



wwPDB EM Validation Summary Report ⓘ

Dec 19, 2022 – 04:06 am GMT

PDB ID : 7BHO
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:

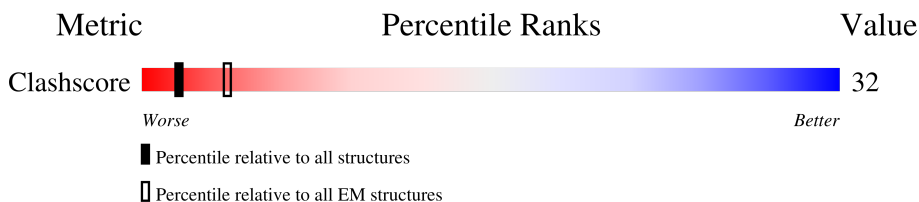
EMDB validation analysis : 0.0.1.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance i

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










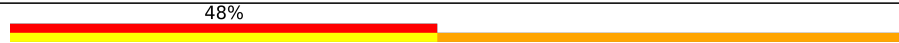
The reported resolution of this entry is 36.44 Å.

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)
Clashscore	158937	4297

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% 44% 51%
2	A2	31	 42% 58%
3	A3	23	 35% 61%
4	A4	28	 39% 25% 71%
5	A5	42	 26% 71%
6	A6	26	 23% 27% 69%
7	A7	37	 16% 27% 70%
8	A8	24	 33% 25% 71%
9	A9	19	 5% 11% 84%
10	AA	23	 48% 48% 52%







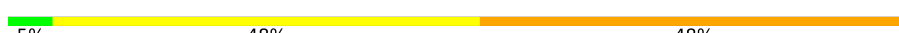








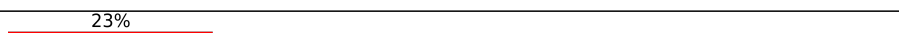
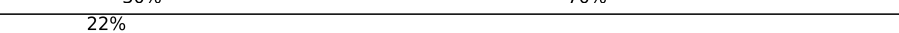




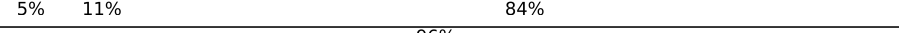



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Mol	Chain	Length	Quality of chain
11	AB	7248	27% 24% 76%
12	AC	18	22% 78%
13	AD	40	8% 25% 72%
14	B1	42	43% 55%
15	B2	18	11% 33% 89% 56%
16	B3	18	67% 33% 67%
17	B4	18	100% 11% 6% 83%
18	B5	38	11% 37% 61%
19	B6	24	8% 38% 63%
20	B7	18	17% 44% 56%
21	B8	27	44% 26% 74%
22	B9	54	70% 30% 67%
23	BA	32	100% 6% 19% 75%
24	BC	37	68% 43% 57%
25	BD	19	100% 5% 37% 58%
26	C1	27	19% 7% 26% 67%
27	C2	18	33% 50% 50%
28	C3	21	33% 43% 57%
29	C5	42	24% 7% 45% 48%
30	C6	45	40% 58%
31	C7	33	18% 21% 79%
32	C8	54	15% 6% 31% 63%
33	C9	27	22% 26% 74%
34	CA	19	58% 5% 26% 68%
35	CC	31	81% 29% 68%









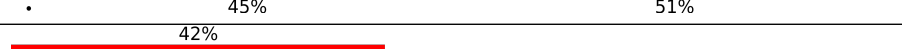


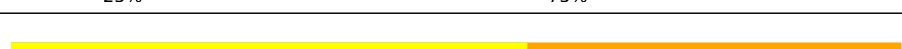

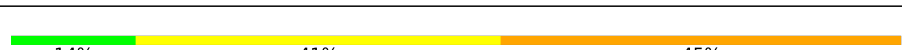
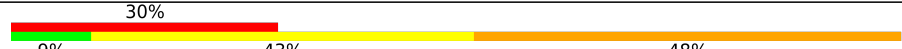










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Mol	Chain	Length	Quality of chain
36	CD	26	
37	D1	42	
38	D2	18	
39	D3	34	
40	D5	21	
41	D6	46	
42	D7	21	
43	D8	46	
44	D9	30	
45	DA	23	
46	DC	18	
47	DD	42	
48	E1	33	
49	E2	43	
50	E3	19	
51	E5	30	
52	E6	37	
53	E7	24	
54	E8	33	
55	E9	41	
56	EA	19	
57	EC	23	
58	ED	38	
59	F1	20	
60	F2	35	

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Mol	Chain	Length	Quality of chain
61	F3	26	 38% 58%
62	F5	48	 8% 23% 69%
63	F6	18	 6% 28% 67% 83%
64	F7	29	 10% 28% 62%
65	F8	18	 6% 33% 61% 44%
66	F9	18	 11% 33% 56% 67%
67	FA	33	 27% 73% 48%
68	FC	19	 5% 26% 68% 47%
69	FD	47	 13% 45% 51% 13%
70	G1	19	 32% 68% 42%
71	G2	18	 6% 44% 50% 78%
72	G3	28	 25% 75%
73	G5	24	 58% 42%
74	G6	33	 21% 79%
75	G7	29	 14% 41% 45%
76	G8	23	 9% 43% 48% 30%
77	G9	19	 26% 74% 42%
78	GA	19	 5% 42% 53% 79%
79	GC	26	 8% 42% 50% 38%
80	GD	18	 6% 61% 39%
81	H1	18	 39% 56% 44%
82	H2	51	 6% 25% 69%
83	H3	42	 5% 31% 67%
84	H5	40	 32% 65%
85	H6	35	 11% 34% 63%

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Mol	Chain	Length	Quality of chain
86	H7	20	
87	H8	21	
88	H9	31	
89	HA	30	
90	HC	24	
91	HD	24	
92	I1	21	
93	I2	49	
94	I3	59	
95	I5	42	
96	I6	19	
97	I7	30	
98	I8	40	
99	I9	30	
100	IA	19	
101	IC	23	
102	ID	33	
103	J1	28	
104	J2	42	
105	J3	30	
106	J5	37	
107	J6	44	
108	J7	56	
109	J8	54	
110	J9	18	

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Mol	Chain	Length	Quality of chain
111	JA	19	74% 5% 16% 79%
112	JC	26	38% 58%
113	JD	38	42% 8% 45% 47%
114	K1	45	29% 67%
115	K2	33	33% 6% 27% 67%
116	K3	18	6% 39% 56%
117	K5	49	37% 61%
118	K6	18	72% 6% 17% 78%
119	K7	43	5% 23% 72%
120	K8	23	22% 48% 48%
121	K9	26	8% 8% 27% 65%
122	KA	51	43% 33% 65%
123	KC	24	42% 58%
124	KD	23	39% 39% 61%
125	L1	56	36% 61%
126	L2	56	59% 7% 39% 54%
127	L3	19	16% 84%
128	L5	23	22% 78%
129	L6	24	21% 25% 71%
130	L7	60	28% 68%
131	L8	24	50% 46%
132	L9	19	47% 37% 63%
133	LA	22	9% 23% 77%
134	LC	18	100% 6% 39% 56%
135	LD	18	6% 6% 33% 61%

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Mol	Chain	Length	Quality of chain
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	
157	O3	24	
158	O5	49	
159	O6	23	
160	O7	52	

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Mol	Chain	Length	Quality of chain
161	O8	58	17% 36% 60%
162	O9	18	6% 28% 50% 44%
163	OA	19	11% 5% 37% 58%
164	OC	24	96% 29% 67%
165	OD	58	14% 36% 62%
166	P2	31	48% 26% 74%
167	P3	38	5% 34% 61%
168	P5	18	6% 39% 56%
169	P6	18	61% 6% 22% 72%
170	P7	18	78% 39% 61%
171	P8	24	71% 17% 83%
172	P9	24	17% 79%
173	PA	38	5% 39% 55%
174	PC	23	57% 26% 74%
175	PD	23	22% 43% 52%
176	Q2	19	100% 5% 47% 47%
177	Q3	23	30% 9% 87%
178	Q5	42	7% 17% 76%
179	Q7	23	70% 13% 83%
180	Q8	24	100% 17% 79%
181	Q9	39	10% 23% 74%
182	QA	28	25% 71%
183	QC	23	39% 22% 78%
184	QD	31	10% 6% 32% 61%
185	R2	24	38% 58%



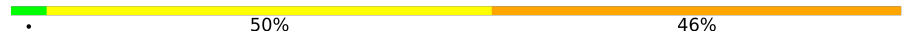


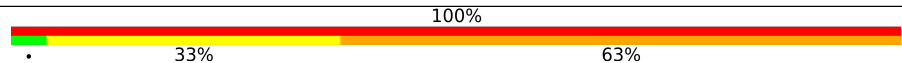







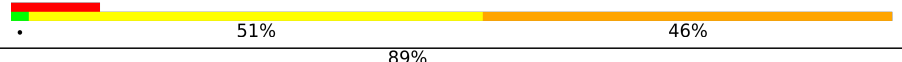
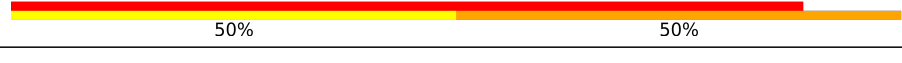



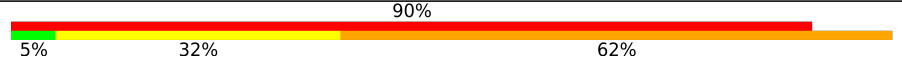




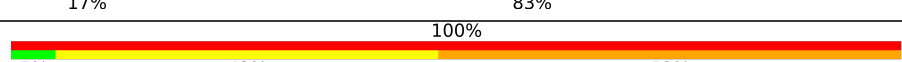

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Mol	Chain	Length	Quality of chain
186	R3	18	6% 28% 67%
187	R5	42	5% 21% 74%
188	R7	32	12% 28% 72%
189	R8	40	5% 40% 55%
190	R9	46	15% 35% 61%
191	RA	27	44% 52%
192	RC	32	25% 81% 72%
193	RD	18	11% 22% 67%
194	S2	30	23% 83% 77%
195	S3	28	29% 71%
196	S5	32	6% 62% 59%
197	S7	24	29% 71%
198	S8	40	40% 25% 72%
199	S9	23	39% 30% 65%
200	SA	24	12% 33% 63%
201	SC	19	11% 5% 47%
202	SD	26	12% 8% 42%
203	T2	24	8% 25% 67%
204	T3	45	9% 33% 67%
205	T5	24	38% 58%
206	T7	56	34% 62%
207	T8	24	100% 33% 63%
208	T9	18	44% 17% 83%
209	TA	42	21% 5% 31%
210	TC	26	42% 46% 50%




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Mol	Chain	Length	Quality of chain
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	
232	W7	23	
233	W8	21	
234	W9	19	
235	WD	18	

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Mol	Chain	Length	Quality of chain
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
			Total	C	H	N	O	P		
1	A1	57	1803	556	637	227	326	57	0	0

- Molecule 2 is a DNA chain called DNA.

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

- Molecule 3 is a DNA chain called DNA.

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

- Molecule 4 is a DNA chain called DNA.

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

- Molecule 5 is a DNA chain called DNA.

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

- Molecule 6 is a DNA chain called DNA.

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

- Molecule 7 is a DNA chain called DNA.

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

- Molecule 8 is a DNA chain called DNA.

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

- Molecule 9 is a DNA chain called DNA.

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

- Molecule 10 is a DNA chain called DNA.

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

- Molecule 11 is a DNA chain called DNA scaffold.

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

- Molecule 12 is a DNA chain called DNA.

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

- Molecule 13 is a DNA chain called DNA.

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

- Molecule 14 is a DNA chain called DNA.

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

- Molecule 15 is a DNA chain called DNA.

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

- Molecule 16 is a DNA chain called DNA.

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

- Molecule 17 is a DNA chain called DNA.

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

- Molecule 18 is a DNA chain called DNA.

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

- Molecule 19 is a DNA chain called DNA.

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

- Molecule 20 is a DNA chain called DNA.

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

- Molecule 21 is a DNA chain called DNA.

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

- Molecule 22 is a DNA chain called DNA.

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

- Molecule 23 is a DNA chain called DNA.

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

- Molecule 24 is a DNA chain called DNA.

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

- Molecule 25 is a DNA chain called DNA.

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

- Molecule 26 is a DNA chain called DNA.

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

- Molecule 27 is a DNA chain called DNA.

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

- Molecule 28 is a DNA chain called DNA.

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

- Molecule 29 is a DNA chain called DNA.

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

- Molecule 30 is a DNA chain called DNA.

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

- Molecule 31 is a DNA chain called DNA.

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

- Molecule 32 is a DNA chain called DNA.

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

- Molecule 33 is a DNA chain called DNA.

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

- Molecule 34 is a DNA chain called DNA.

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

- 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
			Total	C	H	N	O	P		
42	D7	21	672	206	235	85	125	21	0	0

- Molecule 43 is a DNA chain called DNA.

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

- Molecule 44 is a DNA chain called DNA.

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

- Molecule 45 is a DNA chain called DNA.

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

- Molecule 46 is a DNA chain called DNA.

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

- Molecule 47 is a DNA chain called DNA.

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

- Molecule 48 is a DNA chain called DNA.

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

- Molecule 49 is a DNA chain called DNA.

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

- Molecule 50 is a DNA chain called DNA.

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

- Molecule 51 is a DNA chain called DNA.

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

- Molecule 52 is a DNA chain called DNA.

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

- Molecule 53 is a DNA chain called DNA.

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

- Molecule 54 is a DNA chain called DNA.

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

- Molecule 55 is a DNA chain called DNA.

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

- Molecule 56 is a DNA chain called DNA.

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

- Molecule 57 is a DNA chain called DNA.

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

- Molecule 58 is a DNA chain called DNA.

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

- Molecule 59 is a DNA chain called DNA.

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

- Molecule 60 is a DNA chain called DNA.

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

- Molecule 61 is a DNA chain called DNA.

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

- Molecule 62 is a DNA chain called DNA.

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

- Molecule 63 is a DNA chain called DNA.

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

- Molecule 64 is a DNA chain called DNA.

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

- Molecule 65 is a DNA chain called DNA.

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

- Molecule 66 is a DNA chain called DNA.

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

- Molecule 67 is a DNA chain called DNA.

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

- Molecule 68 is a DNA chain called DNA.

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

- Molecule 69 is a DNA chain called DNA.

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

- Molecule 70 is a DNA chain called DNA.

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

- Molecule 71 is a DNA chain called DNA.

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

- Molecule 72 is a DNA chain called DNA.

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

- Molecule 73 is a DNA chain called DNA.

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

- Molecule 74 is a DNA chain called DNA.

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

- Molecule 75 is a DNA chain called DNA.

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

- Molecule 76 is a DNA chain called DNA.

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

- Molecule 77 is a DNA chain called DNA.

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

- Molecule 78 is a DNA chain called DNA.

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

- Molecule 79 is a DNA chain called DNA.

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

- Molecule 80 is a DNA chain called DNA.

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

- Molecule 81 is a DNA chain called DNA.

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

- Molecule 82 is a DNA chain called DNA.

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

- Molecule 83 is a DNA chain called DNA.

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

- Molecule 84 is a DNA chain called DNA.

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

- Molecule 85 is a DNA chain called DNA.

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

- Molecule 86 is a DNA chain called DNA.

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

- Molecule 87 is a DNA chain called DNA.

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

- Molecule 88 is a DNA chain called DNA.

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

- Molecule 89 is a DNA chain called DNA.

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

- Molecule 90 is a DNA chain called DNA.

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

- 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	
			Total	C	H	N	O			P
98	I8	40	1274	393	450	156	235	40	0	0

- Molecule 99 is a DNA chain called DNA.

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

- Molecule 100 is a DNA chain called DNA.

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

- Molecule 101 is a DNA chain called DNA.

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

- Molecule 102 is a DNA chain called DNA.

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

- Molecule 103 is a DNA chain called DNA.

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

- Molecule 104 is a DNA chain called DNA.

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

- Molecule 105 is a DNA chain called DNA.

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

- Molecule 106 is a DNA chain called DNA.

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

- Molecule 107 is a DNA chain called DNA.

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

- Molecule 108 is a DNA chain called DNA.

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

- Molecule 109 is a DNA chain called DNA.

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

- Molecule 110 is a DNA chain called DNA.

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

- Molecule 111 is a DNA chain called DNA.

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

- Molecule 112 is a DNA chain called DNA.

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

- Molecule 113 is a DNA chain called DNA.

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

- Molecule 114 is a DNA chain called DNA.

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

- Molecule 115 is a DNA chain called DNA.

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

- Molecule 116 is a DNA chain called DNA.

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

- Molecule 117 is a DNA chain called DNA.

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

- Molecule 118 is a DNA chain called DNA.

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

- Molecule 119 is a DNA chain called DNA.

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

- Molecule 120 is a DNA chain called DNA.

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

- Molecule 121 is a DNA chain called DNA.

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

- Molecule 122 is a DNA chain called DNA.

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

- Molecule 123 is a DNA chain called DNA.

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

- Molecule 124 is a DNA chain called DNA.

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

- Molecule 125 is a DNA chain called DNA.

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

- Molecule 126 is a DNA chain called DNA.

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

- Molecule 127 is a DNA chain called DNA.

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

- Molecule 128 is a DNA chain called DNA.

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

- Molecule 129 is a DNA chain called DNA.

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

- Molecule 130 is a DNA chain called DNA.

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

- Molecule 131 is a DNA chain called DNA.

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

- Molecule 132 is a DNA chain called DNA.

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

- Molecule 133 is a DNA chain called DNA.

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

- Molecule 134 is a DNA chain called DNA.

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

- Molecule 135 is a DNA chain called DNA.

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

- Molecule 136 is a DNA chain called DNA.

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

- Molecule 137 is a DNA chain called DNA.

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

- Molecule 138 is a DNA chain called DNA.

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

- Molecule 139 is a DNA chain called DNA.

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

- Molecule 140 is a DNA chain called DNA.

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

- Molecule 141 is a DNA chain called DNA.

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

- Molecule 142 is a DNA chain called DNA.

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

- Molecule 143 is a DNA chain called DNA.

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

- Molecule 144 is a DNA chain called DNA.

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

- Molecule 145 is a DNA chain called DNA.

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

- Molecule 146 is a DNA chain called DNA.

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

- Molecule 147 is a DNA chain called DNA.

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

- Molecule 148 is a DNA chain called DNA.

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

- Molecule 149 is a DNA chain called DNA.

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

- Molecule 150 is a DNA chain called DNA.

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

- Molecule 151 is a DNA chain called DNA.

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

- Molecule 152 is a DNA chain called DNA.

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

- Molecule 153 is a DNA chain called DNA.

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

- Molecule 154 is a DNA chain called DNA.

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

- Molecule 155 is a DNA chain called DNA.

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

- Molecule 156 is a DNA chain called DNA.

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

- Molecule 157 is a DNA chain called DNA.

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

- Molecule 158 is a DNA chain called DNA.

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

- Molecule 159 is a DNA chain called DNA.

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

- Molecule 160 is a DNA chain called DNA.

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

- Molecule 161 is a DNA chain called DNA.

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

- Molecule 162 is a DNA chain called DNA.

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

- Molecule 163 is a DNA chain called DNA.

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

- Molecule 164 is a DNA chain called DNA.

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

- Molecule 165 is a DNA chain called DNA.

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

- Molecule 166 is a DNA chain called DNA.

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

- Molecule 167 is a DNA chain called DNA.

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

- Molecule 168 is a DNA chain called DNA.

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

- Molecule 169 is a DNA chain called DNA.

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

- Molecule 170 is a DNA chain called DNA.

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

- Molecule 171 is a DNA chain called DNA.

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

- Molecule 172 is a DNA chain called DNA.

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

- Molecule 173 is a DNA chain called DNA.

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

- Molecule 174 is a DNA chain called DNA.

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

- Molecule 175 is a DNA chain called DNA.

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

- Molecule 176 is a DNA chain called DNA.

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

- Molecule 177 is a DNA chain called DNA.

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

- Molecule 178 is a DNA chain called DNA.

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

- Molecule 179 is a DNA chain called DNA.

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

- Molecule 180 is a DNA chain called DNA.

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

- Molecule 181 is a DNA chain called DNA.

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

- Molecule 182 is a DNA chain called DNA.

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

- Molecule 183 is a DNA chain called DNA.

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

- Molecule 184 is a DNA chain called DNA.

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

- Molecule 185 is a DNA chain called DNA.

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

- Molecule 186 is a DNA chain called DNA.

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

- Molecule 187 is a DNA chain called DNA.

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

- Molecule 188 is a DNA chain called DNA.

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

- Molecule 189 is a DNA chain called DNA.

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

- Molecule 190 is a DNA chain called DNA.

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

- Molecule 191 is a DNA chain called DNA.

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

- Molecule 192 is a DNA chain called DNA.

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

- Molecule 193 is a DNA chain called DNA.

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

- Molecule 194 is a DNA chain called DNA.

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

- Molecule 195 is a DNA chain called DNA.

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

- Molecule 196 is a DNA chain called DNA.

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

- Molecule 197 is a DNA chain called DNA.

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

- Molecule 198 is a DNA chain called DNA.

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

- Molecule 199 is a DNA chain called DNA.

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

- Molecule 200 is a DNA chain called DNA.

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

- Molecule 201 is a DNA chain called DNA.

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

- Molecule 202 is a DNA chain called DNA.

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

- Molecule 203 is a DNA chain called DNA.

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

- Molecule 204 is a DNA chain called DNA.

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

- Molecule 205 is a DNA chain called DNA.

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

- Molecule 206 is a DNA chain called DNA.

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

- Molecule 207 is a DNA chain called DNA.

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

- Molecule 208 is a DNA chain called DNA.

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

- Molecule 209 is a DNA chain called DNA.

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

- Molecule 210 is a DNA chain called DNA.

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

- Molecule 211 is a DNA chain called DNA.

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

- Molecule 212 is a DNA chain called DNA.

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

- Molecule 213 is a DNA chain called DNA.

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

- Molecule 214 is a DNA chain called DNA.

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

- Molecule 215 is a DNA chain called DNA.

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

- Molecule 216 is a DNA chain called DNA.

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

- Molecule 217 is a DNA chain called DNA.

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

- Molecule 218 is a DNA chain called DNA.

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

- Molecule 219 is a DNA chain called DNA.

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

- Molecule 220 is a DNA chain called DNA.

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

- Molecule 221 is a DNA chain called DNA.

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

- Molecule 222 is a DNA chain called DNA.

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

- Molecule 223 is a DNA chain called DNA.

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

- Molecule 224 is a DNA chain called DNA.

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

- Molecule 225 is a DNA chain called DNA.

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

- Molecule 226 is a DNA chain called DNA.

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

- Molecule 227 is a DNA chain called DNA.

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

- Molecule 228 is a DNA chain called DNA.

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

- Molecule 229 is a DNA chain called DNA.

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

- Molecule 230 is a DNA chain called DNA.

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

- Molecule 231 is a DNA chain called DNA.

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

- Molecule 232 is a DNA chain called DNA.

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

- Molecule 233 is a DNA chain called DNA.

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

- Molecule 234 is a DNA chain called DNA.

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

- Molecule 235 is a DNA chain called DNA.

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

- Molecule 236 is a DNA chain called DNA.

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

- Molecule 237 is a DNA chain called DNA.

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

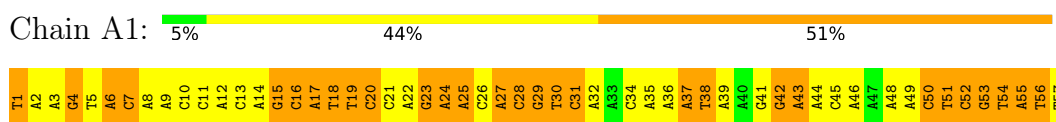
- Molecule 238 is a DNA chain called DNA.

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

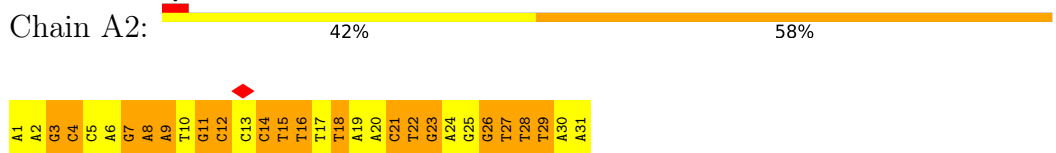
3 Residue-property plots [i](#)

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.

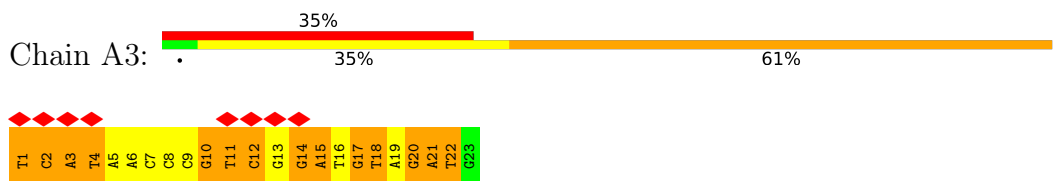
- Molecule 1: DNA



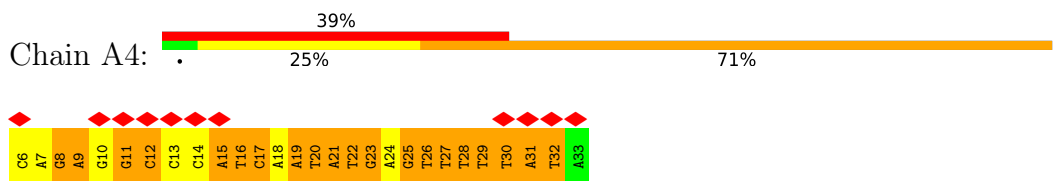
- Molecule 2: DNA



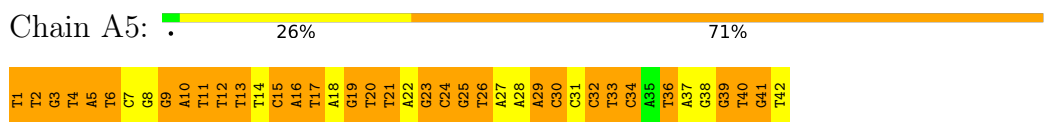
- Molecule 3: DNA



- Molecule 4: DNA

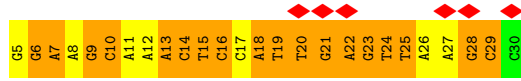


- Molecule 5: DNA



- Molecule 6: DNA

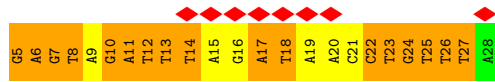




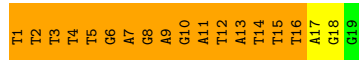
• Molecule 7: DNA



• Molecule 8: DNA



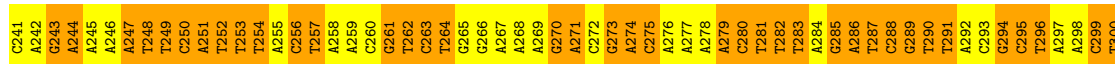
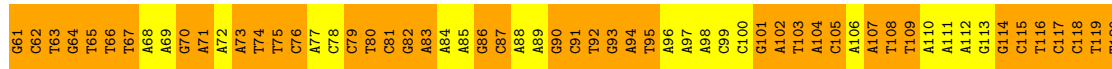
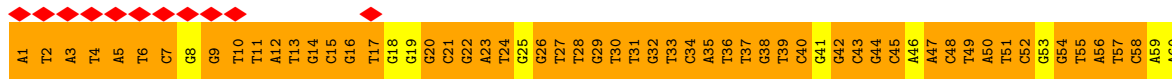
• Molecule 9: DNA



• Molecule 10: DNA



• Molecule 11: DNA scaffold



C1081	A1021	G901	C841	G781	C721	G661	G601	G541	G481	A421	G361	A301
T1082	A1022	C902	T842	C782	A722	C662	T602	T842	T842	G422	T362	T302
G1083	A1023	T903	C843	C783	A723	A663	T603	G483	G483	G423	T363	G303
A1084	A1024	C904	C844	T784	A724	C664	T604	A484	A484	G424	T364	A304
T1085	T1025	T905	T845	T785	A725	T665	C605	T485	T485	G425	G365	G305
T1086	G1026	A907	T847	A787	G726	T667	T607	C487	C487	G427	C366	G307
A1087	C1027	G908	C848	T788	A727	T668	T608	A488	A488	G428	C367	C308
C1088	C1028	A909	A849	G789	C727	A668	T609	A689	A689	G429	T368	T309
G1089	G1029	G910	A850	A790	C728	C670	C670	C490	C490	G430	T369	G310
T1091	T1091	T911	T851	G791	A729	T671	T611	T491	T491	G431	C370	T311
G1092	A1030	G912	G852	G792	T730	C672	C612	A492	A492	T432	C371	C312
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G1095	A1033	G915	G855	T795	A733	G675	G615	C495	C495	G435	G374	T315
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T1097	A1035	T917	C857	A797	G735	A677	T617	C497	C497	G437	T376	G317
A1098	A1036	T918	G858	T798	A736	C678	A618	C498	C498	G438	T377	A318
T1099	A1037	C919	C859	T799	C737	C679	A619	G499	G499	G439	T378	A319
C1100	C1037	T920	G860	T800	G738	T680	T620	C500	C500	T440	C379	T320
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A1102	C1039	A922	C863	G801	T740	A682	G622	A502	A502	G442	C381	C322
T1103	G1040	G923	T864	T802	T741	C684	T624	T503	T503	G443	C382	T323
G1104	T1041	G924	C865	T803	A742	C685	T625	C505	C505	G445	T383	A324
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C1106	A1043	T926	G868	G805	T744	T688	C627	T507	T507	T447	G385	A326
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C1052	A997	C998	T878	A814	A754	A697	A637	C517	C517	G457	C395	T337
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C1054	T1054	G999	G880	A816	A756	T699	G639	C519	C519	G459	T398	T339
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G1059	G1059	G940	C884	A820	G760	G704	A644	A523	A523	T463	A402	C343
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C1061	C1061	G942	G886	T822	G762	A706	T646	G525	G525	A465	T404	G345
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C1068	C1068	T948	G892	G828	G768	C712	T652	A532	A532	C471	T410	G351
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G1069	G1069	G950	G894	T832	T770	G714	T654	C534	C534	T473	T412	A353
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C1072	G952	T953	G897	G833	T772	T687	T656	T537	T537	G476	G414	A355
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A1074	A1074	G954	G899	C835	A774	T717	C658	C539	C539	A478	C416	C356
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C1076	C1076	G956	G900	C837	T776	A719	G660	C540	C540	G480	T419	C357
G1077	G1077	G957	C900	A838	T777	T720					G420	A358
T1079	T1079	G958	C901	A839	T778							G359
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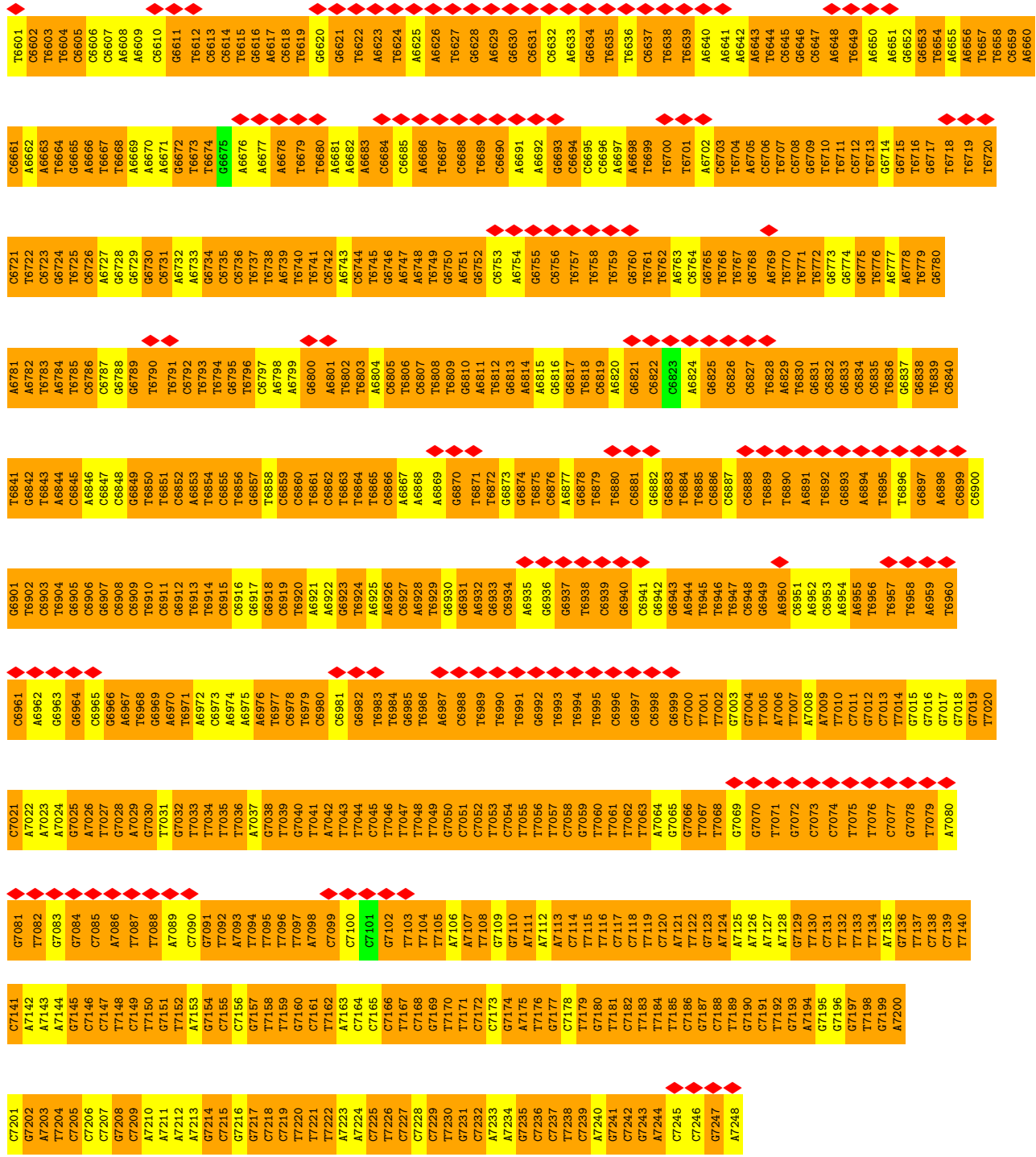
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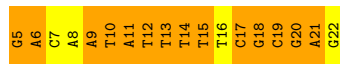
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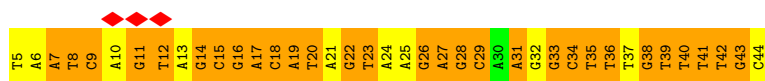
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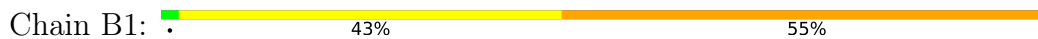
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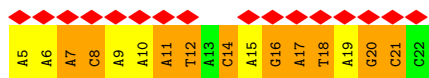
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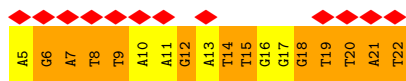
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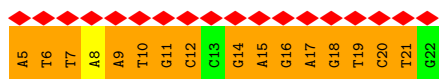
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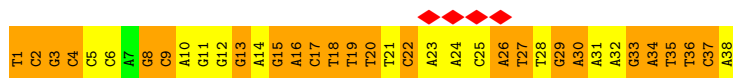
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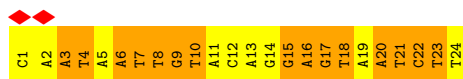
• Molecule 17: DNA



• Molecule 18: DNA



• Molecule 19: DNA

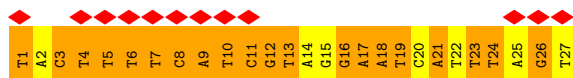


• Molecule 20: DNA





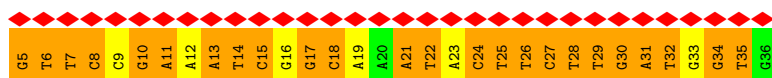
• Molecule 21: DNA



• Molecule 22: DNA



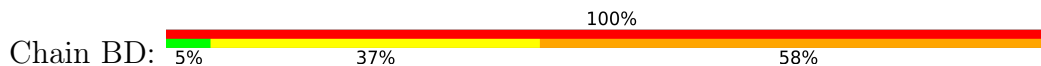
• Molecule 23: DNA



• Molecule 24: DNA



• Molecule 25: DNA

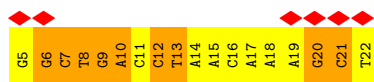


• Molecule 26: DNA



• Molecule 27: DNA

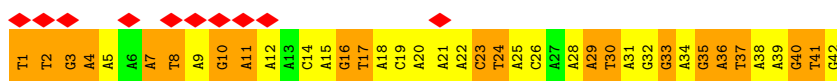




• Molecule 28: DNA



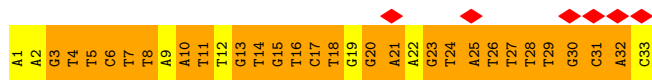
• Molecule 29: DNA



• Molecule 30: DNA



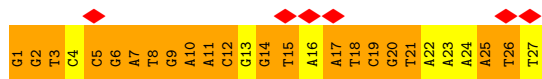
• Molecule 31: DNA



• Molecule 32: DNA

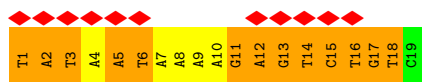


• Molecule 33: DNA

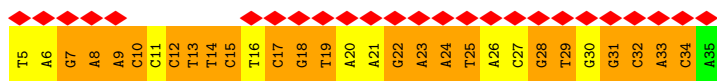
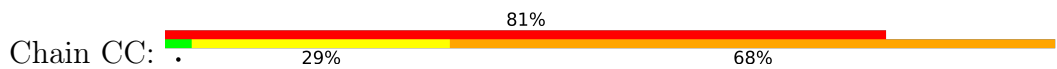


• Molecule 34: DNA





• Molecule 35: DNA



• Molecule 36: DNA



• Molecule 37: DNA



• Molecule 38: DNA



• Molecule 39: DNA



• Molecule 40: DNA

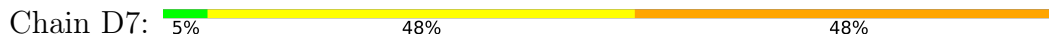


• Molecule 41: DNA





• Molecule 42: DNA



• Molecule 43: DNA



• Molecule 44: DNA



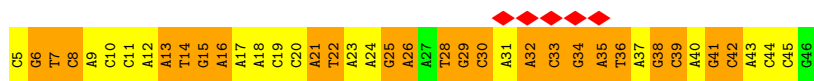
• Molecule 45: DNA



• Molecule 46: DNA



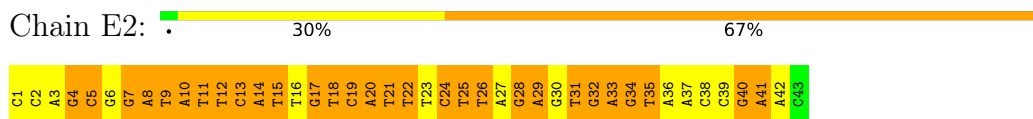
• Molecule 47: DNA



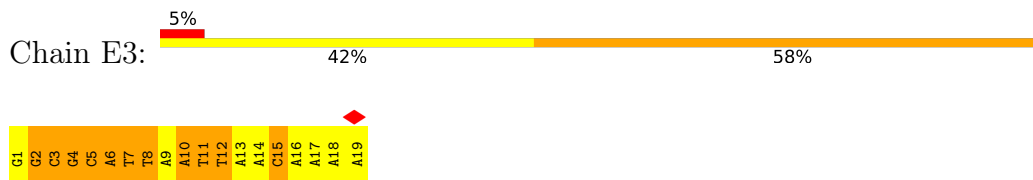
• Molecule 48: DNA



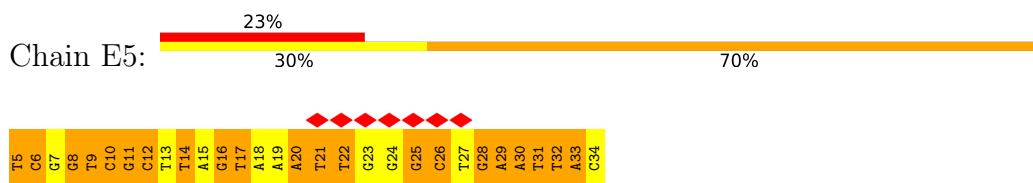
• Molecule 49: DNA



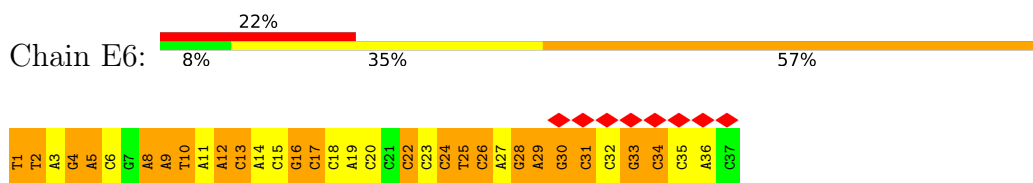
• Molecule 50: DNA



• Molecule 51: DNA



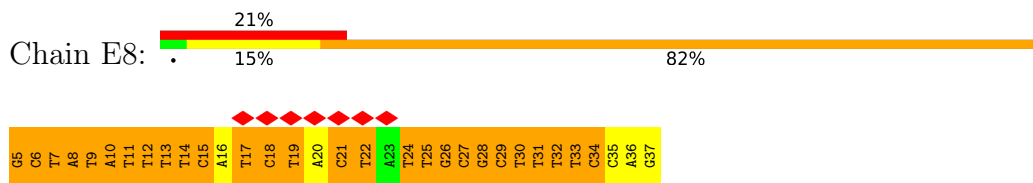
• Molecule 52: DNA



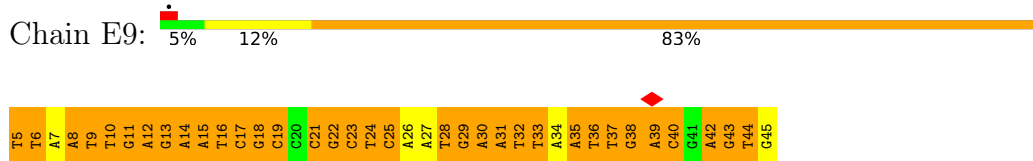
• Molecule 53: DNA



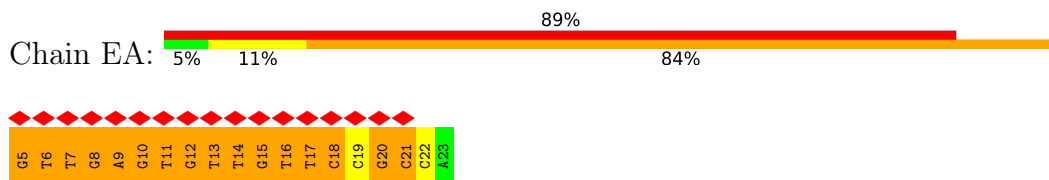
• Molecule 54: DNA



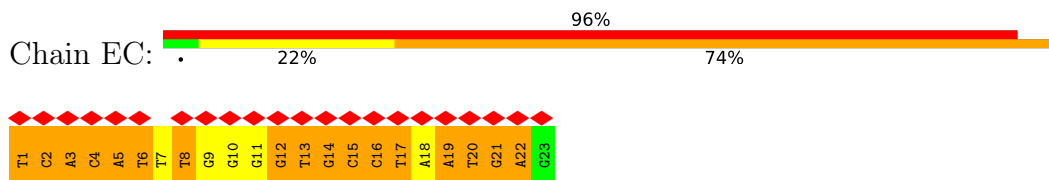
• Molecule 55: DNA



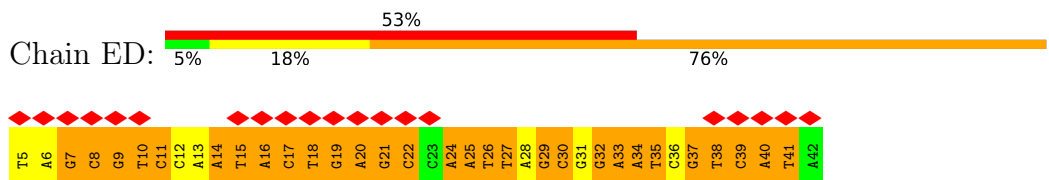
• Molecule 56: DNA



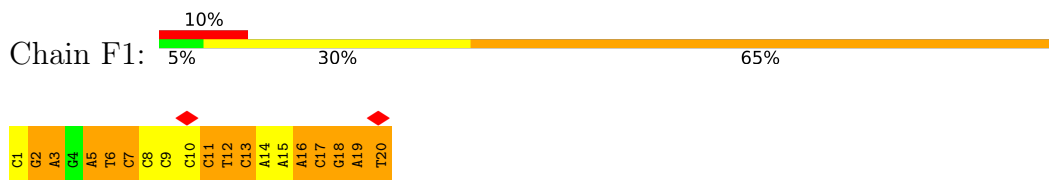
• Molecule 57: DNA



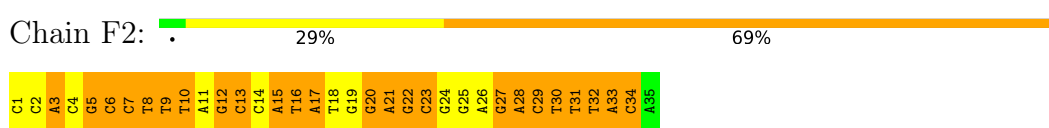
• Molecule 58: DNA



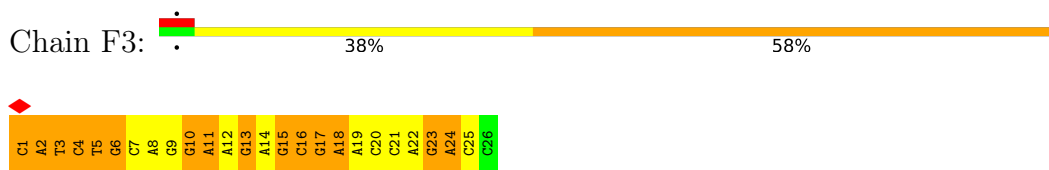
• Molecule 59: DNA



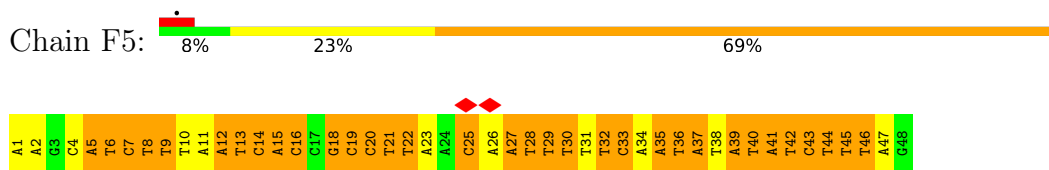
• Molecule 60: DNA



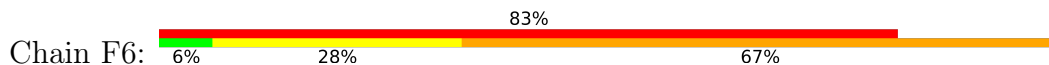
• Molecule 61: DNA

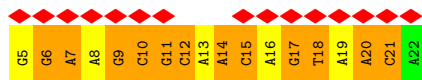


• Molecule 62: DNA



• Molecule 63: DNA

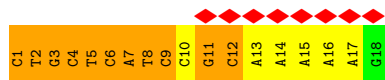




• Molecule 64: DNA



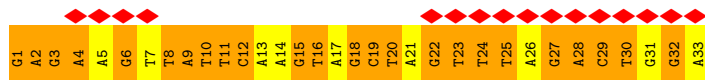
• Molecule 65: DNA



• Molecule 66: DNA



• Molecule 67: DNA



• Molecule 68: DNA



• Molecule 69: DNA

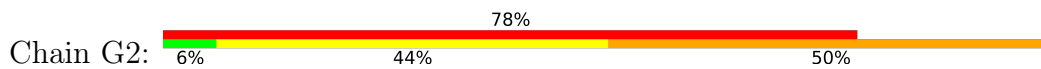


• Molecule 70: DNA

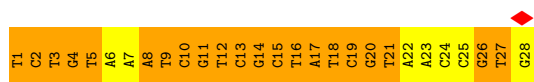




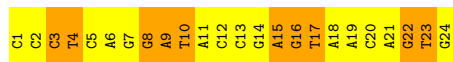
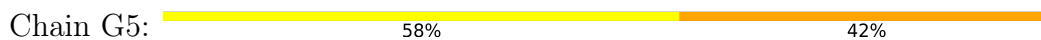
• Molecule 71: DNA



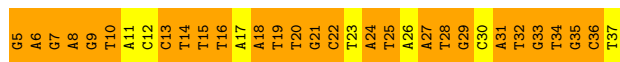
• Molecule 72: DNA



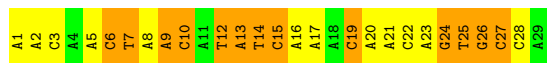
• Molecule 73: DNA



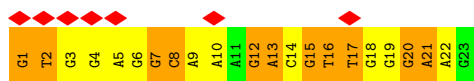
• Molecule 74: DNA



• Molecule 75: DNA



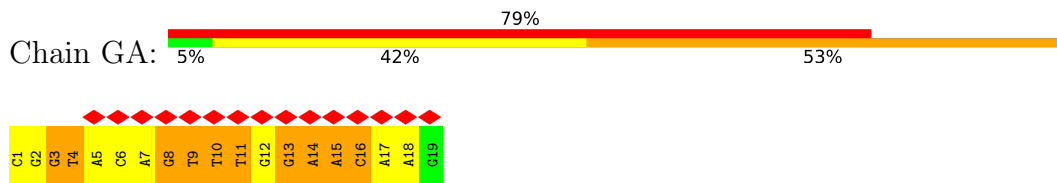
• Molecule 76: DNA



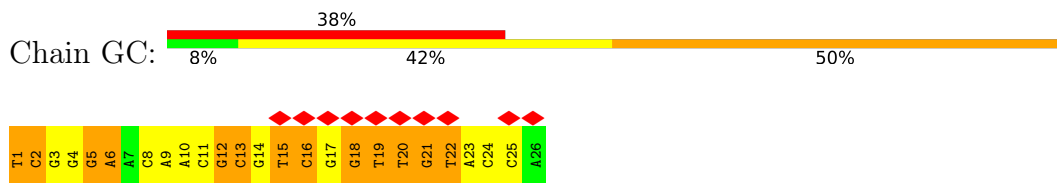
• Molecule 77: DNA



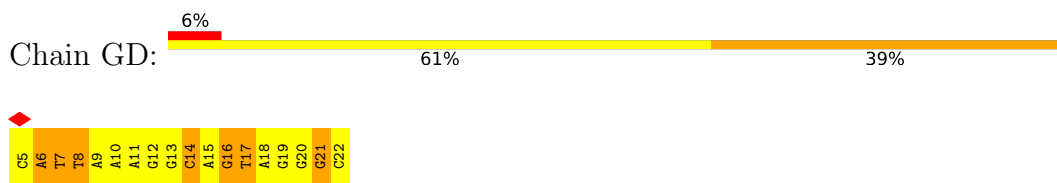
• Molecule 78: DNA



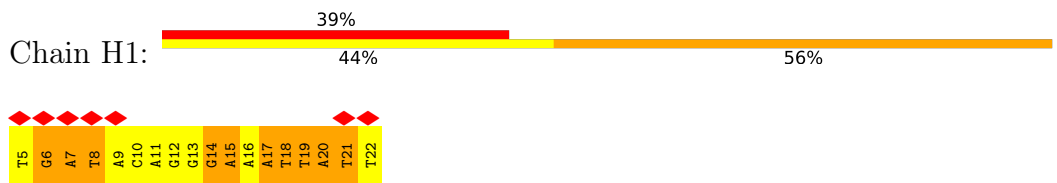
• Molecule 79: DNA



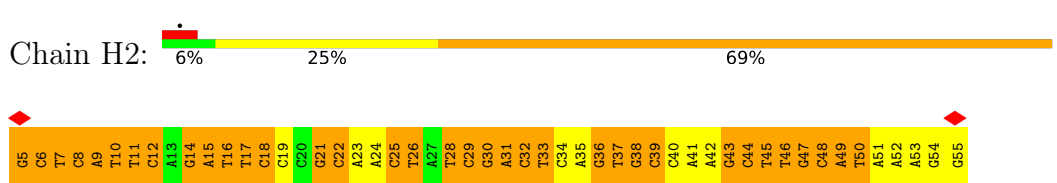
• Molecule 80: DNA



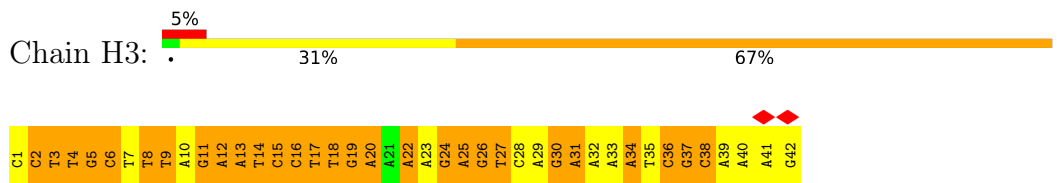
• Molecule 81: DNA



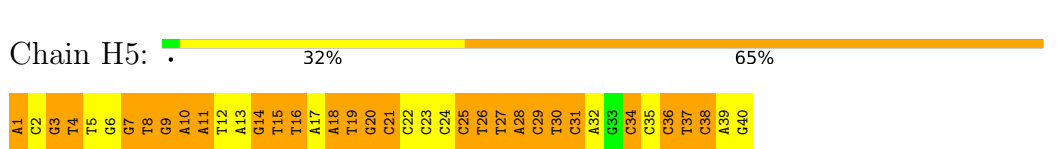
• Molecule 82: DNA



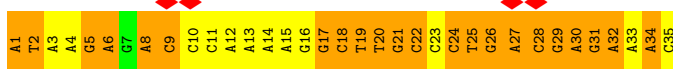
• Molecule 83: DNA



• Molecule 84: DNA



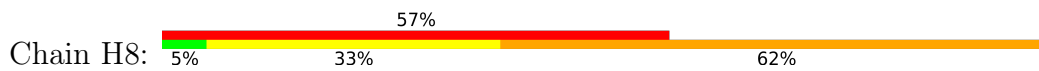
• Molecule 85: DNA



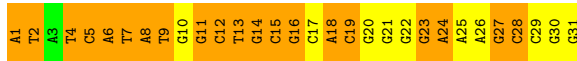
- Molecule 86: DNA



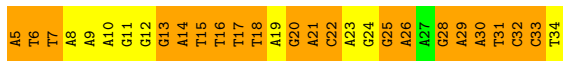
- Molecule 87: DNA



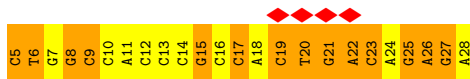
- Molecule 88: DNA



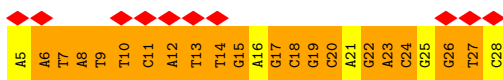
- Molecule 89: DNA



- Molecule 90: DNA

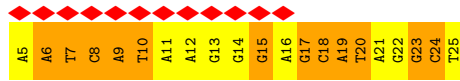


- Molecule 91: DNA

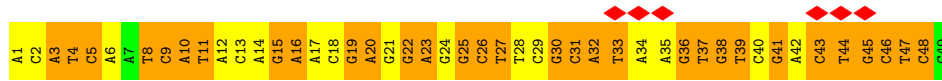


- Molecule 92: DNA

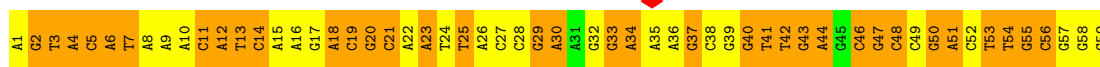




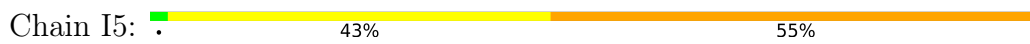
• Molecule 93: DNA



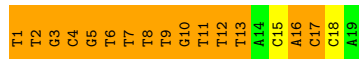
• Molecule 94: DNA



• Molecule 95: DNA



• Molecule 96: DNA



• Molecule 97: DNA



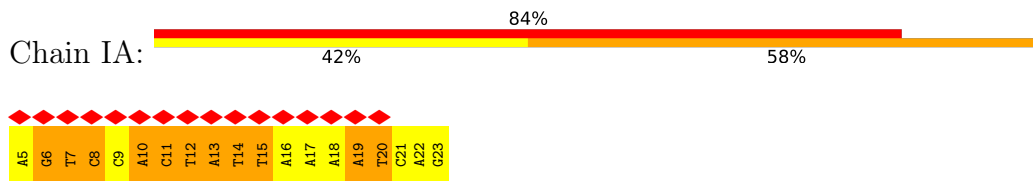
• Molecule 98: DNA



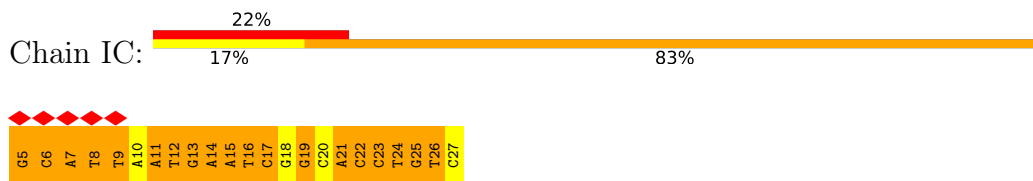
• Molecule 99: DNA



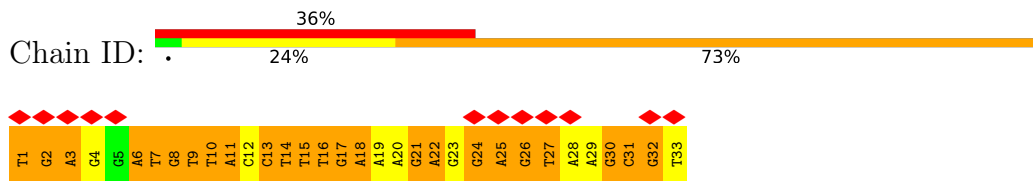
• Molecule 100: DNA



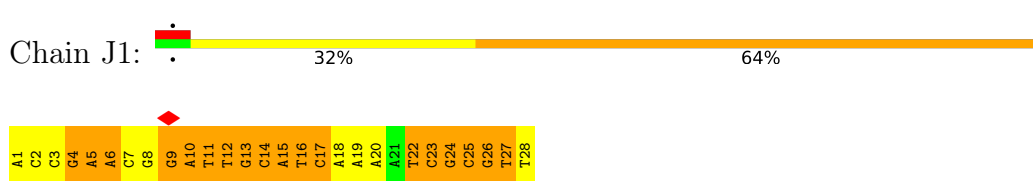
• Molecule 101: DNA



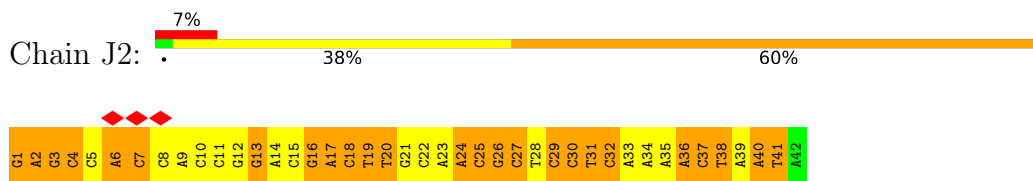
• Molecule 102: DNA



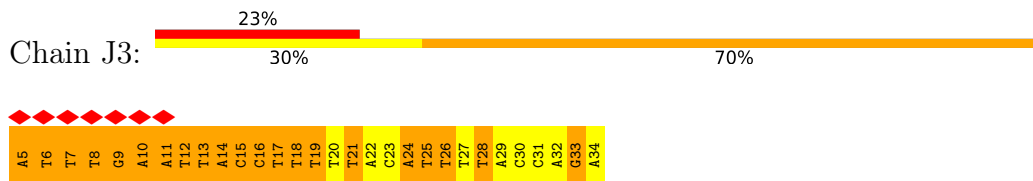
• Molecule 103: DNA



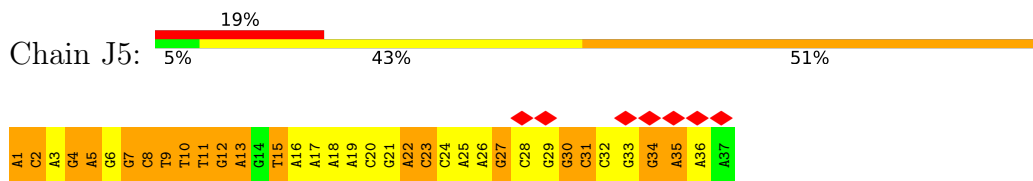
• Molecule 104: DNA



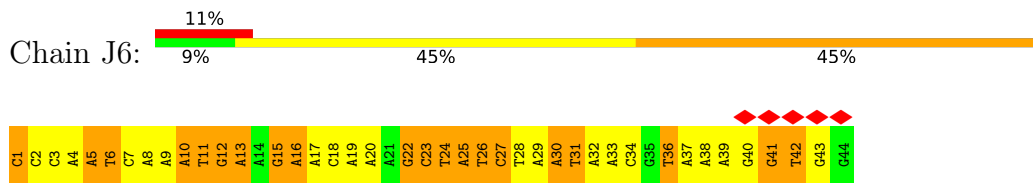
• Molecule 105: DNA



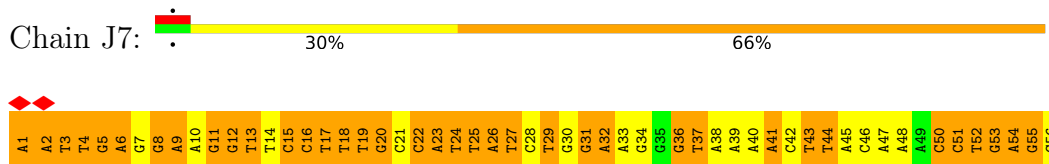
• Molecule 106: DNA



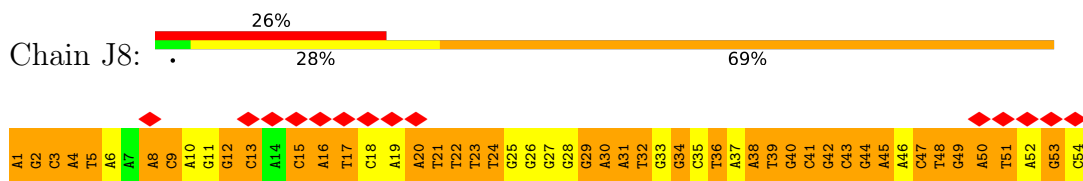
• Molecule 107: DNA



• Molecule 108: DNA



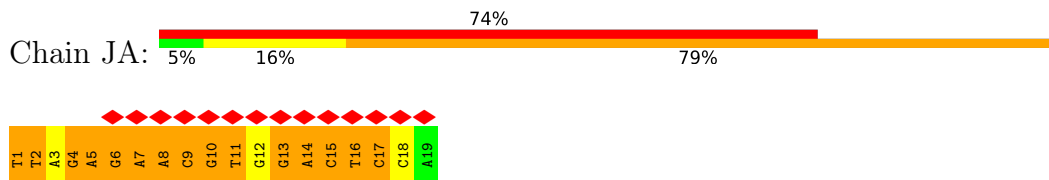
• Molecule 109: DNA



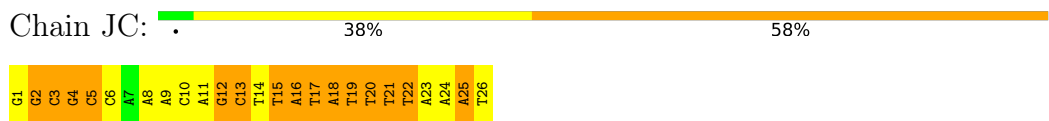
• Molecule 110: DNA



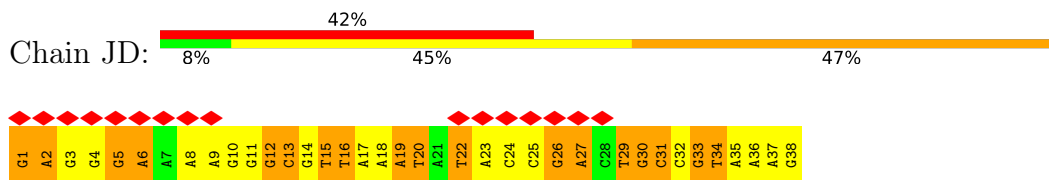
• Molecule 111: DNA



• Molecule 112: DNA



• Molecule 113: DNA



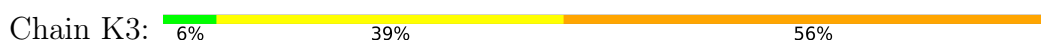
• Molecule 114: DNA



• Molecule 115: DNA



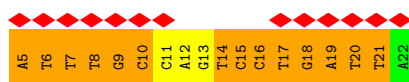
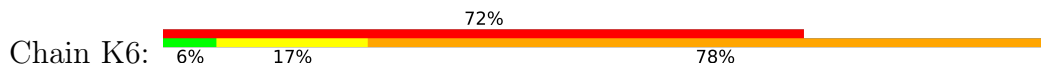
• Molecule 116: DNA



• Molecule 117: DNA



• Molecule 118: DNA



• Molecule 119: DNA

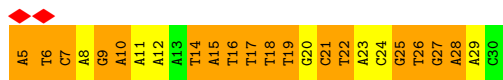


• Molecule 120: DNA

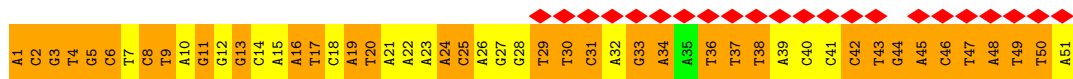


• Molecule 121: DNA

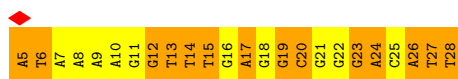




• Molecule 122: DNA



• Molecule 123: DNA



• Molecule 124: DNA



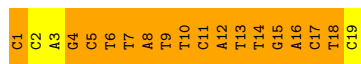
• Molecule 125: DNA



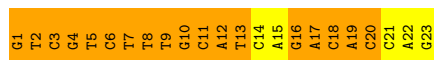
• Molecule 126: DNA



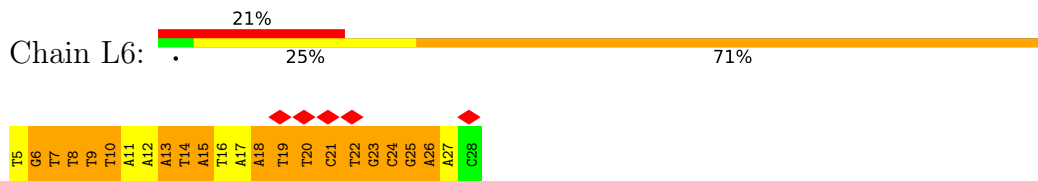
• Molecule 127: DNA



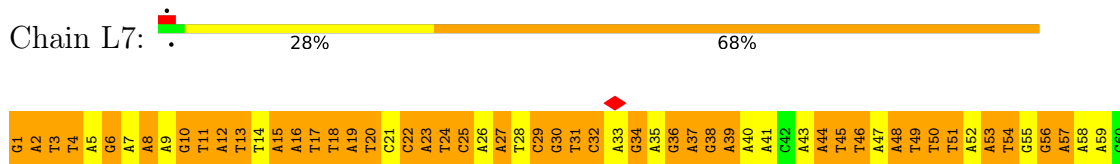
• Molecule 128: DNA



• Molecule 129: DNA



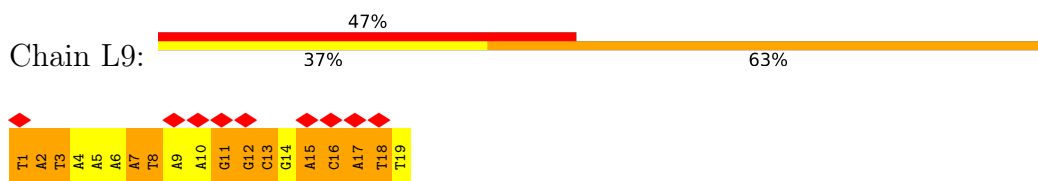
• Molecule 130: DNA



• Molecule 131: DNA



• Molecule 132: DNA



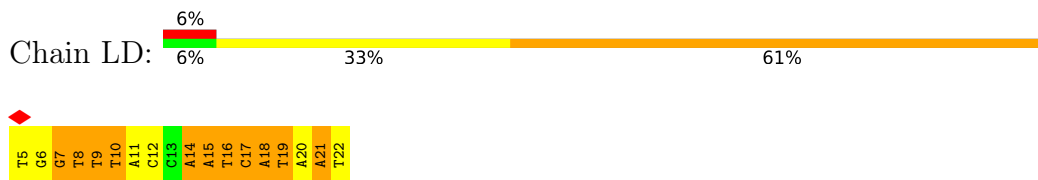
• Molecule 133: DNA



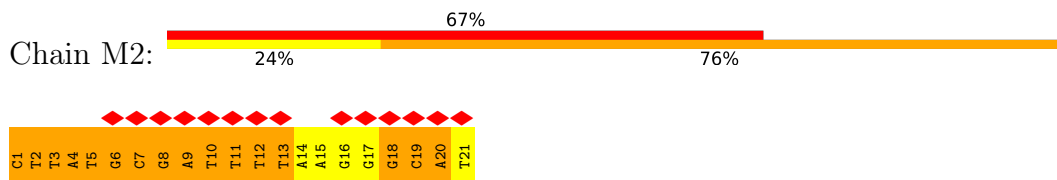
• Molecule 134: DNA



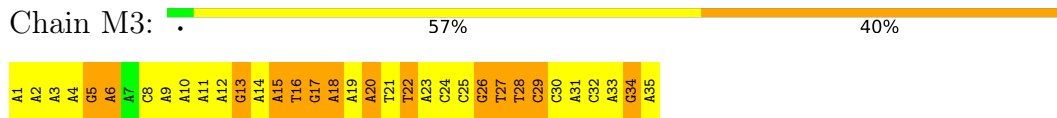
• Molecule 135: DNA



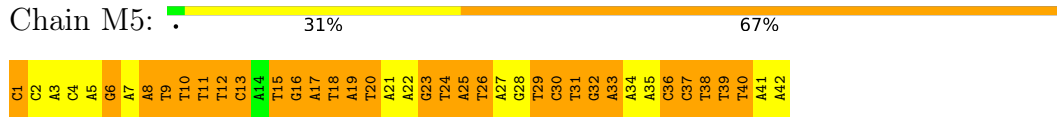
• Molecule 136: DNA



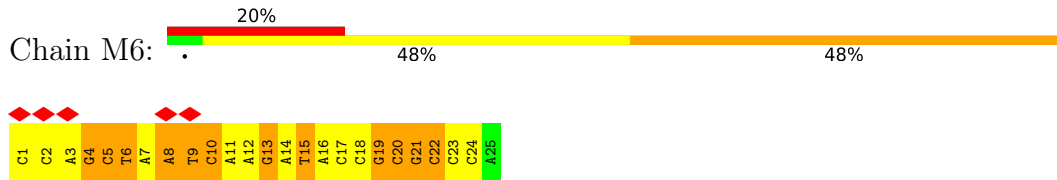
• Molecule 137: DNA



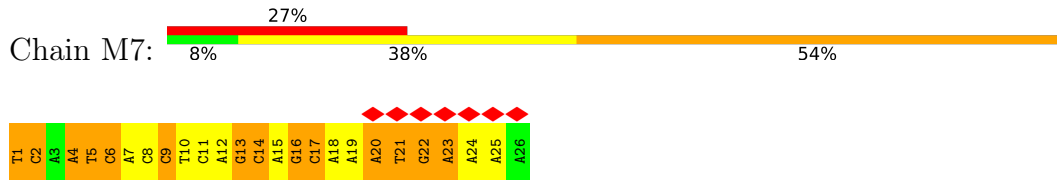
• Molecule 138: DNA



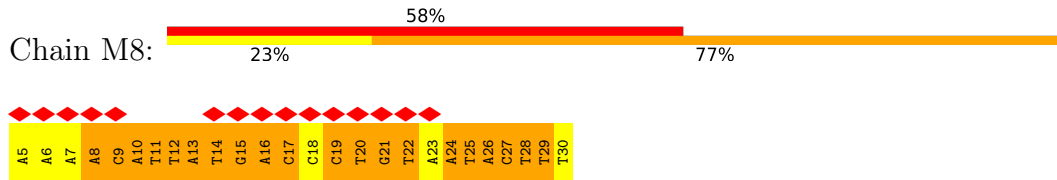
• Molecule 139: DNA



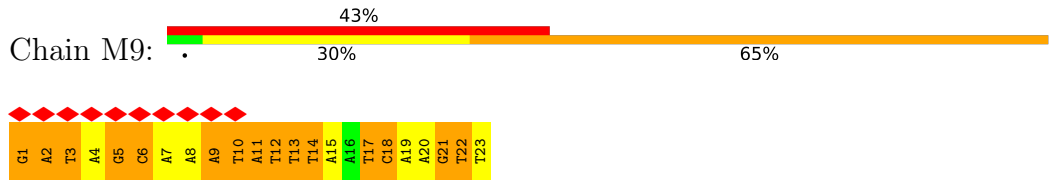
• Molecule 140: DNA



• Molecule 141: DNA

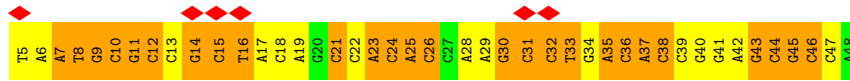


• Molecule 142: DNA



• Molecule 143: DNA

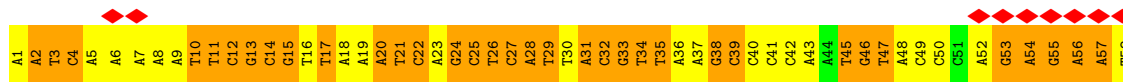




• Molecule 144: DNA



• Molecule 145: DNA



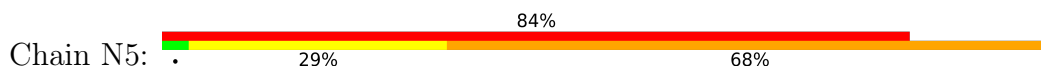
• Molecule 146: DNA



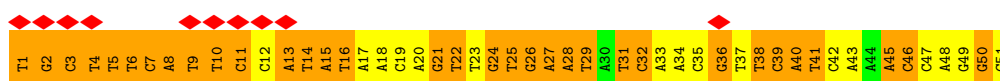
• Molecule 147: DNA



• Molecule 148: DNA

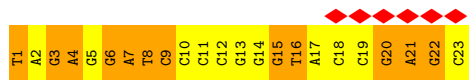


• Molecule 149: DNA

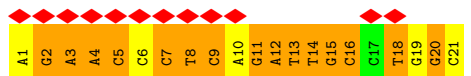


• Molecule 150: DNA





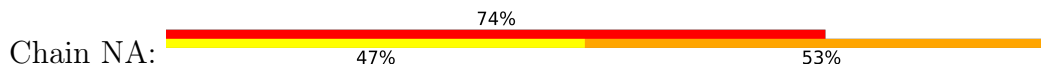
- Molecule 151: DNA



- Molecule 152: DNA



- Molecule 153: DNA



- Molecule 154: DNA



- Molecule 155: DNA



- Molecule 156: DNA

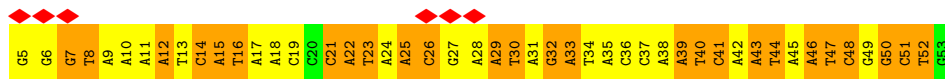


- Molecule 157: DNA

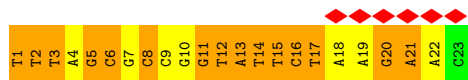




• Molecule 158: DNA



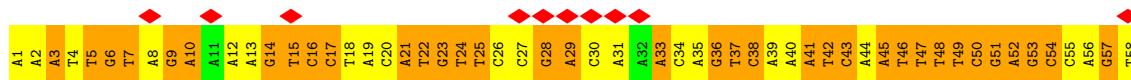
• Molecule 159: DNA



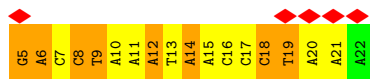
• Molecule 160: DNA



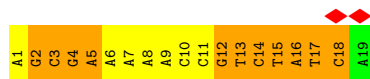
• Molecule 161: DNA



• Molecule 162: DNA



• Molecule 163: DNA

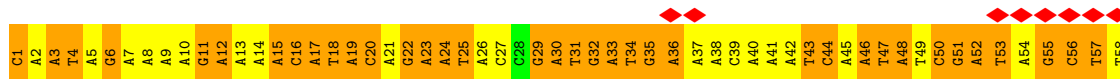


• Molecule 164: DNA

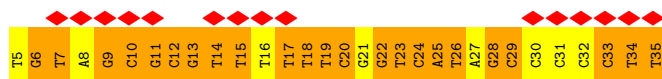




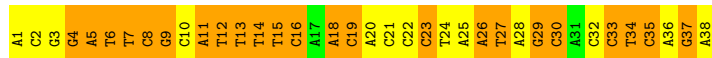
• Molecule 165: DNA



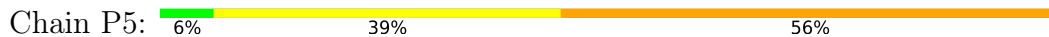
• Molecule 166: DNA



• Molecule 167: DNA



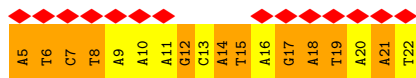
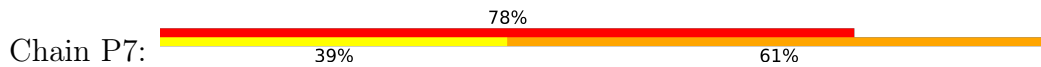
• Molecule 168: DNA



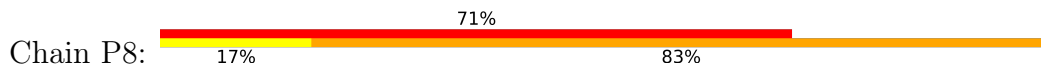
• Molecule 169: DNA

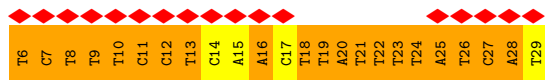


• Molecule 170: DNA



• Molecule 171: DNA

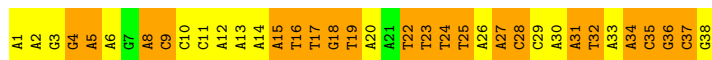
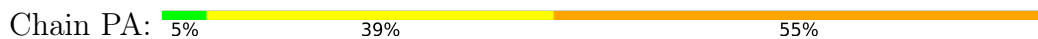




• Molecule 172: DNA



• Molecule 173: DNA



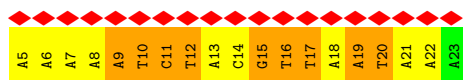
• Molecule 174: DNA



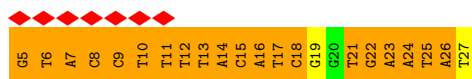
• Molecule 175: DNA



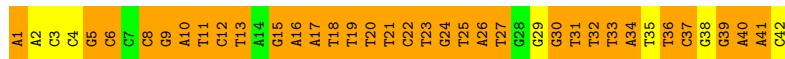
• Molecule 176: DNA



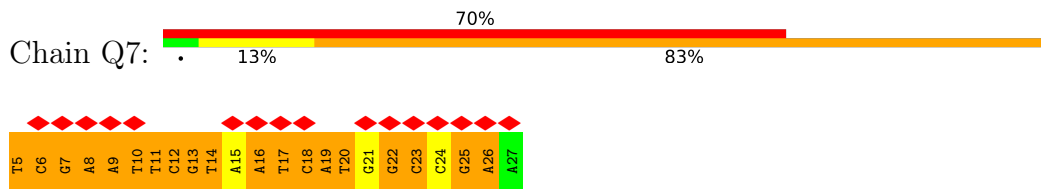
• Molecule 177: DNA



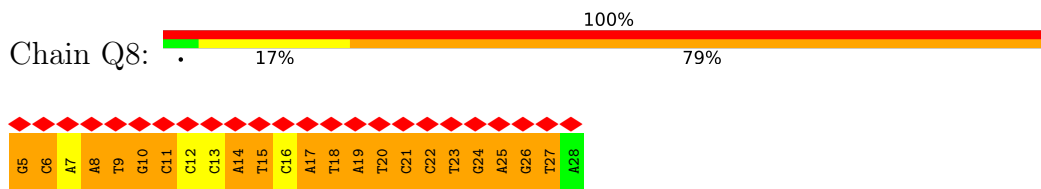
• Molecule 178: DNA



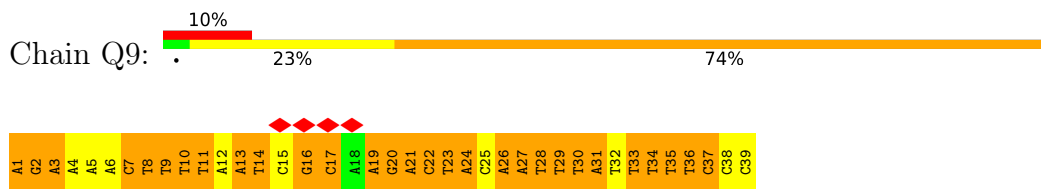
• Molecule 179: DNA



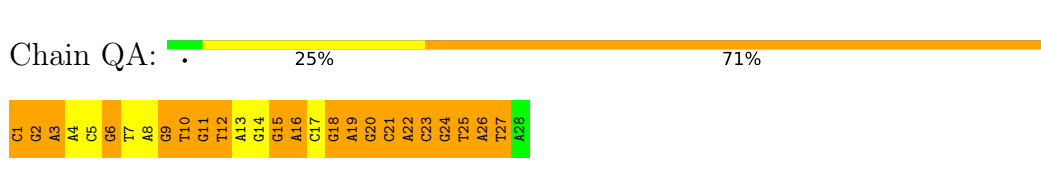
• Molecule 180: DNA



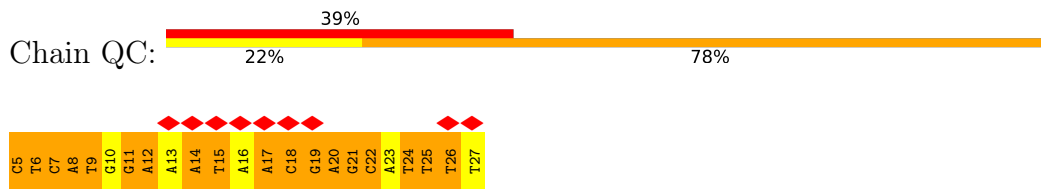
• Molecule 181: DNA



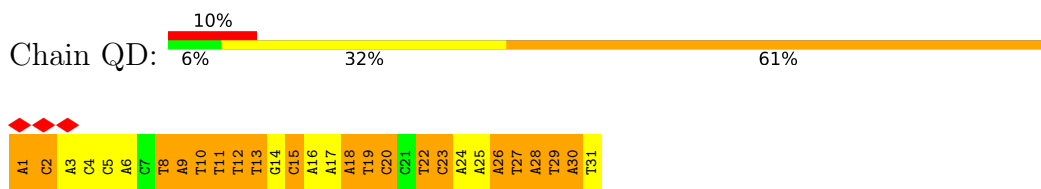
• Molecule 182: DNA



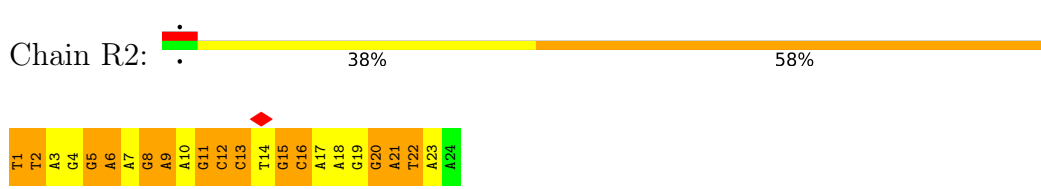
• Molecule 183: DNA



• Molecule 184: DNA



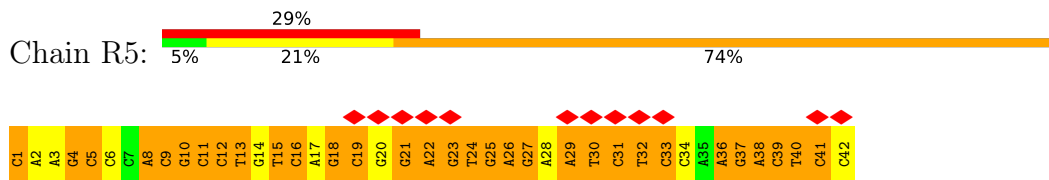
• Molecule 185: DNA



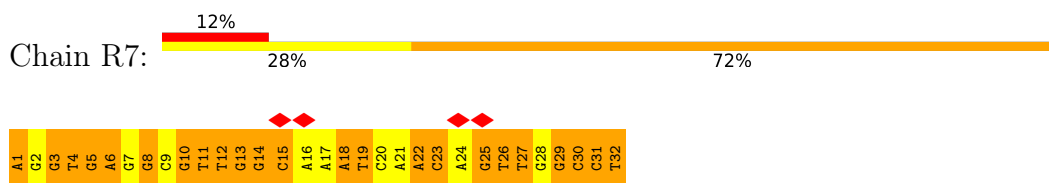
• Molecule 186: DNA



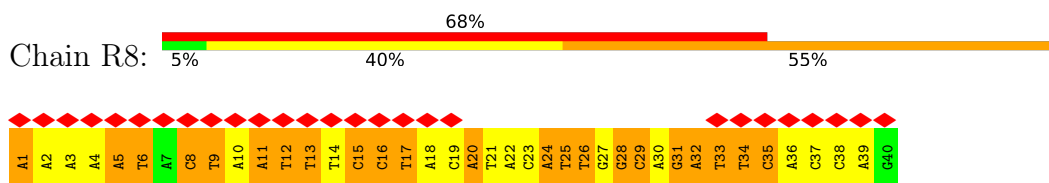
• Molecule 187: DNA



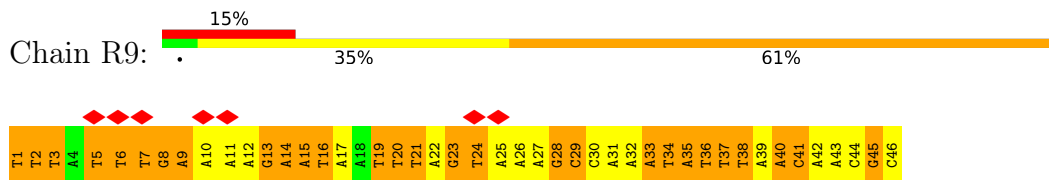
• Molecule 188: DNA



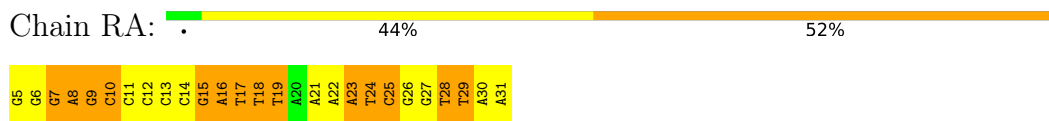
• Molecule 189: DNA



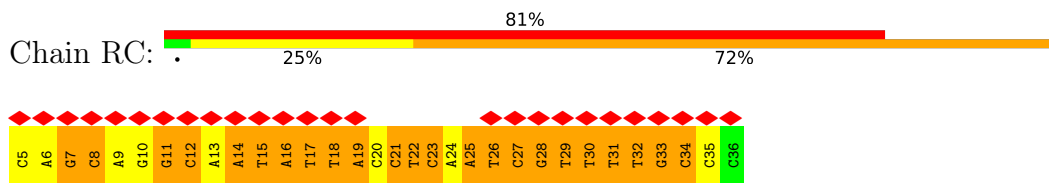
• Molecule 190: DNA



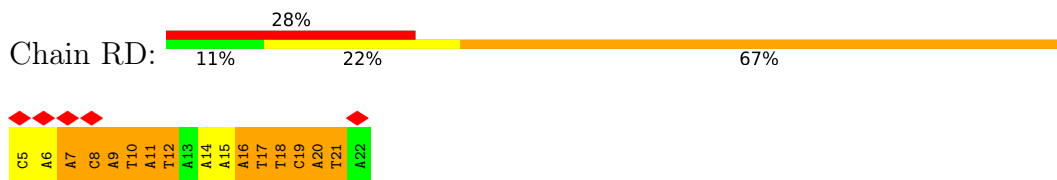
• Molecule 191: DNA



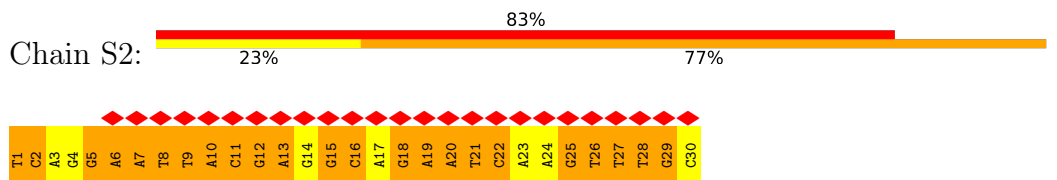
• Molecule 192: DNA



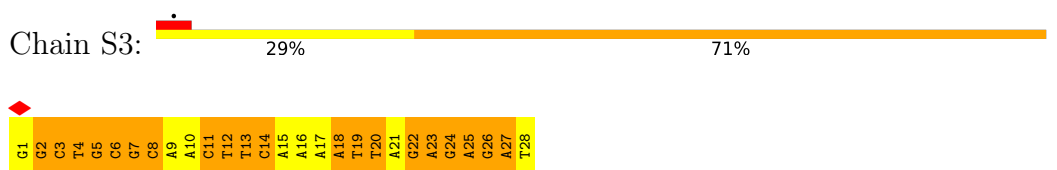
• Molecule 193: DNA



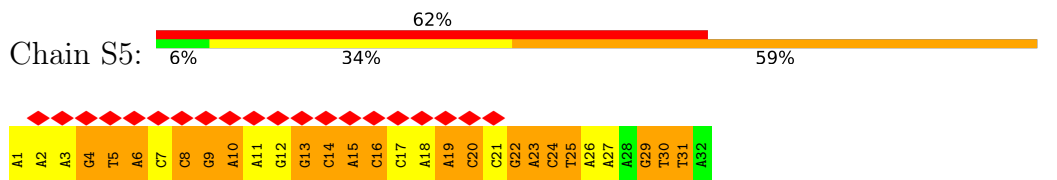
• Molecule 194: DNA



• Molecule 195: DNA



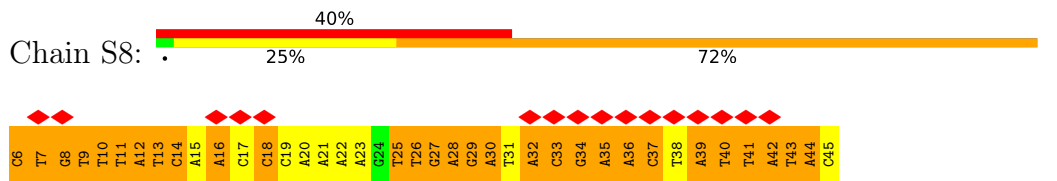
• Molecule 196: DNA



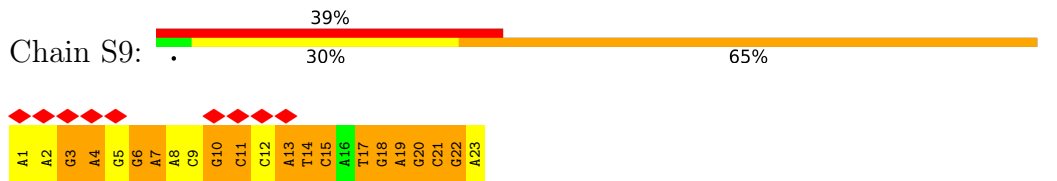
• Molecule 197: DNA



• Molecule 198: DNA



• Molecule 199: DNA



• Molecule 200: DNA

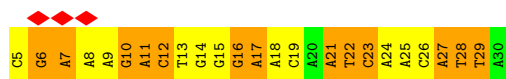




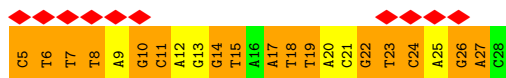
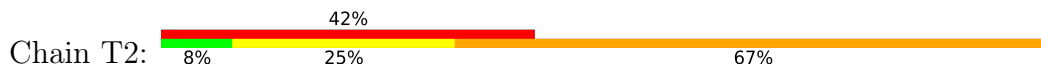
• Molecule 201: DNA



• Molecule 202: DNA



• Molecule 203: DNA



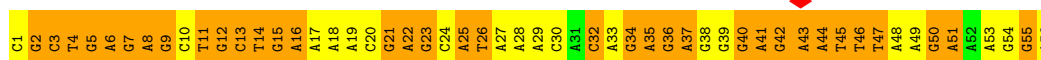
• Molecule 204: DNA



• Molecule 205: DNA

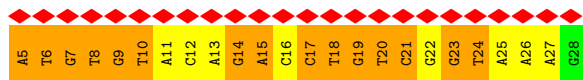


• Molecule 206: DNA



• Molecule 207: DNA

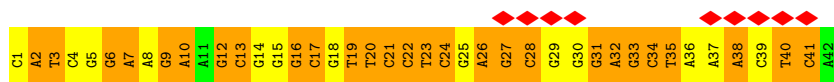




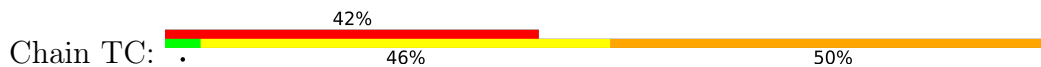
• Molecule 208: DNA



• Molecule 209: DNA



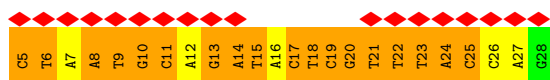
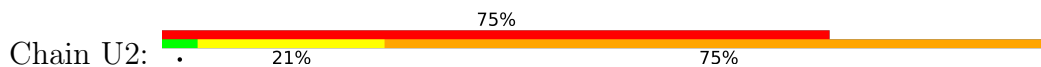
• Molecule 210: DNA



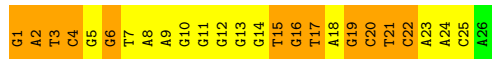
• Molecule 211: DNA



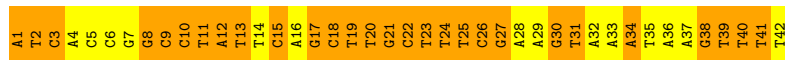
• Molecule 212: DNA



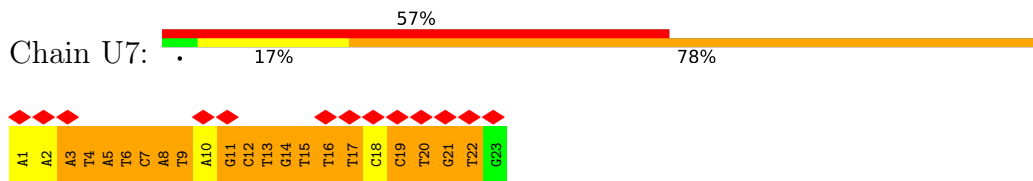
• Molecule 213: DNA



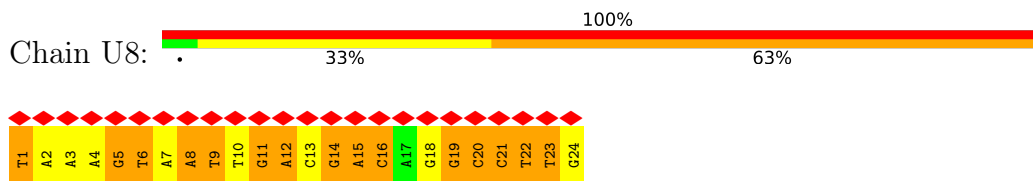
• Molecule 214: DNA



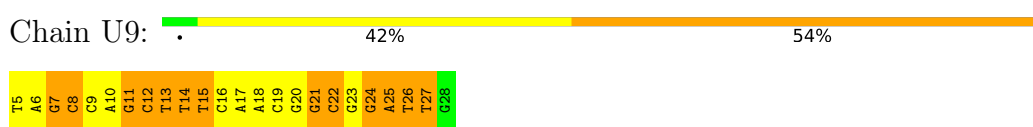
• Molecule 215: DNA



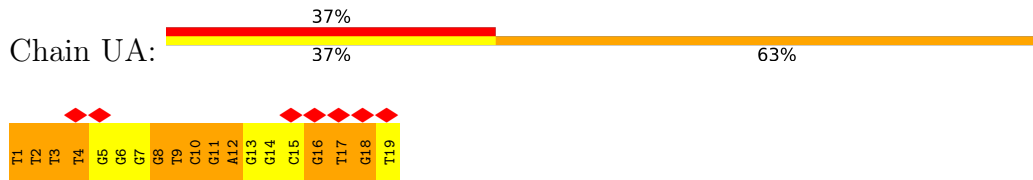
• Molecule 216: DNA



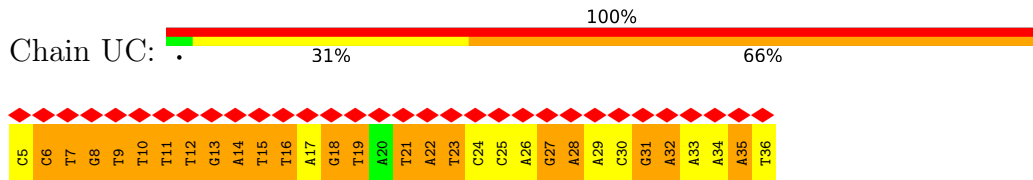
• Molecule 217: DNA



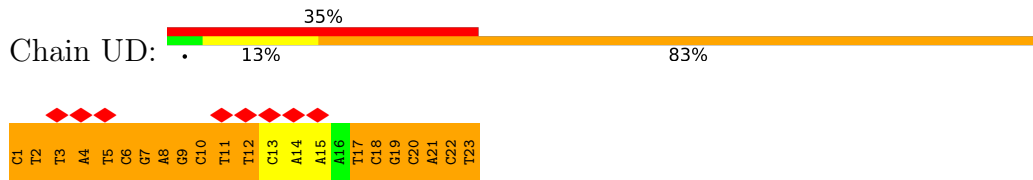
• Molecule 218: DNA



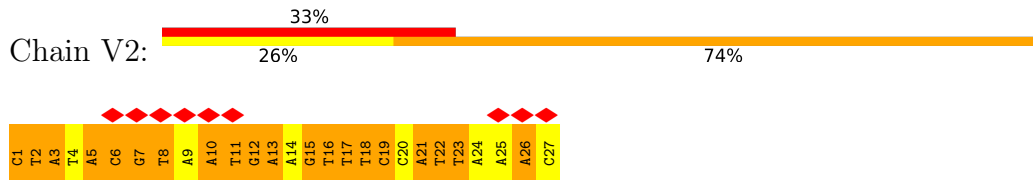
• Molecule 219: DNA



• Molecule 220: DNA

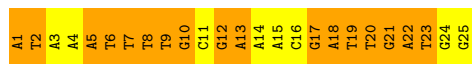


• Molecule 221: DNA



• Molecule 222: DNA

Chain V3: 32% 68%



• Molecule 223: DNA

Chain V5: 10% 51% 46%



• Molecule 224: DNA

Chain V7: 50% 89% 50%



• Molecule 225: DNA

Chain V8: 5% 27% 68%



• Molecule 226: DNA

Chain V9: 50% 38% 59%



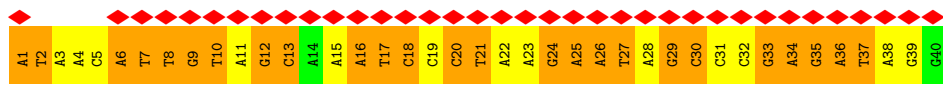
• Molecule 227: DNA

Chain VA: 24% 76%



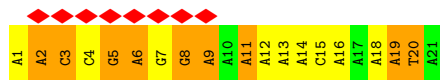
• Molecule 228: DNA

Chain VC: 5% 32% 90% 62%

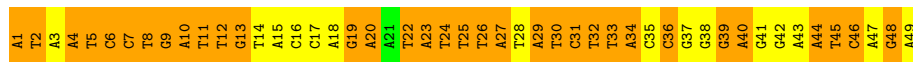


• Molecule 229: DNA

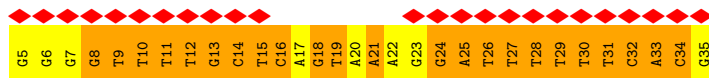
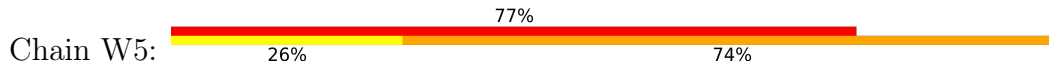
Chain VD: 14% 38% 43% 43%



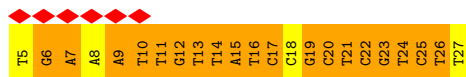
• Molecule 230: DNA



• Molecule 231: DNA



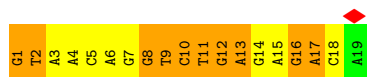
• Molecule 232: DNA



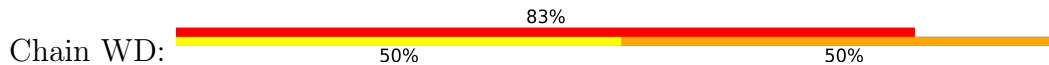
• Molecule 233: DNA



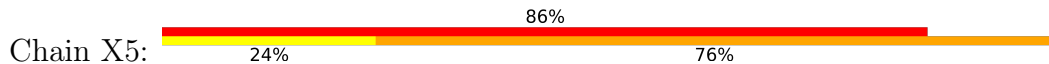
• Molecule 234: DNA



• Molecule 235: DNA

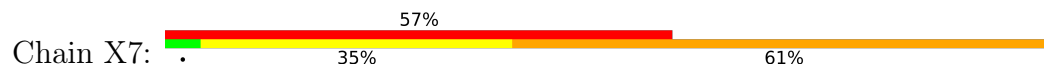


• Molecule 236: DNA

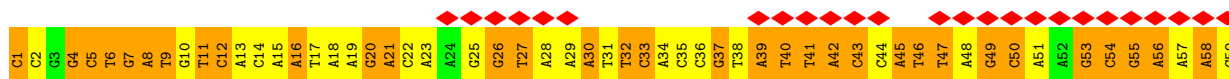
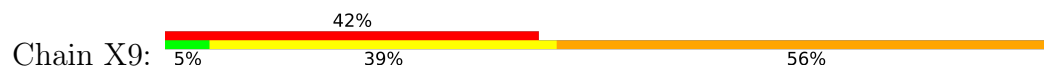




• Molecule 237: DNA



• 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 (\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 (\AA)	16.32, 16.32, 16.32	Depositor

5 Model quality i

5.1 Standard geometry i

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	2.37	49/1305 (3.8%)	2.27	111/1991 (5.6%)
2	A2	2.34	27/710 (3.8%)	2.38	60/1086 (5.5%)
3	A3	2.44	21/529 (4.0%)	2.39	50/812 (6.2%)
4	A4	2.42	26/642 (4.0%)	2.39	56/986 (5.7%)
5	A5	2.37	37/959 (3.9%)	2.40	83/1469 (5.7%)
6	A6	2.45	25/601 (4.2%)	2.43	58/925 (6.3%)
7	A7	2.37	33/843 (3.9%)	2.40	74/1291 (5.7%)
8	A8	2.39	22/555 (4.0%)	2.38	48/853 (5.6%)
9	A9	2.41	18/442 (4.1%)	2.42	39/682 (5.7%)
10	AA	2.43	20/534 (3.7%)	2.27	43/817 (5.3%)
11	AB	2.49	7058/165871 (4.3%)	2.47	15883/255582 (6.2%)
12	AC	2.44	16/413 (3.9%)	2.41	37/633 (5.8%)
13	AD	2.45	37/925 (4.0%)	2.46	84/1422 (5.9%)
14	B1	2.40	37/980 (3.8%)	2.31	83/1502 (5.5%)
15	B2	2.40	16/416 (3.8%)	2.27	34/636 (5.3%)
16	B3	2.34	16/421 (3.8%)	2.34	35/647 (5.4%)
17	B4	2.40	16/416 (3.8%)	2.40	36/638 (5.6%)
18	B5	2.36	33/870 (3.8%)	2.36	75/1330 (5.6%)
19	B6	2.35	21/552 (3.8%)	2.32	46/845 (5.4%)
20	B7	2.44	16/403 (4.0%)	2.40	37/616 (6.0%)
21	B8	2.41	25/614 (4.1%)	2.44	57/943 (6.0%)
22	B9	2.41	48/1249 (3.8%)	2.35	111/1915 (5.8%)
23	BA	2.45	30/736 (4.1%)	2.42	66/1132 (5.8%)
24	BC	2.47	35/865 (4.0%)	2.38	78/1331 (5.9%)
25	BD	2.39	17/445 (3.8%)	2.31	37/682 (5.4%)
26	C1	2.36	24/608 (3.9%)	2.39	53/929 (5.7%)
27	C2	2.41	16/413 (3.9%)	2.38	38/632 (6.0%)
28	C3	2.39	19/498 (3.8%)	2.29	44/766 (5.7%)
29	C5	2.36	37/983 (3.8%)	2.26	81/1506 (5.4%)
30	C6	2.39	39/1041 (3.7%)	2.32	90/1593 (5.6%)
31	C7	2.37	30/756 (4.0%)	2.43	70/1161 (6.0%)
32	C8	2.36	47/1246 (3.8%)	2.40	109/1907 (5.7%)
33	C9	2.41	25/627 (4.0%)	2.40	56/964 (5.8%)
34	CA	2.42	18/440 (4.1%)	2.41	40/677 (5.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	CC	2.47	29/710 (4.1%)	2.39	67/1090 (6.1%)
36	CD	2.40	23/595 (3.9%)	2.29	50/911 (5.5%)
37	D1	2.40	37/941 (3.9%)	2.36	85/1435 (5.9%)
38	D2	2.52	17/415 (4.1%)	2.48	41/637 (6.4%)
39	D3	2.39	30/784 (3.8%)	2.37	68/1201 (5.7%)
40	D5	2.41	19/488 (3.9%)	2.36	39/749 (5.2%)
41	D6	2.40	40/1055 (3.8%)	2.34	92/1613 (5.7%)
42	D7	2.42	19/490 (3.9%)	2.38	44/753 (5.8%)
43	D8	2.40	40/1048 (3.8%)	2.34	91/1601 (5.7%)
44	D9	2.47	28/697 (4.0%)	2.32	62/1071 (5.8%)
45	DA	2.51	22/533 (4.1%)	2.39	50/820 (6.1%)
46	DC	2.43	16/412 (3.9%)	2.48	38/631 (6.0%)
47	DD	2.52	40/968 (4.1%)	2.38	91/1487 (6.1%)
48	E1	2.46	30/753 (4.0%)	2.32	71/1153 (6.2%)
49	E2	2.41	38/983 (3.9%)	2.36	82/1505 (5.4%)
50	E3	2.39	17/440 (3.9%)	2.33	34/674 (5.0%)
51	E5	2.40	27/690 (3.9%)	2.44	62/1059 (5.9%)
52	E6	2.47	33/834 (4.0%)	2.36	76/1273 (6.0%)
53	E7	2.40	22/555 (4.0%)	2.46	46/853 (5.4%)
54	E8	2.40	29/738 (3.9%)	2.47	66/1128 (5.9%)
55	E9	2.43	36/943 (3.8%)	2.37	79/1444 (5.5%)
56	EA	2.45	18/435 (4.1%)	2.53	46/670 (6.9%)
57	EC	2.41	21/531 (4.0%)	2.36	46/816 (5.6%)
58	ED	2.49	36/873 (4.1%)	2.45	81/1342 (6.0%)
59	F1	2.47	18/451 (4.0%)	2.32	41/689 (6.0%)
60	F2	2.36	30/797 (3.8%)	2.37	69/1217 (5.7%)
61	F3	2.42	23/600 (3.8%)	2.37	54/918 (5.9%)
62	F5	2.33	41/1080 (3.8%)	2.32	83/1647 (5.0%)
63	F6	2.42	16/421 (3.8%)	2.35	38/645 (5.9%)
64	F7	2.31	25/667 (3.7%)	2.30	53/1020 (5.2%)
65	F8	2.48	16/409 (3.9%)	2.31	35/625 (5.6%)
66	F9	2.41	16/420 (3.8%)	2.34	37/644 (5.7%)
67	FA	2.34	29/768 (3.8%)	2.40	68/1178 (5.8%)
68	FC	2.45	17/443 (3.8%)	2.38	37/680 (5.4%)
69	FD	2.41	42/1093 (3.8%)	2.34	92/1674 (5.5%)
70	G1	2.44	17/435 (3.9%)	2.40	39/666 (5.9%)
71	G2	2.41	16/413 (3.9%)	2.23	36/631 (5.7%)
72	G3	2.55	27/638 (4.2%)	2.49	64/982 (6.5%)
73	G5	2.41	21/550 (3.8%)	2.26	48/841 (5.7%)
74	G6	2.40	30/757 (4.0%)	2.46	65/1162 (5.6%)
75	G7	2.37	25/662 (3.8%)	2.24	56/1009 (5.6%)
76	G8	2.36	20/548 (3.6%)	2.28	48/842 (5.7%)
77	G9	2.40	17/433 (3.9%)	2.37	36/664 (5.4%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
78	GA	2.48	18/444 (4.1%)	2.32	41/684 (6.0%)
79	GC	2.45	23/598 (3.8%)	2.35	54/916 (5.9%)
80	GD	2.39	16/421 (3.8%)	2.24	34/646 (5.3%)
81	H1	2.35	16/419 (3.8%)	2.32	33/643 (5.1%)
82	H2	2.41	46/1160 (4.0%)	2.43	105/1776 (5.9%)
83	H3	2.41	37/967 (3.8%)	2.33	81/1480 (5.5%)
84	H5	2.39	35/905 (3.9%)	2.34	78/1383 (5.6%)
85	H6	2.44	32/810 (4.0%)	2.34	74/1242 (6.0%)
86	H7	2.43	18/463 (3.9%)	2.37	40/711 (5.6%)
87	H8	2.42	19/487 (3.9%)	2.28	43/746 (5.8%)
88	H9	2.42	27/720 (3.8%)	2.36	59/1103 (5.3%)
89	HA	2.40	28/700 (4.0%)	2.35	60/1077 (5.6%)
90	HC	2.49	22/546 (4.0%)	2.37	53/836 (6.3%)
91	HD	2.45	22/553 (4.0%)	2.46	50/849 (5.9%)
92	I1	2.38	19/491 (3.9%)	2.35	39/754 (5.2%)
93	I2	2.42	43/1122 (3.8%)	2.38	104/1716 (6.1%)
94	I3	2.40	51/1368 (3.7%)	2.32	114/2093 (5.4%)
95	I5	2.34	37/989 (3.7%)	2.26	80/1518 (5.3%)
96	I6	2.40	17/427 (4.0%)	2.45	39/654 (6.0%)
97	I7	2.43	27/692 (3.9%)	2.34	63/1061 (5.9%)
98	I8	2.41	36/923 (3.9%)	2.29	75/1415 (5.3%)
99	I9	2.43	27/695 (3.9%)	2.43	64/1066 (6.0%)
100	IA	2.44	18/435 (4.1%)	2.33	40/668 (6.0%)
101	IC	2.41	21/525 (4.0%)	2.46	48/805 (6.0%)
102	ID	2.41	30/773 (3.9%)	2.37	70/1189 (5.9%)
103	J1	2.43	25/642 (3.9%)	2.42	57/983 (5.8%)
104	J2	2.43	37/953 (3.9%)	2.31	85/1455 (5.8%)
105	J3	2.38	27/676 (4.0%)	2.40	56/1035 (5.4%)
106	J5	2.43	33/863 (3.8%)	2.32	75/1323 (5.7%)
107	J6	2.35	38/1018 (3.7%)	2.26	81/1556 (5.2%)
108	J7	2.35	49/1290 (3.8%)	2.33	109/1975 (5.5%)
109	J8	2.40	48/1253 (3.8%)	2.37	103/1921 (5.4%)
110	J9	2.52	16/410 (3.9%)	2.45	37/627 (5.9%)
111	JA	2.49	18/440 (4.1%)	2.40	44/677 (6.5%)
112	JC	2.39	23/594 (3.9%)	2.40	47/909 (5.2%)
113	JD	2.37	33/889 (3.7%)	2.31	74/1362 (5.4%)
114	K1	2.37	39/1036 (3.8%)	2.30	83/1584 (5.2%)
115	K2	2.43	29/752 (3.9%)	2.46	65/1151 (5.6%)
116	K3	2.44	16/415 (3.9%)	2.28	36/635 (5.7%)
117	K5	2.38	42/1106 (3.8%)	2.35	94/1688 (5.6%)
118	K6	2.41	16/407 (3.9%)	2.39	34/623 (5.5%)
119	K7	2.38	37/985 (3.8%)	2.42	84/1507 (5.6%)
120	K8	2.40	20/526 (3.8%)	2.31	46/804 (5.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
121	K9	2.39	23/597 (3.9%)	2.33	50/914 (5.5%)
122	KA	2.38	45/1166 (3.9%)	2.33	98/1784 (5.5%)
123	KC	2.41	22/564 (3.9%)	2.32	47/868 (5.4%)
124	KD	2.45	21/530 (4.0%)	2.30	48/813 (5.9%)
125	L1	2.41	51/1300 (3.9%)	2.36	113/1996 (5.7%)
126	L2	2.42	51/1283 (4.0%)	2.31	113/1965 (5.8%)
127	L3	2.38	17/424 (4.0%)	2.45	40/648 (6.2%)
128	L5	2.45	21/522 (4.0%)	2.44	50/800 (6.2%)
129	L6	2.42	22/548 (4.0%)	2.44	47/841 (5.6%)
130	L7	2.33	52/1386 (3.8%)	2.32	113/2120 (5.3%)
131	L8	2.42	22/559 (3.9%)	2.26	47/858 (5.5%)
132	L9	2.39	17/441 (3.9%)	2.30	34/676 (5.0%)
133	LA	2.40	19/498 (3.8%)	2.42	44/762 (5.8%)
134	LC	2.44	16/413 (3.9%)	2.35	38/632 (6.0%)
135	LD	2.35	16/409 (3.9%)	2.36	32/626 (5.1%)
136	M2	2.45	20/483 (4.1%)	2.45	41/744 (5.5%)
137	M3	2.39	31/813 (3.8%)	2.26	70/1244 (5.6%)
138	M5	2.38	37/959 (3.9%)	2.31	77/1467 (5.2%)
139	M6	2.46	22/565 (3.9%)	2.37	50/862 (5.8%)
140	M7	2.41	23/595 (3.9%)	2.30	50/909 (5.5%)
141	M8	2.43	25/592 (4.2%)	2.40	55/910 (6.0%)
142	M9	2.39	21/531 (4.0%)	2.39	43/815 (5.3%)
143	MA	2.49	39/999 (3.9%)	2.35	89/1526 (5.8%)
144	MC	2.35	21/530 (4.0%)	2.48	50/816 (6.1%)
145	MD	2.39	51/1323 (3.9%)	2.37	115/2022 (5.7%)
146	N2	2.40	21/555 (3.8%)	2.26	45/849 (5.3%)
147	N3	2.52	33/796 (4.1%)	2.45	77/1222 (6.3%)
148	N5	2.41	29/721 (4.0%)	2.38	68/1109 (6.1%)
149	N6	2.40	46/1158 (4.0%)	2.40	104/1773 (5.9%)
150	N7	2.50	22/532 (4.1%)	2.42	50/819 (6.1%)
151	N8	2.36	18/477 (3.8%)	2.40	42/728 (5.8%)
152	N9	2.37	45/1212 (3.7%)	2.32	97/1858 (5.2%)
153	NA	2.46	18/451 (4.0%)	2.34	42/695 (6.0%)
154	NC	2.42	33/871 (3.8%)	2.35	72/1333 (5.4%)
155	ND	2.38	18/471 (3.8%)	2.32	41/724 (5.7%)
156	O2	2.41	52/1370 (3.8%)	2.32	122/2092 (5.8%)
157	O3	2.32	21/562 (3.7%)	2.27	43/861 (5.0%)
158	O5	2.39	44/1129 (3.9%)	2.28	91/1729 (5.3%)
159	O6	2.44	21/526 (4.0%)	2.40	50/807 (6.2%)
160	O7	2.42	47/1203 (3.9%)	2.32	107/1845 (5.8%)
161	O8	2.40	52/1329 (3.9%)	2.35	119/2035 (5.8%)
162	O9	2.36	16/410 (3.9%)	2.28	34/626 (5.4%)
163	OA	2.52	18/437 (4.1%)	2.40	41/671 (6.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
164	OC	2.49	22/536 (4.1%)	2.42	53/819 (6.5%)
165	OD	2.36	51/1344 (3.8%)	2.29	109/2056 (5.3%)
166	P2	2.49	29/698 (4.2%)	2.53	67/1072 (6.2%)
167	P3	2.40	33/858 (3.8%)	2.35	76/1309 (5.8%)
168	P5	2.41	16/412 (3.9%)	2.40	37/631 (5.9%)
169	P6	2.47	16/418 (3.8%)	2.45	39/641 (6.1%)
170	P7	2.38	16/416 (3.8%)	2.34	32/637 (5.0%)
171	P8	2.39	22/530 (4.2%)	2.47	49/811 (6.0%)
172	P9	2.42	22/539 (4.1%)	2.43	50/827 (6.0%)
173	PA	2.41	34/877 (3.9%)	2.29	75/1343 (5.6%)
174	PC	2.47	21/533 (3.9%)	2.44	48/819 (5.9%)
175	PD	2.41	20/530 (3.8%)	2.32	45/810 (5.6%)
176	Q2	2.42	18/440 (4.1%)	2.34	37/676 (5.5%)
177	Q3	2.40	21/524 (4.0%)	2.40	44/804 (5.5%)
178	Q5	2.37	37/957 (3.9%)	2.41	81/1465 (5.5%)
179	Q7	2.49	22/529 (4.2%)	2.46	49/814 (6.0%)
180	Q8	2.42	22/545 (4.0%)	2.43	47/835 (5.6%)
181	Q9	2.36	34/882 (3.9%)	2.37	77/1347 (5.7%)
182	QA	2.47	25/653 (3.8%)	2.39	60/1002 (6.0%)
183	QC	2.39	20/527 (3.8%)	2.34	43/806 (5.3%)
184	QD	2.35	27/697 (3.9%)	2.30	55/1063 (5.2%)
185	R2	2.35	21/563 (3.7%)	2.34	46/863 (5.3%)
186	R3	2.46	16/412 (3.9%)	2.45	37/631 (5.9%)
187	R5	2.44	37/956 (3.9%)	2.37	90/1461 (6.2%)
188	R7	2.44	30/745 (4.0%)	2.42	69/1147 (6.0%)
189	R8	2.40	36/911 (4.0%)	2.30	75/1394 (5.4%)
190	R9	2.36	40/1058 (3.8%)	2.34	85/1618 (5.3%)
191	RA	2.39	24/622 (3.9%)	2.33	50/953 (5.2%)
192	RC	2.47	30/723 (4.1%)	2.44	65/1109 (5.9%)
193	RD	2.37	16/411 (3.9%)	2.25	30/628 (4.8%)
194	S2	2.44	28/697 (4.0%)	2.42	64/1072 (6.0%)
195	S3	2.43	26/650 (4.0%)	2.44	60/999 (6.0%)
196	S5	2.36	28/738 (3.8%)	2.32	66/1128 (5.9%)
197	S7	2.43	21/535 (3.9%)	2.31	48/815 (5.9%)
198	S8	2.39	35/912 (3.8%)	2.32	76/1394 (5.5%)
199	S9	2.48	21/538 (3.9%)	2.38	51/826 (6.2%)
200	SA	2.45	22/552 (4.0%)	2.43	49/847 (5.8%)
201	SC	2.47	18/443 (4.1%)	2.29	39/681 (5.7%)
202	SD	2.36	23/603 (3.8%)	2.28	51/923 (5.5%)
203	T2	2.44	22/550 (4.0%)	2.40	50/844 (5.9%)
204	T3	2.42	39/1022 (3.8%)	2.39	90/1563 (5.8%)
205	T5	2.47	22/542 (4.1%)	2.32	51/828 (6.2%)
206	T7	2.39	48/1315 (3.7%)	2.31	112/2013 (5.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
207	T8	2.44	22/557 (3.9%)	2.36	53/856 (6.2%)
208	T9	2.38	16/402 (4.0%)	2.39	34/614 (5.5%)
209	TA	2.39	36/971 (3.7%)	2.35	83/1485 (5.6%)
210	TC	2.38	23/597 (3.9%)	2.27	52/912 (5.7%)
211	TD	2.43	38/961 (4.0%)	2.44	83/1474 (5.6%)
212	U2	2.47	22/546 (4.0%)	2.36	48/837 (5.7%)
213	U3	2.38	23/609 (3.8%)	2.31	52/935 (5.6%)
214	U5	2.41	37/953 (3.9%)	2.41	81/1458 (5.6%)
215	U7	2.49	22/525 (4.2%)	2.44	47/808 (5.8%)
216	U8	2.37	21/555 (3.8%)	2.36	47/850 (5.5%)
217	U9	2.48	22/551 (4.0%)	2.45	49/846 (5.8%)
218	UA	2.40	17/443 (3.8%)	2.37	39/682 (5.7%)
219	UC	2.44	30/734 (4.1%)	2.40	64/1128 (5.7%)
220	UD	2.49	21/518 (4.1%)	2.45	49/793 (6.2%)
221	V2	2.38	24/615 (3.9%)	2.36	54/941 (5.7%)
222	V3	2.37	22/581 (3.8%)	2.37	47/891 (5.3%)
223	V5	2.41	36/946 (3.8%)	2.32	81/1448 (5.6%)
224	V7	2.43	16/412 (3.9%)	2.26	34/630 (5.4%)
225	V8	2.40	19/518 (3.7%)	2.26	41/793 (5.2%)
226	V9	2.38	30/791 (3.8%)	2.27	65/1211 (5.4%)
227	VA	2.39	25/664 (3.8%)	2.40	60/1015 (5.9%)
228	VC	2.43	36/924 (3.9%)	2.33	78/1416 (5.5%)
229	VD	2.35	18/493 (3.7%)	2.18	39/753 (5.2%)
230	W3	2.37	43/1125 (3.8%)	2.32	90/1722 (5.2%)
231	W5	2.39	28/714 (3.9%)	2.40	63/1097 (5.7%)
232	W7	2.47	22/520 (4.2%)	2.53	50/800 (6.2%)
233	W8	2.39	19/491 (3.9%)	2.32	41/754 (5.4%)
234	W9	2.39	17/445 (3.8%)	2.31	41/683 (6.0%)
235	WD	2.35	16/415 (3.9%)	2.33	38/635 (6.0%)
236	X5	2.40	19/479 (4.0%)	2.40	36/734 (4.9%)
237	X7	2.45	22/521 (4.2%)	2.34	47/799 (5.9%)
238	X9	2.38	51/1353 (3.8%)	2.33	112/2067 (5.4%)
All	All	2.45	13501/331404 (4.1%)	2.41	30283/509182 (5.9%)

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	DD	5	DC	O3'-P	15.09	1.79	1.61
70	G1	7	DC	O3'-P	15.09	1.79	1.61
11	AB	4610	DC	O3'-P	15.09	1.79	1.61
91	HD	18	DC	O3'-P	15.09	1.79	1.61
11	AB	1820	DC	O3'-P	15.08	1.79	1.61

The worst 5 of 30283 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	AB	4732	DG	P-O3'-C3'	-13.67	103.30	119.70
187	R5	18	DG	P-O3'-C3'	-13.66	103.30	119.70
215	U7	11	DG	P-O3'-C3'	-13.66	103.30	119.70
11	AB	3473	DG	P-O3'-C3'	-13.66	103.31	119.70
11	AB	4996	DG	P-O3'-C3'	-13.66	103.31	119.70

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	38	0
2	A2	636	350	350	38	0
3	A3	473	259	259	21	0
4	A4	574	317	318	30	0
5	A5	861	478	478	46	0
6	A6	535	291	291	22	0
7	A7	756	421	421	45	0
8	A8	496	273	274	27	0
9	A9	395	218	219	28	0
10	AA	476	255	255	20	0
11	AB	148265	82147	82243	8165	0
12	AC	370	204	204	28	0
13	AD	826	452	452	48	0
14	B1	873	469	469	36	0
15	B2	370	200	201	13	0
16	B3	376	205	206	20	0
17	B4	372	203	204	18	0
18	B5	779	427	427	45	0
19	B6	494	272	272	22	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	33	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	10	0
26	C1	546	306	307	30	0
27	C2	369	201	202	19	0
28	C3	442	233	234	15	0
29	C5	874	470	470	26	0
30	C6	930	503	503	43	0
31	C7	678	377	377	48	0
32	C8	1114	605	606	55	0
33	C9	559	304	304	24	0
34	CA	392	215	216	17	0
35	CC	634	348	349	26	0
36	CD	533	293	294	26	0
37	D1	845	469	469	42	0
38	D2	369	198	198	12	0
39	D3	701	383	384	37	0
40	D5	435	237	238	22	0
41	D6	944	517	517	51	0
42	D7	437	235	235	15	0
43	D8	939	517	517	50	0
44	D9	620	334	335	18	0
45	DA	474	256	256	15	0
46	DC	369	202	203	20	0
47	DD	861	467	468	27	0
48	E1	673	368	369	21	0
49	E2	881	486	486	52	0
50	E3	392	213	213	20	0
51	E5	618	340	341	31	0
52	E6	747	411	412	26	0
53	E7	496	273	273	29	0
54	E8	666	378	378	57	0
55	E9	844	463	463	49	0
56	EA	390	216	216	21	0
57	EC	475	260	261	23	0
58	ED	779	427	428	31	0
59	F1	404	223	223	17	0
60	F2	715	393	393	40	0
61	F3	535	288	289	18	0
62	F5	972	547	547	59	0
63	F6	374	199	200	13	0
64	F7	597	328	328	26	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	41	0
68	FC	395	214	215	19	0
69	FD	972	523	524	32	0
70	G1	389	213	213	18	0
71	G2	368	200	201	9	0
72	G3	571	317	317	29	0
73	G5	492	268	268	19	0
74	G6	678	375	375	45	0
75	G7	591	323	323	16	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	15	0
82	H2	1039	573	573	57	0
83	H3	864	472	472	45	0
84	H5	813	451	451	42	0
85	H6	721	389	389	27	0
86	H7	414	226	226	25	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	20	0
91	HD	494	270	271	26	0
92	I1	437	235	236	17	0
93	I2	1004	549	549	43	0
94	I3	1221	658	658	50	0
95	I5	880	471	471	40	0
96	I6	385	218	218	27	0
97	I7	618	335	335	28	0
98	I8	824	450	450	37	0
99	I9	620	335	335	25	0
100	IA	388	214	214	15	0
101	IC	470	259	259	25	0
102	ID	689	372	372	40	0
103	J1	574	314	314	29	0
104	J2	853	468	468	35	0
105	J3	608	344	344	46	0
106	J5	768	411	412	26	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	56	0
109	J8	1118	605	606	59	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	27	0
114	K1	926	507	507	50	0
115	K2	675	374	374	42	0
116	K3	370	200	201	11	0
117	K5	995	553	553	59	0
118	K6	366	205	206	26	0
119	K7	884	487	487	55	0
120	K8	471	258	259	22	0
121	K9	534	294	294	26	0
122	KA	1044	575	575	63	0
123	KC	502	270	271	24	0
124	KD	473	259	259	29	0
125	L1	1159	628	628	46	0
126	L2	1145	627	628	42	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	64	0
131	L8	497	268	269	15	0
132	L9	393	214	214	20	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	31	0
137	M3	723	390	390	20	0
138	M5	859	476	476	53	0
139	M6	506	278	278	21	0
140	M7	531	290	291	20	0
141	M8	529	295	295	31	0
142	M9	474	261	261	26	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	21	0
147	N3	712	392	392	39	0
148	N5	642	348	349	25	0
149	N6	1038	577	577	51	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	61	0
153	NA	399	210	210	10	0
154	NC	781	429	429	51	0
155	ND	419	225	225	19	0
156	O2	1226	669	669	48	0
157	O3	500	269	269	17	0
158	O5	1007	549	550	34	0
159	O6	471	260	261	27	0
160	O7	1073	582	583	41	0
161	O8	1188	653	654	52	0
162	O9	366	201	202	15	0
163	OA	389	212	213	12	0
164	OC	481	268	269	19	0
165	OD	1197	649	650	51	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	16	0
171	P8	479	277	278	36	0
172	P9	486	276	277	38	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	19	0
180	Q8	488	270	271	21	0
181	Q9	792	443	443	58	0
182	QA	582	313	313	23	0
183	QC	472	260	260	29	0
184	QD	626	351	351	36	0
185	R2	501	268	268	25	0
186	R3	369	202	203	24	0
187	R5	856	468	468	49	0
188	R7	664	359	359	29	0
189	R8	815	451	452	39	0
190	R9	946	521	521	52	0
191	RA	556	303	303	27	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
192	RC	648	361	362	36	0
193	RD	367	203	204	13	0
194	S2	621	337	338	31	0
195	S3	579	314	314	32	0
196	S5	658	356	356	21	0
197	S7	481	268	268	24	0
198	S8	817	452	452	47	0
199	S9	478	255	255	15	0
200	SA	493	269	270	22	0
201	SC	393	211	212	9	0
202	SD	537	290	290	19	0
203	T2	492	271	272	22	0
204	T3	919	506	506	55	0
205	T5	484	266	266	17	0
206	T7	1170	623	623	49	0
207	T8	497	270	271	18	0
208	T9	362	206	207	25	0
209	TA	868	468	468	42	0
210	TC	532	290	290	15	0
211	TD	861	478	478	53	0
212	U2	489	271	272	24	0
213	U3	543	291	292	21	0
214	U5	856	477	477	57	0
215	U7	470	262	263	25	0
216	U8	496	270	270	24	0
217	U9	493	270	271	23	0
218	UA	397	216	216	23	0
219	UC	656	363	364	31	0
220	UD	465	260	260	29	0
221	V2	551	306	307	27	0
222	V3	519	283	283	31	0
223	V5	845	459	459	42	0
224	V7	368	202	202	18	0
225	V8	460	245	245	18	0
226	V9	704	380	381	25	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	56	0
231	W5	640	353	353	45	0
232	W7	467	263	263	34	0
233	W8	437	236	237	16	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	16	0
236	X5	429	238	239	24	0
237	X7	465	259	260	18	0
238	X9	1210	661	661	48	0
All	All	296225	163115	163308	14633	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 14633 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)
11:AB:2263:DG:H1'	11:AB:2264:DC:H5'	1.92	0.52
11:AB:5866:DG:H1'	11:AB:5867:DC:H5'	1.92	0.52
43:D8:35:DG:H1'	117:K5:47:DC:H5'	1.92	0.52
11:AB:2668:DG:H1'	11:AB:2669:DC:H5'	1.92	0.52
11:AB:2674:DG:H1'	11:AB:2675:DC:H5'	1.92	0.52

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 monosaccharides 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

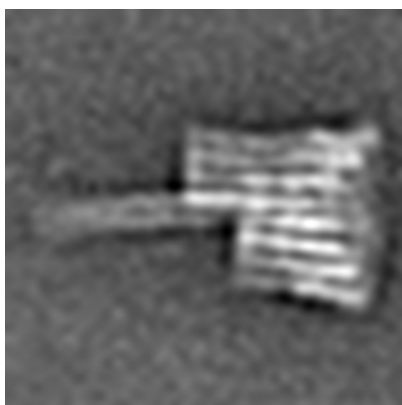
6 Map visualisation [i](#)

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.

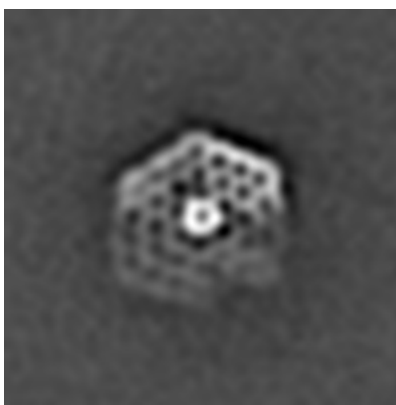
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



X



Y

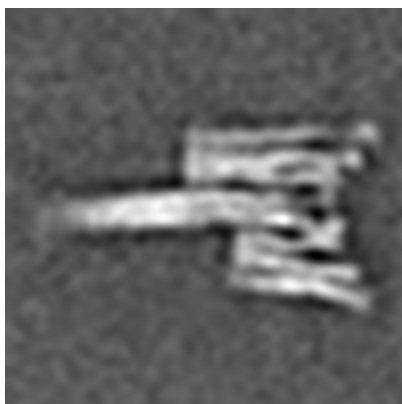


Z

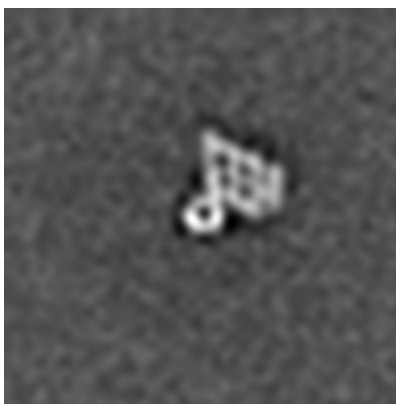
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 24



Y Index: 24

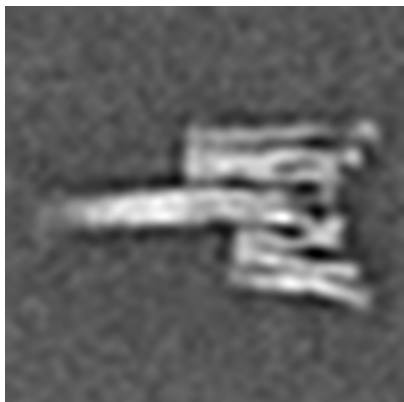


Z Index: 24

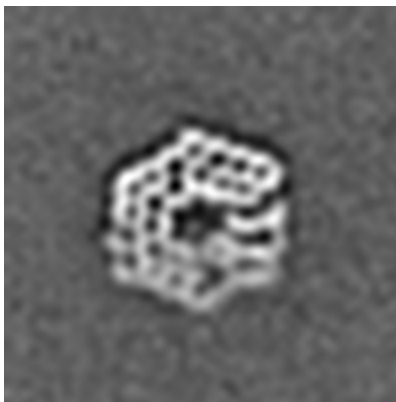
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 24



Y Index: 38



Z Index: 22

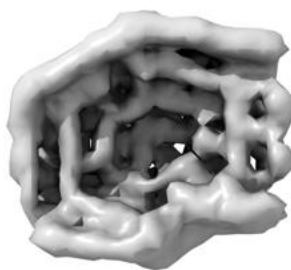
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

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

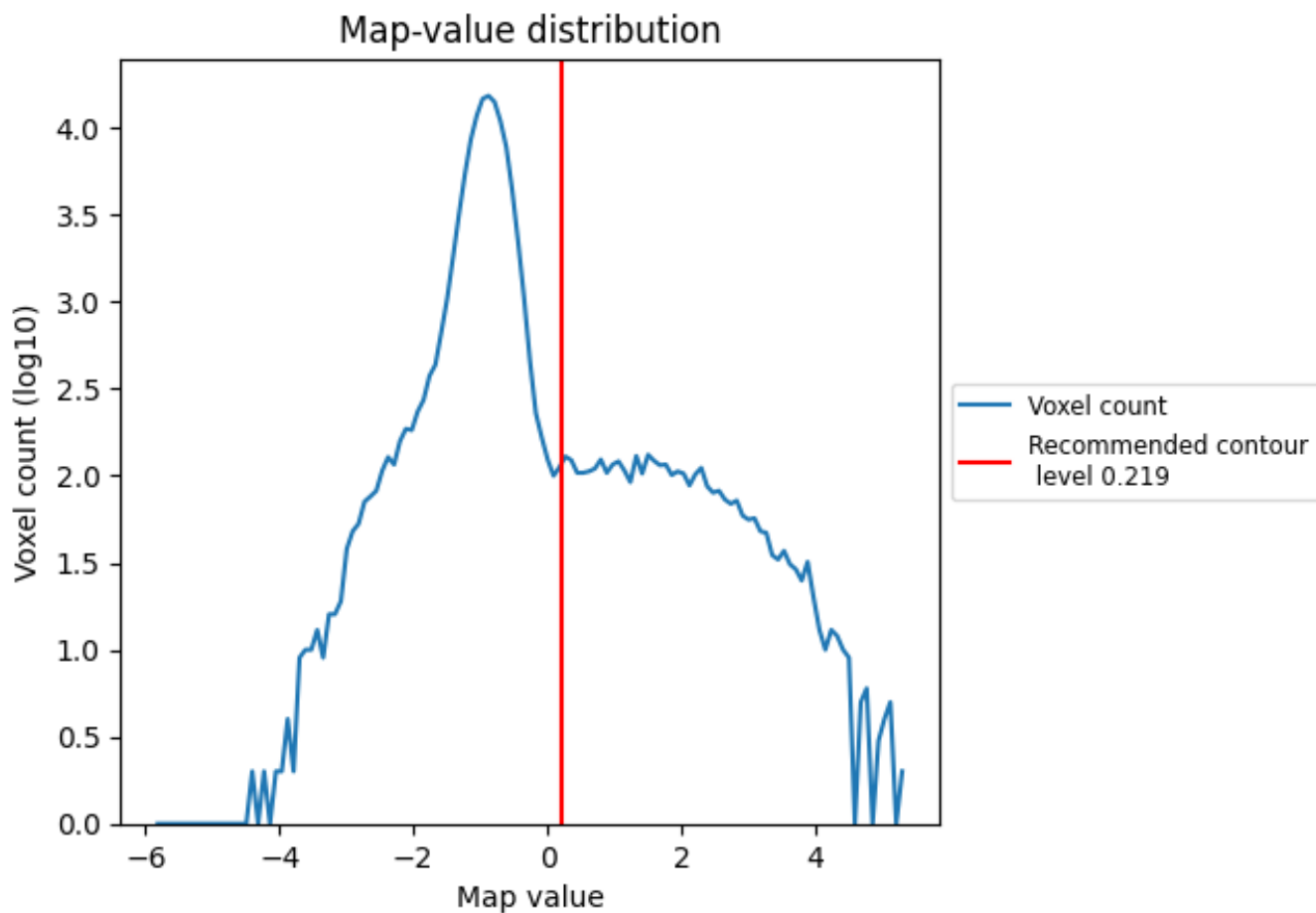
6.5 Mask visualisation

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

7 Map analysis [i](#)

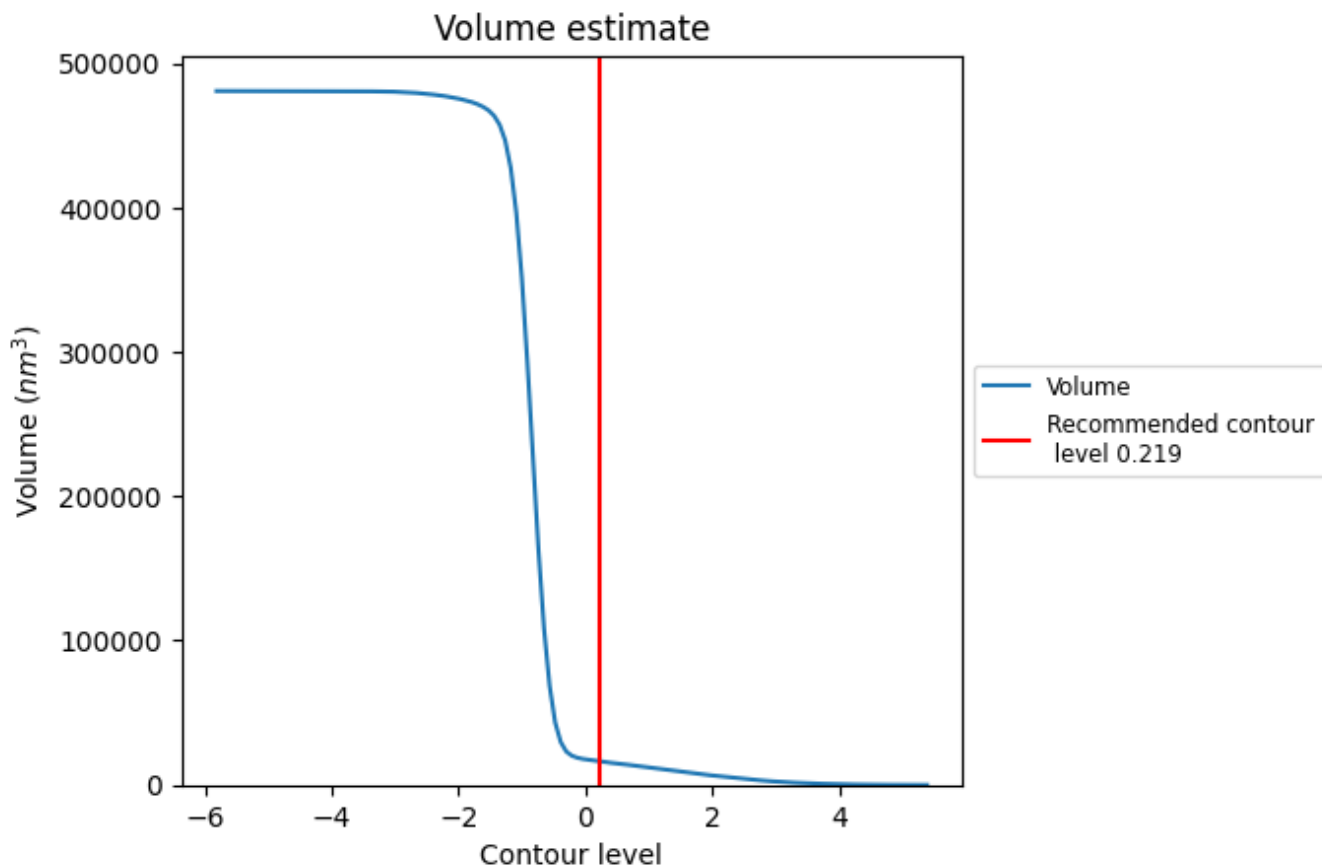
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

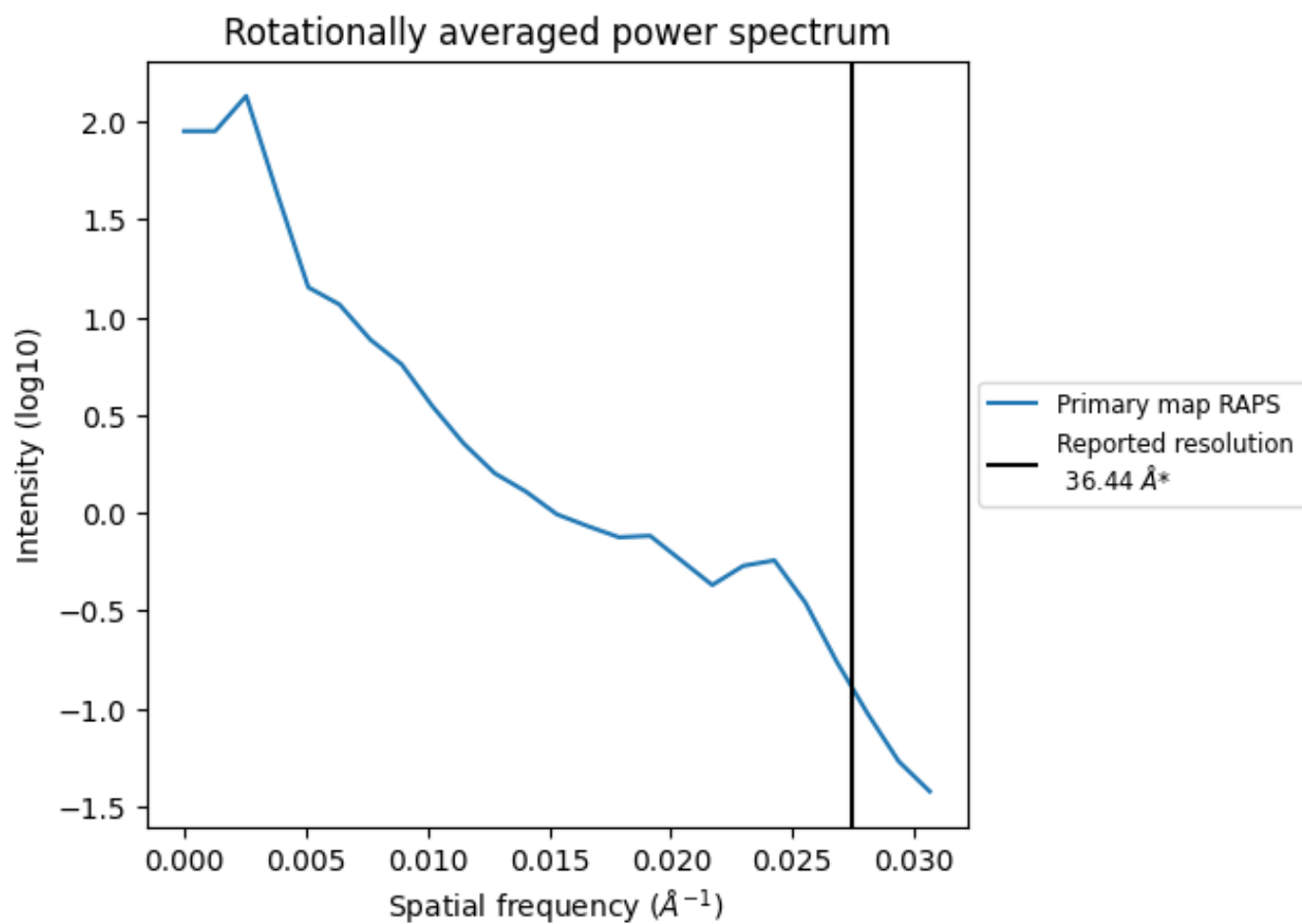
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 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 [i](#)



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

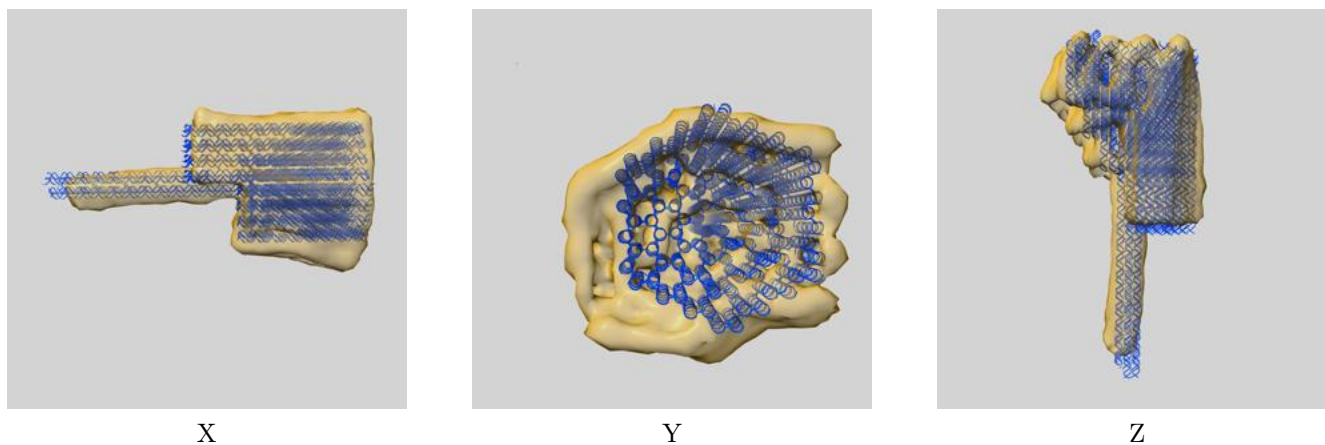
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

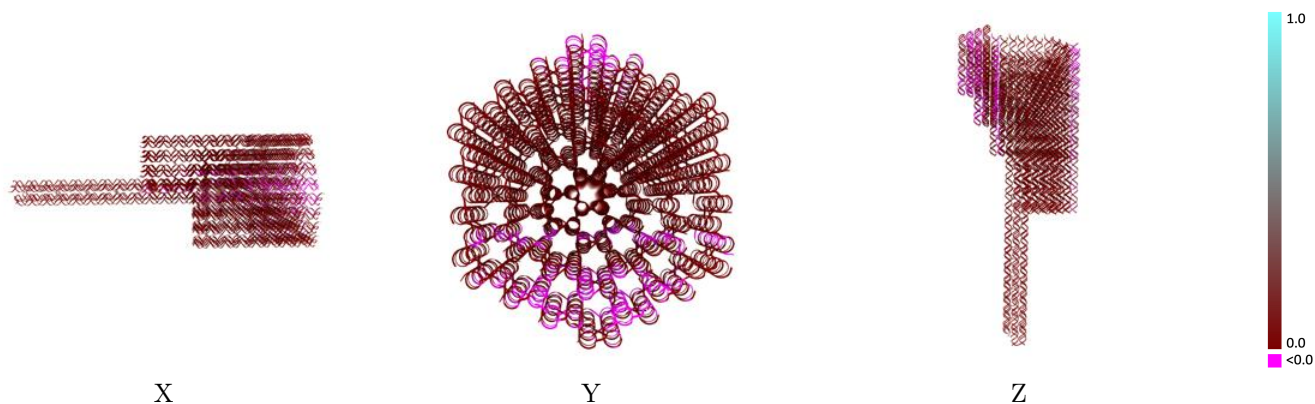
This section contains information regarding the fit between EMDB map EMD-12188 and PDB model 7BHO. Per-residue inclusion information can be found in section [3](#) on page [48](#).

9.1 Map-model overlay [i](#)



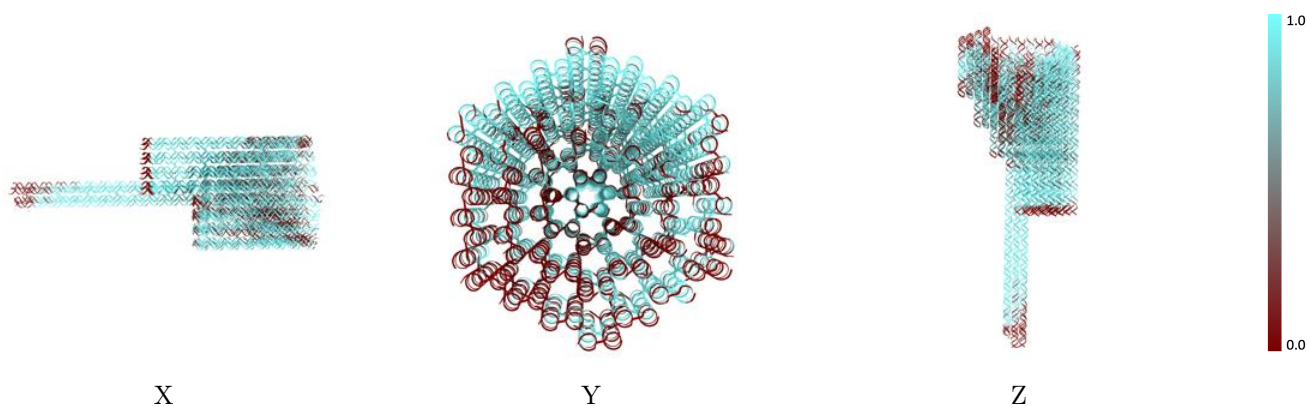
The images above show the 3D surface view of the map at the recommended contour level 0.219 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



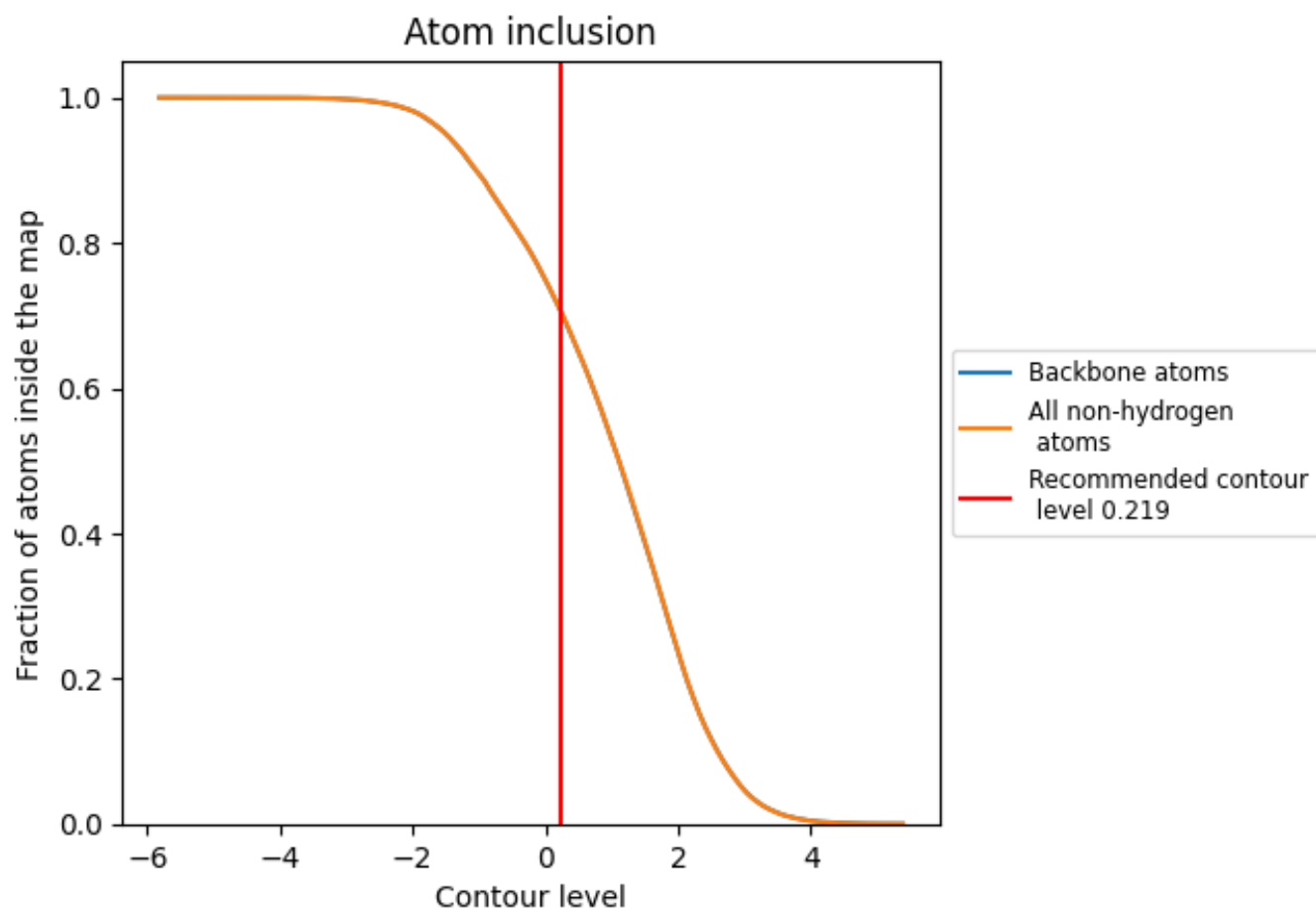
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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	0.7085	0.0000
A1	0.9837	0.0000
A2	0.8915	0.0000
A3	0.6469	0.0100
A4	0.5035	-0.0080
A5	1.0000	0.0000
A6	0.7439	0.0000
A7	0.8373	0.0000
A8	0.6452	0.0000
A9	0.9519	0.0000
AA	0.4559	-0.0150
AB	0.7088	0.0000
AC	0.9973	0.0000
AD	0.8705	0.0070
B1	0.9828	0.0000
B2	0.1432	0.0000
B3	0.3005	0.0000
B4	0.0000	0.0000
B5	0.8716	-0.0010
B6	0.8178	0.0000
B7	0.7713	0.0000
B8	0.5499	0.0000
B9	0.2841	-0.0040
BA	0.0000	0.0080
BC	0.3385	0.0000
BD	0.0000	-0.0030
C1	0.8223	0.0000
C2	0.6125	0.0000
C3	0.5294	-0.0100
C5	0.7002	0.0000
C6	0.9634	0.0000
C7	0.7979	0.0000
C8	0.8384	0.0000
C9	0.7388	0.0000
CA	0.2526	-0.0200























































































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Chain	Atom inclusion	Q-score
CC	 0.1861	 -0.0240
CD	 0.7129	 0.0000
D1	 1.0000	 0.0000
D2	 0.8184	 0.0000
D3	 0.9843	 0.0050
D5	 0.0000	 0.0000
D6	 0.9375	 0.0000
D7	 1.0000	 0.0000
D8	 0.9968	 0.0000
D9	 0.4968	 0.0000
DA	 0.9937	 -0.0010
DC	 0.3469	 -0.0010
DD	 0.8432	 0.0000
E1	 0.7415	 0.0000
E2	 0.9773	 0.0000
E3	 0.9464	 0.0240
E5	 0.6942	 0.0000
E6	 0.7483	 0.0000
E7	 0.9899	 0.0000
E8	 0.8183	 0.0050
E9	 0.9289	 0.0000
EA	 0.1077	 -0.0100
EC	 0.0400	 0.0000
ED	 0.4557	 0.0000
F1	 0.8812	 0.0000
F2	 0.9818	 0.0000
F3	 0.9495	 -0.0070
F5	 0.9609	 0.0000
F6	 0.1631	 0.0000
F7	 0.9665	 0.0000
F8	 0.4863	 0.0050
F9	 0.3342	 0.0000
FA	 0.5204	 -0.0040
FC	 0.5443	 0.0080
FD	 0.7984	 -0.0110
G1	 0.5347	 0.0000
G2	 0.2147	 0.0000
G3	 0.8739	 -0.0040
G5	 1.0000	 0.0000
G6	 0.9838	 0.0000
G7	 1.0000	 0.0000
G8	 0.6099	 -0.0090





















































































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Chain	Atom inclusion	Q-score
G9	 0.5861	 0.0000
GA	 0.2025	 0.0000
GC	 0.5850	 0.0200
GD	 0.9067	 0.0000
H1	 0.6230	 0.0000
H2	 0.9490	 0.0000
H3	 0.9306	 0.0080
H5	 1.0000	 0.0000
H6	 0.8613	 0.0000
H7	 0.6739	 0.0000
H8	 0.4249	 0.0010
H9	 0.9736	 0.0000
HA	 0.9021	 -0.0010
HC	 0.7582	 0.0050
HD	 0.5223	 0.0000
I1	 0.4302	 0.0000
I2	 0.7978	 0.0000
I3	 0.9271	 0.0090
I5	 0.9705	 0.0000
I6	 0.9558	 0.0000
I7	 0.7702	 0.0000
I8	 0.4466	 0.0130
I9	 0.9935	 0.0000
IA	 0.1186	 0.0000
IC	 0.6787	 0.0240
ID	 0.5515	 0.0000
J1	 0.9146	 0.0000
J2	 0.9332	 0.0000
J3	 0.7385	 0.0000
J5	 0.7409	 0.0000
J6	 0.8689	 0.0000
J7	 0.9419	 -0.0010
J8	 0.7066	 -0.0050
J9	 1.0000	 0.0000
JA	 0.2526	 0.0000
JC	 0.9737	 0.0430
JD	 0.5732	 0.0000
K1	 0.9590	 0.0000
K2	 0.6548	 0.0000
K3	 1.0000	 -0.0020
K5	 0.9729	 0.0000
K6	 0.2705	 0.0000





















































































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Chain	Atom inclusion	Q-score
K7	 0.9762	 -0.0000
K8	 0.7686	 0.0050
K9	 0.9045	 0.0000
KA	 0.5757	 0.0000
KC	 0.9402	 0.0360
KD	 0.5793	 0.0000
L1	 0.9379	 0.0000
L2	 0.3721	 0.0000
L3	 0.9869	 -0.0030
L5	 1.0000	 0.0000
L6	 0.7576	 0.0000
L7	 0.9669	 0.0030
L8	 0.9638	 -0.0040
L9	 0.4198	 0.0000
LA	 0.8931	 0.0000
LC	 0.0000	 -0.0010
LD	 0.9319	 0.0000
M2	 0.3102	 0.0000
M3	 0.9184	 -0.0010
M5	 1.0000	 0.0000
M6	 0.7806	 0.0000
M7	 0.7326	 0.0000
M8	 0.3856	 -0.0040
M9	 0.5738	 0.0000
MA	 0.7897	 0.0000
MC	 0.5378	 0.0100
MD	 0.8294	 0.0000
N2	 0.7071	 -0.0080
N3	 0.9480	 -0.0070
N5	 0.1121	 0.0000
N6	 0.7649	 0.0000
N7	 0.7215	 0.0000
N8	 0.4042	 -0.0250
N9	 0.8403	 0.0160
NA	 0.2682	 0.0000
NC	 0.6569	 0.0290
ND	 0.6229	 0.0000
O2	 0.3899	 -0.0020
O3	 0.9980	 -0.0020
O5	 0.8381	 0.0140
O6	 0.7473	 0.0000
O7	 0.8183	 0.0000









































































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Chain	Atom inclusion	Q-score
O8	 0.7904	 -0.0020
O9	 0.7322	 0.0000
OA	 0.8226	 0.0000
OC	 0.0499	 -0.0690
OD	 0.8421	 0.0080
P2	 0.5191	 -0.0030
P3	 1.0000	 -0.0000
P5	 1.0000	 0.0000
P6	 0.3727	 0.0000
P7	 0.2156	 0.0000
P8	 0.3111	 -0.0380
P9	 1.0000	 0.0000
PA	 1.0000	 0.0000
PC	 0.4139	 0.0470
PD	 0.7104	 0.0000
Q2	 0.0000	 -0.0120
Q3	 0.6915	 0.0000
Q5	 1.0000	 0.0000
Q7	 0.2627	 0.0000
Q8	 0.0020	 -0.0240
Q9	 0.8838	 0.0100
QA	 0.9966	 0.0000
QC	 0.5424	 -0.0090
QD	 0.8882	 0.0000
R2	 0.9242	 0.0290
R3	 1.0000	 0.0000
R5	 0.7313	 0.0000
R7	 0.8404	 0.0000
R8	 0.3301	 0.0030
R9	 0.8118	 0.0000
RA	 1.0000	 0.0000
RC	 0.1898	 0.0030
RD	 0.7057	 0.0000
S2	 0.1691	 0.0050
S3	 0.9689	 0.0000
S5	 0.3997	 0.0000
S7	 0.9938	 0.0000
S8	 0.5789	 -0.0100
S9	 0.5439	 -0.0000
SA	 0.8256	 0.0000
SC	 0.8728	 0.0270
SD	 0.8324	 -0.0010

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Chain	Atom inclusion	Q-score
T2	 0.5793	 0.0060
T3	 0.8792	 -0.0020
T5	 1.0000	 0.0000
T7	 0.9607	 0.0000
T8	 0.0000	 0.0020
T9	 0.5856	 0.0000
TA	 0.7661	 0.0000
TC	 0.5282	 -0.0190
TD	 0.9826	 -0.0010
U2	 0.1616	 0.0050
U3	 0.9945	 0.0000
U5	 1.0000	 0.0000
U7	 0.3830	 0.0000
U8	 0.0000	 -0.0200
U9	 1.0000	 -0.0040
UA	 0.5970	 0.0000
UC	 0.0000	 -0.0360
UD	 0.6624	 -0.0070
V2	 0.6788	 0.0000
V3	 0.9807	 0.0000
V5	 0.8627	 0.0000
V7	 0.0815	 0.0000
V8	 0.9870	 0.0060
V9	 0.4830	 0.0000
VA	 0.9429	 0.0000
VC	 0.0971	 0.0140
VD	 0.6201	 0.0000
W3	 0.9921	 0.0000
W5	 0.2234	 0.0000
W7	 0.7302	 0.0000
W8	 0.0000	 0.0060
W9	 0.8586	 0.0000
WD	 0.1622	 0.0000
X5	 0.1049	 0.0000
X7	 0.3828	 0.0000
X9	 0.5430	 0.0000