wwPDB EM Validation Summary Report (i)

Dec 18, 2022 – 08:55 pm GMT

PDB ID	:	7ARY
EMDB ID	:	EMD-11378
Title	:	Twist-Tower_twist-corrected-variant
Authors	:	Kube, M.; Kohler, F.; Feigl, E.; Nagel-Yuksel, B.; Willner, E.M.; Funke, J.J.; Gerling, T.; Stommer, P.; Honemann, M.N.; Martin, T.G.; Scheres, S.H.W.; Dietz, H.
Deposited on	:	2020-10-26
Resolution	:	8.50 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 (i) 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 (i)) 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 8.50 Å.

There are no overall percentile quality scores available for this entry.

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	AA	8064	19% 62% 32% 5%
2	AB	47	57% 38% .
3	AC	53	. 62% 36% .
4	AD	48	56% 38% 6%
5	AE	48	. 71% 27% .
6	AF	55	56% 35% 9%
7	AG	48	79% 75% 23% .
8	AH	31	68% 26% 6%
9	AI	28	71% 25% .
10	AJ	48	81% 15% .
11	AK	32	66% 34%
12	AL	52	27% 71% 25% .
13	AM	38	84% 16%
14	AN	46	15% 74% 24% .
15	AO	46	. 72% 26% .
16	AP	48	8% 71% 27% .
17	AQ	48	67% 75% 25%

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Mol	Chain	Length	Quality of chain
18	AR	46	9% 76% 20%
19	AS	50	24% 70% 28%
20	AT	47	15% 72% 23%
21	AU	40	20% 62% 32% 5%
22	AV	45	53% 69% 29%
23	AW	48	75% 21%
24	AX	37	8% 54% 43%
25	AY	47	6% 66% 32%
26	AZ	40	65% 32%
27	Aa	53	8% 70% 26%
28	Ab	39	10% 67% 31%
29	Ac	31	29% 84% 13%
30	Ad	45	62% 31% 7%
31	Ae	52	37% 69% 27%
32	Af	46	63% 33%
33	Ag	30	7% 63% 33%
34	Ah	39	8% 82% 15%
35	Ai	48	65% 60% 31% 8%
36	Aj	40	72% 22% 5%
37	Ak	38	11% 79% 18%
38	Al	56	27% 71% 29%
39	Am	38	24% 82% 16%
40	An	45	67% 29%
41	Ao	46	13% 74% 22%
42	Ap	48	23% 69% 29%

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Mol	Chain	Length	Quality of chain
43	Aq	32	59% 34% 6%
44	Ar	48	19% 67% 31%
45	As	48	23% 58% 42%
46	At	54	19% 67% 30%
47	Au	46	22% 78% 22%
48	Av	48	38% 65% 29% 6%
49	Aw	48	83% 88% 8%
50	Ax	45	67% 31%
51	Ay	31	19% 77% 19%
52	Az	30	30% 60% 40%
53	A0	32	66% 34%
54	A1	48	29% 69% 29%
55	A2	46	22% 67% 30%
56	A3	30	10% 67% 30%
57	A4	45	13% 76% 20%
58	A5	45	47% 82% 16%
59	A6	48	19% 67% 31%
60	A7	48	31% 67% 25% 8%
61	A8	60	58% 73% 23%
62	A9	38	50% 63% 34%
63	BA	48	6% 60% 40%
64	BB	31	48% 68% 29%
65	BC	60	57% 75% 25%
66	BD	53	79% 15% 6%
67	BE	32	75% 25%

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Mol	Chain	Length	Quality of chain
68	BF	38	11% 63% 32% 5%
69	BG	47	9% 57% 34% 9%
70	BH	57	53% 68% 28% .
71	BI	45	. 76% 20% .
72	BJ	45	11% 69% 31%
73	BK	48	10% 63% 33% .
74	BL	45	. 64% 36%
75	BM	48	25% 69% 29% .
76	BN	30	40% 73% 17% 10%
77	BO	45	11% 62% 31% 7%
78	BP	45	27% 67% 31% .
79	BQ	45	27% 64% 36%
80	BR	38	21% 66% 29% 5%
81	BS	48	19% 77% 21% .
82	BT	52	13% 71% 25% .
83	BU	39	5% 59% 31% 10%
84	BV	32	31% 56% 38% 6%
85	BW	31	. 65% 35%
86	BX	45	33% 84% 16%
87	BY	52	12% 77% 21% .
88	BZ	46	80% 20%
89	Ba	46	. 63% 33% .
90	Bb	38	11% 53% 32% 16%
91	Bc	45	38% 64% 29% 7%
92	Bd	48	29% 71% 25% .

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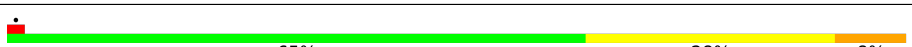
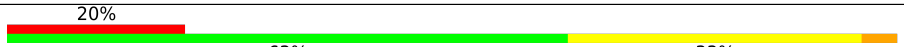
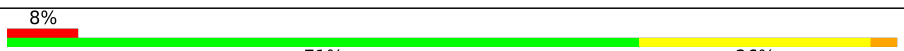
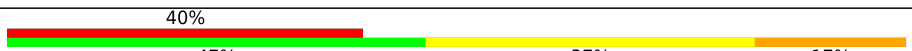
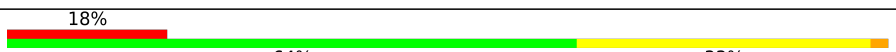
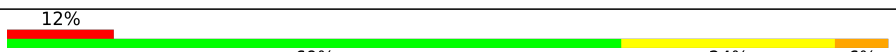
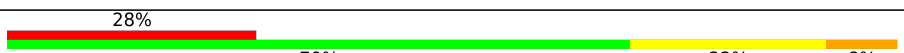
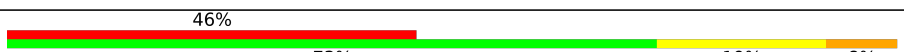
Mol	Chain	Length	Quality of chain
93	Be	45	
94	Bf	38	
95	Bg	38	
96	Bh	40	
97	Bi	49	
98	Bj	48	
99	Bk	30	
100	Bl	40	
101	Bm	38	
102	Bn	43	
103	Bo	45	
104	Bp	47	
105	Bq	48	
106	Br	38	
107	Bs	30	
108	Bt	45	
109	Bu	49	
110	Bv	40	
111	Bw	37	
112	Bx	52	
113	By	30	
114	Bz	40	
115	B0	30	
116	B1	52	
117	B2	30	

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Mol	Chain	Length	Quality of chain
118	B3	56	11% 68% 29%
119	B4	48	19% 77% 21%
120	B5	31	29% 71% 29%
121	B6	45	24% 42% 53%
122	B7	37	16% 76% 22%
123	B8	52	27% 65% 35%
124	B9	38	21% 50% 45% 5%
125	CA	32	31% 59% 41%
126	CB	32	6% 53% 34% 12%
127	CC	30	40% 63% 37%
128	CD	59	59% 66% 25% 8%
129	CE	52	12% 75% 21%
130	CF	40	15% 65% 35%
131	CG	31	61% 35%
132	CH	53	9% 58% 36% 6%
133	CI	30	10% 70% 20% 10%
134	CJ	49	10% 63% 35%
135	CK	56	71% 62% 30% 7%
136	CL	31	71% 29%
137	CM	32	50% 47%
138	CN	40	25% 60% 38%
139	CO	30	23% 70% 20% 10%
140	CP	54	22% 69% 24% 7%
141	CQ	48	75% 21%
142	CR	45	38% 67% 31%

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Mol	Chain	Length	Quality of chain
143	CS	48	6% 58% 40%
144	CT	38	53% 42% 5%
145	CU	30	13% 63% 37%
146	CV	32	28% 75% 25%
147	CW	47	11% 70% 26%
148	CX	48	33% 71% 25%
149	CY	48	63% 33%
150	CZ	46	7% 65% 30%
151	Ca	39	10% 69% 26% 5%
152	Cb	45	22% 80% 16%
153	Cc	30	13% 47% 43% 10%
154	Cd	38	21% 79% 16% 5%
155	Ce	30	10% 63% 33%
156	Cf	40	62% 35%
157	Cg	38	24% 68% 21% 11%
158	Ch	45	27% 60% 40%
159	Ci	48	52% 58% 35% 6%
160	Cj	54	56% 37% 7%
161	Ck	46	26% 70% 28%
162	Cl	45	9% 60% 31% 9%
163	Cm	38	16% 58% 42%
164	Cn	45	36% 73% 27%
165	Co	37	30% 54% 41% 5%
166	Cp	37	51% 41% 8%
167	Cq	36	6% 78% 17% 6%

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Mol	Chain	Length	Quality of chain
168	Cr	38	5% 55% 37% 8%
169	Cs	39	10% 67% 26% 8%
170	Ct	38	55% 42%
171	Cu	36	19% 69% 31%
172	Cv	37	57% 32% 11%
173	Cw	31	26% 61% 39%
174	Cx	37	41% 73% 16% 11%
175	Cy	45	42% 56% 42%
176	Cz	52	13% 67% 25% 8%
177	C0	60	22% 72% 23% 5%
178	C1	47	60% 60% 36%
179	C2	32	44% 69% 28%
180	C3	37	19% 78% 22%
181	C4	57	28% 72% 28%
182	C5	44	95% 59% 41%
183	C6	47	28% 68% 28%
184	C7	47	13% 72% 26%
185	C8	38	29% 71% 26%
186	C9	37	41% 68% 32%
187	DA	60	28% 48% 47% 5%
188	DB	43	93% 74% 23%
189	DC	46	11% 67% 33%
190	DD	38	58% 39%
191	DE	46	61% 37%
192	DF	31	19% 68% 29%

2 Entry composition (i)

There are 192 unique types of molecules in this entry. The entry contains 331913 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a DNA chain called SCAFFOLD STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	AA	8064	164972	78873	29001	49035	8063	0	0

- Molecule 2 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	AB	47	972	463	191	272	46	0	0

- Molecule 3 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	AC	53	1091	520	212	307	52	0	0

- Molecule 4 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	AD	48	989	472	188	282	47	0	0

- Molecule 5 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	AE	48	971	465	171	288	47	0	0

- Molecule 6 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	AF	55	1131	540	216	321	54	0	0

- Molecule 7 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AG	48	Total 970	C 471	N 150	O 302	P 47	0	0

- Molecule 8 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AH	31	Total 636	C 307	N 116	O 183	P 30	0	0

- Molecule 9 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AI	28	Total 570	C 277	N 92	O 174	P 27	0	0

- Molecule 10 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AJ	48	Total 977	C 468	N 177	O 285	P 47	0	0

- Molecule 11 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AK	32	Total 657	C 312	N 123	O 191	P 31	0	0

- Molecule 12 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AL	52	Total 1065	C 511	N 188	O 315	P 51	0	0

- Molecule 13 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AM	38	Total 766	C 374	N 121	O 234	P 37	0	0

- Molecule 14 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AN	46	Total 946	C 453	N 174	O 274	P 45	0	0

- Molecule 15 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AO	46	Total 947	C 450	N 192	O 260	P 45	0	0

- Molecule 16 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AP	48	Total 982	C 470	N 175	O 290	P 47	0	0

- Molecule 17 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AQ	48	Total 972	C 473	N 157	O 295	P 47	0	0

- Molecule 18 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AR	46	Total 942	C 451	N 170	O 276	P 45	0	0

- Molecule 19 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AS	50	Total 1012	C 488	N 184	O 291	P 49	0	0

- Molecule 20 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AT	47	Total 959	C 458	N 184	O 271	P 46	0	0

- Molecule 21 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AU	40	Total	C	N	O	P	0	0
			823	391	164	229	39		

- Molecule 22 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AV	45	Total	C	N	O	P	0	0
			918	445	149	280	44		

- Molecule 23 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AW	48	Total	C	N	O	P	0	0
			982	467	187	281	47		

- Molecule 24 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AX	37	Total	C	N	O	P	0	0
			763	360	156	211	36		

- Molecule 25 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AY	47	Total	C	N	O	P	0	0
			966	466	176	278	46		

- Molecule 26 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AZ	40	Total	C	N	O	P	0	0
			813	388	152	234	39		

- Molecule 27 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	Aa	53	Total	C	N	O	P	0	0
			1086	519	204	311	52		

- Molecule 28 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	Ab	39	Total 798	C 383	N 145	O 232	P 38	0	0

- Molecule 29 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Ac	31	Total 624	C 300	N 108	O 186	P 30	0	0

- Molecule 30 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Ad	45	Total 927	C 443	N 187	O 253	P 44	0	0

- Molecule 31 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	Ae	52	Total 1056	C 509	N 175	O 321	P 51	0	0

- Molecule 32 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Af	46	Total 936	C 449	N 169	O 273	P 45	0	0

- Molecule 33 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ag	30	Total 616	C 296	N 109	O 182	P 29	0	0

- Molecule 34 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ah	39	Total 801	C 380	N 157	O 226	P 38	0	0

- Molecule 35 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ai	48	Total 981	C 475	N 158	O 301	P 47	0	0

- Molecule 36 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	Aj	40	Total 820	C 392	N 163	O 226	P 39	0	0

- Molecule 37 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	Ak	38	Total 775	C 371	N 145	O 222	P 37	0	0

- Molecule 38 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Al	56	Total 1136	C 546	N 207	O 328	P 55	0	0

- Molecule 39 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	Am	38	Total 772	C 375	N 126	O 234	P 37	0	0

- Molecule 40 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	An	45	Total 912	C 435	N 168	O 265	P 44	0	0

- Molecule 41 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Ao	46	Total 942	C 450	N 180	O 267	P 45	0	0

- Molecule 42 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	Ap	48	Total 974	C 470	N 166	O 291	P 47	0	0

- Molecule 43 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Aq	32	Total 662	C 317	N 130	O 184	P 31	0	0

- Molecule 44 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ar	48	Total 988	C 475	N 179	O 287	P 47	0	0

- Molecule 45 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	As	48	Total 991	C 471	N 204	O 269	P 47	0	0

- Molecule 46 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	At	54	Total 1105	C 528	N 210	O 314	P 53	0	0

- Molecule 47 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Au	46	Total 934	C 452	N 166	O 271	P 45	0	0

- Molecule 48 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	Av	48	Total 985	C 473	N 187	O 278	P 47	0	0

- Molecule 49 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	Aw	48	Total 964	C 466	N 155	O 296	P 47	0	0

- Molecule 50 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	Ax	45	Total 917	C 439	N 179	O 255	P 44	0	0

- Molecule 51 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	Ay	31	Total 643	C 304	N 131	O 178	P 30	0	0

- Molecule 52 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	Az	30	Total 613	C 293	N 118	O 173	P 29	0	0

- Molecule 53 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	A0	32	Total 647	C 308	N 124	O 184	P 31	0	0

- Molecule 54 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	A1	48	Total 984	C 471	N 186	O 280	P 47	0	0

- Molecule 55 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	A2	46	Total 941	C 452	N 181	O 263	P 45	0	0

- Molecule 56 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	A3	30	Total 615	C 294	N 117	O 175	P 29	0	0

- Molecule 57 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	A4	45	Total 914	C 440	N 166	O 264	P 44	0	0

- Molecule 58 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	A5	45	Total 923	C 447	N 165	O 267	P 44	0	0

- Molecule 59 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	A6	48	Total 994	C 474	N 198	O 275	P 47	0	0

- Molecule 60 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	A7	48	Total 977	C 474	N 168	O 288	P 47	0	0

- Molecule 61 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	A8	60	Total 1206	C 582	N 192	O 373	P 59	0	0

- Molecule 62 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	A9	38	Total 778	C 371	N 151	O 219	P 37	0	0

- Molecule 63 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BA	48	Total	C	N	O	P	0	0
			980	469	188	276	47		

- Molecule 64 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BB	31	Total	C	N	O	P	0	0
			637	303	129	175	30		

- Molecule 65 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BC	60	Total	C	N	O	P	0	0
			1223	583	224	357	59		

- Molecule 66 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BD	53	Total	C	N	O	P	0	0
			1088	521	211	304	52		

- Molecule 67 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BE	32	Total	C	N	O	P	0	0
			648	312	120	185	31		

- Molecule 68 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BF	38	Total	C	N	O	P	0	0
			779	373	155	214	37		

- Molecule 69 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BG	47	Total	C	N	O	P	0	0
			959	462	162	289	46		

- Molecule 70 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BH	57	Total 1159	C 563	N 178	O 362	P 56	0	0

- Molecule 71 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BI	45	Total 917	C 437	N 172	O 264	P 44	0	0

- Molecule 72 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BJ	45	Total 927	C 442	N 179	O 262	P 44	0	0

- Molecule 73 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	BK	48	Total 981	C 470	N 178	O 286	P 47	0	0

- Molecule 74 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	BL	45	Total 918	C 441	N 165	O 268	P 44	0	0

- Molecule 75 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	BM	48	Total 990	C 475	N 188	O 280	P 47	0	0

- Molecule 76 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	BN	30	Total 618	C 296	N 118	O 175	P 29	0	0

- Molecule 77 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	BO	45	Total 914	C 438	N 165	O 267	P 44	0	0

- Molecule 78 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	BP	45	Total 920	C 440	N 178	O 258	P 44	0	0

- Molecule 79 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	BQ	45	Total 929	C 443	N 181	O 261	P 44	0	0

- Molecule 80 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	BR	38	Total 770	C 370	N 134	O 229	P 37	0	0

- Molecule 81 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	BS	48	Total 972	C 471	N 168	O 286	P 47	0	0

- Molecule 82 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	BT	52	Total 1070	C 507	N 213	O 299	P 51	0	0

- Molecule 83 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	BU	39	Total 784	C 375	N 138	O 233	P 38	0	0

- Molecule 84 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	BV	32	Total 646	C 311	N 109	O 195	P 31	0	0

- Molecule 85 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	BW	31	Total 624	C 297	N 117	O 180	P 30	0	0

- Molecule 86 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	BX	45	Total 913	C 438	N 168	O 263	P 44	0	0

- Molecule 87 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
87	BY	52	Total 1065	C 512	N 196	O 306	P 51	0	0

- Molecule 88 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
88	BZ	46	Total 957	C 453	N 189	O 270	P 45	0	0

- Molecule 89 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
89	Ba	46	Total 952	C 452	N 190	O 265	P 45	0	0

- Molecule 90 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
90	Bb	38	Total 791	C 376	N 161	O 217	P 37	0	0

- Molecule 91 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
91	Bc	45	Total 923	C 444	N 165	O 270	P 44	0	0

- Molecule 92 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
92	Bd	48	Total 985	C 473	N 190	O 275	P 47	0	0

- Molecule 93 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
93	Be	45	Total 908	C 432	N 174	O 258	P 44	0	0

- Molecule 94 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
94	Bf	38	Total 776	C 375	N 138	O 226	P 37	0	0

- Molecule 95 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
95	Bg	38	Total 783	C 373	N 149	O 224	P 37	0	0

- Molecule 96 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
96	Bh	40	Total 814	C 388	N 161	O 226	P 39	0	0

- Molecule 97 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
97	Bi	49	Total 993	C 483	N 159	O 303	P 48	0	0

- Molecule 98 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
98	Bj	48	Total 991	C 475	N 194	O 275	P 47	0	0

- Molecule 99 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
99	Bk	30	Total 620	C 296	N 124	O 171	P 29	0	0

- Molecule 100 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
100	Bl	40	Total 829	C 394	N 167	O 229	P 39	0	0

- Molecule 101 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
101	Bm	38	Total 773	C 370	N 149	O 217	P 37	0	0

- Molecule 102 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
102	Bn	43	Total 878	C 425	N 154	O 257	P 42	0	0

- Molecule 103 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
103	Bo	45	Total 914	C 445	N 149	O 276	P 44	0	0

- Molecule 104 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
104	Bp	47	Total 974	C 463	N 194	O 271	P 46	0	0

- Molecule 105 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
105	Bq	48	Total 984	C 474	N 165	O 298	P 47	0	0

- Molecule 106 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
106	Br	38	Total 778	C 375	N 138	O 228	P 37	0	0

- Molecule 107 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
107	Bs	30	Total 609	C 296	N 100	O 184	P 29	0	0

- Molecule 108 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
108	Bt	45	Total 919	C 445	N 155	O 275	P 44	0	0

- Molecule 109 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
109	Bu	49	Total 1004	C 487	N 167	O 302	P 48	0	0

- Molecule 110 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
110	Bv	40	Total 815	C 387	N 159	O 230	P 39	0	0

- Molecule 111 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
111	Bw	37	Total 752	C 365	N 136	O 215	P 36	0	0

- Molecule 112 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
112	Bx	52	Total 1059	C 516	N 168	O 324	P 51	0	0

- Molecule 113 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
113	By	30	Total 625	C 297	N 126	O 173	P 29	0	0

- Molecule 114 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
114	Bz	40	Total 821	C 393	N 162	O 227	P 39	0	0

- Molecule 115 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
115	B0	30	Total 613	C 296	N 112	O 176	P 29	0	0

- Molecule 116 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
116	B1	52	Total 1065	C 520	N 170	O 324	P 51	0	0

- Molecule 117 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
117	B2	30	Total 614	C 295	N 116	O 174	P 29	0	0

- Molecule 118 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
118	B3	56	Total 1143	C 545	N 214	O 329	P 55	0	0

- Molecule 119 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
119	B4	48	Total 988	C 468	N 195	O 278	P 47	0	0

- Molecule 120 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
120	B5	31	Total 632	C 308	N 106	O 188	P 30	0	0

- Molecule 121 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
121	B6	45	Total 929	C 444	N 171	O 270	P 44	0	0

- Molecule 122 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
122	B7	37	Total 761	C 362	N 145	O 218	P 36	0	0

- Molecule 123 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
123	B8	52	Total 1066	C 510	N 183	O 322	P 51	0	0

- Molecule 124 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
124	B9	38	Total 768	C 370	N 128	O 233	P 37	0	0

- Molecule 125 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
125	CA	32	Total 644	C 307	N 119	O 187	P 31	0	0

- Molecule 126 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
126	CB	32	Total 656	C 313	N 122	O 190	P 31	0	0

- Molecule 127 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
127	CC	30	Total 624	C 295	N 125	O 175	P 29	0	0

- Molecule 128 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
128	CD	59	Total 1200	C 576	N 204	O 362	P 58	0	0

- Molecule 129 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
129	CE	52	Total 1062	C 511	N 194	O 306	P 51	0	0

- Molecule 130 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
130	CF	40	Total 816	C 387	N 162	O 228	P 39	0	0

- Molecule 131 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
131	CG	31	Total 626	C 296	N 115	O 185	P 30	0	0

- Molecule 132 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
132	CH	53	Total 1098	C 522	N 204	O 320	P 52	0	0

- Molecule 133 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
133	CI	30	Total	C	N	O	P	0	0
			614	293	115	177	29		

- Molecule 134 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
134	CJ	49	Total	C	N	O	P	0	0
			988	483	144	313	48		

- Molecule 135 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
135	CK	56	Total	C	N	O	P	0	0
			1138	548	181	354	55		

- Molecule 136 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
136	CL	31	Total	C	N	O	P	0	0
			640	304	122	184	30		

- Molecule 137 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
137	CM	32	Total	C	N	O	P	0	0
			653	311	127	184	31		

- Molecule 138 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
138	CN	40	Total	C	N	O	P	0	0
			827	394	164	230	39		

- Molecule 139 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
139	CO	30	Total	C	N	O	P	0	0
			607	291	108	179	29		

- Molecule 140 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
140	CP	54	Total	C	N	O	P	0	0
			1106	527	196	330	53		

- Molecule 141 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
141	CQ	48	Total	C	N	O	P	0	0
			976	465	180	284	47		

- Molecule 142 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
142	CR	45	Total	C	N	O	P	0	0
			923	442	167	270	44		

- Molecule 143 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
143	CS	48	Total	C	N	O	P	0	0
			983	466	185	285	47		

- Molecule 144 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
144	CT	38	Total	C	N	O	P	0	0
			769	366	144	222	37		

- Molecule 145 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
145	CU	30	Total	C	N	O	P	0	0
			619	294	123	173	29		

- Molecule 146 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
146	CV	32	Total	C	N	O	P	0	0
			652	309	126	186	31		

- Molecule 147 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
147	CW	47	Total 970	C 462	N 183	O 279	P 46	0	0

- Molecule 148 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
148	CX	48	Total 974	C 472	N 158	O 297	P 47	0	0

- Molecule 149 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
149	CY	48	Total 995	C 468	N 201	O 279	P 47	0	0

- Molecule 150 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
150	CZ	46	Total 948	C 456	N 162	O 285	P 45	0	0

- Molecule 151 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
151	Ca	39	Total 798	C 380	N 157	O 223	P 38	0	0

- Molecule 152 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
152	Cb	45	Total 933	C 441	N 189	O 259	P 44	0	0

- Molecule 153 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
153	Cc	30	Total 616	C 293	N 112	O 182	P 29	0	0

- Molecule 154 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
154	Cd	38	Total 779	C 368	N 151	O 223	P 37	0	0

- Molecule 155 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
155	Ce	30	Total 603	C 288	N 105	O 181	P 29	0	0

- Molecule 156 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
156	Cf	40	Total 803	C 385	N 149	O 230	P 39	0	0

- Molecule 157 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
157	Cg	38	Total 779	C 371	N 145	O 226	P 37	0	0

- Molecule 158 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
158	Ch	45	Total 928	C 441	N 177	O 266	P 44	0	0

- Molecule 159 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
159	Ci	48	Total 977	C 469	N 158	O 303	P 47	0	0

- Molecule 160 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
160	Cj	54	Total 1107	C 525	N 207	O 322	P 53	0	0

- Molecule 161 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
161	Ck	46	Total 948	C 451	N 185	O 267	P 45	0	0

- Molecule 162 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
162	Cl	45	Total 913	C 435	N 162	O 272	P 44	0	0

- Molecule 163 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
163	Cm	38	Total 765	C 369	N 123	O 236	P 37	0	0

- Molecule 164 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
164	Cn	45	Total 916	C 437	N 178	O 257	P 44	0	0

- Molecule 165 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
165	Co	37	Total 752	C 364	N 125	O 227	P 36	0	0

- Molecule 166 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
166	Cp	37	Total 752	C 358	N 134	O 224	P 36	0	0

- Molecule 167 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
167	Cq	36	Total 731	C 350	N 127	O 219	P 35	0	0

- Molecule 168 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
168	Cr	38	Total 778	C 371	N 142	O 228	P 37	0	0

- Molecule 169 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
169	Cs	39	Total 804	C 381	N 147	O 238	P 38	0	0

- Molecule 170 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
170	Ct	38	Total 781	C 371	N 157	O 216	P 37	0	0

- Molecule 171 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
171	Cu	36	Total 736	C 355	N 125	O 221	P 35	0	0

- Molecule 172 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
172	Cv	37	Total 748	C 360	N 123	O 229	P 36	0	0

- Molecule 173 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
173	Cw	31	Total 629	C 300	N 123	O 176	P 30	0	0

- Molecule 174 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
174	Cx	37	Total 761	C 364	N 152	O 209	P 36	0	0

- Molecule 175 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
175	Cy	45	Total	C	N	O	P	0	0
			917	436	167	270	44		

- Molecule 176 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
176	Cz	52	Total	C	N	O	P	0	0
			1061	510	180	320	51		

- Molecule 177 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
177	C0	60	Total	C	N	O	P	0	0
			1215	590	190	376	59		

- Molecule 178 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
178	C1	47	Total	C	N	O	P	0	0
			964	461	178	279	46		

- Molecule 179 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
179	C2	32	Total	C	N	O	P	0	0
			660	316	125	188	31		

- Molecule 180 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
180	C3	37	Total	C	N	O	P	0	0
			757	360	141	220	36		

- Molecule 181 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
181	C4	57	Total	C	N	O	P	0	0
			1159	561	189	353	56		

- Molecule 182 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
182	C5	44	Total 910	C 435	N 177	O 255	P 43	0	0

- Molecule 183 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
183	C6	47	Total 959	C 458	N 181	O 274	P 46	0	0

- Molecule 184 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
184	C7	47	Total 957	C 456	N 186	O 269	P 46	0	0

- Molecule 185 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
185	C8	38	Total 771	C 368	N 139	O 227	P 37	0	0

- Molecule 186 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
186	C9	37	Total 766	C 366	N 150	O 214	P 36	0	0

- Molecule 187 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
187	DA	60	Total 1225	C 589	N 221	O 356	P 59	0	0

- Molecule 188 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
188	DB	43	Total 876	C 418	N 155	O 261	P 42	0	0

- Molecule 189 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
189	DC	46	Total 952	C 453	N 195	O 259	P 45	0	0

- Molecule 190 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
190	DD	38	Total 775	C 369	N 144	O 225	P 37	0	0

- Molecule 191 is a DNA chain called STAPLE STRAND.

Mol	Chain	Residues	Atoms					AltConf	Trace
191	DE	46	Total 940	C 446	N 181	O 268	P 45	0	0

- Molecule 192 is a DNA chain called STAPLE STRAND.

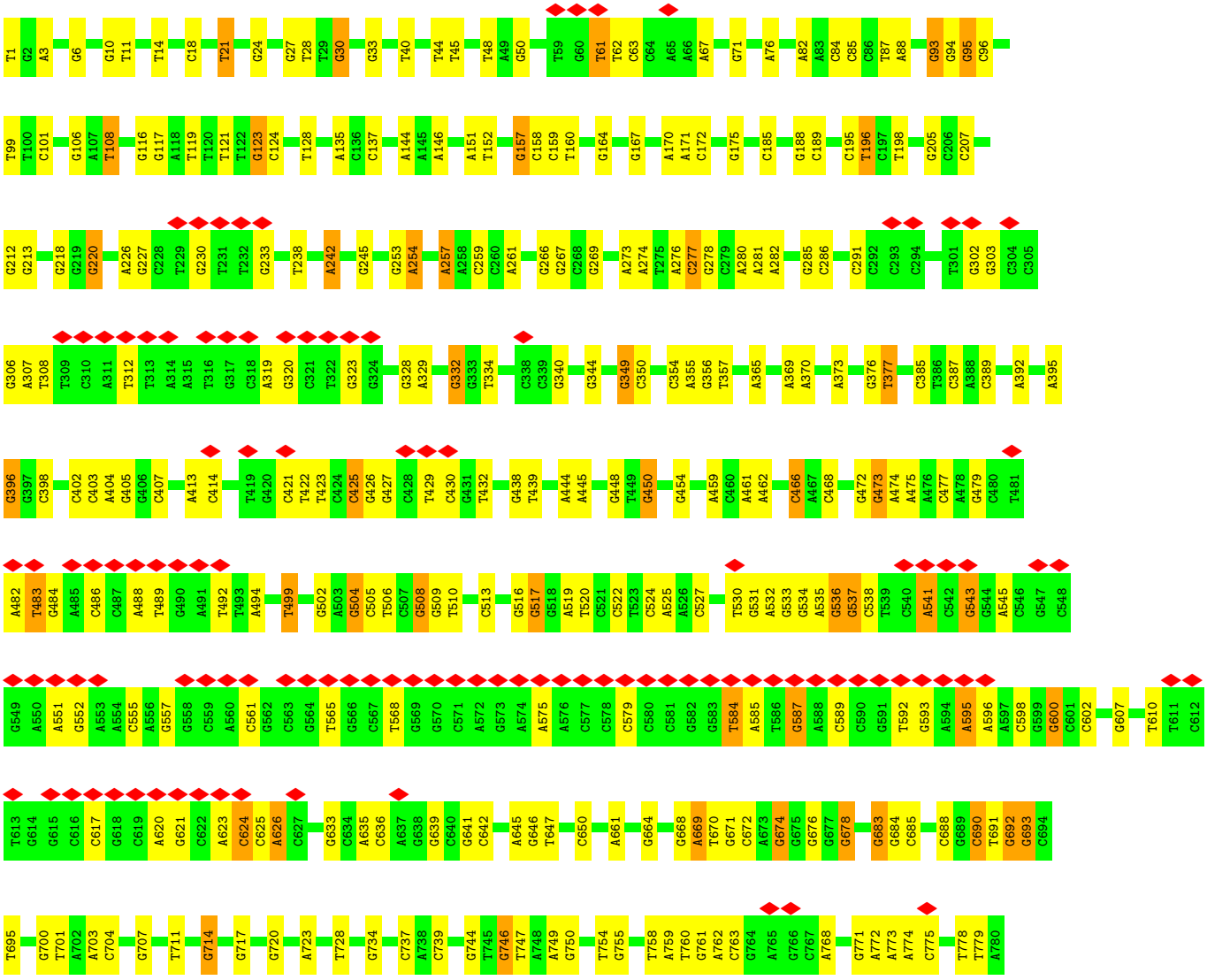
Mol	Chain	Residues	Atoms					AltConf	Trace
192	DF	31	Total 638	C 304	N 125	O 179	P 30	0	0

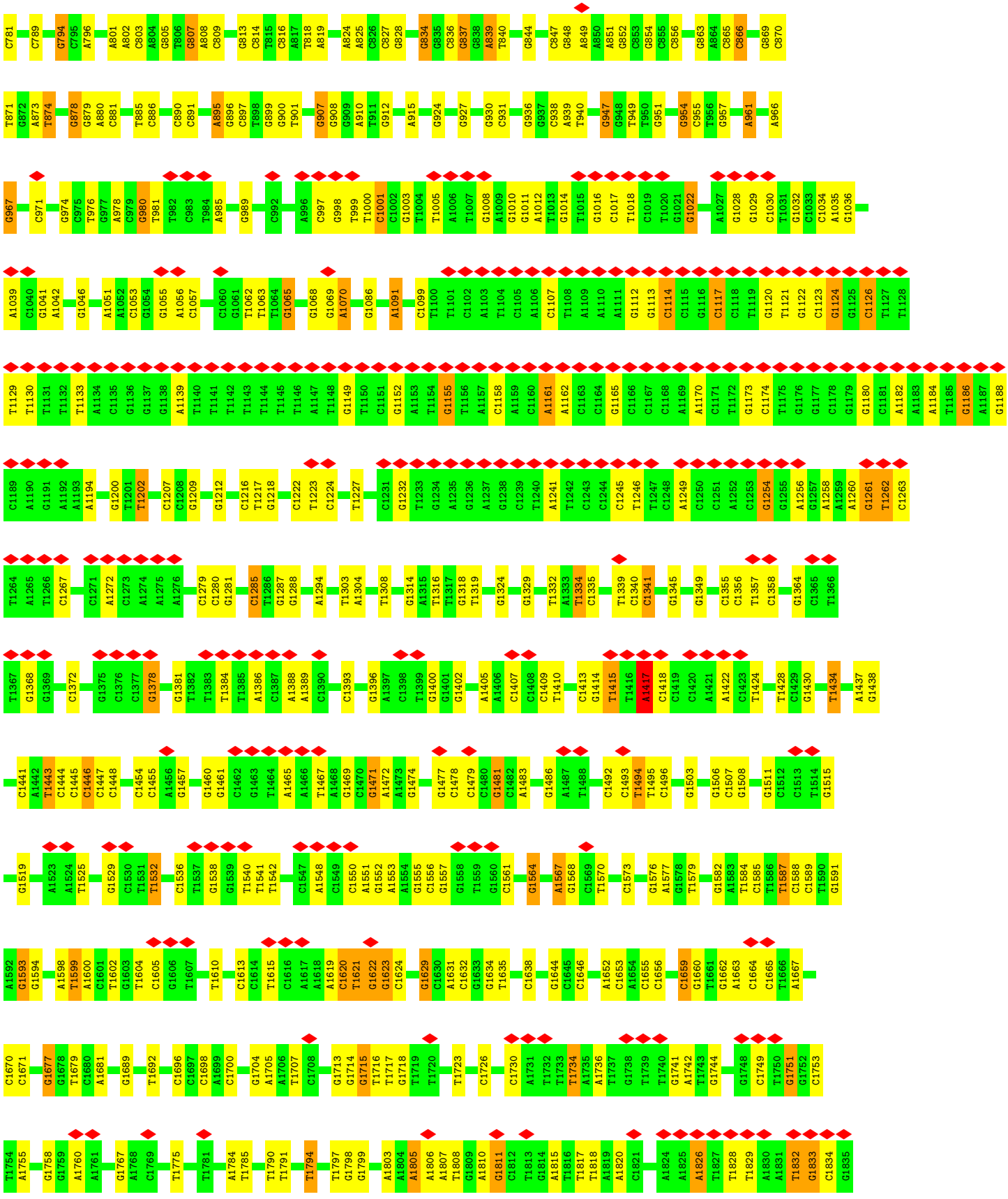
3 Residue-property plots (i)

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: SCAFFOLD STRAND

Chain AA:

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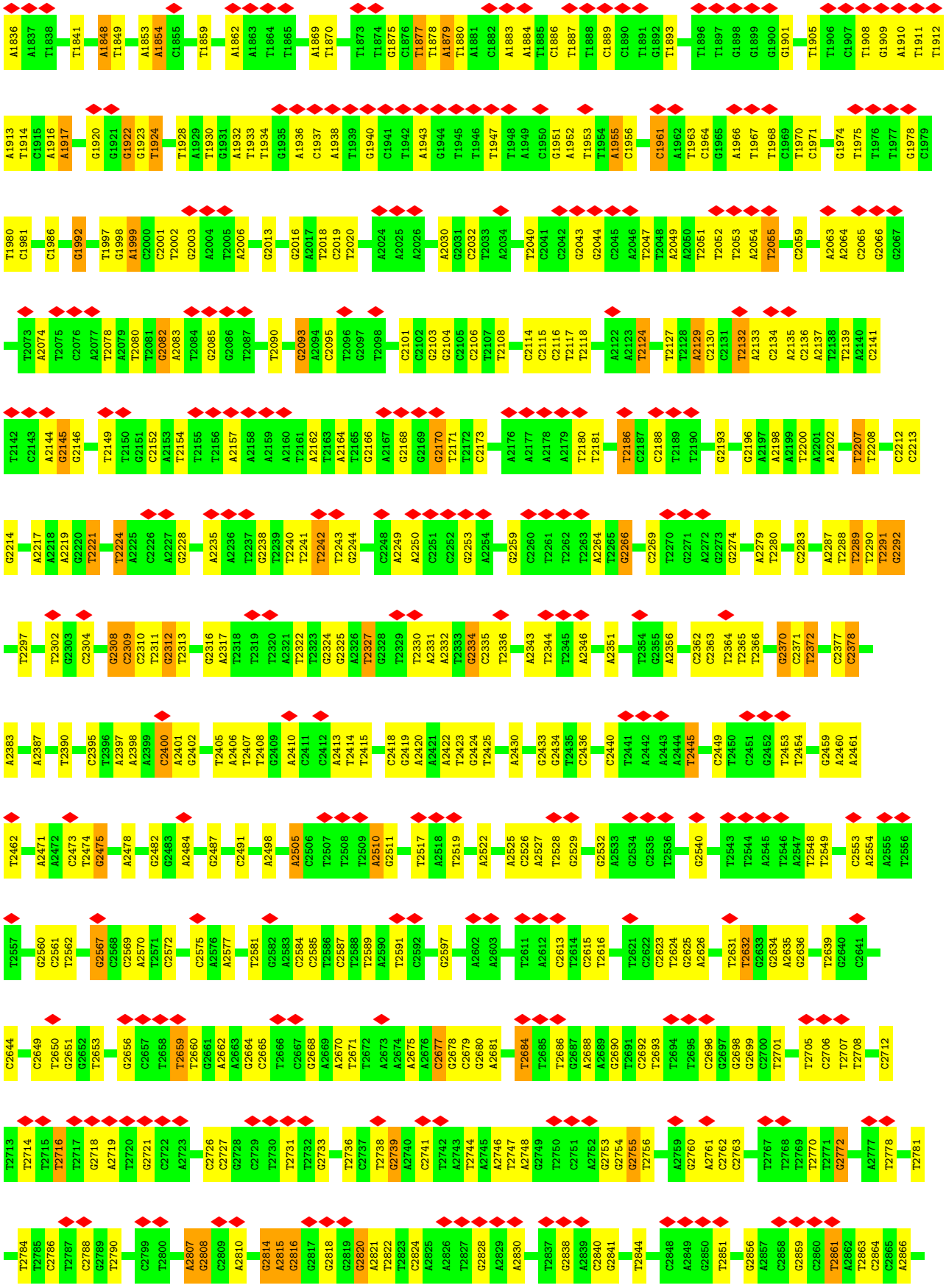
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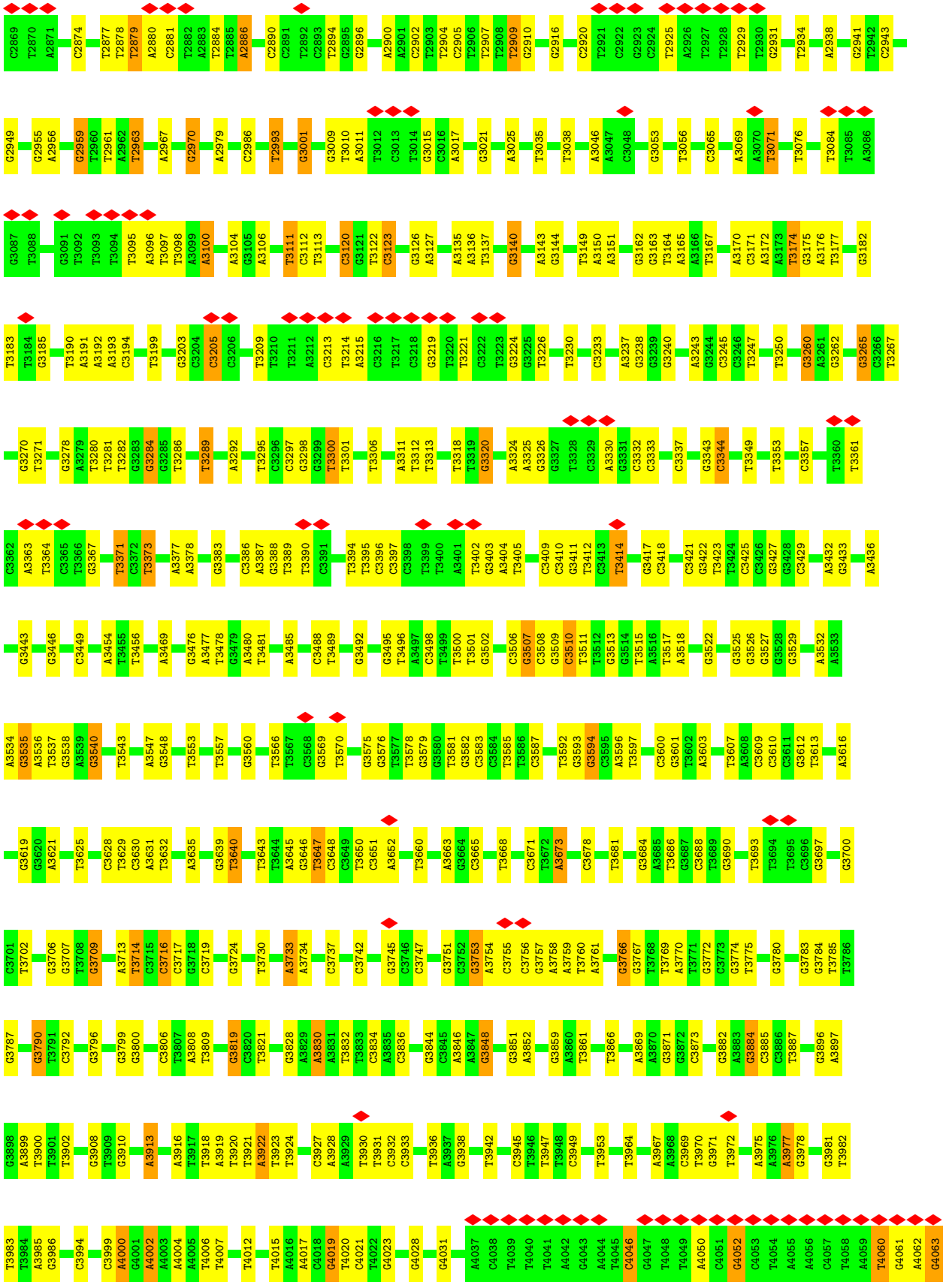

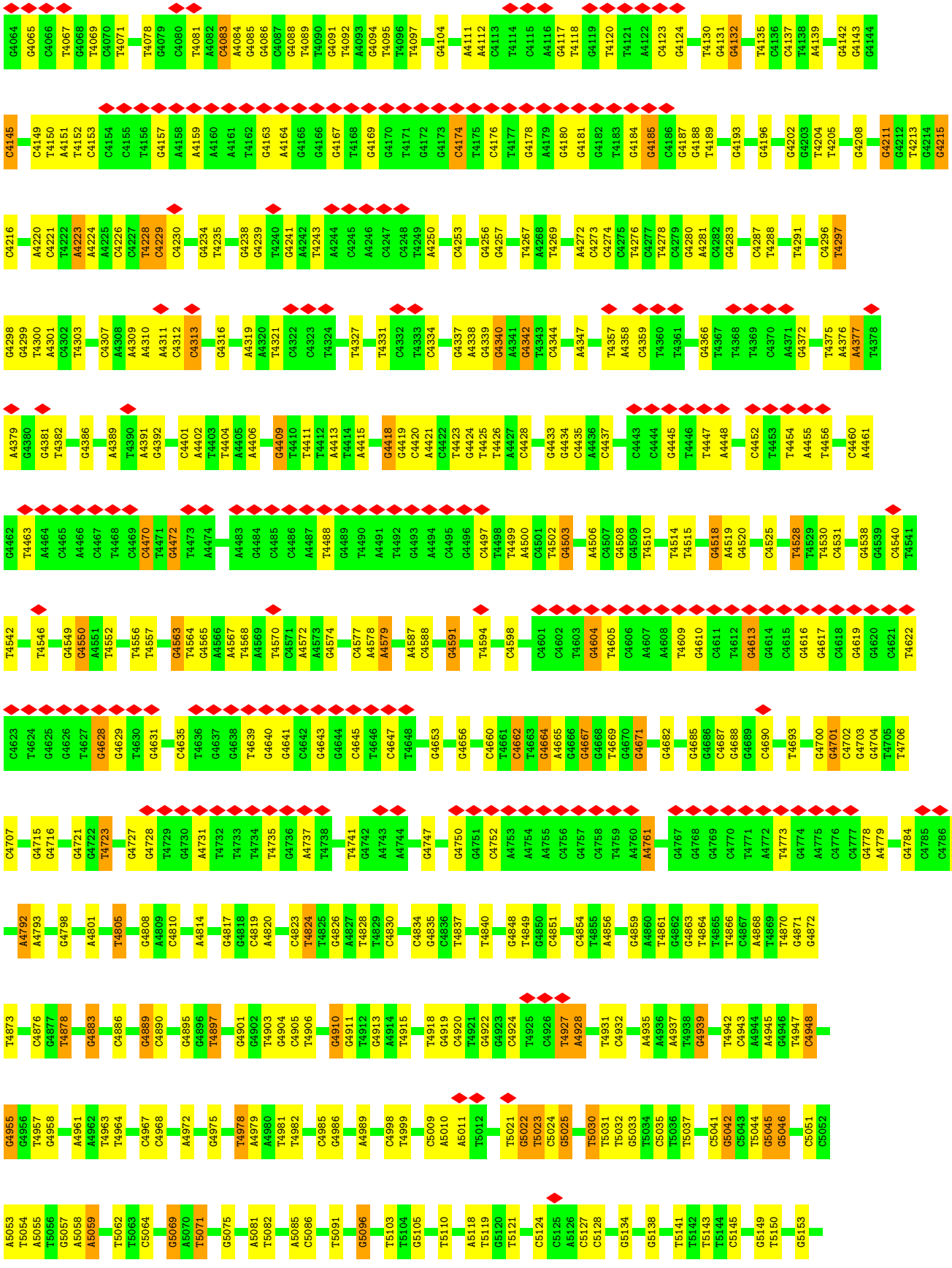

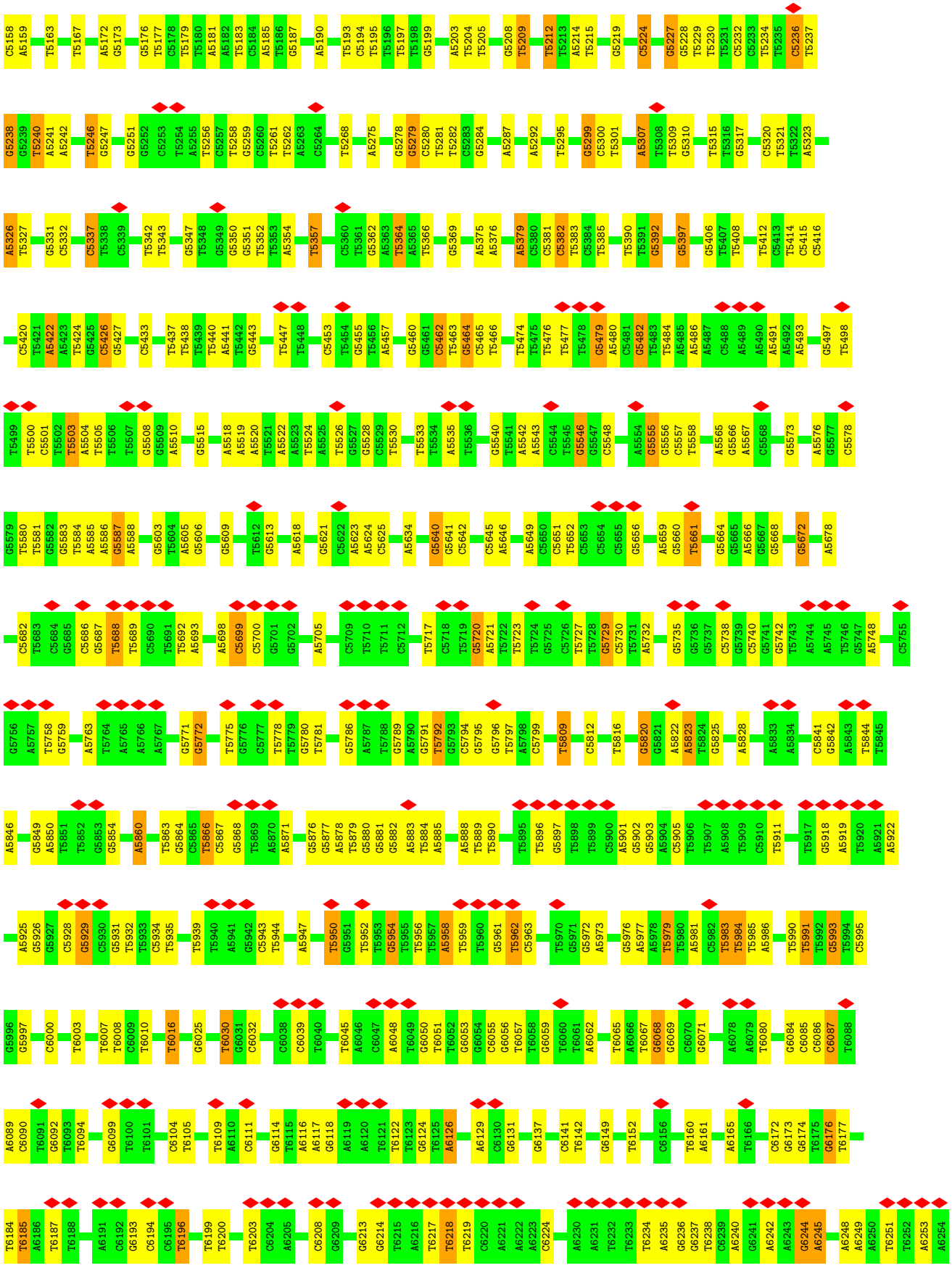
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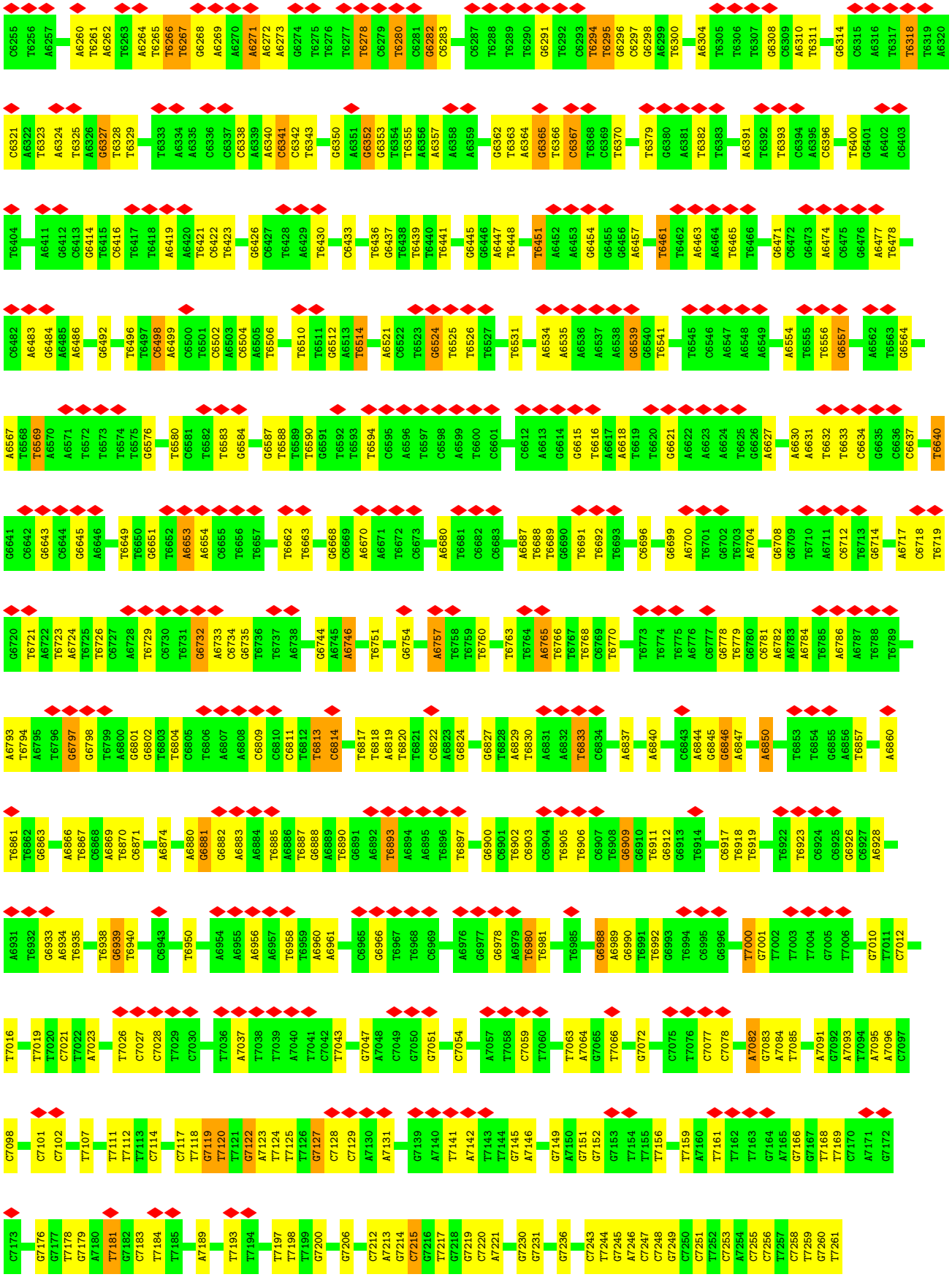
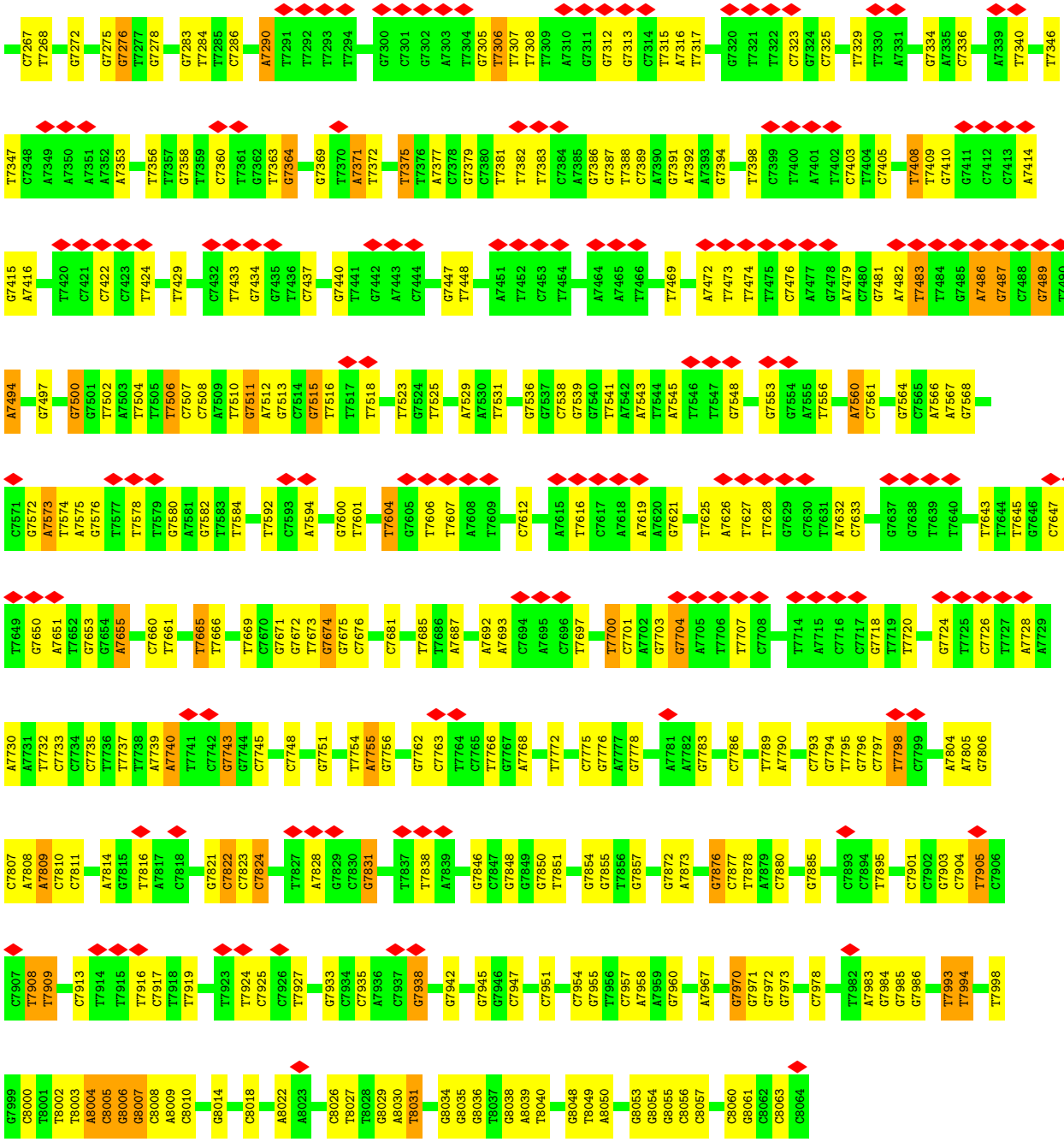
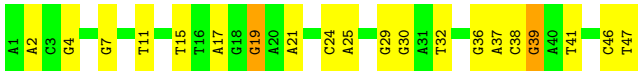




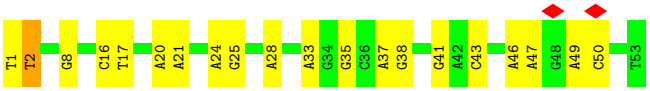
• Molecule 2: STAPLE STRAND

Chain AB:



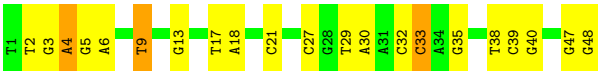
• Molecule 3: STAPLE STRAND

Chain AC:



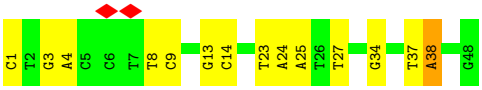
• Molecule 4: STAPLE STRAND

Chain AD:



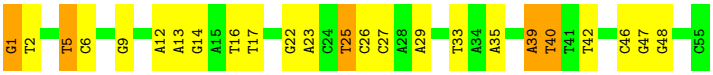
• Molecule 5: STAPLE STRAND

Chain AE:



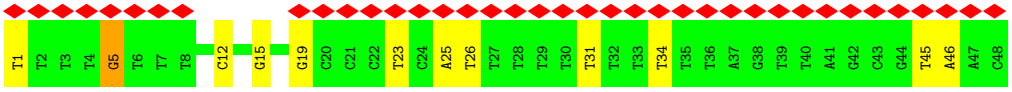
• Molecule 6: STAPLE STRAND

Chain AF:



• Molecule 7: STAPLE STRAND

Chain AG:

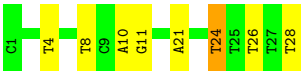


• Molecule 8: STAPLE STRAND

Chain AH:

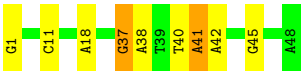
• Molecule 9: STAPLE STRAND

Chain AI:



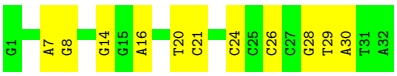
• Molecule 10: STAPLE STRAND

Chain AJ:



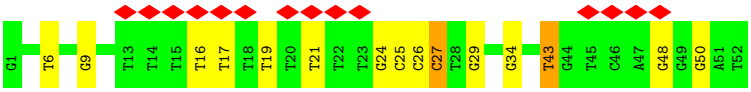
• Molecule 11: STAPLE STRAND

Chain AK:



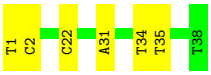
• Molecule 12: STAPLE STRAND

Chain AL:



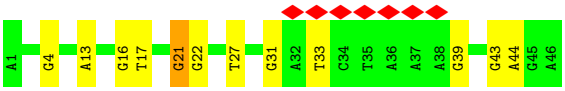
• Molecule 13: STAPLE STRAND

Chain AM:



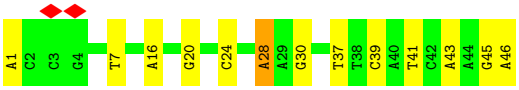
• Molecule 14: STAPLE STRAND

Chain AN:



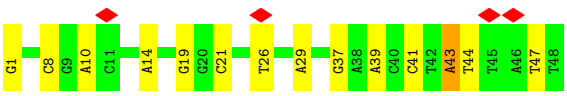
• Molecule 15: STAPLE STRAND

Chain AO:



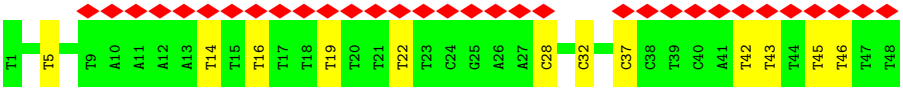
• Molecule 16: STAPLE STRAND

Chain AP:

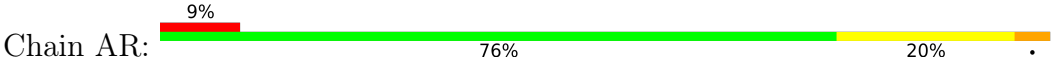


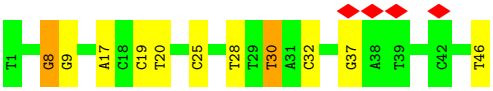
• Molecule 17: STAPLE STRAND

Chain AQ:

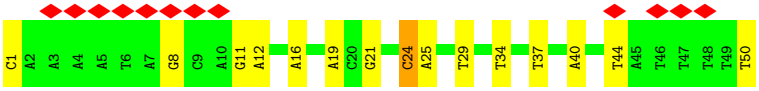


• Molecule 18: STAPLE STRAND

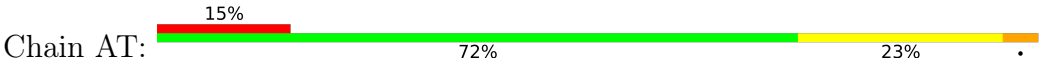


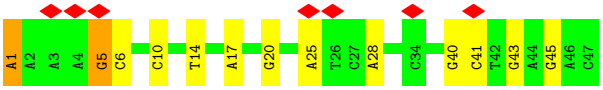


• Molecule 19: STAPLE STRAND

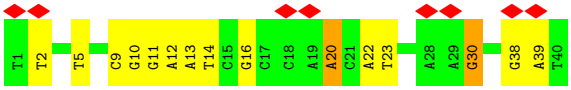


• Molecule 20: STAPLE STRAND

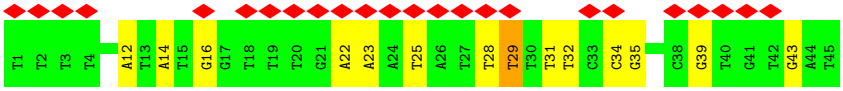




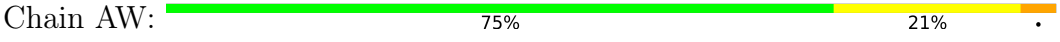
• Molecule 21: STAPLE STRAND



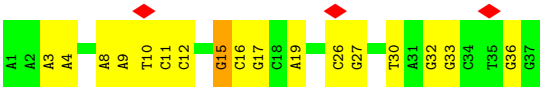
• Molecule 22: STAPLE STRAND



• Molecule 23: STAPLE STRAND

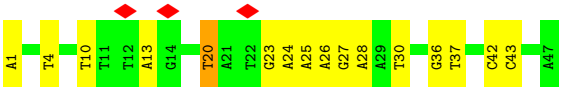


• Molecule 24: STAPLE STRAND



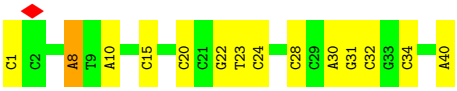
• Molecule 25: STAPLE STRAND

Chain AY:



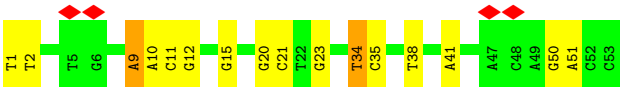
• Molecule 26: STAPLE STRAND

Chain AZ:



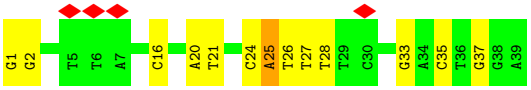
• Molecule 27: STAPLE STRAND

Chain Aa:



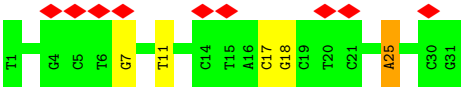
• Molecule 28: STAPLE STRAND

Chain Ab:



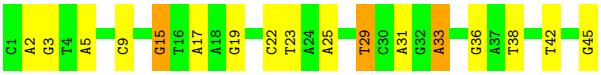
• Molecule 29: STAPLE STRAND

Chain Ac:



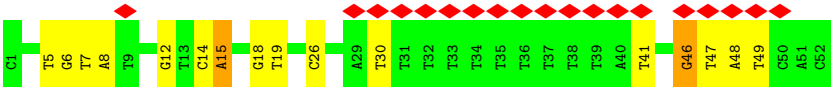
• Molecule 30: STAPLE STRAND

Chain Ad:

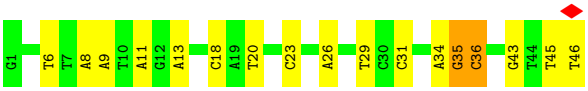


• Molecule 31: STAPLE STRAND

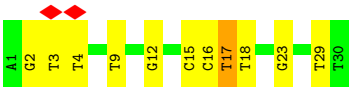
Chain Ae:



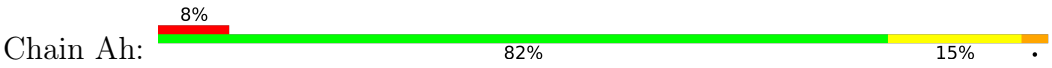
• Molecule 32: STAPLE STRAND

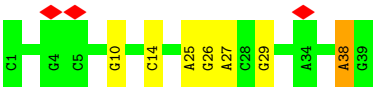


• Molecule 33: STAPLE STRAND

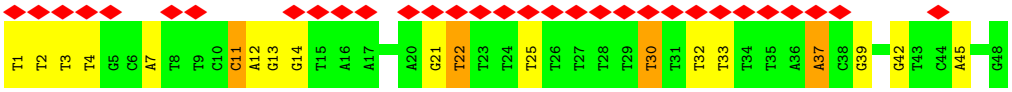


• Molecule 34: STAPLE STRAND

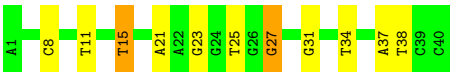




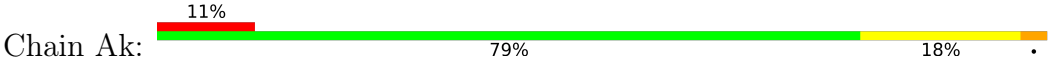
• Molecule 35: STAPLE STRAND

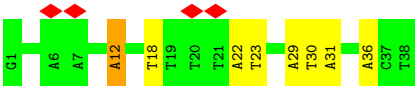


• Molecule 36: STAPLE STRAND



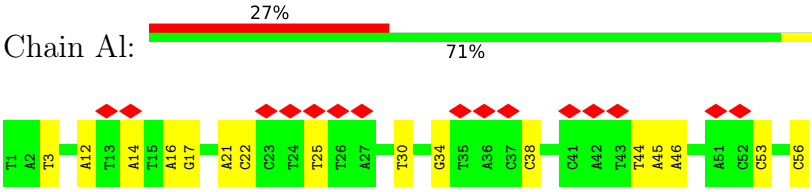
• Molecule 37: STAPLE STRAND





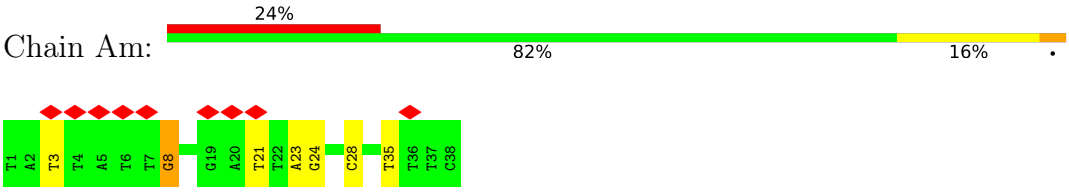
• Molecule 38: STAPLE STRAND

Chain Al:



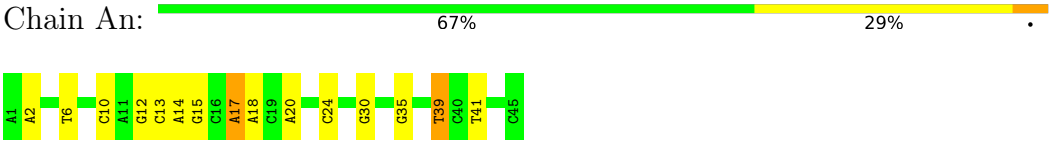
• Molecule 39: STAPLE STRAND

Chain Am:



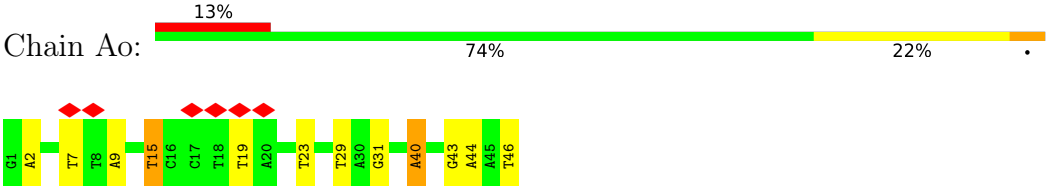
• Molecule 40: STAPLE STRAND

Chain An:



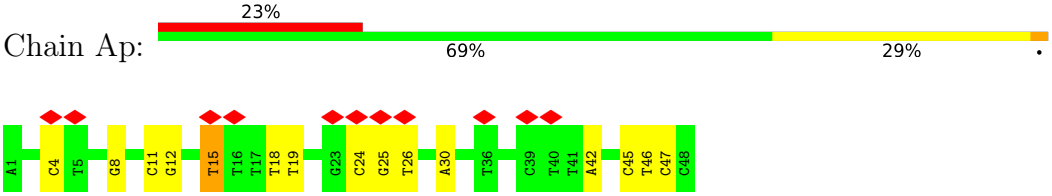
• Molecule 41: STAPLE STRAND

Chain Ao:



• Molecule 42: STAPLE STRAND

Chain Ap:

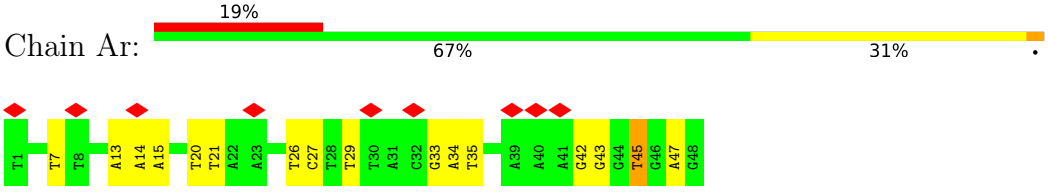


• Molecule 43: STAPLE STRAND

Chain Aq:

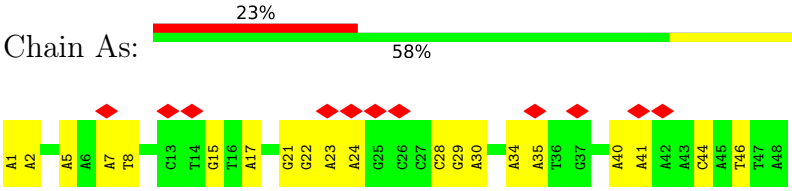
• Molecule 44: STAPLE STRAND

Chain Ar:



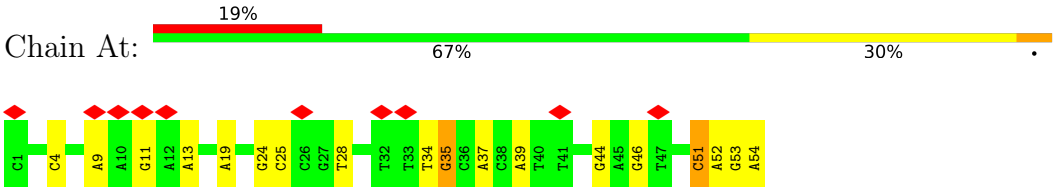
• Molecule 45: STAPLE STRAND

Chain As:



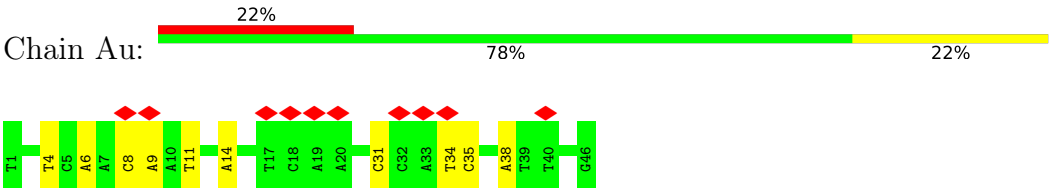
• Molecule 46: STAPLE STRAND

Chain At:



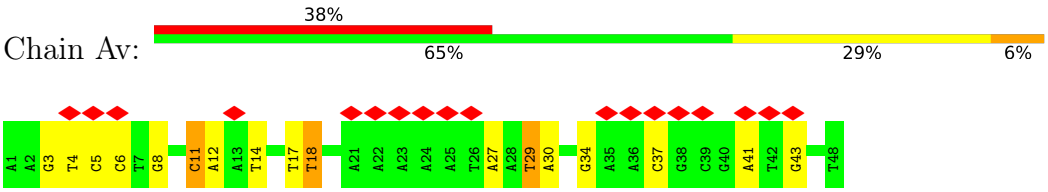
• Molecule 47: STAPLE STRAND

Chain Au:



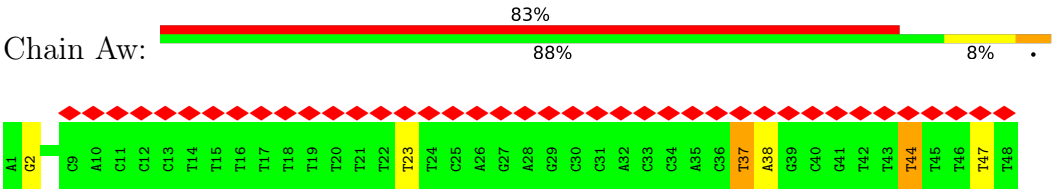
• Molecule 48: STAPLE STRAND

Chain Av:



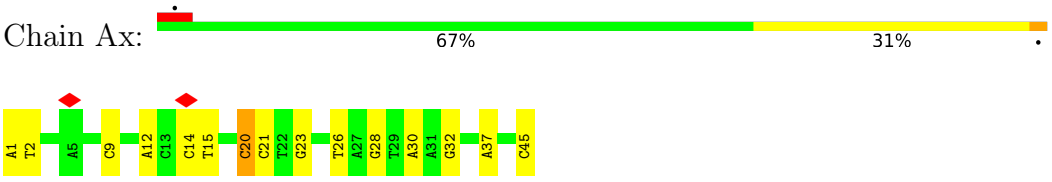
• Molecule 49: STAPLE STRAND

Chain Aw:



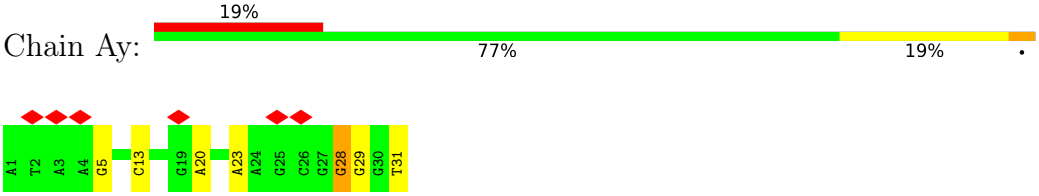
• Molecule 50: STAPLE STRAND

Chain Ax:



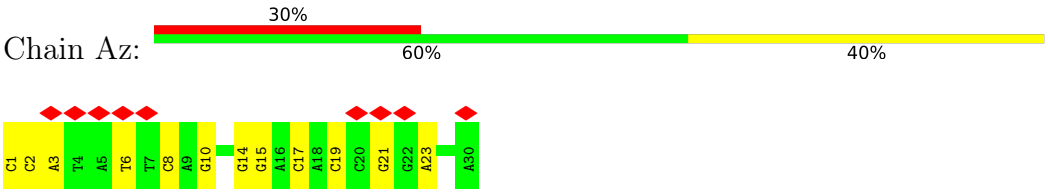
• Molecule 51: STAPLE STRAND

Chain Ay:



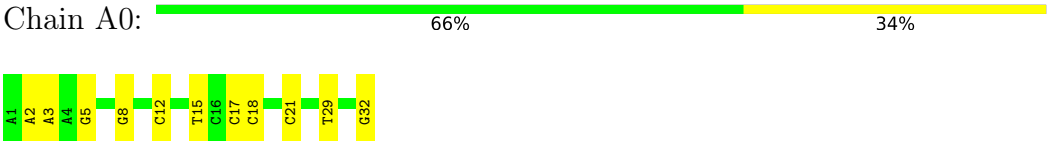
• Molecule 52: STAPLE STRAND

Chain Az:



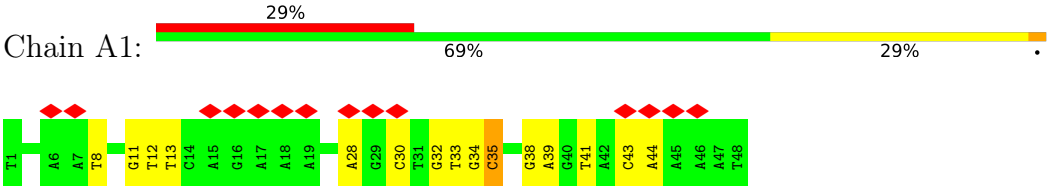
• Molecule 53: STAPLE STRAND

Chain A0:



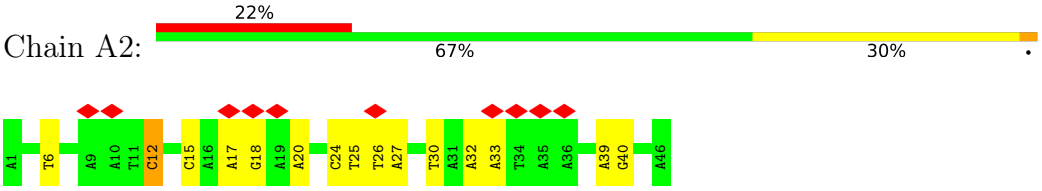
• Molecule 54: STAPLE STRAND

Chain A1:



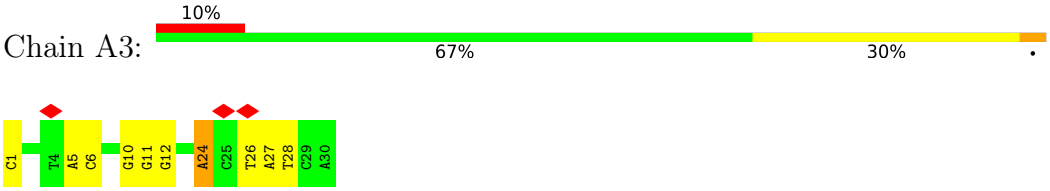
• Molecule 55: STAPLE STRAND

Chain A2:



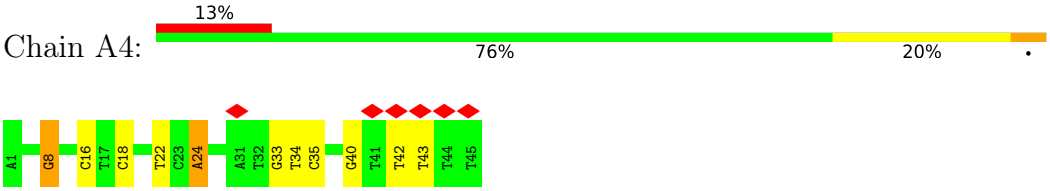
• Molecule 56: STAPLE STRAND

Chain A3:



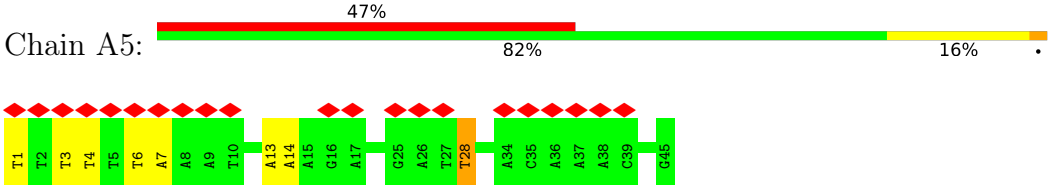
• Molecule 57: STAPLE STRAND

Chain A4:



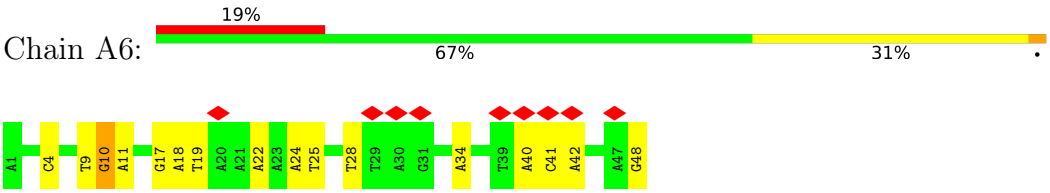
• Molecule 58: STAPLE STRAND

Chain A5:



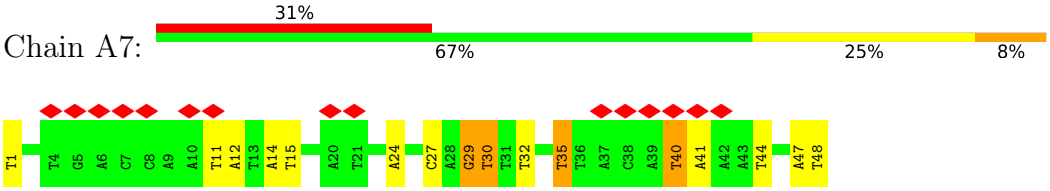
• Molecule 59: STAPLE STRAND

Chain A6:



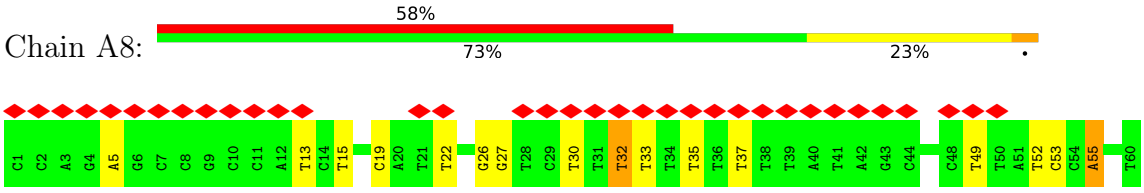
• Molecule 60: STAPLE STRAND

Chain A7:



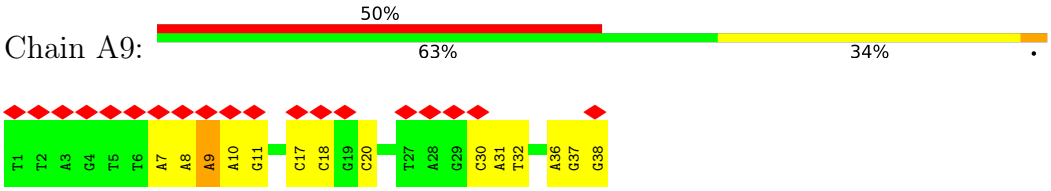
• Molecule 61: STAPLE STRAND

Chain A8:



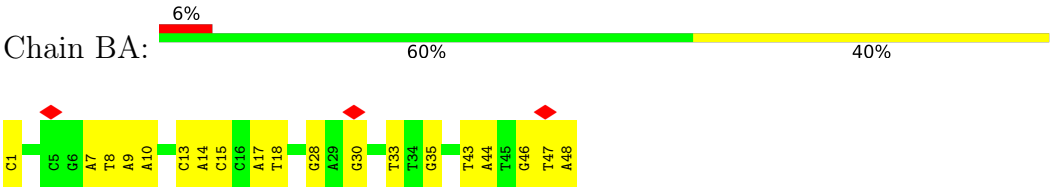
• Molecule 62: STAPLE STRAND

Chain A9:



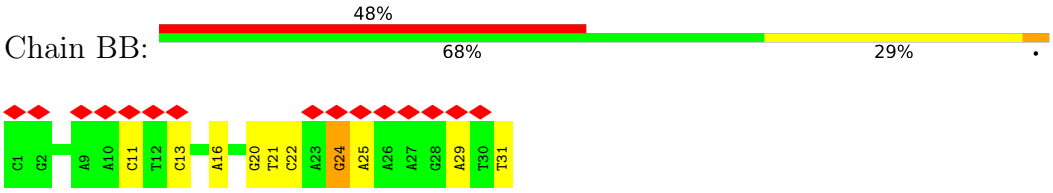
• Molecule 63: STAPLE STRAND

Chain BA:



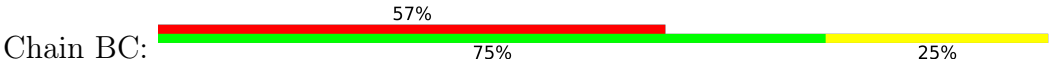
• Molecule 64: STAPLE STRAND

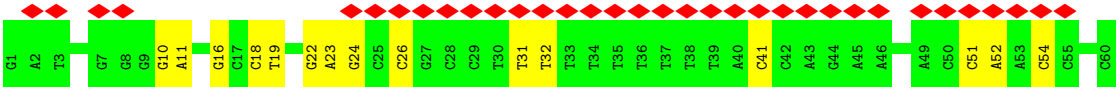
Chain BB:



• Molecule 65: STAPLE STRAND

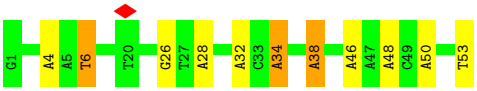
Chain BC:





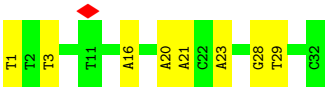
• Molecule 66: STAPLE STRAND

Chain BD:



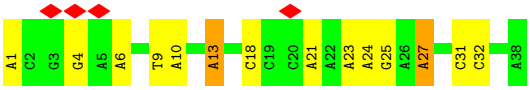
• Molecule 67: STAPLE STRAND

Chain BE:



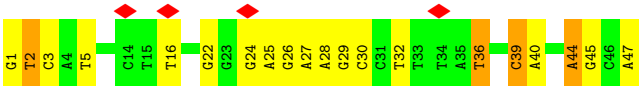
• Molecule 68: STAPLE STRAND

Chain BF:



• Molecule 69: STAPLE STRAND

Chain BG:

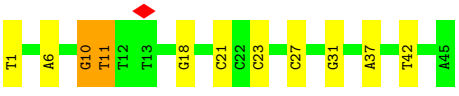


• Molecule 70: STAPLE STRAND

Chain BH:

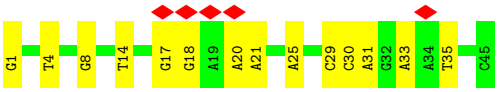
• Molecule 71: STAPLE STRAND

Chain BI:



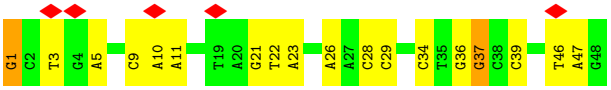
• Molecule 72: STAPLE STRAND

Chain BJ:



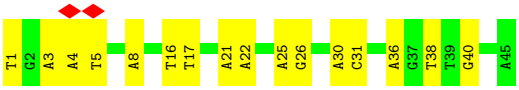
• Molecule 73: STAPLE STRAND

Chain BK:



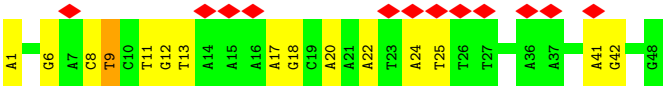
• Molecule 74: STAPLE STRAND

Chain BL:



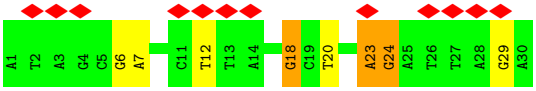
• Molecule 75: STAPLE STRAND

Chain BM:



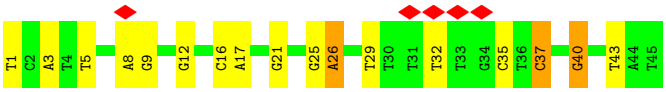
• Molecule 76: STAPLE STRAND

Chain BN:



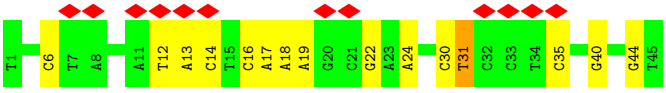
• Molecule 77: STAPLE STRAND

Chain BO:



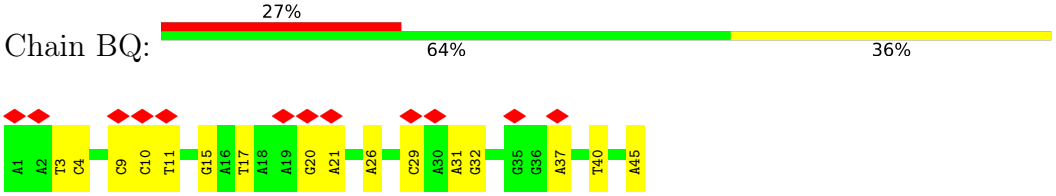
• Molecule 78: STAPLE STRAND

Chain BP:



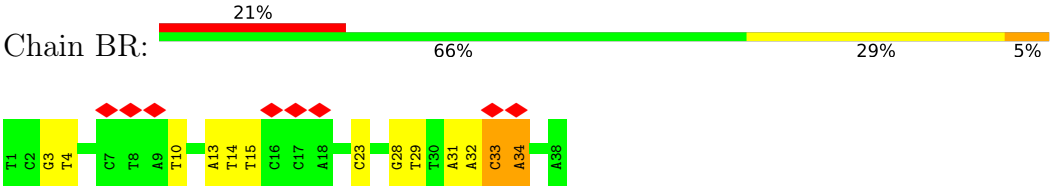
• Molecule 79: STAPLE STRAND

Chain BQ:



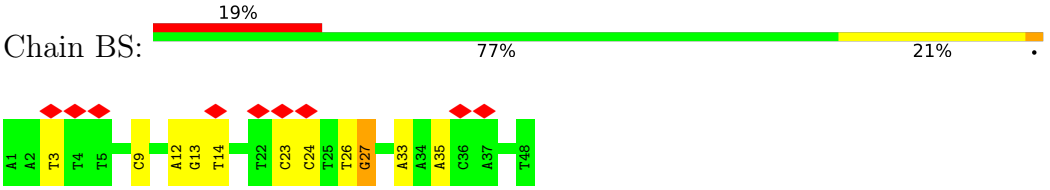
• Molecule 80: STAPLE STRAND

Chain BR:



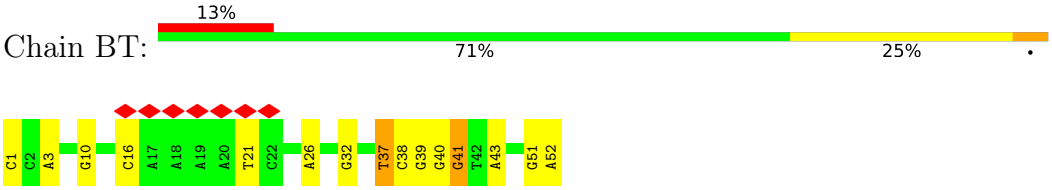
• Molecule 81: STAPLE STRAND

Chain BS:



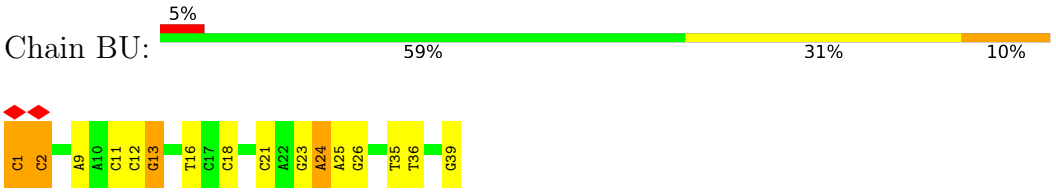
• Molecule 82: STAPLE STRAND

Chain BT:



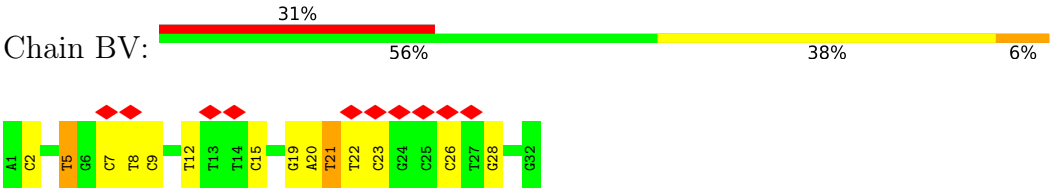
• Molecule 83: STAPLE STRAND

Chain BU:



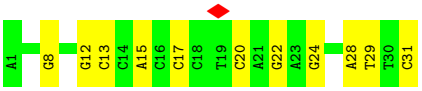
• Molecule 84: STAPLE STRAND

Chain BV:



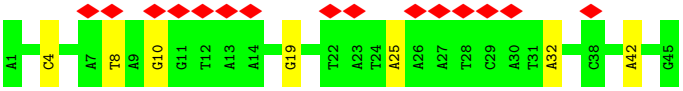
• Molecule 85: STAPLE STRAND

Chain BW:



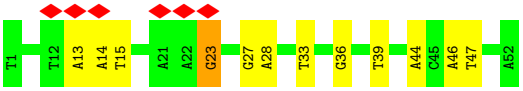
• Molecule 86: STAPLE STRAND

Chain BX:



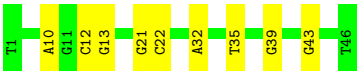
• Molecule 87: STAPLE STRAND

Chain BY:



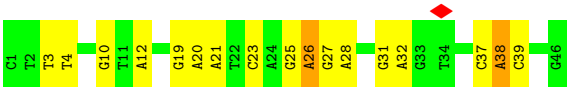
• Molecule 88: STAPLE STRAND

Chain BZ:



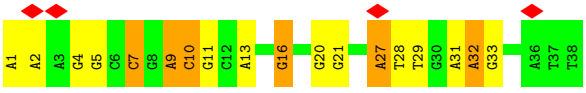
• Molecule 89: STAPLE STRAND

Chain Ba:



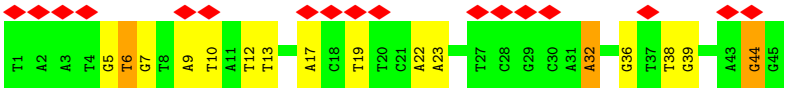
• Molecule 90: STAPLE STRAND

Chain Bb:



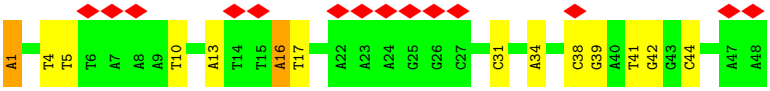
• Molecule 91: STAPLE STRAND

Chain Bc:



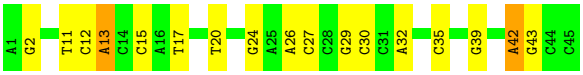
• Molecule 92: STAPLE STRAND

Chain Bd:



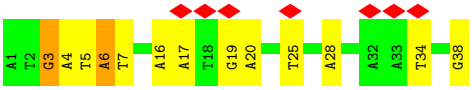
• Molecule 93: STAPLE STRAND

Chain Be:



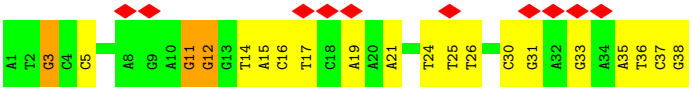
• Molecule 94: STAPLE STRAND

Chain Bf:



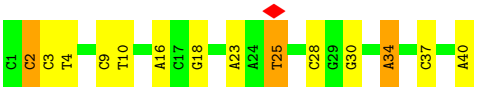
• Molecule 95: STAPLE STRAND

Chain Bg:



• Molecule 96: STAPLE STRAND

Chain Bh:

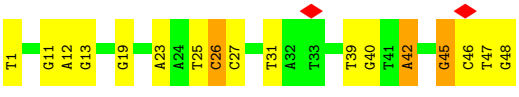


• Molecule 97: STAPLE STRAND

Chain Bi:

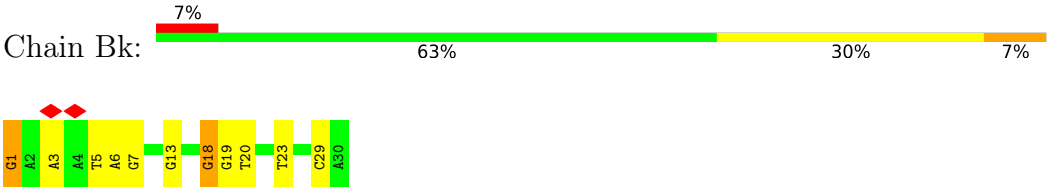
• Molecule 98: STAPLE STRAND

Chain Bj:



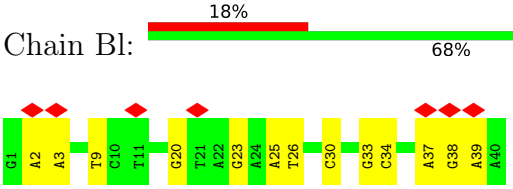
• Molecule 99: STAPLE STRAND

Chain Bk:



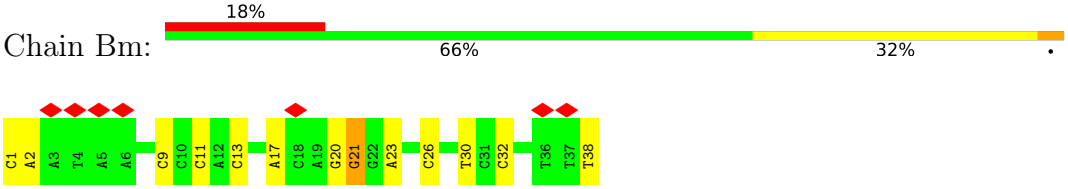
• Molecule 100: STAPLE STRAND

Chain Bl:



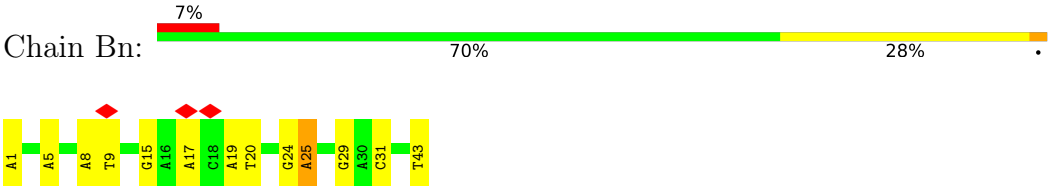
• Molecule 101: STAPLE STRAND

Chain Bm:



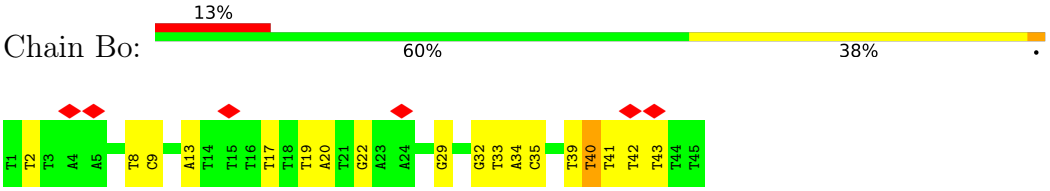
• Molecule 102: STAPLE STRAND

Chain Bn:



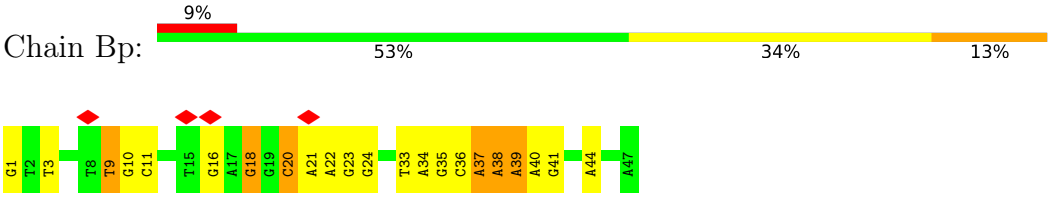
• Molecule 103: STAPLE STRAND

Chain Bo:



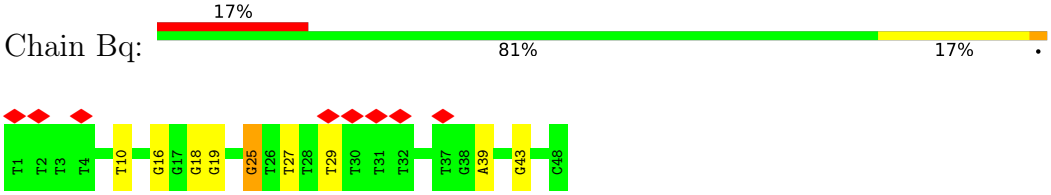
• Molecule 104: STAPLE STRAND

Chain Bp:



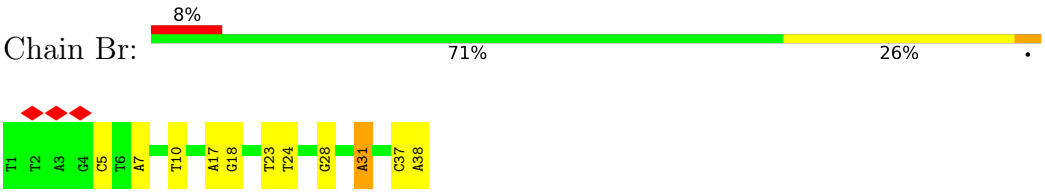
• Molecule 105: STAPLE STRAND

Chain Bq:



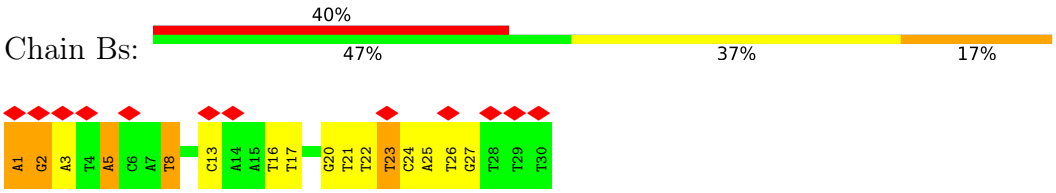
• Molecule 106: STAPLE STRAND

Chain Br:



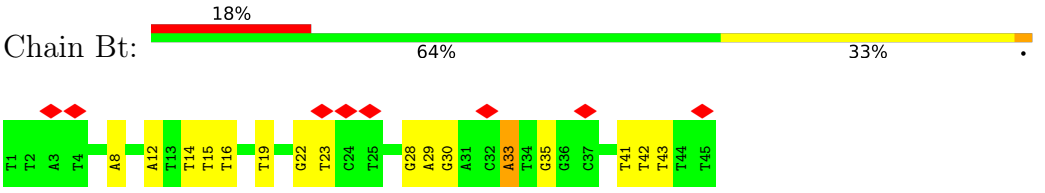
• Molecule 107: STAPLE STRAND

Chain Bs:



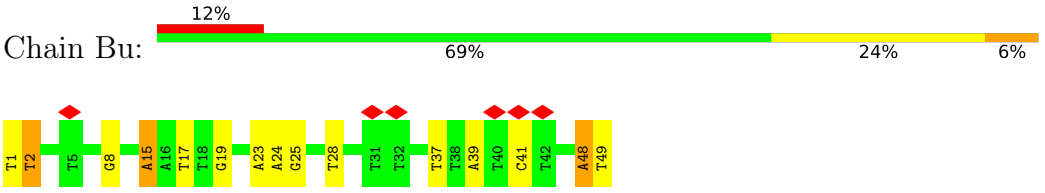
• Molecule 108: STAPLE STRAND

Chain Bt:



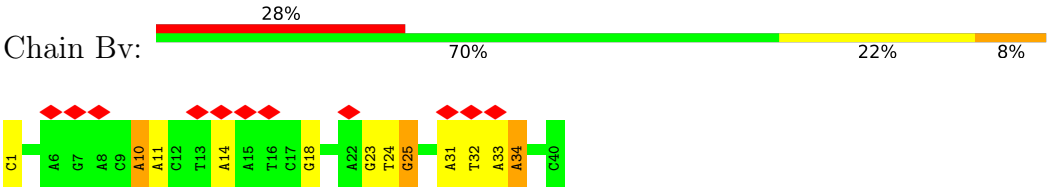
• Molecule 109: STAPLE STRAND

Chain Bu:



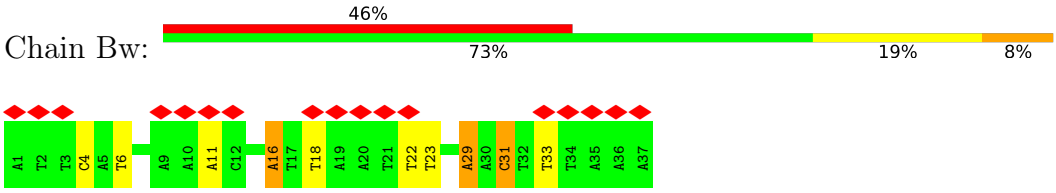
• Molecule 110: STAPLE STRAND

Chain Bv:



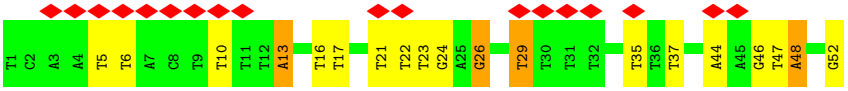
• Molecule 111: STAPLE STRAND

Chain Bw:



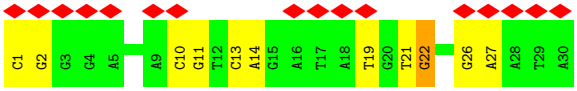
• Molecule 112: STAPLE STRAND

Chain Bx:



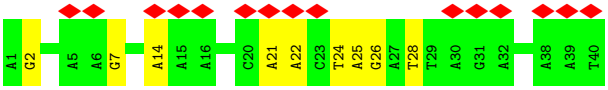
• Molecule 113: STAPLE STRAND

Chain By:



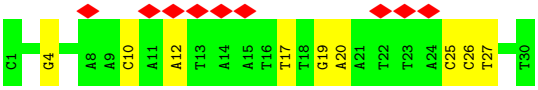
• Molecule 114: STAPLE STRAND

Chain Bz:



• Molecule 115: STAPLE STRAND

Chain B0:

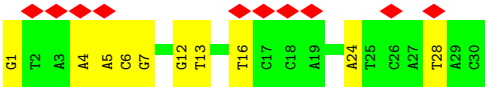


• Molecule 116: STAPLE STRAND

Chain B1:

• Molecule 117: STAPLE STRAND

Chain B2:

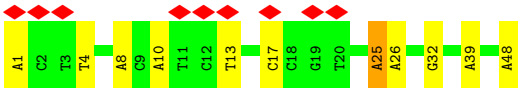


• Molecule 118: STAPLE STRAND

Chain B3:

• Molecule 119: STAPLE STRAND

Chain B4:

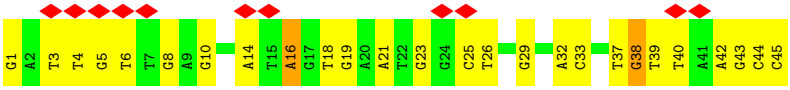


• Molecule 120: STAPLE STRAND

Chain B5:

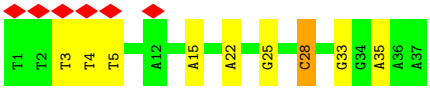
• Molecule 121: STAPLE STRAND

Chain B6:



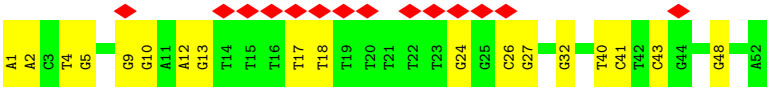
• Molecule 122: STAPLE STRAND

Chain B7:



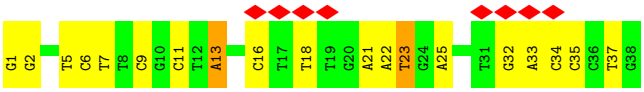
• Molecule 123: STAPLE STRAND

Chain B8:



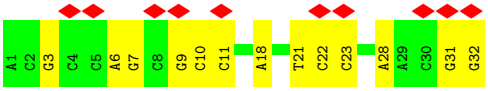
• Molecule 124: STAPLE STRAND

Chain B9:



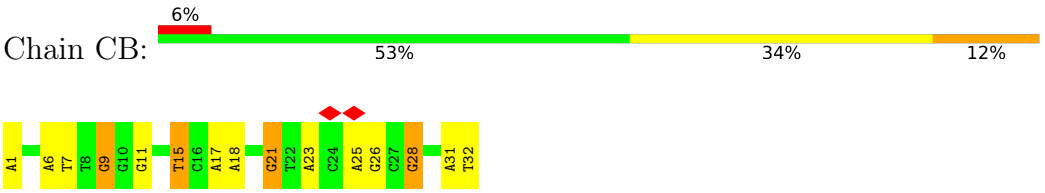
• Molecule 125: STAPLE STRAND

Chain CA:



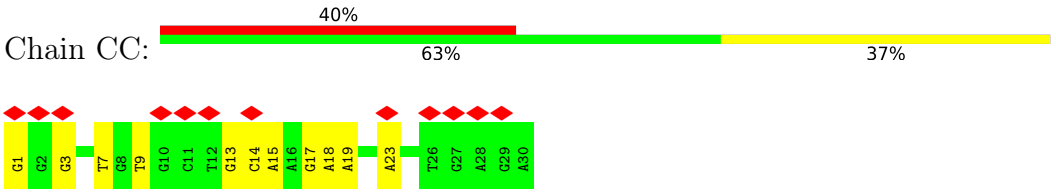
• Molecule 126: STAPLE STRAND

Chain CB:



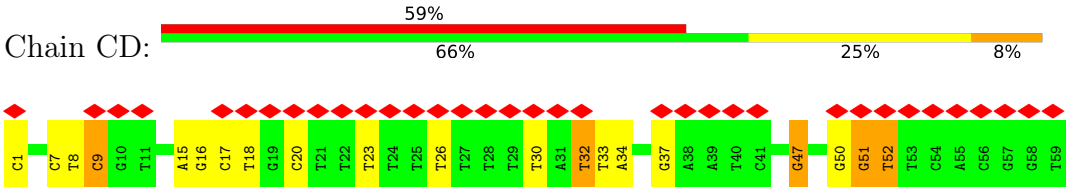
• Molecule 127: STAPLE STRAND

Chain CC:



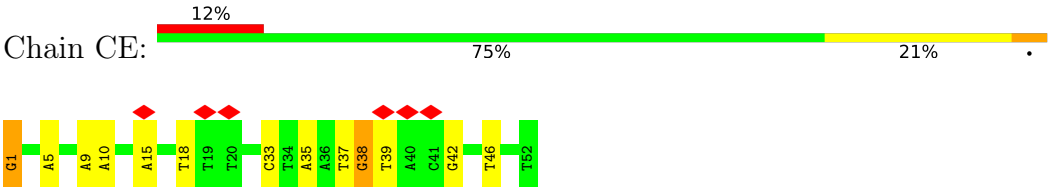
• Molecule 128: STAPLE STRAND

Chain CD:



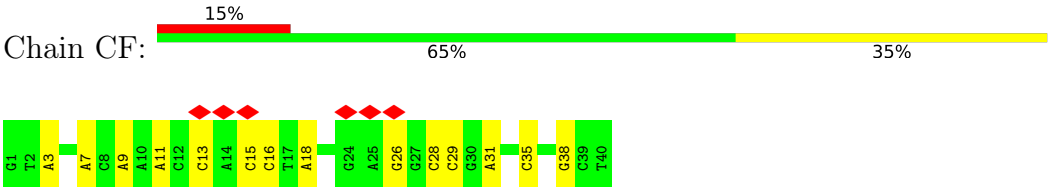
• Molecule 129: STAPLE STRAND

Chain CE:



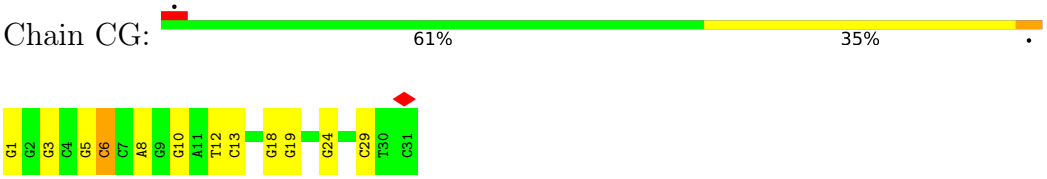
• Molecule 130: STAPLE STRAND

Chain CF:



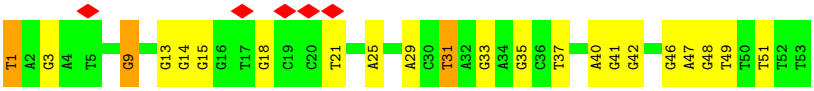
• Molecule 131: STAPLE STRAND

Chain CG:

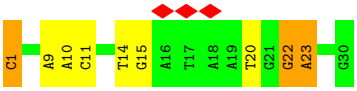


• Molecule 132: STAPLE STRAND

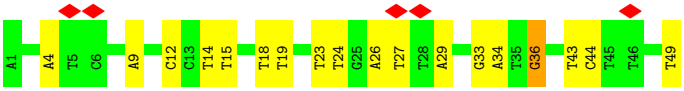
Chain CH:



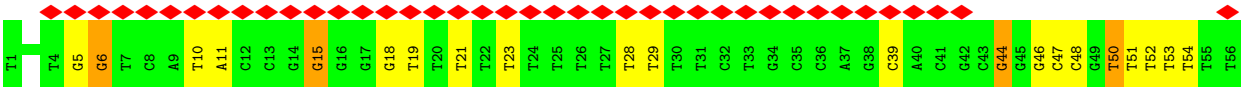
• Molecule 133: STAPLE STRAND



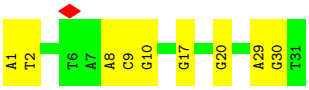
• Molecule 134: STAPLE STRAND



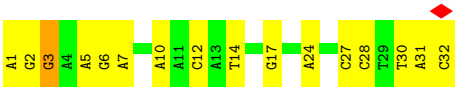
• Molecule 135: STAPLE STRAND



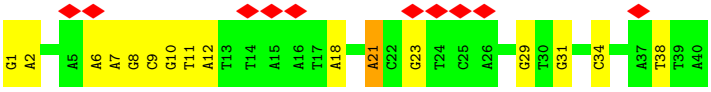
• Molecule 136: STAPLE STRAND



• Molecule 137: STAPLE STRAND

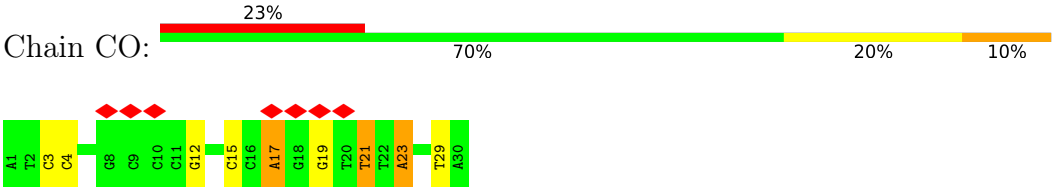


• Molecule 138: STAPLE STRAND



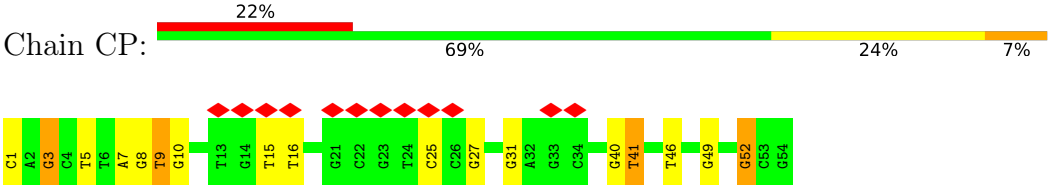
• Molecule 139: STAPLE STRAND

Chain CO:



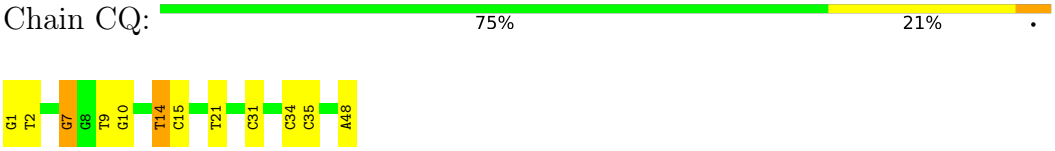
• Molecule 140: STAPLE STRAND

Chain CP:



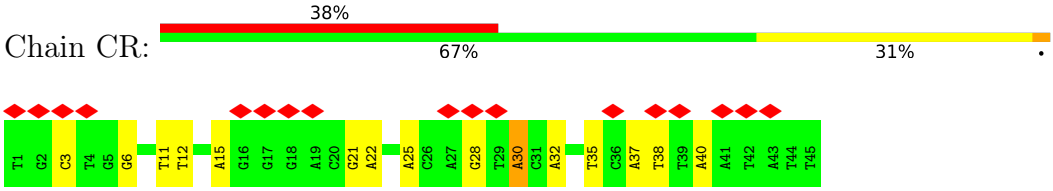
• Molecule 141: STAPLE STRAND

Chain CQ:



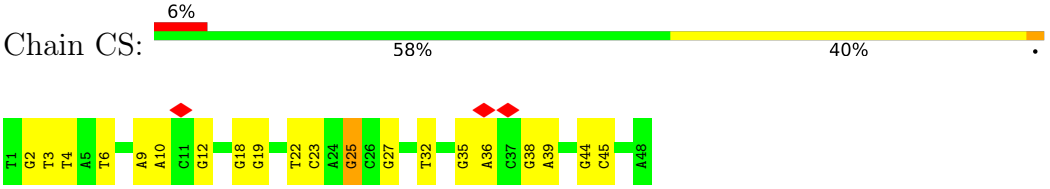
• Molecule 142: STAPLE STRAND

Chain CR:



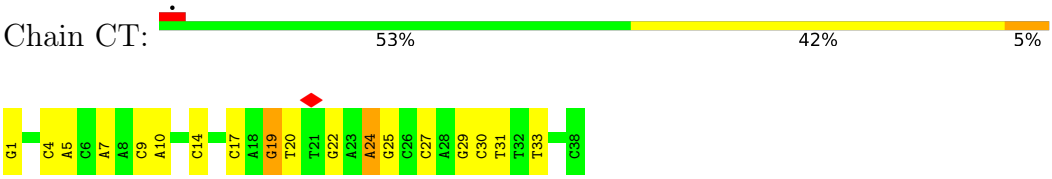
• Molecule 143: STAPLE STRAND

Chain CS:



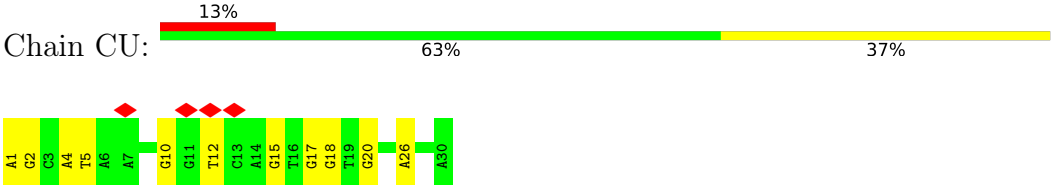
• Molecule 144: STAPLE STRAND

Chain CT:



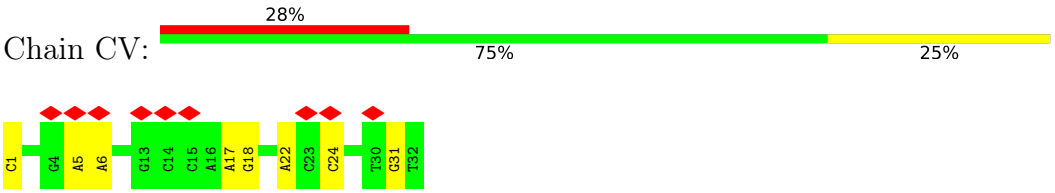
• Molecule 145: STAPLE STRAND

Chain CU:



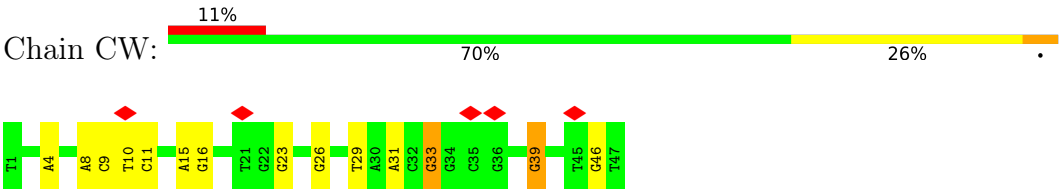
- Molecule 146: STAPLE STRAND

Chain CV:



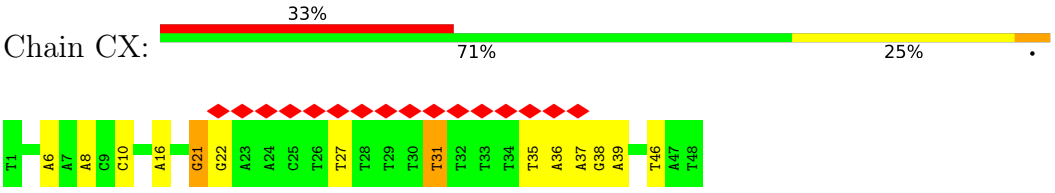
- Molecule 147: STAPLE STRAND

Chain CW:



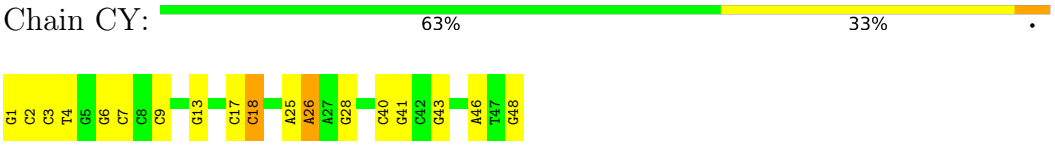
- Molecule 148: STAPLE STRAND

Chain CX:



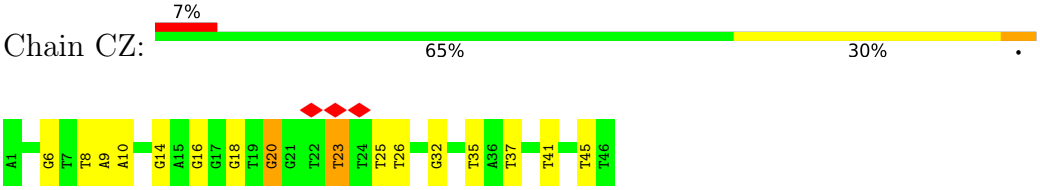
- Molecule 149: STAPLE STRAND

Chain CY:



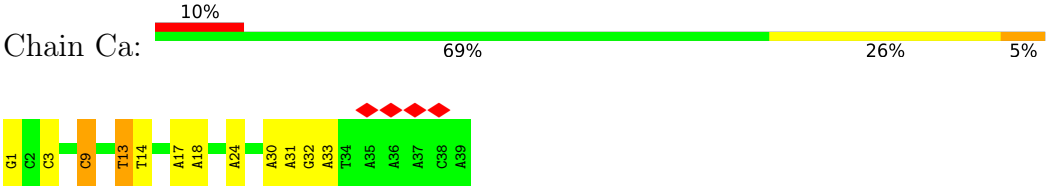
- Molecule 150: STAPLE STRAND

Chain CZ:



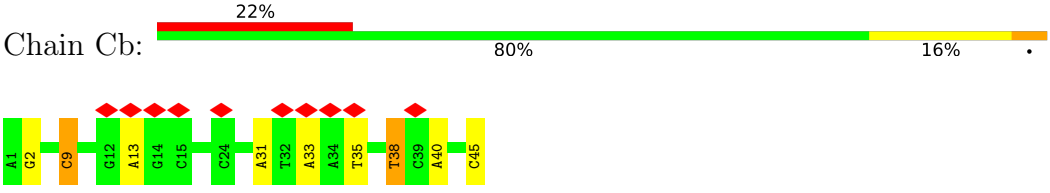
- Molecule 151: STAPLE STRAND

Chain Ca:



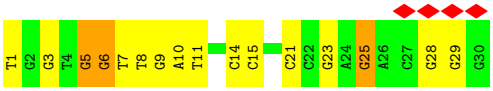
- Molecule 152: STAPLE STRAND

Chain Cb:



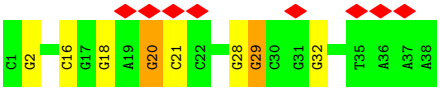
• Molecule 153: STAPLE STRAND

Chain Cc:



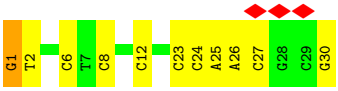
• Molecule 154: STAPLE STRAND

Chain Cd:



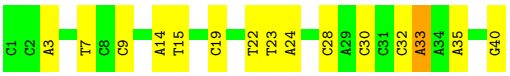
• Molecule 155: STAPLE STRAND

Chain Ce:



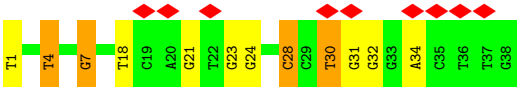
• Molecule 156: STAPLE STRAND

Chain Cf:



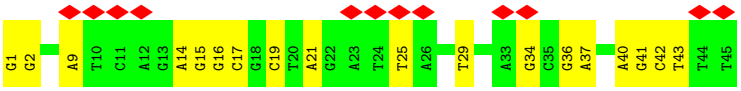
• Molecule 157: STAPLE STRAND

Chain Cg:



• Molecule 158: STAPLE STRAND

Chain Ch:

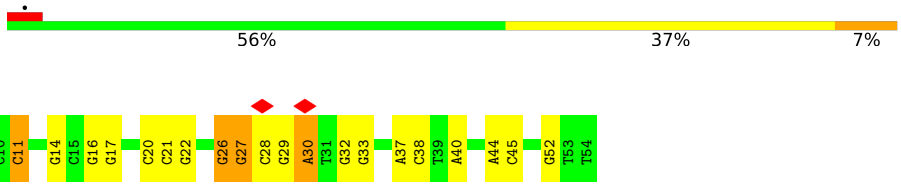


• Molecule 159: STAPLE STRAND

Chain Ci:

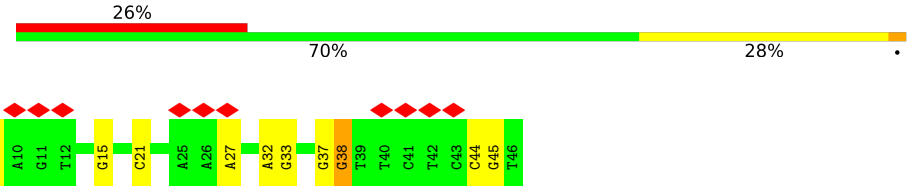
• Molecule 160: STAPLE STRAND

Chain Cj:



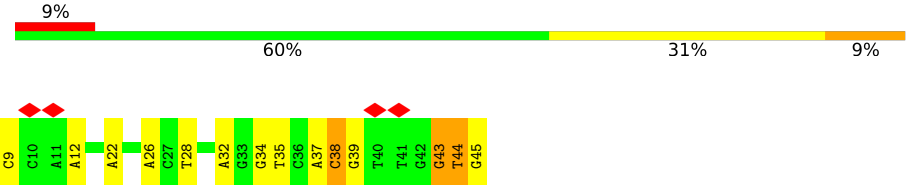
• Molecule 161: STAPLE STRAND

Chain Ck:



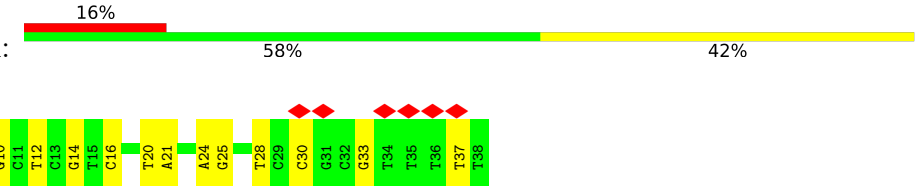
• Molecule 162: STAPLE STRAND

Chain Cl:



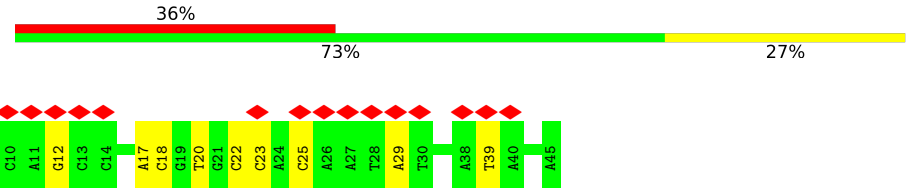
• Molecule 163: STAPLE STRAND

Chain Cm:



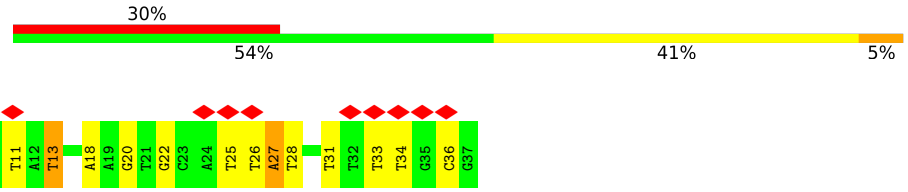
• Molecule 164: STAPLE STRAND

Chain Cn:



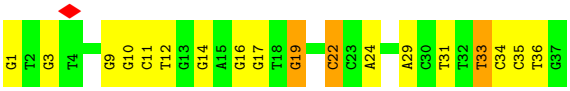
• Molecule 165: STAPLE STRAND

Chain Co:

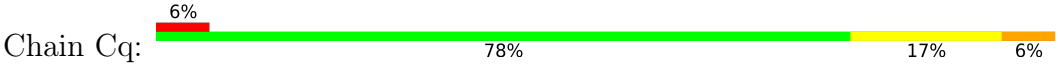


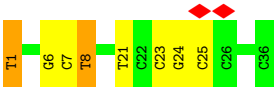
• Molecule 166: STAPLE STRAND

Chain Cp:



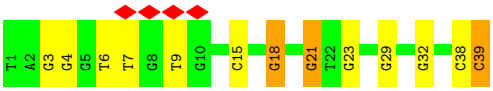
• Molecule 167: STAPLE STRAND



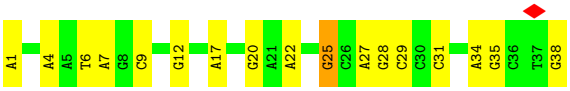


• Molecule 168: STAPLE STRAND

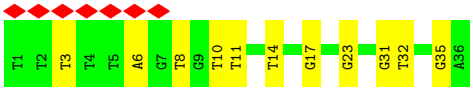
• Molecule 169: STAPLE STRAND



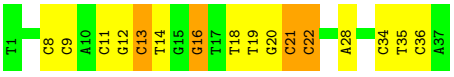
• Molecule 170: STAPLE STRAND



• Molecule 171: STAPLE STRAND

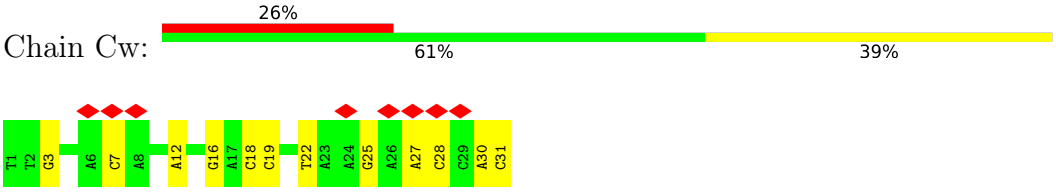


• Molecule 172: STAPLE STRAND



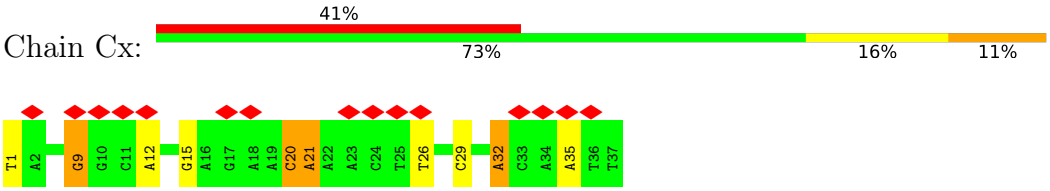
• Molecule 173: STAPLE STRAND

Chain Cw:



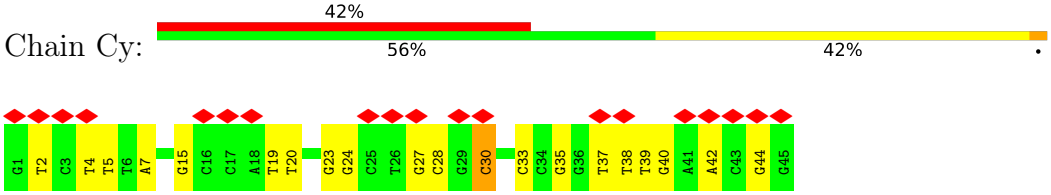
• Molecule 174: STAPLE STRAND

Chain Cx:



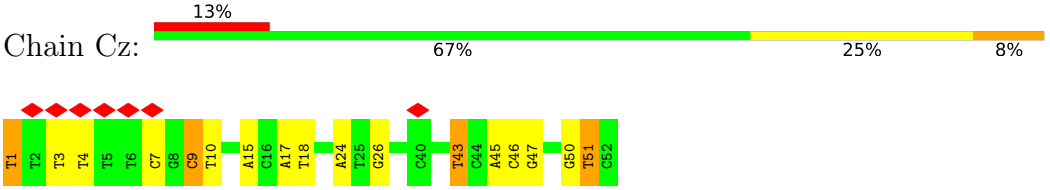
• Molecule 175: STAPLE STRAND

Chain Cy:



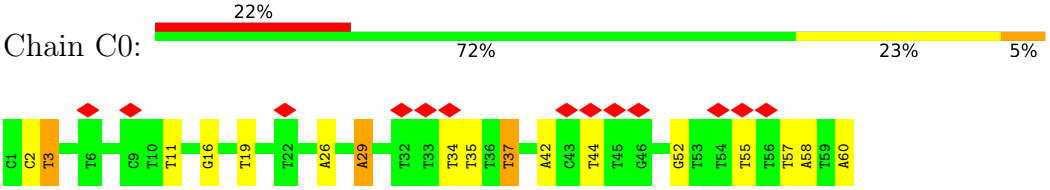
• Molecule 176: STAPLE STRAND

Chain Cz:



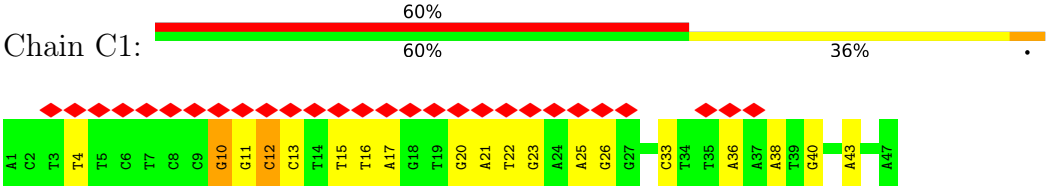
• Molecule 177: STAPLE STRAND

Chain C0:



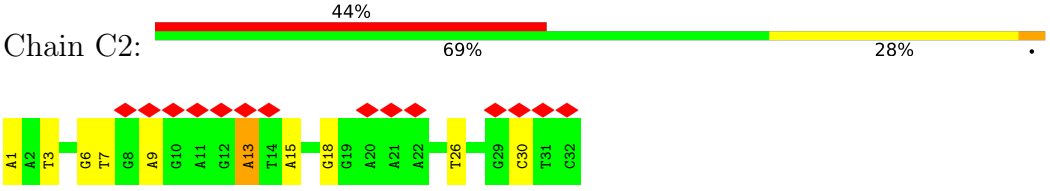
• Molecule 178: STAPLE STRAND

Chain C1:



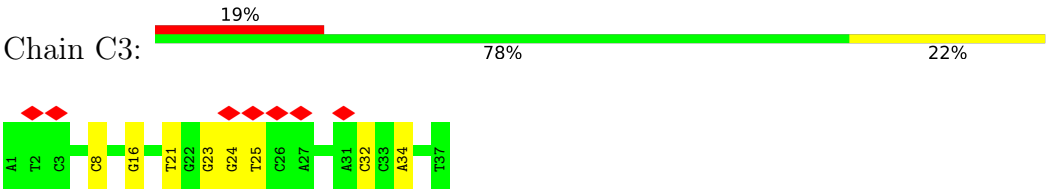
• Molecule 179: STAPLE STRAND

Chain C2:



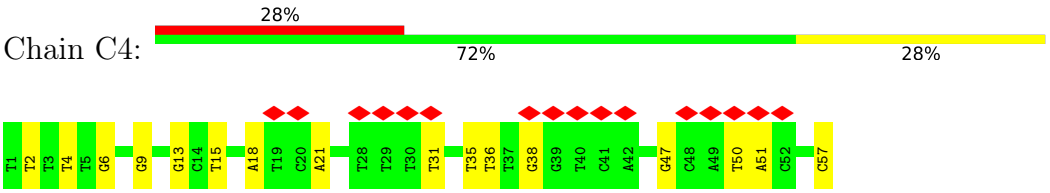
• Molecule 180: STAPLE STRAND

Chain C3:



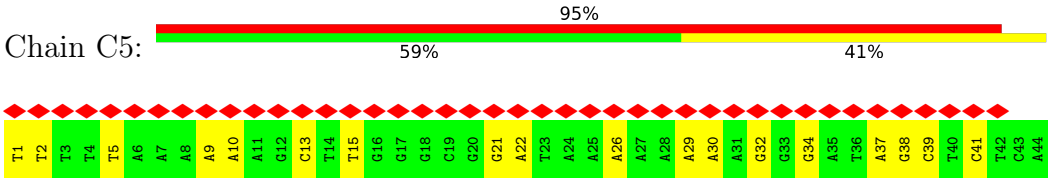
• Molecule 181: STAPLE STRAND

Chain C4:



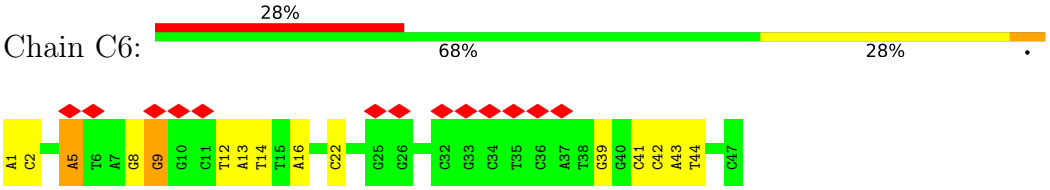
• Molecule 182: STAPLE STRAND

Chain C5:



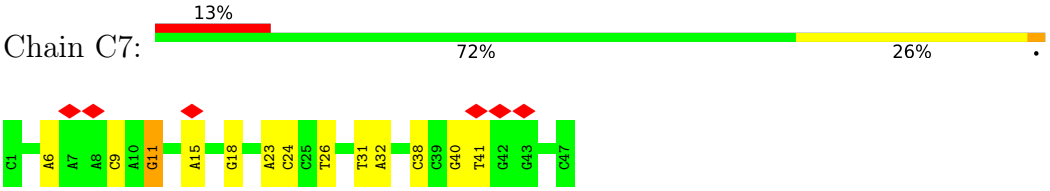
• Molecule 183: STAPLE STRAND

Chain C6:



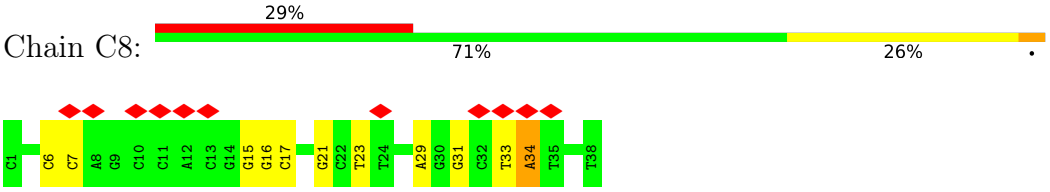
• Molecule 184: STAPLE STRAND

Chain C7:



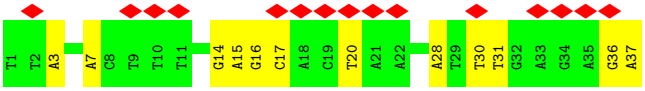
• Molecule 185: STAPLE STRAND

Chain C8:

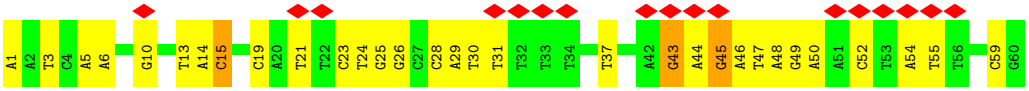


• Molecule 186: STAPLE STRAND

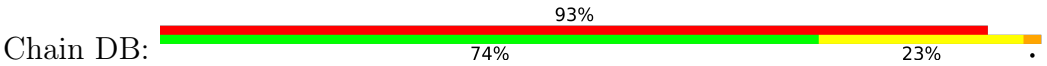
Chain C9:



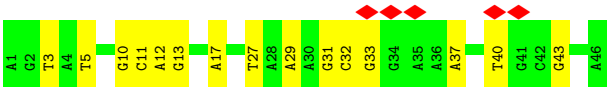
• Molecule 187: STAPLE STRAND



• Molecule 188: STAPLE STRAND

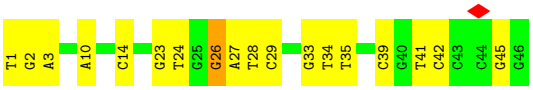


• Molecule 189: STAPLE STRAND

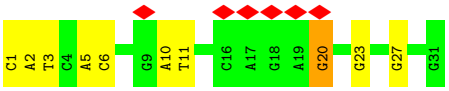


• Molecule 190: STAPLE STRAND

• Molecule 191: STAPLE STRAND



• Molecule 192: STAPLE STRAND



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	94834	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	51	Depositor
Minimum defocus (nm)	328.5	Depositor
Maximum defocus (nm)	2444.2	Depositor
Magnification	47000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.793	Depositor
Minimum map value	-0.309	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.037	Depositor
Recommended contour level	0.11	Depositor
Map size (Å)	639.39996, 639.39996, 639.39996	wwPDB
Map dimensions	230, 230, 230	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.7799997, 2.7799997, 2.7799997	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	AA	1.21	12/184801 (0.0%)	1.40	2511/285260 (0.9%)
2	AB	1.22	0/1095	1.44	18/1690 (1.1%)
3	AC	1.21	1/1228 (0.1%)	1.36	12/1894 (0.6%)
4	AD	1.20	0/1112	1.35	15/1716 (0.9%)
5	AE	1.24	0/1086	1.37	13/1672 (0.8%)
6	AF	1.20	0/1272	1.36	17/1962 (0.9%)
7	AG	1.17	0/1080	1.33	13/1665 (0.8%)
8	AH	1.19	0/714	1.39	11/1101 (1.0%)
9	AI	1.18	0/636	1.30	4/981 (0.4%)
10	AJ	1.19	0/1095	1.31	5/1687 (0.3%)
11	AK	1.26	0/737	1.45	10/1137 (0.9%)
12	AL	1.18	0/1193	1.38	18/1841 (1.0%)
13	AM	1.12	0/854	1.22	7/1315 (0.5%)
14	AN	1.17	0/1062	1.27	7/1639 (0.4%)
15	AO	1.20	0/1068	1.33	9/1646 (0.5%)
16	AP	1.20	0/1100	1.34	9/1697 (0.5%)
17	AQ	1.16	0/1085	1.26	8/1672 (0.5%)
18	AR	1.19	0/1056	1.24	3/1629 (0.2%)
19	AS	1.17	0/1135	1.22	7/1746 (0.4%)
20	AT	1.21	1/1078 (0.1%)	1.34	11/1660 (0.7%)
21	AU	1.22	0/927	1.28	6/1429 (0.4%)
22	AV	1.24	0/1025	1.44	15/1582 (0.9%)
23	AW	1.19	0/1103	1.24	4/1700 (0.2%)
24	AX	1.20	0/860	1.44	13/1326 (1.0%)
25	AY	1.20	0/1085	1.40	12/1674 (0.7%)
26	AZ	1.24	0/912	1.47	14/1404 (1.0%)
27	Aa	1.20	1/1220 (0.1%)	1.29	12/1881 (0.6%)
28	Ab	1.19	0/895	1.35	12/1380 (0.9%)
29	Ac	1.18	0/697	1.30	5/1072 (0.5%)
30	Ad	1.19	0/1046	1.44	19/1612 (1.2%)
31	Ae	1.18	0/1179	1.30	13/1818 (0.7%)
32	Af	1.23	0/1049	1.41	15/1616 (0.9%)
33	Ag	1.23	0/690	1.34	9/1065 (0.8%)
34	Ah	1.19	0/901	1.38	8/1389 (0.6%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	Ai	1.19	0/1095	1.28	12/1691 (0.7%)
36	Aj	1.20	0/924	1.43	12/1423 (0.8%)
37	Ak	1.18	0/870	1.45	11/1340 (0.8%)
38	Al	1.22	0/1274	1.38	10/1961 (0.5%)
39	Am	1.17	0/862	1.26	4/1329 (0.3%)
40	An	1.18	0/1022	1.34	7/1573 (0.4%)
41	Ao	1.19	0/1059	1.27	7/1632 (0.4%)
42	Ap	1.18	0/1089	1.42	15/1678 (0.9%)
43	Aq	1.24	0/746	1.40	8/1151 (0.7%)
44	Ar	1.23	0/1109	1.30	7/1712 (0.4%)
45	As	1.20	0/1119	1.46	24/1725 (1.4%)
46	At	1.19	0/1242	1.35	14/1914 (0.7%)
47	Au	1.11	0/1047	1.23	5/1612 (0.3%)
48	Av	1.16	0/1108	1.38	14/1708 (0.8%)
49	Aw	1.21	0/1074	1.21	6/1653 (0.4%)
50	Ax	1.18	0/1032	1.40	9/1588 (0.6%)
51	Ay	1.28	0/725	1.29	2/1119 (0.2%)
52	Az	1.20	0/689	1.36	9/1061 (0.8%)
53	A0	1.22	0/726	1.38	6/1116 (0.5%)
54	A1	1.22	0/1106	1.38	11/1705 (0.6%)
55	A2	1.15	0/1059	1.33	13/1631 (0.8%)
56	A3	1.23	0/691	1.32	8/1065 (0.8%)
57	A4	1.16	0/1025	1.32	8/1578 (0.5%)
58	A5	1.14	0/1036	1.26	6/1598 (0.4%)
59	A6	1.24	0/1121	1.47	16/1730 (0.9%)
60	A7	1.16	0/1094	1.32	14/1686 (0.8%)
61	A8	1.21	0/1343	1.47	15/2068 (0.7%)
62	A9	1.28	5/875 (0.6%)	1.32	8/1348 (0.6%)
63	BA	1.19	0/1102	1.41	15/1697 (0.9%)
64	BB	1.29	1/718 (0.1%)	1.38	10/1106 (0.9%)
65	BC	1.19	0/1371	1.30	16/2113 (0.8%)
66	BD	1.22	0/1225	1.33	7/1888 (0.4%)
67	BE	1.17	0/727	1.33	5/1118 (0.4%)
68	BF	1.21	0/878	1.37	8/1352 (0.6%)
69	BG	1.22	0/1072	1.40	15/1654 (0.9%)
70	BH	1.15	0/1291	1.26	14/1993 (0.7%)
71	BI	1.24	0/1029	1.26	4/1585 (0.3%)
72	BJ	1.20	0/1043	1.35	7/1609 (0.4%)
73	BK	1.20	0/1100	1.34	13/1696 (0.8%)
74	BL	1.20	0/1029	1.39	13/1586 (0.8%)
75	BM	1.23	0/1114	1.36	12/1719 (0.7%)
76	BN	1.20	0/695	1.38	8/1072 (0.7%)
77	BO	1.26	1/1024 (0.1%)	1.38	13/1577 (0.8%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
78	BP	1.25	0/1035	1.42	9/1594 (0.6%)
79	BQ	1.18	0/1046	1.31	6/1614 (0.4%)
80	BR	1.21	0/861	1.33	6/1326 (0.5%)
81	BS	1.11	0/1088	1.21	7/1675 (0.4%)
82	BT	1.24	0/1205	1.35	10/1858 (0.5%)
83	BU	1.23	0/876	1.51	18/1347 (1.3%)
84	BV	1.20	0/721	1.39	10/1110 (0.9%)
85	BW	1.16	0/699	1.38	8/1074 (0.7%)
86	BX	1.21	0/1024	1.31	5/1576 (0.3%)
87	BY	1.17	0/1196	1.37	10/1844 (0.5%)
88	BZ	1.20	0/1078	1.26	7/1666 (0.4%)
89	Ba	1.21	0/1073	1.35	12/1656 (0.7%)
90	Bb	1.27	0/893	1.38	13/1379 (0.9%)
91	Bc	1.23	0/1035	1.37	16/1597 (1.0%)
92	Bd	1.20	0/1109	1.31	9/1709 (0.5%)
93	Be	1.18	0/1019	1.38	15/1566 (1.0%)
94	Bf	1.20	0/870	1.34	8/1341 (0.6%)
95	Bg	1.23	0/880	1.49	18/1358 (1.3%)
96	Bh	1.20	0/916	1.35	12/1409 (0.9%)
97	Bi	1.16	0/1108	1.44	17/1708 (1.0%)
98	Bj	1.22	0/1117	1.48	16/1723 (0.9%)
99	Bk	1.21	0/699	1.43	13/1078 (1.2%)
100	Bl	1.21	0/935	1.39	11/1443 (0.8%)
101	Bm	1.18	0/869	1.37	9/1337 (0.7%)
102	Bn	1.18	0/984	1.27	10/1517 (0.7%)
103	Bo	1.21	1/1021 (0.1%)	1.36	11/1574 (0.7%)
104	Bp	1.32	3/1098 (0.3%)	1.67	28/1695 (1.7%)
105	Bq	1.19	0/1100	1.26	4/1699 (0.2%)
106	Br	1.19	0/872	1.31	8/1345 (0.6%)
107	Bs	1.18	0/680	1.46	14/1048 (1.3%)
108	Bt	1.19	0/1028	1.41	12/1586 (0.8%)
109	Bu	1.18	0/1123	1.33	11/1734 (0.6%)
110	Bv	1.22	0/916	1.39	10/1410 (0.7%)
111	Bw	1.14	0/844	1.32	10/1299 (0.8%)
112	Bx	1.14	0/1182	1.26	8/1824 (0.4%)
113	By	1.19	0/705	1.47	13/1089 (1.2%)
114	Bz	1.18	0/925	1.36	9/1425 (0.6%)
115	B0	1.18	0/688	1.23	3/1060 (0.3%)
116	B1	1.13	0/1190	1.31	13/1838 (0.7%)
117	B2	1.20	0/690	1.29	7/1063 (0.7%)
118	B3	1.19	0/1283	1.26	9/1977 (0.5%)
119	B4	1.20	0/1112	1.34	8/1715 (0.5%)
120	B5	1.17	0/707	1.30	3/1090 (0.3%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
121	B6	1.20	0/1043	1.36	14/1611 (0.9%)
122	B7	1.21	0/855	1.31	5/1319 (0.4%)
123	B8	1.23	0/1192	1.28	12/1841 (0.7%)
124	B9	1.24	0/857	1.38	11/1320 (0.8%)
125	CA	1.21	0/721	1.38	11/1108 (1.0%)
126	CB	1.20	0/736	1.47	10/1135 (0.9%)
127	CC	1.26	0/703	1.39	9/1086 (0.8%)
128	CD	1.26	5/1341 (0.4%)	1.45	21/2068 (1.0%)
129	CE	1.19	0/1192	1.32	8/1837 (0.4%)
130	CF	1.21	0/918	1.38	7/1413 (0.5%)
131	CG	1.30	0/700	1.42	10/1077 (0.9%)
132	CH	1.24	0/1233	1.49	19/1906 (1.0%)
133	CI	1.23	0/689	1.50	13/1062 (1.2%)
134	CJ	1.17	0/1098	1.33	11/1693 (0.6%)
135	CK	1.21	0/1268	1.37	21/1957 (1.1%)
136	CL	1.20	0/719	1.39	9/1110 (0.8%)
137	CM	1.24	0/734	1.46	10/1130 (0.9%)
138	CN	1.22	0/932	1.36	12/1438 (0.8%)
139	CO	1.19	0/679	1.37	9/1045 (0.9%)
140	CP	1.23	0/1238	1.39	15/1911 (0.8%)
141	CQ	1.21	0/1094	1.35	5/1685 (0.3%)
142	CR	1.21	0/1035	1.30	8/1597 (0.5%)
143	CS	1.22	0/1103	1.43	16/1701 (0.9%)
144	CT	1.21	0/862	1.55	16/1326 (1.2%)
145	CU	1.23	0/697	1.34	6/1075 (0.6%)
146	CV	1.17	0/732	1.25	1/1127 (0.1%)
147	CW	1.19	0/1090	1.30	12/1683 (0.7%)
148	CX	1.19	0/1087	1.39	14/1676 (0.8%)
149	CY	1.25	0/1121	1.42	15/1731 (0.9%)
150	CZ	1.20	0/1061	1.35	14/1640 (0.9%)
151	Ca	1.19	0/898	1.29	6/1383 (0.4%)
152	Cb	1.22	0/1052	1.28	6/1624 (0.4%)
153	Cc	1.19	0/690	1.38	7/1065 (0.7%)
154	Cd	1.22	0/875	1.44	13/1349 (1.0%)
155	Ce	1.21	0/673	1.29	3/1035 (0.3%)
156	Cf	1.20	0/900	1.47	11/1382 (0.8%)
157	Cg	1.21	0/874	1.31	6/1348 (0.4%)
158	Ch	1.20	0/1043	1.36	9/1610 (0.6%)
159	Ci	1.24	0/1089	1.55	26/1681 (1.5%)
160	Cj	1.29	0/1242	1.47	17/1916 (0.9%)
161	Ck	1.22	0/1067	1.42	21/1646 (1.3%)
162	Cl	1.24	0/1021	1.43	15/1573 (1.0%)
163	Cm	1.21	0/852	1.45	13/1312 (1.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
164	Cn	1.16	0/1030	1.28	6/1585 (0.4%)
165	Co	1.17	0/840	1.47	17/1295 (1.3%)
166	Cp	1.25	0/841	1.43	13/1296 (1.0%)
167	Cq	1.23	0/817	1.40	8/1259 (0.6%)
168	Cr	1.24	0/872	1.38	14/1345 (1.0%)
169	Cs	1.22	0/901	1.29	7/1392 (0.5%)
170	Ct	1.25	0/880	1.46	13/1356 (1.0%)
171	Cu	1.23	0/823	1.33	6/1270 (0.5%)
172	Cv	1.25	0/834	1.41	11/1285 (0.9%)
173	Cw	1.18	0/707	1.33	6/1087 (0.6%)
174	Cx	1.19	0/858	1.41	11/1322 (0.8%)
175	Cy	1.23	0/1027	1.37	8/1583 (0.5%)
176	Cz	1.21	0/1186	1.37	11/1830 (0.6%)
177	C0	1.15	0/1354	1.36	17/2088 (0.8%)
178	C1	1.18	0/1082	1.30	10/1669 (0.6%)
179	C2	1.21	0/742	1.38	7/1145 (0.6%)
180	C3	1.24	0/849	1.39	7/1309 (0.5%)
181	C4	1.16	0/1294	1.33	13/1996 (0.7%)
182	C5	1.19	0/1025	1.46	19/1582 (1.2%)
183	C6	1.20	0/1077	1.37	11/1659 (0.7%)
184	C7	1.18	0/1076	1.37	10/1656 (0.6%)
185	C8	1.18	0/863	1.30	6/1329 (0.5%)
186	C9	1.19	0/863	1.32	7/1332 (0.5%)
187	DA	1.18	0/1374	1.40	22/2118 (1.0%)
188	DB	1.23	0/980	1.43	10/1511 (0.7%)
189	DC	1.17	0/1075	1.31	11/1658 (0.7%)
190	DD	1.17	0/869	1.39	12/1339 (0.9%)
191	DE	1.21	0/1056	1.35	13/1627 (0.8%)
192	DF	1.19	0/718	1.35	9/1107 (0.8%)
All	All	1.21	31/372075 (0.0%)	1.38	4574/573956 (0.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	AA	26	1811
2	AB	0	10
3	AC	0	13
4	AD	0	12
5	AE	0	5

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Mol	Chain	#Chirality outliers	#Planarity outliers
6	AF	0	17
7	AG	0	5
8	AH	0	6
9	AI	0	6
10	AJ	0	7
11	AK	0	4
12	AL	0	5
13	AM	0	2
14	AN	0	8
15	AO	0	8
16	AP	0	10
17	AQ	0	7
18	AR	0	10
19	AS	0	12
20	AT	0	8
21	AU	0	12
22	AV	0	6
23	AW	0	10
24	AX	0	9
25	AY	0	9
26	AZ	0	7
27	Aa	0	12
28	Ab	0	7
29	Ac	0	4
30	Ad	0	8
31	Ae	0	10
32	Af	0	9
33	Ag	0	6
34	Ah	0	3
35	Ai	0	14
36	Aj	0	5
37	Ak	0	2
38	Al	0	9
39	Am	0	6
40	An	0	12
41	Ao	0	7
42	Ap	0	6
43	Aq	0	11
44	Ar	0	11
45	As	0	5
46	At	0	10
47	Au	0	7

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Mol	Chain	#Chirality outliers	#Planarity outliers
48	Av	0	8
49	Aw	0	5
50	Ax	0	9
51	Ay	0	6
52	Az	0	7
53	A0	0	5
54	A1	0	9
55	A2	0	8
56	A3	0	6
57	A4	0	7
58	A5	0	5
59	A6	0	9
60	A7	0	10
61	A8	0	11
62	A9	0	7
63	BA	0	7
64	BB	0	7
65	BC	0	6
66	BD	0	7
67	BE	0	5
68	BF	0	10
69	BG	0	15
70	BH	0	10
71	BI	0	9
72	BJ	0	9
73	BK	0	13
74	BL	0	8
75	BM	0	9
76	BN	0	6
77	BO	0	11
78	BP	0	12
79	BQ	0	12
80	BR	0	10
81	BS	0	8
82	BT	0	12
83	BU	0	7
84	BV	0	9
85	BW	0	5
86	BX	0	2
87	BY	0	6
88	BZ	0	4
89	Ba	0	10

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Mol	Chain	#Chirality outliers	#Planarity outliers
90	Bb	0	16
91	Bc	0	8
92	Bd	0	8
93	Be	0	9
94	Bf	0	9
95	Bg	0	11
96	Bh	0	9
97	Bi	0	11
98	Bj	0	9
99	Bk	0	5
100	Bl	0	5
101	Bm	0	9
102	Bn	0	6
103	Bo	0	11
104	Bp	0	12
105	Bq	0	7
106	Br	0	7
107	Bs	0	12
108	Bt	0	8
109	Bu	0	11
110	Bv	0	8
111	Bw	0	9
112	Bx	0	17
113	By	0	4
114	Bz	0	4
115	B0	0	6
116	B1	0	13
117	B2	0	4
118	B3	0	14
119	B4	0	5
120	B5	0	6
121	B6	0	17
122	B7	0	5
123	B8	0	12
124	B9	0	14
125	CA	0	5
126	CB	0	13
127	CC	0	6
128	CD	0	12
129	CE	0	9
130	CF	0	7
131	CG	0	7

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Mol	Chain	#Chirality outliers	#Planarity outliers
132	CH	0	14
133	CI	0	4
134	CJ	0	11
135	CK	0	11
136	CL	0	4
137	CM	0	9
138	CN	0	8
139	CO	0	7
140	CP	0	12
141	CQ	0	11
142	CR	0	9
143	CS	0	11
144	CT	0	11
145	CU	0	6
146	CV	0	7
147	CW	0	9
148	CX	0	8
149	CY	0	9
150	CZ	0	10
151	Ca	0	9
152	Cb	0	5
153	Cc	0	14
154	Cd	0	4
155	Ce	0	10
156	Cf	0	7
157	Cg	0	11
158	Ch	0	11
159	Ci	0	8
160	Cj	0	18
161	Ck	0	6
162	Cl	0	11
163	Cm	0	7
164	Cn	0	7
165	Co	0	8
166	Cp	0	11
167	Cq	0	4
168	Cr	0	11
169	Cs	0	12
170	Ct	0	9
171	Cu	0	5
172	Cv	0	11
173	Cw	0	7

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Mol	Chain	#Chirality outliers	#Planarity outliers
174	Cx	0	8
175	Cy	0	16
176	Cz	0	13
177	C0	0	11
178	C1	0	12
179	C2	0	6
180	C3	0	2
181	C4	0	8
182	C5	0	7
183	C6	0	11
184	C7	0	8
185	C8	0	9
186	C9	0	7
187	DA	0	16
188	DB	0	5
189	DC	0	6
190	DD	0	9
191	DE	0	10
192	DF	0	4
All	All	26	3449

The worst 5 of 31 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
128	CD	51	DG	C4'-C3'	7.13	1.60	1.53
62	A9	9	DA	C5'-C4'	6.85	1.58	1.51
128	CD	52	DT	C5'-C4'	6.70	1.58	1.51
128	CD	51	DG	C5'-C4'	6.17	1.58	1.51
104	Bp	22	DA	C5'-C4'	6.02	1.57	1.51

The worst 5 of 4574 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	AA	1068	DG	P-O3'-C3'	16.13	139.06	119.70
1	AA	1599	DT	P-O3'-C3'	16.01	138.92	119.70
160	Cj	27	DG	P-O3'-C3'	15.34	138.10	119.70
1	AA	645	DA	P-O3'-C3'	14.96	137.65	119.70
1	AA	5153	DG	P-O3'-C3'	14.88	137.55	119.70

5 of 26 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	AA	1155	DG	C3'
1	AA	1417	DA	C4',C3'
1	AA	3394	DT	C3'
1	AA	3534	DA	C4',C3'
1	AA	3922	DA	C4',C3'

5 of 3449 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	AA	1	DT	Sidechain
1	AA	10	DG	Sidechain
1	AA	14	DT	Sidechain
1	AA	18	DC	Sidechain
1	AA	3	DA	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	164972	0	91297	0	0
2	AB	972	0	529	0	0
3	AC	1091	0	596	0	0
4	AD	989	0	542	0	0
5	AE	971	0	543	0	0
6	AF	1131	0	620	0	0
7	AG	970	0	554	0	0
8	AH	636	0	354	0	0
9	AI	570	0	324	0	0
10	AJ	977	0	543	0	0
11	AK	657	0	361	0	0
12	AL	1065	0	592	0	0
13	AM	766	0	439	0	0
14	AN	946	0	522	0	0
15	AO	947	0	514	0	0
16	AP	982	0	545	0	0
17	AQ	972	0	553	0	0
18	AR	942	0	522	0	0
19	AS	1012	0	566	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	AT	959	0	528	0	0
21	AU	823	0	448	0	0
22	AV	918	0	519	0	0
23	AW	982	0	539	0	0
24	AX	763	0	412	0	0
25	AY	966	0	536	0	0
26	AZ	813	0	450	0	0
27	Aa	1086	0	598	0	0
28	Ab	798	0	443	0	0
29	Ac	624	0	352	0	0
30	Ad	927	0	505	0	0
31	Ae	1056	0	595	0	0
32	Af	936	0	521	0	0
33	Ag	616	0	343	0	0
34	Ah	801	0	437	0	0
35	Ai	981	0	554	0	0
36	Aj	820	0	449	0	0
37	Ak	775	0	429	0	0
38	Al	1136	0	633	0	0
39	Am	772	0	438	0	0
40	An	912	0	506	0	0
41	Ao	942	0	518	0	0
42	Ap	974	0	548	0	0
43	Aq	662	0	362	0	0
44	Ar	988	0	547	0	0
45	As	991	0	536	0	0
46	At	1105	0	608	0	0
47	Au	934	0	524	0	0
48	Av	985	0	543	0	0
49	Aw	964	0	549	0	0
50	Ax	917	0	505	0	0
51	Ay	643	0	347	0	0
52	Az	613	0	338	0	0
53	A0	647	0	358	0	0
54	A1	984	0	542	0	0
55	A2	941	0	519	0	0
56	A3	615	0	339	0	0
57	A4	914	0	510	0	0
58	A5	923	0	515	0	0
59	A6	994	0	540	0	0
60	A7	977	0	550	0	0
61	A8	1206	0	686	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	A9	778	0	427	0	0
63	BA	980	0	540	0	0
64	BB	637	0	347	0	0
65	BC	1223	0	676	0	0
66	BD	1088	0	597	0	0
67	BE	648	0	362	0	0
68	BF	779	0	427	0	0
69	BG	959	0	538	0	0
70	BH	1159	0	660	0	0
71	BI	917	0	506	0	0
72	BJ	927	0	507	0	0
73	BK	981	0	544	0	0
74	BL	918	0	511	0	0
75	BM	990	0	544	0	0
76	BN	618	0	340	0	0
77	BO	914	0	509	0	0
78	BP	920	0	506	0	0
79	BQ	929	0	507	0	0
80	BR	770	0	432	0	0
81	BS	972	0	548	0	0
82	BT	1070	0	581	0	0
83	BU	784	0	440	0	0
84	BV	646	0	365	0	0
85	BW	624	0	347	0	0
86	BX	913	0	508	0	0
87	BY	1065	0	590	0	0
88	BZ	957	0	517	0	0
89	Ba	952	0	516	0	0
90	Bb	791	0	427	0	0
91	Bc	923	0	513	0	0
92	Bd	985	0	542	0	0
93	Be	908	0	502	0	0
94	Bf	776	0	434	0	0
95	Bg	783	0	429	0	0
96	Bh	814	0	447	0	0
97	Bi	993	0	565	0	0
98	Bj	991	0	542	0	0
99	Bk	620	0	338	0	0
100	Bl	829	0	449	0	0
101	Bm	773	0	427	0	0
102	Bn	878	0	492	0	0
103	Bo	914	0	519	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
104	Bp	974	0	528	0	0
105	Bq	984	0	551	0	0
106	Br	778	0	434	0	0
107	Bs	609	0	346	0	0
108	Bt	919	0	517	0	0
109	Bu	1004	0	565	0	0
110	Bv	815	0	447	0	0
111	Bw	752	0	422	0	0
112	Bx	1059	0	602	0	0
113	By	625	0	338	0	0
114	Bz	821	0	450	0	0
115	B0	613	0	342	0	0
116	B1	1065	0	604	0	0
117	B2	614	0	340	0	0
118	B3	1143	0	630	0	0
119	B4	988	0	537	0	0
120	B5	632	0	358	0	0
121	B6	929	0	511	0	0
122	B7	761	0	417	0	0
123	B8	1066	0	593	0	0
124	B9	768	0	434	0	0
125	CA	644	0	359	0	0
126	CB	656	0	362	0	0
127	CC	624	0	337	0	0
128	CD	1200	0	672	0	0
129	CE	1062	0	590	0	0
130	CF	816	0	446	0	0
131	CG	626	0	347	0	0
132	CH	1098	0	600	0	0
133	CI	614	0	339	0	0
134	CJ	988	0	570	0	0
135	CK	1138	0	643	0	0
136	CL	640	0	350	0	0
137	CM	653	0	359	0	0
138	CN	827	0	450	0	0
139	CO	607	0	340	0	0
140	CP	1106	0	612	0	0
141	CQ	976	0	540	0	0
142	CR	923	0	511	0	0
143	CS	983	0	539	0	0
144	CT	769	0	426	0	0
145	CU	619	0	337	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
146	CV	652	0	358	0	0
147	CW	970	0	531	0	0
148	CX	974	0	552	0	0
149	CY	995	0	535	0	0
150	CZ	948	0	528	0	0
151	Ca	798	0	437	0	0
152	Cb	933	0	503	0	0
153	Cc	616	0	340	0	0
154	Cd	779	0	425	0	0
155	Ce	603	0	339	0	0
156	Cf	803	0	449	0	0
157	Cg	779	0	429	0	0
158	Ch	928	0	507	0	0
159	Ci	977	0	550	0	0
160	Cj	1107	0	607	0	0
161	Ck	948	0	517	0	0
162	Cl	913	0	508	0	0
163	Cm	765	0	435	0	0
164	Cn	916	0	504	0	0
165	Co	752	0	425	0	0
166	Cp	752	0	418	0	0
167	Cq	731	0	409	0	0
168	Cr	778	0	430	0	0
169	Cs	804	0	441	0	0
170	Ct	781	0	425	0	0
171	Cu	736	0	413	0	0
172	Cv	748	0	423	0	0
173	Cw	629	0	347	0	0
174	Cx	761	0	416	0	0
175	Cy	917	0	507	0	0
176	Cz	1061	0	594	0	0
177	C0	1215	0	692	0	0
178	C1	964	0	532	0	0
179	C2	660	0	363	0	0
180	C3	757	0	417	0	0
181	C4	1159	0	655	0	0
182	C5	910	0	497	0	0
183	C6	959	0	529	0	0
184	C7	957	0	526	0	0
185	C8	771	0	429	0	0
186	C9	766	0	418	0	0
187	DA	1225	0	681	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
188	DB	876	0	487	0	0
189	DC	952	0	515	0	0
190	DD	775	0	428	0	0
191	DE	940	0	515	0	0
192	DF	638	0	349	0	0
All	All	331913	0	183783	0	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). Clashscore could not be calculated for this entry.

There are no clashes within the asymmetric unit.

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

There are no protein molecules in this entry.

5.3.2 Protein sidechains

There are no protein molecules in this entry.

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

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)

There are no chain breaks in this entry.

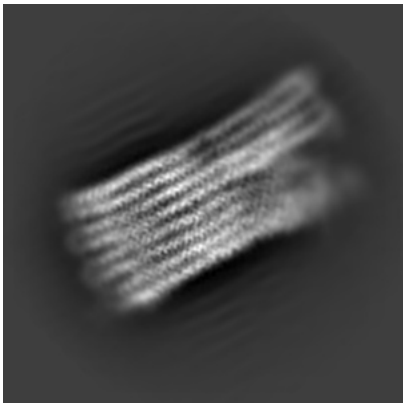
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11378. These allow visual inspection of the internal detail of the map and identification of artifacts.

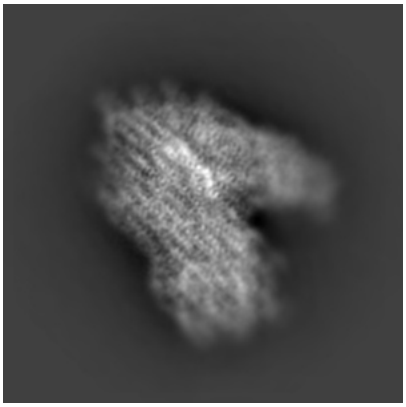
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

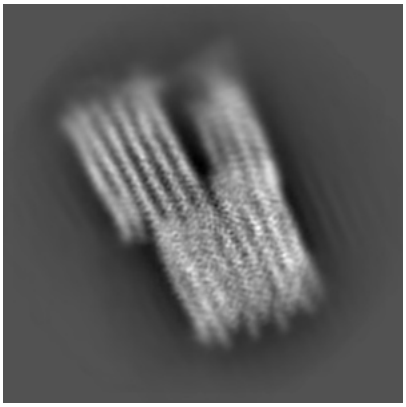
6.1.1 Primary map



X



Y

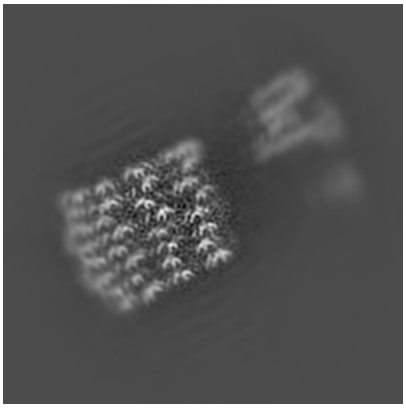


Z

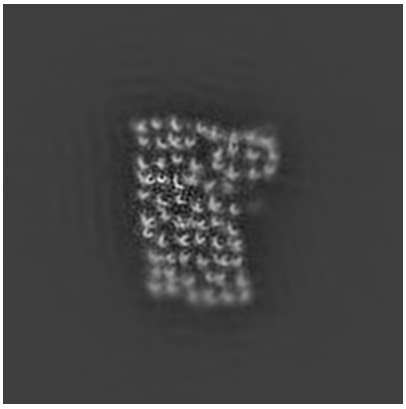
The images above show the map projected in three orthogonal directions.

6.2 Central slices

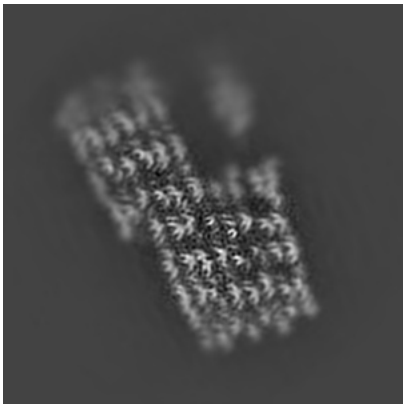
6.2.1 Primary map



X Index: 115



Y Index: 115

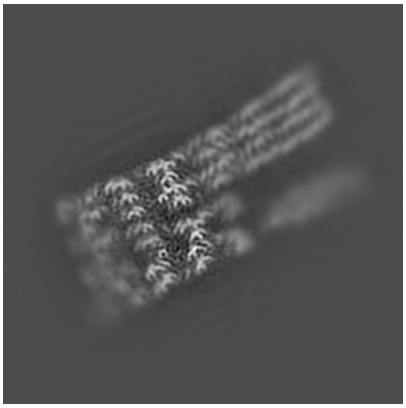


Z Index: 115

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

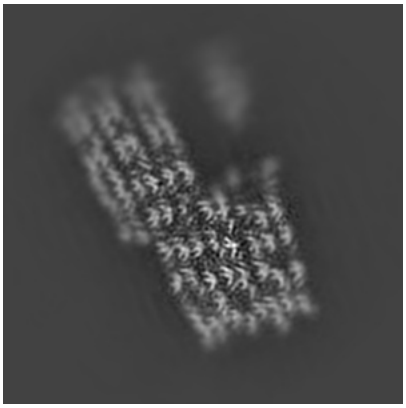
6.3 Largest variance slices (i)

6.3.1 Primary map



X Index: 130

Y Index: 97

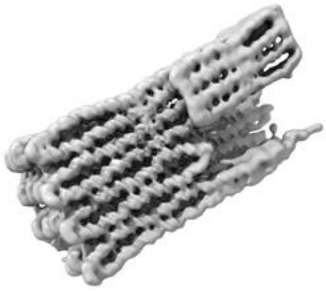


Z Index: 119

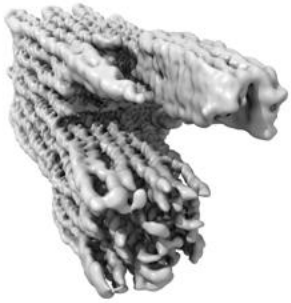
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

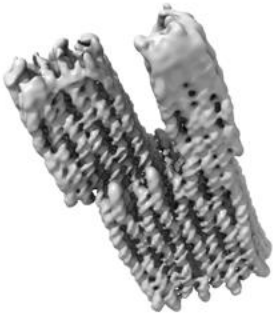
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.11. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

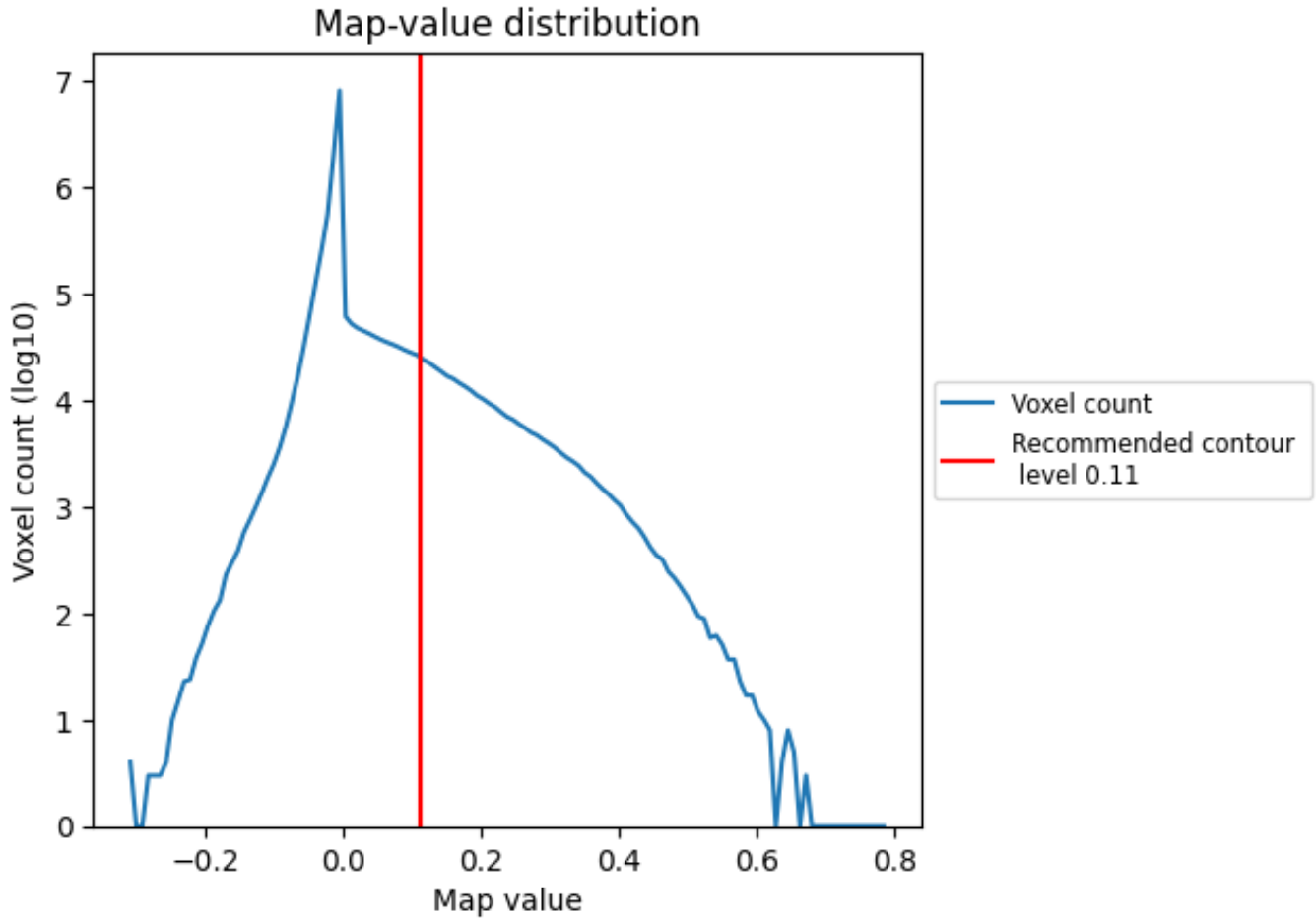
6.5 Mask visualisation (i)

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

7 Map analysis

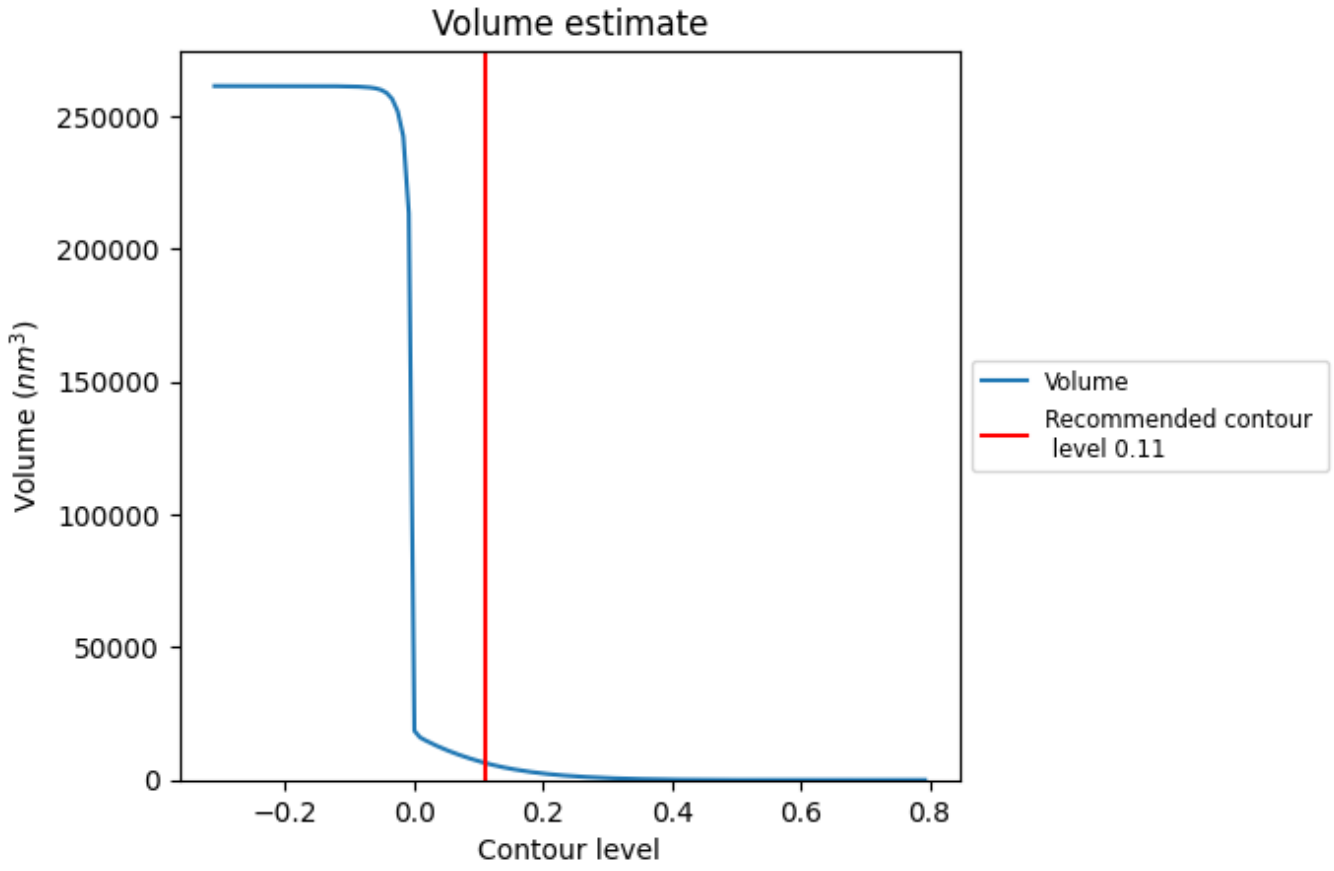
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

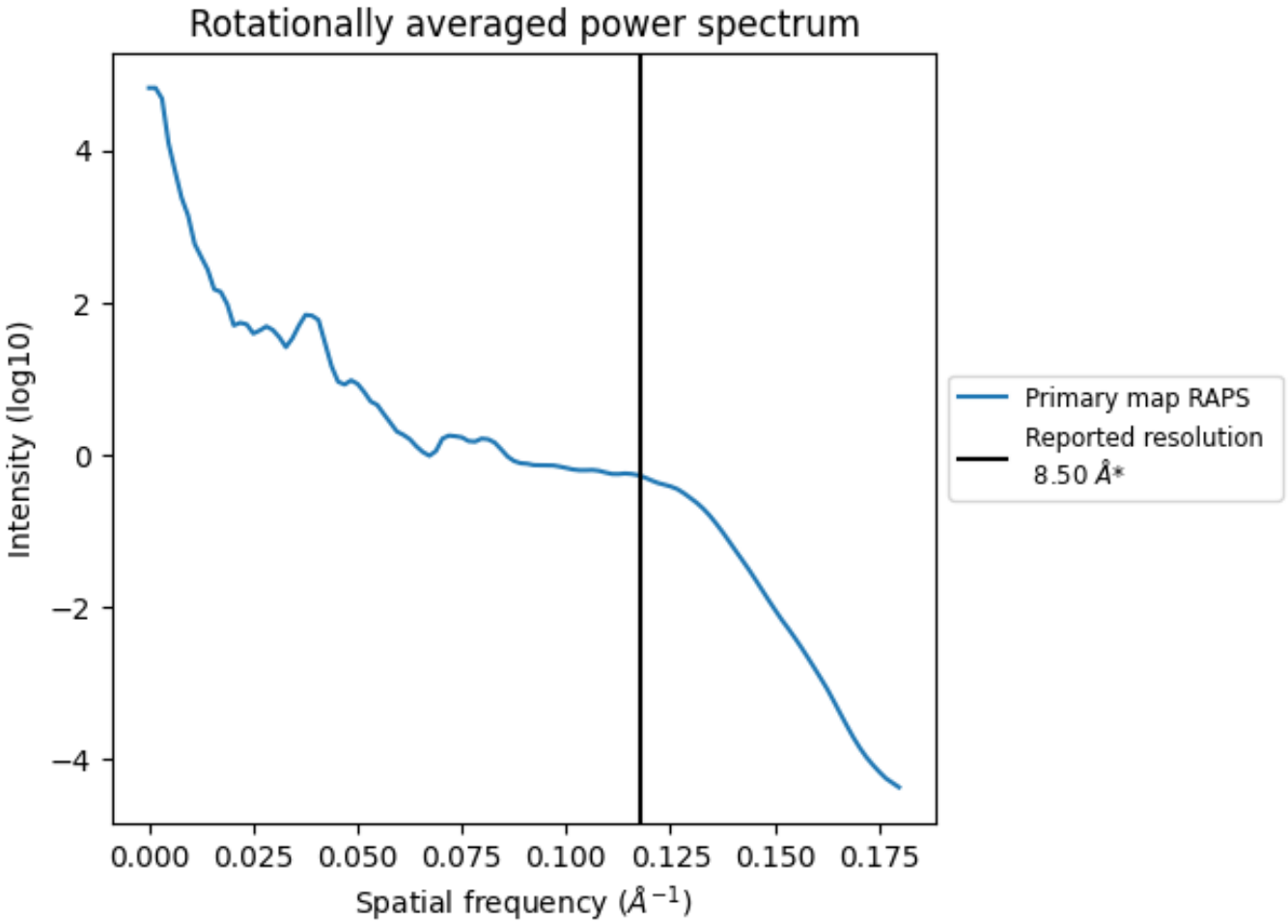
7.2 Volume estimate (i)



The volume at the recommended contour level is 6439 nm^3; this corresponds to an approximate mass of 5817 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)

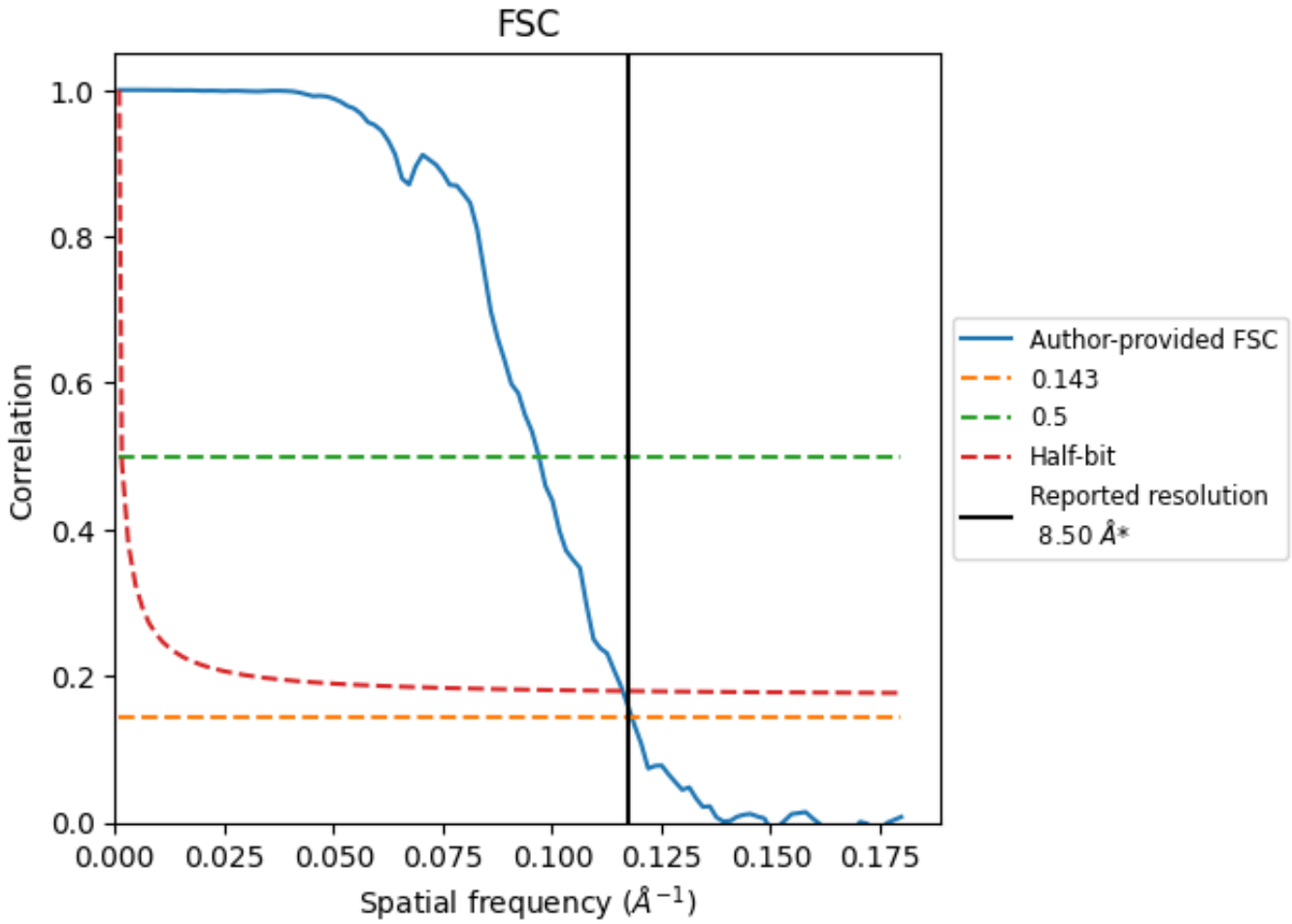


*Reported resolution corresponds to spatial frequency of 0.118 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.118 Å^{-1}

8.2 Resolution estimates (i)

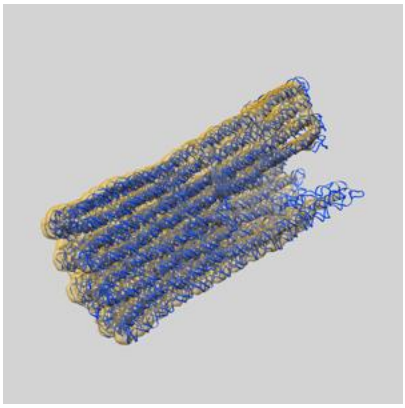
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	8.50	-	-
Author-provided FSC curve	8.45	10.32	8.61
Unmasked-calculated*	-	-	-

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

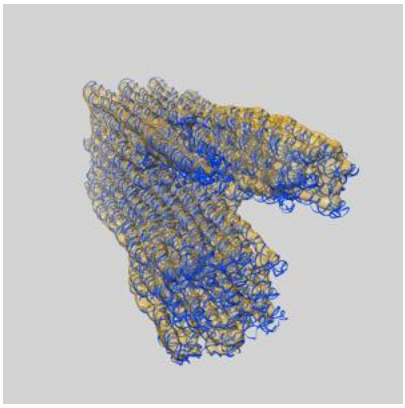
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11378 and PDB model 7ARY. Per-residue inclusion information can be found in section 3 on page 38.

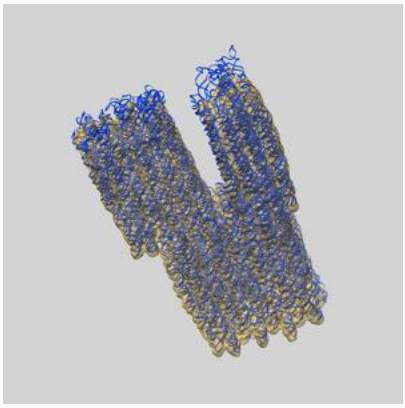
9.1 Map-model overlay



X



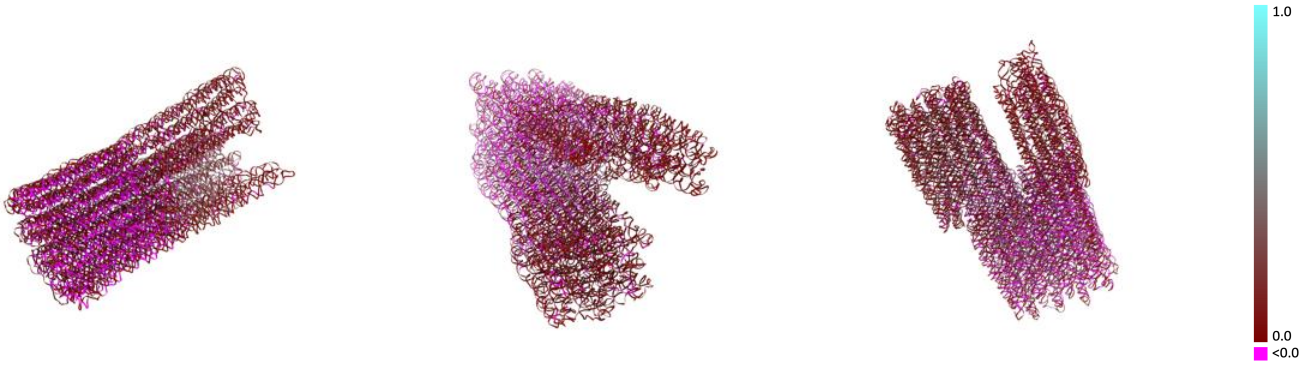
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.11 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.

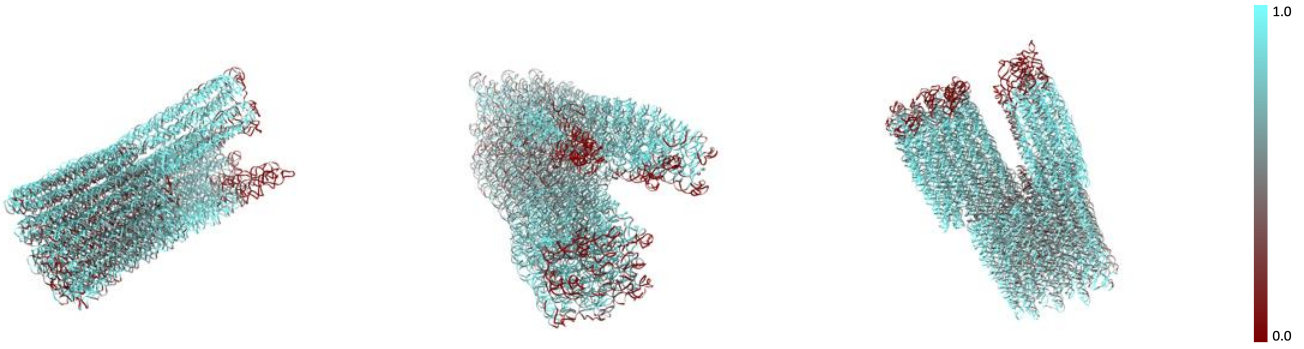
9.2 Q-score mapped to coordinate model



X Y Z

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

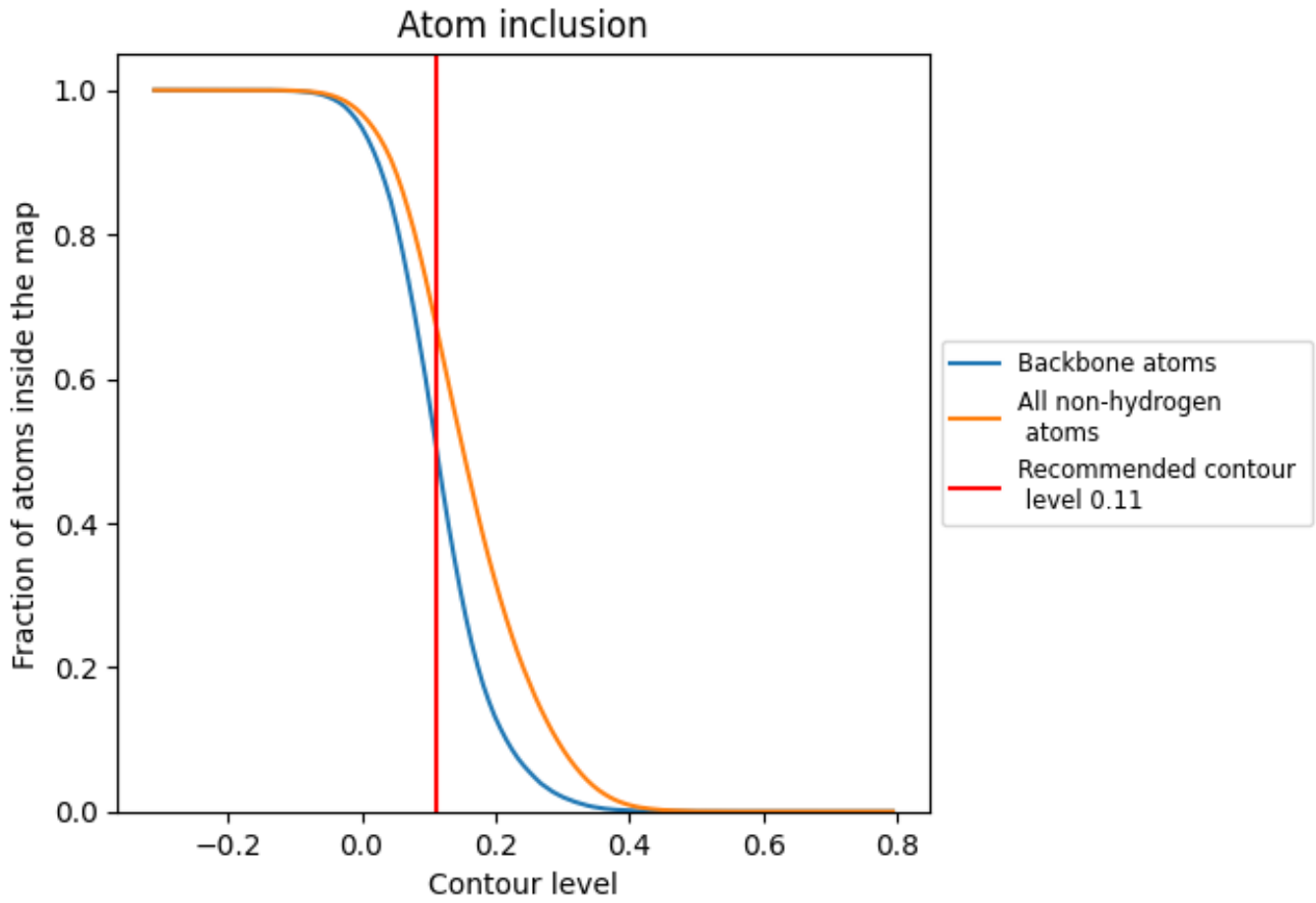
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.11).

9.4 Atom inclusion (i)



At the recommended contour level, 51% of all backbone atoms, 68% 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 (0.11) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6784	0.0580
A0	0.8547	0.1060
A1	0.5976	0.0140
A2	0.7396	0.0490
A3	0.7593	0.0710
A4	0.6685	0.0520
A5	0.4756	0.0360
A6	0.6167	-0.0000
A7	0.6121	0.0430
A8	0.3731	0.0690
A9	0.4447	0.0240
AA	0.6844	0.0600
AB	0.8704	0.1090
AC	0.8139	0.0630
AD	0.8059	0.1160
AE	0.8548	0.1230
AF	0.8895	0.1220
AG	0.2021	0.0360
AH	0.9009	0.1400
AI	0.9649	0.1160
AJ	0.8649	0.1110
AK	0.8219	0.1140
AL	0.6629	0.1040
AM	0.8185	0.1220
AN	0.6670	0.1010
AO	0.8395	0.1190
AP	0.7230	0.0610
AQ	0.2901	0.0590
AR	0.7686	0.1110
AS	0.6650	0.0970
AT	0.6809	0.0330
AU	0.6574	0.0050
AV	0.4063	0.0420
AW	0.8462	0.1020
AX	0.7654	0.0960

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Chain	Atom inclusion	Q-score
AY	0.7919	0.0770
AZ	0.7724	0.0920
Aa	0.8573	0.1100
Ab	0.7469	0.0480
Ac	0.6442	0.0640
Ad	0.8447	0.1220
Ae	0.5218	0.0940
Af	0.8066	0.1280
Ag	0.8149	0.0990
Ah	0.7228	0.0650
Ai	0.3435	0.0860
Aj	0.8500	0.0930
Ak	0.7058	0.0570
Al	0.6083	0.0240
Am	0.6541	0.0500
An	0.8783	0.1200
Ao	0.7962	0.0750
Ap	0.7105	0.0560
Aq	0.7477	0.0800
Ar	0.6366	0.0290
As	0.6337	0.0240
At	0.6833	0.0410
Au	0.7259	0.0430
Av	0.6041	0.0430
Aw	0.1162	0.0240
Ax	0.8092	0.1020
Ay	0.6563	0.0470
Az	0.5661	0.0260
B0	0.6313	0.0080
B1	0.6582	0.0520
B2	0.5554	-0.0010
B3	0.6763	0.0380
B4	0.6680	0.0010
B5	0.5538	0.0290
B6	0.6437	0.0150
B7	0.6873	0.0860
B8	0.5610	0.0620
B9	0.5846	-0.0160
BA	0.6612	0.0170
BB	0.4647	0.0220
BC	0.3794	0.0820
BD	0.8557	0.1140

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Chain	Atom inclusion	Q-score
BE	0.7901	0.0670
BF	0.7754	0.0750
BG	0.6569	0.0320
BH	0.4029	0.0890
BI	0.7503	0.0860
BJ	0.7465	0.0600
BK	0.6901	0.0400
BL	0.8214	0.1110
BM	0.5828	0.0170
BN	0.5000	-0.0140
BO	0.7243	0.0630
BP	0.5728	0.0050
BQ	0.6017	0.0110
BR	0.7325	0.0380
BS	0.6749	0.0550
BT	0.7308	0.1090
BU	0.7245	0.0500
BV	0.5619	0.0100
BW	0.7548	0.0920
BX	0.6068	0.0120
BY	0.7174	0.1210
BZ	0.7806	0.0910
Ba	0.8435	0.0950
Bb	0.7143	0.0280
Bc	0.5623	0.0020
Bd	0.6416	0.0350
Be	0.8579	0.1080
Bf	0.6598	0.0200
Bg	0.6360	0.0320
Bh	0.7592	0.0940
Bi	0.7059	0.1080
Bj	0.7427	0.0600
Bk	0.8113	0.1160
Bl	0.6707	0.0280
Bm	0.7141	0.0460
Bn	0.7882	0.0590
Bo	0.7473	0.0690
Bp	0.7495	0.0380
Bq	0.6972	0.0910
Br	0.7352	0.0600
Bs	0.5156	-0.0120
Bt	0.7029	0.0520

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Chain	Atom inclusion	Q-score
Bu	0.7739	0.0540
Bv	0.6172	0.0200
Bw	0.5066	-0.0270
Bx	0.6072	0.0450
By	0.4672	0.0030
Bz	0.5250	-0.0130
C0	0.6626	0.0450
C1	0.3828	0.0790
C2	0.4500	0.0660
C3	0.6301	-0.0260
C4	0.6764	0.0480
C5	0.0363	0.0450
C6	0.5933	-0.0190
C7	0.7189	0.0550
C8	0.6706	0.0330
C9	0.5470	0.0090
CA	0.5497	-0.0200
CB	0.8338	0.0750
CC	0.5417	-0.0490
CD	0.3683	0.0680
CE	0.7232	0.0340
CF	0.6765	0.0180
CG	0.8067	0.0820
CH	0.7796	0.0720
CI	0.6384	0.0110
CJ	0.8117	0.0470
CK	0.2557	0.0630
CL	0.7875	0.0990
CM	0.7152	0.0240
CN	0.5937	0.0070
CO	0.6853	0.0170
CP	0.6962	0.0910
CQ	0.8156	0.0860
CR	0.5298	-0.0430
CS	0.7650	0.0690
CT	0.7698	0.0710
CU	0.6688	-0.0130
CV	0.6166	-0.0110
CW	0.7567	0.0300
CX	0.6181	0.0940
CY	0.8874	0.1010
CZ	0.8154	0.0750

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Chain	Atom inclusion	Q-score
Ca	0.7356	0.0130
Cb	0.6817	0.0370
Cc	0.8084	0.1150
Cd	0.6983	0.0180
Ce	0.8226	0.0970
Cf	0.8966	0.1070
Cg	0.6277	0.0170
Ch	0.6983	0.0180
Ci	0.4545	0.0710
Cj	0.7986	0.0630
Ck	0.6741	0.0020
Cl	0.8215	0.0660
Cm	0.7111	0.0120
Cn	0.6059	-0.0180
Co	0.5904	-0.0170
Cp	0.8511	0.0740
Cq	0.7989	0.0680
Cr	0.7931	0.0530
Cs	0.7898	0.0800
Ct	0.8412	0.0970
Cu	0.7473	0.0940
Cv	0.8543	0.0820
Cw	0.6153	0.0080
Cx	0.5296	-0.0350
Cy	0.5060	-0.0220
Cz	0.6927	0.0410
DA	0.6506	0.0330
DB	0.0434	0.0530
DC	0.7868	0.0510
DD	0.9084	0.1270
DE	0.8670	0.1060
DF	0.6630	0.0020