



wwPDB EM Validation Summary Report ⓘ

Mar 6, 2026 – 01:33 PM UTC

PDB ID : 7BHO / pdb_00007bho
EMDB ID : EMD-12188
Title : DNA origami signpost designed model
Authors : Silvester, E.; Vollmer, B.; Prazak, V.; Vasishtan, D.; Machala, E.A.; Whittle, C.; Black, S.; Bath, J.; Turberfield, A.J.; Gruenewald, K.; Baker, L.A.
Deposited on : 2021-01-11
Resolution : 36.44 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

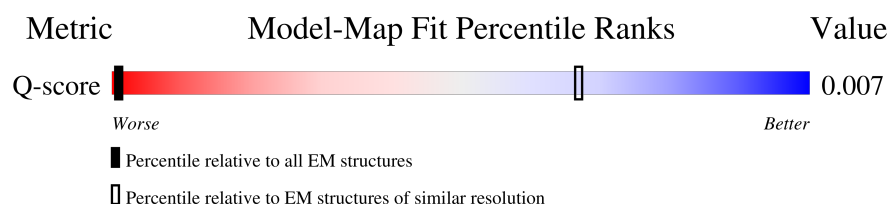
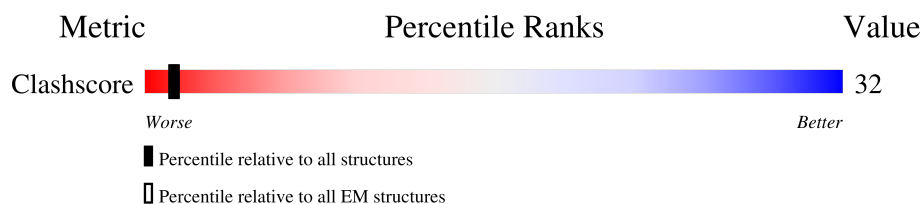
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 36.44 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Q-score	-	25397	3 (36.00 - 36.44)

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	A1	57	 5% 46% 49%
2	A2	31	 42% 58%
3	A3	23	 35% 35% 61%
4	A4	28	 39% 25% 71%
5	A5	42	 26% 71%
6	A6	26	 23% 27% 69%

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Mol	Chain	Length	Quality of chain
7	A7	37	
8	A8	24	
9	A9	19	
10	AA	23	
11	AB	7248	
12	AC	18	
13	AD	40	
14	B1	42	
15	B2	18	
16	B3	18	
17	B4	18	
18	B5	38	
19	B6	24	
20	B7	18	
21	B8	27	
22	B9	54	
23	BA	32	
24	BC	37	
25	BD	19	
26	C1	27	
27	C2	18	
28	C3	21	
29	C5	42	
30	C6	45	
31	C7	33	

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Mol	Chain	Length	Quality of chain
32	C8	54	
33	C9	27	
34	CA	19	
35	CC	31	
36	CD	26	
37	D1	42	
38	D2	18	
39	D3	34	
40	D5	21	
41	D6	46	
42	D7	21	
43	D8	46	
44	D9	30	
45	DA	23	
46	DC	18	
47	DD	42	
48	E1	33	
49	E2	43	
50	E3	19	
51	E5	30	
52	E6	37	
53	E7	24	
54	E8	33	
55	E9	41	
56	EA	19	

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Mol	Chain	Length	Quality of chain
57	EC	23	
58	ED	38	
59	F1	20	
60	F2	35	
61	F3	26	
62	F5	48	
63	F6	18	
64	F7	29	
65	F8	18	
66	F9	18	
67	FA	33	
68	FC	19	
69	FD	47	
70	G1	19	
71	G2	18	
72	G3	28	
73	G5	24	
74	G6	33	
75	G7	29	
76	G8	23	
77	G9	19	
78	GA	19	
79	GC	26	
80	GD	18	
81	H1	18	

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Mol	Chain	Length	Quality of chain
82	H2	51	6% 25% 69%
83	H3	42	5% 31% 67%
84	H5	40	35% 62%
85	H6	35	11% 34% 63%
86	H7	20	30% 35% 65%
87	H8	21	57% 5% 33% 62%
88	H9	31	32% 65%
89	HA	30	30% 67%
90	HC	24	17% 42% 58%
91	HD	24	42% 21% 79%
92	I1	21	57% 43% 57%
93	I2	49	12% 33% 63%
94	I3	59	37% 59%
95	I5	42	43% 55%
96	I6	19	11% 11% 79%
97	I7	30	20% 40% 60%
98	I8	40	58% 35% 62%
99	I9	30	27% 70%
100	IA	19	84% 42% 58%
101	IC	23	22% 17% 83%
102	ID	33	36% 24% 73%
103	J1	28	32% 64%
104	J2	42	7% 38% 60%
105	J3	30	23% 30% 70%
106	J5	37	19% 5% 43% 51%

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Mol	Chain	Length	Quality of chain
107	J6	44	
108	J7	56	
109	J8	54	
110	J9	18	
111	JA	19	
112	JC	26	
113	JD	38	
114	K1	45	
115	K2	33	
116	K3	18	
117	K5	49	
118	K6	18	
119	K7	43	
120	K8	23	
121	K9	26	
122	KA	51	
123	KC	24	
124	KD	23	
125	L1	56	
126	L2	56	
127	L3	19	
128	L5	23	
129	L6	24	
130	L7	60	
131	L8	24	

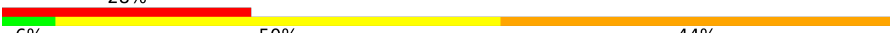
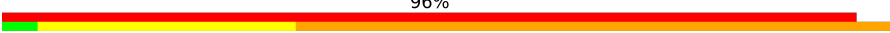
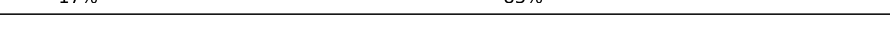
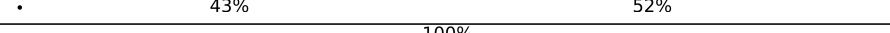
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Mol	Chain	Length	Quality of chain
132	L9	19	
133	LA	22	
134	LC	18	
135	LD	18	
136	M2	21	
137	M3	35	
138	M5	42	
139	M6	25	
140	M7	26	
141	M8	26	
142	M9	23	
143	MA	44	
144	MC	23	
145	MD	58	
146	N2	24	
147	N3	35	
148	N5	31	
149	N6	51	
150	N7	23	
151	N8	21	
152	N9	52	
153	NA	19	
154	NC	38	
155	ND	20	
156	O2	60	

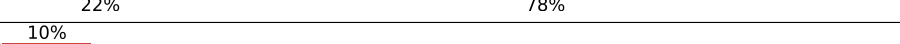
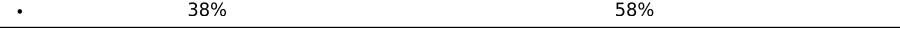
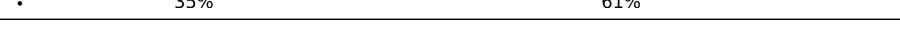
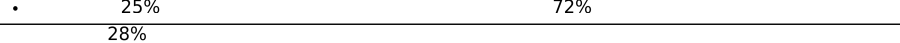
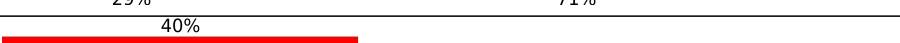
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Mol	Chain	Length	Quality of chain
157	O3	24	
158	O5	49	
159	O6	23	
160	O7	52	
161	O8	58	
162	O9	18	
163	OA	19	
164	OC	24	
165	OD	58	
166	P2	31	
167	P3	38	
168	P5	18	
169	P6	18	
170	P7	18	
171	P8	24	
172	P9	24	
173	PA	38	
174	PC	23	
175	PD	23	
176	Q2	19	
177	Q3	23	
178	Q5	42	
179	Q7	23	
180	Q8	24	
181	Q9	39	

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Mol	Chain	Length	Quality of chain
182	QA	28	
183	QC	23	
184	QD	31	
185	R2	24	
186	R3	18	
187	R5	42	
188	R7	32	
189	R8	40	
190	R9	46	
191	RA	27	
192	RC	32	
193	RD	18	
194	S2	30	
195	S3	28	
196	S5	32	
197	S7	24	
198	S8	40	
199	S9	23	
200	SA	24	
201	SC	19	
202	SD	26	
203	T2	24	
204	T3	45	
205	T5	24	
206	T7	56	

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Mol	Chain	Length	Quality of chain
207	T8	24	
208	T9	18	
209	TA	42	
210	TC	26	
211	TD	42	
212	U2	24	
213	U3	26	
214	U5	42	
215	U7	23	
216	U8	24	
217	U9	24	
218	UA	19	
219	UC	32	
220	UD	23	
221	V2	27	
222	V3	25	
223	V5	41	
224	V7	18	
225	V8	22	
226	V9	34	
227	VA	29	
228	VC	40	
229	VD	21	
230	W3	49	
231	W5	31	

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Mol	Chain	Length	Quality of chain
232	W7	23	
233	W8	21	
234	W9	19	
235	WD	18	
236	X5	21	
237	X7	23	
238	X9	59	

2 Entry composition [i](#)

There are 238 unique types of molecules in this entry. The entry contains 459340 atoms, of which 163115 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 DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A1	57	Total	C	H	N	O	P	0	0
			1803	556	637	227	326	57		

- Molecule 2 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	A2	31	Total	C	H	N	O	P	0	0
			986	304	350	116	185	31		

- Molecule 3 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	A3	23	Total	C	H	N	O	P	0	0
			732	225	259	87	138	23		

- Molecule 4 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	A4	28	Total	C	H	N	O	P	0	0
			891	275	317	103	168	28		

- Molecule 5 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	A5	42	Total	C	H	N	O	P	0	0
			1339	413	478	148	258	42		

- Molecule 6 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	A6	26	Total	C	H	N	O	P	0	0
			826	254	291	103	152	26		

- Molecule 7 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	A7	37	Total	C	H	N	O	P	0	0
			1177	364	421	131	224	37		

- Molecule 8 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	A8	24	Total	C	H	N	O	P	0	0
			769	238	273	89	145	24		

- Molecule 9 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	A9	19	Total	C	H	N	O	P	0	0
			613	190	218	68	118	19		

- Molecule 10 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	AA	23	Total	C	H	N	O	P	0	0
			731	224	255	97	132	23		

- Molecule 11 is a DNA chain called DNA scaffold.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	AB	7248	Total	C	H	N	O	P	0	0
			230412	70951	82147	25925	44141	7248		

- Molecule 12 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	AC	18	Total	C	H	N	O	P	0	0
			574	177	204	66	109	18		

- Molecule 13 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	AD	40	Total	C	H	N	O	P	0	0
			1278	394	452	152	240	40		

- Molecule 14 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	B1	42	Total	C	H	N	O	P	0	0
			1342	413	469	175	243	42		

- Molecule 15 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	B2	18	Total	C	H	N	O	P	0	0
			570	176	200	76	100	18		

- Molecule 16 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	B3	18	Total	C	H	N	O	P	0	0
			581	180	205	69	109	18		

- Molecule 17 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	B4	18	Total	C	H	N	O	P	0	0
			575	177	203	69	108	18		

- Molecule 18 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	B5	38	Total	C	H	N	O	P	0	0
			1206	371	427	145	225	38		

- Molecule 19 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	B6	24	Total	C	H	N	O	P	0	0
			766	237	272	90	143	24		

- Molecule 20 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	B7	18	Total	C	H	N	O	P	0	0
			567	174	204	60	111	18		

- Molecule 21 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	B8	27	Total	C	H	N	O	P	0	0
			860	266	309	91	167	27		

- Molecule 22 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	B9	54	Total	C	H	N	O	P	0	0
			1722	529	606	212	321	54		

- Molecule 23 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	BA	32	Total	C	H	N	O	P	0	0
			1020	314	362	118	194	32		

- Molecule 24 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	BC	37	Total	C	H	N	O	P	0	0
			1179	362	411	157	212	37		

- Molecule 25 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
25	BD	19	Total	C	H	N	O	P	0	0
			607	188	212	82	106	19		

- Molecule 26 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
26	C1	27	Total	C	H	N	O	P	0	0
			852	263	306	94	162	27		

- Molecule 27 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	C2	18	Total	C	H	N	O	P	0	0
			570	175	201	71	105	18		

- Molecule 28 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	C3	21	Total	C	H	N	O	P	0	0
			675	207	233	93	121	21		

- Molecule 29 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	C5	42	Total	C	H	N	O	P	0	0
			1344	416	470	178	238	42		

- Molecule 30 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	C6	45	Total	C	H	N	O	P	0	0
			1433	440	503	181	264	45		

- Molecule 31 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	C7	33	Total	C	H	N	O	P	0	0
			1055	326	377	115	204	33		

- Molecule 32 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	C8	54	Total	C	H	N	O	P	0	0
			1719	528	605	213	319	54		

- Molecule 33 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
33	C9	27	Total	C	H	N	O	P	0	0
			863	266	304	106	160	27		

- Molecule 34 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
34	CA	19	Total	C	H	N	O	P	0	0
			607	188	215	73	112	19		

- Molecule 35 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
35	CC	31	Total	C	H	N	O	P	0	0
			982	302	348	118	183	31		

- Molecule 36 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
36	CD	26	Total	C	H	N	O	P	0	0
			826	254	293	97	156	26		

- Molecule 37 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
37	D1	42	Total	C	H	N	O	P	0	0
			1314	402	469	153	248	42		

- Molecule 38 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
38	D2	18	Total	C	H	N	O	P	0	0
			567	173	198	76	102	18		

- Molecule 39 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
39	D3	34	Total	C	H	N	O	P	0	0
			1084	334	383	131	202	34		

- Molecule 40 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
40	D5	21	Total	C	H	N	O	P	0	0
			672	208	237	83	123	21		

- Molecule 41 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
41	D6	46	Total	C	H	N	O	P	0	0
			1461	450	517	177	271	46		

- Molecule 42 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
42	D7	21	Total	C	H	N	O	P	0	0
			672	206	235	85	125	21		

- Molecule 43 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
43	D8	46	Total	C	H	N	O	P	0	0
			1456	448	517	173	272	46		

- Molecule 44 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
44	D9	30	Total	C	H	N	O	P	0	0
			954	293	334	124	173	30		

- Molecule 45 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
45	DA	23	Total	C	H	N	O	P	0	0
			730	224	256	94	133	23		

- Molecule 46 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
46	DC	18	Total	C	H	N	O	P	0	0
			571	175	202	68	108	18		

- Molecule 47 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
47	DD	42	Total	C	H	N	O	P	0	0
			1328	408	467	171	240	42		

- Molecule 48 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
48	E1	33	Total	C	H	N	O	P	0	0
			1041	319	368	128	193	33		

- Molecule 49 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
49	E2	43	Total	C	H	N	O	P	0	0
			1367	421	486	158	259	43		

- Molecule 50 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
50	E3	19	Total	C	H	N	O	P	0	0
			605	187	213	77	109	19		

- Molecule 51 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
51	E5	30	Total	C	H	N	O	P	0	0
			958	295	340	110	183	30		

- Molecule 52 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
52	E6	37	Total	C	H	N	O	P	0	0
			1158	354	411	141	215	37		

- Molecule 53 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
53	E7	24	Total	C	H	N	O	P	0	0
			769	238	273	89	145	24		

- Molecule 54 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
54	E8	33	Total	C	H	N	O	P	0	0
			1044	322	378	104	207	33		

- Molecule 55 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
55	E9	41	Total	C	H	N	O	P	0	0
			1307	403	463	155	245	41		

- Molecule 56 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
56	EA	19	Total	C	H	N	O	P	0	0
			606	186	216	66	119	19		

- Molecule 57 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
57	EC	23	Total	C	H	N	O	P	0	0
			735	226	260	86	140	23		

- Molecule 58 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
58	ED	38	Total	C	H	N	O	P	0	0
			1206	371	427	145	225	38		

- Molecule 59 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
59	F1	20	Total	C	H	N	O	P	0	0
			627	192	223	75	117	20		

- Molecule 60 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
60	F2	35	Total	C	H	N	O	P	0	0
			1108	340	393	131	209	35		

- Molecule 61 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
61	F3	26	Total	C	H	N	O	P	0	0
			823	252	288	108	149	26		

- Molecule 62 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
62	F5	48	Total	C	H	N	O	P	0	0
			1519	470	547	163	291	48		

- Molecule 63 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
63	F6	18	Total	C	H	N	O	P	0	0
			573	176	199	79	101	18		

- Molecule 64 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
64	F7	29	Total	C	H	N	O	P	0	0
			925	286	328	110	172	29		

- Molecule 65 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
65	F8	18	Total	C	H	N	O	P	0	0
			567	174	201	69	105	18		

- Molecule 66 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
66	F9	18	Total	C	H	N	O	P	0	0
			575	177	201	75	104	18		

- Molecule 67 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
67	FA	33	Total	C	H	N	O	P	0	0
			1059	327	373	129	197	33		

- Molecule 68 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
68	FC	19	Total	C	H	N	O	P	0	0
			609	188	214	76	112	19		

- Molecule 69 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
69	FD	47	Total	C	H	N	O	P	0	0
			1495	461	523	199	265	47		

- Molecule 70 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
70	G1	19	Total	C	H	N	O	P	0	0
			602	185	213	73	112	19		

- Molecule 71 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
71	G2	18	Total	C	H	N	O	P	0	0
			568	175	200	74	101	18		

- Molecule 72 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
72	G3	28	Total	C	H	N	O	P	0	0
			888	273	317	99	171	28		

- Molecule 73 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
73	G5	24	Total	C	H	N	O	P	0	0
			760	233	268	94	141	24		

- Molecule 74 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
74	G6	33	Total	C	H	N	O	P	0	0
			1053	325	375	119	201	33		

- Molecule 75 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
75	G7	29	Total	C	H	N	O	P	0	0
			914	282	323	117	163	29		

- Molecule 76 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
76	G8	23	Total	C	H	N	O	P	0	0
			743	228	256	102	134	23		

- Molecule 77 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
77	G9	19	Total	C	H	N	O	P	0	0
			605	186	216	66	118	19		

- Molecule 78 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
78	GA	19	Total	C	H	N	O	P	0	0
			608	187	213	77	112	19		

- Molecule 79 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
79	GC	26	Total	C	H	N	O	P	0	0
			826	253	291	101	155	26		

- Molecule 80 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
80	GD	18	Total	C	H	N	O	P	0	0
			576	177	201	75	105	18		

- Molecule 81 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
81	H1	18	Total	C	H	N	O	P	0	0
			578	179	204	70	107	18		

- Molecule 82 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
82	H2	51	Total	C	H	N	O	P	0	0
			1612	495	573	189	304	51		

- Molecule 83 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
83	H3	42	Total	C	H	N	O	P	0	0
			1336	412	472	164	246	42		

- Molecule 84 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
84	H5	40	Total	C	H	N	O	P	0	0
			1264	388	451	143	242	40		

- Molecule 85 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
85	H6	35	Total	C	H	N	O	P	0	0
			1110	341	389	145	200	35		

- Molecule 86 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
86	H7	20	Total	C	H	N	O	P	0	0
			640	197	226	76	121	20		

- Molecule 87 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
87	H8	21	Total	C	H	N	O	P	0	0
			667	206	234	88	118	21		

- Molecule 88 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
88	H9	31	Total	C	H	N	O	P	0	0
			989	303	346	126	183	31		

- Molecule 89 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
89	HA	30	Total	C	H	N	O	P	0	0
			961	297	338	120	176	30		

- Molecule 90 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
90	HC	24	Total	C	H	N	O	P	0	0
			754	230	266	94	140	24		

- Molecule 91 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
91	HD	24	Total	C	H	N	O	P	0	0
			764	235	270	92	143	24		

- Molecule 92 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
92	I1	21	Total	C	H	N	O	P	0	0
			672	207	235	87	122	21		

- Molecule 93 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
93	I2	49	Total	C	H	N	O	P	0	0
			1553	477	549	189	289	49		

- Molecule 94 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
94	I3	59	Total	C	H	N	O	P	0	0
			1879	577	658	242	343	59		

- Molecule 95 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
95	I5	42	Total	C	H	N	O	P	0	0
			1351	417	471	177	244	42		

- Molecule 96 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
96	I6	19	Total	C	H	N	O	P	0	0
			603	186	218	60	120	19		

- Molecule 97 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
97	I7	30	Total	C	H	N	O	P	0	0
			953	292	335	119	177	30		

- Molecule 98 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
98	I8	40	Total	C	H	N	O	P	0	0
			1274	393	450	156	235	40		

- Molecule 99 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
99	I9	30	Total	C	H	N	O	P	0	0
			955	293	335	121	176	30		

- Molecule 100 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
100	IA	19	Total	C	H	N	O	P	0	0
			602	186	214	72	111	19		

- Molecule 101 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
101	IC	23	Total	C	H	N	O	P	0	0
			729	224	259	85	138	23		

- Molecule 102 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
102	ID	33	Total	C	H	N	O	P	0	0
			1061	327	372	132	197	33		

- Molecule 103 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
103	J1	28	Total	C	H	N	O	P	0	0
			888	273	314	108	165	28		

- Molecule 104 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
104	J2	42	Total	C	H	N	O	P	0	0
			1321	405	468	162	244	42		

- Molecule 105 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
105	J3	30	Total	C	H	N	O	P	0	0
			952	295	344	98	185	30		

- Molecule 106 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
106	J5	37	Total	C	H	N	O	P	0	0
			1179	362	411	157	212	37		

- Molecule 107 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
107	J6	44	Total	C	H	N	O	P	0	0
			1400	432	492	180	252	44		

- Molecule 108 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
108	J7	56	Total	C	H	N	O	P	0	0
			1785	550	631	215	333	56		

- Molecule 109 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
109	J8	54	Total	C	H	N	O	P	0	0
			1723	530	605	217	317	54		

- Molecule 110 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
110	J9	18	Total	C	H	N	O	P	0	0
			568	174	201	69	106	18		

- Molecule 111 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
111	JA	19	Total	C	H	N	O	P	0	0
			605	186	213	75	112	19		

- Molecule 112 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
112	JC	26	Total	C	H	N	O	P	0	0
			826	255	294	96	155	26		

- Molecule 113 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
113	JD	38	Total	C	H	N	O	P	0	0
			1216	374	424	160	220	38		

- Molecule 114 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
114	K1	45	Total	C	H	N	O	P	0	0
			1433	443	507	175	263	45		

- Molecule 115 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
115	K2	33	Total	C	H	N	O	P	0	0
			1049	323	374	118	201	33		

- Molecule 116 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
116	K3	18	Total	C	H	N	O	P	0	0
			570	175	200	74	103	18		

- Molecule 117 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
117	K5	49	Total	C	H	N	O	P	0	0
			1548	475	553	173	298	49		

- Molecule 118 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
118	K6	18	Total	C	H	N	O	P	0	0
			571	176	205	61	111	18		

- Molecule 119 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
119	K7	43	Total	C	H	N	O	P	0	0
			1371	422	487	157	262	43		

- Molecule 120 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
120	K8	23	Total	C	H	N	O	P	0	0
			729	224	258	88	136	23		

- Molecule 121 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
121	K9	26	Total	C	H	N	O	P	0	0
			828	256	294	98	154	26		

- Molecule 122 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
122	KA	51	Total	C	H	N	O	P	0	0
			1619	499	575	191	303	51		

- Molecule 123 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
123	KC	24	Total	C	H	N	O	P	0	0
			772	238	270	98	142	24		

- Molecule 124 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
124	KD	23	Total	C	H	N	O	P	0	0
			732	226	259	89	135	23		

- Molecule 125 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
125	L1	56	Total	C	H	N	O	P	0	0
			1787	550	628	224	329	56		

- Molecule 126 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
126	L2	56	Total	C	H	N	O	P	0	0
			1772	546	627	219	324	56		

- Molecule 127 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
127	L3	19	Total	C	H	N	O	P	0	0
			598	184	216	62	117	19		

- Molecule 128 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
128	L5	23	Total	C	H	N	O	P	0	0
			727	223	259	83	139	23		

- Molecule 129 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
129	L6	24	Total	C	H	N	O	P	0	0
			765	237	274	84	146	24		

- Molecule 130 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
130	L7	60	Total	C	H	N	O	P	0	0
			1915	593	677	235	350	60		

- Molecule 131 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
131	L8	24	Total	C	H	N	O	P	0	0
			765	236	268	100	137	24		

- Molecule 132 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
132	L9	19	Total	C	H	N	O	P	0	0
			607	188	214	76	110	19		

- Molecule 133 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
133	LA	22	Total	C	H	N	O	P	0	0
			700	215	251	73	139	22		

- Molecule 134 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
134	LC	18	Total	C	H	N	O	P	0	0
			569	174	200	72	105	18		

- Molecule 135 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
135	LD	18	Total	C	H	N	O	P	0	0
			572	177	205	63	109	18		

- Molecule 136 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
136	M2	21	Total	C	H	N	O	P	0	0
			671	207	239	75	129	21		

- Molecule 137 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
137	M3	35	Total	C	H	N	O	P	0	0
			1113	344	390	148	196	35		

- Molecule 138 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
138	M5	42	Total	C	H	N	O	P	0	0
			1335	413	476	154	250	42		

- Molecule 139 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
139	M6	25	Total	C	H	N	O	P	0	0
			784	240	278	96	145	25		

- Molecule 140 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
140	M7	26	Total	C	H	N	O	P	0	0
			821	253	290	104	148	26		

- Molecule 141 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
141	M8	26	Total	C	H	N	O	P	0	0
			824	255	295	93	155	26		

- Molecule 142 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
142	M9	23	Total	C	H	N	O	P	0	0
			735	228	261	87	136	23		

- Molecule 143 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
143	MA	44	Total	C	H	N	O	P	0	0
			1382	422	488	172	256	44		

- Molecule 144 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
144	MC	23	Total	C	H	N	O	P	0	0
			739	227	263	79	147	23		

- Molecule 145 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
145	MD	58	Total	C	H	N	O	P	0	0
			1836	566	652	220	340	58		

- Molecule 146 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
146	N2	24	Total	C	H	N	O	P	0	0
			763	235	268	98	138	24		

- Molecule 147 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
147	N3	35	Total	C	H	N	O	P	0	0
			1104	338	392	130	209	35		

- Molecule 148 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
148	N5	31	Total	C	H	N	O	P	0	0
			990	305	348	124	182	31		

- Molecule 149 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
149	N6	51	Total	C	H	N	O	P	0	0
			1615	498	577	183	306	51		

- Molecule 150 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
150	N7	23	Total	C	H	N	O	P	0	0
			730	223	256	92	136	23		

- Molecule 151 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
151	N8	21	Total	C	H	N	O	P	0	0
			663	203	235	79	125	21		

- Molecule 152 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
152	N9	52	Total	C	H	N	O	P	0	0
			1671	516	588	204	311	52		

- Molecule 153 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
153	NA	19	Total	C	H	N	O	P	0	0
			609	187	210	86	107	19		

- Molecule 154 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
154	NC	38	Total	C	H	N	O	P	0	0
			1210	372	429	141	230	38		

- Molecule 155 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
155	ND	20	Total	C	H	N	O	P	0	0
			644	199	225	83	117	20		

- Molecule 156 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
156	O2	60	Total	C	H	N	O	P	0	0
			1895	581	669	235	350	60		

- Molecule 157 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
157	O3	24	Total	C	H	N	O	P	0	0
			769	238	269	101	137	24		

- Molecule 158 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
158	O5	49	Total	C	H	N	O	P	0	0
			1556	480	549	195	283	49		

- Molecule 159 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
159	O6	23	Total	C	H	N	O	P	0	0
			731	225	260	84	139	23		

- Molecule 160 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
160	O7	52	Total	C	H	N	O	P	0	0
			1655	509	582	208	304	52		

- Molecule 161 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
161	O8	58	Total	C	H	N	O	P	0	0
			1841	568	653	221	341	58		

- Molecule 162 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
162	O9	18	Total	C	H	N	O	P	0	0
			567	175	201	71	102	18		

- Molecule 163 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
163	OA	19	Total	C	H	N	O	P	0	0
			601	185	212	76	109	19		

- Molecule 164 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
164	OC	24	Total	C	H	N	O	P	0	0
			749	229	268	86	142	24		

- Molecule 165 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
165	OD	58	Total	C	H	N	O	P	0	0
			1846	571	649	239	329	58		

- Molecule 166 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
166	P2	31	Total	C	H	N	O	P	0	0
			981	301	353	101	195	31		

- Molecule 167 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
167	P3	38	Total	C	H	N	O	P	0	0
			1197	368	427	139	225	38		

- Molecule 168 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
168	P5	18	Total	C	H	N	O	P	0	0
			571	175	202	68	108	18		

- Molecule 169 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
169	P6	18	Total	C	H	N	O	P	0	0
			573	175	200	74	106	18		

- Molecule 170 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
170	P7	18	Total	C	H	N	O	P	0	0
			574	178	203	71	104	18		

- Molecule 171 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
171	P8	24	Total	C	H	N	O	P	0	0
			756	234	277	69	152	24		

- Molecule 172 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
172	P9	24	Total	C	H	N	O	P	0	0
			762	235	276	74	153	24		

- Molecule 173 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
173	PA	38	Total	C	H	N	O	P	0	0
			1208	373	426	152	219	38		

- Molecule 174 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
174	PC	23	Total	C	H	N	O	P	0	0
			734	225	258	90	138	23		

- Molecule 175 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
175	PD	23	Total	C	H	N	O	P	0	0
			729	224	256	94	132	23		

- Molecule 176 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
176	Q2	19	Total	C	H	N	O	P	0	0
			605	188	214	76	108	19		

- Molecule 177 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
177	Q3	23	Total	C	H	N	O	P	0	0
			732	226	262	80	141	23		

- Molecule 178 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
178	Q5	42	Total	C	H	N	O	P	0	0
			1335	411	476	150	256	42		

- Molecule 179 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
179	Q7	23	Total	C	H	N	O	P	0	0
			731	225	259	87	137	23		

- Molecule 180 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
180	Q8	24	Total	C	H	N	O	P	0	0
			758	233	270	88	143	24		

- Molecule 181 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
181	Q9	39	Total	C	H	N	O	P	0	0
			1235	382	443	137	234	39		

- Molecule 182 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
182	QA	28	Total	C	H	N	O	P	0	0
			895	275	313	115	164	28		

- Molecule 183 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
183	QC	23	Total	C	H	N	O	P	0	0
			732	226	260	86	137	23		

- Molecule 184 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
184	QD	31	Total	C	H	N	O	P	0	0
			977	302	351	109	184	31		

- Molecule 185 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
185	R2	24	Total	C	H	N	O	P	0	0
			769	237	268	102	138	24		

- Molecule 186 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
186	R3	18	Total	C	H	N	O	P	0	0
			571	175	202	68	108	18		

- Molecule 187 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
187	R5	42	Total	C	H	N	O	P	0	0
			1324	405	468	162	247	42		

- Molecule 188 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
188	R7	32	Total	C	H	N	O	P	0	0
			1023	314	359	127	191	32		

- Molecule 189 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
189	R8	40	Total	C	H	N	O	P	0	0
			1266	391	451	149	235	40		

- Molecule 190 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
190	R9	46	Total	C	H	N	O	P	0	0
			1467	455	521	175	270	46		

- Molecule 191 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
191	RA	27	Total	C	H	N	O	P	0	0
			859	264	303	105	160	27		

- Molecule 192 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
192	RC	32	Total	C	H	N	O	P	0	0
			1009	310	361	113	193	32		

- Molecule 193 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
193	RD	18	Total	C	H	N	O	P	0	0
			570	177	203	69	103	18		

- Molecule 194 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
194	S2	30	Total	C	H	N	O	P	0	0
			958	295	337	119	177	30		

- Molecule 195 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
195	S3	28	Total	C	H	N	O	P	0	0
			893	275	314	112	164	28		

- Molecule 196 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
196	S5	32	Total	C	H	N	O	P	0	0
			1014	312	356	132	182	32		

- Molecule 197 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
197	S7	24	Total	C	H	N	O	P	0	0
			749	229	268	86	142	24		

- Molecule 198 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
198	S8	40	Total	C	H	N	O	P	0	0
			1269	392	452	148	237	40		

- Molecule 199 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
199	S9	23	Total	C	H	N	O	P	0	0
			733	225	255	99	131	23		

- Molecule 200 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
200	SA	24	Total	C	H	N	O	P	0	0
			762	234	269	93	142	24		

- Molecule 201 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
201	SC	19	Total	C	H	N	O	P	0	0
			604	186	211	81	107	19		

- Molecule 202 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
202	SD	26	Total	C	H	N	O	P	0	0
			827	255	290	108	148	26		

- Molecule 203 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
203	T2	24	Total	C	H	N	O	P	0	0
			763	235	271	89	144	24		

- Molecule 204 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
204	T3	45	Total	C	H	N	O	P	0	0
			1425	435	506	162	277	45		

- Molecule 205 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
205	T5	24	Total	C	H	N	O	P	0	0
			750	230	266	94	136	24		

- Molecule 206 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
206	T7	56	Total	C	H	N	O	P	0	0
			1793	552	623	243	319	56		

- Molecule 207 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
207	T8	24	Total	C	H	N	O	P	0	0
			767	236	270	94	143	24		

- Molecule 208 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
208	T9	18	Total	C	H	N	O	P	0	0
			568	176	206	58	110	18		

- Molecule 209 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
209	TA	42	Total	C	H	N	O	P	0	0
			1336	409	468	170	247	42		

- Molecule 210 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
210	TC	26	Total	C	H	N	O	P	0	0
			822	254	290	106	146	26		

- Molecule 211 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
211	TD	42	Total	C	H	N	O	P	0	0
			1339	414	478	150	255	42		

- Molecule 212 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
212	U2	24	Total	C	H	N	O	P	0	0
			760	234	271	87	144	24		

- Molecule 213 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
213	U3	26	Total	C	H	N	O	P	0	0
			834	256	291	107	154	26		

- Molecule 214 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
214	U5	42	Total	C	H	N	O	P	0	0
			1333	411	477	147	256	42		

- Molecule 215 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
215	U7	23	Total	C	H	N	O	P	0	0
			732	226	262	80	141	23		

- Molecule 216 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
216	U8	24	Total	C	H	N	O	P	0	0
			766	236	270	94	142	24		

- Molecule 217 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
217	U9	24	Total	C	H	N	O	P	0	0
			763	234	270	90	145	24		

- Molecule 218 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
218	UA	19	Total	C	H	N	O	P	0	0
			613	188	216	70	120	19		

- Molecule 219 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
219	UC	32	Total	C	H	N	O	P	0	0
			1019	315	363	117	192	32		

- Molecule 220 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
220	UD	23	Total	C	H	N	O	P	0	0
			725	223	260	80	139	23		

- Molecule 221 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
221	V2	27	Total	C	H	N	O	P	0	0
			857	265	306	98	161	27		

- Molecule 222 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
222	V3	25	Total	C	H	N	O	P	0	0
			802	248	283	97	149	25		

- Molecule 223 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
223	V5	41	Total	C	H	N	O	P	0	0
			1304	401	459	163	240	41		

- Molecule 224 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
224	V7	18	Total	C	H	N	O	P	0	0
			570	176	202	70	104	18		

- Molecule 225 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
225	V8	22	Total	C	H	N	O	P	0	0
			705	218	245	97	123	22		

- Molecule 226 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
226	V9	34	Total	C	H	N	O	P	0	0
			1084	335	380	142	193	34		

- Molecule 227 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
227	VA	29	Total	C	H	N	O	P	0	0
			920	282	325	111	173	29		

- Molecule 228 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
228	VC	40	Total	C	H	N	O	P	0	0
			1272	392	448	160	232	40		

- Molecule 229 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
229	VD	21	Total	C	H	N	O	P	0	0
			669	207	232	96	113	21		

- Molecule 230 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
230	W3	49	Total	C	H	N	O	P	0	0
			1561	482	554	184	292	49		

- Molecule 231 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
231	W5	31	Total	C	H	N	O	P	0	0
			993	306	353	111	192	31		

- Molecule 232 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
232	W7	23	Total	C	H	N	O	P	0	0
			730	225	263	75	144	23		

- Molecule 233 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
233	W8	21	Total	C	H	N	O	P	0	0
			673	208	236	86	122	21		

- Molecule 234 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
234	W9	19	Total	C	H	N	O	P	0	0
			608	187	212	80	110	19		

- Molecule 235 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
235	WD	18	Total	C	H	N	O	P	0	0
			572	177	202	72	103	18		

- Molecule 236 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
236	X5	21	Total	C	H	N	O	P	0	0
			667	206	238	76	126	21		

- Molecule 237 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms						AltConf	Trace
237	X7	23	Total	C	H	N	O	P	0	0
			724	224	259	85	133	23		

- Molecule 238 is a DNA chain called DNA.

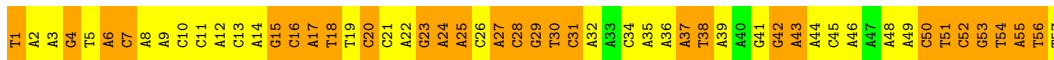
Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	P		
238	X9	59	1871	576	661	231	344	59	0	0

3 Residue-property plots [i](#)

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

• Molecule 1: DNA

Chain A1: 5% 46% 49%



• Molecule 2: DNA

Chain A2: 42% 58%



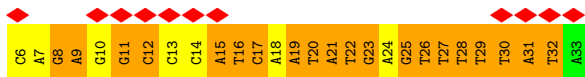
• Molecule 3: DNA

Chain A3: 35% 61%



• Molecule 4: DNA

Chain A4: 25% 39% 71%



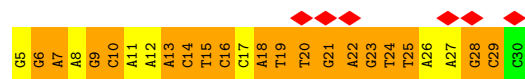
• Molecule 5: DNA

Chain A5: 26% 71%

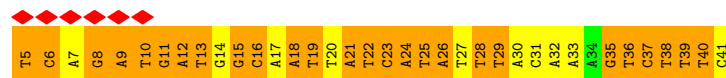


• Molecule 6: DNA

Chain A6: 23% 27% 69%



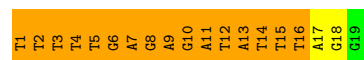
• Molecule 7: DNA



• Molecule 8: DNA



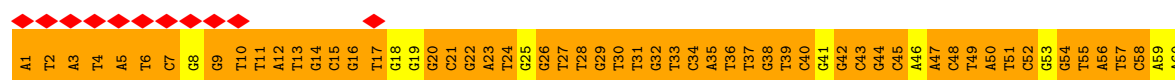
• Molecule 9: DNA



• Molecule 10: DNA



• Molecule 11: DNA scaffold



C1081	A1021	G901	C841	G781	C721	G661	C601	G541	G481	A421	G361	A301
T1082	A1022	C902	T842	C782	A722	C662	T602	T842	T842	G422	T362	T302
G1083	A1023	T903	C943	C783	G723	A663	T603	A543	A483	G423	G483	G303
A1084	A1024	C904	C944	T784	A724	C664	C604	C544	A484	G424	T363	A304
T1085	T1025	T905	T845	T785	A725	G665	C605	T845	A485	G425	A364	G305
T1086	G1026	A907	T847	A787	A726	G666	A606	A606	C487	G426	G365	G306
A1087	G1027	G908	C848	T788	G727	T668	T607	A547	A488	G427	G366	G307
C1088	C1028	G909	A849	T789	C728	A669	T609	G548	A489	G428	G367	C308
G1089	G1029	G910	A850	A790	A728	C670	T610	C549	C490	G429	T368	T309
T1091	A1030	T911	T851	G791	A729	C671	T611	A550	C491	G430	A369	G310
G1092	T1031	G912	G852	G792	T730	A672	T612	A551	A492	G431	C370	T311
C1093	T1032	C914	T854	T794	T732	A673	A613	A552	C493	G432	A371	C312
T1094	A1033	G915	G855	T795	A733	A674	G614	A553	T494	G433	T372	T313
G1095	A1034	G916	G856	T796	T734	G675	A615	A554	C495	G434	G373	G314
C1096	A1035	T917	C857	T797	G735	G676	A616	C554	C496	G435	G374	T315
T1097	A1036	T918	G858	A797	A736	T678	T617	C555	G497	G437	G375	G316
A1098	A1037	C919	G859	T798	C737	C679	A619	C556	G499	G438	T376	G317
G1099	C1037	T920	C860	T799	G738	T680	T620	C557	C500	T440	T377	A318
C1100	G1038	G921	G861	T800	C739	A681	A621	G558	T501	G441	C378	A319
T1101	G1039	A922	C862	T801	T740	C683	G622	C559	A502	G442	T380	G321
A1102	G1040	G923	T864	T802	T741	C684	T624	C560	T503	G443	C381	C322
T1103	C1041	G924	G865	T803	A742	C685	T625	A561	A504	G444	T382	C323
G1104	T1042	G925	T866	T804	C743	C686	C627	A562	C505	T445	T383	A324
T1105	A1043	T926	G867	G805	T744	G687	C628	A563	T506	T446	G384	C325
T1106	T1107	T927	G868	T806	G745	T688	G629	A564	A508	T447	G385	A326
T1108	A1045	G927	G869	T807	A746	T689	A630	A567	T509	T448	T379	G327
C1109	G1046	G928	G871	A808	A747	A691	A631	A568	A510	G449	C379	C328
A1110	T1047	C929	T872	A809	C749	A892	T632	A569	A511	G450	T389	C329
T1111	T1048	G930	G873	T810	G750	C694	A633	A570	A512	G451	T390	T331
T1112	T1049	G931	T875	T812	T752	T695	G635	A571	C513	G452	C391	T332
G1113	G1050	G932	T876	C813	A753	T696	C636	A572	C514	G453	T392	T333
T1114	A1051	T933	C877	A814	A754	A697	A637	A573	C515	T455	A393	T334
G1115	C1052	C934	T878	A815	A755	T698	G638	C570	C517	G457	C394	A335
T1116	A1053	T935	T879	A816	T756	T699	G639	C571	T518	C458	C395	G336
G1117	C1054	G936	G880	G817	T757	T758	G640	C572	T519	G459	C396	T337
C1118	T1055	G937	T881	C818	C758	A700	G641	T573	T520	G460	T398	T338
G1119	A1056	G938	G882	C819	A759	G703	C642	C574	C521	T461	G399	G340
T1120	A1057	G939	G883	A820	A760	T705	C643	T575	A523	A462	A400	T341
T1121	A1058	A941	G884	A821	A761	T706	A644	C576	C524	T464	A401	A342
T1122	G1059	G942	G885	T822	G762	C707	T646	T577	G525	A465	A402	C343
C1123	G1060	G943	G886	C823	A763	C708	T647	T578	G526	A466	T404	G344
T1124	C1061	C944	T888	G824	C764	A709	A648	G579	C527	A467	G405	G345
G1125	A1062	G945	C889	C826	T765	T709	G649	G581	A528	C468	A406	G346
T1126	A1063	G946	T890	C827	G766	T710	T650	G582	G529	C469	G407	G347
C1127	A1064	T947	G891	G828	C767	C711	G651	A583	T530	T470	G408	A349
T1128	C1065	T948	G892	A829	G768	C712	T652	G584	T531	C471	T410	C350
T1129	T1066	C949	G893	C830	C769	T713	T653	T585	A532	C472	G411	G351
G1130	T1067	G951	G894	C831	T770	G714	T654	C586	C534	G473	T412	A352
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A1140	G1077							A600				

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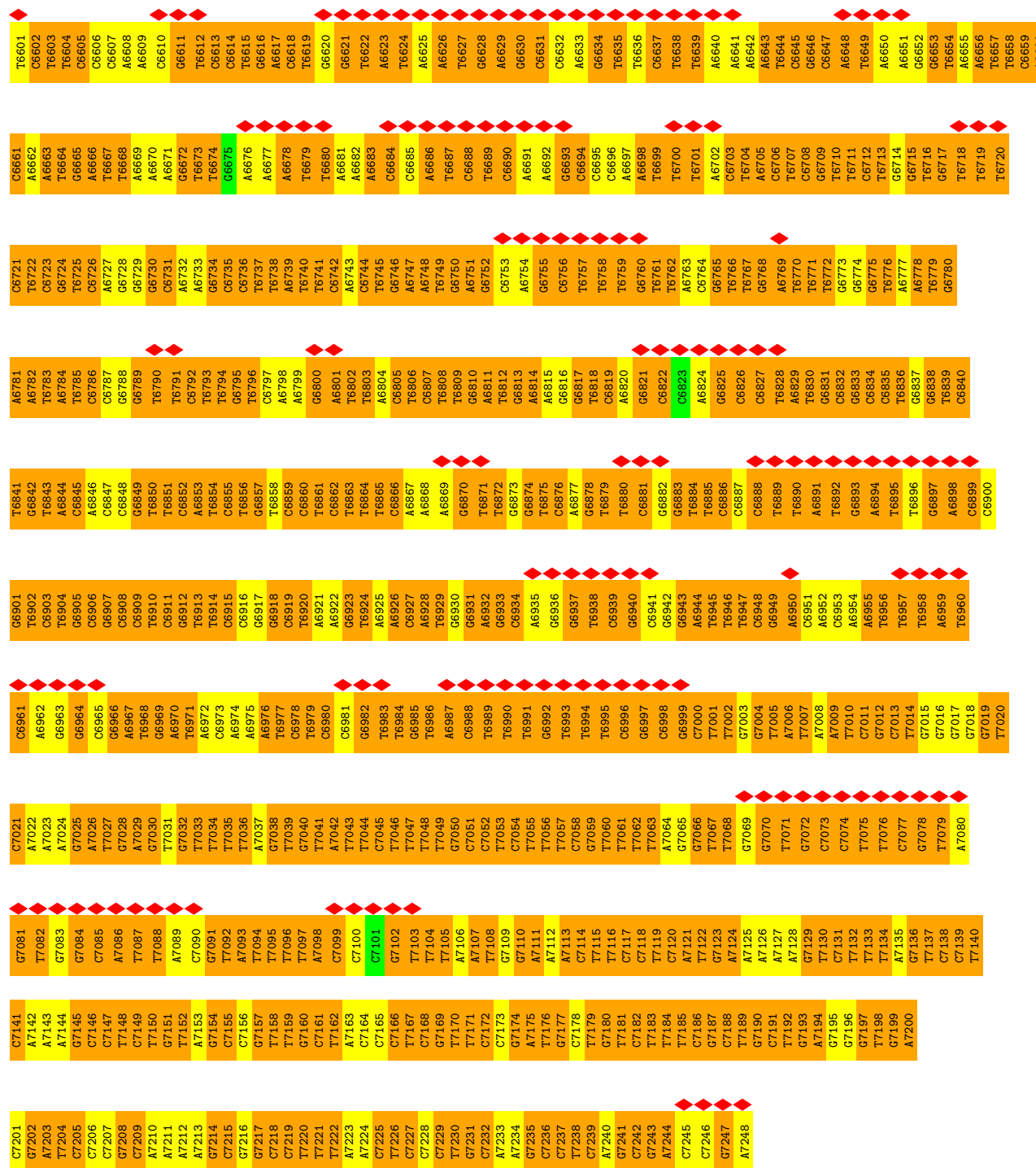
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C4231	A4051	G3993	A3932	T3994	A3932	A3868	A3808	C3749	A3670	A3627	C3569	C3512
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C4241	C4062	C4001	T3942	C4002	T3942	A3878	G3819	T3760	C3699	G3638	T3582	T3522
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G4249	T4069	C4008	C3949	C4009	C3949	A3885	G3826	T3767	A3709	C3645	A3592	G3529
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T4191	G4071	C4009	T3951	T4011	T3951	T3887	T3828	T3769	T3711	T3648	A3594	T3531
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C4194	C4075	C4017	G3955	C4015	G3955	T3891	G3832	T3773	T3715	G3652	T3598	T3535
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A4257	C4140					T3896	G3838			A3658		
C4258						T3897	G3839			A3659		
						G3895	G3895			T3660		
						G3896	G3896					
						G3897	G3897					
						G3898	G3898					
						G3900	G3900					

C4981	C4982	C4983	T4984	T4985	T4986	C4987	C4988	T4989	A4990	C4991	A4992	T4993	C4994	C4995	T4996	C4997	C4998	C4999	A5000	G5001	C5002	C5003	T5004	G5005	A5006	A5007	T5008	G5009	G5010	C5011	C5012	A5013	A5014	T5015	A5016	C5017	A5018	C5019	C5020	T5021	T5022	T5023	C4963	C4964	A4965	C4966	C4967	C4968	C4969	C4970	C4971	C4972	C5033	C5034	G5035	G5036	C4976	A4977	T4978	C4979	C4980
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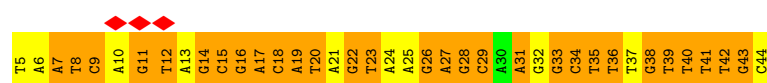


- Molecule 12: DNA

Chain AC: 22% 78%

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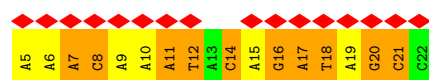
- Molecule 13: DNA



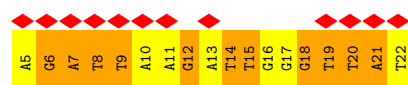
• Molecule 14: DNA



• Molecule 15: DNA



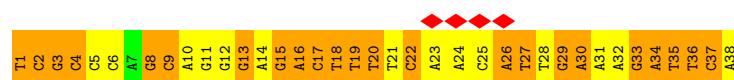
• Molecule 16: DNA



• Molecule 17: DNA



• Molecule 18: DNA



• Molecule 19: DNA

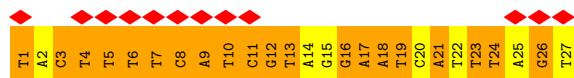


• Molecule 20: DNA





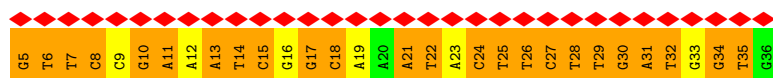
• Molecule 21: DNA



• Molecule 22: DNA



• Molecule 23: DNA



• Molecule 24: DNA



• Molecule 25: DNA



• Molecule 26: DNA



• Molecule 27: DNA

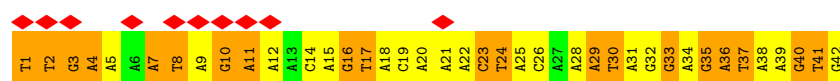




• Molecule 28: DNA



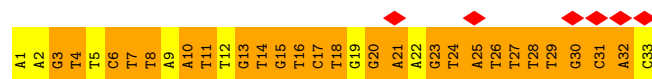
• Molecule 29: DNA



• Molecule 30: DNA



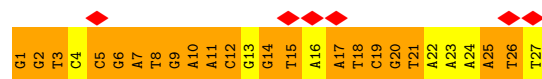
• Molecule 31: DNA



• Molecule 32: DNA



• Molecule 33: DNA

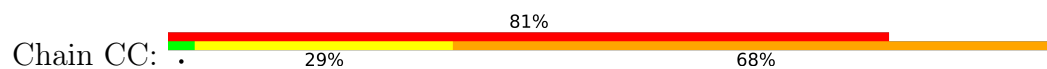


• Molecule 34: DNA





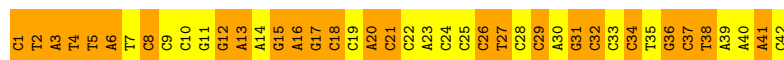
• Molecule 35: DNA



• Molecule 36: DNA



• Molecule 37: DNA



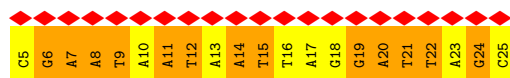
• Molecule 38: DNA



• Molecule 39: DNA



• Molecule 40: DNA



• Molecule 41: DNA

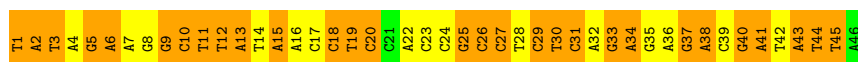




• Molecule 42: DNA



• Molecule 43: DNA



• Molecule 44: DNA



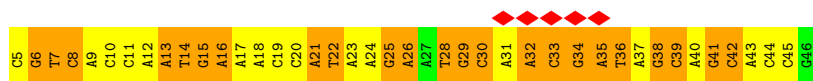
• Molecule 45: DNA



• Molecule 46: DNA



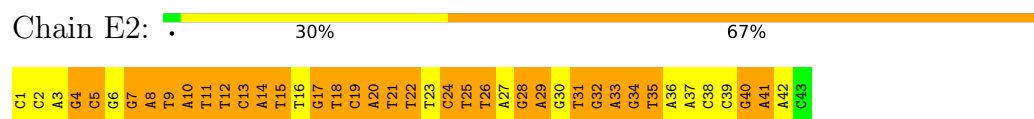
• Molecule 47: DNA



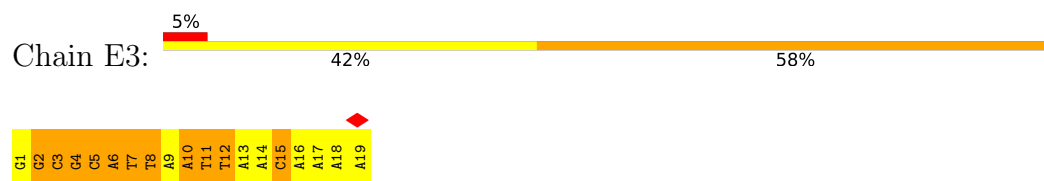
• Molecule 48: DNA



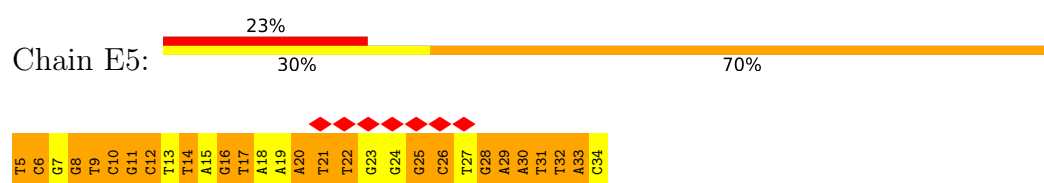
- Molecule 49: DNA



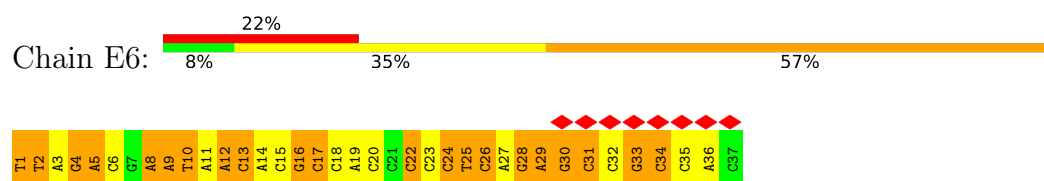
- Molecule 50: DNA



- Molecule 51: DNA



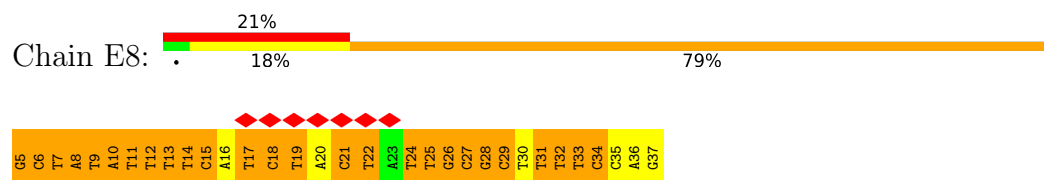
- Molecule 52: DNA



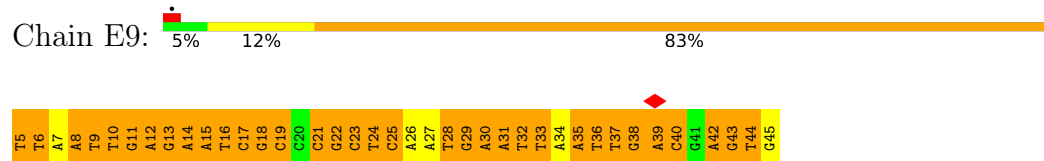
- Molecule 53: DNA



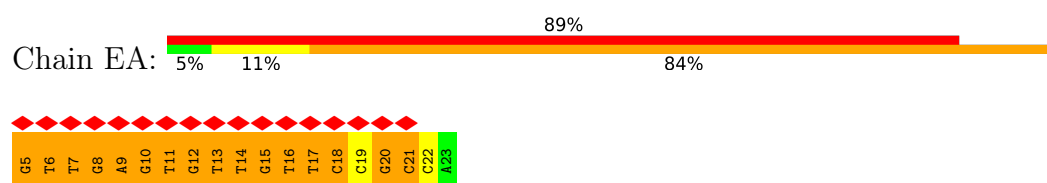
- Molecule 54: DNA



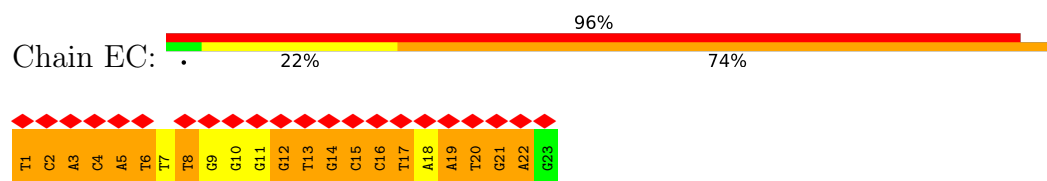
- Molecule 55: DNA



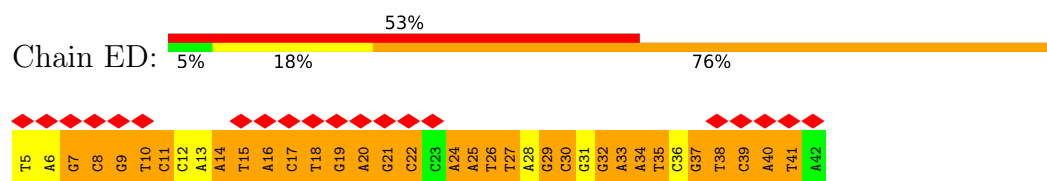
- Molecule 56: DNA



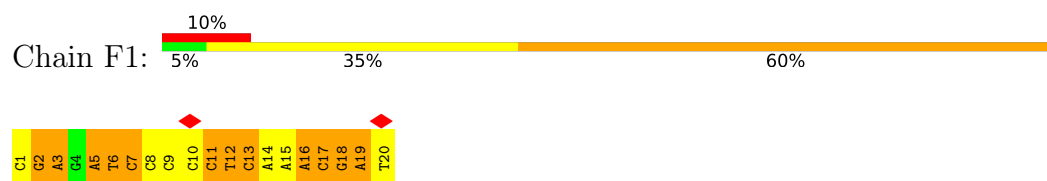
- Molecule 57: DNA



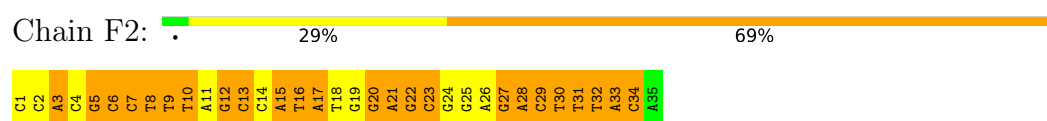
- Molecule 58: DNA



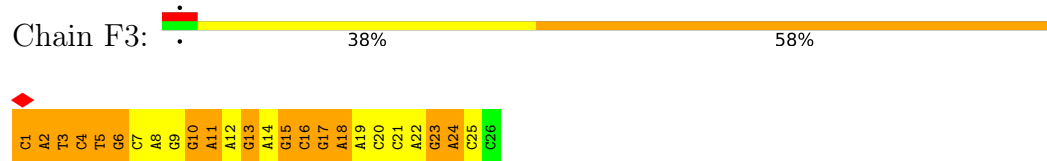
- Molecule 59: DNA



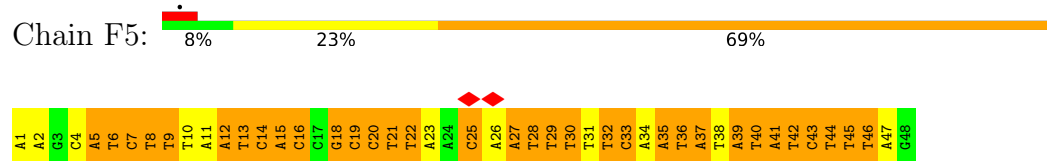
- Molecule 60: DNA



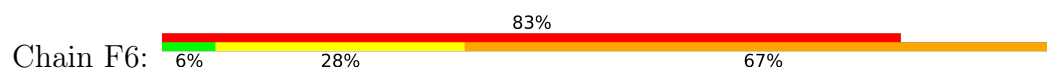
- Molecule 61: DNA

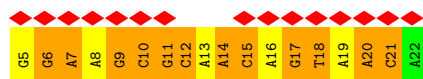


- Molecule 62: DNA



- Molecule 63: DNA





• Molecule 64: DNA



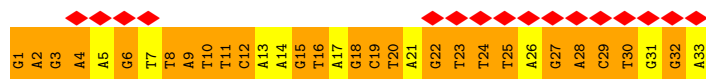
• Molecule 65: DNA



• Molecule 66: DNA



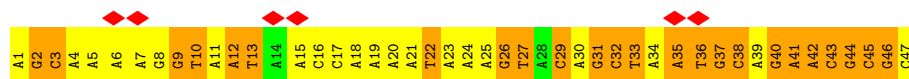
• Molecule 67: DNA



• Molecule 68: DNA



• Molecule 69: DNA

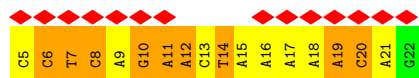
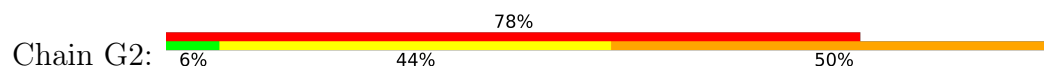


• Molecule 70: DNA

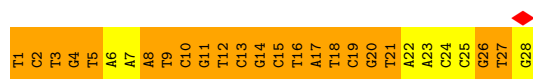




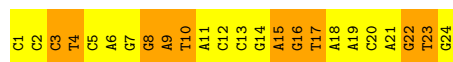
• Molecule 71: DNA



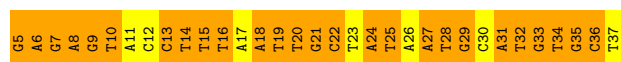
• Molecule 72: DNA



• Molecule 73: DNA



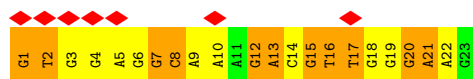
• Molecule 74: DNA



• Molecule 75: DNA



• Molecule 76: DNA

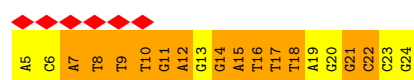


• Molecule 77: DNA





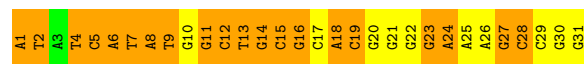
- Molecule 86: DNA



- Molecule 87: DNA



- Molecule 88: DNA



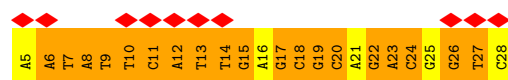
- Molecule 89: DNA



- Molecule 90: DNA



- Molecule 91: DNA



- Molecule 92: DNA





• Molecule 93: DNA



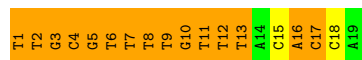
• Molecule 94: DNA



• Molecule 95: DNA



• Molecule 96: DNA



• Molecule 97: DNA



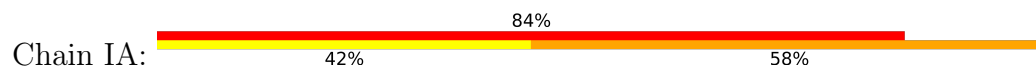
• Molecule 98: DNA



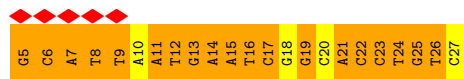
• Molecule 99: DNA



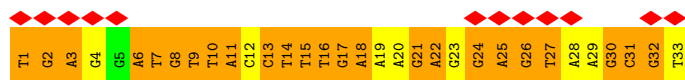
• Molecule 100: DNA



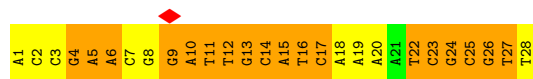
• Molecule 101: DNA



• Molecule 102: DNA



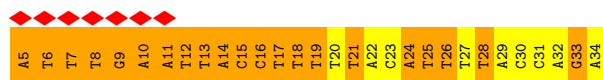
• Molecule 103: DNA



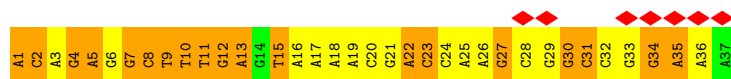
• Molecule 104: DNA



• Molecule 105: DNA



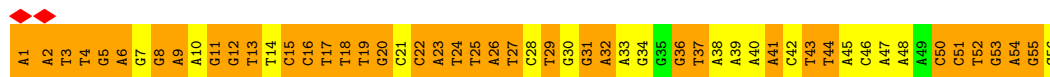
• Molecule 106: DNA



● Molecule 107: DNA



● Molecule 108: DNA



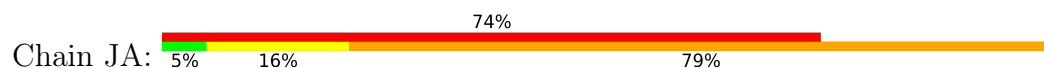
● Molecule 109: DNA



● Molecule 110: DNA



● Molecule 111: DNA



● Molecule 112: DNA

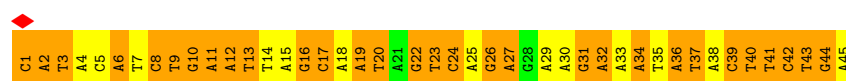


● Molecule 113: DNA



● Molecule 114: DNA

Chain K1:  29% 67%



- Molecule 115: DNA

Chain K2:  6% 27% 67%



- Molecule 116: DNA

Chain K3:  6% 39% 56%



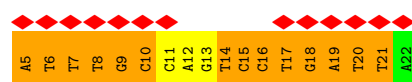
- Molecule 117: DNA

Chain K5:  37% 61%



- Molecule 118: DNA

Chain K6:  6% 17% 72% 78%



- Molecule 119: DNA

Chain K7:  5% 23% 72%



- Molecule 120: DNA

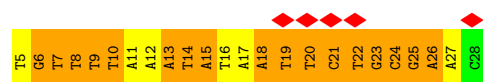
Chain K8:  22% 48% 48%



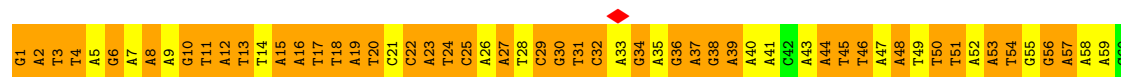
- Molecule 121: DNA

Chain K9:  8% 27% 65%

• Molecule 129: DNA



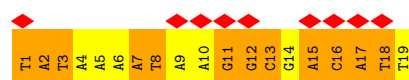
• Molecule 130: DNA



• Molecule 131: DNA



• Molecule 132: DNA



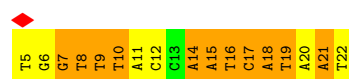
• Molecule 133: DNA



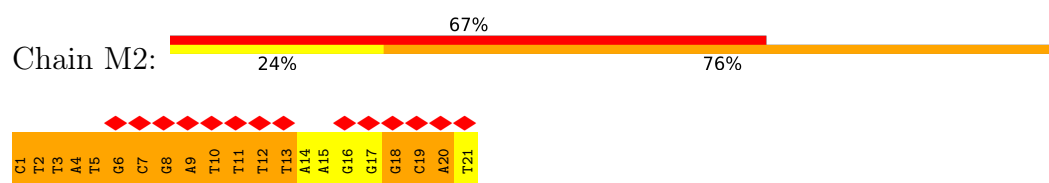
• Molecule 134: DNA



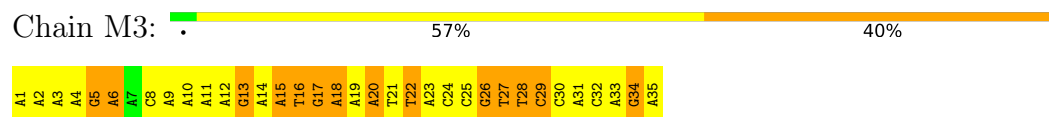
• Molecule 135: DNA



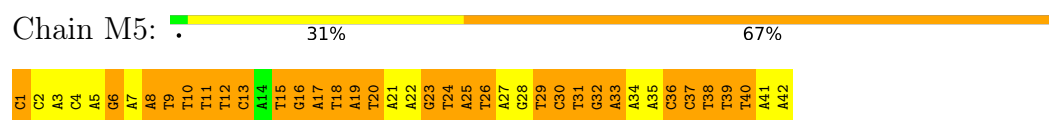
• Molecule 136: DNA



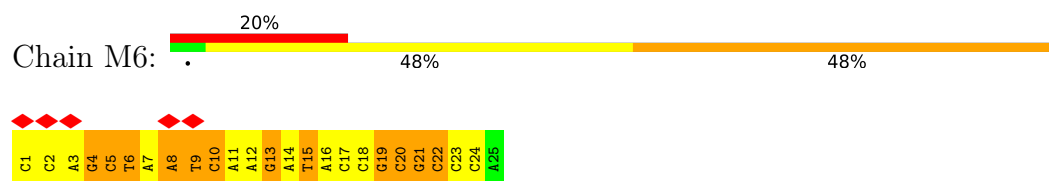
- Molecule 137: DNA



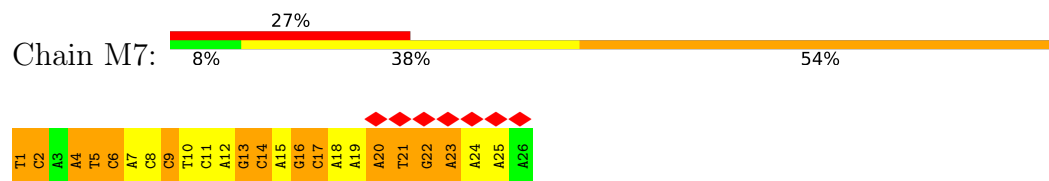
- Molecule 138: DNA



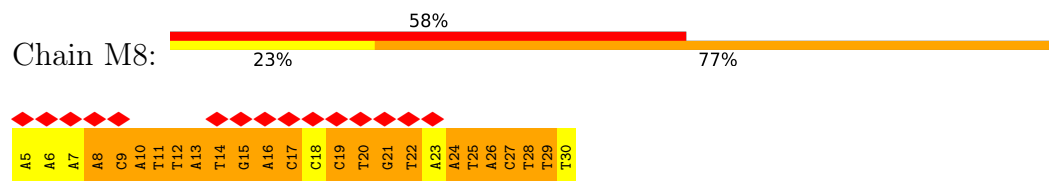
- Molecule 139: DNA



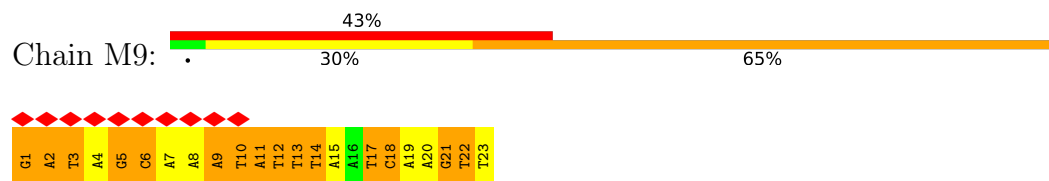
- Molecule 140: DNA



- Molecule 141: DNA

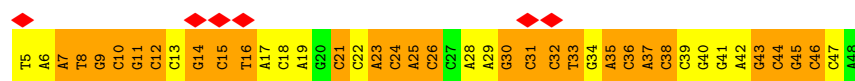


- Molecule 142: DNA

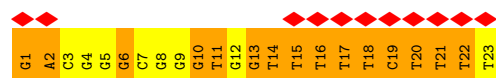


- Molecule 143: DNA

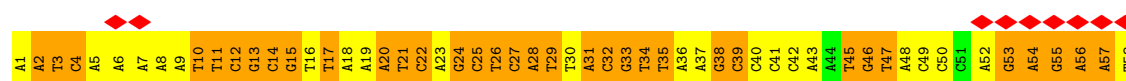




● Molecule 144: DNA



● Molecule 145: DNA



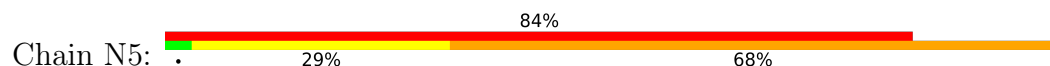
● Molecule 146: DNA



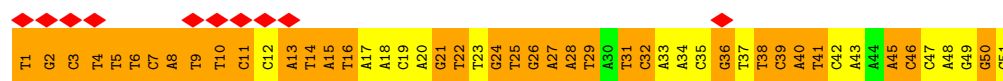
● Molecule 147: DNA



● Molecule 148: DNA

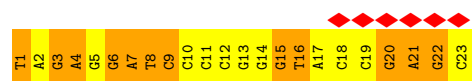


● Molecule 149: DNA

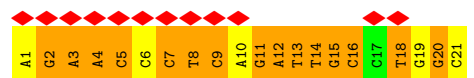


● Molecule 150: DNA

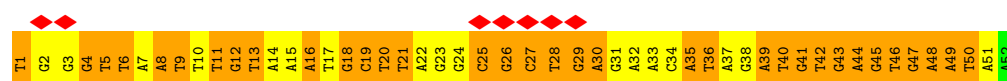




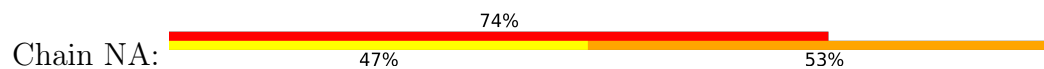
• Molecule 151: DNA



• Molecule 152: DNA



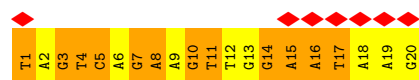
• Molecule 153: DNA



• Molecule 154: DNA



• Molecule 155: DNA



• Molecule 156: DNA



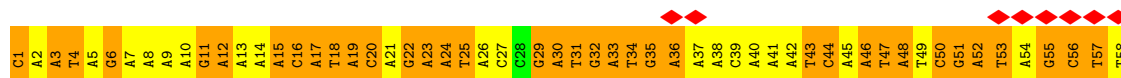
• Molecule 157: DNA







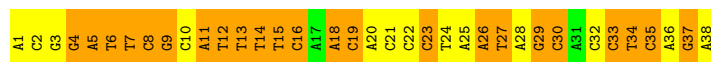
• Molecule 165: DNA



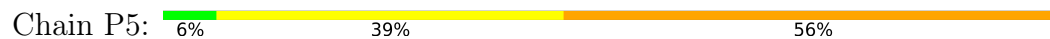
• Molecule 166: DNA



• Molecule 167: DNA



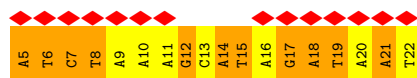
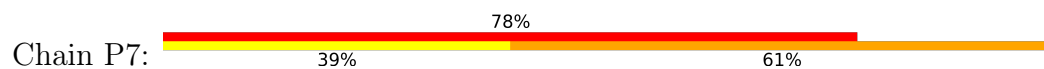
• Molecule 168: DNA



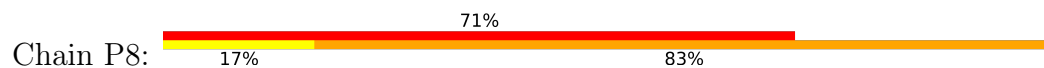
• Molecule 169: DNA



• Molecule 170: DNA



• Molecule 171: DNA





• Molecule 172: DNA

Chain P9: 17% 79%



• Molecule 173: DNA

Chain PA: 5% 39% 55%



• Molecule 174: DNA

Chain PC: 26% 57% 74%



• Molecule 175: DNA

Chain PD: 22% 43% 52%



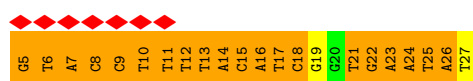
• Molecule 176: DNA

Chain Q2: 5% 47% 100% 47%



• Molecule 177: DNA

Chain Q3: 9% 30% 87%

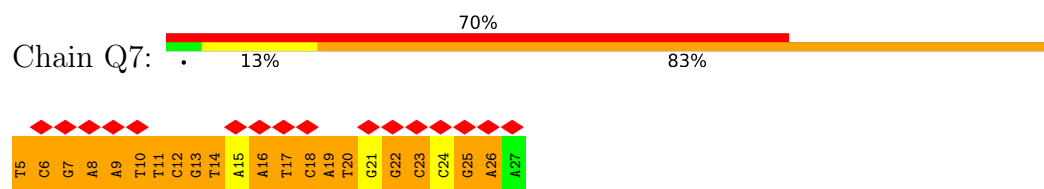


• Molecule 178: DNA

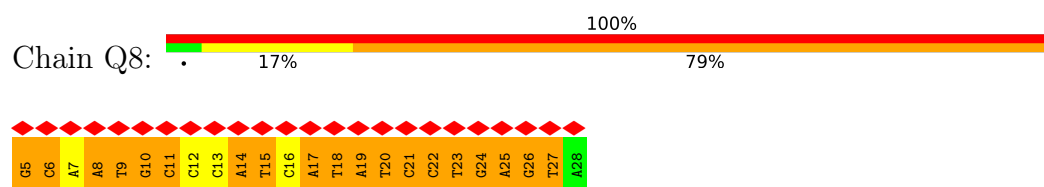
Chain Q5: 7% 17% 76%



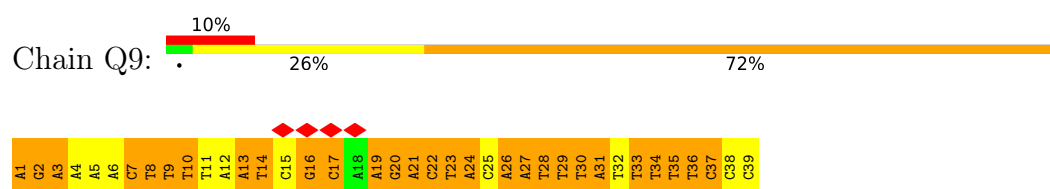
- Molecule 179: DNA



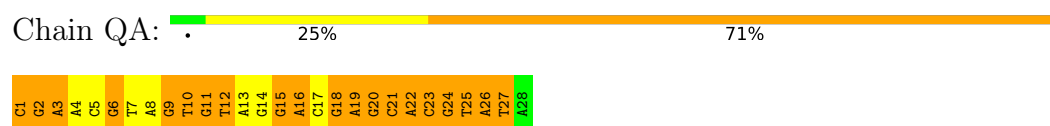
- Molecule 180: DNA



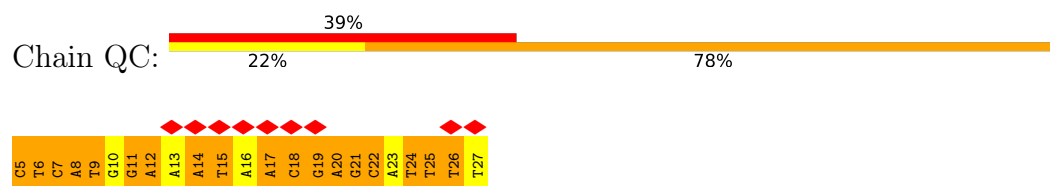
- Molecule 181: DNA



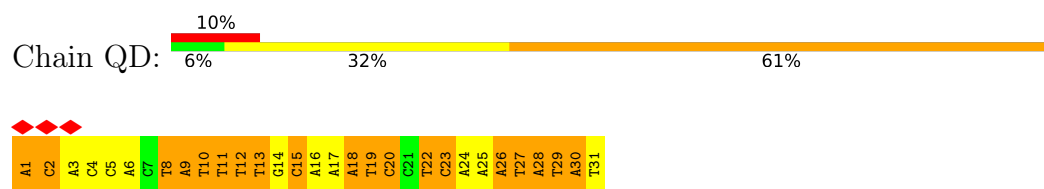
- Molecule 182: DNA



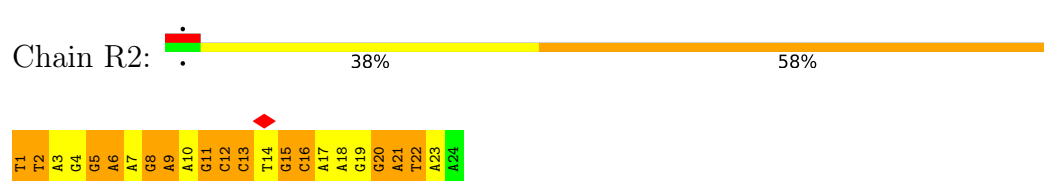
- Molecule 183: DNA



- Molecule 184: DNA



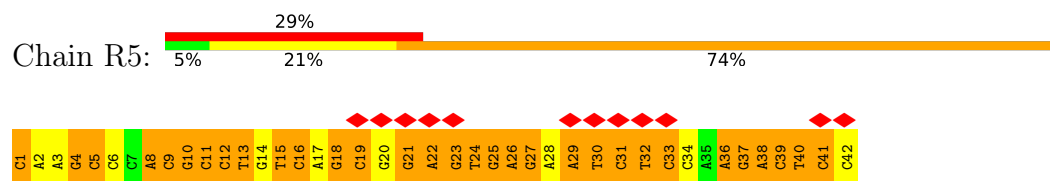
- Molecule 185: DNA



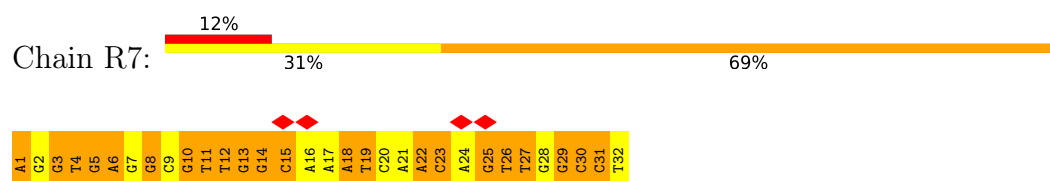
● Molecule 186: DNA



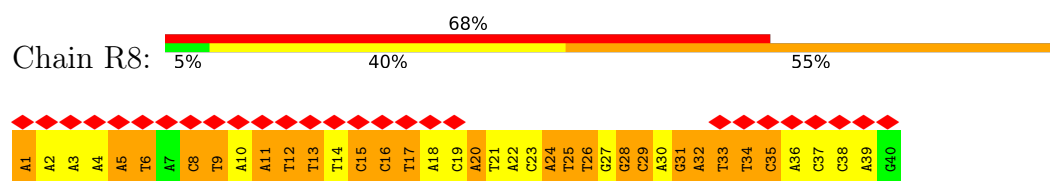
● Molecule 187: DNA



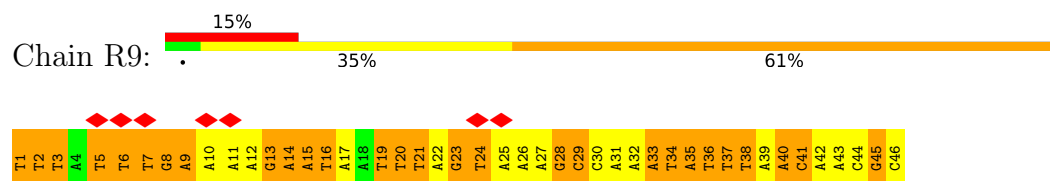
● Molecule 188: DNA



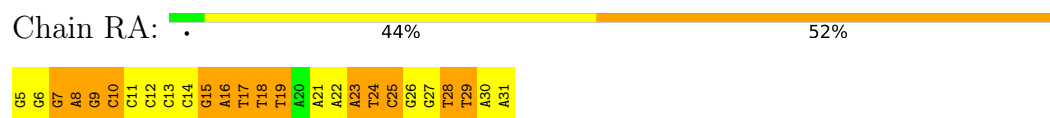
● Molecule 189: DNA



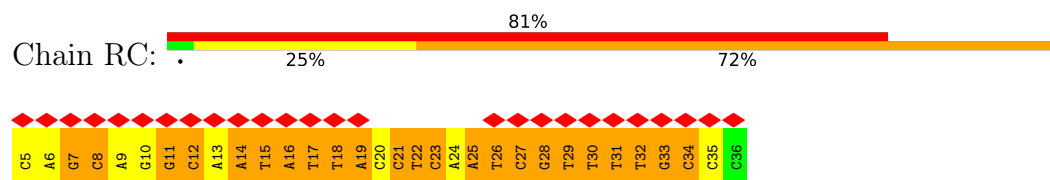
● Molecule 190: DNA



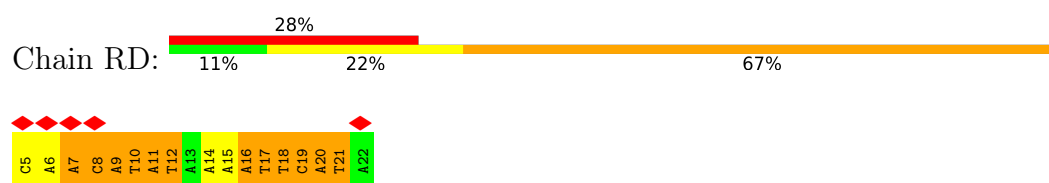
● Molecule 191: DNA



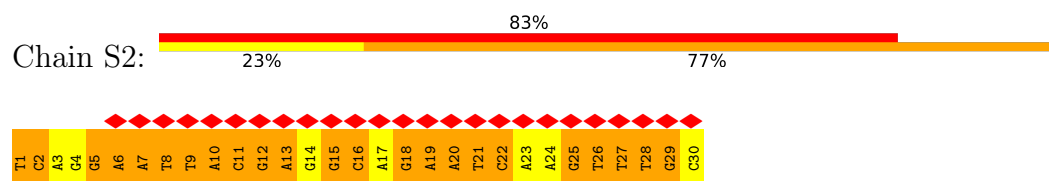
● Molecule 192: DNA



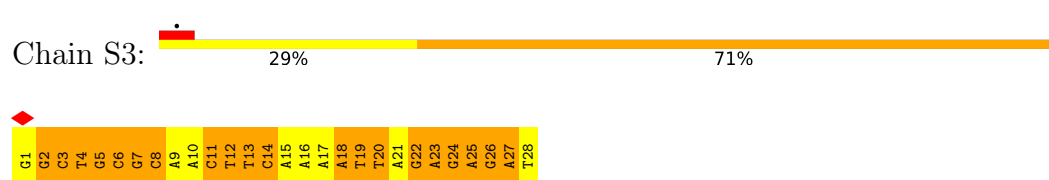
● Molecule 193: DNA



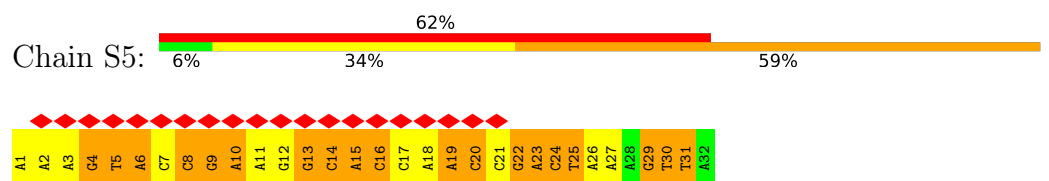
• Molecule 194: DNA



• Molecule 195: DNA



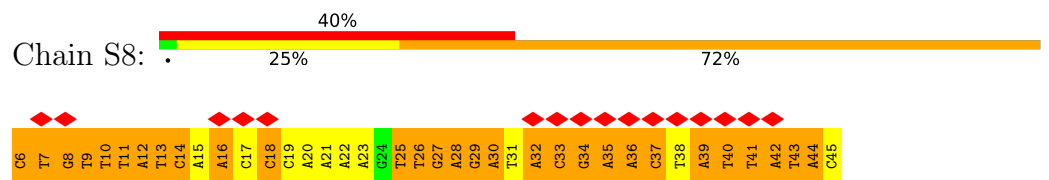
• Molecule 196: DNA



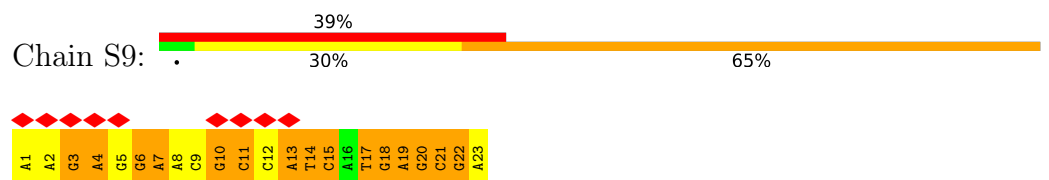
• Molecule 197: DNA



• Molecule 198: DNA

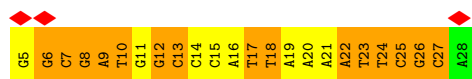


• Molecule 199: DNA



• Molecule 200: DNA





● Molecule 201: DNA



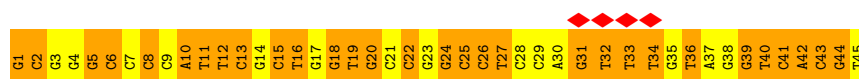
● Molecule 202: DNA



● Molecule 203: DNA



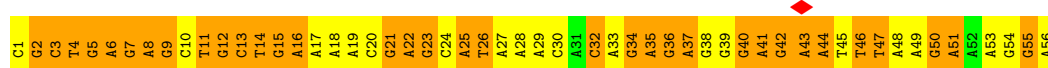
● Molecule 204: DNA



● Molecule 205: DNA



● Molecule 206: DNA

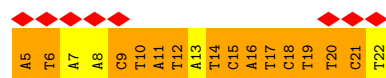


● Molecule 207: DNA

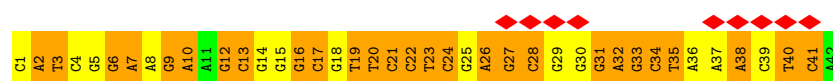




• Molecule 208: DNA



• Molecule 209: DNA



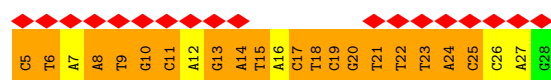
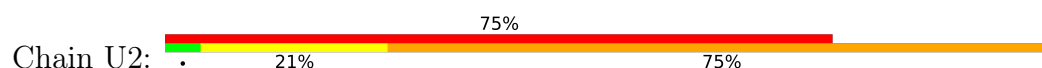
• Molecule 210: DNA



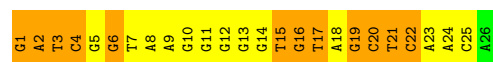
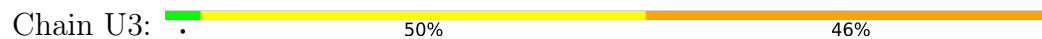
• Molecule 211: DNA



• Molecule 212: DNA



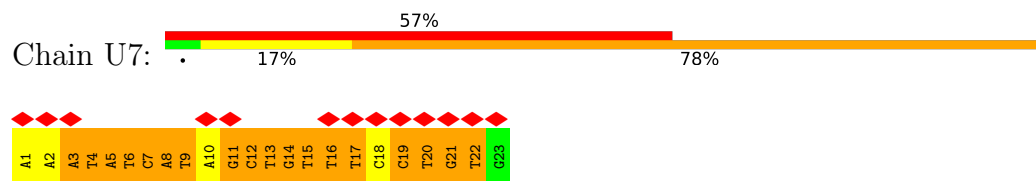
• Molecule 213: DNA



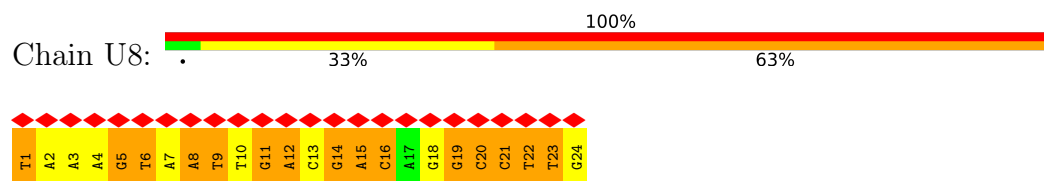
• Molecule 214: DNA



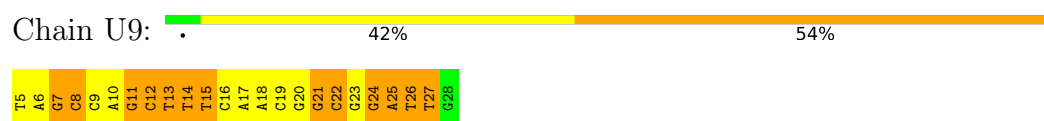
• Molecule 215: DNA



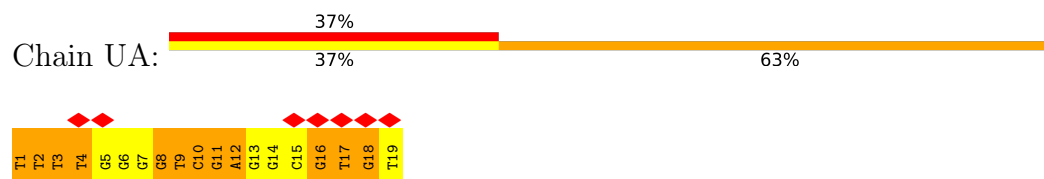
• Molecule 216: DNA



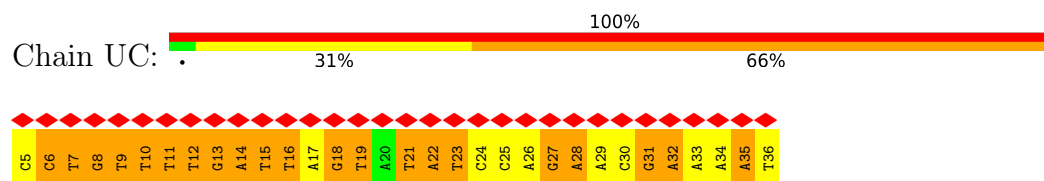
• Molecule 217: DNA



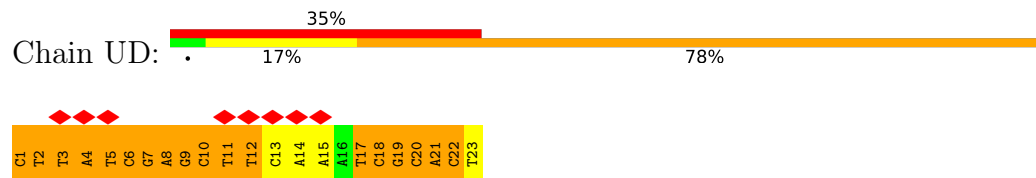
• Molecule 218: DNA



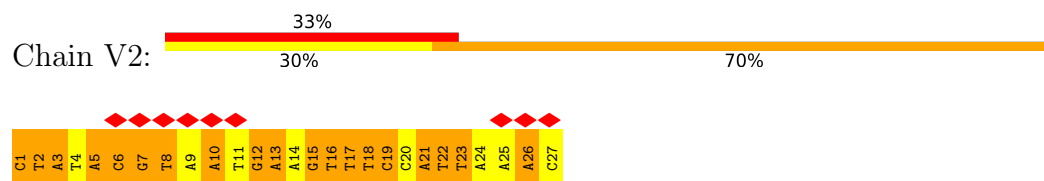
• Molecule 219: DNA



• Molecule 220: DNA



• Molecule 221: DNA



• Molecule 222: DNA

Chain V3:  32% 68%



- Molecule 223: DNA

Chain V5:  10% 51% 46%



- Molecule 224: DNA

Chain V7:  89% 50% 50%



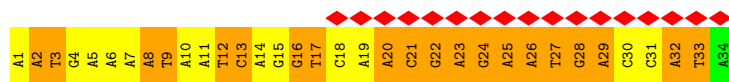
- Molecule 225: DNA

Chain V8:  5% 27% 68%



- Molecule 226: DNA

Chain V9:  50% 38% 59%



- Molecule 227: DNA

Chain VA:  24% 76%



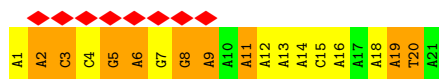
- Molecule 228: DNA

Chain VC:  90% 5% 38% 58%

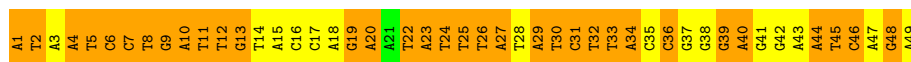


- Molecule 229: DNA

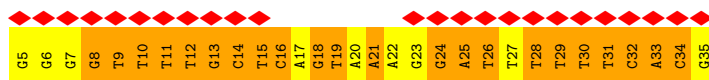
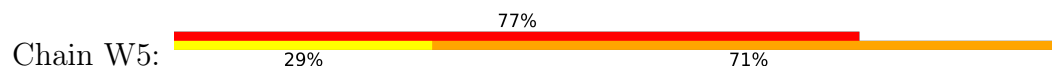
Chain VD:  38% 14% 43% 43%



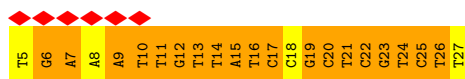
• Molecule 230: DNA



• Molecule 231: DNA



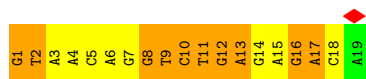
• Molecule 232: DNA



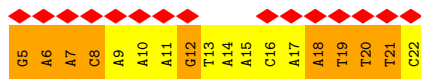
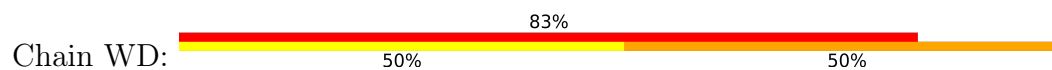
• Molecule 233: DNA



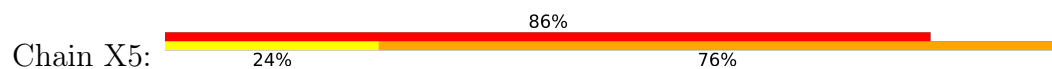
• Molecule 234: DNA

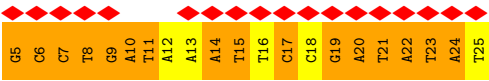


• Molecule 235: DNA

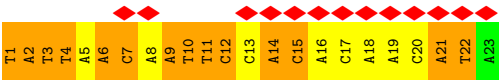


• Molecule 236: DNA





● Molecule 237: DNA



● Molecule 238: DNA



4 Experimental information

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	694	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	3	Depositor
Minimum defocus (nm)	3000	Depositor
Maximum defocus (nm)	5500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	5.388	Depositor
Minimum map value	-5.817	Depositor
Average map value	-0.789	Depositor
Map value standard deviation	0.614	Depositor
Recommended contour level	0.219	Depositor
Map size ($\text{\AA}$)	783.36, 783.36, 783.36	wwPDB
Map dimensions	48, 48, 48	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	16.32, 16.32, 16.32	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\# Z > 5$	RMSZ	$\# Z > 5$
1	A1	1.81	49/1305 (3.8%)	2.19	69/1991 (3.5%)
2	A2	1.80	27/710 (3.8%)	2.25	40/1086 (3.7%)
3	A3	1.88	21/529 (4.0%)	2.26	32/812 (3.9%)
4	A4	1.86	26/642 (4.0%)	2.27	37/986 (3.8%)
5	A5	1.83	37/959 (3.9%)	2.25	55/1469 (3.7%)
6	A6	1.89	25/601 (4.2%)	2.32	37/925 (4.0%)
7	A7	1.83	33/843 (3.9%)	2.27	45/1291 (3.5%)
8	A8	1.85	22/555 (4.0%)	2.25	32/853 (3.8%)
9	A9	1.87	18/442 (4.1%)	2.25	23/682 (3.4%)
10	AA	1.87	20/534 (3.7%)	2.17	28/817 (3.4%)
11	AB	1.93	7058/165871 (4.3%)	2.34	10177/255582 (4.0%)
12	AC	1.88	16/413 (3.9%)	2.26	22/633 (3.5%)
13	AD	1.90	37/925 (4.0%)	2.31	56/1422 (3.9%)
14	B1	1.84	37/980 (3.8%)	2.20	51/1502 (3.4%)
15	B2	1.84	16/416 (3.8%)	2.20	23/636 (3.6%)
16	B3	1.81	16/421 (3.8%)	2.20	21/647 (3.2%)
17	B4	1.85	16/416 (3.8%)	2.26	24/638 (3.8%)
18	B5	1.81	33/870 (3.8%)	2.25	47/1330 (3.5%)
19	B6	1.81	21/552 (3.8%)	2.19	29/845 (3.4%)
20	B7	1.89	16/403 (4.0%)	2.26	25/616 (4.1%)
21	B8	1.87	25/614 (4.1%)	2.29	35/943 (3.7%)
22	B9	1.86	48/1249 (3.8%)	2.22	71/1915 (3.7%)
23	BA	1.90	30/736 (4.1%)	2.29	42/1132 (3.7%)
24	BC	1.91	35/865 (4.0%)	2.27	52/1331 (3.9%)
25	BD	1.83	17/445 (3.8%)	2.23	24/682 (3.5%)
26	C1	1.82	24/608 (3.9%)	2.28	36/929 (3.9%)
27	C2	1.85	16/413 (3.9%)	2.27	24/632 (3.8%)
28	C3	1.84	19/498 (3.8%)	2.18	27/766 (3.5%)
29	C5	1.82	37/983 (3.8%)	2.17	51/1506 (3.4%)
30	C6	1.84	39/1041 (3.7%)	2.20	56/1593 (3.5%)
31	C7	1.84	30/756 (4.0%)	2.28	41/1161 (3.5%)
32	C8	1.82	47/1246 (3.8%)	2.27	72/1907 (3.8%)
33	C9	1.86	25/627 (4.0%)	2.27	35/964 (3.6%)
34	CA	1.87	18/440 (4.1%)	2.29	26/677 (3.8%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	CC	1.90	29/710 (4.1%)	2.28	44/1090 (4.0%)
36	CD	1.85	23/595 (3.9%)	2.18	31/911 (3.4%)
37	D1	1.84	37/941 (3.9%)	2.26	60/1435 (4.2%)
38	D2	1.94	17/415 (4.1%)	2.37	29/637 (4.6%)
39	D3	1.84	30/784 (3.8%)	2.24	44/1201 (3.7%)
40	D5	1.86	19/488 (3.9%)	2.24	26/749 (3.5%)
41	D6	1.85	40/1055 (3.8%)	2.21	57/1613 (3.5%)
42	D7	1.87	19/490 (3.9%)	2.25	29/753 (3.9%)
43	D8	1.85	40/1048 (3.8%)	2.22	61/1601 (3.8%)
44	D9	1.91	28/697 (4.0%)	2.23	41/1071 (3.8%)
45	DA	1.94	22/533 (4.1%)	2.30	33/820 (4.0%)
46	DC	1.87	16/412 (3.9%)	2.33	27/631 (4.3%)
47	DD	1.94	40/968 (4.1%)	2.29	60/1487 (4.0%)
48	E1	1.89	30/753 (4.0%)	2.22	46/1153 (4.0%)
49	E2	1.86	38/983 (3.9%)	2.23	54/1505 (3.6%)
50	E3	1.83	17/440 (3.9%)	2.23	23/674 (3.4%)
51	E5	1.85	27/690 (3.9%)	2.29	40/1059 (3.8%)
52	E6	1.90	33/834 (4.0%)	2.26	54/1273 (4.2%)
53	E7	1.85	22/555 (4.0%)	2.32	32/853 (3.8%)
54	E8	1.86	29/738 (3.9%)	2.30	44/1128 (3.9%)
55	E9	1.87	36/943 (3.8%)	2.23	51/1444 (3.5%)
56	EA	1.90	18/435 (4.1%)	2.36	28/670 (4.2%)
57	EC	1.87	21/531 (4.0%)	2.22	29/816 (3.6%)
58	ED	1.92	36/873 (4.1%)	2.33	56/1342 (4.2%)
59	F1	1.90	18/451 (4.0%)	2.22	27/689 (3.9%)
60	F2	1.81	30/797 (3.8%)	2.24	47/1217 (3.9%)
61	F3	1.86	23/600 (3.8%)	2.27	36/918 (3.9%)
62	F5	1.80	41/1080 (3.8%)	2.20	54/1647 (3.3%)
63	F6	1.86	16/421 (3.8%)	2.25	25/645 (3.9%)
64	F7	1.78	25/667 (3.7%)	2.18	34/1020 (3.3%)
65	F8	1.91	16/409 (3.9%)	2.21	22/625 (3.5%)
66	F9	1.85	16/420 (3.8%)	2.23	23/644 (3.6%)
67	FA	1.80	29/768 (3.8%)	2.26	44/1178 (3.7%)
68	FC	1.89	17/443 (3.8%)	2.23	26/680 (3.8%)
69	FD	1.85	42/1093 (3.8%)	2.24	63/1674 (3.8%)
70	G1	1.88	17/435 (3.9%)	2.28	27/666 (4.1%)
71	G2	1.85	16/413 (3.9%)	2.17	22/631 (3.5%)
72	G3	1.98	27/638 (4.2%)	2.35	42/982 (4.3%)
73	G5	1.86	21/550 (3.8%)	2.16	32/841 (3.8%)
74	G6	1.86	30/757 (4.0%)	2.30	45/1162 (3.9%)
75	G7	1.81	25/662 (3.8%)	2.18	36/1009 (3.6%)
76	G8	1.81	20/548 (3.6%)	2.15	27/842 (3.2%)
77	G9	1.86	17/433 (3.9%)	2.22	23/664 (3.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	GA	1.92	18/444 (4.1%)	2.22	24/684 (3.5%)
79	GC	1.89	23/598 (3.8%)	2.22	34/916 (3.7%)
80	GD	1.84	16/421 (3.8%)	2.13	21/646 (3.3%)
81	H1	1.81	16/419 (3.8%)	2.20	21/643 (3.3%)
82	H2	1.86	46/1160 (4.0%)	2.31	71/1776 (4.0%)
83	H3	1.85	37/967 (3.8%)	2.21	51/1480 (3.4%)
84	H5	1.84	35/905 (3.9%)	2.22	53/1383 (3.8%)
85	H6	1.88	32/810 (4.0%)	2.24	48/1242 (3.9%)
86	H7	1.88	18/463 (3.9%)	2.23	25/711 (3.5%)
87	H8	1.86	19/487 (3.9%)	2.21	27/746 (3.6%)
88	H9	1.86	27/720 (3.8%)	2.22	41/1103 (3.7%)
89	HA	1.85	28/700 (4.0%)	2.25	37/1077 (3.4%)
90	HC	1.92	22/546 (4.0%)	2.27	35/836 (4.2%)
91	HD	1.89	22/553 (4.0%)	2.32	33/849 (3.9%)
92	I1	1.83	19/491 (3.9%)	2.23	27/754 (3.6%)
93	I2	1.86	43/1122 (3.8%)	2.25	65/1716 (3.8%)
94	I3	1.84	51/1368 (3.7%)	2.20	75/2093 (3.6%)
95	I5	1.80	37/989 (3.7%)	2.15	48/1518 (3.2%)
96	I6	1.86	17/427 (4.0%)	2.28	24/654 (3.7%)
97	I7	1.88	27/692 (3.9%)	2.22	39/1061 (3.7%)
98	I8	1.86	36/923 (3.9%)	2.18	48/1415 (3.4%)
99	I9	1.87	27/695 (3.9%)	2.31	43/1066 (4.0%)
100	IA	1.88	18/435 (4.1%)	2.25	25/668 (3.7%)
101	IC	1.86	21/525 (4.0%)	2.33	32/805 (4.0%)
102	ID	1.87	30/773 (3.9%)	2.22	42/1189 (3.5%)
103	J1	1.87	25/642 (3.9%)	2.30	37/983 (3.8%)
104	J2	1.87	37/953 (3.9%)	2.22	56/1455 (3.8%)
105	J3	1.84	27/676 (4.0%)	2.27	37/1035 (3.6%)
106	J5	1.87	33/863 (3.8%)	2.22	48/1323 (3.6%)
107	J6	1.80	38/1018 (3.7%)	2.17	52/1556 (3.3%)
108	J7	1.81	49/1290 (3.8%)	2.21	67/1975 (3.4%)
109	J8	1.85	48/1253 (3.8%)	2.24	69/1921 (3.6%)
110	J9	1.95	16/410 (3.9%)	2.31	27/627 (4.3%)
111	JA	1.92	18/440 (4.1%)	2.29	27/677 (4.0%)
112	JC	1.84	23/594 (3.9%)	2.27	34/909 (3.7%)
113	JD	1.83	33/889 (3.7%)	2.18	49/1362 (3.6%)
114	K1	1.82	39/1036 (3.8%)	2.19	53/1584 (3.3%)
115	K2	1.88	29/752 (3.9%)	2.30	44/1151 (3.8%)
116	K3	1.88	16/415 (3.9%)	2.19	23/635 (3.6%)
117	K5	1.83	42/1106 (3.8%)	2.22	65/1688 (3.9%)
118	K6	1.86	16/407 (3.9%)	2.24	23/623 (3.7%)
119	K7	1.84	37/985 (3.8%)	2.26	54/1507 (3.6%)
120	K8	1.85	20/526 (3.8%)	2.20	29/804 (3.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
121	K9	1.84	23/597 (3.9%)	2.21	31/914 (3.4%)
122	KA	1.84	45/1166 (3.9%)	2.22	65/1784 (3.6%)
123	KC	1.86	22/564 (3.9%)	2.19	28/868 (3.2%)
124	KD	1.89	21/530 (4.0%)	2.20	27/813 (3.3%)
125	L1	1.86	51/1300 (3.9%)	2.25	74/1996 (3.7%)
126	L2	1.86	51/1283 (4.0%)	2.22	71/1965 (3.6%)
127	L3	1.84	17/424 (4.0%)	2.31	25/648 (3.9%)
128	L5	1.89	21/522 (4.0%)	2.31	32/800 (4.0%)
129	L6	1.87	22/548 (4.0%)	2.30	30/841 (3.6%)
130	L7	1.79	52/1386 (3.8%)	2.21	70/2120 (3.3%)
131	L8	1.86	22/559 (3.9%)	2.18	29/858 (3.4%)
132	L9	1.84	17/441 (3.9%)	2.19	23/676 (3.4%)
133	LA	1.86	19/498 (3.8%)	2.24	27/762 (3.5%)
134	LC	1.87	16/413 (3.9%)	2.24	25/632 (4.0%)
135	LD	1.81	16/409 (3.9%)	2.24	22/626 (3.5%)
136	M2	1.90	20/483 (4.1%)	2.30	27/744 (3.6%)
137	M3	1.84	31/813 (3.8%)	2.19	42/1244 (3.4%)
138	M5	1.83	37/959 (3.9%)	2.20	51/1467 (3.5%)
139	M6	1.89	22/565 (3.9%)	2.26	37/862 (4.3%)
140	M7	1.85	23/595 (3.9%)	2.22	32/909 (3.5%)
141	M8	1.88	25/592 (4.2%)	2.30	35/910 (3.8%)
142	M9	1.84	21/531 (4.0%)	2.27	29/815 (3.6%)
143	MA	1.92	39/999 (3.9%)	2.24	64/1526 (4.2%)
144	MC	1.82	21/530 (4.0%)	2.31	28/816 (3.4%)
145	MD	1.84	51/1323 (3.9%)	2.25	76/2022 (3.8%)
146	N2	1.84	21/555 (3.8%)	2.16	29/849 (3.4%)
147	N3	1.95	33/796 (4.1%)	2.33	50/1222 (4.1%)
148	N5	1.86	29/721 (4.0%)	2.28	40/1109 (3.6%)
149	N6	1.85	46/1158 (4.0%)	2.28	67/1773 (3.8%)
150	N7	1.93	22/532 (4.1%)	2.31	36/819 (4.4%)
151	N8	1.81	18/477 (3.8%)	2.28	29/728 (4.0%)
152	N9	1.83	45/1212 (3.7%)	2.17	62/1858 (3.3%)
153	NA	1.90	18/451 (4.0%)	2.24	25/695 (3.6%)
154	NC	1.87	33/871 (3.8%)	2.20	47/1333 (3.5%)
155	ND	1.83	18/471 (3.8%)	2.20	25/724 (3.5%)
156	O2	1.85	52/1370 (3.8%)	2.22	79/2092 (3.8%)
157	O3	1.78	21/562 (3.7%)	2.18	29/861 (3.4%)
158	O5	1.84	44/1129 (3.9%)	2.20	60/1729 (3.5%)
159	O6	1.89	21/526 (4.0%)	2.26	31/807 (3.8%)
160	O7	1.86	47/1203 (3.9%)	2.21	66/1845 (3.6%)
161	O8	1.85	52/1329 (3.9%)	2.24	73/2035 (3.6%)
162	O9	1.80	16/410 (3.9%)	2.23	24/626 (3.8%)
163	OA	1.94	18/437 (4.1%)	2.31	27/671 (4.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
164	OC	1.92	22/536 (4.1%)	2.32	36/819 (4.4%)
165	OD	1.81	51/1344 (3.8%)	2.21	71/2056 (3.5%)
166	P2	1.93	29/698 (4.2%)	2.35	46/1072 (4.3%)
167	P3	1.85	33/858 (3.8%)	2.24	49/1309 (3.7%)
168	P5	1.85	16/412 (3.9%)	2.27	26/631 (4.1%)
169	P6	1.91	16/418 (3.8%)	2.29	27/641 (4.2%)
170	P7	1.83	16/416 (3.8%)	2.24	23/637 (3.6%)
171	P8	1.85	22/530 (4.2%)	2.33	30/811 (3.7%)
172	P9	1.88	22/539 (4.1%)	2.26	29/827 (3.5%)
173	PA	1.85	34/877 (3.9%)	2.19	47/1343 (3.5%)
174	PC	1.91	21/533 (3.9%)	2.28	31/819 (3.8%)
175	PD	1.85	20/530 (3.8%)	2.22	30/810 (3.7%)
176	Q2	1.86	18/440 (4.1%)	2.26	24/676 (3.6%)
177	Q3	1.85	21/524 (4.0%)	2.27	30/804 (3.7%)
178	Q5	1.83	37/957 (3.9%)	2.26	54/1465 (3.7%)
179	Q7	1.92	22/529 (4.2%)	2.33	32/814 (3.9%)
180	Q8	1.87	22/545 (4.0%)	2.32	35/835 (4.2%)
181	Q9	1.82	34/882 (3.9%)	2.25	47/1347 (3.5%)
182	QA	1.91	25/653 (3.8%)	2.25	40/1002 (4.0%)
183	QC	1.84	20/527 (3.8%)	2.21	27/806 (3.3%)
184	QD	1.80	27/697 (3.9%)	2.21	37/1063 (3.5%)
185	R2	1.81	21/563 (3.7%)	2.23	31/863 (3.6%)
186	R3	1.90	16/412 (3.9%)	2.30	25/631 (4.0%)
187	R5	1.88	37/956 (3.9%)	2.25	59/1461 (4.0%)
188	R7	1.88	30/745 (4.0%)	2.29	43/1147 (3.7%)
189	R8	1.85	36/911 (4.0%)	2.21	48/1394 (3.4%)
190	R9	1.81	40/1058 (3.8%)	2.22	56/1618 (3.5%)
191	RA	1.84	24/622 (3.9%)	2.21	35/953 (3.7%)
192	RC	1.91	30/723 (4.1%)	2.32	44/1109 (4.0%)
193	RD	1.82	16/411 (3.9%)	2.19	21/628 (3.3%)
194	S2	1.89	28/697 (4.0%)	2.29	40/1072 (3.7%)
195	S3	1.88	26/650 (4.0%)	2.31	38/999 (3.8%)
196	S5	1.81	28/738 (3.8%)	2.24	43/1128 (3.8%)
197	S7	1.87	21/535 (3.9%)	2.22	33/815 (4.0%)
198	S8	1.84	35/912 (3.8%)	2.21	48/1394 (3.4%)
199	S9	1.91	21/538 (3.9%)	2.27	32/826 (3.9%)
200	SA	1.89	22/552 (4.0%)	2.30	33/847 (3.9%)
201	SC	1.90	18/443 (4.1%)	2.22	23/681 (3.4%)
202	SD	1.81	23/603 (3.8%)	2.20	31/923 (3.4%)
203	T2	1.89	22/550 (4.0%)	2.28	33/844 (3.9%)
204	T3	1.87	39/1022 (3.8%)	2.23	59/1563 (3.8%)
205	T5	1.89	22/542 (4.1%)	2.26	33/828 (4.0%)
206	T7	1.84	48/1315 (3.7%)	2.19	70/2013 (3.5%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
207	T8	1.88	22/557 (3.9%)	2.23	32/856 (3.7%)
208	T9	1.84	16/402 (4.0%)	2.27	23/614 (3.7%)
209	TA	1.84	36/971 (3.7%)	2.22	54/1485 (3.6%)
210	TC	1.82	23/597 (3.9%)	2.21	32/912 (3.5%)
211	TD	1.88	38/961 (4.0%)	2.28	56/1474 (3.8%)
212	U2	1.91	22/546 (4.0%)	2.24	32/837 (3.8%)
213	U3	1.83	23/609 (3.8%)	2.19	32/935 (3.4%)
214	U5	1.86	37/953 (3.9%)	2.26	53/1458 (3.6%)
215	U7	1.93	22/525 (4.2%)	2.30	31/808 (3.8%)
216	U8	1.82	21/555 (3.8%)	2.23	31/850 (3.6%)
217	U9	1.92	22/551 (4.0%)	2.29	33/846 (3.9%)
218	UA	1.86	17/443 (3.8%)	2.19	22/682 (3.2%)
219	UC	1.89	30/734 (4.1%)	2.27	42/1128 (3.7%)
220	UD	1.93	21/518 (4.1%)	2.32	31/793 (3.9%)
221	V2	1.83	24/615 (3.9%)	2.26	34/941 (3.6%)
222	V3	1.83	22/581 (3.8%)	2.23	29/891 (3.3%)
223	V5	1.86	36/946 (3.8%)	2.21	51/1448 (3.5%)
224	V7	1.87	16/412 (3.9%)	2.18	22/630 (3.5%)
225	V8	1.85	19/518 (3.7%)	2.16	28/793 (3.5%)
226	V9	1.83	30/791 (3.8%)	2.19	41/1211 (3.4%)
227	VA	1.84	25/664 (3.8%)	2.26	41/1015 (4.0%)
228	VC	1.87	36/924 (3.9%)	2.22	54/1416 (3.8%)
229	VD	1.80	18/493 (3.7%)	2.13	24/753 (3.2%)
230	W3	1.83	43/1125 (3.8%)	2.20	59/1722 (3.4%)
231	W5	1.85	28/714 (3.9%)	2.25	37/1097 (3.4%)
232	W7	1.92	22/520 (4.2%)	2.36	32/800 (4.0%)
233	W8	1.84	19/491 (3.9%)	2.21	25/754 (3.3%)
234	W9	1.84	17/445 (3.8%)	2.20	25/683 (3.7%)
235	WD	1.80	16/415 (3.9%)	2.25	21/635 (3.3%)
236	X5	1.86	19/479 (4.0%)	2.27	28/734 (3.8%)
237	X7	1.89	22/521 (4.2%)	2.29	31/799 (3.9%)
238	X9	1.83	51/1353 (3.8%)	2.22	75/2067 (3.6%)
All	All	1.89	13501/331404 (4.1%)	2.29	19511/509182 (3.8%)

The worst 5 of 13501 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	AB	4610	DC	O3'-P	12.07	1.79	1.61
47	DD	5	DC	O3'-P	12.07	1.79	1.61
70	G1	7	DC	O3'-P	12.07	1.79	1.61
11	AB	1820	DC	O3'-P	12.07	1.79	1.61
91	HD	18	DC	O3'-P	12.07	1.79	1.61

The worst 5 of 19511 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AB	1971	DG	O3'-P-O5'	-13.99	83.01	104.00
143	MA	14	DG	O3'-P-O5'	-13.99	83.02	104.00
11	AB	4732	DG	O3'-P-O5'	-13.98	83.03	104.00
11	AB	4951	DG	O3'-P-O5'	-13.98	83.03	104.00
11	AB	5070	DG	O3'-P-O5'	-13.98	83.03	104.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A1	1166	637	637	37	0
2	A2	636	350	350	38	0
3	A3	473	259	259	21	0
4	A4	574	317	318	29	0
5	A5	861	478	478	47	0
6	A6	535	291	291	21	0
7	A7	756	421	421	46	0
8	A8	496	273	274	29	0
9	A9	395	218	219	25	0
10	AA	476	255	255	20	0
11	AB	148265	82147	82243	8164	0
12	AC	370	204	204	28	0
13	AD	826	452	452	49	0
14	B1	873	469	469	37	0
15	B2	370	200	201	14	0
16	B3	376	205	206	18	0
17	B4	372	203	204	17	0
18	B5	779	427	427	46	0
19	B6	494	272	272	24	0
20	B7	363	204	205	20	0
21	B8	551	309	309	39	0
22	B9	1116	606	607	51	0
23	BA	658	362	363	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	BC	768	411	411	31	0
25	BD	395	212	212	11	0
26	C1	546	306	307	32	0
27	C2	369	201	202	18	0
28	C3	442	233	234	15	0
29	C5	874	470	470	25	0
30	C6	930	503	503	43	0
31	C7	678	377	377	47	0
32	C8	1114	605	606	55	0
33	C9	559	304	304	25	0
34	CA	392	215	216	17	0
35	CC	634	348	349	28	0
36	CD	533	293	294	29	0
37	D1	845	469	469	41	0
38	D2	369	198	198	12	0
39	D3	701	383	384	39	0
40	D5	435	237	238	22	0
41	D6	944	517	517	49	0
42	D7	437	235	235	15	0
43	D8	939	517	517	51	0
44	D9	620	334	335	19	0
45	DA	474	256	256	16	0
46	DC	369	202	203	19	0
47	DD	861	467	468	27	0
48	E1	673	368	369	22	0
49	E2	881	486	486	51	0
50	E3	392	213	213	21	0
51	E5	618	340	341	34	0
52	E6	747	411	412	28	0
53	E7	496	273	273	31	0
54	E8	666	378	378	59	0
55	E9	844	463	463	49	0
56	EA	390	216	216	21	0
57	EC	475	260	261	22	0
58	ED	779	427	428	34	0
59	F1	404	223	223	17	0
60	F2	715	393	393	39	0
61	F3	535	288	289	19	0
62	F5	972	547	547	56	0
63	F6	374	199	200	14	0
64	F7	597	328	328	28	0
65	F8	366	201	201	19	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
66	F9	374	201	202	12	0
67	FA	686	373	374	43	0
68	FC	395	214	215	18	0
69	FD	972	523	524	35	0
70	G1	389	213	213	18	0
71	G2	368	200	201	10	0
72	G3	571	317	317	30	0
73	G5	492	268	268	19	0
74	G6	678	375	375	45	0
75	G7	591	323	323	17	0
76	G8	487	256	257	16	0
77	G9	389	216	216	26	0
78	GA	395	213	214	13	0
79	GC	535	291	292	19	0
80	GD	375	201	202	13	0
81	H1	374	204	205	16	0
82	H2	1039	573	573	58	0
83	H3	864	472	472	44	0
84	H5	813	451	451	41	0
85	H6	721	389	389	27	0
86	H7	414	226	226	26	0
87	H8	433	234	235	13	0
88	H9	643	346	346	30	0
89	HA	623	338	338	29	0
90	HC	488	266	267	19	0
91	HD	494	270	271	25	0
92	I1	437	235	236	19	0
93	I2	1004	549	549	45	0
94	I3	1221	658	658	52	0
95	I5	880	471	471	41	0
96	I6	385	218	218	28	0
97	I7	618	335	335	27	0
98	I8	824	450	450	38	0
99	I9	620	335	335	25	0
100	IA	388	214	214	14	0
101	IC	470	259	259	25	0
102	ID	689	372	372	40	0
103	J1	574	314	314	28	0
104	J2	853	468	468	35	0
105	J3	608	344	344	47	0
106	J5	768	411	412	25	0
107	J6	908	492	493	29	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
108	J7	1154	631	631	55	0
109	J8	1118	605	606	61	0
110	J9	367	201	202	15	0
111	JA	392	213	214	17	0
112	JC	532	294	295	27	0
113	JD	792	424	424	26	0
114	K1	926	507	507	49	0
115	K2	675	374	374	40	0
116	K3	370	200	201	11	0
117	K5	995	553	553	60	0
118	K6	366	205	206	26	0
119	K7	884	487	487	53	0
120	K8	471	258	259	20	0
121	K9	534	294	294	26	0
122	KA	1044	575	575	64	0
123	KC	502	270	271	24	0
124	KD	473	259	259	29	0
125	L1	1159	628	628	47	0
126	L2	1145	627	628	43	0
127	L3	382	216	216	29	0
128	L5	468	259	259	26	0
129	L6	491	274	275	26	0
130	L7	1238	677	677	62	0
131	L8	497	268	269	15	0
132	L9	393	214	214	22	0
133	LA	449	251	251	36	0
134	LC	369	200	201	9	0
135	LD	367	205	206	18	0
136	M2	432	239	239	30	0
137	M3	723	390	390	20	0
138	M5	859	476	476	52	0
139	M6	506	278	278	21	0
140	M7	531	290	291	20	0
141	M8	529	295	295	28	0
142	M9	474	261	261	28	0
143	MA	894	488	488	33	0
144	MC	476	263	264	34	0
145	MD	1184	652	652	58	0
146	N2	495	268	268	20	0
147	N3	712	392	392	39	0
148	N5	642	348	349	25	0
149	N6	1038	577	577	50	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
150	N7	474	256	257	15	0
151	N8	428	235	235	22	0
152	N9	1083	588	588	58	0
153	NA	399	210	210	10	0
154	NC	781	429	429	50	0
155	ND	419	225	225	17	0
156	O2	1226	669	669	49	0
157	O3	500	269	269	18	0
158	O5	1007	549	550	34	0
159	O6	471	260	261	26	0
160	O7	1073	582	583	41	0
161	O8	1188	653	654	53	0
162	O9	366	201	202	16	0
163	OA	389	212	213	12	0
164	OC	481	268	269	19	0
165	OD	1197	649	650	54	0
166	P2	628	353	354	42	0
167	P3	770	427	427	36	0
168	P5	369	202	202	14	0
169	P6	373	200	201	17	0
170	P7	371	203	204	17	0
171	P8	479	277	278	35	0
172	P9	486	276	277	37	0
173	PA	782	426	426	33	0
174	PC	476	258	258	29	0
175	PD	473	256	256	19	0
176	Q2	391	214	214	13	0
177	Q3	470	262	262	26	0
178	Q5	859	476	476	50	0
179	Q7	472	259	259	18	0
180	Q8	488	270	271	21	0
181	Q9	792	443	443	56	0
182	QA	582	313	313	23	0
183	QC	472	260	260	29	0
184	QD	626	351	351	33	0
185	R2	501	268	268	25	0
186	R3	369	202	203	24	0
187	R5	856	468	468	48	0
188	R7	664	359	359	29	0
189	R8	815	451	452	39	0
190	R9	946	521	521	53	0
191	RA	556	303	303	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
192	RC	648	361	362	35	0
193	RD	367	203	204	12	0
194	S2	621	337	338	29	0
195	S3	579	314	314	33	0
196	S5	658	356	356	21	0
197	S7	481	268	268	23	0
198	S8	817	452	452	46	0
199	S9	478	255	255	16	0
200	SA	493	269	270	23	0
201	SC	393	211	212	9	0
202	SD	537	290	290	20	0
203	T2	492	271	272	21	0
204	T3	919	506	506	55	0
205	T5	484	266	266	16	0
206	T7	1170	623	623	47	0
207	T8	497	270	271	18	0
208	T9	362	206	207	23	0
209	TA	868	468	468	42	0
210	TC	532	290	290	15	0
211	TD	861	478	478	52	0
212	U2	489	271	272	23	0
213	U3	543	291	292	21	0
214	U5	856	477	477	56	0
215	U7	470	262	263	26	0
216	U8	496	270	270	24	0
217	U9	493	270	271	21	0
218	UA	397	216	216	24	0
219	UC	656	363	364	31	0
220	UD	465	260	260	30	0
221	V2	551	306	307	28	0
222	V3	519	283	283	31	0
223	V5	845	459	459	42	0
224	V7	368	202	202	17	0
225	V8	460	245	245	20	0
226	V9	704	380	381	26	0
227	VA	595	325	325	34	0
228	VC	824	448	449	32	0
229	VD	437	232	232	8	0
230	W3	1007	554	554	58	0
231	W5	640	353	353	45	0
232	W7	467	263	263	34	0
233	W8	437	236	237	15	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
234	W9	396	212	212	13	0
235	WD	370	202	203	14	0
236	X5	429	238	239	23	0
237	X7	465	259	260	19	0
238	X9	1210	661	661	50	0
All	All	296225	163115	163308	14635	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 32.

The worst 5 of 14635 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:E1:1:DT:H71	187:R5:42:DC:H2''	1.75	0.69
120:K8:1:DT:H71	146:N2:24:DC:H2''	1.75	0.69
11:AB:778:DC:H2''	11:AB:779:DT:H71	1.75	0.69
11:AB:5003:DC:C2'	11:AB:5004:DT:H71	2.23	0.69
11:AB:5079:DC:H2''	11:AB:5080:DT:H71	1.75	0.69

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

There are no protein molecules in this entry.

5.3.2 Protein sidechains [i](#)

There are no protein molecules in this entry.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
11	AB	1697
206	T7	23
22	B9	19
156	O2	19
94	I3	18
152	N9	18
93	I2	16
117	K5	16
41	D6	16
238	X9	15
187	R5	15
30	C6	15
83	H3	15
108	J7	15
161	O8	15
125	L1	15
143	MA	15
204	T3	15
154	NC	15
32	C8	14
82	H2	14
55	E9	14
43	D8	14
109	J8	14
114	K1	14

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Mol	Chain	Number of breaks
119	K7	14
1	A1	13
145	MD	13
209	TA	13
122	KA	13
130	L7	13
160	O7	13
230	W3	13
165	OD	12
223	V5	12
49	E2	12
69	FD	12
214	U5	12
14	B1	12
84	H5	12
126	L2	12
5	A5	11
95	I5	11
106	J5	11
29	C5	11
138	M5	11
113	JD	11
102	ID	11
198	S8	11
178	Q5	10
13	AD	10
104	J2	10
149	N6	10
190	R9	10
39	D3	10
62	F5	10
85	H6	10
167	P3	10
228	VC	10
24	BC	10
182	QA	10
211	TD	10
37	D1	9
60	F2	9
67	FA	9
107	J6	9
115	K2	9

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Mol	Chain	Number of breaks
31	C7	9
181	Q9	9
52	E6	9
88	H9	9
98	I8	9
227	VA	9
47	DD	9
74	G6	9
158	O5	9
147	N3	9
2	A2	8
18	B5	8
99	I9	8
48	E1	8
137	M3	8
44	D9	8
189	R8	8
54	E8	8
73	G5	8
173	PA	8
188	R7	8
226	V9	8
35	CC	8
58	ED	8
90	HC	8
97	I7	8
166	P2	8
207	T8	8
72	G3	8
196	S5	7
231	W5	7
10	AA	7
51	E5	7
61	F3	7
76	G8	7
197	S7	7
23	BA	7
46	DC	7
79	GC	7
110	J9	7
139	M6	7
194	S2	7

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Mol	Chain	Number of breaks
199	S9	7
212	U2	7
213	U3	7
225	V8	7
121	K9	7
124	KD	7
133	LA	7
172	P9	7
217	U9	7
219	UC	7
174	PC	7
148	N5	6
7	A7	6
64	F7	6
185	R2	6
4	A4	6
151	N8	6
195	S3	6
203	T2	6
216	U8	6
222	V3	6
17	B4	6
128	L5	6
140	M7	6
146	N2	6
183	QC	6
36	CD	6
103	J1	6
218	UA	6
220	UD	6
8	A8	6
68	FC	6
159	O6	6
169	P6	6
175	PD	6
192	RC	6
57	EC	6
186	R3	6
215	U7	6
3	A3	5
75	G7	5
86	H7	5

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Mol	Chain	Number of breaks
91	HD	5
191	RA	5
205	T5	5
210	TC	5
19	B6	5
28	C3	5
42	D7	5
70	G1	5
112	JC	5
134	LC	5
202	SD	5
155	ND	5
221	V2	5
234	W9	5
27	C2	5
33	C9	5
59	F1	5
65	F8	5
101	IC	5
105	J3	5
120	K8	5
123	KC	5
129	L6	5
164	OC	5
180	Q8	5
233	W8	5
20	B7	5
45	DA	5
111	JA	5
150	N7	5
56	EA	5
6	A6	5
26	C1	4
89	HA	4
40	D5	4
53	E7	4
63	F6	4
92	I1	4
229	VD	4
16	B3	4
87	H8	4
144	MC	4

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Mol	Chain	Number of breaks
157	O3	4
168	P5	4
170	P7	4
208	T9	4
66	F9	4
71	G2	4
96	I6	4
127	L3	4
184	QD	4
12	AC	4
80	GD	4
116	K3	4
131	L8	4
200	SA	4
224	V7	4
118	K6	4
177	Q3	4
21	B8	4
77	G9	4
78	GA	4
163	OA	4
38	D2	4
136	M2	4
153	NA	4
179	Q7	4
232	W7	4
34	CA	4
9	A9	4
141	M8	4
25	BD	3
15	B2	3
81	H1	3
132	L9	3
142	M9	3
162	O9	3
171	P8	3
236	X5	3
201	SC	3
100	IA	3
135	LD	2
235	WD	2
50	E3	2

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Mol	Chain	Number of breaks
193	RD	1
176	Q2	1

The worst 5 of 3487 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	AB	1028:DC	O3'	1029:DG	P	6.25
1	AB	6965:DC	O3'	6966:DG	P	6.24
1	AB	5941:DC	O3'	5942:DG	P	6.21
1	AB	6135:DC	O3'	6136:DG	P	6.21
1	AB	6896:DT	O3'	6897:DG	P	6.15

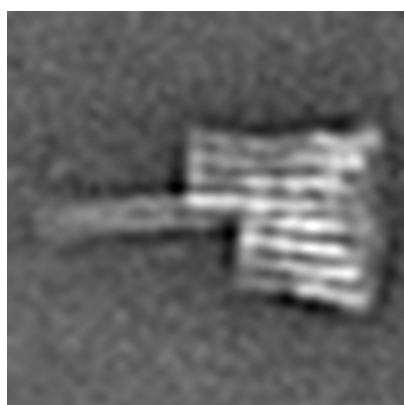
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-12188. These allow visual inspection of the internal detail of the map and identification of artifacts.

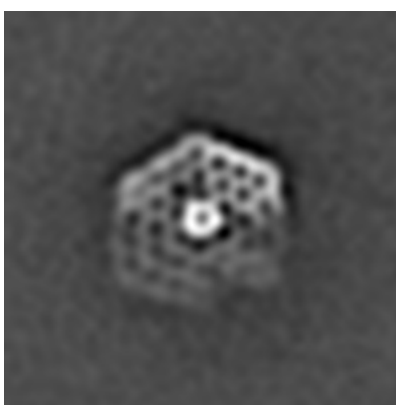
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



X



Y

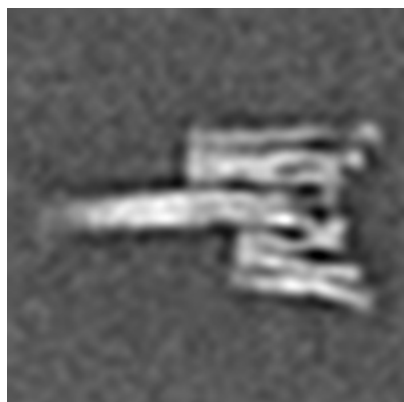


Z

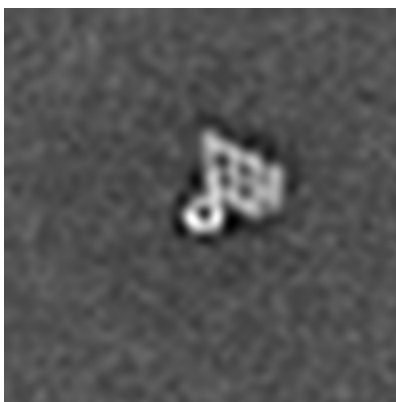
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 24



Y Index: 24

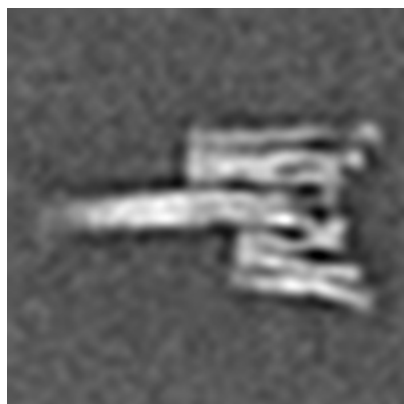


Z Index: 24

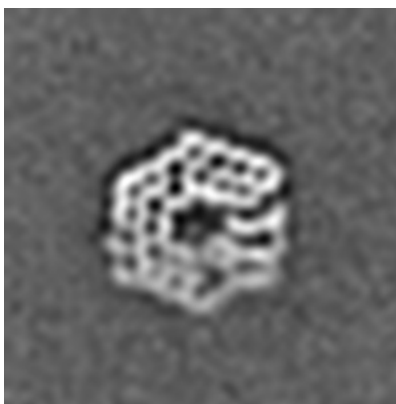
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 24



Y Index: 38

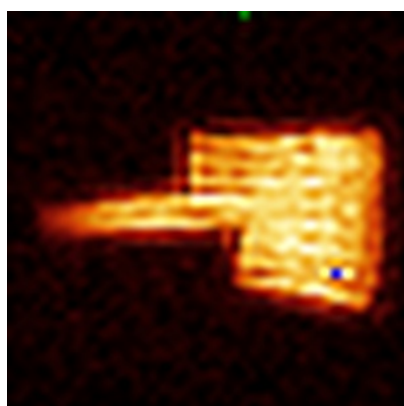


Z Index: 22

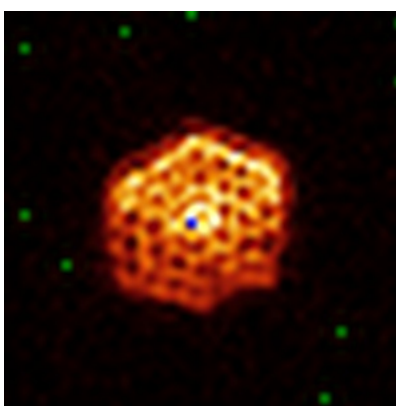
The images above show the largest variance slices of the map in three orthogonal directions.

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

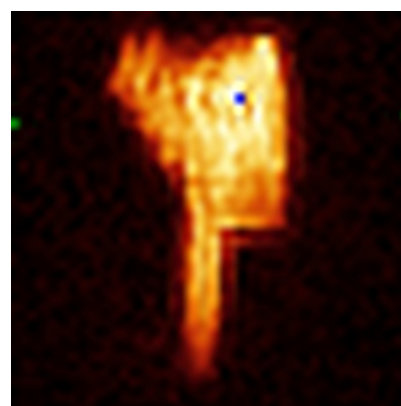
6.4.1 Primary map



X



Y

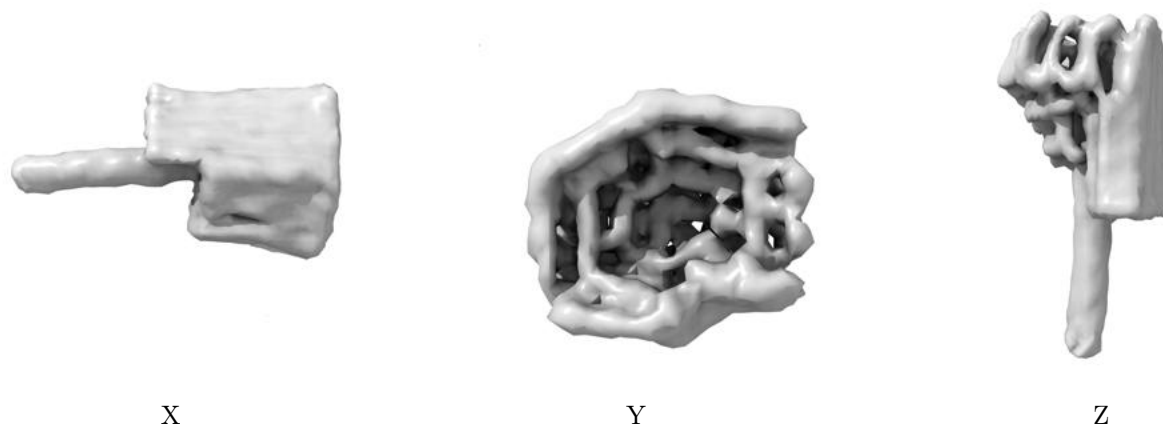


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.219. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

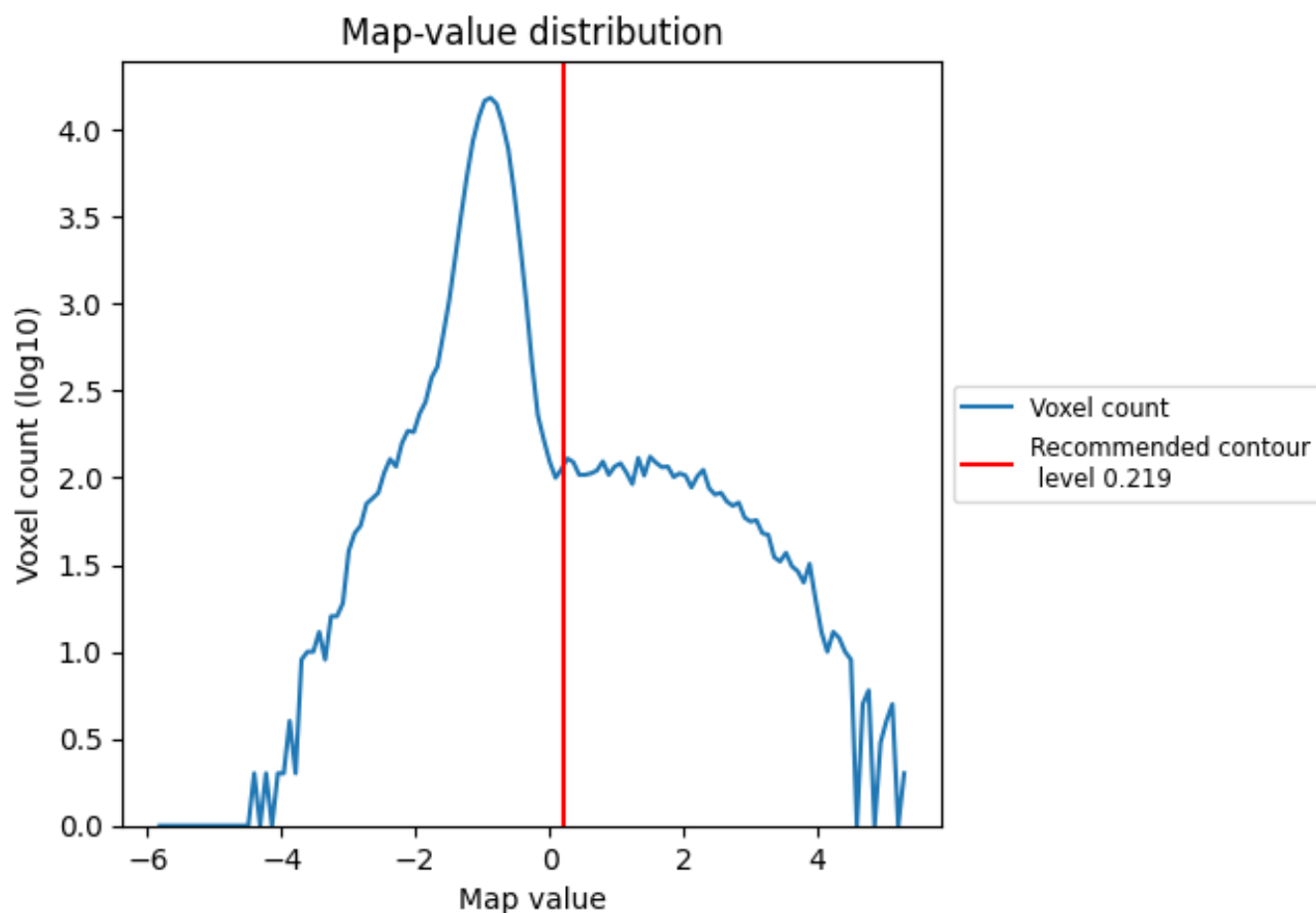
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

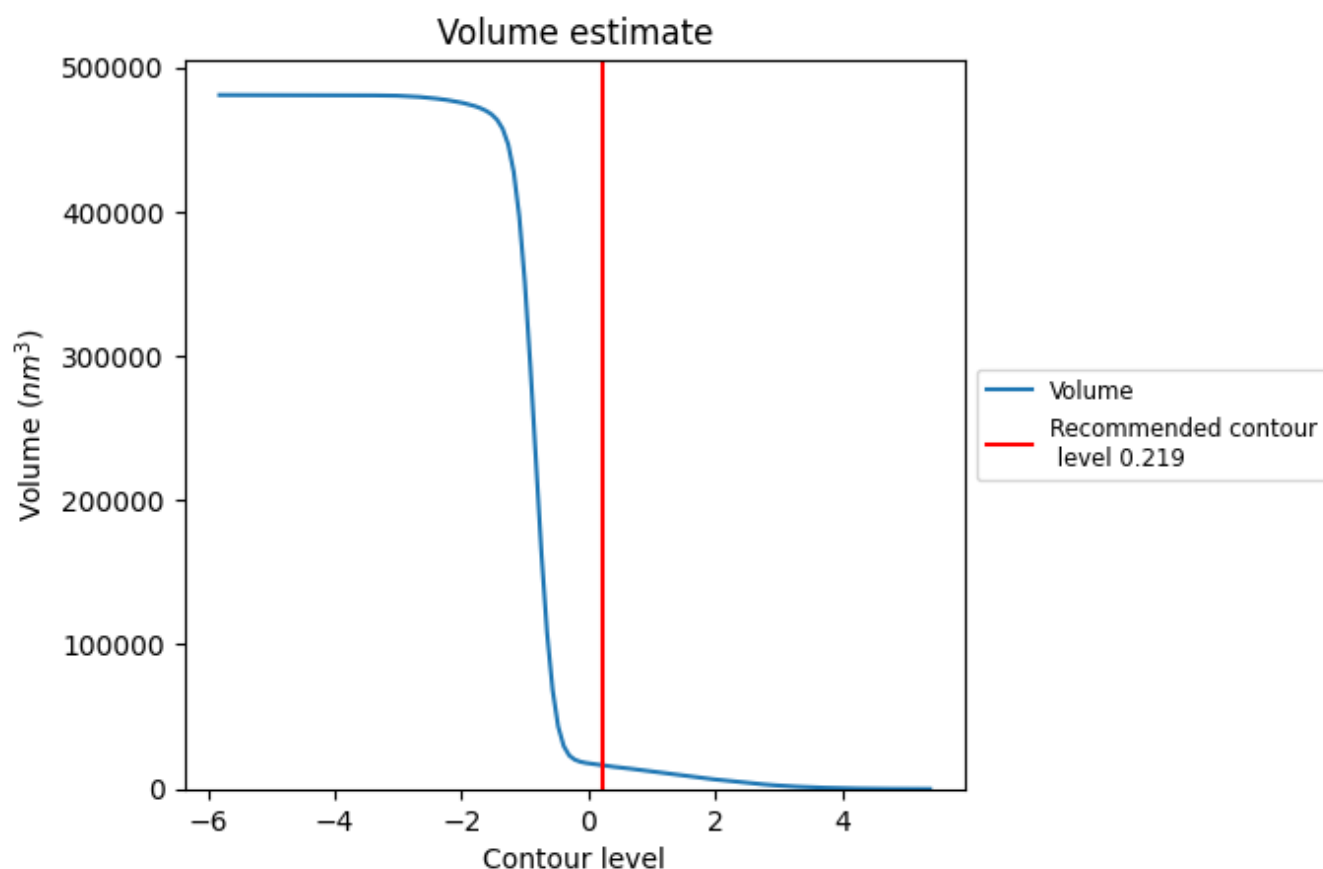
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

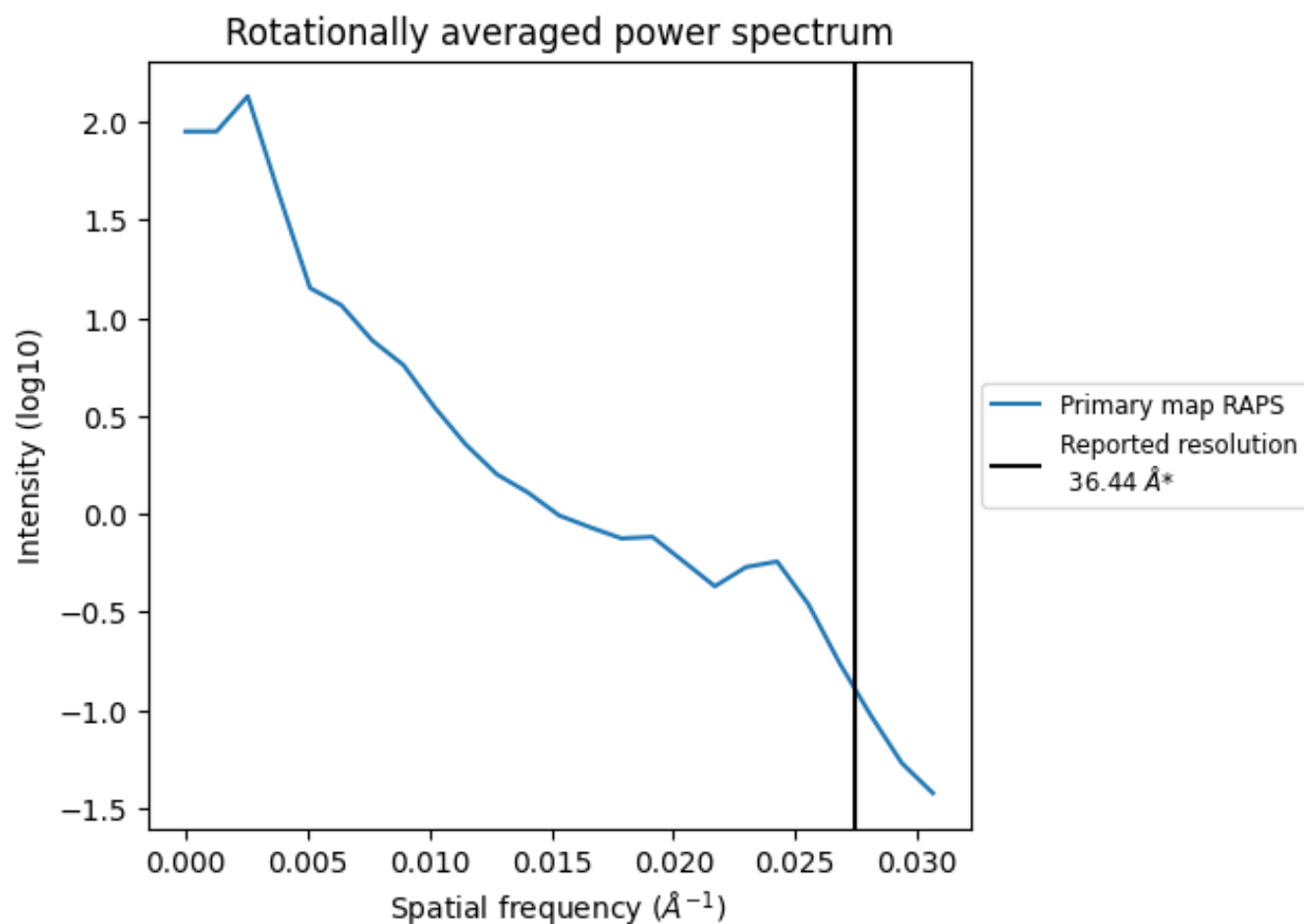
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 16515 nm^3 ; this corresponds to an approximate mass of 14919 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ



*Reported resolution corresponds to spatial frequency of 0.027 Å⁻¹

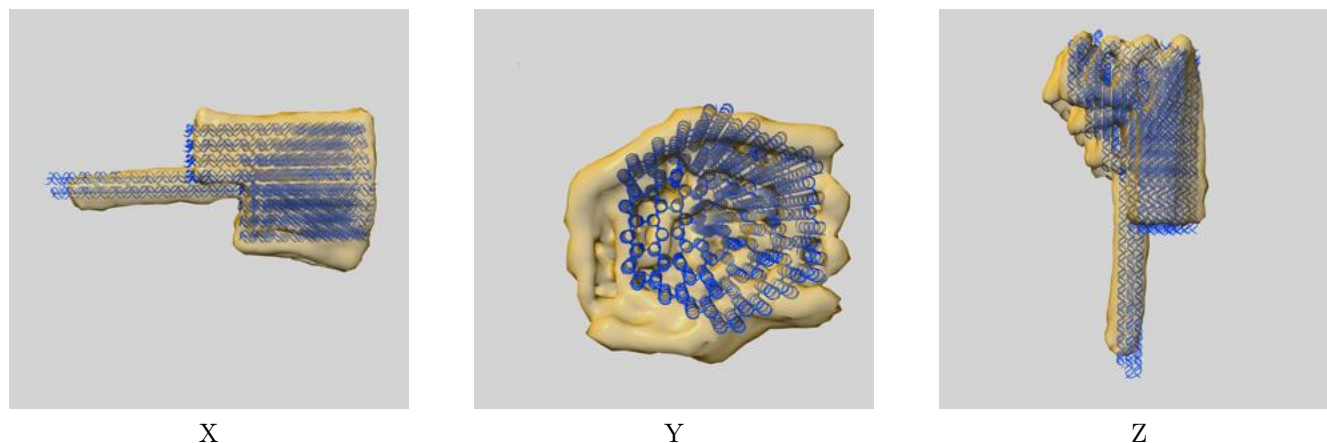
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

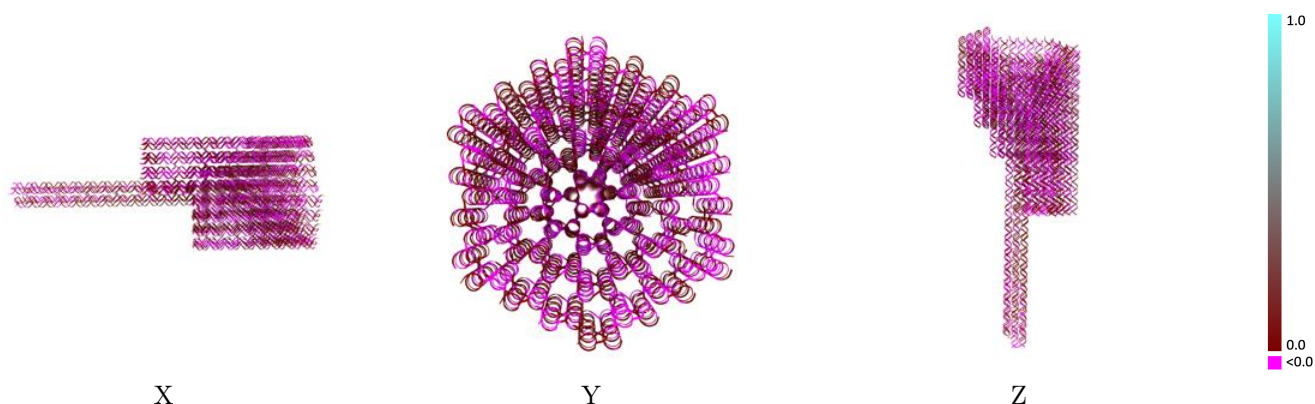
This section contains information regarding the fit between EMDB map EMD-12188 and PDB model 7BHO. Per-residue inclusion information can be found in [section 3](#) on [page 48](#).

9.1 Map-model overlay [i](#)



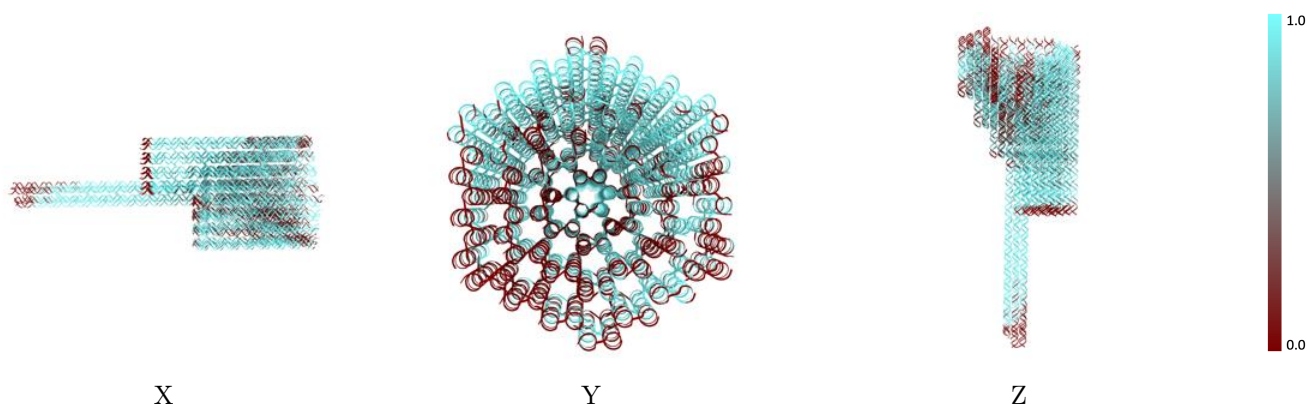
The images above show the 3D surface view of the map at the recommended contour level 0.219 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



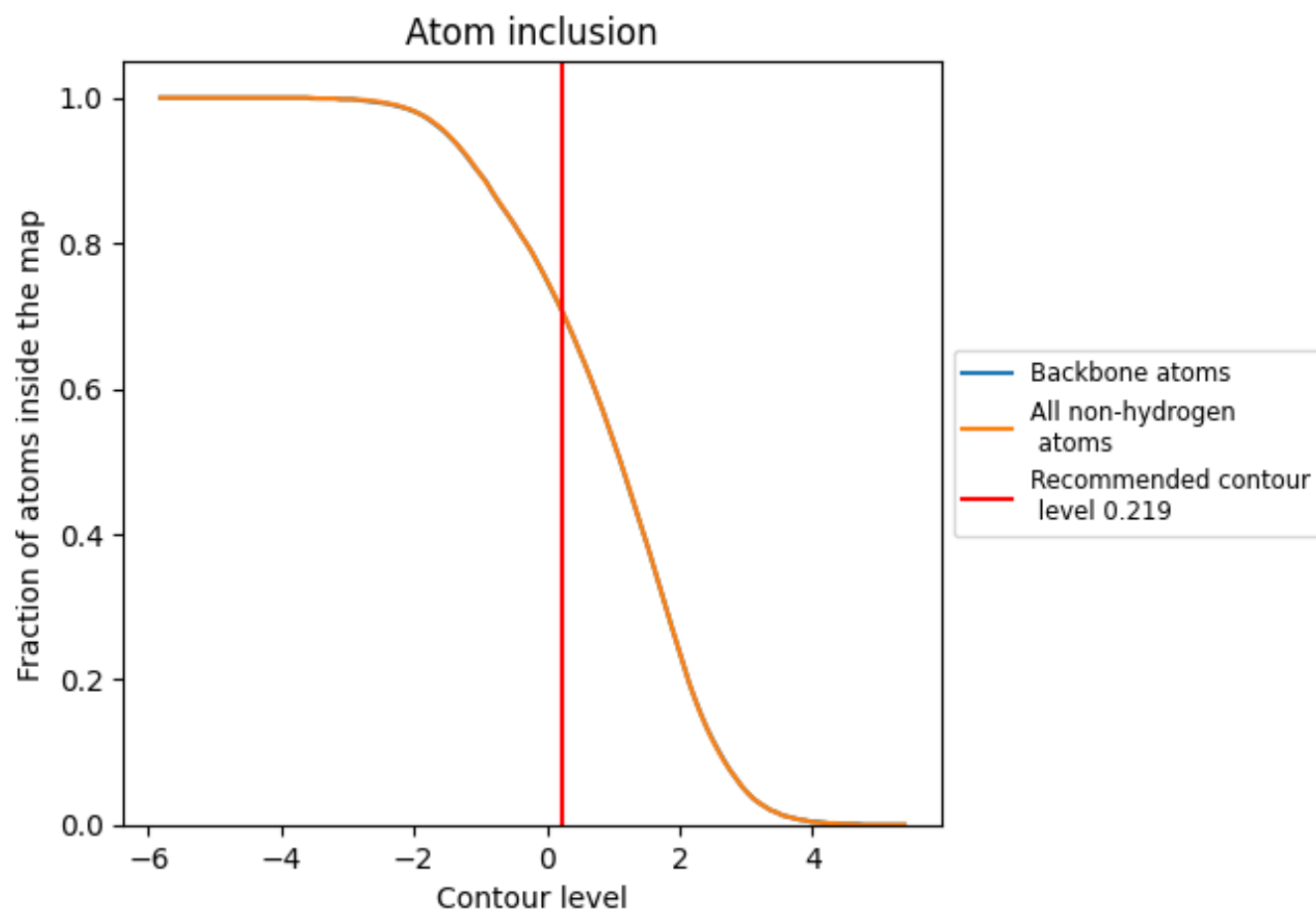
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.219).

9.4 Atom inclusion [i](#)



At the recommended contour level, 71% of all backbone atoms, 71% 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 (0.219) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7090	 0.0070
A1	 0.9840	 0.0120
A2	 0.8910	 -0.0000
A3	 0.6470	 -0.0350
A4	 0.5030	 -0.0390
A5	 1.0000	 0.0390
A6	 0.7440	 0.0330
A7	 0.8370	 -0.0110
A8	 0.6450	 0.0130
A9	 0.9520	 0.0050
AA	 0.4560	 -0.0170
AB	 0.7090	 0.0070
AC	 0.9970	 0.0180
AD	 0.8710	 0.0120
B1	 0.9830	 0.0330
B2	 0.1430	 -0.0190
B3	 0.3000	 -0.0270
B4	 0.0000	 -0.0460
B5	 0.8720	 0.0220
B6	 0.8180	 0.0130
B7	 0.7710	 -0.0150
B8	 0.5500	 -0.0290
B9	 0.2840	 -0.0110
BA	 0.0000	 -0.0040
BC	 0.3390	 -0.0250
BD	 0.0000	 -0.0490
C1	 0.8220	 0.0450
C2	 0.6130	 -0.0310
C3	 0.5290	 -0.0120
C5	 0.7000	 0.0100
C6	 0.9630	 0.0440
C7	 0.7980	 0.0140
C8	 0.8380	 0.0130
C9	 0.7390	 0.0060
CA	 0.2530	 -0.0410



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Chain	Atom inclusion	Q-score
CC	 0.1860	 -0.0640
CD	 0.7130	 0.0080
D1	 1.0000	 0.0310
D2	 0.8180	 0.0040
D3	 0.9840	 0.0080
D5	 0.0000	 -0.0120
D6	 0.9380	 0.0430
D7	 1.0000	 -0.0210
D8	 0.9970	 0.0100
D9	 0.4970	 -0.0180
DA	 0.9940	 0.0440
DC	 0.3470	 -0.0140
DD	 0.8430	 -0.0050
E1	 0.7420	 0.0060
E2	 0.9770	 0.0070
E3	 0.9460	 0.0150
E5	 0.6940	 -0.0150
E6	 0.7480	 0.0000
E7	 0.9900	 0.0070
E8	 0.8180	 0.0030
E9	 0.9290	 0.0490
EA	 0.1080	 -0.0090
EC	 0.0400	 -0.0170
ED	 0.4560	 0.0140
F1	 0.8810	 0.0440
F2	 0.9820	 0.0120
F3	 0.9500	 0.0140
F5	 0.9610	 0.0220
F6	 0.1630	 0.0120
F7	 0.9670	 0.0080
F8	 0.4860	 0.0030
F9	 0.3340	 0.0090
FA	 0.5200	 -0.0070
FC	 0.5440	 0.0170
FD	 0.7980	 -0.0340
G1	 0.5350	 0.0280
G2	 0.2150	 -0.0390
G3	 0.8740	 -0.0030
G5	 1.0000	 0.0280
G6	 0.9840	 0.0220
G7	 1.0000	 0.0070
G8	 0.6100	 -0.0070

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Chain	Atom inclusion	Q-score
G9	 0.5860	 -0.0310
GA	 0.2030	 0.0100
GC	 0.5850	 0.0120
GD	 0.9070	 0.0680
H1	 0.6230	 0.0690
H2	 0.9490	 0.0050
H3	 0.9310	 0.0110
H5	 1.0000	 0.0500
H6	 0.8610	 0.0280
H7	 0.6740	 0.0220
H8	 0.4250	 0.0180
H9	 0.9740	 -0.0480
HA	 0.9020	 -0.0050
HC	 0.7580	 -0.0110
HD	 0.5220	 0.0250
I1	 0.4300	 -0.0440
I2	 0.7980	 0.0140
I3	 0.9270	 0.0420
I5	 0.9710	 0.0350
I6	 0.9560	 0.0410
I7	 0.7700	 -0.0140
I8	 0.4470	 -0.0150
I9	 0.9940	 0.0210
IA	 0.1190	 0.0080
IC	 0.6790	 0.0050
ID	 0.5510	 0.0010
J1	 0.9150	 -0.0000
J2	 0.9330	 0.0100
J3	 0.7390	 0.0400
J5	 0.7410	 -0.0280
J6	 0.8690	 0.0380
J7	 0.9420	 0.0000
J8	 0.7070	 0.0130
J9	 1.0000	 0.0330
JA	 0.2530	 -0.0040
JC	 0.9740	 0.0300
JD	 0.5730	 0.0040
K1	 0.9590	 0.0050
K2	 0.6550	 0.0150
K3	 1.0000	 0.0220
K5	 0.9730	 0.0320
K6	 0.2710	 -0.0090

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Chain	Atom inclusion	Q-score
K7	 0.9760	 -0.0080
K8	 0.7690	 -0.0250
K9	 0.9040	 0.0110
KA	 0.5760	 0.0120
KC	 0.9400	 0.0150
KD	 0.5790	 -0.0120
L1	 0.9380	 0.0140
L2	 0.3720	 -0.0220
L3	 0.9870	 0.0170
L5	 1.0000	 0.0250
L6	 0.7580	 -0.0070
L7	 0.9670	 -0.0140
L8	 0.9640	 0.0370
L9	 0.4200	 -0.0120
LA	 0.8930	 -0.0010
LC	 0.0000	 0.0050
LD	 0.9320	 0.0690
M2	 0.3100	 -0.0050
M3	 0.9180	 0.0560
M5	 1.0000	 0.0560
M6	 0.7810	 0.0060
M7	 0.7330	 0.0120
M8	 0.3860	 0.0040
M9	 0.5740	 -0.0090
MA	 0.7900	 -0.0350
MC	 0.5380	 0.0120
MD	 0.8290	 0.0320
N2	 0.7070	 0.0110
N3	 0.9480	 0.0400
N5	 0.1120	 -0.0030
N6	 0.7650	 -0.0200
N7	 0.7220	 0.0530
N8	 0.4040	 -0.0170
N9	 0.8400	 0.0090
NA	 0.2680	 -0.0210
NC	 0.6570	 0.0320
ND	 0.6230	 -0.0010
O2	 0.3900	 -0.0220
O3	 0.9980	 0.0370
O5	 0.8380	 0.0070
O6	 0.7470	 0.0680
O7	 0.8180	 0.0310

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Chain	Atom inclusion	Q-score
O8	 0.7900	 0.0200
O9	 0.7320	 -0.0090
OA	 0.8230	 0.0300
OC	 0.0500	 -0.0610
OD	 0.8420	 0.0210
P2	 0.5190	 -0.0020
P3	 1.0000	 0.0120
P5	 1.0000	 0.0650
P6	 0.3730	 -0.0120
P7	 0.2160	 -0.0060
P8	 0.3110	 -0.0420
P9	 1.0000	 0.0750
PA	 1.0000	 0.0340
PC	 0.4140	 0.0470
PD	 0.7100	 0.0040
Q2	 0.0000	 -0.0490
Q3	 0.6920	 0.0070
Q5	 1.0000	 0.0410
Q7	 0.2630	 -0.0210
Q8	 0.0020	 -0.0280
Q9	 0.8840	 0.0320
QA	 0.9970	 0.0460
QC	 0.5420	 -0.0090
QD	 0.8880	 0.0030
R2	 0.9240	 0.0120
R3	 1.0000	 0.0450
R5	 0.7310	 0.0030
R7	 0.8400	 -0.0260
R8	 0.3300	 0.0030
R9	 0.8120	 0.0140
RA	 1.0000	 -0.0210
RC	 0.1900	 0.0120
RD	 0.7060	 0.0130
S2	 0.1690	 -0.0400
S3	 0.9690	 0.0280
S5	 0.4000	 -0.0120
S7	 0.9940	 -0.0020
S8	 0.5790	 -0.0080
S9	 0.5440	 -0.0300
SA	 0.8260	 -0.0050
SC	 0.8730	 0.0180
SD	 0.8320	 -0.0220

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Chain	Atom inclusion	Q-score
T2	 0.5790	 0.0050
T3	 0.8790	 0.0140
T5	 1.0000	 0.0340
T7	 0.9610	 0.0050
T8	 0.0000	 0.0330
T9	 0.5860	 0.0280
TA	 0.7660	 0.0280
TC	 0.5280	 -0.0120
TD	 0.9830	 0.0580
U2	 0.1620	 -0.0220
U3	 0.9950	 0.0250
U5	 1.0000	 0.0710
U7	 0.3830	 -0.0270
U8	 0.0000	 -0.0360
U9	 1.0000	 0.0170
UA	 0.5970	 0.0040
UC	 0.0000	 0.0040
UD	 0.6620	 0.0060
V2	 0.6790	 -0.0140
V3	 0.9810	 0.0170
V5	 0.8630	 0.0220
V7	 0.0820	 -0.0330
V8	 0.9870	 0.0350
V9	 0.4830	 -0.0220
VA	 0.9430	 -0.0260
VC	 0.0970	 -0.0060
VD	 0.6200	 0.0000
W3	 0.9920	 0.0080
W5	 0.2230	 0.0190
W7	 0.7300	 -0.0090
W8	 0.0000	 -0.0250
W9	 0.8590	 0.0320
WD	 0.1620	 0.0190
X5	 0.1050	 -0.0440
X7	 0.3830	 0.0040
X9	 0.5430	 -0.0300