Full wwPDB EM Validation Report ⓘ

Oct 28, 2025 – 04:22 pm GMT

PDB ID	:	9H4N / pdb_00009h4n
EMDB ID	:	EMD-51865
Title	:	RPL13 (eL13)-mutant 80S ribosome from mouse
Authors	:	Orgebin, E.; Astier, A.; Rinaldi, D.; Baud'huin, M.; Plisson-Chastang, C.
Deposited on	:	2024-10-21
Resolution	:	2.46 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:

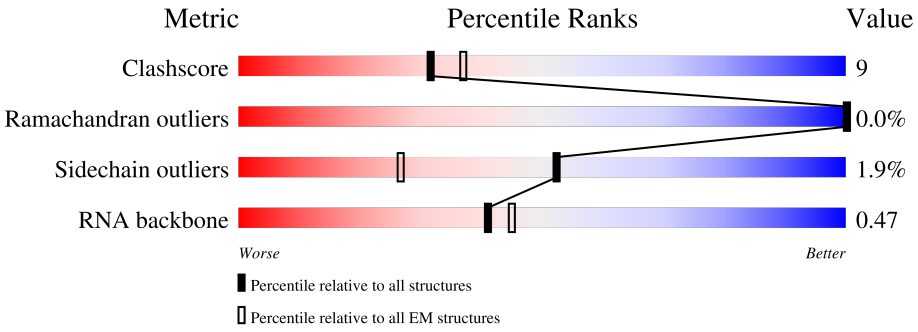
EMDB validation analysis	:	0.0.1.dev129
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

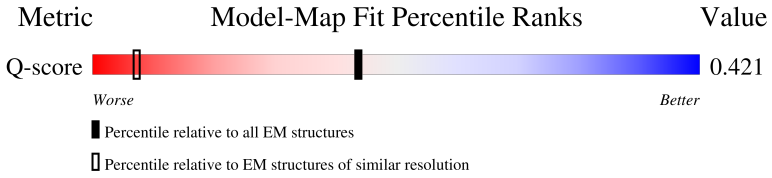
1 Overall quality at a glance

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

The reported resolution of this entry is 2.46 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	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	6014 (1.96 - 2.96)

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 <=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	A1	222	5% 81% 18%
2	B1	232	23% 79% 16%
3	C1	190	88% 12%

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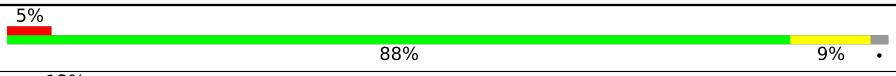
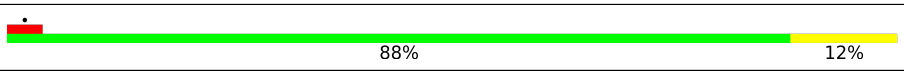
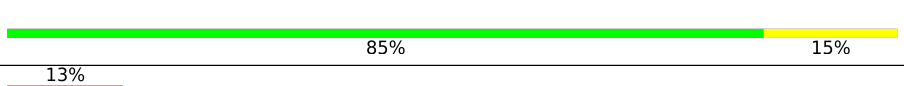
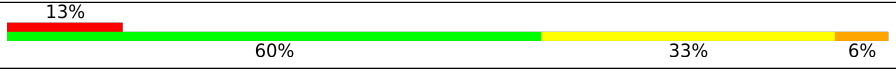
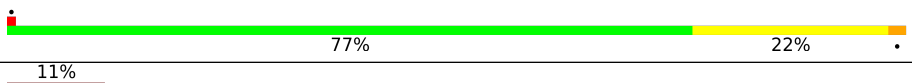
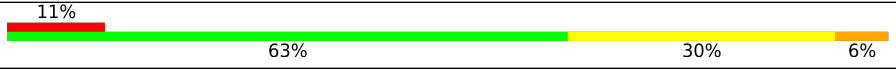
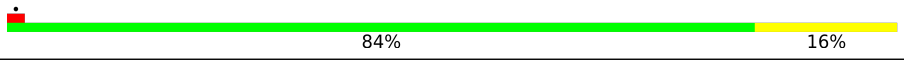
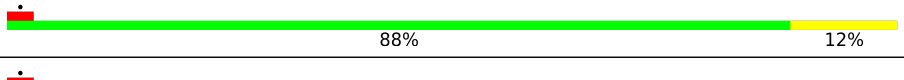
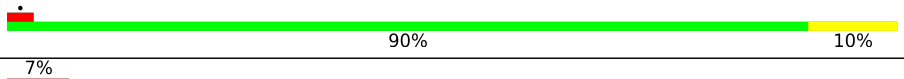
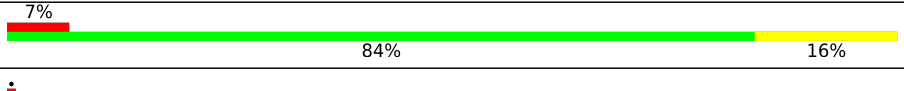
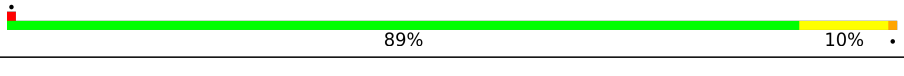
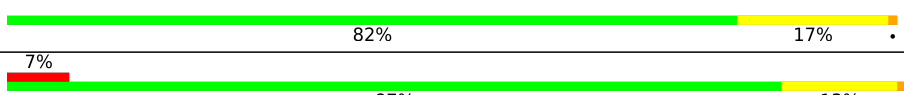
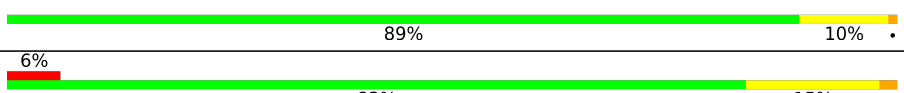
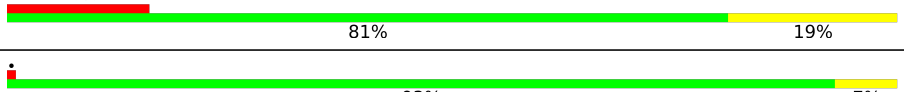
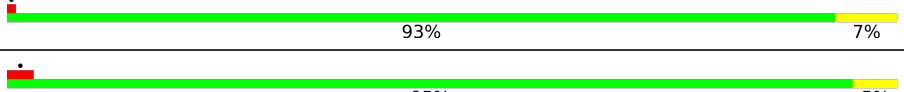
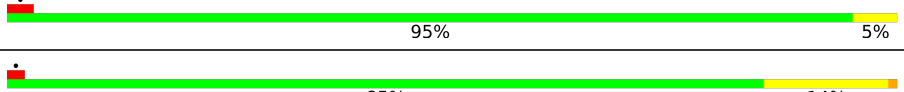
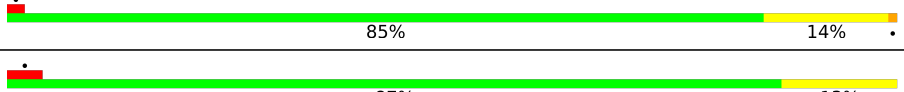
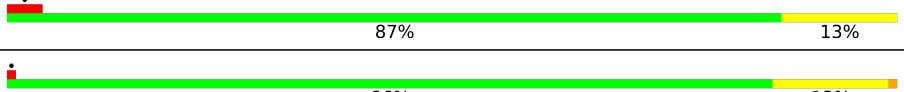
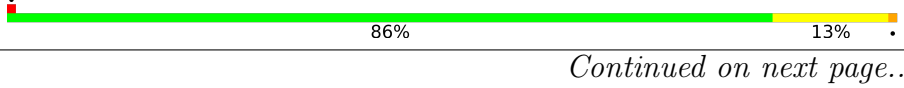
Mol	Chain	Length	Quality of chain
4	D1	213	
5	E1	174	
6	F1	203	
7	G1	139	
8	H1	203	
9	A2	3609	
10	B2	120	
11	C2	156	
12	D2	251	
13	E2	402	
14	F2	359	
15	G2	293	
16	H2	221	
17	I2	201	
18	J2	153	
19	K2	186	
20	L2	164	
21	M2	175	
22	N2	159	
23	O2	101	
24	P2	129	
25	Q2	62	
26	R2	118	
27	S2	134	
28	T2	135	

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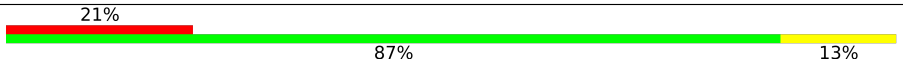
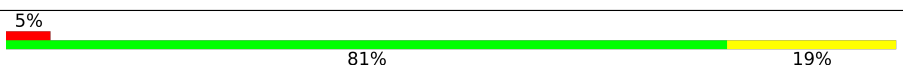
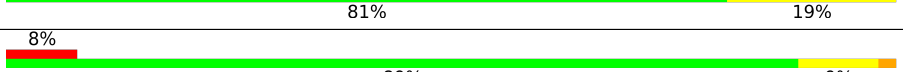
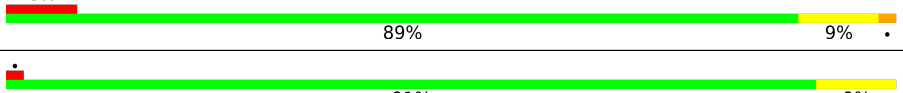
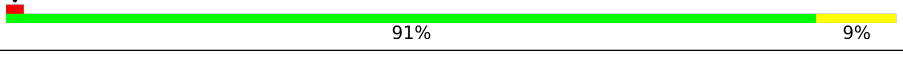
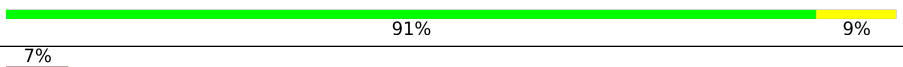
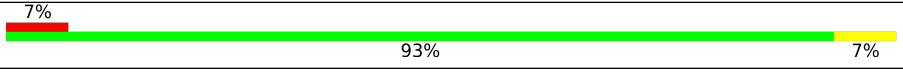
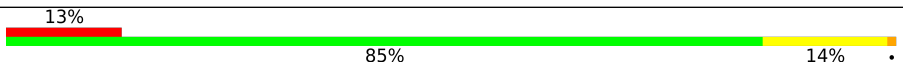
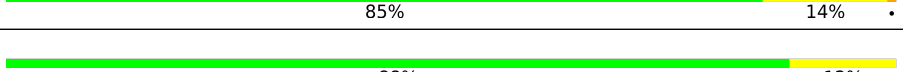
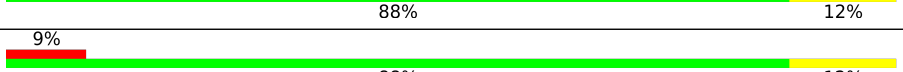
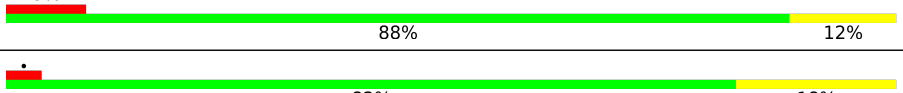
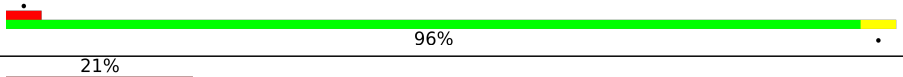
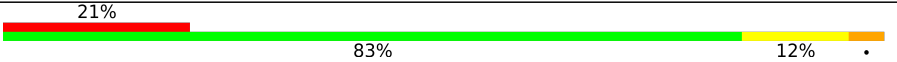
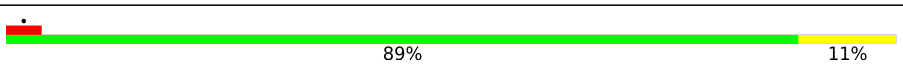
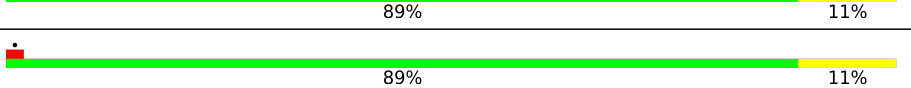
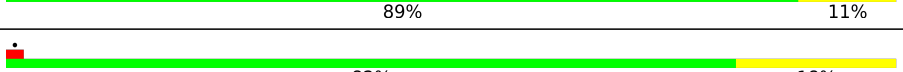
Mol	Chain	Length	Quality of chain
29	U2	147	
30	V2	117	
31	W2	94	
32	X2	107	
33	Y2	128	
34	Z2	109	
35	a2	114	
36	b2	120	
37	c2	102	
38	d2	86	
39	e2	69	
40	f2	50	
41	g2	52	
42	h2	24	
43	i2	103	
44	j2	89	
45	k2	125	
46	m2	1724	
47	n2	75	
48	p2	214	
49	q2	226	
50	r2	262	
51	w2	153	
52	z2	110	
53	o2	214	

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Mol	Chain	Length	Quality of chain
54	s2	142	89% 82% 17%
55	v2	58	91% 78% 21%
56	x2	130	85% 66% 33%
57	y2	144	83% 70% 30%
58	A3	144	91% 83% 17%
59	B3	141	86% 73% 27%
60	C3	16	69% 75% 25%
61	D3	83	72% 86% 14%
62	E3	141	78% 70% 28%
63	G3	7	100% 86% 14%
64	H3	54	57% 69% 31%
65	I3	169	98% 85% 15%
66	J3	222	54% 76% 23%
67	K3	187	96% 84% 16%
68	L3	185	87% 78% 22%
69	N3	150	74% 79% 21%
70	P3	129	38% 73% 27%
71	Q3	129	98% 83% 16%
72	S3	83	77% 72% 28%
73	T3	41	93% 95% 5%
74	Bx	10	60% 30% 60% 10%
75	F3	97	32% 26% 63% 10%
76	O3	133	71% 57% 39%

2 Entry composition (i)

There are 79 unique types of molecules in this entry. The entry contains 204064 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A1	222	1851	1190	356	297	8	1	0

- Molecule 2 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B1	223	1812	1156	351	301	4	1	0

- Molecule 3 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C1	190	1519	956	284	273	6	0	0

- Molecule 4 is a protein called Large ribosomal subunit protein uL16-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D1	208	1690	1073	327	278	12	0	0

- Molecule 5 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E1	174	1397	880	260	251	6	0	0

- Molecule 6 is a protein called Large ribosomal subunit protein eL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F1	199	1606	1003	333	266	4	0	0

- Molecule 7 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G1	139	Total	C	N	O	S	0	0
			1143	732	221	183	7		

- Molecule 8 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H1	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 9 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	A2	3609	Total	C	N	O	P	0	0
			77352	34465	14112	25167	3608		

- Molecule 10 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	B2	120	Total	C	N	O	P	0	0
			2558	1141	456	842	119		

- Molecule 11 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	C2	156	Total	C	N	O	P	0	0
			3314	1480	585	1094	155		

- Molecule 12 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	D2	251	Total	C	N	O	S	0	0
			1921	1204	393	318	6		

- Molecule 13 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	E2	402	Total	C	N	O	S	0	0
			3238	2060	609	555	14		

- Molecule 14 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	F2	359	Total	C	N	O	S	0	0
			2867	1803	573	476	15		

- Molecule 15 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	G2	293	Total	C	N	O	S	0	0
			2389	1509	441	425	14		

- Molecule 16 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	H2	221	Total	C	N	O	S	0	0
			1789	1145	342	298	4		

- Molecule 17 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	I2	201	Total	C	N	O	S	0	0
			1640	1055	320	259	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
18	J2	153	Total	C	N	O	S	0	0
			1242	777	241	215	9		

- Molecule 19 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	K2	186	Total	C	N	O	S	0	0
			1511	946	313	248	4		

- Molecule 20 is a protein called Large ribosomal subunit protein eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	L2	164	Total	C	N	O	S	0	0
			1367	849	295	214	9		

- Molecule 21 is a protein called Large ribosomal subunit protein eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	M2	175	Total	C	N	O	S	0	0
			1450	924	283	233	10		

- Molecule 22 is a protein called Large ribosomal subunit protein eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	N2	159	Total	C	N	O	S	0	0
			1299	824	252	217	6		

- Molecule 23 is a protein called Large ribosomal subunit protein eL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	O2	101	Total	C	N	O	S	0	0
			825	529	144	150	2		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
24	P2	129	Total	C	N	O	S	0	0
			969	613	182	169	5		

- Molecule 25 is a protein called Large ribosomal subunit protein eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Q2	62	Total	C	N	O	S	0	0
			519	332	101	83	3		

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	R2	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 27 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	S2	134	Total	C	N	O	S	0	0
			1115	700	226	186	3		

- Molecule 28 is a protein called Large ribosomal subunit protein eL27.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	T2	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 29 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	U2	147	Total	C	N	O	S	0	0
			1164	736	239	185	4		

- Molecule 30 is a protein called Large ribosomal subunit protein eL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	V2	117	Total	C	N	O	S	0	0
			945	596	198	146	5		

- Molecule 31 is a protein called Large ribosomal subunit protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	W2	94	Total	C	N	O	S	0	0
			732	465	130	131	6		

- Molecule 32 is a protein called Large ribosomal subunit protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	X2	107	Total	C	N	O	S	0	0
			888	560	171	155	2		

- Molecule 33 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Y2	128	Total	C	N	O	S	0	0
			1053	667	216	165	5		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Z2	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	a2	114	Total	C	N	O	S	0	0
			906	565	187	148	6		

- Molecule 36 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	b2	120	Total	C	N	O	S	0	0
			1001	634	201	165	1		

- Molecule 37 is a protein called Large ribosomal subunit protein eL36.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	c2	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 38 is a protein called Large ribosomal subunit protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	d2	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	e2	69	Total	C	N	O	S	0	0
			568	365	103	99	1		

- Molecule 40 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	f2	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 41 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	g2	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 42 is a protein called Small ribosomal subunit protein eS32.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	h2	24	Total	C	N	O	S	0	0
			230	139	62	26	3		

- Molecule 43 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	i2	103	Total	C	N	O	S	0	0
			842	528	172	136	6		

- Molecule 44 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	j2	89	Total	C	N	O	S	0	0
			694	436	133	118	7		

- Molecule 45 is a protein called Large ribosomal subunit protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	k2	125	Total	C	N	O	S	0	0
			1001	621	207	168	5		

- Molecule 46 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	m2	1724	Total	C	N	O	P	0	0
			36794	16425	6605	12041	1723		

- Molecule 47 is a RNA chain called Transfer RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	n2	75	Total	C	N	O	P	0	0
			1604	717	298	515	74		

- Molecule 48 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	p2	214	Total	C	N	O	S	0	0
			1738	1103	310	311	14		

- Molecule 49 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	q2	226	Total	C	N	O	S	0	0
			1756	1119	316	314	7		

- Molecule 50 is a protein called Small ribosomal subunit protein eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	r2	262	Total	C	N	O	S	0	0
			2076	1324	386	358	8		

- Molecule 51 is a protein called Small ribosomal subunit protein uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	w2	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 52 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	z2	110	Total	C	N	O	S	0	0
			874	548	161	162	3		

- Molecule 53 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	o2	214	Total	C	N	O	S	0	0
			1694	1077	297	312	8		

- Molecule 54 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	s2	142	Total	C	N	O	S	0	0
			1117	690	224	196	7		

- Molecule 55 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	v2	58	Total	C	N	O	S	0	0
			487	317	89	76	5		

- Molecule 56 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	x2	130	Total	C	N	O	S	0	0
			1073	681	205	180	7		

- Molecule 57 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	y2	144	Total	C	N	O	S	0	0
			1143	726	216	198	3		

- Molecule 58 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	A3	144	Total	C	N	O	S	0	0
			1190	746	241	202	1		

- Molecule 59 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	B3	141	Total	C	N	O	S	0	0
			1104	691	215	196	2		

- Molecule 60 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms				AltConf	Trace
60	C3	16	Total	C	N	O	0	0
			122	75	21	26		

- Molecule 61 is a protein called Small ribosomal subunit protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	D3	83	Total	C	N	O	S	0	0
			638	392	119	122	5		

- Molecule 62 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	E3	141	Total	C	N	O	S	0	0
			1098	693	219	183	3		

- Molecule 63 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	G3	7	Total	C	N	O	S	0	0
			49	28	9	11	1		

- Molecule 64 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	H3	54	Total	C	N	O	S	0	0
			455	284	93	73	5		

- Molecule 65 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	I3	169	Total	C	N	O	S	0	0
			1320	831	235	248	6		

- Molecule 66 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	J3	222	Total	C	N	O	S	0	0
			1725	1116	298	302	9		

- Molecule 67 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	K3	187	Total	C	N	O	S	0	0
			1519	949	311	252	7		

- Molecule 68 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	L3	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 69 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	N3	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 70 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	P3	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 71 is a protein called Small ribosomal subunit protein eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Q3	129	Total	C	N	O	S	0	0
			1049	662	206	176	5		

- Molecule 72 is a protein called Small ribosomal subunit protein eS27-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	S3	83	Total	C	N	O	S	0	0
			652	409	121	115	7		

- Molecule 73 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	T3	41	Total	C	N	O	S	0	0
			327	197	74	55	1		

- Molecule 74 is a RNA chain called Messenger RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Bx	10	Total	C	N	O	P	0	0
			200	90	20	80	10		

- Molecule 75 is a protein called Small ribosomal subunit protein eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	F3	97	Total	C	N	O	S	0	0
			774	481	160	128	5		

- Molecule 76 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	O3	133	Total	C	N	O	S	0	0
			993	606	196	185	6		

- Molecule 77 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
77	d2	1	Total Zn 1 1	0
77	g2	1	Total Zn 1 1	0
77	i2	1	Total Zn 1 1	0
77	j2	1	Total Zn 1 1	0
77	H3	1	Total Zn 1 1	0
77	F3	1	Total Zn 1 1	0

- Molecule 78 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	AltConf
78	H3	1	Total Mg 1 1	0

- Molecule 79 is water.

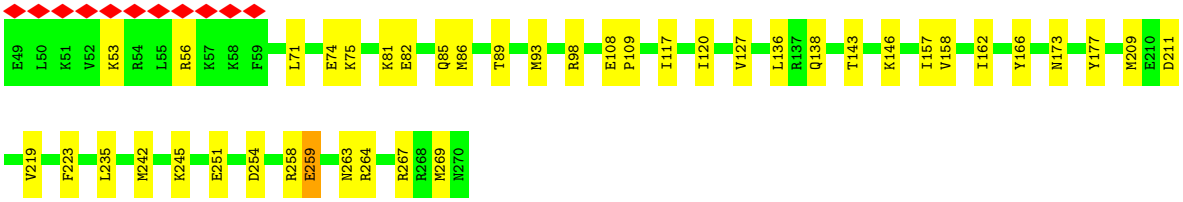
Mol	Chain	Residues	Atoms	AltConf
79	B1	1	Total O 1 1	0
79	A2	1	Total O 1 1	0
79	m2	2	Total O 2 2	0

3 Residue-property plots (i)

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

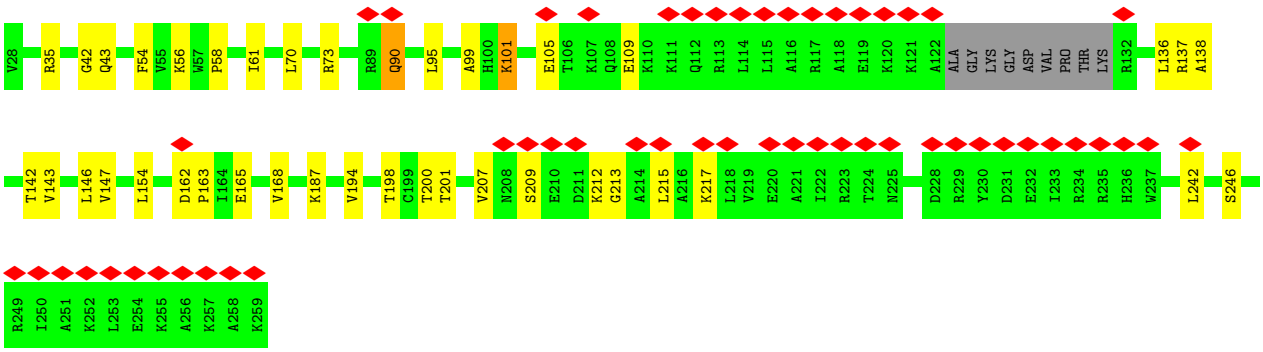
• Molecule 1: Large ribosomal subunit protein uL30

Chain A1:



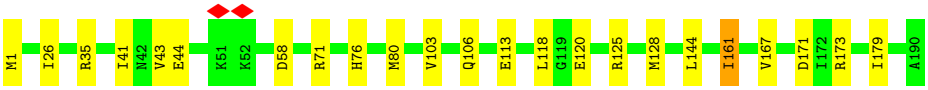
• Molecule 2: Large ribosomal subunit protein eL8

Chain B1:



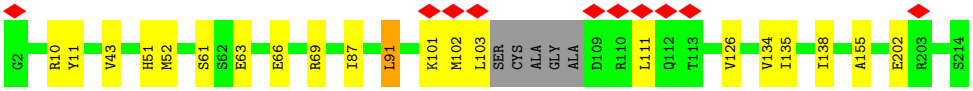
• Molecule 3: Large ribosomal subunit protein uL6

Chain C1:



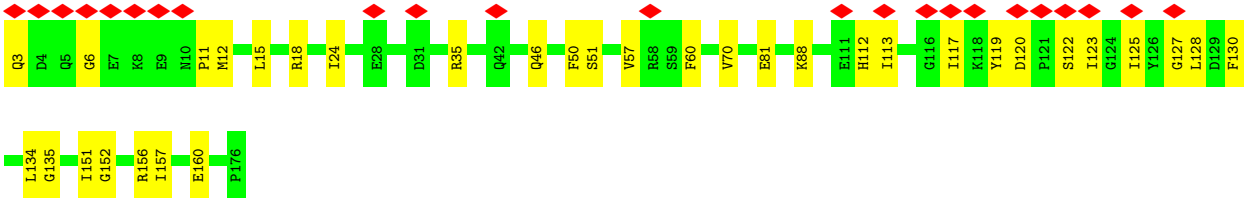
• Molecule 4: Large ribosomal subunit protein uL16-like

Chain D1:



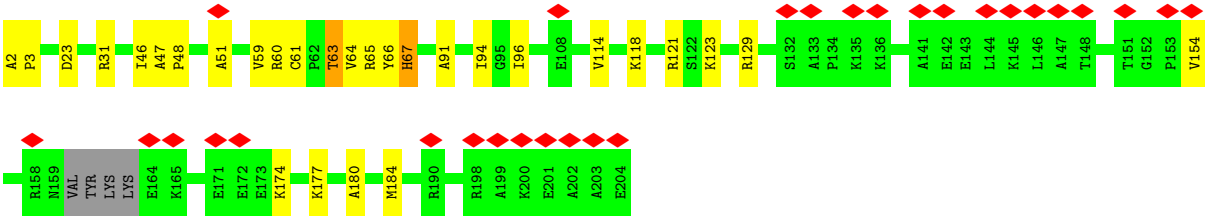
• Molecule 5: Large ribosomal subunit protein uL5

Chain E1:



• Molecule 6: Large ribosomal subunit protein eL13

Chain F1:



• Molecule 7: 60S ribosomal protein L14

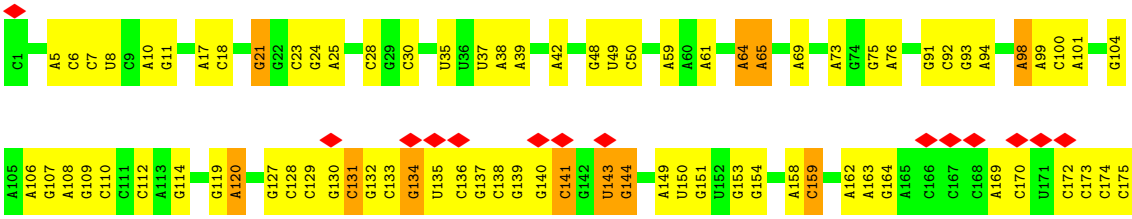
Chain G1:

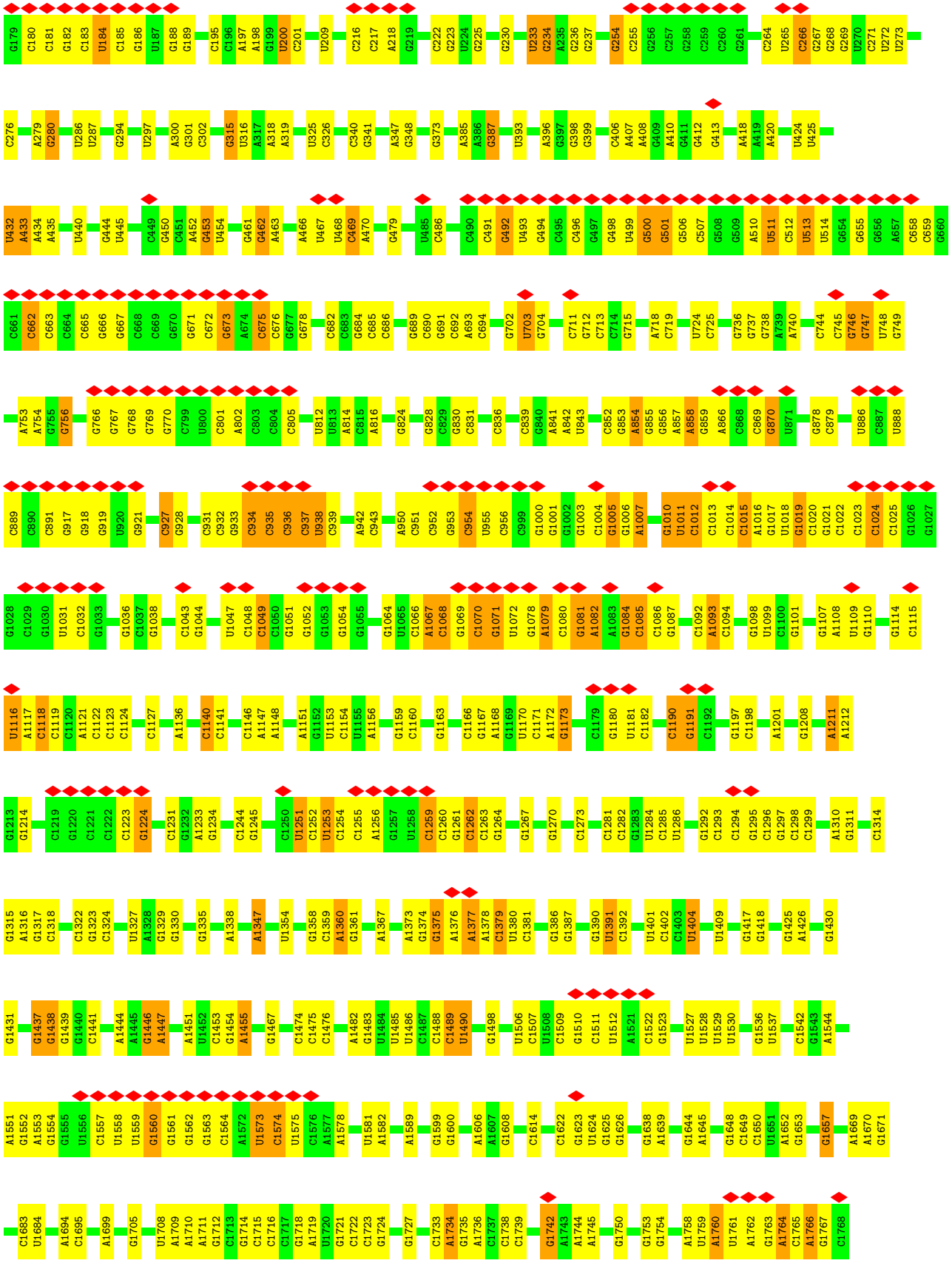
• Molecule 8: 60S ribosomal protein L15

Chain H1:

• Molecule 9: 28S ribosomal RNA

Chain A2:

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C889 C890 C891 G917 G918 G919 U920 G921 C927 G928 C931 C932 G933 C934 C935 C936 C937 U938 C939 A942 C943 A950 C951 C952 G953 C954 U955 C956 C999 G1000 G1001 G1002 G1003 C1004 G1005 G1006 A1007 G1010 U1011 C1012 C1013 C1014 C1015 A1016 G1017 U1018 G1019 C1020 G1021 C1022 C1023 C1024 C1025 G1026 G1027
G1028 C1029 G1030 U1031 C1032 G1033 G1036 C1037 G1038 C1043 G1044 U1047 C1048 C1049 C1050 G1051 C1052 G1053 G1054 G1055 G1064 U1065 C1066 A1067 C1068 G1069 C1070 G1071 U1072 G1078 A1079 C1080 G1081 A1082 A1083 G1084 C1085 C1086 G1087 C1092 A1093 C1094 G1098 U1099 C1100 G1101 G1107 A1108 U1109 G1110 G1114 C1115
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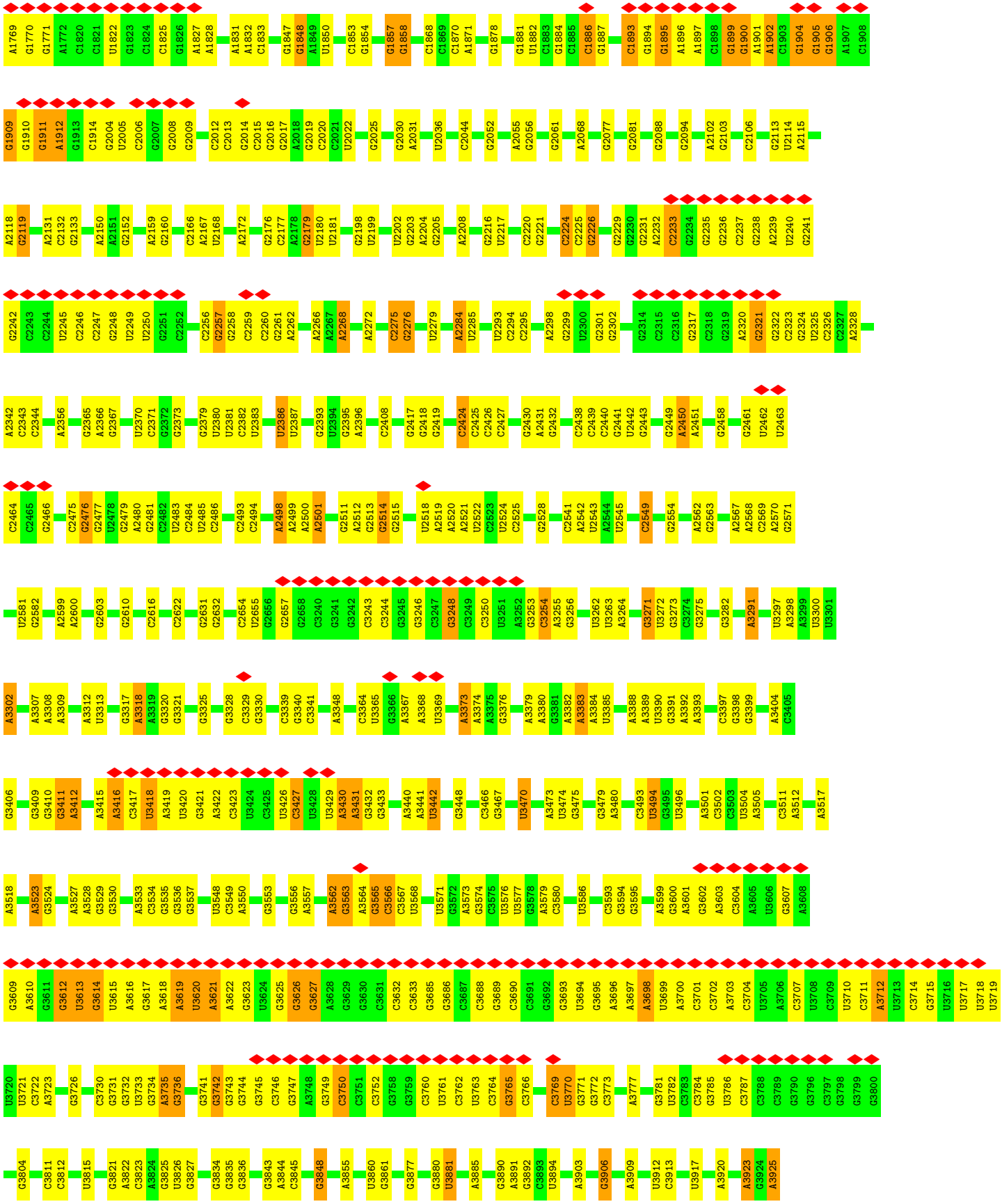
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C1893 G1894 G1895 A1896 A1897 C1898 G1899 G1900 A1901 A1902 C1903 G1904 G1905 G1906 A1907 C1908
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A2118 G2119 A2131 C2132 C2133 A2150 A2151 G2152 A2159 G2160 C2166 A2167 U2168 A2172 C2176 C2177 A2178 C2179 U2180 U2181 G2198 U2199 U2202 G2203 A2204 G2205 A2208 G2216 U2217 C2220 G2221 C2224 C2225 G2226 G2229 G2230 G2231 A2232 C2233 G2234 C2235 G2236 C2237 G2238 A2239 U2240 G2241
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G3406 G3409 G3410 G3411 A3412 A3415 A3416 C3417 U3418 A3419 U3420 G3421 A3422 C3423 U3424 C3425 U3426 G3427 U3428 U3429 A3430 A3431 G3432 G3433 A3440 A3441 U3442 G3448 C3466 G3467 U3470 A3473 U3474 G3475 G3479 A3480 C3493 U3494 G3495 U3496 A3501 C3502 C3503 U3504 A3505 C3511 A3512 A3517
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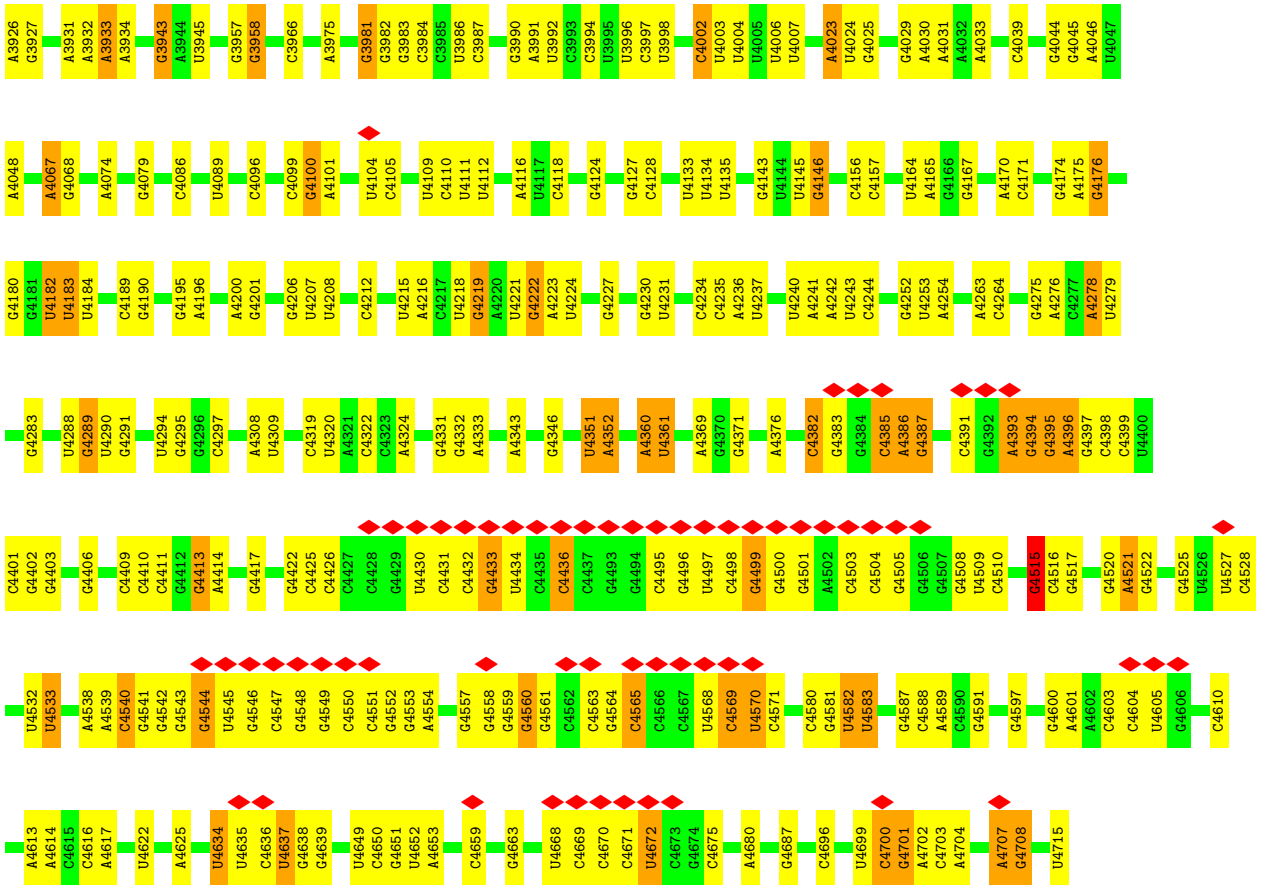
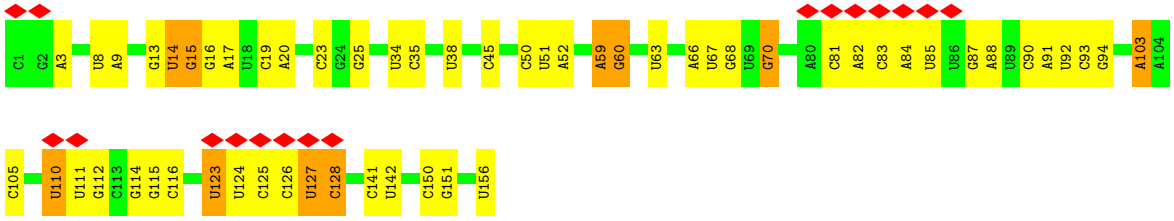


• Molecule 10: 5S ribosomal RNA

Chain B2:

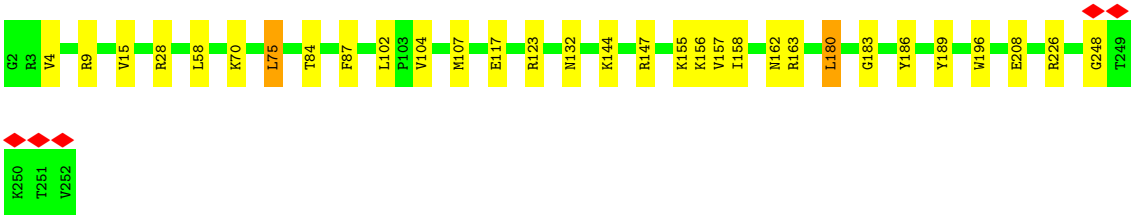
• Molecule 11: 5.8S ribosomal RNA

Chain C2:



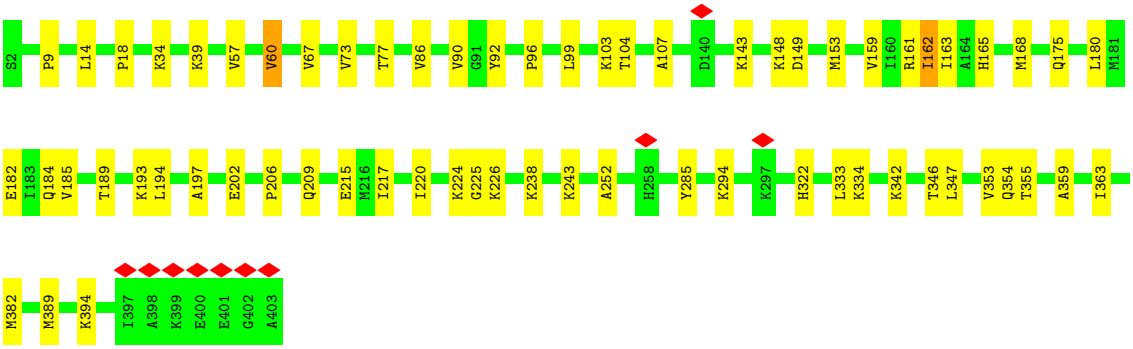
• Molecule 12: Large ribosomal subunit protein uL2

Chain D2:



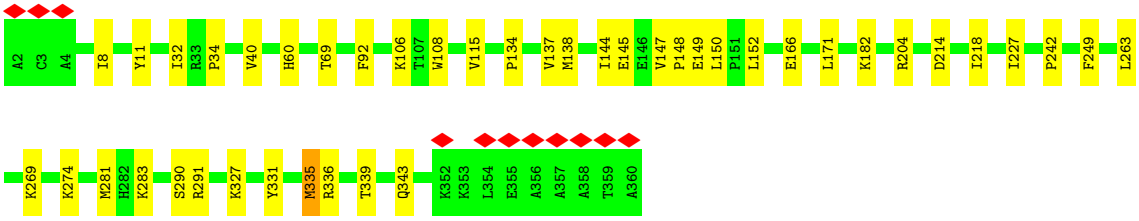
• Molecule 13: Large ribosomal subunit protein uL3

Chain E2:



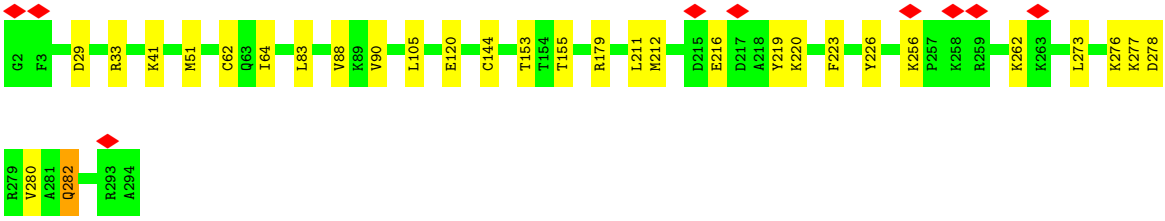
• Molecule 14: Large ribosomal subunit protein uL4

Chain F2:



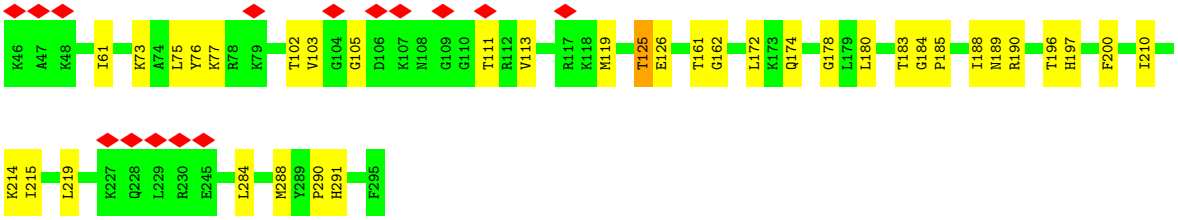
• Molecule 15: Large ribosomal subunit protein uL18

Chain G2:

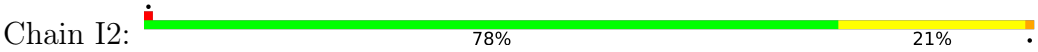


• Molecule 16: 60S ribosomal protein L6

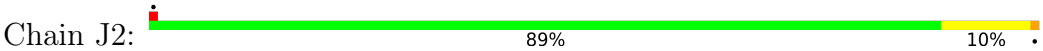
Chain H2:

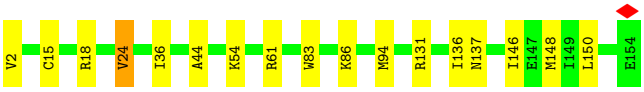


• Molecule 17: Large ribosomal subunit protein uL13

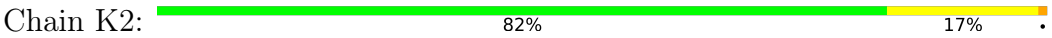


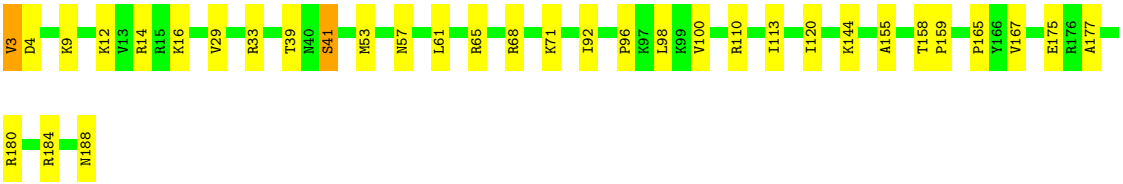
• Molecule 18: 60S ribosomal protein L17



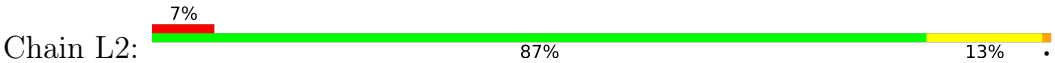


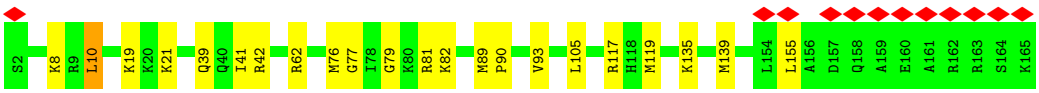
• Molecule 19: Large ribosomal subunit protein eL18



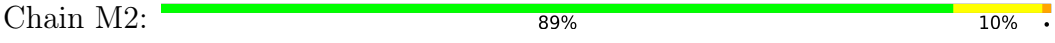


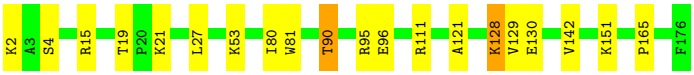
• Molecule 20: Large ribosomal subunit protein eL19





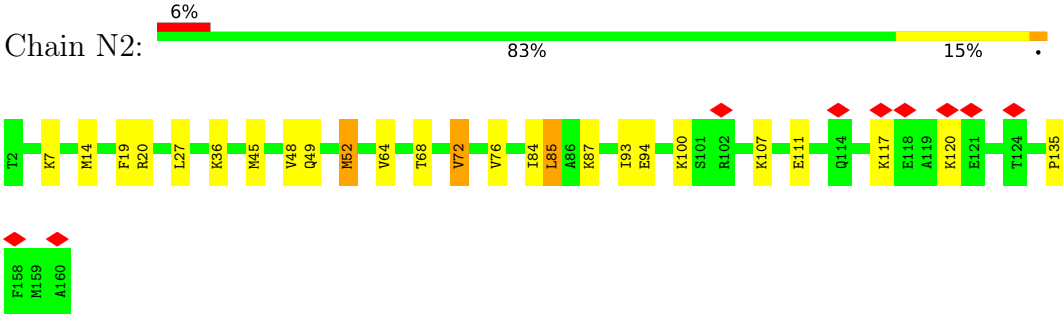
• Molecule 21: Large ribosomal subunit protein eL20





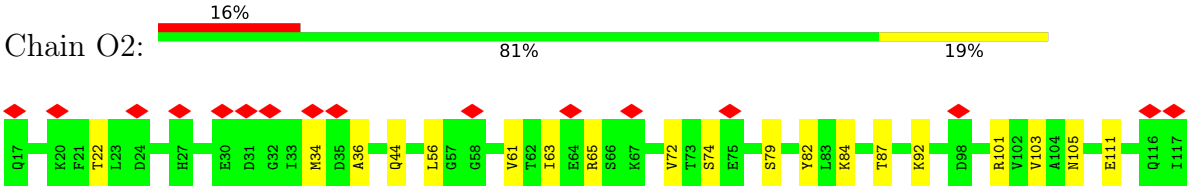
• Molecule 22: Large ribosomal subunit protein eL21

Chain N2:



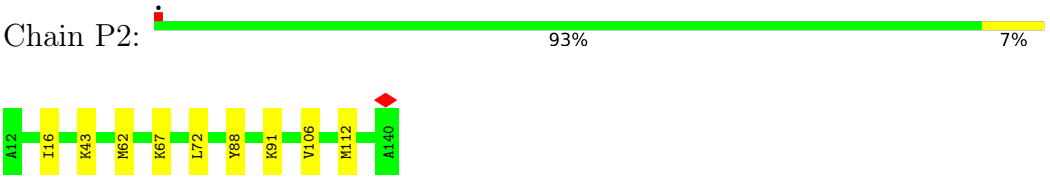
• Molecule 23: Large ribosomal subunit protein eL22

Chain O2:



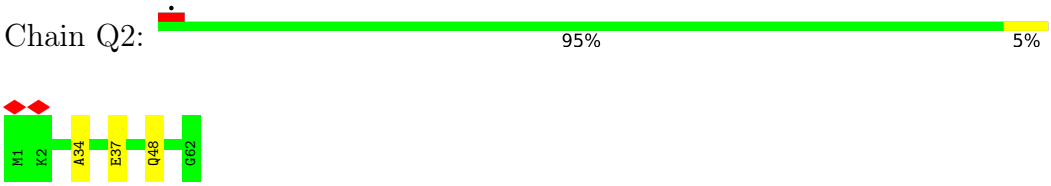
• Molecule 24: 60S ribosomal protein L23

Chain P2:



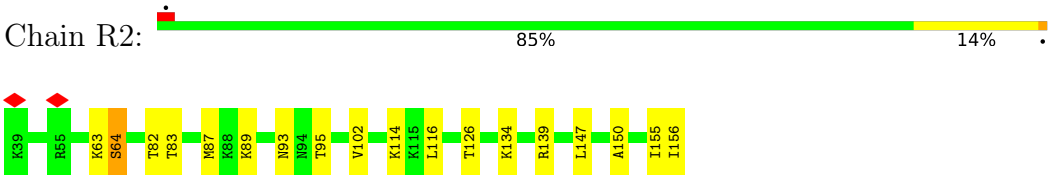
• Molecule 25: Large ribosomal subunit protein eL24

Chain Q2:



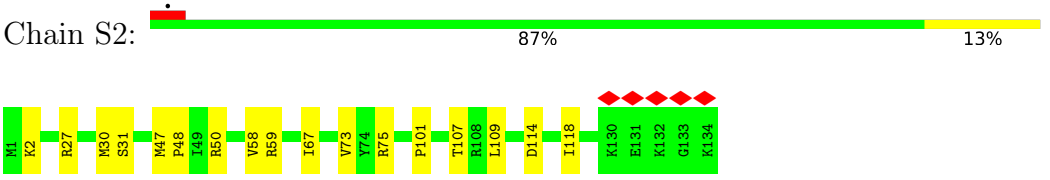
• Molecule 26: 60S ribosomal protein L23a

Chain R2:



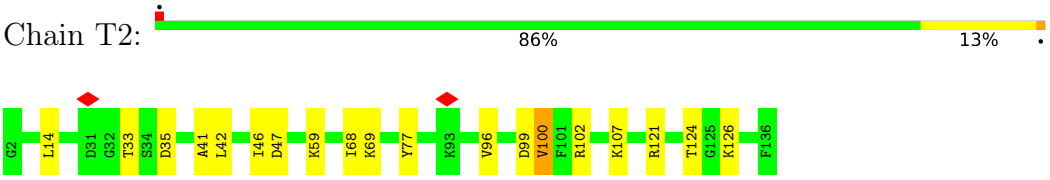
• Molecule 27: Large ribosomal subunit protein uL24

Chain S2:



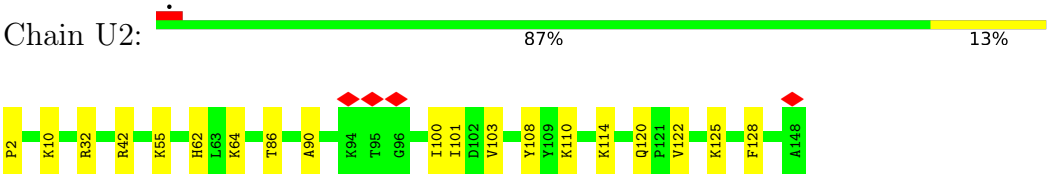
• Molecule 28: Large ribosomal subunit protein eL27

Chain T2:



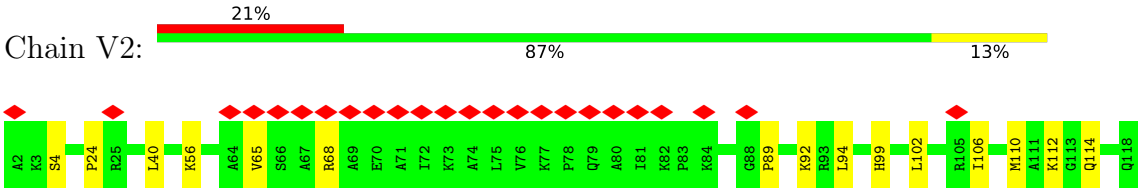
• Molecule 29: 60S ribosomal protein L27a

Chain U2:



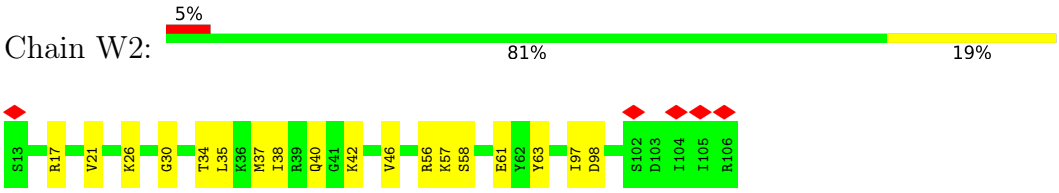
• Molecule 30: Large ribosomal subunit protein eL29

Chain V2:



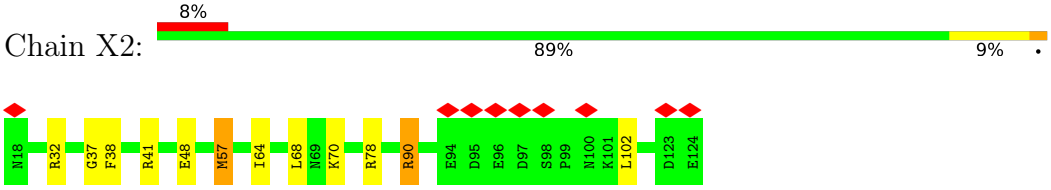
• Molecule 31: Large ribosomal subunit protein eL30

Chain W2:



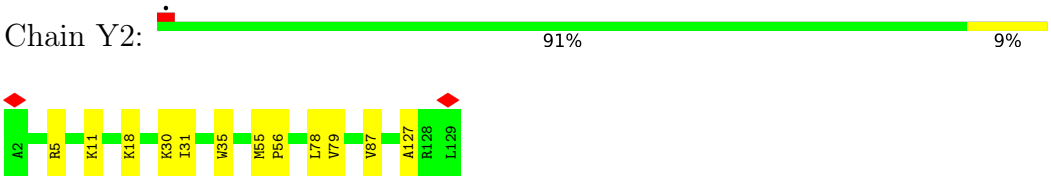
• Molecule 32: Large ribosomal subunit protein eL31

Chain X2:



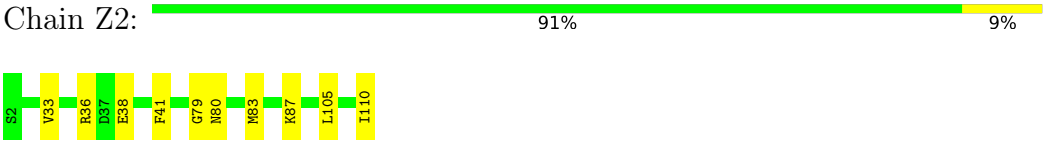
• Molecule 33: Large ribosomal subunit protein eL32

Chain Y2:



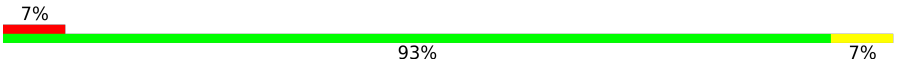
• Molecule 34: 60S ribosomal protein L35a

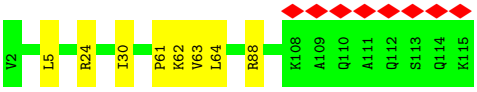
Chain Z2:



• Molecule 35: 60S ribosomal protein L34

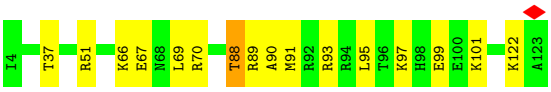
Chain a2:





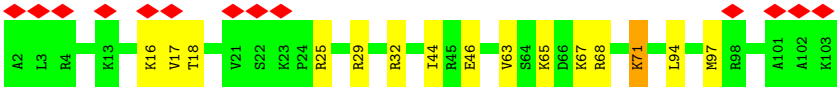
• Molecule 36: Large ribosomal subunit protein uL29

Chain b2:



• Molecule 37: Large ribosomal subunit protein eL36

Chain c2:

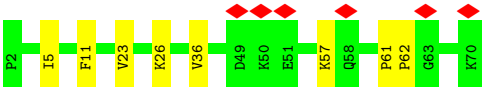


• Molecule 38: Large ribosomal subunit protein eL37

Chain d2:

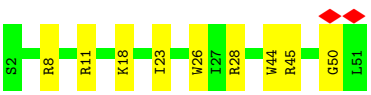
• Molecule 39: 60S ribosomal protein L38

Chain e2:



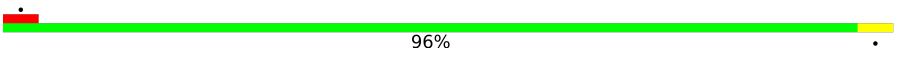
• Molecule 40: Large ribosomal subunit protein eL39

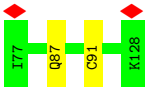
Chain f2:



• Molecule 41: Large ribosomal subunit protein eL40

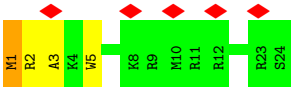
Chain g2:





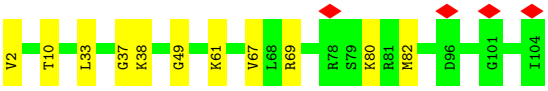
• Molecule 42: Small ribosomal subunit protein eS32

Chain h2:



• Molecule 43: Large ribosomal subunit protein eL42

Chain i2:

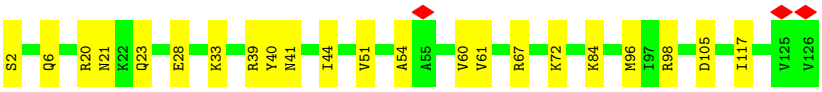


• Molecule 44: Large ribosomal subunit protein eL43

Chain j2:

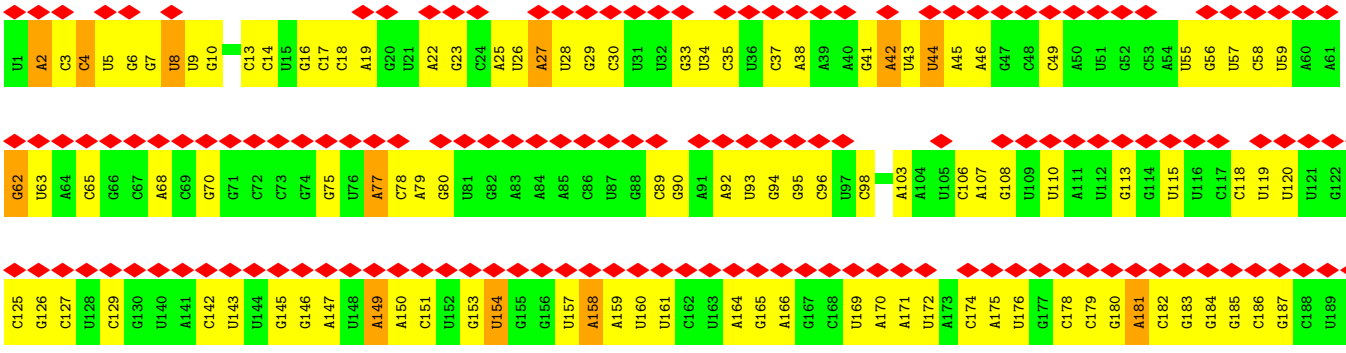
• Molecule 45: Large ribosomal subunit protein eL28

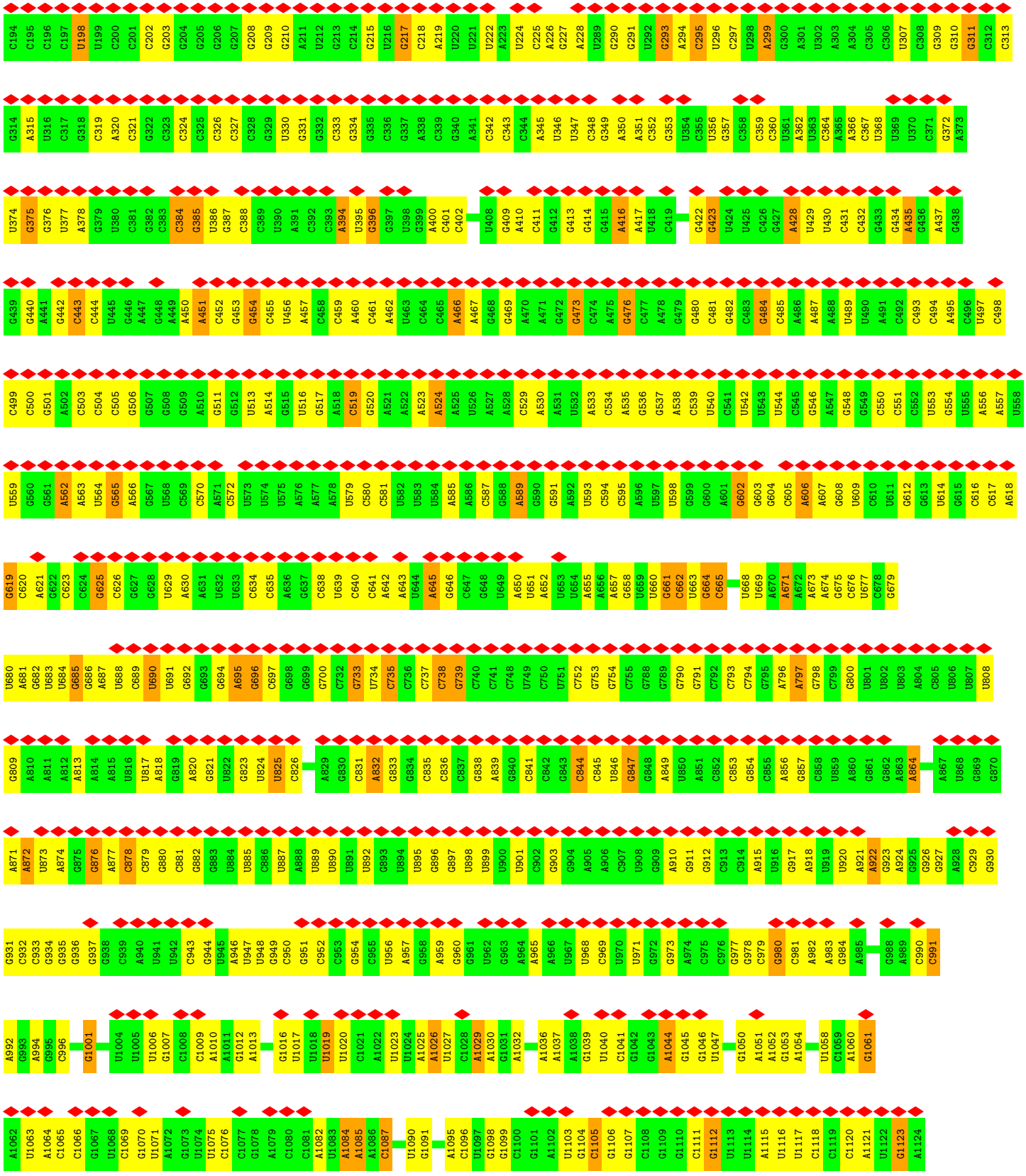
Chain k2:



• Molecule 46: 18S ribosomal RNA

Chain m2:

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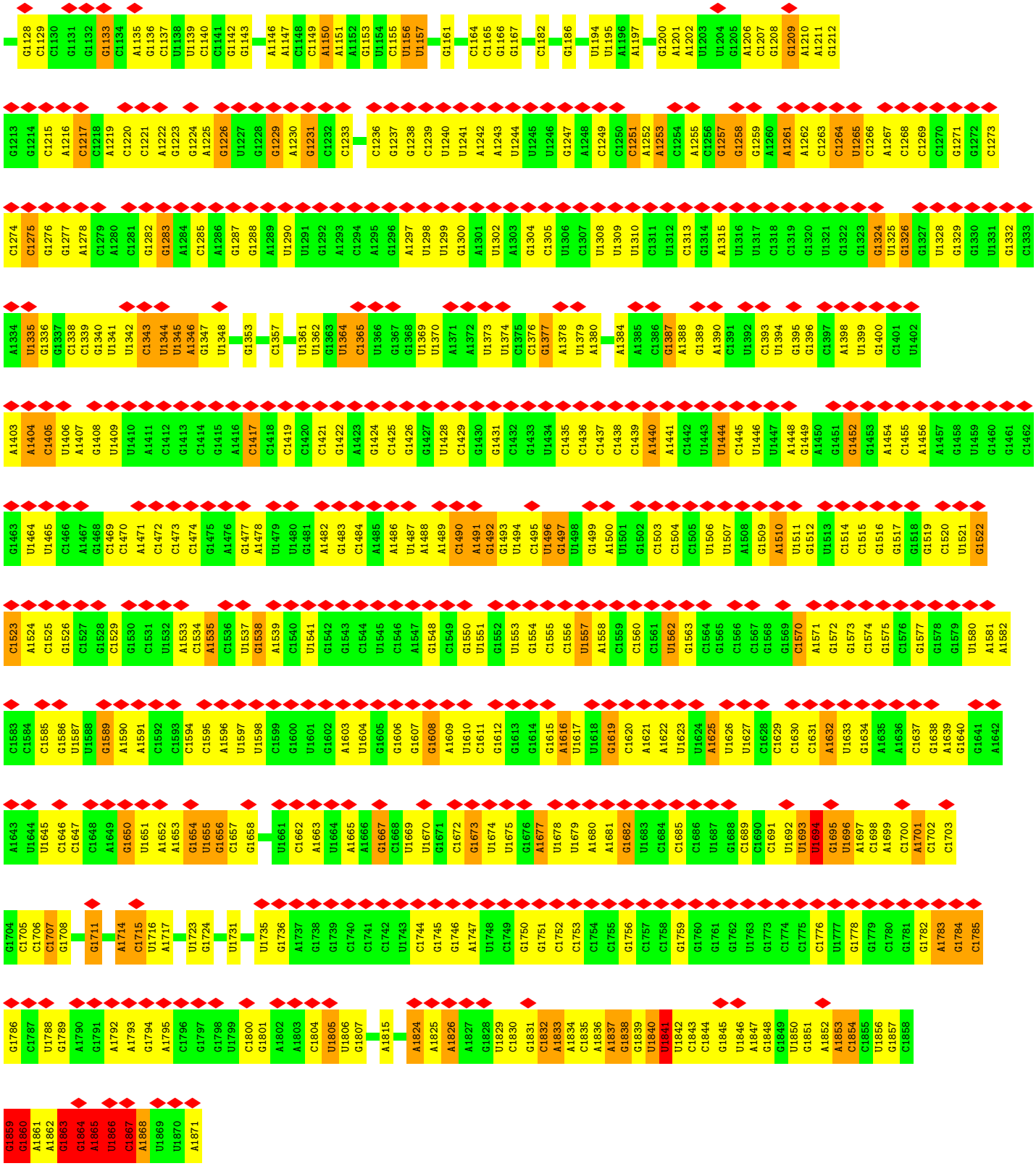
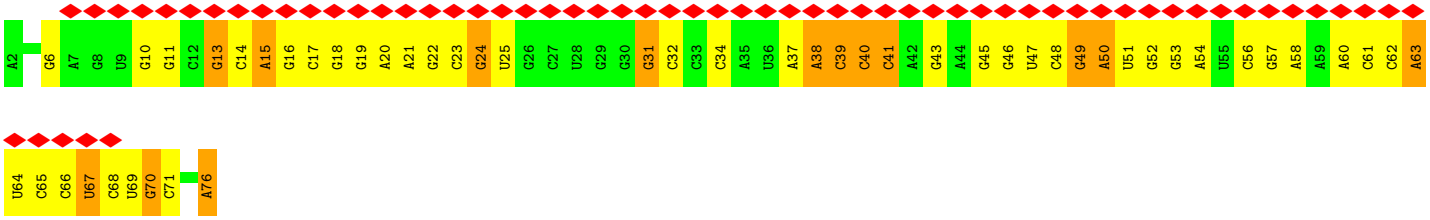
G314 A315 U316 C317 G318 C319 A320 C321 G322 C323 C324 G325 C326 C327 G328 G329 U330 G331 G332 C333 G334 G335 C336 G337 A338 C339 G340 A341 C342 C343 C344 A345 U346 U347 C348 G349 A350 A351 C352 G353 U354 C355 U356 G357 C358 C359 C360 U361 A362 U363 C364 A365 A366 C367 U368 U369 U370 C371 G372 A373
U374 G375 G376 U377 A378 G379 U380 C381 G382 C383 C384 G385 U386 G387 C388 G389 U390 A391 C392 G393 A394 U395 G396 G397 U398 G399 A400 C401 C402 U408 G409 A410 C411 G412 G413 G414 G415 A416 A417 U418 C419 G422 G423 U424 U425 C426 G427 A428 U429 U430 C431 C432 G433 C434 A435 G436 A437 G438
G439 G440 A441 G442 C443 C444 U445 G446 A447 G448 A449 A450 A451 C452 G453 G454 C455 U456 A457 C458 C459 A460 C461 A462 U463 C464 C465 A466 A467 G468 G469 A470 A471 G472 G473 C474 A475 G476 C477 A478 G479 G480 C481 G482 C483 G484 C485 A486 A487 A488 U489 U490 A491 C492 C493 C494 A495 C496 U497 C498
C499 C500 G501 A502 C503 C504 C505 G506 G507 G508 G509 A510 G511 G512 U513 A514 G515 U516 G517 A518 C519 G520 A521 A522 A523 A524 A525 U526 A527 A528 C529 A530 A531 U532 A533 C534 A535 G536 G537 A538 C539 U540 C541 U542 U543 U544 C545 G546 A547 G548 G549 C550 C551 C552 U553 G554 U555 A556 A557 U558
U559 G560 G561 A562 A563 U564 G565 A566 G567 U568 C569 C570 A571 C572 U573 U574 U575 A576 A577 A578 U579 C580 C581 U582 U583 U584 A585 A586 C587 G588 A589 G590 G591 A592 U593 C594 C595 A596 U597 U598 G599 G600 A601 G602 G603 G604 C605 A606 A607 G608 U609 C610 U611 G612 G613 U614 G615 C616 C617 A618
G619 C620 A621 G622 C623 C624 G625 C626 G627 G628 U629 A630 A631 U632 U633 C634 C635 A636 G637 C638 U639 C640 C641 A642 A643 U644 A645 G646 C647 G648 U649 A650 U651 A652 U653 U654 A655 A656 A657 G658 U659 U660 G661 C662 U663 G664 C665 U668 U669 A670 A671 A672 A673 A674 G675 C676 U677 C678 G679
U680 A681 G682 U683 U684 G685 G686 A687 U688 C689 U690 U691 G692 G693 G694 A695 G696 C697 G698 G699 G700 C732 G733 U734 C735 C736 C737 C738 G739 C740 C741 C748 U749 C750 U751 C752 G753 G754 C755 G788 G789 G790 G791 C792 C793 C794 G795 A796 A797 G798 C799 G800 U801 U802 U803 A804 C805 U806 U807 U808
G809 A810 A811 A812 A813 A814 A815 U816 U817 A818 G819 A820 G821 U822 G823 U824 U825 C826 A829 G830 C831 A832 G833 G834 C835 C836 C837 G838 A839 G840 C841 C842 G843 C844 C845 U846 G847 G848 A849 U850 A851 C852 C853 G854 C855 A856 G857 C858 U859 A860 G861 G862 A863 A864 A867 U868 G869 G870
A871 A872 U873 A874 G875 G876 A877 C878 C879 G880 C881 G882 G883 U884 U885 C886 U887 A888 U889 U890 U891 U892 G893 U894 U895 G896 G897 U898 U899 U900 U901 C902 G903 G904 A905 A906 C907 U908 G909 A910 G911 G912 C913 C914 A915 U916 G917 A918 U919 U920 A921 A922 G923 A924 G925 G926 G927 A928 C929 G930
G931 C932 C933 G934 G935 G936 G937 G938 C939 A940 U941 U942 C943 G944 U945 A946 U947 U948 G949 C950 G951 C952 C953 G954 C955 U956 A957 G958 A959 G960 G961 U962 G963 A964 A965 A966 U967 U968 C969 U970 U971 G972 G973 A974 C975 G976 G977 G978 C979 G980 C981 A982 A983 G984 A985 G988 A989 C990 C991
A992 G993 A994 G995 C996 G1001 U1004 U1005 U1006 G1007 C1008 C1009 A1010 A1011 G1012 A1013 G1016 U1017 U1018 U1019 U1020 C1021 A1022 U1023 U1024 A1025 A1026 U1027 C1028 A1029 A1030 G1031 A1032 A1036 A1037 A1038 G1039 U1040 C1041 G1042 G1043 A1044 G1045 G1046 U1047 G1050 A1051 A1052 G1053 A1054 U1058 C1059 A1060 G1061
A1062 U1063 A1064 C1065 C1066 G1067 U1068 C1069 G1070 U1071 A1072 G1073 U1074 U1075 C1076 C1077 G1078 A1079 C1080 C1081 A1082 U1083 A1084 A1085 A1086 C1087 U1090 G1091 A1095 C1096 U1097 G1098 G1099 C1100 G1101 A1102 U1103 G1104 C1105 G1106 G1107 C1108 G1109 G1110 C1111 G1112 U1113 U1114 A1115 U1116 U1117 C1118 C1119 C1120 A1121 U1122 G1123 A1124



- Molecule 47: Transfer RNA

Chain n2:

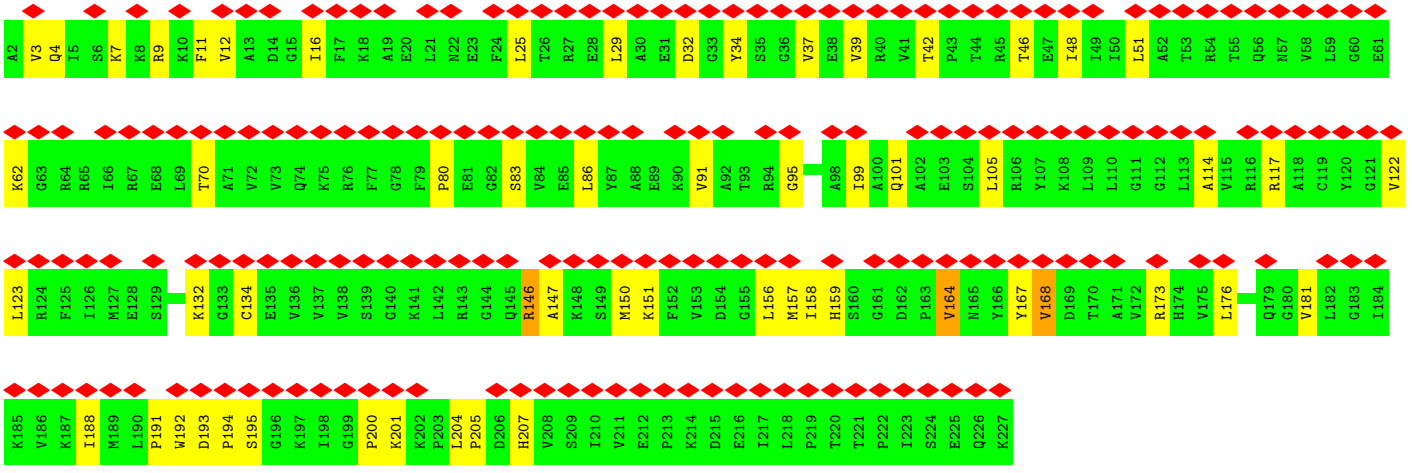


• Molecule 48: Small ribosomal subunit protein eS1

Chain p2:

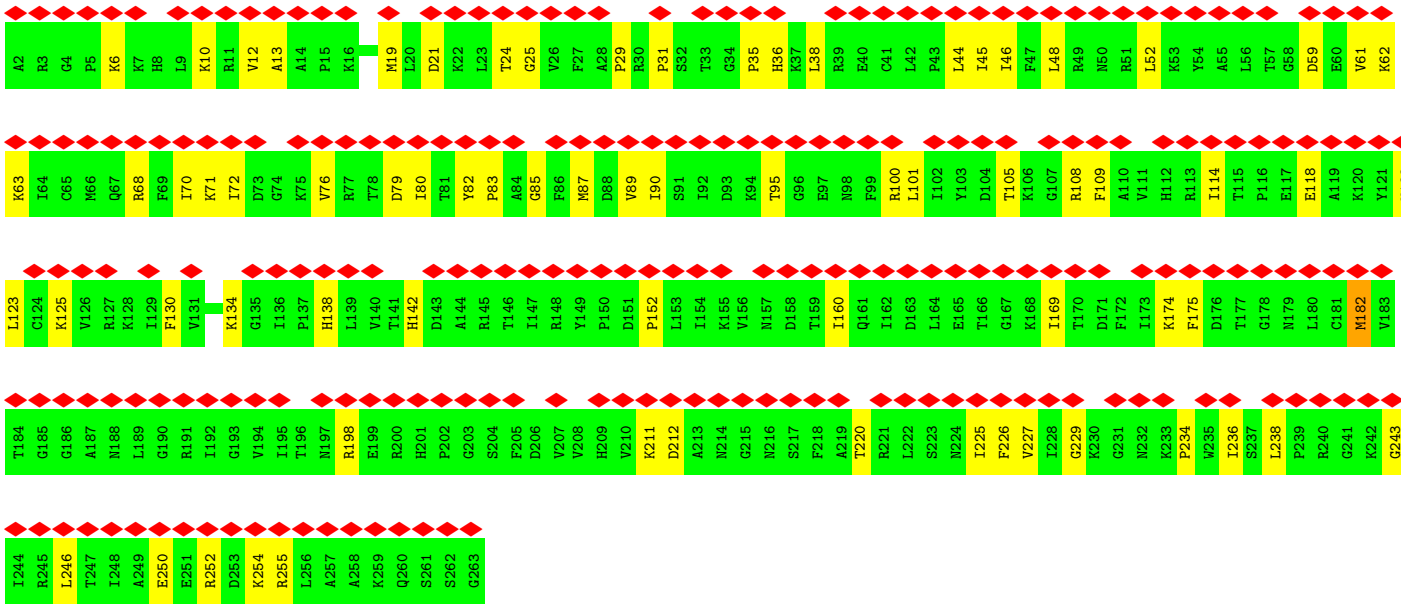
• Molecule 49: Small ribosomal subunit protein uS3

Chain q2:



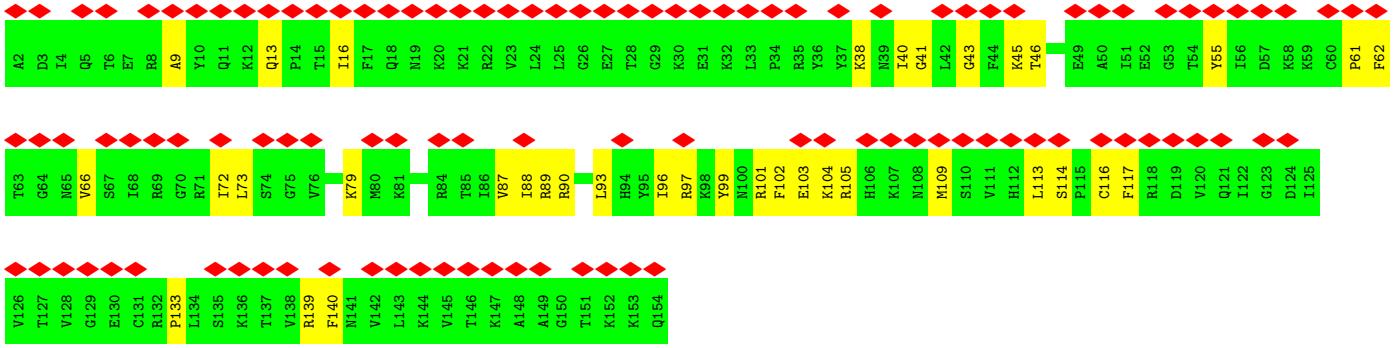
• Molecule 50: Small ribosomal subunit protein eS4

Chain r2:



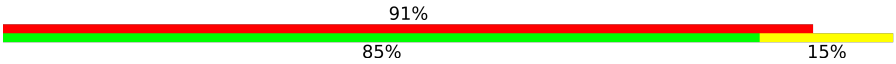
• Molecule 51: Small ribosomal subunit protein uS17

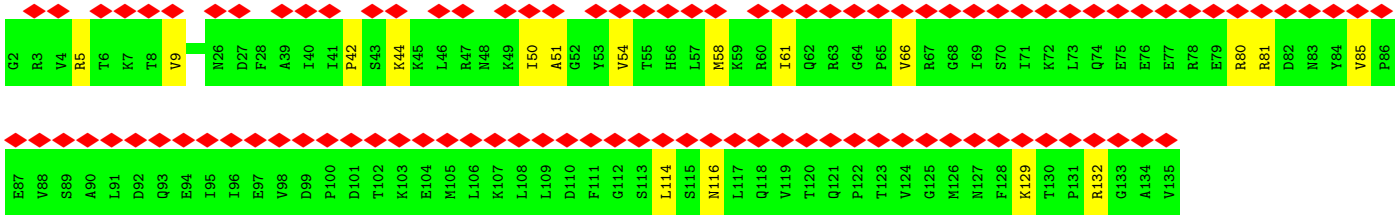
Chain w2:



• Molecule 52: 40S ribosomal protein S17

Chain z2:



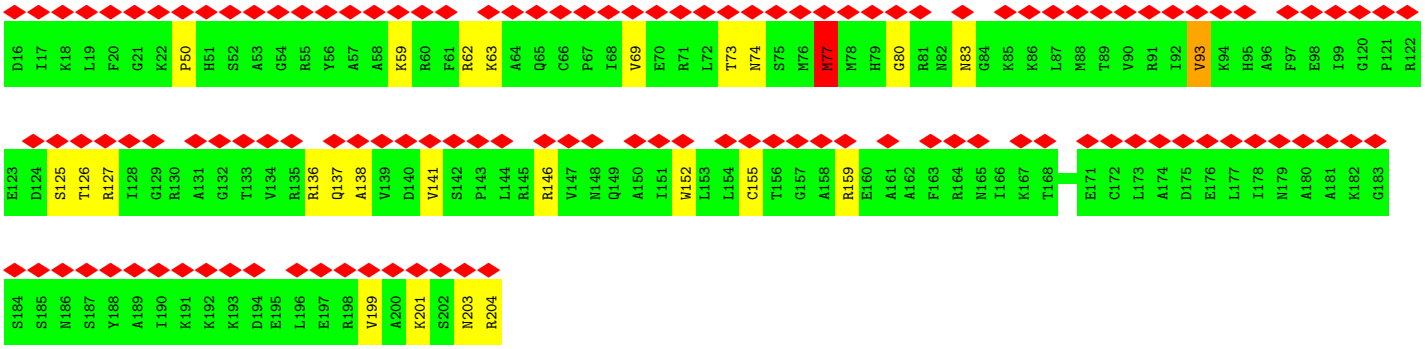


• Molecule 53: Small ribosomal subunit protein uS2

Chain o2:

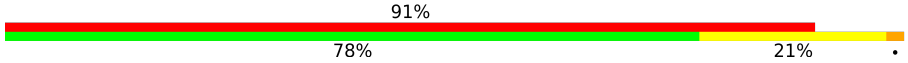
• Molecule 54: 40S ribosomal protein S5

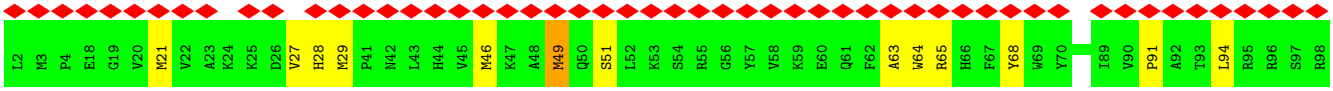
Chain s2:



• Molecule 55: 40S ribosomal protein S10

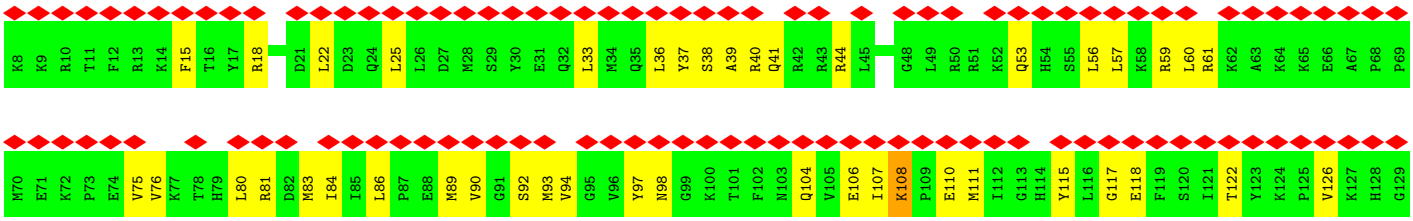
Chain v2:

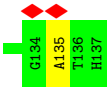




• Molecule 56: Small ribosomal subunit protein uS19

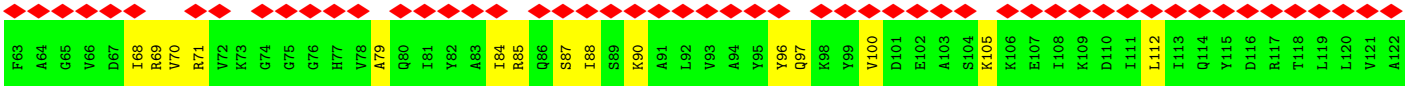
Chain x2:

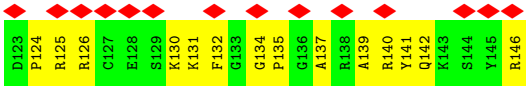




• Molecule 57: Small ribosomal subunit protein uS9

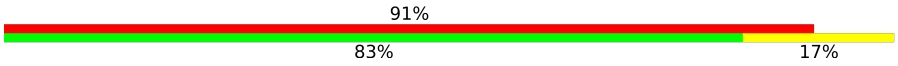
Chain y2:

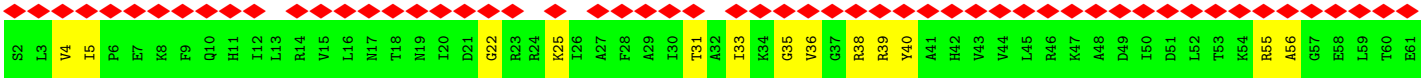


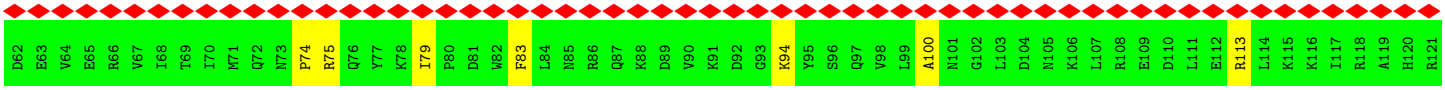


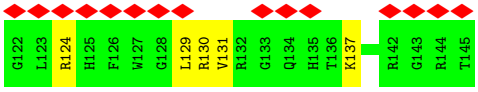
• Molecule 58: Small ribosomal subunit protein uS13

Chain A3:



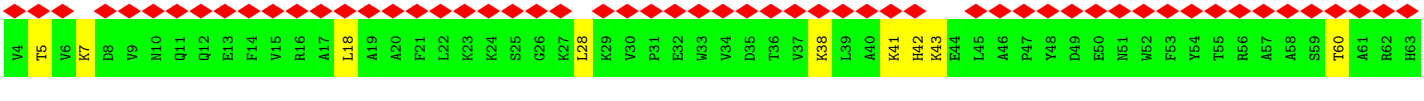


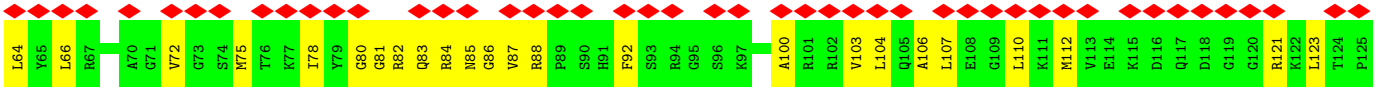


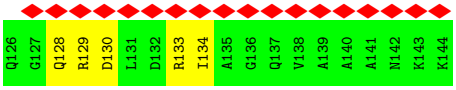


• Molecule 59: Small ribosomal subunit protein eS19

Chain B3:





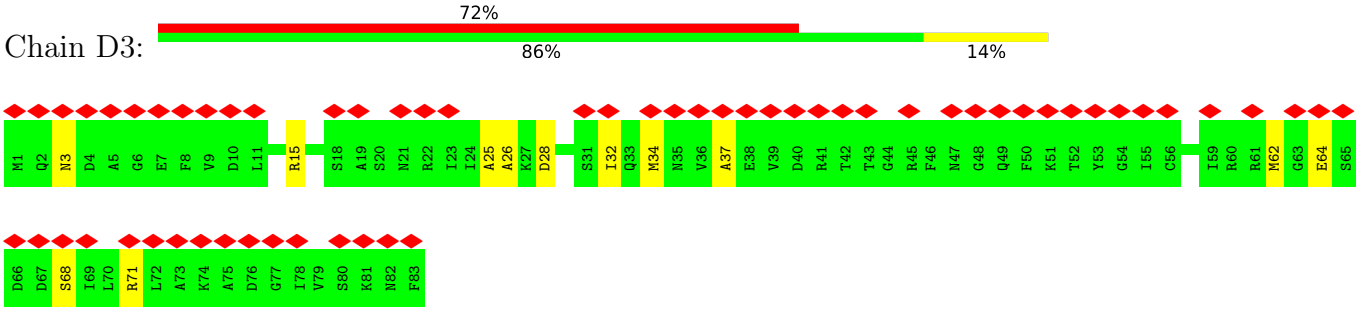


• Molecule 60: 40S ribosomal protein S20

Chain C3:

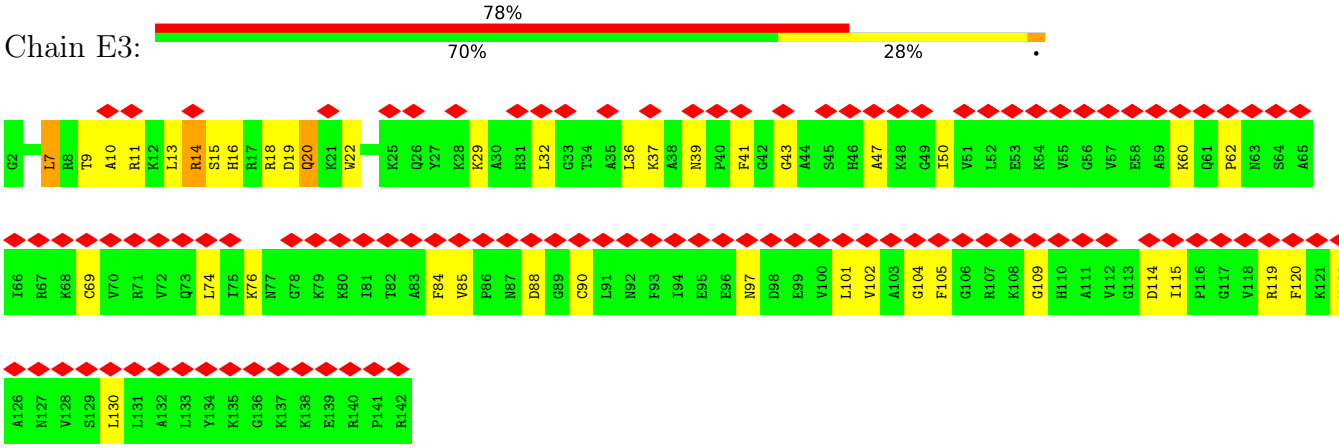
• Molecule 61: Small ribosomal subunit protein eS21

Chain D3:



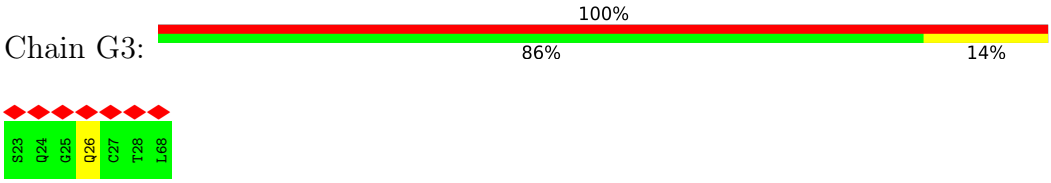
• Molecule 62: Small ribosomal subunit protein uS12

Chain E3:



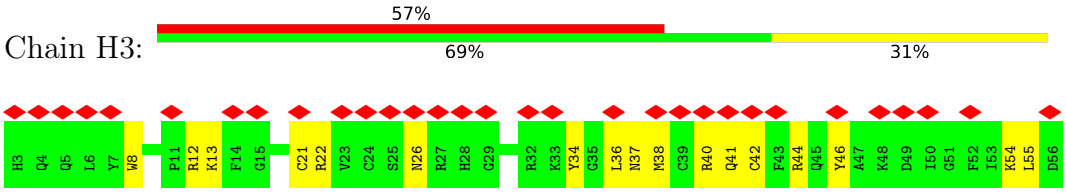
• Molecule 63: 40S ribosomal protein S28

Chain G3:



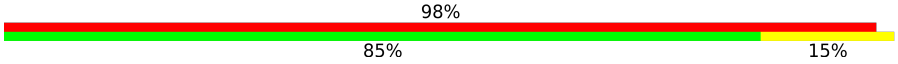
• Molecule 64: Small ribosomal subunit protein uS14

Chain H3:



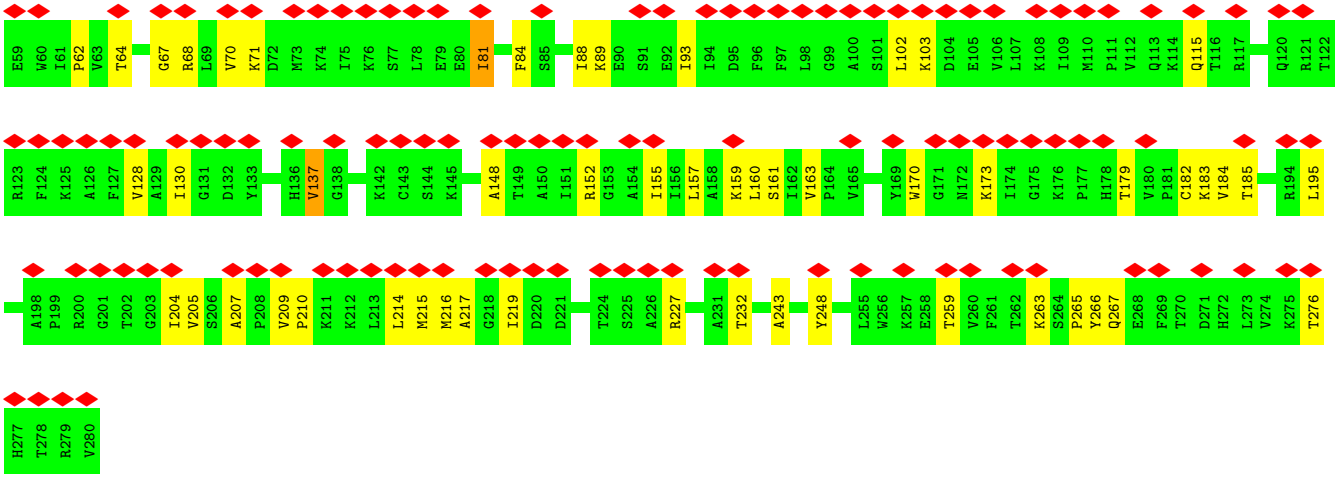
• Molecule 65: Receptor of activated protein C kinase 1

Chain I3:



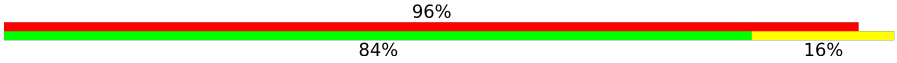
• Molecule 66: Small ribosomal subunit protein uS5

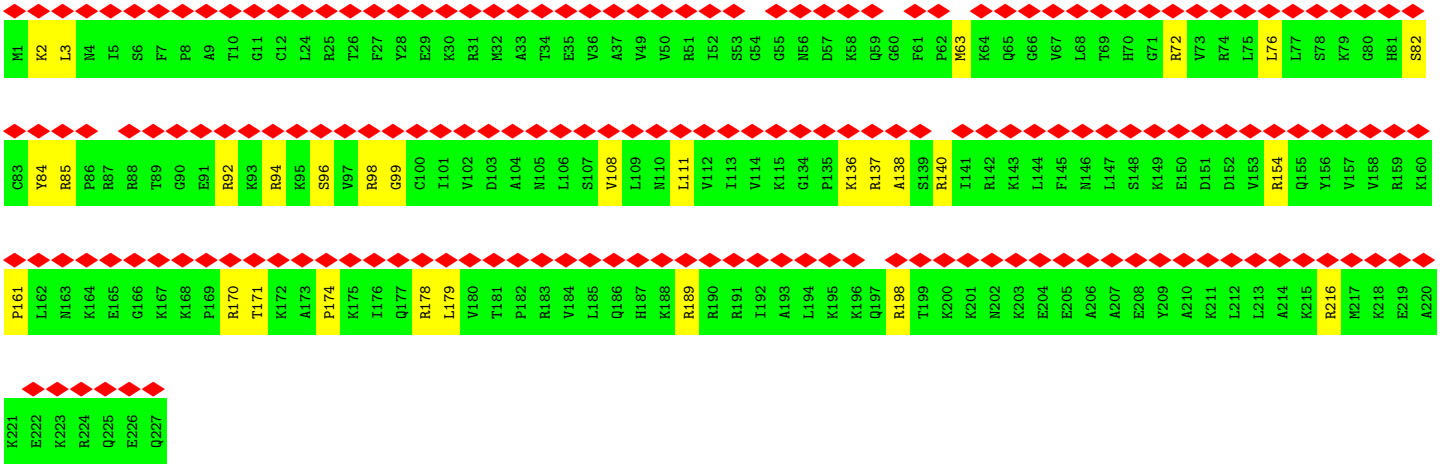
Chain J3:



• Molecule 67: 40S ribosomal protein S6

Chain K3:



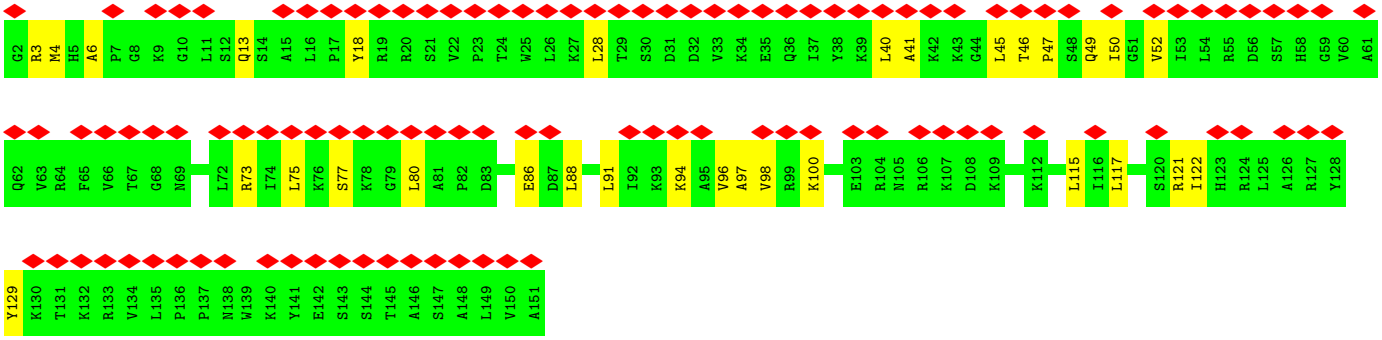


• Molecule 68: Small ribosomal subunit protein uS4

Chain L3:

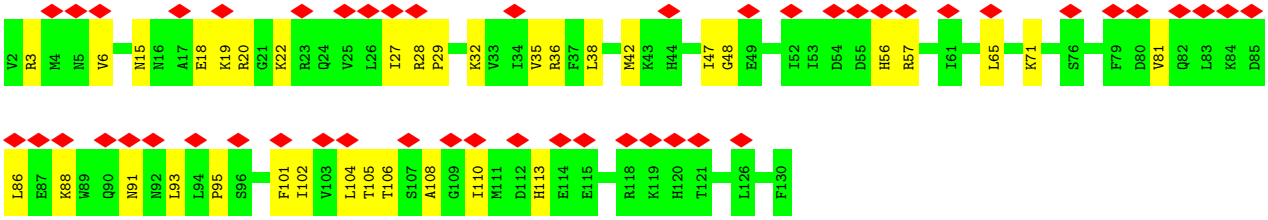
• Molecule 69: Small ribosomal subunit protein uS15

Chain N3:



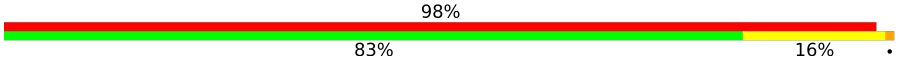
• Molecule 70: Small ribosomal subunit protein uS8

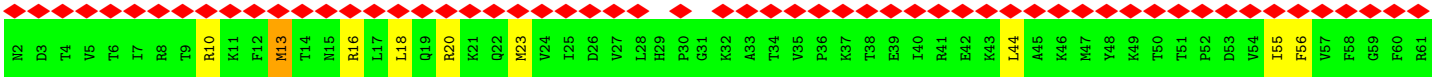
Chain P3:

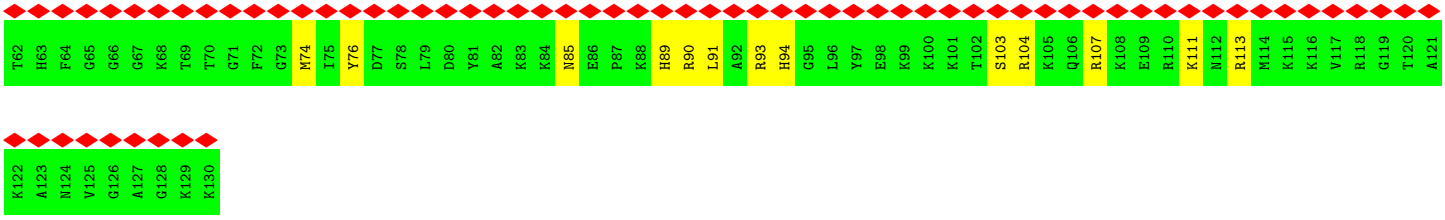


• Molecule 71: Small ribosomal subunit protein eS24

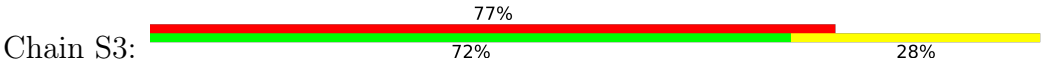
Chain Q3:

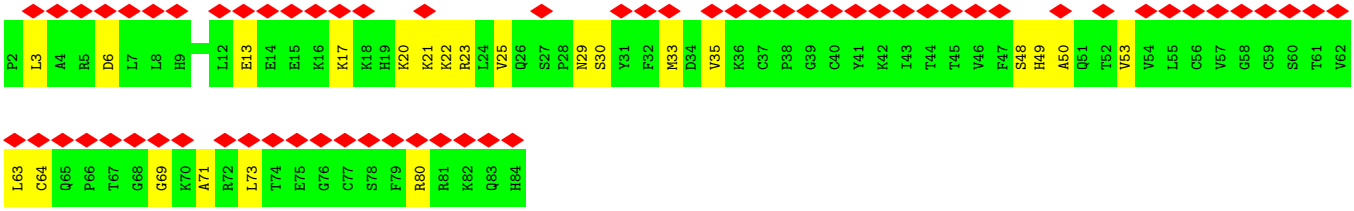




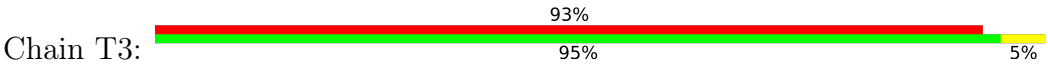


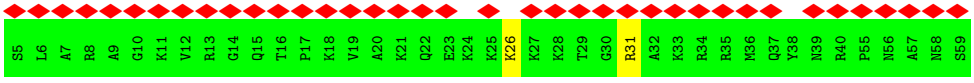
• Molecule 72: Small ribosomal subunit protein eS27-like



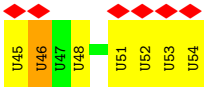


• Molecule 73: 40S ribosomal protein S30

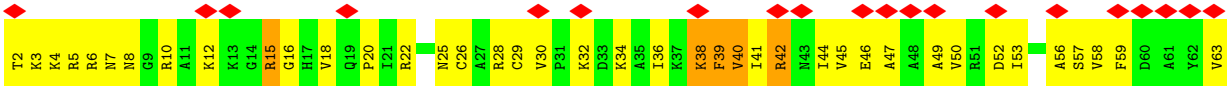


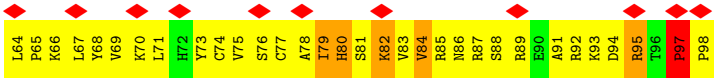


• Molecule 74: Messenger RNA

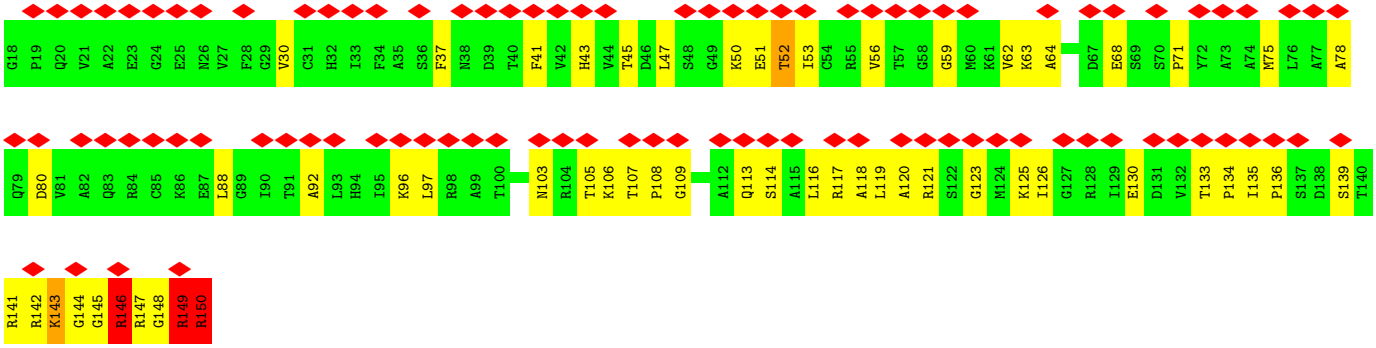


• Molecule 75: Small ribosomal subunit protein eS26





• Molecule 76: Small ribosomal subunit protein uS11


G18 P19 Q20 V21 A22 E23 G24 E25 N26 V27 F28 G29 V30 C31 H32 I33 F34 A35 S36 F37 N38 D39 T40 F41 V42 H43 V44 T45 D46 L47 S48 G49 K50 E51 T52 I53 C54 R55 V56 T57 G58 G59 M60 K61 V62 K63 A64 D67 E68 S69 S70 P71 Y72 A73 A74 M75 L76 A77 A78
Q79 D80 V81 A82 Q83 R84 C85 K86 E87 L88 G89 I90 T91 A92 L93 H94 I95 K96 L97 R98 A99 T100 N103 R104 T105 K106 T107 P108 G109 A112 Q113 S114 A115 L116 R117 A118 L119 A120 R121 S122 G123 M124 K125 I126 G127 R128 I129 E130 D131 V132 T133 P134 I135 P136 S137 D138 S139 T140
R141 R142 K143 G144 G145 R146 R147 G148 R149 R150

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	235429	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 ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.596	Depositor
Minimum map value	-0.069	Depositor
Average map value	0.010	Depositor
Map value standard deviation	0.068	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	322.56, 322.56, 322.56	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.84, 0.84, 0.84	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 5MC, OMC, 2MG, 1MA, OMG, MG, ZN

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	A1	0.20	0/1888	0.34	0/2516
2	B1	0.17	0/1847	0.32	0/2486
3	C1	0.22	0/1537	0.35	0/2065
4	D1	0.18	0/1728	0.30	0/2306
5	E1	0.18	0/1420	0.37	0/1899
6	F1	0.17	0/1635	0.35	0/2188
7	G1	0.19	0/1165	0.31	0/1558
8	H1	0.22	0/1746	0.34	0/2338
9	A2	0.21	0/85940	0.31	4/134022 (0.0%)
10	B2	0.21	0/2858	0.27	0/4455
11	C2	0.20	0/3701	0.28	0/5766
12	D2	0.21	0/1959	0.35	0/2627
13	E2	0.21	0/3305	0.39	0/4422
14	F2	0.20	0/2921	0.34	0/3921
15	G2	0.17	0/2435	0.31	0/3260
16	H2	0.18	0/1822	0.34	0/2443
17	I2	0.22	0/1670	0.41	2/2232 (0.1%)
18	J2	0.19	0/1268	0.36	0/1700
19	K2	0.21	0/1535	0.35	0/2048
20	L2	0.17	0/1383	0.28	0/1830
21	M2	0.21	0/1490	0.36	0/2000
22	N2	0.19	0/1327	0.33	0/1771
23	O2	0.13	0/839	0.28	0/1126
24	P2	0.22	0/983	0.37	0/1319
25	Q2	0.17	0/532	0.33	0/708
26	R2	0.17	0/984	0.33	0/1323
27	S2	0.18	0/1132	0.29	0/1504
28	T2	0.19	0/1130	0.31	0/1507
29	U2	0.20	0/1193	0.34	0/1593
30	V2	0.16	0/963	0.30	0/1275
31	W2	0.18	0/742	0.36	0/996
32	X2	0.18	0/903	0.32	0/1216

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	Y2	0.20	0/1071	0.31	0/1429
34	Z2	0.20	0/895	0.36	0/1198
35	a2	0.18	0/916	0.34	0/1221
36	b2	0.16	0/1009	0.29	0/1332
37	c2	0.14	0/843	0.30	0/1115
38	d2	0.20	0/720	0.33	0/952
39	e2	0.17	0/574	0.30	0/760
40	f2	0.19	0/454	0.31	0/599
41	g2	0.18	0/435	0.32	0/575
42	h2	0.17	0/231	0.31	0/294
43	i2	0.18	0/855	0.31	0/1128
44	j2	0.20	0/704	0.31	0/935
45	k2	0.20	0/1016	0.36	0/1363
46	m2	0.57	8/41116 (0.0%)	0.38	27/64082 (0.0%)
47	n2	0.12	0/1795	0.29	0/2798
48	p2	0.13	0/1765	0.36	0/2362
49	q2	0.18	0/1784	0.41	2/2402 (0.1%)
50	r2	0.12	0/2118	0.31	0/2849
51	w2	0.14	0/1268	0.34	0/1696
52	z2	0.13	0/883	0.34	0/1184
53	o2	0.12	0/1731	0.33	0/2352
54	s2	0.10	0/1129	0.29	0/1503
55	v2	0.10	0/500	0.28	0/667
56	x2	0.13	0/1094	0.35	0/1460
57	y2	0.13	0/1161	0.34	0/1553
58	A3	0.11	0/1208	0.29	0/1618
59	B3	0.10	0/1122	0.29	0/1503
60	C3	0.08	0/121	0.22	0/161
61	D3	0.12	0/645	0.25	0/863
62	E3	0.12	0/1116	0.34	0/1490
63	G3	0.08	0/47	0.15	0/60
64	H3	0.15	0/466	0.40	0/618
65	I3	0.09	0/1349	0.27	0/1834
66	J3	0.14	0/1762	0.37	0/2382
67	K3	0.09	0/1534	0.24	0/2033
68	L3	0.11	0/1550	0.26	0/2069
69	N3	0.11	0/1232	0.29	0/1656
70	P3	0.15	0/1051	0.36	0/1406
71	Q3	0.09	0/1066	0.25	0/1415
72	S3	0.15	0/665	0.37	0/890
73	T3	0.08	0/328	0.24	0/426
74	Bx	0.10	0/219	0.28	0/336
75	F3	0.69	0/786	1.09	2/1053 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	O3	0.31	0/1006	0.55	0/1350
All	All	0.31	8/219321 (0.0%)	0.34	37/323392 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
46	m2	0	2
75	F3	0	1
76	O3	0	4
All	All	0	7

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	m2	1865	A	N1-C2	50.41	2.35	1.34
46	m2	1865	A	C6-N1	49.54	2.34	1.35
46	m2	1865	A	C5-C6	45.89	2.32	1.41
46	m2	1865	A	C2-N3	41.70	2.17	1.33
46	m2	1865	A	N3-C4	38.49	2.11	1.34
46	m2	1693	U	O3'-P	32.98	2.10	1.61
46	m2	1865	A	C5-C4	32.66	2.04	1.38
46	m2	1694	U	P-O5'	5.25	1.67	1.59

All (37) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	m2	1693	U	P-O3'-C3'	-29.28	76.29	120.20
46	m2	1859	G	O3'-P-O5'	20.91	135.36	104.00
46	m2	1865	A	C5-C6-N6	-14.13	81.30	123.70
46	m2	1859	G	OP1-P-O3'	-13.10	68.71	108.00
46	m2	1867	C	C1'-O4'-C4'	-11.62	98.08	109.70
46	m2	1694	U	O5'-P-OP2	-10.86	75.41	108.00
46	m2	1859	G	OP2-P-O3'	-10.71	75.86	108.00
46	m2	1841	U	C4'-C3'-O3'	-10.30	97.54	113.00
9	A2	4182	U	O3'-P-O5'	10.26	119.40	104.00
46	m2	1693	U	O3'-P-O5'	8.59	116.89	104.00
9	A2	1163	G	OP2-P-O3'	-8.49	82.52	108.00
9	A2	1163	G	OP1-P-O3'	-8.15	83.54	108.00
46	m2	1860	G	O5'-P-OP1	-7.94	84.19	108.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	m2	1867	C	P-O3'-C3'	7.80	131.91	120.20
49	q2	146	ARG	CA-CB-CG	6.96	128.03	114.10
46	m2	1867	C	C5'-C4'-C3'	6.91	125.56	115.20
46	m2	1693	U	OP2-P-O3'	6.73	128.19	108.00
46	m2	1841	U	O3'-P-O5'	-6.72	93.92	104.00
46	m2	1694	U	C4'-C3'-C2'	-6.68	95.92	102.60
46	m2	1865	A	N1-C6-N6	6.61	138.44	118.60
46	m2	1841	U	C2'-C3'-O3'	6.58	123.57	113.70
46	m2	1867	C	C2'-C3'-O3'	6.16	118.73	109.50
46	m2	1866	U	C2'-C3'-O3'	-5.86	104.90	113.70
46	m2	1864	G	C1'-C2'-O2'	5.83	117.14	108.40
46	m2	1694	U	P-O5'-C5'	5.80	129.60	120.90
46	m2	1864	G	C8-N9-C1'	-5.63	110.11	127.00
46	m2	1860	G	O5'-P-OP2	-5.55	91.34	108.00
46	m2	1865	A	C4-C5-N7	-5.50	94.20	110.70
49	q2	146	ARG	CB-CG-CD	5.47	123.89	111.30
75	F3	97	PRO	CA-N-CD	-5.45	104.37	112.00
9	A2	3385	U	O3'-P-O5'	-5.38	95.94	104.00
46	m2	1864	G	C4-N9-C1'	5.37	142.59	126.50
17	I2	112	TYR	CA-C-N	-5.33	111.62	120.68
17	I2	112	TYR	C-N-CA	-5.33	111.62	120.68
46	m2	1863	G	O3'-P-O5'	5.33	111.99	104.00
75	F3	98	PRO	CA-N-CD	-5.26	104.63	112.00
46	m2	1865	A	C5-C6-N1	-5.24	101.99	117.70

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
75	F3	97	PRO	Peptide
76	O3	146	ARG	Sidechain
76	O3	147	ARG	Sidechain
76	O3	149	ARG	Sidechain
76	O3	150	ARG	Sidechain
46	m2	1864	G	Sidechain
46	m2	1865	A	Sidechain

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	A1	1851	0	1988	29	0
2	B1	1812	0	1947	28	0
3	C1	1519	0	1603	13	0
4	D1	1690	0	1745	10	0
5	E1	1397	0	1425	22	0
6	F1	1606	0	1705	17	0
7	G1	1143	0	1219	12	0
8	H1	1701	0	1749	25	0
9	A2	77352	0	39086	714	0
10	B2	2558	0	1296	17	0
11	C2	3314	0	1683	24	0
12	D2	1921	0	2022	22	0
13	E2	3238	0	3380	46	0
14	F2	2867	0	3040	30	0
15	G2	2389	0	2420	19	0
16	H2	1789	0	1932	25	0
17	I2	1640	0	1792	38	0
18	J2	1242	0	1274	11	0
19	K2	1511	0	1636	20	0
20	L2	1367	0	1506	14	0
21	M2	1450	0	1488	12	0
22	N2	1299	0	1368	18	0
23	O2	825	0	850	11	0
24	P2	969	0	1031	4	0
25	Q2	519	0	533	2	0
26	R2	967	0	1040	11	0
27	S2	1115	0	1205	12	0
28	T2	1107	0	1182	11	0
29	U2	1164	0	1213	13	0
30	V2	945	0	1037	9	0
31	W2	732	0	769	11	0
32	X2	888	0	930	7	0
33	Y2	1053	0	1147	7	0
34	Z2	876	0	912	9	0
35	a2	906	0	997	5	0
36	b2	1001	0	1138	11	0
37	c2	832	0	917	9	0
38	d2	705	0	737	10	0
39	e2	568	0	635	5	0
40	f2	444	0	483	7	0
41	g2	429	0	465	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
42	h2	230	0	276	5	0
43	i2	842	0	912	8	0
44	j2	694	0	738	8	0
45	k2	1001	0	1066	12	0
46	m2	36794	0	18585	961	0
47	n2	1604	0	816	20	0
48	p2	1738	0	1809	41	0
49	q2	1756	0	1851	43	0
50	r2	2076	0	2177	52	0
51	w2	1247	0	1323	34	0
52	z2	874	0	913	16	0
53	o2	1694	0	1696	57	0
54	s2	1117	0	1167	22	0
55	v2	487	0	495	9	0
56	x2	1073	0	1128	44	0
57	y2	1143	0	1213	37	0
58	A3	1190	0	1249	17	0
59	B3	1104	0	1139	29	0
60	C3	122	0	124	3	0
61	D3	638	0	635	8	0
62	E3	1098	0	1167	33	0
63	G3	49	0	45	1	0
64	H3	455	0	445	15	0
65	I3	1320	0	1277	15	0
66	J3	1725	0	1815	39	0
67	K3	1519	0	1664	21	0
68	L3	1525	0	1640	31	0
69	N3	1208	0	1294	23	0
70	P3	1034	0	1080	31	0
71	Q3	1049	0	1122	15	0
72	S3	652	0	676	16	0
73	T3	327	0	361	1	0
74	Bx	200	0	101	1	0
75	F3	774	0	817	544	0
76	O3	993	0	1011	290	0
77	F3	1	0	0	0	0
77	H3	1	0	0	0	0
77	d2	1	0	0	0	0
77	g2	1	0	0	0	0
77	i2	1	0	0	0	0
77	j2	1	0	0	0	0
78	H3	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
79	A2	1	0	0	0	0
79	B1	1	0	0	0	0
79	m2	2	0	0	0	0
All	All	204064	0	148352	2999	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 9.

All (2999) 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)
75:F3:59:PHE:CZ	76:O3:126:ILE:HB	1.24	1.61
75:F3:53:ILE:HD12	76:O3:117:ARG:CD	1.27	1.61
46:m2:1211:A:P	75:F3:82:LYS:HD2	1.42	1.59
75:F3:45:VAL:HG21	76:O3:117:ARG:CD	1.29	1.58
46:m2:1210:A:C4'	75:F3:79:ILE:HG22	1.32	1.57
75:F3:57:SER:CA	76:O3:121:ARG:HA	1.26	1.57
75:F3:53:ILE:HG21	76:O3:117:ARG:CB	1.31	1.57
75:F3:53:ILE:CB	76:O3:117:ARG:HE	1.18	1.53
46:m2:1210:A:H4'	75:F3:79:ILE:CG2	1.35	1.51
75:F3:53:ILE:HD13	76:O3:117:ARG:CB	1.38	1.49
46:m2:1865:A:C4	75:F3:75:VAL:HB	1.47	1.49
75:F3:56:ALA:HB2	76:O3:121:ARG:NH1	1.18	1.49
75:F3:49:ALA:C	76:O3:117:ARG:HH12	1.21	1.49
75:F3:53:ILE:CD1	76:O3:117:ARG:HD3	1.42	1.47
75:F3:45:VAL:HG21	76:O3:117:ARG:CG	1.42	1.46
75:F3:59:PHE:CZ	76:O3:126:ILE:CB	1.97	1.45
75:F3:53:ILE:CD1	76:O3:117:ARG:CD	1.95	1.45
75:F3:56:ALA:CB	76:O3:121:ARG:HB3	1.43	1.44
46:m2:1210:A:C2	75:F3:86:ASN:HB2	1.52	1.43
46:m2:1865:A:C5	75:F3:75:VAL:HG23	1.52	1.42
46:m2:1865:A:C4	46:m2:1865:A:C5	2.04	1.42
75:F3:53:ILE:CG2	76:O3:117:ARG:HB3	1.45	1.42
46:m2:1837:A:H2	75:F3:77:CYS:C	1.23	1.41
75:F3:57:SER:HA	76:O3:121:ARG:CA	1.50	1.41
46:m2:1865:A:C6	75:F3:76:SER:N	1.89	1.40
75:F3:53:ILE:HB	76:O3:117:ARG:NE	1.12	1.40
75:F3:59:PHE:HZ	76:O3:126:ILE:CB	1.28	1.38
75:F3:56:ALA:CB	76:O3:121:ARG:NH1	1.87	1.37
46:m2:1837:A:C2	75:F3:77:CYS:C	2.02	1.36
46:m2:1865:A:N1	75:F3:76:SER:N	1.71	1.36

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1865:A:C2	75:F3:75:VAL:C	2.02	1.36
75:F3:45:VAL:CG1	76:O3:117:ARG:HH11	1.35	1.36
46:m2:1211:A:OP1	75:F3:82:LYS:CA	1.74	1.35
46:m2:1837:A:N3	75:F3:76:SER:O	1.60	1.33
75:F3:53:ILE:H	76:O3:117:ARG:NH2	1.24	1.33
75:F3:50:VAL:HA	76:O3:117:ARG:NH1	1.41	1.33
46:m2:1693:U:H3'	46:m2:1694:U:P	1.68	1.32
75:F3:59:PHE:HZ	76:O3:126:ILE:CA	1.43	1.29
46:m2:1865:A:H2	75:F3:78:ALA:N	1.28	1.29
46:m2:1210:A:O2'	75:F3:79:ILE:HG23	1.17	1.29
75:F3:56:ALA:CB	76:O3:121:ARG:HH11	1.40	1.28
46:m2:1694:U:P	75:F3:89:ARG:H	1.56	1.28
75:F3:45:VAL:CG2	76:O3:117:ARG:CD	2.10	1.27
46:m2:1211:A:H5"	75:F3:82:LYS:O	1.34	1.27
75:F3:50:VAL:O	76:O3:117:ARG:NH2	1.67	1.27
46:m2:1210:A:C4'	75:F3:79:ILE:CG2	1.97	1.26
46:m2:1865:A:C6	75:F3:75:VAL:HG23	1.70	1.26
46:m2:1865:A:C5	75:F3:75:VAL:C	2.15	1.24
46:m2:1837:A:C2	75:F3:78:ALA:N	1.96	1.24
46:m2:1865:A:N1	75:F3:75:VAL:N	1.86	1.24
46:m2:1693:U:C3'	46:m2:1694:U:P	2.24	1.24
46:m2:1837:A:H2	75:F3:77:CYS:CA	1.51	1.24
75:F3:53:ILE:CB	76:O3:117:ARG:NE	1.85	1.23
75:F3:59:PHE:CZ	76:O3:126:ILE:N	2.05	1.23
75:F3:50:VAL:CA	76:O3:117:ARG:NH1	2.01	1.23
75:F3:49:ALA:O	76:O3:117:ARG:NH1	1.67	1.23
46:m2:1868:A:C1'	75:F3:95:ARG:HD2	1.67	1.22
46:m2:1865:A:C6	75:F3:75:VAL:CG2	2.21	1.22
46:m2:1840:U:O5'	76:O3:150:ARG:O	1.55	1.22
46:m2:1868:A:H1'	75:F3:95:ARG:CG	1.68	1.21
75:F3:45:VAL:HG11	76:O3:117:ARG:NH1	1.52	1.21
75:F3:58:VAL:HG11	76:O3:123:GLY:O	1.04	1.21
46:m2:1865:A:C5	75:F3:75:VAL:CG2	2.24	1.21
75:F3:56:ALA:HB3	76:O3:121:ARG:CD	1.71	1.21
46:m2:1209:G:O2'	75:F3:80:HIS:CE1	1.93	1.20
46:m2:1865:A:C2	75:F3:75:VAL:CA	2.22	1.20
46:m2:1865:A:C2	75:F3:78:ALA:N	2.05	1.20
46:m2:1837:A:N3	75:F3:76:SER:C	2.00	1.19
75:F3:56:ALA:C	76:O3:121:ARG:CB	2.12	1.19
9:A2:3348:A:H62	9:A2:3479:G:N2	1.39	1.19
46:m2:1865:A:C4	46:m2:1865:A:N3	2.11	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1840:U:C5'	76:O3:150:ARG:O	1.91	1.18
46:m2:1868:A:O4'	75:F3:95:ARG:CZ	1.91	1.18
46:m2:1865:A:C2	75:F3:74:CYS:O	1.97	1.17
46:m2:1210:A:N3	75:F3:86:ASN:HB2	1.59	1.17
46:m2:1865:A:C5	46:m2:1865:A:C6	2.32	1.17
75:F3:58:VAL:CG1	76:O3:123:GLY:O	1.91	1.17
46:m2:1865:A:C4	75:F3:75:VAL:CB	2.28	1.17
46:m2:1212:G:C5'	75:F3:85:ARG:CZ	2.20	1.17
46:m2:1210:A:C3'	75:F3:79:ILE:HG22	1.75	1.16
46:m2:1212:G:H5'	75:F3:85:ARG:CZ	1.63	1.16
9:A2:3348:A:N6	9:A2:3479:G:H21	1.42	1.16
75:F3:49:ALA:C	76:O3:117:ARG:NH1	2.03	1.16
46:m2:1211:A:OP1	75:F3:82:LYS:HA	0.99	1.15
75:F3:58:VAL:N	76:O3:120:ALA:O	1.79	1.15
46:m2:1868:A:C1'	75:F3:95:ARG:CD	2.24	1.15
46:m2:1211:A:P	75:F3:82:LYS:CD	2.35	1.14
46:m2:1209:G:O2'	75:F3:80:HIS:HE1	1.21	1.14
75:F3:45:VAL:HG21	76:O3:117:ARG:HG3	1.23	1.14
46:m2:1211:A:OP1	75:F3:82:LYS:HD2	1.44	1.14
75:F3:59:PHE:CE2	76:O3:126:ILE:HB	1.81	1.14
46:m2:1865:A:C4	75:F3:75:VAL:O	2.01	1.14
46:m2:1865:A:C2	46:m2:1865:A:N3	2.16	1.13
46:m2:1868:A:H1'	75:F3:95:ARG:HG3	1.14	1.13
75:F3:26:CYS:HB2	76:O3:149:ARG:HB2	1.29	1.13
46:m2:1865:A:N1	75:F3:75:VAL:C	2.06	1.12
75:F3:53:ILE:HB	76:O3:117:ARG:CZ	1.78	1.12
46:m2:1868:A:H1'	75:F3:95:ARG:CD	1.80	1.12
46:m2:1868:A:O4'	75:F3:95:ARG:NE	1.83	1.12
75:F3:26:CYS:CB	76:O3:149:ARG:HD2	1.79	1.12
46:m2:1065:C:H2'	76:O3:150:ARG:HA	1.21	1.11
46:m2:1865:A:C2	75:F3:78:ALA:CB	2.32	1.11
75:F3:45:VAL:CB	76:O3:117:ARG:HD2	1.80	1.11
46:m2:1865:A:C2	75:F3:75:VAL:HA	1.83	1.11
75:F3:53:ILE:CD1	76:O3:117:ARG:CB	2.27	1.10
46:m2:1212:G:H5'	75:F3:85:ARG:NH1	1.64	1.10
75:F3:56:ALA:HB3	76:O3:121:ARG:CB	1.81	1.10
46:m2:1210:A:O2'	75:F3:79:ILE:CG2	1.99	1.10
75:F3:53:ILE:N	76:O3:117:ARG:NH2	1.97	1.10
46:m2:1745:G:N2	46:m2:1793:A:H62	1.48	1.10
46:m2:1840:U:H4'	76:O3:149:ARG:HG3	1.22	1.10
75:F3:26:CYS:SG	76:O3:149:ARG:HD2	1.90	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:F3:57:SER:N	76:O3:121:ARG:HA	1.35	1.10
75:F3:69:VAL:CA	76:O3:107:THR:OG1	1.98	1.10
75:F3:56:ALA:CB	76:O3:121:ARG:CB	2.31	1.09
75:F3:45:VAL:HG11	76:O3:117:ARG:CD	1.83	1.09
46:m2:1211:A:OP2	75:F3:82:LYS:HD2	1.51	1.09
46:m2:1865:A:C4	75:F3:75:VAL:C	2.30	1.09
46:m2:1865:A:N3	75:F3:75:VAL:HA	1.67	1.09
46:m2:1865:A:N6	75:F3:28:ARG:HH22	1.50	1.09
75:F3:50:VAL:N	76:O3:117:ARG:HH12	1.51	1.09
75:F3:45:VAL:CG2	76:O3:117:ARG:HD2	1.80	1.09
46:m2:1694:U:P	75:F3:89:ARG:N	2.26	1.08
75:F3:57:SER:HA	76:O3:121:ARG:N	1.68	1.08
46:m2:1211:A:OP1	75:F3:82:LYS:CD	2.02	1.07
46:m2:1745:G:H21	46:m2:1793:A:N6	1.52	1.07
75:F3:53:ILE:N	76:O3:117:ARG:HH21	1.49	1.07
46:m2:1693:U:O3'	46:m2:1694:U:P	2.10	1.07
75:F3:69:VAL:HA	76:O3:107:THR:OG1	1.19	1.07
46:m2:444:C:N4	46:m2:451:A:H62	1.51	1.07
75:F3:45:VAL:CG2	76:O3:117:ARG:HG3	1.84	1.07
75:F3:53:ILE:HD12	76:O3:117:ARG:NE	1.69	1.07
46:m2:1865:A:N1	75:F3:74:CYS:C	2.12	1.06
46:m2:1865:A:N3	75:F3:75:VAL:O	1.88	1.06
75:F3:4:LYS:CE	75:F3:92:ARG:HH21	1.67	1.06
75:F3:53:ILE:HG21	76:O3:117:ARG:CA	1.85	1.06
75:F3:57:SER:HA	76:O3:120:ALA:C	1.81	1.05
46:m2:1694:U:P	75:F3:88:SER:CA	2.43	1.05
46:m2:1837:A:C2	75:F3:77:CYS:CA	2.38	1.05
75:F3:56:ALA:H	76:O3:121:ARG:HD2	1.13	1.05
75:F3:45:VAL:HG21	76:O3:117:ARG:HD2	1.29	1.05
75:F3:53:ILE:HD13	76:O3:117:ARG:HB2	1.17	1.05
46:m2:1865:A:C2	75:F3:75:VAL:O	2.11	1.04
46:m2:1865:A:N3	75:F3:78:ALA:HB3	1.70	1.04
46:m2:1867:C:H3'	75:F3:95:ARG:HH12	1.19	1.04
46:m2:1694:U:P	75:F3:88:SER:HA	1.98	1.04
75:F3:59:PHE:CZ	76:O3:126:ILE:CA	2.28	1.04
46:m2:1840:U:H4'	76:O3:149:ARG:CG	1.77	1.02
46:m2:1862:A:H2'	75:F3:8:ASN:HB3	1.39	1.02
75:F3:56:ALA:HB3	76:O3:121:ARG:HB3	1.27	1.02
46:m2:679:G:N2	46:m2:1030:A:H62	1.58	1.02
75:F3:50:VAL:C	76:O3:117:ARG:NH2	2.17	1.02
75:F3:56:ALA:CA	76:O3:121:ARG:HB3	1.88	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1212:G:OP1	75:F3:85:ARG:NH2	1.77	1.02
46:m2:1211:A:H5"	75:F3:82:LYS:C	1.85	1.01
75:F3:53:ILE:HD13	76:O3:117:ARG:CG	1.90	1.01
75:F3:53:ILE:HA	76:O3:121:ARG:CD	1.89	1.01
75:F3:53:ILE:HA	76:O3:121:ARG:NE	1.73	1.01
46:m2:679:G:H21	46:m2:1030:A:N6	1.58	1.00
46:m2:1210:A:C2	75:F3:86:ASN:CB	2.44	1.00
46:m2:1865:A:C5	75:F3:76:SER:N	2.27	1.00
46:m2:1211:A:OP1	75:F3:82:LYS:CG	2.09	1.00
46:m2:1212:G:OP2	75:F3:82:LYS:NZ	1.94	1.00
75:F3:50:VAL:HA	76:O3:117:ARG:CZ	1.91	1.00
75:F3:53:ILE:CG1	76:O3:117:ARG:NE	2.25	1.00
75:F3:57:SER:N	76:O3:121:ARG:HG2	1.77	1.00
46:m2:1865:A:C5	75:F3:75:VAL:CB	2.45	0.99
46:m2:1865:A:N3	75:F3:75:VAL:CA	2.24	0.99
46:m2:1694:U:P	75:F3:88:SER:HB3	2.02	0.99
75:F3:45:VAL:CG1	76:O3:117:ARG:HD2	1.93	0.99
46:m2:1868:A:N9	75:F3:95:ARG:HD2	1.76	0.98
46:m2:1867:C:H4'	75:F3:7:ASN:ND2	1.77	0.98
75:F3:53:ILE:CG2	76:O3:117:ARG:CB	2.16	0.98
75:F3:59:PHE:HE1	76:O3:126:ILE:O	1.46	0.97
75:F3:56:ALA:C	76:O3:121:ARG:HB3	1.80	0.97
46:m2:444:C:H42	46:m2:451:A:N6	1.63	0.97
75:F3:53:ILE:CA	76:O3:121:ARG:HD3	1.71	0.97
46:m2:1867:C:C3'	75:F3:95:ARG:HH12	1.78	0.97
46:m2:1865:A:H61	75:F3:28:ARG:NH2	1.63	0.97
46:m2:1867:C:C3'	75:F3:7:ASN:HD21	1.77	0.96
46:m2:1066:C:O4'	76:O3:150:ARG:CG	2.14	0.96
75:F3:59:PHE:CE1	76:O3:126:ILE:O	2.19	0.96
46:m2:1066:C:C4'	76:O3:150:ARG:HG3	1.94	0.96
75:F3:56:ALA:HB1	76:O3:121:ARG:HB3	1.46	0.96
46:m2:679:G:H21	46:m2:1030:A:H62	0.99	0.96
9:A2:938:U:H3	9:A2:1049:C:H42	0.97	0.96
46:m2:1865:A:C6	46:m2:1865:A:N1	2.34	0.96
75:F3:22:ARG:NH2	76:O3:146:ARG:N	2.14	0.95
75:F3:57:SER:N	76:O3:121:ARG:CA	2.13	0.95
75:F3:45:VAL:HG11	76:O3:117:ARG:HH11	0.82	0.95
75:F3:56:ALA:N	76:O3:121:ARG:HD2	1.81	0.95
75:F3:58:VAL:HG11	76:O3:123:GLY:C	1.91	0.95
46:m2:1694:U:P	75:F3:88:SER:CB	2.55	0.95
46:m2:1865:A:N1	46:m2:1865:A:C2	2.35	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:F3:53:ILE:HG21	76:O3:117:ARG:CG	1.96	0.95
75:F3:26:CYS:HB2	76:O3:149:ARG:CB	1.97	0.94
46:m2:1210:A:C4'	75:F3:79:ILE:HG21	1.92	0.94
46:m2:444:C:H42	46:m2:451:A:H62	0.98	0.94
46:m2:1211:A:P	75:F3:82:LYS:HA	2.07	0.94
75:F3:56:ALA:CB	76:O3:121:ARG:HD2	1.98	0.94
46:m2:1212:G:P	75:F3:82:LYS:HZ1	1.91	0.94
46:m2:1865:A:N1	75:F3:75:VAL:CA	2.31	0.94
75:F3:82:LYS:HZ2	75:F3:82:LYS:HB3	1.30	0.94
75:F3:45:VAL:CG1	76:O3:117:ARG:CD	2.47	0.93
46:m2:1864:G:N7	75:F3:34:LYS:HE3	1.82	0.93
75:F3:53:ILE:HG21	76:O3:117:ARG:HB3	0.97	0.93
75:F3:67:LEU:HB2	76:O3:113:GLN:HE21	1.33	0.93
70:P3:106:THR:HG22	70:P3:108:ALA:H	1.34	0.93
46:m2:1841:U:H6	75:F3:28:ARG:HH12	1.10	0.92
46:m2:1868:A:H5'	75:F3:95:ARG:NH2	1.85	0.92
75:F3:45:VAL:HG11	76:O3:117:ARG:HD2	1.48	0.92
75:F3:4:LYS:HE3	75:F3:92:ARG:NH2	1.84	0.92
75:F3:94:ASP:OD1	75:F3:95:ARG:N	2.03	0.92
46:m2:1211:A:OP1	75:F3:82:LYS:CB	2.17	0.92
46:m2:1840:U:C4'	76:O3:149:ARG:HG3	1.99	0.92
75:F3:58:VAL:CG1	76:O3:123:GLY:C	2.43	0.91
75:F3:45:VAL:HG21	76:O3:117:ARG:HD3	1.50	0.91
75:F3:59:PHE:HZ	76:O3:126:ILE:N	1.53	0.91
75:F3:53:ILE:CB	76:O3:117:ARG:HB3	2.00	0.91
75:F3:22:ARG:HH21	76:O3:145:GLY:N	1.69	0.91
9:A2:740:A:H62	9:A2:828:G:H21	0.97	0.91
46:m2:198:U:H3	46:m2:203:G:H1	1.13	0.91
46:m2:1840:U:H5'	76:O3:150:ARG:O	1.71	0.90
46:m2:1210:A:C2'	75:F3:79:ILE:CG2	2.50	0.90
75:F3:53:ILE:CD1	76:O3:117:ARG:NE	2.20	0.90
9:A2:4182:U:H3'	9:A2:4183:U:H5"	1.53	0.90
46:m2:1862:A:N7	75:F3:10:ARG:NH2	2.19	0.90
75:F3:44:ILE:CD1	76:O3:113:GLN:HA	2.00	0.90
46:m2:1065:C:O2'	76:O3:149:ARG:O	1.89	0.90
75:F3:56:ALA:CB	76:O3:121:ARG:CZ	2.50	0.90
75:F3:57:SER:HA	76:O3:120:ALA:O	1.72	0.89
75:F3:53:ILE:CG1	76:O3:117:ARG:HB3	2.03	0.89
9:A2:740:A:H62	9:A2:828:G:N2	1.69	0.89
46:m2:1867:C:H3'	75:F3:95:ARG:NH1	1.86	0.89
46:m2:1591:A:H61	46:m2:1674:U:H1'	1.36	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1865:A:N1	75:F3:74:CYS:SG	2.46	0.88
75:F3:68:TYR:C	76:O3:107:THR:HG23	1.96	0.88
75:F3:56:ALA:CB	76:O3:121:ARG:CD	2.50	0.88
75:F3:57:SER:HA	76:O3:121:ARG:HA	0.96	0.88
75:F3:45:VAL:CG1	76:O3:117:ARG:NH1	2.21	0.88
75:F3:58:VAL:CB	76:O3:123:GLY:C	2.23	0.88
9:A2:938:U:H3	9:A2:1049:C:N4	1.71	0.88
46:m2:1864:G:C2	75:F3:75:VAL:HG22	2.09	0.88
75:F3:53:ILE:CA	76:O3:121:ARG:CD	2.41	0.88
75:F3:68:TYR:O	76:O3:107:THR:HG23	1.72	0.88
46:m2:1865:A:C6	75:F3:75:VAL:C	2.52	0.87
46:m2:1693:U:O2	75:F3:86:ASN:O	1.91	0.87
46:m2:1862:A:C2'	75:F3:8:ASN:HB3	2.04	0.87
75:F3:45:VAL:CG2	76:O3:117:ARG:CG	2.34	0.87
46:m2:1864:G:O6	75:F3:34:LYS:HD3	1.75	0.87
75:F3:40:VAL:CG2	75:F3:69:VAL:O	2.21	0.87
46:m2:1865:A:C6	75:F3:75:VAL:HG22	2.09	0.87
46:m2:1750:G:H1	46:m2:1788:U:H3	0.90	0.87
75:F3:56:ALA:HB3	76:O3:121:ARG:CZ	2.04	0.87
46:m2:1865:A:C2	75:F3:78:ALA:HB2	2.09	0.87
46:m2:1864:G:H1'	46:m2:1865:A:N7	1.90	0.86
75:F3:30:VAL:HG21	75:F3:74:CYS:CB	2.05	0.86
75:F3:22:ARG:NH2	76:O3:145:GLY:C	2.33	0.86
75:F3:56:ALA:HB3	76:O3:121:ARG:NE	1.89	0.86
46:m2:1865:A:C2	75:F3:78:ALA:HB3	2.10	0.86
46:m2:1865:A:C6	75:F3:75:VAL:N	2.43	0.86
75:F3:45:VAL:CG2	76:O3:117:ARG:HD3	2.02	0.86
46:m2:1482:A:H4'	57:y2:131:LYS:HE3	1.56	0.86
46:m2:1865:A:H2	75:F3:78:ALA:CA	1.87	0.86
46:m2:1865:A:N6	75:F3:28:ARG:NH2	2.21	0.85
9:A2:1488:C:H3'	9:A2:1490:U:O2	1.75	0.85
75:F3:70:LYS:N	76:O3:107:THR:OG1	2.09	0.85
46:m2:1211:A:C5'	75:F3:82:LYS:O	2.22	0.85
46:m2:1865:A:C6	75:F3:28:ARG:NH2	2.45	0.85
75:F3:4:LYS:HE3	75:F3:92:ARG:HH21	1.38	0.85
9:A2:3894:U:H3	9:A2:3933:A:H2	1.25	0.85
46:m2:1862:A:H3'	75:F3:8:ASN:CG	2.01	0.85
75:F3:87:ARG:HB3	75:F3:91:ALA:CB	2.07	0.85
75:F3:56:ALA:HB3	76:O3:121:ARG:CG	2.07	0.84
46:m2:1865:A:N3	75:F3:75:VAL:C	2.34	0.84
46:m2:1065:C:C2'	76:O3:150:ARG:HA	2.06	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1865:A:C6	75:F3:75:VAL:CA	2.60	0.84
46:m2:1210:A:N3	75:F3:86:ASN:CB	2.39	0.84
46:m2:1217:C:H42	46:m2:1222:A:H61	1.21	0.84
75:F3:53:ILE:HA	76:O3:121:ARG:HE	1.40	0.84
46:m2:1210:A:H1'	75:F3:86:ASN:ND2	1.91	0.83
46:m2:1211:A:OP2	75:F3:82:LYS:CD	2.23	0.83
46:m2:1865:A:C4	75:F3:75:VAL:CA	2.61	0.83
75:F3:53:ILE:CD1	76:O3:117:ARG:HB3	1.97	0.83
75:F3:44:ILE:HD12	76:O3:113:GLN:HA	1.61	0.83
75:F3:53:ILE:HG23	76:O3:117:ARG:C	2.04	0.83
46:m2:1862:A:H3'	75:F3:8:ASN:OD1	1.79	0.83
75:F3:50:VAL:CA	76:O3:117:ARG:CZ	2.54	0.83
75:F3:69:VAL:HA	76:O3:107:THR:HG1	1.43	0.83
46:m2:1065:C:C2'	76:O3:149:ARG:O	2.27	0.83
46:m2:1474:C:N4	46:m2:1478:A:H62	1.76	0.82
9:A2:2366:A:H5'	9:A2:2443:G:H4'	1.61	0.82
12:D2:147:ARG:HH21	12:D2:155:LYS:HD2	1.44	0.82
75:F3:4:LYS:CE	75:F3:92:ARG:NH2	2.41	0.82
76:O3:59:GLY:HA2	76:O3:68:GLU:HG2	1.60	0.82
13:E2:90:VAL:HG13	13:E2:104:THR:HG22	1.61	0.82
75:F3:57:SER:CA	76:O3:121:ARG:CA	2.16	0.82
75:F3:94:ASP:O	75:F3:95:ARG:HD3	1.80	0.82
46:m2:1210:A:HO2'	75:F3:79:ILE:HG23	1.40	0.82
46:m2:1862:A:N6	46:m2:1864:G:O6	2.13	0.82
75:F3:53:ILE:CG2	76:O3:117:ARG:HE	1.93	0.82
16:H2:125:THR:HG22	16:H2:126:GLU:HG3	1.61	0.82
46:m2:959:A:H5"	76:O3:41:PHE:HZ	1.45	0.82
75:F3:26:CYS:SG	76:O3:149:ARG:CD	2.68	0.82
2:B1:200:THR:HG22	2:B1:201:THR:HG23	1.62	0.81
75:F3:49:ALA:O	76:O3:117:ARG:CZ	2.28	0.81
46:m2:1864:G:N3	75:F3:75:VAL:CG2	2.43	0.81
9:A2:1011:U:H3'	9:A2:1012:C:H5"	1.62	0.81
9:A2:1361:G:HO2'	9:A2:2567:A:H8	1.28	0.81
75:F3:53:ILE:CD1	76:O3:117:ARG:CG	2.53	0.81
46:m2:1868:A:O4'	75:F3:95:ARG:CD	2.27	0.81
75:F3:57:SER:H	76:O3:121:ARG:HG2	1.46	0.81
75:F3:57:SER:N	76:O3:121:ARG:CG	2.44	0.80
17:I2:165:LYS:HG2	17:I2:169:ARG:HH21	1.47	0.80
46:m2:1647:C:H5'	57:y2:139:ALA:HA	1.62	0.80
46:m2:1474:C:H42	46:m2:1478:A:H62	1.28	0.80
53:o2:63:ARG:HG2	53:o2:185:MET:HE1	1.62	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:F3:53:ILE:CG2	76:O3:117:ARG:CA	2.55	0.80
75:F3:53:ILE:CA	76:O3:117:ARG:HH21	1.94	0.80
9:A2:740:A:N6	9:A2:828:G:H21	1.77	0.80
75:F3:50:VAL:C	76:O3:117:ARG:HH22	1.88	0.80
75:F3:44:ILE:HG13	75:F3:45:VAL:HG23	1.63	0.79
46:m2:1210:A:O4'	75:F3:79:ILE:HG21	1.81	0.79
75:F3:22:ARG:HH21	76:O3:145:GLY:C	1.89	0.79
75:F3:45:VAL:HG11	76:O3:117:ARG:CZ	2.11	0.79
9:A2:1259:C:H42	9:A2:1901:A:H61	1.30	0.79
46:m2:1667:G:H22	59:B3:87:VAL:HG22	1.48	0.79
46:m2:1694:U:O5'	75:F3:89:ARG:HG3	1.82	0.79
46:m2:1865:A:H61	75:F3:28:ARG:HH22	0.83	0.79
46:m2:1238:G:H21	46:m2:1524:A:H62	1.29	0.79
75:F3:87:ARG:HB3	75:F3:91:ALA:HB1	1.65	0.79
46:m2:1837:A:H1'	75:F3:76:SER:HA	1.65	0.78
9:A2:1005:G:H22	9:A2:1019:G:H22	1.32	0.78
46:m2:1865:A:C5	46:m2:1865:A:N6	2.50	0.78
75:F3:40:VAL:HG23	75:F3:69:VAL:O	1.83	0.78
56:x2:93:MET:HE1	56:x2:104:GLN:HB3	1.63	0.78
75:F3:50:VAL:CA	76:O3:117:ARG:HH12	1.82	0.78
75:F3:26:CYS:HB2	76:O3:149:ARG:HD2	1.66	0.78
75:F3:56:ALA:H	76:O3:121:ARG:CD	1.93	0.78
46:m2:1645:U:H1'	57:y2:142:GLN:OE1	1.83	0.78
75:F3:22:ARG:NH2	76:O3:145:GLY:N	2.31	0.78
46:m2:154:U:H3	46:m2:164:A:H61	1.32	0.77
46:m2:1065:C:O2	76:O3:150:ARG:C	2.27	0.77
46:m2:1868:A:C4	75:F3:95:ARG:HA	2.07	0.77
75:F3:50:VAL:O	76:O3:117:ARG:CZ	2.32	0.77
9:A2:3782:U:H3	9:A2:3804:G:H1	1.30	0.77
46:m2:70:G:H21	46:m2:79:A:H62	1.33	0.77
46:m2:1050:G:OP1	76:O3:144:GLY:N	2.18	0.77
75:F3:50:VAL:N	76:O3:117:ARG:NH1	2.17	0.77
75:F3:65:PRO:CG	76:O3:116:LEU:HD23	2.15	0.77
46:m2:887:U:H3	46:m2:903:G:H1	1.31	0.77
46:m2:1841:U:H5"	75:F3:28:ARG:NH1	1.99	0.77
46:m2:1864:G:C5	75:F3:34:LYS:NZ	2.51	0.77
46:m2:1066:C:O4'	76:O3:150:ARG:CD	2.32	0.77
46:m2:1210:A:H4'	75:F3:79:ILE:HG22	0.78	0.77
75:F3:50:VAL:C	76:O3:117:ARG:CZ	2.58	0.77
46:m2:683:U:H4'	62:E3:9:THR:HG22	1.66	0.76
46:m2:1237:G:H21	56:x2:135:ALA:HA	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1693:U:H3'	46:m2:1694:U:OP2	1.85	0.76
46:m2:1865:A:N6	75:F3:75:VAL:HG23	2.00	0.76
46:m2:1865:A:C2	75:F3:78:ALA:CA	2.65	0.76
75:F3:44:ILE:HD12	76:O3:113:GLN:O	1.85	0.76
46:m2:1520:C:H5'	46:m2:1521:U:H5"	1.67	0.76
46:m2:1864:G:C5	75:F3:34:LYS:HE3	2.20	0.76
46:m2:1865:A:H3'	75:F3:5:ARG:NH2	2.01	0.76
75:F3:45:VAL:HG12	76:O3:117:ARG:HH11	1.48	0.76
46:m2:846:U:H2'	46:m2:847:G:H8	1.51	0.76
46:m2:1488:A:H2'	46:m2:1489:A:H8	1.50	0.76
46:m2:651:U:H2'	46:m2:652:A:H8	1.50	0.76
46:m2:911:G:H2'	46:m2:912:G:H8	1.51	0.75
46:m2:1837:A:C2	75:F3:77:CYS:HA	2.21	0.75
46:m2:540:U:H3	46:m2:548:G:H1	1.30	0.75
46:m2:1210:A:C2'	75:F3:79:ILE:HG23	2.14	0.75
57:y2:41:MET:HE2	57:y2:41:MET:HA	1.69	0.75
19:K2:39:THR:HG22	19:K2:41:SER:H	1.50	0.75
75:F3:30:VAL:HG21	75:F3:74:CYS:HB3	1.67	0.75
75:F3:57:SER:N	76:O3:121:ARG:CB	2.46	0.75
76:O3:96:LYS:HG2	76:O3:130:GLU:HB2	1.69	0.75
75:F3:38:LYS:HD3	75:F3:71:LEU:HD12	1.68	0.74
46:m2:1865:A:C5	75:F3:75:VAL:HB	2.21	0.74
56:x2:89:MET:HE3	56:x2:92:SER:HB2	1.69	0.74
46:m2:153:G:H22	46:m2:165:G:H1	1.34	0.74
46:m2:1657:C:H2'	46:m2:1658:G:H8	1.52	0.74
75:F3:56:ALA:HB3	76:O3:121:ARG:HD2	1.54	0.74
46:m2:1066:C:H5'	76:O3:150:ARG:CG	2.16	0.74
46:m2:1865:A:C2	75:F3:74:CYS:C	2.65	0.74
53:o2:58:LEU:HD13	53:o2:174:MET:HE1	1.70	0.74
75:F3:57:SER:CA	76:O3:120:ALA:O	2.34	0.74
48:p2:110:MET:HA	48:p2:110:MET:HE3	1.67	0.74
46:m2:385:G:H21	51:w2:133:PRO:HG2	1.50	0.74
75:F3:82:LYS:HZ2	75:F3:82:LYS:CB	2.01	0.74
46:m2:1867:C:O3'	75:F3:7:ASN:ND2	2.20	0.74
46:m2:1211:A:O5'	75:F3:82:LYS:NZ	2.20	0.74
46:m2:1217:C:N4	46:m2:1222:A:H61	1.84	0.74
46:m2:1210:A:C3'	75:F3:79:ILE:CG2	2.53	0.73
54:s2:201:LYS:HA	54:s2:204:ARG:HD2	1.69	0.73
46:m2:1867:C:C4'	75:F3:7:ASN:HD21	2.00	0.73
8:H1:125:SER:HB3	9:A2:3593:C:H1'	1.71	0.73
46:m2:1066:C:C4'	76:O3:150:ARG:CG	2.67	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:1006:G:H1	9:A2:1018:U:H3	1.36	0.73
32:X2:90:ARG:HD3	32:X2:102:LEU:HD23	1.69	0.73
46:m2:602:G:H2'	46:m2:603:G:C8	2.23	0.73
75:F3:53:ILE:CG2	76:O3:117:ARG:C	2.62	0.73
75:F3:53:ILE:HD13	76:O3:117:ARG:HB3	1.40	0.72
17:I2:27:VAL:HG13	17:I2:98:ALA:HB1	1.71	0.72
46:m2:1609:A:H61	46:m2:1634:G:H1'	1.54	0.72
50:r2:71:LYS:HG2	50:r2:76:VAL:HG22	1.71	0.72
46:m2:1658:G:H1	46:m2:1670:U:H3	1.37	0.72
9:A2:1354:U:H3	9:A2:1431:G:H1	1.38	0.72
46:m2:1837:A:N1	75:F3:77:CYS:C	2.48	0.72
56:x2:53:GLN:HG3	56:x2:56:LEU:HD23	1.71	0.72
57:y2:70:VAL:HG11	57:y2:84:ILE:HG12	1.72	0.72
75:F3:30:VAL:HG21	75:F3:74:CYS:HB2	1.69	0.72
75:F3:53:ILE:HB	76:O3:117:ARG:NH2	2.04	0.72
75:F3:53:ILE:HG23	76:O3:117:ARG:O	1.90	0.72
19:K2:53:MET:HE3	19:K2:57:ASN:HB3	1.72	0.72
9:A2:3430:A:H2'	9:A2:3431:A:C8	2.24	0.72
9:A2:1360:A:H2	9:A2:2568:A:H8	1.38	0.71
28:T2:99:ASP:HB3	28:T2:102:ARG:HH21	1.55	0.71
46:m2:1694:U:H4'	75:F3:87:ARG:O	1.90	0.71
53:o2:147:LEU:HD11	53:o2:174:MET:HE2	1.71	0.71
75:F3:63:VAL:HG22	75:F3:65:PRO:HD3	1.71	0.71
9:A2:2224:C:H5	9:A2:2226:G:H1	1.36	0.71
9:A2:2279:U:H3	9:A2:2284:A:H2	1.37	0.71
46:m2:658:G:H21	46:m2:665:C:H5'	1.55	0.71
46:m2:1864:G:C5	75:F3:34:LYS:CE	2.74	0.71
75:F3:53:ILE:HD12	76:O3:117:ARG:HD3	0.72	0.71
46:m2:1841:U:H6	75:F3:28:ARG:NH1	1.86	0.71
66:J3:102:LEU:HB3	66:J3:130:ILE:HD11	1.72	0.71
1:A1:120:ILE:HD13	19:K2:3:VAL:HG13	1.72	0.71
3:C1:44:GLU:HG2	3:C1:58:ASP:HB2	1.71	0.71
8:H1:60:VAL:HG22	8:H1:134:LEU:HB2	1.71	0.71
46:m2:1865:A:C5	75:F3:75:VAL:CA	2.74	0.71
46:m2:1837:A:C2	75:F3:76:SER:C	2.68	0.71
9:A2:1769:A:H2'	9:A2:1770:G:H8	1.55	0.71
46:m2:1695:G:O4'	75:F3:4:LYS:NZ	2.24	0.71
46:m2:1212:G:H5'	75:F3:85:ARG:CD	2.15	0.71
46:m2:1840:U:H5'	76:O3:150:ARG:C	2.15	0.71
66:J3:184:VAL:HG13	66:J3:243:ALA:HB1	1.70	0.71
9:A2:4124:G:H1	9:A2:4135:U:H3	1.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:665:C:H2'	9:A2:666:G:H8	1.56	0.70
46:m2:1654:G:H1	46:m2:1674:U:H3	1.39	0.70
46:m2:1263:C:H41	46:m2:1663:A:H62	1.39	0.70
46:m2:1290:U:H3	46:m2:1313:C:H42	1.38	0.70
46:m2:1862:A:C2	46:m2:1864:G:N7	2.59	0.70
67:K3:63:MET:HB3	67:K3:98:ARG:HE	1.57	0.70
46:m2:1210:A:H4'	75:F3:79:ILE:CB	2.19	0.70
46:m2:1653:A:H2'	46:m2:1654:G:H8	1.56	0.70
54:s2:136:ARG:HH21	54:s2:199:VAL:HG13	1.56	0.70
48:p2:139:CYS:HB3	48:p2:172:MET:HE3	1.74	0.70
46:m2:1488:A:H2'	46:m2:1489:A:C8	2.26	0.70
50:r2:100:ARG:HB2	50:r2:114:ILE:HD13	1.73	0.70
37:c2:67:LYS:HG3	37:c2:71:LYS:HZ1	1.56	0.70
46:m2:1209:G:C2'	75:F3:80:HIS:HE1	2.03	0.70
75:F3:26:CYS:CB	76:O3:149:ARG:CD	2.64	0.70
75:F3:42:ARG:HB3	75:F3:42:ARG:CZ	2.22	0.70
70:P3:27:ILE:HG22	70:P3:29:PRO:HD2	1.74	0.70
9:A2:4541:G:H2'	9:A2:4542:G:H8	1.57	0.69
46:m2:1615:G:H2'	46:m2:1616:A:C8	2.26	0.69
48:p2:179:ASN:HB3	48:p2:183:GLU:HB2	1.74	0.69
75:F3:40:VAL:HG22	75:F3:69:VAL:O	1.92	0.69
71:Q3:44:LEU:HD23	71:Q3:55:ILE:HD11	1.73	0.69
46:m2:1210:A:H2	75:F3:86:ASN:HB2	1.49	0.69
46:m2:1210:A:C1'	75:F3:79:ILE:CG2	2.71	0.69
46:m2:1212:G:C5'	75:F3:85:ARG:CD	2.69	0.69
9:A2:3614:G:H21	47:n2:56:C:H1'	1.56	0.69
46:m2:176:U:H3	46:m2:315:A:H62	1.38	0.69
46:m2:1693:U:O2'	75:F3:91:ALA:CB	2.40	0.69
46:m2:1694:U:P	75:F3:88:SER:C	2.75	0.69
75:F3:26:CYS:HB2	76:O3:149:ARG:CD	2.21	0.69
37:c2:29:ARG:HG2	37:c2:32:ARG:HD3	1.74	0.69
46:m2:1865:A:H3'	75:F3:5:ARG:HH21	1.56	0.69
46:m2:1868:A:C1'	75:F3:95:ARG:HG3	2.09	0.69
46:m2:930:G:H2'	46:m2:931:G:H8	1.58	0.68
50:r2:125:LYS:HD2	50:r2:226:PHE:HA	1.75	0.68
75:F3:88:SER:O	75:F3:91:ALA:HB3	1.93	0.68
9:A2:3298:A:H1'	38:d2:2:THR:HB	1.74	0.68
46:m2:1867:C:H3'	75:F3:95:ARG:HH22	1.58	0.68
49:q2:29:LEU:HB3	49:q2:32:ASP:HB2	1.75	0.68
46:m2:1066:C:H5'	76:O3:150:ARG:HG2	1.76	0.68
54:s2:203:ASN:O	75:F3:52:ASP:OD2	2.12	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:519:C:H2'	46:m2:520:G:H8	1.58	0.68
46:m2:1261:A:H62	46:m2:1520:C:H3'	1.59	0.68
75:F3:88:SER:N	75:F3:91:ALA:HB3	2.09	0.68
9:A2:4067:1MA:N6	9:A2:4079:G:HO2'	1.92	0.68
46:m2:1221:C:H2'	46:m2:1222:A:H8	1.57	0.68
46:m2:1574:C:H2'	46:m2:1575:G:C8	2.28	0.68
6:F1:46:ILE:HD11	6:F1:51:ALA:HA	1.75	0.68
46:m2:1065:C:O3'	76:O3:149:ARG:O	2.11	0.68
46:m2:1837:A:C2	75:F3:76:SER:O	2.47	0.68
1:A1:173:ASN:HD21	9:A2:841:A:H62	1.42	0.68
46:m2:10:G:H1'	66:J3:115:GLN:HB2	1.76	0.68
65:I3:79:LEU:HD21	65:I3:87:LEU:HD23	1.76	0.68
9:A2:4391:C:H3'	9:A2:4393:A:H5"	1.76	0.67
46:m2:1864:G:C6	75:F3:34:LYS:CE	2.78	0.67
46:m2:922:A:H4'	70:P3:57:ARG:HB3	1.75	0.67
58:A3:22:GLY:HA2	58:A3:56:ALA:HB3	1.76	0.67
75:F3:69:VAL:C	76:O3:107:THR:OG1	2.38	0.67
21:M2:19:THR:HG22	21:M2:21:LYS:H	1.57	0.67
46:m2:1210:A:O4'	75:F3:79:ILE:CG2	2.40	0.67
46:m2:1210:A:O3'	75:F3:79:ILE:O	2.12	0.67
46:m2:1862:A:C3'	75:F3:8:ASN:HB3	2.23	0.67
46:m2:1065:C:O2'	76:O3:149:ARG:C	2.36	0.67
46:m2:1574:C:H2'	46:m2:1575:G:H8	1.59	0.67
53:o2:91:ALA:HA	53:o2:96:ALA:HB3	1.76	0.67
75:F3:22:ARG:NH2	76:O3:145:GLY:CA	2.56	0.67
46:m2:1060:A:H2'	46:m2:1061:G:C8	2.30	0.67
46:m2:1470:C:H2'	46:m2:1471:A:H8	1.59	0.67
75:F3:22:ARG:HH21	76:O3:145:GLY:CA	2.07	0.67
46:m2:1864:G:C4	75:F3:75:VAL:HG21	2.29	0.67
1:A1:127:VAL:HG13	1:A1:158:VAL:HG12	1.77	0.67
9:A2:4638:G:H2'	9:A2:4639:G:C8	2.29	0.67
15:G2:62:CYS:HB3	15:G2:105:LEU:HD22	1.75	0.67
53:o2:24:HIS:HB3	53:o2:51:LEU:HD21	1.75	0.67
49:q2:9:ARG:HG2	64:H3:34:TYR:HB3	1.77	0.67
53:o2:124:VAL:HG21	53:o2:134:LEU:HD21	1.75	0.67
59:B3:123:LEU:HD13	59:B3:128:GLN:HB2	1.75	0.67
75:F3:56:ALA:CA	76:O3:121:ARG:HD2	2.24	0.67
9:A2:469:C:H5"	9:A2:691:G:H22	1.59	0.67
46:m2:619:G:H4'	62:E3:88:ASP:HB2	1.76	0.67
9:A2:4563:C:H2'	9:A2:4564:G:H8	1.61	0.66
46:m2:1864:G:C6	75:F3:34:LYS:HD3	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E2:103:LYS:HE2	13:E2:149:ASP:OD2	1.95	0.66
46:m2:1633:U:H3'	46:m2:1634:G:H8	1.59	0.66
75:F3:4:LYS:HE2	75:F3:92:ARG:HH21	1.55	0.66
75:F3:56:ALA:HB2	76:O3:121:ARG:HH11	0.63	0.66
75:F3:22:ARG:NH2	76:O3:144:GLY:C	2.53	0.66
9:A2:1005:G:H1	9:A2:1019:G:H1	1.43	0.66
75:F3:67:LEU:HB2	76:O3:113:GLN:NE2	2.08	0.66
75:F3:87:ARG:HB3	75:F3:91:ALA:HB3	1.76	0.66
9:A2:1251:U:H5"	9:A2:1252:C:H5"	1.78	0.66
46:m2:1841:U:C6	75:F3:28:ARG:NH1	2.62	0.66
59:B3:5:THR:HG23	59:B3:7:LYS:H	1.61	0.66
9:A2:1023:C:H2'	9:A2:1024:C:C6	2.31	0.66
9:A2:4351:U:H1'	9:A2:4352:A:H5"	1.78	0.66
46:m2:1040:U:H1'	46:m2:1182:C:H42	1.61	0.66
46:m2:1087:C:O2'	46:m2:1861:A:H4'	1.96	0.66
46:m2:930:G:H2'	46:m2:931:G:C8	2.30	0.66
46:m2:1745:G:H21	46:m2:1793:A:H62	0.72	0.66
31:W2:38:ILE:HG21	31:W2:63:TYR:HB3	1.78	0.65
53:o2:31:ASP:HB3	53:o2:34:MET:HB3	1.78	0.65
75:F3:45:VAL:CG1	76:O3:117:ARG:HD3	2.26	0.65
46:m2:936:G:H1	46:m2:1010:A:H2	1.45	0.65
46:m2:1541:U:H5"	59:B3:43:LYS:HE3	1.77	0.65
6:F1:177:LYS:HB3	6:F1:180:ALA:HB3	1.78	0.65
46:m2:70:G:N2	46:m2:79:A:H62	1.94	0.65
75:F3:44:ILE:HD13	75:F3:65:PRO:HB2	1.78	0.65
46:m2:1864:G:N7	75:F3:34:LYS:CE	2.56	0.65
58:A3:36:VAL:HG13	58:A3:40:TYR:HD2	1.60	0.65
46:m2:1865:A:N7	75:F3:75:VAL:HG23	2.09	0.65
52:z2:5:ARG:HD2	52:z2:9:VAL:HG11	1.78	0.65
9:A2:1153:U:H2'	9:A2:1154:C:C6	2.32	0.65
46:m2:641:C:H2'	46:m2:642:A:C8	2.32	0.65
51:w2:61:PRO:HD2	51:w2:114:SER:HB2	1.77	0.65
29:U2:42:ARG:O	29:U2:42:ARG:HG2	1.95	0.65
29:U2:110:LYS:HD3	29:U2:128:PHE:HB2	1.78	0.65
46:m2:911:G:H2'	46:m2:912:G:C8	2.32	0.65
46:m2:1009:C:H2'	46:m2:1010:A:C8	2.32	0.65
46:m2:1493:G:H2'	46:m2:1494:U:C6	2.31	0.65
9:A2:1376:A:H2'	9:A2:1377:A:C8	2.32	0.65
18:J2:131:ARG:HG3	18:J2:137:ASN:HB2	1.79	0.65
9:A2:1116:U:H4'	33:Y2:18:LYS:HA	1.79	0.65
46:m2:1868:A:C4'	75:F3:95:ARG:CZ	2.75	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1326:G:H22	46:m2:1506:U:H3	1.44	0.64
9:A2:1769:A:H2'	9:A2:1770:G:C8	2.32	0.64
9:A2:4613:A:H2'	9:A2:4614:A:H8	1.62	0.64
46:m2:1868:A:O4'	75:F3:95:ARG:NH1	2.30	0.64
75:F3:52:ASP:O	76:O3:121:ARG:CD	2.45	0.64
75:F3:81:SER:O	75:F3:82:LYS:HB2	1.97	0.64
46:m2:1010:A:H5"	69:N3:97:ALA:HB1	1.79	0.64
75:F3:53:ILE:HB	76:O3:117:ARG:HE	0.50	0.64
75:F3:57:SER:CA	76:O3:120:ALA:C	2.66	0.64
9:A2:181:C:H2'	9:A2:182:G:C8	2.33	0.64
9:A2:265:U:H5"	9:A2:266:C:H5'	1.79	0.64
46:m2:1212:G:OP2	75:F3:82:LYS:CE	2.44	0.64
68:L3:80:ARG:O	68:L3:84:ILE:HD12	1.98	0.64
46:m2:219:A:H4'	46:m2:343:C:H4'	1.79	0.64
46:m2:1066:C:O4'	76:O3:150:ARG:HD3	1.97	0.64
52:z2:58:MET:HA	52:z2:61:ILE:HG12	1.80	0.64
75:F3:88:SER:HB2	75:F3:91:ALA:HB2	1.79	0.64
46:m2:1865:A:N6	75:F3:76:SER:OG	2.31	0.64
16:H2:103:VAL:HG23	16:H2:105:GLY:H	1.63	0.64
46:m2:1066:C:O4'	76:O3:150:ARG:HG3	1.85	0.64
46:m2:1342:U:OP2	46:m2:1343:C:H3'	1.98	0.64
46:m2:1862:A:N1	46:m2:1864:G:N7	2.45	0.64
65:I3:286:CYS:HA	65:I3:302:TYR:HA	1.79	0.64
76:O3:143:LYS:HG3	76:O3:144:GLY:H	1.62	0.64
9:A2:1488:C:C3'	9:A2:1490:U:O2	2.46	0.64
18:J2:94:MET:HE2	18:J2:148:MET:HE3	1.80	0.64
70:P3:42:MET:HE2	70:P3:42:MET:HA	1.80	0.64
9:A2:2386:U:H5"	9:A2:2387:U:H5'	1.80	0.64
9:A2:1744:A:H2'	9:A2:1745:A:C8	2.32	0.63
46:m2:1562:U:H2'	46:m2:1563:G:H8	1.61	0.63
46:m2:1645:U:H2'	46:m2:1646:C:C6	2.33	0.63
75:F3:53:ILE:CB	76:O3:117:ARG:CZ	2.54	0.63
75:F3:12:LYS:HD3	75:F3:18:VAL:HG23	1.79	0.63
2:B1:35:ARG:HH11	2:B1:35:ARG:HG3	1.63	0.63
46:m2:1864:G:N3	75:F3:75:VAL:HG22	2.08	0.63
59:B3:42:HIS:CE1	59:B3:81:GLY:HA3	2.32	0.63
75:F3:56:ALA:C	76:O3:121:ARG:CG	2.72	0.63
46:m2:5:U:H2'	46:m2:6:G:H8	1.61	0.63
46:m2:1867:C:H5'	75:F3:95:ARG:NH1	2.13	0.63
46:m2:1868:A:C4	75:F3:95:ARG:HD2	2.34	0.63
49:q2:42:THR:H	49:q2:46:THR:HG22	1.63	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:93:G:H2'	9:A2:94:A:C8	2.34	0.63
28:T2:33:THR:HG22	28:T2:35:ASP:H	1.63	0.63
46:m2:1867:C:H3'	75:F3:95:ARG:NH2	2.14	0.63
56:x2:90:VAL:HA	56:x2:107:ILE:HG21	1.80	0.63
6:F1:129:ARG:HH21	9:A2:173:C:H5"	1.64	0.63
46:m2:946:A:H5"	76:O3:134:PRO:HB3	1.80	0.63
46:m2:1837:A:C2	75:F3:77:CYS:N	2.66	0.63
9:A2:1084:G:H1'	9:A2:1909:G:H21	1.62	0.63
9:A2:1894:G:H4'	9:A2:1895:G:H4'	1.79	0.63
9:A2:3418:U:H3'	9:A2:3419:A:H8	1.64	0.62
46:m2:18:C:H2'	46:m2:19:A:H8	1.64	0.62
46:m2:1868:A:C5'	75:F3:95:ARG:NH2	2.61	0.62
5:E1:113:ILE:HD13	5:E1:119:TYR:HB2	1.81	0.62
5:E1:15:LEU:HD21	5:E1:157:ILE:HG12	1.81	0.62
56:x2:41:GLN:HG3	56:x2:84:ILE:HD13	1.81	0.62
75:F3:44:ILE:HD12	76:O3:113:GLN:CA	2.27	0.62
75:F3:57:SER:C	76:O3:120:ALA:O	2.41	0.62
1:A1:136:LEU:HD21	1:A1:143:THR:HG22	1.80	0.62
9:A2:129:C:H2'	9:A2:130:G:H8	1.63	0.62
9:A2:1015:C:H2'	9:A2:1016:A:C8	2.35	0.62
9:A2:1766:A:H3'	9:A2:1767:G:H8	1.64	0.62
46:m2:1867:C:N3	75:F3:6:ARG:HD3	2.15	0.62
47:n2:62:C:H2'	47:n2:63:A:C8	2.35	0.62
75:F3:53:ILE:CB	76:O3:117:ARG:NH2	2.63	0.62
9:A2:952:C:H2'	9:A2:953:G:H8	1.64	0.62
51:w2:43:GLY:HA2	51:w2:45:LYS:HE2	1.80	0.62
75:F3:26:CYS:CB	76:O3:149:ARG:CB	2.76	0.62
9:A2:1146:C:H2'	9:A2:1147:A:H8	1.63	0.62
46:m2:44:U:H3	46:m2:484:G:H1'	1.64	0.62
46:m2:1862:A:H5"	75:F3:8:ASN:ND2	2.15	0.62
49:q2:3:VAL:HG23	49:q2:4:GLN:HG2	1.82	0.62
57:y2:130:LYS:HA	57:y2:137:ALA:HA	1.80	0.62
75:F3:67:LEU:CD1	76:O3:109:GLY:O	2.48	0.62
75:F3:82:LYS:NZ	75:F3:82:LYS:HB3	2.01	0.62
9:A2:3769:C:H42	31:W2:58:SER:HB2	1.65	0.62
9:A2:3931:A:H5'	9:A2:3933:A:H1'	1.82	0.62
42:h2:5:TRP:HD1	46:m2:1854:C:OP2	1.82	0.62
46:m2:1867:C:H3'	75:F3:95:ARG:CZ	2.30	0.62
48:p2:35:ALA:HB2	48:p2:44:ILE:HD11	1.81	0.62
50:r2:125:LYS:HZ2	50:r2:227:VAL:H	1.46	0.62
64:H3:8:TRP:HZ2	64:H3:12:ARG:HD3	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:F3:53:ILE:HD13	76:O3:117:ARG:CD	1.97	0.62
9:A2:3926:A:H2'	9:A2:3927:G:C8	2.35	0.61
46:m2:444:C:N4	46:m2:451:A:N6	2.32	0.61
46:m2:1867:C:C4'	75:F3:95:ARG:HH12	2.11	0.61
62:E3:101:LEU:HD22	62:E3:124:LYS:HD3	1.82	0.61
9:A2:4189:C:H2'	9:A2:4190:G:C8	2.34	0.61
44:j2:84:ARG:HG2	44:j2:84:ARG:HH11	1.64	0.61
50:r2:122:LYS:HE3	50:r2:123:LEU:H	1.65	0.61
53:o2:78:SER:HB2	53:o2:87:VAL:HG21	1.82	0.61
46:m2:523:A:H4'	46:m2:826:C:N3	2.15	0.61
46:m2:1201:A:OP1	75:F3:2:THR:N	2.33	0.61
46:m2:1201:A:H2'	46:m2:1202:A:C8	2.35	0.61
46:m2:1522:G:H4'	58:A3:130:ARG:HH21	1.64	0.61
75:F3:26:CYS:O	76:O3:149:ARG:CB	2.49	0.61
12:D2:28:ARG:HB2	12:D2:123:ARG:HB2	1.80	0.61
46:m2:681:A:H3'	46:m2:682:G:H8	1.65	0.61
53:o2:77:ILE:HG12	53:o2:99:ILE:HG12	1.82	0.61
70:P3:3:ARG:NH1	70:P3:29:PRO:HG3	2.15	0.61
71:Q3:16:ARG:H	71:Q3:16:ARG:HD2	1.65	0.61
9:A2:393:U:H3	9:A2:398:G:H1	1.46	0.61
50:r2:252:ARG:HG3	50:r2:255:ARG:HH21	1.65	0.61
56:x2:37:TYR:HB3	56:x2:41:GLN:HB2	1.81	0.61
9:A2:3601:A:H2'	9:A2:3602:G:H8	1.66	0.61
75:F3:36:ILE:HG13	75:F3:84:VAL:HG21	1.82	0.61
75:F3:58:VAL:HB	76:O3:123:GLY:C	2.24	0.61
53:o2:122:LEU:HB3	53:o2:142:LEU:HD11	1.81	0.61
75:F3:52:ASP:O	76:O3:121:ARG:HD3	2.01	0.61
75:F3:56:ALA:CA	76:O3:121:ARG:CB	2.63	0.61
9:A2:662:C:H2'	9:A2:663:C:C6	2.36	0.61
9:A2:1005:G:H22	9:A2:1019:G:N2	1.99	0.61
9:A2:1253:U:H2'	9:A2:1254:C:H6	1.65	0.61
46:m2:1220:C:H1'	46:m2:1685:C:H42	1.66	0.61
69:N3:75:LEU:HD22	69:N3:80:LEU:HD21	1.81	0.61
9:A2:927:C:H2'	9:A2:928:G:C8	2.35	0.61
46:m2:1655:U:H3	46:m2:1673:G:H1	1.48	0.61
59:B3:85:ASN:HB3	59:B3:88:ARG:HH11	1.66	0.61
67:K3:161:PRO:HA	67:K3:171:THR:HG22	1.83	0.61
68:L3:114:VAL:HG13	68:L3:119:LEU:HB2	1.82	0.61
46:m2:1065:C:H2'	76:O3:150:ARG:CA	2.14	0.61
46:m2:1066:C:C5'	76:O3:150:ARG:HG3	2.31	0.61
46:m2:835:C:H41	71:Q3:10:ARG:HD3	1.65	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:x2:57:LEU:HD12	56:x2:60:LEU:HD11	1.83	0.60
22:N2:45:MET:HE3	22:N2:94:GLU:HB3	1.83	0.60
64:H3:41:GLN:HA	64:H3:44:ARG:HD3	1.84	0.60
67:K3:72:ARG:HD3	67:K3:96:SER:HB2	1.84	0.60
75:F3:45:VAL:HG11	76:O3:117:ARG:HD3	1.81	0.60
46:m2:1039:G:H4'	46:m2:1847:A:H4'	1.83	0.60
67:K3:2:LYS:HB2	67:K3:108:VAL:HG22	1.83	0.60
20:L2:89:MET:HE3	20:L2:90:PRO:HD2	1.83	0.60
46:m2:738:C:H2'	46:m2:739:G:C5	2.37	0.60
46:m2:1066:C:C5'	76:O3:150:ARG:CG	2.80	0.60
46:m2:1211:A:H3'	75:F3:82:LYS:NZ	2.16	0.60
62:E3:15:SER:HA	62:E3:18:ARG:HG2	1.83	0.60
9:A2:1488:C:C4	9:A2:1490:U:H1'	2.36	0.60
9:A2:4182:U:H3'	9:A2:4183:U:C5'	2.29	0.60
9:A2:4189:C:H2'	9:A2:4190:G:H8	1.64	0.60
26:R2:82:THR:HG21	36:b2:37:THR:HG22	1.83	0.60
46:m2:1105:C:H2'	46:m2:1106:G:H8	1.67	0.60
46:m2:1210:A:H1'	75:F3:86:ASN:HD22	1.64	0.60
50:r2:72:ILE:HG12	50:r2:90:ILE:HG12	1.82	0.60
9:A2:718:A:H2'	9:A2:719:C:C6	2.37	0.60
56:x2:60:LEU:HB2	56:x2:89:MET:SD	2.42	0.60
46:m2:25:A:HO2'	46:m2:26:U:H6	1.50	0.60
46:m2:1221:C:H2'	46:m2:1222:A:C8	2.36	0.60
46:m2:1695:G:H3'	46:m2:1696:U:C6	2.36	0.60
46:m2:1695:G:H3'	46:m2:1696:U:H6	1.65	0.60
59:B3:110:LEU:HD23	59:B3:112:MET:HE2	1.82	0.60
9:A2:4603:C:H2'	9:A2:4604:C:C6	2.36	0.60
61:D3:32:ILE:HD12	61:D3:34:MET:HB2	1.83	0.60
46:m2:1595:C:H2'	46:m2:1596:A:H8	1.67	0.60
75:F3:22:ARG:HH22	76:O3:146:ARG:N	1.96	0.60
9:A2:1020:C:H2'	9:A2:1021:G:H8	1.67	0.59
46:m2:662:C:H5'	62:E3:13:LEU:HD21	1.84	0.59
46:m2:956:U:H2'	46:m2:957:A:C8	2.37	0.59
46:m2:1065:C:HO2'	76:O3:149:ARG:C	2.08	0.59
46:m2:1105:C:H2'	46:m2:1106:G:C8	2.37	0.59
46:m2:1212:G:H5"	75:F3:85:ARG:CZ	2.25	0.59
49:q2:192:TRP:HD1	49:q2:204:LEU:HD23	1.67	0.59
56:x2:22:LEU:HA	56:x2:25:LEU:HD12	1.83	0.59
56:x2:33:LEU:HD11	56:x2:37:TYR:CZ	2.36	0.59
9:A2:1253:U:H2'	9:A2:1254:C:C6	2.36	0.59
14:F2:144:ILE:O	14:F2:144:ILE:HG13	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1129:C:H4'	72:S3:17:LYS:HE2	1.84	0.59
46:m2:1211:A:C5'	75:F3:82:LYS:HZ3	2.12	0.59
50:r2:10:LYS:H	50:r2:13:ALA:HB3	1.67	0.59
59:B3:72:VAL:HA	59:B3:75:MET:HE2	1.84	0.59
76:O3:45:THR:HG22	76:O3:52:THR:HA	1.82	0.59
46:m2:887:U:O2	46:m2:903:G:N2	2.34	0.59
46:m2:1044:A:C6	46:m2:1045:G:N2	2.70	0.59
46:m2:1336:G:H1'	49:q2:181:VAL:HG12	1.84	0.59
46:m2:1650:G:H5"	57:y2:125:ARG:HB2	1.85	0.59
62:E3:74:LEU:HG	62:E3:76:LYS:H	1.67	0.59
10:B2:110:G:H2'	10:B2:111:C:C6	2.38	0.59
46:m2:1693:U:C5'	46:m2:1694:U:P	2.91	0.59
46:m2:1707:C:H2'	46:m2:1708:G:C8	2.38	0.59
50:r2:95:THR:HB	71:Q3:16:ARG:HD3	1.84	0.59
66:J3:155:ILE:HG22	66:J3:159:LYS:HE2	1.85	0.59
9:A2:4253:U:H2'	9:A2:4254:A:H8	1.68	0.59
46:m2:1630:C:H2'	46:m2:1631:C:C6	2.38	0.59
75:F3:15:ARG:HD3	75:F3:15:ARG:H	1.67	0.59
75:F3:53:ILE:CD1	76:O3:117:ARG:HB2	2.10	0.59
75:F3:65:PRO:HG2	76:O3:116:LEU:HD23	1.83	0.59
54:s2:59:LYS:HB2	54:s2:62:ARG:HD2	1.84	0.59
54:s2:125:SER:HA	54:s2:138:ALA:HA	1.82	0.59
59:B3:104:LEU:HD13	59:B3:121:ARG:HD2	1.84	0.59
75:F3:53:ILE:HG23	76:O3:117:ARG:HB3	1.71	0.59
7:G1:56:GLN:HG2	9:A2:4515:OMG:C6	2.37	0.59
9:A2:746:G:HO2'	9:A2:747:G:H8	1.50	0.59
46:m2:375:G:H2'	46:m2:376:G:C8	2.37	0.59
46:m2:529:C:H2'	46:m2:530:A:C8	2.37	0.59
46:m2:1335:U:H2'	46:m2:1336:G:H8	1.66	0.59
58:A3:33:ILE:HG23	58:A3:100:ALA:HB2	1.85	0.59
9:A2:1068:C:N4	9:A2:1082:A:H61	2.01	0.59
9:A2:4582:U:H4'	9:A2:4583:U:OP1	2.03	0.59
46:m2:1290:U:H3	46:m2:1313:C:N4	2.01	0.59
54:s2:127:ARG:HB2	54:s2:137:GLN:HB2	1.85	0.59
9:A2:1390:G:O2'	9:A2:1425:G:H4'	2.03	0.59
9:A2:4543:G:H2'	9:A2:4544:G:C8	2.38	0.59
46:m2:1405:C:H4'	46:m2:1406:U:H3'	1.84	0.59
46:m2:1864:G:C4	75:F3:75:VAL:CG2	2.86	0.59
75:F3:20:PRO:HG3	76:O3:146:ARG:CD	2.33	0.59
9:A2:4111:U:H2'	9:A2:4112:U:C6	2.38	0.58
9:A2:4563:C:H2'	9:A2:4564:G:C8	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:431:C:H4’	50:r2:12:VAL:HG21	1.85	0.58
46:m2:1393:C:H5’	64:H3:55:LEU:HD22	1.85	0.58
53:o2:76:VAL:HG13	53:o2:87:VAL:HG13	1.84	0.58
70:P3:86:LEU:HD11	70:P3:113:HIS:HB2	1.84	0.58
9:A2:4243:U:H2’	9:A2:4244:C:C6	2.38	0.58
9:A2:4613:A:H2’	9:A2:4614:A:C8	2.37	0.58
46:m2:375:G:H2’	46:m2:376:G:H8	1.67	0.58
46:m2:1217:C:H42	46:m2:1222:A:N6	1.96	0.58
46:m2:1744:C:H3’	46:m2:1745:G:H8	1.68	0.58
46:m2:1864:G:H21	75:F3:28:ARG:NH2	2.00	0.58
47:n2:38:A:HO2’	47:n2:39:C:H6	1.50	0.58
9:A2:1417:G:H2’	9:A2:1418:G:C8	2.39	0.58
9:A2:4650:C:H2’	9:A2:4651:G:O4’	2.03	0.58
46:m2:1261:A:N6	46:m2:1520:C:H3’	2.17	0.58
75:F3:53:ILE:CG1	76:O3:117:ARG:CZ	2.82	0.58
9:A2:2238:G:H1	9:A2:2250:U:H3	1.51	0.58
9:A2:4500:G:H2’	9:A2:4501:G:C8	2.38	0.58
20:L2:90:PRO:HB2	20:L2:93:VAL:HG23	1.86	0.58
9:A2:433:A:C2	9:A2:3523:A:H4’	2.38	0.58
9:A2:768:G:H2’	9:A2:769:G:C8	2.39	0.58
46:m2:1487:U:H4’	49:q2:151:LYS:HE3	1.86	0.58
76:O3:56:VAL:HG11	76:O3:80:ASP:HB3	1.85	0.58
46:m2:1364:U:H5”	46:m2:1365:C:H5	1.67	0.58
48:p2:113:MET:C	48:p2:113:MET:HE2	2.28	0.58
61:D3:25:ALA:HB3	61:D3:28:ASP:HB2	1.85	0.58
9:A2:1079:A:H2’	9:A2:1080:C:C6	2.39	0.58
9:A2:1715:C:H1’	17:I2:87:MET:HG2	1.85	0.58
46:m2:5:U:H2’	46:m2:6:G:C8	2.38	0.58
46:m2:931:G:N2	46:m2:1106:G:H4’	2.19	0.58
68:L3:136:ARG:HG2	68:L3:160:SER:HA	1.86	0.58
17:I2:61:ARG:HG3	17:I2:66:PRO:HB3	1.84	0.58
50:r2:246:LEU:HD23	50:r2:246:LEU:H	1.69	0.58
75:F3:45:VAL:HG11	76:O3:117:ARG:NE	2.19	0.58
46:m2:959:A:H2’	46:m2:960:G:H8	1.69	0.58
9:A2:453:G:H1	9:A2:1107:G:N2	2.02	0.58
28:T2:124:THR:HG23	28:T2:126:LYS:HG3	1.86	0.58
46:m2:1678:U:H2’	46:m2:1679:U:O4’	2.03	0.58
9:A2:744:C:H3’	9:A2:746:G:H5”	1.85	0.57
17:I2:113:ASP:HB3	17:I2:160:ARG:HD2	1.85	0.57
46:m2:1239:C:H2’	46:m2:1240:U:C6	2.39	0.57
50:r2:100:ARG:HH21	50:r2:118:GLU:HG2	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:K3:76:LEU:HD11	67:K3:92:ARG:HD2	1.85	0.57
2:B1:187:LYS:HG2	2:B1:198:THR:HG23	1.86	0.57
46:m2:70:G:H21	46:m2:79:A:N6	1.99	0.57
46:m2:184:G:H2'	46:m2:185:G:H8	1.68	0.57
46:m2:351:A:H2'	46:m2:352:C:C6	2.40	0.57
55:v2:65:ARG:HD3	64:H3:22:ARG:HA	1.84	0.57
9:A2:3627:G:N1	9:A2:3700:A:N6	2.53	0.57
31:W2:40:GLN:HG3	31:W2:42:LYS:HG3	1.87	0.57
46:m2:92:A:H5'	46:m2:93:U:C5	2.39	0.57
46:m2:1716:U:H2'	46:m2:1717:A:C8	2.39	0.57
46:m2:1212:G:C5'	75:F3:85:ARG:NH1	2.49	0.57
46:m2:1338:C:H2'	46:m2:1339:C:C6	2.38	0.57
46:m2:1523:C:H5'	56:x2:126:VAL:HB	1.86	0.57
46:m2:1862:A:H3'	75:F3:8:ASN:CB	2.33	0.57
9:A2:3933:A:H2'	9:A2:3934:A:H2'	1.86	0.57
39:e2:23:VAL:HG22	39:e2:36:VAL:HG22	1.86	0.57
46:m2:1208:G:N2	75:F3:86:ASN:ND2	2.52	0.57
46:m2:1837:A:N1	75:F3:80:HIS:N	2.52	0.57
15:G2:155:THR:HA	15:G2:179:ARG:HA	1.87	0.57
46:m2:183:G:H2'	46:m2:184:G:O4'	2.04	0.57
46:m2:519:C:H2'	46:m2:520:G:C8	2.40	0.57
46:m2:880:G:H1	46:m2:910:A:H61	1.53	0.57
46:m2:1669:U:H2'	46:m2:1670:U:C6	2.40	0.57
3:C1:171:ASP:OD1	3:C1:173:ARG:HD3	2.04	0.57
8:H1:184:ILE:HD13	9:A2:99:A:H5"	1.87	0.57
9:A2:2567:A:H2	20:L2:82:LYS:HB3	1.70	0.57
46:m2:180:G:H3'	46:m2:181:A:H8	1.69	0.57
46:m2:434:G:H2'	46:m2:435:A:H8	1.70	0.57
46:m2:959:A:H2'	46:m2:960:G:C8	2.40	0.57
46:m2:1040:U:H2'	46:m2:1041:C:H6	1.69	0.57
46:m2:1862:A:H5"	75:F3:8:ASN:CG	2.29	0.57
46:m2:1867:C:C5'	75:F3:95:ARG:NH1	2.67	0.57
75:F3:38:LYS:HG2	75:F3:71:LEU:HB3	1.86	0.57
9:A2:129:C:H2'	9:A2:130:G:C8	2.40	0.57
14:F2:106:LYS:HG2	14:F2:108:TRP:CZ2	2.40	0.57
46:m2:145:G:H2'	46:m2:146:G:C8	2.40	0.57
46:m2:853:C:H5"	46:m2:854:G:H5'	1.87	0.57
46:m2:1868:A:C5'	75:F3:95:ARG:CZ	2.83	0.57
62:E3:109:GLY:HA2	62:E3:119:ARG:HE	1.70	0.57
19:K2:96:PRO:HG2	19:K2:98:LEU:HD21	1.87	0.57
26:R2:64:SER:HB2	36:b2:69:LEU:HD13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:864:A:C8	70:P3:105:THR:HB	2.40	0.57
46:m2:1517:G:H1'	56:x2:97:TYR:HE2	1.70	0.57
46:m2:1865:A:H1'	75:F3:79:ILE:HD11	1.86	0.57
46:m2:1867:C:C4'	75:F3:7:ASN:ND2	2.55	0.57
49:q2:29:LEU:HB2	49:q2:34:TYR:HB2	1.86	0.57
62:E3:39:ASN:HD21	62:E3:43:GLY:H	1.53	0.57
2:B1:90:GLN:CD	2:B1:90:GLN:H	2.13	0.56
31:W2:37:MET:HG3	31:W2:97:ILE:HD11	1.87	0.56
46:m2:1619:G:H22	46:m2:1621:A:H3'	1.69	0.56
54:s2:50:PRO:HB3	54:s2:69:VAL:HG12	1.87	0.56
9:A2:2317:G:H21	9:A2:2320:A:H8	1.53	0.56
9:A2:3834:G:H4'	12:D2:226:ARG:HH22	1.71	0.56
46:m2:923:G:C2	72:S3:22:LYS:HG2	2.39	0.56
46:m2:1066:C:H4'	76:O3:150:ARG:HG3	1.79	0.56
9:A2:139:G:H2'	9:A2:140:G:H8	1.70	0.56
9:A2:3392:A:H2'	9:A2:3393:A:C8	2.40	0.56
46:m2:174:C:H2'	46:m2:175:A:H8	1.70	0.56
46:m2:319:C:H2'	46:m2:320:A:C8	2.40	0.56
46:m2:378:A:H4'	51:w2:9:ALA:HB3	1.87	0.56
46:m2:1146:A:H5'	46:m2:1357:C:H41	1.69	0.56
46:m2:1621:A:H5'	56:x2:44:ARG:HD3	1.87	0.56
46:m2:1800:C:H3'	46:m2:1801:G:H8	1.70	0.56
46:m2:1867:C:C3'	75:F3:95:ARG:NH1	2.58	0.56
49:q2:192:TRP:CD1	49:q2:204:LEU:HD23	2.41	0.56
9:A2:2240:U:H2'	9:A2:2241:G:C8	2.41	0.56
46:m2:1474:C:H42	46:m2:1478:A:N6	1.99	0.56
46:m2:1496:U:H4'	46:m2:1497:G:H5"	1.87	0.56
46:m2:1866:U:H5'	75:F3:87:ARG:HH21	1.71	0.56
53:o2:29:ASN:HB2	53:o2:151:ASP:HB3	1.87	0.56
56:x2:115:TYR:HB2	56:x2:118:GLU:HG3	1.87	0.56
31:W2:30:GLY:O	31:W2:34:THR:HG23	2.06	0.56
46:m2:620:C:H2'	46:m2:621:A:O4'	2.05	0.56
46:m2:1274:C:HO2'	46:m2:1275:C:H6	1.54	0.56
72:S3:35:VAL:HG11	72:S3:63:LEU:HD13	1.88	0.56
3:C1:26:ILE:HG13	3:C1:35:ARG:HG2	1.86	0.56
9:A2:3562:A:H2'	14:F2:69:THR:HG21	1.88	0.56
46:m2:1794:G:H2'	46:m2:1795:A:H8	1.70	0.56
62:E3:60:LYS:HD3	62:E3:114:ASP:HA	1.86	0.56
9:A2:139:G:H2'	9:A2:140:G:C8	2.41	0.56
9:A2:1115:C:H2'	9:A2:1117:A:C5	2.41	0.56
13:E2:206:PRO:HG2	13:E2:209:GLN:HG3	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1846:U:H2'	46:m2:1847:A:C8	2.40	0.56
46:m2:1865:A:N3	75:F3:78:ALA:CB	2.58	0.56
48:p2:113:MET:HE1	48:p2:142:PHE:CE1	2.39	0.56
2:B1:137[A]:ARG:HD2	2:B1:146:LEU:HD11	1.87	0.56
4:D1:51:HIS:HB3	4:D1:134:VAL:HG13	1.87	0.56
46:m2:1653:A:H2'	46:m2:1654:G:C8	2.40	0.56
72:S3:49:HIS:CE1	72:S3:69:GLY:HA2	2.40	0.56
11:C2:123:U:H2'	11:C2:124:U:O4'	2.06	0.56
31:W2:26:LYS:HB2	31:W2:98:ASP:HB3	1.87	0.56
50:r2:45:ILE:HA	50:r2:61:VAL:HG11	1.86	0.56
50:r2:45:ILE:HG23	50:r2:61:VAL:HG21	1.86	0.56
53:o2:65:ILE:O	53:o2:68:ILE:HG22	2.06	0.56
9:A2:665:C:H2'	9:A2:666:G:C8	2.40	0.56
9:A2:1437:G:H21	9:A2:1455:A:H1'	1.71	0.56
9:A2:3600:G:H1	9:A2:3719:U:H3	1.52	0.56
51:w2:96:ILE:HD11	51:w2:103:GLU:HG2	1.88	0.56
65:I3:57:ARG:HD2	65:I3:58:ALA:H	1.70	0.56
65:I3:292:SER:HB3	65:I3:297:THR:HG22	1.88	0.56
9:A2:1893:C:C4	9:A2:1896:A:H4'	2.41	0.55
46:m2:1859:G:O5'	76:O3:146:ARG:NH1	2.38	0.55
68:L3:41:ARG:HA	68:L3:44:TRP:CE3	2.40	0.55
1:A1:71:LEU:O	1:A1:75:LYS:HG3	2.06	0.55
8:H1:191:ALA:O	8:H1:195:ARG:HG2	2.06	0.55
9:A2:3743:G:H2'	9:A2:3744:G:C8	2.41	0.55
9:A2:3925:A:H2'	9:A2:3926:A:C8	2.40	0.55
26:R2:126:THR:HG21	26:R2:134:LYS:HE2	1.88	0.55
46:m2:77:A:H5"	67:K3:154:ARG:HB3	1.88	0.55
46:m2:1207:C:H42	46:m2:1694:U:H3	1.52	0.55
46:m2:1394:U:H2'	46:m2:1395:G:C8	2.41	0.55
9:A2:1005:G:N2	9:A2:1019:G:H22	2.00	0.55
75:F3:59:PHE:CE1	76:O3:126:ILE:N	2.52	0.55
1:A1:242:MET:HB3	1:A1:254:ASP:OD2	2.06	0.55
9:A2:1910:G:H2'	9:A2:1911:G:O4'	2.05	0.55
37:c2:63:VAL:HG23	37:c2:65:LYS:HG3	1.87	0.55
46:m2:34:U:H2'	46:m2:35:C:C6	2.42	0.55
46:m2:422:G:H1'	46:m2:663:U:O2	2.05	0.55
46:m2:1695:G:C4'	75:F3:4:LYS:HZ1	2.20	0.55
50:r2:48:LEU:HD23	50:r2:52:LEU:HD12	1.88	0.55
9:A2:1292:G:H2'	9:A2:1293:C:C6	2.42	0.55
16:H2:185:PRO:HB2	16:H2:188:ILE:HD12	1.88	0.55
16:H2:215:ILE:HG23	16:H2:219:LEU:HD12	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:i2:33:LEU:HA	43:i2:38:LYS:HG2	1.88	0.55
46:m2:186:C:H2'	46:m2:187:G:C8	2.42	0.55
46:m2:1846:U:H2'	46:m2:1847:A:H8	1.72	0.55
48:p2:152:LYS:HG3	52:z2:132:ARG:HB2	1.89	0.55
65:I3:79:LEU:HD22	65:I3:120:ILE:HD13	1.88	0.55
9:A2:1911:G:H2'	9:A2:1912:A:C8	2.42	0.55
9:A2:3397:C:H2'	9:A2:3398:G:C8	2.42	0.55
46:m2:932:C:H42	46:m2:1013:A:H62	1.55	0.55
9:A2:1714:G:N2	17:I2:87:MET:HE2	2.22	0.55
9:A2:3563:G:H5"	9:A2:4100:G:H5'	1.87	0.55
9:A2:3926:A:H2'	9:A2:3927:G:H8	1.70	0.55
46:m2:1841:U:H2'	46:m2:1842:U:O4'	2.07	0.55
8:H1:53:TYR:HB2	8:H1:133:ILE:HD13	1.89	0.55
46:m2:1210:A:N3	75:F3:86:ASN:ND2	2.53	0.55
46:m2:1212:G:H5'	75:F3:85:ARG:HD2	1.89	0.55
56:x2:81:ARG:HB2	56:x2:117:GLY:HA3	1.89	0.55
56:x2:98:ASN:HD21	56:x2:122:THR:HA	1.70	0.55
56:x2:111:MET:HA	56:x2:111:MET:HE3	1.87	0.55
57:y2:34:VAL:HG22	57:y2:70:VAL:HB	1.89	0.55
75:F3:59:PHE:CE1	76:O3:126:ILE:CA	2.89	0.55
22:N2:85:LEU:HD13	22:N2:87:LYS:HD3	1.88	0.55
46:m2:290:G:H2'	46:m2:291:G:C8	2.42	0.55
46:m2:295:C:P	51:w2:38:LYS:HD2	2.46	0.55
46:m2:434:G:H2'	46:m2:435:A:C8	2.42	0.55
66:J3:204:ILE:HD11	66:J3:215:MET:HE3	1.89	0.55
9:A2:3621:A:H2'	9:A2:3698:A:H2'	1.88	0.55
14:F2:138:MET:HG2	14:F2:144:ILE:HG12	1.89	0.55
46:m2:1061:G:H1	46:m2:1831:G:H4'	1.71	0.55
9:A2:2520:A:H2'	9:A2:2521:A:C8	2.42	0.54
9:A2:2599:A:O2'	9:A2:4283:G:H4'	2.08	0.54
9:A2:3685:G:H2'	9:A2:3686:G:H8	1.73	0.54
9:A2:4278:A:OP2	13:E2:224:LYS:HD2	2.06	0.54
14:F2:171:LEU:HD11	14:F2:227:ILE:HD11	1.89	0.54
46:m2:293:G:H1'	51:w2:41:GLY:HA3	1.90	0.54
46:m2:983:A:H2'	46:m2:984:G:C8	2.42	0.54
46:m2:1210:A:C1'	75:F3:79:ILE:HG21	2.34	0.54
53:o2:140:VAL:HG23	53:o2:142:LEU:HB2	1.87	0.54
66:J3:209:VAL:HB	66:J3:210:PRO:HD3	1.89	0.54
9:A2:1085:C:H41	9:A2:1911:G:H22	1.55	0.54
9:A2:1893:C:H4'	9:A2:1894:G:H5'	1.88	0.54
9:A2:3297:U:H5	9:A2:3302:A:N7	2.05	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:948:U:H2'	46:m2:949:G:C8	2.43	0.54
3:C1:118:LEU:HD11	3:C1:167:VAL:HG22	1.88	0.54
9:A2:3388:A:H2'	9:A2:3389:A:C8	2.42	0.54
9:A2:4410:C:H1'	17:I2:113:ASP:O	2.07	0.54
46:m2:687:A:H2'	46:m2:688:U:O4'	2.07	0.54
46:m2:1750:G:H2'	46:m2:1751:G:C8	2.43	0.54
9:A2:3524:G:H22	9:A2:3556:G:H1'	1.72	0.54
9:A2:3527:A:H2'	9:A2:3528:A:C8	2.43	0.54
9:A2:4044:G:H2'	9:A2:4099:5MC:HM51	1.89	0.54
12:D2:180:LEU:HD11	44:j2:22:LEU:HB3	1.89	0.54
46:m2:28:U:H2'	46:m2:29:G:H8	1.73	0.54
46:m2:1677:A:C2	54:s2:77:MET:HB3	2.43	0.54
46:m2:1864:G:H1	75:F3:30:VAL:HG13	1.72	0.54
56:x2:111:MET:HE1	58:A3:113:ARG:HH22	1.72	0.54
59:B3:7:LYS:HE2	59:B3:66:LEU:HD11	1.89	0.54
2:B1:165:GLU:HG2	8:H1:19:MET:HE1	1.89	0.54
9:A2:318:A:H2'	9:A2:319:A:H8	1.73	0.54
9:A2:1314:C:H6	19:K2:68:ARG:HH21	1.55	0.54
9:A2:3373:A:H2'	9:A2:3374:A:C8	2.42	0.54
33:Y2:78:LEU:HB3	45:k2:20:ARG:HD3	1.90	0.54
36:b2:91:MET:HE1	38:d2:78:PHE:CD2	2.42	0.54
46:m2:225:C:H2'	46:m2:226:A:C8	2.42	0.54
46:m2:1066:C:H5'	76:O3:150:ARG:HG3	1.90	0.54
46:m2:1251:C:H5"	46:m2:1252:A:H2'	1.89	0.54
46:m2:1609:A:N6	46:m2:1634:G:H1'	2.20	0.54
5:E1:57:VAL:HG12	5:E1:60:PHE:H	1.73	0.54
9:A2:325:U:H2'	9:A2:326:C:C6	2.42	0.54
9:A2:1899:G:H5'	9:A2:1900:G:H4'	1.89	0.54
46:m2:1206:A:N6	46:m2:1694:U:O4	2.39	0.54
46:m2:1868:A:O4'	75:F3:95:ARG:HD2	1.99	0.54
1:A1:146:LYS:HG3	1:A1:219:VAL:HG21	1.90	0.54
7:G1:123:ILE:HD13	17:I2:182:GLU:HG3	1.90	0.54
9:A2:1085:C:N4	9:A2:1911:G:H22	2.04	0.54
9:A2:1316:A:H4'	9:A2:1317:G:H5'	1.90	0.54
44:j2:38:THR:HA	44:j2:45:THR:HA	1.90	0.54
46:m2:1865:A:C6	75:F3:75:VAL:CB	2.90	0.54
50:r2:152:PRO:HG2	67:K3:216:ARG:HG2	1.89	0.54
54:s2:155:CYS:HB3	54:s2:159:ARG:HH12	1.72	0.54
75:F3:49:ALA:O	76:O3:117:ARG:NH2	2.40	0.54
9:A2:153:G:H2'	9:A2:154:G:H8	1.73	0.54
9:A2:724:U:H2'	9:A2:725:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:952:C:H2'	9:A2:953:G:C8	2.43	0.54
9:A2:3923:A:H62	9:A2:3983:G:N2	2.06	0.54
46:m2:1868:A:H1'	75:F3:95:ARG:HD2	1.53	0.54
56:x2:108:LYS:HZ2	56:x2:110:GLU:H	1.55	0.54
74:Bx:45:U:H2'	74:Bx:46:U:C4	2.42	0.54
75:F3:44:ILE:HD12	76:O3:113:GLN:C	2.33	0.54
75:F3:53:ILE:CB	76:O3:117:ARG:HH21	2.21	0.54
75:F3:88:SER:N	75:F3:91:ALA:CB	2.70	0.54
7:G1:131:GLN:HE21	17:I2:174:ILE:HD11	1.73	0.54
9:A2:2256:C:H2'	9:A2:2257:G:H5'	1.90	0.54
9:A2:4600:G:H2'	9:A2:4601:A:C8	2.43	0.54
46:m2:368:U:H3	46:m2:396:G:H1	1.56	0.54
46:m2:1253:A:N6	57:y2:146:ARG:HA	2.22	0.54
47:n2:69:U:H2'	47:n2:70:G:C8	2.43	0.54
50:r2:125:LYS:H	50:r2:142:HIS:CE1	2.26	0.54
6:F1:63:THR:HG23	6:F1:65:ARG:H	1.72	0.54
9:A2:143:U:H4'	9:A2:144:G:OP2	2.08	0.54
9:A2:4395:G:H2'	9:A2:4396:A:H8	1.73	0.54
57:y2:135:PRO:HD3	57:y2:141:TYR:CD1	2.43	0.54
9:A2:2370:U:H3	9:A2:2477:G:H1	1.55	0.53
46:m2:658:G:N2	46:m2:665:C:H5'	2.22	0.53
46:m2:1394:U:H2'	46:m2:1395:G:H8	1.72	0.53
49:q2:167:TYR:HD1	49:q2:200:PRO:HG2	1.72	0.53
50:r2:79:ASP:HB3	50:r2:82:TYR:HB2	1.89	0.53
76:O3:45:THR:HA	76:O3:53:ILE:HG12	1.89	0.53
2:B1:99:ALA:HB1	2:B1:136:LEU:HD11	1.89	0.53
6:F1:91:ALA:HB1	6:F1:96:ILE:HB	1.89	0.53
9:A2:10:A:H2'	9:A2:11:G:C8	2.43	0.53
9:A2:1323:G:H2'	9:A2:1324:C:C6	2.43	0.53
11:C2:13:G:H2'	11:C2:14:U:H5"	1.90	0.53
13:E2:354:GLN:HG3	13:E2:359:ALA:HB1	1.90	0.53
46:m2:18:C:H2'	46:m2:19:A:C8	2.42	0.53
46:m2:1856:U:H2'	46:m2:1857:G:H8	1.72	0.53
46:m2:1864:G:C6	75:F3:34:LYS:NZ	2.76	0.53
51:w2:13:GLN:HB2	51:w2:16:ILE:HG12	1.89	0.53
66:J3:137:VAL:HB	66:J3:217:ALA:HA	1.91	0.53
34:Z2:36:ARG:HB2	34:Z2:80:ASN:HA	1.89	0.53
46:m2:1115:A:H2'	46:m2:1116:U:C6	2.43	0.53
46:m2:1646:C:H4'	57:y2:140:ARG:HB2	1.89	0.53
46:m2:1699:A:H4'	46:m2:1700:C:H5"	1.90	0.53
46:m2:1865:A:C2	75:F3:75:VAL:N	2.76	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:z2:116:ASN:HB2	53:o2:16:LEU:HD21	1.90	0.53
62:E3:47:ALA:HB1	62:E3:74:LEU:HD13	1.89	0.53
68:L3:137:VAL:HG22	68:L3:157:ILE:HG12	1.90	0.53
75:F3:53:ILE:CG2	76:O3:117:ARG:O	2.55	0.53
9:A2:175:C:H2'	9:A2:176:G:H8	1.73	0.53
9:A2:1561:G:H2'	9:A2:1562:G:C8	2.44	0.53
9:A2:2203:G:H2'	9:A2:2204:A:C8	2.44	0.53
9:A2:3309:A:P	9:A2:3309:A:H8	2.32	0.53
24:P2:43:LYS:HE2	24:P2:62:MET:HE3	1.90	0.53
27:S2:30:MET:HB3	27:S2:101:PRO:HG3	1.90	0.53
46:m2:377:U:H2'	46:m2:378:A:C8	2.44	0.53
46:m2:808:U:H2'	46:m2:809:G:H8	1.74	0.53
46:m2:1253:A:H62	57:y2:146:ARG:HA	1.73	0.53
46:m2:1625:A:N7	58:A3:131:VAL:HG12	2.23	0.53
64:H3:41:GLN:O	64:H3:44:ARG:HB2	2.07	0.53
68:L3:74:GLY:O	68:L3:78:LEU:HG	2.07	0.53
69:N3:98:VAL:HG11	69:N3:115:LEU:HB2	1.89	0.53
75:F3:45:VAL:CB	76:O3:117:ARG:CD	2.58	0.53
1:A1:82:GLU:O	1:A1:86:MET:HG3	2.08	0.53
9:A2:3890:G:H2'	9:A2:3891:A:C8	2.44	0.53
46:m2:170:A:H5"	67:K3:136:LYS:HD3	1.89	0.53
46:m2:981:C:H2'	46:m2:982:A:H8	1.73	0.53
9:A2:3271:G:H5'	25:Q2:48:GLN:HE21	1.74	0.53
46:m2:1103:U:H2'	46:m2:1104:G:H8	1.72	0.53
65:I3:23:THR:HG22	65:I3:31:ILE:HG22	1.91	0.53
75:F3:18:VAL:CG1	75:F3:32:LYS:HG2	2.38	0.53
9:A2:1146:C:H2'	9:A2:1147:A:C8	2.43	0.53
9:A2:1361:G:O2'	9:A2:2567:A:H8	1.88	0.53
9:A2:2381:U:C5	23:O2:92:LYS:HG3	2.44	0.53
14:F2:182:LYS:HG2	14:F2:204:ARG:HD3	1.91	0.53
23:O2:36:ALA:HB1	23:O2:65:ARG:HD2	1.90	0.53
38:d2:65:ARG:O	38:d2:69:ILE:HD12	2.07	0.53
46:m2:1209:G:H4'	75:F3:80:HIS:CE1	2.43	0.53
46:m2:1845:G:H2'	46:m2:1846:U:C6	2.44	0.53
56:x2:106:GLU:HG2	56:x2:108:LYS:H	1.73	0.53
66:J3:81:ILE:HG21	66:J3:88:ILE:HD11	1.90	0.53
1:A1:235:LEU:HD23	1:A1:269:MET:HE2	1.91	0.53
46:m2:413:G:H2'	46:m2:414:G:C8	2.43	0.53
46:m2:1040:U:H1'	46:m2:1182:C:N4	2.23	0.53
46:m2:1210:A:O3'	75:F3:79:ILE:HG22	2.05	0.53
46:m2:1840:U:C5'	76:O3:150:ARG:C	2.75	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:o2:3:GLY:HA3	53:o2:59:LEU:HD13	1.91	0.53
2:B1:209:SER:HA	2:B1:212:LYS:HG3	1.91	0.53
13:E2:60:VAL:HG21	13:E2:67:VAL:HG23	1.91	0.53
46:m2:346:U:H2'	46:m2:347:U:H6	1.74	0.53
46:m2:641:C:H2'	46:m2:642:A:H8	1.74	0.53
46:m2:1492:G:H2'	46:m2:1493:G:C8	2.43	0.53
47:n2:22:G:H2'	47:n2:23:C:C6	2.44	0.53
48:p2:107:ARG:HA	48:p2:110:MET:HB2	1.91	0.53
51:w2:73:LEU:HD23	51:w2:140:PHE:HE2	1.73	0.53
75:F3:67:LEU:HD11	76:O3:109:GLY:O	2.07	0.53
9:A2:4550:C:H2'	9:A2:4551:C:C6	2.44	0.53
15:G2:278:ASP:O	15:G2:282:GLN:HG2	2.08	0.53
46:m2:226:A:H61	46:m2:299:A:H61	1.57	0.53
46:m2:1550:G:H1	46:m2:1586:G:H1	1.57	0.53
64:H3:36:LEU:HG	64:H3:38:MET:HB2	1.91	0.53
70:P3:36:ARG:HB2	70:P3:110:ILE:HD12	1.91	0.53
9:A2:466:A:H2'	9:A2:467:U:O4'	2.09	0.52
9:A2:1426:A:H5'	12:D2:183:GLY:HA2	1.90	0.52
9:A2:2499:A:H2'	9:A2:2500:A:C8	2.44	0.52
9:A2:3573:A:H2'	9:A2:3574:G:H8	1.74	0.52
9:A2:4145:U:H2'	9:A2:4146:OMG:H8	1.74	0.52
9:A2:4707:A:H4'	9:A2:4708:G:H5"	1.90	0.52
28:T2:47:ASP:HB3	28:T2:69:LYS:HG2	1.91	0.52
46:m2:1692:U:H2'	46:m2:1693:U:C6	2.44	0.52
46:m2:1837:A:N3	75:F3:75:VAL:O	2.41	0.52
56:x2:18:ARG:HG3	56:x2:36:LEU:HD12	1.91	0.52
69:N3:47:PRO:HD2	69:N3:86:GLU:HG2	1.91	0.52
9:A2:4297:C:H3'	20:L2:62:ARG:HH22	1.75	0.52
11:C2:110:U:H5'	40:f2:8:ARG:HH12	1.74	0.52
13:E2:220:ILE:HB	13:E2:346:THR:HB	1.91	0.52
72:S3:50:ALA:HB3	72:S3:71:ALA:HB2	1.91	0.52
9:A2:1255:C:H2'	9:A2:1256:A:C8	2.44	0.52
9:A2:3943:G:H5"	9:A2:3945:U:C5	2.44	0.52
9:A2:4104:U:H2'	9:A2:4174:G:O6	2.09	0.52
9:A2:4395:G:H2'	9:A2:4396:A:C8	2.44	0.52
14:F2:331:TYR:CE2	14:F2:335:MET:HG3	2.44	0.52
18:J2:54:LYS:HA	18:J2:83:TRP:CD1	2.44	0.52
46:m2:650:A:H2'	46:m2:651:U:C6	2.44	0.52
46:m2:1060:A:H2'	46:m2:1061:G:H8	1.73	0.52
46:m2:1651:U:H2'	46:m2:1652:A:H8	1.74	0.52
46:m2:1834:A:H5"	46:m2:1842:U:H5"	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:3890:G:H2'	9:A2:3891:A:H8	1.74	0.52
9:A2:4182:U:C3'	9:A2:4183:U:H5"	2.35	0.52
17:I2:151:ALA:O	17:I2:155:THR:HG23	2.09	0.52
18:J2:94:MET:HE1	18:J2:146:ILE:HG22	1.92	0.52
22:N2:48:VAL:HG21	22:N2:94:GLU:HG2	1.92	0.52
31:W2:57:LYS:O	31:W2:61:GLU:HG3	2.09	0.52
46:m2:110:U:H3	46:m2:353:G:H1	1.57	0.52
46:m2:540:U:O2	46:m2:548:G:N2	2.43	0.52
46:m2:1831:G:H1'	46:m2:1832:C:H5'	1.91	0.52
55:v2:46:MET:HE3	55:v2:46:MET:O	2.09	0.52
9:A2:462:G:H2'	9:A2:463:A:C8	2.45	0.52
9:A2:3308:A:H2'	9:A2:3309:A:C8	2.44	0.52
9:A2:4376:A:O2'	13:E2:104:THR:HG23	2.10	0.52
36:b2:95:LEU:HB3	36:b2:99:GLU:HG3	1.92	0.52
46:m2:1340:G:H2'	46:m2:1341:U:C6	2.45	0.52
46:m2:1865:A:H2	75:F3:78:ALA:CB	1.94	0.52
53:o2:184:ARG:HD3	53:o2:191:ARG:HG3	1.90	0.52
3:C1:76:HIS:O	3:C1:80:MET:HG3	2.10	0.52
5:E1:112:HIS:HD2	5:E1:117:ILE:HD11	1.74	0.52
9:A2:1018:U:H2'	9:A2:1019:G:C8	2.45	0.52
9:A2:1147:A:H2'	9:A2:1148:A:C8	2.45	0.52
9:A2:3825:G:H2'	9:A2:3826:U:H6	1.74	0.52
15:G2:51:MET:HE3	15:G2:105:LEU:HD23	1.92	0.52
17:I2:163:LYS:HA	17:I2:166:MET:HE3	1.92	0.52
46:m2:1297:A:H2'	46:m2:1298:U:H6	1.74	0.52
46:m2:1535:A:H62	46:m2:1604:U:H3	1.57	0.52
46:m2:1864:G:C6	75:F3:34:LYS:HE3	2.43	0.52
46:m2:1865:A:H2'	46:m2:1866:U:C5	2.43	0.52
50:r2:229:GLY:HA3	50:r2:234:PRO:HA	1.92	0.52
51:w2:61:PRO:HA	51:w2:66:VAL:HG11	1.92	0.52
3:C1:103:VAL:HG11	3:C1:144:LEU:HD21	1.92	0.52
9:A2:318:A:H2'	9:A2:319:A:C8	2.45	0.52
16:H2:197:HIS:HB3	16:H2:200:PHE:HD2	1.75	0.52
46:m2:959:A:H5"	76:O3:41:PHE:CZ	2.36	0.52
46:m2:1864:G:C6	75:F3:34:LYS:CD	2.93	0.52
48:p2:28:LYS:HG2	48:p2:50:THR:HA	1.90	0.52
69:N3:47:PRO:HA	69:N3:50:ILE:HB	1.91	0.52
3:C1:113:GLU:HG2	3:C1:125:ARG:HG2	1.91	0.52
9:A2:1894:G:H2'	9:A2:2017:G:C6	2.45	0.52
9:A2:3826:U:H2'	9:A2:3827:G:H8	1.75	0.52
46:m2:1211:A:H3'	75:F3:82:LYS:HZ3	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1240:U:H2'	46:m2:1241:U:C6	2.45	0.52
56:x2:40:ARG:O	56:x2:40:ARG:HD3	2.10	0.52
56:x2:75:VAL:HG12	56:x2:93:MET:HE2	1.91	0.52
75:F3:39:PHE:CE1	75:F3:70:LYS:HD2	2.45	0.52
4:D1:91:LEU:HD22	4:D1:135:ILE:HG23	1.91	0.52
5:E1:11:PRO:C	5:E1:12:MET:HE2	2.35	0.52
9:A2:453:G:H22	9:A2:1107:G:H22	1.56	0.52
9:A2:1092:C:H2'	9:A2:1093:A:O4'	2.10	0.52
9:A2:3255:A:H2'	9:A2:3256:G:C8	2.45	0.52
24:P2:106:VAL:HG12	24:P2:112:MET:HA	1.92	0.52
46:m2:523:A:H2'	46:m2:524:A:O4'	2.10	0.52
46:m2:1001:G:H5'	46:m2:1036:A:H4'	1.92	0.52
46:m2:1036:A:H2'	46:m2:1037:A:O4'	2.10	0.52
46:m2:1233:C:H42	46:m2:1529:C:N4	2.08	0.52
48:p2:75:GLN:HG3	48:p2:78:GLU:HG3	1.91	0.52
75:F3:42:ARG:CB	75:F3:42:ARG:NH1	2.73	0.52
76:O3:75:MET:HG2	76:O3:114:SER:HB2	1.91	0.52
9:A2:4700:C:H4'	9:A2:4701:G:C8	2.45	0.52
15:G2:273:LEU:HG	15:G2:277:LYS:HD2	1.92	0.52
29:U2:100:ILE:HG21	29:U2:125:LYS:HE3	1.90	0.52
46:m2:929:C:H2'	46:m2:930:G:C8	2.45	0.52
46:m2:1212:G:H5'	75:F3:85:ARG:HH11	1.66	0.52
46:m2:1651:U:H2'	46:m2:1652:A:C8	2.45	0.52
2:B1:162:ASP:HB2	2:B1:163:PRO:HD3	1.92	0.51
9:A2:1122:C:H2'	9:A2:1123:C:C6	2.45	0.51
12:D2:102:LEU:HB2	12:D2:107:MET:HE3	1.90	0.51
46:m2:1470:C:H2'	46:m2:1471:A:C8	2.43	0.51
46:m2:1595:C:H2'	46:m2:1596:A:C8	2.45	0.51
46:m2:1695:G:O2'	46:m2:1837:A:OP2	2.26	0.51
53:o2:30:LEU:HA	53:o2:150:THR:HG22	1.91	0.51
72:S3:33:MET:HG2	72:S3:80:ARG:C	2.35	0.51
75:F3:39:PHE:CE1	75:F3:70:LYS:CD	2.93	0.51
75:F3:46:GLU:O	75:F3:50:VAL:HG23	2.10	0.51
9:A2:268:G:H2'	9:A2:269:G:H8	1.75	0.51
10:B2:111:C:H2'	10:B2:112:U:O4'	2.09	0.51
13:E2:165:HIS:HB3	13:E2:180:LEU:HD23	1.92	0.51
46:m2:384:C:H2'	46:m2:385:G:N7	2.25	0.51
46:m2:1211:A:P	75:F3:82:LYS:CE	2.98	0.51
46:m2:1562:U:H2'	46:m2:1563:G:C8	2.43	0.51
46:m2:1670:U:H5"	57:y2:132:PHE:HB3	1.92	0.51
66:J3:130:ILE:HG12	66:J3:159:LYS:HG2	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:1273:C:H5”	19:K2:144:LYS:HG3	1.93	0.51
9:A2:1574:C:H2’	9:A2:1575:U:C6	2.45	0.51
11:C2:50:C:H2’	40:f2:26:TRP:CZ3	2.44	0.51
46:m2:401:C:N4	51:w2:89:ARG:HH22	2.08	0.51
46:m2:990:C:H3’	46:m2:991:C:H2’	1.93	0.51
46:m2:1029:A:H3’	46:m2:1030:A:H8	1.75	0.51
46:m2:1608:G:OP1	59:B3:86:GLY:HA2	2.10	0.51
50:r2:19:MET:HE2	50:r2:108:ARG:HD2	1.91	0.51
9:A2:233:U:H4’	9:A2:234:G:OP1	2.11	0.51
9:A2:666:G:H2’	9:A2:667:G:H8	1.75	0.51
9:A2:1379:C:H2’	9:A2:1380:U:H6	1.76	0.51
9:A2:3504:U:H2’	9:A2:3505:A:C8	2.46	0.51
9:A2:3625:G:H2’	9:A2:3626:G:C8	2.45	0.51
46:m2:878:C:H2’	46:m2:879:C:C6	2.45	0.51
46:m2:936:G:O6	46:m2:1010:A:N1	2.43	0.51
53:o2:147:LEU:HD13	53:o2:161:ILE:HB	1.92	0.51
68:L3:67:ASP:HB3	68:L3:70:ARG:HB3	1.92	0.51
1:A1:108:GLU:HG3	22:N2:135:PRO:HB3	1.91	0.51
9:A2:132:G:H2’	9:A2:133:C:O4’	2.10	0.51
9:A2:1648:G:H2’	9:A2:1649:C:C6	2.44	0.51
14:F2:339:THR:O	14:F2:343:GLN:HG3	2.11	0.51
46:m2:943:C:H2’	46:m2:944:G:C8	2.45	0.51
46:m2:1469:C:H2’	46:m2:1470:C:H6	1.75	0.51
46:m2:1626:U:H2’	46:m2:1627:U:O4’	2.10	0.51
47:n2:53:G:H2’	47:n2:54:A:H8	1.76	0.51
53:o2:70:ASN:ND2	53:o2:73:ASP:HB2	2.26	0.51
3:C1:120:GLU:HB2	9:A2:4264:C:C2	2.46	0.51
9:A2:754:A:C6	9:A2:756:G:H1’	2.45	0.51
9:A2:1071:G:H21	9:A2:1078:G:H1	1.57	0.51
9:A2:2298:A:H2	9:A2:2528:G:H22	1.57	0.51
46:m2:26:U:H2’	46:m2:27:A:C8	2.45	0.51
46:m2:481:C:H2’	46:m2:482:G:H8	1.76	0.51
46:m2:690:U:H1’	46:m2:691:U:C5	2.45	0.51
46:m2:1209:G:HO2’	75:F3:80:HIS:CE1	2.25	0.51
46:m2:1715:C:H2’	46:m2:1716:U:C6	2.46	0.51
49:q2:150:MET:HE3	49:q2:151:LYS:H	1.76	0.51
53:o2:120:ARG:HD2	66:J3:266:TYR:HB3	1.92	0.51
9:A2:4431:C:H2’	9:A2:4432:C:C6	2.45	0.51
46:m2:16:G:H2’	46:m2:17:C:C6	2.46	0.51
46:m2:1012:G:H2’	46:m2:1013:A:H8	1.76	0.51
46:m2:1672:C:H2’	46:m2:1673:G:O4’	2.11	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:q2:7:LYS:HG3	60:C3:25:THR:HG21	1.92	0.51
53:o2:19:LEU:HA	53:o2:24:HIS:CE1	2.44	0.51
70:P3:105:THR:HG22	70:P3:110:ILE:HG12	1.92	0.51
76:O3:62:VAL:HG22	76:O3:64:ALA:H	1.76	0.51
9:A2:4542:G:H22	9:A2:4568:U:H1'	1.75	0.51
13:E2:163:ILE:HG22	13:E2:180:LEU:HD22	1.91	0.51
17:I2:77:SER:HB2	17:I2:104:VAL:HG23	1.93	0.51
39:e2:57:LYS:NZ	39:e2:57:LYS:HB3	2.26	0.51
46:m2:346:U:H2'	46:m2:347:U:C6	2.46	0.51
46:m2:676:C:H2'	46:m2:677:U:H6	1.76	0.51
50:r2:21:ASP:HB3	50:r2:24:THR:HG23	1.93	0.51
54:s2:73:THR:HG22	54:s2:93:VAL:HG21	1.92	0.51
9:A2:4263:A:H2'	9:A2:4264:C:H6	1.76	0.51
9:A2:4560:G:H2'	9:A2:4561:G:H8	1.76	0.51
70:P3:3:ARG:HD2	70:P3:6:VAL:HG12	1.92	0.51
9:A2:1560:G:H2'	9:A2:1561:G:C8	2.46	0.51
9:A2:3619:A:H8	9:A2:3621:A:H5'	1.76	0.51
32:X2:70:LYS:NZ	32:X2:70:LYS:HB3	2.26	0.51
46:m2:605:C:H4'	68:L3:20:PHE:HB2	1.93	0.51
46:m2:820:A:H2'	46:m2:821:G:C8	2.46	0.51
46:m2:1850:U:H2'	46:m2:1852:A:OP2	2.10	0.51
47:n2:24:G:H2'	47:n2:25:U:O4'	2.10	0.51
48:p2:145:LYS:HG3	48:p2:149:GLN:CD	2.36	0.51
54:s2:126:THR:HG23	63:G3:26:GLN:HB2	1.93	0.51
66:J3:183:LYS:HG2	70:P3:95:PRO:HA	1.92	0.51
2:B1:168:VAL:HG12	8:H1:10:LEU:HD21	1.93	0.50
9:A2:1553:A:H2'	9:A2:1554:G:H8	1.76	0.50
9:A2:2438:C:H2'	9:A2:2439:C:C6	2.46	0.50
9:A2:3254:C:H2'	9:A2:3255:A:C8	2.46	0.50
9:A2:3825:G:H2'	9:A2:3826:U:C6	2.47	0.50
36:b2:88:THR:HG22	36:b2:90:ALA:H	1.75	0.50
46:m2:1417:C:H5'	59:B3:129:ARG:HH21	1.76	0.50
49:q2:195:SER:HA	49:q2:201:LYS:HG3	1.92	0.50
55:v2:64:TRP:HE3	64:H3:22:ARG:HG3	1.76	0.50
62:E3:85:VAL:HA	62:E3:122:VAL:HG22	1.92	0.50
4:D1:103:LEU:HD11	4:D1:111:LEU:HD23	1.93	0.50
9:A2:23:C:H2'	9:A2:24:G:O4'	2.12	0.50
9:A2:4397:G:H22	9:A2:4601:A:H2	1.59	0.50
17:I2:22:ILE:HD13	17:I2:120:VAL:HG11	1.92	0.50
26:R2:93:ASN:HB3	26:R2:95:THR:HG23	1.93	0.50
40:f2:44:TRP:CH2	40:f2:45:ARG:HD2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:q2:39:VAL:HG22	49:q2:48:ILE:HG12	1.93	0.50
54:s2:203:ASN:C	75:F3:52:ASP:OD2	2.55	0.50
9:A2:662:C:H4'	14:F2:269:LYS:HG2	1.92	0.50
15:G2:33:ARG:HH11	22:N2:27:LEU:HD12	1.76	0.50
23:O2:61:VAL:HG23	23:O2:74:SER:HB3	1.91	0.50
46:m2:1746:G:H1'	46:m2:1792:A:N6	2.26	0.50
46:m2:1750:G:N2	46:m2:1788:U:O2	2.29	0.50
46:m2:1784:G:OP2	46:m2:1785:C:H4'	2.11	0.50
47:n2:14:C:H2'	47:n2:15:A:C8	2.46	0.50
75:F3:10:ARG:HB3	75:F3:34:LYS:HB2	1.93	0.50
9:A2:1562:G:H2'	9:A2:1563:G:C8	2.47	0.50
9:A2:3613:U:H5'	9:A2:3620:U:H1'	1.94	0.50
9:A2:4386:A:H2'	9:A2:4387:G:C8	2.47	0.50
9:A2:4433:G:H22	9:A2:4499:G:H1	1.59	0.50
46:m2:198:U:O4	46:m2:203:G:O6	2.29	0.50
46:m2:658:G:H5'	46:m2:664:G:N2	2.27	0.50
53:o2:154:LEU:HB2	53:o2:157:VAL:HG11	1.92	0.50
57:y2:32:ILE:HG23	57:y2:68:ILE:HB	1.94	0.50
62:E3:104:GLY:HA2	62:E3:119:ARG:NH1	2.26	0.50
9:A2:223:G:H4'	9:A2:225:G:N7	2.25	0.50
9:A2:937:C:H2'	9:A2:938:U:H5'	1.93	0.50
9:A2:1159:G:H2'	9:A2:1160:C:C6	2.47	0.50
9:A2:3564:A:H3'	9:A2:3565:G:H21	1.77	0.50
11:C2:66:A:H2'	11:C2:67:U:C6	2.46	0.50
32:X2:37:GLY:O	32:X2:41:ARG:HG3	2.12	0.50
45:k2:98:ARG:HH11	45:k2:98:ARG:HG3	1.76	0.50
46:m2:5:U:C2	46:m2:6:G:N7	2.80	0.50
46:m2:1503:C:H2'	46:m2:1504:C:C6	2.46	0.50
62:E3:36:LEU:HD12	62:E3:37:LYS:HG3	1.94	0.50
75:F3:87:ARG:NH1	75:F3:94:ASP:HB3	2.27	0.50
9:A2:1509:C:H2'	9:A2:1510:G:C8	2.47	0.50
9:A2:2113:G:H2'	9:A2:2114:U:O4'	2.12	0.50
9:A2:3309:A:C2	9:A2:3348:A:H4'	2.47	0.50
9:A2:4023:A:H5'	47:n2:76:A:H62	1.76	0.50
46:m2:1694:U:H5'	75:F3:89:ARG:N	2.26	0.50
50:r2:125:LYS:HZ2	50:r2:227:VAL:N	2.10	0.50
70:P3:20:ARG:HB3	70:P3:22:LYS:HE3	1.93	0.50
75:F3:59:PHE:CE1	76:O3:126:ILE:C	2.88	0.50
9:A2:300:A:H2'	9:A2:301:G:H8	1.77	0.50
9:A2:506:G:H2'	9:A2:507:C:C6	2.47	0.50
9:A2:4560:G:H2'	9:A2:4561:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1242:A:H2'	46:m2:1243:A:C4	2.46	0.50
46:m2:1864:G:O6	75:F3:34:LYS:CD	2.53	0.50
49:q2:157:MET:HE3	49:q2:158:ILE:N	2.27	0.50
58:A3:4:VAL:HG12	58:A3:5:ILE:HG13	1.94	0.50
68:L3:37:LEU:HD23	68:L3:42:GLU:HB2	1.92	0.50
71:Q3:56:PHE:HB2	71:Q3:74:MET:HE3	1.93	0.50
9:A2:1373:A:H2'	9:A2:1374:G:O4'	2.12	0.50
17:I2:166:MET:HA	17:I2:169:ARG:NH1	2.26	0.50
45:k2:33:LYS:HD2	45:k2:40:TYR:CZ	2.47	0.50
46:m2:661:G:H5'	46:m2:663:U:O4	2.12	0.50
46:m2:1519:G:H2'	46:m2:1520:C:O4'	2.12	0.50
46:m2:1804:C:H2'	46:m2:1805:U:C6	2.47	0.50
46:m2:1841:U:C4	46:m2:1842:U:C4	3.00	0.50
47:n2:53:G:H2'	47:n2:54:A:C8	2.46	0.50
57:y2:68:ILE:HG21	57:y2:88:ILE:HG22	1.93	0.50
76:O3:37:PHE:CZ	76:O3:105:THR:HG21	2.46	0.50
9:A2:673:G:H21	14:F2:291:ARG:HD2	1.77	0.50
9:A2:4532:U:H2'	9:A2:4533:U:O4'	2.12	0.50
10:B2:3:C:H2'	10:B2:4:U:H6	1.77	0.50
46:m2:1211:A:OP1	75:F3:82:LYS:HG2	2.08	0.50
46:m2:1556:C:H3'	46:m2:1557:U:H5"	1.94	0.50
49:q2:25:LEU:HD12	49:q2:37:VAL:HG11	1.92	0.50
50:r2:31:PRO:HG2	50:r2:38:LEU:HB3	1.94	0.50
62:E3:90:CYS:HB3	62:E3:130:LEU:HD11	1.93	0.50
3:C1:161:ILE:HD11	3:C1:179:ILE:HG21	1.94	0.49
9:A2:3563:G:O2'	9:A2:3565:G:N2	2.45	0.49
46:m2:96:C:H1'	46:m2:476:G:H5'	1.93	0.49
46:m2:606:A:H1'	46:m2:641:C:O2'	2.12	0.49
46:m2:1211:A:H5"	75:F3:82:LYS:CA	2.42	0.49
46:m2:1396:G:H4'	57:y2:126:ARG:HH22	1.76	0.49
46:m2:1861:A:H2'	46:m2:1862:A:C8	2.47	0.49
50:r2:89:VAL:HG23	50:r2:122:LYS:HD3	1.95	0.49
58:A3:36:VAL:HG13	58:A3:40:TYR:CD2	2.44	0.49
8:H1:195:ARG:HD3	9:A2:98:A:OP1	2.12	0.49
8:H1:204:ARG:HD2	9:A2:1156:A:OP1	2.12	0.49
9:A2:1007:A:H2	9:A2:1017:G:H22	1.60	0.49
9:A2:4382:C:H2'	9:A2:4383:G:O4'	2.12	0.49
46:m2:1006:U:H2'	46:m2:1007:G:H8	1.77	0.49
46:m2:1210:A:C1'	75:F3:86:ASN:HD22	2.25	0.49
46:m2:1396:G:H5'	57:y2:126:ARG:HH12	1.76	0.49
46:m2:1534:C:H1'	46:m2:1637:C:H2'	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:y2:134:GLY:HA3	57:y2:140:ARG:HA	1.93	0.49
67:K3:82:SER:HA	67:K3:85:ARG:HH22	1.77	0.49
70:P3:81:VAL:HG11	70:P3:104:LEU:HD22	1.92	0.49
9:A2:3612:G:H21	9:A2:3620:U:H5'	1.77	0.49
9:A2:3975:A:C8	15:G2:153:THR:HG21	2.47	0.49
21:M2:15:ARG:HB3	21:M2:27:LEU:HD23	1.94	0.49
32:X2:57:MET:HE3	32:X2:90:ARG:HB2	1.95	0.49
46:m2:1483:G:H2'	46:m2:1484:C:C6	2.47	0.49
54:s2:59:LYS:HB3	54:s2:62:ARG:HB2	1.93	0.49
54:s2:77:MET:HE3	54:s2:152:TRP:HD1	1.77	0.49
9:A2:162:A:H2'	9:A2:163:A:H8	1.78	0.49
9:A2:1071:G:H4'	9:A2:1079:A:C6	2.47	0.49
9:A2:1430:G:H1'	9:A2:2268:A:N6	2.27	0.49
9:A2:1560:G:H2'	9:A2:1561:G:H8	1.77	0.49
9:A2:3340:G:H2'	9:A2:3341:C:C6	2.48	0.49
46:m2:1084:A:H2	46:m2:1860:G:H5'	1.76	0.49
46:m2:1691:C:H2'	46:m2:1692:U:C6	2.47	0.49
1:A1:98:ARG:HD2	9:A2:736:G:H5"	1.94	0.49
2:B1:207:VAL:HG21	2:B1:215:LEU:HD22	1.94	0.49
9:A2:830:G:N2	9:A2:836:C:H2'	2.27	0.49
9:A2:3744:G:H1	9:A2:3765:G:H22	1.59	0.49
9:A2:4542:G:N1	9:A2:4568:U:C2	2.80	0.49
46:m2:1120:C:H3'	46:m2:1121:A:H8	1.77	0.49
46:m2:1238:G:N2	46:m2:1524:A:H62	2.03	0.49
46:m2:1731:U:H3	46:m2:1807:G:H1	1.59	0.49
46:m2:1782:G:H2'	46:m2:1783:A:O4'	2.11	0.49
3:C1:173:ARG:HD2	9:A2:4128:C:N4	2.27	0.49
9:A2:1475:C:H2'	9:A2:1476:C:C6	2.47	0.49
9:A2:2294:C:H2'	9:A2:2295:C:C6	2.48	0.49
15:G2:216:GLU:O	15:G2:220:LYS:HG3	2.13	0.49
46:m2:1099:G:H1	46:m2:1137:C:H42	1.60	0.49
46:m2:1376:C:H2'	46:m2:1377:G:C8	2.48	0.49
46:m2:1538:G:H2'	46:m2:1539:A:C8	2.48	0.49
46:m2:1837:A:N6	75:F3:78:ALA:O	2.31	0.49
46:m2:1837:A:C4	75:F3:75:VAL:O	2.65	0.49
50:r2:175:PHE:HE1	50:r2:198:ARG:HD2	1.77	0.49
9:A2:1911:G:H2'	9:A2:1912:A:H8	1.76	0.49
20:L2:77:GLY:O	20:L2:81:ARG:HG3	2.13	0.49
23:O2:44:GLN:HG2	23:O2:56:LEU:HD21	1.94	0.49
46:m2:1040:U:H2'	46:m2:1041:C:C6	2.47	0.49
46:m2:1862:A:C2	46:m2:1864:G:C8	3.00	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r2:29:PRO:HG2	50:r2:46:ILE:HD11	1.94	0.49
52:z2:9:VAL:HA	52:z2:50:ILE:HG12	1.93	0.49
72:S3:49:HIS:HE1	72:S3:69:GLY:HA2	1.77	0.49
75:F3:57:SER:OG	76:O3:120:ALA:HB1	2.13	0.49
9:A2:1012:C:OP1	9:A2:1012:C:H4'	2.12	0.49
9:A2:2166:C:H2'	9:A2:2167:A:H8	1.78	0.49
9:A2:3627:G:H1	9:A2:3700:A:N6	2.09	0.49
15:G2:223:PHE:HB3	15:G2:226:TYR:HB2	1.93	0.49
20:L2:8:LYS:HG3	20:L2:19:LYS:HG2	1.95	0.49
35:a2:24:ARG:HH11	35:a2:24:ARG:HG3	1.78	0.49
42:h2:1:MET:N	46:m2:1708:G:H5'	2.27	0.49
46:m2:926:G:H1	46:m2:1020:U:H3	1.59	0.49
46:m2:1065:C:C3'	76:O3:149:ARG:O	2.60	0.49
46:m2:1645:U:H2'	46:m2:1646:C:H6	1.76	0.49
48:p2:113:MET:HE2	48:p2:113:MET:O	2.12	0.49
49:q2:114:ALA:HB3	49:q2:117:ARG:HB3	1.93	0.49
51:w2:113:LEU:HD11	51:w2:117:PHE:HB2	1.95	0.49
9:A2:130:G:H2'	9:A2:131:C:O4'	2.13	0.49
9:A2:854:A:H1'	9:A2:1878:G:H5"	1.95	0.49
9:A2:4394:G:H2'	9:A2:4395:G:O4'	2.13	0.49
13:E2:57:VAL:HG22	13:E2:73:VAL:HG22	1.94	0.49
46:m2:55:U:H4'	46:m2:56:G:H5'	1.94	0.49
46:m2:981:C:H2'	46:m2:982:A:C8	2.48	0.49
46:m2:1201:A:H2'	46:m2:1202:A:H8	1.75	0.49
46:m2:1537:U:O4	54:s2:159:ARG:HG2	2.13	0.49
46:m2:1629:C:H2'	46:m2:1630:C:C6	2.47	0.49
46:m2:1867:C:C3'	75:F3:95:ARG:HH22	2.25	0.49
49:q2:132:LYS:HG2	49:q2:156:LEU:HB3	1.95	0.49
53:o2:128:ARG:CZ	53:o2:153:PRO:HD3	2.43	0.49
54:s2:77:MET:HE3	54:s2:152:TRP:CD1	2.48	0.49
9:A2:1323:G:H2'	9:A2:1324:C:H6	1.78	0.49
9:A2:4649:U:H2'	9:A2:4650:C:C6	2.48	0.49
42:h2:1:MET:H2	46:m2:1708:G:H5'	1.78	0.49
46:m2:107:A:H2'	46:m2:108:G:H8	1.78	0.49
46:m2:832:A:H2'	46:m2:833:G:O4'	2.13	0.49
46:m2:1026:A:H2'	46:m2:1027:U:C6	2.48	0.49
46:m2:1095:A:H2'	46:m2:1096:C:C6	2.48	0.49
46:m2:1142:G:H2'	46:m2:1143:G:C8	2.47	0.49
46:m2:1674:U:H2'	46:m2:1675:U:C6	2.48	0.49
57:y2:12:VAL:HG22	57:y2:23:ALA:HB3	1.95	0.49
75:F3:42:ARG:CZ	75:F3:42:ARG:CB	2.90	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A1:177:TYR:CD1	1:A1:209:MET:HE3	2.47	0.48
5:E1:46:GLN:HB3	10:B2:39:C:O2'	2.13	0.48
9:A2:10:A:H2'	9:A2:11:G:H8	1.78	0.48
9:A2:1742:G:H22	9:A2:4086:C:H5"	1.77	0.48
9:A2:4569:C:H4'	9:A2:4570:U:OP1	2.12	0.48
10:B2:23:A:H2'	10:B2:24:C:C6	2.48	0.48
30:V2:89:PRO:HB2	30:V2:92:LYS:HB2	1.93	0.48
44:j2:8:VAL:HG22	44:j2:11:VAL:HG23	1.95	0.48
46:m2:295:C:H4'	51:w2:38:LYS:HE3	1.95	0.48
46:m2:1206:A:H2'	46:m2:1207:C:C6	2.48	0.48
46:m2:1677:A:O2'	54:s2:74:ASN:HB3	2.13	0.48
46:m2:1746:G:H1'	46:m2:1792:A:H61	1.77	0.48
65:I3:36:ARG:O	65:I3:65:PHE:HA	2.13	0.48
75:F3:26:CYS:SG	76:O3:149:ARG:CG	3.01	0.48
75:F3:94:ASP:CG	75:F3:95:ARG:H	2.04	0.48
9:A2:934:C:O2'	9:A2:935:C:H6	1.96	0.48
9:A2:3254:C:H2'	9:A2:3255:A:H8	1.78	0.48
9:A2:3744:G:H22	9:A2:3765:G:N2	2.11	0.48
46:m2:413:G:H2'	46:m2:414:G:H8	1.77	0.48
46:m2:459:C:N4	46:m2:460:A:H62	2.11	0.48
46:m2:1346:A:H1'	46:m2:1347:G:C8	2.48	0.48
49:q2:158:ILE:HG23	49:q2:164:VAL:HG22	1.93	0.48
51:w2:101:ARG:HB2	62:E3:10:ALA:HB2	1.94	0.48
53:o2:34:MET:HG3	53:o2:34:MET:O	2.13	0.48
61:D3:3:ASN:HA	66:J3:173:LYS:HG2	1.95	0.48
9:A2:3317:G:H4'	9:A2:3318:A:H5'	1.95	0.48
9:A2:4700:C:H4'	9:A2:4701:G:H8	1.77	0.48
14:F2:263:LEU:O	14:F2:274:LYS:HD2	2.13	0.48
26:R2:126:THR:CG2	26:R2:134:LYS:HE2	2.42	0.48
46:m2:796:A:H2	46:m2:797:A:H62	1.61	0.48
46:m2:1211:A:C5'	75:F3:82:LYS:NZ	2.76	0.48
46:m2:1735:U:H2'	46:m2:1736:G:O4'	2.13	0.48
46:m2:1745:G:N2	46:m2:1793:A:N6	2.31	0.48
57:y2:96:TYR:HA	57:y2:100:VAL:HG22	1.95	0.48
75:F3:41:ILE:HG12	75:F3:68:TYR:HD1	1.77	0.48
76:O3:141:ARG:HE	76:O3:141:ARG:H	1.62	0.48
9:A2:1347:A:N7	38:d2:15:THR:HG22	2.28	0.48
9:A2:1379:C:H2'	9:A2:1380:U:C6	2.49	0.48
9:A2:3566:C:H1'	9:A2:4048:A:C2	2.48	0.48
13:E2:34:LYS:HB2	13:E2:34:LYS:NZ	2.27	0.48
21:M2:81:TRP:HZ3	21:M2:130:GLU:HG2	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:T2:46:ILE:HG23	28:T2:68:ILE:HG23	1.96	0.48
46:m2:454:G:H2'	46:m2:455:C:C6	2.48	0.48
46:m2:946:A:H1'	76:O3:136:PRO:HB3	1.93	0.48
46:m2:1229:G:H21	46:m2:1637:C:H4'	1.77	0.48
46:m2:1364:U:H5"	46:m2:1365:C:C5	2.47	0.48
46:m2:1646:C:H2'	46:m2:1647:C:C6	2.48	0.48
51:w2:96:ILE:HD12	51:w2:96:ILE:N	2.27	0.48
59:B3:42:HIS:ND1	59:B3:81:GLY:HA3	2.29	0.48
59:B3:60:THR:O	59:B3:64:LEU:HG	2.13	0.48
75:F3:20:PRO:HG3	76:O3:146:ARG:HD2	1.95	0.48
75:F3:53:ILE:HD12	76:O3:117:ARG:CZ	2.37	0.48
76:O3:78:ALA:HB1	76:O3:119:LEU:HG	1.94	0.48
5:E1:50:PHE:CD1	5:E1:70:VAL:HG12	2.48	0.48
9:A2:854:A:H8	9:A2:855:G:C8	2.31	0.48
9:A2:1080:C:H2'	9:A2:1081:G:C8	2.48	0.48
9:A2:1256:A:H2	9:A2:1904:G:H22	1.61	0.48
9:A2:1482:A:H4'	9:A2:1498:G:N2	2.29	0.48
9:A2:3320:G:H2'	9:A2:3321:G:H8	1.79	0.48
9:A2:4539:A:H5"	9:A2:4540:C:H5'	1.95	0.48
9:A2:4580:C:H2'	9:A2:4581:G:C8	2.49	0.48
12:D2:156:LYS:HG2	12:D2:158:ILE:HG23	1.94	0.48
13:E2:148:LYS:NZ	13:E2:148:LYS:HB3	2.27	0.48
46:m2:146:G:H2'	46:m2:147:A:C8	2.48	0.48
46:m2:1694:U:N3	46:m2:1695:G:O6	2.47	0.48
46:m2:1865:A:N7	75:F3:75:VAL:CG2	2.71	0.48
47:n2:66:C:HO2'	47:n2:67:U:H6	1.60	0.48
53:o2:123:VAL:HG23	53:o2:145:ILE:HB	1.96	0.48
57:y2:16:LYS:HD2	57:y2:79:ALA:HA	1.96	0.48
66:J3:263:LYS:HA	66:J3:267:GLN:HE21	1.79	0.48
2:B1:95:LEU:HD11	2:B1:154:LEU:HD21	1.95	0.48
9:A2:878:G:H2'	9:A2:879:C:H6	1.79	0.48
9:A2:3339:C:H2'	12:D2:132:ASN:HD21	1.78	0.48
9:A2:3501:A:H2'	9:A2:3502:C:C6	2.48	0.48
9:A2:3504:U:H2'	9:A2:3505:A:H8	1.78	0.48
9:A2:4195:G:H2'	9:A2:4196:A:C8	2.48	0.48
46:m2:42:A:C6	46:m2:428:A:N1	2.81	0.48
46:m2:920:U:O2'	70:P3:56:HIS:HB3	2.14	0.48
46:m2:1052:A:H62	46:m2:1070:G:H21	1.62	0.48
46:m2:1264:C:H3'	46:m2:1265:U:C5	2.48	0.48
46:m2:1674:U:H2'	46:m2:1675:U:H6	1.78	0.48
49:q2:101:GLN:HB3	49:q2:122:VAL:HG13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:o2:130:ASP:HB3	53:o2:133:PRO:HG2	1.95	0.48
75:F3:45:VAL:HG11	75:F3:53:ILE:HD12	1.95	0.48
75:F3:45:VAL:HB	76:O3:117:ARG:HD2	1.82	0.48
9:A2:712:G:H2'	9:A2:713:C:C6	2.49	0.48
9:A2:1914:C:H1'	9:A2:2004:G:H1	1.78	0.48
9:A2:2513:G:H2'	9:A2:2514:G:C8	2.49	0.48
9:A2:3744:G:H22	9:A2:3765:G:H22	1.62	0.48
9:A2:4176:G:C2	13:E2:252:ALA:HB1	2.49	0.48
19:K2:29:VAL:O	19:K2:33:ARG:HB2	2.13	0.48
20:L2:10:LEU:HB3	20:L2:41:ILE:HG13	1.95	0.48
46:m2:1867:C:C2	75:F3:6:ARG:HD3	2.49	0.48
49:q2:164:VAL:O	49:q2:168:VAL:HB	2.14	0.48
50:r2:175:PHE:HE2	50:r2:225:ILE:HG21	1.77	0.48
9:A2:938:U:H2'	9:A2:939:C:H6	1.78	0.48
13:E2:92:TYR:HB2	13:E2:159:VAL:HB	1.95	0.48
13:E2:161:ARG:HG2	13:E2:184:GLN:HA	1.96	0.48
46:m2:831:C:H5"	50:r2:21:ASP:OD2	2.14	0.48
51:w2:72:ILE:O	51:w2:73:LEU:HD13	2.13	0.48
64:H3:21:CYS:HA	64:H3:37:ASN:OD1	2.14	0.48
66:J3:148:ALA:HA	66:J3:152:ARG:HH21	1.79	0.48
2:B1:137[A]:ARG:HG2	2:B1:142:THR:HG21	1.95	0.48
6:F1:60:ARG:HD2	6:F1:67:HIS:O	2.14	0.48
9:A2:453:G:H1	9:A2:1107:G:H22	1.60	0.48
9:A2:453:G:N2	9:A2:1107:G:H22	2.11	0.48
9:A2:513:U:O2	9:A2:655:G:O6	2.31	0.48
9:A2:1378:A:N3	46:m2:1032:A:H4'	2.29	0.48
11:C2:141:C:H2'	11:C2:142:U:C6	2.49	0.48
46:m2:394:A:H2'	46:m2:395:U:O4'	2.14	0.48
46:m2:933:C:H2'	46:m2:934:G:C8	2.48	0.48
46:m2:1095:A:H2'	46:m2:1096:C:H6	1.77	0.48
46:m2:1655:U:H2'	46:m2:1656:G:C8	2.49	0.48
46:m2:1864:G:N2	46:m2:1865:A:C6	2.79	0.48
48:p2:82:ARG:NH1	48:p2:191:ASP:HB2	2.28	0.48
51:w2:101:ARG:HG2	62:E3:7:LEU:HD12	1.94	0.48
54:s2:155:CYS:HB3	54:s2:159:ARG:NH1	2.29	0.48
56:x2:38:SER:HB2	56:x2:41:GLN:OE1	2.14	0.48
75:F3:12:LYS:HD3	75:F3:18:VAL:CG2	2.42	0.48
9:A2:3912:U:H2'	9:A2:3913:C:C6	2.49	0.48
14:F2:152:LEU:HD12	14:F2:249:PHE:HZ	1.79	0.48
15:G2:211:LEU:HB3	15:G2:219:TYR:HB2	1.95	0.48
46:m2:43:U:H5"	46:m2:44:U:H5	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:423:G:OP1	51:w2:97:ARG:HG3	2.14	0.48
46:m2:499:C:H2'	46:m2:500:C:C6	2.48	0.48
46:m2:618:A:N1	46:m2:634:C:H1'	2.29	0.48
46:m2:873:U:H4'	69:N3:77:SER:HA	1.95	0.48
46:m2:1580:U:H5"	46:m2:1581:A:O4'	2.13	0.48
46:m2:1700:C:H4'	46:m2:1701:A:OP2	2.14	0.48
53:o2:49:ILE:HG21	53:o2:162:PRO:HB2	1.96	0.48
70:P3:35:VAL:HA	70:P3:38:LEU:HD12	1.96	0.48
9:A2:1766:A:H3'	9:A2:1767:G:C8	2.47	0.47
9:A2:3379:A:H2'	9:A2:3380:A:H8	1.79	0.47
9:A2:3763:U:H2'	9:A2:3764:C:C6	2.48	0.47
9:A2:3943:G:OP2	43:i2:10:THR:HG22	2.14	0.47
9:A2:3997:C:H2'	9:A2:3998:U:C6	2.49	0.47
46:m2:158:A:H5'	46:m2:466:A:C5	2.49	0.47
46:m2:333:C:H41	67:K3:189:ARG:HH11	1.61	0.47
46:m2:493:C:OP2	71:Q3:104:ARG:HB3	2.14	0.47
46:m2:929:C:H2'	46:m2:930:G:H8	1.79	0.47
46:m2:1332:G:H2'	46:m2:1494:U:OP2	2.13	0.47
46:m2:1868:A:H5'	75:F3:95:ARG:HH22	1.73	0.47
47:n2:70:G:H2'	47:n2:71:C:C6	2.49	0.47
55:v2:21:MET:HE3	55:v2:49:MET:HE3	1.96	0.47
57:y2:37:ARG:HA	59:B3:7:LYS:HB3	1.96	0.47
65:I3:113:PHE:HB3	65:I3:117:ASN:HD22	1.79	0.47
68:L3:134:HIS:CE1	68:L3:164:PRO:HD2	2.49	0.47
2:B1:168:VAL:CG1	8:H1:10:LEU:HD21	2.44	0.47
9:A2:690:C:H2'	9:A2:691:G:O4'	2.14	0.47
9:A2:938:U:H2'	9:A2:939:C:C6	2.49	0.47
9:A2:1123:C:H2'	9:A2:1124:C:C6	2.49	0.47
46:m2:589:A:H5'	46:m2:594:C:H41	1.79	0.47
46:m2:1082:A:OP1	46:m2:1186:G:H1'	2.14	0.47
67:K3:63:MET:HG2	67:K3:98:ARG:HH21	1.79	0.47
76:O3:71:PRO:O	76:O3:75:MET:HG3	2.15	0.47
1:A1:263:ASN:O	1:A1:267:ARG:HG2	2.14	0.47
1:A1:264:ARG:HD2	9:A2:839:C:OP2	2.15	0.47
9:A2:1068:C:H42	9:A2:1082:A:H61	1.63	0.47
9:A2:1553:A:H2'	9:A2:1554:G:C8	2.50	0.47
9:A2:3416:A:H2	46:m2:1711:G:H22	1.62	0.47
27:S2:31:SER:HA	27:S2:48:PRO:HA	1.95	0.47
30:V2:110:MET:O	30:V2:114:GLN:HG2	2.14	0.47
36:b2:89:ARG:O	36:b2:93:ARG:HG2	2.13	0.47
45:k2:41:ASN:OD1	45:k2:44:ILE:HG23	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:401:C:C2	51:w2:104:LYS:HG2	2.48	0.47
46:m2:977:G:H2'	46:m2:978:G:H8	1.79	0.47
46:m2:1211:A:P	75:F3:82:LYS:NZ	2.87	0.47
46:m2:1268:C:H2'	46:m2:1269:C:H6	1.79	0.47
46:m2:1377:G:H2'	46:m2:1378:A:C8	2.48	0.47
48:p2:40:ASN:HB2	48:p2:75:GLN:HA	1.96	0.47
56:x2:44:ARG:NH2	56:x2:83:MET:HE2	2.29	0.47
66:J3:64:THR:HG23	66:J3:67:GLY:H	1.78	0.47
67:K3:98:ARG:HD2	67:K3:99:GLY:O	2.15	0.47
1:A1:120:ILE:HG21	19:K2:4:ASP:HB2	1.95	0.47
9:A2:1614:C:H5"	30:V2:56:LYS:HE3	1.95	0.47
9:A2:3997:C:H2'	9:A2:3998:U:H6	1.79	0.47
9:A2:4521:A:OP2	21:M2:165:PRO:HB3	2.14	0.47
33:Y2:35:TRP:CZ2	33:Y2:56:PRO:HD2	2.49	0.47
46:m2:1209:G:C3'	75:F3:80:HIS:HE1	2.26	0.47
46:m2:1257:G:H5"	46:m2:1258:G:H4'	1.96	0.47
46:m2:1621:A:H4'	56:x2:44:ARG:NH1	2.28	0.47
46:m2:1716:U:H2'	46:m2:1717:A:H8	1.78	0.47
46:m2:1846:U:H3	46:m2:1857:G:H1	1.62	0.47
46:m2:1864:G:N2	75:F3:28:ARG:NH2	2.61	0.47
48:p2:86:LEU:HB3	48:p2:98:THR:HB	1.97	0.47
53:o2:85:ARG:HG3	53:o2:89:LYS:HZ3	1.79	0.47
58:A3:25:LYS:HA	58:A3:55:ARG:HA	1.95	0.47
9:A2:106:A:H2'	9:A2:107:G:O4'	2.13	0.47
9:A2:128:C:H2'	9:A2:129:C:C6	2.49	0.47
9:A2:1744:A:H2'	9:A2:1745:A:H8	1.76	0.47
17:I2:103:LYS:HB2	17:I2:103:LYS:HE2	1.66	0.47
46:m2:159:A:H2	46:m2:469:G:H21	1.62	0.47
46:m2:529:C:H2'	46:m2:530:A:H8	1.78	0.47
46:m2:538:A:H61	46:m2:550:C:H42	1.62	0.47
46:m2:825:U:H2'	46:m2:826:C:H5	1.78	0.47
46:m2:931:G:H2'	46:m2:932:C:O4'	2.14	0.47
46:m2:1210:A:N3	75:F3:86:ASN:N	2.62	0.47
50:r2:62:LYS:HG2	50:r2:80:ILE:HD13	1.95	0.47
52:z2:85:VAL:HG22	53:o2:201:LEU:HD13	1.96	0.47
59:B3:82:ARG:HG2	59:B3:84:ARG:HD3	1.96	0.47
75:F3:59:PHE:CZ	76:O3:126:ILE:CG1	2.90	0.47
9:A2:163:A:H2'	9:A2:164:G:H8	1.79	0.47
9:A2:746:G:O2'	9:A2:747:G:H8	1.98	0.47
9:A2:1281:C:H2'	9:A2:1282:C:H6	1.78	0.47
9:A2:1893:C:N3	9:A2:1896:A:H4'	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:2166:C:H2'	9:A2:2167:A:C8	2.50	0.47
17:I2:197:LYS:NZ	17:I2:197:LYS:HB3	2.29	0.47
44:j2:46:LYS:HE3	44:j2:46:LYS:HB3	1.65	0.47
46:m2:454:G:H2'	46:m2:455:C:H6	1.80	0.47
46:m2:876:G:H2'	46:m2:876:G:N3	2.29	0.47
46:m2:1066:C:C1'	76:O3:150:ARG:HD3	2.45	0.47
46:m2:1069:C:H2'	46:m2:1070:G:O4'	2.15	0.47
46:m2:1258:G:H5"	64:H3:40:ARG:HH21	1.79	0.47
46:m2:1469:C:H2'	46:m2:1470:C:C6	2.49	0.47
46:m2:1752:C:H2'	46:m2:1753:C:H6	1.80	0.47
46:m2:1825:A:H2'	46:m2:1826:A:C5	2.50	0.47
49:q2:70:THR:HG22	49:q2:86:LEU:HG	1.96	0.47
1:A1:56:ARG:HH12	9:A2:1252:C:H4'	1.80	0.47
2:B1:143:VAL:O	2:B1:147:VAL:HG23	2.15	0.47
6:F1:114:VAL:O	6:F1:118:LYS:HG2	2.14	0.47
9:A2:2247:C:H2'	9:A2:2248:G:H8	1.80	0.47
9:A2:2275:C:H2'	9:A2:2276:G:H8	1.79	0.47
9:A2:2500:A:H2'	9:A2:2501:A:C8	2.49	0.47
14:F2:32:ILE:HG22	14:F2:34:PRO:HD3	1.97	0.47
14:F2:134:PRO:HA	14:F2:150:LEU:HD22	1.97	0.47
14:F2:138:MET:HE3	14:F2:144:ILE:H	1.80	0.47
21:M2:96:GLU:HB3	21:M2:142:VAL:HG21	1.97	0.47
37:c2:94:LEU:HD23	37:c2:97:MET:HE3	1.95	0.47
46:m2:95:G:H2'	46:m2:96:C:H6	1.80	0.47
46:m2:110:U:O2	46:m2:353:G:N2	2.45	0.47
46:m2:350:A:H2'	46:m2:351:A:C8	2.50	0.47
46:m2:564:U:H2'	46:m2:565:G:C8	2.49	0.47
46:m2:1026:A:OP1	69:N3:4:MET:HG2	2.14	0.47
46:m2:1619:G:N2	46:m2:1621:A:H3'	2.29	0.47
46:m2:1706:C:C2'	46:m2:1707:C:H5'	2.45	0.47
49:q2:146:ARG:HD3	49:q2:147:ALA:H	1.78	0.47
50:r2:68:ARG:HH11	50:r2:76:VAL:HG12	1.79	0.47
50:r2:130:PHE:CE1	50:r2:138:HIS:HB2	2.50	0.47
58:A3:39:ARG:HD3	59:B3:38:LYS:HE3	1.97	0.47
65:I3:238:ALA:HB3	65:I3:251:ALA:HB3	1.95	0.47
69:N3:49:GLN:HA	69:N3:52:VAL:HB	1.97	0.47
9:A2:49:U:H2'	9:A2:50:C:H6	1.79	0.47
9:A2:175:C:H2'	9:A2:176:G:C8	2.50	0.47
9:A2:1758:A:H2'	9:A2:1759:U:H6	1.80	0.47
9:A2:2323:C:H2'	9:A2:2324:G:H8	1.80	0.47
9:A2:3564:A:H2'	9:A2:3565:G:H21	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:3601:A:H2'	9:A2:3602:G:C8	2.49	0.47
9:A2:3770:U:H5'	12:D2:87:PHE:HE2	1.79	0.47
9:A2:4215:U:H2'	9:A2:4216:A:H8	1.80	0.47
19:K2:110:ARG:HG3	19:K2:120:ILE:HD12	1.96	0.47
35:a2:5:LEU:HD21	35:a2:30:ILE:HG22	1.97	0.47
37:c2:16:LYS:HA	37:c2:16:LYS:HD3	1.64	0.47
46:m2:831:C:H4'	46:m2:832:A:H5'	1.97	0.47
46:m2:948:U:H2'	46:m2:949:G:H8	1.79	0.47
48:p2:167:LYS:HE3	48:p2:171:ILE:HD11	1.96	0.47
68:L3:60:LEU:HG	68:L3:94:LEU:HD21	1.96	0.47
68:L3:80:ARG:HA	68:L3:83:ARG:HG2	1.97	0.47
75:F3:22:ARG:HH22	76:O3:146:ARG:H	1.62	0.47
9:A2:2395:G:H2'	9:A2:2396:A:C8	2.50	0.47
9:A2:2498:A:H2'	9:A2:2499:A:C8	2.50	0.47
9:A2:2511:G:H2'	9:A2:2512:A:C8	2.50	0.47
9:A2:3248:G:H2'	9:A2:3248:G:N3	2.30	0.47
9:A2:4436:C:H42	9:A2:4495:C:H42	1.61	0.47
13:E2:86:VAL:HG13	13:E2:162:ILE:HG23	1.97	0.47
13:E2:353:VAL:HG12	13:E2:355:THR:HG23	1.97	0.47
45:k2:98:ARG:HG3	45:k2:98:ARG:NH1	2.29	0.47
46:m2:29:G:H2'	46:m2:30:C:C6	2.50	0.47
46:m2:1472:C:H2'	46:m2:1473:C:C6	2.50	0.47
46:m2:1616:A:H2'	46:m2:1617:U:C6	2.50	0.47
46:m2:1861:A:P	75:F3:16:GLY:O	2.73	0.47
62:E3:41:PHE:HE2	62:E3:119:ARG:HH12	1.63	0.47
9:A2:7:C:H2'	9:A2:8:U:C6	2.49	0.47
9:A2:1561:G:H1	9:A2:1575:U:H3	1.63	0.47
9:A2:2102:A:C4	33:Y2:31:ILE:HD11	2.50	0.47
9:A2:4500:G:H2'	9:A2:4501:G:H8	1.79	0.47
11:C2:81:C:H2'	11:C2:83:C:H5'	1.96	0.47
17:I2:196:LEU:HD23	17:I2:202:LEU:HD22	1.96	0.47
46:m2:174:C:H2'	46:m2:175:A:C8	2.48	0.47
46:m2:604:G:H2'	46:m2:605:C:C5	2.50	0.47
46:m2:681:A:H5'	46:m2:682:G:OP2	2.15	0.47
46:m2:695:A:H3'	46:m2:696:G:C8	2.50	0.47
46:m2:1693:U:H5"	46:m2:1694:U:P	2.55	0.47
48:p2:150:ILE:HD12	52:z2:129:LYS:HB3	1.96	0.47
49:q2:105:LEU:HA	49:q2:105:LEU:HD23	1.74	0.47
68:L3:134:HIS:HE1	68:L3:164:PRO:HD2	1.80	0.47
75:F3:26:CYS:CB	76:O3:149:ARG:HB2	2.21	0.47
75:F3:45:VAL:HG23	76:O3:117:ARG:HG3	1.87	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E1:128:LEU:HD21	5:E1:130:PHE:HE1	1.80	0.46
9:A2:2654:C:H2'	9:A2:2655:U:C6	2.50	0.46
9:A2:3749:G:H4'	48:p2:227:LYS:HE3	1.97	0.46
9:A2:3996:U:H2'	9:A2:3997:C:C6	2.49	0.46
9:A2:4603:C:H2'	9:A2:4604:C:H6	1.79	0.46
17:I2:16:LEU:HD21	17:I2:83:THR:HG21	1.97	0.46
48:p2:107:ARG:HA	48:p2:110:MET:HG2	1.96	0.46
48:p2:123:ALA:HB3	48:p2:139:CYS:SG	2.56	0.46
51:w2:55:TYR:CZ	51:w2:116:CYS:HB3	2.49	0.46
58:A3:40:TYR:HD1	58:A3:83:PHE:HE2	1.62	0.46
65:I3:32:LEU:HD11	65:I3:40:ILE:HG22	1.96	0.46
9:A2:272:U:H2'	9:A2:273:U:C6	2.50	0.46
9:A2:955:U:H2'	9:A2:956:C:C6	2.50	0.46
9:A2:1244:C:H2'	9:A2:1245:G:O4'	2.15	0.46
9:A2:2426:C:H2'	9:A2:2427:C:C6	2.50	0.46
9:A2:3625:G:O5'	9:A2:3625:G:H8	1.98	0.46
9:A2:4133:U:H2'	9:A2:4134:U:C6	2.50	0.46
46:m2:95:G:H2'	46:m2:96:C:C6	2.51	0.46
46:m2:1865:A:C5	75:F3:76:SER:CA	2.97	0.46
53:o2:61:ALA:O	53:o2:65:ILE:HD12	2.15	0.46
66:J3:207:ALA:HB3	66:J3:210:PRO:HD2	1.97	0.46
68:L3:109:ARG:HB2	68:L3:112:THR:HG23	1.97	0.46
9:A2:114:G:H21	9:A2:276:C:H4'	1.79	0.46
9:A2:2419:G:H4'	9:A2:2432:G:H4'	1.97	0.46
12:D2:117:GLU:HG3	12:D2:163:ARG:H	1.80	0.46
27:S2:67:ILE:HD12	27:S2:107:THR:HG21	1.98	0.46
29:U2:101:ILE:HD12	29:U2:122:VAL:HG21	1.98	0.46
46:m2:57:U:H5"	46:m2:506:G:H1'	1.97	0.46
46:m2:95:G:H1	46:m2:437:A:H61	1.63	0.46
46:m2:347:U:H2'	46:m2:348:C:C6	2.51	0.46
46:m2:977:G:H21	76:O3:50:LYS:HA	1.81	0.46
46:m2:1211:A:C3'	75:F3:82:LYS:NZ	2.77	0.46
46:m2:1867:C:C5'	75:F3:95:ARG:HH12	2.26	0.46
49:q2:51:LEU:HG	49:q2:91:VAL:HG22	1.96	0.46
49:q2:167:TYR:CD1	49:q2:200:PRO:HG2	2.49	0.46
53:o2:198:MET:H	53:o2:198:MET:HE2	1.80	0.46
67:K3:138:ALA:HB2	67:K3:179:LEU:HB2	1.97	0.46
70:P3:42:MET:HE1	70:P3:48:GLY:O	2.15	0.46
75:F3:28:ARG:HA	76:O3:148:GLY:O	2.14	0.46
76:O3:143:LYS:HG3	76:O3:144:GLY:N	2.28	0.46
8:H1:68:ARG:HB2	9:A2:302:C:OP1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:37:U:H2'	9:A2:38:A:O4'	2.14	0.46
9:A2:1557:C:H41	9:A2:1578:A:H2	1.63	0.46
9:A2:2272:A:H5'	35:a2:62:LYS:HB2	1.97	0.46
9:A2:3382:A:H2'	9:A2:3383:A:C8	2.50	0.46
10:B2:4:U:H2'	10:B2:5:A:C8	2.51	0.46
11:C2:83:C:N3	27:S2:50:ARG:NH2	2.64	0.46
42:h2:2:ARG:HG3	42:h2:3:ALA:N	2.29	0.46
46:m2:579:U:H2'	46:m2:580:C:C6	2.50	0.46
46:m2:1336:G:H1'	49:q2:181:VAL:CG1	2.44	0.46
46:m2:1833:A:H2'	46:m2:1834:A:H8	1.81	0.46
53:o2:25:LEU:HD23	53:o2:26:GLY:H	1.81	0.46
58:A3:124:ARG:HH21	58:A3:129:LEU:HB3	1.80	0.46
66:J3:68:ARG:HH21	66:J3:71:LYS:HB3	1.80	0.46
71:Q3:18:LEU:HD22	71:Q3:85:ASN:HB3	1.98	0.46
5:E1:152:GLY:O	5:E1:156:ARG:HG3	2.16	0.46
9:A2:100:C:C2	9:A2:101:A:C8	3.03	0.46
9:A2:1377:A:OP2	9:A2:1377:A:H8	1.98	0.46
9:A2:1446:G:H5'	9:A2:1447:A:OP1	2.15	0.46
9:A2:4109:U:H1'	13:E2:252:ALA:HB3	1.98	0.46
16:H2:102:THR:HG22	16:H2:111:THR:HB	1.96	0.46
34:Z2:41:PHE:HE1	34:Z2:110:ILE:HD13	1.81	0.46
46:m2:25:A:O2'	46:m2:26:U:H5"	2.15	0.46
46:m2:634:C:C2	46:m2:635:C:C5	3.04	0.46
46:m2:676:C:H2'	46:m2:677:U:C6	2.49	0.46
46:m2:864:A:H8	70:P3:105:THR:HB	1.78	0.46
46:m2:943:C:H2'	46:m2:944:G:H8	1.81	0.46
46:m2:1563:G:H4'	46:m2:1585:C:H4'	1.96	0.46
46:m2:1615:G:H3'	56:x2:39:ALA:HB2	1.96	0.46
56:x2:57:LEU:HA	56:x2:60:LEU:HG	1.97	0.46
57:y2:134:GLY:HA2	57:y2:141:TYR:N	2.30	0.46
66:J3:170:TRP:HB2	66:J3:179:THR:HG21	1.97	0.46
76:O3:103:ASN:OD1	76:O3:139:SER:HB3	2.16	0.46
9:A2:120:A:H2'	9:A2:149:A:H61	1.79	0.46
9:A2:1374:G:H3'	9:A2:1375:G:C8	2.51	0.46
9:A2:1669:A:H2'	9:A2:1670:A:C8	2.51	0.46
9:A2:2232:A:C2'	9:A2:2233:C:H5"	2.46	0.46
9:A2:3426:U:H2'	9:A2:3427:C:C6	2.50	0.46
9:A2:3821:G:H4'	9:A2:3823:C:C2	2.50	0.46
9:A2:3894:U:N3	9:A2:3933:A:H2	2.04	0.46
9:A2:3943:G:H5"	9:A2:3945:U:C6	2.51	0.46
9:A2:4398:C:H2'	9:A2:4399:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:C2:70:G:H5”	27:S2:27:ARG:CZ	2.46	0.46
16:H2:76:TYR:CE1	16:H2:77:LYS:HG3	2.50	0.46
19:K2:177:ALA:O	19:K2:184:ARG:HB2	2.16	0.46
22:N2:36:LYS:HE3	22:N2:36:LYS:HB2	1.57	0.46
46:m2:655:A:H2	68:L3:17:ARG:HH21	1.63	0.46
46:m2:684:U:O2’	46:m2:1161:G:H4’	2.16	0.46
46:m2:1053:G:H2’	46:m2:1054:A:H8	1.81	0.46
46:m2:1201:A:H5”	75:F3:2:THR:HB	1.98	0.46
46:m2:1633:U:H3’	46:m2:1634:G:C8	2.45	0.46
46:m2:1865:A:N3	75:F3:75:VAL:CB	2.79	0.46
47:n2:49:G:H2’	47:n2:50:A:O4’	2.15	0.46
47:n2:64:U:H2’	47:n2:65:C:C6	2.51	0.46
62:E3:69:CYS:HA	62:E3:84:PHE:HA	1.97	0.46
1:A1:75:LYS:HE2	1:A1:211:ASP:OD1	2.16	0.46
9:A2:712:G:H2’	9:A2:713:C:H6	1.80	0.46
9:A2:2022:U:C6	9:A2:2025:G:H4’	2.50	0.46
9:A2:4110:C:H2’	9:A2:4111:U:C6	2.50	0.46
9:A2:4176:G:N3	13:E2:252:ALA:HB1	2.30	0.46
9:A2:4290:U:H2’	9:A2:4291:G:N3	2.31	0.46
13:E2:285:TYR:CZ	13:E2:334:LYS:HG3	2.50	0.46
24:P2:16:ILE:HD12	24:P2:88:TYR:CD2	2.51	0.46
29:U2:90:ALA:HB3	29:U2:120:GLN:HE21	1.80	0.46
39:e2:5:ILE:HD11	39:e2:11:PHE:HD1	1.80	0.46
46:m2:184:G:H2’	46:m2:185:G:C8	2.49	0.46
46:m2:480:G:H2’	46:m2:481:C:C6	2.49	0.46
46:m2:1103:U:H3	46:m2:1133:G:H1	1.62	0.46
46:m2:1115:A:H2’	46:m2:1116:U:H6	1.80	0.46
46:m2:1444:U:H2’	46:m2:1445:C:C6	2.51	0.46
46:m2:1597:U:H2’	46:m2:1598:U:C6	2.51	0.46
46:m2:1693:U:C4’	46:m2:1694:U:P	3.01	0.46
62:E3:60:LYS:NZ	62:E3:62:PRO:HG2	2.31	0.46
75:F3:26:CYS:O	76:O3:149:ARG:HB2	2.15	0.46
2:B1:213:GLY:O	2:B1:217:LYS:HG2	2.16	0.46
9:A2:1118:C:H2’	9:A2:1119:C:C6	2.50	0.46
9:A2:1426:A:H5’	12:D2:183:GLY:CA	2.46	0.46
9:A2:2030:G:H2’	9:A2:2031:A:C8	2.51	0.46
9:A2:2321:G:H2’	9:A2:2322:G:H8	1.80	0.46
28:T2:121:ARG:O	28:T2:124:THR:HG22	2.15	0.46
46:m2:1233:C:H42	46:m2:1529:C:H42	1.63	0.46
46:m2:1282:G:H2’	46:m2:1283:G:C8	2.51	0.46
46:m2:1610:U:H2’	46:m2:1611:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1871:A:C5	48:p2:115:LYS:HG2	2.50	0.46
59:B3:80:GLY:HA3	59:B3:92:PHE:HE1	1.80	0.46
61:D3:68:SER:HA	61:D3:71:ARG:HH21	1.81	0.46
75:F3:56:ALA:CA	76:O3:121:ARG:CG	2.94	0.46
1:A1:81:LYS:O	1:A1:85:GLN:HG3	2.15	0.46
1:A1:158:VAL:O	1:A1:162:ILE:HG12	2.16	0.46
9:A2:21:G:H1'	11:C2:103:A:N3	2.30	0.46
9:A2:162:A:H2'	9:A2:163:A:C8	2.50	0.46
9:A2:176:G:H2'	9:A2:177:G:H8	1.81	0.46
9:A2:928:G:H1	9:A2:1064:G:H1	1.63	0.46
9:A2:2220:C:H2'	9:A2:2221:G:O4'	2.16	0.46
9:A2:2241:G:H2'	9:A2:2242:G:C8	2.51	0.46
9:A2:3529:G:H2'	9:A2:3530:G:C8	2.51	0.46
19:K2:71:LYS:HE2	19:K2:71:LYS:HB2	1.62	0.46
46:m2:25:A:O2'	46:m2:26:U:H6	1.99	0.46
46:m2:77:A:H3'	67:K3:154:ARG:HB3	1.98	0.46
46:m2:154:U:H3	46:m2:164:A:N6	2.09	0.46
46:m2:456:U:H2'	46:m2:457:A:H8	1.81	0.46
46:m2:1045:G:H2'	46:m2:1046:G:O4'	2.15	0.46
46:m2:1237:G:N2	56:x2:135:ALA:HA	2.23	0.46
46:m2:1261:A:H3'	46:m2:1261:A:N3	2.31	0.46
46:m2:1369:U:H2'	46:m2:1370:U:C6	2.51	0.46
46:m2:1804:C:H2'	46:m2:1805:U:H6	1.80	0.46
49:q2:95:GLY:HA2	49:q2:101:GLN:OE1	2.15	0.46
75:F3:26:CYS:HB3	76:O3:149:ARG:HD2	1.86	0.46
9:A2:3312:A:H2'	9:A2:3313:U:H6	1.81	0.46
9:A2:3348:A:H62	9:A2:3479:G:H21	0.64	0.46
9:A2:4253:U:H2'	9:A2:4254:A:C8	2.48	0.46
9:A2:4703:C:H2'	9:A2:4704:A:C8	2.51	0.46
17:I2:165:LYS:CG	17:I2:169:ARG:HH21	2.23	0.46
46:m2:22:A:H1'	68:L3:17:ARG:HD2	1.97	0.46
46:m2:217:G:H2'	46:m2:218:C:C6	2.51	0.46
46:m2:687:A:C6	46:m2:688:U:C2	3.04	0.46
46:m2:933:C:P	48:p2:159:GLN:HG3	2.56	0.46
46:m2:1036:A:C2	46:m2:1037:A:H1'	2.50	0.46
46:m2:1090:U:H4'	46:m2:1091:G:OP2	2.16	0.46
46:m2:1150:A:H4'	46:m2:1151:A:O4'	2.16	0.46
46:m2:1558:A:H1'	64:H3:13:LYS:HE2	1.97	0.46
62:E3:11:ARG:HG3	62:E3:14:ARG:HH21	1.80	0.46
66:J3:89:LYS:HA	66:J3:160:LEU:HD21	1.98	0.46
71:Q3:103:SER:O	71:Q3:107:ARG:HG3	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:F3:38:LYS:CD	75:F3:71:LEU:HD12	2.41	0.46
2:B1:54:PHE:HB3	9:A2:3736:G:H5"	1.98	0.45
9:A2:174:C:H2'	9:A2:175:C:C6	2.52	0.45
9:A2:684:G:H2'	9:A2:685:C:C6	2.51	0.45
9:A2:1011:U:H3'	9:A2:1012:C:C5'	2.38	0.45
9:A2:4170:A:OP2	9:A2:4170:A:H8	1.99	0.45
12:D2:70:LYS:HE3	12:D2:70:LYS:HB2	1.59	0.45
14:F2:336:ARG:HG2	16:H2:61:ILE:CD1	2.46	0.45
29:U2:62:HIS:CE1	29:U2:64:LYS:HD3	2.51	0.45
29:U2:103:VAL:HG13	29:U2:108:TYR:HB2	1.97	0.45
46:m2:226:A:H61	46:m2:299:A:N6	2.14	0.45
46:m2:461:C:H2'	46:m2:462:A:O4'	2.16	0.45
46:m2:1268:C:H2'	46:m2:1269:C:C6	2.51	0.45
46:m2:1396:G:H4'	57:y2:126:ARG:NH2	2.31	0.45
46:m2:1570:C:O3'	59:B3:41:LYS:HD3	2.16	0.45
49:q2:205:PRO:HA	52:z2:42:PRO:HG2	1.98	0.45
50:r2:250:GLU:O	50:r2:254:LYS:HG2	2.15	0.45
62:E3:76:LYS:HD2	62:E3:76:LYS:HA	1.79	0.45
1:A1:53:LYS:HA	1:A1:56:ARG:HD2	1.99	0.45
4:D1:61:SER:HA	4:D1:126:VAL:HG12	1.97	0.45
9:A2:4067:1MA:H2'	9:A2:4068:G:O4'	2.15	0.45
9:A2:4430:U:H2'	9:A2:4431:C:H6	1.81	0.45
13:E2:161:ARG:HD2	13:E2:182:GLU:OE1	2.16	0.45
26:R2:83:THR:O	26:R2:87:MET:HG2	2.15	0.45
27:S2:47:MET:HE3	27:S2:47:MET:HB3	1.81	0.45
38:d2:25:LYS:HD3	40:f2:50:GLY:O	2.16	0.45
46:m2:499:C:H2'	46:m2:500:C:H6	1.82	0.45
46:m2:927:G:H22	46:m2:1019:U:H3	1.64	0.45
46:m2:1075:U:H2'	46:m2:1076:C:C6	2.51	0.45
46:m2:1194:U:H2'	46:m2:1195:U:C6	2.51	0.45
53:o2:25:LEU:HD23	53:o2:26:GLY:N	2.32	0.45
69:N3:13:GLN:HE21	72:S3:21:LYS:HE3	1.82	0.45
8:H1:85:VAL:HA	43:i2:49:GLY:HA2	1.98	0.45
9:A2:662:C:O2'	14:F2:269:LYS:HD3	2.15	0.45
9:A2:2366:A:H2'	9:A2:2367:G:C8	2.51	0.45
9:A2:3732:G:H2'	9:A2:3733:U:C6	2.52	0.45
9:A2:3784:C:H2'	9:A2:3785:G:C8	2.51	0.45
12:D2:144:LYS:HB2	12:D2:144:LYS:HE3	1.54	0.45
16:H2:73:LYS:HE2	16:H2:75:LEU:HD21	1.99	0.45
23:O2:63:ILE:HG12	23:O2:72:VAL:HG22	1.98	0.45
34:Z2:36:ARG:HD2	34:Z2:79:GLY:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:534:C:H2'	46:m2:535:A:C8	2.52	0.45
46:m2:553:U:H2'	46:m2:554:G:C8	2.52	0.45
46:m2:1477:G:H4'	57:y2:124:PRO:HG3	1.98	0.45
47:n2:31:G:N3	47:n2:31:G:H2'	2.30	0.45
53:o2:41:ARG:HH21	53:o2:45:GLY:HA2	1.81	0.45
59:B3:100:ALA:HA	59:B3:103:VAL:HB	1.97	0.45
72:S3:64:CYS:HB2	72:S3:71:ALA:HB1	1.99	0.45
4:D1:87:ILE:HG12	4:D1:138:ILE:HG12	1.99	0.45
7:G1:6:TYR:CG	21:M2:151:LYS:HE3	2.51	0.45
9:A2:1010:G:N3	9:A2:1010:G:H2'	2.30	0.45
9:A2:2450:A:H4'	39:e2:26:LYS:HE3	1.99	0.45
9:A2:3975:A:N7	15:G2:153:THR:HG21	2.31	0.45
10:B2:82:G:H2'	10:B2:83:A:C8	2.52	0.45
14:F2:149:GLU:HG3	45:k2:72:LYS:HD3	1.99	0.45
14:F2:327:LYS:HZ2	14:F2:327:LYS:HB3	1.80	0.45
17:I2:197:LYS:HG2	17:I2:202:LEU:O	2.16	0.45
46:m2:540:U:O4	46:m2:548:G:O6	2.34	0.45
46:m2:691:U:H2'	46:m2:692:G:C8	2.51	0.45
46:m2:1215:C:H2'	46:m2:1216:A:H8	1.80	0.45
46:m2:1862:A:N1	46:m2:1864:G:C5	2.85	0.45
53:o2:50:ASN:HB3	53:o2:53:ARG:HG2	1.96	0.45
53:o2:76:VAL:HG22	53:o2:87:VAL:HG22	1.97	0.45
2:B1:58:PRO:HG2	2:B1:61:ILE:HD12	1.98	0.45
8:H1:159:ARG:HB3	8:H1:164:LEU:HB2	1.98	0.45
9:A2:673:G:H2'	9:A2:673:G:N3	2.32	0.45
9:A2:684:G:H2'	9:A2:685:C:H6	1.80	0.45
9:A2:917:G:H2'	9:A2:918:G:C8	2.52	0.45
9:A2:1317:G:H2'	9:A2:1318:C:C6	2.51	0.45
9:A2:3411:G:H2'	9:A2:3412:A:O4'	2.15	0.45
9:A2:3579:A:H2'	9:A2:3580:C:C6	2.51	0.45
9:A2:4024:U:OP2	43:i2:61:LYS:HG2	2.15	0.45
9:A2:4425:C:H2'	9:A2:4426:C:H6	1.82	0.45
46:m2:443:C:H2'	46:m2:444:C:C5	2.52	0.45
57:y2:87:SER:HA	57:y2:90:LYS:NZ	2.31	0.45
69:N3:41:ALA:HB1	69:N3:80:LEU:HD11	1.98	0.45
75:F3:39:PHE:CE1	75:F3:70:LYS:HD3	2.52	0.45
75:F3:67:LEU:HD11	76:O3:109:GLY:C	2.42	0.45
9:A2:271:C:H2'	9:A2:272:U:C6	2.52	0.45
9:A2:467:U:H2'	9:A2:468:U:C6	2.52	0.45
9:A2:1284:U:H2'	9:A2:1285:C:H6	1.82	0.45
9:A2:1901:A:C2'	9:A2:1902:A:H5'	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:2131:A:H2'	9:A2:2132:C:C6	2.52	0.45
9:A2:2424:C:H2'	9:A2:2425:C:O4'	2.16	0.45
9:A2:3512:A:H5"	18:J2:83:TRP:O	2.17	0.45
45:k2:39:ARG:HH11	45:k2:105:ASP:CG	2.25	0.45
46:m2:668:U:H2'	46:m2:669:U:C6	2.52	0.45
46:m2:1016:G:H2'	46:m2:1017:U:C6	2.52	0.45
46:m2:1146:A:H2'	46:m2:1147:A:C8	2.51	0.45
46:m2:1326:G:N2	46:m2:1506:U:H3	2.12	0.45
46:m2:1490:C:H3'	46:m2:1491:A:H4'	1.99	0.45
46:m2:1589:G:C6	59:B3:78:ILE:HD11	2.52	0.45
46:m2:1864:G:H22	75:F3:30:VAL:CG2	2.30	0.45
57:y2:131:LYS:HD3	57:y2:131:LYS:HA	1.58	0.45
65:I3:79:LEU:HD11	65:I3:87:LEU:HB3	1.98	0.45
9:A2:268:G:H2'	9:A2:269:G:C8	2.51	0.45
9:A2:1705:G:OP1	34:Z2:87:LYS:HE3	2.16	0.45
9:A2:2224:C:H5'	9:A2:2225:C:OP2	2.16	0.45
9:A2:2500:A:H2'	9:A2:2501:A:H8	1.81	0.45
9:A2:3685:G:H2'	9:A2:3686:G:C8	2.52	0.45
46:m2:416:A:H2'	46:m2:417:A:H8	1.81	0.45
46:m2:918:A:N6	69:N3:73:ARG:HB3	2.32	0.45
46:m2:1006:U:H2'	46:m2:1007:G:C8	2.52	0.45
46:m2:1207:C:N4	46:m2:1694:U:H3	2.14	0.45
46:m2:1805:U:H2'	46:m2:1806:U:C6	2.52	0.45
46:m2:1867:C:H5'	75:F3:95:ARG:HH12	1.82	0.45
53:o2:66:VAL:HG13	61:D3:37:ALA:HB3	1.98	0.45
67:K3:3:LEU:HD22	67:K3:111:LEU:HD11	1.99	0.45
9:A2:35:U:H4'	9:A2:1338:A:C2	2.52	0.45
9:A2:1511:C:H41	9:A2:1886:C:H41	1.64	0.45
9:A2:1848:G:C4	17:I2:60:LYS:HD2	2.52	0.45
9:A2:2365:G:H2'	9:A2:2366:A:C8	2.51	0.45
9:A2:3576:U:H2'	9:A2:3577:U:C6	2.52	0.45
10:B2:117:G:H5'	15:G2:256:LYS:HD2	1.98	0.45
36:b2:88:THR:HB	36:b2:91:MET:HE3	1.99	0.45
46:m2:384:C:H2'	46:m2:385:G:C8	2.51	0.45
46:m2:1066:C:C5'	76:O3:150:ARG:HG2	2.42	0.45
46:m2:1111:C:H2'	46:m2:1112:G:O4'	2.16	0.45
46:m2:1672:C:C2	46:m2:1673:G:C8	3.04	0.45
49:q2:99:ILE:HG23	49:q2:173:ARG:HH21	1.82	0.45
53:o2:130:ASP:O	53:o2:134:LEU:HG	2.16	0.45
54:s2:80:GLY:HA2	54:s2:83:ASN:HB3	1.99	0.45
5:E1:125:ILE:O	5:E1:125:ILE:HG13	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:200:U:H2'	27:S2:59:ARG:HH22	1.81	0.45
9:A2:1770:G:H2'	9:A2:1771:G:C8	2.51	0.45
11:C2:19:C:H2'	11:C2:20:A:C8	2.52	0.45
46:m2:650:A:H4'	62:E3:104:GLY:H	1.81	0.45
46:m2:1166:G:O2'	46:m2:1167:G:H5'	2.16	0.45
46:m2:1837:A:C2	46:m2:1865:A:C2	3.05	0.45
48:p2:172:MET:HE1	48:p2:212:VAL:HG13	1.98	0.45
53:o2:125:THR:HG22	53:o2:175:TRP:CZ2	2.52	0.45
56:x2:106:GLU:HG2	56:x2:108:LYS:N	2.32	0.45
62:E3:16:HIS:O	62:E3:20:GLN:HB2	2.16	0.45
71:Q3:20:ARG:HA	71:Q3:76:TYR:HA	1.98	0.45
8:H1:200:LEU:HD22	8:H1:204:ARG:HD3	1.98	0.45
9:A2:143:U:H5"	9:A2:144:G:C5'	2.47	0.45
9:A2:878:G:H2'	9:A2:879:C:C6	2.52	0.45
9:A2:928:G:H1	9:A2:1064:G:N2	2.15	0.45
9:A2:1211:A:C8	29:U2:114:LYS:HD2	2.52	0.45
9:A2:1360:A:C2	9:A2:2568:A:H8	2.25	0.45
9:A2:3848:OMG:HM23	9:A2:3848:OMG:H1'	1.59	0.45
9:A2:3932:A:C2	15:G2:29:ASP:HA	2.52	0.45
11:C2:141:C:H2'	11:C2:142:U:H6	1.82	0.45
28:T2:42:LEU:HD21	28:T2:96:VAL:HG12	1.99	0.45
46:m2:872:A:H5'	46:m2:917:G:H22	1.81	0.45
46:m2:1104:G:H2'	46:m2:1105:C:C6	2.52	0.45
46:m2:1388:A:C5	46:m2:1389:G:H1'	2.52	0.45
47:n2:40:C:H5"	47:n2:41:C:OP2	2.17	0.45
48:p2:103:MET:O	48:p2:214:LYS:HD3	2.17	0.45
60:C3:28:ASN:HB2	60:C3:31:SER:HB3	1.98	0.45
68:L3:127:ARG:HD3	73:T3:31:ARG:HD3	1.99	0.45
2:B1:70:LEU:HD23	2:B1:70:LEU:HA	1.87	0.44
5:E1:60:PHE:CD1	5:E1:60:PHE:N	2.84	0.44
6:F1:94:ILE:HD13	6:F1:94:ILE:HA	1.87	0.44
9:A2:424:U:H2'	9:A2:425:U:C6	2.52	0.44
9:A2:453:G:H22	9:A2:1107:G:N2	2.14	0.44
9:A2:3307:A:H2'	9:A2:3308:A:C8	2.51	0.44
9:A2:4133:U:H2'	9:A2:4134:U:H6	1.82	0.44
10:B2:94:C:H2'	10:B2:95:C:H6	1.82	0.44
46:m2:680:U:O2	46:m2:1029:A:N7	2.50	0.44
46:m2:1452:G:H8	46:m2:1452:G:OP2	2.00	0.44
46:m2:1570:C:H2'	46:m2:1571:A:C8	2.52	0.44
46:m2:1694:U:H2'	46:m2:1695:G:N7	2.32	0.44
46:m2:1862:A:OP2	75:F3:10:ARG:NH1	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r2:101:LEU:HD13	50:r2:109:PHE:HE2	1.81	0.44
51:w2:102:PHE:HE2	62:E3:7:LEU:HG	1.82	0.44
53:o2:85:ARG:HD3	53:o2:203:PHE:O	2.17	0.44
71:Q3:91:LEU:HA	71:Q3:94:HIS:CE1	2.52	0.44
75:F3:38:LYS:HG2	75:F3:71:LEU:HD12	1.97	0.44
75:F3:46:GLU:OE1	75:F3:46:GLU:HA	2.17	0.44
7:G1:53:LYS:HE2	7:G1:53:LYS:HB2	1.76	0.44
8:H1:203:TYR:HB2	9:A2:1173:G:H4'	1.98	0.44
9:A2:140:G:H2'	9:A2:141:C:C6	2.52	0.44
9:A2:1581:U:H2'	9:A2:1582:A:C8	2.52	0.44
9:A2:2247:C:H2'	9:A2:2248:G:C8	2.53	0.44
9:A2:3373:A:H2'	9:A2:3374:A:H8	1.81	0.44
9:A2:3746:C:H2'	9:A2:3747:G:O4'	2.17	0.44
9:A2:4236:A:H2'	9:A2:4237:U:O4'	2.17	0.44
13:E2:322:HIS:O	13:E2:342:LYS:HE3	2.17	0.44
46:m2:651:U:H2'	46:m2:652:A:C8	2.41	0.44
46:m2:1085:A:N3	46:m2:1861:A:H1'	2.33	0.44
46:m2:1157:U:H1'	70:P3:71:LYS:HD3	1.99	0.44
46:m2:1525:C:H2'	46:m2:1526:G:C8	2.52	0.44
47:n2:67:U:H2'	47:n2:68:C:O4'	2.17	0.44
48:p2:114:VAL:HG22	48:p2:142:PHE:CZ	2.51	0.44
49:q2:134:CYS:SG	49:q2:188:ILE:HG12	2.57	0.44
68:L3:32:ILE:HG12	68:L3:37:LEU:HB2	1.98	0.44
72:S3:20:LYS:HA	72:S3:23:ARG:CZ	2.47	0.44
6:F1:63:THR:HG23	6:F1:65:ARG:N	2.32	0.44
9:A2:3573:A:H2'	9:A2:3574:G:C8	2.50	0.44
9:A2:4294:U:H2'	9:A2:4295:G:H8	1.82	0.44
46:m2:818:A:P	68:L3:10:ARG:HH22	2.40	0.44
46:m2:921:A:H5'	70:P3:57:ARG:NH2	2.32	0.44
46:m2:1274:C:O2'	46:m2:1275:C:H5'	2.18	0.44
46:m2:1608:G:O3'	46:m2:1609:A:H8	2.01	0.44
46:m2:1867:C:C4'	75:F3:95:ARG:NH1	2.79	0.44
48:p2:63:LYS:HE3	48:p2:89:GLU:O	2.17	0.44
50:r2:105:THR:HG22	50:r2:243:GLY:HA2	1.99	0.44
75:F3:42:ARG:HB3	75:F3:42:ARG:NH1	2.33	0.44
1:A1:89:THR:O	1:A1:93:MET:HG2	2.17	0.44
9:A2:3986:U:H4'	22:N2:7:LYS:HB2	1.98	0.44
46:m2:513:U:H2'	46:m2:514:A:C8	2.53	0.44
46:m2:534:C:H2'	46:m2:535:A:H8	1.82	0.44
46:m2:936:G:H5'	46:m2:996:C:H1'	1.99	0.44
48:p2:97:LEU:HD13	48:p2:232:HIS:CD2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:r2:44:LEU:HD11	50:r2:70:ILE:HG21	1.98	0.44
51:w2:46:THR:HG23	51:w2:62:PHE:CD1	2.53	0.44
62:E3:102:VAL:CG2	62:E3:120:PHE:HB3	2.47	0.44
71:Q3:111:LYS:HE3	71:Q3:111:LYS:HB3	1.73	0.44
75:F3:53:ILE:CA	76:O3:117:ARG:NH2	2.66	0.44
75:F3:59:PHE:CZ	76:O3:126:ILE:C	2.94	0.44
76:O3:53:ILE:HG23	76:O3:88:LEU:HD23	1.99	0.44
8:H1:75:VAL:HG11	8:H1:80:THR:HG22	1.99	0.44
9:A2:294:G:O6	9:A2:315:G:H1'	2.18	0.44
9:A2:444:G:H2'	9:A2:445:U:C6	2.52	0.44
9:A2:671:G:H2'	9:A2:672:C:H5"	1.99	0.44
9:A2:1166:C:H2'	9:A2:1167:G:O4'	2.17	0.44
9:A2:1652:A:H2'	9:A2:1653:G:C8	2.52	0.44
9:A2:1711:A:H2'	9:A2:1712:G:O4'	2.17	0.44
9:A2:1858:G:H5"	17:I2:128:ARG:HH21	1.82	0.44
9:A2:3517:A:H2'	9:A2:3518:A:H8	1.82	0.44
9:A2:4156:C:H2'	9:A2:4157:C:C6	2.52	0.44
19:K2:167:VAL:HG22	19:K2:175:GLU:OE1	2.17	0.44
46:m2:923:G:N7	70:P3:28:ARG:HG3	2.32	0.44
46:m2:1210:A:H2	75:F3:86:ASN:CB	2.16	0.44
46:m2:1251:C:OP1	46:m2:1253:A:H8	1.99	0.44
46:m2:1273:C:H2'	46:m2:1274:C:C6	2.53	0.44
46:m2:1407:A:H2'	46:m2:1408:G:C8	2.52	0.44
46:m2:1694:U:C5'	75:F3:89:ARG:HG3	2.48	0.44
52:z2:44:LYS:HB3	52:z2:44:LYS:HE2	1.66	0.44
52:z2:58:MET:HE2	52:z2:58:MET:H	1.83	0.44
52:z2:61:ILE:HG22	52:z2:66:VAL:HG22	1.99	0.44
54:s2:141:VAL:HG21	54:s2:146:ARG:NE	2.32	0.44
66:J3:68:ARG:HH11	66:J3:276:THR:HG21	1.81	0.44
75:F3:53:ILE:HG21	76:O3:117:ARG:HA	1.89	0.44
9:A2:1832:A:H2'	9:A2:1833:C:O4'	2.18	0.44
9:A2:3811:C:H2'	9:A2:3812:C:C6	2.53	0.44
11:C2:3:A:O2'	18:J2:61:ARG:HD3	2.18	0.44
27:S2:2:LYS:HE3	27:S2:2:LYS:HB3	1.88	0.44
46:m2:49:C:P	46:m2:473:G:H21	2.40	0.44
46:m2:684:U:H2'	46:m2:685:OMG:O4'	2.17	0.44
46:m2:1050:G:OP1	76:O3:144:GLY:C	2.61	0.44
46:m2:1695:G:H2'	46:m2:1836:A:H4'	1.99	0.44
51:w2:99:TYR:HB3	62:E3:13:LEU:HD13	1.99	0.44
56:x2:56:LEU:HD22	56:x2:80:LEU:HD21	1.98	0.44
56:x2:108:LYS:NZ	56:x2:110:GLU:H	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:J3:70:VAL:HG21	66:J3:93:ILE:HG12	1.98	0.44
75:F3:71:LEU:HD21	75:F3:73:TYR:CE1	2.52	0.44
76:O3:106:LYS:HE2	76:O3:135:ILE:HG23	2.00	0.44
4:D1:10:ARG:HD3	4:D1:11:TYR:CE1	2.52	0.44
8:H1:9:GLU:HB2	37:c2:44:ILE:HG13	2.00	0.44
9:A2:444:G:H2'	9:A2:445:U:H6	1.81	0.44
9:A2:3891:A:H2'	9:A2:3892:G:C8	2.53	0.44
9:A2:4234:C:H2'	9:A2:4235:C:O4'	2.18	0.44
10:B2:3:C:H2'	10:B2:4:U:C6	2.51	0.44
16:H2:184:GLY:HA3	16:H2:189:ASN:HD21	1.83	0.44
21:M2:90:THR:HG23	22:N2:156:TYR:CZ	2.53	0.44
35:a2:61:PRO:O	35:a2:64:LEU:HB2	2.18	0.44
46:m2:149:A:H2'	46:m2:150:A:O4'	2.18	0.44
46:m2:1051:A:C8	46:m2:1052:A:C8	3.06	0.44
46:m2:1066:C:O4'	76:O3:150:ARG:HG2	2.08	0.44
46:m2:1123:G:H21	48:p2:206:PRO:HD3	1.83	0.44
46:m2:1324:G:H2'	46:m2:1325:U:O4'	2.18	0.44
46:m2:1862:A:N7	75:F3:10:ARG:CZ	2.78	0.44
49:q2:62:LYS:HD2	49:q2:62:LYS:HA	1.69	0.44
50:r2:35:PRO:HD2	50:r2:83:PRO:HG2	2.00	0.44
2:B1:138:ALA:HB2	2:B1:194:VAL:HG11	1.99	0.44
8:H1:14:LYS:HE2	9:A2:280:G:H5"	2.00	0.44
9:A2:1404:U:OP2	13:E2:243:LYS:HE2	2.18	0.44
9:A2:3325:G:H21	9:A2:3328:G:N2	2.16	0.44
9:A2:3826:U:H2'	9:A2:3827:G:C8	2.53	0.44
9:A2:4581:G:C6	16:H2:190:ARG:HD3	2.52	0.44
9:A2:4588:C:H4'	16:H2:161:THR:HG23	2.00	0.44
14:F2:214:ASP:OD2	14:F2:218:ILE:HD12	2.18	0.44
15:G2:41:LYS:HB2	22:N2:68:THR:O	2.17	0.44
17:I2:62:MET:HG2	17:I2:65:ASN:H	1.82	0.44
20:L2:139:MET:HE3	20:L2:139:MET:HB2	1.81	0.44
27:S2:47:MET:HE1	27:S2:118:ILE:HD11	1.99	0.44
45:k2:20:ARG:O	45:k2:23:GLN:HG2	2.16	0.44
46:m2:178:C:H2'	46:m2:179:C:C6	2.52	0.44
46:m2:625:G:H2'	46:m2:626:C:C6	2.53	0.44
46:m2:1104:G:H2'	46:m2:1105:C:H6	1.83	0.44
46:m2:1222:A:H2	46:m2:1679:U:H2'	1.83	0.44
46:m2:1389:G:H3'	46:m2:1390:A:H8	1.83	0.44
46:m2:1701:A:N6	66:J3:115:GLN:HG3	2.33	0.44
48:p2:48:LEU:O	76:O3:51:GLU:HG3	2.17	0.44
53:o2:108:PHE:HB2	53:o2:136:GLU:HG2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:E3:105:PHE:HB2	62:E3:119:ARG:O	2.18	0.44
69:N3:96:VAL:O	69:N3:100:LYS:HG2	2.18	0.44
4:D1:52:MET:HE1	4:D1:155:ALA:HB3	1.99	0.44
7:G1:125:THR:O	7:G1:129:LYS:HG3	2.17	0.44
9:A2:858:A:H2'	9:A2:870:G:N7	2.33	0.44
9:A2:1263:C:H2'	9:A2:1264:G:O4'	2.17	0.44
9:A2:1441:C:OP2	12:D2:9:ARG:HD2	2.17	0.44
9:A2:1881:G:H2'	9:A2:1882:U:C6	2.53	0.44
9:A2:2549:C:C4	18:J2:136:ILE:HD12	2.53	0.44
9:A2:3442:U:O2	9:A2:3470:U:H4'	2.17	0.44
9:A2:3741:G:H2'	9:A2:3742:G:O4'	2.18	0.44
14:F2:60:HIS:HA	14:F2:92:PHE:HE1	1.82	0.44
17:I2:79:ILE:O	17:I2:83:THR:HG23	2.17	0.44
17:I2:119:VAL:HG11	17:I2:124:LEU:HD11	2.00	0.44
46:m2:37:C:H2'	46:m2:38:A:O4'	2.18	0.44
46:m2:1037:A:O2'	46:m2:1859:G:H1'	2.18	0.44
53:o2:155:ARG:HA	53:o2:155:ARG:NH1	2.32	0.44
66:J3:128:VAL:HG21	66:J3:155:ILE:HG12	1.99	0.44
66:J3:157:LEU:HD23	66:J3:157:LEU:HA	1.80	0.44
9:A2:159:C:H5'	37:c2:25:ARG:NH2	2.33	0.43
9:A2:1067:A:C6	9:A2:1082:A:C6	3.06	0.43
14:F2:40:VAL:HG22	14:F2:115:VAL:HG11	2.00	0.43
19:K2:165:PRO:HG3	19:K2:180:ARG:NH2	2.33	0.43
38:d2:31:LYS:HB3	38:d2:33:THR:HG22	2.00	0.43
46:m2:1497:G:H4'	64:H3:26:ASN:ND2	2.33	0.43
46:m2:1517:G:H1'	56:x2:97:TYR:CE2	2.50	0.43
46:m2:1693:U:O2'	75:F3:91:ALA:HB2	2.16	0.43
46:m2:1840:U:H5"	76:O3:149:ARG:HH11	1.68	0.43
48:p2:104:ASP:OD2	48:p2:214:LYS:HE2	2.18	0.43
50:r2:160:ILE:HG21	50:r2:169:ILE:HG12	2.00	0.43
50:r2:182:MET:HE3	50:r2:182:MET:HB3	1.76	0.43
59:B3:18:LEU:HD13	59:B3:134:ILE:HD13	2.00	0.43
59:B3:28:LEU:HG	59:B3:106:ALA:HB1	1.99	0.43
68:L3:144:ILE:HB	68:L3:147:PHE:HB2	2.00	0.43
75:F3:56:ALA:CB	76:O3:121:ARG:CG	2.83	0.43
6:F1:184:MET:HE2	6:F1:184:MET:HB3	1.81	0.43
9:A2:347:A:H2'	9:A2:348:G:C8	2.53	0.43
9:A2:1735:G:H2'	9:A2:1736:A:C8	2.53	0.43
9:A2:3627:G:C6	9:A2:3700:A:N6	2.86	0.43
9:A2:4222:G:C2	9:A2:4223:A:C8	3.06	0.43
9:A2:4263:A:H2'	9:A2:4264:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:E2:238:LYS:HE2	13:E2:238:LYS:HB2	1.73	0.43
19:K2:61:LEU:HD11	19:K2:65:ARG:HG2	2.00	0.43
20:L2:105:LEU:HD13	20:L2:135:LYS:HD2	1.99	0.43
46:m2:563:A:H5"	68:L3:164:PRO:HG2	1.99	0.43
46:m2:1120:C:H3'	46:m2:1121:A:C8	2.53	0.43
46:m2:1693:U:O5'	46:m2:1694:U:OP2	2.36	0.43
49:q2:105:LEU:HG	49:q2:122:VAL:HG21	2.00	0.43
76:O3:30:VAL:HG13	76:O3:47:LEU:HA	1.99	0.43
1:A1:157:ILE:HD11	9:A2:1528:U:H5'	1.99	0.43
6:F1:123:LYS:HG2	36:b2:122:LYS:HG3	2.00	0.43
9:A2:286:U:H2'	9:A2:287:U:C6	2.53	0.43
9:A2:1831:A:H2'	9:A2:1832:A:C8	2.53	0.43
9:A2:3501:A:H2'	9:A2:3502:C:H6	1.84	0.43
9:A2:3996:U:H2'	9:A2:3997:C:H6	1.84	0.43
9:A2:4175:A:H5"	9:A2:4176:G:H5'	1.99	0.43
9:A2:4369:A:O4'	13:E2:18:PRO:HG2	2.18	0.43
9:A2:4699:U:H3'	9:A2:4700:C:C6	2.53	0.43
11:C2:92:U:H2'	11:C2:93:C:O4'	2.18	0.43
12:D2:147:ARG:HG3	12:D2:157:VAL:HG22	1.99	0.43
16:H2:172:LEU:HD11	16:H2:183:THR:HG22	1.99	0.43
20:L2:105:LEU:HD13	20:L2:135:LYS:CD	2.49	0.43
36:b2:97:LYS:O	36:b2:101:LYS:HG3	2.19	0.43
46:m2:968:U:H2'	46:m2:969:C:C6	2.53	0.43
46:m2:1483:G:H4'	64:H3:54:LYS:HD2	2.00	0.43
46:m2:1631:C:H2'	46:m2:1632:A:O4'	2.18	0.43
49:q2:157:MET:HE3	49:q2:157:MET:C	2.43	0.43
56:x2:93:MET:HE3	56:x2:93:MET:HB3	1.79	0.43
76:O3:103:ASN:HB3	76:O3:142:ARG:HG3	1.99	0.43
1:A1:109:PRO:HG3	1:A1:166:TYR:CD2	2.54	0.43
9:A2:180:C:H2'	9:A2:181:C:C6	2.54	0.43
9:A2:420:A:H61	11:C2:15:G:H1'	1.83	0.43
9:A2:866:A:N6	9:A2:1894:G:H1'	2.33	0.43
9:A2:935:C:H2'	9:A2:936:C:C6	2.53	0.43
10:B2:22:A:H2'	10:B2:23:A:C8	2.54	0.43
11:C2:67:U:H2'	11:C2:68:G:H8	1.84	0.43
30:V2:99:HIS:CG	30:V2:102:LEU:HD12	2.53	0.43
34:Z2:83:MET:HE3	34:Z2:83:MET:HB3	1.82	0.43
46:m2:56:G:H2'	46:m2:57:U:C6	2.53	0.43
46:m2:357:G:H5"	51:w2:105:ARG:HH12	1.83	0.43
46:m2:1308:U:H2'	46:m2:1309:U:C6	2.53	0.43
46:m2:1403:A:O2'	46:m2:1404:A:H5"	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1695:G:N3	46:m2:1836:A:H4'	2.33	0.43
46:m2:1866:U:O4	75:F3:34:LYS:NZ	2.42	0.43
48:p2:214:LYS:HD2	48:p2:216:LYS:CE	2.48	0.43
9:A2:852:C:O2'	9:A2:853:G:H5'	2.19	0.43
9:A2:1649:C:H2'	9:A2:1650:C:C6	2.54	0.43
9:A2:4145:U:H2'	9:A2:4146:OMG:C8	2.52	0.43
13:E2:394:LYS:HE2	13:E2:394:LYS:HB3	1.73	0.43
30:V2:65:VAL:O	30:V2:68:ARG:HG3	2.19	0.43
46:m2:401:C:N3	51:w2:104:LYS:HG2	2.34	0.43
46:m2:1075:U:H2'	46:m2:1076:C:H6	1.83	0.43
46:m2:1224:G:H2'	46:m2:1225:A:C8	2.53	0.43
46:m2:1714:A:C6	46:m2:1824:A:N1	2.86	0.43
49:q2:16:ILE:HD11	55:v2:64:TRP:HZ3	1.83	0.43
50:r2:174:LYS:HE3	50:r2:174:LYS:HB3	1.77	0.43
75:F3:25:ASN:ND2	75:F3:81:SER:OG	2.51	0.43
75:F3:64:LEU:O	75:F3:66:LYS:HD2	2.18	0.43
9:A2:492:G:H2'	9:A2:493:U:C6	2.53	0.43
9:A2:2483:U:H2'	9:A2:2484:C:C6	2.53	0.43
9:A2:2521:A:H2'	9:A2:2522:U:O4'	2.18	0.43
13:E2:153:MET:HB3	13:E2:194:LEU:HD11	2.01	0.43
34:Z2:33:VAL:HG13	34:Z2:38:GLU:HB2	2.01	0.43
46:m2:686:G:O2'	70:P3:6:VAL:HG11	2.18	0.43
46:m2:1209:G:O3'	75:F3:80:HIS:CE1	2.72	0.43
46:m2:1831:G:C5	46:m2:1832:C:C4	3.07	0.43
59:B3:110:LEU:HD12	59:B3:110:LEU:HA	1.90	0.43
66:J3:81:ILE:CG2	66:J3:88:ILE:HD11	2.48	0.43
69:N3:46:THR:O	69:N3:50:ILE:HG13	2.18	0.43
70:P3:15:ASN:HD21	70:P3:71:LYS:HG3	1.83	0.43
75:F3:29:CYS:SG	76:O3:146:ARG:HG2	2.58	0.43
9:A2:319:A:H1'	9:A2:3382:A:N3	2.32	0.43
9:A2:1024:C:H2'	9:A2:1025:C:H6	1.83	0.43
9:A2:1367:A:H61	9:A2:1386:G:H1'	1.84	0.43
9:A2:1485:U:H2'	9:A2:1486:U:C6	2.53	0.43
9:A2:2081:G:H5"	33:Y2:127:ALA:HB2	1.99	0.43
9:A2:2235:G:H2'	9:A2:2236:G:C8	2.54	0.43
9:A2:3880:G:H5"	9:A2:3881:U:O4'	2.18	0.43
9:A2:4401:C:H2'	9:A2:4402:G:O4'	2.19	0.43
14:F2:137:VAL:HG21	14:F2:150:LEU:HD21	2.00	0.43
46:m2:1164:C:H2'	46:m2:1165:C:O4'	2.19	0.43
46:m2:1514:C:H2'	46:m2:1515:C:H6	1.84	0.43
49:q2:191:PRO:HB2	49:q2:194:PRO:HD3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:P3:81:VAL:HG21	70:P3:86:LEU:HD23	2.00	0.43
1:A1:138:GLN:HG3	19:K2:3:VAL:HB	2.00	0.43
5:E1:120:ASP:O	5:E1:123:ILE:HG13	2.19	0.43
6:F1:46:ILE:O	6:F1:46:ILE:HG13	2.18	0.43
6:F1:61:CYS:HB2	6:F1:66:TYR:O	2.18	0.43
9:A2:418:A:C2	11:C2:17:A:H1'	2.54	0.43
9:A2:434:A:H3'	9:A2:435:A:H8	1.84	0.43
9:A2:1114:G:H2'	9:A2:1115:C:C6	2.54	0.43
9:A2:2485:U:H2'	9:A2:2486:C:C6	2.54	0.43
9:A2:4413:G:H2'	9:A2:4414:A:C8	2.54	0.43
11:C2:8:U:H2'	11:C2:9:A:C8	2.53	0.43
46:m2:1387:G:H5'	46:m2:1486:A:H5'	2.00	0.43
46:m2:1620:C:H2'	46:m2:1621:A:O4'	2.19	0.43
46:m2:1856:U:H2'	46:m2:1857:G:C8	2.52	0.43
48:p2:101:HIS:HB2	48:p2:217:MET:CE	2.49	0.43
70:P3:32:LYS:O	70:P3:36:ARG:HG3	2.18	0.43
75:F3:12:LYS:HG3	75:F3:15:ARG:HG2	2.01	0.43
2:B1:73:ARG:HA	2:B1:73:ARG:HD3	1.85	0.43
9:A2:64:A:H1'	9:A2:76:A:H1'	2.00	0.43
9:A2:1147:A:H2'	9:A2:1148:A:H8	1.81	0.43
9:A2:1488:C:C2'	9:A2:1490:U:O2	2.67	0.43
9:A2:1625:G:H2'	9:A2:1626:G:C8	2.54	0.43
9:A2:1718:G:N2	9:A2:1870:C:H1'	2.34	0.43
9:A2:3721:U:H2'	9:A2:3722:C:H6	1.83	0.43
9:A2:4207:U:O2'	9:A2:4208:U:H5'	2.19	0.43
9:A2:4580:C:H2'	9:A2:4581:G:H8	1.83	0.43
11:C2:90:C:H2'	11:C2:91:A:C8	2.54	0.43
12:D2:147:ARG:NH1	46:m2:951:G:H5'	2.34	0.43
12:D2:248:GLY:HA2	46:m2:1071:U:H5'	2.00	0.43
13:E2:162:ILE:HD11	13:E2:197:ALA:CB	2.49	0.43
25:Q2:34:ALA:HA	25:Q2:37:GLU:HB3	2.01	0.43
45:k2:2:SER:O	45:k2:6:GLN:HG3	2.18	0.43
46:m2:4:C:H2'	46:m2:5:U:C6	2.54	0.43
46:m2:224:U:H2'	46:m2:225:C:C6	2.53	0.43
46:m2:431:C:H2'	46:m2:432:C:C6	2.53	0.43
46:m2:638:C:H2'	46:m2:639:U:C6	2.54	0.43
46:m2:733:G:H5"	46:m2:735:C:H41	1.83	0.43
46:m2:1389:G:C2	46:m2:1390:A:H1'	2.54	0.43
50:r2:100:ARG:HD3	50:r2:236:ILE:HD12	2.00	0.43
53:o2:102:ARG:HH12	53:o2:105:PRO:HD3	1.83	0.43
57:y2:50:LYS:O	57:y2:85:ARG:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:I3:83:TRP:HA	65:I3:107:ASP:HA	1.99	0.43
69:N3:117:LEU:O	69:N3:121:ARG:HG3	2.19	0.43
72:S3:64:CYS:HA	72:S3:73:LEU:HA	2.01	0.43
75:F3:53:ILE:HB	76:O3:117:ARG:HH21	1.79	0.43
75:F3:56:ALA:N	76:O3:121:ARG:CD	2.63	0.43
5:E1:35:ARG:HD3	5:E1:122:SER:O	2.19	0.43
5:E1:88:LYS:HE3	5:E1:88:LYS:HB2	1.75	0.43
9:A2:1695:C:H1'	9:A2:1739:C:O2	2.19	0.43
9:A2:3565:G:C5	9:A2:3566:C:C5	3.07	0.43
15:G2:64:ILE:HG13	15:G2:105:LEU:HD21	2.00	0.43
22:N2:84:ILE:HG22	30:V2:24:PRO:HD3	2.01	0.43
43:i2:82:MET:HE3	43:i2:82:MET:HB3	1.80	0.43
46:m2:62:G:H2'	46:m2:63:U:O4'	2.19	0.43
46:m2:642:A:H2'	46:m2:643:A:C8	2.54	0.43
48:p2:104:ASP:CG	48:p2:214:LYS:HE2	2.43	0.43
50:r2:211:LYS:HD2	50:r2:212:ASP:O	2.18	0.43
56:x2:40:ARG:HD3	56:x2:40:ARG:C	2.44	0.43
57:y2:97:GLN:HB2	57:y2:105:LYS:HD2	2.01	0.43
75:F3:20:PRO:CG	76:O3:146:ARG:HG3	2.49	0.43
4:D1:101:LYS:HD3	4:D1:111:LEU:HD21	2.01	0.42
5:E1:160:GLU:OE1	5:E1:160:GLU:HA	2.18	0.42
9:A2:1857:G:H4'	9:A2:1858:G:OP2	2.18	0.42
9:A2:2159:A:H3'	9:A2:2160:G:H8	1.84	0.42
9:A2:2293:U:H2'	9:A2:2294:C:C6	2.54	0.42
9:A2:3906:G:H2'	9:A2:3906:G:N3	2.34	0.42
16:H2:290:PRO:HG2	34:Z2:105:LEU:HD21	2.01	0.42
32:X2:32:ARG:HB3	32:X2:48:GLU:HG3	2.01	0.42
46:m2:6:G:H2'	46:m2:7:G:H8	1.84	0.42
46:m2:89:C:H2'	46:m2:90:G:C8	2.54	0.42
46:m2:127:C:O2	50:r2:134:LYS:HD2	2.18	0.42
46:m2:695:A:H2'	46:m2:696:G:N7	2.34	0.42
46:m2:1236:C:N4	58:A3:137:LYS:HE3	2.34	0.42
46:m2:1408:G:H2'	46:m2:1409:U:C6	2.54	0.42
48:p2:165:ARG:HA	48:p2:168:MET:SD	2.58	0.42
51:w2:133:PRO:HB3	51:w2:139:ARG:NH1	2.34	0.42
66:J3:182:CYS:HB2	70:P3:95:PRO:HB2	2.00	0.42
69:N3:88:LEU:HD22	69:N3:129:TYR:CD2	2.54	0.42
72:S3:30:SER:HB3	72:S3:48:SER:HB3	2.01	0.42
76:O3:92:ALA:HA	76:O3:125:LYS:HB2	2.00	0.42
8:H1:10:LEU:HG	8:H1:19:MET:HE3	2.00	0.42
8:H1:138:PHE:CD1	9:A2:18:C:H4'	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:28:C:H4'	9:A2:61:A:H4'	2.00	0.42
9:A2:1573:U:H2'	9:A2:1574:C:C6	2.53	0.42
9:A2:1657:G:OP1	30:V2:4:SER:HB2	2.18	0.42
9:A2:2320:A:H3'	9:A2:2321:G:C8	2.54	0.42
9:A2:3730:C:H2'	9:A2:3731:G:H8	1.84	0.42
13:E2:225:GLY:C	13:E2:226:LYS:HG2	2.44	0.42
37:c2:67:LYS:HG3	37:c2:71:LYS:NZ	2.31	0.42
43:i2:69:ARG:NH2	43:i2:80:LYS:HD3	2.34	0.42
46:m2:485:C:OP1	62:E3:47:ALA:HA	2.19	0.42
50:r2:45:ILE:HD11	50:r2:80:ILE:HB	2.00	0.42
56:x2:86:LEU:HD23	56:x2:86:LEU:H	1.84	0.42
66:J3:62:PRO:HG3	66:J3:68:ARG:HE	1.83	0.42
66:J3:103:LYS:HE2	66:J3:103:LYS:HB2	1.82	0.42
66:J3:183:LYS:HA	66:J3:195:LEU:O	2.18	0.42
2:B1:105:GLU:HB2	2:B1:109:GLU:HB2	2.02	0.42
9:A2:685:C:H2'	9:A2:686:C:H6	1.84	0.42
9:A2:1714:G:H21	17:I2:87:MET:HE2	1.82	0.42
9:A2:2167:A:H2'	9:A2:2168:U:C6	2.55	0.42
9:A2:3564:A:C2'	9:A2:3565:G:H21	2.32	0.42
9:A2:3844:A:H2'	9:A2:3845:C:H6	1.84	0.42
9:A2:4637:U:H2'	9:A2:4638:G:C8	2.54	0.42
9:A2:4668:U:H3	9:A2:4672:U:H3	1.67	0.42
10:B2:58:A:H2'	10:B2:59:G:C8	2.55	0.42
11:C2:115:G:H2'	11:C2:116:C:H6	1.84	0.42
14:F2:11:TYR:CZ	14:F2:148:PRO:HB2	2.55	0.42
17:I2:111:PRO:HG2	17:I2:112:TYR:CD2	2.54	0.42
36:b2:88:THR:HG22	36:b2:90:ALA:N	2.34	0.42
40:f2:11:ARG:HE	40:f2:11:ARG:HB3	1.69	0.42
46:m2:686:G:C2	46:m2:922:A:C8	3.07	0.42
46:m2:950:C:H2'	46:m2:951:G:H8	1.83	0.42
46:m2:979:C:H2'	46:m2:980:G:O4'	2.19	0.42
49:q2:123:LEU:HD23	49:q2:123:LEU:C	2.44	0.42
56:x2:60:LEU:HD12	56:x2:61:ARG:N	2.34	0.42
75:F3:52:ASP:N	76:O3:117:ARG:HH22	2.17	0.42
1:A1:219:VAL:HG23	1:A1:223:PHE:CG	2.55	0.42
3:C1:41:ILE:HG22	3:C1:43:VAL:HG13	2.00	0.42
8:H1:49:ARG:NH1	8:H1:49:ARG:HB3	2.34	0.42
9:A2:685:C:H4'	45:k2:96:MET:SD	2.59	0.42
9:A2:942:A:H2'	9:A2:943:C:C6	2.55	0.42
9:A2:1070:C:H2'	9:A2:1071:G:O4'	2.19	0.42
9:A2:1506:U:H2'	9:A2:1507:C:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:2418:G:H4'	20:L2:117:ARG:HH21	1.85	0.42
9:A2:3298:A:O2'	38:d2:3:LYS:HG2	2.20	0.42
9:A2:3517:A:H2'	9:A2:3518:A:C8	2.54	0.42
9:A2:4230:G:H2'	9:A2:4231:U:C6	2.54	0.42
12:D2:186:TYR:HB2	12:D2:196:TRP:CZ3	2.55	0.42
15:G2:83:LEU:HB3	15:G2:88:VAL:HB	2.01	0.42
16:H2:284:LEU:HA	16:H2:288:MET:HE2	2.00	0.42
17:I2:10:ASP:HB2	17:I2:117:ARG:HB3	2.02	0.42
17:I2:182:GLU:O	17:I2:186:GLU:HG3	2.19	0.42
21:M2:128:LYS:HB2	21:M2:128:LYS:HE3	1.67	0.42
22:N2:93:ILE:HD13	22:N2:93:ILE:HA	1.77	0.42
31:W2:38:ILE:HD11	31:W2:46:VAL:HG21	2.01	0.42
38:d2:25:LYS:HE2	38:d2:25:LYS:HB3	1.89	0.42
46:m2:416:A:H2'	46:m2:417:A:C8	2.55	0.42
46:m2:580:C:H2'	46:m2:581:C:O4'	2.19	0.42
46:m2:1841:U:C6	46:m2:1864:G:N3	2.87	0.42
48:p2:198:GLU:HB2	48:p2:210:VAL:HB	2.00	0.42
53:o2:112:ILE:HD13	53:o2:112:ILE:HA	1.86	0.42
54:s2:63:LYS:HG2	54:s2:63:LYS:O	2.20	0.42
57:y2:97:GLN:HG2	65:I3:57:ARG:HH12	1.84	0.42
68:L3:35:TYR:OH	68:L3:107:GLU:HG3	2.19	0.42
69:N3:94:LYS:HE2	69:N3:94:LYS:HB3	1.83	0.42
75:F3:82:LYS:HZ3	75:F3:85:ARG:HG2	1.84	0.42
76:O3:63:LYS:H	76:O3:63:LYS:HG2	1.59	0.42
1:A1:259:GLU:H	1:A1:259:GLU:HG2	1.53	0.42
7:G1:17:PHE:CE2	7:G1:54:CYS:HA	2.55	0.42
9:A2:702:G:H3'	9:A2:703:U:H4'	2.02	0.42
9:A2:1121:A:H2'	9:A2:1122:C:C6	2.55	0.42
9:A2:3275:G:H4'	20:L2:79:GLY:O	2.19	0.42
9:A2:4351:U:H4'	9:A2:4352:A:OP1	2.18	0.42
9:A2:4637:U:H2'	9:A2:4638:G:H8	1.84	0.42
10:B2:107:G:H5"	15:G2:273:LEU:HD21	2.02	0.42
12:D2:84:THR:O	44:j2:62:LYS:HE3	2.19	0.42
22:N2:120:LYS:HE2	22:N2:120:LYS:HB3	1.76	0.42
38:d2:67:LEU:HD23	38:d2:67:LEU:HA	1.78	0.42
46:m2:826:C:C5	68:L3:144:ILE:HG13	2.55	0.42
46:m2:1226:G:H21	57:y2:142:GLN:HE22	1.68	0.42
46:m2:1657:C:H2'	46:m2:1658:G:C8	2.42	0.42
46:m2:1830:C:O5'	46:m2:1830:C:H6	2.02	0.42
47:n2:69:U:H2'	47:n2:70:G:H8	1.85	0.42
56:x2:15:PHE:CE2	56:x2:110:GLU:HA	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:K3:137:ARG:HE	67:K3:140:ARG:HG3	1.84	0.42
68:L3:136:ARG:HD3	68:L3:139:LYS:HA	2.00	0.42
71:Q3:89:HIS:CE1	71:Q3:90:ARG:HG2	2.54	0.42
9:A2:689:G:H2'	9:A2:690:C:C6	2.54	0.42
9:A2:1527:U:H2'	9:A2:1528:U:H6	1.84	0.42
9:A2:1683:C:H5'	9:A2:2036:U:H1'	2.00	0.42
9:A2:2570:A:H2'	9:A2:2571:G:C8	2.54	0.42
9:A2:3567:C:H2'	9:A2:3568:U:H6	1.84	0.42
9:A2:3711:C:H2'	9:A2:3712:A:O4'	2.20	0.42
13:E2:92:TYR:HB3	13:E2:99:LEU:HG	2.01	0.42
26:R2:87:MET:HE2	26:R2:156:ILE:HD12	2.01	0.42
31:W2:56:ARG:HE	31:W2:56:ARG:HB2	1.70	0.42
46:m2:8:U:H5'	46:m2:9:U:C6	2.54	0.42
46:m2:456:U:H4'	67:K3:94:ARG:HD3	2.00	0.42
46:m2:1589:G:C4	59:B3:78:ILE:HG12	2.54	0.42
46:m2:1629:C:H2'	46:m2:1630:C:H6	1.84	0.42
46:m2:1646:C:H2'	46:m2:1647:C:H6	1.83	0.42
46:m2:1677:A:H2'	46:m2:1678:U:C6	2.54	0.42
66:J3:210:PRO:O	66:J3:214:LEU:HD13	2.20	0.42
69:N3:40:LEU:HB3	69:N3:45:LEU:HD12	2.02	0.42
6:F1:174:LYS:HE3	6:F1:174:LYS:HB2	1.90	0.42
8:H1:12:ARG:HG2	9:A2:279:A:C4	2.55	0.42
9:A2:184:U:H5"	9:A2:254:G:N2	2.34	0.42
9:A2:325:U:H2'	9:A2:326:C:H6	1.83	0.42
9:A2:1146:C:OP2	33:Y2:30:LYS:HD3	2.20	0.42
9:A2:1766:A:H1'	9:A2:4346:G:N2	2.34	0.42
9:A2:2179:OMG:H8	9:A2:2179:OMG:O5'	2.03	0.42
9:A2:3383:A:H2'	9:A2:3384:A:C8	2.55	0.42
9:A2:4564:G:O2'	9:A2:4565:C:H5'	2.20	0.42
9:A2:4616:C:C2	9:A2:4617:A:C8	3.07	0.42
14:F2:281:MET:HE3	14:F2:281:MET:HB3	1.83	0.42
15:G2:276:LYS:O	15:G2:280:VAL:HG23	2.20	0.42
19:K2:159:PRO:HA	19:K2:188:ASN:HB2	2.01	0.42
20:L2:39:GLN:HE21	20:L2:42:ARG:HH11	1.65	0.42
21:M2:2:LYS:O	21:M2:121:ALA:HB3	2.19	0.42
22:N2:19:PHE:CD2	22:N2:20:ARG:HG3	2.55	0.42
32:X2:38:PHE:CG	32:X2:78:ARG:HD2	2.55	0.42
46:m2:125:C:OP2	67:K3:198:ARG:HD3	2.20	0.42
46:m2:563:A:H2'	46:m2:564:U:C6	2.54	0.42
46:m2:686:G:O6	46:m2:1023:U:C4	2.73	0.42
46:m2:1098:G:H2'	46:m2:1099:G:O4'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:1212:G:P	75:F3:82:LYS:NZ	2.77	0.42
46:m2:1752:C:H2'	46:m2:1753:C:C6	2.54	0.42
46:m2:1862:A:C3'	75:F3:8:ASN:CB	2.92	0.42
46:m2:1865:A:C5	75:F3:75:VAL:O	2.65	0.42
49:q2:157:MET:HE2	49:q2:159:HIS:CD2	2.54	0.42
68:L3:66:LYS:HA	68:L3:66:LYS:HD2	1.72	0.42
70:P3:101:PHE:HA	70:P3:113:HIS:CE1	2.54	0.42
75:F3:26:CYS:HB2	76:O3:149:ARG:CG	2.50	0.42
3:C1:71:ARG:HE	9:A2:4343:A:H5'	1.85	0.42
9:A2:37:U:H4'	29:U2:32:ARG:HD2	2.01	0.42
9:A2:174:C:H2'	9:A2:175:C:H6	1.84	0.42
9:A2:1069:G:H2'	9:A2:1070:C:H4'	2.01	0.42
9:A2:1197:G:H2'	9:A2:1198:C:C6	2.55	0.42
9:A2:1430:G:H1'	9:A2:2268:A:H61	1.85	0.42
9:A2:1868:C:H5"	34:Z2:36:ARG:NH1	2.34	0.42
9:A2:1905:G:C2	9:A2:1906:G:C5	3.07	0.42
9:A2:3418:U:H3'	9:A2:3419:A:C8	2.50	0.42
9:A2:3717:U:H2'	9:A2:3718:U:C6	2.55	0.42
9:A2:3994:C:O3'	43:i2:37:GLY:HA3	2.20	0.42
9:A2:4499:G:H2'	9:A2:4500:G:C8	2.54	0.42
9:A2:4634:U:H4'	9:A2:4635:U:C5	2.55	0.42
10:B2:90:A:C5	10:B2:91:C:H1'	2.54	0.42
12:D2:189:TYR:CD2	12:D2:196:TRP:HB2	2.54	0.42
13:E2:96:PRO:HD3	17:I2:156:LEU:HD12	2.01	0.42
22:N2:107:LYS:O	22:N2:111:GLU:HG2	2.19	0.42
23:O2:79:SER:O	23:O2:82:TYR:HB2	2.20	0.42
27:S2:58:VAL:HG23	27:S2:59:ARG:HG2	2.02	0.42
46:m2:59:U:H5"	46:m2:505:C:H41	1.84	0.42
46:m2:500:C:H2'	46:m2:501:G:C8	2.54	0.42
46:m2:516:U:H2'	46:m2:517:G:O4'	2.19	0.42
46:m2:607:A:N3	46:m2:641:C:H1'	2.34	0.42
46:m2:846:U:H2'	46:m2:847:G:C8	2.42	0.42
46:m2:1440:A:H2'	46:m2:1441:A:C8	2.54	0.42
46:m2:1695:G:H5"	46:m2:1696:U:C5	2.55	0.42
47:n2:13:G:H2'	47:n2:14:C:O4'	2.20	0.42
50:r2:63:LYS:HE2	71:Q3:85:ASN:OD1	2.20	0.42
51:w2:61:PRO:HA	51:w2:66:VAL:CG1	2.50	0.42
51:w2:88:ILE:HD11	51:w2:109:MET:HE3	2.02	0.42
61:D3:64:GLU:HG3	72:S3:3:LEU:HG	2.01	0.42
69:N3:88:LEU:HD22	69:N3:129:TYR:HD2	1.84	0.42
71:Q3:90:ARG:HD3	71:Q3:93:ARG:HD2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E1:151:ILE:HD11	5:E1:156:ARG:HG2	2.02	0.42
9:A2:953:G:H2'	9:A2:954:C:C6	2.55	0.42
9:A2:1084:G:H1'	9:A2:1909:G:N2	2.33	0.42
9:A2:1648:G:H2'	9:A2:1649:C:H6	1.84	0.42
9:A2:1716:C:H4'	17:I2:89:PRO:HD3	2.01	0.42
9:A2:2631:G:C8	44:j2:16:THR:HG22	2.54	0.42
9:A2:3493:C:H2'	9:A2:3494:U:O4'	2.19	0.42
9:A2:3564:A:H2'	9:A2:3565:G:N2	2.33	0.42
9:A2:3593:C:H2'	9:A2:3594:G:C8	2.55	0.42
9:A2:3991:A:H2'	9:A2:3992:U:H6	1.85	0.42
9:A2:4240:U:H5'	13:E2:14:LEU:HB2	2.01	0.42
10:B2:112:U:H2'	10:B2:113:G:H8	1.85	0.42
13:E2:294:LYS:NZ	13:E2:294:LYS:HB2	2.35	0.42
16:H2:214:LYS:HA	16:H2:214:LYS:HD3	1.82	0.42
23:O2:84:LYS:HA	23:O2:87:THR:HG22	2.01	0.42
28:T2:59:LYS:HB2	28:T2:59:LYS:HE3	1.71	0.42
29:U2:103:VAL:CG1	29:U2:108:TYR:HB2	2.49	0.42
45:k2:51:VAL:HG12	45:k2:117:ILE:HD12	2.02	0.42
46:m2:217:G:H2'	46:m2:218:C:H6	1.85	0.42
46:m2:553:U:H2'	46:m2:554:G:H8	1.83	0.42
46:m2:817:U:H2'	46:m2:818:A:H8	1.85	0.42
46:m2:1340:G:H2'	46:m2:1341:U:H6	1.81	0.42
47:n2:63:A:H2'	47:n2:64:U:C6	2.54	0.42
50:r2:123:LEU:HD12	50:r2:123:LEU:HA	1.82	0.42
56:x2:76:VAL:HG13	56:x2:94:VAL:HG22	2.02	0.42
68:L3:60:LEU:HD11	68:L3:70:ARG:HG3	2.01	0.42
71:Q3:13:MET:HE3	71:Q3:13:MET:HB3	1.80	0.42
5:E1:60:PHE:N	5:E1:60:PHE:HD1	2.17	0.42
9:A2:134:G:H1'	9:A2:135:U:C5	2.55	0.42
9:A2:1754:G:H5'	21:M2:95:ARG:NH1	2.35	0.42
9:A2:2475:C:H2'	9:A2:2476:G:O4'	2.20	0.42
9:A2:3761:U:H2'	9:A2:3762:C:C6	2.55	0.42
9:A2:3860:U:H2'	9:A2:3861:G:C8	2.55	0.42
16:H2:119:MET:HE3	16:H2:119:MET:HB3	1.78	0.42
16:H2:210:ILE:HD13	16:H2:210:ILE:HA	1.80	0.42
46:m2:311:G:H8	46:m2:311:G:OP1	2.03	0.42
46:m2:680:U:C2	46:m2:681:A:C8	3.08	0.42
46:m2:946:A:H2'	46:m2:947:U:H6	1.85	0.42
46:m2:1361:U:H2'	46:m2:1362:U:C6	2.55	0.42
46:m2:1677:A:H2'	46:m2:1678:U:H6	1.85	0.42
53:o2:176:TRP:HB2	53:o2:202:TYR:CD1	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:x2:33:LEU:HD11	56:x2:37:TYR:CE1	2.55	0.42
56:x2:59:ARG:NE	56:x2:76:VAL:HG23	2.35	0.42
57:y2:24:HIS:HB2	57:y2:71:ARG:HH22	1.83	0.42
58:A3:74:PRO:HB2	58:A3:79:ILE:HD13	2.02	0.42
62:E3:124:LYS:HE3	62:E3:124:LYS:HB3	1.90	0.42
64:H3:42:CYS:O	64:H3:46:TYR:HD1	2.03	0.42
76:O3:97:LEU:HD21	76:O3:108:PRO:HG2	2.01	0.42
9:A2:1285:C:H2'	9:A2:1286:U:C6	2.55	0.41
9:A2:1758:A:H2'	9:A2:1759:U:C6	2.55	0.41
9:A2:2132:C:H2'	9:A2:2133:G:O4'	2.20	0.41
9:A2:2231:G:H2'	9:A2:2232:A:C8	2.55	0.41
9:A2:4230:G:H2'	9:A2:4231:U:H6	1.84	0.41
10:B2:4:U:H2'	10:B2:5:A:H8	1.84	0.41
23:O2:56:LEU:HD12	23:O2:61:VAL:HG13	2.02	0.41
26:R2:102:VAL:HA	26:R2:134:LYS:HD2	2.00	0.41
46:m2:34:U:H2'	46:m2:35:C:H6	1.84	0.41
46:m2:524:A:N6	46:m2:645:A:H5'	2.35	0.41
46:m2:950:C:H2'	46:m2:951:G:C8	2.55	0.41
46:m2:1251:C:H3'	46:m2:1252:A:H8	1.84	0.41
46:m2:1681:A:H4'	46:m2:1682:G:O5'	2.19	0.41
46:m2:1698:C:H5"	46:m2:1705:C:H1'	2.02	0.41
46:m2:1852:A:H2'	46:m2:1853:A:C8	2.54	0.41
48:p2:150:ILE:HG13	52:z2:132:ARG:HH12	1.85	0.41
49:q2:204:LEU:HB2	49:q2:207:HIS:HB3	2.01	0.41
50:r2:36:HIS:CG	50:r2:85:GLY:HA3	2.54	0.41
67:K3:137:ARG:HD2	67:K3:178:ARG:HD3	2.01	0.41
68:L3:78:LEU:HD13	68:L3:92:MET:HG3	2.02	0.41
69:N3:28:LEU:HD12	69:N3:28:LEU:HA	1.95	0.41
75:F3:44:ILE:HG13	75:F3:45:VAL:N	2.30	0.41
2:B1:200:THR:HB	9:A2:150:U:OP2	2.20	0.41
8:H1:104:GLU:HA	8:H1:160:GLU:HG3	2.01	0.41
9:A2:1140:C:H2'	9:A2:1141:C:C6	2.54	0.41
9:A2:1261:G:H2'	9:A2:1262:C:C6	2.55	0.41
9:A2:1759:U:O2'	9:A2:1760:A:H5'	2.19	0.41
9:A2:2379:G:H2'	9:A2:2380:U:H6	1.84	0.41
9:A2:3348:A:N6	9:A2:3479:G:N2	2.24	0.41
9:A2:3549:C:H2'	9:A2:3550:A:C8	2.55	0.41
9:A2:3710:U:H2'	9:A2:3711:C:H6	1.85	0.41
13:E2:217:ILE:HD12	13:E2:347:LEU:HB3	2.02	0.41
14:F2:145:GLU:C	14:F2:147:VAL:H	2.27	0.41
20:L2:21:LYS:HD2	20:L2:21:LYS:HA	1.92	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:S2:114:ASP:O	27:S2:118:ILE:HG23	2.19	0.41
33:Y2:35:TRP:CH2	33:Y2:55:MET:HG2	2.54	0.41
46:m2:1106:G:H2'	46:m2:1107:G:H8	1.84	0.41
46:m2:1864:G:N2	75:F3:74:CYS:HB2	2.35	0.41
51:w2:79:LYS:HB2	51:w2:87:VAL:HG12	2.01	0.41
52:z2:51:ALA:HA	52:z2:54:VAL:HB	2.03	0.41
58:A3:75:ARG:HH21	58:A3:94:LYS:HE2	1.84	0.41
75:F3:71:LEU:HD11	75:F3:73:TYR:CE2	2.55	0.41
8:H1:73:ARG:HA	8:H1:74:PRO:HD3	1.86	0.41
9:A2:512:C:H2'	9:A2:513:U:O4'	2.20	0.41
9:A2:1489:C:OP2	9:A2:1490:U:N3	2.52	0.41
9:A2:2325:U:H2'	9:A2:2326:C:C6	2.56	0.41
12:D2:104:VAL:HG22	12:D2:162:ASN:O	2.20	0.41
22:N2:49:GLN:HA	22:N2:52:MET:HE2	2.01	0.41
38:d2:31:LYS:HB2	38:d2:31:LYS:HE3	1.66	0.41
46:m2:844:C:H2'	46:m2:845:C:C6	2.55	0.41
46:m2:1428:U:H2'	46:m2:1429:C:C6	2.55	0.41
46:m2:1488:A:C6	46:m2:1489:A:N6	2.88	0.41
49:q2:12:VAL:HG13	64:H3:36:LEU:HD13	2.01	0.41
51:w2:93:LEU:HD12	51:w2:102:PHE:HB2	2.02	0.41
52:z2:81:ARG:HG3	53:o2:85:ARG:HE	1.86	0.41
52:z2:114:LEU:HD12	52:z2:114:LEU:HA	1.95	0.41
68:L3:75:ASN:O	68:L3:79:ARG:HG2	2.20	0.41
75:F3:74:CYS:O	75:F3:78:ALA:HB2	2.19	0.41
9:A2:264:C:H2'	9:A2:265:U:O4'	2.20	0.41
9:A2:385:A:N3	9:A2:387:G:H5"	2.35	0.41
9:A2:1322:C:H5"	29:U2:2:PRO:HD3	2.02	0.41
9:A2:1764:A:C5	9:A2:1765:C:C5	3.07	0.41
9:A2:3379:A:H2'	9:A2:3380:A:C8	2.54	0.41
9:A2:3958:G:C1'	9:A2:3958:G:H1	2.34	0.41
13:E2:107:ALA:HB1	13:E2:202:GLU:HG3	2.03	0.41
13:E2:168:MET:HE2	13:E2:175:GLN:HG2	2.02	0.41
16:H2:174:GLN:HE21	16:H2:178:GLY:HA2	1.85	0.41
18:J2:24:VAL:HG12	18:J2:86:LYS:HG2	2.02	0.41
18:J2:36:ILE:HD12	18:J2:44:ALA:HB1	2.02	0.41
22:N2:64:VAL:HG22	22:N2:72:VAL:HG11	2.03	0.41
41:g2:87:GLN:HG2	41:g2:91:CYS:SG	2.60	0.41
46:m2:98:C:OP2	46:m2:428:A:H1'	2.20	0.41
46:m2:356:U:P	51:w2:90:ARG:HH21	2.43	0.41
46:m2:377:U:H2'	46:m2:378:A:H8	1.83	0.41
46:m2:881:C:H2'	46:m2:882:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:m2:982:A:H2'	46:m2:983:A:H8	1.84	0.41
46:m2:1026:A:H2'	46:m2:1027:U:C5	2.56	0.41
46:m2:1036:A:H3'	46:m2:1037:A:H8	1.85	0.41
46:m2:1157:U:OP1	66:J3:185:THR:HB	2.20	0.41
48:p2:48:LEU:HD23	48:p2:48:LEU:H	1.84	0.41
50:r2:234:PRO:HG3	50:r2:238:LEU:HD11	2.03	0.41
51:w2:45:LYS:HA	51:w2:45:LYS:HD3	1.92	0.41
59:B3:42:HIS:HB2	59:B3:83:GLN:HA	2.01	0.41
69:N3:3:ARG:HB2	69:N3:6:ALA:O	2.19	0.41
70:P3:93:LEU:HB3	70:P3:102:ILE:HD11	2.03	0.41
2:B1:56:LYS:HG3	9:A2:3735:A:C5	2.55	0.41
3:C1:128:MET:HA	3:C1:128:MET:HE2	2.02	0.41
4:D1:66:GLU:CD	4:D1:69:ARG:HH21	2.29	0.41
9:A2:169:A:H2'	9:A2:170:C:O4'	2.19	0.41
9:A2:1734:A:H2'	9:A2:1735:G:C8	2.56	0.41
9:A2:2052:G:H4'	14:F2:242:PRO:HB2	2.02	0.41
9:A2:2386:U:H2'	23:O2:82:TYR:CE1	2.55	0.41
9:A2:3563:G:C8	9:A2:4099:5MC:H4'	2.55	0.41
9:A2:4604:C:H2'	9:A2:4605:U:C6	2.55	0.41
13:E2:39:LYS:HB2	13:E2:39:LYS:HE2	1.95	0.41
16:H2:180:LEU:HB2	16:H2:196:THR:HG22	2.03	0.41
21:M2:80:ILE:HG23	21:M2:129:VAL:HG22	2.02	0.41
31:W2:17:ARG:O	31:W2:21:VAL:HG23	2.20	0.41
37:c2:68:ARG:NH2	37:c2:71:LYS:HE2	2.36	0.41
46:m2:357:G:H5"	51:w2:105:ARG:NH1	2.36	0.41
46:m2:497:U:H1'	50:r2:25:GLY:HA3	2.02	0.41
46:m2:856:A:H2'	46:m2:857:G:C8	2.56	0.41
46:m2:1278:A:O2'	55:v2:51:SER:HA	2.20	0.41
46:m2:1328:U:H5'	46:m2:1496:U:P	2.60	0.41
46:m2:1516:G:H2'	46:m2:1517:G:C8	2.55	0.41
57:y2:22:VAL:O	57:y2:70:VAL:HA	2.21	0.41
66:J3:161:SER:O	66:J3:163:VAL:HG23	2.20	0.41
75:F3:44:ILE:HG21	75:F3:65:PRO:HB2	2.02	0.41
2:B1:42:GLY:O	2:B1:43:GLN:HG2	2.20	0.41
5:E1:15:LEU:HA	5:E1:15:LEU:HD23	1.79	0.41
9:A2:222:C:H2'	9:A2:223:G:O4'	2.21	0.41
9:A2:1252:C:C2'	9:A2:1253:U:H5'	2.51	0.41
9:A2:2019:G:H2'	9:A2:2020:C:O4'	2.21	0.41
9:A2:2343:C:H5"	9:A2:2344:C:H5"	2.02	0.41
9:A2:2440:C:H2'	9:A2:2441:G:O4'	2.20	0.41
9:A2:3312:A:H2'	9:A2:3313:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:3722:C:C2	9:A2:3723:A:C8	3.09	0.41
9:A2:4319:C:H2'	9:A2:4320:U:O4'	2.21	0.41
9:A2:4398:C:H2'	9:A2:4399:C:C6	2.54	0.41
11:C2:59:A:H4'	11:C2:60:G:O5'	2.20	0.41
13:E2:162:ILE:HD13	13:E2:185:VAL:HG21	2.02	0.41
18:J2:15:CYS:SG	18:J2:150:LEU:HB2	2.61	0.41
31:W2:35:LEU:HD23	31:W2:35:LEU:HA	1.89	0.41
46:m2:2:A:H3'	66:J3:205:VAL:HG11	2.02	0.41
46:m2:226:A:N6	46:m2:299:A:H61	2.17	0.41
46:m2:874:A:C6	46:m2:917:G:C5	3.08	0.41
46:m2:1211:A:H4'	75:F3:85:ARG:H	1.38	0.41
53:o2:30:LEU:HD21	53:o2:35:GLU:HG2	2.02	0.41
53:o2:143:PRO:HA	53:o2:158:ASP:OD2	2.19	0.41
57:y2:43:GLU:HB3	57:y2:44:PRO:HD3	2.02	0.41
70:P3:88:LYS:HA	70:P3:91:ASN:HD21	1.86	0.41
76:O3:136:PRO:HG3	76:O3:139:SER:HB2	2.03	0.41
9:A2:92:C:C2	29:U2:55:LYS:HD2	2.56	0.41
9:A2:685:C:H2'	9:A2:686:C:C6	2.56	0.41
9:A2:1260:C:C2	9:A2:1261:G:C8	3.09	0.41
9:A2:1853:C:H2'	9:A2:1854:G:O4'	2.20	0.41
9:A2:2438:C:H2'	9:A2:2439:C:H6	1.85	0.41
9:A2:3565:G:C6	9:A2:3566:C:C4	3.09	0.41
9:A2:4436:C:H42	9:A2:4495:C:N4	2.19	0.41
11:C2:127:U:H1'	11:C2:128:C:H5	1.86	0.41
12:D2:58:LEU:HB3	12:D2:75:LEU:HD22	2.02	0.41
13:E2:180:LEU:HD23	13:E2:180:LEU:HA	1.96	0.41
16:H2:184:GLY:O	16:H2:185:PRO:C	2.63	0.41
16:H2:190:ARG:HA	16:H2:190:ARG:HD2	1.80	0.41
17:I2:174:ILE:HD13	17:I2:174:ILE:HA	1.96	0.41
23:O2:101:ARG:HG3	23:O2:103:VAL:HG23	2.03	0.41
26:R2:150:ALA:HB1	26:R2:155:ILE:HG12	2.02	0.41
32:X2:64:ILE:HG23	32:X2:68:LEU:HD23	2.02	0.41
43:i2:61:LYS:HD3	43:i2:61:LYS:HA	1.82	0.41
46:m2:94:G:OP1	50:r2:6:LYS:HE3	2.20	0.41
46:m2:1220:C:H1'	46:m2:1685:C:N4	2.33	0.41
46:m2:1344:U:H1'	46:m2:1345:U:H5	1.86	0.41
50:r2:35:PRO:HG2	50:r2:36:HIS:HD2	1.86	0.41
53:o2:184:ARG:HB3	53:o2:191:ARG:CZ	2.51	0.41
58:A3:33:ILE:HG22	58:A3:35:GLY:H	1.86	0.41
59:B3:28:LEU:HD11	59:B3:107:LEU:HD12	2.03	0.41
65:I3:40:ILE:HD12	65:I3:59:LEU:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:N3:91:LEU:HB2	69:N3:122:ILE:HD11	2.02	0.41
5:E1:134:LEU:HD23	5:E1:134:LEU:HA	1.94	0.41
6:F1:47:ALA:HB3	6:F1:48:PRO:HD3	2.03	0.41
6:F1:180:ALA:O	6:F1:184:MET:HG3	2.20	0.41
8:H1:142:ILE:O	8:H1:148:THR:HG23	2.21	0.41
9:A2:453:G:H22	9:A2:1107:G:H1	1.69	0.41
9:A2:1190:C:H2'	9:A2:1191:G:C5	2.55	0.41
9:A2:2216:G:H2'	9:A2:2217:U:C6	2.56	0.41
9:A2:3744:G:H2'	9:A2:3745:G:C8	2.56	0.41
9:A2:4218:U:H2'	9:A2:4219:G:O4'	2.21	0.41
9:A2:4538:A:H2'	9:A2:4539:A:O4'	2.21	0.41
28:T2:14:LEU:HB3	35:a2:88:ARG:HH11	1.84	0.41
46:m2:480:G:H2'	46:m2:481:C:H6	1.86	0.41
46:m2:662:C:H2'	46:m2:663:U:O4'	2.20	0.41
46:m2:1262:A:C2	46:m2:1622:A:C4	3.08	0.41
46:m2:1844:C:H2'	46:m2:1845:G:C8	2.56	0.41
46:m2:1863:G:OP1	75:F3:3:LYS:HG2	2.19	0.41
53:o2:125:THR:HG22	53:o2:175:TRP:HZ2	1.84	0.41
72:S3:20:LYS:HB3	72:S3:29:ASN:ND2	2.36	0.41
75:F3:46:GLU:CD	75:F3:47:ALA:N	2.78	0.41
76:O3:133:THR:O	76:O3:135:ILE:HG12	2.20	0.41
1:A1:258:ARG:O	1:A1:258:ARG:HG3	2.21	0.41
4:D1:61:SER:HB2	4:D1:63:GLU:OE1	2.21	0.41
5:E1:3:GLN:HG3	5:E1:6:GLY:H	1.86	0.41
5:E1:24:ILE:HG12	5:E1:127:GLY:O	2.21	0.41
7:G1:96:ASP:O	7:G1:99:GLU:HG3	2.21	0.41
7:G1:131:GLN:HE21	17:I2:174:ILE:CD1	2.34	0.41
9:A2:184:U:H5"	9:A2:254:G:C2	2.56	0.41
9:A2:931:C:H2'	9:A2:932:C:C6	2.56	0.41
9:A2:950:A:H2'	9:A2:951:C:H6	1.85	0.41
9:A2:1223:C:N4	9:A2:1224:G:C2	2.89	0.41
9:A2:1380:U:H2'	9:A2:1381:C:H6	1.86	0.41
9:A2:1482:A:H4'	9:A2:1498:G:H22	1.84	0.41
9:A2:1529:U:H2'	9:A2:1530:U:C6	2.56	0.41
9:A2:1551:A:H2'	9:A2:1552:G:C8	2.56	0.41
9:A2:1884:G:H5"	19:K2:12:LYS:HG3	2.02	0.41
9:A2:2241:G:H2'	9:A2:2242:G:H8	1.85	0.41
9:A2:3263:U:H2'	9:A2:3264:A:C8	2.56	0.41
9:A2:3390:U:H2'	9:A2:3391:G:O4'	2.21	0.41
9:A2:3566:C:C2	9:A2:3567:C:C5	3.09	0.41
9:A2:4002:C:H2'	9:A2:4003:U:H6	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:A2:4509:U:H2'	9:A2:4510:C:C6	2.55	0.41
11:C2:115:G:H2'	11:C2:116:C:C6	2.56	0.41
13:E2:67:VAL:HG11	24:P2:91:LYS:HD3	2.03	0.41
13:E2:77:THR:HG22	13:E2:333:LEU:HB2	2.02	0.41
14:F2:335:MET:O	14:F2:339:THR:HG22	2.21	0.41
16:H2:102:THR:HA	16:H2:111:THR:HA	2.02	0.41
19:K2:9:LYS:HB2	19:K2:9:LYS:HE2	1.90	0.41
19:K2:155:ALA:O	19:K2:158:THR:HB	2.21	0.41
21:M2:4:SER:HB2	21:M2:111:ARG:HH12	1.86	0.41
22:N2:64:VAL:HG13	22:N2:72:VAL:HG13	2.02	0.41
30:V2:106:ILE:HD12	30:V2:106:ILE:H	1.86	0.41
39:e2:61:PRO:HA	39:e2:62:PRO:HD3	1.93	0.41
40:f2:18:LYS:HE3	40:f2:18:LYS:HB2	1.81	0.41
46:m2:13:C:H5"	66:J3:232:THR:HG21	2.02	0.41
46:m2:65:C:C6	67:K3:174:PRO:HB3	2.55	0.41
46:m2:1069:C:H3'	46:m2:1070:G:H8	1.86	0.41
46:m2:1200:G:H2'	46:m2:1201:A:C8	2.55	0.41
46:m2:1240:U:H2'	46:m2:1241:U:H6	1.85	0.41
46:m2:1550:G:H2'	46:m2:1551:U:C6	2.56	0.41
46:m2:1607:G:N7	46:m2:1608:G:C6	2.89	0.41
46:m2:1630:C:H2'	46:m2:1631:C:H6	1.81	0.41
46:m2:1658:G:O6	46:m2:1670:U:O4	2.38	0.41
46:m2:1835:C:N4	46:m2:1838:G:C2	2.89	0.41
48:p2:120:MET:HE2	48:p2:120:MET:HB2	1.93	0.41
49:q2:80:PRO:HG2	49:q2:83:SER:HB2	2.02	0.41
53:o2:122:LEU:HD12	53:o2:123:VAL:N	2.36	0.41
59:B3:130:ASP:HA	59:B3:133:ARG:HD2	2.02	0.41
61:D3:15:ARG:HA	66:J3:259:THR:HG21	2.03	0.41
62:E3:18:ARG:HG3	62:E3:19:ASP:N	2.35	0.41
62:E3:50:ILE:HD11	62:E3:97:ASN:HA	2.03	0.41
67:K3:84:TYR:H	67:K3:85:ARG:HH21	1.68	0.41
69:N3:18:TYR:HB2	72:S3:25:VAL:HG11	2.03	0.41
70:P3:106:THR:HG22	70:P3:108:ALA:N	2.18	0.41
75:F3:26:CYS:O	76:O3:149:ARG:HB3	2.21	0.41
76:O3:78:ALA:HB3	76:O3:118:ALA:HB3	2.03	0.41
1:A1:74:GLU:HG3	30:V2:94:LEU:CD1	2.51	0.41
6:F1:2:ALA:HB3	6:F1:3:PRO:HD3	2.02	0.41
7:G1:100:ARG:HD3	17:I2:198:THR:O	2.21	0.41
9:A2:511:U:H5'	29:U2:86:THR:HG23	2.02	0.41
9:A2:3536:G:O2'	9:A2:3537:G:H5'	2.21	0.41
13:E2:143:LYS:HB2	13:E2:143:LYS:HE3	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:K2:100:VAL:HG11	19:K2:113:ILE:HD13	2.03	0.41
27:S2:73:VAL:HG12	27:S2:75:ARG:HG2	2.03	0.41
28:T2:41:ALA:HB2	28:T2:77:TYR:HE1	1.85	0.41
36:b2:66:LYS:O	36:b2:70:ARG:HG3	2.20	0.41
45:k2:54:ALA:HA	45:k2:61:VAL:HG23	2.03	0.41
46:m2:56:G:H2'	46:m2:57:U:H6	1.86	0.41
46:m2:345:A:H2'	46:m2:346:U:H6	1.86	0.41
46:m2:360:C:O3'	62:E3:22:TRP:HZ2	2.03	0.41
46:m2:368:U:O4	46:m2:396:G:O6	2.39	0.41
46:m2:537:G:H2'	46:m2:538:A:H8	1.86	0.41
46:m2:562:A:H5'	68:L3:174:LYS:HB2	2.03	0.41
46:m2:1053:G:H2'	46:m2:1054:A:C8	2.54	0.41
46:m2:1510:A:C6	46:m2:1512:G:C6	3.09	0.41
51:w2:93:LEU:HD13	51:w2:103:GLU:C	2.46	0.41
53:o2:71:PRO:HB3	53:o2:94:THR:O	2.21	0.41
53:o2:147:LEU:HD13	53:o2:147:LEU:HA	1.87	0.41
53:o2:159:ILE:HD12	53:o2:159:ILE:HA	1.82	0.41
54:s2:141:VAL:HG21	54:s2:146:ARG:CZ	2.51	0.41
58:A3:31:THR:HG21	58:A3:38:ARG:HD3	2.03	0.41
65:I3:57:ARG:HD2	65:I3:58:ALA:N	2.36	0.41
66:J3:84:PHE:CE2	66:J3:265:PRO:HD3	2.56	0.41
75:F3:59:PHE:CE2	76:O3:126:ILE:CG1	3.04	0.41
9:A2:138:C:H2'	9:A2:139:G:H8	1.86	0.40
9:A2:399:G:H4'	18:J2:18:ARG:HG2	2.02	0.40
9:A2:1759:U:H2'	9:A2:1760:A:C8	2.56	0.40
9:A2:3291:A:C8	9:A2:3348:A:C8	3.09	0.40
9:A2:3376:G:H22	9:A2:3389:A:H2	1.69	0.40
9:A2:3945:U:H5	9:A2:3981:G:O2'	2.03	0.40
9:A2:4045:G:O4'	9:A2:4099:5MC:HM52	2.21	0.40
9:A2:4143:G:OP1	13:E2:9:PRO:HB3	2.21	0.40
14:F2:166:GLU:H	14:F2:166:GLU:HG3	1.69	0.40
17:I2:181:ALA:O	17:I2:185:VAL:HG22	2.20	0.40
22:N2:100:LYS:HB3	22:N2:100:LYS:HE2	1.82	0.40
46:m2:1156:U:O4	66:J3:227:ARG:HD2	2.21	0.40
46:m2:1210:A:C2	75:F3:86:ASN:CA	3.03	0.40
46:m2:1220:C:H2'	46:m2:1221:C:C6	2.56	0.40
46:m2:1231:G:H21	59:B3:87:VAL:HG23	1.87	0.40
46:m2:1378:A:C6	46:m2:1379:U:C2	3.09	0.40
48:p2:66:VAL:HA	48:p2:86:LEU:O	2.21	0.40
55:v2:91:PRO:HD2	55:v2:94:LEU:HD23	2.03	0.40
62:E3:29:LYS:HB3	62:E3:29:LYS:HE3	1.79	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:L3:136:ARG:HG3	68:L3:158:ASP:O	2.21	0.40
70:P3:18:GLU:HG3	70:P3:65:LEU:HD13	2.02	0.40
75:F3:57:SER:CA	76:O3:121:ARG:N	2.59	0.40
2:B1:35:ARG:HG3	2:B1:35:ARG:NH1	2.32	0.40
7:G1:85:LYS:O	7:G1:89:THR:HG23	2.21	0.40
9:A2:5:A:H2'	9:A2:6:C:C6	2.57	0.40
9:A2:1016:A:H2'	9:A2:1017:G:O4'	2.22	0.40
9:A2:1281:C:H2'	9:A2:1282:C:C6	2.56	0.40
9:A2:2118:A:H2'	9:A2:2119:OMG:O4'	2.22	0.40
9:A2:3744:G:H2'	9:A2:3745:G:H8	1.85	0.40
9:A2:3749:G:H2'	9:A2:3750:C:C6	2.56	0.40
9:A2:4382:C:H42	9:A2:4385:C:H42	1.70	0.40
9:A2:4588:C:H5"	16:H2:162:GLY:HA2	2.03	0.40
17:I2:166:MET:HG2	17:I2:169:ARG:HH12	1.86	0.40
17:I2:175:LEU:HD12	17:I2:175:LEU:HA	1.88	0.40
26:R2:147:LEU:HD23	26:R2:147:LEU:HA	1.85	0.40
46:m2:946:A:H2'	46:m2:947:U:C6	2.56	0.40
46:m2:1266:C:H4'	46:m2:1267:A:O4'	2.21	0.40
46:m2:1572:G:H2'	46:m2:1573:G:H8	1.85	0.40
46:m2:1794:G:H2'	46:m2:1795:A:C8	2.52	0.40
48:p2:65:ARG:HG2	76:O3:50:LYS:HD3	2.03	0.40
50:r2:87:MET:HE2	50:r2:226:PHE:CE1	2.56	0.40
53:o2:48:ILE:H	53:o2:48:ILE:HG12	1.72	0.40
53:o2:128:ARG:NH2	53:o2:153:PRO:HD3	2.36	0.40
56:x2:56:LEU:HD22	56:x2:80:LEU:HD11	2.03	0.40
66:J3:62:PRO:HD3	66:J3:71:LYS:HD2	2.03	0.40
75:F3:20:PRO:HG3	76:O3:146:ARG:CG	2.51	0.40
75:F3:30:VAL:CG2	75:F3:74:CYS:HB3	2.45	0.40
5:E1:18:ARG:HG3	5:E1:135:GLY:HA3	2.04	0.40
9:A2:140:G:H2'	9:A2:141:C:H6	1.85	0.40
9:A2:491:C:H2'	9:A2:492:G:O4'	2.20	0.40
9:A2:673:G:H1'	9:A2:675:C:OP1	2.21	0.40
9:A2:1170:U:H2'	9:A2:1171:C:C6	2.57	0.40
9:A2:1391:U:H2'	9:A2:1392:C:C6	2.56	0.40
9:A2:1401:U:H2'	9:A2:1402:C:C6	2.56	0.40
9:A2:1709:A:H2'	9:A2:1710:A:C8	2.56	0.40
9:A2:1847:G:C6	17:I2:62:MET:HA	2.57	0.40
9:A2:3309:A:C2	9:A2:3348:A:C4'	3.04	0.40
9:A2:3536:G:H2'	9:A2:3537:G:C8	2.56	0.40
9:A2:4332:G:H2'	9:A2:4333:A:C8	2.56	0.40
9:A2:4382:C:O5'	9:A2:4382:C:H6	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:B2:58:A:H2'	10:B2:59:G:H8	1.86	0.40
15:G2:262:LYS:HB2	15:G2:262:LYS:HE2	1.76	0.40
26:R2:114:LYS:HE3	26:R2:114:LYS:HB2	1.84	0.40
28:T2:100:VAL:HG22	28:T2:107:LYS:HA	2.02	0.40
46:m2:671:A:OP2	46:m2:671:A:H8	2.05	0.40
46:m2:1225:A:O5'	46:m2:1225:A:H8	2.04	0.40
46:m2:1864:G:H1'	46:m2:1865:A:C8	2.54	0.40
50:r2:59:ASP:HA	50:r2:62:LYS:HD2	2.04	0.40
55:v2:27:VAL:HG23	55:v2:28:HIS:CD2	2.56	0.40
57:y2:58:LEU:HD21	57:y2:112:LEU:HD21	2.03	0.40
72:S3:13:GLU:O	72:S3:17:LYS:HB2	2.22	0.40
75:F3:46:GLU:CD	75:F3:47:ALA:H	2.29	0.40
2:B1:101:LYS:HB2	2:B1:101:LYS:HE2	1.80	0.40
7:G1:117:LYS:HE3	7:G1:117:LYS:HB3	1.82	0.40
9:A2:493:U:H2'	9:A2:494:G:O4'	2.21	0.40
9:A2:500:G:H2'	9:A2:501:G:C8	2.56	0.40
9:A2:658:C:H2'	9:A2:659:C:C6	2.56	0.40
9:A2:1358:G:H2'	9:A2:1359:C:C6	2.56	0.40
9:A2:2246:C:H2'	9:A2:2247:C:C6	2.56	0.40
9:A2:3511:C:H2'	9:A2:3512:A:H8	1.85	0.40
9:A2:3564:A:C3'	9:A2:3565:G:H21	2.34	0.40
44:j2:61:MET:HE3	44:j2:61:MET:HB3	1.85	0.40
46:m2:1751:G:H2'	46:m2:1752:C:H6	1.87	0.40
52:z2:80:ARG:HD3	52:z2:80:ARG:HA	1.94	0.40
57:y2:23:ALA:HA	57:y2:69:ARG:O	2.21	0.40
61:D3:26:ALA:H	66:J3:248:TYR:HE1	1.69	0.40
69:N3:117:LEU:HD12	69:N3:117:LEU:HA	1.89	0.40
70:P3:22:LYS:H	70:P3:22:LYS:HG3	1.73	0.40
1:A1:117:ILE:O	1:A1:245:LYS:HE2	2.21	0.40
2:B1:242:LEU:HB3	2:B1:246:SER:HB2	2.03	0.40
9:A2:65:A:N6	9:A2:75:G:H1'	2.37	0.40
9:A2:432:U:H4'	9:A2:433:A:H5"	2.02	0.40
9:A2:1123:C:H2'	9:A2:1124:C:H6	1.85	0.40
9:A2:1708:U:H2'	9:A2:1709:A:H8	1.87	0.40
9:A2:2198:G:H2'	9:A2:2199:U:O4'	2.22	0.40
9:A2:4002:C:H2'	9:A2:4003:U:C6	2.57	0.40
9:A2:4360:A:N3	9:A2:4361:U:H5'	2.37	0.40
9:A2:4668:U:H2'	9:A2:4669:C:C2	2.57	0.40
11:C2:45:C:H4'	40:f2:11:ARG:HD2	2.02	0.40
13:E2:162:ILE:HD13	13:E2:185:VAL:CG2	2.52	0.40
13:E2:189:THR:O	13:E2:193:LYS:HG3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:F2:283:LYS:HB3	14:F2:283:LYS:HE3	1.88	0.40
16:H2:291:HIS:CE1	34:Z2:33:VAL:HG22	2.56	0.40
23:O2:105:ASN:ND2	23:O2:111:GLU:HB2	2.36	0.40
42:h2:5:TRP:CD1	46:m2:1854:C:H5	2.40	0.40
46:m2:107:A:H4'	46:m2:413:G:O2'	2.21	0.40
46:m2:180:G:H2'	46:m2:181:A:H5'	2.03	0.40
46:m2:686:G:C2	46:m2:687:A:N7	2.90	0.40
46:m2:1263:C:O2	46:m2:1263:C:H2'	2.21	0.40
46:m2:1472:C:H2'	46:m2:1473:C:H6	1.85	0.40
46:m2:1861:A:H2'	46:m2:1862:A:O4'	2.22	0.40
48:p2:97:LEU:HD22	48:p2:232:HIS:CE1	2.56	0.40
49:q2:11:PHE:HD2	60:C3:27:ARG:HE	1.68	0.40
49:q2:192:TRP:CE3	49:q2:193:ASP:HB2	2.56	0.40
55:v2:63:ALA:HB3	55:v2:68:TYR:HE2	1.86	0.40
56:x2:53:GLN:HA	56:x2:56:LEU:HB3	2.04	0.40
57:y2:42:ILE:HD12	57:y2:42:ILE:HA	1.84	0.40
68:L3:42:GLU:HB3	68:L3:45:ARG:HH21	1.85	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A1	221/222 (100%)	217 (98%)	4 (2%)	0	100	100
2	B1	220/232 (95%)	217 (99%)	3 (1%)	0	100	100
3	C1	188/190 (99%)	187 (100%)	1 (0%)	0	100	100
4	D1	204/213 (96%)	199 (98%)	5 (2%)	0	100	100
5	E1	172/174 (99%)	164 (95%)	8 (5%)	0	100	100
6	F1	195/203 (96%)	187 (96%)	8 (4%)	0	100	100
7	G1	137/139 (99%)	136 (99%)	1 (1%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	H1	201/203 (99%)	198 (98%)	3 (2%)	0	100	100
12	D2	249/251 (99%)	238 (96%)	11 (4%)	0	100	100
13	E2	400/402 (100%)	394 (98%)	6 (2%)	0	100	100
14	F2	357/359 (99%)	350 (98%)	7 (2%)	0	100	100
15	G2	291/293 (99%)	288 (99%)	3 (1%)	0	100	100
16	H2	215/221 (97%)	211 (98%)	4 (2%)	0	100	100
17	I2	199/201 (99%)	196 (98%)	3 (2%)	0	100	100
18	J2	151/153 (99%)	148 (98%)	3 (2%)	0	100	100
19	K2	184/186 (99%)	179 (97%)	5 (3%)	0	100	100
20	L2	162/164 (99%)	161 (99%)	1 (1%)	0	100	100
21	M2	173/175 (99%)	167 (96%)	6 (4%)	0	100	100
22	N2	157/159 (99%)	156 (99%)	1 (1%)	0	100	100
23	O2	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
24	P2	127/129 (98%)	126 (99%)	1 (1%)	0	100	100
25	Q2	60/62 (97%)	60 (100%)	0	0	100	100
26	R2	116/118 (98%)	113 (97%)	3 (3%)	0	100	100
27	S2	132/134 (98%)	131 (99%)	1 (1%)	0	100	100
28	T2	133/135 (98%)	130 (98%)	3 (2%)	0	100	100
29	U2	145/147 (99%)	138 (95%)	7 (5%)	0	100	100
30	V2	115/117 (98%)	113 (98%)	2 (2%)	0	100	100
31	W2	92/94 (98%)	89 (97%)	3 (3%)	0	100	100
32	X2	105/107 (98%)	105 (100%)	0	0	100	100
33	Y2	126/128 (98%)	125 (99%)	1 (1%)	0	100	100
34	Z2	107/109 (98%)	105 (98%)	2 (2%)	0	100	100
35	a2	112/114 (98%)	111 (99%)	1 (1%)	0	100	100
36	b2	118/120 (98%)	116 (98%)	2 (2%)	0	100	100
37	c2	100/102 (98%)	98 (98%)	2 (2%)	0	100	100
38	d2	84/86 (98%)	84 (100%)	0	0	100	100
39	e2	67/69 (97%)	67 (100%)	0	0	100	100
40	f2	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
41	g2	50/52 (96%)	50 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	h2	22/24 (92%)	22 (100%)	0	0	100	100
43	i2	101/103 (98%)	97 (96%)	4 (4%)	0	100	100
44	j2	87/89 (98%)	85 (98%)	2 (2%)	0	100	100
45	k2	123/125 (98%)	120 (98%)	3 (2%)	0	100	100
48	p2	212/214 (99%)	207 (98%)	5 (2%)	0	100	100
49	q2	224/226 (99%)	220 (98%)	4 (2%)	0	100	100
50	r2	260/262 (99%)	252 (97%)	8 (3%)	0	100	100
51	w2	151/153 (99%)	147 (97%)	4 (3%)	0	100	100
52	z2	104/110 (94%)	103 (99%)	1 (1%)	0	100	100
53	o2	212/214 (99%)	207 (98%)	5 (2%)	0	100	100
54	s2	136/142 (96%)	128 (94%)	7 (5%)	1 (1%)	19	24
55	v2	50/58 (86%)	49 (98%)	1 (2%)	0	100	100
56	x2	128/130 (98%)	125 (98%)	3 (2%)	0	100	100
57	y2	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
58	A3	142/144 (99%)	132 (93%)	10 (7%)	0	100	100
59	B3	139/141 (99%)	137 (99%)	2 (1%)	0	100	100
60	C3	12/16 (75%)	12 (100%)	0	0	100	100
61	D3	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
62	E3	139/141 (99%)	135 (97%)	4 (3%)	0	100	100
63	G3	4/7 (57%)	4 (100%)	0	0	100	100
64	H3	52/54 (96%)	50 (96%)	2 (4%)	0	100	100
65	I3	159/169 (94%)	150 (94%)	9 (6%)	0	100	100
66	J3	220/222 (99%)	213 (97%)	7 (3%)	0	100	100
67	K3	179/187 (96%)	176 (98%)	3 (2%)	0	100	100
68	L3	183/185 (99%)	180 (98%)	3 (2%)	0	100	100
69	N3	148/150 (99%)	143 (97%)	5 (3%)	0	100	100
70	P3	127/129 (98%)	123 (97%)	4 (3%)	0	100	100
71	Q3	127/129 (98%)	124 (98%)	3 (2%)	0	100	100
72	S3	81/83 (98%)	76 (94%)	5 (6%)	0	100	100
73	T3	37/41 (90%)	37 (100%)	0	0	100	100
75	F3	95/97 (98%)	87 (92%)	7 (7%)	1 (1%)	12	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
76	O3	131/133 (98%)	120 (92%)	9 (7%)	2 (2%)	8 8
All	All	10020/10219 (98%)	9778 (98%)	238 (2%)	4 (0%)	100 100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
75	F3	97	PRO
54	s2	77	MET
76	O3	146	ARG
76	O3	143	LYS

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A1	194/193 (100%)	192 (99%)	2 (1%)	73 83
2	B1	193/198 (98%)	191 (99%)	2 (1%)	73 83
3	C1	169/169 (100%)	166 (98%)	3 (2%)	54 68
4	D1	177/179 (99%)	173 (98%)	4 (2%)	45 61
5	E1	147/147 (100%)	145 (99%)	2 (1%)	62 76
6	F1	166/170 (98%)	158 (95%)	8 (5%)	21 31
7	G1	118/118 (100%)	116 (98%)	2 (2%)	56 70
8	H1	171/171 (100%)	169 (99%)	2 (1%)	67 79
12	D2	193/193 (100%)	188 (97%)	5 (3%)	41 57
13	E2	347/347 (100%)	341 (98%)	6 (2%)	56 70
14	F2	301/301 (100%)	298 (99%)	3 (1%)	73 83
15	G2	246/246 (100%)	241 (98%)	5 (2%)	50 65
16	H2	198/198 (100%)	196 (99%)	2 (1%)	73 83
17	I2	172/172 (100%)	168 (98%)	4 (2%)	45 61
18	J2	134/134 (100%)	132 (98%)	2 (2%)	60 74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
19	K2	164/164 (100%)	159 (97%)	5 (3%)	36 51
20	L2	145/145 (100%)	141 (97%)	4 (3%)	38 54
21	M2	155/155 (100%)	152 (98%)	3 (2%)	52 67
22	N2	139/139 (100%)	132 (95%)	7 (5%)	20 29
23	O2	91/91 (100%)	89 (98%)	2 (2%)	47 62
24	P2	100/100 (100%)	98 (98%)	2 (2%)	50 65
25	Q2	54/54 (100%)	54 (100%)	0	100 100
26	R2	106/106 (100%)	101 (95%)	5 (5%)	22 32
27	S2	124/124 (100%)	123 (99%)	1 (1%)	79 88
28	T2	117/117 (100%)	116 (99%)	1 (1%)	75 86
29	U2	120/120 (100%)	119 (99%)	1 (1%)	79 88
30	V2	98/98 (100%)	96 (98%)	2 (2%)	50 65
31	W2	79/79 (100%)	79 (100%)	0	100 100
32	X2	98/98 (100%)	96 (98%)	2 (2%)	50 65
33	Y2	114/114 (100%)	110 (96%)	4 (4%)	31 45
34	Z2	88/88 (100%)	88 (100%)	0	100 100
35	a2	98/98 (100%)	97 (99%)	1 (1%)	73 83
36	b2	108/108 (100%)	105 (97%)	3 (3%)	38 54
37	c2	86/86 (100%)	82 (95%)	4 (5%)	22 32
38	d2	73/73 (100%)	73 (100%)	0	100 100
39	e2	64/64 (100%)	64 (100%)	0	100 100
40	f2	47/47 (100%)	45 (96%)	2 (4%)	25 37
41	g2	48/48 (100%)	48 (100%)	0	100 100
42	h2	23/23 (100%)	22 (96%)	1 (4%)	25 37
43	i2	91/91 (100%)	89 (98%)	2 (2%)	47 62
44	j2	73/73 (100%)	73 (100%)	0	100 100
45	k2	109/109 (100%)	104 (95%)	5 (5%)	23 33
48	p2	195/195 (100%)	192 (98%)	3 (2%)	60 74
49	q2	189/189 (100%)	186 (98%)	3 (2%)	58 72
50	r2	224/224 (100%)	222 (99%)	2 (1%)	75 86
51	w2	137/137 (100%)	136 (99%)	1 (1%)	81 89

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
52	z2	98/98 (100%)	98 (100%)	0	100 100
53	o2	179/179 (100%)	174 (97%)	5 (3%)	38 54
54	s2	116/116 (100%)	114 (98%)	2 (2%)	56 70
55	v2	52/52 (100%)	50 (96%)	2 (4%)	28 41
56	x2	116/116 (100%)	115 (99%)	1 (1%)	75 86
57	y2	119/119 (100%)	119 (100%)	0	100 100
58	A3	125/125 (100%)	125 (100%)	0	100 100
59	B3	112/112 (100%)	112 (100%)	0	100 100
60	C3	15/15 (100%)	15 (100%)	0	100 100
61	D3	67/67 (100%)	66 (98%)	1 (2%)	60 74
62	E3	113/113 (100%)	108 (96%)	5 (4%)	24 36
63	G3	6/6 (100%)	6 (100%)	0	100 100
64	H3	48/48 (100%)	48 (100%)	0	100 100
65	I3	146/146 (100%)	143 (98%)	3 (2%)	48 64
66	J3	188/188 (100%)	184 (98%)	4 (2%)	48 64
67	K3	164/164 (100%)	163 (99%)	1 (1%)	84 91
68	L3	161/161 (100%)	160 (99%)	1 (1%)	84 91
69	N3	130/130 (100%)	130 (100%)	0	100 100
70	P3	112/112 (100%)	110 (98%)	2 (2%)	54 68
71	Q3	111/111 (100%)	108 (97%)	3 (3%)	40 55
72	S3	75/75 (100%)	73 (97%)	2 (3%)	40 55
73	T3	33/33 (100%)	32 (97%)	1 (3%)	36 51
75	F3	84/84 (100%)	72 (86%)	12 (14%)	2 2
76	O3	103/103 (100%)	99 (96%)	4 (4%)	27 41
All	All	8756/8766 (100%)	8589 (98%)	167 (2%)	52 67

All (167) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A1	251	GLU
1	A1	259	GLU
2	B1	90	GLN
2	B1	101	LYS
3	C1	1	MET

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Mol	Chain	Res	Type
3	C1	106	GLN
3	C1	161	ILE
4	D1	43	VAL
4	D1	91	LEU
4	D1	102	MET
4	D1	202	GLU
5	E1	51	SER
5	E1	81	GLU
6	F1	23	ASP
6	F1	31	ARG
6	F1	59	VAL
6	F1	63	THR
6	F1	64	VAL
6	F1	67	HIS
6	F1	121	ARG
6	F1	154	VAL
7	G1	55	MET
7	G1	81	ASP
8	H1	60	VAL
8	H1	182	HIS
12	D2	4	VAL
12	D2	15	VAL
12	D2	75	LEU
12	D2	180	LEU
12	D2	208	GLU
13	E2	60	VAL
13	E2	162	ILE
13	E2	215	GLU
13	E2	363	ILE
13	E2	382	MET
13	E2	389	MET
14	F2	8	ILE
14	F2	290	SER
14	F2	335	MET
15	G2	90	VAL
15	G2	120	GLU
15	G2	144	CYS
15	G2	212	MET
15	G2	282	GLN
16	H2	113	VAL
16	H2	125	THR
17	I2	27	VAL

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Mol	Chain	Res	Type
17	I2	85	ARG
17	I2	175	LEU
17	I2	183	LYS
18	J2	2	VAL
18	J2	24	VAL
19	K2	3	VAL
19	K2	14	ARG
19	K2	16	LYS
19	K2	41	SER
19	K2	92	ILE
20	L2	10	LEU
20	L2	76	MET
20	L2	119	MET
20	L2	155	LEU
21	M2	53	LYS
21	M2	90	THR
21	M2	128	LYS
22	N2	14	MET
22	N2	52	MET
22	N2	72	VAL
22	N2	76	VAL
22	N2	85	LEU
22	N2	117	LYS
22	N2	152	GLU
23	O2	22	THR
23	O2	34	MET
24	P2	67	LYS
24	P2	72	LEU
26	R2	63	LYS
26	R2	64	SER
26	R2	89	LYS
26	R2	116	LEU
26	R2	139	ARG
27	S2	109	LEU
28	T2	100	VAL
29	U2	10	LYS
30	V2	40	LEU
30	V2	112	LYS
32	X2	57	MET
32	X2	90	ARG
33	Y2	5	ARG
33	Y2	11	LYS

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Mol	Chain	Res	Type
33	Y2	79	VAL
33	Y2	87	VAL
35	a2	63	VAL
36	b2	51	ARG
36	b2	67	GLU
36	b2	88	THR
37	c2	17	VAL
37	c2	18	THR
37	c2	46	GLU
37	c2	71	LYS
40	f2	23	ILE
40	f2	28	ARG
42	h2	1	MET
43	i2	2	VAL
43	i2	67	VAL
45	k2	21	ASN
45	k2	28	GLU
45	k2	60	VAL
45	k2	67	ARG
45	k2	84	LYS
48	p2	120	MET
48	p2	139	CYS
48	p2	140	VAL
49	q2	164	VAL
49	q2	168	VAL
49	q2	176	LEU
50	r2	182	MET
50	r2	220	THR
51	w2	40	ILE
53	o2	87	VAL
53	o2	99	ILE
53	o2	142	LEU
53	o2	177	MET
53	o2	185	MET
54	s2	77	MET
54	s2	93	VAL
55	v2	29	MET
55	v2	49	MET
56	x2	108	LYS
61	D3	62	MET
62	E3	7	LEU
62	E3	14	ARG

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Mol	Chain	Res	Type
62	E3	20	GLN
62	E3	32	LEU
62	E3	115	ILE
65	I3	102	VAL
65	I3	197	THR
65	I3	241	PHE
66	J3	81	ILE
66	J3	137	VAL
66	J3	216	MET
66	J3	219	ILE
67	K3	170	ARG
68	L3	103	GLU
70	P3	19	LYS
70	P3	47	ILE
71	Q3	13	MET
71	Q3	23	MET
71	Q3	113	ARG
72	S3	6	ASP
72	S3	53	VAL
73	T3	26	LYS
75	F3	15	ARG
75	F3	38	LYS
75	F3	39	PHE
75	F3	40	VAL
75	F3	42	ARG
75	F3	79	ILE
75	F3	80	HIS
75	F3	82	LYS
75	F3	83	VAL
75	F3	84	VAL
75	F3	93	LYS
75	F3	95	ARG
76	O3	43	HIS
76	O3	52	THR
76	O3	149	ARG
76	O3	150	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (76) such sidechains are listed below:

Mol	Chain	Res	Type
1	A1	85	GLN
1	A1	173	ASN

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Mol	Chain	Res	Type
1	A1	257	ASN
2	B1	66	GLN
2	B1	153	GLN
2	B1	159	HIS
3	C1	8	GLN
3	C1	98	HIS
3	C1	106	GLN
4	D1	123	GLN
4	D1	144	ASN
5	E1	42	GLN
5	E1	167	GLN
6	F1	175	ASN
7	G1	20	HIS
7	G1	34	ASN
7	G1	131	GLN
12	D2	205	ASN
13	E2	203	GLN
14	F2	38	ASN
14	F2	119	GLN
14	F2	286	ASN
14	F2	321	ASN
14	F2	347	HIS
15	G2	282	GLN
16	H2	108	ASN
16	H2	189	ASN
17	I2	26	GLN
17	I2	50	ASN
17	I2	63	ASN
18	J2	21	ASN
18	J2	25	HIS
19	K2	151	HIS
20	L2	27	ASN
20	L2	158	GLN
23	O2	50	ASN
26	R2	69	ASN
27	S2	18	HIS
27	S2	72	GLN
30	V2	6	ASN
31	W2	72	HIS
34	Z2	99	HIS
36	b2	108	GLN
37	c2	15	HIS

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Mol	Chain	Res	Type
38	d2	30	GLN
38	d2	66	HIS
41	g2	90	ASN
45	k2	21	ASN
45	k2	23	GLN
45	k2	36	ASN
48	p2	43	ASN
49	q2	159	HIS
50	r2	138	HIS
51	w2	18	GLN
52	z2	116	ASN
54	s2	179	ASN
55	v2	28	HIS
56	x2	98	ASN
57	y2	8	GLN
57	y2	142	GLN
59	B3	11	GLN
62	E3	16	HIS
62	E3	39	ASN
62	E3	63	ASN
65	I3	26	GLN
65	I3	64	HIS
65	I3	311	GLN
67	K3	202	ASN
68	L3	111	GLN
72	S3	9	HIS
75	F3	7	ASN
75	F3	8	ASN
75	F3	17	HIS
75	F3	19	GLN
75	F3	25	ASN
75	F3	80	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
10	B2	119/120 (99%)	9 (7%)	0
11	C2	155/156 (99%)	34 (21%)	1 (0%)
46	m2	1717/1724 (99%)	453 (26%)	0
47	n2	74/75 (98%)	37 (50%)	0
74	Bx	9/10 (90%)	6 (66%)	0

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
9	A2	3588/3609 (99%)	734 (20%)	15 (0%)
All	All	5662/5694 (99%)	1273 (22%)	16 (0%)

All (1273) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
9	A2	17	A
9	A2	21	G
9	A2	25	A
9	A2	30	C
9	A2	39	A
9	A2	42	A
9	A2	48	G
9	A2	59	A
9	A2	64	A
9	A2	65	A
9	A2	69	A
9	A2	73	A
9	A2	91	G
9	A2	98	A
9	A2	104	G
9	A2	108	A
9	A2	109	G
9	A2	110	C
9	A2	112	C
9	A2	119	G
9	A2	120	A
9	A2	127	G
9	A2	131	C
9	A2	134	G
9	A2	136	C
9	A2	137	G
9	A2	141	C
9	A2	143	U
9	A2	144	G
9	A2	151	G
9	A2	158	A
9	A2	159	C
9	A2	172	C
9	A2	183	C
9	A2	184	U
9	A2	185	C

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Mol	Chain	Res	Type
9	A2	186	G
9	A2	188	G
9	A2	189	G
9	A2	195	C
9	A2	197	A
9	A2	198	A
9	A2	200	U
9	A2	201	C
9	A2	209	U
9	A2	216	C
9	A2	217	C
9	A2	218	A
9	A2	230	G
9	A2	233	U
9	A2	234	G
9	A2	237	G
9	A2	254	G
9	A2	255	C
9	A2	266	C
9	A2	267	G
9	A2	280	G
9	A2	297	U
9	A2	315	G
9	A2	316	U
9	A2	340	C
9	A2	341	G
9	A2	373	G
9	A2	387	G
9	A2	396	A
9	A2	407	A
9	A2	408	A
9	A2	410	A
9	A2	412	G
9	A2	413	G
9	A2	432	U
9	A2	433	A
9	A2	440	U
9	A2	450	G
9	A2	452	A
9	A2	453	G
9	A2	454	U
9	A2	461	G

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Mol	Chain	Res	Type
9	A2	462	G
9	A2	469	C
9	A2	470	A
9	A2	479	G
9	A2	486	C
9	A2	492	G
9	A2	496	C
9	A2	498	G
9	A2	499	U
9	A2	500	G
9	A2	501	G
9	A2	510	A
9	A2	511	U
9	A2	513	U
9	A2	514	U
9	A2	662	C
9	A2	673	G
9	A2	675	C
9	A2	676	C
9	A2	678	G
9	A2	682	C
9	A2	692	C
9	A2	693	A
9	A2	694	C
9	A2	703	U
9	A2	704	G
9	A2	711	C
9	A2	715	G
9	A2	737	G
9	A2	738	G
9	A2	745	C
9	A2	746	G
9	A2	747	G
9	A2	748	U
9	A2	749	G
9	A2	753	A
9	A2	756	G
9	A2	766	G
9	A2	767	G
9	A2	770	G
9	A2	801	C
9	A2	802	A

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Mol	Chain	Res	Type
9	A2	805	C
9	A2	812	U
9	A2	814	A
9	A2	816	A
9	A2	824	G
9	A2	831	C
9	A2	842	A
9	A2	843	U
9	A2	854	A
9	A2	856	G
9	A2	857	A
9	A2	858	A
9	A2	859	G
9	A2	869	C
9	A2	870	G
9	A2	886	U
9	A2	888	U
9	A2	889	C
9	A2	891	C
9	A2	919	G
9	A2	921	G
9	A2	927	C
9	A2	933	G
9	A2	934	C
9	A2	935	C
9	A2	936	C
9	A2	937	C
9	A2	938	U
9	A2	954	C
9	A2	1000	G
9	A2	1001	G
9	A2	1003	G
9	A2	1004	C
9	A2	1005	G
9	A2	1007	A
9	A2	1010	G
9	A2	1011	U
9	A2	1012	C
9	A2	1013	C
9	A2	1014	C
9	A2	1015	C
9	A2	1019	G

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Mol	Chain	Res	Type
9	A2	1022	C
9	A2	1024	C
9	A2	1031	U
9	A2	1032	C
9	A2	1036	G
9	A2	1038	G
9	A2	1043	C
9	A2	1044	G
9	A2	1047	U
9	A2	1048	C
9	A2	1049	C
9	A2	1051	G
9	A2	1052	G
9	A2	1054	G
9	A2	1066	C
9	A2	1067	A
9	A2	1068	C
9	A2	1070	C
9	A2	1071	G
9	A2	1072	U
9	A2	1079	A
9	A2	1081	G
9	A2	1082	A
9	A2	1084	G
9	A2	1085	C
9	A2	1086	C
9	A2	1087	G
9	A2	1093	A
9	A2	1094	C
9	A2	1098	G
9	A2	1099	U
9	A2	1101	G
9	A2	1108	A
9	A2	1109	U
9	A2	1110	G
9	A2	1116	U
9	A2	1118	C
9	A2	1127	C
9	A2	1136	A
9	A2	1140	C
9	A2	1151	A
9	A2	1168	A

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Mol	Chain	Res	Type
9	A2	1172	A
9	A2	1173	G
9	A2	1180	G
9	A2	1181	U
9	A2	1182	C
9	A2	1190	C
9	A2	1191	G
9	A2	1201	A
9	A2	1208	G
9	A2	1211	A
9	A2	1212	A
9	A2	1214	G
9	A2	1224	G
9	A2	1231	C
9	A2	1233	A
9	A2	1234	G
9	A2	1251	U
9	A2	1253	U
9	A2	1259	C
9	A2	1262	C
9	A2	1267	G
9	A2	1270	G
9	A2	1294	C
9	A2	1295	G
9	A2	1296	C
9	A2	1297	G
9	A2	1298	C
9	A2	1299	C
9	A2	1310	A
9	A2	1311	G
9	A2	1315	G
9	A2	1327	U
9	A2	1329	G
9	A2	1347	A
9	A2	1360	A
9	A2	1375	G
9	A2	1377	A
9	A2	1379	C
9	A2	1387	G
9	A2	1391	U
9	A2	1404	U
9	A2	1409	U

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Mol	Chain	Res	Type
9	A2	1437	G
9	A2	1438	OMG
9	A2	1439	G
9	A2	1444	A
9	A2	1446	G
9	A2	1447	A
9	A2	1451	A
9	A2	1453	C
9	A2	1454	G
9	A2	1455	A
9	A2	1467	G
9	A2	1474	C
9	A2	1483	G
9	A2	1489	C
9	A2	1490	U
9	A2	1512	U
9	A2	1522	C
9	A2	1523	G
9	A2	1536	G
9	A2	1537	U
9	A2	1542	C
9	A2	1544	A
9	A2	1558	U
9	A2	1559	U
9	A2	1560	G
9	A2	1564	C
9	A2	1573	U
9	A2	1574	C
9	A2	1589	A
9	A2	1599	G
9	A2	1600	G
9	A2	1606	A
9	A2	1608	G
9	A2	1622	C
9	A2	1623	G
9	A2	1624	U
9	A2	1638	G
9	A2	1639	A
9	A2	1644	G
9	A2	1645	A
9	A2	1657	G
9	A2	1671	G

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Mol	Chain	Res	Type
9	A2	1684	U
9	A2	1694	A
9	A2	1699	A
9	A2	1719	A
9	A2	1721	G
9	A2	1722	C
9	A2	1723	C
9	A2	1724	G
9	A2	1727	G
9	A2	1733	C
9	A2	1734	A
9	A2	1738	C
9	A2	1742	G
9	A2	1750	G
9	A2	1753	G
9	A2	1760	A
9	A2	1761	U
9	A2	1762	A
9	A2	1763	G
9	A2	1764	A
9	A2	1766	A
9	A2	1822	U
9	A2	1825	C
9	A2	1827	A
9	A2	1828	A
9	A2	1848	G
9	A2	1850	U
9	A2	1857	G
9	A2	1858	G
9	A2	1871	A
9	A2	1886	C
9	A2	1887	G
9	A2	1893	C
9	A2	1895	G
9	A2	1897	A
9	A2	1899	G
9	A2	1900	G
9	A2	1902	A
9	A2	1904	G
9	A2	1905	G
9	A2	1906	G
9	A2	1909	G

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Mol	Chain	Res	Type
9	A2	1911	G
9	A2	1912	A
9	A2	2005	U
9	A2	2006	C
9	A2	2008	G
9	A2	2009	G
9	A2	2012	C
9	A2	2013	C
9	A2	2014	G
9	A2	2015	C
9	A2	2016	G
9	A2	2044	C
9	A2	2055	A
9	A2	2056	G
9	A2	2061	G
9	A2	2068	A
9	A2	2077	G
9	A2	2088	G
9	A2	2094	G
9	A2	2103	G
9	A2	2106	C
9	A2	2115	A
9	A2	2150	A
9	A2	2152	G
9	A2	2172	A
9	A2	2176	G
9	A2	2177	OMC
9	A2	2180	U
9	A2	2181	U
9	A2	2202	U
9	A2	2205	G
9	A2	2208	A
9	A2	2224	C
9	A2	2226	G
9	A2	2229	G
9	A2	2233	C
9	A2	2237	C
9	A2	2239	A
9	A2	2245	U
9	A2	2249	U
9	A2	2257	G
9	A2	2258	G

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Mol	Chain	Res	Type
9	A2	2259	C
9	A2	2260	C
9	A2	2261	G
9	A2	2262	A
9	A2	2266	A
9	A2	2268	A
9	A2	2275	C
9	A2	2276	G
9	A2	2284	A
9	A2	2285	U
9	A2	2299	G
9	A2	2301	G
9	A2	2302	G
9	A2	2321	G
9	A2	2328	A
9	A2	2342	A
9	A2	2356	A
9	A2	2371	C
9	A2	2373	G
9	A2	2382	C
9	A2	2383	U
9	A2	2386	U
9	A2	2393	G
9	A2	2408	C
9	A2	2417	G
9	A2	2424	C
9	A2	2430	G
9	A2	2431	A
9	A2	2442	U
9	A2	2449	G
9	A2	2450	A
9	A2	2451	A
9	A2	2458	G
9	A2	2461	G
9	A2	2462	U
9	A2	2463	U
9	A2	2464	C
9	A2	2466	G
9	A2	2476	G
9	A2	2479	G
9	A2	2480	A
9	A2	2481	G

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Mol	Chain	Res	Type
9	A2	2493	C
9	A2	2494	C
9	A2	2498	A
9	A2	2501	A
9	A2	2514	G
9	A2	2515	G
9	A2	2518	U
9	A2	2519	A
9	A2	2524	U
9	A2	2525	C
9	A2	2542	A
9	A2	2543	U
9	A2	2545	U
9	A2	2549	C
9	A2	2554	G
9	A2	2562	A
9	A2	2563	G
9	A2	2569	C
9	A2	2581	U
9	A2	2582	G
9	A2	2600	A
9	A2	2603	G
9	A2	2610	G
9	A2	2622	C
9	A2	2632	G
9	A2	2657	G
9	A2	3243	C
9	A2	3244	C
9	A2	3246	G
9	A2	3248	G
9	A2	3250	C
9	A2	3253	G
9	A2	3254	C
9	A2	3262	U
9	A2	3271	G
9	A2	3272	U
9	A2	3273	G
9	A2	3282	G
9	A2	3291	A
9	A2	3300	U
9	A2	3302	A
9	A2	3318	A

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Mol	Chain	Res	Type
9	A2	3329	C
9	A2	3330	G
9	A2	3364	C
9	A2	3365	U
9	A2	3367	A
9	A2	3368	A
9	A2	3369	U
9	A2	3373	A
9	A2	3383	A
9	A2	3399	G
9	A2	3404	A
9	A2	3406	G
9	A2	3409	G
9	A2	3410	G
9	A2	3411	G
9	A2	3412	A
9	A2	3415	A
9	A2	3416	A
9	A2	3417	C
9	A2	3418	U
9	A2	3420	U
9	A2	3421	G
9	A2	3422	A
9	A2	3423	C
9	A2	3427	C
9	A2	3429	U
9	A2	3430	A
9	A2	3431	A
9	A2	3432	G
9	A2	3433	G
9	A2	3440	A
9	A2	3441	A
9	A2	3442	U
9	A2	3466	C
9	A2	3467	G
9	A2	3470	U
9	A2	3473	A
9	A2	3474	U
9	A2	3475	G
9	A2	3480	A
9	A2	3494	U
9	A2	3496	U

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Mol	Chain	Res	Type
9	A2	3523	A
9	A2	3533	A
9	A2	3534	C
9	A2	3535	G
9	A2	3548	U
9	A2	3553	G
9	A2	3557	A
9	A2	3562	A
9	A2	3563	G
9	A2	3565	G
9	A2	3566	C
9	A2	3571	U
9	A2	3586	U
9	A2	3595	G
9	A2	3599	A
9	A2	3603	A
9	A2	3604	C
9	A2	3607	G
9	A2	3609	G
9	A2	3610	A
9	A2	3612	G
9	A2	3613	U
9	A2	3614	G
9	A2	3615	U
9	A2	3616	A
9	A2	3617	G
9	A2	3618	A
9	A2	3619	A
9	A2	3620	U
9	A2	3621	A
9	A2	3622	A
9	A2	3623	G
9	A2	3626	G
9	A2	3627	G
9	A2	3632	C
9	A2	3633	C
9	A2	3688	C
9	A2	3689	G
9	A2	3690	C
9	A2	3693	G
9	A2	3694	U
9	A2	3695	G

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Mol	Chain	Res	Type
9	A2	3696	A
9	A2	3697	A
9	A2	3698	A
9	A2	3699	U
9	A2	3701	C
9	A2	3702	C
9	A2	3703	A
9	A2	3704	C
9	A2	3707	C
9	A2	3712	A
9	A2	3714	C
9	A2	3715	G
9	A2	3726	G
9	A2	3734	G
9	A2	3735	A
9	A2	3736	G
9	A2	3742	G
9	A2	3750	C
9	A2	3752	C
9	A2	3760	C
9	A2	3765	G
9	A2	3766	C
9	A2	3769	C
9	A2	3770	U
9	A2	3771	G
9	A2	3772	G
9	A2	3773	C
9	A2	3777	A
9	A2	3781	G
9	A2	3786	U
9	A2	3787	C
9	A2	3815	U
9	A2	3822	A
9	A2	3835	G
9	A2	3836	G
9	A2	3843	G
9	A2	3855	A
9	A2	3877	G
9	A2	3881	U
9	A2	3885	A
9	A2	3903	A
9	A2	3906	G

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Mol	Chain	Res	Type
9	A2	3909	A
9	A2	3917	U
9	A2	3920	A
9	A2	3923	A
9	A2	3925	A
9	A2	3933	A
9	A2	3943	G
9	A2	3957	G
9	A2	3958	G
9	A2	3966	C
9	A2	3981	G
9	A2	3982	G
9	A2	3984	C
9	A2	3987	C
9	A2	3990	G
9	A2	4002	C
9	A2	4004	U
9	A2	4006	U
9	A2	4007	U
9	A2	4023	A
9	A2	4025	G
9	A2	4029	G
9	A2	4030	A
9	A2	4031	A
9	A2	4033	A
9	A2	4039	C
9	A2	4046	A
9	A2	4074	A
9	A2	4089	U
9	A2	4096	C
9	A2	4100	G
9	A2	4101	A
9	A2	4105	C
9	A2	4116	A
9	A2	4118	C
9	A2	4127	G
9	A2	4164	U
9	A2	4165	A
9	A2	4167	G
9	A2	4171	C
9	A2	4176	G
9	A2	4180	G

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Mol	Chain	Res	Type
9	A2	4183	U
9	A2	4184	U
9	A2	4200	A
9	A2	4201	G
9	A2	4206	G
9	A2	4212	C
9	A2	4219	G
9	A2	4221	U
9	A2	4222	G
9	A2	4224	U
9	A2	4227	G
9	A2	4241	A
9	A2	4242	A
9	A2	4252	G
9	A2	4276	A
9	A2	4278	A
9	A2	4279	U
9	A2	4288	U
9	A2	4289	OMG
9	A2	4308	A
9	A2	4309	U
9	A2	4322	C
9	A2	4324	A
9	A2	4331	G
9	A2	4352	A
9	A2	4360	A
9	A2	4361	U
9	A2	4371	G
9	A2	4382	C
9	A2	4385	C
9	A2	4386	A
9	A2	4387	G
9	A2	4393	A
9	A2	4394	G
9	A2	4395	G
9	A2	4396	A
9	A2	4403	G
9	A2	4406	G
9	A2	4409	C
9	A2	4411	C
9	A2	4413	G
9	A2	4417	G

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Mol	Chain	Res	Type
9	A2	4422	G
9	A2	4433	G
9	A2	4434	U
9	A2	4436	C
9	A2	4496	G
9	A2	4497	U
9	A2	4498	C
9	A2	4499	G
9	A2	4503	C
9	A2	4504	C
9	A2	4505	G
9	A2	4508	G
9	A2	4515	OMG
9	A2	4516	C
9	A2	4520	G
9	A2	4521	A
9	A2	4522	G
9	A2	4525	G
9	A2	4527	U
9	A2	4528	C
9	A2	4533	U
9	A2	4540	C
9	A2	4544	G
9	A2	4545	U
9	A2	4546	G
9	A2	4547	C
9	A2	4548	G
9	A2	4549	G
9	A2	4552	G
9	A2	4553	G
9	A2	4554	A
9	A2	4557	G
9	A2	4558	G
9	A2	4559	G
9	A2	4560	G
9	A2	4565	C
9	A2	4569	C
9	A2	4570	U
9	A2	4571	C
9	A2	4582	U
9	A2	4583	U
9	A2	4587	G

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Mol	Chain	Res	Type
9	A2	4589	A
9	A2	4591	G
9	A2	4597	G
9	A2	4610	C
9	A2	4622	U
9	A2	4625	A
9	A2	4634	U
9	A2	4636	C
9	A2	4637	U
9	A2	4652	U
9	A2	4653	A
9	A2	4659	C
9	A2	4663	G
9	A2	4670	C
9	A2	4671	C
9	A2	4672	U
9	A2	4675	C
9	A2	4680	A
9	A2	4687	G
9	A2	4696	C
9	A2	4700	C
9	A2	4701	G
9	A2	4702	A
9	A2	4707	A
9	A2	4708	G
9	A2	4715	U
10	B2	24	C
10	B2	33	U
10	B2	53	U
10	B2	54	A
10	B2	64	G
10	B2	97	G
10	B2	100	A
10	B2	110	G
10	B2	120	U
11	C2	14	U
11	C2	15	G
11	C2	16	G
11	C2	23	C
11	C2	25	G
11	C2	34	U
11	C2	35	C

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Mol	Chain	Res	Type
11	C2	38	U
11	C2	51	U
11	C2	52	A
11	C2	59	A
11	C2	60	G
11	C2	63	U
11	C2	70	G
11	C2	82	A
11	C2	84	A
11	C2	85	U
11	C2	87	G
11	C2	88	A
11	C2	94	G
11	C2	103	A
11	C2	105	C
11	C2	110	U
11	C2	111	U
11	C2	112	G
11	C2	114	G
11	C2	123	U
11	C2	125	C
11	C2	126	C
11	C2	127	U
11	C2	128	C
11	C2	150	C
11	C2	151	G
11	C2	156	U
46	m2	2	A
46	m2	3	C
46	m2	4	C
46	m2	8	U
46	m2	14	C
46	m2	23	G
46	m2	27	A
46	m2	33	G
46	m2	41	G
46	m2	42	A
46	m2	44	U
46	m2	45	A
46	m2	46	A
46	m2	58	C
46	m2	62	G

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Mol	Chain	Res	Type
46	m2	68	A
46	m2	75	G
46	m2	77	A
46	m2	78	C
46	m2	80	G
46	m2	103	A
46	m2	106	C
46	m2	113	G
46	m2	115	U
46	m2	118	C
46	m2	119	U
46	m2	120	U
46	m2	126	G
46	m2	129	C
46	m2	142	C
46	m2	143	U
46	m2	149	A
46	m2	151	C
46	m2	154	U
46	m2	157	U
46	m2	158	A
46	m2	160	U
46	m2	161	U
46	m2	166	A
46	m2	169	U
46	m2	171	A
46	m2	172	U
46	m2	181	A
46	m2	182	C
46	m2	198	U
46	m2	202	C
46	m2	208	G
46	m2	209	G
46	m2	210	G
46	m2	215	G
46	m2	217	G
46	m2	222	U
46	m2	227	G
46	m2	228	A
46	m2	293	G
46	m2	294	A
46	m2	295	C

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Mol	Chain	Res	Type
46	m2	296	U
46	m2	297	C
46	m2	299	A
46	m2	307	U
46	m2	309	G
46	m2	310	G
46	m2	311	G
46	m2	313	C
46	m2	321	C
46	m2	324	C
46	m2	326	C
46	m2	327	C
46	m2	330	U
46	m2	331	G
46	m2	334	G
46	m2	342	C
46	m2	349	G
46	m2	359	C
46	m2	362	A
46	m2	364	C
46	m2	366	A
46	m2	367	C
46	m2	372	G
46	m2	374	U
46	m2	375	G
46	m2	384	C
46	m2	385	G
46	m2	386	U
46	m2	387	G
46	m2	388	C
46	m2	394	A
46	m2	396	G
46	m2	400	A
46	m2	402	C
46	m2	409	G
46	m2	410	A
46	m2	411	C
46	m2	416	A
46	m2	423	G
46	m2	428	A
46	m2	429	U
46	m2	430	U

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Mol	Chain	Res	Type
46	m2	435	A
46	m2	440	G
46	m2	442	G
46	m2	443	C
46	m2	450	A
46	m2	451	A
46	m2	452	C
46	m2	453	G
46	m2	454	G
46	m2	466	A
46	m2	467	A
46	m2	473	G
46	m2	476	G
46	m2	484	G
46	m2	487	A
46	m2	489	U
46	m2	494	C
46	m2	495	A
46	m2	498	C
46	m2	503	C
46	m2	504	C
46	m2	511	G
46	m2	519	C
46	m2	524	A
46	m2	533	A
46	m2	536	G
46	m2	539	C
46	m2	542	U
46	m2	544	U
46	m2	546	G
46	m2	551	C
46	m2	556	A
46	m2	557	A
46	m2	559	U
46	m2	562	A
46	m2	565	G
46	m2	566	A
46	m2	570	C
46	m2	572	C
46	m2	585	A
46	m2	587	C
46	m2	589	A

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Mol	Chain	Res	Type
46	m2	591	G
46	m2	593	U
46	m2	595	C
46	m2	598	U
46	m2	602	G
46	m2	606	A
46	m2	608	G
46	m2	609	U
46	m2	612	G
46	m2	614	U
46	m2	616	C
46	m2	617	C
46	m2	619	G
46	m2	623	C
46	m2	625	G
46	m2	629	U
46	m2	630	A
46	m2	640	C
46	m2	645	A
46	m2	646	G
46	m2	657	A
46	m2	660	U
46	m2	661	G
46	m2	662	C
46	m2	664	G
46	m2	665	C
46	m2	671	A
46	m2	673	A
46	m2	674	A
46	m2	675	G
46	m2	689	C
46	m2	690	U
46	m2	694	G
46	m2	695	A
46	m2	696	G
46	m2	697	C
46	m2	700	G
46	m2	733	G
46	m2	734	U
46	m2	735	C
46	m2	737	C
46	m2	738	C

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Mol	Chain	Res	Type
46	m2	739	G
46	m2	752	C
46	m2	753	G
46	m2	754	G
46	m2	790	G
46	m2	791	G
46	m2	793	C
46	m2	794	C
46	m2	797	A
46	m2	798	G
46	m2	800	G
46	m2	813	A
46	m2	823	G
46	m2	824	U
46	m2	825	U
46	m2	832	A
46	m2	836	C
46	m2	838	G
46	m2	839	A
46	m2	841	C
46	m2	844	C
46	m2	847	G
46	m2	849	A
46	m2	864	A
46	m2	871	A
46	m2	872	A
46	m2	876	G
46	m2	877	A
46	m2	878	C
46	m2	885	U
46	m2	889	U
46	m2	890	U
46	m2	892	U
46	m2	895	U
46	m2	896	G
46	m2	897	G
46	m2	898	U
46	m2	899	U
46	m2	901	U
46	m2	915	A
46	m2	922	A
46	m2	924	A

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Mol	Chain	Res	Type
46	m2	935	G
46	m2	937	G
46	m2	952	C
46	m2	954	G
46	m2	965	A
46	m2	971	U
46	m2	973	G
46	m2	980	G
46	m2	991	C
46	m2	992	A
46	m2	994	A
46	m2	1001	G
46	m2	1019	U
46	m2	1025	A
46	m2	1026	A
46	m2	1029	A
46	m2	1044	A
46	m2	1047	U
46	m2	1058	U
46	m2	1061	G
46	m2	1063	U
46	m2	1064	A
46	m2	1084	A
46	m2	1085	A
46	m2	1087	C
46	m2	1105	C
46	m2	1112	G
46	m2	1117	U
46	m2	1118	C
46	m2	1123	G
46	m2	1128	G
46	m2	1133	G
46	m2	1135	A
46	m2	1136	G
46	m2	1139	U
46	m2	1140	C
46	m2	1149	C
46	m2	1150	A
46	m2	1153	G
46	m2	1155	C
46	m2	1156	U
46	m2	1157	U

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Mol	Chain	Res	Type
46	m2	1197	A
46	m2	1209	G
46	m2	1217	C
46	m2	1219	A
46	m2	1223	G
46	m2	1226	G
46	m2	1229	G
46	m2	1230	A
46	m2	1231	G
46	m2	1244	U
46	m2	1247	G
46	m2	1249	C
46	m2	1251	C
46	m2	1253	A
46	m2	1255	A
46	m2	1257	G
46	m2	1258	G
46	m2	1259	G
46	m2	1261	A
46	m2	1264	C
46	m2	1265	U
46	m2	1271	G
46	m2	1275	C
46	m2	1276	G
46	m2	1277	G
46	m2	1283	G
46	m2	1285	C
46	m2	1287	G
46	m2	1288	G
46	m2	1299	U
46	m2	1300	G
46	m2	1302	U
46	m2	1304	G
46	m2	1305	C
46	m2	1310	U
46	m2	1315	A
46	m2	1324	G
46	m2	1326	G
46	m2	1329	G
46	m2	1335	U
46	m2	1343	C
46	m2	1344	U

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Mol	Chain	Res	Type
46	m2	1345	U
46	m2	1346	A
46	m2	1348	U
46	m2	1353	G
46	m2	1364	U
46	m2	1365	C
46	m2	1373	U
46	m2	1374	U
46	m2	1377	G
46	m2	1380	A
46	m2	1384	A
46	m2	1387	G
46	m2	1398	A
46	m2	1399	U
46	m2	1400	G
46	m2	1404	A
46	m2	1405	C
46	m2	1417	C
46	m2	1419	C
46	m2	1421	C
46	m2	1422	G
46	m2	1424	G
46	m2	1425	C
46	m2	1426	G
46	m2	1431	G
46	m2	1435	C
46	m2	1436	C
46	m2	1437	C
46	m2	1438	C
46	m2	1439	C
46	m2	1440	A
46	m2	1444	U
46	m2	1446	U
46	m2	1448	A
46	m2	1449	G
46	m2	1452	G
46	m2	1454	A
46	m2	1455	C
46	m2	1456	A
46	m2	1464	U
46	m2	1465	U
46	m2	1490	C

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Mol	Chain	Res	Type
46	m2	1491	A
46	m2	1492	G
46	m2	1495	C
46	m2	1496	U
46	m2	1497	G
46	m2	1499	G
46	m2	1500	A
46	m2	1507	U
46	m2	1509	G
46	m2	1510	A
46	m2	1511	U
46	m2	1522	G
46	m2	1523	C
46	m2	1533	A
46	m2	1535	A
46	m2	1538	G
46	m2	1548	G
46	m2	1553	U
46	m2	1554	G
46	m2	1555	C
46	m2	1557	U
46	m2	1560	C
46	m2	1562	U
46	m2	1570	C
46	m2	1577	G
46	m2	1582	A
46	m2	1587	U
46	m2	1589	G
46	m2	1590	A
46	m2	1594	C
46	m2	1603	A
46	m2	1606	G
46	m2	1608	G
46	m2	1612	G
46	m2	1616	A
46	m2	1619	G
46	m2	1623	U
46	m2	1625	A
46	m2	1632	A
46	m2	1638	G
46	m2	1639	A
46	m2	1640	G

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Mol	Chain	Res	Type
46	m2	1650	G
46	m2	1654	G
46	m2	1655	U
46	m2	1656	G
46	m2	1662	C
46	m2	1665	A
46	m2	1667	G
46	m2	1673	G
46	m2	1677	A
46	m2	1680	A
46	m2	1682	G
46	m2	1689	C
46	m2	1694	U
46	m2	1695	G
46	m2	1696	U
46	m2	1697	A
46	m2	1701	A
46	m2	1702	C
46	m2	1703	C
46	m2	1707	C
46	m2	1711	G
46	m2	1714	A
46	m2	1715	C
46	m2	1723	U
46	m2	1724	G
46	m2	1747	A
46	m2	1756	G
46	m2	1759	G
46	m2	1776	C
46	m2	1778	G
46	m2	1783	A
46	m2	1784	G
46	m2	1785	C
46	m2	1786	G
46	m2	1789	G
46	m2	1805	U
46	m2	1815	A
46	m2	1824	A
46	m2	1826	A
46	m2	1829	U
46	m2	1832	C
46	m2	1833	A

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Mol	Chain	Res	Type
46	m2	1837	A
46	m2	1838	G
46	m2	1839	G
46	m2	1840	U
46	m2	1841	U
46	m2	1843	C
46	m2	1848	G
46	m2	1851	G
46	m2	1853	A
46	m2	1854	C
46	m2	1859	G
46	m2	1860	G
46	m2	1863	G
46	m2	1864	G
46	m2	1865	A
46	m2	1866	U
46	m2	1867	C
46	m2	1868	A
47	n2	6	G
47	n2	10	G
47	n2	11	G
47	n2	13	G
47	n2	15	A
47	n2	16	G
47	n2	17	C
47	n2	18	G
47	n2	19	G
47	n2	20	A
47	n2	21	A
47	n2	24	G
47	n2	31	G
47	n2	32	C
47	n2	34	C
47	n2	37	A
47	n2	38	A
47	n2	39	C
47	n2	40	C
47	n2	41	C
47	n2	43	G
47	n2	45	G
47	n2	46	G
47	n2	47	U

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Mol	Chain	Res	Type
47	n2	48	C
47	n2	49	G
47	n2	50	A
47	n2	51	U
47	n2	52	G
47	n2	57	G
47	n2	58	A
47	n2	60	A
47	n2	61	C
47	n2	63	A
47	n2	67	U
47	n2	70	G
47	n2	76	A
74	Bx	46	U
74	Bx	48	U
74	Bx	51	U
74	Bx	52	U
74	Bx	53	U
74	Bx	54	U

All (16) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
9	A2	143	U
9	A2	233	U
9	A2	236	G
9	A2	406	C
9	A2	1446	G
9	A2	2382	C
9	A2	2430	G
9	A2	2463	U
9	A2	2541	C
9	A2	3253	G
9	A2	3272	U
9	A2	3772	G
9	A2	4183	U
9	A2	4351	U
9	A2	4582	U
11	C2	59	A

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

24 non-standard protein/DNA/RNA residues are 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	$\#\|Z\| > 2$
9	OMG	A2	3448	9	18,26,27	1.20	2 (11%)	19,38,41	0.77	1 (5%)
9	OMC	A2	2177	9	19,22,23	0.58	0	26,31,34	0.58	0
9	2MG	A2	4517	9	18,25,27	1.18	2 (11%)	19,37,41	0.82	1 (5%)
9	OMG	A2	4515	9	18,25,27	1.23	2 (11%)	19,37,41	0.81	1 (5%)
9	OMG	A2	2179	9	18,26,27	1.17	2 (11%)	19,38,41	0.85	1 (5%)
9	5MC	A2	4099	9	18,22,23	0.74	0	26,32,35	0.66	0
9	OMC	A2	4188	9	18,21,23	0.60	0	26,30,34	0.59	0
9	OMC	A2	2120	9	19,22,23	0.59	0	26,31,34	0.61	0
9	OMC	A2	3525	9	19,22,23	0.61	0	26,31,34	0.56	0
9	OMC	A2	2616	9	19,22,23	0.58	0	26,31,34	0.75	1 (3%)
9	OMC	A2	3357	9	19,22,23	0.61	0	26,31,34	0.60	0
9	5MC	A2	3438	9	18,22,23	0.63	0	26,32,35	0.63	0
9	OMG	A2	4289	9	18,25,27	1.16	2 (11%)	19,37,41	0.85	1 (5%)
9	2MG	A2	1330	9	18,26,27	1.19	2 (11%)	16,38,41	1.01	1 (6%)
9	OMG	A2	4275	9	18,25,27	1.20	2 (11%)	19,37,41	0.87	2 (10%)
9	OMG	A2	2119	9	18,26,27	1.19	2 (11%)	19,38,41	0.86	1 (5%)
9	OMG	A2	1335	9	18,26,27	1.21	3 (16%)	19,38,41	0.91	1 (5%)
9	OMG	A2	1438	9	18,26,27	1.22	2 (11%)	19,38,41	0.90	1 (5%)
9	OMC	A2	3543	9	19,22,23	0.61	0	26,31,34	0.67	0
9	1MA	A2	4067	9	16,25,26	0.91	2 (12%)	18,37,40	1.04	2 (11%)
46	OMG	m2	685	46	18,26,27	1.13	2 (11%)	19,38,41	0.87	1 (5%)
9	OMG	A2	3848	9	18,26,27	1.19	2 (11%)	19,38,41	0.86	1 (5%)
9	OMC	A2	2559	9	19,22,23	0.59	0	26,31,34	0.63	0
9	OMG	A2	4146	9	18,25,27	1.17	2 (11%)	19,37,41	0.81	1 (5%)

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
9	OMG	A2	3448	9	-	0/5/27/28	0/3/3/3
9	OMC	A2	2177	9	-	2/9/27/28	0/2/2/2
9	2MG	A2	4517	9	-	0/3/25/28	0/3/3/3
9	OMG	A2	4515	9	-	3/3/25/28	0/3/3/3
9	OMG	A2	2179	9	-	0/5/27/28	0/3/3/3
9	5MC	A2	4099	9	-	4/7/25/26	0/2/2/2
9	OMC	A2	4188	9	-	0/7/25/28	0/2/2/2
9	OMC	A2	2120	9	-	0/9/27/28	0/2/2/2
9	OMC	A2	3525	9	-	0/9/27/28	0/2/2/2
9	OMC	A2	2616	9	-	0/9/27/28	0/2/2/2
9	OMC	A2	3357	9	-	4/9/27/28	0/2/2/2
9	5MC	A2	3438	9	-	0/7/25/26	0/2/2/2
9	OMG	A2	4289	9	-	2/3/25/28	0/3/3/3
9	2MG	A2	1330	9	-	0/5/27/28	0/3/3/3
9	OMG	A2	4275	9	-	0/3/25/28	0/3/3/3
9	OMG	A2	2119	9	-	1/5/27/28	0/3/3/3
9	OMG	A2	1335	9	-	0/5/27/28	0/3/3/3
9	OMG	A2	1438	9	-	1/5/27/28	0/3/3/3
9	OMC	A2	3543	9	-	1/9/27/28	0/2/2/2
9	1MA	A2	4067	9	-	2/3/25/26	0/3/3/3
46	OMG	m2	685	46	-	2/5/27/28	0/3/3/3
9	OMG	A2	3848	9	-	1/5/27/28	0/3/3/3
9	OMC	A2	2559	9	-	0/9/27/28	0/2/2/2
9	OMG	A2	4146	9	-	0/3/25/28	0/3/3/3

All (29) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	A2	1438	OMG	C8-N7	-3.18	1.29	1.35
9	A2	1330	2MG	C8-N7	-3.16	1.29	1.35
9	A2	4517	2MG	C8-N7	-3.13	1.29	1.35
9	A2	4515	OMG	C8-N7	-3.13	1.29	1.35
9	A2	3448	OMG	C8-N7	-3.09	1.29	1.35
9	A2	3848	OMG	C8-N7	-3.09	1.29	1.35
9	A2	2179	OMG	C8-N7	-3.01	1.29	1.35
9	A2	4275	OMG	C8-N7	-3.00	1.29	1.35
9	A2	2119	OMG	C8-N7	-2.99	1.29	1.35
9	A2	4146	OMG	C8-N7	-2.97	1.30	1.35
9	A2	1335	OMG	C8-N7	-2.96	1.30	1.35
9	A2	4289	OMG	C8-N7	-2.86	1.30	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	m2	685	OMG	C8-N7	-2.80	1.30	1.35
9	A2	4515	OMG	C5-C6	-2.53	1.42	1.47
9	A2	3848	OMG	C5-C6	-2.51	1.42	1.47
9	A2	3448	OMG	C5-C6	-2.51	1.42	1.47
9	A2	1438	OMG	C5-C6	-2.46	1.42	1.47
9	A2	1335	OMG	C5-C6	-2.45	1.42	1.47
9	A2	2179	OMG	C5-C6	-2.45	1.42	1.47
9	A2	1330	2MG	C5-C6	-2.44	1.42	1.47
9	A2	4067	1MA	C8-N7	-2.41	1.30	1.35
9	A2	2119	OMG	C5-C6	-2.39	1.42	1.47
46	m2	685	OMG	C5-C6	-2.38	1.42	1.47
9	A2	4146	OMG	C5-C6	-2.37	1.42	1.47
9	A2	4289	OMG	C5-C6	-2.36	1.42	1.47
9	A2	4517	2MG	C5-C6	-2.34	1.42	1.47
9	A2	4275	OMG	C5-C6	-2.29	1.42	1.47
9	A2	4067	1MA	C5-C4	-2.26	1.37	1.43
9	A2	1335	OMG	C5-C4	-2.04	1.37	1.43

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	A2	2119	OMG	O6-C6-C5	2.48	129.22	124.37
9	A2	4275	OMG	O6-C6-C5	2.46	129.18	124.37
9	A2	4146	OMG	O6-C6-C5	2.45	129.17	124.37
9	A2	2179	OMG	O6-C6-C5	2.41	129.08	124.37
9	A2	3848	OMG	O6-C6-C5	2.40	129.05	124.37
9	A2	1438	OMG	O6-C6-C5	2.34	128.94	124.37
9	A2	1335	OMG	O6-C6-C5	2.30	128.87	124.37
9	A2	4289	OMG	O6-C6-C5	2.30	128.86	124.37
46	m2	685	OMG	O6-C6-C5	2.27	128.80	124.37
9	A2	4517	2MG	O6-C6-C5	2.25	128.77	124.37
9	A2	4515	OMG	O6-C6-C5	2.17	128.61	124.37
9	A2	4067	1MA	N1-C6-N6	2.12	125.16	119.77
9	A2	2616	OMC	C1'-N1-C2	2.09	123.08	118.42
9	A2	1330	2MG	C3'-C2'-C1'	2.08	104.10	100.98
9	A2	3448	OMG	O6-C6-C5	2.06	128.41	124.37
9	A2	4067	1MA	C5-C6-N1	-2.01	110.90	113.90
9	A2	4275	OMG	C5-C6-N1	-2.00	110.42	113.95

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	A2	2177	OMC	C1'-C2'-O2'-CM2
9	A2	3357	OMC	C2'-C1'-N1-C6
9	A2	3848	OMG	C1'-C2'-O2'-CM2
9	A2	4289	OMG	O4'-C4'-C5'-O5'
9	A2	4289	OMG	C3'-C4'-C5'-O5'
9	A2	4515	OMG	O4'-C4'-C5'-O5'
9	A2	4515	OMG	C3'-C4'-C5'-O5'
46	m2	685	OMG	C3'-C4'-C5'-O5'
9	A2	3357	OMC	C2'-C1'-N1-C2
46	m2	685	OMG	O4'-C4'-C5'-O5'
9	A2	4067	1MA	O4'-C4'-C5'-O5'
9	A2	4099	5MC	C2'-C1'-N1-C6
9	A2	3357	OMC	O4'-C1'-N1-C2
9	A2	4067	1MA	C3'-C4'-C5'-O5'
9	A2	3357	OMC	O4'-C1'-N1-C6
9	A2	4099	5MC	O4'-C1'-N1-C6
9	A2	4515	OMG	C4'-C5'-O5'-P
9	A2	1438	OMG	C3'-C4'-C5'-O5'
9	A2	4099	5MC	O4'-C1'-N1-C2
9	A2	2119	OMG	O4'-C4'-C5'-O5'
9	A2	4099	5MC	C2'-C1'-N1-C2
9	A2	3543	OMC	C4'-C5'-O5'-P
9	A2	2177	OMC	O4'-C4'-C5'-O5'

There are no ring outliers.

8 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	A2	4515	OMG	1	0
9	A2	2179	OMG	1	0
9	A2	4099	5MC	3	0
9	A2	2119	OMG	1	0
9	A2	4067	1MA	2	0
46	m2	685	OMG	1	0
9	A2	3848	OMG	1	0
9	A2	4146	OMG	2	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 7 ligands modelled in this entry, 7 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

The following chains have linkage breaks:

Mol	Chain	Number of breaks
9	A2	20
46	m2	7
65	I3	4
67	K3	3
55	v2	3
16	H2	2
54	s2	2
52	z2	2
60	C3	1
63	G3	1
73	T3	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	H2	80:TYR	C	96:LEU	N	37.56
1	K3	115:LYS	C	134:GLY	N	27.50
1	A2	1512:U	O3'	1521:A	P	24.43
1	K3	12:CYS	C	24:LEU	N	21.59
1	s2	99:ILE	C	120:GLY	N	21.17
1	v2	4:PRO	C	18:GLU	N	19.94

Continued on next page...

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	v2	70:TYR	C	86:PRO	N	19.45
1	m2	755:C	O3'	788:G	P	19.04
1	I3	157:SER	C	196:ASN	N	18.83
1	A2	2658:G	O3'	3240:C	P	18.53
1	m2	130:G	O3'	140:U	P	18.42
1	A2	891:C	O3'	917:G	P	17.91
1	A2	514:U	O3'	654:G	P	16.86
1	z2	9:VAL	C	24:LEU	N	16.71
1	A2	3752:C	O3'	3758:G	P	16.46
1	A2	4437:C	O3'	4493:G	P	16.34
1	A2	3790:G	O3'	3796:G	P	16.30
1	A2	770:G	O3'	799:C	P	16.23
1	A2	1564:C	O3'	1572:A	P	15.55
1	m2	1763:U	O3'	1773:G	P	14.92
1	A2	859:G	O3'	866:A	P	14.45
1	z2	28:PHE	C	39:ALA	N	13.86
1	m2	700:G	O3'	732:C	P	13.60
1	A2	1772:A	O3'	1820:C	P	13.18
1	I3	199:THR	C	237:ASN	N	12.86
1	A2	1914:C	O3'	2004:G	P	12.66
1	m2	741:C	O3'	748:C	P	12.52
1	A2	1055:G	O3'	1059:C	P	12.40
1	s2	22:LYS	C	50:PRO	N	12.28
1	C3	33:GLU	C	107:GLU	N	11.97
1	A2	481:G	O3'	485:U	P	11.89
1	A2	3633:C	O3'	3685:G	P	11.49
1	G3	28:THR	C	68:LEU	N	9.63
1	I3	122:SER	C	152:SER	N	9.60
1	H2	230:ARG	C	245:GLU	N	9.34
1	v2	29:MET	C	41:PRO	N	8.64
1	T3	40:ARG	C	55:PRO	N	8.59
1	m2	228:A	O3'	289:U	P	8.38
1	A2	866:A	O3'	868:C	P	8.33
1	A2	1072:U	O3'	1078:G	P	8.03
1	A2	956:C	O3'	999:C	P	6.72
1	I3	255:SER	C	286:CYS	N	6.10
1	A2	4422:G	O3'	4425:C	P	5.59
1	K3	37:ALA	C	49:VAL	N	5.01
1	A2	501:G	O3'	506:G	P	4.35
1	m2	1693:U	O3'	1694:U	P	2.10

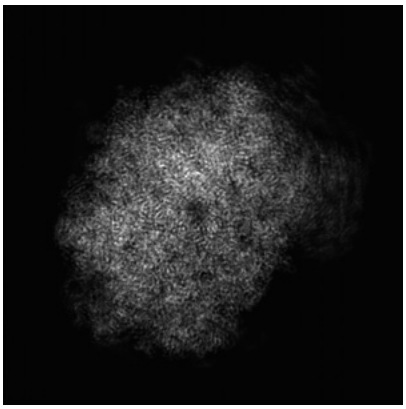
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-51865. These allow visual inspection of the internal detail of the map and identification of artifacts.

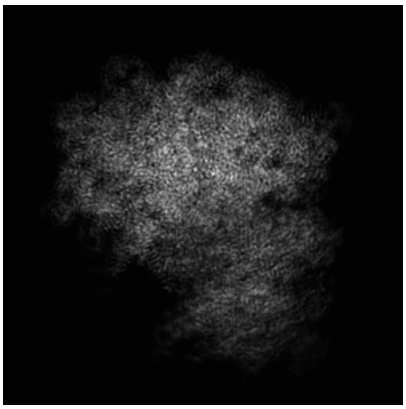
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

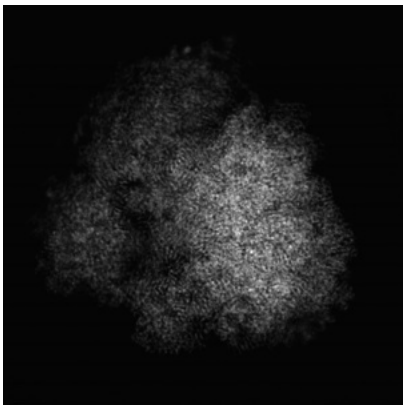
6.1.1 Primary map



X

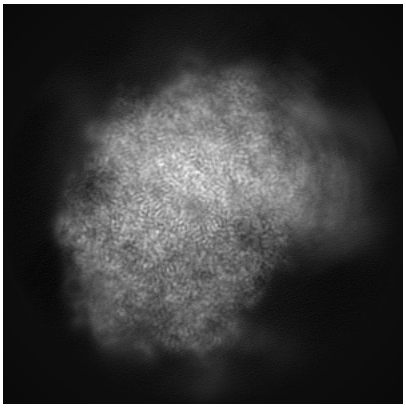


Y

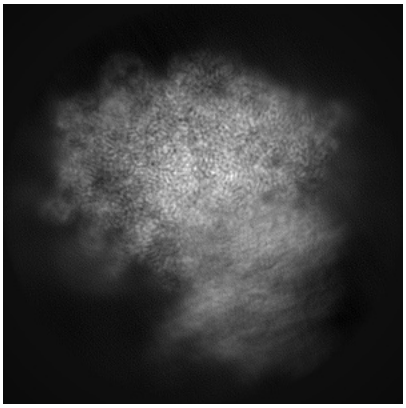


Z

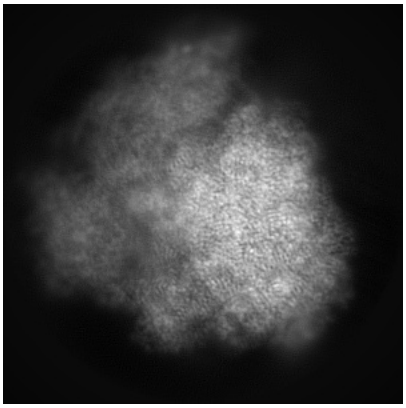
6.1.2 Raw map



X



Y

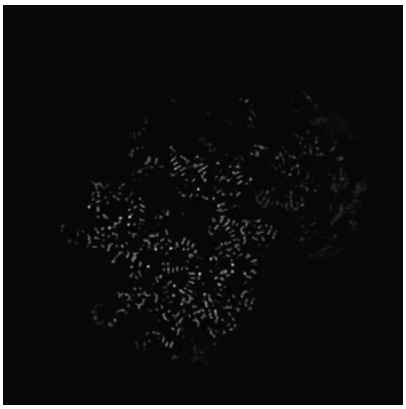


Z

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

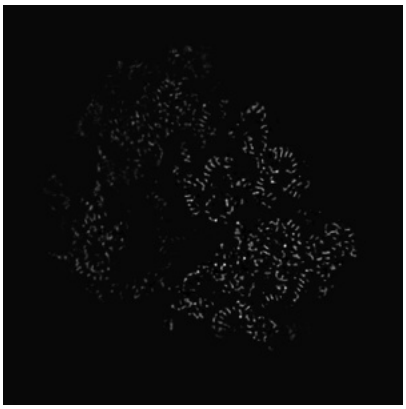
6.2 Central slices (i)

6.2.1 Primary map



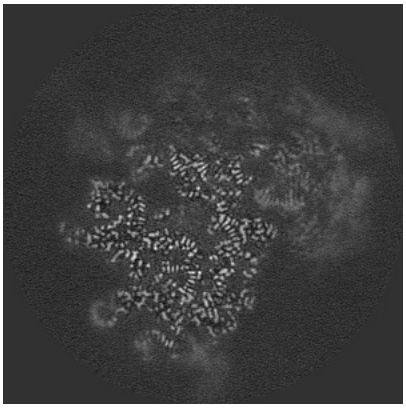
X Index: 192

Y Index: 192

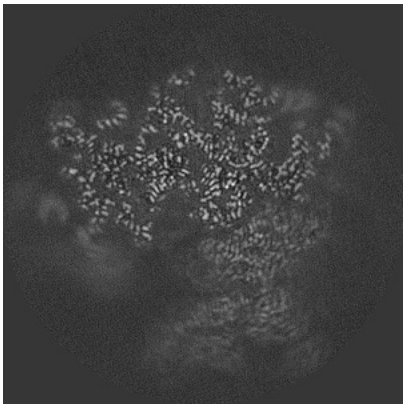


Z Index: 192

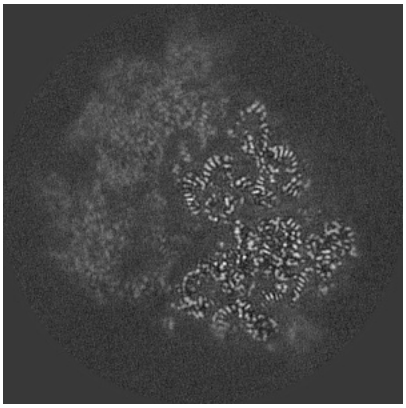
6.2.2 Raw map



X Index: 192



Y Index: 192



Z Index: 192

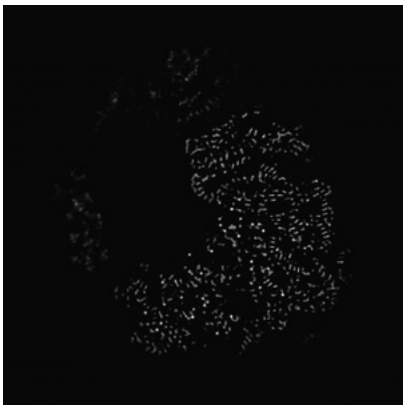
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map

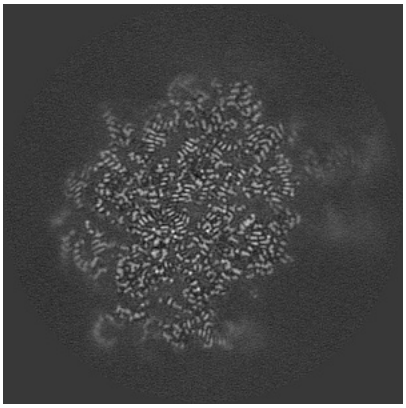
X Index: 221

Y Index: 157

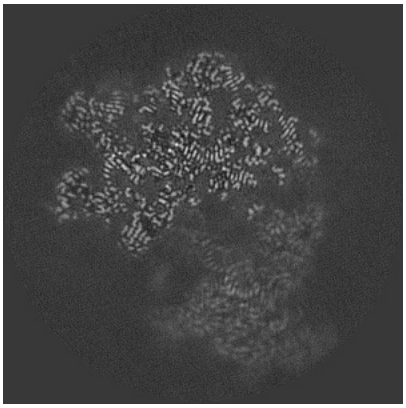


Z Index: 169

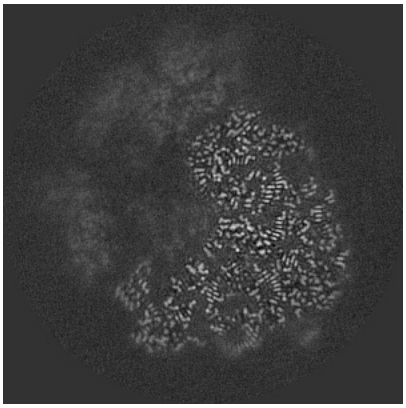
6.3.2 Raw map



X Index: 221



Y Index: 157

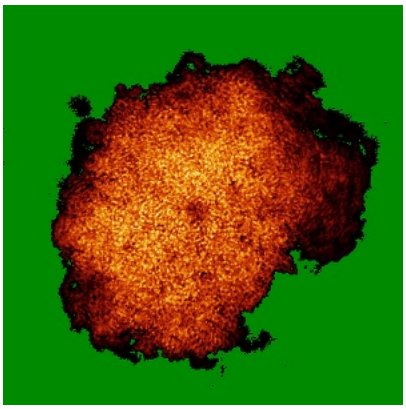


Z Index: 173

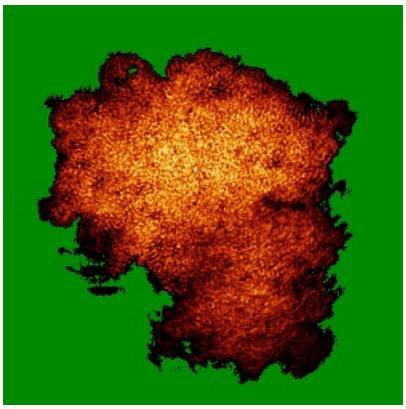
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

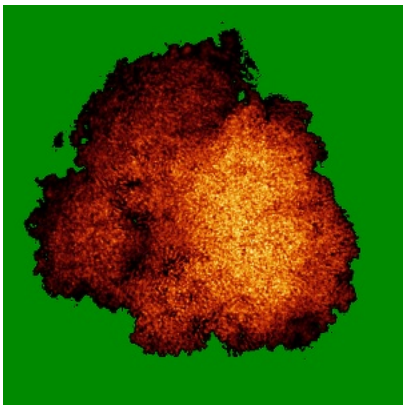
6.4.1 Primary map



X

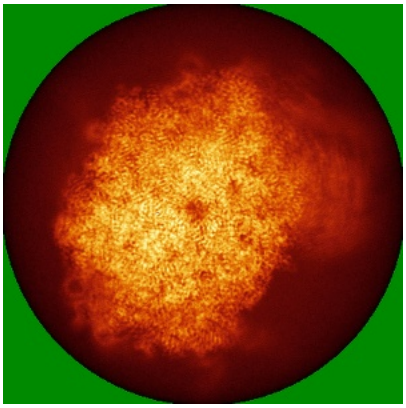


Y

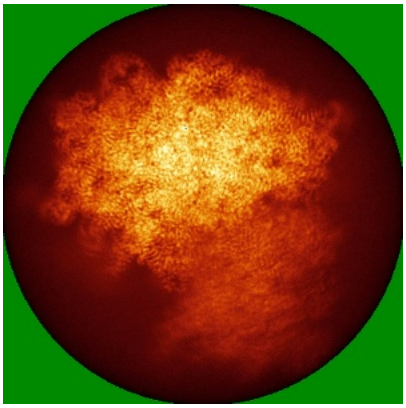


Z

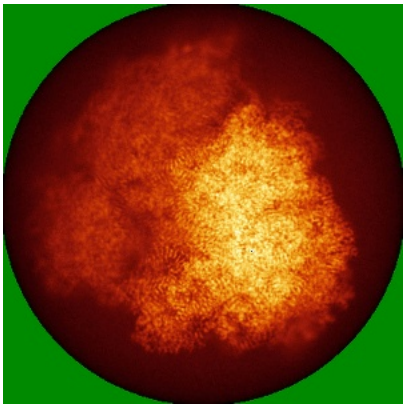
6.4.2 Raw map



X



Y

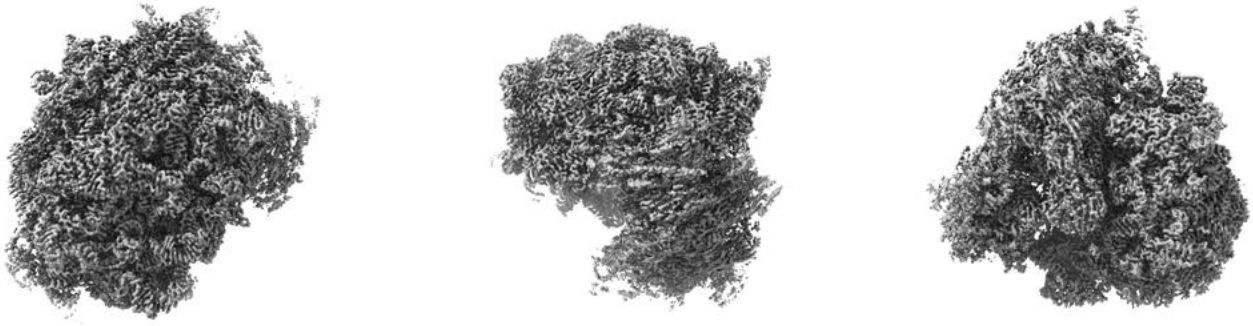


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X Y Z

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

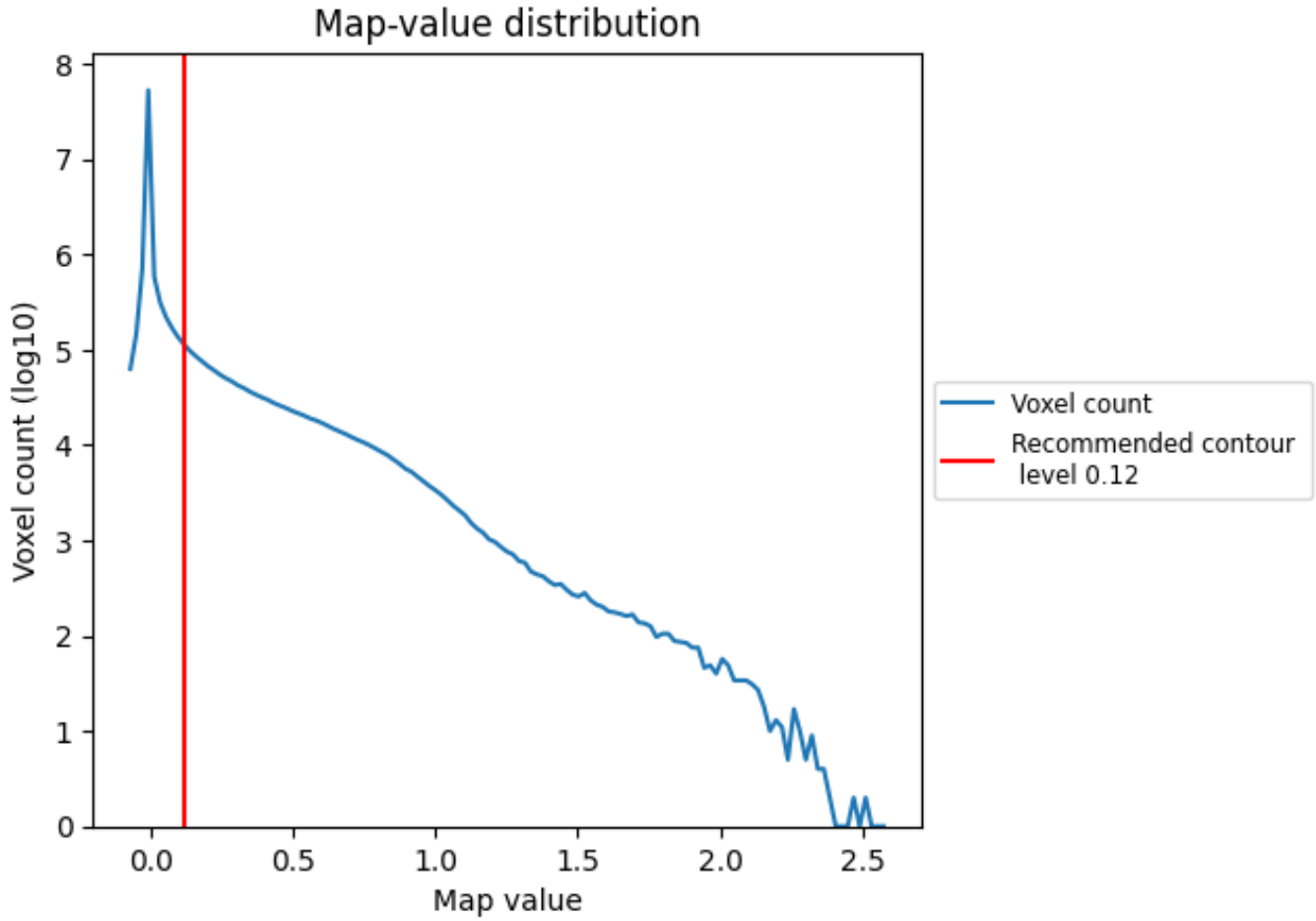
6.6 Mask visualisation (i)

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

7 Map analysis

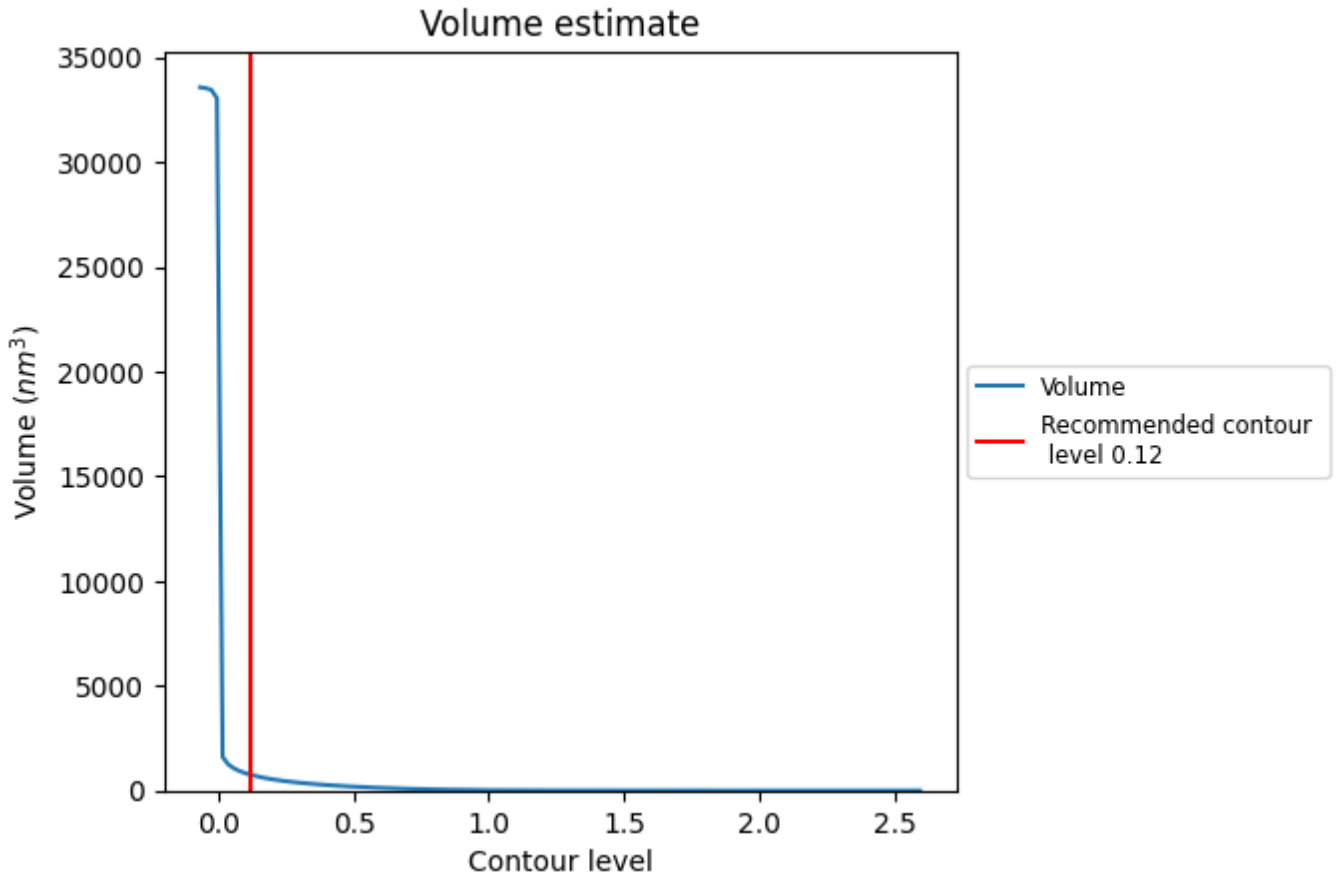
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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.

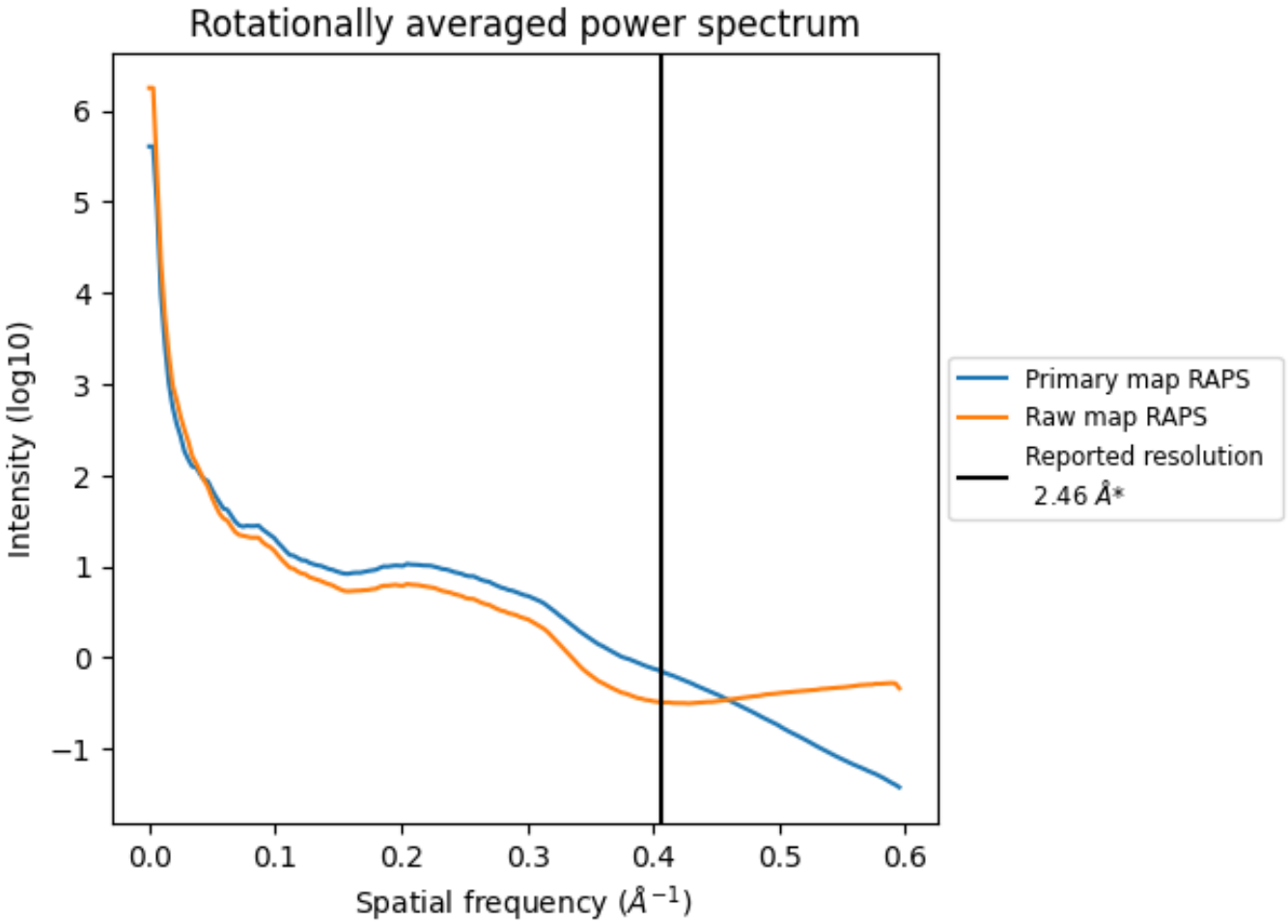
7.2 Volume estimate



The volume at the recommended contour level is 747 nm^3; this corresponds to an approximate mass of 674 kDa.

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

7.3 Rotationally averaged power spectrum (i)

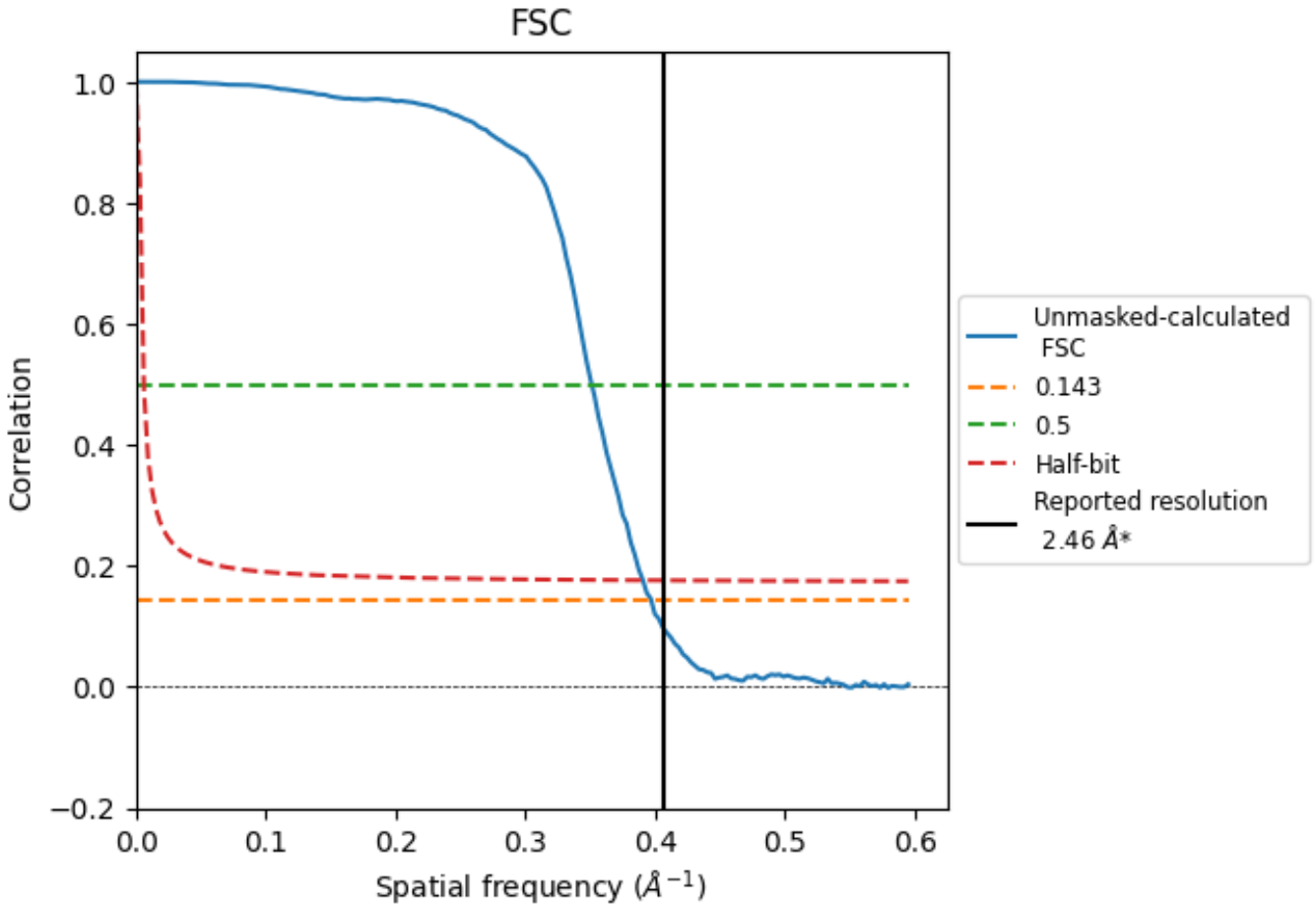


*Reported resolution corresponds to spatial frequency of 0.407 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.407 Å^{-1}

8.2 Resolution estimates (i)

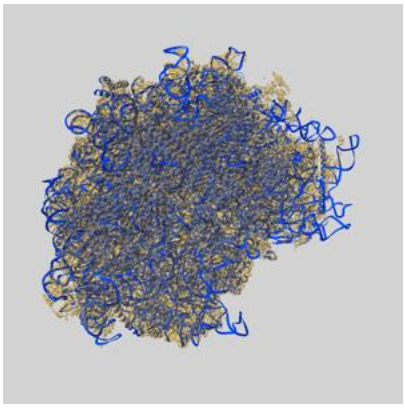
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.46	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	2.52	2.85	2.56

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

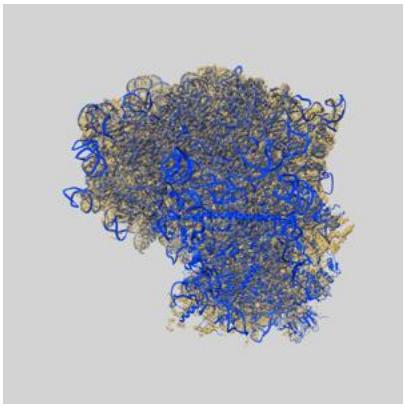
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-51865 and PDB model 9H4N. Per-residue inclusion information can be found in section 3 on page 18.

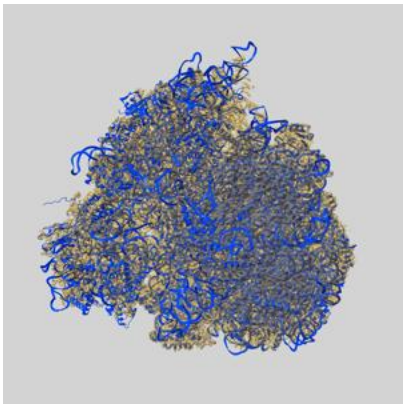
9.1 Map-model overlay



X



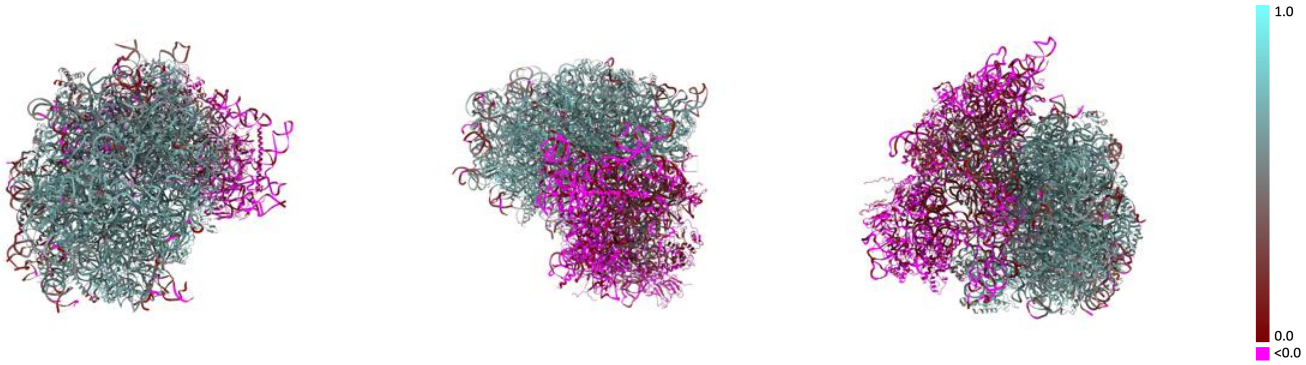
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12 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.

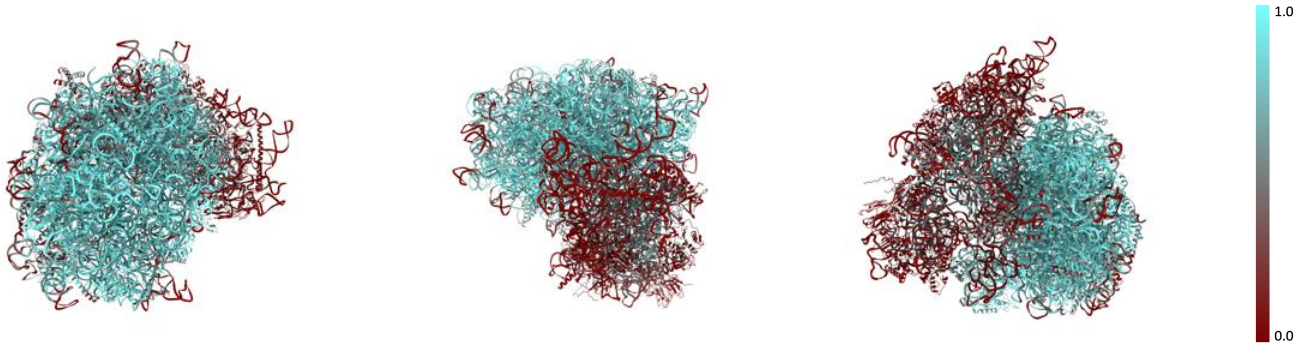
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according 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.

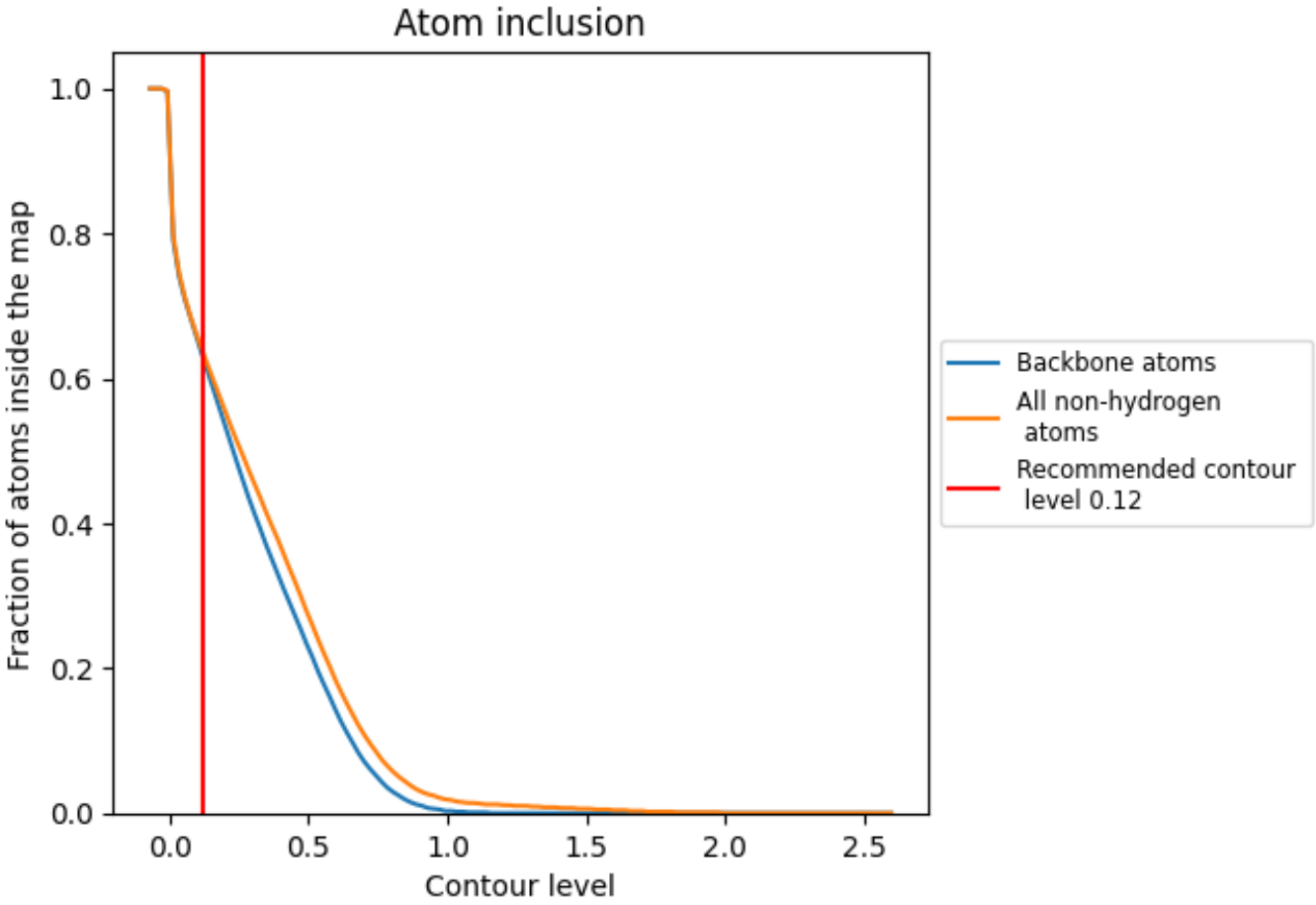
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.12).

9.4 Atom inclusion (i)



At the recommended contour level, 63% of all backbone atoms, 64% 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 (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6370	0.4210
A1	0.8780	0.6480
A2	0.8230	0.5620
A3	0.0980	-0.0310
B1	0.6580	0.5310
B2	0.9630	0.6510
B3	0.1550	0.0040
Bx	0.3550	0.1930
C1	0.8900	0.6590
C2	0.8640	0.5850
C3	0.2330	0.0580
D1	0.8530	0.6320
D2	0.9010	0.6520
D3	0.2640	0.1990
E1	0.6870	0.5030
E2	0.8830	0.6550
E3	0.2180	0.0790
F1	0.7500	0.5910
F2	0.8920	0.6520
F3	0.5330	0.2940
G1	0.8840	0.6630
G2	0.8430	0.6260
G3	0.1630	-0.0560
H1	0.9290	0.6680
H2	0.8210	0.6080
H3	0.3580	0.0790
I2	0.9040	0.6670
I3	0.0530	0.0050
J2	0.8980	0.6610
J3	0.3870	0.2060
K2	0.9140	0.6660
K3	0.0600	-0.0190
L2	0.8370	0.6110
L3	0.1580	0.0150
M2	0.9330	0.6830

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Chain	Atom inclusion	Q-score
N2	0.8240	0.6190
N3	0.2530	0.1400
O2	0.6280	0.5120
O3	0.3030	0.0940
P2	0.8960	0.6580
P3	0.4910	0.3150
Q2	0.8740	0.6520
Q3	0.0250	-0.0410
R2	0.8210	0.6200
S2	0.8330	0.6280
S3	0.2230	0.0810
T2	0.8570	0.6270
T3	0.1020	0.0030
U2	0.9010	0.6510
V2	0.6830	0.5380
W2	0.8660	0.6000
X2	0.8410	0.6310
Y2	0.8950	0.6630
Z2	0.9290	0.6900
a2	0.8320	0.6170
b2	0.8250	0.6200
c2	0.7170	0.5810
d2	0.8930	0.6490
e2	0.6890	0.5370
f2	0.8510	0.6300
g2	0.8820	0.6570
h2	0.5930	0.4520
i2	0.8570	0.6310
j2	0.8730	0.6350
k2	0.9210	0.6620
m2	0.2920	0.1060
n2	0.1530	0.0830
o2	0.2610	0.1070
p2	0.2070	0.0520
q2	0.1650	0.0090
r2	0.1640	0.0410
s2	0.1320	-0.0210
v2	0.1060	0.0020
w2	0.2810	0.1030
x2	0.1640	-0.0010
y2	0.1750	0.0120
z2	0.1090	0.0130