



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 07:53 PM UTC

PDB ID : 9GFT / pdb_00009gft
EMDB ID : EMD-51318
Title : Structure of the HrpA-bound E. coli disome, Class I
Authors : Esser, H.F.; Berninghausen, O.; Becker, T.; Beckmann, R.
Deposited on : 2024-08-12
Resolution : 3.10 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

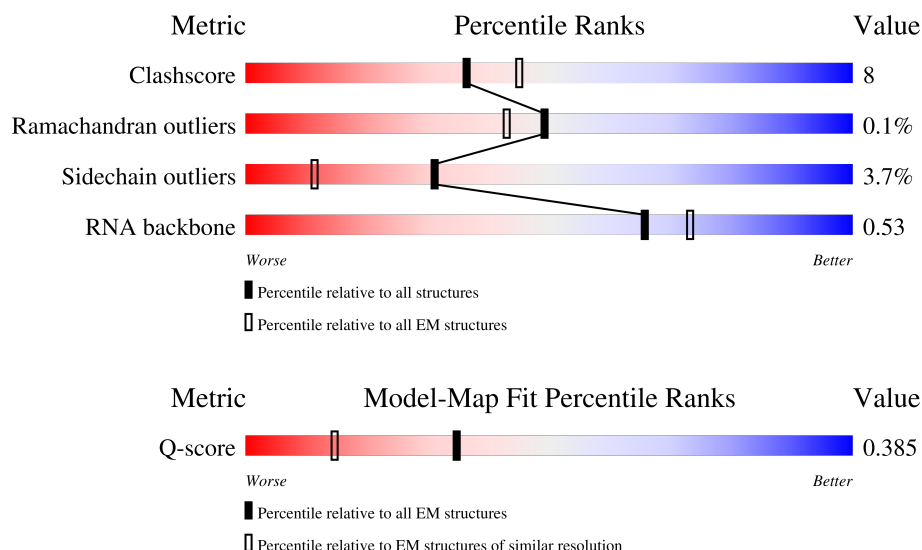
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.10 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	14724 (2.60 - 3.60)

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	58% 38% • •
1	AA	1542	60% 36% •
2	1	241	12% 65% 24% 10% •

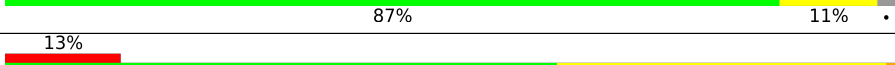
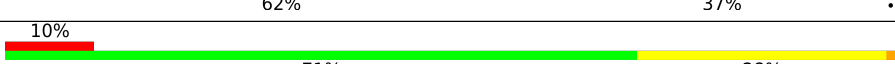
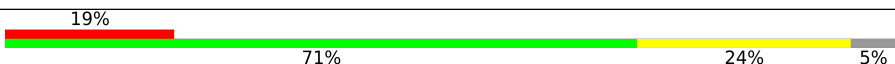
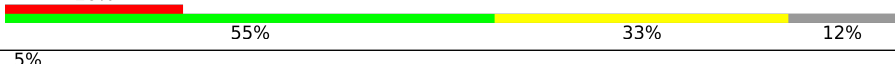
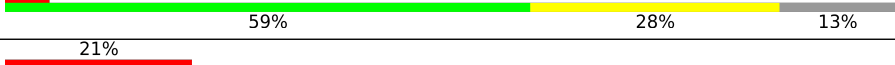
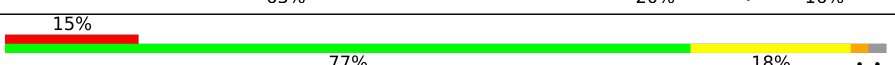
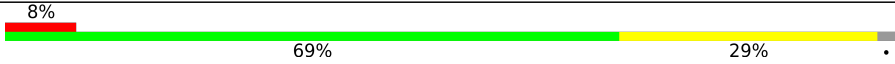
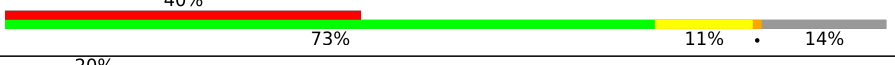
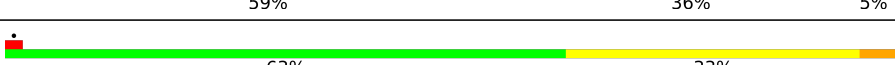
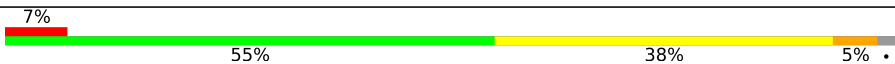
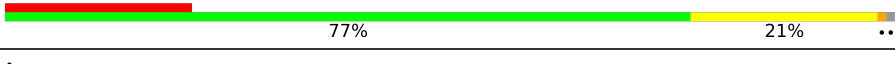
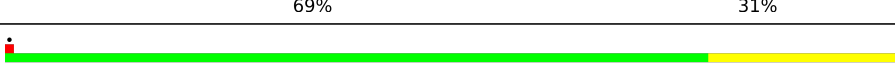
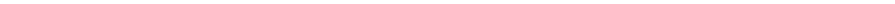
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Mol	Chain	Length	Quality of chain
2	AB	241	
3	2	233	
3	AC	233	
4	3	206	
4	AD	206	
5	4	167	
5	AE	167	
6	5	135	
6	AF	135	
7	6	179	
7	AG	179	
8	7	130	
8	AH	130	
9	8	130	
9	AI	130	
10	9	103	
10	AJ	103	
11	A	76	
12	A1	71	
12	v	71	
13	A3	77	
14	AK	234	
14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

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

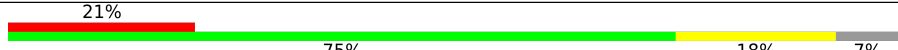
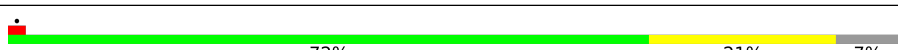
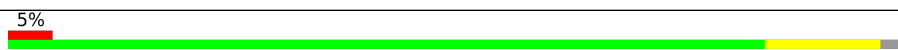
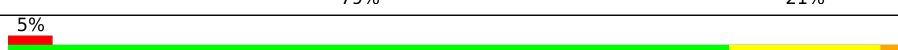
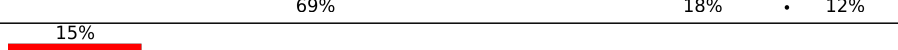
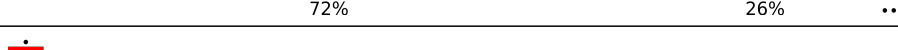
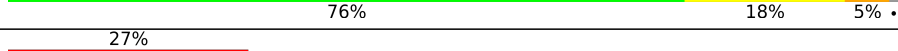
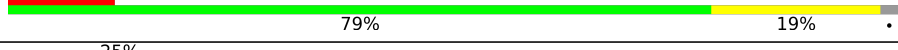
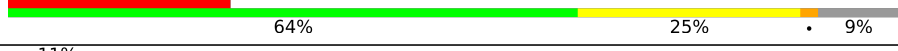
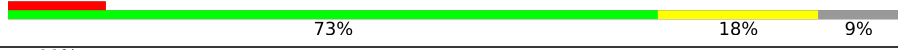
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Mol	Chain	Length	Quality of chain
29	AZ	201	
29	R	201	
30	Aa	179	
30	S	179	
31	Ab	177	
31	T	177	
32	Ac	149	
32	U	149	
33	Ad	142	
33	V	142	
34	Ae	142	
34	W	142	
35	Af	123	
35	X	123	
36	Ag	144	
36	Y	144	
37	Ah	136	
37	Z	136	
38	Ai	127	
38	a	127	
39	Aj	117	
39	b	117	
40	Ak	115	
40	c	115	
41	Al	118	

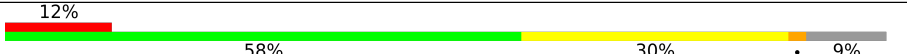
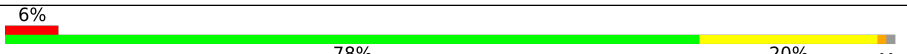
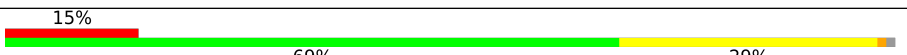
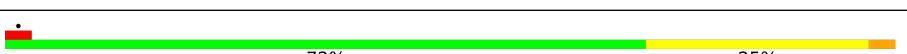
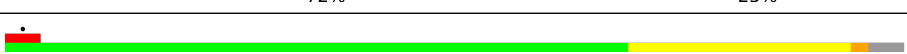
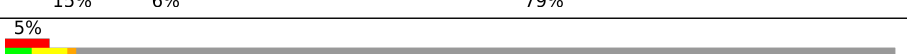
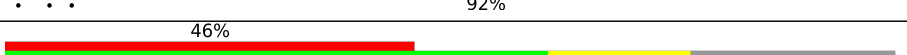
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Mol	Chain	Length	Quality of chain
41	d	118	
42	Am	103	
42	e	103	
43	An	110	
43	f	110	
44	Ao	100	
44	g	100	
45	Ap	104	
45	h	104	
46	Aq	94	
46	i	94	
47	Ar	85	
47	j	85	
48	As	78	
48	k	78	
49	At	63	
49	l	63	
50	Au	59	
50	m	59	
51	Av	57	
52	Aw	55	
52	o	55	
53	Ax	46	
53	p	46	
54	Ay	65	

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Mol	Chain	Length	Quality of chain
54	q	65	
55	Az	38	
55	r	38	
56	B	1326	
57	D	129	
57	y	129	
58	E	124	
58	z	124	
59	M	75	
60	n	56	
61	s	179	
62	w	698	
63	x	165	

2 Entry composition [i](#)

There are 63 unique types of molecules in this entry. The entry contains 307377 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 RNA chain called A-site tRNA.

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

- Molecule 14 is a protein called Large ribosomal subunit protein uL1.

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

- Molecule 15 is a protein called Small ribosomal subunit protein uS13.

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

- Molecule 16 is a protein called Small ribosomal subunit protein uS14.

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

- Molecule 17 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AN	88	Total	C	N	O	S	0	0
			714	439	144	130	1		
17	H	87	Total	C	N	O	S	0	0
			702	433	140	128	1		

- Molecule 18 is a protein called Small ribosomal subunit protein bS16.

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

- Molecule 19 is a protein called Small ribosomal subunit protein uS17.

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

- Molecule 20 is a protein called Small ribosomal subunit protein bS18.

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

- Molecule 21 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AR	75	Total	C	N	O	S	0	0
			603	387	112	102	2		

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Mol	Chain	Residues	Atoms					AltConf	Trace
21	t	77	Total	C	N	O	S	0	0
			620	399	115	104	2		

- Molecule 22 is a protein called Small ribosomal subunit protein bS20.

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

- Molecule 23 is a protein called Large ribosomal subunit protein bL31A.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AT	60	Total	C	N	O	S	0	0
			480	299	90	85	6		
23	L	62	Total	C	N	O	S	0	0
			499	309	95	89	6		

- Molecule 24 is a RNA chain called P-site tRNA.

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

- Molecule 25 is a RNA chain called 23S RNA.

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

- Molecule 26 is a RNA chain called 5S ribosomal RNA.

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

- Molecule 27 is a protein called Large ribosomal subunit protein uL2.

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

- Molecule 28 is a protein called 50S ribosomal protein L3.

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

- Molecule 29 is a protein called Large ribosomal subunit protein uL4.

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

- Molecule 30 is a protein called Large ribosomal subunit protein uL5.

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

- Molecule 31 is a protein called Large ribosomal subunit protein uL6.

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

- Molecule 32 is a protein called Large ribosomal subunit protein bL9.

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

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

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

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

- Molecule 34 is a protein called Large ribosomal subunit protein uL13.

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

- Molecule 35 is a protein called Large ribosomal subunit protein uL14.

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

- Molecule 36 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Ag	142	Total	C	N	O	S	0	0
			1034	643	202	188	1		
36	Y	143	Total	C	N	O	S	0	0
			1045	649	206	189	1		

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

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

- Molecule 38 is a protein called Large ribosomal subunit protein bL17.

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

- Molecule 39 is a protein called Large ribosomal subunit protein uL18.

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

- Molecule 40 is a protein called Large ribosomal subunit protein bL19.

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

- Molecule 41 is a protein called Large ribosomal subunit protein bL20.

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

- Molecule 42 is a protein called Large ribosomal subunit protein bL21.

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

- Molecule 43 is a protein called Large ribosomal subunit protein uL22.

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

- Molecule 44 is a protein called Large ribosomal subunit protein uL23.

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

- Molecule 45 is a protein called Large ribosomal subunit protein uL24.

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

- Molecule 46 is a protein called Large ribosomal subunit protein bL25.

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

- Molecule 47 is a protein called Large ribosomal subunit protein bL27.

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

- Molecule 48 is a protein called Large ribosomal subunit protein bL28.

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

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

- Molecule 49 is a protein called Large ribosomal subunit protein uL29.

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

- Molecule 50 is a protein called Large ribosomal subunit protein uL30.

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

- Molecule 51 is a protein called Large ribosomal subunit protein bL32.

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

- Molecule 52 is a protein called Large ribosomal subunit protein bL33.

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

- Molecule 53 is a protein called Large ribosomal subunit protein bL34.

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

- Molecule 54 is a protein called Large ribosomal subunit protein bL35.

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

- Molecule 55 is a protein called Large ribosomal subunit protein bL36A.

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

- Molecule 56 is a protein called ATP-dependent RNA helicase HrpA.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	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
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

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Chain	Residue	Modelled	Actual	Comment	Reference
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 57 is a protein called Small ribosomal subunit protein uS11.

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

- Molecule 58 is a protein called Small ribosomal subunit protein uS12.

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

- Molecule 59 is a RNA chain called P-site tRNA.

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

- Molecule 60 is a protein called Large ribosomal subunit protein bL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	n	54	Total	C	N	O	S	0	0
			429	260	91	77	1		

- 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		

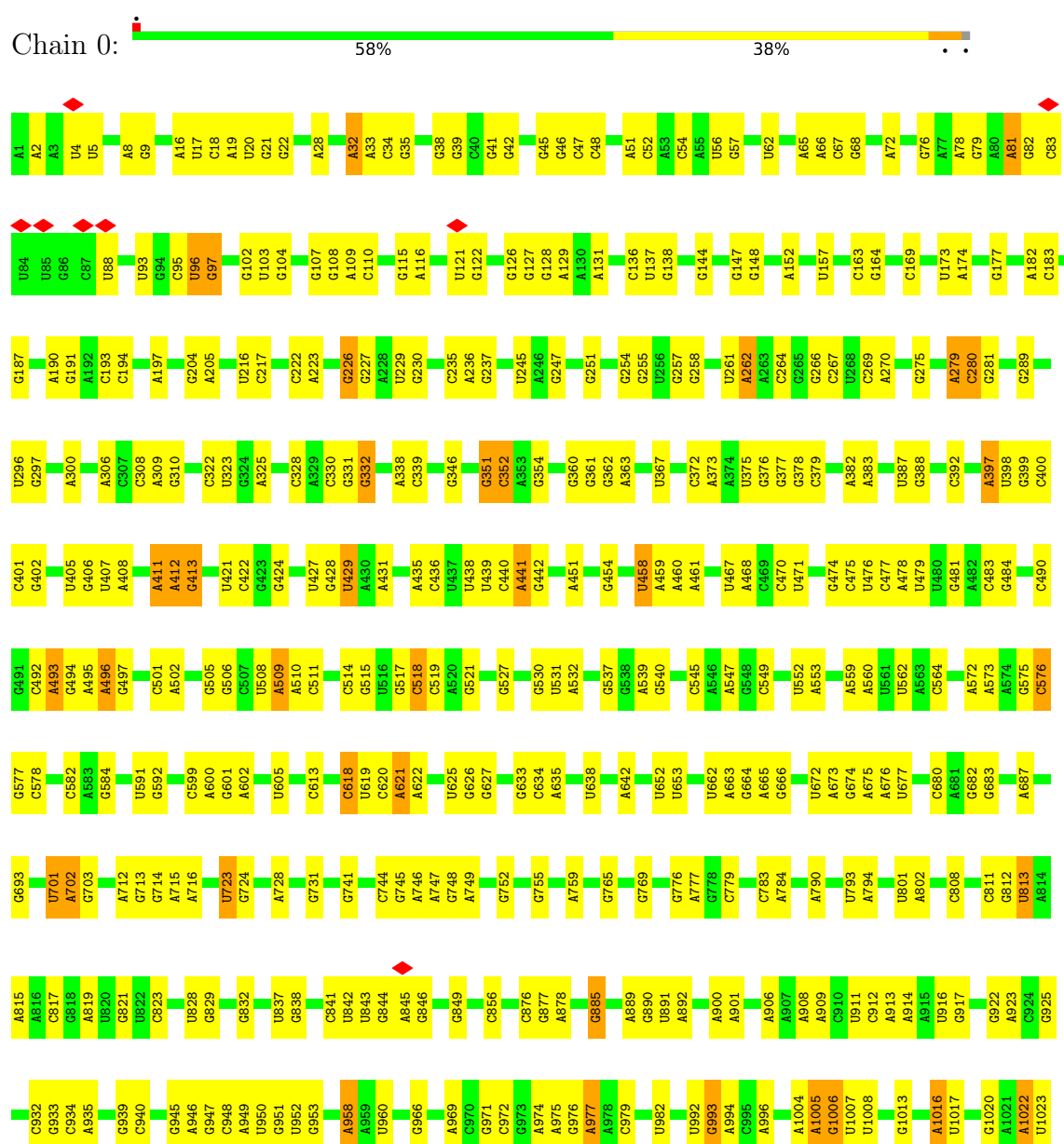
- Molecule 63 is a protein called Large ribosomal subunit protein uL10.

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

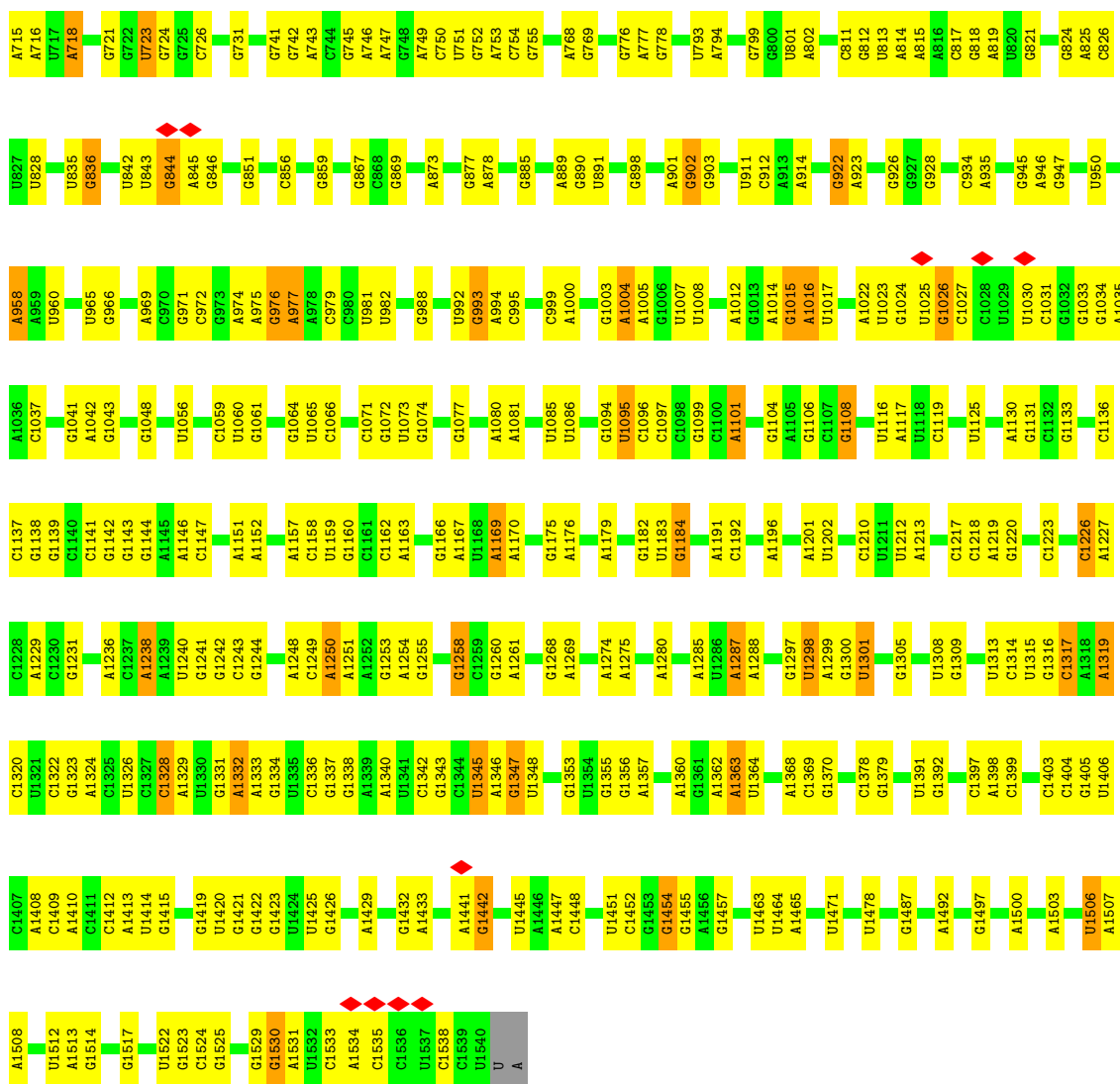
3 Residue-property plots

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.

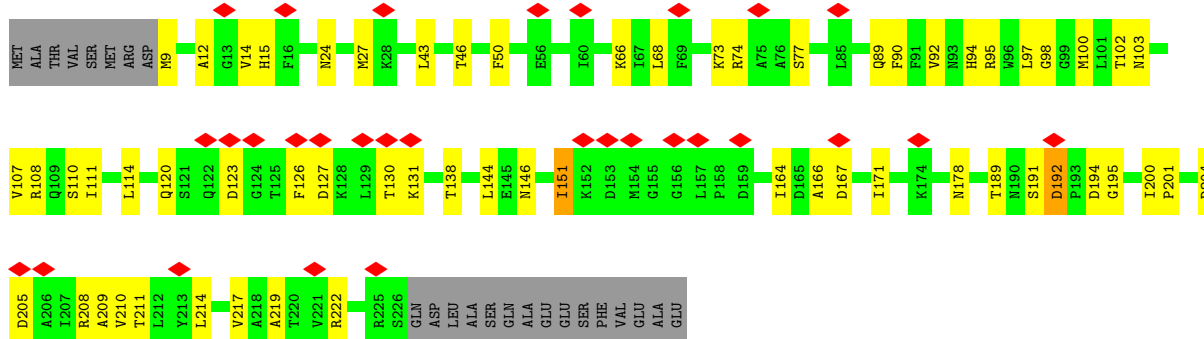
• Molecule 1: 16S ribosomal RNA





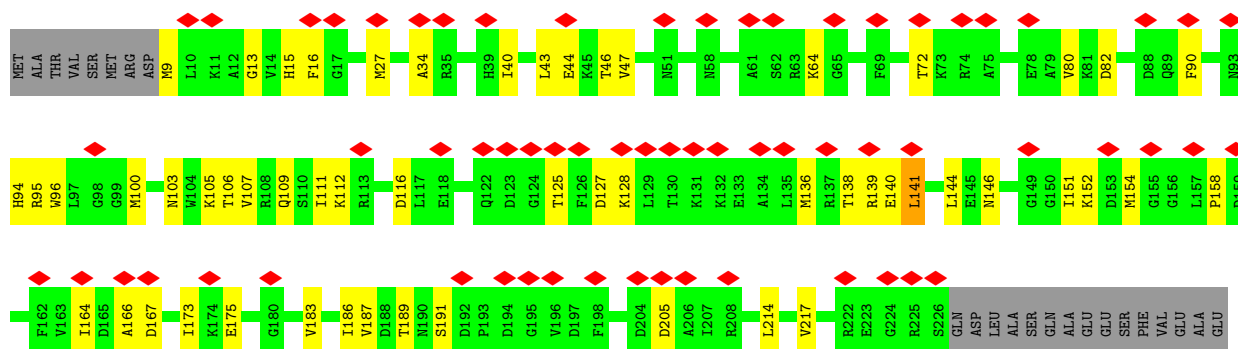


• Molecule 2: Small ribosomal subunit protein uS2

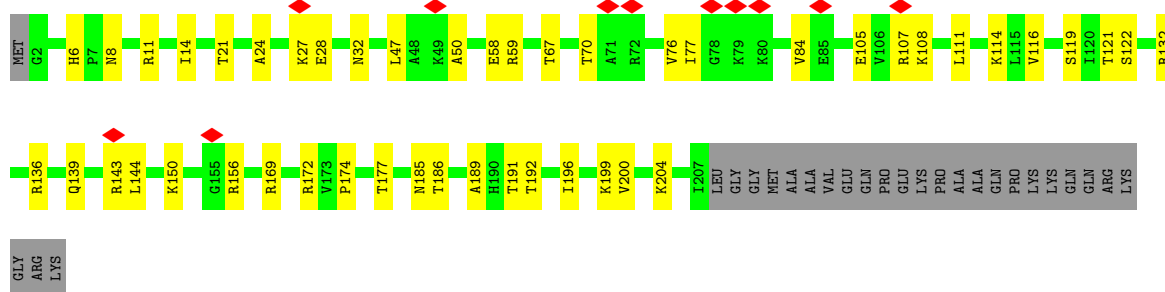


• Molecule 2: Small ribosomal subunit protein uS2

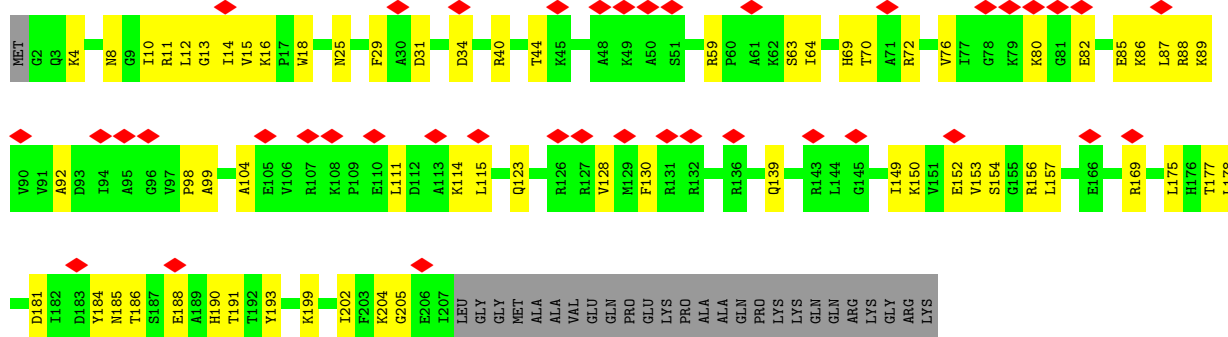




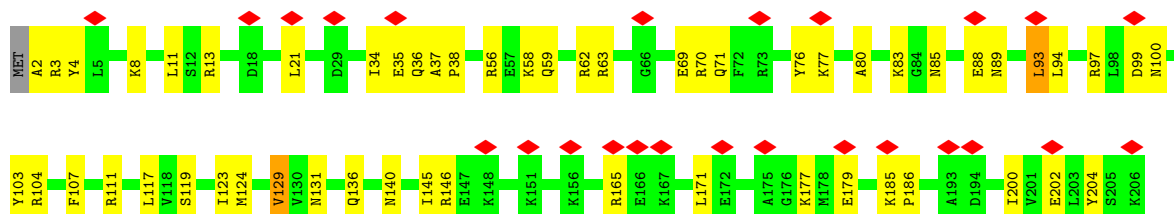
• Molecule 3: Small ribosomal subunit protein uS3



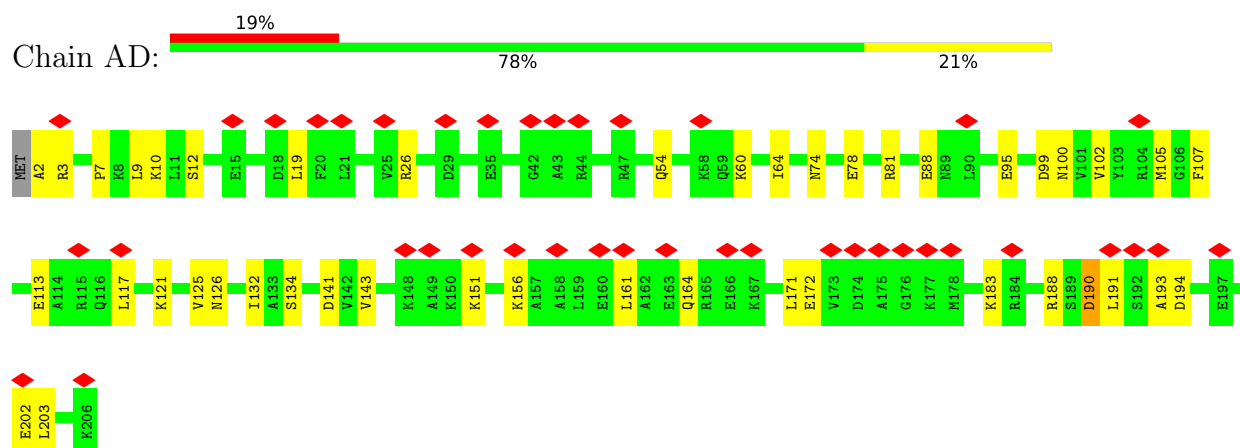
• Molecule 3: Small ribosomal subunit protein uS3



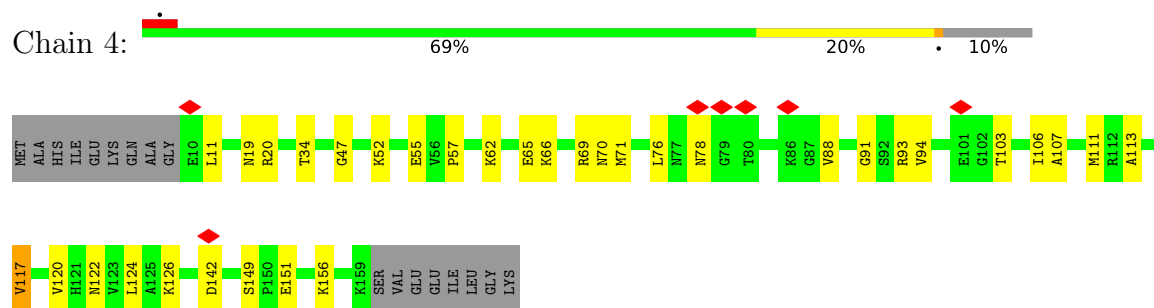
• Molecule 4: Small ribosomal subunit protein uS4



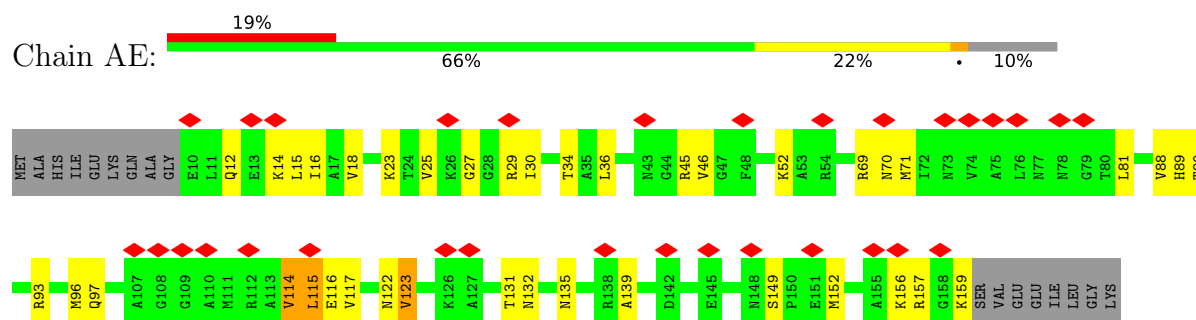
- Molecule 4: Small ribosomal subunit protein uS4



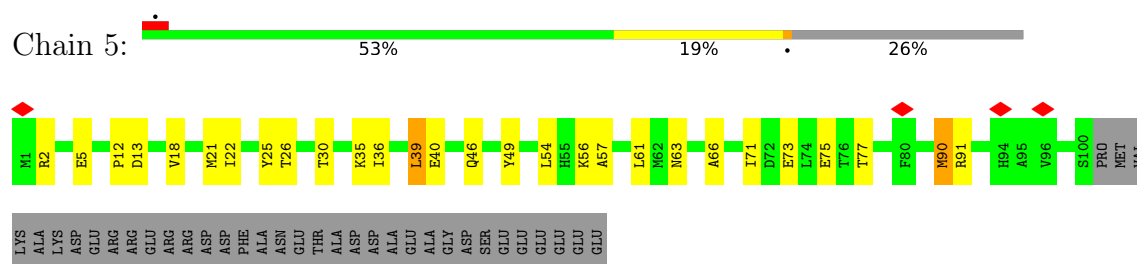
- Molecule 5: Small ribosomal subunit protein uS5



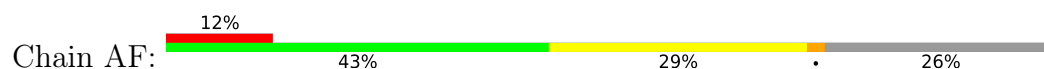
- Molecule 5: Small ribosomal subunit protein uS5

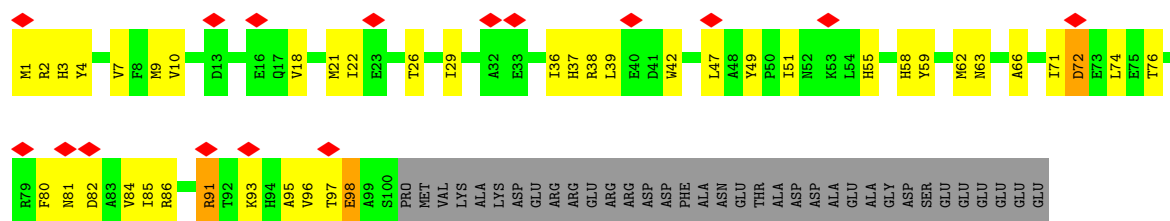


- Molecule 6: Small ribosomal subunit protein bS6, fully modified isoform

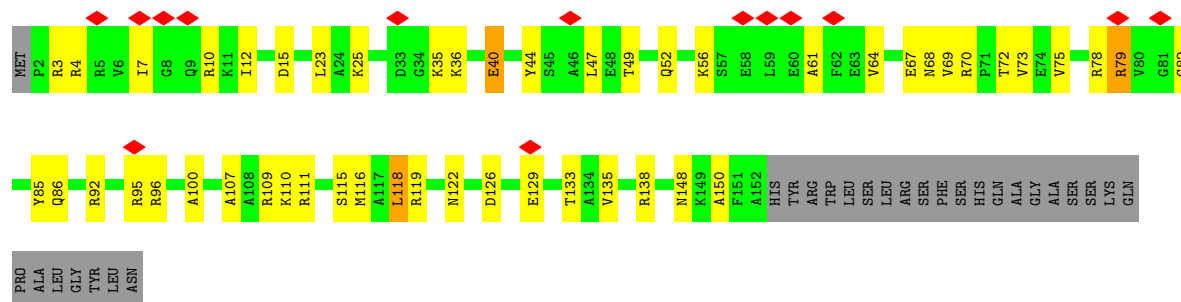


- Molecule 6: Small ribosomal subunit protein bS6, fully modified isoform

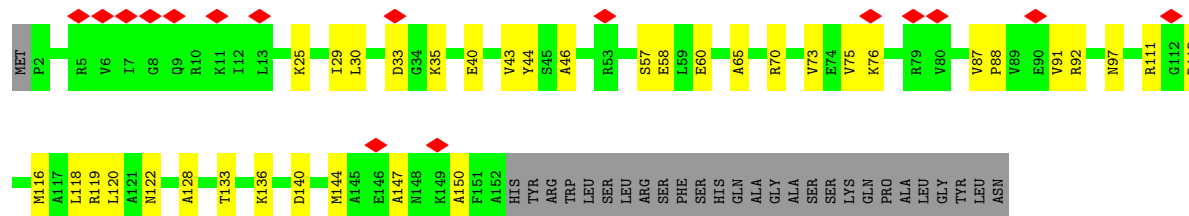




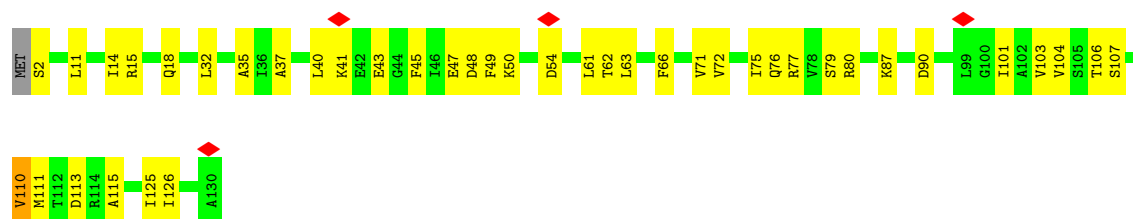
• Molecule 7: Small ribosomal subunit protein uS7



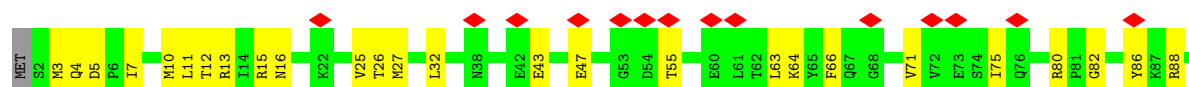
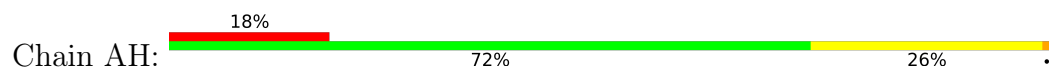
• Molecule 7: Small ribosomal subunit protein uS7

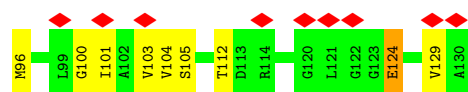


• Molecule 8: Small ribosomal subunit protein uS8



• Molecule 8: Small ribosomal subunit protein uS8

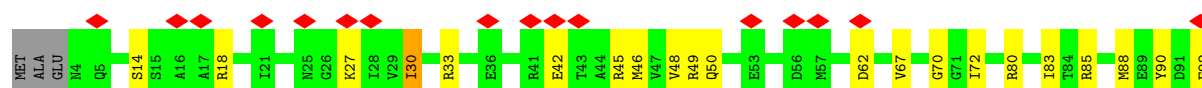
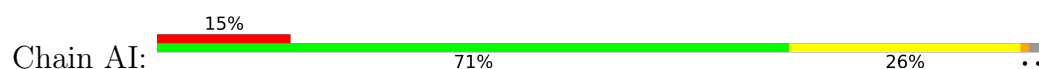




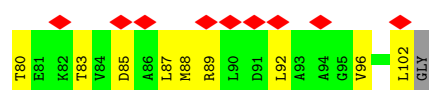
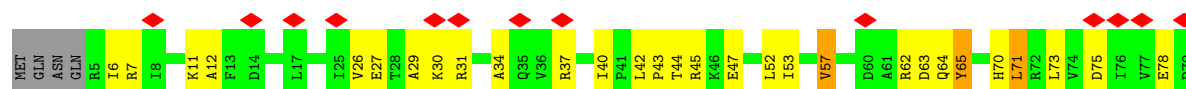
- Molecule 9: Small ribosomal subunit protein uS9



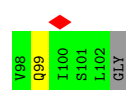
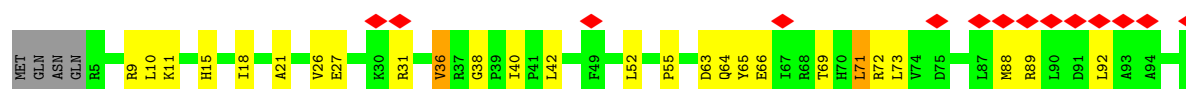
- Molecule 9: Small ribosomal subunit protein uS9



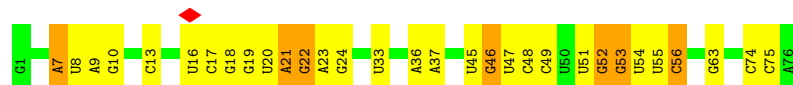
- Molecule 10: Small ribosomal subunit protein uS10



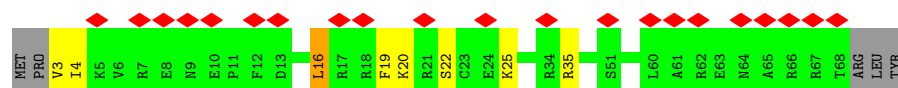
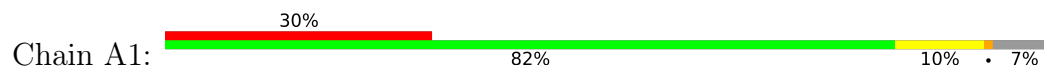
- Molecule 10: Small ribosomal subunit protein uS10



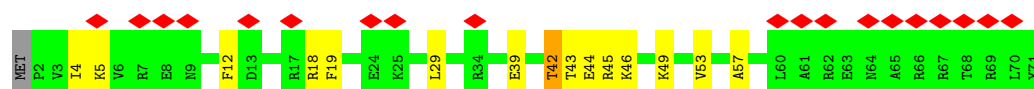
- Molecule 11: A-site tRNA



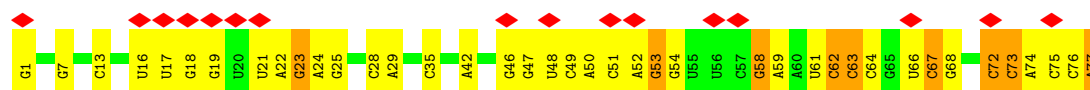
- Molecule 12: Small ribosomal subunit protein bS21



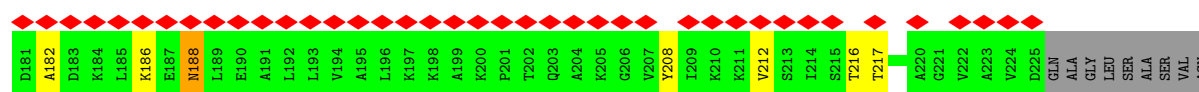
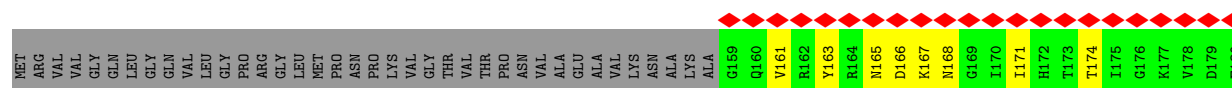
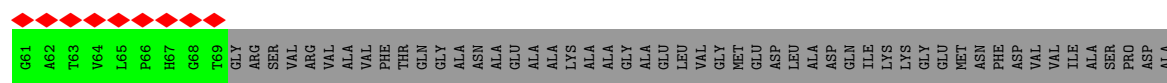
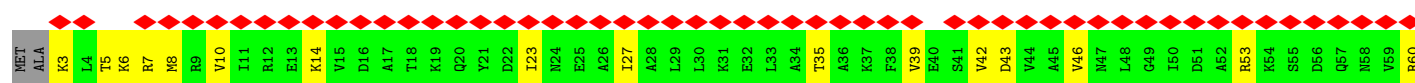
- Molecule 12: Small ribosomal subunit protein bS21



- Molecule 13: A-site tRNA

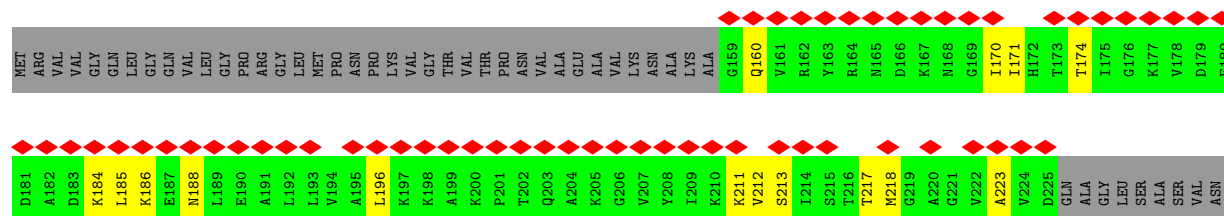
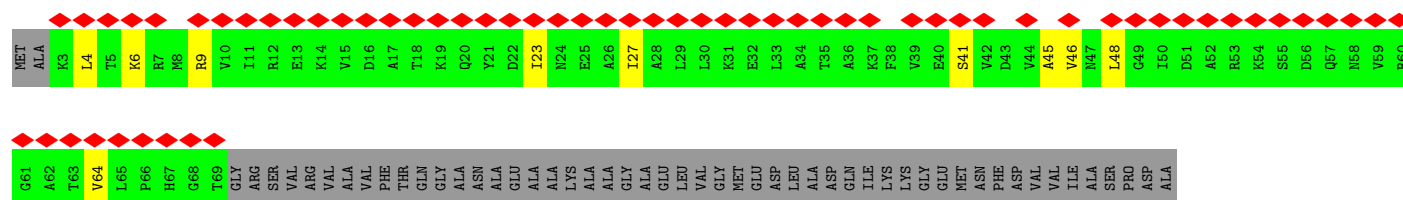


- Molecule 14: Large ribosomal subunit protein uL1

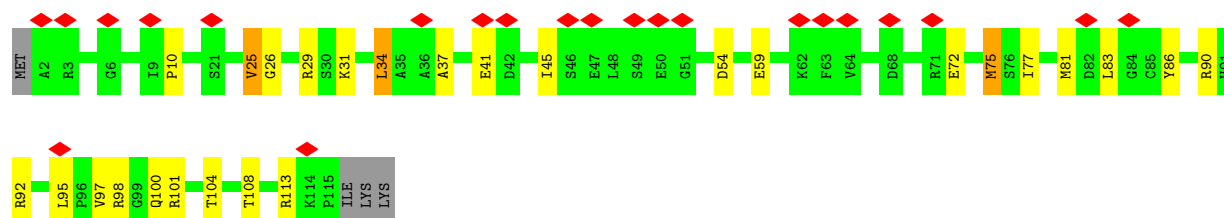
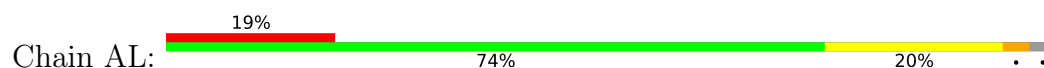


- Molecule 14: Large ribosomal subunit protein uL1

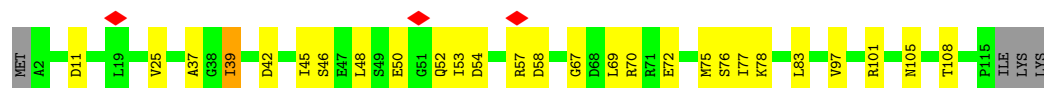




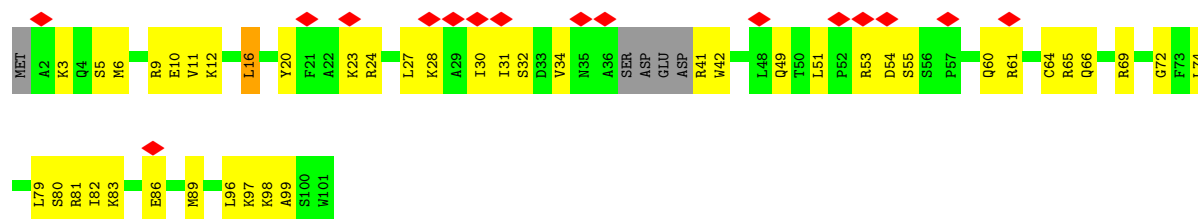
• Molecule 15: Small ribosomal subunit protein uS13



• Molecule 15: Small ribosomal subunit protein uS13

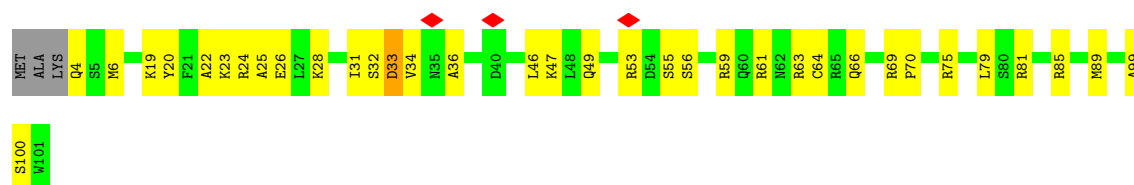


• Molecule 16: Small ribosomal subunit protein uS14



• Molecule 16: Small ribosomal subunit protein uS14

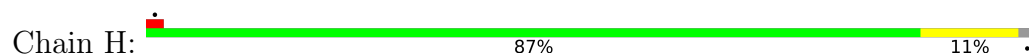




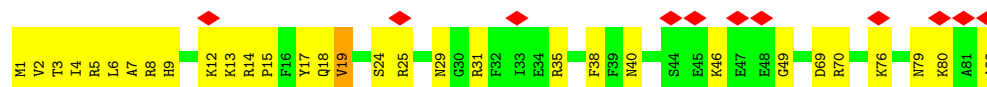
- Molecule 17: Small ribosomal subunit protein uS15



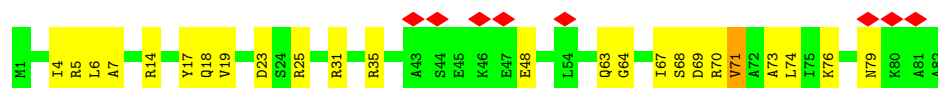
- Molecule 17: Small ribosomal subunit protein uS15



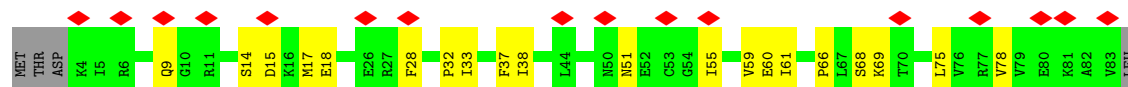
- Molecule 18: Small ribosomal subunit protein bS16



- Molecule 18: Small ribosomal subunit protein bS16



- Molecule 19: Small ribosomal subunit protein uS17

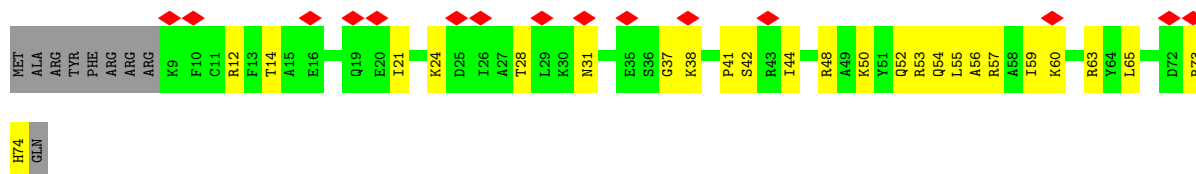


- Molecule 19: Small ribosomal subunit protein uS17





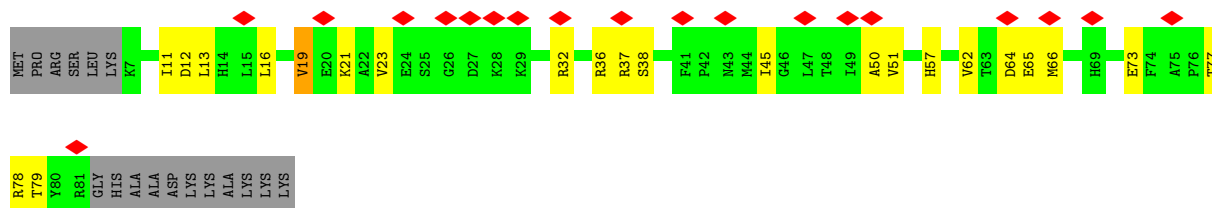
- Molecule 20: Small ribosomal subunit protein bS18



- Molecule 20: Small ribosomal subunit protein bS18



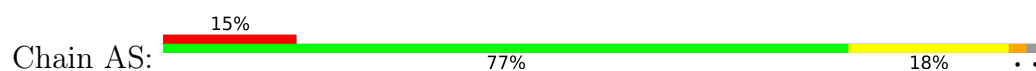
- Molecule 21: Small ribosomal subunit protein uS19



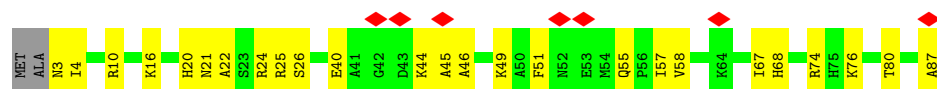
- Molecule 21: Small ribosomal subunit protein uS19



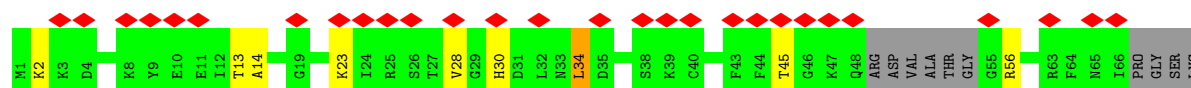
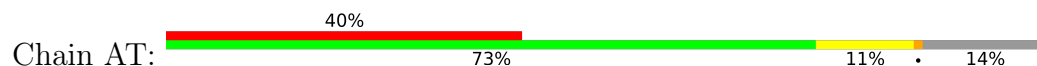
- Molecule 22: Small ribosomal subunit protein bS20



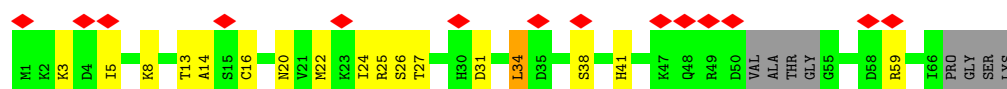
- Molecule 22: Small ribosomal subunit protein bS20



- Molecule 23: Large ribosomal subunit protein bL31A



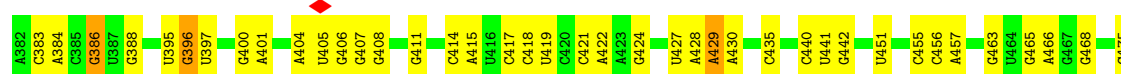
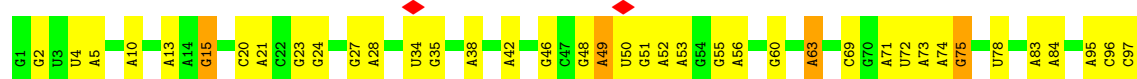
- Molecule 23: Large ribosomal subunit protein bL31A



- Molecule 24: P-site tRNA

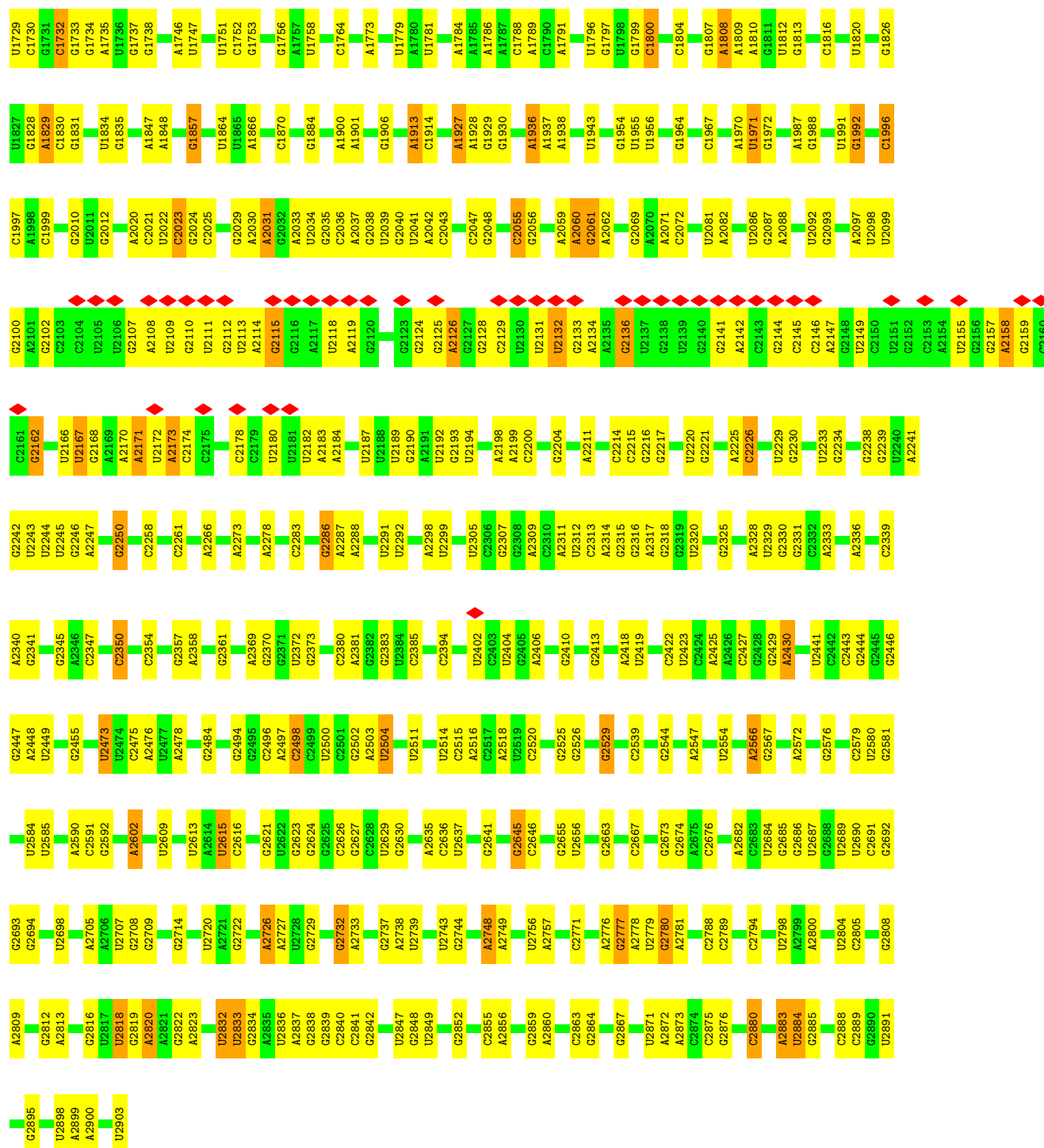


- Molecule 25: 23S RNA

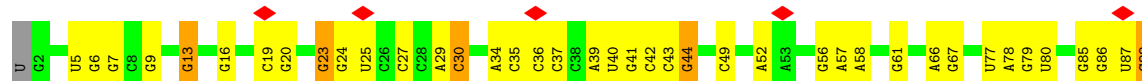


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• Molecule 26: 5S ribosomal RNA





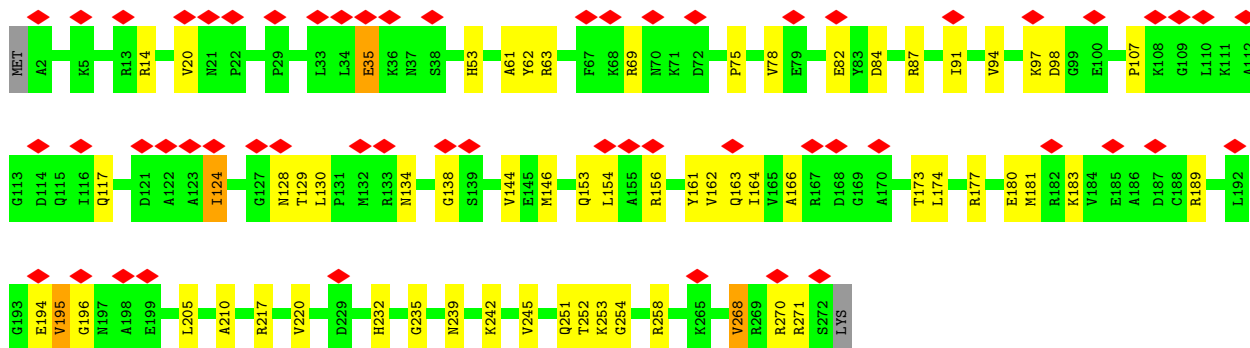
• Molecule 26: 5S ribosomal RNA

Chain O: 60% 38% ..



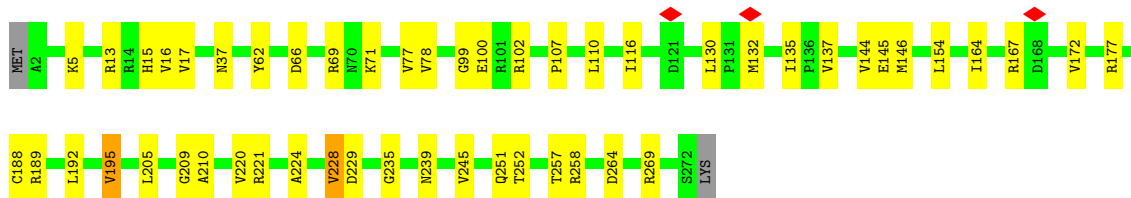
• Molecule 27: Large ribosomal subunit protein uL2

Chain AX: 21% 77% 21% ..



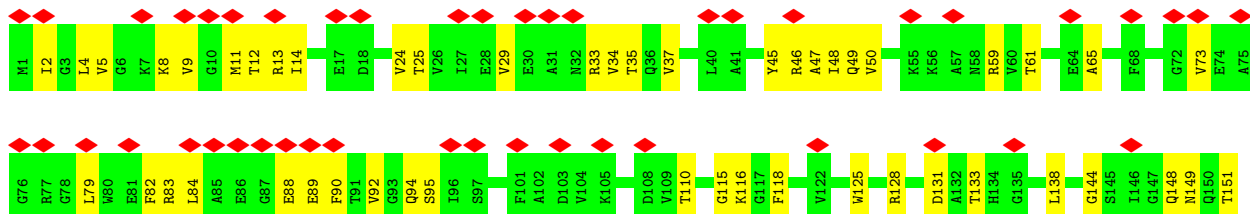
• Molecule 27: Large ribosomal subunit protein uL2

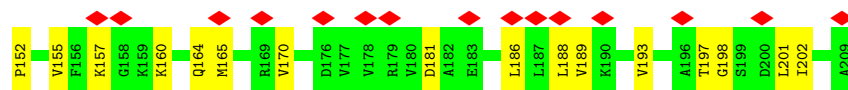
Chain P: 81% 18% ..



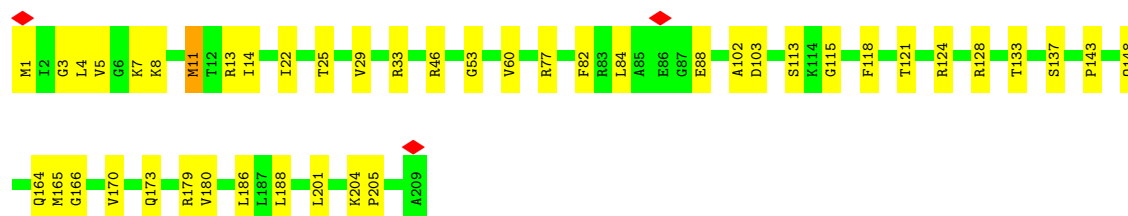
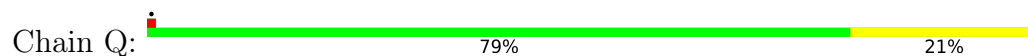
• Molecule 28: 50S ribosomal protein L3

Chain AY: 29% 69% 31%

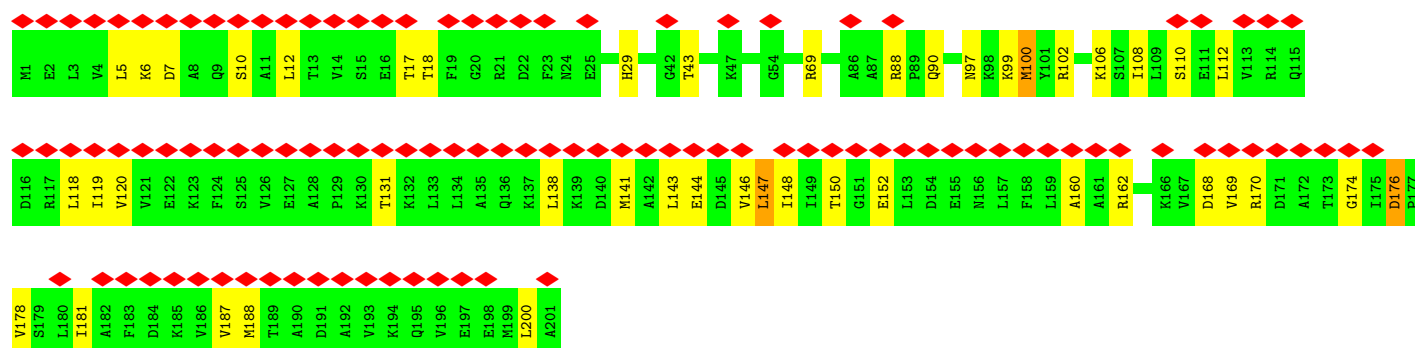
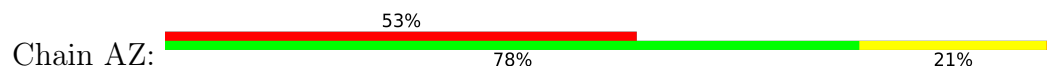




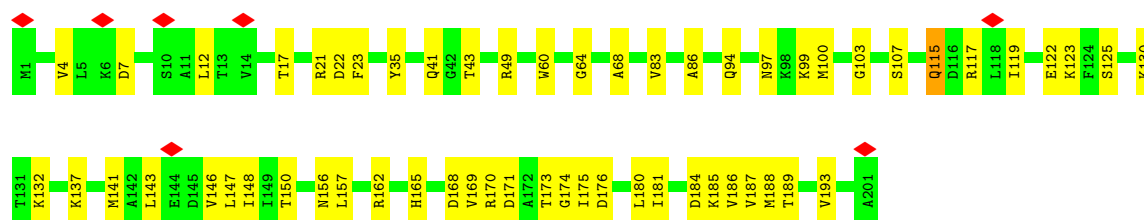
- Molecule 28: 50S ribosomal protein L3



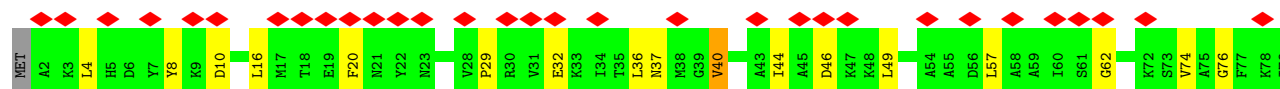
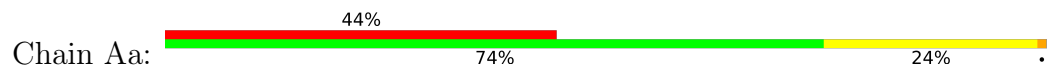
- Molecule 29: Large ribosomal subunit protein uL4

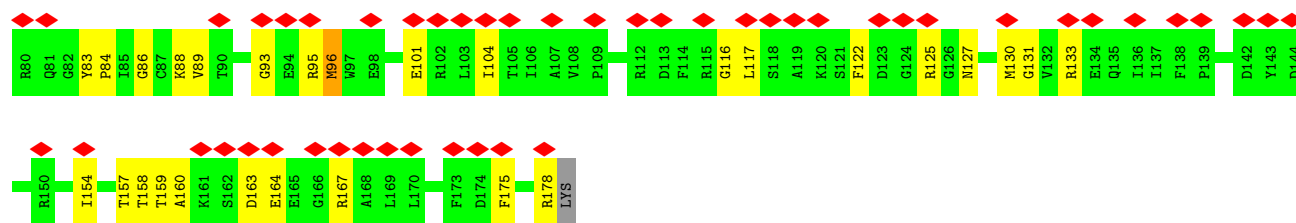


- Molecule 29: Large ribosomal subunit protein uL4

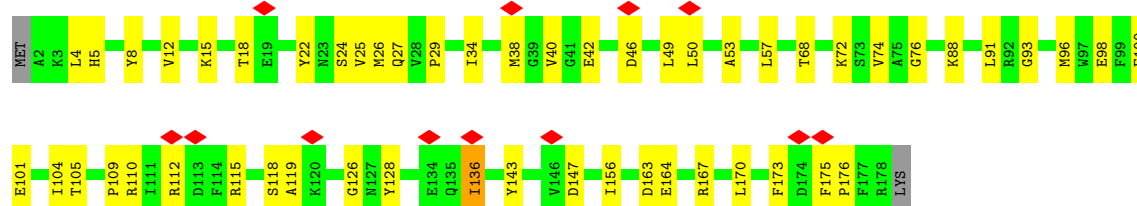


- Molecule 30: Large ribosomal subunit protein uL5

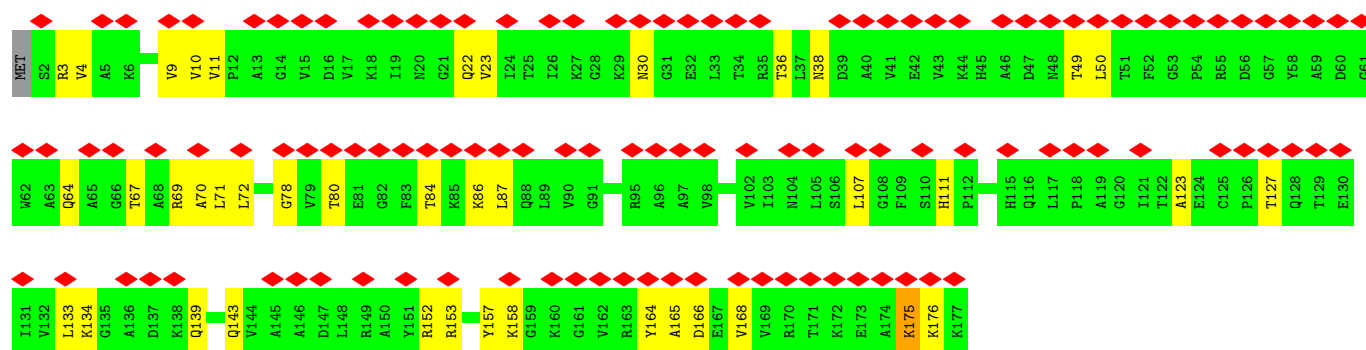
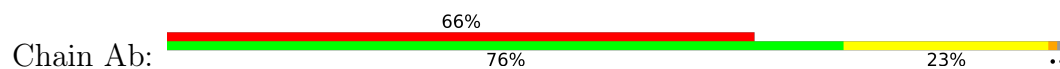




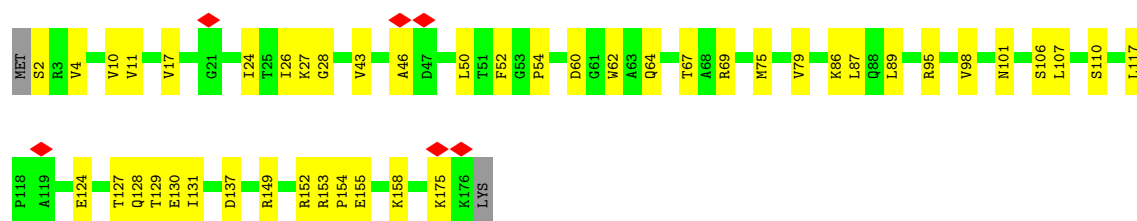
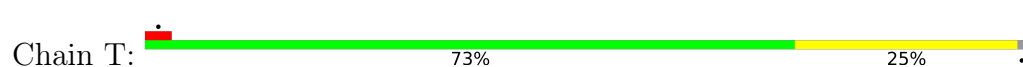
• Molecule 30: Large ribosomal subunit protein uL5



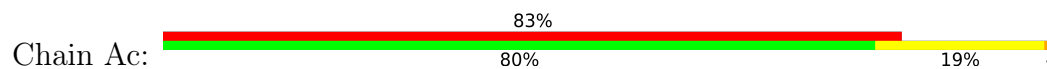
• Molecule 31: Large ribosomal subunit protein uL6

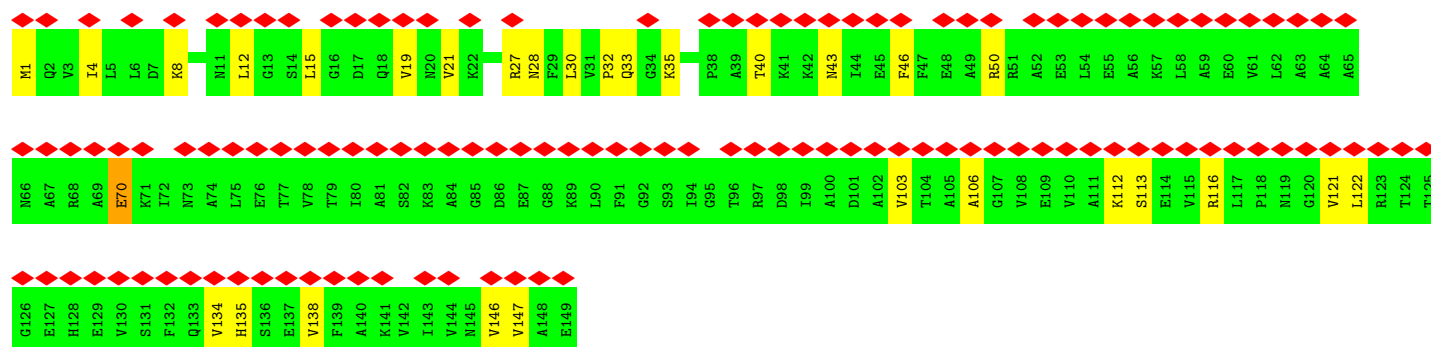


• Molecule 31: Large ribosomal subunit protein uL6

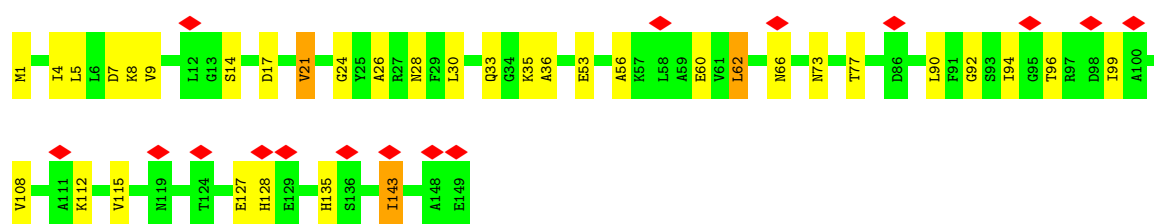
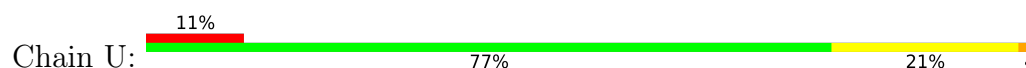


• Molecule 32: Large ribosomal subunit protein bL9

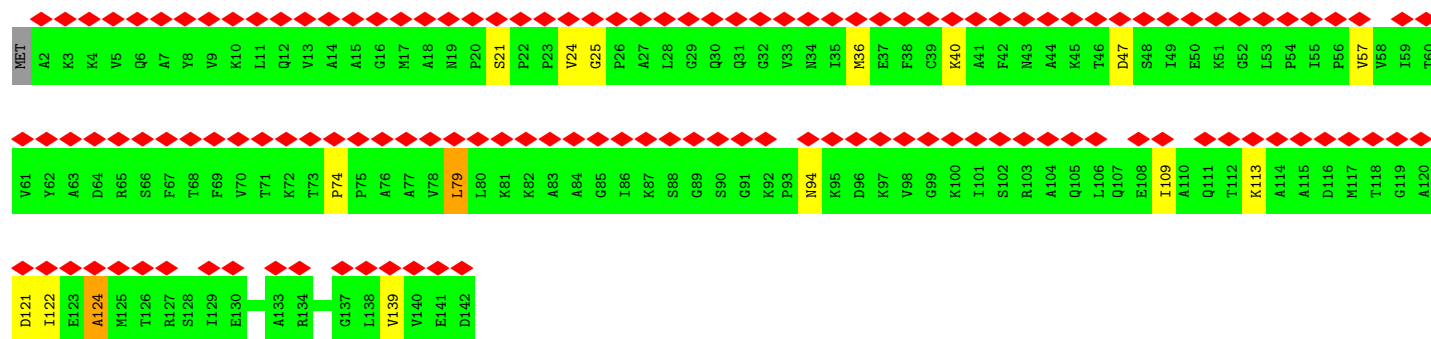
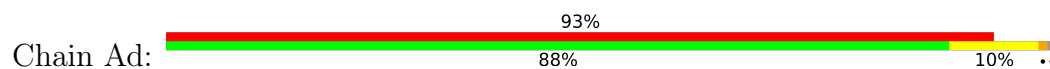




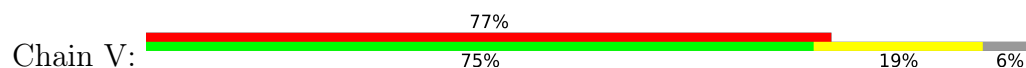
- Molecule 32: Large ribosomal subunit protein bL9

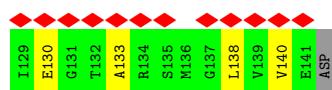


- Molecule 33: 50S ribosomal protein L11

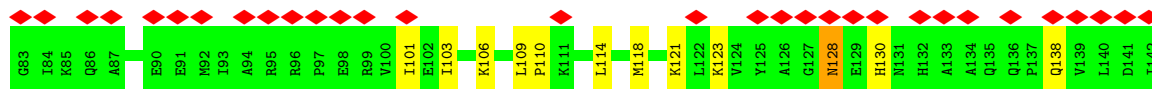
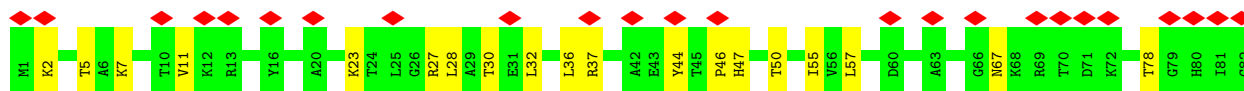
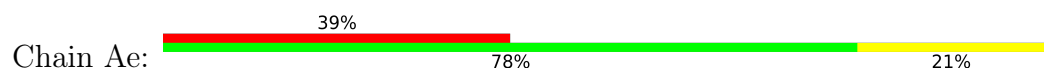


- Molecule 33: 50S ribosomal protein L11

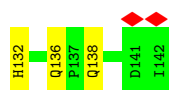
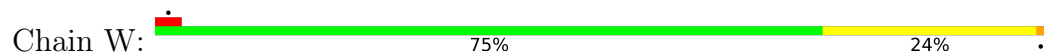




- Molecule 34: Large ribosomal subunit protein uL13



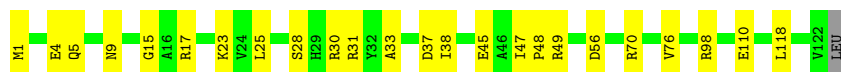
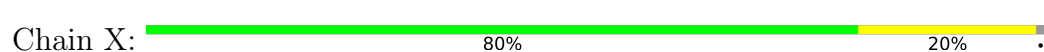
- Molecule 34: Large ribosomal subunit protein uL13



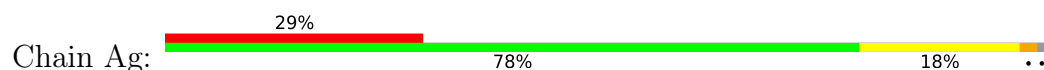
- Molecule 35: Large ribosomal subunit protein uL14

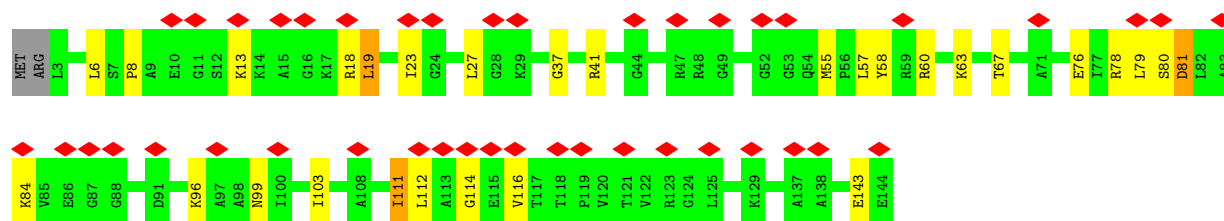


- Molecule 35: Large ribosomal subunit protein uL14

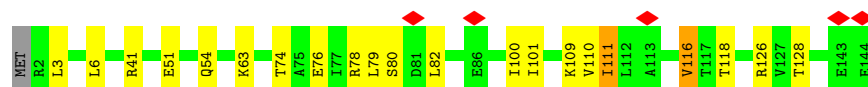
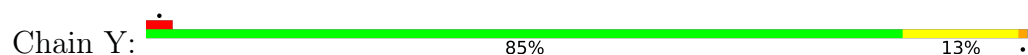


- Molecule 36: Large ribosomal subunit protein uL15

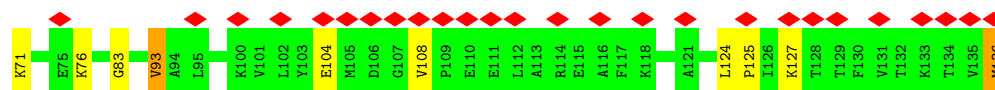
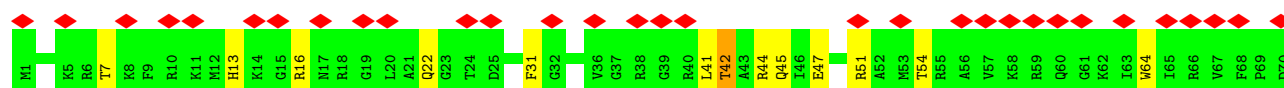
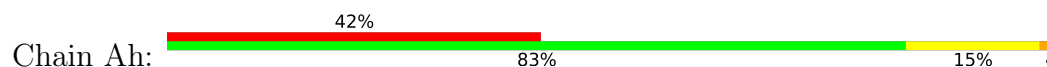




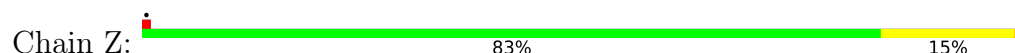
- Molecule 36: Large ribosomal subunit protein uL15



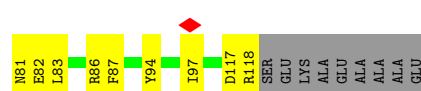
- Molecule 37: 50S ribosomal protein L16



- Molecule 37: 50S ribosomal protein L16



- Molecule 38: Large ribosomal subunit protein bL17



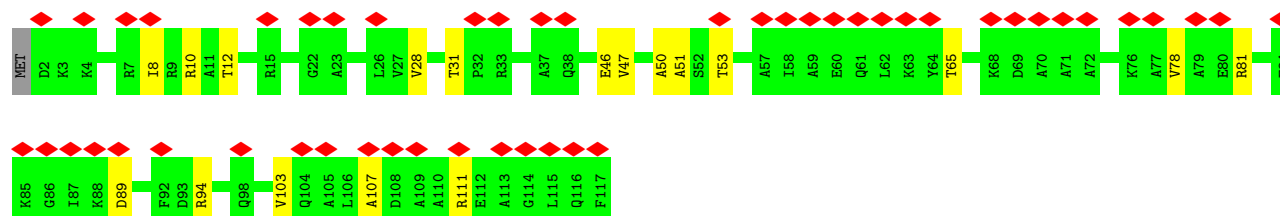
- Molecule 38: Large ribosomal subunit protein bL17





- Molecule 39: Large ribosomal subunit protein uL18

Chain Aj:



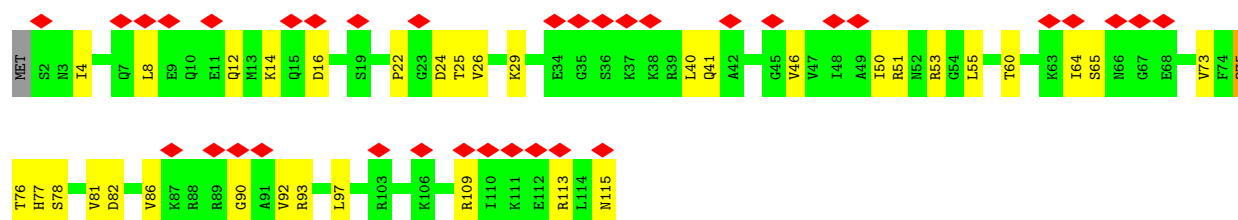
- Molecule 39: Large ribosomal subunit protein uL18

Chain b:



- Molecule 40: Large ribosomal subunit protein bL19

Chain Ak:



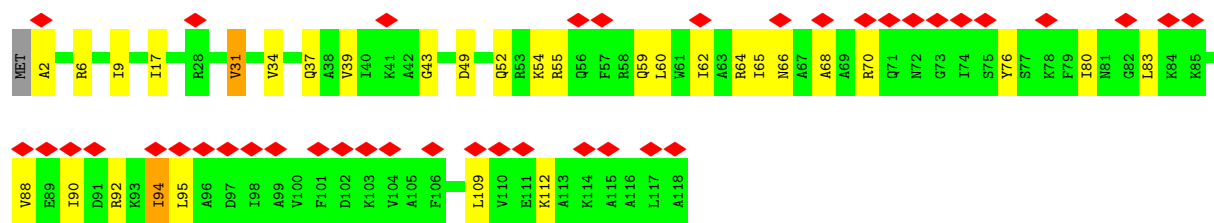
- Molecule 40: Large ribosomal subunit protein bL19

Chain c:

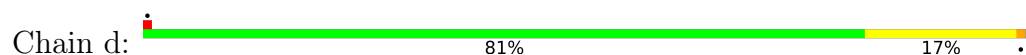


- Molecule 41: Large ribosomal subunit protein bL20

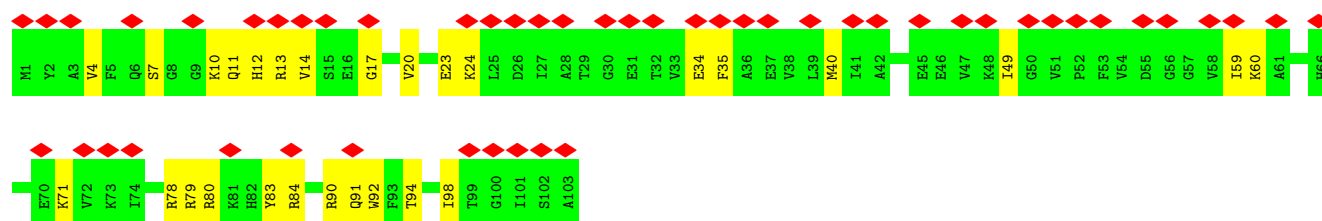
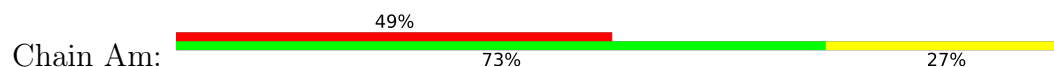
Chain Al:



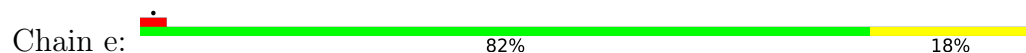
- Molecule 41: Large ribosomal subunit protein bL20



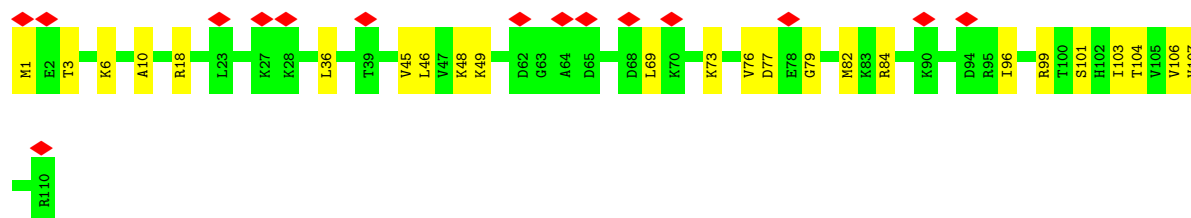
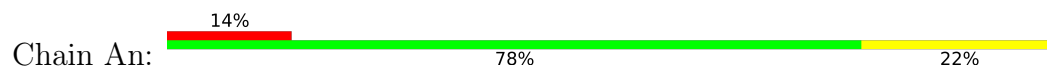
- Molecule 42: Large ribosomal subunit protein bL21



- Molecule 42: Large ribosomal subunit protein bL21



- Molecule 43: Large ribosomal subunit protein uL22

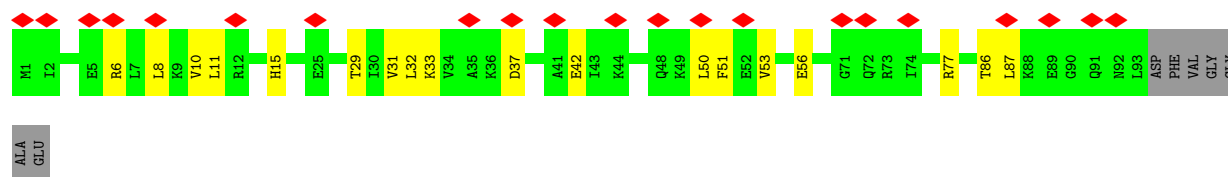
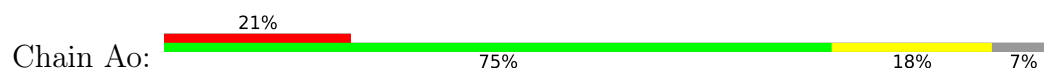


- Molecule 43: Large ribosomal subunit protein uL22

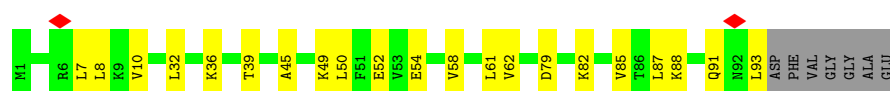




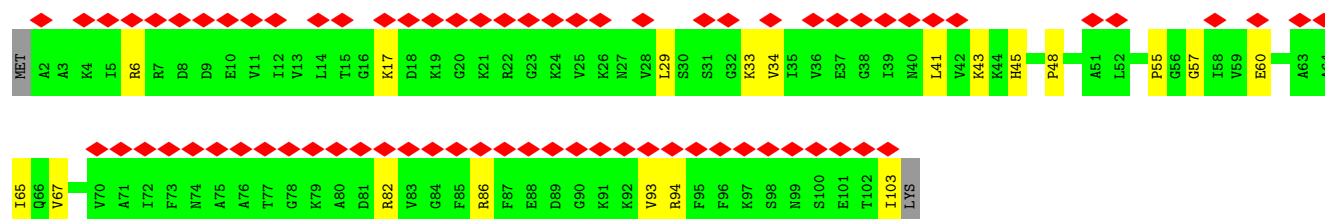
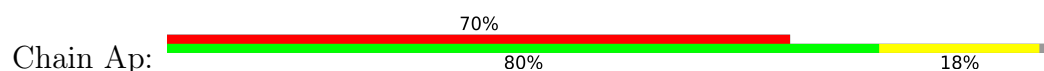
- Molecule 44: Large ribosomal subunit protein uL23



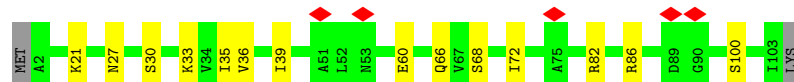
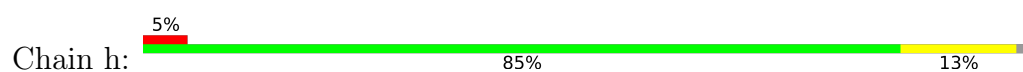
- Molecule 44: Large ribosomal subunit protein uL23



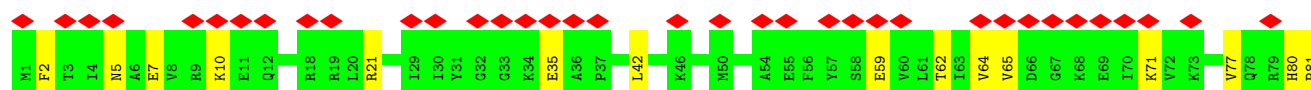
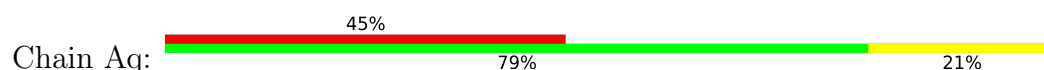
- Molecule 45: Large ribosomal subunit protein uL24

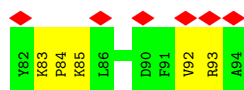


- Molecule 45: Large ribosomal subunit protein uL24

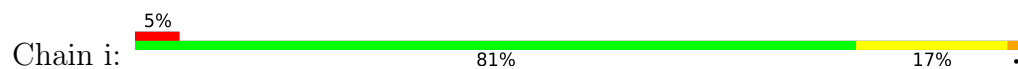


- Molecule 46: Large ribosomal subunit protein bL25

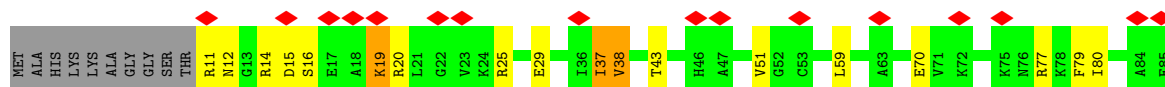




- Molecule 46: Large ribosomal subunit protein bL25



- Molecule 47: Large ribosomal subunit protein bL27



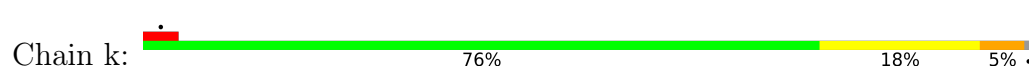
- Molecule 47: Large ribosomal subunit protein bL27



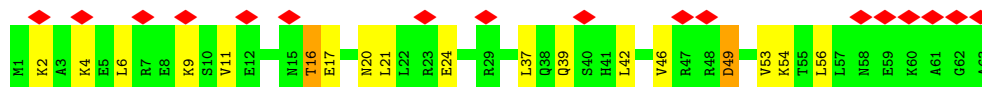
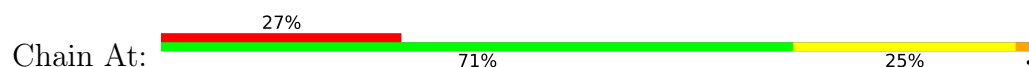
- Molecule 48: Large ribosomal subunit protein bL28



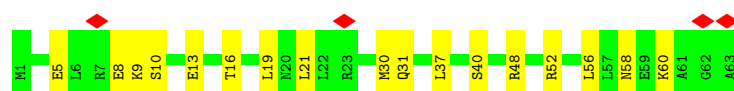
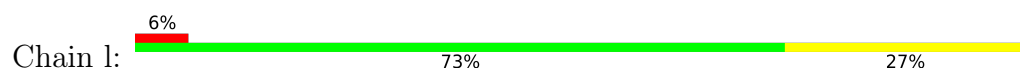
- Molecule 48: Large ribosomal subunit protein bL28



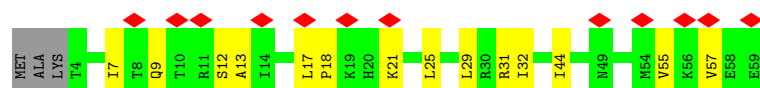
- Molecule 49: Large ribosomal subunit protein uL29



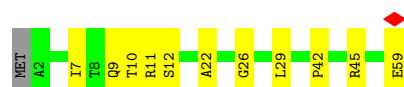
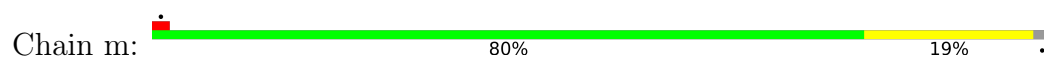
- Molecule 49: Large ribosomal subunit protein uL29



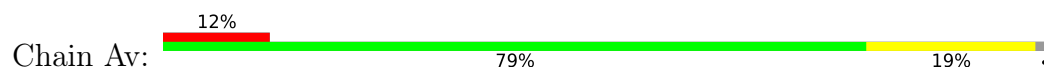
- Molecule 50: Large ribosomal subunit protein uL30



- Molecule 50: Large ribosomal subunit protein uL30



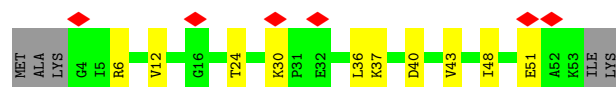
- Molecule 51: Large ribosomal subunit protein bL32



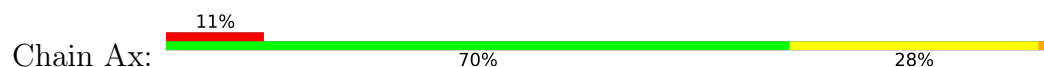
- Molecule 52: Large ribosomal subunit protein bL33



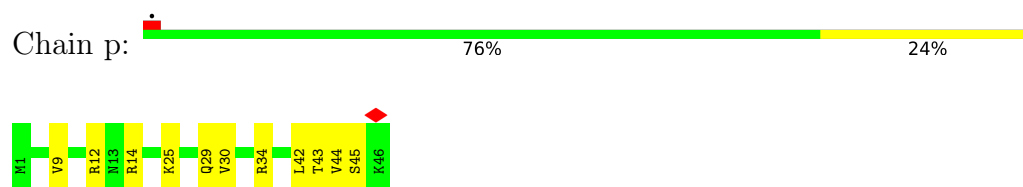
- Molecule 52: Large ribosomal subunit protein bL33



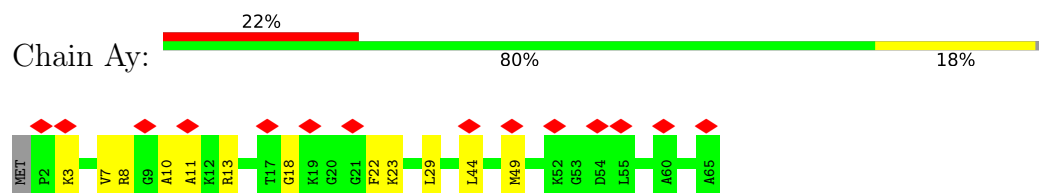
- Molecule 53: Large ribosomal subunit protein bL34



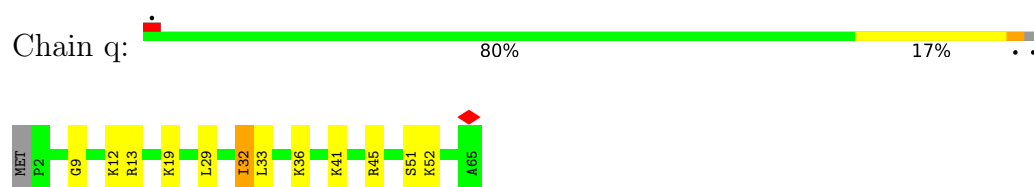
- Molecule 53: Large ribosomal subunit protein bL34



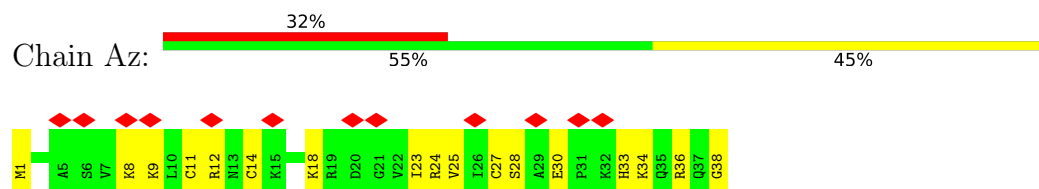
- Molecule 54: Large ribosomal subunit protein bL35



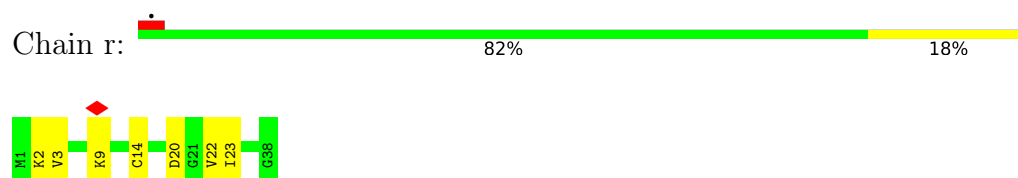
- Molecule 54: Large ribosomal subunit protein bL35



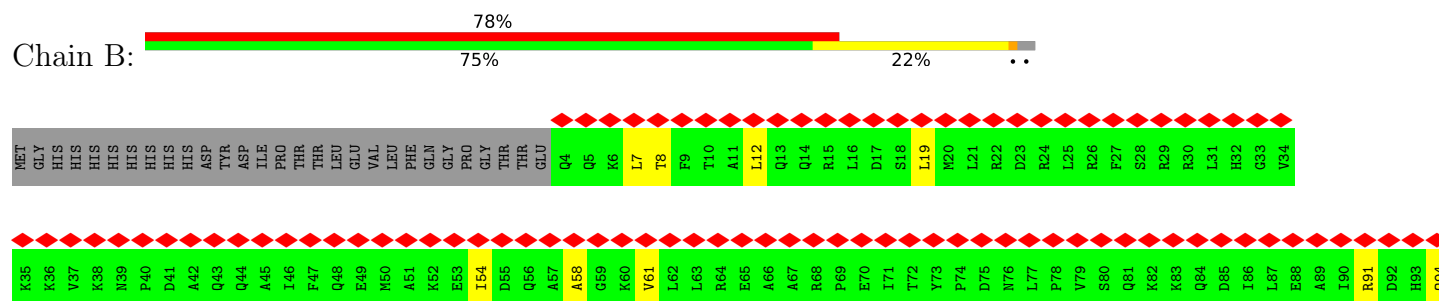
- Molecule 55: Large ribosomal subunit protein bL36A



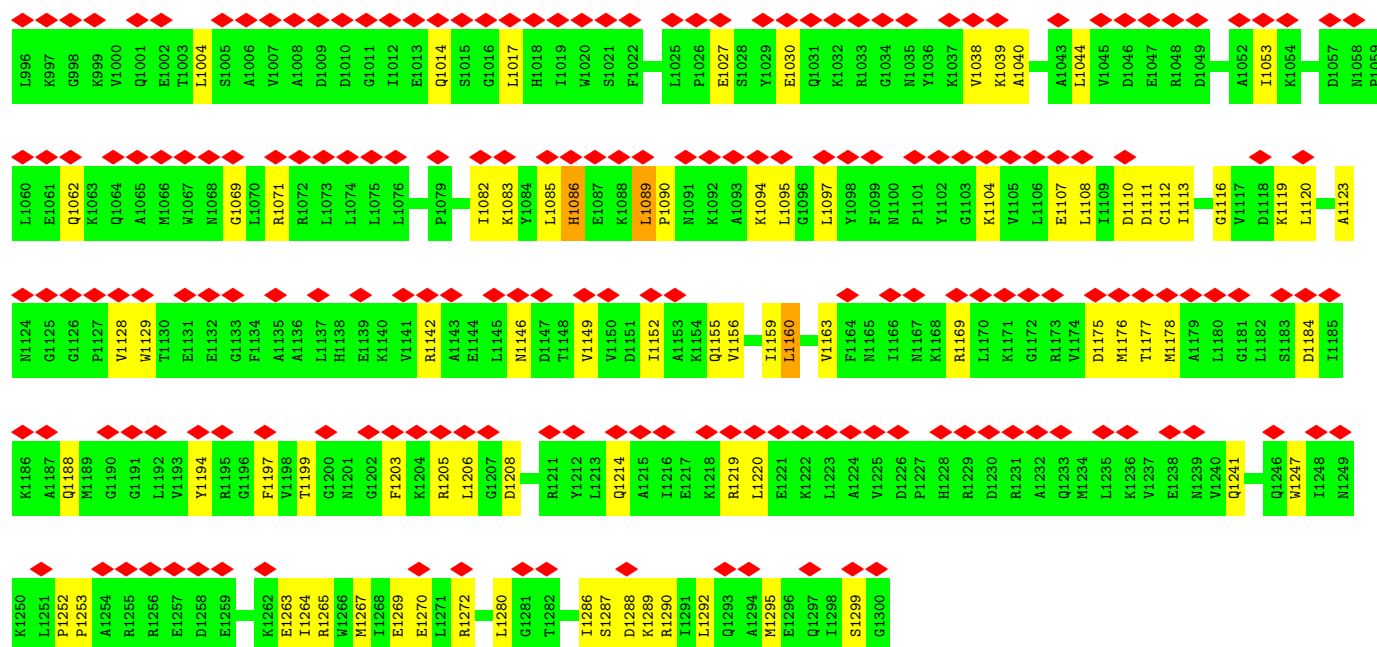
- Molecule 55: Large ribosomal subunit protein bL36A



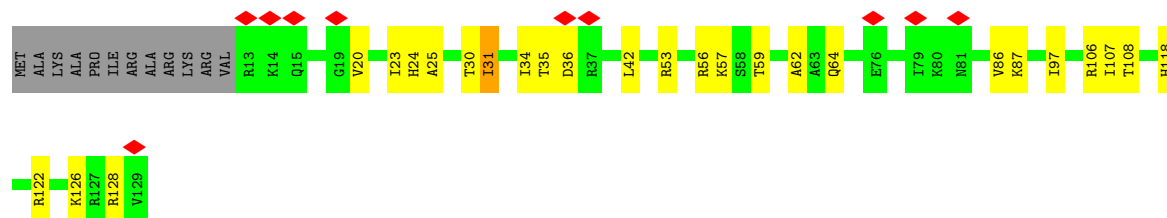
- Molecule 56: ATP-dependent RNA helicase HrpA



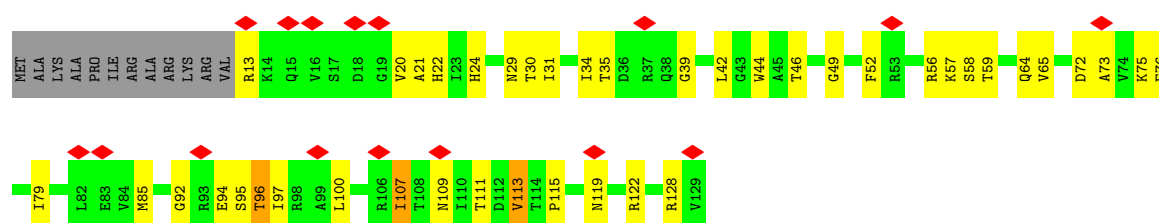
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G155	Y156	K157	V158	R159	F160	S161	D162	H163	V164	S165	D166	M167	T168	M169	V170	K171	L172	M173	T174	D175	G176	L177	L178	L179	A180	H181	I182	Q183	L184	D185	R186	L187	L188	M189	Q190	S260	G251	R252	T253	Y254	P255	V256	D197	V258	E198	A199	H200	E201	R202	S203	L204	N205	E266	D207	F208	L209	L210	G211	Y212	L213	K214
E215	L216	L217	P218	R219	R220	P221	D222	L223	K224	I225	I226	I227	T228	S229	A230	T231	I232	D233	P234	E235	R236	F237	S238	R239	H240	F241	N242	N243	A244	P245	I246	I247	E248	V249	S260	G251	R252	T253	Y254	P255	V256	E257	V258	R259	Y260	R261	P262	I263	V264	E265	E266	A267	D268	D269	T270	E271	R272	D273	Q274		
L275	Q276	A277	I278	F279	D280	G281	V282	R283	E284	L285	S286	Q287	E288	S289	H290	G291	D292	I293	L294	I295	F296	M297	S298	G299	E300	R301	E302	I303	R304	D305	T306	E307	D308	A309	L310	N311	K312	L313	N314	L315	R316	H317	T318	E319	I320	L321	P322	L323	Y324	A325	R326	L327	S328	N329	S330	E331	N333	R334			
V335	F336	Q337	S338	H339	S340	G341	R342	R343	I344	V345	L346	A347	T348	N349	V350	A351	E352	T353	S354	L355	T356	V357	P358	G359	I360	K361	Y362	V363	I364	D365	P366	G367	T368	A369	R370	I371	S372	R373	Y374	S375	Y376	R377	T378	K379	V380	Q381	R382	L383	P384	I385	E386	P387	T388	S389	Q390	A391	S392	A393	N394		
Q395	R396	E397	G398	R399	C400	G401	R402	Y403	S404	E405	G406	T407	C408	I409	R410	L411	Y412	S413	E414	D415	D416	F417	L418	S419	R420	F421	E422	F423	T424	D425	P426	E427	L428	L429	R430	T431	N432	L433	A434	A435	V436	I437	L438	Q439	M440	T441	A442	L443	G444	L445	G446	D447	T448	A449	A450	F451	F452	F453	V454		
E455	A456	P457	D458	K459	R460	M461	L462	Q463	D464	G465	V466	R467	L468	L469	E470	E471	L472	G473	A474	L475	T476	T477	D478	GLU	GLN	A481	S482	A483	Y484	K485	L486	T487	P488	L489	G490	R491	Q492	L493	S494	Q495	L496	P497	V498	D499	P500	R501	L502	A503	R504	N505	V506	L507	E508	A509	Q510	K511	H512	O513	G514		
V515	R516	E517	A518	Y519	I520	L521	T522	S523	A524	L525	S526	L527	Q528	D529	P530	R531	E532	R533	P534	M535	D536	K537	Q538	Q539	A540	S541	D542	E543	K544	H545	R546	R547	F548	H549	D550	K551	E552	S553	D554	F555	L556	A557	F558	V559	N560	L561	V562	N563	Y564	L565	G566	E567	Q568	Q569	K570	A571	L572	S573	S574		
M575	A576	F577	R578	R579	L580	C581	R582	T583	D584	Y585	L586	N587	Y588	L589	R590	Y591	R592	E593	Y594	Q595	D596	L597	Y598	T599	Q600	L601	R602	Q603	V604	V605	K606	E607	L608	G609	I610	P611	V612	N613	S614	E615	P616	A617	E618	Y619	R620	E621	T622	H623	L624	A625	L626	L627	T628	G629	L630	L631	S632	H633	L634		
G635	M636	K637	D638	A639	D640	K641	Q642	E643	G646	A647	R648	N649	A650	R651	P652	L654	F655	P656	G657	S658	G659	L660	F661	K662	K663	P664	P665	K666	K667	V668	M669	V670	A671	E672	L673	V674	E675	T676	S677	R678	L679	M680	C681	R682	H683	A684	A685	R686	T687	D688	P689	E690	W691	V692	E693	P694	V695				
A696	Q697	H698	L699	I700	K701	R702	T703	Y704	S705	E706	F707	H708	W709	E710	R711	A712	Q713	G714	A715	V716	R717	A718	T719	K720	Y721	Y722	T723	Y724	Y725	G726	L727	F728	T729	V730	A731	A732	R733	K734	Y737	S738	Q739	I740	D741	L744	L748	H752	A753	L754	Y755	E756	G757	D758	W759	Q760	T761						
R762	H763	A764	F765	F766	R767	E768	R769	L770	K771	L772	R773	A774	E775	Y776	E777	E778	L779	R784	R785	R786	D787	L788	L789	W790	D791	D792	E793	T794	L795	F796	E797	F798	Y799	D800	Q801	R802	I803	S804	H805	D806	S809	A810	F813	D814	S815	K819	W820	S821	R822	E756	G757	D758	W759	Q760	T761						
N829	F830	E831	K832	S833	M834	L835	I836	K837	E838	Q839	A840	E841	K842	I843	S844	K845	L846	M850	F851	W852	H853	Q854	G855	H861	W862	E866	P867	G868	A869	D870	A871	P879	L882	L883	M884	E887	P888	S889	G890	F891	E892	I895	P896	C897	L898	S901	W820	S821	R822	E756	G757	D758	W759	Q760	T761						
P922	A925	R931	V932	L935	E936	L937	F938	L939	L940	D941	R945	R949	M950	T951	G952	V953	R957	E958	D959	W960	H961	W962	D963	Q964	V965	P966	D967	H968	L969	K970	F973	R974	V975	V976	D977	D978	K979	N980	K981	K982	L983	K984	E985	G986	R987	Q990	D991	L992	K993	D994	A995										



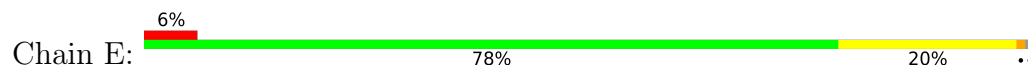
- Molecule 57: Small ribosomal subunit protein uS11



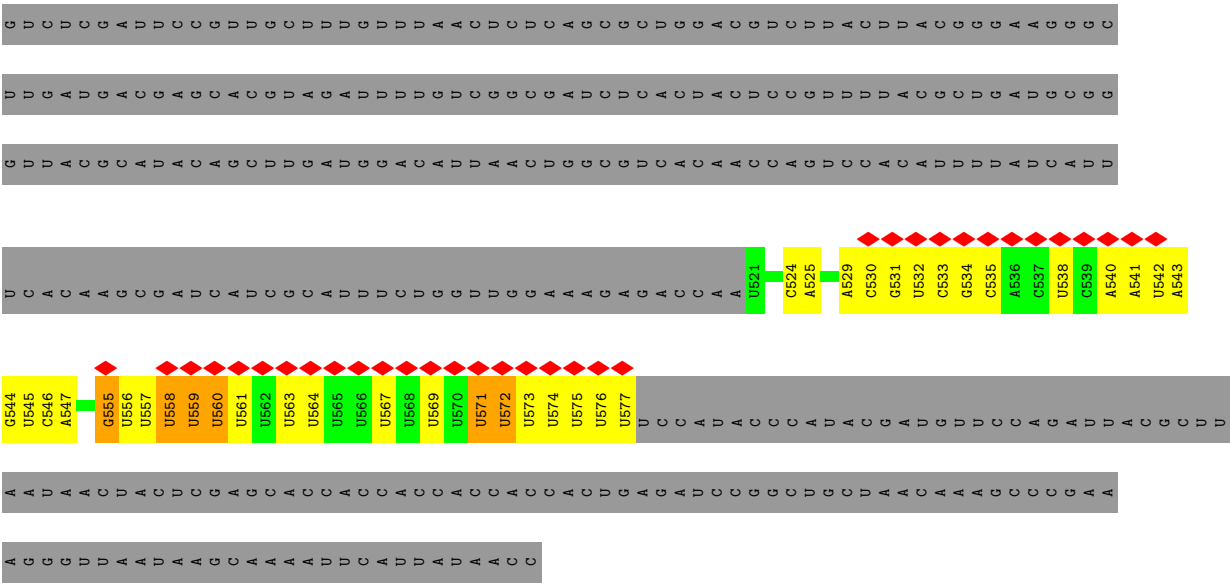
- Molecule 57: Small ribosomal subunit protein uS11



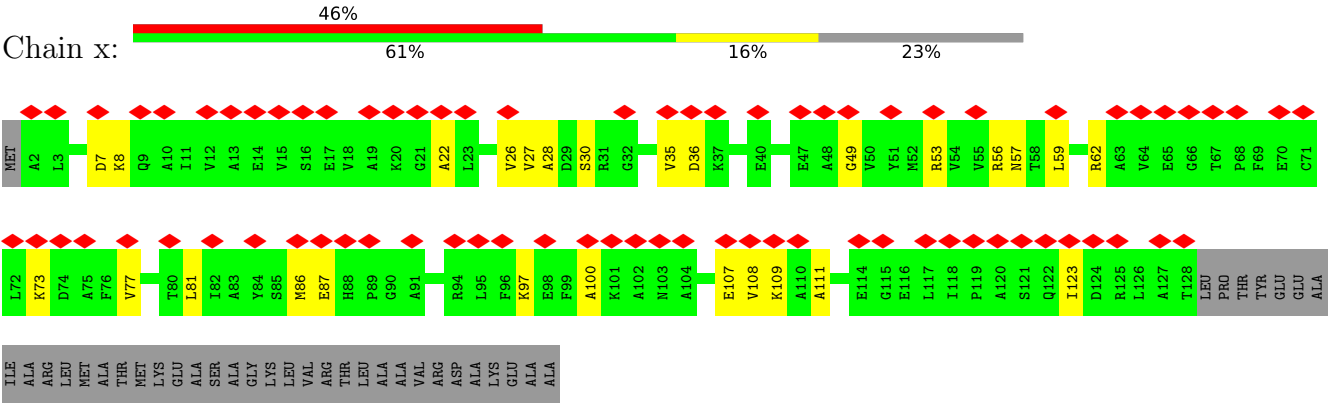
- Molecule 58: Small ribosomal subunit protein uS12



- Molecule 58: Small ribosomal subunit protein uS12



● Molecule 63: Large ribosomal subunit protein uL10



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	17182	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	0.831	Depositor
Minimum map value	-0.349	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.165	Depositor
Map size (Å)	508.9, 508.9, 508.9	wwPDB
Map dimensions	700, 700, 700	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.727, 0.727, 0.727	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	0	0.15	0/36834	0.31	0/57462
1	AA	0.14	0/36966	0.31	0/57666
2	1	0.25	0/1735	0.65	0/2338
2	AB	0.25	0/1735	0.68	2/2338 (0.1%)
3	2	0.23	0/1651	0.65	0/2225
3	AC	0.25	0/1651	0.64	0/2225
4	3	0.23	0/1665	0.68	1/2227 (0.0%)
4	AD	0.22	0/1665	0.71	0/2227
5	4	0.35	0/1118	0.75	0/1504
5	AE	0.31	0/1118	0.79	0/1504
6	5	0.40	1/835 (0.1%)	0.90	3/1128 (0.3%)
6	AF	0.47	0/835	0.95	2/1128 (0.2%)
7	6	0.23	0/1195	0.74	4/1602 (0.2%)
7	AG	0.35	0/1195	0.73	0/1602
8	7	0.21	0/989	0.62	0/1326
8	AH	0.29	0/989	0.69	0/1326
9	8	0.38	0/1034	0.87	0/1375
9	AI	0.26	0/1034	0.83	0/1375
10	9	0.30	0/796	0.78	0/1077
10	AJ	0.25	0/796	0.78	0/1077
11	A	0.15	0/1812	0.39	0/2823
12	A1	0.32	0/557	0.77	0/738
12	v	0.23	0/597	0.70	0/792
13	A3	0.17	0/1830	0.46	0/2849
14	AK	0.15	0/1033	0.48	0/1387
14	C	0.13	0/1033	0.46	0/1387
15	AL	0.23	0/892	0.75	1/1193 (0.1%)
15	F	0.29	0/892	0.76	0/1193
16	AM	0.24	0/785	0.77	0/1043
16	G	0.64	2/803 (0.2%)	0.92	1/1070 (0.1%)
17	AN	0.28	0/722	0.73	0/964
17	H	0.25	0/710	0.62	0/950
18	AO	0.31	0/659	0.86	2/884 (0.2%)
18	I	0.22	0/658	0.68	0/884

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
19	AP	0.23	0/657	0.71	0/881
19	J	0.27	0/657	0.70	0/881
20	AQ	0.26	0/553	0.76	1/742 (0.1%)
20	K	0.22	0/544	0.67	0/731
21	AR	0.24	0/618	0.64	0/833
21	t	0.29	0/635	0.71	0/855
22	AS	0.24	0/671	0.73	0/888
22	u	0.23	0/671	0.67	0/888
23	AT	0.21	0/488	0.63	0/649
23	L	0.29	0/507	0.69	0/674
24	AU	0.15	0/1816	0.33	0/2830
25	AV	0.14	0/69659	0.31	1/108672 (0.0%)
25	N	0.15	0/69659	0.31	0/108672
26	AW	0.14	0/2828	0.30	0/4410
26	O	0.14	0/2828	0.31	0/4410
27	AX	0.20	0/2121	0.60	1/2852 (0.0%)
27	P	0.26	0/2121	0.64	0/2852
28	AY	0.27	0/1586	0.60	0/2134
28	Q	0.25	0/1586	0.55	0/2134
29	AZ	0.18	0/1571	0.58	0/2113
29	R	0.21	0/1571	0.61	1/2113 (0.0%)
30	Aa	0.21	0/1434	0.60	0/1926
30	S	0.35	0/1434	0.74	0/1926
31	Ab	0.25	0/1343	0.60	1/1816 (0.1%)
31	T	0.21	0/1333	0.61	2/1805 (0.1%)
32	Ac	0.23	0/1122	0.67	0/1515
32	U	0.48	0/1122	0.86	0/1515
33	Ad	0.36	1/1046 (0.1%)	0.62	0/1410
33	V	0.23	0/993	0.61	0/1341
34	Ae	0.29	0/1152	0.66	0/1551
34	W	0.30	0/1152	0.64	0/1551
35	Af	0.24	0/947	0.65	0/1268
35	X	0.23	0/947	0.66	0/1268
36	Ag	0.19	0/1043	0.60	0/1389
36	Y	0.23	0/1054	0.68	0/1403
37	Ah	0.19	0/1093	0.58	0/1460
37	Z	0.23	0/1093	0.60	0/1460
38	Ai	0.26	0/958	0.73	0/1281
38	a	0.27	0/964	0.76	0/1289
39	Aj	0.19	0/902	0.56	0/1209
39	b	0.20	0/902	0.64	0/1209
40	Ak	0.45	1/929 (0.1%)	0.77	0/1242
40	c	0.23	0/929	0.70	1/1242 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
41	Al	0.21	0/960	0.66	0/1278
41	d	0.18	0/960	0.58	0/1278
42	Am	0.25	0/829	0.70	0/1107
42	e	0.24	0/829	0.69	1/1107 (0.1%)
43	An	0.31	0/864	0.67	0/1156
43	f	0.22	0/864	0.62	0/1156
44	Ao	0.19	0/744	0.59	0/994
44	g	0.40	0/744	0.79	1/994 (0.1%)
45	Ap	0.19	0/787	0.63	0/1051
45	h	0.19	0/787	0.58	0/1051
46	Aq	0.32	0/766	0.62	1/1025 (0.1%)
46	i	0.26	0/766	0.73	0/1025
47	Ar	0.24	0/582	0.75	1/769 (0.1%)
47	j	0.25	0/582	0.69	0/769
48	As	0.20	0/635	0.68	0/848
48	k	0.59	2/635 (0.3%)	0.81	1/848 (0.1%)
49	At	0.24	0/510	0.72	0/677
49	l	0.36	0/510	0.70	0/677
50	Au	0.24	0/439	0.69	0/587
50	m	0.22	0/453	0.65	0/605
51	Av	0.39	1/450 (0.2%)	0.69	0/599
52	Aw	0.25	0/416	0.66	1/554 (0.2%)
52	o	0.27	0/416	0.74	0/554
53	Ax	0.20	0/380	0.72	0/498
53	p	0.20	0/380	0.81	2/498 (0.4%)
54	Ay	0.21	0/513	0.66	0/676
54	q	0.22	0/513	0.58	0/676
55	Az	0.19	0/303	0.72	0/397
55	r	0.25	0/303	0.63	0/397
56	B	0.23	2/10668 (0.0%)	0.56	0/14419
57	D	0.25	0/893	0.69	0/1205
57	y	0.27	0/893	0.75	0/1205
58	E	0.27	0/969	0.77	1/1300 (0.1%)
58	z	0.38	0/969	0.81	0/1300
59	M	0.14	0/1778	0.30	0/2768
60	n	0.19	0/435	0.65	0/581
61	s	0.42	0/326	0.71	0/441
62	w	0.18	0/1302	0.45	0/2018
63	x	0.20	0/970	0.60	0/1307
All	All	0.19	10/333181 (0.0%)	0.45	33/496574 (0.0%)

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	k	45	ARG	C-N	9.76	1.47	1.33
40	Ak	75	GLN	C-N	9.46	1.46	1.33
48	k	46	PHE	C-N	8.55	1.44	1.33
16	G	25	ALA	C-N	8.12	1.43	1.33
6	5	90	MET	C-N	-6.71	1.24	1.33
56	B	709	TRP	C-N	-6.18	1.25	1.33
16	G	26	GLU	C-N	-5.92	1.26	1.33
33	Ad	124	ALA	C-N	-5.51	1.25	1.33
51	Av	3	VAL	C-N	-5.42	1.26	1.33
56	B	708	HIS	C-N	-5.15	1.26	1.33

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	5	90	MET	CA-C-N	-10.46	104.76	122.33
6	5	90	MET	C-N-CA	-10.46	104.76	122.33
16	G	25	ALA	O-C-N	7.77	130.17	122.09
53	p	44	VAL	N-CA-CB	-7.52	103.59	112.39
27	AX	196	GLY	N-CA-C	7.07	121.21	112.73
48	k	45	ARG	O-C-N	7.02	130.63	123.26
44	g	52	GLU	CA-CB-CG	6.87	127.83	114.10
31	T	46	ALA	CA-C-N	6.80	134.53	121.54
31	T	46	ALA	C-N-CA	6.80	134.53	121.54
2	AB	46	THR	CA-C-N	6.34	124.24	120.24
2	AB	46	THR	C-N-CA	6.34	124.24	120.24
31	Ab	175	LYS	CB-CA-C	-6.04	109.63	116.63
53	p	44	VAL	CB-CA-C	5.79	118.84	112.19
6	5	90	MET	O-C-N	5.78	132.34	121.70
42	e	50	GLY	N-CA-C	-5.78	104.95	110.21
25	AV	613	A	O4'-C1'-N9	5.76	116.84	108.20
18	AO	76	LYS	CB-CG-CD	5.67	124.33	111.30
7	6	110	LYS	CA-CB-CG	5.34	124.78	114.10
52	Aw	27	LYS	CB-CG-CD	5.33	123.56	111.30
7	6	79	ARG	CB-CG-CD	5.33	123.55	111.30
47	Ar	19	LYS	CA-CB-CG	5.32	124.73	114.10
58	E	102	LEU	CB-CA-C	-5.26	110.53	116.63
18	AO	46	LYS	CB-CG-CD	5.25	123.38	111.30
6	AF	1	MET	CB-CG-SD	5.20	128.31	112.70
6	AF	91	ARG	NE-CZ-NH2	5.19	123.87	119.20
29	R	115	GLN	CA-CB-CG	5.18	124.46	114.10
15	AL	75	MET	CA-CB-CG	5.15	124.39	114.10
20	AQ	65	LEU	CA-CB-CG	5.13	134.26	116.30
4	3	36	GLN	CA-CB-CG	5.13	124.36	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	Aq	71	LYS	CB-CG-CD	5.12	123.08	111.30
40	c	114	LEU	CA-CB-CG	5.09	134.10	116.30
7	6	79	ARG	CA-CB-CG	5.05	124.20	114.10
7	6	40	GLU	CA-CB-CG	5.01	124.12	114.10

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	390	0
1	AA	33015	0	16617	352	0
2	1	1704	0	1732	46	0
2	AB	1704	0	1732	44	0
3	2	1624	0	1696	25	0
3	AC	1624	0	1696	40	0
4	3	1643	0	1707	35	0
4	AD	1643	0	1707	27	0
5	4	1105	0	1148	23	0
5	AE	1105	0	1148	27	0
6	5	817	0	808	25	0
6	AF	817	0	808	40	0
7	6	1181	0	1238	41	0
7	AG	1181	0	1238	26	0
8	7	979	0	1031	32	0
8	AH	979	0	1031	23	0
9	8	1022	0	1070	33	0
9	AI	1022	0	1070	27	0
10	9	786	0	828	27	0
10	AJ	786	0	828	19	0
11	A	1622	0	821	11	0
12	A1	551	0	588	8	0
12	v	589	0	629	9	0
13	A3	1638	0	830	17	0
14	AK	1026	0	1092	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
14	C	1026	0	1092	14	0
15	AL	883	0	941	22	0
15	F	883	0	941	17	0
16	AM	774	0	824	32	0
16	G	791	0	826	42	0
17	AN	714	0	734	19	0
17	H	702	0	721	7	0
18	AO	649	0	666	28	0
18	I	648	0	666	20	0
19	AP	648	0	691	17	0
19	J	648	0	691	19	0
20	AQ	544	0	565	17	0
20	K	535	0	552	14	0
21	AR	603	0	623	16	0
21	t	620	0	647	14	0
22	AS	665	0	714	13	0
22	u	665	0	714	16	0
23	AT	480	0	482	5	0
23	L	499	0	499	12	0
24	AU	1625	0	822	23	0
25	AV	62195	0	31280	678	0
25	N	62195	0	31280	582	0
26	AW	2529	0	1281	26	0
26	O	2529	0	1281	25	0
27	AX	2082	0	2154	46	0
27	P	2082	0	2154	39	0
28	AY	1565	0	1616	63	0
28	Q	1565	0	1616	28	0
29	AZ	1552	0	1619	31	0
29	R	1552	0	1619	40	0
30	Aa	1410	0	1444	44	0
30	S	1410	0	1444	44	0
31	Ab	1323	0	1371	25	0
31	T	1313	0	1358	27	0
32	Ac	1111	0	1148	17	0
32	U	1111	0	1148	22	0
33	Ad	1032	0	1085	8	0
33	V	979	0	1028	19	0
34	Ae	1129	0	1162	24	0
34	W	1129	0	1162	27	0
35	Af	938	0	1012	24	0
35	X	938	0	1012	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
36	Ag	1034	0	1104	25	0
36	Y	1045	0	1117	15	0
37	Ah	1074	0	1155	34	0
37	Z	1074	0	1157	15	0
38	Ai	945	0	989	25	0
38	a	951	0	994	23	0
39	Aj	892	0	923	7	0
39	b	892	0	923	18	0
40	Ak	917	0	962	24	0
40	c	917	0	962	15	0
41	Al	947	0	1019	26	0
41	d	947	0	1019	17	0
42	Am	816	0	839	25	0
42	e	816	0	839	13	0
43	An	857	0	922	15	0
43	f	857	0	922	23	0
44	Ao	738	0	807	14	0
44	g	738	0	807	9	0
45	Ap	779	0	831	14	0
45	h	779	0	831	9	0
46	Aq	753	0	780	9	0
46	i	753	0	780	13	0
47	Ar	575	0	592	23	0
47	j	575	0	592	9	0
48	As	625	0	652	13	0
48	k	625	0	652	13	0
49	At	509	0	543	12	0
49	l	509	0	543	10	0
50	Au	435	0	470	8	0
50	m	449	0	488	7	0
51	Av	444	0	458	8	0
52	Aw	409	0	440	11	0
52	o	409	0	440	6	0
53	Ax	377	0	418	9	0
53	p	377	0	418	9	0
54	Ay	504	0	572	9	0
54	q	504	0	572	9	0
55	Az	302	0	343	10	0
55	r	302	0	343	4	0
56	B	10462	0	10585	168	0
57	D	877	0	887	18	0
57	y	877	0	887	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	E	955	0	1016	18	0
58	z	955	0	1016	19	0
59	M	1593	0	810	6	0
60	n	429	0	440	10	0
61	s	316	0	283	9	0
62	w	1175	0	594	16	0
63	x	958	0	988	20	0
All	All	307377	0	211055	3829	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 8.

All (3829) 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)
25:AV:1655:A:C1'	28:AY:118:PHE:CE2	1.85	1.57
25:AV:1655:A:C1'	28:AY:118:PHE:HE2	1.13	1.55
30:S:38:MET:SD	30:S:53:ALA:HB1	1.52	1.49
30:Aa:104:ILE:CG2	30:Aa:175:PHE:HD1	1.23	1.48
25:AV:1655:A:H1'	28:AY:118:PHE:CE2	0.92	1.43
30:Aa:104:ILE:HG22	30:Aa:175:PHE:CD1	1.51	1.43
2:1:94:HIS:CD2	2:1:146:ASN:O	1.71	1.42
6:5:2:ARG:HD2	6:5:91:ARG:NH2	1.10	1.42
6:5:2:ARG:CD	6:5:91:ARG:HH22	1.36	1.37
25:AV:2483:C:O2'	37:Ah:51:ARG:NH1	1.62	1.31
30:Aa:104:ILE:CG2	30:Aa:175:PHE:CD1	2.10	1.30
2:AB:15:HIS:HE1	2:AB:16:PHE:CE2	1.50	1.28
37:Ah:41:LEU:HD22	37:Ah:45:GLN:NE2	1.58	1.17
30:S:38:MET:HE3	30:S:57:LEU:CD1	1.75	1.15
2:AB:15:HIS:CE1	2:AB:16:PHE:CE2	2.35	1.14
25:AV:1655:A:H1'	28:AY:118:PHE:CD2	1.82	1.14
18:AO:9:HIS:HD2	18:AO:18:GLN:HB2	1.13	1.13
2:1:94:HIS:HD2	2:1:146:ASN:O	0.81	1.13
37:Ah:41:LEU:HA	37:Ah:45:GLN:NE2	1.62	1.11
2:1:94:HIS:NE2	2:1:146:ASN:HB2	1.65	1.11
2:1:94:HIS:HD2	2:1:146:ASN:C	1.59	1.10
6:5:2:ARG:HD3	6:5:91:ARG:NH1	1.67	1.10
30:Aa:104:ILE:HG21	30:Aa:175:PHE:HD1	1.14	1.09
15:AL:98:ARG:HB2	15:AL:100:GLN:HE22	1.08	1.08
30:S:38:MET:SD	30:S:53:ALA:CB	2.41	1.08
2:AB:9:MET:SD	2:AB:47:VAL:HG22	1.95	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:z:76:GLU:OE1	58:z:77:HIS:HD2	1.36	1.07
8:7:14:ILE:HD11	8:7:75:ILE:CD1	1.84	1.07
14:AK:53:ARG:HE	14:AK:167:LYS:HG2	1.17	1.06
25:AV:1655:A:C1'	28:AY:118:PHE:CD2	2.37	1.06
6:5:2:ARG:HD2	6:5:91:ARG:CZ	1.86	1.05
58:z:76:GLU:OE1	58:z:77:HIS:CD2	2.11	1.04
6:5:2:ARG:HD3	6:5:91:ARG:HH12	0.90	1.04
30:Aa:104:ILE:HG22	30:Aa:175:PHE:CE1	1.93	1.03
25:AV:2475:C:H42	25:AV:2529:G:N2	1.56	1.03
14:AK:53:ARG:NE	14:AK:167:LYS:HG2	1.73	1.03
1:AA:1445:U:H3	1:AA:1457:G:H1	1.03	1.01
8:7:14:ILE:HD11	8:7:75:ILE:HD13	1.40	1.01
18:AO:9:HIS:CD2	18:AO:18:GLN:HB2	1.96	1.01
1:AA:662:U:OP1	6:AF:93:LYS:NZ	1.95	1.00
37:Ah:41:LEU:CD2	37:Ah:45:GLN:NE2	2.23	1.00
1:AA:458:U:H3	1:AA:474:G:H1	1.07	1.00
2:AB:15:HIS:HE1	2:AB:16:PHE:CZ	1.80	0.99
8:7:11:LEU:HD22	8:7:75:ILE:HG21	1.42	0.99
6:5:2:ARG:CD	6:5:91:ARG:HH12	1.74	0.99
25:AV:861:A:H62	25:AV:916:G:H21	1.05	0.99
25:N:1051:G:H1	25:N:1108:U:H3	1.05	0.98
1:AA:376:G:H1	1:AA:387:U:H3	1.07	0.97
3:2:105:GLU:OE1	3:2:107:ARG:HG3	1.66	0.96
1:AA:836:G:OP1	20:AQ:50:LYS:NZ	1.99	0.96
11:A:51:U:H3	11:A:63:G:H1	1.13	0.95
37:Ah:41:LEU:CD2	37:Ah:45:GLN:HE22	1.79	0.95
6:5:2:ARG:CD	6:5:91:ARG:NH2	2.05	0.95
25:AV:2475:C:N4	25:AV:2529:G:H22	1.64	0.95
2:AB:13:GLY:HA2	2:AB:16:PHE:CD2	2.02	0.94
25:N:2100:G:H1	25:N:2189:U:H3	0.99	0.93
2:AB:13:GLY:HA2	2:AB:16:PHE:HD2	1.32	0.93
37:Ah:41:LEU:CB	37:Ah:45:GLN:HE21	1.82	0.92
6:5:2:ARG:CD	6:5:91:ARG:NH1	2.32	0.92
18:AO:9:HIS:HD2	18:AO:18:GLN:CB	1.82	0.92
2:AB:15:HIS:CE1	2:AB:16:PHE:CZ	2.57	0.92
25:AV:2475:C:H42	25:AV:2529:G:H22	0.99	0.92
1:0:1127:G:H1	1:0:1145:A:N6	1.67	0.91
17:AN:36:ILE:O	17:AN:40:GLN:HG3	1.71	0.90
37:Ah:41:LEU:HD22	37:Ah:45:GLN:HE22	1.36	0.89
25:AV:539:G:H1	25:AV:554:U:H3	1.19	0.89
25:N:2102:G:H1	25:N:2187:U:H3	1.20	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1382:C:H4'	7:6:79:ARG:HE	1.37	0.88
42:Am:10:LYS:HG2	42:Am:12:HIS:CE1	2.08	0.88
2:AB:15:HIS:CE1	2:AB:16:PHE:CD2	2.61	0.88
37:Ah:41:LEU:CA	37:Ah:45:GLN:NE2	2.37	0.88
1:0:1008:U:H3	1:0:1020:G:H1	1.19	0.88
1:0:1382:C:H4'	7:6:79:ARG:HH11	1.39	0.87
24:AU:63:G:H5''	47:Ar:11:ARG:NH2	1.89	0.87
30:S:24:SER:HB3	30:S:27:GLN:HB2	1.57	0.87
1:0:458:U:H3	1:0:474:G:H1	1.23	0.87
30:Aa:122:PHE:CE2	30:Aa:167:ARG:HG2	2.10	0.87
25:AV:1655:A:O4'	28:AY:118:PHE:CD2	2.28	0.86
48:k:40:VAL:HG21	48:k:43:GLU:HB3	1.58	0.86
1:AA:1238:A:H62	1:AA:1301:U:H3	1.21	0.86
25:AV:1862:G:H1	25:AV:1880:U:H3	1.20	0.85
2:1:94:HIS:CD2	2:1:146:ASN:HB2	2.11	0.85
32:U:96:THR:CG2	32:U:112:LYS:HG3	2.05	0.85
6:AF:37:HIS:CE1	6:AF:95:ALA:HB1	2.11	0.85
30:Aa:104:ILE:HG21	30:Aa:175:PHE:CD1	1.96	0.84
24:AU:63:G:H5''	47:Ar:11:ARG:HH22	1.42	0.84
1:AA:597:G:O2'	19:AP:28:PHE:CE2	2.32	0.83
15:AL:98:ARG:CB	15:AL:100:GLN:HE22	1.92	0.83
1:0:1006:G:N1	1:0:1022:A:C2	2.46	0.83
1:AA:1422:G:H1	1:AA:1478:U:H3	1.21	0.82
25:AV:2483:C:C2'	37:Ah:51:ARG:HH11	1.91	0.82
30:Aa:163:ASP:O	30:Aa:167:ARG:HG3	1.79	0.82
1:0:137:U:H3	1:0:226:G:H1	1.26	0.82
25:AV:572:A:H61	25:AV:2029:G:H21	1.23	0.82
15:AL:98:ARG:HB2	15:AL:100:GLN:NE2	1.92	0.82
48:k:40:VAL:CG2	48:k:43:GLU:HB3	2.10	0.81
25:AV:78:U:H3	25:AV:108:G:H1	1.28	0.81
8:7:14:ILE:CD1	8:7:75:ILE:CD1	2.57	0.81
17:AN:33:THR:OG1	17:AN:87:LEU:HD11	1.79	0.81
30:S:38:MET:HE3	30:S:57:LEU:HD11	1.60	0.81
1:0:1440:U:H3	1:0:1461:G:H1	1.27	0.81
2:AB:9:MET:SD	2:AB:47:VAL:CG2	2.69	0.80
6:AF:37:HIS:CE1	6:AF:95:ALA:CB	2.65	0.79
30:Aa:44:ILE:HG22	30:Aa:83:TYR:CE2	2.16	0.79
37:Ah:41:LEU:CA	37:Ah:45:GLN:HE21	1.95	0.79
1:0:1127:G:H1	1:0:1145:A:H61	1.30	0.78
37:Z:54:THR:HG22	37:Z:59:ARG:HG2	1.64	0.78
6:5:2:ARG:CD	6:5:91:ARG:CZ	2.51	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:J:28:PHE:HE1	19:J:37:PHE:HB3	1.49	0.78
9:8:40:GLY:HA2	9:8:45:ARG:HH11	1.49	0.77
25:AV:1036:G:H1	25:AV:1119:U:H3	1.29	0.77
27:AX:161:TYR:HD2	27:AX:163:GLN:HE21	1.32	0.77
30:Aa:83:TYR:CD1	30:Aa:84:PRO:HD2	2.20	0.77
1:O:1006:G:H1	1:O:1022:A:H2	1.25	0.77
30:S:38:MET:CE	30:S:57:LEU:CD1	2.60	0.77
2:1:94:HIS:CD2	2:1:146:ASN:C	2.45	0.76
1:AA:137:U:H3	1:AA:226:G:H1	1.33	0.76
1:AA:593:U:H3	1:AA:646:G:H1	1.31	0.76
25:AV:377:G:H1	25:AV:397:U:H3	1.32	0.76
25:AV:572:A:N6	25:AV:2029:G:H21	1.81	0.76
1:O:454:G:H1	1:O:478:A:H61	1.34	0.76
32:U:96:THR:OG1	32:U:115:VAL:HB	1.86	0.76
42:Am:7:SER:HB3	42:Am:12:HIS:CE1	2.21	0.75
7:AG:73:VAL:HG11	7:AG:88:PRO:HB2	1.68	0.75
1:O:1382:C:H4'	7:6:79:ARG:NH1	2.02	0.75
30:S:38:MET:HE3	30:S:57:LEU:HD12	1.67	0.75
1:AA:1238:A:N6	1:AA:1301:U:H3	1.84	0.75
8:7:11:LEU:HD22	8:7:75:ILE:CG2	2.17	0.75
25:N:780:G:N1	27:P:229:ASP:OD2	2.20	0.74
1:O:1382:C:H4'	7:6:79:ARG:NE	2.02	0.74
25:AV:1422:G:H1	25:AV:1576:U:H3	1.33	0.74
18:AO:6:LEU:HD11	18:AO:17:TYR:HB3	1.69	0.74
25:AV:1655:A:O4'	28:AY:118:PHE:HD2	1.69	0.74
25:AV:1042:G:H1	25:AV:1113:U:H3	1.32	0.74
25:N:1471:G:H1	25:N:1520:U:H3	1.35	0.74
52:o:37:LYS:HE3	52:o:48:ILE:HD12	1.70	0.74
1:AA:1086:U:H3	1:AA:1099:G:H22	1.32	0.74
25:AV:2818:U:H3	25:AV:2828:G:H1	1.36	0.74
13:A3:1:G:C6	13:A3:74:A:N6	2.56	0.73
2:AB:13:GLY:CA	2:AB:16:PHE:HD2	2.02	0.73
25:AV:861:A:H62	25:AV:916:G:N2	1.83	0.73
37:Ah:41:LEU:HB3	37:Ah:45:GLN:HE21	1.51	0.73
25:N:78:U:H3	25:N:108:G:H1	1.34	0.73
25:N:2010:G:H5''	43:f:42:LYS:HB2	1.71	0.73
1:O:1238:A:H62	1:O:1301:U:H3	1.34	0.72
25:N:2720:U:H5''	40:c:53:ARG:NH1	2.04	0.72
1:O:977:A:OP1	16:G:61:ARG:NH1	2.22	0.72
25:AV:572:A:H61	25:AV:2029:G:N2	1.86	0.72
16:G:24:ARG:HH12	16:G:56:SER:CB	2.03	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:861:A:N6	25:AV:916:G:H21	1.86	0.72
1:0:1382:C:O2'	7:6:79:ARG:HD3	1.89	0.72
16:G:33:ASP:HB3	16:G:36:ALA:HB2	1.71	0.72
9:8:19:VAL:HG23	9:8:65:ILE:HG22	1.70	0.71
21:AR:32:ARG:HG2	21:AR:50:ALA:HB3	1.70	0.71
30:S:4:LEU:HD23	30:S:101:GLU:HG2	1.71	0.71
14:AK:53:ARG:NE	14:AK:167:LYS:CG	2.52	0.71
1:0:1127:G:N1	1:0:1145:A:N6	2.37	0.71
42:Am:4:VAL:HB	42:Am:40:MET:HB3	1.73	0.71
1:AA:664:G:H22	1:AA:741:G:H1	1.37	0.71
6:AF:63:ASN:ND2	6:AF:96:VAL:CG2	2.54	0.71
29:R:97:ASN:HB2	29:R:100:MET:HG2	1.73	0.71
37:Ah:41:LEU:HA	37:Ah:45:GLN:HE22	1.55	0.70
32:U:96:THR:HG21	32:U:112:LYS:HG3	1.73	0.70
3:2:108:LYS:HE3	3:2:144:LEU:HB3	1.74	0.70
56:B:294:LEU:HD22	56:B:360:ILE:HD13	1.74	0.70
32:U:96:THR:HG23	32:U:112:LYS:HG3	1.72	0.70
37:Ah:41:LEU:CB	37:Ah:45:GLN:NE2	2.55	0.70
1:0:1006:G:N1	1:0:1022:A:H2	1.85	0.69
9:AI:88:MET:HE3	9:AI:88:MET:H	1.56	0.69
38:a:49:GLU:HG2	38:a:94:TYR:HB2	1.74	0.69
25:AV:1039:A:H61	25:AV:1116:G:H1	1.39	0.69
25:AV:2508:G:H1	25:AV:2580:U:H3	1.40	0.69
1:0:1360:A:OP2	16:G:75:ARG:NH1	2.24	0.69
25:N:158:U:H3	25:N:168:G:H1	1.38	0.69
56:B:1194:TYR:H	56:B:1197:PHE:HB3	1.58	0.69
1:AA:586:C:O2	8:AH:4:GLN:NE2	2.24	0.69
42:e:76:LYS:HB2	42:e:85:LYS:HB3	1.75	0.69
9:8:130:ARG:HH22	59:M:33:C:H5''	1.58	0.68
25:AV:83:A:O2'	25:AV:103:A:N6	2.27	0.68
45:Ap:41:LEU:HD12	45:Ap:60:GLU:HG3	1.73	0.68
44:g:58:VAL:HG22	44:g:85:VAL:HG12	1.76	0.68
25:AV:1270:C:H5''	25:AV:1271:G:H5'	1.75	0.68
15:AL:25:VAL:HG23	15:AL:29:ARG:HB3	1.76	0.68
35:Af:4:GLU:HG3	35:Af:5:GLN:HG3	1.76	0.68
1:0:1317:C:OP1	16:G:24:ARG:NH1	2.27	0.68
1:0:1382:C:C4'	7:6:79:ARG:HH11	2.06	0.68
1:0:1382:C:C5'	7:6:79:ARG:HH11	2.07	0.67
7:6:150:ALA:HB1	57:D:59:THR:HG21	1.76	0.67
8:AH:80:ARG:NH2	8:AH:82:GLY:HA3	2.08	0.67
25:N:2641:G:H5''	34:W:78:THR:HB	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:76:G:H1	1:0:93:U:H3	1.40	0.67
20:AQ:73:ARG:HD2	57:y:113:VAL:HG13	1.75	0.67
1:AA:597:G:O2'	19:AP:28:PHE:CD2	2.45	0.67
19:J:64:CYS:SG	19:J:65:ARG:N	2.67	0.67
30:Aa:44:ILE:CG2	30:Aa:83:TYR:CE2	2.77	0.67
56:B:895:ILE:HG13	56:B:897:GLY:H	1.60	0.67
28:AY:116:LYS:HB2	28:AY:165:MET:HB3	1.75	0.67
37:Ah:64:TRP:HB2	37:Ah:104:GLU:HB2	1.76	0.67
1:AA:878:A:OP1	8:AH:80:ARG:HD2	1.95	0.67
40:Ak:29:LYS:HB3	40:Ak:40:LEU:HD11	1.77	0.67
1:0:38:G:H22	1:0:397:A:H5'	1.59	0.67
1:0:261:U:OP2	22:u:74:ARG:NH1	2.28	0.67
7:6:92:ARG:HG2	7:6:95:ARG:H	1.60	0.67
25:AV:1668:A:N3	25:AV:1670:C:N4	2.43	0.67
15:F:67:GLY:HA2	15:F:70:ARG:HB2	1.77	0.67
27:P:107:PRO:HA	27:P:195:VAL:HA	1.77	0.67
1:0:1060:U:P	16:G:85:ARG:HH12	2.17	0.66
51:Av:50:ARG:HB2	51:Av:52:ARG:HH22	1.60	0.66
30:Aa:74:VAL:HG12	30:Aa:76:GLY:H	1.58	0.66
25:N:2313:C:H5''	30:S:88:LYS:HZ2	1.60	0.66
25:N:2475:C:H42	25:N:2529:G:N2	1.93	0.66
1:0:501:C:OP1	58:E:114:ARG:NH1	2.29	0.66
1:AA:826:C:O2	8:AH:16:ASN:ND2	2.28	0.66
35:X:1:MET:N	35:X:33:ALA:O	2.29	0.66
1:0:823:C:HO2'	8:7:2:SER:N	1.93	0.66
1:AA:1116:U:H3	1:AA:1184:G:H1	1.44	0.66
41:d:49:ASP:HA	41:d:52:GLN:HB2	1.77	0.66
60:n:50:ARG:HB2	60:n:52:ARG:HH12	1.60	0.66
15:F:75:MET:HA	15:F:78:LYS:HB3	1.78	0.66
23:L:14:ALA:HB1	23:L:34:LEU:HD11	1.78	0.66
1:AA:988:G:H1'	1:AA:1015:G:H22	1.60	0.66
38:Ai:41:ALA:HA	38:Ai:44:LEU:HD12	1.78	0.66
1:0:1522:U:H2'	1:0:1523:G:H8	1.60	0.66
6:5:18:VAL:HA	6:5:21:MET:HG3	1.77	0.66
27:P:144:VAL:HB	27:P:154:LEU:HB2	1.78	0.65
35:X:17:ARG:HB3	35:X:45:GLU:HG2	1.77	0.65
12:A1:16:LEU:HD11	57:y:97:ILE:HD11	1.78	0.65
1:0:376:G:H5''	18:I:5:ARG:HB2	1.78	0.65
1:AA:192:A:N3	22:AS:55:GLN:NE2	2.45	0.65
49:l:31:GLN:HG3	49:l:37:LEU:HB2	1.78	0.65
1:AA:597:G:O2'	19:AP:28:PHE:HE2	1.75	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:152:A:N6	1:0:169:C:O2	2.29	0.65
7:AG:70:ARG:HE	7:AG:97:ASN:HB3	1.62	0.65
26:AW:30:C:H1'	26:AW:57:A:H61	1.61	0.65
8:7:14:ILE:HD11	8:7:75:ILE:HD12	1.78	0.65
9:8:38:TYR:HD1	9:8:39:PHE:H	1.44	0.65
1:AA:1238:A:N7	1:AA:1301:U:O4	2.30	0.65
25:AV:1450:G:H21	25:AV:1452:G:H1	1.44	0.65
53:Ax:2:LYS:HG3	53:Ax:6:GLN:HE21	1.62	0.65
25:N:29:U:O2'	41:d:11:ARG:NH1	2.30	0.65
25:N:2720:U:H5''	40:c:53:ARG:HH12	1.60	0.65
10:AJ:9:ARG:HB2	10:AJ:99:GLN:HB2	1.79	0.65
14:AK:53:ARG:HE	14:AK:167:LYS:CG	2.02	0.65
30:Aa:125:ARG:NH2	30:Aa:160:ALA:O	2.30	0.65
32:Ac:40:THR:O	32:Ac:43:ASN:ND2	2.30	0.65
37:Ah:41:LEU:HD23	37:Ah:45:GLN:HE22	1.61	0.65
25:N:882:G:H1	25:N:894:U:H3	1.44	0.65
25:N:2261:C:OP1	47:j:19:LYS:NZ	2.30	0.65
2:1:95:ARG:NH2	2:1:97:LEU:CD2	2.60	0.64
3:2:111:LEU:HG	3:2:111:LEU:O	1.95	0.64
14:AK:217:THR:O	25:AV:2124:G:N2	2.29	0.64
18:AO:9:HIS:CD2	18:AO:18:GLN:CB	2.68	0.64
25:AV:489:G:N7	43:An:49:LYS:NZ	2.45	0.64
26:AW:88:C:O2'	26:AW:90:C:N3	2.30	0.64
28:AY:14:ILE:HD11	28:AY:188:LEU:HD12	1.79	0.64
8:AH:10:MET:HB2	8:AH:27:MET:SD	2.37	0.64
28:AY:14:ILE:HG13	28:AY:24:VAL:HG11	1.80	0.64
31:Ab:69:ARG:O	31:Ab:69:ARG:NH2	2.28	0.64
25:N:475:C:O2	25:N:479:A:N6	2.30	0.64
25:AV:1800:C:H42	25:AV:1817:G:N2	1.94	0.64
9:8:30:ILE:HD13	9:8:65:ILE:HG13	1.78	0.64
25:AV:2102:G:H1	25:AV:2187:U:H3	1.46	0.64
25:N:2475:C:H42	25:N:2529:G:H22	1.45	0.64
9:AI:46:MET:N	9:AI:46:MET:SD	2.69	0.64
14:C:217:THR:O	25:N:2124:G:N2	2.30	0.64
18:I:6:LEU:HD11	18:I:17:TYR:HB3	1.80	0.64
25:AV:2305:U:H5''	30:Aa:131:GLY:HA3	1.80	0.64
1:AA:1072:G:H21	2:AB:106:THR:HG21	1.63	0.64
24:AU:63:G:C5'	47:Ar:11:ARG:HH22	2.09	0.64
25:N:400:G:N7	48:k:57:ARG:NH1	2.45	0.64
1:0:545:C:OP1	4:3:58:LYS:NZ	2.30	0.64
25:AV:2356:U:H4'	47:Ar:20:ARG:HG3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:2866:U:H4'	25:AV:2867:G:H4'	1.79	0.64
30:Aa:4:LEU:HD12	30:Aa:101:GLU:HG2	1.80	0.64
1:AA:950:U:H3	1:AA:1231:G:H1	1.46	0.63
25:AV:291:G:H1	25:AV:349:U:H3	1.45	0.63
25:AV:1509:A:H2'	25:AV:1510:G:H8	1.62	0.63
2:AB:96:TRP:CZ2	2:AB:100:MET:HG2	2.33	0.63
25:AV:1416:G:O2'	25:AV:1587:G:N2	2.31	0.63
7:6:49:THR:O	7:6:52:GLN:NE2	2.31	0.63
25:N:284:U:H3	25:N:356:G:H1	1.46	0.63
2:AB:166:ALA:HB3	2:AB:191:SER:HB3	1.81	0.63
5:AE:149:SER:H	5:AE:152:MET:HE2	1.63	0.63
17:AN:19:ALA:O	17:AN:20:ASN:ND2	2.31	0.63
25:AV:1779:U:OP2	25:AV:1784:A:N6	2.31	0.63
25:AV:2816:G:N3	25:AV:2883:A:O2'	2.31	0.63
40:Ak:60:THR:HG22	40:Ak:73:VAL:HG12	1.81	0.63
25:N:210:C:OP1	53:p:29:GLN:NE2	2.31	0.63
43:An:82:MET:HE1	43:An:84:ARG:HB2	1.80	0.63
2:AB:154:MET:HE1	2:AB:158:PRO:HG3	1.80	0.63
15:AL:72:GLU:HA	15:AL:75:MET:HB3	1.81	0.63
25:AV:627:A:H5''	36:Ag:78:ARG:HH22	1.63	0.63
16:G:24:ARG:NH2	16:G:55:SER:OG	2.32	0.63
25:N:881:G:N1	25:N:895:U:N3	2.47	0.63
27:P:145:GLU:HB2	27:P:188:CYS:HB3	1.81	0.63
19:AP:28:PHE:CZ	19:AP:37:PHE:HB3	2.33	0.62
1:0:152:A:N6	1:0:169:C:C2	2.67	0.62
1:0:559:A:H4'	1:0:560:A:H3'	1.82	0.62
27:AX:84:ASP:OD2	27:AX:87:ARG:NH2	2.33	0.62
36:Ag:55:MET:HG3	36:Ag:60:ARG:HB3	1.80	0.62
25:AV:2450:A:N6	25:AV:2501:C:O2	2.32	0.62
25:N:1992:G:N2	25:N:1996:C:O2'	2.33	0.62
1:0:405:U:O4	4:3:2:ALA:N	2.33	0.62
25:AV:956:G:H5''	37:Ah:76:LYS:HG3	1.82	0.62
32:U:66:ASN:HD22	32:U:135:HIS:HB2	1.63	0.62
25:AV:159:G:O2'	25:AV:167:A:N6	2.32	0.62
25:AV:463:G:N2	25:AV:466:A:OP2	2.30	0.62
57:y:13:ARG:N	57:y:76:GLU:O	2.32	0.62
25:AV:1664:A:H61	25:AV:1996:C:H42	1.48	0.62
1:AA:663:A:C5'	20:AQ:50:LYS:HE3	2.29	0.62
3:AC:156:ARG:HD3	3:AC:193:TYR:HB3	1.82	0.62
25:AV:2023:C:H2'	25:AV:2024:G:H8	1.65	0.62
56:B:1264:ILE:HA	56:B:1267:MET:HB3	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:61:LEU:HD11	20:K:24:LYS:HD2	1.82	0.62
25:N:2109:U:O2'	25:N:2180:U:N3	2.32	0.62
29:R:125:SER:O	29:R:137:LYS:NZ	2.32	0.62
1:0:664:G:H22	1:0:741:G:H1	1.48	0.62
6:AF:80:PHE:CD2	27:AX:124:ILE:HD11	2.35	0.61
8:AH:13:ARG:NH2	8:AH:26:THR:O	2.32	0.61
25:AV:2857:G:N2	25:AV:2860:A:OP2	2.29	0.61
40:Ak:92:VAL:HG11	40:Ak:97:LEU:HD21	1.81	0.61
1:0:427:U:OP1	4:3:13:ARG:NH1	2.33	0.61
1:AA:1229:A:OP1	15:AL:113:ARG:HD3	2.01	0.61
30:S:38:MET:SD	30:S:53:ALA:CA	2.88	0.61
1:0:779:C:O2'	57:D:122:ARG:NH2	2.33	0.61
25:N:1528:A:OP2	25:N:1543:G:N2	2.33	0.61
1:0:1530:G:O6	12:v:46:LYS:NZ	2.33	0.61
1:AA:651:C:N4	1:AA:753:A:OP2	2.33	0.61
47:Ar:15:ASP:OD1	47:Ar:16:SER:N	2.34	0.61
38:a:8:ARG:NH2	38:a:43:GLU:OE2	2.32	0.61
41:d:44:GLN:NE2	42:e:77:PHE:O	2.34	0.61
3:AC:59:ARG:HG2	3:AC:64:ILE:HG22	1.83	0.61
25:AV:1062:G:H2'	25:AV:1063:G:H8	1.66	0.61
25:AV:2615:U:C2	51:Av:4:GLN:HA	2.35	0.61
56:B:1184:ASP:HB3	56:B:1219:ARG:HH22	1.65	0.61
31:T:101:ASN:HB2	31:T:117:LEU:HB2	1.81	0.61
7:AG:147:ALA:O	57:y:56:ARG:NH1	2.34	0.61
1:0:765:G:N2	1:0:813:U:OP2	2.33	0.61
1:0:1382:C:C4'	7:6:79:ARG:HE	2.13	0.61
17:AN:47:LYS:O	17:AN:53:ARG:NH1	2.32	0.61
26:AW:5:U:H2'	26:AW:6:G:H8	1.65	0.61
56:B:641:LYS:HE3	56:B:643:GLU:HB2	1.81	0.61
34:W:49:ASP:OD1	34:W:121:LYS:NZ	2.32	0.61
25:N:1270:C:H5''	25:N:1271:G:H5'	1.83	0.61
25:N:1779:U:OP2	25:N:1784:A:N6	2.32	0.61
10:9:64:GLN:O	16:G:99:ALA:N	2.31	0.61
1:AA:677:U:H3	1:AA:713:G:H22	1.49	0.61
55:Az:30:GLU:OE1	55:Az:33:HIS:ND1	2.34	0.61
25:N:140:C:OP1	25:N:141:G:N2	2.30	0.61
25:N:2515:C:H2'	25:N:2516:A:H8	1.65	0.61
39:b:43:ASN:HD21	39:b:46:GLU:HG2	1.65	0.61
25:AV:2548:U:O2'	35:Af:4:GLU:OE2	2.18	0.61
30:Aa:46:ASP:HB3	30:Aa:49:LEU:HG	1.82	0.61
25:N:1065:U:H3	25:N:1069:A:H8	1.47	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:402:G:OP1	4:3:71:GLN:NE2	2.33	0.60
2:AB:106:THR:HA	2:AB:109:GLN:HE22	1.66	0.60
35:Af:18:ARG:HB3	35:Af:45:GLU:HB3	1.83	0.60
16:G:24:ARG:CZ	16:G:56:SER:HA	2.30	0.60
23:L:38:SER:HB3	30:S:105:THR:HA	1.83	0.60
1:0:1030:U:H4'	56:B:725:TYR:HD1	1.65	0.60
13:A3:23:G:H2'	13:A3:24:A:H8	1.66	0.60
2:AB:94:HIS:ND1	2:AB:146:ASN:O	2.31	0.60
23:AT:14:ALA:HB1	23:AT:34:LEU:HD11	1.82	0.60
28:AY:37:VAL:HG22	28:AY:48:ILE:HG22	1.82	0.60
1:0:1238:A:H5'	1:0:1336:C:H41	1.65	0.60
25:AV:1051:G:O6	25:AV:1108:U:O4	2.19	0.60
25:AV:2081:U:H2'	25:AV:2082:A:H8	1.66	0.60
25:AV:2641:G:H5''	34:Ae:78:THR:HB	1.83	0.60
44:Ao:8:LEU:HG	44:Ao:50:LEU:HD11	1.83	0.60
21:t:55:ARG:HH11	21:t:79:THR:HG21	1.66	0.60
6:AF:37:HIS:ND1	6:AF:95:ALA:HB1	2.15	0.60
25:AV:629:G:N3	25:AV:639:U:O2'	2.35	0.60
16:G:24:ARG:NH1	16:G:56:SER:HA	2.16	0.60
25:N:1006:C:H1'	34:W:108:MET:HG2	1.83	0.60
33:V:15:ALA:O	33:V:43:ASN:ND2	2.33	0.60
7:AG:73:VAL:CG1	7:AG:88:PRO:HB2	2.30	0.60
27:AX:138:GLY:H	27:AX:164:ILE:HG23	1.66	0.60
28:AY:8:LYS:HB2	28:AY:201:LEU:HD11	1.84	0.60
20:K:33:ILE:HD11	20:K:59:ILE:HG12	1.82	0.60
25:N:301:G:OP2	45:h:82:ARG:NH1	2.34	0.60
25:AV:1655:A:C2'	28:AY:118:PHE:HE2	2.05	0.60
25:AV:2848:G:O2'	25:AV:2867:G:N2	2.34	0.60
28:AY:164:GLN:NE2	28:AY:165:MET:O	2.35	0.60
15:F:54:ASP:N	15:F:54:ASP:OD1	2.33	0.60
25:N:2134:A:H1'	25:N:2159:G:H1'	1.83	0.60
42:e:4:VAL:HB	42:e:40:MET:HB3	1.82	0.60
1:0:438:U:O4	1:0:494:G:C2	2.55	0.60
1:0:1006:G:O6	1:0:1022:A:N1	2.35	0.60
5:4:106:ILE:HD11	5:4:124:LEU:HG	1.82	0.60
1:AA:1522:U:H2'	1:AA:1523:G:H8	1.65	0.60
25:AV:1717:A:N6	25:AV:1743:G:O2'	2.34	0.60
28:AY:9:VAL:HA	28:AY:197:THR:HG23	1.83	0.60
44:Ao:51:PHE:HB3	44:Ao:53:VAL:HG22	1.84	0.60
1:AA:559:A:H4'	1:AA:560:A:H3'	1.84	0.60
1:AA:663:A:H5'	20:AQ:50:LYS:HE3	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:400:G:N7	48:As:57:ARG:NH1	2.48	0.60
39:Aj:107:ALA:HB1	39:Aj:111:ARG:HH11	1.66	0.60
57:D:25:ALA:HA	57:D:30:THR:HA	1.84	0.60
1:AA:1238:A:N6	1:AA:1301:U:N3	2.45	0.60
25:AV:807:U:O2'	25:AV:2060:A:N1	2.34	0.60
25:AV:2083:G:H1	25:AV:2236:U:H3	1.49	0.60
25:AV:2305:U:O2	30:Aa:133:ARG:NH2	2.35	0.60
25:N:2313:C:H5''	30:S:88:LYS:HD3	1.82	0.60
12:v:45:ARG:O	12:v:49:LYS:NZ	2.35	0.60
1:AA:401:C:O2'	1:AA:621:A:N3	2.32	0.60
1:AA:1522:U:OP1	57:y:128:ARG:NH2	2.34	0.60
25:AV:2220:U:H5''	32:Ac:112:LYS:HE3	1.84	0.60
25:N:309:A:N3	25:N:329:G:O2'	2.34	0.60
25:N:612:G:N2	25:N:614:A:O2'	2.35	0.60
25:N:1936:A:H2	25:N:1943:U:H3	1.48	0.60
25:N:2743:U:O2'	31:T:153:ARG:NH1	2.35	0.60
25:N:2446:G:N2	25:N:2449:U:O2	2.34	0.59
42:e:15:SER:OG	42:e:16:GLU:N	2.34	0.59
58:z:68:GLY:O	58:z:99:ARG:NH2	2.35	0.59
2:1:24:ASN:ND2	2:1:192:ASP:OD1	2.35	0.59
19:AP:9:GLN:HG3	19:AP:60:GLU:HG3	1.83	0.59
30:Aa:122:PHE:CE2	30:Aa:167:ARG:CG	2.83	0.59
41:Al:92:ARG:HA	41:Al:95:LEU:HD23	1.85	0.59
25:N:634:C:H5''	36:Y:126:ARG:HH12	1.67	0.59
25:N:877:A:O2'	25:N:900:A:N6	2.35	0.59
37:Z:66:ARG:NH2	37:Z:104:GLU:OE2	2.34	0.59
57:y:24:HIS:HB3	57:y:31:ILE:HG22	1.84	0.59
1:0:673:A:H2'	1:0:674:G:C8	2.37	0.59
1:0:811:C:O2'	1:0:901:A:N1	2.35	0.59
1:AA:375:U:H5''	18:AO:70:ARG:HG3	1.85	0.59
2:AB:27:MET:HG3	2:AB:189:THR:HA	1.83	0.59
25:AV:1214:A:H61	25:AV:1235:G:H1'	1.66	0.59
25:N:2229:U:H2'	25:N:2230:G:H8	1.66	0.59
39:b:76:LYS:NZ	39:b:80:GLU:OE2	2.35	0.59
1:0:1180:A:OP2	9:8:99:ARG:NH1	2.36	0.59
22:AS:76:LYS:O	22:AS:80:THR:OG1	2.20	0.59
23:L:25:ARG:HB2	30:S:98:GLU:HG3	1.84	0.59
25:N:1724:G:O6	25:N:1737:G:N2	2.31	0.59
49:l:16:THR:HA	49:l:19:LEU:HB2	1.83	0.59
1:0:438:U:N3	1:0:496:A:C6	2.70	0.59
1:AA:216:U:H4'	1:AA:464:U:H4'	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1429:G:H2'	25:AV:1430:G:H8	1.68	0.59
25:AV:2245:U:H5''	25:AV:2246:G:H5'	1.83	0.59
48:As:9:GLY:O	48:As:11:ARG:NH2	2.36	0.59
25:N:2170:A:H2'	25:N:2171:A:H4'	1.84	0.59
57:y:75:LYS:NZ	57:y:79:ILE:O	2.35	0.59
11:A:22:G:N7	11:A:46:G:N2	2.46	0.59
14:AK:53:ARG:NE	14:AK:167:LYS:HE2	2.18	0.59
31:T:98:VAL:HG11	31:T:124:GLU:HA	1.84	0.59
44:g:49:LYS:HG2	44:g:50:LEU:HD13	1.84	0.59
1:0:674:G:H2'	1:0:675:A:H8	1.67	0.59
1:0:1175:G:H2'	1:0:1176:A:H8	1.68	0.59
6:5:22:ILE:HG21	6:5:39:LEU:HD11	1.84	0.59
25:AV:2229:U:H2'	25:AV:2230:G:H8	1.67	0.59
26:AW:5:U:O2'	26:AW:27:C:O2	2.20	0.59
38:AI:79:LEU:HD23	38:AI:83:LEU:HD13	1.82	0.59
27:P:110:LEU:HD11	27:P:116:ILE:HD11	1.85	0.59
9:8:38:TYR:O	9:8:39:PHE:C	2.46	0.59
9:8:60:LYS:HD3	9:8:61:LEU:HB3	1.84	0.59
8:AH:15:ARG:NH2	8:AH:75:ILE:O	2.35	0.59
9:AI:120:LYS:HG2	9:AI:123:ARG:HB3	1.84	0.59
14:AK:7:ARG:NH1	14:AK:35:THR:O	2.36	0.59
25:AV:1062:G:H2'	25:AV:1063:G:C8	2.37	0.59
56:B:417:PHE:HA	56:B:420:ARG:HD2	1.84	0.59
56:B:709:TRP:HA	56:B:716:VAL:HA	1.84	0.59
8:7:15:ARG:NH2	8:7:75:ILE:O	2.36	0.59
1:AA:369:G:H5''	32:U:92:GLY:HA2	1.84	0.59
21:AR:32:ARG:HG2	21:AR:50:ALA:CB	2.33	0.59
25:N:340:A:O2'	29:R:162:ARG:NH1	2.33	0.59
29:R:12:LEU:HD21	29:R:193:VAL:HG21	1.84	0.59
1:0:407:U:OP1	4:3:3:ARG:NH1	2.35	0.59
10:AJ:65:TYR:HB3	16:AM:96:LEU:HD11	1.85	0.59
18:AO:79:ASN:ND2	18:AO:82:ALA:O	2.36	0.59
25:AV:918:A:O2'	26:AW:96:G:N2	2.35	0.59
44:Ao:15:HIS:H	44:Ao:32:LEU:HA	1.68	0.59
56:B:1156:VAL:HA	56:B:1159:ILE:HD12	1.85	0.59
2:1:100:MET:HA	2:1:107:VAL:HG21	1.84	0.58
7:AG:75:VAL:HA	7:AG:88:PRO:HA	1.85	0.58
25:AV:627:A:OP1	36:Ag:78:ARG:NH2	2.36	0.58
28:AY:188:LEU:HD21	40:Ak:8:LEU:HD21	1.85	0.58
53:Ax:24:THR:HG23	53:Ax:27:GLY:H	1.69	0.58
25:N:1266:G:OP1	60:n:16:ARG:NH2	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:4:94:VAL:HG13	5:4:111:MET:HE1	1.85	0.58
9:8:30:ILE:HD11	9:8:67:VAL:HG12	1.85	0.58
30:Aa:117:LEU:HD12	30:Aa:175:PHE:HZ	1.68	0.58
27:P:71:LYS:NZ	27:P:100:GLU:OE1	2.32	0.58
1:0:104:G:OP1	22:u:16:LYS:NZ	2.36	0.58
4:3:93:LEU:O	4:3:136:GLN:NE2	2.30	0.58
1:AA:946:A:O2'	1:AA:1333:A:N3	2.32	0.58
19:AP:28:PHE:CD2	19:AP:28:PHE:O	2.56	0.58
31:T:86:LYS:NZ	31:T:87:LEU:O	2.34	0.58
2:1:94:HIS:CD2	2:1:146:ASN:CB	2.84	0.58
2:1:127:ASP:OD1	2:1:127:ASP:N	2.36	0.58
7:6:78:ARG:HB3	7:6:85:TYR:HB3	1.85	0.58
6:AF:37:HIS:CE1	6:AF:95:ALA:HB2	2.37	0.58
14:AK:53:ARG:CZ	14:AK:167:LYS:HE2	2.33	0.58
25:AV:793:A:OP2	25:AV:2071:A:O2'	2.21	0.58
56:B:323:LEU:HA	56:B:327:LEU:HD22	1.86	0.58
25:AV:329:G:H1	45:Ap:17:LYS:HG3	1.69	0.58
18:I:5:ARG:NH1	18:I:23:ASP:O	2.36	0.58
1:AA:34:C:H2'	1:AA:35:G:H8	1.67	0.58
1:AA:126:G:OP1	1:AA:605:U:O2'	2.21	0.58
1:AA:673:A:H2'	1:AA:674:G:C8	2.38	0.58
25:AV:1153:C:H5''	41:Al:62:ILE:HD13	1.84	0.58
25:AV:2522:U:O2'	25:AV:2647:U:OP1	2.22	0.58
56:B:490:GLY:HA2	56:B:493:LEU:HD12	1.85	0.58
56:B:600:GLN:NE2	62:w:577:U:OP2	2.36	0.58
17:H:47:LYS:O	17:H:53:ARG:NH1	2.37	0.58
18:I:76:LYS:O	18:I:79:ASN:ND2	2.36	0.58
1:0:949:A:N7	15:F:105:ASN:ND2	2.51	0.58
3:AC:80:LYS:HG3	3:AC:82:GLU:H	1.68	0.58
21:AR:62:VAL:HA	21:AR:66:MET:HE2	1.85	0.58
24:AU:9:A:H2'	24:AU:11:C:H41	1.66	0.58
25:AV:28:A:N6	25:AV:512:G:O2'	2.37	0.58
25:N:2848:G:O2'	25:N:2867:G:N2	2.37	0.58
27:P:69:ARG:O	27:P:189:ARG:NH2	2.37	0.58
1:0:8:A:H5''	5:4:126:LYS:HE2	1.84	0.58
2:1:114:LEU:HD13	2:1:144:LEU:HB3	1.84	0.58
1:AA:1251:A:N3	1:AA:1369:C:O2'	2.35	0.58
25:AV:631:A:OP2	54:Ay:23:LYS:NZ	2.37	0.58
28:AY:148:GLN:HB2	28:AY:152:PRO:HD2	1.84	0.58
30:S:100:PHE:CE2	30:S:173:PHE:HD2	2.21	0.58
43:f:53:SER:O	43:f:57:ASN:ND2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:l:8:GLU:O	49:l:60:LYS:NZ	2.36	0.58
1:0:1321:U:H3'	1:0:1322:C:H2'	1.85	0.58
4:AD:12:SER:HA	4:AD:19:LEU:HD13	1.86	0.58
25:AV:511:U:H4'	25:AV:1235:G:H4'	1.84	0.58
25:AV:1664:A:H61	25:AV:1996:C:N4	2.01	0.58
56:B:1116:GLY:HA2	56:B:1119:LYS:HE2	1.85	0.58
1:0:28:A:O2'	1:0:296:U:OP1	2.21	0.58
1:AA:309:A:H2'	1:AA:310:G:H8	1.68	0.58
1:AA:1261:A:N6	1:AA:1274:A:O2'	2.37	0.58
25:AV:621:A:OP2	36:Ag:99:ASN:ND2	2.36	0.58
37:Ah:124:LEU:HD12	37:Ah:125:PRO:HD2	1.86	0.58
15:F:69:LEU:HA	15:F:72:GLU:HB3	1.86	0.58
28:Q:14:ILE:HG23	28:Q:22:ILE:HB	1.86	0.58
1:0:438:U:O4	1:0:494:G:N2	2.37	0.57
14:AK:53:ARG:CD	14:AK:167:LYS:HE2	2.34	0.57
25:N:75:G:H22	25:N:111:A:H2	1.51	0.57
25:N:476:G:N1	25:N:479:A:OP2	2.36	0.57
1:AA:28:A:O2'	1:AA:296:U:OP1	2.23	0.57
1:AA:137:U:H2'	1:AA:138:G:H8	1.68	0.57
1:AA:835:U:H3	1:AA:851:G:H1	1.52	0.57
1:AA:958:A:N6	21:AR:77:THR:O	2.37	0.57
9:AI:50:GLN:OE1	9:AI:80:ARG:NH2	2.37	0.57
25:AV:2818:U:O2	25:AV:2828:G:N2	2.35	0.57
34:Ae:57:LEU:HD11	34:Ae:130:HIS:HD2	1.69	0.57
40:Ak:25:THR:HA	40:Ak:46:VAL:HA	1.87	0.57
25:N:2500:U:O2'	25:N:2504:U:OP1	2.22	0.57
1:0:8:A:N6	4:3:202:GLU:O	2.35	0.57
1:0:1382:C:H4'	7:6:79:ARG:CZ	2.33	0.57
2:1:9:MET:N	2:1:9:MET:SD	2.78	0.57
3:2:136:ARG:HA	3:2:139:GLN:HE21	1.70	0.57
1:AA:335:C:O2'	1:AA:1433:A:N3	2.37	0.57
9:AI:123:ARG:NH2	9:AI:124:ARG:O	2.37	0.57
25:AV:95:A:H4'	49:At:39:GLN:HA	1.85	0.57
25:AV:1385:A:O2'	25:AV:1396:U:O2	2.21	0.57
25:AV:2107:G:O6	25:AV:2182:U:O2	2.23	0.57
26:AW:77:U:OP1	46:Aq:21:ARG:NH2	2.36	0.57
31:Ab:22:GLN:NE2	31:Ab:38:ASN:O	2.36	0.57
25:N:1469:A:OP2	25:N:1522:A:N6	2.36	0.57
25:N:2581:G:OP2	25:N:2581:G:N2	2.32	0.57
30:S:22:TYR:HB3	30:S:27:GLN:HB3	1.85	0.57
34:W:99:ARG:O	34:W:103:ILE:HD12	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:481:G:O2'	1:0:483:C:N4	2.37	0.57
4:3:83:LYS:O	4:3:89:ASN:ND2	2.36	0.57
5:4:103:THR:O	5:4:122:ASN:ND2	2.34	0.57
7:6:67:GLU:OE1	7:6:70:ARG:NH2	2.37	0.57
1:AA:107:G:OP1	1:AA:325:A:N6	2.36	0.57
25:N:629:G:N3	25:N:639:U:O2'	2.37	0.57
25:N:2863:C:H2'	25:N:2864:G:H8	1.70	0.57
35:X:25:LEU:HD13	35:X:38:ILE:HG22	1.85	0.57
1:AA:332:G:OP2	22:AS:3:ASN:N	2.38	0.57
25:AV:4:U:H2'	25:AV:5:A:H8	1.68	0.57
56:B:1097:LEU:HB3	56:B:1108:LEU:HD23	1.85	0.57
27:P:66:ASP:OD2	27:P:102:ARG:NH2	2.37	0.57
1:0:1048:G:OP1	16:G:4:GLN:N	2.38	0.57
1:AA:1463:U:H5''	40:Ak:109:ARG:HH11	1.70	0.57
25:AV:2371:G:HO2'	52:Aw:46:HIS:HD1	1.52	0.57
56:B:1205:ARG:NH1	56:B:1208:ASP:OD2	2.38	0.57
57:D:24:HIS:HA	57:D:87:LYS:O	2.04	0.57
8:7:113:ASP:N	8:7:113:ASP:OD1	2.36	0.57
1:AA:373:A:H61	1:AA:391:G:H1'	1.69	0.57
1:AA:683:G:N2	57:y:39:GLY:O	2.38	0.57
7:AG:57:SER:HB3	7:AG:60:GLU:HB2	1.86	0.57
25:AV:662:G:H2'	25:AV:663:G:H8	1.69	0.57
38:a:24:MET:HG2	38:a:44:LEU:HD21	1.85	0.57
61:s:146:THR:OG1	61:s:147:ASN:N	2.38	0.57
1:0:34:C:H2'	1:0:35:G:H8	1.70	0.57
6:5:49:TYR:OH	20:K:63:ARG:O	2.23	0.57
3:AC:34:ASP:OD2	16:AM:65:ARG:NH2	2.38	0.57
6:AF:10:VAL:HG11	6:AF:18:VAL:HG22	1.86	0.57
7:AG:113:ASP:OD2	7:AG:122:ASN:ND2	2.37	0.57
25:AV:953:G:H3'	37:Ah:16:ARG:HH11	1.68	0.57
56:B:1085:LEU:HD21	56:B:1149:VAL:HB	1.85	0.57
1:AA:54:C:OP1	1:AA:351:G:N2	2.38	0.57
17:AN:70:LEU:HA	17:AN:73:LYS:HB2	1.87	0.57
30:Aa:117:LEU:HD12	30:Aa:175:PHE:CZ	2.39	0.57
56:B:98:VAL:HG11	56:B:106:LYS:HE3	1.87	0.57
25:N:2539:C:H5'	55:r:3:VAL:HG21	1.85	0.57
38:a:37:THR:HA	38:a:110:MET:HA	1.86	0.57
3:2:111:LEU:HG	3:2:204:LYS:HE2	1.86	0.57
1:AA:1328:C:O2'	15:AL:29:ARG:NH2	2.37	0.57
6:AF:3:HIS:NE2	6:AF:95:ALA:HB2	2.20	0.57
16:AM:27:LEU:O	16:AM:32:SER:OG	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:619:G:OP2	25:AV:620:G:N2	2.37	0.57
25:AV:1992:G:N2	25:AV:1996:C:O2'	2.37	0.57
25:AV:2515:C:H2'	25:AV:2516:A:H8	1.69	0.57
29:AZ:176:ASP:OD1	29:AZ:176:ASP:N	2.37	0.57
56:B:99:ALA:HB1	56:B:231:THR:HA	1.85	0.57
56:B:159:ARG:NH1	62:w:576:U:OP2	2.38	0.57
46:i:86:LEU:HD23	46:i:89:ILE:HD11	1.86	0.57
57:y:46:THR:HG23	57:y:49:GLY:H	1.69	0.57
1:0:264:C:O2'	19:J:66:PRO:O	2.23	0.56
1:AA:1316:G:N2	1:AA:1319:A:OP2	2.36	0.56
10:AJ:10:LEU:HB2	10:AJ:72:ARG:HB2	1.86	0.56
25:AV:629:G:H1'	25:AV:639:U:H1'	1.86	0.56
25:AV:2411:A:H2'	25:AV:2412:A:H8	1.70	0.56
35:Af:64:ARG:NH2	35:Af:102:PRO:O	2.38	0.56
40:Ak:113:ARG:NH1	40:Ak:115:ASN:OXT	2.38	0.56
25:N:494:G:H4'	43:f:6:LYS:HB2	1.87	0.56
4:AD:54:GLN:HG2	4:AD:203:LEU:HD13	1.88	0.56
25:AV:381:G:OP1	48:As:18:ARG:NH1	2.38	0.56
42:Am:7:SER:HB3	42:Am:12:HIS:ND1	2.20	0.56
56:B:1142:ARG:NE	56:B:1142:ARG:O	2.37	0.56
33:V:133:ALA:HB1	33:V:138:LEU:HB2	1.86	0.56
8:7:14:ILE:CD1	8:7:75:ILE:HD12	2.33	0.56
10:9:6:ILE:HG13	10:9:102:LEU:HD22	1.86	0.56
1:AA:749:A:O2'	17:AN:20:ASN:OD1	2.24	0.56
1:AA:811:C:O2'	1:AA:901:A:N1	2.37	0.56
6:AF:63:ASN:ND2	6:AF:96:VAL:HG23	2.18	0.56
16:AM:86:GLU:HA	16:AM:89:MET:HB2	1.86	0.56
25:AV:340:A:O2'	29:AZ:162:ARG:NH1	2.34	0.56
25:AV:1432:G:H2'	25:AV:1433:A:C8	2.41	0.56
29:AZ:170:ARG:HH11	29:AZ:174:GLY:HA3	1.70	0.56
45:Ap:86:ARG:HG3	45:Ap:93:VAL:HG23	1.88	0.56
56:B:404:SER:OG	56:B:405:GLU:N	2.33	0.56
15:F:11:ASP:HA	15:F:45:ILE:HB	1.86	0.56
29:R:148:ILE:HG21	29:R:157:LEU:HD21	1.86	0.56
1:0:454:G:H1	1:0:478:A:N6	2.01	0.56
18:AO:9:HIS:HD2	18:AO:18:GLN:CG	2.18	0.56
25:AV:698:C:O2'	25:AV:734:A:N6	2.34	0.56
25:AV:2314:A:OP1	30:Aa:88:LYS:NZ	2.38	0.56
52:Aw:37:LYS:HD2	52:Aw:46:HIS:HB3	1.87	0.56
39:b:26:LEU:HB3	39:b:92:PHE:HA	1.87	0.56
1:AA:297:G:N2	1:AA:300:A:OP2	2.34	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:778:G:H21	57:y:122:ARG:HD2	1.70	0.56
1:AA:1101:A:N6	2:AB:175:GLU:OE2	2.38	0.56
25:AV:2705:A:O2'	25:AV:2852:G:OP1	2.24	0.56
17:H:68:ASP:OD1	17:H:68:ASP:N	2.34	0.56
25:N:2313:C:C5'	30:S:88:LYS:HD3	2.35	0.56
58:z:34:CYS:HA	58:z:55:VAL:HA	1.87	0.56
1:0:19:A:H5''	5:4:91:GLY:HA3	1.88	0.56
1:0:297:G:N2	1:0:300:A:OP2	2.34	0.56
1:0:1125:U:O2'	10:9:7:ARG:NH1	2.36	0.56
25:AV:306:U:H3	25:AV:310:A:H62	1.51	0.56
29:AZ:7:ASP:OD1	29:AZ:7:ASP:N	2.38	0.56
34:W:43:GLU:N	34:W:43:GLU:OE1	2.39	0.56
35:X:37:ASP:OD1	35:X:37:ASP:N	2.38	0.56
1:0:951:G:OP2	15:F:101:ARG:NH1	2.39	0.56
25:AV:2618:G:H21	28:AY:155:VAL:HG21	1.71	0.56
43:An:76:VAL:HG13	43:An:103:ILE:HG22	1.88	0.56
56:B:1104:LYS:NZ	56:B:1107:GLU:OE1	2.38	0.56
14:C:46:VAL:HB	14:C:171:ILE:HB	1.87	0.56
25:N:1675:C:O2	28:Q:133:THR:OG1	2.24	0.56
25:N:2749:A:OP1	31:T:2:SER:N	2.39	0.56
43:f:41:LYS:HE2	60:n:22:LEU:HD21	1.86	0.56
1:0:1071:C:H2'	1:0:1072:G:H8	1.70	0.56
1:0:1305:G:N2	1:0:1331:G:O2'	2.38	0.56
4:3:177:LYS:HE3	4:3:179:GLU:HB3	1.87	0.56
1:AA:1238:A:H5'	1:AA:1336:C:H41	1.71	0.56
25:AV:20:C:H2'	25:AV:21:A:H8	1.71	0.56
25:AV:574:A:N6	25:AV:2034:U:OP1	2.36	0.56
25:AV:783:A:H8	25:AV:784:G:H4'	1.70	0.56
1:AA:1356:G:H2'	1:AA:1357:A:C8	2.40	0.56
4:AD:194:ASP:OD1	4:AD:194:ASP:N	2.39	0.56
25:AV:995:C:OP2	41:Al:54:LYS:NZ	2.38	0.56
25:AV:1262:A:OP1	43:An:99:ARG:NH2	2.39	0.56
47:Ar:37:ILE:HD12	47:Ar:80:ILE:HG21	1.87	0.56
56:B:587:ASN:HB3	56:B:590:ARG:HB2	1.87	0.56
1:AA:1071:C:H2'	1:AA:1072:G:H8	1.69	0.56
1:AA:1241:G:H2'	1:AA:1242:G:H8	1.71	0.56
25:AV:974:G:O2'	25:AV:989:G:N2	2.36	0.56
25:AV:1528:A:OP2	25:AV:1543:G:N2	2.38	0.56
26:AW:13:G:N2	26:AW:16:G:N3	2.53	0.56
25:N:563:A:OP2	42:e:79:ARG:NH2	2.38	0.56
25:N:2141:G:H2'	25:N:2142:A:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:2822:G:OP1	28:Q:164:GLN:NE2	2.35	0.56
39:b:15:ARG:NH1	39:b:95:SER:OG	2.38	0.56
1:O:790:A:OP1	59:M:37:U:O2'	2.23	0.55
1:AA:409:U:H3	1:AA:433:G:H1	1.53	0.55
7:AG:118:LEU:O	7:AG:122:ASN:ND2	2.39	0.55
7:AG:133:THR:HA	7:AG:136:LYS:HB3	1.87	0.55
25:AV:1010:A:OP1	41:Al:66:ASN:ND2	2.39	0.55
56:B:1152:ILE:HG23	56:B:1206:LEU:HD11	1.88	0.55
18:I:4:ILE:HB	18:I:67:ILE:HA	1.87	0.55
25:N:1432:G:H2'	25:N:1433:A:C8	2.41	0.55
1:O:713:G:H2'	1:O:714:G:C8	2.41	0.55
5:AE:114:VAL:HG13	5:AE:115:LEU:HD13	1.87	0.55
25:AV:1469:A:OP2	25:AV:1522:A:N6	2.37	0.55
31:Ab:23:VAL:HG22	31:Ab:36:THR:HG23	1.89	0.55
56:B:517:GLU:HA	56:B:520:ILE:HD12	1.87	0.55
56:B:1085:LEU:HD22	56:B:1146:ASN:HD22	1.71	0.55
25:N:848:C:H2'	25:N:849:A:H8	1.70	0.55
25:N:2131:U:O2'	25:N:2158:A:N6	2.39	0.55
1:O:235:C:H2'	1:O:236:A:H8	1.71	0.55
1:O:264:C:H4'	19:J:65:ARG:HD2	1.87	0.55
15:AL:37:ALA:HB2	15:AL:59:GLU:HG3	1.88	0.55
29:AZ:106:LYS:HG3	29:AZ:200:LEU:HD23	1.88	0.55
34:Ae:106:LYS:HA	34:Ae:109:LEU:HD13	1.88	0.55
37:Ah:47:GLU:OE2	37:Ah:51:ARG:CG	2.54	0.55
58:E:31:ARG:HD2	58:E:79:VAL:HG11	1.87	0.55
25:N:2544:G:H4'	25:N:2645:G:H5'	1.88	0.55
29:R:143:LEU:HB3	29:R:146:VAL:HG21	1.87	0.55
25:AV:4:U:H2'	25:AV:5:A:C8	2.41	0.55
30:Aa:40:VAL:HG12	30:Aa:86:GLY:HA2	1.88	0.55
53:Ax:25:LYS:HA	53:Ax:28:ARG:HD2	1.87	0.55
56:B:7:LEU:HD23	56:B:12:LEU:HD12	1.87	0.55
25:N:151:C:H2'	25:N:152:A:H8	1.71	0.55
25:N:882:G:N2	25:N:894:U:O2	2.34	0.55
25:N:1429:G:H2'	25:N:1430:G:H8	1.72	0.55
25:N:2475:C:N4	25:N:2529:G:H22	2.05	0.55
28:Q:115:GLY:HA2	28:Q:166:GLY:HA3	1.88	0.55
45:h:86:ARG:NH1	45:h:100:SER:OG	2.36	0.55
1:O:890:G:O2'	1:O:906:A:N6	2.40	0.55
1:O:993:G:O2'	1:O:994:A:N7	2.40	0.55
1:O:1241:G:OP1	7:6:35:LYS:NZ	2.39	0.55
1:AA:1130:A:H2'	1:AA:1131:G:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:150:LYS:HD3	3:AC:169:ARG:HD3	1.86	0.55
8:AH:47:GLU:HG2	8:AH:64:LYS:HG2	1.88	0.55
25:AV:2096:C:H2'	25:AV:2097:A:H8	1.72	0.55
55:Az:27:CYS:SG	55:Az:28:SER:N	2.80	0.55
56:B:395:GLN:HB3	56:B:399:ARG:HH11	1.72	0.55
25:N:2136:G:H1	25:N:2155:U:H3	1.52	0.55
1:0:127:G:O2'	19:J:6:ARG:NH2	2.39	0.55
1:0:1241:G:H2'	1:0:1242:G:H8	1.71	0.55
1:0:1422:G:O2'	35:X:49:ARG:NH1	2.40	0.55
5:4:66:LYS:HA	5:4:69:ARG:HH11	1.71	0.55
8:7:37:ALA:HA	8:7:40:LEU:HD12	1.89	0.55
1:AA:339:C:OP1	35:Af:13:ASN:ND2	2.33	0.55
1:AA:911:U:OP2	58:z:94:ARG:NH2	2.39	0.55
1:AA:945:G:N2	1:AA:1334:G:O2'	2.40	0.55
16:AM:20:TYR:HD2	16:AM:51:LEU:HD23	1.71	0.55
25:AV:907:G:H5'	37:Ah:22:GLN:HG2	1.89	0.55
25:AV:1255:U:H5''	25:AV:1256:G:H5''	1.89	0.55
25:AV:1378:A:O2'	25:AV:1380:G:OP2	2.24	0.55
26:AW:36:C:N4	26:AW:49:C:O2	2.39	0.55
25:N:2061:G:N2	61:s:155:SER:OG	2.40	0.55
26:O:48:U:H4'	39:b:100:HIS:HD2	1.72	0.55
9:8:110:GLN:OE1	9:8:110:GLN:N	2.40	0.55
13:A3:61:U:OP1	13:A3:63:C:N4	2.39	0.55
1:AA:713:G:H2'	1:AA:714:G:C8	2.42	0.55
16:AM:72:GLY:HA3	16:AM:81:ARG:HG2	1.87	0.55
25:AV:1600:C:H2'	25:AV:1601:G:H8	1.71	0.55
28:AY:11:MET:HG2	28:AY:25:THR:HG23	1.88	0.55
32:Ac:1:MET:N	32:Ac:21:VAL:O	2.39	0.55
56:B:153:CYS:HA	56:B:168:THR:HA	1.89	0.55
56:B:1014:GLN:HB2	56:B:1017:LEU:HD11	1.89	0.55
56:B:1292:LEU:HA	56:B:1295:MET:HB2	1.89	0.55
25:N:1826:G:O2'	25:N:1971:U:OP2	2.25	0.55
28:Q:3:GLY:HA3	28:Q:204:LYS:HG2	1.89	0.55
1:0:1077:G:N2	1:0:1080:A:OP2	2.30	0.55
3:AC:10:ILE:HG13	3:AC:178:LEU:HD21	1.87	0.55
6:AF:36:ILE:HD11	6:AF:39:LEU:HB2	1.88	0.55
14:AK:53:ARG:CD	14:AK:167:LYS:CE	2.85	0.55
25:AV:1036:G:H2'	25:AV:1037:G:H8	1.72	0.55
25:AV:1072:C:H41	25:AV:1097:U:H5''	1.71	0.55
25:AV:1250:G:OP2	36:Ag:18:ARG:NH1	2.40	0.55
25:AV:2485:G:H4'	37:Ah:125:PRO:HD3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Ab:86:LYS:HG3	31:Ab:165:ALA:HB3	1.88	0.55
25:N:1791:A:H5'	27:P:205:LEU:HD12	1.88	0.55
25:N:2081:U:H2'	25:N:2082:A:H8	1.72	0.55
32:U:94:ILE:HD13	32:U:99:ILE:HD11	1.87	0.55
5:4:34:THR:HG22	5:4:52:LYS:HB2	1.88	0.55
6:5:66:ALA:HB3	6:5:71:ILE:HD11	1.89	0.55
1:AA:1397:C:OP2	5:AE:29:ARG:NH2	2.39	0.55
2:AB:96:TRP:CZ2	2:AB:100:MET:CG	2.89	0.55
9:AI:106:ARG:NH2	9:AI:107:ASP:O	2.40	0.55
25:AV:935:C:H2'	25:AV:936:A:H8	1.71	0.55
2:AB:105:LYS:O	2:AB:109:GLN:NE2	2.40	0.55
25:N:569:U:O2'	25:N:983:A:N1	2.36	0.55
1:AA:157:U:H2'	1:AA:158:G:H8	1.71	0.54
1:AA:1317:C:N3	21:AR:37:ARG:NH2	2.55	0.54
18:AO:9:HIS:CD2	18:AO:18:GLN:HG3	2.42	0.54
25:AV:1278:C:H2'	25:AV:1279:G:H8	1.72	0.54
25:AV:2047:C:O2'	25:AV:2823:A:N1	2.35	0.54
37:Ah:136:MET:HE2	46:Aq:77:VAL:HG22	1.87	0.54
39:Aj:50:ALA:O	39:Aj:81:ARG:NH2	2.40	0.54
56:B:94:GLN:HG3	56:B:95:VAL:HG23	1.89	0.54
25:N:320:A:OP1	29:R:130:LYS:NZ	2.38	0.54
25:N:2115:G:O2'	25:N:2166:U:O2	2.24	0.54
21:t:12:ASP:OD2	21:t:14:HIS:NE2	2.41	0.54
2:1:120:GLN:HB3	2:1:126:PHE:HB3	1.88	0.54
10:9:85:ASP:O	10:9:89:ARG:NH2	2.41	0.54
1:AA:691:G:O6	57:y:57:LYS:NZ	2.40	0.54
1:AA:1229:A:P	15:AL:113:ARG:HD3	2.47	0.54
10:AJ:66:GLU:HB2	16:AM:99:ALA:HB2	1.89	0.54
25:AV:1386:C:H2'	25:AV:1387:A:C8	2.42	0.54
56:B:19:LEU:HD11	56:B:54:ILE:HG23	1.88	0.54
56:B:1289:LYS:HA	56:B:1292:LEU:HG	1.88	0.54
20:K:37:GLY:O	20:K:63:ARG:NH1	2.39	0.54
25:N:673:C:OP1	29:R:49:ARG:NH2	2.38	0.54
25:N:1654:A:O2'	28:Q:118:PHE:O	2.24	0.54
25:N:2200:C:OP2	48:k:37:ARG:NH2	2.40	0.54
28:Q:164:GLN:NE2	28:Q:165:MET:O	2.41	0.54
29:R:115:GLN:HE22	29:R:117:ARG:HB2	1.72	0.54
38:a:28:LEU:HD23	38:a:48:VAL:HG11	1.88	0.54
47:j:64:ASP:OD1	47:j:64:ASP:N	2.40	0.54
1:0:1218:C:H2'	1:0:1219:A:H8	1.72	0.54
1:AA:505:G:H5'	1:AA:534:U:H2'	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:112:LYS:NZ	2:AB:116:ASP:OD2	2.38	0.54
23:AT:28:VAL:HG12	23:AT:30:HIS:H	1.73	0.54
25:AV:615:U:H3'	25:AV:616:A:H8	1.71	0.54
25:AV:2258:C:O2'	25:AV:2427:C:OP2	2.24	0.54
25:AV:2368:C:H2'	25:AV:2369:A:H8	1.72	0.54
25:AV:2483:C:HO2'	37:Ah:51:ARG:NH1	1.98	0.54
56:B:146:LEU:HD12	56:B:154:ILE:HD11	1.88	0.54
25:N:1204:A:N6	25:N:1242:U:O4	2.40	0.54
34:W:7:LYS:HB2	34:W:10:THR:HG22	1.89	0.54
1:O:977:A:O2'	1:O:979:C:OP2	2.26	0.54
1:O:1081:A:OP2	5:4:52:LYS:NZ	2.34	0.54
5:4:66:LYS:NZ	5:4:70:ASN:OD1	2.35	0.54
1:AA:538:G:H5''	58:z:111:LYS:HG2	1.89	0.54
1:AA:714:G:H2'	1:AA:715:A:C8	2.42	0.54
6:AF:10:VAL:HB	6:AF:58:HIS:HB3	1.89	0.54
25:AV:807:U:OP2	36:Ag:41:ARG:NH1	2.41	0.54
25:AV:1005:C:HO2'	34:Ae:30:THR:HG1	1.53	0.54
25:AV:2351:G:O2'	25:AV:2366:A:N6	2.41	0.54
56:B:367:GLY:O	56:B:420:ARG:NH1	2.40	0.54
14:C:45:ALA:N	14:C:213:SER:O	2.39	0.54
57:D:20:VAL:N	57:D:35:THR:O	2.39	0.54
25:N:532:A:N1	25:N:2035:G:N2	2.55	0.54
1:O:204:G:H2'	1:O:205:A:H8	1.72	0.54
1:O:1072:G:OP1	5:4:62:LYS:NZ	2.41	0.54
1:AA:599:C:H5''	8:AH:88:ARG:HA	1.89	0.54
5:AE:23:LYS:HB3	5:AE:30:ILE:HG12	1.89	0.54
25:AV:995:C:H42	34:Ae:2:LYS:HB3	1.72	0.54
25:AV:1482:G:H2'	25:AV:1483:G:H8	1.71	0.54
25:AV:2840:C:H5''	38:Ai:53:THR:HG21	1.90	0.54
31:Ab:123:ALA:HA	31:Ab:133:LEU:HA	1.90	0.54
41:Al:39:VAL:O	41:Al:43:GLY:N	2.41	0.54
42:Am:7:SER:CB	42:Am:12:HIS:CE1	2.91	0.54
56:B:131:ARG:HE	62:w:574:U:H4'	1.73	0.54
63:x:28:ALA:N	63:x:81:LEU:O	2.38	0.54
12:A1:4:ILE:O	57:y:109:ASN:ND2	2.39	0.54
1:AA:363:A:N6	58:z:27:CYS:SG	2.81	0.54
1:AA:1368:A:OP1	10:AJ:64:GLN:NE2	2.40	0.54
25:AV:48:G:N2	25:AV:49:A:N1	2.55	0.54
25:AV:1936:A:H2	25:AV:1943:U:H3	1.56	0.54
25:AV:2076:U:OP2	25:AV:2238:G:N2	2.41	0.54
28:AY:131:ASP:OD1	28:AY:131:ASP:N	2.38	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:Ab:38:ASN:ND2	31:Ab:64:GLN:OE1	2.40	0.54
56:B:895:ILE:HG12	56:B:898:LEU:HD12	1.90	0.54
25:N:918:A:N3	26:O:80:U:O2'	2.41	0.54
25:N:2102:G:N2	25:N:2187:U:O2	2.29	0.54
32:U:33:GLN:HE21	32:U:35:LYS:HD2	1.72	0.54
41:d:83:LEU:HB3	41:d:88:VAL:HB	1.89	0.54
1:O:1317:C:O2	21:t:37:ARG:NH2	2.40	0.54
18:AO:8:ARG:O	18:AO:29:ASN:ND2	2.41	0.54
25:AV:1068:G:O2'	25:AV:1070:A:N6	2.39	0.54
25:AV:2144:G:O2'	25:AV:2146:C:OP2	2.26	0.54
25:AV:2483:C:O2'	37:Ah:51:ARG:CZ	2.51	0.54
25:AV:2636:C:O2'	28:AY:45:TYR:OH	2.23	0.54
63:x:22:ALA:HA	63:x:86:MET:HA	1.90	0.54
58:z:114:ARG:HG3	58:z:119:VAL:HB	1.88	0.54
1:O:323:U:H5''	22:u:21:ASN:HD21	1.73	0.54
1:O:346:G:OP1	40:c:39:ARG:NH1	2.40	0.54
3:2:77:ILE:HA	3:2:84:VAL:HG23	1.89	0.54
7:6:69:VAL:HG23	7:6:100:ALA:HB1	1.89	0.54
1:AA:946:A:H2'	1:AA:947:G:C8	2.43	0.54
3:AC:8:ASN:ND2	3:AC:184:TYR:O	2.38	0.54
25:AV:1800:C:OP1	27:AX:258:ARG:NH1	2.41	0.54
25:AV:2487:G:H2'	25:AV:2488:G:H8	1.72	0.54
27:AX:69:ARG:HG3	27:AX:129:THR:HG21	1.90	0.54
45:Ap:48:PRO:HA	45:Ap:55:PRO:HD2	1.90	0.54
25:N:1044:C:O2'	25:N:1111:A:N1	2.38	0.54
28:Q:33:ARG:NH1	28:Q:53:GLY:O	2.41	0.54
30:S:93:GLY:H	30:S:96:MET:HE2	1.71	0.54
39:b:108:ASP:OD1	39:b:108:ASP:N	2.40	0.54
11:A:21:A:OP2	11:A:48:C:N4	2.40	0.54
11:A:56:C:OP2	37:Z:59:ARG:NH2	2.41	0.54
25:AV:239:C:HO2'	25:AV:622:G:HO2'	1.56	0.54
26:AW:5:U:H2'	26:AW:6:G:C8	2.42	0.54
46:Aq:35:GLU:OE1	46:Aq:93:ARG:NH2	2.40	0.54
56:B:179:LEU:HA	56:B:182:ILE:HG12	1.90	0.54
56:B:835:LEU:HD12	56:B:841:GLU:HB2	1.90	0.54
16:G:19:LYS:HE3	16:G:20:TYR:CZ	2.43	0.54
16:G:32:SER:O	16:G:33:ASP:C	2.50	0.54
25:N:2313:C:H5''	30:S:88:LYS:NZ	2.23	0.54
38:a:32:GLU:HG3	38:a:115:LEU:HD13	1.89	0.54
1:O:490:C:OP1	4:3:146:ARG:NH1	2.40	0.54
1:O:1414:U:H2'	1:O:1415:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1464:U:H2'	1:0:1465:A:H8	1.71	0.54
5:4:156:LYS:NZ	8:7:71:VAL:O	2.37	0.54
8:7:103:VAL:HG12	8:7:126:ILE:HD13	1.89	0.54
5:AE:132:ASN:HB3	5:AE:135:ASN:HB2	1.90	0.54
25:AV:373:U:H2'	25:AV:374:A:H8	1.72	0.54
25:AV:1041:G:H2'	25:AV:1042:G:H8	1.71	0.54
27:AX:252:THR:OG1	27:AX:253:LYS:N	2.42	0.54
56:B:711:ARG:O	56:B:711:ARG:NE	2.40	0.54
56:B:949:ARG:O	56:B:949:ARG:NH2	2.40	0.54
23:L:26:SER:OG	23:L:27:THR:N	2.41	0.54
41:d:31:VAL:HG12	41:d:34:VAL:H	1.73	0.54
1:0:715:A:H2'	1:0:716:A:C8	2.44	0.53
8:7:106:THR:OG1	8:7:107:SER:N	2.37	0.53
25:AV:475:C:O2	25:AV:479:A:N6	2.41	0.53
27:AX:245:VAL:HA	27:AX:251:GLN:HA	1.90	0.53
44:Ao:8:LEU:HA	44:Ao:50:LEU:HD21	1.90	0.53
25:N:408:G:H1	25:N:419:U:H3	1.55	0.53
25:N:511:U:H4'	25:N:1235:G:H4'	1.89	0.53
25:N:1800:C:OP1	27:P:258:ARG:NH1	2.41	0.53
46:i:25:LYS:HD3	46:i:43:ASP:HA	1.89	0.53
1:0:230:G:OP1	18:I:31:ARG:NH1	2.41	0.53
1:0:891:U:H2'	1:0:892:A:H8	1.72	0.53
1:0:1441:A:H62	1:0:1461:G:H21	1.56	0.53
9:8:55:VAL:HG23	9:8:57:MET:HG2	1.90	0.53
1:AA:464:U:N3	1:AA:467:U:OP2	2.35	0.53
1:AA:1119:C:OP1	9:AI:85:ARG:NH1	2.41	0.53
3:AC:40:ARG:O	3:AC:44:THR:OG1	2.26	0.53
10:AJ:88:MET:HG3	10:AJ:89:ARG:HG3	1.89	0.53
17:AN:6:GLU:O	17:AN:10:LYS:NZ	2.42	0.53
25:AV:691:C:OP1	27:AX:217:ARG:NH2	2.41	0.53
25:AV:1021:A:OP2	34:Ae:67:ASN:ND2	2.41	0.53
27:AX:144:VAL:HB	27:AX:154:LEU:HB2	1.90	0.53
32:Ac:40:THR:HB	32:Ac:43:ASN:HB3	1.90	0.53
36:Ag:79:LEU:HD12	36:Ag:114:GLY:H	1.71	0.53
38:Ai:3:HIS:H	38:Ai:5:LYS:HZ3	1.57	0.53
52:Aw:6:ARG:HG2	52:Aw:24:THR:HB	1.90	0.53
56:B:665:PRO:HG2	56:B:668:VAL:HB	1.90	0.53
12:v:4:ILE:HG13	12:v:19:PHE:HA	1.91	0.53
58:z:50:ARG:HG3	58:z:90:LEU:HD11	1.90	0.53
1:0:392:C:HO2'	1:0:483:C:HO2'	1.55	0.53
14:AK:53:ARG:HD2	14:AK:167:LYS:HE2	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AU:22:G:N7	24:AU:46:G:N2	2.41	0.53
25:AV:1128:G:N7	25:AV:2489:U:O2'	2.41	0.53
25:AV:1170:C:H2'	25:AV:1171:G:H8	1.73	0.53
25:AV:1800:C:N4	25:AV:1817:G:H22	2.06	0.53
25:AV:2291:U:O2'	25:AV:2374:C:O2	2.25	0.53
41:Al:65:ILE:HA	41:Al:68:ALA:HB3	1.90	0.53
25:N:629:G:H1'	25:N:639:U:H1'	1.90	0.53
25:N:1260:A:OP1	43:f:83:LYS:NZ	2.41	0.53
28:Q:11:MET:SD	28:Q:25:THR:OG1	2.64	0.53
1:O:714:G:H2'	1:O:715:A:C8	2.43	0.53
2:1:98:GLY:HA2	2:1:171:ILE:HD11	1.90	0.53
9:8:47:VAL:HA	9:8:50:GLN:OE1	2.08	0.53
25:AV:2121:G:N1	25:AV:2178:C:O2	2.42	0.53
36:Ag:19:LEU:HB3	36:Ag:27:LEU:HD13	1.89	0.53
50:Au:18:PRO:HA	50:Au:21:LYS:HG2	1.89	0.53
53:Ax:43:THR:OG1	53:Ax:44:VAL:N	2.40	0.53
56:B:195:ILE:HG12	56:B:226:ILE:HD12	1.88	0.53
56:B:1188:GLN:NE2	56:B:1269:GLU:OE2	2.40	0.53
25:N:1178:C:H2'	25:N:1179:G:H8	1.73	0.53
25:N:1447:C:O2'	25:N:1544:A:N3	2.36	0.53
40:c:51:ARG:CZ	40:c:53:ARG:HD2	2.39	0.53
52:o:12:VAL:HB	52:o:51:GLU:HB3	1.89	0.53
57:y:22:HIS:ND1	57:y:85:MET:SD	2.82	0.53
58:z:74:LEU:HD21	58:z:80:ILE:HG21	1.90	0.53
1:AA:264:C:O2'	19:AP:66:PRO:O	2.24	0.53
1:AA:867:G:O2'	1:AA:873:A:N1	2.41	0.53
21:AR:50:ALA:HB1	21:AR:57:HIS:HB3	1.89	0.53
25:AV:2032:G:N2	28:AY:151:THR:OG1	2.35	0.53
14:C:27:ILE:HD13	14:C:186:LYS:HD3	1.88	0.53
25:N:118:A:H5'	25:N:119:A:H8	1.74	0.53
25:N:371:A:H61	25:N:401:A:H3'	1.72	0.53
25:N:1173:U:O2	25:N:1177:G:C6	2.62	0.53
27:P:258:ARG:NH2	27:P:264:ASP:OD1	2.42	0.53
30:S:38:MET:CE	30:S:57:LEU:HD12	2.32	0.53
30:S:119:ALA:O	30:S:167:ARG:NH1	2.42	0.53
33:V:80:LEU:HD11	33:V:138:LEU:HD11	1.89	0.53
1:O:932:C:H5''	7:6:4:ARG:HB2	1.90	0.53
1:AA:835:U:H5''	20:AQ:53:ARG:HH12	1.74	0.53
16:AM:41:ARG:NH2	16:AM:42:TRP:O	2.41	0.53
25:AV:249:C:O2'	36:Ag:63:LYS:NZ	2.37	0.53
25:AV:1818:U:O4	27:AX:153:GLN:NE2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:Aj:51:ALA:HB3	39:Aj:78:VAL:HG12	1.90	0.53
56:B:605:VAL:HG13	56:B:610:ILE:HB	1.90	0.53
31:T:107:LEU:O	31:T:152:ARG:NH1	2.38	0.53
5:4:55:GLU:HG2	5:4:57:PRO:HD2	1.91	0.53
9:8:44:ALA:O	9:8:47:VAL:HG22	2.08	0.53
10:9:40:ILE:HB	10:9:73:LEU:HB3	1.91	0.53
1:AA:428:G:H5''	4:AD:10:LYS:HD2	1.91	0.53
5:AE:46:VAL:HG22	5:AE:117:VAL:HG23	1.89	0.53
57:D:59:THR:HG23	57:D:62:ALA:H	1.73	0.53
25:N:319:G:OP2	29:R:132:LYS:NZ	2.35	0.53
25:N:1030:C:OP2	37:Z:127:LYS:NZ	2.41	0.53
25:N:2299:U:O4	25:N:2318:G:N2	2.42	0.53
27:P:251:GLN:NE2	27:P:252:THR:O	2.38	0.53
30:S:8:TYR:HD1	30:S:12:VAL:HB	1.74	0.53
1:0:157:U:O2	1:0:164:G:O6	2.26	0.53
12:A1:3:VAL:HA	57:y:111:THR:HG22	1.91	0.53
25:AV:2747:G:H21	25:AV:2757:A:H62	1.57	0.53
25:N:1386:C:H2'	25:N:1387:A:C8	2.44	0.53
1:0:1253:G:H2'	1:0:1254:A:H8	1.73	0.53
4:3:4:TYR:HE2	4:3:11:LEU:HD21	1.73	0.53
1:AA:187:G:N2	1:AA:190:A:OP2	2.42	0.53
15:AL:81:MET:HE3	15:AL:92:ARG:HG3	1.89	0.53
25:AV:219:A:N3	25:AV:234:U:O2'	2.42	0.53
25:AV:2035:G:H5'	25:AV:2036:C:H5	1.74	0.53
29:AZ:88:ARG:O	29:AZ:90:GLN:NE2	2.42	0.53
37:Ah:47:GLU:OE2	37:Ah:51:ARG:HD3	2.09	0.53
56:B:250:SER:OG	56:B:251:GLY:N	2.41	0.53
25:N:660:C:H5''	29:R:94:GLN:HG2	1.91	0.53
25:N:814:C:H1'	25:N:1225:G:H21	1.72	0.53
25:N:1278:C:H2'	25:N:1279:G:H8	1.73	0.53
25:N:2047:C:O2'	25:N:2823:A:N1	2.41	0.53
1:0:2:A:N3	1:0:613:C:O2'	2.36	0.53
1:0:376:G:H1	1:0:387:U:H3	1.57	0.53
5:4:88:VAL:HG12	5:4:93:ARG:HE	1.74	0.53
1:AA:1007:U:N3	1:AA:1023:U:O2	2.42	0.53
1:AA:1048:G:H5''	16:AM:3:LYS:HD3	1.90	0.53
2:AB:34:ALA:HB3	2:AB:40:ILE:HD13	1.90	0.53
5:AE:34:THR:HG22	5:AE:52:LYS:HB3	1.90	0.53
6:AF:38:ARG:NH1	6:AF:96:VAL:HB	2.23	0.53
6:AF:38:ARG:HH12	6:AF:96:VAL:HB	1.73	0.53
19:AP:17:MET:O	19:AP:51:ASN:ND2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:AS:10:ARG:NH2	22:AS:13:GLN:OE1	2.38	0.53
25:AV:468:G:OP2	53:Ax:37:LYS:NZ	2.39	0.53
25:AV:2659:G:OP2	31:Ab:158:LYS:NZ	2.41	0.53
27:AX:180:GLU:HG2	27:AX:271:ARG:HB3	1.90	0.53
31:Ab:87:LEU:HG	31:Ab:164:TYR:HA	1.91	0.53
25:N:2331:G:OP1	47:j:44:LYS:NZ	2.42	0.53
1:0:682:G:H2'	1:0:683:G:H8	1.75	0.52
1:0:974:A:OP2	16:G:81:ARG:NE	2.39	0.52
1:0:1311:A:OP1	23:L:59:ARG:NH2	2.41	0.52
2:1:46:THR:HG23	2:1:201:PRO:HD2	1.90	0.52
7:6:118:LEU:O	7:6:122:ASN:ND2	2.42	0.52
10:9:31:ARG:NH2	56:B:867:PRO:O	2.41	0.52
1:AA:754:C:O5'	17:AN:72:ARG:NH1	2.40	0.52
1:AA:1166:G:N2	1:AA:1169:A:OP2	2.42	0.52
10:AJ:10:LEU:HB3	10:AJ:18:ILE:HD11	1.89	0.52
25:AV:612:G:H21	25:AV:616:A:H62	1.55	0.52
25:AV:910:A:N3	25:AV:2264:C:O2'	2.37	0.52
25:AV:1265:A:H3'	51:Av:16:ARG:HH22	1.74	0.52
25:AV:1283:G:N1	25:AV:1286:A:OP2	2.41	0.52
25:AV:1412:U:H2'	25:AV:1413:A:H8	1.75	0.52
25:AV:2446:G:N2	25:AV:2449:U:O2	2.39	0.52
17:H:82:ILE:HD11	17:H:88:ARG:HB2	1.91	0.52
25:N:399:U:OP2	48:k:57:ARG:NH2	2.42	0.52
25:N:1223:G:OP1	42:e:68:ARG:NH2	2.42	0.52
25:N:2580:U:OP1	28:Q:137:SER:OG	2.27	0.52
32:U:7:ASP:OD1	32:U:8:LYS:N	2.42	0.52
49:l:13:GLU:HA	49:l:16:THR:HG22	1.91	0.52
24:AU:64:C:P	47:Ar:11:ARG:NH1	2.82	0.52
28:AY:110:THR:HB	28:AY:202:ILE:HB	1.90	0.52
52:Aw:27:LYS:HA	52:Aw:27:LYS:HE3	1.91	0.52
29:R:170:ARG:NH1	29:R:174:GLY:O	2.43	0.52
1:0:78:A:H2'	1:0:79:G:H8	1.74	0.52
1:AA:1414:U:H2'	1:AA:1415:G:H8	1.74	0.52
2:AB:111:ILE:HD12	2:AB:152:LYS:HA	1.91	0.52
6:AF:2:ARG:HD2	6:AF:91:ARG:HD2	1.91	0.52
7:AG:150:ALA:HB1	57:y:59:THR:HG21	1.91	0.52
9:AI:48:VAL:HG23	9:AI:49:ARG:HD3	1.91	0.52
25:AV:1682:G:OP1	25:AV:1699:G:N1	2.37	0.52
25:AV:2821:A:OP2	28:AY:115:GLY:N	2.42	0.52
29:AZ:5:LEU:HD22	29:AZ:10:SER:HB2	1.92	0.52
56:B:1112:CYS:O	56:B:1116:GLY:N	2.41	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:224:U:O4	25:N:419:U:O2'	2.27	0.52
27:P:107:PRO:HD2	27:P:110:LEU:HG	1.92	0.52
29:R:168:ASP:OD1	29:R:169:VAL:N	2.41	0.52
50:m:45:ARG:NH1	50:m:59:GLU:OE1	2.40	0.52
1:0:235:C:H2'	1:0:236:A:C8	2.44	0.52
1:0:376:G:H2'	1:0:377:G:H8	1.75	0.52
13:A3:77:A:OP1	25:AV:2573:C:N4	2.41	0.52
25:AV:1386:C:H2'	25:AV:1387:A:H8	1.73	0.52
28:AY:35:THR:N	28:AY:49:GLN:O	2.41	0.52
29:AZ:6:LYS:HE2	29:AZ:141:MET:HB3	1.91	0.52
31:Ab:30:ASN:ND2	31:Ab:78:GLY:O	2.41	0.52
44:Ao:29:THR:HA	44:Ao:86:THR:HA	1.92	0.52
55:Az:8:LYS:NZ	55:Az:9:LYS:O	2.38	0.52
56:B:966:PRO:HD2	56:B:969:LEU:HD12	1.91	0.52
18:I:73:ALA:HA	18:I:76:LYS:HG2	1.90	0.52
25:N:2839:G:N2	38:a:91:ALA:O	2.40	0.52
32:U:26:ALA:HA	32:U:30:LEU:HB2	1.91	0.52
39:b:35:ILE:HG12	39:b:66:GLY:HA2	1.92	0.52
1:0:948:C:H2'	1:0:949:A:H8	1.74	0.52
1:0:1377:A:OP1	7:6:92:ARG:NH1	2.43	0.52
2:1:166:ALA:HB3	2:1:191:SER:HB3	1.92	0.52
1:AA:682:G:H2'	1:AA:683:G:H8	1.74	0.52
1:AA:1378:C:O2'	7:AG:92:ARG:NH1	2.43	0.52
16:AM:60:GLN:OE1	16:AM:60:GLN:N	2.42	0.52
25:AV:589:U:H2'	25:AV:590:A:H8	1.74	0.52
25:AV:1664:A:N6	25:AV:1996:C:H42	2.07	0.52
25:AV:2156:G:O6	25:AV:2157:G:N2	2.43	0.52
25:AV:2866:U:H5'	25:AV:2868:A:H5'	1.91	0.52
56:B:211:GLY:HA3	56:B:451:PHE:HZ	1.75	0.52
16:G:24:ARG:HH12	16:G:56:SER:HB2	1.73	0.52
25:N:2012:G:N7	43:f:16:LYS:NZ	2.52	0.52
31:T:87:LEU:HB2	31:T:131:ILE:HB	1.92	0.52
1:0:680:C:O2'	27:P:269:ARG:NH1	2.43	0.52
1:AA:1060:U:H2'	1:AA:1061:G:H8	1.75	0.52
25:AV:414:C:H2'	25:AV:415:A:H8	1.74	0.52
25:AV:974:G:OP2	42:Am:78:ARG:NH2	2.42	0.52
27:AX:61:ALA:O	27:AX:63:ARG:NH2	2.43	0.52
36:Ag:80:SER:O	36:Ag:84:LYS:NZ	2.41	0.52
25:N:1080:A:H1'	33:V:128:SER:HA	1.91	0.52
25:N:2258:C:O2'	25:N:2427:C:OP2	2.27	0.52
38:a:13:ASN:OD1	38:a:15:SER:N	2.42	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:413:G:N2	1:0:428:G:O3'	2.42	0.52
2:1:74:ARG:HA	2:1:77:SER:HB3	1.92	0.52
8:7:41:LYS:HD2	8:7:48:ASP:HA	1.92	0.52
13:A3:54:G:H1	13:A3:62:C:H42	1.55	0.52
4:AD:190:ASP:OD1	4:AD:190:ASP:N	2.43	0.52
25:AV:1481:U:O2	25:AV:1510:G:O6	2.28	0.52
25:AV:1655:A:C2'	28:AY:118:PHE:CE2	2.82	0.52
33:Ad:36:MET:HE3	33:Ad:40:LYS:HG3	1.91	0.52
38:Ai:86:ARG:NH2	38:Ai:117:ASP:O	2.42	0.52
56:B:189:MET:HA	56:B:220:ARG:HH11	1.75	0.52
56:B:199:ALA:HB3	56:B:229:SER:HB3	1.91	0.52
25:N:2788:C:O2'	25:N:2809:A:N3	2.39	0.52
43:f:88:ARG:NH2	43:f:94:ASP:OD2	2.43	0.52
57:y:52:PHE:HB2	57:y:56:ARG:HB2	1.90	0.52
1:0:925:G:H1	1:0:1391:U:H3	1.57	0.52
2:1:167:ASP:HB3	2:1:191:SER:HA	1.92	0.52
1:AA:1015:G:OP1	16:AM:53:ARG:NH1	2.43	0.52
2:AB:167:ASP:N	2:AB:167:ASP:OD1	2.42	0.52
25:AV:813:U:OP1	42:Am:84:ARG:NH1	2.43	0.52
25:AV:1158:C:H5''	50:Au:31:ARG:HD2	1.91	0.52
25:AV:1534:U:O2'	25:AV:1537:G:O6	2.28	0.52
25:AV:1857:G:N2	25:AV:1885:A:OP2	2.43	0.52
25:AV:2500:U:O2'	25:AV:2504:U:OP1	2.28	0.52
25:AV:2747:G:H4'	31:Ab:70:ALA:HB1	1.92	0.52
29:AZ:17:THR:O	29:AZ:106:LYS:NZ	2.43	0.52
29:AZ:143:LEU:HD12	29:AZ:146:VAL:HB	1.92	0.52
56:B:940:LEU:HD11	56:B:957:ARG:HB2	1.92	0.52
25:N:1105:U:H2'	25:N:1106:G:C8	2.45	0.52
42:e:8:GLY:O	42:e:10:LYS:NZ	2.42	0.52
3:2:11:ARG:NH1	3:2:177:THR:O	2.43	0.52
1:AA:1175:G:H2'	1:AA:1176:A:H8	1.75	0.52
3:AC:188:GLU:OE2	3:AC:190:HIS:NE2	2.43	0.52
16:AM:64:CYS:HB2	16:AM:80:SER:HB3	1.91	0.52
20:AQ:14:THR:HG21	20:AQ:48:ARG:HE	1.75	0.52
20:AQ:37:GLY:O	20:AQ:63:ARG:NH1	2.38	0.52
25:AV:1252:G:H22	41:Al:37:GLN:HE21	1.57	0.52
43:An:36:LEU:HB3	43:An:48:LYS:HE2	1.92	0.52
25:N:2126:A:H2'	25:N:2162:G:H21	1.75	0.52
28:Q:8:LYS:HB2	28:Q:201:LEU:HD11	1.92	0.52
31:T:127:THR:HB	31:T:130:GLU:HG2	1.92	0.52
33:V:127:ARG:NH2	33:V:130:GLU:OE2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:u:51:PHE:O	22:u:55:GLN:HB2	2.10	0.52
1:0:578:C:O2'	1:0:728:A:N3	2.38	0.52
1:0:979:C:O2	16:G:59:ARG:NH2	2.43	0.52
1:0:1152:A:OP1	10:9:70:HIS:ND1	2.43	0.52
2:1:95:ARG:NH2	2:1:97:LEU:HD22	2.24	0.52
8:7:76:GLN:OE1	8:7:76:GLN:N	2.43	0.52
1:AA:402:G:H5'	1:AA:621:A:H1'	1.91	0.52
1:AA:974:A:OP1	16:AM:69:ARG:NH1	2.43	0.52
6:AF:71:ILE:HA	6:AF:74:LEU:HB3	1.92	0.52
25:AV:840:C:H2'	25:AV:841:G:H8	1.75	0.52
25:AV:1129:A:O2'	25:AV:2515:C:O2	2.27	0.52
25:AV:1529:G:O6	25:AV:1542:U:O2	2.27	0.52
25:AV:2339:C:H2'	25:AV:2340:A:H8	1.74	0.52
25:AV:2473:U:OP1	25:AV:2529:G:N2	2.38	0.52
25:AV:2636:C:HO2'	28:AY:45:TYR:HH	1.52	0.52
34:Ae:44:TYR:O	41:Al:64:ARG:NE	2.38	0.52
25:N:503:A:O2'	25:N:506:G:N7	2.42	0.52
25:N:833:A:H2'	25:N:834:G:C8	2.45	0.52
25:N:903:C:H2'	25:N:904:G:H8	1.74	0.52
25:N:1296:G:OP1	25:N:2709:G:O2'	2.24	0.52
33:V:92:LYS:HB3	33:V:95:LYS:HE2	1.92	0.52
1:0:382:A:H2'	1:0:383:A:C8	2.45	0.51
1:0:638:U:OP1	19:J:4:LYS:NZ	2.42	0.51
2:AB:187:VAL:HB	2:AB:191:SER:HB2	1.91	0.51
8:AH:11:LEU:HD23	8:AH:75:ILE:HD11	1.92	0.51
25:AV:312:G:H2'	25:AV:313:G:H8	1.73	0.51
25:AV:926:G:H2'	25:AV:927:A:C8	2.45	0.51
25:AV:1103:A:H2'	25:AV:1104:C:C6	2.45	0.51
25:AV:1515:A:H3'	25:AV:1516:G:H8	1.75	0.51
40:Ak:26:VAL:HG12	40:Ak:86:VAL:HG22	1.92	0.51
53:Ax:9:VAL:HA	53:Ax:12:ARG:HB2	1.91	0.51
56:B:259:ARG:NH2	56:B:284:GLU:OE2	2.43	0.51
25:N:2816:G:O3'	38:a:99:LYS:NZ	2.42	0.51
26:O:49:C:H2'	26:O:50:A:H8	1.75	0.51
43:f:29:VAL:HG21	43:f:55:ILE:HD11	1.91	0.51
58:z:34:CYS:SG	58:z:78:SER:OG	2.64	0.51
1:0:18:C:H1'	1:0:1079:G:H21	1.74	0.51
1:AA:51:A:H61	1:AA:314:C:H1'	1.75	0.51
4:AD:125:VAL:HG12	4:AD:143:VAL:HG23	1.90	0.51
25:AV:408:G:H1	25:AV:419:U:H3	1.57	0.51
25:AV:2581:G:OP2	25:AV:2581:G:N2	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:881:G:N2	25:N:895:U:O2	2.43	0.51
25:N:2107:G:H2'	25:N:2108:A:H8	1.75	0.51
1:0:21:G:H2'	1:0:22:G:C8	2.45	0.51
1:0:411:A:H1'	1:0:413:G:H5''	1.92	0.51
1:AA:279:A:H5''	1:AA:281:G:H5'	1.91	0.51
1:AA:335:C:H2'	1:AA:336:A:H8	1.76	0.51
1:AA:501:C:H2'	1:AA:502:A:H8	1.75	0.51
1:AA:1095:U:OP1	1:AA:1108:G:N2	2.39	0.51
1:AA:1226:C:OP2	15:AL:90:ARG:NH2	2.40	0.51
25:AV:300:A:O5'	45:Ap:82:ARG:NH1	2.43	0.51
25:AV:1830:C:H2'	25:AV:1831:G:H8	1.75	0.51
25:AV:1858:A:N6	25:AV:1884:G:O2'	2.43	0.51
38:AI:56:LYS:NZ	38:AI:87:PHE:O	2.34	0.51
56:B:174:THR:HG23	56:B:176:GLY:H	1.75	0.51
56:B:1160:LEU:HA	56:B:1163:VAL:HB	1.92	0.51
25:N:1084:A:OP2	63:x:53:ARG:NE	2.32	0.51
25:N:2832:U:O2'	25:N:2833:U:OP2	2.27	0.51
28:Q:124:ARG:HA	28:Q:165:MET:HE2	1.92	0.51
30:S:38:MET:HE3	30:S:57:LEU:HD13	1.82	0.51
1:0:147:G:H2'	1:0:148:G:C8	2.45	0.51
1:0:407:U:H2'	1:0:408:A:C8	2.45	0.51
1:AA:481:G:O2'	1:AA:483:C:N4	2.44	0.51
1:AA:993:G:H2'	1:AA:995:C:H41	1.76	0.51
1:AA:1268:G:N3	1:AA:1326:U:O2'	2.41	0.51
6:AF:29:ILE:HD11	6:AF:36:ILE:HB	1.92	0.51
15:AL:54:ASP:N	15:AL:54:ASP:OD1	2.41	0.51
25:AV:38:A:N3	29:AZ:43:THR:OG1	2.37	0.51
25:AV:481:G:H1'	25:AV:506:G:H21	1.76	0.51
25:AV:1469:A:H2'	25:AV:1470:A:H8	1.75	0.51
25:AV:1999:C:O2	25:AV:2687:U:O2'	2.29	0.51
38:AI:77:ALA:O	38:AI:81:ASN:ND2	2.42	0.51
15:F:50:GLU:HA	15:F:53:ILE:HD12	1.92	0.51
25:N:249:C:O2	54:q:12:LYS:NZ	2.42	0.51
30:S:38:MET:SD	30:S:53:ALA:C	2.94	0.51
1:0:1041:G:H2'	1:0:1042:A:H8	1.76	0.51
11:A:23:A:H2'	11:A:24:G:C8	2.46	0.51
2:AB:80:VAL:HG11	2:AB:164:ILE:HD11	1.92	0.51
4:AD:95:GLU:OE1	4:AD:100:ASN:ND2	2.43	0.51
6:AF:22:ILE:O	6:AF:26:THR:OG1	2.20	0.51
25:AV:28:A:HO2'	25:AV:582:A:HO2'	1.59	0.51
25:AV:2818:U:H2'	25:AV:2819:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:Ae:55:ILE:HG23	34:Ae:123:LYS:HB2	1.93	0.51
41:Al:88:VAL:HG13	42:Am:49:ILE:HD11	1.92	0.51
25:N:1363:C:O2'	25:N:1809:A:N3	2.40	0.51
25:N:2039:U:H2'	25:N:2040:G:C8	2.46	0.51
36:Y:78:ARG:NH2	36:Y:80:SER:OG	2.43	0.51
7:6:126:ASP:HA	7:6:129:GLU:HG2	1.92	0.51
1:AA:824:G:H2'	1:AA:825:A:H8	1.75	0.51
3:AC:181:ASP:HB3	3:AC:205:GLY:H	1.75	0.51
4:AD:134:SER:O	4:AD:134:SER:OG	2.21	0.51
10:AJ:64:GLN:HB3	16:AM:99:ALA:HB3	1.93	0.51
21:AR:65:GLU:HB2	23:AT:56:ARG:HH11	1.75	0.51
25:AV:970:U:O2	25:AV:984:A:O2'	2.28	0.51
34:Ae:37:ARG:HH11	34:Ae:110:PRO:HG3	1.75	0.51
39:Aj:10:ARG:O	39:Aj:94:ARG:NH1	2.44	0.51
49:At:6:LEU:HD13	49:At:56:LEU:HD22	1.92	0.51
56:B:513:GLY:O	56:B:613:ASN:ND2	2.43	0.51
56:B:670:VAL:HG11	56:B:681:GLY:HA3	1.93	0.51
56:B:973:PHE:HB3	56:B:992:LEU:HD11	1.92	0.51
58:E:100:GLY:N	58:E:104:CYS:SG	2.81	0.51
25:N:767:U:H2'	25:N:768:G:H8	1.76	0.51
25:N:2816:G:N3	25:N:2883:A:O2'	2.42	0.51
34:W:93:ILE:HD13	34:W:100:VAL:HG21	1.92	0.51
1:O:429:U:OP1	4:3:13:ARG:NH2	2.43	0.51
1:O:1363:A:O2'	1:O:1365:G:N7	2.41	0.51
1:AA:254:G:O2'	19:AP:18:GLU:O	2.29	0.51
8:AH:75:ILE:HD13	8:AH:129:VAL:HG22	1.92	0.51
25:AV:499:U:H5''	45:Ap:43:LYS:HD2	1.93	0.51
25:AV:848:C:H2'	25:AV:849:A:H8	1.75	0.51
25:AV:1849:G:H2'	25:AV:1850:G:H8	1.75	0.51
25:N:1051:G:O6	25:N:1108:U:O4	2.27	0.51
1:O:974:A:OP1	16:G:69:ARG:NH1	2.43	0.51
1:AA:1345:U:OP1	9:Al:122:ARG:NH2	2.38	0.51
4:AD:151:LYS:HA	4:AD:156:LYS:HD3	1.92	0.51
7:AG:116:MET:HA	7:AG:119:ARG:HB2	1.92	0.51
10:AJ:55:PRO:O	16:AM:81:ARG:NH1	2.43	0.51
25:AV:633:A:O2'	25:AV:2404:U:OP1	2.27	0.51
25:AV:1987:A:H2'	25:AV:1988:G:H8	1.75	0.51
25:AV:2312:U:O2	30:Aa:37:ASN:ND2	2.42	0.51
44:Ao:11:LEU:HD22	44:Ao:32:LEU:HD22	1.93	0.51
47:Ar:51:VAL:HG21	47:Ar:80:ILE:HG22	1.93	0.51
25:N:1752:C:H2'	25:N:1753:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:62:U:O2'	1:0:379:C:O2	2.29	0.51
1:0:67:C:H2'	1:0:68:G:C8	2.46	0.51
1:0:331:G:O2'	22:u:3:ASN:ND2	2.44	0.51
1:0:477:C:H2'	1:0:478:A:C8	2.46	0.51
1:0:1224:U:O2'	1:0:1322:C:OP1	2.28	0.51
8:AH:96:MET:HB3	8:AH:100:GLY:H	1.76	0.51
9:AI:42:GLU:O	9:AI:45:ARG:NH1	2.44	0.51
14:AK:5:THR:HG23	14:AK:8:MET:H	1.74	0.51
25:AV:536:G:H21	34:Ae:47:HIS:CG	2.29	0.51
25:AV:612:G:N2	25:AV:614:A:O2'	2.44	0.51
25:AV:807:U:H2'	25:AV:808:G:H8	1.76	0.51
25:AV:820:A:H4'	25:AV:836:G:H22	1.74	0.51
25:AV:1410:G:H2'	25:AV:1411:U:H6	1.76	0.51
25:AV:2659:G:N2	25:AV:2662:A:OP2	2.43	0.51
25:AV:2691:C:H2'	25:AV:2692:G:H8	1.75	0.51
52:Aw:50:LYS:HD2	52:Aw:51:GLU:H	1.76	0.51
56:B:941:ASP:OD1	56:B:945:ARG:NH2	2.41	0.51
25:N:574:A:N6	25:N:2034:U:OP1	2.44	0.51
25:N:926:G:H2'	25:N:927:A:H8	1.76	0.51
25:N:1266:G:O2'	25:N:2012:G:O6	2.27	0.51
25:N:1283:G:N1	25:N:1286:A:OP2	2.44	0.51
25:N:2035:G:H5'	25:N:2036:C:H5	1.75	0.51
25:N:2684:U:OP2	40:c:51:ARG:NH2	2.43	0.51
39:b:53:THR:HB	39:b:65:THR:HB	1.93	0.51
1:0:552:U:H2'	1:0:553:A:H8	1.76	0.51
1:0:958:A:N6	21:t:77:THR:O	2.44	0.51
1:AA:56:U:H2'	1:AA:57:G:H8	1.75	0.51
1:AA:663:A:H5''	20:AQ:50:LYS:HE3	1.92	0.51
1:AA:677:U:O2	1:AA:777:A:O2'	2.29	0.51
25:AV:523:C:O2	25:AV:554:U:O2'	2.28	0.51
25:AV:599:A:H2'	25:AV:600:G:H8	1.75	0.51
25:AV:2313:C:H2'	25:AV:2314:A:H8	1.75	0.51
30:Aa:158:THR:OG1	30:Aa:159:THR:N	2.43	0.51
42:Am:79:ARG:HG3	42:Am:80:ARG:HG3	1.92	0.51
56:B:301:ARG:HE	62:w:571:U:H5	1.59	0.51
57:D:24:HIS:HB3	57:D:31:ILE:HG22	1.93	0.51
25:N:964:C:O2'	25:N:2273:A:N3	2.44	0.51
25:N:1428:C:N4	25:N:1570:A:OP2	2.44	0.51
25:N:1450:G:N2	25:N:1452:G:O6	2.41	0.51
25:N:1475:G:H1'	25:N:1732:C:H41	1.75	0.51
26:O:31:C:O2'	26:O:53:A:N1	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:w:558:U:H1'	62:w:559:U:H5	1.76	0.51
1:0:618:C:O2'	18:I:14:ARG:NH1	2.43	0.50
10:9:52:LEU:HB2	16:G:81:ARG:HD2	1.92	0.50
20:AQ:12:ARG:HH12	20:AQ:28:THR:HB	1.76	0.50
22:AS:35:VAL:HG23	22:AS:36:TYR:HD1	1.75	0.50
25:AV:371:A:H61	25:AV:401:A:H3'	1.75	0.50
25:AV:1251:C:OP2	41:Al:6:ARG:NH2	2.43	0.50
25:AV:1791:A:H5''	27:AX:205:LEU:HD12	1.93	0.50
25:AV:2277:G:H3'	47:Ar:12:ASN:HD21	1.75	0.50
38:AI:57:THR:OG1	38:AI:62:ASN:ND2	2.43	0.50
25:N:290:U:H2'	25:N:291:G:H8	1.76	0.50
25:N:2047:C:H2'	25:N:2048:G:H8	1.76	0.50
27:P:235:GLY:O	27:P:239:ASN:ND2	2.44	0.50
31:T:149:ARG:HH11	31:T:154:PRO:HD2	1.75	0.50
1:0:1060:U:OP1	16:G:85:ARG:NH1	2.44	0.50
1:0:1492:A:H5''	58:E:44:LYS:HA	1.94	0.50
2:1:194:ASP:OD1	2:1:195:GLY:N	2.44	0.50
1:AA:21:G:H2'	1:AA:22:G:C8	2.46	0.50
2:AB:15:HIS:CE1	2:AB:16:PHE:CE1	2.99	0.50
16:AM:30:ILE:HG22	16:AM:31:ILE:HG23	1.93	0.50
18:AO:1:MET:HG3	18:AO:24:SER:HB3	1.93	0.50
25:AV:383:C:N4	25:AV:386:G:OP2	2.36	0.50
25:AV:592:A:H4'	54:Ay:3:LYS:HE2	1.93	0.50
25:AV:2872:A:H4'	38:AI:46:ARG:HH12	1.75	0.50
28:AY:46:ARG:NH1	28:AY:88:GLU:O	2.42	0.50
37:Ah:13:HIS:O	37:Ah:71:LYS:NZ	2.41	0.50
56:B:142:ILE:HB	56:B:154:ILE:HG21	1.92	0.50
37:Z:111:GLU:OE1	37:Z:111:GLU:N	2.44	0.50
44:g:7:LEU:HD11	44:g:45:ALA:HB3	1.92	0.50
1:0:1218:C:H2'	1:0:1219:A:C8	2.46	0.50
1:0:1516:G:N2	1:0:1519:A:OP2	2.43	0.50
15:AL:34:LEU:HD11	15:AL:41:GLU:HA	1.93	0.50
25:AV:2419:U:H4'	52:Aw:22:THR:HG21	1.93	0.50
25:AV:2693:G:H2'	25:AV:2694:G:H8	1.76	0.50
27:AX:35:GLU:HG3	27:AX:62:TYR:HB3	1.93	0.50
25:N:559:G:N3	41:d:56:GLN:NE2	2.55	0.50
47:j:66:LYS:HB3	47:j:83:GLU:HG3	1.93	0.50
62:w:559:U:O2'	62:w:560:U:O4'	2.28	0.50
1:0:401:C:O2'	1:0:621:A:N3	2.42	0.50
1:0:438:U:N3	1:0:496:A:N6	2.59	0.50
1:0:1125:U:OP1	10:9:37:ARG:NH2	2.43	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1279:G:N2	10:9:45:ARG:NE	2.59	0.50
8:7:66:PHE:H	8:7:71:VAL:HG23	1.77	0.50
2:AB:13:GLY:HA2	2:AB:16:PHE:CE2	2.46	0.50
4:AD:102:VAL:HG13	4:AD:107:PHE:HB2	1.93	0.50
8:AH:3:MET:HE3	8:AH:5:ASP:H	1.75	0.50
14:AK:163:TYR:HD1	14:AK:171:ILE:HD11	1.76	0.50
25:AV:1243:C:O2'	36:Ag:6:LEU:O	2.29	0.50
25:AV:1636:U:H2'	25:AV:1637:A:C8	2.45	0.50
56:B:173:MET:HE2	56:B:178:LEU:HD22	1.93	0.50
25:N:807:U:O2'	25:N:2060:A:N1	2.44	0.50
25:N:2055:C:OP1	60:n:5:GLN:NE2	2.43	0.50
25:N:2418:A:OP1	54:q:45:ARG:NH2	2.42	0.50
63:x:49:GLY:HA3	63:x:87:GLU:HG3	1.94	0.50
1:0:1041:G:H2'	1:0:1042:A:C8	2.46	0.50
8:7:87:LYS:HB2	8:7:125:ILE:HD11	1.93	0.50
1:AA:143:A:H5'	1:AA:144:G:H8	1.75	0.50
3:AC:185:ASN:OD1	3:AC:186:THR:N	2.45	0.50
25:AV:787:C:H5''	25:AV:788:A:H5'	1.94	0.50
25:AV:1387:A:H5'	25:AV:1469:A:H1'	1.93	0.50
25:AV:2655:G:N2	25:AV:2665:A:OP2	2.44	0.50
27:AX:53:HIS:HA	27:AX:217:ARG:HB2	1.94	0.50
45:Ap:6:ARG:CZ	45:Ap:94:ARG:HH12	2.25	0.50
25:N:300:A:OP2	45:h:82:ARG:NH2	2.44	0.50
25:N:308:G:H21	25:N:329:G:H21	1.59	0.50
25:N:2748:A:H5'	31:T:4:VAL:HG21	1.93	0.50
46:i:11:GLU:OE1	46:i:11:GLU:N	2.44	0.50
48:k:6:GLN:O	48:k:74:ARG:NH1	2.45	0.50
11:A:37:A:O2'	25:N:1913:A:N1	2.43	0.50
19:AP:14:SER:OG	19:AP:15:ASP:N	2.43	0.50
21:AR:11:ILE:HG21	21:AR:16:LEU:HD13	1.94	0.50
23:AT:13:THR:HA	23:AT:23:LYS:HA	1.93	0.50
25:AV:1004:U:H1'	25:AV:1010:A:H2'	1.94	0.50
25:AV:1019:U:OP1	25:AV:1035:U:O2'	2.27	0.50
25:AV:1939:U:OP1	25:AV:2604:U:O2'	2.30	0.50
56:B:131:ARG:HA	62:w:575:U:H5'	1.93	0.50
19:J:61:ILE:HD12	19:J:73:TRP:CE3	2.47	0.50
25:N:197:A:N6	25:N:2430:A:O2'	2.45	0.50
25:N:1527:G:N1	25:N:1544:A:OP2	2.43	0.50
25:N:2497:A:H1'	25:N:2498:C:H5	1.76	0.50
1:0:227:G:N2	18:I:63:GLN:O	2.43	0.50
1:0:933:G:OP1	7:6:4:ARG:NH2	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1038:C:H2'	1:0:1039:G:H8	1.75	0.50
1:0:1179:A:OP2	9:8:99:ARG:NH2	2.41	0.50
1:AA:501:C:H2'	1:AA:502:A:C8	2.47	0.50
1:AA:1464:U:H2'	1:AA:1465:A:H8	1.77	0.50
14:AK:43:ASP:OD2	25:AV:2123:G:O2'	2.30	0.50
25:AV:488:G:H22	25:AV:491:G:H5''	1.77	0.50
34:Ae:11:VAL:HG11	34:Ae:50:THR:HA	1.92	0.50
35:Af:59:LYS:HD2	35:Af:89:ASN:HA	1.94	0.50
16:G:24:ARG:NH1	16:G:56:SER:CB	2.74	0.50
25:N:184:C:H2'	25:N:185:G:H8	1.76	0.50
25:N:2144:G:N2	25:N:2146:C:O2'	2.45	0.50
29:R:147:LEU:HB3	29:R:186:VAL:HG22	1.94	0.50
30:S:38:MET:SD	30:S:53:ALA:O	2.69	0.50
32:U:56:ALA:O	32:U:60:GLU:HB3	2.12	0.50
60:n:9:THR:OG1	60:n:11:SER:OG	2.26	0.50
1:0:776:G:N2	1:0:802:A:OP2	2.44	0.50
1:0:1100:C:OP2	2:1:95:ARG:HD2	2.11	0.50
2:1:14:VAL:HG23	2:1:209:ALA:HB1	1.94	0.50
4:3:202:GLU:OE1	4:3:202:GLU:N	2.41	0.50
9:8:36:GLU:HG2	9:8:45:ARG:HH12	1.76	0.50
1:AA:147:G:H2'	1:AA:148:G:C8	2.46	0.50
1:AA:335:C:H2'	1:AA:336:A:C8	2.46	0.50
1:AA:376:G:H2'	1:AA:377:G:H8	1.77	0.50
24:AU:64:C:P	47:Ar:11:ARG:HH12	2.35	0.50
25:AV:1826:G:O2'	25:AV:1971:U:OP2	2.29	0.50
28:AY:8:LYS:NZ	28:AY:193:VAL:O	2.41	0.50
29:AZ:119:ILE:HB	29:AZ:187:VAL:HG22	1.92	0.50
31:Ab:50:LEU:HD13	31:Ab:72:LEU:HD22	1.94	0.50
56:B:463:GLN:HA	56:B:466:VAL:HB	1.94	0.50
58:E:39:THR:HB	58:E:49:LEU:HD12	1.94	0.50
18:I:67:ILE:HG23	18:I:71:VAL:HG13	1.93	0.50
59:M:1:U:H2'	59:M:2:G:H8	1.77	0.50
25:N:645:C:N4	25:N:2350:C:O2'	2.45	0.50
25:N:784:G:C6	27:P:228:VAL:HG11	2.47	0.50
29:R:21:ARG:NH2	29:R:103:GLY:O	2.43	0.50
1:AA:599:C:H2'	1:AA:600:A:H8	1.77	0.50
2:AB:103:ASN:ND2	2:AB:106:THR:OG1	2.45	0.50
6:AF:47:LEU:HD23	6:AF:55:HIS:HA	1.92	0.50
25:AV:1495:A:H2'	25:AV:1496:A:C4	2.46	0.50
25:N:389:G:C8	25:N:2413:G:H4'	2.46	0.50
28:Q:102:ALA:HA	28:Q:180:VAL:HG21	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:U:66:ASN:ND2	32:U:135:HIS:HB2	2.26	0.50
1:0:222:C:H2'	1:0:223:A:H8	1.77	0.49
1:0:441:A:H2'	1:0:442:G:H8	1.77	0.49
7:6:111:ARG:O	7:6:119:ARG:NH2	2.45	0.49
8:7:18:GLN:HG2	8:7:63:LEU:HD23	1.92	0.49
1:AA:776:G:N2	1:AA:802:A:OP2	2.41	0.49
14:AK:43:ASP:HA	14:AK:174:THR:HA	1.94	0.49
25:AV:52:A:H2'	25:AV:53:A:H8	1.76	0.49
25:AV:1013:C:H2'	25:AV:1014:A:H8	1.78	0.49
34:Ae:128:ASN:OD1	34:Ae:128:ASN:N	2.44	0.49
56:B:486:LEU:O	56:B:491:ARG:NH2	2.45	0.49
45:h:33:LYS:HG2	45:h:66:GLN:HG2	1.94	0.49
1:0:262:A:H5'	22:u:68:HIS:HB3	1.94	0.49
1:0:677:U:H3	1:0:713:G:H22	1.60	0.49
10:9:78:GLU:OE1	10:9:78:GLU:N	2.45	0.49
19:AP:59:VAL:HG12	19:AP:78:VAL:HG12	1.95	0.49
25:AV:1217:U:O2	25:AV:1232:G:O6	2.29	0.49
25:AV:1363:C:H2'	25:AV:1364:G:H8	1.77	0.49
25:AV:1509:A:H2'	25:AV:1510:G:C8	2.45	0.49
25:AV:1800:C:N4	25:AV:1817:G:N2	2.60	0.49
25:AV:2370:G:H4'	52:Aw:44:ARG:HH11	1.76	0.49
25:AV:2676:C:OP1	35:Af:31:ARG:NH1	2.44	0.49
37:Ah:76:LYS:NZ	37:Ah:83:GLY:O	2.45	0.49
48:As:10:LYS:HE3	48:As:54:LYS:HD2	1.94	0.49
50:Au:9:GLN:HB3	50:Au:29:LEU:HD13	1.94	0.49
54:Ay:7:VAL:HG12	54:Ay:10:ALA:H	1.76	0.49
25:N:974:G:O2'	25:N:989:G:N2	2.45	0.49
25:N:987:C:O2'	25:N:1000:A:N3	2.37	0.49
25:N:2876:G:OP1	40:c:2:SER:N	2.46	0.49
29:R:122:GLU:HG3	29:R:123:LYS:HG3	1.94	0.49
30:S:4:LEU:HD23	30:S:101:GLU:CG	2.41	0.49
31:T:155:GLU:OE2	31:T:158:LYS:N	2.44	0.49
46:i:6:ALA:HB1	46:i:40:ILE:HD11	1.94	0.49
1:0:1342:C:H2'	1:0:1343:G:C8	2.47	0.49
4:3:185:LYS:NZ	4:3:186:PRO:O	2.42	0.49
10:9:44:THR:HG22	10:9:70:HIS:HA	1.93	0.49
4:AD:99:ASP:OD1	4:AD:99:ASP:N	2.44	0.49
15:AL:98:ARG:CB	15:AL:100:GLN:NE2	2.65	0.49
25:AV:302:C:H2'	25:AV:303:G:H8	1.77	0.49
25:AV:1054:A:C2	25:AV:1106:G:C2	3.00	0.49
25:AV:1675:C:O2	28:AY:133:THR:OG1	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:2837:A:H2'	25:AV:2838:G:H8	1.77	0.49
27:AX:235:GLY:HA3	27:AX:239:ASN:HB2	1.94	0.49
34:Ae:23:LYS:HB2	34:Ae:28:LEU:HD12	1.94	0.49
56:B:373:ARG:HD3	56:B:430:ARG:HB2	1.93	0.49
56:B:390:GLN:HB2	56:B:422:GLU:HA	1.95	0.49
19:J:26:GLU:OE1	19:J:26:GLU:N	2.44	0.49
25:N:1857:G:N2	25:N:1884:G:O2'	2.42	0.49
21:t:27:ASP:OD1	21:t:27:ASP:N	2.41	0.49
58:z:49:LEU:O	58:z:51:LYS:NZ	2.40	0.49
1:0:438:U:C4	1:0:496:A:C6	3.00	0.49
1:0:1328:C:H2'	1:0:1329:A:H8	1.77	0.49
4:3:59:GLN:OE1	4:3:63:ARG:NH2	2.45	0.49
5:4:19:ASN:OD1	5:4:34:THR:OG1	2.30	0.49
1:AA:642:A:N3	8:AH:105:SER:OG	2.42	0.49
1:AA:1253:G:H2'	1:AA:1254:A:H8	1.77	0.49
1:AA:1355:G:H2'	1:AA:1356:G:H8	1.78	0.49
3:AC:85:GLU:HG3	3:AC:89:LYS:HD3	1.94	0.49
3:AC:85:GLU:HA	3:AC:88:ARG:HB3	1.94	0.49
25:AV:179:C:H2'	25:AV:180:G:H8	1.76	0.49
25:AV:243:U:OP2	25:AV:254:G:N1	2.40	0.49
25:AV:870:U:O2	25:AV:907:G:N2	2.38	0.49
25:AV:1077:A:H4'	33:Ad:94:ASN:HB3	1.93	0.49
25:AV:1353:A:OP2	25:AV:1377:G:N1	2.44	0.49
25:AV:2110:G:N2	25:AV:2180:U:O2	2.45	0.49
56:B:1110:ASP:HA	56:B:1113:ILE:HB	1.93	0.49
25:N:793:A:OP2	25:N:2071:A:O2'	2.30	0.49
25:N:1255:U:H5''	25:N:1256:G:H5''	1.95	0.49
25:N:1668:A:N3	25:N:1670:C:N4	2.61	0.49
25:N:1709:U:H2'	25:N:1710:G:H8	1.77	0.49
26:O:57:A:C6	30:S:26:MET:HE1	2.47	0.49
39:b:8:ILE:O	39:b:12:THR:OG1	2.27	0.49
1:0:1221:G:H4'	21:t:77:THR:HG21	1.94	0.49
1:AA:674:G:H2'	1:AA:675:A:H8	1.77	0.49
1:AA:946:A:H2'	1:AA:947:G:H8	1.77	0.49
2:AB:15:HIS:CE1	2:AB:16:PHE:CG	3.00	0.49
10:AJ:40:ILE:N	10:AJ:73:LEU:O	2.44	0.49
10:AJ:42:LEU:HD22	10:AJ:71:LEU:HD13	1.92	0.49
18:AO:40:ASN:N	18:AO:49:GLY:O	2.42	0.49
25:AV:329:G:O6	45:Ap:17:LYS:N	2.45	0.49
25:AV:407:G:H2'	25:AV:408:G:H8	1.77	0.49
25:AV:1060:U:H4'	25:AV:1061:U:H5'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:2458:G:O2'	25:AV:2460:U:O4	2.26	0.49
31:Ab:67:THR:O	31:Ab:71:LEU:N	2.40	0.49
44:Ao:56:GLU:OE1	44:Ao:56:GLU:N	2.41	0.49
56:B:328:SER:O	56:B:332:GLN:N	2.38	0.49
56:B:1083:LYS:HA	56:B:1086:HIS:HB2	1.94	0.49
29:R:83:VAL:HB	29:R:86:ALA:HB2	1.94	0.49
1:0:398:U:H2'	1:0:399:G:H8	1.77	0.49
1:0:438:U:N3	1:0:494:G:N1	2.60	0.49
1:0:672:U:H2'	1:0:673:A:C8	2.47	0.49
13:A3:18:G:N2	13:A3:58:G:O2'	2.44	0.49
1:AA:711:G:H2'	1:AA:712:A:H8	1.77	0.49
1:AA:768:A:N3	1:AA:1512:U:O2'	2.44	0.49
10:AJ:27:GLU:O	10:AJ:31:ARG:N	2.44	0.49
25:AV:918:A:N3	26:AW:80:U:O2'	2.46	0.49
25:AV:1181:U:H2'	25:AV:1182:G:H8	1.78	0.49
25:AV:2047:C:H2'	25:AV:2048:G:H8	1.76	0.49
26:AW:111:U:H2'	26:AW:112:G:H8	1.77	0.49
56:B:1247:TRP:NE1	56:B:1299:SER:OG	2.41	0.49
25:N:1109:C:O2'	25:N:1110:G:O5'	2.28	0.49
25:N:2591:C:H2'	25:N:2592:G:H8	1.78	0.49
30:S:46:ASP:HB3	30:S:49:LEU:HD23	1.94	0.49
47:j:11:ARG:O	47:j:14:ARG:NH1	2.45	0.49
1:0:744:C:H2'	1:0:745:G:H8	1.77	0.49
1:0:1006:G:C6	1:0:1022:A:N1	2.80	0.49
9:8:92:GLU:HA	9:8:95:ARG:HB2	1.93	0.49
1:AA:1147:C:H1'	9:AI:18:ARG:HH11	1.77	0.49
3:AC:11:ARG:NH1	3:AC:177:THR:O	2.38	0.49
5:AE:45:ARG:HH11	5:AE:71:MET:HG3	1.78	0.49
22:AS:57:ILE:HA	22:AS:60:ARG:HD2	1.95	0.49
25:AV:2339:C:H2'	25:AV:2340:A:C8	2.48	0.49
26:AW:5:U:OP1	26:AW:61:G:O2'	2.31	0.49
28:AY:61:THR:O	28:AY:65:ALA:N	2.44	0.49
30:Aa:10:ASP:OD1	30:Aa:10:ASP:N	2.46	0.49
38:Ai:12:ARG:O	38:Ai:17:ARG:NH2	2.46	0.49
56:B:702:ARG:NH2	56:B:704:TYR:OH	2.40	0.49
56:B:815:SER:O	56:B:819:LYS:NZ	2.38	0.49
25:N:489:G:N7	43:f:49:LYS:NZ	2.61	0.49
25:N:1306:C:H2'	25:N:1307:A:H8	1.78	0.49
25:N:1378:A:O2'	25:N:1380:G:OP2	2.30	0.49
25:N:2092:U:N3	25:N:2226:C:OP2	2.46	0.49
29:R:148:ILE:HB	29:R:169:VAL:HA	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:S:34:ILE:HB	30:S:91:LEU:HB2	1.94	0.49
43:f:77:ASP:OD1	43:f:77:ASP:N	2.46	0.49
58:z:29:GLN:HB3	58:z:81:LEU:HD22	1.95	0.49
1:0:412:A:H62	1:0:431:A:H61	1.61	0.49
1:0:677:U:O2	1:0:777:A:O2'	2.30	0.49
5:4:65:GLU:OE1	5:4:69:ARG:NH1	2.45	0.49
1:AA:1059:C:OP2	3:AC:199:LYS:NZ	2.46	0.49
3:AC:14:ILE:HG22	3:AC:15:VAL:HG13	1.94	0.49
8:AH:7:ILE:HD11	8:AH:32:LEU:HG	1.95	0.49
25:AV:741:U:H2'	25:AV:742:A:H8	1.78	0.49
25:AV:831:G:H5''	36:Ag:37:GLY:HA2	1.94	0.49
25:AV:2246:G:H2'	25:AV:2247:A:H8	1.77	0.49
45:Ap:29:LEU:HD12	45:Ap:33:LYS:HB2	1.95	0.49
19:J:67:LEU:HB2	19:J:71:LYS:HD2	1.95	0.49
25:N:2511:U:H5''	28:Q:128:ARG:HG3	1.94	0.49
26:O:37:C:O2	39:b:100:HIS:NE2	2.38	0.49
28:Q:103:ASP:OD1	28:Q:103:ASP:N	2.44	0.49
3:2:191:THR:OG1	3:2:192:THR:N	2.45	0.49
6:5:12:PRO:HD2	6:5:54:LEU:HD11	1.95	0.49
7:6:56:LYS:HD3	7:6:61:ALA:HB2	1.94	0.49
8:7:126:ILE:H	8:7:126:ILE:HD12	1.78	0.49
1:AA:1342:C:H2'	1:AA:1343:G:C8	2.48	0.49
30:Aa:122:PHE:HE2	30:Aa:167:ARG:HG2	1.71	0.49
53:Ax:12:ARG:HH11	53:Ax:44:VAL:HB	1.78	0.49
56:B:471:GLU:OE1	56:B:632:SER:OG	2.31	0.49
16:G:24:ARG:NH2	16:G:56:SER:N	2.61	0.49
25:N:2246:G:H2'	25:N:2247:A:H8	1.77	0.49
26:O:30:C:H1'	26:O:57:A:H61	1.76	0.49
29:R:21:ARG:NH2	29:R:107:SER:OG	2.46	0.49
62:w:557:U:H4'	62:w:558:U:H5'	1.94	0.49
1:0:107:G:OP1	1:0:325:A:N6	2.42	0.49
1:0:187:G:N2	1:0:190:A:OP2	2.42	0.49
1:0:363:A:OP1	58:E:31:ARG:N	2.39	0.49
1:0:1253:G:H2'	1:0:1254:A:C8	2.48	0.49
10:9:29:ALA:HA	10:9:83:THR:HG21	1.95	0.49
12:A1:35:ARG:NH1	1:AA:718:A:O2'	2.45	0.49
1:AA:1218:C:H2'	1:AA:1219:A:C8	2.48	0.49
3:AC:13:GLY:HA3	16:AM:97:LYS:HD3	1.94	0.49
18:AO:3:THR:OG1	18:AO:4:ILE:N	2.45	0.49
25:AV:24:G:H1'	43:An:77:ASP:HB3	1.93	0.49
25:AV:160:A:N3	25:AV:2208:C:O2'	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:581:C:H5'	41:Al:31:VAL:HG23	1.95	0.49
56:B:593:GLU:HA	56:B:596:ASP:HB2	1.94	0.49
14:C:184:LYS:O	14:C:188:ASN:ND2	2.46	0.49
25:N:807:U:OP2	36:Y:41:ARG:NH1	2.46	0.49
25:N:1664:A:H61	25:N:1996:C:H42	1.60	0.49
25:N:1709:U:H2'	25:N:1710:G:C8	2.48	0.49
25:N:2812:G:H2'	25:N:2813:A:H8	1.78	0.49
21:t:45:ILE:HD13	21:t:62:VAL:HG12	1.94	0.49
1:O:662:U:H2'	1:O:663:A:C8	2.48	0.48
1:O:1074:G:O2'	1:O:1101:A:N1	2.44	0.48
1:AA:411:A:OP2	4:AD:26:ARG:NH1	2.40	0.48
1:AA:666:G:N2	17:AN:52:SER:OG	2.46	0.48
1:AA:947:G:O3'	15:AL:108:THR:OG1	2.31	0.48
1:AA:1106:G:O2'	3:AC:169:ARG:NH2	2.31	0.48
1:AA:1409:C:H2'	1:AA:1410:A:H8	1.78	0.48
25:AV:1131:G:O2'	25:AV:2025:C:O2'	2.27	0.48
25:AV:1131:G:HO2'	25:AV:2025:C:HO2'	1.59	0.48
25:AV:1709:U:H2'	25:AV:1710:G:C8	2.48	0.48
46:Aq:7:GLU:OE2	46:Aq:10:LYS:NZ	2.46	0.48
56:B:715:ALA:HB1	56:B:738:SER:HB3	1.95	0.48
34:W:92:MET:HE2	34:W:100:VAL:HG22	1.95	0.48
40:c:34:GLU:OE1	40:c:34:GLU:N	2.46	0.48
63:x:27:VAL:HG13	63:x:109:LYS:HB3	1.95	0.48
2:1:12:ALA:HB1	2:1:208:ARG:HB3	1.93	0.48
1:AA:88:U:H2'	1:AA:89:U:H6	1.78	0.48
1:AA:1151:A:H2'	1:AA:1152:A:H8	1.76	0.48
4:AD:172:GLU:HB2	4:AD:183:LYS:HD3	1.95	0.48
25:AV:870:U:H3	25:AV:907:G:H1	1.61	0.48
25:AV:1266:G:O2'	25:AV:2012:G:O6	2.28	0.48
37:Ah:47:GLU:OE2	37:Ah:51:ARG:HG3	2.13	0.48
56:B:1107:GLU:O	56:B:1111:ASP:N	2.45	0.48
25:N:5:A:H2'	25:N:6:A:H8	1.77	0.48
25:N:742:A:H2'	25:N:743:A:C8	2.48	0.48
25:N:1820:U:H5	27:P:177:ARG:HH11	1.61	0.48
25:N:2443:C:H2'	25:N:2444:G:H8	1.78	0.48
25:N:2667:C:N3	31:T:110:SER:OG	2.45	0.48
43:f:11:ARG:HH12	43:f:98:LYS:HE3	1.78	0.48
1:O:1236:A:H4'	1:O:1304:G:H4'	1.94	0.48
1:AA:1144:G:N2	1:AA:1146:A:H62	2.11	0.48
1:AA:1151:A:H2'	1:AA:1152:A:C8	2.48	0.48
1:AA:1192:C:OP2	3:AC:4:LYS:NZ	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1210:C:O2'	1:AA:1213:A:O2'	2.28	0.48
7:AG:76:LYS:O	7:AG:87:VAL:N	2.47	0.48
24:AU:62:C:H2'	24:AU:63:G:C8	2.48	0.48
25:AV:191:A:OP2	25:AV:204:A:N6	2.42	0.48
40:Ak:16:ASP:OD1	40:Ak:16:ASP:N	2.43	0.48
41:Al:83:LEU:HB2	41:Al:88:VAL:HB	1.95	0.48
56:B:1030:GLU:OE1	56:B:1039:LYS:NZ	2.46	0.48
56:B:1287:SER:H	56:B:1290:ARG:HB2	1.78	0.48
23:L:13:THR:OG1	23:L:31:ASP:OD2	2.28	0.48
25:N:627:A:C5	36:Y:111:ILE:HD11	2.48	0.48
25:N:1051:G:N2	25:N:1108:U:O2	2.41	0.48
25:N:1243:C:O2'	36:Y:6:LEU:O	2.31	0.48
25:N:1614:A:N6	43:f:92:ARG:O	2.46	0.48
25:N:2099:U:H2'	25:N:2100:G:H8	1.78	0.48
25:N:2615:U:C2	60:n:4:GLN:HA	2.49	0.48
46:i:75:GLN:HB2	46:i:92:VAL:HG22	1.94	0.48
1:0:1113:C:H4'	3:2:14:ILE:HD12	1.96	0.48
2:1:73:LYS:NZ	2:1:204:ASP:OD1	2.39	0.48
6:5:21:MET:O	6:5:25:TYR:N	2.43	0.48
8:7:45:PHE:HD1	8:7:72:VAL:HG22	1.78	0.48
25:AV:55:G:H2'	25:AV:56:A:H8	1.78	0.48
25:AV:1036:G:N2	25:AV:1119:U:O2	2.37	0.48
25:AV:1044:C:O2'	25:AV:1111:A:N1	2.44	0.48
25:AV:1244:A:H4'	36:Ag:8:PRO:HD3	1.95	0.48
25:AV:2070:A:H2'	25:AV:2071:A:H8	1.79	0.48
25:AV:2261:C:OP1	47:Ar:19:LYS:NZ	2.40	0.48
32:Ac:70:GLU:HB2	32:Ac:134:VAL:HG21	1.95	0.48
39:Aj:53:THR:HB	39:Aj:65:THR:HB	1.95	0.48
42:Am:34:GLU:HG2	42:Am:60:LYS:HG2	1.95	0.48
56:B:54:ILE:O	56:B:58:ALA:N	2.45	0.48
56:B:1184:ASP:OD2	56:B:1272:ARG:NH2	2.42	0.48
25:N:1153:C:OP1	41:d:92:ARG:NH1	2.46	0.48
25:N:1365:A:OP1	48:k:3:ARG:NH2	2.38	0.48
25:N:2818:U:OP2	38:a:42:LYS:NZ	2.44	0.48
28:Q:148:GLN:OE1	28:Q:148:GLN:N	2.46	0.48
34:W:13:ARG:NH1	34:W:49:ASP:O	2.42	0.48
38:a:29:VAL:HG11	38:a:75:ILE:HG23	1.95	0.48
1:0:591:U:H2'	1:0:592:G:H8	1.79	0.48
1:0:1095:U:OP1	1:0:1108:G:N2	2.37	0.48
5:4:151:GLU:OE1	5:4:151:GLU:N	2.47	0.48
1:AA:523:A:H61	58:z:89:ASP:HB2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1143:G:H2'	1:AA:1144:G:H8	1.77	0.48
1:AA:1162:C:H2'	1:AA:1163:A:H8	1.78	0.48
10:AJ:63:ASP:OD1	16:AM:98:LYS:NZ	2.45	0.48
14:AK:23:ILE:HG22	14:AK:186:LYS:HZ2	1.78	0.48
14:AK:53:ARG:HD2	14:AK:167:LYS:CE	2.43	0.48
16:AM:49:GLN:HE22	21:AR:13:LEU:HB3	1.79	0.48
25:AV:395:U:O2'	25:AV:396:G:N7	2.45	0.48
25:AV:767:U:H2'	25:AV:768:G:H8	1.79	0.48
56:B:383:LEU:H	56:B:675:GLU:HB3	1.79	0.48
56:B:825:PRO:O	56:B:829:ASN:ND2	2.47	0.48
25:N:1105:U:H2'	25:N:1106:G:H8	1.76	0.48
25:N:1181:U:H2'	25:N:1182:G:H8	1.79	0.48
25:N:1463:C:H2'	25:N:1464:G:H8	1.78	0.48
25:N:1830:C:H2'	25:N:1831:G:H8	1.79	0.48
25:N:2031:A:N3	25:N:2455:G:O2'	2.42	0.48
60:n:43:ILE:HG22	60:n:49:TYR:HB2	1.95	0.48
1:0:745:G:H2'	1:0:746:A:C8	2.48	0.48
2:1:95:ARG:HH22	2:1:97:LEU:HD22	1.79	0.48
6:5:40:GLU:HG3	6:5:61:LEU:HB3	1.96	0.48
10:9:42:LEU:HD13	10:9:71:LEU:HD21	1.94	0.48
1:AA:1071:C:H2'	1:AA:1072:G:C8	2.47	0.48
25:AV:13:A:O2'	25:AV:15:G:N7	2.45	0.48
25:AV:20:C:H2'	25:AV:21:A:C8	2.49	0.48
25:AV:806:C:O2	25:AV:2444:G:O2'	2.32	0.48
25:AV:877:A:N6	25:AV:899:A:N1	2.61	0.48
26:AW:34:A:N6	26:AW:44:G:O2'	2.46	0.48
27:AX:161:TYR:HB3	27:AX:194:GLU:OE2	2.13	0.48
38:Ai:57:THR:O	38:Ai:62:ASN:ND2	2.45	0.48
45:Ap:34:VAL:HG13	45:Ap:67:VAL:HG22	1.96	0.48
52:Aw:10:LYS:HG2	52:Aw:22:THR:HG22	1.94	0.48
56:B:879:PRO:HG2	56:B:882:LEU:HD12	1.96	0.48
16:G:63:ARG:HH11	16:G:70:PRO:HG3	1.78	0.48
19:J:50:ASN:ND2	19:J:52:GLU:OE2	2.43	0.48
25:N:5:A:H2'	25:N:6:A:C8	2.49	0.48
25:N:512:G:OP1	25:N:1234:U:O2'	2.32	0.48
25:N:835:C:H2'	25:N:836:G:H8	1.78	0.48
25:N:2591:C:H2'	25:N:2592:G:C8	2.49	0.48
28:Q:13:ARG:HD2	40:c:56:HIS:ND1	2.28	0.48
53:p:43:THR:HG23	53:p:45:SER:H	1.78	0.48
1:0:56:U:H2'	1:0:57:G:H8	1.79	0.48
1:0:947:G:O3'	15:F:108:THR:OG1	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:1404:C:H2'	1:O:1405:G:C8	2.49	0.48
1:O:1530:G:H2'	1:O:1531:A:H8	1.78	0.48
3:2:119:SER:O	3:2:122:SER:OG	2.31	0.48
1:AA:337:G:H2'	1:AA:338:A:C8	2.48	0.48
14:AK:46:VAL:HA	14:AK:212:VAL:HG12	1.95	0.48
25:AV:69:C:O2	25:AV:73:A:O2'	2.26	0.48
25:AV:927:A:H2	50:Au:44:ILE:HG13	1.78	0.48
25:AV:1051:G:O6	25:AV:1108:U:C4	2.66	0.48
25:AV:1569:A:H2'	25:AV:1570:A:C8	2.48	0.48
27:AX:69:ARG:O	27:AX:189:ARG:NH2	2.44	0.48
38:Ai:8:ARG:NH1	38:Ai:43:GLU:OE2	2.47	0.48
42:Am:17:GLY:H	42:Am:98:ILE:HB	1.79	0.48
56:B:590:ARG:O	56:B:594:TRP:N	2.45	0.48
56:B:977:ASP:OD1	56:B:981:LYS:N	2.43	0.48
15:F:58:ASP:OD1	15:F:58:ASP:N	2.47	0.48
59:M:9:C:O2'	59:M:10:G:N7	2.42	0.48
25:N:2615:U:H2'	25:N:2616:C:H6	1.79	0.48
44:g:8:LEU:HD13	49:l:21:LEU:HB3	1.96	0.48
1:O:257:G:H2'	1:O:258:G:H8	1.77	0.48
1:O:407:U:H2'	1:O:408:A:H8	1.77	0.48
1:O:627:G:OP1	18:I:35:ARG:NH1	2.46	0.48
4:3:103:TYR:O	4:3:165:ARG:NH2	2.47	0.48
6:5:46:GLN:HA	6:5:56:LYS:HA	1.95	0.48
1:AA:294:U:OP1	1:AA:610:U:O2'	2.31	0.48
1:AA:1412:C:H2'	1:AA:1413:A:C8	2.48	0.48
7:AG:97:ASN:OD1	7:AG:97:ASN:N	2.46	0.48
25:AV:220:G:H1	25:AV:427:U:H3'	1.79	0.48
25:AV:1278:C:H2'	25:AV:1279:G:C8	2.48	0.48
25:AV:2233:U:H2'	25:AV:2234:G:C8	2.49	0.48
27:AX:82:GLU:HB3	27:AX:91:ILE:HG13	1.96	0.48
27:AX:270:ARG:HH11	27:AX:271:ARG:HG2	1.79	0.48
30:Aa:116:GLY:HA3	30:Aa:178:ARG:HA	1.96	0.48
38:Ai:49:GLU:HG2	38:Ai:94:TYR:HB2	1.95	0.48
38:Ai:54:LEU:HD11	38:Ai:65:LEU:HD22	1.95	0.48
56:B:636:MET:HE3	56:B:637:LYS:N	2.28	0.48
25:N:65:U:O2'	25:N:456:C:N3	2.46	0.48
25:N:926:G:H2'	25:N:927:A:C8	2.48	0.48
25:N:1799:G:OP1	27:P:258:ARG:NE	2.43	0.48
30:S:74:VAL:HG22	30:S:76:GLY:H	1.78	0.48
36:Y:51:GLU:N	36:Y:51:GLU:OE1	2.46	0.48
50:m:7:ILE:HG22	50:m:29:LEU:HD21	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:z:107:VAL:HG21	58:z:117:TYR:HD2	1.78	0.48
4:3:8:LYS:HB3	4:3:21:LEU:HD12	1.96	0.48
4:3:62:ARG:NH2	4:3:69:GLU:OE1	2.46	0.48
8:7:35:ALA:HB1	8:7:110:VAL:HG11	1.95	0.48
3:AC:63:SER:OG	3:AC:98:PRO:O	2.31	0.48
9:AI:92:GLU:HA	9:AI:95:ARG:HB3	1.96	0.48
25:AV:476:G:N1	25:AV:479:A:OP2	2.39	0.48
25:AV:733:G:N2	25:AV:734:A:N7	2.61	0.48
27:AX:98:ASP:OD1	27:AX:98:ASP:N	2.37	0.48
25:N:1060:U:OP1	33:V:76:ALA:N	2.46	0.48
25:N:2141:G:H2'	25:N:2142:A:C8	2.49	0.48
25:N:2473:U:OP1	25:N:2475:C:N4	2.47	0.48
40:c:113:ARG:NH2	40:c:115:ASN:OD1	2.47	0.48
1:0:275:G:H5'	19:J:16:LYS:HE2	1.94	0.48
1:0:1320:C:C2	21:t:72:GLY:HA3	2.49	0.48
1:0:1359:C:H3'	16:G:75:ARG:NH1	2.29	0.48
2:1:89:GLN:OE1	2:1:89:GLN:N	2.47	0.48
1:AA:429:U:H3'	4:AD:9:LEU:HD23	1.95	0.48
1:AA:1077:G:N2	1:AA:1080:A:OP2	2.41	0.48
1:AA:1513:A:H2'	1:AA:1514:G:C8	2.49	0.48
8:AH:43:GLU:HG2	8:AH:101:ILE:HG12	1.96	0.48
17:AN:69:TYR:OH	17:AN:73:LYS:NZ	2.37	0.48
25:AV:532:A:H4'	25:AV:533:G:C8	2.49	0.48
25:AV:1834:U:H5''	25:AV:1835:G:H5'	1.95	0.48
42:Am:23:GLU:O	42:Am:94:THR:OG1	2.32	0.48
47:Ar:77:ARG:HH11	47:Ar:79:PHE:HZ	1.60	0.48
49:At:24:GLU:OE1	49:At:24:GLU:N	2.46	0.48
56:B:132:ARG:HG3	62:w:575:U:H5''	1.95	0.48
56:B:737:TYR:HA	56:B:740:ILE:HD12	1.96	0.48
16:G:28:LYS:HA	16:G:31:ILE:HD12	1.96	0.48
16:G:66:GLN:OE1	16:G:66:GLN:N	2.47	0.48
25:N:550:C:H2'	25:N:551:G:H8	1.78	0.48
25:N:589:U:H2'	25:N:590:A:C8	2.48	0.48
25:N:1664:A:H61	25:N:1996:C:N4	2.12	0.48
2:1:208:ARG:O	2:1:211:THR:OG1	2.29	0.47
1:AA:1026:G:H21	1:AA:1035:A:H61	1.60	0.47
6:AF:9:MET:SD	6:AF:86:ARG:HB3	2.54	0.47
25:AV:288:U:H2'	25:AV:289:G:C8	2.48	0.47
25:AV:351:C:H2'	25:AV:352:A:C8	2.49	0.47
25:AV:807:U:O2	29:AZ:69:ARG:NH1	2.45	0.47
25:AV:1068:G:H4'	33:Ad:24:VAL:HG12	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1267:U:H2'	25:AV:1268:A:H8	1.78	0.47
25:AV:1279:G:OP1	38:Ai:35:LYS:N	2.45	0.47
25:AV:1434:A:H61	25:AV:1558:C:N4	2.11	0.47
38:Ai:32:GLU:HB3	38:Ai:118:ARG:HD2	1.96	0.47
56:B:1152:ILE:H	56:B:1152:ILE:HD12	1.79	0.47
25:N:140:C:O2'	25:N:141:G:OP1	2.32	0.47
25:N:619:G:OP2	25:N:620:G:N2	2.45	0.47
25:N:1409:U:H2'	25:N:1410:G:H8	1.79	0.47
25:N:2129:C:H2'	25:N:2159:G:H1	1.79	0.47
1:O:1013:G:N2	1:O:1016:A:OP2	2.35	0.47
1:AA:41:G:H2'	1:AA:42:G:H8	1.79	0.47
1:AA:923:A:O2'	1:AA:1399:C:OP2	2.26	0.47
6:AF:66:ALA:HB3	6:AF:71:ILE:HD11	1.96	0.47
25:AV:741:U:H2'	25:AV:742:A:C8	2.49	0.47
25:AV:2087:G:H2'	25:AV:2088:A:H8	1.78	0.47
25:AV:2529:G:OP2	31:Ab:157:TYR:OH	2.32	0.47
32:Ac:32:PRO:HA	48:As:39:TRP:CD1	2.49	0.47
36:Ag:57:LEU:HA	36:Ag:60:ARG:HG2	1.95	0.47
46:Aq:83:LYS:O	46:Aq:85:LYS:N	2.47	0.47
56:B:94:GLN:HA	56:B:224:LYS:HD3	1.96	0.47
25:N:1987:A:H2'	25:N:1988:G:H8	1.78	0.47
25:N:2286:G:H3'	52:o:30:LYS:HE3	1.95	0.47
25:N:2525:G:H2'	25:N:2526:G:H8	1.79	0.47
25:N:2737:G:H2'	25:N:2738:A:C8	2.50	0.47
26:O:95:U:H2'	26:O:96:G:H8	1.79	0.47
27:P:5:LYS:HG2	27:P:17:VAL:HG22	1.95	0.47
33:V:118:THR:OG1	63:x:36:ASP:OD1	2.32	0.47
48:k:72:ARG:NH2	48:k:78:TYR:OH	2.42	0.47
1:O:96:U:H2'	1:O:97:G:C8	2.49	0.47
1:O:922:G:H2'	1:O:923:A:C8	2.49	0.47
1:O:1356:G:H2'	1:O:1357:A:C8	2.48	0.47
1:O:1373:G:O6	9:8:13:LYS:NZ	2.46	0.47
1:O:1382:C:H5'	7:6:79:ARG:HH11	1.80	0.47
2:1:15:HIS:HB3	2:1:43:LEU:HD11	1.97	0.47
1:AA:898:G:N2	1:AA:901:A:OP2	2.41	0.47
1:AA:994:A:O3'	16:AM:12:LYS:NZ	2.47	0.47
1:AA:1328:C:H2'	1:AA:1329:A:H8	1.79	0.47
25:AV:299:A:N1	25:AV:322:A:O2'	2.42	0.47
25:AV:1607:C:N4	25:AV:1622:G:OP2	2.43	0.47
25:AV:2559:C:H2'	25:AV:2560:A:H8	1.79	0.47
25:AV:2742:G:OP1	55:Az:24:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Aa:125:ARG:HE	30:Aa:127:ASN:HD21	1.62	0.47
56:B:128:THR:HB	56:B:196:ILE:HA	1.97	0.47
56:B:238:SER:OG	56:B:244:ALA:O	2.33	0.47
25:N:302:C:H2'	25:N:303:G:H8	1.79	0.47
25:N:599:A:H2'	25:N:600:G:H8	1.78	0.47
25:N:1032:A:H1'	55:r:23:ILE:HD13	1.96	0.47
25:N:2023:C:H2'	25:N:2024:G:H8	1.79	0.47
1:0:56:U:H2'	1:0:57:G:C8	2.49	0.47
1:0:1040:U:H2'	1:0:1041:G:C8	2.50	0.47
1:0:1071:C:H2'	1:0:1072:G:C8	2.50	0.47
1:0:1320:C:N4	21:t:36:ARG:HB2	2.28	0.47
8:7:111:MET:HB2	8:7:115:ALA:HB3	1.95	0.47
1:AA:686:U:H1'	57:y:44:TRP:HE1	1.78	0.47
7:AG:113:ASP:HB2	7:AG:119:ARG:HG3	1.96	0.47
25:AV:483:A:O2'	45:Ap:57:GLY:N	2.47	0.47
25:AV:535:G:H1	25:AV:558:U:H3	1.61	0.47
25:AV:1155:A:O3'	41:Al:55:ARG:NH1	2.46	0.47
25:AV:1853:A:N3	25:AV:2233:U:O2'	2.41	0.47
25:AV:2246:G:H2'	25:AV:2247:A:C8	2.50	0.47
25:AV:2756:U:H1'	25:AV:2757:A:H5''	1.95	0.47
26:AW:77:U:H2'	26:AW:78:A:H8	1.79	0.47
60:n:50:ARG:HB2	60:n:52:ARG:NH1	2.29	0.47
1:0:1055:A:H1'	3:2:156:ARG:HH11	1.79	0.47
1:0:1073:U:O2	2:1:103:ASN:ND2	2.47	0.47
1:0:1391:U:H2'	1:0:1392:G:C8	2.50	0.47
3:2:150:LYS:HB2	3:2:169:ARG:HG3	1.96	0.47
4:3:13:ARG:NE	4:3:37:ALA:O	2.47	0.47
3:AC:82:GLU:OE2	3:AC:86:LYS:NZ	2.48	0.47
6:AF:80:PHE:CG	27:AX:124:ILE:CD1	2.97	0.47
18:AO:9:HIS:HD2	18:AO:18:GLN:HG3	1.79	0.47
24:AU:55:U:O2'	24:AU:57:G:N7	2.40	0.47
25:AV:245:G:OP1	36:Ag:67:THR:OG1	2.31	0.47
25:AV:552:U:H2'	25:AV:553:G:H8	1.78	0.47
25:AV:1089:A:H4'	25:AV:1090:A:H5'	1.96	0.47
25:AV:1710:G:H2'	25:AV:1711:A:H8	1.78	0.47
25:AV:1820:U:OP1	27:AX:177:ARG:NE	2.42	0.47
29:AZ:108:ILE:H	29:AZ:108:ILE:HD12	1.79	0.47
42:Am:11:GLN:OE1	42:Am:11:GLN:N	2.48	0.47
56:B:1089:LEU:O	56:B:1090:PRO:C	2.56	0.47
25:N:265:A:N1	25:N:427:U:O2'	2.44	0.47
25:N:1130:U:N3	25:N:2025:C:OP1	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:R:41:GLN:HG2	29:R:43:THR:HG23	1.95	0.47
43:f:82:MET:SD	43:f:84:ARG:NH1	2.86	0.47
63:x:108:VAL:HG11	63:x:123:ILE:HG21	1.95	0.47
58:z:75:GLN:OE1	58:z:75:GLN:N	2.46	0.47
1:0:54:C:OP1	1:0:351:G:N2	2.48	0.47
1:0:254:G:OP1	19:J:68:SER:OG	2.28	0.47
2:1:130:THR:OG1	2:1:131:LYS:N	2.48	0.47
5:4:113:ALA:O	5:4:117:VAL:HG23	2.14	0.47
1:AA:877:G:H2'	1:AA:878:A:H8	1.79	0.47
25:AV:1445:G:O6	25:AV:1466:U:O2	2.32	0.47
25:AV:2286:G:H2'	52:Aw:34:LEU:HD11	1.96	0.47
53:Ax:10:LEU:HD11	53:Ax:14:ARG:HH11	1.79	0.47
56:B:112:LYS:HD3	56:B:146:LEU:HD21	1.97	0.47
25:N:373:U:H2'	25:N:374:A:H8	1.79	0.47
25:N:518:G:O5'	43:f:18:ARG:NH2	2.48	0.47
25:N:538:A:H5''	34:W:7:LYS:HE3	1.97	0.47
25:N:698:C:O2'	25:N:734:A:N6	2.43	0.47
25:N:1808:A:H3'	25:N:1809:A:C8	2.49	0.47
25:N:2358:A:H61	36:Y:54:GLN:HE22	1.59	0.47
25:N:2880:C:O2'	38:a:90:ARG:NH1	2.47	0.47
32:U:14:SER:OG	32:U:17:ASP:OD2	2.29	0.47
39:b:31:THR:HG22	39:b:33:ARG:H	1.79	0.47
41:d:89:GLU:HB2	42:e:52:PRO:HB3	1.97	0.47
50:m:42:PRO:HA	50:m:45:ARG:HB2	1.97	0.47
53:p:9:VAL:HA	53:p:12:ARG:HB3	1.97	0.47
22:u:45:ALA:O	22:u:49:LYS:N	2.42	0.47
1:0:107:G:N7	22:u:10:ARG:NH1	2.60	0.47
1:0:741:G:OP1	17:H:35:GLN:NE2	2.47	0.47
1:0:783:C:H2'	1:0:784:A:H8	1.79	0.47
1:0:1130:A:H2'	1:0:1131:G:H8	1.79	0.47
1:0:1376:U:O4	7:6:10:ARG:NH2	2.38	0.47
13:A3:53:G:H2'	13:A3:54:G:H8	1.80	0.47
1:AA:460:A:H2'	1:AA:461:A:C8	2.49	0.47
1:AA:1298:U:O2	1:AA:1299:A:N6	2.48	0.47
1:AA:1356:G:H2'	1:AA:1357:A:H8	1.80	0.47
1:AA:1441:A:H5''	1:AA:1442:G:C8	2.50	0.47
3:AC:150:LYS:HB2	3:AC:169:ARG:HG3	1.95	0.47
7:AG:111:ARG:HB2	7:AG:119:ARG:HG2	1.96	0.47
17:AN:88:ARG:O	17:AN:88:ARG:NH2	2.46	0.47
24:AU:2:G:H2'	24:AU:3:G:H8	1.80	0.47
25:AV:245:G:O6	54:Ay:8:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1447:C:O2'	25:AV:1544:A:N3	2.45	0.47
25:AV:1636:U:H2'	25:AV:1637:A:H8	1.79	0.47
25:AV:1710:G:H2'	25:AV:1711:A:C8	2.50	0.47
25:AV:1853:A:H2'	25:AV:1854:A:C8	2.50	0.47
25:AV:2511:U:H5''	28:AY:128:ARG:HG3	1.96	0.47
25:AV:2831:G:OP2	28:AY:59:ARG:NH1	2.48	0.47
25:AV:2863:C:H2'	25:AV:2864:G:C8	2.50	0.47
36:Ag:23:ILE:HD12	42:Am:84:ARG:HG3	1.95	0.47
41:Al:17:ILE:HD11	41:Al:39:VAL:HG21	1.96	0.47
56:B:185:ASP:OD2	56:B:189:MET:N	2.48	0.47
56:B:1082:ILE:O	56:B:1086:HIS:N	2.48	0.47
25:N:1278:C:H2'	25:N:1279:G:C8	2.49	0.47
25:N:2693:G:H2'	25:N:2694:G:H8	1.80	0.47
25:N:2822:G:O6	38:a:2:ARG:NH2	2.48	0.47
32:U:1:MET:N	32:U:21:VAL:O	2.48	0.47
1:O:1382:C:O2'	7:6:79:ARG:CD	2.59	0.47
1:O:1437:A:H2'	1:O:1438:G:H8	1.79	0.47
10:9:11:LYS:HG2	10:9:71:LEU:HB2	1.97	0.47
11:A:33:U:N3	11:A:36:A:OP2	2.38	0.47
1:AA:1248:A:H2	9:AI:72:ILE:HD11	1.80	0.47
3:AC:72:ARG:HA	3:AC:72:ARG:NH2	2.29	0.47
25:AV:414:C:H2'	25:AV:415:A:C8	2.50	0.47
25:AV:465:G:H5''	53:Ax:44:VAL:HG11	1.97	0.47
25:AV:1638:C:O2	25:AV:2698:U:O2'	2.30	0.47
25:AV:2109:U:O4	25:AV:2179:C:N4	2.48	0.47
30:Aa:36:LEU:N	30:Aa:89:VAL:O	2.48	0.47
25:N:534:U:H2'	25:N:535:G:H8	1.79	0.47
25:N:818:G:N1	25:N:1188:U:OP2	2.37	0.47
25:N:832:U:H2'	25:N:833:A:C8	2.50	0.47
25:N:2443:C:H2'	25:N:2444:G:C8	2.50	0.47
38:a:18:GLN:OE1	38:a:22:ARG:NH1	2.48	0.47
45:h:21:LYS:HD3	45:h:39:ILE:HG22	1.95	0.47
22:u:40:GLU:OE1	22:u:40:GLU:N	2.40	0.47
57:y:92:GLY:O	57:y:96:THR:OG1	2.29	0.47
1:O:236:A:H2'	1:O:237:G:C8	2.50	0.47
1:O:672:U:H2'	1:O:673:A:H8	1.80	0.47
1:O:1320:C:N3	21:t:36:ARG:NH2	2.63	0.47
1:O:1522:U:OP1	57:D:128:ARG:NH2	2.48	0.47
1:AA:151:A:H3'	1:AA:152:A:H8	1.80	0.47
2:AB:173:ILE:HG23	2:AB:183:VAL:HG21	1.97	0.47
6:AF:4:TYR:HE1	6:AF:91:ARG:HG2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AJ:52:LEU:O	16:AM:81:ARG:NH2	2.48	0.47
25:AV:102:U:C2	49:At:2:LYS:HD2	2.50	0.47
25:AV:1431:A:H2'	25:AV:1432:G:C8	2.50	0.47
25:AV:2199:A:OP1	48:As:37:ARG:NH1	2.48	0.47
25:AV:2233:U:H2'	25:AV:2234:G:H8	1.80	0.47
25:AV:2525:G:H2'	25:AV:2526:G:H8	1.79	0.47
25:AV:2691:C:H2'	25:AV:2692:G:C8	2.49	0.47
14:C:211:LYS:NZ	14:C:213:SER:OG	2.47	0.47
19:J:77:ARG:NH2	19:J:79:VAL:HG12	2.29	0.47
25:N:956:G:OP2	37:Z:86:LYS:NZ	2.47	0.47
25:N:2099:U:H3	25:N:2190:G:H1	1.63	0.47
25:N:2328:A:H2'	25:N:2329:U:C6	2.49	0.47
26:O:8:C:O3'	39:b:25:ARG:NH1	2.40	0.47
8:7:90:ASP:OD1	8:7:90:ASP:N	2.44	0.47
11:A:7:A:O2'	11:A:49:C:O4'	2.32	0.47
1:AA:269:C:H2'	1:AA:270:A:C8	2.50	0.47
1:AA:1513:A:H2'	1:AA:1514:G:H8	1.80	0.47
25:AV:1280:G:H2'	25:AV:1281:G:H8	1.80	0.47
25:AV:2572:A:H2'	28:AY:149:ASN:HD21	1.80	0.47
30:Aa:164:GLU:HA	30:Aa:167:ARG:HD2	1.96	0.47
31:Ab:84:THR:HG23	31:Ab:134:LYS:HG2	1.96	0.47
35:Af:105:ARG:HH12	40:Ak:41:GLN:HG3	1.79	0.47
25:N:296:U:H2'	25:N:297:G:C8	2.50	0.47
25:N:589:U:H2'	25:N:590:A:H8	1.79	0.47
25:N:639:U:H2'	25:N:640:C:C6	2.50	0.47
25:N:2329:U:H2'	25:N:2330:G:C8	2.49	0.47
25:N:2372:U:H2'	25:N:2373:G:H8	1.79	0.47
25:N:2771:C:O2'	28:Q:173:GLN:NE2	2.44	0.47
47:j:23:VAL:HA	47:j:38:VAL:HA	1.96	0.47
2:1:214:LEU:HA	2:1:217:VAL:HG12	1.97	0.46
7:6:68:ASN:O	7:6:138:ARG:NE	2.48	0.46
1:AA:110:C:H4'	18:AO:25:ARG:HB2	1.97	0.46
1:AA:715:A:H2'	1:AA:716:A:C8	2.51	0.46
1:AA:859:G:OP2	1:AA:869:G:N1	2.32	0.46
1:AA:1253:G:H2'	1:AA:1254:A:C8	2.51	0.46
1:AA:1447:A:OP1	1:AA:1448:C:N4	2.40	0.46
22:AS:35:VAL:HG23	22:AS:36:TYR:CD1	2.50	0.46
24:AU:63:G:C4'	47:Ar:11:ARG:HH22	2.28	0.46
25:AV:1571:A:H2'	25:AV:1572:A:C8	2.50	0.46
25:AV:2855:C:H2'	25:AV:2856:A:H8	1.80	0.46
43:An:10:ALA:HB1	43:An:46:LEU:HD21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Aw:32:GLU:N	52:Aw:32:GLU:OE1	2.47	0.46
56:B:1119:LYS:HE3	56:B:1152:ILE:HD11	1.96	0.46
15:F:54:ASP:HA	15:F:57:ARG:HG2	1.96	0.46
16:G:64:CYS:HB3	16:G:69:ARG:H	1.80	0.46
25:N:956:G:H5''	37:Z:76:LYS:HG3	1.97	0.46
25:N:1081:U:H2'	25:N:1082:U:C6	2.50	0.46
25:N:1326:U:H2'	25:N:1327:A:H8	1.81	0.46
25:N:1636:U:H2'	25:N:1637:A:C8	2.50	0.46
25:N:1791:A:N6	25:N:1828:G:O2'	2.43	0.46
25:N:2036:C:H2'	25:N:2037:A:H8	1.80	0.46
28:Q:179:ARG:H	28:Q:188:LEU:HB2	1.80	0.46
36:Y:100:ILE:HG13	36:Y:101:ILE:HG23	1.96	0.46
39:b:88:LYS:O	39:b:88:LYS:NZ	2.44	0.46
12:v:39:GLU:OE2	12:v:43:THR:OG1	2.31	0.46
63:x:77:VAL:O	63:x:109:LYS:NZ	2.48	0.46
1:0:1513:A:H2'	1:0:1514:G:C8	2.49	0.46
5:4:20:ARG:NH1	62:w:555:G:O2'	2.48	0.46
7:6:86:GLN:HB2	7:6:148:ASN:HD22	1.81	0.46
10:9:30:LYS:HA	10:9:34:ALA:HA	1.97	0.46
7:AG:136:LYS:NZ	7:AG:140:ASP:OD2	2.39	0.46
25:AV:63:A:H4'	44:Ao:77:ARG:HD3	1.97	0.46
25:AV:1709:U:H2'	25:AV:1710:G:H8	1.80	0.46
28:AY:2:ILE:HG21	28:AY:48:ILE:HD11	1.96	0.46
30:Aa:93:GLY:H	30:Aa:96:MET:HE3	1.80	0.46
40:Ak:76:THR:HG23	40:Ak:77:HIS:CE1	2.49	0.46
56:B:132:ARG:NH2	56:B:593:GLU:OE2	2.49	0.46
25:N:213:A:H2'	25:N:214:G:C8	2.50	0.46
25:N:1571:A:H2'	25:N:1572:A:H8	1.80	0.46
25:N:1710:G:H2'	25:N:1711:A:C8	2.51	0.46
25:N:2291:U:H2'	25:N:2292:U:C6	2.50	0.46
25:N:2636:C:H2'	25:N:2637:U:H6	1.79	0.46
27:P:135:ILE:O	27:P:167:ARG:NH2	2.38	0.46
31:T:95:ARG:HB3	31:T:106:SER:HB2	1.95	0.46
1:0:126:G:OP1	1:0:605:U:O2'	2.25	0.46
1:0:137:U:H2'	1:0:138:G:H8	1.80	0.46
1:0:229:U:O2'	18:I:23:ASP:OD2	2.34	0.46
1:0:438:U:C4	1:0:496:A:N1	2.83	0.46
3:2:24:ALA:HB1	3:2:28:GLU:HG2	1.98	0.46
4:3:119:SER:O	4:3:131:ASN:ND2	2.47	0.46
10:9:53:ILE:HG22	16:G:85:ARG:CD	2.45	0.46
1:AA:993:G:O2'	1:AA:994:A:N7	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1683:U:H2'	25:AV:1684:G:C8	2.50	0.46
25:AV:2087:G:H2'	25:AV:2088:A:C8	2.50	0.46
35:Af:20:MET:HB2	35:Af:44:LYS:HG2	1.97	0.46
49:At:17:GLU:HA	49:At:20:ASN:HB2	1.97	0.46
56:B:1270:GLU:HB2	56:B:1286:ILE:HG12	1.96	0.46
25:N:742:A:H2'	25:N:743:A:H8	1.81	0.46
25:N:958:U:O4'	37:Z:14:LYS:NZ	2.47	0.46
25:N:1482:G:H2'	25:N:1483:G:H8	1.80	0.46
28:Q:1:MET:HB3	28:Q:205:PRO:HG3	1.97	0.46
45:h:60:GLU:OE1	45:h:60:GLU:N	2.49	0.46
1:0:309:A:H2'	1:0:310:G:H8	1.81	0.46
4:3:104:ARG:HG2	4:3:171:LEU:HD11	1.97	0.46
1:AA:416:G:H2'	1:AA:417:G:H8	1.81	0.46
1:AA:1423:G:OP1	35:Af:49:ARG:NH2	2.48	0.46
24:AU:19:G:H5'	24:AU:20:G:H2'	1.98	0.46
25:AV:2484:G:OP2	37:Ah:44:ARG:NH1	2.48	0.46
29:AZ:131:THR:HG22	29:AZ:160:ALA:HA	1.97	0.46
33:Ad:79:LEU:HD21	33:Ad:109:ILE:HD13	1.96	0.46
35:Af:80:ASP:N	35:Af:80:ASP:OD1	2.48	0.46
43:An:3:THR:HB	43:An:107:VAL:HG13	1.96	0.46
25:N:106:C:H2'	25:N:107:G:H8	1.79	0.46
25:N:154:U:H2'	25:N:155:A:H8	1.79	0.46
25:N:1548:A:H2'	25:N:1549:A:C8	2.49	0.46
25:N:2086:U:H2'	25:N:2087:G:C8	2.51	0.46
25:N:2220:U:H2'	25:N:2221:G:H8	1.80	0.46
25:N:2241:A:H2'	25:N:2242:G:C8	2.50	0.46
34:W:136:GLN:O	34:W:138:GLN:NE2	2.48	0.46
22:u:46:ALA:HA	22:u:49:LYS:HB3	1.97	0.46
1:0:477:C:H2'	1:0:478:A:H8	1.81	0.46
1:0:1375:A:OP1	7:6:25:LYS:NZ	2.38	0.46
1:0:1386:G:H2'	1:0:1387:G:H8	1.79	0.46
1:AA:235:C:H2'	1:AA:236:A:C8	2.49	0.46
1:AA:321:A:H2'	1:AA:322:C:H6	1.80	0.46
3:AC:130:PHE:CE2	3:AC:157:LEU:HB3	2.50	0.46
4:AD:7:PRO:HB2	4:AD:10:LYS:HD3	1.98	0.46
9:AI:130:ARG:NH2	24:AU:34:G:OP2	2.47	0.46
25:AV:261:G:H2'	25:AV:262:A:H8	1.81	0.46
25:AV:2566:A:N1	35:Af:28:SER:OG	2.41	0.46
28:AY:46:ARG:HH12	28:AY:89:GLU:HA	1.80	0.46
31:Ab:107:LEU:O	31:Ab:152:ARG:NH1	2.42	0.46
36:Ag:58:TYR:O	54:Ay:13:ARG:NH2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:L:22:MET:HE1	23:L:24:ILE:HB	1.97	0.46
25:N:161:A:H3'	25:N:162:U:H5''	1.95	0.46
25:N:598:U:H2'	25:N:599:A:C8	2.50	0.46
25:N:599:A:H2'	25:N:600:G:C8	2.51	0.46
25:N:1386:C:H2'	25:N:1387:A:H8	1.79	0.46
25:N:1431:A:H2'	25:N:1432:G:H8	1.80	0.46
25:N:2674:G:H4'	35:X:30:ARG:HD2	1.97	0.46
27:P:245:VAL:HG12	27:P:251:GLN:HA	1.96	0.46
27:P:257:THR:O	27:P:257:THR:OG1	2.33	0.46
35:X:110:GLU:OE1	35:X:110:GLU:N	2.46	0.46
41:d:90:ILE:HG22	42:e:39:LEU:HB3	1.98	0.46
21:t:6:LYS:HE2	21:t:6:LYS:HB2	1.68	0.46
1:0:1254:A:H2'	1:0:1255:G:H8	1.81	0.46
1:0:1368:A:OP1	9:8:113:ARG:NH1	2.47	0.46
1:AA:34:C:H2'	1:AA:35:G:C8	2.50	0.46
5:AE:16:ILE:HD12	5:AE:36:LEU:HG	1.98	0.46
6:AF:21:MET:N	6:AF:21:MET:SD	2.89	0.46
16:AM:54:ASP:OD1	16:AM:54:ASP:N	2.48	0.46
25:AV:212:G:H2'	25:AV:213:A:C8	2.50	0.46
25:AV:1668:A:H62	25:AV:1991:U:H3	1.64	0.46
25:AV:2070:A:H2'	25:AV:2071:A:C8	2.51	0.46
25:AV:2189:U:H2'	25:AV:2190:G:C8	2.51	0.46
27:AX:78:VAL:HG12	27:AX:94:VAL:HG12	1.98	0.46
43:An:69:LEU:HD22	43:An:107:VAL:HG22	1.98	0.46
56:B:779:LEU:HD22	56:B:843:ILE:HD12	1.98	0.46
56:B:824:THR:HB	56:B:827:LEU:HB2	1.98	0.46
16:G:66:GLN:HE22	16:G:79:LEU:HD21	1.80	0.46
20:K:58:ALA:O	20:K:62:ALA:N	2.46	0.46
25:N:75:G:OP1	49:l:48:ARG:NH1	2.48	0.46
25:N:639:U:H2'	25:N:640:C:H6	1.80	0.46
25:N:1443:U:H2'	25:N:1444:G:H8	1.80	0.46
25:N:2840:C:H5''	38:a:53:THR:HG21	1.96	0.46
30:S:128:TYR:O	30:S:156:ILE:N	2.38	0.46
34:W:125:TYR:OH	34:W:132:HIS:NE2	2.49	0.46
36:Y:116:VAL:HG12	36:Y:118:THR:H	1.81	0.46
37:Z:53:MET:HG3	37:Z:120:ALA:HB2	1.97	0.46
1:0:413:G:H1'	1:0:428:G:H21	1.81	0.46
1:0:1391:U:H2'	1:0:1392:G:H8	1.81	0.46
1:0:1513:A:H2'	1:0:1514:G:H8	1.81	0.46
4:3:97:ARG:HE	4:3:99:ASP:HB3	1.81	0.46
10:9:12:ALA:O	10:9:70:HIS:N	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:157:U:H2'	1:AA:158:G:C8	2.50	0.46
1:AA:246:A:N1	1:AA:278:G:O2'	2.41	0.46
1:AA:1308:U:OP1	15:AL:97:VAL:N	2.40	0.46
1:AA:1500:A:H5''	1:AA:1508:A:H5''	1.97	0.46
25:AV:2647:U:H2'	25:AV:2648:G:H8	1.81	0.46
29:AZ:106:LYS:O	29:AZ:110:SER:OG	2.26	0.46
30:Aa:8:TYR:OH	30:Aa:29:PRO:O	2.34	0.46
19:J:12:VAL:HG22	19:J:23:VAL:HG12	1.96	0.46
25:N:210:C:OP1	53:p:25:LYS:NZ	2.47	0.46
25:N:304:U:H3	25:N:313:G:H1	1.64	0.46
25:N:2134:A:N3	25:N:2159:G:O2'	2.39	0.46
25:N:2166:U:H5''	25:N:2167:U:H5	1.80	0.46
31:T:28:GLY:HA3	31:T:79:VAL:HB	1.98	0.46
48:k:60:ASP:OD1	48:k:60:ASP:N	2.49	0.46
1:0:916:U:H2'	1:0:917:G:H8	1.81	0.46
1:AA:337:G:H2'	1:AA:338:A:H8	1.80	0.46
6:AF:38:ARG:NH1	6:AF:98:GLU:H	2.14	0.46
25:AV:177:G:H3'	25:AV:178:G:C8	2.51	0.46
25:AV:224:U:O4	25:AV:419:U:O2'	2.33	0.46
25:AV:1434:A:H2'	25:AV:1435:G:H8	1.80	0.46
25:AV:2140:G:O6	25:AV:2151:U:O2	2.34	0.46
25:AV:2210:U:H4'	25:AV:2211:A:H5'	1.98	0.46
38:Ai:76:VAL:HA	38:Ai:79:LEU:HB2	1.98	0.46
25:N:247:G:O6	54:q:12:LYS:NZ	2.42	0.46
25:N:355:U:H2'	25:N:356:G:C8	2.51	0.46
25:N:376:G:H2'	25:N:377:G:H8	1.80	0.46
28:Q:5:VAL:HG23	28:Q:82:PHE:HZ	1.80	0.46
35:X:23:LYS:HD3	35:X:23:LYS:HA	1.70	0.46
40:c:4:ILE:H	40:c:4:ILE:HD12	1.80	0.46
41:d:50:ARG:O	41:d:54:LYS:NZ	2.46	0.46
58:z:54:ARG:HA	58:z:64:THR:HA	1.96	0.46
1:0:923:A:O2'	1:0:1399:C:OP2	2.28	0.46
1:0:1060:U:H2'	1:0:1061:G:H8	1.81	0.46
4:3:124:MET:HA	4:3:129:VAL:HA	1.97	0.46
7:6:78:ARG:N	7:6:85:TYR:O	2.49	0.46
10:9:37:ARG:HG3	10:9:75:ASP:HB3	1.98	0.46
1:AA:405:U:O4	4:AD:2:ALA:N	2.48	0.46
6:AF:81:ASN:HB3	6:AF:84:VAL:HG12	1.98	0.46
34:Ae:46:PRO:HD3	41:Al:60:LEU:HD13	1.98	0.46
56:B:159:ARG:HD2	56:B:596:ASP:HB3	1.98	0.46
14:C:218:MET:HE2	25:N:2174:C:H1'	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:746:U:H1'	25:N:748:G:H21	1.81	0.46
25:N:1258:U:H2'	25:N:1259:G:C8	2.51	0.46
25:N:1834:U:H5''	25:N:1835:G:H5'	1.97	0.46
25:N:2780:G:OP2	34:W:120:ARG:NE	2.49	0.46
27:P:132:MET:HG2	27:P:172:VAL:HG21	1.98	0.46
27:P:137:VAL:HG13	27:P:164:ILE:HG22	1.97	0.46
39:b:67:ASN:OD1	39:b:67:ASN:N	2.46	0.46
21:t:51:VAL:HG11	21:t:71:LEU:HD21	1.97	0.46
1:0:744:C:H2'	1:0:745:G:C8	2.50	0.46
1:0:1249:C:O3'	9:8:75:GLN:NE2	2.47	0.46
1:0:1412:C:H2'	1:0:1413:A:C8	2.51	0.46
8:7:72:VAL:HG11	8:7:75:ILE:HD11	1.98	0.46
9:8:124:ARG:HD3	9:8:125:PRO:HD2	1.98	0.46
1:AA:15:G:O2'	5:AE:29:ARG:HD2	2.16	0.46
1:AA:407:U:H2'	1:AA:408:A:C8	2.51	0.46
2:AB:214:LEU:HA	2:AB:217:VAL:HG12	1.98	0.46
25:AV:171:U:H2'	25:AV:172:A:C8	2.51	0.46
25:AV:1248:G:OP1	41:Al:2:ALA:N	2.48	0.46
25:AV:1927:A:H2'	25:AV:1928:A:C8	2.51	0.46
25:AV:2081:U:H3	25:AV:2239:G:H1	1.64	0.46
25:AV:2837:A:H2'	25:AV:2838:G:C8	2.51	0.46
26:AW:85:G:H2'	26:AW:86:G:H8	1.81	0.46
35:Af:33:ALA:HB1	35:Af:37:ASP:HB2	1.97	0.46
19:J:77:ARG:HH22	19:J:79:VAL:HG12	1.81	0.46
25:N:345:A:N3	25:N:347:A:N6	2.64	0.46
25:N:1710:G:H2'	25:N:1711:A:H8	1.81	0.46
25:N:2182:U:H2'	25:N:2183:A:C8	2.51	0.46
28:Q:121:THR:HG21	28:Q:143:PRO:HB3	1.98	0.46
42:e:10:LYS:HE3	42:e:10:LYS:HB3	1.83	0.46
1:0:54:C:H2'	1:0:352:C:H41	1.80	0.45
1:0:746:A:H2'	1:0:747:A:C8	2.51	0.45
1:0:1005:A:OP2	1:0:1024:G:N2	2.50	0.45
1:0:1034:G:H2'	1:0:1035:A:H8	1.80	0.45
9:8:120:LYS:HG2	9:8:123:ARG:HB3	1.97	0.45
1:AA:79:G:H2'	1:AA:80:A:H8	1.81	0.45
1:AA:1041:G:H2'	1:AA:1042:A:C8	2.51	0.45
1:AA:1332:A:H3'	1:AA:1333:A:H8	1.81	0.45
3:AC:111:LEU:O	3:AC:204:LYS:NZ	2.45	0.45
7:AG:30:LEU:HD23	7:AG:43:VAL:CG2	2.46	0.45
9:Al:62:ASP:OD1	9:Al:62:ASP:N	2.48	0.45
25:AV:1039:A:N6	25:AV:1116:G:H1	2.09	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1410:G:H2'	25:AV:1411:U:C6	2.51	0.45
25:AV:1907:G:O6	25:AV:1924:C:N4	2.49	0.45
25:AV:2460:U:H2'	25:AV:2461:A:H8	1.81	0.45
25:AV:2684:U:O4'	35:Af:70:ARG:NH2	2.49	0.45
26:AW:77:U:H2'	26:AW:78:A:C8	2.51	0.45
29:AZ:29:HIS:HD2	36:Ag:6:LEU:HB3	1.81	0.45
42:Am:4:VAL:HG22	42:Am:13:ARG:HB3	1.98	0.45
16:G:22:ALA:O	16:G:23:LYS:C	2.60	0.45
25:N:296:U:H2'	25:N:297:G:H8	1.81	0.45
25:N:1141:U:OP2	34:W:65:THR:OG1	2.32	0.45
25:N:2245:U:H5''	25:N:2246:G:H5'	1.98	0.45
25:N:2316:G:H2'	25:N:2317:A:H8	1.81	0.45
25:N:2685:G:O2'	25:N:2726:A:N1	2.42	0.45
26:O:19:C:H2'	26:O:20:G:H8	1.80	0.45
40:c:51:ARG:NH1	40:c:53:ARG:HD2	2.31	0.45
44:g:36:LYS:NZ	44:g:79:ASP:OD2	2.44	0.45
57:y:21:ALA:HA	57:y:34:ILE:HA	1.98	0.45
1:0:398:U:H2'	1:0:399:G:C8	2.51	0.45
1:AA:413:G:H21	1:AA:428:G:H1'	1.80	0.45
1:AA:514:C:H2'	1:AA:515:G:C8	2.52	0.45
9:AI:27:LYS:H	9:AI:62:ASP:HB3	1.81	0.45
15:AL:90:ARG:HD3	15:AL:95:LEU:HB2	1.97	0.45
18:AO:5:ARG:HH12	18:AO:24:SER:HA	1.81	0.45
25:AV:479:A:H4'	25:AV:480:A:H5'	1.98	0.45
25:AV:639:U:H2'	25:AV:640:C:H6	1.80	0.45
25:AV:2209:G:H3'	25:AV:2210:U:H2'	1.97	0.45
25:AV:2220:U:H2'	25:AV:2221:G:H8	1.81	0.45
28:AY:84:LEU:CD2	28:AY:90:PHE:CE2	3.00	0.45
56:B:159:ARG:HH21	56:B:597:ILE:HD13	1.81	0.45
56:B:362:TYR:HD1	56:B:407:ILE:H	1.62	0.45
56:B:755:VAL:HG13	56:B:795:LEU:HB2	1.98	0.45
58:E:73:ASN:ND2	58:E:103:ASP:O	2.49	0.45
23:L:8:LYS:O	23:L:27:THR:OG1	2.31	0.45
25:N:126:A:OP1	53:p:45:SER:OG	2.32	0.45
25:N:1056:G:H5''	25:N:1057:A:H5'	1.98	0.45
25:N:1463:C:H2'	25:N:1464:G:C8	2.51	0.45
1:0:255:G:H4'	19:J:19:LYS:HB3	1.98	0.45
1:0:1096:C:O2	1:0:1170:A:O2'	2.31	0.45
1:0:1187:G:N3	16:G:100:SER:OG	2.45	0.45
1:0:1266:G:O2'	1:0:1268:G:O6	2.34	0.45
1:AA:687:A:N1	1:AA:700:G:O2'	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1243:C:H2'	1:AA:1244:G:C8	2.51	0.45
4:AD:126:ASN:ND2	4:AD:141:ASP:OD1	2.39	0.45
10:AJ:36:VAL:HG22	10:AJ:38:GLY:H	1.81	0.45
21:AR:45:ILE:HD13	21:AR:64:ASP:HA	1.96	0.45
25:AV:151:C:H2'	25:AV:152:A:H8	1.81	0.45
25:AV:742:A:H2'	25:AV:743:A:C8	2.51	0.45
25:AV:1654:A:O2'	28:AY:118:PHE:O	2.31	0.45
32:Ac:122:LEU:HD21	32:Ac:146:VAL:HG21	1.98	0.45
56:B:361:LYS:HZ1	56:B:404:SER:HB3	1.81	0.45
56:B:748:LEU:O	56:B:752:HIS:ND1	2.49	0.45
16:G:47:LYS:C	16:G:49:GLN:N	2.73	0.45
18:I:70:ARG:HD2	18:I:70:ARG:HA	1.82	0.45
25:N:1431:A:H2'	25:N:1432:G:C8	2.52	0.45
30:S:15:LYS:O	30:S:18:THR:OG1	2.33	0.45
32:U:127:GLU:O	32:U:128:HIS:ND1	2.50	0.45
48:k:40:VAL:HG23	48:k:43:GLU:HB3	1.96	0.45
1:0:537:G:OP1	58:E:110:ARG:NH1	2.47	0.45
5:4:107:ALA:HB1	5:4:111:MET:HG2	1.97	0.45
13:A3:24:A:H2'	13:A3:25:G:C8	2.51	0.45
1:AA:1217:C:OP1	16:AM:9:ARG:NE	2.47	0.45
14:AK:166:ASP:OD2	14:AK:168:ASN:ND2	2.42	0.45
25:AV:1036:G:H2'	25:AV:1037:G:C8	2.50	0.45
25:AV:2751:G:H4'	31:Ab:4:VAL:HG23	1.99	0.45
27:AX:107:PRO:HA	27:AX:195:VAL:HA	1.97	0.45
28:AY:5:VAL:HG13	28:AY:82:PHE:HZ	1.81	0.45
38:Ai:49:GLU:OE2	38:Ai:94:TYR:N	2.49	0.45
25:N:65:U:H2'	25:N:66:C:H6	1.80	0.45
25:N:581:C:H2'	25:N:582:A:H8	1.81	0.45
25:N:2092:U:OP1	25:N:2199:A:O2'	2.28	0.45
25:N:2576:G:O2'	25:N:2579:C:OP2	2.29	0.45
25:N:2898:U:H2'	25:N:2899:A:C8	2.51	0.45
43:f:33:LEU:O	43:f:37:THR:OG1	2.35	0.45
45:h:27:ASN:HB2	45:h:35:ILE:HD12	1.97	0.45
1:0:41:G:H2'	1:0:42:G:H8	1.82	0.45
1:0:878:A:OP1	8:7:80:ARG:NH2	2.41	0.45
4:3:100:ASN:OD1	4:3:111:ARG:NH2	2.39	0.45
6:AF:80:PHE:CD2	27:AX:124:ILE:CD1	3.00	0.45
15:AL:86:TYR:N	21:AR:73:GLU:O	2.42	0.45
25:AV:220:G:N1	25:AV:428:A:OP2	2.46	0.45
25:AV:516:C:OP1	51:Av:10:ARG:NH1	2.42	0.45
25:AV:1142:A:HO2'	25:AV:1143:A:H3'	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:1796:U:O2'	27:AX:254:GLY:N	2.48	0.45
25:AV:2250:G:O2'	25:AV:2496:C:OP1	2.24	0.45
25:AV:2591:C:H2'	25:AV:2592:G:H8	1.80	0.45
26:AW:85:G:H2'	26:AW:86:G:C8	2.52	0.45
31:Ab:9:VAL:O	31:Ab:50:LEU:N	2.49	0.45
33:Ad:21:SER:O	33:Ad:25:GLY:N	2.50	0.45
35:Af:20:MET:HG2	35:Af:44:LYS:HE2	1.99	0.45
56:B:542:ASP:OD1	56:B:546:ARG:NH2	2.49	0.45
56:B:676:THR:OG1	56:B:678:ARG:O	2.25	0.45
19:J:21:ILE:HD12	19:J:21:ILE:HA	1.80	0.45
25:N:20:C:H2'	25:N:21:A:H8	1.82	0.45
25:N:521:U:H2'	25:N:522:A:C8	2.51	0.45
25:N:848:C:H2'	25:N:849:A:C8	2.52	0.45
30:S:163:ASP:OD1	30:S:163:ASP:N	2.48	0.45
33:V:24:VAL:HG12	33:V:27:ALA:HB3	1.98	0.45
1:O:339:C:OP2	35:X:98:ARG:NH2	2.50	0.45
1:O:642:A:N7	8:7:107:SER:HA	2.32	0.45
2:1:123:ASP:OD1	2:1:123:ASP:N	2.49	0.45
8:7:48:ASP:OD1	8:7:49:PHE:N	2.49	0.45
1:AA:1116:U:H2'	1:AA:1117:A:C8	2.51	0.45
1:AA:1191:A:H5''	3:AC:4:LYS:HE3	1.97	0.45
25:AV:100:U:O4	45:Ap:94:ARG:NH1	2.49	0.45
25:AV:155:A:H2'	25:AV:156:A:C8	2.51	0.45
25:AV:637:A:H5''	36:Ag:112:LEU:HD22	1.99	0.45
25:AV:720:U:H2'	25:AV:721:A:C8	2.52	0.45
25:AV:832:U:H2'	25:AV:833:A:C8	2.52	0.45
25:AV:987:C:O2'	25:AV:1000:A:N3	2.42	0.45
25:AV:1818:U:H2'	27:AX:156:ARG:HB2	1.99	0.45
25:AV:2591:C:H2'	25:AV:2592:G:C8	2.52	0.45
28:AY:14:ILE:HG23	40:Ak:12:GLN:HE22	1.80	0.45
29:AZ:147:LEU:HG	29:AZ:168:ASP:HB3	1.98	0.45
49:At:54:LYS:HA	49:At:54:LYS:HD3	1.69	0.45
56:B:101:GLU:OE1	56:B:251:GLY:N	2.48	0.45
15:F:11:ASP:HB3	15:F:46:SER:HB3	1.99	0.45
25:N:581:C:H2'	25:N:582:A:C8	2.51	0.45
25:N:2818:U:H2'	25:N:2819:G:C8	2.52	0.45
25:N:2898:U:H2'	25:N:2899:A:H8	1.80	0.45
28:Q:7:LYS:HB2	28:Q:77:ARG:HH12	1.81	0.45
1:O:269:C:H2'	1:O:270:A:C8	2.52	0.45
1:O:911:U:H2'	1:O:912:C:C6	2.52	0.45
1:O:1527:U:OP2	12:v:42:THR:OG1	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:56:U:H2'	1:AA:57:G:C8	2.52	0.45
5:AE:96:MET:HE2	5:AE:96:MET:HB3	1.89	0.45
25:AV:558:U:H2'	25:AV:559:G:H8	1.80	0.45
25:AV:1791:A:H4'	27:AX:205:LEU:HB2	1.98	0.45
25:AV:2047:C:H2'	25:AV:2048:G:C8	2.52	0.45
25:AV:2475:C:N3	25:AV:2529:G:N1	2.62	0.45
25:AV:2683:C:OP1	40:Ak:51:ARG:NH1	2.36	0.45
30:Aa:122:PHE:CZ	30:Aa:167:ARG:HG2	2.48	0.45
33:Ad:74:PRO:HD2	33:Ad:113:LYS:HG2	1.99	0.45
36:Ag:23:ILE:HD12	42:Am:84:ARG:HH21	1.81	0.45
40:Ak:24:ASP:OD1	40:Ak:90:GLY:N	2.45	0.45
46:Aq:2:PHE:O	46:Aq:62:THR:OG1	2.27	0.45
55:Az:1:MET:HB3	55:Az:34:LYS:HE2	1.98	0.45
20:K:14:THR:HG21	20:K:48:ARG:HH11	1.82	0.45
25:N:813:U:H2'	25:N:814:C:C6	2.52	0.45
25:N:1013:C:H2'	25:N:1014:A:H8	1.81	0.45
25:N:1251:C:OP2	41:d:6:ARG:NH2	2.47	0.45
25:N:1316:U:H2'	25:N:1317:G:H8	1.82	0.45
25:N:1812:U:H2'	25:N:1813:G:H8	1.82	0.45
25:N:2808:G:H4'	25:N:2809:A:H8	1.82	0.45
46:i:4:ILE:HG21	46:i:42:LEU:HD23	1.98	0.45
1:AA:8:A:N6	4:AD:202:GLU:O	2.34	0.45
1:AA:1081:A:N7	5:AE:52:LYS:NZ	2.64	0.45
17:AN:69:TYR:HD1	17:AN:72:ARG:HH11	1.64	0.45
18:AO:9:HIS:CD2	18:AO:18:GLN:CG	2.98	0.45
22:AS:15:GLU:OE1	22:AS:18:ARG:NH1	2.49	0.45
22:AS:36:TYR:HD1	22:AS:36:TYR:H	1.63	0.45
25:AV:213:A:H2'	25:AV:214:G:C8	2.51	0.45
25:AV:2328:A:H2'	25:AV:2329:U:C6	2.51	0.45
25:AV:2822:G:N2	25:AV:2824:C:OP1	2.44	0.45
25:AV:2898:U:H2'	25:AV:2899:A:C8	2.52	0.45
55:Az:23:ILE:HB	55:Az:38:GLY:HA3	1.99	0.45
56:B:352:GLU:HG3	56:B:399:ARG:NH1	2.32	0.45
14:C:46:VAL:HG22	14:C:212:VAL:HG13	1.97	0.45
25:N:77:G:OP1	49:l:52:ARG:NH2	2.41	0.45
25:N:741:U:H2'	25:N:742:A:C8	2.52	0.45
25:N:1649:G:O2'	38:a:106:ASP:OD2	2.31	0.45
25:N:2100:G:N2	25:N:2189:U:O2	2.37	0.45
26:O:52:A:H61	39:b:32:PRO:HB2	1.82	0.45
37:Z:36:VAL:N	37:Z:127:LYS:O	2.48	0.45
12:v:5:LYS:O	12:v:18:ARG:NH1	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:y:29:ASN:OD1	57:y:30:THR:N	2.50	0.45
57:y:72:ASP:OD1	57:y:73:ALA:N	2.48	0.45
1:0:470:C:H2'	1:0:471:U:C6	2.52	0.45
1:0:1162:C:H2'	1:0:1163:A:H8	1.81	0.45
3:2:172:ARG:HG2	3:2:174:PRO:HD3	1.98	0.45
1:AA:152:A:N6	1:AA:169:C:N3	2.65	0.45
1:AA:750:C:O2'	17:AN:21:ASP:OD1	2.29	0.45
1:AA:842:U:H2'	1:AA:844:G:H5'	1.99	0.45
1:AA:1223:C:OP2	21:AR:78:ARG:NH1	2.43	0.45
1:AA:1355:G:H2'	1:AA:1356:G:C8	2.52	0.45
15:AL:77:ILE:H	15:AL:77:ILE:HD12	1.82	0.45
25:AV:1181:U:H2'	25:AV:1182:G:C8	2.52	0.45
26:AW:6:G:H2'	26:AW:7:G:C8	2.52	0.45
28:AY:12:THR:OG1	28:AY:13:ARG:N	2.42	0.45
41:Al:65:ILE:HB	41:Al:76:TYR:CE2	2.52	0.45
44:Ao:15:HIS:HB3	44:Ao:31:VAL:HG12	1.99	0.45
51:Av:9:THR:HB	51:Av:11:SER:H	1.81	0.45
25:N:184:C:H2'	25:N:185:G:C8	2.52	0.45
25:N:948:C:H2'	25:N:949:G:C8	2.52	0.45
30:S:104:ILE:HD11	30:S:175:PHE:HA	1.98	0.45
35:X:98:ARG:HA	35:X:118:LEU:HD22	1.99	0.45
53:p:34:ARG:HB3	53:p:42:LEU:HB2	1.99	0.45
1:0:701:U:OP1	1:0:702:A:O2'	2.31	0.45
1:0:952:U:H2'	1:0:953:G:H8	1.82	0.45
13:A3:73:C:C2	13:A3:74:A:N7	2.85	0.45
1:AA:18:C:P	5:AE:132:ASN:HD21	2.40	0.45
1:AA:501:C:H1'	1:AA:549:C:H1'	1.99	0.45
1:AA:676:A:H5''	57:y:115:PRO:HB3	1.99	0.45
1:AA:1035:A:OP2	1:AA:1037:C:N4	2.50	0.45
3:AC:12:LEU:HD12	3:AC:18:TRP:CD2	2.52	0.45
3:AC:69:HIS:HA	3:AC:104:ALA:HB3	1.99	0.45
3:AC:70:THR:HG21	3:AC:76:VAL:HG21	1.99	0.45
4:AD:105:MET:HG2	4:AD:171:LEU:HD13	1.99	0.45
7:AG:40:GLU:HG2	7:AG:44:TYR:CE2	2.52	0.45
9:AI:90:TYR:HB3	9:AI:94:LEU:HD13	1.98	0.45
14:AK:188:ASN:OD1	14:AK:188:ASN:N	2.50	0.45
22:AS:35:VAL:HG23	22:AS:36:TYR:H	1.82	0.45
25:AV:568:U:N3	25:AV:571:U:OP2	2.44	0.45
25:AV:1412:U:H2'	25:AV:1413:A:C8	2.52	0.45
25:AV:2828:G:H2'	25:AV:2829:A:H8	1.81	0.45
31:Ab:10:VAL:HA	31:Ab:49:THR:HA	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Ag:57:LEU:HA	36:Ag:60:ARG:HE	1.82	0.45
46:Aq:5:ASN:HA	46:Aq:64:VAL:HB	1.99	0.45
49:At:46:VAL:HA	49:At:49:ASP:HB3	1.99	0.45
56:B:378:THR:HB	56:B:382:ARG:HE	1.82	0.45
25:N:780:G:H1	27:P:229:ASP:CG	2.22	0.45
25:N:1181:U:H2'	25:N:1182:G:C8	2.51	0.45
26:O:40:U:H1'	26:O:45:A:H61	1.82	0.45
26:O:114:C:H2'	26:O:115:A:H8	1.82	0.45
32:U:62:LEU:HD13	32:U:62:LEU:HA	1.82	0.45
32:U:73:ASN:HB3	32:U:108:VAL:HG21	1.99	0.45
33:V:39:CYS:O	33:V:43:ASN:N	2.49	0.45
37:Z:40:ARG:HB3	37:Z:95:LEU:HD13	1.98	0.45
39:b:30:ARG:HG2	39:b:35:ILE:HD12	1.99	0.45
1:0:723:U:H3	1:0:856:C:H5'	1.82	0.44
3:2:32:ASN:HD21	3:2:59:ARG:HD2	1.82	0.44
1:AA:49:U:H3	1:AA:362:G:H1'	1.82	0.44
1:AA:88:U:H2'	1:AA:89:U:C6	2.52	0.44
1:AA:398:U:H2'	1:AA:399:G:H8	1.82	0.44
1:AA:537:G:OP1	58:z:110:ARG:NH1	2.36	0.44
1:AA:742:G:H2'	1:AA:743:A:H8	1.82	0.44
1:AA:751:U:OP1	17:AN:17:ARG:NH1	2.49	0.44
3:AC:152:GLU:OE2	3:AC:154:SER:OG	2.30	0.44
5:AE:116:GLU:OE1	5:AE:116:GLU:N	2.46	0.44
6:AF:72:ASP:OD1	6:AF:72:ASP:N	2.50	0.44
17:AN:70:LEU:HD11	17:AN:77:ARG:HD2	1.99	0.44
22:AS:28:MET:HE3	22:AS:28:MET:HB3	1.90	0.44
25:AV:1267:U:H2'	25:AV:1268:A:C8	2.52	0.44
25:AV:1557:C:H3'	25:AV:1558:C:H2'	1.99	0.44
34:Ae:32:LEU:O	34:Ae:36:LEU:HD12	2.17	0.44
35:Af:47:ILE:H	35:Af:47:ILE:HD12	1.82	0.44
14:C:185:LEU:HA	14:C:188:ASN:HD21	1.82	0.44
25:N:366:C:H2'	25:N:367:G:C8	2.52	0.44
25:N:832:U:H2'	25:N:833:A:H8	1.82	0.44
25:N:1085:A:H2'	25:N:1086:A:C4	2.52	0.44
25:N:2229:U:H2'	25:N:2230:G:C8	2.51	0.44
26:O:49:C:H2'	26:O:50:A:C8	2.52	0.44
46:i:51:GLN:OE1	46:i:51:GLN:N	2.37	0.44
61:s:124:TRP:HD1	61:s:125:ARG:HH21	1.65	0.44
63:x:56:ARG:HE	63:x:57:ASN:H	1.66	0.44
1:0:375:U:H5''	18:I:70:ARG:HG3	1.99	0.44
1:0:950:U:H2'	1:0:951:G:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:1:66:LYS:HB3	2:1:90:PHE:HE2	1.81	0.44
1:AA:96:U:H2'	1:AA:97:G:C8	2.52	0.44
1:AA:1243:C:H2'	1:AA:1244:G:H8	1.82	0.44
1:AA:1507:A:H2'	1:AA:1508:A:C8	2.52	0.44
2:AB:111:ILE:HD13	2:AB:111:ILE:HA	1.89	0.44
6:AF:49:TYR:HB3	20:AQ:74:HIS:CG	2.52	0.44
19:AP:15:ASP:HB2	19:AP:55:ILE:HB	1.99	0.44
24:AU:22:G:H2'	24:AU:23:A:H8	1.82	0.44
25:AV:162:U:H1'	25:AV:163:C:H5	1.81	0.44
25:AV:214:G:H1'	25:AV:217:A:H5'	1.99	0.44
25:AV:589:U:O2'	29:AZ:88:ARG:NH1	2.46	0.44
25:AV:926:G:H2'	25:AV:927:A:H8	1.80	0.44
25:AV:941:A:N3	25:AV:1190:G:O2'	2.47	0.44
25:AV:2487:G:H2'	25:AV:2488:G:C8	2.51	0.44
25:AV:2630:G:H2'	25:AV:2631:G:H8	1.82	0.44
41:Al:90:ILE:HD11	41:Al:94:ILE:HD11	1.98	0.44
47:Ar:70:GLU:HG2	47:Ar:79:PHE:HB2	1.99	0.44
50:Au:9:GLN:HA	50:Au:55:VAL:HA	1.98	0.44
57:D:53:ARG:HH21	57:D:53:ARG:HA	1.83	0.44
25:N:20:C:OP1	41:d:22:LYS:NZ	2.45	0.44
25:N:154:U:H2'	25:N:155:A:C8	2.52	0.44
25:N:172:A:H2'	25:N:173:A:C8	2.51	0.44
25:N:395:U:O2'	25:N:396:G:N7	2.47	0.44
25:N:414:C:H2'	25:N:415:A:C8	2.53	0.44
25:N:550:C:H2'	25:N:551:G:C8	2.52	0.44
25:N:2100:G:O6	25:N:2189:U:O4	2.35	0.44
25:N:2623:G:H2'	25:N:2624:G:H8	1.82	0.44
29:R:175:ILE:HD12	29:R:176:ASP:H	1.81	0.44
34:W:35:ARG:HB3	34:W:54:ILE:HD11	1.99	0.44
54:q:9:GLY:O	54:q:13:ARG:NH2	2.47	0.44
1:0:78:A:H2'	1:0:79:G:C8	2.52	0.44
1:0:279:A:H5''	1:0:280:C:H3'	1.99	0.44
1:0:438:U:H3	1:0:496:A:N6	2.15	0.44
1:0:876:C:H2'	1:0:877:G:H8	1.81	0.44
1:0:932:C:H2'	1:0:933:G:C8	2.52	0.44
1:0:1007:U:OP1	16:G:19:LYS:NZ	2.43	0.44
1:0:1031:C:H5''	56:B:467:ARG:HD3	1.99	0.44
1:0:1163:A:H2'	1:0:1164:G:H8	1.81	0.44
1:0:1417:G:O2'	1:0:1483:A:N6	2.50	0.44
7:6:47:LEU:HD23	7:6:47:LEU:HA	1.85	0.44
1:AA:407:U:H2'	1:AA:408:A:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:769:G:H4'	1:AA:1513:A:H4'	2.00	0.44
20:AQ:41:PRO:HD2	20:AQ:44:ILE:HD12	1.98	0.44
25:AV:361:G:O2'	25:AV:362:A:O4'	2.35	0.44
25:AV:611:C:H2'	25:AV:612:G:O4'	2.18	0.44
25:AV:1405:U:H2'	25:AV:1406:U:C6	2.52	0.44
25:AV:1578:U:H2'	25:AV:1579:A:C8	2.52	0.44
25:AV:2749:A:OP2	25:AV:2750:A:O2'	2.35	0.44
28:AY:49:GLN:HE21	28:AY:79:LEU:HB3	1.83	0.44
29:AZ:138:LEU:HD22	29:AZ:146:VAL:HG11	1.99	0.44
34:Ae:118:MET:HA	34:Ae:121:LYS:HE2	1.99	0.44
35:Af:9:ASN:N	35:Af:9:ASN:OD1	2.50	0.44
45:Ap:94:ARG:HB2	45:Ap:103:ILE:HD12	2.00	0.44
47:Ar:38:VAL:HG12	47:Ar:59:LEU:HB2	2.00	0.44
56:B:1175:ASP:OD2	56:B:1177:THR:OG1	2.32	0.44
58:E:52:VAL:HG23	58:E:66:TYR:HA	1.99	0.44
25:N:438:G:H2'	25:N:439:A:C8	2.53	0.44
25:N:688:U:H2'	25:N:689:A:H8	1.83	0.44
25:N:2246:G:H2'	25:N:2247:A:C8	2.51	0.44
34:W:56:VAL:HB	34:W:124:VAL:HG23	1.98	0.44
47:j:50:ASN:HD21	47:j:63:ALA:HB3	1.82	0.44
50:m:10:THR:HG23	50:m:11:ARG:HG3	1.98	0.44
1:0:950:U:H2'	1:0:951:G:C8	2.52	0.44
1:AA:754:C:P	17:AN:72:ARG:HH12	2.40	0.44
25:AV:639:U:H2'	25:AV:640:C:C6	2.52	0.44
25:AV:1223:G:OP2	42:Am:90:ARG:NH2	2.50	0.44
25:AV:1734:G:H2'	25:AV:1735:A:H8	1.81	0.44
25:AV:2250:G:H21	25:AV:2496:C:H4'	1.82	0.44
25:AV:2572:A:H2'	28:AY:149:ASN:ND2	2.32	0.44
25:AV:2710:C:H2'	25:AV:2711:A:C8	2.52	0.44
27:AX:173:THR:OG1	27:AX:183:LYS:NZ	2.51	0.44
32:Ac:27:ARG:NH2	48:As:56:MET:O	2.45	0.44
48:As:5:CYS:HB3	48:As:10:LYS:H	1.82	0.44
56:B:1241:GLN:OE1	56:B:1265:ARG:NH1	2.44	0.44
25:N:20:C:H2'	25:N:21:A:C8	2.52	0.44
29:R:119:ILE:HD11	29:R:187:VAL:HG12	1.99	0.44
36:Y:109:LYS:HE2	36:Y:128:THR:HG22	2.00	0.44
4:3:76:TYR:HD2	4:3:204:TYR:HD2	1.66	0.44
1:AA:1073:U:H2'	1:AA:1074:G:H8	1.83	0.44
1:AA:1524:C:H2'	1:AA:1525:G:C8	2.51	0.44
4:AD:164:GLN:OE1	4:AD:164:GLN:N	2.45	0.44
6:AF:38:ARG:HH11	6:AF:98:GLU:H	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:25:VAL:HG13	8:AH:63:LEU:HD11	2.00	0.44
18:AO:69:ASP:OD1	18:AO:70:ARG:N	2.50	0.44
24:AU:63:G:O3'	47:Ar:11:ARG:NH2	2.51	0.44
25:AV:75:G:H22	25:AV:111:A:H2	1.66	0.44
25:AV:151:C:H2'	25:AV:152:A:C8	2.52	0.44
25:AV:155:A:H2'	25:AV:156:A:H8	1.83	0.44
25:AV:743:A:O2'	25:AV:1659:G:OP1	2.34	0.44
25:AV:1141:U:H5''	34:Ae:27:ARG:HH11	1.82	0.44
25:AV:1434:A:H61	25:AV:1558:C:H42	1.65	0.44
25:AV:1789:A:H5'	27:AX:220:VAL:HG22	2.00	0.44
25:AV:1796:U:H2'	25:AV:1797:G:C8	2.52	0.44
25:AV:2039:U:H2'	25:AV:2040:G:C8	2.51	0.44
25:AV:2329:U:H2'	25:AV:2330:G:C8	2.53	0.44
41:Al:109:LEU:HA	41:Al:112:LYS:HB2	1.99	0.44
51:Av:39:LEU:HB2	51:Av:42:HIS:HB2	1.99	0.44
56:B:352:GLU:HG3	56:B:399:ARG:CZ	2.47	0.44
56:B:826:ASP:OD1	56:B:826:ASP:N	2.48	0.44
25:N:1683:U:H2'	25:N:1684:G:C8	2.52	0.44
25:N:2250:G:O2'	25:N:2496:C:OP1	2.25	0.44
30:S:8:TYR:OH	30:S:29:PRO:O	2.34	0.44
45:h:36:VAL:HB	45:h:39:ILE:HD11	1.99	0.44
49:l:9:LYS:NZ	49:l:10:SER:H	2.16	0.44
1:O:16:A:N3	1:O:1080:A:O2'	2.46	0.44
1:O:376:G:H2'	1:O:377:G:C8	2.53	0.44
1:O:1425:U:H2'	1:O:1426:G:H8	1.83	0.44
10:9:7:ARG:NH1	10:9:75:ASP:OD2	2.41	0.44
1:AA:219:U:H2'	1:AA:220:G:H8	1.83	0.44
1:AA:597:G:N2	8:AH:86:TYR:OH	2.43	0.44
1:AA:928:G:O2'	1:AA:1533:C:OP1	2.32	0.44
1:AA:1012:A:OP1	21:AR:21:LYS:NZ	2.51	0.44
2:AB:44:GLU:N	2:AB:44:GLU:OE1	2.50	0.44
25:AV:558:U:OP1	34:Ae:114:LEU:N	2.48	0.44
25:AV:948:C:H2'	25:AV:949:G:C8	2.53	0.44
25:AV:1733:G:H2'	25:AV:1734:G:H8	1.83	0.44
25:AV:2125:G:O2'	25:AV:2126:A:O4'	2.27	0.44
25:AV:2229:U:H2'	25:AV:2230:G:C8	2.51	0.44
25:AV:2289:G:H2'	25:AV:2290:G:H8	1.83	0.44
27:AX:146:MET:HE3	27:AX:146:MET:HB3	1.94	0.44
31:Ab:175:LYS:HB3	31:Ab:176:LYS:H	1.55	0.44
56:B:1263:GLU:O	56:B:1267:MET:N	2.51	0.44
25:N:577:G:H2'	25:N:578:G:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:636:G:C2	36:Y:111:ILE:HD12	2.53	0.44
25:N:1155:A:O3'	41:d:55:ARG:NH2	2.51	0.44
25:N:2788:C:H2'	25:N:2789:C:C6	2.53	0.44
26:O:116:G:H2'	26:O:117:G:C8	2.53	0.44
29:R:60:TRP:HB3	61:s:132:TYR:CD2	2.52	0.44
1:O:110:C:O2'	18:I:25:ARG:O	2.27	0.44
1:O:501:C:H1'	1:O:549:C:H1'	1.99	0.44
1:O:514:C:H2'	1:O:515:G:C8	2.53	0.44
1:O:601:G:H2'	1:O:602:A:H8	1.83	0.44
1:O:1524:C:H2'	1:O:1525:G:C8	2.52	0.44
7:6:107:ALA:HB1	7:6:133:THR:HB	1.99	0.44
1:AA:1250:A:H2'	1:AA:1251:A:C8	2.53	0.44
14:AK:10:VAL:O	14:AK:14:LYS:N	2.51	0.44
25:AV:617:G:H5''	29:AZ:102:ARG:HH11	1.82	0.44
25:AV:680:C:H2'	25:AV:681:G:C8	2.53	0.44
25:AV:1568:G:P	27:AX:63:ARG:HH22	2.41	0.44
25:AV:2036:C:H2'	25:AV:2037:A:H8	1.83	0.44
25:AV:2682:A:N1	25:AV:2728:U:O2'	2.49	0.44
28:AY:34:VAL:HG22	28:AY:50:VAL:HG12	1.99	0.44
29:AZ:178:VAL:HA	29:AZ:181:ILE:HG22	2.00	0.44
32:Ac:46:PHE:HA	32:Ac:50:ARG:HD2	1.99	0.44
19:J:47:HIS:HB2	19:J:71:LYS:HD3	1.99	0.44
20:K:32:TYR:HD2	20:K:55:LEU:HD21	1.81	0.44
25:N:633:A:O2'	25:N:2404:U:OP1	2.33	0.44
25:N:807:U:H2'	25:N:808:G:H8	1.82	0.44
25:N:813:U:H2'	25:N:814:C:H6	1.82	0.44
25:N:1019:U:OP1	25:N:1035:U:O2'	2.23	0.44
25:N:1316:U:H2'	25:N:1317:G:C8	2.53	0.44
25:N:1469:A:H2'	25:N:1470:A:H8	1.83	0.44
25:N:1704:C:H2'	25:N:1705:A:H8	1.83	0.44
25:N:1789:A:H5'	27:P:220:VAL:HG22	2.00	0.44
27:P:37:ASN:HB2	27:P:62:TYR:HB2	2.00	0.44
31:T:52:PHE:HE2	31:T:69:ARG:HA	1.83	0.44
35:X:76:VAL:H	40:c:73:VAL:HG22	1.83	0.44
22:u:57:ILE:H	22:u:57:ILE:HG13	1.65	0.44
1:O:837:U:H2'	1:O:838:G:H8	1.83	0.44
1:O:1314:C:H2'	1:O:1315:U:C6	2.53	0.44
9:8:42:GLU:O	9:8:46:MET:HG2	2.18	0.44
1:AA:236:A:H2'	1:AA:237:G:C8	2.52	0.44
1:AA:712:A:H2'	1:AA:713:G:C8	2.52	0.44
1:AA:1169:A:O2'	1:AA:1170:A:O4'	2.28	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1391:U:H2'	1:AA:1392:G:C8	2.53	0.44
1:AA:1471:U:OP1	35:Af:17:ARG:NH1	2.49	0.44
2:AB:72:THR:HG23	2:AB:95:ARG:HA	1.99	0.44
10:AJ:18:ILE:HD12	10:AJ:21:ALA:HB3	2.00	0.44
25:AV:1053:C:H2'	25:AV:1054:A:C8	2.53	0.44
25:AV:1164:C:H2'	25:AV:1165:A:H8	1.83	0.44
25:AV:1779:U:H5''	25:AV:1780:A:H5''	1.99	0.44
30:Aa:44:ILE:CG2	30:Aa:83:TYR:HE2	2.31	0.44
37:Ah:125:PRO:O	37:Ah:127:LYS:NZ	2.47	0.44
25:N:481:G:H1'	25:N:506:G:H21	1.83	0.44
25:N:910:A:H2'	25:N:911:A:C8	2.53	0.44
25:N:1508:A:O2'	25:N:1509:A:O4'	2.33	0.44
25:N:2233:U:H2'	25:N:2234:G:C8	2.53	0.44
35:X:56:ASP:OD1	35:X:56:ASP:N	2.50	0.44
1:0:1075:U:OP1	2:1:178:ASN:ND2	2.51	0.44
1:0:1409:C:H2'	1:0:1410:A:H8	1.83	0.44
4:3:56:ARG:NH2	4:3:59:GLN:OE1	2.48	0.44
13:A3:28:C:H2'	13:A3:29:A:H8	1.82	0.44
1:AA:1425:U:H2'	1:AA:1426:G:H8	1.83	0.44
2:AB:136:MET:HA	2:AB:139:ARG:HB2	2.00	0.44
9:AI:114:LYS:NZ	9:AI:115:LYS:O	2.51	0.44
16:AM:6:MET:HA	16:AM:9:ARG:HD2	2.00	0.44
19:AP:69:LYS:HE2	19:AP:69:LYS:HB2	1.77	0.44
22:AS:4:ILE:HG12	22:AS:8:LYS:HZ1	1.83	0.44
24:AU:22:G:H2'	24:AU:23:A:C8	2.53	0.44
25:AV:527:C:OP2	25:AV:2779:U:N3	2.51	0.44
25:AV:589:U:H2'	25:AV:590:A:C8	2.53	0.44
25:AV:1066:U:H5'	25:AV:1067:A:H5''	1.99	0.44
25:AV:1355:G:H2'	25:AV:1356:G:H8	1.82	0.44
25:AV:1363:C:H2'	25:AV:1364:G:C8	2.52	0.44
25:AV:1471:G:H1	25:AV:1520:U:H3	1.66	0.44
25:AV:1791:A:N6	25:AV:1828:G:O2'	2.44	0.44
25:AV:1857:G:H1'	25:AV:1885:A:H62	1.83	0.44
25:AV:2081:U:H2'	25:AV:2082:A:C8	2.51	0.44
25:AV:2345:G:O6	25:AV:2371:G:O6	2.36	0.44
27:AX:181:MET:HB2	27:AX:268:VAL:HB	2.00	0.44
29:AZ:97:ASN:H	29:AZ:100:MET:HG3	1.83	0.44
29:AZ:148:ILE:HB	29:AZ:169:VAL:HG22	1.99	0.44
56:B:110:LEU:HD21	56:B:226:ILE:HG21	2.00	0.44
23:L:24:ILE:HD12	23:L:24:ILE:HA	1.86	0.44
25:N:48:G:N2	25:N:177:G:OP2	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:151:C:H2'	25:N:152:A:C8	2.50	0.44
25:N:414:C:O2	25:N:1864:U:O2'	2.29	0.44
25:N:856:G:H2'	25:N:857:G:C8	2.53	0.44
25:N:1999:C:O2	25:N:2687:U:O2'	2.32	0.44
25:N:2394:C:H5''	36:Y:63:LYS:HE2	1.99	0.44
25:N:2692:G:H1'	25:N:2847:U:H1'	2.00	0.44
34:W:118:MET:HE2	34:W:118:MET:HB3	1.68	0.44
50:m:22:ALA:O	50:m:26:GLY:N	2.50	0.44
61:s:124:TRP:CD1	61:s:125:ARG:HH21	2.36	0.44
57:y:107:ILE:H	57:y:107:ILE:HG12	1.56	0.44
3:2:105:GLU:CD	3:2:107:ARG:HG3	2.41	0.43
5:4:142:ASP:N	5:4:142:ASP:OD1	2.51	0.43
1:AA:312:C:H2'	1:AA:313:A:C8	2.53	0.43
1:AA:456:A:H2'	1:AA:457:G:C8	2.53	0.43
2:AB:138:THR:HA	2:AB:141:LEU:HB2	1.99	0.43
3:AC:11:ARG:NH1	3:AC:175:LEU:O	2.48	0.43
3:AC:16:LYS:NZ	3:AC:181:ASP:OD1	2.46	0.43
19:AP:28:PHE:O	19:AP:28:PHE:CG	2.70	0.43
25:AV:23:G:H2'	25:AV:24:G:H8	1.83	0.43
25:AV:2052:A:O2'	28:AY:148:GLN:O	2.26	0.43
25:AV:2315:G:H2'	25:AV:2316:G:C8	2.53	0.43
25:AV:2385:C:H2'	25:AV:2386:A:C8	2.53	0.43
25:AV:2743:U:O2'	31:Ab:153:ARG:NH1	2.51	0.43
56:B:520:ILE:O	56:B:523:SER:OG	2.34	0.43
56:B:1004:LEU:HD22	56:B:1040:ALA:HB2	1.99	0.43
25:N:1038:G:H2'	25:N:1039:A:C8	2.52	0.43
25:N:2039:U:H2'	25:N:2040:G:H8	1.83	0.43
25:N:2372:U:H2'	25:N:2373:G:C8	2.53	0.43
25:N:2584:U:O2'	25:N:2602:A:N7	2.49	0.43
25:N:2777:G:OP2	25:N:2781:A:O2'	2.29	0.43
28:Q:46:ARG:NH1	28:Q:88:GLU:O	2.43	0.43
29:R:35:TYR:HE2	29:R:176:ASP:HB2	1.83	0.43
34:W:32:LEU:HD12	34:W:32:LEU:HA	1.89	0.43
1:0:982:U:H5''	16:G:6:MET:HE2	2.00	0.43
1:0:1219:A:H5''	16:G:53:ARG:NH2	2.33	0.43
3:2:111:LEU:O	3:2:111:LEU:CG	2.64	0.43
8:7:47:GLU:HG2	8:7:62:THR:HG23	2.00	0.43
12:A1:19:PHE:O	12:A1:22:SER:OG	2.27	0.43
1:AA:41:G:H2'	1:AA:42:G:C8	2.53	0.43
1:AA:1408:A:HO2'	25:AV:1916:A:H61	1.61	0.43
14:AK:165:ASN:ND2	14:AK:166:ASP:O	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AM:82:ILE:HG13	16:AM:83:LYS:HD2	2.01	0.43
25:AV:172:A:H2'	25:AV:173:A:C8	2.53	0.43
25:AV:296:U:H2'	25:AV:297:G:C8	2.53	0.43
25:AV:406:G:H2'	25:AV:407:G:C8	2.53	0.43
25:AV:835:C:H2'	25:AV:836:G:H8	1.83	0.43
25:AV:1796:U:H2'	25:AV:1797:G:H8	1.82	0.43
25:AV:2199:A:H1'	32:Ac:28:ASN:HD22	1.83	0.43
25:AV:2720:U:H5''	40:Ak:53:ARG:HH11	1.83	0.43
32:Ac:8:LYS:HE2	32:Ac:15:LEU:HD23	1.99	0.43
38:Ai:9:GLN:HA	38:Ai:17:ARG:HD3	1.99	0.43
49:At:37:LEU:HD11	49:At:42:LEU:HD12	2.01	0.43
56:B:716:VAL:HG23	56:B:738:SER:HB2	2.00	0.43
14:C:64:VAL:HA	14:C:160:GLN:HA	2.00	0.43
57:D:20:VAL:HB	57:D:35:THR:HG23	1.99	0.43
25:N:948:C:O2	25:N:984:A:O2'	2.31	0.43
25:N:1440:U:H2'	25:N:1441:G:C8	2.53	0.43
25:N:1597:A:H5''	25:N:1598:A:H5'	2.00	0.43
25:N:1638:C:O2	25:N:2698:U:O2'	2.33	0.43
61:s:140:ILE:HB	61:s:144:LYS:HB3	2.00	0.43
62:w:546:C:H2'	62:w:547:A:H8	1.84	0.43
63:x:7:ASP:OD1	63:x:7:ASP:N	2.49	0.43
1:0:377:G:H2'	1:0:378:G:H8	1.83	0.43
1:0:518:C:H2'	1:0:530:G:C8	2.53	0.43
1:0:712:A:H2'	1:0:713:G:C8	2.53	0.43
1:0:1343:G:H4'	9:8:124:ARG:HB3	2.00	0.43
1:AA:62:U:O2'	1:AA:379:C:O2	2.37	0.43
1:AA:458:U:O4	1:AA:474:G:O6	2.37	0.43
1:AA:1217:C:OP1	16:AM:5:SER:OG	2.36	0.43
1:AA:1403:C:N4	62:w:524:C:OP1	2.51	0.43
1:AA:1530:G:H2'	1:AA:1531:A:H8	1.83	0.43
3:AC:149:ILE:HG13	3:AC:202:ILE:HG13	2.01	0.43
21:AR:12:ASP:H	21:AR:38:SER:HB3	1.82	0.43
25:AV:671:C:H2'	25:AV:672:C:C6	2.53	0.43
25:AV:742:A:H2'	25:AV:743:A:H8	1.83	0.43
25:AV:1431:A:H2'	25:AV:1432:G:H8	1.82	0.43
25:AV:2317:A:N7	25:AV:2318:G:N2	2.67	0.43
25:AV:2630:G:H2'	25:AV:2631:G:C8	2.53	0.43
36:Ag:13:LYS:HD3	36:Ag:13:LYS:HA	1.67	0.43
57:D:106:ARG:HE	57:D:108:THR:HG22	1.82	0.43
25:N:324:A:OP2	25:N:1205:A:N6	2.51	0.43
25:N:636:G:N1	36:Y:76:GLU:OE2	2.42	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:1085:A:O2'	25:N:1086:A:O4'	2.29	0.43
25:N:1432:G:H2'	25:N:1433:A:H8	1.82	0.43
25:N:1509:A:H2'	25:N:1510:G:C8	2.53	0.43
25:N:1668:A:O2'	25:N:1674:G:N7	2.39	0.43
25:N:2339:C:H2'	25:N:2340:A:C8	2.53	0.43
25:N:2884:U:H2'	25:N:2885:G:C8	2.53	0.43
29:R:60:TRP:NE1	29:R:68:ALA:O	2.43	0.43
44:g:54:GLU:HG3	44:g:88:LYS:HB2	2.00	0.43
1:0:109:A:H5'	1:0:110:C:H5	1.83	0.43
1:0:501:C:H2'	1:0:502:A:C8	2.53	0.43
1:0:769:G:H4'	1:0:1513:A:H4'	2.00	0.43
1:0:916:U:H2'	1:0:917:G:C8	2.53	0.43
1:0:1150:A:H4'	10:9:43:PRO:HG3	2.00	0.43
2:1:27:MET:HE2	2:1:189:THR:HA	1.99	0.43
3:2:114:LYS:HD3	3:2:185:ASN:HD22	1.83	0.43
9:8:92:GLU:O	9:8:96:SER:N	2.49	0.43
1:AA:27:G:H2'	1:AA:28:A:H8	1.83	0.43
1:AA:376:G:N2	1:AA:387:U:O2	2.33	0.43
1:AA:398:U:H2'	1:AA:399:G:C8	2.54	0.43
17:AN:33:THR:HB	17:AN:63:ARG:HD2	2.00	0.43
24:AU:23:A:H2'	24:AU:24:G:C8	2.53	0.43
25:AV:643:A:N1	25:AV:2369:A:O2'	2.49	0.43
25:AV:1547:C:H2'	25:AV:1548:A:H8	1.84	0.43
25:AV:1782:U:H1'	25:AV:2609:U:H5''	2.00	0.43
25:AV:2885:G:N1	51:Av:30:VAL:O	2.49	0.43
26:AW:113:C:H1'	39:Aj:46:GLU:HA	2.00	0.43
30:Aa:125:ARG:HE	30:Aa:127:ASN:ND2	2.16	0.43
50:AU:12:SER:OG	50:AU:13:ALA:N	2.50	0.43
14:C:6:LYS:HD3	25:N:2132:U:C2	2.54	0.43
16:G:46:LEU:HD21	21:t:16:LEU:HD23	2.00	0.43
25:N:286:U:H2'	25:N:287:G:C8	2.53	0.43
25:N:573:U:O4	25:N:2029:G:O2'	2.32	0.43
25:N:605:G:OP1	29:R:99:LYS:NZ	2.45	0.43
25:N:764:A:H5'	27:P:209:GLY:HA2	2.00	0.43
25:N:1387:A:H2'	25:N:1388:G:H8	1.82	0.43
25:N:2162:G:H4'	25:N:2173:A:H1'	2.01	0.43
25:N:2298:A:H5''	30:S:72:LYS:HZ1	1.83	0.43
25:N:2314:A:H2'	25:N:2315:G:C8	2.52	0.43
29:R:117:ARG:NE	29:R:184:ASP:O	2.51	0.43
31:T:60:ASP:OD1	31:T:64:GLN:NE2	2.48	0.43
31:T:89:LEU:HB2	31:T:129:THR:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:x:26:VAL:HG23	63:x:111:ALA:HB2	2.01	0.43
1:0:539:A:H2'	1:0:540:G:C8	2.53	0.43
1:0:591:U:H2'	1:0:592:G:C8	2.54	0.43
1:0:900:A:H2'	1:0:901:A:C8	2.53	0.43
1:0:1163:A:H2'	1:0:1164:G:C8	2.54	0.43
1:0:1254:A:H2'	1:0:1255:G:C8	2.53	0.43
1:0:1287:A:H2'	1:0:1288:A:C8	2.53	0.43
1:AA:17:U:H2'	1:AA:18:C:C6	2.53	0.43
1:AA:181:A:O2'	1:AA:194:C:N4	2.47	0.43
8:AH:96:MET:HB3	8:AH:100:GLY:N	2.34	0.43
25:AV:145:C:H2'	25:AV:146:A:C8	2.53	0.43
25:AV:840:C:H2'	25:AV:841:G:C8	2.52	0.43
25:AV:970:U:H2'	25:AV:971:G:H8	1.84	0.43
25:AV:1434:A:H2'	25:AV:1435:G:C8	2.53	0.43
25:AV:1547:C:H2'	25:AV:1548:A:C8	2.53	0.43
25:AV:1716:U:OP2	25:AV:1743:G:N1	2.48	0.43
25:AV:2271:G:H5'	47:Ar:20:ARG:HD3	2.00	0.43
25:AV:2618:G:O2'	28:AY:155:VAL:O	2.37	0.43
27:AX:205:LEU:HB3	27:AX:210:ALA:HB3	2.00	0.43
28:AY:4:LEU:HD23	28:AY:29:VAL:HG11	1.99	0.43
30:Aa:130:MET:HG3	30:Aa:154:ILE:HB	2.00	0.43
48:As:38:PHE:HB2	48:As:47:VAL:HG13	1.98	0.43
56:B:1120:LEU:HA	56:B:1123:ALA:HB3	1.99	0.43
14:C:213:SER:HA	14:C:223:ALA:HA	2.01	0.43
18:I:7:ALA:O	18:I:18:GLN:N	2.48	0.43
25:N:177:G:H3'	25:N:178:G:H8	1.83	0.43
25:N:2340:A:H2'	25:N:2341:G:H8	1.83	0.43
25:N:2514:U:H2'	25:N:2515:C:C6	2.54	0.43
25:N:2855:C:H2'	25:N:2856:A:H8	1.84	0.43
31:T:127:THR:HG22	31:T:128:GLN:H	1.84	0.43
1:0:377:G:H2'	1:0:378:G:C8	2.53	0.43
1:0:459:A:H2'	1:0:460:A:H8	1.84	0.43
4:3:200:ILE:HD12	4:3:200:ILE:HA	1.83	0.43
13:A3:24:A:H2'	13:A3:25:G:H8	1.82	0.43
1:AA:197:A:N1	1:AA:220:G:O2'	2.45	0.43
1:AA:309:A:H2'	1:AA:310:G:C8	2.52	0.43
1:AA:714:G:H2'	1:AA:715:A:H8	1.83	0.43
1:AA:1218:C:H2'	1:AA:1219:A:H8	1.82	0.43
5:AE:16:ILE:HB	5:AE:36:LEU:HB3	1.99	0.43
6:AF:22:ILE:H	6:AF:22:ILE:HG13	1.69	0.43
14:AK:3:LYS:HA	14:AK:3:LYS:HD2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:595:C:H2'	25:AV:596:U:C6	2.53	0.43
25:AV:1258:U:H2'	25:AV:1259:G:C8	2.54	0.43
25:AV:2747:G:N2	25:AV:2757:A:H62	2.15	0.43
25:AV:2841:C:H2'	25:AV:2842:G:C8	2.54	0.43
56:B:372:SER:O	56:B:430:ARG:NE	2.46	0.43
25:N:594:U:H3	25:N:663:G:H1	1.65	0.43
25:N:971:G:O2'	25:N:983:A:N3	2.43	0.43
25:N:1176:U:H2'	25:N:1177:G:C8	2.54	0.43
25:N:1258:U:H2'	25:N:1259:G:H8	1.83	0.43
25:N:1434:A:H2'	25:N:1435:G:C8	2.53	0.43
25:N:2478:A:P	55:r:2:LYS:HZ1	2.41	0.43
25:N:2685:G:H2'	25:N:2686:G:H8	1.83	0.43
29:R:7:ASP:OD1	29:R:7:ASP:N	2.38	0.43
40:c:34:GLU:OE2	40:c:39:ARG:NH2	2.45	0.43
41:d:90:ILE:HG22	42:e:39:LEU:HD12	2.01	0.43
43:f:61:ASN:OD1	43:f:61:ASN:N	2.50	0.43
1:O:519:C:OP2	58:E:47:SER:OG	2.33	0.43
1:O:945:G:N2	1:O:1334:G:O2'	2.51	0.43
1:O:1506:U:O2	57:D:128:ARG:NH2	2.52	0.43
1:O:1524:C:H2'	1:O:1525:G:H8	1.84	0.43
1:AA:527:G:O2'	1:AA:535:A:N1	2.43	0.43
6:AF:26:THR:HA	6:AF:29:ILE:HG12	2.00	0.43
18:AO:19:VAL:H	18:AO:38:PHE:HA	1.83	0.43
24:AU:6:U:H2'	24:AU:7:A:C8	2.54	0.43
25:AV:580:U:H2'	25:AV:581:C:C6	2.53	0.43
25:AV:1449:G:H2'	25:AV:1450:G:H8	1.84	0.43
25:AV:1529:G:C6	25:AV:1542:U:O2	2.72	0.43
25:AV:2006:C:H5''	25:AV:2048:G:H5''	2.00	0.43
25:AV:2788:C:H2'	25:AV:2789:C:C6	2.53	0.43
28:AY:84:LEU:HD21	28:AY:90:PHE:CD2	2.53	0.43
36:Ag:96:LYS:HD3	36:Ag:103:ILE:HA	2.01	0.43
40:Ak:55:LEU:O	40:Ak:77:HIS:ND1	2.39	0.43
51:Av:50:ARG:O	51:Av:52:ARG:NH1	2.52	0.43
56:B:656:PRO:HA	56:B:661:PHE:CG	2.54	0.43
25:N:6:A:H2'	25:N:7:G:C8	2.53	0.43
29:R:35:TYR:CE2	29:R:176:ASP:HB2	2.54	0.43
63:x:97:LYS:NZ	63:x:123:ILE:O	2.51	0.43
1:O:460:A:H2'	1:O:461:A:C8	2.53	0.43
1:O:1118:U:H2'	1:O:1119:C:C6	2.53	0.43
1:AA:413:G:N2	1:AA:428:G:O3'	2.47	0.43
1:AA:1342:C:H2'	1:AA:1343:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:156:LYS:HE2	8:AH:71:VAL:HA	2.00	0.43
7:AG:33:ASP:HB3	7:AG:35:LYS:HG2	2.00	0.43
24:AU:62:C:H2'	24:AU:63:G:H8	1.82	0.43
25:AV:103:A:H3'	25:AV:104:A:H8	1.83	0.43
25:AV:305:C:H2'	25:AV:306:U:C6	2.54	0.43
25:AV:521:U:H2'	25:AV:522:A:C8	2.54	0.43
25:AV:1428:C:O2'	25:AV:1569:A:OP2	2.27	0.43
26:AW:19:C:H2'	26:AW:20:G:H8	1.84	0.43
27:AX:232:HIS:HD2	27:AX:242:LYS:HD2	1.84	0.43
30:Aa:16:LEU:HD23	30:Aa:20:PHE:HE2	1.84	0.43
36:Ag:76:GLU:HG3	36:Ag:111:ILE:HD13	2.00	0.43
43:An:18:ARG:NH1	43:An:76:VAL:O	2.50	0.43
56:B:351:ALA:HA	56:B:355:LEU:HB2	2.00	0.43
56:B:370:ARG:NH2	62:w:572:U:OP1	2.48	0.43
58:E:35:THR:N	58:E:54:ARG:O	2.45	0.43
19:J:28:PHE:CE1	19:J:37:PHE:HB3	2.41	0.43
23:L:16:CYS:SG	23:L:20:ASN:N	2.92	0.43
25:N:131:A:H2'	25:N:132:G:C8	2.53	0.43
25:N:851:C:H2'	25:N:852:U:C6	2.53	0.43
25:N:1231:U:H2'	25:N:1232:G:H8	1.84	0.43
25:N:2529:G:H4'	31:T:175:LYS:HG3	2.01	0.43
28:Q:4:LEU:HD23	28:Q:29:VAL:HG11	1.99	0.43
57:y:58:SER:O	57:y:58:SER:OG	2.24	0.43
1:0:137:U:O2	1:0:226:G:N2	2.38	0.43
1:0:1101:A:H61	2:1:102:THR:HG21	1.84	0.43
1:0:1268:G:H21	1:0:1327:C:H1'	1.83	0.43
1:0:1315:U:O2'	1:0:1360:A:N3	2.49	0.43
1:AA:77:A:H2'	1:AA:78:A:C8	2.54	0.43
1:AA:456:A:H2'	1:AA:457:G:H8	1.83	0.43
19:AP:32:PRO:HG2	19:AP:33:ILE:HD12	2.01	0.43
25:AV:807:U:H2'	25:AV:808:G:C8	2.53	0.43
25:AV:1491:G:H2'	25:AV:1492:G:C8	2.53	0.43
25:AV:1666:G:H1'	35:Af:3:GLN:HE22	1.84	0.43
25:AV:2313:C:H2'	25:AV:2314:A:C8	2.54	0.43
25:AV:2473:U:OP2	31:Ab:176:LYS:NZ	2.42	0.43
25:AV:2643:G:H2'	25:AV:2644:G:H8	1.84	0.43
25:AV:2840:C:H2'	25:AV:2841:C:C6	2.54	0.43
57:D:53:ARG:HA	57:D:53:ARG:NH2	2.33	0.43
25:N:290:U:H2'	25:N:291:G:C8	2.52	0.43
25:N:651:G:H5'	54:q:19:LYS:HG2	1.99	0.43
25:N:1013:C:H2'	25:N:1014:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:1443:U:H2'	25:N:1444:G:C8	2.53	0.43
25:N:1788:C:OP1	27:P:221:ARG:NH1	2.49	0.43
25:N:2708:G:H2'	25:N:2709:G:H8	1.84	0.43
25:N:2899:A:H2'	25:N:2900:A:C8	2.54	0.43
38:a:83:LEU:HA	38:a:86:ARG:HB2	2.01	0.43
60:n:12:LYS:HE2	60:n:12:LYS:HB3	1.81	0.43
63:x:30:SER:HB3	63:x:81:LEU:HG	2.00	0.43
1:0:539:A:H2'	1:0:540:G:H8	1.84	0.43
6:5:26:THR:O	6:5:30:THR:OG1	2.26	0.43
13:A3:1:G:N1	13:A3:74:A:N6	2.66	0.43
1:AA:230:G:OP1	18:AO:31:ARG:NH1	2.48	0.43
1:AA:360:G:H2'	1:AA:361:G:C8	2.53	0.43
1:AA:878:A:P	8:AH:80:ARG:HD2	2.58	0.43
1:AA:1219:A:H2'	1:AA:1220:G:C8	2.54	0.43
3:AC:88:ARG:NH1	3:AC:99:ALA:O	2.52	0.43
5:AE:12:GLN:HB3	5:AE:117:VAL:HG12	2.00	0.43
5:AE:25:VAL:HG13	5:AE:27:GLY:H	1.84	0.43
6:AF:3:HIS:CD2	6:AF:95:ALA:HA	2.53	0.43
16:AM:16:LEU:HB3	16:AM:55:SER:HB3	2.00	0.43
25:AV:97:C:N4	25:AV:98:G:O6	2.52	0.43
25:AV:538:A:H4'	34:Ae:7:LYS:HG2	2.00	0.43
25:AV:1012:U:OP2	41:Al:70:ARG:NH1	2.46	0.43
25:AV:1326:U:H2'	25:AV:1327:A:H8	1.83	0.43
25:AV:1476:U:H2'	25:AV:1477:A:C8	2.54	0.43
25:AV:1869:G:N2	25:AV:1872:A:OP2	2.44	0.43
25:AV:2677:G:H2'	25:AV:2678:C:C6	2.54	0.43
29:AZ:18:THR:HA	29:AZ:106:LYS:HG2	2.01	0.43
32:Ac:30:LEU:HB3	32:Ac:35:LYS:HB2	2.01	0.43
32:Ac:135:HIS:HB3	32:Ac:138:VAL:HB	2.00	0.43
37:Ah:47:GLU:OE2	37:Ah:51:ARG:CD	2.66	0.43
38:Ai:2:ARG:NH1	38:Ai:7:GLY:O	2.45	0.43
47:Ar:25:ARG:HE	47:Ar:29:GLU:CD	2.26	0.43
55:Az:9:LYS:HE3	55:Az:14:CYS:HB2	2.00	0.43
56:B:158:VAL:HG23	56:B:161:SER:HB2	2.00	0.43
56:B:565:LEU:HD13	56:B:591:VAL:HG11	2.01	0.43
56:B:1169:ARG:HD3	56:B:1220:LEU:HB3	2.00	0.43
16:G:79:LEU:HA	16:G:79:LEU:HD23	1.83	0.43
25:N:532:A:H4'	25:N:533:G:C8	2.53	0.43
25:N:721:A:H2'	25:N:722:A:C8	2.54	0.43
25:N:881:G:O6	25:N:895:U:O4	2.37	0.43
25:N:1387:A:H5'	25:N:1469:A:H1'	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:1435:G:H2'	25:N:1436:G:C8	2.54	0.43
25:N:1927:A:H2'	25:N:1928:A:C8	2.54	0.43
25:N:2144:G:H1'	25:N:2147:A:N6	2.33	0.43
25:N:2329:U:H2'	25:N:2330:G:H8	1.84	0.43
25:N:2590:A:H2'	25:N:2591:C:H6	1.84	0.43
34:W:4:PHE:O	41:d:64:ARG:NH2	2.51	0.43
46:i:11:GLU:HG2	46:i:16:ALA:HB1	2.01	0.43
50:m:9:GLN:HB2	50:m:29:LEU:HD22	2.01	0.43
1:O:601:G:H2'	1:O:602:A:C8	2.54	0.42
1:O:939:G:H2'	1:O:940:C:C6	2.54	0.42
9:8:21:ILE:HG23	9:8:61:LEU:HD13	2.00	0.42
1:AA:32:A:H2'	1:AA:33:A:C8	2.54	0.42
1:AA:319:G:H2'	1:AA:320:A:C8	2.54	0.42
1:AA:376:G:H2'	1:AA:377:G:C8	2.54	0.42
1:AA:977:A:O2'	1:AA:979:C:OP2	2.34	0.42
1:AA:1248:A:H4'	9:AI:33:ARG:HH22	1.84	0.42
1:AA:1524:C:H2'	1:AA:1525:G:H8	1.83	0.42
6:AF:80:PHE:CG	27:AX:124:ILE:HD11	2.55	0.42
9:AI:83:ILE:HD12	9:AI:83:ILE:H	1.83	0.42
24:AU:76:A:N1	25:AV:2450:A:O2'	2.45	0.42
25:AV:243:U:H2'	25:AV:244:A:C8	2.54	0.42
25:AV:441:U:H2'	25:AV:442:G:C8	2.54	0.42
25:AV:693:A:O2'	25:AV:1353:A:N3	2.51	0.42
25:AV:782:A:N7	27:AX:220:VAL:HG21	2.34	0.42
25:AV:922:C:O2'	47:Ar:25:ARG:NH1	2.52	0.42
25:AV:1693:U:O2'	27:AX:14:ARG:NH2	2.41	0.42
25:AV:2006:C:O2'	25:AV:2823:A:N3	2.51	0.42
27:AX:117:GLN:N	27:AX:128:ASN:OD1	2.43	0.42
31:Ab:64:GLN:O	31:Ab:67:THR:OG1	2.31	0.42
34:Ae:103:ILE:HD13	34:Ae:103:ILE:HA	1.88	0.42
35:Af:105:ARG:HG3	35:Af:122:VAL:HG13	2.01	0.42
58:E:29:GLN:N	58:E:29:GLN:OE1	2.52	0.42
16:G:24:ARG:NH1	16:G:56:SER:CA	2.82	0.42
25:N:302:C:H2'	25:N:303:G:C8	2.54	0.42
25:N:782:A:O2'	27:P:224:ALA:O	2.36	0.42
25:N:859:G:O2'	25:N:916:G:O6	2.36	0.42
25:N:937:C:OP2	54:q:52:LYS:NZ	2.37	0.42
25:N:1447:C:H2'	25:N:1448:G:H8	1.84	0.42
25:N:2832:U:H5''	25:N:2833:U:H5'	2.01	0.42
25:N:2859:G:H2'	25:N:2860:A:C8	2.53	0.42
25:N:2875:C:H2'	25:N:2876:G:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:R:175:ILE:HD11	29:R:180:LEU:HG	2.00	0.42
31:T:137:ASP:OD1	31:T:137:ASP:N	2.50	0.42
43:f:86:MET:HE3	43:f:87:PRO:HD2	2.00	0.42
1:0:600:A:H2'	1:0:601:G:H8	1.84	0.42
3:2:186:THR:HG22	3:2:199:LYS:HG2	2.01	0.42
1:AA:320:A:H2'	1:AA:321:A:C8	2.53	0.42
1:AA:470:C:H2'	1:AA:471:U:H6	1.85	0.42
1:AA:505:G:H2'	1:AA:506:G:C8	2.55	0.42
1:AA:1003:G:O2'	1:AA:1005:A:OP1	2.34	0.42
1:AA:1315:U:O2'	1:AA:1360:A:N3	2.46	0.42
5:AE:157:ARG:NH1	5:AE:159:LYS:O	2.52	0.42
6:AF:42:TRP:HB2	6:AF:59:TYR:HB2	2.01	0.42
20:AQ:21:ILE:HG21	20:AQ:55:LEU:HA	2.01	0.42
25:AV:290:U:H2'	25:AV:291:G:C8	2.54	0.42
25:AV:816:C:OP1	25:AV:1185:G:O2'	2.32	0.42
25:AV:1104:C:H2'	25:AV:1105:U:C6	2.54	0.42
25:AV:2463:C:H2'	25:AV:2464:G:H8	1.84	0.42
25:AV:2751:G:C4	31:Ab:3:ARG:HD2	2.54	0.42
34:Ae:101:ILE:HD12	34:Ae:101:ILE:H	1.85	0.42
35:Af:24:VAL:HG12	35:Af:39:ILE:HG22	2.00	0.42
37:Ah:41:LEU:CG	37:Ah:45:GLN:NE2	2.82	0.42
48:As:71:LEU:HA	48:As:74:ARG:HH11	1.84	0.42
52:Aw:43:VAL:HG12	52:Aw:45:GLN:HB2	2.00	0.42
15:F:72:GLU:O	15:F:76:SER:OG	2.21	0.42
20:K:26:ILE:HG22	20:K:30:LYS:HD3	2.00	0.42
25:N:6:A:H2'	25:N:7:G:H8	1.84	0.42
25:N:632:A:H2'	25:N:633:A:C8	2.54	0.42
25:N:1035:U:H2'	25:N:1036:G:H8	1.84	0.42
25:N:1358:G:N1	25:N:1372:U:OP2	2.38	0.42
25:N:1434:A:H2'	25:N:1435:G:H8	1.83	0.42
25:N:1847:A:O2'	25:N:1848:A:H8	2.02	0.42
25:N:2134:A:OP2	25:N:2157:G:N2	2.35	0.42
25:N:2215:C:H2'	25:N:2216:G:H8	1.84	0.42
25:N:2369:A:H2'	25:N:2370:G:H8	1.84	0.42
25:N:2682:A:C8	28:Q:11:MET:HG2	2.54	0.42
27:P:146:MET:HE2	27:P:146:MET:HB2	1.94	0.42
43:f:24:ILE:HD11	43:f:32:ALA:HA	2.00	0.42
1:0:748:G:H2'	1:0:749:A:H8	1.84	0.42
1:0:1232:U:OP1	9:8:126:GLN:NE2	2.52	0.42
1:0:1316:G:H22	1:0:1319:A:H5'	1.84	0.42
7:6:72:THR:HG23	7:6:73:VAL:HG23	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:976:G:N2	1:AA:1363:A:OP1	2.52	0.42
1:AA:1219:A:H2'	1:AA:1220:G:H8	1.84	0.42
2:AB:82:ASP:OD1	2:AB:82:ASP:N	2.51	0.42
2:AB:140:GLU:O	2:AB:144:LEU:HD12	2.19	0.42
5:AE:69:ARG:HB3	5:AE:70:ASN:H	1.68	0.42
25:AV:586:A:N1	25:AV:809:G:O2'	2.47	0.42
25:AV:935:C:H2'	25:AV:936:A:C8	2.53	0.42
25:AV:1009:A:N3	41:Al:59:GLN:NE2	2.68	0.42
25:AV:1422:G:N2	25:AV:1576:U:O2	2.48	0.42
25:AV:2676:C:O2	25:AV:2732:G:N2	2.51	0.42
25:AV:2698:U:H2'	25:AV:2699:C:C6	2.55	0.42
25:AV:2830:C:H3'	28:AY:59:ARG:HH11	1.84	0.42
25:AV:2846:G:H5'	40:Ak:53:ARG:HH12	1.84	0.42
28:AY:94:GLN:NE2	28:AY:95:SER:O	2.51	0.42
30:Aa:44:ILE:HG23	30:Aa:83:TYR:HE2	1.83	0.42
33:Ad:122:ILE:H	33:Ad:122:ILE:HG13	1.63	0.42
36:Ag:81:ASP:OD1	36:Ag:81:ASP:N	2.52	0.42
37:Ah:31:PHE:HE2	37:Ah:108:VAL:HG23	1.84	0.42
42:Am:7:SER:CB	42:Am:12:HIS:ND1	2.82	0.42
46:Aq:2:PHE:HE2	46:Aq:59:GLU:HB3	1.84	0.42
23:L:3:LYS:HD3	23:L:3:LYS:HA	1.69	0.42
25:N:118:A:H5'	25:N:119:A:C8	2.54	0.42
25:N:131:A:H2'	25:N:132:G:H8	1.84	0.42
25:N:1259:G:H2'	25:N:1260:A:C8	2.54	0.42
25:N:1341:G:OP2	25:N:1394:U:O2'	2.34	0.42
25:N:1704:C:H2'	25:N:1705:A:C8	2.55	0.42
25:N:1796:U:H2'	25:N:1797:G:H8	1.83	0.42
25:N:2836:U:H2'	25:N:2837:A:C8	2.55	0.42
29:R:141:MET:HE2	29:R:143:LEU:HD12	2.01	0.42
29:R:181:ILE:HG23	36:Y:3:LEU:HB2	2.01	0.42
32:U:30:LEU:HB3	32:U:36:ALA:HB3	2.01	0.42
43:f:108:SER:OG	43:f:109:ASP:N	2.51	0.42
49:l:30:MET:HE2	49:l:30:MET:HB2	1.87	0.42
57:y:64:GLN:OE1	57:y:95:SER:OG	2.27	0.42
1:0:1259:C:O2'	1:0:1283:U:O2	2.30	0.42
10:9:27:GLU:HA	10:9:30:LYS:HG2	2.01	0.42
1:AA:12:U:H4'	1:AA:526:C:H4'	2.00	0.42
1:AA:148:G:H2'	1:AA:149:A:O4'	2.20	0.42
18:AO:25:ARG:H	18:AO:25:ARG:HG2	1.51	0.42
20:AQ:24:LYS:H	20:AQ:24:LYS:HG3	1.71	0.42
20:AQ:56:ALA:O	20:AQ:60:LYS:HD3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:AU:52:G:H2'	24:AU:53:G:H8	1.85	0.42
25:AV:833:A:H2'	25:AV:834:G:C8	2.55	0.42
25:AV:865:C:O2	25:AV:867:C:N4	2.51	0.42
25:AV:1176:U:H2'	25:AV:1177:G:C8	2.55	0.42
25:AV:1592:C:H2'	25:AV:1593:A:C8	2.55	0.42
25:AV:2356:U:O3'	47:Ar:20:ARG:NH2	2.50	0.42
30:Aa:36:LEU:HB2	30:Aa:89:VAL:HB	2.00	0.42
34:Ae:138:GLN:N	34:Ae:138:GLN:OE1	2.52	0.42
56:B:660:LEU:HD21	56:B:684:ALA:HB3	2.01	0.42
56:B:696:ALA:HB1	56:B:699:LEU:HB2	2.00	0.42
56:B:1014:GLN:H	56:B:1053:ILE:HB	1.85	0.42
56:B:1152:ILE:HA	56:B:1155:GLN:HB2	2.02	0.42
17:H:21:ASP:OD1	17:H:21:ASP:N	2.52	0.42
25:N:275:C:H2'	25:N:276:U:H4'	2.00	0.42
25:N:476:G:O2'	25:N:502:A:N6	2.48	0.42
25:N:577:G:O2'	25:N:1254:A:OP1	2.36	0.42
25:N:720:U:H2'	25:N:721:A:C8	2.54	0.42
25:N:1571:A:H2'	25:N:1572:A:C8	2.55	0.42
25:N:1594:U:H2'	25:N:1595:C:C6	2.54	0.42
25:N:2673:G:H2'	25:N:2674:G:H8	1.85	0.42
25:N:2684:U:H2'	25:N:2685:G:O4'	2.19	0.42
25:N:2804:U:H2'	25:N:2805:C:C6	2.54	0.42
29:R:188:MET:HE3	29:R:189:THR:O	2.20	0.42
34:W:103:ILE:HD12	34:W:103:ILE:H	1.84	0.42
1:0:599:C:H2'	1:0:600:A:H8	1.85	0.42
1:0:1186:G:O2'	9:8:115:LYS:NZ	2.52	0.42
1:0:1291:U:H2'	1:0:1292:G:C8	2.55	0.42
1:0:1507:A:H2'	1:0:1508:A:C8	2.53	0.42
4:3:13:ARG:HE	4:3:38:PRO:HA	1.83	0.42
7:6:92:ARG:O	7:6:96:ARG:N	2.52	0.42
1:AA:1329:A:H5''	15:AL:26:GLY:H	1.84	0.42
3:AC:89:LYS:HE2	3:AC:89:LYS:HB2	1.79	0.42
5:AE:89:HIS:HB3	5:AE:139:ALA:HB2	2.00	0.42
25:AV:970:U:H2'	25:AV:971:G:C8	2.55	0.42
25:AV:2688:G:N1	25:AV:2720:U:OP2	2.34	0.42
25:AV:2862:G:OP1	40:Ak:93:ARG:NH1	2.51	0.42
25:AV:2899:A:H2'	25:AV:2900:A:C8	2.54	0.42
27:AX:75:PRO:HA	27:AX:117:GLN:HG2	2.01	0.42
29:AZ:112:LEU:HD13	29:AZ:118:LEU:HD13	2.02	0.42
35:Af:76:VAL:H	40:Ak:73:VAL:HG22	1.84	0.42
56:B:832:LYS:HD2	56:B:832:LYS:HA	1.81	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:G:24:ARG:HH22	16:G:56:SER:N	2.16	0.42
25:N:1829:A:N3	27:P:15:HIS:NE2	2.64	0.42
25:N:2419:U:OP1	54:q:41:LYS:NZ	2.44	0.42
29:R:60:TRP:HB3	61:s:132:TYR:HD2	1.84	0.42
33:V:101:ILE:HD13	33:V:101:ILE:HA	1.88	0.42
1:O:136:C:O2'	18:I:64:GLY:O	2.30	0.42
1:O:652:U:O4	1:O:752:G:O2'	2.28	0.42
1:O:676:A:H2'	1:O:677:U:H6	1.84	0.42
1:O:747:A:H2'	1:O:748:G:C8	2.54	0.42
1:O:933:G:N7	7:6:3:ARG:NH2	2.66	0.42
1:O:1240:U:O4	7:6:109:ARG:NH2	2.47	0.42
6:5:12:PRO:HG3	6:5:57:ALA:HA	2.02	0.42
7:6:15:ASP:OD1	7:6:44:TYR:OH	2.25	0.42
7:6:115:SER:OG	7:6:116:MET:N	2.52	0.42
13:A3:18:G:O2'	13:A3:58:G:O6	2.30	0.42
1:AA:1229:A:O2'	24:AU:30:G:OP1	2.36	0.42
1:AA:1506:U:O2	57:y:128:ARG:NH2	2.46	0.42
9:AI:95:ARG:O	9:AI:99:ARG:N	2.49	0.42
22:AS:28:MET:O	22:AS:32:ILE:HG12	2.19	0.42
25:AV:489:G:H22	25:AV:1320:C:H5''	1.85	0.42
25:AV:2315:G:H2'	25:AV:2316:G:H8	1.84	0.42
25:AV:2514:U:H2'	25:AV:2515:C:C6	2.55	0.42
32:Ac:113:SER:O	32:Ac:116:ARG:NH2	2.47	0.42
56:B:471:GLU:HG3	56:B:631:LEU:HD12	2.01	0.42
18:I:68:SER:OG	18:I:69:ASP:N	2.52	0.42
25:N:123:G:H4'	25:N:1376:C:H5'	2.02	0.42
25:N:514:A:N3	25:N:581:C:O2'	2.48	0.42
25:N:582:A:H2'	25:N:583:G:H8	1.84	0.42
25:N:747:U:O2'	43:f:92:ARG:NH1	2.48	0.42
25:N:1289:C:H2'	25:N:1290:C:H6	1.83	0.42
30:S:5:HIS:C	30:S:5:HIS:HD1	2.28	0.42
30:S:126:GLY:HA2	30:S:163:ASP:HA	2.01	0.42
30:S:136:ILE:HD11	30:S:143:TYR:HA	2.02	0.42
33:V:53:LEU:HD23	33:V:53:LEU:HA	1.94	0.42
39:b:88:LYS:HA	39:b:88:LYS:HD2	1.85	0.42
52:o:6:ARG:NE	52:o:24:THR:OG1	2.39	0.42
1:O:674:G:H21	57:D:118:HIS:HB2	1.84	0.42
1:O:885:G:OP2	58:E:15:LYS:NZ	2.38	0.42
1:O:1213:A:O2'	1:O:1215:G:N7	2.50	0.42
11:A:51:U:O2	11:A:63:G:N2	2.38	0.42
1:AA:407:U:O2'	4:AD:113:GLU:OE1	2.36	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:981:U:H4'	16:AM:61:ARG:HG2	2.01	0.42
1:AA:1141:C:H2'	1:AA:1142:G:C8	2.55	0.42
1:AA:1287:A:H2'	1:AA:1288:A:C8	2.54	0.42
6:AF:38:ARG:HH11	6:AF:97:THR:N	2.18	0.42
10:AJ:40:ILE:HB	10:AJ:73:LEU:HB3	2.01	0.42
20:AQ:54:GLN:HA	20:AQ:57:ARG:HD2	2.01	0.42
25:AV:302:C:H2'	25:AV:303:G:C8	2.54	0.42
25:AV:662:G:H2'	25:AV:663:G:C8	2.52	0.42
25:AV:1170:C:H2'	25:AV:1171:G:C8	2.52	0.42
25:AV:1325:U:OP1	25:AV:1647:U:O2'	2.27	0.42
25:AV:2638:G:OP1	28:AY:83:ARG:NH1	2.46	0.42
25:AV:2658:C:OP1	31:Ab:158:LYS:NZ	2.50	0.42
25:AV:2863:C:H2'	25:AV:2864:G:H8	1.84	0.42
29:AZ:188:MET:N	29:AZ:188:MET:SD	2.92	0.42
25:N:1387:A:H2'	25:N:1388:G:C8	2.55	0.42
25:N:2047:C:H2'	25:N:2048:G:C8	2.53	0.42
25:N:2087:G:H2'	25:N:2088:A:H8	1.84	0.42
25:N:2215:C:H2'	25:N:2216:G:C8	2.54	0.42
25:N:2566:A:N1	35:X:28:SER:OG	2.48	0.42
25:N:2812:G:H2'	25:N:2813:A:C8	2.54	0.42
26:O:114:C:H2'	26:O:115:A:C8	2.55	0.42
26:O:115:A:H2'	26:O:116:G:H8	1.84	0.42
27:P:13:ARG:HA	27:P:13:ARG:HD2	1.86	0.42
34:W:88:THR:OG1	34:W:90:GLU:OE1	2.34	0.42
48:k:7:VAL:HG12	48:k:51:VAL:HG22	2.02	0.42
54:q:32:ILE:O	54:q:36:LYS:NZ	2.37	0.42
1:0:1116:U:H2'	1:0:1117:A:C8	2.55	0.42
1:0:1118:U:H2'	1:0:1119:C:H6	1.84	0.42
13:A3:72:C:O2'	13:A3:73:C:O5'	2.35	0.42
1:AA:413:G:H1'	1:AA:428:G:H21	1.85	0.42
1:AA:1308:U:H2'	1:AA:1309:G:C8	2.54	0.42
3:AC:88:ARG:HH22	3:AC:92:ALA:HB2	1.85	0.42
3:AC:191:THR:HG23	3:AC:193:TYR:H	1.84	0.42
5:AE:88:VAL:HG12	5:AE:93:ARG:HG2	2.02	0.42
14:AK:27:ILE:HB	14:AK:182:ALA:HB1	2.02	0.42
25:AV:593:U:H2'	25:AV:594:U:C6	2.55	0.42
25:AV:999:U:O2	25:AV:1155:A:N7	2.53	0.42
25:AV:1077:A:H61	25:AV:1089:A:P	2.43	0.42
25:AV:1380:G:H2'	25:AV:1381:G:H8	1.85	0.42
25:AV:1440:U:H2'	25:AV:1441:G:H8	1.84	0.42
25:AV:1590:A:H2'	25:AV:1591:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AY:33:ARG:H	28:AY:33:ARG:HG2	1.65	0.42
41:Al:49:ASP:HA	41:Al:52:GLN:HB3	2.02	0.42
42:Am:14:VAL:HG22	42:Am:20:VAL:HG21	2.00	0.42
48:As:55:GLY:HA2	48:As:58:VAL:HG12	2.01	0.42
56:B:1044:LEU:HB2	56:B:1069:GLY:HA3	2.02	0.42
25:N:741:U:H2'	25:N:742:A:H8	1.84	0.42
25:N:881:G:N1	25:N:895:U:C2	2.88	0.42
25:N:1689:A:H2'	25:N:1690:A:C8	2.55	0.42
25:N:1734:G:H2'	25:N:1735:A:H8	1.85	0.42
25:N:2233:U:H2'	25:N:2234:G:H8	1.84	0.42
26:O:19:C:H2'	26:O:20:G:C8	2.55	0.42
28:Q:115:GLY:O	38:a:3:HIS:NE2	2.50	0.42
29:R:171:ASP:OD2	29:R:173:THR:OG1	2.35	0.42
55:r:9:LYS:HG3	55:r:14:CYS:HB2	2.01	0.42
1:0:362:G:OP1	58:E:58:THR:OG1	2.37	0.42
1:0:400:C:OP1	4:3:70:ARG:NH1	2.53	0.42
1:0:618:C:O2	18:I:14:ARG:NH2	2.53	0.42
1:0:1040:U:H2'	1:0:1041:G:H8	1.85	0.42
3:2:132:ARG:NH1	62:w:558:U:O2'	2.51	0.42
3:2:139:GLN:O	3:2:143:ARG:N	2.45	0.42
6:5:13:ASP:OD1	6:5:13:ASP:N	2.53	0.42
1:AA:723:U:H3	1:AA:856:C:H5'	1.85	0.42
1:AA:902:G:H2'	1:AA:903:G:H8	1.85	0.42
1:AA:1404:C:H2'	1:AA:1405:G:C8	2.55	0.42
3:AC:114:LYS:HD2	3:AC:114:LYS:HA	1.90	0.42
4:AD:88:GLU:H	4:AD:88:GLU:HG2	1.66	0.42
16:AM:61:ARG:HA	16:AM:61:ARG:HD2	1.76	0.42
25:AV:55:G:H2'	25:AV:56:A:C8	2.54	0.42
25:AV:171:U:H2'	25:AV:172:A:H8	1.85	0.42
25:AV:184:C:H2'	25:AV:185:G:H8	1.85	0.42
25:AV:373:U:H2'	25:AV:374:A:C8	2.52	0.42
25:AV:440:C:H2'	25:AV:441:U:H6	1.85	0.42
25:AV:645:C:N4	25:AV:2350:C:O2'	2.52	0.42
25:AV:1319:C:N4	25:AV:1334:G:O6	2.53	0.42
25:AV:1432:G:H2'	25:AV:1433:A:H8	1.84	0.42
25:AV:2051:A:O2'	25:AV:2614:A:N6	2.52	0.42
32:Ac:103:VAL:HA	32:Ac:106:ALA:HB3	2.02	0.42
35:Af:61:VAL:HG21	35:Af:112:PHE:CE2	2.55	0.42
42:Am:35:PHE:N	42:Am:59:ILE:O	2.45	0.42
25:N:578:G:OP1	25:N:1255:U:O2'	2.35	0.42
25:N:1996:C:OP1	35:X:31:ARG:NE	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:2192:U:H2'	25:N:2193:G:C8	2.54	0.42
32:U:77:THR:HA	32:U:143:ILE:HG22	2.00	0.42
38:a:13:ASN:OD1	38:a:14:SER:N	2.53	0.42
1:0:45:G:H2'	1:0:46:G:C8	2.55	0.42
1:0:360:G:H2'	1:0:361:G:C8	2.55	0.42
1:0:459:A:H2'	1:0:460:A:C8	2.54	0.42
1:0:514:C:H2'	1:0:515:G:H8	1.85	0.42
1:0:582:C:O2	1:0:759:A:N6	2.53	0.42
1:0:1141:C:H2'	1:0:1142:G:C8	2.55	0.42
2:1:108:ARG:HA	2:1:111:ILE:HG12	2.00	0.42
2:1:219:ALA:HA	2:1:222:ARG:HE	1.83	0.42
4:3:85:ASN:OD1	4:3:88:GLU:N	2.41	0.42
5:4:66:LYS:NZ	5:4:66:LYS:O	2.34	0.42
1:AA:130:A:N3	1:AA:263:A:O2'	2.41	0.42
1:AA:620:C:C2	4:AD:132:ILE:HG12	2.55	0.42
1:AA:1026:G:N2	1:AA:1035:A:H61	2.17	0.42
6:AF:4:TYR:CD2	6:AF:71:ILE:HG13	2.55	0.42
18:AO:79:ASN:HB2	18:AO:80:LYS:H	1.60	0.42
19:AP:61:ILE:HA	19:AP:75:LEU:HA	2.01	0.42
25:AV:1570:A:H2'	25:AV:1571:A:C8	2.55	0.42
25:AV:2619:C:H5''	28:AY:157:LYS:HA	2.01	0.42
26:AW:95:U:H2'	26:AW:96:G:H8	1.84	0.42
28:AY:13:ARG:NH1	40:Ak:75:GLN:OE1	2.53	0.42
43:An:6:LYS:HA	43:An:104:THR:HA	2.02	0.42
43:An:84:ARG:O	43:An:96:ILE:N	2.42	0.42
14:C:4:LEU:HD23	14:C:9:ARG:HG3	2.02	0.42
57:D:36:ASP:OD1	57:D:42:LEU:HD11	2.19	0.42
25:N:55:G:H2'	25:N:56:A:H8	1.84	0.42
25:N:958:U:O2	26:O:89:U:O2'	2.36	0.42
27:P:78:VAL:HG21	27:P:110:LEU:HD12	2.02	0.42
29:R:170:ARG:NH2	29:R:176:ASP:OD2	2.40	0.42
34:W:74:TYR:HE2	34:W:100:VAL:HG13	1.85	0.42
52:o:40:ASP:HB3	52:o:43:VAL:HG22	2.01	0.42
22:u:76:LYS:O	22:u:80:THR:OG1	2.29	0.42
12:v:49:LYS:HE3	12:v:49:LYS:HB3	1.90	0.42
1:0:505:G:H2'	1:0:506:G:C8	2.55	0.41
1:AA:154:U:H2'	1:AA:155:A:C8	2.54	0.41
1:AA:1096:C:H2'	1:AA:1097:C:H6	1.84	0.41
6:AF:72:ASP:O	6:AF:76:THR:HG23	2.20	0.41
25:AV:141:G:H5'	25:AV:142:A:C8	2.55	0.41
25:AV:634:C:H2'	25:AV:635:C:H6	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:AX:162:VAL:HG11	27:AX:174:LEU:HD13	2.01	0.41
28:AY:48:ILE:HG21	28:AY:90:PHE:HB2	2.02	0.41
28:AY:181:ASP:HB3	28:AY:186:LEU:HB2	2.02	0.41
41:Al:9:ILE:H	41:Al:9:ILE:HD12	1.84	0.41
43:An:69:LEU:HD23	43:An:69:LEU:HA	1.92	0.41
56:B:349:ASN:ND2	56:B:352:GLU:OE1	2.32	0.41
56:B:1214:GLN:HB2	56:B:1280:LEU:HD21	2.02	0.41
25:N:1:G:H2'	25:N:2:G:H8	1.84	0.41
25:N:155:A:H2'	25:N:156:A:C8	2.55	0.41
25:N:1864:U:OP1	25:N:2410:G:O2'	2.36	0.41
25:N:2108:A:H61	25:N:2182:U:H1'	1.85	0.41
25:N:2837:A:H2'	25:N:2838:G:H8	1.85	0.41
25:N:2888:C:H2'	25:N:2889:C:H6	1.84	0.41
31:T:54:PRO:HG3	31:T:62:TRP:CD1	2.55	0.41
31:T:86:LYS:HA	31:T:86:LYS:HD2	1.86	0.41
31:T:124:GLU:OE1	31:T:124:GLU:N	2.53	0.41
40:c:91:ALA:HB2	40:c:113:ARG:HA	2.01	0.41
42:e:85:LYS:HE3	42:e:85:LYS:HB2	1.76	0.41
48:k:37:ARG:HG3	48:k:48:THR:HG22	2.01	0.41
1:0:1366:C:O2'	10:9:62:ARG:NH1	2.42	0.41
4:3:117:LEU:HB3	4:3:123:ILE:HD11	2.02	0.41
5:4:47:GLY:HA3	5:4:71:MET:HG2	2.01	0.41
6:5:35:LYS:HE2	6:5:35:LYS:HB3	1.82	0.41
8:7:50:LYS:HE2	8:7:50:LYS:HB2	1.83	0.41
10:9:65:TYR:CE1	16:G:89:MET:HE3	2.55	0.41
12:A1:25:LYS:HE2	12:A1:25:LYS:HB2	1.95	0.41
7:AG:58:GLU:H	7:AG:58:GLU:HG3	1.71	0.41
18:AO:5:ARG:NH1	18:AO:24:SER:HA	2.35	0.41
25:AV:805:G:H22	25:AV:828:U:H5''	1.85	0.41
25:AV:825:A:H4'	25:AV:2428:G:C5	2.55	0.41
25:AV:861:A:N3	26:AW:79:G:O2'	2.52	0.41
25:AV:1438:U:H2'	25:AV:1439:A:H8	1.85	0.41
25:AV:1494:A:H2'	25:AV:1495:A:C4	2.55	0.41
25:AV:1518:C:H2'	25:AV:1519:G:C8	2.55	0.41
25:AV:2331:G:O3'	47:Ar:43:THR:OG1	2.38	0.41
34:Ae:57:LEU:HD11	34:Ae:130:HIS:CD2	2.53	0.41
38:Ai:9:GLN:OE1	38:Ai:9:GLN:N	2.53	0.41
38:Ai:97:ILE:HD13	38:Ai:97:ILE:HA	1.88	0.41
40:Ak:29:LYS:HB2	40:Ak:82:ASP:HB3	2.02	0.41
41:Al:65:ILE:HB	41:Al:76:TYR:HE2	1.85	0.41
50:Au:9:GLN:HG3	50:Au:32:ILE:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:B:159:ARG:HG3	62:w:576:U:H3'	2.02	0.41
56:B:374:TYR:N	56:B:430:ARG:O	2.52	0.41
58:E:82:ILE:HD13	58:E:82:ILE:HA	1.86	0.41
25:N:287:G:H2'	25:N:288:U:C6	2.55	0.41
25:N:358:U:H2'	25:N:359:G:H8	1.85	0.41
25:N:464:U:H4'	53:p:12:ARG:HH22	1.84	0.41
25:N:582:A:H2'	25:N:583:G:C8	2.55	0.41
25:N:1809:A:H2'	25:N:1810:A:C8	2.55	0.41
25:N:2216:G:H2'	25:N:2217:G:H8	1.85	0.41
30:S:110:ARG:O	30:S:112:ARG:NH2	2.50	0.41
31:T:27:LYS:HA	31:T:27:LYS:HD2	1.93	0.41
1:0:32:A:H2'	1:0:33:A:C8	2.55	0.41
1:0:81:A:H2'	1:0:82:G:C8	2.55	0.41
1:0:621:A:H2'	1:0:622:A:C8	2.56	0.41
1:0:1033:G:H2'	1:0:1034:G:C8	2.55	0.41
1:0:1316:G:N2	1:0:1319:A:OP2	2.50	0.41
1:0:1512:U:H2'	1:0:1513:A:C8	2.55	0.41
2:1:94:HIS:CD2	2:1:146:ASN:CA	3.02	0.41
3:2:6:HIS:CE1	3:2:8:ASN:HB3	2.54	0.41
3:2:189:ALA:HB3	3:2:196:ILE:HB	2.02	0.41
7:6:36:LYS:O	7:6:40:GLU:N	2.47	0.41
9:8:29:VAL:O	9:8:65:ILE:HG12	2.21	0.41
1:AA:254:G:H2'	1:AA:255:G:C8	2.55	0.41
1:AA:393:A:H2'	1:AA:394:G:H8	1.85	0.41
1:AA:1147:C:O2	9:AI:18:ARG:NH1	2.54	0.41
1:AA:1241:G:H2'	1:AA:1242:G:C8	2.53	0.41
6:AF:39:LEU:HD13	6:AF:62:MET:HG3	2.02	0.41
15:AL:101:ARG:HH11	15:AL:104:THR:H	1.68	0.41
25:AV:910:A:H2'	25:AV:911:A:C8	2.55	0.41
25:AV:962:G:H21	25:AV:2250:G:H22	1.67	0.41
25:AV:1198:U:H2'	25:AV:1199:U:C6	2.56	0.41
25:AV:2737:G:H2'	25:AV:2738:A:C8	2.56	0.41
27:AX:130:LEU:HD12	27:AX:134:ASN:HB2	2.01	0.41
29:AZ:118:LEU:HD12	29:AZ:118:LEU:HA	1.96	0.41
30:Aa:62:GLY:O	30:Aa:95:ARG:NH1	2.52	0.41
56:B:106:LYS:HD3	56:B:110:LEU:HB2	2.02	0.41
56:B:333:ASN:O	56:B:337:GLN:HG2	2.20	0.41
56:B:722:VAL:HG23	56:B:729:ILE:HB	2.01	0.41
58:E:28:PRO:HB2	58:E:29:GLN:OE1	2.20	0.41
18:I:71:VAL:HA	18:I:74:LEU:HG	2.02	0.41
25:N:145:C:H2'	25:N:146:A:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:1746:A:H2'	25:N:1747:U:C6	2.55	0.41
25:N:2037:A:H2'	25:N:2038:G:C8	2.55	0.41
29:R:64:GLY:HA3	61:s:134:PHE:HZ	1.86	0.41
33:V:100:LYS:HE2	33:V:100:LYS:HB2	1.83	0.41
34:W:72:LYS:HE3	34:W:74:TYR:HE1	1.85	0.41
43:f:33:LEU:HD23	43:f:33:LEU:HA	1.90	0.41
63:x:59:LEU:HA	63:x:62:ARG:HG2	2.02	0.41
58:z:66:TYR:HD2	58:z:87:VAL:HG21	1.85	0.41
1:0:413:G:H22	1:0:429:U:P	2.43	0.41
1:0:438:U:C4	1:0:494:G:N1	2.88	0.41
1:0:475:C:H2'	1:0:476:U:H6	1.85	0.41
1:0:801:U:H2'	1:0:802:A:H8	1.84	0.41
2:1:164:ILE:HD11	2:1:210:VAL:HG23	2.01	0.41
10:9:47:GLU:OE1	10:9:47:GLU:N	2.53	0.41
11:A:51:U:H2'	11:A:52:G:C8	2.55	0.41
1:AA:922:G:H4'	5:AE:25:VAL:HA	2.01	0.41
1:AA:945:G:H21	1:AA:1334:G:H4'	1.85	0.41
1:AA:1409:C:H2'	1:AA:1410:A:C8	2.55	0.41
4:AD:60:LYS:O	4:AD:64:ILE:HD12	2.20	0.41
14:AK:6:LYS:NZ	25:AV:2132:U:OP1	2.44	0.41
18:AO:8:ARG:HH11	18:AO:15:PRO:HG3	1.86	0.41
24:AU:52:G:H2'	24:AU:53:G:C8	2.56	0.41
25:AV:598:U:H2'	25:AV:599:A:H8	1.84	0.41
25:AV:1149:G:H2'	25:AV:1150:C:C6	2.56	0.41
25:AV:1335:C:H2'	25:AV:1336:A:C8	2.55	0.41
25:AV:2220:U:H2'	25:AV:2221:G:C8	2.56	0.41
28:AY:125:TRP:CD1	28:AY:160:LYS:HB3	2.55	0.41
30:Aa:32:GLU:H	30:Aa:158:THR:HA	1.85	0.41
49:At:4:LYS:HB3	49:At:4:LYS:HE3	1.81	0.41
54:Ay:29:LEU:HD11	54:Ay:44:LEU:HB3	2.01	0.41
56:B:642:GLN:NE2	62:w:567:U:O2'	2.51	0.41
15:F:37:ALA:HB3	15:F:39:ILE:HD11	2.01	0.41
16:G:33:ASP:O	16:G:34:VAL:C	2.63	0.41
25:N:534:U:H2'	25:N:535:G:C8	2.54	0.41
25:N:806:C:OP2	36:Y:41:ARG:NE	2.51	0.41
25:N:927:A:H2'	25:N:928:A:C8	2.55	0.41
25:N:1057:A:O2'	63:x:36:ASP:OD1	2.38	0.41
25:N:2345:G:N3	25:N:2381:A:H2'	2.35	0.41
25:N:2685:G:H2'	25:N:2686:G:C8	2.55	0.41
31:T:24:ILE:HD11	31:T:43:VAL:HG21	2.03	0.41
37:Z:41:LEU:HD12	37:Z:41:LEU:HA	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:b:115:LEU:HD12	39:b:115:LEU:HA	1.91	0.41
54:q:33:LEU:HB3	54:q:41:LYS:HD3	2.01	0.41
61:s:155:SER:OG	61:s:155:SER:O	2.34	0.41
63:x:100:ALA:HB1	63:x:107:GLU:HA	2.02	0.41
1:0:1023:U:H2'	1:0:1024:G:C8	2.55	0.41
7:6:61:ALA:HA	7:6:64:VAL:HG12	2.02	0.41
9:8:50:GLN:HG3	9:8:103:PHE:CZ	2.56	0.41
12:A1:20:LYS:HD3	57:y:94:GLU:HB3	2.03	0.41
1:AA:137:U:H2'	1:AA:138:G:C8	2.52	0.41
2:AB:64:LYS:HD3	2:AB:64:LYS:HA	1.84	0.41
6:AF:51:ILE:HG21	6:AF:85:ILE:HD12	2.02	0.41
21:AR:65:GLU:OE1	21:AR:65:GLU:N	2.38	0.41
25:AV:186:G:H2'	25:AV:187:G:H8	1.84	0.41
25:AV:489:G:N2	25:AV:1320:C:H5''	2.36	0.41
25:AV:594:U:H3	25:AV:663:G:H1	1.68	0.41
25:AV:1038:G:H2'	25:AV:1039:A:C8	2.56	0.41
25:AV:1683:U:H2'	25:AV:1684:G:H8	1.86	0.41
25:AV:1871:A:O2'	25:AV:1872:A:O4'	2.38	0.41
26:AW:23:G:H2'	26:AW:24:G:C8	2.55	0.41
42:Am:71:LYS:HA	42:Am:90:ARG:HG2	2.01	0.41
47:Ar:12:ASN:HA	47:Ar:14:ARG:HH22	1.84	0.41
56:B:270:THR:OG1	56:B:271:GLU:N	2.53	0.41
56:B:791:ASP:O	56:B:794:THR:OG1	2.36	0.41
56:B:1044:LEU:HD23	56:B:1053:ILE:HG12	2.01	0.41
57:D:23:ILE:HD11	57:D:86:VAL:HG22	2.02	0.41
25:N:700:G:O2'	25:N:1632:A:N3	2.49	0.41
25:N:1040:A:OP1	46:i:46:LYS:NZ	2.46	0.41
25:N:1133:A:H4'	25:N:1134:A:H5''	2.03	0.41
25:N:1954:G:O2'	25:N:1956:U:O4	2.34	0.41
25:N:2727:A:O3'	35:X:70:ARG:NH2	2.53	0.41
25:N:2820:A:OP1	38:a:2:ARG:NH1	2.53	0.41
27:P:146:MET:HE1	27:P:154:LEU:HD21	2.03	0.41
28:Q:186:LEU:HD21	40:c:4:ILE:HG21	2.02	0.41
30:S:136:ILE:HD12	30:S:136:ILE:HA	1.83	0.41
34:W:42:ALA:HB2	41:d:68:ALA:HB2	2.02	0.41
37:Z:108:VAL:HB	37:Z:112:LEU:HD23	2.03	0.41
41:d:7:GLY:O	41:d:11:ARG:NH2	2.53	0.41
44:g:61:LEU:HG	44:g:82:LYS:HB3	2.02	0.41
22:u:20:HIS:O	22:u:24:ARG:HG2	2.21	0.41
63:x:97:LYS:HZ1	63:x:123:ILE:HG13	1.85	0.41
57:y:94:GLU:OE1	57:y:94:GLU:N	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:501:C:H2'	1:0:502:A:H8	1.86	0.41
1:0:634:C:H2'	1:0:635:A:C8	2.56	0.41
1:0:1178:G:N2	1:0:1181:G:OP2	2.48	0.41
1:0:1354:U:H2'	1:0:1355:G:H8	1.85	0.41
1:0:1422:G:H4'	35:X:48:PRO:HB3	2.01	0.41
5:4:66:LYS:HA	5:4:66:LYS:HD2	1.88	0.41
6:5:90:MET:HB3	6:5:91:ARG:H	1.55	0.41
10:9:11:LYS:HB3	10:9:11:LYS:HE2	1.81	0.41
1:AA:801:U:H2'	1:AA:802:A:H8	1.85	0.41
1:AA:1004:A:H2'	1:AA:1005:A:C8	2.55	0.41
1:AA:1060:U:H2'	1:AA:1061:G:C8	2.53	0.41
1:AA:1308:U:H2'	1:AA:1309:G:H8	1.84	0.41
1:AA:1313:U:H2'	1:AA:1314:C:H6	1.86	0.41
2:AB:96:TRP:CE2	2:AB:100:MET:SD	3.13	0.41
25:AV:476:G:HO2'	25:AV:502:A:H61	1.67	0.41
25:AV:572:A:OP2	42:Am:80:ARG:NH2	2.50	0.41
25:AV:1021:A:H8	25:AV:1122:G:H4'	1.85	0.41
25:AV:1109:C:H1'	25:AV:1110:G:H5'	2.02	0.41
25:AV:1153:C:OP1	41:Al:92:ARG:NH2	2.54	0.41
25:AV:1178:C:H2'	25:AV:1179:G:C8	2.55	0.41
27:AX:75:PRO:HG2	27:AX:97:LYS:HG3	2.02	0.41
28:AY:8:LYS:O	28:AY:198:GLY:N	2.46	0.41
33:Ad:121:ASP:HB3	33:Ad:124:ALA:HB3	2.03	0.41
35:Af:60:ALA:HA	35:Af:87:LEU:HG	2.02	0.41
43:An:79:GLY:H	43:An:101:SER:HA	1.86	0.41
47:Ar:19:LYS:HD3	47:Ar:19:LYS:N	2.35	0.41
49:At:16:THR:O	49:At:20:ASN:N	2.51	0.41
56:B:963:ASP:OD1	56:B:963:ASP:N	2.52	0.41
56:B:1027:GLU:O	56:B:1062:GLN:NE2	2.51	0.41
20:K:14:THR:HA	20:K:51:TYR:HE2	1.84	0.41
20:K:36:SER:OG	20:K:38:LYS:NZ	2.44	0.41
25:N:580:U:H2'	25:N:581:C:C6	2.56	0.41
25:N:1070:A:O2'	25:N:1097:U:O3'	2.39	0.41
25:N:1201:U:H2'	25:N:1202:G:C8	2.56	0.41
25:N:1406:U:H2'	25:N:1407:G:C8	2.55	0.41
25:N:2707:U:H2'	25:N:2708:G:C8	2.56	0.41
38:a:33:ILE:HD12	38:a:33:ILE:HA	1.97	0.41
47:j:39:ARG:HA	47:j:58:THR:HG22	2.01	0.41
1:0:1301:U:OP2	1:0:1303:C:N4	2.42	0.41
2:1:205:ASP:OD1	2:1:205:ASP:N	2.53	0.41
4:3:107:PHE:HB3	4:3:145:ILE:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:7:43:GLU:HG2	8:7:101:ILE:HD13	2.03	0.41
1:AA:396:C:O2'	1:AA:398:U:OP1	2.32	0.41
1:AA:1015:G:H2'	1:AA:1016:A:C8	2.55	0.41
1:AA:1033:G:H3'	1:AA:1034:G:H8	1.85	0.41
1:AA:1179:A:OP2	9:AI:95:ARG:NH1	2.54	0.41
4:AD:188:ARG:HH22	4:AD:193:ALA:HA	1.85	0.41
5:AE:14:LYS:HA	5:AE:14:LYS:HD2	1.87	0.41
23:AT:2:LYS:N	26:AW:43:C:OP1	2.51	0.41
25:AV:372:G:H1'	25:AV:373:U:H5	1.86	0.41
25:AV:552:U:H2'	25:AV:553:G:C8	2.56	0.41
25:AV:993:G:N3	42:Am:91:GLN:NE2	2.68	0.41
25:AV:1585:C:H3'	25:AV:1586:A:H8	1.85	0.41
25:AV:2230:G:O2'	48:As:30:LEU:O	2.33	0.41
30:Aa:32:GLU:HB3	30:Aa:157:THR:HG22	2.02	0.41
43:An:73:LYS:HB2	43:An:106:VAL:HB	2.02	0.41
44:Ao:6:ARG:HE	44:Ao:6:ARG:HB2	1.60	0.41
49:At:9:LYS:HG3	49:At:11:VAL:H	1.86	0.41
50:Au:17:LEU:H	50:Au:17:LEU:HD12	1.85	0.41
55:Az:18:LYS:HE3	55:Az:18:LYS:HB2	1.91	0.41
56:B:132:ARG:HH12	56:B:590:ARG:HH22	1.67	0.41
57:D:107:ILE:HG13	12:v:12:PHE:HE2	1.85	0.41
58:E:31:ARG:HD2	58:E:79:VAL:CG1	2.51	0.41
59:M:34:U:H2'	59:M:35:G:H8	1.86	0.41
25:N:931:U:O2	25:N:1167:C:O2'	2.30	0.41
25:N:958:U:H2'	26:O:89:U:H1'	2.02	0.41
25:N:1500:G:O2'	27:P:99:GLY:O	2.34	0.41
25:N:1751:U:H2'	25:N:1752:C:C6	2.56	0.41
25:N:2041:U:H2'	25:N:2042:A:C8	2.56	0.41
25:N:2250:G:H21	25:N:2496:C:H4'	1.85	0.41
33:V:53:LEU:HD11	33:V:82:LYS:HZ1	1.85	0.41
43:f:59:GLU:HA	43:f:64:ALA:HA	2.03	0.41
44:g:91:GLN:OE1	44:g:93:LEU:N	2.51	0.41
45:h:72:ILE:HD12	45:h:72:ILE:HA	1.88	0.41
46:i:63:ILE:HD13	46:i:63:ILE:HA	1.88	0.41
57:y:100:LEU:HD12	57:y:100:LEU:HA	1.91	0.41
9:8:8:GLY:O	9:8:19:VAL:HG12	2.21	0.41
13:A3:67:C:H2'	13:A3:68:G:C8	2.55	0.41
1:AA:27:G:H2'	1:AA:28:A:C8	2.55	0.41
1:AA:235:C:H2'	1:AA:236:A:H8	1.85	0.41
1:AA:601:G:H2'	1:AA:602:A:H8	1.86	0.41
3:AC:123:GLN:HB3	3:AC:128:VAL:HB	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:AQ:42:SER:HB3	20:AQ:52:GLN:HG2	2.02	0.41
25:AV:287:G:H2'	25:AV:288:U:C6	2.56	0.41
25:AV:605:G:OP1	29:AZ:99:LYS:NZ	2.52	0.41
25:AV:1440:U:H2'	25:AV:1441:G:C8	2.56	0.41
25:AV:1444:G:H2'	25:AV:1445:G:H8	1.85	0.41
25:AV:1655:A:N9	28:AY:118:PHE:CE2	2.77	0.41
25:AV:1752:C:H2'	25:AV:1753:G:C8	2.56	0.41
25:AV:2578:G:H1'	28:AY:144:GLY:HA2	2.02	0.41
26:AW:39:A:H2'	26:AW:40:U:C6	2.55	0.41
46:AQ:80:HIS:HA	46:AQ:81:PRO:HD3	1.92	0.41
56:B:721:LYS:HE3	56:B:721:LYS:HB3	1.77	0.41
57:D:53:ARG:NH2	57:D:57:LYS:HE3	2.36	0.41
25:N:1:G:H2'	25:N:2:G:C8	2.55	0.41
25:N:948:C:H2'	25:N:949:G:H8	1.85	0.41
25:N:1084:A:H2'	25:N:1085:A:C8	2.54	0.41
25:N:1441:G:H2'	25:N:1442:U:C6	2.55	0.41
25:N:1812:U:H2'	25:N:1813:G:C8	2.56	0.41
25:N:2192:U:H2'	25:N:2193:G:H8	1.85	0.41
26:O:33:G:H2'	26:O:34:A:C8	2.56	0.41
26:O:80:U:H2'	26:O:81:G:H8	1.85	0.41
30:S:175:PHE:HA	30:S:176:PRO:HD3	1.94	0.41
31:T:26:ILE:HG21	31:T:75:MET:HB3	2.03	0.41
47:j:82:ILE:HD13	47:j:82:ILE:HA	1.93	0.41
21:t:43:ASN:OD1	21:t:43:ASN:N	2.47	0.41
1:O:22:G:O2'	1:O:913:A:N1	2.50	0.41
1:O:216:U:H2'	1:O:217:C:C6	2.56	0.41
1:O:308:C:H2'	1:O:309:A:H8	1.86	0.41
1:O:493:A:H2'	1:O:494:G:C4	2.56	0.41
1:O:946:A:H2'	1:O:947:G:C8	2.56	0.41
1:O:1100:C:OP2	2:1:95:ARG:NE	2.54	0.41
2:1:68:LEU:HD13	2:1:151:ILE:HD11	2.03	0.41
3:2:47:LEU:HB3	3:2:50:ALA:HB3	2.03	0.41
8:7:77:ARG:NH2	8:7:79:SER:O	2.54	0.41
9:8:34:SER:OG	9:8:35:LEU:N	2.53	0.41
1:AA:439:U:H4'	4:AD:121:LYS:HG3	2.03	0.41
1:AA:911:U:H2'	1:AA:912:C:C6	2.56	0.41
1:AA:1000:A:N6	1:AA:1041:G:O6	2.54	0.41
1:AA:1175:G:H2'	1:AA:1176:A:C8	2.55	0.41
1:AA:1240:U:C5	7:AG:116:MET:HE3	2.56	0.41
1:AA:1405:G:H2'	1:AA:1406:U:H6	1.86	0.41
2:AB:13:GLY:CA	2:AB:16:PHE:CD2	2.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:81:LEU:HD12	5:AE:81:LEU:H	1.86	0.41
7:AG:25:LYS:O	7:AG:29:ILE:HG22	2.21	0.41
7:AG:65:ALA:HA	7:AG:128:ALA:HA	2.03	0.41
9:AI:90:TYR:HD2	9:AI:94:LEU:HD22	1.86	0.41
10:AJ:11:LYS:HE3	10:AJ:11:LYS:HB3	1.80	0.41
10:AJ:15:HIS:HA	10:AJ:18:ILE:HG22	2.03	0.41
15:AL:10:PRO:HG2	15:AL:45:ILE:HG13	2.01	0.41
17:AN:3:LEU:N	17:AN:35:GLN:OE1	2.53	0.41
20:AQ:38:LYS:HB3	20:AQ:38:LYS:HE3	1.67	0.41
25:AV:599:A:H2'	25:AV:600:G:C8	2.55	0.41
25:AV:629:G:OP1	54:Ay:18:GLY:N	2.54	0.41
25:AV:969:G:H2'	25:AV:970:U:C6	2.55	0.41
25:AV:1187:G:H5''	42:Am:83:TYR:CE2	2.56	0.41
25:AV:2099:U:H3	25:AV:2190:G:H1	1.69	0.41
25:AV:2449:U:O2'	25:AV:2501:C:N4	2.53	0.41
25:AV:2528:U:OP2	25:AV:2530:A:N6	2.54	0.41
25:AV:2623:G:H2'	25:AV:2624:G:H8	1.86	0.41
25:AV:2821:A:H2'	25:AV:2822:G:C8	2.56	0.41
26:AW:29:A:O2'	26:AW:58:A:N1	2.34	0.41
27:AX:166:ALA:HB3	27:AX:173:THR:HB	2.03	0.41
30:Aa:57:LEU:HD23	30:Aa:57:LEU:HA	1.86	0.41
44:Ao:37:ASP:N	44:Ao:37:ASP:OD1	2.54	0.41
56:B:495:GLN:O	56:B:495:GLN:NE2	2.54	0.41
56:B:982:LYS:HD3	56:B:982:LYS:HA	1.88	0.41
56:B:1089:LEU:HB3	56:B:1094:LYS:HD2	2.03	0.41
15:F:77:ILE:HD12	15:F:77:ILE:HA	1.84	0.41
17:H:26:GLU:OE2	17:H:77:ARG:NH1	2.40	0.41
20:K:24:LYS:HE2	20:K:24:LYS:HB2	1.93	0.41
25:N:286:U:H2'	25:N:287:G:H8	1.85	0.41
25:N:974:G:H1'	25:N:975:A:C8	2.56	0.41
25:N:1047:G:OP1	63:x:8:LYS:NZ	2.53	0.41
25:N:1152:C:H2'	25:N:1153:C:H6	1.86	0.41
25:N:1444:G:H2'	25:N:1445:G:H8	1.86	0.41
25:N:1804:C:OP1	27:P:257:THR:OG1	2.38	0.41
25:N:2676:C:O2	25:N:2732:G:N2	2.54	0.41
25:N:2722:G:O2'	38:a:3:HIS:O	2.35	0.41
25:N:2841:C:H2'	25:N:2842:G:C8	2.56	0.41
27:P:235:GLY:HA3	27:P:239:ASN:HB2	2.03	0.41
29:R:22:ASP:OD1	29:R:23:PHE:N	2.48	0.41
31:T:64:GLN:O	31:T:67:THR:OG1	2.39	0.41
32:U:96:THR:OG1	32:U:115:VAL:CB	2.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:W:37:ARG:HD2	34:W:118:MET:HE1	2.03	0.41
46:i:4:ILE:HD13	46:i:4:ILE:HA	1.89	0.41
53:p:30:VAL:O	53:p:34:ARG:HG2	2.21	0.41
63:x:73:LYS:HA	63:x:73:LYS:HD3	1.83	0.41
1:0:128:G:H2'	1:0:129:A:C8	2.56	0.41
1:0:193:C:H2'	1:0:194:C:C6	2.56	0.41
1:0:908:A:H2'	1:0:909:A:H8	1.86	0.41
1:0:1144:G:N2	1:0:1146:A:H62	2.18	0.41
1:0:1147:C:H1'	9:8:18:ARG:HH11	1.86	0.41
1:0:1355:G:H2'	1:0:1356:G:H8	1.86	0.41
3:2:21:THR:OG1	3:2:58:GLU:OE1	2.35	0.41
12:A1:35:ARG:HH22	57:y:119:ASN:HD22	1.69	0.41
13:A3:28:C:H2'	13:A3:29:A:C8	2.56	0.41
1:AA:390:U:H2'	1:AA:391:G:C8	2.56	0.41
1:AA:711:G:H2'	1:AA:712:A:C8	2.54	0.41
1:AA:1255:G:O2'	1:AA:1258:G:N3	2.39	0.41
2:AB:125:THR:HB	2:AB:128:LYS:HD3	2.02	0.41
18:AO:7:ALA:O	18:AO:18:GLN:N	2.54	0.41
25:AV:383:C:H5'	25:AV:384:A:H5''	2.03	0.41
25:AV:948:C:O2	25:AV:984:A:O2'	2.39	0.41
25:AV:1171:G:H2'	25:AV:1172:C:C6	2.56	0.41
25:AV:1438:U:H2'	25:AV:1439:A:C8	2.56	0.41
25:AV:2849:U:H5''	25:AV:2850:A:H5'	2.02	0.41
30:Aa:163:ASP:OD1	30:Aa:163:ASP:N	2.48	0.41
38:Ai:37:THR:HG23	38:Ai:39:PRO:HD2	2.03	0.41
39:Aj:8:ILE:O	39:Aj:12:THR:OG1	2.39	0.41
40:Ak:14:LYS:NZ	40:Ak:78:SER:O	2.42	0.41
40:Ak:22:PRO:HG3	40:Ak:50:ILE:HG23	2.03	0.41
44:Ao:8:LEU:HD13	49:At:21:LEU:HG	2.02	0.41
54:Ay:8:ARG:HA	54:Ay:11:ALA:HB3	2.03	0.41
54:Ay:22:PHE:H	54:Ay:49:MET:HE1	1.86	0.41
55:Az:11:CYS:SG	55:Az:12:ARG:N	2.90	0.41
56:B:91:ARG:HH11	56:B:117:LEU:HG	1.86	0.41
56:B:103:GLY:O	56:B:252:ARG:NH2	2.53	0.41
56:B:140:ASN:HA	56:B:150:PRO:HG3	2.01	0.41
56:B:472:LEU:HB2	56:B:504:ARG:HD3	2.02	0.41
58:E:83:ARG:HD2	58:E:96:HIS:HB2	2.03	0.41
15:F:48:LEU:HD11	15:F:52:GLN:HB3	2.02	0.41
20:K:11:CYS:HB2	20:K:47:THR:HA	2.02	0.41
20:K:68:LEU:HD23	20:K:68:LEU:HA	1.87	0.41
25:N:322:A:H5'	29:R:162:ARG:HH11	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:N:358:U:H2'	25:N:359:G:C8	2.56	0.41
25:N:572:A:OP2	42:e:80:ARG:NH1	2.38	0.41
25:N:680:C:H2'	25:N:681:G:C8	2.56	0.41
25:N:770:G:O3'	53:p:14:ARG:NH2	2.54	0.41
25:N:1405:U:H2'	25:N:1406:U:C6	2.56	0.41
25:N:1426:G:O2'	25:N:1572:A:N6	2.53	0.41
25:N:2691:C:H2'	25:N:2692:G:H8	1.86	0.41
30:S:42:GLU:OE1	30:S:42:GLU:N	2.40	0.41
32:U:5:LEU:HA	32:U:36:ALA:HA	2.03	0.41
60:n:38:HIS:CG	60:n:44:THR:HG22	2.56	0.41
52:o:36:LEU:HD23	52:o:36:LEU:HA	1.96	0.41
1:0:17:U:H2'	1:0:18:C:C6	2.56	0.40
1:0:505:G:H2'	1:0:506:G:H8	1.86	0.40
1:0:625:U:H2'	1:0:626:G:H8	1.87	0.40
1:AA:505:G:H2'	1:AA:506:G:H8	1.85	0.40
7:AG:46:ALA:HB1	7:AG:120:LEU:HD22	2.03	0.40
14:AK:53:ARG:CZ	14:AK:167:LYS:HG2	2.42	0.40
16:AM:23:LYS:HG3	16:AM:24:ARG:HD2	2.04	0.40
21:AR:19:VAL:O	21:AR:23:VAL:HG12	2.22	0.40
25:AV:355:U:H2'	25:AV:356:G:H8	1.86	0.40
25:AV:481:G:OP2	45:Ap:45:HIS:N	2.51	0.40
25:AV:857:G:H22	25:AV:920:A:H2	1.69	0.40
25:AV:1418:G:N2	25:AV:1579:A:N7	2.68	0.40
31:Ab:139:GLN:O	31:Ab:143:GLN:HG2	2.22	0.40
56:B:132:ARG:O	56:B:136:ARG:N	2.46	0.40
23:L:41:HIS:CD2	30:S:109:PRO:HB3	2.56	0.40
37:Z:33:LEU:HD11	37:Z:128:THR:HB	2.03	0.40
22:u:22:ALA:O	22:u:26:SER:OG	2.37	0.40
1:0:575:G:H4'	1:0:576:C:H5''	2.03	0.40
1:0:693:G:O2'	7:6:82:GLY:N	2.54	0.40
1:0:1354:U:H2'	1:0:1355:G:C8	2.55	0.40
4:3:185:LYS:HE3	4:3:185:LYS:HB3	1.95	0.40
1:AA:10:A:OP2	5:AE:131:THR:OG1	2.26	0.40
1:AA:116:A:H61	1:AA:313:A:H1'	1.85	0.40
1:AA:392:C:H5'	18:AO:12:LYS:NZ	2.36	0.40
1:AA:450:G:H21	18:AO:13:LYS:NZ	2.19	0.40
1:AA:562:U:H5''	1:AA:563:A:C5	2.57	0.40
1:AA:1249:C:O2'	9:AI:70:GLY:O	2.35	0.40
1:AA:1347:G:H2'	9:AI:109:ARG:HB3	2.03	0.40
1:AA:1420:U:H2'	1:AA:1421:G:C8	2.55	0.40
25:AV:181:A:H2'	25:AV:182:A:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:AV:289:G:H2'	25:AV:290:U:O4'	2.22	0.40
25:AV:828:U:H4'	25:AV:831:G:N1	2.37	0.40
25:AV:852:U:H2'	25:AV:853:C:C6	2.55	0.40
25:AV:1794:A:H2'	25:AV:1795:C:H6	1.85	0.40
25:AV:2109:U:H2'	25:AV:2110:G:C2	2.56	0.40
25:AV:2820:A:C6	28:AY:197:THR:HB	2.56	0.40
25:AV:2820:A:N3	38:AI:4:ARG:HD2	2.36	0.40
25:AV:2884:U:H2'	25:AV:2885:G:C8	2.56	0.40
28:AY:84:LEU:HD22	28:AY:88:GLU:HB2	2.03	0.40
29:AZ:150:THR:OG1	29:AZ:152:GLU:O	2.34	0.40
32:Ac:28:ASN:OD1	32:Ac:28:ASN:N	2.55	0.40
55:Az:24:ARG:HH12	55:Az:36:ARG:HE	1.68	0.40
56:B:1119:LYS:HZ2	56:B:1203:PHE:HB2	1.86	0.40
14:C:23:ILE:H	14:C:23:ILE:HG13	1.69	0.40
25:N:18:U:H2'	25:N:19:A:C8	2.56	0.40
25:N:212:G:H2'	25:N:213:A:C8	2.56	0.40
25:N:475:C:N3	25:N:479:A:N7	2.69	0.40
25:N:1259:G:H2'	25:N:1260:A:H8	1.86	0.40
25:N:1376:C:H2'	25:N:1377:G:C8	2.57	0.40
25:N:2243:U:H2'	25:N:2244:U:C6	2.57	0.40
25:N:2291:U:OP1	25:N:2380:C:O2'	2.38	0.40
25:N:2369:A:H2'	25:N:2370:G:C8	2.57	0.40
25:N:2626:C:H2'	25:N:2627:G:C8	2.56	0.40
26:O:48:U:H2'	26:O:49:C:C6	2.57	0.40
33:V:11:LEU:HD23	33:V:12:GLN:H	1.85	0.40
33:V:53:LEU:HD13	33:V:74:PRO:HG2	2.03	0.40
33:V:118:THR:HG21	63:x:35:VAL:HG22	2.03	0.40
34:W:73:VAL:HA	34:W:88:THR:HA	2.03	0.40
46:i:55:GLU:OE1	46:i:55:GLU:N	2.43	0.40
49:l:5:GLU:HB2	49:l:56:LEU:HD12	2.04	0.40
12:v:53:VAL:O	12:v:57:ALA:N	2.45	0.40
57:y:20:VAL:HG13	57:y:35:THR:HG23	2.02	0.40
1:0:102:G:H2'	1:0:103:U:C6	2.57	0.40
1:0:1059:C:O3'	16:G:85:ARG:NH1	2.48	0.40
1:0:1169:A:H2'	1:0:1170:A:C8	2.56	0.40
9:8:45:ARG:O	9:8:48:VAL:HG22	2.21	0.40
1:AA:143:A:H5'	1:AA:144:G:C8	2.55	0.40
1:AA:419:C:OP1	1:AA:513:C:O2'	2.38	0.40
1:AA:945:G:O6	1:AA:1236:A:N1	2.55	0.40
2:AB:205:ASP:OD1	2:AB:205:ASP:N	2.54	0.40
7:AG:140:ASP:O	7:AG:144:MET:HG3	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:11:LEU:H	8:AH:11:LEU:HD12	1.86	0.40
8:AH:105:SER:HB3	8:AH:124:GLU:HB2	2.03	0.40
25:AV:191:A:H2'	25:AV:192:C:C6	2.56	0.40
25:AV:417:C:H2'	25:AV:418:C:C6	2.55	0.40
25:AV:721:A:H2'	25:AV:722:A:C8	2.56	0.40
25:AV:1059:G:C8	25:AV:1060:U:H2'	2.56	0.40
25:AV:1548:A:H2'	25:AV:1549:A:C8	2.56	0.40
25:AV:1734:G:H2'	25:AV:1735:A:C8	2.56	0.40
25:AV:1849:G:H2'	25:AV:1850:G:C8	2.56	0.40
28:AY:45:TYR:HE1	28:AY:47:ALA:HB3	1.85	0.40
37:Ah:42:THR:HG22	37:Ah:93:VAL:HG23	2.03	0.40
40:Ak:64:ILE:HD13	40:Ak:64:ILE:HA	1.97	0.40
41:Al:80:ILE:HA	41:Al:83:LEU:HG	2.03	0.40
44:Ao:10:VAL:HG21	44:Ao:42:GLU:HB2	2.03	0.40
44:Ao:33:LYS:HB2	44:Ao:33:LYS:HE3	1.97	0.40
56:B:1071:ARG:HH22	56:B:1199:THR:HG23	1.86	0.40
15:F:42:ASP:OD1	15:F:42:ASP:N	2.37	0.40
25:N:219:A:N3	25:N:234:U:O2'	2.42	0.40
25:N:306:U:H2'	25:N:307:G:O4'	2.21	0.40
25:N:366:C:H2'	25:N:367:G:H8	1.86	0.40
25:N:397:U:H5''	48:k:32:ASN:HB2	2.03	0.40
25:N:558:U:H2'	25:N:559:G:C8	2.56	0.40
25:N:598:U:H2'	25:N:599:A:H8	1.84	0.40
25:N:975:A:N6	25:N:989:G:H1'	2.36	0.40
25:N:989:G:OP2	50:m:12:SER:OG	2.34	0.40
25:N:1440:U:H2'	25:N:1441:G:H8	1.86	0.40
25:N:2087:G:H2'	25:N:2088:A:C8	2.56	0.40
25:N:2109:U:HO2'	25:N:2180:U:H3	1.62	0.40
25:N:2183:A:H2'	25:N:2184:A:C8	2.55	0.40
26:O:93:C:H2'	26:O:94:A:H8	1.85	0.40
30:S:118:SER:O	30:S:128:TYR:OH	2.26	0.40
46:i:7:GLU:OE1	46:i:7:GLU:N	2.53	0.40
22:u:44:LYS:HD3	22:u:87:ALA:HA	2.03	0.40
1:0:20:U:H2'	1:0:21:G:O4'	2.21	0.40
1:0:322:C:O2	1:0:332:G:N2	2.55	0.40
1:0:508:U:H1'	1:0:509:A:N7	2.36	0.40
1:0:1429:A:H2'	1:0:1430:A:H8	1.86	0.40
2:1:50:PHE:HA	2:1:200:ILE:HD12	2.03	0.40
2:1:95:ARG:NH2	2:1:97:LEU:HD23	2.35	0.40
4:3:76:TYR:O	4:3:80:ALA:N	2.47	0.40
4:3:77:LYS:H	4:3:77:LYS:HG2	1.66	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:5:73:GLU:O	6:5:77:THR:OG1	2.32	0.40
10:9:87:LEU:HB3	10:9:88:MET:HE2	2.04	0.40
13:A3:23:G:H2'	13:A3:24:A:C8	2.51	0.40
1:AA:350:G:H2'	1:AA:351:G:C8	2.56	0.40
1:AA:458:U:O2	1:AA:474:G:N2	2.41	0.40
1:AA:658:C:H1'	17:AN:22:THR:HG21	2.03	0.40
1:AA:1162:C:H2'	1:AA:1163:A:C8	2.57	0.40
19:AP:28:PHE:CZ	19:AP:37:PHE:CB	3.03	0.40
25:AV:753:A:H2'	25:AV:754:U:C6	2.57	0.40
25:AV:1429:G:H2'	25:AV:1430:G:C8	2.52	0.40
25:AV:1482:G:H2'	25:AV:1483:G:C8	2.54	0.40
25:AV:1794:A:H2'	25:AV:1795:C:C6	2.56	0.40
29:AZ:170:ARG:HD2	29:AZ:170:ARG:HA	2.00	0.40
34:Ae:37:ARG:NH2	34:Ae:44:TYR:OH	2.52	0.40
56:B:398:GLY:O	56:B:402:ARG:NH2	2.55	0.40
17:H:88:ARG:HA	17:H:88:ARG:HD2	1.76	0.40
20:K:50:LYS:HG2	20:K:51:TYR:CD1	2.56	0.40
59:M:1:U:H2'	59:M:2:G:C8	2.56	0.40
25:N:95:A:H2'	25:N:96:C:O4'	2.22	0.40
25:N:860:U:H2'	25:N:861:A:H8	1.86	0.40
25:N:1009:A:OP2	34:W:39:LYS:NZ	2.51	0.40
25:N:1062:G:H2'	25:N:1063:G:H8	1.86	0.40
25:N:1201:U:H2'	25:N:1202:G:H8	1.86	0.40
25:N:1418:G:N1	25:N:1579:A:OP2	2.49	0.40
25:N:1529:G:O6	25:N:1542:U:O2	2.40	0.40
25:N:1683:U:H2'	25:N:1684:G:H8	1.86	0.40
25:N:2705:A:O2'	25:N:2852:G:OP1	2.33	0.40
27:P:205:LEU:HB3	27:P:210:ALA:HB3	2.02	0.40
29:R:146:VAL:HG22	29:R:185:LYS:HB2	2.03	0.40
33:V:66:SER:OG	33:V:67:PHE:N	2.54	0.40
33:V:87:LYS:HA	33:V:87:LYS:HD2	1.93	0.40
35:X:15:GLY:HA2	35:X:47:ILE:HD11	2.04	0.40
43:f:84:ARG:HD3	43:f:84:ARG:HA	1.83	0.40
22:u:21:ASN:O	22:u:25:ARG:N	2.41	0.40
1:0:600:A:H2'	1:0:601:G:C8	2.57	0.40
1:0:977:A:P	16:G:61:ARG:HH12	2.41	0.40
1:0:1243:C:H2'	1:0:1244:G:C8	2.57	0.40
6:5:5:GLU:OE2	6:5:63:ASN:ND2	2.50	0.40
11:A:53:G:H5'	37:Z:55:ARG:NH1	2.37	0.40
1:AA:151:A:N7	1:AA:170:U:O2	2.55	0.40
1:AA:666:G:H5'	1:AA:726:C:H1'	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:745:G:H2'	1:AA:746:A:C8	2.56	0.40
1:AA:824:G:H2'	1:AA:825:A:C8	2.56	0.40
1:AA:1268:G:H2'	1:AA:1269:A:C8	2.56	0.40
1:AA:1454:G:H2'	1:AA:1455:G:H8	1.85	0.40
3:AC:25:ASN:O	3:AC:29:PHE:N	2.54	0.40
4:AD:78:GLU:OE2	4:AD:81:ARG:NH2	2.51	0.40
5:AE:97:GLN:H	5:AE:123:VAL:HG23	1.85	0.40
9:AI:30:ILE:HD11	9:AI:67:VAL:HG12	2.03	0.40
16:AM:6:MET:O	16:AM:10:GLU:N	2.46	0.40
16:AM:66:GLN:HG3	16:AM:79:LEU:HD13	2.03	0.40
18:AO:18:GLN:HE22	18:AO:35:ARG:NH2	2.19	0.40
25:AV:429:A:H2'	25:AV:430:A:C8	2.57	0.40
25:AV:1365:A:O5'	48:As:28:ARG:NH1	2.51	0.40
25:AV:1862:G:N2	25:AV:1880:U:O2	2.39	0.40
25:AV:2094:A:H2'	25:AV:2095:A:C8	2.56	0.40
25:AV:2096:C:H2'	25:AV:2097:A:C8	2.54	0.40
25:AV:2317:A:H62	25:AV:2318:G:H21	1.70	0.40
25:AV:2841:C:H2'	25:AV:2842:G:H8	1.86	0.40
25:AV:2896:C:H2'	25:AV:2897:U:C6	2.56	0.40
32:Ac:12:LEU:HD13	32:Ac:19:VAL:HG21	2.04	0.40
38:AI:82:GLU:OE2	38:AI:86:ARG:NE	2.51	0.40
42:Am:24:LYS:HD3	42:Am:92:TRP:HB3	2.03	0.40
56:B:1252:PRO:HA	56:B:1253:PRO:HD3	1.93	0.40
25:N:414:C:H2'	25:N:415:A:H8	1.87	0.40
25:N:729:G:H5'	25:N:730:A:H5''	2.04	0.40
25:N:929:U:H2'	25:N:930:G:C8	2.55	0.40
25:N:1406:U:H2'	25:N:1407:G:H8	1.86	0.40
26:O:70:C:H2'	26:O:71:C:H6	1.87	0.40
32:U:24:GLY:O	32:U:28:ASN:ND2	2.50	0.40
38:a:29:VAL:HG22	38:a:78:LYS:HG2	2.03	0.40
44:g:8:LEU:C	44:g:10:VAL:H	2.30	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	1	216/241 (90%)	203 (94%)	13 (6%)	0	100	100
2	AB	216/241 (90%)	203 (94%)	13 (6%)	0	100	100
3	2	204/233 (88%)	197 (97%)	7 (3%)	0	100	100
3	AC	204/233 (88%)	198 (97%)	6 (3%)	0	100	100
4	3	203/206 (98%)	195 (96%)	8 (4%)	0	100	100
4	AD	203/206 (98%)	191 (94%)	12 (6%)	0	100	100
5	4	148/167 (89%)	139 (94%)	9 (6%)	0	100	100
5	AE	148/167 (89%)	135 (91%)	12 (8%)	1 (1%)	18	49
6	5	98/135 (73%)	90 (92%)	8 (8%)	0	100	100
6	AF	98/135 (73%)	94 (96%)	4 (4%)	0	100	100
7	6	149/179 (83%)	145 (97%)	4 (3%)	0	100	100
7	AG	149/179 (83%)	142 (95%)	7 (5%)	0	100	100
8	7	127/130 (98%)	123 (97%)	4 (3%)	0	100	100
8	AH	127/130 (98%)	123 (97%)	3 (2%)	1 (1%)	16	47
9	8	125/130 (96%)	113 (90%)	11 (9%)	1 (1%)	16	47
9	AI	125/130 (96%)	118 (94%)	7 (6%)	0	100	100
10	9	96/103 (93%)	86 (90%)	9 (9%)	1 (1%)	12	41
10	AJ	96/103 (93%)	83 (86%)	13 (14%)	0	100	100
12	A1	64/71 (90%)	64 (100%)	0	0	100	100
12	v	68/71 (96%)	66 (97%)	2 (3%)	0	100	100
14	AK	130/234 (56%)	126 (97%)	4 (3%)	0	100	100
14	C	130/234 (56%)	129 (99%)	1 (1%)	0	100	100
15	AL	112/118 (95%)	103 (92%)	9 (8%)	0	100	100
15	F	112/118 (95%)	108 (96%)	4 (4%)	0	100	100
16	AM	92/101 (91%)	79 (86%)	13 (14%)	0	100	100
16	G	96/101 (95%)	87 (91%)	8 (8%)	1 (1%)	12	41
17	AN	86/89 (97%)	85 (99%)	1 (1%)	0	100	100
17	H	85/89 (96%)	83 (98%)	2 (2%)	0	100	100
18	AO	80/82 (98%)	74 (92%)	6 (8%)	0	100	100
18	I	80/82 (98%)	73 (91%)	7 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	AP	78/84 (93%)	68 (87%)	10 (13%)	0	100	100
19	J	78/84 (93%)	74 (95%)	4 (5%)	0	100	100
20	AQ	64/75 (85%)	58 (91%)	6 (9%)	0	100	100
20	K	63/75 (84%)	62 (98%)	1 (2%)	0	100	100
21	AR	73/92 (79%)	69 (94%)	4 (6%)	0	100	100
21	t	75/92 (82%)	70 (93%)	5 (7%)	0	100	100
22	AS	83/87 (95%)	80 (96%)	3 (4%)	0	100	100
22	u	83/87 (95%)	82 (99%)	1 (1%)	0	100	100
23	AT	56/70 (80%)	52 (93%)	4 (7%)	0	100	100
23	L	58/70 (83%)	54 (93%)	4 (7%)	0	100	100
27	AX	269/273 (98%)	255 (95%)	14 (5%)	0	100	100
27	P	269/273 (98%)	256 (95%)	13 (5%)	0	100	100
28	AY	207/209 (99%)	190 (92%)	17 (8%)	0	100	100
28	Q	207/209 (99%)	199 (96%)	8 (4%)	0	100	100
29	AZ	199/201 (99%)	194 (98%)	5 (2%)	0	100	100
29	R	199/201 (99%)	193 (97%)	6 (3%)	0	100	100
30	Aa	175/179 (98%)	168 (96%)	7 (4%)	0	100	100
30	S	175/179 (98%)	162 (93%)	13 (7%)	0	100	100
31	Ab	174/177 (98%)	167 (96%)	7 (4%)	0	100	100
31	T	173/177 (98%)	167 (96%)	6 (4%)	0	100	100
32	Ac	147/149 (99%)	133 (90%)	14 (10%)	0	100	100
32	U	147/149 (99%)	136 (92%)	11 (8%)	0	100	100
33	Ad	139/142 (98%)	120 (86%)	18 (13%)	1 (1%)	18	49
33	V	132/142 (93%)	119 (90%)	13 (10%)	0	100	100
34	Ae	140/142 (99%)	132 (94%)	8 (6%)	0	100	100
34	W	140/142 (99%)	137 (98%)	3 (2%)	0	100	100
35	Af	120/123 (98%)	118 (98%)	2 (2%)	0	100	100
35	X	120/123 (98%)	114 (95%)	6 (5%)	0	100	100
36	Ag	140/144 (97%)	134 (96%)	6 (4%)	0	100	100
36	Y	141/144 (98%)	133 (94%)	8 (6%)	0	100	100
37	Ah	134/136 (98%)	129 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
37	Z	134/136 (98%)	132 (98%)	2 (2%)	0	100	100
38	Ai	116/127 (91%)	112 (97%)	4 (3%)	0	100	100
38	a	117/127 (92%)	111 (95%)	6 (5%)	0	100	100
39	Aj	114/117 (97%)	113 (99%)	1 (1%)	0	100	100
39	b	114/117 (97%)	110 (96%)	4 (4%)	0	100	100
40	Ak	112/115 (97%)	106 (95%)	6 (5%)	0	100	100
40	c	112/115 (97%)	109 (97%)	3 (3%)	0	100	100
41	Al	115/118 (98%)	113 (98%)	2 (2%)	0	100	100
41	d	115/118 (98%)	115 (100%)	0	0	100	100
42	Am	101/103 (98%)	96 (95%)	5 (5%)	0	100	100
42	e	101/103 (98%)	97 (96%)	4 (4%)	0	100	100
43	An	108/110 (98%)	103 (95%)	5 (5%)	0	100	100
43	f	108/110 (98%)	106 (98%)	2 (2%)	0	100	100
44	Ao	91/100 (91%)	89 (98%)	2 (2%)	0	100	100
44	g	91/100 (91%)	83 (91%)	8 (9%)	0	100	100
45	Ap	100/104 (96%)	92 (92%)	8 (8%)	0	100	100
45	h	100/104 (96%)	93 (93%)	7 (7%)	0	100	100
46	Aq	92/94 (98%)	88 (96%)	3 (3%)	1 (1%)	11	39
46	i	92/94 (98%)	88 (96%)	4 (4%)	0	100	100
47	Ar	73/85 (86%)	69 (94%)	4 (6%)	0	100	100
47	j	73/85 (86%)	72 (99%)	1 (1%)	0	100	100
48	As	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
48	k	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
49	At	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
49	l	61/63 (97%)	57 (93%)	4 (7%)	0	100	100
50	Au	54/59 (92%)	50 (93%)	4 (7%)	0	100	100
50	m	56/59 (95%)	55 (98%)	1 (2%)	0	100	100
51	Av	54/57 (95%)	50 (93%)	4 (7%)	0	100	100
52	Aw	48/55 (87%)	47 (98%)	1 (2%)	0	100	100
52	o	48/55 (87%)	45 (94%)	3 (6%)	0	100	100
53	Ax	44/46 (96%)	42 (96%)	2 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
53	p	44/46 (96%)	43 (98%)	1 (2%)	0	100	100
54	Ay	62/65 (95%)	61 (98%)	1 (2%)	0	100	100
54	q	62/65 (95%)	60 (97%)	1 (2%)	1 (2%)	7	30
55	Az	36/38 (95%)	29 (81%)	7 (19%)	0	100	100
55	r	36/38 (95%)	35 (97%)	1 (3%)	0	100	100
56	B	1291/1326 (97%)	1247 (97%)	44 (3%)	0	100	100
57	D	115/129 (89%)	107 (93%)	8 (7%)	0	100	100
57	y	115/129 (89%)	104 (90%)	11 (10%)	0	100	100
58	E	121/124 (98%)	109 (90%)	12 (10%)	0	100	100
58	z	121/124 (98%)	115 (95%)	6 (5%)	0	100	100
60	n	52/56 (93%)	49 (94%)	3 (6%)	0	100	100
61	s	35/179 (20%)	33 (94%)	2 (6%)	0	100	100
63	x	125/165 (76%)	118 (94%)	7 (6%)	0	100	100
All	All	13095/14247 (92%)	12440 (95%)	647 (5%)	8 (0%)	49	78

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
33	Ad	47	ASP
9	8	39	PHE
5	AE	90	THR
8	AH	66	PHE
16	G	33	ASP
46	Aq	84	PRO
10	9	57	VAL
54	q	32	ILE

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%)	175 (97%)	5 (3%)	38	66
2	AB	180/199 (90%)	173 (96%)	7 (4%)	28	60
3	2	170/190 (90%)	163 (96%)	7 (4%)	27	59
3	AC	170/190 (90%)	165 (97%)	5 (3%)	37	66
4	3	172/173 (99%)	166 (96%)	6 (4%)	32	62
4	AD	172/173 (99%)	166 (96%)	6 (4%)	32	62
5	4	113/126 (90%)	107 (95%)	6 (5%)	20	51
5	AE	113/126 (90%)	107 (95%)	6 (5%)	20	51
6	5	87/116 (75%)	84 (97%)	3 (3%)	32	63
6	AF	87/116 (75%)	83 (95%)	4 (5%)	24	55
7	6	124/147 (84%)	118 (95%)	6 (5%)	23	54
7	AG	124/147 (84%)	123 (99%)	1 (1%)	73	81
8	7	104/105 (99%)	99 (95%)	5 (5%)	23	54
8	AH	104/105 (99%)	98 (94%)	6 (6%)	18	48
9	8	105/107 (98%)	100 (95%)	5 (5%)	23	54
9	AI	105/107 (98%)	102 (97%)	3 (3%)	37	66
10	9	86/90 (96%)	78 (91%)	8 (9%)	8	31
10	AJ	86/90 (96%)	81 (94%)	5 (6%)	18	48
12	A1	56/61 (92%)	55 (98%)	1 (2%)	51	73
12	v	60/61 (98%)	57 (95%)	3 (5%)	22	53
14	AK	110/181 (61%)	103 (94%)	7 (6%)	16	44
14	C	110/181 (61%)	105 (96%)	5 (4%)	24	56
15	AL	92/96 (96%)	88 (96%)	4 (4%)	26	57
15	F	92/96 (96%)	88 (96%)	4 (4%)	26	57
16	AM	79/84 (94%)	74 (94%)	5 (6%)	16	45
16	G	82/84 (98%)	82 (100%)	0	100	100
17	AN	76/77 (99%)	74 (97%)	2 (3%)	40	68
17	H	75/77 (97%)	74 (99%)	1 (1%)	61	77
18	AO	65/65 (100%)	62 (95%)	3 (5%)	24	55
18	I	65/65 (100%)	62 (95%)	3 (5%)	24	55
19	AP	74/78 (95%)	72 (97%)	2 (3%)	39	67
19	J	74/78 (95%)	73 (99%)	1 (1%)	59	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	AQ	57/65 (88%)	55 (96%)	2 (4%)	32	62
20	K	56/65 (86%)	55 (98%)	1 (2%)	51	73
21	AR	66/79 (84%)	62 (94%)	4 (6%)	17	46
21	t	68/79 (86%)	64 (94%)	4 (6%)	18	48
22	AS	65/66 (98%)	61 (94%)	4 (6%)	16	46
22	u	65/66 (98%)	62 (95%)	3 (5%)	24	55
23	AT	55/62 (89%)	53 (96%)	2 (4%)	31	62
23	L	57/62 (92%)	55 (96%)	2 (4%)	32	62
27	AX	216/218 (99%)	211 (98%)	5 (2%)	44	70
27	P	216/218 (99%)	210 (97%)	6 (3%)	38	66
28	AY	164/164 (100%)	159 (97%)	5 (3%)	36	65
28	Q	164/164 (100%)	159 (97%)	5 (3%)	36	65
29	AZ	165/165 (100%)	159 (96%)	6 (4%)	31	62
29	R	165/165 (100%)	160 (97%)	5 (3%)	36	65
30	Aa	148/150 (99%)	146 (99%)	2 (1%)	59	76
30	S	148/150 (99%)	139 (94%)	9 (6%)	17	46
31	Ab	137/138 (99%)	131 (96%)	6 (4%)	25	56
31	T	136/138 (99%)	132 (97%)	4 (3%)	37	66
32	Ac	114/114 (100%)	109 (96%)	5 (4%)	25	56
32	U	114/114 (100%)	107 (94%)	7 (6%)	17	46
33	Ad	109/110 (99%)	106 (97%)	3 (3%)	38	66
33	V	104/110 (94%)	102 (98%)	2 (2%)	50	73
34	Ae	116/116 (100%)	114 (98%)	2 (2%)	53	74
34	W	116/116 (100%)	114 (98%)	2 (2%)	53	74
35	Af	103/104 (99%)	97 (94%)	6 (6%)	18	48
35	X	103/104 (99%)	100 (97%)	3 (3%)	37	66
36	Ag	101/103 (98%)	96 (95%)	5 (5%)	22	53
36	Y	102/103 (99%)	96 (94%)	6 (6%)	18	48
37	Ah	109/109 (100%)	104 (95%)	5 (5%)	24	55
37	Z	109/109 (100%)	104 (95%)	5 (5%)	24	55
38	Ai	98/103 (95%)	95 (97%)	3 (3%)	35	64

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	a	99/103 (96%)	96 (97%)	3 (3%)	36	65
39	Aj	86/87 (99%)	81 (94%)	5 (6%)	18	48
39	b	86/87 (99%)	78 (91%)	8 (9%)	8	31
40	Ak	99/100 (99%)	96 (97%)	3 (3%)	36	65
40	c	99/100 (99%)	98 (99%)	1 (1%)	68	79
41	Al	89/90 (99%)	86 (97%)	3 (3%)	32	63
41	d	89/90 (99%)	87 (98%)	2 (2%)	45	71
42	Am	84/84 (100%)	84 (100%)	0	100	100
42	e	84/84 (100%)	80 (95%)	4 (5%)	23	54
43	An	93/93 (100%)	91 (98%)	2 (2%)	45	71
43	f	93/93 (100%)	90 (97%)	3 (3%)	34	64
44	Ao	80/84 (95%)	79 (99%)	1 (1%)	61	77
44	g	80/84 (95%)	76 (95%)	4 (5%)	22	53
45	Ap	83/85 (98%)	82 (99%)	1 (1%)	63	78
45	h	83/85 (98%)	81 (98%)	2 (2%)	43	69
46	Aq	78/78 (100%)	75 (96%)	3 (4%)	29	60
46	i	78/78 (100%)	75 (96%)	3 (4%)	29	60
47	Ar	57/63 (90%)	55 (96%)	2 (4%)	32	62
47	j	57/63 (90%)	54 (95%)	3 (5%)	20	51
48	As	67/68 (98%)	63 (94%)	4 (6%)	17	47
48	k	67/68 (98%)	61 (91%)	6 (9%)	9	33
49	At	55/55 (100%)	52 (94%)	3 (6%)	19	50
49	l	55/55 (100%)	53 (96%)	2 (4%)	31	62
50	Au	47/49 (96%)	44 (94%)	3 (6%)	16	44
50	m	48/49 (98%)	48 (100%)	0	100	100
51	Av	47/48 (98%)	47 (100%)	0	100	100
52	Aw	45/49 (92%)	44 (98%)	1 (2%)	45	71
52	o	45/49 (92%)	45 (100%)	0	100	100
53	Ax	38/38 (100%)	36 (95%)	2 (5%)	20	51
53	p	38/38 (100%)	38 (100%)	0	100	100
54	Ay	51/52 (98%)	51 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
54	q	51/52 (98%)	49 (96%)	2 (4%)	28	60
55	Az	34/34 (100%)	33 (97%)	1 (3%)	37	66
55	r	34/34 (100%)	32 (94%)	2 (6%)	18	48
56	B	1130/1158 (98%)	1096 (97%)	34 (3%)	36	65
57	D	90/99 (91%)	84 (93%)	6 (7%)	15	43
57	y	90/99 (91%)	85 (94%)	5 (6%)	19	49
58	E	103/104 (99%)	100 (97%)	3 (3%)	37	66
58	z	103/104 (99%)	94 (91%)	9 (9%)	9	34
60	n	46/47 (98%)	43 (94%)	3 (6%)	15	44
61	s	34/158 (22%)	32 (94%)	2 (6%)	18	48
63	x	96/123 (78%)	96 (100%)	0	100	100
All	All	10949/11680 (94%)	10544 (96%)	405 (4%)	31	61

All (405) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	1	92	VAL
2	1	110	SER
2	1	138	THR
2	1	151	ILE
2	1	192	ASP
3	2	27	LYS
3	2	67	THR
3	2	70	THR
3	2	76	VAL
3	2	116	VAL
3	2	121	THR
3	2	200	VAL
4	3	34	ILE
4	3	35	GLU
4	3	93	LEU
4	3	94	LEU
4	3	129	VAL
4	3	140	ASN
5	4	11	LEU
5	4	76	LEU
5	4	78	ASN
5	4	117	VAL

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Mol	Chain	Res	Type
5	4	120	VAL
5	4	149	SER
6	5	36	ILE
6	5	39	LEU
6	5	75	GLU
7	6	7	ILE
7	6	12	ILE
7	6	23	LEU
7	6	75	VAL
7	6	118	LEU
7	6	135	VAL
8	7	32	LEU
8	7	54	ASP
8	7	61	LEU
8	7	104	VAL
8	7	110	VAL
9	8	30	ILE
9	8	63	LEU
9	8	87	LEU
9	8	116	VAL
9	8	120	LYS
10	9	26	VAL
10	9	57	VAL
10	9	63	ASP
10	9	65	TYR
10	9	71	LEU
10	9	80	THR
10	9	92	LEU
10	9	96	VAL
12	A1	16	LEU
2	AB	43	LEU
2	AB	90	PHE
2	AB	107	VAL
2	AB	127	ASP
2	AB	141	LEU
2	AB	151	ILE
2	AB	186	ILE
3	AC	31	ASP
3	AC	87	LEU
3	AC	115	LEU
3	AC	139	GLN
3	AC	153	VAL

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Mol	Chain	Res	Type
4	AD	3	ARG
4	AD	74	ASN
4	AD	117	LEU
4	AD	161	LEU
4	AD	190	ASP
4	AD	191	LEU
5	AE	15	LEU
5	AE	18	VAL
5	AE	114	VAL
5	AE	115	LEU
5	AE	122	ASN
5	AE	123	VAL
6	AF	7	VAL
6	AF	72	ASP
6	AF	82	ASP
6	AF	98	GLU
7	AG	91	VAL
8	AH	12	THR
8	AH	55	THR
8	AH	103	VAL
8	AH	104	VAL
8	AH	112	THR
8	AH	124	GLU
9	AI	14	SER
9	AI	30	ILE
9	AI	129	LYS
10	AJ	26	VAL
10	AJ	36	VAL
10	AJ	69	THR
10	AJ	71	LEU
10	AJ	92	LEU
14	AK	39	VAL
14	AK	42	VAL
14	AK	60	ARG
14	AK	161	VAL
14	AK	188	ASN
14	AK	208	TYR
14	AK	216	THR
15	AL	25	VAL
15	AL	31	LYS
15	AL	34	LEU
15	AL	83	LEU

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Mol	Chain	Res	Type
16	AM	11	VAL
16	AM	16	LEU
16	AM	28	LYS
16	AM	34	VAL
16	AM	74	LEU
17	AN	22	THR
17	AN	48	LYS
18	AO	2	VAL
18	AO	14	ARG
18	AO	19	VAL
19	AP	38	ILE
19	AP	68	SER
20	AQ	31	ASN
20	AQ	59	ILE
21	AR	19	VAL
21	AR	36	ARG
21	AR	51	VAL
21	AR	79	THR
22	AS	3	ASN
22	AS	35	VAL
22	AS	54	MET
22	AS	61	GLN
23	AT	34	LEU
23	AT	45	THR
27	AX	20	VAL
27	AX	35	GLU
27	AX	124	ILE
27	AX	195	VAL
27	AX	268	VAL
28	AY	73	VAL
28	AY	92	VAL
28	AY	138	LEU
28	AY	170	VAL
28	AY	189	VAL
29	AZ	12	LEU
29	AZ	100	MET
29	AZ	120	VAL
29	AZ	144	GLU
29	AZ	147	LEU
29	AZ	176	ASP
30	Aa	40	VAL
30	Aa	96	MET

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Mol	Chain	Res	Type
31	Ab	11	VAL
31	Ab	80	THR
31	Ab	111	HIS
31	Ab	127	THR
31	Ab	166	ASP
31	Ab	168	VAL
32	Ac	4	ILE
32	Ac	33	GLN
32	Ac	70	GLU
32	Ac	121	VAL
32	Ac	147	VAL
33	Ad	57	VAL
33	Ad	79	LEU
33	Ad	139	VAL
34	Ae	5	THR
34	Ae	128	ASN
35	Af	21	CYS
35	Af	23	LYS
35	Af	37	ASP
35	Af	80	ASP
35	Af	109	SER
35	Af	116	ILE
36	Ag	19	LEU
36	Ag	81	ASP
36	Ag	111	ILE
36	Ag	116	VAL
36	Ag	143	GLU
37	Ah	7	THR
37	Ah	42	THR
37	Ah	54	THR
37	Ah	93	VAL
37	Ah	136	MET
38	Ai	1	MET
38	Ai	20	MET
38	Ai	51	LEU
39	Aj	28	VAL
39	Aj	31	THR
39	Aj	47	VAL
39	Aj	89	ASP
39	Aj	103	VAL
40	Ak	4	ILE
40	Ak	65	SER

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Mol	Chain	Res	Type
40	Ak	81	VAL
41	Al	31	VAL
41	Al	34	VAL
41	Al	94	ILE
43	An	1	MET
43	An	45	VAL
44	Ao	87	LEU
45	Ap	65	ILE
46	Aq	42	LEU
46	Aq	65	VAL
46	Aq	92	VAL
47	Ar	37	ILE
47	Ar	38	VAL
48	As	8	THR
48	As	13	VAL
48	As	44	LYS
48	As	47	VAL
49	At	16	THR
49	At	49	ASP
49	At	53	VAL
50	Au	7	ILE
50	Au	25	LEU
50	Au	57	VAL
52	Aw	7	GLU
53	Ax	16	HIS
53	Ax	43	THR
55	Az	25	VAL
56	B	8	THR
56	B	61	VAL
56	B	132	ARG
56	B	133	LEU
56	B	208	PHE
56	B	209	LEU
56	B	227	ILE
56	B	250	SER
56	B	269	ASP
56	B	303	ILE
56	B	429	LEU
56	B	658	SER
56	B	674	VAL
56	B	692	VAL
56	B	695	VAL

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Mol	Chain	Res	Type
56	B	720	GLU
56	B	723	THR
56	B	776	VAL
56	B	803	ILE
56	B	851	PHE
56	B	898	LEU
56	B	919	VAL
56	B	953	VAL
56	B	985	GLU
56	B	1038	VAL
56	B	1086	HIS
56	B	1089	LEU
56	B	1095	LEU
56	B	1128	VAL
56	B	1129	TRP
56	B	1160	LEU
56	B	1176	MET
56	B	1178	MET
56	B	1288	ASP
14	C	41	SER
14	C	48	LEU
14	C	170	ILE
14	C	174	THR
14	C	196	LEU
57	D	31	ILE
57	D	34	ILE
57	D	56	ARG
57	D	64	GLN
57	D	97	ILE
57	D	126	LYS
58	E	49	LEU
58	E	64	THR
58	E	93	VAL
15	F	25	VAL
15	F	39	ILE
15	F	83	LEU
15	F	97	VAL
17	H	66	LEU
18	I	19	VAL
18	I	48	GLU
18	I	71	VAL
19	J	50	ASN

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Mol	Chain	Res	Type
20	K	18	VAL
23	L	5	ILE
23	L	34	LEU
27	P	16	VAL
27	P	77	VAL
27	P	130	LEU
27	P	192	LEU
27	P	195	VAL
27	P	228	VAL
28	Q	11	MET
28	Q	60	VAL
28	Q	84	LEU
28	Q	113	SER
28	Q	170	VAL
29	R	4	VAL
29	R	17	THR
29	R	150	THR
29	R	156	ASN
29	R	165	HIS
30	S	25	VAL
30	S	40	VAL
30	S	50	LEU
30	S	68	THR
30	S	115	ARG
30	S	136	ILE
30	S	147	ASP
30	S	164	GLU
30	S	170	LEU
31	T	10	VAL
31	T	11	VAL
31	T	17	VAL
31	T	50	LEU
32	U	4	ILE
32	U	9	VAL
32	U	21	VAL
32	U	53	GLU
32	U	62	LEU
32	U	90	LEU
32	U	143	ILE
33	V	60	THR
33	V	140	VAL
34	W	28	LEU

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Mol	Chain	Res	Type
34	W	90	GLU
35	X	4	GLU
35	X	5	GLN
35	X	9	ASN
36	Y	74	THR
36	Y	79	LEU
36	Y	82	LEU
36	Y	110	VAL
36	Y	111	ILE
36	Y	116	VAL
37	Z	24	THR
37	Z	54	THR
37	Z	67	VAL
37	Z	88	ASN
37	Z	128	THR
38	a	2	ARG
38	a	54	LEU
38	a	60	VAL
39	b	2	ASP
39	b	28	VAL
39	b	39	VAL
39	b	47	VAL
39	b	58	ILE
39	b	62	LEU
39	b	67	ASN
39	b	68	LYS
40	c	86	VAL
41	d	90	ILE
41	d	104	VAL
42	e	25	LEU
42	e	49	ILE
42	e	72	VAL
42	e	99	THR
43	f	61	ASN
43	f	74	ILE
43	f	85	ILE
44	g	32	LEU
44	g	39	THR
44	g	62	VAL
44	g	87	LEU
45	h	30	SER
45	h	68	SER

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Mol	Chain	Res	Type
46	i	42	LEU
46	i	75	GLN
46	i	77	VAL
47	j	12	ASN
47	j	23	VAL
47	j	32	LEU
48	k	4	VAL
48	k	7	VAL
48	k	45	ARG
48	k	46	PHE
48	k	47	VAL
48	k	48	THR
49	l	40	SER
49	l	58	ASN
60	n	3	VAL
60	n	22	LEU
60	n	28	LEU
54	q	29	LEU
54	q	51	SER
55	r	20	ASP
55	r	22	VAL
61	s	127	ASN
61	s	135	THR
21	t	13	LEU
21	t	51	VAL
21	t	58	VAL
21	t	60	VAL
22	u	4	ILE
22	u	58	VAL
22	u	67	ILE
12	v	29	LEU
12	v	42	THR
12	v	44	GLU
57	y	42	LEU
57	y	65	VAL
57	y	96	THR
57	y	107	ILE
57	y	113	VAL
58	z	3	THR
58	z	16	VAL
58	z	21	VAL
58	z	40	THR

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Mol	Chain	Res	Type
58	z	46	ASN
58	z	67	ILE
58	z	93	VAL
58	z	103	ASP
58	z	119	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (117) such sidechains are listed below:

Mol	Chain	Res	Type
2	1	94	HIS
2	1	109	GLN
3	2	32	ASN
3	2	185	ASN
4	3	40	GLN
4	3	41	HIS
4	3	164	GLN
6	5	3	HIS
7	6	9	GLN
7	6	86	GLN
8	7	67	GLN
2	AB	15	HIS
2	AB	109	GLN
3	AC	19	ASN
3	AC	41	GLN
3	AC	100	GLN
3	AC	123	GLN
5	AE	61	GLN
5	AE	148	ASN
6	AF	81	ASN
7	AG	122	ASN
18	AO	9	HIS
18	AO	63	GLN
18	AO	79	ASN
22	AS	82	GLN
23	AT	61	ASN
23	AT	65	ASN
27	AX	58	HIS
27	AX	251	GLN
28	AY	42	ASN
28	AY	134	HIS
29	AZ	24	ASN
29	AZ	62	GLN

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Mol	Chain	Res	Type
29	AZ	97	ASN
32	Ac	11	ASN
32	Ac	128	HIS
32	Ac	133	GLN
36	Ag	35	HIS
36	Ag	54	GLN
37	Ah	22	GLN
37	Ah	45	GLN
38	Ai	62	ASN
40	Ak	66	ASN
41	Al	37	GLN
42	Am	12	HIS
42	Am	18	GLN
42	Am	43	ASN
43	An	31	GLN
44	Ao	15	HIS
44	Ao	70	HIS
46	Aq	75	GLN
46	Aq	80	HIS
47	Ar	12	ASN
49	At	58	ASN
50	Au	20	HIS
52	Aw	45	GLN
53	Ax	6	GLN
53	Ax	13	ASN
56	B	163	HIS
56	B	276	GLN
56	B	337	GLN
56	B	432	ASN
56	B	569	GLN
56	B	600	GLN
56	B	736	ASN
56	B	850	ASN
56	B	917	ASN
56	B	1233	GLN
56	B	1245	GLN
56	B	1246	GLN
56	B	1293	GLN
56	B	1297	GLN
14	C	47	ASN
58	E	46	ASN
58	E	72	HIS

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Mol	Chain	Res	Type
58	E	112	GLN
15	F	100	GLN
16	G	35	ASN
18	I	18	GLN
18	I	59	HIS
27	P	21	ASN
27	P	37	ASN
27	P	117	GLN
27	P	197	ASN
27	P	200	HIS
27	P	239	ASN
27	P	243	HIS
28	Q	185	ASN
30	S	21	ASN
31	T	30	ASN
32	U	66	ASN
33	V	43	ASN
34	W	131	ASN
34	W	136	GLN
35	X	90	ASN
37	Z	13	HIS
38	a	31	HIS
38	a	73	ASN
39	b	43	ASN
39	b	104	GLN
40	c	66	ASN
41	d	44	GLN
43	f	60	HIS
44	g	28	ASN
45	h	27	ASN
46	i	5	ASN
46	i	12	GLN
46	i	75	GLN
49	l	39	GLN
50	m	34	HIS
60	n	6	ASN
53	p	6	GLN
21	t	56	GLN
22	u	20	HIS
12	v	9	ASN
58	z	77	HIS
58	z	112	GLN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	1532/1542 (99%)	232 (15%)	14 (0%)
1	AA	1538/1542 (99%)	250 (16%)	14 (0%)
11	A	75/76 (98%)	20 (26%)	5 (6%)
13	A3	76/77 (98%)	28 (36%)	6 (7%)
24	AU	75/76 (98%)	13 (17%)	0
25	AV	2895/2903 (99%)	498 (17%)	21 (0%)
25	N	2895/2903 (99%)	439 (15%)	15 (0%)
26	AW	117/120 (97%)	23 (19%)	0
26	O	117/120 (97%)	18 (15%)	1 (0%)
59	M	74/75 (98%)	14 (18%)	1 (1%)
62	w	56/698 (8%)	27 (48%)	0
All	All	9450/10132 (93%)	1562 (16%)	77 (0%)

All (1562) 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	65	A
1	0	66	A
1	0	72	A
1	0	81	A
1	0	83	C
1	0	88	U
1	0	95	C
1	0	97	G
1	0	108	G
1	0	116	A
1	0	121	U
1	0	122	G
1	0	131	A
1	0	144	G
1	0	163	C
1	0	173	U

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Mol	Chain	Res	Type
1	0	174	A
1	0	177	G
1	0	182	A
1	0	183	C
1	0	191	G
1	0	197	A
1	0	226	G
1	0	245	U
1	0	247	G
1	0	251	G
1	0	262	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	328	C
1	0	330	C
1	0	332	G
1	0	338	A
1	0	351	G
1	0	352	C
1	0	354	G
1	0	367	U
1	0	372	C
1	0	373	A
1	0	388	G
1	0	397	A
1	0	406	G
1	0	411	A
1	0	412	A
1	0	413	G
1	0	421	U
1	0	422	C
1	0	424	G
1	0	429	U
1	0	435	A
1	0	436	C
1	0	439	U
1	0	440	C

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Mol	Chain	Res	Type
1	0	441	A
1	0	451	A
1	0	458	U
1	0	467	U
1	0	468	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	509	A
1	0	510	A
1	0	511	C
1	0	517	G
1	0	518	C
1	0	521	G
1	0	527	G
1	0	531	U
1	0	532	A
1	0	547	A
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	584	G
1	0	618	C
1	0	619	U
1	0	621	A
1	0	633	G
1	0	653	U
1	0	665	A
1	0	666	G
1	0	687	A
1	0	701	U
1	0	702	A
1	0	703	G
1	0	723	U
1	0	724	G

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Mol	Chain	Res	Type
1	0	731	G
1	0	755	G
1	0	793	U
1	0	794	A
1	0	808	C
1	0	813	U
1	0	815	A
1	0	817	C
1	0	819	A
1	0	821	G
1	0	828	U
1	0	829	G
1	0	832	G
1	0	841	C
1	0	842	U
1	0	843	U
1	0	844	G
1	0	845	A
1	0	846	G
1	0	849	G
1	0	885	G
1	0	889	A
1	0	914	A
1	0	934	C
1	0	935	A
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	992	U
1	0	993	G
1	0	996	A
1	0	1004	A
1	0	1005	A
1	0	1006	G
1	0	1016	A
1	0	1017	U

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Mol	Chain	Res	Type
1	0	1022	A
1	0	1026	G
1	0	1029	U
1	0	1030	U
1	0	1031	C
1	0	1032	G
1	0	1045	C
1	0	1046	A
1	0	1064	G
1	0	1065	U
1	0	1066	C
1	0	1085	U
1	0	1094	G
1	0	1095	U
1	0	1101	A
1	0	1108	G
1	0	1125	U
1	0	1133	G
1	0	1137	C
1	0	1139	G
1	0	1143	G
1	0	1154	G
1	0	1158	C
1	0	1159	U
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	1202	U
1	0	1206	G
1	0	1213	A
1	0	1226	C
1	0	1227	A
1	0	1241	G
1	0	1257	A
1	0	1258	G
1	0	1260	G
1	0	1268	G
1	0	1270	G

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Mol	Chain	Res	Type
1	0	1280	A
1	0	1285	A
1	0	1286	U
1	0	1287	A
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	1318	A
1	0	1322	C
1	0	1323	G
1	0	1332	A
1	0	1340	A
1	0	1346	A
1	0	1362	A
1	0	1363	A
1	0	1364	U
1	0	1370	G
1	0	1379	G
1	0	1401	G
1	0	1419	G
1	0	1432	G
1	0	1441	A
1	0	1452	C
1	0	1487	G
1	0	1491	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	7	A
11	A	8	U
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	52	G
11	A	53	G
11	A	54	U
11	A	55	U
11	A	56	C
11	A	74	C
11	A	75	C
13	A3	7	G
13	A3	13	C
13	A3	16	U
13	A3	17	U
13	A3	19	G
13	A3	21	U
13	A3	23	G
13	A3	35	C
13	A3	42	A
13	A3	46	G
13	A3	47	G
13	A3	48	U
13	A3	49	C
13	A3	50	A
13	A3	51	C
13	A3	52	A
13	A3	53	G
13	A3	58	G
13	A3	59	A
13	A3	62	C
13	A3	63	C
13	A3	64	C
13	A3	66	U
13	A3	67	C
13	A3	72	C

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Mol	Chain	Res	Type
13	A3	73	C
13	A3	75	C
13	A3	77	A
1	AA	4	U
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	71	A
1	AA	82	G
1	AA	83	C
1	AA	86	G
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	143	A
1	AA	144	G
1	AA	148	G
1	AA	149	A
1	AA	163	C
1	AA	174	A
1	AA	183	C
1	AA	197	A
1	AA	210	C
1	AA	211	G
1	AA	226	G
1	AA	245	U
1	AA	246	A
1	AA	247	G
1	AA	251	G
1	AA	253	A
1	AA	266	G
1	AA	267	C

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Mol	Chain	Res	Type
1	AA	279	A
1	AA	281	G
1	AA	289	G
1	AA	301	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	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	397	A
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	423	G
1	AA	424	G
1	AA	429	U
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	494	G
1	AA	496	A
1	AA	497	G
1	AA	509	A
1	AA	510	A
1	AA	511	C
1	AA	517	G

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Mol	Chain	Res	Type
1	AA	518	C
1	AA	519	C
1	AA	521	G
1	AA	527	G
1	AA	531	U
1	AA	532	A
1	AA	533	A
1	AA	547	A
1	AA	559	A
1	AA	562	U
1	AA	564	C
1	AA	572	A
1	AA	573	A
1	AA	576	C
1	AA	577	G
1	AA	596	A
1	AA	619	U
1	AA	633	G
1	AA	653	U
1	AA	665	A
1	AA	687	A
1	AA	688	G
1	AA	695	A
1	AA	702	A
1	AA	703	G
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	752	G
1	AA	755	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

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Mol	Chain	Res	Type
1	AA	821	G
1	AA	828	U
1	AA	836	G
1	AA	843	U
1	AA	844	G
1	AA	845	A
1	AA	846	G
1	AA	885	G
1	AA	889	A
1	AA	890	G
1	AA	891	U
1	AA	902	G
1	AA	914	A
1	AA	922	G
1	AA	926	G
1	AA	934	C
1	AA	935	A
1	AA	958	A
1	AA	960	U
1	AA	965	U
1	AA	966	G
1	AA	969	A
1	AA	971	G
1	AA	972	C
1	AA	975	A
1	AA	976	G
1	AA	977	A
1	AA	982	U
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	1022	A
1	AA	1024	G
1	AA	1025	U
1	AA	1026	G
1	AA	1027	C

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Mol	Chain	Res	Type
1	AA	1030	U
1	AA	1031	C
1	AA	1043	G
1	AA	1056	U
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	1125	U
1	AA	1133	G
1	AA	1136	C
1	AA	1137	C
1	AA	1138	G
1	AA	1139	G
1	AA	1157	A
1	AA	1158	C
1	AA	1159	U
1	AA	1160	G
1	AA	1167	A
1	AA	1169	A
1	AA	1183	U
1	AA	1184	G
1	AA	1196	A
1	AA	1202	U
1	AA	1212	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	1275	A
1	AA	1280	A
1	AA	1285	A
1	AA	1287	A
1	AA	1297	G
1	AA	1298	U

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Mol	Chain	Res	Type
1	AA	1300	G
1	AA	1301	U
1	AA	1305	G
1	AA	1317	C
1	AA	1319	A
1	AA	1320	C
1	AA	1322	C
1	AA	1323	G
1	AA	1324	A
1	AA	1328	C
1	AA	1331	G
1	AA	1332	A
1	AA	1337	G
1	AA	1338	G
1	AA	1340	A
1	AA	1346	A
1	AA	1347	G
1	AA	1348	U
1	AA	1353	G
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	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	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

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Mol	Chain	Res	Type
1	AA	1538	C
24	AU	9	A
24	AU	16	C
24	AU	17	U
24	AU	18	G
24	AU	19	G
24	AU	20	G
24	AU	21	A
24	AU	22	G
24	AU	43	G
24	AU	46	G
24	AU	55	U
24	AU	59	U
24	AU	76	A
25	AV	2	G
25	AV	10	A
25	AV	15	G
25	AV	27	G
25	AV	34	U
25	AV	35	G
25	AV	42	A
25	AV	46	G
25	AV	49	A
25	AV	50	U
25	AV	51	G
25	AV	60	G
25	AV	63	A
25	AV	71	A
25	AV	72	U
25	AV	74	A
25	AV	75	G
25	AV	84	A
25	AV	96	C
25	AV	100	U
25	AV	101	A
25	AV	102	U
25	AV	103	A
25	AV	118	A
25	AV	119	A
25	AV	120	U
25	AV	125	A
25	AV	138	U

Continued on next page...

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Mol	Chain	Res	Type
25	AV	139	U
25	AV	140	C
25	AV	141	G
25	AV	142	A
25	AV	160	A
25	AV	162	U
25	AV	196	A
25	AV	199	A
25	AV	215	G
25	AV	216	A
25	AV	222	A
25	AV	223	A
25	AV	228	C
25	AV	233	A
25	AV	241	A
25	AV	243	U
25	AV	248	G
25	AV	250	G
25	AV	255	A
25	AV	266	G
25	AV	271	G
25	AV	276	U
25	AV	277	G
25	AV	278	A
25	AV	281	C
25	AV	284	U
25	AV	301	G
25	AV	310	A
25	AV	323	C
25	AV	329	G
25	AV	330	A
25	AV	331	C
25	AV	332	A
25	AV	333	G
25	AV	338	G
25	AV	354	A
25	AV	361	G
25	AV	362	A
25	AV	368	A
25	AV	371	A
25	AV	372	G
25	AV	373	U

Continued on next page...

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Mol	Chain	Res	Type
25	AV	386	G
25	AV	388	G
25	AV	396	G
25	AV	405	U
25	AV	411	G
25	AV	422	A
25	AV	424	G
25	AV	429	A
25	AV	435	C
25	AV	451	U
25	AV	455	C
25	AV	456	C
25	AV	457	A
25	AV	479	A
25	AV	480	A
25	AV	481	G
25	AV	482	A
25	AV	491	G
25	AV	503	A
25	AV	504	A
25	AV	505	A
25	AV	509	C
25	AV	529	A
25	AV	530	G
25	AV	532	A
25	AV	533	G
25	AV	544	C
25	AV	546	U
25	AV	547	A
25	AV	548	G
25	AV	549	G
25	AV	550	C
25	AV	563	A
25	AV	572	A
25	AV	573	U
25	AV	575	A
25	AV	586	A
25	AV	603	A
25	AV	613	A
25	AV	614	A
25	AV	622	G
25	AV	627	A

Continued on next page...

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Mol	Chain	Res	Type
25	AV	637	A
25	AV	646	U
25	AV	647	G
25	AV	648	G
25	AV	654	A
25	AV	655	A
25	AV	669	G
25	AV	670	A
25	AV	671	C
25	AV	686	U
25	AV	712	G
25	AV	726	G
25	AV	729	G
25	AV	730	A
25	AV	739	A
25	AV	740	C
25	AV	747	U
25	AV	757	G
25	AV	764	A
25	AV	765	C
25	AV	774	G
25	AV	776	G
25	AV	782	A
25	AV	783	A
25	AV	784	G
25	AV	785	G
25	AV	800	A
25	AV	805	G
25	AV	811	U
25	AV	812	C
25	AV	819	A
25	AV	827	U
25	AV	828	U
25	AV	831	G
25	AV	844	A
25	AV	845	A
25	AV	846	U
25	AV	847	U
25	AV	859	G
25	AV	860	U
25	AV	894	U
25	AV	896	A

Continued on next page...

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Mol	Chain	Res	Type
25	AV	897	C
25	AV	910	A
25	AV	914	G
25	AV	931	U
25	AV	934	U
25	AV	941	A
25	AV	945	A
25	AV	946	C
25	AV	960	A
25	AV	961	C
25	AV	973	A
25	AV	974	G
25	AV	980	A
25	AV	983	A
25	AV	995	C
25	AV	996	A
25	AV	1005	C
25	AV	1009	A
25	AV	1010	A
25	AV	1012	U
25	AV	1013	C
25	AV	1022	G
25	AV	1026	G
25	AV	1033	U
25	AV	1040	A
25	AV	1046	A
25	AV	1047	G
25	AV	1056	G
25	AV	1060	U
25	AV	1062	G
25	AV	1065	U
25	AV	1066	U
25	AV	1067	A
25	AV	1068	G
25	AV	1070	A
25	AV	1071	G
25	AV	1075	C
25	AV	1078	U
25	AV	1083	U
25	AV	1084	A
25	AV	1087	G
25	AV	1088	A

Continued on next page...

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Mol	Chain	Res	Type
25	AV	1089	A
25	AV	1090	A
25	AV	1094	U
25	AV	1095	A
25	AV	1096	A
25	AV	1097	U
25	AV	1100	C
25	AV	1103	A
25	AV	1104	C
25	AV	1110	G
25	AV	1112	G
25	AV	1130	U
25	AV	1131	G
25	AV	1132	U
25	AV	1133	A
25	AV	1135	C
25	AV	1136	G
25	AV	1139	G
25	AV	1142	A
25	AV	1143	A
25	AV	1157	G
25	AV	1172	C
25	AV	1173	U
25	AV	1174	U
25	AV	1175	A
25	AV	1176	U
25	AV	1180	U
25	AV	1181	U
25	AV	1204	A
25	AV	1206	G
25	AV	1210	G
25	AV	1211	C
25	AV	1223	G
25	AV	1224	U
25	AV	1227	G
25	AV	1237	A
25	AV	1238	G
25	AV	1251	C
25	AV	1253	A
25	AV	1256	G
25	AV	1266	G
25	AV	1271	G

Continued on next page...

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Mol	Chain	Res	Type
25	AV	1272	A
25	AV	1274	A
25	AV	1293	C
25	AV	1300	G
25	AV	1301	A
25	AV	1306	C
25	AV	1321	A
25	AV	1345	C
25	AV	1346	G
25	AV	1360	G
25	AV	1365	A
25	AV	1368	G
25	AV	1376	C
25	AV	1378	A
25	AV	1379	U
25	AV	1380	G
25	AV	1383	A
25	AV	1416	G
25	AV	1419	A
25	AV	1420	A
25	AV	1427	A
25	AV	1437	C
25	AV	1451	C
25	AV	1458	U
25	AV	1459	G
25	AV	1475	G
25	AV	1478	G
25	AV	1482	G
25	AV	1496	A
25	AV	1497	U
25	AV	1504	A
25	AV	1515	A
25	AV	1524	G
25	AV	1530	G
25	AV	1533	C
25	AV	1535	A
25	AV	1536	C
25	AV	1537	G
25	AV	1546	G
25	AV	1566	A
25	AV	1583	A
25	AV	1584	U

Continued on next page...

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Mol	Chain	Res	Type
25	AV	1585	C
25	AV	1587	G
25	AV	1588	G
25	AV	1603	A
25	AV	1608	A
25	AV	1613	G
25	AV	1616	A
25	AV	1634	A
25	AV	1646	C
25	AV	1647	U
25	AV	1648	U
25	AV	1660	G
25	AV	1665	A
25	AV	1667	G
25	AV	1674	G
25	AV	1675	C
25	AV	1682	G
25	AV	1698	A
25	AV	1714	U
25	AV	1715	G
25	AV	1729	U
25	AV	1730	C
25	AV	1738	G
25	AV	1744	A
25	AV	1752	C
25	AV	1756	G
25	AV	1757	A
25	AV	1758	U
25	AV	1764	C
25	AV	1773	A
25	AV	1784	A
25	AV	1790	C
25	AV	1800	C
25	AV	1808	A
25	AV	1816	C
25	AV	1829	A
25	AV	1835	G
25	AV	1847	A
25	AV	1852	U
25	AV	1869	G
25	AV	1870	C
25	AV	1881	C

Continued on next page...

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Mol	Chain	Res	Type
25	AV	1884	G
25	AV	1901	A
25	AV	1906	G
25	AV	1913	A
25	AV	1926	U
25	AV	1927	A
25	AV	1929	G
25	AV	1930	G
25	AV	1937	A
25	AV	1938	A
25	AV	1955	U
25	AV	1967	C
25	AV	1970	A
25	AV	1971	U
25	AV	1972	G
25	AV	1991	U
25	AV	1992	G
25	AV	1993	U
25	AV	1997	C
25	AV	2020	A
25	AV	2022	U
25	AV	2023	C
25	AV	2030	A
25	AV	2031	A
25	AV	2033	A
25	AV	2043	C
25	AV	2052	A
25	AV	2055	C
25	AV	2056	G
25	AV	2057	G
25	AV	2060	A
25	AV	2061	G
25	AV	2062	A
25	AV	2069	G
25	AV	2096	C
25	AV	2097	A
25	AV	2104	C
25	AV	2107	G
25	AV	2110	G
25	AV	2111	U
25	AV	2112	G
25	AV	2113	U

Continued on next page...

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Mol	Chain	Res	Type
25	AV	2115	G
25	AV	2119	A
25	AV	2120	G
25	AV	2125	G
25	AV	2126	A
25	AV	2131	U
25	AV	2132	U
25	AV	2133	G
25	AV	2134	A
25	AV	2144	G
25	AV	2145	C
25	AV	2157	G
25	AV	2161	C
25	AV	2162	G
25	AV	2163	A
25	AV	2165	C
25	AV	2172	U
25	AV	2173	A
25	AV	2178	C
25	AV	2198	A
25	AV	2199	A
25	AV	2204	G
25	AV	2210	U
25	AV	2211	A
25	AV	2214	C
25	AV	2225	A
25	AV	2226	C
25	AV	2238	G
25	AV	2239	G
25	AV	2250	G
25	AV	2266	A
25	AV	2269	G
25	AV	2278	A
25	AV	2283	C
25	AV	2286	G
25	AV	2287	A
25	AV	2288	A
25	AV	2305	U
25	AV	2307	G
25	AV	2309	A
25	AV	2312	U
25	AV	2319	G

Continued on next page...

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Mol	Chain	Res	Type
25	AV	2321	U
25	AV	2325	G
25	AV	2333	A
25	AV	2347	C
25	AV	2350	C
25	AV	2352	A
25	AV	2357	G
25	AV	2361	G
25	AV	2383	G
25	AV	2385	C
25	AV	2402	U
25	AV	2406	A
25	AV	2423	U
25	AV	2425	A
25	AV	2426	A
25	AV	2428	G
25	AV	2429	G
25	AV	2430	A
25	AV	2431	U
25	AV	2441	U
25	AV	2447	G
25	AV	2448	A
25	AV	2460	U
25	AV	2476	A
25	AV	2478	A
25	AV	2487	G
25	AV	2491	U
25	AV	2494	G
25	AV	2498	C
25	AV	2502	G
25	AV	2503	A
25	AV	2504	U
25	AV	2518	A
25	AV	2520	C
25	AV	2529	G
25	AV	2535	G
25	AV	2547	A
25	AV	2554	U
25	AV	2566	A
25	AV	2567	G
25	AV	2572	A
25	AV	2576	G

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Mol	Chain	Res	Type
25	AV	2578	G
25	AV	2602	A
25	AV	2609	U
25	AV	2613	U
25	AV	2615	U
25	AV	2621	G
25	AV	2629	U
25	AV	2630	G
25	AV	2642	G
25	AV	2646	C
25	AV	2655	G
25	AV	2656	U
25	AV	2682	A
25	AV	2685	G
25	AV	2686	G
25	AV	2689	U
25	AV	2690	U
25	AV	2714	G
25	AV	2716	C
25	AV	2726	A
25	AV	2733	A
25	AV	2744	G
25	AV	2748	A
25	AV	2750	A
25	AV	2757	A
25	AV	2758	A
25	AV	2765	A
25	AV	2769	U
25	AV	2777	G
25	AV	2778	A
25	AV	2779	U
25	AV	2798	U
25	AV	2808	G
25	AV	2809	A
25	AV	2818	U
25	AV	2820	A
25	AV	2823	A
25	AV	2832	U
25	AV	2833	U
25	AV	2834	G
25	AV	2849	U
25	AV	2872	A

Continued on next page...

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Mol	Chain	Res	Type
25	AV	2873	A
25	AV	2877	G
25	AV	2880	C
25	AV	2884	U
25	AV	2886	A
25	AV	2891	U
25	AV	2893	A
25	AV	2903	U
26	AW	9	G
26	AW	13	G
26	AW	23	G
26	AW	25	U
26	AW	30	C
26	AW	35	C
26	AW	37	C
26	AW	41	G
26	AW	42	C
26	AW	44	G
26	AW	52	A
26	AW	56	G
26	AW	66	A
26	AW	67	G
26	AW	87	U
26	AW	88	C
26	AW	89	U
26	AW	90	C
26	AW	91	C
26	AW	99	A
26	AW	105	G
26	AW	108	A
26	AW	109	A
59	M	9	C
59	M	10	G
59	M	14	A
59	M	16	C
59	M	17	G
59	M	19	U
59	M	20	A
59	M	41	G
59	M	42	G
59	M	45	U
59	M	46	U

Continued on next page...

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Mol	Chain	Res	Type
59	M	47	C
59	M	55	C
59	M	75	A
25	N	10	A
25	N	15	G
25	N	34	U
25	N	35	G
25	N	46	G
25	N	51	G
25	N	60	G
25	N	63	A
25	N	71	A
25	N	74	A
25	N	75	G
25	N	85	G
25	N	91	A
25	N	96	C
25	N	102	U
25	N	103	A
25	N	114	U
25	N	118	A
25	N	119	A
25	N	120	U
25	N	131	A
25	N	138	U
25	N	139	U
25	N	140	C
25	N	141	G
25	N	162	U
25	N	163	C
25	N	181	A
25	N	196	A
25	N	199	A
25	N	215	G
25	N	216	A
25	N	222	A
25	N	229	C
25	N	241	A
25	N	248	G
25	N	255	A
25	N	266	G
25	N	267	C

Continued on next page...

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Mol	Chain	Res	Type
25	N	272	A
25	N	276	U
25	N	278	A
25	N	281	C
25	N	285	G
25	N	301	G
25	N	310	A
25	N	329	G
25	N	330	A
25	N	331	C
25	N	346	A
25	N	361	G
25	N	362	A
25	N	370	G
25	N	371	A
25	N	372	G
25	N	386	G
25	N	396	G
25	N	403	U
25	N	405	U
25	N	406	G
25	N	407	G
25	N	411	G
25	N	422	A
25	N	424	G
25	N	435	C
25	N	457	A
25	N	467	G
25	N	477	A
25	N	481	G
25	N	482	A
25	N	489	G
25	N	491	G
25	N	504	A
25	N	505	A
25	N	509	C
25	N	510	C
25	N	529	A
25	N	530	G
25	N	532	A
25	N	533	G
25	N	539	G

Continued on next page...

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Mol	Chain	Res	Type
25	N	540	C
25	N	543	G
25	N	544	C
25	N	546	U
25	N	548	G
25	N	549	G
25	N	563	A
25	N	573	U
25	N	575	A
25	N	577	G
25	N	586	A
25	N	603	A
25	N	614	A
25	N	622	G
25	N	627	A
25	N	637	A
25	N	646	U
25	N	647	G
25	N	654	A
25	N	664	G
25	N	668	A
25	N	669	G
25	N	670	A
25	N	671	C
25	N	677	A
25	N	686	U
25	N	704	G
25	N	715	A
25	N	717	C
25	N	726	G
25	N	730	A
25	N	747	U
25	N	764	A
25	N	765	C
25	N	776	G
25	N	782	A
25	N	784	G
25	N	785	G
25	N	805	G
25	N	811	U
25	N	812	C
25	N	819	A

Continued on next page...

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Mol	Chain	Res	Type
25	N	827	U
25	N	828	U
25	N	845	A
25	N	846	U
25	N	847	U
25	N	858	G
25	N	869	G
25	N	878	A
25	N	882	G
25	N	883	G
25	N	884	U
25	N	895	U
25	N	897	C
25	N	907	G
25	N	910	A
25	N	941	A
25	N	946	C
25	N	957	C
25	N	961	C
25	N	973	A
25	N	974	G
25	N	980	A
25	N	983	A
25	N	995	C
25	N	996	A
25	N	1009	A
25	N	1012	U
25	N	1013	C
25	N	1020	A
25	N	1022	G
25	N	1026	G
25	N	1033	U
25	N	1046	A
25	N	1047	G
25	N	1060	U
25	N	1062	G
25	N	1063	G
25	N	1070	A
25	N	1071	G
25	N	1083	U
25	N	1084	A
25	N	1087	G

Continued on next page...

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Mol	Chain	Res	Type
25	N	1088	A
25	N	1090	A
25	N	1110	G
25	N	1111	A
25	N	1112	G
25	N	1132	U
25	N	1133	A
25	N	1135	C
25	N	1136	G
25	N	1139	G
25	N	1142	A
25	N	1155	A
25	N	1168	G
25	N	1174	U
25	N	1175	A
25	N	1176	U
25	N	1180	U
25	N	1186	G
25	N	1206	G
25	N	1208	C
25	N	1212	G
25	N	1237	A
25	N	1238	G
25	N	1247	A
25	N	1250	G
25	N	1252	G
25	N	1253	A
25	N	1256	G
25	N	1265	A
25	N	1266	G
25	N	1272	A
25	N	1273	U
25	N	1300	G
25	N	1301	A
25	N	1314	C
25	N	1321	A
25	N	1332	G
25	N	1345	C
25	N	1352	U
25	N	1365	A
25	N	1368	G
25	N	1378	A

Continued on next page...

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Mol	Chain	Res	Type
25	N	1379	U
25	N	1380	G
25	N	1383	A
25	N	1386	C
25	N	1395	A
25	N	1403	A
25	N	1416	G
25	N	1419	A
25	N	1427	A
25	N	1428	C
25	N	1437	C
25	N	1453	A
25	N	1458	U
25	N	1461	C
25	N	1478	G
25	N	1482	G
25	N	1493	C
25	N	1504	A
25	N	1509	A
25	N	1515	A
25	N	1522	A
25	N	1524	G
25	N	1529	G
25	N	1530	G
25	N	1535	A
25	N	1536	C
25	N	1537	G
25	N	1558	C
25	N	1560	G
25	N	1566	A
25	N	1569	A
25	N	1578	U
25	N	1583	A
25	N	1584	U
25	N	1585	C
25	N	1607	C
25	N	1608	A
25	N	1610	A
25	N	1618	A
25	N	1619	G
25	N	1646	C
25	N	1647	U

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Mol	Chain	Res	Type
25	N	1648	U
25	N	1654	A
25	N	1665	A
25	N	1674	G
25	N	1715	G
25	N	1729	U
25	N	1730	C
25	N	1732	C
25	N	1733	G
25	N	1738	G
25	N	1756	G
25	N	1758	U
25	N	1764	C
25	N	1773	A
25	N	1781	U
25	N	1786	A
25	N	1800	C
25	N	1807	G
25	N	1808	A
25	N	1816	C
25	N	1829	A
25	N	1857	G
25	N	1866	A
25	N	1870	C
25	N	1901	A
25	N	1906	G
25	N	1913	A
25	N	1914	C
25	N	1927	A
25	N	1929	G
25	N	1930	G
25	N	1936	A
25	N	1937	A
25	N	1938	A
25	N	1955	U
25	N	1964	G
25	N	1967	C
25	N	1970	A
25	N	1971	U
25	N	1972	G
25	N	1991	U
25	N	1992	G

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Mol	Chain	Res	Type
25	N	1996	C
25	N	1997	C
25	N	2020	A
25	N	2021	C
25	N	2022	U
25	N	2023	C
25	N	2030	A
25	N	2031	A
25	N	2033	A
25	N	2043	C
25	N	2055	C
25	N	2056	G
25	N	2059	A
25	N	2060	A
25	N	2061	G
25	N	2062	A
25	N	2069	G
25	N	2072	C
25	N	2093	G
25	N	2097	A
25	N	2098	U
25	N	2110	G
25	N	2111	U
25	N	2112	G
25	N	2113	U
25	N	2114	A
25	N	2115	G
25	N	2118	U
25	N	2119	A
25	N	2125	G
25	N	2126	A
25	N	2128	G
25	N	2132	U
25	N	2133	G
25	N	2136	G
25	N	2145	C
25	N	2149	U
25	N	2158	A
25	N	2162	G
25	N	2167	U
25	N	2168	G
25	N	2171	A

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Mol	Chain	Res	Type
25	N	2172	U
25	N	2173	A
25	N	2178	C
25	N	2194	U
25	N	2198	A
25	N	2204	G
25	N	2211	A
25	N	2214	C
25	N	2225	A
25	N	2226	C
25	N	2238	G
25	N	2239	G
25	N	2250	G
25	N	2266	A
25	N	2278	A
25	N	2283	C
25	N	2286	G
25	N	2287	A
25	N	2288	A
25	N	2305	U
25	N	2307	G
25	N	2309	A
25	N	2312	U
25	N	2320	U
25	N	2325	G
25	N	2333	A
25	N	2336	A
25	N	2347	C
25	N	2350	C
25	N	2354	C
25	N	2357	G
25	N	2361	G
25	N	2383	G
25	N	2385	C
25	N	2402	U
25	N	2406	A
25	N	2422	C
25	N	2423	U
25	N	2425	A
25	N	2429	G
25	N	2430	A
25	N	2441	U

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Mol	Chain	Res	Type
25	N	2447	G
25	N	2448	A
25	N	2473	U
25	N	2476	A
25	N	2484	G
25	N	2494	G
25	N	2498	C
25	N	2502	G
25	N	2503	A
25	N	2504	U
25	N	2518	A
25	N	2520	C
25	N	2529	G
25	N	2547	A
25	N	2554	U
25	N	2566	A
25	N	2567	G
25	N	2572	A
25	N	2585	U
25	N	2602	A
25	N	2609	U
25	N	2613	U
25	N	2615	U
25	N	2621	G
25	N	2629	U
25	N	2630	G
25	N	2635	A
25	N	2645	G
25	N	2646	C
25	N	2655	G
25	N	2656	U
25	N	2663	G
25	N	2689	U
25	N	2690	U
25	N	2714	G
25	N	2726	A
25	N	2729	G
25	N	2732	G
25	N	2733	A
25	N	2739	U
25	N	2744	G
25	N	2748	A

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Mol	Chain	Res	Type
25	N	2757	A
25	N	2777	G
25	N	2778	A
25	N	2779	U
25	N	2780	G
25	N	2794	C
25	N	2798	U
25	N	2800	A
25	N	2818	U
25	N	2820	A
25	N	2833	U
25	N	2834	G
25	N	2849	U
25	N	2871	U
25	N	2872	A
25	N	2873	A
25	N	2880	C
25	N	2883	A
25	N	2884	U
25	N	2891	U
25	N	2895	G
25	N	2903	U
26	O	13	G
26	O	15	A
26	O	16	G
26	O	24	G
26	O	25	U
26	O	35	C
26	O	41	G
26	O	42	C
26	O	44	G
26	O	67	G
26	O	87	U
26	O	88	C
26	O	89	U
26	O	90	C
26	O	99	A
26	O	108	A
26	O	109	A
26	O	112	G
62	w	525	A
62	w	529	A

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Mol	Chain	Res	Type
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	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	558	U
62	w	559	U
62	w	560	U
62	w	561	U
62	w	563	U
62	w	564	U
62	w	569	U
62	w	571	U
62	w	572	U
62	w	573	U

All (77) 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

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Mol	Chain	Res	Type
1	0	1493	A
11	A	16	U
11	A	19	G
11	A	21	A
11	A	46	G
11	A	54	U
13	A3	16	U
13	A3	22	A
13	A3	50	A
13	A3	51	C
13	A3	66	U
13	A3	76	C
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
1	AA	1347	G
1	AA	1451	U
25	AV	227	A
25	AV	242	G
25	AV	372	G
25	AV	404	A
25	AV	421	C
25	AV	481	G
25	AV	670	A
25	AV	746	U
25	AV	784	G
25	AV	859	G
25	AV	960	A
25	AV	1095	A
25	AV	1142	A
25	AV	1900	A
25	AV	2125	G
25	AV	2225	A

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Mol	Chain	Res	Type
25	AV	2286	G
25	AV	2311	A
25	AV	2655	G
25	AV	2756	U
25	AV	2776	A
59	M	44	A
25	N	84	A
25	N	277	G
25	N	404	A
25	N	421	C
25	N	481	G
25	N	670	A
25	N	784	G
25	N	1109	C
25	N	1900	A
25	N	2225	A
25	N	2311	A
25	N	2655	G
25	N	2756	U
25	N	2776	A
25	N	2832	U
26	O	24	G

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

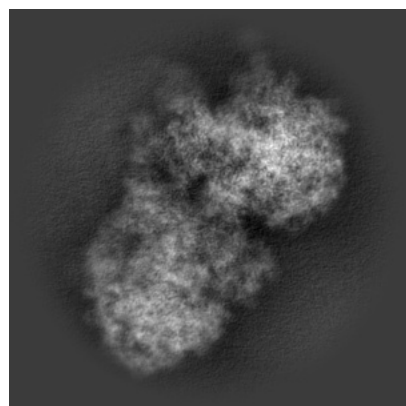
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-51318. These allow visual inspection of the internal detail of the map and identification of artifacts.

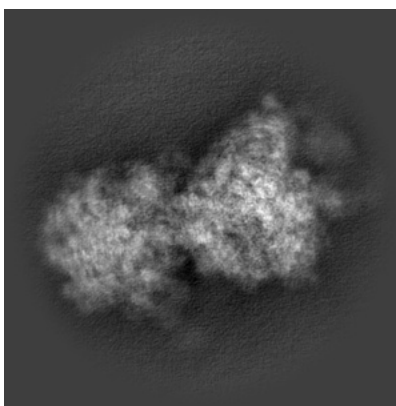
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

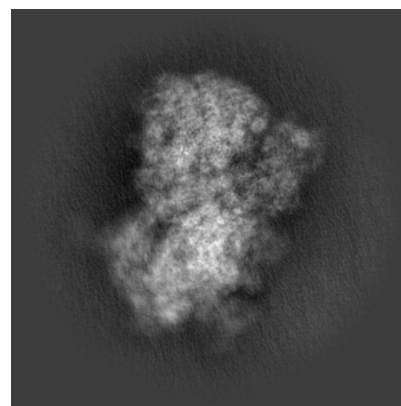
6.1.1 Primary map



X

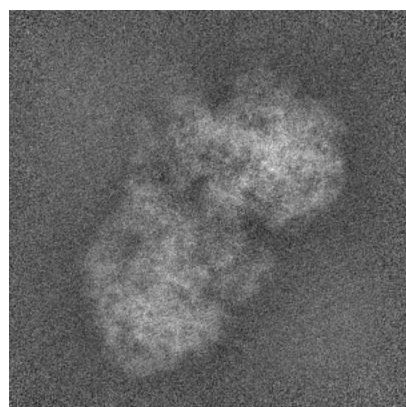


Y

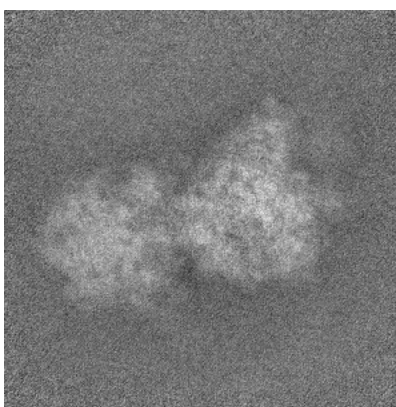


Z

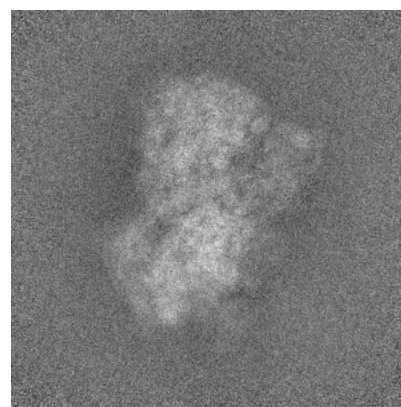
6.1.2 Raw map



X



Y

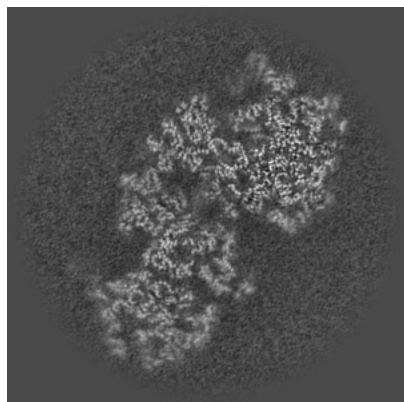


Z

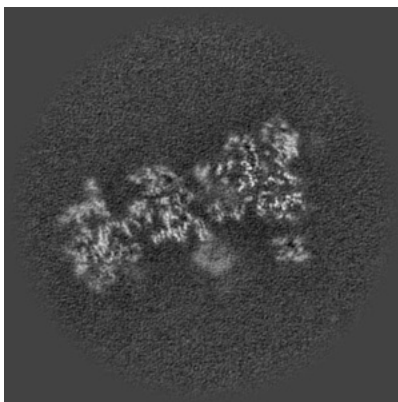
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

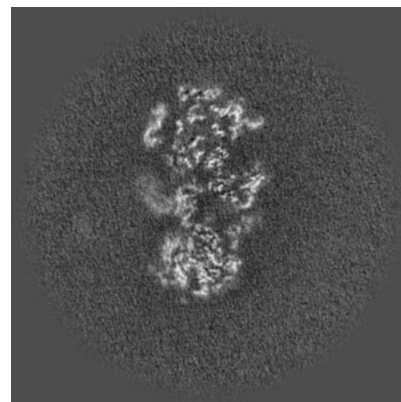
6.2.1 Primary map



X Index: 350

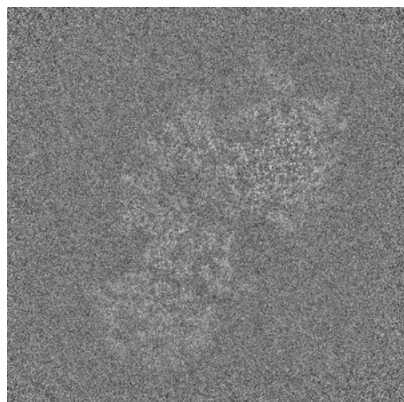


Y Index: 350

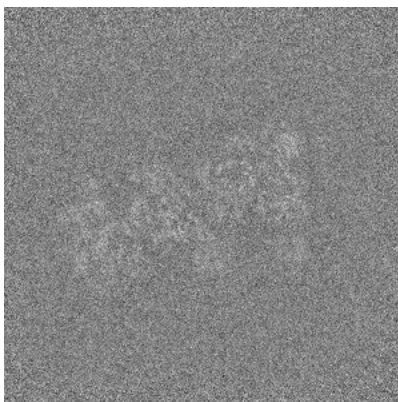


Z Index: 350

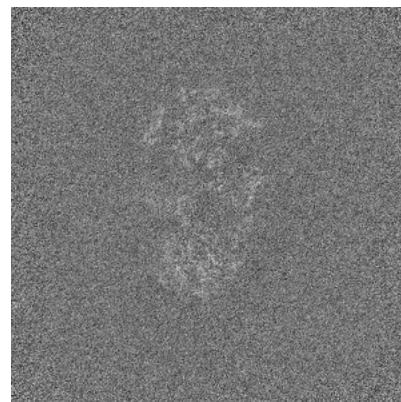
6.2.2 Raw map



X Index: 350



Y Index: 350

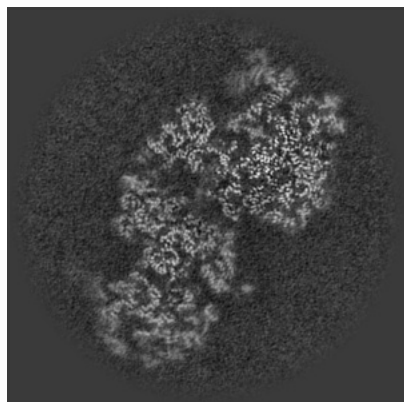


Z Index: 350

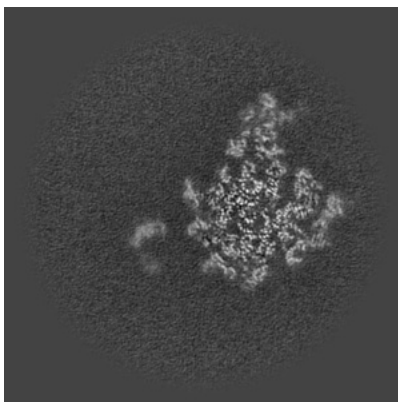
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

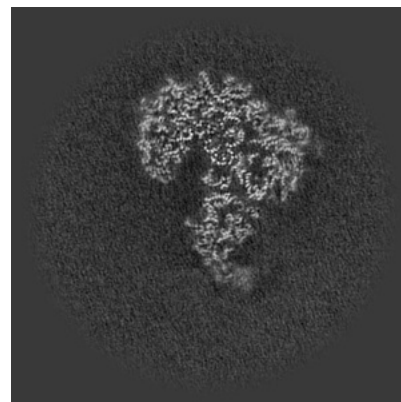
6.3.1 Primary map



X Index: 355

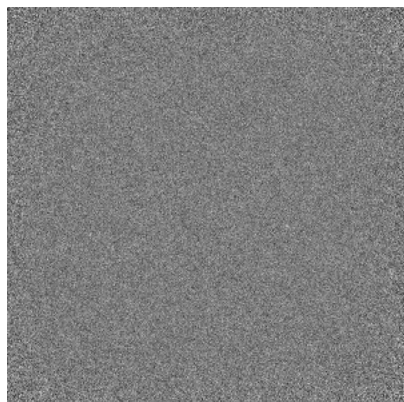


Y Index: 457

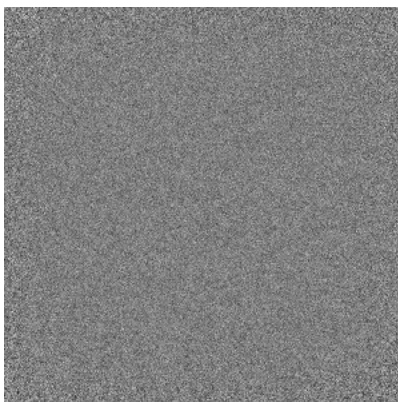


Z Index: 446

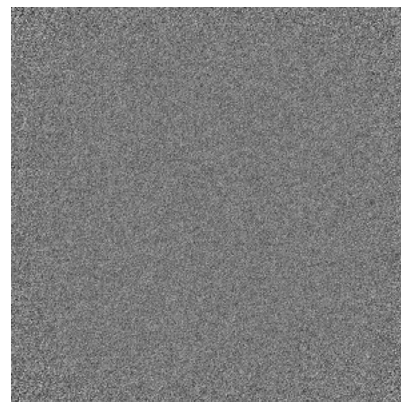
6.3.2 Raw map



X Index: 0



Y Index: 0

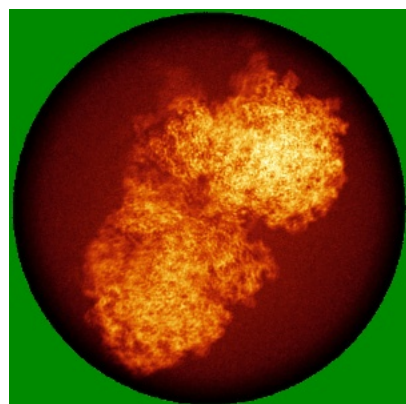


Z Index: 0

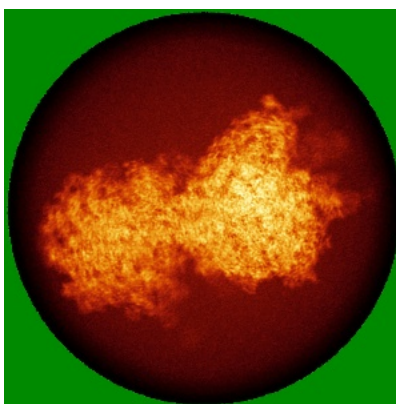
The images above show the largest variance slices of the map in three orthogonal directions.

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

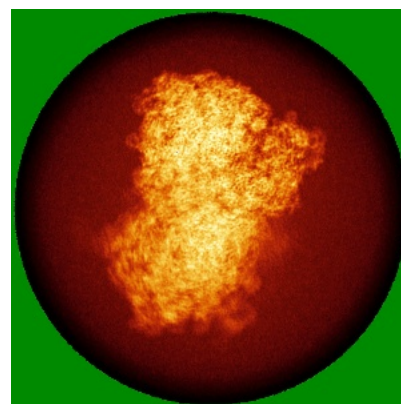
6.4.1 Primary map



X

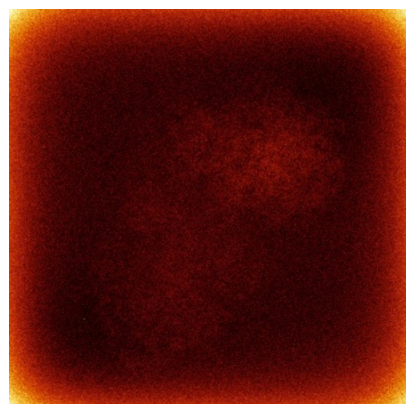


Y

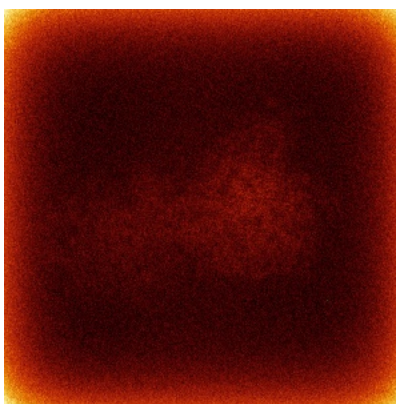


Z

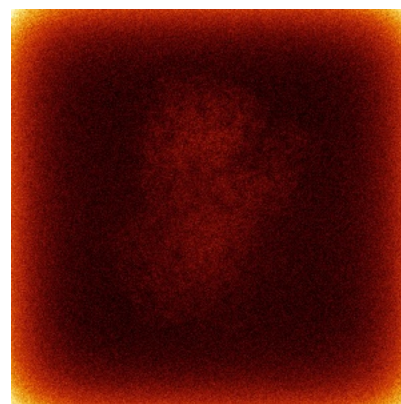
6.4.2 Raw map



X



Y

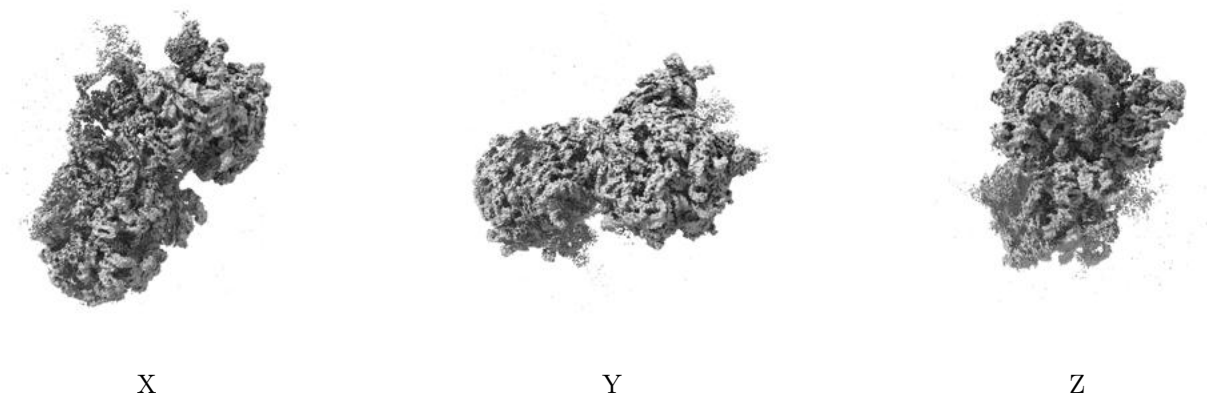


Z

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.

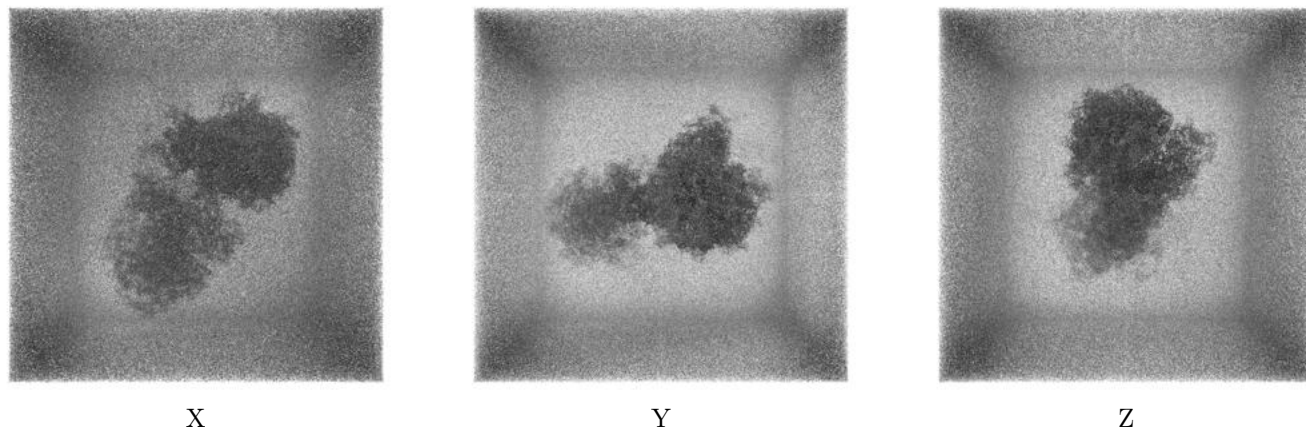
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.165. 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.

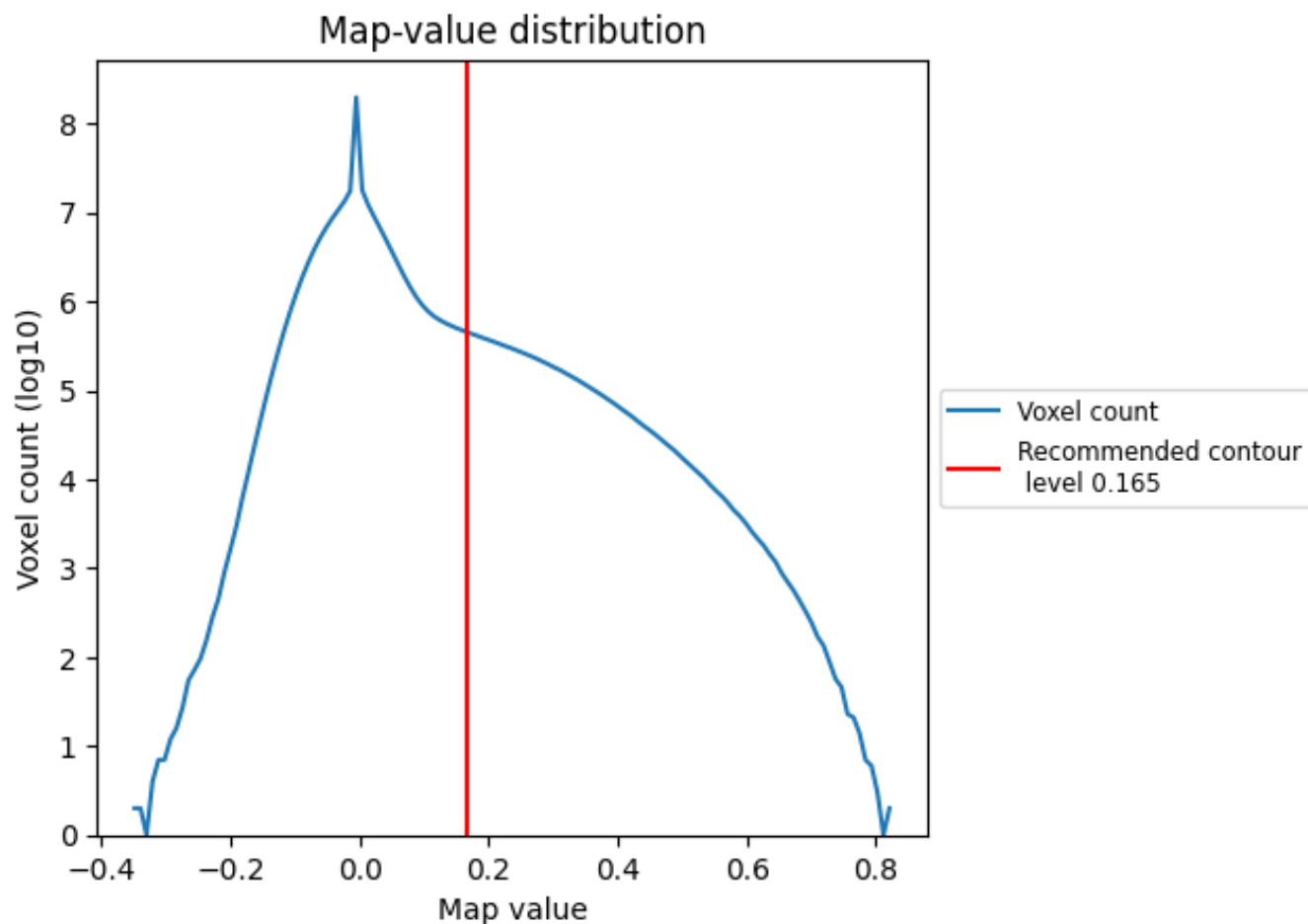
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

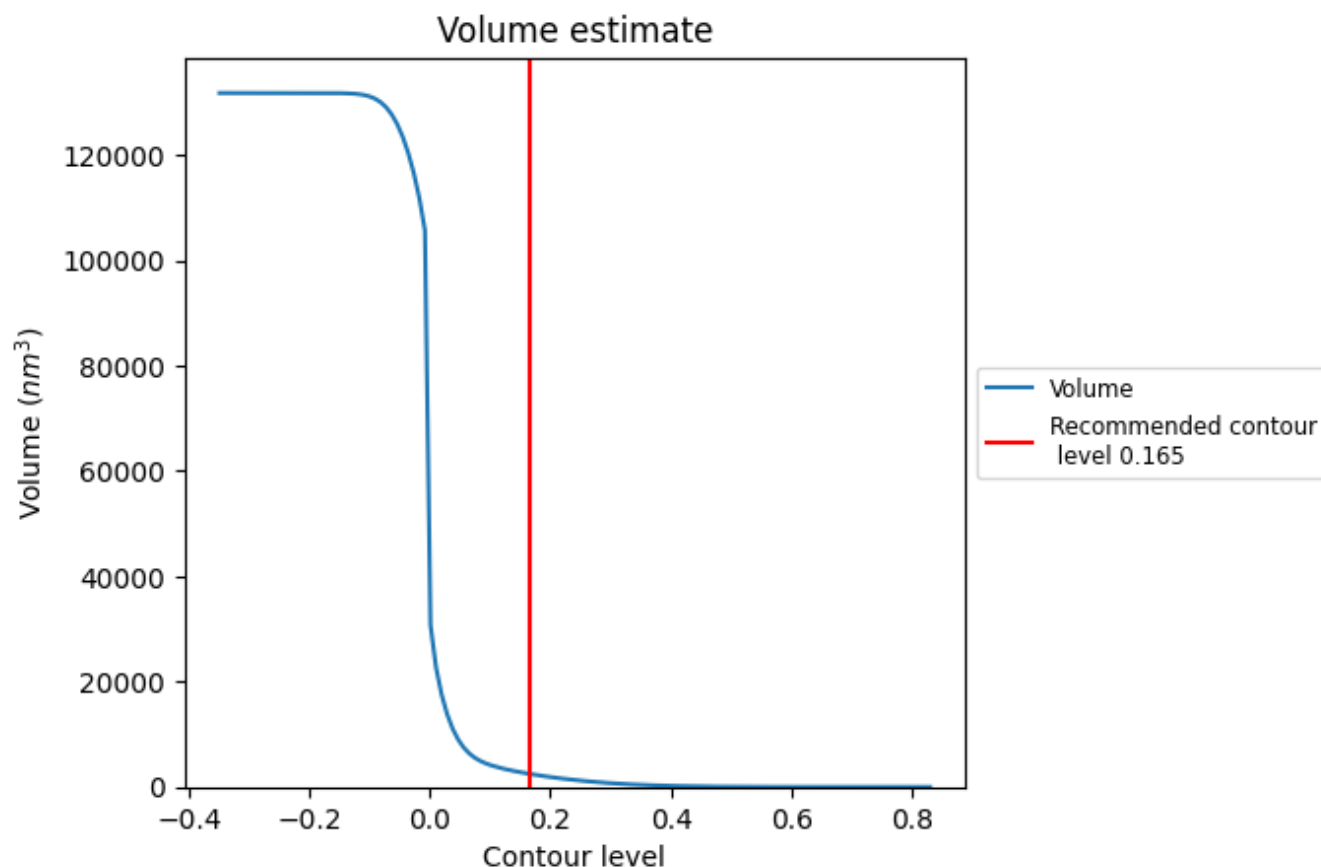
This section contains the results of statistical analysis of the map.

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.

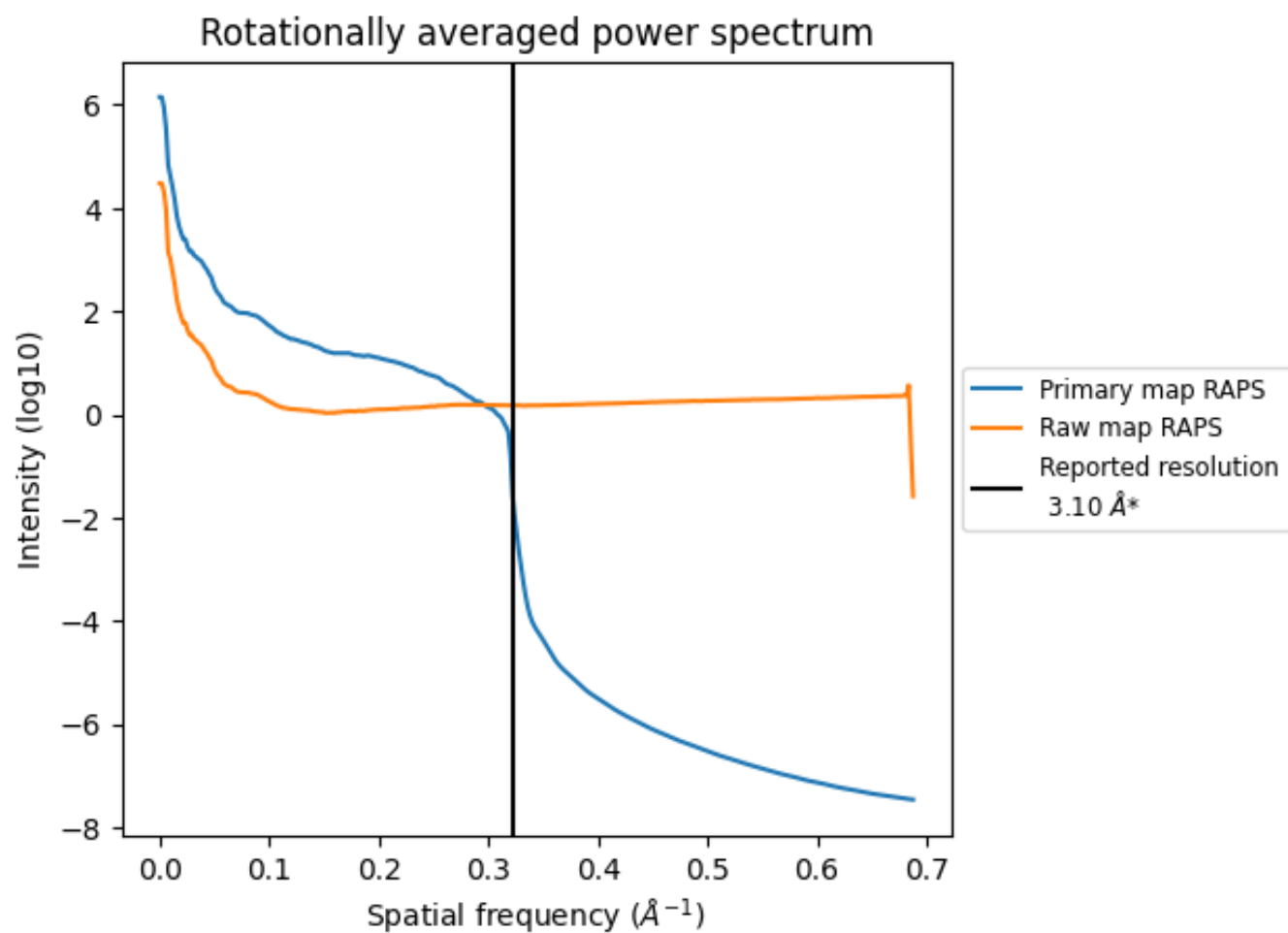
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2494 nm³; this corresponds to an approximate mass of 2253 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 ⓘ

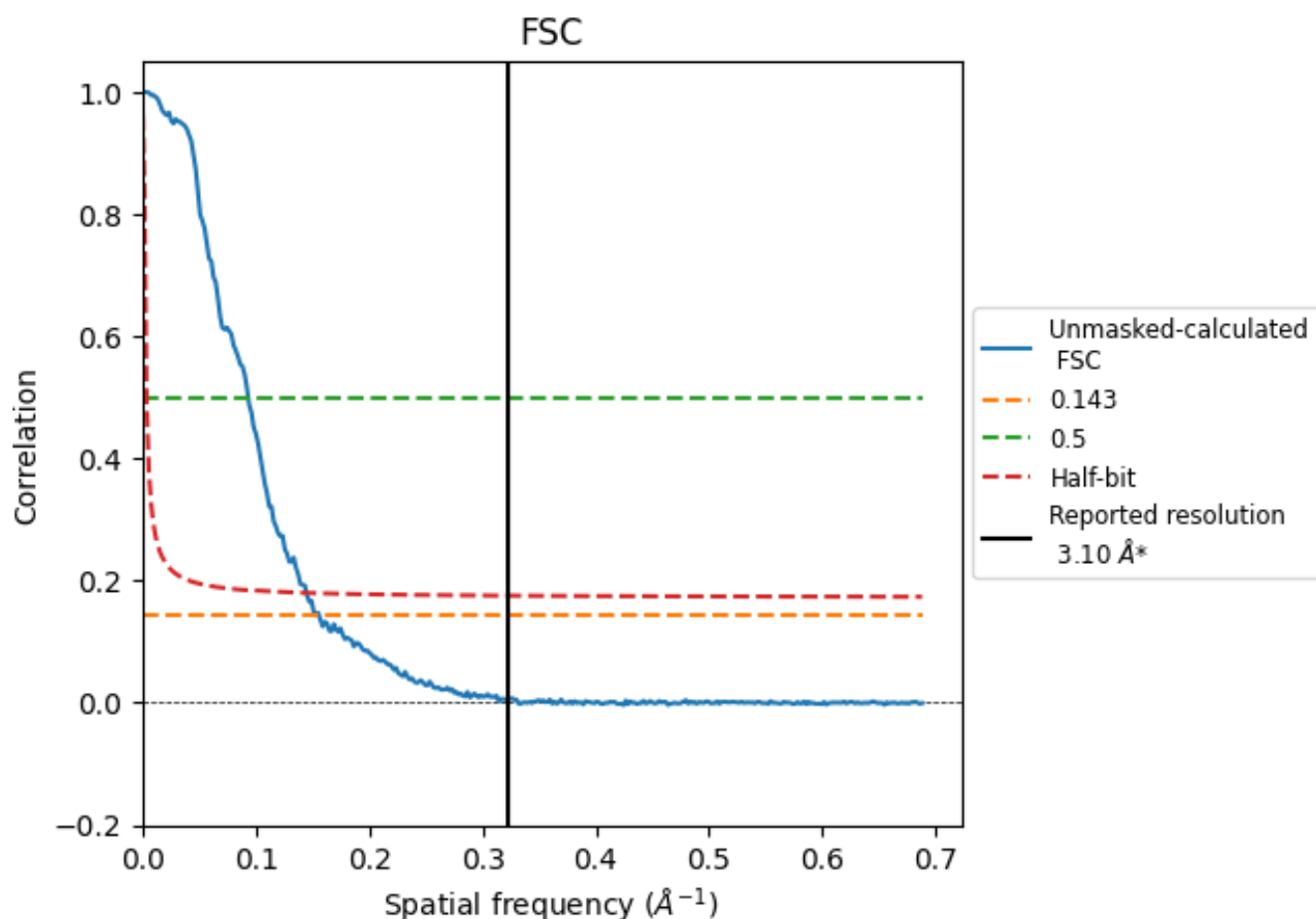


*Reported resolution corresponds to spatial frequency of 0.323 $\text{\AA}^{-1}$

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.323 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.10	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	6.53	10.71	6.90

*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 6.53 differs from the reported value 3.1 by more than 10 %

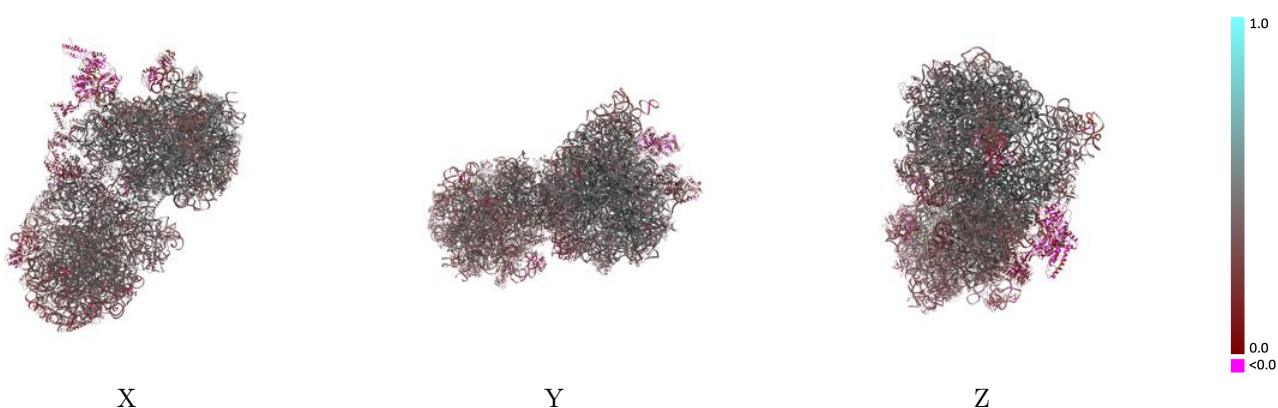
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-51318 and PDB model 9GFT. Per-residue inclusion information can be found in section 3 on page 21.

9.1 Map-model overlay [i](#)

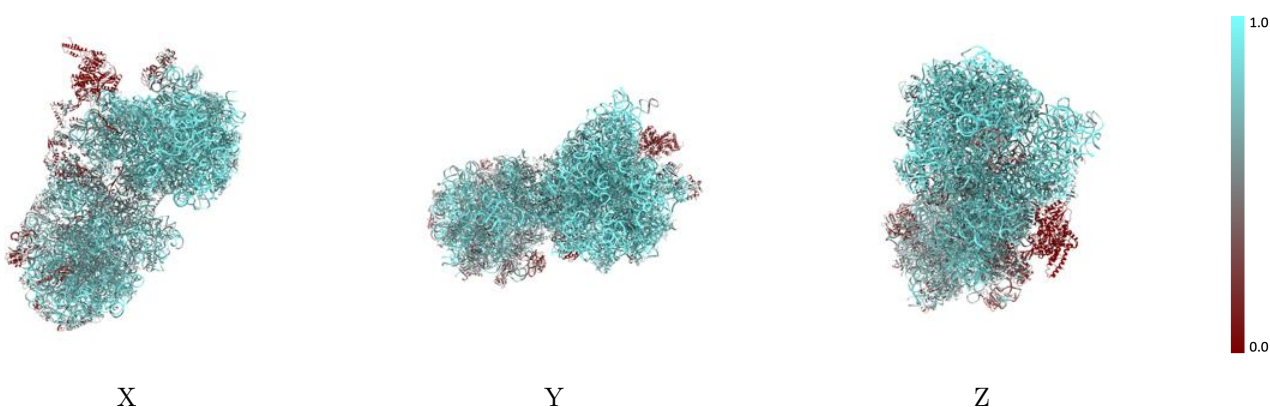
This section was not generated.

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



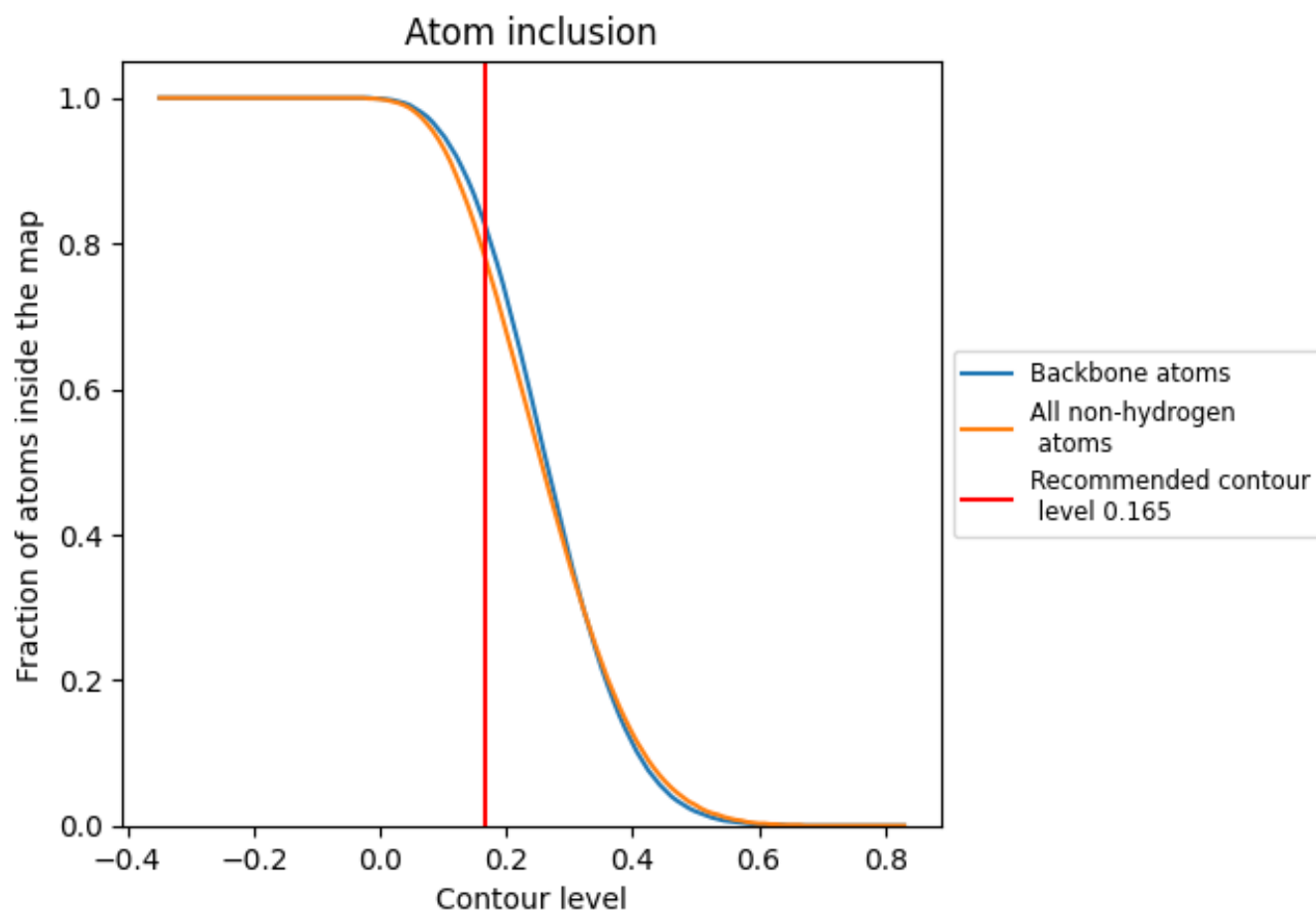
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.165).

9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 78% 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 (0.165) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7850	 0.3850
0	 0.9350	 0.4290
1	 0.6270	 0.3960
2	 0.6800	 0.4380
3	 0.6550	 0.3780
4	 0.7290	 0.4460
5	 0.7000	 0.4350
6	 0.6630	 0.4130
7	 0.7240	 0.4480
8	 0.7050	 0.4210
9	 0.5660	 0.4050
A	 0.8770	 0.4200
A1	 0.4960	 0.3940
A3	 0.6190	 0.3180
AA	 0.8990	 0.3990
AB	 0.5230	 0.3490
AC	 0.5870	 0.4120
AD	 0.5790	 0.4140
AE	 0.5890	 0.4050
AF	 0.5890	 0.3590
AG	 0.6480	 0.3750
AH	 0.5800	 0.3680
AI	 0.6320	 0.3690
AJ	 0.6030	 0.4190
AK	 0.1120	 0.1620
AL	 0.5970	 0.3250
AM	 0.6060	 0.3700
AN	 0.6250	 0.3540
AO	 0.6240	 0.3910
AP	 0.5970	 0.3730
AQ	 0.5990	 0.3760
AR	 0.5890	 0.3300
AS	 0.6090	 0.3140
AT	 0.4690	 0.3030
AU	 0.7460	 0.3420



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Chain	Atom inclusion	Q-score
AV	 0.8490	 0.3450
AW	 0.7780	 0.2440
AX	 0.6080	 0.4290
AY	 0.5270	 0.3630
AZ	 0.3710	 0.3120
Aa	 0.4650	 0.2850
Ab	 0.3150	 0.2550
Ac	 0.2020	 0.2500
Ad	 0.0810	 0.1470
Ae	 0.5090	 0.3040
Af	 0.5290	 0.4120
Ag	 0.5430	 0.3420
Ah	 0.4580	 0.3460
Ai	 0.6700	 0.3670
Aj	 0.4700	 0.2680
Ak	 0.5040	 0.3570
Al	 0.5660	 0.2940
Am	 0.4440	 0.2700
An	 0.6380	 0.3840
Ao	 0.5620	 0.3390
Ap	 0.2530	 0.2670
Aq	 0.4590	 0.2570
Ar	 0.6100	 0.2990
As	 0.6140	 0.3800
At	 0.5710	 0.2760
Au	 0.5440	 0.3220
Av	 0.6990	 0.3690
Aw	 0.5610	 0.3330
Ax	 0.6870	 0.4140
Ay	 0.6050	 0.3870
Az	 0.5620	 0.3460
B	 0.1950	 0.1830
C	 0.0920	 0.1490
D	 0.6690	 0.4580
E	 0.7590	 0.4890
F	 0.7520	 0.4030
G	 0.7210	 0.4080
H	 0.7540	 0.4430
I	 0.7010	 0.4090
J	 0.7250	 0.4380
K	 0.6980	 0.4560
L	 0.6310	 0.3590

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Chain	Atom inclusion	Q-score
M	 0.8960	 0.4310
N	 0.9340	 0.4420
O	 0.9470	 0.3970
P	 0.7830	 0.5070
Q	 0.8050	 0.4730
R	 0.7450	 0.4310
S	 0.6690	 0.3770
T	 0.7650	 0.3990
U	 0.6200	 0.3700
V	 0.1950	 0.1520
W	 0.8310	 0.4510
X	 0.7590	 0.4910
Y	 0.7690	 0.4550
Z	 0.7950	 0.4950
a	 0.8340	 0.4380
b	 0.7290	 0.3770
c	 0.7790	 0.4550
d	 0.8120	 0.4590
e	 0.7790	 0.4440
f	 0.7740	 0.4700
g	 0.7380	 0.4310
h	 0.7410	 0.4060
i	 0.7630	 0.4060
j	 0.8160	 0.4780
k	 0.7540	 0.4720
l	 0.7060	 0.3630
m	 0.8080	 0.4560
n	 0.8140	 0.4590
o	 0.6660	 0.4190
p	 0.7910	 0.5110
q	 0.7880	 0.4950
r	 0.7880	 0.4700
s	 0.7920	 0.4990
t	 0.8000	 0.4300
u	 0.7060	 0.3500
v	 0.5470	 0.4110
w	 0.3900	 0.2920
x	 0.3530	 0.2100
y	 0.6440	 0.4020
z	 0.6430	 0.4370