



Full wwPDB EM Validation Report ⓘ

Mar 14, 2026 – 12:19 AM UTC

PDB ID : 7PIT / pdb_00007pit
EMDB ID : EMD-13450
Title : 70S ribosome with EF-G, A/P- 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 : 5.70 Å (reported)
Based on initial models : 4V7D, 7OOC, 7OOD, 4V7C

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:

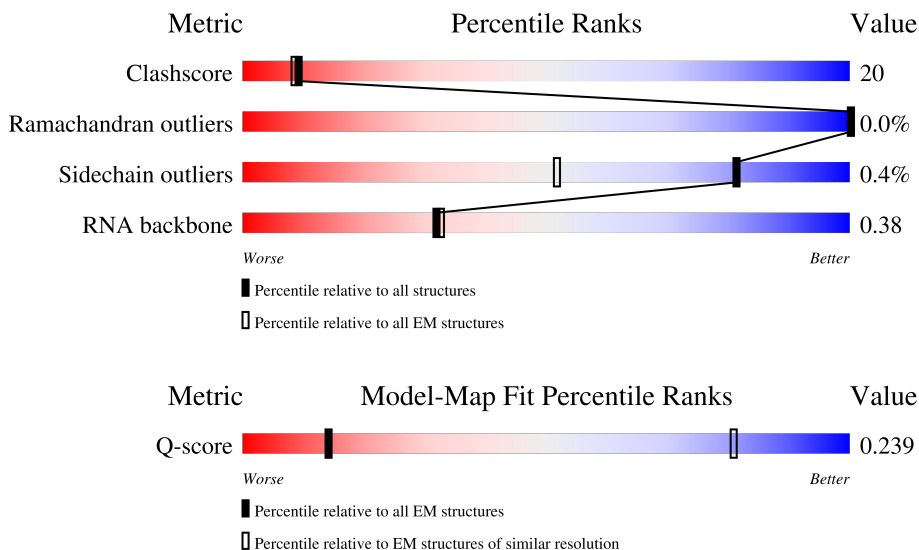
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & 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 5.70 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	503 (5.20 - 6.20)

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	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: right;">17%</div> <div style="width: 100%; height: 15px; background: linear-gradient(to right, red, orange, yellow, green, grey);"></div> <div style="text-align: left;">48%</div> <div style="text-align: right;">48%</div> </div>
2	1	59	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: right;">14%</div> <div style="width: 100%; height: 15px; background: linear-gradient(to right, red, orange, yellow, green);"></div> <div style="text-align: left;">51%</div> <div style="text-align: right;">49%</div> </div>
3	2	37	<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: right;">11%</div> <div style="width: 100%; height: 15px; background: linear-gradient(to right, red, orange, yellow, green);"></div> <div style="text-align: left;">35%</div> <div style="text-align: right;">65%</div> </div>

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Mol	Chain	Length	Quality of chain
4	9	688	83% 56% 43%
5	A	294	41% 45% 36% 18%
6	B	273	39% 55% 24% 21%
7	C	205	54% 57% 42%
8	D	219	31% 38% 32% 30%
9	E	215	37% 45% 33% 22%
10	F	155	56% 67% 32%
11	G	142	32% 53% 46%
12	H	132	48% 59% 38%
13	I	108	53% 51% 43% 6%
14	J	121	30% 52% 42% 6%
15	K	139	32% 58% 40%
16	L	124	54% 60% 35% 5%
17	M	61	30% 41% 57%
18	N	86	26% 58% 38%
19	O	94	31% 46% 39% 15%
20	P	85	39% 69% 28%
21	Q	104	22% 38% 25% 38%
22	R	87	51% 54% 43%
23	S	87	23% 52% 37% 11%
24	T	60	30% 43% 43% 12%
25	W	122	56% 43% 13% 43%
26	a	287	20% 55% 45%
27	b	287	20% 48% 31% 20%
28	c	212	32% 60% 39%

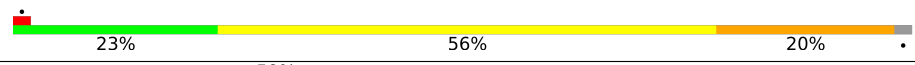


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Mol	Chain	Length	Quality of chain
29	d	180	54% 61% 37%
30	e	184	49% 60% 36%
31	f	149	81% 58% 40%
32	g	161	65% 35% 41% 22%
33	h	137	76% 51% 42% 7%
34	i	146	25% 51% 47%
35	j	122	42% 52% 48%
36	k	151	23% 62% 36%
37	l	139	29% 65% 33%
38	m	124	13% 49% 47%
39	n	116	38% 54% 42%
40	o	119	39% 45% 52%
41	p	127	18% 50% 39% 10%
42	q	100	43% 56% 43%
43	r	159	12% 51% 36% 13%
44	s	237	9% 21% 18% 61%
45	t	111	52% 55% 45%
46	u	104	25% 52% 31% 17%
47	v	65	29% 60% 37%
48	w	111	21% 52% 38% 10%
49	x	97	30% 32% 13% 55%
50	y	57	21% 49% 44% 5%
51	z	53	34% 51% 43% 6%
52	3	2907	21% 56% 22%
53	4	108	25% 42% 31%

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Mol	Chain	Length	Quality of chain
54	5	1520	
55	7	76	
55	8	76	

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
			Total	C	N	O	S		
1	0	47	380	236	81	61	2	0	0

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

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

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

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

- Molecule 4 is a protein called Elongation factor G.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- 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		

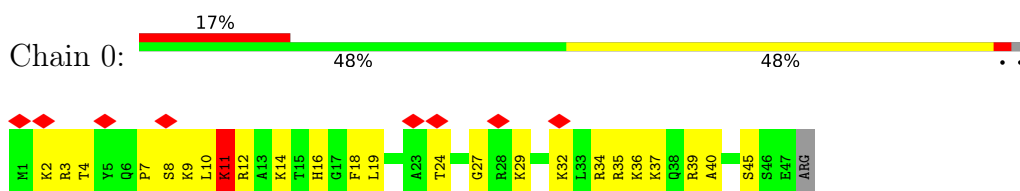
- Molecule 55 is a RNA chain called tRNA-Phe.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	7	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		

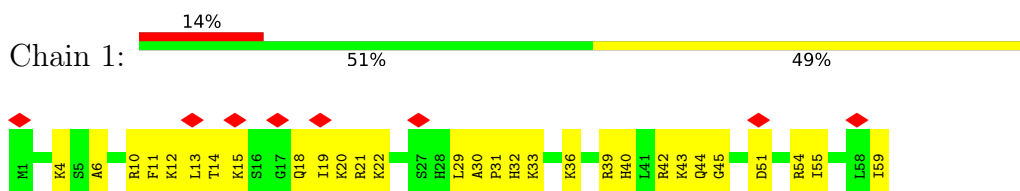
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

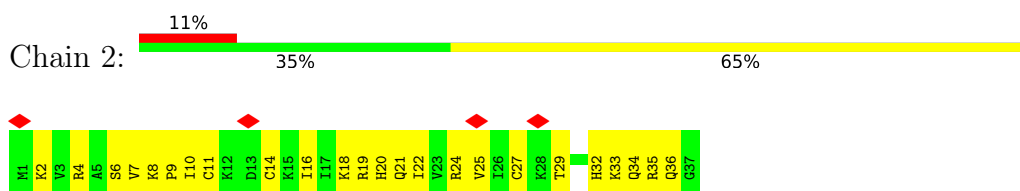
- Molecule 1: 50S ribosomal protein L34



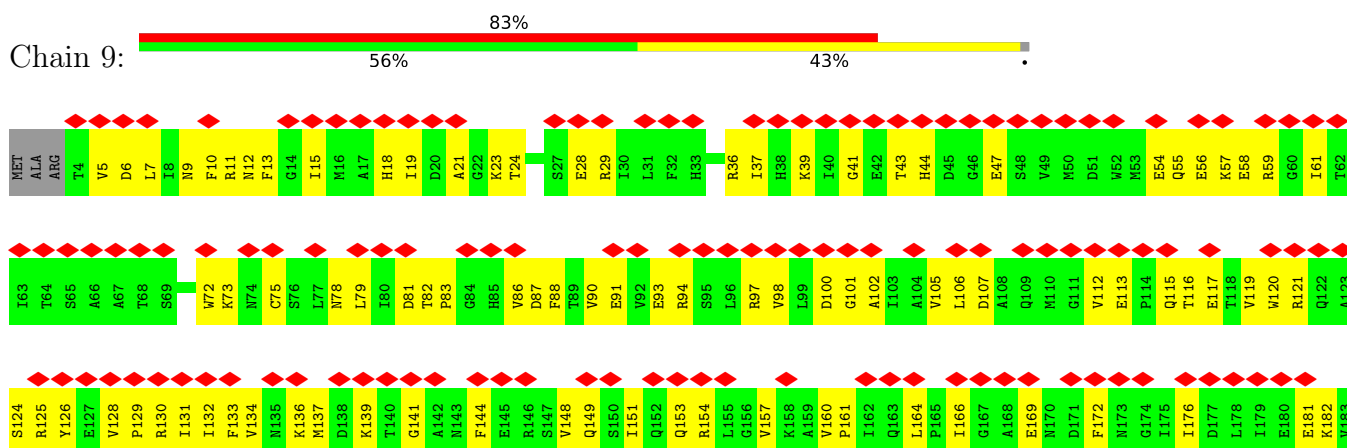
- Molecule 2: 50S ribosomal protein L35

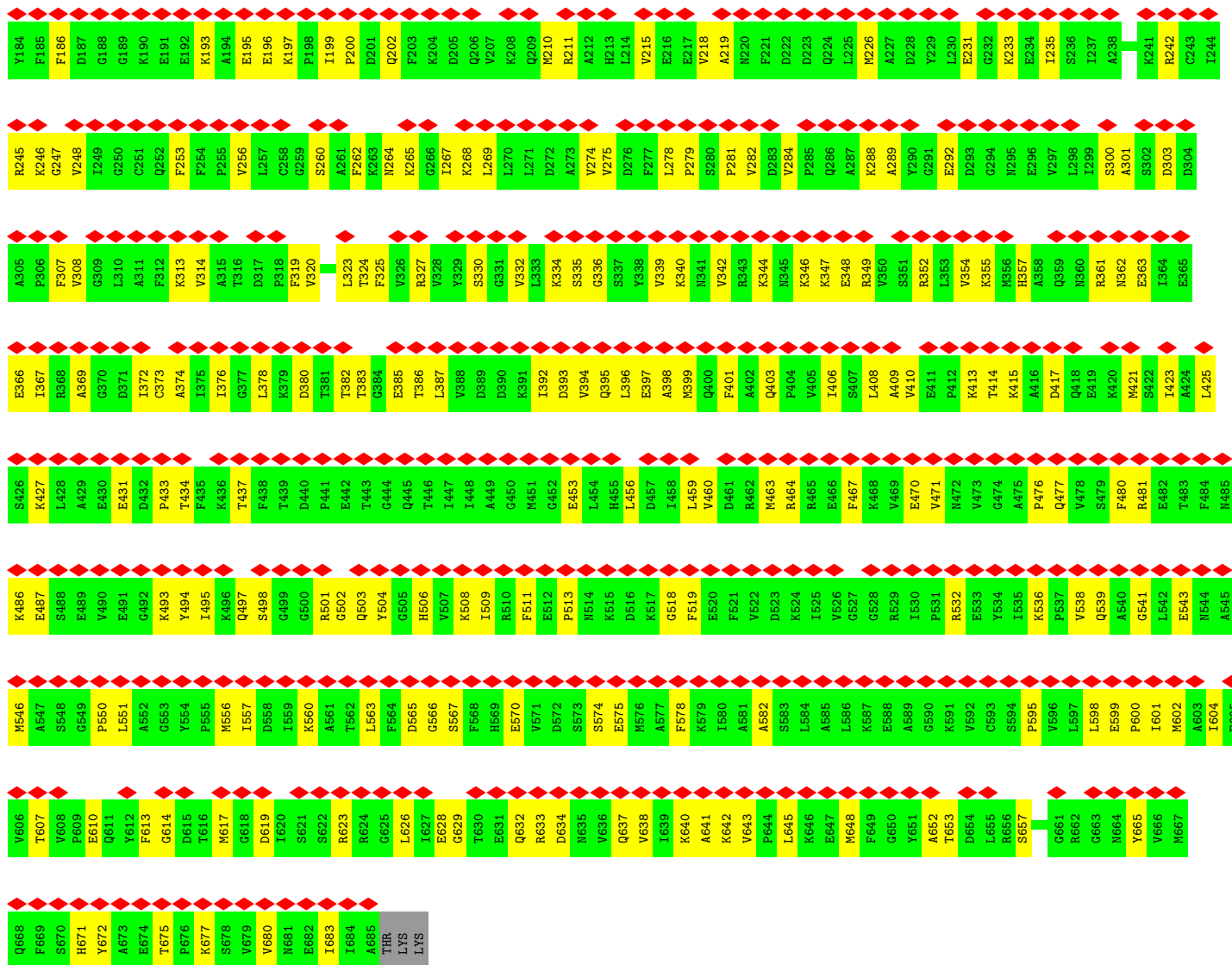


- Molecule 3: 50S ribosomal protein L36

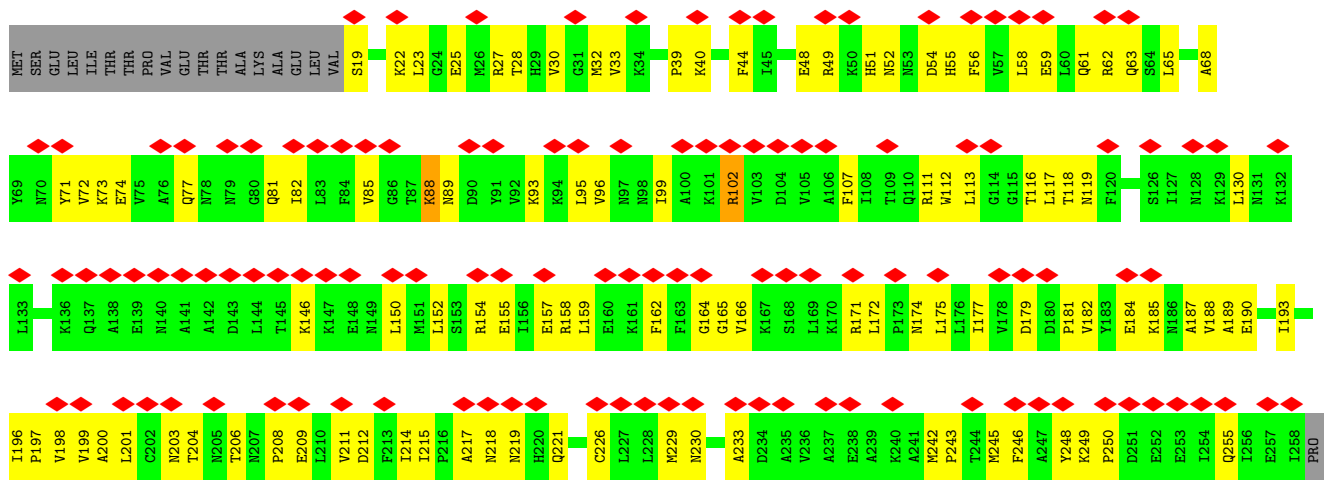
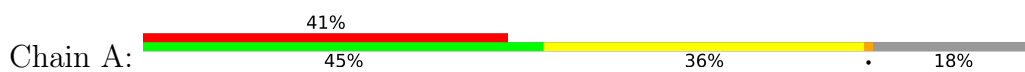


- Molecule 4: Elongation factor G



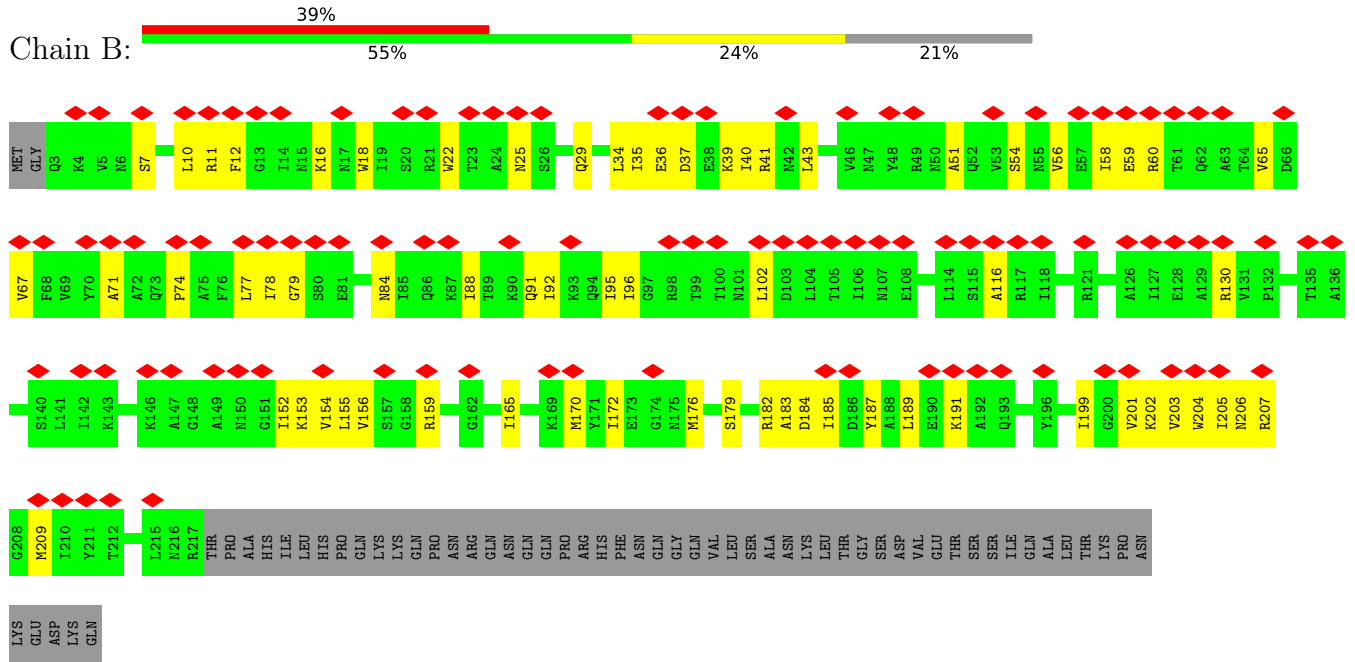


• Molecule 5: 30S ribosomal protein S2

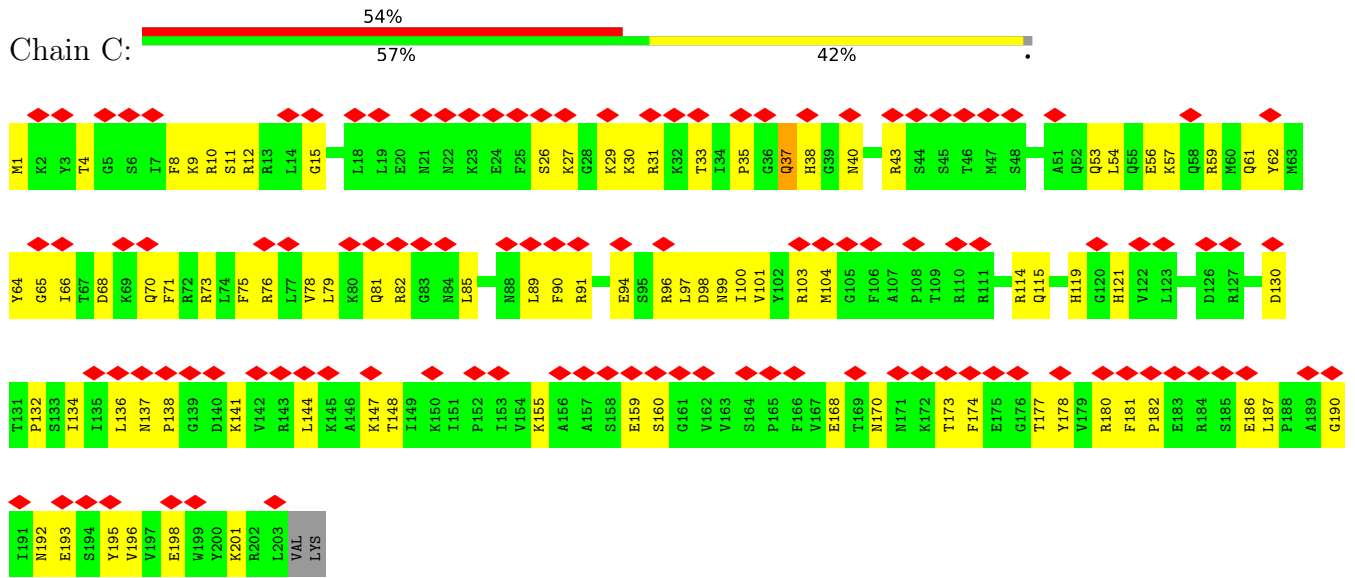


GLN
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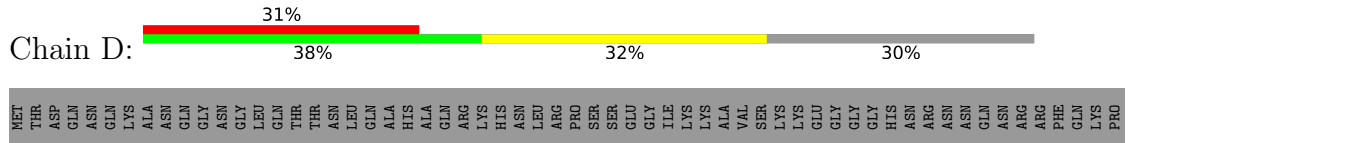
• Molecule 6: 30S ribosomal protein S3

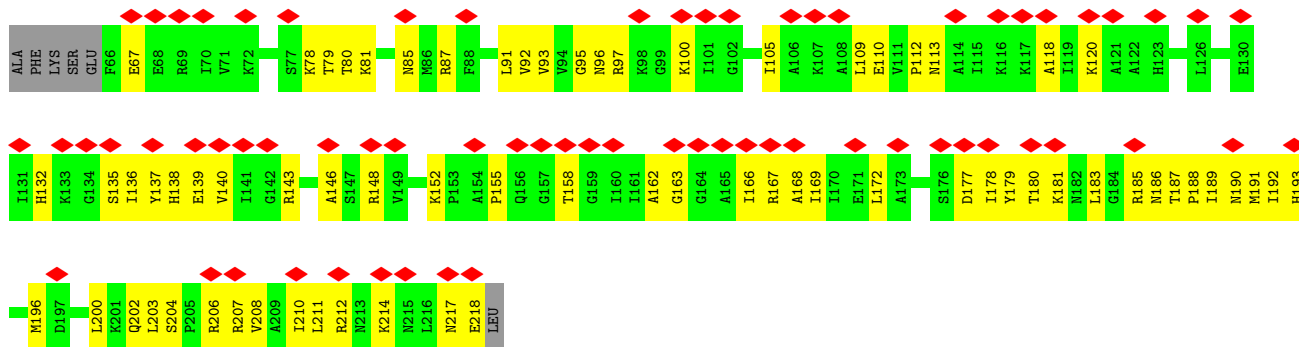


• Molecule 7: 30S ribosomal protein S4

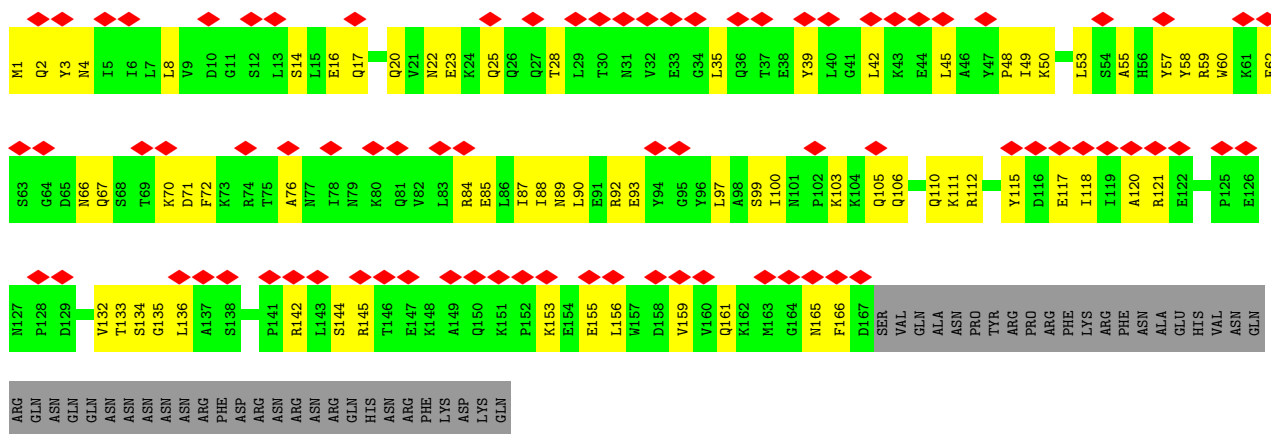
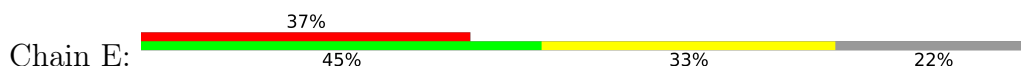


• Molecule 8: 30S ribosomal protein S5

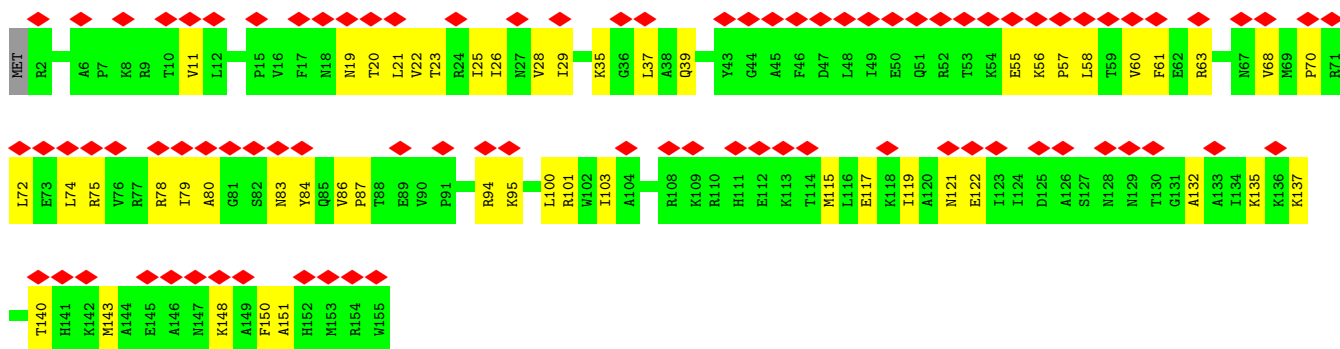




● Molecule 9: 30S ribosomal protein S6

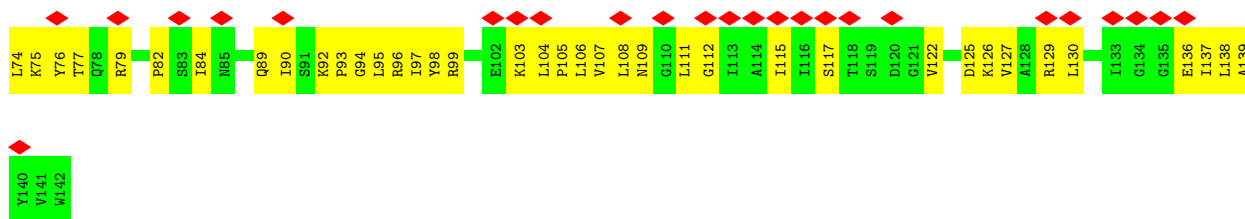


● Molecule 10: 30S ribosomal protein S7

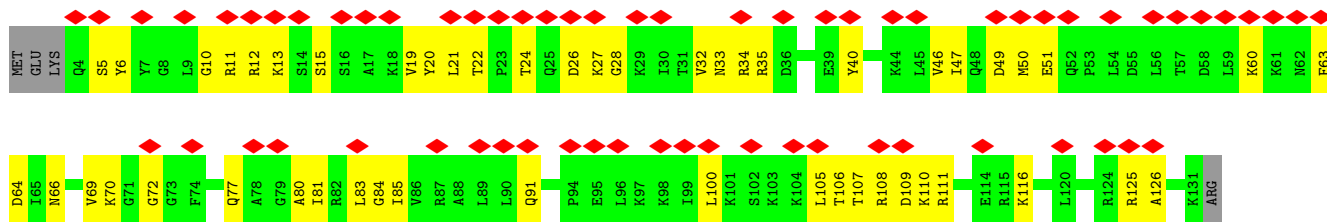


● Molecule 11: 30S ribosomal protein S8

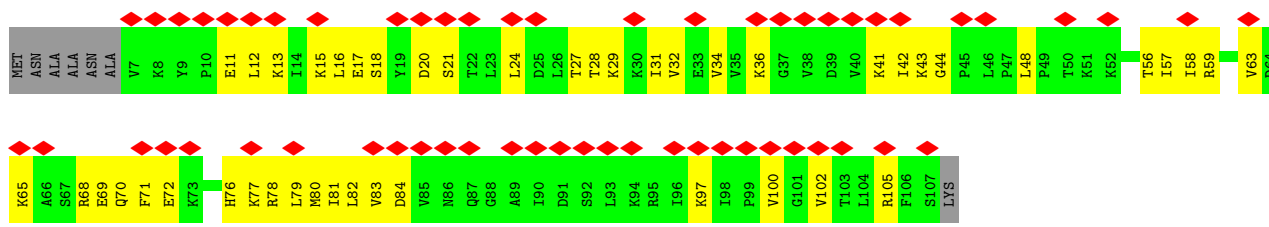




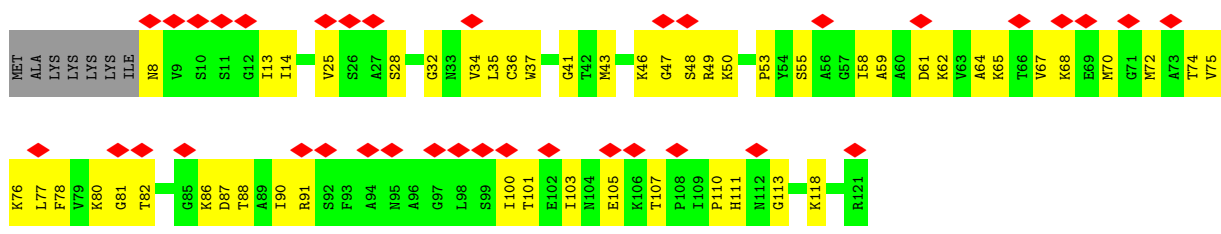
• Molecule 12: 30S ribosomal protein S9



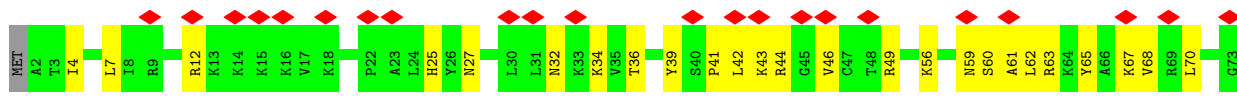
• Molecule 13: 30S ribosomal protein S10

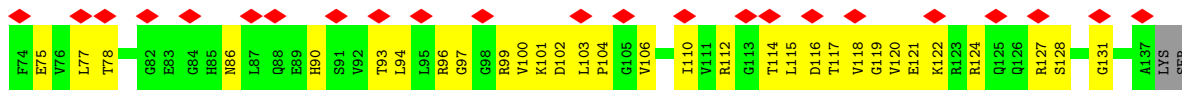


• Molecule 14: 30S ribosomal protein S11

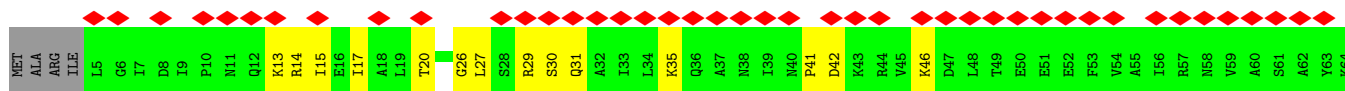


• Molecule 15: 30S ribosomal protein S12

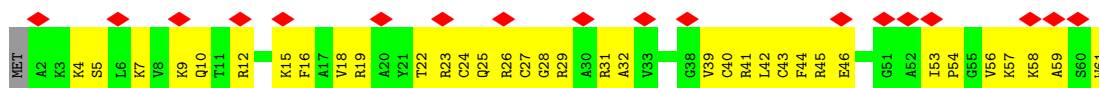




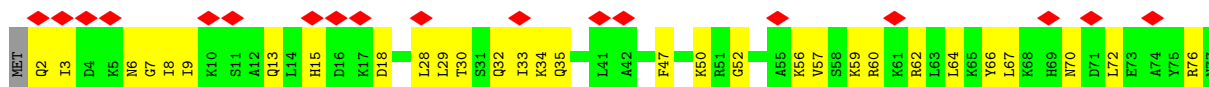
- Molecule 16: 30S ribosomal protein S13



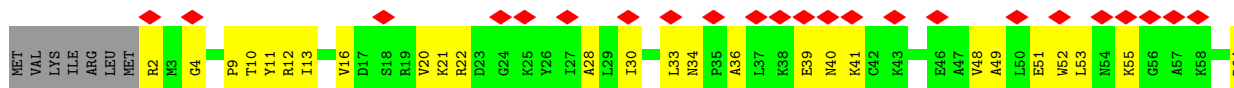
- Molecule 17: 30S ribosomal protein S14 type Z



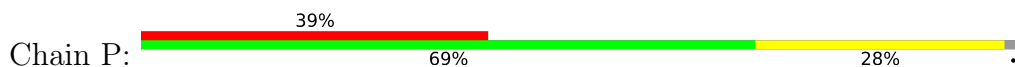
- Molecule 18: 30S ribosomal protein S15

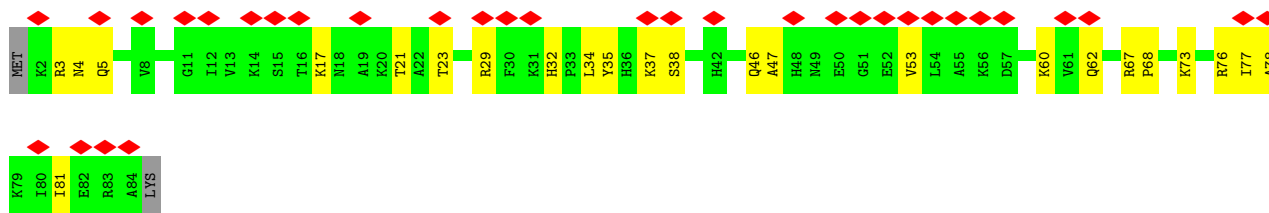


- Molecule 19: 30S ribosomal protein S16

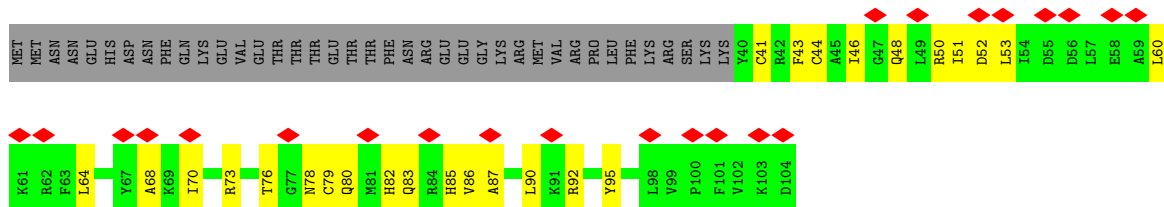


- Molecule 20: 30S ribosomal protein S17

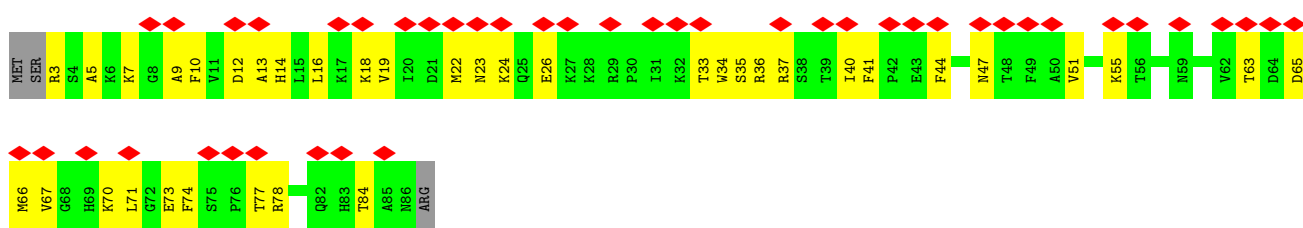




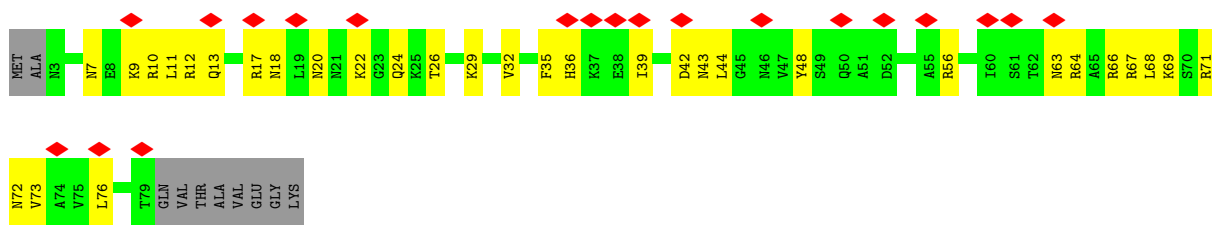
• Molecule 21: 30S ribosomal protein S18



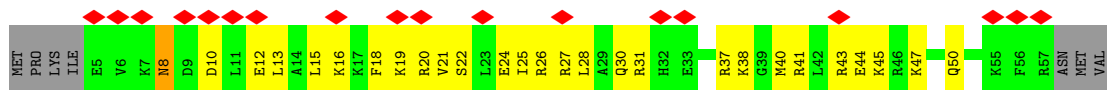
• Molecule 22: 30S ribosomal protein S19



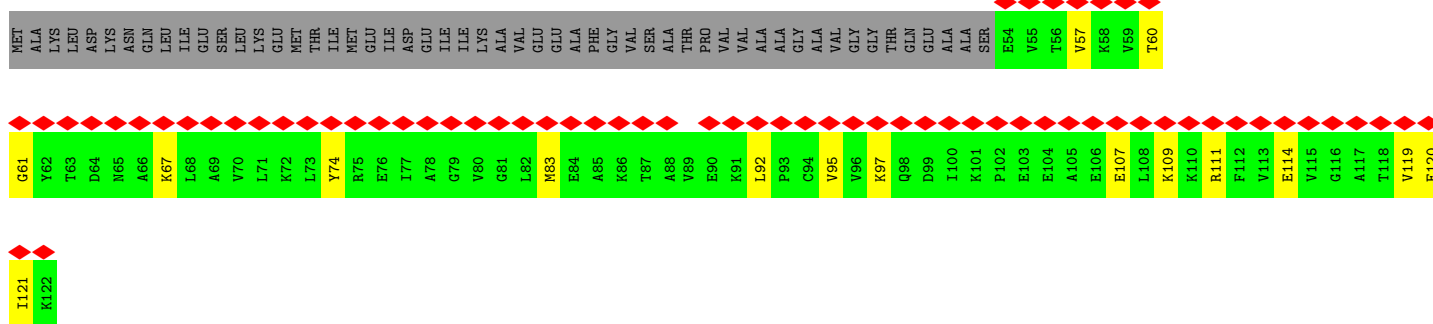
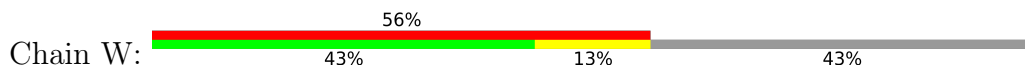
• Molecule 23: 30S ribosomal protein S20



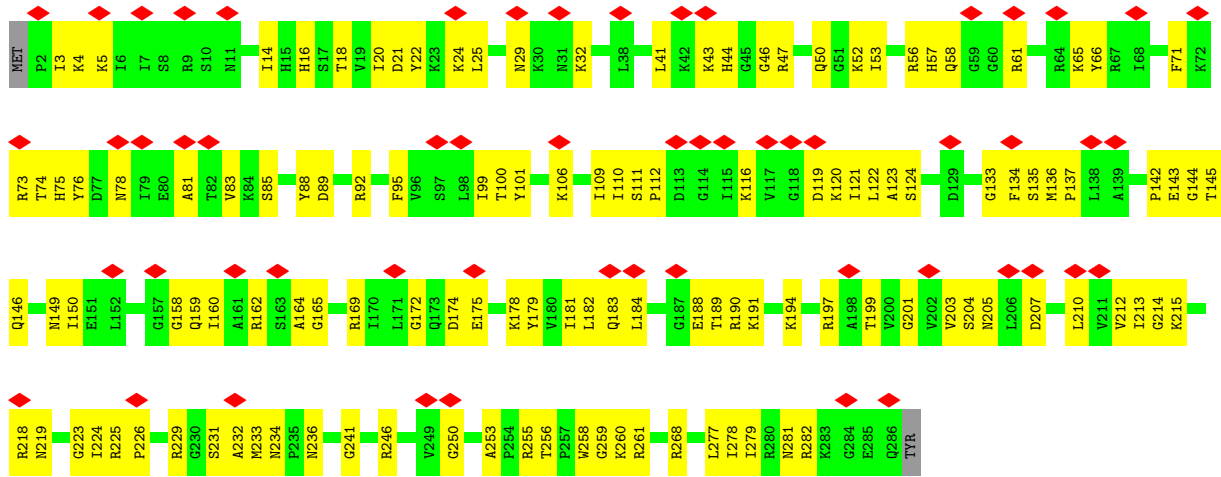
• Molecule 24: 30S ribosomal protein S21



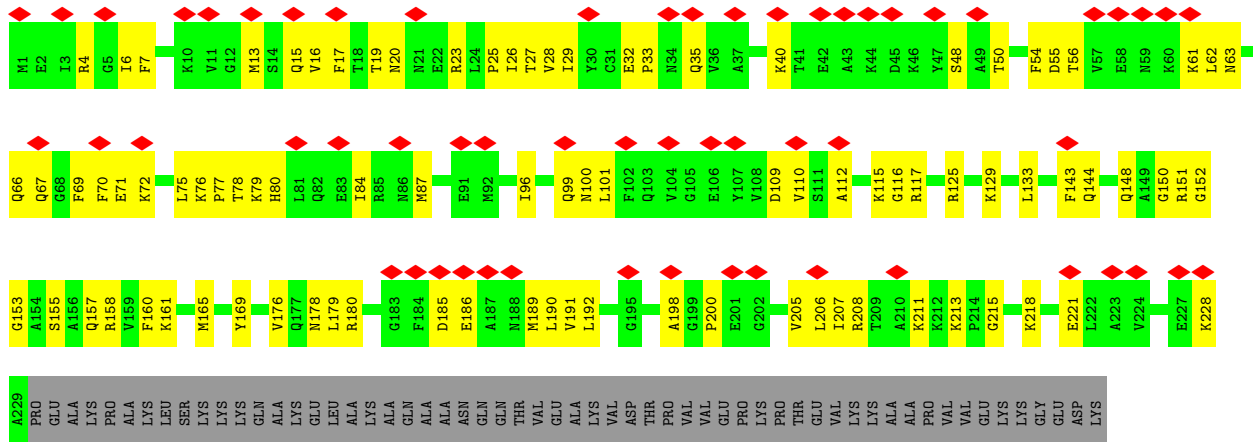
• Molecule 25: 50S ribosomal protein L7/L12



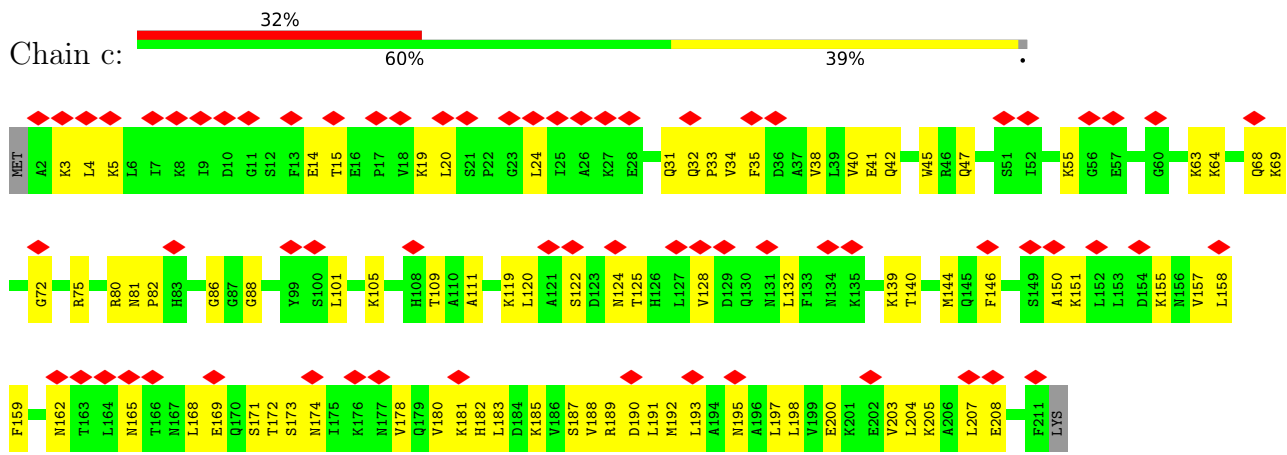
• Molecule 26: 50S ribosomal protein L2



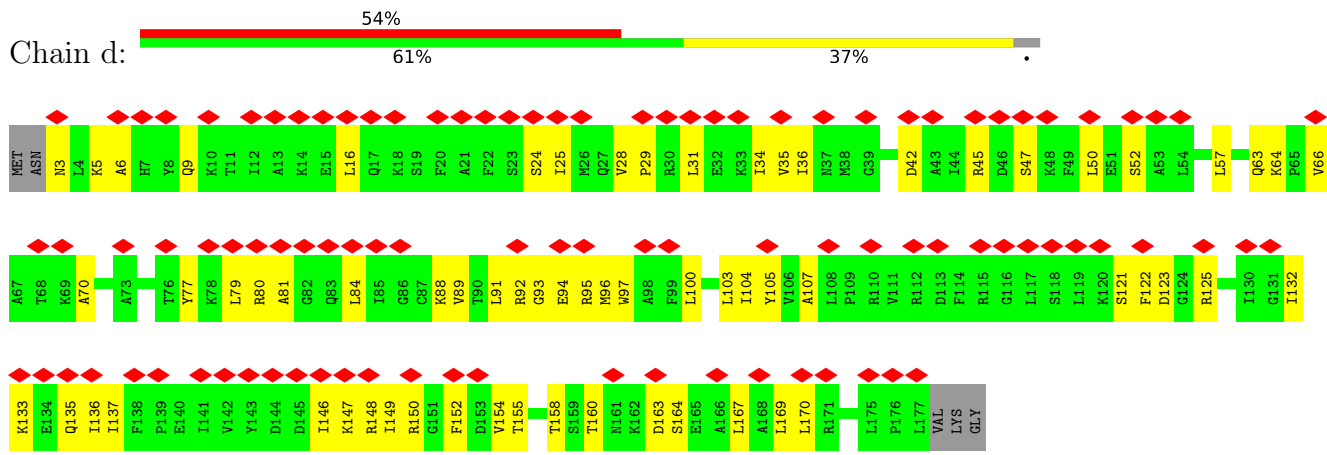
• Molecule 27: 50S ribosomal protein L3



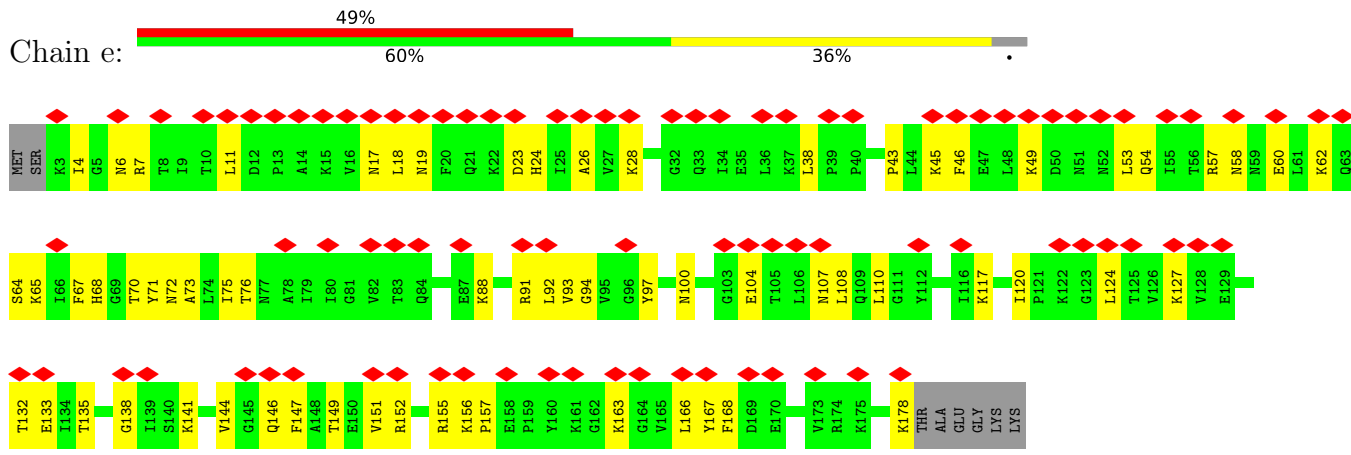
• Molecule 28: 50S ribosomal protein L4



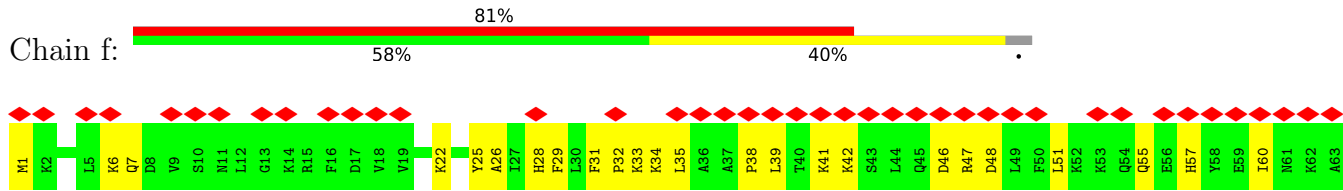
• Molecule 29: 50S ribosomal protein L5

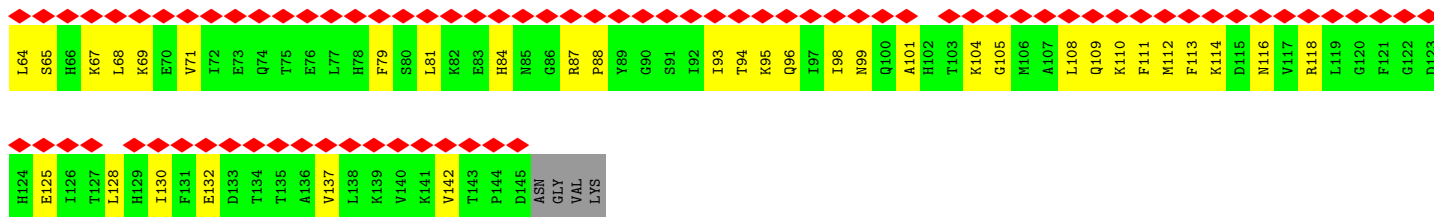


• Molecule 30: 50S ribosomal protein L6

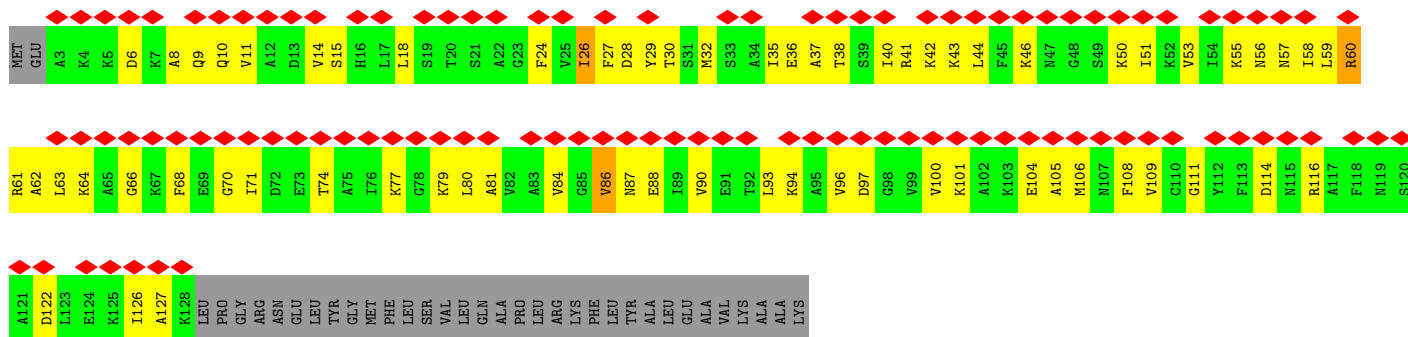


• Molecule 31: 50S ribosomal protein L9

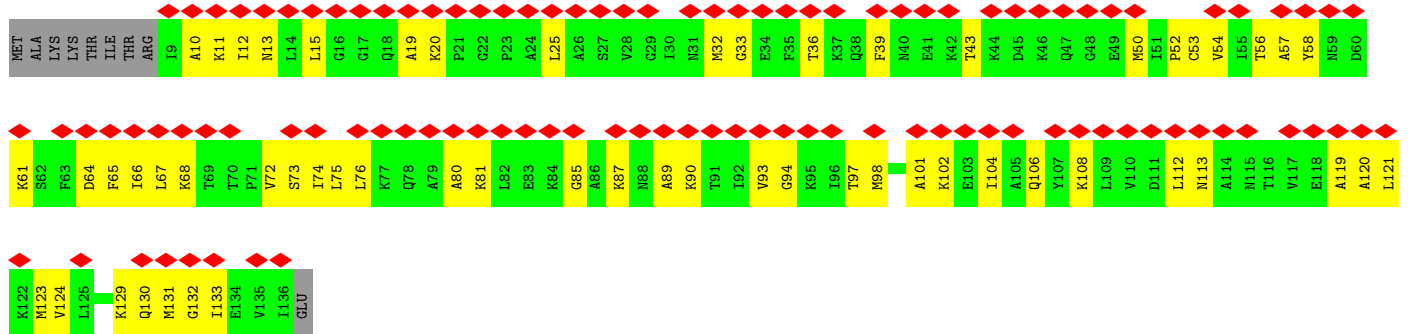
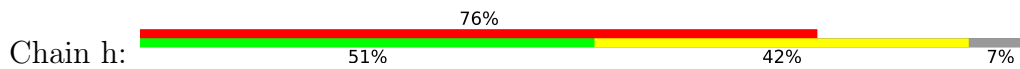




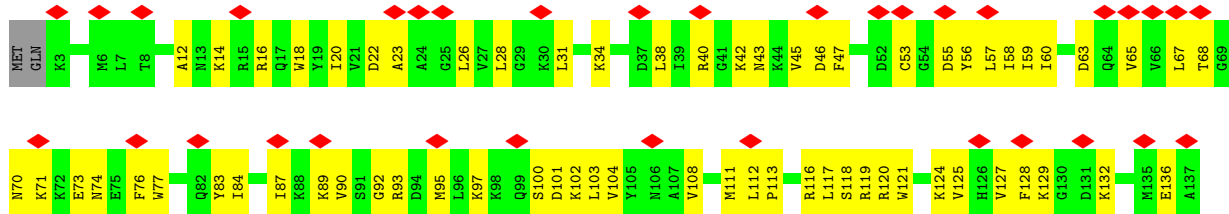
• Molecule 32: 50S ribosomal protein L10

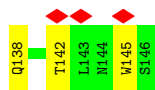


• Molecule 33: 50S ribosomal protein L11

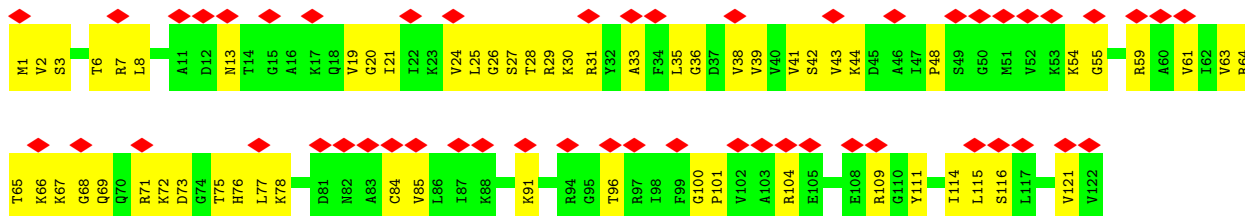
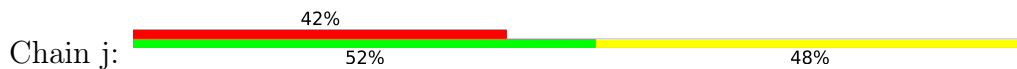


• Molecule 34: 50S ribosomal protein L13

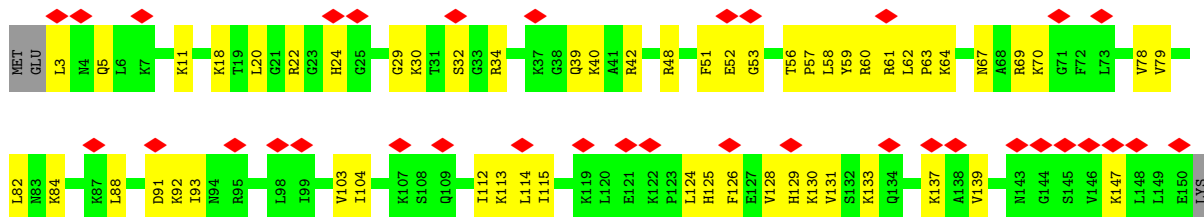




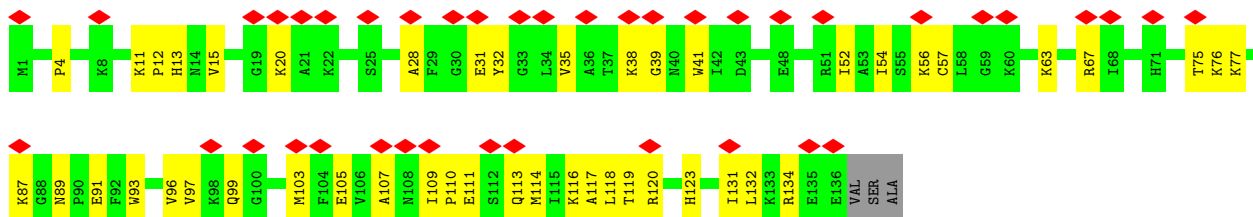
• Molecule 35: 50S ribosomal protein L14



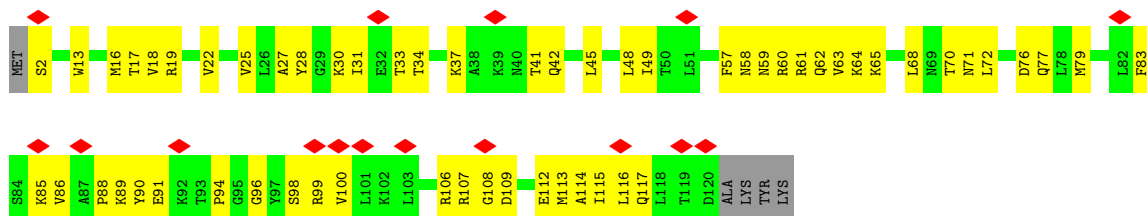
• Molecule 36: 50S ribosomal protein L15



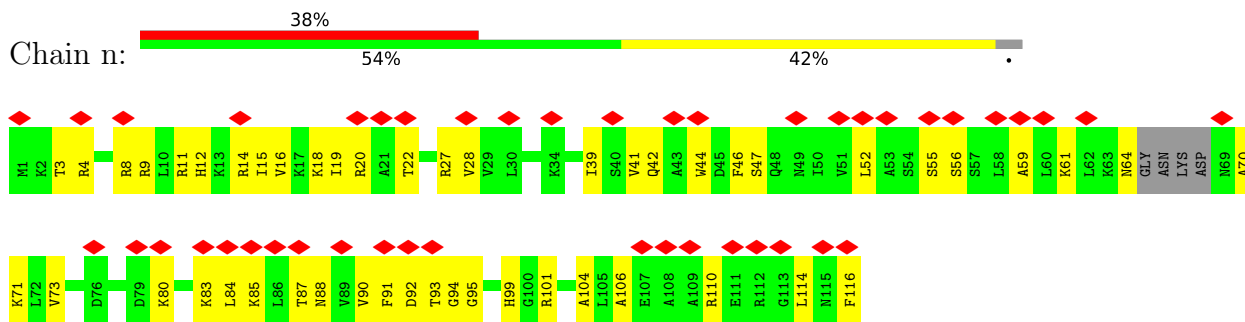
• Molecule 37: 50S ribosomal protein L16



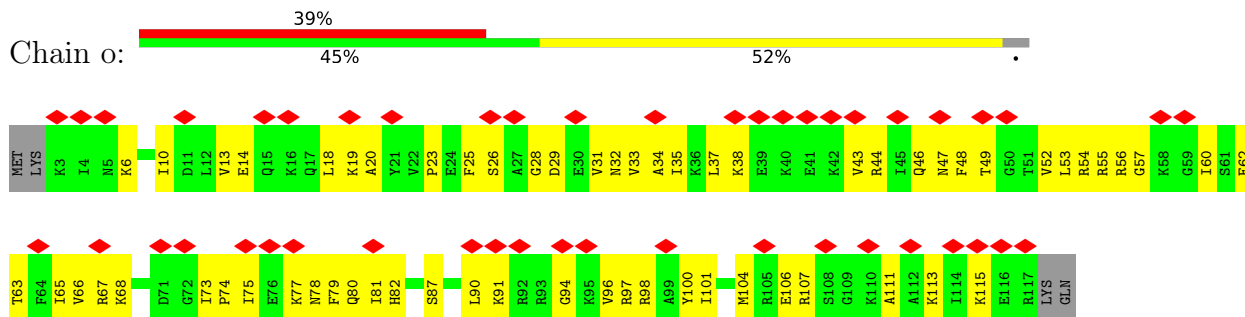
• Molecule 38: 50S ribosomal protein L17



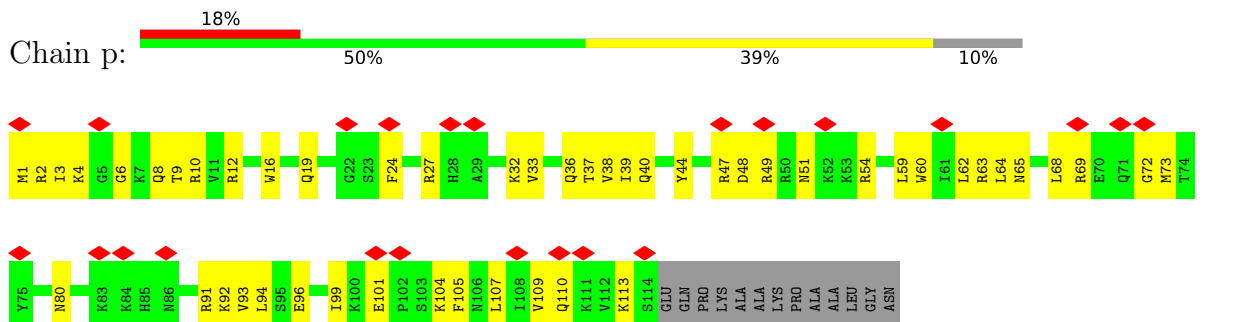
• Molecule 39: 50S ribosomal protein L18



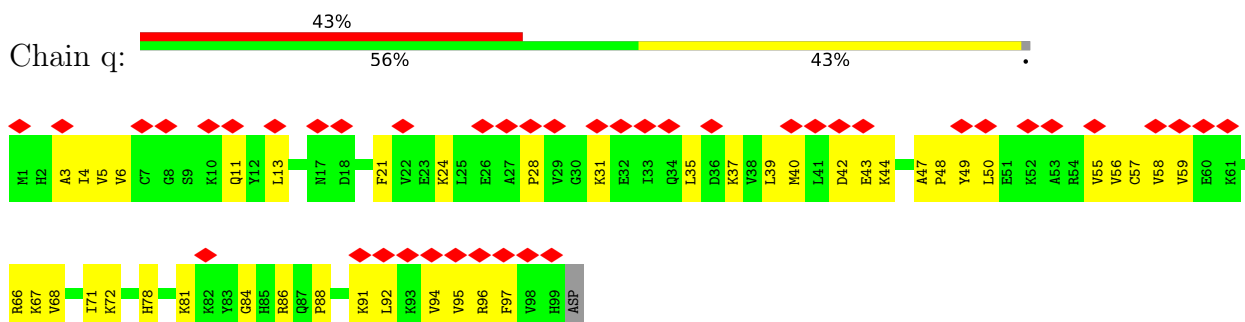
• Molecule 40: 50S ribosomal protein L19



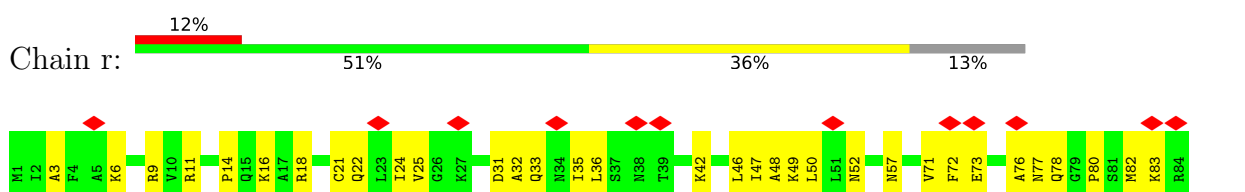
• Molecule 41: 50S ribosomal protein L20



• Molecule 42: 50S ribosomal protein L21

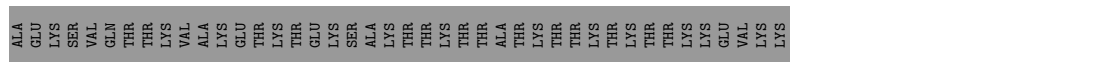
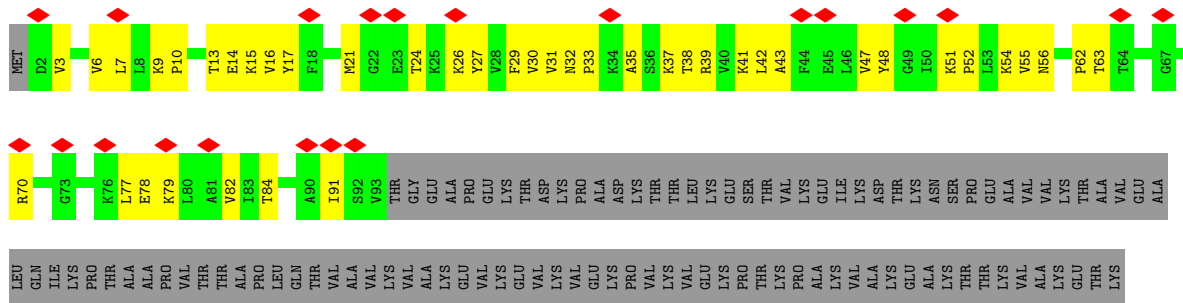


• Molecule 43: 50S ribosomal protein L22

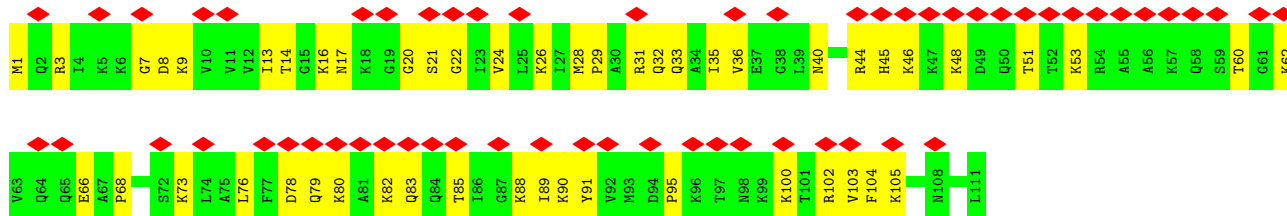




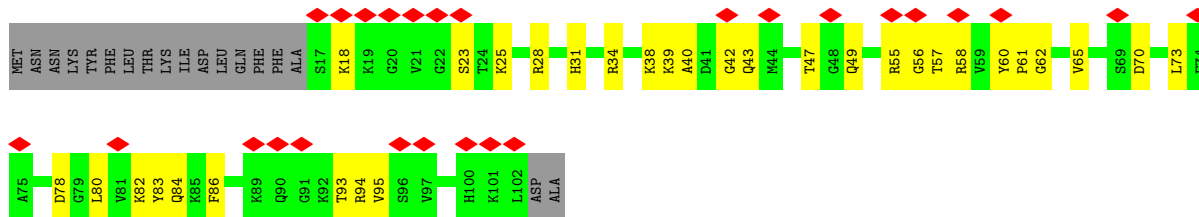
• Molecule 44: 50S ribosomal protein L23



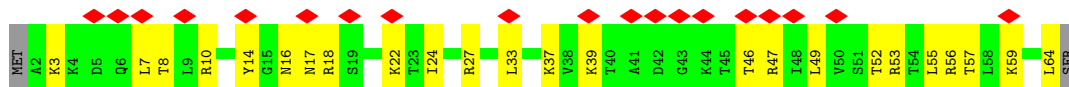
• Molecule 45: 50S ribosomal protein L24



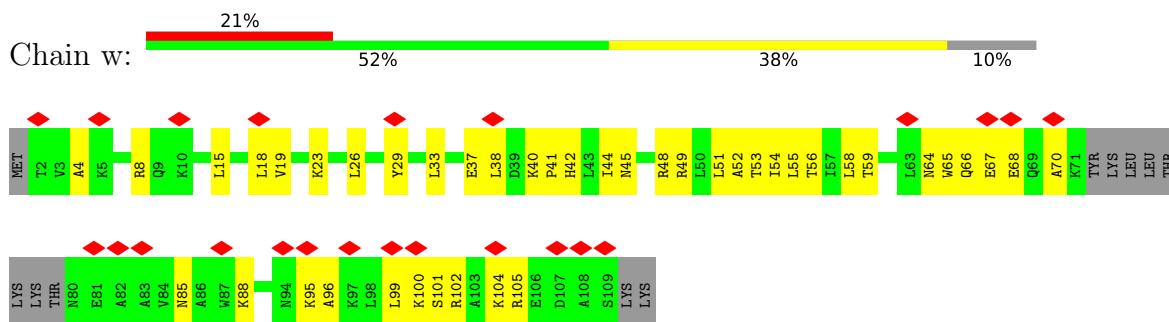
• Molecule 46: 50S ribosomal protein L27



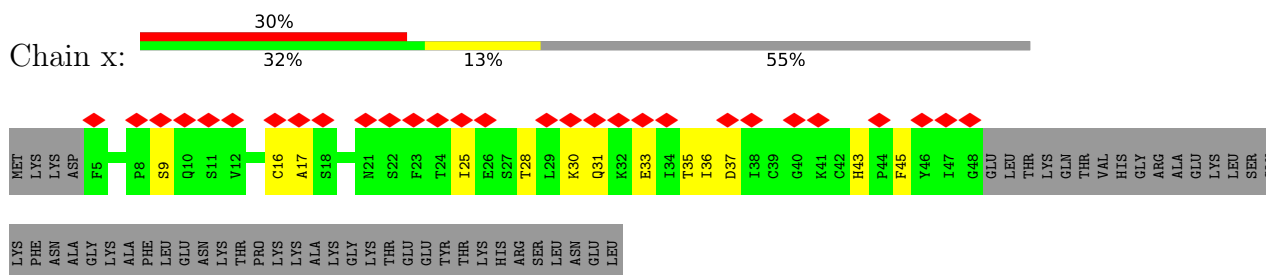
• Molecule 47: 50S ribosomal protein L28



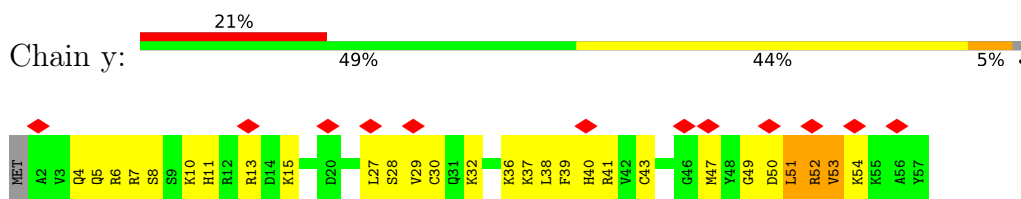
• Molecule 48: 50S ribosomal protein L29



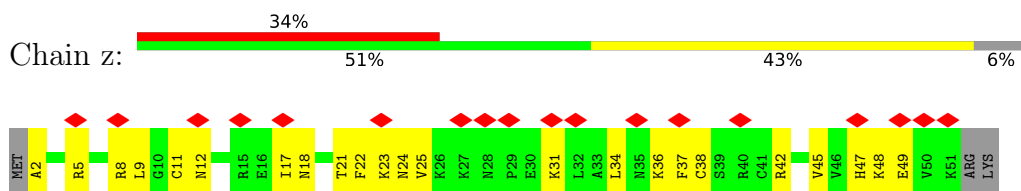
• Molecule 49: 50S ribosomal protein L31



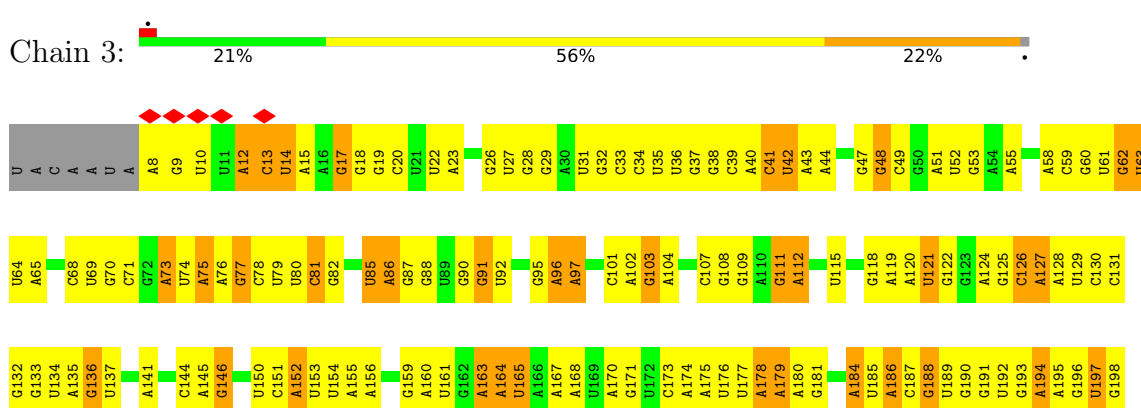
• Molecule 50: 50S ribosomal protein L32

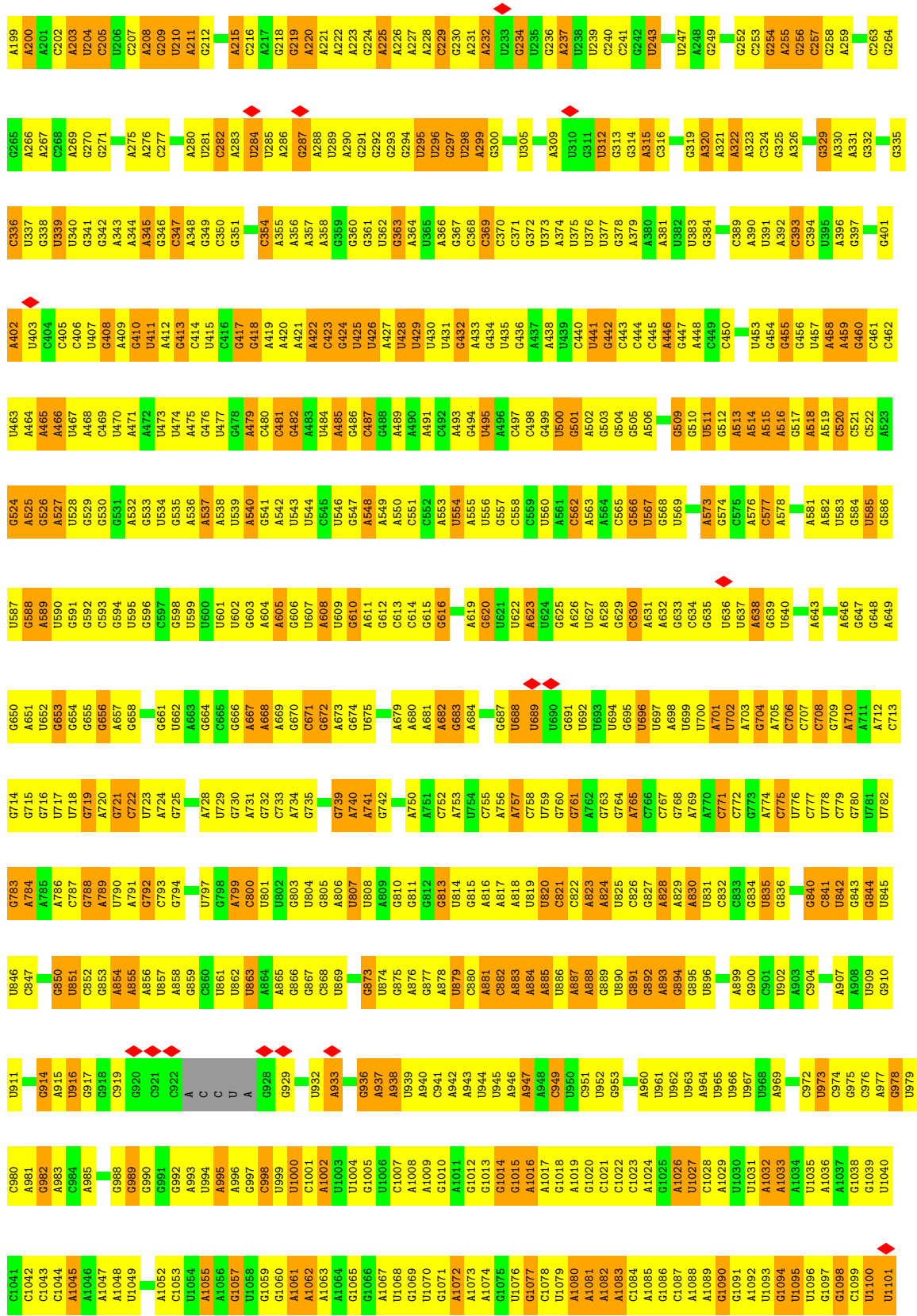


• Molecule 51: 50S ribosomal protein L33 1



• Molecule 52: 23S ribosomal RNA



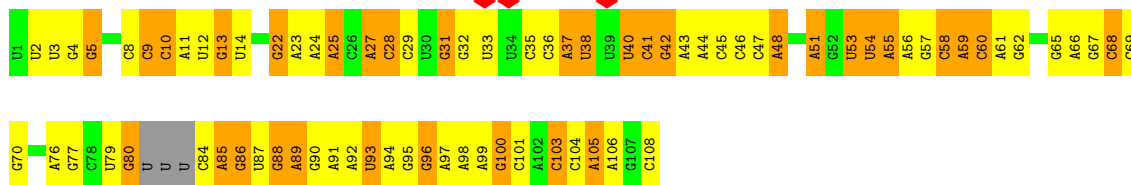
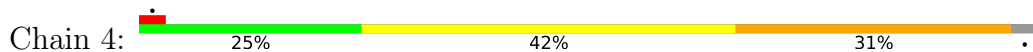


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C2005	U1943	A1751	A1684	U1621	U	G	U	U1501	A1431	U1294	G1231	G1231	A1168
C2006	A1944	A1752	G1685	C1622							U1232	U1232	A1169

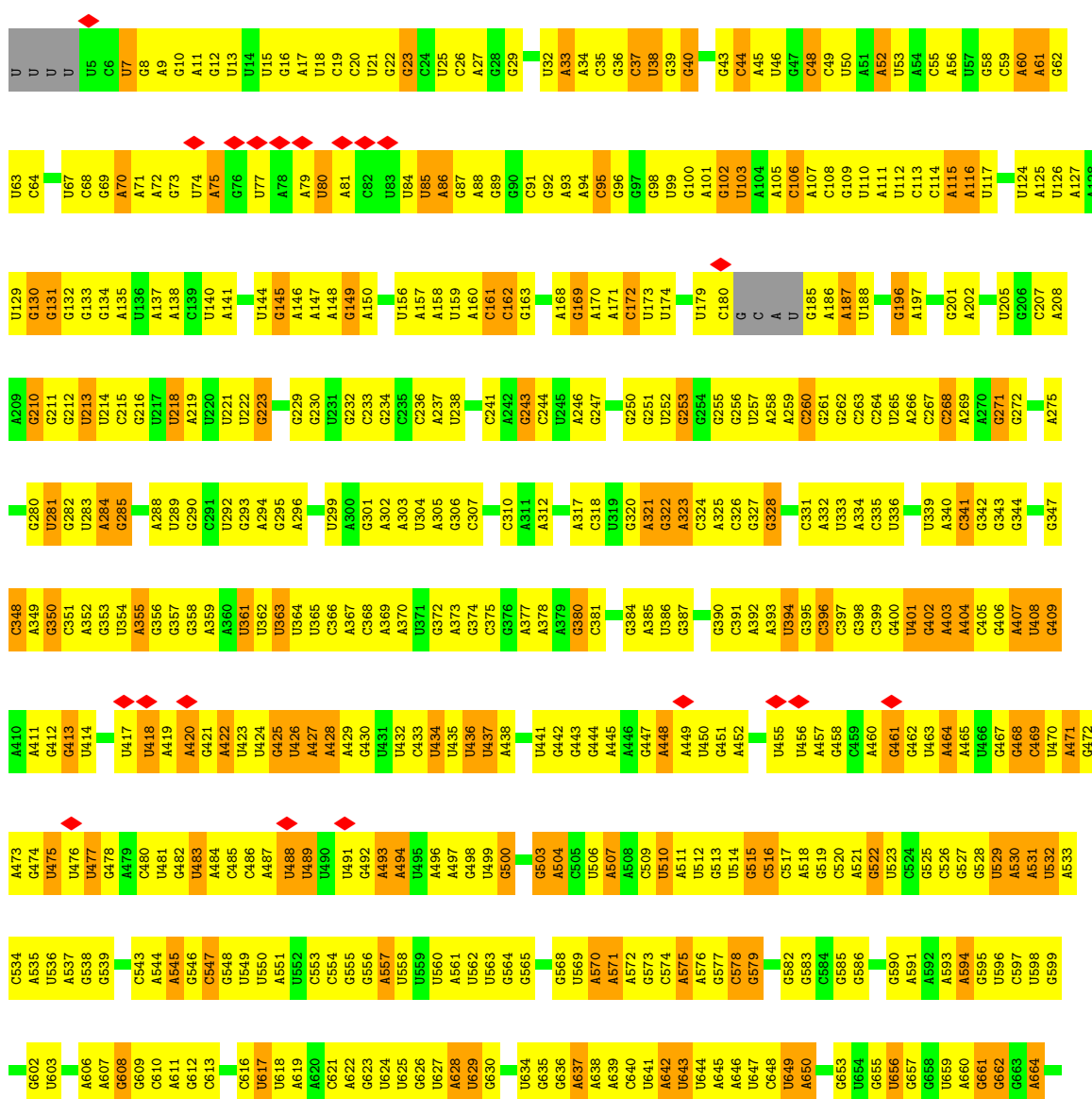
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A2783	A2784	G2785	G2786	G2787	G2788	G2789	A2790	G2791	G2792	G2793	G2794	G2795	G2796	G2797	G2798	G2799	G2800	G2801	G2802	G2803	G2804	G2805	G2806	G2807	G2808	G2809	G2810	G2811	G2812	G2813	G2814	G2815	G2816	G2817	G2818	G2819	G2820	G2821	G2822	G2823	G2824	G2825	G2826	G2827	G2828	G2829	G2830	G2831	G2832	G2833	G2834	G2835	G2836	G2837	G2838	G2839	G2840	G2841	G2842													
A2719	G2720	G2721	G2722	G2723	G2724	G2725	G2726	G2727	G2728	G2729	G2730	G2731	G2732	G2733	G2734	G2735	G2736	G2737	G2738	G2739	G2740	G2741	G2742	G2743	G2744	G2745	G2746	G2747	G2748	G2749	A2750	G2751	G2752	G2753	G2754	G2755	G2756	G2757	G2758	G2759	G2760	G2761	G2762	G2763	G2764	G2765	G2766	G2767	G2768	G2769	G2770	G2771	G2772	G2773	G2774	G2775	G2776	G2777	G2778	G2779	G2780	G2781	G2782									
G2656	G2657	G2658	G2659	G2660	G2661	G2662	G2663	G2664	G2665	G2666	G2667	G2668	G2669	G2670	G2671	G2672	G2673	G2674	G2675	G2676	G2677	G2678	G2679	G2680	G2681	G2682	G2683	G2684	G2685	G2686	G2687	G2688	G2689	G2690	G2691	G2692	G2693	G2694	G2695	G2696	G2697	G2698	G2699	G2700	G2701	G2702	G2703	G2704	G2705	G2706	G2707	G2708	G2709	G2710	G2711	G2712	G2713	G2714	G2715	G2716	G2717	G2718	G2719									
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G2454	G2455	G2456	G2457	G2458	G2459	G2460	G2461	G2462	G2463	G2464	G2465	G2466	G2467	G2468	G2469	G2470	G2471	G2472	G2473	G2474	G2475	G2476	G2477	G2478	G2479	G2480	G2481	G2482	G2483	G2484	G2485	G2486	G2487	G2488	G2489	G2490	G2491	G2492	G2493	G2494	G2495	G2496	G2497	G2498	G2499	G2500	G2501	G2502	G2503	G2504	G2505	G2506	G2507	G2508	G2509	G2510	G2511	G2512	G2513	G2514	G2515	G2516	G2517	G2518	G2519	G2520						
G2390	G2391	G2392	G2393	G2394	G2395	G2396	G2397	G2398	G2399	G2400	G2401	G2402	G2403	G2404	G2405	G2406	G2407	G2408	G2409	G2410	G2411	G2412	G2413	G2414	G2415	G2416	G2417	G2418	G2419	G2420	G2421	G2422	G2423	G2424	G2425	G2426	G2427	G2428	G2429	G2430	G2431	G2432	G2433	G2434	G2435	G2436	G2437	G2438	G2439	G2440	G2441	G2442	G2443	G2444	G2445	G2446	G2447	G2448	G2449	G2450	G2451	G2452	G2453	G2454	G2455							
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C2256	U2257	G2258	G2259	G2260	G2261	G2262	G2263	G2264	G2265	G2266	G2267	G2268	G2269	G2270	G2271	G2272	G2273	G2274	G2275	G2276	G2277	G2278	G2279	G2280	G2281	G2282	G2283	G2284	G2285	G2286	G2287	G2288	G2289	G2290	G2291	G2292	G2293	G2294	G2295	G2296	G2297	G2298	G2299	G2300	G2301	G2302	G2303	G2304	G2305	G2306	G2307	G2308	G2309	G2310	G2311	G2312	G2313	G2314	G2315	G2316	G2317	G2318	G2319	G2320								
U2193	G2194	G2195	G2196	G2197	G2198	G2199	G2200	G2201	G2202	G2203	G2204	G2205	G2206	G2207	G2208	G2209	G2210	G2211	G2212	G2213	G2214	G2215	G2216	G2217	G2218	G2219	G2220	G2221	G2222	G2223	G2224	G2225	G2226	G2227	G2228	G2229	G2230	G2231	G2232	G2233	G2234	G2235	G2236	G2237	G2238	G2239	G2240	G2241	G2242	G2243	G2244	G2245	G2246	G2247	G2248	G2249	G2250	G2251	G2252	G2253	G2254	G2255										
A2130	G2131	G2132	G2133	G2134	G2135	A2136	A2137	U2138	G2139	G2140	A2141	C2144	A2145	A2146	A2147	U2148	U2149	G2150	U2151	G2152	U2153	A2154	G2155	U2156	A2157	G2158	U2159	A2101	U2160	G2161	A2104	G2163	G2164	A2165	U2166	G2167	G2168	G2169	A2170	G2173	G2174	G2175	G2176	G2177	A2178	A2179	U2180	A2181	G2182	A2183	A2184	C2187	U2188	U2189	G2190	G2191	U2192															
G2068	A2069	C2070	G2071	C2072	U2075	G2076	A2077	G2078	G2079	G2080	U2081	U2082	U2083	A2084	C2085	U2086	A2088	G2089	C2091	U2092	U2093	A2094	A2095	U2096	U2097	U2098	U2099	G2100	G2038	G2039	A2040	C2041	G2042	C2043	G2044	G2045	G2046	U2047	U2048	A2049	G2050	G2051	C2052	G2053	C2054	A2055	A2056	C2057	G2058	G2059	G2060	A2061	C2062	A2124	U2125	A2126	G2127	G2128	U2129													
A2008	U2009	A2010	G2011	A2012	C2013	U2014	C2015	G2016	U2017	G2018	G2019	A2020	A2021	A2022	U2023	C2024	G2025	A2026	G2027	G2028	C2029	G2030	G2031	G2032	G2033	U2034	U2035	U2036	A2037	G2038	A2039	A2040	C2041	A2042	C2043	G2044	G2045	G2046	U2047	U2048	A2049	G2050	G2051	C2052	G2053	C2054	A2055	A2056	C2057	G2058	G2059	G2060	A2061	C2062	A2124	U2125	A2126	G2127	G2128	U2129												

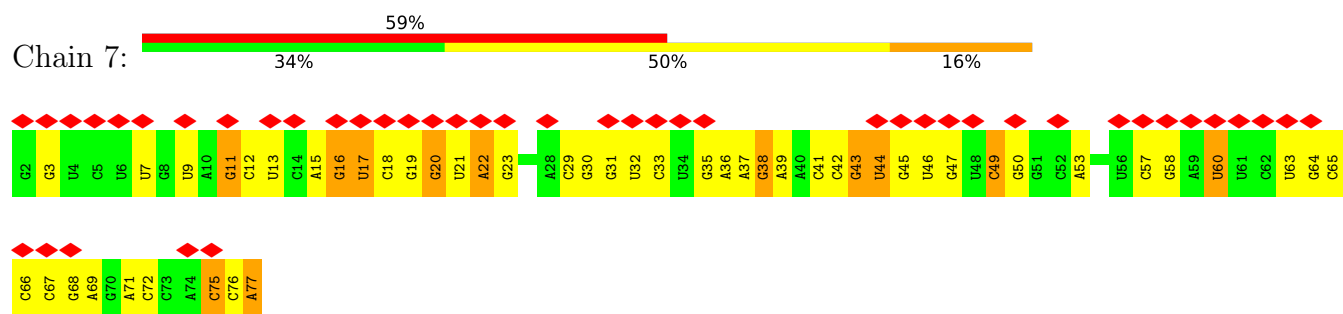
G
G
A

• Molecule 53: 5S ribosomal RNA

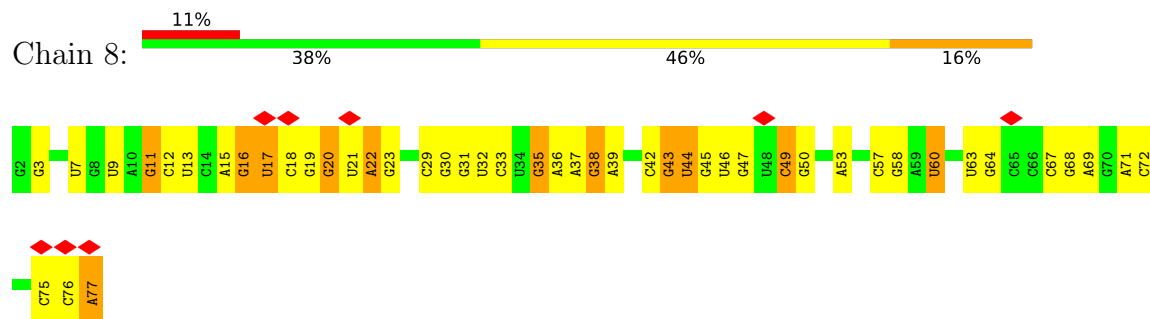


• Molecule 54: 16S ribosomal RNA





• 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	8730	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	1.874	Depositor
Minimum map value	-0.889	Depositor
Average map value	0.021	Depositor
Map value standard deviation	0.121	Depositor
Recommended contour level	0.54	Depositor
Map size (\AA)	435.328, 435.328, 435.328	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.7005, 1.7005, 1.7005	Depositor

5 Model quality i

5.1 Standard geometry i

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	0.25	0/383	0.70	1/504 (0.2%)
2	1	0.20	0/484	0.57	0/637
3	2	0.22	0/306	0.53	0/401
4	9	0.18	0/5419	0.50	0/7307
5	A	0.24	0/1954	0.61	1/2642 (0.0%)
6	B	0.19	1/1721 (0.1%)	0.42	0/2323
7	C	0.17	0/1691	0.50	0/2267
8	D	0.15	0/1188	0.47	0/1593
9	E	0.24	0/1384	0.49	0/1867
10	F	0.24	0/1266	0.52	0/1700
11	G	0.19	0/1126	0.57	0/1517
12	H	0.16	0/1044	0.43	0/1395
13	I	0.19	0/820	0.50	0/1103
14	J	0.16	0/844	0.43	0/1136
15	K	0.30	0/1094	0.62	1/1468 (0.1%)
16	L	0.17	0/962	0.52	0/1289
17	M	0.32	0/483	0.55	0/643
18	N	0.20	0/679	0.53	0/907
19	O	0.19	0/659	0.51	0/885
20	P	0.15	0/684	0.45	0/913
21	Q	0.18	0/545	0.50	0/730
22	R	0.18	0/698	0.55	0/936
23	S	0.15	0/631	0.42	0/838
24	T	0.20	0/475	0.53	0/621
25	W	0.14	0/538	0.36	0/722
26	a	0.18	0/2267	0.49	0/3044
27	b	0.17	0/1795	0.49	0/2412
28	c	0.16	0/1671	0.48	0/2246
29	d	0.15	0/1409	0.46	0/1894
30	e	0.16	0/1420	0.45	0/1912
31	f	0.20	0/1183	0.57	0/1587
32	g	0.47	0/969	0.87	2/1295 (0.2%)
33	h	0.17	0/968	0.45	0/1298
34	i	0.18	0/1186	0.48	0/1592

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	j	0.23	0/953	0.53	0/1275
36	k	0.16	0/1170	0.44	0/1559
37	l	0.18	0/1104	0.48	0/1481
38	m	0.17	0/973	0.46	0/1309
39	n	0.18	0/897	0.54	0/1198
40	o	0.18	0/948	0.57	0/1262
41	p	0.18	0/961	0.51	0/1278
42	q	0.31	0/828	0.62	0/1111
43	r	0.18	0/1077	0.58	0/1441
44	s	0.17	0/732	0.49	0/988
45	t	0.16	0/879	0.47	0/1165
46	u	0.17	0/665	0.46	0/884
47	v	0.18	0/519	0.60	0/695
48	w	0.27	0/826	0.51	0/1104
49	x	0.13	0/353	0.40	0/474
50	y	0.33	0/457	0.78	1/601 (0.2%)
51	z	0.14	0/412	0.46	0/547
52	3	0.11	0/69073	0.27	0/107710
53	4	0.10	0/2505	0.27	0/3902
54	5	0.11	0/35768	0.26	0/55764
55	7	0.11	0/1808	0.29	0/2817
55	8	0.11	0/1808	0.29	0/2817
All	All	0.15	1/164662 (0.0%)	0.36	6/245006 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	B	199	ILE	C-N	5.28	1.36	1.33

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	0	11	LYS	CB-CA-C	-7.03	99.74	110.92
5	A	102	ARG	CB-CG-CD	5.72	124.45	111.30
15	K	116	ASP	N-CA-C	-5.61	105.53	112.38
32	g	60	ARG	CB-CG-CD	5.33	123.57	111.30
50	y	50	ASP	N-CA-C	5.29	117.13	111.36
32	g	86	VAL	CA-C-O	-5.05	116.94	121.09

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	380	0	429	32	0
2	1	477	0	530	31	0
3	2	304	0	350	18	0
4	9	5326	0	5343	238	0
5	A	1921	0	1973	97	0
6	B	1698	0	1768	55	0
7	C	1660	0	1719	75	0
8	D	1173	0	1267	59	0
9	E	1362	0	1377	63	0
10	F	1246	0	1308	42	0
11	G	1110	0	1226	62	0
12	H	1028	0	1094	43	0
13	I	809	0	894	46	0
14	J	829	0	855	42	0
15	K	1076	0	1170	49	0
16	L	951	0	1014	39	0
17	M	474	0	509	37	0
18	N	673	0	730	25	0
19	O	646	0	677	28	0
20	P	675	0	728	17	0
21	Q	535	0	562	22	0
22	R	682	0	691	33	0
23	S	629	0	681	34	0
24	T	471	0	522	22	0
25	W	534	0	572	10	0
26	a	2225	0	2301	119	0
27	b	1762	0	1808	84	0
28	c	1644	0	1731	64	0
29	d	1388	0	1469	53	0
30	e	1396	0	1481	52	0
31	f	1160	0	1172	50	0
32	g	960	0	1014	56	0
33	h	959	0	1039	50	0
34	i	1164	0	1192	63	0
35	j	944	0	1019	47	0
36	k	1153	0	1256	60	0
37	l	1079	0	1134	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
38	m	958	0	1011	51	0
39	n	889	0	952	39	0
40	o	938	0	1008	63	0
41	p	947	0	1028	52	0
42	q	811	0	858	34	0
43	r	1068	0	1150	50	0
44	s	720	0	803	31	0
45	t	872	0	972	42	0
46	u	657	0	695	28	0
47	v	513	0	560	30	0
48	w	818	0	870	39	0
49	x	344	0	333	9	0
50	y	452	0	472	32	0
51	z	408	0	440	19	0
52	3	61664	0	30954	1991	0
53	4	2239	0	1137	67	0
54	5	31943	0	16058	1024	0
55	7	1618	0	821	43	0
55	8	1618	0	821	32	0
All	All	151980	0	105548	4999	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 20.

All (4999) 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)
52:3:1382:A:H62	52:3:1405:G:N2	1.54	1.05
52:3:990:G:H1	52:3:999:U:H3	1.05	1.00
54:5:661:G:H1	54:5:738:A:N6	1.59	0.99
52:3:1382:A:N6	52:3:1405:G:H21	1.60	0.99
52:3:1504:G:H1	52:3:1539:U:H3	1.08	0.98
54:5:290:G:H1	54:5:299:U:H3	1.09	0.98
52:3:1200:U:H3	52:3:1215:G:H1	1.12	0.97
52:3:1382:A:H62	52:3:1405:G:H21	1.01	0.96
54:5:1043:U:H3	54:5:1181:G:H1	1.13	0.95
52:3:77:G:H1	52:3:112:A:N6	1.65	0.94
54:5:660:A:H61	54:5:739:G:H1	1.10	0.94
54:5:1388:A:H2	54:5:1462:G:H1	1.13	0.93
27:b:185:ASP:O	27:b:189:MET:HA	1.68	0.93
52:3:17:G:H1	52:3:560:U:H3	0.98	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1245:G:H1	52:3:1264:U:H3	0.97	0.93
54:5:518:A:H62	54:5:527:G:H21	1.17	0.93
54:5:779:A:H62	54:5:797:G:H21	1.16	0.93
52:3:418:G:H1	52:3:430:U:H3	0.96	0.92
54:5:833:G:H1	54:5:844:U:H3	1.14	0.92
54:5:1217:G:H1	54:5:1269:U:H3	0.99	0.91
27:b:40:LYS:O	27:b:48:SER:HA	1.71	0.91
54:5:369:A:H61	54:5:387:G:H1'	1.35	0.91
15:K:119:GLY:HA3	15:K:131:GLY:HA3	1.52	0.91
54:5:1106:U:H3	54:5:1160:G:H1	1.17	0.91
52:3:2459:A:H62	55:7:77:A:H1'	1.35	0.90
52:3:2059:G:H1	52:3:2625:U:H3	1.16	0.90
54:5:253:G:H1	54:5:265:U:H3	0.97	0.90
54:5:1388:A:C2	54:5:1462:G:N1	2.39	0.90
38:m:59:ASN:HA	38:m:62:GLN:HE21	1.35	0.89
10:F:72:LEU:HB3	10:F:87:PRO:HB2	1.55	0.88
52:3:77:G:H1	52:3:112:A:H61	0.94	0.88
52:3:742:G:H1	52:3:759:U:H3	0.89	0.88
54:5:1396:U:H3	54:5:1454:G:H1	1.22	0.87
4:9:307:PHE:HA	4:9:330:SER:O	1.75	0.86
54:5:660:A:N6	54:5:739:G:H1	1.73	0.86
52:3:989:G:H1	52:3:1000:U:H3	1.20	0.85
54:5:599:G:H1	54:5:634:U:H3	0.86	0.85
52:3:854:A:H62	52:3:1219:U:H3	1.25	0.85
54:5:661:G:H1	54:5:738:A:H61	0.87	0.85
52:3:2448:C:H5'	52:3:2595:A:H4'	1.58	0.84
52:3:325:G:H1	52:3:383:U:H3	1.24	0.84
52:3:2459:A:H4'	55:7:75:C:H2'	1.59	0.84
54:5:1416:U:H3	54:5:1435:G:H1	1.26	0.84
33:h:123:MET:HE1	52:3:1115:G:H21	1.40	0.84
54:5:826:G:H1	54:5:851:U:H3	1.22	0.84
54:5:317:A:H2	54:5:328:G:H1	1.25	0.83
2:1:10:ARG:HG2	36:k:64:LYS:HA	1.61	0.83
36:k:103:VAL:HG12	36:k:104:ILE:HD12	1.59	0.83
11:G:99:ARG:NH1	11:G:103:LYS:O	2.12	0.82
12:H:126:ALA:HB3	54:5:1317:A:H4'	1.61	0.82
54:5:830:U:H3	54:5:847:G:H1	1.25	0.82
5:A:182:VAL:HA	5:A:185:LYS:HE3	1.62	0.82
52:3:2849:G:H1	52:3:2875:U:H3	1.26	0.82
20:P:60:LYS:HG3	20:P:81:ILE:HG13	1.60	0.82
32:g:41:ARG:HH12	32:g:50:LYS:HG3	1.43	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:8:SER:H	52:3:721:G:H21	1.28	0.82
36:k:48:ARG:HB3	36:k:51:PHE:HB2	1.59	0.82
52:3:1067:A:H2	52:3:1157:G:H1	1.25	0.82
52:3:2752:G:H1	52:3:2768:U:H3	1.27	0.82
11:G:77:THR:HG23	11:G:79:ARG:H	1.44	0.82
9:E:110:GLN:HB2	54:5:838:A:H1'	1.63	0.81
53:4:8:C:H42	53:4:100:G:H1	1.25	0.81
29:d:95:ARG:NH2	53:4:41:C:O2'	2.12	0.81
52:3:1298:A:H3'	52:3:1299:A:H8	1.45	0.81
8:D:137:TYR:O	11:G:109:ASN:ND2	2.14	0.80
54:5:1388:A:H2	54:5:1462:G:N1	1.74	0.80
54:5:317:A:N1	54:5:328:G:O6	2.14	0.80
5:A:159:LEU:O	5:A:164:GLY:N	2.14	0.80
52:3:2870:U:H4'	52:3:2871:G:H4'	1.62	0.80
54:5:514:U:O2	54:5:531:A:N7	2.15	0.80
52:3:192:U:H3	52:3:212:G:H1	1.28	0.80
54:5:445:A:H8	54:5:483:U:H3	1.30	0.80
52:3:1067:A:C2	52:3:1157:G:N1	2.50	0.79
5:A:95:LEU:HD13	5:A:229:MET:HE2	1.64	0.79
8:D:187:THR:OG1	8:D:190:ASN:ND2	2.15	0.79
11:G:99:ARG:HH22	11:G:103:LYS:HB2	1.48	0.79
12:H:108:ARG:NH2	12:H:109:ASP:OD1	2.15	0.79
45:t:3:ARG:NH1	52:3:370:C:O2'	2.16	0.79
23:S:56:ARG:NH1	54:5:218:U:O2'	2.16	0.79
54:5:518:A:H62	54:5:527:G:N2	1.80	0.79
51:z:24:ASN:ND2	52:3:2293:C:OP2	2.16	0.79
12:H:12:ARG:HG2	12:H:13:LYS:HG3	1.66	0.78
54:5:680:G:H1	54:5:704:U:H3	1.31	0.78
33:h:52:PRO:HG2	33:h:68:LYS:HB3	1.65	0.78
40:o:60:ILE:O	40:o:80:GLN:NE2	2.17	0.78
52:3:1801:U:H3	52:3:1832:G:H1	1.31	0.78
18:N:30:THR:HG22	18:N:34:LYS:HZ2	1.49	0.78
54:5:268:C:H2'	54:5:269:A:H8	1.49	0.78
52:3:2661:U:O2	52:3:2676:G:C2	2.37	0.77
54:5:1279:G:N2	54:5:1305:G:O2'	2.17	0.77
27:b:117:ARG:HH22	52:3:2731:U:H5''	1.50	0.77
52:3:1247:C:H2'	52:3:1248:A:H8	1.50	0.77
54:5:1138:U:H3	54:5:1149:G:H1	1.30	0.77
54:5:590:G:H2'	54:5:591:A:H8	1.49	0.77
7:C:8:PHE:HE2	54:5:426:U:H3'	1.48	0.77
52:3:2098:U:O2	52:3:2236:G:O6	2.03	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:7:VAL:HG11	3:2:34:GLN:HG3	1.67	0.76
35:j:67:LYS:NZ	52:3:1698:A:O2'	2.19	0.76
52:3:440:C:H5''	52:3:441:U:H2'	1.67	0.76
52:3:2223:C:H2'	52:3:2224:A:H8	1.47	0.76
4:9:107:ASP:HB2	4:9:113:GLU:HG2	1.65	0.76
39:n:11:ARG:HG2	39:n:14:ARG:HH11	1.48	0.76
27:b:33:PRO:HD3	27:b:189:MET:HE1	1.67	0.76
13:I:72:GLU:HB2	17:M:59:ALA:HA	1.67	0.76
52:3:227:A:O2'	52:3:456:G:N2	2.19	0.76
35:j:7:ARG:HH22	35:j:44:LYS:HE2	1.50	0.76
52:3:204:U:O2'	55:8:76:C:N4	2.18	0.76
6:B:40:ILE:HG12	6:B:95:ILE:HD12	1.67	0.75
27:b:180:ARG:HE	27:b:218:LYS:HE3	1.50	0.75
39:n:12:HIS:CD2	39:n:95:GLY:H	2.04	0.75
52:3:1806:G:N2	52:3:1826:A:OP2	2.19	0.75
54:5:1115:G:H1	54:5:1125:C:H42	1.34	0.75
54:5:499:U:HO2'	54:5:547:C:HO2'	1.32	0.75
54:5:1193:U:H2'	54:5:1194:A:H8	1.52	0.75
16:L:99:GLY:HA2	54:5:1296:C:H5''	1.69	0.75
21:Q:83:GLN:NE2	54:5:717:C:O2'	2.20	0.75
47:v:39:LYS:HG3	47:v:64:LEU:HB2	1.67	0.75
54:5:21:U:O2'	54:5:571:A:N6	2.20	0.75
26:a:61:ARG:HG2	26:a:223:GLY:HA3	1.69	0.75
52:3:503:G:H2'	52:3:504:G:C8	2.22	0.75
52:3:1446:G:H1'	52:3:1614:G:H1	1.52	0.74
54:5:358:G:N2	54:5:361:U:OP2	2.19	0.74
48:w:26:LEU:HA	48:w:29:TYR:HD2	1.52	0.74
39:n:9:ARG:NH1	53:4:5:G:OP1	2.20	0.74
12:H:108:ARG:NH1	12:H:111:ARG:O	2.19	0.74
52:3:1379:C:O2'	52:3:1605:A:O2'	2.05	0.74
22:R:84:THR:HG21	54:5:949:G:H21	1.53	0.74
54:5:448:A:H4'	54:5:449:A:H5'	1.67	0.74
26:a:50:GLN:HE22	52:3:1814:G:H1'	1.52	0.74
54:5:943:C:H2'	54:5:944:A:H8	1.53	0.74
2:1:20:LYS:HE2	2:1:44:GLN:HG3	1.69	0.74
34:i:57:LEU:HB3	34:i:125:VAL:HG22	1.69	0.74
52:3:590:U:H2'	52:3:591:G:H8	1.52	0.74
52:3:2459:A:H8	55:7:76:C:H5''	1.52	0.74
52:3:1623:U:H2'	52:3:1624:A:H8	1.53	0.74
36:k:5:GLN:NE2	52:3:1234:U:O2'	2.20	0.73
52:3:605:A:H61	52:3:2036:G:H21	1.32	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2570:U:O2	52:3:2574:A:N7	2.20	0.73
2:1:29:LEU:HG	2:1:31:PRO:HD3	1.68	0.73
4:9:195:GLU:HB2	4:9:197:LYS:HZ2	1.53	0.73
10:F:86:VAL:HG11	10:F:150:PHE:HB2	1.70	0.73
13:I:63:VAL:HG13	54:5:967:C:H1'	1.68	0.73
54:5:435:U:O2'	54:5:438:A:N6	2.21	0.73
50:y:29:VAL:O	50:y:37:LYS:NZ	2.21	0.73
52:3:2716:U:H2'	52:3:2717:G:H8	1.53	0.73
21:Q:73:ARG:NH2	21:Q:79:CYS:O	2.20	0.73
52:3:672:G:H4'	52:3:674:G:H4'	1.69	0.73
52:3:1020:G:N2	52:3:1020:G:OP2	2.21	0.73
52:3:1119:A:N3	52:3:1140:U:O2'	2.21	0.73
11:G:56:ASN:HB2	11:G:73:ASN:HD22	1.53	0.73
26:a:92:ARG:HH22	52:3:1824:G:H4'	1.54	0.73
54:5:238:U:H3	54:5:280:G:H1	1.37	0.73
27:b:50:THR:OG1	27:b:87:MET:O	2.06	0.73
32:g:56:ASN:CG	52:3:1142:G:H5''	2.14	0.73
54:5:145:G:N2	54:5:148:A:OP2	2.22	0.73
40:o:54:ARG:HB3	40:o:100:TYR:HD1	1.51	0.72
22:R:77:THR:HG21	54:5:1295:U:H1'	1.71	0.72
5:A:32:MET:HG3	5:A:33:VAL:H	1.54	0.72
41:p:91:ARG:HD3	52:3:1032:A:H4'	1.69	0.72
52:3:2321:C:H2'	52:3:2322:G:H8	1.53	0.72
52:3:1246:U:H2'	52:3:1247:C:C6	2.24	0.72
33:h:12:ILE:HD13	33:h:25:LEU:HD12	1.70	0.72
54:5:707:G:H2'	54:5:708:A:H8	1.54	0.72
9:E:76:ALA:HB1	9:E:85:GLU:HG2	1.71	0.72
23:S:20:ASN:O	23:S:24:GLN:NE2	2.22	0.72
48:w:33:LEU:HB3	48:w:38:LEU:HD13	1.71	0.72
52:3:1436:C:H2'	52:3:1437:A:H8	1.55	0.72
41:p:19:GLN:HE21	41:p:38:VAL:HG21	1.54	0.72
52:3:2689:C:N4	52:3:2733:A:N7	2.36	0.72
11:G:31:MET:HE3	11:G:73:ASN:HB3	1.72	0.72
41:p:2:ARG:NH1	52:3:481:C:O2'	2.22	0.72
51:z:8:ARG:HE	51:z:17:ILE:HG13	1.53	0.72
41:p:91:ARG:HB2	41:p:94:LEU:HD23	1.72	0.72
26:a:181:ILE:HG22	26:a:191:LYS:HG2	1.72	0.72
52:3:1589:A:H2'	52:3:1590:U:C6	2.24	0.72
54:5:1062:C:H2'	54:5:1063:G:H8	1.54	0.72
4:9:181:GLU:OE2	4:9:199:ILE:HG13	1.90	0.71
52:3:2068:G:N7	52:3:2509:C:O2'	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:118:ILE:HG22	9:E:121:ARG:HB2	1.71	0.71
54:5:959:A:H4'	54:5:1173:A:H4'	1.70	0.71
4:9:324:THR:HG21	4:9:378:LEU:HD23	1.72	0.71
36:k:62:LEU:HD12	36:k:63:PRO:HD2	1.70	0.71
48:w:58:LEU:HD21	48:w:64:ASN:HA	1.71	0.71
54:5:70:A:H2'	54:5:71:A:C8	2.25	0.71
54:5:1278:G:H21	54:5:1307:A:H62	1.36	0.71
22:R:13:ALA:HA	22:R:16:LEU:HD23	1.72	0.71
52:3:2861:G:N2	52:3:2864:A:OP2	2.23	0.71
52:3:2259:G:C5	52:3:2458:A:H1'	2.25	0.71
4:9:301:ALA:HB1	4:9:330:SER:HB3	1.73	0.71
10:F:94:ARG:NH1	54:5:933:A:O2'	2.24	0.71
21:Q:50:ARG:HH21	21:Q:52:ASP:HB3	1.56	0.71
52:3:1067:A:N1	52:3:1157:G:O6	2.24	0.71
30:e:6:ASN:H	30:e:68:HIS:CE1	2.09	0.71
33:h:72:VAL:HG12	33:h:76:LEU:HB2	1.73	0.71
52:3:1940:G:H1	52:3:1974:U:H3	1.38	0.71
4:9:320:VAL:HG21	4:9:361:ARG:HH22	1.56	0.71
15:K:59:ASN:HD22	54:5:526:C:H41	1.37	0.71
27:b:211:LYS:NZ	52:3:2780:U:OP1	2.24	0.71
37:l:67:ARG:NH2	37:l:105:GLU:OE2	2.24	0.71
52:3:725:G:H1	52:3:807:U:H3	1.36	0.70
54:5:518:A:N6	54:5:527:G:H21	1.89	0.70
54:5:1110:C:H2'	54:5:1111:G:H8	1.55	0.70
12:H:116:LYS:HG3	54:5:1343:G:H5''	1.72	0.70
34:i:14:LYS:HB2	34:i:16:ARG:HH22	1.56	0.70
4:9:323:LEU:HD13	4:9:376:ILE:HG23	1.71	0.70
4:9:355:LYS:NZ	4:9:372:ILE:O	2.24	0.70
28:c:81:ASN:OD1	28:c:82:PRO:HD2	1.91	0.70
52:3:391:U:H2'	52:3:392:A:H8	1.55	0.70
52:3:731:A:H2'	52:3:732:G:C8	2.26	0.70
26:a:112:PRO:HA	26:a:203:VAL:HA	1.73	0.70
30:e:91:ARG:HD2	30:e:133:GLU:HG3	1.72	0.70
23:S:64:ARG:NH1	54:5:257:U:OP1	2.23	0.70
52:3:299:A:N6	52:3:440:C:O2'	2.24	0.70
7:C:8:PHE:CE2	54:5:426:U:H3'	2.27	0.70
52:3:1245:G:O6	52:3:1265:G:N2	2.25	0.70
52:3:1509:U:O2	52:3:1530:G:N2	2.24	0.70
13:I:42:ILE:HG12	13:I:82:LEU:HD11	1.72	0.70
52:3:1129:U:N3	52:3:1132:C:OP2	2.23	0.70
52:3:1950:U:H4'	52:3:1951:A:H2'	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:425:LEU:HD13	4:9:437:THR:HG21	1.73	0.70
15:K:96:ARG:NH2	15:K:97:GLY:O	2.25	0.70
43:r:21:CYS:HA	43:r:24:ILE:HG22	1.74	0.70
52:3:2106:G:H22	52:3:2198:G:H1	1.39	0.70
1:0:19:LEU:HD12	52:3:126:C:H5'	1.74	0.70
8:D:110:GLU:HG3	8:D:112:PRO:HD2	1.72	0.70
14:J:77:LEU:HB2	14:J:100:ILE:HD11	1.74	0.70
15:K:60:SER:OG	54:5:516:C:O2	2.10	0.70
21:Q:43:PHE:HA	21:Q:46:ILE:HG12	1.72	0.70
54:5:941:A:O2'	54:5:1307:A:N3	2.23	0.70
2:1:36:LYS:HG2	2:1:40:HIS:CE1	2.27	0.70
8:D:143:ARG:HH12	8:D:146:ALA:HA	1.56	0.70
9:E:142:ARG:HH11	11:G:67:LYS:HG2	1.57	0.70
16:L:100:GLN:NE2	54:5:1281:U:OP1	2.24	0.70
26:a:236:ASN:ND2	52:3:2080:C:OP1	2.24	0.70
34:i:20:ILE:HB	34:i:142:THR:HA	1.72	0.70
35:j:6:THR:H	35:j:21:ILE:HG22	1.56	0.70
50:y:4:GLN:NE2	52:3:1293:U:O2'	2.25	0.70
52:3:2291:U:O2	52:3:2333:G:O6	2.10	0.70
54:5:168:A:N6	54:5:219:A:O2'	2.23	0.70
4:9:657:SER:HA	52:3:2668:A:H62	1.56	0.69
13:I:27:THR:HG21	13:I:102:VAL:HG21	1.74	0.69
16:L:105:ASN:ND2	54:5:944:A:OP2	2.25	0.69
28:c:174:ASN:ND2	52:3:354:C:O2	2.25	0.69
52:3:1725:G:O6	52:3:1731:G:N2	2.25	0.69
52:3:2477:A:H61	52:3:2489:G:H1'	1.57	0.69
19:O:64:ARG:HH12	19:O:72:LEU:HD23	1.56	0.69
46:u:55:ARG:NH2	46:u:70:ASP:O	2.24	0.69
50:y:8:SER:HB2	52:3:1293:U:H4'	1.74	0.69
54:5:712:A:H2'	54:5:713:A:H8	1.56	0.69
9:E:4:ASN:HB2	9:E:88:ILE:HB	1.73	0.69
14:J:32:GLY:O	54:5:680:G:N2	2.26	0.69
23:S:68:LEU:HA	23:S:71:ARG:HD3	1.74	0.69
30:e:166:LEU:HG	30:e:168:PHE:H	1.58	0.69
31:f:99:ASN:ND2	52:3:165:U:OP1	2.24	0.69
9:E:25:GLN:HE21	9:E:72:PHE:HD1	1.40	0.69
13:I:12:LEU:HB2	13:I:82:LEU:HB2	1.73	0.69
42:q:81:LYS:NZ	52:3:850:G:OP2	2.25	0.69
52:3:2696:G:N1	52:3:2728:U:OP2	2.23	0.69
54:5:460:A:N1	54:5:467:G:O6	2.25	0.69
54:5:882:U:H2'	54:5:903:A:H61	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:63:ARG:HD2	41:p:96:GLU:HG3	1.73	0.69
52:3:2002:U:H3'	52:3:2003:C:H2'	1.73	0.69
54:5:1406:U:H3	54:5:1444:G:H1	1.37	0.69
54:5:978:A:N1	54:5:1197:G:N2	2.40	0.69
29:d:63:GLN:NE2	53:4:41:C:OP1	2.26	0.69
4:9:313:LYS:HB2	4:9:325:PHE:HB2	1.74	0.69
16:L:13:LYS:HG2	16:L:14:ARG:H	1.57	0.69
40:o:67:ARG:NH2	40:o:104:MET:O	2.22	0.69
52:3:615:G:H2'	52:3:616:G:H8	1.58	0.69
52:3:2190:G:H2'	52:3:2191:G:C8	2.28	0.69
54:5:98:G:N2	54:5:350:G:OP2	2.25	0.69
17:M:29:ARG:N	17:M:40:CYS:SG	2.65	0.69
27:b:185:ASP:HB3	27:b:190:LEU:H	1.58	0.69
52:3:1766:A:H5'	52:3:2722:G:H21	1.57	0.69
52:3:1778:G:H2'	52:3:1779:G:C8	2.27	0.69
52:3:1859:U:O2	52:3:1897:A:N6	2.24	0.69
52:3:2121:A:H61	52:3:2178:A:H61	1.41	0.69
52:3:2698:U:OP1	52:3:2876:G:N2	2.26	0.69
54:5:1041:G:H2'	54:5:1042:G:C8	2.28	0.69
9:E:118:ILE:HG23	9:E:120:ALA:H	1.58	0.69
8:D:79:THR:O	54:5:916:U:O2'	2.10	0.68
13:I:48:LEU:HD11	13:I:79:LEU:HG	1.76	0.68
42:q:66:ARG:NH1	52:3:585:U:OP1	2.26	0.68
4:9:231:GLU:HB3	4:9:233:LYS:HZ3	1.59	0.68
4:9:288:LYS:HG2	4:9:300:SER:HB2	1.76	0.68
5:A:154:ARG:NE	54:5:1088:C:H5''	2.09	0.68
52:3:1242:G:H1'	52:3:1267:A:H61	1.57	0.68
52:3:1262:G:H2'	52:3:1263:G:C8	2.29	0.68
52:3:1734:A:H3'	52:3:1735:A:H8	1.58	0.68
4:9:112:VAL:O	4:9:154:ARG:NH1	2.26	0.68
4:9:497:GLN:HA	4:9:502:GLY:HA2	1.75	0.68
14:J:47:GLY:O	14:J:50:LYS:NZ	2.25	0.68
32:g:104:GLU:HG3	32:g:105:ALA:H	1.58	0.68
35:j:91:LYS:HD2	35:j:111:TYR:H	1.57	0.68
52:3:1790:U:H3	52:3:2596:A:H1'	1.58	0.68
54:5:169:G:H1	54:5:196:G:H22	1.41	0.68
52:3:2630:U:O2'	52:3:2829:G:N7	2.25	0.68
45:t:28:MET:SD	45:t:33:GLN:NE2	2.67	0.68
46:u:83:TYR:HD1	46:u:95:VAL:HG12	1.59	0.68
52:3:992:G:N2	52:3:996:A:OP2	2.26	0.68
52:3:1406:A:O2'	52:3:1408:G:OP2	2.10	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:P:4:ASN:ND2	54:5:115:A:N7	2.42	0.68
43:r:36:LEU:HD11	43:r:48:ALA:HB2	1.76	0.68
54:5:544:A:H4'	54:5:546:G:H4'	1.74	0.68
52:3:312:U:H2'	52:3:313:G:C8	2.29	0.68
52:3:1581:U:H2'	52:3:1582:G:C8	2.28	0.68
52:3:1956:G:H2'	52:3:1957:G:H8	1.59	0.68
3:2:8:LYS:HE3	3:2:9:PRO:HD2	1.74	0.67
52:3:418:G:N2	52:3:430:U:O2	2.21	0.67
52:3:1696:C:O2'	52:3:2695:U:OP1	2.12	0.67
54:5:1417:U:H2'	54:5:1418:G:C8	2.28	0.67
52:3:2321:C:H2'	52:3:2322:G:C8	2.29	0.67
52:3:2478:G:H2'	52:3:2479:A:H8	1.58	0.67
52:3:2655:U:O2	52:3:2681:G:O6	2.12	0.67
54:5:250:G:H2'	54:5:251:G:C8	2.29	0.67
8:D:80:THR:O	54:5:1373:A:N6	2.27	0.67
14:J:41:GLY:HA3	54:5:685:G:H5'	1.76	0.67
22:R:22:MET:O	22:R:26:GLU:N	2.21	0.67
25:W:107:GLU:OE2	25:W:111:ARG:NH2	2.27	0.67
27:b:125:ARG:NH1	27:b:165:MET:O	2.26	0.67
34:i:47:PHE:O	41:p:63:ARG:NH2	2.26	0.67
52:3:341:G:N1	52:3:344:A:OP2	2.23	0.67
52:3:2480:G:H21	52:3:2537:G:H1	1.41	0.67
54:5:980:C:H42	54:5:1195:G:H1	1.43	0.67
54:5:1001:A:OP2	54:5:1019:G:N1	2.19	0.67
54:5:1389:U:H3	54:5:1461:G:H1	1.41	0.67
32:g:29:TYR:HE2	32:g:81:ALA:HB3	1.58	0.67
52:3:1303:U:O4	52:3:1678:U:O2'	2.12	0.67
54:5:362:U:H1'	54:5:390:G:H22	1.60	0.67
54:5:1376:G:O6	54:5:1479:G:N2	2.28	0.67
4:9:494:TYR:HE2	4:9:503:GLN:HG2	1.59	0.67
27:b:116:GLY:HA3	52:3:2825:A:H5'	1.76	0.67
41:p:32:LYS:NZ	52:3:613:C:OP1	2.28	0.67
52:3:1723:A:OP2	52:3:1732:A:N6	2.28	0.67
52:3:2059:G:H2'	52:3:2060:G:C8	2.28	0.67
54:5:996:U:H3	54:5:1030:G:H1	1.40	0.67
7:C:59:ARG:HH12	7:C:190:GLY:HA3	1.59	0.67
15:K:61:ALA:HB3	15:K:63:ARG:HH22	1.60	0.67
32:g:41:ARG:HG2	32:g:51:ILE:HD11	1.77	0.67
40:o:67:ARG:HH11	40:o:74:PRO:HB3	1.60	0.67
52:3:111:G:H2'	52:3:112:A:H8	1.58	0.67
52:3:939:U:H2'	52:3:940:A:H8	1.59	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:39:LYS:HG2	4:9:357:HIS:CE1	2.30	0.67
4:9:493:LYS:HB3	55:7:29:C:H4'	1.77	0.67
52:3:1295:A:N6	52:3:2021:A:OP2	2.28	0.67
54:5:354:U:H2'	54:5:355:A:H8	1.59	0.67
2:1:11:PHE:HB3	2:1:19:ILE:HD11	1.76	0.67
6:B:7:SER:HA	6:B:10:LEU:HD13	1.77	0.67
7:C:57:LYS:O	7:C:61:GLN:HB2	1.95	0.67
31:f:110:LYS:NZ	52:3:2226:U:O3'	2.27	0.67
39:n:101:ARG:NH2	53:4:48:A:OP2	2.28	0.67
52:3:567:U:OP1	52:3:594:G:N2	2.28	0.67
52:3:742:G:O6	52:3:759:U:O4	2.13	0.67
52:3:1701:G:H1	52:3:1998:U:H3'	1.60	0.67
9:E:97:LEU:HB3	9:E:100:ILE:HG23	1.77	0.67
13:I:65:LYS:O	13:I:68:ARG:NE	2.28	0.67
27:b:4:ARG:NH1	27:b:100:ASN:O	2.27	0.67
33:h:20:LYS:NZ	33:h:32:MET:SD	2.66	0.66
34:i:20:ILE:HG12	34:i:58:ILE:HD11	1.77	0.66
26:a:92:ARG:NH2	52:3:1824:G:O5'	2.28	0.66
52:3:515:A:O2'	52:3:516:A:OP2	2.11	0.66
52:3:563:A:N6	52:3:2050:G:O5'	2.29	0.66
52:3:1328:A:N7	52:3:1660:A:O2'	2.26	0.66
54:5:779:A:H62	54:5:797:G:N2	1.90	0.66
54:5:1046:A:N6	54:5:1175:C:O2	2.26	0.66
52:3:31:U:O2	52:3:1245:G:O2'	2.14	0.66
52:3:85:U:O2'	52:3:86:A:O5'	2.14	0.66
54:5:1295:U:H3'	54:5:1296:C:H2'	1.77	0.66
34:i:93:ARG:HH22	52:3:2746:A:H4'	1.60	0.66
52:3:1065:G:O6	52:3:1160:G:N2	2.29	0.66
52:3:1067:A:H2	52:3:1157:G:N1	1.89	0.66
52:3:2083:U:OP2	52:3:2246:G:N2	2.28	0.66
54:5:87:G:O2'	54:5:137:A:N3	2.27	0.66
52:3:2071:C:H1'	52:3:2458:A:H61	1.60	0.66
54:5:929:C:O2'	54:5:1318:C:OP2	2.13	0.66
54:5:1406:U:O2	54:5:1444:G:N2	2.27	0.66
4:9:19:ILE:HG23	52:3:2669:G:H4'	1.78	0.66
4:9:604:ILE:HB	4:9:641:ALA:HB3	1.78	0.66
26:a:99:ILE:HD13	26:a:109:ILE:HG12	1.77	0.66
52:3:2819:C:H2'	52:3:2820:G:H8	1.59	0.66
53:4:37:A:C2	53:4:42:G:C2	2.83	0.66
4:9:386:THR:HG21	4:9:395:GLN:H	1.60	0.66
6:B:152:ILE:HG22	6:B:206:ASN:H	1.59	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:65:GLY:O	7:C:96:ARG:NH2	2.26	0.66
13:I:11:GLU:H	13:I:83:VAL:HA	1.61	0.66
31:f:93:ILE:HG23	31:f:95:LYS:H	1.61	0.66
33:h:130:GLN:OE1	52:3:1123:A:N6	2.29	0.66
52:3:708:C:OP1	52:3:836:G:N2	2.29	0.66
52:3:755:C:H2'	52:3:756:A:H8	1.61	0.66
52:3:2127:G:O6	52:3:2187:C:N4	2.29	0.66
54:5:712:A:H2'	54:5:713:A:C8	2.31	0.66
54:5:1388:A:N1	54:5:1462:G:O6	2.29	0.66
16:L:113:ARG:NH2	54:5:1204:A:OP1	2.29	0.66
32:g:63:LEU:HD11	32:g:68:PHE:HB3	1.76	0.66
52:3:566:G:OP2	52:3:594:G:N2	2.28	0.66
52:3:2460:C:H3'	52:3:2461:A:H8	1.59	0.66
52:3:2898:A:H5''	52:3:2899:C:H6	1.60	0.66
54:5:670:G:H2'	54:5:671:G:C8	2.31	0.66
27:b:19:THR:HB	27:b:221:GLU:HG3	1.78	0.66
51:z:18:ASN:ND2	51:z:37:PHE:O	2.29	0.66
52:3:1496:A:N6	52:3:1547:G:O2'	2.29	0.66
4:9:260:SER:HB3	4:9:265:LYS:HB2	1.77	0.65
26:a:191:LYS:HE2	26:a:277:LEU:HD13	1.78	0.65
52:3:286:A:O2'	52:3:288:A:N6	2.28	0.65
52:3:379:A:O2'	52:3:381:A:N6	2.25	0.65
52:3:890:U:H2'	52:3:891:G:C8	2.31	0.65
52:3:1868:A:H2'	52:3:1869:G:H8	1.60	0.65
52:3:2603:G:N2	52:3:2606:A:OP2	2.29	0.65
54:5:711:G:H2'	54:5:712:A:C8	2.31	0.65
14:J:34:VAL:O	54:5:681:U:O2'	2.14	0.65
24:T:37:ARG:HB2	24:T:40:MET:HE3	1.78	0.65
52:3:515:A:H61	52:3:538:A:H61	1.44	0.65
52:3:1230:U:H2'	52:3:1231:G:H8	1.60	0.65
52:3:2177:G:N2	55:8:57:C:OP1	2.28	0.65
4:9:218:VAL:HA	4:9:253:PHE:HE2	1.62	0.65
5:A:203:ASN:OD1	5:A:219:ASN:ND2	2.30	0.65
18:N:6:ASN:OD1	18:N:7:GLY:N	2.29	0.65
26:a:190:ARG:HG3	26:a:278:ILE:HD13	1.78	0.65
36:k:18:LYS:HG3	52:3:698:A:H5''	1.77	0.65
37:l:13:HIS:CE1	52:3:990:G:H5''	2.32	0.65
44:s:33:PRO:HA	44:s:79:LYS:HD2	1.77	0.65
52:3:1237:G:H2'	52:3:1238:A:H8	1.61	0.65
52:3:2141:A:H61	52:3:2164:G:H1'	1.61	0.65
14:J:46:LYS:NZ	54:5:687:G:O6	2.26	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:K:77:LEU:HD23	15:K:103:LEU:HD21	1.78	0.65
30:e:110:LEU:HB3	30:e:155:ARG:HH21	1.61	0.65
36:k:133:LYS:NZ	52:3:672:G:OP1	2.26	0.65
52:3:2223:C:H2'	52:3:2224:A:C8	2.30	0.65
52:3:2234:C:OP2	52:3:2235:A:N6	2.26	0.65
54:5:455:U:H3	54:5:472:G:H1	1.42	0.65
22:R:70:LYS:HB2	22:R:73:GLU:HB2	1.77	0.65
43:r:128:ARG:HG2	52:3:1262:G:H1'	1.78	0.65
45:t:78:ASP:HB2	45:t:104:PHE:HZ	1.62	0.65
54:5:1046:A:N7	54:5:1175:C:N3	2.45	0.65
4:9:599:GLU:HB2	4:9:675:THR:HG22	1.77	0.65
9:E:132:VAL:HG12	9:E:134:SER:H	1.62	0.65
24:T:16:LYS:HA	24:T:19:LYS:HE2	1.78	0.65
44:s:54:LYS:N	44:s:84:THR:OG1	2.28	0.65
50:y:4:GLN:HB3	52:3:2623:U:H1'	1.79	0.65
52:3:118:G:OP2	52:3:120:A:O2'	2.15	0.65
52:3:1020:G:H5''	52:3:1021:C:H5	1.61	0.65
52:3:1832:G:H2'	52:3:1833:G:H8	1.61	0.65
52:3:2898:A:H5'	52:3:2899:C:H5''	1.78	0.65
53:4:36:C:N4	53:4:37:A:N6	2.45	0.65
4:9:15:ILE:HG13	4:9:79:LEU:HD22	1.78	0.65
19:O:21:LYS:NZ	19:O:22:ARG:O	2.28	0.65
31:f:64:LEU:HA	31:f:67:LYS:HD2	1.79	0.65
43:r:102:ASN:HD21	52:3:27:U:H5'	1.61	0.65
52:3:2111:U:H5''	52:3:2112:A:H8	1.62	0.65
54:5:572:A:O2'	54:5:876:C:O2'	2.15	0.65
11:G:94:GLY:O	20:P:37:LYS:NZ	2.30	0.65
52:3:1801:U:HO2'	52:3:1907:A:HO2'	1.45	0.65
52:3:1804:A:H2'	52:3:1805:U:O4'	1.97	0.65
54:5:68:C:H2'	54:5:69:G:C8	2.32	0.65
54:5:711:G:H2'	54:5:712:A:H8	1.62	0.65
54:5:910:C:N4	54:5:1378:C:O3'	2.29	0.65
4:9:453:GLU:OE2	4:9:653:THR:OG1	2.15	0.65
6:B:54:SER:H	6:B:71:ALA:HA	1.59	0.65
10:F:115:MET:O	10:F:119:ILE:HG12	1.96	0.65
54:5:149:G:H2'	54:5:150:A:C8	2.32	0.65
54:5:831:C:H2'	54:5:832:G:H8	1.61	0.65
4:9:626:LEU:HD11	4:9:642:LYS:HG3	1.78	0.64
5:A:171:ARG:HD3	5:A:172:LEU:N	2.12	0.64
28:c:144:MET:HG3	52:3:354:C:H41	1.63	0.64
31:f:93:ILE:HG12	31:f:94:THR:H	1.61	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:h:101:ALA:HB1	33:h:121:LEU:HD11	1.79	0.64
41:p:2:ARG:NH1	52:3:485:A:O2'	2.30	0.64
52:3:2896:G:H4'	52:3:2897:G:H21	1.62	0.64
54:5:833:G:N2	54:5:844:U:O2	2.28	0.64
54:5:972:A:O2'	54:5:1198:C:N4	2.30	0.64
4:9:9:ASN:HB2	4:9:75:CYS:HA	1.78	0.64
4:9:410:VAL:HG11	4:9:471:VAL:HG23	1.77	0.64
32:g:37:ALA:HA	32:g:40:ILE:HD12	1.78	0.64
32:g:64:LYS:NZ	32:g:70:GLY:O	2.28	0.64
52:3:47:G:N3	52:3:471:A:N6	2.45	0.64
52:3:61:U:O4	52:3:70:G:O6	2.15	0.64
52:3:2477:A:H2'	52:3:2478:G:O4'	1.96	0.64
52:3:2653:G:OP2	52:3:2653:G:N2	2.31	0.64
54:5:660:A:N1	54:5:739:G:N2	2.40	0.64
28:c:69:LYS:NZ	52:3:2068:G:OP1	2.31	0.64
32:g:11:VAL:HG22	32:g:58:ILE:HG13	1.80	0.64
37:l:20:LYS:NZ	53:4:76:A:OP1	2.30	0.64
40:o:53:LEU:HB2	40:o:65:ILE:HB	1.78	0.64
4:9:680:VAL:HG13	4:9:683:ILE:HD12	1.78	0.64
52:3:85:U:O2	52:3:104:A:N7	2.30	0.64
52:3:804:U:H2'	52:3:805:G:H8	1.61	0.64
52:3:1534:A:H4'	52:3:1535:A:H5'	1.79	0.64
52:3:2084:A:H2'	52:3:2085:C:C6	2.33	0.64
53:4:42:G:N3	53:4:45:C:N4	2.45	0.64
54:5:1154:A:H2'	54:5:1155:A:C8	2.32	0.64
6:B:92:ILE:HG22	6:B:102:LEU:HD13	1.80	0.64
29:d:136:ILE:HG12	29:d:149:ILE:HG12	1.79	0.64
41:p:33:VAL:HA	41:p:36:GLN:HE21	1.62	0.64
52:3:17:G:N2	52:3:560:U:O2	2.24	0.64
52:3:2781:C:H2'	52:3:2782:A:C8	2.32	0.64
54:5:708:A:H2'	54:5:709:A:H8	1.63	0.64
52:3:339:U:H2'	52:3:340:U:C6	2.32	0.64
54:5:445:A:N7	54:5:483:U:O2	2.31	0.64
54:5:641:U:H2'	54:5:642:A:H8	1.63	0.64
54:5:710:G:H2'	54:5:711:G:C8	2.33	0.64
6:B:187:TYR:HE1	6:B:202:LYS:HB3	1.63	0.64
26:a:146:GLN:OE1	26:a:169:ARG:NH2	2.29	0.64
34:i:118:SER:HA	34:i:121:TRP:HB2	1.79	0.64
36:k:91:ASP:OD1	36:k:92:LYS:N	2.30	0.64
52:3:344:A:H1'	52:3:345:A:H2'	1.80	0.64
52:3:1508:G:OP2	52:3:1508:G:H4'	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1228:C:H2'	54:5:1229:A:C8	2.33	0.64
4:9:632:GLN:HE22	33:h:32:MET:HE1	1.62	0.64
32:g:56:ASN:ND2	32:g:60:ARG:HH22	1.95	0.64
36:k:58:LEU:HD23	36:k:61:ARG:HH12	1.62	0.64
37:l:57:CYS:O	37:l:113:GLN:NE2	2.18	0.64
52:3:1943:A:OP1	52:3:1968:C:N4	2.31	0.64
52:3:2054:C:H2'	52:3:2055:A:H8	1.63	0.64
52:3:2469:A:N1	52:3:2498:G:N2	2.46	0.64
54:5:265:U:H2'	54:5:266:A:H8	1.63	0.64
9:E:92:ARG:NH2	9:E:93:GLU:O	2.31	0.64
12:H:20:TYR:HB2	12:H:66:ASN:HB3	1.80	0.64
26:a:134:PHE:HB3	26:a:136:MET:HG2	1.79	0.64
40:o:56:ARG:NH2	52:3:2727:G:OP1	2.30	0.64
50:y:15:LYS:HE2	52:3:2052:C:H5''	1.78	0.64
54:5:246:A:N6	54:5:271:G:O6	2.31	0.64
54:5:510:U:H2'	54:5:511:A:C8	2.33	0.64
54:5:953:A:O2'	54:5:954:A:O4'	2.13	0.64
6:B:43:LEU:HD11	6:B:95:ILE:HG21	1.79	0.64
52:3:286:A:HO2'	52:3:288:A:N6	1.95	0.64
52:3:1956:G:H2'	52:3:1957:G:C8	2.33	0.64
4:9:506:HIS:HB3	4:9:567:SER:HB3	1.81	0.63
14:J:77:LEU:HD22	14:J:103:ILE:HD12	1.79	0.63
22:R:18:LYS:HE2	22:R:33:THR:HB	1.80	0.63
31:f:6:LYS:HB2	31:f:35:LEU:H	1.63	0.63
52:3:1027:U:H3	52:3:1198:G:H1	1.45	0.63
52:3:1121:A:H5''	52:3:1122:G:H5'	1.78	0.63
52:3:2054:C:H2'	52:3:2055:A:C8	2.33	0.63
54:5:470:U:H2'	54:5:471:A:C8	2.33	0.63
54:5:1183:C:H2'	54:5:1184:C:C6	2.34	0.63
26:a:261:ARG:NH2	52:3:1849:G:O2'	2.30	0.63
30:e:7:ARG:HB2	30:e:72:ASN:HD21	1.63	0.63
40:o:38:LYS:NZ	40:o:43:VAL:HG22	2.13	0.63
41:p:6:GLY:HA3	52:3:31:U:H4'	1.79	0.63
46:u:28:ARG:NH2	52:3:2287:G:O6	2.32	0.63
52:3:1076:U:O2	52:3:1149:G:O6	2.16	0.63
52:3:1529:U:H2'	52:3:1530:G:H8	1.63	0.63
52:3:1793:A:N6	52:3:2614:U:O4'	2.31	0.63
53:4:9:C:O2'	53:4:13:G:O6	2.15	0.63
53:4:31:G:O6	53:4:48:A:N6	2.32	0.63
54:5:896:G:H2'	54:5:897:A:H8	1.61	0.63
4:9:335:SER:OG	4:9:352:ARG:NH1	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:383:THR:HG21	4:9:433:PRO:HG3	1.81	0.63
27:b:56:THR:HA	27:b:78:THR:HA	1.78	0.63
34:i:45:VAL:HG21	41:p:99:ILE:HG21	1.80	0.63
54:5:85:U:H1'	54:5:86:A:N7	2.14	0.63
19:O:40:ASN:HD22	19:O:69:GLN:HB2	1.62	0.63
32:g:41:ARG:NH1	52:3:1118:U:OP1	2.32	0.63
50:y:29:VAL:HA	50:y:36:LYS:HG2	1.81	0.63
52:3:1247:C:H2'	52:3:1248:A:C8	2.31	0.63
52:3:2727:G:HO2'	52:3:2850:G:HO2'	1.42	0.63
53:4:80:G:OP2	53:4:80:G:N2	2.29	0.63
54:5:394:U:H2'	54:5:395:G:H8	1.63	0.63
12:H:5:SER:HA	12:H:21:LEU:O	1.98	0.63
52:3:1002:A:H5''	52:3:2279:G:H22	1.62	0.63
52:3:1446:G:H22	52:3:1612:U:H5''	1.63	0.63
52:3:2007:U:H2'	52:3:2008:A:H8	1.64	0.63
54:5:641:U:H2'	54:5:642:A:C8	2.34	0.63
3:2:33:LYS:NZ	52:3:2751:C:OP1	2.26	0.63
4:9:495:ILE:N	55:7:29:C:OP1	2.25	0.63
27:b:55:ASP:OD2	27:b:80:HIS:ND1	2.32	0.63
36:k:53:GLY:O	52:3:866:G:N2	2.31	0.63
42:q:95:VAL:HG22	42:q:96:ARG:HD3	1.80	0.63
52:3:2360:A:H62	52:3:2373:G:H21	1.45	0.63
1:0:8:SER:N	52:3:721:G:H21	1.97	0.63
50:y:40:HIS:ND1	52:3:2819:C:O2'	2.32	0.63
52:3:35:U:O4	52:3:482:G:O2'	2.17	0.63
52:3:291:G:H2'	52:3:292:G:H8	1.62	0.63
52:3:774:A:N3	52:3:775:C:N4	2.47	0.63
52:3:1096:U:H1'	52:3:1105:A:H1'	1.80	0.63
52:3:1801:U:O2	52:3:1832:G:N2	2.22	0.63
54:5:39:G:N1	54:5:393:A:OP1	2.32	0.63
54:5:689:U:H1'	54:5:692:A:H62	1.63	0.63
54:5:788:G:N2	54:5:1472:G:O3'	2.32	0.63
42:q:67:LYS:HB3	42:q:86:ARG:HG2	1.80	0.63
52:3:904:C:H42	52:3:949:C:H1'	1.63	0.63
52:3:1801:U:H2'	52:3:1802:C:C6	2.34	0.63
27:b:185:ASP:O	27:b:189:MET:CA	2.45	0.63
33:h:85:GLY:HA3	52:3:1099:C:H4'	1.79	0.63
34:i:38:LEU:HD12	34:i:43:ASN:HD21	1.63	0.63
52:3:1503:A:N6	52:3:1540:G:O2'	2.31	0.63
52:3:2082:U:O2'	52:3:2605:G:N2	2.32	0.63
6:B:11:ARG:HH22	6:B:183:ALA:H	1.47	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:137:PRO:HA	26:a:197:ARG:HA	1.80	0.62
33:h:15:LEU:HA	33:h:50:MET:HA	1.81	0.62
40:o:56:ARG:NH1	52:3:2693:U:OP2	2.32	0.62
42:q:4:ILE:HB	42:q:39:LEU:HB3	1.80	0.62
52:3:2007:U:H2'	52:3:2008:A:C8	2.33	0.62
52:3:2335:A:H2'	52:3:2336:A:C8	2.33	0.62
52:3:2516:G:H1	52:3:2588:U:H3	1.47	0.62
54:5:369:A:O2'	54:5:448:A:N7	2.32	0.62
54:5:1199:U:O2'	54:5:1296:C:OP1	2.17	0.62
2:1:36:LYS:HG2	2:1:40:HIS:HE1	1.64	0.62
4:9:292:GLU:HB2	4:9:394:VAL:HG23	1.82	0.62
28:c:155:LYS:NZ	28:c:193:LEU:O	2.30	0.62
35:j:26:GLY:HA3	35:j:30:LYS:HE3	1.82	0.62
46:u:38:LYS:NZ	52:3:2363:C:O2'	2.32	0.62
51:z:38:CYS:O	51:z:42:ARG:N	2.32	0.62
52:3:1198:G:H2'	52:3:1199:A:H8	1.65	0.62
52:3:1734:A:N6	54:5:1450:C:OP1	2.32	0.62
54:5:305:A:H2'	54:5:306:G:H8	1.64	0.62
54:5:1009:G:O2'	54:5:1011:A:N7	2.32	0.62
54:5:1379:C:HO2'	54:5:1494:A:HO2'	1.44	0.62
1:0:35:ARG:HH12	52:3:55:A:H2	1.47	0.62
7:C:11:SER:O	7:C:15:GLY:N	2.31	0.62
34:i:34:LYS:NZ	34:i:145:TRP:O	2.29	0.62
36:k:84:LYS:NZ	52:3:662:U:O2	2.28	0.62
52:3:370:C:H2'	52:3:371:C:C6	2.34	0.62
52:3:1855:A:H61	52:3:1901:C:H1'	1.63	0.62
7:C:40:ASN:HA	7:C:43:ARG:HH22	1.65	0.62
44:s:26:LYS:HG3	44:s:84:THR:HA	1.82	0.62
52:3:1701:G:O2'	52:3:1998:U:O4	2.18	0.62
54:5:1068:G:N2	54:5:1071:A:OP2	2.27	0.62
54:5:1088:C:O2'	54:5:1144:A:N3	2.32	0.62
28:c:124:ASN:ND2	28:c:195:ASN:O	2.32	0.62
39:n:52:LEU:HD12	39:n:84:LEU:HD13	1.80	0.62
41:p:8:GLN:HE21	52:3:1229:U:H4'	1.64	0.62
52:3:631:A:H2'	52:3:632:A:H8	1.64	0.62
52:3:966:U:H2'	52:3:967:U:C6	2.35	0.62
52:3:1820:U:O2'	52:3:1821:G:OP1	2.16	0.62
4:9:352:ARG:HB2	4:9:376:ILE:HD11	1.80	0.62
6:B:189:LEU:HD13	6:B:202:LYS:HG2	1.80	0.62
28:c:41:GLU:OE2	52:3:651:A:O2'	2.14	0.62
31:f:65:SER:HB2	31:f:69:LYS:NZ	2.13	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1098:C:H2'	54:5:1099:G:H8	1.63	0.62
3:2:11:CYS:HB2	3:2:32:HIS:CE1	2.35	0.62
5:A:71:TYR:HE1	9:E:166:PHE:HD2	1.47	0.62
28:c:204:LEU:HA	28:c:207:LEU:HD13	1.81	0.62
31:f:28:HIS:HA	31:f:34:LYS:HZ3	1.65	0.62
52:3:231:A:H62	52:3:446:A:H1'	1.63	0.62
52:3:854:A:H61	52:3:1220:A:H1'	1.63	0.62
52:3:2176:G:O2'	52:3:2178:A:N6	2.32	0.62
8:D:212:ARG:NH1	11:G:51:GLU:O	2.33	0.62
29:d:3:ASN:HA	49:x:25:ILE:HD12	1.82	0.62
29:d:36:ILE:HD12	29:d:89:VAL:HB	1.81	0.62
48:w:42:HIS:ND1	52:3:97:A:O2'	2.32	0.62
52:3:2039:G:OP1	52:3:2462:G:O2'	2.16	0.62
52:3:2253:U:O2'	52:3:2444:G:OP2	2.13	0.62
52:3:2706:U:H2'	52:3:2707:A:C8	2.34	0.62
54:5:599:G:N2	54:5:634:U:O2	2.26	0.62
7:C:119:HIS:HA	54:5:436:U:H5''	1.82	0.62
8:D:135:SER:OG	8:D:177:ASP:OD1	2.18	0.62
27:b:158:ARG:NH2	52:3:1165:U:O2	2.33	0.62
29:d:135:GLN:NE2	29:d:150:ARG:O	2.33	0.62
52:3:608:A:H5'	52:3:2508:U:H5''	1.82	0.62
52:3:1354:U:O2'	52:3:2017:G:O2'	2.18	0.62
5:A:49:ARG:NH1	54:5:842:C:O2'	2.33	0.62
11:G:98:TYR:CG	54:5:596:U:H4'	2.34	0.62
26:a:21:ASP:OD2	26:a:24:LYS:NZ	2.33	0.62
36:k:42:ARG:NH2	52:3:842:U:OP2	2.33	0.62
37:l:15:VAL:HG21	37:l:96:VAL:HG21	1.82	0.62
38:m:59:ASN:HA	38:m:62:GLN:NE2	2.13	0.62
52:3:500:U:O2'	52:3:501:G:O5'	2.17	0.62
52:3:701:A:H2'	52:3:702:U:C6	2.35	0.62
52:3:1370:A:O2'	52:3:1372:U:OP1	2.16	0.62
13:I:57:ILE:HG23	17:M:41:ARG:HG2	1.81	0.61
22:R:3:ARG:NH1	54:5:1287:G:N7	2.45	0.61
34:i:40:ARG:NE	52:3:1043:C:OP1	2.32	0.61
36:k:48:ARG:HH21	52:3:255:A:H5'	1.63	0.61
38:m:2:SER:O	52:3:779:C:O2'	2.18	0.61
54:5:22:G:H21	54:5:908:A:H62	1.46	0.61
4:9:181:GLU:OE2	4:9:199:ILE:N	2.33	0.61
15:K:127:ARG:NH2	54:5:499:U:OP2	2.33	0.61
18:N:30:THR:HA	18:N:33:ILE:HG12	1.82	0.61
38:m:89:LYS:HZ2	38:m:90:TYR:HE1	1.47	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:r:16:LYS:NZ	52:3:1296:G:N7	2.47	0.61
52:3:230:G:N2	52:3:234:G:O6	2.33	0.61
52:3:965:U:H2'	52:3:966:U:C6	2.35	0.61
52:3:1954:C:H2'	52:3:1955:G:C8	2.34	0.61
54:5:714:C:O2'	54:5:731:A:O4'	2.17	0.61
10:F:74:LEU:HD13	10:F:143:MET:HE3	1.82	0.61
19:O:21:LYS:HD2	54:5:96:G:H5''	1.80	0.61
37:l:67:ARG:HB2	37:l:103:MET:HA	1.83	0.61
52:3:793:C:H2'	52:3:794:G:H8	1.65	0.61
52:3:1754:U:H2'	52:3:1755:A:H8	1.64	0.61
52:3:1925:A:O2'	52:3:1927:C:N4	2.33	0.61
52:3:1979:G:H2'	52:3:1980:G:C8	2.35	0.61
54:5:71:A:H2'	54:5:72:A:H8	1.65	0.61
54:5:1328:C:H2'	54:5:1329:G:H8	1.65	0.61
4:9:7:LEU:HD12	4:9:10:PHE:HB2	1.81	0.61
4:9:11:ARG:NH1	4:9:278:LEU:O	2.33	0.61
5:A:99:ILE:HA	5:A:102:ARG:HH21	1.64	0.61
7:C:85:LEU:O	7:C:89:LEU:HG	2.01	0.61
46:u:82:LYS:HG3	46:u:84:GLN:HE22	1.64	0.61
52:3:1055:A:N1	52:3:1176:U:O2'	2.33	0.61
52:3:2838:G:N2	52:3:2887:A:N7	2.48	0.61
54:5:744:U:H4'	54:5:745:U:H5	1.65	0.61
4:9:632:GLN:HA	4:9:637:GLN:HA	1.81	0.61
14:J:50:LYS:NZ	54:5:689:U:O4	2.34	0.61
26:a:150:ILE:HB	26:a:160:ILE:HB	1.83	0.61
33:h:58:TYR:HB2	33:h:64:ASP:HB2	1.82	0.61
46:u:34:ARG:HD2	52:3:2364:A:H4'	1.83	0.61
54:5:810:U:H2'	54:5:811:A:H8	1.66	0.61
54:5:1002:A:H3'	54:5:1003:G:H8	1.64	0.61
54:5:1288:C:H2'	54:5:1289:U:C6	2.36	0.61
9:E:112:ARG:O	9:E:121:ARG:NH1	2.33	0.61
12:H:70:LYS:HE2	54:5:1125:C:H5'	1.83	0.61
14:J:118:LYS:NZ	54:5:1499:G:OP2	2.29	0.61
27:b:32:GLU:OE2	27:b:55:ASP:N	2.28	0.61
37:l:119:THR:O	37:l:123:HIS:ND1	2.34	0.61
46:u:83:TYR:CD1	46:u:95:VAL:HG12	2.35	0.61
52:3:1083:A:H1'	52:3:1147:G:H21	1.65	0.61
54:5:35:C:H2'	54:5:36:G:H8	1.64	0.61
54:5:572:A:HO2'	54:5:876:C:HO2'	1.47	0.61
4:9:43:THR:O	4:9:47:GLU:HG3	2.00	0.61
10:F:132:ALA:HA	10:F:135:LYS:HE2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:R:55:LYS:HB2	54:5:953:A:C2	2.35	0.61
33:h:54:VAL:HG23	33:h:66:ILE:HG23	1.82	0.61
47:v:33:LEU:HD13	47:v:49:LEU:HD12	1.82	0.61
7:C:114:ARG:NH1	54:5:400:G:OP2	2.34	0.61
13:I:58:ILE:HA	13:I:68:ARG:HG2	1.83	0.61
22:R:37:ARG:HH21	54:5:1292:A:H1'	1.65	0.61
28:c:68:GLN:NE2	52:3:709:G:O2'	2.34	0.61
33:h:130:GLN:NE2	52:3:1095:U:O4	2.30	0.61
38:m:60:ARG:HA	38:m:63:VAL:HG12	1.82	0.61
45:t:29:PRO:O	45:t:32:GLN:NE2	2.31	0.61
52:3:1100:U:H2'	52:3:1101:U:C2	2.36	0.61
54:5:144:U:O2	54:5:148:A:N6	2.34	0.61
54:5:460:A:H2	54:5:467:G:H1	1.47	0.61
54:5:517:C:H2'	54:5:518:A:C8	2.36	0.61
54:5:1205:C:H2'	54:5:1206:G:H8	1.64	0.61
16:L:83:ILE:HG12	22:R:63:THR:HB	1.83	0.61
29:d:36:ILE:HD13	29:d:57:LEU:HD11	1.83	0.61
36:k:114:LEU:HB3	36:k:131:VAL:HG22	1.81	0.61
38:m:27:ALA:HB2	38:m:70:THR:HG21	1.83	0.61
40:o:14:GLU:HG2	40:o:60:ILE:HB	1.82	0.61
52:3:42:U:H2'	52:3:43:A:H8	1.64	0.61
52:3:342:G:H1'	52:3:536:A:H5'	1.83	0.61
52:3:667:A:H2'	52:3:668:A:C8	2.36	0.61
52:3:1070:U:H2'	52:3:1071:G:H8	1.66	0.61
7:C:96:ARG:NE	7:C:132:PRO:O	2.33	0.61
8:D:146:ALA:HB2	54:5:858:A:H5'	1.81	0.61
26:a:3:ILE:HD11	26:a:207:ASP:HB3	1.81	0.61
52:3:1232:U:H2'	52:3:1233:A:C8	2.35	0.61
52:3:2059:G:N2	52:3:2625:U:O2	2.28	0.61
54:5:1077:U:H3	54:5:1090:G:H1	1.47	0.61
5:A:85:VAL:HG22	5:A:112:TRP:HH2	1.66	0.60
38:m:58:ASN:O	38:m:62:GLN:HG3	2.01	0.60
52:3:519:A:H5''	52:3:520:C:H5	1.66	0.60
52:3:697:U:H2'	52:3:698:A:H8	1.64	0.60
54:5:1329:G:H2'	54:5:1330:A:C8	2.37	0.60
4:9:413:LYS:HD3	4:9:470:GLU:HB3	1.84	0.60
22:R:22:MET:HG3	22:R:47:ASN:HD21	1.66	0.60
26:a:41:LEU:HD11	26:a:66:TYR:HB2	1.82	0.60
32:g:11:VAL:HG21	32:g:61:ARG:HE	1.66	0.60
52:3:259:A:O2'	52:3:422:A:OP1	2.17	0.60
52:3:1300:C:H2'	52:3:1682:C:C6	2.37	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:608:G:O6	54:5:628:A:C6	2.53	0.60
54:5:998:G:H4'	54:5:999:C:H5'	1.82	0.60
54:5:1138:U:H2'	54:5:1139:A:C8	2.37	0.60
1:0:34:ARG:HA	1:0:37:LYS:HE2	1.82	0.60
4:9:12:ASN:HA	4:9:78:ASN:HB2	1.82	0.60
4:9:417:ASP:O	4:9:421:MET:HG3	2.01	0.60
12:H:11:ARG:NH2	54:5:1125:C:OP2	2.34	0.60
15:K:7:LEU:HD11	15:K:12:ARG:HG3	1.84	0.60
24:T:13:LEU:HD23	24:T:16:LYS:HD2	1.82	0.60
26:a:253:ALA:O	26:a:255:ARG:NH2	2.34	0.60
52:3:133:G:H1	52:3:150:U:H3	1.50	0.60
52:3:179:A:H2'	52:3:180:A:C5	2.36	0.60
52:3:674:G:H2'	52:3:675:U:C6	2.36	0.60
52:3:1351:G:H21	52:3:1650:A:H61	1.50	0.60
52:3:2794:U:H2'	52:3:2795:C:C6	2.35	0.60
54:5:1051:U:H2'	54:5:1052:G:H8	1.66	0.60
54:5:1297:G:H2'	54:5:1298:U:O4'	2.01	0.60
45:t:76:LEU:HD22	45:t:89:ILE:HG21	1.83	0.60
52:3:210:U:H2'	52:3:211:A:H8	1.66	0.60
52:3:915:A:N6	52:3:936:G:O2'	2.34	0.60
54:5:1328:C:H2'	54:5:1329:G:C8	2.36	0.60
54:5:1329:G:H2'	54:5:1330:A:H8	1.65	0.60
1:0:34:ARG:NH1	52:3:503:G:OP2	2.35	0.60
4:9:349:ARG:HE	54:5:365:U:H4'	1.65	0.60
4:9:409:ALA:HB3	4:9:476:PRO:HA	1.83	0.60
11:G:127:VAL:HA	11:G:130:LEU:HD12	1.82	0.60
16:L:74:ALA:HB1	16:L:78:LYS:NZ	2.17	0.60
30:e:93:VAL:O	30:e:163:LYS:HA	2.02	0.60
45:t:16:LYS:HG3	52:3:363:G:H1	1.66	0.60
54:5:1482:A:H2'	54:5:1483:C:C6	2.37	0.60
27:b:112:ALA:HB2	27:b:205:VAL:HG23	1.83	0.60
52:3:840:G:H5'	52:3:841:C:H5	1.66	0.60
52:3:2867:U:H2'	52:3:2868:G:C8	2.37	0.60
54:5:576:A:O2'	54:5:725:A:N3	2.34	0.60
54:5:971:A:N7	54:5:1336:C:N4	2.49	0.60
4:9:509:ILE:HG22	4:9:563:LEU:HA	1.82	0.60
8:D:185:ARG:HE	8:D:186:ASN:H	1.47	0.60
45:t:88:LYS:HA	45:t:105:LYS:HZ3	1.65	0.60
48:w:4:ALA:HB1	48:w:8:ARG:HH12	1.66	0.60
52:3:1702:A:H61	52:3:1710:A:H61	1.48	0.60
52:3:2676:G:H2'	52:3:2677:A:H8	1.64	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1219:C:H2'	54:5:1220:A:H8	1.66	0.60
5:A:95:LEU:O	5:A:99:ILE:HD12	2.01	0.60
9:E:142:ARG:NH2	9:E:144:SER:OG	2.34	0.60
32:g:11:VAL:HG11	32:g:61:ARG:HG2	1.84	0.60
38:m:28:TYR:OH	38:m:71:ASN:ND2	2.35	0.60
39:n:92:ASP:OD1	39:n:93:THR:N	2.35	0.60
52:3:2101:A:H1'	52:3:2206:A:H61	1.66	0.60
54:5:133:G:H2'	54:5:134:G:C8	2.36	0.60
54:5:1118:A:N6	54:5:1125:C:O2	2.33	0.60
26:a:225:ARG:HH22	52:3:815:G:H5''	1.67	0.60
27:b:66:GLN:HA	27:b:69:PHE:CE2	2.36	0.60
30:e:92:LEU:HB3	30:e:132:THR:HB	1.84	0.60
37:l:28:ALA:O	37:l:134:ARG:NH1	2.34	0.60
43:r:46:LEU:HA	43:r:49:LYS:HD2	1.83	0.60
52:3:1890:U:O2'	52:3:1891:A:N3	2.33	0.60
15:K:94:LEU:HB2	15:K:115:LEU:HD21	1.83	0.60
30:e:70:THR:HG21	52:3:2765:A:N1	2.17	0.60
47:v:18:ARG:HG2	55:8:77:A:N6	2.16	0.60
52:3:2814:A:H62	52:3:2894:G:H21	1.49	0.60
54:5:427:A:H2'	54:5:428:A:H5'	1.83	0.60
4:9:116:THR:HA	4:9:119:VAL:HG22	1.84	0.59
4:9:382:THR:N	4:9:385:GLU:OE2	2.35	0.59
6:B:179:SER:O	54:5:1102:A:N6	2.34	0.59
18:N:60:ARG:O	18:N:64:LEU:HG	2.02	0.59
22:R:34:TRP:HB3	22:R:51:VAL:HA	1.84	0.59
43:r:3:ALA:HB3	43:r:107:LEU:HB2	1.83	0.59
49:x:33:GLU:OE1	49:x:35:THR:OG1	2.19	0.59
54:5:818:A:H2'	54:5:819:G:C8	2.37	0.59
12:H:125:ARG:NH1	54:5:1323:A:O3'	2.35	0.59
13:I:56:THR:HG21	54:5:1342:C:H4'	1.84	0.59
36:k:113:LYS:HZ3	36:k:130:LYS:HB2	1.67	0.59
39:n:8:ARG:O	39:n:12:HIS:ND1	2.28	0.59
39:n:27:ARG:NE	39:n:88:ASN:O	2.35	0.59
52:3:1797:C:H2'	52:3:1798:A:C8	2.37	0.59
52:3:2016:G:O6	52:3:2017:G:O6	2.21	0.59
54:5:331:C:O2'	54:5:1408:A:N3	2.34	0.59
4:9:172:PHE:HD2	4:9:265:LYS:HE2	1.68	0.59
9:E:153:LYS:O	11:G:56:ASN:ND2	2.22	0.59
17:M:23:ARG:NH1	17:M:28:GLY:O	2.36	0.59
41:p:48:ASP:HA	41:p:51:ASN:HB2	1.84	0.59
52:3:408:G:O2'	52:3:460:G:OP1	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1230:U:H2'	52:3:1231:G:C8	2.37	0.59
52:3:2393:C:H2'	52:3:2394:A:C8	2.37	0.59
54:5:822:A:H61	54:5:869:U:H3	1.51	0.59
54:5:825:A:H2'	54:5:826:G:O4'	2.01	0.59
54:5:885:U:H2'	54:5:886:A:H8	1.66	0.59
54:5:1278:G:N2	54:5:1307:A:H62	1.99	0.59
4:9:406:ILE:HD13	4:9:652:ALA:HB3	1.85	0.59
4:9:415:LYS:HD2	15:K:90:HIS:HB3	1.84	0.59
26:a:44:HIS:NE2	52:3:1823:U:OP2	2.33	0.59
28:c:31:GLN:HG2	36:k:11:LYS:HZ1	1.66	0.59
28:c:128:VAL:HG11	28:c:198:LEU:HD13	1.84	0.59
33:h:80:ALA:HA	33:h:94:GLY:HA3	1.83	0.59
46:u:70:ASP:OD1	52:3:2394:A:O2'	2.21	0.59
52:3:1436:C:H2'	52:3:1437:A:C8	2.36	0.59
52:3:1511:C:H2'	52:3:1512:A:C8	2.36	0.59
52:3:1844:C:O2'	52:3:1934:A:N3	2.33	0.59
52:3:2413:G:O2'	52:3:2419:A:N6	2.34	0.59
54:5:537:A:H2'	54:5:538:G:H8	1.67	0.59
54:5:858:A:H2	54:5:913:A:H1'	1.66	0.59
1:0:34:ARG:HH21	1:0:39:ARG:HG3	1.67	0.59
8:D:189:ILE:HG22	8:D:193:HIS:CE1	2.38	0.59
14:J:8:ASN:N	14:J:70:MET:O	2.35	0.59
35:j:24:VAL:HG23	35:j:39:VAL:HG12	1.85	0.59
36:k:22:ARG:HA	52:3:846:U:H2'	1.85	0.59
54:5:445:A:C8	54:5:483:U:N3	2.54	0.59
54:5:590:G:N2	54:5:644:U:O2	2.36	0.59
7:C:168:GLU:HB3	7:C:177:THR:HG22	1.83	0.59
18:N:78:LEU:HG	18:N:82:LEU:HA	1.85	0.59
30:e:38:LEU:HD22	30:e:71:TYR:HE1	1.67	0.59
52:3:401:G:O2'	52:3:402:A:OP1	2.20	0.59
52:3:873:G:N3	52:3:977:A:N6	2.51	0.59
52:3:1837:C:H2'	52:3:1838:A:H8	1.66	0.59
54:5:108:C:OP1	54:5:307:C:O2'	2.19	0.59
47:v:3:LYS:HE2	52:3:1392:G:H5''	1.83	0.59
52:3:793:C:H2'	52:3:794:G:C8	2.37	0.59
52:3:881:A:H4'	52:3:882:C:O5'	2.01	0.59
52:3:1999:G:H22	52:3:2003:C:H1'	1.68	0.59
54:5:704:U:H2'	54:5:705:A:H8	1.68	0.59
9:E:117:GLU:H	9:E:121:ARG:HD3	1.68	0.59
26:a:116:LYS:N	26:a:119:ASP:OD2	2.36	0.59
35:j:1:MET:N	35:j:33:ALA:O	2.31	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:j:21:ILE:HA	35:j:41:VAL:HG12	1.85	0.59
43:r:18:ARG:O	43:r:22:GLN:HG3	2.02	0.59
50:y:40:HIS:HD1	52:3:2819:C:HO2'	1.50	0.59
52:3:2057:C:O2'	52:3:2058:G:O4'	2.19	0.59
54:5:649:U:O4	54:5:749:G:O2'	2.17	0.59
7:C:70:GLN:HE22	7:C:73:ARG:HH11	1.50	0.59
16:L:90:ARG:HB2	16:L:97:VAL:HG22	1.85	0.59
32:g:77:LYS:HG3	52:3:1143:U:H5'	1.84	0.59
43:r:35:ILE:HA	50:y:27:LEU:HD22	1.84	0.59
52:3:383:U:H2'	52:3:384:G:C8	2.38	0.59
52:3:853:G:N2	52:3:1219:U:OP2	2.31	0.59
52:3:1008:A:OP2	52:3:1009:A:O2'	2.11	0.59
52:3:1507:G:O2'	52:3:1508:G:OP1	2.19	0.59
52:3:1814:G:N2	52:3:1816:A:N7	2.51	0.59
54:5:610:C:H2'	54:5:611:A:H8	1.67	0.59
54:5:1133:A:N7	54:5:1155:A:N6	2.50	0.59
5:A:201:LEU:HA	5:A:215:ILE:HB	1.83	0.59
10:F:79:ILE:HG12	10:F:84:TYR:HE2	1.67	0.59
14:J:74:THR:HG22	14:J:101:THR:HG22	1.85	0.59
27:b:192:LEU:HD11	40:o:13:VAL:HG21	1.84	0.59
29:d:42:ASP:OD1	52:3:2319:A:N6	2.36	0.59
31:f:79:PHE:CZ	31:f:96:GLN:HB3	2.38	0.59
36:k:24:HIS:HD2	42:q:78:HIS:CE1	2.21	0.59
37:l:54:ILE:HG13	37:l:117:ALA:HB1	1.84	0.59
52:3:255:A:C4	52:3:256:G:H1'	2.38	0.59
52:3:332:G:N1	52:3:373:U:OP2	2.30	0.59
52:3:1662:G:H2'	52:3:1663:G:C8	2.38	0.59
54:5:22:G:H2'	54:5:23:G:C8	2.38	0.59
7:C:9:LYS:HG3	7:C:35:PRO:HG3	1.85	0.58
7:C:141:LYS:HD2	7:C:177:THR:HB	1.83	0.58
43:r:108:SER:OG	43:r:113:GLU:OE2	2.19	0.58
52:3:1615:G:O2'	52:3:1616:G:O4'	2.12	0.58
54:5:708:A:H2'	54:5:709:A:C8	2.38	0.58
24:T:12:GLU:O	24:T:16:LYS:N	2.35	0.58
26:a:14:ILE:HD11	52:3:1984:A:N1	2.18	0.58
26:a:74:THR:HG22	26:a:75:HIS:H	1.67	0.58
34:i:67:LEU:HD23	34:i:71:LYS:HB3	1.84	0.58
48:w:51:LEU:HA	48:w:54:ILE:HG12	1.86	0.58
52:3:39:C:H2'	52:3:40:A:C8	2.37	0.58
52:3:239:U:H2'	52:3:240:C:H6	1.68	0.58
52:3:518:A:O2'	52:3:532:A:N1	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1286:G:H2'	52:3:1287:C:C6	2.39	0.58
52:3:1504:G:N2	52:3:1539:U:O2	2.25	0.58
54:5:84:U:H2'	54:5:85:U:C6	2.38	0.58
54:5:598:U:H2'	54:5:599:G:H8	1.67	0.58
15:K:4:ILE:HD12	15:K:7:LEU:HD23	1.85	0.58
33:h:50:MET:HE2	33:h:74:ILE:HG22	1.86	0.58
52:3:413:G:O6	52:3:435:U:O2	2.20	0.58
52:3:2655:U:H2'	52:3:2656:G:H8	1.67	0.58
54:5:852:G:N2	54:5:864:U:OP2	2.33	0.58
54:5:1030:G:N2	54:5:1031:A:N7	2.51	0.58
54:5:1138:U:H2'	54:5:1139:A:H8	1.67	0.58
54:5:1208:G:H21	54:5:1339:U:H3	1.51	0.58
4:9:415:LYS:HZ2	15:K:46:VAL:HG13	1.67	0.58
7:C:29:LYS:N	54:5:408:U:O2	2.37	0.58
44:s:13:THR:HG22	44:s:16:VAL:HG23	1.84	0.58
45:t:13:ILE:HG22	45:t:14:THR:HG23	1.84	0.58
52:3:2255:A:H2'	52:3:2256:C:H6	1.69	0.58
4:9:7:LEU:HD21	4:9:281:PRO:HB2	1.85	0.58
4:9:11:ARG:NH1	4:9:275:VAL:O	2.37	0.58
5:A:102:ARG:HH22	5:A:233:ALA:HB1	1.68	0.58
5:A:154:ARG:O	5:A:158:ARG:HG2	2.03	0.58
22:R:3:ARG:HH22	22:R:5:ALA:HB2	1.67	0.58
28:c:55:LYS:NZ	28:c:80:ARG:O	2.36	0.58
34:i:119:ARG:NH2	52:3:562:C:H1'	2.19	0.58
43:r:57:ASN:ND2	52:3:522:C:O2	2.36	0.58
52:3:652:U:H2'	52:3:653:G:H8	1.68	0.58
52:3:2111:U:O2	52:3:2194:G:N1	2.37	0.58
54:5:743:A:H2'	54:5:744:U:O4'	2.03	0.58
55:7:38:G:H3'	55:7:39:A:H8	1.68	0.58
16:L:65:ILE:HB	16:L:68:ASP:HB2	1.85	0.58
37:l:118:LEU:HD13	37:l:131:ILE:HD12	1.85	0.58
52:3:713:C:H2'	52:3:714:G:C8	2.38	0.58
52:3:714:G:H2'	52:3:715:G:C8	2.38	0.58
52:3:1582:G:H2'	52:3:1583:G:C8	2.38	0.58
53:4:3:U:H2'	53:4:4:G:C8	2.39	0.58
54:5:1086:U:OP1	54:5:1099:G:N1	2.28	0.58
3:2:2:LYS:NZ	52:3:2485:U:O2'	2.37	0.58
6:B:155:LEU:HB3	6:B:170:MET:HG2	1.85	0.58
11:G:54:LEU:HD21	11:G:72:PHE:HB2	1.86	0.58
15:K:27:ASN:OD1	15:K:36:THR:OG1	2.19	0.58
16:L:87:ARG:HA	16:L:97:VAL:HG11	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:m:107:ARG:O	43:r:42:LYS:NZ	2.32	0.58
42:q:5:VAL:HG12	42:q:55:VAL:HG21	1.85	0.58
52:3:453:U:H2'	52:3:454:G:C8	2.38	0.58
52:3:2799:U:O4	52:3:2895:A:N6	2.32	0.58
54:5:582:G:H1	54:5:754:U:H3	1.52	0.58
9:E:4:ASN:O	9:E:87:ILE:HA	2.03	0.58
10:F:117:GLU:O	10:F:121:ASN:ND2	2.34	0.58
16:L:14:ARG:HB3	16:L:41:PRO:HB2	1.86	0.58
17:M:12:ARG:HH22	54:5:1192:C:H5''	1.69	0.58
26:a:110:ILE:HG23	26:a:112:PRO:HD3	1.85	0.58
47:v:17:ASN:HD22	47:v:27:ARG:HD3	1.69	0.58
48:w:64:ASN:HB3	48:w:65:TRP:CE3	2.38	0.58
52:3:1583:G:O2'	52:3:1584:U:OP1	2.19	0.58
52:3:1597:U:H2'	52:3:1598:U:C6	2.39	0.58
54:5:1182:C:H2'	54:5:1183:C:C6	2.39	0.58
54:5:1402:U:H2'	54:5:1403:A:C8	2.38	0.58
15:K:65:TYR:HD2	15:K:77:LEU:HD11	1.69	0.58
15:K:128:SER:OG	54:5:548:G:N3	2.36	0.58
30:e:6:ASN:H	30:e:68:HIS:HE1	1.52	0.58
52:3:601:U:N3	52:3:604:A:OP2	2.35	0.58
52:3:1289:G:H2'	52:3:1290:G:C8	2.38	0.58
52:3:2031:C:H2'	52:3:2032:G:H8	1.69	0.58
52:3:2348:U:H2'	52:3:2349:G:H8	1.69	0.58
54:5:369:A:H2'	54:5:370:A:H8	1.69	0.58
4:9:101:GLY:HA2	4:9:278:LEU:HD11	1.84	0.58
4:9:102:ALA:O	4:9:131:ILE:N	2.37	0.58
7:C:61:GLN:NE2	7:C:68:ASP:OD1	2.37	0.58
20:P:5:GLN:HB2	54:5:113:C:H5''	1.85	0.58
39:n:16:VAL:HA	39:n:19:ILE:HG22	1.86	0.58
46:u:60:TYR:N	46:u:93:THR:O	2.31	0.58
53:4:94:A:H3'	53:4:95:G:H8	1.69	0.58
54:5:1192:C:O2'	54:5:1193:U:O4'	2.22	0.58
54:5:1298:U:H2'	54:5:1299:C:H6	1.68	0.58
54:5:1488:A:H2'	54:5:1489:C:C6	2.39	0.58
10:F:60:VAL:HG23	10:F:63:ARG:HH11	1.69	0.57
22:R:40:ILE:HG23	22:R:71:LEU:HD11	1.85	0.57
44:s:35:ALA:O	44:s:79:LYS:NZ	2.37	0.57
45:t:48:LYS:HB2	45:t:60:THR:HB	1.86	0.57
52:3:1645:C:H2'	52:3:1646:G:C8	2.39	0.57
54:5:1384:A:H2'	54:5:1385:A:C8	2.39	0.57
16:L:85:ALA:HA	22:R:74:PHE:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:L:100:GLN:HE22	54:5:1281:U:H5''	1.69	0.57
19:O:67:PHE:O	19:O:71:GLY:N	2.35	0.57
38:m:18:VAL:HG13	38:m:41:THR:HG22	1.85	0.57
52:3:320:A:H2'	52:3:321:A:H8	1.68	0.57
52:3:360:G:H2'	52:3:361:G:C8	2.38	0.57
53:4:13:G:H3'	53:4:14:U:H6	1.70	0.57
54:5:528:G:N2	54:5:528:G:OP2	2.37	0.57
54:5:818:A:H2'	54:5:819:G:H8	1.68	0.57
6:B:37:ASP:HB3	6:B:60:ARG:HH21	1.69	0.57
8:D:79:THR:OG1	54:5:916:U:O2	2.19	0.57
40:o:54:ARG:HB3	40:o:100:TYR:CD1	2.36	0.57
41:p:73:MET:HA	41:p:73:MET:HE3	1.85	0.57
52:3:77:G:N2	52:3:112:A:N1	2.41	0.57
52:3:227:A:H5'	52:3:228:A:H5'	1.84	0.57
54:5:305:A:H2'	54:5:306:G:C8	2.39	0.57
54:5:407:A:H61	54:5:427:A:H62	1.52	0.57
17:M:15:LYS:HZ3	17:M:19:ARG:HH12	1.51	0.57
36:k:42:ARG:HH22	52:3:842:U:H5''	1.69	0.57
52:3:87:G:H2'	52:3:88:G:C8	2.40	0.57
52:3:1461:A:H2'	52:3:1462:A:C8	2.40	0.57
53:4:3:U:H2'	53:4:4:G:H8	1.69	0.57
54:5:707:G:H2'	54:5:708:A:C8	2.35	0.57
7:C:79:LEU:O	7:C:82:ARG:NH2	2.28	0.57
13:I:72:GLU:HB3	17:M:57:LYS:HB2	1.85	0.57
26:a:189:THR:HB	26:a:279:ILE:HB	1.86	0.57
27:b:129:LYS:NZ	52:3:2003:C:OP2	2.38	0.57
29:d:34:ILE:HG12	29:d:96:MET:HG2	1.85	0.57
29:d:91:LEU:HB2	29:d:95:ARG:HG3	1.86	0.57
12:H:34:ARG:NH1	54:5:1121:U:OP2	2.37	0.57
13:I:58:ILE:HG13	13:I:68:ARG:HG2	1.87	0.57
31:f:47:ARG:NH2	31:f:48:ASP:OD1	2.37	0.57
43:r:125:VAL:HG22	43:r:128:ARG:HH21	1.69	0.57
52:3:229:C:H3'	52:3:230:G:C8	2.40	0.57
52:3:1016:A:H2'	52:3:1017:A:C8	2.39	0.57
52:3:2473:C:H2'	52:3:2474:C:C6	2.39	0.57
53:4:37:A:N1	53:4:42:G:C6	2.72	0.57
1:O:45:SER:OG	52:3:127:A:N7	2.30	0.57
4:9:495:ILE:HD11	55:7:29:C:H3'	1.87	0.57
9:E:45:LEU:N	9:E:53:LEU:O	2.36	0.57
11:G:99:ARG:HD2	11:G:137:ILE:HD11	1.86	0.57
44:s:14:GLU:OE1	52:3:1420:A:N6	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:731:A:H2'	52:3:732:G:H8	1.70	0.57
54:5:44:C:H2'	54:5:45:A:C8	2.39	0.57
54:5:290:G:H4'	54:5:302:A:H61	1.69	0.57
54:5:1062:C:H2'	54:5:1063:G:C8	2.39	0.57
16:L:14:ARG:NH1	54:5:1276:U:O4	2.36	0.57
35:j:7:ARG:HA	35:j:20:GLY:HA2	1.86	0.57
46:u:57:THR:HG21	52:3:2344:A:H61	1.68	0.57
47:v:57:THR:HG22	52:3:410:G:H5''	1.86	0.57
52:3:652:U:H2'	52:3:653:G:C8	2.39	0.57
52:3:714:G:H2'	52:3:715:G:H8	1.69	0.57
54:5:135:A:H61	54:5:158:A:H62	1.52	0.57
55:8:38:G:H3'	55:8:39:A:H8	1.69	0.57
1:0:39:ARG:NH2	52:3:504:G:O6	2.38	0.57
9:E:84:ARG:HH12	54:5:670:G:H4'	1.70	0.57
28:c:64:LYS:HE2	52:3:710:A:H5'	1.86	0.57
42:q:4:ILE:HD13	42:q:40:MET:HB3	1.86	0.57
49:x:36:ILE:HG13	49:x:37:ASP:H	1.70	0.57
52:3:982:G:H2'	52:3:983:A:C8	2.40	0.57
54:5:320:G:N2	54:5:323:A:OP2	2.36	0.57
54:5:1011:A:O2'	54:5:1193:U:O2'	2.11	0.57
5:A:82:ILE:HG13	5:A:175:LEU:HB3	1.86	0.57
26:a:78:ASN:HD22	31:f:84:HIS:HB3	1.69	0.57
34:i:101:ASP:OD1	34:i:102:LYS:N	2.37	0.57
36:k:67:ASN:ND2	36:k:69:ARG:O	2.38	0.57
38:m:2:SER:N	52:3:1692:A:HO2'	2.03	0.57
50:y:6:ARG:NH2	52:3:2026:A:OP2	2.37	0.57
52:3:992:G:H2'	52:3:993:A:H2'	1.86	0.57
52:3:2572:A:C8	52:3:2656:G:H5'	2.40	0.57
54:5:137:A:H62	54:5:156:U:H3	1.53	0.57
54:5:1381:U:O4	54:5:1471:C:N4	2.38	0.57
5:A:154:ARG:HE	54:5:1088:C:H5''	1.68	0.56
12:H:35:ARG:HG3	12:H:40:TYR:HB2	1.86	0.56
12:H:50:MET:HG3	12:H:51:GLU:HG2	1.86	0.56
16:L:26:GLY:O	16:L:30:SER:OG	2.20	0.56
45:t:8:ASP:OD1	45:t:9:LYS:N	2.38	0.56
52:3:688:U:O2'	52:3:689:U:OP2	2.21	0.56
52:3:732:G:H2'	52:3:733:C:C6	2.40	0.56
52:3:1063:A:OP2	52:3:1161:A:N6	2.37	0.56
52:3:1451:A:H2'	52:3:1452:G:H8	1.69	0.56
52:3:2521:A:H2'	52:3:2522:U:C6	2.40	0.56
54:5:1314:A:H2'	54:5:1315:U:O4'	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:G:96:ARG:NH1	54:5:585:G:OP1	2.37	0.56
13:I:20:ASP:OD1	13:I:21:SER:N	2.38	0.56
15:K:41:PRO:HB3	54:5:551:A:C8	2.40	0.56
16:L:29:ARG:HH11	54:5:1302:C:H4'	1.70	0.56
31:f:42:LYS:HA	31:f:46:ASP:HB2	1.87	0.56
32:g:93:LEU:HG	32:g:127:ALA:HB2	1.86	0.56
52:3:173:C:H2'	52:3:174:A:H8	1.70	0.56
52:3:1949:C:OP2	52:3:1950:U:O2'	2.18	0.56
52:3:2474:C:H2'	52:3:2475:C:C6	2.40	0.56
53:4:4:G:O6	53:4:105:A:N6	2.38	0.56
54:5:474:G:N1	54:5:475:U:C4	2.73	0.56
54:5:621:C:H2'	54:5:622:A:H8	1.70	0.56
54:5:831:C:H2'	54:5:832:G:C8	2.39	0.56
3:2:2:LYS:H	3:2:34:GLN:HA	1.69	0.56
4:9:186:PHE:HD2	4:9:193:LYS:HE2	1.70	0.56
11:G:125:ASP:OD1	11:G:126:LYS:N	2.38	0.56
22:R:37:ARG:NH2	54:5:1292:A:H1'	2.20	0.56
23:S:12:ARG:NH1	54:5:88:A:OP1	2.39	0.56
26:a:100:THR:HG21	52:3:1526:U:H4'	1.87	0.56
27:b:17:PHE:HE1	27:b:23:ARG:HG3	1.71	0.56
27:b:178:ASN:HB2	52:3:2738:U:H4'	1.87	0.56
36:k:84:LYS:HE3	52:3:637:U:C2	2.40	0.56
40:o:37:LEU:HD23	40:o:44:ARG:HD3	1.87	0.56
41:p:40:GLN:NE2	41:p:44:TYR:CE1	2.74	0.56
41:p:54:ARG:HH12	52:3:1190:A:H5''	1.70	0.56
42:q:95:VAL:HG13	42:q:96:ARG:H	1.70	0.56
44:s:24:THR:HB	44:s:26:LYS:NZ	2.20	0.56
52:3:188:G:H2'	52:3:189:U:C6	2.40	0.56
52:3:370:C:H2'	52:3:371:C:H6	1.69	0.56
52:3:609:U:H2'	52:3:610:G:H8	1.68	0.56
52:3:630:C:H2'	52:3:631:A:C8	2.40	0.56
52:3:1444:C:H4'	52:3:1620:A:H61	1.71	0.56
52:3:2231:A:H3'	52:3:2232:G:H8	1.70	0.56
52:3:2524:U:H2'	52:3:2525:C:C6	2.40	0.56
52:3:2738:U:H2'	52:3:2739:C:C6	2.40	0.56
52:3:2743:U:H2'	52:3:2744:A:H8	1.69	0.56
52:3:2745:G:H2'	52:3:2746:A:C8	2.39	0.56
52:3:2803:G:OP2	52:3:2806:A:N6	2.38	0.56
52:3:2849:G:H2'	52:3:2850:G:H8	1.70	0.56
52:3:2852:G:O2'	52:3:2871:G:N1	2.35	0.56
54:5:80:U:H2'	54:5:81:A:C8	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:709:A:H2'	54:5:710:G:C8	2.39	0.56
54:5:1178:C:H2'	54:5:1179:A:C8	2.40	0.56
2:1:42:ARG:NH2	52:3:2358:U:OP2	2.36	0.56
6:B:187:TYR:CE1	6:B:202:LYS:HB3	2.40	0.56
8:D:81:LYS:NZ	54:5:1362:G:OP1	2.38	0.56
13:I:43:LYS:HD2	13:I:81:ILE:HB	1.86	0.56
40:o:35:ILE:HD11	40:o:79:PHE:HE1	1.71	0.56
51:z:9:LEU:HG	51:z:49:GLU:HG3	1.86	0.56
52:3:1182:U:H2'	52:3:1183:A:C8	2.40	0.56
52:3:1422:U:H4'	52:3:1637:A:H4'	1.86	0.56
52:3:1541:A:HO2'	52:3:1590:U:HO2'	1.52	0.56
52:3:2460:C:H6	55:7:76:C:H42	1.52	0.56
54:5:748:U:H2'	54:5:749:G:O4'	2.05	0.56
54:5:1417:U:H2'	54:5:1418:G:H8	1.69	0.56
4:9:5:VAL:HG22	4:9:6:ASP:H	1.71	0.56
13:I:18:SER:HB3	13:I:102:VAL:HG22	1.88	0.56
21:Q:48:GLN:HG2	21:Q:50:ARG:H	1.69	0.56
31:f:95:LYS:NZ	52:3:2227:U:O2'	2.19	0.56
50:y:13:ARG:NH1	52:3:553:A:OP1	2.37	0.56
52:3:197:U:H2'	52:3:198:G:C8	2.40	0.56
52:3:421:A:N6	52:3:423:C:H2'	2.21	0.56
52:3:670:G:H2'	52:3:671:C:O4'	2.06	0.56
52:3:800:C:H2'	52:3:801:U:C6	2.40	0.56
52:3:2678:A:H2'	52:3:2679:G:C8	2.41	0.56
54:5:52:A:H61	54:5:310:C:H1'	1.70	0.56
4:9:218:VAL:HA	4:9:253:PHE:CE2	2.41	0.56
27:b:151:ARG:NH1	52:3:2585:A:OP1	2.27	0.56
32:g:27:PHE:HB3	32:g:106:MET:SD	2.46	0.56
35:j:38:VAL:HA	35:j:61:VAL:HA	1.88	0.56
37:l:87:LYS:NZ	52:3:992:G:OP2	2.38	0.56
39:n:11:ARG:HG2	39:n:14:ARG:NH1	2.18	0.56
45:t:3:ARG:NH2	52:3:370:C:O3'	2.38	0.56
52:3:322:A:H2'	52:3:323:A:C8	2.39	0.56
52:3:622:U:H2'	52:3:623:A:C8	2.41	0.56
52:3:755:C:H2'	52:3:756:A:C8	2.39	0.56
52:3:1070:U:H2'	52:3:1071:G:C8	2.39	0.56
52:3:1557:G:N2	52:3:1573:A:OP2	2.35	0.56
52:3:2234:C:H3'	52:3:2235:A:H8	1.70	0.56
52:3:2880:A:H2'	52:3:2881:A:C8	2.40	0.56
54:5:747:C:H2'	54:5:748:U:C6	2.41	0.56
54:5:947:U:OP1	54:5:967:C:N4	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1225:A:H2'	54:5:1226:A:C8	2.41	0.56
24:T:8:ASN:C	24:T:8:ASN:HD22	2.12	0.56
24:T:10:ASP:OD2	24:T:13:LEU:HB2	2.06	0.56
30:e:94:GLY:HA3	30:e:97:TYR:CD2	2.41	0.56
38:m:30:LYS:HB2	38:m:117:GLN:HE22	1.71	0.56
43:r:47:ILE:HG22	43:r:103:LEU:HD21	1.87	0.56
45:t:33:GLN:HG3	45:t:68:PRO:HB2	1.88	0.56
52:3:39:C:H2'	52:3:40:A:H8	1.71	0.56
52:3:42:U:H2'	52:3:43:A:C8	2.41	0.56
52:3:834:G:H3'	52:3:835:U:H2'	1.86	0.56
54:5:79:A:C5	54:5:80:U:H1'	2.41	0.56
54:5:87:G:H2'	54:5:88:A:H8	1.71	0.56
54:5:662:G:H21	54:5:729:C:H3'	1.71	0.56
54:5:1057:C:H2'	54:5:1058:A:C4	2.41	0.56
54:5:1262:A:H2'	54:5:1263:A:C8	2.41	0.56
5:A:130:LEU:HB2	5:A:159:LEU:HD13	1.87	0.56
14:J:14:ILE:HD11	14:J:25:VAL:HB	1.86	0.56
23:S:39:ILE:HB	23:S:76:LEU:HD11	1.88	0.56
26:a:229:ARG:NH1	52:3:1795:C:OP1	2.38	0.56
32:g:9:GLN:NE2	32:g:10:GLN:OE1	2.39	0.56
40:o:19:LYS:HD3	40:o:82:HIS:HA	1.86	0.56
43:r:76:ALA:HA	43:r:103:LEU:HA	1.88	0.56
52:3:282:C:N4	52:3:284:U:O4'	2.39	0.56
52:3:866:G:H2'	52:3:867:G:H8	1.70	0.56
52:3:1437:A:H2'	52:3:1438:G:C8	2.40	0.56
52:3:1470:C:H2'	52:3:1471:A:C8	2.41	0.56
52:3:1629:U:O4	52:3:1630:A:N6	2.38	0.56
52:3:2572:A:H8	52:3:2656:G:H5'	1.70	0.56
52:3:2633:C:H2'	52:3:2634:C:C6	2.41	0.56
52:3:2862:U:H2'	52:3:2863:G:C4	2.41	0.56
54:5:412:G:H2'	54:5:413:G:C8	2.40	0.56
54:5:686:C:O2'	54:5:687:G:OP1	2.23	0.56
55:7:16:G:N2	55:7:60:U:O2	2.37	0.56
15:K:112:ARG:HE	15:K:119:GLY:HA2	1.71	0.56
26:a:135:SER:O	26:a:197:ARG:NH2	2.36	0.56
47:v:24:ILE:HA	55:8:77:A:H2	1.71	0.56
50:y:7:ARG:NH1	52:3:2026:A:OP1	2.39	0.56
52:3:159:G:H2'	52:3:160:A:C8	2.41	0.56
54:5:87:G:H2'	54:5:88:A:C8	2.41	0.56
54:5:445:A:N7	54:5:483:U:C2	2.74	0.56
9:E:72:PHE:O	9:E:76:ALA:HB2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:S:18:ASN:ND2	54:5:318:C:O2'	2.39	0.56
32:g:53:VAL:HG21	52:3:1119:A:C5	2.40	0.56
35:j:27:SER:OG	52:3:2682:A:O2'	2.13	0.56
44:s:17:TYR:O	44:s:21:MET:HG3	2.06	0.56
52:3:455:G:H2'	52:3:456:G:C8	2.41	0.56
52:3:2050:G:OP1	52:3:2785:G:O2'	2.21	0.56
52:3:2111:U:H5''	52:3:2112:A:C8	2.40	0.56
52:3:2135:C:H2'	52:3:2136:A:C8	2.41	0.56
54:5:659:U:O2	54:5:740:G:O6	2.24	0.56
1:0:8:SER:H	52:3:721:G:N2	2.01	0.55
4:9:136:LYS:HG3	4:9:139:LYS:HE2	1.88	0.55
5:A:111:ARG:HG3	54:5:1091:C:OP1	2.06	0.55
30:e:94:GLY:HA3	30:e:97:TYR:HD2	1.71	0.55
34:i:83:TYR:CD2	52:3:2650:A:H5'	2.40	0.55
37:l:31:GLU:HG2	37:l:32:TYR:HD1	1.71	0.55
52:3:869:U:H1'	52:3:2366:A:H1'	1.88	0.55
52:3:1291:C:H2'	52:3:1292:A:H8	1.71	0.55
52:3:1766:A:N1	52:3:2705:G:H1'	2.21	0.55
52:3:2359:G:O2'	52:3:2374:A:N6	2.38	0.55
52:3:2663:G:N2	52:3:2673:A:OP2	2.37	0.55
53:4:104:C:H2'	53:4:105:A:C8	2.41	0.55
54:5:608:G:O6	54:5:628:A:N1	2.40	0.55
54:5:1225:A:H2'	54:5:1226:A:H8	1.71	0.55
5:A:174:ASN:HA	5:A:196:ILE:HD11	1.88	0.55
9:E:84:ARG:NE	21:Q:95:TYR:O	2.30	0.55
15:K:61:ALA:HB3	15:K:63:ARG:NH2	2.21	0.55
35:j:63:VAL:HG13	35:j:64:ARG:HG3	1.86	0.55
37:l:4:PRO:HB3	52:3:907:A:H4'	1.88	0.55
52:3:666:G:N2	52:3:669:A:OP2	2.27	0.55
52:3:874:U:H2'	52:3:875:G:H8	1.71	0.55
52:3:1446:G:N1	52:3:1612:U:OP2	2.39	0.55
52:3:1546:U:H3'	52:3:1547:G:C8	2.42	0.55
54:5:52:A:N1	54:5:310:C:O2'	2.37	0.55
54:5:497:A:O4'	54:5:545:A:N6	2.38	0.55
54:5:1321:G:H1'	54:5:1322:U:H5	1.72	0.55
9:E:136:LEU:O	54:5:835:G:O2'	2.23	0.55
26:a:258:TRP:O	26:a:260:LYS:NZ	2.40	0.55
27:b:109:ASP:OD1	27:b:208:ARG:HG3	2.07	0.55
27:b:152:GLY:N	52:3:2580:A:OP2	2.39	0.55
28:c:68:GLN:HE22	28:c:75:ARG:HB3	1.71	0.55
30:e:11:LEU:HD21	30:e:18:LEU:HD11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:68:LEU:O	41:p:72:GLY:N	2.40	0.55
48:w:95:LYS:NZ	48:w:99:LEU:HD11	2.22	0.55
51:z:11:CYS:SG	51:z:12:ASN:N	2.79	0.55
52:3:1554:A:H62	52:3:1576:G:H21	1.52	0.55
52:3:2366:A:H2'	52:3:2367:C:C6	2.41	0.55
52:3:2409:U:O2	52:3:2423:G:O6	2.24	0.55
52:3:2506:C:O2'	52:3:2507:C:OP1	2.22	0.55
54:5:17:A:N3	54:5:1071:A:O2'	2.39	0.55
54:5:1213:A:N6	54:5:1277:C:O4'	2.38	0.55
18:N:62:ARG:NH1	54:5:579:G:O3'	2.40	0.55
24:T:45:LYS:NZ	54:5:718:A:O3'	2.39	0.55
29:d:92:ARG:O	29:d:95:ARG:NH1	2.39	0.55
31:f:71:VAL:HG22	31:f:104:LYS:HZ1	1.70	0.55
52:3:410:G:N2	52:3:411:U:O4	2.40	0.55
52:3:1095:U:O4'	52:3:1097:G:H5'	2.05	0.55
52:3:2067:A:H1'	52:3:2510:G:H1'	1.88	0.55
52:3:2278:G:H2'	52:3:2279:G:C8	2.41	0.55
52:3:2819:C:H2'	52:3:2820:G:C8	2.41	0.55
54:5:546:G:H2'	54:5:547:C:C6	2.41	0.55
2:1:54:ARG:NH2	36:k:51:PHE:O	2.36	0.55
18:N:8:ILE:HD13	18:N:28:LEU:HA	1.87	0.55
52:3:702:U:H2'	52:3:703:A:C8	2.41	0.55
52:3:1837:C:H2'	52:3:1838:A:C8	2.42	0.55
54:5:1115:G:N2	54:5:1126:U:H3	2.05	0.55
54:5:1330:A:H2'	54:5:1331:A:H8	1.70	0.55
54:5:1489:C:H2'	54:5:1490:G:H8	1.71	0.55
55:8:16:G:N2	55:8:60:U:O2	2.37	0.55
4:9:344:LYS:HE2	4:9:380:ASP:HB3	1.89	0.55
4:9:354:VAL:HG21	4:9:361:ARG:HD2	1.88	0.55
5:A:74:GLU:OE2	9:E:165:ASN:ND2	2.39	0.55
7:C:29:LYS:HB3	7:C:31:ARG:NH1	2.21	0.55
20:P:62:GLN:HG3	20:P:78:ALA:HB3	1.89	0.55
21:Q:78:ASN:HB2	21:Q:83:GLN:HB2	1.88	0.55
32:g:14:VAL:HG23	32:g:62:ALA:HB2	1.87	0.55
45:t:90:LYS:HG3	45:t:105:LYS:HB3	1.86	0.55
51:z:2:ALA:N	52:3:2398:U:O4	2.39	0.55
52:3:823:A:H4'	52:3:824:A:H5''	1.88	0.55
52:3:866:G:H2'	52:3:867:G:C8	2.42	0.55
52:3:884:A:H2'	52:3:885:A:C8	2.41	0.55
52:3:1117:U:H2'	52:3:1118:U:O4'	2.07	0.55
52:3:1797:C:H2'	52:3:1798:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2224:A:H2'	52:3:2225:G:C8	2.42	0.55
52:3:2257:U:O2'	52:3:2260:G:OP2	2.24	0.55
54:5:40:G:N1	54:5:400:G:N7	2.54	0.55
2:1:22:LYS:HB2	36:k:62:LEU:HD11	1.88	0.55
4:9:550:PRO:HG2	4:9:551:LEU:HD12	1.88	0.55
8:D:136:ILE:H	8:D:178:ILE:HD13	1.72	0.55
13:I:65:LYS:HE3	54:5:967:C:OP2	2.07	0.55
28:c:32:GLN:HA	28:c:35:PHE:HD2	1.72	0.55
31:f:29:PHE:CZ	47:v:64:LEU:HA	2.42	0.55
37:l:39:GLY:HA3	37:l:97:VAL:O	2.07	0.55
41:p:10:ARG:NH2	52:3:548:A:O2'	2.39	0.55
49:x:16:CYS:SG	49:x:17:ALA:N	2.76	0.55
52:3:239:U:H2'	52:3:240:C:C6	2.42	0.55
52:3:1340:U:O2	52:3:1367:G:N1	2.27	0.55
52:3:1345:G:H2'	52:3:1346:G:H8	1.72	0.55
52:3:1848:U:H2'	52:3:1849:G:H8	1.70	0.55
52:3:2249:A:H2'	52:3:2250:G:C8	2.42	0.55
52:3:2598:C:H2'	52:3:2599:C:H6	1.71	0.55
54:5:144:U:O2	54:5:149:G:C2	2.60	0.55
54:5:503:G:H2'	54:5:504:A:C8	2.42	0.55
54:5:1261:A:O2'	54:5:1262:A:O4'	2.24	0.55
4:9:125:ARG:HH11	4:9:126:TYR:HE1	1.53	0.55
4:9:267:ILE:HG13	4:9:268:LYS:N	2.22	0.55
30:e:124:LEU:HG	30:e:138:GLY:HA3	1.87	0.55
37:l:39:GLY:CA	37:l:97:VAL:O	2.55	0.55
51:z:31:LYS:HE3	51:z:48:LYS:HD2	1.88	0.55
52:3:189:U:H2'	52:3:190:G:C8	2.42	0.55
52:3:599:U:H4'	52:3:844:G:OP1	2.07	0.55
52:3:1306:G:H2'	52:3:1307:G:C8	2.42	0.55
52:3:2004:G:H2'	52:3:2005:G:H8	1.72	0.55
53:4:12:U:H3'	53:4:13:G:H21	1.71	0.55
54:5:720:U:H5	54:5:829:G:H21	1.55	0.55
54:5:1388:A:N1	54:5:1462:G:C6	2.74	0.55
17:M:19:ARG:HG3	54:5:974:C:O2	2.06	0.55
28:c:139:LYS:NZ	52:3:354:C:OP1	2.39	0.55
29:d:45:ARG:NH2	29:d:47:SER:OG	2.34	0.55
31:f:57:HIS:HA	31:f:60:ILE:HG22	1.88	0.55
32:g:38:THR:HG23	33:h:113:ASN:ND2	2.21	0.55
39:n:99:HIS:NE2	53:4:35:C:O2	2.39	0.55
42:q:57:CYS:HA	42:q:94:VAL:HA	1.89	0.55
51:z:8:ARG:NH1	52:3:2427:U:O2'	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:501:G:N2	52:3:719:G:O2'	2.39	0.55
52:3:1067:A:N1	52:3:1157:G:C6	2.75	0.55
52:3:1932:C:H42	52:3:1936:G:H22	1.55	0.55
52:3:2100:G:H2'	52:3:2101:A:H8	1.71	0.55
52:3:2169:G:H4'	52:3:2170:A:H3'	1.88	0.55
52:3:2251:U:H2'	52:3:2252:U:H6	1.72	0.55
54:5:637:A:O2'	54:5:638:A:O4'	2.23	0.55
54:5:1118:A:H61	54:5:1123:G:H21	1.55	0.55
54:5:1448:A:H2'	54:5:1449:G:C8	2.42	0.55
5:A:203:ASN:ND2	5:A:217:ALA:O	2.40	0.55
27:b:16:VAL:HG12	27:b:26:ILE:HD11	1.89	0.55
36:k:22:ARG:HE	52:3:1280:G:P	2.29	0.55
39:n:80:LYS:O	39:n:84:LEU:HG	2.07	0.55
45:t:7:GLY:H	45:t:24:VAL:HG23	1.71	0.55
52:3:410:G:H4'	52:3:411:U:O5'	2.07	0.55
52:3:609:U:H2'	52:3:610:G:C8	2.42	0.55
52:3:1120:A:H2'	52:3:1121:A:C4	2.41	0.55
52:3:2308:U:H2'	52:3:2309:A:C8	2.42	0.55
52:3:2451:C:H2'	52:3:2452:G:C8	2.41	0.55
54:5:401:U:H5''	54:5:493:A:H2	1.72	0.55
54:5:709:A:H2'	54:5:710:G:H8	1.72	0.55
54:5:734:A:H2'	54:5:735:C:C6	2.41	0.55
5:A:242:MET:SD	5:A:243:PRO:HD2	2.47	0.54
20:P:53:VAL:HG23	20:P:77:ILE:HD12	1.89	0.54
51:z:34:LEU:HB3	51:z:36:LYS:HD3	1.89	0.54
52:3:703:A:H2'	52:3:705:A:H62	1.72	0.54
52:3:1994:U:H2'	52:3:1995:G:H8	1.72	0.54
54:5:354:U:H2'	54:5:355:A:C8	2.40	0.54
54:5:514:U:C2	54:5:531:A:N7	2.75	0.54
4:9:97:ARG:HD3	4:9:397:GLU:HG2	1.89	0.54
4:9:613:PHE:CD2	4:9:617:MET:HE1	2.43	0.54
9:E:14:SER:O	9:E:17:GLN:NE2	2.38	0.54
52:3:189:U:H2'	52:3:190:G:H8	1.73	0.54
52:3:679:A:N1	52:3:2377:A:O2'	2.37	0.54
52:3:1059:G:H3'	52:3:1060:G:H2'	1.89	0.54
52:3:1538:U:H2'	52:3:1539:U:H6	1.71	0.54
52:3:1772:G:H1	52:3:1994:U:H3	1.56	0.54
52:3:2725:G:H2'	52:3:2726:G:C8	2.42	0.54
54:5:460:A:C2	54:5:468:G:N1	2.75	0.54
54:5:537:A:H2'	54:5:538:G:C8	2.42	0.54
54:5:948:U:H2'	54:5:949:G:H8	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1055:G:O6	54:5:1167:C:N4	2.40	0.54
5:A:48:GLU:OE2	5:A:52:ASN:N	2.32	0.54
6:B:95:ILE:HG13	6:B:96:ILE:HG22	1.90	0.54
25:W:109:LYS:HG2	25:W:119:VAL:HG13	1.88	0.54
28:c:20:LEU:HD21	28:c:120:LEU:HD21	1.88	0.54
35:j:43:VAL:HB	35:j:54:LYS:HA	1.88	0.54
40:o:23:PRO:HB3	40:o:90:LEU:HD22	1.88	0.54
52:3:633:G:H2'	52:3:634:C:C6	2.42	0.54
52:3:2059:G:N1	52:3:2625:U:N3	2.39	0.54
54:5:1133:A:N6	54:5:1155:A:N7	2.55	0.54
54:5:1246:A:H2'	54:5:1247:G:C8	2.42	0.54
55:8:29:C:H2'	55:8:30:G:H8	1.72	0.54
4:9:501:ARG:HA	55:7:37:A:O3'	2.08	0.54
4:9:610:GLU:CD	4:9:637:GLN:HE22	2.15	0.54
14:J:13:ILE:HD11	14:J:78:PHE:CD2	2.42	0.54
45:t:1:MET:HE3	45:t:102:ARG:HH22	1.72	0.54
52:3:173:C:H2'	52:3:174:A:C8	2.43	0.54
52:3:1645:C:N4	52:3:1655:U:H3	2.04	0.54
54:5:283:U:H2'	54:5:284:A:H8	1.72	0.54
54:5:331:C:H2'	54:5:332:A:C8	2.42	0.54
54:5:1271:U:H4'	54:5:1272:C:H5'	1.89	0.54
54:5:1359:C:H2'	54:5:1360:G:H8	1.72	0.54
54:5:1482:A:H2'	54:5:1483:C:H6	1.72	0.54
54:5:1489:C:H2'	54:5:1490:G:C8	2.43	0.54
55:7:29:C:H2'	55:7:30:G:H8	1.72	0.54
3:2:16:ILE:HG22	3:2:25:VAL:HG12	1.88	0.54
6:B:189:LEU:HD21	54:5:1049:G:H4'	1.88	0.54
13:I:68:ARG:HH22	54:5:1342:C:H5'	1.72	0.54
27:b:20:ASN:HB3	35:j:72:LYS:NZ	2.21	0.54
27:b:148:GLN:NE2	52:3:2059:G:O3'	2.41	0.54
39:n:15:ILE:HG21	39:n:94:GLY:HA2	1.90	0.54
46:u:49:GLN:HG2	52:3:2362:A:H4'	1.88	0.54
52:3:81:C:H2'	52:3:82:G:H8	1.73	0.54
52:3:2001:C:H2'	52:3:2002:U:C6	2.43	0.54
52:3:2068:G:O2'	52:3:2070:C:N4	2.35	0.54
54:5:570:A:H1'	54:5:911:G:H21	1.73	0.54
54:5:1109:U:H2'	54:5:1110:C:H6	1.73	0.54
54:5:1242:U:H2'	54:5:1243:A:N3	2.23	0.54
54:5:1432:A:H2'	54:5:1433:G:H8	1.72	0.54
4:9:339:VAL:HG11	4:9:387:LEU:HD12	1.89	0.54
11:G:117:SER:HB3	11:G:122:VAL:HG12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:81:ALA:HB3	26:a:121:ILE:HG22	1.88	0.54
33:h:72:VAL:HG21	33:h:104:ILE:HG23	1.89	0.54
40:o:32:ASN:ND2	40:o:47:ASN:OD1	2.36	0.54
43:r:25:VAL:HG11	43:r:73:GLU:HA	1.90	0.54
52:3:111:G:H2'	52:3:112:A:C8	2.41	0.54
52:3:423:C:O2'	52:3:425:U:OP1	2.25	0.54
52:3:1317:C:H2'	52:3:1318:U:H6	1.71	0.54
52:3:2089:A:H3'	52:3:2090:G:H8	1.73	0.54
54:5:402:G:H2'	54:5:403:A:H8	1.71	0.54
54:5:1298:U:H2'	54:5:1299:C:C6	2.42	0.54
13:I:70:GLN:HG3	17:M:59:ALA:HB3	1.89	0.54
29:d:135:GLN:HB2	29:d:149:ILE:HD11	1.88	0.54
33:h:50:MET:HE1	33:h:73:SER:HB3	1.90	0.54
38:m:98:SER:OG	38:m:117:GLN:O	2.22	0.54
48:w:44:ILE:HG13	48:w:45:ASN:N	2.23	0.54
52:3:1116:U:H2'	52:3:1117:U:C6	2.42	0.54
52:3:1293:U:H2'	52:3:1294:G:C4	2.43	0.54
52:3:2106:G:N2	52:3:2198:G:H22	2.06	0.54
52:3:2458:A:H5'	52:3:2505:A:H62	1.72	0.54
52:3:2835:G:O5'	52:3:2838:G:O2'	2.25	0.54
54:5:942:G:N2	54:5:1210:U:O2	2.40	0.54
4:9:502:GLY:N	55:7:38:G:OP1	2.26	0.54
7:C:97:LEU:HD13	7:C:134:ILE:HD12	1.89	0.54
12:H:28:GLY:O	12:H:60:LYS:NZ	2.33	0.54
14:J:76:LYS:HA	14:J:101:THR:OG1	2.08	0.54
14:J:113:GLY:HA2	54:5:713:A:H1'	1.88	0.54
19:O:65:SER:O	19:O:68:SER:OG	2.21	0.54
23:S:43:ASN:OD1	23:S:44:LEU:N	2.41	0.54
26:a:226:PRO:HG3	52:3:799:A:H2	1.72	0.54
27:b:61:LYS:NZ	52:3:2834:C:OP1	2.31	0.54
41:p:60:TRP:CE2	41:p:93:VAL:HB	2.43	0.54
52:3:27:U:H2'	52:3:28:G:O4'	2.07	0.54
52:3:1038:G:H2'	52:3:1039:G:C8	2.43	0.54
52:3:1746:U:H3	52:3:1753:G:H1	1.55	0.54
52:3:2093:U:H2'	52:3:2094:A:C8	2.43	0.54
52:3:2529:C:H2'	52:3:2530:U:H6	1.72	0.54
54:5:610:C:H2'	54:5:611:A:C8	2.42	0.54
54:5:1089:C:H2'	54:5:1090:G:C8	2.43	0.54
4:9:619:ASP:O	4:9:623:ARG:NH1	2.41	0.54
7:C:54:LEU:HD23	7:C:57:LYS:HD3	1.89	0.54
8:D:188:PRO:HA	8:D:191:MET:HE2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:N:30:THR:HG22	18:N:34:LYS:NZ	2.22	0.54
28:c:169:GLU:O	28:c:173:SER:OG	2.26	0.54
32:g:64:LYS:HZ2	32:g:71:ILE:HG12	1.71	0.54
38:m:16:MET:HE2	52:3:1323:A:H4'	1.89	0.54
41:p:105:PHE:O	41:p:109:VAL:HG23	2.08	0.54
43:r:9:ARG:HA	43:r:100:SER:HB2	1.90	0.54
43:r:129:VAL:HA	43:r:132:GLN:HG2	1.90	0.54
52:3:1528:G:H2'	52:3:1529:U:C6	2.43	0.54
52:3:1797:C:N4	52:3:1835:G:O2'	2.40	0.54
52:3:1820:U:H2'	52:3:1821:G:C8	2.43	0.54
53:4:59:A:O2'	53:4:60:C:OP1	2.26	0.54
54:5:18:U:O2'	54:5:1071:A:N3	2.35	0.54
54:5:205:U:O2	54:5:210:G:O6	2.26	0.54
54:5:529:U:H4'	54:5:530:A:OP1	2.07	0.54
54:5:625:U:H2'	54:5:626:G:C8	2.43	0.54
54:5:1109:U:H2'	54:5:1110:C:C6	2.42	0.54
54:5:1359:C:H2'	54:5:1360:G:C8	2.43	0.54
1:0:36:LYS:C	1:0:36:LYS:HD3	2.33	0.54
2:1:32:HIS:ND1	52:3:2398:U:O5'	2.40	0.54
3:2:4:ARG:NH1	3:2:6:SER:O	2.34	0.54
4:9:262:PHE:HZ	52:3:2663:G:H5'	1.73	0.54
29:d:77:TYR:HB3	52:3:2319:A:C2	2.43	0.54
40:o:34:ALA:N	40:o:87:SER:O	2.34	0.54
45:t:89:ILE:HA	45:t:104:PHE:HA	1.90	0.54
47:v:46:THR:OG1	47:v:47:ARG:N	2.41	0.54
52:3:294:G:H2'	52:3:295:U:C6	2.42	0.54
52:3:610:G:H2'	52:3:611:A:C8	2.43	0.54
52:3:851:U:H2'	52:3:852:C:C6	2.43	0.54
52:3:1105:A:H4'	52:3:1106:G:H5''	1.89	0.54
52:3:1665:G:N2	52:3:1668:G:OP2	2.33	0.54
54:5:413:G:H2'	54:5:414:U:C6	2.43	0.54
54:5:656:U:H2'	54:5:657:G:C8	2.43	0.54
41:p:107:LEU:HD23	42:q:43:GLU:HB3	1.90	0.53
47:v:10:ARG:NH2	52:3:432:G:O5'	2.41	0.53
52:3:155:A:H2'	52:3:156:A:C8	2.43	0.53
52:3:938:A:H2'	52:3:939:U:C6	2.44	0.53
52:3:1967:U:H2'	52:3:1968:C:C6	2.43	0.53
54:5:789:A:O2'	54:5:792:C:N4	2.41	0.53
54:5:891:C:N4	54:5:892:G:O6	2.40	0.53
54:5:1034:G:H2'	54:5:1035:A:H8	1.73	0.53
3:2:27:CYS:SG	3:2:29:THR:OG1	2.57	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:144:PHE:HZ	4:9:161:PRO:HB3	1.73	0.53
4:9:604:ILE:HG23	4:9:665:TYR:HB2	1.91	0.53
4:9:645:LEU:HD12	4:9:648:MET:HG3	1.90	0.53
8:D:78:LYS:O	8:D:85:ASN:HB2	2.08	0.53
11:G:76:TYR:CE1	11:G:82:PRO:HB3	2.43	0.53
29:d:63:GLN:HG2	29:d:64:LYS:H	1.73	0.53
43:r:83:LYS:HG2	43:r:95:MET:CE	2.39	0.53
46:u:42:GLY:HA2	46:u:80:LEU:HD11	1.90	0.53
46:u:86:PHE:CE1	46:u:94:ARG:HG3	2.44	0.53
52:3:697:U:H2'	52:3:698:A:C8	2.43	0.53
52:3:843:G:H2'	52:3:844:G:C8	2.43	0.53
52:3:1645:C:H42	52:3:1655:U:H3	1.54	0.53
52:3:1937:G:H22	52:3:1975:G:H2'	1.73	0.53
52:3:2040:A:O2'	52:3:2042:A:OP1	2.25	0.53
52:3:2148:U:C4	52:3:2149:U:O4	2.61	0.53
52:3:2367:C:H2'	52:3:2368:A:C8	2.44	0.53
54:5:130:G:H2'	54:5:131:G:O4'	2.09	0.53
54:5:640:C:H2'	54:5:641:U:C6	2.43	0.53
54:5:675:U:H1'	54:5:774:A:H4'	1.90	0.53
54:5:1066:U:H2'	54:5:1067:C:C6	2.43	0.53
3:2:35:ARG:HG3	3:2:36:GLN:OE1	2.09	0.53
4:9:90:VAL:O	4:9:94:ARG:HG2	2.08	0.53
10:F:11:VAL:HG21	10:F:20:THR:HG23	1.89	0.53
26:a:56:ARG:O	26:a:57:HIS:ND1	2.40	0.53
26:a:255:ARG:HB3	26:a:259:GLY:HA2	1.90	0.53
52:3:733:C:O2'	52:3:769:A:N6	2.41	0.53
52:3:2655:U:H2'	52:3:2656:G:C8	2.44	0.53
54:5:554:C:N4	54:5:555:G:O6	2.42	0.53
54:5:858:A:H2'	54:5:859:A:C8	2.43	0.53
54:5:942:G:H2'	54:5:943:C:C6	2.44	0.53
54:5:1215:U:H3'	54:5:1216:G:H8	1.74	0.53
2:1:44:GLN:HG3	2:1:45:GLY:H	1.74	0.53
4:9:493:LYS:HD2	55:7:29:C:H4'	1.90	0.53
8:D:92:VAL:HG12	8:D:118:ALA:HB1	1.90	0.53
26:a:146:GLN:O	26:a:201:GLY:N	2.28	0.53
35:j:104:ARG:HG2	35:j:121:VAL:HG22	1.90	0.53
38:m:42:GLN:NE2	38:m:100:VAL:HG13	2.22	0.53
38:m:76:ASP:OD1	38:m:77:GLN:N	2.41	0.53
40:o:63:THR:HG22	40:o:80:GLN:HG2	1.89	0.53
41:p:32:LYS:HB3	52:3:1282:G:H21	1.73	0.53
52:3:497:C:H2'	52:3:498:C:C6	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1981:U:H2'	52:3:1982:G:C8	2.43	0.53
52:3:2458:A:N6	55:7:77:A:OP2	2.42	0.53
52:3:2590:G:H2'	52:3:2591:G:C8	2.43	0.53
52:3:2807:G:H21	52:3:2808:A:H62	1.56	0.53
54:5:1320:A:H62	54:5:1349:A:H3'	1.72	0.53
8:D:189:ILE:HG22	8:D:193:HIS:HE1	1.72	0.53
9:E:93:GLU:HB3	21:Q:85:HIS:CE1	2.43	0.53
18:N:52:GLY:O	18:N:56:LYS:HG2	2.08	0.53
31:f:32:PRO:HG3	31:f:109:GLN:HG3	1.89	0.53
33:h:39:PHE:O	33:h:43:THR:OG1	2.17	0.53
36:k:34:ARG:NE	36:k:40:LYS:O	2.38	0.53
52:3:221:A:H2'	52:3:222:A:C8	2.43	0.53
52:3:828:A:C2	52:3:2079:G:H4'	2.43	0.53
52:3:888:A:H2'	52:3:889:G:H8	1.74	0.53
54:5:1075:G:H5''	54:5:1093:A:H5''	1.90	0.53
4:9:149:GLN:O	4:9:153:GLN:HG3	2.09	0.53
8:D:143:ARG:NH1	54:5:858:A:OP1	2.42	0.53
9:E:2:GLN:O	9:E:89:ASN:ND2	2.30	0.53
9:E:72:PHE:CE2	9:E:85:GLU:HB3	2.43	0.53
28:c:105:LYS:NZ	52:3:655:G:O6	2.34	0.53
40:o:68:LYS:HG2	40:o:75:ILE:HB	1.89	0.53
41:p:24:PHE:HE1	52:3:19:G:H4'	1.74	0.53
41:p:27:ARG:HH22	52:3:567:U:H5'	1.73	0.53
52:3:1519:A:H2'	52:3:1520:A:C8	2.43	0.53
52:3:2127:G:H2'	52:3:2128:G:C8	2.43	0.53
52:3:2159:U:H2'	52:3:2160:U:C6	2.44	0.53
52:3:2701:A:H2'	52:3:2702:G:H8	1.72	0.53
52:3:2796:C:H2'	52:3:2797:C:C6	2.44	0.53
52:3:2898:A:H5''	52:3:2899:C:C6	2.41	0.53
54:5:437:U:C2	54:5:438:A:C8	2.97	0.53
54:5:498:G:H2'	54:5:499:U:O4'	2.09	0.53
54:5:639:A:H2'	54:5:640:C:C6	2.43	0.53
4:9:54:GLU:HB3	4:9:59:ARG:HB2	1.90	0.53
4:9:181:GLU:HB3	4:9:196:GLU:CD	2.33	0.53
4:9:486:LYS:HE3	4:9:513:PRO:HB2	1.91	0.53
7:C:115:GLN:OE1	54:5:402:G:O2'	2.15	0.53
23:S:10:ARG:HG2	54:5:93:A:H62	1.74	0.53
23:S:32:VAL:O	23:S:36:HIS:ND1	2.39	0.53
27:b:63:ASN:HB3	52:3:2815:G:OP1	2.08	0.53
32:g:29:TYR:CE2	32:g:81:ALA:HB3	2.42	0.53
33:h:33:GLY:HA2	33:h:36:THR:HB	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:j:48:PRO:HG2	54:5:1397:G:H5'	1.91	0.53
37:l:120:ARG:CZ	52:3:2476:A:H5'	2.39	0.53
52:3:254:G:O2'	52:3:255:A:OP1	2.23	0.53
52:3:299:A:H2'	52:3:300:G:H8	1.74	0.53
52:3:320:A:H2'	52:3:321:A:C8	2.44	0.53
52:3:1350:A:H61	52:3:1361:U:H1'	1.74	0.53
52:3:2059:G:O6	52:3:2625:U:O4	2.26	0.53
52:3:2117:G:O2'	52:3:2127:G:OP2	2.22	0.53
52:3:2310:C:H2'	52:3:2311:G:C8	2.43	0.53
52:3:2571:U:N3	52:3:2574:A:OP2	2.42	0.53
52:3:2820:G:N3	52:3:2887:A:O2'	2.37	0.53
52:3:2840:U:O4	52:3:2841:A:N6	2.42	0.53
54:5:71:A:H2'	54:5:72:A:C8	2.43	0.53
4:9:215:VAL:HA	4:9:218:VAL:HG22	1.90	0.53
4:9:607:THR:HG22	4:9:638:VAL:HG22	1.90	0.53
5:A:58:LEU:O	5:A:61:GLN:HG3	2.08	0.53
6:B:182:ARG:NH2	6:B:209:MET:SD	2.81	0.53
13:I:16:LEU:O	13:I:77:LYS:HA	2.08	0.53
15:K:59:ASN:ND2	54:5:526:C:H41	2.05	0.53
28:c:33:PRO:HB2	28:c:111:ALA:HB2	1.91	0.53
28:c:162:ASN:HD21	28:c:183:LEU:HD23	1.74	0.53
38:m:94:PRO:O	52:3:2843:G:N2	2.39	0.53
41:p:2:ARG:HH21	41:p:4:LYS:NZ	2.06	0.53
41:p:8:GLN:NE2	52:3:1229:U:H4'	2.22	0.53
52:3:20:C:H1'	52:3:587:U:H5''	1.91	0.53
52:3:411:U:H2'	52:3:412:A:H8	1.74	0.53
52:3:771:C:H2'	52:3:772:C:C6	2.43	0.53
52:3:879:U:H2'	52:3:882:C:H42	1.74	0.53
52:3:1125:U:H2'	52:3:1126:G:C8	2.44	0.53
52:3:1613:A:H3'	52:3:1614:G:H8	1.73	0.53
52:3:2259:G:H2'	52:3:2260:G:C8	2.43	0.53
52:3:2415:A:H2'	52:3:2416:U:C6	2.44	0.53
52:3:2745:G:H2'	52:3:2746:A:H8	1.73	0.53
52:3:2757:A:H3'	52:3:2758:A:H8	1.73	0.53
52:3:2826:G:O2'	52:3:2828:C:OP2	2.26	0.53
54:5:1330:A:H2'	54:5:1331:A:C8	2.44	0.53
7:C:180:ARG:HH21	7:C:181:PHE:HB2	1.74	0.53
8:D:162:ALA:HA	8:D:167:ARG:HB2	1.90	0.53
9:E:153:LYS:HE2	9:E:153:LYS:HA	1.91	0.53
26:a:57:HIS:HE1	52:3:1830:G:H5''	1.73	0.53
43:r:77:ASN:HB2	43:r:102:ASN:HB2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:s:56:ASN:HB2	44:s:82:VAL:HG12	1.89	0.53
52:3:474:U:H2'	52:3:475:A:C8	2.43	0.53
52:3:2237:U:H2'	52:3:2238:G:H8	1.72	0.53
54:5:456:U:H2'	54:5:457:A:C8	2.44	0.53
54:5:510:U:H2'	54:5:511:A:H8	1.71	0.53
54:5:767:U:H2'	54:5:768:G:H8	1.73	0.53
4:9:408:LEU:HA	4:9:476:PRO:HG3	1.90	0.53
4:9:634:ASP:O	33:h:20:LYS:NZ	2.38	0.53
11:G:75:LYS:NZ	11:G:76:TYR:O	2.41	0.53
30:e:49:LYS:NZ	30:e:54:GLN:O	2.38	0.53
48:w:95:LYS:HZ2	48:w:99:LEU:HD11	1.73	0.53
50:y:28:SER:N	50:y:37:LYS:O	2.31	0.53
52:3:551:C:O2'	52:3:1291:C:O2'	2.25	0.53
52:3:1114:C:H2'	52:3:1115:G:C8	2.44	0.53
52:3:1927:C:H2'	52:3:1928:G:H8	1.74	0.53
52:3:2006:C:H2'	52:3:2007:U:H6	1.72	0.53
52:3:2447:A:H4'	52:3:2448:C:H5''	1.91	0.53
54:5:671:G:H2'	54:5:672:A:C8	2.44	0.53
54:5:673:A:H2'	54:5:674:U:H6	1.74	0.53
54:5:687:G:C2	54:5:695:G:C6	2.97	0.53
54:5:1110:C:H2'	54:5:1111:G:C8	2.42	0.53
4:9:100:ASP:HB2	4:9:129:PRO:HG2	1.91	0.52
8:D:152:LYS:HG3	8:D:179:TYR:HB2	1.90	0.52
9:E:103:LYS:NZ	54:5:837:G:O6	2.39	0.52
10:F:115:MET:SD	10:F:115:MET:N	2.82	0.52
19:O:49:ALA:HA	19:O:52:TRP:CD1	2.45	0.52
27:b:151:ARG:NH2	52:3:2584:G:OP1	2.39	0.52
52:3:243:U:O2'	52:3:658:G:O2'	2.23	0.52
52:3:1237:G:H2'	52:3:1238:A:C8	2.41	0.52
52:3:2106:G:H22	52:3:2198:G:H22	1.55	0.52
52:3:2141:A:N6	52:3:2164:G:H1'	2.24	0.52
52:3:2336:A:H2'	52:3:2337:U:C6	2.44	0.52
52:3:2474:C:H2'	52:3:2475:C:H6	1.74	0.52
52:3:2575:G:H2'	52:3:2576:A:C8	2.43	0.52
54:5:106:C:N4	54:5:232:G:OP2	2.35	0.52
54:5:621:C:H2'	54:5:622:A:C8	2.43	0.52
54:5:698:U:H5'	54:5:699:A:C2	2.44	0.52
54:5:1219:C:H2'	54:5:1220:A:C8	2.42	0.52
5:A:112:TRP:HD1	5:A:116:THR:HB	1.73	0.52
5:A:117:LEU:HD12	5:A:172:LEU:HD13	1.92	0.52
8:D:212:ARG:HH12	11:G:51:GLU:HG3	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:F:25:ILE:O	10:F:29:ILE:HG12	2.09	0.52
16:L:69:LEU:O	16:L:73:ILE:HG12	2.08	0.52
27:b:28:VAL:HG11	40:o:10:ILE:HD12	1.91	0.52
29:d:135:GLN:H	29:d:149:ILE:HG13	1.72	0.52
34:i:116:ARG:N	52:3:591:G:OP1	2.39	0.52
41:p:27:ARG:HD3	41:p:37:THR:HG21	1.91	0.52
43:r:72:PHE:CZ	43:r:113:GLU:HB3	2.44	0.52
45:t:3:ARG:HB3	45:t:76:LEU:HD11	1.91	0.52
52:3:1612:U:H2'	52:3:1613:A:C8	2.45	0.52
52:3:1766:A:H2'	52:3:1767:A:C8	2.44	0.52
52:3:2482:U:H5''	52:3:2483:C:H5	1.74	0.52
52:3:2802:C:O2	52:3:2803:G:N2	2.42	0.52
54:5:457:A:H2'	54:5:458:G:C8	2.44	0.52
7:C:137:ASN:OD1	7:C:138:PRO:HD2	2.09	0.52
8:D:204:SER:HB3	8:D:207:ARG:HG2	1.91	0.52
26:a:18:THR:H	26:a:212:VAL:HB	1.75	0.52
27:b:6:ILE:HD13	27:b:96:ILE:HG21	1.92	0.52
38:m:19:ARG:NH1	38:m:65:LYS:O	2.40	0.52
52:3:26:G:H2'	52:3:27:U:H6	1.75	0.52
52:3:31:U:C2	52:3:32:G:C8	2.97	0.52
52:3:696:U:H2'	52:3:697:U:C6	2.44	0.52
52:3:2078:A:H2'	52:3:2079:G:C8	2.44	0.52
52:3:2100:G:H2'	52:3:2101:A:C8	2.45	0.52
52:3:2699:C:H2'	52:3:2700:C:C6	2.45	0.52
52:3:2845:U:H2'	52:3:2846:A:C8	2.44	0.52
53:4:103:C:H2'	53:4:104:C:C6	2.44	0.52
4:9:72:TRP:CG	4:9:73:LYS:H	2.27	0.52
4:9:151:ILE:HD12	4:9:157:VAL:HG11	1.91	0.52
8:D:162:ALA:HB2	8:D:167:ARG:HH21	1.75	0.52
17:M:4:LYS:NZ	54:5:989:A:N1	2.52	0.52
23:S:35:PHE:HE1	23:S:76:LEU:HD21	1.74	0.52
26:a:233:MET:HG3	26:a:234:ASN:H	1.74	0.52
29:d:80:ARG:HD2	29:d:81:ALA:HB2	1.91	0.52
33:h:12:ILE:HB	33:h:53:CYS:O	2.10	0.52
42:q:31:LYS:O	42:q:59:VAL:HG12	2.09	0.52
52:3:2701:A:H2'	52:3:2702:G:C8	2.44	0.52
54:5:608:G:H2'	54:5:609:G:H8	1.73	0.52
4:9:320:VAL:HG21	4:9:361:ARG:NH2	2.24	0.52
4:9:460:VAL:HA	4:9:463:MET:HG2	1.92	0.52
16:L:74:ALA:HB1	16:L:78:LYS:HZ3	1.74	0.52
19:O:4:GLY:HA2	54:5:622:A:H4'	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:W:60:THR:OG1	25:W:120:GLU:OE2	2.24	0.52
32:g:122:ASP:O	32:g:126:ILE:HD12	2.10	0.52
34:i:16:ARG:HH11	34:i:16:ARG:HG3	1.74	0.52
52:3:59:C:H2'	52:3:60:G:C8	2.45	0.52
52:3:161:U:O2	52:3:171:G:O6	2.28	0.52
52:3:894:G:N3	52:3:2276:A:H2'	2.25	0.52
52:3:1435:A:H2'	52:3:1436:C:C6	2.45	0.52
52:3:1540:G:H4'	52:3:1591:C:H4'	1.90	0.52
52:3:1927:C:H2'	52:3:1928:G:C8	2.45	0.52
52:3:2381:G:H2'	52:3:2382:A:H8	1.74	0.52
52:3:2849:G:H2'	52:3:2850:G:C8	2.45	0.52
54:5:93:A:O3'	54:5:95:C:N4	2.41	0.52
4:9:401:PHE:O	4:9:403:GLN:NE2	2.41	0.52
4:9:415:LYS:HZ3	15:K:46:VAL:HA	1.74	0.52
6:B:59:GLU:HB2	13:I:100:VAL:HG11	1.91	0.52
13:I:58:ILE:H	17:M:41:ARG:HD2	1.75	0.52
26:a:32:LYS:NZ	26:a:85:SER:OG	2.39	0.52
36:k:29:GLY:O	36:k:32:SER:OG	2.22	0.52
43:r:31:ASP:OD1	43:r:32:ALA:N	2.43	0.52
52:3:1183:A:H2'	52:3:1184:U:C6	2.44	0.52
52:3:1416:G:H2'	52:3:1417:G:H8	1.75	0.52
52:3:1999:G:N2	52:3:2003:C:O2'	2.42	0.52
52:3:2297:G:H2'	52:3:2298:G:C8	2.45	0.52
54:5:963:U:H5'	54:5:1053:U:H5'	1.91	0.52
54:5:1004:U:H2'	54:5:1005:U:C2	2.45	0.52
54:5:1290:G:N2	54:5:1292:A:H3'	2.25	0.52
54:5:1498:G:H2'	54:5:1499:G:H8	1.74	0.52
4:9:314:VAL:HG13	4:9:431:GLU:HA	1.92	0.52
4:9:551:LEU:HD13	4:9:595:PRO:HG2	1.91	0.52
7:C:54:LEU:HA	7:C:57:LYS:HG2	1.91	0.52
10:F:119:ILE:HA	10:F:122:GLU:OE1	2.08	0.52
23:S:73:VAL:HG11	54:5:172:C:O2'	2.10	0.52
29:d:152:PHE:HB2	29:d:154:VAL:HG23	1.92	0.52
36:k:34:ARG:NH1	36:k:42:ARG:O	2.42	0.52
40:o:48:PHE:CD1	40:o:68:LYS:HE3	2.45	0.52
42:q:28:PRO:HD2	42:q:31:LYS:HG3	1.91	0.52
44:s:38:THR:HA	44:s:41:LYS:HD3	1.92	0.52
47:v:46:THR:HG21	52:3:2225:G:H5''	1.92	0.52
48:w:104:LYS:NZ	52:3:1546:U:O3'	2.39	0.52
52:3:764:G:H5'	52:3:765:A:H5''	1.91	0.52
52:3:989:G:O6	52:3:1000:U:O4	2.28	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1451:A:H2'	52:3:1452:G:C8	2.44	0.52
52:3:1768:G:H2'	52:3:1769:A:C8	2.44	0.52
52:3:1856:G:H2'	52:3:1857:G:C8	2.44	0.52
52:3:2085:C:H2'	52:3:2086:U:C6	2.45	0.52
52:3:2504:C:O2'	52:3:2505:A:O5'	2.25	0.52
52:3:2682:A:H2'	52:3:2683:G:H8	1.75	0.52
52:3:2811:G:N2	52:3:2896:G:O6	2.36	0.52
54:5:1317:A:H2'	54:5:1318:C:C6	2.45	0.52
6:B:60:ARG:HG2	6:B:65:VAL:HG22	1.91	0.52
8:D:87:ARG:HB2	8:D:109:LEU:HA	1.91	0.52
11:G:37:ALA:HB2	11:G:70:VAL:HB	1.91	0.52
15:K:62:LEU:HB2	54:5:518:A:OP1	2.10	0.52
16:L:102:THR:HB	54:5:1200:G:H3'	1.90	0.52
23:S:17:ARG:HH12	54:5:161:C:H5'	1.73	0.52
26:a:213:ILE:HG21	26:a:219:ASN:ND2	2.24	0.52
45:t:88:LYS:HA	45:t:105:LYS:NZ	2.25	0.52
52:3:1012:G:H2'	52:3:1013:G:C8	2.44	0.52
52:3:1439:U:O2	52:3:1625:G:N2	2.36	0.52
52:3:2015:C:H2'	52:3:2016:G:C8	2.45	0.52
52:3:2797:C:H2'	52:3:2798:A:C8	2.45	0.52
53:4:60:C:H2'	53:4:61:A:H8	1.73	0.52
54:5:554:C:H2'	54:5:555:G:H8	1.75	0.52
4:9:494:TYR:CE2	4:9:503:GLN:HG2	2.44	0.52
4:9:498:SER:OG	54:5:517:C:OP1	2.25	0.52
7:C:100:ILE:O	7:C:104:MET:HG2	2.09	0.52
8:D:95:GLY:HA3	8:D:172:LEU:HB3	1.92	0.52
19:O:16:VAL:HG23	19:O:20:VAL:HB	1.91	0.52
19:O:48:VAL:HG22	19:O:52:TRP:CZ2	2.45	0.52
21:Q:53:LEU:HD21	21:Q:92:ARG:HE	1.74	0.52
29:d:103:LEU:HA	29:d:107:ALA:HB3	1.91	0.52
36:k:20:LEU:HD22	52:3:620:G:N1	2.25	0.52
52:3:369:C:H2'	52:3:370:C:C6	2.45	0.52
52:3:734:A:H2'	52:3:735:G:O4'	2.09	0.52
52:3:978:G:H2'	52:3:979:U:C6	2.45	0.52
54:5:331:C:H2'	54:5:332:A:H8	1.75	0.52
54:5:978:A:N6	54:5:1198:C:O2	2.42	0.52
3:2:8:LYS:NZ	52:3:1067:A:OP1	2.39	0.52
6:B:154:VAL:HG23	6:B:203:VAL:HG22	1.92	0.52
14:J:53:PRO:HB2	14:J:88:THR:HG21	1.91	0.52
19:O:34:ASN:HD21	19:O:36:ALA:HB3	1.74	0.52
20:P:68:PRO:O	54:5:260:C:O2'	2.27	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:122:LEU:HD12	26:a:123:ALA:H	1.75	0.52
26:a:183:GLN:NE2	26:a:184:LEU:O	2.40	0.52
27:b:63:ASN:N	27:b:66:GLN:OE1	2.40	0.52
28:c:55:LYS:HB3	52:3:836:G:C5	2.45	0.52
40:o:55:ARG:HH22	40:o:81:ILE:HD11	1.75	0.52
40:o:96:VAL:HG12	40:o:98:ARG:H	1.75	0.52
41:p:16:TRP:HE3	41:p:19:GLN:HE22	1.58	0.52
41:p:109:VAL:HG12	41:p:113:LYS:NZ	2.24	0.52
52:3:322:A:H2'	52:3:323:A:H8	1.75	0.52
52:3:1621:U:H2'	52:3:1622:C:C6	2.43	0.52
52:3:1856:G:H2'	52:3:1857:G:H8	1.74	0.52
52:3:2084:A:O2'	52:3:2085:C:H5'	2.10	0.52
52:3:2294:A:H8	52:3:2295:A:N6	2.08	0.52
52:3:2297:G:H2'	52:3:2298:G:H8	1.75	0.52
54:5:1150:G:H2'	54:5:1151:A:H8	1.75	0.52
54:5:1183:C:H2'	54:5:1184:C:H6	1.73	0.52
5:A:73:LYS:NZ	5:A:77:GLN:HE21	2.07	0.51
26:a:142:PRO:HG2	26:a:145:THR:HG21	1.92	0.51
28:c:155:LYS:HE3	28:c:195:ASN:HB2	1.92	0.51
31:f:25:TYR:O	52:3:2100:G:O2'	2.17	0.51
35:j:13:ASN:HD21	35:j:96:THR:HB	1.74	0.51
36:k:53:GLY:HA2	52:3:867:G:H1'	1.91	0.51
46:u:83:TYR:HD2	52:3:892:G:H4'	1.75	0.51
50:y:51:LEU:HB3	50:y:53:VAL:HG13	1.91	0.51
52:3:628:A:H2'	52:3:629:G:H8	1.75	0.51
52:3:892:G:H2'	52:3:893:A:C8	2.44	0.51
52:3:1159:C:H2'	52:3:1160:G:O4'	2.09	0.51
52:3:1248:A:H2'	52:3:1249:A:O4'	2.10	0.51
52:3:1937:G:N2	52:3:1975:G:H2'	2.24	0.51
52:3:2235:A:H2'	52:3:2236:G:H8	1.75	0.51
53:4:22:G:N7	53:4:54:U:O2'	2.39	0.51
54:5:664:A:OP2	54:5:729:C:O2'	2.23	0.51
54:5:1261:A:H2'	54:5:1262:A:C8	2.45	0.51
32:g:96:VAL:O	32:g:100:VAL:HG23	2.11	0.51
36:k:82:LEU:N	36:k:115:ILE:O	2.43	0.51
41:p:65:ASN:O	41:p:69:ARG:HG2	2.10	0.51
52:3:154:U:H2'	52:3:155:A:H8	1.75	0.51
52:3:204:U:H3'	52:3:205:C:C5	2.46	0.51
52:3:393:C:H2'	52:3:394:C:C6	2.46	0.51
52:3:474:U:H2'	52:3:475:A:H8	1.76	0.51
52:3:590:U:H2'	52:3:591:G:C8	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:633:G:N1	52:3:692:U:N3	2.57	0.51
52:3:855:A:OP2	52:3:1009:A:N6	2.43	0.51
52:3:910:G:H2'	52:3:911:U:C6	2.45	0.51
52:3:982:G:H2'	52:3:983:A:H8	1.75	0.51
52:3:1351:G:H21	52:3:1650:A:N6	2.09	0.51
52:3:1804:A:H2	52:3:1830:G:N1	2.09	0.51
52:3:2754:U:H2'	52:3:2755:G:O4'	2.09	0.51
52:3:2793:U:H2'	52:3:2794:U:C6	2.44	0.51
54:5:218:U:H2'	54:5:219:A:H8	1.75	0.51
54:5:760:U:H2'	54:5:761:U:C6	2.45	0.51
54:5:779:A:N6	54:5:797:G:H21	1.97	0.51
54:5:962:G:OP2	54:5:963:U:O2'	2.20	0.51
54:5:1501:G:H2'	54:5:1502:G:C8	2.45	0.51
11:G:23:ASN:O	11:G:27:LYS:HE3	2.10	0.51
26:a:281:ASN:O	26:a:282:ARG:HG2	2.10	0.51
34:i:63:ASP:HB3	34:i:129:LYS:HE3	1.93	0.51
52:3:840:G:H5'	52:3:841:C:C5	2.45	0.51
52:3:1275:C:H2'	52:3:1276:A:C8	2.46	0.51
52:3:1509:U:H3	52:3:1530:G:H1	1.58	0.51
52:3:1867:G:C6	52:3:1889:U:O2	2.63	0.51
52:3:2347:G:H2'	52:3:2348:U:C6	2.46	0.51
52:3:2471:U:H2'	52:3:2472:G:C8	2.45	0.51
52:3:2740:U:H5''	52:3:2741:A:C8	2.46	0.51
53:4:3:U:O4	53:4:106:A:N6	2.44	0.51
54:5:137:A:N7	54:5:156:U:O4	2.44	0.51
54:5:1039:G:O2'	54:5:1041:G:H5''	2.11	0.51
4:9:614:GLY:HA2	4:9:617:MET:HE2	1.92	0.51
5:A:190:GLU:HA	5:A:193:ILE:HD12	1.92	0.51
12:H:108:ARG:HD3	12:H:110:LYS:H	1.76	0.51
13:I:65:LYS:NZ	54:5:1341:U:H5''	2.25	0.51
19:O:55:LYS:O	54:5:223:G:N2	2.39	0.51
26:a:14:ILE:HD13	52:3:1836:A:C2	2.46	0.51
34:i:59:ILE:HB	34:i:127:VAL:HG23	1.92	0.51
36:k:67:ASN:ND2	52:3:249:G:OP1	2.44	0.51
52:3:20:C:O2'	52:3:587:U:OP1	2.28	0.51
52:3:184:A:O2'	52:3:186:A:N7	2.44	0.51
52:3:349:G:H2'	52:3:350:C:C6	2.45	0.51
52:3:889:G:H2'	52:3:890:U:H6	1.74	0.51
52:3:1082:A:O2'	52:3:1083:A:O5'	2.28	0.51
52:3:1121:A:O2'	52:3:1122:G:N7	2.41	0.51
54:5:55:C:H2'	54:5:348:C:H41	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:201:G:O6	54:5:214:U:O2	2.28	0.51
54:5:534:C:H2'	54:5:535:A:C8	2.45	0.51
54:5:1077:U:H2'	54:5:1078:G:H8	1.75	0.51
4:9:36:ARG:HB3	4:9:44:HIS:NE2	2.26	0.51
16:L:65:ILE:O	16:L:69:LEU:N	2.32	0.51
22:R:36:ARG:NH2	54:5:1294:U:O2	2.26	0.51
28:c:55:LYS:NZ	28:c:81:ASN:HA	2.26	0.51
28:c:162:ASN:HD22	28:c:203:VAL:HG11	1.74	0.51
29:d:94:GLU:HA	29:d:97:TRP:HD1	1.75	0.51
37:l:15:VAL:HG12	37:l:41:TRP:HE1	1.75	0.51
38:m:57:PHE:O	38:m:61:ARG:HG3	2.09	0.51
41:p:47:ARG:NH1	52:3:593:C:O2'	2.42	0.51
42:q:39:LEU:HA	42:q:50:LEU:HD23	1.92	0.51
46:u:57:THR:OG1	52:3:2339:G:O2'	2.22	0.51
47:v:53:ARG:NH1	52:3:410:G:O2'	2.44	0.51
52:3:524:G:N2	52:3:527:A:OP2	2.33	0.51
52:3:1746:U:O2	52:3:1753:G:N2	2.38	0.51
52:3:2859:U:H2'	52:3:2860:A:H8	1.74	0.51
54:5:598:U:H2'	54:5:599:G:C8	2.45	0.51
54:5:662:G:H1'	54:5:730:G:H5'	1.93	0.51
54:5:945:U:H2'	54:5:946:G:C8	2.45	0.51
54:5:1304:U:H2'	54:5:1305:G:O4'	2.11	0.51
8:D:217:ASN:CG	8:D:218:GLU:H	2.19	0.51
15:K:32:ASN:O	15:K:34:LYS:NZ	2.44	0.51
15:K:86:ASN:OD1	15:K:112:ARG:NH1	2.39	0.51
22:R:10:PHE:CD2	54:5:1292:A:H4'	2.45	0.51
28:c:187:SER:H	28:c:190:ASP:HB2	1.75	0.51
28:c:205:LYS:O	28:c:208:GLU:HG2	2.10	0.51
33:h:89:ALA:HA	33:h:132:GLY:HA2	1.91	0.51
36:k:114:LEU:HD21	36:k:139:VAL:HG11	1.91	0.51
46:u:39:LYS:HB3	46:u:43:GLN:NE2	2.25	0.51
52:3:516:A:H61	52:3:540:A:H2	1.57	0.51
52:3:740:A:H2'	52:3:741:A:O4'	2.10	0.51
52:3:752:C:H3'	52:3:753:A:H8	1.76	0.51
52:3:1099:C:H2'	52:3:1100:U:C6	2.46	0.51
52:3:1538:U:H2'	52:3:1539:U:C6	2.45	0.51
52:3:2005:G:H2'	52:3:2006:C:H6	1.74	0.51
52:3:2187:C:H2'	52:3:2188:U:O4'	2.11	0.51
52:3:2598:C:H2'	52:3:2599:C:C6	2.46	0.51
54:5:662:G:N3	54:5:729:C:H2'	2.26	0.51
54:5:688:G:O2'	54:5:794:C:H4'	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:12:LYS:NZ	52:3:667:A:O5'	2.43	0.51
5:A:113:LEU:HG	5:A:162:PHE:CZ	2.46	0.51
5:A:245:MET:HG2	5:A:246:PHE:CD2	2.45	0.51
6:B:130:ARG:NH1	54:5:418:U:O4	2.43	0.51
13:I:12:LEU:N	13:I:82:LEU:O	2.36	0.51
15:K:65:TYR:CD2	15:K:77:LEU:HD11	2.46	0.51
22:R:40:ILE:HG13	22:R:67:VAL:HB	1.92	0.51
32:g:11:VAL:HG11	32:g:61:ARG:HE	1.75	0.51
40:o:80:GLN:CD	40:o:81:ILE:H	2.18	0.51
42:q:59:VAL:HA	42:q:92:LEU:HB2	1.92	0.51
45:t:44:ARG:HH11	45:t:46:LYS:HB3	1.75	0.51
48:w:95:LYS:O	48:w:99:LEU:HG	2.11	0.51
52:3:81:C:H2'	52:3:82:G:C8	2.45	0.51
52:3:154:U:H2'	52:3:155:A:C8	2.46	0.51
52:3:535:G:H1'	52:3:540:A:H61	1.75	0.51
52:3:1270:C:H2'	52:3:1271:A:H8	1.74	0.51
52:3:2235:A:H2'	52:3:2236:G:C8	2.45	0.51
52:3:2394:A:H2'	52:3:2395:U:C6	2.45	0.51
52:3:2589:G:OP2	52:3:2589:G:N2	2.20	0.51
52:3:2705:G:H2'	52:3:2706:U:C6	2.46	0.51
54:5:599:G:O6	54:5:634:U:O4	2.28	0.51
54:5:852:G:H1	54:5:863:A:H3'	1.75	0.51
54:5:1392:A:O2'	54:5:1458:A:N6	2.44	0.51
54:5:1482:A:C4	54:5:1505:G:N2	2.79	0.51
12:H:34:ARG:NH1	54:5:1121:U:O4'	2.43	0.51
27:b:110:VAL:HG22	27:b:207:ILE:HG12	1.92	0.51
27:b:125:ARG:HD3	27:b:169:TYR:HB2	1.92	0.51
27:b:133:LEU:HB2	52:3:2000:U:H5''	1.92	0.51
32:g:14:VAL:HG21	32:g:58:ILE:HG12	1.92	0.51
34:i:22:ASP:OD1	34:i:23:ALA:N	2.43	0.51
36:k:70:LYS:HE3	52:3:249:G:H5'	1.93	0.51
40:o:18:LEU:HD12	40:o:82:HIS:CE1	2.46	0.51
49:x:43:HIS:CE1	49:x:45:PHE:HB3	2.46	0.51
52:3:26:G:H2'	52:3:27:U:C6	2.46	0.51
52:3:767:C:H2'	52:3:768:G:O4'	2.10	0.51
52:3:890:U:H2'	52:3:891:G:H8	1.72	0.51
52:3:1884:A:H2'	52:3:1885:G:C8	2.46	0.51
52:3:2317:A:O2'	52:3:2318:A:O4'	2.21	0.51
54:5:1145:A:H3'	54:5:1146:A:C8	2.46	0.51
9:E:67:GLN:OE1	9:E:70:LYS:NZ	2.30	0.51
15:K:4:ILE:HD11	20:P:35:TYR:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:M:26:ARG:HG3	17:M:27:CYS:N	2.26	0.51
24:T:38:LYS:HA	24:T:41:ARG:HB3	1.91	0.51
25:W:111:ARG:NE	25:W:114:GLU:OE1	2.42	0.51
26:a:111:SER:O	26:a:204:SER:OG	2.22	0.51
31:f:65:SER:HA	31:f:68:LEU:HG	1.92	0.51
43:r:116:GLU:HA	43:r:119:LYS:NZ	2.25	0.51
48:w:48:ARG:HH21	52:3:75:A:H3'	1.76	0.51
52:3:299:A:H2'	52:3:300:G:C8	2.46	0.51
52:3:612:G:H5''	52:3:2025:C:OP2	2.11	0.51
52:3:1349:C:C2	52:3:1350:A:C8	2.99	0.51
52:3:1351:G:N2	52:3:1650:A:H61	2.08	0.51
52:3:1495:A:OP2	52:3:1548:A:N6	2.44	0.51
52:3:1730:C:H2'	52:3:1731:G:O4'	2.10	0.51
52:3:1914:G:O6	52:3:1931:C:N4	2.44	0.51
52:3:2599:C:H2'	52:3:2600:G:H8	1.76	0.51
52:3:2868:G:C6	52:3:2869:U:C4	2.99	0.51
54:5:1100:C:H2'	54:5:1101:A:C4	2.46	0.51
54:5:1234:C:C2	54:5:1235:C:H1'	2.45	0.51
6:B:156:VAL:HG12	6:B:201:VAL:HG13	1.93	0.51
7:C:91:ARG:HG2	7:C:182:PRO:HD2	1.93	0.51
15:K:78:THR:HA	15:K:106:VAL:HG23	1.93	0.51
27:b:161:LYS:HD3	52:3:2627:U:H5''	1.93	0.51
28:c:150:ALA:O	28:c:151:LYS:HG2	2.10	0.51
31:f:29:PHE:HZ	47:v:64:LEU:HA	1.75	0.51
33:h:12:ILE:HB	33:h:53:CYS:HB2	1.93	0.51
34:i:120:ARG:O	34:i:124:LYS:HG2	2.11	0.51
39:n:61:LYS:HD2	39:n:73:VAL:HG23	1.93	0.51
48:w:99:LEU:HD23	48:w:102:ARG:HH21	1.74	0.51
52:3:469:C:H2'	52:3:470:U:C6	2.46	0.51
52:3:829:A:H2'	52:3:830:A:C8	2.46	0.51
52:3:854:A:N6	52:3:1220:A:H1'	2.26	0.51
52:3:1114:C:H2'	52:3:1115:G:H8	1.75	0.51
52:3:1662:G:H2'	52:3:1663:G:H8	1.75	0.51
52:3:1868:A:H2'	52:3:1869:G:C8	2.43	0.51
52:3:2005:G:H2'	52:3:2006:C:C6	2.46	0.51
52:3:2100:G:N7	52:3:2233:A:H2'	2.26	0.51
52:3:2240:U:H2'	52:3:2241:A:C8	2.45	0.51
52:3:2378:G:H2'	52:3:2379:G:C8	2.46	0.51
54:5:830:U:H2'	54:5:831:C:H6	1.74	0.51
54:5:1195:G:H2'	54:5:1196:G:H8	1.76	0.51
54:5:1294:U:H2'	54:5:1295:U:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:6:ASP:OD1	4:9:7:LEU:N	2.44	0.50
6:B:79:GLY:HA3	6:B:84:ASN:H	1.76	0.50
9:E:71:ASP:OD1	9:E:72:PHE:N	2.41	0.50
13:I:59:ARG:O	17:M:45:ARG:NH2	2.44	0.50
15:K:44:ARG:HA	15:K:94:LEU:HA	1.93	0.50
15:K:114:THR:OG1	54:5:36:G:O5'	2.29	0.50
16:L:14:ARG:NH1	54:5:1269:U:O2'	2.44	0.50
26:a:3:ILE:HA	26:a:20:ILE:HA	1.93	0.50
26:a:100:THR:OG1	26:a:106:LYS:NZ	2.42	0.50
52:3:852:C:H2'	52:3:853:G:O4'	2.11	0.50
52:3:1052:A:H2'	52:3:1053:C:C6	2.46	0.50
52:3:1077:G:N1	52:3:1148:U:C2	2.79	0.50
52:3:1327:G:H1	52:3:1673:U:H3'	1.77	0.50
52:3:1445:U:H2'	52:3:1446:G:O4'	2.11	0.50
52:3:1704:C:N3	52:3:2000:U:O2'	2.40	0.50
52:3:1759:C:H2'	52:3:1760:G:C8	2.46	0.50
54:5:243:G:H2'	54:5:244:C:C6	2.46	0.50
54:5:290:G:O6	54:5:299:U:O4	2.29	0.50
54:5:469:C:H2'	54:5:470:U:C6	2.46	0.50
54:5:935:U:H2'	54:5:936:G:C8	2.45	0.50
54:5:1077:U:H2'	54:5:1078:G:C8	2.46	0.50
54:5:1195:G:H2'	54:5:1196:G:C8	2.46	0.50
54:5:1241:G:O2'	54:5:1243:A:N6	2.39	0.50
2:1:15:LYS:HB2	52:3:664:G:H5''	1.93	0.50
4:9:86:VAL:HG13	4:9:87:ASP:H	1.75	0.50
7:C:180:ARG:NH2	7:C:181:PHE:HB2	2.26	0.50
9:E:159:VAL:HG13	9:E:161:GLN:HB2	1.93	0.50
24:T:18:PHE:HA	24:T:21:VAL:HG22	1.92	0.50
26:a:71:PHE:HB3	26:a:158:GLY:H	1.76	0.50
30:e:100:ASN:N	30:e:107:ASN:OD1	2.30	0.50
52:3:2070:C:O2	52:3:2070:C:H2'	2.09	0.50
52:3:2084:A:H2'	52:3:2085:C:H6	1.76	0.50
52:3:2867:U:H2'	52:3:2868:G:H8	1.76	0.50
54:5:101:A:H2'	54:5:102:G:C8	2.46	0.50
54:5:283:U:H2'	54:5:284:A:C8	2.46	0.50
54:5:573:G:O2'	54:5:818:A:H5''	2.11	0.50
54:5:1003:G:H2'	54:5:1004:U:C6	2.47	0.50
4:9:463:MET:HA	4:9:467:PHE:HD2	1.75	0.50
4:9:543:GLU:O	4:9:546:MET:HG2	2.11	0.50
7:C:64:TYR:OH	7:C:94:GLU:OE1	2.20	0.50
11:G:18:LEU:HD11	11:G:41:LYS:HG2	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:G:40:LEU:O	11:G:44:ILE:HG12	2.11	0.50
23:S:17:ARG:HH22	54:5:161:C:H5'	1.75	0.50
25:W:61:GLY:HA2	25:W:92:LEU:HD22	1.93	0.50
29:d:148:ARG:NH1	52:3:2314:U:O2	2.44	0.50
31:f:51:LEU:HG	31:f:55:GLN:HE22	1.76	0.50
34:i:28:LEU:HB2	34:i:65:VAL:HG11	1.94	0.50
40:o:94:GLY:HA2	40:o:115:LYS:HA	1.94	0.50
45:t:16:LYS:HG3	52:3:363:G:N1	2.26	0.50
50:y:27:LEU:HG	50:y:36:LYS:HD2	1.94	0.50
52:3:668:A:H2'	52:3:669:A:C8	2.47	0.50
52:3:1061:A:H2'	52:3:1062:A:C8	2.46	0.50
52:3:1217:G:H3'	52:3:1218:G:H8	1.75	0.50
52:3:1700:G:H3'	52:3:1701:G:C8	2.46	0.50
52:3:2234:C:H3'	52:3:2235:A:C8	2.46	0.50
54:5:1078:G:H2'	54:5:1079:G:C8	2.46	0.50
54:5:1396:U:O2	54:5:1454:G:N2	2.30	0.50
4:9:319:PHE:HB3	54:5:56:A:C4	2.46	0.50
5:A:218:ASN:ND2	5:A:221:GLN:OE1	2.42	0.50
9:E:97:LEU:HG	9:E:99:SER:H	1.76	0.50
29:d:93:GLY:O	29:d:96:MET:HB3	2.11	0.50
33:h:19:ALA:HB3	33:h:36:THR:HG23	1.93	0.50
33:h:108:LYS:NZ	52:3:1094:G:O2'	2.30	0.50
52:3:1002:A:O4'	52:3:2275:A:N6	2.44	0.50
52:3:1244:A:H61	52:3:1265:G:H1'	1.76	0.50
52:3:1396:A:H2'	52:3:1397:G:H8	1.75	0.50
52:3:1832:G:H2'	52:3:1833:G:C8	2.43	0.50
52:3:1846:A:C4	52:3:1847:G:C8	2.99	0.50
52:3:2009:U:H2'	52:3:2010:A:H8	1.75	0.50
52:3:2478:G:H2'	52:3:2479:A:C8	2.42	0.50
54:5:677:C:H2'	54:5:678:A:H8	1.75	0.50
54:5:704:U:H2'	54:5:705:A:C8	2.47	0.50
54:5:735:C:H2'	54:5:736:U:C6	2.47	0.50
54:5:1203:A:H2'	54:5:1204:A:C8	2.46	0.50
7:C:10:ARG:HD3	7:C:62:TYR:CD2	2.47	0.50
16:L:87:ARG:NE	22:R:73:GLU:OE2	2.41	0.50
19:O:80:LYS:NZ	54:5:124:U:OP1	2.41	0.50
26:a:232:ALA:HA	26:a:241:GLY:HA2	1.92	0.50
26:a:236:ASN:HD22	52:3:2080:C:H5''	1.76	0.50
52:3:196:G:H2'	52:3:197:U:H5'	1.93	0.50
52:3:528:U:H2'	52:3:529:G:C8	2.46	0.50
52:3:688:U:H5''	52:3:689:U:H5'	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1119:A:N7	52:3:1120:A:C5	2.80	0.50
52:3:2127:G:H2'	52:3:2128:G:H8	1.76	0.50
52:3:2601:U:H2'	52:3:2602:C:C6	2.47	0.50
54:5:575:A:H2'	54:5:576:A:C8	2.47	0.50
54:5:939:G:H1	54:5:1312:G:P	2.35	0.50
54:5:974:C:H5	54:5:1292:A:H61	1.59	0.50
54:5:1502:G:H2'	54:5:1503:U:C6	2.47	0.50
3:2:11:CYS:HB3	3:2:14:CYS:SG	2.52	0.50
4:9:106:LEU:HA	4:9:116:THR:HG21	1.93	0.50
5:A:56:PHE:HE1	5:A:204:THR:HG23	1.77	0.50
5:A:58:LEU:HD12	5:A:61:GLN:HE21	1.76	0.50
8:D:211:LEU:HD12	8:D:212:ARG:HG3	1.94	0.50
10:F:101:ARG:NH1	54:5:934:G:O2'	2.41	0.50
24:T:27:ARG:HA	24:T:30:GLN:HG2	1.93	0.50
26:a:210:LEU:HD22	54:5:770:G:H5'	1.92	0.50
45:t:24:VAL:HG12	45:t:36:VAL:HG22	1.92	0.50
47:v:16:ASN:ND2	52:3:419:A:OP1	2.45	0.50
52:3:526:G:O2'	52:3:527:A:O4'	2.22	0.50
52:3:612:G:H2'	52:3:613:C:C6	2.47	0.50
52:3:960:A:H2'	52:3:961:U:C6	2.46	0.50
52:3:1173:G:C4	52:3:1174:G:H1'	2.46	0.50
52:3:1692:A:H2'	52:3:1693:U:C6	2.47	0.50
52:3:1722:U:O2'	52:3:1734:A:N7	2.41	0.50
52:3:1836:A:H5''	52:3:1837:C:H5	1.76	0.50
52:3:2297:G:O6	52:3:2351:U:O4	2.29	0.50
52:3:2387:U:H2'	52:3:2388:C:C6	2.47	0.50
52:3:2744:A:H2'	52:3:2745:G:C8	2.46	0.50
54:5:881:G:N1	54:5:905:U:C2	2.80	0.50
54:5:943:C:H2'	54:5:944:A:C8	2.41	0.50
54:5:1216:G:H2'	54:5:1217:G:H8	1.75	0.50
4:9:87:ASP:CG	4:9:115:GLN:HG2	2.37	0.50
15:K:99:ARG:NH1	15:K:100:VAL:O	2.32	0.50
16:L:78:LYS:O	16:L:82:GLU:HG3	2.11	0.50
17:M:45:ARG:NH1	54:5:1050:U:O3'	2.44	0.50
22:R:14:HIS:HE1	22:R:35:SER:HB2	1.77	0.50
36:k:52:GLU:OE2	36:k:58:LEU:N	2.38	0.50
42:q:37:LYS:HE3	42:q:49:TYR:HE1	1.77	0.50
52:3:1106:G:O2'	52:3:1123:A:O3'	2.28	0.50
52:3:1902:C:H2'	52:3:1903:A:C8	2.46	0.50
52:3:2459:A:H2'	52:3:2459:A:N3	2.27	0.50
53:4:95:G:H2'	53:4:96:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:255:G:H2'	54:5:256:G:H8	1.77	0.50
54:5:826:G:N2	54:5:851:U:O2	2.35	0.50
17:M:22:THR:OG1	54:5:1333:C:OP1	2.26	0.50
22:R:41:PHE:HB2	22:R:44:PHE:CD2	2.46	0.50
27:b:67:GLN:HB3	27:b:71:GLU:OE2	2.12	0.50
34:i:87:ILE:HD11	52:3:1166:G:H4'	1.93	0.50
41:p:24:PHE:CE1	52:3:19:G:H4'	2.47	0.50
42:q:21:PHE:CD2	42:q:91:LYS:HB3	2.46	0.50
52:3:159:G:H2'	52:3:160:A:H8	1.76	0.50
52:3:323:A:H2'	52:3:324:C:C6	2.47	0.50
52:3:461:C:H2'	52:3:462:C:C6	2.46	0.50
52:3:1071:G:H2'	52:3:1072:A:C8	2.47	0.50
52:3:1307:G:H2'	52:3:1308:A:C8	2.47	0.50
52:3:1510:A:H2'	52:3:1511:C:C6	2.46	0.50
53:4:69:C:H2'	53:4:70:G:O4'	2.12	0.50
54:5:412:G:H1	54:5:424:U:H3	1.59	0.50
54:5:568:G:H2'	54:5:569:U:C6	2.47	0.50
54:5:698:U:H5'	54:5:699:A:H2	1.77	0.50
14:J:28:SER:HA	14:J:34:VAL:HA	1.94	0.50
16:L:109:ARG:NH2	54:5:1281:U:O3'	2.45	0.50
33:h:13:ASN:OD1	52:3:1096:U:N3	2.45	0.50
34:i:42:LYS:NZ	52:3:1043:C:OP2	2.44	0.50
35:j:28:THR:HG22	35:j:29:ARG:HG3	1.93	0.50
44:s:62:PRO:HG3	44:s:77:LEU:HA	1.93	0.50
48:w:51:LEU:O	48:w:55:LEU:HG	2.12	0.50
50:y:4:GLN:NE2	52:3:1293:U:HO2'	2.10	0.50
52:3:383:U:H2'	52:3:384:G:H8	1.76	0.50
52:3:822:C:H3'	52:3:826:C:N4	2.27	0.50
52:3:1101:U:H3	52:3:1104:A:H2'	1.77	0.50
52:3:1222:A:H2'	52:3:1223:C:C6	2.46	0.50
52:3:1396:A:H2'	52:3:1397:G:C8	2.47	0.50
52:3:1557:G:H3'	52:3:1571:G:H22	1.77	0.50
52:3:1610:U:H2'	52:3:1611:C:C6	2.46	0.50
52:3:1654:G:H2'	52:3:1655:U:O4'	2.12	0.50
52:3:1692:A:H2'	52:3:1693:U:H6	1.77	0.50
52:3:1738:G:H2'	52:3:1739:G:H8	1.76	0.50
52:3:2137:A:O2'	52:3:2140:G:O2'	2.29	0.50
52:3:2634:C:H2'	52:3:2635:G:C8	2.47	0.50
52:3:2677:A:H2'	52:3:2678:A:H8	1.77	0.50
52:3:2791:U:H2'	52:3:2792:C:C6	2.46	0.50
53:4:22:G:O2'	53:4:24:A:N6	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:4:54:U:H1'	53:4:55:A:OP2	2.12	0.50
54:5:830:U:O2	54:5:847:G:N2	2.41	0.50
54:5:1145:A:H3'	54:5:1146:A:H8	1.77	0.50
54:5:1279:G:H1'	54:5:1306:A:H61	1.76	0.50
54:5:1501:G:H2'	54:5:1502:G:H8	1.76	0.50
4:9:495:ILE:CD1	55:7:29:C:H3'	2.42	0.49
7:C:94:GLU:HA	7:C:99:ASN:ND2	2.27	0.49
10:F:94:ARG:NH1	54:5:1351:U:O3'	2.39	0.49
26:a:14:ILE:N	52:3:1780:A:N1	2.57	0.49
26:a:22:TYR:HB3	26:a:29:ASN:ND2	2.27	0.49
26:a:188:GLU:HG3	26:a:281:ASN:HA	1.94	0.49
31:f:108:LEU:HD13	31:f:113:PHE:CE2	2.47	0.49
42:q:6:VAL:HG22	42:q:11:GLN:HG3	1.94	0.49
44:s:54:LYS:N	44:s:84:THR:HG1	2.10	0.49
52:3:187:C:H1'	52:3:468:A:C2	2.46	0.49
52:3:224:G:H22	52:3:463:U:H2'	1.77	0.49
52:3:263:C:H2'	52:3:264:G:H8	1.77	0.49
52:3:2282:A:O2'	52:3:2284:G:OP1	2.24	0.49
52:3:2661:U:C2	52:3:2676:G:C2	3.00	0.49
52:3:2718:C:H2'	52:3:2719:A:C8	2.47	0.49
54:5:75:A:N1	54:5:81:A:N6	2.59	0.49
54:5:503:G:H2'	54:5:504:A:H8	1.76	0.49
54:5:1321:G:O2'	54:5:1348:G:N1	2.44	0.49
54:5:1406:U:O4	54:5:1407:A:N6	2.45	0.49
2:1:14:THR:HB	2:1:18:GLN:HB2	1.94	0.49
2:1:20:LYS:HE2	2:1:44:GLN:CG	2.41	0.49
4:9:570:GLU:OE2	54:5:1042:G:O2'	2.28	0.49
5:A:218:ASN:OD1	5:A:219:ASN:N	2.45	0.49
11:G:89:GLN:HE22	54:5:871:U:H5''	1.78	0.49
25:W:74:TYR:OH	25:W:95:VAL:O	2.29	0.49
29:d:31:LEU:HD12	29:d:97:TRP:CZ3	2.47	0.49
35:j:25:LEU:HD22	35:j:59:ARG:NH1	2.27	0.49
40:o:32:ASN:HB2	40:o:49:THR:HG23	1.94	0.49
43:r:83:LYS:HG2	43:r:95:MET:HE3	1.95	0.49
48:w:15:LEU:O	48:w:19:VAL:HG23	2.12	0.49
52:3:406:C:H2'	52:3:407:U:C6	2.46	0.49
52:3:518:A:OP2	52:3:542:A:N6	2.45	0.49
52:3:625:G:H2'	52:3:626:A:H8	1.75	0.49
52:3:840:G:H22	52:3:863:U:H5''	1.77	0.49
52:3:1503:A:OP2	52:3:1540:G:N2	2.43	0.49
52:3:2647:A:H2'	52:3:2648:A:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2781:C:H2'	52:3:2782:A:H8	1.76	0.49
54:5:767:U:H1'	54:5:894:A:H2	1.77	0.49
54:5:861:A:O2'	54:5:867:A:N1	2.41	0.49
54:5:1054:C:OP2	54:5:1055:G:O2'	2.27	0.49
4:9:18:HIS:HB2	4:9:116:THR:HG23	1.94	0.49
13:I:41:LYS:HD3	13:I:84:ASP:HB2	1.93	0.49
23:S:32:VAL:HG22	23:S:36:HIS:CE1	2.48	0.49
27:b:151:ARG:NE	52:3:2060:G:OP1	2.46	0.49
35:j:31:ARG:CZ	52:3:2002:U:H4'	2.43	0.49
35:j:91:LYS:HB3	35:j:111:TYR:HA	1.93	0.49
38:m:45:LEU:O	38:m:49:ILE:HG12	2.12	0.49
44:s:7:LEU:HA	44:s:31:VAL:HG12	1.94	0.49
51:z:9:LEU:O	51:z:18:ASN:N	2.39	0.49
52:3:69:U:C2	52:3:70:G:C8	3.00	0.49
52:3:193:G:H1	52:3:209:G:HO2'	1.57	0.49
52:3:207:C:P	52:3:208:A:H2'	2.52	0.49
52:3:476:G:H2'	52:3:477:U:C6	2.47	0.49
52:3:699:U:H2'	52:3:700:U:O4'	2.12	0.49
52:3:1137:C:H2'	52:3:1138:A:H8	1.77	0.49
52:3:1834:U:H2'	52:3:1835:G:O4'	2.12	0.49
52:3:1848:U:H2'	52:3:1849:G:C8	2.46	0.49
52:3:2826:G:O2'	52:3:2827:A:OP1	2.30	0.49
53:4:60:C:H2'	53:4:61:A:C8	2.47	0.49
54:5:348:C:H42	54:5:353:G:N2	2.10	0.49
54:5:1039:G:O2'	54:5:1041:G:OP1	2.27	0.49
54:5:1498:G:H2'	54:5:1499:G:C8	2.47	0.49
3:2:10:ILE:HG23	3:2:32:HIS:ND1	2.26	0.49
6:B:155:LEU:HD11	6:B:202:LYS:HD2	1.94	0.49
9:E:106:GLN:HB3	54:5:838:A:H4'	1.92	0.49
16:L:114:LYS:N	54:5:1203:A:OP1	2.30	0.49
27:b:198:ALA:HA	52:3:2688:C:H5''	1.93	0.49
40:o:48:PHE:HE2	40:o:66:VAL:HB	1.77	0.49
40:o:67:ARG:NH1	40:o:74:PRO:HB3	2.25	0.49
52:3:35:U:N3	52:3:509:G:N1	2.60	0.49
52:3:86:A:O2'	52:3:101:C:N4	2.46	0.49
52:3:529:G:H2'	52:3:530:G:C8	2.47	0.49
52:3:631:A:H2'	52:3:632:A:C8	2.45	0.49
52:3:634:C:H2'	52:3:635:G:H8	1.78	0.49
52:3:916:U:H2'	52:3:917:G:C8	2.48	0.49
52:3:1179:G:H2'	52:3:1180:U:C6	2.47	0.49
52:3:1510:A:H2'	52:3:1511:C:H6	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:111:A:H2'	54:5:112:U:O4'	2.12	0.49
54:5:486:C:H2'	54:5:487:A:C8	2.47	0.49
54:5:819:G:N1	54:5:873:U:N3	2.60	0.49
54:5:1506:A:H2'	54:5:1507:U:C6	2.47	0.49
55:8:43:G:H2'	55:8:44:U:H5''	1.94	0.49
4:9:125:ARG:HD2	4:9:125:ARG:O	2.12	0.49
4:9:262:PHE:CZ	52:3:2663:G:H5'	2.47	0.49
4:9:354:VAL:HA	4:9:363:GLU:HA	1.94	0.49
8:D:168:ALA:O	8:D:172:LEU:HG	2.12	0.49
10:F:101:ARG:NH2	54:5:934:G:H4'	2.26	0.49
16:L:14:ARG:HG2	16:L:42:ASP:O	2.13	0.49
24:T:8:ASN:O	24:T:8:ASN:ND2	2.41	0.49
26:a:47:ARG:HE	26:a:53:ILE:HD12	1.78	0.49
28:c:14:GLU:CD	28:c:15:THR:H	2.20	0.49
31:f:116:ASN:HB2	31:f:118:ARG:NH2	2.28	0.49
35:j:91:LYS:HD2	35:j:111:TYR:N	2.25	0.49
38:m:99:ARG:NH1	52:3:2886:A:OP1	2.46	0.49
40:o:53:LEU:N	40:o:65:ILE:O	2.37	0.49
52:3:215:A:H2'	52:3:216:C:C6	2.47	0.49
52:3:420:A:H2'	52:3:421:A:O4'	2.12	0.49
52:3:562:C:N4	52:3:2787:U:OP2	2.40	0.49
52:3:742:G:O6	52:3:760:G:N2	2.45	0.49
52:3:1028:C:H2'	52:3:1029:A:H8	1.77	0.49
52:3:2797:C:H2'	52:3:2798:A:H8	1.78	0.49
54:5:556:G:C8	54:5:557:A:H2'	2.47	0.49
54:5:1012:A:HO2'	54:5:1192:C:HO2'	1.57	0.49
23:S:22:LYS:O	23:S:26:THR:HG23	2.12	0.49
29:d:107:ALA:O	29:d:137:ILE:HD11	2.13	0.49
32:g:114:ASP:O	32:g:116:ARG:NH2	2.45	0.49
36:k:39:GLN:NE2	52:3:200:A:N7	2.60	0.49
43:r:80:PRO:HD3	52:3:27:U:H5''	1.95	0.49
47:v:22:LYS:HE2	52:3:2440:A:H62	1.78	0.49
52:3:371:C:H2'	52:3:372:G:O4'	2.12	0.49
52:3:1350:A:C4	52:3:1351:G:C8	3.01	0.49
52:3:1497:A:N6	52:3:1547:G:H21	2.09	0.49
52:3:1785:U:N3	52:3:1791:A:N7	2.60	0.49
52:3:1919:A:H1'	54:5:1469:G:H21	1.76	0.49
52:3:2299:U:OP1	52:3:2388:C:O2'	2.29	0.49
52:3:2504:C:H4'	52:3:2505:A:OP1	2.12	0.49
54:5:50:U:O2	54:5:357:G:N2	2.45	0.49
54:5:255:G:H2'	54:5:256:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:317:A:N1	54:5:328:G:C6	2.79	0.49
54:5:944:A:H2'	54:5:945:U:O4'	2.12	0.49
54:5:1208:G:HO2'	54:5:1339:U:HO2'	1.61	0.49
55:7:43:G:H2'	55:7:44:U:H5''	1.94	0.49
4:9:339:VAL:O	4:9:348:GLU:N	2.40	0.49
7:C:56:GLU:HG3	7:C:57:LYS:N	2.27	0.49
9:E:4:ASN:HB3	9:E:59:ARG:NH2	2.27	0.49
10:F:148:LYS:HA	10:F:151:ALA:HB3	1.94	0.49
14:J:61:ASP:OD1	14:J:62:LYS:N	2.45	0.49
23:S:7:ASN:O	23:S:11:LEU:N	2.43	0.49
23:S:9:LYS:O	23:S:13:GLN:HB2	2.12	0.49
29:d:50:LEU:HD21	29:d:84:LEU:O	2.12	0.49
30:e:104:GLU:HG2	30:e:120:ILE:HB	1.94	0.49
32:g:55:LYS:O	32:g:59:LEU:HG	2.13	0.49
43:r:46:LEU:O	43:r:50:LEU:HD12	2.11	0.49
43:r:78:GLN:O	52:3:26:G:O2'	2.28	0.49
50:y:27:LEU:HD12	50:y:37:LYS:O	2.13	0.49
52:3:740:A:N6	52:3:761:G:H1'	2.27	0.49
52:3:1201:A:H2'	52:3:1202:A:C8	2.48	0.49
52:3:1315:A:H2'	52:3:1316:U:C2	2.48	0.49
52:3:1408:G:H2'	52:3:1409:G:C8	2.47	0.49
52:3:2226:U:H2'	52:3:2227:U:C6	2.47	0.49
52:3:2568:G:H2'	52:3:2569:A:C8	2.47	0.49
53:4:29:C:H1'	53:4:51:A:H61	1.78	0.49
53:4:85:A:O2'	53:4:86:G:O4'	2.25	0.49
54:5:433:C:H2'	54:5:434:U:C6	2.47	0.49
4:9:210:MET:HE2	4:9:210:MET:HA	1.93	0.49
4:9:602:MET:HB2	4:9:648:MET:HE3	1.94	0.49
7:C:201:LYS:HG2	54:5:9:A:N6	2.27	0.49
23:S:56:ARG:CZ	54:5:219:A:H5'	2.43	0.49
39:n:18:LYS:O	39:n:22:THR:HG23	2.11	0.49
40:o:106:GLU:N	40:o:106:GLU:OE2	2.46	0.49
41:p:54:ARG:NH2	52:3:1190:A:O3'	2.45	0.49
52:3:883:A:H2'	52:3:884:A:C8	2.48	0.49
52:3:1776:G:H2'	52:3:1777:G:H8	1.78	0.49
52:3:2130:A:H2'	52:3:2131:G:C8	2.48	0.49
52:3:2224:A:H2'	52:3:2225:G:H8	1.78	0.49
54:5:68:C:O2'	54:5:157:A:O2'	2.29	0.49
54:5:715:A:H5''	54:5:716:C:C5	2.47	0.49
54:5:1078:G:H2'	54:5:1079:G:H8	1.76	0.49
54:5:1139:A:H2'	54:5:1140:A:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1322:U:H2'	54:5:1323:A:H8	1.77	0.49
1:0:24:THR:HG23	1:0:27:GLY:H	1.77	0.49
4:9:494:TYR:N	55:7:29:C:H5''	2.28	0.49
11:G:38:SER:O	11:G:42:ILE:N	2.43	0.49
11:G:92:LYS:HB3	11:G:95:LEU:HB2	1.95	0.49
30:e:4:ILE:HD12	52:3:2756:A:H5'	1.94	0.49
31:f:65:SER:HB2	31:f:69:LYS:HZ1	1.75	0.49
32:g:93:LEU:HA	32:g:96:VAL:HG22	1.95	0.49
33:h:76:LEU:HG	33:h:131:MET:HG2	1.94	0.49
37:l:12:PRO:C	52:3:947:A:H62	2.21	0.49
43:r:11:ARG:CZ	52:3:2018:U:H5''	2.43	0.49
50:y:38:LEU:HG	50:y:41:ARG:HG3	1.95	0.49
52:3:71:C:H4'	52:3:77:G:C8	2.47	0.49
52:3:177:U:H2'	52:3:178:A:C8	2.48	0.49
52:3:497:C:N3	52:3:505:G:N2	2.61	0.49
52:3:721:G:C8	52:3:721:G:H5''	2.48	0.49
52:3:1073:A:H2'	52:3:1074:A:C8	2.48	0.49
52:3:1590:U:H2'	52:3:1591:C:C5	2.48	0.49
52:3:1622:C:H2'	52:3:1623:U:C6	2.48	0.49
52:3:1760:G:N2	52:3:1763:G:OP2	2.42	0.49
52:3:1881:C:H2'	52:3:1882:G:O4'	2.12	0.49
52:3:2567:C:H2'	52:3:2568:G:H8	1.78	0.49
52:3:2686:C:H2'	52:3:2687:A:O4'	2.13	0.49
53:4:27:A:O2'	53:4:56:A:N1	2.44	0.49
54:5:22:G:N2	54:5:908:A:H62	2.10	0.49
54:5:854:A:H2'	54:5:855:G:O4'	2.13	0.49
54:5:1016:A:O2'	54:5:1017:A:O4'	2.31	0.49
54:5:1083:A:H2'	54:5:1084:A:C8	2.47	0.49
54:5:1257:C:H2'	54:5:1258:U:C6	2.47	0.49
54:5:1463:A:H2'	54:5:1464:G:C8	2.48	0.49
55:8:16:G:O2'	55:8:17:U:OP1	2.27	0.49
2:1:36:LYS:HA	2:1:39:ARG:HG2	1.95	0.49
4:9:677:LYS:HA	4:9:680:VAL:HB	1.94	0.49
6:B:25:ASN:OD1	6:B:29:GLN:HG2	2.13	0.49
19:O:2:ARG:HD3	54:5:387:G:H4'	1.95	0.49
21:Q:87:ALA:O	21:Q:90:LEU:HG	2.13	0.49
26:a:190:ARG:HG2	26:a:191:LYS:H	1.78	0.49
27:b:160:PHE:CG	34:i:84:ILE:HD11	2.48	0.49
36:k:125:HIS:HB3	36:k:147:LYS:NZ	2.28	0.49
52:3:283:A:OP1	52:3:286:A:N6	2.46	0.49
52:3:779:C:H2'	52:3:780:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:861:U:O2	52:3:866:G:N2	2.44	0.49
52:3:1044:C:H1'	52:3:1045:A:C2	2.48	0.49
52:3:1352:G:H3'	52:3:1353:G:H4'	1.95	0.49
52:3:2259:G:N7	52:3:2458:A:H1'	2.27	0.49
52:3:2416:U:H2'	52:3:2417:G:C8	2.48	0.49
52:3:2726:G:H2'	52:3:2727:G:O4'	2.13	0.49
54:5:187:A:H2'	54:5:188:U:C6	2.48	0.49
54:5:215:C:H2'	54:5:216:G:O4'	2.12	0.49
54:5:233:C:H2'	54:5:234:G:C8	2.48	0.49
54:5:470:U:H2'	54:5:471:A:H8	1.75	0.49
54:5:531:A:O2'	54:5:532:U:O3'	2.25	0.49
54:5:598:U:H3	54:5:635:G:H1	1.61	0.49
54:5:655:G:C6	54:5:746:A:C6	3.01	0.49
54:5:842:C:H2'	54:5:843:C:C6	2.48	0.49
54:5:957:C:H2'	54:5:958:G:C8	2.47	0.49
54:5:1214:A:N6	54:5:1271:U:O4'	2.46	0.49
54:5:1461:G:H2'	54:5:1462:G:C8	2.48	0.49
3:2:14:CYS:HA	3:2:27:CYS:HB2	1.95	0.48
4:9:219:ALA:HB1	4:9:226:MET:HB2	1.94	0.48
4:9:481:ARG:HB2	4:9:598:LEU:HB3	1.94	0.48
5:A:158:ARG:NH2	54:5:1089:C:OP1	2.46	0.48
7:C:81:GLN:NE2	7:C:82:ARG:O	2.46	0.48
11:G:126:LYS:O	11:G:129:ARG:HG3	2.13	0.48
12:H:35:ARG:HH22	54:5:1223:A:H4'	1.77	0.48
39:n:11:ARG:HB2	39:n:11:ARG:HH11	1.78	0.48
40:o:37:LEU:HB3	40:o:44:ARG:HB2	1.95	0.48
49:x:30:LYS:HG3	49:x:31:GLN:OE1	2.12	0.48
52:3:35:U:C2	52:3:509:G:C2	3.01	0.48
52:3:495:U:O2	52:3:506:A:N7	2.46	0.48
52:3:512:G:N2	52:3:515:A:O4'	2.46	0.48
54:5:38:U:H2'	54:5:39:G:C8	2.48	0.48
54:5:214:U:H2'	54:5:215:C:C6	2.48	0.48
54:5:282:G:H2'	54:5:283:U:O4'	2.13	0.48
5:A:30:VAL:HG12	5:A:56:PHE:HB2	1.94	0.48
8:D:139:GLU:OE1	8:D:152:LYS:HB3	2.13	0.48
11:G:22:ILE:HG13	11:G:84:ILE:HD13	1.95	0.48
23:S:13:GLN:O	23:S:17:ARG:HG2	2.13	0.48
27:b:35:GLN:HE22	27:b:76:LYS:N	2.12	0.48
30:e:141:LYS:HA	30:e:144:VAL:HG12	1.95	0.48
31:f:125:GLU:OE2	31:f:137:VAL:HG22	2.13	0.48
48:w:37:GLU:OE1	48:w:37:GLU:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:667:A:O2'	52:3:668:A:OP1	2.30	0.48
52:3:771:C:H2'	52:3:772:C:H6	1.78	0.48
52:3:1754:U:H2'	52:3:1755:A:C8	2.47	0.48
52:3:2676:G:H2'	52:3:2677:A:C8	2.46	0.48
52:3:2709:C:P	52:3:2710:G:H5''	2.53	0.48
54:5:144:U:C2	54:5:149:G:N1	2.82	0.48
54:5:355:A:H2'	54:5:356:G:C8	2.48	0.48
54:5:432:U:H2'	54:5:433:C:C6	2.48	0.48
54:5:511:A:H2'	54:5:512:U:C6	2.47	0.48
54:5:1179:A:H2'	54:5:1180:U:O4'	2.14	0.48
1:0:39:ARG:HH22	52:3:497:C:H42	1.60	0.48
14:J:110:PRO:HG3	54:5:673:A:O2'	2.13	0.48
26:a:89:ASP:OD2	26:a:92:ARG:HG2	2.14	0.48
29:d:70:ALA:HB2	29:d:79:LEU:HD11	1.95	0.48
37:l:116:LYS:HZ2	37:l:120:ARG:HH21	1.61	0.48
42:q:95:VAL:C	42:q:96:ARG:HD3	2.38	0.48
48:w:52:ALA:O	48:w:56:THR:HG23	2.12	0.48
52:3:28:G:N2	52:3:548:A:OP2	2.45	0.48
52:3:124:A:H2'	52:3:125:G:C8	2.48	0.48
52:3:195:A:H2'	52:3:196:G:N9	2.28	0.48
52:3:323:A:H2'	52:3:324:C:H6	1.78	0.48
52:3:574:G:O6	52:3:588:G:N2	2.46	0.48
52:3:638:A:N6	52:3:661:G:O6	2.45	0.48
52:3:776:U:H2'	52:3:777:C:C6	2.48	0.48
52:3:1106:G:H21	52:3:1124:G:H2'	1.78	0.48
52:3:2017:G:O2'	52:3:2018:U:H5'	2.13	0.48
52:3:2145:A:H2'	52:3:2146:A:C8	2.48	0.48
52:3:2399:G:C6	52:3:2435:C:H1'	2.48	0.48
54:5:288:A:C5	54:5:289:U:H1'	2.48	0.48
54:5:492:G:O2'	54:5:494:A:H1'	2.14	0.48
54:5:582:G:H2'	54:5:583:G:C8	2.48	0.48
54:5:859:A:H2'	54:5:860:C:C6	2.49	0.48
54:5:948:U:H2'	54:5:949:G:C8	2.48	0.48
54:5:1061:U:H2'	54:5:1062:C:C6	2.48	0.48
54:5:1322:U:H2'	54:5:1323:A:C8	2.49	0.48
2:1:10:ARG:NH1	36:k:59:TYR:HB2	2.28	0.48
5:A:88:LYS:HE2	5:A:219:ASN:HB2	1.95	0.48
7:C:94:GLU:HB3	7:C:182:PRO:HG2	1.96	0.48
14:J:81:GLY:H	14:J:107:THR:HA	1.78	0.48
14:J:105:GLU:OE1	14:J:105:GLU:N	2.47	0.48
15:K:44:ARG:HD2	54:5:359:A:H5'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:O:13:ILE:HG22	19:O:30:ILE:HD13	1.95	0.48
29:d:52:SER:HB2	29:d:146:ILE:HG13	1.95	0.48
31:f:26:ALA:HB1	31:f:28:HIS:ND1	2.29	0.48
33:h:90:LYS:HE3	52:3:1112:A:H4'	1.94	0.48
35:j:73:ASP:OD2	35:j:75:THR:OG1	2.21	0.48
39:n:71:LYS:HG2	39:n:104:ALA:HB1	1.94	0.48
52:3:13:C:H2'	52:3:14:U:H4'	1.95	0.48
52:3:58:A:H2'	52:3:59:C:C6	2.49	0.48
52:3:127:A:O2'	52:3:128:A:O4'	2.23	0.48
52:3:854:A:N6	52:3:1219:U:H3	2.02	0.48
52:3:1120:A:H2'	52:3:1121:A:N3	2.28	0.48
52:3:1449:G:H2'	52:3:1450:G:C8	2.49	0.48
52:3:1480:A:H2'	52:3:1480:A:N3	2.29	0.48
52:3:1829:U:H2'	52:3:1830:G:C8	2.47	0.48
52:3:2232:G:O2'	52:3:2233:A:O4'	2.29	0.48
52:3:2291:U:O4	52:3:2292:A:N6	2.46	0.48
52:3:2845:U:H2'	52:3:2846:A:H8	1.76	0.48
53:4:37:A:N1	53:4:42:G:N1	2.61	0.48
53:4:61:A:H2'	53:4:62:G:C8	2.47	0.48
54:5:512:U:C2	54:5:513:G:C8	3.01	0.48
54:5:882:U:H3'	54:5:883:A:H8	1.79	0.48
54:5:906:C:H2'	54:5:907:A:C8	2.49	0.48
54:5:985:C:H2'	54:5:986:U:C4	2.48	0.48
54:5:1384:A:H2'	54:5:1385:A:H8	1.78	0.48
54:5:1478:A:N6	54:5:1507:U:O2	2.46	0.48
4:9:7:LEU:HD23	4:9:282:VAL:HB	1.95	0.48
4:9:86:VAL:HG23	52:3:2669:G:O2'	2.14	0.48
4:9:349:ARG:NE	54:5:365:U:H4'	2.29	0.48
5:A:54:ASP:HB3	5:A:204:THR:HG21	1.96	0.48
5:A:157:GLU:OE1	5:A:158:ARG:NH1	2.47	0.48
7:C:27:LYS:NZ	54:5:407:A:OP2	2.46	0.48
13:I:28:THR:O	13:I:32:VAL:HG22	2.13	0.48
14:J:13:ILE:HD11	14:J:78:PHE:HD2	1.79	0.48
15:K:43:LYS:NZ	15:K:44:ARG:HD3	2.29	0.48
26:a:14:ILE:HD13	52:3:1836:A:N3	2.29	0.48
35:j:65:THR:HG23	35:j:68:GLY:H	1.78	0.48
52:3:487:C:O2	52:3:489:A:N6	2.46	0.48
52:3:534:U:H2'	52:3:535:G:O4'	2.13	0.48
52:3:784:A:O2'	52:3:1301:G:N2	2.44	0.48
52:3:996:A:HO2'	52:3:2464:C:HO2'	1.58	0.48
52:3:1044:C:H1'	52:3:1045:A:H2	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1087:C:H2'	52:3:1088:A:H8	1.78	0.48
52:3:1185:U:H3'	52:3:1186:A:H5''	1.96	0.48
52:3:1383:G:H2'	52:3:1384:C:H6	1.78	0.48
52:3:1656:A:H2'	52:3:1657:G:O4'	2.12	0.48
52:3:1698:A:H2'	52:3:1699:A:C8	2.49	0.48
54:5:179:U:O4	54:5:186:A:N6	2.46	0.48
55:8:29:C:H2'	55:8:30:G:C8	2.49	0.48
8:D:155:PRO:HD2	8:D:158:THR:HG21	1.95	0.48
13:I:36:LYS:NZ	13:I:42:ILE:HB	2.28	0.48
17:M:26:ARG:NE	17:M:43:CYS:SG	2.79	0.48
17:M:56:VAL:O	17:M:57:LYS:NZ	2.46	0.48
20:P:76:ARG:NH2	54:5:185:G:N3	2.61	0.48
29:d:35:VAL:HB	29:d:155:THR:HB	1.95	0.48
31:f:68:LEU:HA	31:f:71:VAL:HG12	1.96	0.48
34:i:40:ARG:HH11	34:i:113:PRO:HG3	1.78	0.48
37:l:76:LYS:N	37:l:91:GLU:OE1	2.42	0.48
39:n:4:ARG:HG2	39:n:4:ARG:O	2.13	0.48
52:3:1086:G:H2'	52:3:1087:C:H6	1.78	0.48
52:3:1370:A:HO2'	52:3:1372:U:P	2.35	0.48
52:3:1507:G:O2'	52:3:1508:G:P	2.71	0.48
52:3:1838:A:H2'	52:3:1839:C:C6	2.49	0.48
52:3:2104:A:H2'	52:3:2105:G:C8	2.48	0.48
52:3:2631:G:H2'	52:3:2632:C:C6	2.49	0.48
54:5:170:A:H2'	54:5:171:A:H8	1.77	0.48
54:5:491:U:H2'	54:5:492:G:O4'	2.13	0.48
54:5:1452:C:H2'	54:5:1453:C:C6	2.48	0.48
5:A:99:ILE:HD11	5:A:229:MET:SD	2.53	0.48
19:O:28:ALA:HB3	19:O:52:TRP:HH2	1.77	0.48
26:a:20:ILE:HB	26:a:25:LEU:HD21	1.96	0.48
28:c:5:LYS:HZ1	28:c:14:GLU:C	2.22	0.48
28:c:158:LEU:HD11	28:c:181:LYS:HB2	1.96	0.48
30:e:97:TYR:CE1	30:e:110:LEU:HA	2.49	0.48
36:k:67:ASN:HD22	36:k:70:LYS:HG3	1.79	0.48
36:k:133:LYS:O	36:k:137:LYS:HG2	2.14	0.48
38:m:13:TRP:O	38:m:17:THR:HG23	2.14	0.48
50:y:38:LEU:HD23	50:y:38:LEU:H	1.79	0.48
52:3:170:A:C2	52:3:171:G:H1'	2.48	0.48
52:3:854:A:C6	52:3:855:A:N1	2.80	0.48
52:3:858:A:H2'	52:3:859:G:C8	2.48	0.48
52:3:1012:G:H2'	52:3:1013:G:H8	1.79	0.48
52:3:1076:U:O2	52:3:1149:G:C6	2.66	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1459:A:H2'	52:3:1460:G:C8	2.49	0.48
52:3:2844:U:H2'	52:3:2845:U:C6	2.49	0.48
52:3:2890:G:O2'	52:3:2891:C:OP1	2.30	0.48
54:5:985:C:O2'	54:5:1190:G:N2	2.47	0.48
54:5:1145:A:H2'	54:5:1146:A:O4'	2.13	0.48
54:5:1500:G:H2'	54:5:1501:G:H8	1.78	0.48
55:8:20:G:H1'	55:8:58:G:H22	1.79	0.48
4:9:164:LEU:HB2	4:9:176:ILE:HB	1.95	0.48
4:9:278:LEU:HD12	4:9:279:PRO:HD2	1.95	0.48
4:9:423:ILE:O	4:9:427:LYS:HG2	2.14	0.48
12:H:10:GLY:HA3	12:H:80:ALA:O	2.13	0.48
32:g:6:ASP:OD1	32:g:9:GLN:NE2	2.35	0.48
32:g:27:PHE:HD2	32:g:106:MET:HE3	1.78	0.48
35:j:76:HIS:ND1	35:j:78:LYS:HE3	2.28	0.48
41:p:39:ILE:HG23	42:q:71:ILE:HD11	1.95	0.48
52:3:35:U:O2	52:3:509:G:C2	2.66	0.48
52:3:614:C:H2'	52:3:615:G:C8	2.49	0.48
52:3:1022:C:H2'	52:3:1023:C:C6	2.49	0.48
52:3:1366:G:H2'	52:3:1367:G:H8	1.78	0.48
52:3:1587:U:HO2'	52:3:1588:A:H8	1.55	0.48
52:3:1631:A:H5''	52:3:1632:C:H5'	1.96	0.48
52:3:2420:A:H2'	52:3:2421:U:O4'	2.14	0.48
52:3:2469:A:H2'	52:3:2470:C:H6	1.77	0.48
54:5:25:U:H2'	54:5:26:C:C6	2.49	0.48
54:5:251:G:H2'	54:5:252:U:C6	2.48	0.48
54:5:355:A:H2'	54:5:356:G:H8	1.79	0.48
54:5:942:G:O2'	54:5:943:C:O4'	2.24	0.48
4:9:308:VAL:HG12	4:9:330:SER:OG	2.14	0.48
9:E:144:SER:HB2	11:G:2:ILE:HB	1.94	0.48
26:a:25:LEU:HD13	26:a:95:PHE:HZ	1.79	0.48
26:a:213:ILE:HG23	26:a:218:ARG:HG2	1.95	0.48
32:g:94:LYS:HG2	32:g:127:ALA:O	2.14	0.48
43:r:102:ASN:ND2	52:3:26:G:O2'	2.39	0.48
52:3:511:U:H2'	52:3:512:G:O4'	2.14	0.48
52:3:740:A:H62	52:3:761:G:H1'	1.79	0.48
52:3:804:U:H2'	52:3:805:G:C8	2.45	0.48
52:3:828:A:H2	52:3:2079:G:H4'	1.79	0.48
52:3:1028:C:H2'	52:3:1029:A:C8	2.49	0.48
52:3:1198:G:H2'	52:3:1199:A:C8	2.46	0.48
52:3:1366:G:H2'	52:3:1367:G:C8	2.49	0.48
52:3:1444:C:N4	52:3:1616:G:O6	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1446:G:H1'	52:3:1614:G:N1	2.23	0.48
52:3:1533:U:OP1	52:3:1534:A:H8	1.96	0.48
52:3:1693:U:H2'	52:3:1694:A:O4'	2.14	0.48
52:3:1886:C:H2'	52:3:1887:U:C6	2.48	0.48
52:3:1929:G:H2'	52:3:1930:U:C6	2.48	0.48
52:3:2006:C:H2'	52:3:2007:U:C6	2.48	0.48
52:3:2392:U:H5''	52:3:2394:A:OP1	2.13	0.48
54:5:111:A:OP1	54:5:603:U:O2'	2.19	0.48
54:5:554:C:H2'	54:5:555:G:C8	2.49	0.48
54:5:789:A:H1'	54:5:791:A:N7	2.29	0.48
55:7:20:G:H1'	55:7:58:G:H22	1.79	0.48
55:8:67:C:H2'	55:8:68:G:H8	1.79	0.48
6:B:39:LYS:O	6:B:43:LEU:HG	2.13	0.48
6:B:191:LYS:NZ	54:5:1049:G:O4'	2.47	0.48
7:C:70:GLN:NE2	7:C:73:ARG:HH11	2.11	0.48
12:H:100:LEU:HB2	12:H:105:LEU:HD11	1.96	0.48
13:I:59:ARG:HG3	13:I:69:GLU:H	1.79	0.48
24:T:47:LYS:HA	24:T:50:GLN:HG3	1.96	0.48
26:a:158:GLY:C	26:a:162:ARG:HH12	2.22	0.48
30:e:71:TYR:O	30:e:75:ILE:HG12	2.13	0.48
46:u:31:HIS:ND1	52:3:2269:C:OP1	2.38	0.48
50:y:37:LYS:HD3	50:y:43:CYS:HB3	1.95	0.48
50:y:39:PHE:O	50:y:41:ARG:HG2	2.14	0.48
52:3:499:G:N2	52:3:502:A:OP2	2.47	0.48
52:3:573:A:C6	52:3:589:A:C8	3.01	0.48
52:3:1410:A:H2'	52:3:1411:C:C6	2.49	0.48
52:3:1456:C:N4	52:3:1603:A:H3'	2.28	0.48
52:3:1510:A:N6	52:3:1530:G:O6	2.47	0.48
52:3:1645:C:H2'	52:3:1646:G:H8	1.78	0.48
52:3:1804:A:H2	52:3:1830:G:H1	1.61	0.48
52:3:2036:G:N1	52:3:2040:A:OP2	2.35	0.48
52:3:2115:A:N1	52:3:2190:G:C6	2.82	0.48
52:3:2225:G:H2'	52:3:2226:U:C6	2.49	0.48
52:3:2424:C:H2'	52:3:2425:C:C6	2.49	0.48
52:3:2732:A:H2'	52:3:2733:A:C8	2.49	0.48
54:5:460:A:N1	54:5:468:G:C6	2.82	0.48
54:5:1089:C:H4'	54:5:1143:C:O2	2.13	0.48
54:5:1204:A:H2'	54:5:1205:C:C6	2.49	0.48
54:5:1214:A:H1'	54:5:1216:G:C5	2.49	0.48
54:5:1250:A:H2'	54:5:1251:G:C8	2.49	0.48
54:5:1260:U:H3'	54:5:1261:A:H5''	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:39:ARG:HA	2:1:42:ARG:HE	1.79	0.47
14:J:35:LEU:HD22	14:J:67:VAL:HG12	1.96	0.47
16:L:15:ILE:HG13	16:L:46:LYS:HA	1.96	0.47
20:P:67:ARG:NE	54:5:116:A:OP2	2.42	0.47
27:b:158:ARG:HD3	52:3:2031:C:H4'	1.96	0.47
28:c:189:ARG:HG2	28:c:193:LEU:HD23	1.95	0.47
30:e:4:ILE:HG12	30:e:7:ARG:HD3	1.96	0.47
30:e:49:LYS:O	30:e:53:LEU:HD12	2.14	0.47
37:l:77:LYS:HG3	52:3:993:A:OP2	2.13	0.47
45:t:46:LYS:HG3	45:t:48:LYS:HG2	1.95	0.47
48:w:55:LEU:O	48:w:59:THR:HG23	2.13	0.47
48:w:101:SER:O	48:w:105:ARG:HG2	2.14	0.47
52:3:1087:C:H2'	52:3:1088:A:C8	2.49	0.47
52:3:1338:G:H2'	52:3:1339:U:C6	2.49	0.47
52:3:1460:G:N2	52:3:1596:U:O2	2.47	0.47
52:3:2661:U:C2	52:3:2676:G:N1	2.82	0.47
4:9:398:ALA:C	4:9:399:MET:HE2	2.39	0.47
4:9:504:TYR:O	4:9:574:SER:OG	2.30	0.47
5:A:22:LYS:HE2	5:A:25:GLU:HB2	1.94	0.47
7:C:70:GLN:OE1	7:C:73:ARG:NH1	2.47	0.47
7:C:130:ASP:OD1	54:5:617:U:N3	2.47	0.47
7:C:178:TYR:OH	7:C:182:PRO:HD3	2.13	0.47
8:D:166:ILE:HG21	8:D:180:THR:HG21	1.95	0.47
10:F:21:LEU:HB3	10:F:61:PHE:HE2	1.79	0.47
18:N:47:PHE:HD1	18:N:50:LYS:HD3	1.78	0.47
26:a:124:SER:O	26:a:197:ARG:NH2	2.48	0.47
31:f:113:PHE:HE1	31:f:130:ILE:HG12	1.79	0.47
36:k:5:GLN:H	36:k:5:GLN:CD	2.22	0.47
40:o:57:GLY:HA3	40:o:62:GLU:HA	1.96	0.47
52:3:401:G:H3'	52:3:402:A:H5''	1.96	0.47
52:3:880:C:H4'	52:3:881:A:H5'	1.97	0.47
52:3:889:G:H2'	52:3:890:U:C6	2.49	0.47
52:3:1015:G:H3'	52:3:1016:A:H5''	1.97	0.47
52:3:1547:G:H2'	52:3:1548:A:N7	2.29	0.47
52:3:2227:U:H2'	52:3:2228:U:H6	1.79	0.47
52:3:2631:G:O5'	52:3:2830:A:O2'	2.27	0.47
53:4:90:G:C4	53:4:91:A:C8	3.02	0.47
54:5:512:U:H2'	54:5:513:G:H8	1.79	0.47
54:5:655:G:O2'	54:5:656:U:H5'	2.13	0.47
54:5:814:C:H42	54:5:1504:G:H1	1.63	0.47
54:5:1018:U:H3'	54:5:1019:G:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:39:ARG:HH11	52:3:2358:U:H5	1.63	0.47
4:9:37:ILE:O	4:9:41:GLY:N	2.48	0.47
8:D:113:ASN:ND2	54:5:1063:G:OP1	2.46	0.47
19:O:11:TYR:O	19:O:33:LEU:HB3	2.15	0.47
19:O:48:VAL:O	19:O:51:GLU:HB2	2.14	0.47
24:T:20:ARG:O	24:T:24:GLU:HG2	2.14	0.47
26:a:164:ALA:HB1	26:a:205:ASN:O	2.14	0.47
32:g:18:LEU:HD11	32:g:66:GLY:HA3	1.96	0.47
35:j:101:PRO:HD3	40:o:73:ILE:HG13	1.96	0.47
43:r:126:LYS:HA	43:r:129:VAL:HG22	1.96	0.47
52:3:603:G:H1	52:3:2507:C:P	2.38	0.47
52:3:683:G:H2'	52:3:684:A:C8	2.49	0.47
52:3:1020:G:H5''	52:3:1021:C:C5	2.46	0.47
52:3:2764:U:H4'	52:3:2765:A:OP1	2.14	0.47
54:5:575:A:H2'	54:5:576:A:H8	1.78	0.47
54:5:851:U:H2'	54:5:852:G:O4'	2.14	0.47
54:5:1115:G:H1	54:5:1125:C:N4	2.09	0.47
4:9:144:PHE:CZ	4:9:161:PRO:HB3	2.49	0.47
14:J:75:VAL:HG12	14:J:76:LYS:O	2.13	0.47
21:Q:60:LEU:HD11	21:Q:90:LEU:HB3	1.97	0.47
26:a:169:ARG:NH1	54:5:709:A:H4'	2.29	0.47
27:b:62:LEU:HB3	27:b:67:GLN:NE2	2.29	0.47
34:i:117:LEU:O	34:i:121:TRP:N	2.44	0.47
41:p:110:GLN:HG3	41:p:113:LYS:HZ1	1.79	0.47
44:s:63:THR:HG21	52:3:1340:U:H2'	1.95	0.47
50:y:5:GLN:HG3	52:3:2061:A:H2'	1.96	0.47
52:3:9:G:H2'	52:3:10:U:C6	2.50	0.47
52:3:137:U:H3	52:3:146:G:H1	1.62	0.47
52:3:485:A:H2'	52:3:486:G:C8	2.49	0.47
52:3:768:G:N2	52:3:769:A:N7	2.63	0.47
52:3:820:U:H4'	52:3:1786:U:H5'	1.94	0.47
52:3:877:G:H2'	52:3:878:A:C8	2.50	0.47
52:3:1337:G:H21	52:3:1645:C:H5'	1.79	0.47
52:3:2301:C:H2'	52:3:2302:C:H6	1.79	0.47
52:3:2460:C:H3'	52:3:2461:A:C8	2.45	0.47
52:3:2473:C:H2'	52:3:2474:C:O4'	2.14	0.47
54:5:125:A:H2'	54:5:126:U:C6	2.48	0.47
54:5:221:U:H2'	54:5:222:U:C6	2.49	0.47
54:5:767:U:H2'	54:5:768:G:C8	2.48	0.47
54:5:1133:A:C2	54:5:1153:G:N2	2.82	0.47
54:5:1287:G:H2'	54:5:1288:C:C6	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:7:67:C:H2'	55:7:68:G:H8	1.78	0.47
8:D:193:HIS:HA	8:D:196:MET:HG2	1.97	0.47
9:E:8:LEU:HD11	9:E:57:TYR:CZ	2.50	0.47
29:d:92:ARG:H	29:d:95:ARG:CZ	2.27	0.47
39:n:80:LYS:O	39:n:83:LYS:HG3	2.15	0.47
40:o:19:LYS:H	40:o:82:HIS:CE1	2.32	0.47
52:3:43:A:H2'	52:3:44:A:C8	2.49	0.47
52:3:479:A:O2'	52:3:1231:G:O2'	2.28	0.47
52:3:694:U:H2'	52:3:695:G:C8	2.49	0.47
52:3:1171:G:H2'	52:3:1172:G:C8	2.49	0.47
52:3:1720:C:H3'	52:3:1721:G:H8	1.78	0.47
52:3:2080:C:H2'	52:3:2081:U:H6	1.79	0.47
52:3:2090:G:H2'	52:3:2091:C:C6	2.49	0.47
52:3:2123:A:H5'	52:3:2124:A:H8	1.80	0.47
52:3:2173:G:H2'	52:3:2173:G:N3	2.29	0.47
52:3:2254:G:H2'	52:3:2255:A:O4'	2.14	0.47
52:3:2407:G:H2'	52:3:2408:G:C8	2.48	0.47
53:4:46:C:H2'	53:4:47:C:C6	2.48	0.47
54:5:582:G:O6	54:5:754:U:O4	2.31	0.47
54:5:1242:U:H2'	54:5:1243:A:C2	2.49	0.47
55:7:16:G:O2'	55:7:17:U:OP1	2.27	0.47
4:9:508:LYS:HB2	4:9:565:ASP:HB3	1.97	0.47
4:9:633:ARG:HE	4:9:638:VAL:HB	1.79	0.47
5:A:48:GLU:OE1	5:A:51:HIS:NE2	2.48	0.47
5:A:154:ARG:NE	5:A:158:ARG:HH21	2.13	0.47
7:C:70:GLN:NE2	54:5:398:G:OP1	2.46	0.47
10:F:23:THR:HA	10:F:26:ILE:HD12	1.97	0.47
11:G:90:ILE:H	11:G:139:ALA:HA	1.79	0.47
17:M:10:GLN:HE22	17:M:23:ARG:N	2.12	0.47
20:P:29:ARG:HG2	20:P:38:SER:OG	2.14	0.47
22:R:7:LYS:HD3	22:R:10:PHE:HD1	1.79	0.47
27:b:155:SER:OG	52:3:2579:U:O2'	2.30	0.47
30:e:62:LYS:HE3	52:3:1070:U:H5''	1.95	0.47
38:m:79:MET:HE2	38:m:83:PHE:CE2	2.50	0.47
42:q:84:GLY:O	52:3:1254:U:H4'	2.14	0.47
52:3:133:G:H2'	52:3:134:U:H6	1.77	0.47
52:3:134:U:H2'	52:3:135:A:C8	2.50	0.47
52:3:569:U:H3	52:3:592:G:H1	1.63	0.47
52:3:627:U:H2'	52:3:628:A:C8	2.49	0.47
52:3:977:A:H2'	52:3:977:A:N3	2.29	0.47
52:3:1017:A:N1	52:3:2034:G:O2'	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1201:A:H2'	52:3:1202:A:H8	1.79	0.47
52:3:1511:C:H2'	52:3:1512:A:H8	1.80	0.47
52:3:1900:C:H2'	52:3:1901:C:H5'	1.96	0.47
52:3:1990:C:H4'	52:3:2614:U:H4'	1.97	0.47
52:3:2141:A:H61	52:3:2163:U:H2'	1.79	0.47
52:3:2165:A:H4'	52:3:2166:U:OP1	2.15	0.47
52:3:2381:G:H2'	52:3:2382:A:C8	2.48	0.47
52:3:2416:U:H2'	52:3:2417:G:H8	1.78	0.47
52:3:2477:A:N6	52:3:2489:G:H1'	2.27	0.47
52:3:2665:A:H2'	52:3:2666:C:O4'	2.14	0.47
52:3:2677:A:H2'	52:3:2678:A:C8	2.49	0.47
53:4:22:G:N1	53:4:57:G:O6	2.47	0.47
54:5:214:U:H2'	54:5:215:C:H6	1.79	0.47
54:5:637:A:H2'	54:5:638:A:C8	2.50	0.47
54:5:1333:C:H1'	54:5:1336:C:N4	2.29	0.47
54:5:1366:U:H2'	54:5:1367:G:C8	2.50	0.47
54:5:1416:U:O2	54:5:1435:G:N2	2.34	0.47
54:5:1428:A:C2	54:5:1429:G:H1'	2.49	0.47
55:8:22:A:N7	55:8:47:G:H1'	2.30	0.47
1:0:18:PHE:HZ	52:3:118:G:H4'	1.78	0.47
1:0:34:ARG:NH2	1:0:39:ARG:HG3	2.30	0.47
2:1:32:HIS:ND1	52:3:2399:G:OP2	2.47	0.47
4:9:29:ARG:HB3	4:9:264:ASN:HD21	1.79	0.47
4:9:386:THR:OG1	4:9:395:GLN:O	2.26	0.47
4:9:495:ILE:HG23	4:9:504:TYR:CE1	2.50	0.47
5:A:74:GLU:HA	5:A:77:GLN:OE1	2.15	0.47
10:F:28:VAL:HG21	10:F:101:ARG:HA	1.96	0.47
10:F:78:ARG:HG3	10:F:83:ASN:HA	1.95	0.47
11:G:6:LYS:HZ2	54:5:845:C:H5''	1.78	0.47
12:H:19:VAL:HG21	12:H:84:GLY:HA3	1.96	0.47
13:I:44:GLY:HA3	54:5:1114:A:H4'	1.97	0.47
13:I:57:ILE:HG23	17:M:41:ARG:CG	2.43	0.47
14:J:62:LYS:O	14:J:65:LYS:HG3	2.14	0.47
15:K:56:LYS:HG3	15:K:102:ASP:HA	1.97	0.47
26:a:50:GLN:NE2	52:3:1814:G:H1'	2.25	0.47
26:a:74:THR:HG22	26:a:75:HIS:N	2.30	0.47
27:b:62:LEU:HD22	27:b:77:PRO:HB3	1.96	0.47
30:e:88:LYS:HB2	30:e:144:VAL:HG22	1.96	0.47
32:g:56:ASN:CG	32:g:60:ARG:HH22	2.23	0.47
34:i:26:LEU:HD22	34:i:31:LEU:HD13	1.97	0.47
35:j:66:LYS:HD3	52:3:1699:A:H5''	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:j:75:THR:HB	40:o:78:ASN:O	2.14	0.47
38:m:106:ARG:HH21	38:m:113:MET:HE1	1.80	0.47
39:n:39:ILE:HD11	39:n:101:ARG:HD3	1.96	0.47
39:n:91:PHE:HE2	39:n:106:ALA:HA	1.79	0.47
40:o:111:ALA:O	40:o:113:LYS:NZ	2.47	0.47
42:q:6:VAL:H	42:q:35:LEU:HD21	1.80	0.47
45:t:82:LYS:HG3	45:t:83:GLN:OE1	2.14	0.47
46:u:23:SER:OG	52:3:2264:G:O3'	2.31	0.47
48:w:15:LEU:O	48:w:18:LEU:HG	2.15	0.47
52:3:73:A:H4'	52:3:74:U:H3'	1.97	0.47
52:3:163:A:H1'	52:3:2216:U:O2'	2.15	0.47
52:3:481:C:H2'	52:3:482:G:O4'	2.14	0.47
52:3:576:A:H2'	52:3:577:C:O4'	2.15	0.47
52:3:669:A:O2'	52:3:2412:A:OP1	2.33	0.47
52:3:868:C:H2'	52:3:869:U:C6	2.49	0.47
52:3:990:G:O6	52:3:999:U:O4	2.32	0.47
52:3:1100:U:O2	52:3:1108:A:N6	2.47	0.47
52:3:1257:G:H2'	52:3:1258:C:C6	2.50	0.47
52:3:1605:A:H2'	52:3:1606:A:H8	1.80	0.47
52:3:2149:U:O2	52:3:2156:G:N2	2.42	0.47
52:3:2195:U:H2'	52:3:2196:G:H8	1.80	0.47
52:3:2391:G:H2'	52:3:2392:U:C6	2.50	0.47
52:3:2458:A:OP2	55:7:76:C:O2'	2.33	0.47
52:3:2764:U:H1'	52:3:2765:A:H5''	1.96	0.47
52:3:2820:G:H2'	52:3:2821:U:C6	2.49	0.47
52:3:2821:U:H2'	52:3:2822:C:O4'	2.13	0.47
53:4:9:C:H2'	53:4:10:C:C2	2.49	0.47
53:4:85:A:O2'	53:4:86:G:O5'	2.32	0.47
54:5:7:U:H4'	54:5:294:A:H1'	1.96	0.47
54:5:37:C:O2'	54:5:499:U:OP1	2.33	0.47
54:5:292:U:H2'	54:5:293:G:C8	2.49	0.47
54:5:294:A:H2'	54:5:295:G:C8	2.50	0.47
54:5:686:C:HO2'	54:5:687:G:P	2.37	0.47
54:5:810:U:H2'	54:5:811:A:C8	2.48	0.47
54:5:929:C:N3	54:5:932:A:N6	2.63	0.47
54:5:1043:U:O4	54:5:1181:G:O6	2.33	0.47
54:5:1245:A:H2'	54:5:1246:A:C8	2.50	0.47
55:7:37:A:C2	55:7:38:G:H1'	2.50	0.47
4:9:57:LYS:NZ	52:3:2670:A:O3'	2.48	0.47
4:9:148:VAL:HA	4:9:151:ILE:HG12	1.97	0.47
4:9:575:GLU:HG2	54:5:515:G:P	2.55	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:40:LYS:HE2	5:A:209:GLU:HG3	1.95	0.47
12:H:69:VAL:HG21	12:H:77:GLN:HG2	1.96	0.47
20:P:23:THR:HG22	20:P:46:GLN:HG3	1.96	0.47
27:b:19:THR:O	27:b:20:ASN:HB2	2.13	0.47
29:d:104:ILE:HG13	29:d:105:TYR:CD1	2.50	0.47
31:f:1:MET:HE2	31:f:29:PHE:HB3	1.97	0.47
34:i:76:PHE:CD1	34:i:89:LYS:HD3	2.50	0.47
38:m:85:LYS:C	38:m:88:PRO:HD2	2.39	0.47
38:m:86:VAL:HA	38:m:89:LYS:HE3	1.95	0.47
39:n:8:ARG:HA	39:n:11:ARG:CZ	2.45	0.47
42:q:24:LYS:NZ	52:3:1198:G:OP1	2.44	0.47
50:y:52:ARG:H	50:y:52:ARG:HG2	1.52	0.47
52:3:288:A:H2'	52:3:289:U:C6	2.50	0.47
52:3:1071:G:H2'	52:3:1072:A:H8	1.79	0.47
52:3:1578:A:H2'	52:3:1579:G:O4'	2.14	0.47
52:3:2793:U:H2'	52:3:2794:U:H6	1.79	0.47
52:3:2865:U:H2'	52:3:2866:A:C8	2.50	0.47
54:5:26:C:H2'	54:5:27:A:H8	1.80	0.47
54:5:33:A:H2'	54:5:34:A:H8	1.78	0.47
54:5:317:A:C2	54:5:328:G:N1	2.72	0.47
54:5:671:G:H2'	54:5:672:A:H8	1.77	0.47
54:5:1177:U:H2'	54:5:1178:C:O4'	2.14	0.47
4:9:456:LEU:HD13	4:9:459:LEU:HD12	1.97	0.47
4:9:601:ILE:HG22	4:9:671:HIS:O	2.14	0.47
6:B:16:LYS:HA	6:B:16:LYS:HD3	1.77	0.47
7:C:68:ASP:HA	7:C:71:PHE:HB3	1.96	0.47
9:E:22:ASN:HB3	9:E:60:TRP:CZ2	2.50	0.47
14:J:74:THR:HG22	14:J:101:THR:CG2	2.44	0.47
20:P:3:ARG:O	20:P:3:ARG:HG3	2.15	0.47
28:c:24:LEU:HB2	28:c:120:LEU:HD22	1.96	0.47
30:e:108:LEU:HD23	30:e:110:LEU:HD11	1.97	0.47
35:j:19:VAL:HA	35:j:43:VAL:HA	1.96	0.47
39:n:87:THR:HA	39:n:114:LEU:HD13	1.96	0.47
52:3:144:C:H2'	52:3:145:A:C8	2.50	0.47
52:3:615:G:H2'	52:3:616:G:C8	2.45	0.47
52:3:1383:G:H2'	52:3:1384:C:C6	2.49	0.47
52:3:1738:G:H2'	52:3:1739:G:C8	2.49	0.47
52:3:1938:U:H3	52:3:1976:A:H62	1.61	0.47
52:3:2191:G:H2'	52:3:2192:U:C6	2.49	0.47
54:5:108:C:N4	54:5:109:G:O6	2.48	0.47
54:5:747:C:H2'	54:5:748:U:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1112:U:H2'	54:5:1113:U:C5	2.50	0.47
55:7:19:G:H4'	55:7:20:G:H5'	1.97	0.47
4:9:456:LEU:O	4:9:460:VAL:HG13	2.15	0.47
5:A:85:VAL:HG22	5:A:112:TRP:CH2	2.49	0.47
6:B:11:ARG:NH2	6:B:183:ALA:H	2.10	0.47
10:F:68:VAL:HA	10:F:137:LYS:HE2	1.97	0.47
10:F:75:ARG:NH2	54:5:1353:C:O2	2.47	0.47
11:G:108:LEU:O	11:G:109:ASN:ND2	2.48	0.47
11:G:111:LEU:HD12	11:G:112:GLY:N	2.30	0.47
32:g:32:MET:HB3	32:g:79:LYS:NZ	2.30	0.47
52:3:515:A:N6	52:3:538:A:H61	2.13	0.47
52:3:604:A:O2'	52:3:606:G:OP2	2.26	0.47
52:3:625:G:H2'	52:3:626:A:C8	2.50	0.47
52:3:873:G:N1	52:3:977:A:N7	2.63	0.47
52:3:1613:A:H3'	52:3:1614:G:C8	2.50	0.47
52:3:1649:C:O2'	52:3:1651:C:OP1	2.33	0.47
52:3:2022:A:H8	52:3:2023:U:C6	2.32	0.47
52:3:2755:G:O6	52:3:2763:C:H5''	2.14	0.47
53:4:93:U:H2'	53:4:94:A:C8	2.49	0.47
54:5:162:C:H2'	54:5:163:G:N3	2.30	0.47
54:5:397:C:H2'	54:5:398:G:C8	2.49	0.47
54:5:948:U:C2	54:5:949:G:C8	3.03	0.47
54:5:1327:G:H2'	54:5:1328:C:C6	2.50	0.47
54:5:1339:U:H3'	54:5:1340:G:H8	1.79	0.47
55:8:19:G:H4'	55:8:20:G:H5'	1.97	0.47
1:0:39:ARG:HH22	52:3:497:C:N4	2.12	0.46
4:9:98:VAL:HA	4:9:327:ARG:HD2	1.97	0.46
4:9:486:LYS:HG3	4:9:513:PRO:HD2	1.96	0.46
9:E:8:LEU:HD23	9:E:84:ARG:HB2	1.97	0.46
18:N:84:LEU:HA	52:3:750:A:H5''	1.97	0.46
26:a:178:LYS:HA	26:a:194:LYS:HD3	1.95	0.46
27:b:55:ASP:O	27:b:79:LYS:N	2.48	0.46
28:c:119:LYS:NZ	28:c:191:LEU:O	2.33	0.46
35:j:36:GLY:HA3	35:j:109:ARG:HD2	1.98	0.46
44:s:10:PRO:HA	44:s:29:PHE:HA	1.96	0.46
46:u:34:ARG:NH2	52:3:2364:A:O3'	2.48	0.46
47:v:18:ARG:HH22	55:8:76:C:H5''	1.79	0.46
52:3:1014:G:H2'	52:3:1015:G:C8	2.50	0.46
52:3:1245:G:O6	52:3:1265:G:C2	2.68	0.46
52:3:1336:A:C4	52:3:1337:G:C8	3.03	0.46
52:3:1443:A:H2	52:3:1621:U:H3	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1620:A:H2'	52:3:1621:U:O4'	2.15	0.46
52:3:1777:G:H21	52:3:1793:A:H2	1.63	0.46
52:3:2017:G:H2'	52:3:2018:U:H6	1.80	0.46
52:3:2119:A:H62	55:8:57:C:N4	2.13	0.46
52:3:2141:A:N6	52:3:2163:U:H2'	2.30	0.46
52:3:2313:U:H2'	52:3:2314:U:C6	2.50	0.46
54:5:135:A:N6	54:5:158:A:H62	2.14	0.46
54:5:380:G:H2'	54:5:381:C:C6	2.50	0.46
54:5:1414:U:H2'	54:5:1415:G:C8	2.50	0.46
2:1:6:ALA:HB1	2:1:10:ARG:HH12	1.80	0.46
4:9:340:LYS:HZ3	4:9:342:VAL:HG12	1.79	0.46
5:A:146:LYS:HE2	5:A:150:LEU:HD21	1.96	0.46
8:D:138:HIS:NE2	8:D:140:VAL:HB	2.30	0.46
11:G:67:LYS:NZ	54:5:650:A:H1'	2.31	0.46
11:G:96:ARG:NH2	54:5:640:C:O2'	2.47	0.46
15:K:49:ARG:HB3	15:K:67:LYS:HB3	1.98	0.46
19:O:73:TRP:HA	19:O:76:PHE:HB3	1.97	0.46
26:a:143:GLU:HG2	26:a:172:GLY:HA2	1.97	0.46
26:a:191:LYS:HB2	26:a:277:LEU:HD12	1.98	0.46
26:a:219:ASN:OD1	52:3:1798:A:H5'	2.14	0.46
29:d:6:ALA:HA	29:d:9:GLN:HG2	1.97	0.46
29:d:100:LEU:O	29:d:104:ILE:HG12	2.15	0.46
33:h:130:GLN:NE2	52:3:1097:G:H1'	2.30	0.46
52:3:514:A:O2'	52:3:515:A:OP1	2.29	0.46
52:3:822:C:H3'	52:3:826:C:H41	1.80	0.46
52:3:1016:A:P	52:3:1016:A:H8	2.38	0.46
52:3:1416:G:H2'	52:3:1417:G:C8	2.50	0.46
52:3:2479:A:N1	52:3:2486:A:N6	2.63	0.46
52:3:2523:C:O2'	52:3:2524:U:H5'	2.15	0.46
52:3:2561:G:H21	52:3:2590:G:N2	2.14	0.46
52:3:2701:A:C6	52:3:2725:G:C6	3.03	0.46
54:5:103:U:O4	54:5:285:G:O2'	2.29	0.46
54:5:395:G:H2'	54:5:396:C:C6	2.51	0.46
54:5:520:C:O2'	54:5:534:C:H5''	2.15	0.46
54:5:563:U:OP2	54:5:564:G:O2'	2.28	0.46
54:5:997:G:H1	54:5:1029:C:N4	2.13	0.46
54:5:1065:G:H2'	54:5:1066:U:C6	2.51	0.46
54:5:1211:A:H4'	54:5:1278:G:H4'	1.95	0.46
54:5:1289:U:H2'	54:5:1290:G:O4'	2.15	0.46
54:5:1495:C:H2'	54:5:1496:G:C8	2.50	0.46
55:8:37:A:C2	55:8:38:G:H1'	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:81:ASP:OD1	4:9:81:ASP:N	2.47	0.46
4:9:267:ILE:HG13	4:9:268:LYS:H	1.80	0.46
7:C:98:ASP:HA	7:C:101:VAL:HG22	1.97	0.46
7:C:100:ILE:HG13	7:C:136:LEU:HG	1.97	0.46
14:J:48:SER:OG	54:5:691:A:O5'	2.29	0.46
26:a:121:ILE:HD11	26:a:133:GLY:HA3	1.98	0.46
27:b:72:LYS:HD3	52:3:2794:U:H5'	1.96	0.46
37:l:116:LYS:NZ	37:l:120:ARG:HH21	2.12	0.46
40:o:32:ASN:OD1	40:o:33:VAL:N	2.48	0.46
43:r:6:LYS:HE2	52:3:529:G:H5''	1.96	0.46
46:u:47:THR:N	46:u:78:ASP:OD1	2.37	0.46
47:v:14:TYR:CD2	52:3:192:U:H5''	2.50	0.46
50:y:11:HIS:CE1	52:3:19:G:H5''	2.50	0.46
52:3:1140:U:H2'	52:3:1141:U:C6	2.49	0.46
52:3:1258:C:H2'	52:3:1259:A:O4'	2.15	0.46
52:3:1704:C:N4	52:3:2000:U:H1'	2.30	0.46
52:3:2519:U:H2'	52:3:2520:C:C6	2.51	0.46
54:5:68:C:H2'	54:5:69:G:H8	1.78	0.46
54:5:803:C:H2'	54:5:804:A:H8	1.80	0.46
54:5:926:C:H2'	54:5:927:C:C6	2.51	0.46
54:5:1405:U:H2'	54:5:1406:U:C6	2.51	0.46
54:5:1478:A:C8	54:5:1506:A:H1'	2.50	0.46
4:9:86:VAL:HG13	4:9:87:ASP:N	2.30	0.46
5:A:249:LYS:HD2	5:A:250:PRO:HD2	1.96	0.46
7:C:1:MET:HE2	54:5:544:A:C4	2.49	0.46
13:I:78:ARG:HD3	13:I:78:ARG:HA	1.79	0.46
14:J:91:ARG:HH12	24:T:15:LEU:HD13	1.81	0.46
15:K:43:LYS:HG3	15:K:70:LEU:HD22	1.97	0.46
26:a:73:ARG:HH22	26:a:109:ILE:HD12	1.80	0.46
31:f:1:MET:HE1	31:f:26:ALA:O	2.15	0.46
31:f:28:HIS:HA	31:f:34:LYS:NZ	2.28	0.46
44:s:47:VAL:HG23	44:s:48:TYR:CD2	2.51	0.46
45:t:89:ILE:HG13	45:t:103:VAL:C	2.40	0.46
52:3:280:A:H2'	52:3:281:U:C6	2.51	0.46
52:3:376:U:H2'	52:3:377:U:C6	2.50	0.46
52:3:432:G:H2'	52:3:433:A:H8	1.80	0.46
52:3:1363:C:H2'	52:3:1364:A:H8	1.79	0.46
52:3:1369:U:C2	52:3:1426:C:H5''	2.50	0.46
52:3:1479:A:H4'	52:3:1480:A:C4	2.51	0.46
52:3:1670:U:H2'	52:3:1671:C:C6	2.51	0.46
52:3:1798:A:H3'	52:3:1799:A:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1890:U:O2'	52:3:1891:A:O4'	2.33	0.46
52:3:1953:U:H2'	52:3:1954:C:O4'	2.14	0.46
52:3:2063:G:H2'	52:3:2064:G:H8	1.80	0.46
52:3:2116:U:H5''	52:3:2117:G:OP2	2.15	0.46
52:3:2678:A:H2'	52:3:2679:G:H8	1.78	0.46
53:4:40:U:H1'	53:4:41:C:C2	2.50	0.46
54:5:21:U:H2'	54:5:22:G:O4'	2.15	0.46
54:5:72:A:H2'	54:5:73:G:C8	2.50	0.46
54:5:229:G:H2'	54:5:230:G:C8	2.50	0.46
54:5:1241:G:N2	54:5:1243:A:H3'	2.31	0.46
54:5:1288:C:H2'	54:5:1289:U:H6	1.79	0.46
11:G:99:ARG:HE	11:G:105:PRO:HD3	1.81	0.46
18:N:3:ILE:HD12	18:N:32:GLN:HE22	1.81	0.46
23:S:26:THR:HA	23:S:29:LYS:HB2	1.97	0.46
26:a:46:GLY:HA3	26:a:58:GLN:CD	2.40	0.46
26:a:57:HIS:HD2	26:a:224:ILE:HG23	1.80	0.46
30:e:146:GLN:NE2	52:3:2769:G:O2'	2.49	0.46
31:f:101:ALA:O	31:f:105:GLY:N	2.27	0.46
35:j:64:ARG:NH2	35:j:100:GLY:HA3	2.31	0.46
48:w:65:TRP:O	48:w:66:GLN:NE2	2.48	0.46
50:y:10:LYS:H	50:y:10:LYS:HG3	1.52	0.46
50:y:30:CYS:HA	50:y:37:LYS:HZ2	1.80	0.46
52:3:936:G:H8	52:3:936:G:OP2	1.99	0.46
52:3:1077:G:H22	52:3:1148:U:H2'	1.81	0.46
52:3:1094:G:H3'	52:3:1095:U:H6	1.81	0.46
52:3:1180:U:O4	52:3:1181:A:N6	2.49	0.46
52:3:1761:C:H2'	52:3:1762:A:C8	2.50	0.46
52:3:1876:G:N2	52:3:1879:A:OP2	2.48	0.46
52:3:2565:G:H2'	52:3:2566:C:C6	2.50	0.46
54:5:253:G:C6	54:5:266:A:N6	2.84	0.46
54:5:538:G:H2'	54:5:539:G:O4'	2.15	0.46
55:7:31:G:H2'	55:7:32:U:C6	2.50	0.46
4:9:640:LYS:HB2	52:3:1102:A:H61	1.80	0.46
7:C:68:ASP:O	7:C:71:PHE:HB3	2.16	0.46
7:C:97:LEU:HB2	7:C:134:ILE:HB	1.97	0.46
14:J:64:ALA:O	14:J:68:LYS:HG3	2.16	0.46
18:N:29:LEU:O	18:N:33:ILE:HG23	2.16	0.46
26:a:65:LYS:NZ	52:3:1603:A:OP1	2.47	0.46
29:d:164:SER:HA	29:d:167:LEU:HD12	1.97	0.46
31:f:31:PHE:HE1	52:3:2206:A:H5'	1.80	0.46
32:g:97:ASP:O	32:g:101:LYS:HG2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:h:102:LYS:NZ	33:h:106:GLN:HE22	2.14	0.46
40:o:80:GLN:OE1	40:o:82:HIS:N	2.30	0.46
43:r:114:ARG:HD3	52:3:556:U:H5'	1.97	0.46
46:u:56:GLY:HA2	52:3:2338:G:H21	1.81	0.46
48:w:4:ALA:HB1	48:w:8:ARG:NH1	2.30	0.46
52:3:163:A:N6	52:3:170:A:N3	2.61	0.46
52:3:695:G:H2'	52:3:696:U:C6	2.50	0.46
52:3:732:G:H2'	52:3:733:C:H6	1.78	0.46
52:3:840:G:N1	52:3:863:U:OP2	2.31	0.46
52:3:1042:C:H2'	52:3:1043:C:O4'	2.16	0.46
52:3:1621:U:H2'	52:3:1622:C:H6	1.79	0.46
52:3:2121:A:H2'	52:3:2122:G:H5'	1.97	0.46
52:3:2337:U:H2'	52:3:2338:G:C8	2.49	0.46
52:3:2656:G:H2'	52:3:2657:C:C6	2.50	0.46
53:4:93:U:H2'	53:4:94:A:H8	1.80	0.46
54:5:137:A:H3'	54:5:138:A:H8	1.80	0.46
54:5:405:C:H2'	54:5:406:G:O4'	2.15	0.46
54:5:680:G:O6	54:5:705:A:N6	2.48	0.46
55:7:22:A:N7	55:7:47:G:H1'	2.30	0.46
1:0:11:LYS:HE3	52:3:721:G:H5''	1.96	0.46
5:A:44:PHE:CZ	5:A:214:ILE:HG21	2.51	0.46
5:A:113:LEU:HG	5:A:162:PHE:HZ	1.80	0.46
8:D:67:GLU:OE1	8:D:97:ARG:NH1	2.49	0.46
9:E:3:TYR:OH	9:E:66:ASN:HB3	2.15	0.46
15:K:100:VAL:HG13	54:5:521:A:N6	2.31	0.46
19:O:12:ARG:NH1	54:5:624:U:OP2	2.49	0.46
24:T:40:MET:HA	24:T:43:ARG:HB3	1.97	0.46
30:e:73:ALA:O	30:e:76:THR:OG1	2.27	0.46
31:f:1:MET:N	31:f:22:LYS:HE2	2.31	0.46
32:g:63:LEU:HD23	32:g:74:THR:HG22	1.97	0.46
36:k:39:GLN:OE1	52:3:866:G:O2'	2.33	0.46
38:m:33:THR:HG22	38:m:34:THR:N	2.31	0.46
38:m:76:ASP:OD1	38:m:77:GLN:HG3	2.16	0.46
38:m:109:ASP:OD2	52:3:1315:A:N6	2.49	0.46
42:q:3:ALA:O	42:q:13:LEU:HD12	2.16	0.46
48:w:48:ARG:O	48:w:51:LEU:HG	2.15	0.46
52:3:390:A:H2'	52:3:391:U:O4'	2.15	0.46
52:3:535:G:H1'	52:3:540:A:N6	2.31	0.46
52:3:608:A:O2'	52:3:609:U:O4'	2.16	0.46
52:3:2059:G:H2'	52:3:2060:G:H8	1.76	0.46
52:3:2109:A:N6	52:3:2196:G:O6	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2173:G:H3'	52:3:2174:G:C8	2.51	0.46
52:3:2327:U:O2'	52:3:2341:G:O6	2.29	0.46
52:3:2469:A:H2'	52:3:2470:C:C6	2.50	0.46
52:3:2516:G:H2'	52:3:2517:A:H8	1.81	0.46
52:3:2733:A:O2'	52:3:2735:G:N7	2.43	0.46
52:3:2847:C:C2	52:3:2848:A:C8	3.04	0.46
53:4:22:G:O3'	53:4:25:A:N6	2.49	0.46
53:4:31:G:C6	53:4:48:A:N6	2.84	0.46
54:5:370:A:O2'	54:5:448:A:OP2	2.32	0.46
54:5:635:G:H2'	54:5:636:G:H8	1.79	0.46
54:5:1137:C:H2'	54:5:1138:U:H6	1.80	0.46
54:5:1180:U:O2'	54:5:1181:G:OP1	2.29	0.46
54:5:1269:U:H2'	54:5:1270:C:C6	2.51	0.46
4:9:303:ASP:OD1	4:9:369:ALA:HB3	2.16	0.46
4:9:355:LYS:N	4:9:362:ASN:O	2.45	0.46
5:A:107:PHE:CE2	5:A:165:GLY:HA2	2.50	0.46
7:C:90:PHE:HE2	7:C:193:GLU:HG2	1.81	0.46
9:E:42:LEU:HD12	9:E:55:ALA:O	2.16	0.46
10:F:25:ILE:HD11	10:F:100:LEU:HD22	1.98	0.46
16:L:108:THR:HG23	16:L:109:ARG:HG3	1.96	0.46
21:Q:73:ARG:HD2	21:Q:78:ASN:O	2.16	0.46
22:R:12:ASP:OD1	22:R:37:ARG:NH2	2.49	0.46
33:h:56:THR:O	33:h:61:LYS:NZ	2.39	0.46
33:h:81:LYS:HD3	33:h:81:LYS:HA	1.76	0.46
40:o:78:ASN:OD1	40:o:79:PHE:N	2.49	0.46
52:3:257:C:H2'	52:3:258:G:O4'	2.16	0.46
52:3:458:A:H2'	52:3:458:A:N3	2.31	0.46
52:3:713:C:H2'	52:3:714:G:H8	1.81	0.46
52:3:789:A:H2'	52:3:790:U:C6	2.51	0.46
52:3:1039:G:H2'	52:3:1040:U:C6	2.50	0.46
52:3:1373:C:H2'	52:3:1374:U:C6	2.51	0.46
52:3:1721:G:N1	52:3:1734:A:OP1	2.48	0.46
52:3:2244:U:H2'	52:3:2245:G:O4'	2.16	0.46
52:3:2460:C:O4'	55:7:76:C:N4	2.48	0.46
52:3:2582:G:H2'	52:3:2583:U:C6	2.51	0.46
52:3:2623:U:H2'	52:3:2624:C:C6	2.50	0.46
53:4:84:C:H1'	53:4:85:A:N7	2.30	0.46
54:5:887:C:C2	54:5:888:A:C8	3.04	0.46
54:5:1001:A:N6	54:5:1019:G:O2'	2.49	0.46
54:5:1010:A:H2	54:5:1194:A:H1'	1.80	0.46
54:5:1014:A:H2'	54:5:1015:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1213:A:H5'	54:5:1310:C:H41	1.79	0.46
54:5:1236:A:C2	54:5:1237:G:H1'	2.50	0.46
54:5:1283:G:H2'	54:5:1284:A:H8	1.80	0.46
54:5:1387:U:H2'	54:5:1388:A:C8	2.50	0.46
55:8:31:G:H2'	55:8:32:U:C6	2.50	0.46
4:9:55:GLN:HB3	4:9:58:GLU:HB2	1.98	0.46
7:C:53:GLN:NE2	7:C:195:TYR:O	2.35	0.46
11:G:19:LEU:HA	11:G:22:ILE:HG22	1.98	0.46
16:L:78:LYS:HA	16:L:81:SER:HB3	1.97	0.46
17:M:26:ARG:HH12	17:M:46:GLU:HG3	1.81	0.46
23:S:67:ARG:HG2	23:S:71:ARG:HD2	1.97	0.46
33:h:129:LYS:HE2	33:h:129:LYS:HB3	1.79	0.46
52:3:58:A:H2'	52:3:59:C:H6	1.81	0.46
52:3:155:A:H2'	52:3:156:A:H8	1.80	0.46
52:3:425:U:H4'	52:3:426:U:OP2	2.13	0.46
52:3:656:G:H4'	52:3:657:A:H5'	1.98	0.46
52:3:680:A:H2'	52:3:682:A:N7	2.31	0.46
52:3:1409:G:H1'	52:3:1604:A:H61	1.81	0.46
52:3:1476:C:H2'	52:3:1477:A:C8	2.51	0.46
52:3:1507:G:H1'	52:3:1508:G:OP2	2.16	0.46
52:3:1872:U:O2'	52:3:1882:G:N2	2.49	0.46
52:3:2069:A:O2'	52:3:2070:C:O5'	2.32	0.46
52:3:2080:C:H2'	52:3:2081:U:C6	2.51	0.46
52:3:2412:A:H2'	52:3:2413:G:O4'	2.16	0.46
52:3:2614:U:H2'	52:3:2615:G:C8	2.51	0.46
52:3:2817:G:H2'	52:3:2818:C:H6	1.80	0.46
54:5:46:U:H5''	54:5:303:A:O2'	2.16	0.46
54:5:280:G:H2'	54:5:281:U:C6	2.51	0.46
54:5:499:U:H2'	54:5:500:G:C8	2.51	0.46
54:5:766:G:H2'	54:5:767:U:H6	1.81	0.46
54:5:1385:A:H2'	54:5:1386:C:C6	2.51	0.46
55:7:29:C:H2'	55:7:30:G:C8	2.49	0.46
1:0:2:LYS:N	52:3:723:U:OP1	2.49	0.46
4:9:332:VAL:HG13	4:9:367:ILE:O	2.16	0.46
5:A:48:GLU:CD	5:A:52:ASN:H	2.19	0.46
6:B:184:ASP:O	6:B:207:ARG:HB2	2.16	0.46
6:B:185:ILE:HG23	6:B:205:ILE:O	2.16	0.46
7:C:4:THR:HG21	7:C:10:ARG:HH22	1.80	0.46
10:F:78:ARG:HB3	10:F:80:ALA:H	1.81	0.46
13:I:15:LYS:HB2	13:I:105:ARG:HB2	1.97	0.46
14:J:86:LYS:O	14:J:90:ILE:HD12	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:Q:82:HIS:O	21:Q:86:VAL:HG12	2.15	0.46
26:a:47:ARG:HH12	52:3:725:G:H21	1.64	0.46
27:b:129:LYS:HG2	52:3:2519:U:H5''	1.98	0.46
34:i:100:SER:H	34:i:129:LYS:HD2	1.81	0.46
35:j:101:PRO:HG3	40:o:73:ILE:HG21	1.96	0.46
45:t:79:GLN:O	45:t:80:LYS:HE2	2.16	0.46
52:3:61:U:C4	52:3:70:G:O6	2.69	0.46
52:3:546:U:H3'	52:3:547:G:H8	1.80	0.46
52:3:756:A:H2'	52:3:757:A:O4'	2.16	0.46
52:3:758:C:C2	52:3:759:U:C5	3.04	0.46
52:3:783:G:O2'	52:3:784:A:OP1	2.33	0.46
52:3:1213:U:H2'	52:3:1214:U:C6	2.51	0.46
52:3:1862:A:H2'	52:3:1863:G:C8	2.50	0.46
52:3:2330:A:H2'	52:3:2331:G:O4'	2.16	0.46
52:3:2743:U:H2'	52:3:2744:A:C8	2.50	0.46
54:5:140:U:H2'	54:5:141:A:H8	1.80	0.46
54:5:628:A:H5''	54:5:629:U:OP1	2.15	0.46
1:O:16:HIS:NE2	52:3:501:G:H5'	2.32	0.45
5:A:246:PHE:C	5:A:248:TYR:H	2.23	0.45
6:B:74:PRO:HB2	6:B:78:ILE:HG23	1.98	0.45
8:D:91:LEU:HD13	8:D:105:ILE:HB	1.98	0.45
11:G:115:ILE:HG22	11:G:122:VAL:HB	1.98	0.45
26:a:229:ARG:NH2	26:a:231:SER:OG	2.48	0.45
30:e:157:PRO:HA	30:e:163:LYS:O	2.16	0.45
34:i:138:GLN:OE1	52:3:8:A:H4'	2.17	0.45
52:3:43:A:H2'	52:3:44:A:H8	1.80	0.45
52:3:59:C:H2'	52:3:60:G:H8	1.80	0.45
52:3:91:G:H2'	52:3:92:U:C6	2.51	0.45
52:3:961:U:H2'	52:3:962:U:C6	2.51	0.45
52:3:962:U:H2'	52:3:963:U:H6	1.81	0.45
52:3:988:G:H2'	52:3:989:G:O4'	2.16	0.45
52:3:1261:U:H2'	52:3:1262:G:C8	2.51	0.45
52:3:1397:G:O2'	52:3:1817:A:N6	2.49	0.45
52:3:1690:C:H2'	52:3:1691:U:C6	2.51	0.45
52:3:2071:C:O5'	55:7:77:A:N6	2.50	0.45
52:3:2081:U:H2'	52:3:2082:U:H6	1.81	0.45
52:3:2124:A:N6	52:3:2170:A:H5'	2.31	0.45
52:3:2148:U:H2'	52:3:2149:U:C6	2.52	0.45
52:3:2302:C:H2'	52:3:2303:U:C6	2.51	0.45
52:3:2480:G:H1'	52:3:2486:A:H61	1.80	0.45
52:3:2835:G:N2	52:3:2887:A:O2'	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1137:C:N3	54:5:1151:A:N6	2.64	0.45
54:5:1192:C:H2'	54:5:1193:U:C6	2.51	0.45
11:G:9:LYS:HD3	54:5:822:A:H5'	1.97	0.45
13:I:17:GLU:O	13:I:102:VAL:HA	2.16	0.45
14:J:43:MET:HE2	14:J:59:ALA:HA	1.98	0.45
26:a:233:MET:HG3	26:a:234:ASN:N	2.31	0.45
28:c:34:VAL:O	28:c:38:VAL:HG23	2.15	0.45
32:g:36:GLU:O	32:g:40:ILE:HG13	2.17	0.45
34:i:68:THR:H	34:i:71:LYS:HD3	1.80	0.45
40:o:6:LYS:NZ	52:3:2880:A:O2'	2.46	0.45
41:p:59:LEU:HA	41:p:62:LEU:HG	1.98	0.45
42:q:72:LYS:H	42:q:81:LYS:HB3	1.81	0.45
52:3:40:A:H2'	52:3:41:C:O4'	2.16	0.45
52:3:412:A:C2	52:3:413:G:H1'	2.50	0.45
52:3:512:G:H2'	52:3:513:A:H2'	1.98	0.45
52:3:604:A:O2'	52:3:608:A:N6	2.48	0.45
52:3:608:A:H2'	52:3:609:U:C6	2.50	0.45
52:3:634:C:H2'	52:3:635:G:C8	2.51	0.45
52:3:698:A:H2'	52:3:699:U:C6	2.51	0.45
52:3:1480:A:O2'	52:3:1481:U:OP1	2.29	0.45
52:3:1544:G:H2'	52:3:1545:A:H8	1.81	0.45
52:3:1624:A:H2'	52:3:1625:G:C8	2.51	0.45
52:3:1955:G:H1'	54:5:1458:A:H1'	1.98	0.45
52:3:2094:A:H2'	52:3:2095:A:C8	2.50	0.45
52:3:2689:C:N3	52:3:2733:A:N6	2.64	0.45
54:5:333:U:O4	54:5:334:A:N6	2.50	0.45
54:5:705:A:H2'	54:5:706:U:C6	2.50	0.45
54:5:1333:C:H1'	54:5:1336:C:H41	1.81	0.45
54:5:1383:A:H2'	54:5:1384:A:C8	2.51	0.45
4:9:477:GLN:HE22	4:9:480:PHE:HE2	1.64	0.45
7:C:192:ASN:O	7:C:196:VAL:HG23	2.16	0.45
28:c:188:VAL:O	28:c:192:MET:HB2	2.16	0.45
29:d:29:PRO:HB2	29:d:169:LEU:HD22	1.98	0.45
30:e:152:ARG:HD2	30:e:167:TYR:CE1	2.51	0.45
31:f:109:GLN:NE2	31:f:111:PHE:H	2.14	0.45
32:g:11:VAL:HG21	32:g:61:ARG:NE	2.30	0.45
32:g:60:ARG:HG3	32:g:74:THR:OG1	2.16	0.45
35:j:3:SER:OG	52:3:1700:G:O2'	2.19	0.45
36:k:30:LYS:HD2	52:3:845:U:C5	2.52	0.45
36:k:93:ILE:HD11	36:k:124:LEU:HD13	1.96	0.45
38:m:37:LYS:O	38:m:41:THR:HG23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:o:55:ARG:HA	40:o:55:ARG:HE	1.80	0.45
40:o:65:ILE:HD13	40:o:78:ASN:HA	1.98	0.45
43:r:114:ARG:NH1	52:3:555:A:O3'	2.49	0.45
45:t:31:ARG:HB3	45:t:33:GLN:OE1	2.16	0.45
48:w:53:THR:HG22	52:3:79:U:H5'	1.98	0.45
52:3:194:A:H2'	52:3:195:A:C8	2.51	0.45
52:3:228:A:H3'	52:3:229:C:H5''	1.98	0.45
52:3:494:G:H1'	52:3:495:U:H5	1.80	0.45
52:3:567:U:O2'	52:3:2028:G:O6	2.34	0.45
52:3:861:U:H3	52:3:866:G:H1	1.63	0.45
52:3:909:U:H2'	52:3:910:G:C8	2.51	0.45
52:3:1464:G:N3	52:3:1503:A:H2	2.14	0.45
52:3:1619:A:H2'	52:3:1620:A:C8	2.51	0.45
52:3:2094:A:H2'	52:3:2095:A:H8	1.80	0.45
52:3:2140:G:H2'	52:3:2165:A:N6	2.32	0.45
52:3:2301:C:H2'	52:3:2302:C:C6	2.50	0.45
52:3:2683:G:H2'	52:3:2684:G:C8	2.51	0.45
53:4:66:A:H2'	53:4:67:G:O4'	2.17	0.45
54:5:59:C:O2'	54:5:384:G:OP1	2.29	0.45
54:5:474:G:C2	54:5:475:U:C4	3.05	0.45
54:5:774:A:H2'	54:5:775:G:C8	2.51	0.45
4:9:93:GLU:HB3	4:9:97:ARG:HH12	1.81	0.45
4:9:100:ASP:OD1	4:9:100:ASP:N	2.45	0.45
4:9:117:GLU:HG2	4:9:121:ARG:NH1	2.31	0.45
4:9:124:SER:HA	4:9:130:ARG:CZ	2.47	0.45
4:9:395:GLN:NE2	4:9:396:LEU:O	2.50	0.45
5:A:32:MET:HG3	5:A:33:VAL:N	2.27	0.45
5:A:85:VAL:HG23	5:A:177:ILE:O	2.17	0.45
7:C:79:LEU:HD23	7:C:85:LEU:HD22	1.97	0.45
17:M:32:ALA:HB2	54:5:969:A:H5''	1.99	0.45
24:T:28:LEU:O	24:T:31:ARG:NH1	2.50	0.45
36:k:126:PHE:HB3	36:k:128:VAL:HG13	1.97	0.45
38:m:31:ILE:HG22	38:m:116:LEU:HB3	1.99	0.45
46:u:25:LYS:HA	46:u:25:LYS:HD2	1.76	0.45
51:z:45:VAL:O	51:z:47:HIS:ND1	2.43	0.45
52:3:22:U:H2'	52:3:23:A:C8	2.51	0.45
52:3:325:G:N2	52:3:383:U:O2	2.32	0.45
52:3:435:U:H2'	52:3:436:G:C8	2.52	0.45
52:3:1106:G:H1'	52:3:1124:G:N7	2.32	0.45
52:3:1446:G:N2	52:3:1612:U:H5''	2.30	0.45
52:3:1524:C:C2	52:3:1525:G:C8	3.04	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1583:G:HO2'	52:3:1584:U:P	2.40	0.45
52:3:1623:U:H2'	52:3:1624:A:C8	2.43	0.45
52:3:1723:A:H2'	52:3:1724:A:C8	2.51	0.45
52:3:1853:G:H2'	52:3:1854:A:C8	2.50	0.45
52:3:2696:G:H3'	52:3:2727:G:H1	1.80	0.45
52:3:2892:U:H2'	52:3:2893:C:C6	2.51	0.45
53:4:41:C:H41	53:4:43:A:N6	2.13	0.45
53:4:89:A:C4	53:4:90:G:C8	3.05	0.45
54:5:422:A:H2'	54:5:423:U:C6	2.51	0.45
54:5:594:A:H2'	54:5:595:G:H8	1.81	0.45
54:5:596:U:H2'	54:5:597:C:C6	2.51	0.45
54:5:1277:C:H2'	54:5:1278:G:C8	2.52	0.45
54:5:1362:G:H2'	54:5:1363:U:C6	2.52	0.45
55:7:63:U:H2'	55:7:64:G:H8	1.82	0.45
4:9:128:VAL:O	4:9:130:ARG:HG3	2.15	0.45
4:9:640:LYS:HB2	52:3:1102:A:N6	2.31	0.45
11:G:104:LEU:HD12	11:G:105:PRO:HD2	1.98	0.45
18:N:35:GLN:NE2	54:5:737:U:OP1	2.50	0.45
27:b:176:VAL:HG13	27:b:179:LEU:HD11	1.99	0.45
32:g:27:PHE:CE1	32:g:108:PHE:HD1	2.35	0.45
34:i:46:ASP:OD1	34:i:46:ASP:N	2.47	0.45
36:k:56:THR:HG21	52:3:2437:G:N7	2.31	0.45
40:o:55:ARG:HA	40:o:55:ARG:NE	2.32	0.45
42:q:47:ALA:HB3	42:q:48:PRO:HD3	1.99	0.45
48:w:23:LYS:O	48:w:26:LEU:HG	2.16	0.45
48:w:38:LEU:HG	48:w:40:LYS:H	1.82	0.45
52:3:135:A:H2'	52:3:136:G:O4'	2.17	0.45
52:3:153:U:H2'	52:3:154:U:C6	2.50	0.45
52:3:295:U:H4'	52:3:296:U:OP2	2.16	0.45
52:3:758:C:H2'	52:3:759:U:C6	2.52	0.45
52:3:973:U:H2'	52:3:974:C:C6	2.51	0.45
52:3:1307:G:H2'	52:3:1308:A:H8	1.79	0.45
52:3:2495:A:H2'	52:3:2496:G:C8	2.51	0.45
52:3:2694:A:H2'	52:3:2695:U:C6	2.51	0.45
54:5:450:U:O4	54:5:477:U:N3	2.50	0.45
54:5:474:G:C6	54:5:475:U:O4	2.70	0.45
54:5:732:A:H2'	54:5:733:A:C8	2.51	0.45
54:5:839:U:H3'	54:5:840:C:C6	2.51	0.45
54:5:1126:U:H1'	54:5:1255:A:N6	2.32	0.45
54:5:1137:C:H2'	54:5:1138:U:C6	2.51	0.45
54:5:1375:C:O4'	55:8:35:G:N1	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:93:GLU:OE2	4:9:126:TYR:OH	2.17	0.45
7:C:121:HIS:ND1	7:C:148:THR:HG21	2.31	0.45
8:D:188:PRO:O	8:D:192:ILE:HG12	2.17	0.45
12:H:108:ARG:HH22	12:H:111:ARG:HB2	1.82	0.45
14:J:36:CYS:SG	14:J:37:TRP:N	2.90	0.45
14:J:87:ASP:OD1	14:J:88:THR:N	2.50	0.45
17:M:7:LYS:HG3	17:M:23:ARG:HH22	1.82	0.45
27:b:13:MET:SD	27:b:13:MET:N	2.90	0.45
27:b:35:GLN:NE2	27:b:75:LEU:HB3	2.32	0.45
28:c:45:TRP:O	28:c:47:GLN:NE2	2.48	0.45
28:c:159:PHE:HB2	28:c:180:VAL:HG22	1.98	0.45
35:j:20:GLY:O	35:j:42:SER:N	2.45	0.45
45:t:90:LYS:NZ	45:t:104:PHE:O	2.46	0.45
48:w:19:VAL:O	48:w:23:LYS:HG2	2.17	0.45
48:w:45:ASN:OD1	48:w:49:ARG:NH1	2.50	0.45
52:3:297:G:H4'	52:3:298:U:C5	2.52	0.45
52:3:392:A:N3	52:3:392:A:H2'	2.31	0.45
52:3:1119:A:O2'	52:3:1140:U:H4'	2.16	0.45
52:3:1825:U:O2'	52:3:1826:A:OP2	2.35	0.45
52:3:1893:C:H2'	52:3:1894:U:H6	1.81	0.45
52:3:2454:G:N3	52:3:2509:C:N4	2.65	0.45
52:3:2552:G:H2'	52:3:2553:G:C8	2.51	0.45
53:4:36:C:H42	53:4:37:A:N6	2.14	0.45
54:5:421:G:H2'	54:5:422:A:C8	2.52	0.45
4:9:493:LYS:HB3	55:7:29:C:C4'	2.44	0.45
10:F:58:LEU:O	10:F:61:PHE:N	2.50	0.45
13:I:43:LYS:HB3	13:I:43:LYS:HE2	1.77	0.45
17:M:53:ILE:HB	17:M:56:VAL:HB	1.98	0.45
23:S:17:ARG:NH1	54:5:161:C:H5'	2.32	0.45
23:S:48:TYR:OH	23:S:73:VAL:HG13	2.17	0.45
26:a:76:TYR:CD2	26:a:101:TYR:HE2	2.35	0.45
28:c:82:PRO:HB3	28:c:88:GLY:O	2.17	0.45
35:j:8:LEU:HD11	35:j:84:CYS:HB3	1.99	0.45
37:l:52:ILE:O	37:l:56:LYS:HG2	2.16	0.45
41:p:49:ARG:HH12	42:q:68:VAL:HG11	1.81	0.45
47:v:55:LEU:O	47:v:59:LYS:HG3	2.16	0.45
50:y:40:HIS:CE1	52:3:2819:C:HO2'	2.34	0.45
50:y:49:GLY:HA2	52:3:2889:U:O4	2.16	0.45
52:3:225:A:C4	52:3:237:A:H1'	2.51	0.45
52:3:528:U:H2'	52:3:529:G:H8	1.80	0.45
52:3:856:A:H8	52:3:982:G:C8	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:886:U:H2'	52:3:887:A:C8	2.51	0.45
52:3:975:G:N2	52:3:1222:A:H4'	2.30	0.45
52:3:1556:U:H2'	52:3:1557:G:C8	2.52	0.45
52:3:1780:A:H2'	52:3:1781:C:O4'	2.17	0.45
52:3:1878:A:H2'	52:3:1879:A:O4'	2.17	0.45
52:3:2127:G:C6	52:3:2187:C:N4	2.84	0.45
52:3:2624:C:H2'	52:3:2625:U:C6	2.51	0.45
53:4:59:A:H2'	53:4:60:C:C6	2.51	0.45
54:5:374:G:H2'	54:5:375:C:C6	2.52	0.45
54:5:464:A:H2'	54:5:465:A:C8	2.52	0.45
54:5:1446:A:H2'	54:5:1447:U:C6	2.52	0.45
2:1:30:ALA:HA	2:1:33:LYS:HE2	1.99	0.45
2:1:42:ARG:HH12	52:3:2358:U:P	2.39	0.45
4:9:91:GLU:HG3	4:9:94:ARG:HH21	1.82	0.45
4:9:300:SER:OG	4:9:301:ALA:N	2.50	0.45
4:9:392:ILE:HG13	4:9:393:ASP:H	1.81	0.45
4:9:415:LYS:NZ	15:K:46:VAL:HA	2.30	0.45
4:9:629:GLY:HA3	52:3:1103:G:H2'	1.98	0.45
5:A:154:ARG:NE	5:A:158:ARG:NH2	2.64	0.45
9:E:115:TYR:O	9:E:121:ARG:NE	2.26	0.45
11:G:61:GLU:HB3	11:G:68:ARG:HE	1.81	0.45
26:a:46:GLY:HA3	26:a:58:GLN:NE2	2.32	0.45
29:d:24:SER:OG	53:4:53:U:O2'	2.23	0.45
30:e:19:ASN:HB2	30:e:26:ALA:HB3	1.99	0.45
33:h:53:CYS:HB3	33:h:65:PHE:CE1	2.52	0.45
52:3:47:G:H21	52:3:471:A:H62	1.62	0.45
52:3:48:G:OP2	52:3:219:G:H5''	2.17	0.45
52:3:167:A:H2'	52:3:168:A:O4'	2.17	0.45
52:3:194:A:N6	52:3:210:U:N3	2.58	0.45
52:3:443:C:H2'	52:3:444:C:C6	2.52	0.45
52:3:788:G:H2'	52:3:789:A:H8	1.82	0.45
52:3:1536:C:H2'	52:3:1537:A:C8	2.52	0.45
52:3:1686:U:H3'	52:3:1687:G:C8	2.52	0.45
52:3:1930:U:H2'	52:3:1931:C:C5	2.51	0.45
52:3:2406:U:H2'	52:3:2407:G:C8	2.51	0.45
54:5:455:U:H3	54:5:472:G:H22	1.63	0.45
54:5:830:U:H2'	54:5:831:C:C6	2.50	0.45
54:5:958:G:H2'	54:5:959:A:H8	1.82	0.45
4:9:269:LEU:HD23	4:9:269:LEU:HA	1.81	0.45
6:B:51:ALA:HB1	6:B:77:LEU:HD21	1.99	0.45
6:B:92:ILE:HA	6:B:95:ILE:HG12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:K:67:LYS:HG3	15:K:75:GLU:HG2	1.99	0.45
21:Q:70:ILE:HB	54:5:716:C:H2'	1.98	0.45
22:R:9:ALA:HB3	22:R:41:PHE:HE1	1.81	0.45
24:T:8:ASN:C	24:T:8:ASN:ND2	2.75	0.45
27:b:72:LYS:HD3	52:3:2794:U:C5'	2.47	0.45
34:i:112:LEU:HB3	34:i:118:SER:HB2	1.99	0.45
41:p:9:THR:HA	41:p:12:ARG:HG3	1.98	0.45
42:q:6:VAL:HG11	42:q:37:LYS:HE2	1.99	0.45
50:y:32:LYS:HA	50:y:32:LYS:HE2	1.97	0.45
52:3:640:U:O2	52:3:658:G:O6	2.35	0.45
52:3:725:G:N2	52:3:807:U:O2	2.35	0.45
52:3:888:A:H2'	52:3:889:G:C8	2.51	0.45
52:3:1552:C:H2'	52:3:1553:G:O4'	2.17	0.45
52:3:2657:C:H2'	52:3:2658:U:C6	2.51	0.45
54:5:160:A:H3'	54:5:161:C:H6	1.81	0.45
54:5:717:C:OP2	54:5:718:A:O2'	2.32	0.45
54:5:896:G:H2'	54:5:897:A:C8	2.46	0.45
54:5:981:U:H3	54:5:1194:A:H61	1.63	0.45
54:5:1115:G:H22	54:5:1126:U:H3	1.64	0.45
4:9:21:ALA:O	4:9:136:LYS:NZ	2.49	0.45
11:G:109:ASN:OD1	11:G:111:LEU:HD23	2.17	0.45
12:H:125:ARG:NH2	54:5:1317:A:O2'	2.46	0.45
17:M:26:ARG:HG3	17:M:27:CYS:H	1.82	0.45
22:R:36:ARG:HB3	54:5:1294:U:N3	2.32	0.45
27:b:213:LYS:C	27:b:215:GLY:H	2.25	0.45
28:c:38:VAL:O	28:c:42:GLN:HB2	2.17	0.45
36:k:79:VAL:HG23	36:k:113:LYS:HB2	1.99	0.45
44:s:51:LYS:NZ	44:s:52:PRO:O	2.49	0.45
47:v:52:THR:HG21	52:3:434:G:OP1	2.16	0.45
48:w:49:ARG:NE	52:3:78:C:OP1	2.46	0.45
52:3:190:G:H2'	52:3:191:G:H8	1.82	0.45
52:3:223:A:N6	52:3:464:A:OP2	2.50	0.45
52:3:882:C:OP2	52:3:883:A:N6	2.37	0.45
52:3:978:G:O2'	52:3:979:U:O4'	2.28	0.45
52:3:995:A:H2'	52:3:996:A:C8	2.52	0.45
52:3:1431:A:H2'	52:3:1432:C:C6	2.51	0.45
52:3:1460:G:N2	52:3:1596:U:C2	2.85	0.45
52:3:1626:C:H2'	52:3:1627:U:C6	2.52	0.45
52:3:1647:A:H3'	52:3:1648:A:H5''	1.99	0.45
52:3:2096:U:H2'	52:3:2097:A:H8	1.82	0.45
52:3:2167:G:H2'	52:3:2168:C:C6	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2502:G:H2'	52:3:2503:G:H8	1.82	0.45
52:3:2551:G:H2'	52:3:2552:G:C8	2.51	0.45
52:3:2588:U:H3'	52:3:2589:G:N2	2.32	0.45
54:5:372:G:H2'	54:5:373:A:C8	2.52	0.45
54:5:590:G:H2'	54:5:591:A:C8	2.40	0.45
54:5:1089:C:H5'	54:5:1144:A:H1'	1.98	0.45
5:A:118:THR:HG23	5:A:119:ASN:HD22	1.80	0.44
6:B:22:TRP:NE1	17:M:54:PRO:HG3	2.32	0.44
7:C:37:GLN:NE2	54:5:539:G:O2'	2.48	0.44
8:D:163:GLY:O	8:D:167:ARG:N	2.24	0.44
9:E:92:ARG:NH1	21:Q:51:ILE:O	2.50	0.44
15:K:114:THR:O	15:K:115:LEU:HG	2.17	0.44
31:f:114:LYS:HG3	31:f:128:LEU:HD11	1.99	0.44
34:i:40:ARG:NH1	34:i:113:PRO:HG3	2.32	0.44
34:i:70:ASN:ND2	34:i:73:GLU:OE2	2.50	0.44
36:k:40:LYS:HG3	52:3:867:G:H5''	1.99	0.44
38:m:115:ILE:HG12	38:m:117:GLN:HG2	1.98	0.44
52:3:611:A:C5	52:3:2025:C:H5'	2.53	0.44
52:3:1416:G:N1	52:3:1428:U:O4	2.51	0.44
52:3:1603:A:H2'	52:3:1604:A:C8	2.52	0.44
52:3:1701:G:N2	52:3:1999:G:OP2	2.50	0.44
52:3:1817:A:H3'	52:3:1818:G:H8	1.82	0.44
52:3:2721:C:O2'	52:3:2723:C:OP2	2.29	0.44
54:5:60:A:OP1	54:5:61:A:H5''	2.17	0.44
54:5:432:U:H2'	54:5:433:C:H6	1.81	0.44
54:5:643:U:H2'	54:5:644:U:C6	2.51	0.44
54:5:1224:C:O2	54:5:1262:A:N6	2.51	0.44
55:7:33:C:C4	55:7:39:A:N6	2.85	0.44
55:8:63:U:H2'	55:8:64:G:H8	1.82	0.44
3:2:19:ARG:NE	52:3:2764:U:OP2	2.29	0.44
4:9:124:SER:HA	4:9:130:ARG:NH1	2.32	0.44
5:A:177:ILE:HA	5:A:199:VAL:O	2.17	0.44
6:B:12:PHE:CZ	6:B:18:TRP:HD1	2.34	0.44
7:C:38:HIS:NE2	54:5:510:U:OP1	2.50	0.44
7:C:186:GLU:HG3	7:C:187:LEU:HG	1.98	0.44
12:H:22:THR:OG1	12:H:64:ASP:OD2	2.33	0.44
21:Q:64:LEU:HD11	21:Q:68:ALA:HA	1.99	0.44
26:a:88:TYR:OH	52:3:1601:A:N3	2.35	0.44
26:a:169:ARG:HD2	26:a:169:ARG:HA	1.59	0.44
42:q:35:LEU:HB3	42:q:55:VAL:HB	1.98	0.44
52:3:589:A:H2'	52:3:590:U:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:814:U:H2'	52:3:815:G:C8	2.51	0.44
52:3:1195:A:H2'	52:3:1196:U:C6	2.52	0.44
52:3:1243:A:H2'	52:3:1244:A:C8	2.52	0.44
52:3:1345:G:H2'	52:3:1346:G:C8	2.51	0.44
52:3:1701:G:N1	52:3:1998:U:H3'	2.31	0.44
52:3:1889:U:H2'	52:3:1890:U:C6	2.52	0.44
52:3:2108:C:H42	52:3:2109:A:H62	1.64	0.44
52:3:2150:C:H2'	52:3:2151:G:N3	2.32	0.44
52:3:2407:G:H2'	52:3:2408:G:H8	1.82	0.44
52:3:2792:C:O2'	52:3:2793:U:H5'	2.17	0.44
54:5:146:A:H2'	54:5:147:A:O4'	2.17	0.44
54:5:185:G:O2'	54:5:186:A:O4'	2.31	0.44
54:5:1088:C:H1'	54:5:1145:A:H1'	2.00	0.44
54:5:1237:G:H2'	54:5:1238:C:H6	1.82	0.44
54:5:1490:G:H2'	54:5:1491:A:C8	2.52	0.44
55:8:33:C:C4	55:8:39:A:N6	2.85	0.44
1:0:9:LYS:H	52:3:1337:G:H5''	1.82	0.44
4:9:493:LYS:HE2	4:9:506:HIS:HE1	1.81	0.44
7:C:141:LYS:HE3	7:C:141:LYS:HB3	1.77	0.44
8:D:208:VAL:HA	8:D:211:LEU:HG	2.00	0.44
9:E:45:LEU:HD21	9:E:55:ALA:HB3	1.98	0.44
26:a:165:GLY:N	26:a:203:VAL:HG23	2.32	0.44
27:b:228:LYS:NZ	40:o:20:ALA:O	2.50	0.44
28:c:72:GLY:HA2	52:3:1285:U:H3	1.83	0.44
28:c:172:THR:HG21	28:c:178:VAL:HG12	1.99	0.44
36:k:18:LYS:HE3	52:3:698:A:H4'	1.99	0.44
37:l:38:LYS:HA	37:l:99:GLN:HB3	1.99	0.44
38:m:106:ARG:HG3	38:m:109:ASP:H	1.81	0.44
41:p:80:ASN:ND2	52:3:1186:A:H4'	2.32	0.44
45:t:17:ASN:ND2	45:t:20:GLY:HA3	2.32	0.44
52:3:321:A:H2'	52:3:322:A:C8	2.53	0.44
52:3:996:A:N6	52:3:998:C:O2	2.50	0.44
52:3:1221:G:H2'	52:3:1222:A:C8	2.52	0.44
52:3:2820:G:O2'	52:3:2821:U:H5'	2.18	0.44
53:4:32:G:N2	53:4:35:C:H41	2.16	0.44
54:5:957:C:H2'	54:5:958:G:H8	1.82	0.44
54:5:1007:U:H2'	54:5:1008:G:C8	2.52	0.44
54:5:1178:C:H2'	54:5:1179:A:H8	1.78	0.44
4:9:90:VAL:O	4:9:93:GLU:HB2	2.17	0.44
4:9:348:GLU:CB	4:9:378:LEU:HD12	2.48	0.44
6:B:88:ILE:O	6:B:91:GLN:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:D:196:MET:O	8:D:200:LEU:HB2	2.17	0.44
10:F:21:LEU:O	10:F:25:ILE:HG12	2.18	0.44
11:G:46:GLU:HA	11:G:49:VAL:HG22	1.99	0.44
15:K:42:LEU:HB3	15:K:94:LEU:HD21	1.98	0.44
17:M:39:VAL:HG21	17:M:44:PHE:HD2	1.82	0.44
20:P:73:LYS:HE2	54:5:250:G:OP1	2.18	0.44
21:Q:80:GLN:OE1	21:Q:80:GLN:HA	2.17	0.44
32:g:27:PHE:HE1	32:g:108:PHE:HD1	1.64	0.44
40:o:31:VAL:HG12	40:o:91:LYS:H	1.82	0.44
40:o:55:ARG:NH2	40:o:81:ILE:HD11	2.32	0.44
44:s:27:TYR:OH	44:s:91:ILE:O	2.34	0.44
52:3:33:C:H2'	52:3:34:C:C6	2.53	0.44
52:3:210:U:H2'	52:3:211:A:C8	2.49	0.44
52:3:389:C:H2'	52:3:390:A:C8	2.53	0.44
52:3:820:U:H2'	52:3:821:C:C6	2.53	0.44
52:3:1200:U:O2	52:3:1215:G:N2	2.35	0.44
52:3:1355:C:N4	52:3:1681:G:N7	2.61	0.44
52:3:1958:U:H1'	52:3:1961:A:N7	2.33	0.44
52:3:2057:C:O2'	52:3:2058:G:O5'	2.35	0.44
52:3:2328:A:O2'	52:3:2341:G:N2	2.51	0.44
52:3:2551:G:H2'	52:3:2552:G:H8	1.82	0.44
53:4:54:U:H4'	53:4:55:A:O5'	2.17	0.44
53:4:76:A:H62	53:4:88:G:H21	1.64	0.44
54:5:642:A:C6	54:5:643:U:C4	3.05	0.44
54:5:673:A:H2'	54:5:674:U:C6	2.52	0.44
54:5:1194:A:H3'	54:5:1195:G:H8	1.82	0.44
55:7:57:C:H3'	55:7:58:G:C8	2.52	0.44
4:9:88:PHE:CZ	4:9:434:THR:HG21	2.52	0.44
5:A:23:LEU:HD22	5:A:58:LEU:HD11	1.99	0.44
6:B:176:MET:SD	6:B:185:ILE:HD13	2.58	0.44
11:G:49:VAL:HG21	11:G:57:PHE:CE1	2.53	0.44
12:H:46:VAL:HA	12:H:49:ASP:HB2	1.99	0.44
14:J:111:HIS:CD2	54:5:672:A:H1'	2.53	0.44
26:a:83:VAL:HA	26:a:99:ILE:HG13	1.98	0.44
28:c:31:GLN:HB2	36:k:3:LEU:HD22	1.99	0.44
34:i:26:LEU:HD21	34:i:145:TRP:CD1	2.52	0.44
36:k:113:LYS:HZ1	36:k:129:HIS:HB2	1.81	0.44
52:3:414:C:H2'	52:3:415:U:C6	2.53	0.44
52:3:438:A:H61	52:3:459:A:H2	1.65	0.44
52:3:491:A:C2	52:3:509:G:H5'	2.53	0.44
52:3:1023:C:O2'	52:3:1036:A:N3	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1083:A:H1'	52:3:1147:G:N2	2.32	0.44
52:3:1090:G:H3'	52:3:1091:G:H8	1.81	0.44
52:3:1624:A:H2'	52:3:1625:G:H8	1.81	0.44
52:3:2151:G:N2	52:3:2155:G:O6	2.37	0.44
52:3:2482:U:H5''	52:3:2483:C:C5	2.52	0.44
52:3:2547:C:O2	52:3:2749:A:O2'	2.35	0.44
52:3:2737:G:H2'	52:3:2738:U:C6	2.52	0.44
53:4:28:C:H1'	53:4:55:A:H61	1.83	0.44
54:5:467:G:H3'	54:5:468:G:H8	1.83	0.44
55:8:57:C:H3'	55:8:58:G:C8	2.52	0.44
1:0:12:ARG:HB2	52:3:721:G:H1	1.82	0.44
4:9:289:ALA:HB3	4:9:395:GLN:NE2	2.31	0.44
5:A:200:ALA:HB3	5:A:211:VAL:HG21	1.98	0.44
11:G:74:LEU:HB3	11:G:76:TYR:CE1	2.53	0.44
12:H:24:THR:HG23	12:H:26:ASP:H	1.83	0.44
16:L:17:ILE:HA	16:L:20:THR:HG23	1.98	0.44
17:M:61:TRP:HH2	54:5:1343:G:H4'	1.82	0.44
21:Q:60:LEU:HD21	21:Q:90:LEU:HB3	2.00	0.44
26:a:5:LYS:NZ	26:a:16:HIS:HA	2.33	0.44
26:a:215:LYS:NZ	52:3:764:G:O4'	2.34	0.44
27:b:7:PHE:CD1	27:b:206:LEU:HD13	2.52	0.44
27:b:144:GLN:HE22	52:3:2057:C:H4'	1.82	0.44
31:f:32:PRO:HA	31:f:35:LEU:HG	1.99	0.44
31:f:39:LEU:O	31:f:41:LYS:N	2.50	0.44
34:i:132:LYS:C	34:i:132:LYS:HD3	2.42	0.44
38:m:22:VAL:HA	38:m:25:VAL:HG12	2.00	0.44
39:n:11:ARG:HB2	39:n:11:ARG:NH1	2.32	0.44
40:o:25:PHE:HB2	40:o:55:ARG:HH11	1.82	0.44
45:t:78:ASP:HB2	45:t:104:PHE:CZ	2.47	0.44
47:v:27:ARG:HH22	52:3:2240:U:P	2.40	0.44
52:3:22:U:H2'	52:3:23:A:H8	1.82	0.44
52:3:37:G:H2'	52:3:38:G:H8	1.81	0.44
52:3:553:A:H2'	52:3:554:U:C6	2.53	0.44
52:3:899:A:H2'	52:3:900:G:C8	2.53	0.44
52:3:1604:A:H2'	52:3:1605:A:O4'	2.18	0.44
52:3:1696:C:H2'	52:3:1697:C:C6	2.52	0.44
52:3:1977:A:C4	52:3:1979:G:N7	2.86	0.44
52:3:2090:G:H2'	52:3:2091:C:H6	1.82	0.44
52:3:2148:U:N3	52:3:2149:U:C4	2.86	0.44
52:3:2546:U:H2'	52:3:2547:C:C5	2.52	0.44
52:3:2715:C:H2'	52:3:2716:U:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:807:C:H2'	54:5:808:C:C6	2.53	0.44
54:5:1126:U:H1'	54:5:1255:A:H61	1.82	0.44
5:A:107:PHE:CZ	5:A:165:GLY:HA2	2.53	0.44
6:B:36:GLU:O	6:B:40:ILE:HG13	2.17	0.44
7:C:4:THR:HG21	7:C:10:ARG:NH2	2.33	0.44
7:C:147:LYS:NZ	54:5:488:U:OP2	2.41	0.44
10:F:20:THR:O	10:F:23:THR:OG1	2.24	0.44
14:J:67:VAL:O	14:J:70:MET:HG3	2.17	0.44
16:L:122:GLU:HA	55:7:41:C:O2'	2.17	0.44
19:O:2:ARG:HA	19:O:10:THR:O	2.18	0.44
22:R:14:HIS:CE1	22:R:35:SER:HB2	2.52	0.44
27:b:153:GLY:O	27:b:157:GLN:NE2	2.51	0.44
28:c:80:ARG:HH21	28:c:86:GLY:HA3	1.83	0.44
30:e:146:GLN:OE1	52:3:2752:G:N2	2.43	0.44
33:h:102:LYS:O	33:h:106:GLN:HG2	2.18	0.44
38:m:57:PHE:HA	38:m:60:ARG:HG2	2.00	0.44
39:n:56:SER:H	39:n:59:ALA:HB3	1.82	0.44
52:3:48:G:H2'	52:3:49:C:C6	2.53	0.44
52:3:198:G:H2'	52:3:199:A:O4'	2.17	0.44
52:3:331:A:H2'	52:3:332:G:O4'	2.17	0.44
52:3:739:G:N2	52:3:761:G:O2'	2.50	0.44
52:3:1187:C:H2'	52:3:1188:C:C6	2.52	0.44
52:3:2180:U:H3'	52:3:2181:A:H8	1.82	0.44
52:3:2685:A:H2'	52:3:2686:C:C6	2.53	0.44
54:5:472:G:H2'	54:5:473:A:H8	1.83	0.44
1:0:3:ARG:HE	1:0:4:THR:HG23	1.82	0.44
1:0:39:ARG:NH1	52:3:494:G:O2'	2.40	0.44
2:1:21:ARG:HH12	52:3:2368:A:H4'	1.83	0.44
2:1:55:ILE:HB	2:1:59:ILE:HD13	1.99	0.44
4:9:58:GLU:HA	4:9:61:ILE:HG22	2.00	0.44
4:9:245:ARG:HA	4:9:248:VAL:HG12	2.00	0.44
5:A:22:LYS:NZ	5:A:250:PRO:O	2.48	0.44
5:A:73:LYS:HG3	5:A:77:GLN:NE2	2.33	0.44
23:S:17:ARG:NH2	54:5:161:C:H5'	2.33	0.44
27:b:115:LYS:HD3	27:b:200:PRO:HD3	1.99	0.44
28:c:63:LYS:NZ	52:3:831:U:H5''	2.32	0.44
32:g:28:ASP:H	32:g:109:VAL:HG21	1.83	0.44
33:h:93:VAL:O	33:h:133:ILE:HD12	2.18	0.44
35:j:77:LEU:HD13	40:o:77:LYS:HD2	2.00	0.44
36:k:57:PRO:HB2	36:k:60:ARG:HG2	1.99	0.44
40:o:101:ILE:HD12	40:o:104:MET:HB2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:r:33:GLN:HE22	43:r:48:ALA:HB1	1.83	0.44
43:r:48:ALA:O	43:r:52:ASN:ND2	2.51	0.44
44:s:37:LYS:HG3	52:3:1633:C:OP1	2.18	0.44
47:v:56:ARG:NH2	52:3:436:G:N7	2.59	0.44
52:3:80:U:H3	52:3:109:G:H1	1.64	0.44
52:3:424:G:H21	55:8:76:C:N4	2.16	0.44
52:3:525:A:H62	52:3:1312:A:H62	1.65	0.44
52:3:586:G:C5	52:3:587:U:C4	3.06	0.44
52:3:612:G:C5	52:3:1292:A:N6	2.86	0.44
52:3:856:A:H5''	52:3:857:U:O5'	2.18	0.44
52:3:1021:C:H2'	52:3:1022:C:C6	2.53	0.44
52:3:1045:A:H8	52:3:1188:C:HO2'	1.65	0.44
52:3:1125:U:C4	52:3:1137:C:C2	3.05	0.44
52:3:1361:U:H2'	52:3:1362:C:C6	2.53	0.44
52:3:1591:C:H2'	52:3:1592:A:N7	2.33	0.44
52:3:1806:G:O5'	52:3:1826:A:N6	2.51	0.44
52:3:2200:U:H2'	52:3:2201:G:C8	2.53	0.44
52:3:2306:A:H2'	52:3:2307:G:O4'	2.17	0.44
52:3:2608:A:H2'	52:3:2609:C:C6	2.53	0.44
53:4:31:G:H2'	53:4:32:G:C8	2.53	0.44
53:4:37:A:H2'	53:4:38:U:C6	2.52	0.44
54:5:38:U:H2'	54:5:39:G:H8	1.83	0.44
54:5:213:U:OP1	54:5:461:G:N2	2.51	0.44
54:5:213:U:H2'	54:5:214:U:C6	2.53	0.44
54:5:612:G:H2'	54:5:613:C:O4'	2.18	0.44
54:5:677:C:H2'	54:5:678:A:C8	2.52	0.44
54:5:958:G:H2'	54:5:959:A:C8	2.53	0.44
54:5:1493:A:H2'	54:5:1494:A:C8	2.53	0.44
55:7:63:U:H2'	55:7:64:G:C8	2.53	0.44
4:9:43:THR:HG23	4:9:44:HIS:ND1	2.33	0.44
4:9:195:GLU:HB2	4:9:197:LYS:NZ	2.29	0.44
5:A:23:LEU:HD21	5:A:62:ARG:HD2	2.00	0.44
7:C:160:SER:O	7:C:160:SER:OG	2.27	0.44
8:D:206:ARG:O	8:D:210:ILE:HG12	2.18	0.44
9:E:35:LEU:HA	9:E:62:PHE:HB3	1.99	0.44
9:E:49:ILE:HG23	9:E:50:LYS:H	1.82	0.44
9:E:92:ARG:HD2	9:E:93:GLU:N	2.33	0.44
9:E:136:LEU:H	9:E:136:LEU:HD23	1.82	0.44
18:N:72:LEU:O	18:N:76:ARG:NH2	2.51	0.44
24:T:22:SER:HA	24:T:25:ILE:HG12	2.00	0.44
25:W:67:LYS:HE2	25:W:67:LYS:HB2	1.72	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:d:31:LEU:HD12	29:d:97:TRP:HZ3	1.83	0.44
32:g:8:ALA:HA	32:g:61:ARG:NH1	2.33	0.44
32:g:38:THR:HA	32:g:41:ARG:HB2	1.98	0.44
36:k:5:GLN:HG3	52:3:1234:U:H1'	2.00	0.44
37:l:109:ILE:HD12	37:l:110:PRO:HD2	1.98	0.44
41:p:3:ILE:HD11	52:3:1229:U:O2'	2.17	0.44
44:s:3:VAL:HG12	48:w:65:TRP:CZ2	2.53	0.44
47:v:18:ARG:HH12	55:8:76:C:P	2.41	0.44
47:v:37:LYS:HG2	47:v:46:THR:HA	2.00	0.44
52:3:186:A:H2'	52:3:187:C:C6	2.52	0.44
52:3:347:C:H2'	52:3:348:A:C8	2.53	0.44
52:3:413:G:N7	52:3:436:G:N2	2.65	0.44
52:3:535:G:N2	52:3:537:A:H8	2.16	0.44
52:3:586:G:H2'	52:3:587:U:C6	2.53	0.44
52:3:791:A:H2'	52:3:792:G:O4'	2.18	0.44
52:3:843:G:H2'	52:3:844:G:H8	1.83	0.44
52:3:1043:C:H3'	52:3:1044:C:H6	1.82	0.44
52:3:1166:G:N2	52:3:1167:U:O4	2.50	0.44
52:3:1316:U:H5''	52:3:1317:C:H5	1.83	0.44
52:3:1464:G:H2'	52:3:1465:U:C6	2.52	0.44
52:3:1507:G:O6	52:3:1537:A:N6	2.51	0.44
52:3:1554:A:C5	52:3:1555:G:H1'	2.53	0.44
52:3:1820:U:HO2'	52:3:1821:G:P	2.39	0.44
52:3:2025:C:H2'	52:3:2026:A:H8	1.82	0.44
52:3:2130:A:N6	52:3:2184:A:H61	2.16	0.44
52:3:2268:C:H2'	52:3:2269:C:H6	1.82	0.44
52:3:2661:U:P	52:3:2662:A:H2'	2.57	0.44
52:3:2779:C:H2'	52:3:2780:U:C6	2.52	0.44
54:5:74:U:O4	54:5:75:A:N6	2.51	0.44
54:5:445:A:H8	54:5:483:U:N3	2.07	0.44
54:5:706:U:H2'	54:5:707:G:O4'	2.18	0.44
54:5:1225:A:C4	54:5:1261:A:N6	2.86	0.44
54:5:1414:U:H2'	54:5:1415:G:H8	1.81	0.44
4:9:82:THR:OG1	4:9:83:PRO:HD3	2.18	0.43
9:E:144:SER:O	9:E:145:ARG:HD2	2.18	0.43
12:H:12:ARG:HE	12:H:13:LYS:HE2	1.82	0.43
12:H:15:SER:HB2	12:H:72:GLY:HA3	1.99	0.43
26:a:47:ARG:HD3	26:a:47:ARG:HA	1.78	0.43
30:e:57:ARG:NH1	30:e:65:LYS:HA	2.33	0.43
30:e:107:ASN:C	30:e:108:LEU:HD12	2.43	0.43
37:l:11:LYS:N	37:l:12:PRO:HD3	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:54:ARG:NH1	52:3:1190:A:OP1	2.51	0.43
42:q:56:VAL:H	42:q:97:PHE:HA	1.83	0.43
43:r:112:ASN:CG	43:r:115:GLN:HE22	2.25	0.43
52:3:80:U:H2'	52:3:81:C:C6	2.53	0.43
52:3:186:A:H2'	52:3:187:C:H6	1.83	0.43
52:3:445:C:H2'	52:3:446:A:C8	2.52	0.43
52:3:1071:G:O2'	52:3:1072:A:H5'	2.18	0.43
52:3:1080:A:H5'	52:3:1081:A:H2'	2.00	0.43
52:3:1595:C:H2'	52:3:1596:U:C6	2.52	0.43
52:3:1690:C:H2'	52:3:1691:U:H6	1.83	0.43
52:3:1970:C:O2	52:3:1970:C:H2'	2.17	0.43
52:3:2016:G:C6	52:3:2017:G:O6	2.70	0.43
52:3:2820:G:H2'	52:3:2821:U:H6	1.82	0.43
52:3:2858:A:H2'	52:3:2859:U:C6	2.52	0.43
54:5:16:G:H2'	54:5:17:A:C8	2.53	0.43
54:5:110:U:H3	54:5:232:G:H1	1.65	0.43
54:5:268:C:H2'	54:5:269:A:C8	2.39	0.43
54:5:420:A:C5	54:5:421:G:H1'	2.53	0.43
54:5:1002:A:N6	54:5:1019:G:O2'	2.51	0.43
54:5:1055:G:H1'	54:5:1165:G:N2	2.33	0.43
54:5:1107:U:H2'	54:5:1108:A:C8	2.53	0.43
54:5:1226:A:H2	54:5:1344:C:H1'	1.83	0.43
4:9:626:LEU:HD22	52:3:1103:G:O6	2.17	0.43
5:A:166:VAL:O	5:A:166:VAL:HG13	2.18	0.43
6:B:116:ALA:HB2	6:B:205:ILE:HG22	2.00	0.43
6:B:152:ILE:HB	6:B:204:TRP:O	2.18	0.43
6:B:153:LYS:HG3	6:B:204:TRP:CE3	2.53	0.43
8:D:169:ILE:HD11	8:D:192:ILE:HD13	1.99	0.43
10:F:100:LEU:HD23	10:F:103:ILE:HD12	2.00	0.43
13:I:68:ARG:NH2	54:5:1342:C:H5'	2.34	0.43
15:K:25:HIS:HA	15:K:39:TYR:HA	2.00	0.43
15:K:68:VAL:C	15:K:75:GLU:HG3	2.43	0.43
27:b:84:ILE:HD13	27:b:206:LEU:HD21	1.99	0.43
31:f:7:GLN:HG2	31:f:132:GLU:OE1	2.18	0.43
31:f:33:LYS:HD3	31:f:112:MET:HG2	2.00	0.43
35:j:35:LEU:HD23	35:j:69:GLN:OE1	2.17	0.43
41:p:93:VAL:HG13	41:p:94:LEU:HD22	2.00	0.43
52:3:175:A:H2'	52:3:176:U:C6	2.53	0.43
52:3:858:A:H2'	52:3:859:G:H8	1.83	0.43
52:3:1085:A:H3'	52:3:1086:G:H8	1.83	0.43
52:3:1212:C:C2	52:3:1213:U:C5	3.05	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1590:U:H2'	52:3:1591:C:C6	2.53	0.43
52:3:1838:A:H2'	52:3:1839:C:H6	1.82	0.43
52:3:1930:U:H2'	52:3:1931:C:C6	2.53	0.43
52:3:1971:G:O2'	52:3:1974:U:OP2	2.36	0.43
52:3:2018:U:H2'	52:3:2019:G:O4'	2.17	0.43
52:3:2447:A:H2	52:3:2594:C:H5''	1.83	0.43
54:5:281:U:H2'	54:5:282:G:C8	2.53	0.43
54:5:321:A:H3'	54:5:322:G:H8	1.84	0.43
54:5:473:A:H2'	54:5:474:G:C8	2.52	0.43
54:5:1084:A:O2'	54:5:1099:G:N2	2.51	0.43
54:5:1290:G:C2	54:5:1292:A:H3'	2.53	0.43
3:2:24:ARG:HG2	3:2:35:ARG:HB3	1.99	0.43
4:9:632:GLN:HB2	4:9:637:GLN:HG2	2.01	0.43
10:F:58:LEU:N	10:F:58:LEU:HD12	2.33	0.43
15:K:103:LEU:HD12	15:K:104:PRO:HD2	2.00	0.43
16:L:80:LEU:HB3	16:L:88:GLY:HA3	2.00	0.43
17:M:9:LYS:HA	17:M:12:ARG:HD3	2.00	0.43
18:N:9:ILE:O	18:N:13:GLN:HG3	2.17	0.43
19:O:53:LEU:HD22	19:O:76:PHE:CE1	2.53	0.43
22:R:9:ALA:HB3	22:R:41:PHE:CE1	2.53	0.43
23:S:35:PHE:HA	23:S:43:ASN:ND2	2.33	0.43
26:a:25:LEU:HD13	26:a:95:PHE:CZ	2.53	0.43
26:a:122:LEU:HB3	26:a:134:PHE:HE1	1.83	0.43
27:b:13:MET:HE2	52:3:2689:C:H4'	2.00	0.43
32:g:59:LEU:HD12	32:g:80:LEU:HD11	1.99	0.43
33:h:57:ALA:HA	33:h:61:LYS:HE3	2.00	0.43
35:j:6:THR:H	35:j:21:ILE:CG2	2.28	0.43
35:j:38:VAL:HG22	35:j:59:ARG:NH2	2.33	0.43
37:l:13:HIS:N	52:3:947:A:H62	2.17	0.43
38:m:96:GLY:HA3	52:3:2884:C:O2	2.18	0.43
45:t:21:SER:OG	45:t:22:GLY:N	2.51	0.43
45:t:51:THR:O	45:t:53:LYS:NZ	2.51	0.43
52:3:35:U:C2	52:3:509:G:N1	2.86	0.43
52:3:179:A:H2'	52:3:180:A:C4	2.53	0.43
52:3:434:G:H2'	52:3:435:U:C6	2.53	0.43
52:3:666:G:N2	52:3:668:A:H3'	2.33	0.43
52:3:777:C:H2'	52:3:778:U:H6	1.83	0.43
52:3:855:A:O2'	52:3:856:A:O4'	2.33	0.43
52:3:1646:G:O6	52:3:1647:A:N6	2.51	0.43
52:3:1839:C:H2'	52:3:1840:C:H6	1.82	0.43
52:3:2231:A:H3'	52:3:2232:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2602:C:H2'	52:3:2603:G:C8	2.52	0.43
52:3:2654:U:H2'	52:3:2655:U:O4'	2.18	0.43
52:3:2893:C:H2'	52:3:2894:G:O4'	2.17	0.43
54:5:443:G:H2'	54:5:444:G:O4'	2.18	0.43
54:5:506:U:O2	54:5:507:A:N6	2.49	0.43
54:5:599:G:C6	54:5:635:G:C6	3.07	0.43
54:5:1006:A:H3'	54:5:1007:U:H5'	1.99	0.43
54:5:1066:U:H2'	54:5:1067:C:H6	1.83	0.43
54:5:1403:A:H2'	54:5:1404:U:O4'	2.18	0.43
4:9:373:CYS:SG	4:9:374:ALA:N	2.92	0.43
7:C:103:ARG:HD3	7:C:103:ARG:HA	1.64	0.43
8:D:93:VAL:HG23	8:D:172:LEU:HD11	2.00	0.43
9:E:105:GLN:H	9:E:105:GLN:CD	2.25	0.43
11:G:49:VAL:HG12	11:G:54:LEU:HB3	2.00	0.43
12:H:6:TYR:HB3	12:H:91:GLN:NE2	2.33	0.43
13:I:13:LYS:HA	13:I:80:MET:O	2.18	0.43
27:b:189:MET:O	27:b:190:LEU:HD22	2.18	0.43
30:e:4:ILE:HG23	30:e:7:ARG:NE	2.33	0.43
30:e:43:PRO:O	30:e:58:ASN:ND2	2.48	0.43
30:e:67:PHE:O	30:e:71:TYR:CD2	2.71	0.43
33:h:112:LEU:HD12	33:h:112:LEU:HA	1.91	0.43
39:n:64:ASN:HA	39:n:70:ALA:HB3	1.99	0.43
52:3:194:A:N6	52:3:210:U:C2	2.87	0.43
52:3:202:C:O2'	52:3:203:A:H5'	2.18	0.43
52:3:218:G:H2'	52:3:219:G:C8	2.53	0.43
52:3:444:C:H2'	52:3:445:C:C6	2.54	0.43
52:3:666:G:H2'	52:3:667:A:H3'	2.00	0.43
52:3:758:C:H2'	52:3:759:U:H6	1.83	0.43
52:3:1317:C:H2'	52:3:1318:U:C6	2.51	0.43
52:3:1499:C:H2'	52:3:1500:A:O4'	2.18	0.43
52:3:1665:G:H22	52:3:1667:G:H3'	1.83	0.43
52:3:1921:C:N4	52:3:1923:A:H61	2.17	0.43
52:3:2038:A:O2'	52:3:2462:G:N2	2.50	0.43
52:3:2108:C:N4	52:3:2109:A:H62	2.17	0.43
52:3:2716:U:H2'	52:3:2717:G:C8	2.43	0.43
54:5:353:G:H2'	54:5:354:U:C6	2.53	0.43
54:5:511:A:H2'	54:5:512:U:H6	1.83	0.43
54:5:626:G:H2'	54:5:627:U:O4'	2.18	0.43
54:5:696:C:H2'	54:5:697:G:H5'	2.01	0.43
54:5:951:U:H2'	54:5:952:U:N1	2.34	0.43
54:5:1322:U:O2	54:5:1349:A:N7	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:519:PHE:HZ	4:9:539:GLN:HG2	1.84	0.43
4:9:602:MET:HG3	4:9:645:LEU:HD13	2.00	0.43
10:F:58:LEU:HD12	10:F:58:LEU:H	1.83	0.43
10:F:70:PRO:HA	10:F:137:LYS:HD2	2.01	0.43
12:H:106:THR:OG1	12:H:107:THR:N	2.48	0.43
14:J:46:LYS:O	14:J:49:ARG:HD3	2.18	0.43
15:K:127:ARG:NH1	54:5:500:G:N7	2.67	0.43
18:N:59:LYS:HA	18:N:62:ARG:HG2	2.00	0.43
27:b:29:ILE:HB	27:b:191:VAL:CG1	2.47	0.43
29:d:123:ASP:OD1	29:d:125:ARG:NH1	2.52	0.43
30:e:49:LYS:HB2	30:e:53:LEU:HG	1.99	0.43
39:n:27:ARG:HG2	39:n:90:VAL:HG23	1.99	0.43
40:o:107:ARG:HA	40:o:107:ARG:HD3	1.81	0.43
41:p:60:TRP:O	41:p:64:LEU:HD23	2.18	0.43
48:w:66:GLN:HE22	48:w:70:ALA:HA	1.83	0.43
49:x:9:SER:HB2	49:x:28:THR:HA	2.01	0.43
51:z:23:LYS:NZ	51:z:25:VAL:HG12	2.33	0.43
52:3:219:G:H4'	52:3:220:A:OP1	2.18	0.43
52:3:241:C:O2'	52:3:643:A:O2'	2.31	0.43
52:3:893:A:H2'	52:3:894:G:C4	2.52	0.43
52:3:1704:C:H42	52:3:2000:U:H1'	1.84	0.43
52:3:2240:U:H2'	52:3:2241:A:H8	1.84	0.43
54:5:403:A:H2'	54:5:404:A:C8	2.54	0.43
54:5:506:U:H1'	54:5:507:A:N7	2.33	0.43
54:5:748:U:H3'	54:5:749:G:C8	2.54	0.43
54:5:976:U:P	54:5:977:U:H2'	2.58	0.43
55:7:19:G:H22	55:7:58:G:H2'	1.84	0.43
2:1:13:LEU:HD12	2:1:14:THR:H	1.83	0.43
4:9:105:VAL:HG22	4:9:133:PHE:HD2	1.84	0.43
4:9:532:ARG:HD2	4:9:536:LYS:NZ	2.34	0.43
5:A:73:LYS:HZ2	5:A:77:GLN:HE21	1.64	0.43
11:G:137:ILE:H	11:G:137:ILE:HD12	1.84	0.43
28:c:41:GLU:OE1	28:c:41:GLU:N	2.51	0.43
31:f:113:PHE:CE1	31:f:130:ILE:HG12	2.54	0.43
34:i:18:TRP:HA	34:i:56:TYR:HB2	2.01	0.43
41:p:91:ARG:HH21	52:3:1033:A:H5'	1.83	0.43
43:r:82:MET:HB3	43:r:98:LYS:HB2	2.00	0.43
44:s:24:THR:HB	44:s:26:LYS:HZ3	1.82	0.43
46:u:61:PRO:HB3	46:u:73:LEU:HD22	1.99	0.43
52:3:96:A:H8	52:3:97:A:N7	2.17	0.43
52:3:176:U:H2'	52:3:177:U:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:329:G:H2'	52:3:330:A:C8	2.54	0.43
52:3:428:U:H2'	52:3:429:U:C6	2.53	0.43
52:3:867:G:H2'	52:3:868:C:C6	2.54	0.43
52:3:1245:G:C6	52:3:1246:U:C4	3.06	0.43
52:3:1335:A:C8	52:3:1656:A:C6	3.07	0.43
52:3:1384:C:H2'	52:3:1385:U:C6	2.53	0.43
52:3:1605:A:H2'	52:3:1606:A:C8	2.53	0.43
52:3:1896:A:H2'	52:3:1897:A:C8	2.54	0.43
52:3:2096:U:H2'	52:3:2097:A:C8	2.53	0.43
52:3:2118:U:H5'	52:3:2125:U:O4'	2.19	0.43
52:3:2227:U:H2'	52:3:2228:U:C6	2.54	0.43
54:5:367:A:H2	54:5:369:A:H62	1.66	0.43
54:5:460:A:N1	54:5:467:G:C6	2.86	0.43
54:5:512:U:H2'	54:5:513:G:C8	2.54	0.43
54:5:938:U:H3'	54:5:939:G:H8	1.83	0.43
54:5:1139:A:C6	54:5:1149:G:C6	3.07	0.43
54:5:1347:U:H2'	54:5:1348:G:O4'	2.18	0.43
1:0:10:LEU:O	1:0:14:LYS:HG2	2.19	0.43
8:D:189:ILE:H	8:D:189:ILE:HD12	1.82	0.43
12:H:32:VAL:HG22	12:H:33:ASN:OD1	2.19	0.43
15:K:94:LEU:O	15:K:110:ILE:HD12	2.18	0.43
25:W:57:VAL:HA	25:W:121:ILE:HG22	2.01	0.43
29:d:66:VAL:HG21	53:4:40:U:C2	2.53	0.43
29:d:133:LYS:NZ	52:3:2313:U:H4'	2.34	0.43
33:h:12:ILE:HD13	33:h:25:LEU:CD1	2.44	0.43
34:i:93:ARG:HD2	34:i:97:LYS:HG2	1.99	0.43
36:k:58:LEU:HA	36:k:61:ARG:NH1	2.34	0.43
52:3:122:G:C2	52:3:132:G:C4	3.06	0.43
52:3:133:G:H2'	52:3:134:U:C6	2.52	0.43
52:3:255:A:C5	52:3:256:G:H1'	2.54	0.43
52:3:807:U:H2'	52:3:808:U:C6	2.54	0.43
52:3:887:A:N6	52:3:964:A:C6	2.86	0.43
52:3:1480:A:H3'	52:3:1481:U:H5''	2.01	0.43
52:3:1625:G:H2'	52:3:1626:C:H6	1.83	0.43
52:3:1719:C:N4	52:3:1738:G:O6	2.52	0.43
52:3:1758:C:H2'	52:3:1759:C:C6	2.54	0.43
52:3:1819:G:H2'	52:3:1820:U:C6	2.53	0.43
52:3:1903:A:H2'	52:3:1904:G:C8	2.54	0.43
52:3:1993:U:H2'	52:3:1994:U:C6	2.54	0.43
52:3:2035:U:O2	52:3:2040:A:N7	2.52	0.43
52:3:2122:G:H2'	52:3:2124:A:H2'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2342:U:H4'	52:3:2343:A:O5'	2.17	0.43
52:3:2707:A:H2'	52:3:2708:G:H8	1.83	0.43
54:5:88:A:H5'	54:5:137:A:H1'	2.01	0.43
54:5:144:U:N3	54:5:145:G:N7	2.67	0.43
54:5:170:A:H2'	54:5:171:A:C8	2.53	0.43
54:5:771:G:H3'	54:5:772:G:H8	1.83	0.43
54:5:1225:A:H2	54:5:1345:G:H1'	1.84	0.43
55:8:19:G:H22	55:8:58:G:H2'	1.84	0.43
55:8:63:U:H2'	55:8:64:G:C8	2.53	0.43
4:9:23:LYS:CG	4:9:83:PRO:HG2	2.49	0.43
4:9:487:GLU:OE2	4:9:511:PHE:HB2	2.19	0.43
4:9:506:HIS:HB2	55:7:30:G:OP1	2.19	0.43
6:B:185:ILE:HG12	6:B:206:ASN:HA	2.01	0.43
9:E:20:GLN:O	9:E:23:GLU:HG3	2.19	0.43
16:L:107:ARG:HH11	54:5:1203:A:H5''	1.83	0.43
17:M:16:PHE:HB2	17:M:19:ARG:HD3	2.01	0.43
17:M:18:VAL:HG12	54:5:974:C:N4	2.34	0.43
20:P:21:THR:HA	20:P:47:ALA:O	2.18	0.43
27:b:148:GLN:OE1	27:b:150:GLY:N	2.50	0.43
29:d:80:ARG:HD2	29:d:81:ALA:CB	2.48	0.43
30:e:45:LYS:NZ	30:e:46:PHE:H	2.16	0.43
30:e:178:LYS:HE3	52:3:2667:G:O2'	2.19	0.43
33:h:97:THR:HG22	33:h:98:MET:H	1.84	0.43
34:i:68:THR:HG21	52:3:1176:U:H5''	2.00	0.43
34:i:74:ASN:ND2	52:3:1057:G:OP2	2.52	0.43
39:n:56:SER:O	39:n:61:LYS:HB3	2.19	0.43
52:3:33:C:H2'	52:3:34:C:H6	1.84	0.43
52:3:377:U:H2'	52:3:378:G:H8	1.84	0.43
52:3:525:A:N6	52:3:1312:A:H62	2.17	0.43
52:3:1507:G:HO2'	52:3:1508:G:P	2.39	0.43
52:3:1633:C:H2'	52:3:1634:A:H8	1.83	0.43
52:3:2071:C:H2'	52:3:2072:C:C6	2.54	0.43
52:3:2204:C:O2'	52:3:2205:U:H5'	2.18	0.43
52:3:2727:G:O2'	52:3:2850:G:O2'	2.19	0.43
52:3:2817:G:C2	52:3:2892:U:C2	3.07	0.43
54:5:356:G:H2'	54:5:357:G:C8	2.54	0.43
54:5:409:G:O3'	54:5:425:G:N2	2.52	0.43
54:5:744:U:H4'	54:5:745:U:C5	2.51	0.43
54:5:758:G:H2'	54:5:759:C:C6	2.53	0.43
54:5:1283:G:C6	54:5:1303:A:C6	3.07	0.43
54:5:1478:A:H8	54:5:1506:A:H1'	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:481:ARG:HH22	4:9:557:ILE:HD12	1.83	0.43
4:9:493:LYS:HB3	55:7:29:C:H5'	2.00	0.43
6:B:153:LYS:HB3	6:B:172:ILE:HG13	2.01	0.43
9:E:90:LEU:HD23	9:E:90:LEU:HA	1.83	0.43
16:L:13:LYS:HE3	54:5:1271:U:OP1	2.18	0.43
28:c:171:SER:C	28:c:173:SER:H	2.26	0.43
32:g:64:LYS:HE2	32:g:64:LYS:HA	2.00	0.43
34:i:18:TRP:CD1	34:i:138:GLN:HB3	2.53	0.43
34:i:93:ARG:HH12	52:3:2746:A:H4'	1.83	0.43
34:i:116:ARG:NH1	52:3:563:A:O3'	2.45	0.43
45:t:73:LYS:NZ	52:3:362:U:O2'	2.41	0.43
50:y:40:HIS:ND1	52:3:2820:G:O4'	2.52	0.43
51:z:38:CYS:O	51:z:42:ARG:CA	2.67	0.43
52:3:1257:G:H2'	52:3:1258:C:H6	1.83	0.43
52:3:1987:C:H3'	52:3:1988:A:H5''	2.00	0.43
52:3:2459:A:C8	55:7:76:C:H6	2.36	0.43
52:3:2725:G:C6	52:3:2726:G:C6	3.07	0.43
54:5:115:A:N6	54:5:180:C:O2	2.52	0.43
54:5:261:G:H3'	54:5:263:C:H5	1.82	0.43
54:5:351:C:H2'	54:5:352:A:O4'	2.19	0.43
54:5:352:A:O2'	54:5:363:U:O2'	2.29	0.43
54:5:680:G:C6	54:5:705:A:C6	3.07	0.43
54:5:881:G:C2	54:5:905:U:O2	2.72	0.43
54:5:899:U:H2'	54:5:900:G:O4'	2.19	0.43
54:5:981:U:H2'	54:5:982:A:H8	1.84	0.43
54:5:1074:U:H2'	54:5:1093:A:N7	2.34	0.43
54:5:1075:G:H2'	54:5:1076:U:C6	2.54	0.43
54:5:1422:A:O2'	54:5:1423:C:H5'	2.19	0.43
54:5:1468:A:H5''	54:5:1469:G:OP2	2.18	0.43
1:0:2:LYS:HE3	52:3:803:G:OP1	2.18	0.43
3:2:20:HIS:O	3:2:22:ILE:HD12	2.19	0.43
4:9:161:PRO:HA	4:9:256:VAL:HB	2.01	0.43
5:A:19:SER:HB3	5:A:250:PRO:HA	2.01	0.43
5:A:181:PRO:HB3	5:A:188:VAL:HG11	2.01	0.43
6:B:191:LYS:NZ	54:5:1048:G:N3	2.51	0.43
7:C:26:SER:HA	7:C:30:LYS:HB2	2.00	0.43
18:N:57:VAL:O	18:N:60:ARG:HB3	2.18	0.43
19:O:2:ARG:HH11	19:O:9:PRO:HG3	1.84	0.43
26:a:3:ILE:HG12	26:a:20:ILE:HG22	2.00	0.43
26:a:214:GLY:H	52:3:1798:A:H4'	1.83	0.43
26:a:229:ARG:NE	52:3:1796:A:OP2	2.35	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:a:268:ARG:NH1	52:3:1805:U:O3'	2.51	0.43
27:b:4:ARG:HH11	27:b:101:LEU:HA	1.84	0.43
28:c:40:VAL:HG13	28:c:101:LEU:HD13	2.01	0.43
29:d:158:THR:HG23	29:d:160:THR:HG22	2.01	0.43
31:f:31:PHE:CE1	52:3:2206:A:H5'	2.53	0.43
31:f:94:THR:O	31:f:98:ILE:HG12	2.18	0.43
32:g:26:ILE:HD11	32:g:80:LEU:HD12	2.01	0.43
33:h:120:ALA:O	33:h:124:VAL:HG23	2.19	0.43
37:l:111:GLU:O	37:l:114:MET:HB3	2.19	0.43
38:m:60:ARG:NH2	52:3:1482:U:O4'	2.46	0.43
38:m:106:ARG:NH1	52:3:1315:A:O4'	2.52	0.43
38:m:109:ASP:CG	52:3:1315:A:H62	2.27	0.43
43:r:102:ASN:ND2	52:3:27:U:H5'	2.33	0.43
50:y:52:ARG:C	50:y:54:LYS:H	2.27	0.43
51:z:42:ARG:O	51:z:42:ARG:HG2	2.17	0.43
52:3:420:A:C2	52:3:429:U:C2	3.07	0.43
52:3:1319:C:H2'	52:3:1320:C:C6	2.53	0.43
52:3:1585:A:H2'	52:3:1749:A:H2	1.83	0.43
52:3:2047:U:H2'	52:3:2048:U:C6	2.54	0.43
52:3:2259:G:C6	52:3:2260:G:C6	3.07	0.43
52:3:2752:G:C6	52:3:2769:G:C5	3.07	0.43
52:3:2850:G:H2'	52:3:2851:U:C6	2.53	0.43
53:4:12:U:OP2	53:4:68:C:O2'	2.35	0.43
54:5:33:A:H2'	54:5:34:A:C8	2.54	0.43
54:5:98:G:H2'	54:5:99:U:C6	2.54	0.43
54:5:253:G:O6	54:5:265:U:O4	2.36	0.43
54:5:1002:A:N3	54:5:1002:A:H2'	2.32	0.43
54:5:1065:G:H2'	54:5:1066:U:H6	1.84	0.43
54:5:1173:A:H2'	54:5:1174:U:C6	2.52	0.43
10:F:21:LEU:HB3	10:F:61:PHE:CE2	2.54	0.42
10:F:35:LYS:O	10:F:39:GLN:N	2.41	0.42
13:I:24:LEU:HD22	13:I:76:HIS:HB3	2.01	0.42
26:a:250:GLY:HA2	52:3:2605:G:H5''	2.01	0.42
28:c:101:LEU:HD12	28:c:101:LEU:O	2.19	0.42
31:f:6:LYS:HE2	31:f:6:LYS:HB3	1.90	0.42
46:u:62:GLY:N	46:u:65:VAL:HG11	2.34	0.42
52:3:493:A:H4'	52:3:494:G:H4'	2.00	0.42
52:3:519:A:H3'	52:3:520:C:C6	2.54	0.42
52:3:760:G:H2'	52:3:761:G:C4	2.54	0.42
52:3:1089:A:H2'	52:3:1090:G:C8	2.54	0.42
52:3:1144:C:H5''	52:3:1145:G:OP2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1608:C:H2'	52:3:1609:U:C6	2.54	0.42
52:3:2032:G:H2'	52:3:2033:G:C8	2.54	0.42
54:5:27:A:H61	54:5:556:G:H1'	1.84	0.42
54:5:373:A:N6	54:5:374:G:O6	2.52	0.42
54:5:577:G:H2'	54:5:578:C:C6	2.54	0.42
54:5:672:A:H2'	54:5:673:A:O4'	2.18	0.42
54:5:1002:A:C4	54:5:1003:G:C8	3.07	0.42
54:5:1261:A:H1'	54:5:1327:G:O2'	2.19	0.42
54:5:1304:U:C4	54:5:1305:G:C6	3.07	0.42
2:1:22:LYS:HG2	2:1:44:GLN:OE1	2.19	0.42
4:9:132:ILE:HB	4:9:256:VAL:HG22	2.00	0.42
4:9:628:GLU:HG3	52:3:1104:A:N7	2.34	0.42
10:F:22:VAL:O	10:F:26:ILE:HG13	2.19	0.42
30:e:147:PHE:O	30:e:151:VAL:HG23	2.19	0.42
33:h:65:PHE:HE2	33:h:67:LEU:HB3	1.84	0.42
40:o:35:ILE:HB	40:o:46:GLN:HB3	2.01	0.42
41:p:60:TRP:HZ2	52:3:1031:U:H1'	1.84	0.42
43:r:14:PRO:O	43:r:18:ARG:HB2	2.20	0.42
47:v:24:ILE:HA	55:8:77:A:C2	2.52	0.42
48:w:96:ALA:HA	48:w:99:LEU:HD12	2.01	0.42
51:z:31:LYS:HE2	51:z:31:LYS:HB2	1.89	0.42
52:3:68:C:C4	52:3:69:U:C5	3.07	0.42
52:3:557:G:H2'	52:3:558:C:C6	2.55	0.42
52:3:610:G:O2'	52:3:1284:A:OP1	2.37	0.42
52:3:1080:A:O4'	52:3:1146:A:N6	2.52	0.42
52:3:1385:U:H2'	52:3:1386:G:O4'	2.20	0.42
52:3:1580:G:C2	52:3:1581:U:C4	3.06	0.42
52:3:2048:U:H2'	52:3:2049:A:C8	2.53	0.42
52:3:2170:A:N3	52:3:2180:U:O2'	2.48	0.42
52:3:2701:A:N6	52:3:2725:G:O6	2.52	0.42
52:3:2707:A:H2'	52:3:2708:G:C8	2.54	0.42
52:3:2858:A:N1	52:3:2868:G:C6	2.87	0.42
52:3:2879:U:H2'	52:3:2880:A:C8	2.54	0.42
54:5:579:G:O6	54:5:755:U:H3'	2.19	0.42
54:5:606:A:H3'	54:5:607:A:H8	1.84	0.42
54:5:702:U:H2'	54:5:703:A:O4'	2.20	0.42
54:5:902:A:H2'	54:5:903:A:C8	2.54	0.42
54:5:1235:C:O2	54:5:1235:C:H2'	2.18	0.42
4:9:24:THR:O	4:9:28:GLU:HB3	2.19	0.42
4:9:460:VAL:HA	4:9:463:MET:HE3	2.01	0.42
4:9:600:PRO:HG3	4:9:672:TYR:CE1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:600:PRO:HG3	4:9:672:TYR:HE1	1.84	0.42
5:A:59:GLU:O	5:A:63:GLN:NE2	2.53	0.42
6:B:12:PHE:HA	6:B:16:LYS:HB2	2.01	0.42
7:C:79:LEU:HA	7:C:85:LEU:HD23	2.00	0.42
8:D:202:GLN:NE2	8:D:203:LEU:O	2.36	0.42
9:E:142:ARG:NH1	11:G:67:LYS:HG2	2.31	0.42
10:F:70:PRO:HD2	10:F:95:LYS:HB3	2.02	0.42
19:O:28:ALA:HB3	19:O:52:TRP:CH2	2.54	0.42
27:b:23:ARG:NH2	52:3:2690:U:O2	2.53	0.42
28:c:162:ASN:HA	28:c:182:HIS:CD2	2.54	0.42
30:e:57:ARG:HH21	30:e:60:GLU:HA	1.83	0.42
32:g:93:LEU:HA	32:g:93:LEU:HD12	1.93	0.42
35:j:115:LEU:HD12	35:j:116:SER:N	2.34	0.42
38:m:88:PRO:O	38:m:91:GLU:HG2	2.18	0.42
38:m:106:ARG:HG3	38:m:108:GLY:H	1.84	0.42
38:m:113:MET:HG3	38:m:114:ALA:H	1.84	0.42
48:w:19:VAL:HG22	48:w:54:ILE:HD12	2.01	0.42
49:x:37:ASP:OD1	49:x:37:ASP:N	2.52	0.42
52:3:341:G:N2	52:3:343:A:H3'	2.34	0.42
52:3:493:A:N1	52:3:506:A:H5''	2.34	0.42
52:3:563:A:H2'	52:3:563:A:N3	2.33	0.42
52:3:723:U:O4	52:3:724:A:N6	2.52	0.42
52:3:1012:G:H4'	52:3:1191:A:H62	1.85	0.42
52:3:1457:A:H2'	52:3:1458:A:C8	2.54	0.42
52:3:1700:G:H3'	52:3:1701:G:H8	1.84	0.42
52:3:1901:C:H2'	52:3:1902:C:C6	2.54	0.42
52:3:1904:G:O2'	52:3:1905:U:H5'	2.19	0.42
52:3:1932:C:H42	52:3:1936:G:N2	2.17	0.42
52:3:2071:C:H2'	52:3:2072:C:H6	1.85	0.42
52:3:2081:U:H2'	52:3:2082:U:C6	2.54	0.42
52:3:2102:U:H2'	52:3:2103:C:C6	2.54	0.42
52:3:2508:U:O2'	52:3:2512:U:O5'	2.33	0.42
52:3:2543:G:H2'	52:3:2544:G:C8	2.55	0.42
52:3:2599:C:H2'	52:3:2600:G:C8	2.54	0.42
52:3:2614:U:H2'	52:3:2615:G:H8	1.84	0.42
53:4:43:A:C5	53:4:44:A:C8	3.07	0.42
54:5:111:A:N1	54:5:232:G:C6	2.86	0.42
54:5:675:U:H2'	54:5:676:U:C6	2.55	0.42
54:5:688:G:N2	54:5:694:U:O4	2.47	0.42
54:5:1431:A:H2'	54:5:1432:A:O4'	2.18	0.42
1:0:14:LYS:NZ	52:3:126:C:OP1	2.46	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:27:ARG:HD2	5:A:28:THR:HG23	2.01	0.42
5:A:226:CYS:HA	5:A:229:MET:HB3	2.01	0.42
8:D:80:THR:HA	54:5:917:G:H4'	2.02	0.42
11:G:40:LEU:HD12	11:G:40:LEU:HA	1.92	0.42
13:I:71:PHE:HD1	17:M:58:LYS:HA	1.84	0.42
24:T:44:GLU:HA	24:T:47:LYS:HG2	2.01	0.42
25:W:83:MET:SD	25:W:83:MET:N	2.90	0.42
28:c:159:PHE:HB2	28:c:180:VAL:HG13	2.01	0.42
33:h:11:LYS:NZ	33:h:13:ASN:HB3	2.35	0.42
34:i:136:GLU:H	34:i:136:GLU:CD	2.26	0.42
36:k:24:HIS:ND1	36:k:30:LYS:HG2	2.34	0.42
36:k:69:ARG:NH2	52:3:2412:A:O3'	2.52	0.42
36:k:78:VAL:O	36:k:112:ILE:HA	2.19	0.42
36:k:88:LEU:HB2	52:3:637:U:C5	2.54	0.42
38:m:48:LEU:HD13	38:m:63:VAL:HG23	2.00	0.42
44:s:9:LYS:O	44:s:30:VAL:HG12	2.19	0.42
44:s:78:GLU:OE1	44:s:78:GLU:N	2.52	0.42
46:u:58:ARG:HH11	52:3:2338:G:H5''	1.84	0.42
48:w:67:GLU:HG3	48:w:68:GLU:OE1	2.20	0.42
52:3:536:A:H2'	52:3:537:A:C4	2.55	0.42
52:3:567:U:O4	52:3:2028:G:O2'	2.28	0.42
52:3:587:U:H2'	52:3:588:G:N9	2.35	0.42
52:3:629:G:H2'	52:3:630:C:C6	2.54	0.42
52:3:1086:G:H2'	52:3:1087:C:C6	2.53	0.42
52:3:1186:A:H2'	52:3:1187:C:O4'	2.20	0.42
52:3:1294:G:H2'	52:3:2021:A:N6	2.34	0.42
52:3:1300:C:H2'	52:3:1682:C:H6	1.83	0.42
52:3:1451:A:C2	52:3:1452:G:C5	3.07	0.42
52:3:2015:C:H2'	52:3:2016:G:H8	1.83	0.42
52:3:2147:G:N1	52:3:2159:U:O4	2.52	0.42
52:3:2590:G:H2'	52:3:2591:G:H8	1.84	0.42
54:5:441:U:H2'	54:5:442:G:C8	2.54	0.42
54:5:593:A:O2'	54:5:638:A:N6	2.53	0.42
54:5:1061:U:H2'	54:5:1062:C:H6	1.83	0.42
54:5:1298:U:H5''	54:5:1337:U:H5'	2.01	0.42
1:0:29:LYS:HD3	1:0:32:LYS:HD3	2.01	0.42
4:9:550:PRO:HD2	4:9:556:MET:HE3	2.01	0.42
4:9:565:ASP:OD1	4:9:566:GLY:N	2.52	0.42
6:B:43:LEU:HD11	6:B:95:ILE:HD13	2.00	0.42
8:D:166:ILE:H	8:D:166:ILE:HD12	1.85	0.42
9:E:4:ASN:HB3	9:E:59:ARG:HH22	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:F:101:ARG:NH1	54:5:1350:A:O2'	2.53	0.42
11:G:6:LYS:HD2	54:5:845:C:H5''	2.00	0.42
11:G:115:ILE:HB	11:G:138:LEU:HD21	2.02	0.42
15:K:41:PRO:C	15:K:42:LEU:HD12	2.44	0.42
22:R:16:LEU:HA	22:R:19:VAL:HG22	2.00	0.42
26:a:4:LYS:HE3	26:a:21:ASP:HA	2.01	0.42
27:b:23:ARG:CZ	52:3:2691:C:H1'	2.50	0.42
28:c:105:LYS:O	28:c:109:THR:HG23	2.20	0.42
28:c:119:LYS:HA	28:c:122:SER:OG	2.19	0.42
28:c:132:LEU:HD11	28:c:146:PHE:HE2	1.83	0.42
32:g:11:VAL:HG11	32:g:61:ARG:CG	2.48	0.42
39:n:3:THR:O	39:n:4:ARG:HB3	2.20	0.42
39:n:42:GLN:HB3	39:n:44:TRP:HE1	1.85	0.42
39:n:110:ARG:HG3	39:n:116:PHE:CE1	2.55	0.42
40:o:26:SER:N	40:o:29:ASP:OD2	2.51	0.42
41:p:92:LYS:NZ	52:3:1033:A:OP1	2.36	0.42
44:s:39:ARG:HA	44:s:42:LEU:HD12	2.01	0.42
52:3:329:G:H1	52:3:377:U:H3	1.66	0.42
52:3:550:A:H1'	52:3:614:C:H1'	2.02	0.42
52:3:612:G:H4'	52:3:2024:C:H2'	2.01	0.42
52:3:717:U:H2'	52:3:718:U:C6	2.54	0.42
52:3:841:C:H2'	52:3:842:U:H5''	2.01	0.42
52:3:1243:A:H2'	52:3:1244:A:H8	1.83	0.42
52:3:1879:A:H2'	52:3:1880:G:O4'	2.19	0.42
52:3:2055:A:C2	52:3:2056:A:C5	3.07	0.42
52:3:2190:G:C6	52:3:2191:G:C6	3.07	0.42
52:3:2516:G:H2'	52:3:2517:A:C8	2.54	0.42
52:3:2682:A:C4	52:3:2683:G:C8	3.08	0.42
52:3:2712:C:H2'	52:3:2713:A:O4'	2.20	0.42
54:5:229:G:H2'	54:5:230:G:H8	1.84	0.42
54:5:394:U:H2'	54:5:395:G:C8	2.49	0.42
54:5:516:C:H5	54:5:527:G:H3'	1.84	0.42
54:5:602:G:H2'	54:5:603:U:O4'	2.19	0.42
54:5:1030:G:H2'	54:5:1030:G:N3	2.34	0.42
54:5:1501:G:O2'	54:5:1502:G:H5''	2.20	0.42
1:0:3:ARG:HG3	1:0:4:THR:H	1.83	0.42
1:0:12:ARG:HB2	52:3:721:G:N1	2.34	0.42
2:1:51:ASP:O	2:1:55:ILE:HG12	2.20	0.42
4:9:464:ARG:O	4:9:464:ARG:NH2	2.53	0.42
4:9:495:ILE:HG23	4:9:504:TYR:HE1	1.83	0.42
5:A:68:ALA:O	5:A:72:VAL:HG22	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:A:95:LEU:HD23	5:A:95:LEU:HA	1.92	0.42
6:B:35:ILE:HG12	17:M:25:GLN:HB2	2.01	0.42
9:E:49:ILE:HG23	9:E:50:LYS:N	2.35	0.42
12:H:11:ARG:H	12:H:83:LEU:HD23	1.85	0.42
13:I:65:LYS:HZ1	54:5:1341:U:H5''	1.85	0.42
15:K:93:THR:HB	15:K:110:ILE:HD13	2.01	0.42
21:Q:41:CYS:HB3	21:Q:44:CYS:HB3	2.01	0.42
27:b:15:GLN:HG2	40:o:60:ILE:CG2	2.50	0.42
28:c:32:GLN:N	28:c:33:PRO:HD2	2.34	0.42
34:i:77:TRP:CZ3	34:i:92:GLY:HA2	2.54	0.42
36:k:39:GLN:HB2	52:3:866:G:H4'	2.02	0.42
44:s:15:LYS:NZ	52:3:1367:G:H4'	2.35	0.42
46:u:40:ALA:H	46:u:43:GLN:NE2	2.16	0.42
52:3:17:G:H2'	52:3:18:G:C8	2.55	0.42
52:3:240:C:H2'	52:3:241:C:H6	1.85	0.42
52:3:297:G:H2'	52:3:457:U:P	2.59	0.42
52:3:549:A:H2'	52:3:550:A:H8	1.85	0.42
52:3:806:A:H2'	52:3:807:U:C6	2.54	0.42
52:3:880:C:H5'	52:3:882:C:N4	2.34	0.42
52:3:883:A:H1'	52:3:969:A:C2	2.54	0.42
52:3:1200:U:H2'	52:3:1201:A:C8	2.55	0.42
52:3:1381:A:H2'	52:3:1382:A:C8	2.54	0.42
52:3:1487:U:H2'	52:3:1488:U:C6	2.55	0.42
52:3:2025:C:H2'	52:3:2026:A:C8	2.55	0.42
52:3:2218:U:H3	52:3:2222:C:H42	1.67	0.42
52:3:2329:G:H21	52:3:2330:A:H5'	1.85	0.42
53:4:58:C:H2'	53:4:59:A:C8	2.54	0.42
54:5:295:G:H2'	54:5:296:A:C8	2.55	0.42
54:5:860:C:C4	54:5:861:A:H1'	2.55	0.42
54:5:995:U:H2'	54:5:996:U:C6	2.55	0.42
54:5:1221:A:H2'	54:5:1222:U:C6	2.55	0.42
2:1:4:LYS:HD2	52:3:255:A:OP2	2.20	0.42
4:9:13:PHE:CZ	4:9:278:LEU:HD23	2.55	0.42
4:9:414:THR:HB	4:9:417:ASP:HB2	2.01	0.42
5:A:154:ARG:HE	5:A:158:ARG:HH21	1.68	0.42
7:C:144:LEU:HD22	7:C:174:PHE:CG	2.54	0.42
9:E:28:THR:HG22	9:E:71:ASP:HB2	2.01	0.42
15:K:44:ARG:HB3	15:K:94:LEU:HD12	2.01	0.42
17:M:31:ARG:NH1	54:5:969:A:N3	2.68	0.42
20:P:32:HIS:CD2	20:P:34:LEU:HB2	2.55	0.42
27:b:25:PRO:O	27:b:26:ILE:HD13	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:b:54:PHE:O	27:b:78:THR:HB	2.20	0.42
27:b:143:PHE:CZ	52:3:2586:G:H1'	2.55	0.42
28:c:157:VAL:H	28:c:178:VAL:HG22	1.85	0.42
30:e:57:ARG:HH12	30:e:64:SER:C	2.26	0.42
30:e:152:ARG:HG2	30:e:156:LYS:NZ	2.34	0.42
37:l:31:GLU:OE1	37:l:107:ALA:HA	2.20	0.42
47:v:7:LEU:HG	47:v:8:THR:HG23	2.02	0.42
52:3:230:G:H1'	52:3:232:A:N6	2.34	0.42
52:3:1091:G:H5''	52:3:1092:A:O4'	2.19	0.42
52:3:1702:A:N6	52:3:1710:A:H61	2.15	0.42
52:3:1742:C:H2'	52:3:1743:U:C6	2.55	0.42
52:3:1964:C:H2'	52:3:1965:C:H6	1.84	0.42
52:3:1995:G:C6	52:3:1996:A:C6	3.07	0.42
52:3:2002:U:H5''	52:3:2003:C:OP2	2.19	0.42
52:3:2118:U:HO2'	52:3:2119:A:C5'	2.31	0.42
52:3:2134:G:H2'	52:3:2135:C:C6	2.55	0.42
52:3:2161:G:H2'	52:3:2162:U:O4'	2.19	0.42
53:4:3:U:OP1	53:4:59:A:O2'	2.31	0.42
54:5:91:C:H2'	54:5:92:G:C8	2.54	0.42
54:5:266:A:C6	54:5:267:C:C4	3.08	0.42
54:5:335:C:H2'	54:5:336:U:H6	1.84	0.42
54:5:357:G:H2'	54:5:358:G:O4'	2.20	0.42
54:5:429:A:C4	54:5:430:G:C8	3.07	0.42
54:5:624:U:H2'	54:5:625:U:C5	2.55	0.42
54:5:1363:U:H2'	54:5:1364:C:C6	2.55	0.42
1:0:40:ALA:N	52:3:495:U:OP1	2.52	0.42
4:9:113:GLU:HB3	4:9:116:THR:OG1	2.20	0.42
5:A:49:ARG:O	5:A:49:ARG:HD2	2.20	0.42
5:A:196:ILE:HD12	5:A:197:PRO:HD2	2.01	0.42
6:B:58:ILE:HD13	6:B:67:VAL:HG23	2.01	0.42
7:C:76:ARG:HA	7:C:79:LEU:HD12	2.02	0.42
9:E:66:ASN:ND2	54:5:736:U:OP1	2.53	0.42
9:E:111:LYS:HB3	9:E:112:ARG:HH22	1.84	0.42
12:H:108:ARG:HD3	12:H:110:LYS:N	2.33	0.42
13:I:68:ARG:NH1	54:5:1342:C:OP1	2.52	0.42
13:I:97:LYS:HD2	13:I:97:LYS:HA	1.89	0.42
26:a:81:ALA:HB1	26:a:99:ILE:HG21	2.01	0.42
27:b:63:ASN:O	27:b:66:GLN:HB2	2.19	0.42
29:d:16:LEU:HG	29:d:28:VAL:HG13	2.01	0.42
29:d:94:GLU:HA	29:d:97:TRP:CD1	2.55	0.42
29:d:121:SER:O	29:d:121:SER:OG	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:h:10:ALA:O	33:h:12:ILE:HG13	2.19	0.42
33:h:87:LYS:HG3	52:3:1098:G:N2	2.35	0.42
34:i:26:LEU:HD21	34:i:145:TRP:HD1	1.84	0.42
37:l:4:PRO:HD2	37:l:93:TRP:CZ2	2.55	0.42
43:r:112:ASN:HB3	43:r:115:GLN:OE1	2.19	0.42
47:v:17:ASN:HB3	47:v:27:ARG:HE	1.84	0.42
52:3:130:C:H2'	52:3:131:C:C6	2.55	0.42
52:3:137:U:O2	52:3:146:G:N2	2.40	0.42
52:3:164:A:H2'	52:3:165:U:C6	2.55	0.42
52:3:344:A:N3	52:3:345:A:O2'	2.52	0.42
52:3:500:U:H2'	52:3:501:G:C5	2.54	0.42
52:3:633:G:N2	52:3:692:U:O2	2.53	0.42
52:3:1583:G:H2'	52:3:1584:U:O4'	2.20	0.42
52:3:1910:G:H2'	52:3:1911:G:C8	2.55	0.42
52:3:2474:C:C2	52:3:2475:C:C5	3.07	0.42
52:3:2679:G:H2'	52:3:2680:C:C6	2.54	0.42
52:3:2729:A:H2'	52:3:2730:G:C8	2.55	0.42
52:3:2752:G:O6	52:3:2768:U:O4	2.38	0.42
54:5:58:G:H2'	54:5:59:C:C6	2.54	0.42
54:5:1002:A:C5	54:5:1003:G:C5	3.08	0.42
54:5:1078:G:C6	54:5:1090:G:N1	2.88	0.42
54:5:1298:U:H5''	54:5:1337:U:H2'	2.02	0.42
54:5:1456:U:H2'	54:5:1457:G:C8	2.54	0.42
5:A:146:LYS:O	5:A:150:LEU:HG	2.20	0.42
5:A:208:PRO:HA	5:A:211:VAL:HG12	2.02	0.42
6:B:67:VAL:HG13	6:B:67:VAL:O	2.20	0.42
6:B:159:ARG:HE	6:B:165:ILE:HD11	1.85	0.42
7:C:73:ARG:NH2	54:5:619:A:O2'	2.53	0.42
7:C:155:LYS:O	7:C:159:GLU:HG3	2.20	0.42
8:D:148:ARG:HB2	8:D:183:LEU:HB3	2.02	0.42
13:I:31:ILE:HA	13:I:34:VAL:HG12	2.01	0.42
16:L:116:VAL:HG22	16:L:117:ALA:H	1.84	0.42
26:a:47:ARG:NH2	52:3:725:G:O2'	2.52	0.42
26:a:135:SER:O	26:a:135:SER:OG	2.37	0.42
34:i:108:VAL:O	34:i:111:MET:HB2	2.20	0.42
39:n:42:GLN:HB3	39:n:44:TRP:NE1	2.35	0.42
40:o:52:VAL:HA	40:o:66:VAL:HG22	2.02	0.42
42:q:95:VAL:HG13	42:q:96:ARG:N	2.33	0.42
46:u:18:LYS:HE2	52:3:2258:G:H5'	2.01	0.42
52:3:55:A:H62	52:3:118:G:N2	2.18	0.42
52:3:188:G:H2'	52:3:189:U:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:271:G:H1'	52:3:315:A:H61	1.84	0.42
52:3:513:A:O2'	52:3:514:A:H8	2.03	0.42
52:3:654:G:H2'	52:3:655:G:O4'	2.20	0.42
52:3:734:A:C8	52:3:769:A:C5	3.08	0.42
52:3:788:G:H2'	52:3:789:A:C8	2.55	0.42
52:3:803:G:N2	52:3:1407:U:H1'	2.35	0.42
52:3:891:G:C6	52:3:960:A:N1	2.87	0.42
52:3:1077:G:N2	52:3:1148:U:O2	2.53	0.42
52:3:1115:G:H2'	52:3:1116:U:C5	2.55	0.42
52:3:1174:G:H2'	52:3:1175:C:C6	2.55	0.42
52:3:1287:C:H2'	52:3:1288:C:C6	2.55	0.42
52:3:1327:G:O6	52:3:1673:U:H5''	2.19	0.42
52:3:1505:G:H2'	52:3:1506:U:C6	2.55	0.42
52:3:1587:U:O2'	52:3:1588:A:H8	2.02	0.42
52:3:1748:U:O2	52:3:1751:A:N7	2.52	0.42
52:3:1991:U:H2'	52:3:1992:C:C6	2.55	0.42
52:3:2084:A:O2'	52:3:2442:A:O2'	2.30	0.42
52:3:2098:U:C2	52:3:2236:G:O6	2.71	0.42
52:3:2226:U:H2'	52:3:2227:U:H6	1.84	0.42
52:3:2380:U:H2'	52:3:2381:G:C8	2.55	0.42
52:3:2859:U:H2'	52:3:2860:A:C8	2.55	0.42
54:5:301:G:H4'	54:5:302:A:H5''	2.01	0.42
54:5:839:U:H3'	54:5:840:C:H6	1.85	0.42
54:5:1471:C:H2'	54:5:1472:G:C8	2.54	0.42
7:C:100:ILE:HG21	7:C:136:LEU:HG	2.02	0.42
7:C:198:GLU:CD	8:D:167:ARG:HH22	2.27	0.42
8:D:132:HIS:HB2	8:D:135:SER:O	2.20	0.42
12:H:81:ILE:O	12:H:85:ILE:HG13	2.20	0.42
12:H:100:LEU:HD13	12:H:105:LEU:HD11	2.02	0.42
15:K:101:LYS:NZ	54:5:523:U:OP1	2.53	0.42
16:L:27:LEU:O	16:L:31:GLN:OE1	2.37	0.42
26:a:149:ASN:HD22	26:a:199:THR:HG23	1.84	0.42
26:a:190:ARG:HG2	26:a:191:LYS:N	2.34	0.42
30:e:149:THR:HG21	52:3:2753:C:H5'	2.01	0.42
31:f:38:PRO:HG2	52:3:287:G:N2	2.34	0.42
35:j:85:VAL:HG11	35:j:114:ILE:HD12	2.02	0.42
41:p:1:MET:HB2	52:3:481:C:OP1	2.19	0.42
43:r:32:ALA:HA	43:r:35:ILE:HG12	2.02	0.42
44:s:27:TYR:HE2	44:s:91:ILE:HG12	1.84	0.42
45:t:40:ASN:O	45:t:66:GLU:HA	2.20	0.42
45:t:100:LYS:HZ3	52:3:330:A:H5''	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:224:G:H1	52:3:463:U:H3'	1.85	0.42
52:3:519:A:H3'	52:3:520:C:H6	1.84	0.42
52:3:1139:C:H2'	52:3:1140:U:O4'	2.19	0.42
52:3:1625:G:H2'	52:3:1626:C:C6	2.54	0.42
52:3:1665:G:H1'	52:3:1669:A:H61	1.85	0.42
52:3:1758:C:H2'	52:3:1759:C:H6	1.85	0.42
52:3:1791:A:H2'	52:3:1791:A:N3	2.34	0.42
52:3:1992:C:H2'	52:3:1993:U:C6	2.54	0.42
52:3:2459:A:C8	55:7:76:C:C6	3.07	0.42
52:3:2507:C:H2'	52:3:2508:U:H5'	2.01	0.42
52:3:2725:G:H2'	52:3:2726:G:H8	1.85	0.42
52:3:2833:A:H2'	52:3:2834:C:C6	2.55	0.42
54:5:339:U:N3	54:5:341:C:N3	2.68	0.42
54:5:366:C:H2'	54:5:367:A:C8	2.55	0.42
54:5:497:A:O3'	54:5:498:G:H8	2.03	0.42
54:5:970:A:O2'	54:5:971:A:OP2	2.38	0.42
54:5:1361:G:H2'	54:5:1362:G:C8	2.55	0.42
54:5:1435:G:H2'	54:5:1436:C:C6	2.55	0.42
54:5:1477:A:H5'	54:5:1479:G:N7	2.35	0.42
55:7:11:G:N7	55:7:46:U:H1'	2.35	0.42
4:9:100:ASP:OD2	4:9:284:VAL:HB	2.20	0.41
4:9:336:GLY:HA2	4:9:349:ARG:HH12	1.85	0.41
5:A:96:VAL:HA	5:A:99:ILE:HD13	2.01	0.41
5:A:189:ALA:O	5:A:193:ILE:HG13	2.19	0.41
14:J:82:THR:HG21	24:T:26:ARG:HG3	2.02	0.41
17:M:29:ARG:NE	17:M:42:LEU:HD13	2.35	0.41
24:T:27:ARG:HA	24:T:27:ARG:HD3	1.82	0.41
26:a:229:ARG:HD3	52:3:1835:G:O6	2.20	0.41
31:f:1:MET:HE1	31:f:26:ALA:H	1.84	0.41
31:f:109:GLN:CD	31:f:111:PHE:H	2.28	0.41
33:h:72:VAL:HG13	33:h:75:LEU:HB2	2.01	0.41
34:i:84:ILE:H	34:i:84:ILE:HD12	1.85	0.41
38:m:72:LEU:H	38:m:72:LEU:HD23	1.84	0.41
39:n:28:VAL:O	39:n:90:VAL:N	2.37	0.41
40:o:97:ARG:NH2	52:3:2853:U:OP1	2.53	0.41
43:r:116:GLU:HA	43:r:119:LYS:HZ2	1.83	0.41
44:s:70:ARG:HD2	44:s:70:ARG:O	2.20	0.41
45:t:85:THR:HG21	45:t:104:PHE:CE2	2.55	0.41
45:t:88:LYS:C	45:t:105:LYS:HG2	2.45	0.41
48:w:41:PRO:HB2	52:3:63:U:C2	2.55	0.41
51:z:17:ILE:HD13	51:z:17:ILE:HA	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:454:G:O2'	52:3:455:G:H5'	2.20	0.41
52:3:1028:C:C2	52:3:1198:G:C2	3.08	0.41
52:3:1721:G:H2'	52:3:1722:U:C6	2.54	0.41
52:3:2406:U:H2'	52:3:2407:G:H8	1.84	0.41
52:3:2511:A:O2'	52:3:2512:U:H5'	2.20	0.41
52:3:2779:C:H2'	52:3:2780:U:H6	1.84	0.41
54:5:12:G:H2'	54:5:13:U:C6	2.55	0.41
54:5:168:A:H3'	54:5:169:G:H8	1.85	0.41
54:5:211:G:H2'	54:5:212:G:H8	1.84	0.41
54:5:351:C:O2'	54:5:384:G:N3	2.49	0.41
54:5:608:G:C6	54:5:628:A:N1	2.88	0.41
54:5:798:U:C2	54:5:799:A:C8	3.08	0.41
54:5:1285:G:H2'	54:5:1286:G:H8	1.85	0.41
54:5:1290:G:H2'	54:5:1292:A:N7	2.35	0.41
54:5:1374:C:C2	54:5:1376:G:C6	3.08	0.41
4:9:13:PHE:HE2	4:9:274:VAL:HB	1.85	0.41
4:9:141:GLY:H	4:9:169:GLU:CD	2.28	0.41
5:A:39:PRO:HG3	54:5:825:A:O2'	2.19	0.41
5:A:48:GLU:OE1	5:A:51:HIS:CE1	2.73	0.41
5:A:112:TRP:CD1	5:A:116:THR:HB	2.54	0.41
5:A:182:VAL:HG13	5:A:206:THR:HA	2.02	0.41
8:D:78:LYS:HB3	54:5:1072:G:H5'	2.02	0.41
9:E:48:PRO:HD3	9:E:53:LEU:HD11	2.02	0.41
11:G:106:LEU:HD12	11:G:109:ASN:C	2.45	0.41
12:H:108:ARG:NH2	12:H:111:ARG:HB2	2.35	0.41
19:O:39:GLU:HB2	19:O:41:LYS:HG2	2.02	0.41
26:a:52:LYS:NZ	52:3:1814:G:OP1	2.53	0.41
27:b:66:GLN:O	27:b:70:PHE:HD2	2.03	0.41
27:b:161:LYS:HG3	34:i:83:TYR:HE1	1.84	0.41
29:d:122:PHE:HE2	29:d:170:LEU:HD21	1.84	0.41
32:g:35:ILE:HG12	52:3:1092:A:O2'	2.20	0.41
35:j:31:ARG:NH2	52:3:2002:U:H4'	2.35	0.41
38:m:68:LEU:HD23	38:m:68:LEU:HA	1.87	0.41
41:p:109:VAL:HG12	41:p:113:LYS:HZ3	1.85	0.41
43:r:25:VAL:HG22	43:r:71:VAL:HG21	2.02	0.41
43:r:114:ARG:O	43:r:118:ILE:HG12	2.20	0.41
43:r:131:GLY:O	43:r:134:LYS:HG3	2.19	0.41
47:v:18:ARG:HG2	55:8:77:A:C6	2.54	0.41
52:3:27:U:H3'	52:3:28:G:C8	2.55	0.41
52:3:450:C:O2'	52:3:1871:U:O2	2.37	0.41
52:3:502:A:N3	52:3:718:U:H1'	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:707:C:H2'	52:3:708:C:C6	2.54	0.41
52:3:1078:C:H2'	52:3:1079:U:O4'	2.20	0.41
52:3:1323:A:H2'	52:3:1324:A:H8	1.84	0.41
52:3:1398:C:H2'	52:3:1399:G:O4'	2.21	0.41
52:3:2203:U:H2'	52:3:2204:C:C6	2.55	0.41
52:3:2404:G:H2'	52:3:2405:G:H8	1.84	0.41
52:3:2469:A:H1'	52:3:2500:U:N3	2.35	0.41
52:3:2683:G:C6	52:3:2684:G:C6	3.08	0.41
54:5:20:C:H2'	54:5:21:U:C6	2.56	0.41
54:5:484:A:H2'	54:5:485:C:O4'	2.19	0.41
54:5:522:G:H2'	54:5:523:U:C6	2.55	0.41
54:5:889:U:C2	54:5:890:U:C5	3.07	0.41
54:5:1070:G:O2'	54:5:1071:A:O4'	2.23	0.41
4:9:55:GLN:OE1	4:9:56:GLU:N	2.53	0.41
4:9:160:VAL:HA	4:9:161:PRO:HD3	1.92	0.41
4:9:247:GLY:HA3	4:9:253:PHE:CD1	2.55	0.41
7:C:61:GLN:OE1	7:C:66:ILE:HG13	2.21	0.41
13:I:29:LYS:HE3	13:I:29:LYS:HB3	1.89	0.41
14:J:72:MET:HG3	14:J:75:VAL:HG22	2.01	0.41
18:N:35:GLN:OE1	54:5:737:U:H5''	2.20	0.41
22:R:23:ASN:OD1	22:R:24:LYS:N	2.53	0.41
26:a:92:ARG:HD3	26:a:92:ARG:HA	1.75	0.41
28:c:4:LEU:HD11	28:c:125:THR:O	2.20	0.41
28:c:158:LEU:O	28:c:197:LEU:HG	2.20	0.41
30:e:163:LYS:NZ	52:3:2666:C:H5'	2.35	0.41
31:f:87:ARG:HA	31:f:88:PRO:HD3	1.95	0.41
37:l:35:VAL:HG11	37:l:132:LEU:HD23	2.01	0.41
52:3:325:G:H2'	52:3:326:A:C8	2.55	0.41
52:3:464:A:C6	52:3:465:A:C6	3.08	0.41
52:3:563:A:N7	52:3:2050:G:H4'	2.35	0.41
52:3:877:G:H2'	52:3:878:A:H8	1.86	0.41
52:3:941:C:H2'	52:3:942:A:C8	2.55	0.41
52:3:998:C:H2'	52:3:999:U:H6	1.86	0.41
52:3:1311:G:H1'	52:3:1357:U:O2	2.19	0.41
52:3:1473:C:H2'	52:3:1474:C:C6	2.55	0.41
52:3:1685:G:C4	52:3:1686:U:C5	3.08	0.41
52:3:1724:A:H61	52:3:1731:G:C2'	2.34	0.41
52:3:2098:U:H2'	52:3:2099:U:C5	2.55	0.41
52:3:2278:G:H2'	52:3:2279:G:H8	1.83	0.41
52:3:2629:G:H2'	52:3:2630:U:C6	2.55	0.41
52:3:2748:A:H2'	52:3:2749:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2791:U:H2'	52:3:2792:C:H6	1.83	0.41
54:5:126:U:H2'	54:5:127:A:H8	1.85	0.41
54:5:622:A:H2'	54:5:623:G:C8	2.55	0.41
54:5:753:C:H2'	54:5:754:U:C6	2.55	0.41
54:5:921:G:P	54:5:1480:G:H22	2.44	0.41
54:5:1010:A:C2	54:5:1194:A:H1'	2.55	0.41
54:5:1236:A:C8	54:5:1250:A:C6	3.08	0.41
54:5:1459:U:H2'	54:5:1460:U:O4'	2.21	0.41
4:9:120:TRP:CZ3	4:9:130:ARG:HD2	2.56	0.41
4:9:387:LEU:HD23	4:9:387:LEU:H	1.85	0.41
5:A:81:GLN:OE1	5:A:81:GLN:N	2.53	0.41
5:A:112:TRP:CZ3	5:A:187:ALA:HB2	2.55	0.41
11:G:90:ILE:HG21	11:G:137:ILE:HB	2.01	0.41
11:G:99:ARG:NH2	11:G:103:LYS:HB2	2.25	0.41
16:L:31:GLN:O	16:L:35:LYS:HG2	2.20	0.41
26:a:52:LYS:HD3	52:3:813:G:H5''	2.02	0.41
26:a:174:ASP:CG	26:a:175:GLU:H	2.28	0.41
30:e:107:ASN:HA	30:e:117:LYS:HG3	2.01	0.41
32:g:10:GLN:O	32:g:14:VAL:HG22	2.20	0.41
34:i:12:ALA:O	34:i:14:LYS:NZ	2.40	0.41
34:i:104:VAL:O	34:i:108:VAL:HG22	2.20	0.41
44:s:55:VAL:HA	44:s:82:VAL:O	2.19	0.41
51:z:5:ARG:NH2	52:3:2292:A:OP1	2.54	0.41
51:z:21:THR:OG1	51:z:22:PHE:N	2.51	0.41
52:3:546:U:H3'	52:3:547:G:C8	2.54	0.41
52:3:914:G:N2	52:3:938:A:N1	2.68	0.41
52:3:976:C:H2'	52:3:977:A:O4'	2.20	0.41
52:3:1116:U:C2	52:3:1117:U:C5	3.08	0.41
52:3:1188:C:H2'	52:3:1189:G:O4'	2.21	0.41
52:3:1659:C:H2'	52:3:1660:A:O4'	2.20	0.41
52:3:1784:U:H2'	52:3:1785:U:C6	2.55	0.41
52:3:1857:G:N1	52:3:1900:C:N3	2.69	0.41
52:3:2044:C:H2'	52:3:2045:C:C6	2.56	0.41
52:3:2057:C:H3'	52:3:2057:C:OP2	2.20	0.41
52:3:2297:G:H1	52:3:2351:U:H3	1.68	0.41
52:3:2527:U:O4'	52:3:2550:A:N6	2.54	0.41
52:3:2553:G:H2'	52:3:2554:U:O4'	2.20	0.41
54:5:420:A:C4	54:5:421:G:H1'	2.55	0.41
54:5:450:U:C4	54:5:451:G:C5	3.09	0.41
54:5:930:A:H2'	54:5:931:C:C6	2.55	0.41
54:5:1267:G:H2'	54:5:1268:G:H8	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:6:ALA:HB1	2:1:10:ARG:NH1	2.35	0.41
4:9:242:ARG:O	4:9:246:LYS:HG2	2.20	0.41
5:A:152:LEU:HD23	5:A:155:GLU:OE2	2.20	0.41
6:B:189:LEU:CD1	6:B:202:LYS:HG2	2.48	0.41
8:D:214:LYS:NZ	8:D:218:GLU:HG2	2.36	0.41
9:E:39:TYR:HB2	9:E:58:TYR:CD1	2.55	0.41
10:F:56:LYS:O	10:F:57:PRO:C	2.63	0.41
11:G:93:PRO:HG2	54:5:871:U:O3'	2.20	0.41
13:I:68:ARG:HH12	54:5:1342:C:P	2.43	0.41
18:N:67:LEU:HA	18:N:70:ASN:HD21	1.85	0.41
23:S:26:THR:OG1	54:5:1432:A:O3'	2.39	0.41
23:S:48:TYR:OH	23:S:72:ASN:HB2	2.21	0.41
26:a:43:LYS:HE3	26:a:43:LYS:HB2	1.70	0.41
30:e:17:ASN:OD1	30:e:28:LYS:HB2	2.20	0.41
32:g:15:SER:OG	32:g:62:ALA:HA	2.19	0.41
36:k:22:ARG:NE	52:3:1280:G:OP2	2.49	0.41
37:l:13:HIS:NE2	52:3:990:G:H5''	2.35	0.41
49:x:30:LYS:HZ2	49:x:31:GLN:CD	2.28	0.41
52:3:144:C:H2'	52:3:145:A:H8	1.84	0.41
52:3:266:A:C2	52:3:466:A:H1'	2.55	0.41
52:3:497:C:H2'	52:3:498:C:O4'	2.20	0.41
52:3:631:A:C4	52:3:632:A:C8	3.09	0.41
52:3:964:A:C2	52:3:965:U:C4	3.08	0.41
52:3:1010:G:C4'	52:3:1026:A:H61	2.33	0.41
52:3:1598:U:H2'	52:3:1599:C:C6	2.55	0.41
52:3:1766:A:C2	52:3:2705:G:H1'	2.56	0.41
52:3:1803:U:N3	52:3:1804:A:N1	2.68	0.41
52:3:1880:G:H2'	52:3:1881:C:C6	2.56	0.41
52:3:1943:A:C8	52:3:1952:G:C8	3.09	0.41
52:3:2004:G:H2'	52:3:2005:G:C8	2.54	0.41
52:3:2011:G:C2	52:3:2012:A:H1'	2.56	0.41
52:3:2078:A:H2'	52:3:2079:G:H8	1.83	0.41
52:3:2385:A:H2'	52:3:2386:A:O4'	2.20	0.41
52:3:2451:C:H2'	52:3:2452:G:H8	1.82	0.41
52:3:2530:U:H2'	52:3:2531:C:H5'	2.00	0.41
54:5:264:C:H2'	54:5:265:U:C6	2.56	0.41
54:5:377:A:H2'	54:5:378:A:O4'	2.21	0.41
54:5:762:G:H2'	54:5:809:G:N2	2.35	0.41
54:5:983:G:H2'	54:5:984:A:C8	2.55	0.41
54:5:1152:G:H2'	54:5:1153:G:C4	2.56	0.41
54:5:1197:G:H2'	54:5:1198:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:9:486:LYS:N	4:9:486:LYS:HD2	2.36	0.41
6:B:18:TRP:HH2	13:I:20:ASP:HB2	1.86	0.41
7:C:12:ARG:HB3	7:C:33:THR:O	2.20	0.41
14:J:55:SER:HA	14:J:58:ILE:HG12	2.03	0.41
14:J:111:HIS:NE2	54:5:672:A:H1'	2.36	0.41
17:M:18:VAL:HG21	54:5:1290:G:H4'	2.03	0.41
17:M:24:CYS:HB3	17:M:28:GLY:HA2	2.03	0.41
18:N:67:LEU:HA	18:N:70:ASN:ND2	2.35	0.41
23:S:44:LEU:HD11	23:S:48:TYR:CZ	2.56	0.41
24:T:18:PHE:O	24:T:22:SER:OG	2.38	0.41
26:a:81:ALA:O	26:a:120:LYS:HA	2.21	0.41
27:b:26:ILE:HG21	27:b:192:LEU:HB3	2.01	0.41
27:b:35:GLN:HE22	27:b:76:LYS:H	1.66	0.41
35:j:43:VAL:O	35:j:55:GLY:N	2.52	0.41
37:l:63:LYS:HE2	37:l:63:LYS:HB2	1.82	0.41
38:m:112:GLU:OE1	50:y:41:ARG:NH2	2.53	0.41
38:m:113:MET:HG3	38:m:114:ALA:N	2.35	0.41
39:n:20:ARG:HD3	39:n:46:PHE:CE2	2.55	0.41
43:r:14:PRO:HG2	43:r:78:GLN:HG2	2.02	0.41
52:3:553:A:O2'	52:3:554:U:H5'	2.21	0.41
52:3:875:G:H2'	52:3:876:A:H8	1.84	0.41
52:3:1391:U:O2'	52:3:1817:A:N3	2.49	0.41
52:3:2632:C:H2'	52:3:2633:C:H6	1.86	0.41
52:3:2760:C:H2'	52:3:2761:A:O4'	2.20	0.41
54:5:218:U:H2'	54:5:219:A:C8	2.53	0.41
54:5:713:A:C6	54:5:714:C:C4	3.09	0.41
54:5:1445:G:O2'	54:5:1446:A:H5'	2.20	0.41
55:8:7:U:H3	55:8:68:G:H1	1.68	0.41
2:1:43:LYS:HA	2:1:43:LYS:HD2	1.91	0.41
4:9:486:LYS:HA	4:9:513:PRO:HG2	2.01	0.41
9:E:155:GLU:HG2	9:E:156:LEU:O	2.21	0.41
26:a:121:ILE:HD11	26:a:133:GLY:C	2.45	0.41
28:c:200:GLU:HG3	28:c:203:VAL:HG22	2.03	0.41
29:d:5:LYS:HB2	29:d:97:TRP:CD2	2.56	0.41
30:e:127:LYS:HB3	30:e:135:THR:CG2	2.51	0.41
31:f:81:LEU:HG	31:f:142:VAL:HG21	2.03	0.41
34:i:101:ASP:HB2	34:i:127:VAL:HG13	2.02	0.41
37:l:75:THR:HG23	37:l:89:ASN:O	2.21	0.41
42:q:58:VAL:O	42:q:92:LEU:HB2	2.21	0.41
43:r:133:GLN:HA	43:r:136:LYS:HE2	2.02	0.41
44:s:42:LEU:HD11	52:3:145:A:O2'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:500:U:H1'	52:3:501:G:OP1	2.19	0.41
52:3:706:C:H2'	52:3:707:C:C6	2.55	0.41
52:3:1106:G:N2	52:3:1124:G:H2'	2.35	0.41
52:3:1162:A:H2'	52:3:2526:A:H2	1.84	0.41
52:3:1753:G:H2'	52:3:1754:U:C6	2.56	0.41
52:3:1922:U:H1'	52:3:1923:A:C2	2.55	0.41
52:3:2155:G:H2'	52:3:2156:G:C8	2.55	0.41
52:3:2565:G:H2'	52:3:2566:C:H6	1.84	0.41
52:3:2744:A:H2'	52:3:2745:G:H8	1.84	0.41
52:3:2767:G:C2'	52:3:2768:U:H5'	2.51	0.41
52:3:2855:A:H2'	52:3:2856:G:C8	2.55	0.41
53:4:104:C:H2'	53:4:105:A:H8	1.85	0.41
54:5:168:A:H3'	54:5:169:G:C8	2.56	0.41
54:5:173:U:H2'	54:5:174:U:C6	2.55	0.41
54:5:265:U:H2'	54:5:266:A:C8	2.49	0.41
54:5:1490:G:H2'	54:5:1491:A:H8	1.86	0.41
1:0:29:LYS:HA	1:0:32:LYS:HG2	2.01	0.41
4:9:18:HIS:CE1	4:9:19:ILE:HG22	2.55	0.41
4:9:334:LYS:NZ	4:9:366:GLU:OE1	2.51	0.41
4:9:518:GLY:O	4:9:560:LYS:NZ	2.53	0.41
4:9:634:ASP:CG	33:h:20:LYS:HG3	2.45	0.41
8:D:120:LYS:HD2	8:D:120:LYS:HA	1.70	0.41
22:R:84:THR:HB	54:5:1202:A:N7	2.36	0.41
23:S:63:ASN:ND2	54:5:259:A:H5'	2.35	0.41
25:W:57:VAL:HG23	25:W:97:LYS:H	1.86	0.41
41:p:101:GLU:HB2	41:p:104:LYS:NZ	2.36	0.41
42:q:42:ASP:OD1	42:q:44:LYS:NZ	2.54	0.41
52:3:34:C:N3	52:3:510:G:N1	2.69	0.41
52:3:62:G:C5	52:3:64:U:H2'	2.56	0.41
52:3:355:A:O2'	52:3:374:A:N3	2.53	0.41
52:3:514:A:C5	52:3:516:A:C5	3.09	0.41
52:3:704:G:N3	52:3:704:G:H2'	2.35	0.41
52:3:732:G:N2	52:3:801:U:O2	2.53	0.41
52:3:1171:G:H2'	52:3:1172:G:H8	1.86	0.41
52:3:1474:C:C2	52:3:1492:G:N2	2.89	0.41
52:3:2030:A:O3'	52:3:2625:U:O2'	2.39	0.41
52:3:2113:U:H2'	52:3:2114:C:C6	2.56	0.41
52:3:2269:C:H2'	52:3:2270:U:C6	2.55	0.41
52:3:2272:C:H2'	52:3:2273:U:O4'	2.20	0.41
52:3:2291:U:N3	52:3:2292:A:C5	2.89	0.41
52:3:2331:G:H2'	52:3:2332:U:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:2552:G:H2'	52:3:2553:G:H8	1.86	0.41
52:3:2614:U:C2	52:3:2615:G:C8	3.09	0.41
52:3:2643:A:H2'	52:3:2644:U:O4'	2.21	0.41
54:5:253:G:C6	54:5:266:A:C6	3.08	0.41
54:5:304:U:H2'	54:5:305:A:H8	1.85	0.41
54:5:426:U:O2	54:5:428:A:N7	2.54	0.41
54:5:472:G:H2'	54:5:473:A:C8	2.55	0.41
54:5:659:U:O2	54:5:740:G:C6	2.73	0.41
54:5:949:G:C5	54:5:950:C:C4	3.09	0.41
4:9:346:LYS:NZ	4:9:347:LYS:O	2.54	0.41
4:9:541:GLY:HA3	4:9:582:ALA:HB3	2.03	0.41
4:9:645:LEU:HA	4:9:648:MET:HG2	2.02	0.41
5:A:85:VAL:HG11	5:A:184:GLU:HG3	2.01	0.41
5:A:89:ASN:O	5:A:93:LYS:HD3	2.21	0.41
5:A:179:ASP:O	5:A:201:LEU:HD12	2.21	0.41
8:D:217:ASN:O	8:D:218:GLU:HG3	2.21	0.41
11:G:92:LYS:HB3	11:G:95:LEU:H	1.85	0.41
12:H:27:LYS:HD2	12:H:60:LYS:HZ1	1.86	0.41
12:H:60:LYS:HA	12:H:63:PHE:CZ	2.55	0.41
14:J:80:LYS:HA	14:J:107:THR:HA	2.03	0.41
18:N:18:ASP:N	18:N:18:ASP:OD1	2.54	0.41
18:N:66:TYR:CD2	18:N:67:LEU:HD22	2.55	0.41
19:O:65:SER:O	19:O:69:GLN:HG2	2.21	0.41
21:Q:73:ARG:HA	21:Q:76:THR:OG1	2.20	0.41
22:R:65:ASP:OD2	22:R:66:MET:HE2	2.21	0.41
22:R:78:ARG:HA	54:5:953:A:N6	2.36	0.41
26:a:182:LEU:HD23	26:a:190:ARG:O	2.21	0.41
27:b:28:VAL:HG22	27:b:190:LEU:HD12	2.02	0.41
28:c:140:THR:OG1	52:3:354:C:H3'	2.21	0.41
28:c:181:LYS:HE2	28:c:185:LYS:HB3	2.02	0.41
29:d:163:ASP:O	29:d:167:LEU:HG	2.20	0.41
33:h:119:ALA:HB1	52:3:1116:U:H4'	2.03	0.41
34:i:47:PHE:HE1	34:i:53:CYS:SG	2.44	0.41
34:i:111:MET:HE1	52:3:1173:G:H21	1.86	0.41
36:k:52:GLU:CD	36:k:57:PRO:HA	2.46	0.41
37:l:11:LYS:NZ	52:3:2285:G:H5''	2.36	0.41
38:m:64:LYS:HE3	38:m:64:LYS:HB3	1.89	0.41
38:m:85:LYS:HE3	38:m:85:LYS:HB3	1.89	0.41
39:n:11:ARG:NH1	39:n:95:GLY:O	2.54	0.41
39:n:20:ARG:HD2	39:n:20:ARG:HA	1.79	0.41
46:u:34:ARG:HB2	52:3:2278:G:H4'	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:v:49:LEU:HD23	47:v:49:LEU:H	1.86	0.41
48:w:15:LEU:HD21	48:w:58:LEU:HD22	2.02	0.41
52:3:12:A:N7	52:3:13:C:N4	2.68	0.41
52:3:70:G:H2'	52:3:71:C:O4'	2.21	0.41
52:3:85:U:O4	52:3:103:G:O2'	2.26	0.41
52:3:533:G:H2'	52:3:534:U:C6	2.56	0.41
52:3:538:A:C6	52:3:540:A:C6	3.09	0.41
52:3:602:U:H2'	52:3:603:G:O4'	2.20	0.41
52:3:842:U:C2	52:3:843:G:C8	3.09	0.41
52:3:1091:G:H4'	52:3:1121:A:C8	2.56	0.41
52:3:1210:A:P	52:3:1210:A:H8	2.44	0.41
52:3:1609:U:N3	52:3:1610:U:O4	2.54	0.41
52:3:1661:A:H2'	52:3:1662:G:H8	1.86	0.41
52:3:1738:G:C2	52:3:1739:G:C5	3.09	0.41
52:3:1775:G:N2	52:3:1991:U:O2	2.47	0.41
52:3:1893:C:H2'	52:3:1894:U:C6	2.55	0.41
52:3:1938:U:O4	52:3:1976:A:N7	2.53	0.41
52:3:2032:G:C2	52:3:2033:G:C5	3.09	0.41
52:3:2203:U:H2'	52:3:2204:C:H6	1.85	0.41
52:3:2207:A:H61	52:3:2232:G:H1'	1.85	0.41
52:3:2269:C:H2'	52:3:2270:U:H6	1.86	0.41
52:3:2471:U:H2'	52:3:2472:G:H8	1.83	0.41
52:3:2482:U:H3'	52:3:2483:C:H6	1.85	0.41
52:3:2602:C:H2'	52:3:2603:G:H8	1.85	0.41
52:3:2634:C:H2'	52:3:2635:G:H8	1.86	0.41
52:3:2636:U:O2'	52:3:2789:A:O2'	2.32	0.41
52:3:2718:C:H2'	52:3:2719:A:H8	1.85	0.41
54:5:79:A:N6	54:5:80:U:O2	2.54	0.41
54:5:513:G:C5	54:5:514:U:C5	3.09	0.41
54:5:805:C:H2'	54:5:806:A:C8	2.56	0.41
54:5:917:G:H2'	54:5:918:A:C8	2.55	0.41
54:5:961:G:N1	55:8:35:G:H4'	2.35	0.41
54:5:1017:A:H2'	54:5:1018:U:O4'	2.21	0.41
54:5:1046:A:C6	54:5:1181:G:C5	3.09	0.41
54:5:1111:G:H2'	54:5:1112:U:C6	2.56	0.41
54:5:1212:C:O2'	54:5:1274:G:N2	2.45	0.41
54:5:1283:G:H2'	54:5:1284:A:C8	2.55	0.41
54:5:1285:G:H2'	54:5:1286:G:C8	2.56	0.41
54:5:1360:G:H2'	54:5:1361:G:H8	1.86	0.41
54:5:1380:G:H2'	54:5:1381:U:O4'	2.21	0.41
54:5:1419:C:N4	54:5:1420:U:O4	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1438:U:H2'	54:5:1439:G:H8	1.86	0.41
54:5:1499:G:H2'	54:5:1500:G:H8	1.85	0.41
55:7:7:U:H3	55:7:68:G:H1	1.68	0.41
55:7:16:G:N2	55:7:49:C:C2	2.89	0.41
55:8:11:G:N7	55:8:46:U:H1'	2.35	0.41
1:0:7:PRO:HG3	52:3:1645:C:O2'	2.21	0.41
3:2:18:LYS:HG2	3:2:21:GLN:HA	2.03	0.41
4:9:166:ILE:CD1	4:9:182:LYS:HE3	2.51	0.41
7:C:78:VAL:HB	7:C:89:LEU:HD23	2.03	0.41
8:D:162:ALA:N	54:5:9:A:N3	2.59	0.41
8:D:181:LYS:HA	8:D:181:LYS:HD2	1.80	0.41
9:E:14:SER:OG	9:E:16:GLU:OE1	2.39	0.41
11:G:97:ILE:O	11:G:136:GLU:HG2	2.20	0.41
12:H:21:LEU:HG	12:H:64:ASP:O	2.20	0.41
18:N:2:GLN:HG3	18:N:3:ILE:H	1.86	0.41
19:O:79:SER:O	54:5:124:U:H5''	2.21	0.41
23:S:66:ARG:O	23:S:69:LYS:HG2	2.21	0.41
29:d:66:VAL:O	29:d:88:LYS:N	2.47	0.41
34:i:16:ARG:HD2	34:i:55:ASP:HA	2.02	0.41
38:m:31:ILE:CG2	38:m:116:LEU:HB3	2.51	0.41
41:p:1:MET:HE2	52:3:481:C:OP1	2.21	0.41
41:p:109:VAL:O	41:p:113:LYS:HG3	2.21	0.41
44:s:6:VAL:O	44:s:32:ASN:N	2.47	0.41
45:t:100:LYS:NZ	52:3:330:A:H5''	2.36	0.41
48:w:85:ASN:HA	48:w:88:LYS:HG2	2.03	0.41
52:3:325:G:C6	52:3:384:G:C6	3.09	0.41
52:3:444:C:H2'	52:3:445:C:H6	1.86	0.41
52:3:533:G:H2'	52:3:534:U:H6	1.85	0.41
52:3:783:G:HO2'	52:3:784:A:P	2.44	0.41
52:3:914:G:C6	52:3:936:G:C6	3.09	0.41
52:3:1144:C:H5	52:3:1145:G:C6	2.39	0.41
52:3:1446:G:HO2'	52:3:1614:G:N2	2.19	0.41
52:3:1661:A:C2	52:3:1674:A:C8	3.09	0.41
52:3:2077:A:H2'	52:3:2078:A:O4'	2.21	0.41
52:3:2463:G:C2'	52:3:2464:C:H5'	2.51	0.41
52:3:2523:C:H2'	52:3:2524:U:H6	1.86	0.41
52:3:2704:U:H2'	52:3:2705:G:O4'	2.21	0.41
54:5:385:A:H3'	54:5:386:U:H6	1.86	0.41
54:5:392:A:O2'	54:5:394:U:OP1	2.34	0.41
54:5:590:G:C5	54:5:645:A:C6	3.08	0.41
54:5:752:G:H2'	54:5:753:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:968:G:C6	54:5:969:A:C6	3.09	0.41
54:5:1093:A:H2'	54:5:1094:C:C6	2.56	0.41
54:5:1236:A:H3'	54:5:1237:G:H8	1.86	0.41
4:9:493:LYS:HE2	4:9:506:HIS:CE1	2.56	0.40
5:A:30:VAL:HB	5:A:55:HIS:HB3	2.03	0.40
5:A:182:VAL:HG22	5:A:206:THR:HG22	2.03	0.40
9:E:133:THR:HG23	9:E:135:GLY:H	1.85	0.40
10:F:137:LYS:O	10:F:140:THR:HG22	2.21	0.40
12:H:12:ARG:HG3	12:H:108:ARG:HG3	2.03	0.40
18:N:13:GLN:NE2	18:N:15:HIS:O	2.54	0.40
20:P:17:LYS:HE3	54:5:271:G:H5'	2.02	0.40
23:S:44:LEU:HD22	23:S:76:LEU:HG	2.04	0.40
28:c:165:ASN:HB3	28:c:168:LEU:HD12	2.01	0.40
29:d:36:ILE:HG21	29:d:57:LEU:HD11	2.02	0.40
29:d:47:SER:O	29:d:147:LYS:HD3	2.21	0.40
33:h:123:MET:HE1	52:3:1115:G:N2	2.21	0.40
34:i:71:LYS:NZ	52:3:1175:C:OP2	2.52	0.40
34:i:112:LEU:CD2	34:i:121:TRP:HE3	2.34	0.40
34:i:119:ARG:HH12	52:3:563:A:H3'	1.85	0.40
35:j:35:LEU:HB2	35:j:69:GLN:HE22	1.85	0.40
35:j:71:ARG:NH2	35:j:73:ASP:HB3	2.36	0.40
38:m:89:LYS:NZ	38:m:90:TYR:HE1	2.17	0.40
40:o:35:ILE:HD11	40:o:79:PHE:CE1	2.54	0.40
52:3:275:A:N6	52:3:294:G:H1'	2.35	0.40
52:3:293:G:H2'	52:3:294:G:C8	2.57	0.40
52:3:335:G:C6	52:3:351:G:C6	3.09	0.40
52:3:393:C:H2'	52:3:394:C:O4'	2.21	0.40
52:3:417:G:O6	52:3:431:U:O2	2.38	0.40
52:3:442:G:C6	52:3:443:C:C4	3.09	0.40
52:3:716:G:H2'	52:3:717:U:H6	1.86	0.40
52:3:784:A:H4'	52:3:1301:G:H1'	2.03	0.40
52:3:1085:A:H3'	52:3:1086:G:C8	2.55	0.40
52:3:1894:U:H2'	52:3:1895:G:O4'	2.20	0.40
52:3:2138:U:H5''	52:3:2140:G:H1'	2.03	0.40
52:3:2353:G:C2	52:3:2389:A:C4	3.08	0.40
52:3:2522:U:H2'	52:3:2523:C:H6	1.86	0.40
52:3:2730:G:H2'	52:3:2731:U:O4'	2.20	0.40
54:5:140:U:H2'	54:5:141:A:C8	2.55	0.40
54:5:393:A:C6	54:5:546:G:C6	3.08	0.40
54:5:411:A:H3'	54:5:412:G:H8	1.86	0.40
54:5:959:A:C8	54:5:960:C:H5	2.39	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:1231:U:H5'	54:5:1233:G:H1'	2.03	0.40
54:5:1237:G:H2'	54:5:1238:C:C6	2.56	0.40
54:5:1388:A:H2'	54:5:1389:U:C6	2.57	0.40
55:7:65:C:H2'	55:7:66:C:C6	2.56	0.40
4:9:460:VAL:HG12	4:9:463:MET:HE3	2.03	0.40
6:B:41:ARG:HA	6:B:56:VAL:HG21	2.03	0.40
10:F:19:ASN:O	10:F:23:THR:HG23	2.21	0.40
11:G:107:VAL:C	11:G:109:ASN:H	2.29	0.40
12:H:47:ILE:HA	12:H:50:MET:HE3	2.04	0.40
21:Q:60:LEU:HD13	21:Q:86:VAL:HG22	2.03	0.40
26:a:134:PHE:O	26:a:199:THR:HA	2.21	0.40
26:a:159:GLN:HB3	26:a:160:ILE:HD12	2.03	0.40
27:b:26:ILE:HG22	27:b:27:THR:O	2.21	0.40
30:e:67:PHE:O	30:e:71:TYR:HD2	2.05	0.40
32:g:57:ASN:HA	32:g:60:ARG:CZ	2.51	0.40
34:i:90:VAL:HB	34:i:95:MET:HE3	2.02	0.40
39:n:41:VAL:HG22	39:n:55:SER:HB2	2.03	0.40
39:n:46:PHE:O	39:n:47:SER:OG	2.36	0.40
39:n:84:LEU:O	39:n:85:LYS:HG2	2.21	0.40
40:o:6:LYS:HD3	52:3:2880:A:H4'	2.03	0.40
43:r:116:GLU:O	43:r:119:LYS:HG2	2.21	0.40
44:s:43:ALA:O	44:s:47:VAL:HG22	2.21	0.40
45:t:45:HIS:NE2	45:t:62:LYS:HD2	2.36	0.40
45:t:60:THR:HG21	52:3:519:A:H4'	2.02	0.40
47:v:56:ARG:HG3	47:v:59:LYS:HZ3	1.86	0.40
52:3:161:U:O2	52:3:171:G:C6	2.74	0.40
52:3:515:A:H61	52:3:538:A:N6	2.14	0.40
52:3:919:C:O2'	52:3:933:A:N6	2.54	0.40
52:3:1229:U:H2'	52:3:1230:U:C6	2.55	0.40
52:3:1275:C:H2'	52:3:1276:A:H8	1.84	0.40
52:3:1592:A:C4	52:3:1594:G:C8	3.10	0.40
52:3:2123:A:H5'	52:3:2124:A:C8	2.56	0.40
52:3:2155:G:H2'	52:3:2156:G:H8	1.87	0.40
52:3:2156:G:H2'	52:3:2157:A:H8	1.84	0.40
52:3:2474:C:C4	52:3:2475:C:N4	2.89	0.40
52:3:2480:G:N2	52:3:2537:G:H1	2.13	0.40
52:3:2601:U:H2'	52:3:2602:C:H6	1.86	0.40
52:3:2682:A:H2'	52:3:2683:G:C8	2.54	0.40
53:4:10:C:H4'	53:4:11:A:OP1	2.21	0.40
54:5:48:C:O4'	54:5:361:U:N3	2.43	0.40
54:5:88:A:H2'	54:5:89:G:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:441:U:N3	54:5:489:U:O2	2.54	0.40
54:5:530:A:H4'	54:5:531:A:OP2	2.21	0.40
54:5:675:U:H2'	54:5:676:U:H6	1.86	0.40
54:5:1004:U:H2'	54:5:1005:U:N3	2.36	0.40
54:5:1216:G:H2'	54:5:1217:G:C8	2.55	0.40
54:5:1223:A:H2'	54:5:1224:C:C6	2.56	0.40
54:5:1377:C:H2'	54:5:1378:C:C2	2.56	0.40
54:5:1437:A:H2'	54:5:1438:U:O4'	2.21	0.40
4:9:200:PRO:HB2	4:9:202:GLN:OE1	2.21	0.40
4:9:538:VAL:HB	4:9:578:PHE:HD2	1.86	0.40
4:9:601:ILE:HG13	4:9:643:VAL:C	2.46	0.40
5:A:65:LEU:HD21	5:A:215:ILE:HG23	2.04	0.40
5:A:230:ASN:OD1	5:A:255:GLN:NE2	2.54	0.40
6:B:34:LEU:HA	6:B:37:ASP:OD1	2.22	0.40
10:F:37:LEU:CD2	54:5:1264:G:H5''	2.51	0.40
11:G:75:LYS:HA	11:G:75:LYS:HD2	1.93	0.40
23:S:17:ARG:NH2	54:5:160:A:O2'	2.55	0.40
26:a:144:GLY:C	26:a:169:ARG:HH11	2.28	0.40
26:a:256:THR:HG23	26:a:260:LYS:O	2.21	0.40
28:c:3:LYS:NZ	28:c:19:LYS:HG3	2.35	0.40
28:c:204:LEU:O	28:c:207:LEU:HB2	2.21	0.40
30:e:178:LYS:HE2	52:3:2539:A:N7	2.35	0.40
35:j:2:VAL:HB	35:j:33:ALA:HB3	2.03	0.40
40:o:28:GLY:HA3	40:o:96:VAL:HG21	2.03	0.40
40:o:38:LYS:HZ3	40:o:43:VAL:HG22	1.83	0.40
48:w:96:ALA:O	48:w:100:LYS:HG2	2.21	0.40
52:3:97:A:H8	52:3:97:A:OP2	2.05	0.40
52:3:155:A:N6	52:3:178:A:H61	2.20	0.40
52:3:231:A:H1'	52:3:232:A:C8	2.57	0.40
52:3:280:A:H2'	52:3:281:U:H6	1.85	0.40
52:3:335:G:O2'	52:3:336:C:O5'	2.34	0.40
52:3:728:A:H2'	52:3:729:U:C6	2.57	0.40
52:3:945:U:H2'	52:3:946:A:C8	2.56	0.40
52:3:1061:A:H2'	52:3:1062:A:H8	1.86	0.40
52:3:1193:U:H2'	52:3:1194:U:C6	2.56	0.40
52:3:1965:C:H2'	52:3:1966:G:C8	2.56	0.40
52:3:2105:G:H2'	52:3:2106:G:C8	2.56	0.40
52:3:2663:G:H1'	52:3:2664:U:H5	1.86	0.40
52:3:2692:U:H3	52:3:2733:A:H2	1.67	0.40
52:3:2896:G:C4'	52:3:2897:G:H21	2.32	0.40
54:5:156:U:H2'	54:5:157:A:H8	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:5:353:G:H2'	54:5:354:U:H6	1.86	0.40
54:5:356:G:H2'	54:5:357:G:H8	1.84	0.40
54:5:474:G:N1	54:5:475:U:O4	2.54	0.40
54:5:750:A:H5''	54:5:751:C:C6	2.56	0.40
54:5:902:A:H2'	54:5:903:A:H8	1.85	0.40
54:5:949:G:H2'	54:5:950:C:C6	2.56	0.40
54:5:953:A:H1'	54:5:980:C:H1'	2.02	0.40
54:5:1041:G:H2'	54:5:1042:G:H8	1.83	0.40
55:8:16:G:N2	55:8:49:C:C2	2.89	0.40
4:9:21:ALA:HB2	4:9:107:ASP:OD1	2.21	0.40
4:9:134:VAL:HG13	4:9:137:MET:HE3	2.04	0.40
6:B:182:ARG:HD3	54:5:1103:C:O2'	2.21	0.40
7:C:75:PHE:CD1	7:C:89:LEU:HD22	2.57	0.40
7:C:96:ARG:NH1	7:C:132:PRO:HG2	2.37	0.40
7:C:170:ASN:CG	7:C:173:THR:HG22	2.46	0.40
8:D:96:ASN:CG	8:D:100:LYS:H	2.30	0.40
8:D:187:THR:HG1	8:D:190:ASN:HB2	1.87	0.40
9:E:85:GLU:OE2	9:E:85:GLU:N	2.55	0.40
10:F:78:ARG:HH11	54:5:1357:C:H1'	1.86	0.40
14:J:113:GLY:HA3	54:5:712:A:H2	1.85	0.40
21:Q:78:ASN:ND2	21:Q:83:GLN:HA	2.36	0.40
26:a:181:ILE:HA	26:a:191:LYS:HA	2.02	0.40
27:b:20:ASN:HB3	35:j:72:LYS:HZ1	1.86	0.40
27:b:211:LYS:HB2	27:b:211:LYS:HE2	1.88	0.40
29:d:132:ILE:HG23	29:d:152:PHE:H	1.87	0.40
32:g:11:VAL:CG2	32:g:58:ILE:HG13	2.48	0.40
34:i:103:LEU:HD12	34:i:103:LEU:HA	1.92	0.40
40:o:6:LYS:O	52:3:2879:U:O2'	2.40	0.40
41:p:60:TRP:HA	41:p:96:GLU:OE1	2.21	0.40
43:r:24:ILE:HD13	43:r:36:LEU:HB3	2.04	0.40
47:v:3:LYS:HG2	52:3:1392:G:OP1	2.22	0.40
52:3:41:C:O2'	52:3:42:U:H5'	2.21	0.40
52:3:107:C:H2'	52:3:108:G:C8	2.57	0.40
52:3:453:U:H2'	52:3:454:G:H8	1.83	0.40
52:3:638:A:H2'	52:3:639:G:O4'	2.21	0.40
52:3:937:A:H5''	52:3:938:A:OP2	2.21	0.40
52:3:1039:G:H2'	52:3:1040:U:H6	1.86	0.40
52:3:1077:G:N1	52:3:1148:U:N3	2.68	0.40
52:3:1231:G:H2'	52:3:1232:U:C6	2.57	0.40
52:3:1309:G:H2'	52:3:1310:U:C6	2.56	0.40
52:3:1654:G:C6	52:3:1655:U:N3	2.89	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:3:1671:C:N4	52:3:1672:C:N4	2.69	0.40
52:3:1775:G:H2'	52:3:1776:G:C8	2.57	0.40
52:3:1831:G:H2'	52:3:1832:G:H8	1.87	0.40
52:3:1851:U:H2'	52:3:1852:G:C8	2.56	0.40
52:3:1911:G:H2'	52:3:1912:C:O4'	2.22	0.40
52:3:2082:U:H4'	52:3:2605:G:H21	1.87	0.40
52:3:2145:A:H2'	52:3:2146:A:H8	1.86	0.40
52:3:2166:U:H2'	52:3:2167:G:O4'	2.22	0.40
52:3:2222:C:H2'	52:3:2223:C:O4'	2.22	0.40
52:3:2896:G:H4'	52:3:2897:G:OP2	2.21	0.40
54:5:23:G:H5'	54:5:879:G:OP2	2.22	0.40
54:5:126:U:H2'	54:5:127:A:C8	2.56	0.40
54:5:283:U:O2'	54:5:284:A:H5'	2.22	0.40
54:5:778:A:C8	54:5:779:A:C8	3.10	0.40
54:5:936:G:O6	54:5:1317:A:N6	2.54	0.40
54:5:944:A:N6	54:5:1208:G:C6	2.90	0.40
54:5:946:G:H2'	54:5:947:U:H6	1.86	0.40
54:5:1136:G:C6	54:5:1137:C:C5	3.10	0.40
54:5:1383:A:H2'	54:5:1384:A:H8	1.86	0.40
4:9:211:ARG:HE	4:9:235:ILE:HD11	1.87	0.40
5:A:154:ARG:NH1	5:A:158:ARG:HE	2.20	0.40
5:A:198:VAL:O	5:A:212:ASP:HB2	2.21	0.40
11:G:43:ALA:O	11:G:46:GLU:HG3	2.22	0.40
11:G:107:VAL:O	11:G:111:LEU:HG	2.22	0.40
12:H:35:ARG:NH2	54:5:1223:A:H4'	2.36	0.40
12:H:83:LEU:HD11	12:H:107:THR:HA	2.03	0.40
15:K:124:ARG:NH2	54:5:536:U:H5''	2.37	0.40
16:L:66:GLU:O	16:L:69:LEU:HB2	2.22	0.40
16:L:101:ARG:HB2	54:5:1200:G:OP1	2.22	0.40
17:M:5:SER:C	17:M:9:LYS:H22	2.30	0.40
19:O:40:ASN:ND2	19:O:66:LEU:O	2.55	0.40
23:S:42:ASP:OD1	23:S:43:ASN:N	2.54	0.40
26:a:179:TYR:CZ	26:a:277:LEU:HD11	2.57	0.40
26:a:246:ARG:HH21	52:3:1834:U:P	2.44	0.40
27:b:99:GLN:NE2	27:b:186:GLU:OE2	2.54	0.40
29:d:25:ILE:O	29:d:28:VAL:HB	2.22	0.40
29:d:122:PHE:CE2	29:d:170:LEU:HD21	2.55	0.40
30:e:23:ASP:O	30:e:24:HIS:ND1	2.54	0.40
31:f:65:SER:HB2	31:f:69:LYS:H23	1.85	0.40
32:g:24:PHE:O	32:g:111:GLY:HA3	2.21	0.40
34:i:60:ILE:HD12	34:i:128:PHE:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:o:25:PHE:HB2	40:o:55:ARG:HD3	2.03	0.40
42:q:64:LEU:HD23	42:q:88:PRO:HA	2.02	0.40
43:r:121:GLN:O	43:r:124:LEU:HG	2.21	0.40
45:t:3:ARG:HG2	45:t:91:TYR:OH	2.21	0.40
45:t:26:LYS:HB3	45:t:35:ILE:HB	2.03	0.40
45:t:45:HIS:CE1	52:3:519:A:H1'	2.56	0.40
52:3:121:U:C2	52:3:152:A:C6	3.10	0.40
52:3:414:C:H2'	52:3:415:U:H6	1.85	0.40
52:3:521:C:H2'	52:3:522:C:C6	2.57	0.40
52:3:671:C:H2'	52:3:672:G:H8	1.86	0.40
52:3:722:C:H42	52:3:822:C:H4'	1.86	0.40
52:3:1101:U:H2'	52:3:1103:G:N7	2.36	0.40
52:3:2053:G:C5	52:3:2631:G:C2	3.10	0.40
52:3:2106:G:H22	52:3:2198:G:N2	2.19	0.40
52:3:2544:G:C6	52:3:2545:U:O4	2.75	0.40
52:3:2637:A:O2'	52:3:2898:A:N6	2.52	0.40
52:3:2850:G:H2'	52:3:2851:U:H6	1.86	0.40
52:3:2872:A:H2'	52:3:2873:G:C8	2.56	0.40
53:4:96:G:H2'	53:4:97:A:O4'	2.22	0.40
54:5:63:U:H2'	54:5:64:C:C6	2.57	0.40
54:5:760:U:H2'	54:5:761:U:H6	1.84	0.40
54:5:1197:G:OP1	54:5:1295:U:O2'	2.40	0.40
54:5:1360:G:H2'	54:5:1361:G:C8	2.57	0.40
54:5:1439:G:H2'	54:5:1440:U:H6	1.86	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%)	44 (98%)	1 (2%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	1	57/59 (97%)	55 (96%)	2 (4%)	0	100	100
3	2	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
4	9	680/688 (99%)	625 (92%)	55 (8%)	0	100	100
5	A	238/294 (81%)	216 (91%)	22 (9%)	0	100	100
6	B	213/273 (78%)	191 (90%)	22 (10%)	0	100	100
7	C	201/205 (98%)	188 (94%)	13 (6%)	0	100	100
8	D	151/219 (69%)	145 (96%)	6 (4%)	0	100	100
9	E	165/215 (77%)	150 (91%)	15 (9%)	0	100	100
10	F	152/155 (98%)	144 (95%)	8 (5%)	0	100	100
11	G	139/142 (98%)	119 (86%)	20 (14%)	0	100	100
12	H	126/132 (96%)	109 (86%)	17 (14%)	0	100	100
13	I	99/108 (92%)	90 (91%)	9 (9%)	0	100	100
14	J	112/121 (93%)	109 (97%)	3 (3%)	0	100	100
15	K	134/139 (96%)	114 (85%)	20 (15%)	0	100	100
16	L	116/124 (94%)	99 (85%)	17 (15%)	0	100	100
17	M	58/61 (95%)	56 (97%)	2 (3%)	0	100	100
18	N	81/86 (94%)	80 (99%)	1 (1%)	0	100	100
19	O	78/94 (83%)	73 (94%)	5 (6%)	0	100	100
20	P	81/85 (95%)	76 (94%)	5 (6%)	0	100	100
21	Q	63/104 (61%)	58 (92%)	5 (8%)	0	100	100
22	R	82/87 (94%)	76 (93%)	6 (7%)	0	100	100
23	S	75/87 (86%)	74 (99%)	1 (1%)	0	100	100
24	T	51/60 (85%)	50 (98%)	1 (2%)	0	100	100
25	W	67/122 (55%)	63 (94%)	4 (6%)	0	100	100
26	a	283/287 (99%)	252 (89%)	31 (11%)	0	100	100
27	b	227/287 (79%)	210 (92%)	17 (8%)	0	100	100
28	c	208/212 (98%)	193 (93%)	15 (7%)	0	100	100
29	d	173/180 (96%)	152 (88%)	21 (12%)	0	100	100
30	e	174/184 (95%)	162 (93%)	12 (7%)	0	100	100
31	f	143/149 (96%)	131 (92%)	12 (8%)	0	100	100
32	g	124/161 (77%)	111 (90%)	12 (10%)	1 (1%)	16	53

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
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%)	113 (94%)	7 (6%)	0	100	100
36	k	146/151 (97%)	135 (92%)	11 (8%)	0	100	100
37	l	134/139 (96%)	127 (95%)	7 (5%)	0	100	100
38	m	117/124 (94%)	115 (98%)	2 (2%)	0	100	100
39	n	108/116 (93%)	98 (91%)	10 (9%)	0	100	100
40	o	113/119 (95%)	103 (91%)	10 (9%)	0	100	100
41	p	112/127 (88%)	106 (95%)	6 (5%)	0	100	100
42	q	97/100 (97%)	86 (89%)	11 (11%)	0	100	100
43	r	137/159 (86%)	126 (92%)	11 (8%)	0	100	100
44	s	90/237 (38%)	87 (97%)	3 (3%)	0	100	100
45	t	109/111 (98%)	93 (85%)	15 (14%)	1 (1%)	14	50
46	u	84/104 (81%)	78 (93%)	6 (7%)	0	100	100
47	v	61/65 (94%)	56 (92%)	5 (8%)	0	100	100
48	w	96/111 (86%)	91 (95%)	5 (5%)	0	100	100
49	x	42/97 (43%)	38 (90%)	4 (10%)	0	100	100
50	y	54/57 (95%)	51 (94%)	2 (4%)	1 (2%)	6	31
51	z	48/53 (91%)	47 (98%)	1 (2%)	0	100	100
All	All	6567/7480 (88%)	6043 (92%)	521 (8%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
32	g	88	GLU
50	y	53	VAL
45	t	95	PRO

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	0	40/41 (98%)	39 (98%)	1 (2%)	42	62
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%)	579 (100%)	0	100	100
5	A	212/262 (81%)	211 (100%)	1 (0%)	81	82
6	B	180/232 (78%)	180 (100%)	0	100	100
7	C	181/183 (99%)	180 (99%)	1 (1%)	78	82
8	D	123/178 (69%)	123 (100%)	0	100	100
9	E	150/196 (76%)	149 (99%)	1 (1%)	76	80
10	F	131/132 (99%)	130 (99%)	1 (1%)	73	79
11	G	123/124 (99%)	123 (100%)	0	100	100
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%)	112 (96%)	5 (4%)	26	47
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%)	74 (100%)	0	100	100
23	S	70/77 (91%)	70 (100%)	0	100	100
24	T	49/56 (88%)	48 (98%)	1 (2%)	48	66
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%)	123 (100%)	0	100	100
32	g	101/129 (78%)	91 (90%)	10 (10%)	7	24

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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%)	105 (100%)	0	100	100
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%)	5706 (100%)	24 (0%)	81	83

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	0	11	LYS
5	A	88	LYS
7	C	37	GLN
9	E	1	MET
10	F	55	GLU
15	K	117	THR
15	K	118	VAL
15	K	120	VAL
15	K	121	GLU
15	K	122	LYS
24	T	8	ASN

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Mol	Chain	Res	Type
32	g	26	ILE
32	g	30	THR
32	g	42	LYS
32	g	43	LYS
32	g	44	LEU
32	g	46	LYS
32	g	84	VAL
32	g	86	VAL
32	g	87	ASN
32	g	90	VAL
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 (97) such sidechains are listed below:

Mol	Chain	Res	Type
4	9	33	HIS
4	9	115	GLN
4	9	224	GLN
4	9	264	ASN
4	9	295	ASN
4	9	357	HIS
4	9	362	ASN
4	9	395	GLN
4	9	477	GLN
4	9	485	ASN
4	9	503	GLN
4	9	539	GLN
4	9	632	GLN
4	9	637	GLN
4	9	664	ASN
5	A	55	HIS
5	A	66	GLN
5	A	77	GLN
5	A	131	ASN
5	A	203	ASN
5	A	219	ASN
6	B	3	GLN
6	B	8	ASN
6	B	52	GLN
8	D	127	HIS

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Mol	Chain	Res	Type
8	D	190	ASN
9	E	19	ASN
9	E	22	ASN
9	E	27	GLN
9	E	77	ASN
9	E	106	GLN
9	E	140	GLN
10	F	4	ASN
10	F	128	ASN
12	H	77	GLN
12	H	91	GLN
14	J	33	ASN
15	K	37	ASN
15	K	59	ASN
16	L	58	ASN
16	L	100	GLN
19	O	7	HIS
19	O	32	HIS
19	O	40	ASN
20	P	62	GLN
21	Q	78	ASN
21	Q	83	GLN
21	Q	85	HIS
22	R	47	ASN
22	R	59	ASN
23	S	24	GLN
23	S	46	ASN
24	T	8	ASN
26	a	50	GLN
26	a	78	ASN
26	a	149	ASN
26	a	238	HIS
26	a	276	ASN
27	b	35	GLN
27	b	95	GLN
28	c	47	GLN
28	c	68	GLN
28	c	70	HIS
28	c	76	GLN
28	c	83	HIS
28	c	145	GLN
29	d	58	HIS

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Mol	Chain	Res	Type
30	e	51	ASN
31	f	85	ASN
33	h	106	GLN
34	i	13	ASN
34	i	138	GLN
35	j	9	ASN
35	j	18	GLN
35	j	112	ASN
36	k	67	ASN
36	k	81	ASN
38	m	62	GLN
38	m	117	GLN
40	o	46	GLN
40	o	82	HIS
40	o	83	ASN
41	p	36	GLN
42	q	65	GLN
42	q	78	HIS
43	r	33	GLN
43	r	52	ASN
43	r	60	ASN
43	r	61	ASN
43	r	112	ASN
45	t	2	GLN
45	t	40	ASN
46	u	43	GLN
46	u	90	GLN
48	w	66	GLN
50	y	4	GLN
50	y	11	HIS

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
52	3	2875/2907 (98%)	980 (34%)	39 (1%)
53	4	103/108 (95%)	44 (42%)	3 (2%)
54	5	1490/1520 (98%)	454 (30%)	12 (0%)
55	7	75/76 (98%)	29 (38%)	1 (1%)
55	8	75/76 (98%)	29 (38%)	1 (1%)
All	All	4618/4687 (98%)	1536 (33%)	56 (1%)

All (1536) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
52	3	12	A
52	3	13	C
52	3	14	U
52	3	15	A
52	3	17	G
52	3	29	G
52	3	36	U
52	3	41	C
52	3	42	U
52	3	48	G
52	3	51	A
52	3	52	U
52	3	53	G
52	3	62	G
52	3	63	U
52	3	65	A
52	3	73	A
52	3	75	A
52	3	76	A
52	3	77	G
52	3	81	C
52	3	86	A
52	3	90	G
52	3	91	G
52	3	95	G
52	3	96	A
52	3	97	A
52	3	102	A
52	3	103	G
52	3	111	G
52	3	112	A
52	3	115	U
52	3	119	A
52	3	121	U
52	3	126	C
52	3	127	A
52	3	129	U
52	3	136	G
52	3	141	A
52	3	146	G
52	3	151	C
52	3	152	A
52	3	163	A

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Mol	Chain	Res	Type
52	3	164	A
52	3	165	U
52	3	178	A
52	3	179	A
52	3	181	G
52	3	184	A
52	3	185	U
52	3	186	A
52	3	188	G
52	3	194	A
52	3	197	U
52	3	200	A
52	3	203	A
52	3	204	U
52	3	205	C
52	3	208	A
52	3	209	G
52	3	210	U
52	3	211	A
52	3	215	A
52	3	219	G
52	3	220	A
52	3	225	A
52	3	226	A
52	3	229	C
52	3	232	A
52	3	234	G
52	3	236	G
52	3	237	A
52	3	243	U
52	3	247	U
52	3	252	G
52	3	253	C
52	3	254	G
52	3	255	A
52	3	256	G
52	3	257	C
52	3	267	A
52	3	269	A
52	3	270	G
52	3	276	A
52	3	277	C

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Mol	Chain	Res	Type
52	3	282	C
52	3	284	U
52	3	285	U
52	3	287	G
52	3	290	A
52	3	295	U
52	3	296	U
52	3	297	G
52	3	298	U
52	3	299	A
52	3	305	U
52	3	309	A
52	3	312	U
52	3	314	G
52	3	315	A
52	3	316	C
52	3	319	G
52	3	320	A
52	3	322	A
52	3	329	G
52	3	336	C
52	3	337	U
52	3	338	G
52	3	339	U
52	3	345	A
52	3	346	G
52	3	347	C
52	3	354	C
52	3	356	A
52	3	357	A
52	3	358	A
52	3	363	G
52	3	364	A
52	3	366	A
52	3	367	G
52	3	368	C
52	3	369	C
52	3	375	U
52	3	393	C
52	3	396	A
52	3	397	G
52	3	402	A

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Mol	Chain	Res	Type
52	3	403	U
52	3	405	C
52	3	408	G
52	3	409	A
52	3	410	G
52	3	411	U
52	3	413	G
52	3	417	G
52	3	418	G
52	3	422	A
52	3	423	C
52	3	424	G
52	3	425	U
52	3	426	U
52	3	427	A
52	3	428	U
52	3	429	U
52	3	432	G
52	3	441	U
52	3	442	G
52	3	446	A
52	3	447	G
52	3	448	A
52	3	455	G
52	3	458	A
52	3	459	A
52	3	460	G
52	3	465	A
52	3	466	A
52	3	467	U
52	3	473	U
52	3	479	A
52	3	480	C
52	3	481	C
52	3	482	G
52	3	484	U
52	3	485	A
52	3	487	C
52	3	495	U
52	3	500	U
52	3	501	G
52	3	509	G

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Mol	Chain	Res	Type
52	3	511	U
52	3	513	A
52	3	514	A
52	3	515	A
52	3	516	A
52	3	517	G
52	3	518	A
52	3	520	C
52	3	524	G
52	3	525	A
52	3	526	G
52	3	527	A
52	3	537	A
52	3	539	U
52	3	540	A
52	3	541	G
52	3	543	U
52	3	544	U
52	3	548	A
52	3	554	U
52	3	562	C
52	3	565	C
52	3	566	G
52	3	567	U
52	3	568	G
52	3	573	A
52	3	577	C
52	3	578	A
52	3	581	A
52	3	582	A
52	3	583	U
52	3	584	G
52	3	585	U
52	3	588	G
52	3	589	A
52	3	595	U
52	3	596	G
52	3	598	G
52	3	605	A
52	3	607	U
52	3	608	A
52	3	610	G

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Mol	Chain	Res	Type
52	3	616	G
52	3	619	A
52	3	620	G
52	3	623	A
52	3	630	C
52	3	636	U
52	3	638	A
52	3	646	A
52	3	647	G
52	3	648	G
52	3	649	A
52	3	650	G
52	3	653	G
52	3	656	G
52	3	667	A
52	3	668	A
52	3	671	C
52	3	672	G
52	3	673	A
52	3	681	A
52	3	682	A
52	3	683	G
52	3	687	G
52	3	689	U
52	3	691	G
52	3	696	U
52	3	701	A
52	3	702	U
52	3	704	G
52	3	706	C
52	3	708	C
52	3	710	A
52	3	712	A
52	3	719	G
52	3	720	A
52	3	721	G
52	3	722	C
52	3	730	G
52	3	739	G
52	3	740	A
52	3	741	A
52	3	757	A

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Mol	Chain	Res	Type
52	3	761	G
52	3	763	G
52	3	765	A
52	3	771	C
52	3	775	C
52	3	782	U
52	3	783	G
52	3	784	A
52	3	786	A
52	3	787	C
52	3	788	G
52	3	789	A
52	3	792	G
52	3	797	U
52	3	799	A
52	3	800	C
52	3	807	U
52	3	810	G
52	3	811	G
52	3	813	G
52	3	816	A
52	3	817	A
52	3	818	A
52	3	819	U
52	3	820	U
52	3	821	C
52	3	823	A
52	3	824	A
52	3	825	U
52	3	827	G
52	3	828	A
52	3	830	A
52	3	832	C
52	3	835	U
52	3	840	G
52	3	841	C
52	3	842	U
52	3	844	G
52	3	847	C
52	3	850	G
52	3	851	U
52	3	854	A

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Mol	Chain	Res	Type
52	3	855	A
52	3	862	U
52	3	863	U
52	3	865	A
52	3	873	G
52	3	879	U
52	3	881	A
52	3	882	C
52	3	883	A
52	3	884	A
52	3	885	A
52	3	887	A
52	3	888	A
52	3	891	G
52	3	892	G
52	3	893	A
52	3	894	G
52	3	895	G
52	3	896	U
52	3	902	U
52	3	914	G
52	3	916	U
52	3	929	G
52	3	932	U
52	3	933	A
52	3	936	G
52	3	937	A
52	3	938	A
52	3	943	A
52	3	944	U
52	3	947	A
52	3	949	C
52	3	951	C
52	3	953	G
52	3	972	C
52	3	973	U
52	3	978	G
52	3	980	C
52	3	981	A
52	3	982	G
52	3	985	A
52	3	989	G

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Mol	Chain	Res	Type
52	3	995	A
52	3	997	G
52	3	998	C
52	3	1000	U
52	3	1001	C
52	3	1002	A
52	3	1004	U
52	3	1005	G
52	3	1007	C
52	3	1014	G
52	3	1015	G
52	3	1016	A
52	3	1018	G
52	3	1019	A
52	3	1024	A
52	3	1026	A
52	3	1027	U
52	3	1032	A
52	3	1033	A
52	3	1035	U
52	3	1045	A
52	3	1047	A
52	3	1048	A
52	3	1049	U
52	3	1055	A
52	3	1057	G
52	3	1061	A
52	3	1062	A
52	3	1068	U
52	3	1069	G
52	3	1072	A
52	3	1077	G
52	3	1080	A
52	3	1081	A
52	3	1082	A
52	3	1083	A
52	3	1084	C
52	3	1090	G
52	3	1093	U
52	3	1094	G
52	3	1095	U
52	3	1098	G

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Mol	Chain	Res	Type
52	3	1100	U
52	3	1101	U
52	3	1102	A
52	3	1103	G
52	3	1105	A
52	3	1107	C
52	3	1112	A
52	3	1113	U
52	3	1114	C
52	3	1122	G
52	3	1123	A
52	3	1124	G
52	3	1132	C
52	3	1145	G
52	3	1146	A
52	3	1147	G
52	3	1151	U
52	3	1155	G
52	3	1157	G
52	3	1158	C
52	3	1161	A
52	3	1162	A
52	3	1164	A
52	3	1165	U
52	3	1166	G
52	3	1167	U
52	3	1168	A
52	3	1169	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	1190	A
52	3	1191	A
52	3	1192	U
52	3	1193	U
52	3	1197	G
52	3	1201	A
52	3	1203	G

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Mol	Chain	Res	Type
52	3	1208	A
52	3	1209	U
52	3	1210	A
52	3	1213	U
52	3	1215	G
52	3	1217	G
52	3	1219	U
52	3	1221	G
52	3	1226	G
52	3	1228	G
52	3	1229	U
52	3	1234	U
52	3	1236	G
52	3	1240	U
52	3	1241	U
52	3	1242	G
52	3	1243	A
52	3	1249	A
52	3	1250	A
52	3	1251	G
52	3	1253	G
52	3	1257	G
52	3	1260	U
52	3	1266	G
52	3	1267	A
52	3	1268	U
52	3	1274	A
52	3	1276	A
52	3	1278	G
52	3	1281	A
52	3	1283	A
52	3	1286	G
52	3	1287	C
52	3	1288	C
52	3	1293	U
52	3	1298	A
52	3	1299	A
52	3	1301	G
52	3	1302	C
52	3	1303	U
52	3	1304	U
52	3	1308	A

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Mol	Chain	Res	Type
52	3	1312	A
52	3	1313	G
52	3	1322	A
52	3	1323	A
52	3	1328	A
52	3	1329	U
52	3	1333	C
52	3	1339	U
52	3	1340	U
52	3	1342	C
52	3	1351	G
52	3	1353	G
52	3	1359	C
52	3	1361	U
52	3	1369	U
52	3	1371	G
52	3	1374	U
52	3	1375	G
52	3	1381	A
52	3	1383	G
52	3	1390	C
52	3	1393	A
52	3	1404	C
52	3	1406	A
52	3	1407	U
52	3	1408	G
52	3	1410	A
52	3	1412	A
52	3	1422	U
52	3	1423	A
52	3	1425	U
52	3	1426	C
52	3	1427	C
52	3	1431	A
52	3	1444	C
52	3	1445	U
52	3	1448	U
52	3	1449	G
52	3	1456	C
52	3	1463	G
52	3	1466	U
52	3	1480	A

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Mol	Chain	Res	Type
52	3	1481	U
52	3	1482	U
52	3	1483	G
52	3	1485	A
52	3	1486	U
52	3	1487	U
52	3	1497	A
52	3	1500	A
52	3	1502	A
52	3	1507	G
52	3	1508	G
52	3	1510	A
52	3	1513	A
52	3	1515	A
52	3	1516	G
52	3	1517	G
52	3	1519	A
52	3	1522	U
52	3	1528	G
52	3	1531	C
52	3	1533	U
52	3	1534	A
52	3	1535	A
52	3	1536	C
52	3	1540	G
52	3	1541	A
52	3	1543	U
52	3	1545	A
52	3	1548	A
52	3	1549	U
52	3	1550	G
52	3	1557	G
52	3	1559	A
52	3	1571	G
52	3	1572	U
52	3	1581	U
52	3	1584	U
52	3	1585	A
52	3	1586	U
52	3	1587	U
52	3	1588	A
52	3	1589	A

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Mol	Chain	Res	Type
52	3	1592	A
52	3	1594	G
52	3	1597	U
52	3	1603	A
52	3	1610	U
52	3	1612	U
52	3	1615	G
52	3	1618	U
52	3	1619	A
52	3	1623	U
52	3	1628	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	1650	A
52	3	1651	C
52	3	1652	A
52	3	1653	C
52	3	1656	A
52	3	1663	G
52	3	1672	C
52	3	1676	G
52	3	1679	U
52	3	1680	A
52	3	1681	G
52	3	1682	C
52	3	1683	G
52	3	1684	A
52	3	1685	G
52	3	1688	A
52	3	1693	U
52	3	1694	A
52	3	1695	G
52	3	1698	A
52	3	1700	G
52	3	1702	A
52	3	1703	A
52	3	1704	C
52	3	1706	C

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Mol	Chain	Res	Type
52	3	1708	G
52	3	1714	U
52	3	1716	A
52	3	1721	G
52	3	1729	G
52	3	1730	C
52	3	1737	G
52	3	1743	U
52	3	1747	G
52	3	1748	U
52	3	1753	G
52	3	1764	U
52	3	1765	G
52	3	1766	A
52	3	1769	A
52	3	1770	A
52	3	1771	C
52	3	1772	G
52	3	1780	A
52	3	1784	U
52	3	1786	U
52	3	1787	A
52	3	1788	A
52	3	1789	C
52	3	1791	A
52	3	1805	U
52	3	1807	C
52	3	1809	A
52	3	1812	C
52	3	1814	G
52	3	1815	U
52	3	1817	A
52	3	1818	G
52	3	1821	G
52	3	1822	A
52	3	1823	U
52	3	1824	G
52	3	1825	U
52	3	1826	A
52	3	1827	U
52	3	1832	G
52	3	1836	A

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Mol	Chain	Res	Type
52	3	1837	C
52	3	1842	G
52	3	1845	C
52	3	1865	A
52	3	1873	A
52	3	1876	G
52	3	1877	C
52	3	1889	U
52	3	1890	U
52	3	1891	A
52	3	1892	A
52	3	1903	A
52	3	1905	U
52	3	1906	G
52	3	1907	A
52	3	1913	G
52	3	1919	A
52	3	1920	A
52	3	1921	C
52	3	1927	C
52	3	1931	C
52	3	1936	G
52	3	1937	G
52	3	1943	A
52	3	1944	A
52	3	1945	A
52	3	1951	A
52	3	1959	A
52	3	1962	U
52	3	1969	C
52	3	1971	G
52	3	1972	C
52	3	1974	U
52	3	1977	A
52	3	1978	U
52	3	1979	G
52	3	1990	C
52	3	1998	U
52	3	1999	G
52	3	2000	U
52	3	2003	C
52	3	2004	G

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Mol	Chain	Res	Type
52	3	2009	U
52	3	2010	A
52	3	2013	C
52	3	2018	U
52	3	2025	C
52	3	2028	G
52	3	2032	G
52	3	2035	U
52	3	2037	A
52	3	2038	A
52	3	2039	G
52	3	2040	A
52	3	2041	C
52	3	2042	A
52	3	2043	C
52	3	2044	C
52	3	2050	G
52	3	2055	A
52	3	2056	A
52	3	2057	C
52	3	2058	G
52	3	2059	G
52	3	2062	C
52	3	2063	G
52	3	2065	A
52	3	2067	A
52	3	2068	G
52	3	2069	A
52	3	2070	C
52	3	2071	C
52	3	2075	U
52	3	2076	G
52	3	2083	U
52	3	2084	A
52	3	2085	C
52	3	2089	A
52	3	2099	U
52	3	2100	G
52	3	2101	A
52	3	2106	G
52	3	2109	A
52	3	2110	U

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Mol	Chain	Res	Type
52	3	2111	U
52	3	2112	A
52	3	2114	C
52	3	2117	G
52	3	2119	A
52	3	2122	G
52	3	2123	A
52	3	2124	A
52	3	2125	U
52	3	2127	G
52	3	2131	G
52	3	2133	A
52	3	2134	G
52	3	2139	C
52	3	2140	G
52	3	2141	A
52	3	2144	C
52	3	2151	G
52	3	2152	C
52	3	2153	U
52	3	2154	A
52	3	2166	U
52	3	2169	G
52	3	2179	A
52	3	2180	U
52	3	2181	A
52	3	2184	A
52	3	2187	C
52	3	2189	U
52	3	2193	U
52	3	2195	U
52	3	2196	G
52	3	2198	G
52	3	2200	U
52	3	2202	U
52	3	2205	U
52	3	2206	A
52	3	2210	G
52	3	2211	G
52	3	2212	U
52	3	2219	U
52	3	2221	U

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Mol	Chain	Res	Type
52	3	2222	C
52	3	2224	A
52	3	2226	U
52	3	2229	C
52	3	2231	A
52	3	2232	G
52	3	2233	A
52	3	2235	A
52	3	2242	G
52	3	2243	G
52	3	2246	G
52	3	2247	G
52	3	2251	U
52	3	2253	U
52	3	2254	G
52	3	2274	A
52	3	2276	A
52	3	2280	U
52	3	2286	A
52	3	2287	G
52	3	2288	G
52	3	2291	U
52	3	2294	A
52	3	2295	A
52	3	2305	C
52	3	2312	G
52	3	2313	U
52	3	2316	G
52	3	2319	A
52	3	2320	U
52	3	2322	G
52	3	2327	U
52	3	2329	G
52	3	2330	A
52	3	2333	G
52	3	2334	U
52	3	2335	A
52	3	2341	G
52	3	2342	U
52	3	2343	A
52	3	2344	A
52	3	2345	G

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Mol	Chain	Res	Type
52	3	2351	U
52	3	2355	C
52	3	2358	U
52	3	2359	G
52	3	2361	G
52	3	2362	A
52	3	2365	U
52	3	2380	U
52	3	2387	U
52	3	2389	A
52	3	2391	G
52	3	2393	C
52	3	2396	A
52	3	2397	G
52	3	2399	G
52	3	2410	C
52	3	2411	C
52	3	2414	U
52	3	2424	C
52	3	2430	C
52	3	2431	U
52	3	2433	A
52	3	2434	A
52	3	2436	G
52	3	2437	G
52	3	2438	A
52	3	2439	U
52	3	2444	G
52	3	2447	A
52	3	2448	C
52	3	2449	U
52	3	2455	G
52	3	2456	A
52	3	2457	U
52	3	2458	A
52	3	2460	C
52	3	2464	C
52	3	2468	U
52	3	2474	C
52	3	2476	A
52	3	2477	A
52	3	2478	G

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Mol	Chain	Res	Type
52	3	2483	C
52	3	2484	A
52	3	2486	A
52	3	2490	A
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	2505	A
52	3	2506	C
52	3	2507	C
52	3	2508	U
52	3	2509	C
52	3	2510	G
52	3	2511	A
52	3	2512	U
52	3	2513	G
52	3	2514	U
52	3	2515	C
52	3	2521	A
52	3	2524	U
52	3	2526	A
52	3	2528	C
52	3	2537	G
52	3	2538	A
52	3	2539	A
52	3	2542	A
52	3	2543	G
52	3	2545	U
52	3	2555	U
52	3	2561	G
52	3	2572	A
52	3	2573	A
52	3	2574	A
52	3	2575	G
52	3	2580	A
52	3	2581	C
52	3	2586	G
52	3	2590	G
52	3	2604	U

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Mol	Chain	Res	Type
52	3	2605	G
52	3	2607	G
52	3	2611	G
52	3	2612	G
52	3	2617	U
52	3	2618	C
52	3	2619	C
52	3	2621	U
52	3	2631	G
52	3	2634	C
52	3	2637	A
52	3	2638	G
52	3	2642	G
52	3	2644	U
52	3	2647	A
52	3	2649	G
52	3	2654	U
52	3	2662	A
52	3	2664	U
52	3	2668	A
52	3	2669	G
52	3	2681	G
52	3	2685	A
52	3	2686	C
52	3	2687	A
52	3	2689	C
52	3	2690	U
52	3	2696	G
52	3	2697	C
52	3	2698	U
52	3	2699	C
52	3	2709	C
52	3	2718	C
52	3	2720	C
52	3	2721	C
52	3	2722	G
52	3	2737	G
52	3	2740	U
52	3	2741	A
52	3	2747	U
52	3	2752	G
52	3	2756	A

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Mol	Chain	Res	Type
52	3	2757	A
52	3	2758	A
52	3	2760	C
52	3	2765	A
52	3	2768	U
52	3	2769	G
52	3	2773	A
52	3	2775	C
52	3	2782	A
52	3	2783	A
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	2802	C
52	3	2803	G
52	3	2804	C
52	3	2805	A
52	3	2806	A
52	3	2807	G
52	3	2808	A
52	3	2811	G
52	3	2812	U
52	3	2815	G
52	3	2821	U
52	3	2822	C
52	3	2823	A
52	3	2824	A
52	3	2825	A
52	3	2827	A
52	3	2828	C
52	3	2829	G
52	3	2831	U
52	3	2835	G
52	3	2836	U
52	3	2837	U
52	3	2838	G
52	3	2839	A
52	3	2862	U

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Mol	Chain	Res	Type
52	3	2865	U
52	3	2871	G
52	3	2876	G
52	3	2881	A
52	3	2884	C
52	3	2888	U
52	3	2889	U
52	3	2890	G
52	3	2891	C
52	3	2896	G
52	3	2897	G
52	3	2898	A
52	3	2899	C
53	4	2	U
53	4	5	G
53	4	9	C
53	4	10	C
53	4	13	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	37	A
53	4	38	U
53	4	40	U
53	4	41	C
53	4	42	G
53	4	48	A
53	4	51	A
53	4	53	U
53	4	54	U
53	4	55	A
53	4	58	C
53	4	60	C
53	4	65	G
53	4	68	C
53	4	77	G
53	4	79	U
53	4	80	G

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Mol	Chain	Res	Type
53	4	85	A
53	4	86	G
53	4	87	U
53	4	88	G
53	4	89	A
53	4	92	A
53	4	93	U
53	4	96	G
53	4	98	A
53	4	99	A
53	4	100	G
53	4	101	C
53	4	103	C
53	4	105	A
53	4	108	C
54	5	7	U
54	5	8	G
54	5	10	G
54	5	11	A
54	5	15	U
54	5	19	C
54	5	23	G
54	5	29	G
54	5	32	U
54	5	33	A
54	5	37	C
54	5	38	U
54	5	40	G
54	5	43	G
54	5	44	C
54	5	48	C
54	5	49	C
54	5	52	A
54	5	53	U
54	5	60	A
54	5	61	A
54	5	62	G
54	5	67	U
54	5	70	A
54	5	75	A
54	5	77	U
54	5	80	U

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Mol	Chain	Res	Type
54	5	85	U
54	5	86	A
54	5	94	A
54	5	95	C
54	5	100	G
54	5	102	G
54	5	103	U
54	5	105	A
54	5	106	C
54	5	107	A
54	5	114	C
54	5	115	A
54	5	116	A
54	5	117	U
54	5	129	U
54	5	130	G
54	5	131	G
54	5	132	G
54	5	145	G
54	5	149	G
54	5	159	U
54	5	161	C
54	5	162	C
54	5	169	G
54	5	172	C
54	5	187	A
54	5	197	A
54	5	202	A
54	5	207	C
54	5	208	A
54	5	210	G
54	5	213	U
54	5	218	U
54	5	223	G
54	5	236	C
54	5	237	A
54	5	241	C
54	5	243	G
54	5	247	G
54	5	253	G
54	5	258	A
54	5	260	C

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Mol	Chain	Res	Type
54	5	262	G
54	5	268	C
54	5	271	G
54	5	272	G
54	5	275	A
54	5	281	U
54	5	284	A
54	5	285	G
54	5	312	A
54	5	321	A
54	5	322	G
54	5	323	A
54	5	324	C
54	5	325	A
54	5	326	C
54	5	327	G
54	5	328	G
54	5	341	C
54	5	342	G
54	5	343	G
54	5	344	G
54	5	347	G
54	5	348	C
54	5	349	A
54	5	350	G
54	5	355	A
54	5	361	U
54	5	363	U
54	5	364	U
54	5	368	C
54	5	380	G
54	5	391	C
54	5	394	U
54	5	396	C
54	5	399	C
54	5	401	U
54	5	402	G
54	5	403	A
54	5	404	A
54	5	407	A
54	5	408	U
54	5	409	G

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Mol	Chain	Res	Type
54	5	413	G
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	427	A
54	5	428	A
54	5	434	U
54	5	436	U
54	5	437	U
54	5	447	G
54	5	448	A
54	5	452	A
54	5	462	G
54	5	463	U
54	5	464	A
54	5	468	G
54	5	469	C
54	5	471	A
54	5	475	U
54	5	476	U
54	5	477	U
54	5	478	G
54	5	480	C
54	5	481	U
54	5	482	G
54	5	483	U
54	5	488	U
54	5	489	U
54	5	493	A
54	5	494	A
54	5	496	A
54	5	500	G
54	5	503	G
54	5	504	A
54	5	507	A
54	5	509	C
54	5	510	U
54	5	515	G

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Mol	Chain	Res	Type
54	5	516	C
54	5	519	G
54	5	522	G
54	5	525	G
54	5	530	A
54	5	531	A
54	5	533	A
54	5	543	C
54	5	545	A
54	5	547	C
54	5	549	U
54	5	550	U
54	5	553	C
54	5	557	A
54	5	558	U
54	5	560	U
54	5	561	A
54	5	562	U
54	5	565	G
54	5	570	A
54	5	571	A
54	5	574	C
54	5	575	A
54	5	578	C
54	5	579	G
54	5	586	G
54	5	594	A
54	5	608	G
54	5	616	C
54	5	617	U
54	5	618	U
54	5	628	A
54	5	629	U
54	5	630	G
54	5	637	A
54	5	642	A
54	5	643	U
54	5	646	A
54	5	647	U
54	5	648	C
54	5	649	U
54	5	650	A

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Mol	Chain	Res	Type
54	5	653	G
54	5	656	U
54	5	661	G
54	5	662	G
54	5	664	A
54	5	668	U
54	5	672	A
54	5	681	U
54	5	683	G
54	5	684	A
54	5	685	G
54	5	687	G
54	5	690	G
54	5	691	A
54	5	694	U
54	5	699	A
54	5	700	G
54	5	704	U
54	5	712	A
54	5	715	A
54	5	719	G
54	5	720	U
54	5	721	G
54	5	731	A
54	5	732	A
54	5	745	U
54	5	746	A
54	5	750	A
54	5	752	G
54	5	757	G
54	5	758	G
54	5	766	G
54	5	768	G
54	5	770	G
54	5	774	A
54	5	775	G
54	5	784	A
54	5	789	A
54	5	791	A
54	5	793	C
54	5	802	C
54	5	806	A

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Mol	Chain	Res	Type
54	5	809	G
54	5	813	A
54	5	814	C
54	5	817	U
54	5	818	A
54	5	822	A
54	5	825	A
54	5	829	G
54	5	836	C
54	5	838	A
54	5	845	C
54	5	849	A
54	5	856	U
54	5	862	C
54	5	864	U
54	5	865	U
54	5	867	A
54	5	870	A
54	5	872	C
54	5	877	C
54	5	883	A
54	5	885	U
54	5	890	U
54	5	895	A
54	5	896	G
54	5	908	A
54	5	910	C
54	5	911	G
54	5	913	A
54	5	916	U
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	935	U
54	5	938	U
54	5	942	G
54	5	946	G
54	5	955	U
54	5	964	A

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Mol	Chain	Res	Type
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	975	C
54	5	977	U
54	5	979	C
54	5	980	C
54	5	985	C
54	5	986	U
54	5	987	U
54	5	988	G
54	5	989	A
54	5	994	C
54	5	997	G
54	5	1002	A
54	5	1003	G
54	5	1004	U
54	5	1005	U
54	5	1006	A
54	5	1007	U
54	5	1012	A
54	5	1014	A
54	5	1016	A
54	5	1030	G
54	5	1034	G
54	5	1035	A
54	5	1036	C
54	5	1038	G
54	5	1041	G
54	5	1042	G
54	5	1044	G
54	5	1045	C
54	5	1046	A
54	5	1047	U
54	5	1056	U
54	5	1058	A
54	5	1061	U
54	5	1075	G
54	5	1077	U

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Mol	Chain	Res	Type
54	5	1082	U
54	5	1085	G
54	5	1086	U
54	5	1089	C
54	5	1092	A
54	5	1096	A
54	5	1098	C
54	5	1100	C
54	5	1101	A
54	5	1113	U
54	5	1115	G
54	5	1117	U
54	5	1118	A
54	5	1119	C
54	5	1121	U
54	5	1122	U
54	5	1123	G
54	5	1124	U
54	5	1125	C
54	5	1130	G
54	5	1133	A
54	5	1135	U
54	5	1141	U
54	5	1147	U
54	5	1154	A
54	5	1158	A
54	5	1159	A
54	5	1160	G
54	5	1161	G
54	5	1162	G
54	5	1165	G
54	5	1166	A
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	1181	G
54	5	1183	C
54	5	1187	U

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Mol	Chain	Res	Type
54	5	1188	A
54	5	1190	G
54	5	1192	C
54	5	1199	U
54	5	1200	G
54	5	1201	C
54	5	1202	A
54	5	1203	A
54	5	1204	A
54	5	1206	G
54	5	1211	A
54	5	1213	A
54	5	1215	U
54	5	1216	G
54	5	1228	C
54	5	1233	G
54	5	1235	C
54	5	1236	A
54	5	1241	G
54	5	1243	A
54	5	1244	A
54	5	1245	A
54	5	1251	G
54	5	1254	A
54	5	1255	A
54	5	1257	C
54	5	1260	U
54	5	1261	A
54	5	1267	G
54	5	1268	G
54	5	1271	U
54	5	1272	C
54	5	1276	U
54	5	1277	C
54	5	1279	G
54	5	1296	C
54	5	1297	G
54	5	1305	G
54	5	1306	A
54	5	1312	G
54	5	1313	A
54	5	1315	U

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Mol	Chain	Res	Type
54	5	1319	U
54	5	1320	A
54	5	1322	U
54	5	1330	A
54	5	1332	U
54	5	1335	G
54	5	1338	A
54	5	1343	G
54	5	1353	C
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
54	5	1381	U
54	5	1398	G
54	5	1404	U
54	5	1405	U
54	5	1410	A
54	5	1417	U
54	5	1418	G
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	1431	A
54	5	1434	C
54	5	1446	A
54	5	1449	G
54	5	1450	C
54	5	1466	U
54	5	1467	A
54	5	1468	A
54	5	1469	G
54	5	1474	A
54	5	1478	A
54	5	1480	G
54	5	1481	U

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Mol	Chain	Res	Type
54	5	1482	A
54	5	1492	G
54	5	1493	A
54	5	1502	G
54	5	1504	G
54	5	1505	G
54	5	1509	A
55	7	3	G
55	7	9	U
55	7	11	G
55	7	12	C
55	7	13	U
55	7	15	A
55	7	16	G
55	7	17	U
55	7	18	C
55	7	20	G
55	7	21	U
55	7	22	A
55	7	23	G
55	7	35	G
55	7	36	A
55	7	38	G
55	7	42	C
55	7	43	G
55	7	44	U
55	7	45	G
55	7	49	C
55	7	50	G
55	7	53	A
55	7	60	U
55	7	69	A
55	7	71	A
55	7	72	C
55	7	75	C
55	7	77	A
55	8	3	G
55	8	9	U
55	8	11	G
55	8	12	C
55	8	13	U
55	8	15	A

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Mol	Chain	Res	Type
55	8	16	G
55	8	17	U
55	8	18	C
55	8	20	G
55	8	21	U
55	8	22	A
55	8	23	G
55	8	35	G
55	8	36	A
55	8	38	G
55	8	42	C
55	8	43	G
55	8	44	U
55	8	45	G
55	8	49	C
55	8	50	G
55	8	53	A
55	8	60	U
55	8	69	A
55	8	71	A
55	8	72	C
55	8	75	C
55	8	77	A

All (56) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
52	3	85	U
52	3	254	G
52	3	295	U
52	3	410	G
52	3	425	U
52	3	500	U
52	3	513	A
52	3	514	A
52	3	667	A
52	3	688	U
52	3	721	G
52	3	783	G
52	3	881	A
52	3	952	U
52	3	994	U

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Mol	Chain	Res	Type
52	3	1048	A
52	3	1082	A
52	3	1104	A
52	3	1209	U
52	3	1328	A
52	3	1382	A
52	3	1507	G
52	3	1583	G
52	3	1655	U
52	3	1820	U
52	3	2057	C
52	3	2116	U
52	3	2165	A
52	3	2333	G
52	3	2342	U
52	3	2446	U
52	3	2504	C
52	3	2506	C
52	3	2604	U
52	3	2668	A
52	3	2764	U
52	3	2823	A
52	3	2826	G
52	3	2890	G
53	4	54	U
53	4	59	A
53	4	85	A
54	5	196	G
54	5	340	A
54	5	461	G
54	5	529	U
54	5	532	U
54	5	686	C
54	5	920	G
54	5	1037	A
54	5	1099	G
54	5	1124	U
54	5	1180	U
54	5	1467	A
55	7	16	G
55	8	16	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.

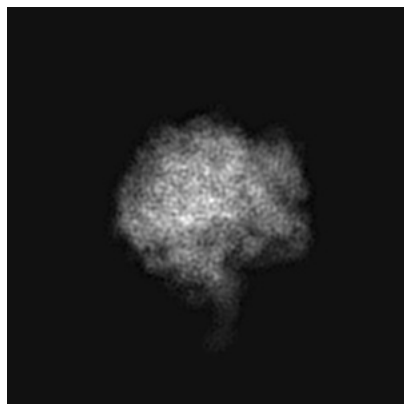
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-13450. These allow visual inspection of the internal detail of the map and identification of artifacts.

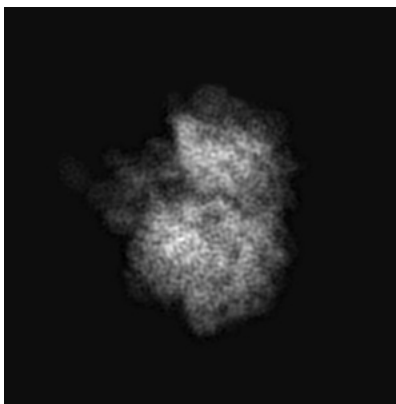
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

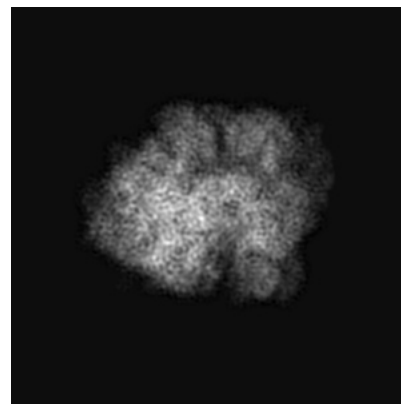
6.1.1 Primary map



X

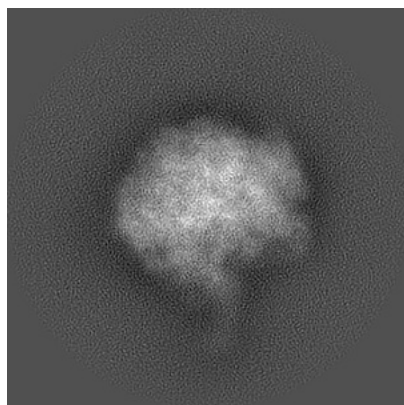


Y

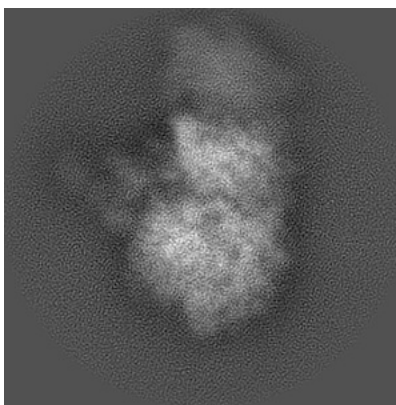


Z

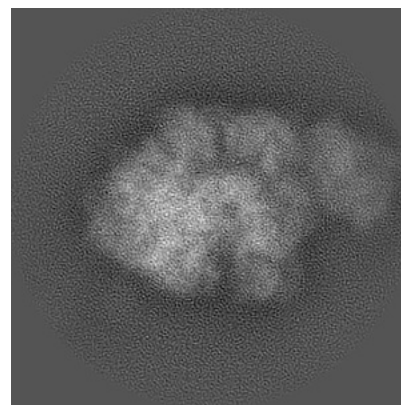
6.1.2 Raw map



X



Y

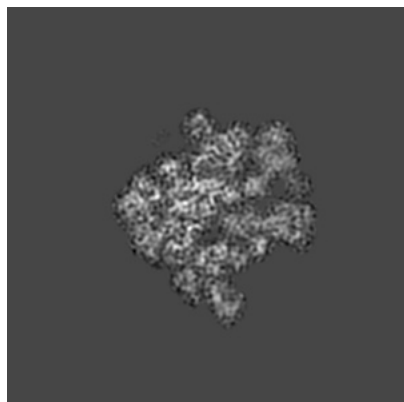


Z

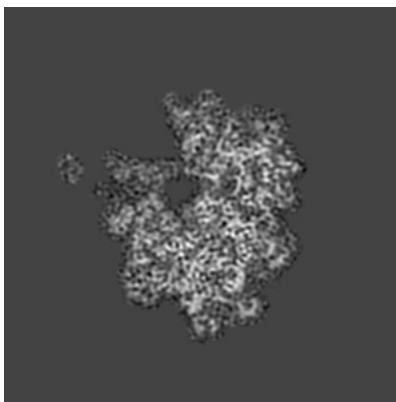
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

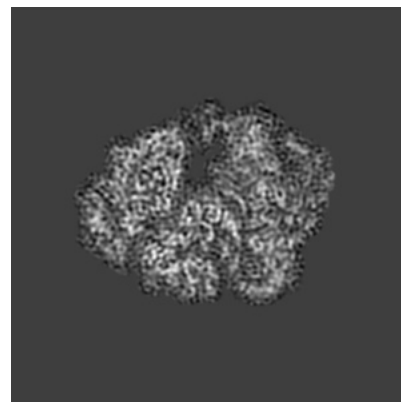
6.2.1 Primary map



X Index: 128

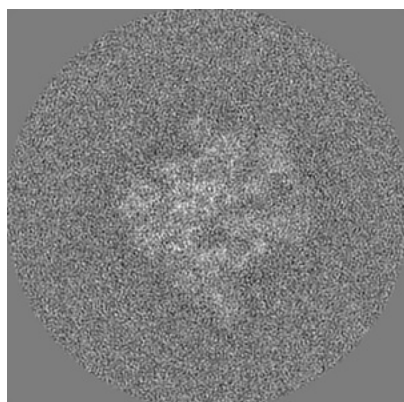


Y Index: 128

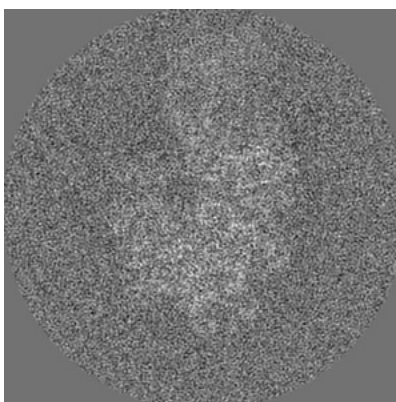


Z Index: 128

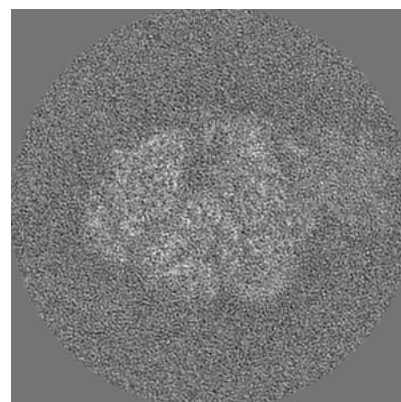
6.2.2 Raw map



X Index: 128



Y Index: 128

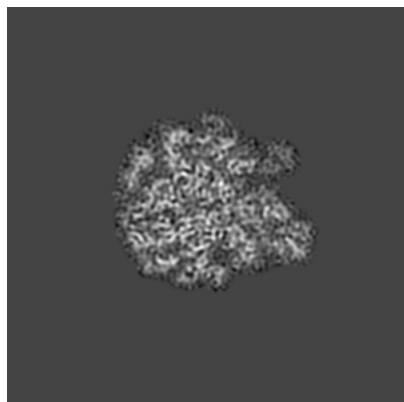


Z Index: 128

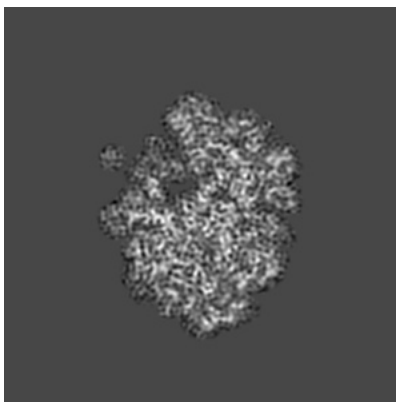
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

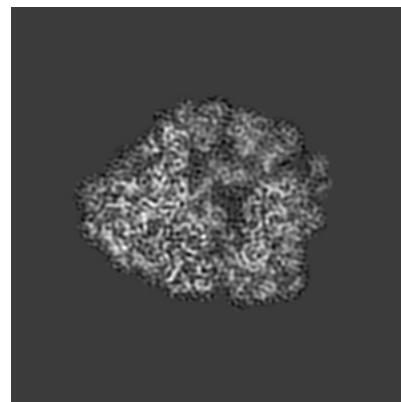
6.3.1 Primary map



X Index: 103

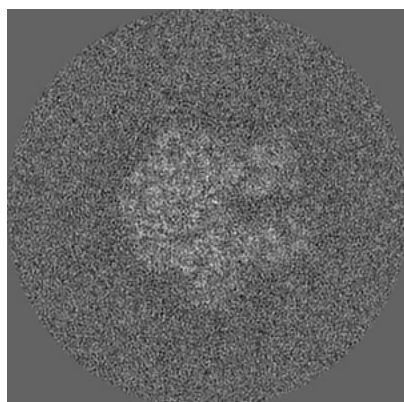


Y Index: 120

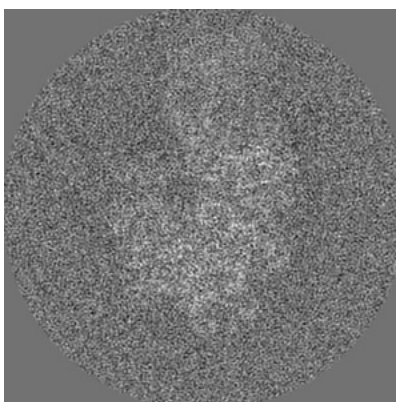


Z Index: 122

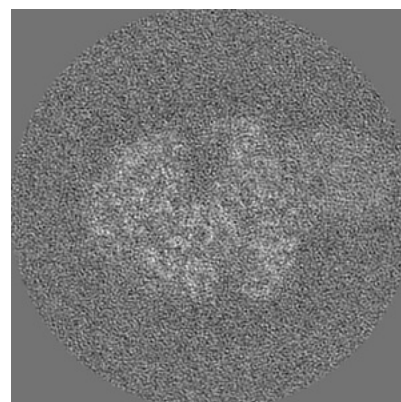
6.3.2 Raw map



X Index: 117



Y Index: 128

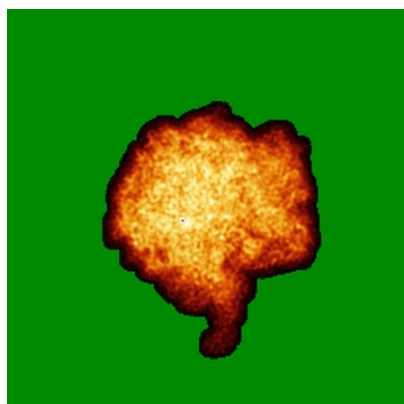


Z Index: 129

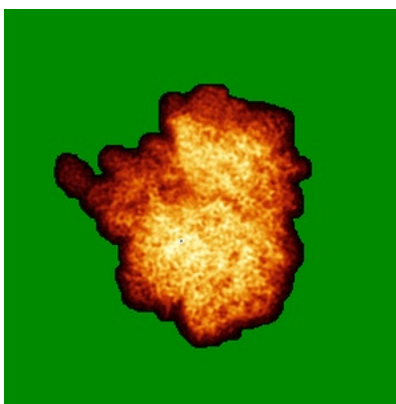
The images above show the largest variance slices of the map in three orthogonal directions.

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

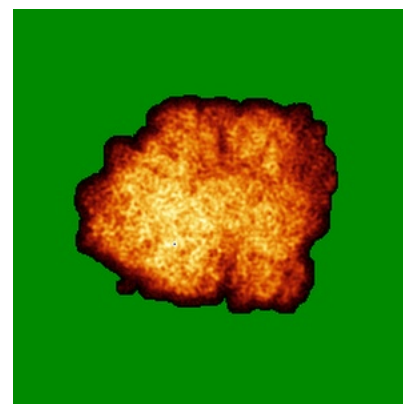
6.4.1 Primary map



X

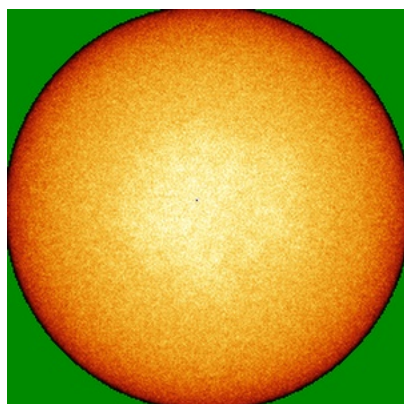


Y

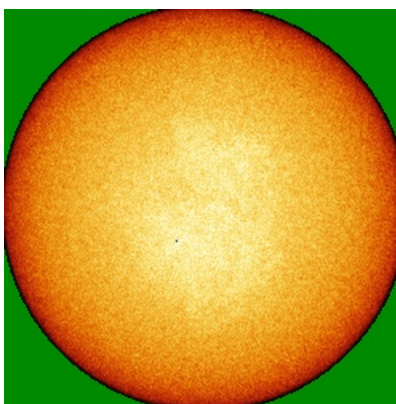


Z

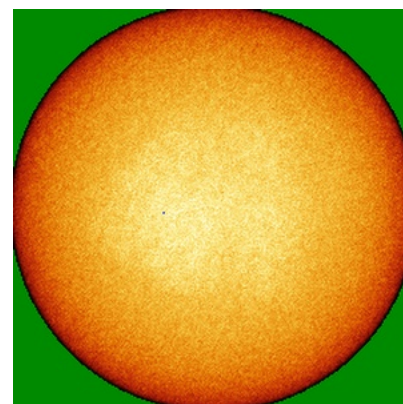
6.4.2 Raw map



X



Y

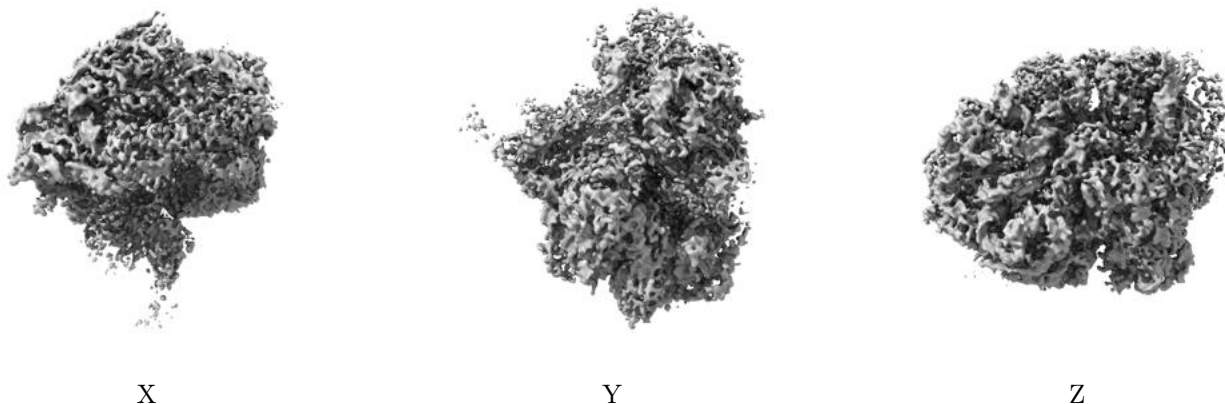


Z

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.

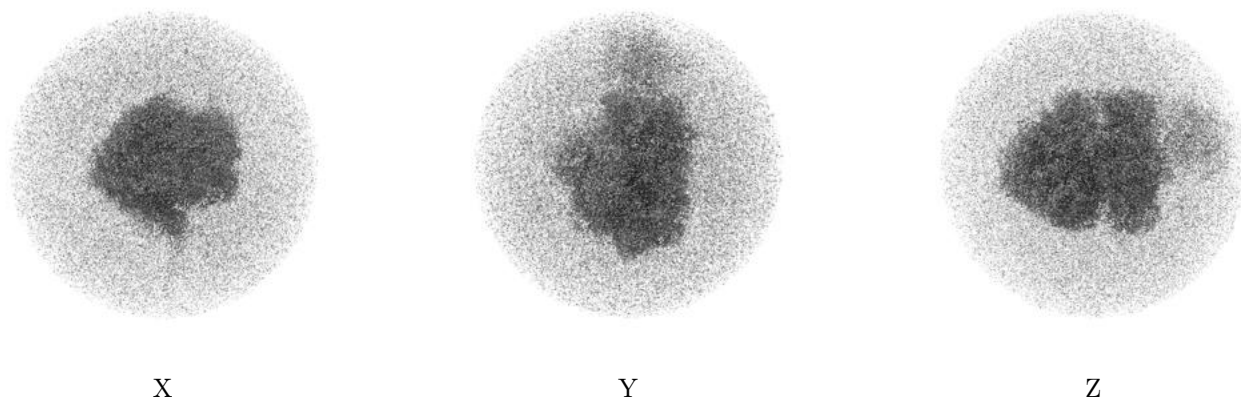
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.54. 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



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.

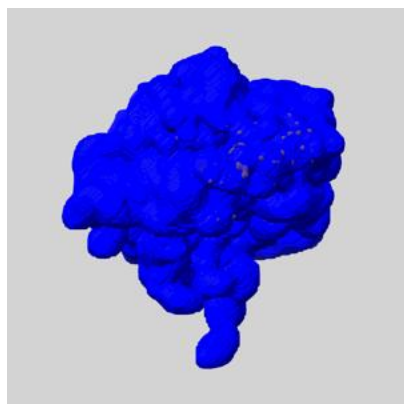
6.6 Mask visualisation [i](#)

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

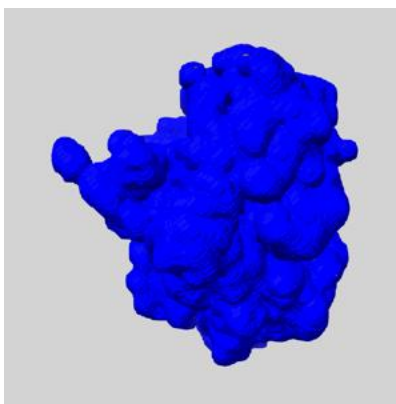
A mask typically either:

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

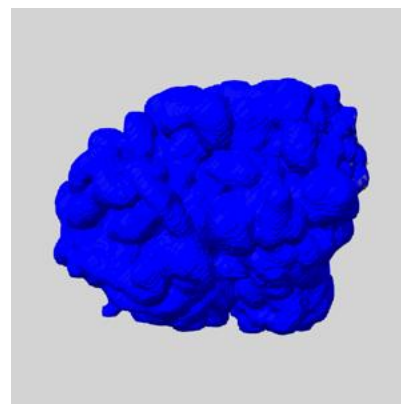
6.6.1 emd_13450_msk_1.map [i](#)



X



Y

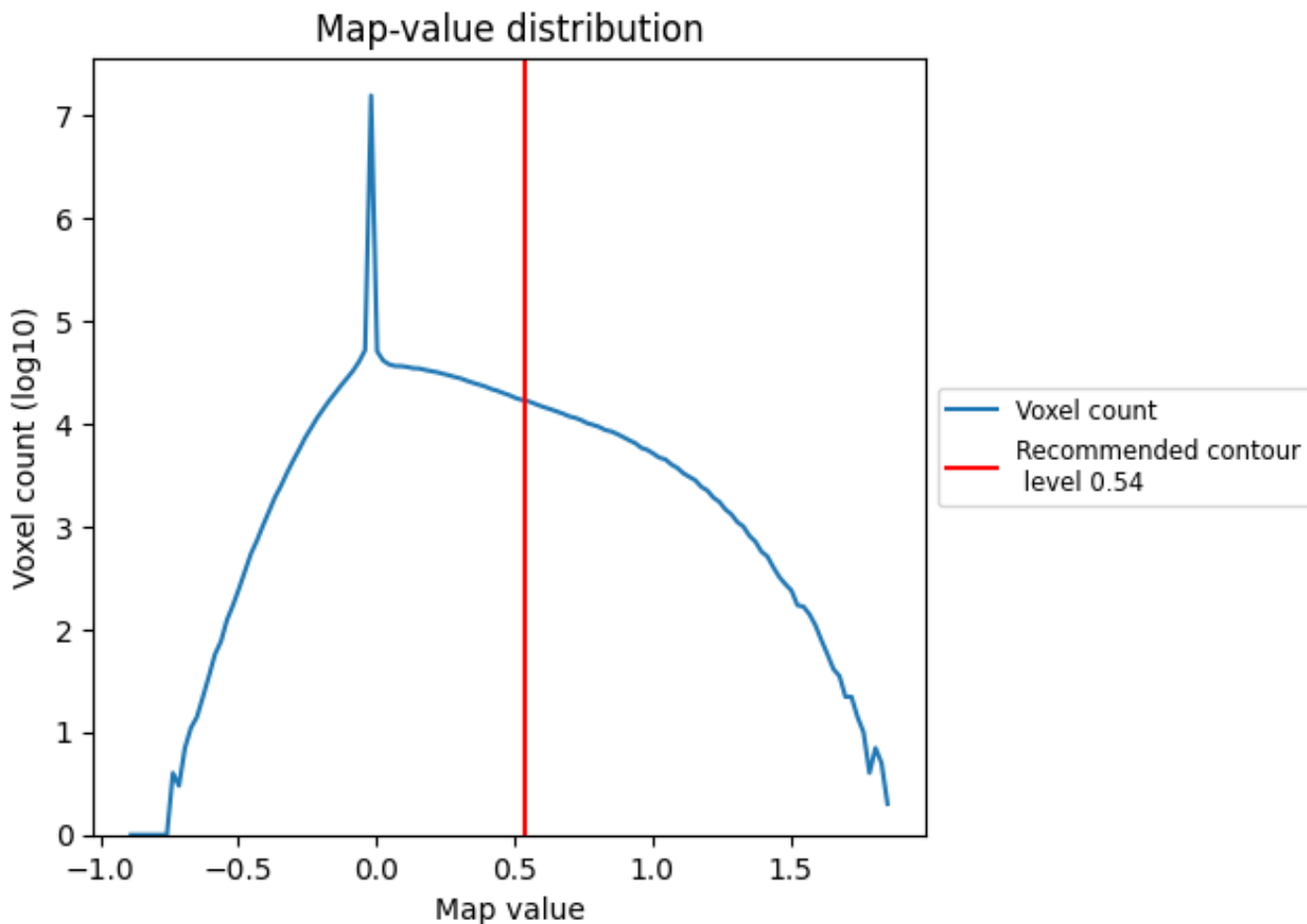


Z

7 Map analysis [i](#)

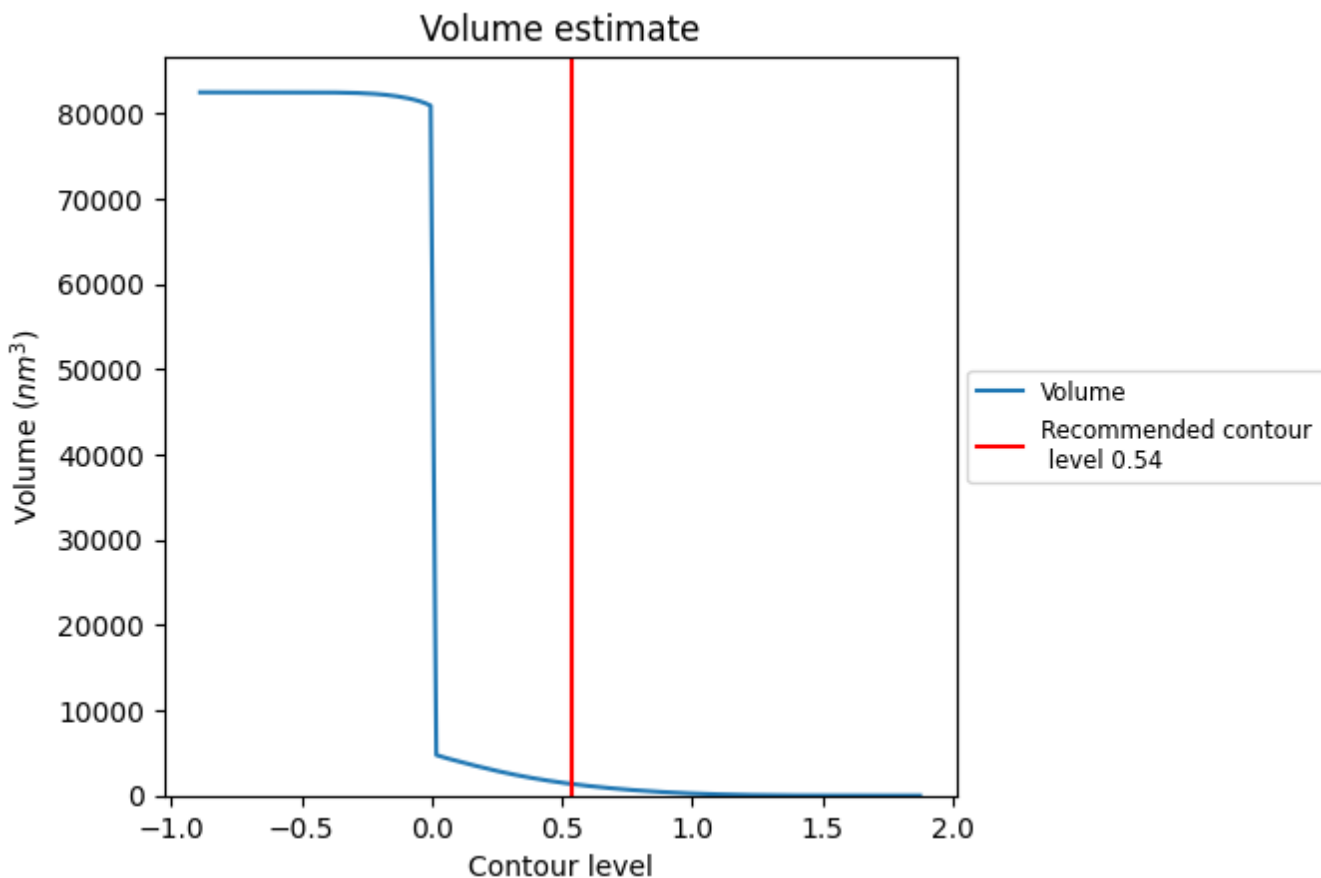
This section contains the results of statistical analysis of the map.

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.

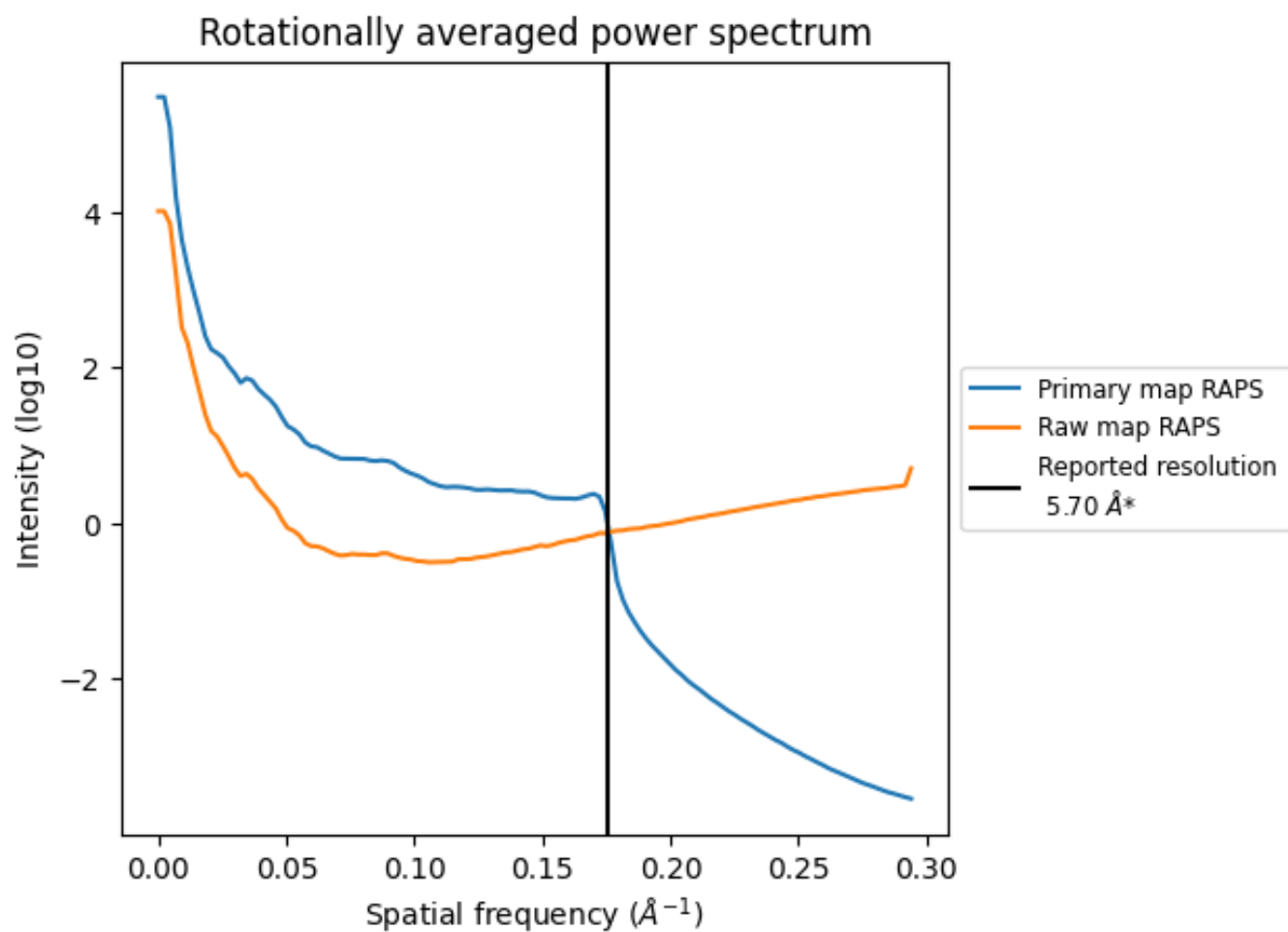
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1353 nm^3 ; this corresponds to an approximate mass of 1222 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

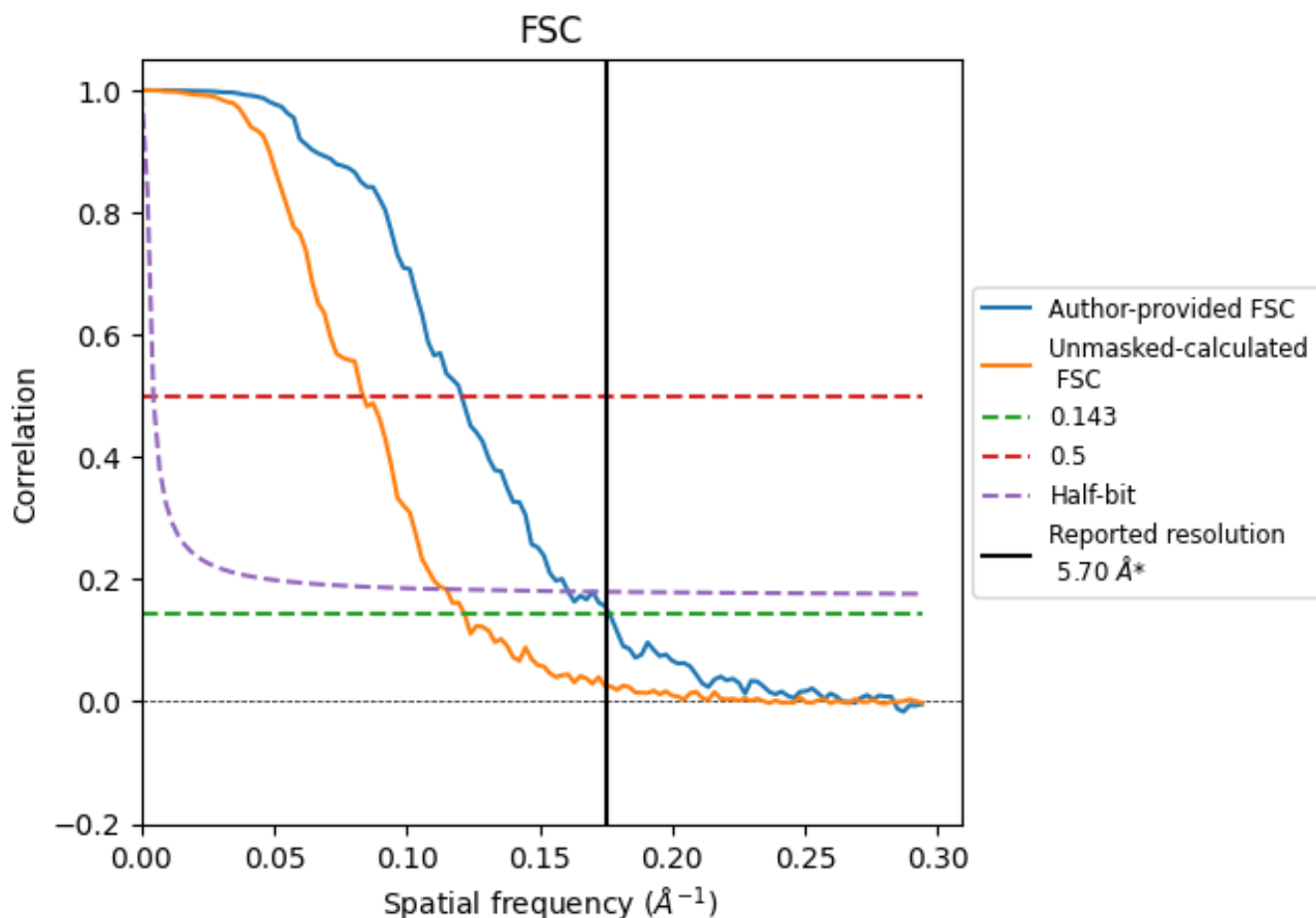


*Reported resolution corresponds to spatial frequency of 0.175 Å⁻¹

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 0.175 Å⁻¹

8.2 Resolution estimates [i](#)

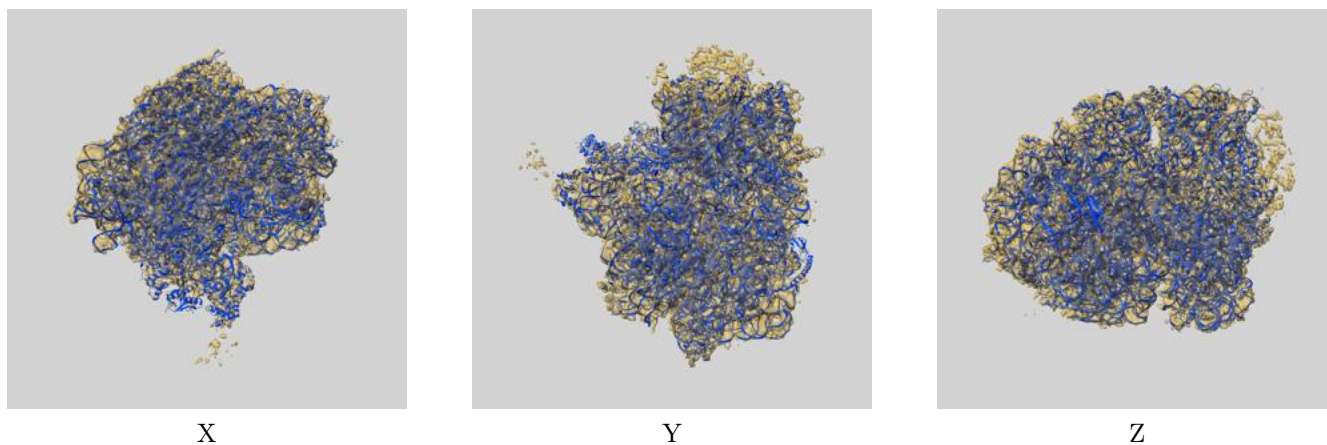
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	5.70	-	-
Author-provided FSC curve	5.67	8.29	6.22
Unmasked-calculated*	8.21	11.96	8.70

*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 8.21 differs from the reported value 5.7 by more than 10 %

9 Map-model fit [i](#)

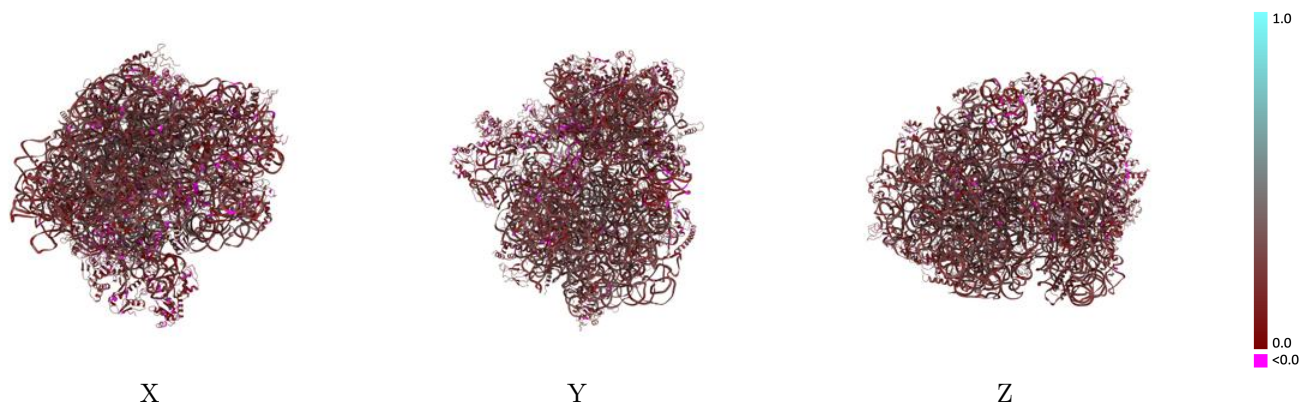
This section contains information regarding the fit between EMDB map EMD-13450 and PDB model 7PIT. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



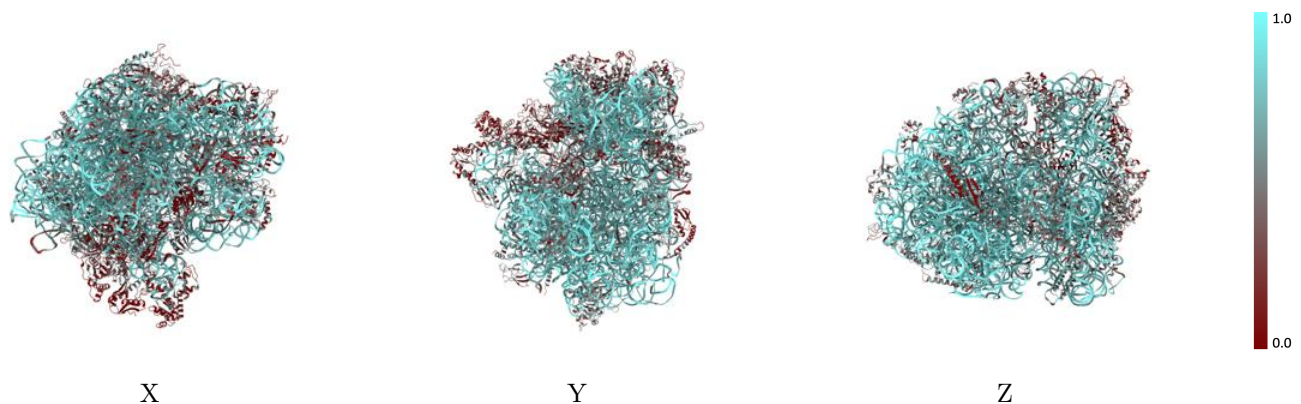
The images above show the 3D surface view of the map at the recommended contour level 0.54 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



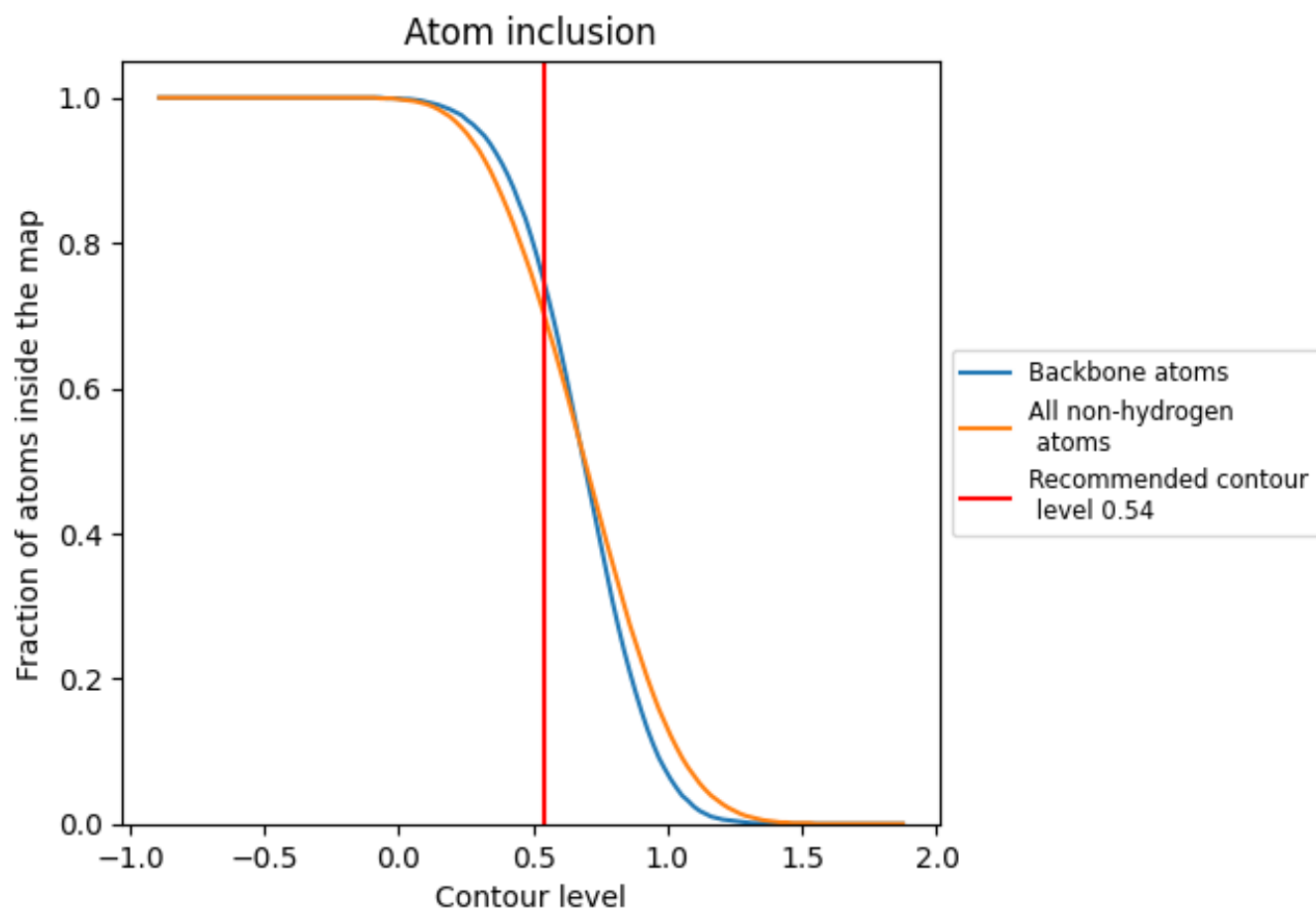
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.54).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 75% of all backbone atoms, 70% 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 (0.54) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7020	 0.2390
0	 0.5840	 0.2160
1	 0.5790	 0.2550
2	 0.6150	 0.2680
3	 0.8660	 0.2590
4	 0.8190	 0.2440
5	 0.8430	 0.2460
7	 0.3630	 0.0970
8	 0.7080	 0.1860
9	 0.1670	 0.1860
A	 0.3910	 0.2110
B	 0.4040	 0.2280
C	 0.3900	 0.2050
D	 0.4480	 0.2400
E	 0.4000	 0.2200
F	 0.3490	 0.2140
G	 0.4850	 0.2060
H	 0.4220	 0.2270
I	 0.3250	 0.2020
J	 0.5140	 0.2250
K	 0.5110	 0.2340
L	 0.3660	 0.2190
M	 0.4920	 0.2180
N	 0.5060	 0.2230
O	 0.5200	 0.2320
P	 0.4930	 0.2400
Q	 0.5150	 0.2480
R	 0.4000	 0.1700
S	 0.5340	 0.1980
T	 0.4980	 0.2310
W	 0.0450	 0.1760
a	 0.5930	 0.2410
b	 0.5340	 0.2320
c	 0.5200	 0.2460
d	 0.3910	 0.2060



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Chain	Atom inclusion	Q-score
e	 0.3800	 0.2150
f	 0.1520	 0.1850
g	 0.1850	 0.1540
h	 0.1750	 0.1750
i	 0.5520	 0.2300
j	 0.4660	 0.2410
k	 0.5450	 0.2570
l	 0.5400	 0.2300
m	 0.5980	 0.2290
n	 0.5040	 0.2230
o	 0.4600	 0.2310
p	 0.5400	 0.1950
q	 0.4880	 0.2340
r	 0.6060	 0.2290
s	 0.5440	 0.2580
t	 0.3810	 0.2270
u	 0.5230	 0.2250
v	 0.4990	 0.2050
w	 0.5260	 0.2260
x	 0.2940	 0.2420
y	 0.6180	 0.2560
z	 0.5060	 0.2420