.50	0.42
52:3:2335:A:H2'	52:3:2336:A:C8	2.53	0.42
52:3:2466:G:O2'	52:3:2498:G:N1	2.52	0.42
52:3:2552:G:H2'	52:3:2553:G:H8	1.83	0.42
52:3:2729:A:H2'	52:3:2730:G:O4'	2.19	0.42
52:3:2812:U:O2'	52:3:2813:A:H5''	2.19	0.42
52:3:2849:G:C6	52:3:2875:U:O2	2.72	0.42
54:5:62:G:H2'	54:5:63:U:O4'	2.19	0.42
54:5:393:A:H4'	54:5:394:U:C5	2.54	0.42
54:5:591:A:H2'	54:5:592:A:C8	2.54	0.42
54:5:1322:U:H2'	54:5:1323:A:H8	1.84	0.42
4:9:80:ILE:HD11	4:9:372:ILE:HD13	2.01	0.42
5:A:26:MET:CE	5:A:29:HIS:HB2	2.49	0.42
5:A:127:ILE:HG13	5:A:128:ASN:N	2.35	0.42
9:E:19:ASN:HA	9:E:22:ASN:HD22	1.83	0.42
10:F:35:LYS:HD3	54:5:1348:G:O3'	2.20	0.42
13:I:70:GLN:HG3	17:M:59:ALA:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:J:47:GLY:HA3	54:5:692:A:P	2.59	0.42
16:L:34:LEU:HG	16:L:39:ILE:HB	2.02	0.42
26:a:4:LYS:NZ	26:a:21:ASP:OD1	2.52	0.42
27:b:158:ARG:NH2	34:i:82:GLN:O	2.52	0.42
35:j:16:ALA:HB2	35:j:52:VAL:HG21	2.01	0.42
37:l:24:ASN:O	37:l:101:THR:HA	2.19	0.42
38:m:20:GLN:HG2	52:3:1305:G:H1'	2.02	0.42
40:o:55:ARG:NH1	40:o:62:GLU:OE2	2.52	0.42
41:p:17:LEU:HD23	52:3:615:G:OP1	2.19	0.42
41:p:80:ASN:OD1	52:3:1186:A:H4'	2.19	0.42
52:3:51:A:C6	52:3:119:A:C5	3.07	0.42
52:3:199:A:H1'	52:3:254:G:H21	1.84	0.42
52:3:265:G:H2'	52:3:266:A:H8	1.83	0.42
52:3:326:A:H2'	52:3:327:U:H6	1.83	0.42
52:3:433:A:C1'	52:3:2238:G:H21	2.33	0.42
52:3:480:C:H2'	52:3:481:C:C6	2.54	0.42
52:3:550:A:C2'	52:3:551:C:H5'	2.49	0.42
52:3:668:A:H2'	52:3:669:A:C8	2.55	0.42
52:3:754:U:H2'	52:3:755:C:C6	2.54	0.42
52:3:870:A:O4'	52:3:2366:A:O2'	2.38	0.42
52:3:1101:U:H1'	52:3:1108:A:H62	1.84	0.42
52:3:1126:G:H2'	52:3:1127:C:C6	2.54	0.42
52:3:1382:A:N6	52:3:1405:G:O2'	2.52	0.42
52:3:2310:C:N4	52:3:2311:G:O6	2.52	0.42
52:3:2350:C:O2	52:3:2382:A:H4'	2.18	0.42
52:3:2379:G:H2'	52:3:2380:U:O4'	2.19	0.42
52:3:2500:U:H2'	52:3:2501:U:C6	2.55	0.42
52:3:2592:U:O4	55:6:77:A:H2'	2.20	0.42
52:3:2602:C:N4	52:3:2603:G:O6	2.52	0.42
52:3:2638:G:H1'	52:3:2896:G:C5'	2.48	0.42
52:3:2735:G:H8	52:3:2735:G:O5'	2.02	0.42
52:3:2808:A:N7	52:3:2809:A:N6	2.66	0.42
54:5:8:G:C2	54:5:294:A:N6	2.87	0.42
54:5:402:G:C5	54:5:493:A:C8	3.07	0.42
54:5:655:G:N1	54:5:744:U:N3	2.67	0.42
54:5:801:U:H3'	54:5:802:C:H5'	1.99	0.42
54:5:966:A:N6	54:5:1339:U:O2'	2.51	0.42
54:5:1370:C:H2'	54:5:1371:A:C8	2.55	0.42
54:5:1508:C:H2'	54:5:1509:A:C4	2.54	0.42
55:8:13:U:N3	55:8:25:G:N1	2.67	0.42
4:9:213:HIS:O	25:W:83:MET:HE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:227:ALA:O	4:9:230:LEU:HB2	2.19	0.42
6:B:10:LEU:O	6:B:14:ILE:HG22	2.18	0.42
9:E:33:GLU:HG3	9:E:34:GLY:H	1.83	0.42
10:F:64:ALA:HB2	10:F:127:SER:OG	2.19	0.42
10:F:71:ARG:HA	10:F:95:LYS:HE2	2.01	0.42
11:G:104:LEU:O	11:G:129:ARG:NE	2.52	0.42
11:G:135:GLY:HA2	54:5:596:U:O2'	2.20	0.42
13:I:18:SER:OG	13:I:19:TYR:N	2.53	0.42
16:L:114:LYS:HA	16:L:114:LYS:HD3	1.80	0.42
17:M:41:ARG:HG2	17:M:42:LEU:N	2.34	0.42
18:N:64:LEU:HD13	18:N:82:LEU:HB2	2.01	0.42
21:Q:87:ALA:HB2	54:5:717:C:O2'	2.19	0.42
26:a:150:ILE:HD12	26:a:184:LEU:HD13	2.00	0.42
27:b:105:GLY:HA3	27:b:218:LYS:O	2.19	0.42
27:b:161:LYS:HD3	34:i:82:GLN:HB2	2.02	0.42
28:c:38:VAL:O	28:c:42:GLN:HG3	2.20	0.42
29:d:33:LYS:HZ2	29:d:35:VAL:HB	1.84	0.42
30:e:152:ARG:NH2	52:3:2752:G:H4'	2.35	0.42
31:f:97:ILE:O	31:f:100:GLN:NE2	2.53	0.42
32:g:110:CYS:SG	32:g:111:GLY:N	2.92	0.42
33:h:74:ILE:HD12	33:h:77:LYS:HD2	2.02	0.42
34:i:74:ASN:ND2	52:3:1057:G:H8	2.18	0.42
36:k:70:LYS:HG2	52:3:2422:G:O2'	2.19	0.42
36:k:104:ILE:HG12	36:k:105:SER:H	1.85	0.42
37:l:21:ALA:HB2	37:l:99:GLN:O	2.19	0.42
45:t:17:ASN:HA	52:3:343:A:H5'	2.01	0.42
50:y:5:GLN:OE1	52:3:2063:G:O2'	2.36	0.42
52:3:45:U:H2'	52:3:46:A:O4'	2.20	0.42
52:3:444:C:N3	52:3:456:G:N1	2.68	0.42
52:3:863:U:C4	52:3:2255:A:H1'	2.55	0.42
52:3:908:A:H2'	52:3:909:U:C6	2.54	0.42
52:3:1214:U:C4	52:3:1215:G:C8	3.07	0.42
52:3:1222:A:H2'	52:3:1223:C:C6	2.54	0.42
52:3:1311:G:H21	52:3:1357:U:H3	1.68	0.42
52:3:1695:G:H1'	52:3:2721:C:C5	2.54	0.42
52:3:1894:U:H2'	52:3:1895:G:C8	2.54	0.42
52:3:2291:U:C2	52:3:2292:A:C8	3.08	0.42
54:5:48:C:N3	54:5:358:G:N2	2.68	0.42
54:5:69:G:H8	54:5:69:G:O5'	2.02	0.42
54:5:220:U:H2'	54:5:221:U:O4'	2.20	0.42
54:5:302:A:H5'	54:5:303:A:N7	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:311:A:C5	54:5:326:C:H5''	2.54	0.42
54:5:553:C:H2'	54:5:554:C:C6	2.54	0.42
54:5:579:G:O6	54:5:755:U:H3'	2.19	0.42
54:5:614:U:H2'	54:5:615:G:C8	2.55	0.42
54:5:849:A:H2'	54:5:850:G:H8	1.84	0.42
54:5:888:A:H2'	54:5:889:U:O4'	2.19	0.42
54:5:896:G:O6	54:5:897:A:N6	2.53	0.42
54:5:973:A:O2'	54:5:1295:U:O4	2.32	0.42
54:5:1280:A:C8	54:5:1306:A:C6	3.07	0.42
54:5:1291:C:H2'	54:5:1292:A:O4'	2.20	0.42
55:6:4:U:C4	55:6:72:C:N4	2.87	0.42
55:6:28:A:O2'	55:6:29:C:O4'	2.19	0.42
2:1:6:ALA:HA	2:1:9:LYS:HB2	2.02	0.42
2:1:26:THR:H	2:1:30:ALA:HB2	1.83	0.42
3:2:5:ALA:HB2	52:3:2473:C:H4'	2.01	0.42
4:9:89:THR:O	4:9:93:GLU:HB2	2.19	0.42
4:9:293:ASP:HB2	4:9:394:VAL:HG21	2.01	0.42
5:A:32:MET:HE1	5:A:56:PHE:CZ	2.54	0.42
7:C:1:MET:HB3	7:C:3:TYR:O	2.20	0.42
9:E:29:LEU:HD12	9:E:72:PHE:CE1	2.54	0.42
11:G:75:LYS:HB3	11:G:83:SER:OG	2.20	0.42
11:G:98:TYR:CD2	11:G:136:GLU:HB3	2.54	0.42
12:H:120:LEU:HD13	12:H:124:ARG:HA	2.02	0.42
15:K:126:GLN:NE2	54:5:521:A:OP1	2.52	0.42
16:L:67:GLY:O	16:L:71:ARG:HG3	2.20	0.42
19:O:28:ALA:HB3	19:O:52:TRP:HE1	1.84	0.42
28:c:55:LYS:HB3	52:3:836:G:C6	2.55	0.42
29:d:24:SER:OG	29:d:25:ILE:N	2.53	0.42
29:d:34:ILE:O	29:d:91:LEU:HB2	2.20	0.42
29:d:132:ILE:HD11	29:d:152:PHE:HD1	1.84	0.42
30:e:4:ILE:CG2	52:3:2759:G:H1'	2.44	0.42
30:e:55:ILE:HD11	30:e:72:ASN:N	2.34	0.42
35:j:7:ARG:NH1	52:3:1701:G:H3'	2.34	0.42
38:m:47:LYS:HE3	52:3:2876:G:H5''	2.01	0.42
39:n:96:SER:HB3	53:4:46:C:P	2.60	0.42
41:p:14:LYS:O	41:p:17:LEU:HG	2.19	0.42
45:t:45:HIS:HB2	52:3:517:G:OP2	2.19	0.42
48:w:32:LYS:HB3	48:w:37:GLU:O	2.20	0.42
52:3:141:A:H8	52:3:142:A:C8	2.38	0.42
52:3:172:U:H2'	52:3:173:C:C6	2.55	0.42
52:3:449:C:O2'	52:3:1870:G:N2	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:803:G:H2'	52:3:804:U:C6	2.54	0.42
52:3:1029:A:H2'	52:3:1030:U:C6	2.54	0.42
52:3:1077:G:N2	52:3:1148:U:O2	2.53	0.42
52:3:1442:G:N2	52:3:1623:U:O2	2.53	0.42
52:3:1710:A:C4	52:3:1711:A:C8	3.08	0.42
52:3:1811:A:C6	52:3:1821:G:C2	3.07	0.42
52:3:1840:C:H2'	52:3:1841:U:C6	2.55	0.42
52:3:2517:A:H2'	52:3:2518:C:H6	1.84	0.42
52:3:2647:A:H2	52:3:2786:A:H5'	1.84	0.42
54:5:17:A:N3	54:5:1071:A:O2'	2.50	0.42
54:5:216:G:H2'	54:5:217:U:C6	2.54	0.42
54:5:409:G:N2	54:5:426:U:O4'	2.33	0.42
54:5:630:G:H2'	54:5:631:C:C6	2.54	0.42
54:5:796:A:H2'	54:5:797:G:O4'	2.20	0.42
54:5:849:A:H8	54:5:865:U:O4	2.01	0.42
54:5:936:G:N2	54:5:1316:C:O2	2.48	0.42
54:5:1083:A:H2	54:5:1100:C:H2'	1.84	0.42
54:5:1327:G:H2'	54:5:1328:C:C6	2.54	0.42
54:5:1377:C:H2'	54:5:1378:C:O4'	2.18	0.42
55:6:63:U:H2'	55:6:64:G:C8	2.49	0.42
4:9:164:LEU:HG	4:9:206:GLN:HE22	1.85	0.42
6:B:170:MET:SD	6:B:172:ILE:HG13	2.59	0.42
7:C:16:PHE:CG	7:C:191:ILE:HD11	2.54	0.42
7:C:29:LYS:HG2	54:5:409:G:C8	2.55	0.42
8:D:129:ILE:HD11	8:D:173:ALA:HB1	2.02	0.42
18:N:66:TYR:CD2	54:5:751:C:H1'	2.55	0.42
23:S:35:PHE:CE2	23:S:72:ASN:HB3	2.55	0.42
26:a:226:PRO:HB3	52:3:1796:A:O3'	2.19	0.42
28:c:105:LYS:N	52:3:640:U:OP1	2.52	0.42
28:c:105:LYS:HB2	28:c:105:LYS:HE2	1.88	0.42
30:e:24:HIS:NE2	30:e:37:LYS:HD3	2.35	0.42
31:f:67:LYS:O	31:f:71:VAL:HG13	2.20	0.42
33:h:77:LYS:HZ3	33:h:84:LYS:HA	1.84	0.42
35:j:62:ILE:HG12	35:j:84:CYS:SG	2.59	0.42
43:r:57:ASN:HB3	43:r:62:HIS:HE1	1.84	0.42
43:r:122:LYS:HA	43:r:122:LYS:HD2	1.80	0.42
43:r:125:VAL:O	43:r:129:VAL:HG13	2.20	0.42
43:r:131:GLY:HA2	43:r:134:LYS:HE3	2.01	0.42
45:t:1:MET:O	45:t:2:GLN:NE2	2.53	0.42
46:u:86:PHE:CE1	46:u:92:LYS:HB3	2.55	0.42
47:v:56:ARG:HG3	47:v:57:THR:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:w:69:GLN:HG3	48:w:70:ALA:H	1.85	0.42
52:3:85:U:H2'	52:3:103:G:N2	2.35	0.42
52:3:230:G:H1	52:3:454:G:N2	2.16	0.42
52:3:422:A:H2'	52:3:422:A:N3	2.34	0.42
52:3:931:G:H2'	52:3:932:U:O4'	2.19	0.42
52:3:988:G:C6	52:3:1002:A:C6	3.07	0.42
52:3:1180:U:O4	52:3:1181:A:N6	2.53	0.42
52:3:1380:U:N3	52:3:1408:G:N1	2.67	0.42
52:3:1701:G:H22	52:3:2001:C:H42	1.67	0.42
52:3:1809:A:H2'	52:3:1810:A:C8	2.54	0.42
52:3:1860:A:H2	52:3:2241:A:N3	2.17	0.42
52:3:2176:G:N1	52:3:2179:A:OP2	2.53	0.42
52:3:2594:C:H3'	52:3:2595:A:C8	2.54	0.42
52:3:2696:G:N2	52:3:2728:U:OP2	2.50	0.42
54:5:179:U:O2	54:5:187:A:N6	2.29	0.42
54:5:254:G:H2'	54:5:255:G:H8	1.85	0.42
54:5:271:G:H2'	54:5:272:G:C8	2.54	0.42
54:5:429:A:H2'	54:5:430:G:H5'	2.01	0.42
54:5:707:G:H2'	54:5:708:A:H8	1.84	0.42
54:5:727:G:H4'	54:5:811:A:H61	1.84	0.42
54:5:955:U:H4'	54:5:956:U:C5'	2.49	0.42
54:5:1211:A:H2'	54:5:1212:C:C6	2.54	0.42
54:5:1229:A:C2	54:5:1259:G:H1'	2.54	0.42
54:5:1467:A:C5'	54:5:1468:A:H5''	2.49	0.42
8:D:185:ARG:HH11	54:5:20:C:H5	1.68	0.42
9:E:18:ALA:O	9:E:22:ASN:ND2	2.53	0.42
15:K:32:ASN:HD22	15:K:32:ASN:HA	1.49	0.42
15:K:103:LEU:HB2	15:K:106:VAL:HB	2.01	0.42
15:K:125:GLN:HG3	54:5:501:A:N7	2.34	0.42
21:Q:83:GLN:HA	21:Q:86:VAL:HG22	2.01	0.42
26:a:171:LEU:HB3	54:5:677:C:H1'	2.01	0.42
28:c:2:ALA:N	28:c:20:LEU:HB2	2.34	0.42
29:d:114:PHE:O	29:d:115:ARG:HD2	2.19	0.42
32:g:54:ILE:CG1	32:g:58:ILE:HD11	2.50	0.42
34:i:73:GLU:OE1	34:i:93:ARG:N	2.52	0.42
34:i:118:SER:HA	34:i:121:TRP:HB2	2.01	0.42
37:l:50:ALA:HB1	37:l:121:ALA:HB1	2.00	0.42
38:m:26:LEU:HD11	38:m:82:LEU:HD13	2.02	0.42
41:p:39:ILE:HG22	41:p:43:LYS:HE2	2.01	0.42
50:y:10:LYS:HA	50:y:13:ARG:NH2	2.35	0.42
52:3:119:A:H2	52:3:181:G:H21	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:231:A:O2'	52:3:232:A:H5''	2.19	0.42
52:3:421:A:C5	52:3:423:C:H2'	2.55	0.42
52:3:524:G:N2	52:3:527:A:C4	2.87	0.42
52:3:746:G:H2'	52:3:747:A:C8	2.54	0.42
52:3:808:U:H2'	52:3:813:G:O2'	2.18	0.42
52:3:948:A:O2'	52:3:2271:C:H1'	2.19	0.42
52:3:1065:G:H2'	52:3:1066:G:O4'	2.20	0.42
52:3:1337:G:N2	52:3:1642:G:H1	2.17	0.42
52:3:1503:A:P	52:3:1540:G:H22	2.42	0.42
52:3:1513:A:C6	52:3:1514:U:C2	3.07	0.42
52:3:1741:G:H2'	52:3:1742:C:H6	1.84	0.42
52:3:2575:G:C2	52:3:2576:A:C5	3.07	0.42
53:4:16:G:N1	53:4:63:U:C2	2.85	0.42
53:4:16:G:O6	53:4:63:U:C4	2.72	0.42
53:4:61:A:H2'	53:4:62:G:C8	2.54	0.42
54:5:29:G:H21	54:5:291:C:HO2'	1.58	0.42
54:5:361:U:H4'	54:5:362:U:H5'	2.01	0.42
54:5:438:A:C2	54:5:492:G:C2	3.08	0.42
54:5:672:A:H5''	54:5:673:A:OP2	2.20	0.42
54:5:1221:A:H2'	54:5:1222:U:O4'	2.19	0.42
54:5:1472:G:N2	54:5:1494:A:H1'	2.35	0.42
55:6:13:U:N3	55:6:25:G:N1	2.67	0.42
55:8:19:G:N2	55:8:57:C:O2'	2.51	0.42
3:2:11:CYS:HB2	3:2:32:HIS:ND1	2.34	0.42
4:9:19:ILE:HD13	4:9:24:THR:HG23	2.02	0.42
4:9:226:MET:HE3	4:9:230:LEU:HD22	2.01	0.42
4:9:409:ALA:HB2	4:9:476:PRO:HA	2.02	0.42
4:9:478:VAL:HG22	4:9:645:LEU:HD23	2.02	0.42
4:9:512:GLU:HA	4:9:513:PRO:HD3	1.90	0.42
8:D:136:ILE:HA	8:D:175:TYR:CZ	2.55	0.42
8:D:145:GLY:HA3	8:D:190:ASN:ND2	2.35	0.42
13:I:50:THR:HG23	54:5:1127:A:H5''	2.02	0.42
14:J:80:LYS:NZ	54:5:704:U:OP1	2.50	0.42
16:L:66:GLU:HG3	16:L:67:GLY:H	1.84	0.42
18:N:37:THR:HG23	18:N:53:LEU:HD11	2.01	0.42
19:O:5:ARG:HH11	54:5:44:C:H5'	1.83	0.42
19:O:32:HIS:HD1	19:O:41:LYS:HE2	1.85	0.42
20:P:14:LYS:HD2	20:P:15:SER:HB3	2.02	0.42
21:Q:48:GLN:C	21:Q:50:ARG:H	2.28	0.42
21:Q:53:LEU:HA	21:Q:53:LEU:HD23	1.83	0.42
21:Q:101:PHE:HZ	54:5:731:A:H1'	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:44:HIS:CE1	26:a:49:ASN:HA	2.55	0.42
27:b:54:PHE:CZ	27:b:80:HIS:HB3	2.55	0.42
28:c:61:GLY:HA2	52:3:833:C:OP2	2.20	0.42
28:c:104:ASN:HB3	52:3:640:U:OP1	2.20	0.42
30:e:38:LEU:HD22	30:e:71:TYR:CE1	2.55	0.42
30:e:80:ILE:HG13	30:e:86:PHE:CE1	2.54	0.42
35:j:5:MET:HA	35:j:21:ILE:N	2.35	0.42
37:l:62:GLY:HA3	37:l:107:ALA:O	2.20	0.42
38:m:48:LEU:O	38:m:52:ALA:HB2	2.20	0.42
41:p:64:LEU:HD21	41:p:75:TYR:CE1	2.54	0.42
41:p:92:LYS:NZ	52:3:1034:A:OP2	2.50	0.42
51:z:26:LYS:HD3	52:3:2292:A:H5''	2.02	0.42
52:3:511:U:H4'	52:3:544:U:H2'	2.02	0.42
52:3:818:A:O2'	52:3:820:U:OP1	2.33	0.42
52:3:885:A:H2'	52:3:886:U:O4'	2.19	0.42
52:3:890:U:H2'	52:3:891:G:H8	1.85	0.42
52:3:901:C:H4'	52:3:902:U:O5'	2.20	0.42
52:3:977:A:H3'	52:3:978:G:H8	1.84	0.42
52:3:1495:A:O5'	52:3:1548:A:N6	2.50	0.42
52:3:1629:U:H2'	52:3:1630:A:C8	2.55	0.42
52:3:1826:A:H5''	52:3:1827:U:H3'	2.02	0.42
52:3:1844:C:O2'	52:3:1934:A:H1'	2.19	0.42
52:3:1844:C:H2'	52:3:1906:G:H1	1.83	0.42
52:3:1914:G:O6	52:3:1930:U:O4	2.37	0.42
52:3:2057:C:H2'	52:3:2058:G:O4'	2.20	0.42
52:3:2275:A:H3'	52:3:2275:A:N3	2.35	0.42
52:3:2599:C:H2'	52:3:2600:G:H8	1.83	0.42
54:5:169:G:H1	54:5:196:G:H22	1.68	0.42
54:5:303:A:H2'	54:5:304:U:O4'	2.20	0.42
54:5:319:U:N3	54:5:323:A:C8	2.80	0.42
54:5:649:U:H1'	54:5:650:A:C8	2.55	0.42
54:5:820:A:N6	54:5:872:C:H42	2.17	0.42
54:5:883:A:H4'	54:5:884:G:OP1	2.19	0.42
54:5:1356:U:C2	54:5:1357:C:H5	2.37	0.42
1:0:12:ARG:HD2	1:0:44:VAL:HG11	2.02	0.42
4:9:241:LYS:HE2	4:9:276:ASP:O	2.20	0.42
4:9:493:LYS:HA	4:9:505:GLY:O	2.19	0.42
5:A:128:ASN:O	5:A:132:LYS:HG2	2.20	0.42
8:D:187:THR:O	8:D:191:MET:HE3	2.20	0.42
9:E:22:ASN:O	9:E:26:GLN:OE1	2.38	0.42
14:J:37:TRP:HH2	54:5:685:G:H4'	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:M:23:ARG:HG2	17:M:30:ALA:HA	2.02	0.42
26:a:46:GLY:HA3	26:a:58:GLN:HB2	2.02	0.42
27:b:160:PHE:CD1	34:i:84:ILE:HG21	2.54	0.42
39:n:76:ASP:OD1	39:n:77:ILE:N	2.53	0.42
43:r:57:ASN:ND2	52:3:529:G:H21	2.14	0.42
43:r:86:ILE:HD11	52:3:1301:G:C6	2.54	0.42
52:3:177:U:O4	52:3:178:A:N6	2.53	0.42
52:3:188:G:H4'	52:3:221:A:C2	2.54	0.42
52:3:488:G:C2	52:3:494:G:C4	3.08	0.42
52:3:491:A:N6	52:3:508:A:H2'	2.35	0.42
52:3:740:A:N6	52:3:762:A:C8	2.88	0.42
52:3:1263:G:H2'	52:3:1264:U:C6	2.54	0.42
52:3:1312:A:H2	52:3:1313:G:N7	2.17	0.42
52:3:1609:U:H2'	52:3:1610:U:C6	2.55	0.42
52:3:1619:A:H2'	52:3:1620:A:C8	2.54	0.42
52:3:2278:G:H2'	52:3:2279:G:O4'	2.19	0.42
52:3:2328:A:H2'	52:3:2341:G:C6	2.54	0.42
52:3:2455:G:N2	52:3:2458:A:OP2	2.53	0.42
52:3:2499:U:O4'	52:3:2578:A:H5'	2.19	0.42
52:3:2712:C:H2'	52:3:2713:A:C8	2.55	0.42
52:3:2858:A:C6	52:3:2859:U:C4	3.08	0.42
54:5:28:G:H2'	54:5:29:G:H8	1.84	0.42
54:5:29:G:H2'	54:5:30:A:O4'	2.19	0.42
54:5:106:C:H42	54:5:111:A:N6	2.16	0.42
54:5:145:G:N2	54:5:148:A:OP2	2.49	0.42
54:5:582:G:H2'	54:5:583:G:C8	2.55	0.42
54:5:1128:G:H2'	54:5:1129:C:C6	2.55	0.42
54:5:1133:A:O4'	54:5:1156:G:N2	2.52	0.42
54:5:1415:G:H2'	54:5:1416:U:H6	1.83	0.42
4:9:138:ASP:HA	4:9:170:ASN:HA	2.02	0.42
5:A:146:LYS:HE3	54:5:1136:G:OP2	2.20	0.42
15:K:126:GLN:N	54:5:500:G:OP1	2.52	0.42
17:M:15:LYS:NZ	54:5:1194:A:OP1	2.50	0.42
27:b:57:VAL:HG21	27:b:61:LYS:HB2	2.02	0.42
27:b:228:LYS:HD2	27:b:228:LYS:HA	1.71	0.42
32:g:11:VAL:HG22	32:g:58:ILE:HG22	2.01	0.42
43:r:88:ARG:HD3	43:r:94:ASN:HB3	2.02	0.42
45:t:78:ASP:N	45:t:85:THR:OG1	2.39	0.42
52:3:276:A:H4'	52:3:405:C:O2'	2.20	0.42
52:3:277:C:N4	52:3:293:G:O6	2.53	0.42
52:3:412:A:C8	52:3:437:A:N6	2.87	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:437:A:O2'	52:3:438:A:O5'	2.35	0.42
52:3:638:A:H8	52:3:692:U:O2'	2.02	0.42
52:3:656:G:N3	52:3:656:G:H2'	2.34	0.42
52:3:674:G:C6	52:3:687:G:N1	2.88	0.42
52:3:684:A:H1'	52:3:2359:G:H5''	2.01	0.42
52:3:890:U:H2'	52:3:891:G:C8	2.55	0.42
52:3:972:C:H2'	52:3:973:U:H6	1.85	0.42
52:3:985:A:H2'	52:3:986:G:H8	1.85	0.42
52:3:1415:A:H2'	52:3:1416:G:H8	1.84	0.42
52:3:1761:C:H2'	52:3:1762:A:H8	1.80	0.42
52:3:1821:G:H2'	52:3:1822:A:C8	2.54	0.42
52:3:1896:A:C4	52:3:1897:A:C8	3.08	0.42
52:3:2111:U:H5''	52:3:2112:A:N7	2.35	0.42
52:3:2115:A:N1	52:3:2190:G:C6	2.87	0.42
52:3:2244:U:H3'	52:3:2245:G:C8	2.55	0.42
52:3:2848:A:H2'	52:3:2849:G:O4'	2.20	0.42
53:4:20:U:H2'	53:4:21:G:C8	2.54	0.42
53:4:64:G:O2'	53:4:97:A:N6	2.49	0.42
54:5:24:C:H2'	54:5:25:U:H6	1.83	0.42
54:5:124:U:O2	54:5:221:U:O2'	2.38	0.42
54:5:124:U:C4	54:5:125:A:H2	2.38	0.42
54:5:131:G:H2'	54:5:132:G:O4'	2.20	0.42
54:5:367:A:C2	54:5:387:G:C2	3.07	0.42
54:5:395:G:H2'	54:5:396:C:H6	1.85	0.42
54:5:602:G:C6	54:5:632:A:N1	2.87	0.42
54:5:1236:A:H4'	54:5:1258:U:H5'	2.02	0.42
54:5:1290:G:N1	54:5:1293:A:OP2	2.45	0.42
4:9:31:LEU:HD13	4:9:79:LEU:HD23	2.01	0.41
4:9:476:PRO:HB2	4:9:649:PHE:CE1	2.54	0.41
5:A:152:LEU:O	5:A:156:ILE:HG13	2.20	0.41
6:B:164:GLU:HG3	6:B:166:ALA:H	1.85	0.41
12:H:12:ARG:HA	12:H:108:ARG:CZ	2.49	0.41
14:J:102:GLU:HB2	24:T:8:ASN:OD1	2.20	0.41
15:K:113:GLY:O	15:K:118:VAL:HG13	2.19	0.41
16:L:76:ASN:CG	54:5:1284:A:H5'	2.44	0.41
17:M:9:LYS:HZ1	54:5:975:C:H4'	1.85	0.41
19:O:22:ARG:NH1	54:5:371:U:H1'	2.34	0.41
22:R:54:GLY:C	54:5:953:A:H1'	2.45	0.41
22:R:66:MET:HG3	22:R:69:HIS:ND1	2.35	0.41
26:a:99:ILE:HG21	26:a:121:ILE:HD11	2.02	0.41
26:a:110:ILE:O	26:a:112:PRO:HD3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:c:200:GLU:HB3	28:c:203:VAL:HG13	2.01	0.41
31:f:9:VAL:H	31:f:34:LYS:NZ	2.17	0.41
35:j:28:THR:O	35:j:29:ARG:HG2	2.20	0.41
36:k:106:ALA:HB2	52:3:657:A:OP2	2.20	0.41
36:k:127:GLU:HB3	36:k:149:LEU:HD11	2.02	0.41
38:m:9:LYS:HB2	52:3:2009:U:H4'	2.01	0.41
45:t:39:LEU:HD12	45:t:40:ASN:H	1.85	0.41
52:3:71:C:H2'	52:3:72:G:O4'	2.20	0.41
52:3:237:A:H2'	52:3:238:U:O4'	2.19	0.41
52:3:509:G:H2'	52:3:510:G:H8	1.85	0.41
52:3:625:G:N2	52:3:700:U:O2	2.45	0.41
52:3:894:G:H3'	52:3:895:G:C8	2.54	0.41
52:3:894:G:N3	52:3:2276:A:H2'	2.34	0.41
52:3:1012:G:O2'	52:3:1190:A:O2'	2.28	0.41
52:3:1587:U:O2'	52:3:1588:A:OP1	2.28	0.41
52:3:1723:A:H2'	52:3:1724:A:H8	1.85	0.41
52:3:1741:G:H2'	52:3:1742:C:C6	2.55	0.41
52:3:1797:C:H2'	52:3:1798:A:C8	2.55	0.41
52:3:1932:C:N3	52:3:1936:G:N1	2.55	0.41
52:3:2547:C:H2'	52:3:2548:G:H8	1.85	0.41
52:3:2675:C:H2'	52:3:2676:G:O4'	2.20	0.41
53:4:16:G:C6	53:4:63:U:N3	2.88	0.41
54:5:6:C:N4	54:5:294:A:HO2'	2.17	0.41
54:5:74:U:C4	54:5:75:A:N6	2.88	0.41
54:5:119:U:H4'	54:5:321:A:H1'	2.02	0.41
54:5:136:U:H2'	54:5:137:A:C8	2.55	0.41
54:5:437:U:H3'	54:5:438:A:C5'	2.49	0.41
54:5:561:A:H2'	54:5:565:G:C8	2.55	0.41
54:5:763:A:H2'	54:5:764:A:O4'	2.20	0.41
54:5:1056:U:O2'	54:5:1100:C:H4'	2.20	0.41
54:5:1065:G:C2	54:5:1093:A:N6	2.88	0.41
54:5:1262:A:H61	54:5:1346:G:H1'	1.86	0.41
54:5:1488:A:H8	54:5:1488:A:O5'	2.03	0.41
3:2:1:MET:HG3	3:2:33:LYS:HB3	2.01	0.41
4:9:18:HIS:HB2	4:9:86:VAL:HA	2.01	0.41
4:9:173:ASN:O	4:9:185:PHE:N	2.52	0.41
5:A:166:VAL:HG23	5:A:166:VAL:O	2.20	0.41
9:E:45:LEU:H	9:E:54:SER:HA	1.85	0.41
15:K:36:THR:HG23	54:5:50:U:C2	2.55	0.41
15:K:60:SER:O	54:5:516:C:H1'	2.20	0.41
16:L:87:ARG:HG3	22:R:73:GLU:HG3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:O:2:ARG:HB3	19:O:35:PRO:HG3	2.01	0.41
21:Q:63:PHE:O	21:Q:70:ILE:HA	2.20	0.41
23:S:9:LYS:HG3	23:S:12:ARG:HH11	1.84	0.41
23:S:16:LYS:HD2	54:5:89:G:P	2.60	0.41
30:e:161:LYS:NZ	52:3:2667:G:H5'	2.35	0.41
32:g:28:ASP:H	32:g:109:VAL:CG2	2.29	0.41
33:h:39:PHE:CE1	33:h:43:THR:HG21	2.55	0.41
33:h:130:GLN:HB3	52:3:1112:A:C2	2.55	0.41
39:n:79:ASP:HA	39:n:82:VAL:HG22	2.02	0.41
41:p:7:LYS:NZ	52:3:1246:U:OP2	2.50	0.41
41:p:60:TRP:CE2	41:p:93:VAL:HB	2.55	0.41
42:q:9:SER:HB3	52:3:1196:U:H1'	2.02	0.41
42:q:53:ALA:HA	42:q:98:VAL:HG23	2.03	0.41
42:q:66:ARG:NH2	52:3:584:G:OP1	2.53	0.41
42:q:68:VAL:HB	42:q:85:HIS:O	2.20	0.41
42:q:68:VAL:HB	42:q:85:HIS:HB3	2.01	0.41
46:u:82:LYS:HA	46:u:82:LYS:HD2	1.89	0.41
52:3:116:C:H2'	52:3:117:C:O4'	2.21	0.41
52:3:1102:A:C8	52:3:1103:G:H3'	2.54	0.41
52:3:1195:A:H2'	52:3:1196:U:C6	2.55	0.41
52:3:1582:G:H2'	52:3:1583:G:C8	2.55	0.41
52:3:2003:C:C2	52:3:2734:C:H5'	2.56	0.41
52:3:2080:C:C2	52:3:2081:U:C5	3.08	0.41
52:3:2222:C:H2'	52:3:2223:C:O4'	2.21	0.41
52:3:2394:A:H2'	52:3:2395:U:C6	2.55	0.41
52:3:2466:G:H1'	52:3:2467:A:N7	2.35	0.41
52:3:2849:G:H2'	52:3:2850:G:O4'	2.20	0.41
52:3:2895:A:H2'	52:3:2896:G:C8	2.55	0.41
54:5:129:U:H4'	54:5:198:A:N6	2.35	0.41
54:5:284:A:O2'	54:5:301:G:OP1	2.27	0.41
54:5:369:A:N3	54:5:370:A:C8	2.88	0.41
54:5:407:A:O2'	54:5:408:U:O4'	2.39	0.41
54:5:471:A:H2'	54:5:472:G:C8	2.55	0.41
54:5:484:A:C5	54:5:485:C:C4	3.08	0.41
54:5:561:A:O2'	54:5:564:G:O3'	2.38	0.41
54:5:573:G:C6	54:5:875:G:C6	3.08	0.41
54:5:647:U:H2'	54:5:648:C:C6	2.56	0.41
54:5:904:C:H5'	54:5:1388:A:H4'	2.02	0.41
54:5:981:U:H2'	54:5:982:A:H8	1.85	0.41
54:5:1034:G:O2'	54:5:1035:A:O4'	2.29	0.41
54:5:1130:G:H2'	54:5:1131:A:C8	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1257:C:H2'	54:5:1258:U:O4'	2.20	0.41
54:5:1307:A:H2'	54:5:1308:G:O4'	2.20	0.41
54:5:1450:C:C2	54:5:1451:A:C8	3.08	0.41
4:9:164:LEU:HB2	4:9:176:ILE:HB	2.02	0.41
7:C:113:ALA:O	7:C:117:VAL:HG23	2.19	0.41
9:E:74:ARG:O	9:E:78:ILE:HG12	2.20	0.41
12:H:33:ASN:ND2	12:H:35:ARG:HH11	2.12	0.41
13:I:29:LYS:HA	13:I:32:VAL:HG12	2.01	0.41
14:J:115:LYS:HB2	54:5:775:G:H21	1.85	0.41
15:K:114:THR:OG1	15:K:115:LEU:N	2.51	0.41
18:N:29:LEU:O	18:N:33:ILE:HG12	2.20	0.41
22:R:22:MET:HE1	22:R:49:PHE:HE1	1.85	0.41
27:b:126:TRP:HB2	27:b:128:PHE:HD2	1.84	0.41
29:d:117:LEU:HD23	29:d:117:LEU:HA	1.89	0.41
30:e:73:ALA:HB1	52:3:2755:G:H5''	2.01	0.41
30:e:157:PRO:HB2	30:e:172:ILE:HG21	2.01	0.41
32:g:46:LYS:HE2	32:g:46:LYS:HB2	1.59	0.41
36:k:69:ARG:NE	52:3:2412:A:O2'	2.52	0.41
37:l:26:TYR:HA	37:l:132:LEU:CD2	2.50	0.41
45:t:92:VAL:HG13	52:3:332:G:OP1	2.20	0.41
52:3:34:C:H2'	52:3:35:U:C6	2.54	0.41
52:3:82:G:N2	52:3:328:A:O2'	2.53	0.41
52:3:432:G:C5	52:3:433:A:N7	2.89	0.41
52:3:618:G:N1	52:3:1283:A:OP2	2.53	0.41
52:3:631:A:N1	52:3:695:G:C6	2.88	0.41
52:3:740:A:OP2	52:3:761:G:N2	2.51	0.41
52:3:1063:A:N6	52:3:1160:G:H2'	2.35	0.41
52:3:1523:C:H2'	52:3:1524:C:C6	2.55	0.41
52:3:1585:A:N7	52:3:1749:A:N6	2.52	0.41
52:3:1725:G:H2'	52:3:1726:U:O4'	2.21	0.41
52:3:2375:A:H2'	52:3:2376:C:C6	2.54	0.41
52:3:2633:C:H2'	52:3:2634:C:H6	1.84	0.41
53:4:27:A:H2	53:4:56:A:H61	1.68	0.41
54:5:89:G:H4'	54:5:160:A:H5''	2.01	0.41
54:5:137:A:C5	54:5:157:A:N6	2.88	0.41
54:5:548:G:H2'	54:5:549:U:C6	2.55	0.41
54:5:763:A:H2	54:5:1500:G:N3	2.18	0.41
54:5:1051:U:H2'	54:5:1052:G:C8	2.54	0.41
54:5:1133:A:C2	54:5:1156:G:C4	3.09	0.41
54:5:1210:U:O2'	54:5:1279:G:OP1	2.32	0.41
5:A:91:TYR:HD1	5:A:258:ILE:HG22	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:D:160:ILE:HD12	8:D:178:ILE:HG22	2.02	0.41
8:D:185:ARG:NE	54:5:13:U:O4	2.36	0.41
8:D:187:THR:O	8:D:191:MET:HG2	2.21	0.41
10:F:62:GLU:HA	10:F:65:VAL:HG22	2.01	0.41
13:I:90:ILE:HA	13:I:93:LEU:HD12	2.02	0.41
17:M:4:LYS:HE3	54:5:1038:G:H4'	2.02	0.41
18:N:9:ILE:HD11	54:5:655:G:OP1	2.20	0.41
20:P:67:ARG:HG3	54:5:260:C:H1'	2.02	0.41
21:Q:63:PHE:CD2	21:Q:86:VAL:HG11	2.56	0.41
27:b:116:GLY:HA3	52:3:2826:G:OP2	2.21	0.41
29:d:40:VAL:HG21	29:d:53:ALA:HB2	2.02	0.41
30:e:121:PRO:HD2	30:e:147:PHE:HB2	2.03	0.41
31:f:47:ARG:HH11	31:f:51:LEU:HB2	1.85	0.41
34:i:12:ALA:HB2	52:3:573:A:O3'	2.21	0.41
46:u:50:ILE:HG21	46:u:53:ARG:HE	1.85	0.41
50:y:4:GLN:NE2	52:3:1294:G:H1'	2.34	0.41
52:3:33:C:H2'	52:3:34:C:H6	1.85	0.41
52:3:116:C:H2'	52:3:117:C:C6	2.55	0.41
52:3:308:A:H1'	52:3:397:G:N2	2.35	0.41
52:3:515:A:O2'	52:3:517:G:H5'	2.20	0.41
52:3:556:U:O2	52:3:556:U:H2'	2.20	0.41
52:3:793:C:H2'	52:3:794:G:C8	2.53	0.41
52:3:1148:U:H5'	52:3:2758:A:H5''	2.02	0.41
52:3:1394:A:H3'	52:3:1395:A:C8	2.55	0.41
52:3:1524:C:C2	52:3:1525:G:C8	3.08	0.41
52:3:1759:C:H2'	52:3:1760:G:H8	1.86	0.41
52:3:1997:C:H2'	52:3:1998:U:C6	2.56	0.41
52:3:2122:G:C6	52:3:2124:A:H2'	2.55	0.41
52:3:2122:G:N1	52:3:2124:A:H2'	2.36	0.41
52:3:2306:A:C2	52:3:2307:G:H1'	2.55	0.41
52:3:2381:G:H2'	52:3:2382:A:C8	2.55	0.41
52:3:2438:A:N3	52:3:2438:A:H2'	2.35	0.41
52:3:2709:C:N4	52:3:2712:C:OP2	2.53	0.41
54:5:11:A:H2'	54:5:12:G:C8	2.56	0.41
54:5:101:A:H3'	54:5:102:G:C8	2.52	0.41
54:5:311:A:H5'	54:5:313:U:P	2.61	0.41
54:5:580:C:C2	54:5:757:G:C6	3.08	0.41
54:5:1009:G:N2	54:5:1011:A:H3'	2.36	0.41
54:5:1111:G:H2'	54:5:1112:U:O4'	2.20	0.41
3:2:13:ASP:HB2	3:2:28:LYS:HE2	2.02	0.41
4:9:88:PHE:CG	4:9:89:THR:N	2.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:178:LEU:HD21	4:9:210:MET:HG3	2.01	0.41
7:C:8:PHE:CE1	7:C:23:LYS:HG2	2.56	0.41
7:C:147:LYS:O	7:C:150:LYS:HG2	2.21	0.41
12:H:19:VAL:HG21	12:H:84:GLY:O	2.19	0.41
12:H:104:LYS:HE3	12:H:109:ASP:HB3	2.03	0.41
13:I:8:LYS:HZ2	13:I:87:GLN:H	1.68	0.41
16:L:109:ARG:HH22	54:5:1280:A:H2	1.68	0.41
26:a:233:MET:HG3	26:a:238:HIS:ND1	2.36	0.41
27:b:135:HIS:ND1	52:3:1709:C:O4'	2.53	0.41
27:b:139:TYR:N	52:3:779:C:OP1	2.53	0.41
37:l:80:GLU:OE1	52:3:2501:U:O2'	2.32	0.41
40:o:19:LYS:HG2	40:o:82:HIS:HA	2.03	0.41
41:p:61:ILE:HB	52:3:1045:A:O2'	2.20	0.41
51:z:8:ARG:HH11	52:3:2427:U:H1'	1.85	0.41
52:3:38:G:H1'	52:3:486:G:H21	1.86	0.41
52:3:278:U:H2'	52:3:279:U:C6	2.56	0.41
52:3:1038:G:H2'	52:3:1039:G:H8	1.85	0.41
52:3:1243:A:H2'	52:3:1244:A:C8	2.56	0.41
52:3:1415:A:H2'	52:3:1416:G:C8	2.55	0.41
52:3:1447:A:N6	52:3:1613:A:H1'	2.35	0.41
52:3:1762:A:H61	52:3:2702:G:H21	0.60	0.41
52:3:1766:A:O2'	52:3:1767:A:H5'	2.20	0.41
52:3:2346:G:N3	52:3:2347:G:C8	2.89	0.41
52:3:2611:G:H2'	52:3:2612:G:C8	2.56	0.41
52:3:2878:G:H2'	52:3:2878:G:N3	2.36	0.41
53:4:40:U:H2'	53:4:41:C:C6	2.55	0.41
54:5:63:U:H5'	54:5:381:C:O2	2.20	0.41
54:5:308:C:H2'	54:5:309:A:C8	2.55	0.41
54:5:609:G:H2'	54:5:610:C:C6	2.56	0.41
54:5:832:G:H2'	54:5:833:G:C8	2.56	0.41
54:5:1104:C:H2'	54:5:1105:C:C6	2.55	0.41
54:5:1227:A:N6	54:5:1343:G:H21	2.19	0.41
54:5:1321:G:N2	54:5:1322:U:O4	2.38	0.41
4:9:150:SER:HA	4:9:153:GLN:HG3	2.03	0.41
4:9:645:LEU:HD12	4:9:648:MET:HB3	2.03	0.41
5:A:23:LEU:HD13	5:A:62:ARG:HD2	2.02	0.41
8:D:129:ILE:HD12	8:D:175:TYR:CZ	2.55	0.41
15:K:55:PRO:HD2	15:K:61:ALA:O	2.20	0.41
17:M:20:ALA:HB2	54:5:1334:A:N7	2.36	0.41
18:N:84:LEU:HB3	52:3:750:A:H5''	2.03	0.41
19:O:54:ASN:O	54:5:123:U:O2'	2.27	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:d:35:VAL:HG21	52:3:2321:C:O3'	2.20	0.41
30:e:67:PHE:HB3	30:e:71:TYR:CE2	2.56	0.41
30:e:80:ILE:HG13	30:e:86:PHE:HE1	1.85	0.41
39:n:50:ILE:HA	53:4:103:C:H1'	2.03	0.41
40:o:117:ARG:NH1	54:5:1416:U:O2	2.54	0.41
49:x:41:LYS:HE2	49:x:47:ILE:HB	2.03	0.41
52:3:56:G:N2	52:3:118:G:H1'	2.36	0.41
52:3:90:G:C2	52:3:91:G:C5	3.09	0.41
52:3:96:A:H3'	52:3:97:A:H8	1.86	0.41
52:3:176:U:H2'	52:3:177:U:C6	2.56	0.41
52:3:349:G:H2'	52:3:350:C:C6	2.55	0.41
52:3:378:G:H2'	52:3:379:A:C8	2.56	0.41
52:3:442:G:C2	52:3:457:U:O2	2.74	0.41
52:3:664:G:C6	52:3:672:G:C2	3.09	0.41
52:3:874:U:H4'	52:3:1222:A:C2	2.56	0.41
52:3:1100:U:H2'	52:3:1101:U:O4'	2.21	0.41
52:3:1166:G:H1	52:3:2047:U:H1'	1.85	0.41
52:3:1834:U:H2'	52:3:1835:G:O4'	2.20	0.41
52:3:2006:C:H4'	52:3:2731:U:O2	2.20	0.41
52:3:2100:G:N7	52:3:2233:A:H2'	2.35	0.41
52:3:2332:U:H1'	52:3:2345:G:H5''	2.01	0.41
52:3:2374:A:C4	52:3:2375:A:C8	3.09	0.41
52:3:2539:A:N3	52:3:2539:A:H2'	2.36	0.41
52:3:2869:U:H5''	52:3:2870:U:OP2	2.21	0.41
54:5:926:C:H2'	54:5:927:C:C6	2.56	0.41
54:5:1086:U:H2'	54:5:1087:C:C6	2.55	0.41
55:6:28:A:OP2	55:6:28:A:H8	2.04	0.41
3:2:1:MET:HE1	52:3:2751:C:OP1	2.21	0.41
4:9:486:LYS:HA	4:9:513:PRO:HG2	2.03	0.41
8:D:76:ILE:HD12	54:5:1072:G:OP2	2.20	0.41
9:E:61:LYS:HE3	9:E:61:LYS:HB2	1.83	0.41
9:E:92:ARG:HH22	21:Q:88:LYS:HD2	1.85	0.41
12:H:110:LYS:HZ3	54:5:1107:U:H1'	1.85	0.41
12:H:110:LYS:HE2	54:5:1108:A:C2	2.55	0.41
17:M:45:ARG:HD3	17:M:49:TYR:OH	2.20	0.41
23:S:71:ARG:NH2	54:5:255:G:OP2	2.53	0.41
26:a:28:THR:O	52:3:1601:A:H2	2.04	0.41
26:a:52:LYS:HG2	52:3:1813:C:O3'	2.21	0.41
26:a:151:GLU:OE2	26:a:157:GLY:N	2.53	0.41
26:a:190:ARG:HH11	26:a:192:PHE:HZ	1.66	0.41
27:b:6:ILE:O	27:b:206:LEU:HD12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:54:PHE:O	27:b:78:THR:HB	2.21	0.41
28:c:9:ILE:HD12	28:c:9:ILE:HA	1.96	0.41
28:c:64:LYS:HZ3	28:c:67:LYS:HG3	1.84	0.41
28:c:189:ARG:O	28:c:193:LEU:HB2	2.21	0.41
29:d:59:LEU:HD11	49:x:30:LYS:HD3	2.02	0.41
32:g:7:LYS:HA	32:g:10:GLN:HG3	2.03	0.41
33:h:129:LYS:HB2	52:3:1112:A:O2'	2.20	0.41
35:j:7:ARG:HB2	35:j:18:GLN:OE1	2.20	0.41
37:l:68:ILE:HG12	37:l:102:VAL:O	2.21	0.41
38:m:2:SER:N	52:3:1692:A:N3	2.68	0.41
38:m:27:ALA:HB1	38:m:73:PHE:CD1	2.56	0.41
39:n:96:SER:HB3	53:4:46:C:OP1	2.20	0.41
40:o:92:ARG:NE	40:o:116:GLU:O	2.46	0.41
43:r:98:LYS:HA	52:3:2019:G:H5'	2.02	0.41
48:w:45:ASN:HB2	52:3:63:U:P	2.61	0.41
48:w:107:ASP:O	52:3:1545:A:O2'	2.32	0.41
52:3:192:U:H1'	52:3:1393:A:N6	2.36	0.41
52:3:231:A:C4	52:3:2415:A:H1'	2.56	0.41
52:3:306:G:H2'	52:3:307:C:C6	2.55	0.41
52:3:544:U:H5''	52:3:547:G:O6	2.20	0.41
52:3:1006:U:H2'	52:3:1007:C:H6	1.84	0.41
52:3:1028:C:C2	52:3:1029:A:C8	3.09	0.41
52:3:1099:C:C4	52:3:1100:U:C4	3.09	0.41
52:3:1343:C:H2'	52:3:1344:U:C6	2.55	0.41
52:3:1350:A:H2	52:3:1361:U:H1'	1.86	0.41
52:3:1381:A:H8	52:3:1405:G:N2	2.19	0.41
52:3:1638:C:H2'	52:3:1639:C:H6	1.85	0.41
52:3:1921:C:H2'	52:3:1922:U:C6	2.56	0.41
52:3:1941:C:H2'	52:3:1942:G:O4'	2.20	0.41
52:3:2073:C:N4	52:3:2074:G:O6	2.54	0.41
52:3:2169:G:H5'	52:3:2172:A:H62	1.86	0.41
52:3:2287:G:N2	52:3:2335:A:N3	2.66	0.41
52:3:2529:C:H1'	52:3:2573:A:H1'	2.02	0.41
52:3:2592:U:H4'	52:3:2613:U:H5	1.86	0.41
52:3:2728:U:C2	52:3:2729:A:N7	2.89	0.41
52:3:2773:A:H2	52:3:2774:A:C8	2.38	0.41
52:3:2812:U:H1'	52:3:2813:A:C8	2.56	0.41
54:5:34:A:H2'	54:5:35:C:C6	2.56	0.41
54:5:66:A:O2'	54:5:377:A:OP1	2.34	0.41
54:5:301:G:H4'	54:5:302:A:H4'	2.02	0.41
54:5:367:A:N6	54:5:387:G:C6	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:619:A:HO2'	54:5:620:A:C5'	2.34	0.41
54:5:826:G:H2'	54:5:827:C:O4'	2.21	0.41
54:5:899:U:H2'	54:5:900:G:C4	2.55	0.41
54:5:1060:C:H5	54:5:1085:G:C5	2.39	0.41
54:5:1403:A:H2'	54:5:1404:U:O4'	2.21	0.41
1:0:29:LYS:HA	1:0:29:LYS:HD3	1.73	0.41
4:9:537:PRO:HG3	4:9:575:GLU:HB3	2.01	0.41
4:9:609:PRO:HA	4:9:636:VAL:HA	2.01	0.41
7:C:58:GLN:HE22	54:5:543:C:P	2.42	0.41
7:C:91:ARG:HB3	7:C:181:PHE:CD1	2.56	0.41
7:C:105:GLY:O	7:C:158:SER:HA	2.21	0.41
7:C:124:LEU:HD11	7:C:136:LEU:HG	2.02	0.41
9:E:84:ARG:HG2	21:Q:96:LEU:HD22	2.03	0.41
11:G:100:PRO:HD2	11:G:103:LYS:HD2	2.03	0.41
11:G:117:SER:HA	11:G:122:VAL:HA	2.02	0.41
19:O:21:LYS:NZ	54:5:97:G:OP2	2.50	0.41
27:b:81:LEU:HD23	52:3:2643:A:H5''	2.02	0.41
28:c:144:MET:SD	52:3:354:C:N3	2.93	0.41
35:j:6:THR:HG22	35:j:8:LEU:HB3	2.01	0.41
35:j:7:ARG:HA	35:j:19:VAL:O	2.21	0.41
38:m:90:TYR:HB3	38:m:97:TYR:CE1	2.55	0.41
52:3:223:A:H2'	52:3:224:G:C8	2.56	0.41
52:3:273:C:N4	52:3:295:U:O2	2.54	0.41
52:3:341:G:N2	52:3:344:A:C8	2.88	0.41
52:3:343:A:N7	52:3:364:A:N6	2.69	0.41
52:3:413:G:O2'	52:3:414:C:H5'	2.20	0.41
52:3:478:G:H5'	52:3:649:A:H61	1.85	0.41
52:3:525:A:H2'	52:3:526:G:N9	2.36	0.41
52:3:1610:U:H2'	52:3:1611:C:H6	1.86	0.41
52:3:1886:C:H2'	52:3:1887:U:H6	1.86	0.41
52:3:1896:A:N6	52:3:2242:G:H1'	2.35	0.41
52:3:2005:G:H4'	52:3:2732:A:N3	2.35	0.41
52:3:2316:G:N2	52:3:2318:A:N7	2.68	0.41
52:3:2612:G:H2'	52:3:2613:U:C6	2.56	0.41
52:3:2780:U:H2'	52:3:2781:C:O4'	2.20	0.41
52:3:2828:C:H2'	52:3:2829:G:O4'	2.21	0.41
54:5:120:A:C8	54:5:321:A:C5	3.09	0.41
54:5:232:G:N2	54:5:632:A:H5'	2.35	0.41
54:5:574:C:H5'	54:5:576:A:P	2.61	0.41
54:5:651:G:C5	54:5:750:A:C6	3.09	0.41
54:5:784:A:N6	54:5:793:C:C4	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1234:C:H3'	54:5:1235:C:H5''	2.02	0.41
54:5:1433:G:H2'	54:5:1434:C:C6	2.56	0.41
54:5:1449:G:H2'	54:5:1450:C:O4'	2.20	0.41
55:8:70:G:H2'	55:8:71:A:H8	1.85	0.41
3:2:23:VAL:HG13	3:2:37:GLY:N	2.36	0.41
4:9:33:HIS:HA	4:9:36:ARG:NH1	2.36	0.41
4:9:65:SER:O	4:9:81:ASP:N	2.54	0.41
4:9:89:THR:HG21	4:9:402:ALA:HB3	2.02	0.41
4:9:122:GLN:HA	4:9:125:ARG:HD3	2.03	0.41
4:9:279:PRO:HB2	4:9:283:ASP:HB2	2.03	0.41
4:9:318:PRO:O	54:5:354:U:H4'	2.20	0.41
4:9:367:ILE:HB	4:9:373:CYS:HB2	2.02	0.41
5:A:30:VAL:HB	5:A:55:HIS:ND1	2.36	0.41
5:A:86:GLY:HA2	5:A:92:VAL:HG12	2.03	0.41
5:A:161:LYS:NZ	54:5:1089:C:H5''	2.36	0.41
7:C:4:THR:O	7:C:111:ARG:NH2	2.54	0.41
7:C:141:LYS:HE2	7:C:141:LYS:HB2	1.93	0.41
7:C:201:LYS:NZ	54:5:556:G:N3	2.62	0.41
8:D:71:VAL:HG21	8:D:93:VAL:HG23	2.02	0.41
8:D:130:GLU:HG2	8:D:202:GLN:HE21	1.86	0.41
9:E:163:MET:SD	9:E:163:MET:O	2.79	0.41
10:F:2:ARG:HD3	54:5:927:C:H41	1.85	0.41
11:G:25:ALA:HA	11:G:30:LEU:HB3	2.02	0.41
11:G:88:LYS:HD2	11:G:88:LYS:HA	1.91	0.41
13:I:46:LEU:HB3	13:I:79:LEU:O	2.21	0.41
14:J:22:ASN:CG	14:J:40:SER:HG	2.25	0.41
16:L:81:SER:HA	16:L:88:GLY:HA2	2.03	0.41
17:M:18:VAL:HB	54:5:974:C:N4	2.35	0.41
19:O:3:MET:HA	54:5:387:G:H5''	2.03	0.41
20:P:16:THR:HG22	20:P:16:THR:O	2.20	0.41
20:P:59:ASP:HB3	20:P:81:ILE:O	2.20	0.41
22:R:6:LYS:HE3	54:5:1288:C:OP2	2.21	0.41
26:a:92:ARG:NE	52:3:1825:U:OP2	2.54	0.41
26:a:160:ILE:HD12	52:3:1806:G:N3	2.35	0.41
27:b:178:ASN:ND2	27:b:213:LYS:HE3	2.35	0.41
28:c:36:ASP:OD1	28:c:37:ALA:N	2.53	0.41
28:c:116:TRP:NE1	28:c:191:LEU:HD21	2.36	0.41
28:c:155:LYS:HB2	28:c:157:VAL:HG23	2.03	0.41
29:d:43:ALA:HB1	29:d:50:LEU:N	2.36	0.41
29:d:61:SER:OG	29:d:62:GLY:N	2.53	0.41
30:e:27:VAL:HG23	30:e:82:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:57:ARG:HG3	30:e:57:ARG:O	2.21	0.41
30:e:159:PRO:HG2	30:e:160:TYR:CE2	2.56	0.41
31:f:55:GLN:O	31:f:59:GLU:OE1	2.39	0.41
32:g:42:LYS:HE2	32:g:42:LYS:HB2	1.76	0.41
33:h:66:ILE:HD12	33:h:66:ILE:HA	1.98	0.41
34:i:119:ARG:HG2	52:3:562:C:O2'	2.21	0.41
36:k:122:LYS:O	36:k:142:ALA:HB1	2.20	0.41
36:k:133:LYS:HG3	52:3:672:G:OP1	2.20	0.41
40:o:31:VAL:HG12	40:o:90:LEU:HD12	2.03	0.41
42:q:28:PRO:HG3	42:q:31:LYS:CE	2.49	0.41
43:r:89:ALA:HB2	52:3:783:G:H3'	2.02	0.41
44:s:18:PHE:O	44:s:21:MET:HG3	2.20	0.41
44:s:27:TYR:HB2	44:s:29:PHE:CE1	2.55	0.41
44:s:58:LEU:CD1	44:s:80:LEU:HB2	2.51	0.41
45:t:74:LEU:HD23	45:t:74:LEU:HA	1.89	0.41
46:u:45:ILE:HD12	46:u:51:ILE:HG21	2.03	0.41
47:v:10:ARG:O	47:v:31:VAL:HG11	2.20	0.41
52:3:123:G:H3'	52:3:124:A:C8	2.56	0.41
52:3:124:A:H2'	52:3:125:G:O4'	2.20	0.41
52:3:141:A:H61	52:3:1628:G:H1'	1.86	0.41
52:3:312:U:H2'	52:3:313:G:C8	2.55	0.41
52:3:417:G:N1	52:3:432:G:C6	2.88	0.41
52:3:442:G:C6	52:3:457:U:N3	2.89	0.41
52:3:564:A:N3	52:3:565:C:N4	2.58	0.41
52:3:627:U:H2'	52:3:628:A:H8	1.84	0.41
52:3:627:U:O4	52:3:628:A:N6	2.54	0.41
52:3:972:C:H2'	52:3:973:U:C6	2.56	0.41
52:3:1003:U:H2'	52:3:1004:U:C6	2.55	0.41
52:3:1187:C:H2'	52:3:1188:C:C6	2.55	0.41
52:3:1260:U:H2'	52:3:1261:U:C6	2.56	0.41
52:3:1264:U:C4	52:3:1265:G:C5	3.09	0.41
52:3:1389:G:N2	52:3:2222:C:O2'	2.42	0.41
52:3:1669:A:H2'	52:3:1669:A:N3	2.35	0.41
52:3:1892:A:N1	52:3:2197:U:H4'	2.36	0.41
52:3:1944:A:HO2'	52:3:1946:U:H6	1.66	0.41
52:3:2140:G:H2'	52:3:2164:G:H22	1.86	0.41
52:3:2249:A:H2'	52:3:2250:G:N7	2.36	0.41
52:3:2286:A:N3	52:3:2286:A:H2'	2.36	0.41
52:3:2322:G:H2'	52:3:2323:U:O4'	2.21	0.41
52:3:2347:G:C4	52:3:2348:U:C5	3.09	0.41
52:3:2474:C:H2'	52:3:2475:C:C2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2638:G:H5'	52:3:2898:A:C8	2.46	0.41
52:3:2700:C:H5''	52:3:2874:C:O2'	2.21	0.41
52:3:2750:A:H2'	52:3:2751:C:C6	2.55	0.41
52:3:2752:G:C6	52:3:2769:G:C5	3.09	0.41
52:3:2803:G:N2	52:3:2808:A:N7	2.62	0.41
53:4:99:A:H2'	53:4:100:G:C8	2.56	0.41
54:5:36:G:C5	54:5:37:C:C4	3.09	0.41
54:5:40:G:H2'	54:5:41:C:C6	2.55	0.41
54:5:134:G:N2	54:5:135:A:C4	2.89	0.41
54:5:274:A:H1'	54:5:278:A:H1'	2.03	0.41
54:5:337:C:C4	54:5:338:C:N4	2.89	0.41
54:5:418:U:H2'	54:5:419:A:C4	2.56	0.41
54:5:661:G:C6	54:5:738:A:N6	2.77	0.41
54:5:793:C:C4	54:5:794:C:C4	3.09	0.41
54:5:800:G:H2'	54:5:801:U:C6	2.56	0.41
54:5:824:U:C2	54:5:868:G:C2	3.09	0.41
54:5:917:G:H2'	54:5:918:A:N7	2.36	0.41
54:5:939:G:O6	54:5:1311:G:H8	2.03	0.41
54:5:1058:A:O2'	54:5:1084:A:H5''	2.20	0.41
54:5:1085:G:H22	54:5:1096:A:N6	2.19	0.41
54:5:1148:U:H2'	54:5:1149:G:H8	1.86	0.41
54:5:1266:U:H2'	54:5:1267:G:C8	2.55	0.41
54:5:1300:C:C2	54:5:1301:U:C5	3.09	0.41
54:5:1485:C:H2'	54:5:1486:C:C6	2.55	0.41
54:5:1498:G:C2	54:5:1499:G:C5	3.09	0.41
55:8:24:A:H2'	55:8:25:G:H8	1.84	0.41
4:9:51:ASP:HB2	4:9:262:PHE:CE2	2.49	0.41
4:9:245:ARG:CZ	4:9:279:PRO:HB3	2.51	0.41
4:9:280:SER:OG	4:9:282:VAL:HG22	2.21	0.41
11:G:137:ILE:HG21	11:G:140:TYR:HE1	1.86	0.41
14:J:19:SER:O	14:J:21:ASN:N	2.54	0.41
23:S:56:ARG:NE	54:5:197:A:O2'	2.53	0.41
23:S:67:ARG:NH2	54:5:256:G:C5	2.88	0.41
27:b:180:ARG:NH2	52:3:2738:U:H5''	2.35	0.41
28:c:116:TRP:CD1	28:c:207:LEU:HD11	2.55	0.41
33:h:77:LYS:HE2	33:h:131:MET:HB3	2.02	0.41
33:h:84:LYS:HD2	33:h:85:GLY:N	2.36	0.41
34:i:7:LEU:HD12	34:i:7:LEU:HA	1.86	0.41
36:k:124:LEU:HD13	36:k:126:PHE:CZ	2.56	0.41
37:l:12:PRO:HA	52:3:948:A:H61	1.84	0.41
37:l:126:PRO:HA	52:3:2493:G:O2'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:64:LEU:HD13	41:p:95:SER:HB2	2.03	0.41
43:r:88:ARG:NH1	52:3:784:A:OP1	2.54	0.41
49:x:12:VAL:HG21	49:x:31:GLN:HG3	2.03	0.41
52:3:164:A:H2	52:3:2225:G:H1'	1.86	0.41
52:3:461:C:H2'	52:3:462:C:C6	2.56	0.41
52:3:715:G:H2'	52:3:716:G:H8	1.86	0.41
52:3:739:G:N2	52:3:761:G:O2'	2.54	0.41
52:3:863:U:H4'	52:3:866:G:N1	2.36	0.41
52:3:1122:G:H1'	52:3:1125:U:OP1	2.21	0.41
52:3:1295:A:H4'	52:3:1296:G:H4'	2.03	0.41
52:3:1508:G:C5	52:3:1532:A:C2	3.09	0.41
52:3:1647:A:P	52:3:1648:A:H5''	2.61	0.41
52:3:1663:G:H2'	52:3:1664:A:C8	2.55	0.41
52:3:1732:A:H1'	52:3:1734:A:OP2	2.21	0.41
52:3:1992:C:H2'	52:3:1993:U:C6	2.56	0.41
52:3:2223:C:H2'	52:3:2224:A:H8	1.85	0.41
52:3:2380:U:H2'	52:3:2381:G:H8	1.86	0.41
52:3:2423:G:C2	52:3:2424:C:C5	3.09	0.41
52:3:2638:G:H2'	52:3:2639:G:H8	1.85	0.41
52:3:2638:G:C6	52:3:2897:G:C2	3.09	0.41
52:3:2696:G:H1'	52:3:2730:G:N2	2.35	0.41
52:3:2740:U:H5''	52:3:2741:A:C4'	2.50	0.41
52:3:2748:A:H2'	52:3:2749:A:O4'	2.21	0.41
54:5:213:U:H5''	54:5:467:G:H1'	2.02	0.41
54:5:742:C:H4'	54:5:833:G:N2	2.36	0.41
54:5:770:G:C6	54:5:804:A:N6	2.89	0.41
54:5:1073:A:C6	54:5:1074:U:C4	3.09	0.41
54:5:1275:U:O2'	54:5:1277:C:OP2	2.31	0.41
54:5:1302:C:H2'	54:5:1303:A:C8	2.55	0.41
54:5:1438:U:H2'	54:5:1439:G:H8	1.84	0.41
4:9:66:ALA:O	4:9:80:ILE:HG23	2.21	0.40
4:9:142:ALA:O	4:9:169:GLU:HG3	2.21	0.40
4:9:311:ALA:O	4:9:383:THR:HA	2.22	0.40
7:C:53:GLN:NE2	7:C:198:GLU:HG3	2.36	0.40
7:C:124:LEU:HD22	7:C:134:ILE:HG21	2.03	0.40
10:F:101:ARG:HD2	54:5:935:U:H5''	2.03	0.40
12:H:43:ASN:N	54:5:1265:U:H4'	2.30	0.40
14:J:106:LYS:HD3	14:J:106:LYS:HA	1.95	0.40
15:K:121:GLU:HG2	15:K:122:LYS:N	2.36	0.40
20:P:48:HIS:H	20:P:76:ARG:HA	1.85	0.40
21:Q:53:LEU:HD11	21:Q:92:ARG:HG2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:103:LYS:H	21:Q:103:LYS:HG2	1.67	0.40
23:S:6:SER:OG	54:5:92:G:N2	2.47	0.40
26:a:231:SER:N	52:3:1833:G:OP1	2.53	0.40
29:d:14:LYS:HA	29:d:14:LYS:HD3	1.88	0.40
29:d:62:GLY:O	29:d:95:ARG:NH1	2.54	0.40
30:e:38:LEU:HB3	30:e:42:LEU:HD11	2.03	0.40
37:l:65:TRP:HB2	37:l:105:GLU:CG	2.49	0.40
39:n:13:LYS:HA	39:n:16:VAL:HG12	2.04	0.40
40:o:110:LYS:HE3	54:5:1407:A:OP1	2.21	0.40
43:r:121:GLN:HG2	52:3:22:U:O2'	2.21	0.40
43:r:128:ARG:NH1	52:3:1248:A:N3	2.70	0.40
45:t:69:ILE:HD13	45:t:74:LEU:HD21	2.03	0.40
52:3:73:A:C6	52:3:115:U:C2	3.10	0.40
52:3:485:A:H3'	52:3:486:G:H8	1.86	0.40
52:3:486:G:H5'	52:3:1278:G:H1	1.85	0.40
52:3:498:C:H2'	52:3:499:G:C8	2.56	0.40
52:3:574:G:N2	52:3:587:U:O2	2.54	0.40
52:3:623:A:H2'	52:3:624:U:C6	2.55	0.40
52:3:937:A:H3'	52:3:938:A:C8	2.56	0.40
52:3:1062:A:C2	52:3:2496:G:H5'	2.57	0.40
52:3:1092:A:OP2	52:3:1124:G:N2	2.54	0.40
52:3:1408:G:H2'	52:3:1409:G:C8	2.40	0.40
52:3:1475:C:H2'	52:3:1476:C:C6	2.55	0.40
52:3:1731:G:C8	52:3:1732:A:H2'	2.55	0.40
52:3:2096:U:H2'	52:3:2097:A:C8	2.56	0.40
52:3:2407:G:C6	52:3:2408:G:C6	3.08	0.40
52:3:2804:C:O2'	52:3:2898:A:N3	2.54	0.40
52:3:2831:U:C2	52:3:2832:G:C8	3.09	0.40
53:4:84:C:O3'	53:4:85:A:H8	2.04	0.40
53:4:100:G:H2'	53:4:101:C:C6	2.56	0.40
54:5:52:A:H61	54:5:309:A:H2	1.68	0.40
54:5:230:G:H2'	54:5:231:U:O4'	2.21	0.40
54:5:362:U:O2'	54:5:390:G:N2	2.41	0.40
54:5:369:A:N3	54:5:369:A:H2'	2.36	0.40
54:5:635:G:C6	54:5:636:G:C5	3.10	0.40
54:5:1314:A:H2'	54:5:1315:U:O4'	2.21	0.40
54:5:1394:G:O2'	54:5:1395:C:H5'	2.21	0.40
54:5:1470:U:C2	54:5:1471:C:C5	3.10	0.40
55:8:28:A:H8	55:8:28:A:OP2	2.04	0.40
5:A:50:LYS:HB2	5:A:50:LYS:HE2	1.85	0.40
7:C:3:TYR:OH	54:5:400:G:C8	2.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:D:210:ILE:HG12	8:D:215:ASN:HD21	1.87	0.40
10:F:114:THR:O	10:F:118:LYS:NZ	2.54	0.40
15:K:62:LEU:HB2	54:5:518:A:P	2.61	0.40
19:O:39:GLU:OE1	19:O:40:ASN:N	2.53	0.40
21:Q:74:ARG:HH21	24:T:52:LYS:HB3	1.86	0.40
21:Q:84:ARG:HD2	54:5:662:G:OP1	2.22	0.40
28:c:108:HIS:NE2	52:3:651:A:O2'	2.40	0.40
35:j:11:ALA:HB3	35:j:85:VAL:HB	2.03	0.40
35:j:71:ARG:HD3	35:j:77:LEU:HB3	2.04	0.40
37:l:46:ALA:HB1	37:l:125:LEU:HD12	2.03	0.40
39:n:109:ALA:HB1	39:n:114:LEU:HB2	2.03	0.40
43:r:84:ARG:HD3	43:r:84:ARG:HA	1.90	0.40
47:v:16:ASN:ND2	52:3:419:A:H5'	2.36	0.40
52:3:26:G:H2'	52:3:27:U:C6	2.53	0.40
52:3:246:G:N2	52:3:247:U:O4	2.43	0.40
52:3:915:A:C4	52:3:937:A:N6	2.89	0.40
52:3:1001:C:N4	52:3:1002:A:H62	2.19	0.40
52:3:1162:A:O2'	52:3:2526:A:OP1	2.36	0.40
52:3:1662:G:N2	52:3:2706:U:O2'	2.54	0.40
52:3:1719:C:H2'	52:3:1720:C:C6	2.56	0.40
52:3:1968:C:C4	52:3:1969:C:C4	3.08	0.40
52:3:2149:U:H2'	52:3:2150:C:C6	2.55	0.40
52:3:2183:U:C2	52:3:2184:A:N7	2.89	0.40
52:3:2242:G:C4	52:3:2243:G:C8	3.08	0.40
52:3:2519:U:H2'	52:3:2520:C:O4'	2.21	0.40
52:3:2643:A:H2'	52:3:2644:U:C6	2.57	0.40
54:5:217:U:H2'	54:5:218:U:H6	1.85	0.40
54:5:236:C:H2'	54:5:237:A:C8	2.56	0.40
54:5:396:C:H2'	54:5:397:C:C6	2.56	0.40
54:5:1006:A:H2'	54:5:1006:A:N3	2.37	0.40
54:5:1139:A:C6	54:5:1149:G:C6	3.09	0.40
54:5:1379:C:O2'	54:5:1494:A:H4'	2.21	0.40
54:5:1498:G:H2'	54:5:1498:G:N3	2.35	0.40
55:6:24:A:H2'	55:6:25:G:H8	1.84	0.40
55:6:70:G:H2'	55:6:71:A:H8	1.85	0.40
4:9:405:VAL:O	4:9:406:ILE:HB	2.21	0.40
4:9:405:VAL:HG22	4:9:665:TYR:HE2	1.86	0.40
4:9:531:PRO:HD2	4:9:534:TYR:CD2	2.57	0.40
6:B:141:LEU:O	6:B:145:LEU:HB2	2.22	0.40
7:C:85:LEU:O	7:C:89:LEU:HB3	2.21	0.40
8:D:137:TYR:HB3	8:D:202:GLN:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:153:LYS:O	11:G:56:ASN:ND2	2.54	0.40
10:F:106:PHE:C	10:F:122:GLU:HG2	2.47	0.40
13:I:51:LYS:HE3	54:5:1254:A:C8	2.56	0.40
14:J:25:VAL:HG11	14:J:60:ALA:HB2	2.02	0.40
14:J:85:GLY:HA2	14:J:88:THR:HG22	2.03	0.40
17:M:43:CYS:O	17:M:47:LEU:HG	2.21	0.40
23:S:44:LEU:HD22	23:S:76:LEU:HD22	2.03	0.40
23:S:48:TYR:CE1	23:S:69:LYS:HB2	2.54	0.40
26:a:53:ILE:HB	52:3:814:U:OP1	2.21	0.40
28:c:69:LYS:HE2	52:3:2068:G:OP1	2.21	0.40
31:f:40:THR:OG1	52:3:287:G:OP2	2.35	0.40
35:j:28:THR:H	52:3:2573:A:H62	1.68	0.40
36:k:31:THR:HG21	52:3:1220:A:OP1	2.21	0.40
41:p:61:ILE:HD13	52:3:1188:C:H4'	2.02	0.40
45:t:42:VAL:O	45:t:65:GLN:N	2.30	0.40
50:y:9:SER:HG	50:y:11:HIS:CE1	2.38	0.40
52:3:156:A:H2'	52:3:157:U:C6	2.57	0.40
52:3:304:U:C2	52:3:401:G:N2	2.89	0.40
52:3:440:C:H5'	52:3:441:U:C6	2.56	0.40
52:3:862:U:H5'	52:3:863:U:O5'	2.22	0.40
52:3:960:A:H2'	52:3:961:U:C6	2.56	0.40
52:3:1162:A:H62	52:3:2497:U:H1'	1.87	0.40
52:3:1254:U:H2'	52:3:1255:G:C8	2.56	0.40
52:3:1457:A:H2'	52:3:1458:A:C8	2.56	0.40
52:3:1615:G:H2'	52:3:1616:G:O4'	2.21	0.40
52:3:1640:G:H4'	52:3:1642:G:C5	2.56	0.40
52:3:1836:A:H3'	52:3:1837:C:H6	1.86	0.40
52:3:1967:U:H2'	52:3:1968:C:C6	2.57	0.40
52:3:2034:G:H2'	52:3:2035:U:H6	1.86	0.40
52:3:2568:G:H2'	52:3:2569:A:O4'	2.21	0.40
52:3:2638:G:O2'	52:3:2896:G:OP1	2.35	0.40
52:3:2644:U:H2'	52:3:2645:U:H6	1.85	0.40
52:3:2880:A:C6	52:3:2881:A:N6	2.90	0.40
53:4:15:C:H2'	53:4:16:G:C8	2.57	0.40
54:5:34:A:H4'	54:5:359:A:O2'	2.22	0.40
54:5:212:G:H5''	54:5:461:G:H21	1.87	0.40
54:5:228:G:H2'	54:5:229:G:C8	2.56	0.40
54:5:1507:U:H5''	54:5:1508:C:OP2	2.21	0.40
55:8:39:A:H2'	55:8:40:A:O4'	2.21	0.40
1:0:18:PHE:CE2	52:3:127:A:N1	2.89	0.40
3:2:2:LYS:O	3:2:35:ARG:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:26:ILE:HD12	3:2:33:LYS:HE3	2.03	0.40
4:9:174:GLY:HA2	4:9:184:TYR:HA	2.03	0.40
4:9:535:ILE:HD13	4:9:535:ILE:HA	1.97	0.40
5:A:71:TYR:O	5:A:74:GLU:HG2	2.21	0.40
9:E:155:GLU:OE1	11:G:75:LYS:HD2	2.21	0.40
13:I:51:LYS:HA	54:5:1228:C:C5'	2.52	0.40
16:L:80:LEU:HB3	16:L:91:HIS:HE1	1.86	0.40
25:W:57:VAL:O	25:W:58:LYS:HE2	2.21	0.40
26:a:189:THR:O	26:a:279:ILE:N	2.36	0.40
27:b:112:ALA:CB	27:b:205:VAL:HG12	2.51	0.40
28:c:163:THR:HG23	28:c:165:ASN:H	1.86	0.40
30:e:146:GLN:NE2	52:3:2769:G:N3	2.69	0.40
33:h:14:LEU:HD21	33:h:19:ALA:HB1	2.04	0.40
35:j:66:LYS:HG3	35:j:80:ASP:HA	2.04	0.40
41:p:60:TRP:HD1	41:p:96:GLU:OE1	2.05	0.40
47:v:19:SER:C	47:v:21:SER:N	2.80	0.40
49:x:16:CYS:HB3	49:x:21:ASN:H	1.87	0.40
50:y:4:GLN:CD	52:3:1294:G:H1'	2.47	0.40
50:y:38:LEU:HD23	50:y:39:PHE:N	2.36	0.40
52:3:61:U:H2'	52:3:76:A:C2	2.56	0.40
52:3:342:G:H2'	52:3:343:A:C8	2.57	0.40
52:3:478:G:C2	52:3:480:C:C5	3.09	0.40
52:3:605:A:H2'	52:3:606:G:O4'	2.21	0.40
52:3:639:G:O2'	52:3:693:U:O2'	2.29	0.40
52:3:714:G:C6	52:3:715:G:C5	3.09	0.40
52:3:937:A:H3'	52:3:938:A:C5	2.56	0.40
52:3:1208:A:H62	52:3:1210:A:H1'	1.87	0.40
52:3:1213:U:C2	52:3:1214:U:C5	3.09	0.40
52:3:1244:A:H3'	52:3:1245:G:H8	1.84	0.40
52:3:1340:U:O4'	52:3:1341:U:N3	2.55	0.40
52:3:1414:C:H1'	52:3:1496:A:H1'	2.04	0.40
52:3:1674:A:C2	52:3:1675:A:N7	2.89	0.40
52:3:1926:A:OP2	52:3:1927:C:N4	2.36	0.40
52:3:2177:G:H2'	52:3:2178:A:C8	2.56	0.40
52:3:2308:U:C2	52:3:2309:A:C8	3.10	0.40
52:3:2797:C:H2'	52:3:2798:A:C8	2.57	0.40
54:5:92:G:C6	54:5:93:A:H1'	2.56	0.40
54:5:174:U:H2'	54:5:175:U:C6	2.56	0.40
54:5:292:U:H2'	54:5:293:G:H8	1.84	0.40
54:5:1014:A:H3'	54:5:1015:U:H5''	2.02	0.40
54:5:1060:C:H4'	54:5:1166:A:H2	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1142:G:H1'	54:5:1145:A:H61	1.86	0.40
54:5:1325:U:H2'	54:5:1326:C:C6	2.57	0.40
54:5:1451:A:H2'	54:5:1452:C:C6	2.57	0.40
54:5:1467:A:H2	55:6:37:A:H1'	1.87	0.40
54:5:1477:A:H3'	54:5:1478:A:H3'	2.04	0.40
4:9:627:ILE:C	52:3:1102:A:H1'	2.46	0.40
9:E:10:ASP:HB2	9:E:13:LEU:HD11	2.03	0.40
13:I:43:LYS:HE2	54:5:1115:G:O2'	2.22	0.40
15:K:4:ILE:HA	15:K:7:LEU:HB3	2.04	0.40
15:K:101:LYS:NZ	54:5:523:U:H5''	2.37	0.40
18:N:60:ARG:HD2	18:N:64:LEU:HD12	2.03	0.40
18:N:68:LYS:HG2	18:N:75:TYR:HD2	1.85	0.40
21:Q:66:PRO:O	21:Q:100:PRO:HG2	2.21	0.40
26:a:266:LYS:HA	52:3:1804:A:H4'	2.04	0.40
29:d:40:VAL:HG22	29:d:150:ARG:HH12	1.87	0.40
29:d:130:ILE:HB	29:d:154:VAL:HG23	2.04	0.40
30:e:119:LYS:NZ	30:e:150:GLU:OE2	2.50	0.40
31:f:72:ILE:HG21	31:f:138:LEU:HG	2.04	0.40
32:g:10:GLN:HE22	32:g:58:ILE:HG21	1.87	0.40
32:g:57:ASN:OD1	52:3:1082:A:H5'	2.21	0.40
34:i:11:GLN:OE1	34:i:51:GLN:NE2	2.55	0.40
40:o:41:GLU:HG3	40:o:42:LYS:H	1.86	0.40
41:p:49:ARG:HD2	52:3:1029:A:OP1	2.21	0.40
43:r:57:ASN:ND2	52:3:530:G:H1'	2.36	0.40
45:t:32:GLN:HE21	45:t:71:LEU:HD23	1.85	0.40
45:t:75:ALA:HB1	45:t:87:GLY:HA3	2.02	0.40
46:u:59:VAL:HG12	46:u:95:VAL:HG12	2.04	0.40
51:z:24:ASN:ND2	52:3:2293:C:H5''	2.36	0.40
52:3:179:A:O2'	52:3:180:A:H5'	2.21	0.40
52:3:188:G:O2'	52:3:221:A:N3	2.44	0.40
52:3:224:G:O6	52:3:463:U:H3'	2.22	0.40
52:3:292:G:H2'	52:3:293:G:H8	1.87	0.40
52:3:348:A:H2'	52:3:349:G:C8	2.57	0.40
52:3:351:G:C6	52:3:352:C:N4	2.90	0.40
52:3:452:U:H2'	52:3:453:U:O4'	2.21	0.40
52:3:533:G:H2'	52:3:534:U:O4'	2.21	0.40
52:3:660:U:O2'	52:3:692:U:H5''	2.21	0.40
52:3:765:A:OP2	52:3:1782:U:O2'	2.24	0.40
52:3:1084:C:O2	52:3:1148:U:O2'	2.31	0.40
52:3:1343:C:H2'	52:3:1344:U:H6	1.86	0.40
52:3:1375:G:OP2	52:3:1410:A:N6	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1508:G:O6	52:3:1532:A:C6	2.75	0.40
52:3:1538:U:H2'	52:3:1539:U:C6	2.57	0.40
52:3:1583:G:O2'	52:3:1584:U:C6	2.75	0.40
52:3:1651:C:H5''	52:3:1681:G:OP2	2.22	0.40
52:3:1801:U:H2'	52:3:1802:C:C6	2.57	0.40
52:3:1880:G:H2'	52:3:1881:C:H6	1.87	0.40
52:3:1885:G:C6	52:3:1886:C:N4	2.89	0.40
52:3:2053:G:H1	52:3:2630:U:H3	1.69	0.40
52:3:2130:A:H2'	52:3:2131:G:C8	2.57	0.40
52:3:2214:A:H2'	52:3:2215:C:C6	2.57	0.40
52:3:2357:G:C2	52:3:2377:A:C6	3.10	0.40
52:3:2576:A:H2'	52:3:2577:G:C8	2.56	0.40
52:3:2632:C:H2'	52:3:2633:C:C6	2.56	0.40
52:3:2843:G:C4	52:3:2844:U:C5	3.09	0.40
54:5:5:U:H2'	54:5:6:C:C5	2.56	0.40
54:5:343:G:C6	54:5:344:G:O6	2.74	0.40
54:5:422:A:H8	54:5:422:A:OP2	2.04	0.40
54:5:1081:U:O2'	54:5:1145:A:H2'	2.21	0.40
55:6:39:A:H2'	55:6:40:A:O4'	2.22	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	0	45/48 (94%)	45 (100%)	0	0	100	100
2	1	57/59 (97%)	50 (88%)	7 (12%)	0	100	100
3	2	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
4	9	680/688 (99%)	620 (91%)	58 (8%)	2 (0%)	36	72
5	A	238/294 (81%)	221 (93%)	17 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	B	213/273 (78%)	205 (96%)	8 (4%)	0	100	100
7	C	201/205 (98%)	185 (92%)	16 (8%)	0	100	100
8	D	151/219 (69%)	138 (91%)	13 (9%)	0	100	100
9	E	165/215 (77%)	139 (84%)	26 (16%)	0	100	100
10	F	152/155 (98%)	137 (90%)	15 (10%)	0	100	100
11	G	139/142 (98%)	124 (89%)	15 (11%)	0	100	100
12	H	126/132 (96%)	121 (96%)	5 (4%)	0	100	100
13	I	99/108 (92%)	93 (94%)	6 (6%)	0	100	100
14	J	112/121 (93%)	108 (96%)	4 (4%)	0	100	100
15	K	134/139 (96%)	109 (81%)	25 (19%)	0	100	100
16	L	116/124 (94%)	103 (89%)	13 (11%)	0	100	100
17	M	58/61 (95%)	57 (98%)	1 (2%)	0	100	100
18	N	81/86 (94%)	78 (96%)	3 (4%)	0	100	100
19	O	78/94 (83%)	67 (86%)	11 (14%)	0	100	100
20	P	81/85 (95%)	77 (95%)	4 (5%)	0	100	100
21	Q	63/104 (61%)	56 (89%)	7 (11%)	0	100	100
22	R	82/87 (94%)	63 (77%)	19 (23%)	0	100	100
23	S	75/87 (86%)	75 (100%)	0	0	100	100
24	T	51/60 (85%)	50 (98%)	1 (2%)	0	100	100
25	W	67/122 (55%)	61 (91%)	6 (9%)	0	100	100
26	a	283/287 (99%)	257 (91%)	26 (9%)	0	100	100
27	b	227/287 (79%)	199 (88%)	28 (12%)	0	100	100
28	c	208/212 (98%)	193 (93%)	15 (7%)	0	100	100
29	d	173/180 (96%)	154 (89%)	19 (11%)	0	100	100
30	e	174/184 (95%)	166 (95%)	8 (5%)	0	100	100
31	f	143/149 (96%)	133 (93%)	8 (6%)	2 (1%)	9	40
32	g	124/161 (77%)	109 (88%)	13 (10%)	2 (2%)	7	38
33	h	126/137 (92%)	113 (90%)	13 (10%)	0	100	100
34	i	142/146 (97%)	132 (93%)	10 (7%)	0	100	100
35	j	120/122 (98%)	115 (96%)	5 (4%)	0	100	100
36	k	146/151 (97%)	131 (90%)	15 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	l	134/139 (96%)	127 (95%)	7 (5%)	0	100	100
38	m	117/124 (94%)	103 (88%)	14 (12%)	0	100	100
39	n	108/116 (93%)	99 (92%)	9 (8%)	0	100	100
40	o	113/119 (95%)	100 (88%)	13 (12%)	0	100	100
41	p	112/127 (88%)	106 (95%)	6 (5%)	0	100	100
42	q	97/100 (97%)	88 (91%)	8 (8%)	1 (1%)	12	49
43	r	137/159 (86%)	126 (92%)	11 (8%)	0	100	100
44	s	90/237 (38%)	86 (96%)	4 (4%)	0	100	100
45	t	109/111 (98%)	98 (90%)	11 (10%)	0	100	100
46	u	84/104 (81%)	79 (94%)	5 (6%)	0	100	100
47	v	61/65 (94%)	52 (85%)	9 (15%)	0	100	100
48	w	96/111 (86%)	84 (88%)	12 (12%)	0	100	100
49	x	42/97 (43%)	39 (93%)	3 (7%)	0	100	100
50	y	54/57 (95%)	51 (94%)	3 (6%)	0	100	100
51	z	48/53 (91%)	47 (98%)	1 (2%)	0	100	100
All	All	6567/7480 (88%)	6003 (91%)	557 (8%)	7 (0%)	49	83

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	9	406	ILE
4	9	572	ASP
32	g	31	SER
31	f	18	VAL
32	g	116	ARG
31	f	19	VAL
42	q	48	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	0	40/41 (98%)	40 (100%)	0	100	100
2	1	51/51 (100%)	51 (100%)	0	100	100
3	2	35/35 (100%)	35 (100%)	0	100	100
4	9	579/584 (99%)	576 (100%)	3 (0%)	81	83
5	A	212/262 (81%)	212 (100%)	0	100	100
6	B	180/232 (78%)	180 (100%)	0	100	100
7	C	181/183 (99%)	181 (100%)	0	100	100
8	D	123/178 (69%)	123 (100%)	0	100	100
9	E	150/196 (76%)	150 (100%)	0	100	100
10	F	131/132 (99%)	131 (100%)	0	100	100
11	G	123/124 (99%)	122 (99%)	1 (1%)	73	80
12	H	111/115 (96%)	111 (100%)	0	100	100
13	I	95/99 (96%)	95 (100%)	0	100	100
14	J	91/97 (94%)	91 (100%)	0	100	100
15	K	117/120 (98%)	111 (95%)	6 (5%)	21	42
16	L	100/105 (95%)	100 (100%)	0	100	100
17	M	47/48 (98%)	47 (100%)	0	100	100
18	N	76/78 (97%)	76 (100%)	0	100	100
19	O	69/82 (84%)	69 (100%)	0	100	100
20	P	73/75 (97%)	73 (100%)	0	100	100
21	Q	56/94 (60%)	56 (100%)	0	100	100
22	R	74/77 (96%)	73 (99%)	1 (1%)	59	72
23	S	70/77 (91%)	70 (100%)	0	100	100
24	T	49/56 (88%)	49 (100%)	0	100	100
25	W	58/98 (59%)	58 (100%)	0	100	100
26	a	241/243 (99%)	241 (100%)	0	100	100
27	b	186/233 (80%)	186 (100%)	0	100	100
28	c	182/184 (99%)	182 (100%)	0	100	100
29	d	150/154 (97%)	150 (100%)	0	100	100
30	e	153/159 (96%)	153 (100%)	0	100	100
31	f	123/134 (92%)	122 (99%)	1 (1%)	73	80
32	g	101/129 (78%)	87 (86%)	14 (14%)	3	14

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
33	h	102/110 (93%)	102 (100%)	0	100	100
34	i	126/128 (98%)	126 (100%)	0	100	100
35	j	103/103 (100%)	103 (100%)	0	100	100
36	k	123/126 (98%)	123 (100%)	0	100	100
37	l	113/115 (98%)	113 (100%)	0	100	100
38	m	105/109 (96%)	104 (99%)	1 (1%)	68	78
39	n	96/99 (97%)	96 (100%)	0	100	100
40	o	101/105 (96%)	101 (100%)	0	100	100
41	p	100/108 (93%)	100 (100%)	0	100	100
42	q	90/91 (99%)	90 (100%)	0	100	100
43	r	116/132 (88%)	116 (100%)	0	100	100
44	s	82/208 (39%)	82 (100%)	0	100	100
45	t	96/96 (100%)	96 (100%)	0	100	100
46	u	69/85 (81%)	69 (100%)	0	100	100
47	v	58/60 (97%)	58 (100%)	0	100	100
48	w	87/98 (89%)	87 (100%)	0	100	100
49	x	41/86 (48%)	41 (100%)	0	100	100
50	y	48/49 (98%)	45 (94%)	3 (6%)	16	37
51	z	47/50 (94%)	47 (100%)	0	100	100
All	All	5730/6433 (89%)	5700 (100%)	30 (0%)	78	83

All (30) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	9	73	LYS
4	9	405	VAL
4	9	406	ILE
11	G	107	VAL
15	K	31	LEU
15	K	32	ASN
15	K	117	THR
15	K	118	VAL
15	K	121	GLU
15	K	122	LYS
22	R	26	GLU

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Mol	Chain	Res	Type
31	f	18	VAL
32	g	26	ILE
32	g	27	PHE
32	g	28	ASP
32	g	29	TYR
32	g	31	SER
32	g	32	MET
32	g	42	LYS
32	g	44	LEU
32	g	46	LYS
32	g	47	ASN
32	g	88	GLU
32	g	89	ILE
32	g	90	VAL
32	g	115	ASN
38	m	69	ASN
50	y	47	MET
50	y	51	LEU
50	y	52	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (99) such sidechains are listed below:

Mol	Chain	Res	Type
1	0	16	HIS
4	9	12	ASN
4	9	115	GLN
4	9	122	GLN
4	9	143	ASN
4	9	152	GLN
4	9	153	GLN
4	9	220	ASN
4	9	224	GLN
4	9	295	ASN
4	9	362	ASN
4	9	445	GLN
4	9	514	ASN
5	A	29	HIS
5	A	52	ASN
5	A	98	ASN
5	A	140	ASN
5	A	205	ASN
6	B	73	GLN

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Mol	Chain	Res	Type
6	B	193	GLN
7	C	52	GLN
7	C	115	GLN
7	C	118	ASN
7	C	171	ASN
8	D	215	ASN
9	E	20	GLN
9	E	22	ASN
9	E	25	GLN
9	E	110	GLN
11	G	23	ASN
11	G	85	ASN
12	H	33	ASN
12	H	62	ASN
14	J	33	ASN
15	K	32	ASN
15	K	37	ASN
15	K	125	GLN
16	L	76	ASN
18	N	13	GLN
18	N	15	HIS
18	N	70	ASN
19	O	69	GLN
20	P	18	ASN
22	R	52	HIS
22	R	53	ASN
23	S	24	GLN
23	S	63	ASN
24	T	30	GLN
26	a	50	GLN
26	a	75	HIS
26	a	91	ASN
26	a	219	ASN
26	a	269	ASN
27	b	35	GLN
28	c	83	HIS
29	d	135	GLN
29	d	161	ASN
29	d	174	ASN
30	e	58	ASN
30	e	146	GLN
31	f	99	ASN

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Mol	Chain	Res	Type
32	g	10	GLN
32	g	16	HIS
32	g	47	ASN
33	h	40	ASN
33	h	47	GLN
33	h	59	ASN
34	i	13	ASN
34	i	51	GLN
34	i	64	GLN
34	i	74	ASN
34	i	126	HIS
34	i	144	ASN
35	j	13	ASN
35	j	69	GLN
36	k	14	ASN
36	k	36	GLN
37	l	14	ASN
37	l	71	HIS
37	l	108	ASN
38	m	56	ASN
38	m	58	ASN
39	n	49	ASN
39	n	88	ASN
39	n	99	HIS
40	o	5	ASN
41	p	90	ASN
42	q	11	GLN
42	q	76	GLN
43	r	34	ASN
43	r	38	ASN
43	r	57	ASN
43	r	94	ASN
46	u	26	ASN
46	u	64	ASN
47	v	6	GLN
50	y	4	GLN
50	y	31	GLN
51	z	24	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
52	3	2875/2907 (98%)	1011 (35%)	30 (1%)
53	4	103/108 (95%)	41 (39%)	4 (3%)
54	5	1490/1520 (98%)	492 (33%)	10 (0%)
55	6	75/76 (98%)	40 (53%)	4 (5%)
55	8	75/76 (98%)	40 (53%)	4 (5%)
All	All	4618/4687 (98%)	1624 (35%)	52 (1%)

All (1624) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
52	3	12	A
52	3	14	U
52	3	15	A
52	3	28	G
52	3	29	G
52	3	36	U
52	3	37	G
52	3	38	G
52	3	44	A
52	3	48	G
52	3	52	U
52	3	53	G
52	3	54	A
52	3	56	G
52	3	61	U
52	3	65	A
52	3	73	A
52	3	75	A
52	3	76	A
52	3	77	G
52	3	82	G
52	3	86	A
52	3	87	G
52	3	90	G
52	3	91	G
52	3	93	A
52	3	98	C
52	3	101	C
52	3	102	A
52	3	103	G
52	3	114	U
52	3	115	U
52	3	116	C

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Mol	Chain	Res	Type
52	3	119	A
52	3	120	A
52	3	121	U
52	3	122	G
52	3	127	A
52	3	129	U
52	3	130	C
52	3	132	G
52	3	139	G
52	3	141	A
52	3	146	G
52	3	148	U
52	3	163	A
52	3	165	U
52	3	166	A
52	3	169	U
52	3	170	A
52	3	178	A
52	3	180	A
52	3	184	A
52	3	185	U
52	3	186	A
52	3	187	C
52	3	200	A
52	3	203	A
52	3	204	U
52	3	208	A
52	3	219	G
52	3	220	A
52	3	225	A
52	3	226	A
52	3	227	A
52	3	231	A
52	3	232	A
52	3	234	G
52	3	242	G
52	3	245	U
52	3	246	G
52	3	247	U
52	3	249	G
52	3	252	G
52	3	254	G

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Mol	Chain	Res	Type
52	3	260	A
52	3	266	A
52	3	267	A
52	3	270	G
52	3	271	G
52	3	272	C
52	3	276	A
52	3	282	C
52	3	285	U
52	3	286	A
52	3	289	U
52	3	290	A
52	3	291	G
52	3	295	U
52	3	296	U
52	3	297	G
52	3	298	U
52	3	299	A
52	3	309	A
52	3	310	U
52	3	312	U
52	3	314	G
52	3	315	A
52	3	316	C
52	3	318	U
52	3	325	G
52	3	328	A
52	3	333	A
52	3	336	C
52	3	339	U
52	3	345	A
52	3	347	C
52	3	351	G
52	3	355	A
52	3	357	A
52	3	363	G
52	3	364	A
52	3	365	U
52	3	366	A
52	3	367	G
52	3	369	C
52	3	375	U

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Mol	Chain	Res	Type
52	3	377	U
52	3	378	G
52	3	379	A
52	3	381	A
52	3	395	U
52	3	396	A
52	3	397	G
52	3	399	G
52	3	402	A
52	3	403	U
52	3	404	C
52	3	405	C
52	3	406	C
52	3	408	G
52	3	409	A
52	3	410	G
52	3	411	U
52	3	412	A
52	3	413	G
52	3	414	C
52	3	418	G
52	3	419	A
52	3	420	A
52	3	422	A
52	3	423	C
52	3	424	G
52	3	425	U
52	3	426	U
52	3	432	G
52	3	437	A
52	3	438	A
52	3	439	U
52	3	440	C
52	3	441	U
52	3	446	A
52	3	447	G
52	3	448	A
52	3	455	G
52	3	457	U
52	3	459	A
52	3	460	G
52	3	466	A

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Mol	Chain	Res	Type
52	3	467	U
52	3	472	A
52	3	479	A
52	3	483	A
52	3	485	A
52	3	486	G
52	3	487	C
52	3	490	A
52	3	491	A
52	3	493	A
52	3	494	G
52	3	495	U
52	3	500	U
52	3	501	G
52	3	506	A
52	3	509	G
52	3	515	A
52	3	516	A
52	3	517	G
52	3	527	A
52	3	531	G
52	3	532	A
52	3	539	U
52	3	540	A
52	3	542	A
52	3	543	U
52	3	544	U
52	3	545	C
52	3	551	C
52	3	553	A
52	3	560	U
52	3	562	C
52	3	565	C
52	3	566	G
52	3	567	U
52	3	580	U
52	3	582	A
52	3	584	G
52	3	589	A
52	3	591	G
52	3	592	G
52	3	595	U

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Mol	Chain	Res	Type
52	3	596	G
52	3	599	U
52	3	601	U
52	3	602	U
52	3	603	G
52	3	604	A
52	3	605	A
52	3	606	G
52	3	607	U
52	3	608	A
52	3	610	G
52	3	616	G
52	3	619	A
52	3	620	G
52	3	621	U
52	3	629	G
52	3	633	G
52	3	634	C
52	3	635	G
52	3	636	U
52	3	637	U
52	3	641	U
52	3	648	G
52	3	656	G
52	3	659	C
52	3	661	G
52	3	663	A
52	3	664	G
52	3	670	G
52	3	673	A
52	3	682	A
52	3	683	G
52	3	687	G
52	3	689	U
52	3	690	U
52	3	691	G
52	3	701	A
52	3	703	A
52	3	704	G
52	3	706	C
52	3	707	C
52	3	709	G

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Mol	Chain	Res	Type
52	3	712	A
52	3	721	G
52	3	725	G
52	3	730	G
52	3	737	U
52	3	739	G
52	3	740	A
52	3	750	A
52	3	751	A
52	3	752	C
52	3	760	G
52	3	761	G
52	3	762	A
52	3	764	G
52	3	765	A
52	3	766	C
52	3	774	A
52	3	775	C
52	3	780	G
52	3	782	U
52	3	783	G
52	3	787	C
52	3	792	G
52	3	797	U
52	3	799	A
52	3	809	A
52	3	810	G
52	3	811	G
52	3	817	A
52	3	818	A
52	3	819	U
52	3	823	A
52	3	824	A
52	3	827	G
52	3	828	A
52	3	829	A
52	3	832	C
52	3	840	G
52	3	841	C
52	3	844	G
52	3	847	C
52	3	854	A

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Mol	Chain	Res	Type
52	3	862	U
52	3	863	U
52	3	865	A
52	3	880	C
52	3	881	A
52	3	882	C
52	3	884	A
52	3	885	A
52	3	896	U
52	3	902	U
52	3	904	C
52	3	906	G
52	3	914	G
52	3	917	G
52	3	920	G
52	3	922	C
52	3	931	G
52	3	932	U
52	3	933	A
52	3	936	G
52	3	938	A
52	3	940	A
52	3	943	A
52	3	944	U
52	3	945	U
52	3	947	A
52	3	949	C
52	3	951	C
52	3	952	U
52	3	953	G
52	3	964	A
52	3	968	U
52	3	970	U
52	3	977	A
52	3	981	A
52	3	982	G
52	3	983	A
52	3	989	G
52	3	990	G
52	3	994	U
52	3	995	A
52	3	997	G

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Mol	Chain	Res	Type
52	3	998	C
52	3	1001	C
52	3	1008	A
52	3	1009	A
52	3	1010	G
52	3	1016	A
52	3	1019	A
52	3	1025	G
52	3	1026	A
52	3	1027	U
52	3	1031	U
52	3	1032	A
52	3	1039	G
52	3	1041	C
52	3	1046	A
52	3	1047	A
52	3	1048	A
52	3	1049	U
52	3	1055	A
52	3	1057	G
52	3	1058	U
52	3	1059	G
52	3	1061	A
52	3	1068	U
52	3	1069	G
52	3	1074	A
52	3	1075	G
52	3	1080	A
52	3	1081	A
52	3	1082	A
52	3	1088	A
52	3	1089	A
52	3	1094	G
52	3	1095	U
52	3	1096	U
52	3	1097	G
52	3	1099	C
52	3	1102	A
52	3	1103	G
52	3	1104	A
52	3	1105	A
52	3	1106	G

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Mol	Chain	Res	Type
52	3	1107	C
52	3	1109	G
52	3	1112	A
52	3	1113	U
52	3	1118	U
52	3	1119	A
52	3	1120	A
52	3	1122	G
52	3	1123	A
52	3	1124	G
52	3	1125	U
52	3	1126	G
52	3	1129	U
52	3	1131	A
52	3	1132	C
52	3	1144	C
52	3	1147	G
52	3	1149	G
52	3	1151	U
52	3	1162	A
52	3	1163	G
52	3	1165	U
52	3	1166	G
52	3	1167	U
52	3	1168	A
52	3	1170	C
52	3	1171	G
52	3	1176	U
52	3	1177	A
52	3	1178	A
52	3	1179	G
52	3	1186	A
52	3	1192	U
52	3	1193	U
52	3	1199	A
52	3	1200	U
52	3	1204	A
52	3	1208	A
52	3	1210	A
52	3	1212	C
52	3	1213	U
52	3	1215	G

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Mol	Chain	Res	Type
52	3	1216	U
52	3	1217	G
52	3	1226	G
52	3	1227	C
52	3	1234	U
52	3	1235	U
52	3	1236	G
52	3	1240	U
52	3	1241	U
52	3	1242	G
52	3	1246	U
52	3	1250	A
52	3	1251	G
52	3	1253	G
52	3	1254	U
52	3	1256	A
52	3	1257	G
52	3	1259	A
52	3	1265	G
52	3	1266	G
52	3	1267	A
52	3	1268	U
52	3	1272	A
52	3	1273	U
52	3	1274	A
52	3	1276	A
52	3	1278	G
52	3	1279	U
52	3	1280	G
52	3	1281	A
52	3	1283	A
52	3	1285	U
52	3	1286	G
52	3	1289	G
52	3	1297	U
52	3	1298	A
52	3	1299	A
52	3	1300	C
52	3	1301	G
52	3	1302	C
52	3	1303	U
52	3	1316	U

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Mol	Chain	Res	Type
52	3	1317	C
52	3	1325	C
52	3	1328	A
52	3	1329	U
52	3	1331	G
52	3	1338	G
52	3	1341	U
52	3	1342	C
52	3	1343	C
52	3	1347	A
52	3	1353	G
52	3	1355	C
52	3	1356	G
52	3	1358	C
52	3	1360	U
52	3	1361	U
52	3	1364	A
52	3	1366	G
52	3	1369	U
52	3	1370	A
52	3	1371	G
52	3	1373	C
52	3	1375	G
52	3	1378	C
52	3	1388	G
52	3	1393	A
52	3	1400	U
52	3	1404	C
52	3	1406	A
52	3	1407	U
52	3	1410	A
52	3	1413	A
52	3	1414	C
52	3	1415	A
52	3	1419	U
52	3	1421	A
52	3	1424	U
52	3	1425	U
52	3	1426	C
52	3	1428	U
52	3	1430	U
52	3	1435	A

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Mol	Chain	Res	Type
52	3	1437	A
52	3	1439	U
52	3	1444	C
52	3	1445	U
52	3	1447	A
52	3	1448	U
52	3	1449	G
52	3	1453	U
52	3	1456	C
52	3	1457	A
52	3	1466	U
52	3	1467	U
52	3	1478	U
52	3	1479	A
52	3	1480	A
52	3	1481	U
52	3	1483	G
52	3	1484	G
52	3	1486	U
52	3	1489	G
52	3	1494	U
52	3	1495	A
52	3	1502	A
52	3	1508	G
52	3	1514	U
52	3	1522	U
52	3	1523	C
52	3	1530	G
52	3	1532	A
52	3	1534	A
52	3	1535	A
52	3	1541	A
52	3	1542	G
52	3	1546	U
52	3	1548	A
52	3	1549	U
52	3	1571	G
52	3	1582	G
52	3	1584	U
52	3	1585	A
52	3	1586	U
52	3	1587	U

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Mol	Chain	Res	Type
52	3	1588	A
52	3	1589	A
52	3	1592	A
52	3	1594	G
52	3	1599	C
52	3	1600	A
52	3	1603	A
52	3	1615	G
52	3	1618	U
52	3	1619	A
52	3	1632	C
52	3	1633	C
52	3	1637	A
52	3	1640	G
52	3	1641	A
52	3	1642	G
52	3	1643	A
52	3	1644	A
52	3	1645	C
52	3	1648	A
52	3	1660	A
52	3	1661	A
52	3	1665	G
52	3	1670	U
52	3	1673	U
52	3	1674	A
52	3	1679	U
52	3	1680	A
52	3	1681	G
52	3	1682	C
52	3	1683	G
52	3	1686	U
52	3	1687	G
52	3	1694	A
52	3	1695	G
52	3	1702	A
52	3	1703	A
52	3	1706	C
52	3	1707	U
52	3	1708	G
52	3	1709	C
52	3	1710	A

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Mol	Chain	Res	Type
52	3	1714	U
52	3	1715	A
52	3	1716	A
52	3	1727	U
52	3	1728	A
52	3	1730	C
52	3	1732	A
52	3	1733	G
52	3	1734	A
52	3	1735	A
52	3	1741	G
52	3	1748	U
52	3	1749	A
52	3	1750	A
52	3	1751	A
52	3	1752	A
52	3	1753	G
52	3	1761	C
52	3	1762	A
52	3	1763	G
52	3	1764	U
52	3	1765	G
52	3	1766	A
52	3	1767	A
52	3	1769	A
52	3	1770	A
52	3	1771	C
52	3	1780	A
52	3	1781	C
52	3	1782	U
52	3	1786	U
52	3	1787	A
52	3	1788	A
52	3	1791	A
52	3	1806	G
52	3	1807	C
52	3	1808	C
52	3	1809	A
52	3	1811	A
52	3	1815	U
52	3	1816	A
52	3	1821	G

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Mol	Chain	Res	Type
52	3	1822	A
52	3	1823	U
52	3	1826	A
52	3	1828	A
52	3	1836	A
52	3	1842	G
52	3	1843	C
52	3	1855	A
52	3	1860	A
52	3	1864	A
52	3	1865	A
52	3	1866	G
52	3	1867	G
52	3	1871	U
52	3	1872	U
52	3	1873	A
52	3	1874	G
52	3	1885	G
52	3	1890	U
52	3	1891	A
52	3	1892	A
52	3	1896	A
52	3	1903	A
52	3	1906	G
52	3	1907	A
52	3	1910	G
52	3	1913	G
52	3	1914	G
52	3	1915	C
52	3	1919	A
52	3	1921	C
52	3	1927	C
52	3	1934	A
52	3	1936	G
52	3	1937	G
52	3	1938	U
52	3	1943	A
52	3	1944	A
52	3	1945	A
52	3	1946	U
52	3	1951	A
52	3	1956	G

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Mol	Chain	Res	Type
52	3	1958	U
52	3	1959	A
52	3	1961	A
52	3	1962	U
52	3	1963	U
52	3	1964	C
52	3	1966	G
52	3	1967	U
52	3	1970	C
52	3	1972	C
52	3	1973	U
52	3	1974	U
52	3	1976	A
52	3	1977	A
52	3	1979	G
52	3	1982	G
52	3	1993	U
52	3	1997	C
52	3	1998	U
52	3	1999	G
52	3	2000	U
52	3	2003	C
52	3	2004	G
52	3	2010	A
52	3	2012	A
52	3	2020	A
52	3	2027	G
52	3	2028	G
52	3	2030	A
52	3	2031	C
52	3	2038	A
52	3	2039	G
52	3	2040	A
52	3	2041	C
52	3	2043	C
52	3	2044	C
52	3	2050	G
52	3	2058	G
52	3	2059	G
52	3	2062	C
52	3	2063	G
52	3	2066	A

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Mol	Chain	Res	Type
52	3	2067	A
52	3	2068	G
52	3	2076	G
52	3	2084	A
52	3	2087	G
52	3	2090	G
52	3	2091	C
52	3	2098	U
52	3	2099	U
52	3	2100	G
52	3	2106	G
52	3	2107	A
52	3	2110	U
52	3	2111	U
52	3	2112	A
52	3	2115	A
52	3	2117	G
52	3	2123	A
52	3	2124	A
52	3	2125	U
52	3	2126	A
52	3	2127	G
52	3	2132	G
52	3	2133	A
52	3	2134	G
52	3	2137	A
52	3	2138	U
52	3	2139	C
52	3	2140	G
52	3	2141	A
52	3	2143	G
52	3	2145	A
52	3	2152	C
52	3	2155	G
52	3	2163	U
52	3	2170	A
52	3	2171	A
52	3	2174	G
52	3	2176	G
52	3	2178	A
52	3	2180	U
52	3	2184	A

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Mol	Chain	Res	Type
52	3	2187	C
52	3	2190	G
52	3	2193	U
52	3	2194	G
52	3	2195	U
52	3	2197	U
52	3	2199	C
52	3	2200	U
52	3	2202	U
52	3	2203	U
52	3	2204	C
52	3	2205	U
52	3	2206	A
52	3	2208	U
52	3	2211	G
52	3	2212	U
52	3	2219	U
52	3	2220	A
52	3	2221	U
52	3	2222	C
52	3	2223	C
52	3	2227	U
52	3	2229	C
52	3	2231	A
52	3	2233	A
52	3	2234	C
52	3	2246	G
52	3	2247	G
52	3	2251	U
52	3	2257	U
52	3	2260	G
52	3	2261	G
52	3	2262	C
52	3	2267	G
52	3	2274	A
52	3	2276	A
52	3	2278	G
52	3	2281	A
52	3	2283	C
52	3	2285	G
52	3	2291	U
52	3	2293	C

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Mol	Chain	Res	Type
52	3	2295	A
52	3	2300	A
52	3	2304	U
52	3	2305	C
52	3	2308	U
52	3	2311	G
52	3	2313	U
52	3	2315	G
52	3	2316	G
52	3	2317	A
52	3	2319	A
52	3	2320	U
52	3	2323	U
52	3	2327	U
52	3	2331	G
52	3	2333	G
52	3	2334	U
52	3	2341	G
52	3	2342	U
52	3	2343	A
52	3	2345	G
52	3	2348	U
52	3	2352	U
52	3	2353	G
52	3	2354	A
52	3	2355	C
52	3	2356	U
52	3	2358	U
52	3	2362	A
52	3	2369	G
52	3	2370	G
52	3	2380	U
52	3	2381	G
52	3	2385	A
52	3	2391	G
52	3	2393	C
52	3	2396	A
52	3	2397	G
52	3	2399	G
52	3	2401	U
52	3	2410	C
52	3	2413	G

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Mol	Chain	Res	Type
52	3	2414	U
52	3	2415	A
52	3	2416	U
52	3	2422	G
52	3	2423	G
52	3	2424	C
52	3	2433	A
52	3	2434	A
52	3	2435	C
52	3	2436	G
52	3	2437	G
52	3	2438	A
52	3	2439	U
52	3	2441	A
52	3	2442	A
52	3	2443	A
52	3	2449	U
52	3	2451	C
52	3	2453	G
52	3	2455	G
52	3	2457	U
52	3	2458	A
52	3	2461	A
52	3	2475	C
52	3	2477	A
52	3	2484	A
52	3	2486	A
52	3	2488	C
52	3	2490	A
52	3	2491	C
52	3	2492	G
52	3	2495	A
52	3	2497	U
52	3	2498	G
52	3	2499	U
52	3	2500	U
52	3	2502	G
52	3	2504	C
52	3	2507	C
52	3	2509	C
52	3	2510	G
52	3	2512	U

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Mol	Chain	Res	Type
52	3	2513	G
52	3	2518	C
52	3	2520	C
52	3	2521	A
52	3	2526	A
52	3	2527	U
52	3	2528	C
52	3	2530	U
52	3	2536	U
52	3	2538	A
52	3	2543	G
52	3	2549	A
52	3	2550	A
52	3	2555	U
52	3	2556	C
52	3	2557	G
52	3	2562	U
52	3	2563	U
52	3	2564	C
52	3	2565	G
52	3	2568	G
52	3	2569	A
52	3	2570	U
52	3	2571	U
52	3	2574	A
52	3	2575	G
52	3	2577	G
52	3	2580	A
52	3	2584	G
52	3	2593	U
52	3	2594	C
52	3	2596	A
52	3	2599	C
52	3	2604	U
52	3	2605	G
52	3	2610	A
52	3	2616	G
52	3	2617	U
52	3	2618	C
52	3	2619	C
52	3	2621	U
52	3	2623	U

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Mol	Chain	Res	Type
52	3	2626	A
52	3	2629	G
52	3	2631	G
52	3	2633	C
52	3	2636	U
52	3	2637	A
52	3	2642	G
52	3	2643	A
52	3	2647	A
52	3	2649	G
52	3	2651	G
52	3	2653	G
52	3	2654	U
52	3	2662	A
52	3	2668	A
52	3	2669	G
52	3	2673	A
52	3	2674	C
52	3	2677	A
52	3	2681	G
52	3	2690	U
52	3	2697	C
52	3	2702	G
52	3	2710	G
52	3	2711	C
52	3	2721	C
52	3	2722	G
52	3	2726	G
52	3	2732	A
52	3	2734	C
52	3	2737	G
52	3	2741	A
52	3	2747	U
52	3	2752	G
52	3	2756	A
52	3	2760	C
52	3	2764	U
52	3	2765	A
52	3	2766	A
52	3	2768	U
52	3	2769	G
52	3	2772	A

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Mol	Chain	Res	Type
52	3	2774	A
52	3	2775	C
52	3	2777	A
52	3	2780	U
52	3	2786	A
52	3	2788	U
52	3	2789	A
52	3	2793	U
52	3	2799	U
52	3	2800	U
52	3	2801	U
52	3	2803	G
52	3	2804	C
52	3	2805	A
52	3	2806	A
52	3	2808	A
52	3	2809	A
52	3	2813	A
52	3	2814	A
52	3	2822	C
52	3	2823	A
52	3	2824	A
52	3	2825	A
52	3	2826	G
52	3	2828	C
52	3	2835	G
52	3	2836	U
52	3	2837	U
52	3	2838	G
52	3	2839	A
52	3	2845	U
52	3	2847	C
52	3	2848	A
52	3	2850	G
52	3	2853	U
52	3	2854	A
52	3	2859	U
52	3	2862	U
52	3	2863	G
52	3	2865	U
52	3	2870	U
52	3	2871	G

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Mol	Chain	Res	Type
52	3	2874	C
52	3	2876	G
52	3	2881	A
52	3	2883	A
52	3	2884	C
52	3	2888	U
52	3	2889	U
52	3	2890	G
52	3	2896	G
52	3	2897	G
52	3	2898	A
52	3	2899	C
53	4	4	G
53	4	9	C
53	4	11	A
53	4	12	U
53	4	13	G
53	4	14	U
53	4	19	G
53	4	22	G
53	4	23	A
53	4	25	A
53	4	27	A
53	4	28	C
53	4	31	G
53	4	33	U
53	4	39	U
53	4	40	U
53	4	41	C
53	4	42	G
53	4	43	A
53	4	47	C
53	4	48	A
53	4	50	C
53	4	54	U
53	4	55	A
53	4	60	C
53	4	64	G
53	4	65	G
53	4	69	C
53	4	71	A
53	4	72	A

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Mol	Chain	Res	Type
53	4	75	U
53	4	77	G
53	4	78	C
53	4	79	U
53	4	80	G
53	4	88	G
53	4	89	A
53	4	99	A
53	4	102	A
53	4	106	A
53	4	108	C
54	5	7	U
54	5	8	G
54	5	10	G
54	5	15	U
54	5	23	G
54	5	28	G
54	5	29	G
54	5	33	A
54	5	38	U
54	5	40	G
54	5	48	C
54	5	49	C
54	5	50	U
54	5	51	A
54	5	52	A
54	5	53	U
54	5	55	C
54	5	61	A
54	5	64	C
54	5	66	A
54	5	72	A
54	5	75	A
54	5	81	A
54	5	93	A
54	5	94	A
54	5	95	C
54	5	105	A
54	5	106	C
54	5	107	A
54	5	112	U
54	5	114	C

Continued on next page...

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Mol	Chain	Res	Type
54	5	115	A
54	5	116	A
54	5	117	U
54	5	120	A
54	5	124	U
54	5	127	A
54	5	128	A
54	5	129	U
54	5	130	G
54	5	132	G
54	5	135	A
54	5	137	A
54	5	145	G
54	5	149	G
54	5	154	G
54	5	155	C
54	5	160	A
54	5	167	A
54	5	173	U
54	5	186	A
54	5	196	G
54	5	197	A
54	5	198	A
54	5	201	G
54	5	204	C
54	5	222	U
54	5	223	G
54	5	229	G
54	5	232	G
54	5	240	U
54	5	241	C
54	5	243	G
54	5	247	G
54	5	248	U
54	5	249	U
54	5	250	G
54	5	258	A
54	5	262	G
54	5	263	C
54	5	264	C
54	5	275	A
54	5	276	U

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Mol	Chain	Res	Type
54	5	281	U
54	5	285	G
54	5	286	C
54	5	290	G
54	5	296	A
54	5	297	A
54	5	300	A
54	5	302	A
54	5	303	A
54	5	305	A
54	5	311	A
54	5	312	A
54	5	313	U
54	5	315	G
54	5	318	C
54	5	324	C
54	5	326	C
54	5	328	G
54	5	341	C
54	5	344	G
54	5	348	C
54	5	349	A
54	5	350	G
54	5	352	A
54	5	359	A
54	5	362	U
54	5	363	U
54	5	364	U
54	5	368	C
54	5	370	A
54	5	374	G
54	5	376	G
54	5	377	A
54	5	379	A
54	5	380	G
54	5	381	C
54	5	382	U
54	5	384	G
54	5	385	A
54	5	388	G
54	5	392	A
54	5	393	A

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Mol	Chain	Res	Type
54	5	394	U
54	5	402	G
54	5	403	A
54	5	408	U
54	5	409	G
54	5	410	A
54	5	411	A
54	5	414	U
54	5	417	U
54	5	418	U
54	5	419	A
54	5	420	A
54	5	422	A
54	5	425	G
54	5	426	U
54	5	430	G
54	5	432	U
54	5	435	U
54	5	436	U
54	5	438	A
54	5	440	U
54	5	445	A
54	5	448	A
54	5	449	A
54	5	450	U
54	5	452	A
54	5	453	C
54	5	455	U
54	5	456	U
54	5	457	A
54	5	461	G
54	5	464	A
54	5	465	A
54	5	469	C
54	5	473	A
54	5	476	U
54	5	478	G
54	5	479	A
54	5	480	C
54	5	481	U
54	5	482	G
54	5	483	U

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Mol	Chain	Res	Type
54	5	488	U
54	5	489	U
54	5	490	U
54	5	493	A
54	5	494	A
54	5	495	U
54	5	496	A
54	5	497	A
54	5	500	G
54	5	502	C
54	5	503	G
54	5	507	A
54	5	509	C
54	5	510	U
54	5	514	U
54	5	515	G
54	5	516	C
54	5	517	C
54	5	519	G
54	5	525	G
54	5	527	G
54	5	530	A
54	5	531	A
54	5	532	U
54	5	535	A
54	5	542	G
54	5	543	C
54	5	544	A
54	5	545	A
54	5	548	G
54	5	553	C
54	5	558	U
54	5	559	U
54	5	560	U
54	5	562	U
54	5	565	G
54	5	567	C
54	5	568	G
54	5	569	U
54	5	570	A
54	5	572	A
54	5	574	C

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Mol	Chain	Res	Type
54	5	575	A
54	5	579	G
54	5	585	G
54	5	586	G
54	5	592	A
54	5	594	A
54	5	595	G
54	5	599	G
54	5	617	U
54	5	618	U
54	5	620	A
54	5	628	A
54	5	638	A
54	5	639	A
54	5	642	A
54	5	648	C
54	5	650	A
54	5	652	A
54	5	653	G
54	5	660	A
54	5	663	G
54	5	670	G
54	5	672	A
54	5	673	A
54	5	674	U
54	5	680	G
54	5	683	G
54	5	687	G
54	5	692	A
54	5	699	A
54	5	700	G
54	5	718	A
54	5	719	G
54	5	720	U
54	5	721	G
54	5	728	G
54	5	731	A
54	5	734	A
54	5	736	U
54	5	745	U
54	5	746	A
54	5	747	C

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Mol	Chain	Res	Type
54	5	749	G
54	5	752	G
54	5	753	C
54	5	763	A
54	5	774	A
54	5	778	A
54	5	784	A
54	5	785	U
54	5	787	A
54	5	788	G
54	5	789	A
54	5	790	U
54	5	791	A
54	5	795	U
54	5	802	C
54	5	806	A
54	5	809	G
54	5	810	U
54	5	812	A
54	5	813	A
54	5	814	C
54	5	815	G
54	5	816	A
54	5	825	A
54	5	826	G
54	5	838	A
54	5	846	G
54	5	849	A
54	5	867	A
54	5	870	A
54	5	879	G
54	5	884	G
54	5	886	A
54	5	890	U
54	5	895	A
54	5	900	G
54	5	908	A
54	5	910	C
54	5	911	G
54	5	914	A
54	5	917	G
54	5	918	A

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Mol	Chain	Res	Type
54	5	921	G
54	5	922	G
54	5	927	C
54	5	929	C
54	5	930	A
54	5	934	G
54	5	936	G
54	5	946	G
54	5	950	C
54	5	954	A
54	5	955	U
54	5	956	U
54	5	958	G
54	5	961	G
54	5	964	A
54	5	965	C
54	5	966	A
54	5	967	C
54	5	969	A
54	5	970	A
54	5	971	A
54	5	972	A
54	5	976	U
54	5	977	U
54	5	985	C
54	5	987	U
54	5	988	G
54	5	989	A
54	5	995	U
54	5	996	U
54	5	997	G
54	5	999	C
54	5	1001	A
54	5	1002	A
54	5	1003	G
54	5	1005	U
54	5	1006	A
54	5	1013	C
54	5	1014	A
54	5	1015	U
54	5	1018	U
54	5	1019	G

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Mol	Chain	Res	Type
54	5	1030	G
54	5	1033	U
54	5	1034	G
54	5	1035	A
54	5	1036	C
54	5	1038	G
54	5	1039	G
54	5	1041	G
54	5	1043	U
54	5	1044	G
54	5	1045	C
54	5	1046	A
54	5	1047	U
54	5	1049	G
54	5	1056	U
54	5	1059	G
54	5	1061	U
54	5	1071	A
54	5	1074	U
54	5	1075	G
54	5	1080	G
54	5	1085	G
54	5	1086	U
54	5	1092	A
54	5	1095	G
54	5	1101	A
54	5	1102	A
54	5	1103	C
54	5	1104	C
54	5	1109	U
54	5	1111	G
54	5	1116	U
54	5	1117	U
54	5	1121	U
54	5	1122	U
54	5	1128	G
54	5	1134	C
54	5	1135	U
54	5	1141	U
54	5	1144	A
54	5	1153	G
54	5	1159	A

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Mol	Chain	Res	Type
54	5	1163	A
54	5	1167	C
54	5	1168	G
54	5	1169	U
54	5	1171	A
54	5	1172	A
54	5	1173	A
54	5	1176	A
54	5	1177	U
54	5	1179	A
54	5	1184	C
54	5	1185	C
54	5	1186	U
54	5	1189	U
54	5	1190	G
54	5	1195	G
54	5	1196	G
54	5	1197	G
54	5	1199	U
54	5	1200	G
54	5	1201	C
54	5	1202	A
54	5	1203	A
54	5	1208	G
54	5	1211	A
54	5	1216	G
54	5	1225	A
54	5	1227	A
54	5	1228	C
54	5	1229	A
54	5	1231	U
54	5	1232	C
54	5	1233	G
54	5	1235	C
54	5	1242	U
54	5	1243	A
54	5	1245	A
54	5	1254	A
54	5	1255	A
54	5	1258	U
54	5	1260	U
54	5	1261	A

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Mol	Chain	Res	Type
54	5	1264	G
54	5	1271	U
54	5	1273	A
54	5	1276	U
54	5	1277	C
54	5	1279	G
54	5	1280	A
54	5	1286	G
54	5	1296	C
54	5	1297	G
54	5	1299	C
54	5	1301	U
54	5	1303	A
54	5	1310	C
54	5	1314	A
54	5	1316	C
54	5	1317	A
54	5	1319	U
54	5	1320	A
54	5	1322	U
54	5	1333	C
54	5	1334	A
54	5	1338	A
54	5	1339	U
54	5	1346	G
54	5	1347	U
54	5	1350	A
54	5	1353	C
54	5	1354	G
54	5	1355	U
54	5	1356	U
54	5	1357	C
54	5	1358	U
54	5	1359	C
54	5	1361	G
54	5	1362	G
54	5	1369	A
54	5	1372	C
54	5	1373	A
54	5	1374	C
54	5	1375	C
54	5	1376	G

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Mol	Chain	Res	Type
54	5	1379	C
54	5	1381	U
54	5	1395	C
54	5	1403	A
54	5	1404	U
54	5	1405	U
54	5	1408	A
54	5	1412	C
54	5	1417	U
54	5	1421	A
54	5	1423	C
54	5	1426	U
54	5	1427	U
54	5	1428	A
54	5	1429	G
54	5	1439	G
54	5	1442	A
54	5	1444	G
54	5	1449	G
54	5	1450	C
54	5	1458	A
54	5	1465	U
54	5	1466	U
54	5	1467	A
54	5	1468	A
54	5	1469	G
54	5	1471	C
54	5	1473	U
54	5	1477	A
54	5	1478	A
54	5	1479	G
54	5	1480	G
54	5	1481	U
54	5	1482	A
54	5	1484	C
54	5	1485	C
54	5	1495	C
54	5	1500	G
54	5	1504	G
54	5	1505	G
54	5	1507	U
55	6	3	G

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Mol	Chain	Res	Type
55	6	8	G
55	6	9	U
55	6	17	U
55	6	18	C
55	6	19	G
55	6	20	G
55	6	22	A
55	6	23	G
55	6	28	A
55	6	30	G
55	6	33	C
55	6	34	U
55	6	35	G
55	6	39	A
55	6	42	C
55	6	43	G
55	6	44	U
55	6	48	U
55	6	49	C
55	6	50	G
55	6	51	G
55	6	52	C
55	6	55	U
55	6	56	U
55	6	57	C
55	6	58	G
55	6	59	A
55	6	60	U
55	6	61	U
55	6	62	C
55	6	67	C
55	6	68	G
55	6	71	A
55	6	72	C
55	6	73	C
55	6	74	A
55	6	75	C
55	6	76	C
55	6	77	A
55	8	3	G
55	8	8	G
55	8	9	U

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Mol	Chain	Res	Type
55	8	17	U
55	8	18	C
55	8	19	G
55	8	20	G
55	8	22	A
55	8	23	G
55	8	28	A
55	8	30	G
55	8	33	C
55	8	34	U
55	8	35	G
55	8	39	A
55	8	42	C
55	8	43	G
55	8	44	U
55	8	48	U
55	8	49	C
55	8	50	G
55	8	51	G
55	8	52	C
55	8	55	U
55	8	56	U
55	8	57	C
55	8	58	G
55	8	59	A
55	8	60	U
55	8	61	U
55	8	62	C
55	8	67	C
55	8	68	G
55	8	71	A
55	8	72	C
55	8	73	C
55	8	74	A
55	8	75	C
55	8	76	C
55	8	77	A

All (52) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
52	3	315	A

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Mol	Chain	Res	Type
52	3	403	U
52	3	410	G
52	3	425	U
52	3	437	A
52	3	500	U
52	3	602	U
52	3	750	A
52	3	881	A
52	3	901	C
52	3	1048	A
52	3	1124	G
52	3	1209	U
52	3	1297	U
52	3	1355	C
52	3	1507	G
52	3	1583	G
52	3	1587	U
52	3	1588	A
52	3	1820	U
52	3	1872	U
52	3	2140	G
52	3	2282	A
52	3	2333	G
52	3	2342	U
52	3	2506	C
52	3	2604	U
52	3	2668	A
52	3	2721	C
52	3	2897	G
53	4	32	G
53	4	54	U
53	4	59	A
53	4	70	G
54	5	159	U
54	5	166	U
54	5	482	G
54	5	883	A
54	5	899	U
54	5	921	G
54	5	975	C
54	5	1133	A
54	5	1338	A

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Mol	Chain	Res	Type
54	5	1468	A
55	6	16	G
55	6	18	C
55	6	56	U
55	6	58	G
55	8	16	G
55	8	18	C
55	8	56	U
55	8	58	G

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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13449. These allow visual inspection of the internal detail of the map and identification of artifacts.

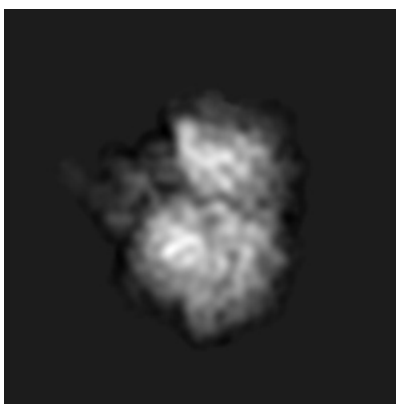
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



X

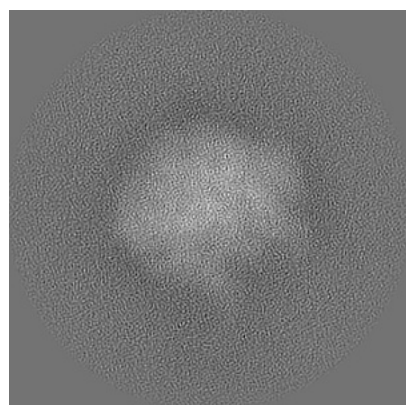


Y

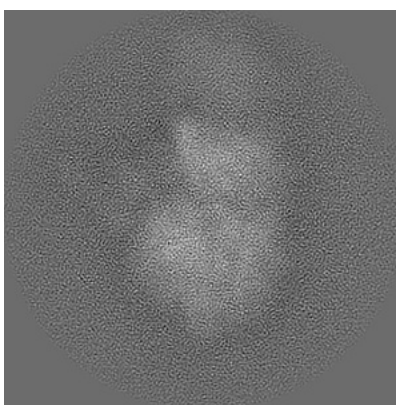


Z

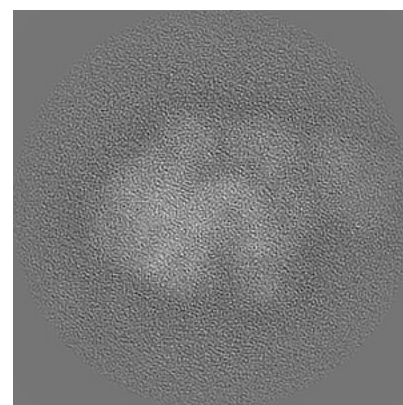
6.1.2 Raw map



X



Y

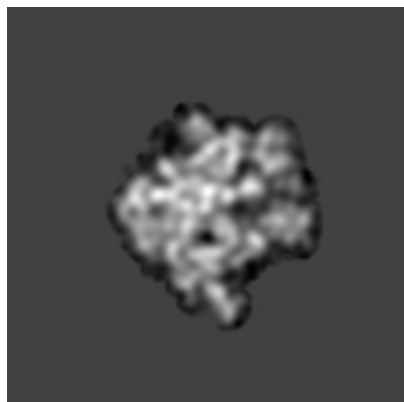


Z

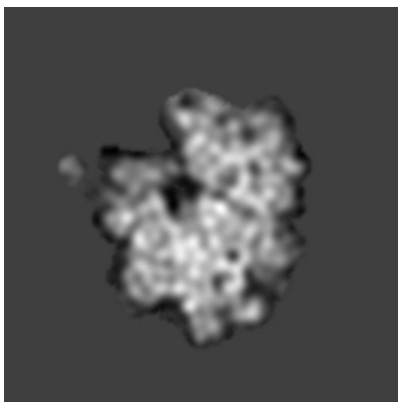
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

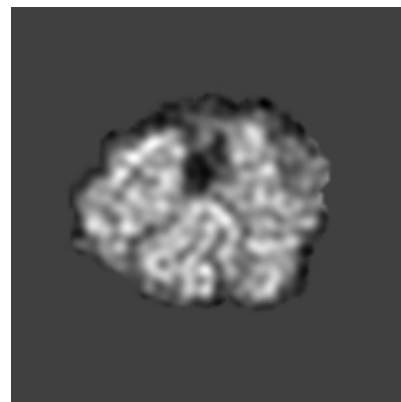
6.2.1 Primary map



X Index: 128

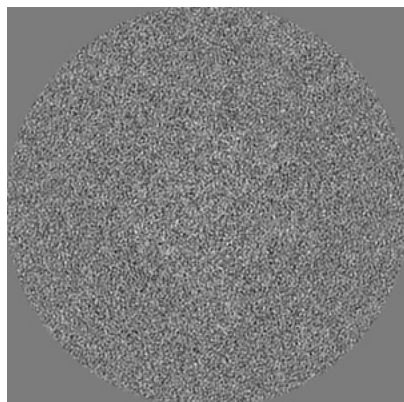


Y Index: 128

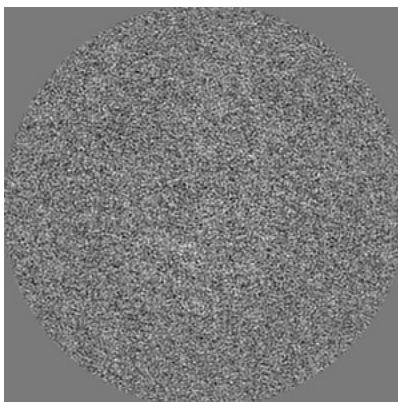


Z Index: 128

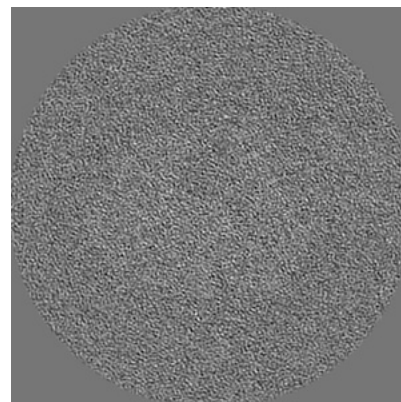
6.2.2 Raw map



X Index: 128



Y Index: 128



Z Index: 128

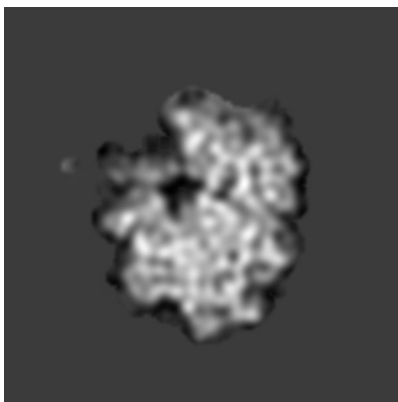
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

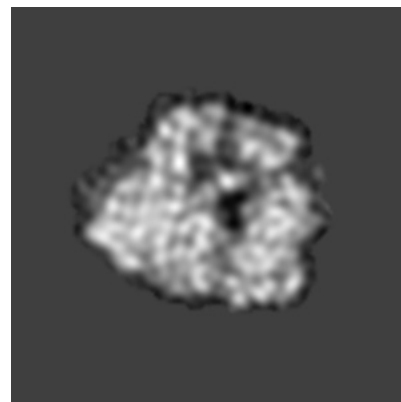
6.3.1 Primary map



X Index: 102

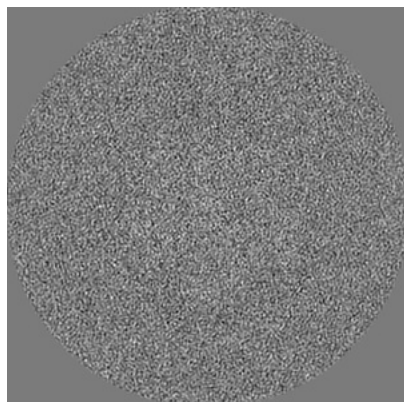


Y Index: 125

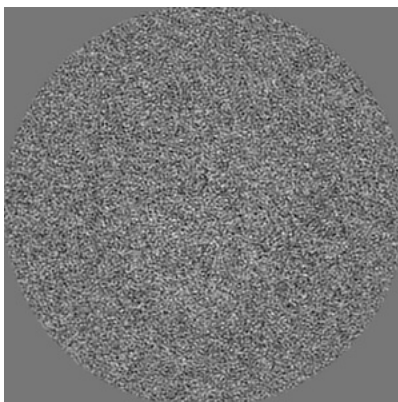


Z Index: 119

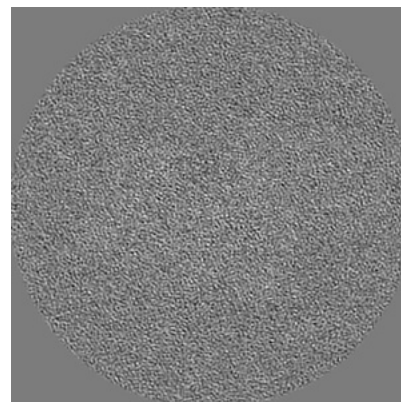
6.3.2 Raw map



X Index: 118



Y Index: 118



Z Index: 130

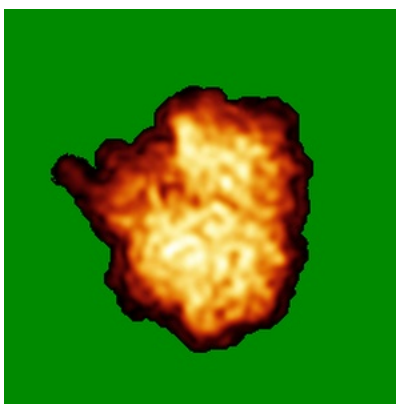
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



X

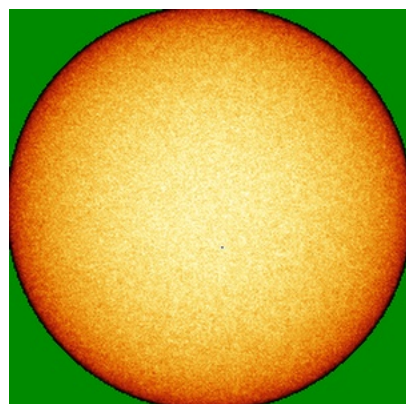


Y

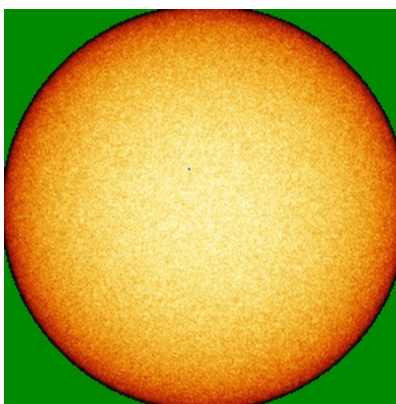


Z

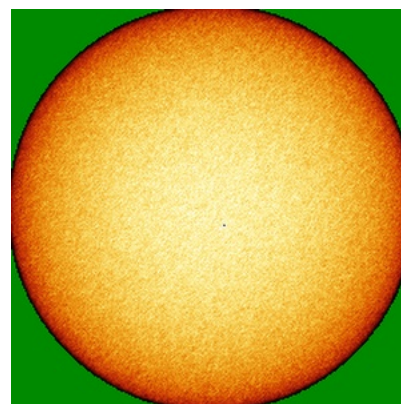
6.4.2 Raw map



X



Y

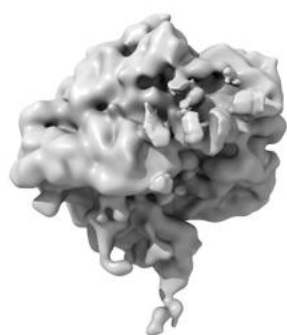


Z

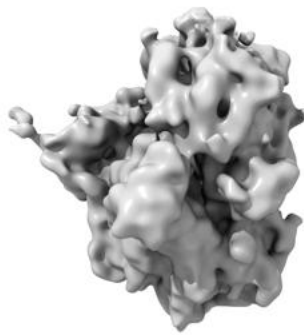
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

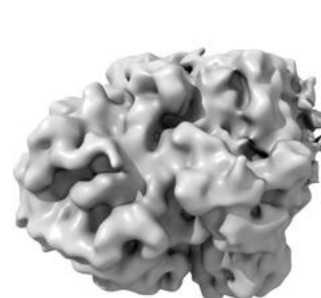
6.5.1 Primary map



X



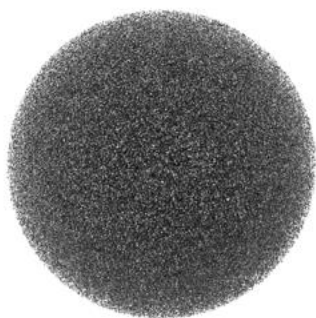
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.22. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

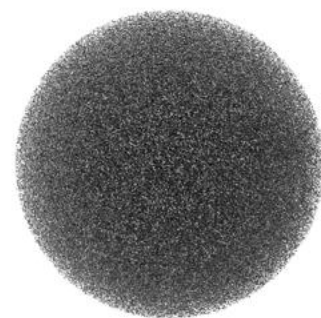
6.5.2 Raw map



X



Y



Z

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

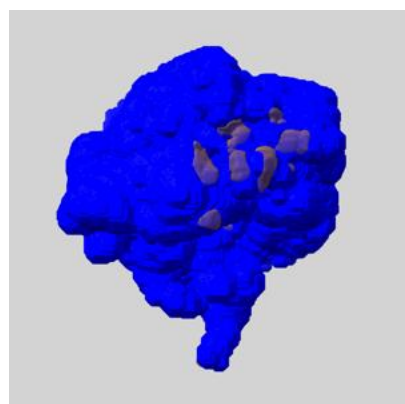
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

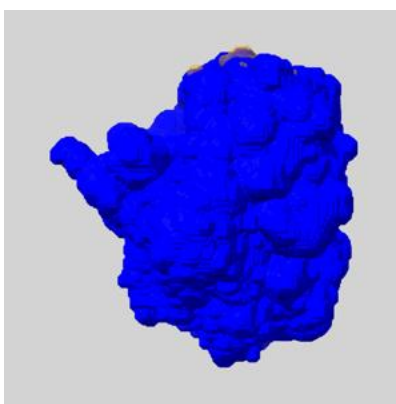
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

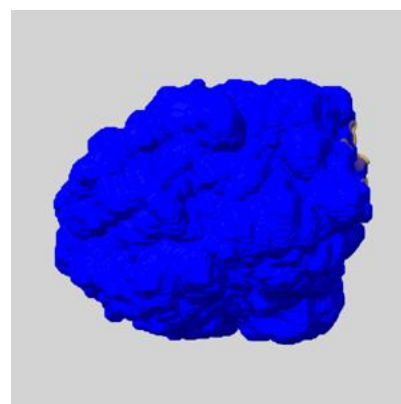
6.6.1 emd_13449_msk_1.map [i](#)



X



Y

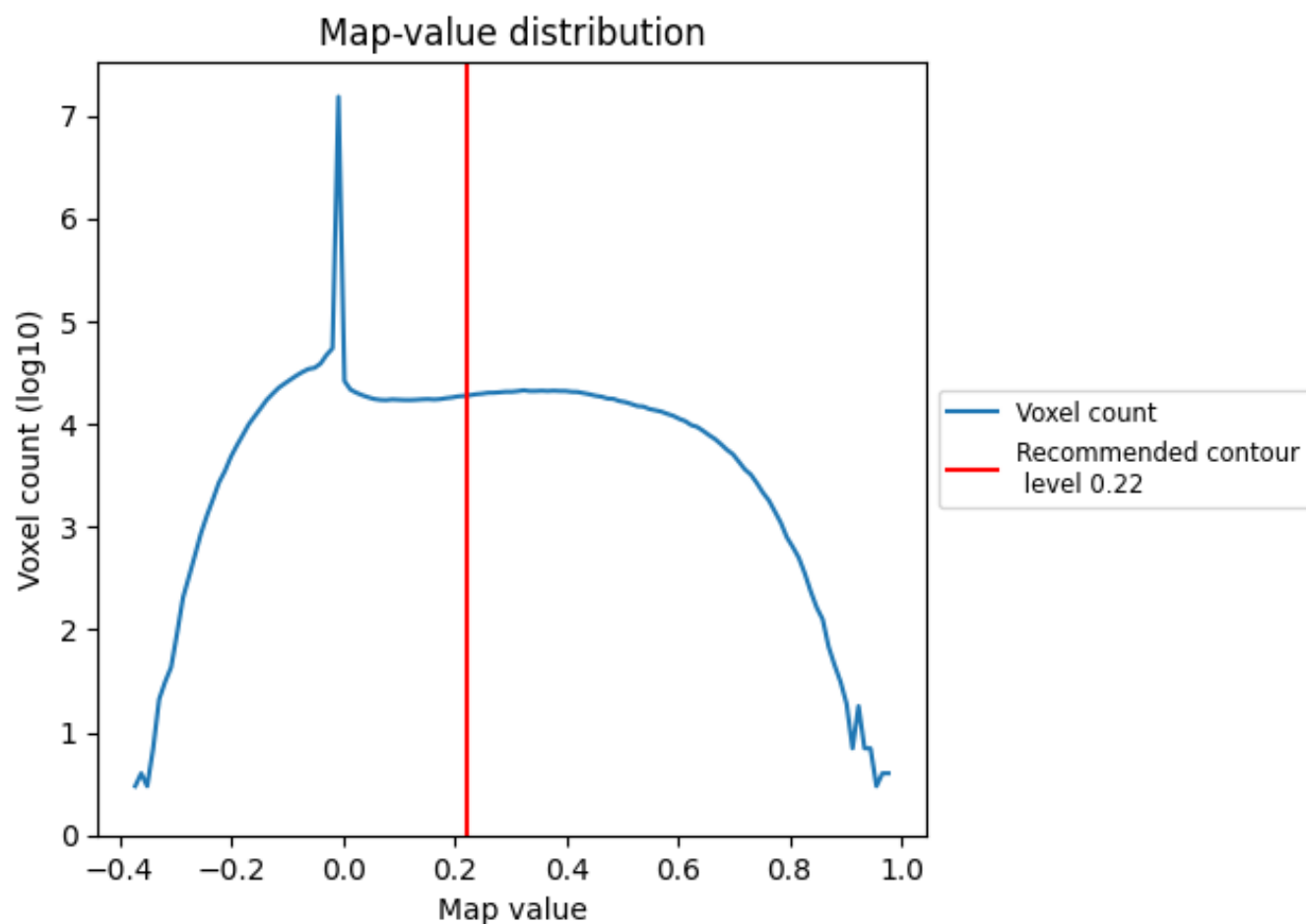


Z

7 Map analysis [i](#)

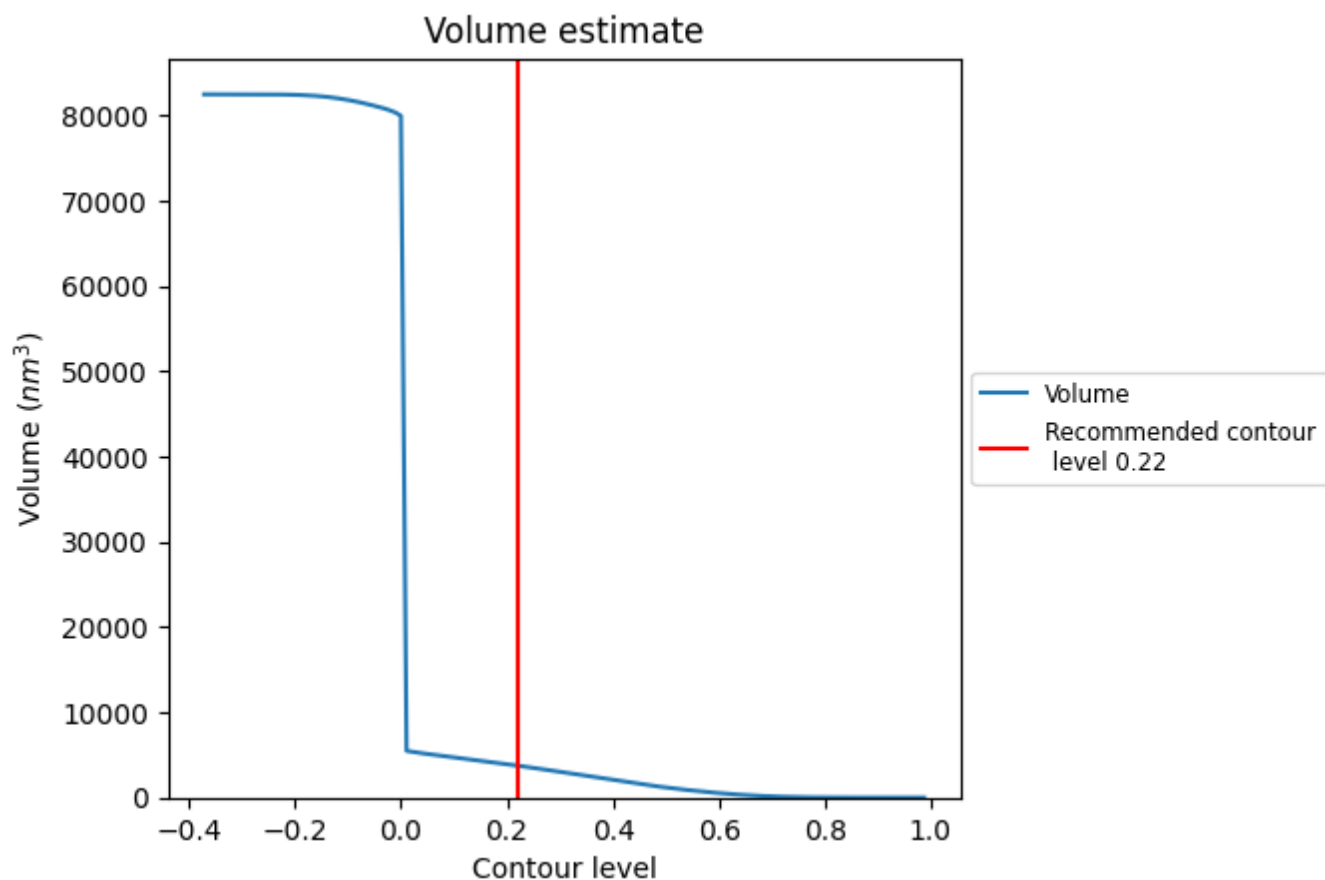
This section contains the results of statistical analysis of the map.

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.

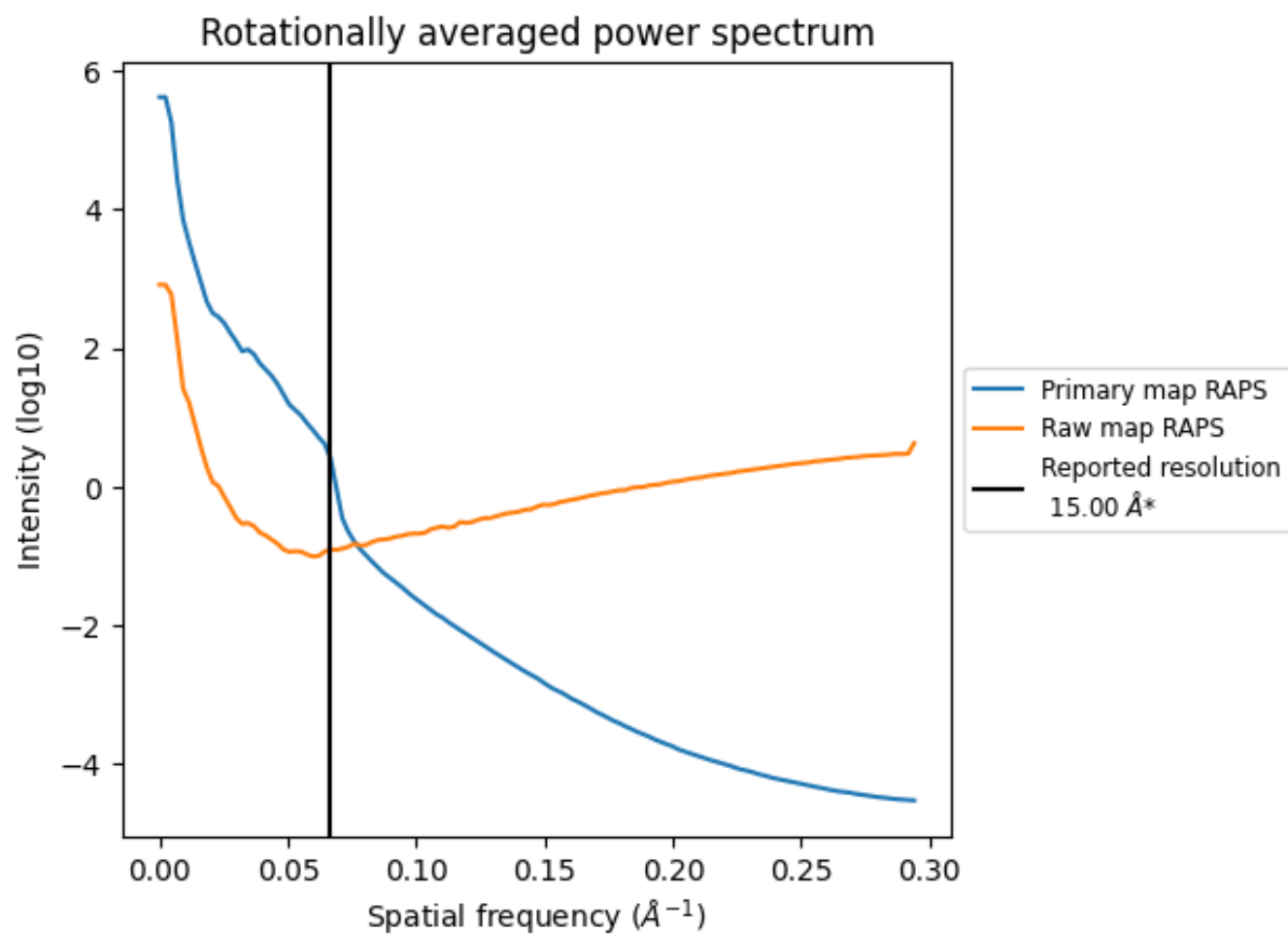
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3746 nm³; this corresponds to an approximate mass of 3384 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 ⓘ

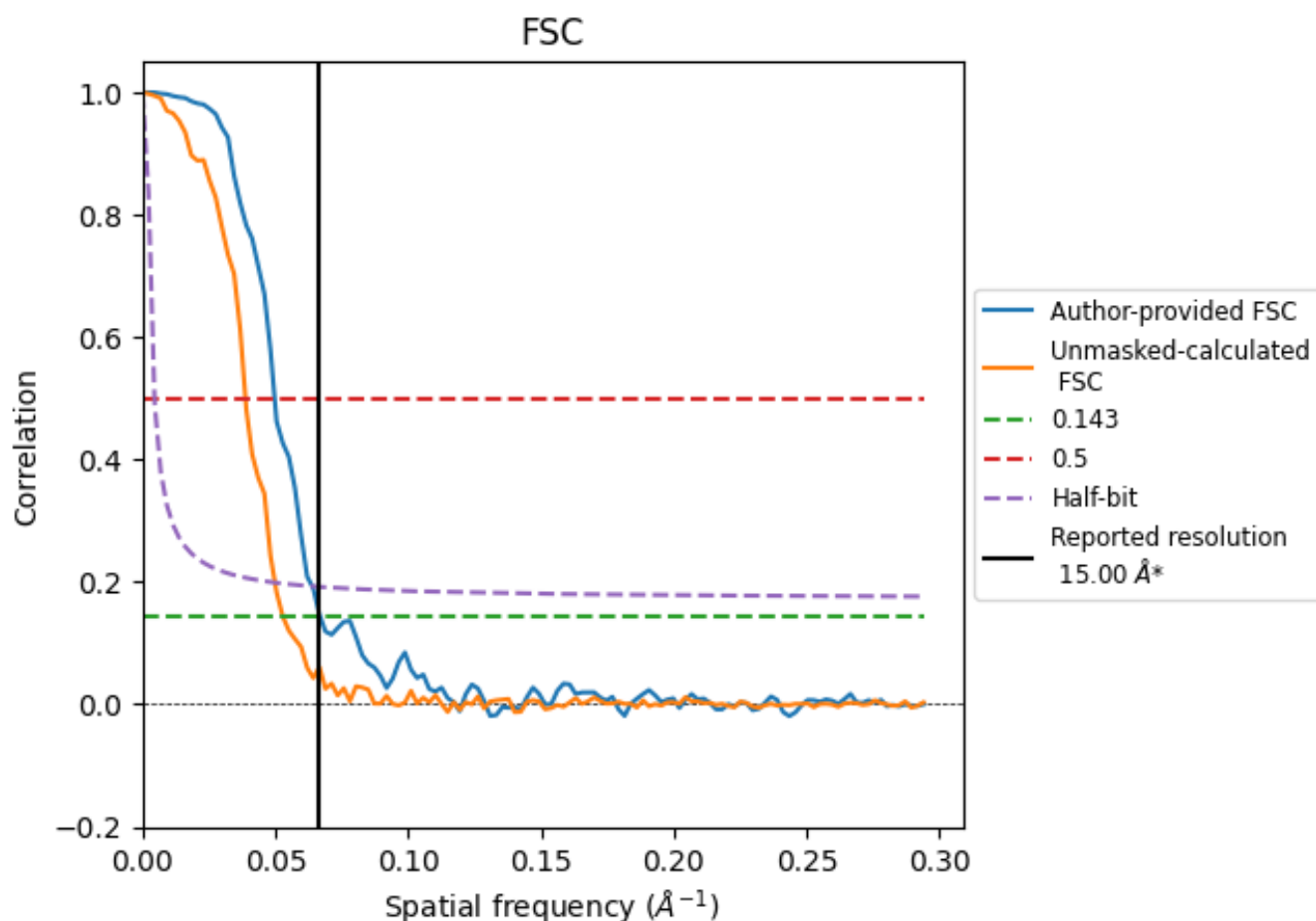


*Reported resolution corresponds to spatial frequency of $0.067 \text{ \AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.067 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

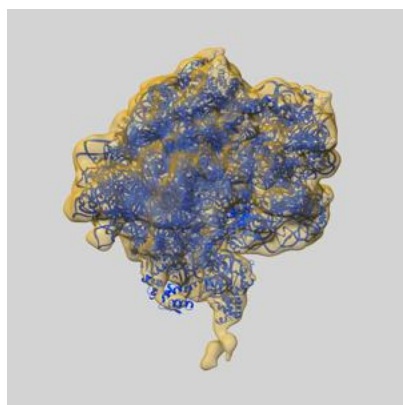
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	15.00	-	-
Author-provided FSC curve	14.95	20.08	15.62
Unmasked-calculated*	18.90	25.84	20.04

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 18.90 differs from the reported value 15.0 by more than 10 %

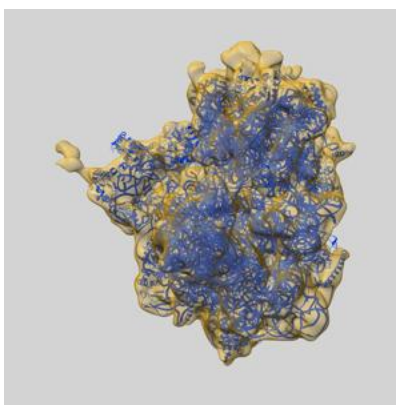
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-13449 and PDB model 7PIS. Per-residue inclusion information can be found in section 3 on page 14.

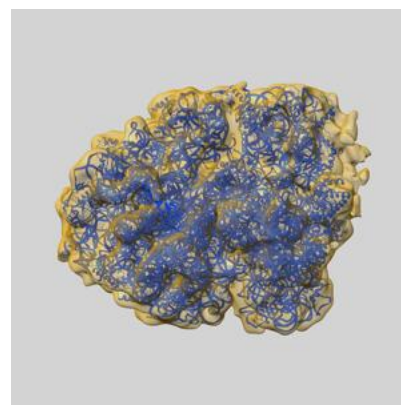
9.1 Map-model overlay [i](#)



X



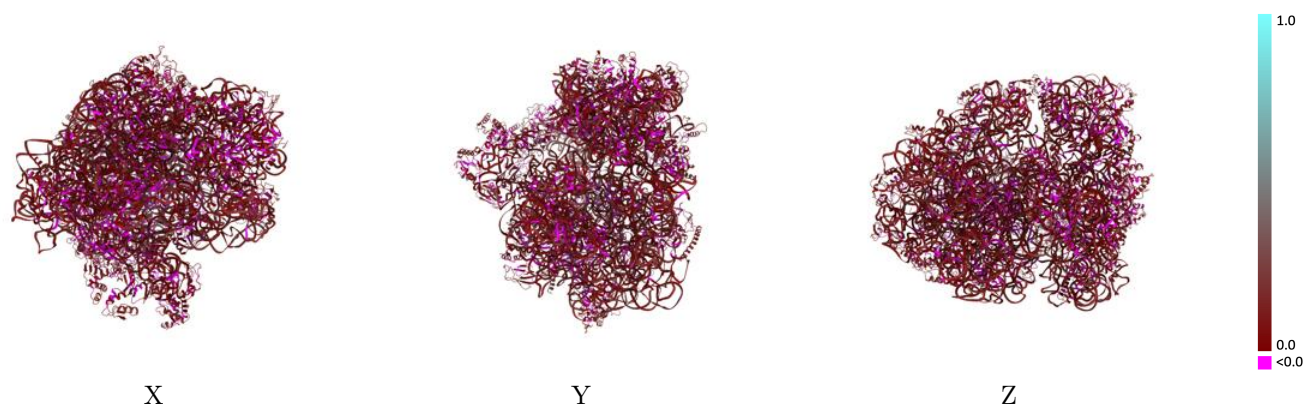
Y



Z

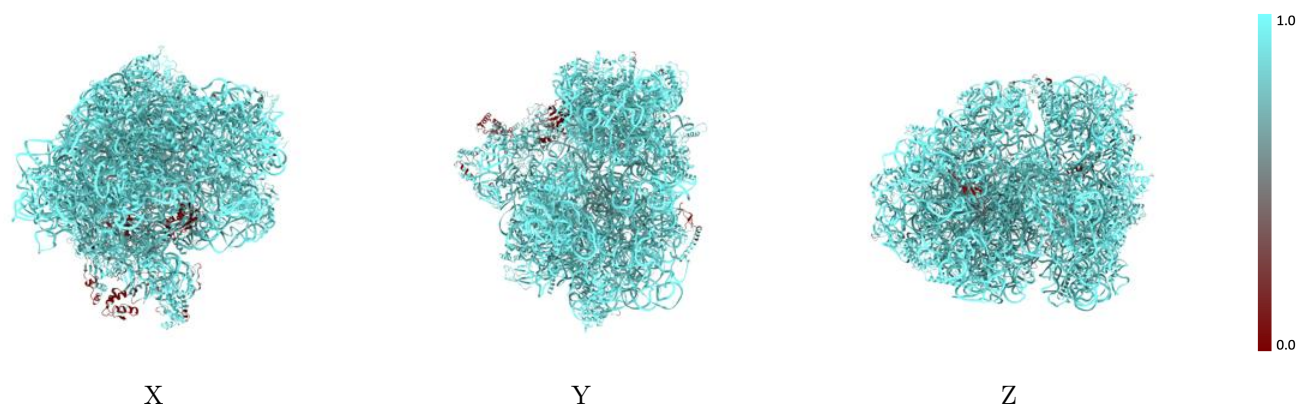
The images above show the 3D surface view of the map at the recommended contour level 0.22 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



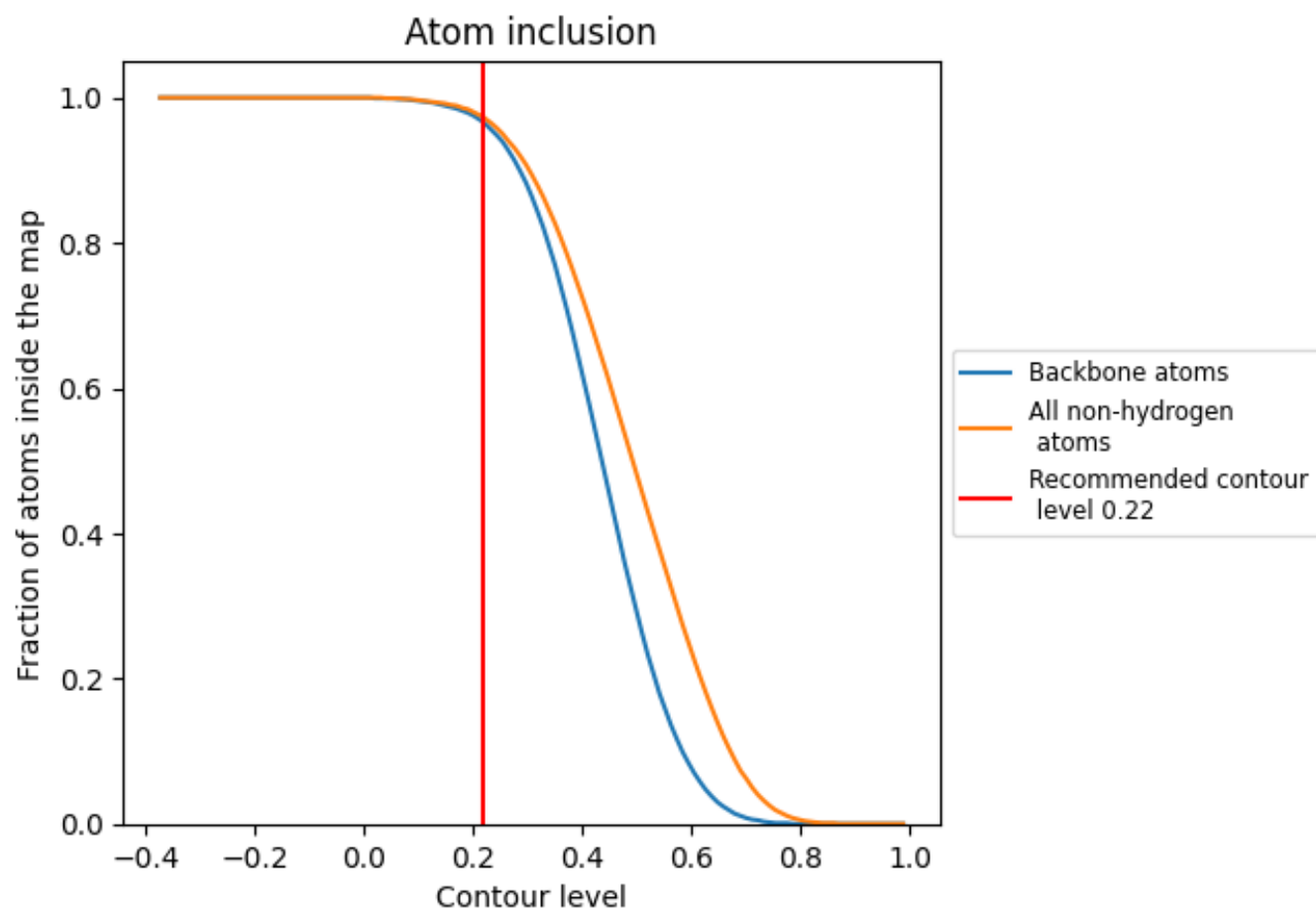
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.22).

9.4 Atom inclusion [i](#)



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

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.22) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9730	 0.0820
0	 0.9920	 0.0050
1	 1.0000	 0.0320
2	 1.0000	 0.0070
3	 0.9990	 0.0970
4	 1.0000	 0.1040
5	 0.9980	 0.1000
6	 0.9880	 0.0950
8	 0.9840	 0.0790
9	 0.6770	 0.0620
A	 0.9830	 0.0770
B	 0.9770	 0.0530
C	 0.9880	 0.0340
D	 0.9900	 0.0530
E	 0.9630	 0.0830
F	 0.9500	 0.0770
G	 0.9990	 0.0570
H	 0.9450	 0.0480
I	 0.9480	 0.0380
J	 0.9890	 0.0460
K	 0.9880	 0.0270
L	 0.9080	 0.0510
M	 1.0000	 0.0280
N	 0.9940	 0.0500
O	 1.0000	 0.0400
P	 0.9570	 0.0600
Q	 0.9850	 0.0700
R	 0.9940	 0.0610
S	 0.9950	 0.0440
T	 0.9890	 0.0700
W	 0.1690	 0.0900
a	 1.0000	 0.0280
b	 0.9930	 0.0380
c	 0.9960	 0.0580
d	 0.9630	 0.0700



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Chain	Atom inclusion	Q-score
e	 0.9290	 0.0580
f	 0.6120	 0.0700
g	 0.8340	 0.0780
h	 0.7950	 0.0770
i	 0.9940	 0.0450
j	 0.9760	 0.0240
k	 0.9820	 0.0370
l	 0.9900	 0.0490
m	 0.9940	 0.0260
n	 0.9860	 0.0590
o	 0.9310	 0.0400
p	 0.9800	 0.0390
q	 0.9470	 0.0690
r	 0.9980	 0.0510
s	 1.0000	 0.0370
t	 0.9170	 0.0620
u	 0.9750	 0.0320
v	 1.0000	 0.0320
w	 0.9880	 0.0950
x	 0.9010	 0.1130
y	 0.9890	 0.0720
z	 1.0000	 0.0290