



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 07:53 am GMT

PDB ID : 6HD7
EMDB ID : EMD-0202
Title : Cryo-EM structure of the ribosome-NatA complex
Authors : Knorr, A.G.; Becker, T.; Beckmann, R.
Deposited on : 2018-08-17
Resolution : 3.40 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:

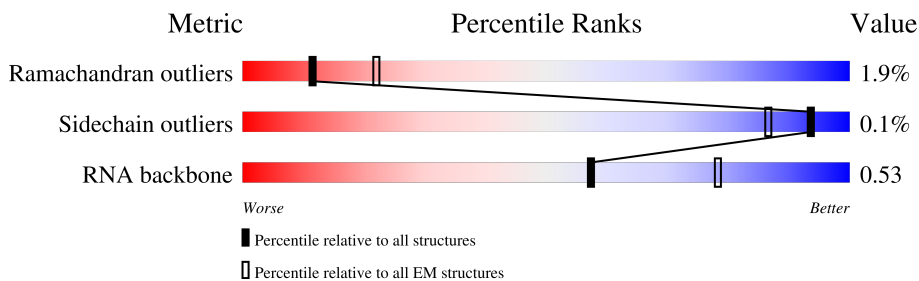
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 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.



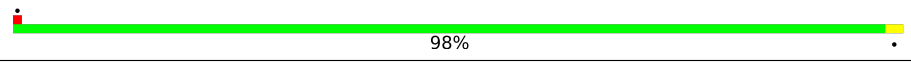
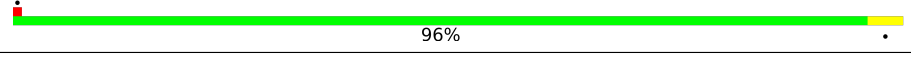
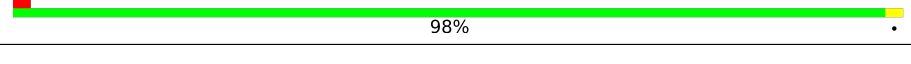
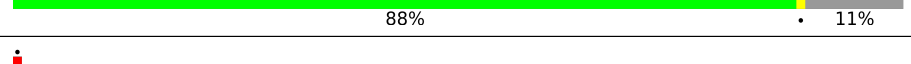
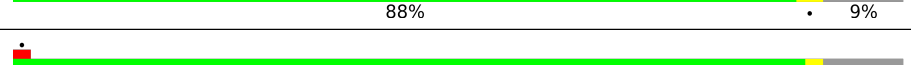
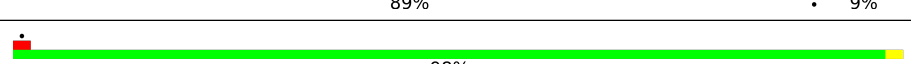
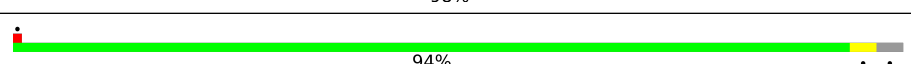
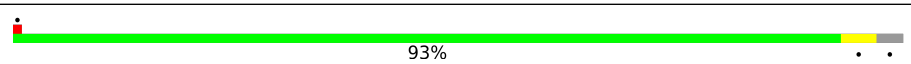
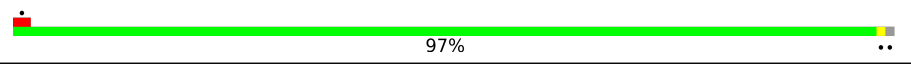
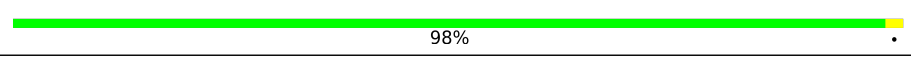
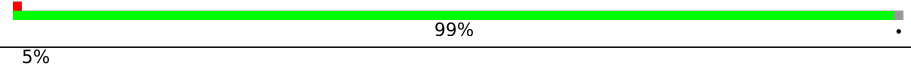
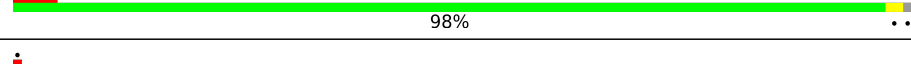
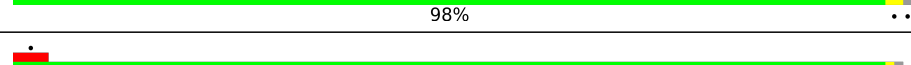
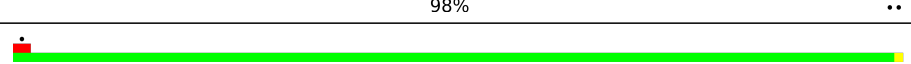
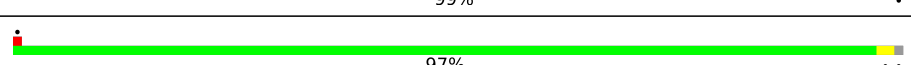

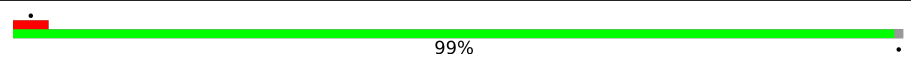


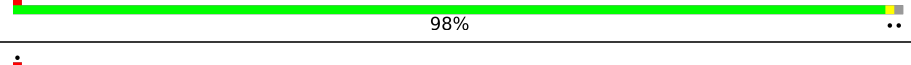
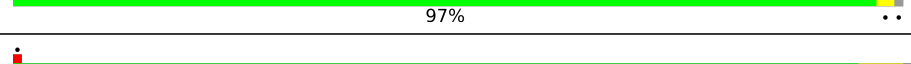
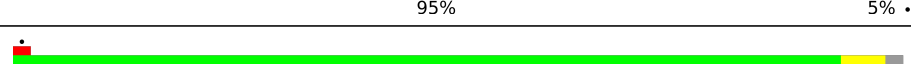
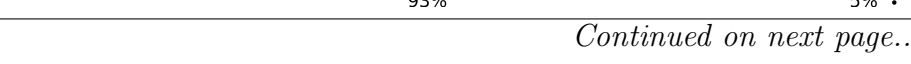


Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	3396	
2	3	121	
3	4	158	
4	A	76	
5	B	77	
6	C	106	
7	D	92	
8	E	254	

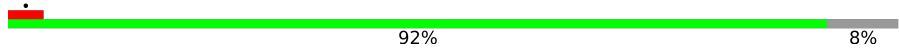
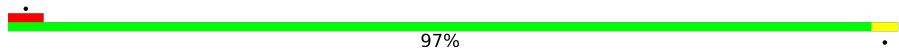
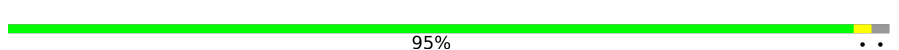
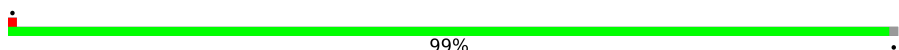
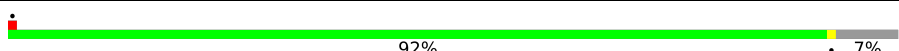
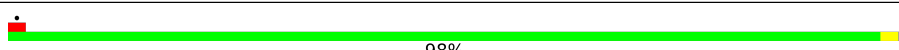
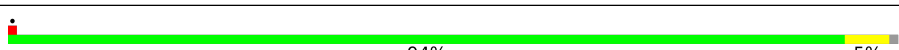

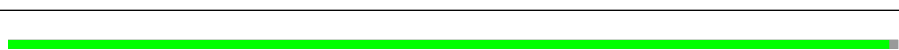
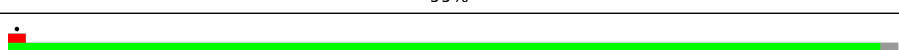
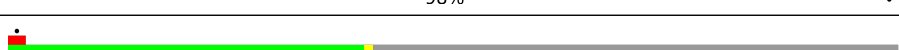

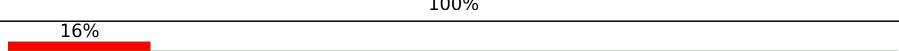
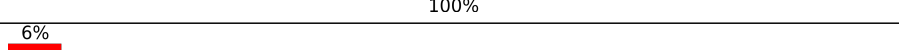
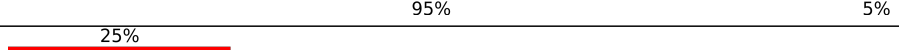
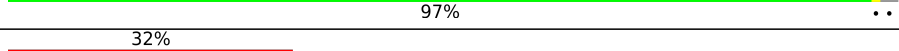
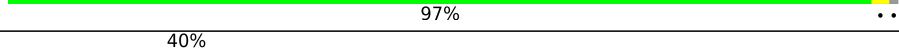
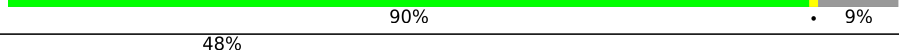
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Mol	Chain	Length	Quality of chain
9	F	387	 98%
10	G	362	 96%
11	H	297	 98%
12	I	176	 88% 11%
13	J	244	 88% 9%
14	K	256	 89% 9%
15	L	191	 98%
16	M	174	 94%
17	N	199	 93%
18	O	138	 97%
19	P	204	 98%
20	Q	199	 99%
21	R	184	 98%
22	S	186	 98%
23	T	189	 98%
24	U	172	 99%
25	V	160	 97%
26	W	121	 80% 17%
27	X	137	 99%
28	Y	155	 63% 37%
29	Z	142	 84% 15%
30	a	127	 98%
31	b	136	 97%
32	c	149	 95% 5%
33	d	59	 93% 5%

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Mol	Chain	Length	Quality of chain
34	e	105	 92% 8%
35	f	109	 97%
36	g	130	 95%
37	h	107	 99%
38	i	121	 92% 7%
39	j	120	 98%
40	k	100	 94% 5%
41	l	88	 99%
42	m	78	 99%
43	n	51	 98%
44	o	128	 40% 59%
45	p	25	 100%
46	r	210	 16% 100%
47	s	221	 6% 95% 5%
48	t	854	 25% 97%
49	u	238	 32% 97%
50	v	176	 40% 90% 9%
51	z	23	 48% 100%

2 Entry composition [i](#)

There are 52 unique types of molecules in this entry. The entry contains 141153 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called *Saccharomyces cerevisiae* S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	3335	71309	31846	12813	23315	3335	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	3	121	2579	1152	461	845	121	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	4	158	3353	1500	586	1109	158	0	0

- Molecule 4 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	A	76	1611	721	281	534	75	0	0

- Molecule 5 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	B	77	1644	731	290	546	77	0	0

- Molecule 6 is a protein called 60S ribosomal protein L42-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	C	105	847	534	170	138	5	0	0

- Molecule 7 is a protein called 60S ribosomal protein L43-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	D	91	694	429	138	121	6	0	0

- Molecule 8 is a protein called 60S ribosomal protein L2-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	E	252	1914	1191	388	334	1	0	0

- Molecule 9 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	F	386	3075	1950	584	533	8	0	0

- Molecule 10 is a protein called 60S ribosomal protein L4-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	G	361	2748	1729	522	494	3	0	0

- Molecule 11 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	H	296	2375	1501	414	458	2	0	0

- Molecule 12 is a protein called 60S ribosomal protein L6-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	I	156	1239	800	222	216	1	0	0

- Molecule 13 is a protein called 60S ribosomal protein L7-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	J	222	1784	1151	324	308	1	0	0

- Molecule 14 is a protein called 60S ribosomal protein L8-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	K	233	1804	1151	323	327	3	0	0

- Molecule 15 is a protein called 60S ribosomal protein L9-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	L	191	1518	963	274	277	4	0	0

- Molecule 16 is a protein called 60S ribosomal protein L11-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	M	169	1353	847	253	249	4	0	0

- Molecule 17 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	N	193	1543	962	315	266	0	0

- Molecule 18 is a protein called 60S ribosomal protein L14-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	O	136	1053	675	199	177	2	0	0

- Molecule 19 is a protein called 60S ribosomal protein L15-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	P	203	1720	1077	361	281	1	0	0

- Molecule 20 is a protein called 60S ribosomal protein L16-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	Q	197	1555	1003	289	262	1	0	0

- Molecule 21 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
21	R	183	1420	882	281	257	0	0

- Molecule 22 is a protein called 60S ribosomal protein L18-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	S	185	1441	908	290	241	2	0	0

- Molecule 23 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
23	T	188	1521	935	326	260	0	0

- Molecule 24 is a protein called 60S ribosomal protein L20-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	U	172	1445	930	267	244	4	0	0

- Molecule 25 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	V	159	1276	805	246	221	4	0	0

- Molecule 26 is a protein called 60S ribosomal protein L22-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
26	W	100	796	516	131	149	0	0

- Molecule 27 is a protein called 60S ribosomal protein L23-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	X	136	1003	628	189	179	7	0	0

- Molecule 28 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Y	98	Total	C	N	O	S	0	0
			699	443	137	118	1		

- Molecule 29 is a protein called 60S ribosomal protein L25.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Z	121	Total	C	N	O	S	0	0
			964	620	169	173	2		

- Molecule 30 is a protein called 60S ribosomal protein L26-A.

Mol	Chain	Residues	Atoms				AltConf	Trace
30	a	126	Total	C	N	O	0	0
			993	625	192	176		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
31	b	135	Total	C	N	O	0	0
			1092	710	202	180		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
32	c	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
33	d	58	Total	C	N	O	0	0
			462	289	100	73		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
34	e	97	Total	C	N	O	S	0	0
			743	479	124	139	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	f	109	876	556	167	152	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	g	127	1020	647	205	167	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	h	106	850	540	165	144	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	i	112	880	545	179	152	4	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	j	119	969	615	186	167	1	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	k	99	771	481	156	132	2	0	0

- Molecule 41 is a protein called 60S ribosomal protein L37-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	l	87	681	414	148	114	5	0	0

- Molecule 42 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	m	77	Total	C	N	O	0	0
			612	391	115	106		

- Molecule 43 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	n	50	Total	C	N	O	S	0	0
			436	272	97	65	2		

- Molecule 44 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	o	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 45 is a protein called 60S ribosomal protein L41-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	p	25	Total	C	N	O	S	0	0
			233	142	63	27	1		

- Molecule 46 is a protein called ribosomal protein RPL1.

Mol	Chain	Residues	Atoms				AltConf	Trace
46	r	210	Total	C	N	O	0	0
			1050	630	210	210		

- Molecule 47 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	s	220	Total	C	N	O	S	0	0
			1770	1121	335	307	7		

- Molecule 48 is a protein called N-terminal acetyltransferase A complex subunit NAT1.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	t	838	Total	C	N	O	S	1	0
			6650	4265	1117	1246	22		

- Molecule 49 is a protein called N-terminal acetyltransferase A complex catalytic subunit ARD1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
49	u	235	1798	1128	316	343	11	0	0

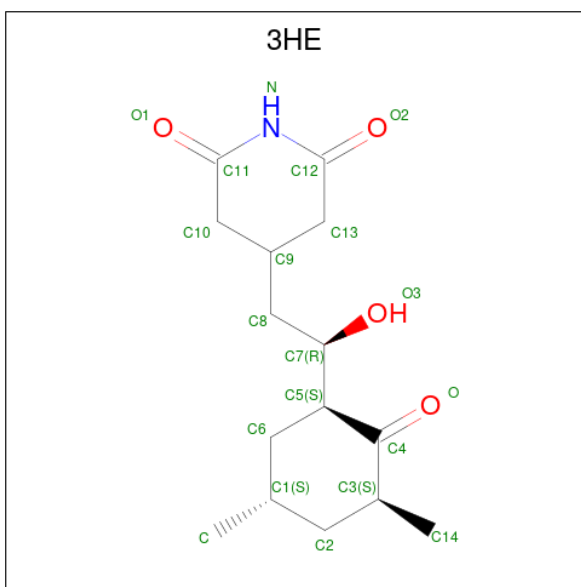
- Molecule 50 is a protein called N-alpha-acetyltransferase NAT5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	v	161	1259	816	210	228	5	0	0

- Molecule 51 is a protein called nascent polypeptide chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
51	z	23	115	69	23	23	0	0

- Molecule 52 is 4-{(2R)-2-[(1S,3S,5S)-3,5-dimethyl-2-oxocyclohexyl]-2-hydroxyethyl}piperidine-2,6-dione (three-letter code: 3HE) (formula: C₁₅H₂₃NO₄).

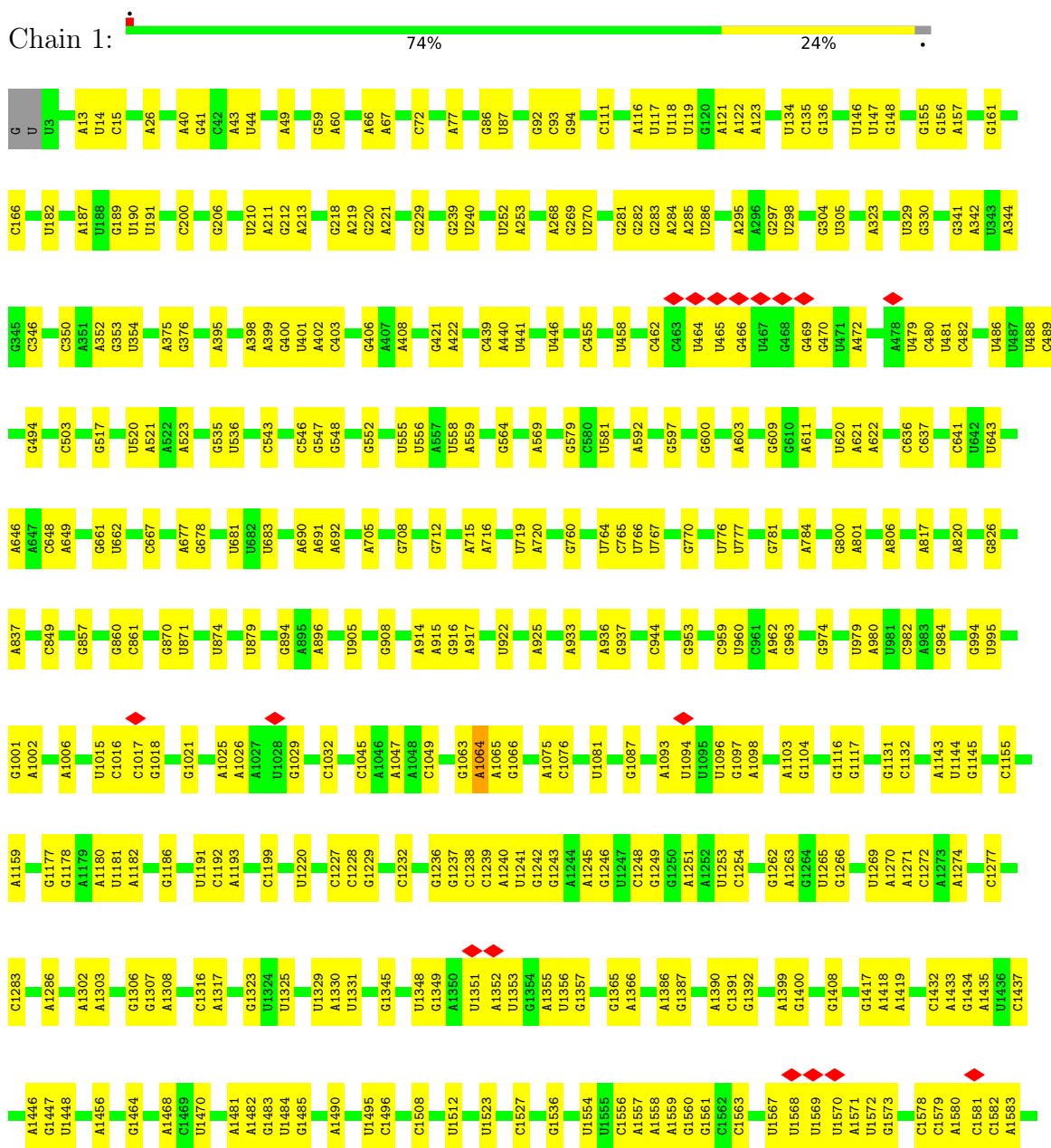


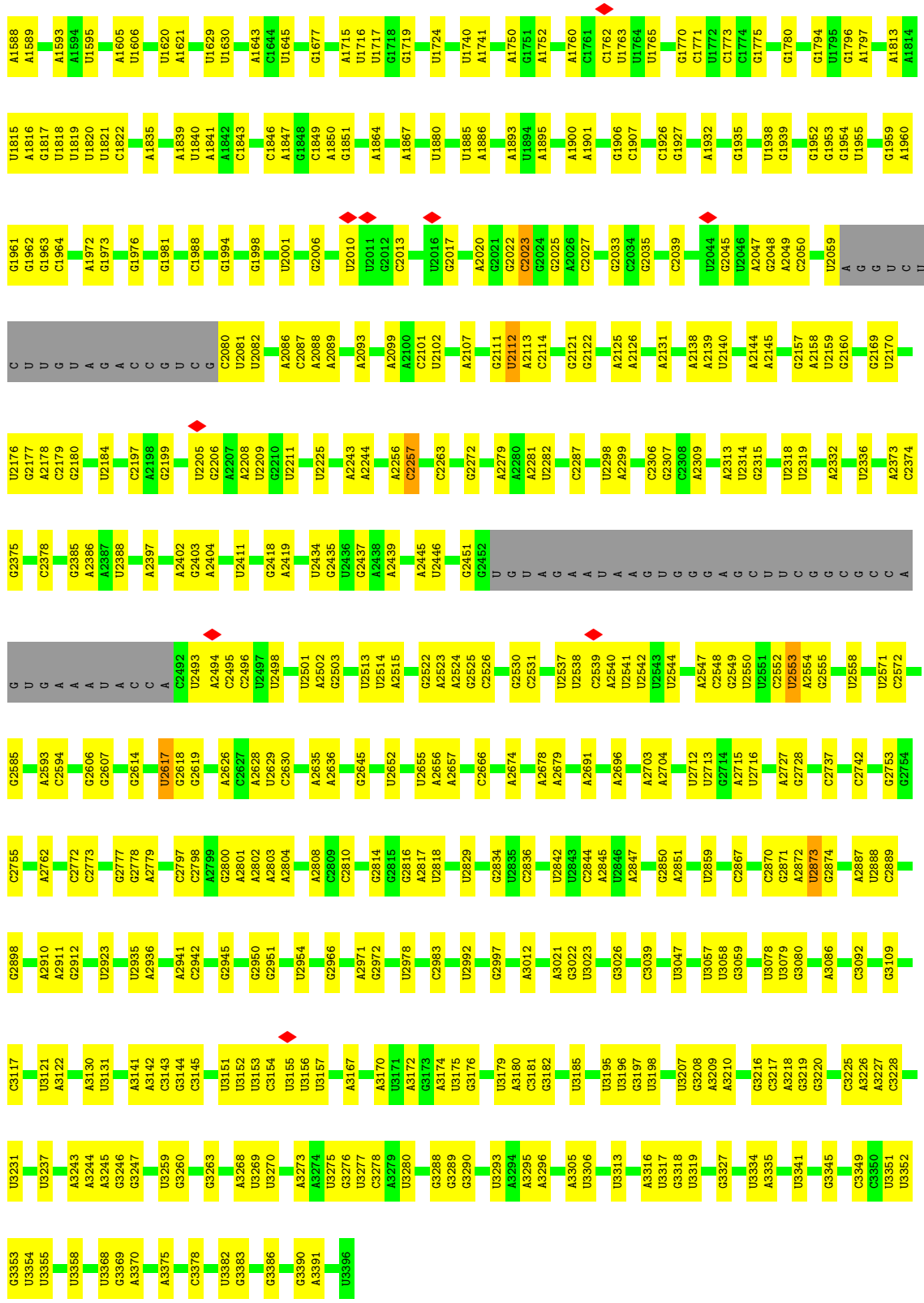
Mol	Chain	Residues	Atoms				AltConf
			Total	C	N	O	
52	1	1	20	15	1	4	0

3 Residue-property plots

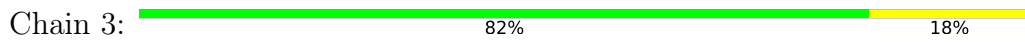
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: *Saccharomyces cerevisiae* S288C 35S pre-ribosomal RNA (RDN37-1), miscRNA





• Molecule 2: 5S rRNA

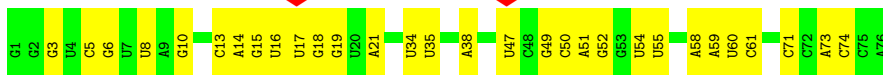
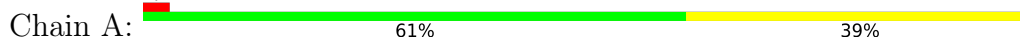




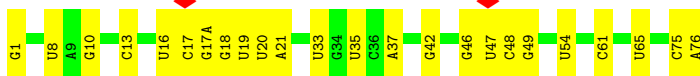
- Molecule 3: 5.8S rRNA



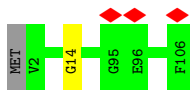
- Molecule 4: tRNA



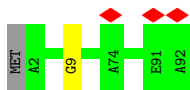
- Molecule 5: P-site tRNA



- Molecule 6: 60S ribosomal protein L42-A



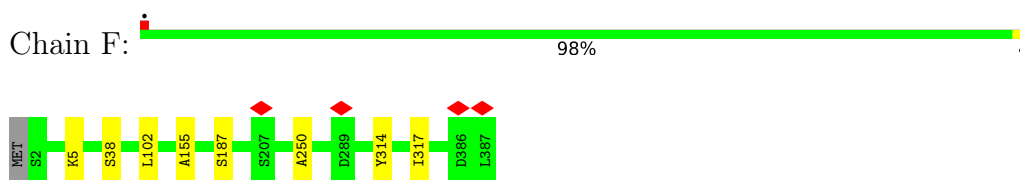
- Molecule 7: 60S ribosomal protein L43-A



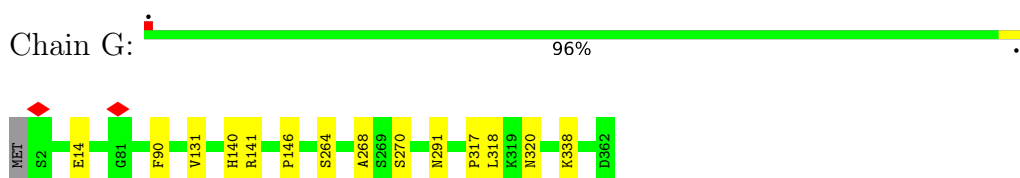
- Molecule 8: 60S ribosomal protein L2-A



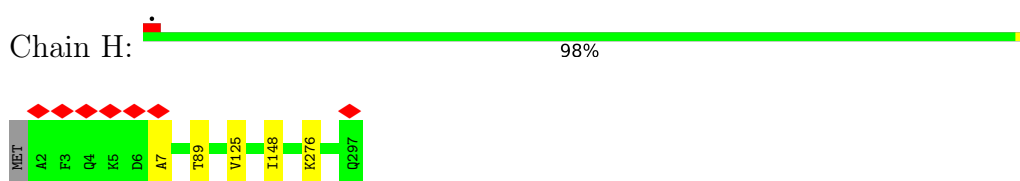
- Molecule 9: 60S ribosomal protein L3



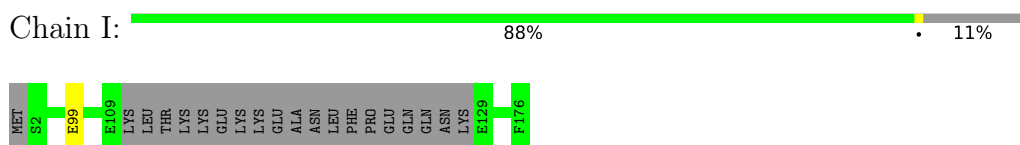
- Molecule 10: 60S ribosomal protein L4-A



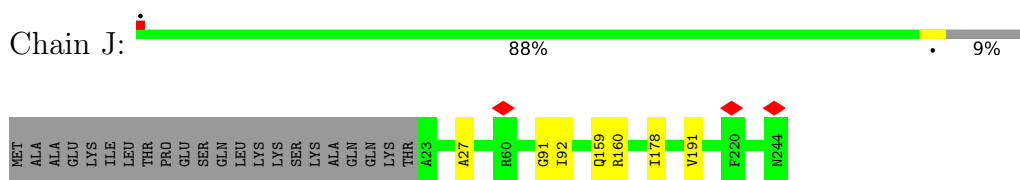
- Molecule 11: 60S ribosomal protein L5



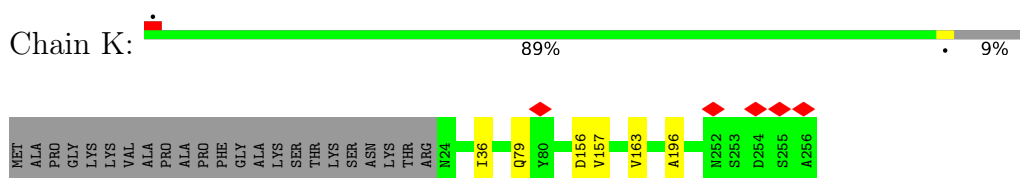
- Molecule 12: 60S ribosomal protein L6-A



- Molecule 13: 60S ribosomal protein L7-A

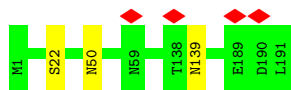


- Molecule 14: 60S ribosomal protein L8-A



- Molecule 15: 60S ribosomal protein L9-A





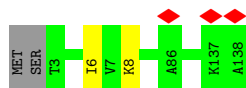
- Molecule 16: 60S ribosomal protein L11-A



- Molecule 17: 60S ribosomal protein L13-A



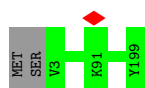
- Molecule 18: 60S ribosomal protein L14-A



- Molecule 19: 60S ribosomal protein L15-A



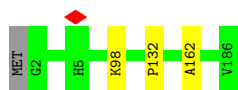
- Molecule 20: 60S ribosomal protein L16-A



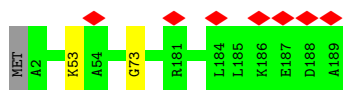
- Molecule 21: 60S ribosomal protein L17-A



- Molecule 22: 60S ribosomal protein L18-A



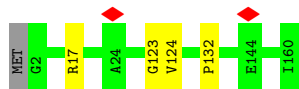
- Molecule 23: 60S ribosomal protein L19-A



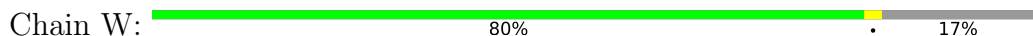
- Molecule 24: 60S ribosomal protein L20-A



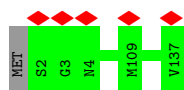
- Molecule 25: 60S ribosomal protein L21-A



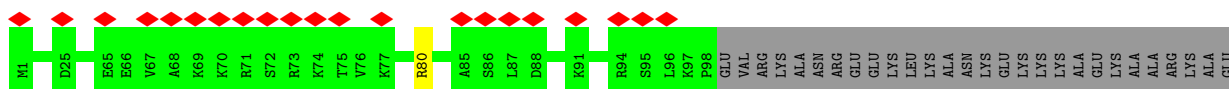
- Molecule 26: 60S ribosomal protein L22-A



- Molecule 27: 60S ribosomal protein L23-A



- Molecule 28: 60S ribosomal protein L24-A



LYS
ALA
LYS
SER
ALA
GLY
THR
GLN
SER
SER
LYS
PHE
SER
LYS
GLN
GLN
ALA
LYS
GLY
GLY
ALA
PHE
GLN
LYS
VAL
ALA
ALA
THR
SER
ARG

- Molecule 29: 60S ribosomal protein L25

Chain Z: 84% 15%

MET
ALA
PRO
SER
ALA
LYS
ALA
THR
ALA
LYS
ALA
LYS
VAL
VAL
GLY
THR
ASN
GLY
LYS
K22
K97
L108
I142

- Molecule 30: 60S ribosomal protein L26-A

Chain a: 98% ..

MET
A2
L126
E127

- Molecule 31: 60S ribosomal protein L27-A

Chain b: 97% ..

MET
A2
Q103
A124
G125
F136

- Molecule 32: 60S ribosomal protein L28

Chain c: 95% 5% .

MET
F2
A17
K27
Y48
Y48
G51
K77
E97
R117
A149

- Molecule 33: 60S ribosomal protein L29

Chain d: 93% 5% .

MET
A2
M6
I21
K25
K59

- Molecule 34: 60S ribosomal protein L30

Chain e: 92% 8%

MET
ALA
PRO
VAL
LYS
SER
GLN
GLU
S9
K64
D97
L104
A105

- Molecule 35: 60S ribosomal protein L31-A

Chain f: 97% .



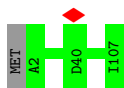
- Molecule 36: 60S ribosomal protein L32

Chain g: 95%



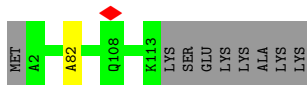
- Molecule 37: 60S ribosomal protein L33-A

Chain h: 99%



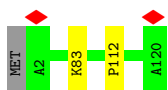
- Molecule 38: 60S ribosomal protein L34-A

Chain i: 92% 7%



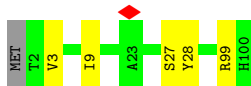
- Molecule 39: 60S ribosomal protein L35-A

Chain j: 98%



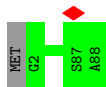
- Molecule 40: 60S ribosomal protein L36-A

Chain k: 94% 5%



- Molecule 41: 60S ribosomal protein L37-A

Chain l: 99%



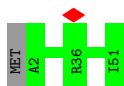
- Molecule 42: 60S ribosomal protein L38

Chain m:  99%



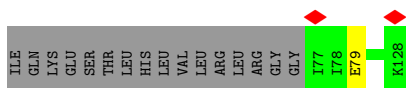
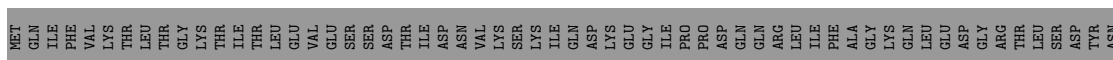
- Molecule 43: 60S ribosomal protein L39

Chain n:  98%



- Molecule 44: Ubiquitin-60S ribosomal protein L40

Chain o:  40% 59%



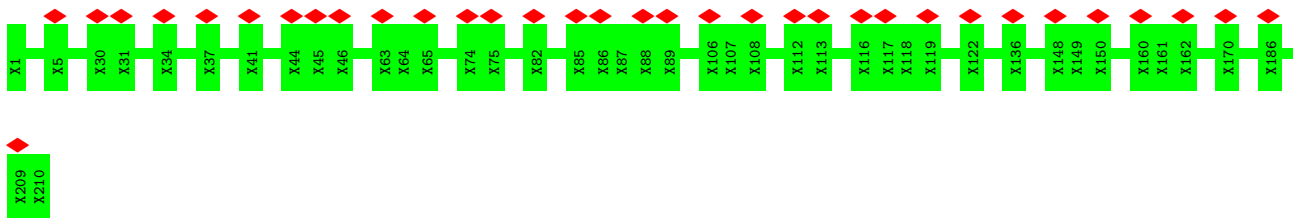
- Molecule 45: 60S ribosomal protein L41-A

Chain p:  100%

There are no outlier residues recorded for this chain.

- Molecule 46: ribosomal protein RPL1

Chain r:  16% 100%



- Molecule 47: 60S ribosomal protein L10

Chain s:  6% 95% 5%

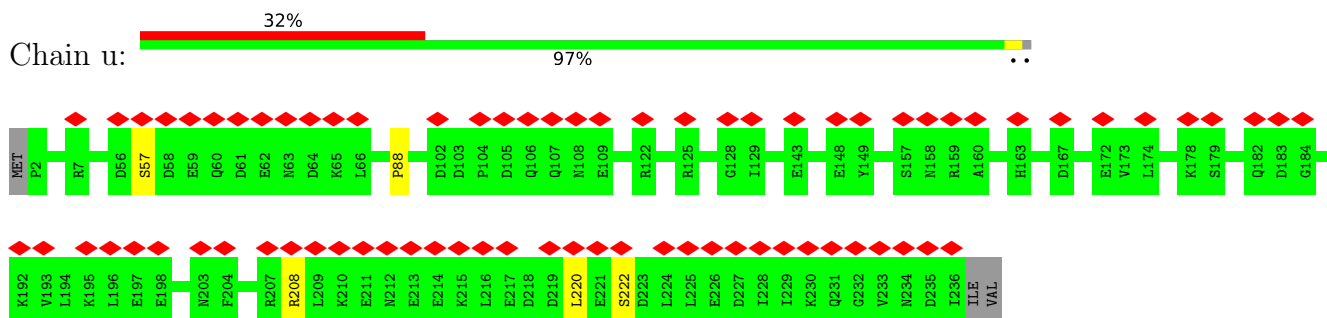


- Molecule 48: N-terminal acetyltransferase A complex subunit NAT1

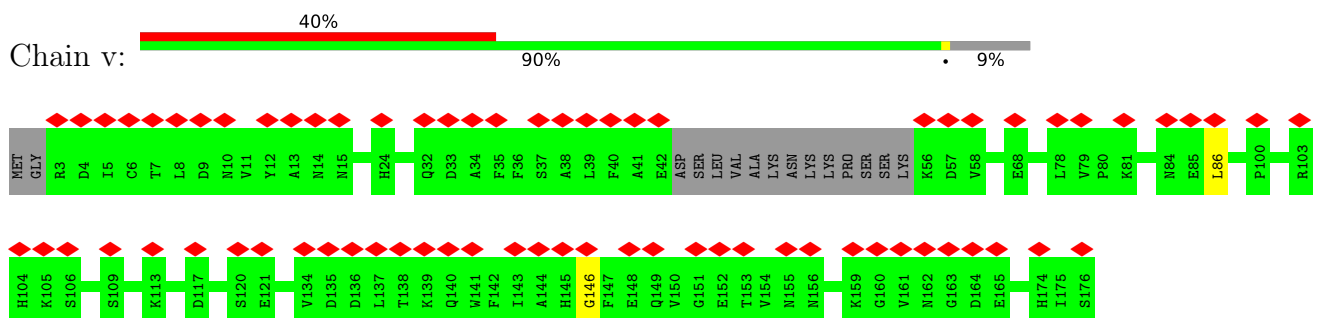
Chain t:  25% 97%



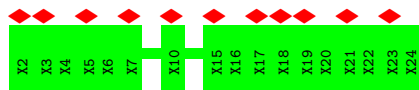
• Molecule 49: N-terminal acetyltransferase A complex catalytic subunit ARD1



• Molecule 50: N-alpha-acetyltransferase NAT5



• Molecule 51: nascent polypeptide chain



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	262507	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	2.5	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	0.226	Depositor
Minimum map value	-0.098	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.0126	Depositor
Map size (Å)	455.28, 455.28, 455.28	wwPDB
Map dimensions	420, 420, 420	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.084, 1.084, 1.084	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section:
3HE

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	1	0.16	0/79803	0.76	27/124411 (0.0%)
2	3	0.15	0/2883	0.74	0/4491
3	4	0.13	0/3746	0.71	0/5832
4	A	0.16	0/1799	0.78	0/2801
5	B	0.29	1/1835 (0.1%)	0.74	0/2858
6	C	0.24	0/860	0.41	0/1136
7	D	0.22	0/701	0.41	0/934
8	E	0.23	0/1948	0.41	0/2617
9	F	0.23	0/3146	0.41	0/4228
10	G	0.23	0/2800	0.39	0/3790
11	H	0.23	0/2425	0.38	0/3271
12	I	0.24	0/1260	0.38	0/1694
13	J	0.24	0/1821	0.38	0/2451
14	K	0.23	0/1836	0.39	0/2481
15	L	0.23	0/1539	0.40	0/2073
16	M	0.23	0/1374	0.38	0/1842
17	N	0.24	0/1568	0.40	0/2106
18	O	0.23	0/1068	0.37	0/1438
19	P	0.22	0/1757	0.39	0/2354
20	Q	0.24	0/1585	0.36	0/2128
21	R	0.23	0/1443	0.41	0/1944
22	S	0.23	0/1465	0.38	0/1965
23	T	0.21	0/1538	0.34	0/2050
24	U	0.23	0/1481	0.39	0/1990
25	V	0.23	0/1300	0.38	0/1743
26	W	0.24	0/812	0.41	0/1099
27	X	0.24	0/1018	0.42	0/1369
28	Y	0.24	0/712	0.40	0/958
29	Z	0.24	0/979	0.42	0/1321
30	a	0.23	0/1004	0.40	0/1341
31	b	0.24	0/1118	0.38	0/1497
32	c	0.23	0/1204	0.39	0/1612

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	d	0.23	0/473	0.35	0/629
34	e	0.24	0/751	0.38	0/1008
35	f	0.23	0/890	0.39	0/1196
36	g	0.22	0/1041	0.38	0/1394
37	h	0.25	0/868	0.43	0/1168
38	i	0.22	0/890	0.39	0/1189
39	j	0.23	0/978	0.38	0/1301
40	k	0.23	0/778	0.40	0/1034
41	l	0.23	0/696	0.41	0/923
42	m	0.24	0/618	0.40	0/826
43	n	0.22	0/443	0.37	0/588
44	o	0.23	0/423	0.39	0/562
45	p	0.20	0/234	0.32	0/300
47	s	0.24	0/1807	0.39	0/2425
48	t	0.24	0/6792	0.35	0/9180
49	u	0.23	0/1830	0.41	0/2484
50	v	0.24	0/1287	0.37	0/1742
All	All	0.19	1/150627 (0.0%)	0.64	27/221774 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	1	G	OP3-P	-10.61	1.48	1.61

All (27) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2553	U	C2-N1-C1'	7.87	127.14	117.70
1	1	2553	U	N1-C2-O2	7.25	127.88	122.80
1	1	2873	U	C2-N1-C1'	7.13	126.26	117.70
1	1	2553	U	N3-C2-O2	-6.69	117.52	122.20
1	1	1227	C	N1-C2-O2	6.47	122.78	118.90
1	1	2617	U	C2-N1-C1'	6.28	125.24	117.70
1	1	2873	U	N1-C2-O2	6.13	127.09	122.80
1	1	1579	C	N3-C2-O2	-6.06	117.66	121.90
1	1	2257	C	N1-C2-O2	5.64	122.28	118.90
1	1	2112	U	OP2-P-O3'	5.55	117.40	105.20
1	1	2873	U	N3-C2-O2	-5.48	118.37	122.20
1	1	3225	C	N1-C2-O2	5.42	122.15	118.90
1	1	2080	C	N1-C2-O2	5.40	122.14	118.90
1	1	2617	U	N1-C2-O2	5.39	126.57	122.80
1	1	3047	U	C5-C4-O4	5.36	129.12	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1	2257	C	C2-N1-C1'	5.27	124.59	118.80
1	1	2027	C	N1-C2-O2	5.26	122.06	118.90
1	1	2027	C	N3-C2-O2	-5.26	118.22	121.90
1	1	1283	C	N3-C2-O2	-5.21	118.25	121.90
1	1	2836	C	C2-N1-C1'	5.17	124.48	118.80
1	1	2617	U	N3-C2-O2	-5.16	118.59	122.20
1	1	2080	C	N3-C2-O2	-5.08	118.34	121.90
1	1	2553	U	C6-N1-C1'	-5.08	114.09	121.20
1	1	3057	U	C2-N1-C1'	5.03	123.74	117.70
1	1	1064	A	P-O3'-C3'	5.02	125.72	119.70
1	1	2112	U	P-O3'-C3'	5.01	125.71	119.70
1	1	2023	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

There are no planarity outliers.

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	
6	C	103/106 (97%)	84 (82%)	18 (18%)	1 (1%)	15	46
7	D	89/92 (97%)	81 (91%)	7 (8%)	1 (1%)	14	44
8	E	250/254 (98%)	212 (85%)	34 (14%)	4 (2%)	9	34
9	F	384/387 (99%)	330 (86%)	47 (12%)	7 (2%)	8	32
10	G	359/362 (99%)	308 (86%)	37 (10%)	14 (4%)	3	19
11	H	294/297 (99%)	258 (88%)	31 (10%)	5 (2%)	9	34

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	I	152/176 (86%)	135 (89%)	16 (10%)	1 (1%)	22	55
13	J	220/244 (90%)	191 (87%)	22 (10%)	7 (3%)	4	22
14	K	231/256 (90%)	203 (88%)	22 (10%)	6 (3%)	5	26
15	L	189/191 (99%)	166 (88%)	20 (11%)	3 (2%)	9	34
16	M	167/174 (96%)	132 (79%)	30 (18%)	5 (3%)	4	23
17	N	191/199 (96%)	162 (85%)	22 (12%)	7 (4%)	3	20
18	O	134/138 (97%)	114 (85%)	18 (13%)	2 (2%)	10	36
19	P	201/204 (98%)	177 (88%)	20 (10%)	4 (2%)	7	30
20	Q	195/199 (98%)	181 (93%)	14 (7%)	0	100	100
21	R	181/184 (98%)	148 (82%)	30 (17%)	3 (2%)	9	34
22	S	183/186 (98%)	164 (90%)	16 (9%)	3 (2%)	9	34
23	T	186/189 (98%)	173 (93%)	11 (6%)	2 (1%)	14	44
24	U	170/172 (99%)	137 (81%)	31 (18%)	2 (1%)	13	41
25	V	157/160 (98%)	135 (86%)	18 (12%)	4 (2%)	5	26
26	W	98/121 (81%)	77 (79%)	18 (18%)	3 (3%)	4	23
27	X	134/137 (98%)	119 (89%)	15 (11%)	0	100	100
28	Y	96/155 (62%)	83 (86%)	12 (12%)	1 (1%)	15	46
29	Z	119/142 (84%)	110 (92%)	7 (6%)	2 (2%)	9	34
30	a	124/127 (98%)	113 (91%)	10 (8%)	1 (1%)	19	51
31	b	133/136 (98%)	117 (88%)	13 (10%)	3 (2%)	6	28
32	c	146/149 (98%)	121 (83%)	18 (12%)	7 (5%)	2	15
33	d	56/59 (95%)	50 (89%)	3 (5%)	3 (5%)	2	13
34	e	95/105 (90%)	92 (97%)	3 (3%)	0	100	100
35	f	107/109 (98%)	95 (89%)	9 (8%)	3 (3%)	5	24
36	g	125/130 (96%)	114 (91%)	8 (6%)	3 (2%)	6	28
37	h	104/107 (97%)	95 (91%)	9 (9%)	0	100	100
38	i	110/121 (91%)	102 (93%)	7 (6%)	1 (1%)	17	49
39	j	117/120 (98%)	102 (87%)	13 (11%)	2 (2%)	9	34
40	k	97/100 (97%)	77 (79%)	15 (16%)	5 (5%)	2	13
41	l	85/88 (97%)	70 (82%)	15 (18%)	0	100	100
42	m	75/78 (96%)	64 (85%)	11 (15%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	n	48/51 (94%)	41 (85%)	7 (15%)	0	100	100
44	o	50/128 (39%)	45 (90%)	4 (8%)	1 (2%)	7	30
45	p	23/25 (92%)	23 (100%)	0	0	100	100
47	s	218/221 (99%)	176 (81%)	33 (15%)	9 (4%)	3	18
48	t	836/854 (98%)	760 (91%)	69 (8%)	7 (1%)	19	51
49	u	233/238 (98%)	186 (80%)	43 (18%)	4 (2%)	9	34
50	v	157/176 (89%)	138 (88%)	17 (11%)	2 (1%)	12	39
All	All	7422/7847 (95%)	6461 (87%)	823 (11%)	138 (2%)	11	31

All (138) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
10	G	146	PRO
14	K	79	GLN
24	U	22	PRO
8	E	144	ASN
10	G	268	ALA
10	G	270	SER
10	G	318	LEU
11	H	89	THR
11	H	276	LYS
12	I	99	GLU
14	K	163	VAL
14	K	196	ALA
15	L	139	ASN
16	M	8	PRO
16	M	114	ILE
17	N	61	PRO
17	N	94	GLY
17	N	166	ALA
19	P	74	PRO
25	V	124	VAL
26	W	52	ASN
32	c	47	LYS
32	c	48	TYR
32	c	97	GLU
35	f	82	GLU
39	j	112	PRO
40	k	28	TYR
47	s	187	GLY

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Mol	Chain	Res	Type
49	u	57	SER
8	E	21	ARG
8	E	24	GLN
9	F	5	LYS
9	F	187	SER
9	F	314	TYR
10	G	90	PHE
10	G	131	VAL
10	G	264	SER
10	G	291	ASN
10	G	317	PRO
10	G	320	ASN
10	G	338	LYS
14	K	156	ASP
15	L	22	SER
16	M	135	GLY
17	N	28	GLN
17	N	48	PRO
17	N	129	ASN
19	P	145	ASP
22	S	98	LYS
23	T	53	LYS
25	V	17	ARG
26	W	91	ASP
30	a	126	LEU
32	c	27	LYS
32	c	77	LYS
32	c	117	ARG
33	d	6	ASN
35	f	69	TYR
36	g	12	LYS
38	i	82	ALA
40	k	99	ARG
47	s	46	PRO
47	s	107	ALA
48	t	121	GLY
48	t	255	GLY
50	v	86	LEU
10	G	141	ARG
11	H	7	ALA
13	J	91	GLY
15	L	50	ASN

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Mol	Chain	Res	Type
16	M	117	ASP
17	N	136	GLU
24	U	130	GLU
29	Z	97	LYS
29	Z	108	LEU
31	b	103	GLN
31	b	124	ALA
36	g	77	ALA
44	o	79	GLU
47	s	2	ARG
47	s	104	CYS
47	s	110	LEU
47	s	194	ALA
48	t	309	GLU
48	t	356	LYS
48	t	400	PHE
48	t	528	VAL
49	u	220	LEU
9	F	155	ALA
9	F	250	ALA
9	F	317	ILE
10	G	14	GLU
11	H	125	VAL
13	J	160	ARG
13	J	178	ILE
14	K	36	ILE
14	K	157	VAL
18	O	8	LYS
21	R	24	VAL
22	S	132	PRO
22	S	162	ALA
23	T	73	GLY
26	W	11	ILE
28	Y	80	ARG
33	d	21	ILE
33	d	25	LYS
39	j	83	LYS
40	k	3	VAL
47	s	17	PRO
48	t	173	GLY
49	u	222	SER
50	v	146	GLY

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Mol	Chain	Res	Type
7	D	9	GLY
9	F	38	SER
10	G	140	HIS
13	J	27	ALA
13	J	159	GLN
13	J	191	VAL
18	O	6	ILE
21	R	18	ARG
25	V	123	GLY
35	f	7	VAL
40	k	27	SER
47	s	172	PHE
49	u	88	PRO
13	J	92	ILE
31	b	125	GLY
40	k	9	ILE
8	E	5	ILE
21	R	77	GLY
36	g	5	PRO
6	C	14	GLY
11	H	148	ILE
32	c	51	GLY
16	M	134	PRO
19	P	52	GLY
19	P	75	VAL
25	V	132	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	
6	C	90/91 (99%)	90 (100%)	0	100	100
7	D	71/72 (99%)	71 (100%)	0	100	100
8	E	193/196 (98%)	193 (100%)	0	100	100
9	F	320/323 (99%)	319 (100%)	1 (0%)	92	97

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	G	288/289 (100%)	288 (100%)	0	100	100
11	H	244/245 (100%)	244 (100%)	0	100	100
12	I	134/153 (88%)	134 (100%)	0	100	100
13	J	186/205 (91%)	186 (100%)	0	100	100
14	K	187/208 (90%)	187 (100%)	0	100	100
15	L	171/171 (100%)	171 (100%)	0	100	100
16	M	147/150 (98%)	147 (100%)	0	100	100
17	N	154/159 (97%)	154 (100%)	0	100	100
18	O	107/109 (98%)	107 (100%)	0	100	100
19	P	175/176 (99%)	175 (100%)	0	100	100
20	Q	160/162 (99%)	160 (100%)	0	100	100
21	R	140/146 (96%)	140 (100%)	0	100	100
22	S	150/151 (99%)	150 (100%)	0	100	100
23	T	153/154 (99%)	153 (100%)	0	100	100
24	U	156/156 (100%)	156 (100%)	0	100	100
25	V	136/137 (99%)	136 (100%)	0	100	100
26	W	87/107 (81%)	87 (100%)	0	100	100
27	X	104/105 (99%)	104 (100%)	0	100	100
28	Y	57/129 (44%)	57 (100%)	0	100	100
29	Z	104/118 (88%)	104 (100%)	0	100	100
30	a	109/110 (99%)	109 (100%)	0	100	100
31	b	115/116 (99%)	115 (100%)	0	100	100
32	c	118/119 (99%)	118 (100%)	0	100	100
33	d	46/47 (98%)	46 (100%)	0	100	100
34	e	81/88 (92%)	81 (100%)	0	100	100
35	f	92/96 (96%)	92 (100%)	0	100	100
36	g	109/111 (98%)	109 (100%)	0	100	100
37	h	90/91 (99%)	90 (100%)	0	100	100
38	i	95/103 (92%)	95 (100%)	0	100	100
39	j	104/105 (99%)	104 (100%)	0	100	100
40	k	81/82 (99%)	81 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	l	70/71 (99%)	70 (100%)	0	100	100
42	m	68/69 (99%)	68 (100%)	0	100	100
43	n	45/46 (98%)	45 (100%)	0	100	100
44	o	47/116 (40%)	47 (100%)	0	100	100
45	p	23/23 (100%)	23 (100%)	0	100	100
47	s	184/187 (98%)	183 (100%)	1 (0%)	88	94
48	t	683/759 (90%)	681 (100%)	2 (0%)	92	97
49	u	177/216 (82%)	176 (99%)	1 (1%)	86	94
50	v	133/153 (87%)	133 (100%)	0	100	100
All	All	6184/6620 (93%)	6179 (100%)	5 (0%)	93	98

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	F	102	LEU
47	s	109	ARG
48	t	29	LYS
48	t	440	ILE
49	u	208	ARG

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

Mol	Chain	Res	Type
6	C	22	GLN
8	E	50	HIS
8	E	132	ASN
8	E	139	HIS
8	E	209	HIS
8	E	233	GLN
9	F	231	HIS
9	F	243	HIS
10	G	5	GLN
10	G	110	ASN
10	G	114	ASN
10	G	311	HIS
11	H	17	GLN
11	H	40	HIS
12	I	167	ASN

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Mol	Chain	Res	Type
13	J	37	ASN
13	J	48	ASN
13	J	159	GLN
13	J	172	ASN
13	J	186	HIS
13	J	225	GLN
14	K	145	ASN
15	L	40	HIS
15	L	77	ASN
16	M	43	GLN
16	M	150	ASN
17	N	28	GLN
17	N	66	ASN
17	N	149	GLN
19	P	156	HIS
19	P	158	HIS
21	R	172	GLN
22	S	9	GLN
23	T	66	HIS
23	T	118	HIS
23	T	121	HIS
23	T	130	ASN
23	T	156	ASN
24	U	3	HIS
24	U	8	GLN
24	U	68	HIS
24	U	122	HIS
24	U	142	GLN
24	U	157	GLN
25	V	58	GLN
25	V	66	ASN
27	X	98	ASN
28	Y	42	GLN
31	b	57	HIS
31	b	78	ASN
31	b	128	GLN
32	c	44	ASN
32	c	64	GLN
33	d	12	GLN
34	e	47	ASN
35	f	21	HIS
36	g	52	GLN

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Mol	Chain	Res	Type
37	h	42	GLN
38	i	33	GLN
39	j	59	ASN
41	l	76	ASN
47	s	58	GLN
47	s	132	GLN
48	t	23	GLN
48	t	95	HIS
48	t	172	ASN
48	t	176	GLN
48	t	177	GLN
48	t	184	GLN
48	t	229	HIS
48	t	347	ASN
49	u	20	ASN
49	u	23	ASN
49	u	163	HIS
49	u	203	ASN
50	v	32	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	3328/3396 (97%)	772 (23%)	101 (3%)
2	3	120/121 (99%)	22 (18%)	2 (1%)
3	4	157/158 (99%)	35 (22%)	5 (3%)
4	A	75/76 (98%)	27 (36%)	4 (5%)
5	B	76/77 (98%)	23 (30%)	2 (2%)
All	All	3756/3828 (98%)	879 (23%)	114 (3%)

All (879) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	13	A
1	1	14	U
1	1	15	C
1	1	26	A
1	1	40	A
1	1	41	G
1	1	44	U
1	1	49	A

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Mol	Chain	Res	Type
1	1	59	G
1	1	60	A
1	1	66	A
1	1	67	A
1	1	72	C
1	1	77	A
1	1	86	G
1	1	87	U
1	1	92	G
1	1	93	C
1	1	94	G
1	1	111	C
1	1	116	A
1	1	117	U
1	1	118	U
1	1	119	U
1	1	121	A
1	1	123	A
1	1	134	U
1	1	135	C
1	1	136	G
1	1	146	U
1	1	147	U
1	1	148	G
1	1	156	G
1	1	157	A
1	1	161	G
1	1	166	C
1	1	182	U
1	1	187	A
1	1	189	G
1	1	190	U
1	1	191	U
1	1	200	C
1	1	206	G
1	1	210	U
1	1	212	G
1	1	213	A
1	1	218	G
1	1	219	A
1	1	220	G
1	1	221	A

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Mol	Chain	Res	Type
1	1	229	G
1	1	240	U
1	1	252	U
1	1	253	A
1	1	268	A
1	1	269	G
1	1	270	U
1	1	281	G
1	1	283	G
1	1	284	A
1	1	286	U
1	1	295	A
1	1	297	G
1	1	298	U
1	1	304	G
1	1	305	U
1	1	323	A
1	1	329	U
1	1	330	G
1	1	342	A
1	1	344	A
1	1	346	C
1	1	350	C
1	1	352	A
1	1	353	G
1	1	354	U
1	1	375	A
1	1	376	G
1	1	395	A
1	1	398	A
1	1	399	A
1	1	400	G
1	1	401	U
1	1	402	A
1	1	403	C
1	1	406	G
1	1	408	A
1	1	421	G
1	1	422	A
1	1	439	C
1	1	440	A
1	1	441	U

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Mol	Chain	Res	Type
1	1	446	U
1	1	455	C
1	1	458	U
1	1	462	C
1	1	464	U
1	1	465	U
1	1	466	G
1	1	469	G
1	1	470	G
1	1	472	A
1	1	479	U
1	1	480	C
1	1	481	U
1	1	482	C
1	1	486	U
1	1	488	U
1	1	489	C
1	1	494	G
1	1	503	C
1	1	517	G
1	1	520	U
1	1	521	A
1	1	523	A
1	1	535	G
1	1	536	U
1	1	543	C
1	1	546	C
1	1	547	G
1	1	548	G
1	1	552	G
1	1	555	U
1	1	556	U
1	1	558	U
1	1	559	A
1	1	564	G
1	1	569	A
1	1	579	G
1	1	581	U
1	1	592	A
1	1	597	G
1	1	600	G
1	1	603	A

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Mol	Chain	Res	Type
1	1	609	G
1	1	611	A
1	1	620	U
1	1	621	A
1	1	622	A
1	1	636	C
1	1	637	C
1	1	641	C
1	1	643	U
1	1	646	A
1	1	648	C
1	1	649	A
1	1	661	G
1	1	662	U
1	1	667	C
1	1	677	A
1	1	678	G
1	1	681	U
1	1	683	U
1	1	690	A
1	1	691	A
1	1	692	A
1	1	705	A
1	1	708	G
1	1	712	G
1	1	716	A
1	1	719	U
1	1	720	A
1	1	760	G
1	1	764	U
1	1	765	C
1	1	766	U
1	1	767	U
1	1	770	G
1	1	776	U
1	1	777	U
1	1	781	G
1	1	784	A
1	1	800	G
1	1	801	A
1	1	806	A
1	1	817	A

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Mol	Chain	Res	Type
1	1	820	A
1	1	826	G
1	1	837	A
1	1	849	C
1	1	857	G
1	1	860	G
1	1	861	C
1	1	871	U
1	1	874	U
1	1	879	U
1	1	894	G
1	1	896	A
1	1	905	U
1	1	908	G
1	1	915	A
1	1	916	G
1	1	917	A
1	1	922	U
1	1	925	A
1	1	933	A
1	1	936	A
1	1	937	G
1	1	944	C
1	1	953	G
1	1	959	C
1	1	960	U
1	1	962	A
1	1	963	G
1	1	974	G
1	1	980	A
1	1	982	C
1	1	984	G
1	1	994	G
1	1	995	U
1	1	1001	G
1	1	1002	A
1	1	1006	A
1	1	1015	U
1	1	1016	C
1	1	1017	C
1	1	1018	G
1	1	1021	G

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Mol	Chain	Res	Type
1	1	1025	A
1	1	1026	A
1	1	1029	G
1	1	1032	C
1	1	1045	C
1	1	1047	A
1	1	1049	C
1	1	1063	G
1	1	1065	A
1	1	1066	G
1	1	1075	A
1	1	1076	C
1	1	1081	U
1	1	1087	G
1	1	1093	A
1	1	1094	U
1	1	1096	U
1	1	1097	G
1	1	1098	A
1	1	1103	A
1	1	1104	G
1	1	1116	G
1	1	1117	G
1	1	1131	G
1	1	1132	C
1	1	1143	A
1	1	1144	U
1	1	1145	G
1	1	1155	C
1	1	1159	A
1	1	1177	G
1	1	1178	G
1	1	1180	A
1	1	1181	U
1	1	1182	A
1	1	1186	G
1	1	1191	U
1	1	1192	C
1	1	1193	A
1	1	1199	C
1	1	1220	U
1	1	1228	C

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Mol	Chain	Res	Type
1	1	1229	G
1	1	1232	C
1	1	1236	G
1	1	1237	G
1	1	1238	C
1	1	1239	C
1	1	1240	A
1	1	1241	U
1	1	1242	G
1	1	1243	G
1	1	1245	A
1	1	1246	G
1	1	1248	C
1	1	1249	G
1	1	1251	A
1	1	1253	U
1	1	1254	C
1	1	1262	G
1	1	1263	A
1	1	1265	U
1	1	1266	G
1	1	1269	U
1	1	1270	A
1	1	1271	A
1	1	1272	C
1	1	1274	A
1	1	1277	C
1	1	1286	A
1	1	1302	A
1	1	1303	A
1	1	1306	G
1	1	1307	G
1	1	1308	A
1	1	1316	C
1	1	1317	A
1	1	1323	G
1	1	1325	U
1	1	1329	U
1	1	1330	A
1	1	1331	U
1	1	1345	G
1	1	1349	G

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Mol	Chain	Res	Type
1	1	1351	U
1	1	1352	A
1	1	1353	U
1	1	1356	U
1	1	1357	G
1	1	1366	A
1	1	1386	A
1	1	1387	G
1	1	1390	A
1	1	1391	C
1	1	1392	G
1	1	1399	A
1	1	1400	G
1	1	1408	G
1	1	1418	A
1	1	1419	A
1	1	1432	C
1	1	1433	A
1	1	1434	G
1	1	1435	A
1	1	1437	C
1	1	1446	A
1	1	1447	G
1	1	1448	U
1	1	1456	A
1	1	1464	G
1	1	1468	A
1	1	1470	U
1	1	1481	A
1	1	1482	A
1	1	1483	G
1	1	1484	U
1	1	1485	G
1	1	1490	A
1	1	1495	U
1	1	1496	C
1	1	1508	C
1	1	1512	U
1	1	1523	U
1	1	1527	C
1	1	1536	G
1	1	1554	U

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Mol	Chain	Res	Type
1	1	1556	C
1	1	1557	A
1	1	1558	A
1	1	1559	A
1	1	1560	G
1	1	1561	G
1	1	1563	C
1	1	1567	U
1	1	1568	U
1	1	1569	U
1	1	1570	U
1	1	1571	A
1	1	1572	U
1	1	1573	G
1	1	1578	C
1	1	1580	A
1	1	1581	C
1	1	1582	C
1	1	1583	A
1	1	1588	A
1	1	1589	A
1	1	1593	A
1	1	1595	U
1	1	1605	A
1	1	1606	U
1	1	1620	U
1	1	1621	A
1	1	1629	U
1	1	1630	U
1	1	1643	A
1	1	1645	U
1	1	1677	G
1	1	1715	A
1	1	1717	U
1	1	1719	G
1	1	1724	U
1	1	1741	A
1	1	1750	A
1	1	1752	A
1	1	1760	A
1	1	1762	C
1	1	1763	U

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Mol	Chain	Res	Type
1	1	1765	U
1	1	1770	G
1	1	1771	C
1	1	1773	C
1	1	1775	G
1	1	1780	G
1	1	1794	G
1	1	1796	G
1	1	1797	A
1	1	1813	A
1	1	1815	U
1	1	1816	A
1	1	1817	G
1	1	1818	U
1	1	1819	U
1	1	1820	U
1	1	1821	U
1	1	1822	C
1	1	1835	A
1	1	1839	A
1	1	1840	U
1	1	1841	A
1	1	1843	C
1	1	1846	C
1	1	1847	A
1	1	1849	C
1	1	1850	A
1	1	1851	G
1	1	1864	A
1	1	1867	A
1	1	1880	U
1	1	1885	U
1	1	1886	A
1	1	1893	A
1	1	1895	A
1	1	1901	A
1	1	1906	G
1	1	1907	C
1	1	1926	C
1	1	1927	G
1	1	1932	A
1	1	1935	G

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Mol	Chain	Res	Type
1	1	1939	G
1	1	1952	G
1	1	1953	G
1	1	1954	G
1	1	1955	U
1	1	1960	A
1	1	1961	G
1	1	1962	G
1	1	1963	G
1	1	1964	C
1	1	1972	A
1	1	1973	G
1	1	1976	G
1	1	1981	G
1	1	1988	C
1	1	1994	G
1	1	1998	G
1	1	2001	U
1	1	2006	G
1	1	2010	U
1	1	2013	C
1	1	2017	G
1	1	2020	A
1	1	2022	G
1	1	2023	C
1	1	2025	G
1	1	2033	G
1	1	2035	G
1	1	2039	C
1	1	2045	G
1	1	2047	A
1	1	2048	G
1	1	2049	A
1	1	2050	C
1	1	2059	U
1	1	2081	U
1	1	2082	U
1	1	2087	C
1	1	2088	A
1	1	2089	A
1	1	2093	A
1	1	2099	A

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Mol	Chain	Res	Type
1	1	2101	C
1	1	2102	U
1	1	2107	A
1	1	2111	G
1	1	2112	U
1	1	2113	A
1	1	2114	C
1	1	2121	G
1	1	2122	G
1	1	2125	A
1	1	2126	A
1	1	2131	A
1	1	2138	A
1	1	2140	U
1	1	2144	A
1	1	2145	A
1	1	2157	G
1	1	2159	U
1	1	2160	G
1	1	2169	G
1	1	2170	U
1	1	2176	U
1	1	2178	A
1	1	2179	C
1	1	2180	G
1	1	2184	U
1	1	2197	C
1	1	2199	G
1	1	2205	U
1	1	2206	G
1	1	2209	U
1	1	2211	U
1	1	2225	U
1	1	2243	A
1	1	2244	A
1	1	2256	A
1	1	2257	C
1	1	2263	C
1	1	2272	G
1	1	2279	A
1	1	2281	A
1	1	2282	U

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Mol	Chain	Res	Type
1	1	2287	C
1	1	2298	U
1	1	2299	A
1	1	2306	C
1	1	2307	G
1	1	2309	A
1	1	2313	A
1	1	2314	U
1	1	2315	G
1	1	2318	U
1	1	2319	U
1	1	2332	A
1	1	2336	U
1	1	2373	A
1	1	2374	C
1	1	2375	G
1	1	2378	C
1	1	2386	A
1	1	2388	U
1	1	2397	A
1	1	2402	A
1	1	2403	G
1	1	2404	A
1	1	2411	U
1	1	2418	G
1	1	2419	A
1	1	2435	G
1	1	2437	G
1	1	2439	A
1	1	2446	U
1	1	2451	G
1	1	2493	U
1	1	2494	A
1	1	2495	C
1	1	2496	C
1	1	2498	U
1	1	2501	U
1	1	2502	A
1	1	2503	G
1	1	2514	U
1	1	2515	A
1	1	2522	G

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Mol	Chain	Res	Type
1	1	2523	A
1	1	2524	A
1	1	2526	C
1	1	2530	G
1	1	2531	C
1	1	2538	U
1	1	2539	C
1	1	2540	A
1	1	2541	U
1	1	2542	U
1	1	2544	U
1	1	2547	A
1	1	2548	C
1	1	2550	U
1	1	2552	C
1	1	2553	U
1	1	2554	A
1	1	2555	G
1	1	2558	U
1	1	2571	U
1	1	2572	C
1	1	2585	G
1	1	2594	C
1	1	2606	G
1	1	2607	G
1	1	2614	G
1	1	2617	U
1	1	2618	G
1	1	2619	G
1	1	2626	A
1	1	2628	A
1	1	2629	U
1	1	2630	C
1	1	2635	A
1	1	2636	A
1	1	2645	G
1	1	2652	U
1	1	2655	U
1	1	2657	A
1	1	2666	C
1	1	2674	A
1	1	2678	A

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Mol	Chain	Res	Type
1	1	2679	A
1	1	2691	A
1	1	2696	A
1	1	2703	A
1	1	2704	A
1	1	2712	U
1	1	2713	U
1	1	2716	U
1	1	2727	A
1	1	2728	G
1	1	2737	C
1	1	2742	C
1	1	2753	G
1	1	2755	C
1	1	2762	A
1	1	2772	C
1	1	2773	C
1	1	2777	G
1	1	2778	G
1	1	2779	A
1	1	2797	C
1	1	2798	C
1	1	2800	G
1	1	2801	A
1	1	2802	A
1	1	2804	A
1	1	2808	A
1	1	2810	C
1	1	2814	G
1	1	2816	G
1	1	2817	A
1	1	2818	U
1	1	2829	U
1	1	2834	G
1	1	2842	U
1	1	2844	C
1	1	2845	A
1	1	2847	A
1	1	2850	G
1	1	2851	A
1	1	2859	U
1	1	2867	C

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Mol	Chain	Res	Type
1	1	2870	C
1	1	2871	G
1	1	2872	A
1	1	2873	U
1	1	2874	G
1	1	2887	A
1	1	2888	U
1	1	2889	C
1	1	2898	G
1	1	2910	A
1	1	2911	A
1	1	2912	G
1	1	2923	U
1	1	2935	U
1	1	2936	A
1	1	2941	A
1	1	2942	C
1	1	2945	G
1	1	2951	G
1	1	2954	U
1	1	2966	G
1	1	2971	A
1	1	2972	G
1	1	2978	U
1	1	2983	C
1	1	2992	U
1	1	2997	G
1	1	3012	A
1	1	3021	A
1	1	3022	G
1	1	3023	U
1	1	3026	G
1	1	3039	C
1	1	3058	U
1	1	3059	G
1	1	3078	U
1	1	3079	U
1	1	3080	G
1	1	3086	A
1	1	3092	C
1	1	3109	G
1	1	3117	C

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Mol	Chain	Res	Type
1	1	3122	A
1	1	3130	A
1	1	3131	U
1	1	3141	A
1	1	3142	A
1	1	3143	C
1	1	3144	G
1	1	3145	C
1	1	3151	U
1	1	3152	U
1	1	3153	U
1	1	3154	C
1	1	3155	U
1	1	3156	U
1	1	3157	U
1	1	3167	A
1	1	3170	A
1	1	3172	A
1	1	3174	A
1	1	3176	G
1	1	3180	A
1	1	3181	C
1	1	3182	G
1	1	3185	U
1	1	3195	U
1	1	3196	U
1	1	3197	G
1	1	3198	U
1	1	3207	U
1	1	3208	G
1	1	3209	A
1	1	3210	A
1	1	3216	G
1	1	3217	C
1	1	3218	A
1	1	3219	G
1	1	3220	G
1	1	3226	A
1	1	3227	A
1	1	3228	C
1	1	3231	U
1	1	3237	U

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Mol	Chain	Res	Type
1	1	3243	A
1	1	3244	A
1	1	3245	A
1	1	3246	G
1	1	3247	G
1	1	3259	U
1	1	3260	G
1	1	3263	G
1	1	3268	A
1	1	3270	U
1	1	3273	A
1	1	3275	U
1	1	3276	G
1	1	3277	U
1	1	3278	C
1	1	3280	U
1	1	3288	G
1	1	3289	G
1	1	3290	G
1	1	3293	U
1	1	3295	A
1	1	3296	A
1	1	3305	A
1	1	3306	U
1	1	3313	U
1	1	3316	A
1	1	3317	U
1	1	3318	G
1	1	3319	U
1	1	3327	G
1	1	3335	A
1	1	3341	U
1	1	3345	G
1	1	3349	C
1	1	3351	U
1	1	3352	U
1	1	3353	G
1	1	3354	U
1	1	3355	U
1	1	3358	U
1	1	3368	U
1	1	3369	G

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Mol	Chain	Res	Type
1	1	3370	A
1	1	3375	A
1	1	3378	C
1	1	3382	U
1	1	3383	G
1	1	3386	G
1	1	3390	G
1	1	3391	A
2	3	7	G
2	3	11	A
2	3	13	A
2	3	14	U
2	3	22	A
2	3	33	U
2	3	41	G
2	3	42	A
2	3	48	U
2	3	53	U
2	3	55	A
2	3	64	A
2	3	65	G
2	3	76	A
2	3	77	G
2	3	78	U
2	3	87	G
2	3	91	G
2	3	99	G
2	3	102	A
2	3	112	G
2	3	121	U
3	4	15	G
3	4	23	U
3	4	24	G
3	4	33	A
3	4	34	U
3	4	35	C
3	4	37	A
3	4	39	G
3	4	40	A
3	4	49	G
3	4	51	G
3	4	59	A

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Mol	Chain	Res	Type
3	4	60	U
3	4	62	C
3	4	63	G
3	4	72	A
3	4	80	A
3	4	82	U
3	4	83	C
3	4	85	G
3	4	86	U
3	4	90	U
3	4	95	G
3	4	100	U
3	4	104	A
3	4	106	C
3	4	111	A
3	4	112	U
3	4	113	U
3	4	116	G
3	4	125	U
3	4	126	A
3	4	136	G
3	4	148	G
3	4	151	C
4	A	3	G
4	A	5	C
4	A	6	G
4	A	8	U
4	A	10	G
4	A	14	A
4	A	15	G
4	A	16	U
4	A	17	U
4	A	18	G
4	A	19	G
4	A	21	A
4	A	34	U
4	A	35	U
4	A	38	A
4	A	47	U
4	A	49	G
4	A	50	C
4	A	51	A

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Mol	Chain	Res	Type
4	A	52	G
4	A	55	U
4	A	59	A
4	A	60	U
4	A	61	C
4	A	71	C
4	A	73	A
4	A	74	C
5	B	8	U
5	B	10	G
5	B	13	C
5	B	16	U
5	B	17	C
5	B	17(A)	G
5	B	18	G
5	B	19	U
5	B	20	U
5	B	21	A
5	B	33	U
5	B	35	U
5	B	37	A
5	B	42	G
5	B	46	G
5	B	47	U
5	B	48	C
5	B	49	G
5	B	54	U
5	B	61	C
5	B	65	U
5	B	75	C
5	B	76	A

All (114) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	13	A
1	1	14	U
1	1	43	A
1	1	86	G
1	1	116	A
1	1	122	A
1	1	147	U

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Mol	Chain	Res	Type
1	1	155	G
1	1	189	G
1	1	211	A
1	1	239	G
1	1	282	G
1	1	285	A
1	1	341	G
1	1	353	G
1	1	400	G
1	1	547	G
1	1	558	U
1	1	677	A
1	1	715	A
1	1	764	U
1	1	870	G
1	1	914	A
1	1	916	G
1	1	979	U
1	1	994	G
1	1	1064	A
1	1	1075	A
1	1	1144	U
1	1	1177	G
1	1	1241	U
1	1	1253	U
1	1	1271	A
1	1	1307	G
1	1	1329	U
1	1	1348	U
1	1	1355	A
1	1	1365	G
1	1	1391	C
1	1	1417	G
1	1	1418	A
1	1	1433	A
1	1	1483	G
1	1	1557	A
1	1	1580	A
1	1	1716	U
1	1	1740	U
1	1	1815	U
1	1	1816	A

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Mol	Chain	Res	Type
1	1	1840	U
1	1	1850	A
1	1	1900	A
1	1	1938	U
1	1	1959	G
1	1	2086	A
1	1	2101	C
1	1	2111	G
1	1	2112	U
1	1	2139	A
1	1	2158	A
1	1	2177	G
1	1	2178	A
1	1	2208	A
1	1	2313	A
1	1	2385	G
1	1	2403	G
1	1	2434	U
1	1	2445	A
1	1	2493	U
1	1	2501	U
1	1	2513	U
1	1	2514	U
1	1	2525	G
1	1	2537	U
1	1	2538	U
1	1	2539	C
1	1	2541	U
1	1	2549	G
1	1	2593	A
1	1	2656	A
1	1	2715	A
1	1	2727	A
1	1	2797	C
1	1	2803	A
1	1	2850	G
1	1	2911	A
1	1	2950	G
1	1	3021	A
1	1	3022	G
1	1	3078	U
1	1	3121	U

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Mol	Chain	Res	Type
1	1	3156	U
1	1	3175	U
1	1	3179	U
1	1	3216	G
1	1	3218	A
1	1	3219	G
1	1	3246	G
1	1	3269	U
1	1	3317	U
1	1	3334	U
2	3	76	A
2	3	77	G
3	4	22	U
3	4	38	U
3	4	48	A
3	4	58	G
3	4	71	A
4	A	13	C
4	A	15	G
4	A	54	U
4	A	58	A
5	B	17(A)	G
5	B	18	G

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

1 ligand is modelled in this entry.

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
52	3HE	1	3401	-	21,21,21	4.46	7 (33%)	19,30,30	5.28	11 (57%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
52	3HE	1	3401	-	-	0/8/36/36	0/2/2/2

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	1	3401	3HE	O-C4	11.93	1.40	1.21
52	1	3401	3HE	O1-C11	8.23	1.40	1.23
52	1	3401	3HE	C12-N	7.97	1.51	1.37
52	1	3401	3HE	O2-C12	7.93	1.39	1.23
52	1	3401	3HE	C11-N	7.07	1.49	1.37
52	1	3401	3HE	C8-C9	3.31	1.58	1.53
52	1	3401	3HE	C5-C4	2.17	1.54	1.51

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	1	3401	3HE	C11-N-C12	-10.23	113.38	125.78
52	1	3401	3HE	O-C4-C5	-9.76	109.08	123.28
52	1	3401	3HE	O-C4-C3	-8.83	109.00	122.15
52	1	3401	3HE	O1-C11-N	-7.27	108.77	120.28
52	1	3401	3HE	O2-C12-N	-7.24	108.81	120.28
52	1	3401	3HE	O1-C11-C10	-7.09	108.81	122.62
52	1	3401	3HE	O2-C12-C13	-7.09	108.82	122.62
52	1	3401	3HE	C14-C3-C4	-3.57	108.77	112.53
52	1	3401	3HE	C6-C5-C4	2.81	112.30	108.13
52	1	3401	3HE	C13-C12-N	-2.75	112.58	115.95
52	1	3401	3HE	C10-C11-N	-2.72	112.61	115.95

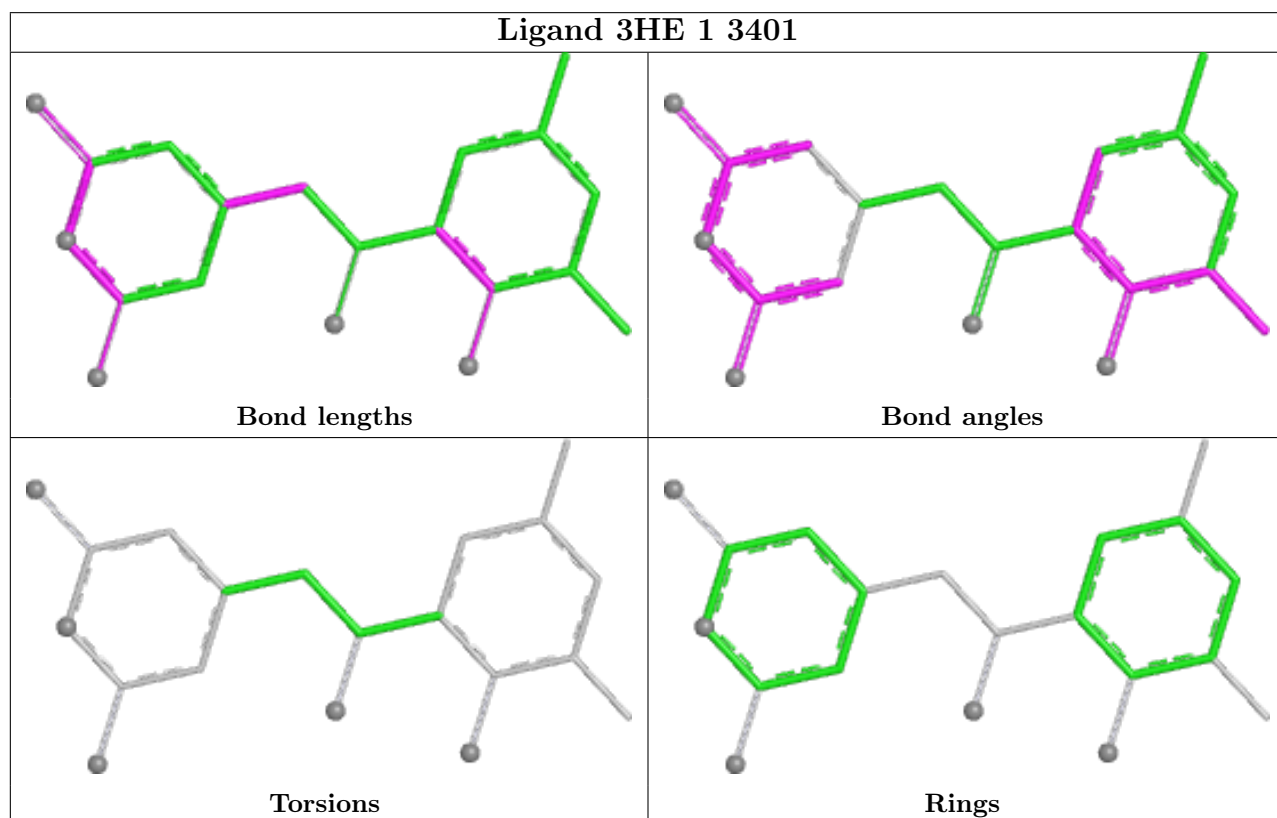
There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	1	4

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	1	1984:C	O3'	1985:G	P	6.36
1	1	615:U	O3'	616:G	P	4.31
1	1	426:G	O3'	427:C	P	3.34
1	1	1946:A	O3'	1947:G	P	3.13

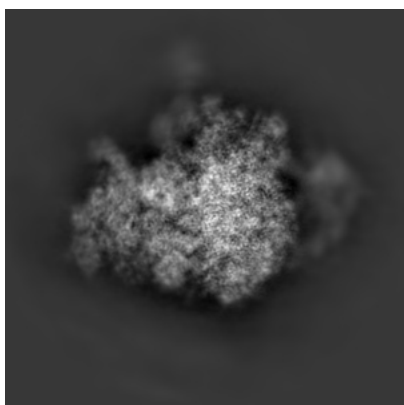
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0202. These allow visual inspection of the internal detail of the map and identification of artifacts.

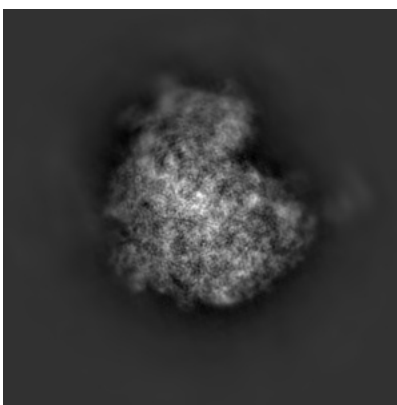
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

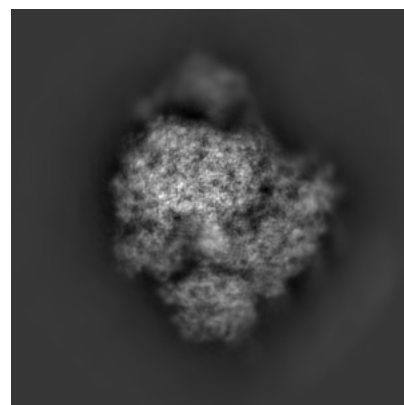
6.1.1 Primary map



X



Y

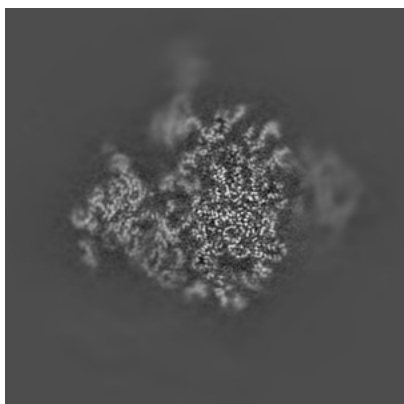


Z

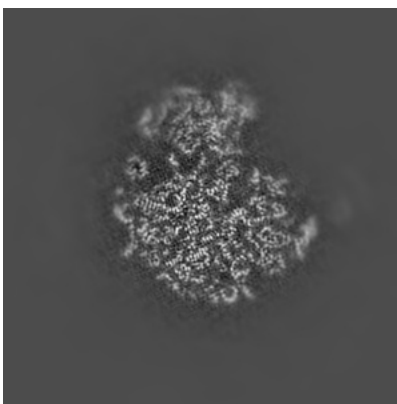
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

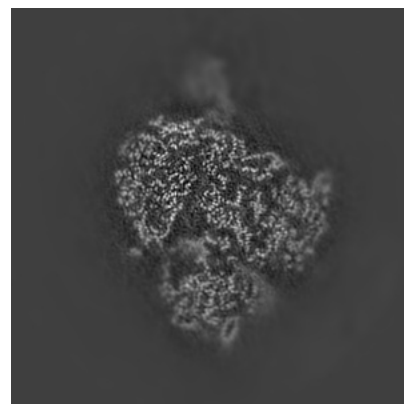
6.2.1 Primary map



X Index: 210



Y Index: 210

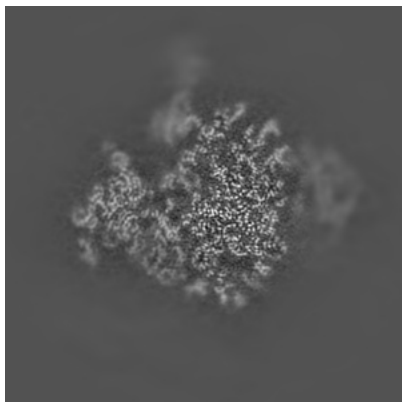


Z Index: 210

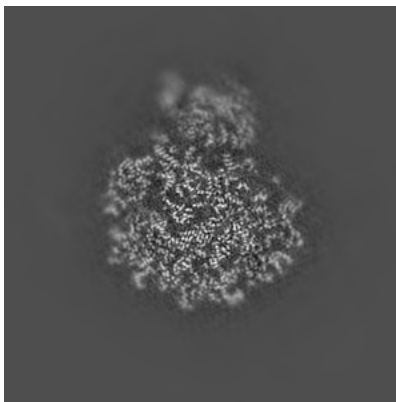
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

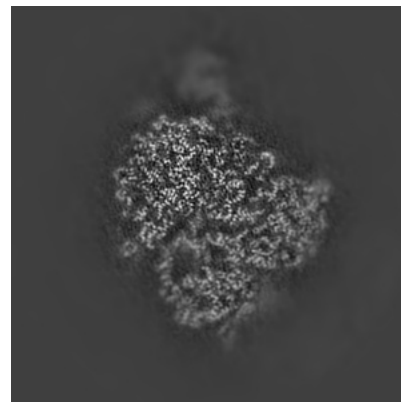
6.3.1 Primary map



X Index: 211



Y Index: 233

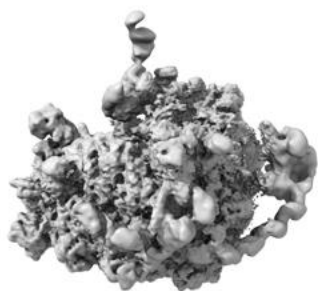


Z Index: 215

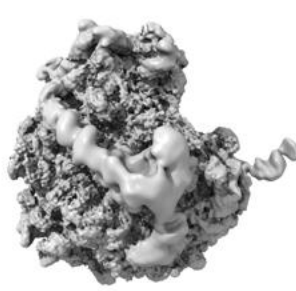
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

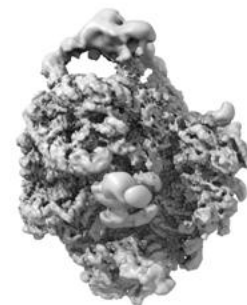
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0126. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

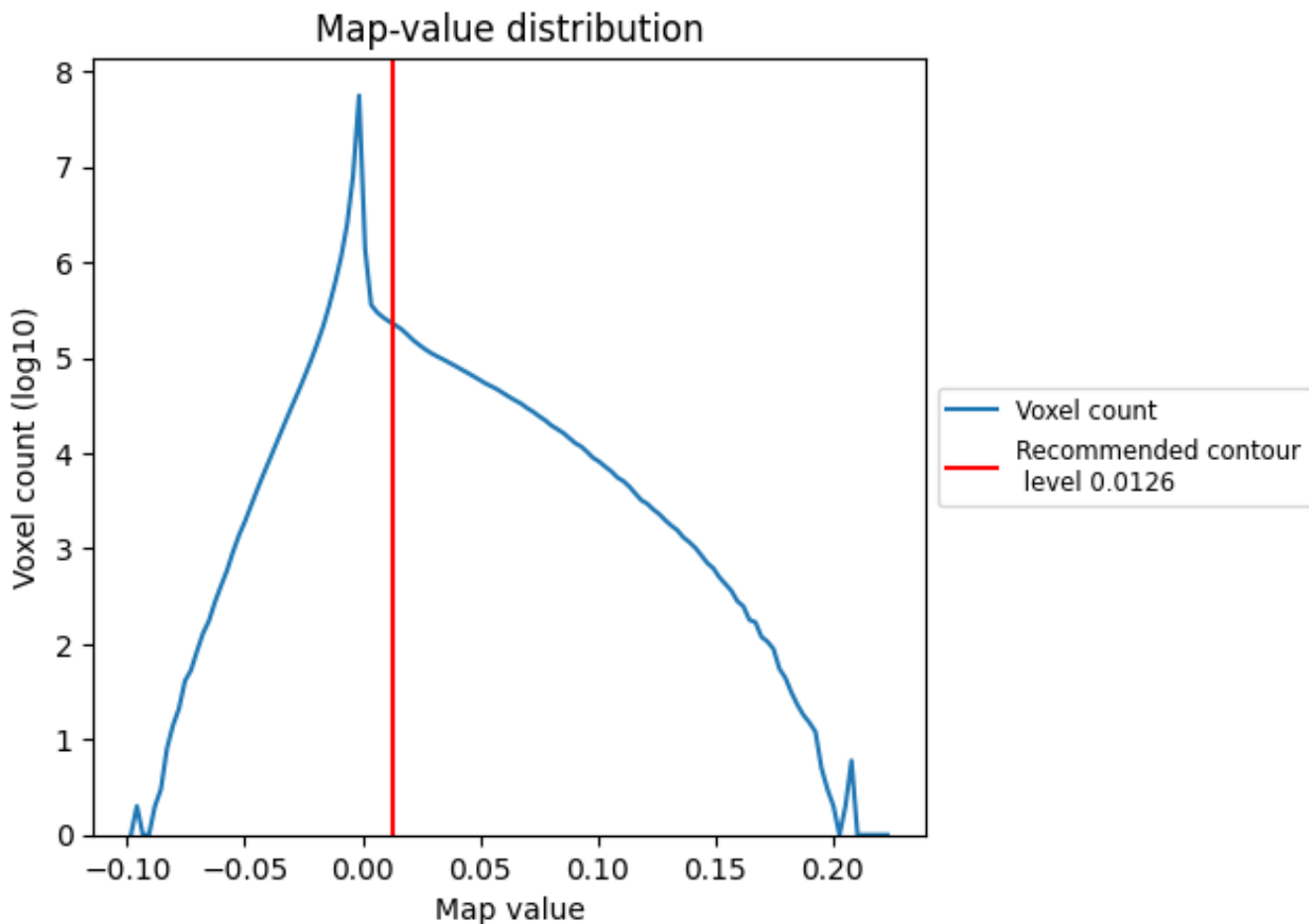
6.5 Mask visualisation

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

7 Map analysis [i](#)

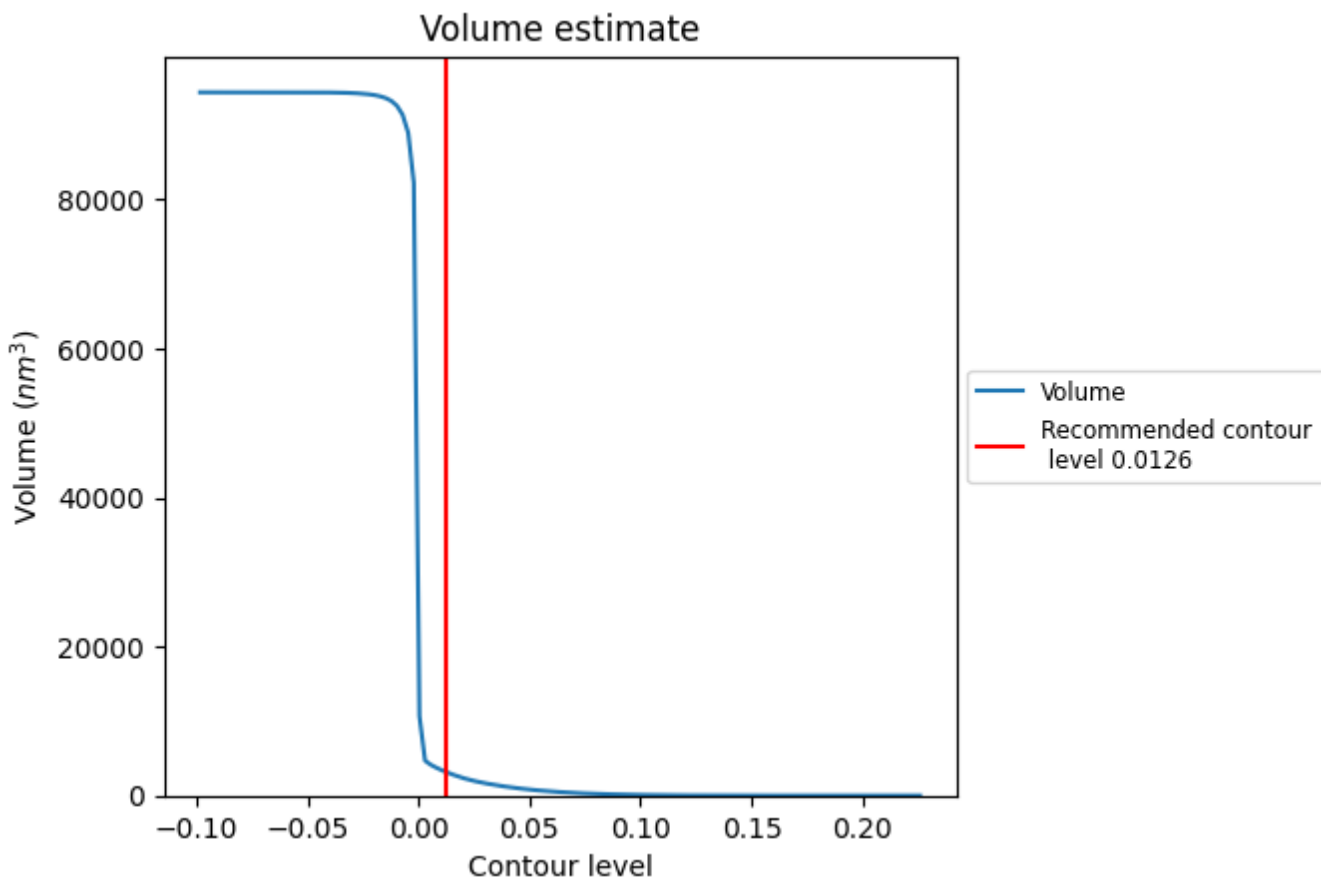
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

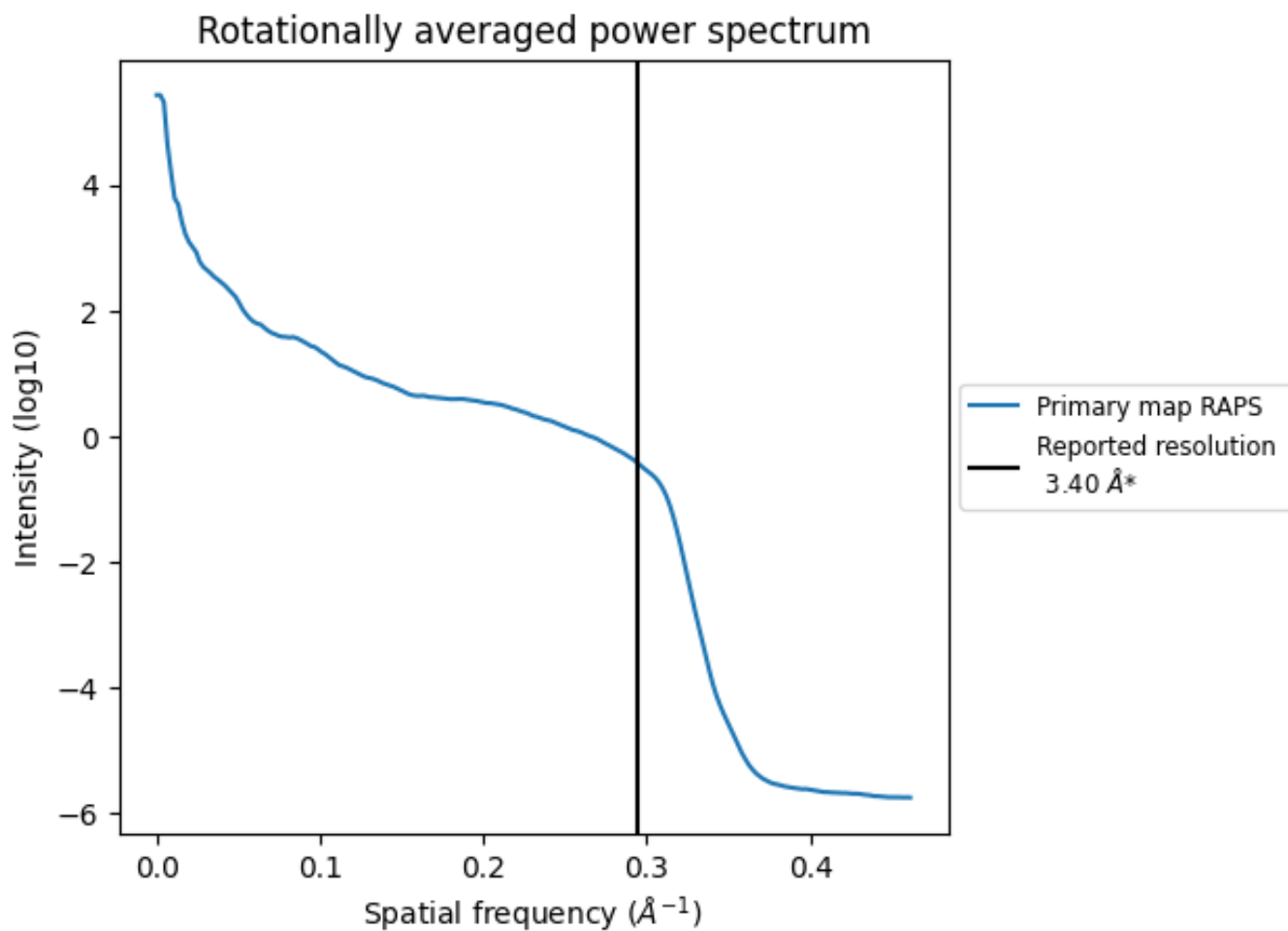
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 3137 nm^3 ; this corresponds to an approximate mass of 2834 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 0.294 Å⁻¹

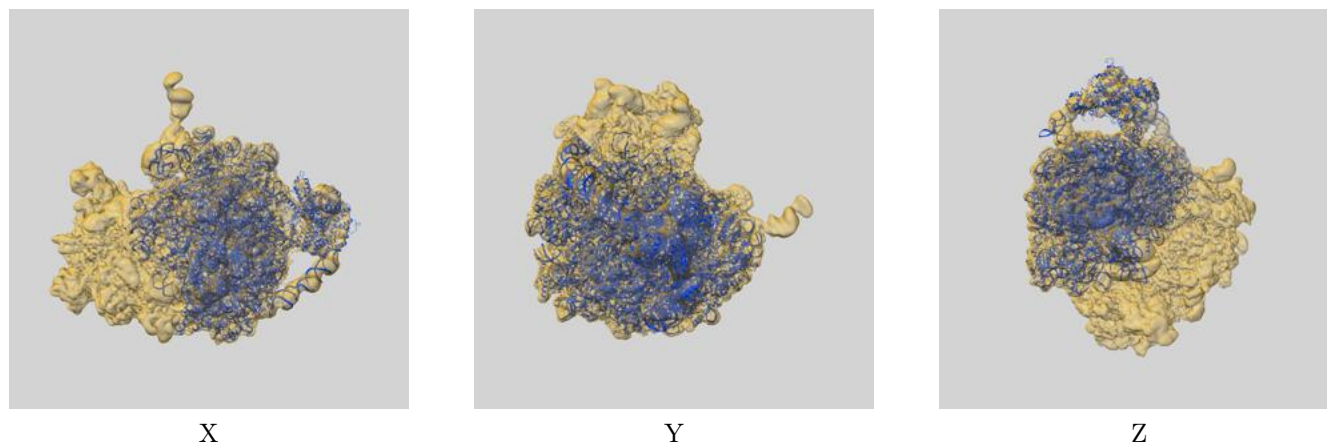
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

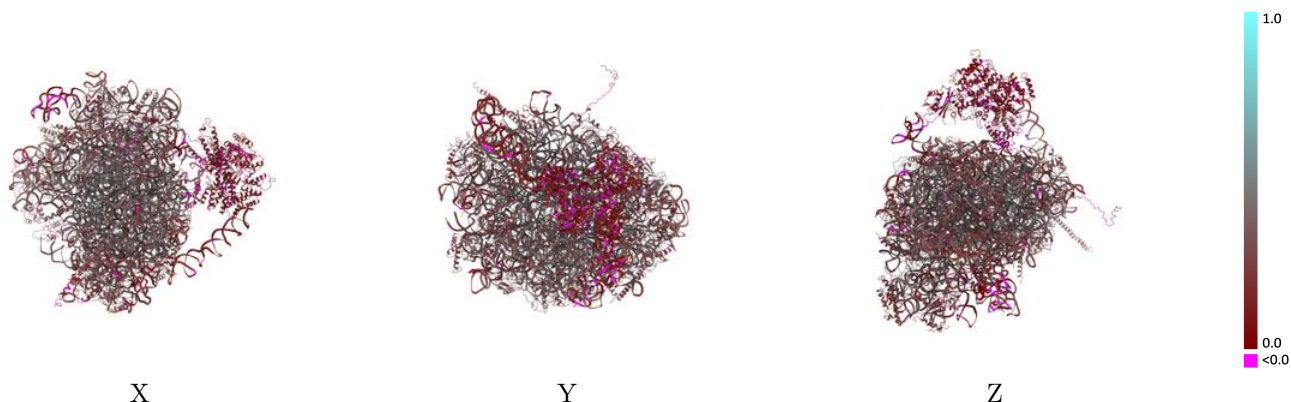
This section contains information regarding the fit between EMDB map EMD-0202 and PDB model 6HD7. Per-residue inclusion information can be found in section 3 on page 13.

9.1 Map-model overlay [i](#)



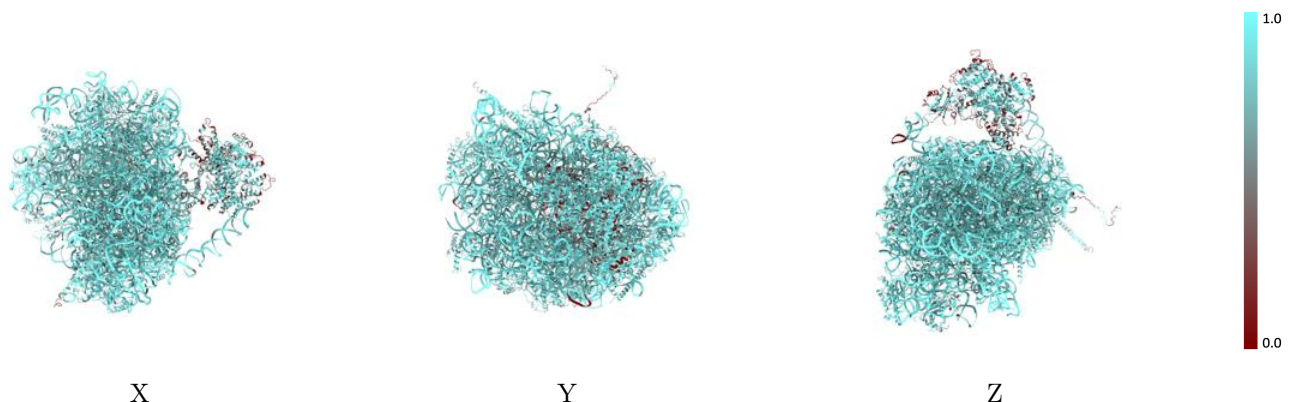
The images above show the 3D surface view of the map at the recommended contour level 0.0126 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



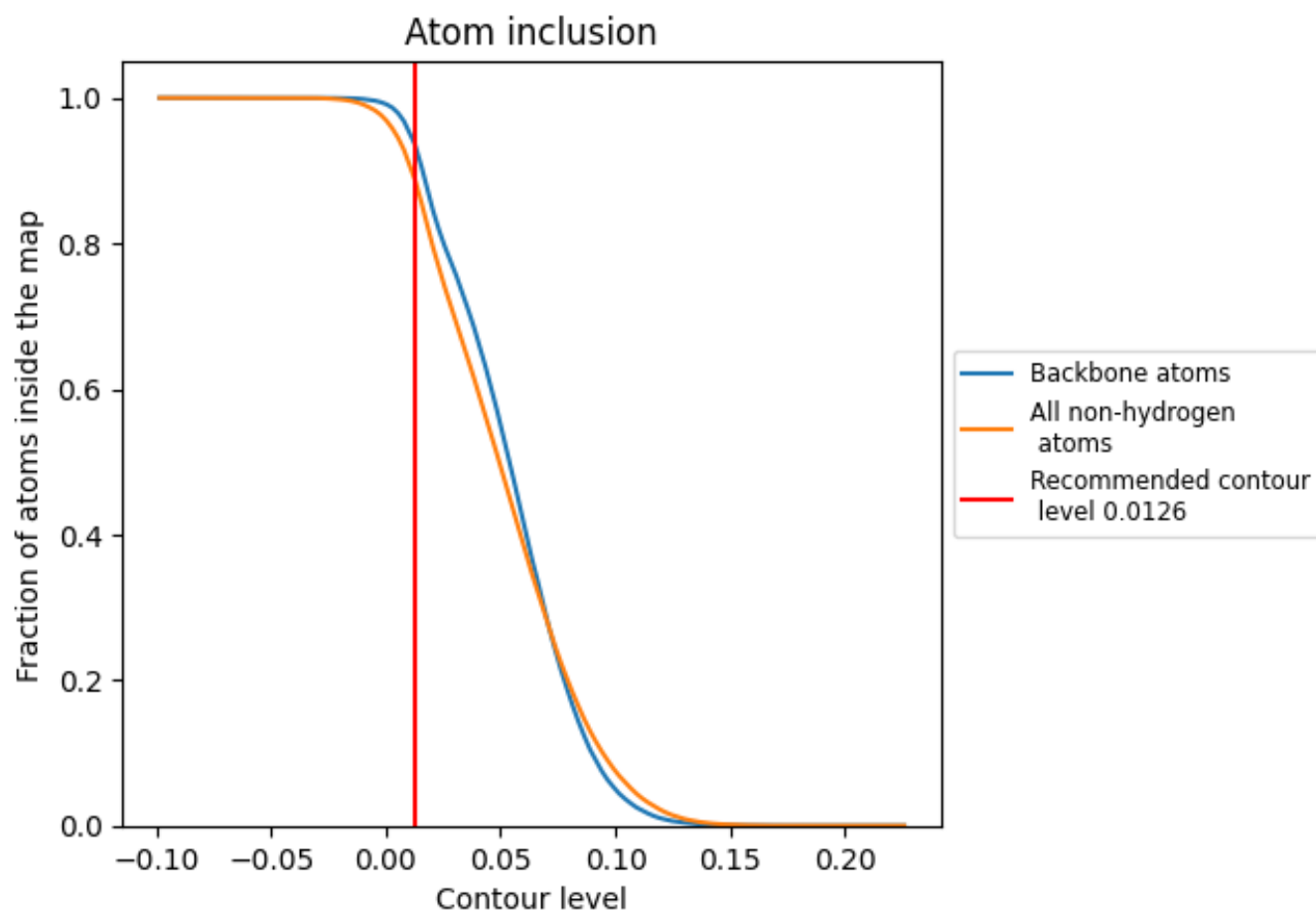
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0126).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 89% 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 (0.0126) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8893	 0.3130
1	 0.9465	 0.3410
3	 0.9783	 0.3350
4	 0.9553	 0.3470
A	 0.8982	 0.2670
B	 0.9082	 0.2840
C	 0.8080	 0.3230
D	 0.7653	 0.2980
E	 0.8350	 0.3650
F	 0.8619	 0.3470
G	 0.8768	 0.3590
H	 0.8638	 0.2830
I	 0.8763	 0.3290
J	 0.8410	 0.3080
K	 0.8222	 0.2400
L	 0.8336	 0.2840
M	 0.8502	 0.2560
N	 0.8554	 0.3140
O	 0.8372	 0.2750
P	 0.8589	 0.3640
Q	 0.8415	 0.3250
R	 0.8001	 0.3020
S	 0.8466	 0.3320
T	 0.8245	 0.3130
U	 0.8338	 0.2950
V	 0.8347	 0.3330
W	 0.8708	 0.2920
X	 0.7926	 0.3480
Y	 0.7277	 0.2570
Z	 0.8429	 0.3230
a	 0.8851	 0.3200
b	 0.8469	 0.2930
c	 0.8669	 0.3750
d	 0.8473	 0.3430
e	 0.8153	 0.2950



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Chain	Atom inclusion	Q-score
f	 0.8388	 0.3630
g	 0.8370	 0.3670
h	 0.8648	 0.3850
i	 0.8331	 0.3340
j	 0.8314	 0.2740
k	 0.8188	 0.2540
l	 0.8611	 0.3800
m	 0.8631	 0.2910
n	 0.8843	 0.3980
o	 0.8164	 0.3010
p	 0.8255	 0.3120
r	 0.7676	 0.2730
s	 0.8058	 0.2660
t	 0.6982	 0.0900
u	 0.6765	 0.0820
v	 0.5224	 0.0780
z	 0.4870	 0.1540