



Full wwPDB EM Validation Report ⓘ

Sep 5, 2026 – 08:51 am BST

PDB ID : 9T7T / pdb_00009t7t
EMDB ID : EMD-55657
Title : CryoEM structure of Candida auris 80S ribosome in complex with Blasticidin S
Authors : Atamas, A.; Stetsenko, A.; Incarnato, D.; Macia Valero, A.; Rogachev, A.; Billerbeck, S.; Guskov, A.
Deposited on : 2025-11-11
Resolution : 2.80 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:

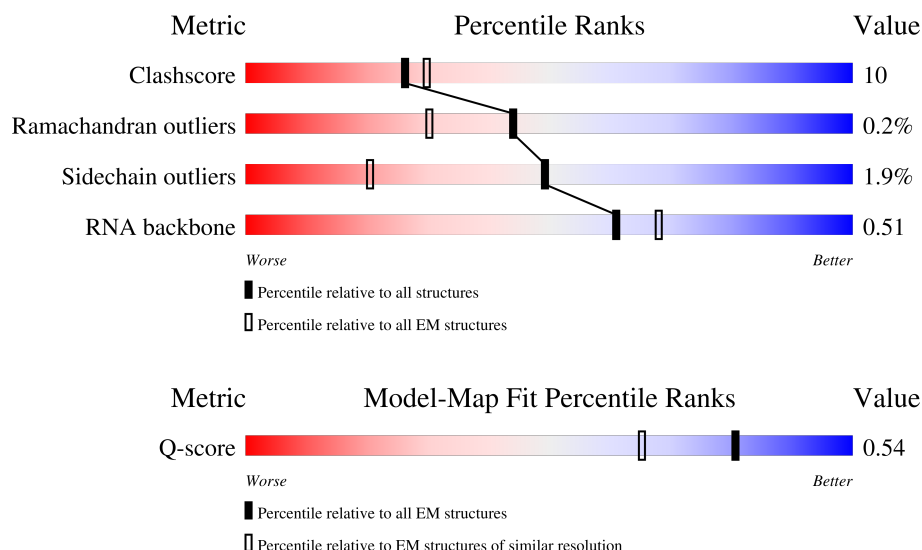
EMDB validation analysis : 0.0.1.dev133
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.50

1 Overall quality at a glance

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

The reported resolution of this entry is 2.80 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.



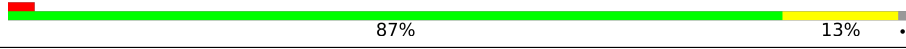
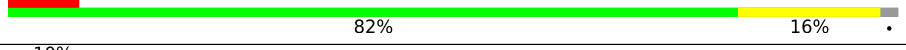
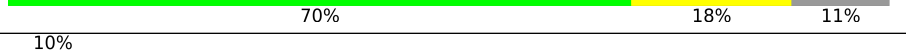
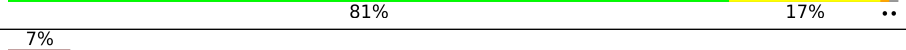
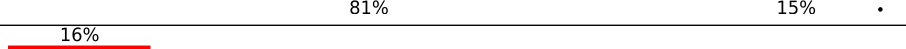
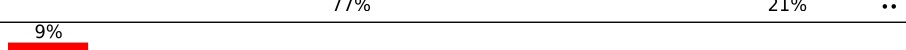
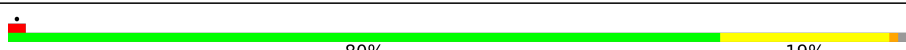
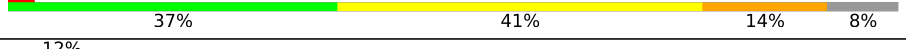
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	11806 (2.30 - 3.30)

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	A	3283	
2	B	122	
3	C	158	

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Mol	Chain	Length	Quality of chain
4	D	254	
5	E	389	
6	F	363	
7	G	298	
8	H	165	
9	I	241	
10	J	263	
11	K	191	
12	L	220	
13	M	172	
14	N	198	
15	O	131	
16	P	204	
17	Q	200	
18	R	185	
19	S	186	
20	T	208	
21	U	186	
22	V	160	
23	W	119	
24	X	137	
25	Y	156	
26	Z	140	
27	CA	1775	
28	ZA	204	

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Mol	Chain	Length	Quality of chain
29	ZB	189	
30	a	127	
31	b	136	
32	c	149	
33	d	76	
34	e	105	
35	f	113	
36	g	149	
37	h	107	
38	i	115	
39	j	120	
40	k	99	
41	l	85	
42	m	78	
43	n	51	
44	o	52	
45	q	106	
46	r	99	
47	1	76	
48	2	7	
49	3	17	
50	ZC	123	
51	ZD	155	
52	ZE	151	
53	ZF	132	

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Mol	Chain	Length	Quality of chain
54	ZG	141	
55	ZH	142	
56	ZI	137	
57	ZJ	145	
58	ZK	145	
59	ZL	118	
60	ZM	87	
61	ZO	130	
62	ZP	145	
63	ZQ	135	
64	ZR	130	
65	ZS	182	
66	ZT	82	
67	ZU	67	
68	ZV	56	
69	ZW	63	
70	ZY	315	
71	p	25	
72	s	264	
73	t	256	
74	u	249	
75	v	250	
76	w	264	
77	x	223	
78	y	236	

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Mol	Chain	Length	Quality of chain
79	z	188	18% 62% 32%

2 Entry composition [i](#)

There are 83 unique types of molecules in this entry. The entry contains 193216 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 25S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	3030	Total	C	N	O	P	0	0
			64825	28944	11716	21135	3030		

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	122	Total	C	N	O	P	0	0
			2609	1164	470	853	122		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	154	Total	C	N	O	P	0	0
			3274	1464	577	1079	154		

- Molecule 4 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	247	Total	C	N	O	S	0	0
			1873	1170	377	324	2		

- Molecule 5 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	387	Total	C	N	O	S	0	0
			3087	1957	579	544	7		

- Molecule 6 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	361	Total	C	N	O	S	0	0
			2786	1751	534	498	3		

- Molecule 7 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	291	Total	C	N	O	S	0	0
			2370	1506	411	449	4		

- Molecule 8 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	150	Total	C	N	O	S	0	0
			1183	761	214	208			

- Molecule 9 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	237	Total	C	N	O	S	0	0
			1913	1230	345	336	2		

- Molecule 10 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	233	Total	C	N	O	S	0	0
			1847	1182	339	322	4		

- Molecule 11 is a protein called 60S ribosomal protein L9-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	190	Total	C	N	O	S	0	0
			1519	965	272	278	4		

- Molecule 12 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	211	Total	C	N	O	S	0	0
			1720	1087	327	298	8		

- Molecule 13 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	170	Total	C	N	O	S	0	0
			1364	854	261	244	5		

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	194	Total	C	N	O	S	0	0
			1538	962	306	269	1		

- Molecule 15 is a protein called Large ribosomal subunit protein eL14 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	129	Total	C	N	O	S	0	0
			1030	657	194	178	1		

- Molecule 16 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	203	Total	C	N	O	S	0	0
			1703	1066	356	279	2		

- Molecule 17 is a protein called 60S ribosomal protein L16-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	199	Total	C	N	O	S	0	0
			1587	1020	299	266	2		

- Molecule 18 is a protein called 60S ribosomal protein L17-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	176	Total	C	N	O		0	0
			1418	882	286	250			

- Molecule 19 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	185	Total	C	N	O		0	0
			1456	919	293	244			

- Molecule 20 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	178	Total	C	N	O	S	0	0
			1435	888	307	236	4		

- Molecule 21 is a protein called 60S ribosomal protein eL20 (formerly L20).

Mol	Chain	Residues	Atoms					AltConf	Trace
21	U	172	Total	C	N	O	S	0	0
			1448	941	261	242	4		

- Molecule 22 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	159	Total	C	N	O	S	0	0
			1282	816	242	221	3		

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	W	107	Total	C	N	O	S	0	0
			871	566	148	157			

- Molecule 24 is a protein called 60S ribosomal protein L23-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	X	137	Total	C	N	O	S	0	0
			1013	636	189	179	9		

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Y	62	Total	C	N	O	S	0	0
			517	330	103	83	1		

- Molecule 26 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	120	Total	C	N	O	S	0	0
			955	607	175	173			

- Molecule 27 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	CA	1636	Total	C	N	O	P	0	0
			34938	15612	6249	11441	1636		

- Molecule 28 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	ZA	194	Total	C	N	O	S	0	0
			1545	958	309	276	2		

- Molecule 29 is a protein called 40S ribosomal protein S9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	ZB	178	Total	C	N	O	S	0	0
			1459	921	287	249	2		

- Molecule 30 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	a	126	Total	C	N	O	S	0	0
			994	624	188	181	1		

- Molecule 31 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	b	135	Total	C	N	O	S	0	0
			1081	691	207	182	1		

- Molecule 32 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	c	148	Total	C	N	O	S	0	0
			1174	742	234	196	2		

- Molecule 33 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms				AltConf	Trace
33	d	60	Total	C	N	O	0	0
			498	302	114	82		

- Molecule 34 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	e	99	Total	C	N	O	S	0	0
			744	476	125	139	4		

- Molecule 35 is a protein called 60S ribosomal protein L31-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	f	109	Total	C	N	O	S	0	0
			895	563	173	156	3		

- Molecule 36 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	g	123	Total	C	N	O	S	0	0
			1002	629	201	170	2		

- Molecule 37 is a protein called 60S ribosomal protein L33-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	h	106	Total	C	N	O	S	0	0
			859	544	168	146	1		

- Molecule 38 is a protein called 60S ribosomal protein L34-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	i	113	Total	C	N	O	S	0	0
			897	558	179	156	4		

- Molecule 39 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms				AltConf	Trace
39	j	118	Total	C	N	O	0	0
			956	603	191	162		

- Molecule 40 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	k	98	Total	C	N	O	S	0	0
			774	479	163	131	1		

- Molecule 41 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	l	83	Total	C	N	O	S	0	0
			654	396	142	109	7		

- Molecule 42 is a protein called Large ribosomal subunit protein eL38.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	m	77	Total	C	N	O	0	0
			617	396	112	109		

- Molecule 43 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms				AltConf	Trace
43	n	50	Total	C	N	O	0	0
			442	277	98	67		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	50	ASN	GLY	conflict	UNP A0A1D8PDT4

- Molecule 44 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	o	52	Total	C	N	O	S	0	0
			419	260	86	67	6		

- Molecule 45 is a protein called 60S ribosomal protein L44.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	q	103	Total	C	N	O	S	0	0
			822	517	164	136	5		

- Molecule 46 is a protein called 60S ribosomal protein L43.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	r	90	Total	C	N	O	S	0	0
			691	425	141	121	4		

- Molecule 47 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	1	35	Total	C	N	O	P	0	0
			750	335	138	242	35		

- Molecule 48 is a RNA chain called RNA (5'-R(P*CP*GP*AP*UP*UP*CP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
48	2	7	Total	C	N	O	P	0	0
			147	66	25	49	7		

- Molecule 49 is a RNA chain called A-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	3	17	Total	C	N	O	P	0	0
			365	163	68	117	17		

- Molecule 50 is a protein called 40S ribosomal protein S10-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	ZC	91	Total	C	N	O		0	0
			770	502	126	142			

- Molecule 51 is a protein called 40S ribosomal protein S11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	ZD	142	Total	C	N	O	S	0	0
			1145	732	218	192	3		

- Molecule 52 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	ZE	149	Total	C	N	O	S	0	0
			1184	755	220	208	1		

- Molecule 53 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	ZF	127	Total	C	N	O	S	0	0
			945	578	188	176	3		

- Molecule 54 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	ZG	116	Total	C	N	O	S	0	0
			904	582	161	156	5		

- Molecule 55 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	ZH	140	Total	C	N	O	S	0	0
			1091	700	200	190	1		

- Molecule 56 is a protein called 40S ribosomal protein S17-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	ZI	126	Total	C	N	O	S	0	0
			1012	636	185	190	1		

- Molecule 57 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	ZJ	142	Total	C	N	O	S	0	0
			1170	733	229	204	4		

- Molecule 58 is a protein called 40S ribosomal protein S19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	ZK	141	Total	C	N	O		0	0
			1101	691	208	202			

- Molecule 59 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	ZL	100	Total	C	N	O	S	0	0
			782	496	142	142	2		

- Molecule 60 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	ZM	87	Total	C	N	O	S	0	0
			678	415	127	134	2		

- Molecule 61 is a protein called 40S ribosomal protein S22.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	ZO	129	Total	C	N	O	S	0	0
			1032	656	190	183	3		

- Molecule 62 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	ZP	143	Total	C	N	O	S	0	0
			1109	698	219	190	2		

- Molecule 63 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	ZQ	132	Total	C	N	O	S	0	0
			1073	677	207	189			

- Molecule 64 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	ZR	71	Total	C	N	O	S	0	0
			564	360	104	99	1		

- Molecule 65 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	ZS	98	Total	C	N	O	S	0	0
			785	484	166	129	6		

- Molecule 66 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	ZT	81	Total	C	N	O	S	0	0
			617	383	112	115	7		

- Molecule 67 is a protein called 40S ribosomal protein S28-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	ZU	61	Total	C	N	O	S	0	0
			477	293	94	88	2		

- Molecule 68 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	ZV	54	Total	C	N	O	S	0	0
			449	278	93	74	4		

- Molecule 69 is a protein called Small ribosomal subunit protein eS30.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	ZW	54	Total	C	N	O	S	0	0
			432	270	87	73	2		

- Molecule 70 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	ZY	308	Total	C	N	O	S	0	0
			2383	1510	405	464	4		

- Molecule 71 is a protein called Small ribosomal subunit protein eS32.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	p	8	Total	C	N	O	S	0	0
			79	50	18	10	1		

- Molecule 72 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	s	217	Total	C	N	O	S	0	0
			1705	1087	297	318	3		

- Molecule 73 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	t	212	Total	C	N	O	S	0	0
			1703	1082	312	305	4		

- Molecule 74 is a protein called Rps21 ribosomal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	u	216	Total	C	N	O	S	0	0
			1636	1048	287	296	5		

- Molecule 75 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	v	224	Total	C	N	O	S	0	0
			1737	1109	314	309	5		

- Molecule 76 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	w	260	Total	C	N	O	S	0	0
			2056	1303	386	361	6		

- Molecule 77 is a protein called 40S ribosomal protein uS7 (formerly S5).

Mol	Chain	Residues	Atoms					AltConf	Trace
77	x	206	Total	C	N	O	S	0	0
			1610	1008	300	298	4		

- Molecule 78 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	y	226	Total	C	N	O	S	0	0
			1819	1128	355	331	5		

- Molecule 79 is a protein called 40S ribosomal protein eS7 (formerly S7).

Mol	Chain	Residues	Atoms				AltConf	Trace
79	z	183	Total	C	N	O	0	0
			1471	942	265	264		

- Molecule 80 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
80	A	152	Total	Mg	0
			152	152	
80	B	3	Total	Mg	0
			3	3	
80	C	1	Total	Mg	0
			1	1	
80	D	1	Total	Mg	0
			1	1	
80	L	2	Total	Mg	0
			2	2	
80	X	1	Total	Mg	0
			1	1	
80	CA	58	Total	Mg	0
			58	58	
80	h	1	Total	Mg	0
			1	1	
80	n	1	Total	Mg	0
			1	1	

- # BLS

Mol	Chain	Residues	Atoms				AltConf
81	A	1	Total	C	N	O	0
			30	17	8	5	

- | Mol | Chain | Residues | Atoms | AltConf |
|-----|-------|----------|-----------------|---------|
| 82 | i | 1 | Total Zn
1 1 | 0 |
| 82 | l | 1 | Total Zn
1 1 | 0 |
| 82 | o | 1 | Total Zn
1 1 | 0 |
| 82 | q | 1 | Total Zn
1 1 | 0 |
| 82 | r | 1 | Total Zn
1 1 | 0 |
| 82 | ZS | 1 | Total Zn
1 1 | 0 |
| 82 | ZV | 1 | Total Zn
1 1 | 0 |

- | Mol | Chain | Residues | Atoms | AltConf |
|-----|-------|----------|------------------|---------|
| 83 | A | 83 | Total O
83 83 | 0 |



WORLD WIDE
PDB
PROTEIN DATA BANK

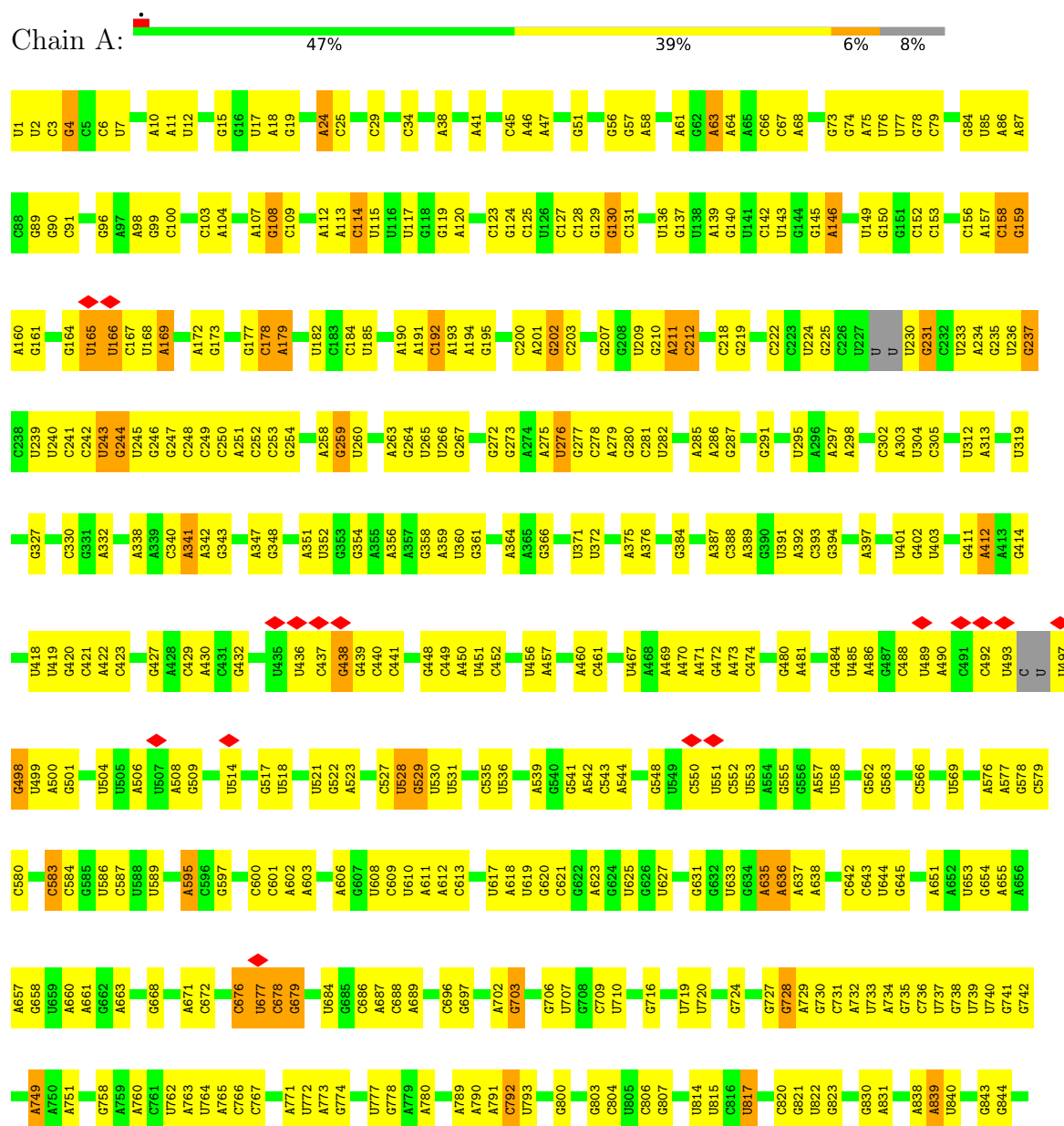
Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
83	B	2	Total 2	O 2	0
83	C	3	Total 3	O 3	0
83	E	1	Total 1	O 1	0
83	P	2	Total 2	O 2	0
83	d	1	Total 1	O 1	0
83	i	1	Total 1	O 1	0
83	q	1	Total 1	O 1	0

3 Residue-property plots

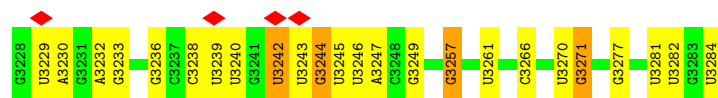
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: 25S rRNA

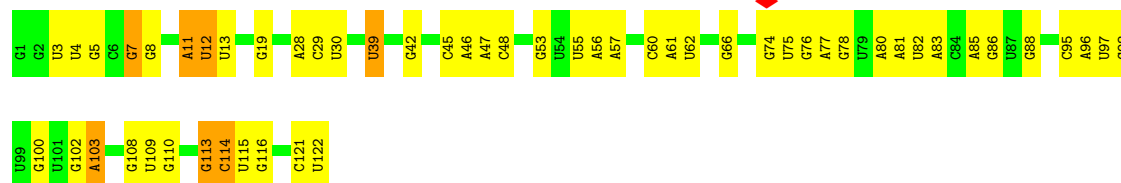




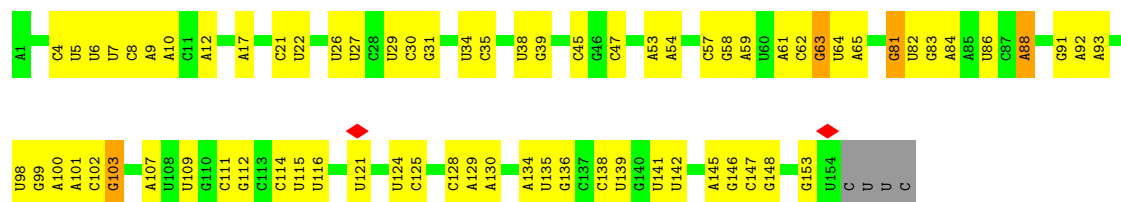




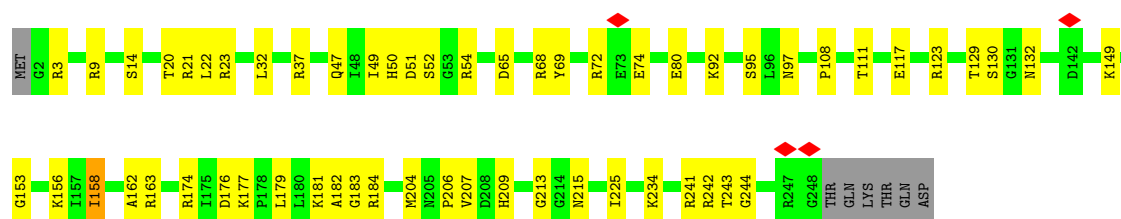
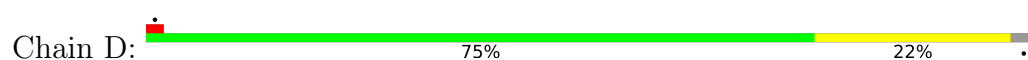
• Molecule 2: 5S rRNA



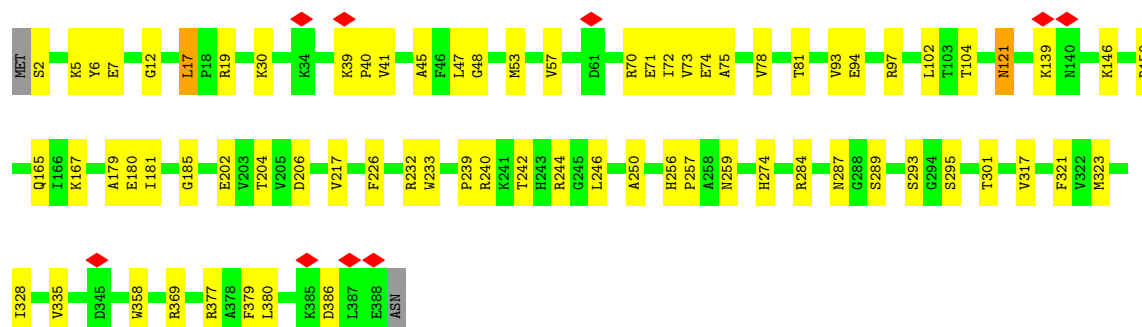
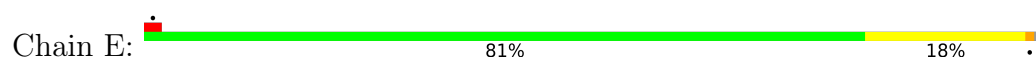
• Molecule 3: 5.8S rRNA



• Molecule 4: 60S ribosomal protein L2-A

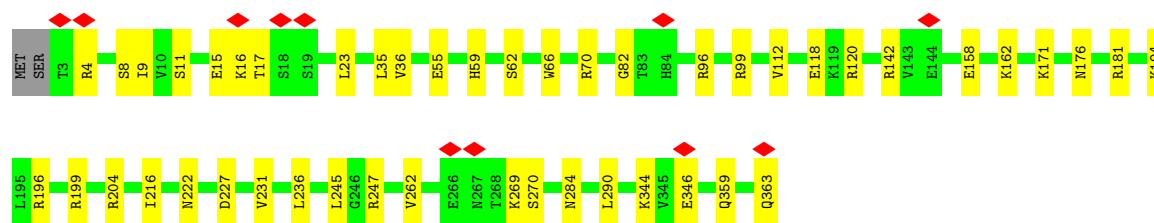


• Molecule 5: Large ribosomal subunit protein uL3



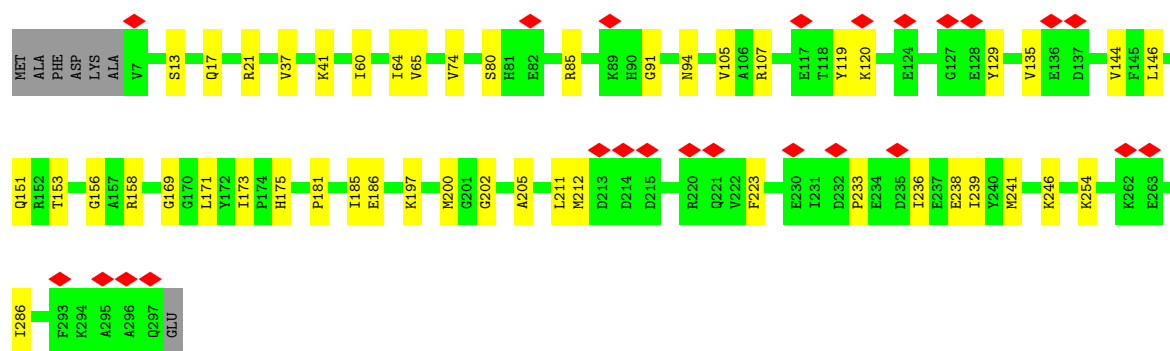
- Molecule 6: 60S ribosomal protein L4-A

Chain F:  87% 13%



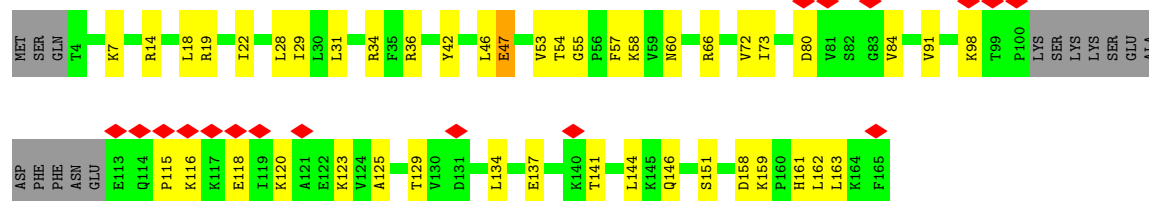
- Molecule 7: 60S ribosomal protein L5

Chain G:  8% 82% 16%



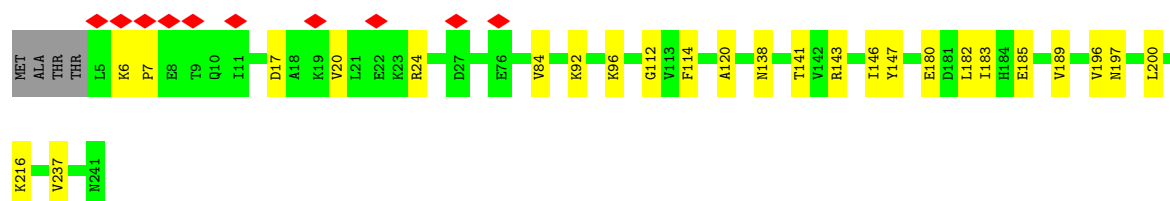
- Molecule 8: 60S ribosomal protein L6

Chain H:  10% 64% 26% 9%

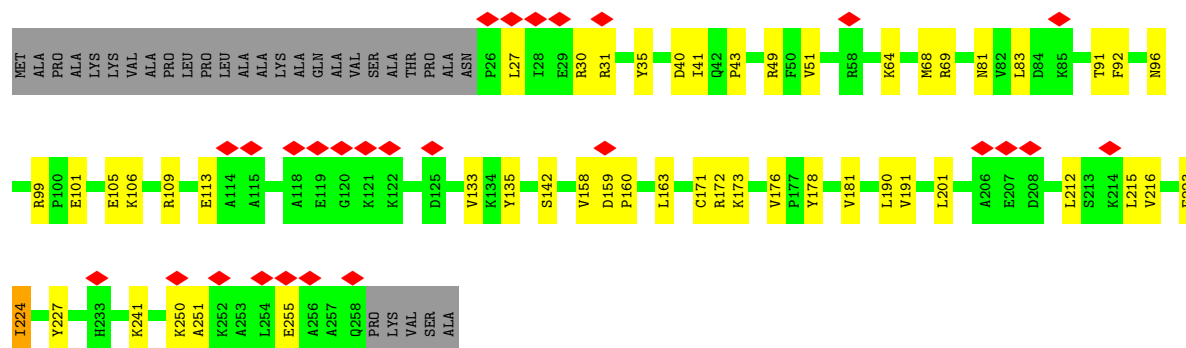


- Molecule 9: 60S ribosomal protein L7

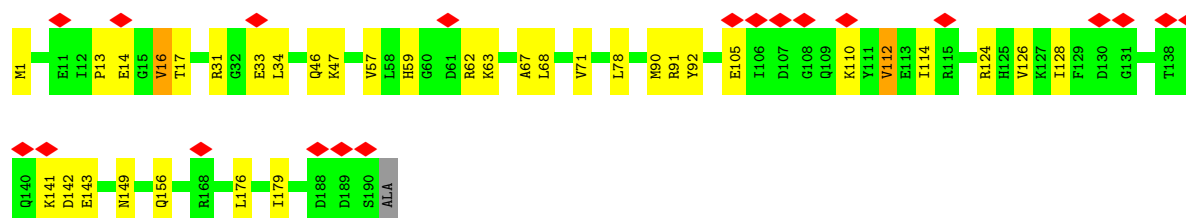
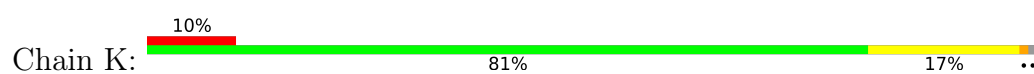
Chain I:  88% 11%



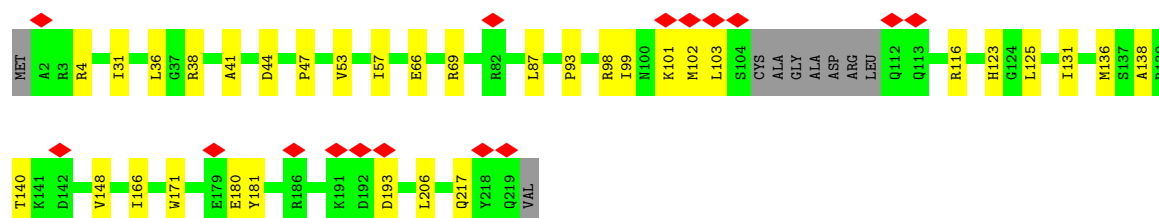
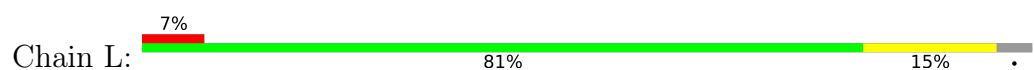
- Molecule 10: 60S ribosomal protein L8



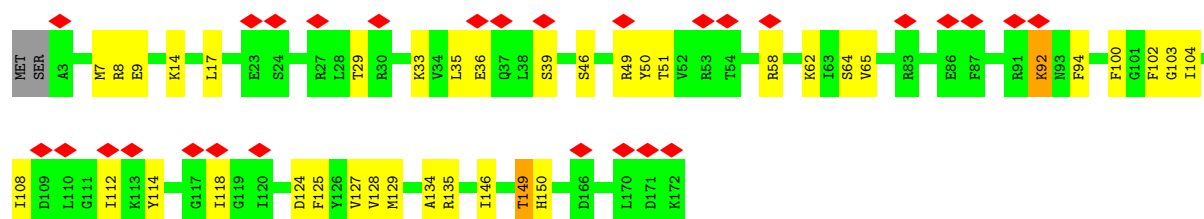
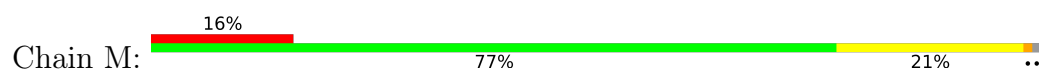
- Molecule 11: 60S ribosomal protein L9-B



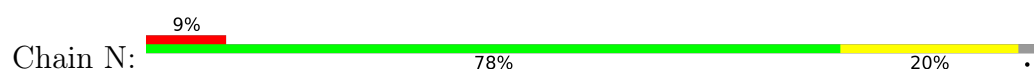
- Molecule 12: 60S ribosomal protein L10

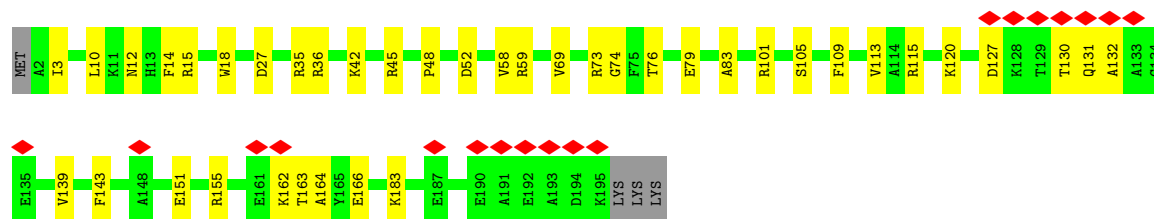


- Molecule 13: 60S ribosomal protein L11-A

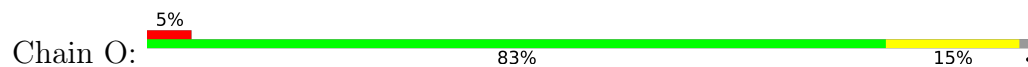


- Molecule 14: 60S ribosomal protein L13

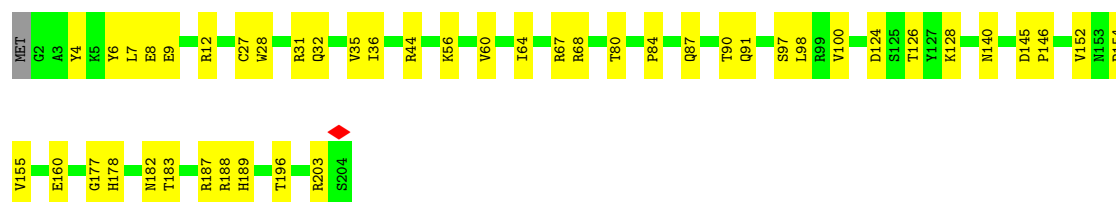
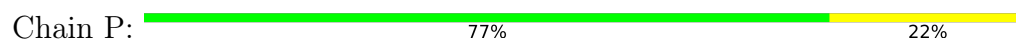




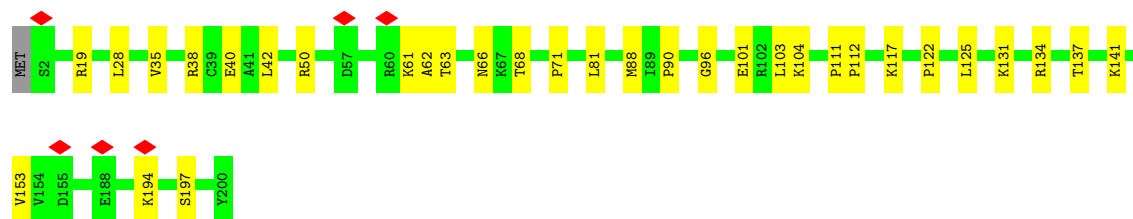
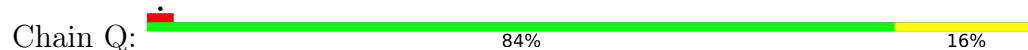
- Molecule 15: Large ribosomal subunit protein eL14 domain-containing protein



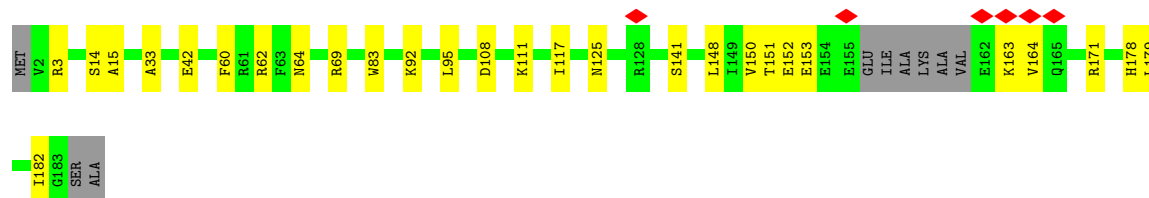
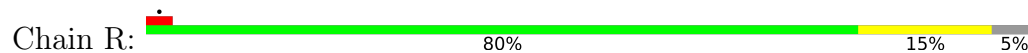
- Molecule 16: Ribosomal protein L15



- Molecule 17: 60S ribosomal protein L16-B

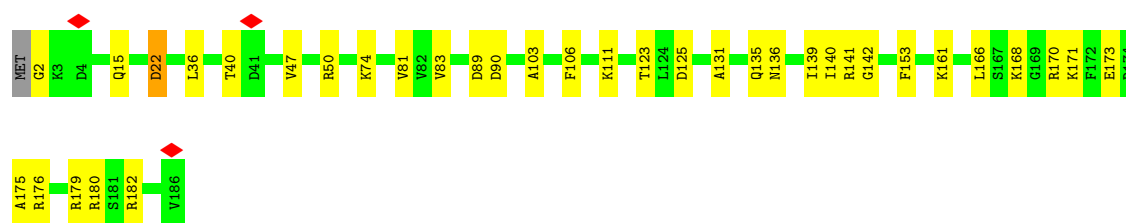


- Molecule 18: 60S ribosomal protein L17-B



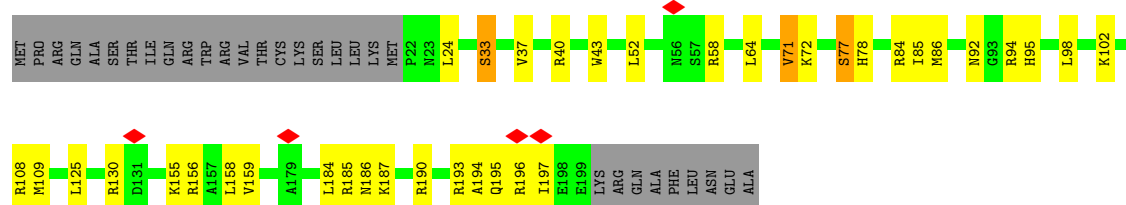
- Molecule 19: 60S ribosomal protein L18-A

Chain S:  80% 19% ..



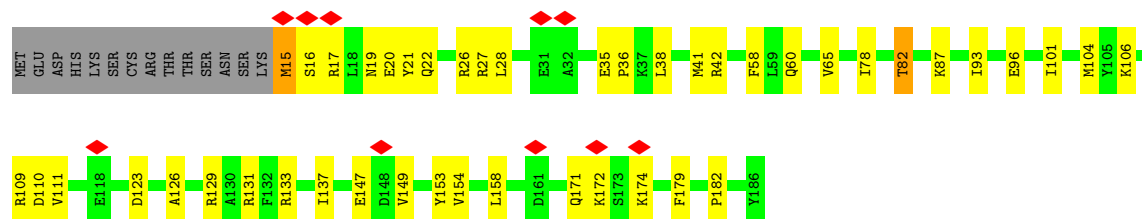
- Molecule 20: Ribosomal protein L19

Chain T:  67% 17% 14%



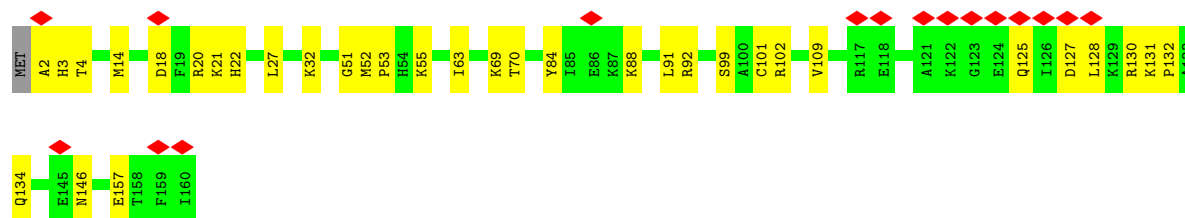
- Molecule 21: 60S ribosomal protein eL20 (formerly L20)

Chain U:  5% 68% 23% 8%



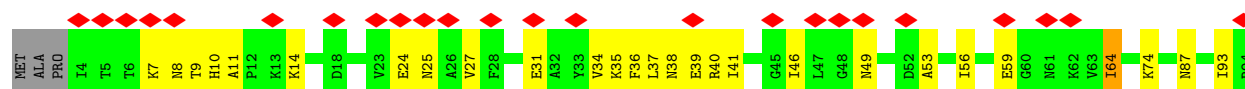
- Molecule 22: 60S ribosomal protein L21-A

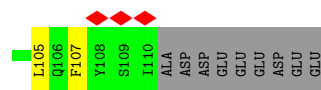
Chain V:  10% 78% 21%



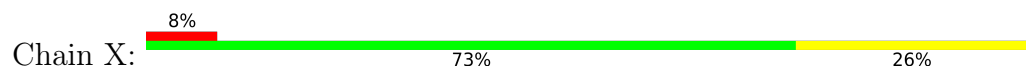
- Molecule 23: 60S ribosomal protein L22

Chain W:  23% 66% 24% 10%

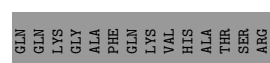
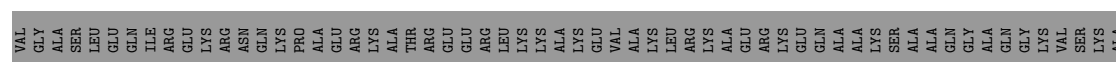
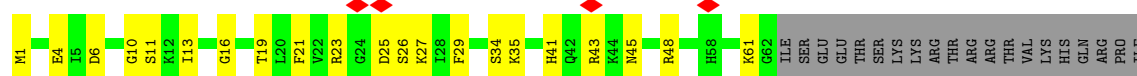




• Molecule 24: 60S ribosomal protein L23-B



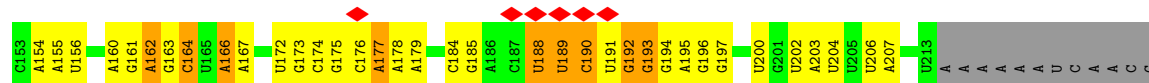
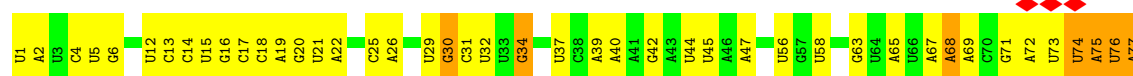
• Molecule 25: 60S ribosomal protein L24

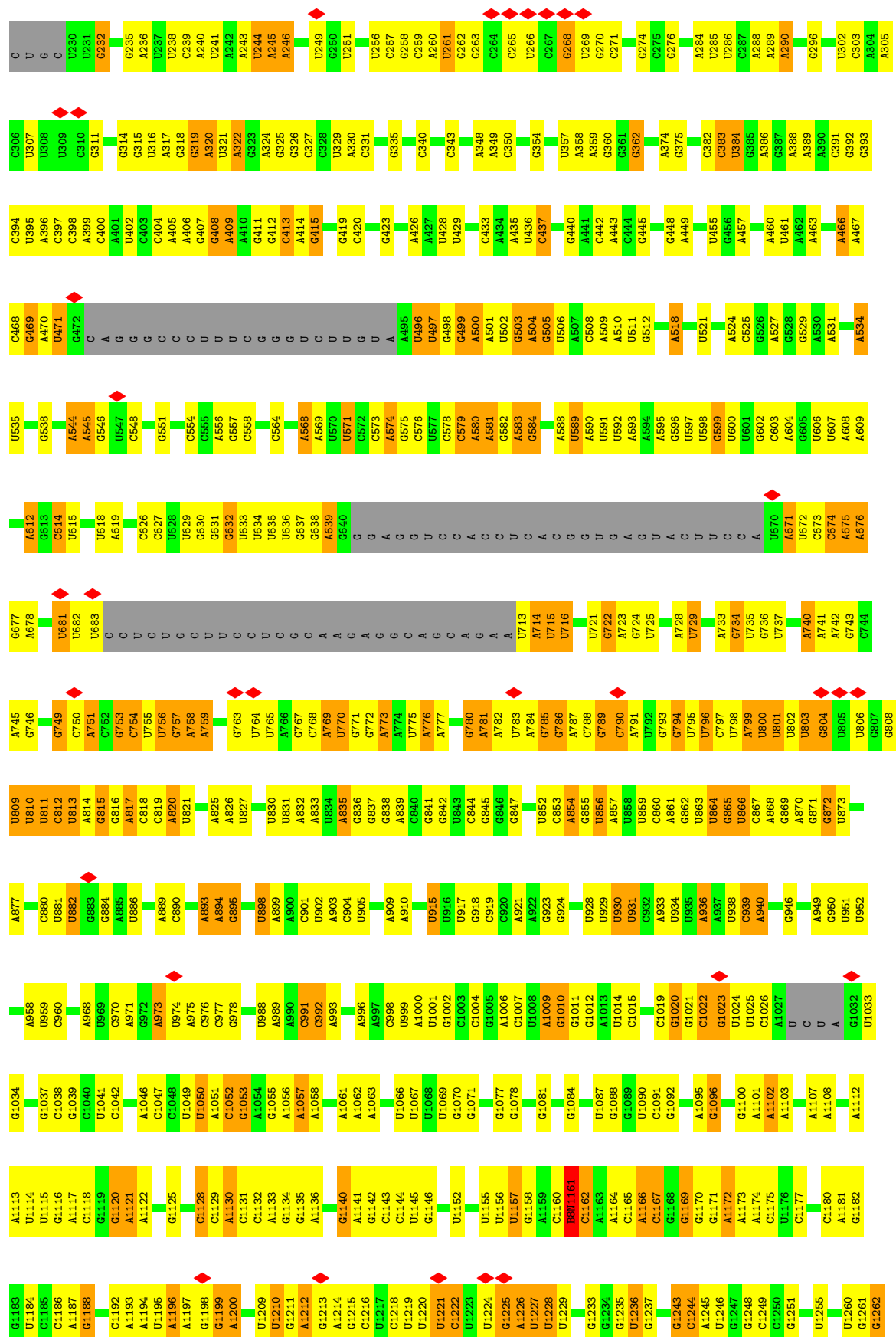


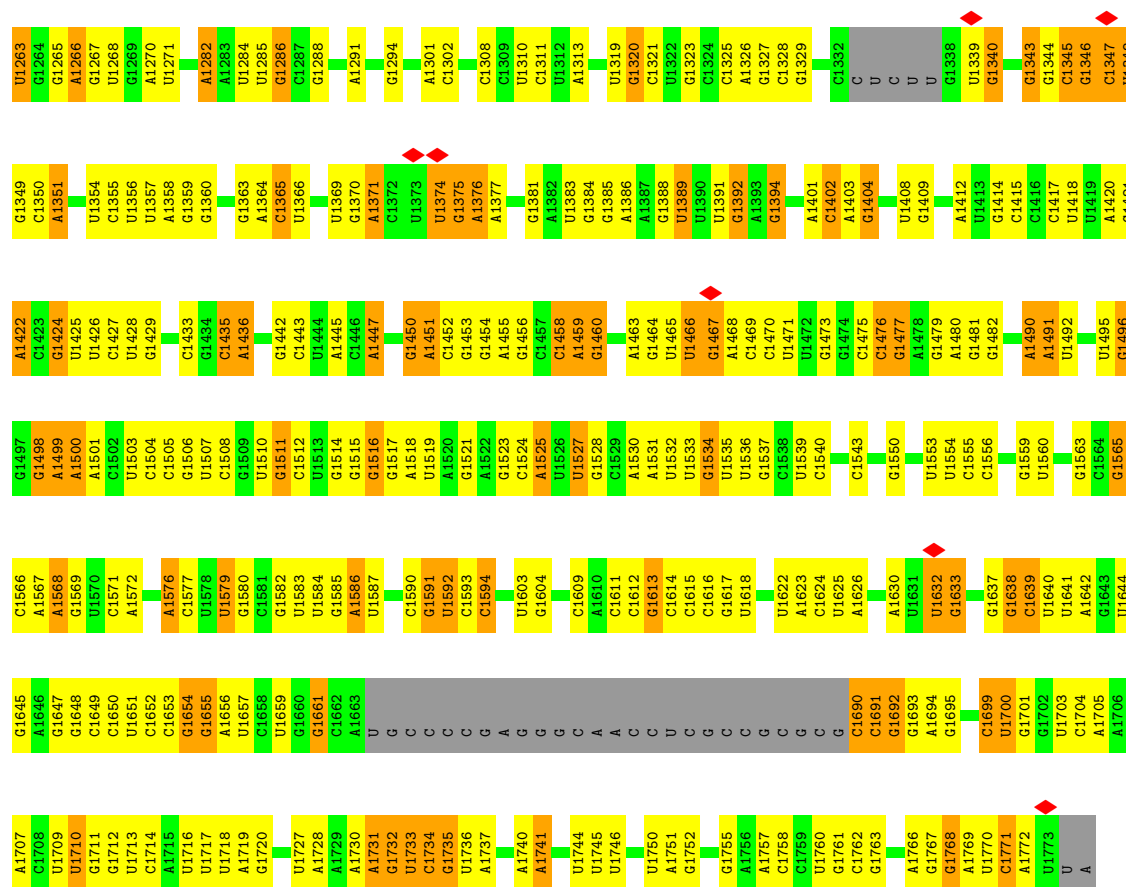
• Molecule 26: Large ribosomal subunit protein uL23



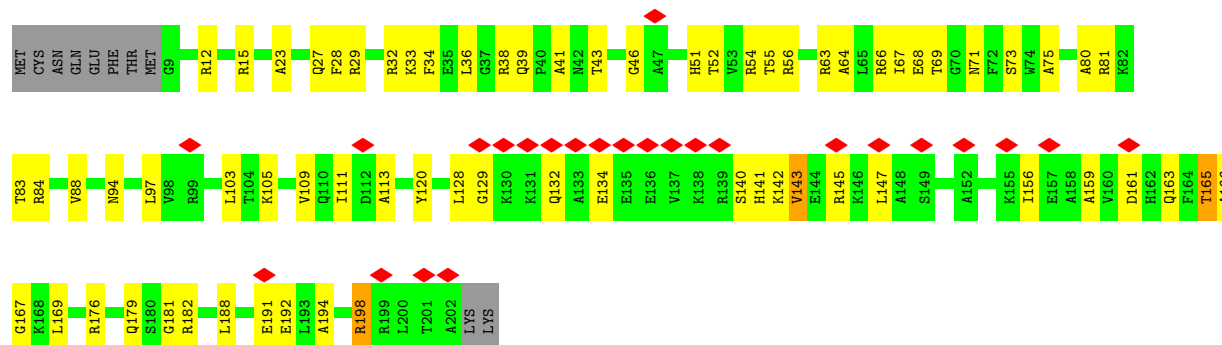
• Molecule 27: 18S rRNA



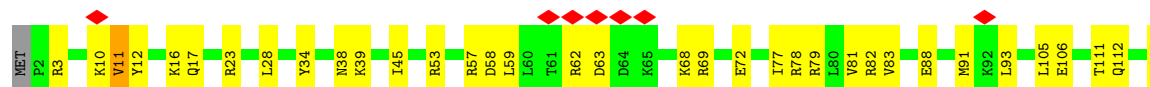


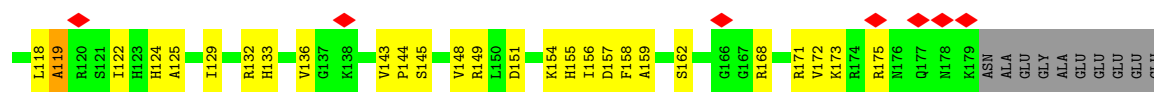


• Molecule 28: 40S ribosomal protein S8



• Molecule 29: 40S ribosomal protein S9-A

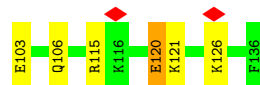
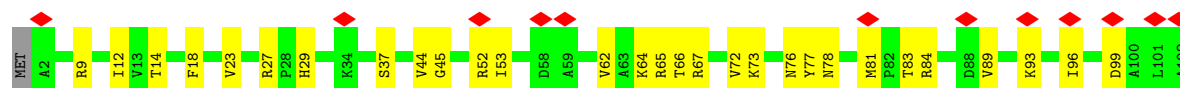
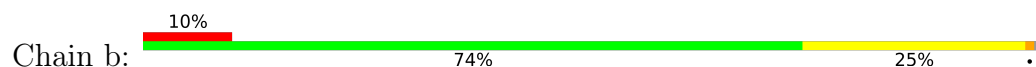




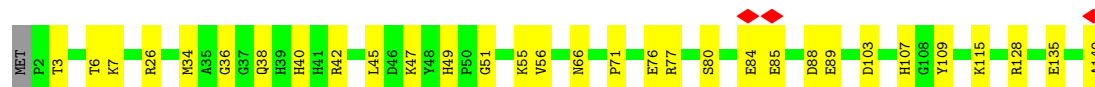
• Molecule 30: Ribosomal protein L24



• Molecule 31: 60S ribosomal protein L27



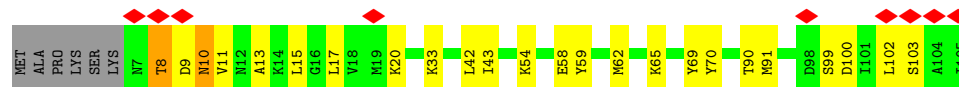
• Molecule 32: 60S ribosomal protein L28



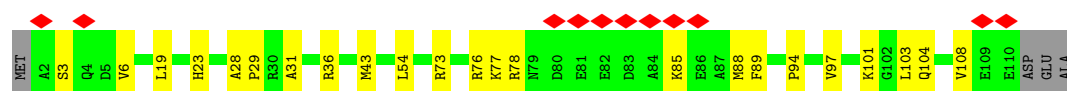
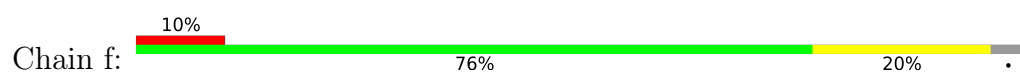
• Molecule 33: 60S ribosomal protein L29



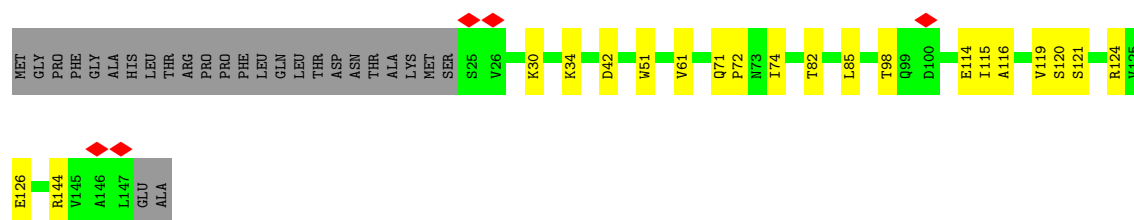
• Molecule 34: 60S ribosomal protein L30



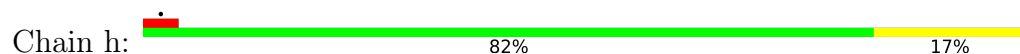
• Molecule 35: 60S ribosomal protein L31-A



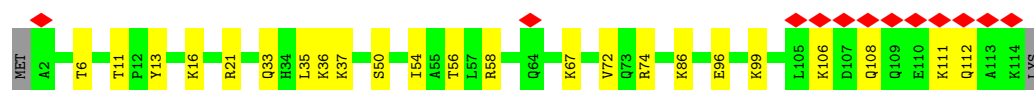
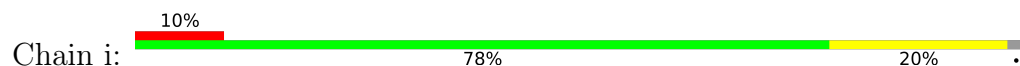
- Molecule 36: 60S ribosomal protein L32



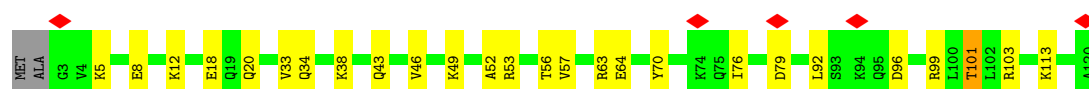
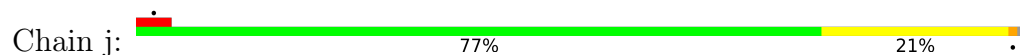
- Molecule 37: 60S ribosomal protein L33-A



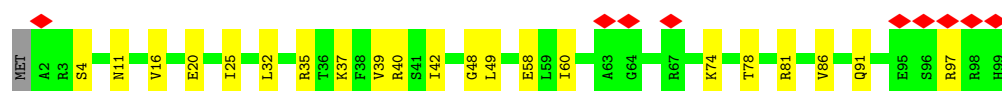
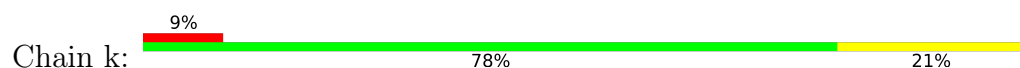
- Molecule 38: 60S ribosomal protein L34-B



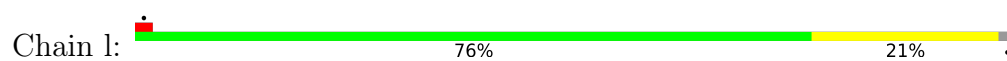
- Molecule 39: 60S ribosomal protein L35



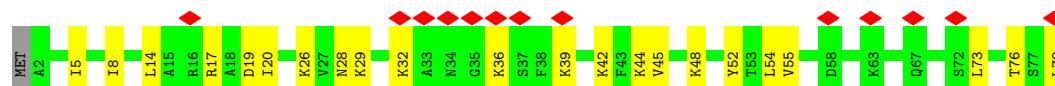
- Molecule 40: 60S ribosomal protein L36



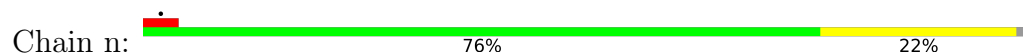
- Molecule 41: Ribosomal protein L37



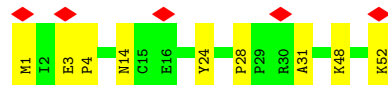
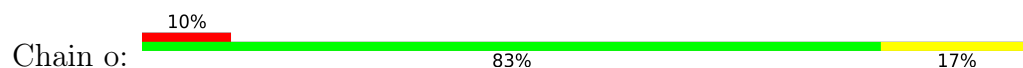
- Molecule 42: Large ribosomal subunit protein eL38



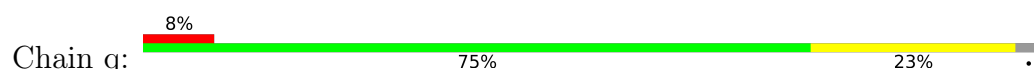
- Molecule 43: Large ribosomal subunit protein eL39



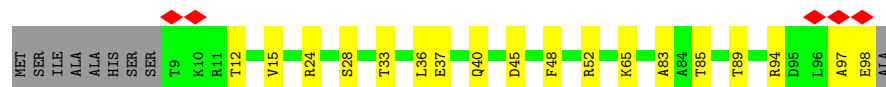
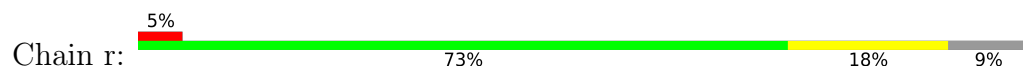
- Molecule 44: Large ribosomal subunit protein eL40



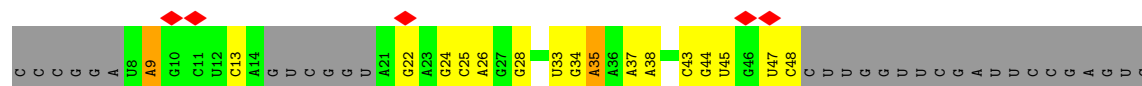
- Molecule 45: 60S ribosomal protein L44



- Molecule 46: 60S ribosomal protein L43



- Molecule 47: P-site tRNA



C G G G G C C C A

- Molecule 48: RNA (5'-R(P*CP*GP*AP*UP*UP*CP*A)-3')



C1 G2 A3 U4 A7

- Molecule 49: A-site tRNA



G28 G29 G30 A31 U32 U33 G34 A35 A36 A37 A38 U39 C40 C41 C42 C43 C44

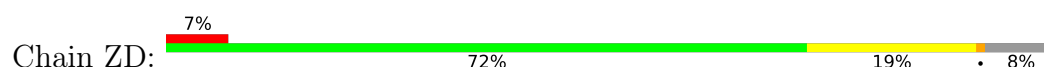
- Molecule 50: 40S ribosomal protein S10-A



MET LEU I3 P4 K5 D6 D7 R8 K9 K10 K11 F16 G19 V20 V21 P30 K31 H32 E33 E34 I35 D36 T37 K38 N39 L40 Y41 K44 A45 L46 L49 Y61 Q62 Y66 T67 L68 T69 D70 E71 E74 R77 N78 E79 L80 N81 I82 E84 G85 I86 L87

P88 L89 T90 R91 L92 K93 GLY ALA PRO PRO ALA ALA ALA ARG ARG PRO ARG PRO PRO ALA V20 ILE ARG GLY PRO GLN ARG ARG ARG ARG ARG ARG ARG ASP

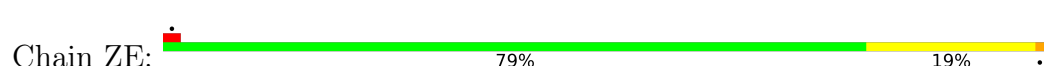
- Molecule 51: 40S ribosomal protein S11-A



MET ALA THR GLU L5 E10 K15 Q16 P17 T21 N28 K29 K30 K32 K33 W34 E37 L40 E50 Y53 I56 K69 I70 L71 T72 G73 T74 S77 T78 K79 M80 H81 R82 T83 I84 Y90 K96 E101 K105 P113 R116 V117

Q118 E119 G120 D121 P130 L140 K146 ALA LYS SER LYS GLN PHE THR LYS PHE

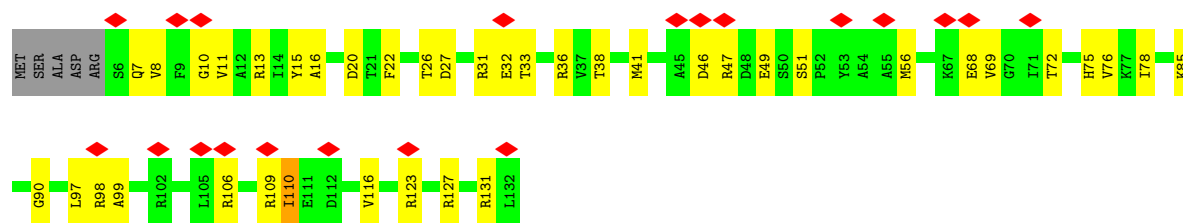
- Molecule 52: 40S ribosomal protein S13



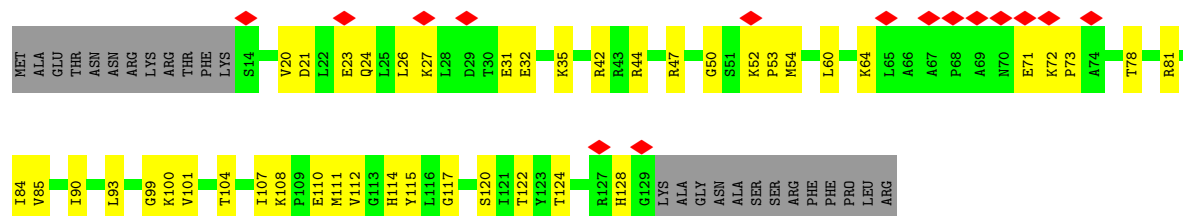
MET G2 R3 M4 H5 S6 S7 S13 S14 A15 K27 L28 E32 E35 Q36 K43 T46 P47 I53 L54 R55 D56 V60 S61 Q62 E66 D67 L68 E103 R106 E119 I122 H123 R124 V132 A133 V134 L135 P136 V139 K140 Y141 V150 ASN

- Molecule 53: Small ribosomal subunit protein uS11

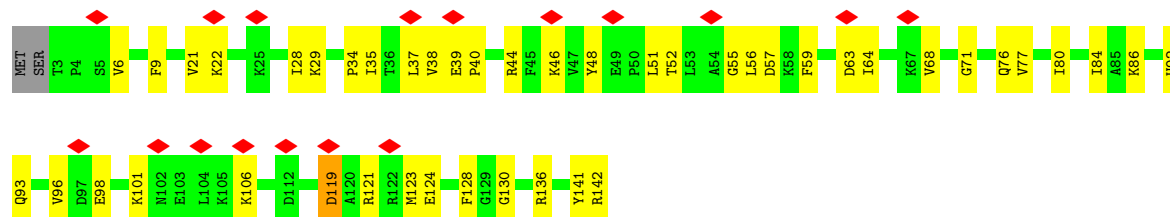




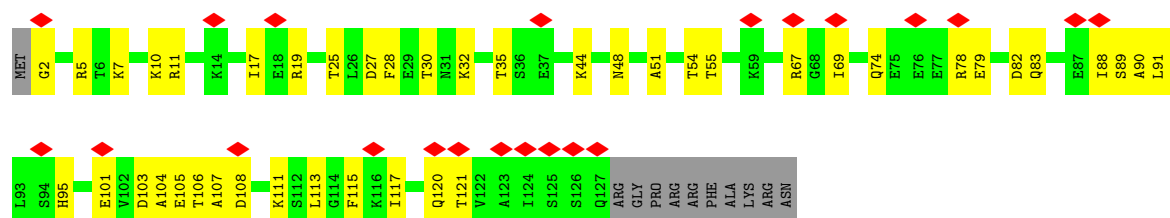
• Molecule 54: 40S ribosomal protein S15



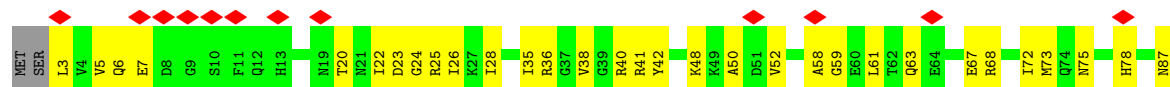
• Molecule 55: Small ribosomal subunit protein uS9

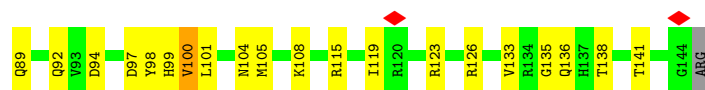


• Molecule 56: 40S ribosomal protein S17-B

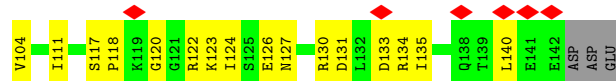


• Molecule 57: 40S ribosomal protein S18

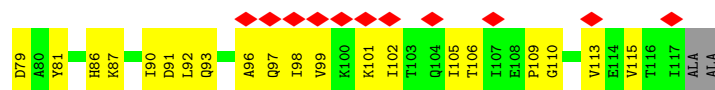




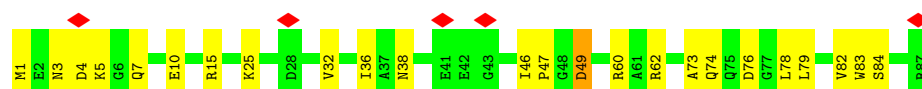
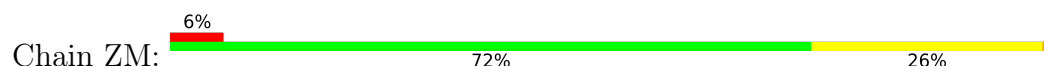
- Molecule 58: 40S ribosomal protein S19-A



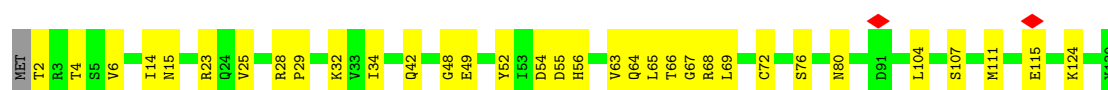
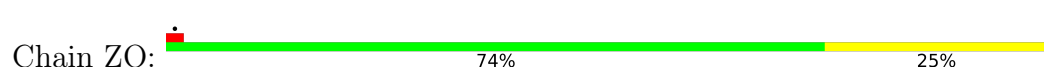
- Molecule 59: Small ribosomal subunit protein uS10



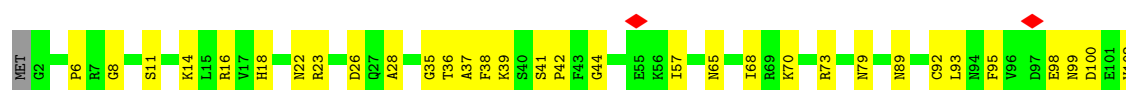
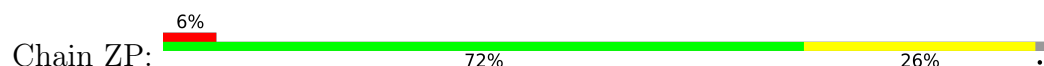
- Molecule 60: 40S ribosomal protein S21



- Molecule 61: 40S ribosomal protein S22

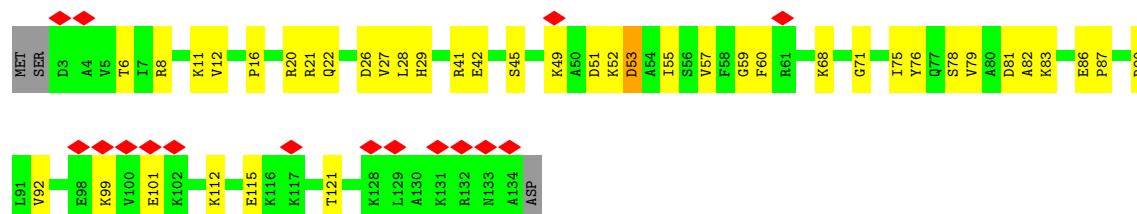


- Molecule 62: 40S ribosomal protein S23

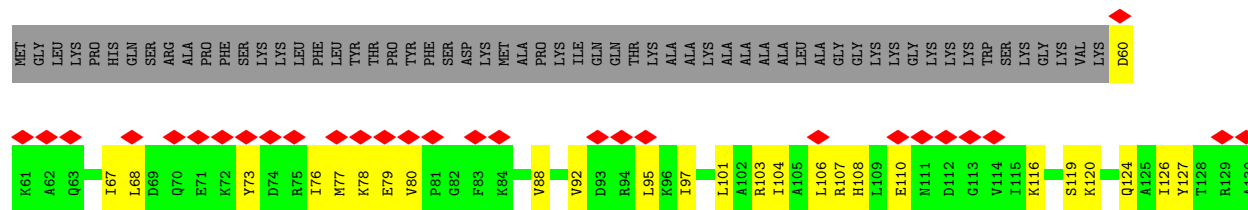
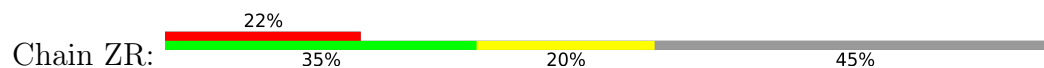




- Molecule 63: 40S ribosomal protein S24



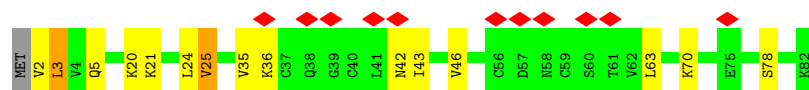
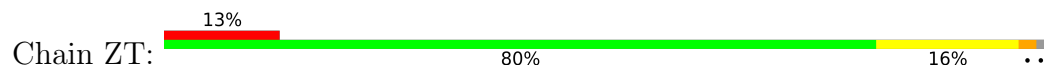
- Molecule 64: 40S ribosomal protein S25



- Molecule 65: 40S ribosomal protein S26

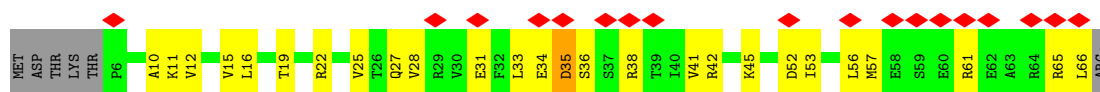


- Molecule 66: 40S ribosomal protein S27



- Molecule 67: 40S ribosomal protein S28-A





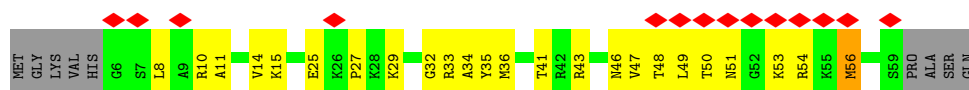
- Molecule 68: Small ribosomal subunit protein uS14

Chain ZV: 70% 23%



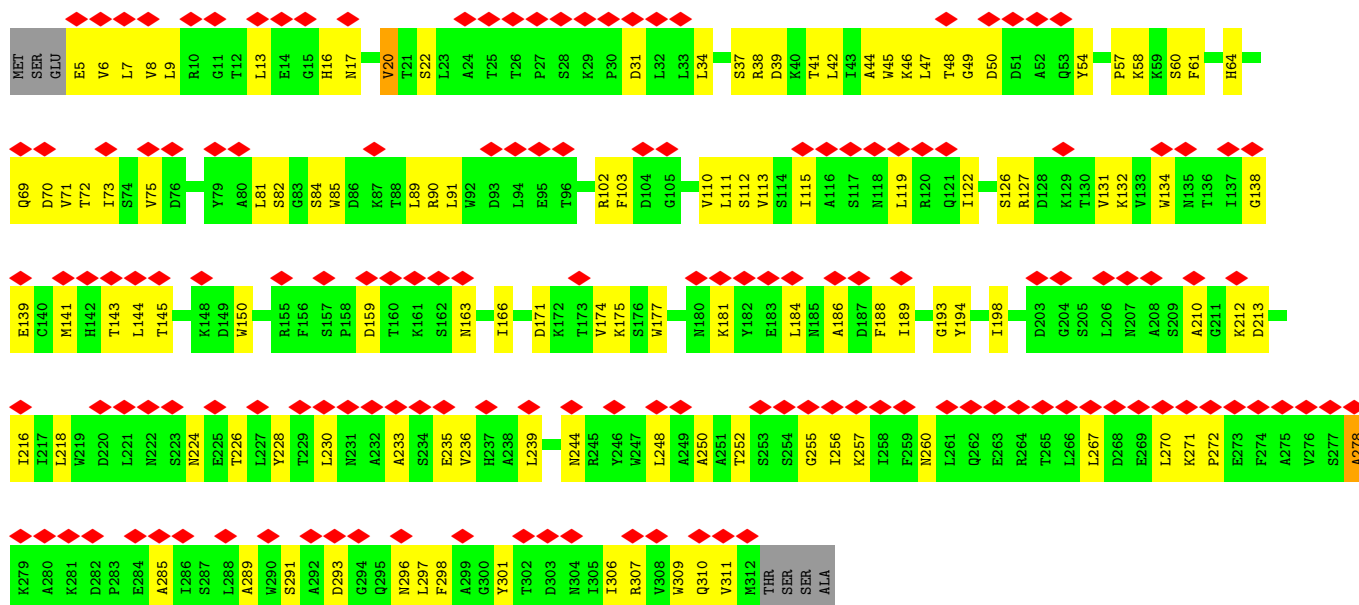
- Molecule 69: Small ribosomal subunit protein eS30

Chain ZW: 22% 48% 37% 14%



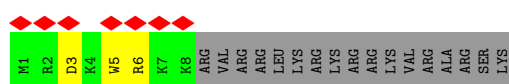
- Molecule 70: Small ribosomal subunit protein RACK1

Chain ZY: 47% 60% 37%

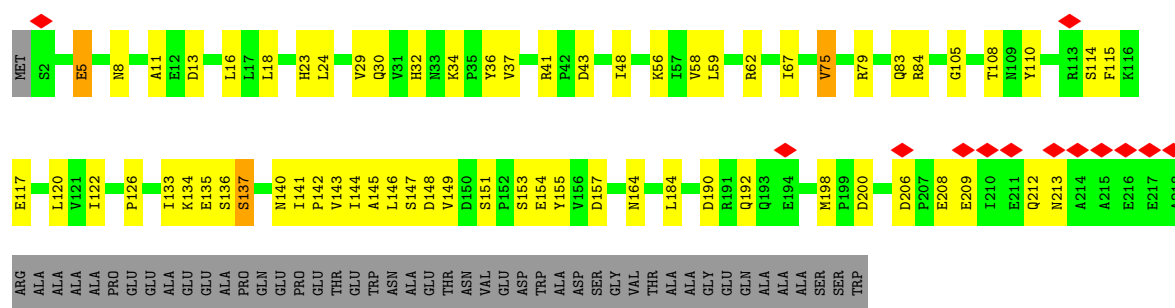


- Molecule 71: Small ribosomal subunit protein eS32

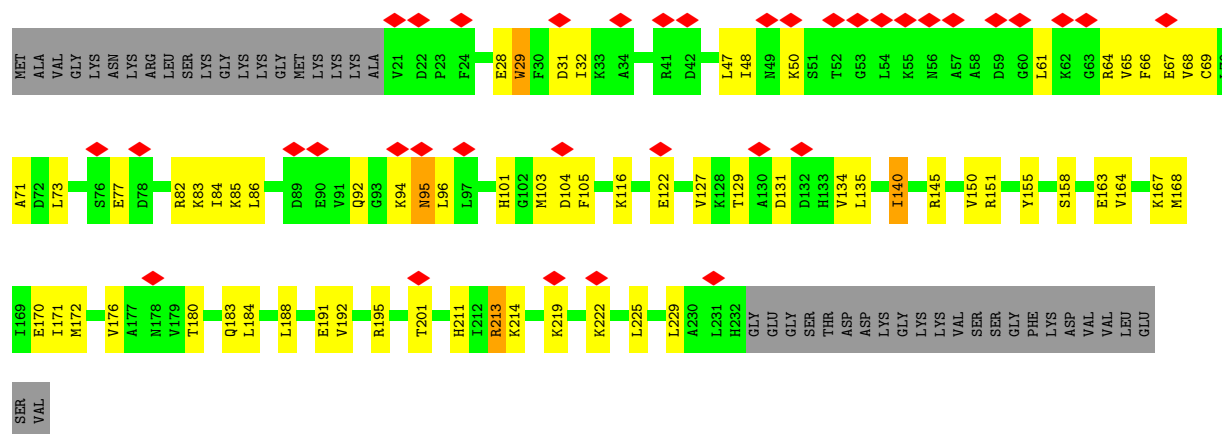
Chain p: 28% 20% 12% 68%



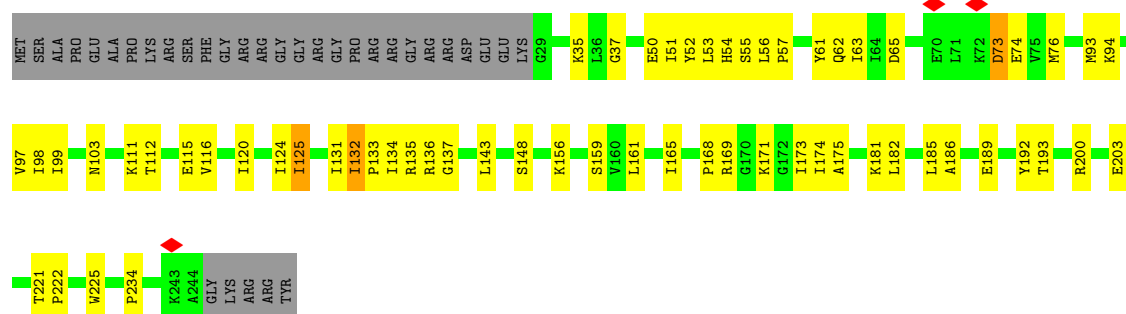
- Molecule 72: Small ribosomal subunit protein uS2



• Molecule 73: Small ribosomal subunit protein eS1

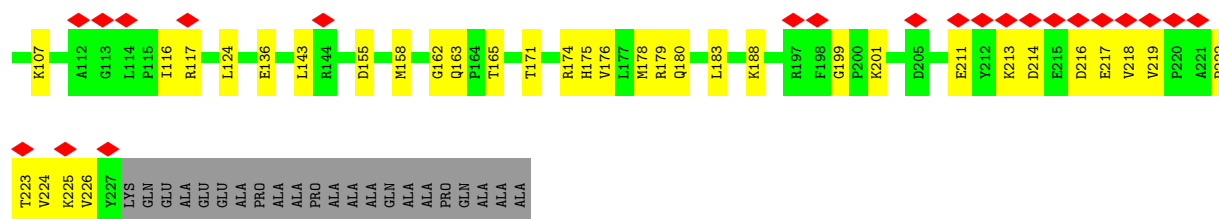


• Molecule 74: Rps21 ribosomal protein



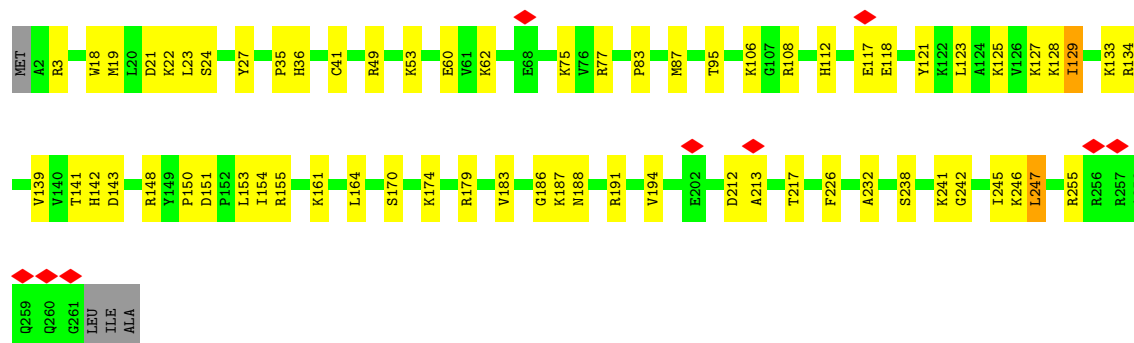
• Molecule 75: Small ribosomal subunit protein uS3





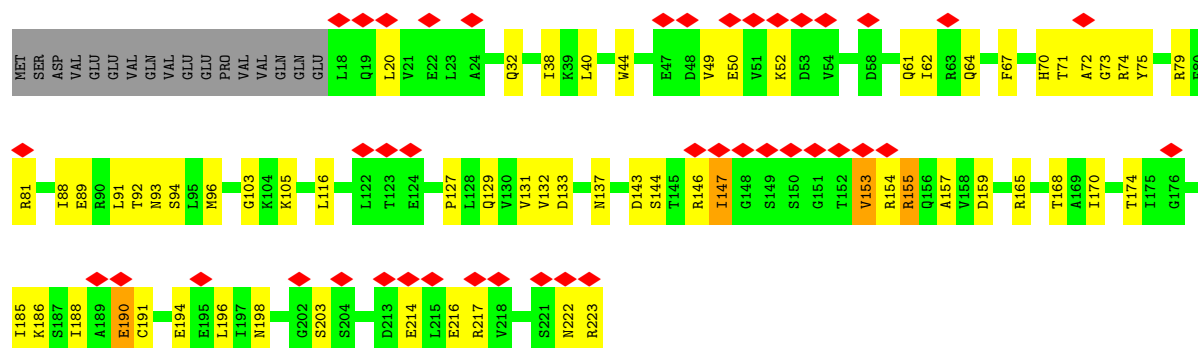
• Molecule 76: 40S ribosomal protein S4

Chain w: 73% 24%



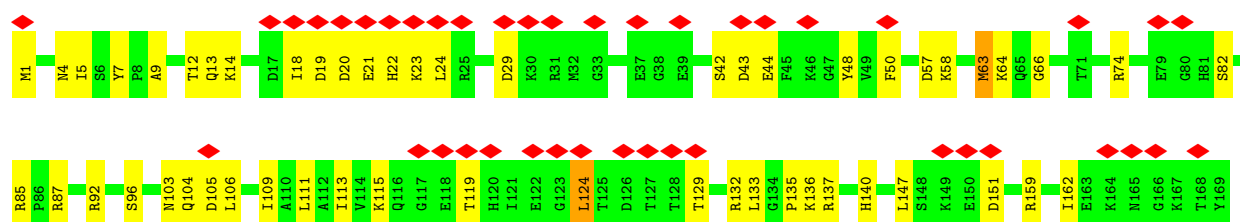
• Molecule 77: 40S ribosomal protein uS7 (formerly S5)

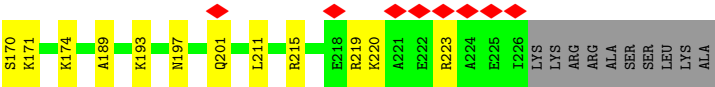
Chain x: 19% 64% 26% 8%



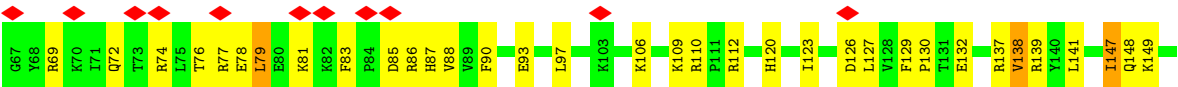
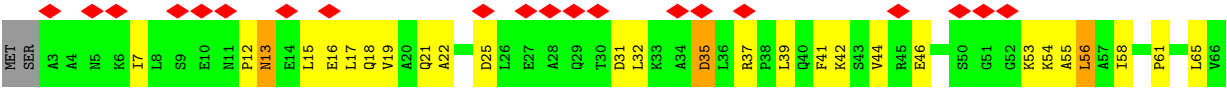
• Molecule 78: 40S ribosomal protein S6

Chain y: 21% 68% 27%





• Molecule 79: 40S ribosomal protein eS7 (formerly S7)



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	37410	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.385	Depositor
Minimum map value	-0.465	Depositor
Average map value	0.016	Depositor
Map value standard deviation	0.077	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	401.28, 401.28, 401.28	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.836, 0.836, 0.836	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: BLS, ZN, MG, B8N

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	A	0.16	0/72547	0.26	0/113096
2	B	0.14	0/2918	0.23	0/4548
3	C	0.15	0/3659	0.23	0/5698
4	D	0.18	0/1907	0.33	0/2560
5	E	0.14	0/3155	0.29	0/4246
6	F	0.13	0/2835	0.26	0/3823
7	G	0.12	0/2419	0.28	0/3253
8	H	0.16	0/1203	0.36	0/1621
9	I	0.13	0/1950	0.27	0/2621
10	J	0.13	0/1879	0.29	0/2525
11	K	0.14	0/1539	0.29	0/2068
12	L	0.14	0/1756	0.30	0/2355
13	M	0.13	0/1385	0.40	1/1854 (0.1%)
14	N	0.15	0/1564	0.31	0/2104
15	O	0.12	0/1044	0.31	0/1410
16	P	0.14	0/1743	0.26	0/2340
17	Q	0.15	0/1618	0.30	0/2169
18	R	0.15	0/1444	0.32	0/1943
19	S	0.15	0/1479	0.34	0/1985
20	T	0.14	0/1454	0.30	0/1937
21	U	0.15	0/1483	0.30	0/1996
22	V	0.14	0/1308	0.31	0/1758
23	W	0.13	0/887	0.35	0/1194
24	X	0.17	0/1030	0.34	0/1387
25	Y	0.14	0/530	0.26	0/704
26	Z	0.14	0/970	0.31	0/1311
27	CA	0.17	0/39053	0.29	0/60853
28	ZA	0.15	0/1571	0.36	0/2103
29	ZB	0.16	0/1485	0.35	0/1991
30	a	0.14	0/1005	0.33	0/1339
31	b	0.14	0/1104	0.32	0/1480
32	c	0.17	0/1203	0.38	0/1611

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	d	0.12	0/506	0.28	0/670
34	e	0.20	0/752	0.45	0/1011
35	f	0.15	0/911	0.30	0/1223
36	g	0.13	0/1019	0.26	0/1362
37	h	0.16	0/877	0.34	0/1180
38	i	0.16	0/906	0.36	0/1209
39	j	0.14	0/963	0.32	0/1284
40	k	0.12	0/780	0.31	0/1034
41	l	0.14	0/666	0.27	0/883
42	m	0.12	0/623	0.31	0/828
43	n	0.17	0/451	0.34	0/600
44	o	0.19	0/425	0.31	0/563
45	q	0.14	0/834	0.30	0/1103
46	r	0.16	0/699	0.30	0/933
47	1	0.12	0/838	0.23	0/1302
48	2	0.16	0/163	0.40	0/251
49	3	0.11	0/408	0.28	0/634
50	ZC	0.17	0/789	0.49	0/1067
51	ZD	0.16	0/1169	0.32	0/1571
52	ZE	0.17	0/1207	0.28	0/1626
53	ZF	0.20	0/956	0.42	0/1284
54	ZG	0.18	0/922	0.39	0/1239
55	ZH	0.18	0/1110	0.46	1/1488 (0.1%)
56	ZI	0.14	0/1024	0.38	0/1373
57	ZJ	0.15	0/1188	0.37	0/1591
58	ZK	0.13	0/1122	0.31	0/1510
59	ZL	0.21	0/791	0.47	0/1069
60	ZM	0.16	0/686	0.31	0/924
61	ZO	0.20	0/1049	0.37	0/1410
62	ZP	0.17	0/1127	0.38	0/1505
63	ZQ	0.13	0/1090	0.26	0/1457
64	ZR	0.19	0/572	0.38	0/767
65	ZS	0.14	0/797	0.43	0/1068
66	ZT	0.17	0/627	0.39	0/847
67	ZU	0.17	0/479	0.45	0/641
68	ZV	0.19	0/461	0.44	0/613
69	ZW	0.23	0/438	0.72	1/582 (0.2%)
70	ZY	0.13	0/2437	0.36	0/3320
71	p	0.13	0/80	0.46	0/102
72	s	0.16	0/1744	0.33	0/2379
73	t	0.14	0/1728	0.35	0/2322
74	u	0.17	0/1664	0.37	0/2253
75	v	0.19	0/1763	0.44	0/2368

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	w	0.14	0/2094	0.36	0/2816
77	x	0.15	0/1628	0.42	0/2195
78	y	0.14	0/1845	0.36	0/2467
79	z	0.16	0/1495	0.38	0/2011
All	All	0.16	0/207030	0.30	3/303818 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	ZH	77	VAL	N-CA-C	-7.84	106.26	113.71
69	ZW	15	LYS	N-CA-C	-7.21	105.66	114.75
13	M	118	ILE	N-CA-C	-5.33	107.18	113.42

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	64825	0	32616	1068	0
2	B	2609	0	1315	39	0
3	C	3274	0	1654	48	0
4	D	1873	0	1943	41	0
5	E	3087	0	3173	55	0
6	F	2786	0	2912	32	0
7	G	2370	0	2360	29	0
8	H	1183	0	1276	30	0
9	I	1913	0	1998	16	0
10	J	1847	0	1970	33	0
11	K	1519	0	1588	23	0
12	L	1720	0	1760	26	0
13	M	1364	0	1396	26	0
14	N	1538	0	1614	30	0
15	O	1030	0	1113	16	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
16	P	1703	0	1748	37	0
17	Q	1587	0	1695	23	0
18	R	1418	0	1446	22	0
19	S	1456	0	1570	27	0
20	T	1435	0	1540	30	0
21	U	1448	0	1511	35	0
22	V	1282	0	1341	24	0
23	W	871	0	903	16	0
24	X	1013	0	1057	31	0
25	Y	517	0	535	15	0
26	Z	955	0	1012	11	0
27	CA	34938	0	17569	717	0
28	ZA	1545	0	1580	56	0
29	ZB	1459	0	1531	49	0
30	a	994	0	1075	25	0
31	b	1081	0	1134	24	0
32	c	1174	0	1204	24	0
33	d	498	0	517	6	0
34	e	744	0	784	14	0
35	f	895	0	927	16	0
36	g	1002	0	1062	13	0
37	h	859	0	889	13	0
38	i	897	0	970	19	0
39	j	956	0	1067	22	0
40	k	774	0	848	15	0
41	l	654	0	668	14	0
42	m	617	0	685	13	0
43	n	442	0	478	11	0
44	o	419	0	460	7	0
45	q	822	0	886	15	0
46	r	691	0	723	15	0
47	1	750	0	380	13	0
48	2	147	0	76	8	0
49	3	365	0	185	8	0
50	ZC	770	0	774	31	0
51	ZD	1145	0	1213	19	0
52	ZE	1184	0	1246	22	0
53	ZF	945	0	979	33	0
54	ZG	904	0	944	31	0
55	ZH	1091	0	1147	35	0
56	ZI	1012	0	1064	35	0
57	ZJ	1170	0	1213	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
58	ZK	1101	0	1113	33	0
59	ZL	782	0	854	30	0
60	ZM	678	0	671	22	0
61	ZO	1032	0	1072	26	0
62	ZP	1109	0	1173	26	0
63	ZQ	1073	0	1126	31	0
64	ZR	564	0	598	19	0
65	ZS	785	0	835	29	0
66	ZT	617	0	631	12	0
67	ZU	477	0	510	23	0
68	ZV	449	0	425	12	0
69	ZW	432	0	471	14	0
70	ZY	2383	0	2344	99	0
71	p	79	0	90	2	0
72	s	1705	0	1711	47	0
73	t	1703	0	1796	50	0
74	u	1636	0	1743	50	0
75	v	1737	0	1835	52	0
76	w	2056	0	2145	49	0
77	x	1610	0	1687	49	0
78	y	1819	0	1882	46	0
79	z	1471	0	1559	52	0
80	A	152	0	0	0	0
80	B	3	0	0	0	0
80	C	1	0	0	0	0
80	CA	58	0	0	0	0
80	D	1	0	0	0	0
80	L	2	0	0	0	0
80	X	1	0	0	0	0
80	h	1	0	0	0	0
80	n	1	0	0	0	0
81	A	30	0	24	2	0
82	ZS	1	0	0	0	0
82	ZV	1	0	0	0	0
82	i	1	0	0	0	0
82	l	1	0	0	0	0
82	o	1	0	0	0	0
82	q	1	0	0	0	0
82	r	1	0	0	0	0
83	A	83	0	0	7	0
83	B	2	0	0	0	0
83	C	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
83	E	1	0	0	1	0
83	P	2	0	0	0	0
83	d	1	0	0	0	0
83	i	1	0	0	0	0
83	q	1	0	0	0	0
All	All	193216	0	143619	3322	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 10.

All (3322) 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)
1:A:961:U:H3	1:A:983:G:H1	1.14	0.96
1:A:3126:G:H1	1:A:3145:U:H3	0.96	0.94
27:CA:1563:G:H1	27:CA:1583:U:H3	1.15	0.93
53:ZF:47:ARG:HG2	53:ZF:51:SER:HB3	1.55	0.88
1:A:161:G:H1	1:A:239:U:H3	1.23	0.87
37:h:49:ILE:HD11	37:h:71:VAL:HG23	1.57	0.86
27:CA:1261:G:H1	27:CA:1294:G:H22	1.21	0.85
69:ZW:49:LEU:HD13	69:ZW:51:ASN:H	1.43	0.84
27:CA:1661:G:N1	27:CA:1690:C:N3	2.26	0.83
2:B:19:G:H1	2:B:62:U:H3	1.23	0.83
27:CA:869:G:N2	27:CA:880:C:O2	2.10	0.82
1:A:2530:C:O2	1:A:2548:G:N2	2.11	0.81
70:ZY:236:VAL:HG12	70:ZY:252:THR:HG22	1.62	0.81
21:U:106:LYS:NZ	21:U:123:ASP:OD2	2.14	0.81
65:ZS:74:LYS:HG2	65:ZS:77:ARG:HB3	1.63	0.81
1:A:2449:G:N2	1:A:2458:C:O2	2.14	0.80
27:CA:633:U:H5	27:CA:677:G:H1	1.30	0.80
47:1:26:A:H61	47:1:44:G:H1	1.29	0.80
27:CA:838:G:H1	27:CA:930:U:H3	1.29	0.79
20:T:77:SER:OG	20:T:78:HIS:N	2.13	0.79
73:t:32:ILE:HG22	73:t:96:LEU:HD12	1.66	0.78
1:A:2449:G:N1	1:A:2458:C:N3	2.31	0.78
1:A:488:C:N3	1:A:501:G:N1	2.31	0.78
27:CA:1402:C:O2'	27:CA:1404:G:OP2	2.01	0.78
69:ZW:8:LEU:HD21	69:ZW:10:ARG:HH21	1.48	0.78
21:U:110:ASP:OD1	21:U:111:VAL:N	2.16	0.78
13:M:112:ILE:H	13:M:112:ILE:HD12	1.49	0.77
27:CA:1025:U:H3	27:CA:1034:G:H1	1.30	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:637:G:N1	27:CA:673:C:N3	2.30	0.77
1:A:3068:U:H3	1:A:3172:G:H1	1.32	0.76
27:CA:796:U:H3	27:CA:816:G:H1	1.30	0.76
11:K:110:LYS:HB2	11:K:128:ILE:HB	1.65	0.76
53:ZF:109:ARG:NH1	73:t:69:CYS:SG	2.57	0.76
1:A:960:G:N2	1:A:984:C:O2	2.14	0.76
1:A:488:C:O2	1:A:501:G:N2	2.17	0.76
1:A:230:U:H5''	1:A:231:G:H5'	1.67	0.76
27:CA:1661:G:N2	27:CA:1690:C:O2	2.15	0.76
79:z:42:LYS:HE3	79:z:61:PRO:HG3	1.68	0.76
57:ZJ:28:ILE:HD13	57:ZJ:58:ALA:HA	1.69	0.75
27:CA:789:G:H3'	27:CA:790:C:H4'	1.69	0.75
1:A:2183:U:H3	1:A:2187:G:H22	1.31	0.75
27:CA:796:U:O2	27:CA:816:G:N2	2.20	0.75
24:X:40:LYS:HG3	24:X:57:MET:HG2	1.69	0.74
11:K:92:TYR:HB2	11:K:142:ASP:HB3	1.68	0.74
27:CA:1511:G:H5''	64:ZR:60:ASP:HA	1.69	0.74
1:A:184:C:O2	1:A:195:G:N2	2.15	0.74
1:A:2365:G:N2	1:A:2411:C:N3	2.36	0.74
27:CA:893:A:H2'	27:CA:894:A:C8	2.22	0.74
70:ZY:255:GLY:HA3	70:ZY:271:LYS:HE2	1.70	0.74
50:ZC:71:GLU:OE1	50:ZC:71:GLU:N	2.20	0.74
63:ZQ:26:ASP:OD1	63:ZQ:68:LYS:NZ	2.21	0.74
27:CA:190:C:O2'	28:ZA:145:ARG:NH2	2.21	0.74
30:a:41:GLU:OE1	30:a:41:GLU:N	2.17	0.73
1:A:1617:G:N2	1:A:1631:C:O2	2.19	0.73
47:1:34:G:H1	48:2:3:A:H2	1.35	0.73
74:u:74:GLU:HG2	74:u:181:LYS:HD3	1.69	0.73
1:A:3261:U:OP2	35:f:101:LYS:NZ	2.21	0.73
53:ZF:15:TYR:HB3	53:ZF:22:PHE:HB2	1.69	0.73
1:A:655:A:OP1	19:S:179:ARG:NH2	2.22	0.73
1:A:2941:A:O2'	24:X:1:MET:N	2.21	0.73
34:e:8:THR:HG23	34:e:9:ASP:H	1.53	0.72
76:w:21:ASP:OD2	76:w:24:SER:N	2.21	0.72
1:A:660:A:HO2'	1:A:696:C:HO2'	1.37	0.72
27:CA:1659:U:H3	27:CA:1692:G:H1	1.35	0.72
67:ZU:34:GLU:OE2	67:ZU:34:GLU:N	2.22	0.72
27:CA:637:G:N2	27:CA:673:C:O2	2.14	0.72
1:A:2100:G:O2'	1:A:2229:U:OP2	2.07	0.72
1:A:2943:U:OP2	1:A:2993:C:N4	2.22	0.72
21:U:26:ARG:HD2	21:U:36:PRO:HG2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:601:C:H2'	1:A:602:A:H8	1.55	0.72
55:ZH:22:LYS:HB2	55:ZH:63:ASP:HB2	1.71	0.72
30:a:67:GLU:OE1	30:a:67:GLU:N	2.23	0.72
54:ZG:54:MET:HA	54:ZG:54:MET:HE3	1.71	0.72
67:ZU:16:LEU:HD12	67:ZU:27:GLN:HB3	1.71	0.72
53:ZF:26:THR:OG1	53:ZF:32:GLU:O	2.08	0.71
73:t:122:GLU:OE2	73:t:213:ARG:NH1	2.24	0.71
1:A:1838:A:H61	1:A:2254:C:H42	1.35	0.71
27:CA:1365:C:H5	27:CA:1388:G:H1	1.38	0.71
1:A:919:U:O4	19:S:15:GLN:NE2	2.24	0.71
29:ZB:77:ILE:HG21	29:ZB:91:MET:HG3	1.71	0.71
12:L:36:LEU:HD21	12:L:69:ARG:HH11	1.55	0.71
27:CA:569:A:O2'	27:CA:571:U:OP1	2.08	0.71
1:A:2742:U:OP1	1:A:2744:C:N4	2.21	0.71
7:G:91:GLY:O	7:G:94:ASN:ND2	2.23	0.71
15:O:114:MET:HE2	15:O:114:MET:HA	1.71	0.71
70:ZY:89:LEU:HB3	70:ZY:103:PHE:HB2	1.71	0.71
27:CA:1566:C:H2'	27:CA:1567:A:H8	1.54	0.71
67:ZU:25:VAL:HG11	67:ZU:66:LEU:HD12	1.73	0.71
74:u:94:LYS:HG3	74:u:112:THR:HG22	1.71	0.71
27:CA:505:G:H1	27:CA:525:C:H5	1.39	0.71
1:A:633:U:OP2	14:N:36:ARG:NH2	2.24	0.70
53:ZF:31:ARG:HD3	73:t:64:ARG:HD2	1.73	0.70
27:CA:1464:G:OP1	75:v:10:ARG:NH1	2.25	0.70
26:Z:75:GLU:OE1	26:Z:75:GLU:N	2.23	0.70
27:CA:1267:G:N2	27:CA:1270:A:OP2	2.20	0.70
70:ZY:239:LEU:HB3	70:ZY:248:LEU:HD11	1.73	0.70
20:T:190:ARG:HH21	20:T:193:ARG:HH21	1.39	0.70
27:CA:1496:G:O2'	27:CA:1498:G:OP2	2.07	0.70
31:b:103:GLU:HG3	31:b:106:GLN:HB2	1.73	0.70
58:ZK:130:ARG:HH11	58:ZK:134:ARG:HH22	1.39	0.70
74:u:76:MET:HA	74:u:76:MET:HE3	1.73	0.70
1:A:741:G:O2'	14:N:14:PHE:O	2.08	0.70
1:A:1601:G:H2'	1:A:1602:G:C8	2.27	0.70
27:CA:1363:G:OP1	56:ZI:32:LYS:NZ	2.24	0.70
1:A:3069:G:H1	1:A:3171:C:H5	1.37	0.70
71:p:3:ASP:HA	71:p:6:ARG:HB2	1.72	0.70
20:T:186:ASN:HD21	27:CA:785:G:H5''	1.57	0.70
23:W:59:GLU:HG2	23:W:64:ILE:HD13	1.72	0.70
28:ZA:64:ALA:HB2	28:ZA:181:GLY:HA2	1.72	0.70
1:A:767:C:H5''	4:D:21:ARG:HD3	1.74	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2543:A:OP2	22:V:2:ALA:N	2.25	0.69
27:CA:928:U:OP2	66:ZT:20:LYS:NZ	2.25	0.69
27:CA:1004:C:HO2'	61:ZO:2:THR:N	1.89	0.69
27:CA:1188:G:N2	27:CA:1420:A:OP2	2.24	0.69
1:A:521:U:H2'	1:A:522:G:H8	1.57	0.69
27:CA:968:A:H2	27:CA:976:C:H42	1.38	0.69
23:W:31:GLU:N	23:W:31:GLU:OE1	2.26	0.69
54:ZG:31:GLU:N	54:ZG:31:GLU:OE1	2.23	0.69
27:CA:144:U:H2'	27:CA:145:A:H8	1.57	0.69
27:CA:1020:G:OP1	66:ZT:70:LYS:NZ	2.25	0.69
27:CA:1320:G:H1	27:CA:1350:C:H5	1.40	0.69
1:A:1756:A:N7	1:A:1759:G:O2'	2.24	0.69
70:ZY:296:ASN:HA	70:ZY:310:GLN:HA	1.73	0.69
1:A:1666:C:OP1	46:r:65:LYS:NZ	2.26	0.69
8:H:141:THR:HB	8:H:144:LEU:HB2	1.74	0.69
1:A:2956:A:H2	1:A:2987:A:H62	1.41	0.69
44:o:28:PRO:HG2	44:o:31:ALA:HB2	1.74	0.69
72:s:5:GLU:OE1	72:s:8:ASN:ND2	2.25	0.69
72:s:30:GLN:NE2	72:s:151:SER:O	2.25	0.69
73:t:131:ASP:OD2	73:t:180:THR:OG1	2.09	0.69
17:Q:125:LEU:HD13	21:U:182:PRO:HG3	1.74	0.69
1:A:427:G:N2	1:A:427:G:OP2	2.26	0.68
23:W:7:LYS:HD3	23:W:53:ALA:HB2	1.76	0.68
53:ZF:106:ARG:HA	65:ZS:118:ALA:HB1	1.75	0.68
55:ZH:98:GLU:OE2	70:ZY:57:PRO:HB2	1.93	0.68
1:A:114:C:OP1	40:k:35:ARG:NH1	2.25	0.68
27:CA:638:G:H1	27:CA:672:U:H3	1.39	0.68
1:A:2168:G:N2	1:A:2177:A:O2'	2.24	0.68
27:CA:749:G:O2'	63:ZQ:8:ARG:NH2	2.25	0.68
70:ZY:256:ILE:HB	70:ZY:270:LEU:HB2	1.75	0.68
61:ZO:15:ASN:HD21	61:ZO:72:CYS:H	1.42	0.68
1:A:250:C:H2'	1:A:251:A:C8	2.29	0.68
1:A:184:C:N3	1:A:195:G:N1	2.32	0.68
50:ZC:87:LEU:HD13	50:ZC:91:ARG:HB3	1.74	0.68
11:K:141:LYS:HE2	11:K:141:LYS:HA	1.75	0.68
27:CA:78:C:OP1	78:y:159:ARG:NH2	2.27	0.68
1:A:1617:G:N1	1:A:1631:C:N3	2.30	0.68
27:CA:854:A:H62	27:CA:898:U:H3	1.40	0.68
27:CA:1221:U:H2'	27:CA:1222:C:H6	1.59	0.68
27:CA:1260:U:H2'	27:CA:1261:G:C8	2.28	0.68
53:ZF:38:THR:HG23	53:ZF:41:MET:HE3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:ZU:12:VAL:HG12	67:ZU:52:ASP:H	1.58	0.68
5:E:284:ARG:NH1	5:E:293:SER:O	2.26	0.67
27:CA:756:U:O2'	27:CA:757:G:O5'	2.11	0.67
53:ZF:98:ARG:HE	65:ZS:111:ALA:HB1	1.58	0.67
27:CA:971:A:OP1	47:1:38:A:O2'	2.11	0.67
1:A:2916:G:H21	24:X:1:MET:HA	1.59	0.67
27:CA:756:U:H2'	27:CA:757:G:H21	1.59	0.67
27:CA:1454:G:OP1	58:ZK:39:THR:OG1	2.08	0.67
27:CA:90:G:OP1	27:CA:386:A:N6	2.27	0.67
72:s:192:GLN:OE1	72:s:192:GLN:N	2.23	0.67
1:A:1664:U:O2'	1:A:1665:C:O4'	2.13	0.67
1:A:1041:U:O5'	22:V:125:GLN:NE2	2.27	0.67
27:CA:1760:U:OP1	53:ZF:131:ARG:NH2	2.28	0.67
27:CA:1310:U:H5	27:CA:1360:G:H1	1.43	0.67
1:A:1551:C:OP1	26:Z:123:ARG:NH1	2.26	0.67
27:CA:1464:G:H3'	27:CA:1490:A:H61	1.59	0.67
62:ZP:98:GLU:N	62:ZP:98:GLU:OE2	2.28	0.67
74:u:97:VAL:HG11	74:u:124:ILE:HD13	1.75	0.67
1:A:2637:C:O2'	33:d:51:ASP:OD2	2.12	0.67
27:CA:1458:C:O2'	55:ZH:76:GLN:OE1	2.11	0.67
1:A:2220:G:OP2	1:A:2220:G:N2	2.25	0.67
27:CA:512:G:H21	27:CA:518:A:H2	1.43	0.67
27:CA:534:A:H61	27:CA:583:A:H5''	1.60	0.66
27:CA:1625:U:H2'	27:CA:1626:A:C8	2.30	0.66
27:CA:580:A:H2'	27:CA:581:A:C8	2.30	0.66
27:CA:1359:G:OP1	59:ZL:86:HIS:ND1	2.28	0.66
27:CA:1661:G:O6	27:CA:1690:C:N4	2.27	0.66
1:A:419:U:H2'	1:A:420:G:H8	1.59	0.66
1:A:2168:G:H21	1:A:2178:C:H41	1.44	0.66
1:A:2795:G:O2'	44:o:24:TYR:O	2.13	0.66
1:A:3187:C:H42	1:A:3203:G:H22	1.41	0.66
13:M:46:SER:HB3	13:M:64:SER:HB3	1.76	0.66
59:ZL:52:LYS:HB2	59:ZL:91:ASP:HB3	1.77	0.66
1:A:3108:U:C5	15:O:114:MET:HE1	2.30	0.66
1:A:348:G:N2	1:A:351:A:OP2	2.26	0.66
1:A:960:G:N1	1:A:984:C:N3	2.29	0.66
1:A:1584:C:H5''	1:A:1585:U:H5''	1.76	0.66
1:A:2104:U:O3'	46:r:28:SER:OG	2.13	0.66
27:CA:1524:C:O2'	27:CA:1525:A:O5'	2.11	0.66
27:CA:318:G:H5'	28:ZA:105:LYS:HB3	1.77	0.66
31:b:81:MET:HA	31:b:81:MET:HE2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:201:A:OP1	6:F:162:LYS:NZ	2.25	0.66
27:CA:1710:U:H3'	27:CA:1711:G:H21	1.61	0.66
28:ZA:141:HIS:O	28:ZA:145:ARG:NH2	2.28	0.66
57:ZJ:38:VAL:HG13	57:ZJ:42:TYR:HD2	1.60	0.66
1:A:1579:C:OP2	38:i:74:ARG:NH1	2.26	0.66
14:N:74:GLY:O	14:N:101:ARG:NH1	2.28	0.66
27:CA:77:A:H2	78:y:174:LYS:HG3	1.59	0.66
27:CA:583:A:OP1	29:ZB:38:ASN:ND2	2.29	0.66
1:A:3064:C:H2'	1:A:3065:G:H8	1.61	0.66
79:z:56:LEU:N	79:z:87:HIS:O	2.24	0.66
76:w:35:PRO:HD2	76:w:83:PRO:HG2	1.78	0.65
1:A:595:A:OP2	1:A:2768:U:O2'	2.13	0.65
27:CA:865:G:H21	53:ZF:33:THR:HG21	1.62	0.65
27:CA:1327:G:O2'	58:ZK:133:ASP:OD2	2.14	0.65
70:ZY:42:LEU:HB2	70:ZY:61:PHE:HB2	1.77	0.65
27:CA:44:U:OP2	27:CA:426:A:N6	2.24	0.65
47:l:33:U:OP2	55:ZH:142:ARG:NH2	2.29	0.65
1:A:1586:G:O2'	1:A:1751:G:N2	2.24	0.65
1:A:2122:A:H3'	1:A:2123:A:C8	2.31	0.65
27:CA:246:A:OP1	28:ZA:81:ARG:NH1	2.30	0.65
27:CA:1500:A:OP1	58:ZK:93:HIS:ND1	2.26	0.65
34:e:100:ASP:OD1	34:e:103:SER:OG	2.14	0.65
27:CA:753:G:H8	63:ZQ:12:VAL:HG22	1.62	0.65
38:i:36:LYS:HE2	38:i:36:LYS:HA	1.77	0.65
56:ZI:101:GLU:HA	56:ZI:120:GLN:HB3	1.78	0.65
70:ZY:189:ILE:HG21	75:v:225:LYS:NZ	2.12	0.65
79:z:132:GLU:N	79:z:132:GLU:OE2	2.30	0.65
1:A:474:C:O2	1:A:517:G:N2	2.20	0.65
1:A:1317:G:OP2	32:c:7:LYS:NZ	2.30	0.65
1:A:1690:A:OP1	42:m:44:LYS:NZ	2.29	0.65
1:A:2869:A:N7	4:D:215:ASN:ND2	2.44	0.65
27:CA:320:A:OP2	28:ZA:179:GLN:NE2	2.25	0.65
12:L:38:ARG:HG2	12:L:41:ALA:HB2	1.78	0.65
27:CA:164:C:O2'	78:y:132:ARG:O	2.13	0.65
27:CA:1508:C:OP2	64:ZR:103:ARG:NH2	2.28	0.65
31:b:12:ILE:HB	31:b:81:MET:HB3	1.79	0.65
56:ZI:44:LYS:O	56:ZI:48:ASN:ND2	2.29	0.65
27:CA:17:C:O2'	27:CA:1107:A:N1	2.28	0.65
65:ZS:115:LEU:O	65:ZS:119:SER:OG	2.13	0.65
1:A:509:G:OP1	15:O:76:LYS:NZ	2.30	0.65
27:CA:1527:U:O2'	27:CA:1572:A:N3	2.27	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1267:C:O2	21:U:129:ARG:NH2	2.29	0.64
1:A:3236:G:H1	1:A:3245:U:H3	1.45	0.64
27:CA:343:C:H5''	28:ZA:23:ALA:HB2	1.79	0.64
1:A:159:G:H2'	1:A:160:A:H8	1.60	0.64
27:CA:1141:A:H2'	27:CA:1142:G:C8	2.32	0.64
1:A:2429:U:H5'	10:J:69:ARG:HG3	1.79	0.64
1:A:2801:G:O2'	1:A:2925:A:N1	2.30	0.64
2:B:113:G:H2'	2:B:114:C:C6	2.31	0.64
27:CA:923:G:H2'	27:CA:924:G:H8	1.61	0.64
70:ZY:13:LEU:HB2	70:ZY:306:ILE:HB	1.80	0.64
74:u:143:LEU:O	74:u:169:ARG:NH2	2.30	0.64
27:CA:681:U:H3	79:z:93:GLU:HA	1.62	0.64
27:CA:729:U:OP1	76:w:22:LYS:NZ	2.30	0.64
1:A:297:A:H2'	1:A:298:A:C8	2.32	0.64
56:ZI:103:ASP:OD2	56:ZI:103:ASP:N	2.30	0.64
1:A:192:C:OP2	30:a:60:ARG:NH2	2.29	0.64
1:A:1141:G:H2'	1:A:1142:A:C8	2.32	0.64
1:A:1327:G:OP1	6:F:204:ARG:NH1	2.30	0.64
10:J:51:VAL:HG21	26:Z:25:ARG:HD3	1.80	0.64
62:ZP:99:ASN:ND2	62:ZP:99:ASN:O	2.29	0.64
1:A:3136:A:OP1	5:E:97:ARG:NH2	2.30	0.64
6:F:284:ASN:HB3	6:F:290:LEU:HD21	1.80	0.64
1:A:1116:A:H4'	9:I:216:LYS:HD3	1.80	0.64
16:P:9:GLU:OE2	40:k:40:ARG:NE	2.30	0.64
27:CA:756:U:H2'	27:CA:757:G:N2	2.13	0.64
31:b:106:GLN:OE1	31:b:106:GLN:N	2.30	0.63
11:K:112:VAL:HG13	11:K:126:VAL:HB	1.78	0.63
1:A:774:G:O2'	1:A:1806:A:N3	2.30	0.63
1:A:1596:A:OP2	38:i:37:LYS:NZ	2.31	0.63
1:A:2993:C:O2'	1:A:2995:A:OP2	2.14	0.63
27:CA:1049:U:OP2	65:ZS:155:ARG:NH1	2.31	0.63
35:f:85:LYS:HA	35:f:85:LYS:HE3	1.79	0.63
45:q:61:LYS:NZ	45:q:63:LYS:O	2.31	0.63
65:ZS:103:ILE:HD12	65:ZS:103:ILE:O	1.98	0.63
1:A:2530:C:N3	1:A:2548:G:N1	2.31	0.63
78:y:85:ARG:O	78:y:87:ARG:NH1	2.32	0.63
1:A:854:C:OP1	4:D:14:SER:OG	2.17	0.63
2:B:8:G:O6	7:G:21:ARG:NH2	2.31	0.63
14:N:83:ALA:O	14:N:120:LYS:NZ	2.29	0.63
28:ZA:54:ARG:NH1	28:ZA:55:THR:O	2.31	0.63
70:ZY:186:ALA:HB2	75:v:226:VAL:HG22	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:z:78:GLU:OE2	79:z:81:LYS:NZ	2.31	0.63
27:CA:466:A:O3'	69:ZW:33:ARG:NH2	2.32	0.63
27:CA:1116:G:H2'	27:CA:1117:A:C8	2.34	0.63
79:z:31:ASP:OD2	79:z:74:ARG:NH1	2.25	0.63
1:A:601:C:H2'	1:A:602:A:C8	2.34	0.63
27:CA:1122:A:H5''	65:ZS:144:ARG:HH21	1.64	0.63
27:CA:1638:G:O2'	27:CA:1639:C:O5'	2.16	0.63
42:m:29:LYS:HE2	42:m:39:LYS:HZ3	1.64	0.63
63:ZQ:20:ARG:NH1	76:w:60:GLU:OE2	2.27	0.63
72:s:209:GLU:OE1	72:s:213:ASN:ND2	2.31	0.63
77:x:153:VAL:O	77:x:155:ARG:NH2	2.32	0.63
1:A:360:U:H4'	1:A:394:G:H5'	1.81	0.63
1:A:803:G:OP1	46:r:24:ARG:NH2	2.28	0.63
19:S:170:ARG:NH1	32:c:56:VAL:O	2.32	0.63
27:CA:733:A:OP1	29:ZB:79:ARG:NH1	2.30	0.63
1:A:1683:G:H2'	1:A:1684:G:H8	1.63	0.62
1:A:115:U:OP1	10:J:142:SER:OG	2.17	0.62
1:A:230:U:O2'	1:A:233:U:O4	2.17	0.62
1:A:2860:C:H2'	1:A:2861:G:C8	2.35	0.62
27:CA:1375:G:H5''	27:CA:1376:A:C8	2.34	0.62
1:A:686:C:N3	19:S:141:ARG:NH2	2.47	0.62
1:A:1569:C:H4'	1:A:1571:C:H5'	1.81	0.62
1:A:2363:G:H1	1:A:2413:C:H42	1.45	0.62
27:CA:1412:A:OP2	75:v:28:ARG:NH2	2.32	0.62
62:ZP:95:PHE:O	62:ZP:142:LYS:NZ	2.32	0.62
1:A:817:U:N3	1:A:2878:U:OP1	2.28	0.62
19:S:123:THR:OG1	19:S:125:ASP:OD1	2.14	0.62
22:V:69:LYS:HG2	22:V:70:THR:HG23	1.80	0.62
22:V:84:TYR:HB2	33:d:39:PRO:HD3	1.81	0.62
29:ZB:106:GLU:O	29:ZB:112:GLN:NE2	2.33	0.62
42:m:17:ARG:NH2	42:m:19:ASP:OD1	2.31	0.62
1:A:1758:U:O2'	1:A:1759:G:O4'	2.18	0.62
21:U:26:ARG:HB3	21:U:38:LEU:HD23	1.81	0.62
70:ZY:250:ALA:HB3	70:ZY:257:LYS:HB2	1.81	0.62
1:A:2839:G:OP2	5:E:2:SER:N	2.33	0.62
23:W:37:LEU:HB3	23:W:56:ILE:HD13	1.81	0.62
27:CA:149:C:O2	78:y:13:GLN:NE2	2.30	0.62
58:ZK:57:ARG:HG2	58:ZK:104:VAL:HG21	1.82	0.62
1:A:2659:U:H5''	1:A:2660:C:H5'	1.81	0.62
1:A:3127:G:H2'	1:A:3128:G:H8	1.65	0.62
70:ZY:244:ASN:ND2	70:ZY:293:ASP:O	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2951:U:O2'	25:Y:16:GLY:O	2.15	0.62
6:F:36:VAL:HG13	6:F:236:LEU:HD11	1.80	0.62
13:M:8:ARG:NH2	13:M:149:THR:O	2.32	0.62
27:CA:1011:G:H2'	27:CA:1012:G:C8	2.35	0.62
1:A:107:A:N1	1:A:312:U:O2'	2.32	0.62
1:A:474:C:N3	1:A:517:G:N1	2.32	0.62
1:A:3086:A:OP1	17:Q:38:ARG:NH2	2.32	0.62
27:CA:511:U:O2'	63:ZQ:60:PHE:O	2.16	0.62
40:k:78:THR:HG22	40:k:81:ARG:H	1.65	0.62
58:ZK:127:ASN:HB2	58:ZK:130:ARG:HH21	1.64	0.62
70:ZY:236:VAL:HA	70:ZY:252:THR:HA	1.81	0.62
75:v:124:LEU:HD13	75:v:155:ASP:HB2	1.81	0.62
1:A:61:A:N3	1:A:76:U:O2'	2.33	0.62
18:R:111:LYS:NZ	18:R:153:GLU:O	2.33	0.62
23:W:34:VAL:O	23:W:38:ASN:ND2	2.32	0.62
24:X:1:MET:N	24:X:1:MET:SD	2.71	0.62
37:h:3:GLU:OE1	37:h:3:GLU:N	2.33	0.62
1:A:2860:C:H2'	1:A:2861:G:H8	1.63	0.61
1:A:341:A:N6	43:n:37:TYR:O	2.30	0.61
27:CA:1194:A:H2'	27:CA:1195:U:H6	1.65	0.61
51:ZD:33:ARG:NH2	51:ZD:53:TYR:O	2.30	0.61
59:ZL:57:LEU:HB2	59:ZL:87:LYS:HB3	1.81	0.61
1:A:2128:A:H2'	1:A:2129:A:C8	2.35	0.61
1:A:2620:G:OP2	19:S:180:ARG:NH1	2.34	0.61
5:E:287:ASN:OD1	5:E:289:SER:OG	2.18	0.61
11:K:105:GLU:OE1	11:K:110:LYS:NZ	2.20	0.61
27:CA:34:G:O2'	27:CA:504:A:O2'	2.17	0.61
62:ZP:42:PRO:O	62:ZP:79:ASN:ND2	2.33	0.61
70:ZY:81:LEU:HG	70:ZY:89:LEU:HD11	1.81	0.61
70:ZY:189:ILE:HG21	75:v:225:LYS:HZ2	1.66	0.61
73:t:82:ARG:NH2	73:t:191:GLU:OE1	2.33	0.61
1:A:2917:A:H2'	1:A:2918:A:H8	1.65	0.61
58:ZK:25:GLN:HG3	58:ZK:27:LYS:H	1.64	0.61
73:t:127:VAL:HG21	73:t:176:VAL:HG13	1.81	0.61
1:A:1074:G:OP2	12:L:98:ARG:NH1	2.33	0.61
27:CA:1523:G:O2'	57:ZJ:89:GLN:NE2	2.29	0.61
29:ZB:58:ASP:O	29:ZB:62:ARG:NH1	2.33	0.61
61:ZO:23:ARG:HH12	61:ZO:67:GLY:N	1.97	0.61
1:A:610:U:H2'	1:A:611:A:C8	2.36	0.61
1:A:1103:C:OP2	9:I:92:LYS:NZ	2.32	0.61
27:CA:1319:U:H2'	27:CA:1320:G:C8	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1656:A:H1'	78:y:66:GLY:HA2	1.82	0.61
63:ZQ:55:ILE:HG13	63:ZQ:75:ILE:HG12	1.82	0.61
76:w:148:ARG:NH2	78:y:201:GLN:OE1	2.33	0.61
76:w:174:LYS:O	76:w:179:ARG:NH1	2.33	0.61
1:A:543:C:O2	9:I:24:ARG:NH1	2.24	0.61
1:A:1729:G:H2'	1:A:1730:A:C8	2.35	0.61
1:A:2031:G:OP1	1:A:2033:C:N4	2.27	0.61
14:N:127:ASP:OD2	14:N:130:THR:OG1	2.16	0.61
28:ZA:68:GLU:HG2	28:ZA:69:THR:HG23	1.81	0.61
1:A:234:A:H2'	1:A:235:G:C4	2.36	0.61
1:A:517:G:H2'	1:A:518:U:C6	2.36	0.61
16:P:146:PRO:HB2	39:j:101:THR:HG23	1.83	0.61
27:CA:21:U:H2'	27:CA:22:A:C8	2.36	0.61
27:CA:502:U:H2'	27:CA:503:G:C8	2.36	0.61
27:CA:1145:U:H2'	27:CA:1146:G:H8	1.66	0.61
27:CA:1519:U:OP1	57:ZJ:136:GLN:NE2	2.30	0.61
27:CA:1533:U:H3	54:ZG:122:THR:HG1	1.46	0.61
73:t:168:MET:O	73:t:172:MET:HG3	2.00	0.61
1:A:66:C:OP2	1:A:291:G:N2	2.33	0.61
1:A:152:C:O2	1:A:247:G:N2	2.19	0.61
39:j:96:ASP:OD1	39:j:99:ARG:NH2	2.34	0.61
57:ZJ:100:VAL:HG11	57:ZJ:108:LYS:HG3	1.83	0.61
77:x:91:LEU:HD23	77:x:170:ILE:HG23	1.82	0.61
1:A:728:G:N7	32:c:77:ARG:NH2	2.49	0.61
1:A:1104:G:O2'	1:A:1116:A:N3	2.32	0.61
1:A:1402:C:OP1	35:f:36:ARG:NH2	2.34	0.61
2:B:53:G:H21	13:M:7:MET:HE3	1.65	0.61
27:CA:591:U:H2'	27:CA:592:U:O2	2.01	0.61
27:CA:946:G:N1	27:CA:993:A:O2'	2.29	0.61
27:CA:1350:C:HO2'	27:CA:1351:A:H8	1.49	0.61
64:ZR:77:MET:N	64:ZR:77:MET:SD	2.74	0.61
1:A:1575:G:N2	1:A:1578:A:OP2	2.33	0.60
27:CA:1435:C:OP2	57:ZJ:138:THR:OG1	2.18	0.60
56:ZI:108:ASP:N	56:ZI:108:ASP:OD1	2.31	0.60
27:CA:1319:U:H2'	27:CA:1320:G:H8	1.66	0.60
70:ZY:17:ASN:HB3	70:ZY:39:ASP:HB3	1.83	0.60
77:x:188:ILE:HA	77:x:191:CYS:HB2	1.83	0.60
1:A:1099:G:OP2	1:A:1099:G:N2	2.33	0.60
1:A:2010:A:H2'	1:A:2011:A:H8	1.65	0.60
1:A:3196:C:O2'	18:R:69:ARG:O	2.18	0.60
10:J:172:ARG:HA	10:J:224:ILE:HD11	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:32:U:O2'	27:CA:583:A:N1	2.33	0.60
27:CA:1536:U:H2'	27:CA:1537:G:H8	1.65	0.60
28:ZA:129:GLY:N	28:ZA:161:ASP:OD1	2.34	0.60
32:c:85:GLU:OE2	32:c:85:GLU:N	2.24	0.60
1:A:740:U:O2	14:N:12:ASN:ND2	2.34	0.60
1:A:1440:C:H2'	1:A:1441:A:H8	1.65	0.60
10:J:92:PHE:O	10:J:96:ASN:ND2	2.34	0.60
70:ZY:175:LYS:HB3	70:ZY:184:LEU:HD11	1.84	0.60
24:X:135:VAL:HG11	25:Y:26:SER:HB3	1.83	0.60
45:q:28:TYR:HB3	45:q:69:VAL:HB	1.84	0.60
72:s:208:GLU:O	72:s:212:GLN:NE2	2.35	0.60
27:CA:1700:U:H2'	27:CA:1701:G:C8	2.36	0.60
27:CA:1760:U:H2'	27:CA:1761:G:H8	1.66	0.60
56:ZI:117:ILE:HD11	72:s:11:ALA:HB1	1.83	0.60
76:w:212:ASP:OD1	76:w:213:ALA:N	2.31	0.60
1:A:419:U:H2'	1:A:420:G:C8	2.37	0.60
1:A:2183:U:H3	1:A:2187:G:N2	1.98	0.60
8:H:19:ARG:HB2	8:H:22:ILE:HD12	1.83	0.60
27:CA:776:A:H2'	27:CA:777:A:H8	1.67	0.60
27:CA:1313:A:H4'	59:ZL:53:GLY:HA3	1.82	0.60
53:ZF:56:MET:HG3	53:ZF:99:ALA:HB2	1.82	0.60
1:A:164:G:H2'	1:A:165:U:C5	2.37	0.60
1:A:1347:G:N2	1:A:1350:A:OP2	2.30	0.60
1:A:2010:A:H2'	1:A:2011:A:C8	2.36	0.60
1:A:2170:A:N1	49:3:37:A:O2'	2.31	0.60
27:CA:177:A:H2'	27:CA:178:A:C8	2.37	0.60
8:H:29:ILE:HB	8:H:73:ILE:HB	1.84	0.60
27:CA:564:C:H41	62:ZP:65:ASN:HD21	1.47	0.60
1:A:402:G:OP1	18:R:62:ARG:NH1	2.34	0.60
62:ZP:70:LYS:HB3	62:ZP:93:LEU:HD22	1.83	0.60
1:A:249:C:H2'	1:A:250:C:C6	2.37	0.59
1:A:932:U:H2'	1:A:933:U:H6	1.66	0.59
1:A:2077:U:OP1	4:D:234:LYS:NZ	2.28	0.59
51:ZD:121:ASP:OD1	51:ZD:146:LYS:NZ	2.30	0.59
1:A:297:A:H2'	1:A:298:A:H8	1.66	0.59
1:A:1618:G:O6	23:W:74:LYS:NZ	2.34	0.59
1:A:3126:G:O6	1:A:3145:U:O4	2.20	0.59
1:A:3271:G:N2	35:f:104:GLN:OE1	2.31	0.59
27:CA:1567:A:H2'	27:CA:1568:A:H8	1.67	0.59
47:1:43:C:H2'	47:1:44:G:C8	2.38	0.59
66:ZT:2:VAL:HG13	66:ZT:3:LEU:H	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:x:94:SER:HB2	77:x:174:THR:HG21	1.84	0.59
1:A:2864:G:N2	1:A:2867:A:OP2	2.31	0.59
27:CA:804:G:OP1	27:CA:808:G:N1	2.34	0.59
27:CA:1116:G:H2'	27:CA:1117:A:H8	1.67	0.59
32:c:36:GLY:HA3	32:c:40:HIS:CE1	2.37	0.59
47:1:26:A:N6	47:1:44:G:H1	1.98	0.59
1:A:702:A:H2'	1:A:703:G:O4'	2.01	0.59
27:CA:1770:U:H5'	65:ZS:141:ILE:HD11	1.84	0.59
47:1:9:A:H1'	47:1:45:U:H2'	1.83	0.59
55:ZH:98:GLU:HB2	70:ZY:58:LYS:O	2.03	0.59
60:ZM:38:ASN:HA	72:s:62:ARG:HH21	1.68	0.59
1:A:207:G:OP1	30:a:12:ARG:NH1	2.34	0.59
1:A:1333:A:N6	1:A:1361:A:O2'	2.35	0.59
1:A:2794:C:H2'	1:A:2795:G:H8	1.68	0.59
16:P:28:TRP:O	16:P:32:GLN:NE2	2.34	0.59
20:T:109:MET:HA	20:T:109:MET:HE2	1.83	0.59
20:T:186:ASN:ND2	27:CA:785:G:OP2	2.34	0.59
27:CA:394:C:O2'	78:y:92:ARG:O	2.16	0.59
27:CA:1590:C:OP1	77:x:79:ARG:NH2	2.32	0.59
31:b:27:ARG:NH2	31:b:96:ILE:O	2.35	0.59
54:ZG:81:ARG:NH2	54:ZG:120:SER:O	2.34	0.59
60:ZM:15:ARG:NH1	74:u:53:LEU:O	2.33	0.59
27:CA:1531:A:OP1	54:ZG:115:TYR:OH	2.16	0.59
42:m:42:LYS:HG2	42:m:55:VAL:HG22	1.85	0.59
55:ZH:28:ILE:HB	55:ZH:35:ILE:HD13	1.85	0.59
56:ZI:82:ASP:O	72:s:84:ARG:NH2	2.34	0.59
68:ZV:20:GLN:HG3	68:ZV:25:SER:HA	1.85	0.59
70:ZY:131:VAL:HB	70:ZY:144:LEU:HD12	1.83	0.59
72:s:5:GLU:O	72:s:8:ASN:ND2	2.35	0.59
72:s:198:MET:HG3	72:s:200:ASP:H	1.68	0.59
1:A:961:U:O4	1:A:983:G:O6	2.19	0.59
27:CA:238:U:N3	51:ZD:17:PRO:O	2.34	0.59
27:CA:321:U:OP1	28:ZA:38:ARG:NH1	2.28	0.59
54:ZG:72:LYS:HA	54:ZG:72:LYS:HE3	1.85	0.59
70:ZY:75:VAL:HG12	70:ZY:119:LEU:HD21	1.85	0.59
78:y:219:ARG:HH11	78:y:223:ARG:HG3	1.68	0.59
1:A:98:A:H3'	1:A:99:G:H21	1.68	0.59
1:A:3108:U:C4	15:O:114:MET:HE1	2.38	0.59
73:t:145:ARG:NH2	73:t:151:ARG:O	2.32	0.59
79:z:56:LEU:HD12	79:z:58:ILE:HD11	1.85	0.59
1:A:896:G:OP1	33:d:27:GLN:NE2	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2417:U:H2'	1:A:2418:G:H8	1.67	0.59
8:H:159:LYS:HD2	8:H:162:LEU:HD12	1.83	0.59
12:L:180:GLU:OE2	12:L:180:GLU:N	2.36	0.59
21:U:22:GLN:HB2	21:U:78:ILE:HD11	1.83	0.59
1:A:497:U:H3'	1:A:498:G:H5''	1.84	0.59
1:A:2417:U:H2'	1:A:2418:G:C8	2.38	0.59
1:A:3130:C:H2'	1:A:3131:A:H8	1.68	0.59
3:C:63:G:H22	3:C:93:A:H2	1.49	0.59
27:CA:246:A:N3	28:ZA:71:ASN:ND2	2.51	0.59
27:CA:758:A:N7	76:w:19:MET:HE3	2.18	0.59
27:CA:1528:G:N7	54:ZG:47:ARG:NH2	2.51	0.59
27:CA:1566:C:H2'	27:CA:1567:A:C8	2.36	0.59
62:ZP:8:GLY:O	62:ZP:11:SER:OG	2.19	0.59
78:y:12:THR:HG22	78:y:129:THR:HG23	1.83	0.59
22:V:99:SER:HG	22:V:101:CYS:HG	1.49	0.58
36:g:115:ILE:HG21	36:g:124:ARG:HG2	1.83	0.58
72:s:140:ASN:ND2	74:u:55:SER:O	2.36	0.58
76:w:194:VAL:HG11	76:w:232:ALA:HB2	1.84	0.58
77:x:153:VAL:HG22	77:x:154:ARG:H	1.67	0.58
1:A:2362:G:H2'	1:A:2363:G:C8	2.38	0.58
16:P:183:THR:HG22	16:P:187:ARG:HB2	1.85	0.58
19:S:89:ASP:OD2	19:S:90:ASP:N	2.36	0.58
27:CA:204:U:O2	28:ZA:182:ARG:NH1	2.36	0.58
27:CA:1243:G:H4'	27:CA:1244:C:H3'	1.86	0.58
27:CA:1288:G:H5'	56:ZI:67:ARG:HH22	1.67	0.58
1:A:528:U:OP1	9:I:143:ARG:NH2	2.36	0.58
1:A:1148:C:N4	1:A:2757:C:OP1	2.36	0.58
11:K:91:ARG:HD2	11:K:143:GLU:HB2	1.86	0.58
16:P:36:ILE:HG12	16:P:64:ILE:HG13	1.85	0.58
74:u:103:ASN:O	74:u:136:ARG:NH2	2.36	0.58
1:A:218:C:OP2	30:a:46:ARG:NH2	2.36	0.58
50:ZC:88:PRO:HD2	50:ZC:91:ARG:HB2	1.85	0.58
1:A:259:G:OP2	16:P:44:ARG:NH1	2.34	0.58
1:A:1088:C:O2'	1:A:1100:A:N3	2.35	0.58
16:P:98:LEU:HD12	16:P:128:LYS:HD2	1.86	0.58
27:CA:1611:C:O2	27:CA:1740:A:N6	2.36	0.58
28:ZA:113:ALA:HB2	28:ZA:169:LEU:HD23	1.85	0.58
28:ZA:194:ALA:O	28:ZA:198:ARG:NH1	2.36	0.58
1:A:84:G:O2'	1:A:96:G:O6	2.18	0.58
1:A:1487:U:H3	1:A:1491:A:H2	1.52	0.58
1:A:2075:G:H2'	1:A:2076:G:H8	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3099:G:OP2	1:A:3100:C:N4	2.36	0.58
7:G:37:VAL:HG11	22:V:27:LEU:HD21	1.84	0.58
14:N:151:GLU:OE2	14:N:155:ARG:NH1	2.36	0.58
27:CA:864:U:H2'	27:CA:865:G:C8	2.39	0.58
37:h:56:GLN:OE1	37:h:56:GLN:N	2.35	0.58
60:ZM:46:ILE:HD12	60:ZM:47:PRO:HD2	1.84	0.58
20:T:195:GLN:HB3	20:T:196:ARG:HH21	1.68	0.58
27:CA:844:C:H2'	27:CA:845:G:C8	2.39	0.58
27:CA:1308:C:H1'	27:CA:1386:A:C4	2.38	0.58
27:CA:1326:A:H2'	27:CA:1327:G:H8	1.68	0.58
28:ZA:43:THR:OG1	28:ZA:64:ALA:O	2.16	0.58
78:y:136:LYS:NZ	78:y:174:LYS:O	2.32	0.58
1:A:1506:C:H2'	1:A:1507:C:C6	2.38	0.58
1:A:1739:G:H5''	4:D:22:LEU:HD22	1.84	0.58
1:A:2916:G:H2'	1:A:2917:A:H8	1.69	0.58
1:A:3064:C:H2'	1:A:3065:G:C8	2.37	0.58
2:B:53:G:N2	13:M:7:MET:HE3	2.19	0.58
8:H:47:GLU:CD	8:H:47:GLU:H	2.12	0.58
19:S:22:ASP:OD2	19:S:22:ASP:N	2.33	0.58
27:CA:931:U:O2'	52:ZE:86:GLU:OE1	2.21	0.58
35:f:6:VAL:HG12	35:f:77:LYS:HA	1.86	0.58
52:ZE:4:MET:SD	52:ZE:124:ARG:NH1	2.77	0.58
77:x:146:ARG:HA	77:x:155:ARG:HD3	1.85	0.58
3:C:99:G:OP2	3:C:101:A:O2'	2.17	0.58
5:E:369:ARG:HH11	25:Y:11:SER:HB3	1.69	0.58
27:CA:1:U:O5'	74:u:171:LYS:NZ	2.37	0.58
27:CA:1130:A:H2'	27:CA:1131:C:H6	1.69	0.58
39:j:5:LYS:HB2	39:j:8:GLU:HG3	1.86	0.58
55:ZH:68:VAL:HG21	55:ZH:80:ILE:HD11	1.86	0.58
62:ZP:6:PRO:HG3	62:ZP:14:LYS:HG2	1.84	0.58
1:A:152:C:N3	1:A:247:G:N1	2.35	0.58
28:ZA:55:THR:HG22	28:ZA:56:ARG:H	1.69	0.58
1:A:474:C:OP2	15:O:70:ARG:NH1	2.37	0.57
1:A:1322:U:H2'	1:A:1323:G:H8	1.69	0.57
1:A:1433:A:O2'	41:l:12:HIS:O	2.21	0.57
1:A:2143:A:H2'	1:A:2144:A:C8	2.38	0.57
1:A:3070:C:H41	18:R:164:VAL:H	1.50	0.57
5:E:358:TRP:HB2	25:Y:1:MET:HE1	1.85	0.57
7:G:205:ALA:HB2	7:G:236:ILE:HD11	1.85	0.57
8:H:120:LYS:O	8:H:123:LYS:N	2.32	0.57
27:CA:734:G:OP1	29:ZB:78:ARG:NH1	2.35	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1369:U:H2'	27:CA:1370:G:C8	2.39	0.57
27:CA:1741:A:N1	65:ZS:142:HIS:ND1	2.50	0.57
73:t:225:LEU:O	73:t:229:LEU:HD12	2.04	0.57
1:A:233:U:H2'	1:A:234:A:C4	2.39	0.57
1:A:1329:G:OP1	6:F:142:ARG:NH2	2.36	0.57
1:A:1534:G:OP1	38:i:58:ARG:NH2	2.29	0.57
1:A:1759:G:H2'	1:A:1760:U:C6	2.38	0.57
1:A:3165:G:O6	18:R:171:ARG:NH2	2.37	0.57
27:CA:1056:A:H2'	27:CA:1057:A:C8	2.39	0.57
27:CA:1369:U:H2'	27:CA:1370:G:H8	1.68	0.57
27:CA:1758:C:H5	71:p:5:TRP:HB3	1.69	0.57
31:b:99:ASP:OD2	31:b:99:ASP:N	2.36	0.57
52:ZE:119:GLU:HG2	52:ZE:141:TYR:HE2	1.68	0.57
75:v:178:MET:HG3	75:v:183:LEU:HD13	1.86	0.57
1:A:2266:U:H2'	1:A:2267:A:H8	1.69	0.57
1:A:2437:G:O6	4:D:72:ARG:NH2	2.37	0.57
27:CA:859:U:H2'	27:CA:860:C:C6	2.39	0.57
27:CA:1172:A:H1'	27:CA:1177:C:H42	1.68	0.57
27:CA:1344:G:H5''	58:ZK:69:LYS:HG2	1.85	0.57
27:CA:1477:G:N2	27:CA:1480:A:OP2	2.35	0.57
28:ZA:94:ASN:HB3	28:ZA:97:LEU:HG	1.85	0.57
70:ZY:212:LYS:HA	70:ZY:235:GLU:HG3	1.84	0.57
77:x:153:VAL:HG22	77:x:154:ARG:HD2	1.87	0.57
1:A:108:G:OP2	14:N:73:ARG:NH2	2.37	0.57
27:CA:470:A:H2'	27:CA:471:U:C6	2.40	0.57
27:CA:841:G:H2'	27:CA:842:G:C8	2.39	0.57
27:CA:1047:C:OP1	65:ZS:75:LYS:NZ	2.37	0.57
27:CA:1145:U:H2'	27:CA:1146:G:C8	2.39	0.57
27:CA:1647:G:H2'	27:CA:1648:G:H8	1.70	0.57
28:ZA:69:THR:HG22	28:ZA:84:ARG:HA	1.87	0.57
40:k:20:GLU:H	40:k:20:GLU:CD	2.12	0.57
1:A:1031:A:H2'	1:A:1032:A:C8	2.40	0.57
1:A:1150:A:H2'	1:A:1151:A:C8	2.40	0.57
1:A:1226:C:H2'	1:A:1227:C:C6	2.39	0.57
1:A:1562:U:H2'	1:A:1563:G:H8	1.68	0.57
1:A:1838:A:H61	1:A:2254:C:N4	2.02	0.57
27:CA:893:A:H2'	27:CA:894:A:H8	1.69	0.57
27:CA:894:A:H2'	27:CA:895:G:C8	2.39	0.57
27:CA:950:G:H4'	27:CA:1751:A:H4'	1.87	0.57
27:CA:1121:A:H2'	27:CA:1122:A:H8	1.69	0.57
27:CA:1442:G:O2'	27:CA:1577:C:OP1	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:ZH:38:VAL:H	55:ZH:44:ARG:HH21	1.52	0.57
59:ZL:21:ILE:HD13	59:ZL:98:ILE:HD11	1.86	0.57
67:ZU:11:LYS:N	67:ZU:31:GLU:O	2.37	0.57
75:v:216:ASP:O	75:v:218:VAL:HG23	2.04	0.57
78:y:23:LYS:HD2	78:y:42:SER:HB2	1.86	0.57
1:A:2321:C:H2'	1:A:2322:C:H6	1.70	0.57
5:E:217:VAL:HG11	5:E:328:ILE:HB	1.87	0.57
74:u:173:ILE:HD11	74:u:189:GLU:HA	1.87	0.57
1:A:178:C:OP2	30:a:122:ARG:NH2	2.37	0.57
1:A:343:G:O6	41:l:55:ARG:NH2	2.38	0.57
1:A:2128:A:H2'	1:A:2129:A:H8	1.70	0.57
1:A:2343:U:H2'	1:A:2344:G:H8	1.69	0.57
1:A:2870:C:OP2	81:A:3453:BLS:N14	2.38	0.57
1:A:2965:U:H2'	1:A:2966:G:H8	1.68	0.57
2:B:4:U:H2'	2:B:5:G:H8	1.70	0.57
27:CA:316:U:H2'	27:CA:317:A:H8	1.70	0.57
27:CA:335:G:H5'	51:ZD:79:LYS:HE2	1.86	0.57
34:e:10:ASN:HB2	34:e:13:ALA:HB3	1.86	0.57
55:ZH:128:PHE:O	55:ZH:136:ARG:NH1	2.34	0.57
1:A:2783:U:H2'	1:A:2784:C:H6	1.68	0.57
18:R:179:LEU:O	18:R:182:ILE:HG22	2.05	0.57
25:Y:21:PHE:HB3	25:Y:29:PHE:HB2	1.87	0.57
27:CA:855:G:H2'	27:CA:856:U:C6	2.40	0.57
27:CA:923:G:H2'	27:CA:924:G:C8	2.39	0.57
55:ZH:46:LYS:NZ	77:x:70:HIS:O	2.31	0.57
1:A:764:U:H2'	1:A:765:A:H8	1.69	0.57
1:A:2044:U:H2'	1:A:2045:G:C8	2.39	0.57
5:E:377:ARG:NH2	5:E:386:ASP:OD2	2.29	0.57
27:CA:749:G:H8	27:CA:751:A:H2	1.52	0.57
55:ZH:38:VAL:O	55:ZH:44:ARG:NH2	2.38	0.57
70:ZY:297:LEU:N	70:ZY:309:TRP:O	2.30	0.57
72:s:114:SER:O	72:s:114:SER:OG	2.23	0.57
75:v:136:GLU:HB3	75:v:158:MET:HE1	1.87	0.57
1:A:450:A:H2'	1:A:451:U:C6	2.40	0.57
1:A:1764:C:H2'	1:A:1765:G:H8	1.70	0.57
1:A:2018:U:H2'	1:A:2019:A:H8	1.70	0.57
10:J:250:LYS:HD3	10:J:250:LYS:C	2.30	0.57
29:ZB:83:VAL:HA	29:ZB:149:ARG:HA	1.85	0.57
60:ZM:36:ILE:HD13	72:s:59:LEU:HD11	1.86	0.57
69:ZW:36:MET:HE2	69:ZW:36:MET:HA	1.87	0.57
75:v:39:GLU:OE2	75:v:41:ARG:NH2	2.36	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:17:U:H2'	1:A:18:A:C8	2.40	0.56
1:A:100:C:H1'	32:c:66:ASN:HD21	1.70	0.56
1:A:597:G:O2'	1:A:1378:A:OP1	2.23	0.56
1:A:1407:G:N2	1:A:1410:A:OP2	2.34	0.56
20:T:194:ALA:HA	20:T:197:ILE:HG22	1.86	0.56
21:U:93:ILE:HG22	21:U:137:ILE:HA	1.87	0.56
24:X:13:MET:HE1	24:X:54:ALA:HB3	1.87	0.56
27:CA:244:U:H2'	27:CA:245:A:C8	2.39	0.56
27:CA:809:U:H2'	27:CA:810:U:N3	2.19	0.56
27:CA:1114:U:H2'	27:CA:1115:U:C6	2.40	0.56
31:b:14:THR:HB	38:i:86:LYS:HG3	1.86	0.56
36:g:126:GLU:OE1	36:g:126:GLU:N	2.35	0.56
1:A:1440:C:H2'	1:A:1441:A:C8	2.39	0.56
13:M:108:ILE:HG21	13:M:114:TYR:HB2	1.86	0.56
27:CA:868:A:N6	27:CA:882:U:O4'	2.38	0.56
54:ZG:108:LYS:HB3	54:ZG:110:GLU:OE1	2.06	0.56
59:ZL:39:ASN:O	59:ZL:43:ASN:ND2	2.37	0.56
70:ZY:186:ALA:HB1	75:v:224:VAL:HB	1.87	0.56
1:A:164:G:C8	1:A:165:U:H2'	2.41	0.56
1:A:1066:C:H2'	1:A:1067:A:H8	1.68	0.56
1:A:1530:A:C4	43:n:4:GLN:NE2	2.69	0.56
1:A:2070:G:OP1	4:D:241:ARG:NH1	2.38	0.56
1:A:2108:U:H5''	1:A:2109:G:H5'	1.87	0.56
5:E:57:VAL:HG22	5:E:73:VAL:HG22	1.86	0.56
21:U:27:ARG:HG3	21:U:65:VAL:HG23	1.87	0.56
27:CA:1128:C:H5	27:CA:1133:A:H61	1.53	0.56
27:CA:1174:A:N3	68:ZV:10:HIS:HE1	2.02	0.56
27:CA:1221:U:H2'	27:CA:1222:C:C6	2.38	0.56
27:CA:1260:U:H2'	27:CA:1261:G:H8	1.68	0.56
27:CA:1326:A:H2'	27:CA:1327:G:C8	2.41	0.56
35:f:78:ARG:HD2	35:f:88:MET:HE1	1.87	0.56
55:ZH:93:GLN:HB2	55:ZH:101:LYS:HD2	1.87	0.56
55:ZH:119:ASP:OD2	55:ZH:121:ARG:HG2	2.04	0.56
61:ZO:52:TYR:HB3	79:z:138:VAL:HG13	1.87	0.56
63:ZQ:49:LYS:HA	63:ZQ:49:LYS:HE3	1.86	0.56
75:v:171:THR:HG23	75:v:188:LYS:HG2	1.87	0.56
1:A:1008:A:H4'	22:V:102:ARG:HH22	1.69	0.56
1:A:2319:A:N7	1:A:2772:A:N6	2.53	0.56
14:N:10:LEU:HD23	19:S:166:LEU:HD11	1.87	0.56
18:R:108:ASP:N	18:R:152:GLU:OE2	2.32	0.56
27:CA:714:A:OP2	79:z:106:LYS:NZ	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:ZH:9:PHE:O	55:ZH:86:LYS:NZ	2.35	0.56
59:ZL:98:ILE:O	59:ZL:102:ILE:HG13	2.05	0.56
70:ZY:89:LEU:HD13	70:ZY:113:VAL:HG11	1.86	0.56
1:A:2917:A:H2'	1:A:2918:A:C8	2.40	0.56
27:CA:512:G:O2'	27:CA:518:A:N6	2.38	0.56
27:CA:917:U:H2'	27:CA:918:G:H8	1.70	0.56
31:b:62:VAL:O	31:b:66:THR:OG1	2.20	0.56
39:j:52:ALA:O	39:j:56:THR:OG1	2.23	0.56
50:ZC:68:LEU:O	75:v:65:ARG:NH2	2.39	0.56
58:ZK:44:GLU:HG2	58:ZK:45:LEU:HG	1.86	0.56
1:A:749:A:N3	1:A:2712:C:O2'	2.38	0.56
1:A:2855:U:OP2	1:A:2877:G:N1	2.35	0.56
2:B:115:U:H2'	2:B:116:G:H8	1.69	0.56
4:D:108:PRO:O	4:D:111:THR:OG1	2.21	0.56
13:M:129:MET:HA	13:M:129:MET:HE3	1.87	0.56
27:CA:1140:G:C2	27:CA:1141:A:C8	2.93	0.56
1:A:3129:U:H2'	1:A:3130:C:C6	2.41	0.56
4:D:129:THR:OG1	4:D:132:ASN:ND2	2.32	0.56
27:CA:316:U:H2'	27:CA:317:A:C8	2.40	0.56
27:CA:325:G:O6	28:ZA:12:ARG:NH1	2.39	0.56
27:CA:715:U:O2'	27:CA:716:U:OP1	2.21	0.56
27:CA:814:A:H2'	27:CA:815:G:C8	2.41	0.56
28:ZA:88:VAL:HG22	28:ZA:109:VAL:HG12	1.86	0.56
65:ZS:106:MET:HB3	65:ZS:129:LEU:HG	1.87	0.56
79:z:32:LEU:HD11	79:z:37:ARG:HG2	1.86	0.56
4:D:242:ARG:NH2	4:D:243:THR:O	2.39	0.56
27:CA:812:C:H5'	27:CA:813:U:H3'	1.88	0.56
27:CA:1132:C:H4'	67:ZU:22:ARG:HH11	1.70	0.56
27:CA:1540:C:OP1	57:ZJ:41:ARG:HD3	2.06	0.56
27:CA:1554:U:H5''	55:ZH:141:TYR:HE2	1.71	0.56
29:ZB:151:ASP:O	29:ZB:154:LYS:NZ	2.39	0.56
40:k:58:GLU:OE1	40:k:58:GLU:N	2.39	0.56
70:ZY:22:SER:HB2	70:ZY:70:ASP:HA	1.87	0.56
1:A:2914:U:H2'	1:A:2915:U:C6	2.41	0.56
17:Q:35:VAL:HG22	17:Q:104:LYS:HB2	1.87	0.56
27:CA:950:G:H2'	27:CA:951:U:O2	2.06	0.56
27:CA:1301:A:H61	75:v:162:GLY:HA3	1.70	0.56
30:a:34:PRO:HA	30:a:47:SER:HB3	1.87	0.56
54:ZG:100:LYS:HG2	54:ZG:101:VAL:HG13	1.87	0.56
69:ZW:32:GLY:O	69:ZW:34:ALA:N	2.39	0.56
70:ZY:132:LYS:HE3	70:ZY:143:THR:HG22	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:602:A:H2'	1:A:603:A:C8	2.41	0.56
1:A:1539:U:H2'	1:A:1540:G:H8	1.70	0.56
12:L:57:ILE:HG13	12:L:131:ILE:HG13	1.86	0.56
34:e:54:LYS:NZ	34:e:58:GLU:OE2	2.39	0.56
70:ZY:193:GLY:H	70:ZY:213:ASP:HB3	1.71	0.56
1:A:2:U:H2'	1:A:3:C:C6	2.40	0.55
1:A:1477:A:H2'	1:A:1478:A:C8	2.41	0.55
1:A:2169:U:O4	1:A:2176:G:N2	2.37	0.55
1:A:2177:A:O2'	1:A:2179:U:O4	2.23	0.55
1:A:2597:A:H2'	1:A:2598:G:C8	2.41	0.55
1:A:3130:C:H2'	1:A:3131:A:C8	2.42	0.55
6:F:9:ILE:O	6:F:17:THR:OG1	2.24	0.55
27:CA:890:C:H5'	73:t:65:VAL:HG11	1.89	0.55
31:b:9:ARG:NH1	31:b:83:THR:O	2.38	0.55
34:e:17:LEU:HA	34:e:20:LYS:HZ1	1.71	0.55
51:ZD:113:PRO:HA	51:ZD:116:ARG:HH12	1.71	0.55
73:t:28:GLU:CD	73:t:50:LYS:HA	2.31	0.55
1:A:1436:G:N2	1:A:1436:G:OP2	2.39	0.55
1:A:2583:U:H2'	1:A:2584:C:C6	2.41	0.55
1:A:2921:U:H2'	1:A:2934:A:H61	1.72	0.55
1:A:3127:G:H2'	1:A:3128:G:C8	2.41	0.55
1:A:3157:A:OP1	8:H:34:ARG:NH2	2.39	0.55
27:CA:1134:G:O2'	27:CA:1587:U:O2	2.22	0.55
53:ZF:109:ARG:NH2	73:t:77:GLU:OE1	2.38	0.55
79:z:54:LYS:HB2	79:z:86:ARG:HG2	1.88	0.55
1:A:87:A:N7	19:S:171:LYS:NZ	2.54	0.55
1:A:1364:C:H2'	1:A:1365:G:H8	1.72	0.55
1:A:2774:G:OP2	83:A:3501:HOH:O	2.18	0.55
1:A:3207:U:O4'	5:E:167:LYS:NZ	2.40	0.55
3:C:135:U:H2'	3:C:136:G:H8	1.72	0.55
6:F:4:ARG:HH21	6:F:23:LEU:HB3	1.71	0.55
27:CA:1173:A:H2	27:CA:1572:A:H61	1.53	0.55
45:q:35:LEU:HA	45:q:40:LYS:HG2	1.89	0.55
68:ZV:22:ARG:NH1	75:v:17:VAL:HG11	2.22	0.55
27:CA:1751:A:H2'	27:CA:1752:G:C8	2.42	0.55
29:ZB:63:ASP:OD1	29:ZB:69:ARG:NE	2.40	0.55
63:ZQ:92:VAL:HG11	63:ZQ:99:LYS:HB2	1.88	0.55
1:A:843:G:H1'	1:A:1531:A:N6	2.21	0.55
1:A:1607:G:H2'	1:A:1608:G:C8	2.42	0.55
27:CA:759:A:O2'	76:w:106:LYS:NZ	2.39	0.55
27:CA:1021:G:OP2	27:CA:1021:G:N2	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:3:43:C:H2'	49:3:44:G:C8	2.42	0.55
55:ZH:98:GLU:OE1	70:ZY:60:SER:N	2.40	0.55
73:t:201:THR:O	73:t:201:THR:OG1	2.24	0.55
1:A:452:C:OP1	8:H:14:ARG:NH2	2.38	0.55
16:P:27:CYS:SG	16:P:31:ARG:NH1	2.80	0.55
27:CA:19:A:P	62:ZP:110:ARG:HH22	2.30	0.55
59:ZL:91:ASP:OD1	59:ZL:93:GLN:NE2	2.38	0.55
61:ZO:6:VAL:HG13	61:ZO:29:PRO:HG2	1.89	0.55
1:A:480:G:H2'	1:A:481:A:C8	2.42	0.55
1:A:489:U:H2'	1:A:490:A:C8	2.42	0.55
27:CA:1500:A:O3'	58:ZK:83:SER:OG	2.24	0.55
73:t:172:MET:O	73:t:176:VAL:HG12	2.06	0.55
1:A:1538:C:H2'	1:A:1539:U:H6	1.71	0.55
1:A:2425:U:O2'	1:A:2426:A:H5''	2.07	0.55
4:D:117:GLU:HB2	4:D:162:ALA:HB1	1.88	0.55
23:W:10:HIS:ND1	23:W:11:ALA:O	2.37	0.55
27:CA:1037:G:H5''	73:t:150:VAL:HG22	1.88	0.55
27:CA:1172:A:H1'	27:CA:1177:C:N4	2.21	0.55
27:CA:1690:C:H4'	27:CA:1691:C:OP1	2.05	0.55
57:ZJ:22:ILE:HD11	57:ZJ:35:ILE:HG13	1.89	0.55
74:u:174:ILE:HD12	74:u:174:ILE:O	2.07	0.55
4:D:206:PRO:HG3	4:D:213:GLY:HA3	1.87	0.55
27:CA:241:U:OP1	76:w:133:LYS:NZ	2.39	0.55
27:CA:870:A:H2'	27:CA:871:G:H8	1.70	0.55
27:CA:1286:G:OP1	56:ZI:7:LYS:N	2.33	0.55
56:ZI:74:GLN:OE1	56:ZI:78:ARG:NH2	2.40	0.55
76:w:36:HIS:HB2	76:w:41:CYS:SG	2.47	0.55
1:A:159:G:H2'	1:A:160:A:C8	2.42	0.55
1:A:304:U:H2'	1:A:305:C:C6	2.42	0.55
1:A:489:U:H2'	1:A:490:A:H8	1.72	0.55
1:A:602:A:H2'	1:A:603:A:H8	1.71	0.55
1:A:1539:U:H2'	1:A:1540:G:C8	2.42	0.55
1:A:1597:C:O2'	1:A:1740:A:OP2	2.20	0.55
1:A:1780:G:H5''	1:A:1781:A:H5'	1.89	0.55
1:A:2027:U:H4'	1:A:2028:A:O5'	2.07	0.55
1:A:2272:A:H2'	1:A:2273:A:H8	1.71	0.55
6:F:181:ARG:NH2	6:F:204:ARG:O	2.39	0.55
18:R:60:PHE:O	18:R:64:ASN:ND2	2.39	0.55
24:X:104:ASN:ND2	24:X:108:GLU:OE1	2.32	0.55
27:CA:1225:G:HO2'	27:CA:1226:A:H8	1.54	0.55
37:h:16:TYR:OH	37:h:89:LEU:O	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:ZC:21:VAL:HG12	50:ZC:66:TYR:HB2	1.88	0.55
70:ZY:189:ILE:HD13	75:v:219:VAL:HG13	1.88	0.55
1:A:2470:U:OP1	4:D:69:TYR:OH	2.20	0.54
1:A:2488:C:OP1	10:J:49:ARG:NH2	2.40	0.54
4:D:32:LEU:HD13	4:D:163:ARG:HD3	1.87	0.54
27:CA:751:A:O2'	27:CA:753:G:O4'	2.25	0.54
72:s:126:PRO:HG3	72:s:145:ALA:HB1	1.89	0.54
74:u:156:LYS:HD2	74:u:161:LEU:HD12	1.89	0.54
76:w:141:THR:OG1	76:w:143:ASP:OD1	2.25	0.54
1:A:51:G:OP2	41:l:48:ASN:ND2	2.36	0.54
2:B:39:U:N3	2:B:42:G:OP2	2.23	0.54
27:CA:837:G:H1	27:CA:931:U:H3	1.55	0.54
27:CA:1348:U:H2'	27:CA:1349:G:C8	2.42	0.54
27:CA:1500:A:H2'	27:CA:1501:A:C8	2.43	0.54
27:CA:1567:A:H2'	27:CA:1568:A:C8	2.43	0.54
57:ZJ:24:GLY:O	57:ZJ:59:GLY:N	2.36	0.54
57:ZJ:24:GLY:HA2	57:ZJ:58:ALA:HB3	1.88	0.54
57:ZJ:94:ASP:OD2	57:ZJ:98:TYR:OH	2.25	0.54
63:ZQ:42:GLU:O	63:ZQ:45:SER:OG	2.23	0.54
78:y:147:LEU:HB3	78:y:151:ASP:OD1	2.07	0.54
1:A:10:A:H2'	1:A:11:A:C8	2.42	0.54
1:A:2668:U:H2'	1:A:2669:A:H8	1.71	0.54
27:CA:1286:G:O2'	56:ZI:10:LYS:NZ	2.40	0.54
30:a:88:GLU:OE1	30:a:88:GLU:N	2.40	0.54
64:ZR:67:ILE:HD12	64:ZR:67:ILE:O	2.08	0.54
72:s:36:TYR:OH	72:s:56:LYS:NZ	2.40	0.54
79:z:17:LEU:O	79:z:21:GLN:N	2.30	0.54
1:A:2485:C:N4	3:C:147:C:OP1	2.41	0.54
2:B:45:C:OP2	13:M:135:ARG:NH1	2.34	0.54
10:J:109:ARG:NH1	10:J:113:GLU:OE2	2.41	0.54
27:CA:29:U:H2'	27:CA:30:G:C8	2.43	0.54
27:CA:768:C:C2	27:CA:769:A:C8	2.95	0.54
35:f:43:MET:O	35:f:76:ARG:NH1	2.40	0.54
50:ZC:90:THR:HG21	75:v:69:GLU:HG3	1.90	0.54
72:s:117:GLU:OE2	74:u:35:LYS:N	2.37	0.54
1:A:234:A:H2'	1:A:235:G:C5	2.42	0.54
1:A:2562:G:H2'	1:A:2563:G:C8	2.43	0.54
27:CA:375:G:OP2	28:ZA:32:ARG:NH2	2.41	0.54
70:ZY:141:MET:N	70:ZY:141:MET:SD	2.80	0.54
74:u:137:GLY:N	74:u:148:SER:O	2.36	0.54
1:A:767:C:O2'	1:A:1477:A:N3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2362:G:H2'	1:A:2363:G:H8	1.73	0.54
1:A:2923:G:O2'	1:A:2932:G:O6	2.26	0.54
12:L:102:MET:O	12:L:102:MET:HE3	2.07	0.54
27:CA:534:A:H4'	27:CA:535:U:H5'	1.89	0.54
27:CA:772:G:H3'	27:CA:773:A:C8	2.43	0.54
77:x:198:ASN:HB3	77:x:203:SER:HB3	1.90	0.54
78:y:43:ASP:OD2	78:y:44:GLU:N	2.41	0.54
1:A:3040:A:OP2	5:E:30:LYS:NZ	2.25	0.54
27:CA:635:U:H2'	27:CA:636:U:H6	1.73	0.54
27:CA:1445:A:H4'	27:CA:1516:G:H4'	1.89	0.54
27:CA:1521:G:OP1	57:ZJ:123:ARG:NH1	2.39	0.54
27:CA:1586:A:OP1	77:x:105:LYS:NZ	2.33	0.54
27:CA:1727:U:H2'	27:CA:1728:A:C8	2.43	0.54
57:ZJ:36:ARG:HE	57:ZJ:105:MET:HE3	1.73	0.54
58:ZK:117:SER:HB2	58:ZK:123:LYS:HB3	1.89	0.54
78:y:57:ASP:HA	78:y:106:LEU:HA	1.90	0.54
79:z:18:GLN:O	79:z:22:ALA:N	2.41	0.54
1:A:273:G:OP2	1:A:275:A:O2'	2.25	0.54
1:A:287:G:OP2	1:A:287:G:N2	2.34	0.54
1:A:1558:U:H2'	1:A:1559:G:H8	1.73	0.54
1:A:2272:A:H2'	1:A:2273:A:C8	2.42	0.54
1:A:2484:C:H1'	10:J:241:LYS:HD3	1.90	0.54
1:A:3087:A:N3	1:A:3090:A:O2'	2.37	0.54
27:CA:135:U:H2'	27:CA:136:A:C8	2.43	0.54
27:CA:837:G:OP2	52:ZE:3:ARG:NH1	2.41	0.54
27:CA:1624:C:H2'	27:CA:1625:U:C6	2.42	0.54
27:CA:1647:G:H2'	27:CA:1648:G:C8	2.41	0.54
54:ZG:44:ARG:HG2	54:ZG:84:ILE:HD11	1.90	0.54
77:x:50:GLU:H	77:x:129:GLN:HE22	1.54	0.54
1:A:352:U:O4	41:l:24:ARG:NH2	2.41	0.54
1:A:1538:C:H2'	1:A:1539:U:C6	2.43	0.54
1:A:2562:G:H2'	1:A:2563:G:H8	1.71	0.54
3:C:8:C:H2'	3:C:9:A:H8	1.71	0.54
4:D:95:SER:OG	4:D:97:ASN:OD1	2.24	0.54
21:U:15:MET:SD	21:U:16:SER:N	2.81	0.54
27:CA:192:G:N7	28:ZA:142:LYS:NZ	2.52	0.54
27:CA:1227:U:H3	50:ZC:5:LYS:HA	1.73	0.54
27:CA:1343:G:H2'	27:CA:1344:G:H8	1.73	0.54
47:l:35:A:OP1	55:ZH:142:ARG:NH1	2.38	0.54
53:ZF:16:ALA:HB1	53:ZF:90:GLY:H	1.72	0.54
56:ZI:105:GLU:O	56:ZI:106:THR:OG1	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
74:u:98:ILE:HG21	74:u:182:LEU:HD12	1.89	0.54
75:v:213:LYS:HD3	75:v:213:LYS:H	1.73	0.54
1:A:1004:A:OP1	9:I:96:LYS:NZ	2.37	0.54
1:A:2569:G:H2'	1:A:2570:G:H8	1.73	0.54
3:C:9:A:H2'	3:C:10:A:H8	1.72	0.54
17:Q:101:GLU:CD	17:Q:101:GLU:H	2.16	0.54
17:Q:122:PRO:HA	17:Q:125:LEU:HD12	1.88	0.54
27:CA:357:U:H2'	27:CA:358:A:O4'	2.08	0.54
27:CA:582:G:H4'	27:CA:584:G:H4'	1.90	0.54
27:CA:831:U:O2'	61:ZO:56:HIS:O	2.25	0.54
27:CA:1357:U:O4	27:CA:1358:A:N6	2.41	0.54
27:CA:1539:U:H2'	27:CA:1540:C:C6	2.43	0.54
37:h:14:LEU:HD11	37:h:31:GLN:HB2	1.90	0.54
59:ZL:50:VAL:HB	59:ZL:93:GLN:HB2	1.91	0.54
70:ZY:159:ASP:HB3	70:ZY:163:ASN:HA	1.89	0.54
1:A:1237:A:H2'	1:A:1238:A:C8	2.43	0.53
1:A:2421:U:H2'	1:A:2422:U:C6	2.44	0.53
5:E:7:GLU:OE2	83:E:401:HOH:O	2.19	0.53
10:J:101:GLU:HG2	10:J:105:GLU:HG3	1.89	0.53
27:CA:1703:U:H2'	27:CA:1704:C:C6	2.43	0.53
29:ZB:106:GLU:OE1	29:ZB:115:LYS:NZ	2.40	0.53
30:a:98:ASN:C	30:a:99:ILE:HD13	2.33	0.53
70:ZY:46:LYS:HD3	70:ZY:58:LYS:HE3	1.90	0.53
74:u:76:MET:HE1	74:u:181:LYS:HD2	1.88	0.53
1:A:89:G:OP2	1:A:91:C:N4	2.38	0.53
1:A:2412:U:H2'	1:A:2413:C:C6	2.43	0.53
5:E:71:GLU:OE2	5:E:71:GLU:N	2.38	0.53
27:CA:930:U:H2'	27:CA:931:U:H6	1.73	0.53
27:CA:1345:C:OP1	58:ZK:69:LYS:NZ	2.30	0.53
53:ZF:46:ASP:OD2	53:ZF:46:ASP:N	2.41	0.53
72:s:110:TYR:HA	72:s:115:PHE:CG	2.43	0.53
1:A:1841:G:O2'	1:A:2249:U:O4	2.22	0.53
1:A:2009:C:H2'	1:A:2010:A:H8	1.73	0.53
1:A:2358:A:H2'	1:A:2359:C:H6	1.73	0.53
3:C:26:U:H2'	3:C:27:U:C6	2.44	0.53
7:G:107:ARG:NH1	7:G:169:GLY:O	2.34	0.53
24:X:66:LYS:HG2	24:X:69:LEU:HD13	1.90	0.53
27:CA:461:U:O2'	27:CA:740:A:N3	2.36	0.53
27:CA:496:U:H2'	27:CA:497:U:C6	2.43	0.53
27:CA:723:A:OP2	76:w:187:LYS:NZ	2.30	0.53
69:ZW:43:ARG:O	69:ZW:54:ARG:NH1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:s:41:ARG:NH2	72:s:43:ASP:OD1	2.28	0.53
72:s:133:ILE:HG12	72:s:143:VAL:HG11	1.90	0.53
1:A:211:A:O2'	1:A:212:C:O2	2.26	0.53
1:A:778:G:O2'	1:A:800:G:N2	2.29	0.53
1:A:1491:A:H8	1:A:1492:C:O2'	1.92	0.53
1:A:1558:U:H2'	1:A:1559:G:C8	2.44	0.53
1:A:1688:G:OP1	42:m:44:LYS:NZ	2.37	0.53
1:A:1755:G:N7	31:b:64:LYS:NZ	2.55	0.53
1:A:2441:G:OP1	4:D:37:ARG:NH2	2.31	0.53
1:A:2891:A:O2'	1:A:3197:G:N7	2.42	0.53
1:A:2903:U:O2'	5:E:180:GLU:OE2	2.25	0.53
5:E:94:GLU:HG3	17:Q:153:VAL:HG21	1.90	0.53
12:L:140:THR:HG21	12:L:148:VAL:HG21	1.91	0.53
27:CA:321:U:P	28:ZA:63:ARG:HH22	2.31	0.53
27:CA:1161:B8N:O2'	27:CA:1162:C:O4'	2.26	0.53
27:CA:1731:A:N1	49:3:36:A:O2'	2.40	0.53
27:CA:1762:C:H2'	27:CA:1763:G:C8	2.43	0.53
53:ZF:76:VAL:HB	53:ZF:110:ILE:HG13	1.89	0.53
74:u:203:GLU:OE2	74:u:203:GLU:N	2.30	0.53
1:A:201:A:N3	6:F:222:ASN:ND2	2.54	0.53
1:A:730:G:H2'	1:A:731:C:C6	2.44	0.53
1:A:1160:G:H4'	21:U:104:MET:HG2	1.90	0.53
1:A:1496:A:H1'	1:A:1497:U:C5	2.43	0.53
1:A:1518:G:H2'	1:A:1519:G:C8	2.44	0.53
1:A:2067:A:H2'	1:A:2068:U:H6	1.72	0.53
1:A:2136:G:N2	1:A:2139:A:OP2	2.36	0.53
9:I:185:GLU:HG2	9:I:196:VAL:HG21	1.90	0.53
27:CA:154:A:H2'	27:CA:155:A:O4'	2.09	0.53
27:CA:1227:U:O2'	50:ZC:8:ARG:NH1	2.39	0.53
62:ZP:100:ASP:OD1	62:ZP:100:ASP:N	2.41	0.53
63:ZQ:41:ARG:NH2	63:ZQ:55:ILE:O	2.42	0.53
72:s:154:GLU:N	72:s:154:GLU:OE1	2.41	0.53
78:y:48:TYR:OH	78:y:119:THR:O	2.26	0.53
1:A:643:C:H2'	1:A:644:U:C6	2.44	0.53
1:A:1067:A:H2'	1:A:1068:U:H6	1.73	0.53
1:A:1803:G:O2'	1:A:2967:U:OP1	2.25	0.53
1:A:2322:C:H2'	1:A:2323:U:H6	1.73	0.53
27:CA:638:G:N2	27:CA:672:U:O2	2.37	0.53
27:CA:1041:U:H2'	27:CA:1042:C:C6	2.43	0.53
28:ZA:140:SER:HB3	28:ZA:143:VAL:HG22	1.90	0.53
39:j:18:GLU:OE2	39:j:18:GLU:N	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZE:6:SER:OG	52:ZE:7:SER:N	2.40	0.53
55:ZH:21:VAL:HG22	55:ZH:64:ILE:HG12	1.91	0.53
69:ZW:29:LYS:HE3	69:ZW:35:TYR:HE1	1.72	0.53
70:ZY:7:LEU:HD13	70:ZY:311:VAL:HB	1.90	0.53
70:ZY:289:ALA:HB3	70:ZY:298:PHE:HB2	1.89	0.53
1:A:67:C:OP1	16:P:178:HIS:ND1	2.38	0.53
1:A:764:U:H2'	1:A:765:A:C8	2.43	0.53
1:A:1557:U:H2'	1:A:1558:U:C6	2.42	0.53
1:A:3242:U:H3	28:ZA:166:ALA:HA	1.73	0.53
27:CA:6:G:N7	74:u:200:ARG:NH1	2.57	0.53
27:CA:289:A:H2'	27:CA:290:A:C8	2.44	0.53
27:CA:676:A:H2'	27:CA:677:G:H8	1.74	0.53
27:CA:801:U:HO2'	27:CA:804:G:H1	1.57	0.53
29:ZB:88:GLU:OE1	29:ZB:88:GLU:N	2.38	0.53
32:c:77:ARG:O	32:c:80:SER:OG	2.26	0.53
75:v:80:LEU:HD11	75:v:85:ILE:HD12	1.91	0.53
79:z:127:LEU:HD21	79:z:170:LEU:HD22	1.88	0.53
1:A:164:G:N2	1:A:237:G:N7	2.57	0.53
1:A:247:G:H2'	1:A:248:C:C6	2.43	0.53
1:A:1306:G:H2'	1:A:1307:C:C6	2.44	0.53
1:A:2133:G:H2'	1:A:2134:A:H8	1.74	0.53
1:A:2168:G:H21	1:A:2178:C:N4	2.07	0.53
1:A:2321:C:H2'	1:A:2322:C:C6	2.44	0.53
27:CA:757:G:O2'	27:CA:758:A:H8	1.92	0.53
27:CA:1227:U:O2	50:ZC:8:ARG:NH2	2.42	0.53
27:CA:1426:U:O2'	68:ZV:7:TRP:O	2.19	0.53
65:ZS:72:ARG:NH1	65:ZS:74:LYS:HD3	2.24	0.53
70:ZY:218:LEU:HD12	70:ZY:228:TYR:HB3	1.91	0.53
77:x:133:ASP:OD1	77:x:137:ASN:ND2	2.42	0.53
1:A:45:C:OP2	1:A:46:A:O2'	2.26	0.53
1:A:1075:U:OP1	12:L:4:ARG:NH1	2.36	0.53
1:A:1176:G:H2'	1:A:1177:G:C8	2.44	0.53
1:A:1332:G:H5''	36:g:120:SER:HB3	1.91	0.53
20:T:37:VAL:HG11	20:T:72:LYS:HD2	1.91	0.53
27:CA:382:C:H2'	27:CA:383:C:C6	2.43	0.53
27:CA:917:U:H2'	27:CA:918:G:C8	2.44	0.53
27:CA:1261:G:H22	27:CA:1294:G:N2	2.07	0.53
27:CA:1734:C:H2'	27:CA:1735:G:C8	2.43	0.53
47:1:37:A:H3'	47:1:38:A:H8	1.74	0.53
1:A:401:U:H2'	1:A:402:G:H8	1.74	0.53
3:C:9:A:H2'	3:C:10:A:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:118:GLU:OE1	8:H:120:LYS:N	2.41	0.53
11:K:57:VAL:HG23	11:K:68:LEU:HD13	1.91	0.53
13:M:134:ALA:HA	13:M:146:ILE:HD11	1.91	0.53
27:CA:65:A:N6	27:CA:83:A:OP2	2.42	0.53
27:CA:859:U:H2'	27:CA:860:C:H6	1.73	0.53
27:CA:1762:C:H2'	27:CA:1763:G:H8	1.73	0.53
27:CA:1770:U:OP2	65:ZS:67:ARG:NH2	2.42	0.53
29:ZB:154:LYS:HE2	29:ZB:155:HIS:CD2	2.44	0.53
35:f:88:MET:HA	35:f:88:MET:HE2	1.91	0.53
38:i:21:ARG:HG3	38:i:33:GLN:HB3	1.91	0.53
55:ZH:121:ARG:CZ	77:x:74:ARG:HD2	2.39	0.53
67:ZU:66:LEU:HB3	77:x:147:ILE:CD1	2.39	0.53
1:A:1598:G:H2'	1:A:1599:C:H6	1.74	0.52
1:A:2197:U:OP1	1:A:2873:G:O2'	2.26	0.52
12:L:101:LYS:HZ3	12:L:103:LEU:HB2	1.74	0.52
27:CA:29:U:H2'	27:CA:30:G:H8	1.74	0.52
27:CA:437:C:OP2	76:w:49:ARG:NH1	2.35	0.52
57:ZJ:50:ALA:O	57:ZJ:68:ARG:NH2	2.38	0.52
72:s:134:LYS:O	72:s:137:SER:OG	2.25	0.52
74:u:51:ILE:HG23	74:u:56:LEU:HB2	1.91	0.52
76:w:127:LYS:HE2	76:w:142:HIS:HA	1.92	0.52
1:A:586:U:H2'	1:A:587:C:C6	2.45	0.52
1:A:1176:G:H2'	1:A:1177:G:H8	1.73	0.52
1:A:2291:G:H2'	1:A:2292:G:C8	2.44	0.52
1:A:3086:A:H2'	1:A:3087:A:H8	1.74	0.52
27:CA:853:C:H5	27:CA:915:U:H3	1.55	0.52
57:ZJ:126:ARG:HB2	57:ZJ:133:VAL:HG12	1.91	0.52
70:ZY:39:ASP:OD1	70:ZY:41:THR:OG1	2.23	0.52
77:x:186:LYS:HB3	77:x:191:CYS:SG	2.49	0.52
79:z:53:LYS:HD3	79:z:87:HIS:HE2	1.75	0.52
1:A:179:A:N1	1:A:203:C:O2'	2.38	0.52
1:A:247:G:H2'	1:A:248:C:H6	1.74	0.52
1:A:251:A:H2'	1:A:252:C:C6	2.43	0.52
1:A:422:A:H2'	1:A:423:C:C6	2.43	0.52
1:A:1440:C:O2'	1:A:1544:A:N3	2.42	0.52
1:A:1453:G:O2'	1:A:1455:U:O4	2.27	0.52
3:C:29:U:H5''	14:N:27:ASP:HB3	1.91	0.52
7:G:146:LEU:HB2	7:G:173:ILE:HD11	1.92	0.52
46:r:37:GLU:HA	46:r:40:GLN:HG2	1.91	0.52
1:A:742:G:O2'	14:N:18:TRP:NE1	2.38	0.52
1:A:2053:A:HO2'	41:l:2:GLY:N	2.07	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:17:ASP:HB2	9:I:20:VAL:HG23	1.92	0.52
27:CA:909:A:H2'	27:CA:910:A:C8	2.44	0.52
27:CA:1009:A:O2'	27:CA:1010:G:O5'	2.24	0.52
27:CA:1417:C:H2'	27:CA:1418:U:C6	2.44	0.52
30:a:57:THR:HG22	30:a:67:GLU:HB3	1.91	0.52
42:m:26:LYS:NZ	42:m:28:ASN:OD1	2.40	0.52
50:ZC:32:HIS:HB2	50:ZC:39:ASN:HA	1.90	0.52
56:ZI:19:ARG:HD3	75:v:211:GLU:HA	1.92	0.52
1:A:619:U:O2'	6:F:118:GLU:OE2	2.24	0.52
10:J:135:TYR:CG	10:J:191:VAL:HG21	2.45	0.52
27:CA:796:U:H2'	27:CA:797:C:C6	2.44	0.52
27:CA:1389:U:O2'	27:CA:1392:G:OP1	2.21	0.52
56:ZI:88:ILE:HG22	56:ZI:95:HIS:CE1	2.44	0.52
57:ZJ:115:ARG:O	57:ZJ:119:ILE:HG12	2.09	0.52
59:ZL:23:ILE:HG23	59:ZL:113:VAL:HG23	1.92	0.52
70:ZY:210:ALA:HB1	70:ZY:236:VAL:CG2	2.40	0.52
70:ZY:252:THR:HG21	70:ZY:257:LYS:HD2	1.92	0.52
70:ZY:272:PRO:HB2	70:ZY:307:ARG:HH21	1.73	0.52
75:v:199:GLY:O	75:v:201:LYS:NZ	2.42	0.52
78:y:20:ASP:OD1	78:y:22:HIS:N	2.43	0.52
1:A:730:G:H2'	1:A:731:C:H6	1.75	0.52
1:A:1539:U:H5'	1:A:1636:A:H1'	1.92	0.52
1:A:2672:C:H4'	1:A:2673:C:H5'	1.91	0.52
1:A:3086:A:H2'	1:A:3087:A:C8	2.45	0.52
7:G:238:GLU:HA	7:G:241:MET:HG2	1.91	0.52
27:CA:262:G:H2'	27:CA:263:G:H8	1.73	0.52
27:CA:1473:G:H5''	58:ZK:72:GLY:HA3	1.90	0.52
27:CA:1476:C:N4	27:CA:1482:G:O6	2.42	0.52
50:ZC:38:LYS:HB3	50:ZC:41:TYR:CD2	2.45	0.52
55:ZH:48:TYR:O	55:ZH:52:THR:N	2.34	0.52
72:s:136:SER:HB2	72:s:141:ILE:HG13	1.92	0.52
1:A:161:G:N2	1:A:239:U:O2	2.34	0.52
1:A:576:A:H2'	1:A:577:A:C8	2.45	0.52
1:A:2344:G:H2'	1:A:2345:A:H8	1.74	0.52
27:CA:21:U:H2'	27:CA:22:A:H8	1.74	0.52
27:CA:468:C:H2'	27:CA:469:G:O4'	2.10	0.52
27:CA:769:A:H2'	27:CA:770:U:H5'	1.91	0.52
27:CA:1055:G:N2	27:CA:1058:A:OP2	2.37	0.52
27:CA:1465:U:H1'	27:CA:1469:C:C4	2.45	0.52
59:ZL:96:ALA:O	59:ZL:99:VAL:HG22	2.10	0.52
64:ZR:104:ILE:HG12	64:ZR:107:ARG:HH22	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:s:75:VAL:HG12	72:s:122:ILE:HB	1.92	0.52
73:t:225:LEU:HD23	73:t:225:LEU:H	1.75	0.52
74:u:165:ILE:HB	74:u:192:TYR:HB2	1.92	0.52
1:A:282:U:OP2	16:P:68:ARG:NH2	2.38	0.52
1:A:1606:G:H2'	1:A:1607:G:H8	1.74	0.52
1:A:1828:A:O2'	5:E:226:PHE:O	2.25	0.52
1:A:1838:A:N6	1:A:2254:C:H42	2.07	0.52
1:A:2531:U:OP1	1:A:2657:U:O2'	2.26	0.52
1:A:2729:U:C2	1:A:2730:G:C8	2.98	0.52
27:CA:322:A:H62	28:ZA:34:PHE:HB2	1.75	0.52
27:CA:503:G:N7	29:ZB:171:ARG:NH2	2.58	0.52
27:CA:509:A:H2'	27:CA:510:A:C8	2.44	0.52
27:CA:724:G:OP1	76:w:186:GLY:HA3	2.10	0.52
27:CA:1652:C:H2'	27:CA:1653:C:C6	2.45	0.52
61:ZO:80:ASN:OD1	61:ZO:124:LYS:NZ	2.33	0.52
63:ZQ:53:ASP:HB2	63:ZQ:79:VAL:HG13	1.92	0.52
1:A:172:A:H2'	1:A:173:G:C8	2.45	0.52
1:A:279:A:H2'	1:A:280:G:H8	1.75	0.52
1:A:2018:U:H2'	1:A:2019:A:C8	2.45	0.52
1:A:2183:U:H2'	1:A:2184:U:H5'	1.92	0.52
1:A:2907:A:H2'	1:A:2908:U:O4'	2.10	0.52
9:I:147:TYR:OH	9:I:180:GLU:OE1	2.25	0.52
26:Z:97:VAL:HG21	26:Z:122:ILE:HD13	1.92	0.52
27:CA:374:A:H5''	28:ZA:29:ARG:HB3	1.91	0.52
27:CA:1476:C:HO2'	27:CA:1477:G:H8	1.58	0.52
27:CA:1713:U:H2'	27:CA:1714:C:C6	2.45	0.52
34:e:100:ASP:OD1	34:e:100:ASP:O	2.28	0.52
67:ZU:34:GLU:O	67:ZU:36:SER:N	2.43	0.52
1:A:24:A:H2'	1:A:25:C:H6	1.75	0.52
1:A:190:A:H4'	30:a:61:GLY:HA2	1.92	0.52
1:A:2622:U:O2'	22:V:88:LYS:O	2.25	0.52
21:U:20:GLU:HG2	21:U:78:ILE:HD12	1.92	0.52
27:CA:12:U:H2'	27:CA:13:C:C6	2.45	0.52
27:CA:901:C:H5''	73:t:116:LYS:HG2	1.91	0.52
29:ZB:82:ARG:HH11	29:ZB:149:ARG:HD3	1.74	0.52
45:q:17:CYS:SG	45:q:77:CYS:HB3	2.49	0.52
61:ZO:68:ARG:HD3	74:u:225:TRP:CD2	2.45	0.52
70:ZY:110:VAL:HA	70:ZY:126:SER:HA	1.92	0.52
1:A:1265:A:OP1	17:Q:19:ARG:NH2	2.43	0.51
1:A:1759:G:O2'	1:A:1760:U:OP1	2.28	0.51
3:C:129:A:H2'	3:C:130:A:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:F:8:SER:HB3	6:F:16:LYS:HD2	1.90	0.51
7:G:200:MET:HA	7:G:200:MET:HE3	1.91	0.51
19:S:173:GLU:OE1	32:c:49:HIS:ND1	2.33	0.51
21:U:41:MET:HE1	21:U:58:PHE:HB3	1.90	0.51
27:CA:232:G:O3'	76:w:155:ARG:NH2	2.43	0.51
27:CA:803:U:H3'	27:CA:804:G:H2'	1.92	0.51
79:z:46:GLU:HA	79:z:55:ALA:O	2.10	0.51
79:z:141:LEU:HD11	79:z:147:ILE:HD12	1.92	0.51
1:A:361:G:N1	1:A:364:A:OP2	2.40	0.51
27:CA:723:A:H2	27:CA:767:G:H22	1.56	0.51
27:CA:830:U:H1'	79:z:112:ARG:HE	1.75	0.51
27:CA:845:G:OP1	73:t:158:SER:N	2.39	0.51
27:CA:1218:C:H2'	27:CA:1219:U:C6	2.46	0.51
27:CA:1282:A:N7	56:ZI:2:GLY:N	2.58	0.51
27:CA:1310:U:H2'	27:CA:1311:C:H6	1.76	0.51
70:ZY:8:VAL:HG22	70:ZY:310:GLN:HE21	1.74	0.51
70:ZY:37:SER:OG	70:ZY:38:ARG:N	2.43	0.51
70:ZY:297:LEU:O	70:ZY:309:TRP:N	2.33	0.51
1:A:1135:U:OP1	1:A:1157:U:O2'	2.17	0.51
1:A:1806:A:H5'	20:T:108:ARG:HG2	1.92	0.51
1:A:2511:U:H2'	1:A:2512:U:C6	2.45	0.51
10:J:99:ARG:HH12	10:J:190:LEU:HA	1.75	0.51
27:CA:1659:U:O2	27:CA:1692:G:N2	2.34	0.51
54:ZG:71:GLU:OE2	54:ZG:71:GLU:N	2.41	0.51
1:A:1074:G:N2	1:A:1077:A:OP2	2.32	0.51
1:A:3016:C:OP1	11:K:62:ARG:NH1	2.43	0.51
27:CA:1144:C:OP2	57:ZJ:141:THR:HG21	2.10	0.51
27:CA:1617:G:H2'	27:CA:1618:U:O2	2.10	0.51
27:CA:1699:C:H2'	27:CA:1700:U:O2	2.10	0.51
38:i:21:ARG:HG2	38:i:35:LEU:HD21	1.93	0.51
53:ZF:76:VAL:HG11	53:ZF:97:LEU:HD23	1.92	0.51
54:ZG:81:ARG:NH2	54:ZG:117:GLY:O	2.44	0.51
70:ZY:224:ASN:HB3	75:v:224:VAL:HG21	1.92	0.51
72:s:148:ASP:OD1	72:s:149:VAL:N	2.35	0.51
76:w:112:HIS:NE2	76:w:238:SER:O	2.44	0.51
79:z:65:LEU:HD22	79:z:69:ARG:HE	1.75	0.51
79:z:153:ASP:OD1	79:z:154:SER:N	2.43	0.51
1:A:608:U:H2'	1:A:609:C:C6	2.46	0.51
1:A:2284:G:H2'	1:A:2285:G:C8	2.45	0.51
27:CA:633:U:H2'	27:CA:634:U:C6	2.46	0.51
27:CA:1056:A:H5'	74:u:159:SER:HB3	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1459:A:H2'	27:CA:1460:G:C8	2.46	0.51
28:ZA:39:GLN:H	28:ZA:39:GLN:CD	2.16	0.51
28:ZA:41:ALA:HB2	28:ZA:63:ARG:HD2	1.93	0.51
40:k:60:ILE:HD11	40:k:86:VAL:HG13	1.93	0.51
53:ZF:123:ARG:NH1	65:ZS:85:CYS:O	2.44	0.51
56:ZI:90:ALA:HA	56:ZI:95:HIS:CE1	2.46	0.51
65:ZS:72:ARG:HH11	65:ZS:74:LYS:HD3	1.76	0.51
76:w:75:LYS:HB2	76:w:77:ARG:HH12	1.76	0.51
1:A:621:C:O2'	1:A:625:U:OP1	2.29	0.51
15:O:38:VAL:HG13	15:O:52:LEU:HD21	1.92	0.51
27:CA:413:C:O2'	27:CA:415:G:OP1	2.25	0.51
27:CA:856:U:O2'	53:ZF:116:VAL:O	2.27	0.51
27:CA:1052:C:H42	27:CA:1061:A:H62	1.59	0.51
27:CA:1394:G:O2'	68:ZV:56:ARG:O	2.28	0.51
50:ZC:31:LYS:HA	50:ZC:38:LYS:HA	1.93	0.51
52:ZE:13:SER:HB3	66:ZT:21:LYS:HE3	1.92	0.51
79:z:25:ASP:N	79:z:25:ASP:OD1	2.30	0.51
1:A:158:C:O2'	1:A:159:G:H8	1.94	0.51
1:A:1055:U:H2'	1:A:1056:U:C6	2.46	0.51
1:A:2163:C:O2'	1:A:2187:G:H1'	2.10	0.51
1:A:2271:A:H61	1:A:2883:C:H5	1.58	0.51
1:A:2441:G:H2'	1:A:2442:A:C8	2.46	0.51
3:C:81:G:H1	30:a:51:ARG:HH22	1.57	0.51
4:D:3:ARG:HB3	4:D:207:VAL:HG22	1.93	0.51
25:Y:4:GLU:HB2	25:Y:13:ILE:HB	1.93	0.51
27:CA:115:U:H2'	27:CA:116:U:C6	2.46	0.51
27:CA:206:U:H2'	27:CA:207:A:C8	2.46	0.51
27:CA:578:C:O2'	69:ZW:56:MET:SD	2.66	0.51
27:CA:1071:G:HO2'	61:ZO:4:THR:HG1	1.59	0.51
59:ZL:23:ILE:N	59:ZL:90:ILE:O	2.38	0.51
1:A:610:U:H2'	1:A:611:A:H8	1.75	0.51
1:A:912:C:OP1	33:d:34:ASN:ND2	2.44	0.51
1:A:1057:U:H2'	1:A:1058:U:C6	2.45	0.51
1:A:2492:G:N7	83:A:3533:HOH:O	2.34	0.51
1:A:3154:C:OP2	8:H:58:LYS:NZ	2.30	0.51
6:F:227:ASP:OD2	6:F:247:ARG:NH2	2.44	0.51
21:U:129:ARG:O	21:U:131:ARG:NH1	2.43	0.51
27:CA:1197:A:H1'	27:CA:1226:A:N6	2.25	0.51
29:ZB:172:VAL:HA	29:ZB:175:ARG:HE	1.76	0.51
31:b:44:VAL:HG22	31:b:72:VAL:HG12	1.93	0.51
49:3:29:G:H2'	49:3:30:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:ZH:37:LEU:HD11	58:ZK:10:PRO:HG3	1.92	0.51
70:ZY:210:ALA:HB1	70:ZY:236:VAL:HG21	1.93	0.51
1:A:1598:G:H2'	1:A:1599:C:C6	2.45	0.51
1:A:2133:G:H2'	1:A:2134:A:C8	2.45	0.51
1:A:2138:A:H2'	1:A:2139:A:C8	2.46	0.51
1:A:3010:G:N2	11:K:156:GLN:OE1	2.43	0.51
14:N:76:THR:HG22	14:N:101:ARG:HB3	1.91	0.51
27:CA:107:A:H2'	27:CA:108:G:C8	2.46	0.51
27:CA:244:U:H2'	27:CA:245:A:H8	1.76	0.51
27:CA:329:U:H2'	27:CA:330:A:C8	2.46	0.51
27:CA:676:A:H2'	27:CA:677:G:C8	2.46	0.51
27:CA:1141:A:H2'	27:CA:1142:G:H8	1.74	0.51
27:CA:1192:C:H2'	27:CA:1193:A:H8	1.75	0.51
28:ZA:191:GLU:OE2	28:ZA:191:GLU:N	2.39	0.51
59:ZL:102:ILE:O	59:ZL:106:THR:HG23	2.10	0.51
63:ZQ:87:PRO:HG2	63:ZQ:90:ARG:HB2	1.93	0.51
70:ZY:216:ILE:N	70:ZY:230:LEU:O	2.37	0.51
77:x:188:ILE:HD12	77:x:188:ILE:H	1.76	0.51
78:y:220:LYS:HA	78:y:223:ARG:HB2	1.92	0.51
1:A:2131:G:OP1	40:k:74:LYS:NZ	2.41	0.51
7:G:107:ARG:HH12	7:G:120:LYS:HA	1.75	0.51
14:N:59:ARG:HG2	14:N:69:VAL:HG12	1.91	0.51
15:O:37:ARG:NH2	21:U:109:ARG:O	2.44	0.51
21:U:82:THR:O	21:U:82:THR:OG1	2.25	0.51
22:V:51:GLY:HA3	22:V:92:ARG:HG3	1.93	0.51
27:CA:580:A:H2'	27:CA:581:A:H8	1.74	0.51
27:CA:992:C:OP1	27:CA:1092:G:H4'	2.11	0.51
27:CA:1499:A:O2'	27:CA:1500:A:N3	2.32	0.51
53:ZF:69:VAL:HG22	73:t:29:TRP:CH2	2.46	0.51
70:ZY:72:THR:N	70:ZY:81:LEU:O	2.37	0.51
1:A:986:U:H2'	1:A:987:A:C8	2.47	0.50
1:A:3210:A:H2'	1:A:3211:A:C8	2.46	0.50
3:C:92:A:OP1	41:l:80:THR:OG1	2.26	0.50
11:K:47:LYS:HB2	15:O:5:VAL:HB	1.93	0.50
27:CA:588:A:H2'	27:CA:589:U:C6	2.46	0.50
35:f:19:LEU:HD11	35:f:31:ALA:HB2	1.92	0.50
35:f:97:VAL:HG21	35:f:103:LEU:HD11	1.92	0.50
45:q:16:ASP:OD2	45:q:16:ASP:N	2.43	0.50
49:3:33:U:H1'	49:3:36:A:H62	1.76	0.50
67:ZU:33:LEU:HD21	67:ZU:53:ILE:HG23	1.93	0.50
79:z:83:PHE:HB3	79:z:86:ARG:HD2	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1679:U:HO2'	38:i:56:THR:HG1	1.54	0.50
1:A:2848:C:OP1	5:E:244:ARG:NH1	2.42	0.50
1:A:3079:G:C6	1:A:3107:A:C2	3.00	0.50
2:B:85:A:H2'	2:B:86:G:C8	2.46	0.50
27:CA:756:U:OP1	76:w:241:LYS:NZ	2.31	0.50
27:CA:1475:C:P	58:ZK:122:ARG:HH22	2.34	0.50
29:ZB:125:ALA:O	29:ZB:129:ILE:HG13	2.11	0.50
65:ZS:72:ARG:HB2	65:ZS:95:ASP:OD1	2.11	0.50
69:ZW:48:THR:O	69:ZW:50:THR:N	2.42	0.50
1:A:125:C:OP1	16:P:140:ASN:ND2	2.40	0.50
1:A:179:A:H1'	1:A:200:C:O2'	2.12	0.50
1:A:934:U:H2'	1:A:935:U:C6	2.46	0.50
1:A:1724:C:H2'	1:A:1725:C:C6	2.47	0.50
1:A:2009:C:H2'	1:A:2010:A:C8	2.47	0.50
1:A:2644:U:H2'	1:A:2645:G:C8	2.47	0.50
4:D:156:LYS:HD3	4:D:158:ILE:HD11	1.92	0.50
8:H:42:TYR:HA	8:H:53:VAL:HG12	1.93	0.50
38:i:108:GLN:O	38:i:112:GLN:NE2	2.44	0.50
41:l:46:SER:HB2	41:l:54:LYS:HZ3	1.75	0.50
41:l:58:THR:OG1	41:l:59:THR:N	2.44	0.50
59:ZL:27:SER:OG	59:ZL:110:GLY:O	2.25	0.50
70:ZY:189:ILE:HG13	75:v:223:THR:O	2.11	0.50
76:w:151:ASP:HB3	76:w:154:ILE:HG13	1.92	0.50
1:A:287:G:O6	16:P:12:ARG:NH1	2.44	0.50
1:A:941:G:N2	1:A:942:U:O4	2.36	0.50
1:A:1011:A:H4'	1:A:1012:A:O5'	2.11	0.50
1:A:1599:C:H2'	1:A:1600:C:H6	1.76	0.50
1:A:2075:G:H2'	1:A:2076:G:C8	2.46	0.50
1:A:2965:U:H2'	1:A:2966:G:C8	2.46	0.50
22:V:18:ASP:HB3	22:V:21:LYS:HG3	1.93	0.50
27:CA:39:A:OP1	29:ZB:3:ARG:NH2	2.43	0.50
27:CA:1114:U:HO2'	27:CA:1271:U:HO2'	1.55	0.50
27:CA:1310:U:H2'	27:CA:1311:C:C6	2.45	0.50
28:ZA:129:GLY:HA3	28:ZA:165:THR:HG22	1.93	0.50
53:ZF:10:GLY:O	53:ZF:75:HIS:N	2.44	0.50
61:ZO:68:ARG:HB3	74:u:225:TRP:CE2	2.45	0.50
63:ZQ:57:VAL:HB	63:ZQ:60:PHE:HE1	1.75	0.50
78:y:64:LYS:NZ	78:y:82:SER:OG	2.44	0.50
1:A:248:C:H2'	1:A:249:C:C6	2.46	0.50
1:A:521:U:H2'	1:A:522:G:C8	2.44	0.50
1:A:1178:A:N1	1:A:1224:C:H5''	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1429:G:H21	38:i:6:THR:HG22	1.76	0.50
2:B:11:A:N7	22:V:20:ARG:NH1	2.60	0.50
27:CA:1453:G:H2'	27:CA:1454:G:C8	2.46	0.50
27:CA:1464:G:O2'	27:CA:1469:C:O2	2.28	0.50
27:CA:1751:A:H2'	27:CA:1752:G:H8	1.76	0.50
30:a:69:LYS:O	30:a:83:GLU:N	2.44	0.50
39:j:70:TYR:HB3	39:j:76:ILE:HG22	1.94	0.50
52:ZE:103:GLU:H	52:ZE:103:GLU:CD	2.19	0.50
1:A:193:A:H2'	1:A:194:A:H8	1.76	0.50
1:A:654:G:N2	1:A:657:A:OP2	2.38	0.50
1:A:881:C:OP2	32:c:26:ARG:NH1	2.39	0.50
1:A:1347:G:OP2	36:g:30:LYS:NZ	2.44	0.50
1:A:1518:G:H2'	1:A:1519:G:H8	1.75	0.50
59:ZL:29:LYS:HB3	59:ZL:32:GLN:HG2	1.92	0.50
61:ZO:66:THR:HG23	61:ZO:68:ARG:HG3	1.93	0.50
70:ZY:126:SER:OG	70:ZY:127:ARG:N	2.45	0.50
3:C:6:U:H2'	3:C:7:U:H6	1.76	0.50
27:CA:68:A:OP2	78:y:171:LYS:NZ	2.44	0.50
27:CA:1345:C:H2'	27:CA:1346:G:C8	2.47	0.50
27:CA:1768:G:N2	65:ZS:138:SER:OG	2.40	0.50
54:ZG:93:LEU:HD22	54:ZG:104:THR:HG22	1.93	0.50
78:y:74:ARG:NH1	78:y:96:SER:OG	2.44	0.50
1:A:684:U:H5'	19:S:74:LYS:HE3	1.94	0.50
1:A:2916:G:H1'	24:X:1:MET:HG3	1.93	0.50
9:I:114:PHE:O	9:I:197:ASN:ND2	2.45	0.50
27:CA:118:A:H1'	27:CA:386:A:C4	2.47	0.50
27:CA:118:A:H1'	27:CA:386:A:C5	2.47	0.50
27:CA:1236:U:O2'	27:CA:1237:G:H8	1.94	0.50
49:3:36:A:H2'	49:3:37:A:C8	2.47	0.50
76:w:87:MET:HE2	76:w:123:LEU:HB2	1.93	0.50
1:A:422:A:H2'	1:A:423:C:H6	1.76	0.50
1:A:579:C:O2'	37:h:21:ASN:O	2.25	0.50
1:A:934:U:H2'	1:A:935:U:H6	1.77	0.50
1:A:1403:A:H2'	1:A:1404:A:H8	1.76	0.50
1:A:2845:G:O2'	1:A:2848:C:OP2	2.25	0.50
1:A:3185:U:H2'	1:A:3186:C:H6	1.77	0.50
24:X:103:VAL:HG12	24:X:109:MET:HA	1.94	0.50
27:CA:184:C:H2'	27:CA:185:G:O4'	2.12	0.50
50:ZC:87:LEU:HB2	50:ZC:92:LEU:HB3	1.93	0.50
53:ZF:8:VAL:N	53:ZF:72:THR:OG1	2.38	0.50
56:ZI:5:ARG:HB2	56:ZI:10:LYS:HE3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:ZL:26:THR:HG22	59:ZL:87:LYS:HG3	1.93	0.50
78:y:12:THR:OG1	78:y:124:LEU:O	2.24	0.50
1:A:1504:C:N4	3:C:114:C:O3'	2.45	0.49
1:A:2289:C:OP1	1:A:2723:G:O2'	2.28	0.49
2:B:3:U:H2'	2:B:4:U:H6	1.75	0.49
10:J:171:CYS:HB3	10:J:176:VAL:O	2.12	0.49
20:T:190:ARG:O	20:T:193:ARG:HG3	2.12	0.49
27:CA:949:A:H4'	27:CA:1761:G:N2	2.27	0.49
27:CA:1197:A:O2'	27:CA:1199:G:O4'	2.30	0.49
27:CA:1554:U:H2'	27:CA:1555:C:C6	2.48	0.49
49:3:29:G:H2'	49:3:30:G:H8	1.76	0.49
56:ZI:7:LYS:HD2	56:ZI:11:ARG:HH22	1.77	0.49
69:ZW:53:LYS:N	69:ZW:53:LYS:HD2	2.27	0.49
1:A:541:G:N2	1:A:558:U:OP1	2.36	0.49
1:A:871:C:H2'	1:A:872:A:C8	2.47	0.49
1:A:1403:A:H2'	1:A:1404:A:C8	2.47	0.49
1:A:2597:A:H2'	1:A:2598:G:H8	1.77	0.49
1:A:2645:G:N2	1:A:2648:A:OP2	2.38	0.49
2:B:48:C:OP2	7:G:158:ARG:HD2	2.12	0.49
27:CA:58:U:O2'	27:CA:440:G:N3	2.43	0.49
27:CA:501:A:O2'	29:ZB:133:HIS:NE2	2.28	0.49
29:ZB:119:ALA:HB1	29:ZB:124:HIS:HB3	1.95	0.49
35:f:73:ARG:HH12	35:f:108:VAL:HG11	1.77	0.49
39:j:12:LYS:NZ	39:j:20:GLN:OE1	2.44	0.49
50:ZC:44:LYS:C	50:ZC:46:LEU:H	2.20	0.49
2:B:4:U:H2'	2:B:5:G:C8	2.47	0.49
3:C:124:U:H5''	3:C:125:C:H5	1.77	0.49
6:F:66:TRP:HB3	6:F:70:ARG:HD3	1.93	0.49
27:CA:17:C:H2'	27:CA:18:C:C6	2.47	0.49
27:CA:558:C:OP1	62:ZP:89:ASN:N	2.45	0.49
27:CA:1121:A:H2'	27:CA:1122:A:C8	2.47	0.49
43:n:15:LYS:HE3	43:n:19:GLN:NE2	2.26	0.49
45:q:36:PHE:O	45:q:41:ARG:NH1	2.45	0.49
79:z:56:LEU:HB2	79:z:88:VAL:HA	1.94	0.49
1:A:1:U:H2'	1:A:2:U:C6	2.47	0.49
1:A:2790:A:O2'	1:A:2833:A:N3	2.36	0.49
21:U:109:ARG:HG3	21:U:154:VAL:HG23	1.93	0.49
23:W:93:ILE:HG21	23:W:105:LEU:HD23	1.94	0.49
27:CA:203:A:H1'	27:CA:251:U:C5	2.47	0.49
73:t:67:GLU:OE2	73:t:83:LYS:HB2	2.12	0.49
79:z:13:ASN:ND2	79:z:16:GLU:OE2	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:34:C:H4'	1:A:751:A:H2	1.77	0.49
1:A:146:A:N7	40:k:25:ILE:HG12	2.28	0.49
1:A:1591:U:H2'	1:A:1592:G:H8	1.78	0.49
1:A:2886:U:C2	1:A:2887:A:C8	3.00	0.49
12:L:217:GLN:OE1	12:L:217:GLN:N	2.45	0.49
16:P:90:THR:O	45:q:50:TYR:OH	2.18	0.49
27:CA:772:G:H21	61:ZO:107:SER:HB3	1.78	0.49
27:CA:869:G:N1	27:CA:880:C:N3	2.35	0.49
27:CA:930:U:H5'	52:ZE:55:ARG:HD3	1.94	0.49
54:ZG:50:GLY:C	54:ZG:53:PRO:HD2	2.37	0.49
1:A:2561:G:H2'	1:A:2562:G:H8	1.77	0.49
1:A:2781:C:H2'	1:A:2782:U:C6	2.46	0.49
1:A:2794:C:H2'	1:A:2795:G:C8	2.47	0.49
5:E:379:PHE:HD1	5:E:380:LEU:HD23	1.78	0.49
16:P:160:GLU:OE2	16:P:160:GLU:N	2.36	0.49
27:CA:1569:G:OP2	27:CA:1571:C:N4	2.46	0.49
51:ZD:101:GLU:OE1	62:ZP:16:ARG:NH1	2.44	0.49
63:ZQ:99:LYS:NZ	63:ZQ:101:GLU:OE1	2.44	0.49
77:x:61:GLN:NE2	77:x:64:GLN:HB2	2.27	0.49
1:A:1516:G:H2'	1:A:1516:G:N3	2.26	0.49
1:A:1567:A:H2'	1:A:1568:A:C8	2.47	0.49
1:A:2642:C:H2'	1:A:2643:A:H8	1.78	0.49
1:A:2948:U:O2'	1:A:2949:A:H5'	2.13	0.49
1:A:2952:U:C2	1:A:2953:G:C8	3.00	0.49
5:E:295:SER:OG	5:E:301:THR:O	2.25	0.49
27:CA:1166:A:H4'	27:CA:1167:C:O5'	2.13	0.49
42:m:20:ILE:HG22	42:m:73:LEU:HD11	1.95	0.49
70:ZY:145:THR:HG22	70:ZY:145:THR:O	2.11	0.49
72:s:120:LEU:HD11	72:s:144:ILE:HD12	1.95	0.49
78:y:5:ILE:HD12	78:y:111:LEU:HB2	1.94	0.49
1:A:34:C:H4'	1:A:751:A:C2	2.48	0.49
1:A:1035:U:C2	1:A:1036:G:C8	3.01	0.49
1:A:2986:G:OP1	25:Y:34:SER:OG	2.25	0.49
1:A:3187:C:N4	1:A:3203:G:H22	2.09	0.49
12:L:53:VAL:HG21	12:L:166:ILE:HD12	1.95	0.49
27:CA:68:A:H5'	78:y:162:ILE:HG21	1.93	0.49
27:CA:166:A:OP1	78:y:140:HIS:ND1	2.45	0.49
27:CA:270:G:H2'	27:CA:271:C:C6	2.48	0.49
27:CA:754:C:H2'	27:CA:755:U:C6	2.47	0.49
27:CA:1101:A:C2'	27:CA:1102:A:H5'	2.43	0.49
27:CA:1515:G:C2'	27:CA:1516:G:H5'	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:ZB:81:VAL:HG21	29:ZB:91:MET:HE3	1.94	0.49
73:t:127:VAL:HG11	73:t:176:VAL:HG11	1.95	0.49
76:w:18:TRP:NE1	76:w:41:CYS:O	2.45	0.49
78:y:135:PRO:O	78:y:137:ARG:N	2.46	0.49
1:A:1300:C:H2'	1:A:1301:A:H8	1.78	0.49
1:A:1468:G:H5'	1:A:1772:G:OP2	2.13	0.49
1:A:2780:U:H1'	5:E:250:ALA:HB3	1.95	0.49
27:CA:289:A:H2'	27:CA:290:A:H8	1.77	0.49
27:CA:544:A:H2'	27:CA:545:A:C8	2.48	0.49
27:CA:811:U:H4'	27:CA:812:C:C2	2.48	0.49
27:CA:1616:C:H2'	27:CA:1617:G:C8	2.47	0.49
50:ZC:77:ARG:HH12	50:ZC:86:ILE:H	1.60	0.49
61:ZO:42:GLN:NE2	61:ZO:48:GLY:O	2.35	0.49
1:A:164:G:H2'	1:A:165:U:C6	2.48	0.49
1:A:418:U:H2'	1:A:419:U:C6	2.48	0.49
1:A:1081:G:O2'	1:A:2542:A:N3	2.41	0.49
1:A:1669:A:N6	46:r:48:PHE:O	2.44	0.49
2:B:75:U:H2'	2:B:76:G:C8	2.47	0.49
2:B:97:U:H2'	2:B:98:G:H8	1.78	0.49
24:X:10:LYS:HD2	24:X:125:LEU:HD22	1.94	0.49
27:CA:188:U:N3	27:CA:189:U:O4	2.46	0.49
27:CA:296:G:OP1	51:ZD:90:TYR:OH	2.28	0.49
27:CA:1175:C:O2	68:ZV:17:GLY:N	2.46	0.49
27:CA:1383:U:H2'	27:CA:1384:G:C8	2.48	0.49
27:CA:1623:A:H2'	27:CA:1624:C:C6	2.48	0.49
75:v:223:THR:OG1	75:v:224:VAL:N	2.46	0.49
76:w:118:GLU:HA	76:w:121:TYR:HE1	1.78	0.49
77:x:89:GLU:O	77:x:92:THR:OG1	2.31	0.49
1:A:68:A:N1	1:A:303:A:O2'	2.43	0.48
1:A:245:U:H2'	1:A:246:G:C8	2.48	0.48
1:A:248:C:H2'	1:A:249:C:H6	1.78	0.48
1:A:1001:A:H5''	1:A:2537:A:H61	1.77	0.48
1:A:1434:A:N7	43:n:2:PRO:HG3	2.28	0.48
1:A:1557:U:H2'	1:A:1558:U:H6	1.76	0.48
1:A:3176:G:H2'	1:A:3177:G:H8	1.77	0.48
11:K:14:GLU:OE1	11:K:14:GLU:N	2.46	0.48
20:T:43:TRP:HB3	20:T:71:VAL:HG22	1.95	0.48
27:CA:637:G:H2'	27:CA:638:G:H8	1.78	0.48
27:CA:1025:U:H2'	27:CA:1026:C:C6	2.48	0.48
27:CA:1385:G:N1	27:CA:1388:G:OP2	2.45	0.48
27:CA:1436:A:N3	54:ZG:128:HIS:HB3	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1630:A:N6	27:CA:1720:G:O2'	2.46	0.48
62:ZP:18:HIS:O	62:ZP:22:ASN:HB2	2.13	0.48
63:ZQ:6:THR:HB	63:ZQ:28:LEU:HD13	1.95	0.48
70:ZY:233:ALA:H	70:ZY:257:LYS:HE3	1.78	0.48
70:ZY:285:ALA:HA	70:ZY:301:TYR:HA	1.95	0.48
74:u:62:GLN:OE1	74:u:62:GLN:N	2.42	0.48
78:y:58:LYS:HG3	78:y:105:ASP:O	2.12	0.48
1:A:63:A:H1'	1:A:75:A:H1'	1.94	0.48
1:A:1591:U:H2'	1:A:1592:G:C8	2.48	0.48
1:A:1855:G:N3	1:A:2035:A:H2'	2.28	0.48
1:A:2016:C:O2'	1:A:2017:U:H5''	2.13	0.48
1:A:2137:A:H2'	1:A:2138:A:C8	2.48	0.48
3:C:138:C:H2'	3:C:139:U:H6	1.78	0.48
14:N:115:ARG:NH2	14:N:143:PHE:O	2.45	0.48
17:Q:194:LYS:O	17:Q:197:SER:OG	2.29	0.48
24:X:120:LYS:N	24:X:137:VAL:O	2.46	0.48
27:CA:396:A:H2'	27:CA:397:C:C6	2.49	0.48
27:CA:521:U:OP1	29:ZB:132:ARG:NH1	2.37	0.48
27:CA:1455:A:N1	27:CA:1503:U:H5	2.10	0.48
30:a:57:THR:HG23	30:a:107:ASN:OD1	2.13	0.48
31:b:18:PHE:HE2	31:b:73:LYS:HD2	1.78	0.48
61:ZO:6:VAL:HG12	61:ZO:34:ILE:HD11	1.95	0.48
77:x:165:ARG:HA	77:x:168:THR:HG22	1.95	0.48
1:A:240:U:H2'	1:A:241:C:C6	2.48	0.48
1:A:1305:U:H2'	1:A:1306:G:C8	2.48	0.48
1:A:2343:U:H2'	1:A:2344:G:C8	2.47	0.48
1:A:3129:U:H2'	1:A:3130:C:H6	1.77	0.48
27:CA:564:C:H41	62:ZP:65:ASN:ND2	2.12	0.48
59:ZL:79:ASP:OD1	68:ZV:44:ARG:NH1	2.45	0.48
65:ZS:84:ARG:NH1	65:ZS:89:ALA:O	2.43	0.48
1:A:235:G:H2'	1:A:236:U:C2	2.48	0.48
1:A:888:C:H2'	1:A:889:U:C6	2.48	0.48
1:A:2447:U:H2'	1:A:2448:G:C8	2.48	0.48
1:A:2517:U:O2'	12:L:116:ARG:NH2	2.46	0.48
1:A:2783:U:H2'	1:A:2784:C:C6	2.47	0.48
1:A:3128:G:H2'	1:A:3129:U:C6	2.49	0.48
19:S:81:VAL:HG13	19:S:140:ILE:HG12	1.95	0.48
27:CA:92:A:H1'	76:w:3:ARG:HB3	1.95	0.48
27:CA:1622:U:H2'	27:CA:1623:A:C8	2.48	0.48
53:ZF:11:VAL:HG12	53:ZF:13:ARG:HD3	1.95	0.48
72:s:147:SER:HB2	72:s:151:SER:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
73:t:103:MET:HE2	73:t:188:LEU:HD13	1.95	0.48
73:t:176:VAL:HG23	73:t:184:LEU:HD13	1.95	0.48
74:u:134:ILE:HD13	74:u:186:ALA:HB1	1.95	0.48
79:z:76:THR:HA	79:z:79:LEU:HD23	1.95	0.48
1:A:562:G:H2'	1:A:563:G:C8	2.49	0.48
1:A:2365:G:H2'	1:A:2366:G:H8	1.78	0.48
1:A:2421:U:H2'	1:A:2422:U:H6	1.79	0.48
1:A:2787:A:OP2	83:A:3502:HOH:O	2.20	0.48
2:B:60:C:H2'	2:B:61:A:H8	1.78	0.48
14:N:131:GLN:OE1	14:N:131:GLN:HA	2.14	0.48
27:CA:17:C:H2'	27:CA:18:C:H6	1.79	0.48
27:CA:135:U:H2'	27:CA:136:A:H8	1.77	0.48
27:CA:724:G:H2'	27:CA:725:U:O4'	2.13	0.48
43:n:21:ARG:NH1	43:n:22:PRO:HD2	2.28	0.48
78:y:4:ASN:N	78:y:109:ILE:O	2.43	0.48
1:A:375:A:H2'	1:A:376:A:C8	2.48	0.48
1:A:919:U:H2'	1:A:920:C:O4'	2.14	0.48
1:A:993:A:H2'	1:A:996:C:C5	2.48	0.48
1:A:2412:U:H2'	1:A:2413:C:H6	1.78	0.48
1:A:2836:A:H2'	1:A:2837:G:C8	2.48	0.48
1:A:3064:C:HO2'	1:A:3065:G:P	2.36	0.48
27:CA:753:G:C8	63:ZQ:12:VAL:HG22	2.46	0.48
27:CA:1733:U:HO2'	27:CA:1734:C:P	2.37	0.48
60:ZM:73:ALA:HB1	60:ZM:78:LEU:HB2	1.96	0.48
65:ZS:106:MET:SD	65:ZS:107:VAL:HG13	2.54	0.48
1:A:589:U:O2'	1:A:1100:A:N1	2.45	0.48
1:A:1562:U:H2'	1:A:1563:G:C8	2.47	0.48
1:A:2063:U:H2'	1:A:2064:A:C8	2.49	0.48
1:A:2344:G:H2'	1:A:2345:A:C8	2.48	0.48
1:A:2424:U:H2'	1:A:2425:U:C6	2.49	0.48
1:A:2780:U:OP1	24:X:47:ASN:ND2	2.43	0.48
5:E:121:ASN:OD1	5:E:121:ASN:N	2.46	0.48
27:CA:754:C:H2'	27:CA:755:U:H6	1.77	0.48
27:CA:872:G:H2'	27:CA:873:U:C6	2.48	0.48
52:ZE:28:LEU:H	52:ZE:28:LEU:HD12	1.79	0.48
57:ZJ:94:ASP:OD1	57:ZJ:94:ASP:N	2.46	0.48
57:ZJ:100:VAL:HG12	57:ZJ:104:ASN:HB2	1.96	0.48
1:A:642:C:OP2	6:F:120:ARG:NH2	2.46	0.48
1:A:1425:A:N1	1:A:1808:C:O2'	2.45	0.48
1:A:2113:A:C8	1:A:2185:A:H1'	2.48	0.48
1:A:2131:G:H22	1:A:2144:A:H2	1.60	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2260:A:H5''	35:f:23:HIS:CD2	2.49	0.48
1:A:2458:C:H2'	1:A:2459:C:C6	2.49	0.48
1:A:2715:G:N2	1:A:2718:U:O2	2.44	0.48
1:A:3225:G:H2'	1:A:3226:C:C6	2.49	0.48
12:L:99:ILE:HG22	12:L:123:HIS:HB2	1.95	0.48
27:CA:1736:U:OP2	48:2:1:C:O2'	2.27	0.48
35:f:54:LEU:HB2	35:f:94:PRO:HD3	1.94	0.48
36:g:121:SER:HB3	36:g:144:ARG:HG2	1.94	0.48
56:ZI:17:ILE:HD11	56:ZI:54:THR:HG23	1.95	0.48
60:ZM:10:GLU:OE2	74:u:135:ARG:NE	2.47	0.48
70:ZY:181:LYS:O	70:ZY:181:LYS:NZ	2.40	0.48
1:A:765:A:H2'	1:A:766:C:H6	1.78	0.48
1:A:1084:C:OP1	33:d:24:ASN:ND2	2.46	0.48
1:A:2449:G:O6	1:A:2458:C:N4	2.39	0.48
7:G:211:LEU:HD12	7:G:223:PHE:HE2	1.79	0.48
12:L:99:ILE:HG12	12:L:101:LYS:H	1.77	0.48
14:N:15:ARG:HE	14:N:15:ARG:HB2	1.53	0.48
19:S:47:VAL:HA	19:S:50:ARG:NH1	2.29	0.48
20:T:86:MET:HE1	20:T:95:HIS:CG	2.48	0.48
24:X:66:LYS:HG3	24:X:68:GLU:H	1.79	0.48
25:Y:23:ARG:NE	25:Y:25:ASP:OD2	2.47	0.48
27:CA:239:C:H2'	27:CA:240:A:H8	1.78	0.48
27:CA:408:G:H2'	27:CA:409:A:H5''	1.95	0.48
27:CA:1172:A:N6	27:CA:1433:C:O5'	2.47	0.48
31:b:89:VAL:HG23	31:b:93:LYS:HE2	1.95	0.48
61:ZO:111:MET:HB2	61:ZO:115:GLU:HG2	1.96	0.48
75:v:216:ASP:O	75:v:218:VAL:N	2.47	0.48
1:A:209:U:O2	30:a:103:LYS:NZ	2.37	0.48
1:A:780:A:OP1	46:r:12:THR:OG1	2.28	0.48
1:A:1760:U:H2'	1:A:1761:U:C6	2.49	0.48
1:A:1783:A:H1'	43:n:45:ARG:HH22	1.78	0.48
1:A:2125:G:OP2	1:A:2127:C:N4	2.47	0.48
1:A:2282:A:H2'	1:A:2283:A:C8	2.49	0.48
1:A:3220:U:H2'	1:A:3221:G:O4'	2.14	0.48
3:C:21:C:OP1	6:F:194:LYS:NZ	2.34	0.48
14:N:52:ASP:OD1	14:N:52:ASP:N	2.46	0.48
17:Q:90:PRO:O	17:Q:96:GLY:HA3	2.14	0.48
27:CA:74:U:H2'	27:CA:75:A:H2'	1.96	0.48
27:CA:638:G:H2'	27:CA:639:A:C8	2.49	0.48
27:CA:929:U:H5'	52:ZE:15:ALA:O	2.13	0.48
27:CA:1584:U:O2'	77:x:103:GLY:O	2.16	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1699:C:O2'	27:CA:1700:U:OP1	2.27	0.48
28:ZA:64:ALA:HB1	28:ZA:67:ILE:HG12	1.96	0.48
28:ZA:73:SER:HA	28:ZA:80:ALA:HA	1.96	0.48
42:m:14:LEU:HD21	42:m:52:TYR:CD2	2.48	0.48
55:ZH:38:VAL:N	55:ZH:44:ARG:HH21	2.12	0.48
70:ZY:144:LEU:HD13	70:ZY:177:TRP:CE2	2.49	0.48
70:ZY:226:THR:OG1	75:v:222:PRO:HB2	2.13	0.48
77:x:40:LEU:HB3	77:x:44:TRP:HB2	1.96	0.48
79:z:120:HIS:O	79:z:123:ILE:HG12	2.14	0.48
1:A:338:A:N3	1:A:342:A:O2'	2.47	0.47
1:A:517:G:H2'	1:A:518:U:H6	1.77	0.47
1:A:737:U:C2	1:A:738:G:C8	3.02	0.47
1:A:1171:C:C2	1:A:1172:A:C8	3.02	0.47
1:A:2341:U:H2'	1:A:2342:U:C6	2.49	0.47
1:A:2708:A:H4'	1:A:2709:C:H5''	1.96	0.47
1:A:2708:A:OP1	81:A:3453:BLS:H111	2.13	0.47
24:X:18:PRO:HA	24:X:51:ALA:HA	1.96	0.47
27:CA:612:A:N6	27:CA:940:A:OP1	2.47	0.47
27:CA:1130:A:H2'	27:CA:1131:C:C6	2.49	0.47
27:CA:1152:U:H4'	54:ZG:124:THR:OG1	2.13	0.47
27:CA:1169:G:N2	68:ZV:30:LEU:O	2.35	0.47
27:CA:1325:C:H2'	27:CA:1326:A:H8	1.78	0.47
27:CA:1356:U:O2'	27:CA:1491:A:N1	2.43	0.47
27:CA:1517:G:H5'	58:ZK:87:GLY:HA2	1.95	0.47
28:ZA:159:ALA:O	28:ZA:163:GLN:NE2	2.35	0.47
62:ZP:65:ASN:HD22	62:ZP:116:ASP:CG	2.19	0.47
65:ZS:144:ARG:HD2	65:ZS:147:ARG:HH21	1.79	0.47
67:ZU:22:ARG:NH1	67:ZU:22:ARG:HB2	2.28	0.47
73:t:180:THR:HG23	73:t:183:GLN:H	1.79	0.47
75:v:19:TYR:HE1	75:v:38:VAL:HG23	1.79	0.47
79:z:85:ASP:H	79:z:86:ARG:HH12	1.62	0.47
1:A:242:C:H2'	1:A:243:U:C6	2.49	0.47
1:A:583:C:C2	1:A:584:C:C5	3.02	0.47
1:A:1150:A:H2'	1:A:1151:A:H8	1.77	0.47
1:A:1659:G:OP1	20:T:130:ARG:NH1	2.46	0.47
2:B:57:A:H4'	13:M:150:HIS:HB2	1.96	0.47
3:C:45:C:P	43:n:15:LYS:HD2	2.54	0.47
12:L:36:LEU:HD13	12:L:87:LEU:HD23	1.95	0.47
19:S:175:ALA:O	19:S:182:ARG:HB2	2.14	0.47
27:CA:498:G:H2'	27:CA:499:G:C8	2.49	0.47
27:CA:758:A:H5''	27:CA:759:A:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1649:C:OP1	78:y:92:ARG:NH1	2.38	0.47
31:b:23:VAL:HG12	31:b:45:GLY:HA3	1.96	0.47
45:q:2:VAL:N	45:q:90:HIS:O	2.47	0.47
61:ZO:15:ASN:ND2	61:ZO:72:CYS:O	2.47	0.47
76:w:183:VAL:HG11	76:w:188:ASN:HB2	1.95	0.47
1:A:401:U:H2'	1:A:402:G:C8	2.49	0.47
1:A:535:C:H2'	1:A:536:U:C6	2.49	0.47
1:A:1075:U:H2'	1:A:1076:A:O4'	2.14	0.47
1:A:2069:U:H2'	1:A:2070:G:H8	1.79	0.47
1:A:2259:U:H2'	1:A:2260:A:H8	1.78	0.47
1:A:2359:C:C2	1:A:2360:A:C8	3.02	0.47
1:A:2418:G:H2'	1:A:2419:U:O4'	2.14	0.47
1:A:2782:U:H2'	1:A:2783:U:C6	2.49	0.47
2:B:28:A:H2'	2:B:29:C:C6	2.50	0.47
10:J:27:LEU:HD23	10:J:27:LEU:H	1.79	0.47
10:J:251:ALA:O	10:J:255:GLU:HG2	2.15	0.47
16:P:146:PRO:HG3	39:j:99:ARG:HG2	1.96	0.47
27:CA:174:C:H3'	27:CA:175:G:C8	2.50	0.47
27:CA:626:C:O2	79:z:112:ARG:NH2	2.47	0.47
27:CA:758:A:OP2	76:w:108:ARG:NH2	2.40	0.47
27:CA:856:U:C2	27:CA:857:A:C8	3.02	0.47
29:ZB:118:LEU:HD12	29:ZB:118:LEU:H	1.79	0.47
34:e:62:MET:O	34:e:65:LYS:HE3	2.14	0.47
39:j:113:LYS:HE2	39:j:113:LYS:HA	1.96	0.47
52:ZE:132:VAL:HG23	52:ZE:134:VAL:HG23	1.96	0.47
54:ZG:107:ILE:HA	54:ZG:111:MET:SD	2.53	0.47
57:ZJ:6:GLN:OE1	57:ZJ:7:GLU:N	2.47	0.47
67:ZU:15:VAL:HG12	67:ZU:28:VAL:HG12	1.96	0.47
77:x:155:ARG:HB2	77:x:222:ASN:ND2	2.29	0.47
1:A:6:C:H2'	1:A:7:U:C6	2.49	0.47
1:A:671:A:H2'	1:A:672:C:C6	2.50	0.47
1:A:994:A:N3	1:A:2533:U:O2'	2.47	0.47
1:A:1290:A:H2'	1:A:1291:G:H8	1.79	0.47
1:A:1563:G:H2'	1:A:1564:C:H6	1.79	0.47
1:A:2354:A:H2'	1:A:2355:A:C8	2.49	0.47
1:A:2668:U:H2'	1:A:2669:A:C8	2.48	0.47
1:A:2900:U:H2'	1:A:2901:G:C8	2.50	0.47
1:A:3078:U:OP1	37:h:10:LYS:NZ	2.26	0.47
1:A:3172:G:H2'	1:A:3173:G:H8	1.79	0.47
4:D:204:MET:HE2	4:D:209:HIS:HB2	1.95	0.47
6:F:363:GLN:O	21:U:42:ARG:NH1	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:780:G:O2'	27:CA:781:A:OP1	2.30	0.47
27:CA:1049:U:H2'	27:CA:1050:U:O4'	2.13	0.47
27:CA:1180:C:H2'	27:CA:1181:A:H8	1.78	0.47
27:CA:1590:C:H5'	27:CA:1591:G:H5'	1.96	0.47
27:CA:1745:U:H2'	27:CA:1746:U:C6	2.49	0.47
40:k:4:SER:H	40:k:11:ASN:HB3	1.79	0.47
46:r:45:ASP:HA	46:r:52:ARG:HA	1.95	0.47
53:ZF:78:ILE:H	53:ZF:78:ILE:HD12	1.79	0.47
60:ZM:73:ALA:HA	60:ZM:78:LEU:HD23	1.96	0.47
66:ZT:24:LEU:HD21	79:z:137:ARG:HH21	1.79	0.47
70:ZY:64:HIS:HE2	70:ZY:82:SER:HG	1.60	0.47
75:v:162:GLY:O	75:v:165:THR:HG22	2.14	0.47
1:A:499:U:H2'	1:A:500:A:H8	1.80	0.47
1:A:790:A:H2'	1:A:791:A:C8	2.50	0.47
1:A:844:G:OP1	41:l:13:ASN:ND2	2.45	0.47
1:A:1052:A:H2'	1:A:1053:G:C8	2.49	0.47
1:A:1306:G:H2'	1:A:1307:C:H6	1.80	0.47
1:A:1597:C:N4	1:A:1741:A:OP2	2.40	0.47
1:A:2328:A:H2'	1:A:2329:G:H8	1.80	0.47
1:A:3164:U:O2'	37:h:99:ARG:NH1	2.47	0.47
6:F:158:GLU:HA	6:F:216:ILE:HB	1.97	0.47
26:Z:137:ILE:HG22	39:j:33:VAL:HG11	1.95	0.47
27:CA:951:U:C5	27:CA:952:U:C5	3.01	0.47
27:CA:1447:A:C8	27:CA:1515:G:H1'	2.49	0.47
27:CA:1453:G:H2'	27:CA:1454:G:H8	1.79	0.47
27:CA:1527:U:H2'	27:CA:1528:G:C8	2.50	0.47
28:ZA:83:THR:HG21	28:ZA:111:ILE:HD12	1.96	0.47
56:ZI:105:GLU:C	56:ZI:107:ALA:H	2.21	0.47
56:ZI:106:THR:HG21	72:s:23:HIS:CD2	2.50	0.47
74:u:93:MET:HG3	74:u:116:VAL:HB	1.97	0.47
74:u:115:GLU:OE2	74:u:115:GLU:N	2.48	0.47
75:v:39:GLU:CD	75:v:41:ARG:HH21	2.22	0.47
1:A:414:G:O2'	36:g:42:ASP:OD2	2.30	0.47
1:A:1228:G:C2	1:A:1229:G:C5	3.02	0.47
1:A:3022:U:H1'	1:A:3023:A:H5''	1.95	0.47
4:D:177:LYS:NZ	46:r:40:GLN:OE1	2.48	0.47
8:H:146:GLN:N	8:H:146:GLN:OE1	2.47	0.47
46:r:85:THR:O	46:r:89:THR:HG22	2.15	0.47
64:ZR:119:SER:HB3	64:ZR:126:ILE:HD12	1.97	0.47
70:ZY:9:LEU:HD11	70:ZY:307:ARG:HB3	1.97	0.47
78:y:1:MET:HE2	78:y:1:MET:HB2	1.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
79:z:87:HIS:HB3	79:z:163:LYS:HE3	1.95	0.47
1:A:66:C:O3'	16:P:177:GLY:HA2	2.15	0.47
1:A:137:G:OP2	16:P:4:TYR:OH	2.18	0.47
1:A:149:U:H2'	1:A:150:G:H8	1.79	0.47
1:A:420:G:H2'	1:A:421:C:C6	2.50	0.47
1:A:763:A:H2'	1:A:764:U:C6	2.50	0.47
1:A:1030:G:H2'	1:A:1031:A:C8	2.50	0.47
1:A:1276:U:OP1	37:h:17:GLN:NE2	2.44	0.47
1:A:1657:U:H2'	1:A:1658:G:C8	2.50	0.47
1:A:2095:G:H2'	1:A:2096:C:C6	2.49	0.47
1:A:2243:U:H2'	1:A:2244:C:H6	1.80	0.47
1:A:3173:G:H2'	1:A:3174:G:H8	1.80	0.47
2:B:11:A:O2'	2:B:13:U:OP2	2.31	0.47
3:C:8:C:H2'	3:C:9:A:C8	2.48	0.47
6:F:262:VAL:O	6:F:270:SER:OG	2.32	0.47
7:G:41:LYS:NZ	22:V:32:LYS:O	2.35	0.47
11:K:114:ILE:HB	11:K:124:ARG:HB2	1.97	0.47
14:N:42:LYS:HG3	14:N:45:ARG:HH22	1.79	0.47
21:U:60:GLN:HG2	21:U:65:VAL:O	2.15	0.47
22:V:127:ASP:OD1	22:V:128:LEU:N	2.48	0.47
27:CA:67:A:O2'	27:CA:69:A:OP1	2.32	0.47
27:CA:618:U:C2	27:CA:619:A:C8	3.03	0.47
27:CA:633:U:H2'	27:CA:634:U:H6	1.79	0.47
27:CA:809:U:H2'	27:CA:810:U:C2	2.49	0.47
27:CA:1426:U:H2'	27:CA:1427:C:C6	2.50	0.47
27:CA:1530:A:OP2	54:ZG:47:ARG:NH1	2.48	0.47
27:CA:1568:A:H2'	27:CA:1569:G:C8	2.50	0.47
53:ZF:68:GLU:C	53:ZF:68:GLU:OE2	2.58	0.47
65:ZS:103:ILE:O	65:ZS:104:ARG:HD2	2.15	0.47
70:ZY:31:ASP:OD1	70:ZY:47:LEU:N	2.46	0.47
70:ZY:81:LEU:HD13	70:ZY:91:LEU:HD13	1.96	0.47
70:ZY:189:ILE:C	70:ZY:189:ILE:HD12	2.40	0.47
73:t:140:ILE:HD11	73:t:211:HIS:HB2	1.96	0.47
74:u:73:ASP:HA	74:u:99:ILE:HG22	1.96	0.47
75:v:104:GLU:OE2	75:v:174:ARG:NE	2.35	0.47
1:A:1420:A:OP1	1:A:2976:G:O2'	2.29	0.47
1:A:1491:A:H4'	1:A:1492:C:OP1	2.14	0.47
1:A:2771:G:N7	83:A:3536:HOH:O	2.36	0.47
2:B:7:G:H2'	2:B:8:G:H8	1.79	0.47
2:B:95:C:H2'	2:B:96:A:H8	1.79	0.47
3:C:145:A:H2'	3:C:146:G:C8	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:46:LEU:HD12	8:H:66:ARG:HD3	1.97	0.47
27:CA:866:U:O2	53:ZF:36:ARG:NH2	2.48	0.47
27:CA:1057:A:H2'	27:CA:1058:A:C8	2.50	0.47
27:CA:1766:A:N7	65:ZS:96:LYS:NZ	2.63	0.47
59:ZL:31:LYS:HA	59:ZL:34:GLU:HB2	1.97	0.47
74:u:132:ILE:HG13	74:u:133:PRO:HD2	1.97	0.47
1:A:1413:U:H2'	1:A:1414:U:C6	2.50	0.47
1:A:2359:C:H2'	1:A:2360:A:H8	1.80	0.47
4:D:20:THR:HA	4:D:23:ARG:HG3	1.96	0.47
7:G:200:MET:HE2	7:G:241:MET:SD	2.54	0.47
11:K:13:PRO:HG2	11:K:16:VAL:HG11	1.96	0.47
11:K:34:LEU:HB3	11:K:78:LEU:HD22	1.96	0.47
23:W:25:ASN:HB3	23:W:27:VAL:HG23	1.96	0.47
27:CA:296:G:OP2	51:ZD:105:LYS:NZ	2.40	0.47
27:CA:329:U:H2'	27:CA:330:A:H8	1.78	0.47
27:CA:1466:U:H4'	27:CA:1467:G:H5'	1.95	0.47
63:ZQ:16:PRO:HD2	76:w:95:THR:HG22	1.97	0.47
65:ZS:86:LEU:HD23	65:ZS:135:TYR:CE1	2.50	0.47
67:ZU:22:ARG:HH11	67:ZU:22:ARG:HB2	1.80	0.47
1:A:29:C:OP2	16:P:188:ARG:NH1	2.46	0.47
1:A:78:G:OP1	16:P:189:HIS:NE2	2.45	0.47
1:A:239:U:H2'	1:A:240:U:C6	2.50	0.47
1:A:671:A:H2'	1:A:672:C:H6	1.80	0.47
1:A:678:C:H4'	1:A:679:G:O5'	2.14	0.47
1:A:735:G:H2'	1:A:736:C:H6	1.80	0.47
1:A:762:U:H2'	1:A:763:A:H8	1.79	0.47
1:A:895:A:H4'	1:A:911:G:N2	2.29	0.47
1:A:909:U:H2'	1:A:910:A:C8	2.50	0.47
1:A:1066:C:H2'	1:A:1067:A:C8	2.49	0.47
1:A:1131:A:H2'	1:A:1132:C:C6	2.50	0.47
1:A:1738:U:OP1	4:D:52:SER:OG	2.24	0.47
1:A:2121:G:H1'	1:A:2123:A:N6	2.30	0.47
1:A:2447:U:H2'	1:A:2448:G:H8	1.80	0.47
1:A:2574:A:H5''	13:M:103:GLY:HA3	1.97	0.47
1:A:2847:G:N3	5:E:250:ALA:HB1	2.30	0.47
1:A:2901:G:H2'	1:A:2902:U:C6	2.50	0.47
1:A:3245:U:H2'	1:A:3246:U:H6	1.80	0.47
2:B:78:G:O2'	2:B:102:G:O6	2.25	0.47
2:B:95:C:H2'	2:B:96:A:C8	2.50	0.47
4:D:47:GLN:HG3	4:D:49:ILE:HG23	1.96	0.47
10:J:91:THR:HA	10:J:215:LEU:HD21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:W:46:ILE:HG22	23:W:49:ASN:HB2	1.97	0.47
27:CA:1359:G:H2'	27:CA:1360:G:C8	2.50	0.47
28:ZA:66:ARG:O	28:ZA:67:ILE:HD13	2.15	0.47
57:ZJ:75:ASN:HB2	57:ZJ:78:HIS:ND1	2.30	0.47
74:u:222:PRO:HA	74:u:225:TRP:CD2	2.50	0.47
1:A:193:A:H2'	1:A:194:A:C8	2.50	0.46
1:A:412:A:C2	1:A:2278:A:H4'	2.50	0.46
1:A:527:C:O2'	1:A:529:G:OP1	2.32	0.46
1:A:937:U:H1'	22:V:101:CYS:HB3	1.97	0.46
1:A:1067:A:H2'	1:A:1068:U:C6	2.50	0.46
1:A:1604:G:H2'	1:A:1605:U:C6	2.50	0.46
1:A:1636:A:H2'	1:A:1637:A:C8	2.50	0.46
1:A:2422:U:H2'	1:A:2423:U:C6	2.50	0.46
1:A:2897:C:H4'	1:A:2898:G:O5'	2.15	0.46
18:R:95:LEU:HD23	18:R:148:LEU:HD21	1.97	0.46
23:W:24:GLU:OE2	23:W:25:ASN:ND2	2.38	0.46
27:CA:5:U:H2'	27:CA:6:G:H8	1.80	0.46
27:CA:402:U:H3	27:CA:409:A:H62	1.62	0.46
27:CA:551:G:H21	69:ZW:14:VAL:HG11	1.81	0.46
27:CA:786:G:H2'	27:CA:787:A:H8	1.80	0.46
27:CA:1117:A:H2'	27:CA:1118:C:C6	2.49	0.46
39:j:79:ASP:OD1	39:j:79:ASP:N	2.47	0.46
43:n:21:ARG:HH11	43:n:22:PRO:HD2	1.80	0.46
60:ZM:79:LEU:HD13	60:ZM:82:VAL:HG11	1.97	0.46
77:x:40:LEU:N	77:x:44:TRP:O	2.44	0.46
78:y:211:LEU:O	78:y:215:ARG:HG2	2.14	0.46
1:A:1045:A:OP2	22:V:130:ARG:NE	2.48	0.46
1:A:3118:U:C2	1:A:3119:G:C8	3.03	0.46
4:D:117:GLU:OE2	4:D:123:ARG:N	2.47	0.46
27:CA:799:A:H1'	27:CA:813:U:C2	2.51	0.46
55:ZH:39:GLU:HB3	55:ZH:40:PRO:HD3	1.96	0.46
55:ZH:51:LEU:HA	55:ZH:59:PHE:HE2	1.81	0.46
57:ZJ:63:GLN:O	57:ZJ:67:GLU:HG2	2.15	0.46
59:ZL:97:GLN:O	59:ZL:101:LYS:HB3	2.15	0.46
62:ZP:68:ILE:O	62:ZP:70:LYS:NZ	2.49	0.46
63:ZQ:78:SER:HB3	63:ZQ:81:ASP:HB2	1.96	0.46
65:ZS:72:ARG:HD3	65:ZS:74:LYS:HB2	1.97	0.46
70:ZY:81:LEU:HD21	70:ZY:89:LEU:HD21	1.97	0.46
70:ZY:84:SER:OG	70:ZY:85:TRP:N	2.48	0.46
74:u:98:ILE:HD12	74:u:98:ILE:O	2.14	0.46
1:A:499:U:H2'	1:A:500:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1076:A:N3	1:A:2726:U:O2'	2.40	0.46
1:A:1166:C:O2'	1:A:1233:A:N1	2.45	0.46
1:A:1305:U:H2'	1:A:1306:G:H8	1.80	0.46
1:A:1742:A:H2'	1:A:1743:A:C8	2.49	0.46
1:A:2157:A:H5''	4:D:244:GLY:HA3	1.97	0.46
1:A:2560:G:O3'	1:A:2649:G:N2	2.48	0.46
1:A:2712:C:H2'	1:A:2713:A:C8	2.51	0.46
13:M:14:LYS:HE2	13:M:128:VAL:HG21	1.97	0.46
16:P:8:GLU:OE2	16:P:12:ARG:NH2	2.48	0.46
27:CA:1157:U:H2'	27:CA:1158:G:H8	1.80	0.46
27:CA:1265:G:H2'	27:CA:1266:A:H5''	1.96	0.46
27:CA:1583:U:H5''	55:ZH:71:GLY:O	2.15	0.46
29:ZB:57:ARG:HD3	74:u:168:PRO:HB2	1.96	0.46
32:c:103:ASP:O	32:c:107:HIS:ND1	2.45	0.46
52:ZE:55:ARG:HA	52:ZE:60:VAL:O	2.14	0.46
72:s:146:LEU:O	72:s:164:ASN:ND2	2.48	0.46
76:w:117:GLU:H	76:w:117:GLU:CD	2.23	0.46
1:A:100:C:H1'	32:c:66:ASN:ND2	2.30	0.46
1:A:142:C:OP2	39:j:103:ARG:NH1	2.48	0.46
1:A:1129:G:OP1	21:U:172:LYS:NZ	2.49	0.46
1:A:1431:G:H5''	1:A:1780:G:O6	2.15	0.46
1:A:1505:G:H2'	1:A:1506:C:C6	2.50	0.46
1:A:2044:U:H2'	1:A:2045:G:H8	1.81	0.46
1:A:2572:G:H5'	13:M:92:LYS:HE3	1.98	0.46
6:F:194:LYS:HA	6:F:199:ARG:HA	1.96	0.46
6:F:346:GLU:CD	6:F:346:GLU:H	2.24	0.46
8:H:80:ASP:HB3	8:H:137:GLU:OE2	2.15	0.46
10:J:159:ASP:HB3	10:J:160:PRO:HD3	1.96	0.46
11:K:63:LYS:HD3	11:K:63:LYS:HA	1.62	0.46
16:P:152:VAL:HG11	39:j:92:LEU:HD13	1.96	0.46
25:Y:6:ASP:HB3	25:Y:10:GLY:H	1.79	0.46
27:CA:1084:G:O2'	27:CA:1100:G:O6	2.31	0.46
27:CA:1121:A:OP2	27:CA:1741:A:O2'	2.33	0.46
27:CA:1459:A:N3	27:CA:1499:A:N6	2.63	0.46
27:CA:1500:A:H8	27:CA:1565:G:H1'	1.81	0.46
53:ZF:20:ASP:HA	53:ZF:49:GLU:O	2.15	0.46
53:ZF:109:ARG:HH22	73:t:71:ALA:HB3	1.79	0.46
63:ZQ:22:GLN:NE2	76:w:53:LYS:O	2.49	0.46
77:x:44:TRP:CE3	77:x:127:PRO:HG2	2.50	0.46
78:y:5:ILE:N	78:y:14:LYS:O	2.45	0.46
1:A:172:A:H2'	1:A:173:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:758:G:OP2	41:l:31:LYS:NZ	2.48	0.46
1:A:890:G:H5''	36:g:74:ILE:HB	1.98	0.46
1:A:2429:U:OP1	10:J:69:ARG:NE	2.31	0.46
1:A:3028:A:H2'	1:A:3029:G:O4'	2.15	0.46
7:G:129:TYR:OH	7:G:175:HIS:O	2.32	0.46
17:Q:131:LYS:HB3	17:Q:134:ARG:HG3	1.97	0.46
26:Z:68:GLU:O	26:Z:72:LYS:HG3	2.14	0.46
27:CA:189:U:O4	27:CA:192:G:N1	2.49	0.46
27:CA:728:A:H3'	27:CA:729:U:H5''	1.97	0.46
27:CA:860:C:C2	27:CA:861:A:C8	3.03	0.46
28:ZA:46:GLY:O	28:ZA:68:GLU:HB3	2.15	0.46
47:1:34:G:N1	48:2:3:A:C2	2.65	0.46
78:y:63:MET:HE3	78:y:106:LEU:HD21	1.98	0.46
1:A:859:G:H5'	1:A:860:A:OP1	2.15	0.46
1:A:872:A:OP1	6:F:62:SER:OG	2.31	0.46
1:A:960:G:H2'	1:A:961:U:C6	2.51	0.46
1:A:1254:G:HO2'	1:A:2282:A:HO2'	1.51	0.46
1:A:2023:C:H1'	1:A:3232:A:C8	2.50	0.46
1:A:2341:U:H2'	1:A:2342:U:H6	1.81	0.46
1:A:2647:A:H2'	1:A:2648:A:C8	2.50	0.46
1:A:2804:U:H2'	1:A:2805:U:C6	2.50	0.46
4:D:130:SER:OG	4:D:174:ARG:NH2	2.41	0.46
20:T:185:ARG:NH2	27:CA:820:A:OP1	2.49	0.46
27:CA:76:U:H1'	27:CA:77:A:OP2	2.16	0.46
27:CA:96:C:H2'	27:CA:97:U:H6	1.81	0.46
27:CA:96:C:H2'	27:CA:97:U:C6	2.50	0.46
27:CA:749:G:H8	27:CA:751:A:C2	2.32	0.46
27:CA:938:U:H2'	27:CA:939:C:O4'	2.15	0.46
27:CA:1370:G:O2'	27:CA:1371:A:H5'	2.16	0.46
27:CA:1651:U:H2'	27:CA:1652:C:O2	2.16	0.46
29:ZB:88:GLU:HA	29:ZB:91:MET:HE1	1.97	0.46
30:a:111:LEU:HD13	30:a:126:LEU:HD21	1.98	0.46
50:ZC:87:LEU:HB3	50:ZC:91:ARG:HB3	1.97	0.46
56:ZI:108:ASP:HA	56:ZI:111:LYS:HE3	1.97	0.46
1:A:77:U:H2'	1:A:78:G:H8	1.80	0.46
1:A:103:C:H2'	1:A:104:A:H8	1.80	0.46
1:A:2198:G:H1'	1:A:2200:C:N4	2.31	0.46
1:A:2906:A:O2'	1:A:3041:G:N2	2.45	0.46
2:B:3:U:H2'	2:B:4:U:C6	2.50	0.46
4:D:225:ILE:HG21	4:D:234:LYS:HA	1.98	0.46
25:Y:45:ASN:HB3	25:Y:48:ARG:HG3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1134:G:H2'	27:CA:1135:G:C8	2.51	0.46
27:CA:1426:U:H2'	27:CA:1427:C:H6	1.81	0.46
27:CA:1623:A:H2'	27:CA:1624:C:H6	1.80	0.46
29:ZB:59:LEU:HA	29:ZB:62:ARG:HH12	1.79	0.46
51:ZD:69:LYS:C	51:ZD:70:ILE:HD13	2.41	0.46
62:ZP:70:LYS:HE2	69:ZW:11:ALA:HB2	1.98	0.46
77:x:71:THR:O	77:x:73:GLY:N	2.49	0.46
79:z:85:ASP:OD1	79:z:85:ASP:N	2.48	0.46
1:A:202:G:C4	1:A:222:C:H4'	2.51	0.46
1:A:240:U:H2'	1:A:241:C:H6	1.81	0.46
1:A:577:A:H2'	1:A:578:G:C8	2.50	0.46
1:A:1837:A:O2'	1:A:2954:G:H4'	2.16	0.46
1:A:2430:A:N1	1:A:2494:C:N4	2.62	0.46
1:A:3126:G:C6	1:A:3146:G:C6	3.04	0.46
9:I:182:LEU:HD21	9:I:200:LEU:HD21	1.97	0.46
22:V:14:MET:HE1	22:V:55:LYS:HB2	1.97	0.46
27:CA:1451:A:H2'	27:CA:1452:C:O4'	2.16	0.46
27:CA:1632:U:O5'	27:CA:1633:G:H4'	2.16	0.46
29:ZB:10:LYS:HE2	29:ZB:12:TYR:CE1	2.50	0.46
50:ZC:21:VAL:HA	75:v:76:LYS:HZ1	1.81	0.46
64:ZR:97:ILE:HB	64:ZR:101:LEU:HD13	1.96	0.46
79:z:19:VAL:HG11	79:z:44:VAL:HG21	1.97	0.46
1:A:201:A:H4'	1:A:203:C:C5	2.51	0.46
1:A:412:A:N1	1:A:2277:C:O2'	2.33	0.46
1:A:2596:A:H2'	1:A:2597:A:C8	2.51	0.46
1:A:2665:C:O3'	45:q:39:GLY:HA3	2.16	0.46
1:A:3014:A:H2'	1:A:3015:A:O4'	2.16	0.46
1:A:3080:G:O2'	1:A:3082:U:OP1	2.28	0.46
1:A:3242:U:H5'	1:A:3244:G:C5'	2.45	0.46
7:G:212:MET:HE1	7:G:233:PRO:HD3	1.98	0.46
27:CA:1041:U:H2'	27:CA:1042:C:H6	1.79	0.46
27:CA:1350:C:O2'	27:CA:1351:A:H8	1.99	0.46
28:ZA:120:TYR:HB3	28:ZA:128:LEU:HD11	1.98	0.46
56:ZI:89:SER:O	56:ZI:92:ASP:N	2.44	0.46
58:ZK:118:PRO:O	58:ZK:120:GLY:N	2.48	0.46
59:ZL:27:SER:HB3	59:ZL:33:LEU:HD12	1.98	0.46
70:ZY:64:HIS:NE2	70:ZY:82:SER:OG	2.43	0.46
74:u:98:ILE:HD13	74:u:185:LEU:HD12	1.97	0.46
75:v:46:LYS:HB2	75:v:85:ILE:H	1.81	0.46
1:A:85:U:H2'	1:A:86:A:C8	2.51	0.46
1:A:239:U:H2'	1:A:240:U:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:958:A:H2'	1:A:959:G:C8	2.51	0.46
1:A:1856:G:O2'	20:T:102:LYS:O	2.34	0.46
1:A:2886:U:H2'	1:A:2887:A:H8	1.81	0.46
3:C:5:U:H2'	3:C:6:U:H6	1.81	0.46
27:CA:383:C:H2'	27:CA:384:U:C6	2.51	0.46
27:CA:832:A:O2'	27:CA:933:A:N1	2.43	0.46
27:CA:1087:U:H2'	27:CA:1088:G:H8	1.81	0.46
27:CA:1469:C:H2'	27:CA:1470:C:C6	2.51	0.46
28:ZA:188:LEU:HD22	28:ZA:192:GLU:HG2	1.97	0.46
36:g:34:LYS:HE2	36:g:34:LYS:HB3	1.74	0.46
1:A:898:U:H2'	1:A:899:U:C6	2.50	0.45
1:A:2327:G:H2'	1:A:2328:A:H8	1.82	0.45
1:A:2804:U:H2'	1:A:2805:U:H6	1.80	0.45
1:A:2861:G:H2'	1:A:2862:U:C6	2.51	0.45
1:A:2950:A:C5	5:E:75:ALA:HB2	2.51	0.45
1:A:3281:U:H2'	1:A:3282:U:C6	2.51	0.45
3:C:86:U:O2'	3:C:88:A:OP1	2.28	0.45
5:E:139:LYS:HB2	5:E:139:LYS:HE3	1.76	0.45
27:CA:637:G:H2'	27:CA:638:G:C8	2.51	0.45
27:CA:870:A:H2'	27:CA:871:G:C8	2.51	0.45
27:CA:950:G:C2	27:CA:951:U:C2	3.04	0.45
27:CA:1565:G:OP1	58:ZK:91:HIS:HB2	2.16	0.45
27:CA:1576:A:P	58:ZK:86:ARG:HH22	2.39	0.45
27:CA:1625:U:H2'	27:CA:1626:A:H8	1.80	0.45
49:3:36:A:H2'	49:3:37:A:H8	1.79	0.45
50:ZC:61:TRP:HA	68:ZV:23:HIS:HB3	1.99	0.45
54:ZG:21:ASP:C	54:ZG:21:ASP:OD1	2.60	0.45
59:ZL:109:PRO:HB3	75:v:41:ARG:HG3	1.98	0.45
73:t:95:ASN:C	73:t:95:ASN:HD22	2.23	0.45
1:A:541:G:H1'	8:H:7:LYS:HG3	1.97	0.45
1:A:921:G:H21	1:A:1050:A:H8	1.61	0.45
1:A:1133:G:N3	21:U:126:ALA:HB1	2.31	0.45
1:A:1441:A:H2'	1:A:1442:U:C6	2.52	0.45
1:A:1603:C:H2'	1:A:1604:G:H8	1.81	0.45
1:A:1726:U:H2'	1:A:1727:A:C8	2.50	0.45
1:A:2259:U:H2'	1:A:2260:A:C8	2.51	0.45
1:A:2355:A:H2'	1:A:2356:A:C8	2.51	0.45
1:A:2617:U:H4'	45:q:13:LYS:HD2	1.98	0.45
1:A:3185:U:H2'	1:A:3186:C:C6	2.51	0.45
1:A:3222:U:H4'	1:A:3223:A:H5'	1.98	0.45
10:J:163:LEU:HD23	16:P:7:LEU:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:V:127:ASP:OD2	22:V:131:LYS:NZ	2.39	0.45
27:CA:1374:U:OP2	27:CA:1375:G:N1	2.50	0.45
27:CA:1603:U:H2'	27:CA:1604:G:C8	2.51	0.45
31:b:76:ASN:OD1	31:b:77:TYR:N	2.49	0.45
38:i:21:ARG:HE	38:i:21:ARG:HB2	1.66	0.45
42:m:32:LYS:HE3	42:m:36:LYS:HB3	1.97	0.45
43:n:49:LEU:HD23	43:n:49:LEU:HA	1.80	0.45
67:ZU:35:ASP:OD1	67:ZU:36:SER:N	2.49	0.45
72:s:108:THR:HG23	72:s:135:GLU:HG2	1.98	0.45
77:x:91:LEU:HD23	77:x:91:LEU:HA	1.87	0.45
77:x:131:VAL:HG22	77:x:196:LEU:HD23	1.98	0.45
1:A:184:C:H2'	1:A:185:U:H6	1.81	0.45
1:A:617:U:H2'	1:A:618:A:H8	1.81	0.45
1:A:636:A:H5'	1:A:638:A:C6	2.51	0.45
1:A:734:A:H2'	1:A:735:G:H8	1.81	0.45
1:A:1235:U:H2'	1:A:1236:G:H8	1.80	0.45
1:A:1605:U:H2'	1:A:1606:G:H8	1.81	0.45
1:A:1738:U:H2'	4:D:50:HIS:CD2	2.51	0.45
1:A:2827:C:H2'	1:A:2828:C:C6	2.52	0.45
1:A:3062:C:H2'	1:A:3063:U:H6	1.81	0.45
1:A:3210:A:H2'	1:A:3211:A:H8	1.81	0.45
5:E:358:TRP:CB	25:Y:1:MET:HE1	2.46	0.45
23:W:36:PHE:CE1	23:W:40:ARG:HG3	2.50	0.45
27:CA:1006:A:H2'	27:CA:1007:C:C6	2.51	0.45
27:CA:1117:A:H2'	27:CA:1118:C:H6	1.81	0.45
27:CA:1188:G:O4'	27:CA:1420:A:N6	2.48	0.45
27:CA:1568:A:H2'	27:CA:1569:G:H8	1.81	0.45
29:ZB:157:ASP:OD2	29:ZB:158:PHE:N	2.48	0.45
37:h:86:LYS:NZ	37:h:86:LYS:HB3	2.31	0.45
58:ZK:4:VAL:HG21	58:ZK:140:LEU:HD21	1.98	0.45
60:ZM:5:LYS:HB2	60:ZM:7:GLN:OE1	2.17	0.45
78:y:7:TYR:CE1	78:y:9:ALA:HB3	2.52	0.45
1:A:830:G:H2'	1:A:831:A:C8	2.51	0.45
1:A:2267:A:H5''	18:R:83:TRP:O	2.17	0.45
1:A:2322:C:H2'	1:A:2323:U:C6	2.52	0.45
1:A:2635:U:H2'	1:A:2636:A:C8	2.51	0.45
3:C:57:C:H4'	3:C:63:G:N7	2.31	0.45
8:H:159:LYS:HB3	8:H:161:HIS:CE1	2.51	0.45
13:M:9:GLU:OE1	13:M:9:GLU:N	2.50	0.45
21:U:87:LYS:HE3	21:U:87:LYS:HB2	1.84	0.45
22:V:132:PRO:O	22:V:134:GLN:NE2	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:236:A:O2'	51:ZD:37:GLU:O	2.31	0.45
27:CA:393:G:H2'	27:CA:394:C:H6	1.81	0.45
27:CA:819:C:H2'	27:CA:820:A:C8	2.51	0.45
27:CA:1539:U:H2'	27:CA:1540:C:H6	1.81	0.45
35:f:3:SER:O	35:f:3:SER:OG	2.29	0.45
36:g:82:THR:HA	36:g:85:LEU:HD12	1.97	0.45
56:ZI:74:GLN:HB3	56:ZI:78:ARG:HH21	1.82	0.45
58:ZK:28:LEU:HD22	58:ZK:111:ILE:HG13	1.97	0.45
60:ZM:1:MET:N	60:ZM:10:GLU:OE1	2.32	0.45
60:ZM:79:LEU:HD11	72:s:59:LEU:HD22	1.99	0.45
70:ZY:5:GLU:HB3	70:ZY:6:VAL:H	1.53	0.45
74:u:52:TYR:OH	74:u:131:ILE:HG22	2.17	0.45
74:u:181:LYS:HB2	74:u:181:LYS:HE3	1.77	0.45
75:v:75:VAL:HA	75:v:80:LEU:HD23	1.99	0.45
79:z:97:LEU:HD12	79:z:110:ARG:HG3	1.97	0.45
1:A:631:G:OP2	14:N:35:ARG:NH1	2.50	0.45
1:A:929:C:H2'	1:A:930:A:C8	2.52	0.45
1:A:1242:G:H2'	1:A:1243:C:C6	2.52	0.45
1:A:1645:U:O2	1:A:1729:G:O2'	2.34	0.45
1:A:2322:C:C2	1:A:2323:U:C5	3.04	0.45
1:A:2509:A:H2'	1:A:2510:G:C8	2.52	0.45
1:A:3039:U:C2	1:A:3040:A:C8	3.05	0.45
1:A:3245:U:H2'	1:A:3246:U:C6	2.51	0.45
3:C:47:C:H1'	3:C:61:A:H2'	1.98	0.45
7:G:85:ARG:HG3	7:G:254:LYS:HE3	1.98	0.45
12:L:93:PRO:HB2	12:L:125:LEU:HB3	1.99	0.45
18:R:42:GLU:OE1	18:R:42:GLU:HA	2.17	0.45
27:CA:1579:U:H5'	55:ZH:128:PHE:HB3	1.97	0.45
28:ZA:33:LYS:HD2	28:ZA:36:LEU:HD23	1.98	0.45
31:b:52:ARG:O	31:b:65:ARG:NE	2.47	0.45
34:e:91:MET:HB2	34:e:91:MET:HE3	1.78	0.45
55:ZH:51:LEU:HA	55:ZH:59:PHE:CE2	2.51	0.45
58:ZK:15:ILE:HG23	58:ZK:59:ALA:HB3	1.99	0.45
61:ZO:14:ILE:HG23	61:ZO:65:LEU:HD21	1.99	0.45
72:s:34:LYS:O	72:s:37:VAL:HG12	2.16	0.45
74:u:120:ILE:O	74:u:124:ILE:HG12	2.17	0.45
77:x:154:ARG:H	77:x:154:ARG:HD2	1.82	0.45
1:A:24:A:H2'	1:A:25:C:C6	2.51	0.45
1:A:265:U:H2'	1:A:266:U:C6	2.51	0.45
1:A:2900:U:H2'	1:A:2901:G:H8	1.81	0.45
1:A:2993:C:H2'	24:X:12:ARG:HH21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:74:GLU:OE2	4:D:123:ARG:NH2	2.50	0.45
9:I:138:ASN:OD1	9:I:138:ASN:N	2.49	0.45
11:K:46:GLN:HA	15:O:7:THR:HG22	1.99	0.45
14:N:164:ALA:N	32:c:135:GLU:OE2	2.35	0.45
16:P:56:LYS:NZ	16:P:145:ASP:OD2	2.38	0.45
27:CA:202:U:H2'	27:CA:203:A:H8	1.80	0.45
27:CA:776:A:H2'	27:CA:777:A:C8	2.51	0.45
27:CA:811:U:O2'	27:CA:812:C:H5''	2.17	0.45
27:CA:1112:A:H2'	27:CA:1113:A:C8	2.52	0.45
32:c:45:LEU:HD23	32:c:45:LEU:HA	1.79	0.45
58:ZK:127:ASN:HA	58:ZK:130:ARG:HE	1.82	0.45
59:ZL:81:TYR:HB3	68:ZV:52:PHE:HB3	1.98	0.45
70:ZY:174:VAL:HB	70:ZY:188:PHE:HB2	1.98	0.45
73:t:28:GLU:HB3	73:t:94:LYS:HE3	1.98	0.45
76:w:75:LYS:HB2	76:w:77:ARG:NH1	2.31	0.45
78:y:103:ASN:OD1	78:y:104:GLN:N	2.49	0.45
1:A:168:U:H2'	1:A:169:A:C8	2.52	0.45
1:A:450:A:H2'	1:A:451:U:H6	1.82	0.45
1:A:890:G:H2'	1:A:891:C:C6	2.52	0.45
1:A:1176:G:C6	1:A:1228:G:C6	3.05	0.45
1:A:2680:A:H2'	1:A:2681:U:C6	2.52	0.45
1:A:2781:C:H2'	1:A:2782:U:H6	1.82	0.45
1:A:3063:U:H2'	1:A:3064:C:H6	1.81	0.45
1:A:3065:G:H2'	1:A:3066:C:H6	1.82	0.45
1:A:3134:G:O6	5:E:150:ARG:NH1	2.49	0.45
2:B:7:G:H2'	2:B:8:G:C8	2.52	0.45
5:E:239:PRO:O	5:E:242:THR:HG22	2.17	0.45
7:G:156:GLY:HA2	7:G:181:PRO:HD3	1.98	0.45
11:K:90:MET:HE2	11:K:179:ILE:HG22	1.99	0.45
12:L:44:ASP:OD1	12:L:181:TYR:OH	2.33	0.45
27:CA:581:A:OP1	29:ZB:39:LYS:NZ	2.49	0.45
27:CA:1077:G:O2'	27:CA:1078:G:H5'	2.17	0.45
50:ZC:3:ILE:HB	50:ZC:4:PRO:HD3	1.97	0.45
50:ZC:10:LYS:HG3	50:ZC:10:LYS:O	2.15	0.45
61:ZO:15:ASN:ND2	61:ZO:72:CYS:H	2.12	0.45
64:ZR:104:ILE:HG12	64:ZR:107:ARG:NH2	2.32	0.45
74:u:61:TYR:HB3	74:u:125:ILE:HG13	1.99	0.45
75:v:65:ARG:NE	75:v:69:GLU:OE2	2.49	0.45
79:z:53:LYS:HD3	79:z:87:HIS:NE2	2.31	0.45
1:A:184:C:H2'	1:A:185:U:C6	2.52	0.45
1:A:384:G:N1	1:A:387:A:OP2	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3062:C:H2'	1:A:3063:U:C6	2.52	0.45
2:B:11:A:N6	7:G:13:SER:O	2.44	0.45
2:B:60:C:H2'	2:B:61:A:C8	2.51	0.45
8:H:31:LEU:HD11	8:H:73:ILE:HD11	1.99	0.45
11:K:1:MET:HG3	21:U:153:TYR:HB3	1.99	0.45
18:R:125:ASN:HB2	18:R:141:SER:HB3	1.98	0.45
27:CA:816:G:H2'	27:CA:817:A:C8	2.52	0.45
27:CA:1534:G:H5''	57:ZJ:135:GLY:HA3	1.97	0.45
51:ZD:21:THR:O	51:ZD:21:THR:OG1	2.31	0.45
70:ZY:81:LEU:HD21	70:ZY:122:ILE:HD12	1.99	0.45
75:v:46:LYS:CB	75:v:85:ILE:H	2.29	0.45
1:A:3:C:H2'	1:A:4:G:O4'	2.17	0.45
1:A:73:G:H5''	14:N:58:VAL:HB	1.98	0.45
1:A:263:A:H2'	1:A:264:G:H8	1.82	0.45
1:A:449:C:H2'	1:A:450:A:H8	1.81	0.45
1:A:771:A:H2'	1:A:772:U:C6	2.51	0.45
1:A:950:A:N1	1:A:996:C:O2'	2.41	0.45
1:A:1563:G:H2'	1:A:1564:C:C6	2.52	0.45
1:A:1889:G:OP1	20:T:156:ARG:NH1	2.47	0.45
1:A:2967:U:H2'	1:A:2968:C:C6	2.52	0.45
2:B:61:A:H2'	2:B:62:U:C6	2.52	0.45
3:C:6:U:H2'	3:C:7:U:C6	2.51	0.45
8:H:116:LYS:HE2	8:H:116:LYS:HB2	1.75	0.45
13:M:94:PHE:CD2	13:M:100:PHE:HB3	2.52	0.45
27:CA:1192:C:H2'	27:CA:1193:A:C8	2.51	0.45
27:CA:1228:U:H2'	27:CA:1229:U:C6	2.52	0.45
27:CA:1383:U:H2'	27:CA:1384:G:H8	1.82	0.45
34:e:58:GLU:OE2	34:e:70:TYR:OH	2.20	0.45
60:ZM:1:MET:HE1	74:u:137:GLY:HA2	1.98	0.45
64:ZR:124:GLN:NE2	77:x:190:GLU:OE2	2.39	0.45
77:x:116:LEU:HD12	77:x:127:PRO:CB	2.46	0.45
77:x:143:ASP:OD1	77:x:144:SER:N	2.42	0.45
1:A:56:G:H5''	16:P:154:PRO:HB2	1.98	0.45
1:A:441:C:OP1	8:H:98:LYS:NZ	2.50	0.45
1:A:460:A:H2'	1:A:461:C:O4'	2.17	0.45
1:A:731:C:C2	1:A:732:A:C8	3.05	0.45
1:A:1123:C:H2'	1:A:1124:G:N2	2.32	0.45
1:A:1421:C:H2'	1:A:1422:U:C6	2.52	0.45
1:A:1599:C:H2'	1:A:1600:C:C6	2.51	0.45
1:A:1606:G:H2'	1:A:1607:G:C8	2.51	0.45
1:A:2168:G:N2	1:A:2178:C:H41	2.12	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:163:THR:OG1	14:N:166:GLU:OE1	2.27	0.45
23:W:9:THR:HG23	23:W:10:HIS:CD2	2.51	0.45
24:X:104:ASN:OD1	24:X:108:GLU:N	2.50	0.45
27:CA:262:G:H2'	27:CA:263:G:C8	2.51	0.45
27:CA:330:A:H2'	27:CA:331:C:C6	2.52	0.45
27:CA:1657:U:O4	27:CA:1695:G:N2	2.50	0.45
47:1:34:G:O6	48:2:3:A:N1	2.49	0.45
60:ZM:60:ARG:NH2	72:s:155:TYR:O	2.50	0.45
70:ZY:90:ARG:HH21	70:ZY:102:ARG:HD3	1.82	0.45
70:ZY:194:TYR:CZ	70:ZY:212:LYS:HB2	2.52	0.45
1:A:1768:C:OP2	42:m:48:LYS:HG2	2.18	0.44
3:C:58:G:O6	41:l:63:ARG:NH1	2.50	0.44
16:P:124:ASP:OD2	16:P:126:THR:N	2.48	0.44
17:Q:117:LYS:HZ2	21:U:179:PHE:HD2	1.65	0.44
27:CA:260:A:N7	27:CA:261:U:H1'	2.32	0.44
27:CA:285:U:H2'	27:CA:286:U:C6	2.52	0.44
27:CA:816:G:H2'	27:CA:817:A:H8	1.82	0.44
27:CA:988:U:O4	27:CA:989:A:N6	2.50	0.44
27:CA:1195:U:H3'	27:CA:1196:A:C8	2.53	0.44
27:CA:1490:A:H4'	27:CA:1492:U:H5	1.81	0.44
34:e:42:LEU:C	34:e:43:ILE:HD13	2.42	0.44
51:ZD:82:ARG:HH11	51:ZD:113:PRO:HG3	1.81	0.44
59:ZL:21:ILE:HG23	59:ZL:92:LEU:HB2	1.99	0.44
62:ZP:38:PHE:HA	62:ZP:44:GLY:HA2	1.99	0.44
75:v:51:VAL:N	75:v:88:TYR:O	2.43	0.44
79:z:77:ARG:CZ	79:z:78:GLU:HB2	2.48	0.44
1:A:488:C:H2'	1:A:489:U:H6	1.82	0.44
1:A:735:G:H2'	1:A:736:C:C6	2.52	0.44
1:A:821:G:OP2	83:A:3504:HOH:O	2.21	0.44
1:A:2342:U:H2'	1:A:2343:U:C6	2.52	0.44
1:A:2990:C:H2'	1:A:2991:U:O4'	2.16	0.44
2:B:88:G:O2'	21:U:133:ARG:NH2	2.50	0.44
3:C:81:G:H1	30:a:51:ARG:NH2	2.15	0.44
9:I:6:LYS:N	9:I:7:PRO:HD2	2.31	0.44
17:Q:62:ALA:HA	17:Q:71:PRO:HD2	1.98	0.44
27:CA:12:U:H2'	27:CA:13:C:H6	1.83	0.44
27:CA:787:A:H2'	27:CA:788:C:C6	2.53	0.44
27:CA:1210:U:N3	27:CA:1212:A:H5''	2.32	0.44
27:CA:1443:C:O2'	58:ZK:88:PHE:O	2.31	0.44
32:c:38:GLN:O	32:c:42:ARG:NH1	2.50	0.44
50:ZC:16:PHE:CD1	50:ZC:88:PRO:HG3	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:ZD:116:ARG:HD3	51:ZD:116:ARG:HA	1.70	0.44
54:ZG:23:GLU:O	54:ZG:27:LYS:HG2	2.17	0.44
59:ZL:40:ILE:HA	59:ZL:43:ASN:HD21	1.82	0.44
64:ZR:78:LYS:HA	64:ZR:78:LYS:HD3	1.76	0.44
1:A:166:U:H4'	1:A:230:U:O4	2.18	0.44
1:A:1471:G:O2'	1:A:1530:A:N3	2.47	0.44
1:A:1537:U:C2	1:A:1538:C:C5	3.06	0.44
1:A:2327:G:H2'	1:A:2328:A:C8	2.52	0.44
1:A:2424:U:O2'	1:A:2425:U:H5'	2.18	0.44
3:C:138:C:H2'	3:C:139:U:C6	2.52	0.44
6:F:55:GLU:H	6:F:55:GLU:HG3	1.60	0.44
17:Q:28:LEU:HD11	17:Q:103:LEU:HB2	1.99	0.44
19:S:83:VAL:O	19:S:103:ALA:HA	2.18	0.44
20:T:125:LEU:HD23	20:T:158:LEU:HD23	1.99	0.44
27:CA:258:G:H2'	27:CA:259:C:H6	1.82	0.44
28:ZA:156:ILE:HG23	28:ZA:156:ILE:O	2.18	0.44
39:j:34:GLN:NE2	39:j:34:GLN:HA	2.30	0.44
55:ZH:80:ILE:O	55:ZH:84:ILE:HG13	2.18	0.44
56:ZI:28:PHE:HA	56:ZI:55:THR:HG21	1.99	0.44
57:ZJ:87:ASN:HB3	57:ZJ:99:HIS:HA	1.98	0.44
63:ZQ:28:LEU:HG	63:ZQ:68:LYS:HE2	1.98	0.44
73:t:163:GLU:O	73:t:167:LYS:HG2	2.17	0.44
1:A:249:C:H2'	1:A:250:C:H6	1.80	0.44
1:A:356:A:OP1	6:F:96:ARG:NH2	2.45	0.44
1:A:471:A:H2'	1:A:472:G:O4'	2.16	0.44
1:A:1010:G:N1	22:V:109:VAL:HG13	2.32	0.44
1:A:1686:U:C2	1:A:1687:G:C8	3.05	0.44
1:A:1748:C:H2'	1:A:1749:A:H8	1.82	0.44
1:A:2492:G:H4'	1:A:2494:C:C2	2.52	0.44
1:A:3007:A:H2'	1:A:3008:U:O4'	2.17	0.44
1:A:3225:G:H2'	1:A:3226:C:H6	1.81	0.44
10:J:212:LEU:O	10:J:216:VAL:HG12	2.18	0.44
20:T:193:ARG:HD2	20:T:193:ARG:C	2.42	0.44
27:CA:319:G:OP2	28:ZA:176:ARG:NH1	2.48	0.44
27:CA:1087:U:H2'	27:CA:1088:G:C8	2.53	0.44
27:CA:1614:C:H2'	27:CA:1615:C:O4'	2.18	0.44
28:ZA:191:GLU:H	28:ZA:191:GLU:CD	2.25	0.44
31:b:12:ILE:O	31:b:81:MET:N	2.51	0.44
39:j:64:GLU:OE2	39:j:64:GLU:HA	2.18	0.44
40:k:97:ARG:HH11	40:k:97:ARG:HG3	1.82	0.44
41:l:64:MET:HE2	41:l:67:LEU:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:1:34:G:N1	48:2:3:A:H2	2.09	0.44
50:ZC:30:PRO:O	50:ZC:38:LYS:NZ	2.50	0.44
63:ZQ:82:ALA:O	63:ZQ:86:GLU:HB2	2.17	0.44
70:ZY:20:VAL:HG21	70:ZY:306:ILE:HG12	2.00	0.44
70:ZY:49:GLY:HA2	70:ZY:54:TYR:CE2	2.51	0.44
70:ZY:81:LEU:HB2	70:ZY:115:ILE:HD11	1.98	0.44
1:A:112:A:H2'	1:A:113:A:O4'	2.18	0.44
1:A:245:U:H2'	1:A:246:G:H8	1.83	0.44
1:A:956:A:H2'	1:A:957:G:C8	2.53	0.44
1:A:1358:U:H2'	1:A:1359:C:O4'	2.17	0.44
1:A:2782:U:H2'	1:A:2783:U:H6	1.82	0.44
1:A:3070:C:C5	18:R:163:LYS:HA	2.52	0.44
1:A:3103:A:H62	21:U:174:LYS:NZ	2.15	0.44
3:C:111:C:H2'	3:C:112:G:O4'	2.17	0.44
3:C:141:U:H2'	3:C:142:U:C6	2.52	0.44
18:R:178:HIS:O	18:R:182:ILE:N	2.51	0.44
27:CA:973:A:N7	27:CA:975:A:N6	2.66	0.44
27:CA:1356:U:H2'	27:CA:1357:U:C6	2.52	0.44
27:CA:1624:C:H2'	27:CA:1625:U:H6	1.80	0.44
27:CA:1731:A:H5'	27:CA:1732:G:OP2	2.17	0.44
29:ZB:34:TYR:HA	29:ZB:122:ILE:HD13	1.99	0.44
30:a:22:SER:HB2	30:a:26:THR:HB	1.99	0.44
52:ZE:62:GLN:H	52:ZE:62:GLN:HG3	1.67	0.44
67:ZU:42:ARG:HH12	67:ZU:61:ARG:HB2	1.83	0.44
67:ZU:57:MET:HE1	77:x:216:GLU:HG2	1.99	0.44
70:ZY:122:ILE:HG12	70:ZY:134:TRP:O	2.17	0.44
76:w:128:LYS:HD3	76:w:129:ILE:N	2.33	0.44
78:y:189:ALA:O	78:y:193:LYS:HG2	2.18	0.44
79:z:7:ILE:HG22	79:z:41:PHE:CZ	2.53	0.44
79:z:69:ARG:HD2	79:z:129:PHE:CE1	2.52	0.44
1:A:266:U:H2'	1:A:267:G:C8	2.53	0.44
1:A:421:C:H2'	1:A:422:A:C8	2.53	0.44
1:A:530:U:H2'	1:A:531:U:C6	2.53	0.44
1:A:777:U:H2'	1:A:778:G:O4'	2.18	0.44
1:A:1131:A:H2'	1:A:1132:C:H6	1.83	0.44
1:A:2459:C:HO2'	73:t:222:LYS:HZ1	1.59	0.44
1:A:3070:C:H5	18:R:163:LYS:HA	1.83	0.44
3:C:135:U:H2'	3:C:136:G:C8	2.52	0.44
5:E:81:THR:O	5:E:81:THR:OG1	2.33	0.44
20:T:197:ILE:HD12	20:T:197:ILE:HA	1.83	0.44
27:CA:127:U:O2'	27:CA:128:A:OP1	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:398:C:H2'	27:CA:399:A:H8	1.82	0.44
27:CA:606:U:H2'	27:CA:607:U:C6	2.52	0.44
27:CA:847:G:H22	27:CA:921:A:H2	1.66	0.44
27:CA:1033:U:H2'	27:CA:1034:G:C8	2.52	0.44
27:CA:1320:G:H2'	27:CA:1321:C:C6	2.52	0.44
28:ZA:176:ARG:HE	28:ZA:179:GLN:HG3	1.82	0.44
32:c:3:THR:O	32:c:6:THR:OG1	2.34	0.44
37:h:67:ILE:HG22	37:h:85:PHE:HD2	1.83	0.44
63:ZQ:51:ASP:OD1	63:ZQ:52:LYS:N	2.51	0.44
75:v:214:ASP:OD1	75:v:216:ASP:HB3	2.16	0.44
1:A:839:A:H5'	4:D:183:GLY:HA2	1.99	0.44
1:A:888:C:H2'	1:A:889:U:H6	1.82	0.44
1:A:935:U:H2'	1:A:936:A:H8	1.83	0.44
1:A:1030:G:H2'	1:A:1031:A:H8	1.83	0.44
1:A:1115:U:H2'	1:A:1116:A:H8	1.83	0.44
1:A:1404:A:H2'	1:A:1405:A:H8	1.81	0.44
1:A:2067:A:H2'	1:A:2068:U:C6	2.51	0.44
1:A:2338:U:H2'	1:A:2339:A:C8	2.52	0.44
1:A:2481:U:H2'	1:A:2482:C:C6	2.53	0.44
1:A:2966:G:H2'	1:A:2967:U:C6	2.53	0.44
1:A:3156:A:OP2	8:H:57:PHE:HE2	2.01	0.44
2:B:82:U:H2'	2:B:83:A:C8	2.53	0.44
3:C:4:C:H2'	3:C:5:U:C6	2.53	0.44
5:E:41:VAL:HG22	5:E:185:GLY:HA3	1.99	0.44
6:F:269:LYS:HA	6:F:269:LYS:HD2	1.84	0.44
27:CA:151:G:H2'	27:CA:152:G:H8	1.82	0.44
27:CA:746:G:N7	63:ZQ:11:LYS:NZ	2.43	0.44
27:CA:1536:U:H2'	27:CA:1537:G:C8	2.51	0.44
29:ZB:148:VAL:HG11	29:ZB:156:ILE:HD11	2.00	0.44
30:a:55:GLU:HB3	30:a:108:LYS:HB3	2.00	0.44
44:o:1:MET:HE2	44:o:1:MET:HB3	1.86	0.44
64:ZR:110:GLU:OE1	64:ZR:120:LYS:NZ	2.50	0.44
70:ZY:16:HIS:ND1	70:ZY:39:ASP:OD2	2.47	0.44
76:w:174:LYS:HE2	76:w:174:LYS:HB2	1.84	0.44
79:z:12:PRO:HB2	79:z:17:LEU:HG	1.99	0.44
1:A:77:U:H2'	1:A:78:G:C8	2.53	0.44
1:A:158:C:C2	1:A:159:G:C8	3.06	0.44
1:A:258:A:C5	16:P:12:ARG:HD3	2.53	0.44
1:A:1280:C:C2	1:A:1281:U:C5	3.05	0.44
1:A:1504:C:OP1	26:Z:37:LYS:NZ	2.36	0.44
1:A:1725:C:H2'	1:A:1726:U:O4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1764:C:H2'	1:A:1765:G:C8	2.51	0.44
1:A:2681:U:H4'	14:N:183:LYS:HD3	1.99	0.44
1:A:2761:U:H2'	1:A:2762:U:O4'	2.18	0.44
1:A:3158:U:H4'	1:A:3159:U:O5'	2.17	0.44
3:C:12:A:OP1	18:R:3:ARG:NE	2.40	0.44
3:C:103:G:H4'	3:C:134:A:H5'	1.99	0.44
7:G:185:ILE:HG23	7:G:186:GLU:OE1	2.17	0.44
27:CA:149:C:H1'	78:y:13:GLN:NE2	2.33	0.44
27:CA:1020:G:H3'	27:CA:1021:G:H21	1.83	0.44
47:1:25:C:C2	47:1:26:A:C8	3.06	0.44
54:ZG:26:LEU:HD21	54:ZG:90:ILE:HG21	1.98	0.44
62:ZP:26:ASP:OD1	62:ZP:28:ALA:N	2.50	0.44
70:ZY:8:VAL:HG22	70:ZY:310:GLN:NE2	2.32	0.44
70:ZY:127:ARG:HA	70:ZY:150:TRP:HB2	1.98	0.44
1:A:544:A:H2'	1:A:555:G:O6	2.18	0.44
1:A:1466:G:H1'	26:Z:109:ASN:HB3	1.98	0.44
8:H:34:ARG:HG2	8:H:34:ARG:HH11	1.83	0.44
13:M:49:ARG:HB3	13:M:50:TYR:HD2	1.82	0.44
17:Q:111:PRO:N	17:Q:112:PRO:HD2	2.33	0.44
27:CA:362:G:OP1	51:ZD:96:LYS:HA	2.17	0.44
27:CA:399:A:H2'	27:CA:400:C:H6	1.82	0.44
27:CA:1052:C:H5''	27:CA:1053:G:C8	2.52	0.44
27:CA:1219:U:H2'	27:CA:1220:U:C6	2.52	0.44
34:e:33:LYS:HE2	34:e:33:LYS:HB3	1.83	0.44
42:m:8:ILE:HG13	42:m:54:LEU:HD21	1.99	0.44
57:ZJ:41:ARG:NE	58:ZK:46:PRO:HD3	2.33	0.44
57:ZJ:68:ARG:O	57:ZJ:72:ILE:HG13	2.18	0.44
62:ZP:92:CYS:HA	62:ZP:95:PHE:HD1	1.83	0.44
63:ZQ:21:ARG:N	63:ZQ:75:ILE:O	2.51	0.44
74:u:222:PRO:HA	74:u:225:TRP:CG	2.52	0.44
79:z:65:LEU:O	79:z:69:ARG:HG2	2.17	0.44
1:A:272:G:O6	16:P:182:ASN:ND2	2.51	0.43
1:A:302:C:H2'	1:A:303:A:H8	1.83	0.43
1:A:789:A:H2'	1:A:790:A:C8	2.53	0.43
1:A:935:U:H2'	1:A:936:A:C8	2.53	0.43
1:A:2092:G:O6	83:A:3503:HOH:O	2.21	0.43
1:A:2159:A:H5''	4:D:243:THR:HB	1.99	0.43
1:A:2487:U:H2'	1:A:2488:C:C6	2.53	0.43
1:A:2624:U:OP2	1:A:2626:C:N4	2.51	0.43
1:A:2995:A:H2'	1:A:2996:U:C6	2.53	0.43
1:A:3085:G:H2'	1:A:3086:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:5:LYS:HG3	5:E:6:TYR:CD1	2.53	0.43
21:U:96:GLU:HG2	21:U:101:ILE:HG12	1.99	0.43
21:U:149:VAL:HG21	21:U:158:LEU:HD11	2.00	0.43
27:CA:249:U:O4	28:ZA:52:THR:HG23	2.18	0.43
27:CA:321:U:OP1	28:ZA:63:ARG:NH2	2.48	0.43
27:CA:524:A:OP1	29:ZB:168:ARG:NH2	2.34	0.43
27:CA:614:C:H2'	27:CA:615:U:C6	2.53	0.43
27:CA:1301:A:N6	75:v:162:GLY:HA3	2.32	0.43
27:CA:1302:C:O2'	75:v:163:GLN:HB3	2.18	0.43
27:CA:1560:U:OP1	55:ZH:124:GLU:HG3	2.18	0.43
27:CA:1615:C:N4	48:2:3:A:OP1	2.42	0.43
27:CA:1733:U:H2'	27:CA:1734:C:H6	1.83	0.43
30:a:79:ALA:HB1	30:a:98:ASN:HB3	1.99	0.43
43:n:49:LEU:HB3	43:n:51:ILE:HG13	1.99	0.43
50:ZC:77:ARG:NH2	50:ZC:86:ILE:O	2.51	0.43
70:ZY:48:THR:HG23	70:ZY:50:ASP:H	1.82	0.43
70:ZY:285:ALA:HB2	70:ZY:301:TYR:CZ	2.53	0.43
73:t:105:PHE:CD1	73:t:213:ARG:HA	2.53	0.43
75:v:179:ARG:NH1	75:v:180:GLN:HB3	2.33	0.43
76:w:164:LEU:HD23	76:w:164:LEU:HA	1.80	0.43
1:A:644:U:H2'	1:A:645:G:O4'	2.18	0.43
1:A:653:U:OP2	19:S:168:LYS:NZ	2.32	0.43
1:A:958:A:H2'	1:A:959:G:H8	1.83	0.43
1:A:1864:A:H2'	1:A:1865:C:O4'	2.17	0.43
1:A:2365:G:C4	1:A:2366:G:C8	3.05	0.43
1:A:2583:U:H2'	1:A:2584:C:H6	1.79	0.43
1:A:3246:U:H2'	1:A:3247:A:H8	1.83	0.43
3:C:5:U:H2'	3:C:6:U:C6	2.53	0.43
4:D:176:ASP:HB2	46:r:36:LEU:HD11	1.99	0.43
13:M:51:THR:HG23	13:M:58:ARG:HA	1.99	0.43
14:N:79:GLU:OE2	14:N:101:ARG:NH2	2.51	0.43
16:P:8:GLU:O	16:P:12:ARG:HG3	2.18	0.43
27:CA:469:G:H2'	27:CA:470:A:C8	2.53	0.43
27:CA:581:A:OP1	29:ZB:39:LYS:HG3	2.18	0.43
27:CA:835:A:H2'	27:CA:836:G:O4'	2.18	0.43
27:CA:918:G:H2'	27:CA:919:C:C6	2.52	0.43
27:CA:1181:A:H1'	54:ZG:99:GLY:O	2.17	0.43
27:CA:1476:C:O2'	27:CA:1477:G:H8	2.00	0.43
27:CA:1499:A:H8	27:CA:1565:G:O2'	2.01	0.43
32:c:128:ARG:HG2	32:c:149:ALA:HB3	2.00	0.43
45:q:99:GLN:HA	45:q:99:GLN:OE1	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:ZE:53:ILE:HD12	52:ZE:53:ILE:HA	1.86	0.43
1:A:456:U:H2'	1:A:457:A:C8	2.54	0.43
1:A:696:C:H2'	1:A:697:G:H8	1.83	0.43
1:A:1052:A:H2'	1:A:1053:G:H8	1.83	0.43
1:A:1816:A:OP2	20:T:40:ARG:NH1	2.46	0.43
1:A:2901:G:H2'	1:A:2902:U:H6	1.83	0.43
1:A:3068:U:H2'	1:A:3069:G:C8	2.54	0.43
1:A:3221:G:N2	1:A:3257:G:O2'	2.51	0.43
5:E:48:GLY:HA3	5:E:81:THR:HG22	2.01	0.43
20:T:52:LEU:HD23	20:T:64:LEU:HD13	2.00	0.43
27:CA:149:C:N3	27:CA:162:A:N6	2.67	0.43
27:CA:463:A:H5''	29:ZB:144:PRO:HD2	1.99	0.43
27:CA:521:U:P	29:ZB:132:ARG:HH12	2.39	0.43
27:CA:799:A:H1'	27:CA:813:U:O2	2.18	0.43
27:CA:1180:C:H2'	27:CA:1181:A:C8	2.53	0.43
27:CA:1504:C:H2'	27:CA:1505:C:C6	2.54	0.43
34:e:11:VAL:HG11	34:e:69:TYR:CE2	2.52	0.43
46:r:94:ARG:O	46:r:98:GLU:HG3	2.18	0.43
53:ZF:7:GLN:HE22	53:ZF:106:ARG:HG3	1.82	0.43
58:ZK:12:GLN:O	58:ZK:16:ASN:ND2	2.51	0.43
62:ZP:73:ARG:HD2	62:ZP:73:ARG:HA	1.72	0.43
66:ZT:36:LYS:HG3	66:ZT:78:SER:HB3	2.00	0.43
70:ZY:289:ALA:N	70:ZY:298:PHE:O	2.52	0.43
70:ZY:291:SER:HB2	70:ZY:296:ASN:OD1	2.17	0.43
76:w:153:LEU:HG	78:y:215:ARG:NH2	2.33	0.43
1:A:74:G:N7	14:N:101:ARG:HG3	2.33	0.43
1:A:224:U:H2'	1:A:225:G:C8	2.54	0.43
1:A:514:U:O2	6:F:359:GLN:NE2	2.49	0.43
1:A:872:A:H2'	1:A:873:U:C6	2.53	0.43
1:A:2069:U:H2'	1:A:2070:G:C8	2.52	0.43
1:A:2569:G:H2'	1:A:2570:G:C8	2.51	0.43
4:D:149:LYS:HE2	4:D:153:GLY:HA2	2.00	0.43
5:E:12:GLY:HA3	5:E:233:TRP:HE3	1.84	0.43
5:E:39:LYS:HD3	5:E:40:PRO:O	2.18	0.43
5:E:317:VAL:HG11	5:E:321:PHE:HB3	1.99	0.43
12:L:47:PRO:HB3	12:L:171:TRP:CZ2	2.54	0.43
12:L:136:MET:HE2	12:L:136:MET:HB3	1.84	0.43
16:P:84:PRO:HA	16:P:87:GLN:HG3	2.00	0.43
19:S:131:ALA:HB1	19:S:135:GLN:HB2	2.01	0.43
24:X:87:ARG:HB3	24:X:89:ASP:OD1	2.18	0.43
26:Z:133:VAL:O	26:Z:137:ILE:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:866:U:H2'	27:CA:867:C:C6	2.53	0.43
27:CA:1700:U:H2'	27:CA:1701:G:H8	1.80	0.43
57:ZJ:23:ASP:OD2	57:ZJ:25:ARG:NH1	2.52	0.43
67:ZU:10:ALA:HB3	67:ZU:56:LEU:HD11	2.00	0.43
1:A:278:C:H2'	1:A:279:A:C8	2.53	0.43
1:A:448:G:H2'	1:A:449:C:C6	2.53	0.43
1:A:1441:A:H2'	1:A:1442:U:H6	1.82	0.43
1:A:1532:G:C2	1:A:1533:G:C8	3.07	0.43
1:A:1630:U:H2'	1:A:1631:C:C6	2.53	0.43
1:A:2338:U:H2'	1:A:2339:A:H8	1.84	0.43
1:A:2827:C:H2'	1:A:2828:C:H6	1.84	0.43
1:A:3257:G:OP2	25:Y:61:LYS:NZ	2.37	0.43
5:E:12:GLY:HA3	5:E:233:TRP:CE3	2.54	0.43
24:X:97:ASP:OD1	24:X:97:ASP:C	2.62	0.43
27:CA:800:U:H5''	27:CA:813:U:O2	2.19	0.43
27:CA:1057:A:H8	27:CA:1057:A:OP2	2.02	0.43
27:CA:1524:C:O2'	27:CA:1525:A:H8	2.01	0.43
45:q:77:CYS:SG	45:q:79:THR:OG1	2.69	0.43
50:ZC:77:ARG:HD3	50:ZC:77:ARG:HA	1.74	0.43
53:ZF:27:ASP:HB3	53:ZF:32:GLU:OE2	2.18	0.43
53:ZF:32:GLU:HG2	73:t:47:LEU:O	2.19	0.43
67:ZU:38:ARG:HE	67:ZU:38:ARG:HB2	1.63	0.43
73:t:92:GLN:O	73:t:95:ASN:ND2	2.51	0.43
74:u:50:GLU:OE1	74:u:234:PRO:HG3	2.19	0.43
1:A:218:C:H2'	1:A:219:G:O4'	2.18	0.43
1:A:578:G:H2'	1:A:579:C:C6	2.54	0.43
1:A:617:U:H2'	1:A:618:A:C8	2.53	0.43
1:A:2279:G:H22	1:A:2311:G:H1'	1.84	0.43
1:A:2423:U:H2'	1:A:2424:U:C6	2.54	0.43
1:A:2916:G:H1'	24:X:1:MET:CG	2.48	0.43
1:A:2973:C:H2'	1:A:2974:A:O4'	2.19	0.43
1:A:3220:U:OP1	25:Y:35:LYS:HD3	2.19	0.43
4:D:51:ASP:OD1	4:D:54:ARG:HD2	2.18	0.43
5:E:45:ALA:HB3	5:E:181:ILE:HG23	2.01	0.43
6:F:171:LYS:HA	6:F:176:ASN:HB2	1.99	0.43
24:X:109:MET:HE1	24:X:132:ASN:HB2	2.01	0.43
27:CA:902:U:OP2	73:t:155:TYR:OH	2.26	0.43
27:CA:1056:A:O2'	27:CA:1268:U:O4	2.36	0.43
27:CA:1704:C:H2'	27:CA:1705:A:O4'	2.18	0.43
60:ZM:49:ASP:OD2	60:ZM:49:ASP:N	2.52	0.43
70:ZY:189:ILE:HD13	75:v:219:VAL:CG1	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:ZY:260:ASN:OD1	70:ZY:267:LEU:HG	2.17	0.43
73:t:134:VAL:HG23	73:t:219:LYS:H	1.83	0.43
78:y:50:PHE:CD1	78:y:113:ILE:HG22	2.53	0.43
1:A:139:A:C4	1:A:140:G:C8	3.07	0.43
1:A:193:A:H4'	1:A:212:C:C4	2.54	0.43
1:A:792:C:H2'	1:A:793:U:C6	2.53	0.43
1:A:1759:G:H2'	1:A:1760:U:H6	1.84	0.43
1:A:2172:C:H5'	1:A:2174:A:N9	2.33	0.43
1:A:2610:C:H2'	1:A:2611:C:C6	2.53	0.43
5:E:17:LEU:O	5:E:19:ARG:N	2.52	0.43
10:J:31:ARG:NH2	10:J:40:ASP:OD1	2.51	0.43
11:K:31:ARG:NH1	11:K:149:ASN:OD1	2.49	0.43
20:T:184:LEU:HD13	20:T:184:LEU:HA	1.87	0.43
27:CA:1038:C:H2'	27:CA:1039:G:H8	1.84	0.43
38:i:111:LYS:HA	38:i:111:LYS:HD3	1.75	0.43
51:ZD:77:SER:O	51:ZD:84:ILE:HG22	2.19	0.43
57:ZJ:89:GLN:HA	57:ZJ:97:ASP:HA	2.01	0.43
63:ZQ:53:ASP:N	63:ZQ:53:ASP:OD1	2.51	0.43
64:ZR:68:LEU:HD11	64:ZR:73:TYR:HD2	1.84	0.43
66:ZT:42:ASN:OD1	66:ZT:43:ILE:N	2.52	0.43
70:ZY:13:LEU:HB3	70:ZY:45:TRP:CZ3	2.54	0.43
72:s:18:LEU:HD13	72:s:23:HIS:ND1	2.33	0.43
73:t:31:ASP:HB2	73:t:95:ASN:HB3	2.01	0.43
77:x:194:GLU:O	77:x:198:ASN:ND2	2.52	0.43
1:A:577:A:H2'	1:A:578:G:H8	1.83	0.43
1:A:733:U:C2	1:A:734:A:C8	3.06	0.43
1:A:1353:C:O2'	36:g:114:GLU:OE1	2.29	0.43
1:A:1405:A:H2'	1:A:1406:C:C6	2.54	0.43
1:A:2515:G:H2'	1:A:2516:C:H6	1.84	0.43
1:A:3065:G:H2'	1:A:3066:C:C6	2.54	0.43
1:A:3070:C:N4	18:R:164:VAL:HG12	2.34	0.43
11:K:59:HIS:ND1	15:O:35:GLN:OE1	2.47	0.43
11:K:176:LEU:HD23	44:o:14:ASN:HD22	1.82	0.43
13:M:35:LEU:HD12	13:M:65:VAL:HG12	2.01	0.43
17:Q:141:LYS:HB3	17:Q:141:LYS:HE2	1.79	0.43
18:R:33:ALA:HB1	18:R:117:ILE:HG12	2.00	0.43
27:CA:500:A:H5'	29:ZB:173:LYS:HB2	2.01	0.43
27:CA:1120:G:H22	48:2:1:C:P	2.41	0.43
27:CA:1132:C:H4'	67:ZU:22:ARG:NH1	2.33	0.43
27:CA:1186:C:O2'	27:CA:1420:A:N1	2.49	0.43
27:CA:1463:A:H2'	27:CA:1464:G:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:b:27:ARG:HG2	31:b:29:HIS:NE2	2.33	0.43
32:c:88:ASP:OD2	32:c:89:GLU:N	2.51	0.43
46:r:97:ALA:O	73:t:219:LYS:NZ	2.45	0.43
58:ZK:77:ASN:HA	58:ZK:96:ALA:HB3	2.00	0.43
61:ZO:25:VAL:HG12	61:ZO:63:VAL:HB	2.01	0.43
61:ZO:54:ASP:OD2	61:ZO:54:ASP:C	2.61	0.43
73:t:192:VAL:HG12	73:t:195:ARG:HH12	1.84	0.43
1:A:1229:G:H2'	1:A:1230:C:C6	2.53	0.43
1:A:1537:U:H1'	1:A:1538:C:C6	2.53	0.43
1:A:1564:C:C2	1:A:1565:G:C8	3.06	0.43
1:A:2422:U:C2	1:A:2423:U:C5	3.06	0.43
1:A:2874:U:H2'	1:A:2875:U:C6	2.54	0.43
7:G:246:LYS:HD3	7:G:246:LYS:HA	1.88	0.43
13:M:103:GLY:HA2	13:M:124:ASP:HA	2.01	0.43
15:O:41:ASP:OD2	15:O:47:ARG:NH1	2.52	0.43
19:S:176:ARG:N	32:c:51:GLY:HA2	2.34	0.43
20:T:92:ASN:O	20:T:94:ARG:NH1	2.51	0.43
26:Z:65:ILE:HD12	26:Z:119:LYS:HG3	1.99	0.43
27:CA:29:U:O2'	27:CA:30:G:H5'	2.18	0.43
27:CA:322:A:N6	28:ZA:34:PHE:HB2	2.34	0.43
27:CA:968:A:H2	27:CA:976:C:N4	2.12	0.43
56:ZI:95:HIS:H	56:ZI:95:HIS:CD2	2.36	0.43
58:ZK:18:TYR:CD2	58:ZK:135:ILE:HG21	2.54	0.43
69:ZW:41:THR:O	69:ZW:46:ASN:N	2.45	0.43
70:ZY:69:GLN:HG2	70:ZY:111:LEU:HD22	2.01	0.43
70:ZY:166:ILE:HG13	70:ZY:198:ILE:HD12	2.00	0.43
72:s:157:ASP:N	72:s:157:ASP:OD2	2.52	0.43
1:A:115:U:O2'	1:A:117:U:OP2	2.29	0.43
1:A:330:C:OP2	6:F:196:ARG:NH1	2.39	0.43
1:A:421:C:H2'	1:A:422:A:H8	1.84	0.43
1:A:619:U:H2'	1:A:620:G:H8	1.84	0.43
1:A:1231:C:H5	1:A:1232:G:C6	2.36	0.43
1:A:1280:C:OP1	19:S:2:GLY:N	2.52	0.43
1:A:2345:A:H2'	1:A:2346:C:C6	2.54	0.43
1:A:2365:G:H2'	1:A:2366:G:C8	2.54	0.43
1:A:2561:G:H2'	1:A:2562:G:C8	2.54	0.43
1:A:3232:A:N6	1:A:3249:G:O2'	2.52	0.43
3:C:53:A:C4	3:C:54:A:C8	3.06	0.43
4:D:80:GLU:HG2	46:r:83:ALA:CB	2.49	0.43
10:J:40:ASP:OD2	10:J:40:ASP:N	2.49	0.43
24:X:19:VAL:HA	24:X:36:ILE:HG22	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:193:G:C2	27:CA:194:G:H1'	2.54	0.43
27:CA:635:U:H2'	27:CA:636:U:C6	2.54	0.43
27:CA:753:G:C4	27:CA:754:C:C5	3.07	0.43
27:CA:999:U:OP2	65:ZS:74:LYS:NZ	2.28	0.43
27:CA:1771:C:C6	65:ZS:67:ARG:HB3	2.54	0.43
39:j:43:GLN:O	39:j:46:VAL:HG12	2.19	0.43
50:ZC:21:VAL:HA	75:v:76:LYS:NZ	2.34	0.43
56:ZI:113:LEU:HD13	56:ZI:115:PHE:CE2	2.54	0.43
58:ZK:57:ARG:NH1	58:ZK:101:ASN:OD1	2.52	0.43
64:ZR:88:VAL:O	64:ZR:92:VAL:HG23	2.18	0.43
72:s:190:ASP:N	72:s:190:ASP:OD1	2.52	0.43
78:y:20:ASP:OD1	78:y:21:GLU:N	2.52	0.43
1:A:78:G:H2'	1:A:79:C:H6	1.84	0.42
1:A:91:C:C2	32:c:55:LYS:HE3	2.54	0.42
1:A:1253:G:O6	1:A:2281:C:O2'	2.36	0.42
1:A:1570:U:C4	31:b:115:ARG:HD2	2.54	0.42
1:A:1699:C:H2'	1:A:1700:C:C6	2.54	0.42
1:A:2048:U:O4	1:A:2062:A:H2	2.01	0.42
1:A:2482:C:H2'	1:A:2483:U:C6	2.54	0.42
13:M:17:LEU:HD23	13:M:17:LEU:HA	1.82	0.42
13:M:102:PHE:O	13:M:125:PHE:N	2.52	0.42
24:X:86:ARG:HB2	24:X:92:TYR:CE2	2.53	0.42
27:CA:125:A:H5''	76:w:134:ARG:NH1	2.34	0.42
27:CA:256:U:H2'	27:CA:257:C:H6	1.83	0.42
27:CA:949:A:N3	27:CA:1750:U:O2'	2.52	0.42
27:CA:991:C:O2'	27:CA:992:C:OP1	2.31	0.42
27:CA:1114:U:H2'	27:CA:1115:U:H6	1.84	0.42
27:CA:1225:G:O2'	27:CA:1226:A:H8	2.02	0.42
28:ZA:51:HIS:O	28:ZA:63:ARG:N	2.52	0.42
31:b:64:LYS:HA	31:b:67:ARG:HH21	1.83	0.42
59:ZL:67:ARG:HH12	59:ZL:72:GLY:HA2	1.84	0.42
70:ZY:270:LEU:HD13	70:ZY:309:TRP:CD2	2.53	0.42
75:v:116:ILE:HG22	75:v:117:ARG:H	1.83	0.42
77:x:116:LEU:HD13	77:x:116:LEU:HA	1.85	0.42
78:y:115:LYS:HB3	78:y:115:LYS:HE3	1.75	0.42
1:A:946:G:H2'	1:A:947:C:C6	2.54	0.42
1:A:1272:U:H2'	1:A:1273:A:C8	2.54	0.42
1:A:2435:G:H2'	1:A:2436:U:C6	2.54	0.42
1:A:2908:U:H2'	1:A:2909:A:H8	1.84	0.42
2:B:13:U:H5'	2:B:113:G:H5''	2.00	0.42
7:G:286:ILE:HG23	12:L:206:LEU:HD22	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:S:36:LEU:O	19:S:40:THR:OG1	2.28	0.42
27:CA:315:G:H2'	27:CA:316:U:C6	2.54	0.42
27:CA:1157:U:H2'	27:CA:1158:G:C8	2.54	0.42
29:ZB:28:LEU:HA	29:ZB:28:LEU:HD23	1.75	0.42
35:f:28:ALA:HB3	35:f:29:PRO:HD3	2.01	0.42
37:h:6:ARG:NH1	37:h:8:TYR:O	2.50	0.42
43:n:15:LYS:HE3	43:n:19:GLN:HE21	1.84	0.42
45:q:4:VAL:HG23	45:q:93:LEU:HD23	2.01	0.42
46:r:45:ASP:OD1	46:r:52:ARG:HG3	2.18	0.42
50:ZC:9:LYS:C	50:ZC:11:ILE:H	2.28	0.42
55:ZH:55:GLY:C	55:ZH:57:ASP:H	2.27	0.42
1:A:168:U:C2	1:A:235:G:N2	2.87	0.42
1:A:253:C:H2'	1:A:254:G:O4'	2.20	0.42
1:A:619:U:H2'	1:A:620:G:C8	2.53	0.42
1:A:635:A:H2'	1:A:635:A:N3	2.34	0.42
1:A:903:U:H4'	1:A:906:G:C2	2.54	0.42
1:A:1404:A:H2'	1:A:1405:A:C8	2.53	0.42
1:A:1600:C:H2'	1:A:1601:G:H8	1.84	0.42
1:A:1828:A:O4'	1:A:3195:A:H5'	2.19	0.42
1:A:3165:G:H5'	8:H:36:ARG:NH2	2.35	0.42
8:H:54:THR:O	8:H:54:THR:HG23	2.19	0.42
9:I:141:THR:HG23	9:I:237:VAL:HG11	2.01	0.42
12:L:36:LEU:HD21	12:L:69:ARG:NH1	2.29	0.42
15:O:105:LEU:O	15:O:110:ARG:NH1	2.52	0.42
25:Y:41:HIS:HA	25:Y:43:ARG:NH2	2.34	0.42
27:CA:4:C:H5	27:CA:20:G:H1	1.67	0.42
27:CA:177:A:H2'	27:CA:178:A:H8	1.80	0.42
27:CA:359:A:H2'	27:CA:360:G:C8	2.55	0.42
27:CA:1022:C:O2'	27:CA:1023:G:H8	2.01	0.42
27:CA:1090:U:H2'	27:CA:1091:C:C6	2.55	0.42
27:CA:1425:U:H2'	27:CA:1426:U:H6	1.85	0.42
27:CA:1641:U:H2'	27:CA:1642:A:C8	2.54	0.42
27:CA:1712:G:H2'	27:CA:1713:U:C6	2.54	0.42
30:a:51:ARG:HG2	30:a:52:LYS:N	2.34	0.42
50:ZC:19:GLY:HA2	50:ZC:68:LEU:HD12	2.00	0.42
57:ZJ:26:ILE:C	57:ZJ:26:ILE:HD12	2.44	0.42
72:s:58:VAL:O	72:s:62:ARG:HG3	2.18	0.42
77:x:88:ILE:HD12	77:x:88:ILE:HA	1.91	0.42
1:A:332:A:C4	1:A:358:G:N7	2.86	0.42
1:A:522:G:H2'	1:A:523:A:H8	1.84	0.42
1:A:1173:G:H2'	1:A:1174:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2345:A:H2'	1:A:2346:C:H6	1.84	0.42
1:A:2443:G:H2'	1:A:2444:A:O4'	2.20	0.42
1:A:2727:U:O2'	1:A:2729:U:O4	2.37	0.42
1:A:2796:A:OP1	44:o:48:LYS:NZ	2.49	0.42
1:A:2803:A:H2'	1:A:2804:U:O4'	2.20	0.42
1:A:2916:G:H2'	1:A:2917:A:C8	2.50	0.42
1:A:3063:U:H2'	1:A:3064:C:C6	2.54	0.42
3:C:93:A:OP1	39:j:63:ARG:NE	2.49	0.42
12:L:66:GLU:OE1	12:L:66:GLU:HA	2.20	0.42
15:O:111:PHE:O	15:O:114:MET:HB3	2.18	0.42
17:Q:42:LEU:HD11	17:Q:81:LEU:HD22	2.01	0.42
18:R:15:ALA:HB3	18:R:150:VAL:HG23	2.00	0.42
20:T:155:LYS:O	20:T:159:VAL:HG23	2.19	0.42
27:CA:239:C:H2'	27:CA:240:A:C8	2.54	0.42
27:CA:574:A:H2'	27:CA:575:G:H8	1.84	0.42
27:CA:1515:G:H2'	27:CA:1516:G:H5'	2.00	0.42
27:CA:1603:U:H2'	27:CA:1604:G:H8	1.84	0.42
29:ZB:68:LYS:O	29:ZB:72:GLU:HB2	2.20	0.42
31:b:84:ARG:HG2	34:e:59:TYR:OH	2.19	0.42
62:ZP:35:GLY:O	62:ZP:39:LYS:HB2	2.19	0.42
67:ZU:28:VAL:O	67:ZU:41:VAL:HA	2.19	0.42
67:ZU:42:ARG:HH22	67:ZU:61:ARG:HB2	1.84	0.42
76:w:125:LYS:HB2	76:w:226:PHE:CE1	2.54	0.42
79:z:149:LYS:HD3	79:z:182:GLU:OE2	2.20	0.42
1:A:130:G:H2'	1:A:131:C:C6	2.53	0.42
1:A:485:U:C2	1:A:486:A:C8	3.07	0.42
1:A:1137:A:H2'	1:A:1137:A:N3	2.33	0.42
1:A:2556:A:H4'	45:q:98:LYS:HD2	2.01	0.42
1:A:3047:A:O2'	5:E:104:THR:HG23	2.18	0.42
1:A:3179:G:H2'	1:A:3180:A:C8	2.54	0.42
1:A:3189:U:H2'	1:A:3190:U:C6	2.55	0.42
4:D:179:LEU:O	4:D:181:LYS:N	2.52	0.42
5:E:204:THR:OG1	5:E:206:ASP:OD1	2.32	0.42
9:I:84:VAL:O	9:I:112:GLY:HA2	2.20	0.42
16:P:90:THR:O	16:P:91:GLN:HB2	2.19	0.42
18:R:14:SER:OG	18:R:151:THR:HG22	2.19	0.42
20:T:187:LYS:O	20:T:190:ARG:HG2	2.20	0.42
27:CA:195:A:C2	27:CA:196:G:H1'	2.53	0.42
27:CA:590:A:H2'	27:CA:591:U:O4'	2.20	0.42
27:CA:1212:A:O2'	54:ZG:52:LYS:HE2	2.19	0.42
27:CA:1638:G:O2'	27:CA:1639:C:H6	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1699:C:HO2'	27:CA:1700:U:P	2.41	0.42
27:CA:1727:U:H2'	27:CA:1728:A:H8	1.85	0.42
55:ZH:29:LYS:HE2	55:ZH:34:PRO:HG3	2.01	0.42
57:ZJ:88:ARG:HH21	57:ZJ:92:GLN:H	1.67	0.42
59:ZL:23:ILE:HG13	59:ZL:115:VAL:HG23	2.02	0.42
60:ZM:3:ASN:OD1	60:ZM:3:ASN:N	2.52	0.42
72:s:62:ARG:HG2	72:s:184:LEU:HD21	2.02	0.42
76:w:139:VAL:HG23	76:w:150:PRO:HG3	2.01	0.42
77:x:20:LEU:HG	77:x:32:GLN:HG3	2.01	0.42
79:z:79:LEU:O	79:z:81:LYS:NZ	2.44	0.42
1:A:248:C:C2	1:A:249:C:C5	3.07	0.42
1:A:727:G:H2'	1:A:727:G:N3	2.34	0.42
1:A:960:G:O6	1:A:984:C:N4	2.27	0.42
1:A:1612:U:OP1	20:T:84:ARG:NE	2.49	0.42
1:A:1694:C:H2'	1:A:1695:G:H8	1.85	0.42
1:A:2518:G:OP1	1:A:2544:C:O2'	2.31	0.42
1:A:2577:G:H2'	1:A:2577:G:N3	2.34	0.42
1:A:2729:U:H2'	1:A:2730:G:H8	1.84	0.42
1:A:2735:U:C2	1:A:2736:C:C5	3.08	0.42
1:A:3020:U:H4'	44:o:28:PRO:HG3	2.01	0.42
1:A:3148:U:H2'	1:A:3149:G:N3	2.34	0.42
1:A:3173:G:H2'	1:A:3174:G:C8	2.54	0.42
3:C:115:U:H2'	3:C:116:U:C6	2.54	0.42
7:G:119:TYR:CZ	7:G:135:VAL:HG13	2.54	0.42
10:J:178:TYR:CE1	10:J:223:PHE:HB3	2.55	0.42
11:K:67:ALA:O	11:K:71:VAL:HG23	2.19	0.42
13:M:62:LYS:H	45:q:104:LEU:CD1	2.33	0.42
14:N:105:SER:HB2	40:k:16:VAL:HG11	2.01	0.42
19:S:139:ILE:C	19:S:140:ILE:HD13	2.44	0.42
27:CA:512:G:H5'	63:ZQ:60:PHE:O	2.20	0.42
27:CA:794:G:H2'	27:CA:794:G:N3	2.35	0.42
27:CA:1014:U:H2'	27:CA:1015:C:C6	2.54	0.42
27:CA:1308:C:H1'	27:CA:1386:A:C5	2.55	0.42
27:CA:1426:U:C2	27:CA:1427:C:C5	3.08	0.42
27:CA:1459:A:C4	27:CA:1499:A:N6	2.88	0.42
27:CA:1506:G:H2'	27:CA:1507:U:C6	2.54	0.42
29:ZB:143:VAL:HG12	29:ZB:145:SER:H	1.84	0.42
36:g:51:TRP:CZ2	36:g:72:PRO:HD2	2.54	0.42
54:ZG:32:GLU:CD	54:ZG:35:LYS:HE3	2.44	0.42
54:ZG:60:LEU:HD23	54:ZG:60:LEU:HA	1.82	0.42
54:ZG:64:LYS:HE3	54:ZG:73:PRO:HG3	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:ZJ:48:LYS:HB2	57:ZJ:48:LYS:HE3	1.89	0.42
64:ZR:116:LYS:HE2	64:ZR:116:LYS:HB3	1.89	0.42
70:ZY:34:LEU:HB2	70:ZY:73:ILE:HD11	2.02	0.42
75:v:75:VAL:HG12	75:v:85:ILE:HG21	2.01	0.42
78:y:18:ILE:HD12	78:y:18:ILE:O	2.20	0.42
1:A:957:G:C2	1:A:958:A:C8	3.07	0.42
1:A:1882:G:OP1	20:T:95:HIS:ND1	2.53	0.42
1:A:1891:G:H2'	1:A:1892:U:C6	2.55	0.42
1:A:2944:C:H2'	1:A:2945:A:H8	1.83	0.42
1:A:2987:A:H3'	1:A:2988:A:H8	1.85	0.42
8:H:161:HIS:CD2	8:H:162:LEU:HG	2.55	0.42
10:J:133:VAL:HG22	10:J:201:LEU:HD13	2.02	0.42
21:U:35:GLU:HG3	22:V:146:ASN:HD22	1.84	0.42
27:CA:436:U:O2'	76:w:27:TYR:O	2.32	0.42
27:CA:918:G:H2'	27:CA:919:C:H6	1.85	0.42
27:CA:976:C:H6	27:CA:976:C:H2'	1.69	0.42
27:CA:1592:U:H2'	27:CA:1593:C:C6	2.55	0.42
50:ZC:62:GLN:HG2	68:ZV:23:HIS:HA	2.01	0.42
51:ZD:80:MET:HB3	51:ZD:83:THR:O	2.20	0.42
55:ZH:123:MET:HE3	55:ZH:123:MET:HB3	1.88	0.42
56:ZI:113:LEU:HD13	56:ZI:115:PHE:HE2	1.85	0.42
72:s:67:ILE:HD12	72:s:67:ILE:O	2.19	0.42
76:w:161:LYS:HE2	76:w:170:SER:HB2	2.01	0.42
79:z:15:LEU:O	79:z:19:VAL:HG12	2.20	0.42
1:A:233:U:H2'	1:A:234:A:N9	2.34	0.42
1:A:436:U:H3'	1:A:437:C:O2	2.20	0.42
1:A:677:U:H5''	1:A:678:C:H5	1.85	0.42
1:A:678:C:H5'	1:A:679:G:C4	2.55	0.42
1:A:1088:C:H2'	1:A:1089:G:O4'	2.19	0.42
1:A:1787:G:H5''	1:A:1788:C:H5'	2.01	0.42
1:A:2487:U:H2'	1:A:2488:C:H6	1.85	0.42
1:A:2898:G:H2'	1:A:2899:U:H6	1.84	0.42
1:A:2916:G:N3	24:X:1:MET:HG3	2.35	0.42
5:E:165:GLN:NE2	5:E:202:GLU:OE2	2.43	0.42
7:G:197:LYS:O	7:G:202:GLY:N	2.47	0.42
8:H:55:GLY:HA3	8:H:60:ASN:HD22	1.84	0.42
12:L:101:LYS:NZ	12:L:103:LEU:HB2	2.33	0.42
13:M:33:LYS:HA	13:M:36:GLU:HG2	2.01	0.42
13:M:35:LEU:O	13:M:39:SER:OG	2.32	0.42
15:O:70:ARG:O	15:O:74:VAL:HG23	2.20	0.42
16:P:97:SER:HG	16:P:100:VAL:HG23	1.85	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:382:C:O2'	27:CA:383:C:H5'	2.20	0.42
27:CA:511:U:H2'	27:CA:512:G:O4'	2.19	0.42
27:CA:574:A:H2'	27:CA:575:G:C8	2.54	0.42
27:CA:721:U:C2	27:CA:722:G:C8	3.08	0.42
27:CA:1135:G:H2'	27:CA:1136:A:C8	2.55	0.42
38:i:54:ILE:HD11	38:i:72:VAL:HG23	2.00	0.42
60:ZM:15:ARG:NH1	74:u:54:HIS:HA	2.35	0.42
62:ZP:102:VAL:HG12	62:ZP:127:VAL:HG23	2.02	0.42
72:s:23:HIS:CD2	72:s:24:LEU:HG	2.55	0.42
73:t:66:PHE:N	73:t:86:LEU:O	2.52	0.42
78:y:197:ASN:O	78:y:201:GLN:HG2	2.19	0.42
1:A:687:A:H4'	19:S:142:GLY:O	2.20	0.42
1:A:1111:A:H2'	1:A:1112:A:C8	2.55	0.42
1:A:1444:U:H3	1:A:1458:A:H61	1.68	0.42
1:A:2471:U:H5''	10:J:41:ILE:HD12	2.02	0.42
1:A:3064:C:O2'	1:A:3065:G:OP1	2.31	0.42
3:C:4:C:H2'	3:C:5:U:H6	1.85	0.42
3:C:7:U:C2	3:C:8:C:C5	3.08	0.42
3:C:30:C:H2'	3:C:31:G:H8	1.84	0.42
5:E:78:VAL:HG22	5:E:323:MET:HG3	2.02	0.42
8:H:47:GLU:OE1	8:H:91:VAL:HG23	2.19	0.42
24:X:68:GLU:OE2	24:X:69:LEU:HD12	2.19	0.42
27:CA:30:G:H2'	27:CA:31:C:C6	2.54	0.42
27:CA:206:U:H2'	27:CA:207:A:H8	1.84	0.42
27:CA:443:A:H4'	76:w:62:LYS:NZ	2.35	0.42
27:CA:598:U:O2'	62:ZP:23:ARG:HD3	2.19	0.42
27:CA:757:G:O2'	27:CA:758:A:C8	2.73	0.42
27:CA:856:U:OP1	73:t:214:LYS:NZ	2.29	0.42
27:CA:936:A:OP2	52:ZE:124:ARG:NH1	2.53	0.42
27:CA:988:U:H2'	27:CA:989:A:H8	1.85	0.42
27:CA:1165:C:H5''	27:CA:1167:C:O2	2.19	0.42
27:CA:1422:A:O2'	27:CA:1424:G:N7	2.38	0.42
27:CA:1528:G:C2	27:CA:1530:A:H5''	2.55	0.42
27:CA:1644:U:H2'	27:CA:1645:G:O4'	2.19	0.42
29:ZB:106:GLU:HA	29:ZB:111:THR:HG21	2.02	0.42
52:ZE:46:THR:OG1	52:ZE:47:PRO:HD2	2.20	0.42
58:ZK:103:LYS:HD3	58:ZK:103:LYS:HA	1.81	0.42
64:ZR:120:LYS:NZ	64:ZR:127:TYR:OH	2.34	0.42
73:t:48:ILE:HG12	73:t:61:LEU:HD11	2.02	0.42
73:t:164:VAL:O	73:t:168:MET:HG3	2.20	0.42
73:t:184:LEU:O	73:t:188:LEU:HG	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:x:52:LYS:NZ	77:x:129:GLN:OE1	2.52	0.42
77:x:157:ALA:HB2	77:x:223:ARG:HA	2.02	0.42
78:y:159:ARG:NH1	78:y:170:SER:OG	2.52	0.42
1:A:488:C:N4	1:A:501:G:O6	2.30	0.42
1:A:580:C:H5'	37:h:21:ASN:O	2.20	0.42
1:A:1056:U:H2'	1:A:1057:U:C6	2.55	0.42
1:A:1741:A:H2'	1:A:1742:A:C8	2.55	0.42
1:A:2021:A:H2'	1:A:2022:A:C8	2.55	0.42
1:A:2953:G:H2'	1:A:2954:G:H8	1.85	0.42
5:E:232:ARG:HD3	5:E:233:TRP:HE1	1.85	0.42
21:U:106:LYS:HB3	21:U:106:LYS:HE2	1.84	0.42
23:W:37:LEU:HD12	23:W:41:ILE:HD11	2.02	0.42
27:CA:388:A:H4'	76:w:3:ARG:HG2	2.02	0.42
27:CA:568:A:N6	27:CA:1414:G:O2'	2.50	0.42
27:CA:1052:C:H1'	60:ZM:62:ARG:HH12	1.85	0.42
27:CA:1142:G:H2'	27:CA:1143:C:H6	1.85	0.42
27:CA:1447:A:H2	27:CA:1450:G:N3	2.18	0.42
30:a:125:LYS:HA	30:a:125:LYS:HD2	1.80	0.42
55:ZH:92:HIS:HA	55:ZH:96:VAL:HG23	2.02	0.42
62:ZP:37:ALA:O	62:ZP:41:SER:HB3	2.20	0.42
66:ZT:35:VAL:HG21	66:ZT:63:LEU:HD13	2.02	0.42
70:ZY:139:GLU:H	70:ZY:139:GLU:CD	2.25	0.42
74:u:111:LYS:HA	74:u:111:LYS:HD3	1.89	0.42
75:v:34:GLY:O	75:v:36:ALA:N	2.53	0.42
75:v:47:LEU:H	75:v:47:LEU:HD22	1.85	0.42
1:A:123:C:H2'	1:A:124:G:H8	1.84	0.41
1:A:929:C:H2'	1:A:930:A:H8	1.85	0.41
1:A:1252:U:C2	5:E:257:PRO:HG3	2.55	0.41
1:A:1651:U:OP1	31:b:78:ASN:ND2	2.53	0.41
1:A:2011:A:H2'	1:A:2012:C:C6	2.55	0.41
1:A:2122:A:H3'	1:A:2123:A:H8	1.81	0.41
1:A:2342:U:H2'	1:A:2343:U:H6	1.85	0.41
1:A:2830:A:H2'	1:A:2831:C:C6	2.55	0.41
8:H:28:LEU:HD13	8:H:72:VAL:HG21	2.02	0.41
10:J:35:TYR:CD1	10:J:43:PRO:HD3	2.54	0.41
14:N:3:ILE:HD11	32:c:34:MET:HE3	2.01	0.41
21:U:17:ARG:HD2	21:U:17:ARG:HA	1.77	0.41
22:V:53:PRO:HB3	22:V:91:LEU:HD22	2.02	0.41
24:X:106:LYS:HE2	24:X:106:LYS:HB2	1.95	0.41
25:Y:27:LYS:HD3	25:Y:29:PHE:CZ	2.55	0.41
27:CA:30:G:H2'	27:CA:31:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1359:G:O2'	59:ZL:34:GLU:OE2	2.26	0.41
27:CA:1370:G:OP1	70:ZY:278:ALA:HB1	2.19	0.41
27:CA:1499:A:P	27:CA:1499:A:H3'	2.60	0.41
38:i:16:LYS:HD3	38:i:16:LYS:HA	1.91	0.41
39:j:49:LYS:HE2	39:j:49:LYS:HB3	1.85	0.41
50:ZC:46:LEU:HD23	50:ZC:49:LEU:HD12	2.02	0.41
51:ZD:66:ILE:HG21	51:ZD:140:LEU:HD11	2.02	0.41
57:ZJ:28:ILE:HG12	57:ZJ:61:LEU:HD11	2.02	0.41
57:ZJ:75:ASN:HB2	57:ZJ:78:HIS:CE1	2.54	0.41
61:ZO:28:ARG:HB3	61:ZO:29:PRO:HD3	2.02	0.41
75:v:211:GLU:O	75:v:211:GLU:HG2	2.21	0.41
79:z:138:VAL:HA	79:z:148:GLN:HA	2.00	0.41
1:A:85:U:H2'	1:A:86:A:H8	1.84	0.41
1:A:136:U:C4	10:J:158:VAL:HG13	2.55	0.41
1:A:522:G:H2'	1:A:523:A:C8	2.55	0.41
1:A:765:A:H2'	1:A:766:C:C6	2.54	0.41
1:A:1253:G:C6	17:Q:63:THR:HA	2.55	0.41
1:A:2311:G:OP1	1:A:2312:A:O2'	2.30	0.41
1:A:2357:G:H2'	1:A:2358:A:C8	2.55	0.41
2:B:78:G:N2	2:B:103:A:OP2	2.45	0.41
3:C:138:C:C2	3:C:139:U:C5	3.08	0.41
10:J:172:ARG:HG3	10:J:227:TYR:CG	2.55	0.41
14:N:48:PRO:HG3	14:N:132:ALA:HB1	2.02	0.41
27:CA:2:A:OP1	74:u:171:LYS:NZ	2.43	0.41
27:CA:603:C:C2	27:CA:604:A:C8	3.08	0.41
27:CA:676:A:C2	27:CA:677:G:C5	3.09	0.41
27:CA:815:G:C2	27:CA:816:G:C8	3.08	0.41
27:CA:1414:G:H2'	27:CA:1415:C:C6	2.55	0.41
27:CA:1491:A:OP1	59:ZL:87:LYS:NZ	2.45	0.41
27:CA:1517:G:N2	27:CA:1543:C:H1'	2.34	0.41
27:CA:1654:G:O2'	27:CA:1655:G:H5'	2.19	0.41
29:ZB:62:ARG:HH21	29:ZB:68:LYS:HG2	1.85	0.41
41:l:27:LEU:HA	41:l:34:CYS:HA	2.01	0.41
42:m:5:ILE:HG12	42:m:52:TYR:HB3	2.02	0.41
52:ZE:136:PRO:HG2	52:ZE:139:TRP:HB2	2.02	0.41
60:ZM:25:LYS:HE2	60:ZM:25:LYS:HB3	1.82	0.41
60:ZM:32:VAL:HG11	72:s:142:PRO:HB3	2.01	0.41
63:ZQ:112:LYS:O	63:ZQ:115:GLU:HG3	2.20	0.41
70:ZY:72:THR:HB	70:ZY:81:LEU:HB3	2.02	0.41
72:s:23:HIS:O	72:s:48:ILE:HG13	2.20	0.41
73:t:171:ILE:HD13	73:t:171:ILE:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
77:x:81:ARG:HA	77:x:81:ARG:NH1	2.36	0.41
1:A:152:C:H2'	1:A:153:C:C6	2.55	0.41
1:A:951:U:C2	1:A:952:G:C8	3.08	0.41
1:A:1227:C:H2'	1:A:1228:G:O4'	2.19	0.41
1:A:1487:U:H5''	16:P:67:ARG:HE	1.85	0.41
1:A:1828:A:H2'	1:A:1829:A:H8	1.86	0.41
1:A:2167:A:H2'	1:A:2168:G:C8	2.55	0.41
1:A:2497:U:H2'	1:A:2498:G:H8	1.86	0.41
1:A:2515:G:H2'	1:A:2516:C:C6	2.55	0.41
5:E:70:ARG:HE	5:E:70:ARG:HB3	1.71	0.41
14:N:162:LYS:HE3	14:N:162:LYS:HB3	1.88	0.41
26:Z:60:ILE:HD13	26:Z:92:GLN:HB3	2.02	0.41
27:CA:21:U:O2'	29:ZB:16:LYS:O	2.37	0.41
27:CA:1327:G:H2'	27:CA:1328:C:C6	2.54	0.41
27:CA:1377:A:O3'	56:ZI:10:LYS:NZ	2.40	0.41
27:CA:1711:G:H2'	27:CA:1712:G:C8	2.55	0.41
27:CA:1733:U:C2	27:CA:1734:C:C5	3.09	0.41
29:ZB:17:GLN:O	29:ZB:23:ARG:NH1	2.54	0.41
32:c:71:PRO:HG2	32:c:109:TYR:HA	2.02	0.41
32:c:76:GLU:HG2	32:c:115:LYS:O	2.21	0.41
38:i:96:GLU:OE2	38:i:99:LYS:HD2	2.19	0.41
38:i:106:LYS:O	38:i:111:LYS:NZ	2.53	0.41
50:ZC:84:GLU:N	50:ZC:84:GLU:OE1	2.52	0.41
65:ZS:82:PRO:HA	65:ZS:93:PRO:HA	2.02	0.41
72:s:105:GLY:N	72:s:135:GLU:OE2	2.45	0.41
74:u:175:ALA:HB2	74:u:193:THR:HG21	2.02	0.41
75:v:80:LEU:HD23	75:v:80:LEU:H	1.85	0.41
1:A:119:G:O2'	10:J:106:LYS:HE3	2.21	0.41
1:A:397:A:C2	3:C:17:A:H1'	2.55	0.41
1:A:472:G:C5	1:A:473:A:C8	3.09	0.41
1:A:739:U:H2'	1:A:740:U:C6	2.56	0.41
1:A:1480:C:H2'	1:A:1481:C:H6	1.86	0.41
1:A:2363:G:H22	1:A:2413:C:H42	1.68	0.41
1:A:2517:U:H3'	33:d:18:LYS:HD3	2.03	0.41
1:A:2531:U:OP2	22:V:4:THR:OG1	2.38	0.41
1:A:2556:A:C8	1:A:2558:G:C8	3.08	0.41
1:A:3071:U:H2'	1:A:3072:G:C8	2.55	0.41
2:B:82:U:H2'	2:B:83:A:H8	1.84	0.41
4:D:65:ASP:OD2	4:D:72:ARG:NE	2.51	0.41
5:E:53:MET:HE2	5:E:53:MET:HB3	1.80	0.41
7:G:17:GLN:NE2	22:V:22:HIS:O	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:101:LYS:HA	12:L:101:LYS:HD2	1.83	0.41
21:U:171:GLN:HA	21:U:171:GLN:HE21	1.85	0.41
27:CA:144:U:H2'	27:CA:145:A:C8	2.46	0.41
27:CA:626:C:OP1	61:ZO:32:LYS:HG3	2.21	0.41
27:CA:1192:C:C2	27:CA:1193:A:C8	3.09	0.41
28:ZA:27:GLN:OE1	28:ZA:28:PHE:N	2.52	0.41
52:ZE:28:LEU:HD23	52:ZE:32:GLU:OE2	2.20	0.41
70:ZY:70:ASP:HB3	70:ZY:112:SER:HA	2.02	0.41
73:t:68:VAL:HG11	73:t:73:LEU:HD21	2.02	0.41
76:w:191:ARG:NH1	76:w:246:LYS:HB3	2.35	0.41
1:A:1551:C:H2'	1:A:1552:A:H8	1.85	0.41
1:A:1782:U:H4'	1:A:1783:A:H5''	2.02	0.41
1:A:2555:U:H1'	1:A:2556:A:C2	2.55	0.41
1:A:2642:C:H2'	1:A:2643:A:C8	2.56	0.41
1:A:2853:U:H2'	1:A:2854:U:H2'	2.02	0.41
1:A:3070:C:H41	18:R:164:VAL:N	2.17	0.41
5:E:256:HIS:HA	5:E:257:PRO:C	2.44	0.41
7:G:144:VAL:HG21	7:G:171:LEU:HD13	2.02	0.41
10:J:83:LEU:HD12	10:J:181:VAL:HG12	2.01	0.41
17:Q:63:THR:HG22	17:Q:66:ASN:H	1.86	0.41
19:S:135:GLN:HB3	19:S:136:ASN:H	1.62	0.41
20:T:33:SER:OG	20:T:58:ARG:NH1	2.40	0.41
21:U:147:GLU:OE1	21:U:147:GLU:N	2.52	0.41
27:CA:105:U:OP1	28:ZA:15:ARG:NH2	2.54	0.41
27:CA:395:U:H2'	27:CA:396:A:H8	1.84	0.41
27:CA:632:G:H2'	27:CA:633:U:O2	2.20	0.41
27:CA:839:A:H61	27:CA:928:U:H5	1.69	0.41
27:CA:1025:U:H2'	27:CA:1026:C:H6	1.83	0.41
27:CA:1401:A:O2'	27:CA:1402:C:H5'	2.21	0.41
27:CA:1524:C:OP1	54:ZG:42:ARG:NH2	2.53	0.41
36:g:61:VAL:O	36:g:71:GLN:NE2	2.53	0.41
39:j:53:ARG:O	39:j:57:VAL:HG23	2.20	0.41
39:j:99:ARG:HE	39:j:99:ARG:HB2	1.52	0.41
60:ZM:74:GLN:NE2	60:ZM:83:TRP:O	2.34	0.41
61:ZO:23:ARG:HH12	61:ZO:66:THR:C	2.29	0.41
64:ZR:76:ILE:HG12	64:ZR:95:LEU:HD13	2.01	0.41
73:t:83:LYS:HG2	73:t:104:ASP:O	2.21	0.41
76:w:247:LEU:HD22	76:w:255:ARG:HE	1.85	0.41
79:z:85:ASP:H	79:z:86:ARG:NH1	2.19	0.41
1:A:286:A:H62	16:P:12:ARG:HH12	1.67	0.41
1:A:676:C:H3'	1:A:678:C:H41	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1122:C:H1'	17:Q:88:MET:HB3	2.03	0.41
1:A:1176:G:C6	1:A:1228:G:C5	3.09	0.41
1:A:1763:U:N3	38:i:67:LYS:HD2	2.35	0.41
1:A:2021:A:H2'	1:A:2022:A:H8	1.85	0.41
1:A:2662:A:H2'	1:A:2663:U:H6	1.86	0.41
1:A:2886:U:H2'	1:A:2887:A:C8	2.56	0.41
1:A:2921:U:H2'	1:A:2934:A:N6	2.33	0.41
3:C:128:C:H2'	3:C:129:A:H8	1.86	0.41
5:E:47:LEU:HD11	5:E:179:ALA:HB3	2.01	0.41
24:X:74:MET:HE2	24:X:74:MET:HB3	1.73	0.41
27:CA:404:C:O2'	27:CA:407:G:O6	2.29	0.41
27:CA:573:C:C4	27:CA:574:A:N7	2.88	0.41
27:CA:599:G:H2'	27:CA:603:C:C5	2.56	0.41
27:CA:723:A:P	76:w:187:LYS:HZ1	2.40	0.41
27:CA:988:U:H2'	27:CA:989:A:C8	2.55	0.41
27:CA:1019:C:H5''	66:ZT:70:LYS:HG3	2.02	0.41
27:CA:1510:U:H2'	77:x:185:ILE:HD11	2.02	0.41
42:m:76:THR:O	42:m:76:THR:OG1	2.36	0.41
57:ZJ:3:LEU:N	64:ZR:108:HIS:HB2	2.36	0.41
58:ZK:65:ILE:HD13	58:ZK:71:VAL:HB	2.03	0.41
62:ZP:92:CYS:HA	62:ZP:95:PHE:CD1	2.56	0.41
68:ZV:38:LEU:HD13	68:ZV:39:CYS:N	2.35	0.41
72:s:32:HIS:HD1	72:s:153:SER:HG	1.64	0.41
76:w:21:ASP:OD2	76:w:23:LEU:N	2.54	0.41
78:y:19:ASP:OD1	78:y:19:ASP:N	2.52	0.41
1:A:164:G:C2	1:A:237:G:C6	3.08	0.41
1:A:278:C:H2'	1:A:279:A:H8	1.84	0.41
1:A:456:U:H2'	1:A:457:A:H8	1.86	0.41
1:A:611:A:OP1	16:P:203:ARG:NH1	2.46	0.41
1:A:611:A:H2'	1:A:612:A:C8	2.55	0.41
1:A:677:U:H5''	1:A:678:C:C5	2.55	0.41
1:A:881:C:O2	1:A:2713:A:O2'	2.39	0.41
1:A:890:G:H2'	1:A:891:C:H6	1.85	0.41
1:A:1451:C:C2	1:A:1452:A:C8	3.08	0.41
1:A:1839:G:O2'	24:X:16:GLY:O	2.28	0.41
1:A:2281:C:H2'	1:A:2282:A:H8	1.84	0.41
1:A:2427:C:H2'	1:A:2428:U:C6	2.55	0.41
1:A:3226:C:H2'	1:A:3227:G:C8	2.56	0.41
1:A:3226:C:H2'	1:A:3227:G:H8	1.86	0.41
5:E:93:VAL:HG11	5:E:102:LEU:HD13	2.03	0.41
7:G:64:ILE:HD12	7:G:144:VAL:HG11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:J:64:LYS:O	10:J:68:MET:HG3	2.21	0.41
10:J:173:LYS:HG2	40:k:42:ILE:HD11	2.01	0.41
27:CA:419:G:H2'	27:CA:420:C:H6	1.85	0.41
27:CA:852:U:H2'	27:CA:853:C:O2	2.20	0.41
27:CA:1141:A:C2	27:CA:1142:G:C5	3.09	0.41
27:CA:1364:A:H62	27:CA:1385:G:H21	1.68	0.41
27:CA:1428:U:C2	27:CA:1429:G:C8	3.09	0.41
27:CA:1555:C:H2'	27:CA:1556:C:C6	2.56	0.41
27:CA:1654:G:O2'	27:CA:1655:G:OP1	2.34	0.41
28:ZA:113:ALA:HB3	28:ZA:167:GLY:HA2	2.03	0.41
31:b:126:LYS:HA	31:b:126:LYS:HD2	1.82	0.41
34:e:10:ASN:OD1	34:e:10:ASN:N	2.53	0.41
36:g:116:ALA:HB3	36:g:119:VAL:HG23	2.03	0.41
44:o:3:GLU:HG2	44:o:4:PRO:HD2	2.03	0.41
52:ZE:43:LYS:HE2	52:ZE:43:LYS:HB3	1.82	0.41
53:ZF:85:LYS:HA	53:ZF:85:LYS:HD2	1.84	0.41
56:ZI:104:ALA:HA	56:ZI:121:THR:HG23	2.03	0.41
65:ZS:106:MET:SD	65:ZS:107:VAL:N	2.94	0.41
73:t:127:VAL:O	73:t:135:LEU:HD23	2.21	0.41
74:u:37:GLY:HA2	74:u:63:ILE:HD11	2.03	0.41
75:v:70:LEU:O	75:v:74:ILE:HG12	2.21	0.41
77:x:73:GLY:HA3	77:x:75:TYR:CE2	2.56	0.41
1:A:402:G:H2'	1:A:403:U:C6	2.55	0.41
1:A:731:C:H2'	1:A:732:A:H8	1.85	0.41
1:A:1104:G:H2'	1:A:1105:A:O4'	2.21	0.41
1:A:1486:G:OP1	16:P:35:VAL:HG23	2.20	0.41
1:A:1628:U:H2'	1:A:1629:U:C6	2.56	0.41
1:A:3039:U:H5''	5:E:274:HIS:O	2.21	0.41
1:A:3098:C:N4	1:A:3099:G:O6	2.54	0.41
1:A:3105:C:H2'	1:A:3106:C:C6	2.54	0.41
2:B:80:A:H2'	2:B:81:A:O4'	2.21	0.41
2:B:109:U:C2	2:B:110:G:C8	3.09	0.41
8:H:134:LEU:HD23	8:H:134:LEU:HA	1.87	0.41
15:O:31:GLU:HG3	15:O:32:ILE:N	2.35	0.41
19:S:106:PHE:HB3	19:S:111:LYS:HB2	2.03	0.41
27:CA:14:C:H2'	27:CA:15:U:C6	2.56	0.41
27:CA:160:A:H2'	27:CA:161:G:C8	2.56	0.41
27:CA:639:A:N6	27:CA:671:A:H61	2.18	0.41
27:CA:674:C:H2'	27:CA:675:A:C8	2.55	0.41
27:CA:1339:U:C2	27:CA:1340:G:C8	3.08	0.41
27:CA:1358:A:H1'	59:ZL:56:ARG:HD2	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:1594:C:C2	67:ZU:22:ARG:HG2	2.56	0.41
28:ZA:43:THR:HG22	28:ZA:103:LEU:HB2	2.01	0.41
29:ZB:53:ARG:O	29:ZB:57:ARG:HG3	2.20	0.41
35:f:77:LYS:HG3	35:f:89:PHE:CZ	2.56	0.41
46:r:33:THR:HG22	46:r:37:GLU:HG3	2.02	0.41
54:ZG:85:VAL:HG12	54:ZG:114:HIS:O	2.21	0.41
56:ZI:69:ILE:HD12	56:ZI:69:ILE:O	2.21	0.41
72:s:140:ASN:HD22	74:u:57:PRO:HD3	1.85	0.41
1:A:123:C:H2'	1:A:124:G:C8	2.56	0.41
1:A:164:G:H3'	1:A:165:U:H5''	2.02	0.41
1:A:347:A:O4'	6:F:82:GLY:HA3	2.21	0.41
1:A:358:G:O2'	1:A:359:A:H5'	2.21	0.41
1:A:371:U:H2'	1:A:372:U:C6	2.56	0.41
1:A:438:G:H2'	1:A:439:G:O4'	2.21	0.41
1:A:467:U:H2'	1:A:469:A:H5'	2.02	0.41
1:A:696:C:C2	1:A:697:G:C8	3.09	0.41
1:A:806:C:H2'	1:A:807:G:O4'	2.21	0.41
1:A:910:A:OP1	32:c:47:LYS:HE2	2.21	0.41
1:A:926:A:H2'	1:A:927:A:C8	2.56	0.41
1:A:933:U:O2'	9:I:120:ALA:O	2.39	0.41
1:A:1140:A:P	17:Q:50:ARG:HH12	2.44	0.41
1:A:1254:G:H5'	17:Q:61:LYS:HE3	2.03	0.41
1:A:1406:C:H2'	1:A:1407:G:O4'	2.20	0.41
1:A:1586:G:H1'	1:A:1752:A:N6	2.36	0.41
1:A:1746:C:H2'	1:A:1747:G:H8	1.85	0.41
1:A:1766:C:C2	1:A:1767:G:C8	3.09	0.41
1:A:1851:A:H2'	1:A:1852:A:C8	2.55	0.41
1:A:1853:A:H2	1:A:2037:G:C8	2.38	0.41
1:A:2111:C:H2'	1:A:2157:A:H61	1.86	0.41
1:A:2353:A:H61	1:A:2424:U:H3	1.67	0.41
1:A:2636:A:OP1	22:V:92:ARG:NH1	2.51	0.41
2:B:46:A:H2'	2:B:47:A:C8	2.56	0.41
3:C:21:C:N4	3:C:22:U:O4	2.54	0.41
4:D:204:MET:CE	4:D:209:HIS:HB2	2.50	0.41
5:E:72:ILE:HD12	5:E:74:GLU:OE2	2.21	0.41
6:F:59:HIS:NE2	6:F:99:ARG:HD3	2.36	0.41
7:G:236:ILE:O	7:G:239:ILE:HG12	2.21	0.41
9:I:146:ILE:HD12	9:I:183:ILE:HG12	2.02	0.41
12:L:87:LEU:HD12	12:L:138:ALA:HB2	2.03	0.41
14:N:109:PHE:O	14:N:113:VAL:HG23	2.21	0.41
15:O:60:LEU:HD21	15:O:90:THR:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:80:THR:OG1	16:P:87:GLN:HA	2.21	0.41
18:R:92:LYS:HE2	18:R:92:LYS:HB3	1.85	0.41
19:S:83:VAL:HG22	19:S:140:ILE:HB	2.02	0.41
27:CA:261:U:H2'	27:CA:262:G:C8	2.55	0.41
27:CA:579:C:H5'	69:ZW:43:ARG:NH2	2.36	0.41
27:CA:733:A:H5'	29:ZB:72:GLU:OE1	2.21	0.41
27:CA:803:U:H3'	27:CA:804:G:H5'	2.03	0.41
27:CA:818:C:H2'	27:CA:819:C:H6	1.86	0.41
27:CA:977:C:H2'	27:CA:978:G:H8	1.86	0.41
27:CA:991:C:HO2'	27:CA:992:C:P	2.44	0.41
27:CA:1346:G:O2'	27:CA:1347:C:O5'	2.35	0.41
27:CA:1524:C:HO2'	27:CA:1525:A:P	2.40	0.41
28:ZA:143:VAL:O	28:ZA:147:LEU:HG	2.21	0.41
29:ZB:77:ILE:CG2	29:ZB:91:MET:HG3	2.47	0.41
30:a:74:TYR:CZ	30:a:77:LYS:HE3	2.56	0.41
52:ZE:56:ASP:O	66:ZT:46:VAL:HA	2.20	0.41
54:ZG:93:LEU:HD23	54:ZG:93:LEU:HA	1.92	0.41
56:ZI:79:GLU:O	56:ZI:83:GLN:HG2	2.21	0.41
56:ZI:82:ASP:OD1	72:s:84:ARG:NE	2.52	0.41
57:ZJ:73:MET:HB3	57:ZJ:101:LEU:HD11	2.03	0.41
60:ZM:4:ASP:OD1	74:u:143:LEU:HA	2.20	0.41
64:ZR:103:ARG:HA	64:ZR:106:LEU:HD12	2.01	0.41
70:ZY:9:LEU:HD13	70:ZY:309:TRP:CE2	2.56	0.41
70:ZY:171:ASP:OD1	70:ZY:171:ASP:N	2.54	0.41
70:ZY:270:LEU:O	70:ZY:271:LYS:HD3	2.21	0.41
74:u:221:THR:HG23	74:u:222:PRO:HD2	2.02	0.41
76:w:242:GLY:O	76:w:245:ILE:HG12	2.21	0.41
77:x:93:ASN:O	77:x:96:MET:HB2	2.21	0.41
78:y:21:GLU:HA	78:y:24:LEU:HD12	2.03	0.41
79:z:139:ARG:NH2	79:z:141:LEU:HD21	2.36	0.41
1:A:18:A:H2'	1:A:19:G:C8	2.56	0.41
1:A:77:U:C2	1:A:78:G:C8	3.09	0.41
1:A:600:C:H2'	1:A:601:C:C6	2.56	0.41
1:A:909:U:H2'	1:A:910:A:H8	1.86	0.41
1:A:1727:A:H2'	1:A:1728:C:O4'	2.21	0.41
1:A:2130:A:C4	1:A:2131:G:C8	3.08	0.41
1:A:2243:U:H2'	1:A:2244:C:C6	2.56	0.41
2:B:108:G:H2'	2:B:109:U:H6	1.86	0.41
7:G:65:VAL:HG12	7:G:74:VAL:HG22	2.02	0.41
8:H:158:ASP:HB3	8:H:163:LEU:HD11	2.03	0.41
16:P:6:TYR:CD2	40:k:39:VAL:HG13	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:Q:40:GLU:H	17:Q:40:GLU:CD	2.23	0.41
27:CA:396:A:H2'	27:CA:397:C:H6	1.86	0.41
27:CA:886:U:H3	53:ZF:36:ARG:NH1	2.19	0.41
27:CA:904:C:C4	27:CA:1047:C:H4'	2.56	0.41
27:CA:970:C:H5	27:CA:973:A:O5'	2.04	0.41
27:CA:1095:A:C5	27:CA:1096:G:H1'	2.56	0.41
27:CA:1196:A:O2'	27:CA:1226:A:N6	2.49	0.41
27:CA:1211:G:H4'	54:ZG:78:THR:HA	2.03	0.41
27:CA:1262:G:H2'	27:CA:1263:U:H6	1.86	0.41
29:ZB:45:ILE:HD13	29:ZB:105:LEU:HG	2.03	0.41
29:ZB:159:ALA:HB3	29:ZB:162:SER:HB3	2.02	0.41
38:i:106:LYS:HA	38:i:106:LYS:HD2	1.95	0.41
40:k:48:GLY:O	40:k:49:LEU:HD23	2.21	0.41
52:ZE:88:LEU:HD21	52:ZE:122:ILE:HG23	2.03	0.41
53:ZF:127:ARG:HG3	53:ZF:127:ARG:HH11	1.86	0.41
56:ZI:35:THR:HG21	56:ZI:51:ALA:HB2	2.02	0.41
70:ZY:71:VAL:HG12	70:ZY:82:SER:HB2	2.03	0.41
70:ZY:103:PHE:CD2	70:ZY:138:GLY:HA2	2.56	0.41
73:t:65:VAL:HG21	73:t:85:LYS:HD2	2.03	0.41
79:z:123:ILE:HA	79:z:126:ASP:HB2	2.03	0.41
1:A:302:C:H1'	1:A:2678:G:N2	2.36	0.40
1:A:354:G:O6	41:l:56:ARG:NE	2.48	0.40
1:A:440:C:H2'	1:A:441:C:C6	2.57	0.40
1:A:544:A:P	1:A:555:G:H1	2.43	0.40
1:A:562:G:H2'	1:A:563:G:H8	1.85	0.40
1:A:803:G:O2'	1:A:838:A:H4'	2.21	0.40
1:A:814:U:H2'	1:A:815:U:C6	2.56	0.40
1:A:1161:U:H2'	1:A:1162:U:C6	2.57	0.40
1:A:1551:C:H2'	1:A:1552:A:C8	2.56	0.40
1:A:2175:U:H2'	1:A:2176:G:O4'	2.20	0.40
1:A:2222:G:O2'	1:A:2225:U:OP2	2.39	0.40
1:A:2831:C:H5''	24:X:40:LYS:HD2	2.02	0.40
1:A:2843:G:H8	5:E:2:SER:HB2	1.86	0.40
3:C:64:U:C2	3:C:65:A:C8	3.10	0.40
6:F:344:LYS:HE3	6:F:344:LYS:HB3	1.90	0.40
17:Q:40:GLU:OE1	17:Q:40:GLU:N	2.36	0.40
23:W:35:LYS:O	23:W:39:GLU:HG2	2.20	0.40
27:CA:629:U:H2'	27:CA:630:G:O4'	2.21	0.40
27:CA:1622:U:H2'	27:CA:1623:A:H8	1.85	0.40
27:CA:1649:C:H2'	27:CA:1650:C:H6	1.85	0.40
27:CA:1734:C:H2'	27:CA:1735:G:O4'	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:ZA:140:SER:C	28:ZA:142:LYS:H	2.28	0.40
30:a:48:LEU:HB2	30:a:49:PRO:HD2	2.03	0.40
39:j:8:GLU:HG3	39:j:8:GLU:H	1.72	0.40
58:ZK:123:LYS:HG3	58:ZK:124:ILE:N	2.36	0.40
63:ZQ:29:HIS:O	63:ZQ:29:HIS:ND1	2.54	0.40
74:u:171:LYS:HE3	74:u:192:TYR:OH	2.21	0.40
77:x:214:GLU:HG2	77:x:217:ARG:HH12	1.86	0.40
1:A:276:U:H2'	1:A:277:G:C8	2.55	0.40
1:A:820:C:O2'	1:A:823:G:H1'	2.21	0.40
1:A:854:C:OP2	4:D:9:ARG:HD2	2.20	0.40
1:A:1257:G:O2'	1:A:2295:U:O2'	2.28	0.40
1:A:1831:G:OP1	5:E:246:LEU:N	2.48	0.40
1:A:2511:U:H2'	1:A:2512:U:H6	1.86	0.40
1:A:2797:A:H2'	1:A:2799:C:H5''	2.02	0.40
3:C:7:U:H2'	3:C:8:C:H6	1.86	0.40
4:D:92:LYS:HE3	4:D:92:LYS:HB3	1.89	0.40
5:E:146:LYS:O	5:E:150:ARG:HG3	2.21	0.40
8:H:125:ALA:O	8:H:129:THR:HG23	2.21	0.40
12:L:66:GLU:CD	12:L:69:ARG:HH21	2.29	0.40
13:M:29:THR:HG22	13:M:33:LYS:HE3	2.03	0.40
21:U:19:ASN:HB2	21:U:21:TYR:CE2	2.56	0.40
21:U:28:LEU:HD23	21:U:28:LEU:HA	1.91	0.40
24:X:67:PRO:HA	24:X:70:ARG:HG3	2.04	0.40
27:CA:37:U:H5	27:CA:460:A:C2	2.39	0.40
27:CA:122:G:C6	27:CA:284:A:C6	3.09	0.40
27:CA:260:A:C8	27:CA:261:U:H1'	2.57	0.40
27:CA:1452:C:H4'	58:ZK:44:GLU:OE2	2.20	0.40
32:c:84:GLU:OE1	32:c:84:GLU:O	2.39	0.40
50:ZC:80:LEU:O	50:ZC:82:ILE:HG12	2.21	0.40
55:ZH:130:GLY:HA3	55:ZH:136:ARG:HA	2.03	0.40
60:ZM:76:ASP:OD1	60:ZM:76:ASP:N	2.54	0.40
61:ZO:69:LEU:HD21	61:ZO:72:CYS:SG	2.61	0.40
63:ZQ:59:GLY:O	63:ZQ:71:GLY:HA2	2.22	0.40
64:ZR:78:LYS:HB3	64:ZR:79:GLU:OE1	2.20	0.40
67:ZU:65:ARG:H	67:ZU:65:ARG:HG2	1.62	0.40
72:s:13:ASP:HA	72:s:16:LEU:HD12	2.03	0.40
73:t:129:THR:HG23	73:t:131:ASP:H	1.86	0.40
79:z:79:LEU:HD23	79:z:79:LEU:HA	1.88	0.40
1:A:191:A:C4	1:A:193:A:C8	3.09	0.40
1:A:488:C:H2'	1:A:489:U:C6	2.56	0.40
1:A:492:C:H2'	1:A:493:U:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:688:C:H2'	1:A:689:A:H8	1.86	0.40
1:A:1320:C:C2	1:A:1321:G:C8	3.09	0.40
1:A:1415:U:H5'	20:T:24:LEU:HB2	2.03	0.40
1:A:1628:U:C2	1:A:1629:U:C5	3.09	0.40
1:A:1744:U:H2'	1:A:1745:C:C6	2.55	0.40
1:A:2898:G:H2'	1:A:2899:U:C6	2.57	0.40
1:A:3014:A:N1	1:A:3023:A:C8	2.89	0.40
2:B:12:U:O2'	2:B:113:G:O4'	2.40	0.40
6:F:11:SER:OG	6:F:15:GLU:OE1	2.38	0.40
6:F:36:VAL:HG21	6:F:245:LEU:HD21	2.02	0.40
10:J:30:ARG:HD2	10:J:30:ARG:HA	1.88	0.40
24:X:30:GLY:HA3	24:X:66:LYS:NZ	2.37	0.40
27:CA:121:U:H5'	76:w:77:ARG:HE	1.86	0.40
27:CA:324:A:O2'	51:ZD:130:PRO:O	2.33	0.40
27:CA:399:A:H2'	27:CA:400:C:C6	2.56	0.40
27:CA:504:A:C8	27:CA:505:G:C8	3.10	0.40
27:CA:596:G:H5'	27:CA:602:G:N2	2.36	0.40
27:CA:1041:U:C2	27:CA:1042:C:C5	3.09	0.40
27:CA:1200:A:N6	27:CA:1225:G:H1'	2.36	0.40
27:CA:1585:G:H4'	77:x:96:MET:HE1	2.03	0.40
28:ZA:132:GLN:CD	28:ZA:134:GLU:H	2.28	0.40
39:j:38:LYS:HE2	39:j:38:LYS:HB3	1.90	0.40
48:2:4:U:H6	48:2:4:U:H2'	1.66	0.40
52:ZE:27:LYS:HE2	52:ZE:27:LYS:HB3	1.88	0.40
61:ZO:49:GLU:O	61:ZO:64:GLN:HB2	2.21	0.40
61:ZO:55:ASP:HB3	66:ZT:25:VAL:HG12	2.02	0.40
70:ZY:174:VAL:O	70:ZY:188:PHE:HD1	2.05	0.40
75:v:78:PHE:HB2	75:v:80:LEU:HD22	2.02	0.40
77:x:62:ILE:HG21	77:x:132:VAL:HG11	2.03	0.40
79:z:35:ASP:O	79:z:39:LEU:HG	2.22	0.40
79:z:72:GLN:NE2	79:z:90:PHE:HB2	2.36	0.40
1:A:124:G:H2'	1:A:125:C:C6	2.56	0.40
1:A:243:U:O2'	1:A:244:G:OP1	2.34	0.40
1:A:1283:C:H2'	1:A:1284:G:H8	1.86	0.40
1:A:1849:C:O2	5:E:240:ARG:NH2	2.55	0.40
1:A:2059:A:H1'	1:A:2196:A:H61	1.87	0.40
1:A:2132:U:H2'	1:A:2133:G:H8	1.86	0.40
1:A:2623:U:H2'	1:A:2624:U:C6	2.56	0.40
1:A:2785:C:H2'	1:A:2786:U:C6	2.56	0.40
1:A:2850:G:OP2	1:A:2850:G:N2	2.49	0.40
1:A:2887:A:O2'	5:E:259:ASN:HB3	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3042:A:OP2	83:A:3505:HOH:O	2.22	0.40
3:C:6:U:C2	3:C:7:U:C5	3.10	0.40
7:G:60:ILE:HB	7:G:80:SER:HB3	2.04	0.40
11:K:110:LYS:HE3	11:K:110:LYS:HA	2.03	0.40
13:M:104:ILE:HD13	13:M:104:ILE:HA	1.89	0.40
27:CA:22:A:C2	27:CA:592:U:H5	2.38	0.40
27:CA:238:U:H5	51:ZD:34:TRP:CD2	2.40	0.40
27:CA:467:A:H2'	27:CA:468:C:C6	2.57	0.40
27:CA:1000:A:OP2	65:ZS:70:ASN:ND2	2.54	0.40
27:CA:1514:G:H4'	57:ZJ:40:ARG:CZ	2.52	0.40
27:CA:1613:G:H2'	27:CA:1614:C:O4'	2.20	0.40
29:ZB:154:LYS:HD3	29:ZB:154:LYS:H	1.85	0.40
31:b:120:GLU:HG3	31:b:121:LYS:N	2.35	0.40
38:i:11:THR:HG22	38:i:13:TYR:H	1.86	0.40
55:ZH:106:LYS:O	55:ZH:106:LYS:HD3	2.22	0.40
63:ZQ:20:ARG:HB3	63:ZQ:76:TYR:CD1	2.57	0.40
67:ZU:45:LYS:N	77:x:159:ASP:O	2.51	0.40
70:ZY:44:ALA:O	70:ZY:58:LYS:N	2.42	0.40
70:ZY:194:TYR:CE2	70:ZY:212:LYS:HD2	2.56	0.40
72:s:79:ARG:O	72:s:83:GLN:HG3	2.22	0.40
77:x:75:TYR:HA	77:x:81:ARG:HG3	2.03	0.40
79:z:127:LEU:HD23	79:z:127:LEU:HA	1.92	0.40
1:A:281:C:H2'	1:A:282:U:C6	2.57	0.40
1:A:935:U:C2	1:A:936:A:C8	3.10	0.40
1:A:1127:A:C4	1:A:1129:G:C8	3.10	0.40
1:A:1230:C:H2'	1:A:1231:C:N1	2.37	0.40
1:A:1246:U:H2'	1:A:1247:G:O4'	2.22	0.40
1:A:1560:G:H2'	1:A:1561:A:C8	2.55	0.40
1:A:1684:G:H2'	1:A:1685:C:C6	2.57	0.40
1:A:1754:G:H2'	1:A:1755:G:C8	2.57	0.40
1:A:1857:A:H2'	1:A:1858:U:C6	2.56	0.40
1:A:2063:U:O2'	4:D:182:ALA:HB2	2.20	0.40
1:A:2331:U:H2'	1:A:2332:U:C6	2.56	0.40
1:A:2609:C:H2'	1:A:2610:C:C6	2.56	0.40
1:A:2712:C:H2'	1:A:2713:A:H8	1.85	0.40
1:A:3037:G:C5	1:A:3038:C:C5	3.09	0.40
1:A:3149:G:H3'	1:A:3150:G:H8	1.86	0.40
19:S:153:PHE:O	19:S:161:LYS:NZ	2.46	0.40
20:T:98:LEU:HD23	20:T:98:LEU:HA	1.90	0.40
23:W:14:LYS:HE2	23:W:14:LYS:HB2	1.96	0.40
27:CA:265:C:O2'	27:CA:268:G:O6	2.31	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:CA:588:A:H2'	27:CA:589:U:H6	1.86	0.40
27:CA:781:A:N7	79:z:109:LYS:HB3	2.37	0.40
27:CA:959:U:H2'	27:CA:960:C:C6	2.57	0.40
29:ZB:10:LYS:O	29:ZB:11:VAL:HG12	2.21	0.40
30:a:7:ASP:OD1	30:a:7:ASP:N	2.54	0.40
40:k:32:LEU:HG	40:k:37:LYS:HB2	2.04	0.40
54:ZG:108:LYS:O	54:ZG:111:MET:HG2	2.22	0.40
56:ZI:27:ASP:OD1	56:ZI:30:THR:OG1	2.33	0.40
59:ZL:66:THR:OG1	59:ZL:67:ARG:N	2.54	0.40
63:ZQ:83:LYS:HE2	63:ZQ:83:LYS:HB2	1.87	0.40
66:ZT:2:VAL:HG13	66:ZT:3:LEU:N	2.35	0.40
75:v:107:LYS:NZ	75:v:175:HIS:O	2.55	0.40
77:x:38:ILE:HG12	77:x:67:PHE:CE1	2.56	0.40
79:z:130:PRO:HB2	79:z:156:ASP:OD1	2.21	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	
4	D	245/254 (96%)	234 (96%)	11 (4%)	0	100	100
5	E	385/389 (99%)	374 (97%)	11 (3%)	0	100	100
6	F	359/363 (99%)	352 (98%)	7 (2%)	0	100	100
7	G	289/298 (97%)	278 (96%)	11 (4%)	0	100	100
8	H	146/165 (88%)	136 (93%)	9 (6%)	1 (1%)	18	47
9	I	235/241 (98%)	227 (97%)	7 (3%)	1 (0%)	30	60
10	J	231/263 (88%)	228 (99%)	3 (1%)	0	100	100
11	K	188/191 (98%)	181 (96%)	7 (4%)	0	100	100
12	L	207/220 (94%)	200 (97%)	7 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
13	M	168/172 (98%)	161 (96%)	7 (4%)	0	100	100
14	N	192/198 (97%)	185 (96%)	7 (4%)	0	100	100
15	O	127/131 (97%)	123 (97%)	4 (3%)	0	100	100
16	P	201/204 (98%)	197 (98%)	4 (2%)	0	100	100
17	Q	197/200 (98%)	195 (99%)	2 (1%)	0	100	100
18	R	172/185 (93%)	170 (99%)	2 (1%)	0	100	100
19	S	183/186 (98%)	178 (97%)	5 (3%)	0	100	100
20	T	176/208 (85%)	171 (97%)	4 (2%)	1 (1%)	21	51
21	U	170/186 (91%)	165 (97%)	5 (3%)	0	100	100
22	V	157/160 (98%)	152 (97%)	5 (3%)	0	100	100
23	W	105/119 (88%)	98 (93%)	7 (7%)	0	100	100
24	X	135/137 (98%)	131 (97%)	4 (3%)	0	100	100
25	Y	60/156 (38%)	60 (100%)	0	0	100	100
26	Z	118/140 (84%)	115 (98%)	3 (2%)	0	100	100
28	ZA	192/204 (94%)	180 (94%)	11 (6%)	1 (0%)	24	55
29	ZB	176/189 (93%)	165 (94%)	9 (5%)	2 (1%)	11	36
30	a	124/127 (98%)	124 (100%)	0	0	100	100
31	b	133/136 (98%)	129 (97%)	4 (3%)	0	100	100
32	c	146/149 (98%)	138 (94%)	8 (6%)	0	100	100
33	d	58/76 (76%)	54 (93%)	4 (7%)	0	100	100
34	e	97/105 (92%)	91 (94%)	5 (5%)	1 (1%)	12	38
35	f	107/113 (95%)	107 (100%)	0	0	100	100
36	g	121/149 (81%)	120 (99%)	1 (1%)	0	100	100
37	h	104/107 (97%)	101 (97%)	3 (3%)	0	100	100
38	i	111/115 (96%)	108 (97%)	3 (3%)	0	100	100
39	j	116/120 (97%)	113 (97%)	3 (3%)	0	100	100
40	k	96/99 (97%)	93 (97%)	3 (3%)	0	100	100
41	l	81/85 (95%)	80 (99%)	1 (1%)	0	100	100
42	m	75/78 (96%)	74 (99%)	1 (1%)	0	100	100
43	n	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
44	o	50/52 (96%)	50 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
45	q	101/106 (95%)	97 (96%)	4 (4%)	0	100	100
46	r	88/99 (89%)	86 (98%)	2 (2%)	0	100	100
50	ZC	89/123 (72%)	78 (88%)	9 (10%)	2 (2%)	5	19
51	ZD	140/155 (90%)	135 (96%)	5 (4%)	0	100	100
52	ZE	147/151 (97%)	143 (97%)	4 (3%)	0	100	100
53	ZF	125/132 (95%)	114 (91%)	11 (9%)	0	100	100
54	ZG	114/141 (81%)	111 (97%)	3 (3%)	0	100	100
55	ZH	138/142 (97%)	121 (88%)	17 (12%)	0	100	100
56	ZI	124/137 (90%)	116 (94%)	8 (6%)	0	100	100
57	ZJ	140/145 (97%)	132 (94%)	8 (6%)	0	100	100
58	ZK	139/145 (96%)	136 (98%)	3 (2%)	0	100	100
59	ZL	98/118 (83%)	93 (95%)	5 (5%)	0	100	100
60	ZM	85/87 (98%)	85 (100%)	0	0	100	100
61	ZO	127/130 (98%)	119 (94%)	8 (6%)	0	100	100
62	ZP	141/145 (97%)	135 (96%)	6 (4%)	0	100	100
63	ZQ	130/135 (96%)	128 (98%)	2 (2%)	0	100	100
64	ZR	69/130 (53%)	66 (96%)	3 (4%)	0	100	100
65	ZS	96/182 (53%)	89 (93%)	7 (7%)	0	100	100
66	ZT	79/82 (96%)	72 (91%)	7 (9%)	0	100	100
67	ZU	59/67 (88%)	53 (90%)	5 (8%)	1 (2%)	7	25
68	ZV	52/56 (93%)	41 (79%)	10 (19%)	1 (2%)	6	22
69	ZW	52/63 (82%)	36 (69%)	14 (27%)	2 (4%)	2	9
70	ZY	306/315 (97%)	279 (91%)	26 (8%)	1 (0%)	36	66
71	p	6/25 (24%)	4 (67%)	2 (33%)	0	100	100
72	s	215/264 (81%)	211 (98%)	4 (2%)	0	100	100
73	t	210/256 (82%)	192 (91%)	18 (9%)	0	100	100
74	u	214/249 (86%)	207 (97%)	7 (3%)	0	100	100
75	v	222/250 (89%)	195 (88%)	24 (11%)	3 (1%)	9	30
76	w	258/264 (98%)	247 (96%)	11 (4%)	0	100	100
77	x	204/223 (92%)	187 (92%)	14 (7%)	3 (2%)	8	28
78	y	224/236 (95%)	206 (92%)	17 (8%)	1 (0%)	30	60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
79	z	181/188 (96%)	166 (92%)	15 (8%)	0	100	100
All	All	10654/11662 (91%)	10165 (95%)	468 (4%)	21 (0%)	44	72

All (21) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	H	115	PRO
20	T	77	SER
34	e	8	THR
75	v	43	THR
77	x	153	VAL
29	ZB	11	VAL
67	ZU	35	ASP
77	x	72	ALA
77	x	190	GLU
50	ZC	34	GLU
50	ZC	88	PRO
75	v	217	GLU
78	y	133	LEU
29	ZB	119	ALA
69	ZW	27	PRO
70	ZY	278	ALA
28	ZA	75	ALA
68	ZV	20	GLN
69	ZW	25	GLU
75	v	35	TYR
9	I	189	VAL

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	
4	D	186/193 (96%)	183 (98%)	3 (2%)	55	83
5	E	328/330 (99%)	325 (99%)	3 (1%)	70	89
6	F	298/300 (99%)	295 (99%)	3 (1%)	68	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	G	247/252 (98%)	244 (99%)	3 (1%)	63	87
8	H	131/145 (90%)	127 (97%)	4 (3%)	35	70
9	I	199/202 (98%)	199 (100%)	0	100	100
10	J	196/216 (91%)	194 (99%)	2 (1%)	68	88
11	K	168/168 (100%)	164 (98%)	4 (2%)	43	77
12	L	183/189 (97%)	181 (99%)	2 (1%)	65	87
13	M	143/145 (99%)	140 (98%)	3 (2%)	47	79
14	N	156/160 (98%)	155 (99%)	1 (1%)	78	92
15	O	110/111 (99%)	109 (99%)	1 (1%)	70	89
16	P	175/176 (99%)	172 (98%)	3 (2%)	53	83
17	Q	166/167 (99%)	164 (99%)	2 (1%)	63	87
18	R	146/152 (96%)	146 (100%)	0	100	100
19	S	153/154 (99%)	152 (99%)	1 (1%)	76	91
20	T	143/170 (84%)	140 (98%)	3 (2%)	47	79
21	U	154/168 (92%)	152 (99%)	2 (1%)	61	86
22	V	138/139 (99%)	134 (97%)	4 (3%)	37	73
23	W	96/106 (91%)	92 (96%)	4 (4%)	26	61
24	X	105/105 (100%)	101 (96%)	4 (4%)	29	64
25	Y	55/131 (42%)	54 (98%)	1 (2%)	51	82
26	Z	105/118 (89%)	103 (98%)	2 (2%)	50	81
28	ZA	157/167 (94%)	154 (98%)	3 (2%)	50	81
29	ZB	155/163 (95%)	153 (99%)	2 (1%)	61	86
30	a	111/112 (99%)	108 (97%)	3 (3%)	39	74
31	b	113/114 (99%)	110 (97%)	3 (3%)	39	74
32	c	119/120 (99%)	119 (100%)	0	100	100
33	d	50/66 (76%)	49 (98%)	1 (2%)	48	80
34	e	79/84 (94%)	74 (94%)	5 (6%)	16	45
35	f	97/100 (97%)	97 (100%)	0	100	100
36	g	109/130 (84%)	108 (99%)	1 (1%)	70	89
37	h	92/93 (99%)	91 (99%)	1 (1%)	65	87
38	i	97/99 (98%)	96 (99%)	1 (1%)	68	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
39	j	101/102 (99%)	100 (99%)	1 (1%)	68	88
40	k	80/81 (99%)	79 (99%)	1 (1%)	61	86
41	l	69/70 (99%)	69 (100%)	0	100	100
42	m	69/70 (99%)	67 (97%)	2 (3%)	37	73
43	n	47/48 (98%)	46 (98%)	1 (2%)	47	79
44	o	47/47 (100%)	46 (98%)	1 (2%)	47	79
45	q	87/90 (97%)	85 (98%)	2 (2%)	44	78
46	r	70/76 (92%)	69 (99%)	1 (1%)	59	85
50	ZC	85/108 (79%)	82 (96%)	3 (4%)	32	67
51	ZD	127/138 (92%)	121 (95%)	6 (5%)	23	57
52	ZE	129/131 (98%)	126 (98%)	3 (2%)	44	78
53	ZF	98/102 (96%)	97 (99%)	1 (1%)	68	88
54	ZG	97/118 (82%)	94 (97%)	3 (3%)	35	70
55	ZH	112/116 (97%)	109 (97%)	3 (3%)	39	74
56	ZI	112/121 (93%)	110 (98%)	2 (2%)	51	82
57	ZJ	126/129 (98%)	122 (97%)	4 (3%)	34	70
58	ZK	114/118 (97%)	109 (96%)	5 (4%)	25	59
59	ZL	90/104 (86%)	85 (94%)	5 (6%)	19	50
60	ZM	72/72 (100%)	70 (97%)	2 (3%)	38	73
61	ZO	113/114 (99%)	111 (98%)	2 (2%)	51	82
62	ZP	117/119 (98%)	113 (97%)	4 (3%)	32	68
63	ZQ	115/118 (98%)	112 (97%)	3 (3%)	40	75
64	ZR	62/107 (58%)	61 (98%)	1 (2%)	55	83
65	ZS	85/158 (54%)	84 (99%)	1 (1%)	63	87
66	ZT	72/73 (99%)	69 (96%)	3 (4%)	26	61
67	ZU	54/60 (90%)	53 (98%)	1 (2%)	50	81
68	ZV	47/48 (98%)	44 (94%)	3 (6%)	16	44
69	ZW	47/54 (87%)	45 (96%)	2 (4%)	26	60
70	ZY	261/267 (98%)	260 (100%)	1 (0%)	84	94
71	p	8/24 (33%)	8 (100%)	0	100	100
72	s	186/218 (85%)	181 (97%)	5 (3%)	39	74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
73	t	188/223 (84%)	181 (96%)	7 (4%)	30	65
74	u	178/203 (88%)	174 (98%)	4 (2%)	45	78
75	v	179/192 (93%)	176 (98%)	3 (2%)	53	83
76	w	219/222 (99%)	216 (99%)	3 (1%)	59	85
77	x	175/192 (91%)	172 (98%)	3 (2%)	53	83
78	y	194/202 (96%)	191 (98%)	3 (2%)	57	84
79	z	163/168 (97%)	157 (96%)	6 (4%)	30	65
All	All	9155/9848 (93%)	8979 (98%)	176 (2%)	49	81

All (176) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	D	68	ARG
4	D	158	ILE
4	D	184	ARG
5	E	17	LEU
5	E	121	ASN
5	E	335	VAL
6	F	35	LEU
6	F	112	VAL
6	F	231	VAL
7	G	105	VAL
7	G	151	GLN
7	G	153	THR
8	H	18	LEU
8	H	47	GLU
8	H	84	VAL
8	H	151	SER
10	J	81	ASN
10	J	224	ILE
11	K	16	VAL
11	K	17	THR
11	K	33	GLU
11	K	112	VAL
12	L	31	ILE
12	L	193	ASP
13	M	92	LYS
13	M	127	VAL
13	M	149	THR
14	N	139	VAL

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Mol	Chain	Res	Type
15	O	53	ASN
16	P	60	VAL
16	P	155	VAL
16	P	196	THR
17	Q	68	THR
17	Q	137	THR
19	S	22	ASP
20	T	33	SER
20	T	71	VAL
20	T	85	ILE
21	U	15	MET
21	U	82	THR
22	V	3	HIS
22	V	52	MET
22	V	63	ILE
22	V	157	GLU
23	W	8	ASN
23	W	64	ILE
23	W	87	ASN
23	W	107	PHE
24	X	19	VAL
24	X	37	LEU
24	X	112	SER
24	X	135	VAL
25	Y	19	THR
26	Z	95	SER
26	Z	115	ASN
28	ZA	143	VAL
28	ZA	165	THR
28	ZA	198	ARG
29	ZB	93	LEU
29	ZB	136	VAL
30	a	55	GLU
30	a	105	VAL
30	a	113	ASP
31	b	37	SER
31	b	53	ILE
31	b	120	GLU
33	d	41	THR
34	e	10	ASN
34	e	15	LEU
34	e	90	THR

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Mol	Chain	Res	Type
34	e	99	SER
34	e	102	LEU
36	g	98	THR
37	h	36	SER
38	i	50	SER
39	j	101	THR
40	k	91	GLN
42	m	45	VAL
42	m	78	LEU
43	n	47	THR
44	o	52	LYS
45	q	22	GLN
45	q	76	VAL
46	r	15	VAL
50	ZC	7	ASP
50	ZC	31	LYS
50	ZC	67	THR
51	ZD	10	GLU
51	ZD	21	THR
51	ZD	31	THR
51	ZD	40	LEU
51	ZD	72	THR
51	ZD	74	THR
52	ZE	36	GLN
52	ZE	88	LEU
52	ZE	150	VAL
53	ZF	110	ILE
54	ZG	20	VAL
54	ZG	24	GLN
54	ZG	112	VAL
55	ZH	6	VAL
55	ZH	56	LEU
55	ZH	119	ASP
56	ZI	25	THR
56	ZI	91	LEU
57	ZJ	5	VAL
57	ZJ	20	THR
57	ZJ	52	VAL
57	ZJ	100	VAL
58	ZK	36	LEU
58	ZK	75	LYS
58	ZK	84	ILE

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Mol	Chain	Res	Type
58	ZK	126	GLU
58	ZK	131	ASP
59	ZL	18	ILE
59	ZL	19	HIS
59	ZL	59	THR
59	ZL	77	THR
59	ZL	105	ILE
60	ZM	49	ASP
60	ZM	84	SER
61	ZO	76	SER
61	ZO	104	LEU
62	ZP	36	THR
62	ZP	57	ILE
62	ZP	107	PHE
62	ZP	117	ILE
63	ZQ	27	VAL
63	ZQ	53	ASP
63	ZQ	121	THR
64	ZR	80	VAL
65	ZS	107	VAL
66	ZT	3	LEU
66	ZT	5	GLN
66	ZT	25	VAL
67	ZU	19	THR
68	ZV	8	PHE
68	ZV	30	LEU
68	ZV	46	LYS
69	ZW	47	VAL
69	ZW	56	MET
70	ZY	20	VAL
72	s	5	GLU
72	s	29	VAL
72	s	75	VAL
72	s	137	SER
72	s	206	ASP
73	t	29	TRP
73	t	84	ILE
73	t	95	ASN
73	t	101	HIS
73	t	140	ILE
73	t	170	GLU
73	t	213	ARG

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Mol	Chain	Res	Type
74	u	65	ASP
74	u	73	ASP
74	u	125	ILE
74	u	132	ILE
75	v	73	MET
75	v	143	LEU
75	v	176	VAL
76	w	129	ILE
76	w	217	THR
76	w	247	LEU
77	x	49	VAL
77	x	147	ILE
77	x	155	ARG
78	y	29	ASP
78	y	63	MET
78	y	124	LEU
79	z	13	ASN
79	z	35	ASP
79	z	56	LEU
79	z	79	LEU
79	z	138	VAL
79	z	147	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (67) such sidechains are listed below:

Mol	Chain	Res	Type
4	D	79	ASN
4	D	141	HIS
4	D	211	HIS
5	E	182	GLN
5	E	231	HIS
6	F	117	ASN
6	F	323	GLN
7	G	32	GLN
10	J	46	ASN
10	J	81	ASN
10	J	222	ASN
10	J	244	ASN
11	K	96	HIS
12	L	187	ASN
16	P	117	ASN
16	P	153	ASN

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Mol	Chain	Res	Type
18	R	10	ASN
18	R	116	HIS
18	R	133	HIS
20	T	138	HIS
20	T	161	HIS
21	U	128	HIS
21	U	134	ASN
21	U	152	GLN
22	V	146	ASN
23	W	49	ASN
23	W	104	GLN
23	W	106	GLN
29	ZB	153	GLN
30	a	15	ASN
31	b	122	HIS
33	d	21	ASN
33	d	26	ASN
34	e	67	GLN
37	h	84	ASN
39	j	75	GLN
40	k	17	ASN
41	l	76	ASN
41	l	79	GLN
44	o	14	ASN
44	o	33	ASN
51	ZD	18	HIS
51	ZD	63	GLN
51	ZD	127	GLN
58	ZK	16	ASN
58	ZK	25	GLN
61	ZO	12	ASN
61	ZO	39	GLN
62	ZP	18	HIS
63	ZQ	31	ASN
63	ZQ	113	ASN
64	ZR	70	GLN
66	ZT	26	GLN
66	ZT	38	GLN
68	ZV	13	ASN
68	ZV	23	HIS
70	ZY	237	HIS
72	s	8	ASN

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Mol	Chain	Res	Type
72	s	30	GLN
72	s	33	ASN
73	t	95	ASN
74	u	54	HIS
75	v	160	HIS
76	w	69	HIS
76	w	216	ASN
77	x	102	ASN
79	z	172	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	3018/3283 (91%)	464 (15%)	18 (0%)
2	B	121/122 (99%)	15 (12%)	1 (0%)
27	CA	1629/1775 (91%)	467 (28%)	26 (1%)
3	C	153/158 (96%)	22 (14%)	0
47	1	33/76 (43%)	8 (24%)	0
48	2	6/7 (85%)	1 (16%)	0
49	3	16/17 (94%)	4 (25%)	0
All	All	4976/5438 (91%)	981 (19%)	45 (0%)

All (981) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	4	G
1	A	12	U
1	A	15	G
1	A	24	A
1	A	38	A
1	A	41	A
1	A	47	A
1	A	57	G
1	A	58	A
1	A	63	A
1	A	64	A
1	A	90	G
1	A	108	G
1	A	109	C
1	A	114	C
1	A	120	A

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Mol	Chain	Res	Type
1	A	127	C
1	A	128	C
1	A	129	G
1	A	130	G
1	A	143	U
1	A	145	G
1	A	146	A
1	A	156	C
1	A	157	A
1	A	158	C
1	A	159	G
1	A	165	U
1	A	166	U
1	A	167	C
1	A	169	A
1	A	177	G
1	A	178	C
1	A	179	A
1	A	182	U
1	A	192	C
1	A	202	G
1	A	210	G
1	A	211	A
1	A	212	C
1	A	231	G
1	A	237	G
1	A	244	G
1	A	259	G
1	A	260	U
1	A	276	U
1	A	285	A
1	A	295	U
1	A	313	A
1	A	319	U
1	A	327	G
1	A	340	C
1	A	341	A
1	A	366	G
1	A	388	C
1	A	389	A
1	A	391	U
1	A	392	A

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Mol	Chain	Res	Type
1	A	393	C
1	A	411	G
1	A	412	A
1	A	429	C
1	A	430	A
1	A	432	G
1	A	438	G
1	A	470	A
1	A	484	G
1	A	498	G
1	A	504	U
1	A	506	A
1	A	508	A
1	A	528	U
1	A	529	G
1	A	539	A
1	A	542	A
1	A	548	G
1	A	550	C
1	A	551	U
1	A	552	C
1	A	553	U
1	A	557	A
1	A	566	C
1	A	569	U
1	A	583	C
1	A	595	A
1	A	606	A
1	A	613	C
1	A	623	A
1	A	627	U
1	A	635	A
1	A	636	A
1	A	637	A
1	A	651	A
1	A	658	G
1	A	661	A
1	A	663	A
1	A	668	G
1	A	676	C
1	A	677	U
1	A	678	C

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Mol	Chain	Res	Type
1	A	679	G
1	A	703	G
1	A	707	U
1	A	709	C
1	A	710	U
1	A	716	G
1	A	719	U
1	A	720	U
1	A	724	G
1	A	728	G
1	A	729	A
1	A	749	A
1	A	760	A
1	A	773	A
1	A	792	C
1	A	804	C
1	A	817	U
1	A	822	U
1	A	839	A
1	A	840	U
1	A	850	G
1	A	851	G
1	A	857	A
1	A	859	G
1	A	860	A
1	A	864	A
1	A	867	G
1	A	880	G
1	A	887	C
1	A	902	C
1	A	903	U
1	A	906	G
1	A	920	C
1	A	921	G
1	A	922	U
1	A	923	U
1	A	924	A
1	A	925	C
1	A	926	A
1	A	927	A
1	A	929	C
1	A	941	G

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Mol	Chain	Res	Type
1	A	947	C
1	A	948	G
1	A	949	A
1	A	957	G
1	A	981	U
1	A	982	A
1	A	994	A
1	A	996	C
1	A	1010	G
1	A	1011	A
1	A	1012	A
1	A	1019	G
1	A	1028	U
1	A	1029	U
1	A	1042	A
1	A	1044	G
1	A	1045	A
1	A	1050	A
1	A	1051	G
1	A	1064	G
1	A	1078	G
1	A	1091	U
1	A	1100	A
1	A	1106	A
1	A	1127	A
1	A	1128	U
1	A	1129	G
1	A	1139	C
1	A	1140	A
1	A	1143	C
1	A	1148	C
1	A	1155	U
1	A	1168	A
1	A	1169	G
1	A	1176	G
1	A	1228	G
1	A	1229	G
1	A	1230	C
1	A	1231	C
1	A	1232	G
1	A	1233	A
1	A	1234	A

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Mol	Chain	Res	Type
1	A	1254	G
1	A	1255	A
1	A	1256	U
1	A	1260	G
1	A	1277	A
1	A	1278	U
1	A	1296	U
1	A	1297	U
1	A	1298	U
1	A	1299	G
1	A	1302	G
1	A	1335	G
1	A	1342	U
1	A	1360	G
1	A	1362	A
1	A	1368	C
1	A	1377	G
1	A	1380	C
1	A	1389	A
1	A	1393	G
1	A	1424	A
1	A	1431	G
1	A	1450	G
1	A	1451	C
1	A	1453	G
1	A	1454	A
1	A	1492	C
1	A	1495	G
1	A	1498	G
1	A	1499	A
1	A	1502	G
1	A	1503	U
1	A	1505	G
1	A	1507	C
1	A	1517	A
1	A	1518	G
1	A	1525	G
1	A	1529	A
1	A	1531	A
1	A	1532	G
1	A	1538	C
1	A	1547	A

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Mol	Chain	Res	Type
1	A	1570	U
1	A	1571	C
1	A	1579	C
1	A	1582	A
1	A	1583	A
1	A	1598	G
1	A	1653	G
1	A	1664	U
1	A	1665	C
1	A	1690	A
1	A	1691	G
1	A	1709	G
1	A	1721	G
1	A	1723	G
1	A	1740	A
1	A	1751	G
1	A	1756	A
1	A	1757	A
1	A	1758	U
1	A	1759	G
1	A	1760	U
1	A	1763	U
1	A	1781	A
1	A	1784	A
1	A	1788	C
1	A	1791	C
1	A	1808	C
1	A	1820	G
1	A	1822	U
1	A	1826	A
1	A	1827	C
1	A	1835	A
1	A	1848	G
1	A	2007	U
1	A	2008	G
1	A	2025	G
1	A	2026	G
1	A	2027	U
1	A	2028	A
1	A	2029	C
1	A	2036	G
1	A	2037	G

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Mol	Chain	Res	Type
1	A	2046	A
1	A	2055	U
1	A	2059	A
1	A	2073	A
1	A	2075	G
1	A	2084	G
1	A	2086	G
1	A	2091	U
1	A	2120	U
1	A	2123	A
1	A	2124	U
1	A	2137	A
1	A	2138	A
1	A	2159	A
1	A	2164	G
1	A	2168	G
1	A	2170	A
1	A	2171	A
1	A	2172	C
1	A	2173	U
1	A	2178	C
1	A	2184	U
1	A	2187	G
1	A	2188	G
1	A	2196	A
1	A	2197	U
1	A	2222	G
1	A	2223	C
1	A	2225	U
1	A	2228	A
1	A	2230	G
1	A	2249	U
1	A	2251	U
1	A	2278	A
1	A	2288	A
1	A	2289	C
1	A	2290	G
1	A	2300	G
1	A	2303	U
1	A	2308	G
1	A	2309	G
1	A	2312	A

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Mol	Chain	Res	Type
1	A	2317	A
1	A	2318	G
1	A	2319	A
1	A	2326	U
1	A	2350	G
1	A	2352	G
1	A	2356	A
1	A	2357	G
1	A	2358	A
1	A	2362	G
1	A	2417	U
1	A	2418	G
1	A	2419	U
1	A	2420	U
1	A	2421	U
1	A	2425	U
1	A	2426	A
1	A	2429	U
1	A	2430	A
1	A	2437	G
1	A	2449	G
1	A	2450	U
1	A	2458	C
1	A	2459	C
1	A	2462	U
1	A	2465	C
1	A	2467	U
1	A	2471	U
1	A	2485	C
1	A	2493	A
1	A	2506	G
1	A	2507	G
1	A	2514	G
1	A	2526	A
1	A	2548	G
1	A	2551	G
1	A	2552	U
1	A	2556	A
1	A	2574	A
1	A	2577	G
1	A	2587	G
1	A	2589	G

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Mol	Chain	Res	Type
1	A	2591	A
1	A	2594	A
1	A	2604	A
1	A	2614	G
1	A	2628	G
1	A	2629	U
1	A	2637	C
1	A	2652	U
1	A	2653	G
1	A	2662	A
1	A	2673	C
1	A	2677	G
1	A	2678	G
1	A	2696	G
1	A	2700	G
1	A	2701	A
1	A	2702	A
1	A	2703	A
1	A	2710	C
1	A	2717	A
1	A	2742	U
1	A	2743	A
1	A	2745	A
1	A	2749	C
1	A	2771	G
1	A	2772	A
1	A	2775	U
1	A	2787	A
1	A	2789	C
1	A	2799	C
1	A	2811	A
1	A	2814	G
1	A	2823	U
1	A	2835	U
1	A	2836	A
1	A	2842	C
1	A	2847	G
1	A	2852	G
1	A	2871	A
1	A	2883	C
1	A	2890	G
1	A	2897	C

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Mol	Chain	Res	Type
1	A	2898	G
1	A	2913	A
1	A	2950	A
1	A	2960	G
1	A	2979	C
1	A	2980	C
1	A	2987	A
1	A	2993	C
1	A	2995	A
1	A	3002	G
1	A	3005	U
1	A	3023	A
1	A	3030	A
1	A	3032	U
1	A	3043	C
1	A	3046	G
1	A	3052	A
1	A	3065	G
1	A	3069	G
1	A	3070	C
1	A	3071	U
1	A	3073	C
1	A	3076	G
1	A	3077	U
1	A	3079	G
1	A	3082	U
1	A	3084	C
1	A	3090	A
1	A	3094	A
1	A	3096	G
1	A	3097	G
1	A	3101	G
1	A	3109	A
1	A	3111	A
1	A	3112	A
1	A	3113	G
1	A	3120	U
1	A	3121	U
1	A	3135	A
1	A	3137	A
1	A	3138	G
1	A	3139	G

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Mol	Chain	Res	Type
1	A	3159	U
1	A	3160	G
1	A	3165	G
1	A	3178	G
1	A	3182	G
1	A	3183	G
1	A	3191	G
1	A	3192	C
1	A	3195	A
1	A	3201	U
1	A	3204	A
1	A	3206	G
1	A	3207	U
1	A	3229	U
1	A	3230	A
1	A	3233	G
1	A	3238	C
1	A	3239	U
1	A	3240	U
1	A	3242	U
1	A	3243	U
1	A	3244	G
1	A	3257	G
1	A	3266	C
1	A	3270	U
1	A	3271	G
1	A	3277	G
1	A	3284	U
2	B	7	G
2	B	11	A
2	B	12	U
2	B	30	U
2	B	39	U
2	B	55	U
2	B	56	A
2	B	66	G
2	B	74	G
2	B	77	A
2	B	100	G
2	B	103	A
2	B	113	G
2	B	114	C

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Mol	Chain	Res	Type
2	B	122	U
3	C	34	U
3	C	35	C
3	C	38	U
3	C	39	G
3	C	59	A
3	C	62	C
3	C	63	G
3	C	81	G
3	C	82	U
3	C	83	G
3	C	84	A
3	C	88	A
3	C	91	G
3	C	98	U
3	C	100	A
3	C	102	C
3	C	103	G
3	C	107	A
3	C	109	U
3	C	121	U
3	C	148	G
3	C	153	G
27	CA	16	G
27	CA	25	C
27	CA	26	A
27	CA	30	G
27	CA	34	G
27	CA	40	A
27	CA	42	G
27	CA	45	U
27	CA	47	A
27	CA	56	U
27	CA	63	G
27	CA	68	A
27	CA	71	G
27	CA	72	A
27	CA	73	U
27	CA	74	U
27	CA	75	A
27	CA	76	U
27	CA	77	A

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Mol	Chain	Res	Type
27	CA	80	G
27	CA	92	A
27	CA	93	U
27	CA	96	C
27	CA	102	A
27	CA	103	A
27	CA	108	G
27	CA	111	A
27	CA	113	C
27	CA	115	U
27	CA	121	U
27	CA	125	A
27	CA	126	G
27	CA	127	U
27	CA	128	A
27	CA	138	U
27	CA	139	U
27	CA	141	G
27	CA	142	C
27	CA	143	A
27	CA	151	G
27	CA	156	U
27	CA	162	A
27	CA	163	G
27	CA	164	C
27	CA	166	A
27	CA	167	A
27	CA	172	U
27	CA	173	G
27	CA	176	C
27	CA	177	A
27	CA	179	A
27	CA	188	U
27	CA	189	U
27	CA	190	C
27	CA	191	U
27	CA	192	G
27	CA	193	G
27	CA	197	G
27	CA	200	U
27	CA	232	G
27	CA	235	G

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Mol	Chain	Res	Type
27	CA	243	A
27	CA	244	U
27	CA	245	A
27	CA	246	A
27	CA	261	U
27	CA	266	U
27	CA	268	G
27	CA	269	U
27	CA	274	G
27	CA	276	G
27	CA	288	A
27	CA	290	A
27	CA	302	U
27	CA	303	C
27	CA	305	A
27	CA	307	U
27	CA	311	G
27	CA	314	G
27	CA	319	G
27	CA	320	A
27	CA	322	A
27	CA	326	G
27	CA	327	C
27	CA	340	C
27	CA	348	A
27	CA	349	A
27	CA	350	C
27	CA	354	G
27	CA	362	G
27	CA	383	C
27	CA	384	U
27	CA	389	A
27	CA	391	C
27	CA	392	G
27	CA	405	A
27	CA	406	A
27	CA	408	G
27	CA	409	A
27	CA	411	G
27	CA	412	G
27	CA	413	C
27	CA	414	A

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Mol	Chain	Res	Type
27	CA	415	G
27	CA	423	G
27	CA	428	U
27	CA	429	U
27	CA	433	C
27	CA	435	A
27	CA	437	C
27	CA	442	C
27	CA	445	G
27	CA	448	G
27	CA	449	A
27	CA	455	U
27	CA	457	A
27	CA	466	A
27	CA	469	G
27	CA	471	U
27	CA	496	U
27	CA	497	U
27	CA	499	G
27	CA	500	A
27	CA	503	G
27	CA	504	A
27	CA	505	G
27	CA	506	U
27	CA	508	C
27	CA	518	A
27	CA	527	A
27	CA	529	G
27	CA	531	A
27	CA	534	A
27	CA	538	G
27	CA	544	A
27	CA	545	A
27	CA	546	G
27	CA	548	C
27	CA	554	C
27	CA	556	A
27	CA	557	G
27	CA	568	A
27	CA	571	U
27	CA	574	A
27	CA	576	C

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Mol	Chain	Res	Type
27	CA	579	C
27	CA	580	A
27	CA	581	A
27	CA	583	A
27	CA	584	G
27	CA	589	U
27	CA	593	A
27	CA	595	A
27	CA	597	U
27	CA	599	G
27	CA	600	U
27	CA	608	A
27	CA	609	A
27	CA	612	A
27	CA	614	C
27	CA	627	C
27	CA	631	G
27	CA	632	G
27	CA	639	A
27	CA	671	A
27	CA	675	A
27	CA	676	A
27	CA	678	A
27	CA	681	U
27	CA	682	U
27	CA	683	U
27	CA	714	A
27	CA	715	U
27	CA	716	U
27	CA	722	G
27	CA	729	U
27	CA	734	G
27	CA	735	U
27	CA	736	G
27	CA	737	U
27	CA	741	A
27	CA	742	A
27	CA	743	G
27	CA	745	A
27	CA	749	G
27	CA	750	C
27	CA	751	A

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Mol	Chain	Res	Type
27	CA	753	G
27	CA	754	C
27	CA	757	G
27	CA	758	A
27	CA	759	A
27	CA	763	G
27	CA	764	U
27	CA	765	U
27	CA	769	A
27	CA	770	U
27	CA	771	G
27	CA	773	A
27	CA	775	U
27	CA	776	A
27	CA	780	G
27	CA	781	A
27	CA	782	A
27	CA	783	U
27	CA	784	A
27	CA	785	G
27	CA	786	G
27	CA	789	G
27	CA	790	C
27	CA	791	A
27	CA	793	G
27	CA	794	G
27	CA	795	U
27	CA	796	U
27	CA	798	U
27	CA	799	A
27	CA	800	U
27	CA	801	U
27	CA	802	U
27	CA	803	U
27	CA	804	G
27	CA	806	U
27	CA	809	U
27	CA	810	U
27	CA	811	U
27	CA	812	C
27	CA	813	U
27	CA	815	G

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Mol	Chain	Res	Type
27	CA	817	A
27	CA	820	A
27	CA	821	U
27	CA	825	A
27	CA	826	A
27	CA	827	U
27	CA	833	A
27	CA	835	A
27	CA	854	A
27	CA	856	U
27	CA	862	G
27	CA	863	U
27	CA	864	U
27	CA	865	G
27	CA	866	U
27	CA	872	G
27	CA	877	A
27	CA	882	U
27	CA	884	G
27	CA	889	A
27	CA	893	A
27	CA	894	A
27	CA	895	G
27	CA	898	U
27	CA	899	A
27	CA	903	A
27	CA	905	U
27	CA	915	U
27	CA	930	U
27	CA	931	U
27	CA	934	U
27	CA	936	A
27	CA	939	C
27	CA	940	A
27	CA	958	A
27	CA	973	A
27	CA	974	U
27	CA	991	C
27	CA	992	C
27	CA	996	A
27	CA	998	C
27	CA	1001	U

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Mol	Chain	Res	Type
27	CA	1002	G
27	CA	1009	A
27	CA	1010	G
27	CA	1020	G
27	CA	1022	C
27	CA	1023	G
27	CA	1024	U
27	CA	1046	A
27	CA	1050	U
27	CA	1051	A
27	CA	1052	C
27	CA	1053	G
27	CA	1057	A
27	CA	1062	A
27	CA	1063	A
27	CA	1066	U
27	CA	1067	U
27	CA	1069	U
27	CA	1070	G
27	CA	1081	G
27	CA	1096	G
27	CA	1102	A
27	CA	1103	A
27	CA	1108	A
27	CA	1120	G
27	CA	1121	A
27	CA	1125	G
27	CA	1128	C
27	CA	1129	C
27	CA	1130	A
27	CA	1140	G
27	CA	1155	U
27	CA	1156	U
27	CA	1157	U
27	CA	1160	C
27	CA	1161	B8N
27	CA	1162	C
27	CA	1164	A
27	CA	1166	A
27	CA	1167	C
27	CA	1169	G
27	CA	1170	G

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Mol	Chain	Res	Type
27	CA	1171	G
27	CA	1172	A
27	CA	1182	G
27	CA	1184	U
27	CA	1187	A
27	CA	1188	G
27	CA	1196	A
27	CA	1198	G
27	CA	1199	G
27	CA	1200	A
27	CA	1209	U
27	CA	1210	U
27	CA	1212	A
27	CA	1213	G
27	CA	1214	A
27	CA	1215	G
27	CA	1216	C
27	CA	1221	U
27	CA	1222	C
27	CA	1224	U
27	CA	1225	G
27	CA	1226	A
27	CA	1227	U
27	CA	1228	U
27	CA	1233	G
27	CA	1235	G
27	CA	1236	U
27	CA	1243	G
27	CA	1245	A
27	CA	1246	U
27	CA	1248	G
27	CA	1249	C
27	CA	1251	G
27	CA	1255	U
27	CA	1263	U
27	CA	1266	A
27	CA	1282	A
27	CA	1284	U
27	CA	1285	U
27	CA	1286	G
27	CA	1291	A
27	CA	1320	G

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Mol	Chain	Res	Type
27	CA	1323	G
27	CA	1329	G
27	CA	1340	G
27	CA	1343	G
27	CA	1345	C
27	CA	1346	G
27	CA	1347	C
27	CA	1348	U
27	CA	1351	A
27	CA	1354	U
27	CA	1355	C
27	CA	1365	C
27	CA	1366	U
27	CA	1371	A
27	CA	1374	U
27	CA	1375	G
27	CA	1376	A
27	CA	1381	G
27	CA	1389	U
27	CA	1391	U
27	CA	1392	G
27	CA	1394	G
27	CA	1402	C
27	CA	1403	A
27	CA	1404	G
27	CA	1408	U
27	CA	1409	G
27	CA	1421	G
27	CA	1422	A
27	CA	1424	G
27	CA	1435	C
27	CA	1436	A
27	CA	1447	A
27	CA	1450	G
27	CA	1451	A
27	CA	1456	G
27	CA	1458	C
27	CA	1459	A
27	CA	1460	G
27	CA	1466	U
27	CA	1468	A
27	CA	1471	U

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Mol	Chain	Res	Type
27	CA	1476	C
27	CA	1477	G
27	CA	1479	G
27	CA	1481	G
27	CA	1490	A
27	CA	1491	A
27	CA	1495	U
27	CA	1496	G
27	CA	1498	G
27	CA	1499	A
27	CA	1500	A
27	CA	1511	G
27	CA	1512	C
27	CA	1516	G
27	CA	1518	A
27	CA	1525	A
27	CA	1527	U
27	CA	1532	U
27	CA	1534	G
27	CA	1535	U
27	CA	1550	G
27	CA	1553	U
27	CA	1559	G
27	CA	1565	G
27	CA	1568	A
27	CA	1576	A
27	CA	1579	U
27	CA	1580	G
27	CA	1582	G
27	CA	1586	A
27	CA	1591	G
27	CA	1592	U
27	CA	1594	C
27	CA	1609	C
27	CA	1612	C
27	CA	1613	G
27	CA	1632	U
27	CA	1633	G
27	CA	1637	G
27	CA	1638	G
27	CA	1639	C
27	CA	1640	U

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Mol	Chain	Res	Type
27	CA	1655	G
27	CA	1661	G
27	CA	1691	C
27	CA	1692	G
27	CA	1694	A
27	CA	1700	U
27	CA	1707	A
27	CA	1709	U
27	CA	1710	U
27	CA	1716	U
27	CA	1717	U
27	CA	1718	U
27	CA	1719	A
27	CA	1730	A
27	CA	1731	A
27	CA	1732	G
27	CA	1734	C
27	CA	1735	G
27	CA	1737	A
27	CA	1741	A
27	CA	1744	U
27	CA	1755	G
27	CA	1757	A
27	CA	1767	G
27	CA	1768	G
27	CA	1769	A
27	CA	1771	C
27	CA	1772	A
47	1	9	A
47	1	13	C
47	1	22	G
47	1	24	G
47	1	28	G
47	1	35	A
47	1	47	U
47	1	48	C
48	2	4	U
49	3	34	G
49	3	35	A
49	3	38	A
49	3	39	U

All (45) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	243	U
1	A	429	C
1	A	678	C
1	A	706	G
1	A	859	G
1	A	926	A
1	A	1011	A
1	A	1491	A
1	A	1506	C
1	A	1758	U
1	A	1759	G
1	A	2027	U
1	A	2742	U
1	A	2897	C
1	A	3022	U
1	A	3064	C
1	A	3070	C
1	A	3158	U
2	B	121	C
27	CA	76	U
27	CA	138	U
27	CA	544	A
27	CA	674	C
27	CA	713	U
27	CA	715	U
27	CA	740	A
27	CA	749	G
27	CA	756	U
27	CA	865	G
27	CA	881	U
27	CA	893	A
27	CA	991	C
27	CA	1166	A
27	CA	1221	U
27	CA	1225	G
27	CA	1244	C
27	CA	1262	G
27	CA	1346	G
27	CA	1467	G
27	CA	1654	G
27	CA	1690	C
27	CA	1693	G
27	CA	1699	C

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Mol	Chain	Res	Type
27	CA	1731	A
27	CA	1733	U

5.4 Non-standard residues in protein, DNA, RNA chains

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
27	B8N	CA	1161	27	24,29,30	3.11	6 (25%)	29,42,45	1.94	6 (20%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
27	B8N	CA	1161	27	-	11/16/34/35	0/2/2/2

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	CA	1161	B8N	C6-N1	7.82	1.55	1.36
27	CA	1161	B8N	C4-N3	-7.44	1.26	1.40
27	CA	1161	B8N	C6-C5	6.53	1.44	1.34
27	CA	1161	B8N	C2-N1	6.51	1.58	1.39
27	CA	1161	B8N	O4-C4	-3.22	1.16	1.23
27	CA	1161	B8N	C32-C33	2.09	1.57	1.53

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	CA	1161	B8N	C5-C4-N3	5.52	126.40	116.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
27	CA	1161	B8N	C4-N3-C2	-4.74	119.46	125.46
27	CA	1161	B8N	C31-N3-C2	3.51	122.92	117.67
27	CA	1161	B8N	N3-C2-N1	2.91	120.87	116.76
27	CA	1161	B8N	O4-C4-N3	-2.90	115.06	119.98
27	CA	1161	B8N	C32-C31-N3	2.14	116.00	112.00

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
27	CA	1161	B8N	C32-C31-N3-C4
27	CA	1161	B8N	N3-C31-C32-C33
27	CA	1161	B8N	C31-C32-C33-N34
27	CA	1161	B8N	N34-C33-C34-O36
27	CA	1161	B8N	O4'-C4'-C5'-O5'
27	CA	1161	B8N	C3'-C4'-C5'-O5'
27	CA	1161	B8N	C32-C31-N3-C2
27	CA	1161	B8N	N34-C33-C34-O35
27	CA	1161	B8N	C31-C32-C33-C34
27	CA	1161	B8N	C32-C33-C34-O36
27	CA	1161	B8N	C32-C33-C34-O35

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
27	CA	1161	B8N	1	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 228 ligands modelled in this entry, 227 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond

length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
81	BLS	A	3453	-	30,31,31	0.65	1 (3%)	33,43,43	1.04	2 (6%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
81	BLS	A	3453	-	-	4/25/38/38	0/2/2/2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
81	A	3453	BLS	O4-C6'	-2.88	1.21	1.30

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
81	A	3453	BLS	O5'-C1'-C2'	-4.30	110.81	113.13
81	A	3453	BLS	N15-C14-N12	2.05	121.00	118.53

There are no chirality outliers.

All (4) torsion outliers are listed below:

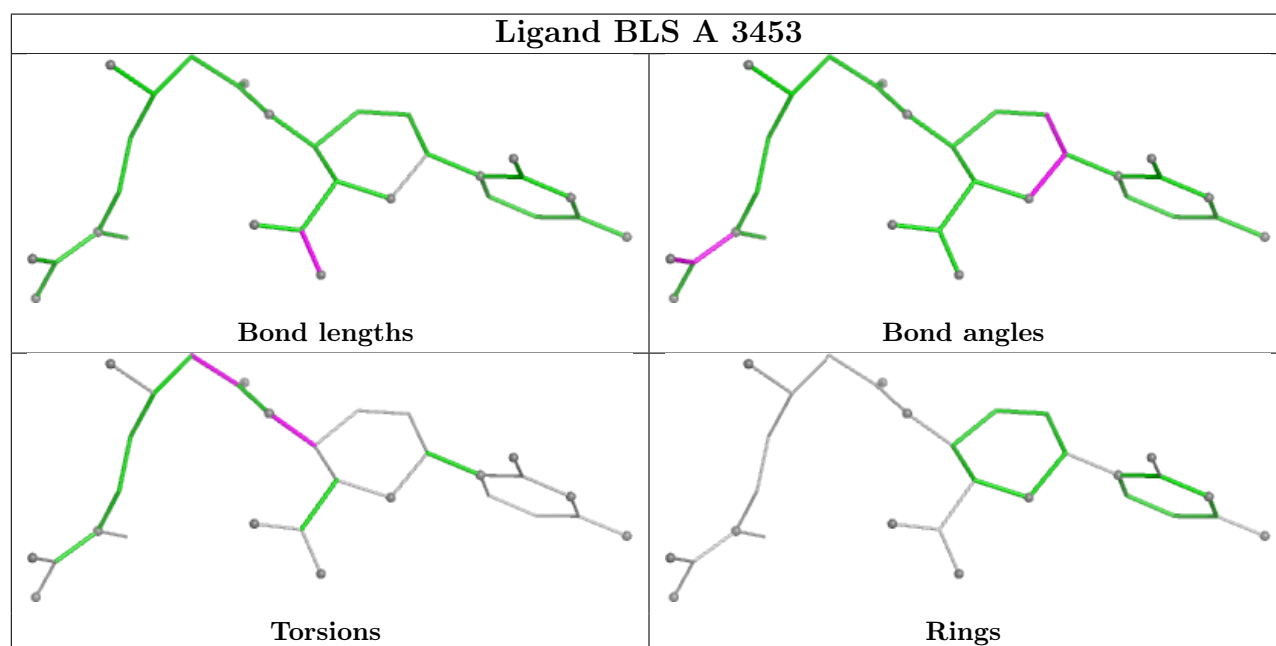
Mol	Chain	Res	Type	Atoms
81	A	3453	BLS	O7-C7-C8-C9
81	A	3453	BLS	N6-C7-C8-C9
81	A	3453	BLS	C3'-C4'-N6-C7
81	A	3453	BLS	C5'-C4'-N6-C7

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
81	A	3453	BLS	2	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

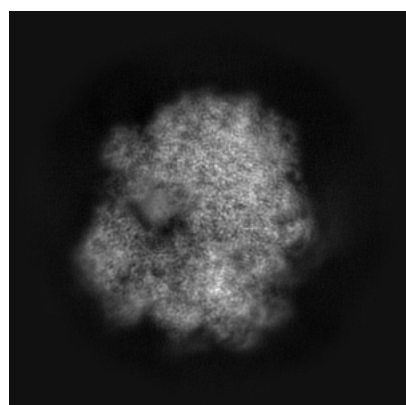
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-55657. These allow visual inspection of the internal detail of the map and identification of artifacts.

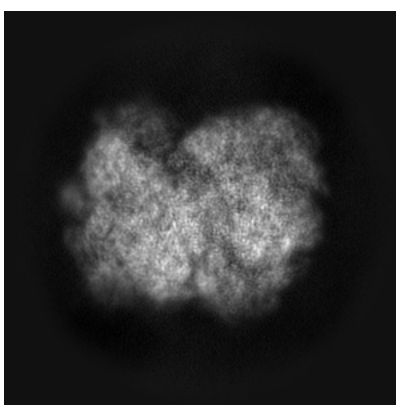
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

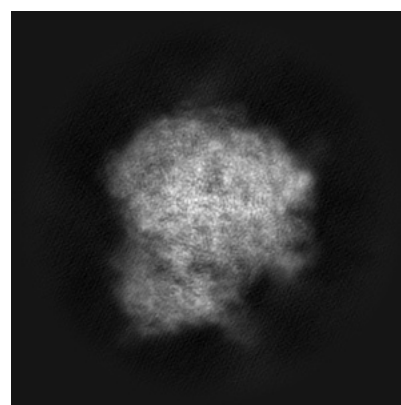
6.1.1 Primary map



X



Y

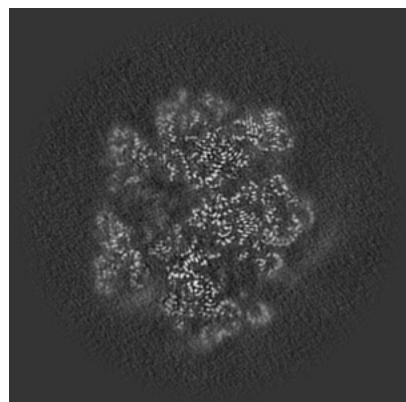


Z

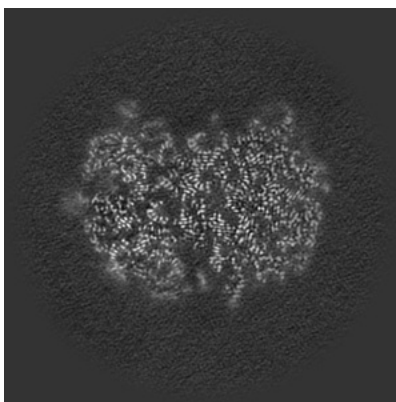
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

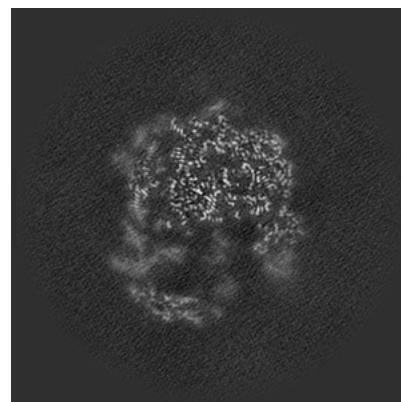
6.2.1 Primary map



X Index: 240



Y Index: 240

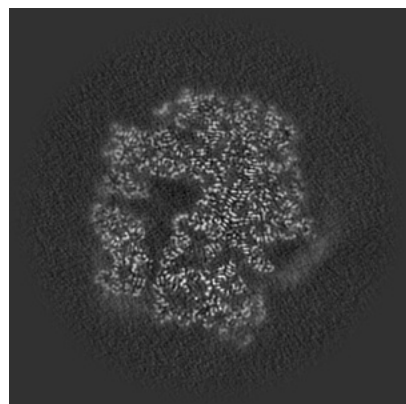


Z Index: 240

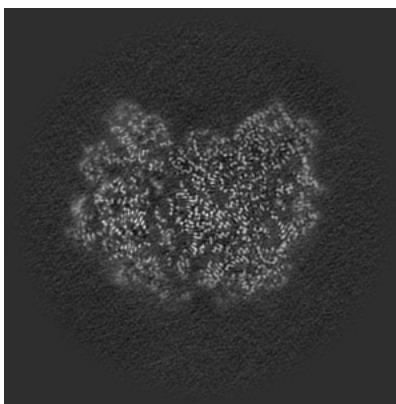
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

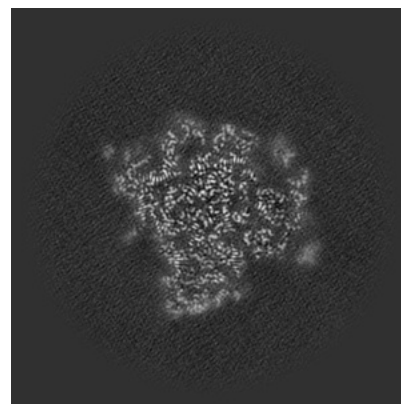
6.3.1 Primary map



X Index: 223



Y Index: 253

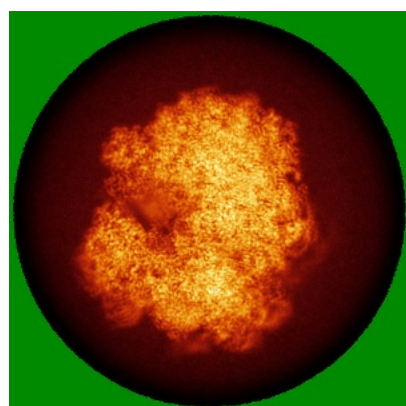


Z Index: 305

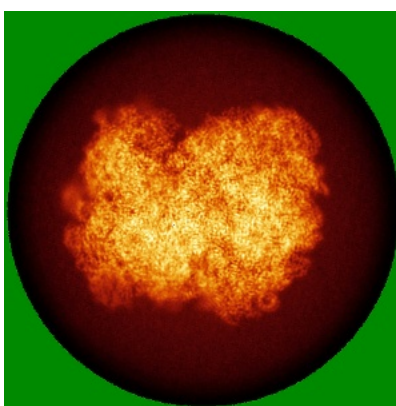
The images above show the largest variance slices of the map in three orthogonal directions.

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

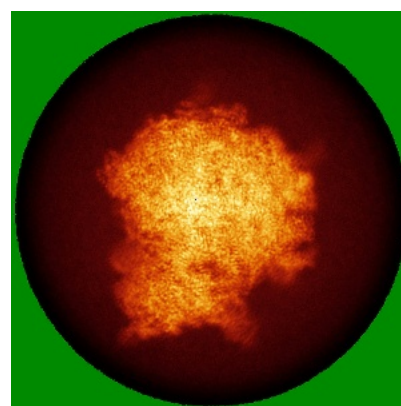
6.4.1 Primary map



X



Y

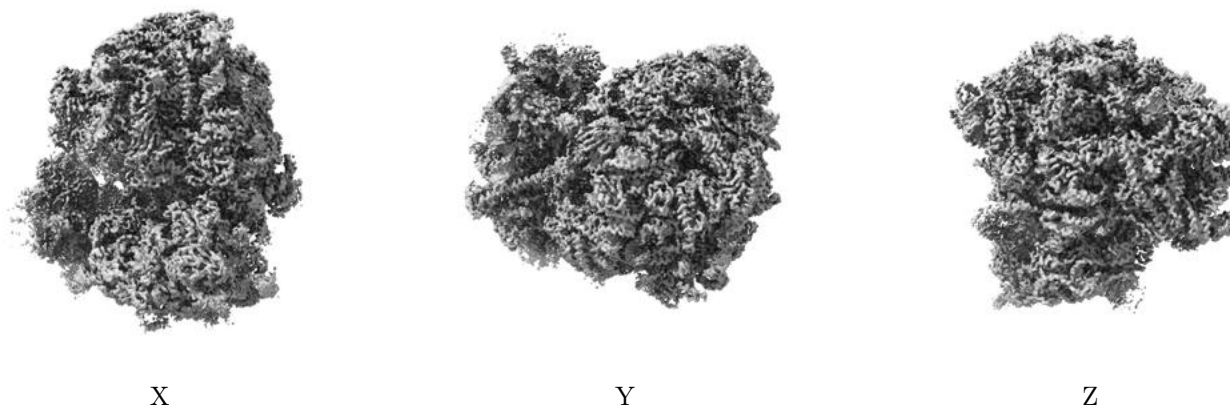


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

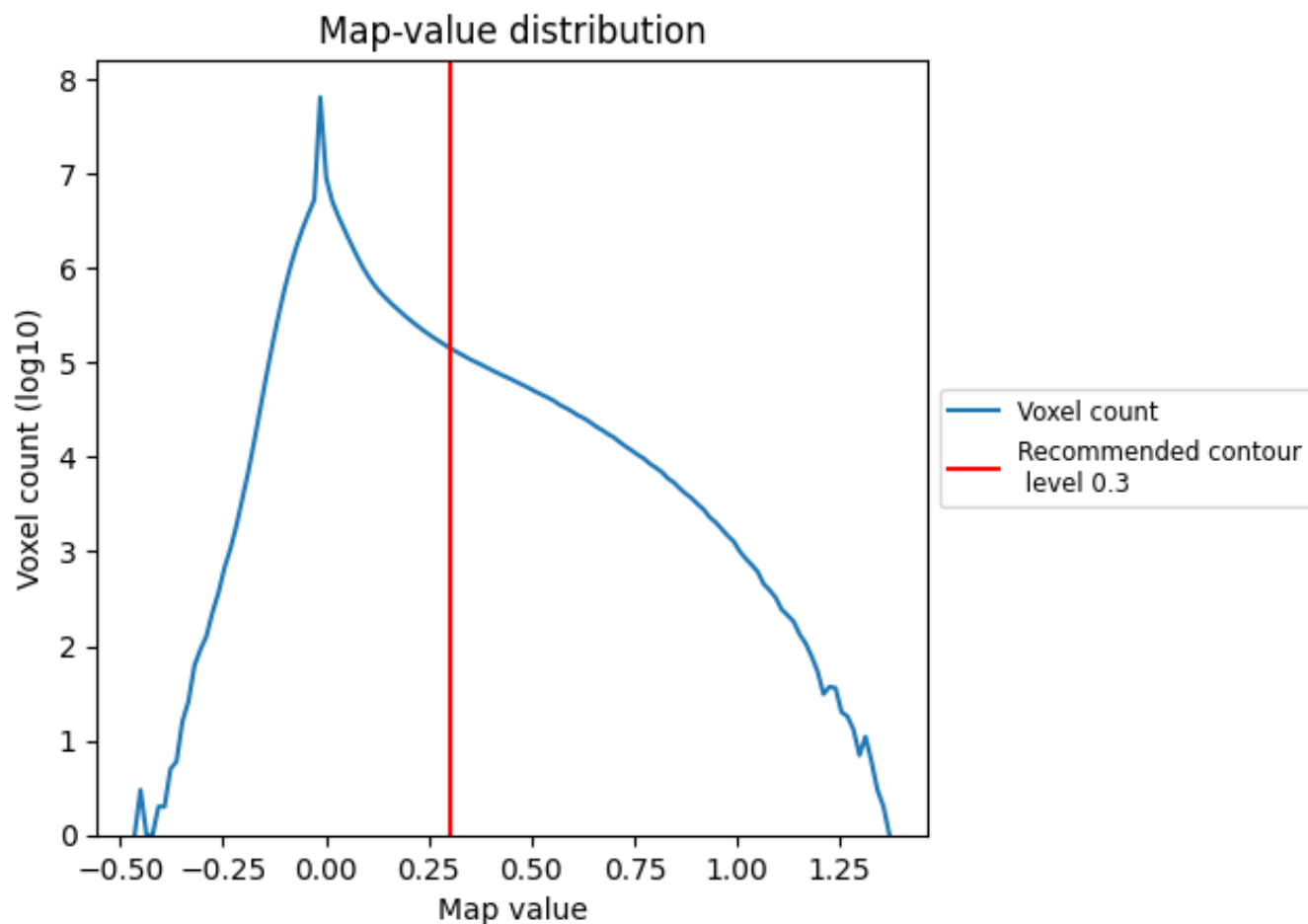
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

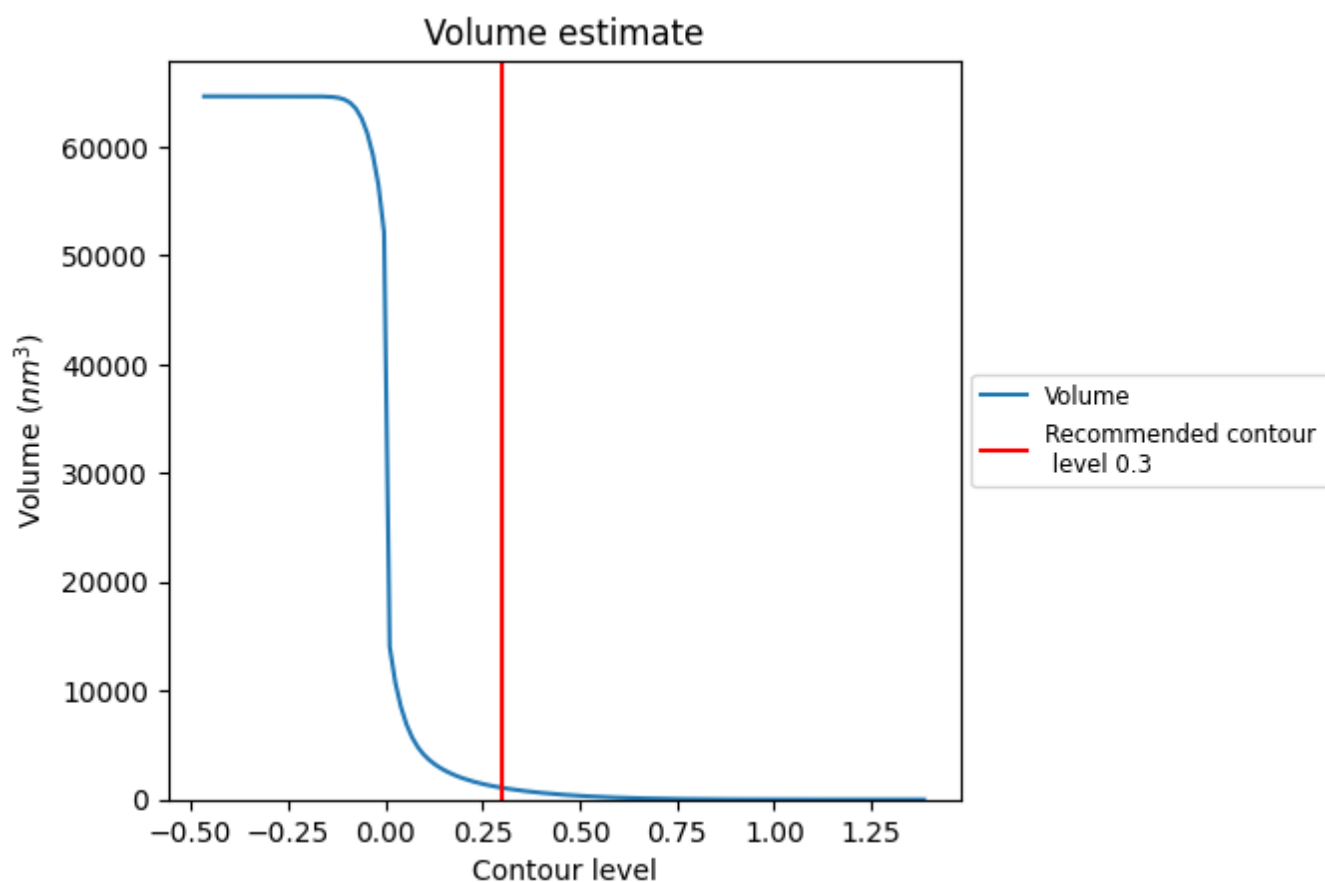
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

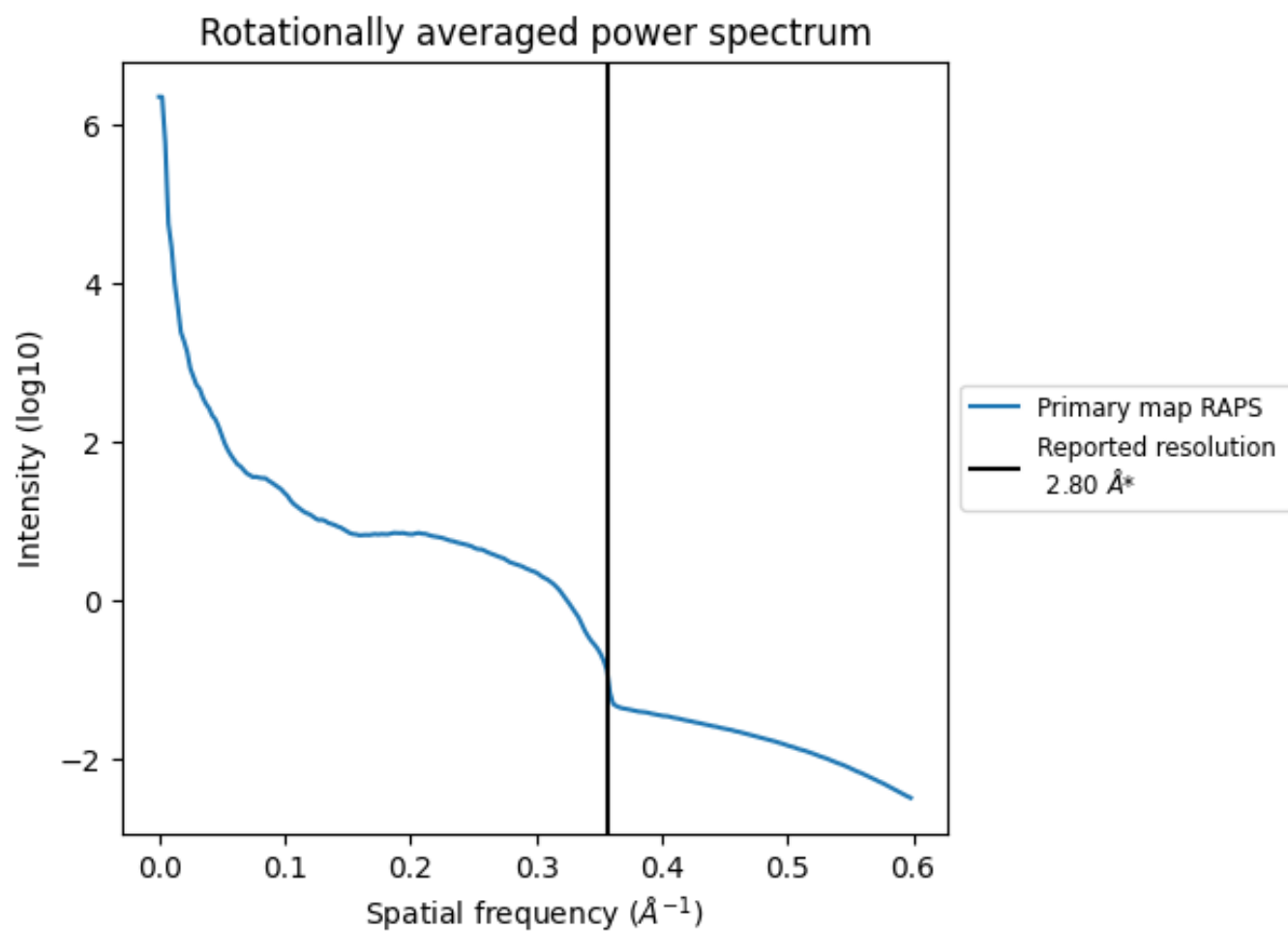
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1085 nm³; this corresponds to an approximate mass of 980 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 0.357 Å⁻¹

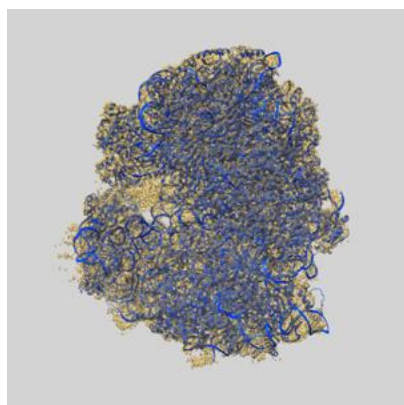
8 Fourier-Shell correlation

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

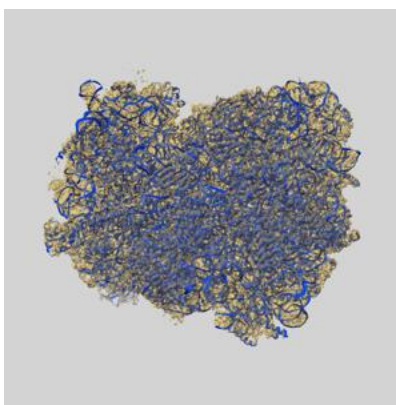
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-55657 and PDB model 9T7T. Per-residue inclusion information can be found in section [3](#) on page [21](#).

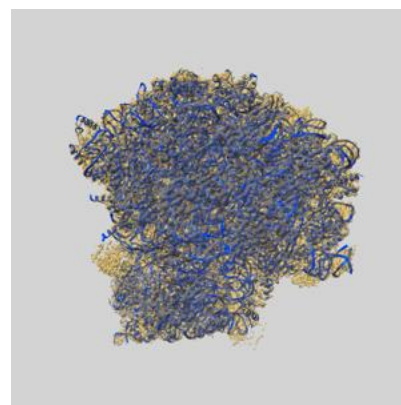
9.1 Map-model overlay [i](#)



X



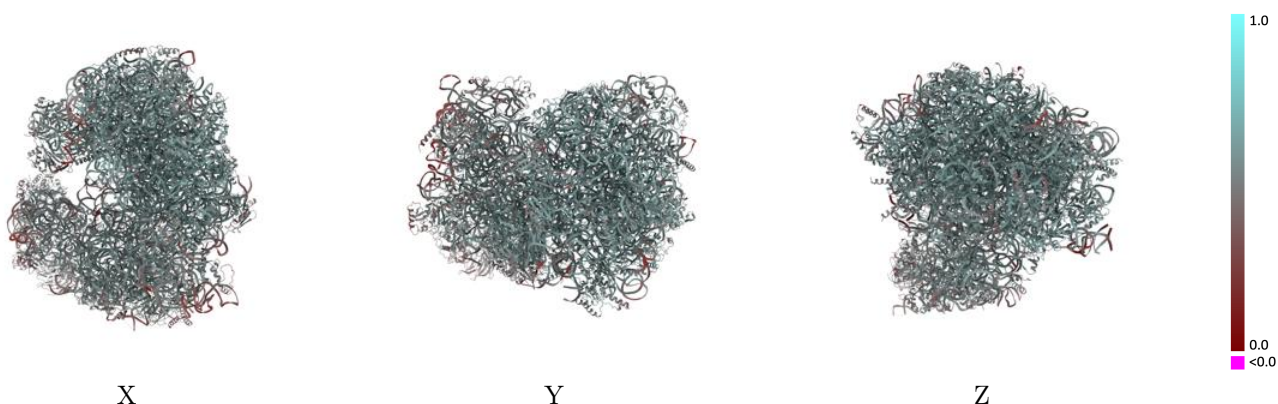
Y



Z

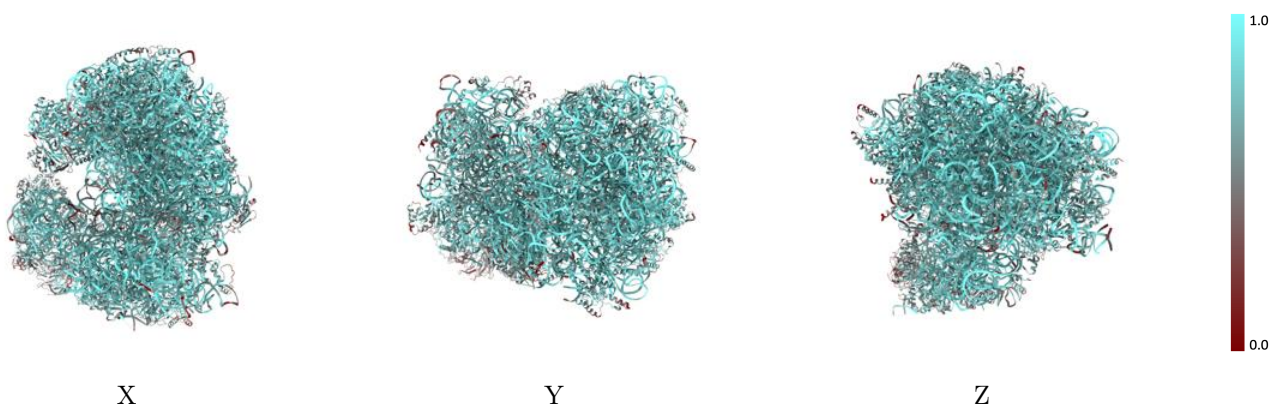
The images above show the 3D surface view of the map at the recommended contour level 0.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



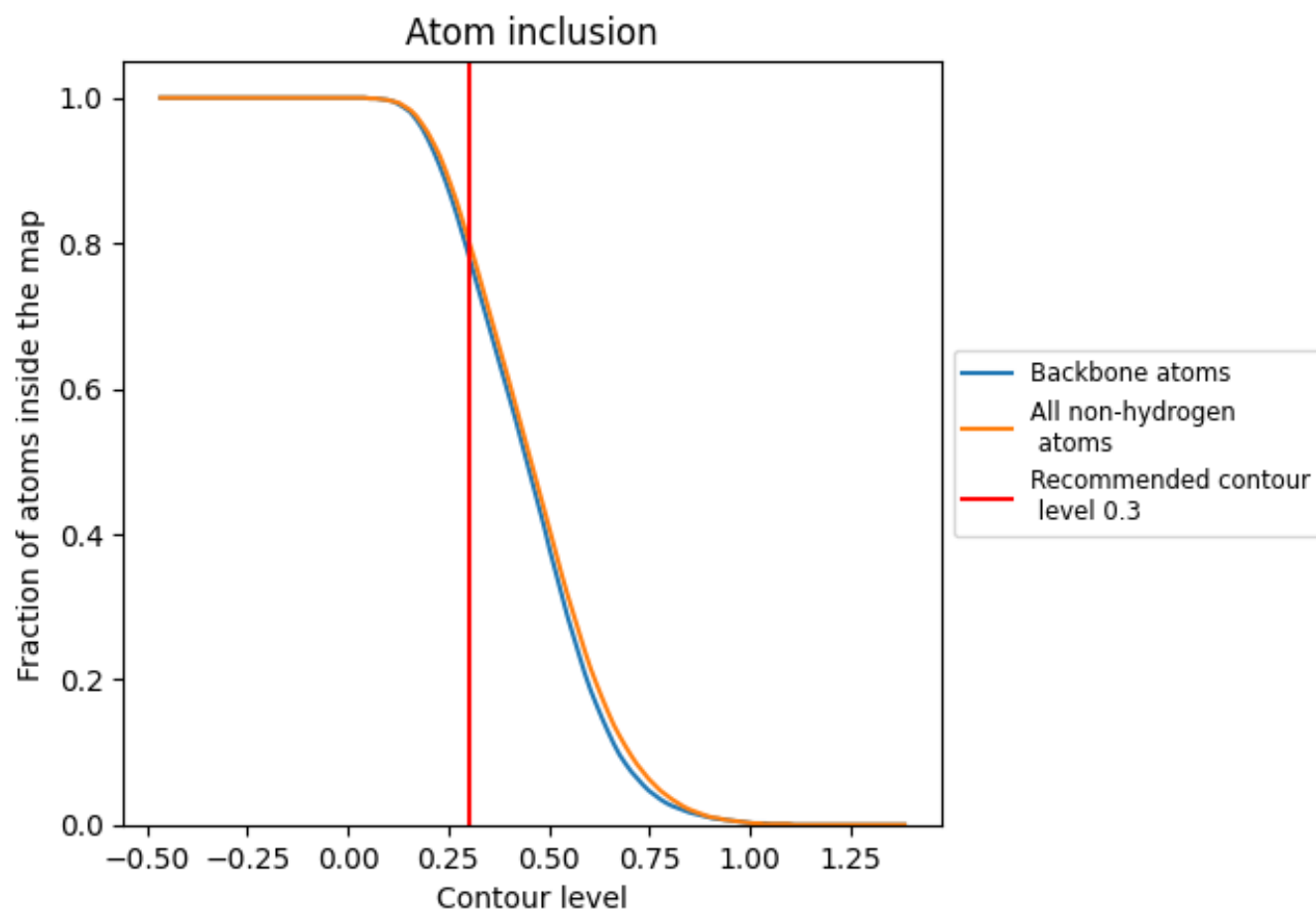
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.3).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 81% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8060	 0.5400
1	 0.6800	 0.4540
2	 0.7620	 0.5260
3	 0.3590	 0.4440
A	 0.9090	 0.5600
B	 0.9240	 0.5540
C	 0.9230	 0.5690
CA	 0.8700	 0.5110
D	 0.8100	 0.5950
E	 0.8030	 0.5870
F	 0.7870	 0.5740
G	 0.7020	 0.5150
H	 0.6860	 0.5240
I	 0.7580	 0.5660
J	 0.6750	 0.5320
K	 0.6630	 0.5610
L	 0.7090	 0.5700
M	 0.6140	 0.5030
N	 0.7700	 0.5640
O	 0.7250	 0.5580
P	 0.8330	 0.6030
Q	 0.7690	 0.5850
R	 0.8170	 0.5880
S	 0.8100	 0.5790
T	 0.7740	 0.5570
U	 0.7500	 0.5780
V	 0.7170	 0.5690
W	 0.5580	 0.4650
X	 0.7150	 0.5780
Y	 0.7770	 0.5840
Z	 0.7660	 0.5650
ZA	 0.6690	 0.5130
ZB	 0.7120	 0.5090
ZC	 0.6300	 0.4460
ZD	 0.7270	 0.5480



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Chain	Atom inclusion	Q-score
ZE	 0.7740	 0.5470
ZF	 0.6360	 0.4950
ZG	 0.6630	 0.4960
ZH	 0.6490	 0.4970
ZI	 0.6270	 0.4820
ZJ	 0.6890	 0.5010
ZK	 0.6910	 0.5020
ZL	 0.5960	 0.4820
ZM	 0.7600	 0.5440
ZO	 0.7960	 0.5690
ZP	 0.7080	 0.5640
ZQ	 0.6680	 0.4900
ZR	 0.4730	 0.4680
ZS	 0.2860	 0.4920
ZT	 0.7430	 0.5210
ZU	 0.5290	 0.4760
ZV	 0.8130	 0.5300
ZW	 0.5620	 0.4670
ZY	 0.4090	 0.4190
a	 0.7570	 0.5550
b	 0.7080	 0.5330
c	 0.8200	 0.5880
d	 0.7020	 0.5420
e	 0.7270	 0.5390
f	 0.7490	 0.5640
g	 0.7730	 0.5840
h	 0.7930	 0.5970
i	 0.7360	 0.5630
j	 0.7260	 0.5520
k	 0.6750	 0.5430
l	 0.8440	 0.6060
m	 0.6050	 0.5250
n	 0.7180	 0.5760
o	 0.7190	 0.5770
p	 0.1620	 0.3790
q	 0.7420	 0.5820
r	 0.7780	 0.5890
s	 0.7260	 0.5170
t	 0.6110	 0.4880
u	 0.7750	 0.5540
v	 0.6170	 0.4950
w	 0.7400	 0.5180

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Chain	Atom inclusion	Q-score
x	 0.5740	 0.4880
y	 0.5910	 0.4780
z	 0.6400	 0.4620