



Full wwPDB EM Validation Report ⓘ

Mar 24, 2026 – 09:29 PM UTC

PDB ID : 9GGR / pdb_00009ggr
EMDB ID : EMD-51340
Title : Structure of the HrpA-bound E. coli disome, Class II
Authors : Esser, H.F.; Berninghausen, O.; Becker, T.; Beckmann, R.
Deposited on : 2024-08-14
Resolution : 3.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

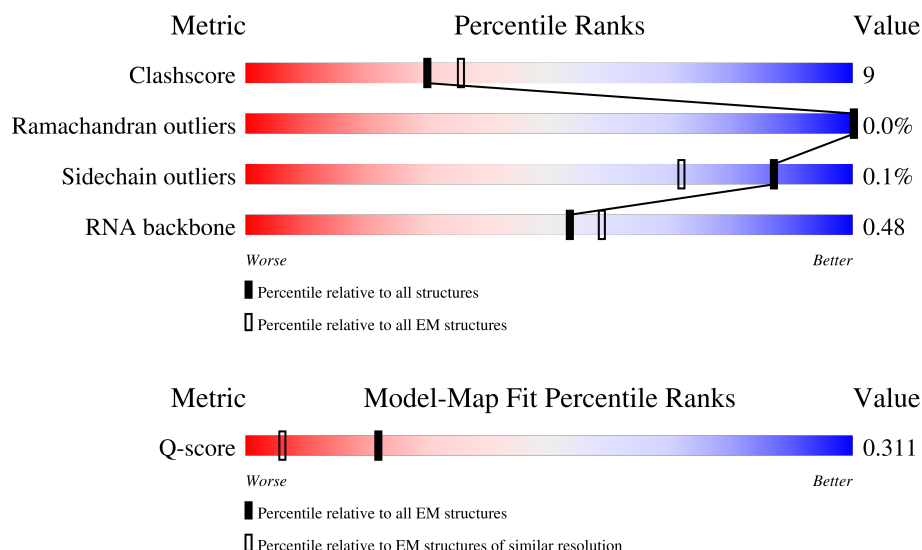
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDb archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.20 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	15020 (2.70 - 3.70)

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	1542	
1	AA	1542	
2	1	241	

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Mol	Chain	Length	Quality of chain
2	AB	241	
3	2	233	
3	AC	233	
4	3	206	
4	AD	206	
5	4	167	
5	AE	167	
6	5	135	
6	AF	135	
7	6	179	
7	AG	179	
8	7	130	
8	AH	130	
9	8	130	
9	AI	130	
10	9	103	
10	AJ	103	
11	A	76	
12	A1	71	
12	v	71	
13	A2	1300	
14	A3	77	
15	AK	234	
15	C	234	
16	AL	118	

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Mol	Chain	Length	Quality of chain
16	F	118	
17	AM	101	
17	G	101	
18	AN	89	
18	H	89	
19	AO	82	
19	I	82	
20	AP	84	
20	J	84	
21	AQ	75	
21	K	75	
22	AR	92	
22	t	92	
23	AS	87	
23	u	87	
24	AT	70	
24	L	70	
25	AU	76	
26	AV	2903	
26	N	2903	
27	AW	120	
27	O	120	
28	AX	273	
28	P	273	
29	AY	209	

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Mol	Chain	Length	Quality of chain
29	Q	209	
30	AZ	201	
30	R	201	
31	Aa	179	
31	S	179	
32	Ab	177	
32	T	177	
33	Ac	149	
33	U	149	
34	Ad	142	
34	V	142	
35	Ae	142	
35	W	142	
36	Af	123	
36	X	123	
37	Ag	144	
37	Y	144	
38	Ah	136	
38	Z	136	
39	Ai	127	
39	a	127	
40	Aj	117	
40	b	117	
41	Ak	115	
41	c	115	

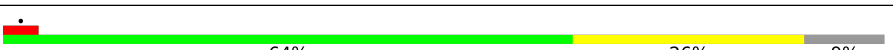
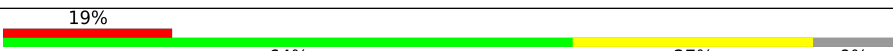
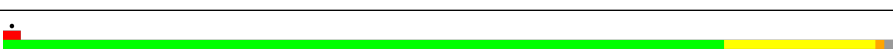
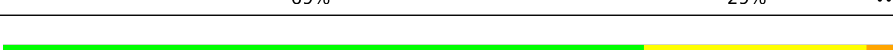
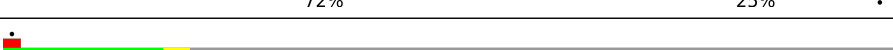
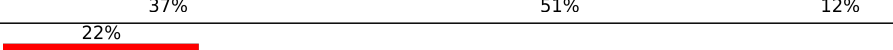
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Mol	Chain	Length	Quality of chain
42	Al	118	
42	d	118	
43	Am	103	
43	e	103	
44	An	110	
44	f	110	
45	Ao	100	
45	g	100	
46	Ap	104	
46	h	104	
47	Aq	94	
47	i	94	
48	Ar	85	
48	j	85	
49	As	78	
49	k	78	
50	At	63	
50	l	63	
51	Au	59	
51	m	59	
52	Av	57	
52	n	57	
53	Aw	55	
53	o	55	
54	Ax	46	

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Mol	Chain	Length	Quality of chain
54	p	46	
55	Ay	65	
55	q	65	
56	Az	38	
56	r	38	
57	B	1326	
58	D	129	
58	y	129	
59	E	124	
59	z	124	
60	M	75	
61	s	179	
62	w	57	
63	x	165	

2 Entry composition [i](#)

There are 63 unique types of molecules in this entry. The entry contains 309783 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 RNA chain called 16S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	0	1533	Total	C	N	O	P	0	0
			32895	14671	6036	10655	1533		
1	AA	1539	Total	C	N	O	P	0	0
			33015	14725	6052	10699	1539		

- Molecule 2 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	1	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		
2	AB	218	Total	C	N	O	S	0	0
			1704	1081	305	311	7		

- Molecule 3 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	2	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		
3	AC	206	Total	C	N	O	S	0	0
			1624	1028	305	288	3		

- Molecule 4 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	3	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		
4	AD	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 5 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	4	150	Total	C	N	O	S	0	0
			1105	687	211	201	6		
5	AE	150	Total	C	N	O	S	0	0
			1105	687	211	201	6		

- Molecule 6 is a protein called Small ribosomal subunit protein bS6, fully modified isoform.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	5	100	Total	C	N	O	S	0	0
			817	515	148	148	6		
6	AF	100	Total	C	N	O	S	0	0
			817	515	148	148	6		

- Molecule 7 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	6	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		
7	AG	151	Total	C	N	O	S	0	0
			1181	735	227	215	4		

- Molecule 8 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	7	129	Total	C	N	O	S	0	0
			979	616	173	184	6		
8	AH	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 9 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	8	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		
9	AI	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 10 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	9	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	AJ	98	Total	C	N	O	S	0	0
			786	493	150	142	1		

- Molecule 11 is a RNA chain called A-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	A	76	Total	C	N	O	P	0	0
			1622	723	290	533	76		

- Molecule 12 is a protein called Small ribosomal subunit protein bS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	A1	66	Total	C	N	O	S	0	0
			551	340	118	92	1		
12	v	70	Total	C	N	O	S	0	0
			589	366	125	97	1		

- Molecule 13 is a protein called ATP-dependent RNA helicase HrpA.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	A2	290	Total	C	N	O	S	0	0
			2340	1494	413	424	9		

- Molecule 14 is a RNA chain called A-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	A3	77	Total	C	N	O	P	0	0
			1638	732	291	538	77		

- Molecule 15 is a protein called Large ribosomal subunit protein uL1.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AK	134	Total	C	N	O	S	0	0
			1026	645	186	193	2		
15	C	134	Total	C	N	O	S	0	0
			1026	645	186	193	2		

- Molecule 16 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AL	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

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Mol	Chain	Residues	Atoms					AltConf	Trace
16	F	114	Total	C	N	O	S	0	0
			883	546	178	156	3		

- Molecule 17 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AM	96	Total	C	N	O	S	0	0
			774	483	160	128	3		
17	G	98	Total	C	N	O	S	0	0
			791	490	161	137	3		

- Molecule 18 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AN	88	Total	C	N	O	S	0	0
			710	437	143	129	1		
18	H	87	Total	C	N	O	S	0	0
			702	433	140	128	1		

- Molecule 19 is a protein called Small ribosomal subunit protein bS16.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AO	82	Total	C	N	O	S	0	0
			649	406	128	114	1		
19	I	82	Total	C	N	O	S	0	0
			648	406	128	113	1		

- Molecule 20 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AP	80	Total	C	N	O	S	0	0
			648	411	121	113	3		
20	J	80	Total	C	N	O	S	0	0
			648	411	121	113	3		

- Molecule 21 is a protein called Small ribosomal subunit protein bS18.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AQ	66	Total	C	N	O	S	0	0
			544	345	102	96	1		
21	K	65	Total	C	N	O	S	0	0
			535	339	100	95	1		

- Molecule 22 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AR	79	Total	C	N	O	S	0	0
			637	408	120	107	2		
22	t	77	Total	C	N	O	S	0	0
			620	399	115	104	2		

- Molecule 23 is a protein called Small ribosomal subunit protein bS20.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AS	85	Total	C	N	O	S	0	0
			665	411	137	114	3		
23	u	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 24 is a protein called Large ribosomal subunit protein bL31A.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AT	64	Total	C	N	O	S	0	0
			511	317	97	91	6		
24	L	62	Total	C	N	O	S	0	0
			499	309	95	89	6		

- Molecule 25 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AU	76	Total	C	N	O	P	0	0
			1625	724	293	532	76		

- Molecule 26 is a RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AV	2897	Total	C	N	O	P	0	0
			62195	27745	11446	20107	2897		
26	N	2897	Total	C	N	O	P	0	0
			62195	27745	11446	20107	2897		

- Molecule 27 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AW	118	Total	C	N	O	P	0	0
			2529	1126	464	821	118		

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Mol	Chain	Residues	Atoms					AltConf	Trace
27	O	118	Total	C	N	O	P	0	0
			2529	1126	464	821	118		

- Molecule 28 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AX	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		
28	P	271	Total	C	N	O	S	0	0
			2082	1288	423	364	7		

- Molecule 29 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AY	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		
29	Q	209	Total	C	N	O	S	0	0
			1565	979	288	294	4		

- Molecule 30 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AZ	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		
30	R	201	Total	C	N	O	S	0	0
			1552	974	283	290	5		

- Molecule 31 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Aa	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		
31	S	177	Total	C	N	O	S	0	0
			1410	899	249	256	6		

- Molecule 32 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Ab	176	Total	C	N	O	S	0	0
			1323	832	243	246	2		
32	T	175	Total	C	N	O	S	0	0
			1313	826	241	244	2		

- Molecule 33 is a protein called Large ribosomal subunit protein bL9.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ac	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		
33	U	149	Total	C	N	O	S	0	0
			1111	699	197	214	1		

- Molecule 34 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ad	141	Total	C	N	O	S	0	0
			1032	651	179	196	6		
34	V	134	Total	C	N	O	S	0	0
			979	619	169	185	6		

- Molecule 35 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ae	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		
35	W	142	Total	C	N	O	S	0	0
			1129	714	212	199	4		

- Molecule 36 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Af	122	Total	C	N	O	S	0	0
			938	587	180	165	6		
36	X	122	Total	C	N	O	S	0	0
			938	587	180	165	6		

- Molecule 37 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ag	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		
37	Y	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

- Molecule 38 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Ah	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		
38	Z	136	Total	C	N	O	S	0	0
			1074	686	205	177	6		

- Molecule 39 is a protein called Large ribosomal subunit protein bL17.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Ai	118	Total	C	N	O	S	0	0
			945	585	194	161	5		
39	a	119	Total	C	N	O	S	0	0
			951	588	195	163	5		

- Molecule 40 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	Aj	116	Total	C	N	O		0	0
			892	552	178	162			
40	b	116	Total	C	N	O		0	0
			892	552	178	162			

- Molecule 41 is a protein called Large ribosomal subunit protein bL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Ak	114	Total	C	N	O	S	0	0
			917	574	179	163	1		
41	c	114	Total	C	N	O	S	0	0
			917	574	179	163	1		

- Molecule 42 is a protein called Large ribosomal subunit protein bL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Al	117	Total	C	N	O		0	0
			947	604	192	151			
42	d	117	Total	C	N	O		0	0
			947	604	192	151			

- Molecule 43 is a protein called Large ribosomal subunit protein bL21.

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

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	An	110	Total	C	N	O	S	0	0
			857	532	166	156	3		
44	f	110	Total	C	N	O	S	0	0
			857	532	166	156	3		

- Molecule 45 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Ao	93	Total	C	N	O	S	0	0
			738	466	139	131	2		
45	g	93	Total	C	N	O	S	0	0
			738	466	139	131	2		

- Molecule 46 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Ap	102	Total	C	N	O		0	0
			779	492	146	141			
46	h	102	Total	C	N	O		0	0
			779	492	146	141			

- Molecule 47 is a protein called Large ribosomal subunit protein bL25.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Aq	94	Total	C	N	O	S	0	0
			753	479	137	134	3		
47	i	94	Total	C	N	O	S	0	0
			753	479	137	134	3		

- Molecule 48 is a protein called Large ribosomal subunit protein bL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Ar	75	Total	C	N	O	S	0	0
			569	353	113	102	1		
48	j	75	Total	C	N	O	S	0	0
			575	356	116	102	1		

- Molecule 49 is a protein called Large ribosomal subunit protein bL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	As	77	Total	C	N	O	S	0	0
			625	388	129	106	2		
49	k	77	Total	C	N	O	S	0	0
			625	388	129	106	2		

- Molecule 50 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	At	63	Total	C	N	O	S	0	0
			509	313	99	95	2		
50	l	63	Total	C	N	O	S	0	0
			509	313	99	95	2		

- Molecule 51 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Au	56	Total	C	N	O	S	0	0
			435	272	84	77	2		
51	m	58	Total	C	N	O	S	0	0
			449	281	87	79	2		

- Molecule 52 is a protein called Large ribosomal subunit protein bL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Av	56	Total	C	N	O	S	0	0
			444	269	94	80	1		
52	n	54	Total	C	N	O	S	0	0
			429	260	91	77	1		

- Molecule 53 is a protein called Large ribosomal subunit protein bL33.

Mol	Chain	Residues	Atoms				AltConf	Trace
53	Aw	50	Total	C	N	O	0	0
			409	263	75	71		
53	o	50	Total	C	N	O	0	0
			409	263	75	71		

- Molecule 54 is a protein called Large ribosomal subunit protein bL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	Ax	46	Total	C	N	O	S	0	0
			377	228	90	57	2		
54	p	46	Total	C	N	O	S	0	0
			377	228	90	57	2		

- Molecule 55 is a protein called Large ribosomal subunit protein bL35.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	Ay	64	Total	C	N	O	S	0	0
			504	323	105	74	2		
55	q	64	Total	C	N	O	S	0	0
			504	323	105	74	2		

- Molecule 56 is a protein called Large ribosomal subunit protein bL36A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	Az	38	Total	C	N	O	S	0	0
			302	185	65	48	4		
56	r	38	Total	C	N	O	S	0	0
			302	185	65	48	4		

- Molecule 57 is a protein called ATP-dependent RNA helicase HrpA.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	B	1295	Total	C	N	O	S	0	0
			10462	6619	1887	1924	32		

There are 27 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-25	MET	-	initiating methionine	UNP P43329
B	-24	GLY	-	expression tag	UNP P43329
B	-23	HIS	-	expression tag	UNP P43329
B	-22	HIS	-	expression tag	UNP P43329
B	-21	HIS	-	expression tag	UNP P43329
B	-20	HIS	-	expression tag	UNP P43329
B	-19	HIS	-	expression tag	UNP P43329
B	-18	HIS	-	expression tag	UNP P43329
B	-17	HIS	-	expression tag	UNP P43329
B	-16	HIS	-	expression tag	UNP P43329
B	-15	ASP	-	expression tag	UNP P43329
B	-14	TYR	-	expression tag	UNP P43329
B	-13	ASP	-	expression tag	UNP P43329

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
B	-12	ILE	-	expression tag	UNP P43329
B	-11	PRO	-	expression tag	UNP P43329
B	-10	THR	-	expression tag	UNP P43329
B	-9	THR	-	expression tag	UNP P43329
B	-8	LEU	-	expression tag	UNP P43329
B	-7	GLU	-	expression tag	UNP P43329
B	-6	VAL	-	expression tag	UNP P43329
B	-5	LEU	-	expression tag	UNP P43329
B	-4	PHE	-	expression tag	UNP P43329
B	-3	GLN	-	expression tag	UNP P43329
B	-2	GLY	-	expression tag	UNP P43329
B	-1	PRO	-	expression tag	UNP P43329
B	0	GLY	-	expression tag	UNP P43329
B	1	THR	-	expression tag	UNP P43329

- Molecule 58 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	D	117	Total	C	N	O	S	0	0
			877	540	174	160	3		
58	y	117	Total	C	N	O	S	0	0
			877	540	174	160	3		

- Molecule 59 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	E	123	Total	C	N	O	S	0	0
			955	590	196	165	4		
59	z	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 60 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	M	75	Total	C	N	O	P	0	0
			1593	711	281	526	75		

- Molecule 61 is a protein called VemP nascent chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	s	37	Total	C	N	O	S	0	0
			316	198	58	58	2		

- Molecule 62 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	w	57	Total	C	N	O	P	0	0
			1175	527	165	426	57		

There are 22 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
w	556	U	-	expression tag	GB 1895674257
w	557	U	-	expression tag	GB 1895674257
w	558	U	-	expression tag	GB 1895674257
w	559	U	-	expression tag	GB 1895674257
w	560	U	-	expression tag	GB 1895674257
w	561	U	-	expression tag	GB 1895674257
w	562	U	-	expression tag	GB 1895674257
w	563	U	-	expression tag	GB 1895674257
w	564	U	-	expression tag	GB 1895674257
w	565	U	-	expression tag	GB 1895674257
w	566	U	-	expression tag	GB 1895674257
w	567	U	-	expression tag	GB 1895674257
w	568	U	-	expression tag	GB 1895674257
w	569	U	-	expression tag	GB 1895674257
w	570	U	-	expression tag	GB 1895674257
w	571	U	-	expression tag	GB 1895674257
w	572	U	-	expression tag	GB 1895674257
w	573	U	-	expression tag	GB 1895674257
w	574	U	-	expression tag	GB 1895674257
w	575	U	-	expression tag	GB 1895674257
w	576	U	-	expression tag	GB 1895674257
w	577	U	-	expression tag	GB 1895674257

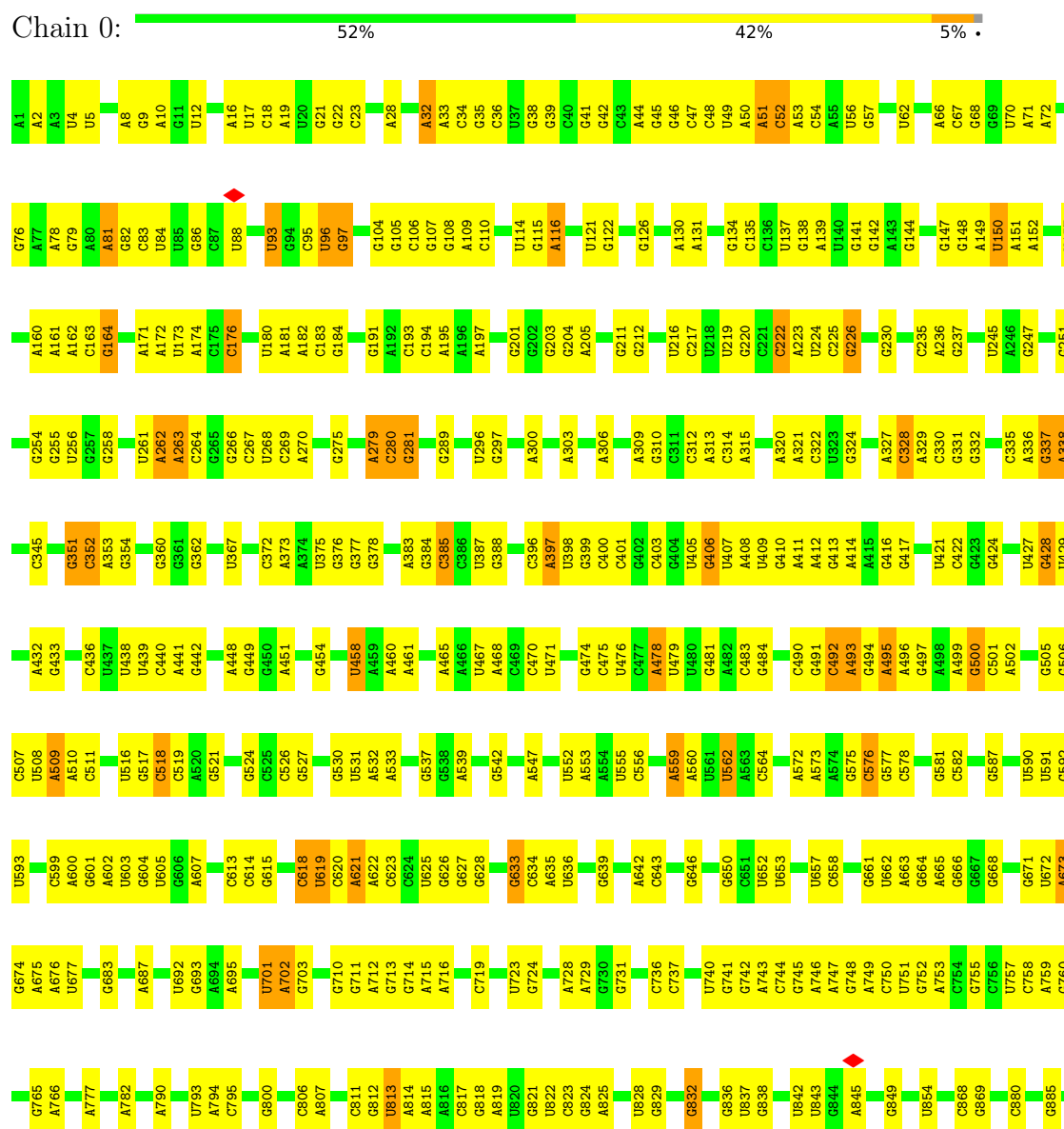
- Molecule 63 is a protein called Large ribosomal subunit protein uL10.

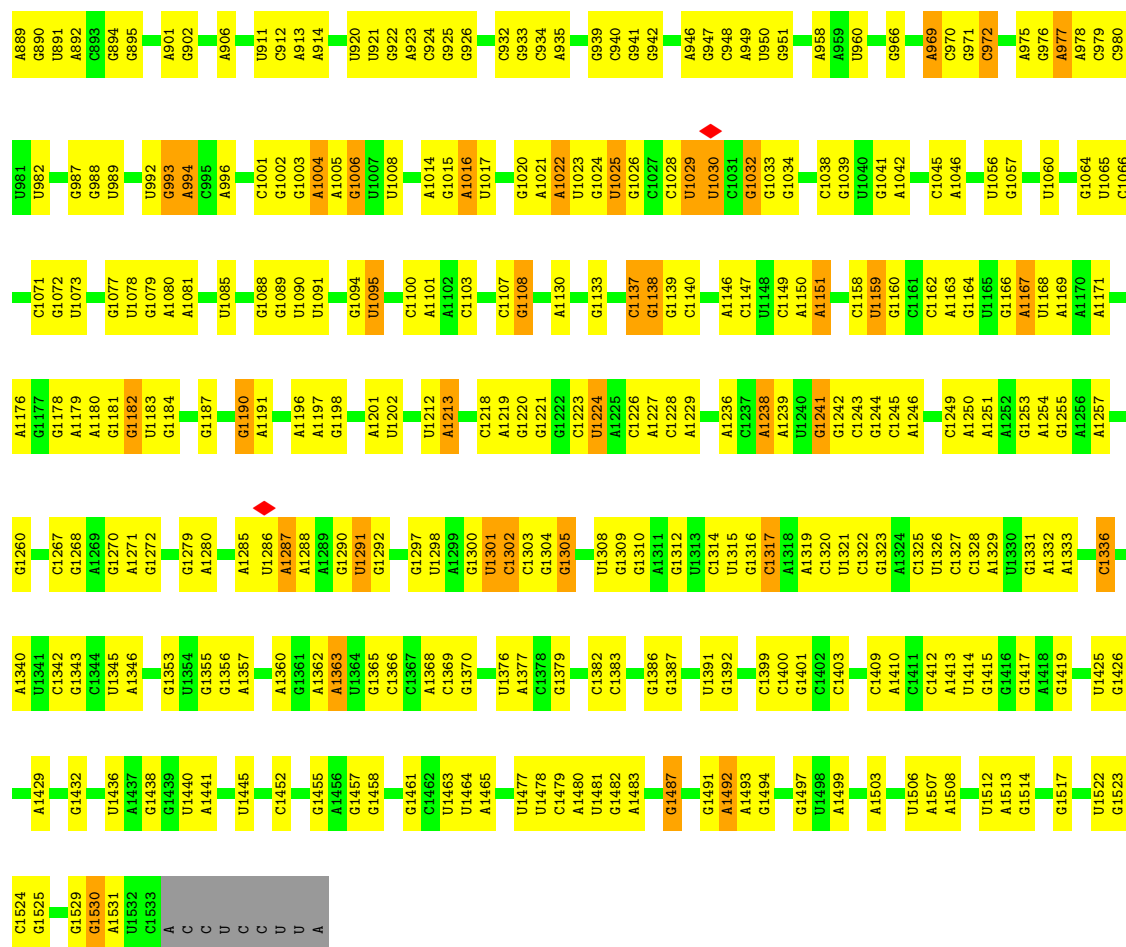
Mol	Chain	Residues	Atoms					AltConf	Trace
63	x	127	Total	C	N	O	S	0	0
			958	605	171	178	4		

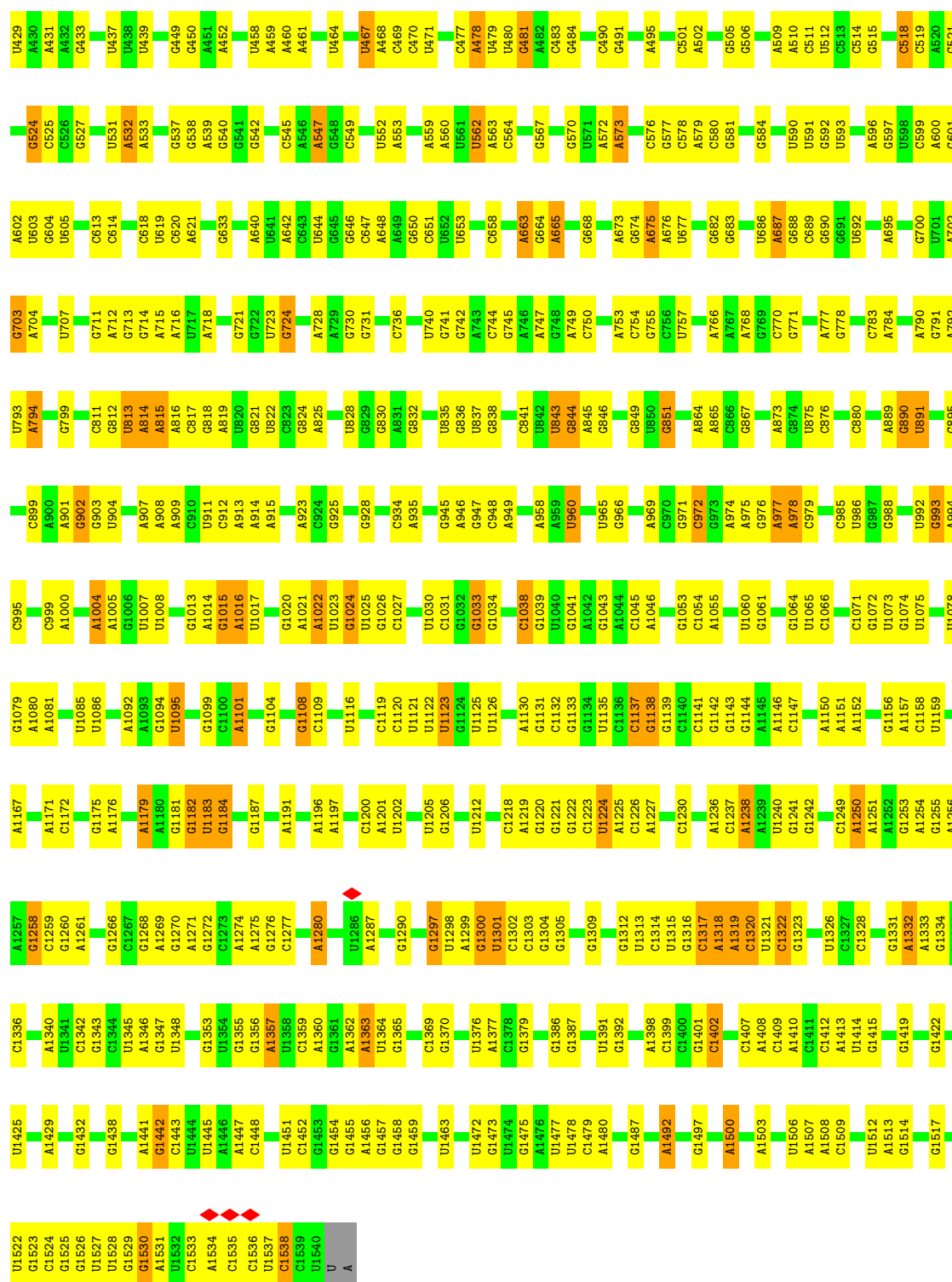
3 Residue-property plots

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

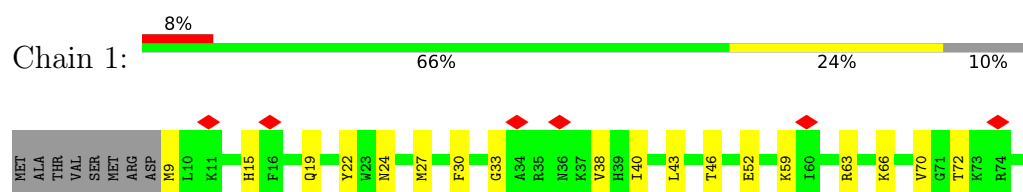
• Molecule 1: 16S ribosomal RNA

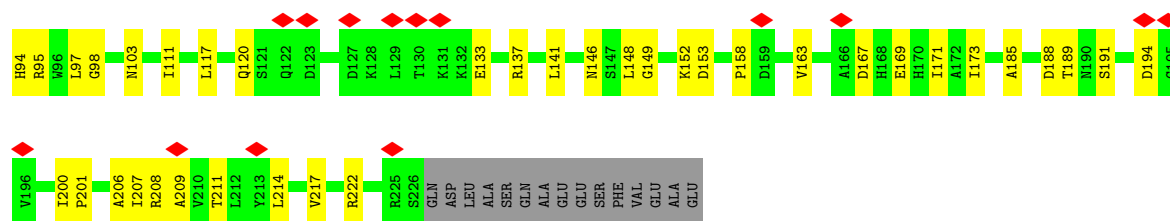




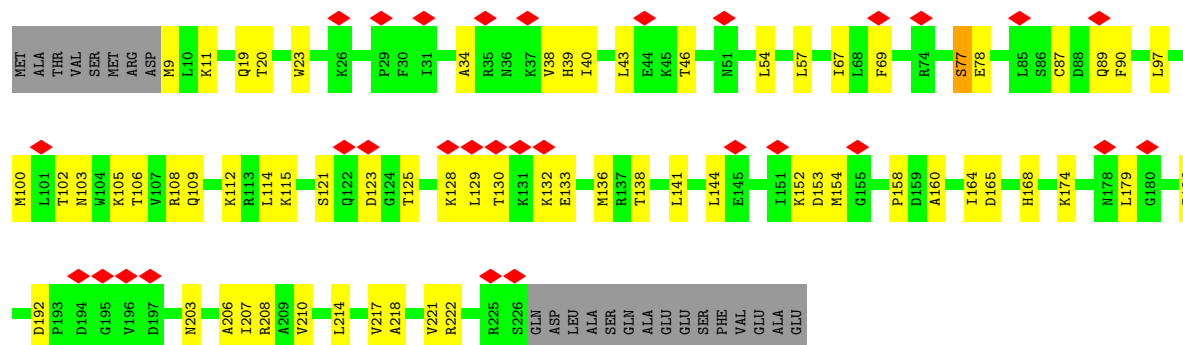


• Molecule 2: Small ribosomal subunit protein uS2

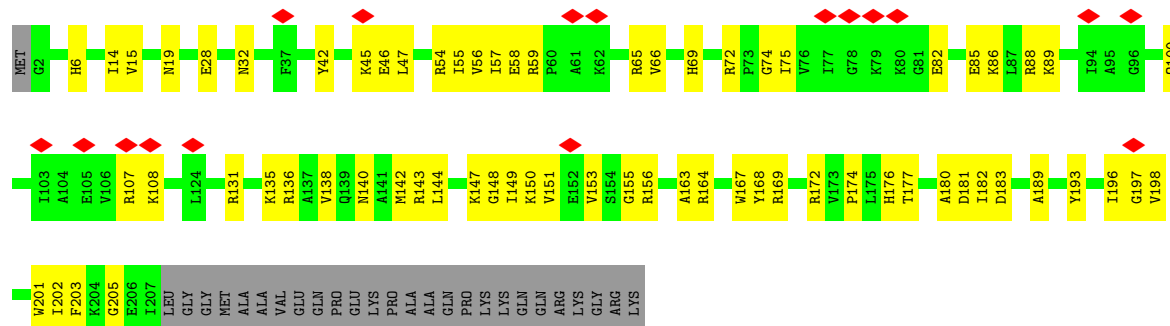




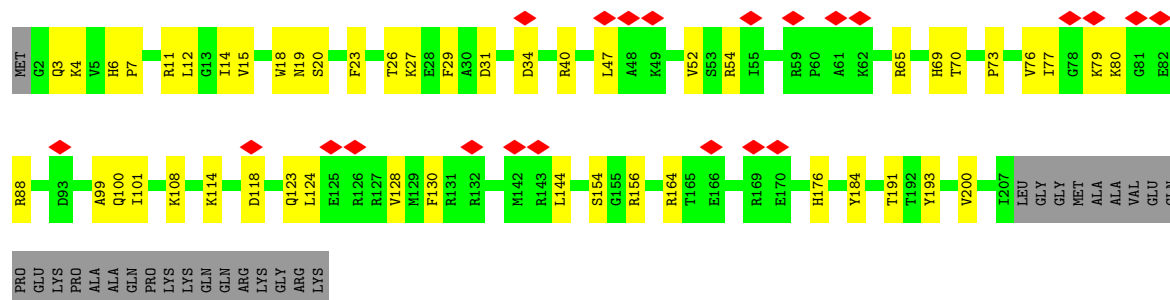
• Molecule 2: Small ribosomal subunit protein uS2



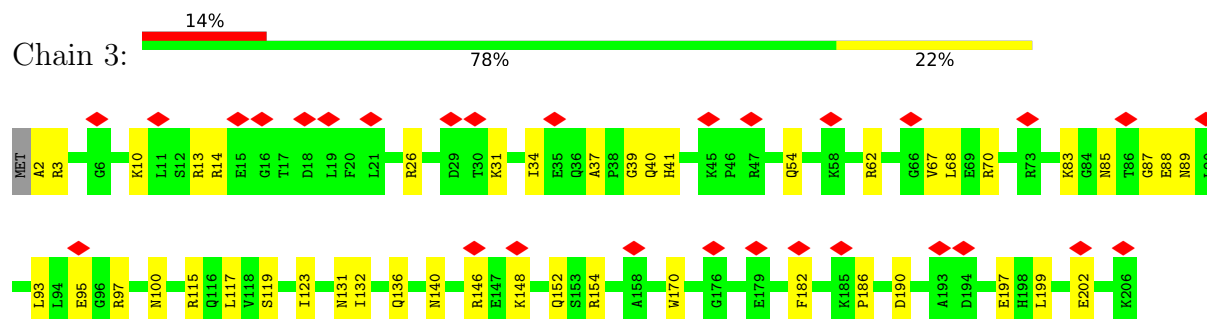
• Molecule 3: Small ribosomal subunit protein uS3



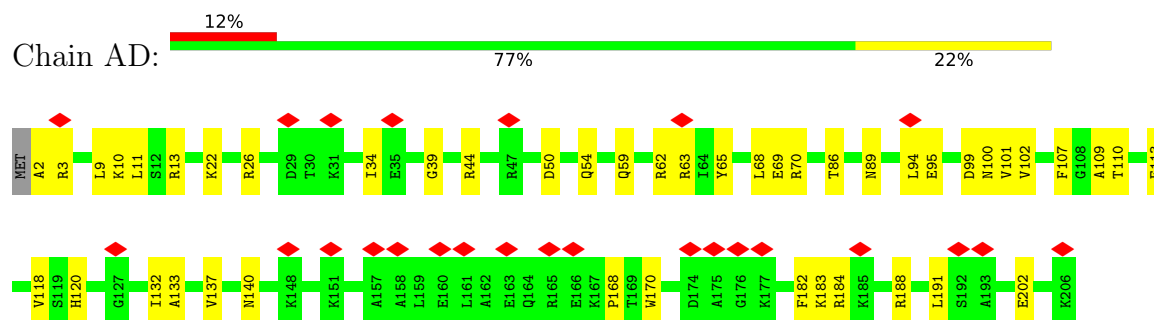
• Molecule 3: Small ribosomal subunit protein uS3



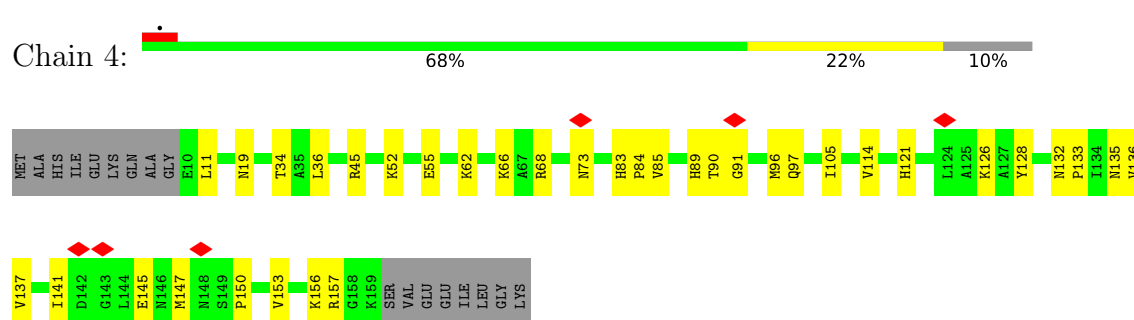
- Molecule 4: Small ribosomal subunit protein uS4



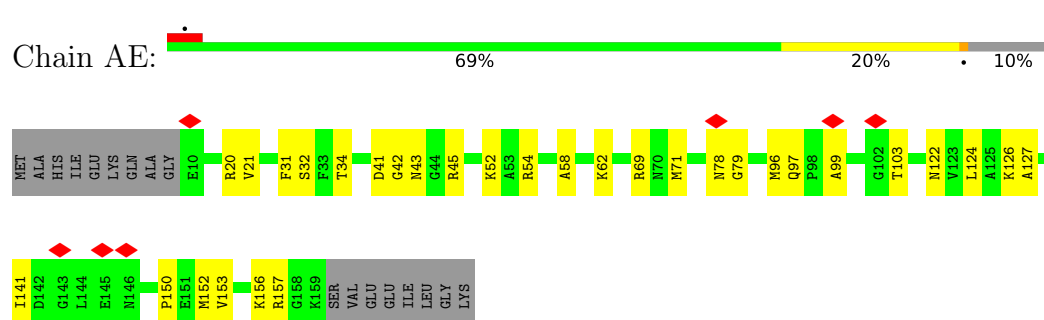
- Molecule 4: Small ribosomal subunit protein uS4



- Molecule 5: Small ribosomal subunit protein uS5

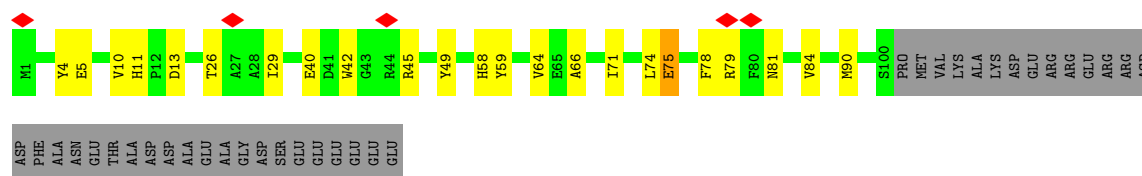


- Molecule 5: Small ribosomal subunit protein uS5

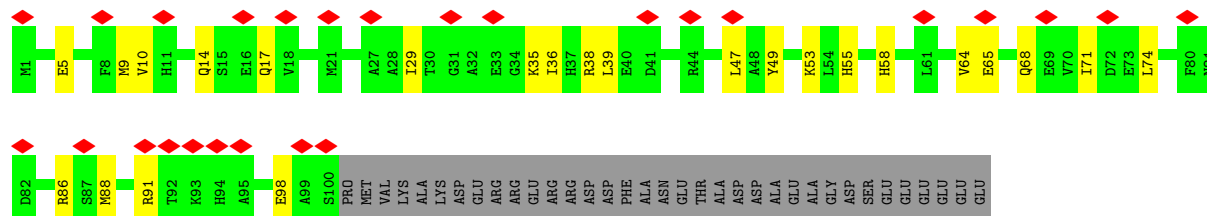


- Molecule 6: Small ribosomal subunit protein bS6, fully modified isoform

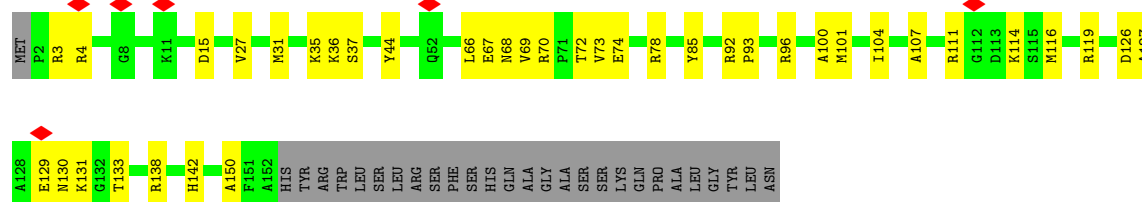




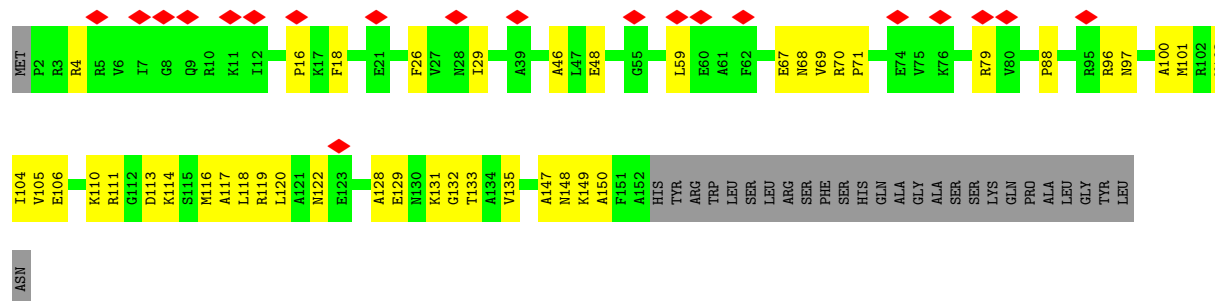
- Molecule 6: Small ribosomal subunit protein bS6, fully modified isoform



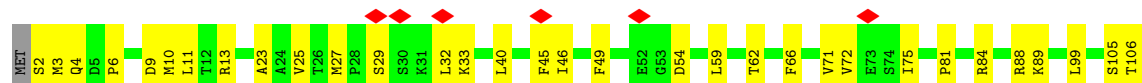
- Molecule 7: Small ribosomal subunit protein uS7



- Molecule 7: Small ribosomal subunit protein uS7



- Molecule 8: Small ribosomal subunit protein uS8

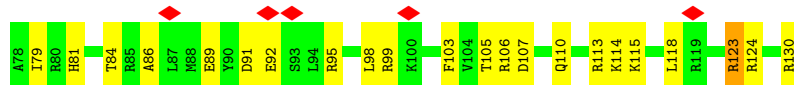
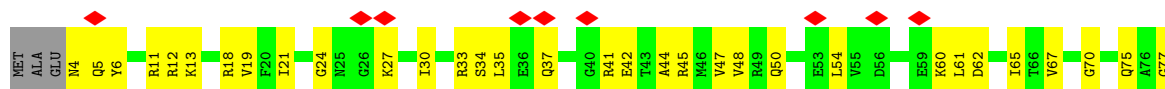




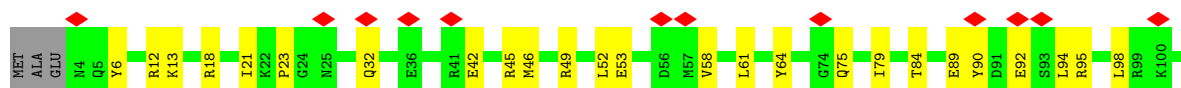
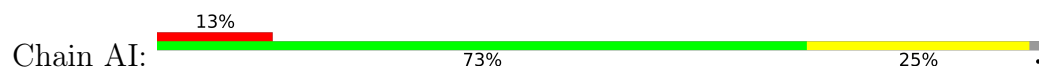
- Molecule 8: Small ribosomal subunit protein uS8



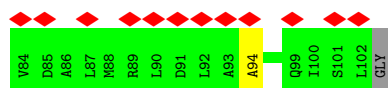
- Molecule 9: Small ribosomal subunit protein uS9



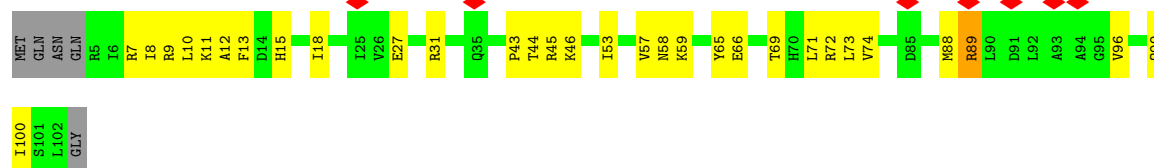
- Molecule 9: Small ribosomal subunit protein uS9



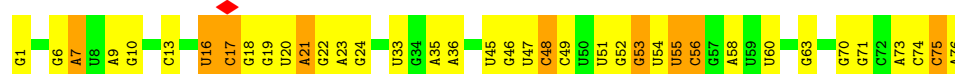
- Molecule 10: Small ribosomal subunit protein uS10



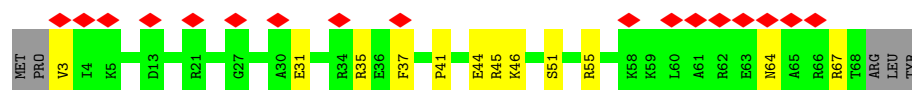
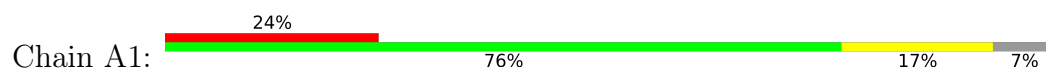
- Molecule 10: Small ribosomal subunit protein uS10



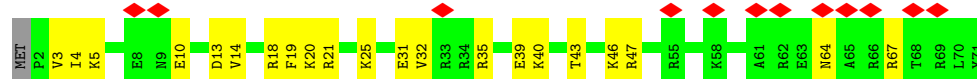
- Molecule 11: A-site tRNA



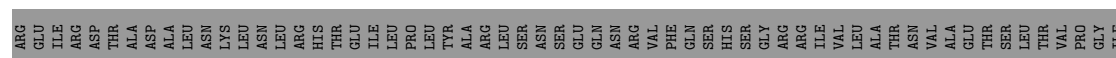
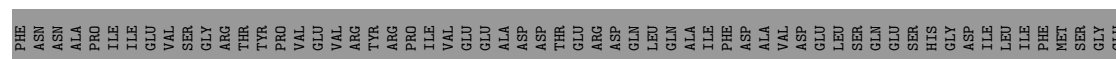
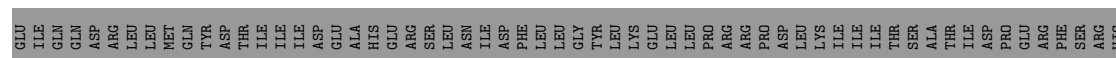
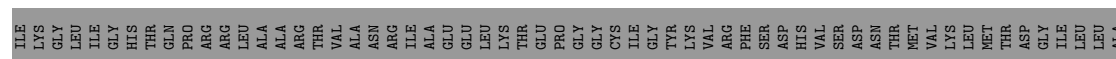
- Molecule 12: Small ribosomal subunit protein bS21



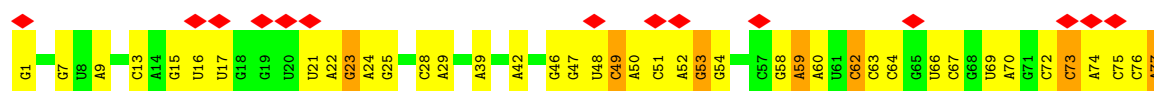
- Molecule 12: Small ribosomal subunit protein bS21



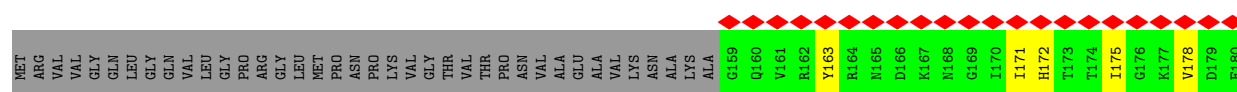
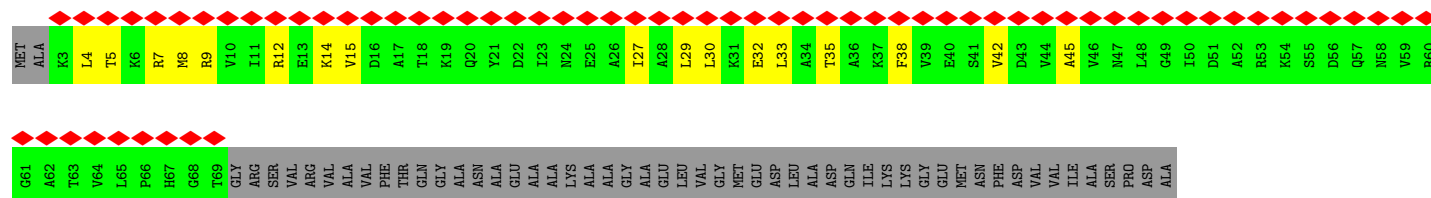
- Molecule 13: ATP-dependent RNA helicase HrpA



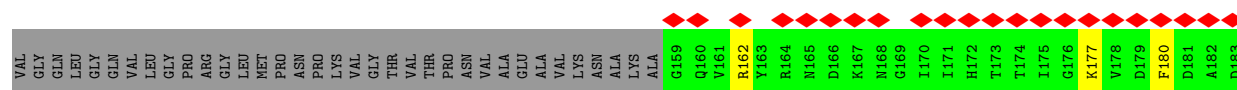
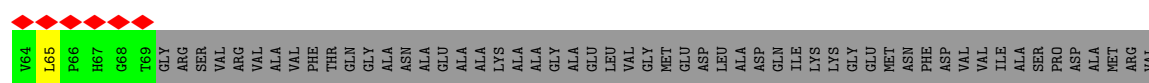
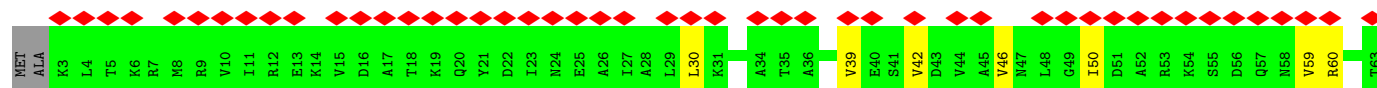
- Molecule 14: A-site tRNA



• Molecule 15: Large ribosomal subunit protein uL1

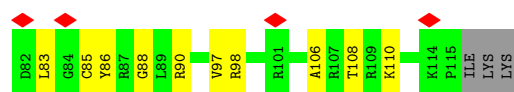


• Molecule 15: Large ribosomal subunit protein uL1

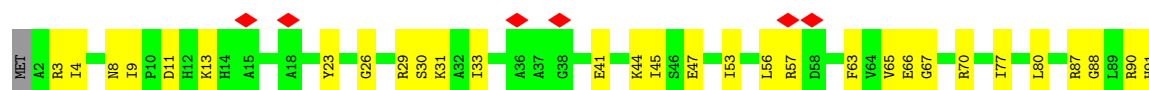


• Molecule 16: Small ribosomal subunit protein uS13

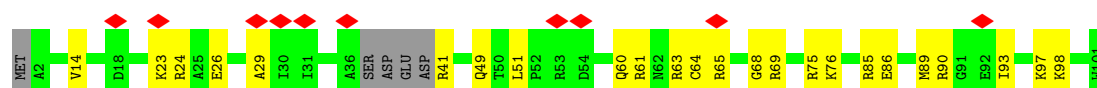
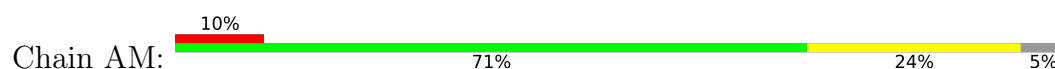




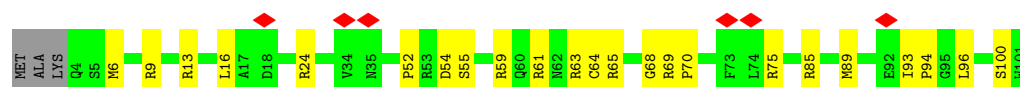
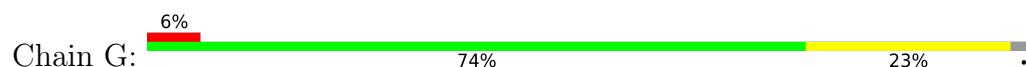
- Molecule 16: Small ribosomal subunit protein uS13



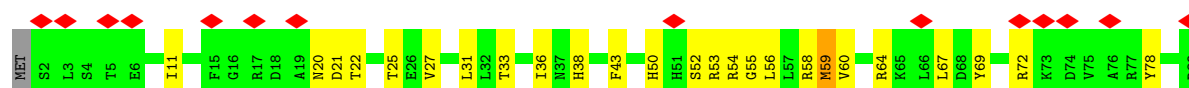
- Molecule 17: Small ribosomal subunit protein uS14



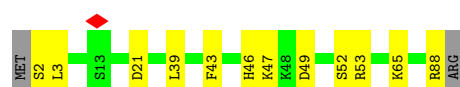
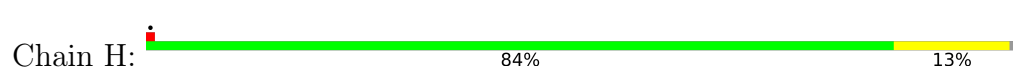
- Molecule 17: Small ribosomal subunit protein uS14



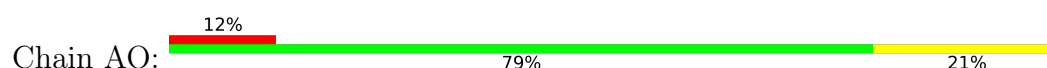
- Molecule 18: Small ribosomal subunit protein uS15



- Molecule 18: Small ribosomal subunit protein uS15

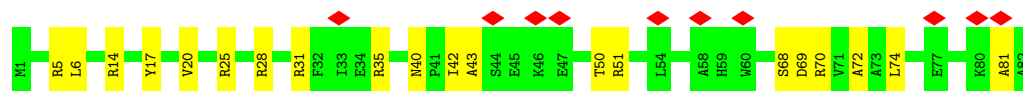
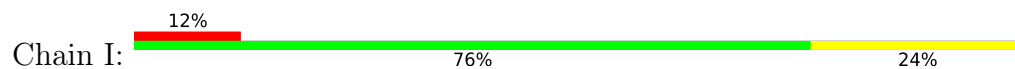


- Molecule 19: Small ribosomal subunit protein bS16

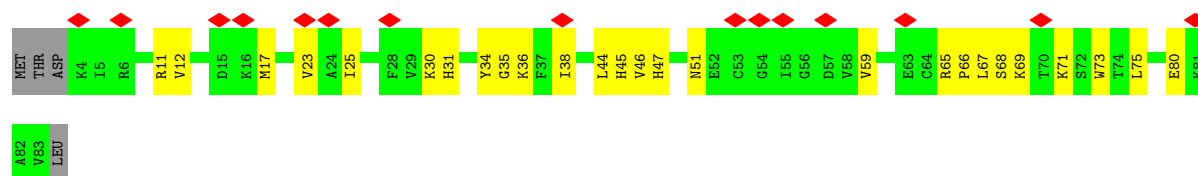




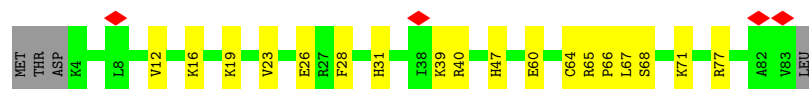
- Molecule 19: Small ribosomal subunit protein bS16



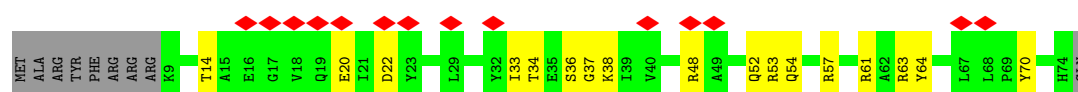
- Molecule 20: Small ribosomal subunit protein uS17



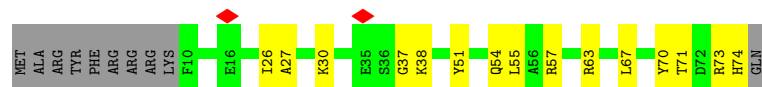
- Molecule 20: Small ribosomal subunit protein uS17



- Molecule 21: Small ribosomal subunit protein bS18

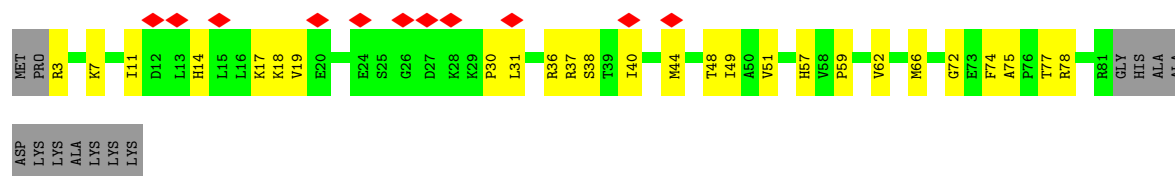


- Molecule 21: Small ribosomal subunit protein bS18



- Molecule 22: Small ribosomal subunit protein uS19

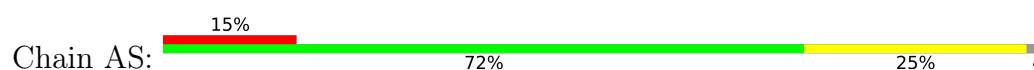




- Molecule 22: Small ribosomal subunit protein uS19



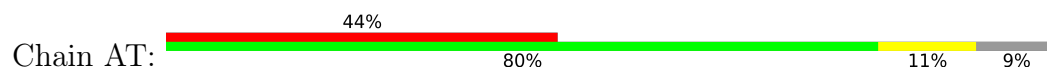
- Molecule 23: Small ribosomal subunit protein bS20



- Molecule 23: Small ribosomal subunit protein bS20



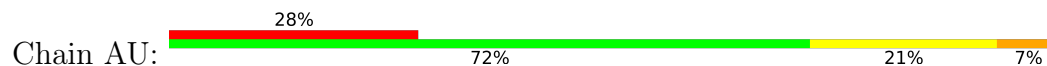
- Molecule 24: Large ribosomal subunit protein bL31A



- Molecule 24: Large ribosomal subunit protein bL31A



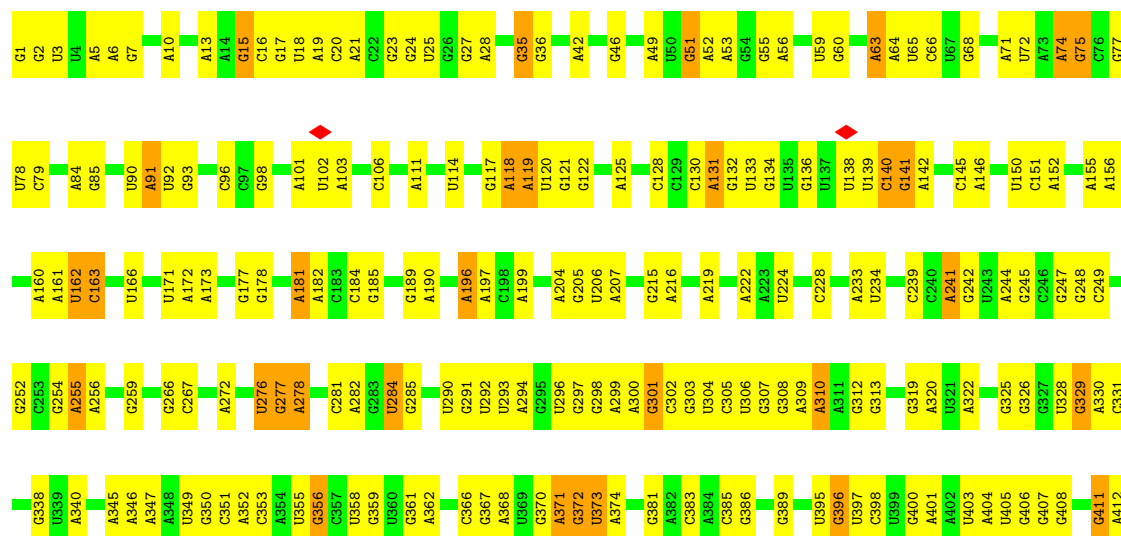
- Molecule 25: P-site tRNA



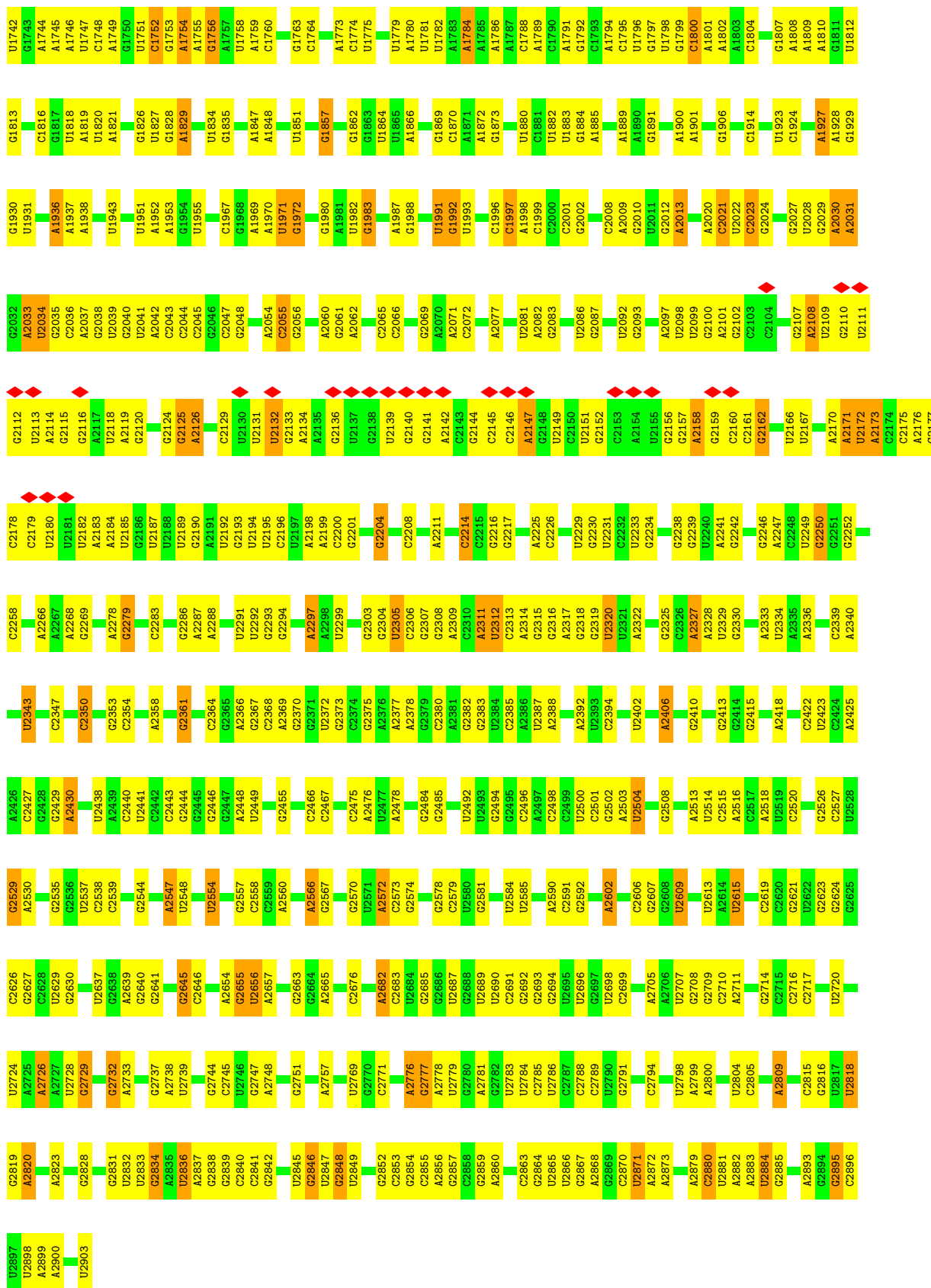
Chain AV:



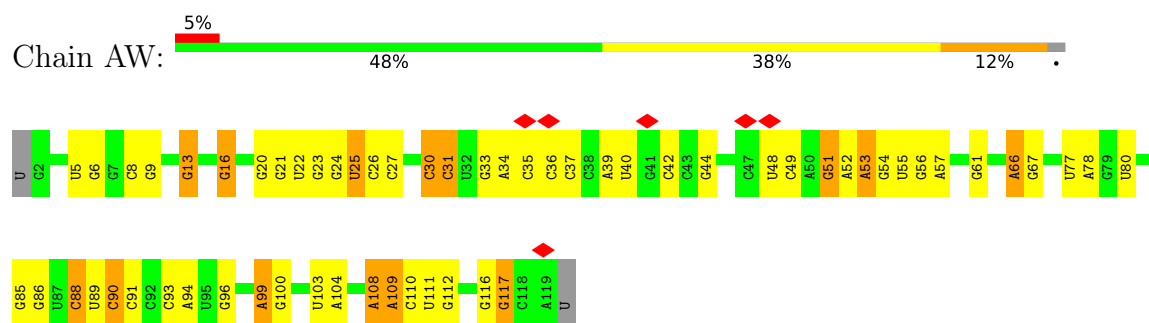
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A1096	U1174	A1269	G1355	U1443	G1531	A1608	G1715	C1804	G1884	C1997	U2098	A2158
U1097	U1175	A1270	G1356	G1444	A1532	A1626	U1716	A1805	A1885	A1998	U2099	G2159
C1100	G1177	G1271	G1357	G1445	C1533	A1631	A1717	A1806	A1886	C1999	G2100	C2160
U1101	U1180	A1272	U1273	C1447	U1534	G1631	U1729	A1807	A1889	A2019	A2101	G2162
C1102	U1181	A1274	U1274	G1450	C1535	A1634	C1730	A1808	A1890	U2022	G2102	A2163
A1103	U1182	A1275	A1275	C1451	G1536	A1635	U1733	A1809	A1899	C2023	C2103	C2164
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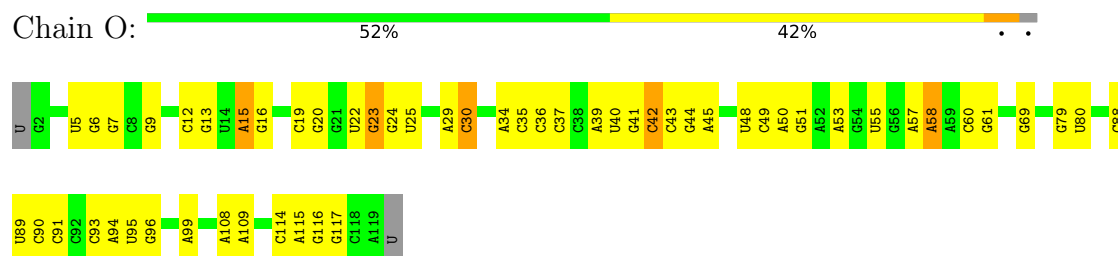
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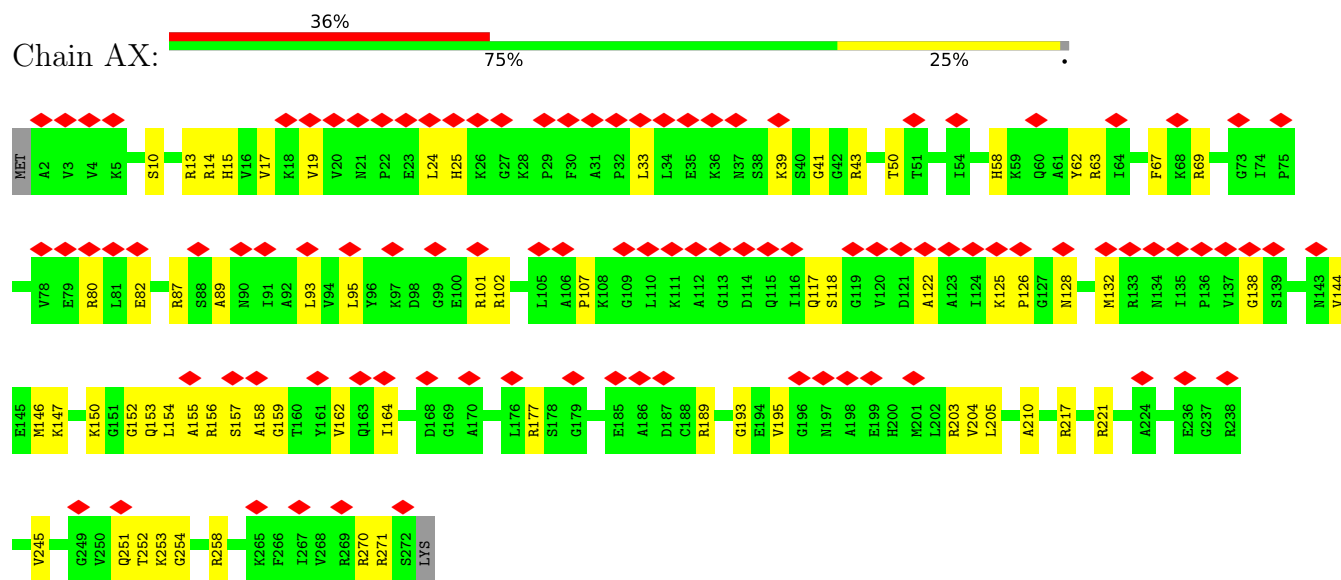
- Molecule 27: 5S ribosomal RNA



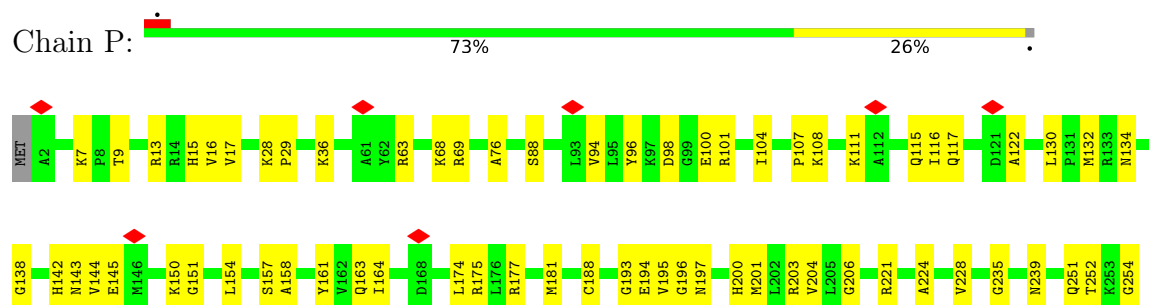
- Molecule 27: 5S ribosomal RNA

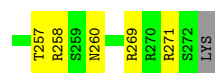


- Molecule 28: Large ribosomal subunit protein uL2

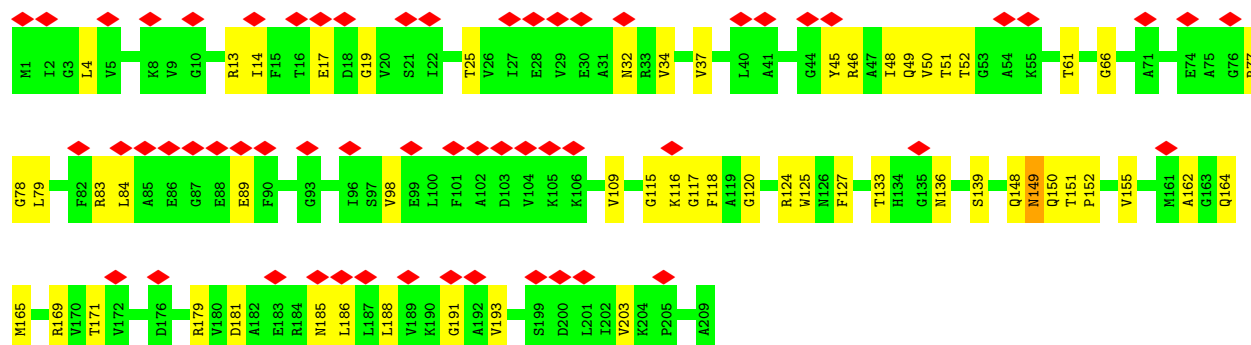
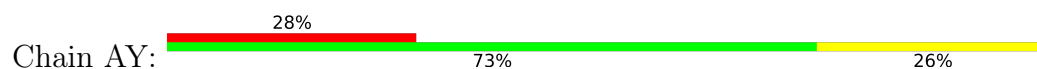


- Molecule 28: Large ribosomal subunit protein uL2

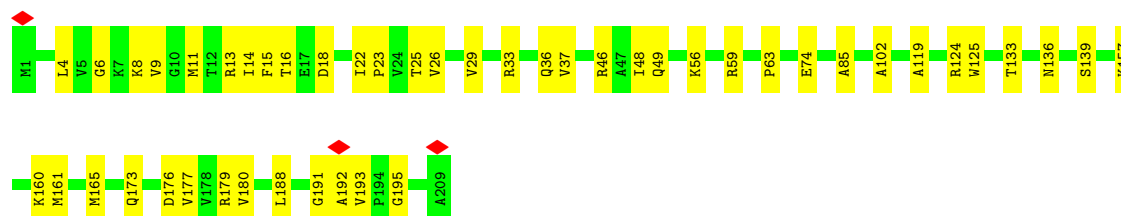
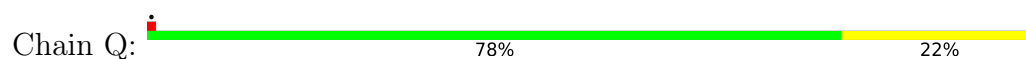




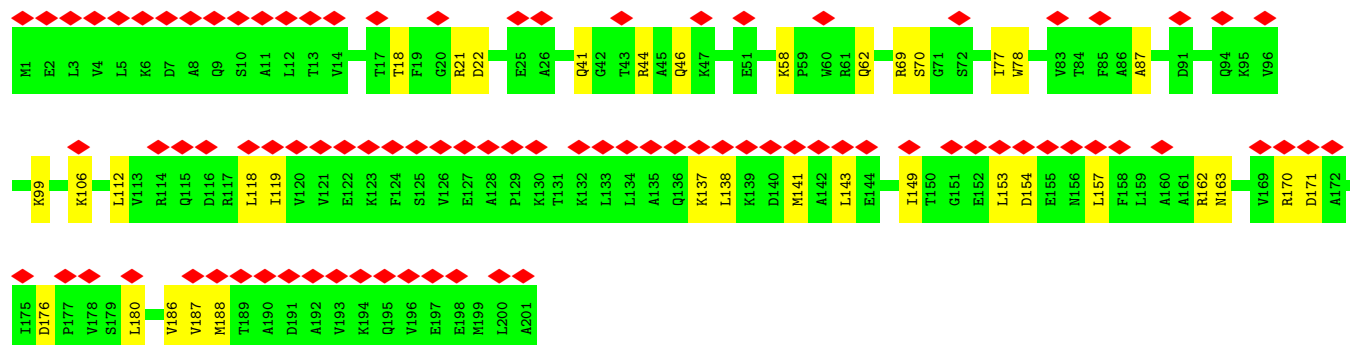
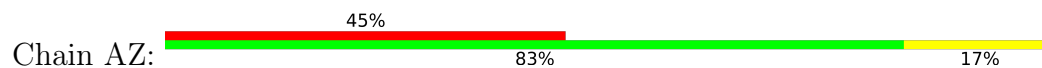
- Molecule 29: 50S ribosomal protein L3



- Molecule 29: 50S ribosomal protein L3

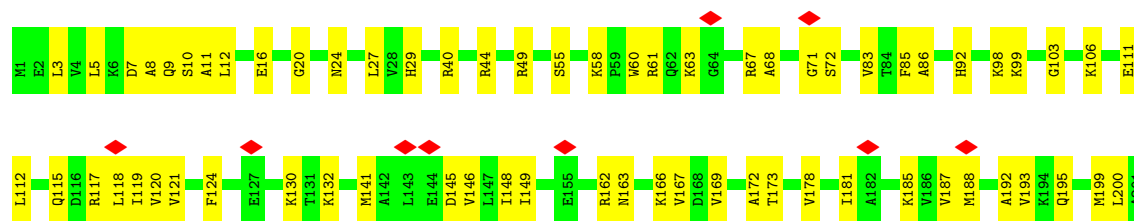


- Molecule 30: Large ribosomal subunit protein uL4

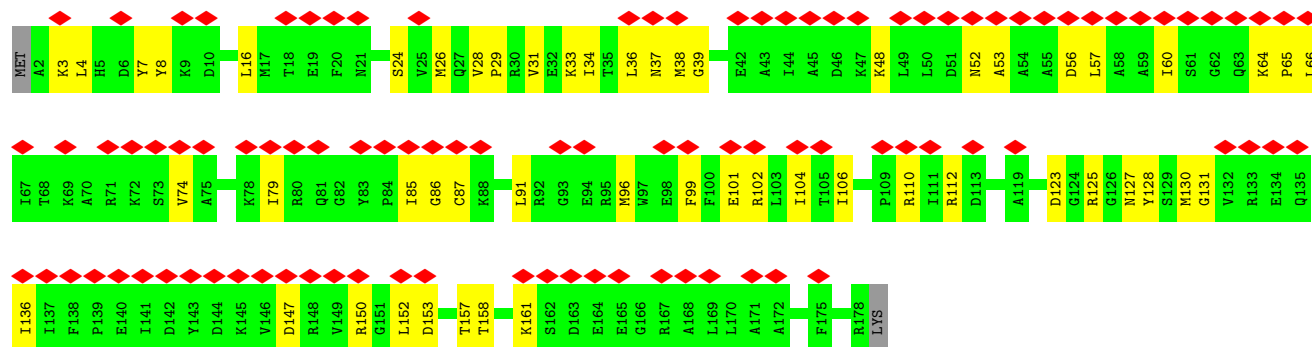
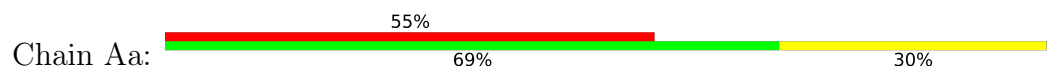


- Molecule 30: Large ribosomal subunit protein uL4

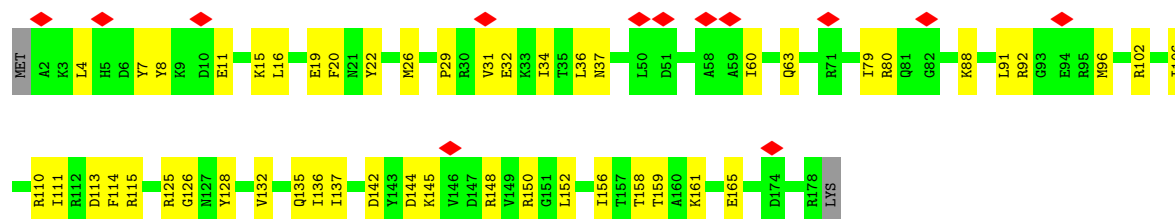




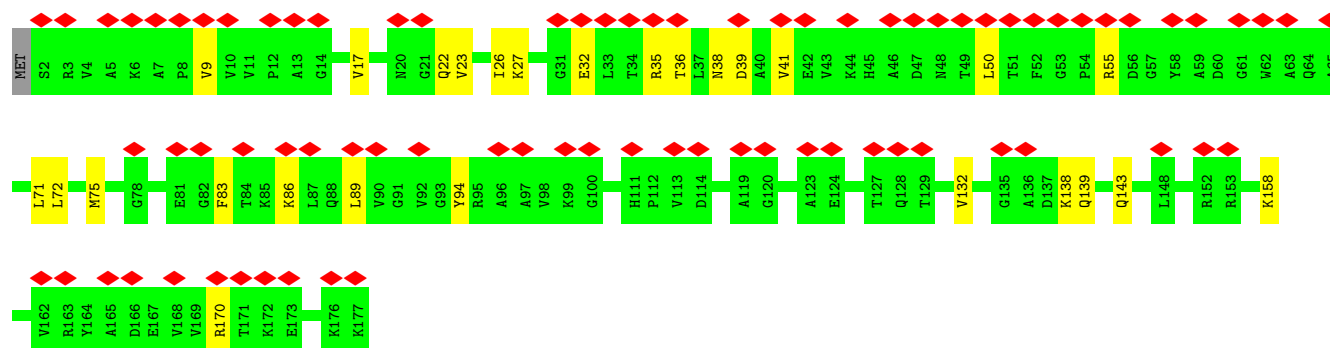
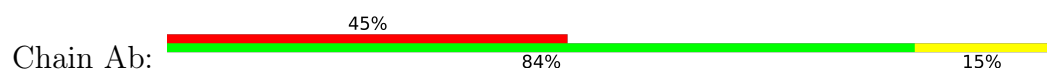
• Molecule 31: Large ribosomal subunit protein uL5



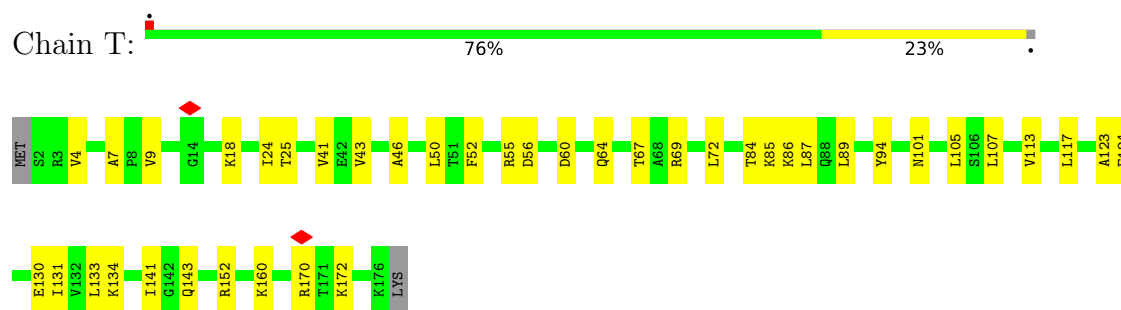
• Molecule 31: Large ribosomal subunit protein uL5



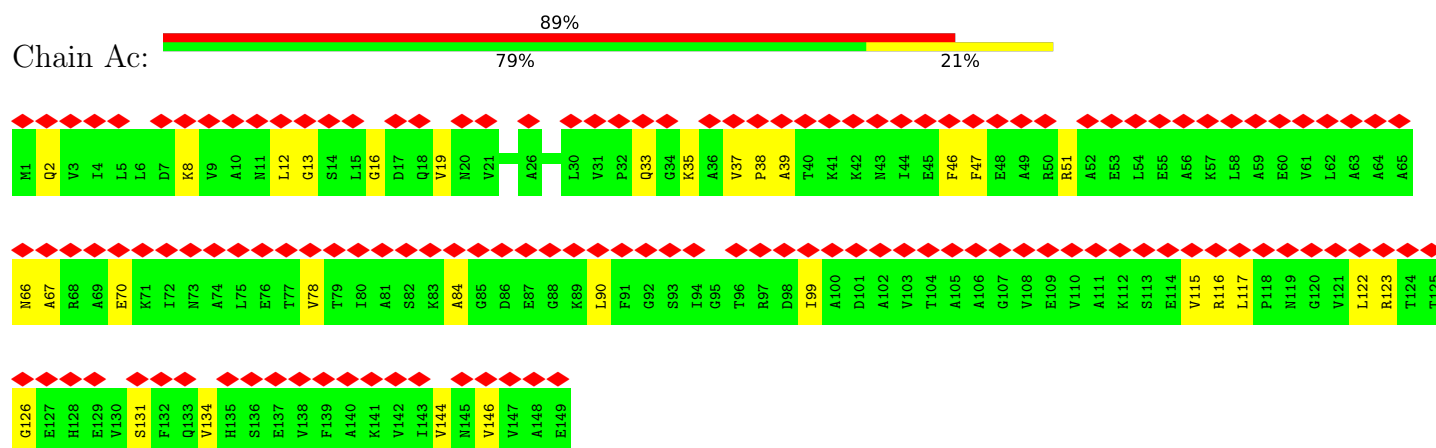
• Molecule 32: Large ribosomal subunit protein uL6



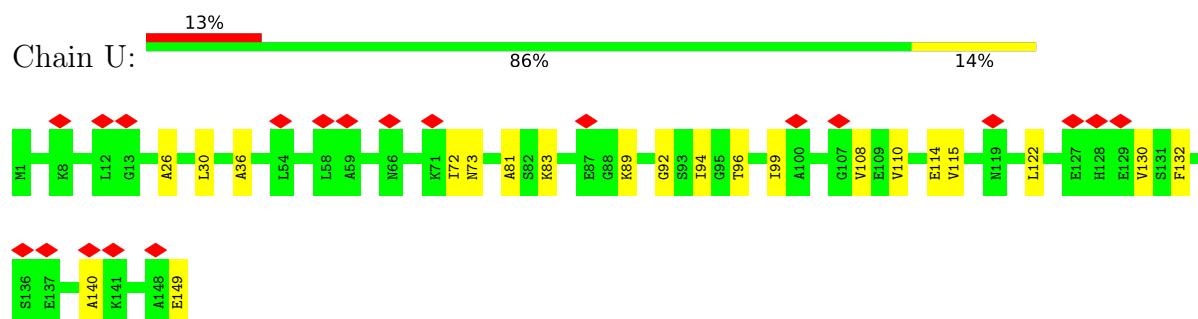
• Molecule 32: Large ribosomal subunit protein uL6



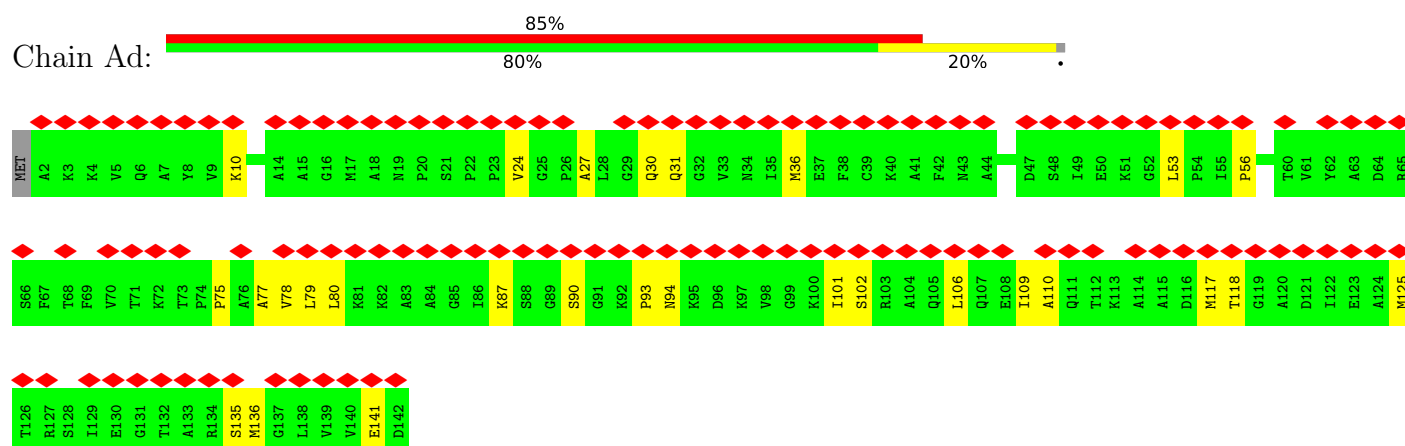
- Molecule 33: Large ribosomal subunit protein bL9



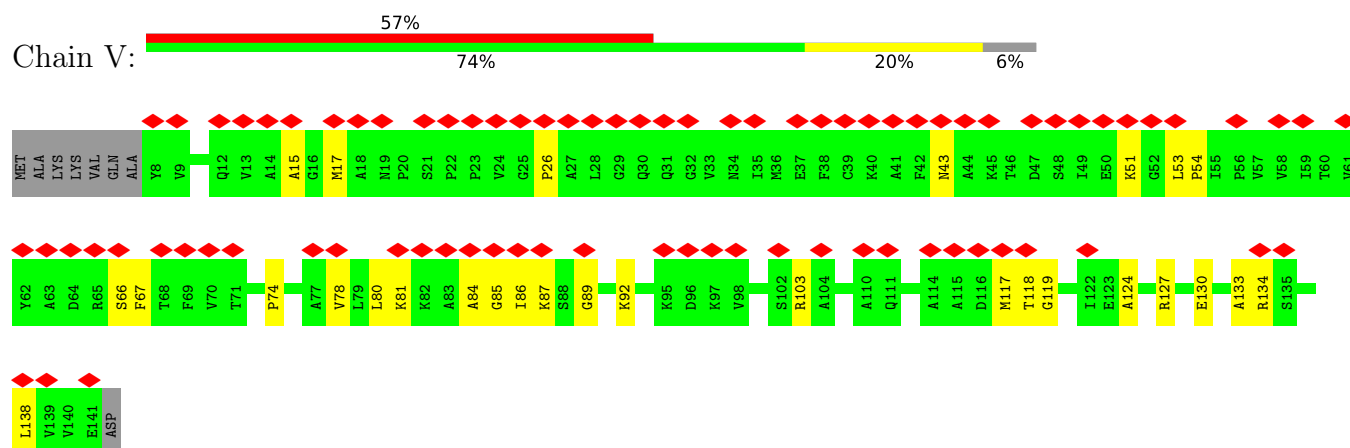
- Molecule 33: Large ribosomal subunit protein bL9



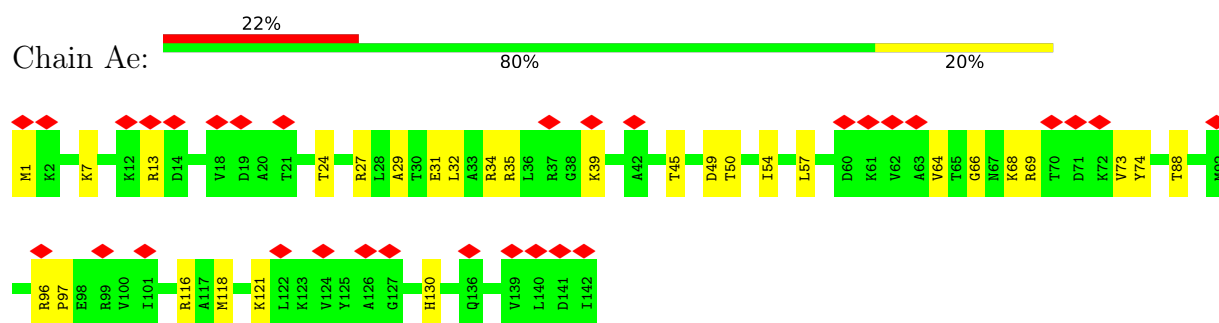
- Molecule 34: 50S ribosomal protein L11



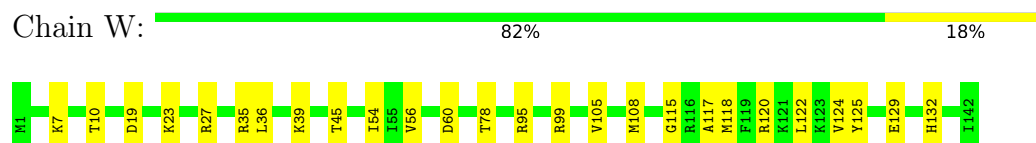
- Molecule 34: 50S ribosomal protein L11



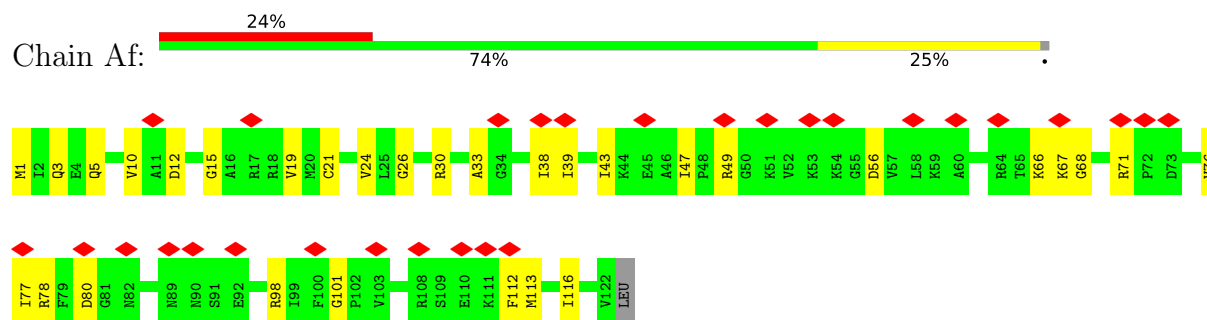
- Molecule 35: Large ribosomal subunit protein uL13



- Molecule 35: Large ribosomal subunit protein uL13

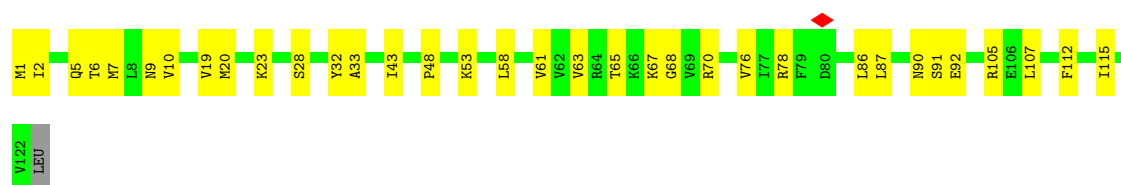


- Molecule 36: Large ribosomal subunit protein uL14

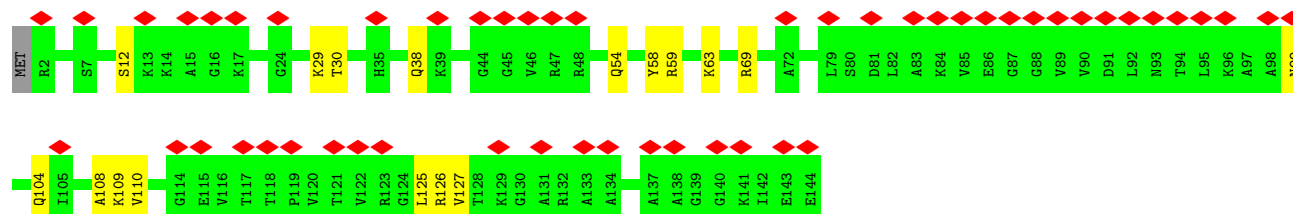
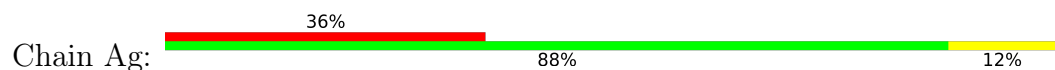


- Molecule 36: Large ribosomal subunit protein uL14





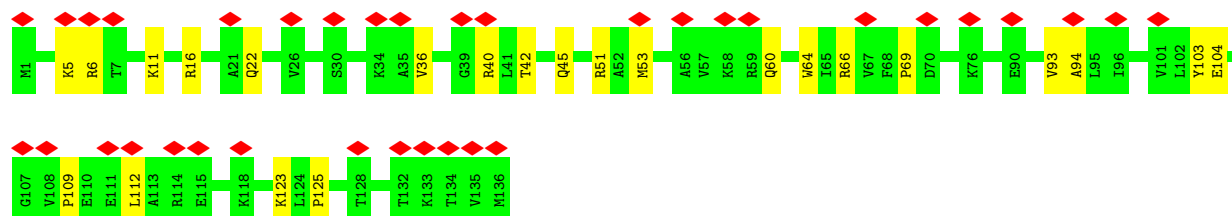
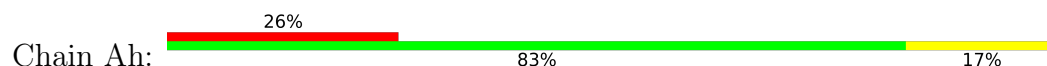
- Molecule 37: Large ribosomal subunit protein uL15



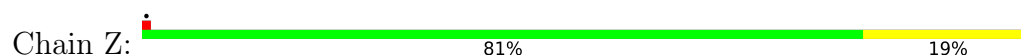
- Molecule 37: Large ribosomal subunit protein uL15



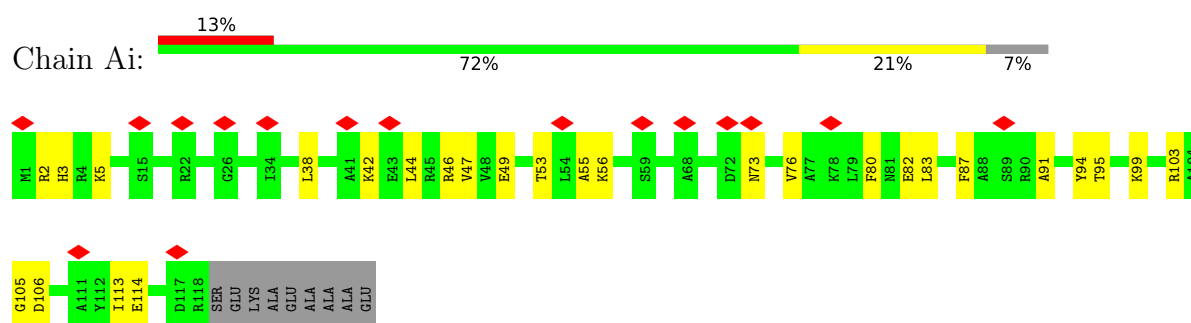
- Molecule 38: 50S ribosomal protein L16



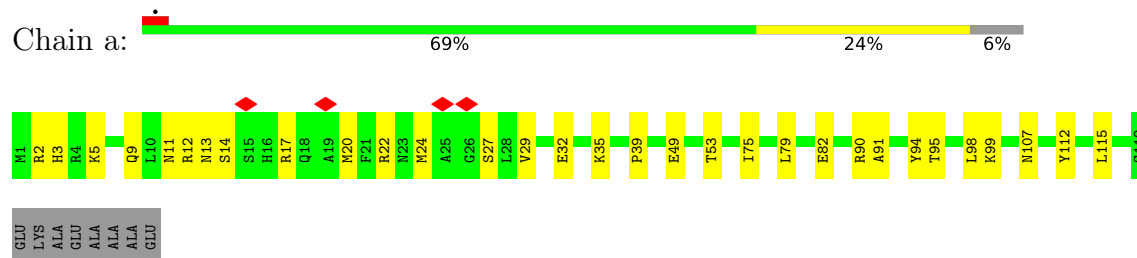
- Molecule 38: 50S ribosomal protein L16



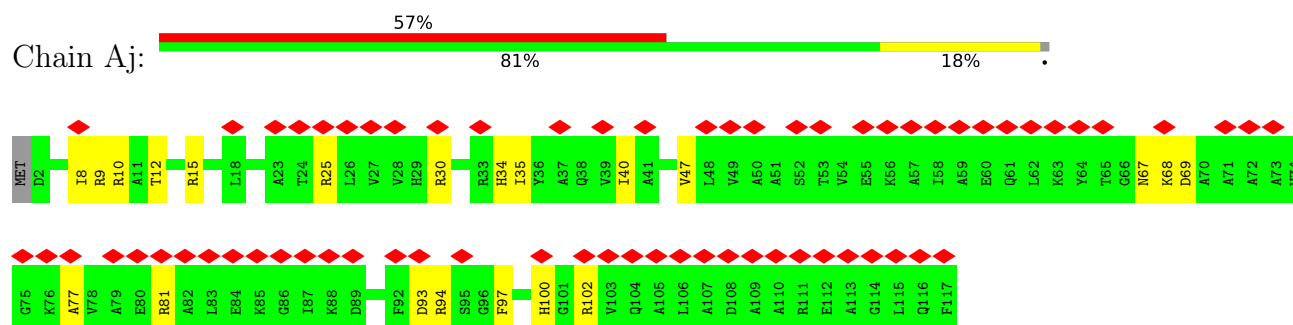
- Molecule 39: Large ribosomal subunit protein bL17



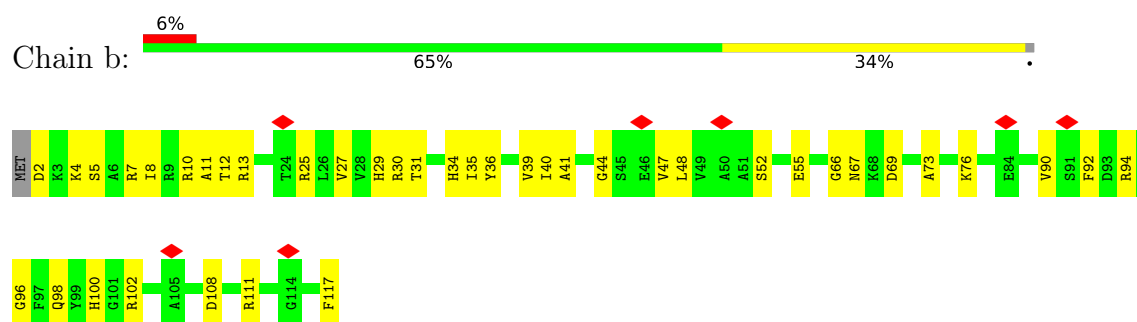
- Molecule 39: Large ribosomal subunit protein bL17



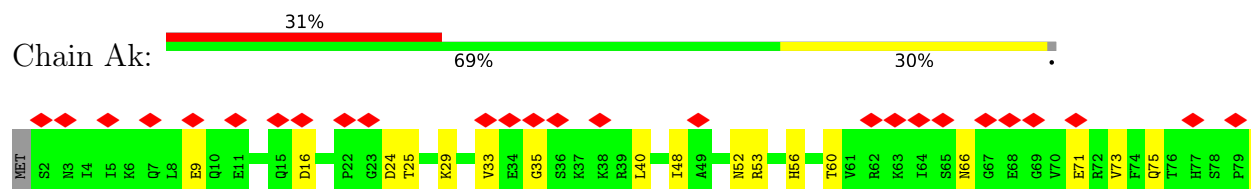
- Molecule 40: Large ribosomal subunit protein uL18

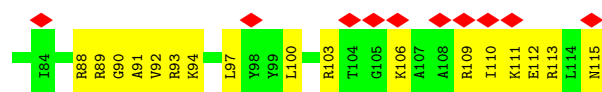


- Molecule 40: Large ribosomal subunit protein uL18

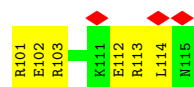


- Molecule 41: Large ribosomal subunit protein bL19

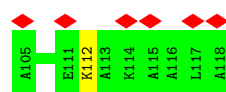
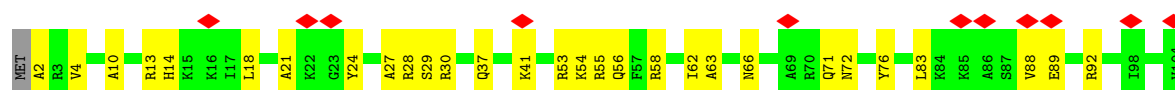
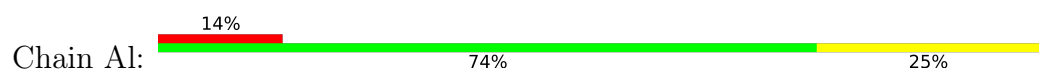




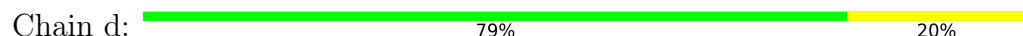
- Molecule 41: Large ribosomal subunit protein bL19



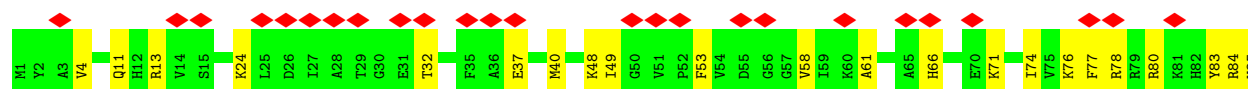
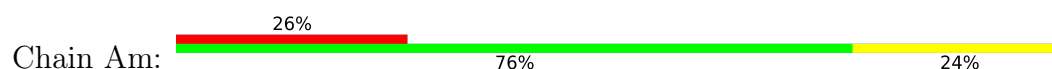
- Molecule 42: Large ribosomal subunit protein bL20



- Molecule 42: Large ribosomal subunit protein bL20



- Molecule 43: Large ribosomal subunit protein bL21

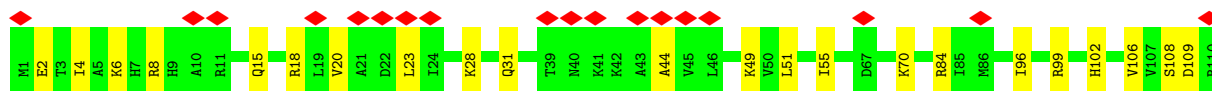
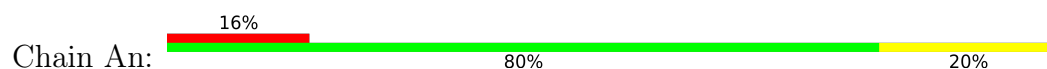


- Molecule 43: Large ribosomal subunit protein bL21





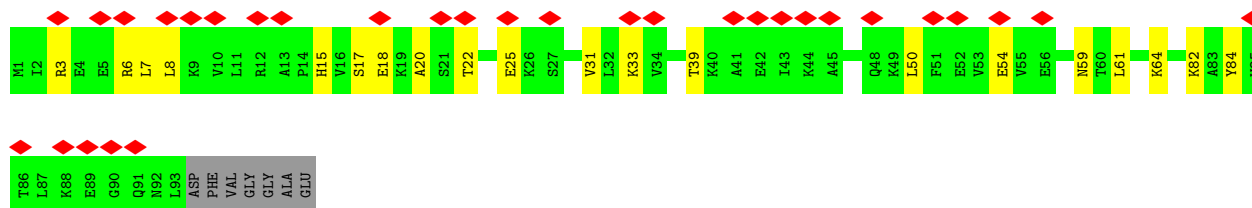
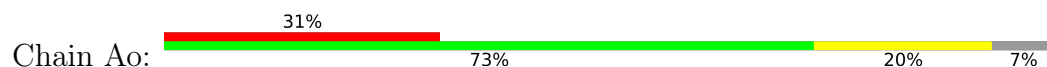
- Molecule 44: Large ribosomal subunit protein uL22



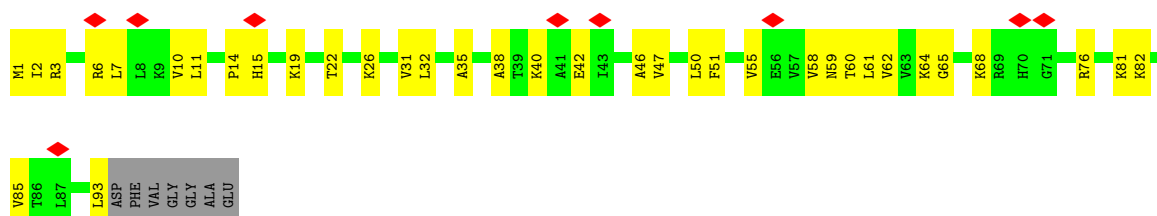
- Molecule 44: Large ribosomal subunit protein uL22



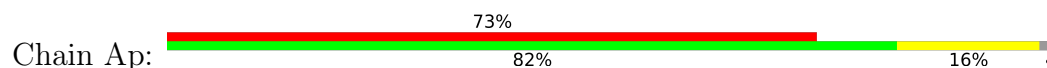
- Molecule 45: Large ribosomal subunit protein uL23



- Molecule 45: Large ribosomal subunit protein uL23

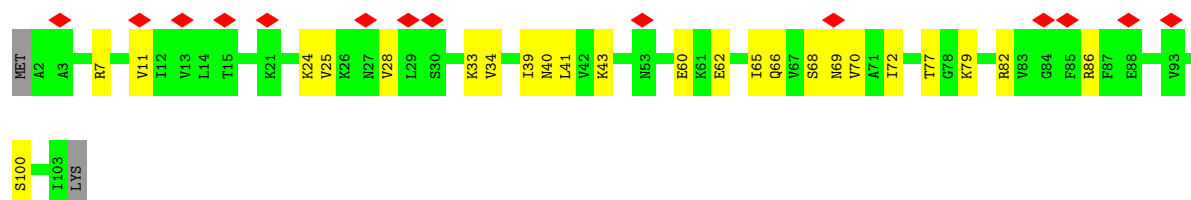
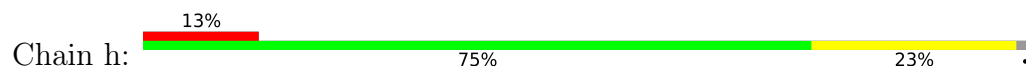


- Molecule 46: Large ribosomal subunit protein uL24

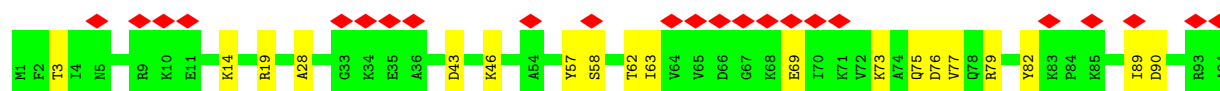
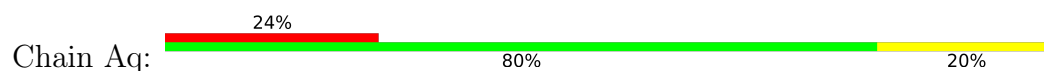




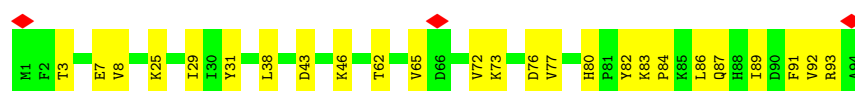
- Molecule 46: Large ribosomal subunit protein uL24



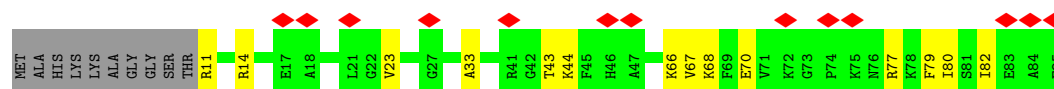
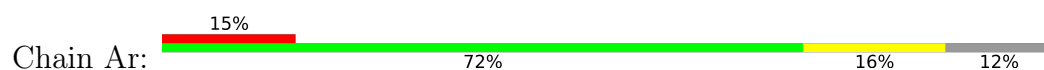
- Molecule 47: Large ribosomal subunit protein bL25



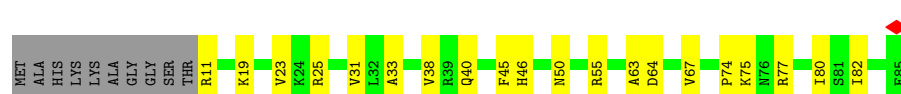
- Molecule 47: Large ribosomal subunit protein bL25



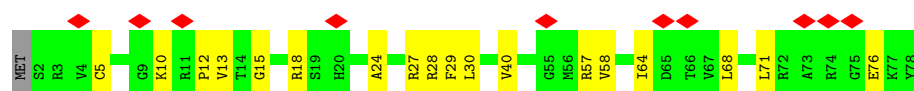
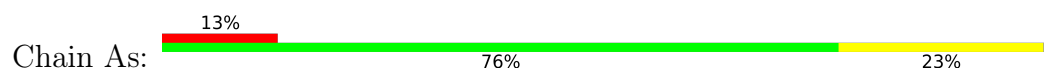
- Molecule 48: Large ribosomal subunit protein bL27



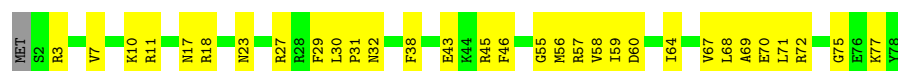
- Molecule 48: Large ribosomal subunit protein bL27



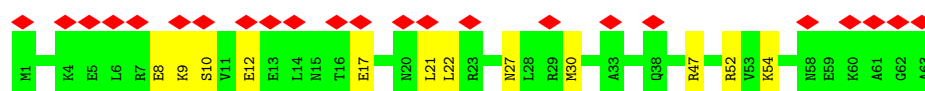
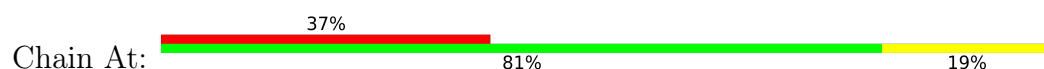
- Molecule 49: Large ribosomal subunit protein bL28



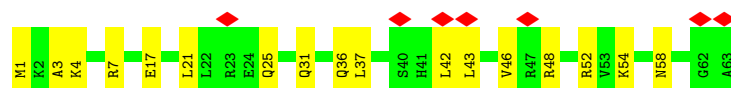
- Molecule 49: Large ribosomal subunit protein bL28



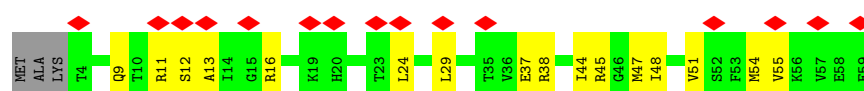
- Molecule 50: Large ribosomal subunit protein uL29



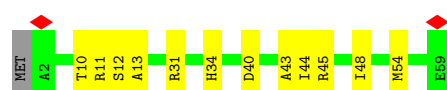
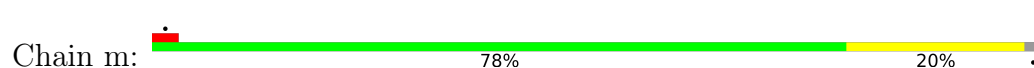
- Molecule 50: Large ribosomal subunit protein uL29



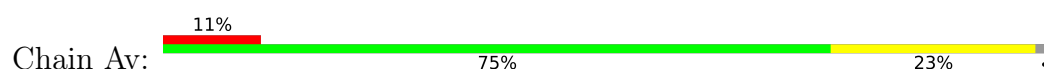
- Molecule 51: Large ribosomal subunit protein uL30



- Molecule 51: Large ribosomal subunit protein uL30



- Molecule 52: Large ribosomal subunit protein bL32



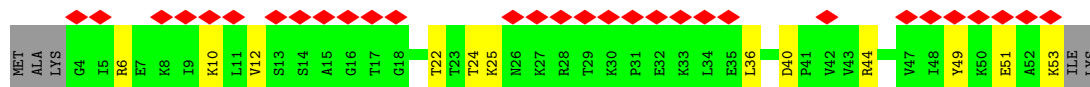
- Molecule 52: Large ribosomal subunit protein bL32

Chain n: 



- Molecule 53: Large ribosomal subunit protein bL33

Chain Aw: 



- Molecule 53: Large ribosomal subunit protein bL33

Chain o: 



- Molecule 54: Large ribosomal subunit protein bL34

Chain Ax: 



- Molecule 54: Large ribosomal subunit protein bL34

Chain p: 



- Molecule 55: Large ribosomal subunit protein bL35

Chain Ay: 

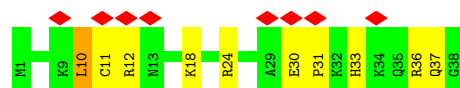
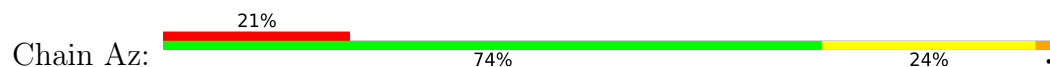


- Molecule 55: Large ribosomal subunit protein bL35

Chain q: 



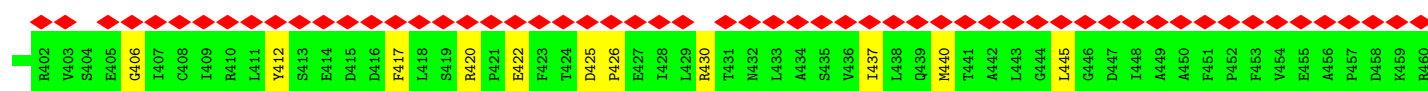
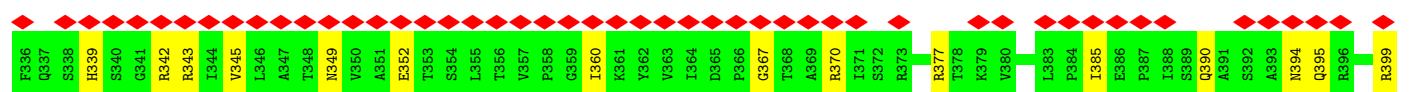
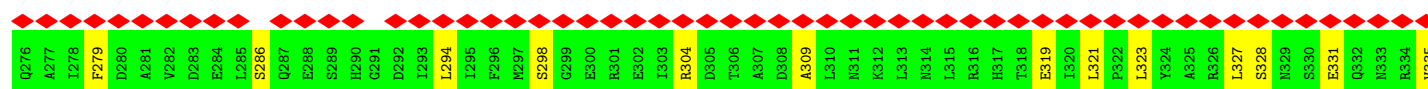
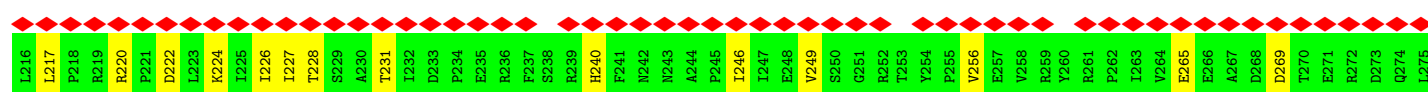
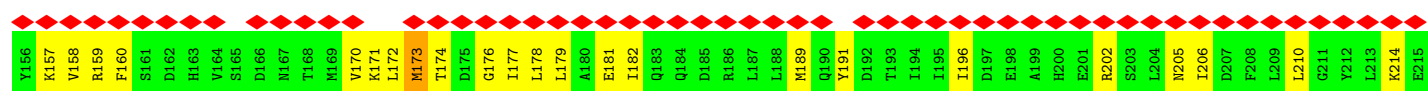
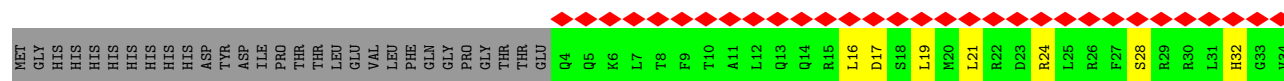
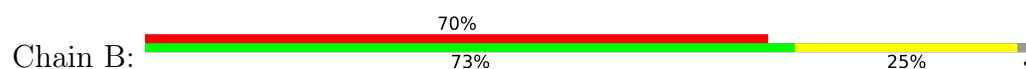
- Molecule 56: Large ribosomal subunit protein bL36A

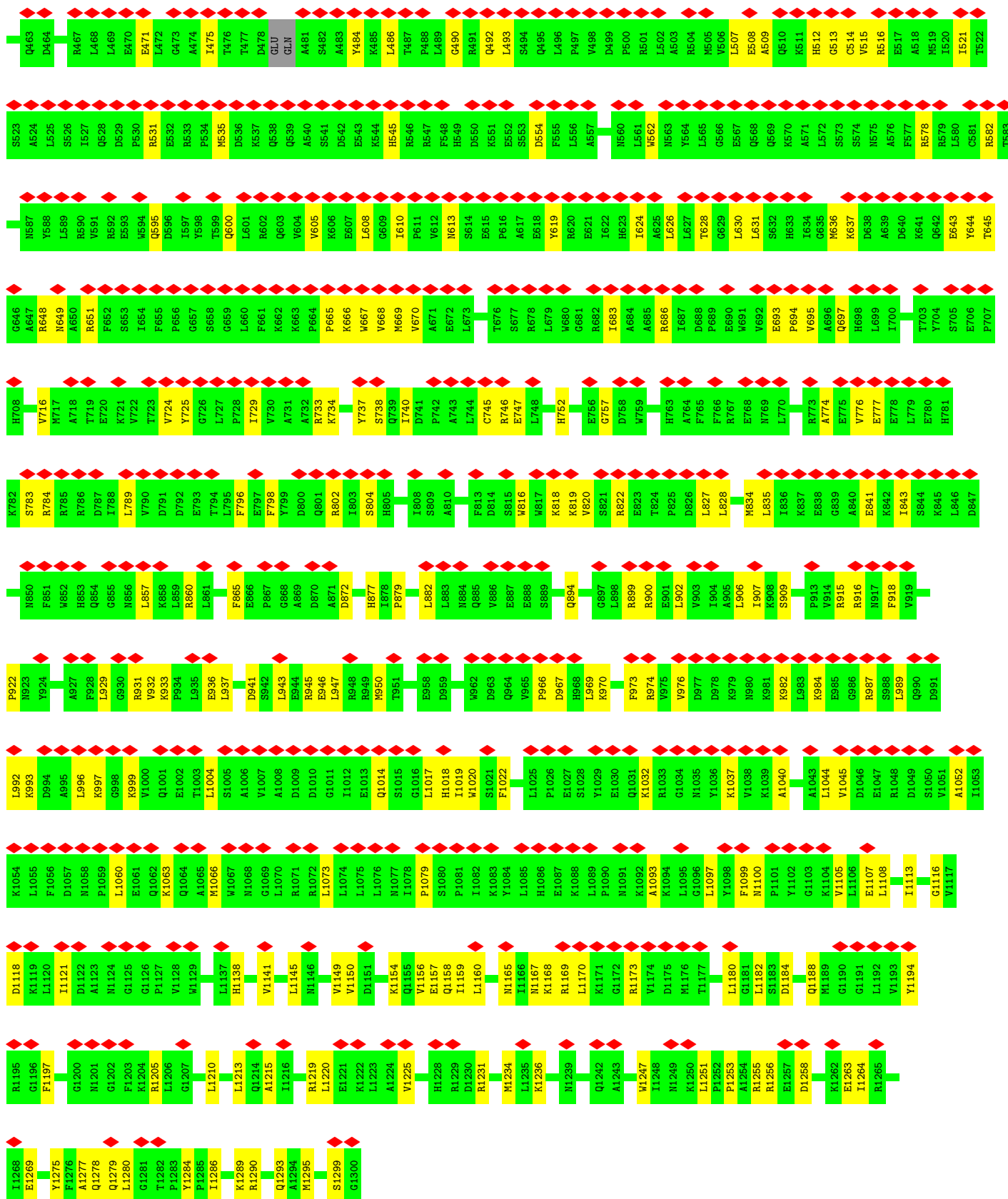


- Molecule 56: Large ribosomal subunit protein bL36A



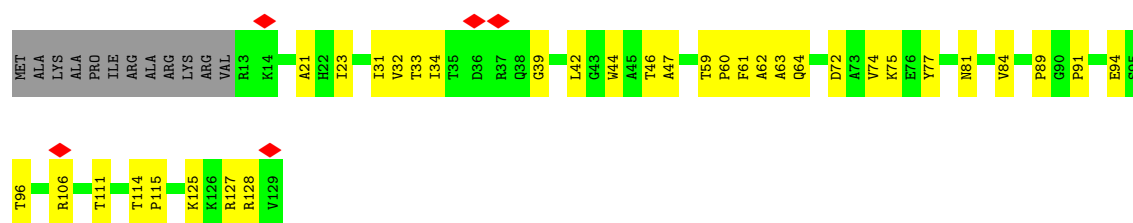
- Molecule 57: ATP-dependent RNA helicase HrpA





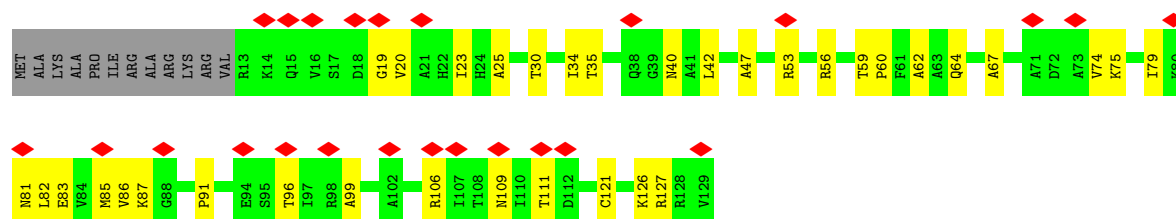
• Molecule 58: Small ribosomal subunit protein uS11

Chain D: 



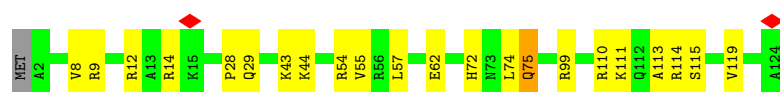
- Molecule 58: Small ribosomal subunit protein uS11

Chain y: 



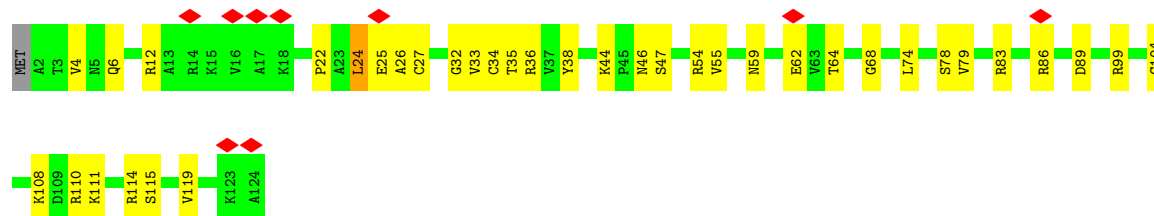
- Molecule 59: Small ribosomal subunit protein uS12

Chain E: 



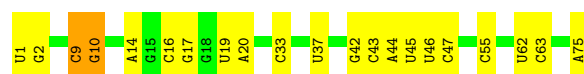
- Molecule 59: Small ribosomal subunit protein uS12

Chain z: 



- Molecule 60: P-site tRNA

Chain M: 



- Molecule 61: VemP nascent chain

Chain s: 

MET	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	HIS	GLY	ASP	TYR	LYS	ASP	ASP	ASP	ASP	LYS	GLU	ASN	ALA	LEU	TYR	PHE	ASN	GLN	GLY	GLN	ALA	GLN	THR	PRO	TYR	ASP	ASP	GLN	LEU	GLN	ASP	ARG	GLU	ALA	VAL	LEU	PRO	HIS	PHE	GLY	ASP	VAL	ALA	VAL	THR	SER	VAL	SER	VAL	PRO	TYR	PRO	ALA	ASN	ALA	SER	ASP	GLY	VAL	SER	ALA	PHE	SER		
GLU	ALA	SER	GLU	GLU	SER	SER	GLN	SER	PRO	VAL	SER	GLY	GLY	HIS	ALA	SER	LEU	ASP	ASP	SER	VAL	VAL	ALA	LEU	PHE	GLU	ASN	SER	GLN	GLY	ARG	THR	GLN	GLY	PRO	TYR	LEU	GLN	ASP	ARG	GLY	VAL	HIS	SER	VAL	ASP	PHE	GLN	PRO	VAL	GLY	ASP	VAL	THR	THR	PRO	VAL	SER	PHE	TYR	PRO	ALA	ASN	ALA	SER	ASP	GLY	VAL	SER	ALA	TYR	ALA	PHE	SER	TYR

SER	LEU	M120	M123	S136	D137	I140	K144	M149	Y150	V151	S155	Q156	PHE	SER	ALA	LEU	LEU	GLU	VAL	LEU	PHE	GLN	GLY	PRO	TYR	PRO	TYR	ASP	VAL	PRO	VAL	ASP	ASP	TYR	ALA
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- Molecule 62: messenger RNA



U521	C524	A525	A529	C530	G531	U532	C533	C534	C535	A536	C537	U538	C539	A540	A541	U542	A543	G544	U545	G548	U554	G555	U556	U557	U558	U559	U560	U561	U562	U563	U564	U565	U566	U567	U568	U569	U570	U571	U572	U573	U574	U575	U576	U577
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- Molecule 63: Large ribosomal subunit protein uL10



MET	A2	L3	D7	A13	S16	E17	K20	L23	V27	A28	D29	S30	T34	V35	D36	E40	L41	R42	K43	E47	M52	R53	V54	V55	R56	N57	T58	L59	R61	E65	G66	T67	P68	F69	E70	C71	L72	K73	D74	A75	P79	T80	L81	E87	H88
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P89	G90	A91	A92	A93	R94	L95	F96	K97	A100	K101	A102	N103	A104	E107	V108	K109	A110	A111	A112	F113	E114	G115	E116	L117	I118	P119	A120	S121	Q122	I123	D124	R125	T128	LEU	PRO	THR	TYR	GLU	GLU	ALA	ILE	ALA	ALA	ARG	LEU	MET	ALA	THR	THR	LYS	GLU	ALA	SER	ALA	GLY	LYS	LEU
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VAL	ARG	THR	LEU	ALA	ALA	VAL	ARG	ASP	ALA	LYS	GLU	ALA	ALA
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	17805	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 ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	TFS FALCON 4i (4k x 4k)	Depositor
Maximum map value	2.044	Depositor
Minimum map value	-0.926	Depositor
Average map value	0.011	Depositor
Map value standard deviation	0.118	Depositor
Recommended contour level	0.32	Depositor
Map size (Å)	508.9, 508.9, 508.9	wwPDB
Map dimensions	350, 350, 350	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.454, 1.454, 1.454	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	0.21	0/36834	0.36	0/57462
1	AA	0.19	0/36966	0.36	0/57666
2	1	0.30	0/1735	0.79	2/2338 (0.1%)
2	AB	0.29	0/1735	0.75	2/2338 (0.1%)
3	2	0.28	0/1651	0.72	0/2225
3	AC	0.26	0/1651	0.70	0/2225
4	3	0.24	0/1665	0.67	2/2227 (0.1%)
4	AD	0.25	0/1665	0.71	0/2227
5	4	0.29	0/1118	0.75	0/1504
5	AE	0.30	0/1118	0.83	2/1504 (0.1%)
6	5	0.30	0/835	0.78	1/1128 (0.1%)
6	AF	0.28	0/835	0.80	1/1128 (0.1%)
7	6	0.28	0/1195	0.73	0/1602
7	AG	0.30	0/1195	0.85	2/1602 (0.1%)
8	7	0.27	0/989	0.68	0/1326
8	AH	0.27	0/989	0.71	0/1326
9	8	0.29	0/1034	0.83	2/1375 (0.1%)
9	AI	0.27	0/1034	0.84	0/1375
10	9	0.27	0/796	0.78	1/1077 (0.1%)
10	AJ	0.33	0/796	0.84	0/1077
11	A	0.19	0/1812	0.43	0/2823
12	A1	0.24	0/557	0.67	0/738
12	v	0.25	0/597	0.71	0/792
13	A2	0.24	0/2387	0.63	1/3221 (0.0%)
14	A3	0.18	0/1830	0.47	0/2849
15	AK	0.20	0/1033	0.56	0/1387
15	C	0.17	0/1033	0.53	0/1387
16	AL	0.25	0/892	0.81	1/1193 (0.1%)
16	F	0.28	0/892	0.78	0/1193
17	AM	0.28	0/785	0.77	0/1043
17	G	0.25	0/803	0.67	0/1070
18	AN	0.32	0/718	0.90	1/959 (0.1%)
18	H	0.46	0/710	0.96	0/950
19	AO	0.30	0/659	0.75	0/884

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
19	I	0.27	0/658	0.82	2/884 (0.2%)
20	AP	0.37	0/657	0.96	0/881
20	J	0.25	0/657	0.70	0/881
21	AQ	0.28	0/553	0.76	0/742
21	K	0.28	0/544	0.71	0/731
22	AR	0.25	0/652	0.64	0/877
22	t	0.25	0/635	0.64	0/855
23	AS	0.26	0/671	0.72	1/888 (0.1%)
23	u	0.30	0/671	0.82	1/888 (0.1%)
24	AT	0.22	0/519	0.66	0/691
24	L	0.27	0/507	0.67	0/674
25	AU	0.17	0/1816	0.38	0/2830
26	AV	0.16	0/69659	0.34	1/108672 (0.0%)
26	N	0.21	0/69659	0.36	0/108672
27	AW	0.15	0/2828	0.34	0/4410
27	O	0.18	0/2828	0.35	0/4410
28	AX	0.24	0/2121	0.69	0/2852
28	P	0.27	0/2121	0.70	0/2852
29	AY	0.25	0/1586	0.65	1/2134 (0.0%)
29	Q	0.24	0/1586	0.61	0/2134
30	AZ	0.19	0/1571	0.57	0/2113
30	R	0.24	0/1571	0.66	0/2113
31	Aa	0.24	0/1434	0.72	0/1926
31	S	0.29	0/1434	0.68	0/1926
32	Ab	0.22	0/1343	0.62	0/1816
32	T	0.23	0/1333	0.64	2/1805 (0.1%)
33	Ac	0.23	0/1122	0.67	0/1515
33	U	0.26	0/1122	0.69	0/1515
34	Ad	0.25	0/1046	0.65	1/1410 (0.1%)
34	V	0.30	0/993	0.65	0/1341
35	Ae	0.21	0/1152	0.59	0/1551
35	W	0.23	0/1152	0.58	0/1551
36	Af	0.23	0/947	0.70	0/1268
36	X	0.29	0/947	0.71	0/1268
37	Ag	0.23	0/1054	0.69	0/1403
37	Y	0.28	0/1054	0.69	0/1403
38	Ah	0.25	0/1093	0.65	0/1460
38	Z	0.27	0/1093	0.68	0/1460
39	Ai	0.26	0/958	0.83	2/1281 (0.2%)
39	a	0.29	0/964	0.80	0/1289
40	Aj	0.20	0/902	0.58	0/1209
40	b	0.27	0/902	0.80	0/1209
41	Ak	0.25	0/929	0.73	0/1242

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
41	c	0.29	0/929	0.75	0/1242
42	Al	0.24	0/960	0.64	0/1278
42	d	0.27	0/960	0.68	0/1278
43	Am	0.25	0/829	0.72	0/1107
43	e	0.28	0/829	0.76	2/1107 (0.2%)
44	An	0.22	0/864	0.65	0/1156
44	f	0.28	0/864	0.75	0/1156
45	Ao	0.22	0/744	0.64	0/994
45	g	0.26	0/744	0.72	0/994
46	Ap	0.18	0/787	0.61	0/1051
46	h	0.25	0/787	0.65	0/1051
47	Aq	0.24	0/766	0.64	0/1025
47	i	0.24	0/766	0.63	0/1025
48	Ar	0.20	0/576	0.62	0/762
48	j	0.24	0/582	0.65	0/769
49	As	0.21	0/635	0.67	0/848
49	k	0.30	0/635	0.76	0/848
50	At	0.20	0/510	0.63	0/677
50	l	0.29	0/510	0.77	0/677
51	Au	0.27	0/439	0.74	0/587
51	m	0.27	0/453	0.75	0/605
52	Av	0.20	0/450	0.64	0/599
52	n	0.23	0/435	0.67	0/581
53	Aw	0.19	0/416	0.57	0/554
53	o	0.26	0/416	0.78	1/554 (0.2%)
54	Ax	0.23	0/380	0.72	0/498
54	p	0.26	0/380	0.74	0/498
55	Ay	0.22	0/513	0.60	0/676
55	q	0.31	0/513	0.74	0/676
56	Az	0.22	0/303	0.76	2/397 (0.5%)
56	r	0.30	0/303	0.80	0/397
57	B	0.24	0/10668	0.64	3/14419 (0.0%)
58	D	0.25	0/893	0.61	0/1205
58	y	0.27	0/893	0.76	0/1205
59	E	0.31	0/969	0.70	1/1300 (0.1%)
59	z	0.28	0/969	0.78	2/1300 (0.2%)
60	M	0.19	0/1778	0.34	0/2768
61	s	0.24	0/326	0.53	0/441
62	w	0.20	0/1302	0.47	0/2018
63	x	0.23	0/970	0.65	0/1307
All	All	0.21	0/335634	0.48	40/499883 (0.0%)

There are no bond length outliers.

All (40) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
43	e	51	VAL	N-CA-C	-11.28	96.56	108.96
18	AN	59	MET	CB-CG-SD	6.93	133.49	112.70
2	1	52	GLU	N-CA-CB	6.60	120.47	110.30
7	AG	48	GLU	N-CA-CB	6.53	120.36	110.30
2	AB	77	SER	CA-C-N	6.38	133.73	121.54
2	AB	77	SER	C-N-CA	6.38	133.73	121.54
2	1	52	GLU	CA-CB-CG	6.34	126.78	114.10
9	8	123	ARG	CA-C-N	6.22	132.77	120.94
9	8	123	ARG	C-N-CA	6.22	132.77	120.94
7	AG	48	GLU	CA-CB-CG	6.17	126.45	114.10
53	o	50	LYS	CA-CB-CG	6.10	126.29	114.10
16	AL	66	GLU	CB-CA-C	-6.01	109.06	117.23
43	e	50	GLY	N-CA-C	-5.86	99.30	113.18
32	T	46	ALA	CA-C-N	5.79	132.59	121.54
32	T	46	ALA	C-N-CA	5.79	132.59	121.54
5	AE	137	VAL	CA-C-N	5.67	132.38	121.54
5	AE	137	VAL	C-N-CA	5.67	132.38	121.54
57	B	1079	PRO	CA-C-N	5.58	128.86	122.83
57	B	1079	PRO	C-N-CA	5.58	128.86	122.83
10	9	42	LEU	CA-CB-CG	5.56	135.75	116.30
26	AV	613	A	O4'-C1'-N9	5.46	116.40	108.20
23	u	15	GLU	N-CA-CB	5.38	118.62	110.28
4	3	34	ILE	CA-C-N	5.36	130.97	122.61
4	3	34	ILE	C-N-CA	5.36	130.97	122.61
6	AF	53	LYS	CA-CB-CG	5.34	124.77	114.10
23	AS	40	GLU	N-CA-CB	5.33	119.09	110.40
19	I	81	ALA	N-CA-C	-5.33	108.04	114.75
56	Az	10	LEU	CA-C-N	-5.30	116.13	122.44
56	Az	10	LEU	C-N-CA	-5.30	116.13	122.44
13	A2	1298	ILE	N-CA-CB	-5.26	106.24	112.39
39	Ai	47	VAL	CA-C-N	-5.23	116.41	122.63
39	Ai	47	VAL	C-N-CA	-5.23	116.41	122.63
34	Ad	87	LYS	CA-CB-CG	5.18	124.47	114.10
59	E	75	GLN	N-CA-C	5.17	116.34	107.28
29	AY	149	ASN	CB-CA-C	5.15	120.66	110.42
6	5	75	GLU	N-CA-CB	5.14	118.25	110.28
57	B	1105	VAL	N-CA-C	-5.05	107.91	112.96
19	I	42	ILE	N-CA-C	-5.03	106.53	111.77
59	z	108	LYS	CA-C-N	5.03	129.55	122.46
59	z	108	LYS	C-N-CA	5.03	129.55	122.46

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	32895	0	16553	459	0
1	AA	33015	0	16617	438	0
2	1	1704	0	1732	40	0
2	AB	1704	0	1732	48	0
3	2	1624	0	1696	52	0
3	AC	1624	0	1696	35	0
4	3	1643	0	1707	31	0
4	AD	1643	0	1707	34	0
5	4	1105	0	1148	30	0
5	AE	1105	0	1148	25	0
6	5	817	0	808	18	0
6	AF	817	0	808	16	0
7	6	1181	0	1238	28	0
7	AG	1181	0	1238	33	0
8	7	979	0	1031	31	0
8	AH	979	0	1031	31	0
9	8	1022	0	1070	38	0
9	AI	1022	0	1070	23	0
10	9	786	0	828	20	0
10	AJ	786	0	828	23	0
11	A	1622	0	821	17	0
12	A1	551	0	588	10	0
12	v	589	0	629	15	0
13	A2	2340	0	2379	46	0
14	A3	1638	0	830	18	0
15	AK	1026	0	1092	22	0
15	C	1026	0	1092	14	0
16	AL	883	0	941	26	0
16	F	883	0	941	29	0
17	AM	774	0	824	24	0
17	G	791	0	826	17	0
18	AN	710	0	728	19	0
18	H	702	0	721	9	0
19	AO	649	0	666	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	I	648	0	666	17	0
20	AP	648	0	691	19	0
20	J	648	0	691	17	0
21	AQ	544	0	565	13	0
21	K	535	0	552	13	0
22	AR	637	0	665	19	0
22	t	620	0	647	17	0
23	AS	665	0	714	16	0
23	u	665	0	714	19	0
24	AT	511	0	513	6	0
24	L	499	0	499	15	0
25	AU	1625	0	822	12	0
26	AV	62195	0	31280	794	0
26	N	62195	0	31280	882	0
27	AW	2529	0	1281	41	0
27	O	2529	0	1281	36	0
28	AX	2082	0	2154	51	0
28	P	2082	0	2154	52	0
29	AY	1565	0	1616	45	0
29	Q	1565	0	1616	34	0
30	AZ	1552	0	1619	27	0
30	R	1552	0	1619	51	0
31	Aa	1410	0	1444	36	0
31	S	1410	0	1444	35	0
32	Ab	1323	0	1371	21	0
32	T	1313	0	1358	29	0
33	Ac	1111	0	1148	17	0
33	U	1111	0	1148	14	0
34	Ad	1032	0	1085	19	0
34	V	979	0	1028	23	0
35	Ae	1129	0	1162	21	0
35	W	1129	0	1162	22	0
36	Af	938	0	1012	21	0
36	X	938	0	1012	27	0
37	Ag	1045	0	1117	15	0
37	Y	1045	0	1117	29	0
38	Ah	1074	0	1157	18	0
38	Z	1074	0	1157	22	0
39	Ai	945	0	989	17	0
39	a	951	0	994	28	0
40	Aj	892	0	923	15	0
40	b	892	0	923	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
41	Ak	917	0	962	27	0
41	c	917	0	962	32	0
42	Al	947	0	1019	26	0
42	d	947	0	1019	18	0
43	Am	816	0	839	19	0
43	e	816	0	839	18	0
44	An	857	0	922	16	0
44	f	857	0	922	24	0
45	Ao	738	0	807	22	0
45	g	738	0	807	25	0
46	Ap	779	0	831	12	0
46	h	779	0	831	19	0
47	Aq	753	0	780	13	0
47	i	753	0	780	16	0
48	Ar	569	0	581	9	0
48	j	575	0	592	16	0
49	As	625	0	652	12	0
49	k	625	0	652	24	0
50	At	509	0	543	9	0
50	l	509	0	543	13	0
51	Au	435	0	470	11	0
51	m	449	0	488	8	0
52	Av	444	0	458	10	0
52	n	429	0	440	8	0
53	Aw	409	0	440	10	0
53	o	409	0	440	10	0
54	Ax	377	0	418	9	0
54	p	377	0	418	11	0
55	Ay	504	0	572	10	0
55	q	504	0	572	15	0
56	Az	302	0	343	8	0
56	r	302	0	343	12	0
57	B	10462	0	10585	212	0
58	D	877	0	887	25	0
58	y	877	0	887	28	0
59	E	955	0	1016	18	0
59	z	955	0	1016	36	0
60	M	1593	0	810	6	0
61	s	316	0	283	3	0
62	w	1175	0	594	12	0
63	x	958	0	988	23	0
All	All	309783	0	213505	4516	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 9.

All (4516) 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)
26:N:408:G:H1	26:N:419:U:H3	1.07	1.01
26:N:1215:G:H1	26:N:1234:U:H3	1.11	0.99
1:AA:1116:U:H3	1:AA:1184:G:H1	1.10	0.98
1:O:76:G:H1	1:O:93:U:H3	1.01	0.98
1:O:1006:G:N1	1:O:1022:A:C2	2.33	0.97
1:O:258:G:H1	1:O:268:U:H3	0.98	0.97
26:N:1218:G:H1	26:N:1231:U:H3	0.99	0.97
1:O:1445:U:H3	1:O:1457:G:H1	1.00	0.96
1:O:766:A:H62	1:O:813:U:H3	1.15	0.94
26:AV:882:G:H1	26:AV:894:U:H3	0.95	0.94
1:O:1008:U:H3	1:O:1020:G:H1	0.95	0.94
26:N:2100:G:H1	26:N:2189:U:H3	1.08	0.94
1:AA:201:G:H1	1:AA:216:U:H3	1.07	0.94
1:O:823:C:HO2'	8:7:2:SER:N	1.66	0.93
26:AV:2083:G:H1	26:AV:2236:U:H3	1.00	0.93
26:N:1862:G:H1	26:N:1880:U:H3	1.04	0.93
26:AV:291:G:H1	26:AV:349:U:H3	1.11	0.92
26:N:2102:G:H1	26:N:2187:U:H3	0.94	0.92
26:N:196:A:H61	26:N:831:G:H21	1.16	0.92
26:N:2475:C:H42	26:N:2529:G:N2	1.66	0.91
1:O:1006:G:H1	1:O:1022:A:H2	1.05	0.90
11:A:51:U:H3	11:A:63:G:H1	0.96	0.90
26:N:882:G:H1	26:N:894:U:H3	1.15	0.90
1:O:1006:G:N1	1:O:1022:A:H2	1.68	0.90
26:AV:1036:G:H1	26:AV:1119:U:H3	1.16	0.90
26:N:2475:C:H42	26:N:2529:G:H22	1.13	0.90
1:O:458:U:H3	1:O:474:G:H1	0.89	0.89
1:AA:1445:U:H3	1:AA:1457:G:H1	0.89	0.87
1:AA:137:U:H3	1:AA:226:G:H1	1.18	0.87
26:N:1168:G:H1	26:N:1181:U:H3	1.19	0.86
1:O:137:U:H3	1:O:226:G:H1	0.91	0.86
1:AA:1438:G:H1	1:AA:1463:U:H3	0.87	0.86
1:AA:925:G:H1	1:AA:1391:U:H3	1.21	0.86
26:N:1422:G:H1	26:N:1576:U:H3	1.20	0.85
26:N:1471:G:H1	26:N:1520:U:H3	0.88	0.85
26:AV:1042:G:H1	26:AV:1113:U:H3	1.24	0.84
26:N:1718:G:H1	26:N:1742:U:H3	1.26	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2356:U:H3	26:AV:2361:G:H1	1.22	0.83
26:AV:75:G:H1	26:AV:111:A:H2	1.24	0.81
1:0:376:G:H1	1:0:387:U:H3	1.27	0.81
26:N:2475:C:N4	26:N:2529:G:H22	1.77	0.81
26:N:2698:U:H3	26:N:2709:G:H1	1.29	0.80
26:AV:78:U:H3	26:AV:108:G:H1	1.29	0.80
1:0:832:G:H1	1:0:854:U:H3	1.28	0.79
22:t:18:LYS:HB3	22:t:31:LEU:HD21	1.65	0.79
26:N:2514:U:H3	26:N:2570:G:H1	1.28	0.78
28:P:17:VAL:HG12	28:P:204:VAL:HG22	1.64	0.77
1:0:438:U:O4	1:0:494:G:C2	2.37	0.77
1:AA:1086:U:H3	1:AA:1099:G:H22	1.34	0.76
26:AV:2286:G:N7	53:Aw:25:LYS:NZ	2.33	0.76
26:AV:2840:C:H5''	39:Ai:53:THR:HG21	1.67	0.75
26:N:1445:G:H1	26:N:1466:U:H3	1.32	0.75
34:Ad:110:ALA:HB1	34:Ad:125:MET:HG3	1.68	0.75
41:Ak:88:ARG:HH12	41:Ak:110:ILE:HB	1.52	0.74
1:AA:409:U:H3	1:AA:433:G:H1	1.35	0.74
1:AA:664:G:H22	1:AA:741:G:H1	1.36	0.74
13:A2:1071:ARG:HH22	13:A2:1118:ASP:HB3	1.52	0.74
5:AE:97:GLN:HB2	5:AE:124:LEU:HB2	1.68	0.73
9:8:21:ILE:HD11	9:8:86:ALA:HB1	1.70	0.73
13:A2:1085:LEU:O	13:A2:1089:LEU:HB2	1.88	0.73
1:AA:683:G:H1	1:AA:707:U:H3	1.36	0.73
26:AV:408:G:H1	26:AV:419:U:H3	1.33	0.73
26:N:284:U:H3	26:N:356:G:H1	1.35	0.73
1:AA:584:G:H1	1:AA:757:U:H3	1.37	0.73
26:N:400:G:N7	49:k:57:ARG:NH1	2.37	0.73
26:AV:2483:C:H1'	38:Ah:51:ARG:HH11	1.54	0.73
26:AV:2746:U:H1'	32:Ab:139:GLN:HE21	1.53	0.73
23:AS:5:LYS:HG3	23:AS:7:ALA:H	1.53	0.72
6:AF:91:ARG:HH12	21:AQ:61:ARG:HH12	1.35	0.72
42:d:90:ILE:HB	42:d:94:ILE:HD11	1.70	0.72
58:y:20:VAL:HG12	58:y:83:GLU:HB2	1.71	0.72
15:AK:217:THR:O	26:AV:2124:G:N2	2.22	0.72
18:AN:58:ARG:NH2	18:AN:59:MET:SD	2.62	0.72
26:AV:1665:A:O2'	36:Af:1:MET:N	2.23	0.72
57:B:1020:TRP:HB2	57:B:1073:LEU:HD21	1.72	0.71
7:AG:113:ASP:HB2	7:AG:119:ARG:HG3	1.72	0.71
26:AV:612:G:H21	26:AV:616:A:H62	1.38	0.71
26:N:15:G:H1	26:N:525:U:H3	1.39	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:y:85:MET:HB3	58:y:87:LYS:HZ1	1.54	0.71
1:0:593:U:H3	1:0:646:G:H1	1.36	0.71
26:AV:1862:G:H1	26:AV:1880:U:H3	1.37	0.71
26:N:196:A:H61	26:N:831:G:N2	1.87	0.71
26:N:1105:U:H2'	26:N:1106:G:H8	1.56	0.71
24:L:56:ARG:HE	22:t:68:GLY:H	1.39	0.70
24:L:56:ARG:HH11	22:t:69:HIS:H	1.38	0.70
26:N:2881:U:H5'	39:a:90:ARG:HH12	1.56	0.70
7:6:69:VAL:HG23	7:6:100:ALA:HB1	1.74	0.70
57:B:492:GLN:HG3	57:B:608:LEU:HD13	1.71	0.70
26:N:2747:G:H21	26:N:2757:A:H62	1.39	0.70
27:O:30:C:H1'	27:O:57:A:H61	1.55	0.70
59:z:24:LEU:HD13	59:z:59:ASN:HD21	1.56	0.70
1:0:1457:G:O2'	23:u:27:MET:SD	2.50	0.70
28:P:108:LYS:HD2	28:P:196:GLY:HA2	1.74	0.70
38:Ah:36:VAL:HG23	47:Aq:82:TYR:HB2	1.74	0.70
26:AV:489:G:N7	44:An:49:LYS:NZ	2.40	0.70
31:Aa:16:LEU:HD11	31:Aa:28:VAL:HG12	1.74	0.70
1:AA:1101:A:N7	2:AB:174:LYS:NZ	2.40	0.69
2:1:133:GLU:O	2:1:137:ARG:HB3	1.91	0.69
26:N:600:G:H5'	30:R:27:LEU:HD21	1.74	0.69
17:AM:86:GLU:OE1	17:AM:90:ARG:NH2	2.26	0.69
21:AQ:14:THR:HG21	21:AQ:48:ARG:HE	1.57	0.69
26:AV:400:G:N7	49:As:57:ARG:NH1	2.40	0.69
26:N:2656:U:N3	26:N:2665:A:C8	2.58	0.69
26:AV:2312:U:O2	31:Aa:37:ASN:ND2	2.26	0.69
26:AV:2848:G:O2'	26:AV:2867:G:N2	2.25	0.69
1:0:1226:C:H3'	16:F:95:LEU:HD21	1.74	0.69
26:AV:698:C:O2'	26:AV:734:A:N6	2.26	0.69
26:AV:1450:G:H21	26:AV:1452:G:H1	1.41	0.69
1:0:409:U:H3	1:0:433:G:H1	1.39	0.68
26:AV:1717:A:N6	26:AV:1743:G:O2'	2.26	0.68
26:N:53:A:H62	26:N:117:G:H21	1.41	0.68
9:AI:95:ARG:HE	9:AI:98:LEU:HD23	1.57	0.68
26:AV:572:A:H61	26:AV:2029:G:H21	1.40	0.68
40:b:30:ARG:HD2	40:b:102:ARG:HH21	1.57	0.68
42:d:49:ASP:HA	42:d:52:GLN:HB2	1.74	0.68
41:Ak:25:THR:HG22	41:Ak:88:ARG:HG2	1.75	0.68
26:N:1724:G:O6	26:N:1737:G:N2	2.25	0.68
35:Ae:31:GLU:HA	35:Ae:34:ARG:HD2	1.76	0.68
1:0:1238:A:H5'	1:0:1336:C:H41	1.58	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:677:U:H3	1:O:713:G:H22	1.41	0.68
1:AA:1081:A:N7	5:AE:52:LYS:NZ	2.41	0.68
32:Ab:22:GLN:HE21	32:Ab:39:ASP:HA	1.58	0.68
26:N:475:C:O2	26:N:479:A:N6	2.27	0.68
26:N:848:C:H2'	26:N:849:A:H8	1.58	0.68
57:B:1159:ILE:HG23	57:B:1213:LEU:HD11	1.76	0.67
4:AD:59:GLN:OE1	4:AD:63:ARG:NH2	2.28	0.67
7:AG:88:PRO:HG3	7:AG:149:LYS:HA	1.75	0.67
51:AU:11:ARG:HB2	51:AU:54:MET:HG2	1.76	0.67
1:O:674:G:H2'	1:O:675:A:H8	1.59	0.67
26:N:301:G:OP2	46:h:82:ARG:NH1	2.28	0.67
41:c:72:ARG:NH2	41:c:73:VAL:O	2.27	0.67
1:AA:437:U:HO2'	4:AD:120:HIS:HD1	1.41	0.67
1:AA:1150:A:H4'	10:AJ:43:PRO:HG3	1.76	0.67
28:AX:93:LEU:HD11	28:AX:101:ARG:HB3	1.76	0.67
17:G:6:MET:SD	17:G:9:ARG:NH2	2.68	0.67
26:AV:2312:U:H5'	31:Aa:85:ILE:HD11	1.77	0.67
28:P:107:PRO:HA	28:P:195:VAL:HA	1.76	0.67
7:6:35:LYS:NZ	7:6:37:SER:OG	2.28	0.66
10:9:42:LEU:HD12	10:9:43:PRO:HD2	1.77	0.66
57:B:321:LEU:HD21	57:B:335:VAL:HA	1.77	0.66
26:N:65:U:O2'	26:N:456:C:N3	2.28	0.66
1:AA:192:A:N3	23:AS:55:GLN:NE2	2.43	0.66
1:AA:1360:A:OP2	17:AM:75:ARG:NH1	2.29	0.66
57:B:508:GLU:HG2	57:B:628:THR:HG21	1.77	0.66
33:U:30:LEU:HB3	33:U:36:ALA:HB3	1.75	0.66
50:l:31:GLN:HG3	50:l:37:LEU:HB2	1.78	0.66
57:B:304:ARG:HG2	57:B:535:MET:HE1	1.76	0.66
39:a:49:GLU:HG2	39:a:94:TYR:HB2	1.77	0.66
40:b:25:ARG:NH2	40:b:41:ALA:O	2.29	0.66
2:1:163:VAL:HG21	2:1:173:ILE:HD11	1.77	0.66
5:4:84:PRO:HB3	5:4:97:GLN:HG3	1.77	0.66
1:AA:600:A:H5''	8:AH:89:LYS:HD2	1.77	0.66
3:AC:14:ILE:HG22	3:AC:15:VAL:HG13	1.76	0.66
41:AK:33:VAL:HG22	41:AK:35:GLY:H	1.61	0.66
1:O:1440:U:H3	1:O:1461:G:H1	1.44	0.66
26:AV:805:G:O4'	37:Ag:38:GLN:NE2	2.28	0.66
57:B:860:ARG:HB3	57:B:877:HIS:HB2	1.76	0.66
28:P:28:LYS:HD3	28:P:29:PRO:HD2	1.78	0.66
16:F:31:LYS:NZ	16:F:41:GLU:OE1	2.28	0.66
20:J:67:LEU:HB2	20:J:71:LYS:HD2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R:106:LYS:NZ	30:R:200:LEU:O	2.29	0.66
50:l:31:GLN:HB2	50:l:36:GLN:HB2	1.77	0.66
1:AA:895:G:H1	1:AA:904:U:H3	1.42	0.66
4:AD:62:ARG:HH11	4:AD:68:LEU:HA	1.60	0.66
45:Ao:8:LEU:HD11	50:At:22:LEU:HD22	1.78	0.66
45:Ao:8:LEU:HD21	50:At:22:LEU:HD13	1.77	0.66
57:B:1289:LYS:O	57:B:1293:GLN:NE2	2.28	0.66
26:N:2839:G:N2	39:a:91:ALA:O	2.28	0.66
53:o:50:LYS:HD2	53:o:51:GLU:H	1.60	0.66
1:AA:51:A:H61	1:AA:314:C:H1'	1.61	0.66
15:AK:9:ARG:NH1	26:AV:2132:U:O2	2.29	0.66
26:N:196:A:N6	26:N:831:G:H21	1.92	0.66
1:AA:8:A:N6	4:AD:202:GLU:O	2.28	0.65
28:AX:107:PRO:HA	28:AX:195:VAL:HA	1.77	0.65
18:H:47:LYS:O	18:H:53:ARG:NH1	2.29	0.65
20:AP:47:HIS:HB2	20:AP:71:LYS:HZ3	1.62	0.65
26:AV:83:A:O2'	26:AV:103:A:N6	2.29	0.65
57:B:693:GLU:O	57:B:697:GLN:NE2	2.28	0.65
26:N:59:U:H3	26:N:68:G:H1	1.45	0.65
31:S:34:ILE:HG12	31:S:96:MET:HG2	1.79	0.65
33:U:26:ALA:HA	33:U:30:LEU:HD12	1.78	0.65
26:N:244:A:H62	26:N:254:G:H21	1.44	0.65
1:AA:811:C:O2'	1:AA:901:A:N1	2.30	0.65
26:AV:877:A:N3	26:AV:900:A:N6	2.45	0.65
26:AV:1217:U:O2	26:AV:1232:G:O6	2.15	0.65
26:AV:994:C:OP1	42:Al:53:ARG:NH1	2.29	0.65
13:A2:1175:ASP:HB3	13:A2:1178:MET:HG2	1.80	0.64
26:AV:189:G:H1	26:AV:205:G:HO2'	1.44	0.64
26:AV:320:A:N3	30:AZ:163:ASN:ND2	2.45	0.64
26:N:877:A:O2'	26:N:900:A:N6	2.30	0.64
1:AA:363:A:N6	59:z:27:CYS:SG	2.71	0.64
32:Ab:89:LEU:HD23	32:Ab:94:TYR:HB3	1.79	0.64
8:AH:5:ASP:OD2	8:AH:77:ARG:NH2	2.30	0.64
3:2:189:ALA:HB3	3:2:196:ILE:HB	1.80	0.64
8:AH:12:THR:HA	8:AH:15:ARG:HD3	1.80	0.64
26:AV:159:G:O2'	26:AV:167:A:N6	2.30	0.64
57:B:154:ILE:HG12	57:B:170:VAL:HB	1.77	0.64
26:N:397:U:H5''	49:k:32:ASN:HB2	1.78	0.64
26:N:918:A:N3	27:O:80:U:O2'	2.31	0.64
28:P:69:ARG:HD3	28:P:104:ILE:HD13	1.79	0.64
49:k:59:ILE:HG12	49:k:64:ILE:HG22	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1006:G:O6	1:0:1022:A:N1	2.31	0.64
26:AV:312:G:H2'	26:AV:313:G:H8	1.63	0.64
31:Aa:48:LYS:NZ	31:Aa:52:ASN:OD1	2.29	0.64
43:e:74:ILE:HB	43:e:87:GLN:HB3	1.79	0.64
26:N:644:A:H2	26:N:2369:A:H1'	1.61	0.64
27:O:48:U:OP1	40:b:30:ARG:NH1	2.30	0.64
31:S:16:LEU:O	31:S:20:PHE:HB2	1.96	0.64
10:AJ:45:ARG:HB3	10:AJ:69:THR:HB	1.79	0.64
26:AV:861:A:H62	26:AV:916:G:H21	1.43	0.64
26:AV:1270:C:H5''	26:AV:1271:G:H5'	1.79	0.64
26:AV:2358:A:N1	37:Ag:54:GLN:NE2	2.46	0.64
57:B:176:GLY:HA2	57:B:179:LEU:HD12	1.79	0.64
26:N:453:A:N3	26:N:457:A:O2'	2.31	0.64
32:T:4:VAL:O	32:T:69:ARG:NH2	2.31	0.64
1:0:2:A:N3	1:0:613:C:O2'	2.29	0.64
1:0:719:C:H1'	21:K:38:LYS:HG2	1.80	0.64
26:AV:1416:G:O2'	26:AV:1587:G:N2	2.30	0.64
19:I:5:ARG:HH12	19:I:28:ARG:HA	1.63	0.64
22:t:51:VAL:O	22:t:57:HIS:HA	1.98	0.64
1:0:481:G:O2'	1:0:483:C:N4	2.30	0.64
1:AA:835:U:H3	1:AA:851:G:H1	1.46	0.64
1:AA:1060:U:H2'	1:AA:1061:G:H8	1.62	0.64
1:AA:1238:A:H62	1:AA:1301:U:H3	1.43	0.64
26:N:77:G:OP1	50:l:52:ARG:NH2	2.31	0.64
26:N:754:U:H4'	26:N:1272:A:H61	1.63	0.64
26:N:1818:U:H5''	28:P:157:SER:HB3	1.80	0.64
59:z:54:ARG:HD2	59:z:62:GLU:HG2	1.79	0.64
13:A2:1293:GLN:O	13:A2:1297:GLN:HB2	1.97	0.64
1:AA:411:A:OP2	4:AD:26:ARG:NH1	2.24	0.64
26:AV:1482:G:H2'	26:AV:1483:G:H8	1.62	0.64
26:N:276:U:O2'	26:N:278:A:N7	2.30	0.64
26:N:2818:U:H3	26:N:2828:G:H1	1.46	0.64
26:AV:1251:C:H3'	42:Al:13:ARG:HH12	1.61	0.63
27:AW:88:C:O2'	27:AW:90:C:N3	2.30	0.63
1:0:1530:G:H2'	1:0:1531:A:H8	1.63	0.63
3:2:181:ASP:OD1	3:2:205:GLY:N	2.32	0.63
4:AD:102:VAL:HG13	4:AD:107:PHE:HB2	1.80	0.63
26:AV:572:A:N6	26:AV:2029:G:H21	1.96	0.63
26:N:166:U:O2'	49:k:45:ARG:NH2	2.31	0.63
26:N:511:U:H4'	26:N:1235:G:H4'	1.80	0.63
28:P:144:VAL:HB	28:P:154:LEU:HB2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:297:G:N2	1:0:300:A:OP2	2.30	0.63
17:AM:41:ARG:HH12	22:AR:7:LYS:HE3	1.63	0.63
22:AR:49:ILE:O	22:AR:59:PRO:HA	1.97	0.63
26:AV:1798:U:O2'	26:AV:1802:A:N3	2.32	0.63
29:AY:148:GLN:HB2	29:AY:152:PRO:HD2	1.79	0.63
26:N:2334:U:H1'	40:b:13:ARG:HE	1.64	0.63
41:c:58:ALA:HA	41:c:74:PHE:O	1.99	0.63
1:AA:978:A:C2	1:AA:1316:G:N2	2.66	0.63
26:AV:572:A:H61	26:AV:2029:G:N2	1.96	0.63
24:L:14:ALA:HB1	24:L:34:LEU:HD11	1.80	0.63
26:N:620:G:O6	30:R:98:LYS:NZ	2.32	0.63
1:0:1530:G:N7	12:v:46:LYS:NZ	2.35	0.63
36:Af:43:ILE:HD12	36:Af:56:ASP:HB2	1.81	0.63
52:Av:53:LYS:HE2	52:Av:56:ALA:HA	1.81	0.63
58:D:23:ILE:HG22	58:D:32:VAL:HG22	1.80	0.63
26:N:478:A:N6	26:N:500:G:O2'	2.32	0.63
26:N:2848:G:O2'	26:N:2867:G:N2	2.32	0.63
1:0:1438:G:H1	1:0:1463:U:H3	1.45	0.63
1:AA:201:G:HO2'	1:AA:469:C:HO2'	1.41	0.63
1:AA:1005:A:OP2	1:AA:1024:G:N2	2.32	0.63
6:5:5:GLU:HB3	6:5:90:MET:HB3	1.80	0.63
1:AA:674:G:H2'	1:AA:675:A:H8	1.62	0.63
26:AV:2849:U:H5''	26:AV:2850:A:H5'	1.80	0.63
26:N:1218:G:N2	26:N:1231:U:O2	2.26	0.63
26:N:2515:C:H2'	26:N:2516:A:H8	1.62	0.63
1:0:345:C:H3'	41:c:39:ARG:HH22	1.63	0.63
1:0:880:C:OP1	59:E:9:ARG:NH2	2.32	0.63
2:1:111:ILE:HG22	2:1:148:LEU:HD21	1.78	0.63
3:2:148:GLY:HA3	3:2:203:PHE:HB3	1.80	0.63
5:4:45:ARG:HH12	5:4:73:ASN:HA	1.64	0.63
41:Ak:29:LYS:HD2	41:Ak:40:LEU:HD21	1.81	0.63
52:Av:54:VAL:HG23	52:Av:55:ILE:HG23	1.81	0.63
57:B:370:ARG:HG3	57:B:385:ILE:HG13	1.80	0.63
26:N:1710:G:H1'	26:N:2859:G:H21	1.64	0.63
3:2:82:GLU:OE2	3:2:86:LYS:NZ	2.32	0.63
45:g:58:VAL:HG22	45:g:85:VAL:HG12	1.80	0.63
47:i:3:THR:HA	47:i:62:THR:O	1.98	0.63
1:0:376:G:H2'	1:0:377:G:H8	1.64	0.62
1:0:1057:G:H5'	3:2:155:GLY:HA3	1.80	0.62
1:0:1309:G:N7	16:F:98:ARG:NH1	2.46	0.62
10:9:47:GLU:O	10:9:66:GLU:HA	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:AO:26:ASN:HD21	19:AO:31:ARG:HH11	1.45	0.62
31:Aa:33:LYS:HG2	31:Aa:157:THR:HB	1.80	0.62
39:AI:44:LEU:HD23	39:AI:113:ILE:HD13	1.80	0.62
41:AK:113:ARG:NH1	41:AK:115:ASN:OXT	2.32	0.62
42:AI:83:LEU:HG	42:AI:88:VAL:HB	1.81	0.62
57:B:1277:ALA:HB1	57:B:1280:LEU:HD23	1.81	0.62
1:O:562:U:H1'	59:E:12:ARG:HD2	1.82	0.62
1:AA:57:G:O2'	33:U:83:LYS:NZ	2.31	0.62
1:AA:452:A:H62	1:AA:480:U:H3	1.44	0.62
9:AI:106:ARG:NH2	9:AI:107:ASP:O	2.32	0.62
26:AV:1509:A:H2'	26:AV:1510:G:H8	1.63	0.62
51:Au:37:GLU:O	51:Au:38:ARG:NH2	2.31	0.62
26:N:2683:C:O2	36:X:70:ARG:NH1	2.32	0.62
57:B:776:VAL:HG21	57:B:834:MET:HG2	1.81	0.62
23:u:71:LYS:HA	23:u:74:ARG:HE	1.63	0.62
1:O:261:U:OP1	23:u:71:LYS:NZ	2.32	0.62
57:B:80:SER:HA	57:B:109:GLN:HE22	1.63	0.62
26:N:340:A:O2'	30:R:162:ARG:NH1	2.33	0.62
28:P:145:GLU:HB2	28:P:188:CYS:HB2	1.80	0.62
31:S:36:LEU:HD11	31:S:152:LEU:HD23	1.81	0.62
36:X:65:THR:HG23	36:X:68:GLY:H	1.63	0.62
46:h:86:ARG:NH1	46:h:100:SER:OG	2.31	0.62
1:O:176:C:OP1	23:u:24:ARG:NH2	2.32	0.62
1:AA:1342:C:OP1	9:AI:130:ARG:NH2	2.33	0.62
24:AT:35:ASP:OD1	31:Aa:110:ARG:NH2	2.32	0.62
57:B:493:LEU:HD12	57:B:507:LEU:HD12	1.81	0.62
40:b:25:ARG:HH12	40:b:44:GLY:HA2	1.63	0.62
10:9:5:ARG:NH1	10:9:81:GLU:OE2	2.32	0.62
1:AA:593:U:H3	1:AA:646:G:H1	1.46	0.62
22:AR:19:VAL:HG21	22:AR:44:MET:HE2	1.81	0.62
57:B:1169:ARG:HE	57:B:1220:LEU:HB3	1.65	0.62
15:C:217:THR:O	26:N:2124:G:N2	2.30	0.62
26:N:457:A:N7	26:N:472:A:N6	2.47	0.62
31:S:126:GLY:O	31:S:158:THR:OG1	2.18	0.62
32:T:107:LEU:O	32:T:152:ARG:NH1	2.33	0.62
1:AA:1092:A:OP2	7:AG:4:ARG:NH2	2.31	0.62
1:AA:1151:A:H5''	10:AJ:44:THR:HG23	1.81	0.62
26:AV:2023:C:H2'	26:AV:2024:G:H8	1.65	0.62
26:N:563:A:OP2	43:e:79:ARG:NH2	2.33	0.62
37:Y:57:LEU:HA	37:Y:60:ARG:HG2	1.81	0.62
1:AA:405:U:O4	4:AD:2:ALA:N	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:29:ILE:HG23	7:AG:105:VAL:HG21	1.81	0.62
26:N:151:C:H2'	26:N:152:A:H8	1.65	0.62
26:N:1471:G:N2	26:N:1520:U:O2	2.23	0.62
28:P:9:THR:OG1	28:P:13:ARG:NH2	2.33	0.62
1:0:811:C:O2'	1:0:901:A:N1	2.33	0.62
17:AM:64:CYS:HB3	17:AM:68:GLY:H	1.64	0.62
26:AV:2515:C:H2'	26:AV:2516:A:H8	1.64	0.62
44:An:23:LEU:HD21	52:Av:24:ALA:HB2	1.82	0.62
26:N:1339:G:OP1	45:g:19:LYS:NZ	2.33	0.62
26:N:1664:A:H61	26:N:1996:C:N4	1.98	0.62
27:O:22:U:H3	27:O:61:G:H1	1.48	0.62
1:0:219:U:H2'	1:0:220:G:H8	1.65	0.62
26:N:284:U:O2	26:N:356:G:N2	2.31	0.62
63:x:108:VAL:HG11	63:x:123:ILE:HG21	1.81	0.62
1:AA:689:C:OP2	58:y:53:ARG:NH2	2.32	0.61
26:AV:807:U:O2	30:AZ:69:ARG:NH1	2.33	0.61
28:AX:125:LYS:HD2	28:AX:126:PRO:HD2	1.81	0.61
28:P:251:GLN:NE2	28:P:252:THR:O	2.31	0.61
2:1:120:GLN:HB3	2:1:137:ARG:HH12	1.65	0.61
4:3:85:ASN:HB3	4:3:88:GLU:HG2	1.82	0.61
1:AA:151:A:N7	1:AA:170:U:O2	2.33	0.61
30:AZ:18:THR:HG23	30:AZ:106:LYS:HG2	1.82	0.61
26:N:698:C:H5''	26:N:699:A:H5'	1.81	0.61
1:0:1071:C:H2'	1:0:1072:G:H8	1.65	0.61
26:AV:589:U:H2'	26:AV:590:A:H8	1.65	0.61
26:AV:1716:U:OP2	26:AV:1743:G:N1	2.33	0.61
29:Q:36:GLN:HB2	29:Q:49:GLN:HB3	1.83	0.61
59:z:22:PRO:C	59:z:24:LEU:H	2.06	0.61
1:0:181:A:O2'	1:0:194:C:N4	2.34	0.61
1:0:587:G:OP1	8:7:84:ARG:NH1	2.33	0.61
1:AA:28:A:O2'	1:AA:296:U:OP1	2.19	0.61
6:AF:38:ARG:NH2	6:AF:98:GLU:O	2.33	0.61
26:AV:1051:G:O6	26:AV:1108:U:O4	2.18	0.61
26:AV:1818:U:N3	28:AX:153:GLN:OE1	2.33	0.61
54:Ax:10:LEU:HD11	54:Ax:14:ARG:HH11	1.66	0.61
1:0:1060:U:OP1	17:G:85:ARG:NH1	2.34	0.61
1:AA:736:C:OP1	21:AQ:61:ARG:NH1	2.28	0.61
26:AV:864:G:OP2	38:Ah:22:GLN:NE2	2.34	0.61
21:K:37:GLY:O	21:K:63:ARG:NH1	2.33	0.61
1:0:552:U:H2'	1:0:553:A:H8	1.66	0.61
1:AA:1251:A:N3	1:AA:1369:C:O2'	2.30	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1414:U:H2'	1:AA:1415:G:H8	1.66	0.61
26:AV:573:U:OP2	43:Am:80:ARG:NH1	2.34	0.61
57:B:973:PHE:HB3	57:B:992:LEU:HD11	1.81	0.61
3:2:153:VAL:HG12	3:2:198:VAL:HG22	1.83	0.61
7:6:67:GLU:OE1	7:6:70:ARG:NH2	2.33	0.61
1:AA:401:C:O2'	1:AA:621:A:N3	2.33	0.61
1:AA:553:A:O2'	59:z:26:ALA:O	2.17	0.61
1:AA:778:G:O2'	58:y:121:CYS:SG	2.57	0.61
1:AA:1280:A:OP1	10:AJ:9:ARG:NH2	2.33	0.61
44:An:4:ILE:HG22	44:An:106:VAL:HG22	1.81	0.61
26:N:177:G:OP2	26:N:177:G:N2	2.30	0.61
26:N:1614:A:N6	44:f:92:ARG:O	2.32	0.61
41:c:3:ASN:C	41:c:3:ASN:HD22	2.09	0.61
1:AA:107:G:OP1	1:AA:325:A:N6	2.30	0.61
26:AV:476:G:N1	26:AV:479:A:OP2	2.34	0.61
26:AV:2110:G:N2	26:AV:2180:U:O2	2.33	0.61
57:B:1194:TYR:H	57:B:1197:PHE:HB3	1.66	0.61
39:a:12:ARG:O	39:a:17:ARG:NH2	2.34	0.61
40:b:2:ASP:N	40:b:5:SER:HG	1.97	0.61
1:0:18:C:OP1	5:4:132:ASN:ND2	2.33	0.61
1:0:150:U:H3	1:0:171:A:H62	1.47	0.61
1:0:438:U:C4	1:0:494:G:N1	2.69	0.61
1:0:458:U:O2	1:0:474:G:N2	2.25	0.61
4:3:26:ARG:HD2	4:3:31:LYS:HG3	1.82	0.61
26:AV:1039:A:H61	26:AV:1116:G:H1	1.46	0.61
36:Af:66:LYS:NZ	36:Af:80:ASP:O	2.29	0.61
57:B:1100:ASN:ND2	57:B:1107:GLU:OE2	2.33	0.61
57:B:1118:ASP:HA	57:B:1121:ILE:HG12	1.83	0.61
26:N:727:A:OP1	26:N:1431:A:O2'	2.17	0.61
26:N:1597:A:H5''	26:N:1598:A:H5'	1.82	0.61
26:N:2316:G:H2'	26:N:2317:A:H8	1.66	0.61
1:0:230:G:OP1	19:I:31:ARG:NH1	2.34	0.61
1:0:993:G:O2'	1:0:994:A:N7	2.33	0.61
1:0:1368:A:OP1	9:8:113:ARG:NH1	2.34	0.61
7:6:68:ASN:HD21	7:6:130:ASN:HB2	1.66	0.61
8:AH:3:MET:HE1	8:AH:6:PRO:HG3	1.82	0.61
15:AK:7:ARG:NH1	15:AK:35:THR:O	2.34	0.61
29:AY:19:GLY:HA3	41:Ak:80:VAL:HG13	1.81	0.61
36:Af:76:VAL:H	41:Ak:73:VAL:HG22	1.64	0.61
57:B:733:ARG:NH2	57:B:734:LYS:O	2.33	0.61
57:B:931:ARG:NH2	57:B:950:MET:SD	2.73	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1305:G:N2	1:0:1331:G:O2'	2.34	0.60
2:AB:103:ASN:ND2	2:AB:106:THR:OG1	2.34	0.60
57:B:128:THR:HB	57:B:196:ILE:HA	1.82	0.60
26:N:307:G:N1	26:N:310:A:OP2	2.33	0.60
1:0:438:U:O4	1:0:494:G:N2	2.34	0.60
1:0:1218:C:H2'	1:0:1219:A:H8	1.66	0.60
1:AA:137:U:O2	1:AA:226:G:N2	2.29	0.60
26:AV:371:A:H61	26:AV:401:A:H3'	1.66	0.60
26:AV:1033:U:O2'	26:AV:2750:A:N6	2.34	0.60
26:AV:1754:A:O2'	41:Ak:103:ARG:NH1	2.33	0.60
26:AV:2296:U:OP2	40:Aj:9:ARG:NH1	2.34	0.60
29:AY:46:ARG:HG2	29:AY:84:LEU:HD12	1.82	0.60
1:0:28:A:O2'	1:0:296:U:OP1	2.19	0.60
1:0:1064:G:N2	1:0:1190:G:O2'	2.34	0.60
1:0:1218:C:H2'	1:0:1219:A:C8	2.37	0.60
4:3:13:ARG:NH1	4:3:37:ALA:O	2.33	0.60
1:AA:235:C:H2'	1:AA:236:A:H8	1.65	0.60
1:AA:1492:A:H5''	59:z:44:LYS:HA	1.83	0.60
20:AP:25:ILE:HG13	20:AP:44:LEU:HD22	1.83	0.60
26:AV:1378:A:O2'	26:AV:1380:G:OP2	2.20	0.60
45:Ao:15:HIS:HB3	45:Ao:31:VAL:HG12	1.82	0.60
28:P:163:GLN:HB2	28:P:175:ARG:HB3	1.83	0.60
1:0:663:A:H61	1:0:742:G:H1	1.47	0.60
9:AI:92:GLU:HA	9:AI:95:ARG:HB3	1.83	0.60
26:AV:675:A:N3	26:AV:2443:C:O2'	2.34	0.60
26:N:807:U:OP2	37:Y:41:ARG:NH1	2.35	0.60
32:T:87:LEU:HB2	32:T:131:ILE:HB	1.82	0.60
34:V:103:ARG:O	34:V:103:ARG:NH2	2.32	0.60
49:k:60:ASP:OD1	49:k:60:ASP:N	2.34	0.60
8:7:75:ILE:HG12	8:7:129:VAL:HG23	1.83	0.60
14:A3:54:G:H1	14:A3:62:C:H42	1.48	0.60
26:AV:1097:U:O4	34:Ad:31:GLN:NE2	2.35	0.60
43:Am:76:LYS:HB2	43:Am:85:LYS:HB3	1.84	0.60
57:B:425:ASP:HB3	57:B:430:ARG:HD3	1.82	0.60
1:0:34:C:H2'	1:0:35:G:H8	1.66	0.60
1:AA:481:G:O2'	1:AA:483:C:N4	2.35	0.60
1:AA:538:G:H5''	59:z:111:LYS:HG2	1.83	0.60
1:AA:946:A:O2'	1:AA:1333:A:N3	2.29	0.60
26:AV:813:U:OP1	43:Am:84:ARG:NH2	2.31	0.60
26:AV:1797:G:H3'	28:AX:271:ARG:HH12	1.65	0.60
26:N:291:G:N2	26:N:349:U:O2	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1321:U:H3'	1:0:1322:C:H2'	1.83	0.60
21:K:71:THR:HG23	21:K:73:ARG:H	1.66	0.60
26:N:698:C:O2'	26:N:734:A:N6	2.28	0.60
40:b:27:VAL:HG22	40:b:40:ILE:HD11	1.83	0.60
59:z:74:LEU:HD21	59:z:104:CYS:HA	1.83	0.60
6:AF:38:ARG:HH21	6:AF:98:GLU:H	1.50	0.60
26:AV:987:C:O2'	26:AV:1000:A:N3	2.34	0.60
26:AV:1818:U:OP2	28:AX:156:ARG:NE	2.34	0.60
26:AV:2739:U:H3'	26:AV:2763:G:H1	1.66	0.60
53:o:8:LYS:NZ	55:q:34:THR:OG1	2.25	0.60
1:0:400:C:OP1	4:3:70:ARG:NH1	2.34	0.60
1:0:766:A:N6	1:0:813:U:H3	1.93	0.60
1:AA:126:G:OP1	1:AA:605:U:O2'	2.19	0.60
20:AP:45:HIS:CD2	20:AP:71:LYS:HD3	2.37	0.60
26:AV:385:C:O2'	26:AV:388:G:N2	2.34	0.60
26:AV:2839:G:N2	39:Ai:91:ALA:O	2.32	0.60
26:N:1231:U:H2'	26:N:1232:G:H8	1.66	0.60
26:N:2641:G:H5''	35:W:78:THR:HB	1.84	0.60
1:0:157:U:O2	1:0:164:G:O6	2.20	0.60
2:1:98:GLY:HA2	2:1:171:ILE:HD11	1.83	0.60
1:AA:1328:C:O2'	16:AL:29:ARG:NH1	2.35	0.60
3:AC:88:ARG:NH1	3:AC:99:ALA:O	2.34	0.60
26:AV:499:U:H5''	46:Ap:43:LYS:HE3	1.84	0.60
26:N:1447:C:O2'	26:N:1544:A:N3	2.32	0.60
54:p:34:ARG:NH2	54:p:42:LEU:O	2.32	0.60
14:A3:23:G:H2'	14:A3:24:A:H8	1.67	0.59
27:AW:5:U:O2'	27:AW:27:C:O2	2.19	0.59
53:Aw:36:LEU:O	53:Aw:49:TYR:HB2	2.02	0.59
57:B:1231:ARG:HA	57:B:1234:MET:HG3	1.84	0.59
26:N:308:G:H21	26:N:329:G:H21	1.50	0.59
26:N:2002:G:OP2	39:a:9:GLN:NE2	2.35	0.59
26:N:2467:C:O2	38:Z:123:LYS:NZ	2.34	0.59
36:X:5:GLN:HG3	36:X:20:MET:HE2	1.84	0.59
40:b:31:THR:HB	40:b:34:HIS:HB3	1.84	0.59
2:AB:54:LEU:HA	2:AB:57:LEU:HD12	1.84	0.59
26:AV:2392:A:OP2	55:Ay:31:HIS:NE2	2.33	0.59
26:AV:2522:U:O2'	26:AV:2647:U:OP1	2.20	0.59
57:B:648:ARG:HG2	57:B:649:ASN:H	1.67	0.59
57:B:894:GLN:NE2	57:B:969:LEU:O	2.35	0.59
24:L:56:ARG:NH2	22:t:65:GLU:O	2.35	0.59
1:AA:1073:U:O2'	2:AB:105:LYS:NZ	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:197:A:H62	26:AV:2430:A:H2'	1.67	0.59
26:AV:574:A:N6	26:AV:2034:U:OP1	2.35	0.59
26:AV:641:U:H3	26:AV:647:G:H1	1.51	0.59
26:N:971:G:OP2	26:N:974:G:N2	2.36	0.59
26:N:1044:C:O2'	26:N:1111:A:N1	2.35	0.59
26:N:1353:A:OP2	26:N:1377:G:N1	2.34	0.59
26:N:2747:G:N2	26:N:2757:A:H62	1.99	0.59
48:j:25:ARG:HH21	48:j:31:VAL:HG12	1.67	0.59
63:x:40:GLU:HA	63:x:43:LYS:HB2	1.84	0.59
1:0:625:U:H2'	1:0:626:G:H8	1.67	0.59
1:0:1180:A:OP2	9:8:99:ARG:NH1	2.35	0.59
1:AA:547:A:OP1	4:AD:70:ARG:NH1	2.35	0.59
26:AV:1248:G:OP1	42:Al:2:ALA:N	2.35	0.59
26:N:2619:C:OP1	29:Q:157:LYS:NZ	2.34	0.59
37:Y:79:LEU:HD13	37:Y:82:LEU:HD21	1.84	0.59
1:0:337:G:H2'	1:0:338:A:H8	1.67	0.59
1:0:979:C:O2	17:G:59:ARG:NH2	2.35	0.59
1:0:1146:A:OP1	57:B:915:ARG:NH1	2.34	0.59
2:1:70:VAL:HB	2:1:163:VAL:HG12	1.83	0.59
3:2:177:THR:HG22	3:2:180:ALA:H	1.67	0.59
1:AA:235:C:H2'	1:AA:236:A:C8	2.37	0.59
27:AW:5:U:H2'	27:AW:6:G:H8	1.66	0.59
49:As:40:VAL:HG12	49:As:64:ILE:HD12	1.85	0.59
57:B:40:PRO:HA	57:B:43:GLN:HG2	1.84	0.59
57:B:974:ARG:HG2	57:B:982:LYS:HD2	1.85	0.59
57:B:1253:PRO:HA	57:B:1256:ARG:HG3	1.85	0.59
26:N:581:C:H2'	26:N:582:A:H8	1.67	0.59
26:N:1398:C:OP1	45:g:59:ASN:ND2	2.31	0.59
46:h:11:VAL:HG23	46:h:72:ILE:HA	1.83	0.59
1:0:977:A:OP1	17:G:61:ARG:NH1	2.32	0.59
1:0:1377:A:OP1	7:6:92:ARG:NH1	2.35	0.59
1:AA:1236:A:H4'	1:AA:1304:G:H4'	1.83	0.59
29:AY:48:ILE:HG12	29:AY:84:LEU:HD21	1.85	0.59
51:Au:9:GLN:HA	51:Au:55:VAL:HA	1.85	0.59
26:N:2446:G:N2	26:N:2449:U:O2	2.34	0.59
3:2:135:LYS:HA	3:2:138:VAL:HG12	1.85	0.59
58:D:21:ALA:HB3	58:D:84:VAL:HG12	1.85	0.59
26:N:121:G:H2'	26:N:122:G:H8	1.68	0.59
26:N:2170:A:H2'	26:N:2171:A:H4'	1.85	0.59
26:N:2364:C:OP1	48:j:55:ARG:NH2	2.36	0.59
29:Q:46:ARG:NH1	29:Q:85:ALA:O	2.36	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:140:ASN:OD1	3:2:143:ARG:NH1	2.35	0.59
7:6:111:ARG:O	7:6:119:ARG:NH2	2.36	0.59
1:AA:1313:U:O4	22:AR:3:ARG:N	2.36	0.59
10:AJ:9:ARG:HB3	10:AJ:99:GLN:HB2	1.85	0.59
26:AV:2618:G:H21	29:AY:155:VAL:HG21	1.67	0.59
26:N:1223:G:N7	43:e:71:LYS:NZ	2.50	0.59
26:N:1607:C:N4	26:N:1622:G:OP2	2.35	0.59
26:N:1800:C:OP1	28:P:258:ARG:NH1	2.35	0.59
7:AG:18:PHE:HB3	7:AG:59:LEU:HD11	1.85	0.59
26:AV:28:A:N6	26:AV:512:G:O2'	2.35	0.59
26:AV:2035:G:H5'	26:AV:2036:C:H5	1.68	0.59
42:Al:76:TYR:OH	42:Al:92:ARG:NH2	2.33	0.59
59:z:35:THR:N	59:z:54:ARG:O	2.34	0.59
1:0:559:A:H4'	1:0:560:A:H3'	1.84	0.59
1:0:673:A:H2'	1:0:674:G:C8	2.38	0.59
31:Aa:38:MET:HE3	31:Aa:53:ALA:HB1	1.85	0.59
27:O:7:G:OP1	40:b:4:LYS:NZ	2.36	0.59
1:0:204:G:H2'	1:0:205:A:H8	1.67	0.58
1:0:263:A:P	23:u:74:ARG:HH12	2.25	0.58
13:A2:1080:SER:O	13:A2:1084:TYR:HB2	2.03	0.58
1:AA:815:A:N7	1:AA:1509:C:O2'	2.35	0.58
3:AC:191:THR:HG23	3:AC:193:TYR:H	1.68	0.58
59:E:110:ARG:HH11	59:E:113:ALA:HB3	1.67	0.58
16:F:26:GLY:O	16:F:30:SER:HB3	2.02	0.58
26:N:2866:U:H5'	26:N:2868:A:H5'	1.84	0.58
36:X:48:PRO:O	36:X:53:LYS:NZ	2.36	0.58
6:5:42:TRP:HB2	6:5:59:TYR:HB2	1.85	0.58
13:A2:1263:GLU:HA	13:A2:1266:TRP:HD1	1.68	0.58
26:AV:615:U:H3'	26:AV:616:A:H8	1.67	0.58
26:AV:635:C:OP2	37:Ag:126:ARG:NH2	2.33	0.58
26:AV:2364:C:OP2	55:Ay:39:LYS:NZ	2.36	0.58
29:AY:4:LEU:HD22	29:AY:32:ASN:HD22	1.68	0.58
26:N:882:G:N2	26:N:894:U:O2	2.30	0.58
27:O:48:U:H4'	40:b:100:HIS:HD2	1.67	0.58
31:S:110:ARG:NH2	31:S:136:ILE:O	2.36	0.58
31:S:142:ASP:HB3	31:S:145:LYS:HG2	1.85	0.58
2:AB:115:LYS:NZ	2:AB:152:LYS:O	2.35	0.58
16:AL:72:GLU:HA	16:AL:75:MET:HG3	1.84	0.58
31:Aa:57:LEU:HA	31:Aa:60:ILE:HG22	1.84	0.58
54:Ax:37:LYS:HD2	54:Ax:39:ARG:HD3	1.85	0.58
57:B:936:GLU:HG3	57:B:937:LEU:HG	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:645:C:N4	26:N:2350:C:O2'	2.34	0.58
1:O:490:C:OP1	4:3:146:ARG:NH1	2.36	0.58
1:O:1409:C:H2'	1:O:1410:A:H8	1.69	0.58
11:A:56:C:OP2	38:Z:59:ARG:NH2	2.37	0.58
1:AA:1071:C:H2'	1:AA:1072:G:H8	1.67	0.58
1:AA:1300:G:O2'	1:AA:1303:C:N4	2.37	0.58
1:AA:1445:U:O2	1:AA:1457:G:N2	2.26	0.58
26:AV:2406:A:OP2	26:AV:2411:A:N6	2.36	0.58
27:AW:13:G:N2	27:AW:16:G:N3	2.50	0.58
35:Ae:1:MET:HE1	43:Am:13:ARG:H	1.68	0.58
36:Af:5:GLN:N	36:Af:21:CYS:O	2.34	0.58
26:N:465:G:H21	26:N:684:G:H1'	1.67	0.58
26:N:956:G:H4'	38:Z:82:MET:HE1	1.85	0.58
26:N:1365:A:O2'	49:k:11:ARG:NH1	2.36	0.58
1:O:275:G:H5'	20:J:16:LYS:HE2	1.85	0.58
7:6:150:ALA:HB1	58:D:59:THR:HG21	1.85	0.58
1:AA:362:G:N2	1:AA:365:U:OP2	2.37	0.58
3:AC:154:SER:HA	3:AC:164:ARG:O	2.03	0.58
7:AG:71:PRO:O	7:AG:96:ARG:NH2	2.34	0.58
18:AN:11:ILE:HD13	18:AN:31:LEU:HA	1.86	0.58
28:AX:69:ARG:O	28:AX:189:ARG:NH2	2.36	0.58
32:Ab:39:ASP:O	32:Ab:55:ARG:NH2	2.36	0.58
47:Aq:58:SER:O	47:Aq:73:LYS:NZ	2.37	0.58
26:N:291:G:N1	26:N:349:U:N3	2.51	0.58
1:O:38:G:H22	1:O:397:A:H5'	1.69	0.58
1:O:1187:G:N3	17:G:100:SER:OG	2.35	0.58
1:AA:1297:G:N2	7:AG:114:LYS:O	2.37	0.58
26:AV:243:U:O2	26:AV:255:A:N7	2.37	0.58
26:AV:926:G:H2'	26:AV:927:A:H8	1.68	0.58
26:AV:1036:G:N2	26:AV:1119:U:O2	2.35	0.58
26:AV:1429:G:H2'	26:AV:1430:G:H8	1.68	0.58
26:AV:2107:G:O6	26:AV:2182:U:O2	2.21	0.58
26:AV:2258:C:O2'	26:AV:2427:C:OP2	2.22	0.58
49:As:71:LEU:HD12	49:As:76:GLU:HG3	1.84	0.58
57:B:879:PRO:HB2	57:B:882:LEU:HD13	1.85	0.58
26:N:629:G:N3	26:N:639:U:O2'	2.36	0.58
45:g:47:VAL:HG23	45:g:55:VAL:HG21	1.85	0.58
48:j:23:VAL:HA	48:j:38:VAL:HA	1.86	0.58
1:O:501:C:OP1	59:E:114:ARG:NH1	2.35	0.58
35:Ae:24:THR:HB	35:Ae:27:ARG:HB2	1.85	0.58
26:N:381:G:OP1	49:k:18:ARG:NH2	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:V:127:ARG:NH2	34:V:130:GLU:OE2	2.36	0.58
40:b:29:HIS:HB3	40:b:36:TYR:HB3	1.85	0.58
58:y:81:ASN:OD1	58:y:106:ARG:NH2	2.36	0.58
59:z:22:PRO:C	59:z:24:LEU:N	2.61	0.58
1:0:50:A:O2'	1:0:360:G:N2	2.35	0.58
1:AA:427:U:OP1	4:AD:13:ARG:NH1	2.37	0.58
3:AC:26:THR:HG23	17:AM:76:LYS:HD3	1.86	0.58
26:AV:1789:A:OP2	28:AX:221:ARG:NH2	2.37	0.58
57:B:17:ASP:O	57:B:24:ARG:NH1	2.37	0.58
26:N:1340:U:OP2	45:g:82:LYS:NZ	2.35	0.58
29:Q:179:ARG:HB3	29:Q:188:LEU:HD12	1.84	0.58
63:x:20:LYS:HD2	63:x:67:THR:HG22	1.84	0.58
1:AA:686:U:O2	1:AA:704:A:N7	2.36	0.58
6:AF:68:GLN:HA	6:AF:71:ILE:HG22	1.86	0.58
7:AG:69:VAL:HG21	7:AG:104:ILE:HD11	1.86	0.58
26:AV:511:U:H4'	26:AV:1235:G:H4'	1.86	0.58
26:AV:1528:A:OP2	26:AV:1543:G:N2	2.36	0.58
26:AV:2451:A:OP1	26:AV:2497:A:N6	2.37	0.58
26:AV:2816:G:N3	26:AV:2883:A:O2'	2.33	0.58
57:B:1184:ASP:OD2	57:B:1219:ARG:NH2	2.36	0.58
26:N:1528:A:OP2	26:N:1543:G:N2	2.36	0.58
37:Y:112:LEU:HD22	37:Y:130:GLY:HA3	1.86	0.58
1:AA:378:G:OP1	19:AO:25:ARG:NH2	2.37	0.58
1:AA:742:G:OP1	18:AN:58:ARG:NH1	2.37	0.58
1:AA:1261:A:N6	1:AA:1274:A:O2'	2.36	0.58
39:AI:103:ARG:HG2	39:AI:105:GLY:H	1.69	0.58
26:N:594:U:H3	26:N:663:G:H1	1.49	0.58
26:N:705:A:OP2	26:N:726:G:N2	2.34	0.58
26:N:1792:G:H1	26:N:1827:U:H3	1.52	0.58
26:N:1792:G:N2	26:N:1827:U:O2	2.34	0.58
26:N:2898:U:H2'	26:N:2899:A:H8	1.69	0.58
34:V:53:LEU:HD13	34:V:74:PRO:HG2	1.86	0.58
1:0:335:C:H2'	1:0:336:A:H8	1.69	0.57
1:0:605:U:O2	1:0:633:G:N2	2.36	0.57
10:9:32:THR:O	10:9:83:THR:OG1	2.22	0.57
1:AA:1255:G:O2'	1:AA:1258:G:N3	2.30	0.57
26:AV:1412:U:H2'	26:AV:1413:A:H8	1.69	0.57
29:AY:25:THR:OG1	29:AY:191:GLY:O	2.21	0.57
59:E:54:ARG:HH11	59:E:62:GLU:HG3	1.69	0.57
26:N:371:A:H61	26:N:401:A:H3'	1.69	0.57
26:N:398:C:OP1	49:k:32:ASN:ND2	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2010:G:H5''	44:f:42:LYS:HB2	1.85	0.57
1:O:1417:G:O2'	1:O:1483:A:N6	2.36	0.57
11:A:1:G:N2	11:A:73:A:N7	2.51	0.57
1:AA:1425:U:H3	1:AA:1475:G:H1	1.51	0.57
3:AC:123:GLN:HB3	3:AC:128:VAL:HB	1.86	0.57
26:AV:2313:C:O4'	31:Aa:37:ASN:ND2	2.37	0.57
27:AW:93:C:OP1	47:Aq:19:ARG:NH1	2.37	0.57
28:AX:87:ARG:HH22	28:AX:89:ALA:HB3	1.68	0.57
57:B:94:GLN:HA	57:B:224:LYS:HD2	1.86	0.57
20:J:64:CYS:SG	20:J:65:ARG:N	2.77	0.57
26:N:2102:G:N2	26:N:2187:U:O2	2.30	0.57
26:N:2539:C:H5'	56:r:3:VAL:HG21	1.87	0.57
26:N:2857:G:N2	26:N:2860:A:OP2	2.31	0.57
63:x:34:THR:HG22	63:x:36:ASP:H	1.68	0.57
2:1:19:GLN:HA	2:1:38:VAL:HA	1.85	0.57
2:1:66:LYS:HG3	2:1:158:PRO:HA	1.86	0.57
26:AV:1601:G:OP1	45:Ao:64:LYS:NZ	2.36	0.57
26:N:53:A:H62	26:N:117:G:N2	2.01	0.57
26:N:589:U:H2'	26:N:590:A:H8	1.69	0.57
26:N:814:C:H1'	26:N:1225:G:H21	1.67	0.57
30:R:103:GLY:HA2	30:R:106:LYS:HG2	1.85	0.57
1:O:407:U:H2'	1:O:408:A:H8	1.68	0.57
1:O:1160:G:H1	1:O:1176:A:H61	1.51	0.57
4:3:54:GLN:HG2	4:3:199:LEU:HD12	1.87	0.57
13:A2:1121:ILE:HG12	13:A2:1137:LEU:HD11	1.86	0.57
9:AI:45:ARG:HG2	9:AI:46:MET:HE3	1.85	0.57
24:AT:28:VAL:HG13	24:AT:30:HIS:H	1.69	0.57
26:AV:1398:C:OP1	45:Ao:59:ASN:ND2	2.37	0.57
26:AV:2144:G:O2'	26:AV:2146:C:OP2	2.22	0.57
49:k:17:ASN:HA	49:k:27:ARG:HH11	1.68	0.57
12:v:64:ASN:HA	12:v:67:ARG:HE	1.67	0.57
1:AA:222:C:H2'	1:AA:223:A:H8	1.70	0.57
1:AA:890:G:N2	1:AA:907:A:OP2	2.33	0.57
1:AA:1095:U:OP1	1:AA:1108:G:N2	2.33	0.57
15:AK:14:LYS:NZ	15:AK:32:GLU:OE1	2.32	0.57
44:An:6:LYS:HD2	44:An:8:ARG:HH22	1.69	0.57
47:Aq:43:ASP:OD2	47:Aq:46:LYS:NZ	2.29	0.57
57:B:298:SER:HB2	57:B:370:ARG:H	1.69	0.57
57:B:802:ARG:HH11	57:B:828:LEU:HA	1.70	0.57
58:D:59:THR:HG23	58:D:62:ALA:H	1.69	0.57
16:F:101:ARG:HH21	16:F:103:LYS:HB3	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:788:A:OP1	26:N:791:C:N4	2.31	0.57
30:R:145:ASP:HA	30:R:166:LYS:O	2.05	0.57
32:T:24:ILE:HD11	32:T:43:VAL:HG21	1.85	0.57
40:b:2:ASP:N	40:b:5:SER:OG	2.37	0.57
48:j:50:ASN:HD21	48:j:63:ALA:HB3	1.69	0.57
1:0:407:U:H2'	1:0:408:A:C8	2.40	0.57
26:AV:1432:G:H2'	26:AV:1433:A:C8	2.40	0.57
26:AV:1469:A:OP2	26:AV:1522:A:N6	2.37	0.57
26:AV:1852:U:O2	26:AV:1890:A:N6	2.37	0.57
57:B:1150:VAL:O	57:B:1154:LYS:NZ	2.36	0.57
26:N:1335:C:OP1	45:g:68:LYS:NZ	2.36	0.57
26:N:1788:C:OP1	28:P:221:ARG:NH1	2.37	0.57
26:N:2777:G:OP2	26:N:2781:A:O2'	2.20	0.57
3:2:182:ILE:HA	3:2:202:ILE:O	2.05	0.57
1:AA:1238:A:N7	1:AA:1301:U:O4	2.38	0.57
1:AA:1522:U:H2'	1:AA:1523:G:H8	1.68	0.57
26:AV:1481:U:O2	26:AV:1510:G:O6	2.23	0.57
57:B:94:GLN:HG3	57:B:95:VAL:HG23	1.86	0.57
26:N:2134:A:H1'	26:N:2159:G:H1'	1.86	0.57
30:R:173:THR:HA	30:R:199:MET:HE1	1.87	0.57
45:g:46:ALA:O	45:g:50:LEU:HB2	2.04	0.57
2:1:24:ASN:ND2	2:1:191:SER:O	2.36	0.57
1:AA:34:C:H2'	1:AA:35:G:H8	1.69	0.57
15:AK:12:ARG:HA	15:AK:220:ALA:HB2	1.84	0.57
26:AV:527:C:OP2	26:AV:2779:U:N3	2.35	0.57
45:Ao:15:HIS:HB2	45:Ao:33:LYS:HG3	1.86	0.57
45:Ao:59:ASN:HB2	45:Ao:84:TYR:HB2	1.86	0.57
57:B:1180:LEU:HD22	57:B:1231:ARG:HG2	1.87	0.57
26:N:2299:U:O4	26:N:2318:G:N2	2.38	0.57
30:R:119:ILE:O	30:R:187:VAL:HA	2.04	0.57
35:W:36:LEU:HD11	35:W:122:LEU:HB2	1.87	0.57
3:2:54:ARG:HB3	3:2:69:HIS:HB2	1.86	0.57
13:A2:1079:PRO:HD2	13:A2:1142:ARG:HD3	1.87	0.57
13:A2:1185:ILE:HD11	13:A2:1219:ARG:HD3	1.87	0.57
1:AA:1146:A:OP2	57:B:1290:ARG:NH1	2.33	0.57
1:AA:1422:G:O2'	36:Af:49:ARG:NH1	2.37	0.57
26:AV:1386:C:H2'	26:AV:1387:A:C8	2.40	0.57
31:Aa:64:LYS:HD2	31:Aa:65:PRO:HD2	1.85	0.57
57:B:1255:ARG:NH2	57:B:1258:ASP:OD2	2.38	0.57
26:N:98:G:H22	46:h:7:ARG:HH12	1.52	0.57
26:N:443:A:H3'	30:R:40:ARG:HH22	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2726:A:N3	36:X:67:LYS:NZ	2.53	0.57
43:e:19:THR:OG1	43:e:95:ASP:OD1	2.22	0.57
22:t:36:ARG:HA	22:t:71:LEU:HD22	1.87	0.57
1:0:1360:A:OP2	17:G:75:ARG:NH1	2.38	0.57
7:AG:150:ALA:HB1	58:y:59:THR:HG21	1.86	0.57
26:AV:307:G:N1	26:AV:310:A:OP2	2.36	0.57
26:AV:599:A:H2'	26:AV:600:G:H8	1.70	0.57
26:AV:1009:A:OP2	35:Ae:39:LYS:NZ	2.37	0.57
26:AV:1278:C:H2'	26:AV:1279:G:H8	1.70	0.57
26:AV:2076:U:OP2	26:AV:2238:G:N2	2.32	0.57
35:Ae:73:VAL:HG22	35:Ae:88:THR:HG22	1.87	0.57
57:B:1284:TYR:HE1	57:B:1286:ILE:HD13	1.69	0.57
26:N:1306:C:H2'	26:N:1307:A:H8	1.70	0.57
26:N:2394:C:H5''	37:Y:63:LYS:HE2	1.87	0.57
26:N:2682:A:H61	26:N:2728:U:H1'	1.70	0.57
32:T:85:LYS:HG2	32:T:141:ILE:HD12	1.87	0.57
1:0:280:C:H1'	20:J:40:ARG:HH11	1.70	0.56
1:0:405:U:O4	4:3:2:ALA:N	2.38	0.56
1:AA:714:G:H2'	1:AA:715:A:C8	2.40	0.56
1:AA:1147:C:H1'	9:AI:18:ARG:HH11	1.70	0.56
26:AV:1769:U:O2'	26:AV:1958:C:OP1	2.22	0.56
26:AV:2581:G:OP2	26:AV:2581:G:N2	2.34	0.56
28:AX:159:GLY:O	28:AX:177:ARG:NH1	2.28	0.56
43:Am:24:LYS:HA	43:Am:94:THR:HG23	1.86	0.56
16:F:44:LYS:HB2	16:F:47:GLU:HG2	1.86	0.56
43:e:76:LYS:HB2	43:e:85:LYS:HB3	1.86	0.56
46:h:66:GLN:NE2	46:h:69:ASN:OD1	2.38	0.56
1:0:1343:G:H4'	9:8:124:ARG:HB3	1.87	0.56
7:6:72:THR:HG22	7:6:142:HIS:HE1	1.70	0.56
1:AA:651:C:N4	1:AA:753:A:OP2	2.39	0.56
42:Al:58:ARG:HG3	42:Al:92:ARG:HD2	1.87	0.56
42:Al:63:ALA:HA	42:Al:66:ASN:HD22	1.70	0.56
48:Ar:67:VAL:HG13	48:Ar:80:ILE:HD11	1.85	0.56
26:N:1019:U:OP1	26:N:1035:U:O2'	2.20	0.56
26:N:1548:A:H2'	26:N:1549:A:C8	2.40	0.56
38:Z:34:LYS:HD3	47:i:82:TYR:HA	1.85	0.56
1:0:269:C:H2'	1:0:270:A:C8	2.40	0.56
1:0:269:C:H2'	1:0:270:A:H8	1.70	0.56
1:0:1425:U:H2'	1:0:1426:G:H8	1.69	0.56
3:2:32:ASN:HD21	3:2:59:ARG:HD2	1.69	0.56
13:A2:1290:ARG:HA	13:A2:1293:GLN:HG2	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:830:G:H5'	2:AB:23:TRP:HE1	1.69	0.56
1:AA:1313:U:OP2	22:AR:3:ARG:NH2	2.37	0.56
7:AG:113:ASP:OD2	7:AG:122:ASN:ND2	2.36	0.56
16:AL:85:CYS:SG	16:AL:88:GLY:N	2.75	0.56
22:AR:36:ARG:NH1	22:AR:75:ALA:O	2.38	0.56
23:AS:25:ARG:HB3	23:AS:29:ARG:NH2	2.20	0.56
26:AV:1435:G:H2'	26:AV:1436:G:C8	2.40	0.56
26:AV:2210:U:H4'	26:AV:2211:A:H5'	1.87	0.56
43:Am:4:VAL:HB	43:Am:40:MET:HB2	1.87	0.56
47:Aq:77:VAL:HG23	47:Aq:89:ILE:HG12	1.87	0.56
48:Ar:11:ARG:O	48:Ar:14:ARG:NH2	2.36	0.56
50:At:17:GLU:OE2	50:At:54:LYS:NZ	2.33	0.56
21:K:54:GLN:HB3	21:K:57:ARG:HH11	1.70	0.56
26:N:643:A:N1	26:N:2369:A:O2'	2.37	0.56
26:N:1798:U:O2'	26:N:1802:A:N3	2.34	0.56
26:N:2229:U:H2'	26:N:2230:G:H8	1.70	0.56
27:O:22:U:O2	27:O:61:G:N2	2.38	0.56
1:O:766:A:N7	1:O:813:U:O4	2.39	0.56
13:A2:1211:ARG:HH12	13:A2:1282:THR:HA	1.70	0.56
25:AU:9:A:H2'	25:AU:11:C:H41	1.69	0.56
26:AV:247:G:OP2	26:AV:249:C:N4	2.37	0.56
26:AV:1209:U:O2'	26:AV:1237:A:N1	2.34	0.56
27:AW:48:U:H4'	40:Aj:100:HIS:HD2	1.70	0.56
43:Am:32:THR:HA	43:Am:61:ALA:O	2.05	0.56
26:N:956:G:OP2	38:Z:86:LYS:NZ	2.38	0.56
26:N:1258:U:H2'	26:N:1259:G:C8	2.40	0.56
26:N:1258:U:H2'	26:N:1259:G:H8	1.69	0.56
37:Y:100:ILE:HG23	37:Y:101:ILE:HG23	1.88	0.56
40:b:39:VAL:HG13	40:b:48:LEU:HB2	1.85	0.56
40:b:90:VAL:HG23	40:b:117:PHE:HB3	1.87	0.56
1:O:542:G:OP1	4:3:10:LYS:NZ	2.37	0.56
1:O:790:A:OP1	60:M:37:U:O2'	2.24	0.56
6:5:40:GLU:OE2	6:5:42:TRP:NE1	2.39	0.56
13:A2:1051:VAL:HG21	13:A2:1073:LEU:HG	1.87	0.56
13:A2:1174:VAL:HG23	10:AJ:100:ILE:HG13	1.87	0.56
1:AA:50:A:O2'	1:AA:360:G:N2	2.39	0.56
10:AJ:12:ALA:HB2	10:AJ:96:VAL:HG12	1.86	0.56
26:AV:767:U:H2'	26:AV:768:G:H8	1.71	0.56
57:B:191:TYR:O	57:B:220:ARG:NH1	2.39	0.56
57:B:818:LYS:O	57:B:822:ARG:NH2	2.39	0.56
57:B:835:LEU:HD13	57:B:841:GLU:HG3	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2831:G:OP2	29:Q:59:ARG:NH2	2.33	0.56
28:P:200:HIS:HA	28:P:203:ARG:HH11	1.70	0.56
46:h:28:VAL:HA	46:h:34:VAL:HA	1.88	0.56
1:0:8:A:N6	4:3:202:GLU:O	2.37	0.56
1:0:407:U:OP1	4:3:3:ARG:NH1	2.39	0.56
10:AJ:8:ILE:HB	10:AJ:74:VAL:HB	1.87	0.56
26:AV:18:U:OP1	42:Al:30:ARG:NH2	2.35	0.56
31:Aa:125:ARG:HH22	31:Aa:161:LYS:HA	1.71	0.56
41:Ak:97:LEU:HB3	41:Ak:100:LEU:HD23	1.86	0.56
57:B:323:LEU:HA	57:B:327:LEU:HD22	1.88	0.56
1:0:309:A:H2'	1:0:310:G:H8	1.71	0.56
1:0:714:G:H2'	1:0:715:A:C8	2.41	0.56
1:AA:159:G:N2	1:AA:162:A:OP2	2.38	0.56
1:AA:1221:G:H4'	22:AR:77:THR:HG21	1.88	0.56
5:AE:32:SER:HB2	5:AE:54:ARG:HH11	1.70	0.56
26:AV:855:G:O2'	48:Ar:68:LYS:NZ	2.37	0.56
26:AV:1088:A:N6	34:Ad:135:SER:HB2	2.21	0.56
26:AV:1681:G:N2	26:AV:1763:G:OP2	2.32	0.56
56:Az:24:ARG:HH22	56:Az:36:ARG:HE	1.53	0.56
57:B:798:PHE:O	57:B:802:ARG:NH2	2.39	0.56
24:L:47:LYS:HA	24:L:50:ASP:HB2	1.88	0.56
26:N:1065:U:H3	26:N:1069:A:H8	1.54	0.56
26:N:1081:U:O2'	34:V:119:GLY:O	2.21	0.56
27:O:55:U:H1'	31:S:26:MET:HE2	1.88	0.56
30:R:58:LYS:HG3	30:R:71:GLY:HA2	1.88	0.56
38:Z:75:GLU:HB3	38:Z:90:GLU:HG3	1.88	0.56
40:b:4:LYS:HE3	40:b:7:ARG:HH21	1.71	0.56
1:0:642:A:N3	8:7:105:SER:OG	2.35	0.56
1:0:1255:G:OP2	10:9:45:ARG:NH1	2.38	0.56
1:AA:713:G:H2'	1:AA:714:G:C8	2.41	0.56
8:AH:103:VAL:HG13	8:AH:126:ILE:HB	1.87	0.56
26:AV:1066:U:H5'	26:AV:1067:A:H5''	1.88	0.56
26:AV:1853:A:N3	26:AV:2233:U:O2'	2.38	0.56
26:AV:2356:U:O2	26:AV:2361:G:N2	2.33	0.56
29:AY:109:VAL:HG22	29:AY:203:VAL:HG22	1.88	0.56
16:F:77:ILE:HD12	16:F:80:LEU:HD12	1.86	0.56
1:AA:673:A:H2'	1:AA:674:G:C8	2.41	0.56
26:AV:2443:C:H2'	26:AV:2444:G:H8	1.71	0.56
57:B:1045:VAL:N	57:B:1052:ALA:O	2.35	0.56
26:N:2845:U:O2'	41:c:53:ARG:NH1	2.39	0.56
35:W:7:LYS:HB2	35:W:10:THR:HG22	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:e:17:GLY:O	43:e:97:LYS:NZ	2.35	0.56
1:0:458:U:O4	1:0:474:G:O6	2.23	0.56
1:0:539:A:OP1	59:E:111:LYS:NZ	2.39	0.56
5:4:19:ASN:OD1	5:4:34:THR:OG1	2.24	0.56
12:A1:31:GLU:OE2	12:A1:35:ARG:NE	2.36	0.56
26:AV:1788:C:OP1	28:AX:221:ARG:NH1	2.39	0.56
26:AV:2866:U:H5'	26:AV:2868:A:H5'	1.88	0.56
28:AX:67:PHE:O	28:AX:152:GLY:N	2.37	0.56
42:A1:89:GLU:O	43:Am:11:GLN:NE2	2.39	0.56
57:B:976:VAL:HG12	57:B:982:LYS:HG2	1.88	0.56
26:N:464:U:O3'	54:p:12:ARG:NH1	2.39	0.56
26:N:1244:A:O2'	30:R:29:HIS:NE2	2.39	0.56
26:N:1434:A:H2'	26:N:1435:G:H8	1.71	0.56
26:N:1529:G:O6	26:N:1542:U:O2	2.24	0.56
26:N:1826:G:O2'	26:N:1971:U:OP2	2.23	0.56
31:S:132:VAL:HG21	31:S:137:ILE:HD13	1.88	0.56
37:Y:90:VAL:HG13	37:Y:95:LEU:HD21	1.88	0.56
1:AA:559:A:H4'	1:AA:560:A:H3'	1.88	0.55
26:AV:4:U:H2'	26:AV:5:A:H8	1.71	0.55
26:AV:381:G:OP1	49:As:18:ARG:NH1	2.39	0.55
27:AW:5:U:OP1	27:AW:61:G:O2'	2.24	0.55
46:Ap:21:LYS:HE3	46:Ap:39:ILE:HG23	1.88	0.55
26:N:1263:U:OP1	52:n:13:ARG:NH2	2.39	0.55
26:N:1754:A:O2'	41:c:103:ARG:NH1	2.35	0.55
30:R:10:SER:OG	30:R:11:ALA:N	2.39	0.55
1:0:1081:A:OP2	5:4:52:LYS:NZ	2.39	0.55
1:AA:946:A:H2'	1:AA:947:G:C8	2.41	0.55
4:AD:188:ARG:NH2	4:AD:191:LEU:O	2.39	0.55
6:AF:9:MET:HA	6:AF:58:HIS:O	2.05	0.55
35:Ae:57:LEU:HD11	35:Ae:130:HIS:HD2	1.72	0.55
31:S:111:ILE:HB	31:S:114:PHE:HB2	1.87	0.55
59:z:33:VAL:HG12	59:z:79:VAL:HG22	1.88	0.55
1:0:982:U:N3	1:0:1223:C:N3	2.54	0.55
7:6:36:LYS:HG3	9:8:41:ARG:HH12	1.72	0.55
1:AA:618:C:H1'	19:AO:14:ARG:HH22	1.71	0.55
1:AA:1332:A:H3'	1:AA:1333:A:H8	1.70	0.55
18:AN:50:HIS:HA	18:AN:53:ARG:HD2	1.88	0.55
26:AV:4:U:H2'	26:AV:5:A:C8	2.41	0.55
32:Ab:35:ARG:HD3	32:Ab:75:MET:HE1	1.89	0.55
35:Ae:13:ARG:NH2	35:Ae:49:ASP:OD2	2.40	0.55
41:Ak:60:THR:HB	41:Ak:73:VAL:HG12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:C:30:LEU:HD22	15:C:42:VAL:HG11	1.87	0.55
17:G:16:LEU:HD23	17:G:54:ASP:HB2	1.88	0.55
1:0:264:C:H4'	20:J:65:ARG:HD2	1.89	0.55
5:4:11:LEU:HD21	5:4:68:ARG:HH11	1.71	0.55
1:AA:754:C:O5'	18:AN:72:ARG:NH1	2.39	0.55
2:AB:89:GLN:HE22	2:AB:221:VAL:HG11	1.72	0.55
20:AP:46:VAL:HG22	20:AP:73:TRP:HB2	1.89	0.55
23:AS:30:THR:HA	23:AS:33:LYS:HD2	1.88	0.55
32:Ab:38:ASN:HB3	32:Ab:41:VAL:HG12	1.88	0.55
26:N:954:G:H1	26:N:963:U:H3	1.53	0.55
26:N:1363:C:O2'	26:N:1809:A:N3	2.35	0.55
34:V:15:ALA:O	34:V:43:ASN:ND2	2.40	0.55
36:X:2:ILE:HG23	36:X:6:THR:HG21	1.88	0.55
12:v:21:ARG:NH1	62:w:538:U:OP1	2.40	0.55
1:0:1301:U:OP2	1:0:1303:C:N4	2.36	0.55
1:AA:640:A:N3	8:AH:107:SER:OG	2.37	0.55
26:AV:848:C:H2'	26:AV:849:A:H8	1.70	0.55
28:AX:138:GLY:H	28:AX:164:ILE:HG23	1.72	0.55
52:Av:52:ARG:HH22	52:Av:54:VAL:HA	1.72	0.55
57:B:605:VAL:HG13	57:B:610:ILE:HB	1.89	0.55
20:J:47:HIS:HB2	20:J:71:LYS:HD3	1.87	0.55
26:N:581:C:H2'	26:N:582:A:C8	2.41	0.55
26:N:746:U:H1'	26:N:748:G:H21	1.71	0.55
26:N:2131:U:H5'	26:N:2132:U:H5''	1.87	0.55
26:N:2151:U:H2'	26:N:2152:G:H8	1.70	0.55
1:0:264:C:O2'	20:J:66:PRO:O	2.22	0.55
1:0:1179:A:OP2	9:8:95:ARG:NH1	2.40	0.55
1:0:1464:U:H2'	1:0:1465:A:H8	1.72	0.55
2:1:208:ARG:O	2:1:211:THR:OG1	2.24	0.55
1:AA:198:G:H1	1:AA:219:U:H3	1.55	0.55
1:AA:373:A:N1	1:AA:391:G:O2'	2.38	0.55
22:AR:18:LYS:HB3	22:AR:31:LEU:HD21	1.88	0.55
26:AV:1041:G:H2'	26:AV:1042:G:H8	1.70	0.55
29:AY:49:GLN:HE21	29:AY:79:LEU:HG	1.70	0.55
39:Ai:38:LEU:HG	39:Ai:42:LYS:HZ1	1.72	0.55
16:F:11:ASP:HA	16:F:45:ILE:HB	1.87	0.55
1:0:108:G:H5'	1:0:109:A:H5''	1.87	0.55
14:A3:77:A:OP1	26:AV:2573:C:N4	2.40	0.55
1:AA:130:A:N3	1:AA:263:A:O2'	2.36	0.55
2:AB:9:MET:N	2:AB:9:MET:SD	2.80	0.55
4:AD:13:ARG:HG3	4:AD:34:ILE:HA	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:494:G:H4'	44:An:6:LYS:HB2	1.87	0.55
27:AW:66:A:O5'	27:AW:108:A:N6	2.40	0.55
38:Ah:42:THR:HG23	38:Ah:45:GLN:H	1.71	0.55
40:Aj:15:ARG:NE	40:Aj:93:ASP:OD2	2.34	0.55
40:Aj:40:ILE:HG12	40:Aj:47:VAL:HG22	1.89	0.55
26:N:1364:G:OP1	49:k:3:ARG:NE	2.39	0.55
26:N:1834:U:H5''	26:N:1835:G:H5'	1.89	0.55
26:N:2443:C:H2'	26:N:2444:G:H8	1.71	0.55
9:8:34:SER:OG	9:8:37:GLN:OE1	2.24	0.55
26:AV:1636:U:H2'	26:AV:1637:A:C8	2.42	0.55
26:AV:1935:G:H3'	26:AV:1962:C:H42	1.71	0.55
30:AZ:119:ILE:HB	30:AZ:187:VAL:HG22	1.89	0.55
26:N:995:C:H5''	42:d:54:LYS:HA	1.89	0.55
31:S:60:ILE:O	31:S:102:ARG:NH1	2.40	0.55
12:v:4:ILE:HG13	12:v:19:PHE:HA	1.89	0.55
12:v:31:GLU:OE2	12:v:35:ARG:NE	2.39	0.55
9:8:130:ARG:HH22	60:M:33:C:H5''	1.72	0.55
7:AG:147:ALA:O	58:y:56:ARG:NH1	2.37	0.55
26:AV:882:G:N2	26:AV:894:U:O2	2.32	0.55
26:AV:1447:C:O2'	26:AV:1544:A:N3	2.37	0.55
26:AV:2743:U:OP2	26:AV:2755:C:N4	2.40	0.55
27:AW:8:C:O3'	40:Aj:25:ARG:NH1	2.40	0.55
17:G:64:CYS:SG	17:G:65:ARG:N	2.80	0.55
26:N:16:C:H2'	26:N:17:G:H8	1.72	0.55
26:N:918:A:O2'	27:O:96:G:N2	2.40	0.55
26:N:1668:A:OP1	36:X:5:GLN:NE2	2.39	0.55
26:N:1999:C:O2	26:N:2687:U:O2'	2.24	0.55
26:N:2131:U:O2'	26:N:2158:A:N6	2.40	0.55
31:S:135:GLN:NE2	31:S:148:ARG:O	2.40	0.55
1:0:201:G:H1	1:0:216:U:H3	1.54	0.55
1:0:1073:U:O2	2:1:103:ASN:ND2	2.40	0.55
6:5:10:VAL:HB	6:5:58:HIS:HB3	1.88	0.55
1:AA:407:U:OP1	4:AD:3:ARG:NH1	2.40	0.55
3:AC:156:ARG:HH21	3:AC:193:TYR:HB3	1.72	0.55
51:Au:24:LEU:HD21	51:Au:51:VAL:HG11	1.89	0.55
52:Av:42:HIS:ND1	52:Av:43:ILE:O	2.39	0.55
57:B:159:ARG:NH1	57:B:600:GLN:OE1	2.40	0.55
57:B:1170:LEU:HD23	57:B:1182:LEU:HD22	1.89	0.55
26:N:535:G:O3'	42:d:53:ARG:NH2	2.40	0.55
26:N:1475:G:H1'	26:N:1732:C:H41	1.72	0.55
26:N:1779:U:OP2	26:N:1784:A:N6	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A2:1194:TYR:H	13:A2:1197:PHE:HB3	1.71	0.54
1:AA:181:A:O2'	1:AA:194:C:N4	2.39	0.54
1:AA:514:C:H2'	1:AA:515:G:H8	1.72	0.54
1:AA:1237:C:O2'	1:AA:1300:G:N2	2.35	0.54
26:AV:641:U:O2'	26:AV:2350:C:OP1	2.26	0.54
57:B:28:SER:O	57:B:32:HIS:ND1	2.32	0.54
57:B:1247:TRP:NE1	57:B:1299:SER:OG	2.39	0.54
15:C:65:LEU:HD22	15:C:188:ASN:HB2	1.88	0.54
52:n:28:LEU:HG	52:n:37:LYS:HE3	1.88	0.54
1:0:922:G:H2'	1:0:923:A:C8	2.42	0.54
1:0:933:G:N7	7:6:3:ARG:NH2	2.54	0.54
1:0:1077:G:N2	1:0:1080:A:OP2	2.36	0.54
1:AA:683:G:N2	1:AA:707:U:O2	2.39	0.54
1:AA:1060:U:OP1	17:AM:85:ARG:NH1	2.36	0.54
26:AV:1131:G:O2'	26:AV:1133:A:N7	2.39	0.54
26:N:538:A:H5''	35:W:7:LYS:HE3	1.89	0.54
32:T:170:ARG:NH2	56:r:29:ALA:O	2.29	0.54
36:X:19:VAL:HG12	36:X:43:ILE:HA	1.89	0.54
1:0:258:G:O6	1:0:268:U:O4	2.26	0.54
4:3:93:LEU:O	4:3:136:GLN:NE2	2.37	0.54
7:6:68:ASN:ND2	7:6:127:ALA:O	2.40	0.54
15:AK:14:LYS:HD3	15:AK:32:GLU:HB3	1.89	0.54
26:AV:1664:A:H61	26:AV:1996:C:N4	2.06	0.54
26:AV:2559:C:H2'	26:AV:2560:A:H8	1.72	0.54
26:N:177:G:H3'	26:N:178:G:H8	1.72	0.54
26:N:2115:G:O2'	26:N:2166:U:O2	2.26	0.54
54:p:22:MET:O	54:p:28:ARG:NH2	2.40	0.54
1:AA:264:C:O2'	20:AP:66:PRO:O	2.25	0.54
1:AA:525:C:OP1	59:z:86:ARG:NH1	2.40	0.54
1:AA:742:G:H5''	18:AN:58:ARG:HH11	1.73	0.54
5:AE:156:LYS:HB3	8:AH:71:VAL:HG13	1.88	0.54
8:AH:13:ARG:NH2	8:AH:26:THR:O	2.41	0.54
16:AL:8:ASN:HB2	16:AL:22:ILE:HD11	1.89	0.54
26:AV:558:U:H2'	26:AV:559:G:H8	1.72	0.54
26:AV:727:A:N3	28:AX:13:ARG:NH2	2.55	0.54
26:AV:1918:A:O2'	26:AV:1920:C:N4	2.41	0.54
29:AY:181:ASP:HB3	29:AY:186:LEU:HB2	1.88	0.54
45:Ao:8:LEU:HD13	50:At:21:LEU:HB3	1.88	0.54
26:N:172:A:H2'	26:N:173:A:H8	1.72	0.54
26:N:249:C:OP2	26:N:2394:C:O2'	2.25	0.54
26:N:2788:C:O2'	26:N:2809:A:N3	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Q:11:MET:HE1	29:Q:192:ALA:HA	1.89	0.54
45:g:3:ARG:O	45:g:7:LEU:HB2	2.07	0.54
58:y:64:GLN:HG2	58:y:99:ALA:HB2	1.90	0.54
2:1:185:ALA:O	2:1:200:ILE:HB	2.08	0.54
3:2:136:ARG:NH1	62:w:561:U:OP1	2.41	0.54
1:AA:412:A:H62	1:AA:431:A:H61	1.54	0.54
1:AA:1130:A:H2'	1:AA:1131:G:H8	1.71	0.54
3:AC:88:ARG:HG2	3:AC:101:ILE:HG13	1.90	0.54
26:AV:538:A:H4'	35:Ae:7:LYS:HG2	1.89	0.54
26:AV:1170:C:H2'	26:AV:1171:G:H8	1.72	0.54
26:AV:1862:G:N2	26:AV:1880:U:O2	2.33	0.54
26:AV:2029:G:N1	26:AV:2033:A:OP2	2.35	0.54
57:B:160:PHE:HE1	57:B:600:GLN:HG3	1.72	0.54
57:B:1014:GLN:HB2	57:B:1017:LEU:HD11	1.87	0.54
26:N:1518:C:H2'	26:N:1519:G:C8	2.42	0.54
26:N:2129:C:H2'	26:N:2159:G:H1	1.72	0.54
26:N:2691:C:H2'	26:N:2692:G:H8	1.73	0.54
30:R:112:LEU:HA	30:R:115:GLN:HE21	1.71	0.54
30:R:119:ILE:HG13	30:R:187:VAL:HG12	1.89	0.54
32:T:89:LEU:HD23	32:T:94:TYR:HB3	1.88	0.54
63:x:23:LEU:HG	63:x:113:PHE:HE1	1.71	0.54
1:AA:1151:A:H2'	1:AA:1152:A:C8	2.42	0.54
8:AH:75:ILE:HG13	8:AH:129:VAL:HG22	1.89	0.54
26:AV:1062:G:H2'	26:AV:1063:G:C8	2.43	0.54
26:AV:2463:C:H2'	26:AV:2464:G:H8	1.73	0.54
27:AW:49:C:O3'	40:Aj:68:LYS:NZ	2.39	0.54
29:AY:115:GLY:O	39:Ai:3:HIS:NE2	2.40	0.54
33:Ac:66:ASN:ND2	33:Ac:134:VAL:O	2.40	0.54
57:B:19:LEU:HD11	57:B:54:ILE:HG13	1.90	0.54
26:N:811:U:OP2	37:Y:22:GLY:N	2.40	0.54
26:N:833:A:H1'	37:Y:51:GLU:HB2	1.90	0.54
26:N:1351:C:O2'	26:N:1571:A:N3	2.35	0.54
26:N:1829:A:N3	28:P:15:HIS:NE2	2.54	0.54
33:U:110:VAL:HG13	33:U:114:GLU:HB2	1.90	0.54
34:V:86:ILE:HG22	34:V:89:GLY:H	1.72	0.54
45:g:19:LYS:HA	45:g:22:THR:HG22	1.88	0.54
1:O:78:A:H2'	1:O:79:G:H8	1.72	0.54
3:2:108:LYS:HZ3	3:2:144:LEU:HD23	1.73	0.54
10:9:5:ARG:N	10:9:76:ILE:O	2.41	0.54
1:AA:1249:C:O3'	9:AI:75:GLN:NE2	2.37	0.54
26:AV:75:G:O6	26:AV:111:A:N1	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:Ae:64:VAL:HB	35:Ae:68:LYS:HE3	1.90	0.54
39:Ai:49:GLU:HG2	39:Ai:94:TYR:HB2	1.88	0.54
41:Ak:9:GLU:OE2	41:Ak:56:HIS:NE2	2.41	0.54
57:B:475:ILE:HD11	57:B:484:TYR:HB3	1.88	0.54
26:N:319:G:OP2	30:R:132:LYS:NZ	2.38	0.54
26:N:459:U:H2'	26:N:460:A:H8	1.72	0.54
26:N:1386:C:O2'	26:N:1469:A:N3	2.38	0.54
26:N:1447:C:H2'	26:N:1448:G:H8	1.71	0.54
26:N:2023:C:H2'	26:N:2024:G:H8	1.73	0.54
26:N:2880:C:O2'	39:a:90:ARG:NH1	2.41	0.54
9:8:33:ARG:NH1	9:8:37:GLN:O	2.37	0.54
3:AC:108:LYS:NZ	3:AC:144:LEU:O	2.40	0.54
26:AV:220:G:O2'	26:AV:233:A:N3	2.35	0.54
26:AV:641:U:O4	26:AV:647:G:O6	2.25	0.54
26:AV:1386:C:H2'	26:AV:1387:A:H8	1.73	0.54
30:AZ:176:ASP:OD1	30:AZ:176:ASP:N	2.41	0.54
26:N:299:A:N3	26:N:319:G:O2'	2.38	0.54
26:N:1791:A:N6	26:N:1828:G:O2'	2.41	0.54
26:N:2508:G:HO2'	26:N:2554:U:HO2'	1.53	0.54
26:N:2820:A:OP2	39:a:2:ARG:NH1	2.29	0.54
41:c:62:ARG:HH12	41:c:101:ARG:HA	1.73	0.54
23:u:28:MET:HE1	23:u:58:VAL:HA	1.89	0.54
2:1:22:TYR:OH	12:v:67:ARG:NH2	2.40	0.54
2:1:214:LEU:HA	2:1:217:VAL:HG12	1.89	0.54
9:AI:52:LEU:HG	9:AI:58:VAL:HG23	1.89	0.54
16:AL:80:LEU:HD12	16:AL:83:LEU:HD12	1.90	0.54
25:AU:22:G:N7	25:AU:46:G:N2	2.44	0.54
26:AV:2156:G:O6	26:AV:2157:G:N2	2.41	0.54
30:AZ:137:LYS:NZ	30:AZ:141:MET:SD	2.81	0.54
44:An:8:ARG:HH11	44:An:102:HIS:HB3	1.71	0.54
26:N:999:U:H2'	26:N:1000:A:H8	1.73	0.54
27:O:29:A:O2'	27:O:58:A:N1	2.34	0.54
38:Z:17:ASN:O	38:Z:38:ARG:NH2	2.40	0.54
44:f:36:LEU:HD23	44:f:47:VAL:HG13	1.90	0.54
1:0:701:U:OP1	1:0:702:A:O2'	2.23	0.54
1:0:765:G:N2	1:0:813:U:OP2	2.34	0.54
9:8:44:ALA:HA	9:8:47:VAL:HG22	1.90	0.54
1:AA:187:G:N2	1:AA:190:A:OP2	2.38	0.54
1:AA:537:G:OP1	59:z:110:ARG:NH1	2.36	0.54
26:AV:465:G:H21	26:AV:684:G:H1'	1.73	0.54
26:AV:935:C:H2'	26:AV:936:A:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Af:10:VAL:HG22	36:Af:12:ASP:H	1.73	0.54
57:B:99:ALA:HB1	57:B:231:THR:HA	1.89	0.54
26:N:239:C:O2'	26:N:622:G:O2'	2.25	0.54
26:N:1138:G:H21	35:W:108:MET:HE1	1.73	0.54
26:N:2898:U:H2'	26:N:2899:A:C8	2.42	0.54
1:0:401:C:O2'	1:0:621:A:N3	2.36	0.53
5:AE:41:ASP:OD1	5:AE:42:GLY:N	2.41	0.53
26:AV:72:U:O2	26:AV:75:G:N2	2.41	0.53
26:AV:245:G:N7	55:Ay:8:ARG:NH1	2.56	0.53
26:AV:774:G:O2'	26:AV:777:G:N3	2.40	0.53
26:AV:1674:G:N2	26:AV:1677:A:N1	2.56	0.53
28:AX:41:GLY:O	28:AX:43:ARG:NH2	2.36	0.53
26:N:619:G:OP2	26:N:620:G:N2	2.40	0.53
26:N:1360:G:N1	26:N:2214:C:C2	2.75	0.53
26:N:1752:C:H2'	26:N:1753:G:C8	2.43	0.53
27:O:50:A:OP2	40:b:102:ARG:NH1	2.38	0.53
1:0:1015:G:H2'	1:0:1016:A:H8	1.73	0.53
1:AA:1318:A:H1'	22:AR:37:ARG:HH21	1.74	0.53
9:AI:32:GLN:OE1	9:AI:64:TYR:OH	2.24	0.53
20:AP:30:LYS:HZ3	20:AP:35:GLY:HA2	1.73	0.53
26:AV:1509:A:H2'	26:AV:1510:G:C8	2.41	0.53
26:AV:2685:G:N2	26:AV:2724:U:O2	2.41	0.53
31:Aa:56:ASP:OD2	31:Aa:150:ARG:NE	2.41	0.53
57:B:783:SER:HB3	57:B:843:ILE:HD11	1.91	0.53
17:G:63:ARG:NH2	17:G:68:GLY:O	2.39	0.53
26:N:1667:G:O2'	26:N:1991:U:O4	2.25	0.53
1:0:1219:A:H2'	1:0:1220:G:C8	2.43	0.53
1:AA:1268:G:N3	1:AA:1326:U:O2'	2.41	0.53
26:AV:1103:A:H2'	26:AV:1104:C:C6	2.44	0.53
49:As:12:PRO:HB3	49:As:30:LEU:HD13	1.90	0.53
32:T:123:ALA:HB2	32:T:133:LEU:HD13	1.89	0.53
44:f:82:MET:HB2	44:f:98:LYS:HB2	1.89	0.53
53:o:7:GLU:OE1	53:o:7:GLU:N	2.41	0.53
55:q:33:LEU:HD12	55:q:41:LYS:HD3	1.91	0.53
63:x:57:ASN:HB3	63:x:61:ARG:HH11	1.73	0.53
1:0:67:C:H2'	1:0:68:G:C8	2.43	0.53
10:9:31:ARG:HG3	10:9:32:THR:HG23	1.90	0.53
13:A2:1255:ARG:NH2	13:A2:1300:GLY:O	2.41	0.53
1:AA:54:C:H2'	1:AA:352:C:H41	1.73	0.53
26:AV:1515:A:H3'	26:AV:1516:G:H8	1.73	0.53
26:AV:2419:U:H4'	53:Aw:22:THR:HG21	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2720:U:OP1	41:Ak:53:ARG:NH1	2.40	0.53
28:AX:117:GLN:NE2	28:AX:118:SER:O	2.42	0.53
57:B:127:HIS:HB3	57:B:172:LEU:HD13	1.91	0.53
26:N:552:U:H2'	26:N:553:G:H8	1.73	0.53
26:N:833:A:H2'	26:N:834:G:C8	2.43	0.53
26:N:2183:A:H2'	26:N:2184:A:C8	2.44	0.53
26:N:2705:A:O2'	26:N:2852:G:OP1	2.25	0.53
1:O:1078:U:C4	5:4:90:THR:HG21	2.43	0.53
9:8:12:ARG:HH21	9:8:77:GLY:HA3	1.72	0.53
1:AA:1386:G:H2'	1:AA:1387:G:H8	1.73	0.53
10:AJ:46:LYS:NZ	10:AJ:66:GLU:OE1	2.41	0.53
26:AV:1333:G:H2'	26:AV:1334:G:H8	1.73	0.53
26:AV:1422:G:H2'	26:AV:1423:G:H8	1.73	0.53
33:Ac:33:GLN:HB3	33:Ac:35:LYS:HE3	1.90	0.53
38:Ah:64:TRP:HB2	38:Ah:104:GLU:HB2	1.90	0.53
43:Am:78:ARG:HB2	43:Am:83:TYR:HB3	1.91	0.53
57:B:666:LYS:HG3	57:B:667:TRP:HD1	1.73	0.53
18:H:39:LEU:HD13	18:H:43:PHE:HE2	1.74	0.53
20:J:26:GLU:OE1	20:J:26:GLU:N	2.40	0.53
26:N:519:U:O3'	44:f:25:ARG:NH2	2.41	0.53
26:N:629:G:H1'	26:N:639:U:H1'	1.91	0.53
59:z:46:ASN:ND2	59:z:89:ASP:OD1	2.40	0.53
4:3:83:LYS:O	4:3:89:ASN:ND2	2.37	0.53
16:AL:50:GLU:HA	16:AL:53:ILE:HG22	1.90	0.53
16:AL:106:ALA:O	16:AL:110:LYS:HB2	2.09	0.53
26:AV:372:G:N2	26:AV:401:A:OP2	2.39	0.53
26:AV:1036:G:H2'	26:AV:1037:G:H8	1.74	0.53
26:AV:1813:G:N3	28:AX:50:THR:OG1	2.42	0.53
26:AV:1826:G:O2'	26:AV:1971:U:OP2	2.26	0.53
26:AV:1853:A:H2'	26:AV:1854:A:C8	2.44	0.53
29:AY:136:ASN:ND2	29:AY:139:SER:O	2.39	0.53
30:AZ:46:GLN:HB2	30:AZ:87:ALA:H	1.74	0.53
26:N:372:G:H2'	49:k:58:VAL:HG12	1.91	0.53
26:N:1675:C:O2	29:Q:133:THR:OG1	2.25	0.53
39:a:29:VAL:HG21	39:a:79:LEU:HD22	1.91	0.53
54:p:43:THR:HG23	54:p:45:SER:H	1.72	0.53
58:y:35:THR:OG1	58:y:40:ASN:O	2.22	0.53
1:O:416:G:H2'	1:O:417:G:H8	1.74	0.53
1:O:1445:U:O4	1:O:1457:G:O6	2.26	0.53
1:AA:875:U:O3'	8:AH:15:ARG:NH1	2.40	0.53
1:AA:1175:G:H2'	1:AA:1176:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:863:A:O2'	27:AW:100:G:N3	2.41	0.53
26:AV:2777:G:OP2	26:AV:2781:A:O2'	2.23	0.53
29:AY:37:VAL:HG22	29:AY:48:ILE:HG22	1.89	0.53
41:Ak:106:LYS:O	41:Ak:109:ARG:NH2	2.41	0.53
53:Aw:40:ASP:OD1	53:Aw:49:TYR:OH	2.22	0.53
26:N:2120:G:N2	26:N:2179:C:O2	2.41	0.53
28:P:69:ARG:NH1	28:P:96:TYR:OH	2.41	0.53
1:O:41:G:H2'	1:O:42:G:H8	1.74	0.53
1:O:747:A:H2'	1:O:748:G:C8	2.43	0.53
46:Ap:18:ASP:HB2	46:Ap:21:LYS:HD3	1.91	0.53
1:O:376:G:H2'	1:O:377:G:C8	2.44	0.53
1:O:1160:G:H1	1:O:1176:A:N6	2.05	0.53
1:AA:198:G:N2	1:AA:219:U:O2	2.37	0.53
1:AA:309:A:H2'	1:AA:310:G:H8	1.73	0.53
26:AV:793:A:OP2	26:AV:2071:A:O2'	2.23	0.53
26:AV:1433:A:H61	26:AV:1560:G:H1	1.57	0.53
26:AV:1578:U:H2'	26:AV:1579:A:H8	1.74	0.53
26:AV:2691:C:H2'	26:AV:2692:G:H8	1.73	0.53
29:AY:34:VAL:HG22	29:AY:50:VAL:HG12	1.90	0.53
34:Ad:77:ALA:HB1	34:Ad:136:MET:HE3	1.91	0.53
26:N:74:A:H5'	50:l:48:ARG:HH11	1.74	0.53
26:N:328:U:O2'	46:h:68:SER:OG	2.25	0.53
26:N:1394:U:H5''	26:N:1603:A:H4'	1.91	0.53
26:N:2655:G:N2	26:N:2665:A:OP2	2.42	0.53
29:Q:14:ILE:HG22	29:Q:22:ILE:HB	1.91	0.53
35:W:60:ASP:N	35:W:60:ASP:OD1	2.42	0.53
46:h:33:LYS:HA	46:h:66:GLN:HA	1.90	0.53
56:r:36:ARG:HE	56:r:37:GLN:HG3	1.74	0.53
1:O:643:C:H4'	8:7:32:LEU:HD12	1.91	0.53
4:3:119:SER:O	4:3:131:ASN:ND2	2.41	0.53
1:AA:464:U:N3	1:AA:467:U:OP2	2.37	0.53
16:AL:85:CYS:HB3	22:AR:74:PHE:CE1	2.44	0.53
17:AM:63:ARG:HB3	17:AM:68:GLY:HA2	1.91	0.53
31:Aa:57:LEU:HD21	31:Aa:152:LEU:HD11	1.91	0.53
33:Ac:8:LYS:NZ	33:Ac:13:GLY:O	2.36	0.53
33:Ac:116:ARG:HB2	33:Ac:131:SER:HB2	1.91	0.53
37:Ag:58:TYR:HB2	55:Ay:10:ALA:HB2	1.90	0.53
26:N:1386:C:H2'	26:N:1387:A:C8	2.44	0.53
26:N:2100:G:O6	26:N:2189:U:O4	2.27	0.53
26:N:2708:G:O2'	39:a:22:ARG:NH2	2.42	0.53
31:S:159:THR:O	31:S:161:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:78:A:H2'	1:0:79:G:C8	2.43	0.52
1:0:335:C:H2'	1:0:336:A:C8	2.43	0.52
1:0:1137:C:O2	1:0:1138:G:N2	2.41	0.52
1:0:1178:G:OP1	9:8:95:ARG:NH2	2.30	0.52
1:0:1267:C:H2'	1:0:1268:G:C4	2.44	0.52
6:5:78:PHE:HD1	6:5:84:VAL:HG21	1.75	0.52
1:AA:21:G:H2'	1:AA:22:G:C8	2.44	0.52
1:AA:843:U:OP1	1:AA:844:G:N2	2.42	0.52
26:AV:69:C:O2	26:AV:73:A:O2'	2.23	0.52
26:AV:2818:U:H2'	26:AV:2819:G:C8	2.43	0.52
26:AV:2888:C:O2'	52:Av:26:THR:OG1	2.23	0.52
57:B:64:ARG:NH1	57:B:120:GLY:O	2.39	0.52
26:N:2500:U:O2'	26:N:2504:U:OP1	2.26	0.52
26:N:2863:C:H2'	26:N:2864:G:H8	1.74	0.52
43:e:4:VAL:HA	43:e:12:HIS:O	2.08	0.52
1:AA:1500:A:H5''	1:AA:1508:A:H5''	1.91	0.52
5:AE:152:MET:SD	5:AE:156:LYS:NZ	2.71	0.52
26:AV:2245:U:H5''	26:AV:2246:G:H5'	1.91	0.52
32:Ab:170:ARG:HH11	56:Az:31:PRO:HD3	1.74	0.52
57:B:21:LEU:HD13	57:B:220:ARG:HH12	1.75	0.52
26:N:184:C:H2'	26:N:185:G:H8	1.73	0.52
26:N:1650:A:OP1	39:a:12:ARG:NH1	2.41	0.52
26:N:1969:A:O2'	26:N:1972:G:N3	2.37	0.52
29:Q:33:ARG:HH12	29:Q:74:GLU:HB3	1.73	0.52
32:T:84:THR:HA	32:T:133:LEU:O	2.10	0.52
37:Y:106:GLU:OE1	37:Y:106:GLU:N	2.42	0.52
40:b:36:TYR:HD1	40:b:52:SER:HB3	1.73	0.52
56:r:3:VAL:HG12	56:r:36:ARG:HB3	1.91	0.52
58:y:60:PRO:HD3	58:y:91:PRO:HB2	1.92	0.52
1:0:406:G:N1	1:0:495:A:O2'	2.41	0.52
8:7:49:PHE:HB2	8:7:59:LEU:HD11	1.91	0.52
1:AA:864:A:O2'	1:AA:1078:U:O4	2.24	0.52
8:AH:87:LYS:HE2	8:AH:91:GLU:HG3	1.91	0.52
26:AV:1248:G:OP1	30:AZ:44:ARG:NH1	2.41	0.52
26:AV:2313:C:H2'	26:AV:2314:A:C8	2.43	0.52
26:AV:2857:G:N2	26:AV:2860:A:OP2	2.31	0.52
42:Al:112:LYS:NZ	43:Am:49:ILE:O	2.41	0.52
57:B:370:ARG:NH2	62:w:572:U:OP1	2.41	0.52
26:N:1445:G:O6	26:N:1466:U:O4	2.28	0.52
26:N:1889:A:N3	26:N:2086:U:O2'	2.37	0.52
47:i:7:GLU:HA	47:i:65:VAL:HG13	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:z:24:LEU:HD22	59:z:59:ASN:CG	2.34	0.52
59:z:68:GLY:O	59:z:99:ARG:NH2	2.40	0.52
1:0:1100:C:OP2	2:1:95:ARG:NH2	2.36	0.52
1:AA:730:G:O3'	1:AA:814:A:N6	2.42	0.52
26:AV:1060:U:H4'	26:AV:1061:U:H5'	1.91	0.52
30:AZ:21:ARG:NH1	30:AZ:22:ASP:OD1	2.42	0.52
31:Aa:74:VAL:HG22	31:Aa:79:ILE:HD11	1.91	0.52
41:Ak:48:ILE:HG13	41:Ak:97:LEU:HB2	1.91	0.52
57:B:1158:GLN:HE22	57:B:1210:LEU:HD21	1.74	0.52
60:M:9:C:O2'	60:M:10:G:N7	2.42	0.52
26:N:1982:U:H2'	26:N:1983:G:H8	1.74	0.52
1:0:1030:U:H4'	57:B:725:TYR:HD1	1.75	0.52
1:0:1366:C:O2'	10:9:62:ARG:NH1	2.41	0.52
2:AB:114:LEU:HD13	2:AB:144:LEU:HB3	1.92	0.52
7:AG:69:VAL:HG22	7:AG:135:VAL:HG12	1.92	0.52
10:AJ:8:ILE:O	10:AJ:73:LEU:HA	2.09	0.52
23:AS:35:VAL:HG22	23:AS:50:ALA:HB1	1.91	0.52
26:AV:291:G:O6	26:AV:349:U:O4	2.28	0.52
26:AV:1744:A:H3'	26:AV:1745:A:H8	1.74	0.52
57:B:872:ASP:O	57:B:987:ARG:NH1	2.43	0.52
15:C:42:VAL:HG12	15:C:216:THR:HG22	1.90	0.52
17:G:24:ARG:NH2	17:G:55:SER:OG	2.40	0.52
26:N:189:G:H21	26:N:207:A:H62	1.57	0.52
26:N:574:A:N6	26:N:2034:U:OP1	2.42	0.52
26:N:2815:C:O2'	52:n:41:HIS:ND1	2.41	0.52
27:O:93:C:H2'	27:O:94:A:H8	1.74	0.52
29:Q:4:LEU:HD23	29:Q:29:VAL:HG11	1.91	0.52
51:m:12:SER:OG	51:m:13:ALA:N	2.41	0.52
59:z:34:CYS:SG	59:z:78:SER:N	2.83	0.52
1:0:1006:G:C6	1:0:1022:A:N1	2.78	0.52
8:7:54:ASP:OD1	8:7:54:ASP:N	2.43	0.52
1:AA:1409:C:H2'	1:AA:1410:A:H8	1.75	0.52
5:AE:58:ALA:O	5:AE:62:LYS:HG3	2.10	0.52
26:AV:1800:C:OP1	28:AX:258:ARG:NH1	2.43	0.52
26:AV:1807:G:O2'	26:AV:1809:A:N6	2.39	0.52
28:AX:24:LEU:HG	28:AX:82:GLU:HA	1.92	0.52
36:Af:38:ILE:HD11	36:Af:112:PHE:HZ	1.74	0.52
49:As:5:CYS:HB3	49:As:10:LYS:H	1.74	0.52
15:C:186:LYS:NZ	15:C:187:GLU:OE2	2.33	0.52
24:L:34:LEU:HD21	31:S:106:ILE:HG22	1.91	0.52
26:N:968:C:H2'	26:N:969:G:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:1636:U:H2'	26:N:1637:A:C8	2.45	0.52
26:N:2339:C:H2'	26:N:2340:A:C8	2.45	0.52
39:a:9:GLN:O	39:a:17:ARG:NH2	2.42	0.52
1:0:110:C:O2'	19:I:25:ARG:O	2.27	0.52
1:0:1088:G:H21	1:0:1167:A:H62	1.58	0.52
1:AA:375:U:H5''	19:AO:70:ARG:HG3	1.92	0.52
1:AA:686:U:O4	1:AA:703:G:O2'	2.20	0.52
7:AG:26:PHE:HZ	7:AG:120:LEU:HD11	1.75	0.52
25:AU:23:A:H2'	25:AU:24:G:C8	2.45	0.52
26:AV:532:A:H4'	26:AV:533:G:C8	2.45	0.52
28:AX:39:LYS:NZ	28:AX:58:HIS:O	2.38	0.52
42:Al:71:GLN:OE1	42:Al:72:ASN:ND2	2.43	0.52
46:Ap:43:LYS:HB3	46:Ap:58:ILE:HD12	1.92	0.52
57:B:899:ARG:HA	57:B:902:LEU:HD12	1.92	0.52
57:B:900:ARG:HH12	57:B:922:PRO:HB3	1.74	0.52
26:N:2144:G:N2	26:N:2146:C:O2'	2.42	0.52
1:0:54:C:H2'	1:0:352:C:H41	1.75	0.52
1:0:1245:C:H2'	1:0:1246:A:H8	1.74	0.52
2:AB:153:ASP:OD1	2:AB:153:ASP:N	2.43	0.52
26:AV:340:A:O2'	30:AZ:162:ARG:NH1	2.42	0.52
26:AV:1799:G:N1	26:AV:1819:A:OP2	2.41	0.52
29:AY:25:THR:HG21	29:AY:193:VAL:HG22	1.92	0.52
57:B:521:ILE:HG13	57:B:626:LEU:HD11	1.92	0.52
26:N:197:A:N6	26:N:2430:A:O2'	2.43	0.52
26:N:242:G:N2	26:N:255:A:OP2	2.35	0.52
26:N:690:G:O2'	26:N:780:G:OP1	2.24	0.52
26:N:2008:C:H2'	26:N:2009:A:H8	1.74	0.52
26:N:2293:G:O2'	40:b:98:GLN:NE2	2.34	0.52
27:O:49:C:H2'	27:O:50:A:H8	1.75	0.52
35:W:117:ALA:HA	35:W:120:ARG:HD2	1.92	0.52
63:x:71:CYS:HB2	63:x:117:LEU:HB2	1.91	0.52
1:0:19:A:H5''	5:4:91:GLY:HA3	1.90	0.52
1:0:946:A:O2'	1:0:1333:A:N3	2.42	0.52
1:AA:376:G:H5''	19:AO:5:ARG:HB2	1.92	0.52
1:AA:749:A:O2'	18:AN:20:ASN:OD1	2.24	0.52
3:AC:54:ARG:HB2	3:AC:69:HIS:HB2	1.92	0.52
3:AC:70:THR:HG21	3:AC:76:VAL:HG11	1.91	0.52
26:AV:693:A:O2'	26:AV:1353:A:N3	2.42	0.52
26:AV:906:U:O3'	38:Ah:66:ARG:NH1	2.42	0.52
26:AV:1341:G:H1'	45:Ao:59:ASN:HB3	1.91	0.52
26:AV:1355:G:H2'	26:AV:1356:G:H8	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2336:A:H61	48:Ar:43:THR:HG21	1.75	0.52
26:AV:2626:C:H2'	26:AV:2627:G:H8	1.75	0.52
28:AX:122:ALA:HB1	28:AX:128:ASN:HB3	1.92	0.52
37:Ag:108:ALA:HB3	37:Ag:125:LEU:HD22	1.91	0.52
19:I:6:LEU:HD21	19:I:17:TYR:HB3	1.92	0.52
35:W:19:ASP:O	35:W:23:LYS:NZ	2.38	0.52
49:k:69:ALA:HA	49:k:72:ARG:HD3	1.90	0.52
50:l:17:GLU:OE1	50:l:54:LYS:NZ	2.39	0.52
53:o:9:ILE:HD12	53:o:52:ALA:HB1	1.91	0.52
1:0:8:A:H5''	5:4:126:LYS:HD3	1.91	0.52
1:0:337:G:H2'	1:0:338:A:C8	2.45	0.52
1:0:599:C:P	8:7:88:ARG:HH11	2.33	0.52
1:0:837:U:H2'	1:0:838:G:H8	1.74	0.52
26:AV:1213:A:OP2	26:AV:1236:G:N2	2.38	0.52
26:AV:1363:C:H2'	26:AV:1364:G:H8	1.75	0.52
26:AV:2165:C:N4	26:AV:2167:U:O4	2.42	0.52
36:Af:26:GLY:HA3	36:Af:30:ARG:HH21	1.75	0.52
26:N:190:A:OP2	26:N:205:G:N1	2.42	0.52
26:N:389:G:C8	26:N:2413:G:H4'	2.45	0.52
26:N:589:U:H2'	26:N:590:A:C8	2.45	0.52
26:N:1368:G:H2'	26:N:1369:G:H8	1.74	0.52
26:N:2313:C:H2'	26:N:2314:A:H8	1.75	0.52
26:N:2372:U:H2'	26:N:2373:G:H8	1.75	0.52
40:b:69:ASP:OD1	40:b:69:ASP:N	2.40	0.52
46:h:77:THR:O	46:h:79:LYS:NZ	2.35	0.52
7:6:15:ASP:OD1	7:6:44:TYR:OH	2.27	0.51
2:AB:130:THR:HG23	2:AB:132:LYS:HG2	1.91	0.51
26:AV:1072:C:H41	26:AV:1097:U:H5''	1.74	0.51
28:AX:19:VAL:HG23	28:AX:203:ARG:HB3	1.92	0.51
31:Aa:147:ASP:OD1	31:Aa:150:ARG:NH1	2.44	0.51
26:N:312:G:H2'	26:N:313:G:H8	1.75	0.51
26:N:784:G:C6	28:P:228:VAL:HG21	2.46	0.51
26:N:2816:G:H5''	39:a:99:LYS:HE2	1.91	0.51
32:T:101:ASN:HB2	32:T:117:LEU:HB2	1.91	0.51
34:V:117:MET:HE3	34:V:118:THR:H	1.75	0.51
42:d:102:ASP:OD2	43:e:2:TYR:OH	2.27	0.51
49:k:38:PHE:O	49:k:46:PHE:HA	2.09	0.51
1:0:932:C:H5''	7:6:4:ARG:HB2	1.92	0.51
2:1:194:ASP:OD1	2:1:194:ASP:N	2.43	0.51
11:A:16:U:H1'	11:A:17:C:H4'	1.91	0.51
1:AA:320:A:H2'	1:AA:321:A:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:783:C:H2'	1:AA:784:A:H8	1.75	0.51
1:AA:1356:G:H2'	1:AA:1357:A:C8	2.45	0.51
3:AC:20:SER:OG	3:AC:40:ARG:NH1	2.42	0.51
16:AL:77:ILE:HG22	16:AL:81:MET:HE1	1.92	0.51
26:AV:291:G:N2	26:AV:349:U:O2	2.38	0.51
26:AV:1296:G:OP1	26:AV:2709:G:O2'	2.25	0.51
26:AV:2683:C:O2'	29:AY:13:ARG:NH1	2.43	0.51
29:AY:98:VAL:HG11	29:AY:185:ASN:HA	1.93	0.51
30:AZ:153:LEU:HB2	30:AZ:171:ASP:HB2	1.93	0.51
26:N:754:U:O2'	26:N:1272:A:N1	2.42	0.51
26:N:1360:G:C6	26:N:2214:C:O2	2.63	0.51
30:R:181:ILE:HD11	37:Y:2:ARG:HG2	1.91	0.51
45:g:3:ARG:O	45:g:7:LEU:CB	2.59	0.51
47:i:86:LEU:HD21	47:i:89:ILE:HD11	1.92	0.51
1:0:950:U:H2'	1:0:951:G:H8	1.74	0.51
2:1:59:LYS:O	2:1:63:ARG:NH2	2.44	0.51
3:2:72:ARG:HE	3:2:74:GLY:H	1.58	0.51
12:A1:46:LYS:NZ	1:AA:1530:G:O6	2.37	0.51
1:AA:995:C:N3	1:AA:1046:A:O2'	2.37	0.51
26:AV:535:G:N2	26:AV:558:U:O2	2.40	0.51
26:AV:586:A:N1	26:AV:809:G:O2'	2.43	0.51
26:AV:1631:G:N2	26:AV:1634:A:OP2	2.38	0.51
34:Ad:79:LEU:HD22	34:Ad:109:ILE:HD12	1.93	0.51
34:Ad:80:LEU:HD11	34:Ad:101:ILE:HG21	1.93	0.51
57:B:196:ILE:HD11	57:B:206:ILE:HG12	1.92	0.51
57:B:377:ARG:O	57:B:648:ARG:NH2	2.40	0.51
19:I:40:ASN:HB3	19:I:43:ALA:HB2	1.92	0.51
19:I:68:SER:OG	19:I:69:ASP:N	2.42	0.51
26:N:1102:C:H2'	26:N:1103:A:H8	1.74	0.51
26:N:1275:A:OP2	26:N:1646:C:N4	2.44	0.51
26:N:2141:G:H2'	26:N:2142:A:H8	1.75	0.51
54:p:21:ARG:HH21	54:p:30:VAL:HG11	1.74	0.51
58:y:23:ILE:HD13	58:y:96:THR:HG21	1.93	0.51
58:y:34:ILE:HD11	58:y:74:VAL:HG21	1.91	0.51
1:0:149:A:H61	1:0:172:A:H62	1.57	0.51
13:A2:1068:ASN:HA	13:A2:1071:ARG:HD3	1.91	0.51
1:AA:41:G:H2'	1:AA:42:G:H8	1.76	0.51
1:AA:374:A:N1	1:AA:390:U:O2'	2.38	0.51
1:AA:677:U:H3	1:AA:713:G:H22	1.59	0.51
3:AC:34:ASP:OD2	17:AM:65:ARG:NH2	2.43	0.51
25:AU:62:C:H2'	25:AU:63:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2820:A:OP2	26:AV:2821:A:N6	2.38	0.51
26:N:444:C:OP2	30:R:44:ARG:NH2	2.44	0.51
26:N:1997:C:H2'	26:N:1998:A:H8	1.75	0.51
26:N:2092:U:OP1	26:N:2199:A:O2'	2.24	0.51
59:z:24:LEU:HD13	59:z:59:ASN:ND2	2.24	0.51
1:0:987:G:H2'	1:0:988:G:H8	1.76	0.51
1:0:1151:A:H5''	10:9:44:THR:HG23	1.93	0.51
1:0:1253:G:H2'	1:0:1254:A:C8	2.46	0.51
1:0:1436:U:OP1	23:u:18:ARG:NH1	2.41	0.51
2:1:27:MET:HB2	2:1:30:PHE:HB2	1.93	0.51
5:4:156:LYS:HZ2	8:7:66:PHE:HD2	1.58	0.51
9:8:91:ASP:OD1	9:8:92:GLU:N	2.44	0.51
13:A2:1156:VAL:HA	13:A2:1159:ILE:HG22	1.92	0.51
1:AA:1137:C:O2	1:AA:1138:G:N2	2.42	0.51
1:AA:1342:C:H2'	1:AA:1343:G:C8	2.45	0.51
9:AI:84:THR:HG21	9:AI:103:PHE:HB3	1.93	0.51
22:AR:62:VAL:HA	22:AR:66:MET:HG3	1.92	0.51
26:AV:75:G:N1	26:AV:111:A:C2	2.64	0.51
26:AV:414:C:H2'	26:AV:415:A:H8	1.74	0.51
26:AV:2773:C:OP1	29:AY:169:ARG:NH1	2.43	0.51
26:AV:2885:G:N1	52:Av:30:VAL:O	2.40	0.51
26:N:1278:C:H2'	26:N:1279:G:H8	1.76	0.51
26:N:1664:A:H61	26:N:1996:C:H42	1.56	0.51
34:V:81:LYS:HA	34:V:85:GLY:HA2	1.91	0.51
37:Y:61:LEU:HD22	55:q:13:ARG:HB3	1.92	0.51
12:v:39:GLU:OE2	12:v:47:ARG:NH2	2.35	0.51
1:0:137:U:O2	1:0:226:G:N2	2.29	0.51
1:0:331:G:O2'	23:u:3:ASN:ND2	2.43	0.51
1:0:1008:U:O4	1:0:1020:G:O6	2.28	0.51
1:0:1149:C:OP2	9:8:11:ARG:NH1	2.44	0.51
1:0:1279:G:OP2	10:9:11:LYS:NZ	2.44	0.51
1:0:1522:U:H2'	1:0:1523:G:H8	1.76	0.51
13:A2:1292:LEU:HA	13:A2:1295:MET:HG2	1.91	0.51
1:AA:402:G:H5'	1:AA:621:A:H1'	1.92	0.51
1:AA:1218:C:H2'	1:AA:1219:A:C8	2.46	0.51
2:AB:20:THR:HA	2:AB:39:HIS:CD2	2.45	0.51
26:AV:2294:G:OP1	40:Aj:94:ARG:NH2	2.40	0.51
26:AV:2375:G:N2	26:AV:2378:A:OP2	2.39	0.51
37:Ag:29:LYS:HG2	37:Ag:30:THR:HG23	1.92	0.51
41:Ak:90:GLY:HA2	41:Ak:112:GLU:HA	1.92	0.51
57:B:321:LEU:O	57:B:345:VAL:HA	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:412:TYR:HE2	57:B:417:PHE:HB2	1.75	0.51
26:N:614:A:O2'	26:N:616:A:N7	2.44	0.51
26:N:2691:C:H2'	26:N:2692:G:C8	2.45	0.51
27:O:95:U:H2'	27:O:96:G:H8	1.75	0.51
59:z:32:GLY:O	59:z:79:VAL:HA	2.10	0.51
1:0:490:C:H2'	1:0:491:G:C8	2.46	0.51
1:0:713:G:H2'	1:0:714:G:C8	2.46	0.51
7:6:126:ASP:HA	7:6:129:GLU:HG2	1.92	0.51
1:AA:1055:A:O2'	3:AC:156:ARG:NE	2.41	0.51
1:AA:1222:G:H5''	22:AR:78:ARG:HE	1.75	0.51
15:AK:42:VAL:HG13	15:AK:178:VAL:HG12	1.92	0.51
26:AV:243:U:C2	26:AV:255:A:N7	2.79	0.51
26:AV:2125:G:O2'	26:AV:2126:A:O4'	2.25	0.51
26:AV:2855:C:H2'	26:AV:2856:A:H8	1.75	0.51
32:Ab:27:LYS:HB2	32:Ab:32:GLU:HG3	1.92	0.51
38:Ah:109:PRO:HG2	38:Ah:112:LEU:HD13	1.92	0.51
45:Ao:54:GLU:OE1	45:Ao:54:GLU:N	2.43	0.51
57:B:294:LEU:HD22	57:B:360:ILE:HD13	1.93	0.51
57:B:619:TYR:OH	57:B:686:ARG:O	2.27	0.51
26:N:171:U:H2'	26:N:172:A:H8	1.75	0.51
26:N:1252:G:C2	42:d:33:ARG:HB2	2.46	0.51
26:N:1279:G:OP1	39:a:35:LYS:NZ	2.40	0.51
26:N:1434:A:H2'	26:N:1435:G:C8	2.46	0.51
30:R:83:VAL:HB	30:R:86:ALA:HB2	1.93	0.51
51:m:40:ASP:OD2	51:m:45:ARG:NH1	2.43	0.51
1:0:151:A:H3'	1:0:152:A:H8	1.75	0.51
11:A:21:A:OP2	11:A:48:C:N4	2.44	0.51
12:A1:3:VAL:HA	58:y:111:THR:HG22	1.92	0.51
1:AA:674:G:H2'	1:AA:675:A:C8	2.45	0.51
1:AA:1071:C:H2'	1:AA:1072:G:C8	2.45	0.51
15:AK:45:ALA:HA	15:AK:172:HIS:HB3	1.93	0.51
26:AV:2863:C:H2'	26:AV:2864:G:H8	1.76	0.51
40:Aj:69:ASP:OD1	40:Aj:69:ASP:N	2.43	0.51
42:Al:24:TYR:H	42:Al:29:SER:HB3	1.74	0.51
26:N:244:A:H62	26:N:254:G:N2	2.09	0.51
26:N:328:U:O2'	46:h:66:GLN:NE2	2.39	0.51
26:N:858:G:H21	26:N:2268:A:H2'	1.75	0.51
26:N:987:C:O2'	26:N:1000:A:N3	2.36	0.51
26:N:1114:C:H2'	26:N:1115:G:C8	2.45	0.51
26:N:1270:C:H5''	26:N:1271:G:H5'	1.92	0.51
26:N:2530:A:N7	32:T:172:LYS:NZ	2.59	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:S:31:VAL:HA	31:S:158:THR:HG22	1.93	0.51
44:f:14:ALA:HB1	44:f:18:ARG:HH22	1.76	0.51
49:k:75:GLY:O	49:k:77:LYS:NZ	2.44	0.51
1:0:806:C:H2'	1:0:807:A:H8	1.75	0.51
8:7:40:LEU:HG	8:7:46:ILE:HG12	1.93	0.51
1:AA:1402:C:N4	62:w:524:C:OP2	2.40	0.51
2:AB:89:GLN:C	2:AB:90:PHE:CD1	2.89	0.51
26:AV:1857:G:H1'	26:AV:1885:A:H62	1.76	0.51
57:B:97:ILE:HG12	57:B:227:ILE:HB	1.92	0.51
26:N:1278:C:H2'	26:N:1279:G:C8	2.45	0.51
29:Q:15:PHE:H	41:c:12:GLN:HE22	1.59	0.51
29:Q:124:ARG:NH2	29:Q:161:MET:O	2.44	0.51
47:i:73:LYS:N	47:i:92:VAL:O	2.40	0.51
50:l:3:ALA:O	50:l:7:ARG:NH1	2.37	0.51
55:q:16:LYS:HE3	55:q:22:PHE:HE1	1.76	0.51
1:0:84:U:N3	1:0:86:G:O2'	2.44	0.51
1:0:795:C:H4'	58:D:128:ARG:HH22	1.75	0.51
2:1:94:HIS:CE1	2:1:146:ASN:HB2	2.45	0.51
3:2:151:VAL:O	3:2:167:TRP:HA	2.10	0.51
1:AA:1141:C:H2'	1:AA:1142:G:C8	2.46	0.51
9:AI:6:TYR:CE2	9:AI:89:GLU:HB2	2.46	0.51
26:AV:788:A:OP1	26:AV:791:C:N4	2.40	0.51
26:AV:788:A:H5''	26:AV:790:U:H5	1.75	0.51
26:AV:1051:G:N1	26:AV:1108:U:N3	2.59	0.51
26:AV:2584:U:H2'	26:AV:2585:U:H2'	1.93	0.51
27:AW:94:A:OP2	47:Aq:19:ARG:NH2	2.43	0.51
57:B:189:MET:HA	57:B:220:ARG:HH11	1.75	0.51
26:N:121:G:H2'	26:N:122:G:C8	2.45	0.51
26:N:140:C:OP1	26:N:141:G:N2	2.42	0.51
26:N:673:C:OP1	30:R:49:ARG:NH2	2.35	0.51
26:N:799:G:H3'	26:N:800:A:H2'	1.93	0.51
26:N:2099:U:O2	26:N:2190:G:N2	2.39	0.51
52:n:11:SER:O	52:n:15:MET:HG3	2.10	0.51
63:x:42:ARG:HH22	63:x:43:LYS:HE2	1.75	0.51
1:0:34:C:H2'	1:0:35:G:C8	2.45	0.50
1:0:96:U:H2'	1:0:97:G:C8	2.46	0.50
1:0:501:C:H2'	1:0:502:A:H8	1.75	0.50
3:2:88:ARG:HH22	3:2:100:GLN:HA	1.76	0.50
8:7:113:ASP:N	8:7:113:ASP:OD1	2.44	0.50
13:A2:1066:MET:HE3	13:A2:1127:PRO:HB2	1.93	0.50
1:AA:947:G:O3'	16:AL:108:THR:OG1	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1267:U:H2'	26:AV:1268:A:H8	1.76	0.50
26:AV:1306:C:H2'	26:AV:1307:A:H8	1.77	0.50
27:AW:111:U:H2'	27:AW:112:G:H8	1.75	0.50
33:Ac:78:VAL:O	33:Ac:144:VAL:HA	2.11	0.50
42:Al:53:ARG:HA	42:Al:56:GLN:HG3	1.93	0.50
51:Au:13:ALA:HA	51:Au:16:ARG:HG3	1.93	0.50
57:B:737:TYR:HA	57:B:740:ILE:HD12	1.94	0.50
26:N:1143:A:OP1	35:W:27:ARG:NH1	2.43	0.50
41:c:50:ILE:HG23	41:c:59:PHE:HB3	1.93	0.50
44:f:86:MET:HE3	44:f:87:PRO:HD2	1.93	0.50
1:0:309:A:O2'	1:0:607:A:N1	2.42	0.50
1:0:501:C:H2'	1:0:502:A:C8	2.46	0.50
1:0:581:G:OP1	18:H:65:LYS:NZ	2.30	0.50
1:0:950:U:H2'	1:0:951:G:C8	2.46	0.50
1:AA:613:C:H2'	1:AA:614:C:C6	2.46	0.50
1:AA:993:G:H2'	1:AA:995:C:H41	1.77	0.50
2:AB:89:GLN:O	2:AB:90:PHE:HD1	1.94	0.50
5:AE:96:MET:HA	5:AE:124:LEU:O	2.10	0.50
20:AP:17:MET:O	20:AP:51:ASN:ND2	2.43	0.50
26:AV:992:C:H4'	43:Am:74:ILE:HD13	1.94	0.50
26:AV:1141:U:OP2	35:Ae:68:LYS:NZ	2.30	0.50
39:Ai:56:LYS:NZ	39:Ai:87:PHE:O	2.33	0.50
48:Ar:66:LYS:O	48:Ar:82:ILE:HA	2.11	0.50
54:Ax:31:LEU:HD12	54:Ax:42:LEU:HD23	1.92	0.50
24:L:16:CYS:SG	24:L:20:ASN:N	2.84	0.50
26:N:28:A:O2'	42:d:11:ARG:NH1	2.44	0.50
26:N:1040:A:OP1	47:i:46:LYS:NZ	2.41	0.50
26:N:2443:C:H2'	26:N:2444:G:C8	2.45	0.50
26:N:2838:G:H2'	26:N:2839:G:H8	1.76	0.50
26:N:2865:U:H3'	26:N:2866:U:H2'	1.92	0.50
41:c:90:GLY:HA2	41:c:112:GLU:HA	1.92	0.50
50:l:17:GLU:CD	50:l:54:LYS:HZ2	2.18	0.50
1:0:715:A:H2'	1:0:716:A:C8	2.45	0.50
13:A2:1185:ILE:HD12	13:A2:1216:ILE:HG23	1.94	0.50
14:A3:59:A:O2'	14:A3:62:C:N4	2.45	0.50
1:AA:231:U:H2'	1:AA:232:G:H8	1.75	0.50
1:AA:368:U:O4'	33:U:89:LYS:NZ	2.43	0.50
1:AA:620:C:H1'	4:AD:132:ILE:HG21	1.92	0.50
1:AA:692:U:H5''	58:y:127:ARG:HH12	1.76	0.50
2:AB:43:LEU:HA	2:AB:46:THR:HG22	1.94	0.50
2:AB:129:LEU:H	57:B:1225:VAL:HG23	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:61:C:OP2	50:At:47:ARG:NH2	2.44	0.50
26:AV:482:A:OP1	46:Ap:47:LYS:NZ	2.44	0.50
27:AW:5:U:H2'	27:AW:6:G:C8	2.46	0.50
27:AW:55:U:O2'	31:Aa:24:SER:OG	2.25	0.50
31:Aa:3:LYS:O	31:Aa:7:TYR:HB2	2.12	0.50
57:B:784:ARG:HD2	57:B:865:PHE:HD1	1.75	0.50
26:N:396:G:O2'	49:k:30:LEU:O	2.24	0.50
26:N:1081:U:H4'	34:V:124:ALA:HB1	1.92	0.50
41:c:14:LYS:HE3	41:c:77:HIS:HA	1.94	0.50
44:f:17:VAL:HG11	44:f:76:VAL:HG11	1.92	0.50
1:0:49:U:H3	1:0:362:G:H1'	1.76	0.50
1:0:1522:U:OP1	58:D:128:ARG:NH2	2.44	0.50
11:A:23:A:H2'	11:A:24:G:C8	2.47	0.50
14:A3:1:G:C6	14:A3:74:A:N6	2.80	0.50
1:AA:147:G:H2'	1:AA:148:G:C8	2.46	0.50
2:AB:207:ILE:HA	2:AB:210:VAL:HG22	1.93	0.50
6:AF:9:MET:HE2	6:AF:86:ARG:HB3	1.92	0.50
26:AV:820:A:H4'	26:AV:836:G:H22	1.75	0.50
26:AV:1155:A:O3'	42:Al:55:ARG:NH1	2.43	0.50
26:AV:1529:G:O6	26:AV:1542:U:O2	2.28	0.50
32:Ab:35:ARG:HB2	32:Ab:75:MET:HE1	1.94	0.50
35:Ae:66:GLY:O	35:Ae:69:ARG:NE	2.45	0.50
26:N:644:A:C2	26:N:2369:A:H1'	2.46	0.50
26:N:971:G:O2'	26:N:983:A:N3	2.37	0.50
26:N:1101:U:H2'	26:N:1102:C:H6	1.76	0.50
26:N:1248:G:OP1	30:R:44:ARG:NH2	2.45	0.50
26:N:1270:C:O2'	26:N:1648:U:OP2	2.27	0.50
26:N:1409:U:H2'	26:N:1410:G:H8	1.77	0.50
32:T:124:GLU:OE1	32:T:134:LYS:NZ	2.43	0.50
34:V:133:ALA:HB1	34:V:138:LEU:HB2	1.92	0.50
46:h:24:LYS:NZ	46:h:25:VAL:O	2.44	0.50
1:0:744:C:H2'	1:0:745:G:C8	2.45	0.50
8:7:40:LEU:HD11	8:7:45:PHE:HB2	1.94	0.50
1:AA:578:C:O2'	1:AA:728:A:N3	2.40	0.50
1:AA:1241:G:H2'	1:AA:1242:G:H8	1.77	0.50
10:AJ:88:MET:O	10:AJ:89:ARG:HD3	2.12	0.50
26:AV:1713:A:N3	26:AV:1715:G:O2'	2.42	0.50
31:Aa:39:GLY:HA2	31:Aa:86:GLY:HA3	1.92	0.50
57:B:51:ALA:HA	57:B:54:ILE:HG22	1.93	0.50
57:B:636:MET:O	57:B:644:TYR:HA	2.12	0.50
24:L:22:MET:SD	24:L:24:ILE:HD11	2.51	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:13:A:O2'	26:N:15:G:N7	2.43	0.50
26:N:241:A:N6	26:N:256:A:OP2	2.44	0.50
26:N:657:U:H2'	26:N:658:U:C6	2.46	0.50
26:N:1548:A:H2'	26:N:1549:A:H8	1.76	0.50
26:N:2047:C:H2'	26:N:2048:G:H8	1.75	0.50
26:N:2328:A:H2'	26:N:2329:U:C6	2.47	0.50
26:N:2372:U:H2'	26:N:2373:G:C8	2.47	0.50
59:z:114:ARG:HG3	59:z:119:VAL:HB	1.92	0.50
1:0:625:U:H2'	1:0:626:G:C8	2.46	0.50
1:0:711:G:H2'	1:0:712:A:H8	1.77	0.50
1:0:988:G:H1'	1:0:1014:A:H61	1.76	0.50
1:0:1224:U:O2'	1:0:1322:C:OP1	2.27	0.50
1:0:1226:C:OP2	16:F:90:ARG:NH2	2.38	0.50
1:0:1342:C:H2'	1:0:1343:G:C8	2.47	0.50
1:AA:505:G:H2'	1:AA:506:G:C8	2.47	0.50
26:AV:372:G:H1'	26:AV:373:U:H5	1.76	0.50
26:AV:682:G:H5'	54:Ax:26:ASN:ND2	2.27	0.50
26:AV:1600:C:H2'	26:AV:1601:G:H8	1.77	0.50
26:AV:1753:G:OP1	41:Ak:93:ARG:NE	2.37	0.50
26:AV:2647:U:H2'	26:AV:2648:G:H8	1.77	0.50
57:B:637:LYS:HB3	57:B:666:LYS:HA	1.92	0.50
58:D:63:ALA:HB1	58:D:96:THR:HB	1.94	0.50
26:N:948:C:O2	26:N:984:A:O2'	2.27	0.50
26:N:1109:C:O2'	26:N:1110:G:O5'	2.30	0.50
28:P:7:LYS:O	28:P:13:ARG:NH2	2.45	0.50
35:W:35:ARG:HB3	35:W:54:ILE:HD11	1.93	0.50
53:o:38:LYS:HB2	53:o:49:TYR:CE2	2.47	0.50
1:0:428:G:OP2	4:3:10:LYS:NZ	2.36	0.50
1:0:1159:U:O4'	1:0:1182:G:N2	2.44	0.50
2:1:15:HIS:HB3	2:1:43:LEU:HD11	1.92	0.50
3:2:57:ILE:HG13	3:2:66:VAL:HG12	1.94	0.50
1:AA:369:G:H5''	33:U:92:GLY:HA2	1.93	0.50
1:AA:377:G:H2'	1:AA:378:G:C8	2.46	0.50
7:AG:110:LYS:HE3	7:AG:133:THR:HG21	1.94	0.50
20:AP:59:VAL:HG21	20:AP:75:LEU:HD22	1.94	0.50
24:AT:11:GLU:OE2	24:AT:23:LYS:HG2	2.12	0.50
26:AV:535:G:H1	26:AV:558:U:H3	1.58	0.50
26:AV:780:G:OP1	28:AX:217:ARG:NH2	2.44	0.50
34:Ad:53:LEU:HD23	34:Ad:78:VAL:HG13	1.94	0.50
35:Ae:29:ALA:HA	35:Ae:32:LEU:HD12	1.93	0.50
40:Aj:35:ILE:HD11	40:Aj:102:ARG:HH21	1.75	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:494:G:H4'	44:f:6:LYS:HB2	1.93	0.50
26:N:641:U:C2	26:N:647:G:O6	2.64	0.50
26:N:1266:G:H22	26:N:2012:G:H3'	1.77	0.50
26:N:1432:G:H2'	26:N:1433:A:C8	2.47	0.50
26:N:1518:C:H2'	26:N:1519:G:H8	1.74	0.50
26:N:2315:G:H2'	26:N:2316:G:H8	1.76	0.50
36:X:63:VAL:HG12	36:X:107:LEU:HD21	1.93	0.50
36:X:112:PHE:HD1	36:X:115:ILE:HD12	1.76	0.50
38:Z:42:THR:HG22	38:Z:93:VAL:HG22	1.93	0.50
38:Z:53:MET:HE3	38:Z:120:ALA:HB2	1.93	0.50
45:g:40:LYS:HE3	45:g:60:THR:HG22	1.92	0.50
63:x:114:GLU:OE1	63:x:125:ARG:NH1	2.44	0.50
1:0:10:A:HO2'	1:0:507:C:HO2'	1.60	0.50
1:0:161:A:H2'	1:0:162:A:C8	2.46	0.50
1:0:181:A:N6	1:0:195:A:OP2	2.45	0.50
2:1:133:GLU:O	2:1:137:ARG:CB	2.60	0.50
3:2:6:HIS:HB3	17:G:89:MET:HE3	1.94	0.50
1:AA:324:G:N2	1:AA:327:A:OP2	2.44	0.50
1:AA:356:A:N3	1:AA:368:U:O2'	2.41	0.50
5:AE:78:ASN:OD1	5:AE:79:GLY:N	2.45	0.50
6:AF:14:GLN:OE1	6:AF:17:GLN:NE2	2.45	0.50
10:AJ:11:LYS:HG2	10:AJ:71:LEU:HD23	1.94	0.50
26:AV:213:A:H2'	26:AV:214:G:C8	2.47	0.50
26:AV:2659:G:OP2	32:Ab:158:LYS:NZ	2.39	0.50
33:Ac:12:LEU:HD11	33:Ac:19:VAL:HG11	1.94	0.50
42:Al:18:LEU:HA	42:Al:21:ALA:HB3	1.93	0.50
48:Ar:44:LYS:O	48:Ar:77:ARG:NH1	2.45	0.50
57:B:1138:HIS:HA	57:B:1141:VAL:HG12	1.93	0.50
26:N:355:U:H2'	26:N:356:G:C8	2.47	0.50
26:N:2291:U:H2'	26:N:2292:U:C6	2.47	0.50
26:N:2307:G:OP1	26:N:2308:G:N2	2.45	0.50
26:N:2584:U:O2'	26:N:2602:A:N7	2.45	0.50
55:q:4:ILE:HG21	55:q:63:PRO:HG3	1.94	0.50
1:0:490:C:H2'	1:0:491:G:H8	1.75	0.50
1:0:832:G:N2	1:0:854:U:O2	2.37	0.50
1:0:1073:U:OP2	5:4:62:LYS:NZ	2.45	0.50
1:AA:1080:A:H5''	5:AE:21:VAL:HG21	1.93	0.50
26:AV:577:G:O2'	26:AV:1254:A:OP1	2.29	0.50
26:AV:1263:U:OP1	52:Av:13:ARG:NH2	2.45	0.50
26:AV:2032:G:N2	29:AY:151:THR:OG1	2.44	0.50
26:AV:2531:A:H61	26:AV:2662:A:H61	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AX:25:HIS:CG	28:AX:80:ARG:HE	2.30	0.50
30:AZ:149:ILE:HA	30:AZ:170:ARG:O	2.11	0.50
33:Ac:47:PHE:HD1	33:Ac:51:ARG:HD2	1.76	0.50
24:L:26:SER:OG	24:L:27:THR:N	2.43	0.50
26:N:161:A:H3'	26:N:162:U:H5''	1.93	0.50
26:N:373:U:H2'	26:N:374:A:H8	1.77	0.50
26:N:605:G:OP1	30:R:99:LYS:NZ	2.43	0.50
26:N:832:U:H2'	26:N:833:A:H8	1.76	0.50
26:N:835:C:H2'	26:N:836:G:H8	1.75	0.50
26:N:2343:U:HO2'	26:N:2373:G:HO2'	1.60	0.50
40:b:108:ASP:O	40:b:111:ARG:N	2.44	0.50
46:h:65:ILE:HD12	46:h:70:VAL:HG21	1.93	0.50
63:x:100:ALA:HB1	63:x:107:GLU:HA	1.94	0.50
1:0:147:G:H2'	1:0:148:G:C8	2.46	0.49
1:0:160:A:H2'	1:0:161:A:C8	2.47	0.49
1:0:948:C:H2'	1:0:949:A:H8	1.77	0.49
13:A2:1205:ARG:NH1	13:A2:1208:ASP:OD2	2.45	0.49
26:AV:2731:G:H2'	26:AV:2732:G:C8	2.47	0.49
36:Af:15:GLY:O	36:Af:47:ILE:N	2.40	0.49
46:Ap:12:ILE:HG13	46:Ap:22:ARG:HG2	1.94	0.49
57:B:265:GLU:HG2	57:B:269:ASP:H	1.76	0.49
26:N:1951:U:O2'	26:N:1953:A:N7	2.42	0.49
26:N:2581:G:OP2	26:N:2581:G:N2	2.34	0.49
26:N:2626:C:H2'	26:N:2627:G:H8	1.77	0.49
26:N:2676:C:O2	26:N:2732:G:N2	2.45	0.49
31:S:144:ASP:HB3	31:S:145:LYS:HE3	1.94	0.49
47:i:83:LYS:HD2	47:i:84:PRO:HD2	1.94	0.49
62:w:559:U:O2'	62:w:560:U:O4'	2.30	0.49
9:8:106:ARG:NH2	9:8:107:ASP:O	2.45	0.49
1:AA:269:C:H2'	1:AA:270:A:C8	2.47	0.49
26:AV:184:C:H2'	26:AV:185:G:H8	1.77	0.49
28:AX:144:VAL:O	28:AX:154:LEU:N	2.40	0.49
42:Al:27:ALA:HA	42:Al:30:ARG:HB2	1.94	0.49
26:N:358:U:H2'	26:N:359:G:C8	2.47	0.49
26:N:1798:U:OP2	28:P:271:ARG:NH1	2.44	0.49
26:N:2134:A:N3	26:N:2159:G:O2'	2.43	0.49
1:AA:243:A:H4'	1:AA:244:U:H3'	1.93	0.49
2:AB:105:LYS:HA	2:AB:108:ARG:HH22	1.76	0.49
6:AF:36:ILE:HD11	6:AF:39:LEU:HB2	1.94	0.49
7:AG:111:ARG:HB2	7:AG:119:ARG:HG2	1.93	0.49
7:AG:150:ALA:HB3	58:y:56:ARG:HE	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AL:90:ARG:HG3	16:AL:97:VAL:HG12	1.94	0.49
26:AV:377:G:H1	26:AV:397:U:H3	1.60	0.49
26:AV:755:U:H2'	26:AV:756:A:C8	2.47	0.49
26:AV:2047:C:O2'	26:AV:2823:A:N1	2.45	0.49
29:AY:14:ILE:HD11	29:AY:188:LEU:HD13	1.93	0.49
30:AZ:141:MET:HE3	30:AZ:143:LEU:HD12	1.93	0.49
57:B:256:VAL:HA	57:B:406:GLY:O	2.12	0.49
57:B:857:LEU:HD13	57:B:882:LEU:HD23	1.94	0.49
57:B:945:ARG:NH2	57:B:946:GLU:OE2	2.45	0.49
26:N:74:A:OP1	26:N:75:G:O2'	2.28	0.49
26:N:296:U:H2'	26:N:297:G:C8	2.47	0.49
26:N:587:C:C2	37:Y:19:LEU:HD11	2.47	0.49
26:N:1819:A:OP1	28:P:157:SER:OG	2.28	0.49
26:N:2339:C:H2'	26:N:2340:A:H8	1.76	0.49
26:N:2579:C:O2'	29:Q:136:ASN:OD1	2.30	0.49
26:N:2884:U:H2'	26:N:2885:G:C8	2.47	0.49
28:P:94:VAL:O	28:P:101:ARG:HA	2.13	0.49
31:S:34:ILE:HG13	31:S:91:LEU:HB2	1.94	0.49
1:AA:470:C:H2'	1:AA:471:U:H6	1.78	0.49
1:AA:790:A:OP1	25:AU:38:U:O2'	2.26	0.49
2:AB:129:LEU:HB3	2:AB:133:GLU:HG2	1.94	0.49
4:AD:140:ASN:N	4:AD:182:PHE:O	2.45	0.49
9:AI:53:GLU:HG3	9:AI:58:VAL:HG21	1.93	0.49
26:AV:742:A:H2'	26:AV:743:A:H8	1.77	0.49
26:AV:2689:U:OP1	26:AV:2719:G:N1	2.43	0.49
29:AY:179:ARG:HB2	29:AY:188:LEU:HB2	1.94	0.49
55:Ay:10:ALA:HA	55:Ay:13:ARG:HB2	1.93	0.49
57:B:724:VAL:HG22	57:B:729:ILE:HD11	1.93	0.49
26:N:151:C:H2'	26:N:152:A:C8	2.44	0.49
26:N:2303:G:H2'	26:N:2304:G:H8	1.77	0.49
1:0:134:G:H22	19:I:25:ARG:HH12	1.59	0.49
1:0:312:C:H2'	1:0:313:A:H8	1.78	0.49
1:0:537:G:H5''	59:E:110:ARG:HH22	1.77	0.49
1:0:578:C:O2'	1:0:728:A:N3	2.41	0.49
1:AA:686:U:O2'	1:AA:687:A:O4'	2.30	0.49
17:AM:63:ARG:NH2	17:AM:68:GLY:O	2.45	0.49
26:AV:2286:G:N3	26:AV:2287:A:N6	2.61	0.49
57:B:1093:ALA:HA	57:B:1157:GLU:HG3	1.94	0.49
26:N:75:G:OP1	50:l:48:ARG:NH1	2.46	0.49
26:N:411:G:OP2	26:N:2406:A:O2'	2.22	0.49
26:N:561:G:H1'	42:d:48:ARG:HH12	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:1296:G:OP1	26:N:2709:G:O2'	2.28	0.49
26:N:1534:U:O2'	26:N:1537:G:O6	2.22	0.49
26:N:1796:U:O2'	28:P:254:GLY:N	2.43	0.49
26:N:2311:A:H1'	31:S:79:ILE:HD13	1.95	0.49
26:N:2693:G:H2'	26:N:2694:G:H8	1.76	0.49
26:N:2818:U:H2'	26:N:2819:G:C8	2.48	0.49
37:Y:93:ASN:OD1	37:Y:94:THR:N	2.46	0.49
1:0:62:U:OP1	1:0:385:C:O2'	2.31	0.49
1:0:582:C:O2	1:0:759:A:N6	2.45	0.49
1:0:1241:G:H2'	1:0:1242:G:H8	1.78	0.49
1:0:1328:C:H2'	1:0:1329:A:H8	1.78	0.49
22:AR:14:HIS:HA	22:AR:17:LYS:HG2	1.94	0.49
26:AV:261:G:H2'	26:AV:262:A:H8	1.77	0.49
26:AV:577:G:H2'	26:AV:578:G:C8	2.47	0.49
26:AV:639:U:H2'	26:AV:640:C:C6	2.47	0.49
26:AV:1283:G:N1	26:AV:1286:A:OP2	2.45	0.49
26:AV:2564:A:OP1	26:AV:2648:G:O2'	2.25	0.49
15:C:219:GLY:O	26:N:2175:C:O2'	2.27	0.49
26:N:414:C:O2	26:N:1864:U:O2'	2.29	0.49
26:N:1722:A:H2'	26:N:1723:G:H8	1.78	0.49
26:N:2320:U:O2'	26:N:2322:A:N7	2.37	0.49
26:N:2369:A:H2'	26:N:2370:G:H8	1.78	0.49
26:N:2484:G:OP1	38:Z:44:ARG:NH2	2.35	0.49
43:e:48:LYS:HD3	43:e:49:ILE:H	1.76	0.49
1:0:21:G:H2'	1:0:22:G:C8	2.47	0.49
7:6:69:VAL:HA	7:6:138:ARG:HD3	1.95	0.49
9:8:75:GLN:O	9:8:79:ILE:HG13	2.13	0.49
10:9:47:GLU:OE1	10:9:47:GLU:N	2.46	0.49
1:AA:392:C:OP1	19:AO:8:ARG:NH1	2.45	0.49
1:AA:988:G:H1'	1:AA:1015:G:H22	1.77	0.49
17:AM:26:GLU:HA	17:AM:29:ALA:HB3	1.95	0.49
25:AU:6:U:H2'	25:AU:7:A:C8	2.48	0.49
26:AV:1527:G:N1	26:AV:1544:A:OP2	2.44	0.49
26:AV:2637:U:OP1	29:AY:83:ARG:NH2	2.46	0.49
26:AV:2676:C:H2'	26:AV:2677:G:H8	1.78	0.49
26:AV:2742:G:OP2	56:Az:36:ARG:NH1	2.46	0.49
16:F:29:ARG:CZ	16:F:63:PHE:HB2	2.42	0.49
26:N:224:U:O4	26:N:419:U:O2'	2.28	0.49
26:N:355:U:H2'	26:N:356:G:H8	1.77	0.49
26:N:527:C:N4	26:N:2777:G:O2'	2.41	0.49
26:N:569:U:O2'	26:N:983:A:N1	2.37	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:665:U:H2'	26:N:666:A:H8	1.77	0.49
26:N:1483:G:H1	26:N:1506:U:H3	1.60	0.49
26:N:1812:U:H2'	26:N:1813:G:H8	1.78	0.49
26:N:2039:U:H2'	26:N:2040:G:C8	2.47	0.49
26:N:2316:G:H2'	26:N:2317:A:C8	2.47	0.49
26:N:2527:C:H5''	56:r:31:PRO:HB2	1.93	0.49
29:Q:23:PRO:O	29:Q:191:GLY:N	2.41	0.49
31:S:4:LEU:HD12	31:S:7:TYR:HB3	1.95	0.49
32:T:170:ARG:HH12	56:r:31:PRO:HD3	1.78	0.49
58:y:109:ASN:HD21	58:y:111:THR:HG23	1.77	0.49
1:0:16:A:N3	1:0:1080:A:O2'	2.43	0.49
1:0:1251:A:N3	1:0:1369:C:O2'	2.46	0.49
1:AA:88:U:H2'	1:AA:89:U:H6	1.78	0.49
1:AA:715:A:H2'	1:AA:716:A:C8	2.48	0.49
1:AA:945:G:N2	1:AA:1334:G:O2'	2.45	0.49
1:AA:946:A:H2'	1:AA:947:G:H8	1.77	0.49
1:AA:1513:A:H2'	1:AA:1514:G:C8	2.48	0.49
23:AS:31:PHE:HZ	23:AS:53:GLU:HG3	1.78	0.49
26:AV:973:A:O3'	26:AV:1186:G:N2	2.44	0.49
26:AV:974:G:O2'	26:AV:989:G:N2	2.40	0.49
26:AV:1783:A:H5'	26:AV:2608:G:H4'	1.94	0.49
47:Aq:57:TYR:OH	47:Aq:79:ARG:NH1	2.46	0.49
57:B:1097:LEU:HD22	57:B:1108:LEU:HD22	1.93	0.49
15:C:50:ILE:HD13	15:C:59:VAL:HG23	1.95	0.49
21:K:27:ALA:HA	21:K:30:LYS:HG2	1.95	0.49
21:K:63:ARG:HB3	21:K:70:TYR:CE1	2.48	0.49
26:N:141:G:OP2	45:g:1:MET:N	2.46	0.49
26:N:782:A:O2'	28:P:224:ALA:O	2.30	0.49
26:N:935:C:H2'	26:N:936:A:H8	1.78	0.49
26:N:1095:A:H61	34:V:26:PRO:HD2	1.77	0.49
26:N:2250:G:O2'	26:N:2496:C:OP1	2.25	0.49
26:N:2529:G:OP1	32:T:172:LYS:NZ	2.39	0.49
32:T:86:LYS:NZ	32:T:130:GLU:OE1	2.46	0.49
33:U:73:ASN:HB3	33:U:108:VAL:HG21	1.95	0.49
39:a:98:LEU:HB2	39:a:112:TYR:HB2	1.95	0.49
41:c:89:ARG:O	41:c:113:ARG:N	2.35	0.49
42:d:58:ARG:O	42:d:62:ILE:HG12	2.12	0.49
52:n:25:VAL:HG11	52:n:39:LEU:HD11	1.94	0.49
23:u:71:LYS:HA	23:u:74:ARG:NE	2.27	0.49
1:0:107:G:N7	23:u:10:ARG:NH1	2.55	0.49
1:0:396:C:O2'	1:0:398:U:OP1	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:42:TYR:HA	3:2:45:LYS:NZ	2.28	0.49
1:AA:137:U:H2'	1:AA:138:G:H8	1.77	0.49
1:AA:505:G:H2'	1:AA:506:G:H8	1.77	0.49
4:AD:110:THR:HG23	4:AD:113:GLU:H	1.78	0.49
5:AE:138:ARG:HA	5:AE:141:ILE:HB	1.95	0.49
26:AV:1380:G:H2'	26:AV:1381:G:H8	1.78	0.49
26:AV:2644:G:O2'	26:AV:2732:G:O2'	2.31	0.49
57:B:205:ASN:ND2	62:w:575:U:O2	2.39	0.49
26:N:65:U:H2'	26:N:66:C:H6	1.78	0.49
26:N:98:G:H22	46:h:7:ARG:NH1	2.11	0.49
26:N:345:A:O2'	26:N:347:A:N6	2.37	0.49
26:N:924:G:H2'	26:N:925:A:H8	1.78	0.49
26:N:1291:C:H2'	26:N:1292:G:H8	1.78	0.49
33:U:94:ILE:HD11	33:U:122:LEU:HD23	1.93	0.49
39:a:2:ARG:HA	39:a:5:LYS:HD3	1.94	0.49
46:h:41:LEU:HA	46:h:62:GLU:HA	1.94	0.49
1:AA:6:G:N1	5:AE:103:THR:OG1	2.43	0.49
1:AA:768:A:N3	1:AA:1512:U:O2'	2.45	0.49
8:AH:34:VAL:HG12	8:AH:59:LEU:HD21	1.94	0.49
9:AI:123:ARG:NH2	9:AI:124:ARG:O	2.45	0.49
17:AM:14:VAL:HG12	17:AM:60:GLN:HG2	1.94	0.49
21:AQ:34:THR:HG22	21:AQ:38:LYS:HB3	1.94	0.49
26:AV:1359:A:OP2	26:AV:1371:G:N1	2.37	0.49
26:AV:1636:U:H2'	26:AV:1637:A:H8	1.77	0.49
34:Ad:101:ILE:O	34:Ad:141:GLU:N	2.36	0.49
57:B:643:GLU:HB3	57:B:651:ARG:HH11	1.78	0.49
21:K:70:TYR:HB2	21:K:74:HIS:CE1	2.48	0.49
26:N:662:G:H2'	26:N:663:G:H8	1.77	0.49
26:N:2241:A:H2'	26:N:2242:G:C8	2.48	0.49
26:N:2526:G:N3	56:r:1:MET:N	2.58	0.49
30:R:117:ARG:HG2	30:R:185:LYS:HA	1.95	0.49
36:X:1:MET:H3	36:X:2:ILE:HD12	1.78	0.49
1:0:279:A:H5''	1:0:281:G:H5'	1.94	0.48
1:0:664:G:H22	1:0:741:G:H22	1.61	0.48
1:0:1513:A:H2'	1:0:1514:G:C8	2.48	0.48
3:2:147:LYS:HE2	3:2:203:PHE:HE2	1.77	0.48
4:3:117:LEU:HB3	4:3:123:ILE:HD11	1.95	0.48
1:AA:407:U:H2'	1:AA:408:A:C8	2.47	0.48
1:AA:1109:C:OP2	3:AC:176:HIS:ND1	2.44	0.48
1:AA:1187:G:H4'	9:AI:113:ARG:HH21	1.78	0.48
26:AV:629:G:OP1	55:Ay:17:THR:OG1	2.26	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1799:G:OP2	28:AX:270:ARG:NH1	2.42	0.48
26:AV:2641:G:H2'	26:AV:2642:G:H8	1.77	0.48
32:Ab:72:LEU:HA	32:Ab:75:MET:HG2	1.95	0.48
44:An:15:GLN:HA	44:An:18:ARG:HG2	1.95	0.48
57:B:1205:ARG:NH1	57:B:1263:GLU:OE1	2.46	0.48
16:F:4:ILE:HG12	16:F:9:ILE:HD11	1.95	0.48
26:N:190:A:N3	26:N:679:C:O2'	2.40	0.48
26:N:322:A:OP2	30:R:163:ASN:HB2	2.13	0.48
26:N:599:A:H2'	26:N:600:G:H8	1.78	0.48
26:N:641:U:O2	26:N:647:G:O6	2.31	0.48
26:N:764:A:N1	26:N:1789:A:O2'	2.43	0.48
26:N:968:C:H2'	26:N:969:G:C8	2.47	0.48
26:N:1620:G:O4'	54:p:1:MET:N	2.46	0.48
26:N:1689:A:H2'	26:N:1690:A:C8	2.48	0.48
26:N:2316:G:O2'	31:S:125:ARG:NH1	2.44	0.48
26:N:2327:A:H2'	26:N:2328:A:C8	2.48	0.48
36:X:1:MET:N	36:X:33:ALA:O	2.35	0.48
37:Y:108:ALA:HB3	37:Y:125:LEU:HD22	1.95	0.48
49:k:68:LEU:HG	49:k:72:ARG:CZ	2.42	0.48
58:y:25:ALA:HA	58:y:30:THR:HG23	1.95	0.48
1:0:441:A:H2'	1:0:442:G:H8	1.78	0.48
1:0:499:A:H1'	1:0:500:G:C8	2.48	0.48
1:0:601:G:H2'	1:0:602:A:H8	1.78	0.48
11:A:33:U:N3	11:A:36:A:OP2	2.35	0.48
1:AA:18:C:H1'	1:AA:1079:G:H21	1.78	0.48
1:AA:34:C:H2'	1:AA:35:G:C8	2.47	0.48
26:AV:414:C:O3'	26:AV:1878:G:N2	2.46	0.48
26:AV:1139:G:OP1	35:Ae:74:TYR:OH	2.23	0.48
26:AV:1353:A:OP2	26:AV:1377:G:N1	2.44	0.48
26:AV:1664:A:H61	26:AV:1996:C:H42	1.60	0.48
26:AV:1693:U:O2'	28:AX:14:ARG:NH2	2.33	0.48
30:AZ:118:LEU:HD11	30:AZ:188:MET:HE1	1.94	0.48
36:Af:78:ARG:HB2	41:Ak:71:GLU:HB2	1.94	0.48
53:Aw:10:LYS:HG2	53:Aw:22:THR:HG22	1.96	0.48
26:N:2623:G:H2'	26:N:2624:G:H8	1.78	0.48
27:O:43:C:O2	31:S:92:ARG:NH2	2.44	0.48
34:V:17:MET:HE3	34:V:51:LYS:HB3	1.94	0.48
44:f:88:ARG:HD2	44:f:88:ARG:HA	1.68	0.48
59:z:24:LEU:C	59:z:26:ALA:N	2.71	0.48
59:z:24:LEU:C	59:z:26:ALA:H	2.21	0.48
1:0:35:G:N2	59:E:115:SER:OG	2.42	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:8:30:ILE:HD11	9:8:67:VAL:HG12	1.95	0.48
1:AA:1309:G:OP2	16:AL:98:ARG:NH2	2.45	0.48
5:AE:99:ALA:HB3	5:AE:122:ASN:HB2	1.94	0.48
6:AF:71:ILE:HA	6:AF:74:LEU:HD13	1.95	0.48
18:AN:43:PHE:HZ	18:AN:52:SER:HB2	1.77	0.48
26:AV:414:C:H2'	26:AV:415:A:C8	2.49	0.48
26:AV:835:C:H2'	26:AV:836:G:H8	1.76	0.48
26:AV:861:A:H62	26:AV:916:G:N2	2.10	0.48
26:AV:1311:G:H21	26:AV:1603:A:H62	1.61	0.48
26:AV:2385:C:H2'	26:AV:2386:A:C8	2.48	0.48
30:AZ:138:LEU:HD23	30:AZ:141:MET:HE2	1.94	0.48
26:N:5:A:H2'	26:N:6:A:C8	2.48	0.48
26:N:25:U:H4'	44:f:79:GLY:HA2	1.94	0.48
26:N:414:C:H2'	26:N:415:A:H8	1.79	0.48
26:N:1352:U:H1'	26:N:1570:A:H2	1.77	0.48
26:N:1440:U:H2'	26:N:1441:G:C8	2.49	0.48
26:N:1509:A:H2'	26:N:1510:G:C8	2.48	0.48
26:N:1651:G:H4'	39:a:39:PRO:HG2	1.95	0.48
34:V:66:SER:OG	34:V:67:PHE:N	2.46	0.48
35:W:125:TYR:OH	35:W:132:HIS:NE2	2.41	0.48
36:X:61:VAL:HG11	36:X:112:PHE:HE1	1.78	0.48
59:z:24:LEU:O	59:z:26:ALA:N	2.46	0.48
1:0:601:G:H2'	1:0:602:A:C8	2.48	0.48
1:0:745:G:O3'	1:0:836:G:N2	2.43	0.48
1:0:1376:U:H2'	1:0:1377:A:C8	2.47	0.48
8:7:29:SER:HB2	8:7:59:LEU:HB2	1.95	0.48
1:AA:390:U:H2'	1:AA:391:G:C8	2.48	0.48
1:AA:1075:U:H4'	2:AB:174:LYS:HZ2	1.77	0.48
1:AA:1095:U:OP2	1:AA:1108:G:N1	2.45	0.48
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.48	0.48
2:AB:11:LYS:O	2:AB:208:ARG:NH1	2.46	0.48
3:AC:88:ARG:HH11	3:AC:100:GLN:HA	1.78	0.48
26:AV:869:G:O3'	38:Ah:6:ARG:NH1	2.45	0.48
26:AV:1837:C:O2'	26:AV:1927:A:N3	2.39	0.48
26:AV:2036:C:H2'	26:AV:2037:A:H8	1.78	0.48
30:AZ:112:LEU:HB3	30:AZ:118:LEU:HB2	1.94	0.48
57:B:746:ARG:NH2	57:B:804:SER:O	2.43	0.48
26:N:771:G:OP2	54:p:11:LYS:NZ	2.46	0.48
26:N:2313:C:H5''	31:S:88:LYS:HD3	1.95	0.48
26:N:2834:G:O3'	29:Q:56:LYS:NZ	2.44	0.48
32:T:41:VAL:O	32:T:55:ARG:NH1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:V:130:GLU:OE1	34:V:134:ARG:NE	2.38	0.48
36:X:58:LEU:HD11	36:X:86:LEU:HD12	1.95	0.48
1:0:193:C:H1'	23:u:55:GLN:HE22	1.78	0.48
1:0:581:G:N2	1:0:760:G:N7	2.61	0.48
1:AA:501:C:H1'	1:AA:549:C:H1'	1.95	0.48
1:AA:876:C:H1'	8:AH:12:THR:HG21	1.95	0.48
2:AB:67:ILE:HD12	2:AB:160:ALA:HB3	1.94	0.48
8:AH:4:GLN:OE1	8:AH:4:GLN:N	2.45	0.48
15:AK:5:THR:HG23	15:AK:8:MET:H	1.77	0.48
26:AV:145:C:H2'	26:AV:146:A:C8	2.48	0.48
26:AV:299:A:N3	26:AV:319:G:O2'	2.41	0.48
26:AV:1061:U:H6	26:AV:1066:U:H3	1.61	0.48
35:Ae:35:ARG:HG3	35:Ae:54:ILE:HD11	1.96	0.48
38:Ah:69:PRO:HA	38:Ah:94:ALA:HB2	1.96	0.48
42:Al:76:TYR:HH	42:Al:92:ARG:HH22	1.56	0.48
43:Am:58:VAL:HG12	43:Am:102:SER:HB3	1.95	0.48
54:Ax:16:HIS:HB3	54:Ax:21:ARG:HH11	1.78	0.48
57:B:90:ILE:HG22	57:B:96:VAL:HG21	1.95	0.48
20:J:12:VAL:HG22	20:J:23:VAL:HG12	1.95	0.48
26:N:491:G:O6	44:f:49:LYS:NZ	2.33	0.48
26:N:523:C:O2	26:N:554:U:O2'	2.31	0.48
26:N:1410:G:H2'	26:N:1411:U:C6	2.48	0.48
26:N:2258:C:O2'	26:N:2427:C:OP2	2.30	0.48
32:T:105:LEU:HB2	32:T:113:VAL:HB	1.94	0.48
51:m:31:ARG:HG2	51:m:34:HIS:HB2	1.95	0.48
1:0:1023:U:H2'	1:0:1024:G:C8	2.48	0.48
1:0:1072:G:OP1	5:4:62:LYS:NZ	2.47	0.48
8:7:10:MET:HB2	8:7:33:LYS:NZ	2.28	0.48
11:A:55:U:H5''	38:Z:59:ARG:HH21	1.77	0.48
1:AA:20:U:O2'	1:AA:573:A:N6	2.46	0.48
5:AE:34:THR:HG22	5:AE:52:LYS:HB3	1.95	0.48
9:AI:12:ARG:HG3	9:AI:13:LYS:H	1.78	0.48
26:AV:20:C:H2'	26:AV:21:A:H8	1.79	0.48
26:AV:55:G:H2'	26:AV:56:A:H8	1.77	0.48
26:AV:212:G:H2'	26:AV:213:A:C8	2.48	0.48
26:AV:948:C:H2'	26:AV:949:G:C8	2.48	0.48
26:AV:1062:G:H2'	26:AV:1063:G:H8	1.77	0.48
26:AV:2841:C:H2'	26:AV:2842:G:C8	2.49	0.48
32:Ab:9:VAL:O	32:Ab:50:LEU:N	2.46	0.48
33:Ac:126:GLY:H	33:Ac:146:VAL:HB	1.77	0.48
54:Ax:24:THR:HG23	54:Ax:27:GLY:H	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:16:LEU:HA	57:B:54:ILE:HD11	1.94	0.48
57:B:181:GLU:OE1	57:B:191:TYR:OH	2.26	0.48
57:B:1165:ASN:HA	57:B:1168:LYS:HZ3	1.79	0.48
26:N:598:U:H2'	26:N:599:A:H8	1.79	0.48
26:N:767:U:H2'	26:N:768:G:H8	1.79	0.48
26:N:832:U:H2'	26:N:833:A:C8	2.48	0.48
26:N:2418:A:OP1	55:q:45:ARG:NH2	2.46	0.48
51:m:11:ARG:HB2	51:m:54:MET:HB2	1.95	0.48
4:3:40:GLN:OE1	4:3:41:HIS:ND1	2.47	0.48
12:A1:64:ASN:HA	12:A1:67:ARG:HE	1.79	0.48
1:AA:321:A:H2'	1:AA:322:C:H6	1.79	0.48
1:AA:335:C:H2'	1:AA:336:A:C8	2.49	0.48
1:AA:1359:C:H3'	17:AM:75:ARG:HH12	1.78	0.48
3:AC:23:PHE:HA	10:AJ:13:PHE:HE1	1.78	0.48
16:AL:80:LEU:HG	16:AL:88:GLY:HA2	1.95	0.48
22:AR:30:PRO:HA	22:AR:48:THR:HG23	1.95	0.48
23:AS:25:ARG:HB3	23:AS:29:ARG:HH22	1.77	0.48
26:AV:298:G:N1	26:AV:339:U:OP2	2.41	0.48
26:AV:305:C:H2'	26:AV:306:U:C6	2.49	0.48
26:AV:643:A:N7	53:Aw:44:ARG:NH1	2.62	0.48
26:AV:1326:U:H2'	26:AV:1327:A:H8	1.78	0.48
26:AV:1340:U:OP1	45:Ao:84:TYR:OH	2.28	0.48
26:AV:1410:G:H2'	26:AV:1411:U:H6	1.78	0.48
26:AV:2139:U:H2'	26:AV:2140:G:H8	1.79	0.48
47:Aq:28:ALA:HA	47:Aq:89:ILE:O	2.14	0.48
57:B:319:GLU:OE2	57:B:343:ARG:NE	2.46	0.48
26:N:1796:U:H2'	26:N:1797:G:H8	1.79	0.48
26:N:2151:U:H2'	26:N:2152:G:C8	2.47	0.48
26:N:2866:U:H4'	26:N:2867:G:H4'	1.95	0.48
59:z:36:ARG:HD3	59:z:38:TYR:HE1	1.77	0.48
1:0:615:G:H1	1:0:625:U:H3	1.62	0.48
1:0:923:A:O2'	1:0:1399:C:OP2	2.30	0.48
1:0:1457:G:H2'	1:0:1458:G:H8	1.78	0.48
3:2:14:ILE:HG22	3:2:15:VAL:HG23	1.96	0.48
3:2:19:ASN:HA	3:2:54:ARG:HH22	1.79	0.48
3:2:65:ARG:HG2	3:2:100:GLN:HB3	1.96	0.48
14:A3:23:G:H2'	14:A3:24:A:C8	2.48	0.48
1:AA:766:A:N7	1:AA:813:U:O4	2.47	0.48
2:AB:123:ASP:HA	57:B:1173:ARG:HH22	1.79	0.48
8:AH:29:SER:HB3	8:AH:57:PRO:HB2	1.96	0.48
9:AI:46:MET:N	9:AI:46:MET:SD	2.83	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:AQ:63:ARG:HB3	21:AQ:70:TYR:CE1	2.49	0.48
26:AV:882:G:O6	26:AV:894:U:O4	2.31	0.48
26:AV:1013:C:H2'	26:AV:1014:A:H8	1.79	0.48
26:AV:1077:A:H4'	34:Ad:94:ASN:HB3	1.95	0.48
26:AV:1412:U:H2'	26:AV:1413:A:C8	2.49	0.48
26:AV:1844:C:H2'	26:AV:1845:G:H8	1.79	0.48
26:AV:1987:A:H2'	26:AV:1988:G:H8	1.78	0.48
26:AV:2047:C:H2'	26:AV:2048:G:H8	1.78	0.48
58:D:94:GLU:HG2	12:v:20:LYS:HD3	1.94	0.48
26:N:1406:U:H2'	26:N:1407:G:H8	1.79	0.48
26:N:2466:C:OP1	56:r:4:ARG:HG2	2.13	0.48
26:N:2572:A:OP1	26:N:2574:G:O2'	2.30	0.48
28:P:130:LEU:HD13	28:P:134:ASN:HB2	1.96	0.48
37:Y:20:GLY:N	37:Y:27:LEU:O	2.43	0.48
41:c:102:GLU:OE1	41:c:102:GLU:N	2.46	0.48
44:f:28:LYS:O	44:f:32:ALA:HB2	2.13	0.48
1:0:1147:C:H1'	9:8:18:ARG:HH11	1.79	0.48
7:6:74:GLU:N	7:6:74:GLU:OE1	2.46	0.48
1:AA:32:A:H2'	1:AA:33:A:H8	1.79	0.48
1:AA:200:G:H2'	1:AA:201:G:H8	1.79	0.48
1:AA:1007:U:N3	1:AA:1023:U:O2	2.41	0.48
4:AD:9:LEU:O	4:AD:13:ARG:HB2	2.14	0.48
8:AH:69:LYS:NZ	8:AH:73:GLU:OE2	2.34	0.48
22:AR:51:VAL:O	22:AR:57:HIS:HA	2.14	0.48
23:AS:31:PHE:CZ	23:AS:53:GLU:HG3	2.49	0.48
26:AV:440:C:H2'	26:AV:441:U:H6	1.79	0.48
26:AV:1666:G:H1'	36:Af:3:GLN:HE22	1.79	0.48
26:AV:1754:A:OP1	41:Ak:94:LYS:NZ	2.43	0.48
26:AV:2821:A:OP2	29:AY:115:GLY:N	2.43	0.48
28:AX:147:LYS:H	28:AX:150:LYS:HE3	1.79	0.48
29:AY:120:GLY:O	29:AY:124:ARG:HB2	2.14	0.48
34:Ad:24:VAL:HB	34:Ad:27:ALA:HB3	1.96	0.48
26:N:189:G:H2'	26:N:205:G:H22	1.78	0.48
26:N:1326:U:H2'	26:N:1327:A:H8	1.79	0.48
26:N:2246:G:H2'	26:N:2247:A:H8	1.78	0.48
26:N:2291:U:H2'	26:N:2292:U:H6	1.79	0.48
26:N:2358:A:H61	37:Y:54:GLN:HE22	1.60	0.48
29:Q:14:ILE:HG13	41:c:12:GLN:HE22	1.78	0.48
29:Q:119:ALA:HB3	29:Q:165:MET:HG3	1.96	0.48
32:T:9:VAL:HB	32:T:50:LEU:HB2	1.95	0.48
35:W:115:GLY:HA2	35:W:118:MET:HG2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:Z:41:LEU:HD11	38:Z:124:LEU:HD12	1.95	0.48
50:l:1:MET:HA	50:l:4:LYS:HZ3	1.79	0.48
1:0:56:U:H2'	1:0:57:G:C8	2.49	0.48
1:0:203:G:H1'	1:0:465:A:H61	1.79	0.48
1:0:1356:G:H2'	1:0:1357:A:C8	2.49	0.48
5:4:157:ARG:HH11	8:7:45:PHE:HE1	1.60	0.48
1:AA:562:U:H1'	59:z:12:ARG:HB3	1.95	0.48
1:AA:1223:C:OP2	22:AR:78:ARG:NH1	2.42	0.48
1:AA:1513:A:H2'	1:AA:1514:G:H8	1.78	0.48
4:AD:95:GLU:OE1	4:AD:100:ASN:ND2	2.42	0.48
26:AV:2313:C:H2'	26:AV:2314:A:H8	1.78	0.48
26:AV:2487:G:H2'	26:AV:2488:G:H8	1.79	0.48
26:AV:2816:G:H4'	39:Ai:99:LYS:HE3	1.96	0.48
26:N:298:G:O2'	26:N:322:A:N1	2.41	0.48
26:N:1360:G:N1	26:N:2214:C:N3	2.62	0.48
26:N:1733:G:H2'	26:N:1734:G:H8	1.79	0.48
30:R:188:MET:HE2	30:R:193:VAL:HG13	1.95	0.48
47:i:76:ASP:OD1	47:i:77:VAL:N	2.47	0.48
49:k:38:PHE:HZ	49:k:56:MET:HE1	1.79	0.48
1:0:890:G:O2'	1:0:906:A:N6	2.47	0.47
3:2:150:LYS:HZ3	3:2:169:ARG:HD3	1.78	0.47
6:5:49:TYR:OH	21:K:63:ARG:O	2.26	0.47
1:AA:35:G:N3	59:z:115:SER:OG	2.47	0.47
1:AA:201:G:O6	1:AA:216:U:O4	2.32	0.47
1:AA:711:G:H2'	1:AA:712:A:H8	1.79	0.47
26:AV:662:G:H2'	26:AV:663:G:H8	1.79	0.47
26:AV:1568:G:P	28:AX:63:ARG:HH22	2.37	0.47
26:AV:2317:A:N7	26:AV:2318:G:N2	2.62	0.47
26:AV:2591:C:H2'	26:AV:2592:G:H8	1.79	0.47
41:Ak:89:ARG:HH11	41:Ak:113:ARG:HH12	1.61	0.47
57:B:214:LYS:HA	57:B:217:LEU:HD23	1.95	0.47
57:B:967:ASP:HA	57:B:970:LYS:HG3	1.95	0.47
59:E:8:VAL:HG22	20:J:31:HIS:CD2	2.49	0.47
26:N:358:U:H2'	26:N:359:G:H8	1.79	0.47
26:N:463:G:N2	26:N:466:A:OP2	2.37	0.47
26:N:585:G:N7	42:d:6:ARG:NH1	2.62	0.47
26:N:1600:C:N4	26:N:1601:G:O6	2.47	0.47
26:N:2329:U:H2'	26:N:2330:G:C8	2.49	0.47
26:N:2657:A:O2'	32:T:160:LYS:NZ	2.47	0.47
26:N:2747:G:H21	26:N:2757:A:N6	2.08	0.47
29:Q:25:THR:HG21	29:Q:193:VAL:HG22	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R:148:ILE:HB	30:R:169:VAL:HA	1.95	0.47
39:a:17:ARG:HA	39:a:20:MET:SD	2.54	0.47
1:0:663:A:N6	1:0:742:G:H1	2.12	0.47
1:0:1316:G:N2	1:0:1319:A:OP2	2.42	0.47
1:AA:542:G:OP1	4:AD:10:LYS:NZ	2.36	0.47
1:AA:757:U:OP1	1:AA:822:U:O2'	2.28	0.47
26:AV:298:G:O2'	26:AV:322:A:N1	2.46	0.47
26:AV:395:U:O2'	26:AV:396:G:N7	2.44	0.47
26:AV:1036:G:H2'	26:AV:1037:G:C8	2.50	0.47
26:AV:1258:U:H2'	26:AV:1259:G:C8	2.48	0.47
26:AV:2314:A:H2'	26:AV:2315:G:C8	2.49	0.47
26:AV:2788:C:H2'	26:AV:2789:C:C6	2.49	0.47
28:AX:245:VAL:HA	28:AX:251:GLN:HA	1.96	0.47
33:Ac:90:LEU:HD11	33:Ac:123:ARG:HA	1.95	0.47
56:Az:11:CYS:SG	56:Az:12:ARG:N	2.81	0.47
26:N:1040:A:H2	26:N:1115:G:H22	1.61	0.47
26:N:1506:U:H2'	26:N:1507:C:C6	2.50	0.47
26:N:1734:G:H2'	26:N:1735:A:C8	2.49	0.47
27:O:5:U:OP1	27:O:61:G:O2'	2.31	0.47
22:t:20:GLU:OE2	22:t:43:ASN:ND2	2.47	0.47
58:y:19:GLY:O	58:y:82:LEU:HA	2.14	0.47
1:0:235:C:H2'	1:0:236:A:H8	1.79	0.47
1:0:1253:G:H2'	1:0:1254:A:H8	1.79	0.47
1:0:1414:U:H2'	1:0:1415:G:H8	1.79	0.47
7:6:72:THR:HG23	7:6:73:VAL:HG23	1.96	0.47
1:AA:1317:C:H1'	17:AM:49:GLN:HE21	1.79	0.47
2:AB:218:ALA:HB1	2:AB:222:ARG:HH11	1.78	0.47
15:AK:175:ILE:HD13	15:AK:189:LEU:HB2	1.96	0.47
22:AR:11:ILE:HG13	22:AR:38:SER:HB2	1.96	0.47
26:AV:373:U:H2'	26:AV:374:A:H8	1.78	0.47
26:AV:1434:A:H2'	26:AV:1435:G:C8	2.49	0.47
26:AV:1829:A:N3	28:AX:15:HIS:NE2	2.62	0.47
26:AV:2328:A:H2'	26:AV:2329:U:C6	2.49	0.47
26:AV:2838:G:H4'	39:Ai:46:ARG:HH22	1.79	0.47
57:B:367:GLY:O	57:B:420:ARG:NH1	2.48	0.47
26:N:612:G:N2	26:N:614:A:O2'	2.48	0.47
26:N:1529:G:O6	26:N:1542:U:C2	2.68	0.47
26:N:1550:C:H2'	26:N:1551:A:H8	1.79	0.47
26:N:2855:C:H2'	26:N:2856:A:H8	1.79	0.47
37:Y:75:ALA:HB2	37:Y:105:ILE:HG12	1.95	0.47
44:f:59:GLU:HA	44:f:64:ALA:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:261:U:N3	1:0:264:C:OP2	2.36	0.47
1:AA:1224:U:O2'	1:AA:1322:C:OP1	2.31	0.47
10:AJ:9:ARG:HA	10:AJ:72:ARG:O	2.15	0.47
18:AN:25:THR:HG21	18:AN:69:TYR:HE2	1.79	0.47
26:AV:121:G:H2'	26:AV:122:G:H8	1.80	0.47
26:AV:521:U:H2'	26:AV:522:A:C8	2.50	0.47
26:AV:935:C:H2'	26:AV:936:A:C8	2.48	0.47
26:AV:1453:A:H3'	26:AV:1454:C:H2'	1.97	0.47
26:AV:1759:A:O2'	26:AV:2714:G:O2'	2.32	0.47
26:AV:2091:C:OP2	26:AV:2092:U:O2'	2.29	0.47
26:AV:2647:U:H2'	26:AV:2648:G:C8	2.49	0.47
27:AW:31:C:O2'	27:AW:53:A:N1	2.45	0.47
31:Aa:31:VAL:HA	31:Aa:158:THR:HA	1.96	0.47
57:B:128:THR:HA	57:B:173:MET:O	2.15	0.47
57:B:941:ASP:O	57:B:945:ARG:HG2	2.13	0.47
16:F:101:ARG:NH2	16:F:103:LYS:HB3	2.29	0.47
60:M:1:U:H2'	60:M:2:G:C8	2.49	0.47
26:N:20:C:H2'	26:N:21:A:H8	1.79	0.47
26:N:145:C:H2'	26:N:146:A:C8	2.50	0.47
26:N:162:U:H1'	26:N:163:C:H5	1.79	0.47
26:N:414:C:H2'	26:N:415:A:C8	2.49	0.47
26:N:495:G:O2'	44:f:61:ASN:ND2	2.47	0.47
26:N:660:C:H2'	26:N:661:A:H8	1.80	0.47
26:N:818:G:N1	26:N:1188:U:OP2	2.36	0.47
1:0:216:U:H2'	1:0:217:C:H6	1.80	0.47
9:8:81:HIS:HA	9:8:84:THR:HG22	1.96	0.47
1:AA:1409:C:H2'	1:AA:1410:A:C8	2.49	0.47
1:AA:1445:U:O4	1:AA:1457:G:O6	2.33	0.47
2:AB:114:LEU:HB2	2:AB:144:LEU:HD23	1.96	0.47
6:AF:29:ILE:HG12	6:AF:64:VAL:HG11	1.95	0.47
16:AL:25:VAL:HG23	16:AL:29:ARG:HB3	1.97	0.47
16:AL:27:LYS:HG3	16:AL:31:LYS:HE3	1.95	0.47
26:AV:639:U:H2'	26:AV:640:C:H6	1.78	0.47
26:AV:1654:A:O2'	29:AY:118:PHE:O	2.28	0.47
47:Aq:76:ASP:HB2	47:Aq:90:ASP:HB2	1.97	0.47
57:B:929:LEU:HA	57:B:932:VAL:HG12	1.97	0.47
26:N:131:A:H2'	26:N:132:G:C8	2.49	0.47
26:N:910:A:H2'	26:N:911:A:C8	2.48	0.47
26:N:2656:U:C2	26:N:2665:A:N7	2.82	0.47
46:h:66:GLN:HG2	46:h:68:SER:H	1.80	0.47
61:s:151:VAL:O	61:s:155:SER:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:u:67:ILE:HG13	23:u:71:LYS:HD2	1.95	0.47
1:0:32:A:H2'	1:0:33:A:C8	2.49	0.47
1:0:321:A:H3'	1:0:328:C:H5	1.78	0.47
5:4:153:VAL:HG11	8:7:99:LEU:HD22	1.95	0.47
1:AA:24:U:HO2'	1:AA:524:G:HO2'	1.56	0.47
1:AA:792:A:O2'	1:AA:794:A:N7	2.44	0.47
1:AA:1477:U:H2'	1:AA:1478:U:C6	2.49	0.47
8:AH:31:LYS:HA	8:AH:34:VAL:HG22	1.97	0.47
9:AI:42:GLU:OE1	9:AI:42:GLU:N	2.47	0.47
20:AP:11:ARG:NH2	20:AP:80:GLU:OE2	2.48	0.47
21:AQ:54:GLN:OE1	21:AQ:57:ARG:NH2	2.47	0.47
26:AV:34:U:H5'	26:AV:35:G:C8	2.50	0.47
26:AV:243:U:OP2	26:AV:254:G:N1	2.45	0.47
26:AV:606:U:OP2	30:AZ:99:LYS:NZ	2.42	0.47
26:AV:1066:U:O2'	26:AV:1074:G:N2	2.36	0.47
26:AV:2579:C:O2'	29:AY:136:ASN:OD1	2.30	0.47
56:Az:36:ARG:HH21	56:Az:37:GLN:HE22	1.63	0.47
57:B:1004:LEU:HD22	57:B:1040:ALA:HB2	1.95	0.47
26:N:639:U:H2'	26:N:640:C:H6	1.79	0.47
26:N:1013:C:H2'	26:N:1014:A:H8	1.80	0.47
26:N:1804:C:OP1	28:P:257:THR:OG1	2.32	0.47
26:N:1987:A:H2'	26:N:1988:G:H8	1.80	0.47
26:N:2609:U:H6	61:s:149:MET:HE1	1.79	0.47
26:N:2820:A:O2'	39:a:3:HIS:ND1	2.42	0.47
26:N:2840:C:H5''	39:a:53:THR:HG21	1.95	0.47
28:P:181:MET:HB2	28:P:269:ARG:H	1.79	0.47
43:e:35:PHE:HB2	43:e:59:ILE:HB	1.96	0.47
48:j:23:VAL:HG23	48:j:38:VAL:HG12	1.97	0.47
63:x:30:SER:O	63:x:30:SER:OG	2.30	0.47
1:0:672:U:H2'	1:0:673:A:C8	2.50	0.47
1:0:747:A:H2'	1:0:748:G:H8	1.80	0.47
1:0:922:G:H2'	1:0:923:A:H8	1.79	0.47
1:0:1403:C:N4	62:w:548:G:OP1	2.42	0.47
2:1:87:CYS:SG	2:1:222:ARG:NE	2.74	0.47
4:3:62:ARG:HH11	4:3:68:LEU:HA	1.78	0.47
9:8:27:LYS:N	9:8:62:ASP:OD1	2.39	0.47
10:9:31:ARG:NH2	10:9:31:ARG:O	2.45	0.47
10:9:41:PRO:HG3	10:9:72:ARG:HH11	1.79	0.47
13:A2:1074:LEU:HD22	13:A2:1141:VAL:HG11	1.97	0.47
1:AA:1143:G:H2'	1:AA:1144:G:H8	1.80	0.47
1:AA:1218:C:H2'	1:AA:1219:A:H8	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.48	0.47
4:AD:86:THR:HA	4:AD:89:ASN:HB2	1.96	0.47
8:AH:51:VAL:HG22	8:AH:59:LEU:HD21	1.96	0.47
24:AT:22:MET:SD	24:AT:23:LYS:N	2.87	0.47
26:AV:370:G:O2'	26:AV:424:G:OP1	2.31	0.47
26:AV:630:G:N2	26:AV:633:A:OP2	2.34	0.47
26:AV:1054:A:C2	26:AV:1106:G:C2	3.02	0.47
26:AV:1300:G:N3	26:AV:1626:A:N6	2.63	0.47
26:AV:1570:A:H2'	26:AV:1571:A:C8	2.50	0.47
26:AV:1796:U:O2'	28:AX:254:GLY:N	2.39	0.47
26:AV:2312:U:H2'	31:Aa:37:ASN:HD21	1.79	0.47
26:AV:2359:C:H2'	26:AV:2360:G:H8	1.79	0.47
33:Ac:99:ILE:HD11	33:Ac:115:VAL:HG11	1.95	0.47
42:Al:10:ALA:HA	42:Al:13:ARG:HE	1.79	0.47
44:An:84:ARG:O	44:An:96:ILE:N	2.40	0.47
56:Az:30:GLU:HB2	56:Az:33:HIS:CD2	2.49	0.47
26:N:184:C:H2'	26:N:185:G:C8	2.49	0.47
26:N:815:C:OP2	43:e:85:LYS:NZ	2.47	0.47
26:N:1036:G:N2	26:N:1119:U:O2	2.45	0.47
26:N:1218:G:O6	26:N:1231:U:O4	2.32	0.47
26:N:1653:G:N1	39:a:11:ASN:OD1	2.47	0.47
26:N:1746:A:H2'	26:N:1747:U:C6	2.50	0.47
26:N:1796:U:H2'	26:N:1797:G:C8	2.50	0.47
26:N:2314:A:H2'	26:N:2315:G:H8	1.80	0.47
29:Q:124:ARG:HG3	29:Q:165:MET:SD	2.54	0.47
32:T:64:GLN:O	32:T:67:THR:OG1	2.30	0.47
32:T:124:GLU:OE1	32:T:124:GLU:N	2.47	0.47
33:U:81:ALA:HB1	33:U:149:GLU:HG3	1.97	0.47
35:W:45:THR:OG1	42:d:64:ARG:NH1	2.47	0.47
37:Y:77:ILE:HB	37:Y:110:VAL:HG12	1.96	0.47
45:g:10:VAL:HG12	45:g:11:LEU:HD22	1.96	0.47
13:A2:1067:TRP:HZ3	13:A2:1127:PRO:HD3	1.80	0.47
14:A3:54:G:N2	14:A3:62:C:N3	2.63	0.47
1:AA:644:U:H4'	8:AH:84:ARG:HH22	1.80	0.47
1:AA:902:G:H2'	1:AA:903:G:H8	1.80	0.47
5:AE:150:PRO:HA	5:AE:153:VAL:HG12	1.97	0.47
16:AL:70:ARG:HA	16:AL:73:ILE:HG12	1.96	0.47
27:AW:22:U:H2'	27:AW:23:G:C8	2.49	0.47
27:AW:51:G:OP2	40:Aj:67:ASN:ND2	2.46	0.47
29:AY:116:LYS:HD3	29:AY:165:MET:SD	2.55	0.47
57:B:943:LEU:O	57:B:947:LEU:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:512:G:OP1	26:N:1234:U:O2'	2.31	0.47
26:N:1013:C:H2'	26:N:1014:A:C8	2.50	0.47
26:N:1476:U:H3	26:N:1515:A:H62	1.61	0.47
26:N:2626:C:H2'	26:N:2627:G:C8	2.50	0.47
26:N:2745:C:H1'	32:T:143:GLN:HG2	1.97	0.47
26:N:2771:C:O2'	29:Q:173:GLN:OE1	2.33	0.47
28:P:122:ALA:HB3	28:P:130:LEU:HD23	1.96	0.47
32:T:7:ALA:O	32:T:69:ARG:NH2	2.48	0.47
42:d:66:ASN:OD1	42:d:70:ARG:NH1	2.41	0.47
45:g:15:HIS:HB3	45:g:31:VAL:HG23	1.97	0.47
46:h:60:GLU:OE1	46:h:60:GLU:N	2.48	0.47
22:t:50:ALA:HB1	22:t:57:HIS:HB3	1.96	0.47
63:x:28:ALA:HB3	63:x:81:LEU:HB2	1.96	0.47
1:0:972:C:OP2	10:9:59:LYS:NZ	2.39	0.47
1:0:987:G:H2'	1:0:988:G:C8	2.49	0.47
1:0:1236:A:H4'	1:0:1304:G:H4'	1.97	0.47
3:2:107:ARG:CZ	3:2:108:LYS:H	2.28	0.47
6:5:64:VAL:HG12	6:5:66:ALA:HB2	1.97	0.47
1:AA:740:U:OP1	18:AN:38:HIS:NE2	2.42	0.47
19:AO:15:PRO:HB3	19:AO:17:TYR:HE1	1.80	0.47
26:AV:249:C:O2'	37:Ag:63:LYS:NZ	2.37	0.47
26:AV:787:C:OP1	26:AV:1780:A:N6	2.48	0.47
26:AV:2559:C:H2'	26:AV:2560:A:C8	2.49	0.47
43:Am:40:MET:HE1	43:Am:48:LYS:HB3	1.97	0.47
43:Am:71:LYS:HA	43:Am:90:ARG:HG2	1.95	0.47
46:Ap:5:ILE:HD12	46:Ap:67:VAL:HG13	1.95	0.47
57:B:98:VAL:HB	57:B:228:THR:HG22	1.97	0.47
57:B:747:GLU:HG3	57:B:796:PHE:HZ	1.79	0.47
59:E:72:HIS:HB2	59:E:74:LEU:HD23	1.97	0.47
17:G:93:ILE:HG21	17:G:96:LEU:HD12	1.97	0.47
26:N:1:G:H2'	26:N:2:G:C8	2.50	0.47
26:N:666:A:H2'	26:N:667:U:C6	2.50	0.47
26:N:696:G:H2'	26:N:697:G:C8	2.50	0.47
26:N:1799:G:OP1	28:P:258:ARG:NE	2.48	0.47
38:Z:32:GLY:HA2	38:Z:103:TYR:O	2.13	0.47
38:Z:40:ARG:HB3	38:Z:93:VAL:HG11	1.96	0.47
44:f:47:VAL:HA	44:f:50:VAL:HG12	1.97	0.47
48:j:46:HIS:CE1	48:j:77:ARG:HD2	2.50	0.47
3:2:46:GLU:HG3	3:2:47:LEU:HD22	1.97	0.47
7:6:126:ASP:HB2	7:6:131:LYS:HG2	1.97	0.47
9:8:19:VAL:HG12	9:8:65:ILE:HG22	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:A2:1095:LEU:HA	13:A2:1098:TYR:HB2	1.97	0.47
2:AB:109:GLN:HA	2:AB:112:LYS:HG2	1.97	0.47
3:AC:65:ARG:HA	3:AC:100:GLN:O	2.15	0.47
18:AN:33:THR:HA	18:AN:36:ILE:HB	1.96	0.47
26:AV:145:C:H2'	26:AV:146:A:H8	1.79	0.47
26:AV:220:G:N1	26:AV:428:A:OP2	2.47	0.47
26:AV:910:A:H2'	26:AV:911:A:C8	2.50	0.47
26:AV:1592:C:H2'	26:AV:1593:A:C8	2.49	0.47
26:AV:1752:C:H2'	26:AV:1753:G:C8	2.50	0.47
26:AV:1825:U:H2'	26:AV:1826:G:H8	1.80	0.47
26:AV:2070:A:H2'	26:AV:2071:A:C8	2.50	0.47
26:AV:2250:G:O2'	26:AV:2496:C:OP1	2.21	0.47
26:AV:2693:G:H2'	26:AV:2694:G:H8	1.78	0.47
26:AV:2735:G:H2'	26:AV:2736:A:H8	1.80	0.47
32:Ab:26:ILE:HD13	32:Ab:75:MET:HB3	1.95	0.47
45:Ao:59:ASN:O	45:Ao:84:TYR:N	2.41	0.47
19:I:20:VAL:HG23	19:I:35:ARG:HA	1.95	0.47
26:N:296:U:H2'	26:N:297:G:H8	1.80	0.47
26:N:1057:A:N6	26:N:1087:G:OP1	2.48	0.47
26:N:1178:C:H2'	26:N:1179:G:H8	1.80	0.47
26:N:1440:U:H2'	26:N:1441:G:H8	1.80	0.47
26:N:2182:U:H2'	26:N:2183:A:C8	2.50	0.47
30:R:111:GLU:O	30:R:115:GLN:HG3	2.14	0.47
40:b:10:ARG:HD2	40:b:96:GLY:HA2	1.97	0.47
63:x:56:ARG:HH11	63:x:57:ASN:HB2	1.80	0.47
8:7:89:LYS:HE2	8:7:120:GLY:HA2	1.96	0.46
13:A2:1024:GLN:HA	13:A2:1130:THR:HA	1.97	0.46
1:AA:1120:C:H2'	1:AA:1121:U:H6	1.79	0.46
1:AA:1441:A:H5''	1:AA:1442:G:C8	2.49	0.46
5:AE:126:LYS:NZ	5:AE:127:ALA:O	2.42	0.46
26:AV:674:G:O2'	30:AZ:62:GLN:NE2	2.38	0.46
26:AV:1529:G:C6	26:AV:1542:U:O2	2.68	0.46
26:AV:2811:G:OP1	29:AY:61:THR:OG1	2.27	0.46
27:AW:54:G:N2	31:Aa:26:MET:SD	2.88	0.46
37:Ag:109:LYS:HG3	37:Ag:126:ARG:HB2	1.97	0.46
51:Au:9:GLN:HB3	51:Au:29:LEU:HD13	1.96	0.46
57:B:1113:ILE:HG23	57:B:1145:LEU:HD21	1.97	0.46
26:N:155:A:H2'	26:N:156:A:C8	2.50	0.46
26:N:1184:U:H2'	26:N:1185:G:H8	1.80	0.46
26:N:1219:U:H2'	26:N:1220:G:C8	2.50	0.46
26:N:1322:A:H5''	44:f:82:MET:HE1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Q:16:THR:OG1	29:Q:18:ASP:OD1	2.25	0.46
45:g:22:THR:O	45:g:26:LYS:HB3	2.15	0.46
1:0:35:G:H2'	1:0:36:C:C6	2.51	0.46
1:0:1376:U:H2'	1:0:1377:A:H8	1.79	0.46
1:0:1464:U:H2'	1:0:1465:A:C8	2.51	0.46
1:0:1524:C:H2'	1:0:1525:G:C8	2.50	0.46
2:AB:19:GLN:HA	2:AB:38:VAL:HA	1.97	0.46
2:AB:203:ASN:OD1	2:AB:206:ALA:N	2.48	0.46
26:AV:154:U:H2'	26:AV:155:A:C8	2.50	0.46
26:AV:840:C:H2'	26:AV:841:G:H8	1.81	0.46
26:AV:1166:G:H1	26:AV:1183:U:H3	1.63	0.46
26:AV:1170:C:H2'	26:AV:1171:G:C8	2.49	0.46
26:AV:1287:A:H62	39:Ai:106:ASP:HB3	1.79	0.46
26:AV:1309:G:H4'	54:Ax:7:PRO:HG2	1.97	0.46
26:AV:1312:U:O2	26:AV:1339:G:N1	2.39	0.46
26:AV:1704:C:H2'	26:AV:1705:A:C8	2.50	0.46
26:AV:1817:G:OP1	28:AX:62:TYR:OH	2.25	0.46
26:AV:2039:U:H2'	26:AV:2040:G:C8	2.50	0.46
57:B:21:LEU:HD12	57:B:123:GLY:HA3	1.97	0.46
24:L:46:GLY:HA3	31:S:115:ARG:HH12	1.80	0.46
26:N:539:G:H1	26:N:554:U:H3	1.63	0.46
26:N:639:U:H2'	26:N:640:C:C6	2.50	0.46
26:N:755:U:H2'	26:N:756:A:C8	2.50	0.46
26:N:783:A:H2'	26:N:784:G:H4'	1.97	0.46
26:N:1508:A:O2'	26:N:1509:A:O4'	2.29	0.46
26:N:1857:G:N2	26:N:1884:G:O2'	2.34	0.46
26:N:2863:C:H2'	26:N:2864:G:C8	2.49	0.46
31:S:32:GLU:H	31:S:158:THR:HA	1.80	0.46
32:T:56:ASP:N	32:T:56:ASP:OD1	2.47	0.46
38:Z:60:GLN:OE1	38:Z:60:GLN:N	2.48	0.46
44:f:6:LYS:HG2	44:f:104:THR:HG22	1.96	0.46
45:g:6:ARG:NH1	45:g:42:GLU:OE2	2.48	0.46
1:0:70:U:O2	1:0:71:A:N6	2.46	0.46
13:A2:1188:GLN:NE2	13:A2:1269:GLU:OE1	2.48	0.46
13:A2:1205:ARG:NH1	13:A2:1212:TYR:OH	2.48	0.46
14:A3:15:G:N2	14:A3:49:C:H42	2.12	0.46
1:AA:32:A:H2'	1:AA:33:A:C8	2.50	0.46
1:AA:196:A:HO2'	1:AA:221:C:HO2'	1.62	0.46
1:AA:1144:G:N2	1:AA:1146:A:H62	2.13	0.46
1:AA:1156:G:H21	1:AA:1179:A:H61	1.63	0.46
26:AV:479:A:H4'	26:AV:480:A:H5'	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1161:C:H2'	26:AV:1162:G:H8	1.79	0.46
26:AV:1435:G:H2'	26:AV:1436:G:H8	1.78	0.46
26:AV:2066:C:N4	26:AV:2067:G:O6	2.48	0.46
26:AV:2866:U:H4'	26:AV:2867:G:H4'	1.97	0.46
30:AZ:58:LYS:NZ	30:AZ:70:SER:O	2.35	0.46
31:Aa:123:ASP:OD2	31:Aa:127:ASN:ND2	2.40	0.46
15:C:177:LYS:H	15:C:180:PHE:HD2	1.62	0.46
59:E:72:HIS:HA	59:E:99:ARG:HH12	1.79	0.46
24:L:56:ARG:NH1	22:t:69:HIS:H	2.09	0.46
26:N:1:G:H2'	26:N:2:G:H8	1.79	0.46
26:N:6:A:H2'	26:N:7:G:H8	1.81	0.46
26:N:878:A:H3'	26:N:879:G:H8	1.81	0.46
26:N:1178:C:H2'	26:N:1179:G:C8	2.51	0.46
26:N:1857:G:O2'	26:N:1885:A:N6	2.49	0.46
26:N:2728:U:H2'	26:N:2729:G:C8	2.50	0.46
27:O:39:A:H2'	27:O:40:U:C6	2.51	0.46
27:O:93:C:H2'	27:O:94:A:C8	2.51	0.46
28:P:16:VAL:HB	28:P:206:GLY:HA3	1.97	0.46
47:i:8:VAL:HG23	47:i:38:LEU:HD11	1.98	0.46
1:O:782:A:H62	1:O:800:G:H21	1.63	0.46
1:O:1245:C:H2'	1:O:1246:A:C8	2.50	0.46
2:1:83:ALA:O	2:1:86:SER:OG	2.31	0.46
5:4:62:LYS:O	5:4:66:LYS:HG2	2.16	0.46
6:5:26:THR:HA	6:5:29:ILE:HG22	1.97	0.46
14:A3:24:A:H2'	14:A3:25:G:C8	2.50	0.46
14:A3:53:G:H2'	14:A3:54:G:H8	1.80	0.46
1:AA:837:U:H2'	1:AA:838:G:H8	1.80	0.46
1:AA:1238:A:H5'	1:AA:1336:C:H41	1.79	0.46
6:AF:35:LYS:NZ	6:AF:65:GLU:OE1	2.47	0.46
16:AL:37:ALA:HB2	16:AL:59:GLU:HG3	1.96	0.46
17:AM:23:LYS:HG3	17:AM:24:ARG:NH2	2.31	0.46
26:AV:20:C:H2'	26:AV:21:A:C8	2.51	0.46
26:AV:1198:U:H2'	26:AV:1199:U:C6	2.51	0.46
26:AV:1278:C:H2'	26:AV:1279:G:C8	2.49	0.46
26:AV:1437:C:HO2'	26:AV:1516:G:HO2'	1.62	0.46
37:Ag:69:ARG:O	37:Ag:69:ARG:NH2	2.45	0.46
58:D:89:PRO:HB3	12:v:32:VAL:HG21	1.96	0.46
16:F:105:ASN:HA	16:F:107:ARG:HG2	1.97	0.46
26:N:576:U:H2'	26:N:577:G:C8	2.50	0.46
26:N:873:C:H2'	26:N:874:G:H8	1.81	0.46
26:N:1753:G:N2	26:N:1756:G:OP2	2.39	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2102:G:O6	26:N:2187:U:O4	2.33	0.46
26:N:2246:G:H2'	26:N:2247:A:C8	2.50	0.46
26:N:2314:A:H2'	26:N:2315:G:C8	2.50	0.46
1:0:692:U:N3	1:0:695:A:OP2	2.37	0.46
1:0:757:U:OP1	1:0:822:U:O2'	2.30	0.46
1:0:1212:U:H4'	1:0:1213:A:C8	2.51	0.46
3:2:54:ARG:NH2	3:2:55:ILE:O	2.49	0.46
3:2:172:ARG:HG2	3:2:174:PRO:HD3	1.97	0.46
1:AA:531:U:H4'	1:AA:532:A:H5'	1.97	0.46
1:AA:837:U:H2'	1:AA:838:G:C8	2.51	0.46
3:AC:12:LEU:HD12	3:AC:18:TRP:CD2	2.50	0.46
8:AH:10:MET:O	8:AH:14:ILE:HD12	2.15	0.46
26:AV:741:U:H2'	26:AV:742:A:C8	2.51	0.46
26:AV:832:U:H2'	26:AV:833:A:C8	2.50	0.46
26:AV:1258:U:H2'	26:AV:1259:G:H8	1.81	0.46
26:AV:1599:U:OP1	45:Ao:39:THR:OG1	2.33	0.46
26:AV:1675:C:O2	29:AY:133:THR:OG1	2.31	0.46
26:AV:1800:C:H42	26:AV:1817:G:N2	2.14	0.46
26:AV:2036:C:H2'	26:AV:2037:A:C8	2.51	0.46
26:AV:2688:G:N1	26:AV:2720:U:OP2	2.34	0.46
28:AX:93:LEU:HD21	28:AX:101:ARG:HD3	1.97	0.46
36:Af:78:ARG:N	41:Ak:71:GLU:O	2.49	0.46
42:Al:112:LYS:HZ2	43:Am:48:LYS:HD2	1.81	0.46
57:B:112:LYS:HD3	57:B:146:LEU:HD21	1.98	0.46
57:B:578:ARG:O	57:B:582:ARG:HG2	2.14	0.46
15:C:46:VAL:HG13	15:C:212:VAL:HG22	1.98	0.46
26:N:133:U:H2'	26:N:134:G:H8	1.81	0.46
26:N:172:A:H2'	26:N:173:A:C8	2.49	0.46
26:N:962:G:H21	26:N:2250:G:H1	1.63	0.46
26:N:1299:G:N1	26:N:1640:A:OP2	2.44	0.46
26:N:2099:U:H3	26:N:2190:G:H1	1.64	0.46
26:N:2279:G:OP2	48:j:11:ARG:NH2	2.48	0.46
33:U:72:ILE:HG23	33:U:108:VAL:HG22	1.95	0.46
37:Y:63:LYS:HA	55:q:13:ARG:HG2	1.97	0.46
1:0:235:C:H2'	1:0:236:A:C8	2.50	0.46
1:0:939:G:H2'	1:0:940:C:C6	2.51	0.46
3:2:168:TYR:OH	5:4:55:GLU:OE1	2.33	0.46
1:AA:1266:G:N2	1:AA:1269:A:OP2	2.41	0.46
1:AA:1479:C:H2'	1:AA:1480:A:H8	1.80	0.46
2:AB:138:THR:HA	2:AB:141:LEU:HD12	1.97	0.46
7:AG:113:ASP:HB3	7:AG:118:LEU:HD23	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:328:U:O2'	46:Ap:69:ASN:ND2	2.39	0.46
26:AV:953:G:H3'	38:Ah:16:ARG:HH11	1.80	0.46
26:AV:2246:G:H2'	26:AV:2247:A:H8	1.81	0.46
26:AV:2345:G:N3	26:AV:2381:A:H2'	2.31	0.46
36:Af:113:MET:HA	36:Af:116:ILE:HG22	1.97	0.46
41:Ak:24:ASP:OD2	41:Ak:89:ARG:NH2	2.47	0.46
51:Au:12:SER:OG	51:Au:13:ALA:N	2.49	0.46
55:Ay:32:ILE:O	55:Ay:36:LYS:NZ	2.36	0.46
57:B:160:PHE:CE1	57:B:600:GLN:HG3	2.49	0.46
57:B:513:GLY:O	57:B:613:ASN:ND2	2.48	0.46
26:N:309:A:N3	26:N:329:G:O2'	2.44	0.46
26:N:1809:A:H2'	26:N:1810:A:C8	2.51	0.46
26:N:2031:A:N3	26:N:2455:G:O2'	2.42	0.46
27:O:115:A:H2'	27:O:116:G:H8	1.81	0.46
28:P:158:ALA:HB1	28:P:197:ASN:HB3	1.97	0.46
36:X:9:ASN:OD1	36:X:10:VAL:N	2.46	0.46
41:c:89:ARG:HD2	41:c:113:ARG:HH12	1.80	0.46
1:O:1033:G:O2'	57:B:377:ARG:NH1	2.48	0.46
1:O:1150:A:H4'	10:9:43:PRO:HG3	1.97	0.46
1:O:1162:C:H2'	1:O:1163:A:H8	1.81	0.46
1:AA:407:U:H2'	1:AA:408:A:H8	1.81	0.46
15:AK:42:VAL:HG12	15:AK:216:THR:HG22	1.97	0.46
19:AO:42:ILE:HD12	19:AO:42:ILE:HG23	1.76	0.46
25:AU:22:G:H2'	25:AU:23:A:H8	1.80	0.46
26:AV:302:C:H2'	26:AV:303:G:H8	1.80	0.46
26:AV:743:A:O2'	26:AV:1659:G:OP1	2.34	0.46
26:AV:1068:G:O2'	26:AV:1070:A:N6	2.39	0.46
26:AV:1431:A:H2'	26:AV:1432:G:H8	1.81	0.46
26:AV:1569:A:H2'	26:AV:1570:A:C8	2.51	0.46
26:AV:1969:A:H2'	26:AV:1972:G:H21	1.80	0.46
26:AV:2139:U:H2'	26:AV:2140:G:C8	2.51	0.46
26:AV:2553:G:C2	26:AV:2583:G:H1'	2.51	0.46
26:AV:2787:C:H5'	29:AY:66:GLY:HA3	1.96	0.46
26:AV:2899:A:H2'	26:AV:2900:A:C8	2.51	0.46
28:AX:147:LYS:HB2	28:AX:150:LYS:HD3	1.98	0.46
57:B:96:VAL:O	57:B:226:ILE:HA	2.16	0.46
57:B:776:VAL:HG11	57:B:789:LEU:HD13	1.97	0.46
57:B:970:LYS:HB2	57:B:987:ARG:HD3	1.98	0.46
26:N:658:U:H2'	26:N:659:G:H8	1.81	0.46
26:N:1076:C:H2'	26:N:1077:A:C8	2.51	0.46
26:N:1582:C:O2'	26:N:1585:C:N3	2.44	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:a:13:ASN:OD1	39:a:14:SER:N	2.49	0.46
40:b:8:ILE:O	40:b:12:THR:OG1	2.27	0.46
23:u:22:ALA:HA	23:u:25:ARG:HE	1.80	0.46
58:y:47:ALA:HB1	58:y:62:ALA:HB1	1.98	0.46
5:4:89:HIS:CD2	5:4:90:THR:HG23	2.51	0.46
1:AA:1355:G:H2'	1:AA:1356:G:H8	1.81	0.46
4:AD:168:PRO:HB3	4:AD:170:TRP:CZ3	2.51	0.46
9:AI:23:PRO:HA	9:AI:61:LEU:HD13	1.97	0.46
16:AL:72:GLU:OE1	16:AL:72:GLU:N	2.40	0.46
21:AQ:34:THR:HG23	21:AQ:36:SER:H	1.81	0.46
26:AV:16:C:H2'	26:AV:17:G:C8	2.51	0.46
26:AV:68:G:N2	26:AV:74:A:O4'	2.49	0.46
26:AV:1306:C:N4	26:AV:1607:C:OP2	2.48	0.46
26:AV:2641:G:H2'	26:AV:2642:G:C8	2.51	0.46
57:B:88:GLU:HA	57:B:91:ARG:HG2	1.98	0.46
57:B:390:GLN:O	57:B:394:ASN:ND2	2.38	0.46
26:N:53:A:N3	54:p:35:ARG:NH2	2.63	0.46
26:N:408:G:N2	26:N:419:U:O2	2.41	0.46
26:N:666:A:H1'	55:q:4:ILE:HD12	1.97	0.46
26:N:851:C:O2'	51:m:43:ALA:O	2.31	0.46
26:N:1153:C:OP1	42:d:92:ARG:NH1	2.49	0.46
26:N:1263:U:H2'	26:N:1264:A:C4	2.50	0.46
26:N:1354:A:H62	26:N:1377:G:H21	1.64	0.46
26:N:1431:A:H2'	26:N:1432:G:C8	2.50	0.46
26:N:2804:U:H2'	26:N:2805:C:C6	2.50	0.46
35:W:117:ALA:HA	35:W:120:ARG:HH21	1.80	0.46
36:X:78:ARG:NH2	41:c:71:GLU:HG2	2.30	0.46
39:a:32:GLU:HG3	39:a:115:LEU:HD13	1.98	0.46
48:j:75:LYS:NZ	48:j:77:ARG:HE	2.14	0.46
53:o:25:LYS:NZ	53:o:30:LYS:O	2.48	0.46
1:0:633:G:H2'	1:0:634:C:C6	2.50	0.46
1:0:1386:G:H2'	1:0:1387:G:H8	1.81	0.46
1:0:1492:A:H5''	59:E:44:LYS:HA	1.98	0.46
3:2:58:GLU:HB2	10:9:94:ALA:HB3	1.98	0.46
1:AA:25:C:H2'	1:AA:26:A:C8	2.50	0.46
1:AA:129:A:H2	1:AA:232:G:H22	1.63	0.46
1:AA:928:G:O2'	1:AA:1533:C:OP1	2.28	0.46
1:AA:1478:U:H2'	1:AA:1479:C:H6	1.81	0.46
1:AA:1530:G:H2'	1:AA:1531:A:H8	1.81	0.46
23:AS:36:TYR:HA	23:AS:39:ILE:HD12	1.98	0.46
26:AV:155:A:H2'	26:AV:156:A:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:870:U:O2	26:AV:907:G:N2	2.38	0.46
26:AV:1212:G:H1'	26:AV:1237:A:H61	1.80	0.46
26:AV:1470:A:H3'	26:AV:1471:G:H8	1.81	0.46
49:As:18:ARG:HE	49:As:24:ALA:HB2	1.80	0.46
16:F:3:ARG:HB3	16:F:8:ASN:OD1	2.16	0.46
26:N:366:C:N4	26:N:367:G:O6	2.49	0.46
26:N:476:G:N1	26:N:479:A:OP2	2.33	0.46
26:N:625:G:H2'	26:N:626:A:C8	2.51	0.46
26:N:627:A:OP1	37:Y:78:ARG:NH1	2.45	0.46
26:N:1280:G:H2'	26:N:1281:G:H8	1.80	0.46
26:N:1847:A:O2'	26:N:1848:A:H8	1.99	0.46
26:N:2108:A:H61	26:N:2182:U:H1'	1.80	0.46
28:P:115:GLN:HE22	28:P:117:GLN:HB2	1.81	0.46
28:P:161:TYR:HB3	28:P:194:GLU:HB3	1.97	0.46
30:R:7:ASP:O	30:R:9:GLN:NE2	2.49	0.46
41:c:31:TRP:HA	41:c:39:ARG:O	2.16	0.46
56:r:23:ILE:HB	56:r:38:GLY:HA3	1.97	0.46
1:0:41:G:H2'	1:0:42:G:C8	2.51	0.46
1:0:454:G:H1	1:0:478:A:H61	1.63	0.46
1:0:750:C:H2'	1:0:751:U:H6	1.81	0.46
1:0:911:U:H2'	1:0:912:C:C6	2.51	0.46
1:0:1250:A:H2'	1:0:1251:A:C8	2.51	0.46
2:1:72:THR:OG1	2:1:169:GLU:OE2	2.24	0.46
5:4:133:PRO:HA	5:4:136:VAL:HG22	1.97	0.46
9:8:123:ARG:NH2	9:8:124:ARG:O	2.48	0.46
13:A2:1141:VAL:O	13:A2:1145:LEU:CB	2.64	0.46
1:AA:1253:G:H2'	1:AA:1254:A:H8	1.80	0.46
8:AH:104:VAL:HA	8:AH:125:ILE:HA	1.98	0.46
26:AV:992:C:H2'	26:AV:993:G:H8	1.80	0.46
26:AV:1829:A:H3'	26:AV:1830:C:H6	1.81	0.46
51:Au:45:ARG:HA	51:Au:48:ILE:HG12	1.98	0.46
57:B:600:GLN:NE2	62:w:577:U:OP1	2.43	0.46
15:C:46:VAL:HG22	15:C:212:VAL:HG13	1.98	0.46
16:F:107:ARG:NH1	16:F:113:ARG:HG3	2.31	0.46
18:H:49:ASP:OD2	18:H:52:SER:OG	2.20	0.46
26:N:480:A:O2'	46:h:43:LYS:O	2.34	0.46
26:N:863:A:H2'	26:N:864:G:C8	2.51	0.46
26:N:1138:G:N3	35:W:108:MET:HE1	2.31	0.46
26:N:1165:A:H2'	26:N:1166:G:H8	1.81	0.46
26:N:1638:C:H1'	26:N:2698:U:H1'	1.97	0.46
26:N:2637:U:H3	26:N:2776:A:H62	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Q:37:VAL:HA	29:Q:48:ILE:HD13	1.98	0.46
32:T:24:ILE:HG21	32:T:72:LEU:HD11	1.97	0.46
47:i:72:VAL:HA	47:i:93:ARG:HA	1.97	0.46
1:0:256:U:OP1	20:J:19:LYS:NZ	2.46	0.45
1:0:591:U:H2'	1:0:592:G:H8	1.82	0.45
1:0:1015:G:H2'	1:0:1016:A:C8	2.50	0.45
1:0:1317:C:OP1	17:G:24:ARG:NH1	2.48	0.45
3:2:153:VAL:HA	3:2:197:GLY:O	2.16	0.45
12:A1:45:ARG:HH22	1:AA:1526:G:H5''	1.81	0.45
1:AA:279:A:H5''	1:AA:281:G:H5'	1.98	0.45
1:AA:279:A:H5''	1:AA:280:C:H3'	1.98	0.45
1:AA:578:C:H2'	1:AA:579:A:H8	1.81	0.45
1:AA:1033:G:H3'	1:AA:1034:G:H8	1.80	0.45
1:AA:1191:A:H5''	3:AC:4:LYS:HE3	1.97	0.45
1:AA:1363:A:O2'	1:AA:1365:G:N7	2.45	0.45
23:AS:33:LYS:HA	23:AS:36:TYR:CE1	2.51	0.45
26:AV:75:G:N1	26:AV:111:A:H2	2.05	0.45
26:AV:162:U:H1'	26:AV:163:C:H5	1.81	0.45
26:AV:721:A:H2'	26:AV:722:A:C8	2.51	0.45
26:AV:851:C:H2'	26:AV:852:U:C6	2.51	0.45
26:AV:1429:G:H2'	26:AV:1430:G:C8	2.49	0.45
26:AV:1527:G:O2'	26:AV:1544:A:N6	2.48	0.45
26:AV:1547:C:H2'	26:AV:1548:A:C8	2.51	0.45
26:AV:1709:U:H2'	26:AV:1710:G:C8	2.52	0.45
26:AV:2818:U:H3	26:AV:2828:G:H1	1.64	0.45
49:As:40:VAL:HG11	49:As:68:LEU:HD11	1.98	0.45
26:N:20:C:H2'	26:N:21:A:C8	2.51	0.45
26:N:171:U:H2'	26:N:172:A:C8	2.51	0.45
26:N:1262:A:OP1	44:f:99:ARG:NH2	2.49	0.45
26:N:1409:U:H2'	26:N:1410:G:C8	2.51	0.45
26:N:1509:A:H2'	26:N:1510:G:H8	1.82	0.45
26:N:1980:G:O2'	26:N:1982:U:OP2	2.32	0.45
26:N:2353:G:O2'	48:j:33:ALA:O	2.26	0.45
47:i:29:ILE:O	47:i:91:PHE:HB2	2.16	0.45
48:j:67:VAL:HA	48:j:82:ILE:HD13	1.97	0.45
59:z:54:ARG:HE	59:z:64:THR:HG23	1.82	0.45
1:0:303:A:H5'	59:E:14:ARG:HH12	1.82	0.45
1:0:745:G:H2'	1:0:746:A:H8	1.82	0.45
5:4:150:PRO:HA	5:4:153:VAL:HG12	1.97	0.45
7:6:66:LEU:HD23	7:6:70:ARG:HE	1.80	0.45
7:6:78:ARG:HB3	7:6:85:TYR:HB3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:501:C:H2'	1:AA:502:A:C8	2.51	0.45
1:AA:1000:A:N6	1:AA:1041:G:O6	2.48	0.45
1:AA:1078:U:H4'	5:AE:138:ARG:HH22	1.81	0.45
26:AV:818:G:N1	26:AV:1188:U:OP2	2.42	0.45
26:AV:870:U:H3	26:AV:907:G:H1	1.63	0.45
26:AV:1262:A:OP1	44:An:99:ARG:NH2	2.49	0.45
26:AV:1548:A:H2'	26:AV:1549:A:C8	2.51	0.45
28:AX:252:THR:HG22	28:AX:253:LYS:H	1.80	0.45
29:AY:51:THR:OG1	29:AY:78:GLY:O	2.25	0.45
57:B:774:ALA:HA	57:B:777:GLU:HG2	1.99	0.45
57:B:906:LEU:O	57:B:909:SER:OG	2.29	0.45
24:L:14:ALA:HB3	24:L:22:MET:O	2.16	0.45
26:N:521:U:H2'	26:N:522:A:H8	1.81	0.45
26:N:950:G:H1	26:N:967:U:H3	1.61	0.45
26:N:1132:U:H2'	26:N:1133:A:C8	2.52	0.45
26:N:1266:G:N2	26:N:2013:A:OP2	2.49	0.45
26:N:1295:C:H2'	26:N:1296:G:H8	1.81	0.45
26:N:1336:A:H2'	26:N:1337:G:C8	2.52	0.45
26:N:1734:G:H2'	26:N:1735:A:H8	1.80	0.45
26:N:1997:C:H2'	26:N:1998:A:C8	2.51	0.45
26:N:2126:A:H2'	26:N:2162:G:H21	1.81	0.45
26:N:2544:G:H4'	26:N:2645:G:H5'	1.97	0.45
29:Q:25:THR:OG1	29:Q:191:GLY:O	2.34	0.45
30:R:3:LEU:HD11	30:R:12:LEU:HD23	1.97	0.45
63:x:97:LYS:NZ	63:x:123:ILE:O	2.49	0.45
6:5:75:GLU:HA	6:5:78:PHE:HD2	1.81	0.45
9:8:91:ASP:CG	9:8:92:GLU:H	2.25	0.45
10:9:15:HIS:HA	10:9:18:ILE:HG22	1.98	0.45
1:AA:151:A:N7	1:AA:170:U:C2	2.85	0.45
1:AA:590:U:H2'	1:AA:591:U:C6	2.52	0.45
1:AA:601:G:H2'	1:AA:602:A:H8	1.81	0.45
1:AA:603:U:H2'	1:AA:604:G:H8	1.80	0.45
1:AA:1316:G:N2	1:AA:1319:A:OP2	2.43	0.45
1:AA:1438:G:O6	1:AA:1463:U:O4	2.34	0.45
1:AA:1536:C:OP1	1:AA:1538:C:N4	2.50	0.45
3:AC:124:LEU:HD11	3:AC:130:PHE:HB3	1.97	0.45
16:AL:86:TYR:O	16:AL:90:ARG:HB3	2.17	0.45
26:AV:371:A:N6	26:AV:402:A:OP2	2.42	0.45
26:AV:514:A:H2'	26:AV:515:A:C8	2.51	0.45
26:AV:1578:U:H2'	26:AV:1579:A:C8	2.51	0.45
26:AV:1939:U:OP1	26:AV:2604:U:O2'	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2055:C:O2	26:AV:2572:A:N6	2.49	0.45
26:AV:2691:C:H2'	26:AV:2692:G:C8	2.50	0.45
26:AV:2710:C:H2'	26:AV:2711:A:C8	2.51	0.45
28:AX:126:PRO:HB3	28:AX:193:GLY:HA3	1.99	0.45
42:Al:28:ARG:NH1	42:Al:41:LYS:HD2	2.31	0.45
46:Ap:11:VAL:HA	46:Ap:72:ILE:HA	1.98	0.45
57:B:174:THR:O	57:B:177:ILE:N	2.49	0.45
57:B:328:SER:HB2	57:B:331:GLU:HG2	1.97	0.45
57:B:937:LEU:HD13	57:B:945:ARG:HD3	1.99	0.45
57:B:984:LYS:HD2	57:B:996:LEU:HG	1.98	0.45
58:D:72:ASP:O	58:D:75:LYS:NZ	2.45	0.45
26:N:75:G:H22	26:N:111:A:H2	1.64	0.45
26:N:131:A:H2'	26:N:132:G:H8	1.82	0.45
26:N:1464:G:H2'	26:N:1465:G:C8	2.52	0.45
26:N:2382:G:H21	55:q:42:ARG:NH2	2.15	0.45
27:O:49:C:H2'	27:O:50:A:C8	2.51	0.45
38:Z:136:MET:HE1	47:i:77:VAL:HG12	1.98	0.45
1:0:116:A:H61	1:0:313:A:H1'	1.81	0.45
1:0:216:U:H2'	1:0:217:C:C6	2.51	0.45
1:0:1223:C:H5''	1:0:1224:U:H5''	1.99	0.45
1:0:1310:G:OP2	16:F:87:ARG:NH1	2.50	0.45
1:AA:579:A:O2'	18:AN:54:ARG:NH1	2.40	0.45
1:AA:682:G:H2'	1:AA:683:G:H8	1.80	0.45
1:AA:972:C:OP1	10:AJ:59:LYS:NZ	2.46	0.45
4:AD:65:TYR:CD2	4:AD:94:LEU:HB3	2.52	0.45
26:AV:52:A:H2'	26:AV:53:A:H8	1.81	0.45
26:AV:742:A:H2'	26:AV:743:A:C8	2.51	0.45
26:AV:1257:C:H1'	30:AZ:78:TRP:HA	1.97	0.45
26:AV:1363:C:H2'	26:AV:1364:G:C8	2.51	0.45
26:AV:1443:U:H2'	26:AV:1444:G:H8	1.80	0.45
26:AV:2468:A:O2'	26:AV:2482:A:N6	2.50	0.45
27:AW:116:G:H2'	27:AW:117:G:C8	2.51	0.45
49:As:27:ARG:NH1	49:As:28:ARG:O	2.43	0.45
57:B:645:THR:OG1	57:B:651:ARG:NH2	2.48	0.45
26:N:72:U:O4	50:l:58:ASN:ND2	2.49	0.45
26:N:228:C:N4	26:N:417:C:O2	2.50	0.45
26:N:450:G:N1	26:N:454:A:OP2	2.50	0.45
26:N:696:G:H2'	26:N:697:G:H8	1.81	0.45
26:N:813:U:H2'	26:N:814:C:H6	1.80	0.45
26:N:1009:A:OP2	35:W:39:LYS:NZ	2.39	0.45
26:N:1864:U:OP1	26:N:2410:G:O2'	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2107:G:H2'	26:N:2108:A:H8	1.81	0.45
28:P:142:HIS:ND1	28:P:193:GLY:O	2.45	0.45
31:S:19:GLU:HG2	31:S:20:PHE:HD1	1.81	0.45
33:U:99:ILE:HD11	33:U:130:VAL:HG11	1.99	0.45
40:b:11:ALA:HA	40:b:94:ARG:HH22	1.81	0.45
40:b:92:PHE:HB2	40:b:117:PHE:CD2	2.51	0.45
42:d:36:PHE:HE2	43:e:84:ARG:HH12	1.63	0.45
50:l:43:LEU:HA	50:l:46:VAL:HG12	1.99	0.45
63:x:55:VAL:HB	63:x:59:LEU:HD11	1.99	0.45
58:y:83:GLU:HG3	58:y:109:ASN:HB3	1.99	0.45
1:0:377:G:H2'	1:0:378:G:H8	1.81	0.45
1:0:619:U:N3	4:3:131:ASN:HB3	2.31	0.45
1:0:1412:C:H2'	1:0:1413:A:C8	2.52	0.45
10:9:30:LYS:HA	10:9:34:ALA:HA	1.98	0.45
1:AA:339:C:H2'	1:AA:340:U:C6	2.52	0.45
1:AA:1312:G:OP1	24:AT:63:ARG:NE	2.43	0.45
1:AA:1376:U:H2'	1:AA:1377:A:C8	2.51	0.45
2:AB:192:ASP:OD1	2:AB:192:ASP:N	2.48	0.45
4:AD:188:ARG:NH2	4:AD:188:ARG:O	2.48	0.45
20:AP:30:LYS:NZ	20:AP:35:GLY:HA2	2.30	0.45
26:AV:720:U:H2'	26:AV:721:A:C8	2.51	0.45
26:AV:1236:G:O2'	26:AV:1237:A:O4'	2.35	0.45
26:AV:2825:G:OP2	26:AV:2825:G:N2	2.41	0.45
57:B:531:ARG:HB2	57:B:545:HIS:CE1	2.52	0.45
19:I:68:SER:O	19:I:72:ALA:HB2	2.16	0.45
26:N:51:G:O2'	26:N:118:A:N6	2.50	0.45
26:N:249:C:O2	55:q:12:LYS:NZ	2.40	0.45
26:N:437:U:H2'	26:N:438:G:H8	1.81	0.45
26:N:481:G:H1'	26:N:506:G:H21	1.82	0.45
26:N:1759:A:C8	26:N:2696:U:H1'	2.51	0.45
26:N:2313:C:H2'	26:N:2314:A:C8	2.51	0.45
26:N:2377:A:H2'	26:N:2378:A:C8	2.52	0.45
30:R:61:ARG:NH2	30:R:63:LYS:O	2.48	0.45
36:X:2:ILE:O	36:X:33:ALA:N	2.47	0.45
36:X:105:ARG:HH22	41:c:33:VAL:H	1.64	0.45
23:u:24:ARG:HD3	23:u:61:GLN:HE22	1.81	0.45
1:0:1479:C:H2'	1:0:1480:A:H8	1.81	0.45
2:1:207:ILE:HG23	2:1:208:ARG:HD2	1.98	0.45
12:A1:51:SER:OG	12:A1:55:ARG:NH1	2.43	0.45
1:AA:310:G:H5''	19:AO:31:ARG:HB2	1.98	0.45
1:AA:391:G:OP1	19:AO:28:ARG:NH1	2.48	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1053:G:H4'	1:AA:1054:C:H3'	1.99	0.45
7:AG:97:ASN:O	7:AG:101:MET:HB3	2.16	0.45
26:AV:16:C:H2'	26:AV:17:G:H8	1.82	0.45
26:AV:28:A:HO2'	26:AV:582:A:HO2'	1.61	0.45
26:AV:582:A:OP1	42:Al:14:HIS:ND1	2.47	0.45
26:AV:929:U:H4'	51:Au:38:ARG:HH11	1.81	0.45
26:AV:1796:U:H2'	26:AV:1797:G:C8	2.52	0.45
57:B:377:ARG:HD2	57:B:648:ARG:HH22	1.81	0.45
26:N:155:A:H2'	26:N:156:A:H8	1.82	0.45
26:N:1515:A:H3'	26:N:1516:G:H8	1.82	0.45
26:N:2233:U:H2'	26:N:2234:G:C8	2.51	0.45
30:R:178:VAL:HA	30:R:181:ILE:HG22	1.97	0.45
32:T:60:ASP:OD2	32:T:64:GLN:NE2	2.44	0.45
40:b:73:ALA:HA	40:b:76:LYS:NZ	2.32	0.45
48:j:45:PHE:HB3	48:j:80:ILE:HD13	1.99	0.45
22:t:18:LYS:HG2	22:t:31:LEU:HD11	1.98	0.45
1:0:219:U:H2'	1:0:220:G:C8	2.48	0.45
1:0:309:A:H2'	1:0:310:G:C8	2.51	0.45
12:A1:64:ASN:OD1	12:A1:67:ARG:NH1	2.44	0.45
1:AA:157:U:O2	1:AA:164:G:O6	2.34	0.45
1:AA:712:A:H2'	1:AA:713:G:C8	2.52	0.45
1:AA:978:A:H61	1:AA:1316:G:H1'	1.81	0.45
1:AA:1073:U:H2'	1:AA:1074:G:H8	1.82	0.45
1:AA:1258:G:H2'	1:AA:1259:C:C6	2.51	0.45
3:AC:184:TYR:HA	3:AC:200:VAL:O	2.17	0.45
4:AD:50:ASP:OD1	4:AD:54:GLN:NE2	2.50	0.45
25:AU:22:G:H2'	25:AU:23:A:C8	2.52	0.45
26:AV:582:A:H2'	26:AV:583:G:H8	1.81	0.45
26:AV:916:G:O2'	27:AW:99:A:O2'	2.30	0.45
26:AV:918:A:O2'	27:AW:96:G:N2	2.41	0.45
26:AV:1410:G:H2'	26:AV:1411:U:C6	2.52	0.45
26:AV:1464:G:H2'	26:AV:1465:G:H8	1.82	0.45
26:AV:1571:A:H2'	26:AV:1572:A:C8	2.51	0.45
26:AV:1947:C:H2'	26:AV:1948:G:H8	1.81	0.45
26:AV:2099:U:H2'	26:AV:2100:G:H8	1.81	0.45
26:AV:2339:C:H2'	26:AV:2340:A:C8	2.52	0.45
27:AW:77:U:H2'	27:AW:78:A:C8	2.52	0.45
29:AY:89:GLU:OE1	29:AY:89:GLU:N	2.47	0.45
32:Ab:17:VAL:HG13	32:Ab:26:ILE:HG22	1.99	0.45
36:Af:24:VAL:HG13	36:Af:33:ALA:HB2	1.99	0.45
26:N:156:A:H2'	26:N:157:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:290:U:H2'	26:N:291:G:C8	2.51	0.45
26:N:438:G:H2'	26:N:439:A:H8	1.82	0.45
26:N:1244:A:HO2'	30:R:29:HIS:HE2	1.53	0.45
26:N:2029:G:N1	26:N:2033:A:OP2	2.38	0.45
26:N:2109:U:O2'	26:N:2180:U:N3	2.35	0.45
28:P:29:PRO:HG3	28:P:63:ARG:HH11	1.80	0.45
33:U:96:THR:HG23	33:U:115:VAL:HB	1.98	0.45
1:0:470:C:H2'	1:0:471:U:C6	2.52	0.45
1:0:618:C:O2'	19:I:14:ARG:NH1	2.49	0.45
1:0:946:A:H2'	1:0:947:G:C8	2.51	0.45
13:A2:1138:HIS:HA	13:A2:1141:VAL:HG12	1.99	0.45
1:AA:41:G:H2'	1:AA:42:G:C8	2.51	0.45
1:AA:104:G:OP2	23:AS:13:GLN:NE2	2.50	0.45
1:AA:824:G:H2'	1:AA:825:A:H8	1.80	0.45
1:AA:867:G:O2'	1:AA:873:A:N1	2.38	0.45
2:AB:77:SER:O	2:AB:78:GLU:HG3	2.17	0.45
2:AB:89:GLN:O	2:AB:90:PHE:CD1	2.70	0.45
5:AE:157:ARG:NH1	8:AH:43:GLU:OE1	2.50	0.45
15:AK:27:ILE:HD13	15:AK:186:LYS:HD3	1.98	0.45
18:AN:22:THR:HA	18:AN:27:VAL:HG11	1.98	0.45
26:AV:579:G:O2'	26:AV:2019:A:OP1	2.35	0.45
26:AV:1029:A:N1	26:AV:2465:C:O2'	2.45	0.45
26:AV:1432:G:H2'	26:AV:1433:A:H8	1.80	0.45
26:AV:2463:C:H2'	26:AV:2464:G:C8	2.51	0.45
26:AV:2484:G:H1'	38:Ah:123:LYS:HD2	1.99	0.45
31:Aa:66:LEU:O	31:Aa:87:CYS:HA	2.17	0.45
56:Az:10:LEU:HD23	56:Az:10:LEU:HA	1.86	0.45
57:B:1017:LEU:HD13	57:B:1022:PHE:CZ	2.51	0.45
26:N:24:G:H2'	26:N:25:U:C6	2.52	0.45
26:N:565:C:N3	26:N:576:U:O4	2.50	0.45
26:N:571:U:O2'	26:N:573:U:O5'	2.35	0.45
26:N:598:U:H2'	26:N:599:A:C8	2.51	0.45
26:N:721:A:H2'	26:N:722:A:C8	2.51	0.45
26:N:2021:C:OP1	42:d:25:TYR:OH	2.32	0.45
26:N:2216:G:H2'	26:N:2217:G:H8	1.81	0.45
26:N:2881:U:H2'	26:N:2882:A:C8	2.51	0.45
30:R:141:MET:HE2	30:R:141:MET:HB3	1.92	0.45
43:e:3:ALA:O	43:e:13:ARG:HA	2.17	0.45
49:k:43:GLU:HG2	49:k:45:ARG:HG3	1.99	0.45
1:0:746:A:H2'	1:0:747:A:C8	2.51	0.45
3:2:131:ARG:C	3:2:135:LYS:HZ2	2.24	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:398:U:H2'	1:AA:399:G:C8	2.52	0.45
1:AA:539:A:H2'	1:AA:540:G:C8	2.52	0.45
1:AA:1447:A:P	1:AA:1448:C:H41	2.40	0.45
10:AJ:27:GLU:HG3	10:AJ:31:ARG:HH22	1.81	0.45
15:AK:42:VAL:HG23	15:AK:175:ILE:HG13	1.98	0.45
16:AL:16:VAL:O	16:AL:20:THR:OG1	2.19	0.45
20:AP:68:SER:H	20:AP:71:LYS:HB3	1.81	0.45
26:AV:713:G:H2'	26:AV:714:U:C6	2.52	0.45
26:AV:926:G:H2'	26:AV:927:A:C8	2.50	0.45
26:AV:1059:G:OP2	34:Ad:10:LYS:NZ	2.48	0.45
26:AV:1131:G:O2'	26:AV:2025:C:O2'	2.35	0.45
26:AV:1181:U:H2'	26:AV:1182:G:C8	2.52	0.45
26:AV:1844:C:H2'	26:AV:1845:G:C8	2.52	0.45
26:AV:2863:C:H2'	26:AV:2864:G:C8	2.52	0.45
28:AX:155:ALA:HB2	28:AX:162:VAL:HG23	1.99	0.45
45:Ao:3:ARG:HG3	45:Ao:6:ARG:H	1.82	0.45
53:Aw:10:LYS:HE2	53:Aw:53:LYS:HG3	1.98	0.45
57:B:630:LEU:HD11	57:B:669:MET:HB2	1.98	0.45
57:B:966:PRO:HD2	57:B:969:LEU:HD12	1.98	0.45
26:N:351:C:H2'	26:N:352:A:H8	1.82	0.45
26:N:787:C:OP1	26:N:1780:A:N6	2.50	0.45
26:N:1368:G:H2'	26:N:1369:G:C8	2.52	0.45
26:N:2590:A:H2'	26:N:2591:C:C6	2.52	0.45
27:O:22:U:H2'	27:O:23:G:C8	2.52	0.45
34:V:117:MET:HE2	34:V:119:GLY:H	1.82	0.45
63:x:7:ASP:OD1	63:x:7:ASP:N	2.50	0.45
63:x:27:VAL:HG13	63:x:109:LYS:HB3	1.99	0.45
59:z:54:ARG:HA	59:z:54:ARG:HD3	1.82	0.45
1:0:824:G:H2'	1:0:825:A:H8	1.81	0.45
1:0:1178:G:N2	1:0:1181:G:OP2	2.50	0.45
1:0:1413:A:H2	1:0:1487:G:H22	1.64	0.45
1:0:1478:U:H2'	1:0:1479:C:C6	2.52	0.45
8:7:9:ASP:O	8:7:13:ARG:HG3	2.17	0.45
8:7:106:THR:OG1	8:7:109:GLY:O	2.29	0.45
9:8:60:LYS:HD3	9:8:61:LEU:HB3	1.98	0.45
1:AA:603:U:H2'	1:AA:604:G:C8	2.52	0.45
1:AA:770:C:O2'	1:AA:899:C:N3	2.48	0.45
1:AA:1141:C:H2'	1:AA:1142:G:H8	1.81	0.45
1:AA:1442:G:H2'	1:AA:1443:C:C6	2.52	0.45
2:AB:214:LEU:HA	2:AB:217:VAL:HG12	1.98	0.45
3:AC:7:PRO:O	3:AC:11:ARG:HG2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:155:A:H2'	26:AV:156:A:C8	2.52	0.45
26:AV:160:A:N3	26:AV:2208:C:O2'	2.42	0.45
26:AV:1199:U:H1'	42:Al:4:VAL:HG22	1.98	0.45
26:AV:2722:G:N3	39:Al:5:LYS:NZ	2.64	0.45
57:B:437:ILE:HA	57:B:440:MET:HB3	1.99	0.45
26:N:78:U:H2'	26:N:79:C:C6	2.52	0.45
26:N:935:C:H2'	26:N:936:A:C8	2.52	0.45
26:N:1748:C:H2'	26:N:1749:A:C8	2.51	0.45
26:N:1751:U:H2'	26:N:1752:C:C6	2.52	0.45
26:N:2387:U:O2'	48:j:19:LYS:NZ	2.50	0.45
26:N:2514:U:H2'	26:N:2515:C:C6	2.52	0.45
37:Y:90:VAL:HG12	37:Y:125:LEU:HD12	1.99	0.45
40:b:35:ILE:HG12	40:b:66:GLY:HA2	1.99	0.45
1:O:254:G:OP1	20:J:68:SER:OG	2.31	0.44
1:O:264:C:O3'	20:J:65:ARG:NH2	2.50	0.44
1:O:1355:G:H2'	1:O:1356:G:H8	1.81	0.44
2:1:9:MET:N	2:1:9:MET:SD	2.91	0.44
7:6:107:ALA:HB1	7:6:133:THR:HB	2.00	0.44
13:A2:1014:GLN:HB2	13:A2:1017:LEU:HD11	1.99	0.44
13:A2:1227:PRO:O	13:A2:1231:ARG:N	2.45	0.44
1:AA:264:C:O3'	20:AP:65:ARG:NH2	2.50	0.44
1:AA:311:C:OP1	19:AO:31:ARG:NH2	2.50	0.44
1:AA:501:C:OP1	59:z:114:ARG:NH1	2.45	0.44
22:AR:40:ILE:HD13	22:AR:66:MET:HB3	1.98	0.44
26:AV:676:A:H62	26:AV:802:A:H61	1.64	0.44
26:AV:974:G:H1'	26:AV:975:A:C8	2.52	0.44
26:AV:1104:C:H2'	26:AV:1105:U:C6	2.52	0.44
26:AV:1309:G:H5''	54:Ax:12:ARG:HH11	1.83	0.44
26:AV:2543:G:H21	26:AV:2646:C:H5'	1.81	0.44
26:AV:2699:C:H2'	26:AV:2700:A:H8	1.81	0.44
34:Ad:102:SER:HA	34:Ad:141:GLU:HB3	1.98	0.44
45:Ao:8:LEU:HA	45:Ao:50:LEU:HD21	1.99	0.44
49:As:15:GLY:HA3	49:As:29:PHE:HE2	1.82	0.44
57:B:157:LYS:HG3	57:B:171:LYS:HE3	1.99	0.44
26:N:150:U:H2'	26:N:151:C:C6	2.52	0.44
26:N:290:U:H2'	26:N:291:G:H8	1.81	0.44
26:N:948:C:H2'	26:N:949:G:C8	2.52	0.44
26:N:1268:A:H62	26:N:2012:G:H21	1.65	0.44
26:N:2591:C:H2'	26:N:2592:G:C8	2.52	0.44
29:Q:33:ARG:HH22	29:Q:74:GLU:H	1.65	0.44
34:V:117:MET:HE3	34:V:118:THR:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:j:64:ASP:OD1	48:j:64:ASP:N	2.48	0.44
53:o:39:PHE:HA	53:o:46:HIS:HA	1.99	0.44
1:0:1228:C:OP2	16:F:110:LYS:NZ	2.48	0.44
1:0:1308:U:H2'	1:0:1309:G:C8	2.52	0.44
1:0:1409:C:H2'	1:0:1410:A:C8	2.48	0.44
1:0:1522:U:H5''	58:D:128:ARG:HH12	1.82	0.44
2:1:117:LEU:O	2:1:137:ARG:NH1	2.49	0.44
6:5:81:ASN:HB3	6:5:84:VAL:HG12	1.99	0.44
13:A2:1025:LEU:N	13:A2:1129:TRP:O	2.48	0.44
13:A2:1260:ASP:HB2	13:A2:1298:ILE:HD11	1.99	0.44
26:AV:372:G:H8	49:As:58:VAL:HG12	1.82	0.44
26:AV:680:C:H2'	26:AV:681:G:C8	2.52	0.44
26:AV:1292:G:H2'	26:AV:1293:C:C6	2.52	0.44
26:AV:1464:G:H2'	26:AV:1465:G:C8	2.53	0.44
26:AV:1987:A:H2'	26:AV:1988:G:C8	2.52	0.44
29:AY:52:THR:O	29:AY:77:ARG:N	2.48	0.44
34:Ad:106:LEU:HA	34:Ad:109:ILE:HG22	2.00	0.44
49:As:13:VAL:HG23	49:As:29:PHE:HB2	1.99	0.44
51:Au:44:ILE:HD12	51:Au:47:MET:HG3	1.99	0.44
58:D:42:LEU:HD23	58:D:77:TYR:HD2	1.81	0.44
16:F:29:ARG:HE	16:F:33:ILE:HD11	1.82	0.44
26:N:6:A:H2'	26:N:7:G:C8	2.51	0.44
26:N:733:G:N2	26:N:734:A:N7	2.65	0.44
26:N:1133:A:H4'	26:N:1134:A:H5''	1.99	0.44
26:N:1257:C:OP1	30:R:67:ARG:NH1	2.39	0.44
26:N:1746:A:H2'	26:N:1747:U:H6	1.82	0.44
26:N:2315:G:H2'	26:N:2316:G:C8	2.50	0.44
26:N:2566:A:N1	36:X:28:SER:OG	2.39	0.44
26:N:2639:A:O3'	35:W:99:ARG:NH1	2.38	0.44
26:N:2804:U:H2'	26:N:2805:C:H6	1.82	0.44
28:P:88:SER:O	28:P:197:ASN:ND2	2.48	0.44
49:k:55:GLY:HA2	49:k:58:VAL:HG22	1.99	0.44
1:0:81:A:H2'	1:0:82:G:C8	2.52	0.44
1:0:1243:C:H2'	1:0:1244:G:C8	2.52	0.44
6:5:66:ALA:HB3	6:5:71:ILE:HD11	1.98	0.44
1:AA:948:C:H2'	1:AA:949:A:H8	1.82	0.44
1:AA:1507:A:H2'	1:AA:1508:A:C8	2.51	0.44
15:AK:205:LYS:NZ	26:AV:1877:A:OP2	2.47	0.44
26:AV:106:C:H2'	26:AV:107:G:C8	2.52	0.44
26:AV:300:A:O2'	26:AV:318:C:O2	2.32	0.44
26:AV:599:A:H2'	26:AV:600:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:956:G:N2	26:AV:960:A:OP2	2.47	0.44
26:AV:1031:G:H2'	26:AV:1032:A:C8	2.52	0.44
26:AV:1051:G:O6	26:AV:1108:U:C4	2.70	0.44
26:AV:1431:A:H2'	26:AV:1432:G:C8	2.52	0.44
26:AV:1837:C:H2'	26:AV:1899:A:H61	1.83	0.44
26:AV:2443:C:H2'	26:AV:2444:G:C8	2.52	0.44
26:AV:2741:A:H61	26:AV:2763:G:H1'	1.82	0.44
31:Aa:3:LYS:N	31:Aa:101:GLU:OE2	2.51	0.44
57:B:1167:ASN:HA	57:B:1170:LEU:HD12	1.99	0.44
58:D:61:PHE:HD1	58:D:64:GLN:HE21	1.64	0.44
17:G:16:LEU:HD21	17:G:52:PRO:HB2	1.99	0.44
26:N:1075:C:O2	34:V:92:LYS:NZ	2.50	0.44
26:N:2192:U:H2'	26:N:2193:G:C8	2.52	0.44
40:b:40:ILE:HA	40:b:47:VAL:HA	1.99	0.44
1:0:17:U:H2'	1:0:18:C:C6	2.52	0.44
1:0:475:C:H2'	1:0:476:U:C6	2.53	0.44
1:0:677:U:O2	1:0:777:A:O2'	2.34	0.44
1:0:748:G:H2'	1:0:749:A:C8	2.52	0.44
1:0:1028:C:H2'	1:0:1029:U:C6	2.53	0.44
1:0:1326:U:H2'	1:0:1327:C:C6	2.53	0.44
1:0:1481:U:H2'	1:0:1482:G:C8	2.51	0.44
3:2:28:GLU:O	3:2:32:ASN:HB2	2.18	0.44
3:2:142:MET:HE3	3:2:149:ILE:HG22	1.98	0.44
1:AA:17:U:H2'	1:AA:18:C:C6	2.52	0.44
5:AE:45:ARG:HG3	5:AE:71:MET:HG2	2.00	0.44
20:AP:67:LEU:HB2	20:AP:71:LYS:HG3	1.98	0.44
26:AV:1054:A:H2'	26:AV:1055:G:C8	2.53	0.44
26:AV:1818:U:H5''	28:AX:157:SER:HB3	2.00	0.44
26:AV:2390:U:O5'	55:Ay:35:LYS:NZ	2.44	0.44
26:AV:2773:C:OP1	29:AY:171:THR:OG1	2.34	0.44
27:AW:20:G:H2'	27:AW:21:G:H8	1.83	0.44
57:B:286:SER:HB3	57:B:342:ARG:HH22	1.82	0.44
57:B:554:ASP:HB2	57:B:683:ILE:HG23	2.00	0.44
26:N:437:U:H2'	26:N:438:G:C8	2.51	0.44
26:N:632:A:H2'	26:N:633:A:C8	2.53	0.44
26:N:1353:A:O3'	28:P:36:LYS:NZ	2.51	0.44
26:N:2515:C:H2'	26:N:2516:A:C8	2.49	0.44
26:N:2640:G:OP1	35:W:99:ARG:NH2	2.48	0.44
29:Q:9:VAL:HB	29:Q:26:VAL:HB	2.00	0.44
22:t:6:LYS:HE2	22:t:6:LYS:HB2	1.80	0.44
22:t:19:VAL:HG21	22:t:44:MET:HB3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:2:135:LYS:HE3	3:2:135:LYS:HB3	1.84	0.44
9:8:54:LEU:HD23	9:8:98:LEU:HD23	1.98	0.44
1:AA:109:A:H61	1:AA:324:G:H1'	1.82	0.44
1:AA:322:C:H2'	1:AA:323:U:C6	2.52	0.44
1:AA:642:A:C5	8:AH:107:SER:HA	2.52	0.44
1:AA:811:C:H4'	1:AA:901:A:H61	1.82	0.44
1:AA:1053:G:N7	1:AA:1200:C:H5''	2.33	0.44
1:AA:1478:U:H2'	1:AA:1479:C:C6	2.52	0.44
6:AF:10:VAL:HB	6:AF:58:HIS:HB3	1.99	0.44
7:AG:69:VAL:HG12	7:AG:100:ALA:HB1	2.00	0.44
17:AM:61:ARG:HA	17:AM:61:ARG:HD2	1.80	0.44
26:AV:159:G:N2	26:AV:166:U:OP2	2.51	0.44
26:AV:172:A:H2'	26:AV:173:A:C8	2.52	0.44
26:AV:306:U:H2'	26:AV:307:G:O4'	2.17	0.44
26:AV:593:U:H2'	26:AV:594:U:C6	2.52	0.44
26:AV:1083:U:O2'	26:AV:1085:A:N7	2.41	0.44
26:AV:1123:C:H2'	26:AV:1124:G:C8	2.53	0.44
26:AV:2291:U:H2'	26:AV:2292:U:C6	2.52	0.44
26:AV:2297:A:N6	26:AV:2319:G:O2'	2.50	0.44
26:AV:2380:C:H2'	26:AV:2381:A:C8	2.52	0.44
29:AY:117:GLY:H	29:AY:164:GLN:HE22	1.65	0.44
44:An:51:LEU:O	44:An:55:ILE:HG13	2.17	0.44
24:L:56:ARG:NE	22:t:68:GLY:H	2.12	0.44
26:N:145:C:H2'	26:N:146:A:H8	1.82	0.44
26:N:468:G:H5''	30:R:55:SER:HB3	1.99	0.44
26:N:946:C:H2'	26:N:947:A:H8	1.83	0.44
26:N:1036:G:H1	26:N:1119:U:H3	1.64	0.44
26:N:1176:U:H2'	26:N:1177:G:C8	2.52	0.44
26:N:1386:C:H2'	26:N:1387:A:H8	1.82	0.44
26:N:1476:U:O4	26:N:1515:A:N7	2.50	0.44
29:Q:56:LYS:HB2	29:Q:59:ARG:HB2	1.99	0.44
48:j:40:GLN:OE1	48:j:45:PHE:N	2.49	0.44
49:k:67:VAL:O	49:k:70:GLU:HG2	2.18	0.44
51:m:44:ILE:O	51:m:48:ILE:HG12	2.18	0.44
58:y:23:ILE:HG23	58:y:86:VAL:HG23	2.00	0.44
1:0:312:C:H2'	1:0:313:A:C8	2.52	0.44
1:0:1512:U:H2'	1:0:1513:A:H8	1.83	0.44
1:0:1513:A:H2'	1:0:1514:G:H8	1.83	0.44
2:1:87:CYS:HB2	2:1:89:GLN:NE2	2.33	0.44
1:AA:24:U:O2'	1:AA:524:G:O2'	2.30	0.44
1:AA:88:U:H2'	1:AA:89:U:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:664:G:N2	1:AA:741:G:H1	2.09	0.44
1:AA:908:A:H2'	1:AA:909:A:C8	2.52	0.44
3:AC:29:PHE:CZ	17:AM:93:ILE:HD11	2.53	0.44
18:AN:67:LEU:HB2	18:AN:78:TYR:HE1	1.82	0.44
21:AQ:33:ILE:HD11	21:AQ:37:GLY:HA2	2.00	0.44
26:AV:77:G:OP1	50:At:52:ARG:NE	2.45	0.44
26:AV:351:C:H2'	26:AV:352:A:C8	2.52	0.44
26:AV:582:A:H2'	26:AV:583:G:C8	2.53	0.44
26:AV:870:U:OP1	38:Ah:5:LYS:NZ	2.49	0.44
26:AV:1053:C:H2'	26:AV:1054:A:C8	2.53	0.44
26:AV:1550:C:H2'	26:AV:1551:A:H8	1.82	0.44
26:AV:2591:C:H2'	26:AV:2592:G:C8	2.52	0.44
26:AV:2756:U:H1'	26:AV:2757:A:H5''	1.98	0.44
33:Ac:46:PHE:HB3	33:Ac:51:ARG:NH1	2.32	0.44
57:B:752:HIS:O	57:B:757:GLY:N	2.47	0.44
57:B:1116:GLY:HA3	57:B:1149:VAL:HG22	1.99	0.44
26:N:373:U:H2'	26:N:374:A:C8	2.52	0.44
26:N:1035:U:H2'	26:N:1036:G:H8	1.81	0.44
26:N:1353:A:H2'	26:N:1354:A:H8	1.83	0.44
26:N:1812:U:H2'	26:N:1813:G:C8	2.53	0.44
26:N:2183:A:H2'	26:N:2184:A:H8	1.80	0.44
26:N:2786:U:O2'	29:Q:63:PRO:O	2.33	0.44
28:P:235:GLY:O	28:P:239:ASN:ND2	2.51	0.44
30:R:192:ALA:HA	30:R:195:GLN:HG2	1.99	0.44
35:W:56:VAL:HB	35:W:124:VAL:HG12	2.00	0.44
37:Y:29:LYS:HE3	37:Y:30:THR:HG23	1.99	0.44
1:0:590:U:H2'	1:0:591:U:C6	2.53	0.44
1:0:1071:C:H2'	1:0:1072:G:C8	2.49	0.44
11:A:53:G:H5'	38:Z:55:ARG:NH1	2.33	0.44
1:AA:56:U:H2'	1:AA:57:G:H8	1.82	0.44
1:AA:490:C:H2'	1:AA:491:G:C8	2.52	0.44
1:AA:690:G:O6	58:y:53:ARG:NH1	2.50	0.44
1:AA:816:A:OP1	1:AA:1526:G:O2'	2.35	0.44
1:AA:1060:U:H2'	1:AA:1061:G:C8	2.49	0.44
3:AC:73:PRO:O	3:AC:77:ILE:HG12	2.17	0.44
8:AH:77:ARG:HD3	8:AH:78:VAL:N	2.33	0.44
15:AK:30:LEU:HA	15:AK:33:LEU:HB2	2.00	0.44
26:AV:409:G:H2'	26:AV:410:G:C8	2.53	0.44
26:AV:534:U:H2'	26:AV:535:G:H8	1.82	0.44
26:AV:686:U:H2'	26:AV:788:A:N1	2.33	0.44
26:AV:714:U:N3	26:AV:717:C:OP2	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:796:C:H2'	26:AV:797:G:C8	2.53	0.44
26:AV:1068:G:H4'	34:Ad:24:VAL:HG12	2.00	0.44
26:AV:1402:U:HO2'	26:AV:1521:G:HO2'	1.65	0.44
26:AV:1405:U:H2'	26:AV:1406:U:C6	2.53	0.44
26:AV:1710:G:H2'	26:AV:1711:A:H8	1.82	0.44
26:AV:2109:U:H2'	26:AV:2110:G:C2	2.53	0.44
26:AV:2385:C:H2'	26:AV:2386:A:H8	1.82	0.44
26:AV:2725:A:H2'	26:AV:2726:A:H2'	2.00	0.44
34:Ad:56:PRO:HD2	34:Ad:75:PRO:HD3	1.99	0.44
57:B:21:LEU:HB3	57:B:189:MET:HE3	1.99	0.44
57:B:509:ALA:HB1	57:B:515:VAL:HA	2.00	0.44
59:E:28:PRO:HB2	59:E:29:GLN:OE1	2.18	0.44
26:N:593:U:H3	26:N:664:G:H1	1.65	0.44
26:N:1118:C:H4'	47:i:83:LYS:HZ1	1.82	0.44
26:N:1927:A:H2'	26:N:1928:A:C8	2.53	0.44
27:O:5:U:H2'	27:O:6:G:C8	2.53	0.44
28:P:98:ASP:OD1	28:P:98:ASP:N	2.50	0.44
30:R:5:LEU:HA	30:R:120:VAL:HG13	2.00	0.44
45:g:35:ALA:HB3	45:g:38:ALA:HB2	1.99	0.44
22:t:29:LYS:HD2	22:t:29:LYS:HA	1.78	0.44
1:0:940:C:H2'	1:0:941:G:C8	2.52	0.44
1:AA:96:U:H2'	1:AA:97:G:C8	2.53	0.44
1:AA:128:G:H2'	1:AA:129:A:C8	2.53	0.44
1:AA:1442:G:H2'	1:AA:1443:C:H6	1.83	0.44
2:AB:87:CYS:HB2	2:AB:89:GLN:NE2	2.32	0.44
16:AL:20:THR:HG23	16:AL:26:GLY:HA2	2.00	0.44
18:AN:60:VAL:O	18:AN:64:ARG:HG2	2.18	0.44
26:AV:822:G:H2'	26:AV:823:C:C6	2.53	0.44
26:AV:1316:U:H5'	26:AV:1392:A:H1'	2.00	0.44
26:AV:1469:A:H2'	26:AV:1470:A:H8	1.83	0.44
26:AV:2215:C:H2'	26:AV:2216:G:C8	2.53	0.44
26:AV:2630:G:H2'	26:AV:2631:G:H8	1.83	0.44
27:AW:80:U:O4	47:Aq:14:LYS:NZ	2.42	0.44
28:AX:10:SER:HB3	28:AX:13:ARG:HG3	2.00	0.44
44:An:2:GLU:HA	44:An:108:SER:HB2	1.98	0.44
53:Aw:12:VAL:HG22	53:Aw:51:GLU:HB3	2.00	0.44
57:B:984:LYS:HZ1	57:B:999:LYS:HD2	1.82	0.44
26:N:396:G:O3'	49:k:31:PRO:HA	2.17	0.44
26:N:742:A:H2'	26:N:743:A:C8	2.53	0.44
26:N:1341:G:C2	26:N:1398:C:H4'	2.53	0.44
26:N:1550:C:H2'	26:N:1551:A:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2160:C:H2'	26:N:2161:C:C6	2.53	0.44
26:N:2783:U:H2'	26:N:2784:U:C6	2.53	0.44
28:P:76:ALA:HA	28:P:96:TYR:HA	1.99	0.44
28:P:111:LYS:HE3	28:P:111:LYS:HB3	1.85	0.44
28:P:132:MET:HE1	28:P:174:LEU:HD11	2.00	0.44
43:e:72:VAL:HG13	43:e:89:HIS:HB3	2.00	0.44
1:0:642:A:C5	8:7:107:SER:HA	2.53	0.44
1:0:1523:G:OP1	58:D:125:LYS:NZ	2.46	0.44
9:8:35:LEU:HD11	9:8:48:VAL:HG21	2.00	0.44
1:AA:1122:U:H2'	1:AA:1123:U:C6	2.53	0.44
1:AA:1256:A:P	3:AC:27:LYS:HZ1	2.41	0.44
17:AM:49:GLN:O	17:AM:51:LEU:N	2.50	0.44
26:AV:242:G:O2'	26:AV:254:G:O6	2.33	0.44
26:AV:970:U:O2	26:AV:984:A:O2'	2.32	0.44
26:AV:1571:A:H2'	26:AV:1572:A:H8	1.83	0.44
28:AX:67:PHE:HB3	28:AX:152:GLY:H	1.83	0.44
32:Ab:86:LYS:HD2	32:Ab:132:VAL:HG22	2.00	0.44
42:Al:88:VAL:HG13	43:Am:49:ILE:HD11	2.00	0.44
19:I:69:ASP:OD1	19:I:70:ARG:N	2.50	0.44
24:L:16:CYS:SG	24:L:19:GLY:N	2.91	0.44
26:N:1682:G:H2'	26:N:1683:U:C6	2.53	0.44
26:N:1820:U:C2	28:P:201:MET:HB3	2.53	0.44
26:N:2591:C:N4	26:N:2592:G:O6	2.51	0.44
26:N:2707:U:H2'	26:N:2708:G:C8	2.53	0.44
26:N:2885:G:O6	52:n:40:ARG:NH2	2.50	0.44
27:O:12:C:O2'	48:j:74:PRO:O	2.33	0.44
41:c:44:GLU:H	41:c:63:LYS:NZ	2.16	0.44
42:d:98:ILE:HG22	42:d:106:PHE:HB2	2.00	0.44
1:0:932:C:H2'	1:0:933:G:C8	2.53	0.43
1:0:980:C:O3'	17:G:13:ARG:NH1	2.50	0.43
1:0:1146:A:H1'	57:B:916:ARG:NH2	2.33	0.43
2:1:87:CYS:HB2	2:1:89:GLN:HE22	1.82	0.43
6:5:45:ARG:HH11	21:K:67:LEU:HD22	1.83	0.43
10:9:27:GLU:HA	10:9:30:LYS:HG2	2.00	0.43
13:A2:1251:LEU:O	13:A2:1256:ARG:NE	2.47	0.43
1:AA:76:G:H1	1:AA:93:U:H3	1.66	0.43
1:AA:599:C:H2'	1:AA:600:A:H8	1.83	0.43
1:AA:1181:G:H1'	1:AA:1182:G:C4	2.53	0.43
2:AB:57:LEU:HD13	2:AB:217:VAL:HG23	1.99	0.43
6:AF:47:LEU:HD12	6:AF:55:HIS:HA	2.00	0.43
26:AV:291:G:N1	26:AV:349:U:N3	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:407:G:H2'	26:AV:408:G:H8	1.83	0.43
26:AV:450:G:N1	26:AV:454:A:OP2	2.48	0.43
26:AV:665:U:H2'	26:AV:666:A:H8	1.82	0.43
26:AV:1161:C:H2'	26:AV:1162:G:C8	2.53	0.43
26:AV:1297:C:H2'	26:AV:1298:C:H6	1.83	0.43
26:AV:1536:C:O2	26:AV:1537:G:N2	2.51	0.43
26:AV:1830:C:H2'	26:AV:1831:G:H8	1.83	0.43
26:AV:2023:C:H2'	26:AV:2024:G:C8	2.50	0.43
26:AV:2217:G:H2'	26:AV:2218:G:H8	1.82	0.43
28:AX:33:LEU:HD21	28:AX:102:ARG:HA	2.00	0.43
55:Ay:29:LEU:HD22	55:Ay:44:LEU:HB3	2.00	0.43
57:B:377:ARG:HD2	57:B:648:ARG:NH2	2.33	0.43
57:B:774:ALA:O	57:B:777:GLU:N	2.51	0.43
20:J:28:PHE:HA	20:J:39:LYS:HA	2.00	0.43
26:N:790:U:H3	26:N:795:C:H5'	1.83	0.43
26:N:1219:U:H2'	26:N:1220:G:H8	1.83	0.43
26:N:1259:G:H2'	26:N:1260:A:H8	1.83	0.43
26:N:1413:A:H2'	26:N:1414:C:C6	2.53	0.43
26:N:2484:G:O2'	38:Z:123:LYS:O	2.34	0.43
27:O:15:A:OP2	27:O:69:G:N2	2.43	0.43
27:O:42:C:O2'	31:S:63:GLN:OE1	2.35	0.43
31:S:80:ARG:HA	31:S:80:ARG:HD2	1.86	0.43
37:Y:55:MET:HA	37:Y:56:PRO:HD3	1.80	0.43
41:c:25:THR:HG23	41:c:87:LYS:HB2	1.99	0.43
43:e:4:VAL:HG23	43:e:40:MET:HE3	2.00	0.43
50:l:21:LEU:HA	50:l:25:GLN:HB2	2.00	0.43
56:r:25:VAL:HG22	56:r:35:GLN:HB2	1.99	0.43
23:u:72:ALA:O	23:u:76:LYS:HG2	2.17	0.43
1:O:1314:C:H2'	1:O:1315:U:C6	2.53	0.43
6:5:11:HIS:NE2	6:5:13:ASP:OD2	2.50	0.43
11:A:58:A:O2'	11:A:60:U:OP2	2.31	0.43
3:AC:79:LYS:HG3	3:AC:80:LYS:HG2	2.00	0.43
25:AU:23:A:H2'	25:AU:24:G:H8	1.81	0.43
26:AV:597:G:H21	37:Ag:12:SER:HA	1.83	0.43
26:AV:598:U:H2'	26:AV:599:A:H8	1.82	0.43
26:AV:633:A:O2'	26:AV:2404:U:OP1	2.32	0.43
26:AV:833:A:H2'	26:AV:834:G:C8	2.53	0.43
26:AV:1275:A:OP2	26:AV:1646:C:N4	2.47	0.43
26:AV:1812:U:H2'	26:AV:1813:G:C8	2.53	0.43
26:AV:2473:U:OP1	26:AV:2529:G:N2	2.41	0.43
26:AV:2822:G:OP1	29:AY:164:GLN:NE2	2.47	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2855:C:H2'	26:AV:2856:A:C8	2.53	0.43
27:AW:85:G:H2'	27:AW:86:G:H8	1.82	0.43
28:AX:205:LEU:HB3	28:AX:210:ALA:HB3	1.99	0.43
32:Ab:50:LEU:HD13	32:Ab:72:LEU:HD13	2.00	0.43
57:B:132:ARG:HD3	62:w:575:U:H5''	2.00	0.43
57:B:933:LYS:HA	57:B:933:LYS:HD3	1.91	0.43
58:D:31:ILE:HG22	58:D:46:THR:HG22	2.00	0.43
26:N:190:A:H3'	26:N:204:A:H61	1.84	0.43
26:N:1445:G:N2	26:N:1466:U:O2	2.45	0.43
26:N:1469:A:OP2	26:N:1522:A:N6	2.41	0.43
26:N:2606:C:H2'	26:N:2607:G:C8	2.53	0.43
29:Q:176:ASP:OD1	29:Q:177:VAL:N	2.51	0.43
54:p:34:ARG:HD2	54:p:42:LEU:HA	1.99	0.43
12:v:25:LYS:HA	12:v:25:LYS:HE3	2.00	0.43
1:0:542:G:H5'	4:3:39:GLY:HA3	2.00	0.43
1:0:627:G:OP1	19:I:51:ARG:NH1	2.51	0.43
1:0:1477:U:H2'	1:0:1478:U:C6	2.54	0.43
3:2:131:ARG:HD2	3:2:168:TYR:OH	2.18	0.43
3:2:164:ARG:NH2	62:w:556:U:O4	2.51	0.43
4:3:152:GLN:HG3	4:3:154:ARG:H	1.83	0.43
8:7:71:VAL:HG13	8:7:72:VAL:HG23	1.99	0.43
9:8:6:TYR:CD2	9:8:89:GLU:HA	2.53	0.43
1:AA:1004:A:H2'	1:AA:1005:A:C8	2.53	0.43
26:AV:774:G:N2	26:AV:787:C:O2'	2.51	0.43
26:AV:1054:A:C6	26:AV:1106:G:N1	2.87	0.43
26:AV:1146:C:H2'	26:AV:1147:A:C8	2.53	0.43
26:AV:1687:G:N1	26:AV:1700:A:OP1	2.47	0.43
26:AV:2246:G:H2'	26:AV:2247:A:C8	2.53	0.43
26:AV:2396:G:H2'	26:AV:2397:G:H8	1.82	0.43
29:AY:149:ASN:OD1	29:AY:150:GLN:N	2.42	0.43
33:Ac:2:GLN:O	33:Ac:39:ALA:HB2	2.17	0.43
57:B:624:ILE:O	57:B:628:THR:HG23	2.18	0.43
15:C:39:VAL:HG21	15:C:177:LYS:HE3	2.01	0.43
26:N:396:G:H1'	49:k:29:PHE:HB3	2.01	0.43
26:N:753:A:H2'	26:N:754:U:H6	1.84	0.43
26:N:793:A:OP2	26:N:2071:A:O2'	2.26	0.43
26:N:1638:C:O2	26:N:2698:U:O2'	2.27	0.43
26:N:2081:U:H2'	26:N:2082:A:H8	1.83	0.43
26:N:2230:G:H2'	26:N:2231:U:C6	2.54	0.43
30:R:121:VAL:HG21	30:R:124:PHE:HB2	2.00	0.43
36:X:23:LYS:HD3	36:X:23:LYS:HA	1.70	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:c:22:PRO:HA	41:c:47:VAL:HG13	2.00	0.43
51:m:45:ARG:HD3	51:m:45:ARG:HA	1.81	0.43
23:u:61:GLN:HB3	23:u:66:LEU:HD21	1.99	0.43
59:z:36:ARG:HD3	59:z:38:TYR:CE1	2.54	0.43
1:0:134:G:H22	19:I:25:ARG:HH22	1.66	0.43
1:0:542:G:O3'	4:3:14:ARG:NH1	2.49	0.43
1:0:587:G:H4'	8:7:4:GLN:HB3	2.00	0.43
1:0:619:U:H3	4:3:131:ASN:HB3	1.83	0.43
1:0:622:A:OP2	1:0:623:C:N4	2.50	0.43
1:0:657:U:H2'	1:0:658:C:H6	1.83	0.43
5:4:114:VAL:HG21	5:4:137:VAL:HG12	2.00	0.43
1:AA:25:C:H2'	1:AA:26:A:H8	1.84	0.43
1:AA:78:A:H2'	1:AA:79:G:C8	2.54	0.43
1:AA:135:C:H2'	19:AO:1:MET:HE3	1.99	0.43
1:AA:160:A:H2'	1:AA:161:A:C8	2.53	0.43
1:AA:618:C:H5'	1:AA:619:U:H5''	2.00	0.43
3:AC:6:HIS:CD2	17:AM:89:MET:HB3	2.54	0.43
8:AH:105:SER:HA	8:AH:110:VAL:HG12	2.00	0.43
19:AO:69:ASP:OD1	19:AO:70:ARG:N	2.52	0.43
26:AV:813:U:O2'	26:AV:1225:G:O2'	2.30	0.43
26:AV:1299:G:O2'	26:AV:1640:A:N6	2.51	0.43
26:AV:1355:G:H2'	26:AV:1356:G:C8	2.53	0.43
26:AV:1927:A:H2'	26:AV:1928:A:C8	2.53	0.43
27:AW:77:U:H2'	27:AW:78:A:H8	1.83	0.43
40:Aj:30:ARG:HB3	40:Aj:97:PHE:HE2	1.84	0.43
57:B:131:ARG:HE	62:w:574:U:H4'	1.83	0.43
57:B:716:VAL:H	57:B:738:SER:HB2	1.82	0.43
26:N:118:A:H5'	26:N:119:A:C8	2.53	0.43
26:N:302:C:H2'	26:N:303:G:H8	1.83	0.43
26:N:833:A:H2'	26:N:834:G:H8	1.84	0.43
26:N:1094:U:H1'	26:N:1097:U:H5	1.83	0.43
26:N:1704:C:H2'	26:N:1705:A:H8	1.83	0.43
26:N:2045:C:H5''	52:n:15:MET:HE2	2.01	0.43
26:N:2623:G:H2'	26:N:2624:G:C8	2.54	0.43
26:N:2785:C:H2'	26:N:2786:U:H6	1.84	0.43
26:N:2841:C:H2'	26:N:2842:G:C8	2.53	0.43
27:O:30:C:O2'	27:O:57:A:N1	2.40	0.43
29:Q:102:ALA:HA	29:Q:180:VAL:HG21	2.00	0.43
1:0:613:C:H2'	1:0:614:C:C6	2.54	0.43
1:0:635:A:H2'	1:0:636:U:C6	2.53	0.43
1:AA:56:U:H2'	1:AA:57:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:194:C:H5''	23:AS:60:ARG:HH21	1.83	0.43
1:AA:1222:G:OP1	1:AA:1321:U:O2'	2.31	0.43
3:AC:156:ARG:HD3	3:AC:193:TYR:HB3	2.01	0.43
25:AU:62:C:H2'	25:AU:63:G:H8	1.82	0.43
26:AV:230:G:H2'	26:AV:231:A:H8	1.83	0.43
26:AV:1297:C:H2'	26:AV:1298:C:C6	2.54	0.43
26:AV:1386:C:H1'	26:AV:1470:A:H1'	2.00	0.43
26:AV:1534:U:O2'	26:AV:1537:G:O6	2.31	0.43
26:AV:2638:G:H1'	26:AV:2778:A:H61	1.82	0.43
29:AY:13:ARG:NH2	41:Ak:75:GLN:OE1	2.42	0.43
31:Aa:112:ARG:HD3	31:Aa:136:ILE:HD11	2.00	0.43
33:Ac:37:VAL:HA	33:Ac:38:PRO:HD3	1.76	0.43
43:Am:37:GLU:HG2	43:Am:53:PHE:CE2	2.54	0.43
43:Am:77:PHE:CD1	43:Am:84:ARG:HB3	2.53	0.43
44:An:8:ARG:NH1	44:An:102:HIS:HB3	2.33	0.43
46:Ap:24:LYS:H	46:Ap:37:GLU:HG2	1.82	0.43
57:B:486:LEU:HD22	57:B:490:GLY:HA3	2.00	0.43
57:B:670:VAL:HA	57:B:683:ILE:O	2.19	0.43
26:N:948:C:H2'	26:N:949:G:H8	1.83	0.43
26:N:1038:G:H2'	26:N:1039:A:C8	2.53	0.43
26:N:1311:G:H21	26:N:1603:A:H62	1.64	0.43
26:N:1794:A:H2'	26:N:1795:C:H6	1.83	0.43
26:N:2041:U:H2'	26:N:2042:A:C8	2.54	0.43
26:N:2537:U:H2'	26:N:2538:C:C6	2.53	0.43
26:N:2899:A:H2'	26:N:2900:A:C8	2.54	0.43
55:q:55:LEU:O	55:q:59:ILE:HG12	2.18	0.43
1:0:736:C:H2'	1:0:737:C:H6	1.83	0.43
1:0:1291:U:H2'	1:0:1292:G:C8	2.54	0.43
6:5:74:LEU:HG	6:5:78:PHE:CE2	2.52	0.43
13:A2:1167:ASN:HA	13:A2:1170:LEU:HG	2.01	0.43
1:AA:253:A:OP1	20:AP:69:LYS:HE2	2.18	0.43
1:AA:336:A:H2'	1:AA:337:G:H8	1.84	0.43
1:AA:647:C:H2'	1:AA:648:A:C8	2.54	0.43
1:AA:1314:C:H2'	1:AA:1315:U:C6	2.53	0.43
1:AA:1401:G:H2'	1:AA:1402:C:O4'	2.18	0.43
15:AK:182:ALA:O	15:AK:186:LYS:HG2	2.18	0.43
26:AV:184:C:H2'	26:AV:185:G:C8	2.53	0.43
26:AV:188:G:O2'	26:AV:1365:A:N6	2.52	0.43
26:AV:491:G:O6	44:An:49:LYS:NZ	2.43	0.43
26:AV:1041:G:H2'	26:AV:1042:G:C8	2.52	0.43
26:AV:2372:U:H2'	26:AV:2373:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:79:VAL:HG22	57:B:249:VAL:HG11	2.00	0.43
26:N:247:G:OP2	26:N:249:C:N4	2.51	0.43
26:N:2788:C:H2'	26:N:2789:C:C6	2.53	0.43
26:N:2859:G:O2'	26:N:2860:A:O4'	2.30	0.43
28:P:76:ALA:HB3	28:P:116:ILE:HB	2.01	0.43
30:R:118:LEU:HD11	30:R:188:MET:HB2	1.99	0.43
30:R:146:VAL:HG12	30:R:167:VAL:HG12	2.01	0.43
33:U:132:PHE:HB2	33:U:140:ALA:HB3	2.00	0.43
36:X:1:MET:HE3	36:X:32:TYR:CE2	2.54	0.43
40:b:52:SER:N	40:b:55:GLU:OE2	2.46	0.43
42:d:90:ILE:HG13	42:d:95:LEU:HD21	2.00	0.43
45:g:65:GLY:O	45:g:76:ARG:NE	2.52	0.43
49:k:7:VAL:HA	49:k:71:LEU:HD11	2.00	0.43
53:o:30:LYS:HE2	53:o:30:LYS:HB2	1.83	0.43
1:0:56:U:H2'	1:0:57:G:H8	1.83	0.43
1:0:107:G:O6	23:u:10:ARG:NE	2.40	0.43
1:0:711:G:H2'	1:0:712:A:C8	2.52	0.43
1:0:1041:G:H2'	1:0:1042:A:H8	1.84	0.43
1:0:1238:A:H62	1:0:1301:U:H3	1.65	0.43
2:1:33:GLY:O	2:1:40:ILE:N	2.46	0.43
4:3:87:GLY:HA3	4:3:197:GLU:OE2	2.19	0.43
4:3:95:GLU:OE2	4:3:100:ASN:ND2	2.52	0.43
7:6:93:PRO:HA	7:6:96:ARG:HB2	2.01	0.43
14:A3:28:C:H2'	14:A3:29:A:H8	1.83	0.43
14:A3:73:C:C2	14:A3:74:A:N7	2.87	0.43
1:AA:131:A:H2'	1:AA:132:C:C6	2.54	0.43
1:AA:676:A:H2'	1:AA:677:U:H6	1.84	0.43
1:AA:1171:A:H2'	1:AA:1172:C:C6	2.54	0.43
1:AA:1524:C:H2'	1:AA:1525:G:C8	2.52	0.43
5:AE:133:PRO:O	5:AE:137:VAL:HG12	2.19	0.43
7:AG:26:PHE:CZ	7:AG:120:LEU:HD11	2.54	0.43
7:AG:46:ALA:HB2	7:AG:117:ALA:HA	2.01	0.43
7:AG:148:ASN:HA	58:y:56:ARG:HH22	1.84	0.43
8:AH:35:ALA:HB1	8:AH:110:VAL:HG21	2.01	0.43
23:AS:71:LYS:HA	23:AS:74:ARG:HG2	2.00	0.43
26:AV:243:U:N3	26:AV:255:A:C8	2.83	0.43
26:AV:322:A:H5'	26:AV:340:A:H1'	2.00	0.43
26:AV:1340:U:H3'	45:Ao:61:LEU:HD22	2.00	0.43
26:AV:1450:G:H2'	26:AV:1451:C:C6	2.53	0.43
26:AV:2487:G:H2'	26:AV:2488:G:C8	2.53	0.43
26:AV:2789:C:H3'	26:AV:2893:A:H62	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AW:23:G:H2'	27:AW:24:G:C8	2.54	0.43
27:AW:33:G:H2'	27:AW:34:A:C8	2.54	0.43
29:AY:17:GLU:OE1	29:AY:17:GLU:N	2.43	0.43
40:Aj:8:ILE:O	40:Aj:12:THR:OG1	2.34	0.43
51:Au:38:ARG:HD3	51:Au:38:ARG:HA	1.82	0.43
54:Ax:31:LEU:HA	54:Ax:34:ARG:HB2	2.01	0.43
57:B:471:GLU:OE2	57:B:631:LEU:HB2	2.18	0.43
57:B:516:ARG:HH11	57:B:562:TRP:HE1	1.66	0.43
57:B:630:LEU:HD11	57:B:669:MET:HE2	2.01	0.43
16:F:107:ARG:HH12	16:F:113:ARG:N	2.16	0.43
26:N:65:U:H2'	26:N:66:C:C6	2.54	0.43
26:N:90:U:H3'	26:N:91:A:H2'	2.00	0.43
26:N:206:U:H2'	26:N:207:A:H8	1.84	0.43
26:N:219:A:N3	26:N:234:U:O2'	2.40	0.43
26:N:367:G:H2'	26:N:368:A:C8	2.54	0.43
26:N:397:U:OP2	49:k:10:LYS:NZ	2.44	0.43
26:N:582:A:H2'	26:N:583:G:H8	1.84	0.43
26:N:910:A:H62	38:Z:12:MET:HA	1.84	0.43
26:N:1410:G:H2'	26:N:1411:U:H6	1.83	0.43
26:N:1683:U:H2'	26:N:1684:G:C8	2.53	0.43
26:N:1748:C:H2'	26:N:1749:A:H8	1.83	0.43
26:N:2200:C:H2'	26:N:2201:G:H8	1.82	0.43
26:N:2291:U:OP1	26:N:2380:C:O2'	2.37	0.43
26:N:2294:G:OP1	40:b:10:ARG:HD3	2.19	0.43
26:N:2297:A:N6	26:N:2319:G:H1'	2.33	0.43
26:N:2728:U:H2'	26:N:2729:G:H8	1.83	0.43
26:N:2789:C:H3'	26:N:2893:A:H62	1.83	0.43
26:N:2881:U:H5'	39:a:90:ARG:NH1	2.29	0.43
27:O:37:C:O2	27:O:48:U:O2'	2.37	0.43
35:W:105:VAL:HG11	35:W:122:LEU:HD13	1.99	0.43
1:0:1327:C:H2'	1:0:1328:C:C6	2.54	0.43
2:1:46:THR:HG23	2:1:201:PRO:HD2	2.01	0.43
3:2:147:LYS:HE2	3:2:203:PHE:CE2	2.53	0.43
3:2:155:GLY:HA2	3:2:163:ALA:HB1	2.01	0.43
8:7:3:MET:HE1	8:7:6:PRO:HG3	2.01	0.43
8:7:11:LEU:HD23	8:7:11:LEU:HA	1.82	0.43
11:A:51:U:O4	11:A:63:G:O6	2.36	0.43
2:AB:154:MET:HE1	2:AB:158:PRO:HB3	2.01	0.43
6:AF:88:MET:HB2	21:AQ:64:TYR:HE2	1.83	0.43
26:AV:774:G:H1'	26:AV:777:G:H21	1.84	0.43
26:AV:1248:G:P	30:AZ:44:ARG:HH12	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1709:U:H2'	26:AV:1710:G:H8	1.82	0.43
26:AV:1849:G:H2'	26:AV:1850:G:H8	1.83	0.43
26:AV:2372:U:H2'	26:AV:2373:G:C8	2.54	0.43
57:B:390:GLN:HB2	57:B:422:GLU:HA	2.01	0.43
58:D:34:ILE:HG13	58:D:74:VAL:HG21	2.00	0.43
26:N:181:A:H2'	26:N:182:A:H8	1.83	0.43
26:N:665:U:H2'	26:N:666:A:C8	2.54	0.43
26:N:1312:U:O2	26:N:1339:G:N2	2.49	0.43
26:N:1447:C:H2'	26:N:1448:G:C8	2.53	0.43
26:N:1716:U:N3	26:N:1744:A:C8	2.83	0.43
26:N:2233:U:H2'	26:N:2234:G:H8	1.83	0.43
27:O:19:C:H2'	27:O:20:G:H8	1.84	0.43
30:R:40:ARG:HE	30:R:92:HIS:CG	2.36	0.43
36:X:6:THR:O	36:X:20:MET:HA	2.19	0.43
37:Y:55:MET:HE3	37:Y:55:MET:HB3	1.92	0.43
45:g:2:ILE:HG22	45:g:7:LEU:HB2	2.00	0.43
12:v:13:ASP:OD1	12:v:14:VAL:N	2.51	0.43
1:0:45:G:H2'	1:0:46:G:C8	2.54	0.43
1:0:671:G:O3'	6:5:79:ARG:NH1	2.52	0.43
1:0:1244:G:H2'	1:0:1245:C:C6	2.54	0.43
1:0:1391:U:H2'	1:0:1392:G:C8	2.54	0.43
2:1:188:ASP:OD1	2:1:189:THR:N	2.45	0.43
1:AA:195:A:O2'	1:AA:196:A:O4'	2.24	0.43
1:AA:344:A:OP2	1:AA:345:C:N4	2.52	0.43
8:AH:25:VAL:HG22	8:AH:63:LEU:HD11	2.00	0.43
15:AK:15:VAL:HG11	15:AK:29:LEU:HD22	2.01	0.43
18:AN:53:ARG:HA	18:AN:56:LEU:HD12	2.01	0.43
26:AV:237:C:O2	26:AV:609:A:O2'	2.33	0.43
26:AV:1129:A:O2'	26:AV:2515:C:O2	2.37	0.43
26:AV:2144:G:C2	26:AV:2146:C:H4'	2.54	0.43
26:AV:2705:A:O2'	26:AV:2852:G:OP1	2.27	0.43
31:Aa:34:ILE:HG12	31:Aa:96:MET:HE3	2.01	0.43
39:Ai:73:ASN:HA	39:Ai:76:VAL:HG22	2.00	0.43
57:B:1247:TRP:CE2	57:B:1251:LEU:HD21	2.53	0.43
26:N:177:G:H3'	26:N:178:G:C8	2.52	0.43
26:N:371:A:N1	26:N:401:A:H5''	2.34	0.43
26:N:532:A:N1	26:N:2020:A:H1'	2.34	0.43
26:N:873:C:H2'	26:N:874:G:C8	2.53	0.43
26:N:2116:G:O6	26:N:2171:A:N6	2.46	0.43
26:N:2195:U:H2'	26:N:2196:C:H6	1.84	0.43
26:N:2366:A:H3'	26:N:2367:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2717:C:O2'	41:c:99:TYR:OH	2.25	0.43
26:N:2737:G:H2'	26:N:2738:A:C8	2.53	0.43
26:N:2855:C:H2'	26:N:2856:A:C8	2.53	0.43
26:N:2870:C:H2'	26:N:2871:U:C6	2.54	0.43
27:O:114:C:H2'	27:O:115:A:H8	1.84	0.43
31:S:8:TYR:OH	31:S:29:PRO:O	2.37	0.43
39:a:82:GLU:OE1	39:a:82:GLU:N	2.52	0.43
50:l:37:LEU:HD11	50:l:42:LEU:HD12	1.99	0.43
63:x:111:ALA:HB3	63:x:118:ILE:HB	2.01	0.43
1:0:321:A:H2'	1:0:322:C:C6	2.54	0.43
1:0:1325:C:H2'	1:0:1326:U:H6	1.83	0.43
1:0:1512:U:H2'	1:0:1513:A:C8	2.54	0.43
7:6:27:VAL:O	7:6:31:MET:HB2	2.19	0.43
8:7:27:MET:N	8:7:27:MET:SD	2.91	0.43
9:8:42:GLU:HA	9:8:45:ARG:HG3	1.99	0.43
13:A2:1023:GLY:HA2	13:A2:1131:GLU:HB3	2.00	0.43
13:A2:1067:TRP:CD1	13:A2:1071:ARG:HD2	2.54	0.43
1:AA:116:A:H61	1:AA:313:A:H1'	1.83	0.43
1:AA:338:A:OP2	36:Af:98:ARG:NH1	2.52	0.43
1:AA:391:G:H2'	1:AA:392:C:O4'	2.19	0.43
1:AA:665:A:H62	1:AA:724:G:H1	1.67	0.43
1:AA:750:C:O2'	18:AN:21:ASP:OD1	2.34	0.43
2:AB:164:ILE:HA	2:AB:186:ILE:HG22	2.00	0.43
21:AQ:20:GLU:CD	21:AQ:22:ASP:H	2.26	0.43
21:AQ:63:ARG:NH1	21:AQ:70:TYR:O	2.52	0.43
26:AV:281:C:H2'	26:AV:282:A:C8	2.54	0.43
26:AV:443:A:OP1	30:AZ:41:GLN:N	2.47	0.43
26:AV:598:U:H2'	26:AV:599:A:C8	2.54	0.43
26:AV:668:A:H2'	26:AV:670:A:H62	1.84	0.43
26:AV:755:U:H2'	26:AV:756:A:H8	1.83	0.43
26:AV:1405:U:H2'	26:AV:1406:U:H6	1.83	0.43
26:AV:1796:U:H2'	26:AV:1797:G:H8	1.83	0.43
26:AV:2340:A:H2'	26:AV:2341:G:H8	1.84	0.43
26:AV:2840:C:H2'	26:AV:2841:C:C6	2.54	0.43
26:AV:2841:C:H2'	26:AV:2842:G:H8	1.83	0.43
27:AW:20:G:H2'	27:AW:21:G:C8	2.54	0.43
28:AX:146:MET:H	28:AX:150:LYS:HE3	1.84	0.43
32:Ab:38:ASN:OD1	32:Ab:39:ASP:N	2.51	0.43
38:Ah:53:MET:HE1	38:Ah:103:TYR:HD2	1.83	0.43
44:An:20:VAL:HG11	44:An:44:ALA:HA	2.00	0.43
52:Av:48:TYR:HA	52:Av:53:LYS:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:339:HIS:CG	57:B:343:ARG:HD2	2.53	0.43
20:J:60:GLU:OE2	20:J:77:ARG:NH2	2.52	0.43
26:N:519:U:H5''	44:f:25:ARG:HH12	1.84	0.43
26:N:1184:U:H2'	26:N:1185:G:C8	2.54	0.43
26:N:1745:A:H2'	26:N:1746:A:C8	2.53	0.43
26:N:2837:A:H2'	26:N:2838:G:C8	2.54	0.43
28:P:260:ASN:C	28:P:260:ASN:HD22	2.26	0.43
47:i:31:TYR:O	47:i:92:VAL:HA	2.18	0.43
53:o:39:PHE:O	53:o:49:TYR:OH	2.34	0.43
58:y:67:ALA:HB2	58:y:96:THR:HG23	2.00	0.43
1:0:676:A:H2'	1:0:677:U:H6	1.83	0.42
1:0:1032:G:H2'	1:0:1033:G:O4'	2.19	0.42
1:0:1243:C:H2'	1:0:1244:G:H8	1.82	0.42
2:1:153:ASP:OD1	2:1:153:ASP:N	2.44	0.42
12:A1:37:PHE:CD1	58:y:126:LYS:HB2	2.53	0.42
14:A3:39:A:H5'	26:AV:1913:A:C6	2.54	0.42
1:AA:135:C:O2	19:AO:25:ARG:NH1	2.52	0.42
1:AA:714:G:H1'	1:AA:777:A:C8	2.54	0.42
1:AA:1182:G:H4'	1:AA:1183:U:H5'	2.01	0.42
1:AA:1472:U:H2'	1:AA:1473:G:C8	2.54	0.42
2:AB:105:LYS:HA	2:AB:108:ARG:NH2	2.34	0.42
7:AG:16:PRO:HB3	9:AI:46:MET:HE2	2.01	0.42
8:AH:18:GLN:HE21	8:AH:63:LEU:HD23	1.84	0.42
16:AL:45:ILE:O	16:AL:48:LEU:HB3	2.19	0.42
19:AO:13:LYS:HD3	19:AO:13:LYS:HA	1.85	0.42
26:AV:704:G:H1'	26:AV:727:A:H61	1.83	0.42
26:AV:1123:C:H2'	26:AV:1124:G:H8	1.84	0.42
26:AV:1316:U:H2'	26:AV:1317:G:C8	2.54	0.42
26:AV:1339:G:OP1	45:Ao:82:LYS:NZ	2.52	0.42
26:AV:2515:C:H2'	26:AV:2516:A:C8	2.51	0.42
34:Ad:90:SER:HB3	34:Ad:93:PRO:HG3	2.01	0.42
36:Af:19:VAL:HG12	36:Af:43:ILE:HA	2.00	0.42
57:B:997:LYS:HD3	57:B:997:LYS:HA	1.77	0.42
16:F:77:ILE:HD11	16:F:91:HIS:HD1	1.83	0.42
26:N:383:C:H41	26:N:385:C:H2'	1.83	0.42
26:N:759:G:H2'	26:N:760:G:C8	2.53	0.42
26:N:1443:U:H2'	26:N:1444:G:H8	1.84	0.42
26:N:2001:C:H2'	26:N:2002:G:H8	1.83	0.42
26:N:2139:U:H2'	26:N:2140:G:H8	1.83	0.42
26:N:2312:U:O2	31:S:37:ASN:ND2	2.52	0.42
26:N:2547:A:H2'	26:N:2548:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2837:A:H2'	26:N:2838:G:H8	1.84	0.42
1:0:492:C:H2'	1:0:493:A:C4	2.54	0.42
1:0:634:C:H2'	1:0:635:A:C8	2.54	0.42
1:0:920:U:H2'	1:0:921:U:C6	2.53	0.42
1:0:1221:G:H4'	22:t:77:THR:HG21	2.01	0.42
2:1:117:LEU:HB3	2:1:141:LEU:HD13	2.02	0.42
5:4:153:VAL:HA	5:4:156:LYS:HG2	2.02	0.42
14:A3:15:G:H22	14:A3:49:C:H42	1.66	0.42
1:AA:416:G:H2'	1:AA:417:G:H8	1.84	0.42
1:AA:1075:U:P	5:AE:69:ARG:HH12	2.42	0.42
1:AA:1527:U:H2'	1:AA:1528:U:C6	2.54	0.42
2:AB:89:GLN:H	2:AB:89:GLN:HG2	1.74	0.42
2:AB:125:THR:HB	2:AB:128:LYS:HD3	2.01	0.42
26:AV:151:C:H2'	26:AV:152:A:C8	2.54	0.42
26:AV:1181:U:H2'	26:AV:1182:G:H8	1.84	0.42
26:AV:1595:C:H2'	26:AV:1596:A:H8	1.84	0.42
26:AV:1771:C:O2'	26:AV:1786:A:O4'	2.36	0.42
26:AV:2636:C:O2'	29:AY:45:TYR:OH	2.26	0.42
26:AV:2812:G:H2'	26:AV:2813:A:H8	1.84	0.42
32:Ab:83:PHE:CD2	32:Ab:138:LYS:HB2	2.54	0.42
57:B:178:LEU:O	57:B:182:ILE:HG23	2.19	0.42
16:F:80:LEU:O	16:F:88:GLY:HA3	2.19	0.42
26:N:1882:U:H2'	26:N:1883:U:H6	1.85	0.42
26:N:2375:G:N2	26:N:2378:A:OP2	2.47	0.42
26:N:2615:U:C2	52:n:4:GLN:HA	2.55	0.42
29:Q:6:GLY:HA3	29:Q:29:VAL:HG22	2.00	0.42
29:Q:125:TRP:CD1	29:Q:160:LYS:HB3	2.54	0.42
29:Q:136:ASN:ND2	29:Q:139:SER:O	2.50	0.42
34:V:119:GLY:HA2	63:x:42:ARG:NH1	2.34	0.42
37:Y:51:GLU:N	37:Y:51:GLU:OE1	2.52	0.42
23:u:46:ALA:HA	23:u:49:LYS:HD3	2.00	0.42
1:0:54:C:OP1	1:0:351:G:N2	2.50	0.42
1:0:410:G:H21	1:0:432:A:H62	1.68	0.42
1:0:460:A:H2'	1:0:461:A:C8	2.54	0.42
1:0:530:G:H8	11:A:35:A:HO2'	1.65	0.42
1:0:1004:A:N6	1:0:1025:U:OP1	2.53	0.42
3:2:56:VAL:O	3:2:66:VAL:HA	2.19	0.42
7:6:101:MET:HA	7:6:104:ILE:HG22	2.00	0.42
13:A2:1287:SER:O	13:A2:1291:ILE:HD12	2.20	0.42
1:AA:1175:G:H2'	1:AA:1176:A:C8	2.53	0.42
7:AG:100:ALA:O	7:AG:104:ILE:HG12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:634:C:H2'	26:AV:635:C:H6	1.83	0.42
26:AV:696:G:H2'	26:AV:697:G:H8	1.84	0.42
26:AV:1548:A:H2'	26:AV:1549:A:H8	1.84	0.42
26:AV:1831:G:H2'	26:AV:1832:C:C6	2.53	0.42
26:AV:2699:C:H2'	26:AV:2700:A:C8	2.55	0.42
31:Aa:34:ILE:HB	31:Aa:91:LEU:HB2	2.01	0.42
58:D:33:THR:HG22	58:D:44:TRP:HB3	2.01	0.42
26:N:304:U:H3	26:N:313:G:H1	1.67	0.42
26:N:660:C:H2'	26:N:661:A:C8	2.54	0.42
26:N:931:U:O4	26:N:1166:G:N2	2.52	0.42
26:N:1105:U:H2'	26:N:1106:G:C8	2.44	0.42
26:N:1799:G:N2	26:N:1818:U:O2'	2.51	0.42
26:N:2369:A:H2'	26:N:2370:G:C8	2.53	0.42
30:R:24:ASN:CG	30:R:27:LEU:HD23	2.44	0.42
37:Y:49:GLY:HA2	55:q:57:LEU:HD12	2.00	0.42
41:c:44:GLU:H	41:c:63:LYS:HZ1	1.68	0.42
58:y:35:THR:HA	58:y:42:LEU:HD23	2.00	0.42
59:z:34:CYS:HA	59:z:55:VAL:HA	2.00	0.42
1:O:741:G:OP2	18:H:2:SER:OG	2.33	0.42
1:O:1103:C:H5''	2:1:97:LEU:HD12	2.01	0.42
1:O:1162:C:H2'	1:O:1163:A:C8	2.55	0.42
1:O:1363:A:O2'	1:O:1365:G:N7	2.47	0.42
3:2:72:ARG:HH11	3:2:74:GLY:HA3	1.83	0.42
5:4:36:LEU:HD21	5:4:137:VAL:HG11	2.01	0.42
9:8:50:GLN:HG3	9:8:103:PHE:HE2	1.83	0.42
13:A2:1201:ASN:HD22	13:A2:1209:THR:HG21	1.84	0.42
1:AA:182:A:N1	1:AA:223:A:O2'	2.51	0.42
1:AA:257:G:H2'	1:AA:258:G:H8	1.84	0.42
1:AA:591:U:H2'	1:AA:592:G:C8	2.54	0.42
16:AL:45:ILE:HA	16:AL:48:LEU:HD13	2.00	0.42
17:AM:86:GLU:HA	17:AM:89:MET:HB2	2.01	0.42
20:AP:12:VAL:HG22	20:AP:23:VAL:HG22	2.01	0.42
20:AP:34:TYR:HB3	59:z:4:VAL:HG23	2.00	0.42
24:AT:1:MET:N	27:AW:40:U:O4	2.49	0.42
26:AV:488:G:H22	26:AV:491:G:H5''	1.84	0.42
26:AV:528:A:O5'	35:Ae:116:ARG:NH1	2.52	0.42
26:AV:970:U:H2'	26:AV:971:G:H8	1.84	0.42
26:AV:999:U:H3'	26:AV:1154:G:H1	1.84	0.42
26:AV:1779:U:O2	26:AV:1783:A:N6	2.52	0.42
26:AV:2329:U:H2'	26:AV:2330:G:C8	2.54	0.42
26:AV:2353:G:O2'	48:Ar:33:ALA:O	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:2707:U:H2'	26:AV:2708:G:C8	2.54	0.42
26:AV:2895:G:H2'	26:AV:2896:C:C6	2.54	0.42
32:Ab:23:VAL:HG22	32:Ab:36:THR:HG23	2.01	0.42
36:Af:21:CYS:HB2	36:Af:39:ILE:HD12	2.01	0.42
26:N:588:U:H2'	26:N:589:U:C6	2.55	0.42
26:N:705:A:OP2	26:N:725:G:N1	2.52	0.42
26:N:926:G:H2'	26:N:927:A:H8	1.83	0.42
26:N:1405:U:H2'	26:N:1406:U:H6	1.84	0.42
26:N:2368:C:H2'	26:N:2369:A:H8	1.84	0.42
26:N:2818:U:H2'	26:N:2819:G:H8	1.84	0.42
26:N:2840:C:H2'	26:N:2841:C:C6	2.54	0.42
27:O:95:U:H2'	27:O:96:G:C8	2.54	0.42
31:S:20:PHE:CE2	31:S:165:GLU:HG3	2.54	0.42
44:f:29:VAL:HA	44:f:32:ALA:HB3	2.01	0.42
61:s:140:ILE:HB	61:s:144:LYS:HB3	2.01	0.42
1:0:518:C:H2'	1:0:530:G:C8	2.55	0.42
1:0:537:G:H5''	59:E:110:ARG:NH2	2.34	0.42
1:0:740:U:H2'	1:0:741:G:H8	1.85	0.42
1:0:1033:G:H2'	1:0:1034:G:H8	1.84	0.42
4:3:148:LYS:H	4:3:148:LYS:HG2	1.59	0.42
8:7:10:MET:HB2	8:7:33:LYS:HZ2	1.85	0.42
1:AA:501:C:H2'	1:AA:502:A:H8	1.84	0.42
1:AA:1359:C:OP2	17:AM:75:ARG:NE	2.52	0.42
7:AG:148:ASN:HA	58:y:56:ARG:NH2	2.34	0.42
26:AV:161:A:H3'	26:AV:162:U:H5''	2.02	0.42
26:AV:692:C:H2'	26:AV:693:A:H8	1.84	0.42
26:AV:740:C:H5'	26:AV:1784:A:H3'	2.00	0.42
26:AV:806:C:O2	26:AV:2444:G:O2'	2.36	0.42
26:AV:1104:C:H2'	26:AV:1105:U:H6	1.84	0.42
26:AV:1501:G:H4'	28:AX:95:LEU:HD21	2.01	0.42
26:AV:2241:A:H2'	26:AV:2242:G:C8	2.55	0.42
26:AV:2567:G:H2'	26:AV:2568:U:C6	2.54	0.42
30:AZ:77:ILE:HG13	30:AZ:78:TRP:HD1	1.84	0.42
31:Aa:128:TYR:HE2	31:Aa:130:MET:HB2	1.84	0.42
15:C:195:ALA:HA	15:C:198:LYS:HG2	2.01	0.42
26:N:1363:C:H2'	26:N:1364:G:H8	1.85	0.42
26:N:1431:A:H2'	26:N:1432:G:H8	1.83	0.42
26:N:1443:U:H2'	26:N:1444:G:C8	2.54	0.42
26:N:2144:G:H1'	26:N:2147:A:N6	2.34	0.42
26:N:2880:C:H2'	26:N:2881:U:C6	2.55	0.42
30:R:83:VAL:HG12	30:R:85:PHE:H	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:S:20:PHE:HB3	31:S:22:TYR:CE1	2.54	0.42
1:0:603:U:H2'	1:0:604:G:C8	2.54	0.42
1:0:1038:C:H2'	1:0:1039:G:H8	1.84	0.42
1:0:1239:A:O2'	7:6:114:LYS:O	2.38	0.42
4:3:140:ASN:N	4:3:182:PHE:O	2.53	0.42
1:AA:104:G:OP1	23:AS:16:LYS:NZ	2.47	0.42
1:AA:552:U:O2'	59:z:83:ARG:O	2.38	0.42
1:AA:960:U:H2'	1:AA:1225:A:H62	1.85	0.42
1:AA:1271:A:H2'	1:AA:1272:G:H8	1.84	0.42
1:AA:1313:U:H2'	1:AA:1314:C:C6	2.55	0.42
3:AC:108:LYS:NZ	3:AC:144:LEU:HB3	2.35	0.42
7:AG:132:GLY:H	7:AG:135:VAL:HG22	1.83	0.42
20:AP:31:HIS:N	20:AP:36:LYS:O	2.49	0.42
26:AV:177:G:H3'	26:AV:178:G:C8	2.54	0.42
26:AV:744:U:H2'	26:AV:745:G:O4'	2.20	0.42
26:AV:1315:C:O2'	26:AV:1392:A:N3	2.51	0.42
26:AV:1357:C:H2'	26:AV:1358:G:O4'	2.18	0.42
26:AV:1443:U:H2'	26:AV:1444:G:C8	2.54	0.42
26:AV:2083:G:N2	26:AV:2236:U:O2	2.34	0.42
27:AW:103:U:O3'	47:Aq:75:GLN:NE2	2.52	0.42
31:Aa:131:GLY:HA2	31:Aa:153:ASP:HA	2.01	0.42
32:Ab:139:GLN:O	32:Ab:143:GLN:HG2	2.20	0.42
34:Ad:36:MET:HE3	34:Ad:36:MET:HB3	1.89	0.42
34:Ad:117:MET:HE3	34:Ad:118:THR:N	2.33	0.42
46:Ap:43:LYS:HG2	46:Ap:60:GLU:HG2	2.01	0.42
26:N:5:A:H2'	26:N:6:A:H8	1.83	0.42
26:N:1259:G:H2'	26:N:1260:A:C8	2.55	0.42
26:N:1794:A:H2'	26:N:1795:C:C6	2.55	0.42
41:c:8:LEU:HD12	41:c:8:LEU:HA	1.90	0.42
47:i:25:LYS:HD3	47:i:43:ASP:HA	2.02	0.42
56:r:36:ARG:NE	56:r:37:GLN:HG3	2.33	0.42
1:0:652:U:O4	1:0:752:G:O2'	2.32	0.42
1:0:1032:G:O2'	57:B:377:ARG:HD3	2.19	0.42
1:0:1095:U:OP1	1:0:1108:G:N2	2.43	0.42
2:1:188:ASP:O	2:1:191:SER:OG	2.26	0.42
5:4:36:LEU:HD11	5:4:137:VAL:HG21	2.02	0.42
8:7:13:ARG:HB3	8:7:25:VAL:HG11	2.02	0.42
9:8:13:LYS:HB3	9:8:110:GLN:HA	2.02	0.42
9:8:114:LYS:NZ	9:8:115:LYS:O	2.52	0.42
9:8:115:LYS:HB2	9:8:118:LEU:HD12	2.01	0.42
1:AA:477:C:H2'	1:AA:478:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:880:C:H3'	59:z:6:GLN:HE21	1.84	0.42
2:AB:69:PHE:HE2	2:AB:89:GLN:HG3	1.84	0.42
3:AC:114:LYS:NZ	3:AC:118:ASP:OD2	2.52	0.42
4:AD:101:VAL:HG21	4:AD:137:VAL:HG21	2.01	0.42
5:AE:20:ARG:HD3	5:AE:31:PHE:HB3	2.01	0.42
5:AE:71:MET:HE2	5:AE:71:MET:HB2	1.84	0.42
26:AV:121:G:H2'	26:AV:122:G:C8	2.54	0.42
26:AV:134:G:H2'	26:AV:135:U:C6	2.55	0.42
26:AV:621:A:OP2	37:Ag:99:ASN:ND2	2.52	0.42
26:AV:634:C:H2'	26:AV:635:C:C6	2.55	0.42
26:AV:1059:G:C8	26:AV:1060:U:H2'	2.54	0.42
26:AV:2047:C:H2'	26:AV:2048:G:C8	2.54	0.42
26:AV:2294:G:H5''	40:Aj:10:ARG:HD3	2.01	0.42
26:AV:2368:C:H2'	26:AV:2369:A:H8	1.84	0.42
36:Af:67:LYS:HG3	36:Af:68:GLY:O	2.20	0.42
40:Aj:77:ALA:O	40:Aj:81:ARG:HG2	2.19	0.42
50:At:8:GLU:HB2	50:At:12:GLU:HB2	2.01	0.42
57:B:628:THR:HG22	57:B:695:VAL:HB	2.02	0.42
16:F:67:GLY:HA2	16:F:70:ARG:HB2	2.02	0.42
21:K:51:TYR:O	21:K:55:LEU:HB2	2.20	0.42
60:M:1:U:H2'	60:M:2:G:H8	1.84	0.42
26:N:671:C:H2'	26:N:672:C:C6	2.54	0.42
26:N:903:C:H2'	26:N:904:G:H8	1.85	0.42
26:N:1085:A:H2'	26:N:1086:A:C4	2.54	0.42
26:N:1523:U:H5''	26:N:1524:G:C8	2.55	0.42
26:N:1704:C:H2'	26:N:1705:A:C8	2.55	0.42
26:N:1820:U:H5	28:P:177:ARG:HH11	1.67	0.42
26:N:2865:U:OP2	26:N:2866:U:O2'	2.33	0.42
27:O:116:G:H2'	27:O:117:G:C8	2.54	0.42
31:S:11:GLU:HB2	31:S:15:LYS:NZ	2.35	0.42
34:V:54:PRO:HD2	34:V:78:VAL:HG21	2.01	0.42
48:j:25:ARG:HD3	48:j:25:ARG:HA	1.86	0.42
12:v:40:LYS:O	12:v:43:THR:OG1	2.27	0.42
1:0:105:G:H2'	1:0:106:C:C6	2.54	0.42
1:0:236:A:H2'	1:0:237:G:C8	2.54	0.42
1:0:1229:A:OP2	16:F:113:ARG:NE	2.40	0.42
1:AA:460:A:H2'	1:AA:461:A:C8	2.54	0.42
1:AA:658:C:H1'	18:AN:22:THR:HG21	2.02	0.42
1:AA:1412:C:H5''	59:z:54:ARG:HH12	1.83	0.42
1:AA:1458:G:H2'	1:AA:1459:G:C8	2.55	0.42
2:AB:121:SER:HB2	2:AB:141:LEU:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:528:A:H3'	35:Ae:116:ARG:HH12	1.84	0.42
26:AV:840:C:H2'	26:AV:841:G:C8	2.55	0.42
26:AV:995:C:OP2	42:Al:54:LYS:NZ	2.39	0.42
26:AV:1176:U:H2'	26:AV:1177:G:C8	2.55	0.42
26:AV:1433:A:N6	26:AV:1560:G:H1	2.18	0.42
26:AV:1556:C:H2'	26:AV:1557:C:C6	2.55	0.42
26:AV:1689:A:H2'	26:AV:1690:A:C8	2.55	0.42
26:AV:1795:C:O2'	26:AV:1901:A:OP1	2.34	0.42
26:AV:2083:G:O6	26:AV:2236:U:O4	2.37	0.42
26:AV:2620:C:O2'	29:AY:162:ALA:O	2.33	0.42
26:AV:2682:A:N1	26:AV:2728:U:O2'	2.44	0.42
21:K:54:GLN:HA	21:K:57:ARG:HE	1.83	0.42
26:N:53:A:N6	26:N:117:G:H21	2.12	0.42
26:N:245:G:O6	55:q:8:ARG:NH2	2.53	0.42
26:N:306:U:H2'	26:N:307:G:O4'	2.20	0.42
26:N:325:G:H2'	26:N:326:G:C8	2.54	0.42
26:N:924:G:H2'	26:N:925:A:C8	2.55	0.42
26:N:1070:A:O2'	26:N:1097:U:O3'	2.36	0.42
26:N:1330:C:H2'	26:N:1331:G:H8	1.85	0.42
26:N:1471:G:O6	26:N:1520:U:O4	2.38	0.42
26:N:1827:U:H5'	26:N:1971:U:H4'	2.02	0.42
26:N:2176:A:H2'	26:N:2177:C:C6	2.54	0.42
26:N:2557:G:H2'	26:N:2558:C:C6	2.55	0.42
26:N:2591:C:H2'	26:N:2592:G:H8	1.85	0.42
26:N:2816:G:N3	26:N:2883:A:O2'	2.52	0.42
41:c:60:THR:HG22	41:c:73:VAL:HG12	2.01	0.42
51:m:10:THR:HG23	51:m:11:ARG:HG3	2.02	0.42
3:2:19:ASN:O	3:2:56:VAL:HA	2.19	0.42
12:A1:41:PRO:HA	12:A1:44:GLU:HG3	2.02	0.42
1:AA:514:C:H2'	1:AA:515:G:C8	2.54	0.42
3:AC:47:LEU:HB3	3:AC:52:VAL:HB	2.01	0.42
4:AD:118:VAL:HG11	4:AD:133:ALA:HA	2.01	0.42
7:AG:67:GLU:OE1	7:AG:70:ARG:NH2	2.44	0.42
15:AK:172:HIS:CD2	26:AV:2123:G:H1'	2.55	0.42
26:AV:219:A:N3	26:AV:234:U:O2'	2.49	0.42
26:AV:223:A:O2'	26:AV:420:C:O2	2.33	0.42
26:AV:399:U:H2'	26:AV:400:G:C8	2.55	0.42
26:AV:580:U:H2'	26:AV:581:C:C6	2.55	0.42
26:AV:1463:C:H2'	26:AV:1464:G:C8	2.55	0.42
26:AV:1889:A:H2'	26:AV:1890:A:C8	2.55	0.42
27:AW:39:A:H2'	27:AW:40:U:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:AY:179:ARG:HB2	29:AY:188:LEU:HD12	2.02	0.42
31:Aa:36:LEU:HD11	31:Aa:99:PHE:CE2	2.54	0.42
57:B:349:ASN:ND2	57:B:352:GLU:OE1	2.53	0.42
57:B:1099:PHE:HB2	57:B:1160:LEU:HB3	2.01	0.42
58:D:111:THR:HG23	12:v:3:VAL:HG22	2.01	0.42
26:N:2698:U:H2'	26:N:2699:C:C6	2.55	0.42
28:P:68:LYS:HA	28:P:151:GLY:HA2	2.01	0.42
34:V:53:LEU:HD23	34:V:53:LEU:HA	1.92	0.42
41:c:6:LYS:NZ	41:c:10:GLN:OE1	2.53	0.42
63:x:75:ALA:HB1	63:x:109:LYS:HG3	2.01	0.42
1:0:399:G:H2'	1:0:400:C:C6	2.55	0.42
1:0:587:G:H5'	8:7:81:PRO:HB3	2.02	0.42
1:0:668:G:H21	18:H:46:HIS:HE2	1.67	0.42
1:0:924:C:H2'	1:0:925:G:C8	2.55	0.42
1:0:1166:G:N1	1:0:1169:A:OP2	2.53	0.42
1:AA:19:A:H2'	1:AA:20:U:C6	2.54	0.42
1:AA:449:G:H2'	1:AA:450:G:C8	2.54	0.42
1:AA:562:U:H5''	1:AA:563:A:C5	2.55	0.42
1:AA:1241:G:H2'	1:AA:1242:G:C8	2.55	0.42
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.55	0.42
1:AA:1276:G:H2'	1:AA:1277:C:O4'	2.20	0.42
1:AA:1457:G:H2'	1:AA:1458:G:H8	1.85	0.42
7:AG:68:ASN:ND2	7:AG:128:ALA:O	2.53	0.42
7:AG:103:TRP:HA	7:AG:106:GLU:HG3	2.02	0.42
15:AK:194:VAL:O	15:AK:198:LYS:HG2	2.20	0.42
26:AV:807:U:H2'	26:AV:808:G:H8	1.85	0.42
26:AV:1010:A:N3	26:AV:1153:C:H1'	2.35	0.42
26:AV:2837:A:H2'	26:AV:2838:G:H8	1.85	0.42
27:AW:103:U:H2'	27:AW:104:A:H8	1.85	0.42
30:AZ:154:ASP:HB3	30:AZ:157:LEU:HB3	2.02	0.42
35:Ae:96:ARG:HA	35:Ae:97:PRO:HD3	1.87	0.42
45:Ao:8:LEU:HD23	45:Ao:50:LEU:HD21	2.02	0.42
45:Ao:22:THR:HA	45:Ao:25:GLU:HG3	2.01	0.42
47:Aq:63:ILE:O	47:Aq:69:GLU:HA	2.20	0.42
57:B:562:TRP:CZ3	57:B:595:GLN:HG3	2.55	0.42
58:D:47:ALA:HB1	58:D:62:ALA:HB1	2.02	0.42
26:N:459:U:H2'	26:N:460:A:C8	2.54	0.42
26:N:459:U:OP1	54:p:40:ALA:N	2.50	0.42
26:N:519:U:H5''	44:f:25:ARG:NH1	2.34	0.42
26:N:586:A:N1	26:N:809:G:O2'	2.46	0.42
26:N:822:G:H2'	26:N:823:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:1472:C:H2'	26:N:1473:G:C8	2.55	0.42
30:R:16:GLU:O	30:R:20:GLY:N	2.45	0.42
36:X:87:LEU:HD23	36:X:92:GLU:HB2	2.01	0.42
39:a:2:ARG:HA	39:a:5:LYS:HB2	2.01	0.42
1:0:508:U:H1'	1:0:509:A:N7	2.35	0.41
1:0:745:G:H2'	1:0:746:A:C8	2.55	0.41
1:0:891:U:H2'	1:0:892:A:H8	1.83	0.41
1:0:1033:G:H2'	1:0:1034:G:C8	2.55	0.41
3:2:72:ARG:CZ	3:2:75:ILE:HG12	2.50	0.41
6:5:4:TYR:HA	6:5:90:MET:O	2.20	0.41
8:7:23:ALA:O	8:7:62:THR:HA	2.19	0.41
1:AA:542:G:H5'	4:AD:39:GLY:HA3	2.01	0.41
1:AA:601:G:H2'	1:AA:602:A:C8	2.55	0.41
1:AA:1240:U:OP1	7:AG:116:MET:HG2	2.20	0.41
1:AA:1441:A:H5''	1:AA:1442:G:H8	1.85	0.41
3:AC:19:ASN:OD1	3:AC:54:ARG:NH1	2.46	0.41
9:AI:90:TYR:HB3	9:AI:94:LEU:HD21	2.02	0.41
15:AK:163:TYR:HD2	15:AK:171:ILE:HD11	1.85	0.41
26:AV:671:C:H2'	26:AV:672:C:C6	2.55	0.41
26:AV:674:G:HO2'	30:AZ:62:GLN:HE22	1.62	0.41
26:AV:911:A:N6	38:Ah:11:LYS:O	2.52	0.41
28:AX:17:VAL:HB	28:AX:204:VAL:HG22	2.00	0.41
31:Aa:66:LEU:HD12	31:Aa:66:LEU:HA	1.81	0.41
39:Ai:55:ALA:HA	39:Ai:80:PHE:CE2	2.55	0.41
45:Ao:17:SER:H	45:Ao:20:ALA:HB3	1.85	0.41
57:B:129:GLN:HB2	57:B:135:ALA:HB2	2.01	0.41
57:B:279:PHE:HZ	57:B:309:ALA:HB1	1.85	0.41
59:E:43:LYS:HG2	59:E:44:LYS:H	1.85	0.41
16:F:53:ILE:O	16:F:56:LEU:HB3	2.20	0.41
19:I:70:ARG:HA	19:I:70:ARG:HD2	1.79	0.41
26:N:55:G:H2'	26:N:56:A:C8	2.55	0.41
26:N:1101:U:H2'	26:N:1102:C:C6	2.55	0.41
26:N:2292:U:H2'	26:N:2293:G:C8	2.55	0.41
26:N:2881:U:H2'	26:N:2882:A:H8	1.85	0.41
28:P:145:GLU:HG2	28:P:151:GLY:C	2.45	0.41
33:U:72:ILE:HD12	33:U:72:ILE:HA	1.93	0.41
36:X:76:VAL:H	41:c:73:VAL:HG22	1.85	0.41
41:c:102:GLU:HG2	41:c:103:ARG:HD3	2.01	0.41
45:g:14:PRO:HA	45:g:32:LEU:HB2	2.02	0.41
45:g:51:PHE:HE1	45:g:93:LEU:HD13	1.85	0.41
1:0:17:U:H1'	1:0:1080:A:N3	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:22:G:H2'	1:0:23:C:C6	2.55	0.41
1:0:1006:G:N7	1:0:1024:G:N2	2.68	0.41
1:0:1481:U:H2'	1:0:1482:G:H8	1.85	0.41
2:1:206:ALA:HB3	2:1:209:ALA:HB3	2.02	0.41
7:6:72:THR:HG22	7:6:142:HIS:CE1	2.53	0.41
11:A:7:A:O2'	11:A:49:C:O4'	2.37	0.41
1:AA:21:G:H1'	1:AA:915:A:H61	1.85	0.41
6:AF:49:TYR:OH	21:AQ:63:ARG:O	2.34	0.41
20:AP:36:LYS:HG3	20:AP:38:ILE:HG12	2.01	0.41
26:AV:924:G:H2'	26:AV:925:A:C8	2.55	0.41
26:AV:1223:G:N2	26:AV:1226:A:OP2	2.44	0.41
26:AV:2486:C:H5'	38:Ah:125:PRO:HB3	2.02	0.41
27:AW:30:C:H1'	27:AW:57:A:H61	1.85	0.41
36:Af:71:ARG:NH2	36:Af:77:ILE:HD11	2.36	0.41
57:B:97:ILE:HB	57:B:246:ILE:HG22	2.02	0.41
57:B:665:PRO:HG2	57:B:668:VAL:HB	2.02	0.41
57:B:1093:ALA:O	57:B:1097:LEU:HG	2.20	0.41
26:N:63:A:H2'	26:N:64:A:C8	2.54	0.41
26:N:1311:G:H21	26:N:1603:A:N6	2.18	0.41
26:N:1330:C:H2'	26:N:1331:G:C8	2.54	0.41
26:N:1952:A:N3	26:N:2560:A:O2'	2.39	0.41
26:N:2162:G:H4'	26:N:2173:A:H1'	2.02	0.41
26:N:2710:C:H2'	26:N:2711:A:C8	2.55	0.41
27:O:51:G:OP1	40:b:67:ASN:ND2	2.42	0.41
36:X:105:ARG:NH1	41:c:34:GLU:HB3	2.36	0.41
41:c:112:GLU:HG2	41:c:114:LEU:HD22	2.02	0.41
45:g:11:LEU:HA	45:g:11:LEU:HD13	1.85	0.41
58:y:75:LYS:NZ	58:y:79:ILE:O	2.52	0.41
1:0:104:G:OP1	23:u:16:LYS:NZ	2.47	0.41
1:0:324:G:N2	1:0:327:A:OP2	2.53	0.41
1:0:1507:A:H2'	1:0:1508:A:C8	2.54	0.41
13:A2:1211:ARG:HD2	13:A2:1280:LEU:HD11	2.01	0.41
14:A3:28:C:H2'	14:A3:29:A:C8	2.55	0.41
14:A3:69:U:H2'	14:A3:70:A:C8	2.55	0.41
1:AA:265:G:H4'	20:AP:67:LEU:C	2.45	0.41
1:AA:545:C:H5'	4:AD:69:GLU:HB2	2.02	0.41
1:AA:744:C:H2'	1:AA:745:G:H8	1.83	0.41
1:AA:911:U:H2'	1:AA:912:C:C6	2.56	0.41
2:AB:34:ALA:HB3	2:AB:40:ILE:HD12	2.01	0.41
7:AG:129:GLU:HG2	7:AG:131:LYS:HG3	2.02	0.41
26:AV:32:C:H2'	26:AV:33:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:250:G:H4'	37:Ag:59:ARG:NH2	2.35	0.41
26:AV:258:G:O2'	37:Ag:104:GLN:OE1	2.38	0.41
26:AV:728:G:O2'	26:AV:730:A:O4'	2.37	0.41
26:AV:970:U:H2'	26:AV:971:G:C8	2.55	0.41
26:AV:1297:C:O2'	26:AV:1302:A:N6	2.53	0.41
26:AV:1501:G:H2'	26:AV:1502:A:H8	1.84	0.41
26:AV:2233:U:H2'	26:AV:2234:G:H8	1.86	0.41
30:AZ:112:LEU:HD13	30:AZ:118:LEU:HD13	2.02	0.41
57:B:1018:HIS:ND1	57:B:1019:ILE:HG12	2.34	0.41
15:C:205:LYS:HA	15:C:205:LYS:HD3	1.92	0.41
59:E:55:VAL:HG12	59:E:57:LEU:HD23	2.02	0.41
26:N:2:G:H2'	26:N:3:U:C6	2.55	0.41
26:N:655:A:H4'	26:N:656:G:H5'	2.03	0.41
26:N:741:U:H2'	26:N:742:A:C8	2.55	0.41
26:N:783:A:H8	26:N:784:G:H4'	1.85	0.41
26:N:958:U:OP1	38:Z:40:ARG:NH1	2.50	0.41
26:N:1016:G:O6	26:N:1147:A:N6	2.53	0.41
26:N:2054:A:OP1	26:N:2055:C:O2'	2.30	0.41
26:N:2134:A:OP2	26:N:2157:G:N2	2.53	0.41
26:N:2192:U:H2'	26:N:2193:G:H8	1.85	0.41
26:N:2305:U:H2'	26:N:2306:C:C6	2.55	0.41
26:N:2329:U:H2'	26:N:2330:G:H8	1.84	0.41
28:P:142:HIS:HD2	28:P:143:ASN:HB2	1.85	0.41
30:R:149:ILE:HG22	30:R:187:VAL:O	2.21	0.41
43:e:51:VAL:O	43:e:53:PHE:N	2.52	0.41
46:h:34:VAL:N	46:h:65:ILE:O	2.52	0.41
46:h:39:ILE:HG13	46:h:40:ASN:H	1.86	0.41
1:0:222:C:H2'	1:0:223:A:H8	1.86	0.41
1:0:409:U:H2'	1:0:410:G:O4'	2.20	0.41
1:0:505:G:H2'	1:0:506:G:C8	2.55	0.41
1:0:627:G:H2'	1:0:628:G:C8	2.55	0.41
1:0:912:C:H2'	1:0:913:A:C8	2.55	0.41
3:2:156:ARG:HD3	3:2:193:TYR:HB3	2.02	0.41
9:8:24:GLY:H	9:8:61:LEU:HA	1.85	0.41
10:9:13:PHE:HE1	10:9:69:THR:HG22	1.85	0.41
1:AA:382:A:H2'	1:AA:383:A:C8	2.56	0.41
1:AA:663:A:H2'	1:AA:664:G:C8	2.55	0.41
1:AA:1320:C:C2	22:AR:72:GLY:HA3	2.54	0.41
1:AA:1407:C:H2'	1:AA:1408:A:H8	1.86	0.41
1:AA:1479:C:H2'	1:AA:1480:A:C8	2.55	0.41
26:AV:154:U:H2'	26:AV:155:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:355:U:H2'	26:AV:356:G:H8	1.84	0.41
26:AV:813:U:H2'	26:AV:814:C:C6	2.56	0.41
26:AV:906:U:O2'	38:Ah:66:ARG:NE	2.49	0.41
26:AV:1171:G:H2'	26:AV:1172:C:C6	2.55	0.41
26:AV:1683:U:H2'	26:AV:1684:G:C8	2.55	0.41
28:AX:19:VAL:HB	28:AX:203:ARG:HH11	1.85	0.41
45:Ao:17:SER:OG	45:Ao:18:GLU:N	2.54	0.41
57:B:210:LEU:HG	57:B:240:HIS:CE1	2.55	0.41
57:B:512:HIS:HB2	57:B:514:CYS:SG	2.60	0.41
57:B:1044:LEU:H	57:B:1066:MET:HG3	1.84	0.41
26:N:160:A:N3	26:N:2208:C:O2'	2.50	0.41
26:N:955:U:H3	26:N:962:G:H1	1.69	0.41
26:N:974:G:H1'	26:N:975:A:C8	2.55	0.41
26:N:1341:G:OP2	26:N:1394:U:O2'	2.23	0.41
26:N:2156:G:H2'	26:N:2157:G:O4'	2.20	0.41
26:N:2685:G:H1	26:N:2724:U:H3	1.68	0.41
26:N:2785:C:H2'	26:N:2786:U:C6	2.55	0.41
26:N:2847:U:H2'	26:N:2848:G:O4'	2.21	0.41
29:Q:8:LYS:NZ	29:Q:195:GLY:O	2.46	0.41
37:Y:79:LEU:HD23	37:Y:111:ILE:O	2.20	0.41
44:f:14:ALA:HA	44:f:17:VAL:HG12	2.01	0.41
12:v:5:LYS:O	12:v:18:ARG:NH1	2.44	0.41
12:v:10:GLU:CD	12:v:18:ARG:HH11	2.28	0.41
63:x:97:LYS:HZ1	63:x:124:ASP:HA	1.84	0.41
1:O:22:G:H2'	1:O:23:C:H6	1.84	0.41
1:O:683:G:N2	58:D:39:GLY:O	2.53	0.41
1:O:1107:C:H4'	3:2:169:ARG:NH2	2.34	0.41
1:O:1163:A:H2'	1:O:1164:G:C8	2.56	0.41
5:4:83:HIS:NE2	5:4:147:MET:HG2	2.35	0.41
13:A2:1071:ARG:NH1	13:A2:1114:SER:HB2	2.35	0.41
1:AA:518:C:H1'	59:z:47:SER:HB3	2.02	0.41
1:AA:865:A:H5'	1:AA:1078:U:H5	1.85	0.41
1:AA:890:G:HO2'	1:AA:891:U:P	2.41	0.41
1:AA:923:A:O2'	1:AA:1399:C:OP2	2.32	0.41
1:AA:993:G:O2'	1:AA:994:A:N7	2.53	0.41
1:AA:1120:C:H2'	1:AA:1121:U:C6	2.56	0.41
1:AA:1182:G:O2'	1:AA:1183:U:O5'	2.36	0.41
1:AA:1314:C:H2'	1:AA:1315:U:H6	1.84	0.41
9:AI:45:ARG:HG3	9:AI:49:ARG:NH1	2.36	0.41
26:AV:287:G:H2'	26:AV:288:U:C6	2.56	0.41
26:AV:292:U:H2'	26:AV:293:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:328:U:H4'	46:Ap:66:GLN:HG3	2.03	0.41
26:AV:594:U:H2'	26:AV:595:C:C6	2.54	0.41
26:AV:948:C:O2	26:AV:984:A:O2'	2.38	0.41
26:AV:953:G:H2'	26:AV:954:G:H8	1.86	0.41
26:AV:1704:C:H2'	26:AV:1705:A:H8	1.85	0.41
26:AV:1997:C:H2'	26:AV:1998:A:C8	2.56	0.41
26:AV:2300:C:H2'	26:AV:2301:C:C6	2.56	0.41
27:AW:27:C:H5''	40:Aj:34:HIS:CE1	2.56	0.41
27:AW:36:C:N4	27:AW:49:C:O2	2.53	0.41
29:AY:149:ASN:CG	29:AY:150:GLN:H	2.25	0.41
41:Ak:16:ASP:OD1	41:Ak:16:ASP:N	2.54	0.41
53:Aw:24:THR:O	53:Aw:25:LYS:HE2	2.20	0.41
57:B:907:ILE:HD11	57:B:918:PHE:CG	2.55	0.41
26:N:479:A:H4'	26:N:480:A:H5'	2.02	0.41
26:N:720:U:H2'	26:N:721:A:C8	2.54	0.41
26:N:937:C:H2'	26:N:938:G:C8	2.55	0.41
26:N:1708:C:H2'	26:N:1709:U:C6	2.55	0.41
26:N:2124:G:N7	26:N:2125:G:N2	2.68	0.41
26:N:2172:U:HO2'	26:N:2175:C:H41	1.62	0.41
45:g:62:VAL:HA	45:g:81:LYS:HA	2.01	0.41
63:x:30:SER:HB2	63:x:81:LEU:HG	2.01	0.41
3:2:150:LYS:HB3	3:2:201:TRP:HB2	2.02	0.41
7:6:66:LEU:O	7:6:70:ARG:HG3	2.20	0.41
11:A:51:U:H2'	11:A:52:G:C8	2.56	0.41
1:AA:977:A:O2'	1:AA:979:C:OP2	2.27	0.41
2:AB:97:LEU:N	2:AB:100:MET:HE2	2.35	0.41
4:AD:22:LYS:HA	4:AD:22:LYS:HD3	1.76	0.41
23:AS:79:LEU:HA	23:AS:82:GLN:HB2	2.03	0.41
26:AV:55:G:H2'	26:AV:56:A:C8	2.55	0.41
26:AV:208:C:H2'	26:AV:209:C:H6	1.85	0.41
26:AV:629:G:H2'	26:AV:630:G:C8	2.56	0.41
26:AV:1267:U:H2'	26:AV:1268:A:C8	2.54	0.41
26:AV:1812:U:H2'	26:AV:1813:G:H8	1.86	0.41
26:AV:2109:U:O4	26:AV:2179:C:N4	2.45	0.41
26:AV:2373:G:H2'	26:AV:2374:C:C6	2.56	0.41
26:AV:2698:U:H2'	26:AV:2699:C:C6	2.56	0.41
26:AV:2886:A:N1	52:Av:29:SER:HA	2.36	0.41
27:AW:86:G:C5	27:AW:88:C:H1'	2.56	0.41
28:AX:132:MET:HE1	28:AX:144:VAL:HG13	2.03	0.41
29:AY:125:TRP:HB2	29:AY:127:PHE:CD2	2.55	0.41
32:Ab:71:LEU:O	32:Ab:75:MET:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:B:816:TRP:CE2	57:B:820:VAL:HG21	2.55	0.41
57:B:900:ARG:HH22	57:B:922:PRO:HB3	1.86	0.41
57:B:1060:LEU:HA	57:B:1063:LYS:HD2	2.01	0.41
16:F:63:PHE:HB3	16:F:65:VAL:HG13	2.02	0.41
26:N:320:A:OP1	30:R:130:LYS:NZ	2.37	0.41
26:N:726:G:O5'	26:N:1432:G:O2'	2.38	0.41
26:N:1309:G:H5'	54:p:8:SER:HA	2.02	0.41
26:N:1709:U:H2'	26:N:1710:G:C8	2.55	0.41
26:N:1721:G:O2'	26:N:1739:A:N6	2.53	0.41
26:N:1869:G:N1	26:N:1872:A:OP2	2.29	0.41
26:N:2086:U:H2'	26:N:2087:G:C8	2.55	0.41
26:N:2640:G:OP1	35:W:95:ARG:NH2	2.53	0.41
26:N:2656:U:O2	26:N:2665:A:N7	2.53	0.41
26:N:2836:U:H2'	26:N:2837:A:C8	2.56	0.41
28:P:138:GLY:H	28:P:164:ILE:HB	1.85	0.41
30:R:149:ILE:HD11	30:R:172:ALA:HA	2.03	0.41
34:V:81:LYS:HD3	34:V:87:LYS:HE3	2.02	0.41
44:f:72:THR:HG21	44:f:108:SER:HB3	2.01	0.41
1:0:416:G:H2'	1:0:417:G:C8	2.52	0.41
1:0:1006:G:C2	1:0:1022:A:H2	2.35	0.41
2:1:27:MET:SD	2:1:27:MET:N	2.92	0.41
2:1:149:GLY:O	2:1:152:LYS:NZ	2.40	0.41
5:4:34:THR:HG22	5:4:52:LYS:HB3	2.03	0.41
13:A2:1168:LYS:NZ	1:AA:1276:G:OP1	2.38	0.41
1:AA:254:G:H2'	1:AA:255:G:C8	2.56	0.41
1:AA:1013:G:H22	1:AA:1016:A:P	2.44	0.41
1:AA:1060:U:H5''	10:AJ:53:ILE:HD12	2.01	0.41
1:AA:1126:U:OP1	10:AJ:7:ARG:NH2	2.46	0.41
1:AA:1299:A:H2'	1:AA:1301:U:H1'	2.02	0.41
4:AD:183:LYS:NZ	4:AD:184:ARG:HE	2.19	0.41
26:AV:220:G:H1	26:AV:427:U:H3'	1.85	0.41
26:AV:1425:G:H2'	26:AV:1426:G:C8	2.56	0.41
26:AV:2897:U:H2'	26:AV:2898:U:C6	2.56	0.41
31:Aa:102:ARG:O	31:Aa:106:ILE:HG12	2.21	0.41
57:B:693:GLU:HB2	57:B:694:PRO:HD3	2.03	0.41
15:C:60:ARG:NH1	15:C:162:ARG:HH11	2.19	0.41
18:H:88:ARG:HA	18:H:88:ARG:HD2	1.80	0.41
21:K:26:ILE:HG22	21:K:30:LYS:HD3	2.03	0.41
26:N:16:C:H2'	26:N:17:G:C8	2.52	0.41
26:N:106:C:O2	26:N:294:A:O2'	2.31	0.41
26:N:698:C:HO2'	26:N:734:A:H61	1.60	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:753:A:H2'	26:N:754:U:C6	2.56	0.41
26:N:1491:G:H1'	28:P:100:GLU:HB2	2.01	0.41
26:N:1716:U:C2	26:N:1744:A:N7	2.88	0.41
26:N:2184:A:H2'	26:N:2185:U:C6	2.56	0.41
26:N:2720:U:O3'	41:c:53:ARG:NH1	2.53	0.41
29:Q:13:ARG:HD2	41:c:56:HIS:ND1	2.35	0.41
31:S:128:TYR:HB3	31:S:156:ILE:HB	2.03	0.41
31:S:135:GLN:CD	31:S:150:ARG:H	2.29	0.41
32:T:85:LYS:HA	32:T:85:LYS:HD2	1.94	0.41
39:a:29:VAL:HG11	39:a:75:ILE:HG23	2.02	0.41
39:a:95:THR:HA	39:a:115:LEU:HA	2.01	0.41
55:q:62:LEU:HB3	55:q:65:ALA:HB3	2.03	0.41
1:0:627:G:H2'	1:0:628:G:H8	1.86	0.41
1:0:693:G:OP1	58:D:127:ARG:NH1	2.53	0.41
1:0:1002:G:H2'	1:0:1003:G:C8	2.55	0.41
1:0:1090:U:H2'	1:0:1091:U:C6	2.55	0.41
1:0:1187:G:H5'	9:8:115:LYS:HE2	2.02	0.41
2:1:167:ASP:HB3	2:1:191:SER:HA	2.03	0.41
4:3:62:ARG:NE	4:3:67:VAL:O	2.52	0.41
14:A3:24:A:H2'	14:A3:25:G:H8	1.86	0.41
1:AA:79:G:H2'	1:AA:80:A:C8	2.55	0.41
1:AA:1219:A:H2'	1:AA:1220:G:C8	2.56	0.41
2:AB:133:GLU:HA	2:AB:136:MET:HE2	2.02	0.41
7:AG:100:ALA:HA	7:AG:103:TRP:CE3	2.56	0.41
26:AV:418:C:H2'	26:AV:419:U:C6	2.56	0.41
26:AV:657:U:H2'	26:AV:658:U:C6	2.56	0.41
26:AV:753:A:H2'	26:AV:754:U:C6	2.55	0.41
26:AV:1095:A:N7	34:Ad:30:GLN:HG3	2.36	0.41
31:Aa:4:LEU:HD11	31:Aa:104:ILE:HD11	2.02	0.41
35:Ae:45:THR:H	35:Ae:50:THR:HG21	1.86	0.41
35:Ae:57:LEU:HD11	35:Ae:130:HIS:CD2	2.53	0.41
45:Ao:3:ARG:O	45:Ao:7:LEU:HB2	2.21	0.41
57:B:440:MET:SD	57:B:445:LEU:HB2	2.61	0.41
57:B:1215:ALA:HA	57:B:1277:ALA:HB2	2.02	0.41
57:B:1264:ILE:HG13	57:B:1295:MET:HE1	2.02	0.41
59:E:114:ARG:HB2	59:E:119:VAL:HB	2.03	0.41
17:G:93:ILE:HA	17:G:94:PRO:HD3	1.96	0.41
26:N:277:G:H1'	26:N:278:A:C5	2.55	0.41
26:N:511:U:H3'	26:N:512:G:C8	2.56	0.41
26:N:550:C:H2'	26:N:551:G:C8	2.55	0.41
26:N:1340:U:H3'	45:g:61:LEU:HD22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:1733:G:H2'	26:N:1734:G:C8	2.55	0.41
26:N:2895:G:H2'	26:N:2896:C:C6	2.56	0.41
42:d:40:ILE:O	42:d:44:GLN:HG3	2.21	0.41
63:x:72:LEU:HD11	63:x:112:ALA:HB2	2.03	0.41
1:0:52:C:H2'	1:0:53:A:C8	2.56	0.41
1:0:575:G:H4'	1:0:576:C:H5''	2.03	0.41
1:0:591:U:H2'	1:0:592:G:C8	2.56	0.41
1:0:662:U:H2'	1:0:663:A:C8	2.55	0.41
1:0:664:G:H22	1:0:741:G:H1	1.68	0.41
1:0:924:C:H2'	1:0:925:G:H8	1.85	0.41
1:0:1078:U:O2	5:4:135:ASN:ND2	2.54	0.41
1:0:1180:A:OP1	9:8:105:THR:OG1	2.33	0.41
1:0:1190:G:H5'	3:2:176:HIS:NE2	2.36	0.41
1:0:1308:U:H2'	1:0:1309:G:H8	1.85	0.41
3:2:147:LYS:HG3	3:2:203:PHE:CD2	2.56	0.41
3:2:183:ASP:HB3	3:2:202:ILE:HB	2.03	0.41
4:3:190:ASP:N	4:3:190:ASP:OD1	2.50	0.41
5:4:85:VAL:HG13	5:4:96:MET:HE2	2.03	0.41
5:4:126:LYS:HG3	5:4:128:TYR:CE1	2.56	0.41
6:5:49:TYR:HB3	21:K:74:HIS:CG	2.56	0.41
13:A2:1071:ARG:NH2	13:A2:1118:ASP:HB3	2.27	0.41
13:A2:1178:MET:HE3	13:A2:1223:LEU:HG	2.02	0.41
1:AA:202:G:H2'	1:AA:203:G:H8	1.85	0.41
1:AA:216:U:H2'	1:AA:217:C:C6	2.56	0.41
1:AA:222:C:H2'	1:AA:223:A:C8	2.53	0.41
1:AA:512:U:OP1	4:AD:44:ARG:NH2	2.53	0.41
1:AA:663:A:O3'	21:AQ:53:ARG:NH1	2.51	0.41
1:AA:912:C:H2'	1:AA:913:A:C8	2.56	0.41
1:AA:1022:A:H2'	1:AA:1023:U:C6	2.56	0.41
4:AD:109:ALA:N	4:AD:113:GLU:OE1	2.37	0.41
6:AF:5:GLU:N	6:AF:5:GLU:OE1	2.54	0.41
8:AH:41:LYS:HE3	8:AH:41:LYS:HB2	1.82	0.41
16:AL:19:LEU:HD23	16:AL:25:VAL:HG11	2.02	0.41
25:AU:17:U:O2'	25:AU:18:G:H5'	2.20	0.41
26:AV:281:C:H2'	26:AV:282:A:H8	1.86	0.41
26:AV:290:U:H2'	26:AV:291:G:C8	2.56	0.41
26:AV:377:G:N2	26:AV:397:U:O2	2.42	0.41
26:AV:992:C:H2'	26:AV:993:G:C8	2.56	0.41
26:AV:1011:G:H1'	26:AV:1013:C:O4'	2.21	0.41
26:AV:1387:A:H5'	26:AV:1469:A:H1'	2.02	0.41
26:AV:1664:A:N6	26:AV:1996:C:H42	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:AV:1754:A:N1	26:AV:2716:C:O2'	2.46	0.41
26:AV:1862:G:H2'	26:AV:1863:G:H8	1.85	0.41
26:AV:2088:A:H2'	26:AV:2089:C:C6	2.56	0.41
26:AV:2573:C:H5''	26:AV:2574:G:H5''	2.01	0.41
26:AV:2812:G:H2'	26:AV:2813:A:C8	2.56	0.41
26:AV:2836:U:H2'	26:AV:2837:A:C8	2.56	0.41
28:AX:89:ALA:HB2	28:AX:158:ALA:HA	2.03	0.41
33:Ac:16:GLY:HA3	33:Ac:47:PHE:HE2	1.86	0.41
41:Ak:92:VAL:HG21	41:Ak:97:LEU:HD21	2.03	0.41
42:Al:62:ILE:HG22	42:Al:66:ASN:HD21	1.86	0.41
57:B:131:ARG:HB3	57:B:133:LEU:HD23	2.03	0.41
57:B:131:ARG:HH11	62:w:574:U:H4'	1.86	0.41
57:B:222:ASP:OD1	57:B:222:ASP:N	2.53	0.41
57:B:256:VAL:HG12	57:B:406:GLY:HA3	2.01	0.41
57:B:816:TRP:HA	57:B:819:LYS:NZ	2.36	0.41
57:B:827:LEU:HD12	57:B:827:LEU:HA	1.96	0.41
57:B:1032:LYS:HB2	57:B:1037:LYS:HD3	2.01	0.41
57:B:1156:VAL:HA	57:B:1159:ILE:HD12	2.02	0.41
58:D:60:PRO:HD3	58:D:91:PRO:HB2	2.02	0.41
58:D:81:ASN:ND2	58:D:106:ARG:HH11	2.19	0.41
16:F:4:ILE:HA	16:F:57:ARG:HE	1.86	0.41
20:J:60:GLU:OE1	20:J:60:GLU:N	2.54	0.41
26:N:18:U:H2'	26:N:19:A:H8	1.86	0.41
26:N:35:G:H2'	26:N:36:G:O4'	2.21	0.41
26:N:305:C:H2'	26:N:306:U:C6	2.56	0.41
26:N:395:U:O2'	26:N:396:G:N7	2.51	0.41
26:N:538:A:H62	26:N:555:G:N2	2.19	0.41
26:N:582:A:H2'	26:N:583:G:C8	2.56	0.41
26:N:755:U:H2'	26:N:756:A:H8	1.86	0.41
26:N:931:U:O2	26:N:1167:C:O2'	2.32	0.41
26:N:1071:G:H2'	26:N:1072:C:C6	2.56	0.41
26:N:2204:G:H4'	28:P:150:LYS:HE2	2.02	0.41
26:N:2853:C:N4	26:N:2854:G:O6	2.53	0.41
26:N:2854:G:H2'	26:N:2855:C:C6	2.56	0.41
27:O:43:C:H2'	27:O:45:A:N7	2.36	0.41
27:O:114:C:H2'	27:O:115:A:C8	2.55	0.41
36:X:90:ASN:OD1	36:X:91:SER:N	2.54	0.41
47:i:80:HIS:HA	47:i:87:GLN:HE21	1.86	0.41
1:0:12:U:H4'	1:0:526:C:H4'	2.03	0.41
1:0:44:A:H2'	1:0:45:G:H8	1.86	0.41
1:0:138:G:H2'	1:0:139:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:416:G:H1	1:0:427:U:H3	1.69	0.41
1:0:448:A:H3'	1:0:449:G:H8	1.86	0.41
1:0:1309:G:H2'	1:0:1310:G:C8	2.56	0.41
1:0:1479:C:H2'	1:0:1480:A:C8	2.56	0.41
11:A:51:U:H2'	11:A:52:G:H8	1.86	0.41
1:AA:687:A:N1	1:AA:700:G:O2'	2.51	0.41
1:AA:1119:C:O2	57:B:1278:GLN:NE2	2.50	0.41
1:AA:1191:A:P	3:AC:3:GLN:HE21	2.44	0.41
1:AA:1205:U:H2'	1:AA:1206:G:H8	1.86	0.41
1:AA:1320:C:H2'	1:AA:1321:U:C6	2.56	0.41
1:AA:1412:C:H2'	1:AA:1413:A:H8	1.86	0.41
8:AH:33:LYS:HZ2	8:AH:33:LYS:HG2	1.62	0.41
9:AI:21:ILE:HG22	9:AI:61:LEU:HD12	2.02	0.41
16:AL:30:SER:HA	16:AL:33:ILE:HG22	2.02	0.41
26:AV:75:G:C6	26:AV:111:A:N1	2.88	0.41
26:AV:1008:A:H2	26:AV:1009:A:H62	1.69	0.41
26:AV:1187:G:H5''	43:Am:83:TYR:CZ	2.56	0.41
26:AV:1710:G:H2'	26:AV:1711:A:C8	2.55	0.41
26:AV:1997:C:H2'	26:AV:1998:A:H8	1.85	0.41
26:AV:2285:C:OP2	53:Aw:6:ARG:NH2	2.52	0.41
26:AV:2514:U:H3	26:AV:2570:G:H1	1.69	0.41
26:AV:2845:U:H2'	26:AV:2846:G:C8	2.56	0.41
37:Ag:110:VAL:HB	37:Ag:127:VAL:HA	2.01	0.41
39:Ai:95:THR:HG1	39:Ai:114:GLU:C	2.27	0.41
41:Ak:91:ALA:HB3	41:Ak:111:LYS:HE3	2.02	0.41
44:An:28:LYS:HB3	44:An:31:GLN:HG2	2.03	0.41
48:Ar:70:GLU:HG2	48:Ar:79:PHE:HB2	2.01	0.41
55:Ay:15:LYS:HA	55:Ay:15:LYS:HD3	1.89	0.41
57:B:98:VAL:O	57:B:228:THR:HA	2.21	0.41
57:B:667:TRP:HH2	57:B:729:ILE:HA	1.86	0.41
57:B:738:SER:HA	57:B:745:CYS:SG	2.61	0.41
26:N:64:A:H2'	26:N:65:U:C6	2.56	0.41
26:N:292:U:H2'	26:N:293:U:C6	2.56	0.41
26:N:325:G:H2'	26:N:326:G:H8	1.87	0.41
26:N:631:A:N3	26:N:2415:G:O2'	2.44	0.41
26:N:784:G:C5	28:P:228:VAL:HG21	2.55	0.41
26:N:973:A:OP2	43:e:81:LYS:NZ	2.40	0.41
26:N:1471:G:H2'	26:N:1472:C:C6	2.56	0.41
26:N:1689:A:H2'	26:N:1690:A:H8	1.86	0.41
26:N:1936:A:H2	26:N:1943:U:H3	1.68	0.41
26:N:2184:A:H2'	26:N:2185:U:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:N:2485:G:OP1	38:Z:45:GLN:NE2	2.44	0.41
27:O:5:U:H2'	27:O:6:G:H8	1.86	0.41
34:V:80:LEU:O	34:V:84:ALA:HB3	2.20	0.41
35:W:129:GLU:OE1	35:W:129:GLU:N	2.54	0.41
53:o:40:ASP:HB3	53:o:43:VAL:HG22	2.02	0.41
22:t:36:ARG:NH1	22:t:75:ALA:O	2.42	0.41
1:0:51:A:N7	1:0:114:U:O2'	2.53	0.40
1:0:224:U:H2'	1:0:225:C:C6	2.56	0.40
1:0:262:A:H2'	1:0:263:A:C8	2.57	0.40
1:0:314:C:H2'	1:0:315:A:C8	2.55	0.40
1:0:375:U:H5''	19:I:70:ARG:HG3	2.02	0.40
1:0:693:G:P	58:D:127:ARG:HH12	2.44	0.40
1:0:1001:C:H2'	1:0:1002:G:C8	2.55	0.40
1:0:1302:C:OP2	16:F:13:LYS:NZ	2.54	0.40
3:2:85:GLU:O	3:2:89:LYS:NZ	2.54	0.40
4:3:170:TRP:CD2	4:3:186:PRO:HB3	2.55	0.40
8:7:11:LEU:HD22	8:7:75:ILE:HD13	2.02	0.40
13:A2:1204:LYS:HE3	13:A2:1204:LYS:HB2	1.90	0.40
14:A3:76:C:N4	26:AV:2554:U:O2	2.54	0.40
1:AA:77:A:H2'	1:AA:78:A:C8	2.55	0.40
1:AA:459:A:H2'	1:AA:460:A:C8	2.55	0.40
1:AA:711:G:H2'	1:AA:712:A:C8	2.56	0.40
1:AA:1078:U:O2'	5:AE:138:ARG:NH1	2.54	0.40
2:AB:97:LEU:H	2:AB:100:MET:HE2	1.85	0.40
2:AB:165:ASP:HB3	2:AB:168:HIS:HB3	2.03	0.40
7:AG:79:ARG:O	7:AG:79:ARG:NH2	2.36	0.40
10:AJ:57:VAL:HG12	10:AJ:58:ASN:H	1.86	0.40
18:AN:55:GLY:O	18:AN:58:ARG:HD3	2.20	0.40
26:AV:6:A:H2'	26:AV:7:G:C8	2.56	0.40
26:AV:860:U:H4'	26:AV:2267:A:H5''	2.02	0.40
26:AV:1000:A:OP2	26:AV:1154:G:N1	2.53	0.40
26:AV:1038:G:H2'	26:AV:1039:A:C8	2.56	0.40
26:AV:1214:A:H61	26:AV:1235:G:H1'	1.86	0.40
26:AV:1319:C:N4	26:AV:1334:G:O6	2.54	0.40
26:AV:1653:G:H5''	39:AI:2:ARG:HG3	2.03	0.40
26:AV:1681:G:H21	26:AV:1762:A:H3'	1.86	0.40
26:AV:1733:G:H2'	26:AV:1734:G:H8	1.86	0.40
26:AV:2398:U:H2'	26:AV:2399:G:C8	2.56	0.40
26:AV:2590:A:H2'	26:AV:2591:C:C6	2.56	0.40
33:Ac:84:ALA:HA	33:Ac:90:LEU:HA	2.03	0.40
36:Af:101:GLY:HA2	41:Ak:66:ASN:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:An:70:LYS:NZ	44:An:109:ASP:O	2.54	0.40
57:B:158:VAL:HG12	57:B:174:THR:HG23	2.03	0.40
57:B:784:ARG:HH21	57:B:865:PHE:HD1	1.69	0.40
24:L:56:ARG:HE	22:t:68:GLY:N	2.14	0.40
26:N:1260:A:H2'	26:N:1261:C:C6	2.56	0.40
27:O:60:C:H2'	27:O:61:G:C8	2.56	0.40
32:T:43:VAL:HG12	32:T:52:PHE:CD1	2.56	0.40
39:a:24:MET:HA	39:a:27:SER:HB3	2.03	0.40
1:0:383:A:H3'	1:0:384:G:H8	1.86	0.40
1:0:1287:A:H2'	1:0:1288:A:C8	2.57	0.40
3:2:88:ARG:NH1	3:2:100:GLN:OE1	2.36	0.40
6:5:74:LEU:HG	6:5:78:PHE:HE2	1.85	0.40
11:A:70:G:H2'	11:A:71:G:H8	1.86	0.40
13:A2:1100:ASN:ND2	13:A2:1102:TYR:HB2	2.36	0.40
1:AA:312:C:H2'	1:AA:313:A:C8	2.56	0.40
1:AA:580:C:H2'	1:AA:581:G:O4'	2.21	0.40
1:AA:985:C:H2'	1:AA:986:U:C6	2.56	0.40
23:AS:34:LYS:HE3	23:AS:34:LYS:HB2	1.78	0.40
26:AV:48:G:H22	26:AV:177:G:P	2.44	0.40
26:AV:181:A:H2'	26:AV:182:A:H8	1.85	0.40
26:AV:767:U:H2'	26:AV:768:G:C8	2.55	0.40
26:AV:2052:A:O2'	29:AY:148:GLN:O	2.39	0.40
26:AV:2092:U:OP1	26:AV:2199:A:O2'	2.31	0.40
26:AV:2708:G:H2'	26:AV:2709:G:H8	1.85	0.40
27:AW:42:C:C5	31:Aa:66:LEU:HD22	2.57	0.40
38:Ah:60:GLN:OE1	38:Ah:60:GLN:N	2.54	0.40
39:Ai:82:GLU:HG3	39:Ai:83:LEU:HD22	2.02	0.40
47:Aq:3:THR:HA	47:Aq:62:THR:O	2.20	0.40
50:At:9:LYS:HG2	50:At:10:SER:H	1.86	0.40
57:B:202:ARG:HD2	57:B:426:PRO:HG3	2.03	0.40
57:B:1236:LYS:HB2	57:B:1275:TYR:HE2	1.86	0.40
26:N:92:U:H2'	26:N:93:G:O4'	2.21	0.40
26:N:946:C:H2'	26:N:947:A:C8	2.57	0.40
26:N:1360:G:O6	26:N:2214:C:O2	2.39	0.40
26:N:1923:U:H2'	26:N:1924:C:C6	2.55	0.40
26:N:2027:G:H2'	26:N:2028:U:C6	2.56	0.40
26:N:2037:A:H2'	26:N:2038:G:C8	2.56	0.40
26:N:2449:U:O2'	26:N:2501:C:N4	2.54	0.40
26:N:2846:G:H2'	26:N:2847:U:C6	2.56	0.40
31:S:19:GLU:OE1	31:S:19:GLU:N	2.48	0.40
43:e:57:GLY:HA2	43:e:102:SER:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:g:64:LYS:HB3	45:g:76:ARG:HH11	1.86	0.40
56:r:9:LYS:HG3	56:r:14:CYS:HB2	2.03	0.40
1:0:255:G:H5''	20:J:19:LYS:HE2	2.03	0.40
1:0:321:A:H2'	1:0:322:C:H6	1.86	0.40
1:0:403:C:H5'	4:3:132:ILE:HG13	2.03	0.40
1:0:969:A:H2'	1:0:970:C:O4'	2.21	0.40
1:0:1271:A:H2'	1:0:1272:G:C8	2.57	0.40
5:4:141:ILE:O	5:4:145:GLU:HG2	2.21	0.40
8:7:108:LYS:HB3	8:7:108:LYS:HE3	1.99	0.40
9:8:12:ARG:HA	9:8:106:ARG:HH22	1.86	0.40
12:A1:45:ARG:NH2	1:AA:1527:U:OP2	2.49	0.40
1:AA:1021:A:H2'	1:AA:1022:A:H1'	2.03	0.40
1:AA:1038:C:H2'	1:AA:1039:G:C8	2.56	0.40
1:AA:1230:C:H5'	25:AU:30:G:H5''	2.03	0.40
2:AB:102:THR:HA	2:AB:179:LEU:HD21	2.03	0.40
3:AC:31:ASP:OD1	17:AM:65:ARG:NH1	2.55	0.40
4:AD:11:LEU:HD22	4:AD:63:ARG:HG2	2.03	0.40
9:AI:75:GLN:O	9:AI:79:ILE:HG12	2.21	0.40
10:AJ:10:LEU:HB2	10:AJ:72:ARG:HB2	2.02	0.40
10:AJ:15:HIS:HA	10:AJ:18:ILE:HG22	2.03	0.40
10:AJ:65:TYR:HD1	17:AM:98:LYS:HA	1.85	0.40
10:AJ:66:GLU:OE2	17:AM:97:LYS:NZ	2.51	0.40
19:AO:6:LEU:HB3	19:AO:17:TYR:HD2	1.87	0.40
19:AO:74:LEU:HA	19:AO:77:GLU:HB3	2.03	0.40
26:AV:302:C:H2'	26:AV:303:G:C8	2.55	0.40
26:AV:660:C:H2'	26:AV:661:A:C8	2.56	0.40
26:AV:686:U:H6	26:AV:788:A:H61	1.70	0.40
26:AV:1022:G:N2	26:AV:1023:U:O4	2.52	0.40
26:AV:1224:U:H2'	26:AV:1225:G:C4	2.56	0.40
26:AV:1252:G:H1	42:AI:37:GLN:HG3	1.86	0.40
26:AV:1805:A:N3	28:AX:50:THR:HB	2.36	0.40
26:AV:2093:G:H21	26:AV:2198:A:N6	2.19	0.40
30:AZ:180:LEU:HD12	30:AZ:186:VAL:HG21	2.03	0.40
31:Aa:8:TYR:OH	31:Aa:29:PRO:O	2.34	0.40
31:Aa:57:LEU:HA	31:Aa:57:LEU:HD23	1.91	0.40
35:Ae:49:ASP:HB2	35:Ae:118:MET:HE1	2.02	0.40
35:Ae:49:ASP:OD1	35:Ae:121:LYS:NZ	2.55	0.40
57:B:989:LEU:HD21	57:B:993:LYS:HE3	2.03	0.40
58:D:114:THR:HA	58:D:115:PRO:HD3	1.84	0.40
17:G:69:ARG:HA	17:G:70:PRO:HD3	1.92	0.40
18:H:21:ASP:OD1	18:H:21:ASP:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
60:M:62:U:H2'	60:M:63:C:H6	1.86	0.40
26:N:302:C:H2'	26:N:303:G:C8	2.55	0.40
26:N:594:U:H2'	26:N:595:C:C6	2.57	0.40
26:N:671:C:H2'	26:N:672:C:H6	1.86	0.40
26:N:680:C:H2'	26:N:681:G:C8	2.57	0.40
26:N:1244:A:H4'	30:R:29:HIS:CE1	2.57	0.40
26:N:1290:C:H2'	26:N:1291:C:C6	2.57	0.40
26:N:1851:U:H3	26:N:1891:G:H1	1.68	0.40
26:N:2082:A:H3'	26:N:2083:G:H8	1.85	0.40
26:N:2249:U:O2'	26:N:2252:G:OP2	2.37	0.40
26:N:2361:G:OP2	55:q:26:HIS:ND1	2.30	0.40
32:T:18:LYS:HB2	32:T:25:THR:HB	2.03	0.40
1:0:67:C:H2'	1:0:68:G:H8	1.86	0.40
1:0:493:A:H2'	1:0:494:G:C4	2.57	0.40
1:0:555:U:H2'	1:0:556:C:C6	2.56	0.40
1:0:728:A:H2'	1:0:729:A:C8	2.56	0.40
1:0:742:G:H2'	1:0:743:A:C8	2.56	0.40
1:0:868:C:H2'	1:0:869:G:O4'	2.21	0.40
1:0:1130:A:O2'	9:8:5:GLN:OE1	2.38	0.40
1:0:1412:C:H2'	1:0:1413:A:H8	1.86	0.40
4:3:97:ARG:HH12	4:3:115:ARG:HH12	1.69	0.40
5:4:105:ILE:HD11	5:4:121:HIS:HA	2.04	0.40
7:6:116:MET:HA	7:6:119:ARG:HB3	2.03	0.40
11:A:75:C:H2'	11:A:76:A:C8	2.56	0.40
1:AA:335:C:H2'	1:AA:336:A:H8	1.87	0.40
1:AA:512:U:P	4:AD:44:ARG:HH22	2.45	0.40
1:AA:1455:G:H2'	1:AA:1456:A:H8	1.87	0.40
15:AK:4:LEU:HD12	15:AK:8:MET:HB3	2.04	0.40
15:AK:38:PHE:HB3	26:AV:2127:G:H5'	2.02	0.40
16:AL:27:LYS:O	16:AL:30:SER:OG	2.30	0.40
26:AV:1656:C:H2'	26:AV:1657:U:H6	1.87	0.40
26:AV:1791:A:H5''	28:AX:205:LEU:HD12	2.02	0.40
26:AV:1982:U:H2'	26:AV:1983:G:H8	1.85	0.40
26:AV:1999:C:OP1	26:AV:2723:C:O2'	2.40	0.40
26:AV:2393:U:O2'	37:Ag:59:ARG:O	2.36	0.40
26:AV:2827:C:H2'	26:AV:2828:G:C8	2.56	0.40
27:AW:25:U:H2'	27:AW:26:C:H6	1.86	0.40
27:AW:109:A:H2'	27:AW:110:C:C6	2.56	0.40
56:Az:18:LYS:HE3	56:Az:18:LYS:HB2	1.83	0.40
57:B:349:ASN:HA	57:B:352:GLU:HB3	2.03	0.40
57:B:395:GLN:O	57:B:399:ARG:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:H:3:LEU:HD23	18:H:3:LEU:HA	1.92	0.40
19:I:50:THR:HG21	19:I:74:LEU:HD12	2.04	0.40
26:N:570:G:H2'	26:N:2030:A:N7	2.36	0.40
26:N:674:G:H5''	30:R:71:GLY:N	2.36	0.40
26:N:876:C:H2'	26:N:877:A:O4'	2.21	0.40
26:N:1039:A:H61	26:N:1116:G:H1	1.70	0.40
26:N:1683:U:H2'	26:N:1684:G:H8	1.86	0.40
26:N:2065:C:H2'	26:N:2066:C:H6	1.86	0.40
26:N:2438:U:O2'	26:N:2440:C:OP1	2.35	0.40
30:R:5:LEU:HD22	30:R:8:ALA:HB3	2.04	0.40
30:R:49:ARG:NH1	30:R:72:SER:OG	2.54	0.40
34:V:81:LYS:HE3	34:V:81:LYS:HB3	1.93	0.40
37:Y:93:ASN:HA	37:Y:96:LYS:HE3	2.03	0.40
38:Z:76:LYS:HA	38:Z:77:PRO:HD3	1.96	0.40
1:O:126:G:OP1	1:O:605:U:O2'	2.30	0.40
1:O:135:C:O2	19:I:25:ARG:NH1	2.55	0.40
1:O:894:G:H2'	1:O:895:G:H8	1.86	0.40
1:O:1249:C:O2'	9:8:70:GLY:O	2.26	0.40
1:AA:90:C:H2'	1:AA:91:U:C6	2.56	0.40
1:AA:380:G:N2	1:AA:382:A:H3'	2.37	0.40
1:AA:902:G:H2'	1:AA:903:G:C8	2.56	0.40
1:AA:974:A:OP1	17:AM:69:ARG:NH1	2.55	0.40
1:AA:1151:A:H2'	1:AA:1152:A:H8	1.84	0.40
4:AD:99:ASP:N	4:AD:99:ASP:OD1	2.54	0.40
5:AE:157:ARG:HH11	8:AH:43:GLU:HB3	1.86	0.40
26:AV:87:U:H5''	26:AV:88:G:H5'	2.04	0.40
26:AV:162:U:H3	26:AV:164:C:H41	1.67	0.40
26:AV:857:G:H1'	48:Ar:23:VAL:HG21	2.02	0.40
26:AV:1146:C:H2'	26:AV:1147:A:H8	1.86	0.40
26:AV:1491:G:H2'	26:AV:1492:G:C8	2.56	0.40
26:AV:1682:G:H2'	26:AV:1683:U:C6	2.57	0.40
26:AV:1753:G:N1	26:AV:1756:G:OP2	2.46	0.40
26:AV:1802:A:H2'	26:AV:1803:A:C8	2.57	0.40
26:AV:2475:C:H42	26:AV:2529:G:H22	1.70	0.40
26:AV:2845:U:H5''	41:Ak:52:ASN:O	2.21	0.40
33:Ac:67:ALA:HA	33:Ac:70:GLU:HG3	2.04	0.40
33:Ac:117:LEU:HD21	33:Ac:122:LEU:HB2	2.01	0.40
38:Ah:40:ARG:HD3	38:Ah:93:VAL:HG21	2.04	0.40
50:At:27:ASN:HA	50:At:30:MET:HG3	2.03	0.40
57:B:1188:GLN:NE2	57:B:1269:GLU:OE1	2.54	0.40
16:F:23:TYR:HB3	16:F:66:GLU:HA	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:F:67:GLY:HA3	31:S:113:ASP:OD2	2.22	0.40
26:N:133:U:H2'	26:N:134:G:C8	2.56	0.40
26:N:503:A:O2'	26:N:506:G:N7	2.41	0.40
26:N:1636:U:O2'	26:N:1760:C:O2	2.31	0.40
26:N:1667:G:OP1	36:X:7:MET:HB2	2.21	0.40
26:N:1708:C:H2'	26:N:1709:U:H6	1.86	0.40
26:N:1754:A:H2'	26:N:1755:A:C8	2.57	0.40
26:N:1992:G:N2	26:N:1996:C:O2'	2.54	0.40
26:N:2654:A:N1	26:N:2665:A:H5''	2.36	0.40
30:R:60:TRP:NE1	30:R:68:ALA:O	2.40	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	1	216/241 (90%)	203 (94%)	13 (6%)	0	100	100
2	AB	216/241 (90%)	204 (94%)	12 (6%)	0	100	100
3	2	204/233 (88%)	197 (97%)	7 (3%)	0	100	100
3	AC	204/233 (88%)	197 (97%)	7 (3%)	0	100	100
4	3	203/206 (98%)	194 (96%)	9 (4%)	0	100	100
4	AD	203/206 (98%)	196 (97%)	7 (3%)	0	100	100
5	4	148/167 (89%)	140 (95%)	8 (5%)	0	100	100
5	AE	148/167 (89%)	137 (93%)	11 (7%)	0	100	100
6	5	98/135 (73%)	94 (96%)	4 (4%)	0	100	100
6	AF	98/135 (73%)	91 (93%)	7 (7%)	0	100	100
7	6	149/179 (83%)	145 (97%)	4 (3%)	0	100	100
7	AG	149/179 (83%)	143 (96%)	6 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	7	127/130 (98%)	122 (96%)	5 (4%)	0	100	100
8	AH	127/130 (98%)	121 (95%)	6 (5%)	0	100	100
9	8	125/130 (96%)	114 (91%)	11 (9%)	0	100	100
9	AI	125/130 (96%)	118 (94%)	7 (6%)	0	100	100
10	9	96/103 (93%)	89 (93%)	7 (7%)	0	100	100
10	AJ	96/103 (93%)	84 (88%)	11 (12%)	1 (1%)	12	45
12	A1	64/71 (90%)	63 (98%)	1 (2%)	0	100	100
12	v	68/71 (96%)	68 (100%)	0	0	100	100
13	A2	288/1300 (22%)	280 (97%)	8 (3%)	0	100	100
15	AK	130/234 (56%)	124 (95%)	6 (5%)	0	100	100
15	C	130/234 (56%)	128 (98%)	2 (2%)	0	100	100
16	AL	112/118 (95%)	105 (94%)	7 (6%)	0	100	100
16	F	112/118 (95%)	106 (95%)	6 (5%)	0	100	100
17	AM	92/101 (91%)	80 (87%)	12 (13%)	0	100	100
17	G	96/101 (95%)	94 (98%)	2 (2%)	0	100	100
18	AN	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
18	H	85/89 (96%)	83 (98%)	2 (2%)	0	100	100
19	AO	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
19	I	80/82 (98%)	73 (91%)	7 (9%)	0	100	100
20	AP	78/84 (93%)	69 (88%)	9 (12%)	0	100	100
20	J	78/84 (93%)	71 (91%)	7 (9%)	0	100	100
21	AQ	64/75 (85%)	59 (92%)	5 (8%)	0	100	100
21	K	63/75 (84%)	62 (98%)	1 (2%)	0	100	100
22	AR	77/92 (84%)	73 (95%)	4 (5%)	0	100	100
22	t	75/92 (82%)	71 (95%)	4 (5%)	0	100	100
23	AS	83/87 (95%)	83 (100%)	0	0	100	100
23	u	83/87 (95%)	82 (99%)	1 (1%)	0	100	100
24	AT	60/70 (86%)	56 (93%)	4 (7%)	0	100	100
24	L	58/70 (83%)	54 (93%)	4 (7%)	0	100	100
28	AX	269/273 (98%)	257 (96%)	12 (4%)	0	100	100
28	P	269/273 (98%)	252 (94%)	17 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
29	AY	207/209 (99%)	197 (95%)	10 (5%)	0	100	100
29	Q	207/209 (99%)	198 (96%)	9 (4%)	0	100	100
30	AZ	199/201 (99%)	195 (98%)	4 (2%)	0	100	100
30	R	199/201 (99%)	191 (96%)	8 (4%)	0	100	100
31	Aa	175/179 (98%)	168 (96%)	7 (4%)	0	100	100
31	S	175/179 (98%)	166 (95%)	9 (5%)	0	100	100
32	Ab	174/177 (98%)	163 (94%)	11 (6%)	0	100	100
32	T	173/177 (98%)	169 (98%)	4 (2%)	0	100	100
33	Ac	147/149 (99%)	137 (93%)	10 (7%)	0	100	100
33	U	147/149 (99%)	141 (96%)	6 (4%)	0	100	100
34	Ad	139/142 (98%)	122 (88%)	17 (12%)	0	100	100
34	V	132/142 (93%)	121 (92%)	11 (8%)	0	100	100
35	Ae	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
35	W	140/142 (99%)	134 (96%)	6 (4%)	0	100	100
36	Af	120/123 (98%)	114 (95%)	6 (5%)	0	100	100
36	X	120/123 (98%)	115 (96%)	5 (4%)	0	100	100
37	Ag	141/144 (98%)	134 (95%)	7 (5%)	0	100	100
37	Y	141/144 (98%)	135 (96%)	6 (4%)	0	100	100
38	Ah	134/136 (98%)	128 (96%)	6 (4%)	0	100	100
38	Z	134/136 (98%)	131 (98%)	3 (2%)	0	100	100
39	Ai	116/127 (91%)	111 (96%)	5 (4%)	0	100	100
39	a	117/127 (92%)	110 (94%)	7 (6%)	0	100	100
40	Aj	114/117 (97%)	111 (97%)	3 (3%)	0	100	100
40	b	114/117 (97%)	107 (94%)	7 (6%)	0	100	100
41	Ak	112/115 (97%)	106 (95%)	6 (5%)	0	100	100
41	c	112/115 (97%)	102 (91%)	10 (9%)	0	100	100
42	Al	115/118 (98%)	114 (99%)	1 (1%)	0	100	100
42	d	115/118 (98%)	114 (99%)	1 (1%)	0	100	100
43	Am	101/103 (98%)	91 (90%)	10 (10%)	0	100	100
43	e	101/103 (98%)	96 (95%)	5 (5%)	0	100	100
44	An	108/110 (98%)	103 (95%)	5 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
44	f	108/110 (98%)	105 (97%)	3 (3%)	0	100	100
45	Ao	91/100 (91%)	86 (94%)	5 (6%)	0	100	100
45	g	91/100 (91%)	81 (89%)	10 (11%)	0	100	100
46	Ap	100/104 (96%)	93 (93%)	7 (7%)	0	100	100
46	h	100/104 (96%)	90 (90%)	10 (10%)	0	100	100
47	Aq	92/94 (98%)	88 (96%)	4 (4%)	0	100	100
47	i	92/94 (98%)	85 (92%)	7 (8%)	0	100	100
48	Ar	73/85 (86%)	71 (97%)	2 (3%)	0	100	100
48	j	73/85 (86%)	68 (93%)	5 (7%)	0	100	100
49	As	75/78 (96%)	75 (100%)	0	0	100	100
49	k	75/78 (96%)	72 (96%)	3 (4%)	0	100	100
50	At	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
50	l	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
51	Au	54/59 (92%)	53 (98%)	1 (2%)	0	100	100
51	m	56/59 (95%)	53 (95%)	3 (5%)	0	100	100
52	Av	54/57 (95%)	50 (93%)	4 (7%)	0	100	100
52	n	52/57 (91%)	49 (94%)	3 (6%)	0	100	100
53	Aw	48/55 (87%)	47 (98%)	1 (2%)	0	100	100
53	o	48/55 (87%)	46 (96%)	2 (4%)	0	100	100
54	Ax	44/46 (96%)	41 (93%)	3 (7%)	0	100	100
54	p	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
55	Ay	62/65 (95%)	59 (95%)	3 (5%)	0	100	100
55	q	62/65 (95%)	57 (92%)	5 (8%)	0	100	100
56	Az	36/38 (95%)	33 (92%)	3 (8%)	0	100	100
56	r	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
57	B	1291/1326 (97%)	1235 (96%)	56 (4%)	0	100	100
58	D	115/129 (89%)	110 (96%)	5 (4%)	0	100	100
58	y	115/129 (89%)	105 (91%)	10 (9%)	0	100	100
59	E	121/124 (98%)	111 (92%)	10 (8%)	0	100	100
59	z	121/124 (98%)	113 (93%)	7 (6%)	1 (1%)	16	50
61	s	35/179 (20%)	33 (94%)	2 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
63	x	125/165 (76%)	119 (95%)	6 (5%)	0	100	100
All	All	13392/15548 (86%)	12714 (95%)	676 (5%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
59	z	25	GLU
10	AJ	89	ARG

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	1	180/199 (90%)	180 (100%)	0	100	100
2	AB	180/199 (90%)	180 (100%)	0	100	100
3	2	170/190 (90%)	170 (100%)	0	100	100
3	AC	170/190 (90%)	170 (100%)	0	100	100
4	3	172/173 (99%)	172 (100%)	0	100	100
4	AD	172/173 (99%)	172 (100%)	0	100	100
5	4	113/126 (90%)	113 (100%)	0	100	100
5	AE	113/126 (90%)	112 (99%)	1 (1%)	70	81
6	5	87/116 (75%)	87 (100%)	0	100	100
6	AF	87/116 (75%)	87 (100%)	0	100	100
7	6	124/147 (84%)	124 (100%)	0	100	100
7	AG	124/147 (84%)	124 (100%)	0	100	100
8	7	104/105 (99%)	104 (100%)	0	100	100
8	AH	104/105 (99%)	104 (100%)	0	100	100
9	8	105/107 (98%)	104 (99%)	1 (1%)	68	80
9	AI	105/107 (98%)	105 (100%)	0	100	100
10	9	86/90 (96%)	86 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	AJ	86/90 (96%)	86 (100%)	0	100	100
12	A1	56/61 (92%)	56 (100%)	0	100	100
12	v	60/61 (98%)	60 (100%)	0	100	100
13	A2	249/1135 (22%)	249 (100%)	0	100	100
15	AK	110/181 (61%)	110 (100%)	0	100	100
15	C	110/181 (61%)	110 (100%)	0	100	100
16	AL	92/96 (96%)	92 (100%)	0	100	100
16	F	92/96 (96%)	92 (100%)	0	100	100
17	AM	79/84 (94%)	79 (100%)	0	100	100
17	G	82/84 (98%)	82 (100%)	0	100	100
18	AN	75/77 (97%)	75 (100%)	0	100	100
18	H	75/77 (97%)	75 (100%)	0	100	100
19	AO	65/65 (100%)	65 (100%)	0	100	100
19	I	65/65 (100%)	65 (100%)	0	100	100
20	AP	74/78 (95%)	74 (100%)	0	100	100
20	J	74/78 (95%)	74 (100%)	0	100	100
21	AQ	57/65 (88%)	56 (98%)	1 (2%)	51	74
21	K	56/65 (86%)	56 (100%)	0	100	100
22	AR	70/79 (89%)	70 (100%)	0	100	100
22	t	68/79 (86%)	68 (100%)	0	100	100
23	AS	65/66 (98%)	65 (100%)	0	100	100
23	u	65/66 (98%)	65 (100%)	0	100	100
24	AT	58/62 (94%)	58 (100%)	0	100	100
24	L	57/62 (92%)	57 (100%)	0	100	100
28	AX	216/218 (99%)	216 (100%)	0	100	100
28	P	216/218 (99%)	216 (100%)	0	100	100
29	AY	164/164 (100%)	164 (100%)	0	100	100
29	Q	164/164 (100%)	164 (100%)	0	100	100
30	AZ	165/165 (100%)	165 (100%)	0	100	100
30	R	165/165 (100%)	165 (100%)	0	100	100
31	Aa	148/150 (99%)	148 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
31	S	148/150 (99%)	148 (100%)	0	100	100
32	Ab	137/138 (99%)	137 (100%)	0	100	100
32	T	136/138 (99%)	136 (100%)	0	100	100
33	Ac	114/114 (100%)	114 (100%)	0	100	100
33	U	114/114 (100%)	114 (100%)	0	100	100
34	Ad	109/110 (99%)	109 (100%)	0	100	100
34	V	104/110 (94%)	104 (100%)	0	100	100
35	Ae	116/116 (100%)	116 (100%)	0	100	100
35	W	116/116 (100%)	116 (100%)	0	100	100
36	Af	103/104 (99%)	103 (100%)	0	100	100
36	X	103/104 (99%)	103 (100%)	0	100	100
37	Ag	102/103 (99%)	102 (100%)	0	100	100
37	Y	102/103 (99%)	102 (100%)	0	100	100
38	Ah	109/109 (100%)	109 (100%)	0	100	100
38	Z	109/109 (100%)	109 (100%)	0	100	100
39	Ai	98/103 (95%)	98 (100%)	0	100	100
39	a	99/103 (96%)	98 (99%)	1 (1%)	68	80
40	Aj	86/87 (99%)	86 (100%)	0	100	100
40	b	86/87 (99%)	86 (100%)	0	100	100
41	Ak	99/100 (99%)	99 (100%)	0	100	100
41	c	99/100 (99%)	98 (99%)	1 (1%)	68	80
42	Al	89/90 (99%)	89 (100%)	0	100	100
42	d	89/90 (99%)	89 (100%)	0	100	100
43	Am	84/84 (100%)	83 (99%)	1 (1%)	63	79
43	e	84/84 (100%)	83 (99%)	1 (1%)	63	79
44	An	93/93 (100%)	93 (100%)	0	100	100
44	f	93/93 (100%)	93 (100%)	0	100	100
45	Ao	80/84 (95%)	80 (100%)	0	100	100
45	g	80/84 (95%)	80 (100%)	0	100	100
46	Ap	83/85 (98%)	83 (100%)	0	100	100
46	h	83/85 (98%)	83 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
47	Aq	78/78 (100%)	78 (100%)	0	100	100
47	i	78/78 (100%)	78 (100%)	0	100	100
48	Ar	56/63 (89%)	56 (100%)	0	100	100
48	j	57/63 (90%)	57 (100%)	0	100	100
49	As	67/68 (98%)	67 (100%)	0	100	100
49	k	67/68 (98%)	66 (98%)	1 (2%)	57	76
50	At	55/55 (100%)	55 (100%)	0	100	100
50	l	55/55 (100%)	55 (100%)	0	100	100
51	Au	47/49 (96%)	47 (100%)	0	100	100
51	m	48/49 (98%)	48 (100%)	0	100	100
52	Av	47/48 (98%)	47 (100%)	0	100	100
52	n	46/48 (96%)	46 (100%)	0	100	100
53	Aw	45/49 (92%)	45 (100%)	0	100	100
53	o	45/49 (92%)	45 (100%)	0	100	100
54	Ax	38/38 (100%)	38 (100%)	0	100	100
54	p	38/38 (100%)	38 (100%)	0	100	100
55	Ay	51/52 (98%)	51 (100%)	0	100	100
55	q	51/52 (98%)	51 (100%)	0	100	100
56	Az	34/34 (100%)	34 (100%)	0	100	100
56	r	34/34 (100%)	34 (100%)	0	100	100
57	B	1130/1158 (98%)	1128 (100%)	2 (0%)	87	89
58	D	90/99 (91%)	90 (100%)	0	100	100
58	y	90/99 (91%)	90 (100%)	0	100	100
59	E	103/104 (99%)	102 (99%)	1 (1%)	68	80
59	z	103/104 (99%)	102 (99%)	1 (1%)	68	80
61	s	34/158 (22%)	34 (100%)	0	100	100
63	x	96/123 (78%)	96 (100%)	0	100	100
All	All	11204/12816 (87%)	11192 (100%)	12 (0%)	87	91

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	8	4	ASN

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Mol	Chain	Res	Type
5	AE	43	ASN
21	AQ	52	GLN
43	Am	66	HIS
57	B	173	MET
57	B	1279	GLN
59	E	75	GLN
39	a	107	ASN
41	c	3	ASN
43	e	51	VAL
49	k	23	ASN
59	z	24	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (107) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	89	GLN
3	2	32	ASN
4	3	54	GLN
6	5	3	HIS
7	6	68	ASN
7	6	142	HIS
8	7	18	GLN
8	7	67	GLN
13	A2	1146	ASN
13	A2	1165	ASN
13	A2	1246	GLN
2	AB	109	GLN
3	AC	6	HIS
4	AD	54	GLN
5	AE	73	ASN
5	AE	82	GLN
5	AE	148	ASN
6	AF	17	GLN
6	AF	46	GLN
7	AG	86	GLN
8	AH	16	ASN
9	AI	81	HIS
15	AK	168	ASN
16	AL	14	HIS
17	AM	49	GLN
18	AN	40	GLN
19	AO	26	ASN

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Mol	Chain	Res	Type
19	AO	29	ASN
20	AP	9	GLN
21	AQ	52	GLN
23	AS	78	ASN
28	AX	21	ASN
28	AX	70	ASN
28	AX	239	ASN
29	AY	32	ASN
29	AY	42	ASN
29	AY	49	GLN
31	Aa	37	ASN
32	Ab	64	GLN
32	Ab	139	GLN
33	Ac	33	GLN
33	Ac	43	ASN
33	Ac	128	HIS
34	Ad	19	ASN
35	Ae	58	ASN
38	Ah	13	HIS
38	Ah	22	GLN
39	Ai	62	ASN
39	Ai	81	ASN
40	Aj	100	HIS
40	Aj	104	GLN
41	Ak	15	GLN
41	Ak	66	ASN
42	Al	72	ASN
43	Am	66	HIS
46	Ap	54	GLN
49	As	6	GLN
50	At	38	GLN
50	At	39	GLN
50	At	58	ASN
56	Az	13	ASN
56	Az	35	GLN
56	Az	37	GLN
57	B	349	ASN
57	B	381	GLN
57	B	439	GLN
57	B	512	HIS
57	B	1058	ASN
57	B	1077	ASN

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Mol	Chain	Res	Type
57	B	1124	ASN
57	B	1158	GLN
57	B	1165	ASN
57	B	1293	GLN
58	D	64	GLN
16	F	105	ASN
18	H	62	GLN
24	L	61	ASN
28	P	243	HIS
30	R	9	GLN
30	R	136	GLN
31	S	21	ASN
32	T	22	GLN
32	T	30	ASN
32	T	48	ASN
33	U	11	ASN
34	V	43	ASN
34	V	105	GLN
35	W	136	GLN
36	X	5	GLN
37	Y	35	HIS
38	Z	13	HIS
38	Z	22	GLN
39	a	9	GLN
39	a	31	HIS
41	c	12	GLN
46	h	27	ASN
46	h	46	GLN
48	j	46	HIS
48	j	50	ASN
50	l	39	GLN
50	l	41	HIS
61	s	126	HIS
61	s	133	HIS
23	u	3	ASN
23	u	55	GLN
63	x	122	GLN
59	z	59	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	1532/1542 (99%)	276 (18%)	14 (0%)
1	AA	1538/1542 (99%)	276 (17%)	14 (0%)
11	A	75/76 (98%)	20 (26%)	4 (5%)
14	A3	76/77 (98%)	29 (38%)	5 (6%)
25	AU	75/76 (98%)	12 (16%)	0
26	AV	2895/2903 (99%)	509 (17%)	20 (0%)
26	N	2895/2903 (99%)	539 (18%)	14 (0%)
27	AW	117/120 (97%)	23 (19%)	0
27	O	117/120 (97%)	22 (18%)	2 (1%)
60	M	74/75 (98%)	14 (18%)	1 (1%)
62	w	56/57 (98%)	32 (57%)	0
All	All	9450/9491 (99%)	1752 (18%)	74 (0%)

All (1752) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	4	U
1	0	5	U
1	0	9	G
1	0	32	A
1	0	39	G
1	0	47	C
1	0	48	C
1	0	51	A
1	0	52	C
1	0	66	A
1	0	72	A
1	0	81	A
1	0	83	C
1	0	88	U
1	0	93	U
1	0	95	C
1	0	97	G
1	0	116	A
1	0	121	U
1	0	122	G
1	0	130	A
1	0	131	A
1	0	141	G
1	0	142	G
1	0	144	G
1	0	150	U
1	0	163	C

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Mol	Chain	Res	Type
1	0	164	G
1	0	173	U
1	0	174	A
1	0	176	C
1	0	180	U
1	0	182	A
1	0	183	C
1	0	184	G
1	0	191	G
1	0	197	A
1	0	211	G
1	0	212	G
1	0	222	C
1	0	226	G
1	0	245	U
1	0	247	G
1	0	251	G
1	0	262	A
1	0	263	A
1	0	266	G
1	0	267	C
1	0	279	A
1	0	280	C
1	0	281	G
1	0	289	G
1	0	306	A
1	0	320	A
1	0	328	C
1	0	329	A
1	0	330	C
1	0	332	G
1	0	337	G
1	0	338	A
1	0	351	G
1	0	352	C
1	0	353	A
1	0	354	G
1	0	367	U
1	0	372	C
1	0	373	A
1	0	385	C
1	0	388	G

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Mol	Chain	Res	Type
1	0	397	A
1	0	406	G
1	0	411	A
1	0	412	A
1	0	413	G
1	0	414	A
1	0	421	U
1	0	422	C
1	0	424	G
1	0	428	G
1	0	429	U
1	0	436	C
1	0	439	U
1	0	440	C
1	0	451	A
1	0	458	U
1	0	467	U
1	0	468	A
1	0	478	A
1	0	479	U
1	0	484	G
1	0	492	C
1	0	493	A
1	0	495	A
1	0	496	A
1	0	497	G
1	0	500	G
1	0	509	A
1	0	510	A
1	0	511	C
1	0	516	U
1	0	517	G
1	0	518	C
1	0	519	C
1	0	521	G
1	0	524	G
1	0	527	G
1	0	531	U
1	0	532	A
1	0	533	A
1	0	547	A
1	0	559	A

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Mol	Chain	Res	Type
1	0	562	U
1	0	564	C
1	0	572	A
1	0	573	A
1	0	576	C
1	0	577	G
1	0	600	A
1	0	618	C
1	0	619	U
1	0	621	A
1	0	633	G
1	0	639	G
1	0	650	G
1	0	653	U
1	0	661	G
1	0	665	A
1	0	666	G
1	0	673	A
1	0	687	A
1	0	701	U
1	0	702	A
1	0	703	G
1	0	710	G
1	0	723	U
1	0	724	G
1	0	731	G
1	0	753	A
1	0	755	G
1	0	758	C
1	0	793	U
1	0	794	A
1	0	813	U
1	0	814	A
1	0	815	A
1	0	817	C
1	0	818	G
1	0	819	A
1	0	821	G
1	0	828	U
1	0	829	G
1	0	832	G
1	0	842	U

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Mol	Chain	Res	Type
1	0	843	U
1	0	845	A
1	0	849	G
1	0	885	G
1	0	889	A
1	0	902	G
1	0	914	A
1	0	926	G
1	0	934	C
1	0	935	A
1	0	942	G
1	0	958	A
1	0	960	U
1	0	966	G
1	0	969	A
1	0	971	G
1	0	972	C
1	0	975	A
1	0	976	G
1	0	977	A
1	0	978	A
1	0	989	U
1	0	992	U
1	0	993	G
1	0	994	A
1	0	996	A
1	0	1004	A
1	0	1005	A
1	0	1006	G
1	0	1016	A
1	0	1017	U
1	0	1021	A
1	0	1022	A
1	0	1025	U
1	0	1026	G
1	0	1029	U
1	0	1030	U
1	0	1032	G
1	0	1045	C
1	0	1046	A
1	0	1056	U
1	0	1065	U

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Mol	Chain	Res	Type
1	0	1066	C
1	0	1079	G
1	0	1085	U
1	0	1089	G
1	0	1094	G
1	0	1095	U
1	0	1101	A
1	0	1108	G
1	0	1133	G
1	0	1137	C
1	0	1138	G
1	0	1139	G
1	0	1140	C
1	0	1151	A
1	0	1158	C
1	0	1159	U
1	0	1167	A
1	0	1168	U
1	0	1171	A
1	0	1182	G
1	0	1183	U
1	0	1184	G
1	0	1191	A
1	0	1196	A
1	0	1197	A
1	0	1198	G
1	0	1201	A
1	0	1202	U
1	0	1213	A
1	0	1224	U
1	0	1227	A
1	0	1238	A
1	0	1241	G
1	0	1257	A
1	0	1260	G
1	0	1270	G
1	0	1280	A
1	0	1285	A
1	0	1286	U
1	0	1287	A
1	0	1290	G
1	0	1291	U

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Mol	Chain	Res	Type
1	0	1297	G
1	0	1298	U
1	0	1300	G
1	0	1301	U
1	0	1302	C
1	0	1305	G
1	0	1312	G
1	0	1317	C
1	0	1320	C
1	0	1323	G
1	0	1332	A
1	0	1336	C
1	0	1340	A
1	0	1346	A
1	0	1353	G
1	0	1362	A
1	0	1363	A
1	0	1370	G
1	0	1379	G
1	0	1382	C
1	0	1383	C
1	0	1400	C
1	0	1401	G
1	0	1419	G
1	0	1429	A
1	0	1432	G
1	0	1441	A
1	0	1452	C
1	0	1455	G
1	0	1487	G
1	0	1492	A
1	0	1494	G
1	0	1497	G
1	0	1499	A
1	0	1503	A
1	0	1506	U
1	0	1517	G
1	0	1529	G
1	0	1530	G
11	A	6	G
11	A	7	A
11	A	9	A

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Mol	Chain	Res	Type
11	A	10	G
11	A	13	C
11	A	17	C
11	A	18	G
11	A	19	G
11	A	20	U
11	A	21	A
11	A	22	G
11	A	45	U
11	A	47	U
11	A	48	C
11	A	53	G
11	A	54	U
11	A	55	U
11	A	56	C
11	A	74	C
11	A	75	C
14	A3	7	G
14	A3	9	A
14	A3	13	C
14	A3	16	U
14	A3	17	U
14	A3	21	U
14	A3	22	A
14	A3	23	G
14	A3	42	A
14	A3	46	G
14	A3	47	G
14	A3	48	U
14	A3	49	C
14	A3	50	A
14	A3	51	C
14	A3	52	A
14	A3	53	G
14	A3	58	G
14	A3	59	A
14	A3	60	A
14	A3	62	C
14	A3	63	C
14	A3	64	C
14	A3	66	U
14	A3	67	C

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Mol	Chain	Res	Type
14	A3	72	C
14	A3	73	C
14	A3	75	C
14	A3	77	A
1	AA	6	G
1	AA	9	G
1	AA	22	G
1	AA	32	A
1	AA	39	G
1	AA	47	C
1	AA	48	C
1	AA	51	A
1	AA	65	A
1	AA	69	G
1	AA	71	A
1	AA	83	C
1	AA	85	U
1	AA	86	G
1	AA	87	C
1	AA	95	C
1	AA	97	G
1	AA	108	G
1	AA	116	A
1	AA	121	U
1	AA	122	G
1	AA	130	A
1	AA	136	C
1	AA	143	A
1	AA	144	G
1	AA	148	G
1	AA	149	A
1	AA	158	G
1	AA	163	C
1	AA	173	U
1	AA	174	A
1	AA	178	C
1	AA	180	U
1	AA	181	A
1	AA	183	C
1	AA	184	G
1	AA	197	A
1	AA	211	G

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Mol	Chain	Res	Type
1	AA	214	C
1	AA	226	G
1	AA	240	G
1	AA	245	U
1	AA	246	A
1	AA	247	G
1	AA	251	G
1	AA	253	A
1	AA	254	G
1	AA	263	A
1	AA	266	G
1	AA	267	C
1	AA	279	A
1	AA	280	C
1	AA	281	G
1	AA	289	G
1	AA	306	A
1	AA	328	C
1	AA	330	C
1	AA	332	G
1	AA	346	G
1	AA	347	G
1	AA	350	G
1	AA	351	G
1	AA	352	C
1	AA	354	G
1	AA	363	A
1	AA	367	U
1	AA	372	C
1	AA	389	A
1	AA	390	U
1	AA	392	C
1	AA	398	U
1	AA	406	G
1	AA	411	A
1	AA	412	A
1	AA	413	G
1	AA	421	U
1	AA	422	C
1	AA	424	G
1	AA	428	G
1	AA	429	U

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Mol	Chain	Res	Type
1	AA	439	U
1	AA	458	U
1	AA	467	U
1	AA	468	A
1	AA	478	A
1	AA	479	U
1	AA	481	G
1	AA	484	G
1	AA	495	A
1	AA	509	A
1	AA	510	A
1	AA	511	C
1	AA	518	C
1	AA	519	C
1	AA	521	G
1	AA	524	G
1	AA	527	G
1	AA	532	A
1	AA	533	A
1	AA	547	A
1	AA	562	U
1	AA	564	C
1	AA	567	G
1	AA	570	G
1	AA	572	A
1	AA	573	A
1	AA	576	C
1	AA	577	G
1	AA	596	A
1	AA	597	G
1	AA	633	G
1	AA	650	G
1	AA	653	U
1	AA	663	A
1	AA	665	A
1	AA	668	G
1	AA	675	A
1	AA	687	A
1	AA	688	G
1	AA	695	A
1	AA	702	A
1	AA	703	G

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Mol	Chain	Res	Type
1	AA	718	A
1	AA	721	G
1	AA	723	U
1	AA	724	G
1	AA	731	G
1	AA	747	A
1	AA	755	G
1	AA	771	G
1	AA	791	G
1	AA	793	U
1	AA	794	A
1	AA	799	G
1	AA	813	U
1	AA	814	A
1	AA	815	A
1	AA	817	C
1	AA	818	G
1	AA	819	A
1	AA	821	G
1	AA	828	U
1	AA	832	G
1	AA	836	G
1	AA	841	C
1	AA	843	U
1	AA	844	G
1	AA	845	A
1	AA	846	G
1	AA	849	G
1	AA	851	G
1	AA	889	A
1	AA	890	G
1	AA	891	U
1	AA	902	G
1	AA	914	A
1	AA	934	C
1	AA	935	A
1	AA	958	A
1	AA	960	U
1	AA	966	G
1	AA	969	A
1	AA	971	G
1	AA	972	C

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Mol	Chain	Res	Type
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	978	A
1	AA	992	U
1	AA	993	G
1	AA	999	C
1	AA	1004	A
1	AA	1008	U
1	AA	1014	A
1	AA	1015	G
1	AA	1016	A
1	AA	1017	U
1	AA	1020	G
1	AA	1022	A
1	AA	1024	G
1	AA	1025	U
1	AA	1026	G
1	AA	1027	C
1	AA	1030	U
1	AA	1031	C
1	AA	1033	G
1	AA	1038	C
1	AA	1043	G
1	AA	1045	C
1	AA	1064	G
1	AA	1065	U
1	AA	1066	C
1	AA	1085	U
1	AA	1094	G
1	AA	1095	U
1	AA	1101	A
1	AA	1104	G
1	AA	1108	G
1	AA	1123	U
1	AA	1125	U
1	AA	1132	C
1	AA	1133	G
1	AA	1135	U
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G

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Mol	Chain	Res	Type
1	AA	1157	A
1	AA	1158	C
1	AA	1159	U
1	AA	1167	A
1	AA	1179	A
1	AA	1183	U
1	AA	1184	G
1	AA	1196	A
1	AA	1197	A
1	AA	1202	U
1	AA	1212	U
1	AA	1224	U
1	AA	1226	C
1	AA	1227	A
1	AA	1238	A
1	AA	1250	A
1	AA	1258	G
1	AA	1260	G
1	AA	1270	G
1	AA	1275	A
1	AA	1280	A
1	AA	1287	A
1	AA	1290	G
1	AA	1297	G
1	AA	1298	U
1	AA	1300	G
1	AA	1301	U
1	AA	1302	C
1	AA	1305	G
1	AA	1317	C
1	AA	1318	A
1	AA	1319	A
1	AA	1320	C
1	AA	1322	C
1	AA	1323	G
1	AA	1331	G
1	AA	1332	A
1	AA	1340	A
1	AA	1346	A
1	AA	1347	G
1	AA	1348	U
1	AA	1353	G

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Mol	Chain	Res	Type
1	AA	1357	A
1	AA	1362	A
1	AA	1363	A
1	AA	1364	U
1	AA	1370	G
1	AA	1379	G
1	AA	1398	A
1	AA	1402	C
1	AA	1419	G
1	AA	1429	A
1	AA	1432	G
1	AA	1442	G
1	AA	1451	U
1	AA	1452	C
1	AA	1454	G
1	AA	1487	G
1	AA	1492	A
1	AA	1497	G
1	AA	1500	A
1	AA	1503	A
1	AA	1506	U
1	AA	1517	G
1	AA	1529	G
1	AA	1530	G
1	AA	1534	A
1	AA	1535	C
1	AA	1537	U
1	AA	1538	C
25	AU	9	A
25	AU	16	C
25	AU	17	U
25	AU	18	G
25	AU	19	G
25	AU	20	G
25	AU	21	A
25	AU	22	G
25	AU	43	G
25	AU	46	G
25	AU	60	C
25	AU	76	A
26	AV	2	G
26	AV	10	A

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Mol	Chain	Res	Type
26	AV	34	U
26	AV	35	G
26	AV	39	G
26	AV	42	A
26	AV	46	G
26	AV	50	U
26	AV	51	G
26	AV	60	G
26	AV	63	A
26	AV	71	A
26	AV	73	A
26	AV	74	A
26	AV	75	G
26	AV	86	G
26	AV	101	A
26	AV	102	U
26	AV	103	A
26	AV	118	A
26	AV	119	A
26	AV	120	U
26	AV	125	A
26	AV	127	A
26	AV	137	U
26	AV	138	U
26	AV	139	U
26	AV	140	C
26	AV	141	G
26	AV	142	A
26	AV	160	A
26	AV	162	U
26	AV	163	C
26	AV	196	A
26	AV	199	A
26	AV	215	G
26	AV	216	A
26	AV	222	A
26	AV	223	A
26	AV	229	C
26	AV	243	U
26	AV	248	G
26	AV	250	G
26	AV	255	A

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Mol	Chain	Res	Type
26	AV	265	A
26	AV	266	G
26	AV	271	G
26	AV	276	U
26	AV	277	G
26	AV	278	A
26	AV	279	A
26	AV	281	C
26	AV	301	G
26	AV	310	A
26	AV	323	C
26	AV	329	G
26	AV	330	A
26	AV	332	A
26	AV	333	G
26	AV	338	G
26	AV	343	C
26	AV	354	A
26	AV	361	G
26	AV	362	A
26	AV	368	A
26	AV	371	A
26	AV	372	G
26	AV	373	U
26	AV	386	G
26	AV	396	G
26	AV	404	A
26	AV	405	U
26	AV	411	G
26	AV	422	A
26	AV	424	G
26	AV	429	A
26	AV	430	A
26	AV	435	C
26	AV	447	A
26	AV	451	U
26	AV	455	C
26	AV	456	C
26	AV	467	G
26	AV	479	A
26	AV	480	A
26	AV	481	G

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Mol	Chain	Res	Type
26	AV	482	A
26	AV	491	G
26	AV	503	A
26	AV	504	A
26	AV	505	A
26	AV	509	C
26	AV	516	C
26	AV	529	A
26	AV	530	G
26	AV	532	A
26	AV	533	G
26	AV	543	G
26	AV	544	C
26	AV	546	U
26	AV	547	A
26	AV	548	G
26	AV	549	G
26	AV	550	C
26	AV	563	A
26	AV	573	U
26	AV	575	A
26	AV	586	A
26	AV	603	A
26	AV	613	A
26	AV	614	A
26	AV	619	G
26	AV	620	G
26	AV	622	G
26	AV	627	A
26	AV	634	C
26	AV	637	A
26	AV	646	U
26	AV	647	G
26	AV	648	G
26	AV	654	A
26	AV	655	A
26	AV	670	A
26	AV	671	C
26	AV	677	A
26	AV	684	G
26	AV	686	U
26	AV	712	G

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Mol	Chain	Res	Type
26	AV	715	A
26	AV	726	G
26	AV	729	G
26	AV	730	A
26	AV	740	C
26	AV	747	U
26	AV	757	G
26	AV	764	A
26	AV	765	C
26	AV	774	G
26	AV	775	G
26	AV	776	G
26	AV	779	U
26	AV	782	A
26	AV	784	G
26	AV	785	G
26	AV	805	G
26	AV	812	C
26	AV	819	A
26	AV	827	U
26	AV	828	U
26	AV	831	G
26	AV	844	A
26	AV	845	A
26	AV	846	U
26	AV	850	U
26	AV	857	G
26	AV	860	U
26	AV	878	A
26	AV	896	A
26	AV	897	C
26	AV	910	A
26	AV	934	U
26	AV	941	A
26	AV	946	C
26	AV	961	C
26	AV	973	A
26	AV	974	G
26	AV	980	A
26	AV	983	A
26	AV	985	C
26	AV	989	G

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Mol	Chain	Res	Type
26	AV	995	C
26	AV	996	A
26	AV	1005	C
26	AV	1009	A
26	AV	1012	U
26	AV	1013	C
26	AV	1015	U
26	AV	1026	G
26	AV	1033	U
26	AV	1040	A
26	AV	1046	A
26	AV	1047	G
26	AV	1056	G
26	AV	1057	A
26	AV	1060	U
26	AV	1062	G
26	AV	1066	U
26	AV	1067	A
26	AV	1068	G
26	AV	1070	A
26	AV	1071	G
26	AV	1074	G
26	AV	1078	U
26	AV	1079	C
26	AV	1083	U
26	AV	1084	A
26	AV	1087	G
26	AV	1088	A
26	AV	1089	A
26	AV	1094	U
26	AV	1096	A
26	AV	1097	U
26	AV	1100	C
26	AV	1103	A
26	AV	1104	C
26	AV	1110	G
26	AV	1112	G
26	AV	1130	U
26	AV	1132	U
26	AV	1133	A
26	AV	1135	C
26	AV	1136	G

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Mol	Chain	Res	Type
26	AV	1143	A
26	AV	1157	G
26	AV	1158	C
26	AV	1161	C
26	AV	1169	A
26	AV	1172	C
26	AV	1173	U
26	AV	1174	U
26	AV	1175	A
26	AV	1176	U
26	AV	1180	U
26	AV	1198	U
26	AV	1204	A
26	AV	1205	A
26	AV	1206	G
26	AV	1212	G
26	AV	1225	G
26	AV	1227	G
26	AV	1237	A
26	AV	1238	G
26	AV	1251	C
26	AV	1253	A
26	AV	1256	G
26	AV	1266	G
26	AV	1271	G
26	AV	1272	A
26	AV	1274	A
26	AV	1275	A
26	AV	1300	G
26	AV	1301	A
26	AV	1321	A
26	AV	1330	C
26	AV	1332	G
26	AV	1339	G
26	AV	1340	U
26	AV	1341	G
26	AV	1345	C
26	AV	1365	A
26	AV	1368	G
26	AV	1378	A
26	AV	1379	U
26	AV	1380	G

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Mol	Chain	Res	Type
26	AV	1385	A
26	AV	1416	G
26	AV	1419	A
26	AV	1420	A
26	AV	1437	C
26	AV	1452	G
26	AV	1453	A
26	AV	1475	G
26	AV	1478	G
26	AV	1482	G
26	AV	1494	A
26	AV	1497	U
26	AV	1504	A
26	AV	1505	A
26	AV	1515	A
26	AV	1524	G
26	AV	1530	G
26	AV	1533	C
26	AV	1535	A
26	AV	1537	G
26	AV	1540	G
26	AV	1546	G
26	AV	1558	C
26	AV	1566	A
26	AV	1567	G
26	AV	1583	A
26	AV	1584	U
26	AV	1585	C
26	AV	1587	G
26	AV	1592	C
26	AV	1603	A
26	AV	1608	A
26	AV	1634	A
26	AV	1647	U
26	AV	1648	U
26	AV	1649	G
26	AV	1654	A
26	AV	1665	A
26	AV	1667	G
26	AV	1674	G
26	AV	1675	C
26	AV	1699	G

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Mol	Chain	Res	Type
26	AV	1715	G
26	AV	1729	U
26	AV	1730	C
26	AV	1738	G
26	AV	1744	A
26	AV	1756	G
26	AV	1757	A
26	AV	1758	U
26	AV	1764	C
26	AV	1773	A
26	AV	1777	U
26	AV	1782	U
26	AV	1784	A
26	AV	1786	A
26	AV	1799	G
26	AV	1800	C
26	AV	1801	A
26	AV	1808	A
26	AV	1811	G
26	AV	1816	C
26	AV	1829	A
26	AV	1833	C
26	AV	1839	G
26	AV	1847	A
26	AV	1852	U
26	AV	1869	G
26	AV	1870	C
26	AV	1876	A
26	AV	1881	C
26	AV	1884	G
26	AV	1901	A
26	AV	1906	G
26	AV	1913	A
26	AV	1927	A
26	AV	1929	G
26	AV	1930	G
26	AV	1937	A
26	AV	1938	A
26	AV	1955	U
26	AV	1964	G
26	AV	1967	C
26	AV	1970	A

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Mol	Chain	Res	Type
26	AV	1971	U
26	AV	1972	G
26	AV	1975	G
26	AV	1991	U
26	AV	1992	G
26	AV	1993	U
26	AV	1997	C
26	AV	2022	U
26	AV	2023	C
26	AV	2031	A
26	AV	2033	A
26	AV	2036	C
26	AV	2043	C
26	AV	2052	A
26	AV	2055	C
26	AV	2056	G
26	AV	2060	A
26	AV	2061	G
26	AV	2062	A
26	AV	2069	G
26	AV	2080	A
26	AV	2093	G
26	AV	2107	G
26	AV	2110	G
26	AV	2111	U
26	AV	2112	G
26	AV	2113	U
26	AV	2119	A
26	AV	2120	G
26	AV	2123	G
26	AV	2124	G
26	AV	2125	G
26	AV	2126	A
26	AV	2131	U
26	AV	2132	U
26	AV	2133	G
26	AV	2134	A
26	AV	2144	G
26	AV	2145	C
26	AV	2151	U
26	AV	2161	C
26	AV	2162	G

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Mol	Chain	Res	Type
26	AV	2163	A
26	AV	2165	C
26	AV	2171	A
26	AV	2172	U
26	AV	2173	A
26	AV	2178	C
26	AV	2190	G
26	AV	2198	A
26	AV	2199	A
26	AV	2203	U
26	AV	2204	G
26	AV	2211	A
26	AV	2214	C
26	AV	2225	A
26	AV	2226	C
26	AV	2230	G
26	AV	2238	G
26	AV	2239	G
26	AV	2250	G
26	AV	2266	A
26	AV	2269	G
26	AV	2278	A
26	AV	2279	G
26	AV	2283	C
26	AV	2286	G
26	AV	2287	A
26	AV	2288	A
26	AV	2297	A
26	AV	2305	U
26	AV	2307	G
26	AV	2309	A
26	AV	2312	U
26	AV	2319	G
26	AV	2321	U
26	AV	2333	A
26	AV	2334	U
26	AV	2335	A
26	AV	2337	G
26	AV	2345	G
26	AV	2347	C
26	AV	2350	C
26	AV	2352	A

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Mol	Chain	Res	Type
26	AV	2361	G
26	AV	2383	G
26	AV	2385	C
26	AV	2402	U
26	AV	2406	A
26	AV	2423	U
26	AV	2425	A
26	AV	2426	A
26	AV	2428	G
26	AV	2429	G
26	AV	2430	A
26	AV	2431	U
26	AV	2434	A
26	AV	2441	U
26	AV	2447	G
26	AV	2448	A
26	AV	2460	U
26	AV	2468	A
26	AV	2476	A
26	AV	2478	A
26	AV	2487	G
26	AV	2491	U
26	AV	2494	G
26	AV	2498	C
26	AV	2502	G
26	AV	2503	A
26	AV	2504	U
26	AV	2513	A
26	AV	2518	A
26	AV	2520	C
26	AV	2529	G
26	AV	2547	A
26	AV	2554	U
26	AV	2566	A
26	AV	2567	G
26	AV	2572	A
26	AV	2582	G
26	AV	2585	U
26	AV	2602	A
26	AV	2609	U
26	AV	2613	U
26	AV	2615	U

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Mol	Chain	Res	Type
26	AV	2629	U
26	AV	2630	G
26	AV	2646	C
26	AV	2648	G
26	AV	2654	A
26	AV	2655	G
26	AV	2656	U
26	AV	2659	G
26	AV	2663	G
26	AV	2671	G
26	AV	2682	A
26	AV	2684	U
26	AV	2686	G
26	AV	2689	U
26	AV	2690	U
26	AV	2707	U
26	AV	2714	G
26	AV	2716	C
26	AV	2726	A
26	AV	2731	G
26	AV	2733	A
26	AV	2744	G
26	AV	2748	A
26	AV	2757	A
26	AV	2758	A
26	AV	2765	A
26	AV	2777	G
26	AV	2778	A
26	AV	2779	U
26	AV	2798	U
26	AV	2808	G
26	AV	2809	A
26	AV	2818	U
26	AV	2820	A
26	AV	2833	U
26	AV	2834	G
26	AV	2849	U
26	AV	2872	A
26	AV	2873	A
26	AV	2876	G
26	AV	2880	C
26	AV	2886	A

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Mol	Chain	Res	Type
26	AV	2891	U
26	AV	2893	A
26	AV	2903	U
27	AW	9	G
27	AW	13	G
27	AW	16	G
27	AW	25	U
27	AW	30	C
27	AW	31	C
27	AW	35	C
27	AW	37	C
27	AW	44	G
27	AW	51	G
27	AW	52	A
27	AW	53	A
27	AW	56	G
27	AW	66	A
27	AW	67	G
27	AW	88	C
27	AW	89	U
27	AW	90	C
27	AW	91	C
27	AW	99	A
27	AW	108	A
27	AW	109	A
27	AW	117	G
60	M	9	C
60	M	10	G
60	M	14	A
60	M	16	C
60	M	17	G
60	M	19	U
60	M	20	A
60	M	42	G
60	M	43	C
60	M	45	U
60	M	46	U
60	M	47	C
60	M	55	C
60	M	75	A
26	N	10	A
26	N	15	G

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Mol	Chain	Res	Type
26	N	23	G
26	N	27	G
26	N	35	G
26	N	42	A
26	N	46	G
26	N	49	A
26	N	51	G
26	N	52	A
26	N	60	G
26	N	63	A
26	N	71	A
26	N	74	A
26	N	75	G
26	N	85	G
26	N	91	A
26	N	96	C
26	N	101	A
26	N	102	U
26	N	103	A
26	N	114	U
26	N	118	A
26	N	119	A
26	N	120	U
26	N	125	A
26	N	128	C
26	N	130	C
26	N	131	A
26	N	136	G
26	N	138	U
26	N	139	U
26	N	140	C
26	N	141	G
26	N	142	A
26	N	162	U
26	N	163	C
26	N	181	A
26	N	196	A
26	N	199	A
26	N	215	G
26	N	216	A
26	N	222	A
26	N	233	A

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Mol	Chain	Res	Type
26	N	241	A
26	N	248	G
26	N	252	G
26	N	255	A
26	N	259	G
26	N	266	G
26	N	267	C
26	N	272	A
26	N	276	U
26	N	278	A
26	N	281	C
26	N	282	A
26	N	284	U
26	N	285	G
26	N	300	A
26	N	301	G
26	N	310	A
26	N	329	G
26	N	330	A
26	N	331	C
26	N	338	G
26	N	346	A
26	N	350	G
26	N	353	C
26	N	356	G
26	N	361	G
26	N	362	A
26	N	370	G
26	N	371	A
26	N	372	G
26	N	373	U
26	N	386	G
26	N	396	G
26	N	403	U
26	N	405	U
26	N	406	G
26	N	407	G
26	N	411	G
26	N	412	A
26	N	422	A
26	N	424	G
26	N	446	G

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Mol	Chain	Res	Type
26	N	447	A
26	N	452	G
26	N	454	A
26	N	457	A
26	N	459	U
26	N	467	G
26	N	473	G
26	N	480	A
26	N	481	G
26	N	489	G
26	N	490	C
26	N	491	G
26	N	496	G
26	N	504	A
26	N	505	A
26	N	509	C
26	N	512	G
26	N	516	C
26	N	529	A
26	N	530	G
26	N	532	A
26	N	533	G
26	N	543	G
26	N	544	C
26	N	546	U
26	N	548	G
26	N	549	G
26	N	562	U
26	N	563	A
26	N	569	U
26	N	572	A
26	N	573	U
26	N	575	A
26	N	586	A
26	N	603	A
26	N	613	A
26	N	614	A
26	N	622	G
26	N	627	A
26	N	637	A
26	N	645	C
26	N	646	U

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Mol	Chain	Res	Type
26	N	647	G
26	N	654	A
26	N	656	G
26	N	664	G
26	N	668	A
26	N	669	G
26	N	670	A
26	N	671	C
26	N	677	A
26	N	685	A
26	N	686	U
26	N	711	G
26	N	715	A
26	N	717	C
26	N	726	G
26	N	729	G
26	N	730	A
26	N	746	U
26	N	747	U
26	N	757	G
26	N	764	A
26	N	765	C
26	N	774	G
26	N	775	G
26	N	776	G
26	N	782	A
26	N	784	G
26	N	785	G
26	N	788	A
26	N	805	G
26	N	811	U
26	N	812	C
26	N	819	A
26	N	827	U
26	N	828	U
26	N	845	A
26	N	846	U
26	N	847	U
26	N	858	G
26	N	859	G
26	N	869	G
26	N	878	A

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Mol	Chain	Res	Type
26	N	882	G
26	N	883	G
26	N	884	U
26	N	895	U
26	N	897	C
26	N	907	G
26	N	910	A
26	N	914	G
26	N	915	C
26	N	941	A
26	N	946	C
26	N	957	C
26	N	961	C
26	N	973	A
26	N	974	G
26	N	980	A
26	N	983	A
26	N	985	C
26	N	995	C
26	N	996	A
26	N	1009	A
26	N	1012	U
26	N	1013	C
26	N	1020	A
26	N	1022	G
26	N	1025	G
26	N	1026	G
26	N	1033	U
26	N	1039	A
26	N	1046	A
26	N	1060	U
26	N	1062	G
26	N	1070	A
26	N	1071	G
26	N	1083	U
26	N	1084	A
26	N	1085	A
26	N	1087	G
26	N	1088	A
26	N	1090	A
26	N	1110	G
26	N	1112	G

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Mol	Chain	Res	Type
26	N	1119	U
26	N	1120	G
26	N	1132	U
26	N	1133	A
26	N	1135	C
26	N	1136	G
26	N	1139	G
26	N	1142	A
26	N	1155	A
26	N	1168	G
26	N	1169	A
26	N	1174	U
26	N	1175	A
26	N	1176	U
26	N	1186	G
26	N	1206	G
26	N	1212	G
26	N	1216	G
26	N	1237	A
26	N	1238	G
26	N	1247	A
26	N	1248	G
26	N	1252	G
26	N	1253	A
26	N	1255	U
26	N	1256	G
26	N	1265	A
26	N	1266	G
26	N	1268	A
26	N	1271	G
26	N	1272	A
26	N	1284	A
26	N	1300	G
26	N	1301	A
26	N	1306	C
26	N	1309	G
26	N	1311	G
26	N	1313	U
26	N	1314	C
26	N	1325	U
26	N	1329	U
26	N	1330	C

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Mol	Chain	Res	Type
26	N	1332	G
26	N	1341	G
26	N	1342	A
26	N	1345	C
26	N	1346	G
26	N	1352	U
26	N	1360	G
26	N	1365	A
26	N	1368	G
26	N	1378	A
26	N	1379	U
26	N	1383	A
26	N	1386	C
26	N	1387	A
26	N	1392	A
26	N	1395	A
26	N	1403	A
26	N	1416	G
26	N	1421	G
26	N	1427	A
26	N	1428	C
26	N	1437	C
26	N	1441	G
26	N	1452	G
26	N	1453	A
26	N	1458	U
26	N	1461	C
26	N	1467	U
26	N	1476	U
26	N	1478	G
26	N	1482	G
26	N	1493	C
26	N	1503	A
26	N	1504	A
26	N	1506	U
26	N	1509	A
26	N	1515	A
26	N	1516	G
26	N	1524	G
26	N	1528	A
26	N	1529	G
26	N	1530	G

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Mol	Chain	Res	Type
26	N	1533	C
26	N	1535	A
26	N	1536	C
26	N	1537	G
26	N	1546	G
26	N	1555	G
26	N	1558	C
26	N	1565	C
26	N	1566	A
26	N	1569	A
26	N	1578	U
26	N	1583	A
26	N	1584	U
26	N	1585	C
26	N	1588	G
26	N	1601	G
26	N	1607	C
26	N	1608	A
26	N	1610	A
26	N	1613	G
26	N	1619	G
26	N	1646	C
26	N	1647	U
26	N	1648	U
26	N	1664	A
26	N	1667	G
26	N	1674	G
26	N	1681	G
26	N	1715	G
26	N	1729	U
26	N	1730	C
26	N	1738	G
26	N	1752	C
26	N	1754	A
26	N	1756	G
26	N	1758	U
26	N	1763	G
26	N	1764	C
26	N	1773	A
26	N	1774	C
26	N	1775	U
26	N	1781	U

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Mol	Chain	Res	Type
26	N	1782	U
26	N	1784	A
26	N	1786	A
26	N	1800	C
26	N	1801	A
26	N	1807	G
26	N	1808	A
26	N	1816	C
26	N	1821	A
26	N	1829	A
26	N	1857	G
26	N	1866	A
26	N	1870	C
26	N	1873	G
26	N	1900	A
26	N	1901	A
26	N	1906	G
26	N	1914	C
26	N	1927	A
26	N	1929	G
26	N	1930	G
26	N	1931	U
26	N	1936	A
26	N	1937	A
26	N	1938	A
26	N	1955	U
26	N	1967	C
26	N	1970	A
26	N	1971	U
26	N	1972	G
26	N	1983	G
26	N	1991	U
26	N	1992	G
26	N	1993	U
26	N	1997	C
26	N	2013	A
26	N	2021	C
26	N	2022	U
26	N	2023	C
26	N	2030	A
26	N	2031	A
26	N	2033	A

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Mol	Chain	Res	Type
26	N	2034	U
26	N	2035	G
26	N	2036	C
26	N	2043	C
26	N	2044	C
26	N	2055	C
26	N	2056	G
26	N	2060	A
26	N	2061	G
26	N	2062	A
26	N	2069	G
26	N	2072	C
26	N	2077	A
26	N	2093	G
26	N	2097	A
26	N	2098	U
26	N	2101	A
26	N	2108	A
26	N	2110	G
26	N	2111	U
26	N	2112	G
26	N	2113	U
26	N	2114	A
26	N	2118	U
26	N	2119	A
26	N	2125	G
26	N	2126	A
26	N	2132	U
26	N	2133	G
26	N	2136	G
26	N	2145	C
26	N	2147	A
26	N	2149	U
26	N	2158	A
26	N	2162	G
26	N	2167	U
26	N	2171	A
26	N	2172	U
26	N	2173	A
26	N	2178	C
26	N	2194	U
26	N	2198	A

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Mol	Chain	Res	Type
26	N	2204	G
26	N	2211	A
26	N	2214	C
26	N	2225	A
26	N	2226	C
26	N	2238	G
26	N	2239	G
26	N	2250	G
26	N	2266	A
26	N	2269	G
26	N	2278	A
26	N	2279	G
26	N	2283	C
26	N	2286	G
26	N	2287	A
26	N	2288	A
26	N	2297	A
26	N	2305	U
26	N	2309	A
26	N	2312	U
26	N	2320	U
26	N	2325	G
26	N	2327	A
26	N	2333	A
26	N	2336	A
26	N	2343	U
26	N	2347	C
26	N	2350	C
26	N	2354	C
26	N	2361	G
26	N	2383	G
26	N	2385	C
26	N	2388	A
26	N	2392	A
26	N	2402	U
26	N	2406	A
26	N	2422	C
26	N	2423	U
26	N	2425	A
26	N	2429	G
26	N	2430	A
26	N	2441	U

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Mol	Chain	Res	Type
26	N	2448	A
26	N	2476	A
26	N	2478	A
26	N	2492	U
26	N	2494	G
26	N	2498	C
26	N	2502	G
26	N	2503	A
26	N	2504	U
26	N	2513	A
26	N	2518	A
26	N	2520	C
26	N	2529	G
26	N	2535	G
26	N	2547	A
26	N	2554	U
26	N	2566	A
26	N	2567	G
26	N	2572	A
26	N	2573	C
26	N	2578	G
26	N	2585	U
26	N	2602	A
26	N	2609	U
26	N	2613	U
26	N	2615	U
26	N	2621	G
26	N	2629	U
26	N	2630	G
26	N	2645	G
26	N	2646	C
26	N	2655	G
26	N	2656	U
26	N	2663	G
26	N	2682	A
26	N	2689	U
26	N	2690	U
26	N	2714	G
26	N	2716	C
26	N	2726	A
26	N	2729	G
26	N	2732	G

Continued on next page...

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Mol	Chain	Res	Type
26	N	2733	A
26	N	2739	U
26	N	2744	G
26	N	2748	A
26	N	2751	G
26	N	2769	U
26	N	2777	G
26	N	2778	A
26	N	2779	U
26	N	2791	G
26	N	2794	C
26	N	2798	U
26	N	2799	A
26	N	2800	A
26	N	2809	A
26	N	2818	U
26	N	2820	A
26	N	2823	A
26	N	2832	U
26	N	2833	U
26	N	2834	G
26	N	2836	U
26	N	2846	G
26	N	2848	G
26	N	2849	U
26	N	2871	U
26	N	2872	A
26	N	2873	A
26	N	2879	A
26	N	2880	C
26	N	2884	U
26	N	2895	G
26	N	2903	U
27	O	9	G
27	O	13	G
27	O	15	A
27	O	16	G
27	O	23	G
27	O	25	U
27	O	30	C
27	O	35	C
27	O	36	C

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
27	O	41	G
27	O	42	C
27	O	44	G
27	O	53	A
27	O	58	A
27	O	79	G
27	O	88	C
27	O	89	U
27	O	90	C
27	O	91	C
27	O	99	A
27	O	108	A
27	O	109	A
62	w	525	A
62	w	529	A
62	w	530	C
62	w	531	G
62	w	532	U
62	w	533	C
62	w	534	G
62	w	535	C
62	w	536	A
62	w	538	U
62	w	540	A
62	w	541	A
62	w	542	U
62	w	543	A
62	w	544	G
62	w	545	U
62	w	555	G
62	w	556	U
62	w	557	U
62	w	558	U
62	w	559	U
62	w	560	U
62	w	561	U
62	w	562	U
62	w	563	U
62	w	564	U
62	w	565	U
62	w	569	U
62	w	571	U

Continued on next page...

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Mol	Chain	Res	Type
62	w	572	U
62	w	573	U
62	w	577	U

All (74) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	0	96	U
1	0	115	G
1	0	439	U
1	0	517	G
1	0	620	C
1	0	812	G
1	0	1182	G
1	0	1190	G
1	0	1197	A
1	0	1201	A
1	0	1300	G
1	0	1345	U
1	0	1491	G
1	0	1493	A
11	A	16	U
11	A	21	A
11	A	46	G
11	A	54	U
14	A3	16	U
14	A3	22	A
14	A3	50	A
14	A3	51	C
14	A3	66	U
1	AA	96	U
1	AA	115	G
1	AA	388	G
1	AA	518	C
1	AA	812	G
1	AA	890	G
1	AA	965	U
1	AA	1026	G
1	AA	1182	G
1	AA	1201	A
1	AA	1300	G
1	AA	1345	U

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	AA	1347	G
1	AA	1451	U
26	AV	242	G
26	AV	372	G
26	AV	404	A
26	AV	421	C
26	AV	481	G
26	AV	670	A
26	AV	784	G
26	AV	859	G
26	AV	960	A
26	AV	1134	A
26	AV	1142	A
26	AV	1900	A
26	AV	2125	G
26	AV	2225	A
26	AV	2286	G
26	AV	2311	A
26	AV	2459	A
26	AV	2655	G
26	AV	2756	U
26	AV	2776	A
60	M	44	A
26	N	84	A
26	N	277	G
26	N	404	A
26	N	421	C
26	N	670	A
26	N	784	G
26	N	1109	C
26	N	1134	A
26	N	1900	A
26	N	2225	A
26	N	2311	A
26	N	2655	G
26	N	2776	A
26	N	2832	U
27	O	24	G
27	O	34	A

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

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.

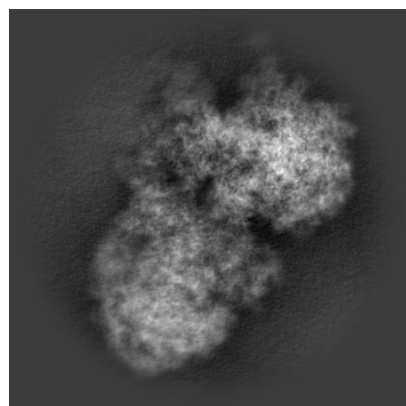
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-51340. These allow visual inspection of the internal detail of the map and identification of artifacts.

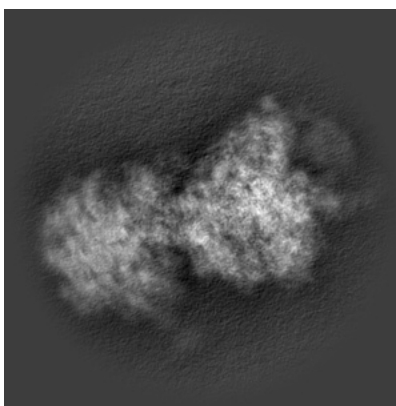
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

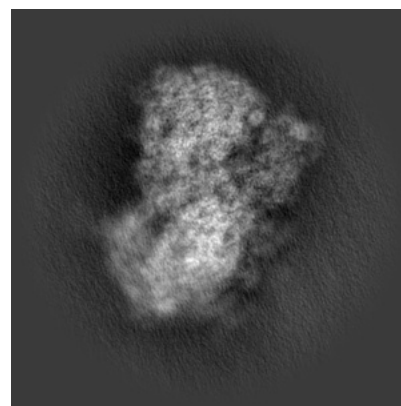
6.1.1 Primary map



X

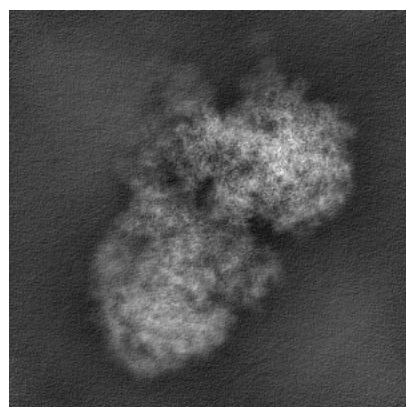


Y

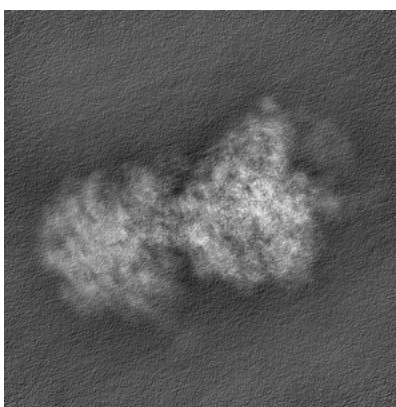


Z

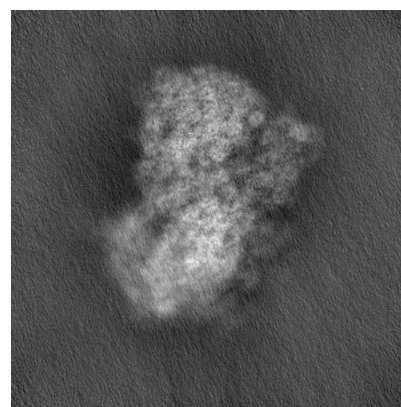
6.1.2 Raw map



X



Y

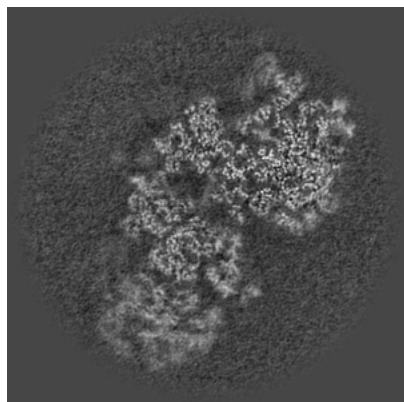


Z

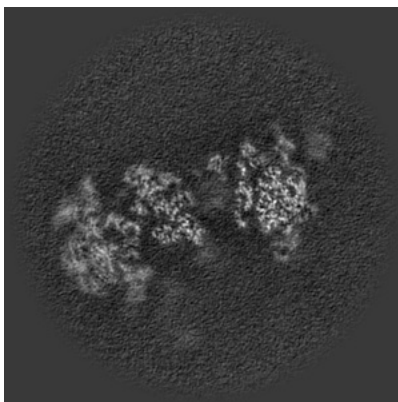
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

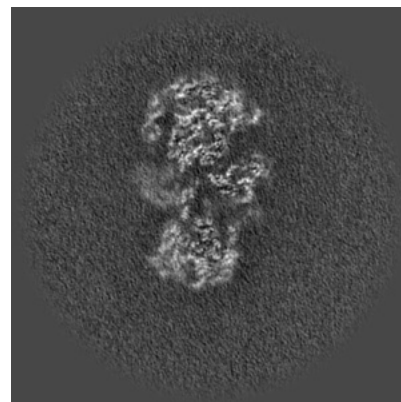
6.2.1 Primary map



X Index: 175

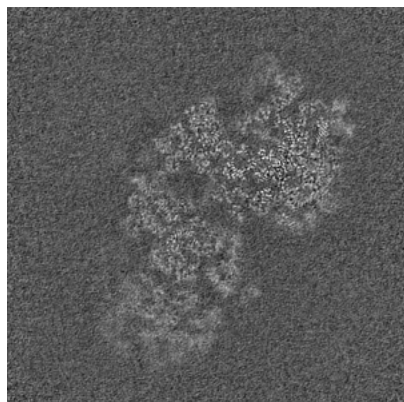


Y Index: 175

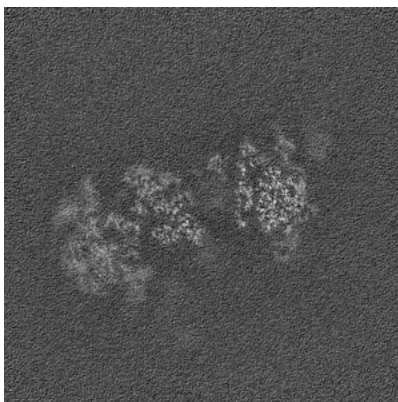


Z Index: 175

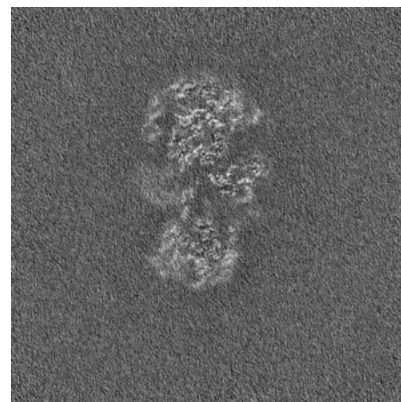
6.2.2 Raw map



X Index: 175



Y Index: 175

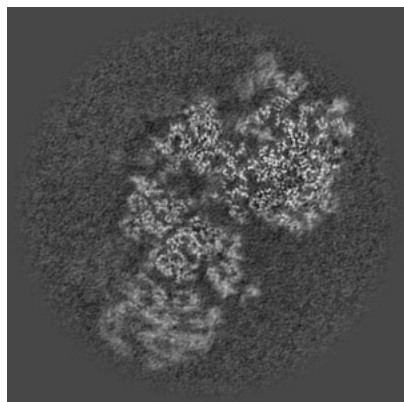


Z Index: 175

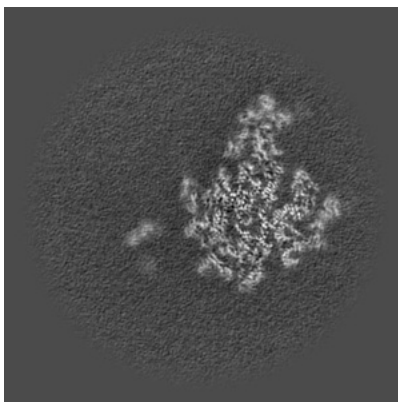
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

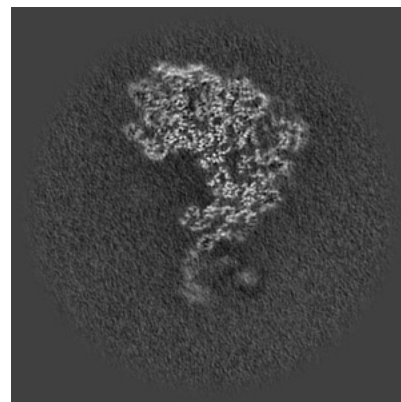
6.3.1 Primary map



X Index: 176

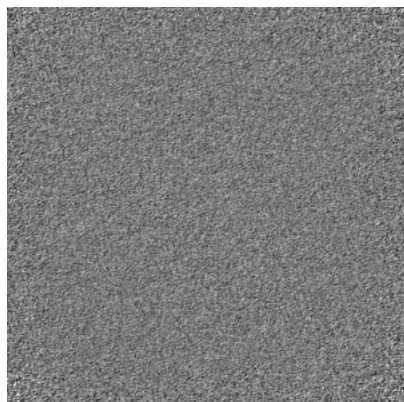


Y Index: 236

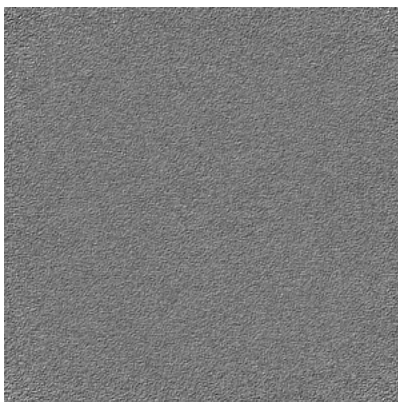


Z Index: 211

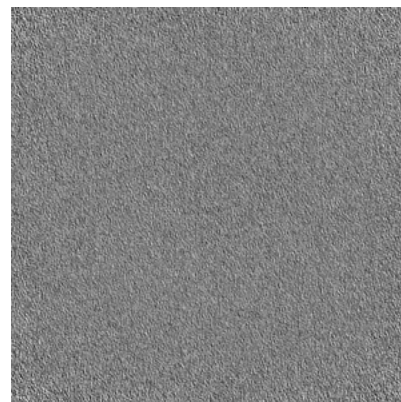
6.3.2 Raw map



X Index: 0



Y Index: 0

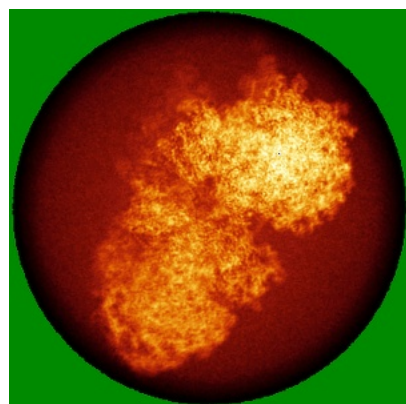


Z Index: 0

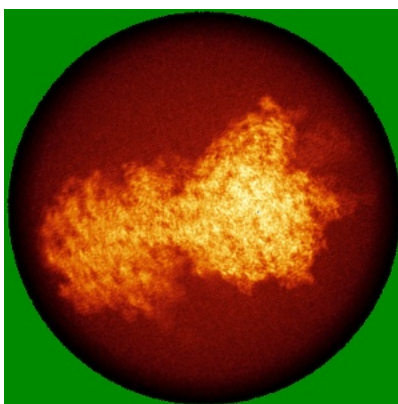
The images above show the largest variance slices of the map in three orthogonal directions.

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

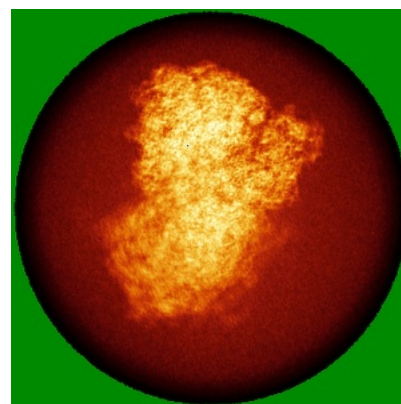
6.4.1 Primary map



X

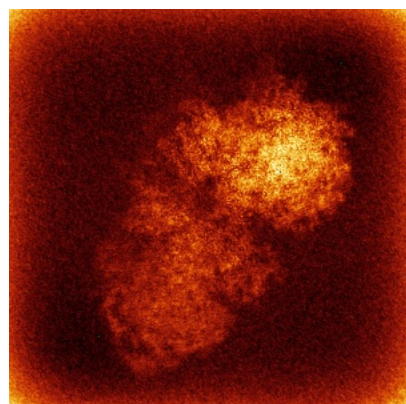


Y

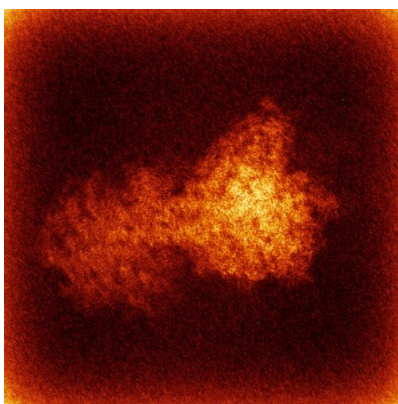


Z

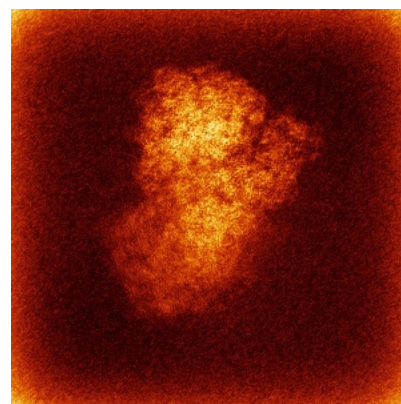
6.4.2 Raw map



X



Y

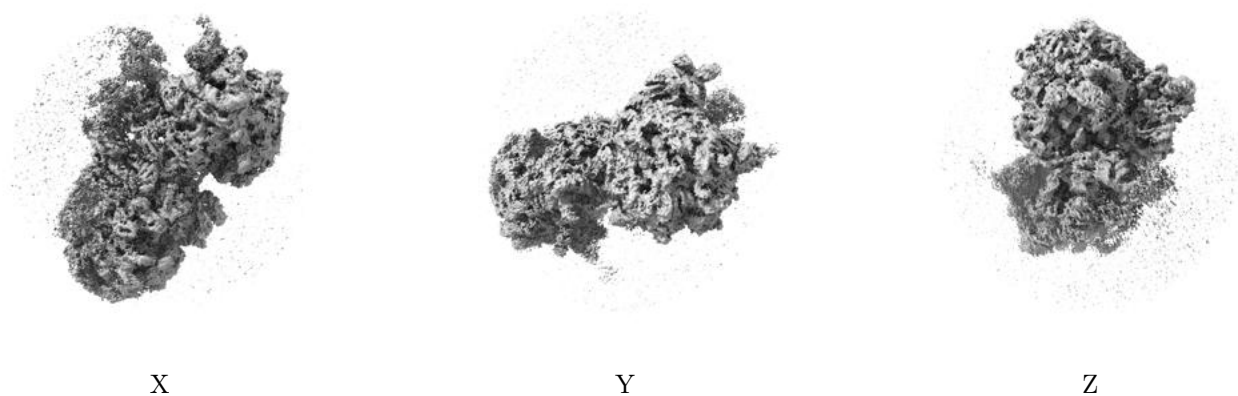


Z

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.

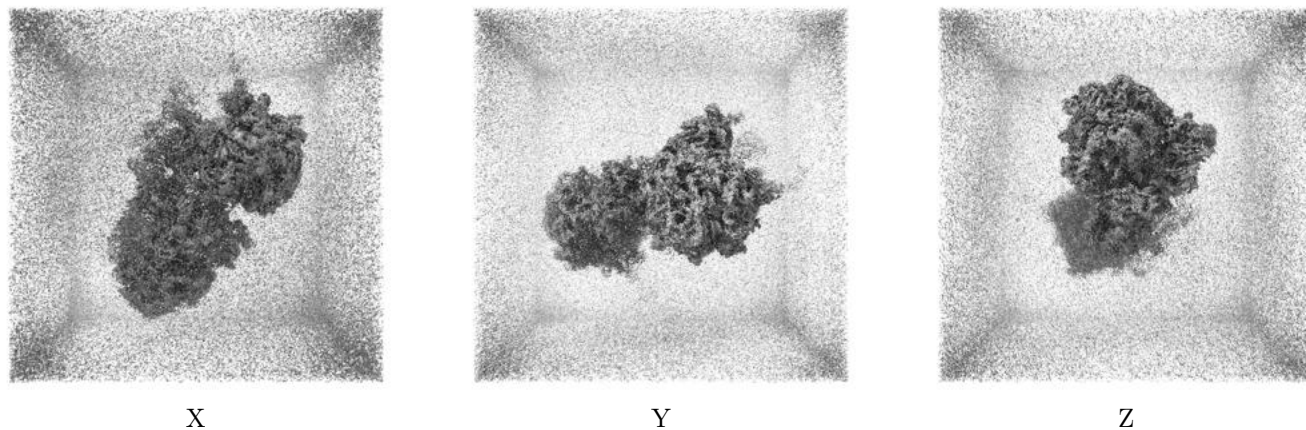
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.32. 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.

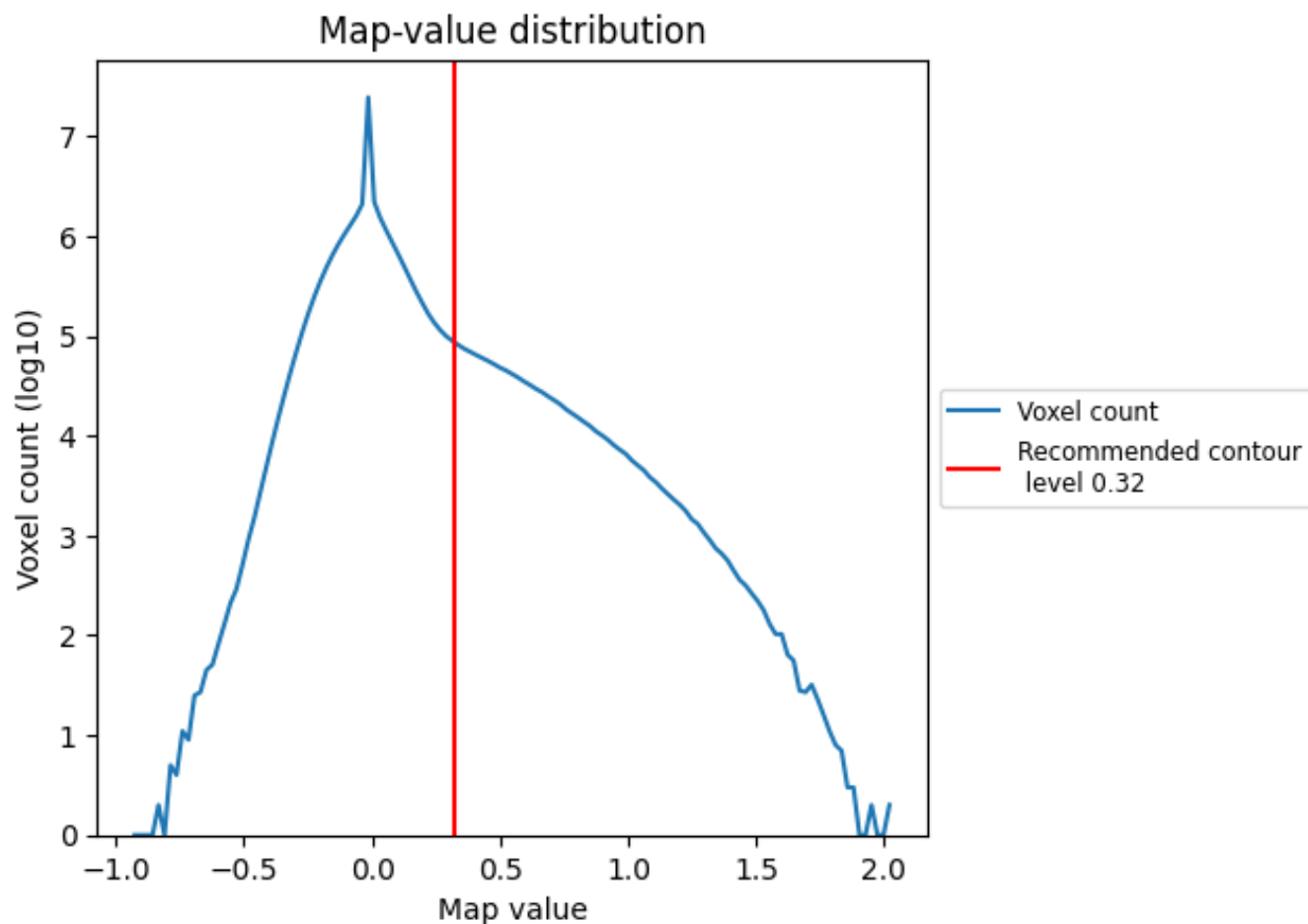
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

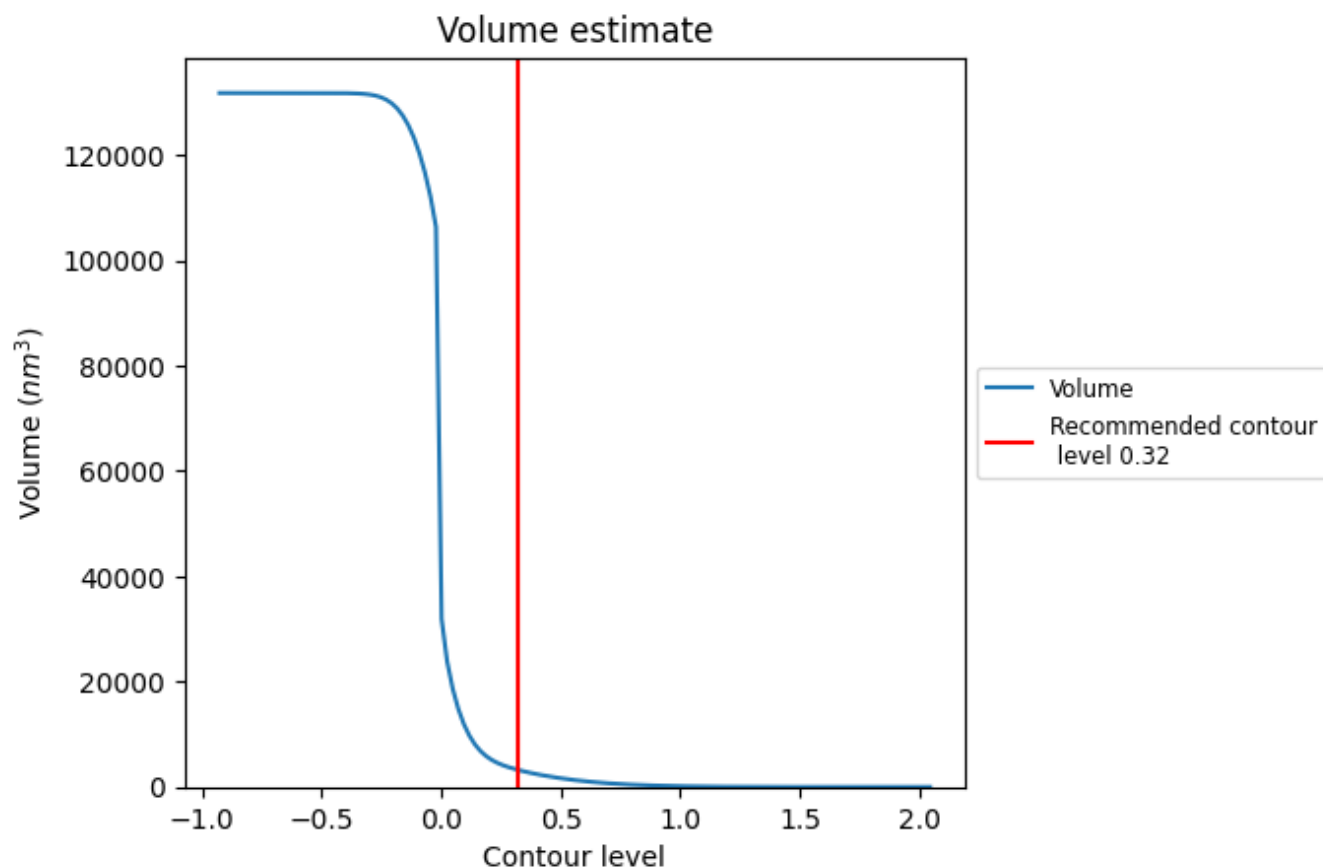
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

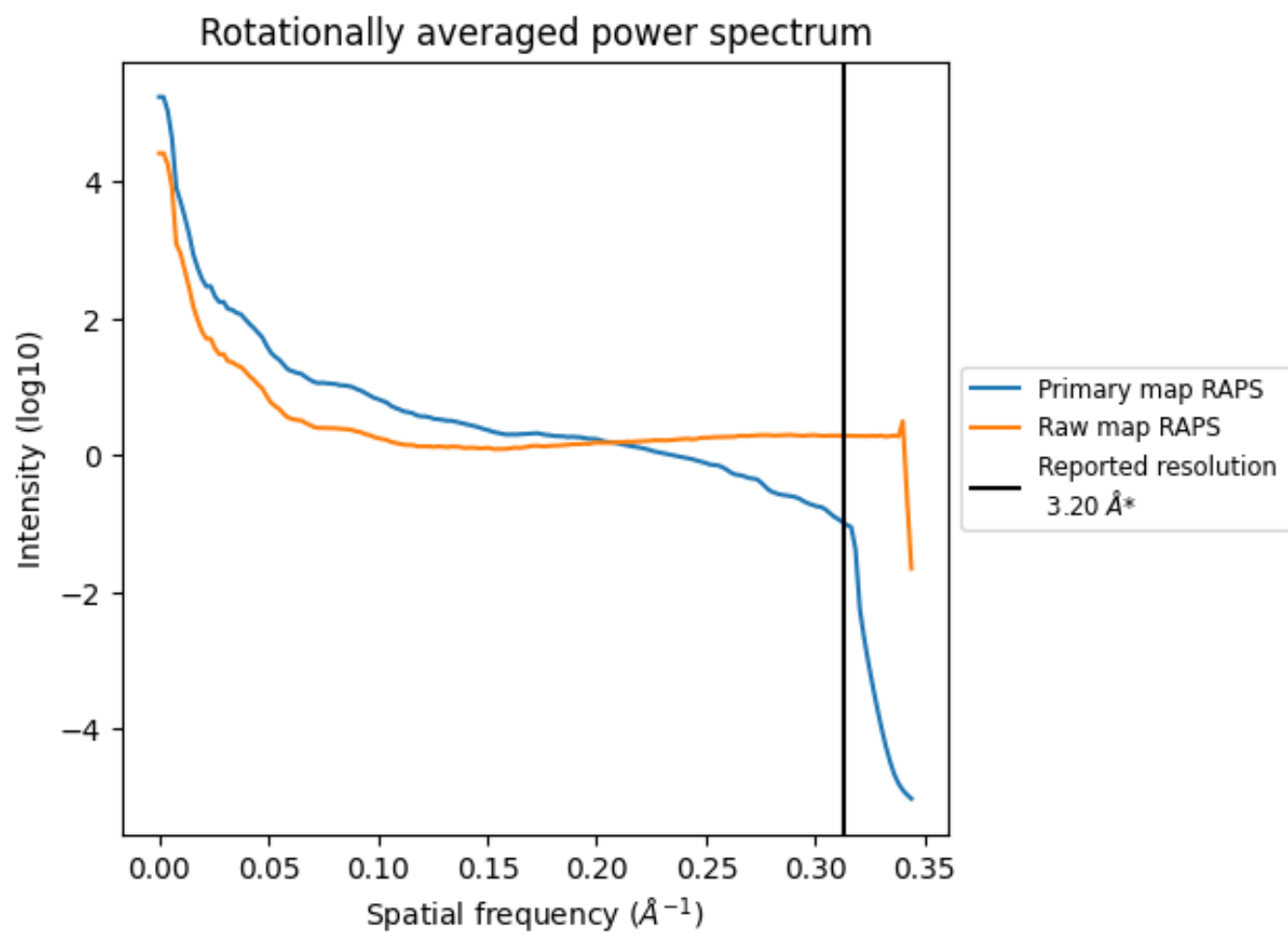
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3255 nm^3 ; this corresponds to an approximate mass of 2940 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

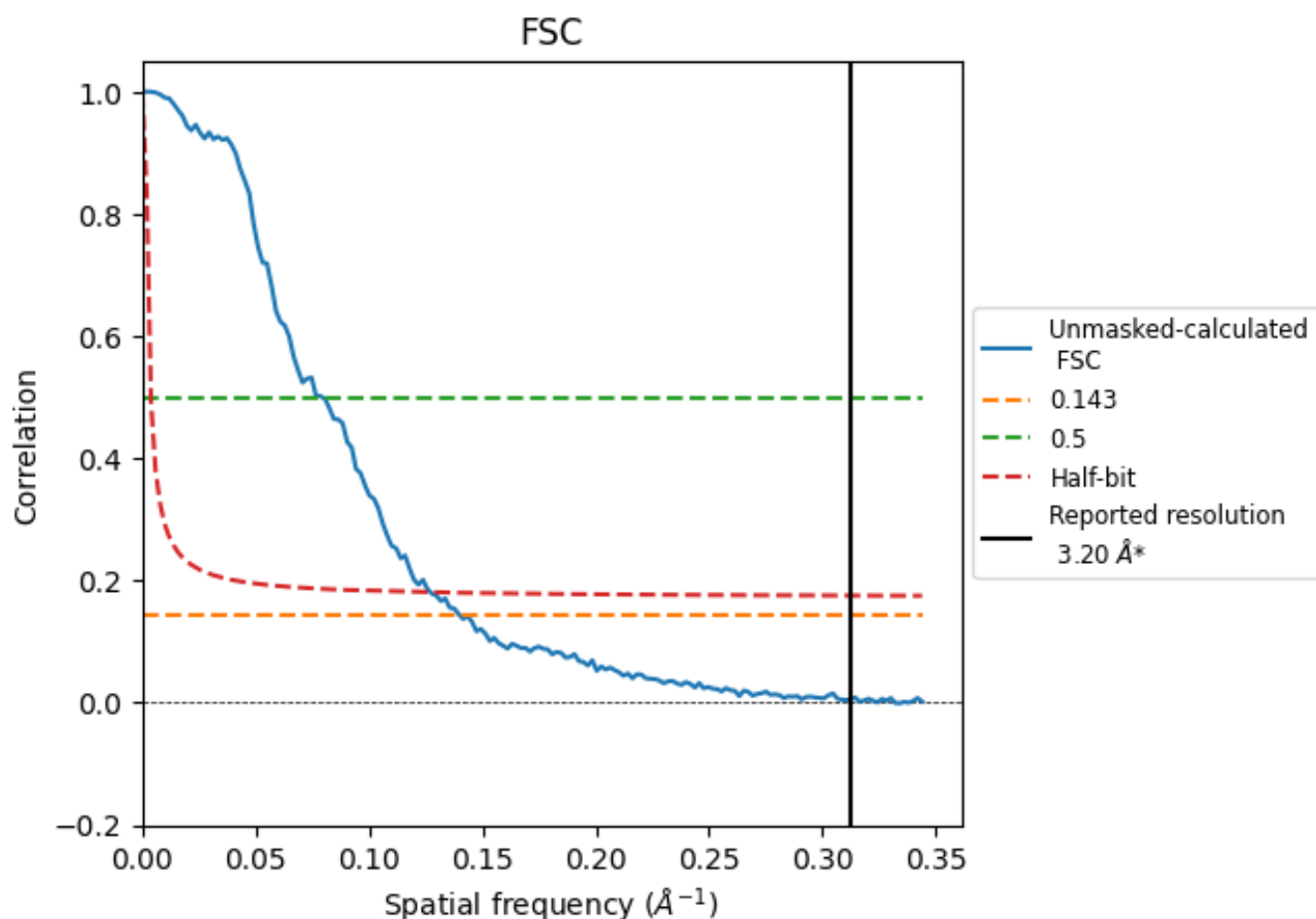


*Reported resolution corresponds to spatial frequency of 0.312 Å⁻¹

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 0.312 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

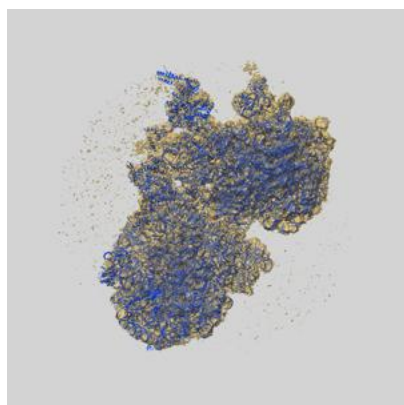
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.14	12.61	7.87

*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 7.14 differs from the reported value 3.2 by more than 10 %

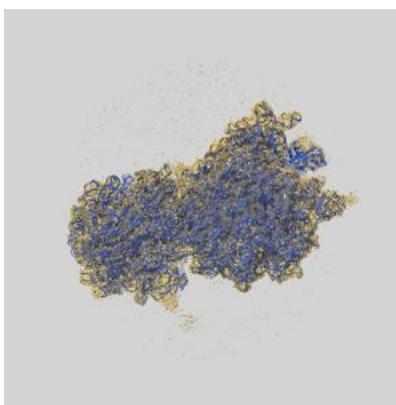
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-51340 and PDB model 9GGR. Per-residue inclusion information can be found in section [3](#) on page [21](#).

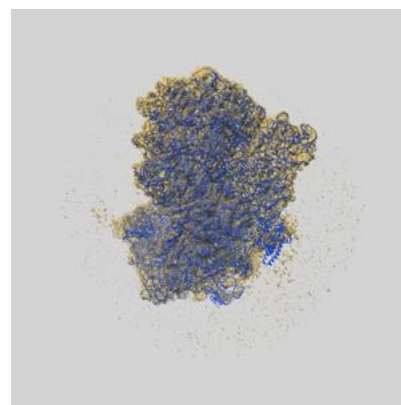
9.1 Map-model overlay [i](#)



X



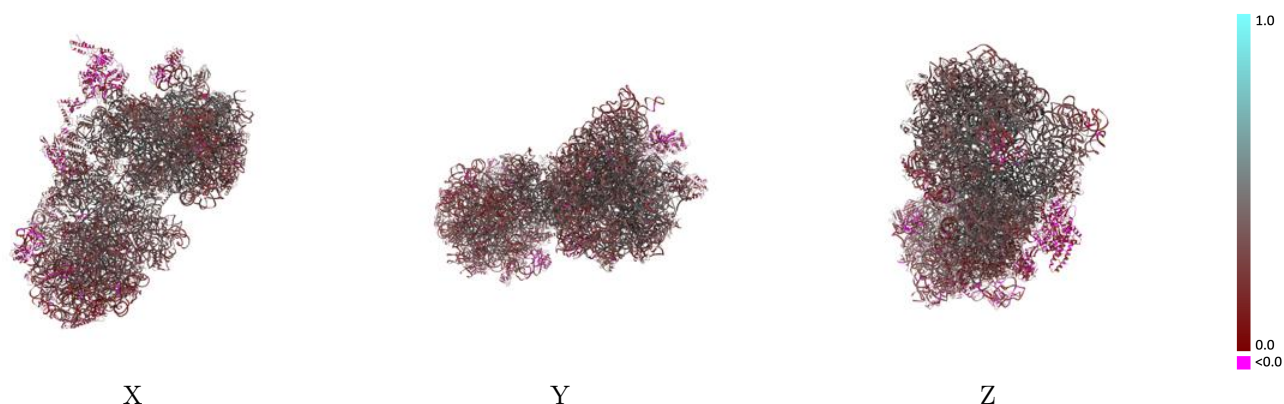
Y



Z

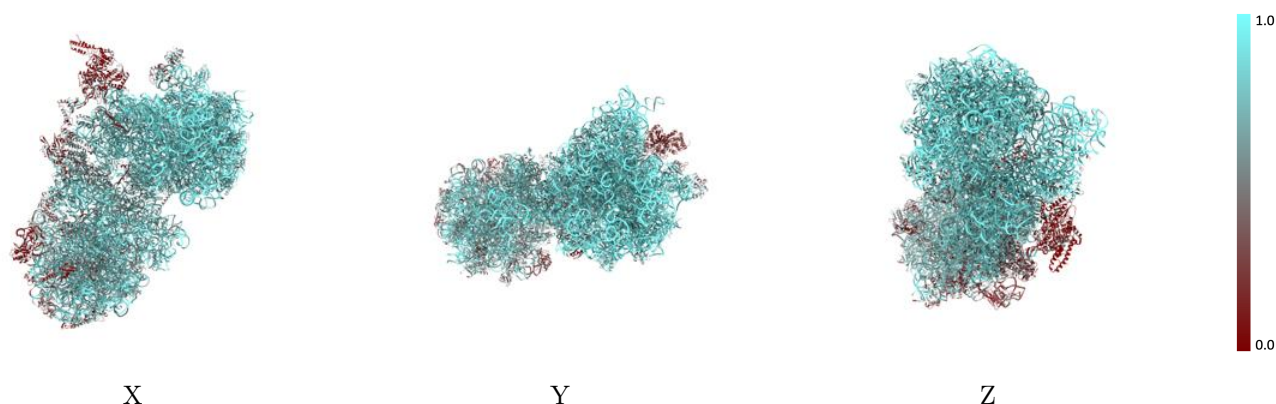
The images above show the 3D surface view of the map at the recommended contour level 0.32 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



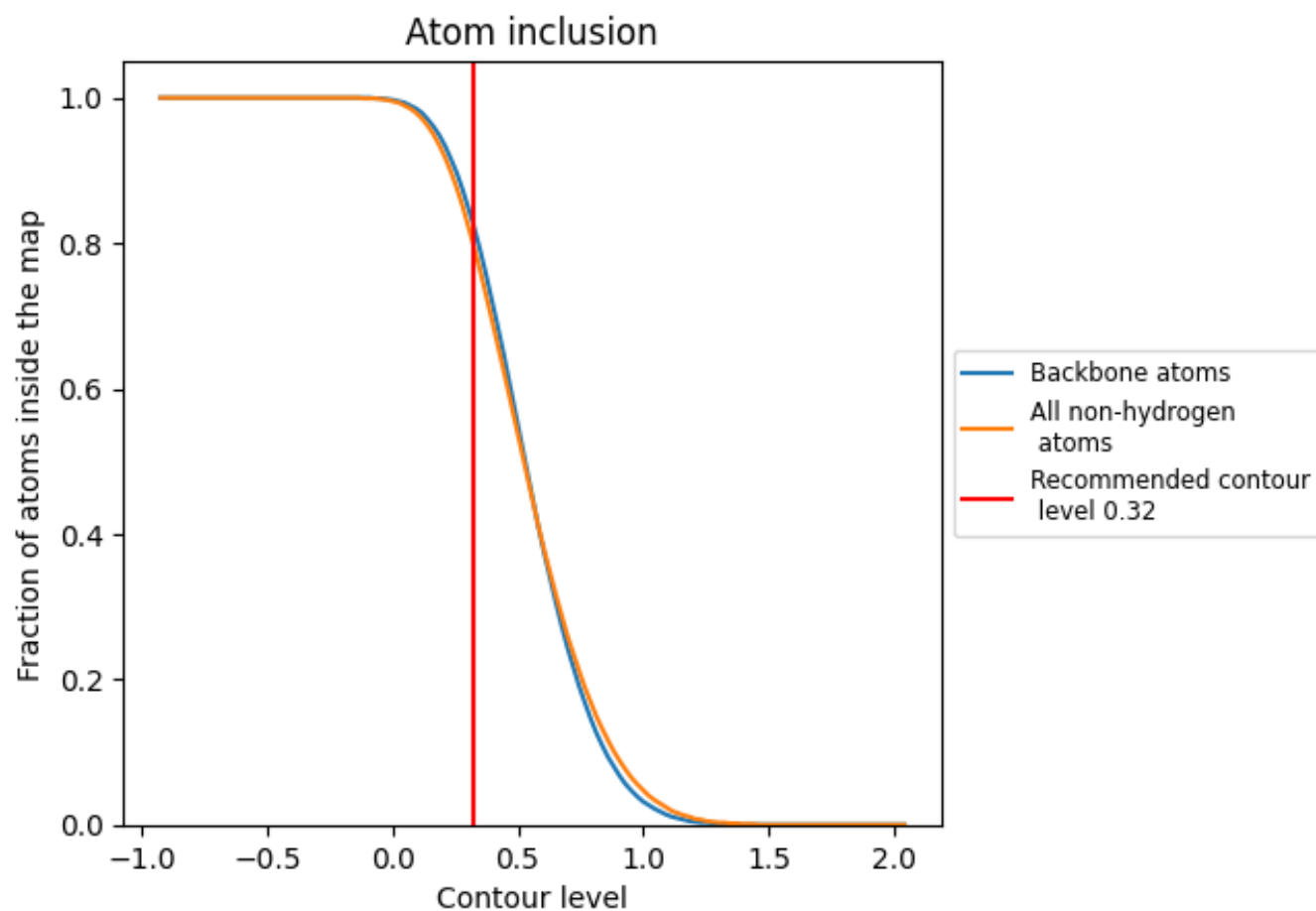
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.32).

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 80% 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 (0.32) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8020	 0.3110
0	 0.9510	 0.3720
1	 0.6820	 0.3260
2	 0.6850	 0.3590
3	 0.6880	 0.3110
4	 0.7500	 0.3820
5	 0.7390	 0.3720
6	 0.7290	 0.3850
7	 0.7490	 0.3500
8	 0.7130	 0.3610
9	 0.6060	 0.3570
A	 0.9240	 0.3910
A1	 0.5590	 0.2950
A2	 0.4000	 0.2130
A3	 0.6820	 0.2620
AA	 0.9350	 0.3460
AB	 0.6460	 0.3140
AC	 0.6560	 0.3730
AD	 0.6500	 0.3880
AE	 0.7020	 0.3890
AF	 0.6220	 0.2620
AG	 0.6440	 0.2980
AH	 0.6500	 0.3050
AI	 0.6680	 0.3000
AJ	 0.6690	 0.3560
AK	 0.0200	 0.1160
AL	 0.6320	 0.2510
AM	 0.6880	 0.3160
AN	 0.6910	 0.2400
AO	 0.7000	 0.3260
AP	 0.6580	 0.2750
AQ	 0.6370	 0.2720
AR	 0.6990	 0.2710
AS	 0.7050	 0.2320
AT	 0.4440	 0.2180



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Chain	Atom inclusion	Q-score
AU	 0.5880	 0.2780
AV	 0.8350	 0.2520
AW	 0.7900	 0.1910
AX	 0.5120	 0.2560
AY	 0.5760	 0.2580
AZ	 0.4250	 0.2030
Aa	 0.3940	 0.2120
Ab	 0.4630	 0.1890
Ac	 0.1300	 0.1490
Ad	 0.1590	 0.0850
Ae	 0.6720	 0.2260
Af	 0.5510	 0.3320
Ag	 0.5470	 0.2600
Ah	 0.5830	 0.2730
Ai	 0.7090	 0.2300
Aj	 0.3910	 0.1750
Ak	 0.5330	 0.2650
Al	 0.7000	 0.2100
Am	 0.6260	 0.1960
An	 0.6720	 0.2650
Ao	 0.5420	 0.1850
Ap	 0.2360	 0.1650
Aq	 0.6270	 0.1770
Ar	 0.7050	 0.2260
As	 0.6340	 0.2540
At	 0.5110	 0.1510
Au	 0.6150	 0.2230
Av	 0.7500	 0.2490
Aw	 0.3740	 0.2300
Ax	 0.7010	 0.2720
Ay	 0.6640	 0.2690
Az	 0.6370	 0.2730
B	 0.2610	 0.1590
C	 0.1960	 0.1290
D	 0.7330	 0.4350
E	 0.8180	 0.4410
F	 0.7720	 0.3150
G	 0.7530	 0.3510
H	 0.7930	 0.3290
I	 0.7200	 0.3080
J	 0.7480	 0.3100
K	 0.7350	 0.4030

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Chain	Atom inclusion	Q-score
L	 0.7480	 0.2670
M	 0.9480	 0.4000
N	 0.9420	 0.3650
O	 0.9610	 0.3170
P	 0.7950	 0.4250
Q	 0.8560	 0.4130
R	 0.7850	 0.3250
S	 0.7530	 0.3120
T	 0.8350	 0.3670
U	 0.6810	 0.3270
V	 0.3590	 0.1110
W	 0.8930	 0.4000
X	 0.8010	 0.4370
Y	 0.7850	 0.3660
Z	 0.8530	 0.4490
a	 0.8380	 0.3170
b	 0.7680	 0.2700
c	 0.7520	 0.3440
d	 0.8500	 0.3680
e	 0.8420	 0.3720
f	 0.7790	 0.3360
g	 0.7370	 0.2950
h	 0.6940	 0.2710
i	 0.8420	 0.3390
j	 0.8680	 0.4060
k	 0.8270	 0.4170
l	 0.7560	 0.2720
m	 0.8600	 0.3640
n	 0.8790	 0.3330
o	 0.7560	 0.3650
p	 0.7940	 0.3690
q	 0.7820	 0.4010
r	 0.8600	 0.4480
s	 0.8020	 0.4170
t	 0.8070	 0.3610
u	 0.7190	 0.2470
v	 0.6350	 0.3610
w	 0.4820	 0.2710
x	 0.5730	 0.1820
y	 0.6060	 0.2700
z	 0.7290	 0.4200