Full wwPDB EM Validation Report ⓘ

Dec 18, 2022 – 03:47 am GMT

PDB ID	:	6ZVK
EMDB ID	:	EMD-11459
Title	:	The Halastavi arva virus (HalV) intergenic region IRES promotes translation by the simplest possible initiation mechanism
Authors	:	Abaeva, I.S.; Vicens, Q.; Bochler, A.; Soufari, H.; Simonetti, A.; Pestova, T.; Hashem, Y.; Hellen, C.U.T.
Deposited on	:	2020-07-24
Resolution	:	3.49 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:

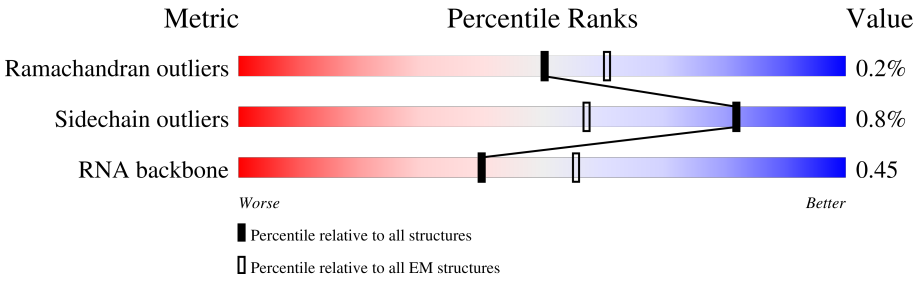
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.49 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)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	Z2	138	99%
2	e2	3920	10% 70% 29%
3	d2	120	83% 17%
4	h2	156	76% 24%
5	p2	69	9% 99%
6	w2	199	99%
7	H2	153	99%
8	S2	187	99%

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Mol	Chain	Length	Quality of chain
9	32	180	8% 99%
10	52	394	99%
11	62	175	98%
12	72	159	97%
13	82	99	100%
14	k2	131	99%
15	l2	63	100%
16	m2	119	100%
17	o2	134	5% 99%
18	q2	147	100%
19	r2	75	16% 99%
20	13	94	99%
21	t2	362	99%
22	u2	107	5% 100%
23	v2	128	100%
24	x2	109	98%
25	y2	114	98%
26	92	244	99%
27	A2	122	100%
28	B2	102	8% 100%
29	C2	86	100%
30	D2	50	100%
31	E2	52	100%
32	F2	104	100%
33	G2	292	99%

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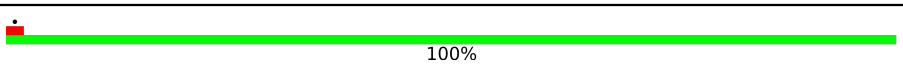
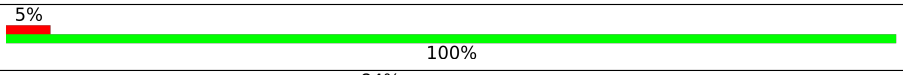
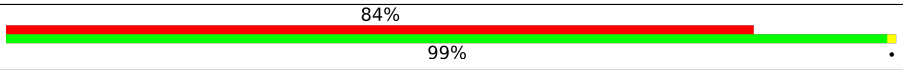
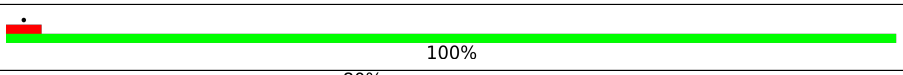
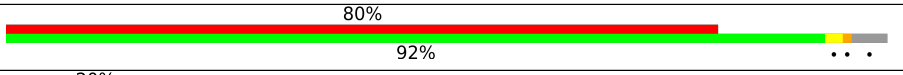
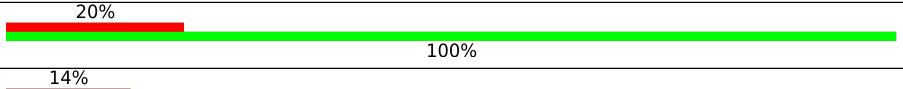
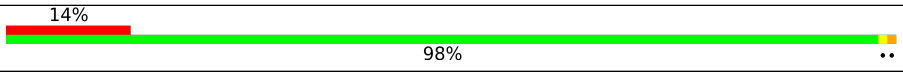
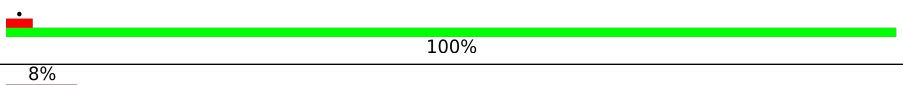
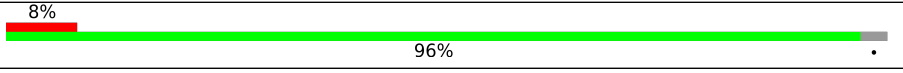
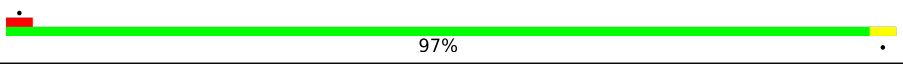
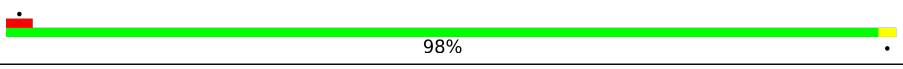
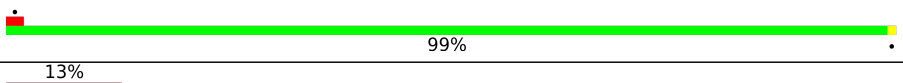
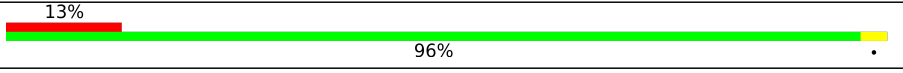
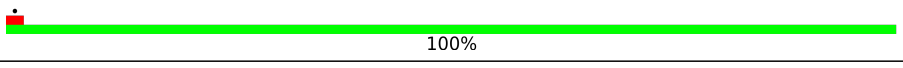
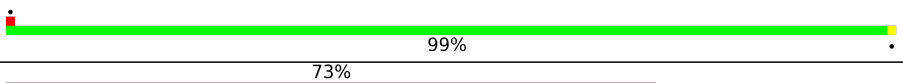
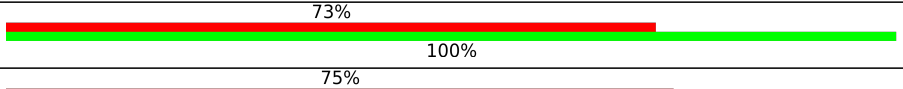
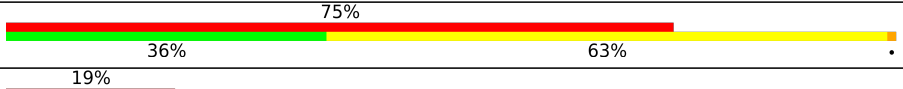
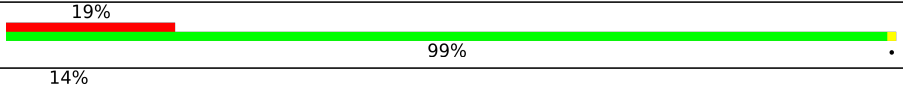
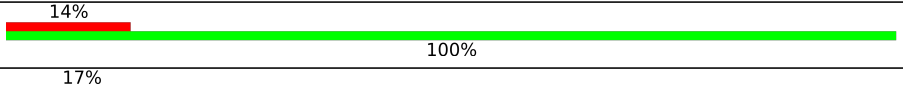
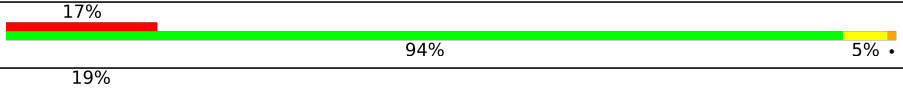
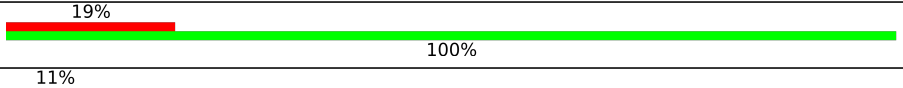
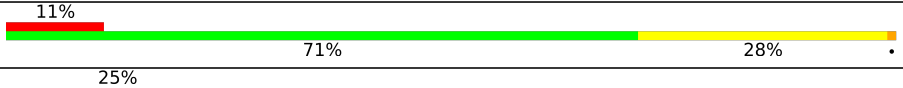
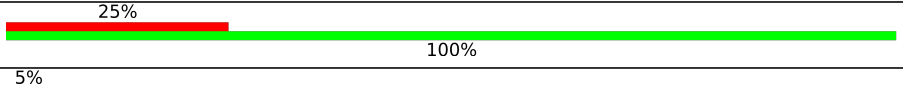
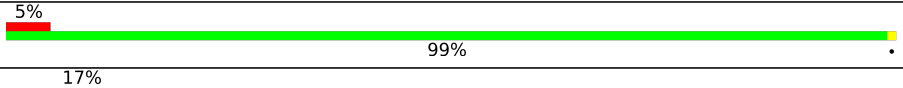
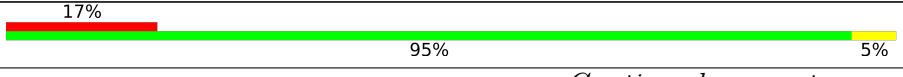
Mol	Chain	Length	Quality of chain
34	I2	91	
35	J2	125	
36	K2	198	
37	L2	102	
38	M2	163	
39	R2	35	
40	T2	201	
41	U2	225	
42	V2	241	
43	W2	190	
44	X2	102	
45	Y2	169	
46	a7	210	
47	12	203	
48	22	135	
49	42	217	
50	E1	153	
51	I3	104	
52	s3	43	
53	G3	153	
54	f3	64	
55	K3	1869	
56	P3	189	
57	a5	136	
58	A3	127	

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Mol	Chain	Length	Quality of chain
59	B3	141	9% 99%
60	C3	129	16% 98%
61	D3	83	11% 95%
62	G5	137	12% 96%
63	H5	141	13% 96%
64	J5	129	98%
65	I5	126	6% 99%
66	L3	83	8% 100%
67	M3	75	23% 100%
68	O3	98	98%
69	Q3	69	71% 91% 9%
70	a3	313	25% 100%
71	T3	141	99%
72	U3	208	6% 99%
73	V3	213	100%
74	W3	218	96%
75	X3	23	100%
76	Y3	227	15% 99%
77	j3	262	5% 98%
78	N3	191	9% 100%
79	b3	237	12% 99%
80	c3	206	10% 99%
81	d3	185	5% 100%
82	e3	124	77% 100%
83	F3	150	100%

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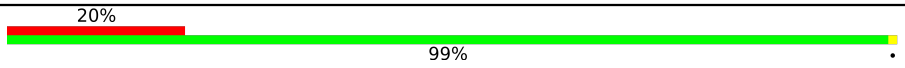
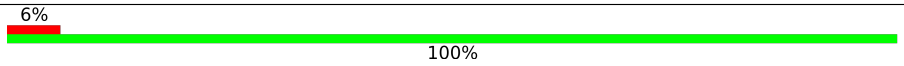
Mol	Chain	Length	Quality of chain
84	E3	98	
85	H3	53	

2 Entry composition (i)

There are 86 unique types of molecules in this entry. The entry contains 228291 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 Ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	Z2	138	1138	727	221	183	7	0	0

- Molecule 2 is a RNA chain called 28S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	e2	3920	83971	37399	15349	27313	3910	0	0

- Molecule 3 is a RNA chain called 5S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	d2	120	2558	1141	456	842	119	0	0

- Molecule 4 is a RNA chain called 5.8S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	h2	156	3314	1480	585	1094	155	0	0

- Molecule 5 is a protein called 60S RIBOSOMAL PROTEIN EL38.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	p2	69	568	364	103	100	1	0	0

- Molecule 6 is a protein called 60S RIBOSOMAL PROTEIN UL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	w2	199	1630	1051	319	255	5	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
w2	174	LEU	ILE	conflict	UNP G5B8P1
w2	194	ASP	GLU	conflict	UNP G5B8P1

- Molecule 7 is a protein called uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H2	153	Total	C	N	O	S	0	0
			1243	777	241	216	9		

- Molecule 8 is a protein called 60S RIBOSOMAL PROTEIN EL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	S2	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 9 is a protein called 60S RIBOSOMAL PROTEIN EL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	32	180	Total	C	N	O	S	0	0
			1509	933	328	239	9		

- Molecule 10 is a protein called uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	52	394	Total	C	N	O	S	0	0
			3173	2020	597	543	13		

- Molecule 11 is a protein called 60S RIBOSOMAL PROTEIN EL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	62	175	Total	C	N	O	S	0	0
			1453	925	283	235	10		

- Molecule 12 is a protein called eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	72	159	Total	C	N	O	S	0	0
			1298	823	252	217	6		

- Molecule 13 is a protein called Ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	82	99	Total	C	N	O	S	0	0
			809	518	141	148	2		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
82	32	GLY	ARG	conflict	UNP G1TSG1
82	36	ALA	GLU	conflict	UNP G1TSG1
82	39	PHE	SER	conflict	UNP G1TSG1
82	54	GLY	ARG	conflict	UNP G1TSG1
82	60	VAL	ALA	conflict	UNP G1TSG1
82	97	ARG	HIS	conflict	UNP G1TSG1

- Molecule 14 is a protein called eL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	k2	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 15 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	l2	63	Total	C	N	O	S	0	0
			529	337	103	86	3		

- Molecule 16 is a protein called 60S RIBOSOMAL PROTEIN UL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	m2	119	Total	C	N	O	S	0	0
			976	624	183	168	1		

- Molecule 17 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	o2	134	Total	C	N	O	S	0	0
			1116	700	226	187	3		

- Molecule 18 is a protein called uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	q2	147	Total	C	N	O	S	0	0
			1162	734	239	185	4		

- Molecule 19 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	r2	75	Total	C	N	O	S	0	0
			610	378	130	99	3		

- Molecule 20 is a protein called Ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	13	94	Total	C	N	O	S	0	0
			733	464	130	133	6		

- Molecule 21 is a protein called uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	t2	362	Total	C	N	O	S	0	0
			2884	1812	577	481	14		

- Molecule 22 is a protein called eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	u2	107	Total	C	N	O	S	0	0
			889	560	171	156	2		

- Molecule 23 is a protein called eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	v2	128	Total	C	N	O	S	0	0
			1054	667	216	166	5		

- Molecule 24 is a protein called eL33.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	x2	109	Total	C	N	O	S	0	0
			876	555	174	143	4		

- Molecule 25 is a protein called eL34.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	y2	114	Total	C	N	O	S	0	0
			907	566	187	148	6		

- Molecule 26 is a protein called 60S RIBOSOMAL PROTEIN UL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	92	244	Total	C	N	O	S	0	0
			1869	1171	382	310	6		

- Molecule 27 is a protein called uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	A2	122	Total	C	N	O	S	0	0
			1013	640	204	168	1		

- Molecule 28 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	B2	102	Total	C	N	O	S	0	0
			831	520	176	130	5		

- Molecule 29 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	C2	86	Total	C	N	O	S	0	0
			706	434	155	112	5		

- Molecule 30 is a protein called ribosomal protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	D2	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 31 is a protein called 60S RIBOSOMAL PROTEIN EL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	E2	52	Total	C	N	O	S	0	0
			429	266	90	67	6		

- Molecule 32 is a protein called eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	F2	104	Total	C	N	O	S	0	0
			852	533	174	139	6		

- Molecule 33 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	G2	292	Total	C	N	O	S	0	0
			2387	1509	437	427	14		

- Molecule 34 is a protein called ribosomal protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	I2	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 35 is a protein called 60S RIBOSOMAL PROTEIN EL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	J2	125	Total	C	N	O	S	0	0
			1002	621	206	169	6		

- Molecule 36 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	K2	198	Total	C	N	O	S	0	0
			1524	969	265	281	9		

- Molecule 37 is a protein called Ribosomal protein L10 (Predicted).

Mol	Chain	Residues	Atoms					AltConf	Trace
37	L2	102	Total	C	N	O	S	0	0
			834	527	161	137	9		

- Molecule 38 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	M2	156	Total	C	N	O	S	0	0
			1183	738	221	219	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M2	49	GLY	ALA	conflict	UNP G1SMR7

- Molecule 39 is a protein called Ribosomal_L6e_N domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	R2	35	Total	C	N	O	S	0	0
			285	179	59	45	2		

- Molecule 40 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	T2	201	Total	C	N	O	S	0	0
			1614	1039	301	273	1		

- Molecule 41 is a protein called uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	U2	225	Total	C	N	O	S	0	0
			1875	1205	358	303	9		

- Molecule 42 is a protein called 60S RIBOSOMAL PROTEIN EL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	V2	233	Total	C	N	O	S	0	0
			1872	1193	361	314	4		

- Molecule 43 is a protein called 60S RIBOSOMAL PROTEIN UL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	W2	190	Total	C	N	O	S	0	0
			1517	954	284	273	6		

- Molecule 44 is a protein called Ribosomal protein L10 (Predicted).

Mol	Chain	Residues	Atoms					AltConf	Trace
44	X2	102	Total	C	N	O	S	0	0
			822	524	158	136	4		

- Molecule 45 is a protein called Ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Y2	169	Total	C	N	O	S	0	0
			1354	855	252	241	6		

- Molecule 46 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	a7	210	Total	C	N	O	S	0	0
			1702	1065	354	279	4		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a7	47	ALA	-	insertion	UNP G1TPV0
a7	48	PRO	-	insertion	UNP G1TPV0
a7	49	ARG	-	insertion	UNP G1TPV0
a7	50	PRO	-	insertion	UNP G1TPV0
a7	51	ALA	-	insertion	UNP G1TPV0
a7	52	ALA	-	insertion	UNP G1TPV0
a7	53	GLY	-	insertion	UNP G1TPV0
a7	54	PRO	-	insertion	UNP G1TPV0
a7	55	ILE	-	insertion	UNP G1TPV0

- Molecule 47 is a protein called Ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	12	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 48 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	22	135	Total	C	N	O	S	0	0
			1107	714	208	182	3		

- Molecule 49 is a protein called Ribosomal protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	42	217	Total	C	N	O	S	0	0
			1744	1114	314	307	9		

- Molecule 50 is a RNA chain called INTERNAL RIBOSOME ENTRY SITE.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	E1	153	Total	C	N	O	P	0	0
			3208	1443	529	1083	153		

- Molecule 51 is a protein called Ribosomal_S10 domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	I3	104	Total	C	N	O	S	0	0
			822	514	156	148	4		

- Molecule 52 is a protein called 40S RIBOSOMAL PROTEIN ES30.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	s3	43	Total	C	N	O	S	0	0
			350	215	80	54	1		

- Molecule 53 is a protein called Ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	G3	153	Total	C	N	O	S	0	0
			1247	793	234	214	6		

- Molecule 54 is a protein called ribosomal protein eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	f3	64	Total	C	N	O	S	0	0
			506	308	102	94	2		

- Molecule 55 is a RNA chain called 18S RIBOSOMAL RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	K3	1869	Total	C	N	O	P	0	0
			39862	17789	7142	13063	1868		

- Molecule 56 is a protein called 40S RIBOSOMAL PROTEIN ES7.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	P3	189	Total	C	N	O	S	0	0
			1522	969	280	272	1		

- Molecule 57 is a protein called 40S RIBOSOMAL PROTEIN US11.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	a5	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 58 is a protein called ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	A3	127	Total	C	N	O	S	0	0
			1061	673	201	180	7		

- Molecule 59 is a protein called 40S RIBOSOMAL PROTEIN US9.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	B3	141	Total	C	N	O	S	0	0
			1124	715	212	194	3		

- Molecule 60 is a protein called 40S RIBOSOMAL PROTEIN ES17.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	C3	129	Total	C	N	O	S	0	0
			1048	658	193	192	5		

- Molecule 61 is a protein called 40S RIBOSOMAL PROTEIN ES21.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	D3	83	Total	C	N	O	S	0	0
			631	387	118	121	5		

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D3	3	SER	ASN	conflict	UNP A0A1Z5KTU7
D3	4	ASN	ASP	conflict	UNP A0A1Z5KTU7
D3	33	PRO	GLN	conflict	UNP A0A1Z5KTU7
D3	50	SER	PHE	conflict	UNP A0A1Z5KTU7
D3	76	HIS	ASP	conflict	UNP A0A1Z5KTU7

- Molecule 62 is a protein called ribosomal protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	G5	137	Total	C	N	O	S	0	0
			1140	714	231	194	1		

- Molecule 63 is a protein called 40S RIBOSOMAL PROTEIN ES19.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	H5	141	Total	C	N	O	S	0	0
			1113	701	213	196	3		

- Molecule 64 is a protein called Ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	J5	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 65 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	I5	126	Total	C	N	O	S	0	0
			1024	646	200	173	5		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
66	L3	83	Total	C	N	O	S	0	0
			651	408	121	115	7		

- Molecule 67 is a protein called ribosomal protein eS25.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	M3	75	Total	C	N	O	S	0	0
			599	382	111	105	1		

- Molecule 68 is a protein called 40S RIBOSOMAL PROTEIN ES26.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	O3	98	Total	C	N	O	S	0	0
			782	486	161	130	5		

- Molecule 69 is a protein called 40S RIBOSOMAL PROTEIN ES31.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Q3	63	Total	C	N	O	S	0	0
			528	336	99	87	6		

- Molecule 70 is a protein called ribosomal protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	a3	313	Total	C	N	O	S	0	0
			2437	1535	424	466	12		

- Molecule 71 is a protein called Ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	T3	141	Total	C	N	O	S	0	0
			1099	693	219	184	3		

- Molecule 72 is a protein called 40S_SA_C domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	U3	208	Total	C	N	O	S	0	0
			1645	1046	289	302	8		

- Molecule 73 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	V3	213	Total	C	N	O	S	0	0
			1730	1098	309	309	14		

- Molecule 74 is a protein called S5 DRBM domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	W3	218	Total	C	N	O	S	0	0
			1691	1094	289	298	10		

- Molecule 75 is a protein called 60s ribosomal protein l41.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	X3	23	Total	C	N	O	S	0	0
			223	134	61	26	2		

- Molecule 76 is a protein called Ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Y3	227	Total	C	N	O	S	0	0
			1765	1124	317	316	8		

- Molecule 77 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	j3	262	Total	C	N	O	S	0	0
			2075	1324	384	358	9		

- Molecule 78 is a protein called Ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	N3	191	Total	C	N	O	S	0	0
			1509	943	286	273	7		

- Molecule 79 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	b3	237	Total	C	N	O	S	0	0
			1924	1200	387	330	7		

- Molecule 80 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	c3	206	Total	C	N	O	S	0	0
			1687	1058	332	292	5		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
c3	47	ARG	GLY	conflict	UNP G1TJW1

- Molecule 81 is a protein called Ribosomal protein S9 (Predicted).

Mol	Chain	Residues	Atoms					AltConf	Trace
81	d3	185	Total	C	N	O	S	0	0
			1526	969	306	249	2		

- Molecule 82 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	e3	124	Total	C	N	O	S	0	0
			958	600	170	179	9		

- Molecule 83 is a protein called ribosomal protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	F3	150	Total	C	N	O	S	0	0
			1208	773	229	205	1		

- Molecule 84 is a protein called S10_plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	E3	98	Total	C	N	O	S	0	0
			828	539	148	135	6		

- Molecule 85 is a protein called ribosomal protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	H3	53	Total	C	N	O	S	0	0
			445	278	90	72	5		

- Molecule 86 is ZINC ION (three-letter code: ZN) (formula: Zn).

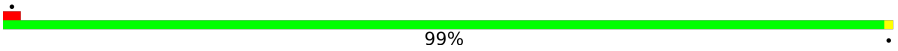
Mol	Chain	Residues	Atoms		AltConf
86	C2	1	Total	Zn	0
			1	1	
86	E2	1	Total	Zn	0
			1	1	
86	F2	1	Total	Zn	0
			1	1	
86	I2	1	Total	Zn	0
			1	1	
86	O3	1	Total	Zn	0
			1	1	
86	H3	1	Total	Zn	0
			1	1	

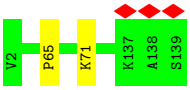
3 Residue-property plots (i)

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: Ribosomal protein L14

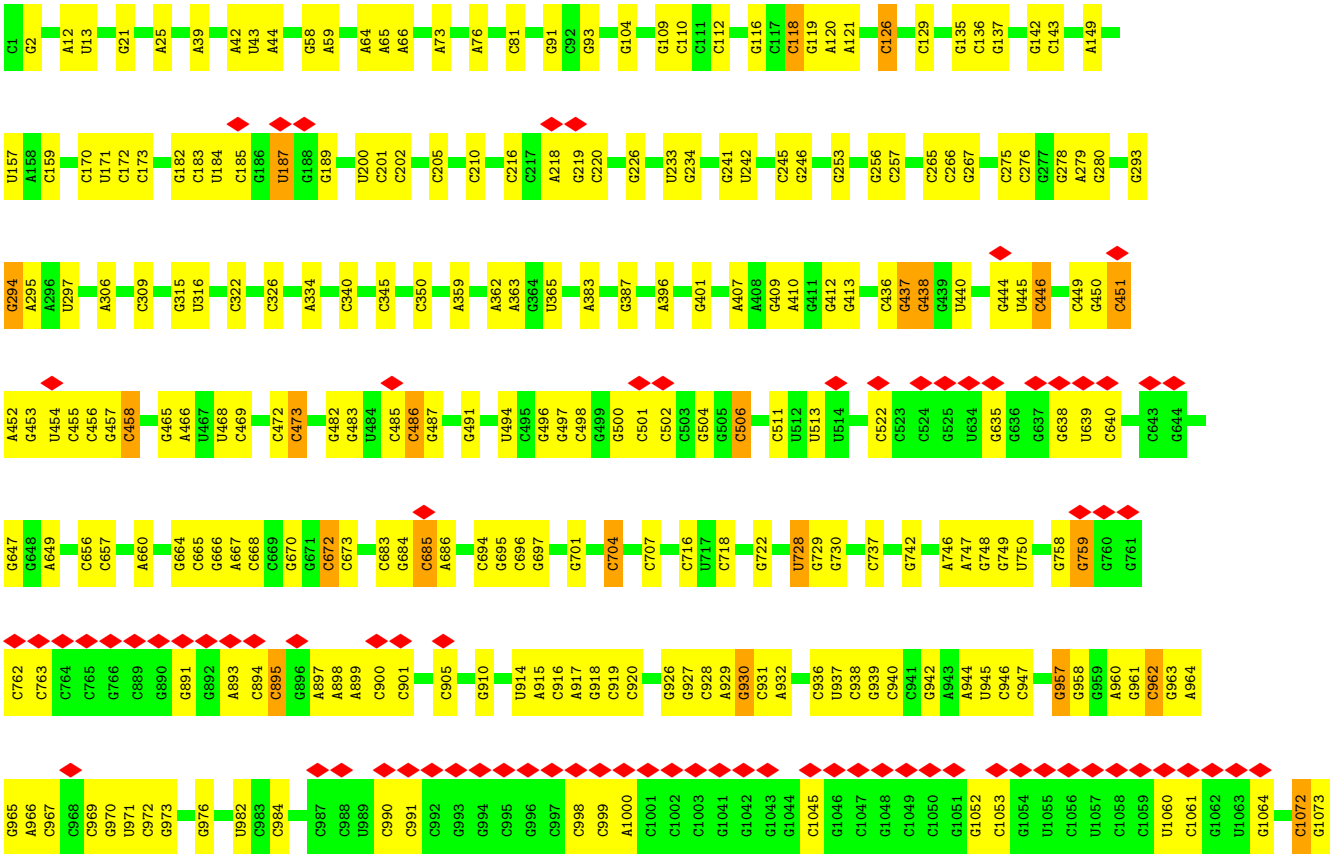
Chain Z2:

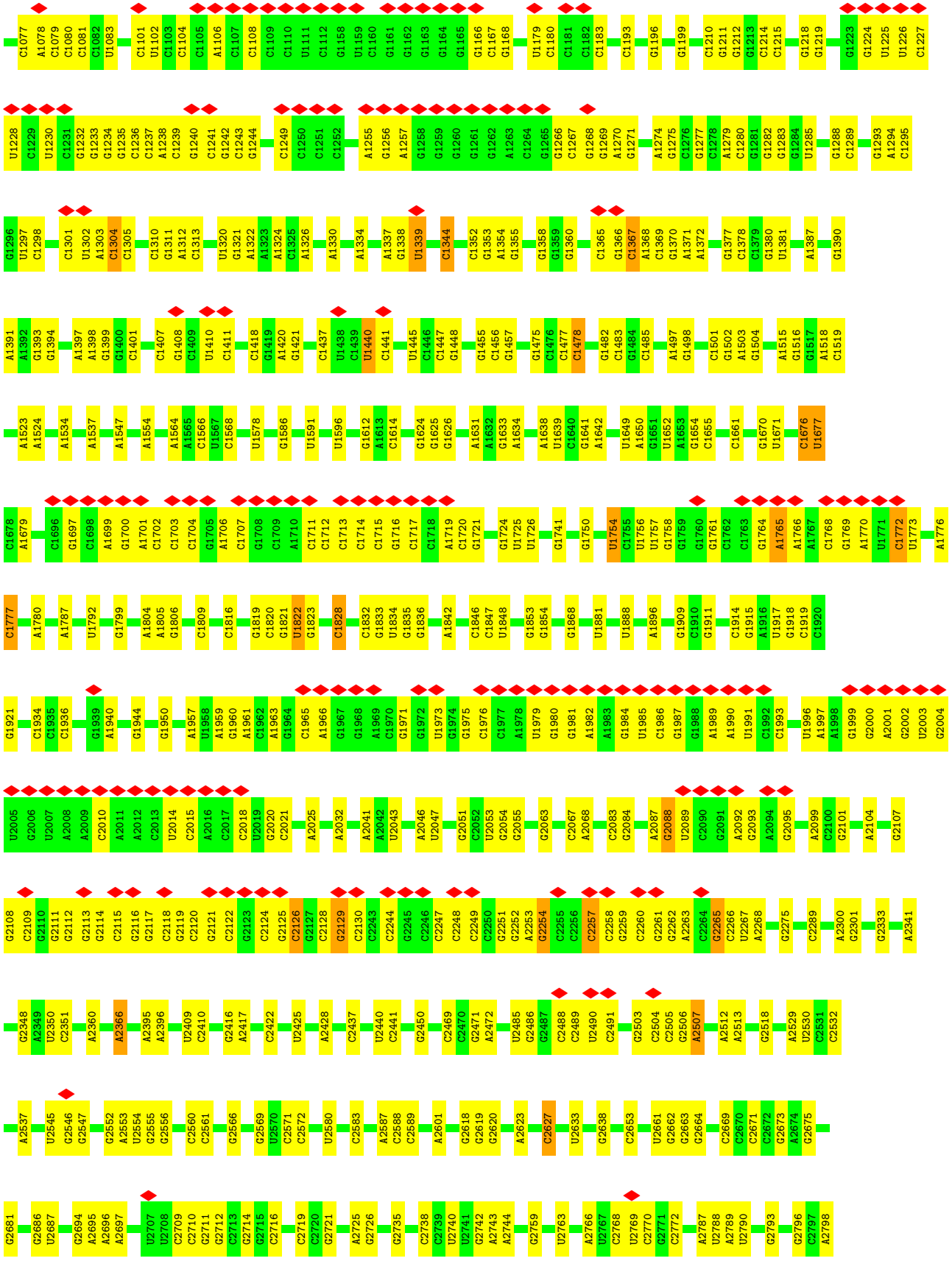


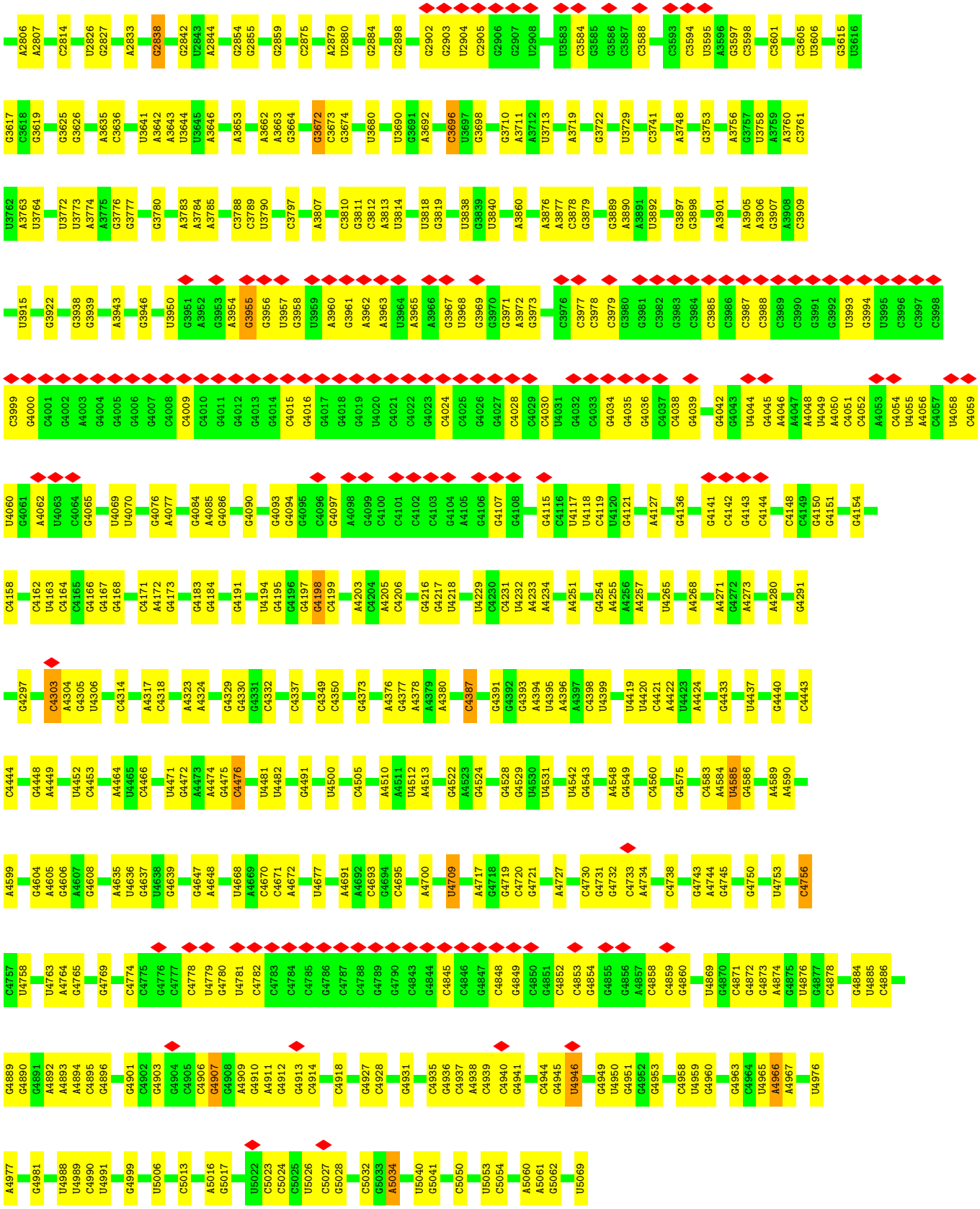


• Molecule 2: 28S RIBOSOMAL RNA

Chain e2:

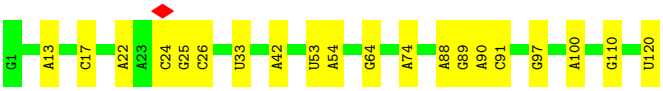



C1077 A1078 C1079 C1080 C1081 C1082 U1083
C1101 U1102 C1103 C1104 C1105 A1106 C1107 C1108 C1109 C1110 U1111 C1112 G1158 U1159 C1160 G1161 G1162 G1163 G1164 G1165 G1166 C1167 G1168
U1179 C1180 C1181 C1182 C1183 C1193 G1196 G1199 C1210 G1211 G1212 G1213 C1214 C1215 G1218 G1219 G1223 G1224 U1225 U1226 C1227
U1228 C1229 U1230 C1231 G1232 G1233 G1234 G1235 C1236 C1237 A1238 C1239 G1240 C1241 G1242 C1243 G1244 C1249 C1250 C1251 C1252
A1255 G1256 A1257 G1258 G1259 G1260 G1261 G1262 A1263 C1264 G1265 G1266 C1267 G1268 G1269 A1270 G1271 A1274 G1275 G1276 G1277 C1278 A1279 C1280 G1281 G1282 G1283 G1284 U1285 G1288 C1289 G1293 A1294 C1295
G1296 U1297 C1298 C1301 U1302 A1303 C1304 C1305 C1310 G1311 A1312 C1313 U1320 G1321 A1322 A1323 A1324 C1325 A1326 A1330 A1334 A1337 G1338 U1339 C1344 C1352 G1353 A1354 G1355 G1358 G1359 G1360 C1365 G1366 C1367 A1368 C1369 G1370 A1371 A1372 G1377 C1378 C1379 G1380 U1381 A1387 G1390
A1391 A1392 G1393 G1394 A1397 A1398 G1399 G1400 C1401 C1407 G1408 C1409 U1410 C1411 C1418 G1419 A1420 G1421 C1437 U1438 C1439 U1440 C1441 U1445 C1446 C1447 G1448 G1455 C1456 G1457 G1475 C1476 C1477 C1478 G1482 C1483 G1484 C1485 A1497 G1498 C1501 G1502 A1503 G1504 A1515 G1516 G1517 A1518 C1519
A1523 A1524 A1534 A1537 A1547 A1554 A1564 A1565 C1566 U1567 C1568 U1578 G1586 U1591 U1596 G1612 A1613 C1614 G1624 G1625 G1626 A1631 A1632 G1633 A1634 A1638 U1639 C1640 G1641 A1642 U1649 A1650 G1651 U1652 A1653 G1654 C1655 C1661 G1670 U1671 C1676 U1677
C1678 A1679 C1696 G1697 C1698 A1699 G1700 A1701 C1702 C1703 C1704 G1705 A1706 C1707 G1708 C1709 A1710 C1711 C1712 C1713 C1714 C1715 G1716 C1717 C1718 A1719 C1720 G1721 G1724 U1725 U1726 G1741 G1750 U1754 C1755 U1756 U1757 G1758 G1759 G1760 G1761 C1762 C1763 G1764 A1765 A1766 A1767 C1768 G1769 A1770 U1771 C1772 U1773 A1776
C1777 A1780 A1787 U1792 G1799 A1804 A1805 G1806 C1809 C1816 G1819 C1820 G1821 U1822 G1823 C1828 C1832 G1833 U1834 U1835 G1836 A1842 C1846 C1847 U1848 G1853 G1854 G1868 U1881 U1888 A1896 G1909 C1910 G1911 C1914 G1915 A1916 U1917 G1918 C1919 C1920
G1921 C1934 C1935 C1936 G1939 A1940 G1944 G1950 A1957 U1958 A1959 G1960 A1961 C1962 A1963 G1964 C1965 A1966 G1967 G1968 A1969 C1970 G1971 G1972 U1973 G1974 G1975 C1976 C1977 A1978 U1979 G1980 G1981 A1982 A1983 G1984 U1985 C1986 G1987 G1988 A1989 A1990 U1991 C1992 C1993 U1996 A1997 A1998 G1999 G2000 A2001 G2002 U2003 G2004
U2005 G2006 U2007 A2008 A2009 C2010 A2011 A2012 C2013 U2014 C2015 A2016 C2017 C2018 U2019 G2020 C2021 A2025 A2032 A2041 A2042 U2043 A2046 U2047 G2051 C2052 U2053 G2054 G2055 G2063 C2067 A2068 C2083 G2084 A2087 G2088 U2089 C2090 G2091 A2092 G2093 A2094 G2095 A2099 C2100 G2101 A2104 G2107
G2108 C2109 G2110 G2111 G2112 G2113 G2114 C2115 G2116 G2117 C2118 G2119 C2120 G2121 C2122 G2123 C2124 G2125 C2126 G2127 C2128 G2129 C2130 C2243 C2244 G2245 C2246 C2247 C2248 C2249 C2250 G2251 G2252 A2253 G2254 C2255 C2256 C2257 C2258 G2259 C2260 G2261 G2262 A2263 C2264 G2265 C2266 U2267 A2268 G2275 C2289 A2300 G2301 G2333 A2341
G2348 A2349 U2350 C2351 A2360 A2366 A2395 A2396 U2409 C2410 G2416 A2417 C2422 U2425 A2428 C2437 U2440 C2441 G2450 C2469 C2470 G2471 A2472 U2485 G2486 G2487 C2488 C2489 U2490 C2491 G2503 C2504 C2505 G2506 A2507 A2512 A2513 G2518 A2529 U2530 C2531 C2532
A2537 U2545 G2546 G2547 G2552 A2553 U2554 G2555 G2556 C2560 C2561 G2566 G2569 U2570 C2571 C2572 U2580 C2583 A2587 C2588 C2589 A2601 G2618 G2619 G2620 A2623 C2627 U2633 G2638 C2653 U2661 G2662 G2663 G2664 C2669 C2670 C2671 C2672 G2673 A2674 G2675
G2681 G2686 U2687 G2694 A2695 A2696 A2697 U2707 U2708 C2709 C2710 G2711 G2712 C2713 G2714 G2715 C2716 C2719 C2720 G2721 A2725 G2726 G2735 C2738 C2739 U2740 U2741 G2742 A2743 A2744 G2759 U2763 A2766 U2767 C2768 U2769 C2770 G2771 C2772 A2787 U2788 A2789 U2790 G2793 G2796 C2797 A2798



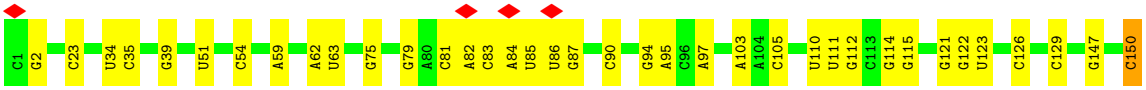
• Molecule 3: 5S RIBOSOMAL RNA

Chain d2:



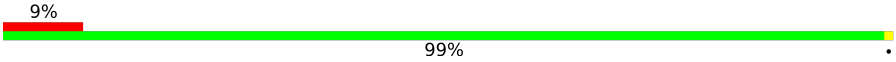
• Molecule 4: 5.8S RIBOSOMAL RNA

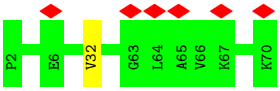
Chain h2:



• Molecule 5: 60S RIBOSOMAL PROTEIN EL38

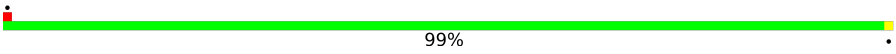
Chain p2:

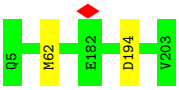




• Molecule 6: 60S RIBOSOMAL PROTEIN UL13

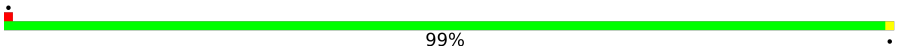
Chain w2:

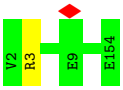




• Molecule 7: uL22

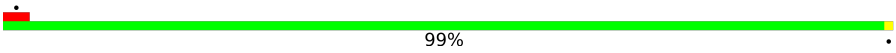
Chain H2:

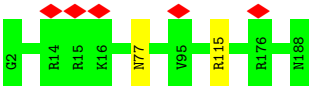




• Molecule 8: 60S RIBOSOMAL PROTEIN EL18

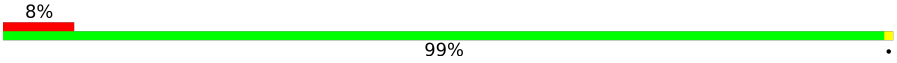
Chain S2:

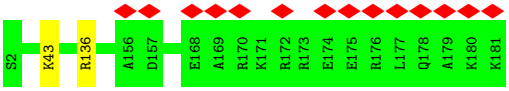




• Molecule 9: 60S RIBOSOMAL PROTEIN EL19

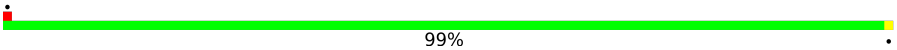
Chain 32:

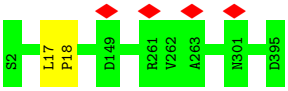




• Molecule 10: uL3

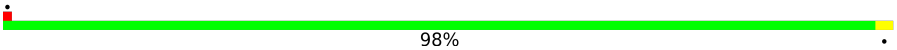
Chain 52:

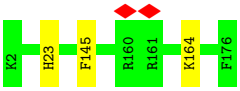




• Molecule 11: 60S RIBOSOMAL PROTEIN EL20

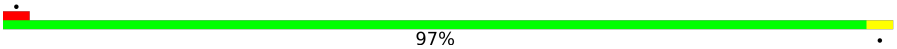
Chain 62:

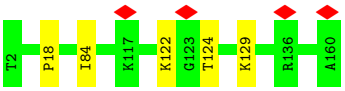




• Molecule 12: eL21

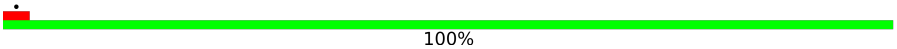
Chain 72:





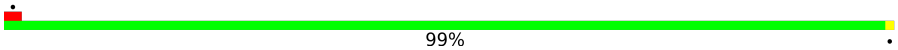
• Molecule 13: Ribosomal protein L22

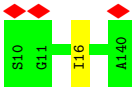
Chain 82:



• Molecule 14: eL14

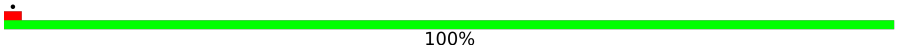
Chain k2:





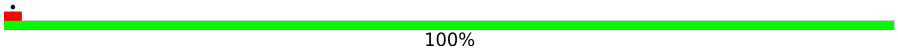
• Molecule 15: Ribosomal protein L24

Chain l2:



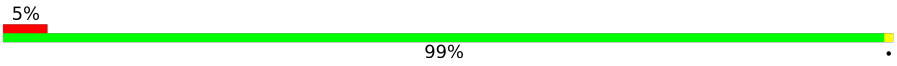
• Molecule 16: 60S RIBOSOMAL PROTEIN UL23

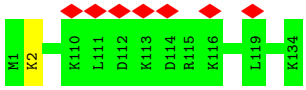
Chain m2:



• Molecule 17: Ribosomal protein L26

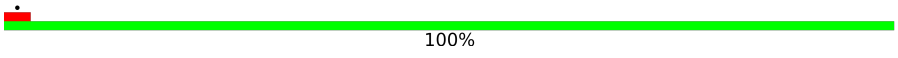
Chain o2:

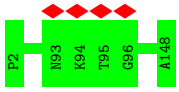




• Molecule 18: uL15

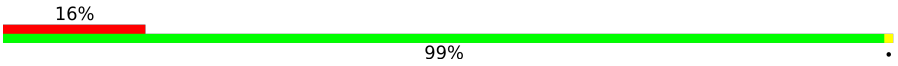
Chain q2:

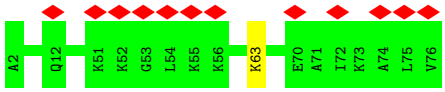




• Molecule 19: 60S ribosomal protein L29

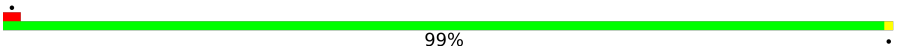
Chain r2:

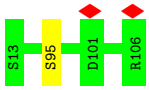




• Molecule 20: Ribosomal protein L30

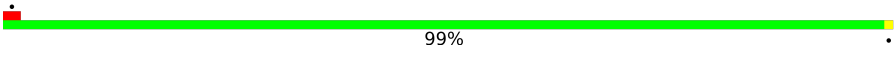
Chain 13:

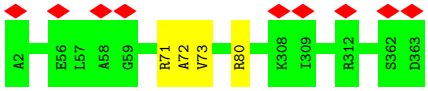




• Molecule 21: uL4

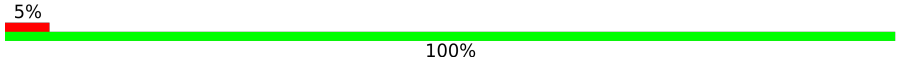
Chain t2:

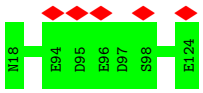




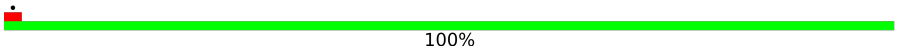
• Molecule 22: eL31

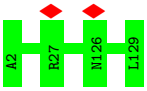
Chain u2:



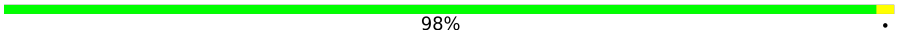


• Molecule 23: eL32

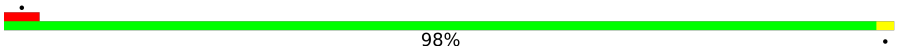
Chain v2: 

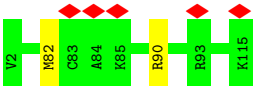


• Molecule 24: eL33

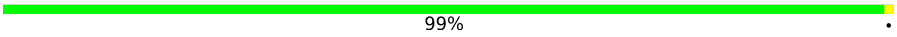
Chain x2: 

• Molecule 25: eL34

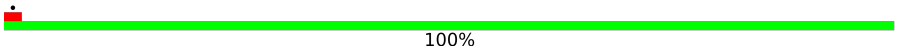
Chain y2: 

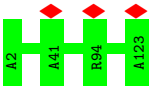


• Molecule 26: 60S RIBOSOMAL PROTEIN UL2

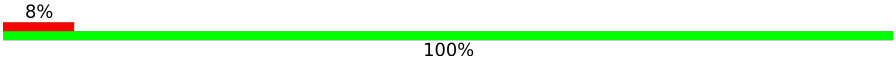
Chain 92: 

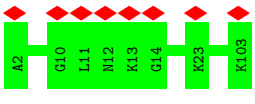
• Molecule 27: uL29

Chain A2: 

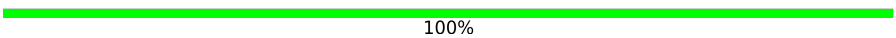


• Molecule 28: 60S ribosomal protein L36

Chain B2: 



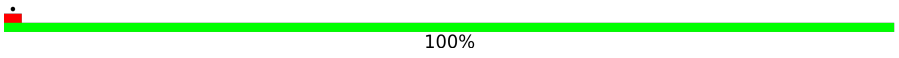
• Molecule 29: Ribosomal protein L37

Chain C2: 

There are no outlier residues recorded for this chain.

• Molecule 30: ribosomal protein eL39

Chain D2:

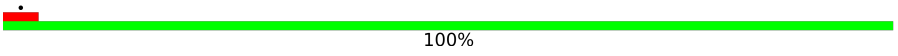


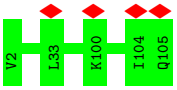
• Molecule 31: 60S RIBOSOMAL PROTEIN EL40

Chain E2:

• Molecule 32: eL42

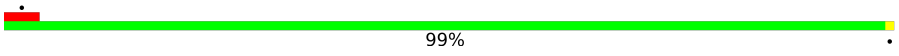
Chain F2:

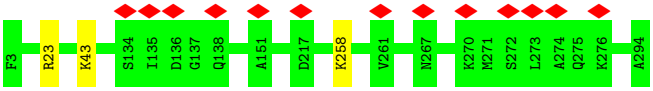




• Molecule 33: 60S ribosomal protein L5

Chain G2:



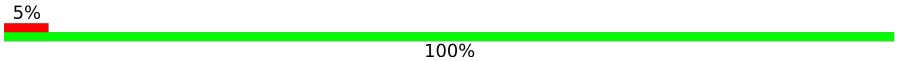


• Molecule 34: ribosomal protein eL43

Chain I2:

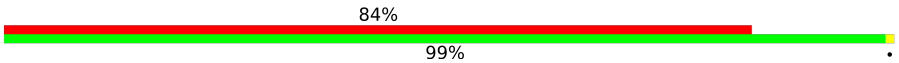
• Molecule 35: 60S RIBOSOMAL PROTEIN EL28

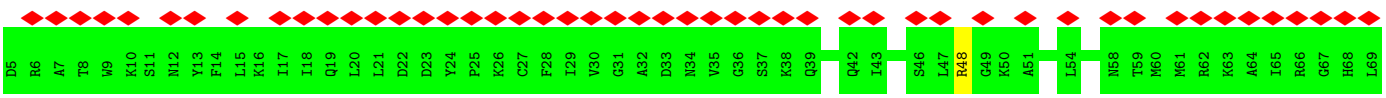
Chain J2:

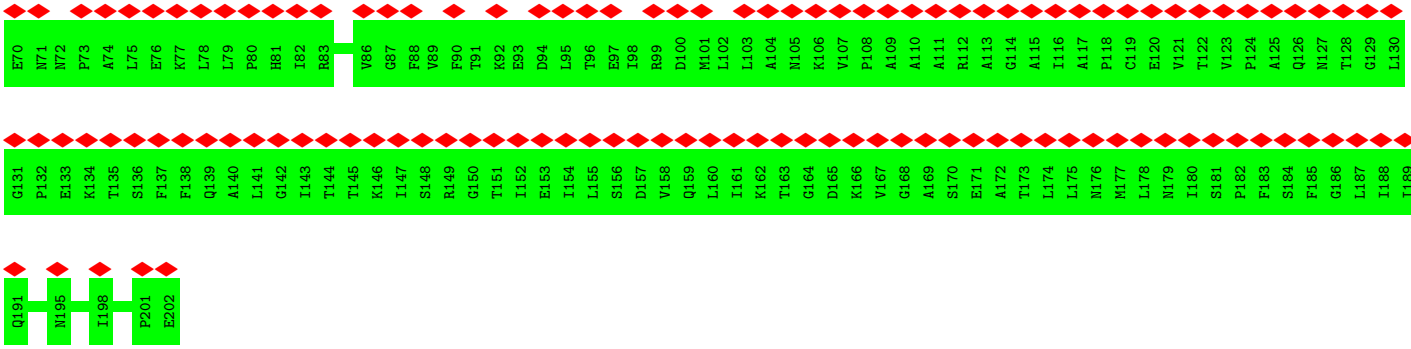


• Molecule 36: 60S acidic ribosomal protein P0

Chain K2:

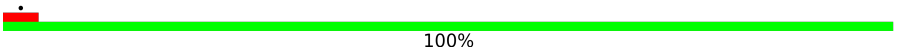


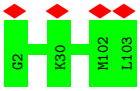




• Molecule 37: Ribosomal protein L10 (Predicted)

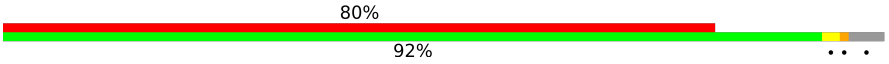
Chain L2:

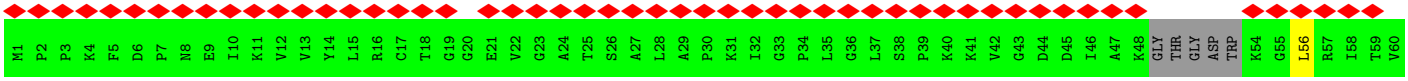


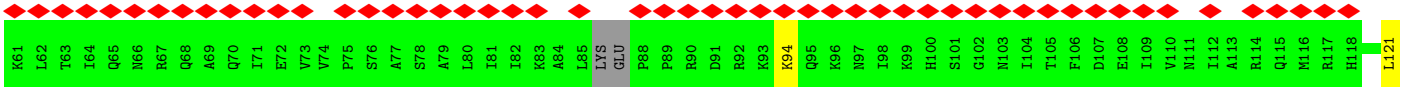


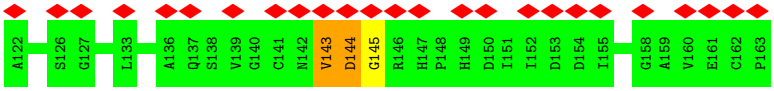
• Molecule 38: Uncharacterized protein

Chain M2:



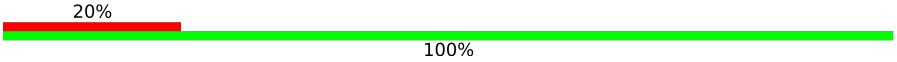


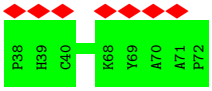




• Molecule 39: Ribosomal_L6e_N domain-containing protein

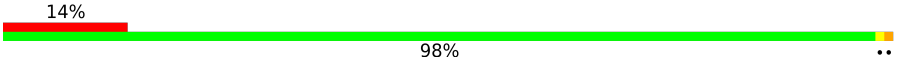
Chain R2:

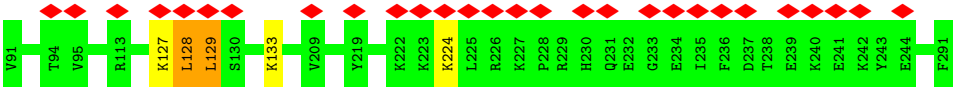




• Molecule 40: 60S ribosomal protein L6

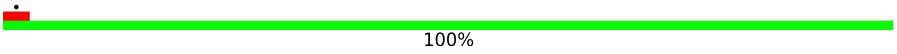
Chain T2:

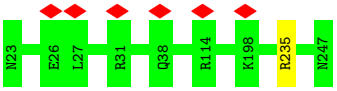




• Molecule 41: uL30

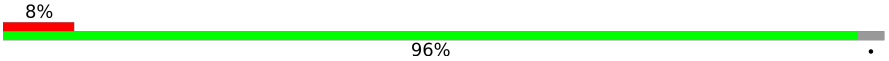
Chain U2:

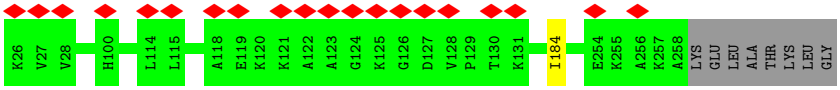




• Molecule 42: 60S RIBOSOMAL PROTEIN EL8

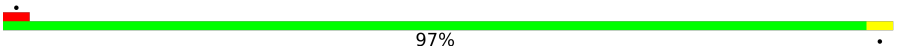
Chain V2:

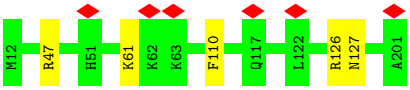




• Molecule 43: 60S RIBOSOMAL PROTEIN UL6

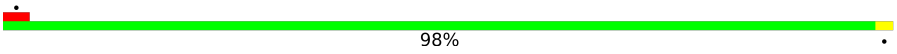
Chain W2:

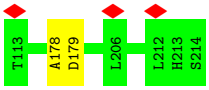




• Molecule 44: Ribosomal protein L10 (Predicted)

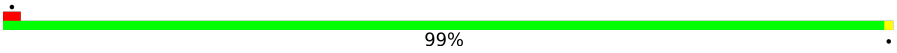
Chain X2:

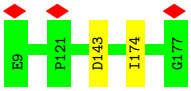




• Molecule 45: Ribosomal protein L11

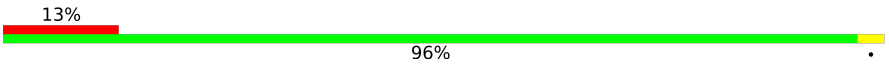
Chain Y2:

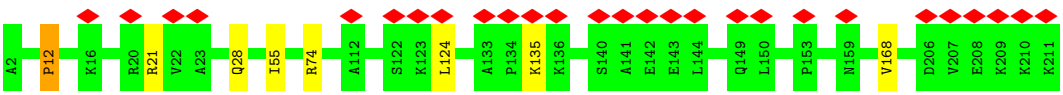




• Molecule 46: 60S ribosomal protein L13

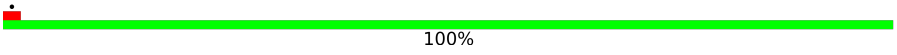
Chain a7:

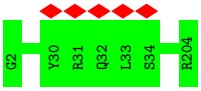




• Molecule 47: Ribosomal protein L15

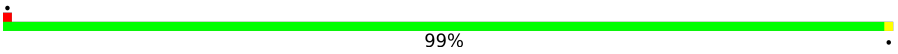
Chain 12:

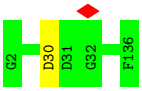




• Molecule 48: 60S ribosomal protein L27

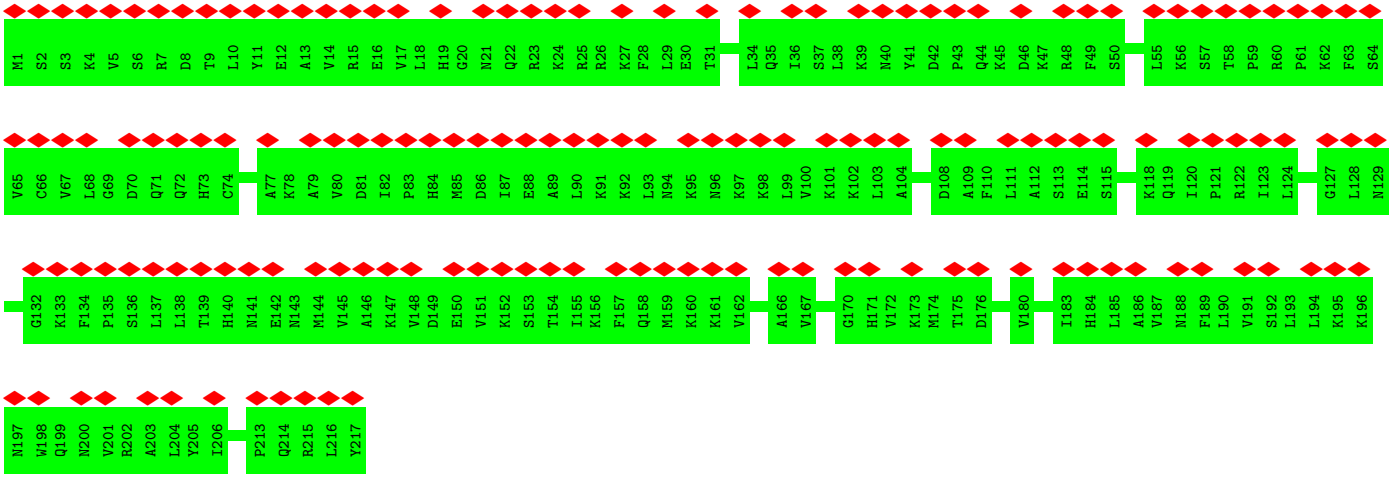
Chain 22:





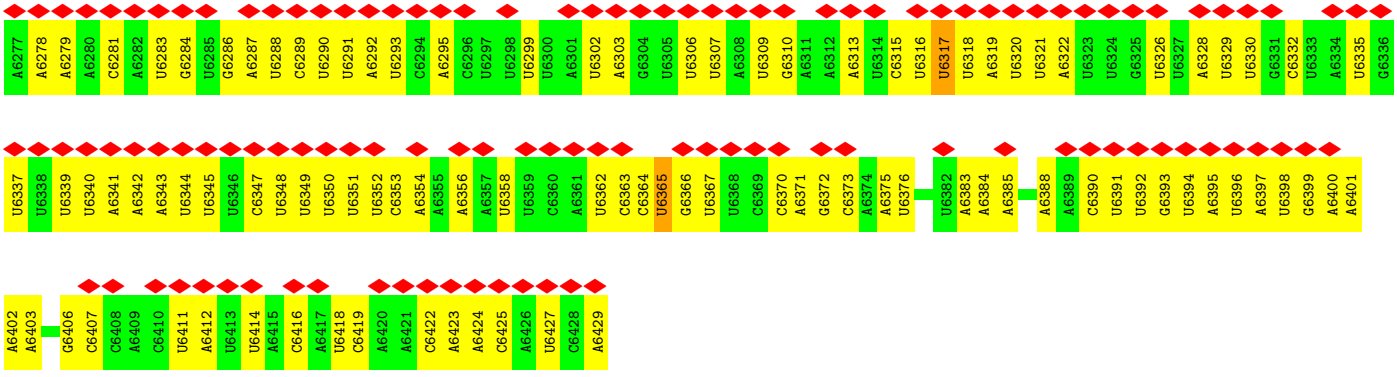
• Molecule 49: Ribosomal protein

Chain 42:



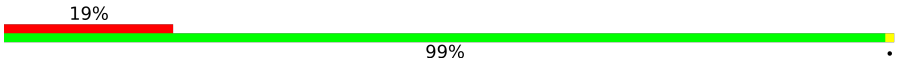
• Molecule 50: INTERNAL RIBOSOME ENTRY SITE

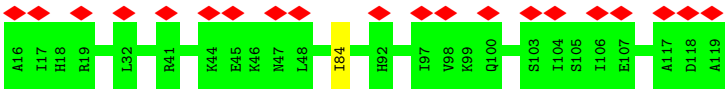
Chain E1:



• Molecule 51: Ribosomal_S10 domain-containing protein

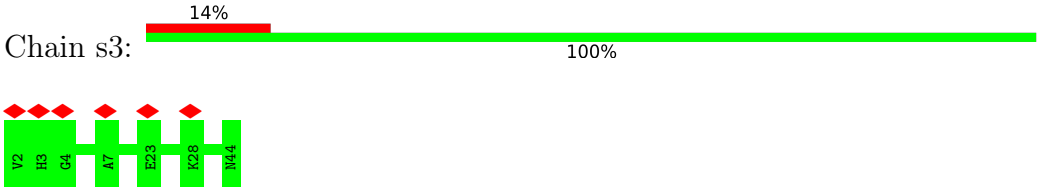
Chain I3:





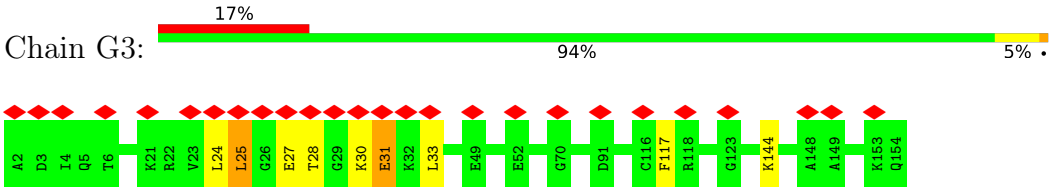
• Molecule 52: 40S RIBOSOMAL PROTEIN ES30

Chain s3:



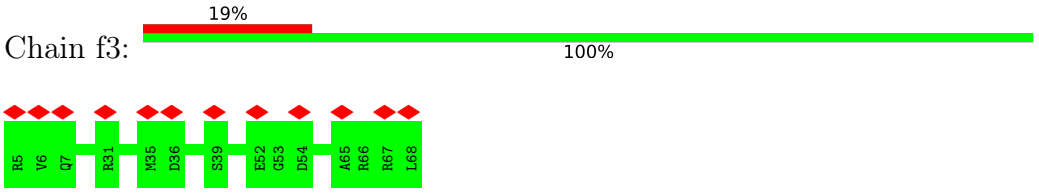
• Molecule 53: Ribosomal protein S11

Chain G3:



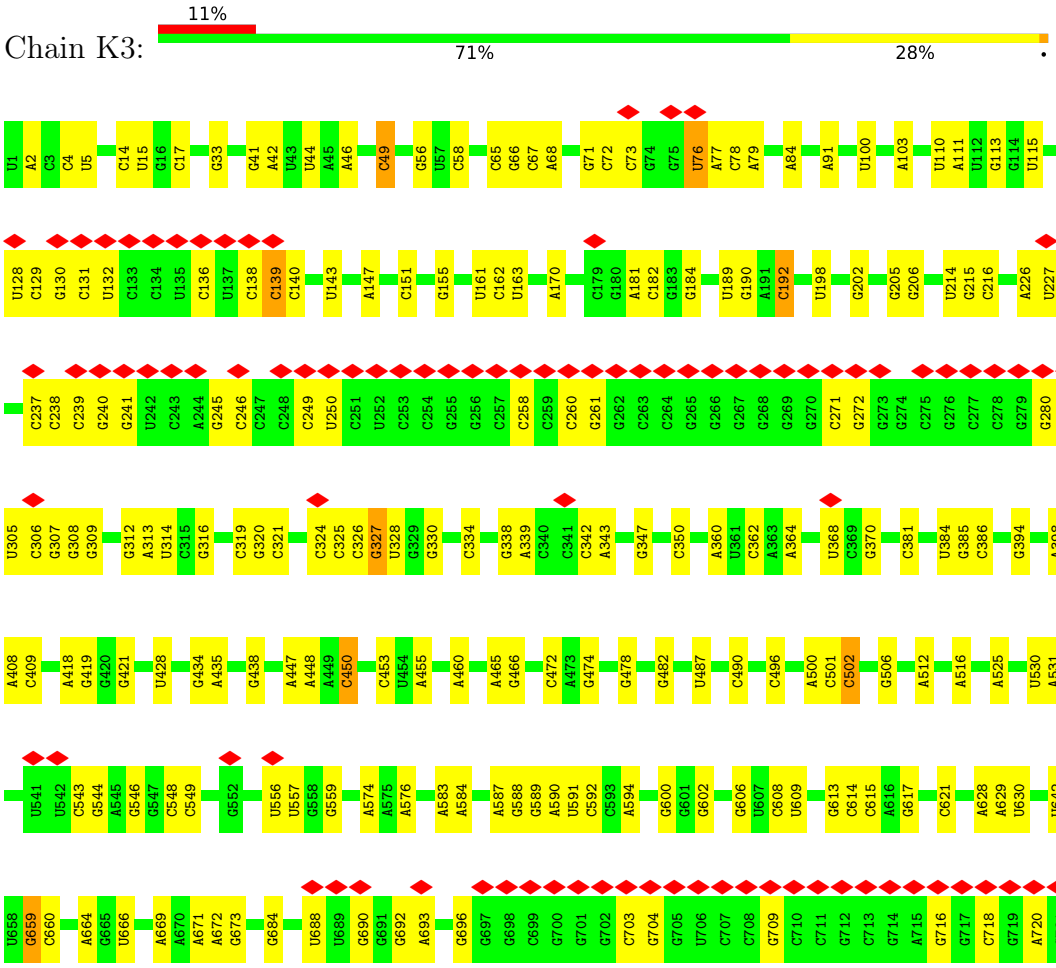
• Molecule 54: ribosomal protein eS28

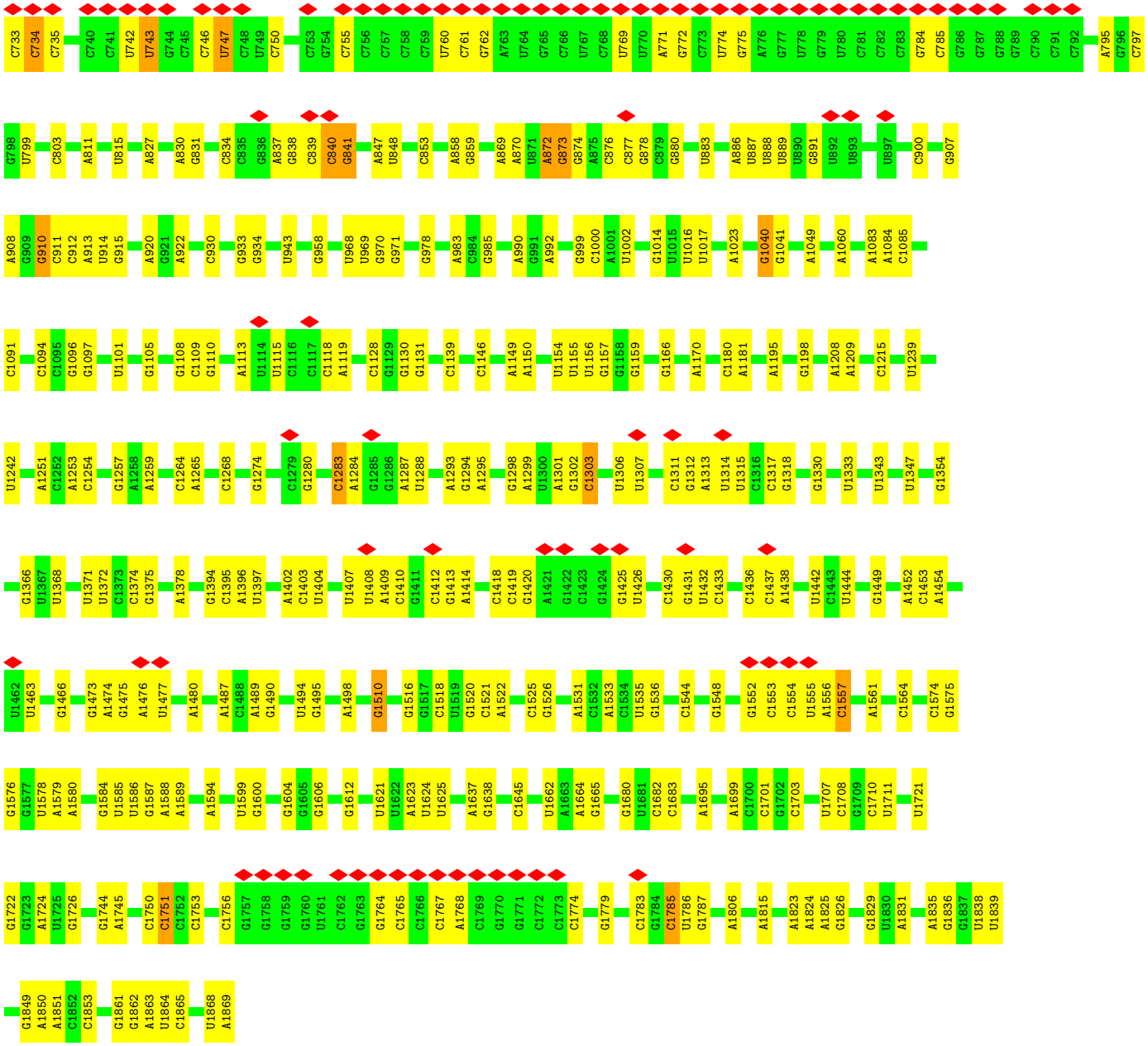
Chain f3:



• Molecule 55: 18S RIBOSOMAL RNA

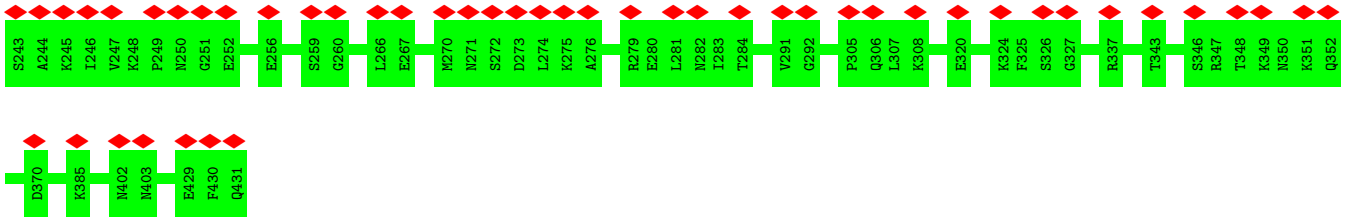
Chain K3:





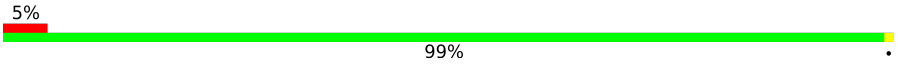
• Molecule 56: 40S RIBOSOMAL PROTEIN ES7

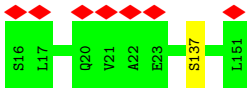
Chain P3:



• Molecule 57: 40S RIBOSOMAL PROTEIN US11

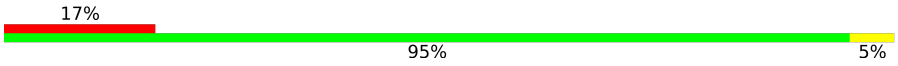
Chain a5:

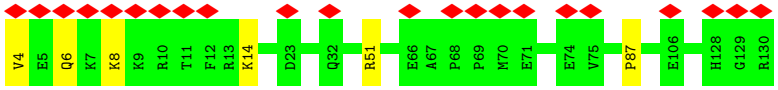




• Molecule 58: ribosomal protein uS19

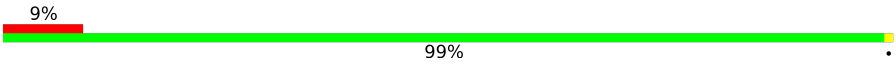
Chain A3:

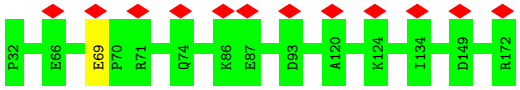




• Molecule 59: 40S RIBOSOMAL PROTEIN US9

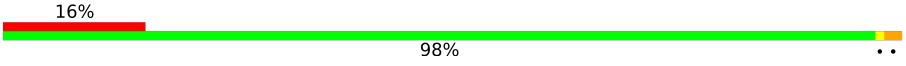
Chain B3:

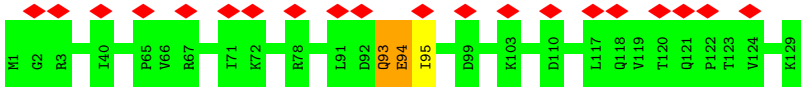




• Molecule 60: 40S RIBOSOMAL PROTEIN ES17

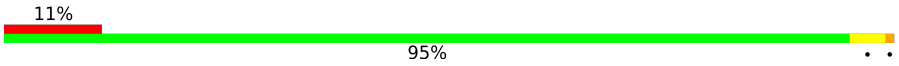
Chain C3:

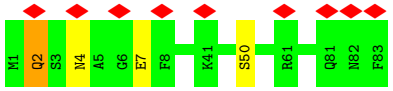




• Molecule 61: 40S RIBOSOMAL PROTEIN ES21

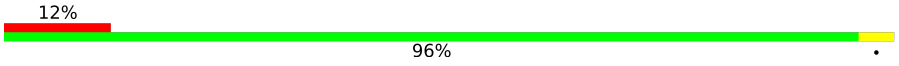
Chain D3:

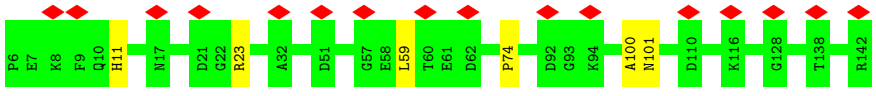




• Molecule 62: ribosomal protein uS13

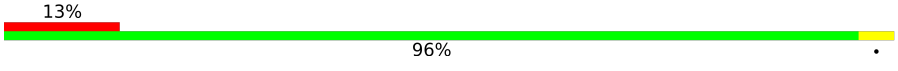
Chain G5:

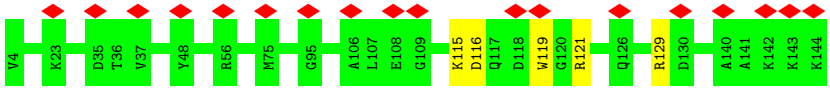




• Molecule 63: 40S RIBOSOMAL PROTEIN ES19

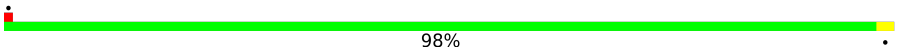
Chain H5:





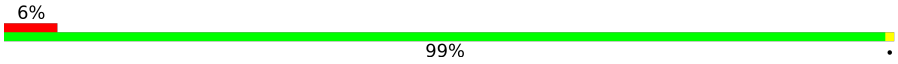
• Molecule 64: Ribosomal protein S15a

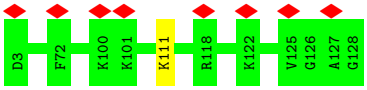
Chain J5:



• Molecule 65: 40S ribosomal protein S24

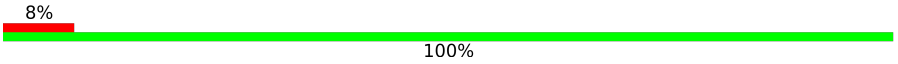
Chain I5:

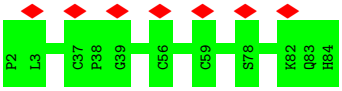




• Molecule 66: 40S ribosomal protein S27

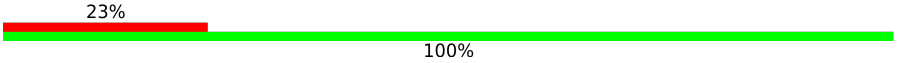
Chain L3:

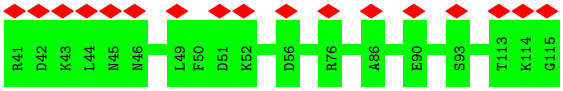




• Molecule 67: ribosomal protein eS25

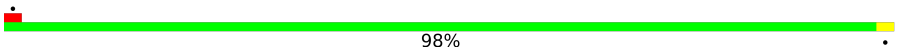
Chain M3:

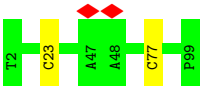




• Molecule 68: 40S RIBOSOMAL PROTEIN ES26

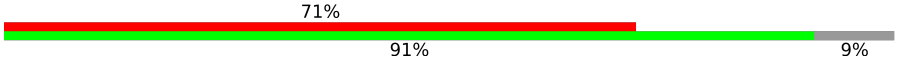
Chain O3:

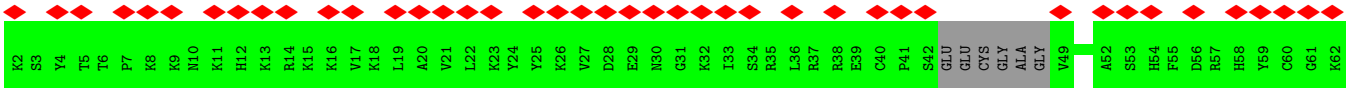


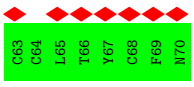


• Molecule 69: 40S RIBOSOMAL PROTEIN ES31

Chain Q3:

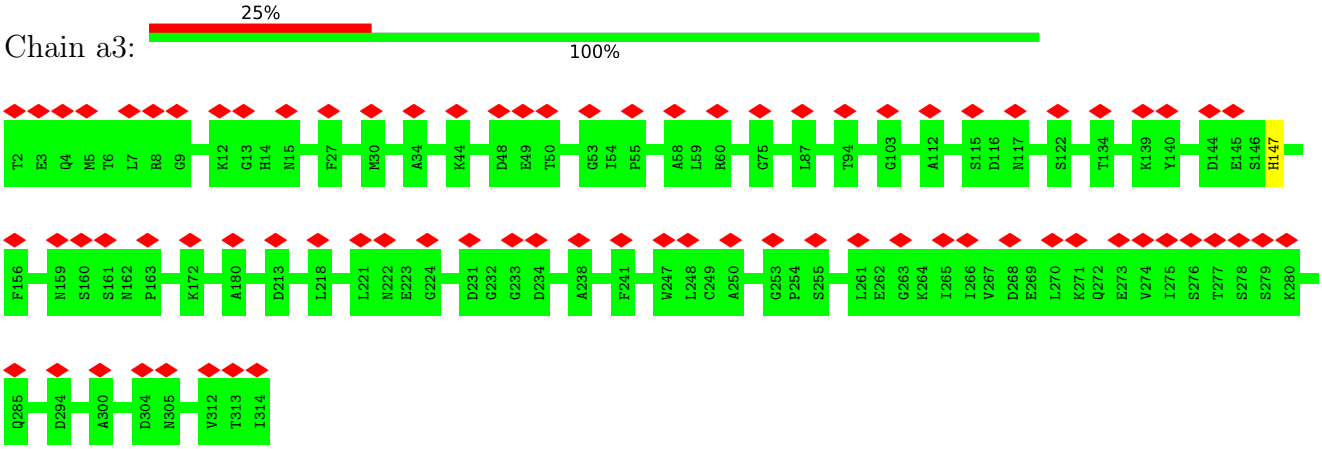






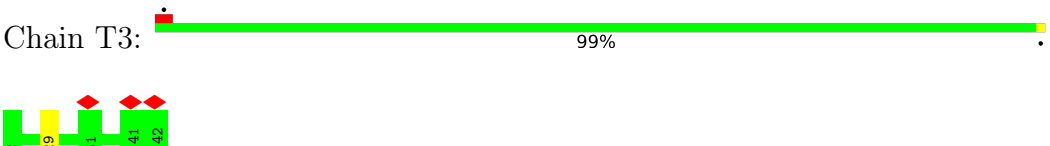
• Molecule 70: ribosomal protein RACK1

Chain a3:



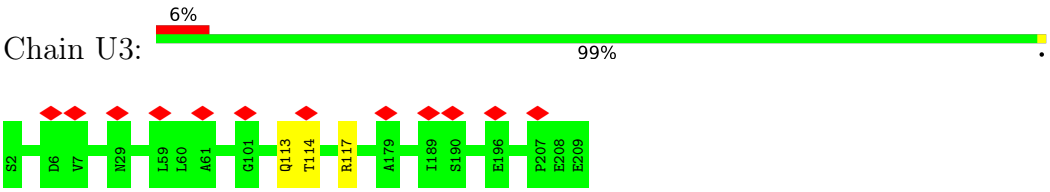
• Molecule 71: Ribosomal protein S23

Chain T3:



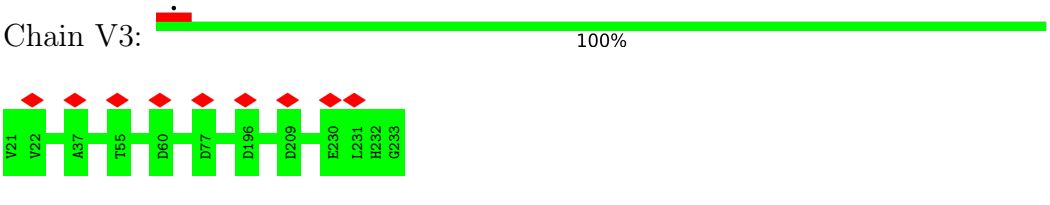
• Molecule 72: 40S_SA_C domain-containing protein

Chain U3:



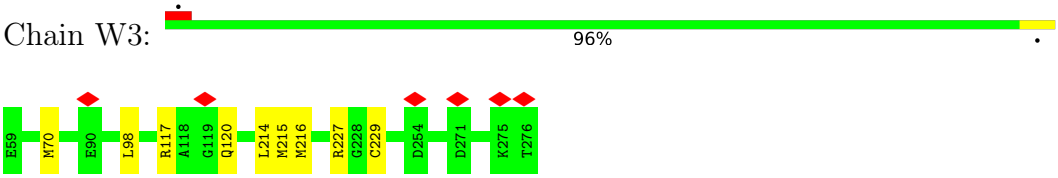
• Molecule 73: 40S ribosomal protein S3a

Chain V3:



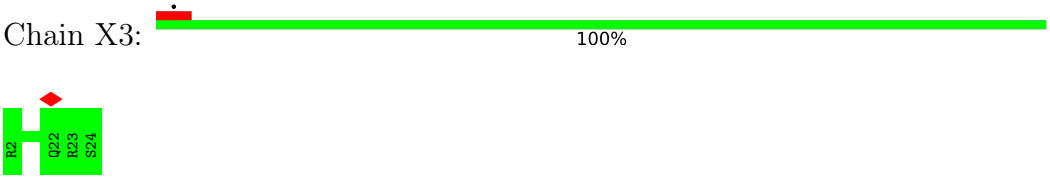
• Molecule 74: S5 DRBM domain-containing protein

Chain W3:



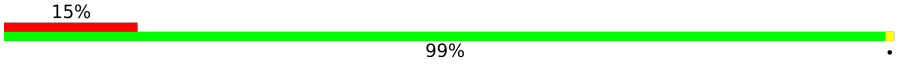
• Molecule 75: 60s ribosomal protein l41

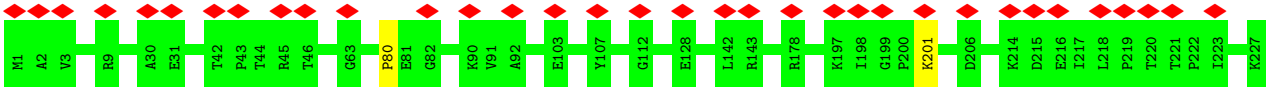
Chain X3:



• Molecule 76: Ribosomal protein S3

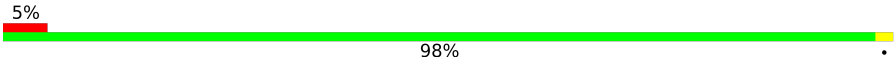
Chain Y3:

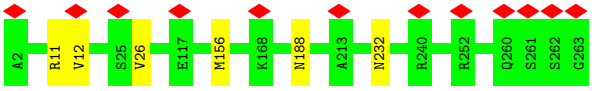




• Molecule 77: 40S ribosomal protein S4

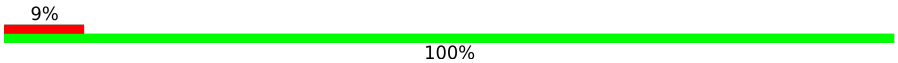
Chain j3:

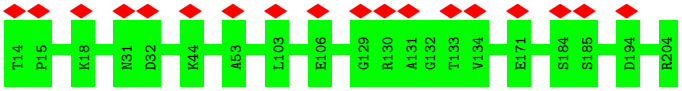




• Molecule 78: Ribosomal protein S5

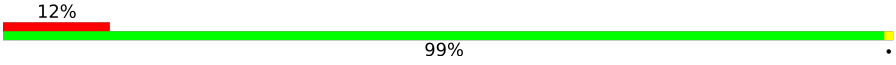
Chain N3:

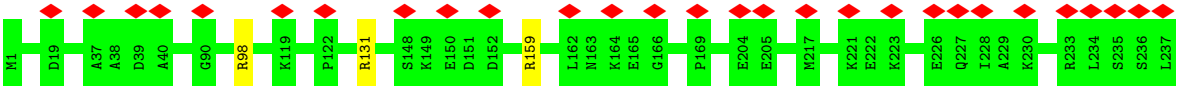




• Molecule 79: 40S ribosomal protein S6

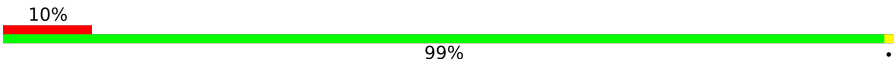
Chain b3:

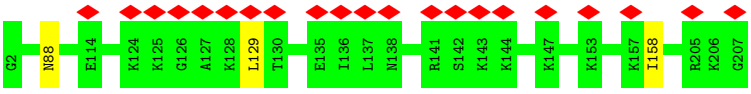




• Molecule 80: 40S ribosomal protein S8

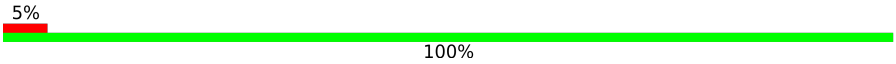
Chain c3:

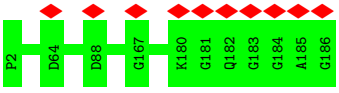




• Molecule 81: Ribosomal protein S9 (Predicted)

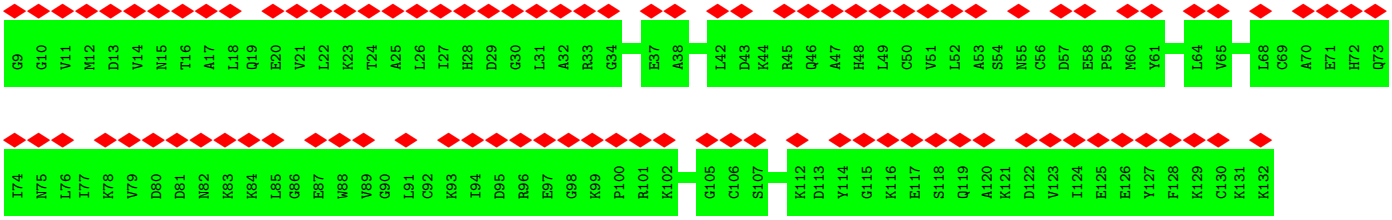
Chain d3:





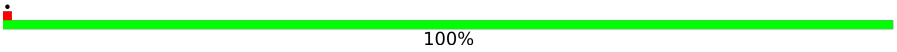
• Molecule 82: 40S ribosomal protein S12

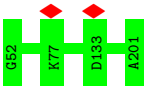
Chain e3:



• Molecule 83: ribosomal protein uS15

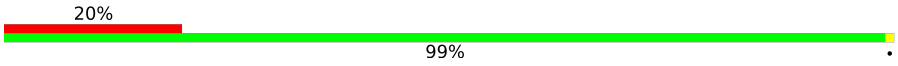
Chain F3:

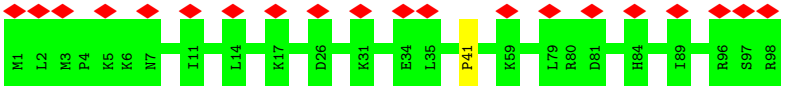




• Molecule 84: S10_plectin domain-containing protein

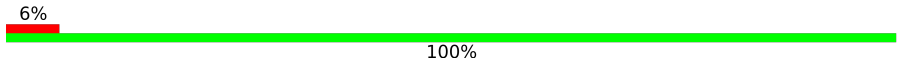
Chain E3:

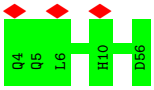




• Molecule 85: ribosomal protein uS14

Chain H3:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	55589	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	60	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.250	Depositor
Minimum map value	-0.153	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.027	Depositor
Map size (Å)	396.0, 396.0, 396.0	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1, 1.1, 1.1	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 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	Z2	0.33	0/1159	0.46	0/1547
2	e2	0.62	0/93920	1.02	221/146521 (0.2%)
3	d2	0.55	0/2858	0.92	0/4455
4	h2	0.59	0/3701	0.92	1/5766 (0.0%)
5	p2	0.33	0/574	0.60	0/761
6	w2	0.38	0/1662	0.50	1/2222 (0.0%)
7	H2	0.39	0/1269	0.51	0/1700
8	S2	0.40	0/1537	0.53	0/2052
9	32	0.34	0/1525	0.49	0/2013
10	52	0.39	0/3241	0.53	0/4339
11	62	0.41	0/1493	0.49	0/2003
12	72	0.42	0/1326	0.52	0/1770
13	82	0.33	0/823	0.50	0/1103
14	k2	0.42	0/993	0.50	0/1332
15	l2	0.41	0/542	0.48	0/720
16	m2	0.35	0/993	0.49	0/1334
17	o2	0.35	0/1133	0.48	0/1504
18	q2	0.41	0/1191	0.53	0/1590
19	r2	0.34	0/620	0.59	0/818
20	13	0.40	0/743	0.49	0/995
21	t2	0.39	0/2938	0.54	0/3946
22	u2	0.40	0/904	0.50	0/1216
23	v2	0.39	0/1072	0.53	0/1429
24	x2	0.42	0/895	0.55	0/1198
25	y2	0.42	0/917	0.54	0/1220
26	92	0.44	0/1907	0.54	0/2556
27	A2	0.32	0/1021	0.47	0/1348
28	B2	0.33	0/842	0.50	0/1112
29	C2	0.43	0/721	0.53	0/952
30	D2	0.36	0/454	0.53	0/599
31	E2	0.35	0/435	0.46	0/575
32	F2	0.39	0/865	0.55	0/1140

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	G2	0.34	0/2433	0.51	0/3257
34	I2	0.43	0/718	0.51	0/953
35	J2	0.37	0/1018	0.49	0/1364
36	K2	0.27	0/1548	0.48	0/2088
37	L2	0.39	0/853	0.50	0/1137
38	M2	0.28	0/1198	0.57	1/1611 (0.1%)
39	R2	0.31	0/292	0.50	0/388
40	T2	0.31	0/1646	0.58	1/2213 (0.0%)
41	U2	0.40	0/1911	0.51	0/2549
42	V2	0.35	0/1905	0.50	0/2566
43	W2	0.34	0/1536	0.53	0/2063
44	X2	0.36	0/841	0.51	0/1123
45	Y2	0.32	0/1377	0.50	1/1841 (0.1%)
46	a7	0.35	0/1733	0.55	2/2316 (0.1%)
47	12	0.45	0/1746	0.55	0/2338
48	22	0.37	0/1130	0.57	0/1507
49	42	0.26	0/1772	0.56	0/2375
50	E1	0.31	0/3579	0.91	2/5560 (0.0%)
51	I3	0.27	0/832	0.55	0/1117
52	s3	0.29	0/353	0.53	0/462
53	G3	0.40	0/1268	0.56	1/1696 (0.1%)
54	f3	0.36	0/508	0.70	0/680
55	K3	0.50	0/44567	0.99	151/69476 (0.2%)
56	P3	0.31	0/1545	0.52	0/2068
57	a5	0.33	0/1029	0.52	0/1380
58	A3	0.51	1/1080 (0.1%)	0.77	3/1437 (0.2%)
59	B3	0.32	0/1142	0.51	0/1528
60	C3	0.29	0/1061	0.50	0/1421
61	D3	0.35	0/639	0.53	0/855
62	G5	0.29	0/1158	0.52	1/1548 (0.1%)
63	H5	0.31	0/1133	0.54	0/1517
64	J5	0.36	0/1051	0.51	0/1406
65	I5	0.29	0/1041	0.47	0/1382
66	L3	0.29	0/665	0.46	0/891
67	M3	0.27	0/605	0.52	0/810
68	O3	0.36	0/795	0.49	0/1065
69	Q3	0.27	0/539	0.48	0/713
70	a3	0.27	0/2494	0.52	0/3394
71	T3	0.35	0/1117	0.50	0/1490
72	U3	0.32	0/1682	0.49	0/2286
73	V3	0.31	0/1757	0.49	0/2350
74	W3	0.40	0/1727	0.55	0/2332
75	X3	0.32	0/224	0.51	0/284

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
76	Y3	0.43	1/1793 (0.1%)	0.68	2/2412 (0.1%)
77	j3	0.32	0/2117	0.50	0/2846
78	N3	0.29	0/1531	0.49	0/2059
79	b3	0.28	0/1947	0.46	0/2590
80	c3	0.32	0/1716	0.51	1/2287 (0.0%)
81	d3	0.30	0/1551	0.48	0/2069
82	e3	0.25	0/968	0.49	0/1296
83	F3	0.31	0/1232	0.51	0/1656
84	E3	0.36	0/852	0.64	2/1147 (0.2%)
85	H3	0.33	0/455	0.46	0/603
All	All	0.50	2/245684 (0.0%)	0.86	391/361638 (0.1%)

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
6	w2	0	1
10	52	0	1
11	62	0	2
12	72	0	2
21	t2	0	2
24	x2	0	1
25	y2	0	1
33	G2	0	1
36	K2	0	1
38	M2	0	2
40	T2	0	2
41	U2	0	1
43	W2	0	1
44	X2	0	2
46	a7	0	2
48	22	0	1
53	G3	0	3
57	a5	0	1
59	B3	0	1
60	C3	0	2
62	G5	0	2
70	a3	0	1
76	Y3	0	1
All	All	0	34

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	A3	87	PRO	CG-CD	-13.00	1.07	1.50
76	Y3	80	PRO	CG-CD	-12.29	1.10	1.50

All (391) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
76	Y3	80	PRO	N-CD-CG	-17.51	76.94	103.20
58	A3	87	PRO	N-CD-CG	-16.22	78.87	103.20
76	Y3	80	PRO	CA-CB-CG	-11.31	82.51	104.00
2	e2	1676	C	N3-C2-O2	-11.30	113.99	121.90
2	e2	2571	C	N3-C2-O2	-10.87	114.29	121.90
55	K3	14	C	N1-C2-O2	-10.37	112.68	118.90
2	e2	1676	C	N1-C2-O2	10.19	125.02	118.90
55	K3	1268	C	N3-C2-O2	-10.14	114.80	121.90
2	e2	2571	C	N1-C2-O2	9.82	124.79	118.90
2	e2	1193	C	N3-C2-O2	-9.73	115.09	121.90
58	A3	87	PRO	CA-CB-CG	-9.72	85.53	104.00
55	K3	1283	C	N1-C2-O2	9.65	124.69	118.90
2	e2	1765	A	O4'-C1'-N9	9.62	115.89	108.20
55	K3	1553	C	N1-C2-O2	9.41	124.55	118.90
2	e2	3588	C	N3-C2-O2	-9.27	115.41	121.90
55	K3	1774	C	N3-C2-O2	-9.23	115.44	121.90
2	e2	4194	U	C2-N1-C1'	9.07	128.58	117.70
2	e2	2572	C	N3-C2-O2	-8.87	115.69	121.90
2	e2	1367	C	N1-C2-O2	8.79	124.18	118.90
2	e2	895	C	C2-N1-C1'	8.75	128.43	118.80
2	e2	672	C	N3-C2-O2	-8.68	115.82	121.90
2	e2	685	C	C2-N1-C1'	8.66	128.33	118.80
84	E3	41	PRO	CA-N-CD	-8.66	99.37	111.50
58	A3	87	PRO	CA-N-CD	-8.65	99.39	111.50
55	K3	1557	C	N1-C2-O2	8.59	124.05	118.90
2	e2	1676	C	C6-N1-C2	-8.54	116.88	120.30
2	e2	4756	C	N1-C2-O2	8.54	124.02	118.90
2	e2	1072	C	C2-N1-C1'	8.52	128.17	118.80
2	e2	685	C	N1-C2-O2	8.51	124.01	118.90
55	K3	1553	C	C2-N1-C1'	8.49	128.14	118.80
55	K3	1557	C	C2-N1-C1'	8.31	127.95	118.80
2	e2	895	C	N1-C2-O2	8.30	123.88	118.90
2	e2	1677	U	C2-N1-C1'	8.21	127.55	117.70
55	K3	602	G	N3-C4-N9	-8.19	121.09	126.00
55	K3	1101	U	C2-N1-C1'	8.17	127.50	117.70
55	K3	1554	C	N1-C2-O2	8.17	123.80	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	K3	1283	C	C2-N1-C1'	8.15	127.76	118.80
2	e2	4756	C	C2-N1-C1'	8.11	127.73	118.80
55	K3	76	U	C2-N1-C1'	8.04	127.35	117.70
55	K3	1283	C	N3-C2-O2	-8.01	116.29	121.90
2	e2	4906	C	C2-N1-C1'	8.00	127.60	118.80
55	K3	1268	C	N1-C2-O2	8.00	123.70	118.90
2	e2	1310	C	N1-C2-O2	7.95	123.67	118.90
2	e2	4194	U	C6-N1-C1'	-7.94	110.09	121.20
84	E3	41	PRO	N-CD-CG	-7.87	91.39	103.20
55	K3	841	G	N1-C6-O6	-7.80	115.22	119.90
55	K3	1554	C	C2-N1-C1'	7.78	127.36	118.80
55	K3	192	C	C2-N1-C1'	7.75	127.33	118.80
55	K3	1198	G	N1-C2-N2	-7.73	109.24	116.20
55	K3	761	C	C2-N1-C1'	7.65	127.21	118.80
55	K3	192	C	N1-C2-O2	7.63	123.48	118.90
55	K3	1553	C	N3-C2-O2	-7.62	116.56	121.90
2	e2	4966	A	C6-N1-C2	-7.57	114.06	118.60
2	e2	437	G	N3-C4-N9	7.53	130.52	126.00
2	e2	1249	C	N1-C2-O2	7.52	123.41	118.90
2	e2	1754	U	C2-N1-C1'	7.49	126.69	117.70
2	e2	1828	C	C2-N1-C1'	7.49	127.04	118.80
2	e2	2021	C	N3-C2-O2	-7.45	116.69	121.90
55	K3	49	C	N3-C2-O2	-7.42	116.71	121.90
2	e2	728	U	C2-N1-C1'	7.41	126.59	117.70
2	e2	1367	C	C2-N1-C1'	7.40	126.94	118.80
55	K3	747	U	C2-N1-C1'	7.35	126.52	117.70
2	e2	728	U	N1-C2-O2	7.32	127.93	122.80
2	e2	486	C	C2-N1-C1'	7.26	126.78	118.80
2	e2	1639	U	C2-N1-C1'	7.25	126.41	117.70
2	e2	2410	C	C2-N1-C1'	7.25	126.78	118.80
55	K3	1091	C	N3-C2-O2	-7.25	116.82	121.90
2	e2	657	C	N3-C4-N4	7.24	123.07	118.00
2	e2	1344	C	C2-N1-C1'	7.22	126.74	118.80
2	e2	3797	C	N1-C2-O2	-7.20	114.58	118.90
2	e2	728	U	N3-C2-O2	-7.17	117.18	122.20
2	e2	126	C	C2-N1-C1'	7.11	126.62	118.80
55	K3	1535	U	C2-N1-C1'	7.06	126.17	117.70
2	e2	1367	C	N3-C2-O2	-7.05	116.96	121.90
55	K3	803	C	N1-C2-O2	7.04	123.12	118.90
55	K3	14	C	C2-N1-C1'	-7.03	111.06	118.80
55	K3	1374	C	N3-C2-O2	-7.02	116.99	121.90
2	e2	129	C	N3-C2-O2	-6.99	117.01	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	4958	C	N1-C2-O2	6.98	123.09	118.90
55	K3	743	U	C2-N1-C1'	6.95	126.04	117.70
2	e2	4194	U	N1-C2-O2	6.91	127.64	122.80
2	e2	962	C	N1-C2-O2	6.89	123.03	118.90
55	K3	1774	C	C2-N3-C4	-6.86	116.47	119.90
55	K3	450	C	C2-N1-C1'	6.85	126.33	118.80
55	K3	747	U	N1-C2-O2	6.84	127.59	122.80
2	e2	1338	G	O4'-C1'-N9	6.83	113.66	108.20
55	K3	621	C	N3-C2-O2	-6.83	117.12	121.90
55	K3	841	G	C5-C6-O6	6.83	132.70	128.60
55	K3	76	U	N1-C2-O2	6.82	127.58	122.80
2	e2	1304	C	N1-C2-O2	6.80	122.98	118.90
2	e2	81	C	N3-C2-O2	-6.78	117.16	121.90
55	K3	1535	U	N1-C2-O2	6.78	127.54	122.80
55	K3	1016	U	C2-N1-C1'	6.77	125.83	117.70
55	K3	1774	C	N1-C2-N3	6.76	123.93	119.20
2	e2	685	C	N3-C2-O2	-6.71	117.20	121.90
2	e2	1777	C	C2-N1-C1'	6.69	126.16	118.80
55	K3	1239	U	C2-N1-C1'	6.69	125.73	117.70
2	e2	458	C	C2-N1-C1'	6.68	126.15	118.80
2	e2	4583	C	N1-C2-O2	-6.67	114.90	118.90
2	e2	2556	G	N1-C6-O6	-6.64	115.91	119.90
55	K3	1105	G	N3-C4-N9	-6.61	122.03	126.00
2	e2	4906	C	C6-N1-C1'	-6.61	112.87	120.80
55	K3	839	C	C2-N1-C1'	6.59	126.05	118.80
2	e2	1249	C	N3-C2-O2	-6.58	117.29	121.90
2	e2	1310	C	N3-C2-O2	-6.56	117.31	121.90
2	e2	1772	C	C6-N1-C2	-6.55	117.68	120.30
55	K3	1101	U	N3-C2-O2	-6.53	117.63	122.20
2	e2	1847	C	N3-C2-O2	-6.52	117.33	121.90
55	K3	1101	U	N1-C2-O2	6.51	127.36	122.80
2	e2	458	C	N1-C2-O2	6.49	122.79	118.90
2	e2	3696	C	N3-C4-N4	-6.48	113.47	118.00
2	e2	1072	C	N1-C2-O2	6.46	122.78	118.90
2	e2	1447	C	N3-C2-O2	-6.46	117.38	121.90
2	e2	4756	C	N3-C2-O2	-6.46	117.38	121.90
2	e2	4709	U	C2-N1-C1'	6.41	125.39	117.70
55	K3	1557	C	N3-C2-O2	-6.37	117.44	121.90
2	e2	895	C	N3-C2-O2	-6.37	117.44	121.90
2	e2	1676	C	C2-N1-C1'	6.37	125.81	118.80
2	e2	3985	C	N3-C2-O2	-6.37	117.44	121.90
55	K3	1554	C	N3-C2-O2	-6.32	117.47	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	895	C	C6-N1-C1'	-6.31	113.23	120.80
2	e2	657	C	C5-C4-N4	-6.30	115.79	120.20
2	e2	1193	C	N1-C2-O2	6.30	122.68	118.90
2	e2	2247	C	N3-C2-O2	-6.30	117.49	121.90
53	G3	33	LEU	CA-CB-CG	6.28	129.74	115.30
55	K3	1366	G	C5-C6-O6	6.27	132.36	128.60
55	K3	803	C	N3-C2-O2	-6.26	117.52	121.90
2	e2	1072	C	C6-N1-C1'	-6.23	113.33	120.80
55	K3	747	U	N3-C2-O2	-6.22	117.84	122.20
2	e2	437	G	N3-C4-C5	-6.21	125.49	128.60
2	e2	1754	U	N1-C2-O2	6.19	127.13	122.80
2	e2	4443	C	N3-C2-O2	-6.19	117.57	121.90
55	K3	1239	U	N3-C2-O2	-6.19	117.87	122.20
55	K3	14	C	N3-C2-O2	6.18	126.23	121.90
2	e2	3588	C	C6-N1-C2	-6.17	117.83	120.30
55	K3	743	U	N1-C2-O2	6.17	127.12	122.80
2	e2	3955	G	O4'-C1'-N9	6.17	113.13	108.20
55	K3	958	G	O4'-C1'-N9	6.16	113.13	108.20
2	e2	3741	C	N3-C2-O2	-6.16	117.59	121.90
2	e2	2561	C	N3-C2-O2	-6.15	117.59	121.90
55	K3	1040	G	C5-C6-O6	-6.14	124.91	128.60
55	K3	910	G	N1-C6-O6	-6.14	116.22	119.90
55	K3	205	G	N3-C2-N2	-6.14	115.60	119.90
55	K3	735	C	N3-C2-O2	-6.13	117.61	121.90
2	e2	2627	C	N1-C2-O2	6.12	122.57	118.90
2	e2	438	G	N3-C4-N9	6.11	129.66	126.00
2	e2	2129	G	O4'-C1'-N9	6.11	113.09	108.20
2	e2	704	C	C2-N1-C1'	6.10	125.51	118.80
55	K3	1159	G	N3-C4-N9	-6.10	122.34	126.00
2	e2	438	G	C6-C5-N7	-6.10	126.74	130.40
2	e2	2507	A	O5'-P-OP1	-6.08	100.23	105.70
2	e2	2838	G	C4-N9-C1'	6.06	134.38	126.50
2	e2	685	C	C6-N1-C1'	-6.06	113.53	120.80
2	e2	4443	C	N1-C2-O2	6.06	122.54	118.90
2	e2	4443	C	C2-N1-C1'	6.05	125.45	118.80
46	a7	12	PRO	CA-N-CD	-6.05	103.03	111.50
55	K3	1283	C	C6-N1-C2	-6.03	117.89	120.30
2	e2	3788	C	C2-N1-C1'	6.03	125.43	118.80
55	K3	1180	C	N3-C2-O2	-6.03	117.68	121.90
2	e2	2671	C	N3-C2-O2	-6.02	117.69	121.90
2	e2	81	C	C6-N1-C2	-6.01	117.90	120.30
2	e2	930	G	P-O3'-C3'	6.00	126.90	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	K3	761	C	N1-C2-O2	6.00	122.50	118.90
55	K3	630	U	N1-C2-O2	5.99	127.00	122.80
2	e2	2561	C	C6-N1-C2	-5.99	117.90	120.30
2	e2	1283	G	N3-C4-C5	-5.99	125.61	128.60
2	e2	4756	C	C6-N1-C1'	-5.98	113.62	120.80
2	e2	4476	C	N3-C2-O2	-5.97	117.72	121.90
2	e2	4958	C	C2-N1-C1'	5.97	125.37	118.80
2	e2	4443	C	C6-N1-C2	-5.96	117.92	120.30
55	K3	1040	G	N1-C6-O6	5.96	123.48	119.90
55	K3	630	U	C2-N1-C1'	5.96	124.85	117.70
2	e2	672	C	N1-C2-O2	5.96	122.47	118.90
55	K3	840	C	C2-N1-C1'	5.95	125.35	118.80
2	e2	3909	C	C2-N1-C1'	5.95	125.34	118.80
2	e2	486	C	C6-N1-C1'	-5.93	113.68	120.80
55	K3	14	C	C6-N1-C1'	5.93	127.92	120.80
2	e2	2126	C	O4'-C1'-N1	5.93	112.94	108.20
55	K3	1159	G	C5-C6-O6	5.93	132.16	128.60
55	K3	1115	U	C2-N1-C1'	5.92	124.80	117.70
55	K3	839	C	N1-C2-O2	5.92	122.45	118.90
2	e2	673	C	N3-C2-O2	-5.92	117.76	121.90
55	K3	1557	C	C6-N1-C1'	-5.90	113.72	120.80
55	K3	1553	C	C6-N1-C2	-5.90	117.94	120.30
2	e2	4476	C	N1-C2-O2	5.89	122.43	118.90
55	K3	659	G	C4-N9-C1'	5.87	134.13	126.50
55	K3	1751	C	N3-C2-O2	-5.86	117.80	121.90
2	e2	1477	C	C2-N1-C1'	5.85	125.24	118.80
2	e2	3788	C	N1-C2-O2	5.84	122.41	118.90
55	K3	76	U	N3-C2-O2	-5.84	118.11	122.20
40	T2	129	LEU	CA-CB-CG	-5.82	101.92	115.30
2	e2	962	C	N3-C2-O2	-5.81	117.83	121.90
2	e2	126	C	C6-N1-C1'	-5.81	113.83	120.80
55	K3	1094	C	N1-C2-O2	5.80	122.38	118.90
2	e2	759	G	N1-C6-O6	5.80	123.38	119.90
2	e2	1310	C	C2-N1-C1'	5.80	125.18	118.80
55	K3	1091	C	C5-C4-N4	5.78	124.25	120.20
2	e2	2686	G	O4'-C1'-N9	5.77	112.81	108.20
55	K3	478	G	C5-C6-O6	5.76	132.06	128.60
2	e2	1828	C	C6-N1-C1'	-5.76	113.89	120.80
55	K3	1553	C	C6-N1-C1'	-5.75	113.89	120.80
2	e2	1339	U	C5-C6-N1	5.75	125.57	122.70
2	e2	4090	G	N3-C4-N9	5.74	129.45	126.00
55	K3	1016	U	N3-C2-O2	-5.74	118.18	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
55	K3	958	G	C4-N9-C1'	5.74	133.96	126.50
2	e2	1677	U	C6-N1-C1'	-5.73	113.17	121.20
2	e2	3588	C	N1-C2-O2	5.73	122.34	118.90
2	e2	3979	C	N1-C2-O2	5.73	122.34	118.90
2	e2	1304	C	N3-C2-O2	-5.71	117.90	121.90
2	e2	1440	U	C2'-C3'-O3'	5.71	122.84	113.70
55	K3	502	C	C2-N1-C1'	5.71	125.08	118.80
50	E1	6365	U	OP1-P-O3'	5.71	117.76	105.20
55	K3	192	C	C6-N1-C2	-5.71	118.02	120.30
55	K3	853	C	C2-N1-C1'	5.69	125.06	118.80
55	K3	1101	U	C6-N1-C1'	-5.68	113.25	121.20
2	e2	5034	A	O4'-C1'-N9	5.67	112.74	108.20
2	e2	962	C	C2-N1-C1'	5.66	125.03	118.80
2	e2	1639	U	N1-C2-O2	5.66	126.76	122.80
2	e2	1965	C	N1-C2-O2	5.65	122.29	118.90
55	K3	1554	C	C6-N1-C1'	-5.64	114.03	120.80
55	K3	734	C	N1-C2-O2	5.64	122.28	118.90
55	K3	602	G	N9-C4-C5	5.62	107.65	105.40
2	e2	482	G	N3-C4-N9	-5.62	122.63	126.00
55	K3	630	U	N3-C2-O2	-5.62	118.27	122.20
2	e2	2532	C	C2-N1-C1'	5.61	124.97	118.80
2	e2	2556	G	C5-C6-O6	5.61	131.97	128.60
2	e2	2410	C	C6-N1-C1'	-5.60	114.08	120.80
55	K3	1016	U	N1-C2-O2	5.60	126.72	122.80
2	e2	4958	C	N3-C2-O2	-5.59	117.98	121.90
55	K3	840	C	N1-C2-O2	5.59	122.26	118.90
2	e2	2838	G	C8-N9-C1'	-5.59	119.73	127.00
55	K3	743	U	N3-C2-O2	-5.58	118.29	122.20
55	K3	750	C	N1-C2-O2	5.58	122.25	118.90
55	K3	1128	C	N3-C2-O2	-5.58	118.00	121.90
2	e2	2627	C	C2-N1-C1'	5.57	124.93	118.80
2	e2	4198	G	C2-N3-C4	5.55	114.68	111.90
2	e2	1772	C	N3-C2-O2	-5.55	118.02	121.90
55	K3	602	G	C5-C6-O6	5.55	131.93	128.60
2	e2	2686	G	C4-N9-C1'	5.54	133.71	126.50
55	K3	1198	G	N3-C2-N2	5.54	123.78	119.90
2	e2	4966	A	N3-C4-C5	-5.53	122.93	126.80
55	K3	1453	C	C2-N1-C1'	5.53	124.88	118.80
2	e2	2254	G	C4-N9-C1'	5.52	133.68	126.50
55	K3	1535	U	N3-C2-O2	-5.52	118.34	122.20
2	e2	446	C	C2-N1-C1'	5.52	124.87	118.80
2	e2	1965	C	N3-C2-O2	-5.51	118.04	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	2021	C	N1-C2-O2	5.51	122.21	118.90
2	e2	759	G	C5-C6-O6	-5.51	125.29	128.60
2	e2	1568	C	C2-N1-C1'	5.51	124.86	118.80
2	e2	2904	U	C2-N1-C1'	5.51	124.31	117.70
2	e2	121	A	O4'-C1'-N9	5.51	112.61	108.20
2	e2	1353	G	O4'-C1'-N9	5.50	112.60	108.20
2	e2	685	C	C6-N1-C2	-5.49	118.10	120.30
55	K3	876	C	N3-C4-N4	-5.48	114.16	118.00
55	K3	1239	U	N1-C2-O2	5.47	126.63	122.80
55	K3	1510	G	N1-C6-O6	-5.46	116.62	119.90
55	K3	1115	U	N3-C2-O2	-5.46	118.38	122.20
2	e2	704	C	N1-C2-O2	5.46	122.17	118.90
62	G5	74	PRO	CA-N-CD	-5.46	103.86	111.50
4	h2	150	C	C2-N1-C1'	5.45	124.80	118.80
55	K3	910	G	C5-C6-O6	5.45	131.87	128.60
55	K3	549	C	N3-C2-O2	-5.45	118.09	121.90
55	K3	761	C	C6-N1-C1'	-5.44	114.27	120.80
55	K3	659	G	C8-N9-C1'	-5.44	119.93	127.00
55	K3	506	G	C4-N9-C1'	5.43	133.56	126.50
55	K3	327	G	P-O3'-C3'	5.43	126.21	119.70
55	K3	490	C	N3-C2-O2	-5.42	118.10	121.90
55	K3	76	U	C6-N1-C1'	-5.42	113.61	121.20
2	e2	451	C	C2-N1-C1'	5.42	124.76	118.80
55	K3	1366	G	C2-N3-C4	-5.42	109.19	111.90
55	K3	1283	C	C6-N1-C1'	-5.41	114.31	120.80
55	K3	602	G	C8-N9-C1'	5.41	134.03	127.00
2	e2	4946	U	O4'-C1'-N1	-5.41	103.88	108.20
2	e2	4090	G	C4-N9-C1'	5.40	133.52	126.50
55	K3	1518	C	C2-N1-C1'	5.40	124.74	118.80
55	K3	734	C	C2-N1-C1'	5.40	124.74	118.80
2	e2	1677	U	N1-C2-O2	5.40	126.58	122.80
2	e2	4194	U	C5-C4-O4	-5.39	122.67	125.90
2	e2	957	G	P-O3'-C3'	5.39	126.17	119.70
2	e2	2067	C	OP1-P-O3'	5.39	117.06	105.20
55	K3	1115	U	N1-C2-O2	5.39	126.57	122.80
2	e2	1792	U	C2-N1-C1'	5.38	124.16	117.70
55	K3	502	C	N1-C2-O2	5.38	122.13	118.90
2	e2	1230	U	C2-N1-C1'	5.38	124.15	117.70
2	e2	1777	C	C6-N1-C1'	-5.37	114.35	120.80
55	K3	1366	G	N3-C4-N9	-5.37	122.78	126.00
2	e2	4198	G	N3-C4-C5	-5.37	125.92	128.60
2	e2	1344	C	C6-N1-C1'	-5.37	114.36	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	1822	U	N3-C2-O2	-5.37	118.44	122.20
80	c3	129	LEU	CA-CB-CG	5.35	127.61	115.30
2	e2	451	C	N1-C2-O2	5.34	122.11	118.90
2	e2	279	A	O4'-C1'-N9	5.34	112.47	108.20
2	e2	1754	U	N3-C2-O2	-5.33	118.47	122.20
38	M2	121	LEU	CA-CB-CG	-5.33	103.04	115.30
55	K3	1180	C	N1-C2-O2	5.33	122.10	118.90
2	e2	2247	C	N1-C2-O2	5.33	122.10	118.90
55	K3	602	G	N3-C4-C5	5.32	131.26	128.60
2	e2	118	C	C2-N1-C1'	5.30	124.63	118.80
55	K3	139	C	C2-N1-C1'	5.29	124.62	118.80
2	e2	1478	C	C2-N1-C1'	5.29	124.62	118.80
55	K3	1159	G	N1-C6-O6	-5.29	116.73	119.90
55	K3	1510	G	C5-C6-O6	5.29	131.77	128.60
55	K3	1180	C	C2-N1-C1'	5.28	124.61	118.80
2	e2	4709	U	C5-C4-O4	-5.28	122.73	125.90
2	e2	3619	G	C4-C5-N7	5.27	112.91	110.80
2	e2	506	C	C2-N1-C1'	5.27	124.60	118.80
55	K3	1785	C	N1-C2-O2	5.27	122.06	118.90
2	e2	1367	C	C6-N1-C2	-5.25	118.20	120.30
2	e2	670	G	N3-C4-N9	5.25	129.15	126.00
2	e2	3979	C	C2-N1-C1'	5.25	124.57	118.80
2	e2	482	G	C5-C6-O6	5.25	131.75	128.60
55	K3	295	C	N3-C2-O2	-5.24	118.23	121.90
2	e2	483	G	N3-C4-N9	-5.24	122.86	126.00
55	K3	192	C	C6-N1-C1'	-5.23	114.52	120.80
2	e2	1485	C	N1-C2-O2	5.23	122.04	118.90
2	e2	962	C	C6-N1-C2	-5.22	118.21	120.30
55	K3	192	C	N3-C2-O2	-5.22	118.24	121.90
2	e2	4907	G	C8-N9-C1'	5.22	133.79	127.00
55	K3	1557	C	C5-C6-N1	5.22	123.61	121.00
55	K3	873	G	C6-C5-N7	-5.22	127.27	130.40
55	K3	192	C	C5-C6-N1	5.21	123.61	121.00
2	e2	2623	A	C4-N9-C1'	5.20	135.66	126.30
2	e2	3636	C	N3-C2-O2	-5.20	118.26	121.90
6	w2	194	ASP	CB-CG-OD2	5.20	122.98	118.30
2	e2	2257	C	P-O3'-C3'	5.18	125.92	119.70
2	e2	473	C	C2-N1-C1'	5.18	124.49	118.80
2	e2	438	G	C4-N9-C1'	5.17	133.23	126.50
2	e2	1060	U	C2-N1-C1'	5.17	123.91	117.70
55	K3	1130	G	N3-C4-N9	-5.17	122.90	126.00
55	K3	1091	C	N3-C4-N4	-5.17	114.38	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	1072	C	C5-C6-N1	5.17	123.58	121.00
2	e2	2265	G	O4'-C1'-N9	5.17	112.33	108.20
2	e2	4583	C	N3-C2-O2	5.17	125.52	121.90
55	K3	915	G	C4-N9-C1'	5.17	133.22	126.50
2	e2	4966	A	N3-C4-N9	5.16	131.53	127.40
55	K3	1303	C	C2-N1-C1'	5.16	124.48	118.80
2	e2	3788	C	N3-C2-O2	-5.16	118.29	121.90
2	e2	1485	C	C2-N1-C1'	5.15	124.47	118.80
2	e2	482	G	N1-C6-O6	-5.15	116.81	119.90
2	e2	345	C	C2-N1-C1'	5.14	124.46	118.80
55	K3	602	G	C4-N9-C1'	-5.14	119.81	126.50
55	K3	853	C	C6-N1-C2	-5.14	118.24	120.30
2	e2	4953	G	C4-N9-C1'	5.13	133.17	126.50
45	Y2	143	ASP	CB-CG-OD2	5.13	122.92	118.30
55	K3	450	C	N1-C2-O2	5.13	121.98	118.90
2	e2	2556	G	N1-C2-N2	-5.13	111.58	116.20
2	e2	4303	C	C2-N1-C1'	5.13	124.44	118.80
2	e2	472	C	N1-C2-O2	5.13	121.98	118.90
55	K3	205	G	N1-C2-N2	5.13	120.81	116.20
2	e2	3601	C	N1-C2-O2	5.12	121.97	118.90
2	e2	1411	C	N1-C2-O2	5.11	121.97	118.90
2	e2	2627	C	N3-C2-O2	-5.11	118.32	121.90
2	e2	2664	G	C2-N3-C4	-5.11	109.35	111.90
46	a7	124	LEU	CB-CG-CD2	-5.11	102.32	111.00
2	e2	4387	C	N3-C2-O2	-5.10	118.33	121.90
2	e2	1846	C	N1-C2-O2	5.10	121.96	118.90
55	K3	5	U	C2-N1-C1'	5.10	123.82	117.70
55	K3	1750	C	N1-C2-O2	5.10	121.96	118.90
2	e2	118	C	N1-C2-O2	5.09	121.95	118.90
2	e2	451	C	C6-N1-C2	-5.09	118.27	120.30
2	e2	187	U	C2-N1-C1'	5.08	123.80	117.70
2	e2	2088	G	O4'-C1'-N9	5.08	112.27	108.20
55	K3	1625	U	C2-N1-C1'	5.08	123.80	117.70
2	e2	1283	G	N3-C4-N9	5.08	129.05	126.00
2	e2	1639	U	N3-C2-O2	-5.08	118.64	122.20
2	e2	895	C	C6-N1-C2	-5.07	118.27	120.30
2	e2	294	G	C4-N9-C1'	5.07	133.09	126.50
55	K3	1785	C	N3-C2-O2	-5.06	118.36	121.90
2	e2	81	C	N1-C2-N3	5.06	122.74	119.20
55	K3	1853	C	N3-C2-O2	-5.06	118.36	121.90
2	e2	4585	U	C2-N1-C1'	5.06	123.77	117.70
2	e2	1283	G	C4-N9-C1'	5.05	133.07	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	e2	2366	A	O4'-C1'-N9	5.05	112.24	108.20
2	e2	4090	G	C8-N9-C1'	-5.05	120.44	127.00
2	e2	458	C	C6-N1-C1'	-5.04	114.75	120.80
2	e2	673	C	C6-N1-C2	-5.04	118.28	120.30
55	K3	915	G	O4'-C1'-N9	5.04	112.23	108.20
2	e2	112	C	C2-N1-C1'	5.04	124.34	118.80
50	E1	6317	U	P-O3'-C3'	5.04	125.74	119.70
55	K3	1094	C	N3-C2-O2	-5.03	118.38	121.90
2	e2	2572	C	C5-C4-N4	5.02	123.72	120.20
55	K3	1105	G	C2-N3-C4	-5.02	109.39	111.90
2	e2	3672	G	C2-N3-C4	-5.02	109.39	111.90
55	K3	1105	G	N3-C4-C5	5.02	131.11	128.60
2	e2	2806	A	O4'-C1'-N9	5.02	112.21	108.20
55	K3	1198	G	N1-C2-N3	5.01	126.91	123.90
2	e2	1754	U	C6-N1-C1'	-5.01	114.19	121.20
55	K3	1094	C	C2-N1-C1'	5.01	124.31	118.80
55	K3	1557	C	C6-N1-C2	-5.01	118.30	120.30
2	e2	4090	G	C6-C5-N7	-5.00	127.40	130.40
55	K3	872	A	O4'-C1'-N9	5.00	112.20	108.20

There are no chirality outliers.

All (34) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	22	30	ASP	Peptide
10	52	17	LEU	Peptide
11	62	145	PHE	Peptide
11	62	164	LYS	Peptide
12	72	129	LYS	Peptide
12	72	18	PRO	Peptide
59	B3	69	GLU	Peptide
60	C3	93	GLN	Peptide
60	C3	94	GLU	Peptide
33	G2	43	LYS	Peptide
53	G3	117	PHE	Peptide
53	G3	24	LEU	Peptide
53	G3	31	GLU	Peptide
62	G5	100	ALA	Peptide
62	G5	11	HIS	Peptide
36	K2	48	ARG	Peptide
38	M2	143	VAL	Peptide
38	M2	144	ASP	Peptide

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Mol	Chain	Res	Type	Group
40	T2	127	LYS	Peptide
40	T2	128	LEU	Peptide
41	U2	235	ARG	Peptide
43	W2	110	PHE	Peptide
44	X2	178	ALA	Peptide
44	X2	179	ASP	Peptide
76	Y3	201	LYS	Peptide
70	a3	147	HIS	Peptide
57	a5	137	SER	Peptide
46	a7	135	LYS	Peptide
46	a7	168	VAL	Peptide
21	t2	71	ARG	Peptide
21	t2	73	VAL	Peptide
6	w2	62	MET	Peptide
24	x2	17	GLY	Peptide
25	y2	82	MET	Peptide

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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	Z2	136/138 (99%)	126 (93%)	9 (7%)	1 (1%)	22 61
5	p2	67/69 (97%)	55 (82%)	11 (16%)	1 (2%)	10 45
6	w2	197/199 (99%)	184 (93%)	13 (7%)	0	100 100
7	H2	151/153 (99%)	139 (92%)	12 (8%)	0	100 100
8	S2	185/187 (99%)	173 (94%)	11 (6%)	1 (0%)	29 68
9	32	178/180 (99%)	169 (95%)	9 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
10	52	392/394 (100%)	351 (90%)	40 (10%)	1 (0%)	41 75
11	62	173/175 (99%)	154 (89%)	19 (11%)	0	100 100
12	72	157/159 (99%)	141 (90%)	16 (10%)	0	100 100
13	82	97/99 (98%)	89 (92%)	8 (8%)	0	100 100
14	k2	129/131 (98%)	116 (90%)	13 (10%)	0	100 100
15	l2	61/63 (97%)	56 (92%)	5 (8%)	0	100 100
16	m2	117/119 (98%)	111 (95%)	6 (5%)	0	100 100
17	o2	132/134 (98%)	121 (92%)	11 (8%)	0	100 100
18	q2	145/147 (99%)	124 (86%)	21 (14%)	0	100 100
19	r2	73/75 (97%)	67 (92%)	6 (8%)	0	100 100
20	13	92/94 (98%)	89 (97%)	3 (3%)	0	100 100
21	t2	360/362 (99%)	305 (85%)	54 (15%)	1 (0%)	41 75
22	u2	105/107 (98%)	96 (91%)	9 (9%)	0	100 100
23	v2	126/128 (98%)	112 (89%)	14 (11%)	0	100 100
24	x2	107/109 (98%)	95 (89%)	12 (11%)	0	100 100
25	y2	112/114 (98%)	101 (90%)	11 (10%)	0	100 100
26	92	242/244 (99%)	203 (84%)	37 (15%)	2 (1%)	19 58
27	A2	120/122 (98%)	113 (94%)	7 (6%)	0	100 100
28	B2	100/102 (98%)	89 (89%)	11 (11%)	0	100 100
29	C2	84/86 (98%)	74 (88%)	10 (12%)	0	100 100
30	D2	48/50 (96%)	40 (83%)	8 (17%)	0	100 100
31	E2	50/52 (96%)	47 (94%)	3 (6%)	0	100 100
32	F2	102/104 (98%)	89 (87%)	13 (13%)	0	100 100
33	G2	290/292 (99%)	264 (91%)	26 (9%)	0	100 100
34	I2	89/91 (98%)	82 (92%)	7 (8%)	0	100 100
35	J2	123/125 (98%)	109 (89%)	14 (11%)	0	100 100
36	K2	196/198 (99%)	177 (90%)	19 (10%)	0	100 100
37	L2	100/102 (98%)	90 (90%)	10 (10%)	0	100 100
38	M2	150/163 (92%)	108 (72%)	39 (26%)	3 (2%)	7 39
39	R2	33/35 (94%)	28 (85%)	5 (15%)	0	100 100
40	T2	199/201 (99%)	161 (81%)	36 (18%)	2 (1%)	15 54

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	U2	223/225 (99%)	207 (93%)	16 (7%)	0	100	100
42	V2	231/241 (96%)	208 (90%)	23 (10%)	0	100	100
43	W2	188/190 (99%)	175 (93%)	13 (7%)	0	100	100
44	X2	100/102 (98%)	90 (90%)	10 (10%)	0	100	100
45	Y2	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
46	a7	208/210 (99%)	183 (88%)	24 (12%)	1 (0%)	29	68
47	12	201/203 (99%)	177 (88%)	24 (12%)	0	100	100
48	22	133/135 (98%)	115 (86%)	18 (14%)	0	100	100
49	42	215/217 (99%)	175 (81%)	40 (19%)	0	100	100
51	I3	102/104 (98%)	92 (90%)	10 (10%)	0	100	100
52	s3	41/43 (95%)	34 (83%)	7 (17%)	0	100	100
53	G3	151/153 (99%)	129 (85%)	21 (14%)	1 (1%)	22	61
54	f3	62/64 (97%)	47 (76%)	15 (24%)	0	100	100
56	P3	187/189 (99%)	164 (88%)	23 (12%)	0	100	100
57	a5	134/136 (98%)	110 (82%)	24 (18%)	0	100	100
58	A3	125/127 (98%)	112 (90%)	11 (9%)	2 (2%)	9	43
59	B3	139/141 (99%)	125 (90%)	14 (10%)	0	100	100
60	C3	127/129 (98%)	113 (89%)	11 (9%)	3 (2%)	6	35
61	D3	81/83 (98%)	74 (91%)	6 (7%)	1 (1%)	13	50
62	G5	135/137 (98%)	117 (87%)	16 (12%)	2 (2%)	10	45
63	H5	139/141 (99%)	127 (91%)	12 (9%)	0	100	100
64	J5	127/129 (98%)	113 (89%)	14 (11%)	0	100	100
65	I5	124/126 (98%)	110 (89%)	14 (11%)	0	100	100
66	L3	81/83 (98%)	75 (93%)	6 (7%)	0	100	100
67	M3	73/75 (97%)	71 (97%)	2 (3%)	0	100	100
68	O3	96/98 (98%)	85 (88%)	11 (12%)	0	100	100
69	Q3	59/69 (86%)	52 (88%)	7 (12%)	0	100	100
70	a3	311/313 (99%)	278 (89%)	33 (11%)	0	100	100
71	T3	139/141 (99%)	121 (87%)	18 (13%)	0	100	100
72	U3	206/208 (99%)	189 (92%)	17 (8%)	0	100	100
73	V3	211/213 (99%)	190 (90%)	21 (10%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
74	W3	216/218 (99%)	193 (89%)	23 (11%)	0	100	100
75	X3	21/23 (91%)	21 (100%)	0	0	100	100
76	Y3	225/227 (99%)	208 (92%)	17 (8%)	0	100	100
77	j3	260/262 (99%)	235 (90%)	23 (9%)	2 (1%)	19	58
78	N3	189/191 (99%)	174 (92%)	15 (8%)	0	100	100
79	b3	235/237 (99%)	224 (95%)	11 (5%)	0	100	100
80	c3	204/206 (99%)	181 (89%)	23 (11%)	0	100	100
81	d3	183/185 (99%)	167 (91%)	16 (9%)	0	100	100
82	e3	122/124 (98%)	103 (84%)	19 (16%)	0	100	100
83	F3	148/150 (99%)	135 (91%)	13 (9%)	0	100	100
84	E3	96/98 (98%)	79 (82%)	17 (18%)	0	100	100
85	H3	51/53 (96%)	44 (86%)	7 (14%)	0	100	100
All	All	11684/11871 (98%)	10427 (89%)	1233 (11%)	24 (0%)	50	81

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
21	t2	72	ALA
38	M2	143	VAL
38	M2	144	ASP
53	G3	25	LEU
58	A3	6	GLN
77	j3	12	VAL
38	M2	145	GLY
40	T2	128	LEU
40	T2	129	LEU
62	G5	101	ASN
8	S2	77	ASN
60	C3	94	GLU
62	G5	59	LEU
1	Z2	65	PRO
60	C3	93	GLN
5	p2	32	VAL
10	52	18	PRO
58	A3	51	ARG
61	D3	2	GLN
26	92	15	VAL
60	C3	95	ILE

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Mol	Chain	Res	Type
77	j3	11	ARG
26	92	210	PRO
46	a7	12	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	Z2	117/117 (100%)	116 (99%)	1 (1%)	78 90
5	p2	64/64 (100%)	64 (100%)	0	100 100
6	w2	171/171 (100%)	171 (100%)	0	100 100
7	H2	134/134 (100%)	133 (99%)	1 (1%)	84 93
8	S2	164/164 (100%)	163 (99%)	1 (1%)	86 94
9	32	159/159 (100%)	157 (99%)	2 (1%)	69 86
10	52	342/342 (100%)	342 (100%)	0	100 100
11	62	156/156 (100%)	155 (99%)	1 (1%)	86 94
12	72	139/139 (100%)	136 (98%)	3 (2%)	52 78
13	82	89/89 (100%)	89 (100%)	0	100 100
14	k2	101/101 (100%)	100 (99%)	1 (1%)	76 88
15	l2	55/55 (100%)	55 (100%)	0	100 100
16	m2	107/107 (100%)	107 (100%)	0	100 100
17	o2	124/124 (100%)	123 (99%)	1 (1%)	81 91
18	q2	119/119 (100%)	119 (100%)	0	100 100
19	r2	62/62 (100%)	61 (98%)	1 (2%)	62 83
20	13	80/80 (100%)	79 (99%)	1 (1%)	69 86
21	t2	302/302 (100%)	301 (100%)	1 (0%)	92 97
22	u2	98/98 (100%)	98 (100%)	0	100 100
23	v2	114/114 (100%)	114 (100%)	0	100 100
24	x2	88/88 (100%)	87 (99%)	1 (1%)	73 88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
25	y2	98/98 (100%)	97 (99%)	1 (1%)	76 88
26	92	187/187 (100%)	186 (100%)	1 (0%)	88 94
27	A2	109/109 (100%)	109 (100%)	0	100 100
28	B2	86/86 (100%)	86 (100%)	0	100 100
29	C2	73/73 (100%)	73 (100%)	0	100 100
30	D2	47/47 (100%)	47 (100%)	0	100 100
31	E2	48/48 (100%)	48 (100%)	0	100 100
32	F2	92/92 (100%)	92 (100%)	0	100 100
33	G2	247/247 (100%)	245 (99%)	2 (1%)	81 91
34	I2	74/74 (100%)	74 (100%)	0	100 100
35	J2	109/109 (100%)	109 (100%)	0	100 100
36	K2	166/166 (100%)	166 (100%)	0	100 100
37	L2	89/89 (100%)	89 (100%)	0	100 100
38	M2	131/136 (96%)	129 (98%)	2 (2%)	65 84
39	R2	29/29 (100%)	29 (100%)	0	100 100
40	T2	180/180 (100%)	178 (99%)	2 (1%)	73 88
41	U2	196/196 (100%)	196 (100%)	0	100 100
42	V2	199/205 (97%)	198 (100%)	1 (0%)	88 94
43	W2	169/169 (100%)	165 (98%)	4 (2%)	49 76
44	X2	85/85 (100%)	85 (100%)	0	100 100
45	Y2	142/142 (100%)	141 (99%)	1 (1%)	84 93
46	a7	175/175 (100%)	171 (98%)	4 (2%)	50 77
47	12	171/171 (100%)	171 (100%)	0	100 100
48	22	117/117 (100%)	117 (100%)	0	100 100
49	42	196/196 (100%)	196 (100%)	0	100 100
51	I3	94/94 (100%)	93 (99%)	1 (1%)	73 88
52	s3	35/35 (100%)	35 (100%)	0	100 100
53	G3	137/137 (100%)	131 (96%)	6 (4%)	28 62
54	f3	57/57 (100%)	57 (100%)	0	100 100
56	P3	169/169 (100%)	169 (100%)	0	100 100
57	a5	106/106 (100%)	106 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
58	A3	116/116 (100%)	113 (97%)	3 (3%)	46 74
59	B3	117/117 (100%)	117 (100%)	0	100 100
60	C3	117/117 (100%)	117 (100%)	0	100 100
61	D3	68/68 (100%)	64 (94%)	4 (6%)	19 53
62	G5	119/119 (100%)	118 (99%)	1 (1%)	81 91
63	H5	113/113 (100%)	108 (96%)	5 (4%)	28 62
64	J5	112/112 (100%)	110 (98%)	2 (2%)	59 81
65	I5	108/108 (100%)	107 (99%)	1 (1%)	78 90
66	L3	75/75 (100%)	75 (100%)	0	100 100
67	M3	66/66 (100%)	66 (100%)	0	100 100
68	O3	85/85 (100%)	83 (98%)	2 (2%)	49 76
69	Q3	59/62 (95%)	59 (100%)	0	100 100
70	a3	272/272 (100%)	272 (100%)	0	100 100
71	T3	113/113 (100%)	112 (99%)	1 (1%)	78 90
72	U3	175/175 (100%)	172 (98%)	3 (2%)	60 82
73	V3	194/194 (100%)	194 (100%)	0	100 100
74	W3	184/184 (100%)	175 (95%)	9 (5%)	25 59
75	X3	22/22 (100%)	22 (100%)	0	100 100
76	Y3	190/190 (100%)	190 (100%)	0	100 100
77	j3	224/224 (100%)	220 (98%)	4 (2%)	59 81
78	N3	161/161 (100%)	161 (100%)	0	100 100
79	b3	207/207 (100%)	204 (99%)	3 (1%)	67 85
80	c3	178/178 (100%)	176 (99%)	2 (1%)	73 88
81	d3	161/161 (100%)	161 (100%)	0	100 100
82	e3	104/104 (100%)	104 (100%)	0	100 100
83	F3	130/130 (100%)	130 (100%)	0	100 100
84	E3	89/89 (100%)	89 (100%)	0	100 100
85	H3	47/47 (100%)	47 (100%)	0	100 100
All	All	10204/10218 (100%)	10124 (99%)	80 (1%)	82 91

All (80) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	Z2	71	LYS
7	H2	3	ARG
8	S2	115	ARG
9	32	43	LYS
9	32	136	ARG
11	62	23	HIS
12	72	84	ILE
12	72	122	LYS
12	72	124	THR
14	k2	16	ILE
17	o2	2	LYS
19	r2	63	LYS
20	13	95	SER
21	t2	80	ARG
24	x2	101	ILE
25	y2	90	ARG
26	92	193	ARG
33	G2	23	ARG
33	G2	258	LYS
38	M2	56	LEU
38	M2	94	LYS
40	T2	133	LYS
40	T2	224	LYS
42	V2	184	ILE
43	W2	47	ARG
43	W2	61	LYS
43	W2	126	ARG
43	W2	127	ASN
45	Y2	174	ILE
46	a7	21	ARG
46	a7	28	GLN
46	a7	55	ILE
46	a7	74	ARG
51	I3	84	ILE
53	G3	25	LEU
53	G3	27	GLU
53	G3	28	THR
53	G3	30	LYS
53	G3	31	GLU
53	G3	144	LYS
58	A3	4	VAL
58	A3	8	LYS
58	A3	14	LYS

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Mol	Chain	Res	Type
61	D3	2	GLN
61	D3	4	ASN
61	D3	7	GLU
61	D3	50	SER
62	G5	23	ARG
63	H5	115	LYS
63	H5	116	ASP
63	H5	119	TRP
63	H5	121	ARG
63	H5	129	ARG
64	J5	5	ASN
64	J5	118	ARG
65	I5	111	LYS
68	O3	23	CYS
68	O3	77	CYS
71	T3	29	LYS
72	U3	113	GLN
72	U3	114	THR
72	U3	117	ARG
74	W3	70	MET
74	W3	98	LEU
74	W3	117	ARG
74	W3	120	GLN
74	W3	214	LEU
74	W3	215	MET
74	W3	216	MET
74	W3	227	ARG
74	W3	229	CYS
77	j3	26	VAL
77	j3	156	MET
77	j3	188	ASN
77	j3	232	ASN
79	b3	98	ARG
79	b3	131	ARG
79	b3	159	ARG
80	c3	88	ASN
80	c3	158	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (38) such sidechains are listed below:

Mol	Chain	Res	Type
1	Z2	120	ASN

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Mol	Chain	Res	Type
5	p2	31	ASN
6	w2	42	ASN
6	w2	72	HIS
6	w2	180	GLN
7	H2	118	GLN
7	H2	120	ASN
12	72	66	ASN
13	82	27	HIS
18	q2	28	HIS
18	q2	41	HIS
18	q2	44	ASN
21	t2	94	ASN
33	G2	45	ASN
35	J2	30	ASN
44	X2	144	ASN
47	12	32	GLN
47	12	37	HIS
47	12	181	HIS
49	42	143	ASN
51	I3	81	GLN
54	f3	26	GLN
58	A3	79	HIS
61	D3	2	GLN
62	G5	11	HIS
62	G5	97	GLN
63	H5	10	ASN
64	J5	56	HIS
65	I5	19	GLN
66	L3	26	GLN
66	L3	83	GLN
71	T3	87	ASN
77	j3	50	ASN
77	j3	138	HIS
79	b3	70	HIS
80	c3	9	HIS
83	F3	63	GLN
84	E3	66	HIS

5.3.3 RNA (i)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	e2	3910/3920 (99%)	1126 (28%)	0
3	d2	119/120 (99%)	20 (16%)	0
4	h2	155/156 (99%)	38 (24%)	0
50	E1	152/153 (99%)	96 (63%)	9 (5%)
55	K3	1868/1869 (99%)	494 (26%)	30 (1%)
All	All	6204/6218 (99%)	1774 (28%)	39 (0%)

All (1774) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	e2	2	G
2	e2	12	A
2	e2	13	U
2	e2	21	G
2	e2	25	A
2	e2	39	A
2	e2	42	A
2	e2	43	U
2	e2	44	A
2	e2	58	G
2	e2	59	A
2	e2	64	A
2	e2	65	A
2	e2	66	A
2	e2	73	A
2	e2	76	A
2	e2	91	G
2	e2	93	G
2	e2	104	G
2	e2	109	G
2	e2	110	C
2	e2	116	G
2	e2	118	C
2	e2	119	G
2	e2	120	A
2	e2	126	C
2	e2	135	G
2	e2	136	C
2	e2	137	G
2	e2	142	G
2	e2	143	C

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Mol	Chain	Res	Type
2	e2	149	A
2	e2	157	U
2	e2	159	C
2	e2	170	C
2	e2	171	U
2	e2	172	C
2	e2	173	C
2	e2	182	G
2	e2	183	C
2	e2	184	U
2	e2	185	C
2	e2	187	U
2	e2	189	G
2	e2	200	U
2	e2	201	C
2	e2	202	C
2	e2	205	C
2	e2	210	C
2	e2	216	C
2	e2	218	A
2	e2	219	G
2	e2	220	C
2	e2	226	G
2	e2	233	U
2	e2	234	G
2	e2	241	G
2	e2	242	U
2	e2	245	C
2	e2	246	G
2	e2	253	G
2	e2	256	G
2	e2	257	C
2	e2	265	C
2	e2	266	C
2	e2	267	G
2	e2	275	C
2	e2	276	C
2	e2	278	G
2	e2	280	G
2	e2	293	G
2	e2	294	G
2	e2	295	A

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Mol	Chain	Res	Type
2	e2	297	U
2	e2	306	A
2	e2	309	C
2	e2	315	G
2	e2	316	U
2	e2	322	C
2	e2	326	C
2	e2	334	A
2	e2	340	C
2	e2	350	C
2	e2	359	A
2	e2	362	A
2	e2	363	A
2	e2	365	U
2	e2	383	A
2	e2	387	G
2	e2	396	A
2	e2	401	G
2	e2	407	A
2	e2	409	G
2	e2	410	A
2	e2	412	G
2	e2	413	G
2	e2	436	C
2	e2	437	G
2	e2	438	G
2	e2	440	U
2	e2	444	G
2	e2	445	U
2	e2	446	C
2	e2	449	C
2	e2	450	G
2	e2	451	C
2	e2	452	A
2	e2	453	G
2	e2	454	U
2	e2	455	C
2	e2	456	C
2	e2	457	G
2	e2	458	C
2	e2	465	G
2	e2	466	A

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Mol	Chain	Res	Type
2	e2	468	U
2	e2	469	C
2	e2	473	C
2	e2	485	C
2	e2	486	C
2	e2	487	G
2	e2	491	G
2	e2	494	U
2	e2	496	G
2	e2	497	G
2	e2	498	C
2	e2	500	G
2	e2	501	C
2	e2	502	C
2	e2	504	G
2	e2	506	C
2	e2	511	C
2	e2	513	U
2	e2	522	C
2	e2	635	G
2	e2	638	G
2	e2	639	U
2	e2	640	C
2	e2	647	G
2	e2	649	A
2	e2	656	C
2	e2	660	A
2	e2	664	G
2	e2	665	C
2	e2	666	G
2	e2	667	A
2	e2	668	C
2	e2	672	C
2	e2	683	C
2	e2	684	G
2	e2	685	C
2	e2	686	A
2	e2	694	C
2	e2	695	G
2	e2	696	C
2	e2	697	G
2	e2	701	G

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Mol	Chain	Res	Type
2	e2	704	C
2	e2	707	C
2	e2	716	C
2	e2	718	C
2	e2	722	G
2	e2	728	U
2	e2	729	G
2	e2	730	G
2	e2	737	C
2	e2	742	G
2	e2	746	A
2	e2	747	A
2	e2	748	G
2	e2	749	G
2	e2	750	U
2	e2	758	G
2	e2	759	G
2	e2	762	C
2	e2	763	C
2	e2	891	G
2	e2	893	A
2	e2	894	C
2	e2	895	C
2	e2	897	A
2	e2	898	A
2	e2	899	A
2	e2	900	C
2	e2	901	C
2	e2	905	C
2	e2	910	G
2	e2	914	U
2	e2	915	A
2	e2	916	C
2	e2	917	A
2	e2	918	G
2	e2	919	C
2	e2	920	C
2	e2	926	G
2	e2	927	G
2	e2	928	C
2	e2	929	A
2	e2	930	G

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Mol	Chain	Res	Type
2	e2	931	C
2	e2	932	A
2	e2	936	C
2	e2	937	U
2	e2	938	C
2	e2	939	G
2	e2	940	C
2	e2	942	G
2	e2	944	A
2	e2	945	U
2	e2	946	C
2	e2	947	C
2	e2	957	G
2	e2	958	G
2	e2	960	A
2	e2	961	G
2	e2	962	C
2	e2	963	G
2	e2	964	A
2	e2	965	G
2	e2	966	A
2	e2	967	C
2	e2	969	C
2	e2	970	G
2	e2	971	U
2	e2	972	C
2	e2	973	G
2	e2	976	G
2	e2	982	U
2	e2	984	C
2	e2	990	C
2	e2	991	C
2	e2	998	C
2	e2	999	C
2	e2	1000	A
2	e2	1045	C
2	e2	1052	G
2	e2	1053	C
2	e2	1061	C
2	e2	1064	G
2	e2	1072	C
2	e2	1073	G

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Mol	Chain	Res	Type
2	e2	1077	C
2	e2	1078	A
2	e2	1079	C
2	e2	1080	C
2	e2	1081	C
2	e2	1083	U
2	e2	1101	C
2	e2	1102	U
2	e2	1104	C
2	e2	1106	A
2	e2	1108	C
2	e2	1166	G
2	e2	1167	C
2	e2	1168	G
2	e2	1179	U
2	e2	1180	C
2	e2	1183	C
2	e2	1196	G
2	e2	1199	G
2	e2	1210	C
2	e2	1211	G
2	e2	1212	G
2	e2	1214	C
2	e2	1215	C
2	e2	1218	G
2	e2	1219	G
2	e2	1224	G
2	e2	1225	U
2	e2	1226	U
2	e2	1227	C
2	e2	1228	U
2	e2	1232	G
2	e2	1233	G
2	e2	1234	G
2	e2	1235	G
2	e2	1236	C
2	e2	1237	C
2	e2	1238	A
2	e2	1239	C
2	e2	1240	G
2	e2	1241	C
2	e2	1242	G

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Mol	Chain	Res	Type
2	e2	1243	C
2	e2	1244	G
2	e2	1255	A
2	e2	1256	G
2	e2	1257	A
2	e2	1266	G
2	e2	1267	C
2	e2	1268	G
2	e2	1269	G
2	e2	1270	A
2	e2	1271	G
2	e2	1274	A
2	e2	1275	G
2	e2	1277	G
2	e2	1279	A
2	e2	1280	C
2	e2	1282	G
2	e2	1285	U
2	e2	1288	G
2	e2	1289	C
2	e2	1293	G
2	e2	1294	A
2	e2	1295	C
2	e2	1297	U
2	e2	1298	C
2	e2	1301	C
2	e2	1302	U
2	e2	1303	A
2	e2	1304	C
2	e2	1305	C
2	e2	1311	G
2	e2	1312	A
2	e2	1313	C
2	e2	1320	U
2	e2	1321	G
2	e2	1322	A
2	e2	1324	A
2	e2	1326	A
2	e2	1330	A
2	e2	1334	A
2	e2	1337	A
2	e2	1339	U

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Mol	Chain	Res	Type
2	e2	1344	C
2	e2	1352	C
2	e2	1354	A
2	e2	1355	G
2	e2	1358	G
2	e2	1360	G
2	e2	1365	C
2	e2	1366	G
2	e2	1367	C
2	e2	1368	A
2	e2	1369	C
2	e2	1370	G
2	e2	1371	A
2	e2	1372	A
2	e2	1377	G
2	e2	1378	C
2	e2	1380	G
2	e2	1381	U
2	e2	1387	A
2	e2	1390	G
2	e2	1391	A
2	e2	1393	G
2	e2	1394	G
2	e2	1397	A
2	e2	1398	A
2	e2	1399	G
2	e2	1401	C
2	e2	1407	C
2	e2	1408	G
2	e2	1410	U
2	e2	1418	C
2	e2	1420	A
2	e2	1421	G
2	e2	1437	C
2	e2	1440	U
2	e2	1441	C
2	e2	1445	U
2	e2	1448	G
2	e2	1455	G
2	e2	1456	C
2	e2	1457	G
2	e2	1475	G

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Mol	Chain	Res	Type
2	e2	1478	C
2	e2	1482	G
2	e2	1483	C
2	e2	1497	A
2	e2	1498	G
2	e2	1501	C
2	e2	1502	G
2	e2	1503	A
2	e2	1504	G
2	e2	1515	A
2	e2	1516	G
2	e2	1518	A
2	e2	1519	C
2	e2	1523	A
2	e2	1524	A
2	e2	1534	A
2	e2	1537	A
2	e2	1547	A
2	e2	1554	A
2	e2	1564	A
2	e2	1566	C
2	e2	1578	U
2	e2	1586	G
2	e2	1591	U
2	e2	1596	U
2	e2	1612	G
2	e2	1614	C
2	e2	1624	G
2	e2	1625	G
2	e2	1626	G
2	e2	1631	A
2	e2	1633	G
2	e2	1634	A
2	e2	1638	A
2	e2	1641	G
2	e2	1642	A
2	e2	1649	U
2	e2	1650	A
2	e2	1652	U
2	e2	1654	G
2	e2	1655	C
2	e2	1661	C

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Mol	Chain	Res	Type
2	e2	1670	G
2	e2	1671	U
2	e2	1676	C
2	e2	1677	U
2	e2	1679	A
2	e2	1697	G
2	e2	1699	A
2	e2	1700	G
2	e2	1701	A
2	e2	1702	C
2	e2	1703	C
2	e2	1704	C
2	e2	1706	A
2	e2	1707	C
2	e2	1711	C
2	e2	1712	C
2	e2	1713	C
2	e2	1714	C
2	e2	1715	C
2	e2	1716	G
2	e2	1717	C
2	e2	1719	A
2	e2	1720	C
2	e2	1721	G
2	e2	1724	G
2	e2	1725	U
2	e2	1726	U
2	e2	1741	G
2	e2	1750	G
2	e2	1754	U
2	e2	1756	U
2	e2	1757	U
2	e2	1758	G
2	e2	1761	G
2	e2	1764	G
2	e2	1765	A
2	e2	1766	A
2	e2	1768	C
2	e2	1769	G
2	e2	1770	A
2	e2	1772	C
2	e2	1773	U

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Mol	Chain	Res	Type
2	e2	1776	A
2	e2	1777	C
2	e2	1780	A
2	e2	1787	A
2	e2	1799	G
2	e2	1804	A
2	e2	1805	A
2	e2	1806	G
2	e2	1809	C
2	e2	1816	C
2	e2	1819	G
2	e2	1820	C
2	e2	1821	G
2	e2	1822	U
2	e2	1823	G
2	e2	1828	C
2	e2	1832	C
2	e2	1833	G
2	e2	1834	U
2	e2	1835	G
2	e2	1836	G
2	e2	1842	A
2	e2	1848	U
2	e2	1853	G
2	e2	1854	G
2	e2	1868	G
2	e2	1881	U
2	e2	1888	U
2	e2	1896	A
2	e2	1909	G
2	e2	1911	G
2	e2	1914	C
2	e2	1915	G
2	e2	1917	U
2	e2	1918	G
2	e2	1919	C
2	e2	1921	G
2	e2	1934	C
2	e2	1936	C
2	e2	1940	A
2	e2	1944	G
2	e2	1950	G

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Mol	Chain	Res	Type
2	e2	1957	A
2	e2	1959	A
2	e2	1960	G
2	e2	1961	A
2	e2	1963	A
2	e2	1966	A
2	e2	1971	G
2	e2	1973	U
2	e2	1975	G
2	e2	1976	C
2	e2	1979	U
2	e2	1980	G
2	e2	1981	G
2	e2	1982	A
2	e2	1984	G
2	e2	1985	U
2	e2	1986	C
2	e2	1987	G
2	e2	1989	A
2	e2	1990	A
2	e2	1991	U
2	e2	1993	C
2	e2	1996	U
2	e2	1997	A
2	e2	1999	G
2	e2	2000	G
2	e2	2001	A
2	e2	2002	G
2	e2	2003	U
2	e2	2004	G
2	e2	2010	C
2	e2	2014	U
2	e2	2015	C
2	e2	2018	C
2	e2	2020	G
2	e2	2025	A
2	e2	2032	A
2	e2	2041	A
2	e2	2043	U
2	e2	2046	A
2	e2	2047	U
2	e2	2051	G

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Mol	Chain	Res	Type
2	e2	2053	U
2	e2	2054	G
2	e2	2055	G
2	e2	2063	G
2	e2	2068	A
2	e2	2083	C
2	e2	2084	G
2	e2	2087	A
2	e2	2088	G
2	e2	2089	U
2	e2	2092	A
2	e2	2093	G
2	e2	2095	G
2	e2	2099	A
2	e2	2101	G
2	e2	2104	A
2	e2	2107	G
2	e2	2108	G
2	e2	2109	C
2	e2	2111	G
2	e2	2112	G
2	e2	2113	G
2	e2	2114	G
2	e2	2115	C
2	e2	2116	G
2	e2	2117	G
2	e2	2118	C
2	e2	2119	G
2	e2	2120	C
2	e2	2121	G
2	e2	2122	C
2	e2	2124	C
2	e2	2125	G
2	e2	2126	C
2	e2	2128	C
2	e2	2129	G
2	e2	2130	C
2	e2	2244	C
2	e2	2248	C
2	e2	2249	C
2	e2	2251	G
2	e2	2252	G

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Mol	Chain	Res	Type
2	e2	2253	A
2	e2	2254	G
2	e2	2257	C
2	e2	2258	C
2	e2	2259	G
2	e2	2260	C
2	e2	2261	G
2	e2	2262	G
2	e2	2263	A
2	e2	2265	G
2	e2	2266	C
2	e2	2267	U
2	e2	2268	A
2	e2	2275	G
2	e2	2289	C
2	e2	2300	A
2	e2	2301	G
2	e2	2333	G
2	e2	2341	A
2	e2	2348	G
2	e2	2350	U
2	e2	2351	C
2	e2	2360	A
2	e2	2366	A
2	e2	2395	A
2	e2	2396	A
2	e2	2409	U
2	e2	2416	G
2	e2	2417	A
2	e2	2422	C
2	e2	2425	U
2	e2	2428	A
2	e2	2437	C
2	e2	2440	U
2	e2	2441	C
2	e2	2450	G
2	e2	2469	C
2	e2	2471	G
2	e2	2472	A
2	e2	2485	U
2	e2	2486	G
2	e2	2488	C

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Mol	Chain	Res	Type
2	e2	2489	C
2	e2	2490	U
2	e2	2491	C
2	e2	2503	G
2	e2	2504	C
2	e2	2505	C
2	e2	2506	G
2	e2	2507	A
2	e2	2512	A
2	e2	2513	A
2	e2	2518	G
2	e2	2529	A
2	e2	2530	U
2	e2	2537	A
2	e2	2545	U
2	e2	2546	G
2	e2	2547	G
2	e2	2552	G
2	e2	2553	A
2	e2	2554	U
2	e2	2555	G
2	e2	2560	C
2	e2	2566	G
2	e2	2569	G
2	e2	2580	U
2	e2	2583	C
2	e2	2587	A
2	e2	2588	C
2	e2	2589	C
2	e2	2601	A
2	e2	2618	G
2	e2	2619	G
2	e2	2620	G
2	e2	2627	C
2	e2	2633	U
2	e2	2638	G
2	e2	2653	C
2	e2	2661	U
2	e2	2662	G
2	e2	2663	G
2	e2	2669	C
2	e2	2673	G

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Mol	Chain	Res	Type
2	e2	2675	G
2	e2	2681	G
2	e2	2687	U
2	e2	2694	G
2	e2	2695	A
2	e2	2696	A
2	e2	2697	A
2	e2	2709	C
2	e2	2710	C
2	e2	2711	G
2	e2	2712	G
2	e2	2714	G
2	e2	2716	C
2	e2	2719	C
2	e2	2721	G
2	e2	2725	A
2	e2	2726	G
2	e2	2735	G
2	e2	2738	C
2	e2	2740	U
2	e2	2742	G
2	e2	2743	A
2	e2	2744	A
2	e2	2759	G
2	e2	2763	U
2	e2	2766	A
2	e2	2768	C
2	e2	2769	U
2	e2	2770	C
2	e2	2772	C
2	e2	2787	A
2	e2	2788	U
2	e2	2789	A
2	e2	2790	U
2	e2	2793	G
2	e2	2796	G
2	e2	2798	A
2	e2	2807	A
2	e2	2814	C
2	e2	2826	U
2	e2	2827	G
2	e2	2833	A

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Mol	Chain	Res	Type
2	e2	2838	G
2	e2	2842	G
2	e2	2844	A
2	e2	2854	G
2	e2	2855	G
2	e2	2859	G
2	e2	2875	C
2	e2	2879	A
2	e2	2880	U
2	e2	2884	G
2	e2	2898	G
2	e2	2902	G
2	e2	2903	G
2	e2	2905	C
2	e2	3584	C
2	e2	3594	C
2	e2	3595	U
2	e2	3597	G
2	e2	3598	C
2	e2	3605	C
2	e2	3606	U
2	e2	3615	G
2	e2	3617	G
2	e2	3625	G
2	e2	3626	G
2	e2	3635	A
2	e2	3641	U
2	e2	3642	A
2	e2	3643	A
2	e2	3644	U
2	e2	3646	A
2	e2	3653	A
2	e2	3662	A
2	e2	3663	A
2	e2	3664	G
2	e2	3672	G
2	e2	3673	C
2	e2	3674	G
2	e2	3680	U
2	e2	3690	U
2	e2	3692	A
2	e2	3696	C

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Mol	Chain	Res	Type
2	e2	3698	G
2	e2	3710	G
2	e2	3711	A
2	e2	3713	U
2	e2	3719	A
2	e2	3722	G
2	e2	3729	U
2	e2	3748	A
2	e2	3753	G
2	e2	3756	A
2	e2	3758	U
2	e2	3760	A
2	e2	3761	C
2	e2	3763	A
2	e2	3764	U
2	e2	3772	U
2	e2	3773	U
2	e2	3774	A
2	e2	3776	G
2	e2	3777	G
2	e2	3780	G
2	e2	3783	A
2	e2	3784	A
2	e2	3785	A
2	e2	3789	C
2	e2	3790	U
2	e2	3807	A
2	e2	3810	C
2	e2	3811	G
2	e2	3812	C
2	e2	3813	A
2	e2	3814	U
2	e2	3818	U
2	e2	3819	G
2	e2	3838	U
2	e2	3840	U
2	e2	3860	A
2	e2	3876	A
2	e2	3877	A
2	e2	3878	C
2	e2	3879	G
2	e2	3889	G

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Mol	Chain	Res	Type
2	e2	3890	A
2	e2	3892	U
2	e2	3897	G
2	e2	3898	G
2	e2	3901	A
2	e2	3905	A
2	e2	3906	A
2	e2	3907	G
2	e2	3915	U
2	e2	3922	G
2	e2	3938	G
2	e2	3939	G
2	e2	3943	A
2	e2	3946	G
2	e2	3950	U
2	e2	3954	A
2	e2	3955	G
2	e2	3956	G
2	e2	3957	U
2	e2	3958	G
2	e2	3960	A
2	e2	3961	G
2	e2	3962	A
2	e2	3963	A
2	e2	3965	A
2	e2	3967	G
2	e2	3968	U
2	e2	3969	G
2	e2	3971	G
2	e2	3972	A
2	e2	3973	G
2	e2	3977	C
2	e2	3978	C
2	e2	3987	C
2	e2	3988	C
2	e2	3993	U
2	e2	3994	G
2	e2	3999	C
2	e2	4000	G
2	e2	4009	C
2	e2	4015	C
2	e2	4016	G

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Mol	Chain	Res	Type
2	e2	4024	C
2	e2	4028	C
2	e2	4030	C
2	e2	4034	G
2	e2	4035	G
2	e2	4036	G
2	e2	4038	C
2	e2	4039	G
2	e2	4042	G
2	e2	4044	U
2	e2	4045	G
2	e2	4046	A
2	e2	4048	A
2	e2	4049	U
2	e2	4050	A
2	e2	4051	C
2	e2	4052	C
2	e2	4054	C
2	e2	4055	U
2	e2	4056	A
2	e2	4058	U
2	e2	4059	C
2	e2	4060	U
2	e2	4062	A
2	e2	4065	G
2	e2	4069	U
2	e2	4070	U
2	e2	4076	G
2	e2	4077	A
2	e2	4084	G
2	e2	4085	A
2	e2	4086	G
2	e2	4093	G
2	e2	4094	G
2	e2	4097	G
2	e2	4107	G
2	e2	4115	G
2	e2	4117	U
2	e2	4118	U
2	e2	4119	C
2	e2	4121	G
2	e2	4127	A

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Mol	Chain	Res	Type
2	e2	4136	G
2	e2	4141	G
2	e2	4142	C
2	e2	4143	G
2	e2	4144	C
2	e2	4148	C
2	e2	4150	G
2	e2	4151	G
2	e2	4154	G
2	e2	4158	C
2	e2	4162	C
2	e2	4163	U
2	e2	4164	C
2	e2	4166	G
2	e2	4167	G
2	e2	4168	G
2	e2	4171	C
2	e2	4172	A
2	e2	4173	G
2	e2	4183	G
2	e2	4184	G
2	e2	4191	G
2	e2	4195	G
2	e2	4197	G
2	e2	4198	G
2	e2	4199	C
2	e2	4203	A
2	e2	4205	A
2	e2	4206	C
2	e2	4216	G
2	e2	4217	G
2	e2	4218	U
2	e2	4229	U
2	e2	4231	C
2	e2	4232	U
2	e2	4233	A
2	e2	4234	A
2	e2	4251	A
2	e2	4254	G
2	e2	4255	A
2	e2	4257	A
2	e2	4265	U

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Mol	Chain	Res	Type
2	e2	4268	A
2	e2	4271	A
2	e2	4273	A
2	e2	4280	A
2	e2	4291	G
2	e2	4297	G
2	e2	4303	C
2	e2	4304	A
2	e2	4305	G
2	e2	4306	U
2	e2	4314	C
2	e2	4317	A
2	e2	4318	C
2	e2	4323	A
2	e2	4324	A
2	e2	4329	G
2	e2	4330	G
2	e2	4332	C
2	e2	4337	C
2	e2	4349	C
2	e2	4350	C
2	e2	4373	G
2	e2	4376	A
2	e2	4377	G
2	e2	4378	A
2	e2	4380	A
2	e2	4387	C
2	e2	4391	G
2	e2	4393	G
2	e2	4394	A
2	e2	4395	U
2	e2	4396	A
2	e2	4398	C
2	e2	4399	U
2	e2	4419	U
2	e2	4420	U
2	e2	4421	C
2	e2	4422	A
2	e2	4424	A
2	e2	4433	G
2	e2	4437	U
2	e2	4440	G

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Mol	Chain	Res	Type
2	e2	4444	C
2	e2	4448	G
2	e2	4449	A
2	e2	4452	U
2	e2	4453	C
2	e2	4464	A
2	e2	4466	C
2	e2	4471	U
2	e2	4472	G
2	e2	4474	A
2	e2	4475	G
2	e2	4476	C
2	e2	4481	U
2	e2	4482	U
2	e2	4491	G
2	e2	4500	U
2	e2	4505	C
2	e2	4510	A
2	e2	4512	U
2	e2	4513	A
2	e2	4522	G
2	e2	4524	G
2	e2	4528	G
2	e2	4529	G
2	e2	4531	U
2	e2	4542	U
2	e2	4543	G
2	e2	4548	A
2	e2	4549	G
2	e2	4560	C
2	e2	4575	G
2	e2	4584	A
2	e2	4585	U
2	e2	4586	G
2	e2	4589	A
2	e2	4590	A
2	e2	4599	A
2	e2	4604	G
2	e2	4605	A
2	e2	4606	G
2	e2	4608	G
2	e2	4635	A

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Mol	Chain	Res	Type
2	e2	4636	U
2	e2	4637	G
2	e2	4639	G
2	e2	4647	G
2	e2	4648	A
2	e2	4668	U
2	e2	4670	C
2	e2	4671	C
2	e2	4672	A
2	e2	4677	U
2	e2	4691	A
2	e2	4693	C
2	e2	4695	C
2	e2	4700	A
2	e2	4709	U
2	e2	4717	A
2	e2	4719	G
2	e2	4720	C
2	e2	4721	G
2	e2	4727	A
2	e2	4730	C
2	e2	4731	G
2	e2	4732	G
2	e2	4733	C
2	e2	4734	A
2	e2	4738	C
2	e2	4743	G
2	e2	4744	A
2	e2	4745	G
2	e2	4750	G
2	e2	4753	U
2	e2	4756	C
2	e2	4758	U
2	e2	4763	U
2	e2	4764	A
2	e2	4765	G
2	e2	4769	G
2	e2	4774	C
2	e2	4778	C
2	e2	4779	U
2	e2	4780	G
2	e2	4781	U

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Mol	Chain	Res	Type
2	e2	4782	C
2	e2	4845	C
2	e2	4848	C
2	e2	4849	G
2	e2	4852	C
2	e2	4853	C
2	e2	4854	G
2	e2	4858	C
2	e2	4859	C
2	e2	4860	G
2	e2	4869	U
2	e2	4871	C
2	e2	4872	G
2	e2	4873	G
2	e2	4874	A
2	e2	4876	U
2	e2	4878	C
2	e2	4884	G
2	e2	4885	U
2	e2	4886	C
2	e2	4889	G
2	e2	4890	G
2	e2	4892	A
2	e2	4893	A
2	e2	4894	A
2	e2	4895	C
2	e2	4896	G
2	e2	4901	G
2	e2	4903	G
2	e2	4907	G
2	e2	4909	A
2	e2	4910	G
2	e2	4911	A
2	e2	4912	G
2	e2	4913	G
2	e2	4914	C
2	e2	4918	C
2	e2	4927	G
2	e2	4928	C
2	e2	4931	G
2	e2	4935	C
2	e2	4936	G

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Mol	Chain	Res	Type
2	e2	4937	C
2	e2	4938	A
2	e2	4939	C
2	e2	4940	C
2	e2	4941	G
2	e2	4944	C
2	e2	4945	G
2	e2	4946	U
2	e2	4949	G
2	e2	4950	U
2	e2	4951	G
2	e2	4959	U
2	e2	4960	G
2	e2	4963	G
2	e2	4965	U
2	e2	4966	A
2	e2	4967	A
2	e2	4976	U
2	e2	4977	A
2	e2	4981	G
2	e2	4988	U
2	e2	4989	U
2	e2	4990	C
2	e2	4991	U
2	e2	4999	G
2	e2	5006	U
2	e2	5013	C
2	e2	5016	A
2	e2	5017	G
2	e2	5023	C
2	e2	5024	C
2	e2	5026	U
2	e2	5027	C
2	e2	5028	G
2	e2	5032	C
2	e2	5034	A
2	e2	5040	U
2	e2	5041	G
2	e2	5050	C
2	e2	5053	U
2	e2	5054	C
2	e2	5060	A

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Mol	Chain	Res	Type
2	e2	5061	A
2	e2	5062	G
2	e2	5069	U
3	d2	13	A
3	d2	17	C
3	d2	22	A
3	d2	24	C
3	d2	25	G
3	d2	26	C
3	d2	33	U
3	d2	42	A
3	d2	53	U
3	d2	54	A
3	d2	64	G
3	d2	74	A
3	d2	88	A
3	d2	89	G
3	d2	90	A
3	d2	91	C
3	d2	97	G
3	d2	100	A
3	d2	110	G
3	d2	120	U
4	h2	2	G
4	h2	23	C
4	h2	34	U
4	h2	35	C
4	h2	39	G
4	h2	51	U
4	h2	54	C
4	h2	59	A
4	h2	62	A
4	h2	63	U
4	h2	75	G
4	h2	79	G
4	h2	81	C
4	h2	82	A
4	h2	83	C
4	h2	84	A
4	h2	85	U
4	h2	86	U
4	h2	87	G

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Mol	Chain	Res	Type
4	h2	90	C
4	h2	94	G
4	h2	95	A
4	h2	97	A
4	h2	103	A
4	h2	105	C
4	h2	110	U
4	h2	111	U
4	h2	112	G
4	h2	114	G
4	h2	115	G
4	h2	121	G
4	h2	122	G
4	h2	123	U
4	h2	126	C
4	h2	129	C
4	h2	147	G
4	h2	150	C
4	h2	151	G
50	E1	6278	A
50	E1	6279	A
50	E1	6281	C
50	E1	6283	U
50	E1	6284	G
50	E1	6286	G
50	E1	6287	A
50	E1	6288	U
50	E1	6289	C
50	E1	6290	U
50	E1	6291	U
50	E1	6292	A
50	E1	6293	U
50	E1	6295	A
50	E1	6299	U
50	E1	6302	U
50	E1	6303	A
50	E1	6306	U
50	E1	6307	U
50	E1	6309	U
50	E1	6310	G
50	E1	6313	A
50	E1	6315	C

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Mol	Chain	Res	Type
50	E1	6316	U
50	E1	6317	U
50	E1	6318	U
50	E1	6319	A
50	E1	6320	U
50	E1	6321	U
50	E1	6322	A
50	E1	6326	U
50	E1	6328	A
50	E1	6329	U
50	E1	6330	U
50	E1	6332	C
50	E1	6335	U
50	E1	6337	U
50	E1	6339	U
50	E1	6340	U
50	E1	6341	A
50	E1	6342	A
50	E1	6343	A
50	E1	6344	U
50	E1	6345	U
50	E1	6347	C
50	E1	6348	U
50	E1	6349	U
50	E1	6350	U
50	E1	6351	U
50	E1	6352	U
50	E1	6353	C
50	E1	6354	A
50	E1	6356	A
50	E1	6358	U
50	E1	6362	U
50	E1	6363	C
50	E1	6364	C
50	E1	6365	U
50	E1	6366	G
50	E1	6367	U
50	E1	6371	A
50	E1	6372	G
50	E1	6373	C
50	E1	6375	A
50	E1	6376	U

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Mol	Chain	Res	Type
50	E1	6383	A
50	E1	6384	A
50	E1	6385	A
50	E1	6388	A
50	E1	6390	C
50	E1	6391	U
50	E1	6392	U
50	E1	6393	G
50	E1	6394	U
50	E1	6395	A
50	E1	6396	U
50	E1	6397	A
50	E1	6398	U
50	E1	6399	G
50	E1	6400	A
50	E1	6401	A
50	E1	6403	A
50	E1	6406	G
50	E1	6407	C
50	E1	6411	U
50	E1	6412	A
50	E1	6414	U
50	E1	6416	C
50	E1	6418	U
50	E1	6419	C
50	E1	6422	C
50	E1	6423	A
50	E1	6424	A
50	E1	6425	C
50	E1	6427	U
50	E1	6429	A
55	K3	2	A
55	K3	4	C
55	K3	15	U
55	K3	17	C
55	K3	33	G
55	K3	41	G
55	K3	42	A
55	K3	44	U
55	K3	46	A
55	K3	49	C
55	K3	56	G

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Mol	Chain	Res	Type
55	K3	58	C
55	K3	65	C
55	K3	66	G
55	K3	67	C
55	K3	68	A
55	K3	71	G
55	K3	72	C
55	K3	73	C
55	K3	76	U
55	K3	77	A
55	K3	78	C
55	K3	79	A
55	K3	84	A
55	K3	91	A
55	K3	100	U
55	K3	103	A
55	K3	110	U
55	K3	111	A
55	K3	113	G
55	K3	115	U
55	K3	124	U
55	K3	126	G
55	K3	128	U
55	K3	129	C
55	K3	130	G
55	K3	131	C
55	K3	132	U
55	K3	136	C
55	K3	138	C
55	K3	139	C
55	K3	140	C
55	K3	143	U
55	K3	147	A
55	K3	151	C
55	K3	155	G
55	K3	161	U
55	K3	162	C
55	K3	163	U
55	K3	170	A
55	K3	181	A
55	K3	182	C
55	K3	184	G

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Mol	Chain	Res	Type
55	K3	189	U
55	K3	190	G
55	K3	192	C
55	K3	198	U
55	K3	202	G
55	K3	206	G
55	K3	214	U
55	K3	215	G
55	K3	216	C
55	K3	226	A
55	K3	227	U
55	K3	228	C
55	K3	229	A
55	K3	230	A
55	K3	232	A
55	K3	233	C
55	K3	234	C
55	K3	237	C
55	K3	238	C
55	K3	239	C
55	K3	241	G
55	K3	245	G
55	K3	246	C
55	K3	249	C
55	K3	250	U
55	K3	258	C
55	K3	260	C
55	K3	261	G
55	K3	271	C
55	K3	272	G
55	K3	280	G
55	K3	285	U
55	K3	287	U
55	K3	292	A
55	K3	293	C
55	K3	304	C
55	K3	305	U
55	K3	306	C
55	K3	307	G
55	K3	308	G
55	K3	309	G
55	K3	312	G

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Mol	Chain	Res	Type
55	K3	313	A
55	K3	314	U
55	K3	316	G
55	K3	319	C
55	K3	320	G
55	K3	321	C
55	K3	324	C
55	K3	325	C
55	K3	326	C
55	K3	327	G
55	K3	328	U
55	K3	330	G
55	K3	334	C
55	K3	338	G
55	K3	339	A
55	K3	342	C
55	K3	343	A
55	K3	347	G
55	K3	350	C
55	K3	360	A
55	K3	362	C
55	K3	364	A
55	K3	368	U
55	K3	370	G
55	K3	381	C
55	K3	384	U
55	K3	385	G
55	K3	386	C
55	K3	394	G
55	K3	398	A
55	K3	399	C
55	K3	400	C
55	K3	407	G
55	K3	408	A
55	K3	409	C
55	K3	418	A
55	K3	419	G
55	K3	421	G
55	K3	428	U
55	K3	435	A
55	K3	438	G
55	K3	447	A

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Mol	Chain	Res	Type
55	K3	448	A
55	K3	450	C
55	K3	453	C
55	K3	455	A
55	K3	460	A
55	K3	465	A
55	K3	466	G
55	K3	472	C
55	K3	474	G
55	K3	482	G
55	K3	487	U
55	K3	496	C
55	K3	501	C
55	K3	502	C
55	K3	512	A
55	K3	516	A
55	K3	525	A
55	K3	530	U
55	K3	532	C
55	K3	536	A
55	K3	543	C
55	K3	544	G
55	K3	546	G
55	K3	548	C
55	K3	556	U
55	K3	557	U
55	K3	559	G
55	K3	574	A
55	K3	576	A
55	K3	583	A
55	K3	584	A
55	K3	587	A
55	K3	588	G
55	K3	589	G
55	K3	590	A
55	K3	591	U
55	K3	592	C
55	K3	594	A
55	K3	600	G
55	K3	606	G
55	K3	608	C
55	K3	609	U

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Mol	Chain	Res	Type
55	K3	613	G
55	K3	614	C
55	K3	615	C
55	K3	617	G
55	K3	628	A
55	K3	629	A
55	K3	643	A
55	K3	644	G
55	K3	657	U
55	K3	659	G
55	K3	660	C
55	K3	664	A
55	K3	666	U
55	K3	669	A
55	K3	671	A
55	K3	672	A
55	K3	673	G
55	K3	684	G
55	K3	688	U
55	K3	690	G
55	K3	693	A
55	K3	696	G
55	K3	703	C
55	K3	704	G
55	K3	709	G
55	K3	716	G
55	K3	718	C
55	K3	720	A
55	K3	722	C
55	K3	724	A
55	K3	732	U
55	K3	733	C
55	K3	734	C
55	K3	742	U
55	K3	743	U
55	K3	746	C
55	K3	747	U
55	K3	755	C
55	K3	760	U
55	K3	762	G
55	K3	769	U
55	K3	771	A

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Mol	Chain	Res	Type
55	K3	772	G
55	K3	774	U
55	K3	775	G
55	K3	784	G
55	K3	785	C
55	K3	795	A
55	K3	797	C
55	K3	799	U
55	K3	811	A
55	K3	815	U
55	K3	827	A
55	K3	830	A
55	K3	831	G
55	K3	834	C
55	K3	837	A
55	K3	838	G
55	K3	840	C
55	K3	841	G
55	K3	847	A
55	K3	848	U
55	K3	858	A
55	K3	859	G
55	K3	869	A
55	K3	870	A
55	K3	872	A
55	K3	873	G
55	K3	874	G
55	K3	877	C
55	K3	878	G
55	K3	880	G
55	K3	883	U
55	K3	886	A
55	K3	887	U
55	K3	888	U
55	K3	889	U
55	K3	891	G
55	K3	900	C
55	K3	907	G
55	K3	908	A
55	K3	911	C
55	K3	912	C
55	K3	913	A

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Mol	Chain	Res	Type
55	K3	914	U
55	K3	920	A
55	K3	922	A
55	K3	930	C
55	K3	933	G
55	K3	934	G
55	K3	943	U
55	K3	968	U
55	K3	969	U
55	K3	970	G
55	K3	971	G
55	K3	978	G
55	K3	983	A
55	K3	985	G
55	K3	990	A
55	K3	992	A
55	K3	999	G
55	K3	1000	C
55	K3	1002	U
55	K3	1014	G
55	K3	1017	U
55	K3	1023	A
55	K3	1040	G
55	K3	1041	G
55	K3	1049	A
55	K3	1060	A
55	K3	1083	A
55	K3	1084	A
55	K3	1085	C
55	K3	1096	G
55	K3	1097	G
55	K3	1108	G
55	K3	1109	C
55	K3	1110	G
55	K3	1113	A
55	K3	1118	C
55	K3	1119	A
55	K3	1131	G
55	K3	1139	C
55	K3	1146	C
55	K3	1149	A
55	K3	1150	A

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Mol	Chain	Res	Type
55	K3	1154	U
55	K3	1155	U
55	K3	1156	U
55	K3	1157	G
55	K3	1166	G
55	K3	1170	A
55	K3	1181	A
55	K3	1195	A
55	K3	1208	A
55	K3	1209	A
55	K3	1215	C
55	K3	1242	U
55	K3	1251	A
55	K3	1253	A
55	K3	1254	C
55	K3	1257	G
55	K3	1259	A
55	K3	1264	C
55	K3	1265	A
55	K3	1274	G
55	K3	1280	G
55	K3	1283	C
55	K3	1284	A
55	K3	1288	U
55	K3	1293	A
55	K3	1294	G
55	K3	1295	A
55	K3	1298	G
55	K3	1299	A
55	K3	1301	A
55	K3	1302	G
55	K3	1303	C
55	K3	1306	U
55	K3	1307	U
55	K3	1311	C
55	K3	1312	G
55	K3	1313	A
55	K3	1314	U
55	K3	1315	U
55	K3	1317	C
55	K3	1318	G
55	K3	1330	G

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Mol	Chain	Res	Type
55	K3	1333	U
55	K3	1343	U
55	K3	1347	U
55	K3	1354	G
55	K3	1368	U
55	K3	1371	U
55	K3	1372	U
55	K3	1375	G
55	K3	1378	A
55	K3	1394	G
55	K3	1395	C
55	K3	1396	A
55	K3	1397	U
55	K3	1402	A
55	K3	1403	C
55	K3	1404	U
55	K3	1407	U
55	K3	1408	U
55	K3	1409	A
55	K3	1410	C
55	K3	1412	C
55	K3	1413	G
55	K3	1414	A
55	K3	1418	C
55	K3	1419	C
55	K3	1420	G
55	K3	1425	G
55	K3	1426	U
55	K3	1430	C
55	K3	1431	G
55	K3	1432	U
55	K3	1433	C
55	K3	1437	C
55	K3	1438	A
55	K3	1442	U
55	K3	1444	U
55	K3	1449	G
55	K3	1452	A
55	K3	1454	A
55	K3	1463	U
55	K3	1466	G
55	K3	1473	G

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Mol	Chain	Res	Type
55	K3	1474	A
55	K3	1476	A
55	K3	1477	U
55	K3	1480	A
55	K3	1487	A
55	K3	1489	A
55	K3	1490	G
55	K3	1494	U
55	K3	1495	G
55	K3	1498	A
55	K3	1510	G
55	K3	1516	G
55	K3	1520	G
55	K3	1521	C
55	K3	1522	A
55	K3	1525	C
55	K3	1526	G
55	K3	1531	A
55	K3	1533	A
55	K3	1536	G
55	K3	1544	C
55	K3	1548	G
55	K3	1552	G
55	K3	1555	U
55	K3	1556	A
55	K3	1557	C
55	K3	1561	A
55	K3	1564	C
55	K3	1575	G
55	K3	1576	G
55	K3	1578	U
55	K3	1579	A
55	K3	1580	A
55	K3	1584	G
55	K3	1585	U
55	K3	1586	U
55	K3	1587	G
55	K3	1588	A
55	K3	1589	A
55	K3	1594	A
55	K3	1599	U
55	K3	1600	G

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Mol	Chain	Res	Type
55	K3	1604	G
55	K3	1606	G
55	K3	1612	G
55	K3	1621	U
55	K3	1623	A
55	K3	1624	U
55	K3	1637	A
55	K3	1638	G
55	K3	1645	C
55	K3	1662	U
55	K3	1664	A
55	K3	1665	G
55	K3	1680	G
55	K3	1682	C
55	K3	1683	C
55	K3	1695	A
55	K3	1699	A
55	K3	1701	C
55	K3	1703	C
55	K3	1707	U
55	K3	1708	C
55	K3	1710	C
55	K3	1711	U
55	K3	1721	U
55	K3	1722	G
55	K3	1724	A
55	K3	1726	G
55	K3	1744	G
55	K3	1745	A
55	K3	1751	C
55	K3	1753	C
55	K3	1756	C
55	K3	1764	G
55	K3	1765	C
55	K3	1767	C
55	K3	1768	A
55	K3	1779	G
55	K3	1783	C
55	K3	1785	C
55	K3	1786	U
55	K3	1787	G
55	K3	1806	A

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Mol	Chain	Res	Type
55	K3	1815	A
55	K3	1823	A
55	K3	1824	A
55	K3	1825	A
55	K3	1826	G
55	K3	1829	G
55	K3	1831	A
55	K3	1835	A
55	K3	1836	G
55	K3	1838	U
55	K3	1839	U
55	K3	1849	G
55	K3	1850	A
55	K3	1851	A
55	K3	1861	G
55	K3	1862	G
55	K3	1863	A
55	K3	1864	U
55	K3	1865	C
55	K3	1868	U
55	K3	1869	A

All (39) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
50	E1	6317	U
50	E1	6342	A
50	E1	6351	U
50	E1	6365	U
50	E1	6370	C
50	E1	6390	C
50	E1	6395	A
50	E1	6396	U
50	E1	6402	A
55	K3	110	U
55	K3	228	C
55	K3	240	G
55	K3	245	G
55	K3	291	G
55	K3	312	G
55	K3	327	G
55	K3	434	G

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Mol	Chain	Res	Type
55	K3	465	A
55	K3	500	A
55	K3	531	A
55	K3	642	U
55	K3	692	G
55	K3	837	A
55	K3	886	A
55	K3	910	G
55	K3	1109	C
55	K3	1253	A
55	K3	1287	A
55	K3	1394	G
55	K3	1395	C
55	K3	1396	A
55	K3	1408	U
55	K3	1432	U
55	K3	1436	C
55	K3	1475	G
55	K3	1489	A
55	K3	1574	C
55	K3	1575	G
55	K3	1664	A

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 6 ligands modelled in this entry, 6 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 (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

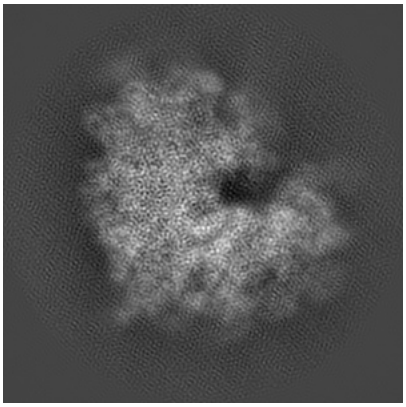
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11459. These allow visual inspection of the internal detail of the map and identification of artifacts.

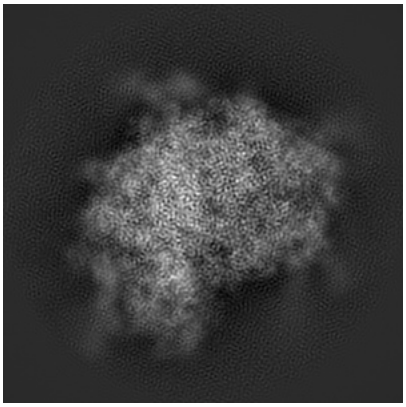
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

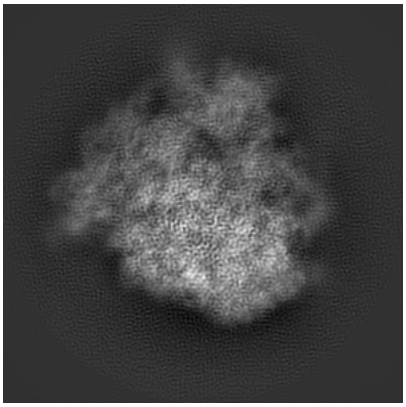
6.1.1 Primary map



X



Y

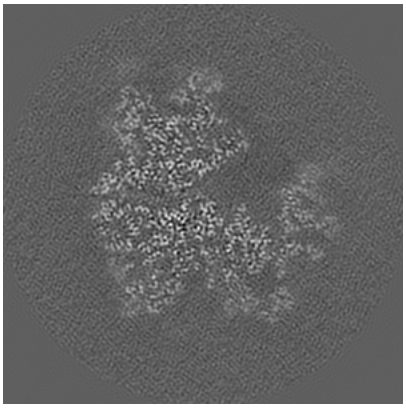


Z

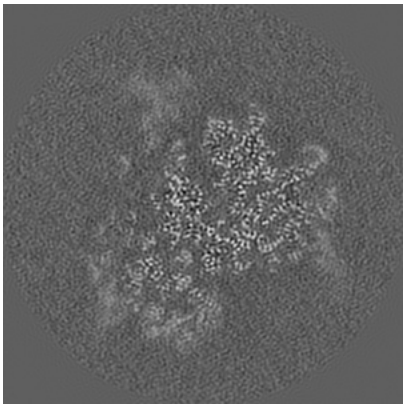
The images above show the map projected in three orthogonal directions.

6.2 Central slices

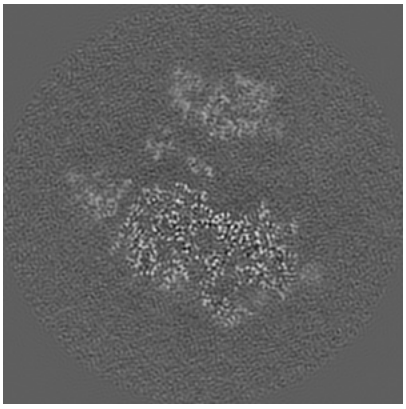
6.2.1 Primary map



X Index: 180



Y Index: 180

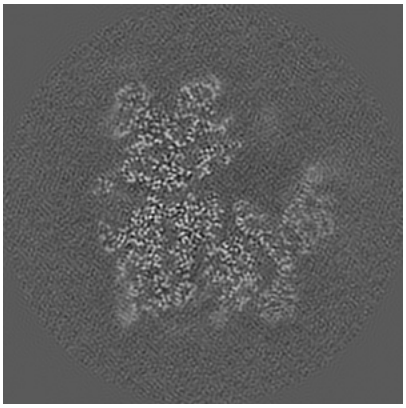


Z Index: 180

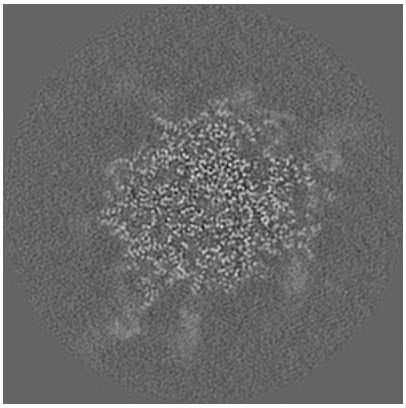
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

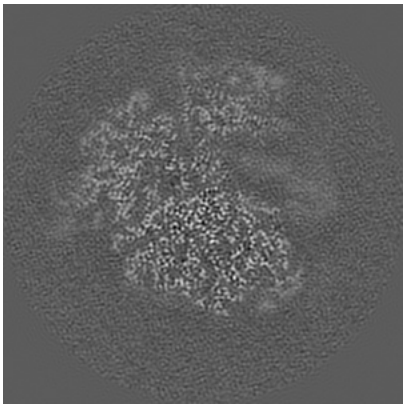
6.3.1 Primary map



X Index: 172



Y Index: 156

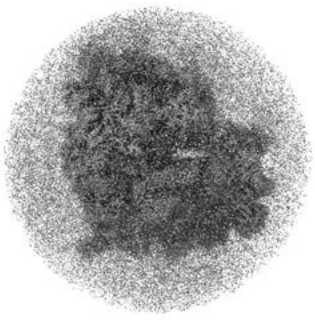


Z Index: 157

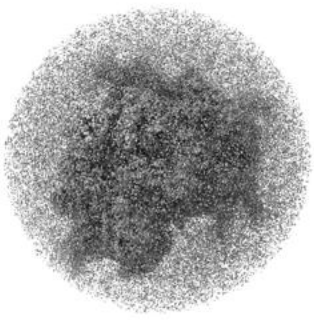
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

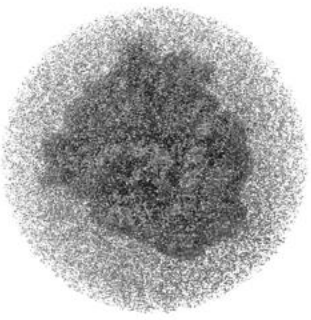
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.027. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

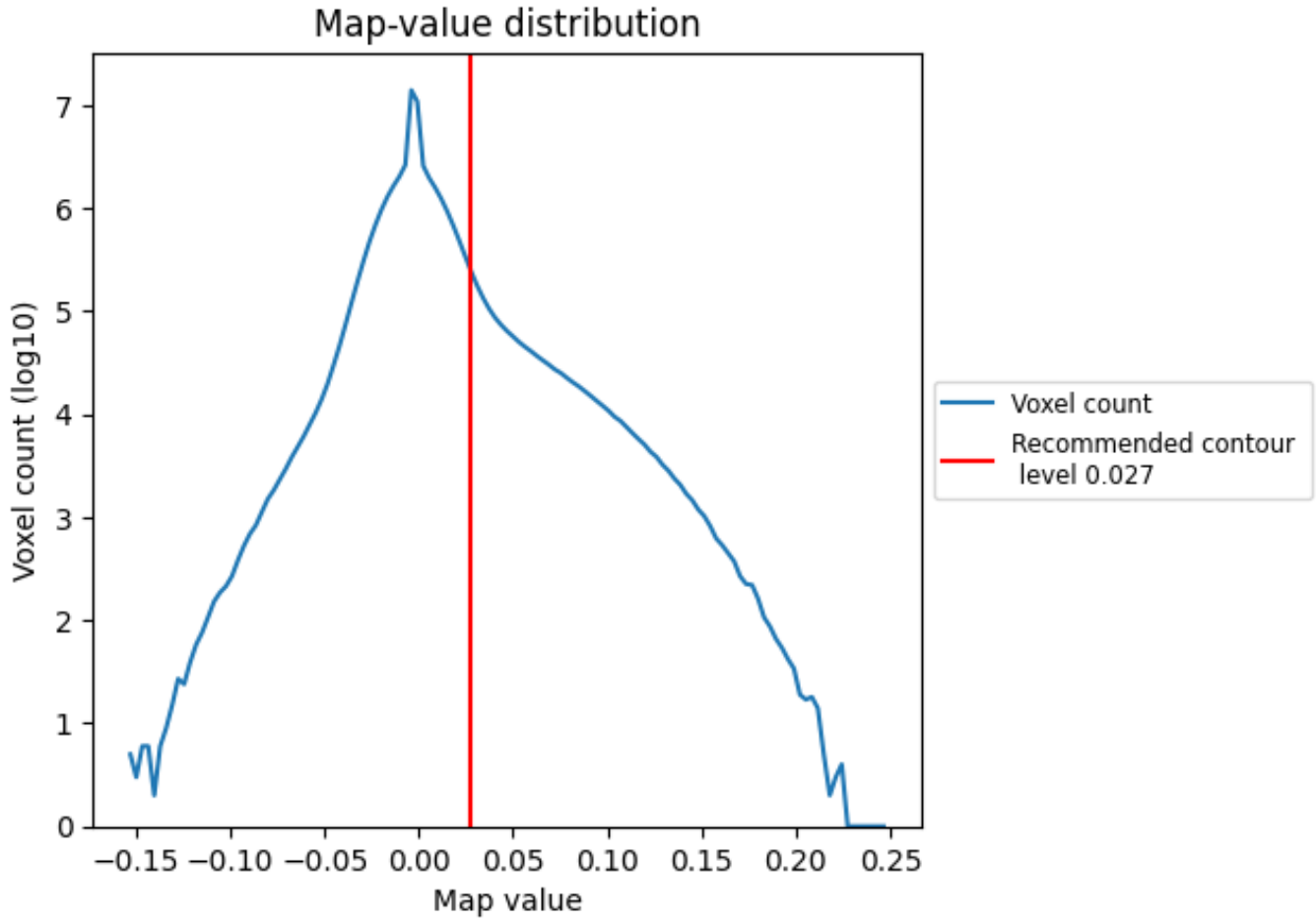
6.5 Mask visualisation (i)

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

7 Map analysis

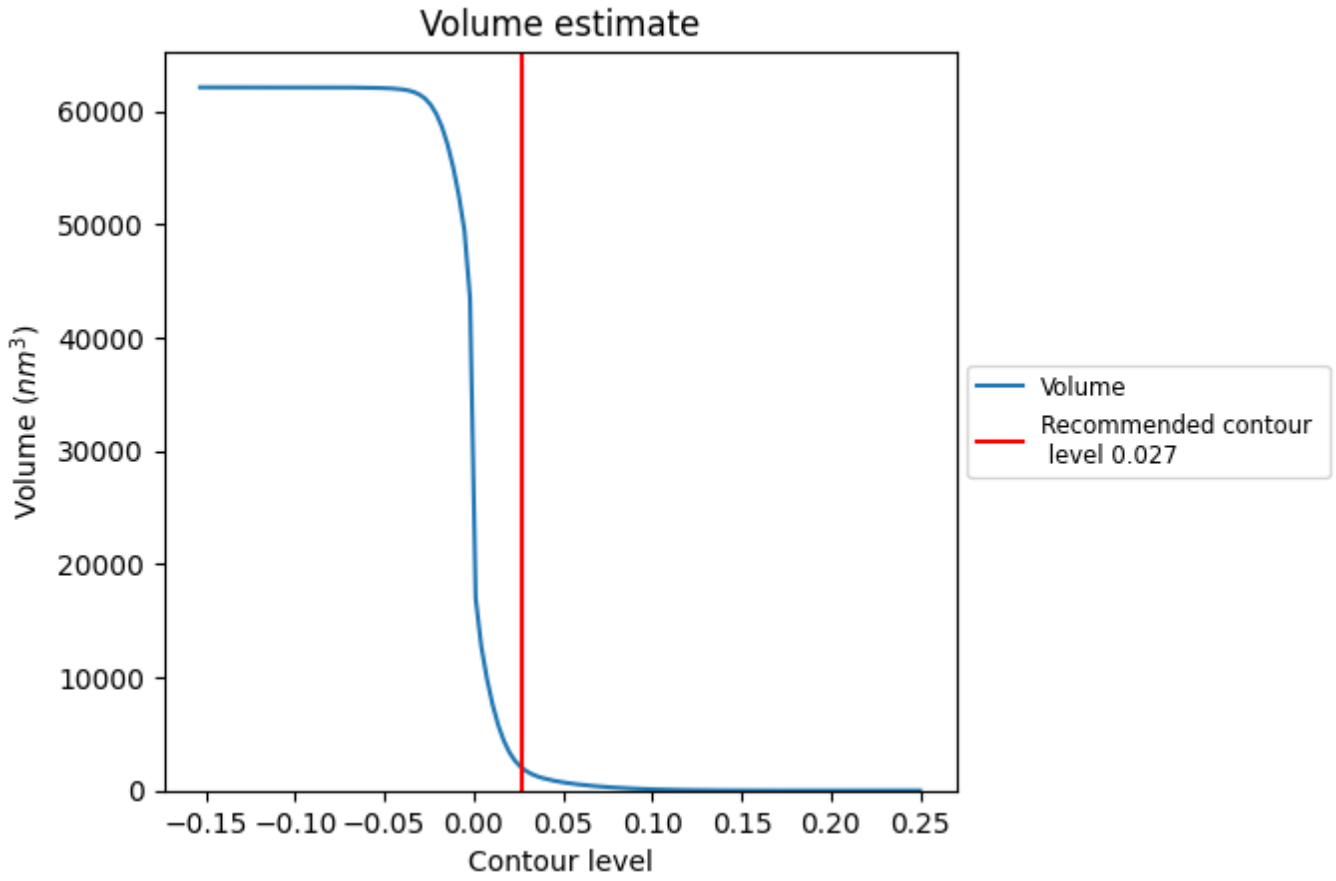
This section contains the results of statistical analysis of the map.

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.

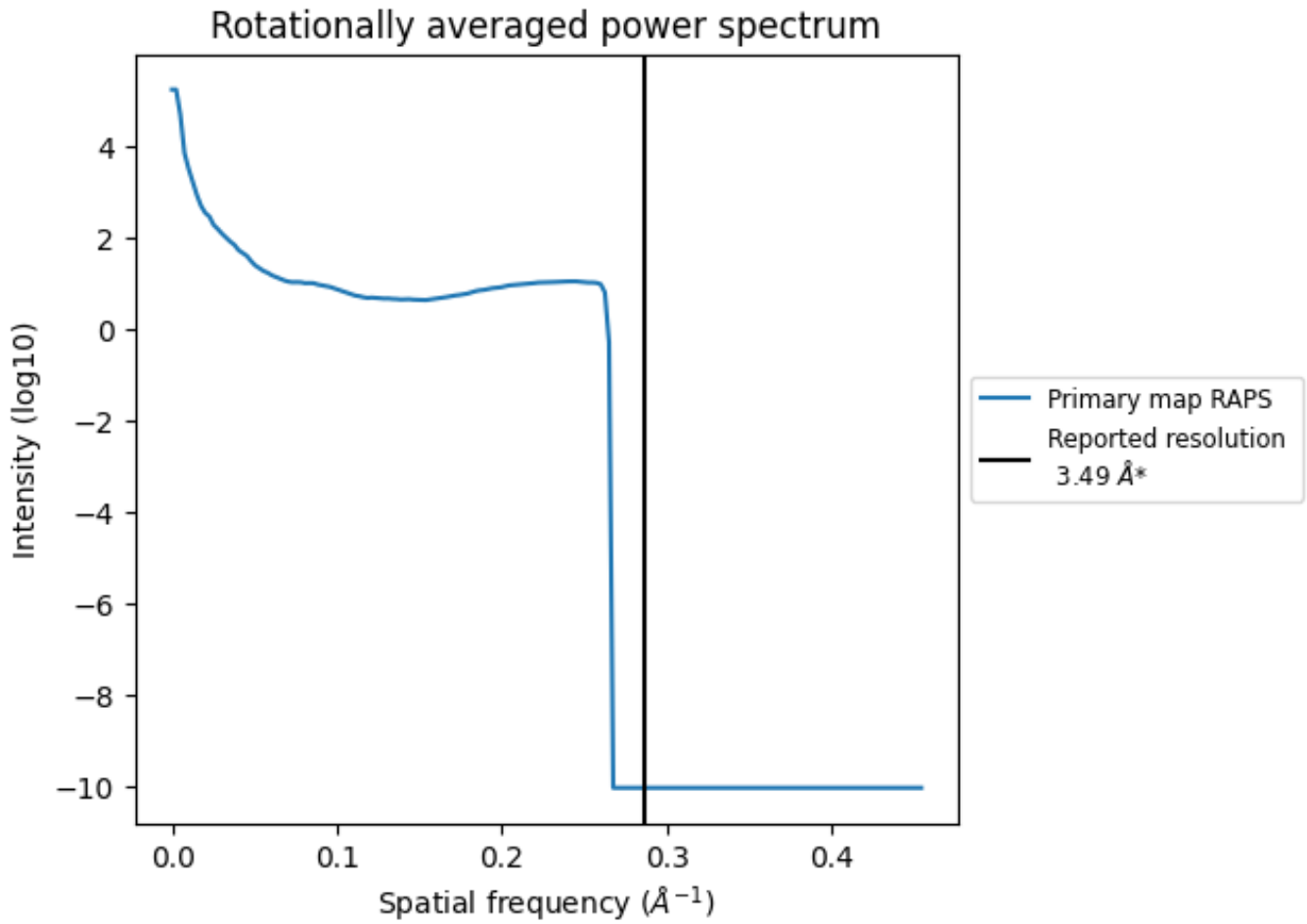
7.2 Volume estimate



The volume at the recommended contour level is 2019 nm^3; this corresponds to an approximate mass of 1823 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 0.287 Å^{-1}

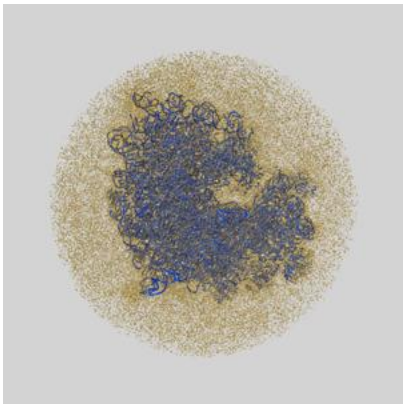
8 Fourier-Shell correlation (i)

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

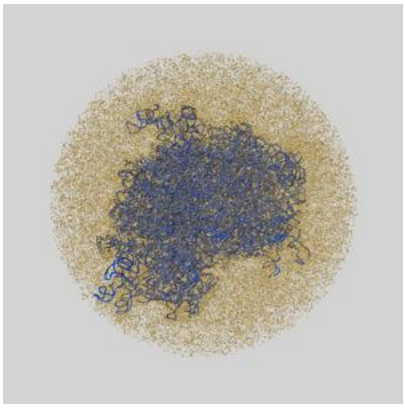
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11459 and PDB model 6ZVK. Per-residue inclusion information can be found in section 3 on page 21.

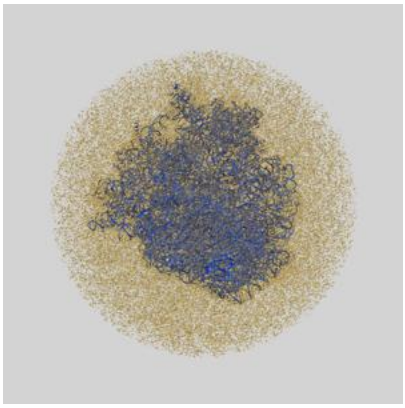
9.1 Map-model overlay



X



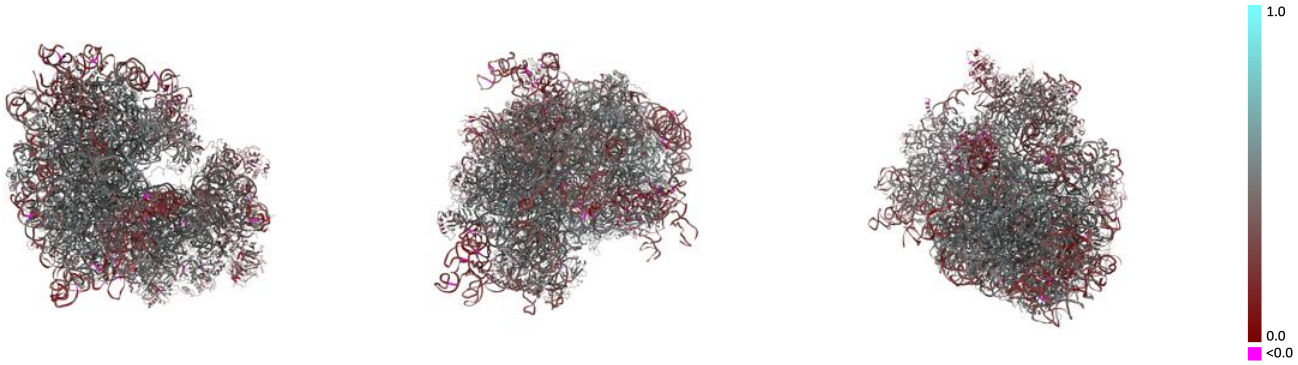
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.027 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.

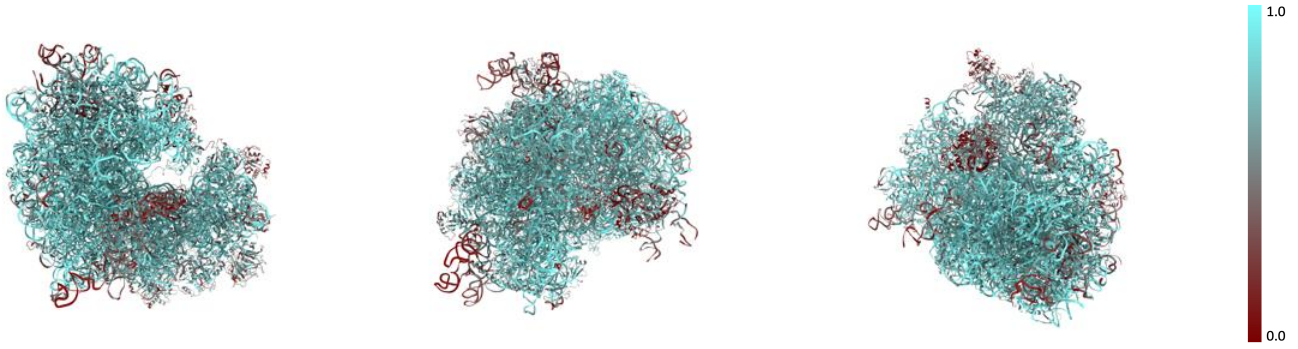
9.2 Q-score mapped to coordinate model (i)



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.

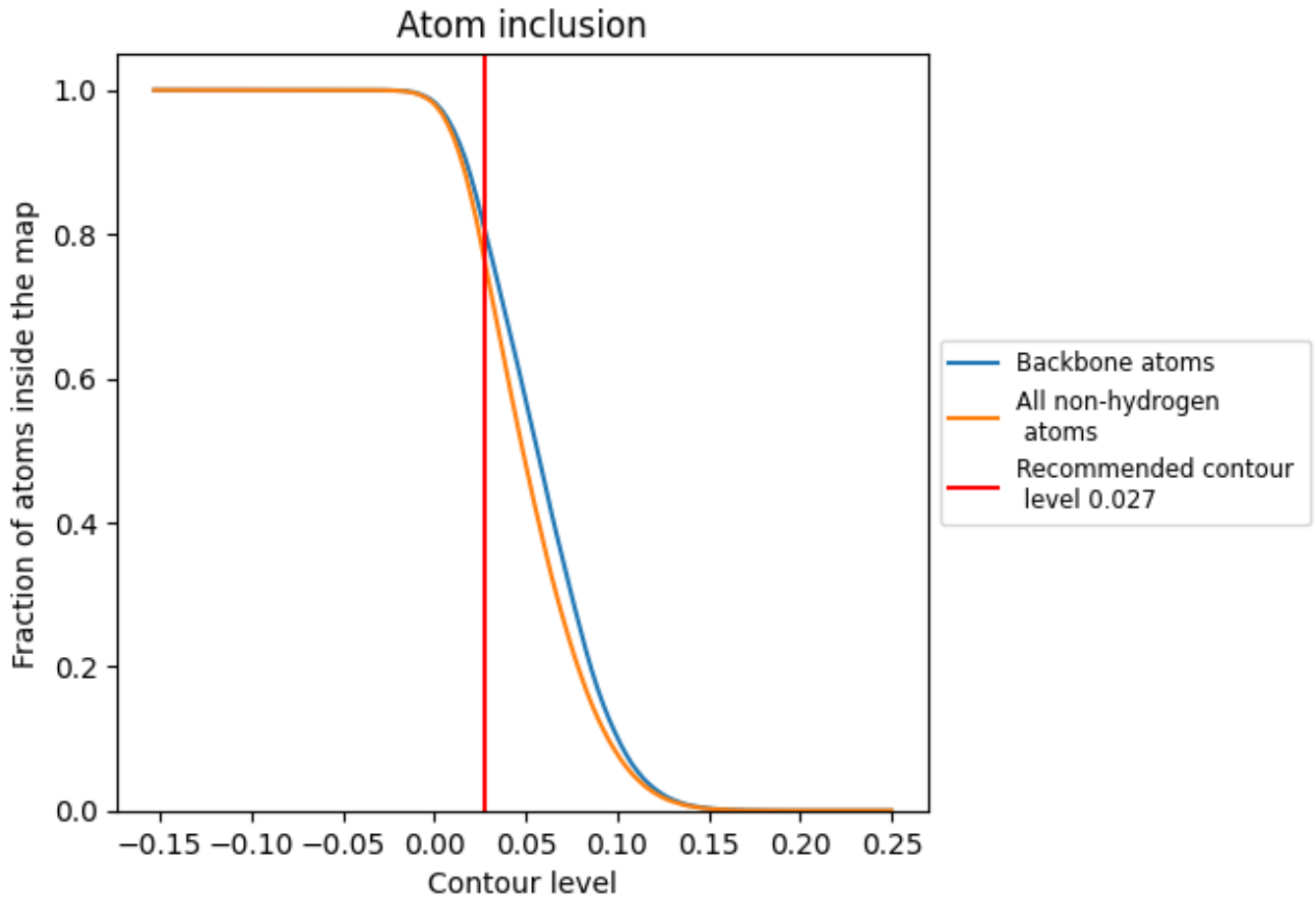
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.027).

9.4 Atom inclusion (i)



At the recommended contour level, 81% of all backbone atoms, 77% 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 (0.027) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7700	0.4210
12	0.8611	0.5110
13	0.8380	0.5090
22	0.8434	0.4990
32	0.8010	0.4890
42	0.2816	0.2550
52	0.8586	0.5130
62	0.8365	0.5040
72	0.8234	0.5000
82	0.8142	0.4540
92	0.8667	0.5300
A2	0.8345	0.5050
A3	0.6300	0.3780
B2	0.7817	0.4710
B3	0.7188	0.4240
C2	0.9125	0.5470
C3	0.6382	0.3970
D2	0.8794	0.5140
D3	0.7083	0.4280
E1	0.3005	0.2390
E2	0.8438	0.5000
E3	0.6166	0.3510
F2	0.8247	0.5080
F3	0.8029	0.4960
G2	0.8013	0.4480
G3	0.7013	0.4430
G5	0.6937	0.4010
H2	0.8625	0.5260
H3	0.7453	0.4530
H5	0.7024	0.4030
I2	0.8273	0.5250
I3	0.6067	0.3920
I5	0.7545	0.4260
J2	0.8404	0.4970
J5	0.8277	0.5020

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Chain	Atom inclusion	Q-score
K2	0.1917	0.2260
K3	0.7832	0.3910
L2	0.8149	0.5100
L3	0.7277	0.4320
M2	0.1859	0.2130
M3	0.6079	0.3530
N3	0.7064	0.4320
O3	0.8408	0.5010
P3	0.5881	0.3830
Q3	0.2437	0.2300
R2	0.7138	0.4100
S2	0.8412	0.5070
T2	0.7030	0.4090
T3	0.8060	0.5040
U2	0.8412	0.4960
U3	0.7288	0.4460
V2	0.7701	0.4720
V3	0.7929	0.4770
W2	0.7999	0.4880
W3	0.7896	0.4720
X2	0.8102	0.4740
X3	0.8564	0.5030
Y2	0.8126	0.4680
Y3	0.6458	0.4120
Z2	0.8455	0.4970
a3	0.5531	0.3430
a5	0.7974	0.4820
a7	0.7552	0.4420
b3	0.7058	0.4130
c3	0.7494	0.4540
d2	0.9128	0.4440
d3	0.7954	0.4670
e2	0.8033	0.4050
e3	0.2447	0.2300
f3	0.6358	0.4080
h2	0.8754	0.4400
j3	0.7621	0.4610
k2	0.8391	0.5300
l2	0.8549	0.5160
m2	0.8261	0.5000
o2	0.8350	0.5000
p2	0.7536	0.4600

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Chain	Atom inclusion	Q-score
q2	0.8475	0.5090
r2	0.6835	0.4040
s3	0.7672	0.4640
t2	0.8506	0.5040
u2	0.8054	0.4920
v2	0.8438	0.5110
w2	0.8364	0.5010
x2	0.8599	0.5210
y2	0.8195	0.4820