



Full wwPDB EM Validation Report ⓘ

Sep 3, 2024 – 02:37 am BST

PDB ID : 9F1C
EMDB ID : EMD-50125
Title : Mammalian quaternary complex of a translating 80S ribosome, NAC, MetAP1 and NatA/E
Authors : Yudin, D.; Scaiola, A.; Ban, N.
Deposited on : 2024-04-18
Resolution : 3.78 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

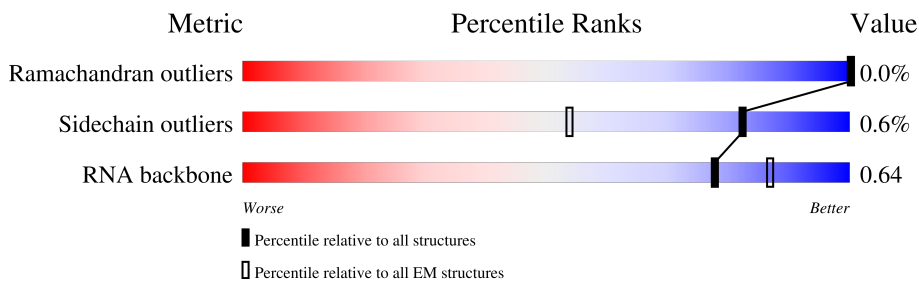
EMDB validation analysis : 0.0.1.dev112
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.38.2

1 Overall quality at a glance i

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

The reported resolution of this entry is 3.78 Å.

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



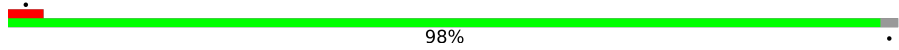
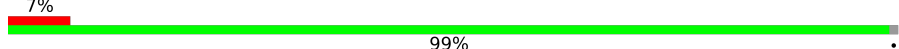
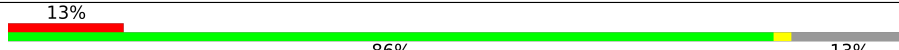
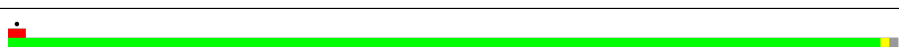
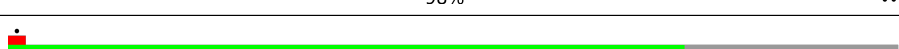
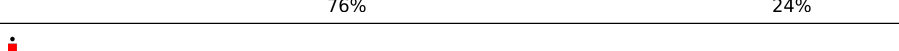
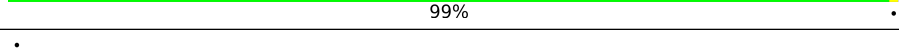


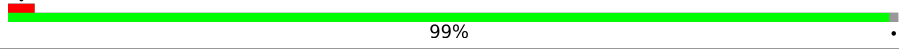
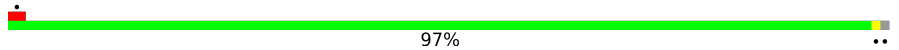

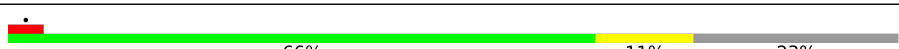

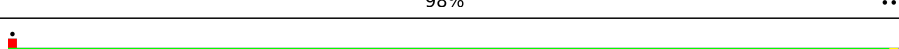
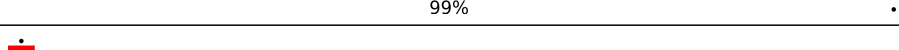
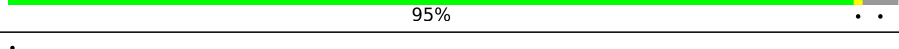
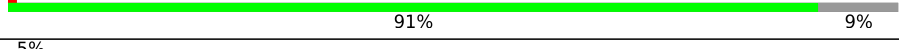
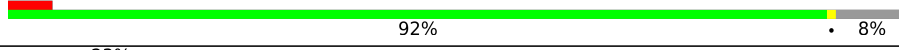





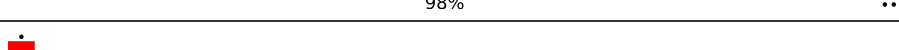
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	AH	3	100% 100%
2	Bb	245	6% 44% 56%
3	B7	120	93% 6% .
4	AT	76	11% 99% .
5	Ar	151	15% 96% ..
6	B8	158	86% 13% .
7	BU	128	77% 20%
8	As	145	9% 99% .

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Mol	Chain	Length	Quality of chain
9	BA	257	 98%
10	BV	140	 7% 99%
11	At	119	 13% 86% 13%
12	BB	403	 98%
13	BX	156	 76% 24%
14	Au	83	 99%
15	BC	412	 88% 12%
16	BP	184	 86% 14%
17	BZ	136	 99%
18	Aw	143	 97%
19	BE	291	 9% 84% 16%
20	B5	4808	 66% 11% 23%
21	BQ	188	 98%
22	Ba	148	 99%
23	Ax	130	 95%
24	BF	247	 91% 9%
25	BY	145	 5% 92% 8%
26	BW	157	 23% 77% 23%
27	AZ	294	 74% 25%
28	Ay	124	 20% 69% 31%
29	BG	266	 6% 87% 12%
30	Av	130	 98%
31	BR	196	 92% 8%
32	Aa	264	 8% 84% 15%
33	Az	25	 16% 100%

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Mol	Chain	Length	Quality of chain
34	BH	192	5% 99%
35	BS	176	100%
36	Ab	293	74% 25%
37	Bc	115	14% 94% 6%
38	BI	214	5% 100%
39	B	297	99%
40	EA	386	68% 78% 21%
41	Ac	281	7% 80% 20%
42	Bd	125	6% 86% 14%
43	BJ	178	6% 96%
44	Ct	238	39% 48% 51%
45	Ad	263	99%
46	Be	135	96%
47	BK	32	75% 100%
48	Cu	162	41% 65% 35%
49	Ae	204	9% 94% 6%
50	Bf	110	100%
51	BL	211	6% 99%
52	DA	403	38% 38% 62%
53	Af	249	10% 94% 5%
54	Bg	117	7% 96%
55	BM	218	63% 37%
56	DB	915	79% 90% 9%
57	Ag	432	5% 44% 56%
58	Bh	123	99%

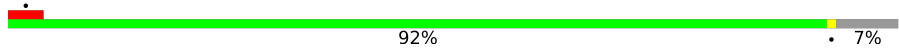
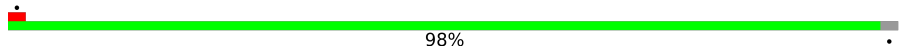



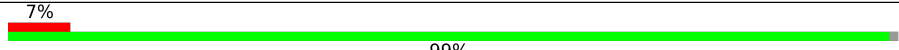
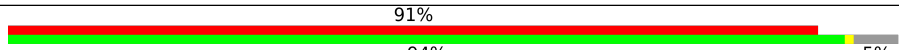
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Mol	Chain	Length	Quality of chain
59	BN	204	100%
60	DC	235	63% 67% 32%
61	Ah	208	7% 99%
62	Bi	105	96%
63	BO	203	97%
64	A2	1870	5% 79% 15% 5%
65	Ai	194	95% 5%
66	Bj	97	89% 11%
67	AA	84	7% 99%
68	Aj	165	58% 42%
69	Bk	70	11% 99%
70	AB	69	13% 91% 9%
71	Ak	158	13% 97%
72	Bl	51	98%
73	AC	156	25% 47% 53%
74	Al	132	58% 92% 6%
75	Bm	128	41% 59%
76	AD	133	8% 43% 57%
77	Am	151	5% 99%
78	Bo	106	98%
79	AE	115	87% 12%
80	An	151	6% 89% 10%
81	Bp	92	99%
82	AF	317	12% 98%
83	Ao	145	18% 88% 12%

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Mol	Chain	Length	Quality of chain
84	Br	136	 92% 7%
85	AG	56	 98%
86	Ap	172	 5% 82% 18%
87	Bs	318	 59% 62% 38%
88	BT	160	 99%
89	Aq	135	 7% 99%
90	Bt	165	 91% 94% 5%

2 Entry composition

There are 98 unique types of molecules in this entry. The entry contains 236684 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	O	P		
1	AH	3	36	15	18	3	0	0

- Molecule 2 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	Bb	108	881	548	196	134	3	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
3	B7	119	2538	1131	451	837	119	0	0

- Molecule 4 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	AT	76	939	393	11	459	76	0	0

- Molecule 5 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	Ar	148	1217	763	245	208	1	0	0

- Molecule 6 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	B8	156	3319	1481	585	1097	156	0	0

- Molecule 7 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	BU	102	831	531	146	152	2	0	0

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BU	32	GLY	ARG	variant	UNP G1TSG1
BU	36	ALA	GLU	variant	UNP G1TSG1
BU	39	PHE	SER	variant	UNP G1TSG1
BU	54	GLY	ARG	variant	UNP G1TSG1
BU	97	ARG	HIS	variant	UNP G1TSG1

- Molecule 8 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	As	143	1113	698	214	198	3	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
As	119	GLY	TRP	variant	UNP G1TN62
As	142	ASN	LYS	variant	UNP G1TN62

- Molecule 9 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	BA	253	1940	1214	396	324	6	0	0

- Molecule 10 is a protein called Ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	BV	139	1034	648	199	182	5	0	0

- Molecule 11 is a protein called Small ribosomal subunit protein uS10.

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

- Molecule 12 is a protein called Ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	BB	398	Total	C	N	O	S	0	0
			3206	2042	605	546	13		

- Molecule 13 is a protein called Ribosomal_L23eN domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	BX	118	Total	C	N	O	S	0	0
			967	618	181	167	1		

- Molecule 14 is a protein called Small ribosomal subunit protein eS21.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	Au	83	Total	C	N	O	S	0	0
			640	394	117	124	5		

- Molecule 15 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	BC	362	Total	C	N	O	S	0	0
			2886	1814	577	481	14		

- Molecule 16 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	BP	159	Total	C	N	O	S	0	0
			1289	809	249	222	9		

- Molecule 17 is a protein called 60S ribosomal protein L27.

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

- Molecule 18 is a protein called 40S ribosomal protein S23.

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

- Molecule 19 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	BE	243	1960	1258	378	321	3	0	0

- Molecule 20 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
20	B5	3706	79525	35447	14532	25840	3706	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B5	3550	UY1	U	conflict	GB GBCN01009604.1

- Molecule 21 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	BQ	187	1515	946	315	250	4	0	0

- Molecule 22 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	Ba	147	1163	734	239	186	4	0	0

- Molecule 23 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	Ax	125	1015	642	199	169	5	0	0

- Molecule 24 is a protein called Ribosomal Protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	BF	226	1886	1211	362	304	9	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BF	61	ARG	GLY	variant	UNP G1TUB1
BF	93	ARG	GLY	variant	UNP G1TUB1
BF	131	MET	VAL	variant	UNP G1TUB1
BF	153	ILE	VAL	variant	UNP G1TUB1

- Molecule 25 is a protein called Ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	BY	134	1115	700	226	186	3	0	0

- Molecule 26 is a protein called Ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	BW	121	991	619	202	166	4	0	0

- Molecule 27 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	AZ	221	1743	1107	305	323	8	0	0

- Molecule 28 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	Ay	85	683	439	128	115	1	0	0

- Molecule 29 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	BG	233	1877	1197	361	315	4	0	0

- Molecule 30 is a protein called Ribosomal protein S15a.

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

- Molecule 31 is a protein called Ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	BR	180	1508	933	328	238	9	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BR	38	ARG	CYS	variant	UNP G1TJR3
BR	64	ARG	GLN	variant	UNP G1TJR3
BR	94	THR	LYS	variant	UNP G1TJR3

- Molecule 32 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	Aa	224	1815	1152	328	321	14	0	0

- Molecule 33 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	Az	25	239	145	64	27	3	0	0

- Molecule 34 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	BH	190	1516	954	284	272	6	0	0

- Molecule 35 is a protein called Large ribosomal subunit protein eL20.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	BS	176	1457	924	288	234	11	0	0

- Molecule 36 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	Ab	220	1706	1105	292	300	9	0	0

- Molecule 37 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	Bc	108	836	530	148	151	7	0	0

- Molecule 38 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	BI	213	1717	1086	332	285	14	0	0

- Molecule 39 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	B	295	2398	1516	439	429	14	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	176	SER	GLY	variant	UNP G1SZF4
B	248	ARG	GLN	variant	UNP G1SZF4

- Molecule 40 is a protein called Methionine aminopeptidase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	EA	304	2445	1540	439	443	23	13	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EA	220	ASN	ASP	engineered mutation	UNP P53582

- Molecule 41 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Ac	225	1751	1116	315	313	7	0	0

- Molecule 42 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	Bd	107	888	560	171	155	2	0	0

- Molecule 43 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	BJ	170	1362	861	254	241	6	0	0

- Molecule 44 is a protein called Nascent polypeptide-associated complex subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	Ct	116	904	566	165	169	4	0	0

There are 23 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ct	-22	MET	-	initiating methionine	UNP Q13765
Ct	-21	GLY	-	expression tag	UNP Q13765
Ct	-20	SER	-	expression tag	UNP Q13765
Ct	-19	SER	-	expression tag	UNP Q13765
Ct	-18	HIS	-	expression tag	UNP Q13765
Ct	-17	HIS	-	expression tag	UNP Q13765
Ct	-16	HIS	-	expression tag	UNP Q13765
Ct	-15	HIS	-	expression tag	UNP Q13765
Ct	-14	HIS	-	expression tag	UNP Q13765
Ct	-13	HIS	-	expression tag	UNP Q13765
Ct	-12	SER	-	expression tag	UNP Q13765
Ct	-11	SER	-	expression tag	UNP Q13765
Ct	-10	GLY	-	expression tag	UNP Q13765
Ct	-9	LEU	-	expression tag	UNP Q13765
Ct	-8	GLU	-	expression tag	UNP Q13765
Ct	-7	VAL	-	expression tag	UNP Q13765
Ct	-6	LEU	-	expression tag	UNP Q13765
Ct	-5	PHE	-	expression tag	UNP Q13765
Ct	-4	GLN	-	expression tag	UNP Q13765

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Chain	Residue	Modelled	Actual	Comment	Reference
Ct	-3	GLY	-	expression tag	UNP Q13765
Ct	-2	PRO	-	expression tag	UNP Q13765
Ct	-1	SER	-	expression tag	UNP Q13765
Ct	0	GLY	-	expression tag	UNP Q13765

- Molecule 45 is a protein called 40S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	Ad	262	2076	1324	386	358	8	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ad	25	GLY	SER	variant	UNP G1TK17
Ad	51	ARG	LYS	variant	UNP G1TK17
Ad	78	THR	ALA	variant	UNP G1TK17
Ad	156	VAL	MET	variant	UNP G1TK17

- Molecule 46 is a protein called Ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	Be	130	1070	676	221	168	5	0	0

- Molecule 47 is a protein called Nascent chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
47	BK	32	160	96	32	32	0	0

- Molecule 48 is a protein called Transcription factor BTF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
48	Cu	106	821	514	153	151	3	0	0

- Molecule 49 is a protein called Ribosomal protein S5.

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

- Molecule 50 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	Bf	110	884	560	175	144	5	0	0

- Molecule 51 is a protein called Large ribosomal subunit protein eL13.

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

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BL	74	ARG	HIS	variant	UNP G1TKB3
BL	190	ARG	HIS	variant	UNP G1TKB3

- Molecule 52 is a protein called Glutathione S-transferase class-mu 26 kDa isozyme,N-alpha-acetyltransferase 50.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	DA	155	1260	808	221	225	6	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DA	-15	GLY	-	linker	UNP P08515
DA	-14	SER	-	linker	UNP P08515
DA	-13	GLY	-	linker	UNP P08515
DA	-12	SER	-	linker	UNP P08515
DA	-11	GLY	-	linker	UNP P08515
DA	-10	SER	-	linker	UNP P08515
DA	-9	GLU	-	linker	UNP P08515
DA	-8	ASN	-	linker	UNP P08515
DA	-7	LEU	-	linker	UNP P08515
DA	-6	TYR	-	linker	UNP P08515
DA	-5	PHE	-	linker	UNP P08515

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Chain	Residue	Modelled	Actual	Comment	Reference
DA	-4	GLN	-	linker	UNP P08515
DA	-3	GLY	-	linker	UNP P08515
DA	-2	ALA	-	linker	UNP P08515
DA	-1	MET	-	linker	UNP P08515
DA	0	VAL	-	linker	UNP P08515

- Molecule 53 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	Af	237	1923	1200	387	329	7	0	0

- Molecule 54 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	Bg	114	906	566	187	147	6	0	0

- Molecule 55 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
55	BM	138	1137	727	221	182	7	0	0

- Molecule 56 is a protein called N-alpha-acetyltransferase 15, NatA auxiliary subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
56	DB	837	6900	4391	1192	1276	41	0	0

There are 49 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DB	-48	MET	-	initiating methionine	UNP Q9BXJ9
DB	-47	GLY	-	expression tag	UNP Q9BXJ9
DB	-46	SER	-	expression tag	UNP Q9BXJ9
DB	-45	SER	-	expression tag	UNP Q9BXJ9
DB	-44	HIS	-	expression tag	UNP Q9BXJ9
DB	-43	HIS	-	expression tag	UNP Q9BXJ9
DB	-42	HIS	-	expression tag	UNP Q9BXJ9
DB	-41	HIS	-	expression tag	UNP Q9BXJ9

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Chain	Residue	Modelled	Actual	Comment	Reference
DB	-40	HIS	-	expression tag	UNP Q9BXJ9
DB	-39	HIS	-	expression tag	UNP Q9BXJ9
DB	-38	SER	-	expression tag	UNP Q9BXJ9
DB	-37	SER	-	expression tag	UNP Q9BXJ9
DB	-36	GLY	-	expression tag	UNP Q9BXJ9
DB	-35	LEU	-	expression tag	UNP Q9BXJ9
DB	-34	VAL	-	expression tag	UNP Q9BXJ9
DB	-33	PRO	-	expression tag	UNP Q9BXJ9
DB	-32	ARG	-	expression tag	UNP Q9BXJ9
DB	-31	GLY	-	expression tag	UNP Q9BXJ9
DB	-30	SER	-	expression tag	UNP Q9BXJ9
DB	-29	HIS	-	expression tag	UNP Q9BXJ9
DB	-28	MET	-	expression tag	UNP Q9BXJ9
DB	-27	ALA	-	expression tag	UNP Q9BXJ9
DB	-26	SER	-	expression tag	UNP Q9BXJ9
DB	-25	MET	-	expression tag	UNP Q9BXJ9
DB	-24	THR	-	expression tag	UNP Q9BXJ9
DB	-23	GLY	-	expression tag	UNP Q9BXJ9
DB	-22	GLY	-	expression tag	UNP Q9BXJ9
DB	-21	GLN	-	expression tag	UNP Q9BXJ9
DB	-20	GLN	-	expression tag	UNP Q9BXJ9
DB	-19	MET	-	expression tag	UNP Q9BXJ9
DB	-18	GLY	-	expression tag	UNP Q9BXJ9
DB	-17	ARG	-	expression tag	UNP Q9BXJ9
DB	-16	ALA	-	expression tag	UNP Q9BXJ9
DB	-15	ARG	-	expression tag	UNP Q9BXJ9
DB	-14	GLY	-	expression tag	UNP Q9BXJ9
DB	-13	ILE	-	expression tag	UNP Q9BXJ9
DB	-12	GLN	-	expression tag	UNP Q9BXJ9
DB	-11	ARG	-	expression tag	UNP Q9BXJ9
DB	-10	PRO	-	expression tag	UNP Q9BXJ9
DB	-9	THR	-	expression tag	UNP Q9BXJ9
DB	-8	SER	-	expression tag	UNP Q9BXJ9
DB	-7	THR	-	expression tag	UNP Q9BXJ9
DB	-6	SER	-	expression tag	UNP Q9BXJ9
DB	-5	SER	-	expression tag	UNP Q9BXJ9
DB	-4	LEU	-	expression tag	UNP Q9BXJ9
DB	-3	VAL	-	expression tag	UNP Q9BXJ9
DB	-2	ALA	-	expression tag	UNP Q9BXJ9
DB	-1	ALA	-	expression tag	UNP Q9BXJ9
DB	0	ALA	-	expression tag	UNP Q9BXJ9

- Molecule 57 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
57	Ag	190	1529	975	281	272	1	0	0

- Molecule 58 is a protein called 60S ribosomal protein L35.

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

- Molecule 59 is a protein called Ribosomal protein L15.

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

- Molecule 60 is a protein called N-alpha-acetyltransferase 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
60	DC	160	1295	815	234	235	11	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
DC	24	GLN	GLU	engineered mutation	UNP P41227
DC	26	PHE	TYR	engineered mutation	UNP P41227

- Molecule 61 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
61	Ah	206	1686	1058	332	291	5	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Ah	47	ARG	GLY	variant	UNP G1TJW1

- Molecule 62 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	Bi	102	Total	C	N	O	S	0	0
			830	520	176	129	5		

- Molecule 63 is a protein called Large ribosomal subunit protein uL13.

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

- Molecule 64 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	A2	1770	Total	C	N	O	P	0	0
			37833	16911	6781	12371	1770		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A2	1249	B8N	C	conflict	GB GBCT01000564.1
A2	1338	4AC	C	conflict	GB GBCT01000564.1
A2	1843	4AC	C	conflict	GB GBCT01000564.1

- Molecule 65 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	Ai	185	Total	C	N	O	S	0	0
			1525	969	306	248	2		

- Molecule 66 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	Bj	86	Total	C	N	O	S	0	0
			705	434	155	111	5		

- Molecule 67 is a protein called 40S ribosomal protein S27.

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

- Molecule 68 is a protein called S10_ plectin domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	Aj	96	Total	C	N	O	S	0	0
			810	530	143	131	6		

- Molecule 69 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	Bk	69	Total	C	N	O	S	0	0
			569	366	103	99	1		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Bk	24	LYS	ASN	variant	UNP G1U001

- Molecule 70 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	AB	63	Total	C	N	O	S	0	0
			495	302	98	93	2		

- Molecule 71 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	Ak	154	Total	C	N	O	S	0	0
			1262	804	236	216	6		

- Molecule 72 is a protein called 60S ribosomal protein L39-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	Bl	50	Total	C	N	O	S	0	0
			447	286	96	64	1		

- Molecule 73 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	AC	74	Total	C	N	O	S	0	0
			610	385	117	101	7		

- Molecule 74 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	A1	124	Total	C	N	O	S	0	0
			958	600	170	179	9		

- Molecule 75 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	Bm	52	Total	C	N	O	S	0	0
			432	269	90	67	6		

- Molecule 76 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	AD	57	Total	C	N	O	S	0	0
			457	282	101	73	1		

- Molecule 77 is a protein called 40S ribosomal protein S13.

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

- Molecule 78 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Bo	105	Total	C	N	O	S	0	0
			863	543	175	139	6		

- Molecule 79 is a protein called Small ribosomal subunit protein eS26.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	AE	101	Total	C	N	O	S	0	0
			814	507	170	132	5		

- Molecule 80 is a protein called Small ribosomal subunit protein uS11.

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

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
An	138	IAS	ASP	conflict	UNP A0AAA9WYR1

- Molecule 81 is a protein called 60S ribosomal protein L37a.

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

- Molecule 82 is a protein called Small ribosomal subunit protein RACK1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
82	AF	313	2436	1535	424	465	12	0	0

- Molecule 83 is a protein called 40S ribosomal protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
83	Ao	128	1048	665	197	179	7	0	0

- Molecule 84 is a protein called Large ribosomal subunit protein eL28.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
84	Br	126	1014	629	209	170	6	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Br	103	ARG	HIS	conflict	UNP G1U7L1

- Molecule 85 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
85	AG	55	459	286	94	74	5	0	0

- Molecule 86 is a protein called Small ribosomal subunit protein uS9.

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

- Molecule 87 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
87	Bs	196	1507	959	263	276	9	0	0

- Molecule 88 is a protein called 60S ribosomal protein L21.

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

- Molecule 89 is a protein called 40S ribosomal protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
89	Aq	134	1080	678	201	197	4	0	0

- Molecule 90 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
90	Bt	156	1178	733	221	220	4	0	0

- Molecule 91 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

Mol	Chain	Residues	Atoms		AltConf
91	Bb	2	Total	X	0
			2	2	
91	B7	6	Total	X	0
			6	6	
91	AT	2	Total	X	0
			2	2	
91	Ar	1	Total	X	0
			1	1	
91	B8	6	Total	X	0
			6	6	
91	BA	3	Total	X	0
			3	3	
91	BB	1	Total	X	0
			1	1	
91	BP	1	Total	X	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
91	B5	186	Total 186	X 186	0
91	BQ	2	Total 2	X 2	0
91	BY	1	Total 1	X 1	0
91	BH	1	Total 1	X 1	0
91	BI	1	Total 1	X 1	0
91	Ad	1	Total 1	X 1	0
91	Be	4	Total 4	X 4	0
91	Bf	1	Total 1	X 1	0
91	BL	1	Total 1	X 1	0
91	BN	1	Total 1	X 1	0
91	A2	49	Total 49	X 49	0
91	Bj	1	Total 1	X 1	0
91	Ak	1	Total 1	X 1	0
91	Bo	1	Total 1	X 1	0
91	AE	1	Total 1	X 1	0
91	An	1	Total 1	X 1	0
91	BT	2	Total 2	X 2	0

- Molecule 92 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

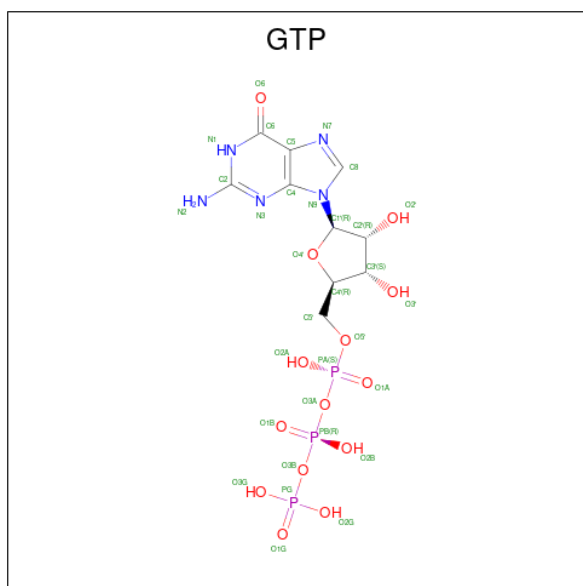
Mol	Chain	Residues	Atoms		AltConf
92	B7	9	Total 9	Mg 9	0
92	AT	2	Total 2	Mg 2	0

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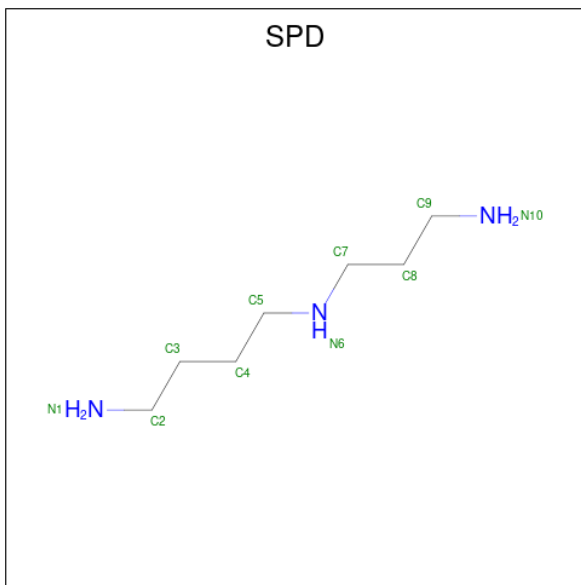
Mol	Chain	Residues	Atoms	AltConf
92	B8	8	Total Mg 8 8	0
92	BV	1	Total Mg 1 1	0
92	BB	1	Total Mg 1 1	0
92	BP	1	Total Mg 1 1	0
92	B5	282	Total Mg 282 282	0
92	Ba	1	Total Mg 1 1	0
92	BR	1	Total Mg 1 1	0
92	BI	1	Total Mg 1 1	0
92	Be	1	Total Mg 1 1	0
92	A2	111	Total Mg 111 111	0
92	Bj	1	Total Mg 1 1	0

- Molecule 93 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
93	B7	1	32	10	5	14	3	0

- Molecule 94 is SPERMIDINE (three-letter code: SPD) (formula: C₇H₁₉N₃).



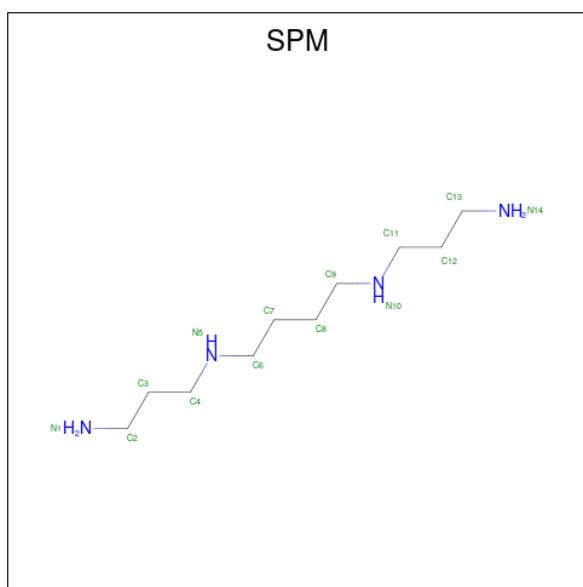
Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	N	
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	B5	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0
94	A2	1	10	7	3	0

- Molecule 95 is SPERMINE (three-letter code: SPM) (formula: C₁₀H₂₆N₄).

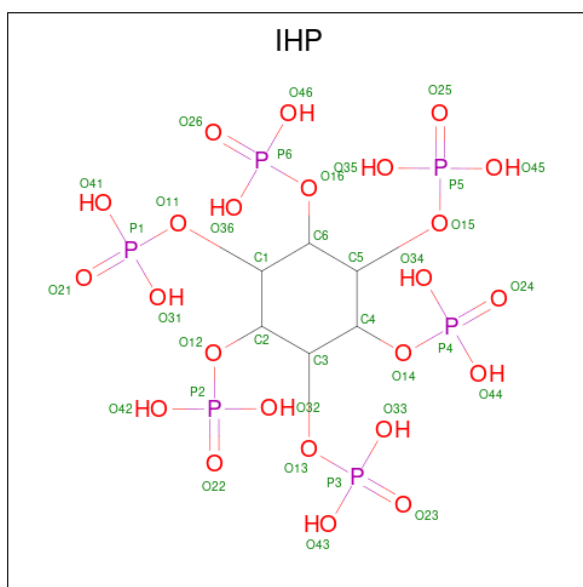


Mol	Chain	Residues	Atoms			AltConf
95	B5	1	Total	C	N	0
			14	10	4	
95	B5	1	Total	C	N	0
			14	10	4	
95	A2	1	Total	C	N	0
			14	10	4	

- Molecule 96 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
96	Bg	1	Total	Zn	0
			1	1	
96	Bj	1	Total	Zn	0
			1	1	
96	AC	1	Total	Zn	0
			1	1	
96	Bm	1	Total	Zn	0
			1	1	
96	Bo	1	Total	Zn	0
			1	1	
96	AE	1	Total	Zn	0
			1	1	
96	Bp	1	Total	Zn	0
			1	1	
96	AG	1	Total	Zn	0
			1	1	

- Molecule 97 is INOSITOL HEXAKISPHOSPHATE (three-letter code: IHP) (formula: C₆H₁₈O₂₄P₆).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
97	DB	1	36	6	24	6	0

- Molecule 98 is water.

Mol	Chain	Residues	Atoms		AltConf
			Total	O	
98	AH	3	3	3	0
98	Bb	1	1	1	0
98	B7	44	44	44	0
98	AT	12	12	12	0
98	Ar	2	2	2	0
98	B8	47	47	47	0
98	As	2	2	2	0
98	BA	5	5	5	0
98	BV	2	2	2	0
98	At	1	1	1	0
98	BB	6	6	6	0

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Mol	Chain	Residues	Atoms		AltConf
98	BX	2	Total 2	O 2	0
98	BC	7	Total 7	O 7	0
98	BP	3	Total 3	O 3	0
98	Aw	5	Total 5	O 5	0
98	B5	1398	Total 1398	O 1398	0
98	Ba	8	Total 8	O 8	0
98	BR	5	Total 5	O 5	0
98	Aa	3	Total 3	O 3	0
98	BH	1	Total 1	O 1	0
98	Ab	1	Total 1	O 1	0
98	BI	2	Total 2	O 2	0
98	B	1	Total 1	O 1	0
98	Bd	1	Total 1	O 1	0
98	Ct	1	Total 1	O 1	0
98	Ad	1	Total 1	O 1	0
98	Be	4	Total 4	O 4	0
98	BL	2	Total 2	O 2	0
98	Af	1	Total 1	O 1	0
98	Bg	1	Total 1	O 1	0
98	BN	5	Total 5	O 5	0
98	A2	527	Total 527	O 527	0

Continued on next page...

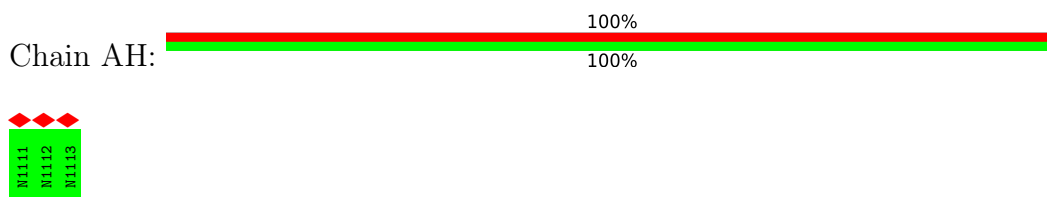
Continued from previous page...

Mol	Chain	Residues	Atoms		AltConf
98	Bj	5	Total 5	O 5	0
98	Ak	2	Total 2	O 2	0
98	Bl	2	Total 2	O 2	0
98	AE	1	Total 1	O 1	0
98	An	1	Total 1	O 1	0
98	Ap	2	Total 2	O 2	0

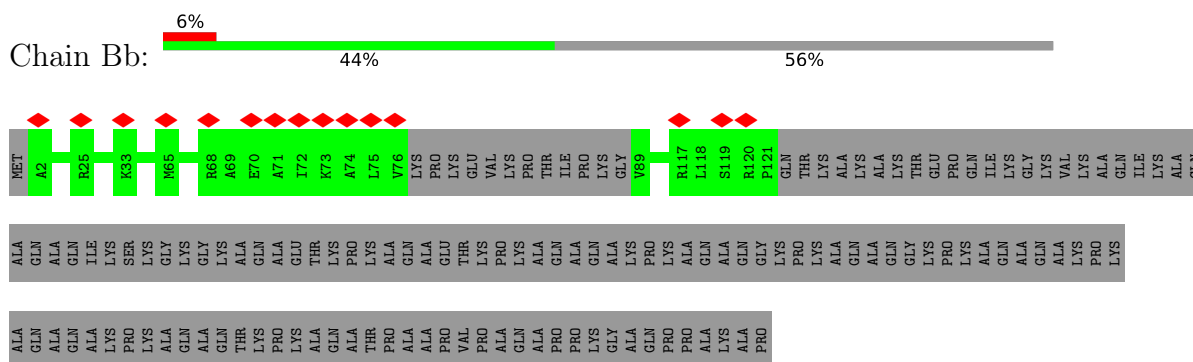
3 Residue-property plots [i](#)

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.

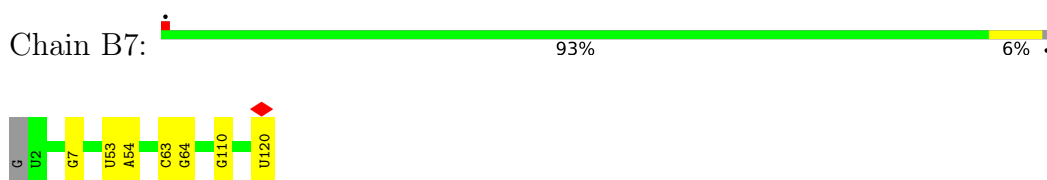
- Molecule 1: mRNA



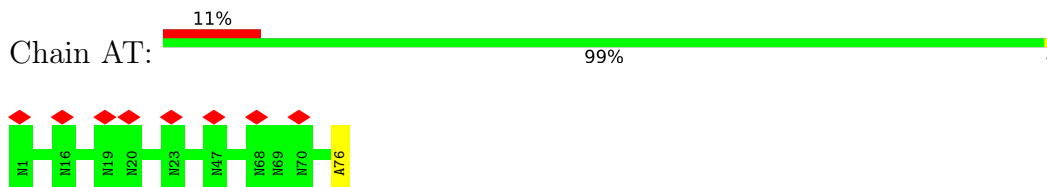
- Molecule 2: 60S ribosomal protein L29



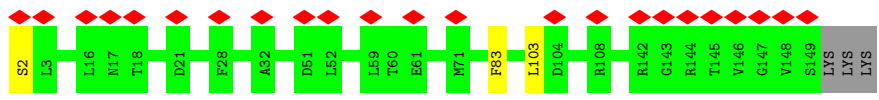
- Molecule 3: 5S rRNA



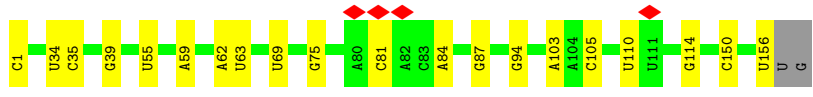
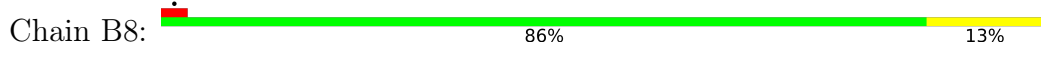
- Molecule 4: P-site tRNA



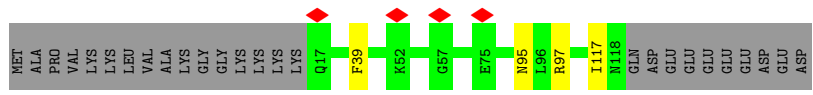
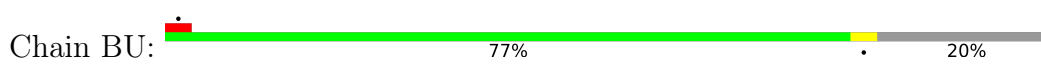
- Molecule 5: Small ribosomal subunit protein uS13



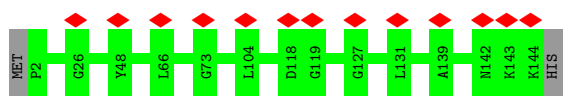
• Molecule 6: 5.8S rRNA



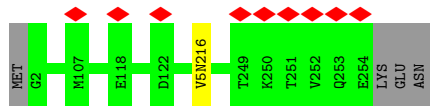
• Molecule 7: 60S ribosomal protein L22



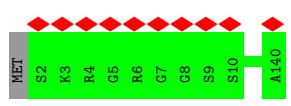
• Molecule 8: 40S ribosomal protein S19



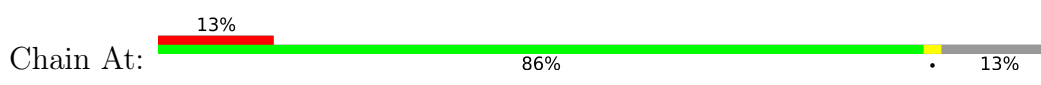
• Molecule 9: Large ribosomal subunit protein uL2



• Molecule 10: Ribosomal protein L23

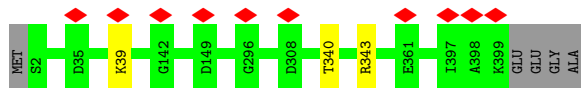


• Molecule 11: Small ribosomal subunit protein uS10

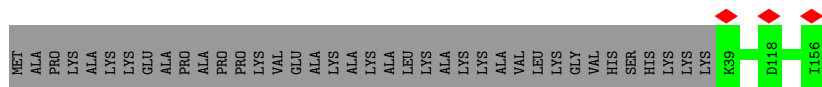
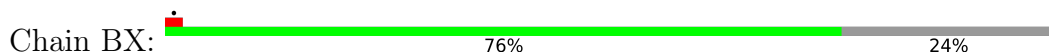




• Molecule 12: Ribosomal protein L3



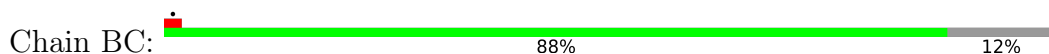
• Molecule 13: Ribosomal_L23eN domain-containing protein



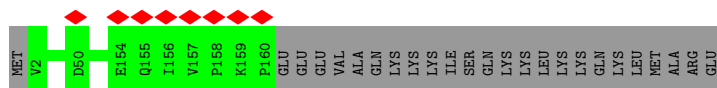
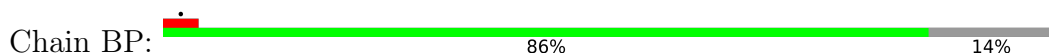
• Molecule 14: Small ribosomal subunit protein eS21



• Molecule 15: Large ribosomal subunit protein uL4

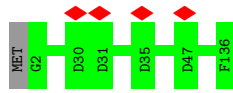


• Molecule 16: Large ribosomal subunit protein uL22

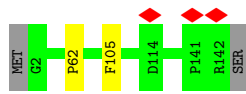


• Molecule 17: 60S ribosomal protein L27

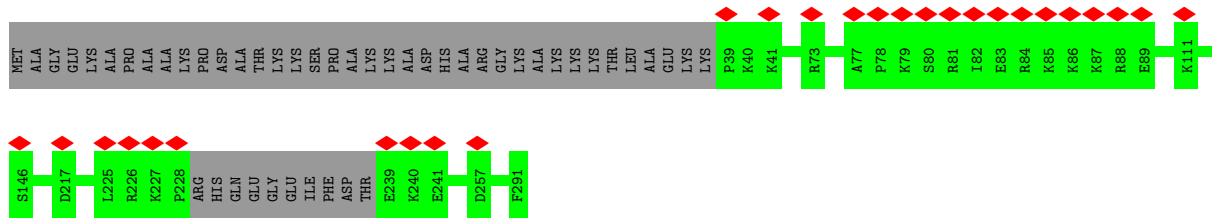
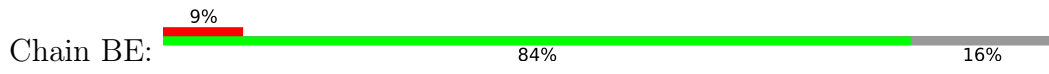




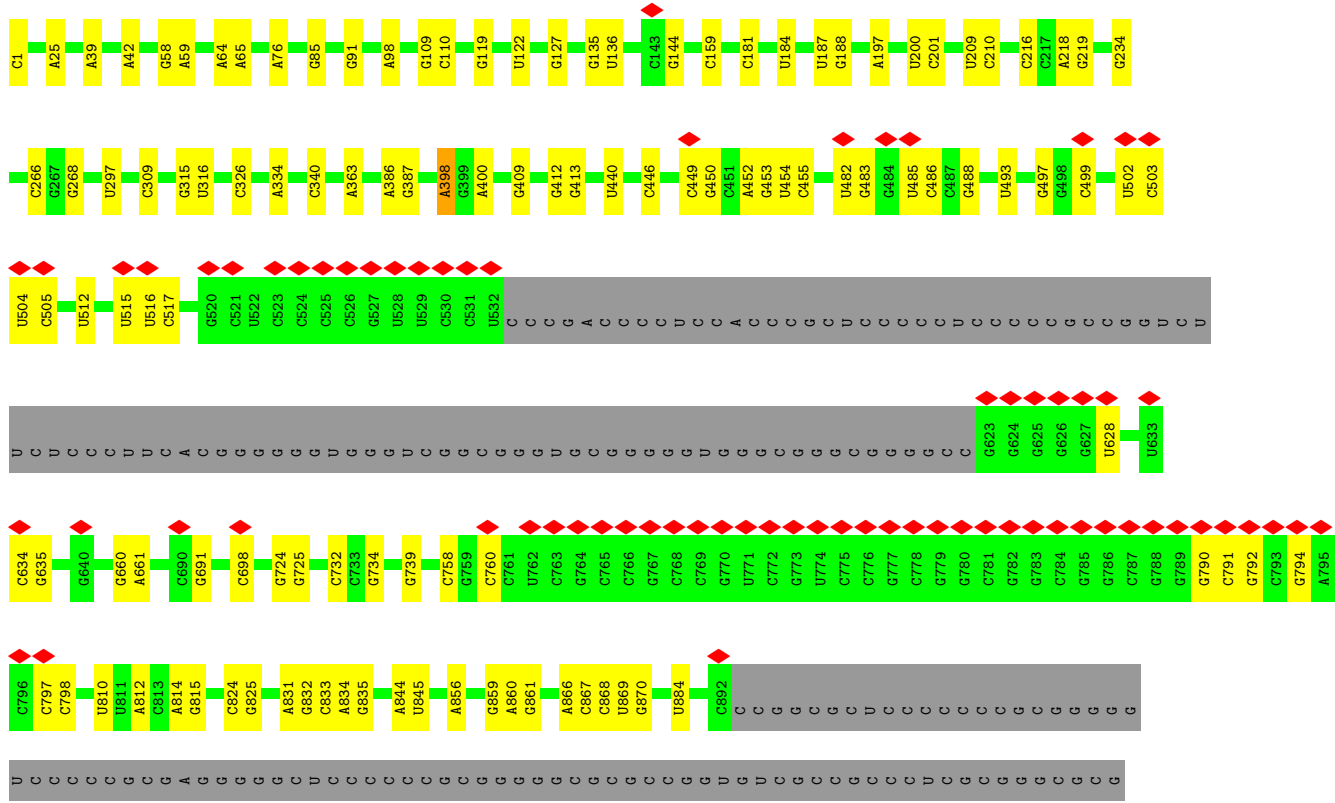
• Molecule 18: 40S ribosomal protein S23

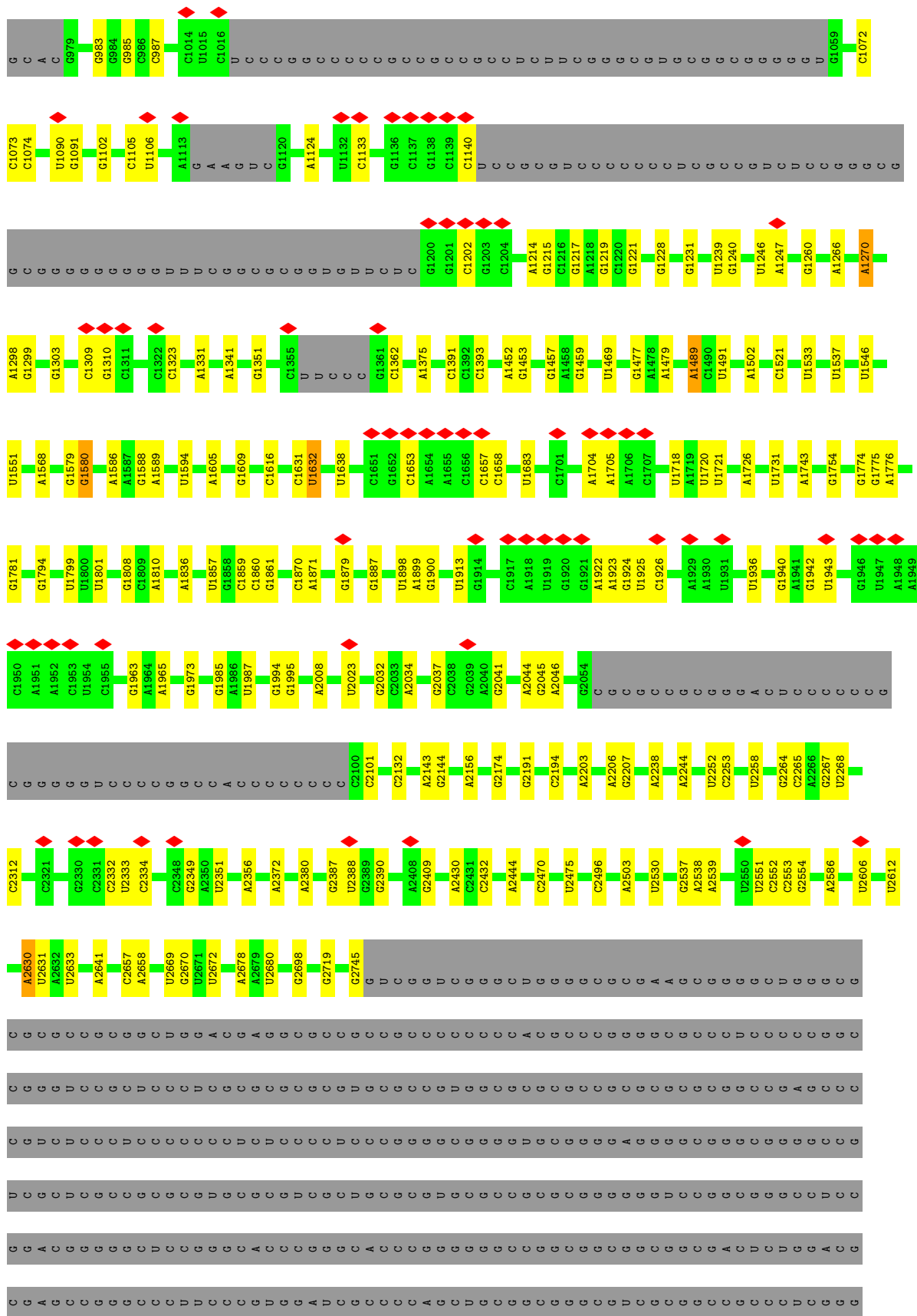


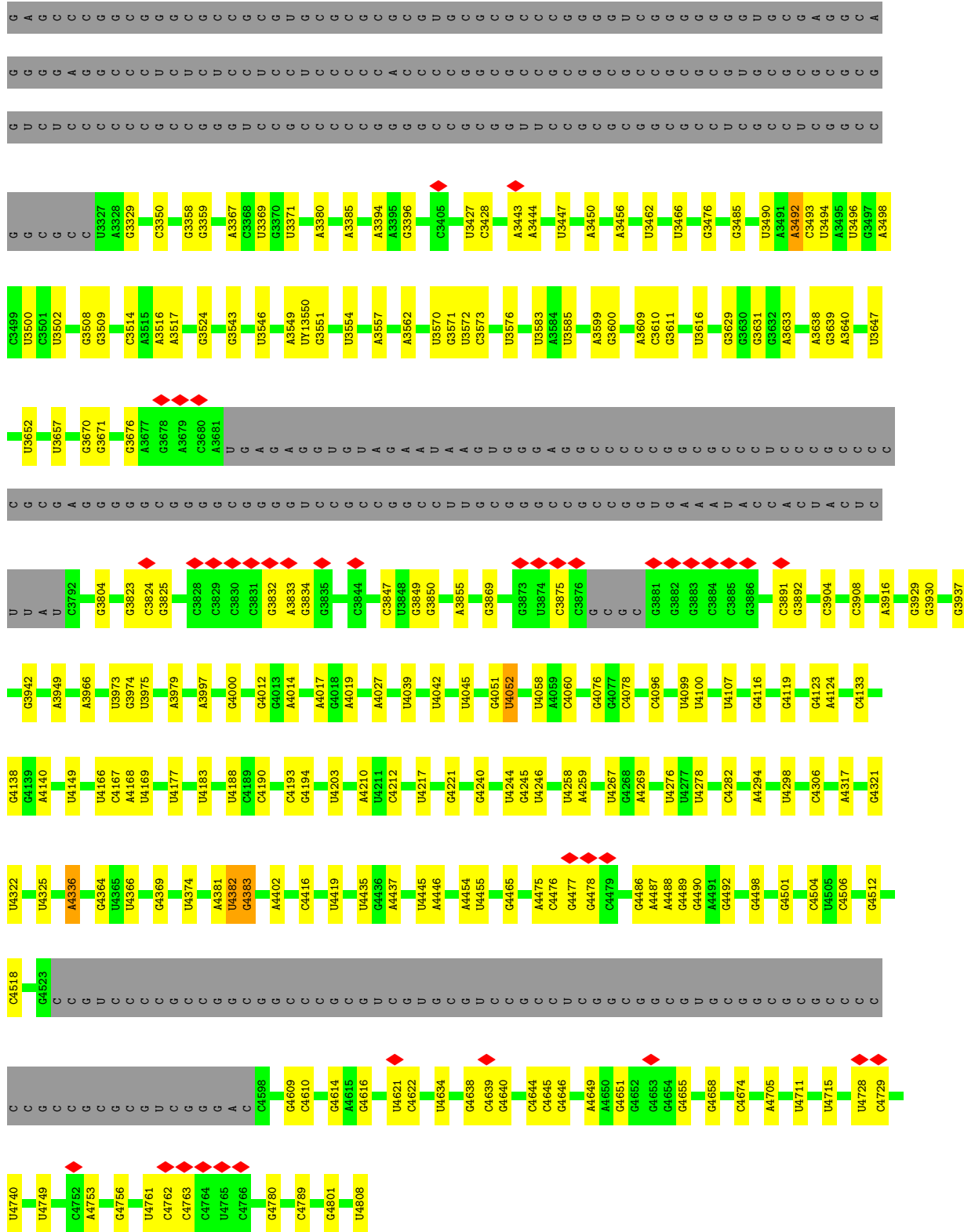
• Molecule 19: 60S ribosomal protein L6



• Molecule 20: 28S rRNA





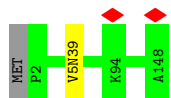


- Molecule 21: Large ribosomal subunit protein eL18





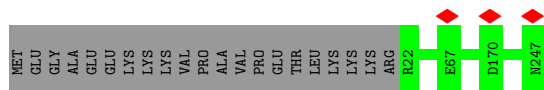
• Molecule 22: 60S ribosomal protein L27a



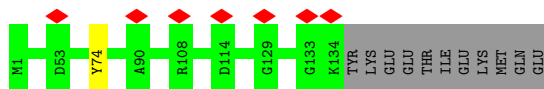
• Molecule 23: 40S ribosomal protein S24



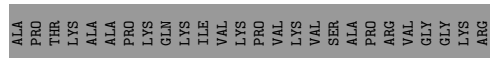
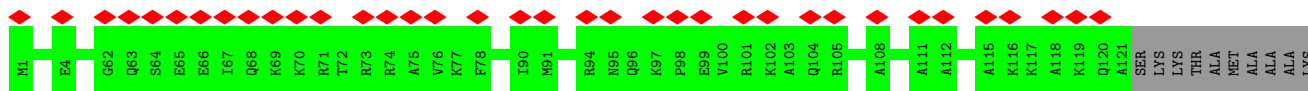
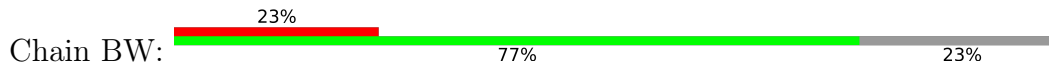
• Molecule 24: Ribosomal Protein uL30



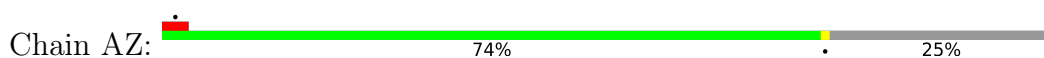
• Molecule 25: Ribosomal protein L26

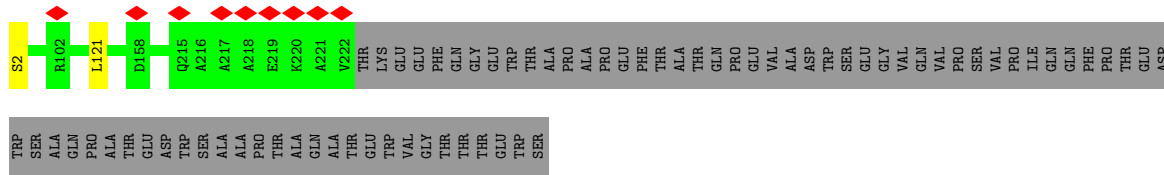


• Molecule 26: Ribosomal protein L24

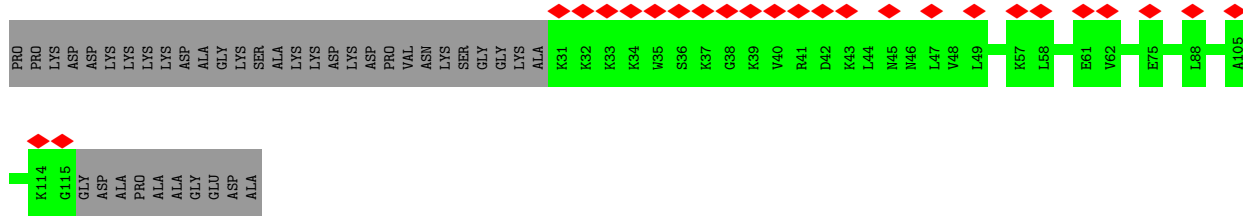


• Molecule 27: Small ribosomal subunit protein uS2

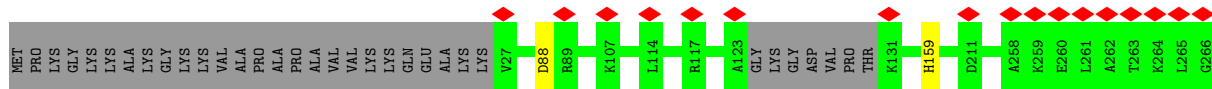
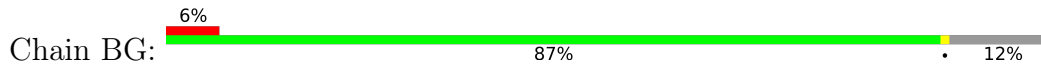




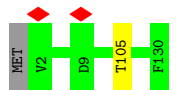
• Molecule 28: 40S ribosomal protein S25



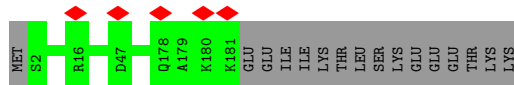
• Molecule 29: 60S ribosomal protein L7a



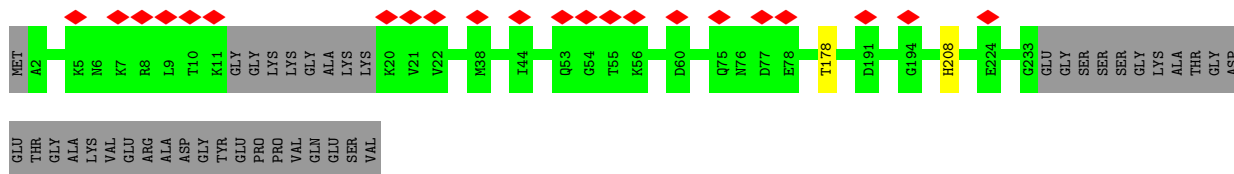
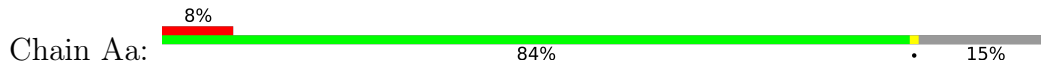
• Molecule 30: Ribosomal protein S15a



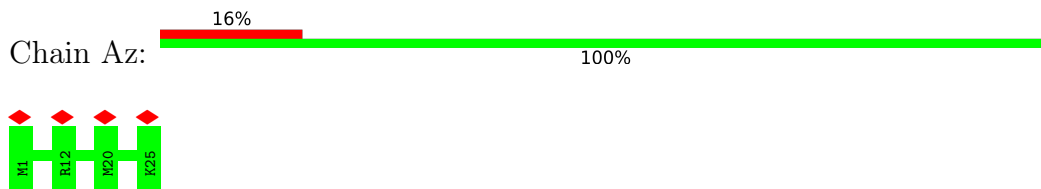
• Molecule 31: Ribosomal protein L19



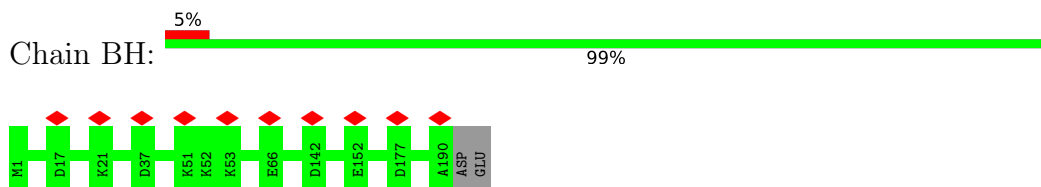
• Molecule 32: 40S ribosomal protein S3a



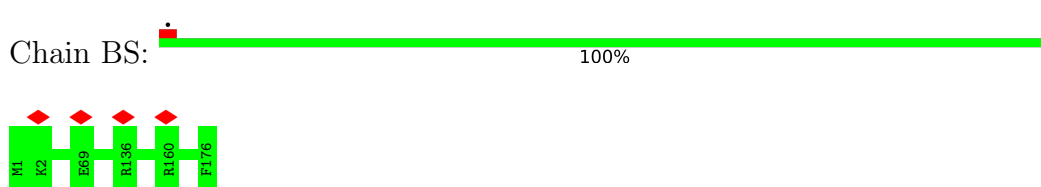
- Molecule 33: 60S ribosomal protein L41



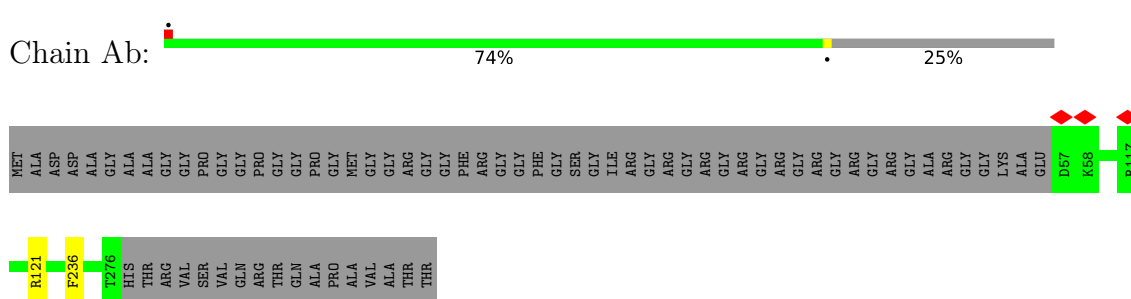
- Molecule 34: 60S ribosomal protein L9



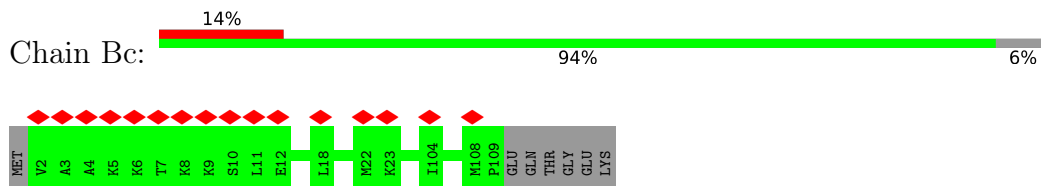
- Molecule 35: Large ribosomal subunit protein eL20



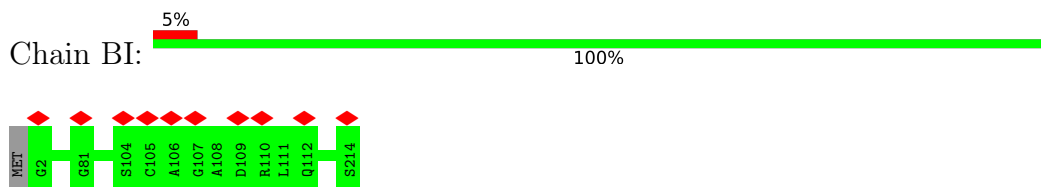
- Molecule 36: Small ribosomal subunit protein uS5



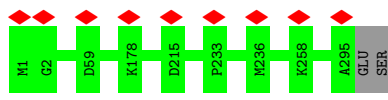
- Molecule 37: 60S ribosomal protein L30



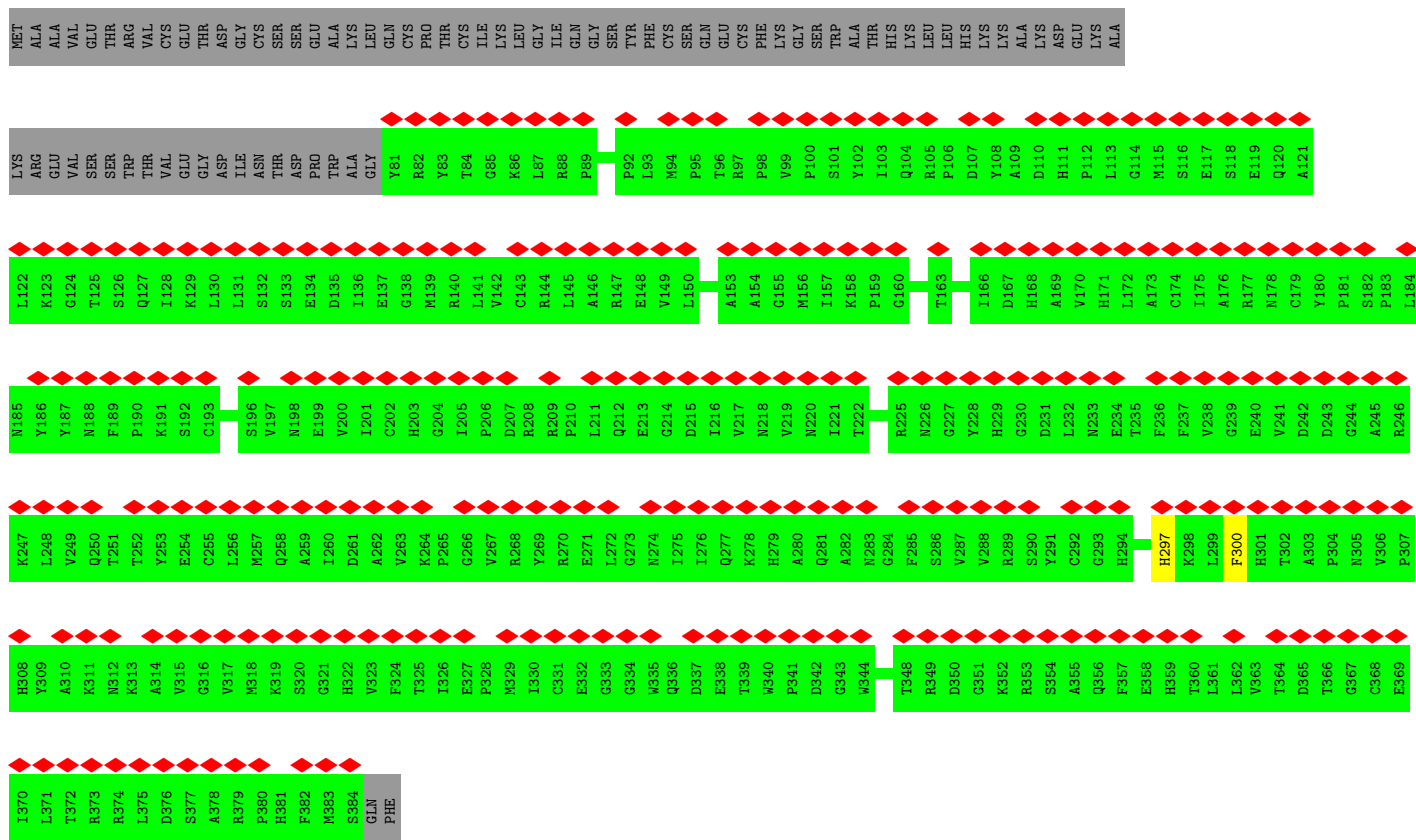
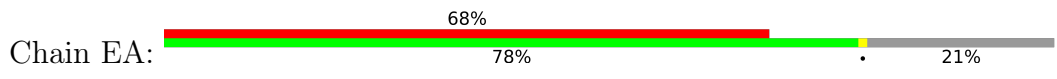
- Molecule 38: 60S ribosomal protein L10



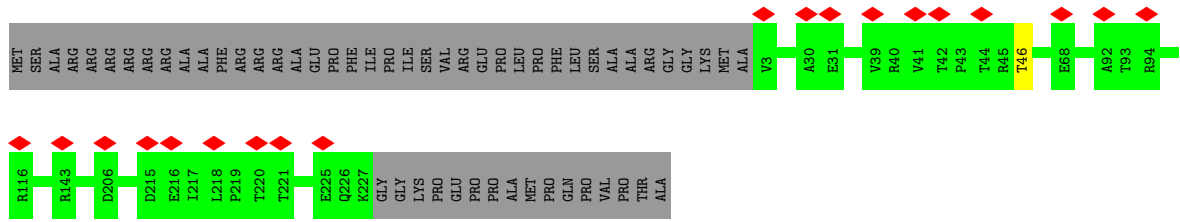
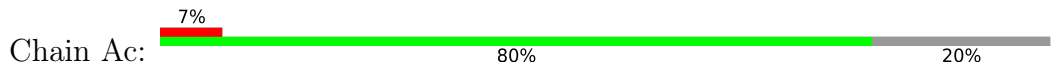
- Molecule 39: Large ribosomal subunit protein uL18



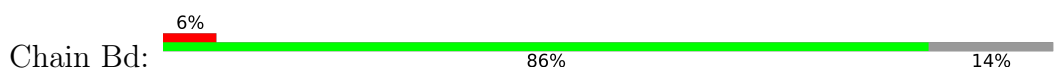
- Molecule 40: Methionine aminopeptidase 1

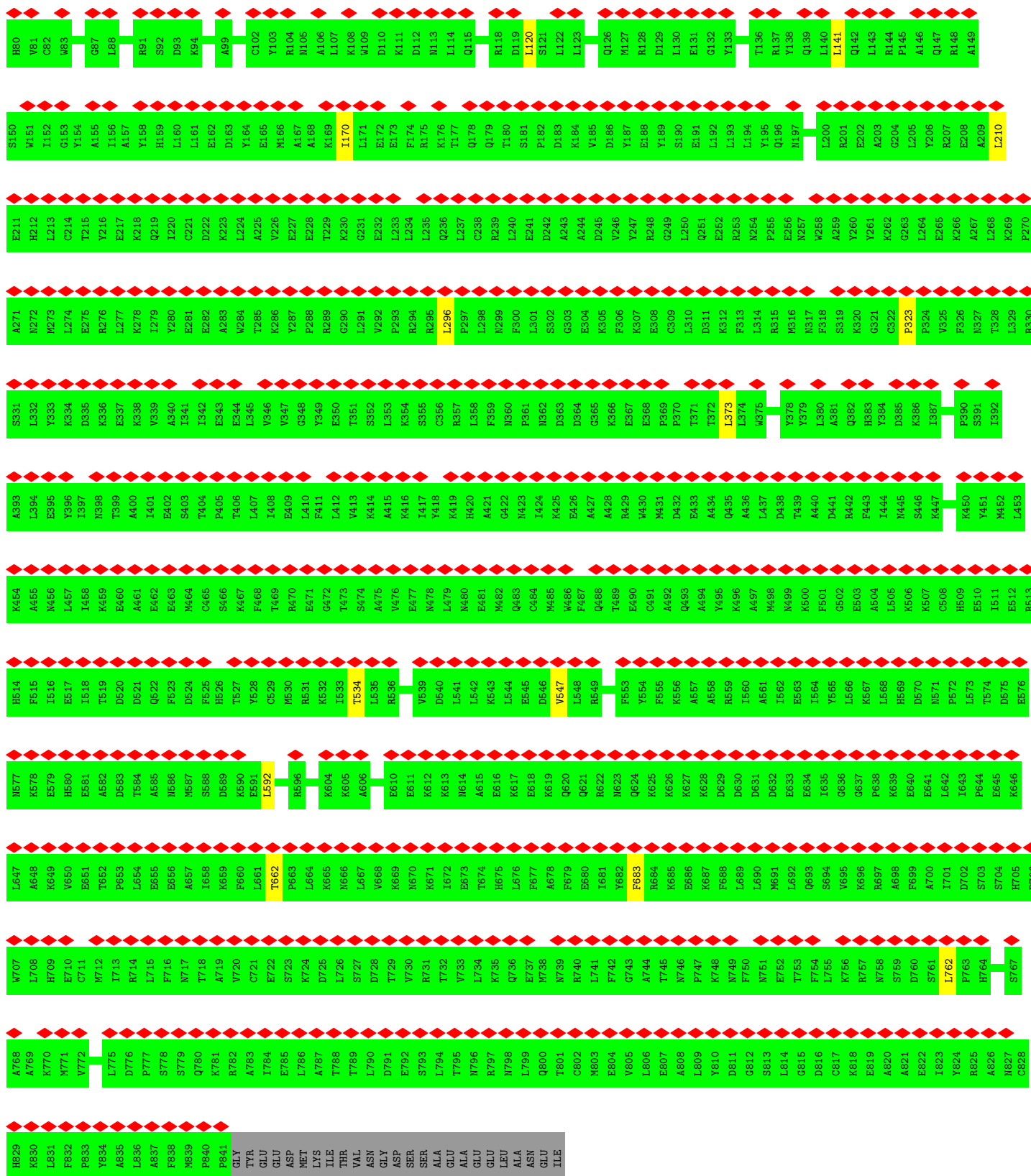


- Molecule 41: 40S ribosomal protein S3



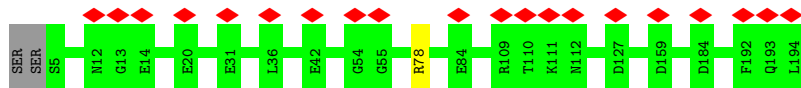
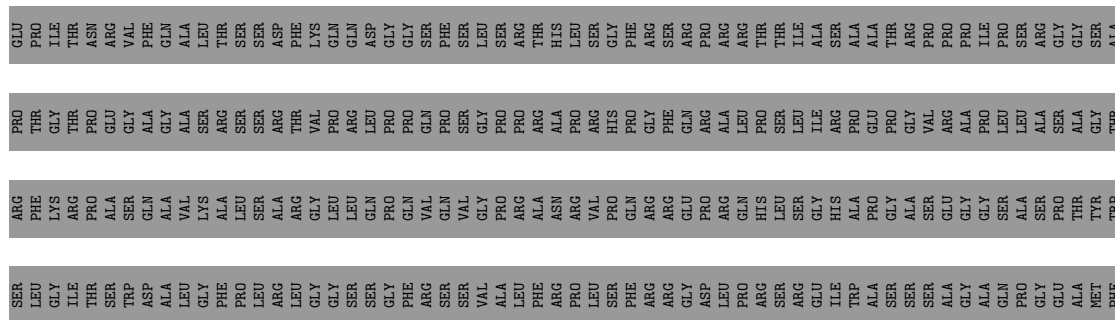
- Molecule 42: 60S ribosomal protein L31



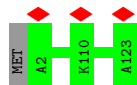


● Molecule 57: 40S ribosomal protein S7

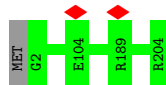




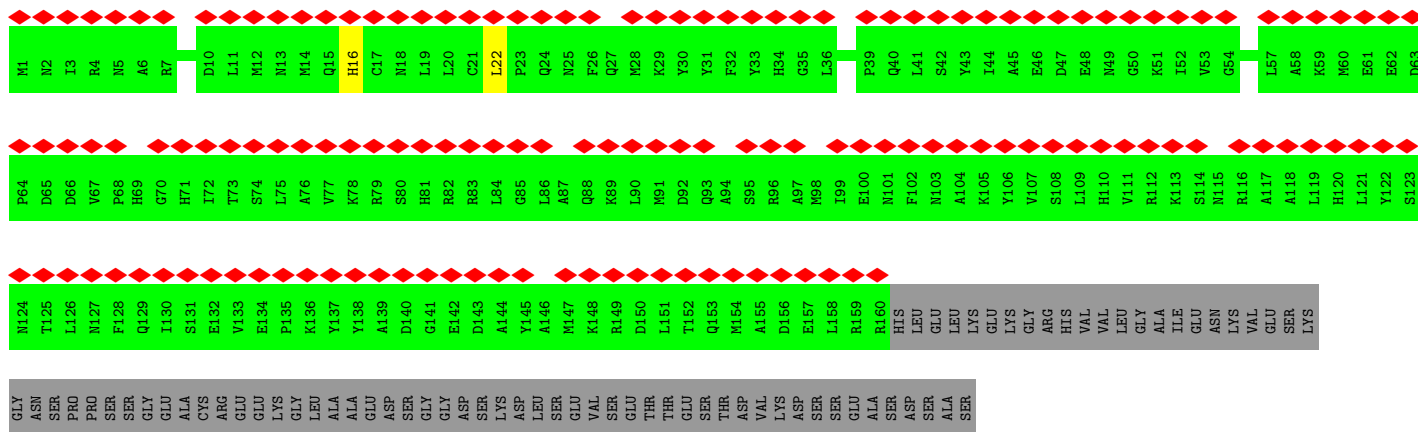
● Molecule 58: 60S ribosomal protein L35



● Molecule 59: Ribosomal protein L15

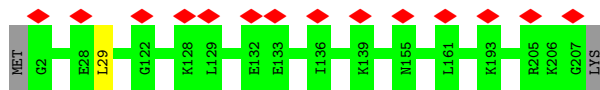


● Molecule 60: N-alpha-acetyltransferase 10

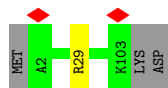


● Molecule 61: 40S ribosomal protein S8

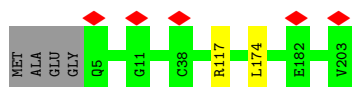




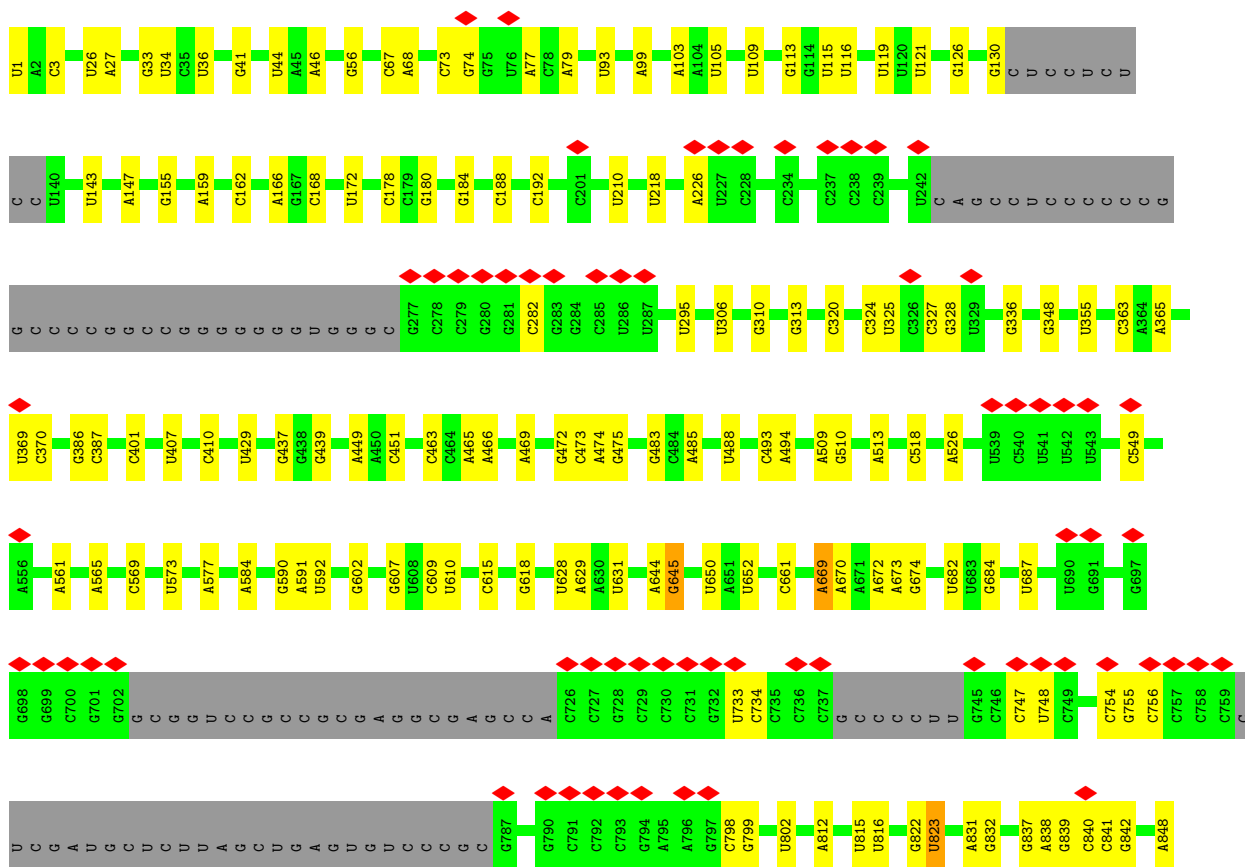
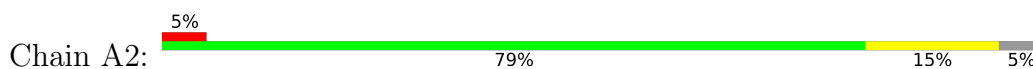
- Molecule 62: 60S ribosomal protein L36

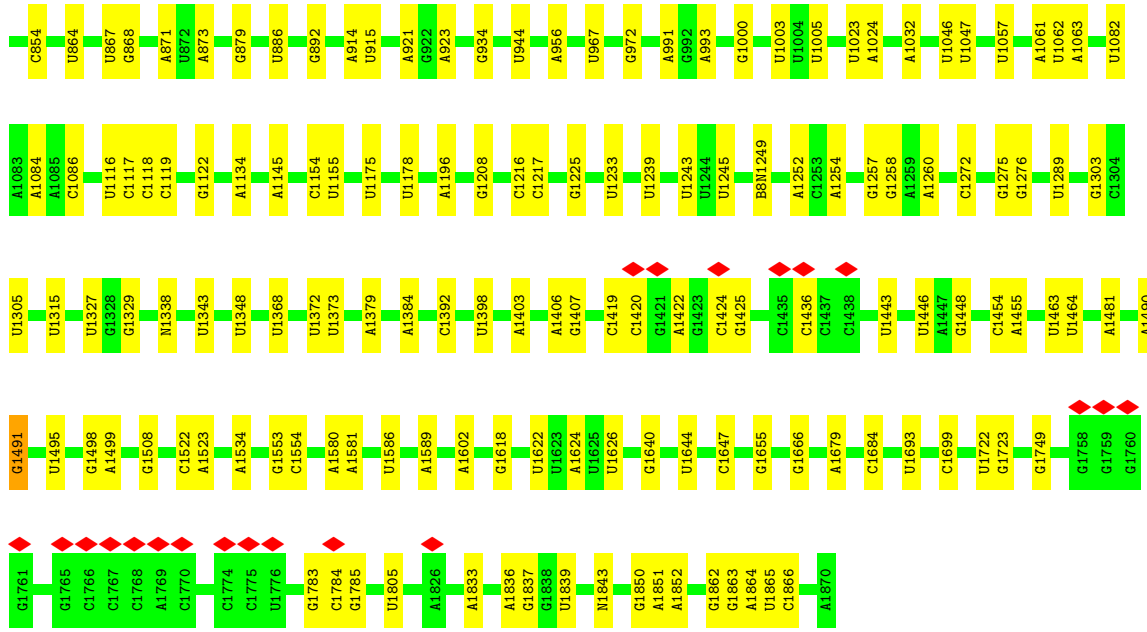


- Molecule 63: Large ribosomal subunit protein uL13

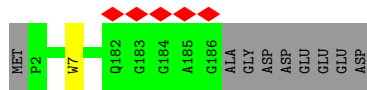


- Molecule 64: 18S rRNA

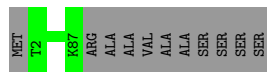
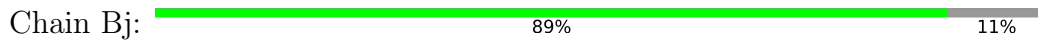




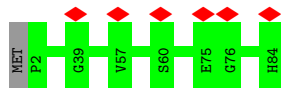
- Molecule 65: 40S ribosomal protein S9



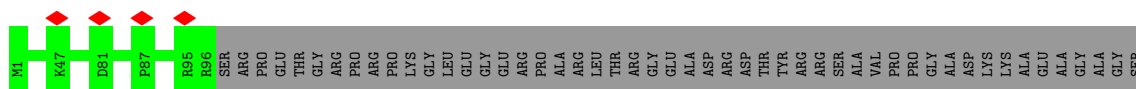
- Molecule 66: Ribosomal protein L37



- Molecule 67: 40S ribosomal protein S27

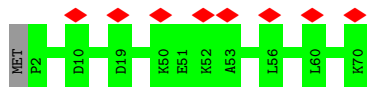


- Molecule 68: S10_pectin domain-containing protein

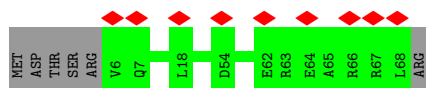


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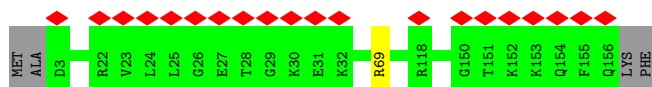
- Molecule 69: 60S ribosomal protein L38



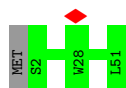
- Molecule 70: 40S ribosomal protein S28



- Molecule 71: 40S ribosomal protein S11



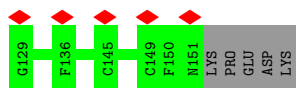
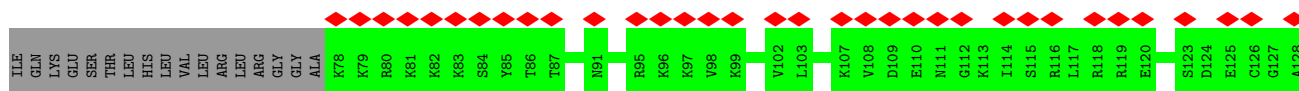
- Molecule 72: 60S ribosomal protein L39-like



- Molecule 73: Ribosomal protein S27a

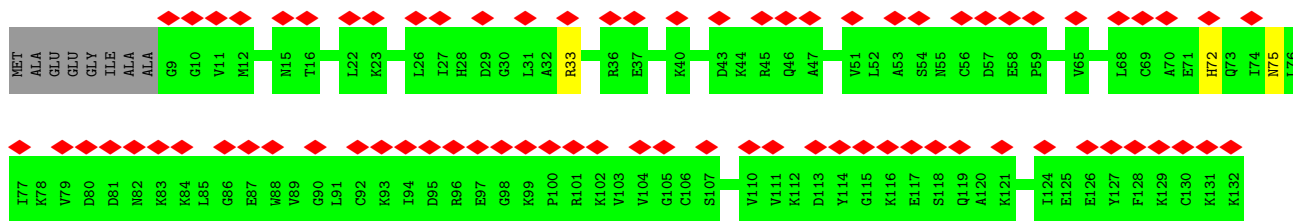


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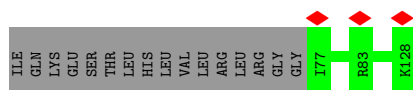
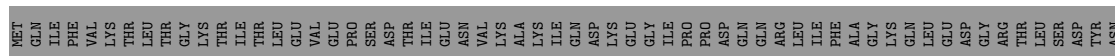


- Molecule 74: 40S ribosomal protein S12

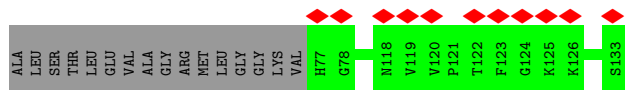
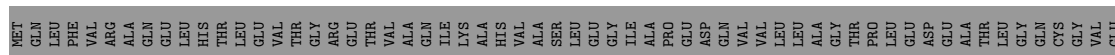
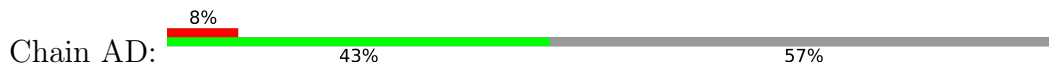




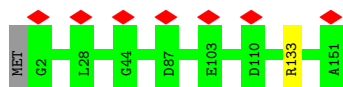
• Molecule 75: Large ribosomal subunit protein eL40



• Molecule 76: 40S ribosomal protein S30



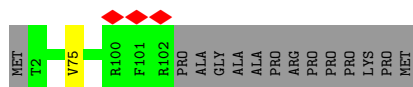
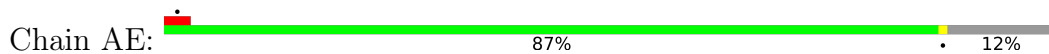
• Molecule 77: 40S ribosomal protein S13



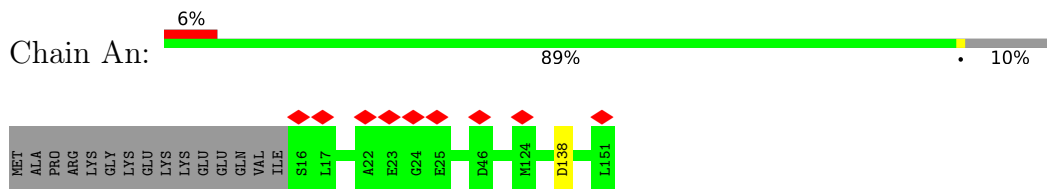
• Molecule 78: Large ribosomal subunit protein eL42



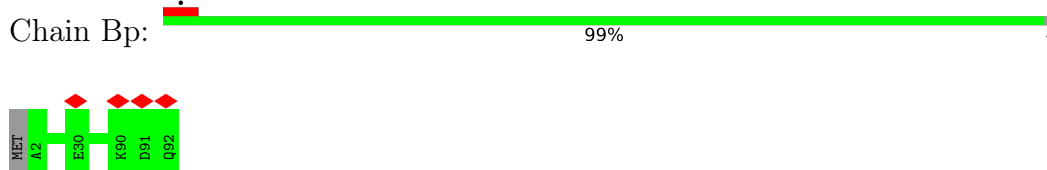
• Molecule 79: Small ribosomal subunit protein eS26



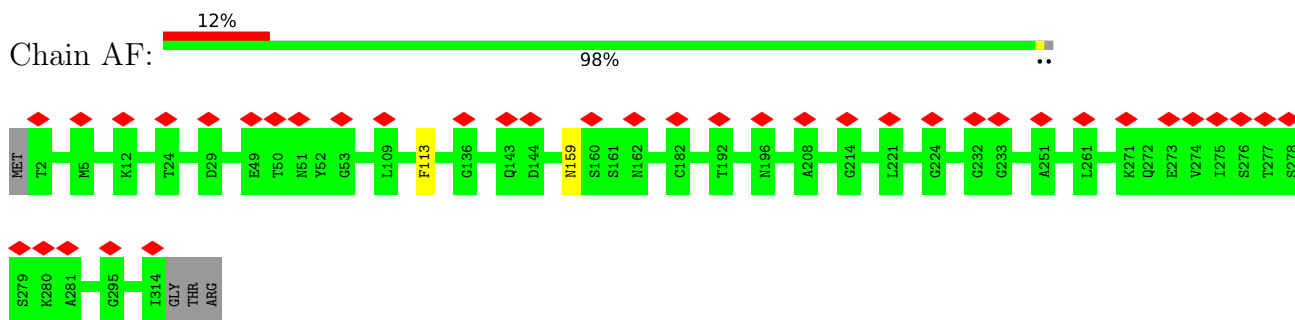
- Molecule 80: Small ribosomal subunit protein uS11



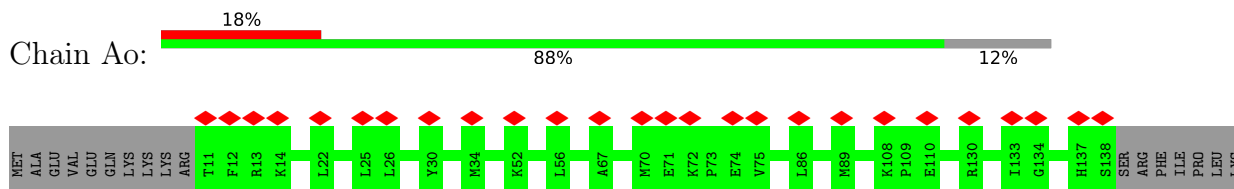
- Molecule 81: 60S ribosomal protein L37a



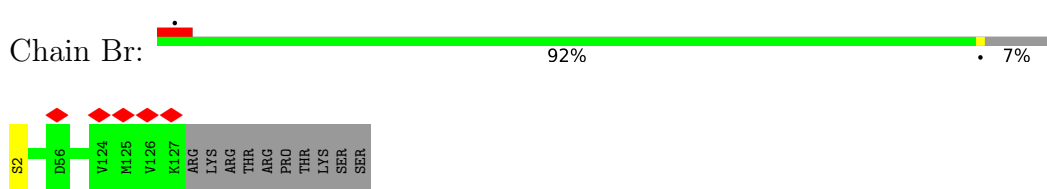
- Molecule 82: Small ribosomal subunit protein RACK1



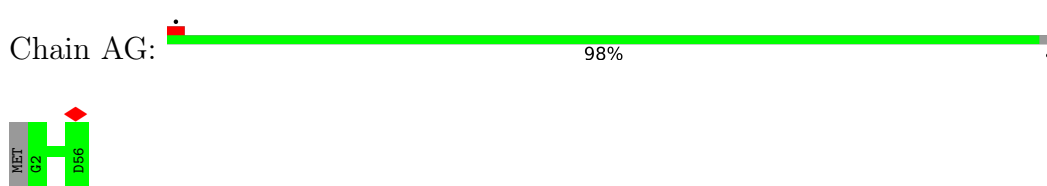
- Molecule 83: 40S ribosomal protein uS19



- Molecule 84: Large ribosomal subunit protein eL28



- Molecule 85: 40S ribosomal protein S29



- Molecule 86: Small ribosomal subunit protein uS9

MET	PRO	PRO	LYS	PHE	ASP	PRO	ASN	E9	I10	K11	V12	V13	Y14	L15	M16	C17	T18	G19	G20	E21	V22	G23	A24	T25	S26	A27	L28	A29	F30	K31	I32	G33	P34	L35	G36	L37	S38	P39	K40	K41	V42	G43	D44	D45	I46	A47	K48	A49	T50	G51	D52	M53	K54	G55	L56	R57	I58	T59	M60
R61	L62	T63	I64	Q65	M66	R67	Q68	A69	Q70	I71	E72	V73	V74	P75	S76	A77	S78	A79	L80	I81	I82	R83	A84	L85	K86	E87	P88	P89	R90	D91	R92	K93	K94	Q95	K96	M97	I98	K99	H100	S101	G102	M103	I104	T105	F106	D107	E108	I109	V110	M111	I112	A113	R114	Q115	M116	R117	H118	R119	S120
L121	A122	R123	E124	L125	S126	G127	T128	I129	K130	E131	I132	L133	G134	T135	V139	G140	C141	M142	V143	D144	G145	R146	H147	P148	H149	D150	I151	I152	D153	D154	I155	M156	S157	G158	A159	V160	E161	C162	P163	A164	SER																		

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	21864	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	600	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	OTHER	Depositor
Maximum map value	0.906	Depositor
Minimum map value	-0.490	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.041	Depositor
Recommended contour level	0.175	Depositor
Map size (Å)	596.4, 596.4, 596.4	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.065, 1.065, 1.065	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: SPD, MA6, ZN, PSU, HY3, GTP, MG, M3L, IAS, G7M, B8N, HIC, NMM, SPM, 5MC, 4AC, IHP, MLZ, AYA, A2M, SAC, OMU, 1MA, V5N, 6MZ, OMC, UNX, AME, UY1, OMG, UR3

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
2	Bb	0.23	0/884	0.50	0/1169
3	B7	0.14	0/2835	0.65	0/4418
4	AT	0.51	0/68	0.97	0/103
5	Ar	0.24	0/1226	0.53	0/1643
6	B8	0.22	1/3635 (0.0%)	0.66	0/5661
7	BU	0.25	0/845	0.47	0/1134
8	As	0.23	0/1119	0.45	0/1498
9	BA	0.24	0/1965	0.54	0/2633
10	BV	0.25	0/1048	0.51	0/1402
11	At	0.24	0/832	0.51	0/1117
12	BB	0.24	0/3261	0.49	0/4364
13	BX	0.24	0/984	0.48	0/1323
14	Au	0.24	0/636	0.48	0/852
15	BC	0.23	0/2932	0.50	0/3939
16	BP	0.23	0/1317	0.48	0/1768
17	BZ	0.24	0/1130	0.48	0/1507
18	Aw	0.24	0/1107	0.49	0/1475
19	BE	0.25	0/1998	0.50	0/2673
20	B5	0.15	1/86006 (0.0%)	0.67	11/134179 (0.0%)
21	BQ	0.24	0/1539	0.56	0/2054
22	Ba	0.23	0/1179	0.50	0/1572
23	Ax	0.24	0/1032	0.50	0/1371
24	BF	0.24	0/1922	0.48	0/2563
25	BY	0.24	0/1132	0.51	0/1504
26	BW	0.24	0/1006	0.49	0/1334
27	AZ	0.23	0/1771	0.46	0/2406
28	Ay	0.23	0/691	0.46	0/922
29	BG	0.24	0/1908	0.47	0/2566
30	Av	0.24	0/1051	0.48	0/1406
31	BR	0.22	0/1524	0.53	0/2013
32	Aa	0.23	0/1841	0.45	0/2459

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Az	0.22	0/240	0.65	0/305
34	BH	0.24	0/1535	0.49	0/2063
35	BS	0.24	0/1497	0.52	0/2008
36	Ab	0.24	0/1742	0.45	0/2354
37	Bc	0.24	0/847	0.42	0/1134
38	BI	0.24	0/1756	0.49	0/2346
39	B	0.24	0/2444	0.47	0/3273
40	EA	0.23	0/2561	0.47	0/3473
41	Ac	0.24	0/1779	0.49	0/2395
42	Bd	0.23	0/903	0.51	0/1216
43	BJ	0.24	0/1385	0.50	0/1852
44	Ct	0.25	0/909	0.45	0/1214
45	Ad	0.24	0/2118	0.50	0/2849
46	Be	0.23	0/1088	0.51	0/1451
48	Cu	0.26	0/829	0.47	0/1112
49	Ae	0.23	0/1531	0.48	0/2059
50	Bf	0.24	0/903	0.53	0/1208
51	BL	0.23	0/1733	0.53	0/2316
52	DA	0.24	0/1284	0.45	0/1728
53	Af	0.23	0/1946	0.52	0/2590
54	Bg	0.23	0/916	0.53	0/1220
55	BM	0.24	0/1158	0.48	0/1547
56	DB	0.25	0/7038	0.44	0/9468
57	Ag	0.24	0/1552	0.46	0/2079
58	Bh	0.23	0/1021	0.49	0/1348
59	BN	0.23	0/1746	0.54	0/2338
60	DC	0.24	0/1323	0.45	0/1783
61	Ah	0.23	0/1715	0.50	0/2287
62	Bi	0.23	0/841	0.52	0/1112
63	BO	0.23	0/1662	0.48	0/2222
64	A2	0.15	1/40342 (0.0%)	0.67	13/62877 (0.0%)
65	Ai	0.24	0/1550	0.52	0/2069
66	Bj	0.24	0/720	0.57	0/952
67	AA	0.24	0/665	0.46	0/891
68	Aj	0.23	0/834	0.41	0/1125
69	Bk	0.24	0/575	0.45	0/761
70	AB	0.24	0/497	0.57	0/666
71	Ak	0.24	0/1284	0.51	0/1717
72	Bl	0.22	0/459	0.51	0/608
73	AC	0.24	0/622	0.48	0/822
74	Al	0.23	0/968	0.41	0/1296
75	Bm	0.22	0/426	0.48	0/564
76	AD	0.24	0/462	0.54	0/607

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
77	Am	0.23	0/1232	0.47	0/1656
78	Bo	0.25	0/866	0.50	0/1141
79	AE	0.23	0/828	0.53	0/1109
80	An	0.25	0/1020	0.54	0/1366
81	Bp	0.23	0/718	0.48	0/953
82	AF	0.23	0/2493	0.46	0/3394
83	Ao	0.24	0/1069	0.47	0/1429
84	Br	0.23	0/1020	0.53	0/1366
85	AG	0.24	0/470	0.50	0/623
86	Ap	0.24	0/1142	0.51	0/1528
87	Bs	0.24	0/1530	0.45	0/2064
88	BT	0.24	0/1326	0.49	0/1770
89	Aq	0.23	0/1094	0.47	0/1469
90	Bt	0.23	0/1193	0.47	0/1609
All	All	0.20	3/243831 (0.0%)	0.60	24/355810 (0.0%)

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
78	Bo	0	1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	A2	1	U	OP3-P	-10.60	1.48	1.61
20	B5	1	C	OP3-P	-10.56	1.48	1.61
6	B8	1	C	OP3-P	-10.55	1.48	1.61

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	2312	C	C2-N1-C1'	8.28	127.90	118.80
20	B5	2312	C	N1-C2-O2	7.97	123.68	118.90
64	A2	1454	C	C2-N1-C1'	7.96	127.55	118.80
64	A2	1454	C	N1-C2-O2	7.87	123.62	118.90
20	B5	2252	U	C2-N1-C1'	7.49	126.69	117.70
64	A2	1315	U	C2-N1-C1'	7.43	126.62	117.70
20	B5	1594	U	C2-N1-C1'	7.22	126.37	117.70
64	A2	1315	U	N1-C2-O2	6.86	127.61	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	2252	U	N1-C2-O2	6.76	127.53	122.80
64	A2	631	U	C2-N1-C1'	6.69	125.73	117.70
20	B5	1594	U	N1-C2-O2	6.42	127.29	122.80
64	A2	1454	C	N3-C2-O2	-6.31	117.48	121.90
64	A2	1315	U	N3-C2-O2	-6.30	117.79	122.20
20	B5	2312	C	N3-C2-O2	-6.30	117.49	121.90
20	B5	2252	U	N3-C2-O2	-6.24	117.83	122.20
20	B5	1594	U	N3-C2-O2	-6.00	118.00	122.20
64	A2	631	U	N1-C2-O2	5.92	126.95	122.80
64	A2	1023	U	C2-N1-C1'	5.84	124.71	117.70
20	B5	2312	C	C6-N1-C1'	-5.77	113.88	120.80
64	A2	631	U	N3-C2-O2	-5.56	118.31	122.20
64	A2	1454	C	C6-N1-C1'	-5.48	114.22	120.80
64	A2	854	C	C2-N1-C1'	5.44	124.78	118.80
20	B5	2312	C	C6-N1-C2	-5.36	118.16	120.30
64	A2	1454	C	C6-N1-C2	-5.26	118.20	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
78	Bo	53	MLZ	Mainchain

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	Bb	103/245 (42%)	99 (96%)	4 (4%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	Ar	146/151 (97%)	144 (99%)	2 (1%)	0	100	100
7	BU	100/128 (78%)	99 (99%)	1 (1%)	0	100	100
8	As	140/145 (97%)	140 (100%)	0	0	100	100
9	BA	250/257 (97%)	241 (96%)	9 (4%)	0	100	100
10	BV	137/140 (98%)	136 (99%)	1 (1%)	0	100	100
11	At	102/119 (86%)	101 (99%)	1 (1%)	0	100	100
12	BB	395/403 (98%)	391 (99%)	4 (1%)	0	100	100
13	BX	116/156 (74%)	115 (99%)	1 (1%)	0	100	100
14	Au	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
15	BC	360/412 (87%)	356 (99%)	4 (1%)	0	100	100
16	BP	157/184 (85%)	156 (99%)	1 (1%)	0	100	100
17	BZ	133/136 (98%)	132 (99%)	1 (1%)	0	100	100
18	Aw	138/143 (96%)	137 (99%)	1 (1%)	0	100	100
19	BE	239/291 (82%)	235 (98%)	4 (2%)	0	100	100
21	BQ	185/188 (98%)	183 (99%)	2 (1%)	0	100	100
22	Ba	144/148 (97%)	139 (96%)	5 (4%)	0	100	100
23	Ax	123/130 (95%)	123 (100%)	0	0	100	100
24	BF	224/247 (91%)	219 (98%)	5 (2%)	0	100	100
25	BY	132/145 (91%)	131 (99%)	1 (1%)	0	100	100
26	BW	119/157 (76%)	119 (100%)	0	0	100	100
27	AZ	219/294 (74%)	216 (99%)	3 (1%)	0	100	100
28	Ay	83/124 (67%)	81 (98%)	2 (2%)	0	100	100
29	BG	229/266 (86%)	226 (99%)	3 (1%)	0	100	100
30	Av	127/130 (98%)	126 (99%)	1 (1%)	0	100	100
31	BR	178/196 (91%)	178 (100%)	0	0	100	100
32	Aa	220/264 (83%)	218 (99%)	2 (1%)	0	100	100
33	Az	23/25 (92%)	23 (100%)	0	0	100	100
34	BH	188/192 (98%)	188 (100%)	0	0	100	100
35	BS	174/176 (99%)	173 (99%)	1 (1%)	0	100	100
36	Ab	218/293 (74%)	217 (100%)	1 (0%)	0	100	100
37	Bc	106/115 (92%)	106 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
38	BI	211/214 (99%)	209 (99%)	2 (1%)	0	100	100
39	B	293/297 (99%)	289 (99%)	4 (1%)	0	100	100
40	EA	315/386 (82%)	310 (98%)	4 (1%)	1 (0%)	37	68
41	Ac	223/281 (79%)	221 (99%)	2 (1%)	0	100	100
42	Bd	105/125 (84%)	105 (100%)	0	0	100	100
43	BJ	168/178 (94%)	167 (99%)	1 (1%)	0	100	100
44	Ct	112/238 (47%)	108 (96%)	4 (4%)	0	100	100
45	Ad	260/263 (99%)	258 (99%)	2 (1%)	0	100	100
46	Be	128/135 (95%)	127 (99%)	1 (1%)	0	100	100
48	Cu	104/162 (64%)	99 (95%)	5 (5%)	0	100	100
49	Ae	189/204 (93%)	188 (100%)	1 (0%)	0	100	100
50	Bf	108/110 (98%)	107 (99%)	1 (1%)	0	100	100
51	BL	208/211 (99%)	205 (99%)	3 (1%)	0	100	100
52	DA	153/403 (38%)	152 (99%)	1 (1%)	0	100	100
53	Af	235/249 (94%)	234 (100%)	1 (0%)	0	100	100
54	Bg	112/117 (96%)	111 (99%)	1 (1%)	0	100	100
55	BM	136/218 (62%)	134 (98%)	2 (2%)	0	100	100
56	DB	835/915 (91%)	821 (98%)	14 (2%)	0	100	100
57	Ag	188/432 (44%)	185 (98%)	3 (2%)	0	100	100
58	Bh	120/123 (98%)	119 (99%)	1 (1%)	0	100	100
59	BN	201/204 (98%)	198 (98%)	3 (2%)	0	100	100
60	DC	158/235 (67%)	156 (99%)	2 (1%)	0	100	100
61	Ah	204/208 (98%)	200 (98%)	4 (2%)	0	100	100
62	Bi	100/105 (95%)	98 (98%)	2 (2%)	0	100	100
63	BO	197/203 (97%)	196 (100%)	1 (0%)	0	100	100
65	Ai	183/194 (94%)	181 (99%)	2 (1%)	0	100	100
66	Bj	84/97 (87%)	83 (99%)	1 (1%)	0	100	100
67	AA	81/84 (96%)	79 (98%)	2 (2%)	0	100	100
68	Aj	94/165 (57%)	91 (97%)	3 (3%)	0	100	100
69	Bk	67/70 (96%)	67 (100%)	0	0	100	100
70	AB	61/69 (88%)	61 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
71	Ak	152/158 (96%)	150 (99%)	2 (1%)	0	100	100
72	Bl	48/51 (94%)	48 (100%)	0	0	100	100
73	AC	72/156 (46%)	70 (97%)	2 (3%)	0	100	100
74	Al	122/132 (92%)	120 (98%)	2 (2%)	0	100	100
75	Bm	49/128 (38%)	49 (100%)	0	0	100	100
76	AD	55/133 (41%)	55 (100%)	0	0	100	100
77	Am	148/151 (98%)	147 (99%)	1 (1%)	0	100	100
78	Bo	102/106 (96%)	102 (100%)	0	0	100	100
79	AE	99/115 (86%)	98 (99%)	1 (1%)	0	100	100
80	An	132/151 (87%)	130 (98%)	2 (2%)	0	100	100
81	Bp	89/92 (97%)	88 (99%)	1 (1%)	0	100	100
82	AF	311/317 (98%)	305 (98%)	6 (2%)	0	100	100
83	Ao	126/145 (87%)	124 (98%)	2 (2%)	0	100	100
84	Br	124/136 (91%)	123 (99%)	1 (1%)	0	100	100
85	AG	53/56 (95%)	53 (100%)	0	0	100	100
86	Ap	139/172 (81%)	133 (96%)	6 (4%)	0	100	100
87	Bs	194/318 (61%)	190 (98%)	4 (2%)	0	100	100
88	BT	157/160 (98%)	154 (98%)	3 (2%)	0	100	100
89	Aq	132/135 (98%)	132 (100%)	0	0	100	100
90	Bt	154/165 (93%)	153 (99%)	1 (1%)	0	100	100
All	All	13380/15955 (84%)	13211 (99%)	168 (1%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
40	EA	297	HIS

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	Bb	87/183 (48%)	87 (100%)	0	100	100
5	Ar	127/130 (98%)	125 (98%)	2 (2%)	58	74
7	BU	91/113 (80%)	87 (96%)	4 (4%)	24	50
8	As	112/114 (98%)	112 (100%)	0	100	100
9	BA	194/198 (98%)	194 (100%)	0	100	100
10	BV	106/107 (99%)	106 (100%)	0	100	100
11	At	94/107 (88%)	92 (98%)	2 (2%)	48	68
12	BB	344/347 (99%)	341 (99%)	3 (1%)	75	83
13	BX	106/134 (79%)	106 (100%)	0	100	100
14	Au	67/67 (100%)	67 (100%)	0	100	100
15	BC	302/336 (90%)	301 (100%)	1 (0%)	91	94
16	BP	140/163 (86%)	140 (100%)	0	100	100
17	BZ	117/118 (99%)	117 (100%)	0	100	100
18	Aw	112/114 (98%)	111 (99%)	1 (1%)	75	83
19	BE	216/251 (86%)	216 (100%)	0	100	100
21	BQ	164/165 (99%)	162 (99%)	2 (1%)	67	79
22	Ba	118/119 (99%)	118 (100%)	0	100	100
23	Ax	107/112 (96%)	106 (99%)	1 (1%)	75	83
24	BF	197/215 (92%)	197 (100%)	0	100	100
25	BY	124/135 (92%)	123 (99%)	1 (1%)	79	85
26	BW	100/126 (79%)	100 (100%)	0	100	100
27	AZ	182/242 (75%)	181 (100%)	1 (0%)	86	91
28	Ay	75/102 (74%)	75 (100%)	0	100	100
29	BG	199/223 (89%)	197 (99%)	2 (1%)	73	81
30	Av	112/113 (99%)	111 (99%)	1 (1%)	75	83
31	BR	159/175 (91%)	159 (100%)	0	100	100
32	Aa	203/231 (88%)	201 (99%)	2 (1%)	73	81
33	Az	24/24 (100%)	24 (100%)	0	100	100
34	BH	169/171 (99%)	169 (100%)	0	100	100
35	BS	154/154 (100%)	154 (100%)	0	100	100
36	Ab	185/223 (83%)	183 (99%)	2 (1%)	70	80
37	Bc	92/98 (94%)	92 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
38	BI	180/181 (99%)	180 (100%)	0	100	100
39	B	247/250 (99%)	247 (100%)	0	100	100
40	EA	274/330 (83%)	273 (100%)	1 (0%)	89	93
41	Ac	189/232 (82%)	188 (100%)	1 (0%)	86	91
42	Bd	98/110 (89%)	98 (100%)	0	100	100
43	BJ	143/149 (96%)	143 (100%)	0	100	100
44	Ct	100/202 (50%)	99 (99%)	1 (1%)	73	81
45	Ad	224/225 (100%)	223 (100%)	1 (0%)	89	93
46	Be	116/121 (96%)	115 (99%)	1 (1%)	75	83
48	Cu	90/136 (66%)	90 (100%)	0	100	100
49	Ae	161/170 (95%)	161 (100%)	0	100	100
50	Bf	89/89 (100%)	89 (100%)	0	100	100
51	BL	175/176 (99%)	173 (99%)	2 (1%)	70	80
52	DA	137/355 (39%)	137 (100%)	0	100	100
53	Af	207/218 (95%)	205 (99%)	2 (1%)	73	81
54	Bg	98/100 (98%)	96 (98%)	2 (2%)	50	69
55	BM	117/161 (73%)	117 (100%)	0	100	100
56	DB	746/806 (93%)	732 (98%)	14 (2%)	52	70
57	Ag	170/360 (47%)	169 (99%)	1 (1%)	84	89
58	Bh	109/110 (99%)	109 (100%)	0	100	100
59	BN	171/172 (99%)	171 (100%)	0	100	100
60	DC	136/202 (67%)	134 (98%)	2 (2%)	60	75
61	Ah	178/180 (99%)	177 (99%)	1 (1%)	84	89
62	Bi	86/89 (97%)	85 (99%)	1 (1%)	67	79
63	BO	171/173 (99%)	169 (99%)	2 (1%)	67	79
65	Ai	161/168 (96%)	160 (99%)	1 (1%)	84	89
66	Bj	73/80 (91%)	73 (100%)	0	100	100
67	AA	75/76 (99%)	75 (100%)	0	100	100
68	Aj	87/136 (64%)	87 (100%)	0	100	100
69	Bk	64/65 (98%)	64 (100%)	0	100	100
70	AB	56/62 (90%)	56 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
71	Ak	139/142 (98%)	138 (99%)	1 (1%)	81	87
72	Bl	47/48 (98%)	47 (100%)	0	100	100
73	AC	67/140 (48%)	67 (100%)	0	100	100
74	Al	104/108 (96%)	101 (97%)	3 (3%)	37	60
75	Bm	47/115 (41%)	47 (100%)	0	100	100
76	AD	47/106 (44%)	47 (100%)	0	100	100
77	Am	130/131 (99%)	129 (99%)	1 (1%)	79	85
78	Bo	92/93 (99%)	92 (100%)	0	100	100
79	AE	88/98 (90%)	87 (99%)	1 (1%)	70	80
80	An	105/118 (89%)	105 (100%)	0	100	100
81	Bp	74/75 (99%)	74 (100%)	0	100	100
82	AF	272/275 (99%)	270 (99%)	2 (1%)	81	87
83	Ao	114/130 (88%)	114 (100%)	0	100	100
84	Br	109/119 (92%)	109 (100%)	0	100	100
85	AG	48/49 (98%)	48 (100%)	0	100	100
86	Ap	117/140 (84%)	117 (100%)	0	100	100
87	Bs	164/258 (64%)	164 (100%)	0	100	100
88	BT	139/140 (99%)	139 (100%)	0	100	100
89	Aq	120/121 (99%)	120 (100%)	0	100	100
90	Bt	128/137 (93%)	127 (99%)	1 (1%)	79	85
All	All	11658/13537 (86%)	11591 (99%)	67 (1%)	82	89

All (67) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	Ar	83	PHE
5	Ar	103	LEU
7	BU	39	PHE
7	BU	95	ASN
7	BU	97	ARG
7	BU	117	ILE
11	At	70	VAL
11	At	84	THR
12	BB	39	LYS
12	BB	340	THR

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Mol	Chain	Res	Type
12	BB	343	ARG
15	BC	122	TYR
18	Aw	105	PHE
21	BQ	14	ARG
21	BQ	115	LYS
23	Ax	94	HIS
25	BY	74	TYR
27	AZ	121	LEU
29	BG	88	ASP
29	BG	159	HIS
30	Av	105	THR
32	Aa	178	THR
32	Aa	208	HIS
36	Ab	121	ARG
36	Ab	236	PHE
40	EA	300	PHE
41	Ac	46	THR
44	Ct	190	VAL
45	Ad	54	TYR
46	Be	130	ARG
51	BL	67	HIS
51	BL	115	GLN
53	Af	7	PHE
53	Af	44	GLU
54	Bg	32	TYR
54	Bg	73	HIS
56	DB	57	ASN
56	DB	120	LEU
56	DB	141	LEU
56	DB	170	ILE
56	DB	210	LEU
56	DB	296	LEU
56	DB	323	PRO
56	DB	373	LEU
56	DB	534	THR
56	DB	547	VAL
56	DB	592	LEU
56	DB	662	THR
56	DB	683	PHE
56	DB	762	LEU
57	Ag	78	ARG
60	DC	16	HIS

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Mol	Chain	Res	Type
60	DC	22	LEU
61	Ah	29	LEU
62	Bi	29	ARG
63	BO	117	ARG
63	BO	174	LEU
65	Ai	7	TRP
71	Ak	69	ARG
74	Al	33	ARG
74	Al	72	HIS
74	Al	75	ASN
77	Am	133	ARG
79	AE	75	VAL
82	AF	113	PHE
82	AF	159	ASN
90	Bt	74	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (102) such sidechains are listed below:

Mol	Chain	Res	Type
2	Bb	50	ASN
7	BU	17	GLN
8	As	12	GLN
9	BA	140	ASN
11	At	97	GLN
12	BB	175	GLN
12	BB	184	GLN
12	BB	289	GLN
13	BX	111	GLN
14	Au	2	GLN
15	BC	38	ASN
15	BC	48	ASN
15	BC	61	GLN
15	BC	119	GLN
15	BC	310	HIS
16	BP	75	GLN
16	BP	120	ASN
19	BE	131	HIS
19	BE	269	GLN
22	Ba	14	HIS
22	Ba	28	HIS
22	Ba	60	HIS
23	Ax	89	HIS

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Mol	Chain	Res	Type
26	BW	68	GLN
26	BW	120	GLN
27	AZ	113	GLN
27	AZ	141	ASN
28	Ay	64	ASN
29	BG	43	GLN
29	BG	64	GLN
29	BG	81	ASN
31	BR	39	GLN
31	BR	40	GLN
32	Aa	186	ASN
35	BS	146	HIS
37	Bc	40	GLN
38	BI	59	GLN
38	BI	163	GLN
39	B	122	GLN
40	EA	218	ASN
40	EA	281	GLN
41	Ac	145	GLN
44	Ct	202	ASN
45	Ad	142	HIS
46	Be	68	HIS
49	Ae	65	GLN
50	Bf	21	GLN
51	BL	19	GLN
51	BL	149	GLN
52	DA	18	GLN
53	Af	56	ASN
54	Bg	114	GLN
55	BM	33	GLN
56	DB	196	GLN
56	DB	197	ASN
56	DB	251	GLN
56	DB	526	HIS
56	DB	550	GLN
56	DB	551	HIS
56	DB	569	HIS
56	DB	577	ASN
56	DB	597	ASN
56	DB	705	HIS
56	DB	709	HIS
56	DB	749	ASN

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Mol	Chain	Res	Type
56	DB	764	HIS
57	Ag	91	HIS
60	DC	18	ASN
60	DC	25	ASN
60	DC	153	GLN
61	Ah	7	ASN
61	Ah	167	GLN
63	BO	180	GLN
66	Bj	13	ASN
66	Bj	30	GLN
67	AA	29	ASN
67	AA	51	GLN
68	Aj	77	GLN
69	Bk	58	GLN
71	Ak	11	GLN
72	Bl	4	HIS
72	Bl	25	GLN
74	Al	72	HIS
76	AD	89	GLN
77	Am	36	GLN
81	Bp	33	GLN
82	AF	159	ASN
84	Br	4	HIS
85	AG	3	HIS
86	Ap	80	GLN
86	Ap	97	GLN
86	Ap	114	GLN
87	Bs	34	ASN
87	Bs	39	GLN
87	Bs	41	GLN
87	Bs	179	ASN
88	BT	127	GLN
88	BT	131	GLN
89	Aq	31	ASN
89	Aq	121	GLN
90	Bt	70	GLN
90	Bt	100	HIS

5.3.3 RNA

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AH	0/3	-	-
20	B5	3692/4808 (76%)	433 (11%)	2 (0%)
3	B7	118/120 (98%)	7 (5%)	0
4	AT	2/76 (2%)	1 (50%)	0
6	B8	155/158 (98%)	16 (10%)	0
64	A2	1758/1870 (94%)	210 (11%)	0
All	All	5725/7035 (81%)	667 (11%)	2 (0%)

All (667) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	B7	7	G
3	B7	53	U
3	B7	54	A
3	B7	63	C
3	B7	64	G
3	B7	110	G
3	B7	120	U
4	AT	76	A
6	B8	34	U
6	B8	35	C
6	B8	39	G
6	B8	59	A
6	B8	62	A
6	B8	63	U
6	B8	81	C
6	B8	84	A
6	B8	87	G
6	B8	94	G
6	B8	103	A
6	B8	105	C
6	B8	110	U
6	B8	114	G
6	B8	150	C
6	B8	156	U
20	B5	25	A
20	B5	39	A
20	B5	42	A
20	B5	58	G
20	B5	59	A
20	B5	64	A

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Mol	Chain	Res	Type
20	B5	65	A
20	B5	76	A
20	B5	85	G
20	B5	91	G
20	B5	98	A
20	B5	109	G
20	B5	110	C
20	B5	119	G
20	B5	122	U
20	B5	127	G
20	B5	135	G
20	B5	136	U
20	B5	144	G
20	B5	159	C
20	B5	181	C
20	B5	184	U
20	B5	187	U
20	B5	188	G
20	B5	197	A
20	B5	200	U
20	B5	201	C
20	B5	209	U
20	B5	210	C
20	B5	216	C
20	B5	218	A
20	B5	219	G
20	B5	234	G
20	B5	266	C
20	B5	268	G
20	B5	297	U
20	B5	309	C
20	B5	315	G
20	B5	316	U
20	B5	326	C
20	B5	334	A
20	B5	340	C
20	B5	363	A
20	B5	386	A
20	B5	387	G
20	B5	398	A2M
20	B5	409	G
20	B5	412	G

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Mol	Chain	Res	Type
20	B5	413	G
20	B5	440	U
20	B5	446	C
20	B5	449	C
20	B5	450	G
20	B5	452	A
20	B5	453	G
20	B5	454	U
20	B5	455	C
20	B5	482	U
20	B5	483	G
20	B5	485	U
20	B5	486	C
20	B5	488	G
20	B5	493	U
20	B5	497	G
20	B5	499	C
20	B5	502	U
20	B5	503	C
20	B5	504	U
20	B5	505	C
20	B5	512	U
20	B5	515	U
20	B5	516	U
20	B5	517	C
20	B5	628	U
20	B5	634	C
20	B5	635	G
20	B5	660	G
20	B5	661	A
20	B5	691	G
20	B5	698	C
20	B5	724	G
20	B5	725	G
20	B5	732	C
20	B5	734	G
20	B5	739	G
20	B5	758	C
20	B5	760	C
20	B5	790	G
20	B5	791	C
20	B5	792	G

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Mol	Chain	Res	Type
20	B5	794	G
20	B5	797	C
20	B5	798	C
20	B5	810	U
20	B5	812	A
20	B5	814	A
20	B5	815	G
20	B5	824	C
20	B5	825	G
20	B5	831	A
20	B5	832	G
20	B5	833	C
20	B5	834	A
20	B5	835	G
20	B5	844	A
20	B5	845	U
20	B5	856	A
20	B5	859	G
20	B5	860	A
20	B5	861	G
20	B5	866	A
20	B5	867	C
20	B5	868	C
20	B5	869	U
20	B5	870	G
20	B5	884	U
20	B5	983	G
20	B5	985	G
20	B5	987	C
20	B5	1072	C
20	B5	1073	C
20	B5	1074	C
20	B5	1090	U
20	B5	1091	G
20	B5	1102	G
20	B5	1105	C
20	B5	1106	U
20	B5	1124	A
20	B5	1133	C
20	B5	1140	C
20	B5	1202	C
20	B5	1214	A

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Mol	Chain	Res	Type
20	B5	1215	G
20	B5	1217	G
20	B5	1219	G
20	B5	1221	G
20	B5	1228	G
20	B5	1231	G
20	B5	1239	U
20	B5	1240	G
20	B5	1246	U
20	B5	1247	A
20	B5	1270	A2M
20	B5	1298	A
20	B5	1299	G
20	B5	1303	G
20	B5	1309	C
20	B5	1310	G
20	B5	1323	C
20	B5	1331	A
20	B5	1341	A
20	B5	1351	G
20	B5	1362	C
20	B5	1375	A
20	B5	1391	C
20	B5	1393	C
20	B5	1452	A
20	B5	1453	G
20	B5	1457	G
20	B5	1459	G
20	B5	1469	U
20	B5	1489	A2M
20	B5	1502	A
20	B5	1521	C
20	B5	1533	U
20	B5	1546	U
20	B5	1551	U
20	B5	1568	A
20	B5	1579	G
20	B5	1580	OMG
20	B5	1586	A
20	B5	1588	G
20	B5	1589	A
20	B5	1605	A

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Mol	Chain	Res	Type
20	B5	1609	G
20	B5	1616	C
20	B5	1631	C
20	B5	1632	PSU
20	B5	1653	C
20	B5	1657	C
20	B5	1658	C
20	B5	1704	A
20	B5	1705	A
20	B5	1726	A
20	B5	1743	A
20	B5	1754	G
20	B5	1774	G
20	B5	1775	G
20	B5	1776	A
20	B5	1781	G
20	B5	1794	G
20	B5	1808	G
20	B5	1836	A
20	B5	1857	U
20	B5	1859	C
20	B5	1860	C
20	B5	1861	G
20	B5	1870	C
20	B5	1871	A
20	B5	1879	G
20	B5	1887	G
20	B5	1898	U
20	B5	1899	A
20	B5	1900	G
20	B5	1913	U
20	B5	1922	A
20	B5	1923	A
20	B5	1924	G
20	B5	1925	U
20	B5	1926	C
20	B5	1936	U
20	B5	1940	G
20	B5	1942	G
20	B5	1943	U
20	B5	1963	G
20	B5	1965	A

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Mol	Chain	Res	Type
20	B5	1973	G
20	B5	1985	G
20	B5	1987	U
20	B5	1994	G
20	B5	1995	G
20	B5	2008	A
20	B5	2023	U
20	B5	2032	G
20	B5	2034	A
20	B5	2037	G
20	B5	2041	G
20	B5	2044	A
20	B5	2045	G
20	B5	2046	A
20	B5	2101	C
20	B5	2132	C
20	B5	2143	A
20	B5	2144	G
20	B5	2156	A
20	B5	2174	G
20	B5	2191	G
20	B5	2194	OMC
20	B5	2203	A
20	B5	2238	A
20	B5	2253	C
20	B5	2264	G
20	B5	2268	U
20	B5	2332	C
20	B5	2333	U
20	B5	2334	C
20	B5	2349	G
20	B5	2356	A
20	B5	2372	A
20	B5	2380	A
20	B5	2387	G
20	B5	2388	U
20	B5	2390	G
20	B5	2409	G
20	B5	2430	A
20	B5	2432	C
20	B5	2444	A
20	B5	2470	C

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Mol	Chain	Res	Type
20	B5	2496	C
20	B5	2503	A
20	B5	2530	U
20	B5	2537	G
20	B5	2538	A
20	B5	2539	A
20	B5	2551	U
20	B5	2552	C
20	B5	2553	C
20	B5	2554	G
20	B5	2586	A
20	B5	2606	U
20	B5	2612	U
20	B5	2630	A2M
20	B5	2631	U
20	B5	2633	U
20	B5	2641	A
20	B5	2657	C
20	B5	2669	U
20	B5	2670	G
20	B5	2672	U
20	B5	2678	A
20	B5	2698	G
20	B5	2745	G
20	B5	3329	G
20	B5	3350	C
20	B5	3358	G
20	B5	3367	A
20	B5	3380	A
20	B5	3385	A
20	B5	3394	A
20	B5	3396	G
20	B5	3428	C
20	B5	3443	A
20	B5	3444	A
20	B5	3485	G
20	B5	3492	A2M
20	B5	3493	C
20	B5	3498	A
20	B5	3508	G
20	B5	3509	G
20	B5	3516	A

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Mol	Chain	Res	Type
20	B5	3543	G
20	B5	3546	U
20	B5	3549	A
20	B5	3551	G
20	B5	3570	U
20	B5	3571	G
20	B5	3572	U
20	B5	3600	G
20	B5	3609	A
20	B5	3610	C
20	B5	3611	G
20	B5	3629	G
20	B5	3633	A
20	B5	3638	A
20	B5	3639	G
20	B5	3640	A
20	B5	3647	U
20	B5	3670	G
20	B5	3671	G
20	B5	3804	G
20	B5	3823	G
20	B5	3824	C
20	B5	3825	G
20	B5	3832	G
20	B5	3833	A
20	B5	3834	G
20	B5	3847	C
20	B5	3849	G
20	B5	3850	G
20	B5	3855	A
20	B5	3869	G
20	B5	3875	C
20	B5	3891	C
20	B5	3892	G
20	B5	3904	C
20	B5	3908	C
20	B5	3916	A
20	B5	3929	G
20	B5	3930	G
20	B5	3937	G
20	B5	3949	A
20	B5	3975	U

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Mol	Chain	Res	Type
20	B5	3979	A
20	B5	3997	A
20	B5	4000	G
20	B5	4012	G
20	B5	4014	A
20	B5	4017	A
20	B5	4019	A
20	B5	4027	A
20	B5	4051	G
20	B5	4052	OMU
20	B5	4060	C
20	B5	4076	G
20	B5	4078	C
20	B5	4096	C
20	B5	4100	U
20	B5	4119	G
20	B5	4123	G
20	B5	4124	A
20	B5	4133	C
20	B5	4140	A
20	B5	4167	C
20	B5	4168	A
20	B5	4183	U
20	B5	4190	C
20	B5	4194	G
20	B5	4210	A
20	B5	4212	C
20	B5	4221	G
20	B5	4258	U
20	B5	4259	A
20	B5	4294	A
20	B5	4306	C
20	B5	4321	G
20	B5	4336	A2M
20	B5	4381	A
20	B5	4382	PSU
20	B5	4383	OMG
20	B5	4402	A
20	B5	4416	C
20	B5	4437	A
20	B5	4446	A
20	B5	4454	A

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Mol	Chain	Res	Type
20	B5	4455	U
20	B5	4465	G
20	B5	4475	A
20	B5	4476	C
20	B5	4477	G
20	B5	4478	G
20	B5	4486	G
20	B5	4487	A
20	B5	4488	A
20	B5	4489	G
20	B5	4490	G
20	B5	4492	G
20	B5	4498	G
20	B5	4501	G
20	B5	4504	C
20	B5	4506	C
20	B5	4512	G
20	B5	4518	C
20	B5	4609	G
20	B5	4610	C
20	B5	4614	G
20	B5	4616	G
20	B5	4621	U
20	B5	4622	C
20	B5	4634	U
20	B5	4638	G
20	B5	4639	C
20	B5	4640	G
20	B5	4644	C
20	B5	4645	C
20	B5	4646	G
20	B5	4649	A
20	B5	4651	G
20	B5	4655	G
20	B5	4658	G
20	B5	4674	C
20	B5	4705	A
20	B5	4715	U
20	B5	4728	U
20	B5	4729	C
20	B5	4753	A
20	B5	4756	G

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Mol	Chain	Res	Type
20	B5	4761	U
20	B5	4762	C
20	B5	4763	C
20	B5	4780	G
20	B5	4789	C
20	B5	4801	G
20	B5	4808	U
64	A2	3	C
64	A2	26	U
64	A2	33	G
64	A2	41	G
64	A2	44	U
64	A2	46	A
64	A2	56	G
64	A2	67	C
64	A2	68	A
64	A2	73	C
64	A2	74	G
64	A2	77	A
64	A2	79	A
64	A2	103	A
64	A2	113	G
64	A2	115	U
64	A2	126	G
64	A2	130	G
64	A2	143	U
64	A2	147	A
64	A2	155	G
64	A2	162	C
64	A2	168	C
64	A2	178	C
64	A2	180	G
64	A2	184	G
64	A2	188	C
64	A2	192	C
64	A2	226	A
64	A2	282	C
64	A2	295	U
64	A2	306	U
64	A2	310	G
64	A2	313	G
64	A2	320	C

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Mol	Chain	Res	Type
64	A2	324	C
64	A2	325	U
64	A2	327	C
64	A2	328	G
64	A2	336	G
64	A2	348	G
64	A2	363	C
64	A2	365	A
64	A2	369	U
64	A2	370	C
64	A2	386	G
64	A2	387	C
64	A2	401	C
64	A2	410	C
64	A2	439	G
64	A2	449	A
64	A2	451	C
64	A2	465	A
64	A2	466	A
64	A2	472	G
64	A2	473	C
64	A2	474	A
64	A2	475	G
64	A2	483	G
64	A2	488	U
64	A2	493	C
64	A2	494	A
64	A2	509	A
64	A2	526	A
64	A2	549	C
64	A2	561	A
64	A2	565	A
64	A2	569	C
64	A2	584	A
64	A2	590	G
64	A2	592	U
64	A2	607	G
64	A2	609	C
64	A2	615	C
64	A2	618	G
64	A2	629	A
64	A2	644	A

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Mol	Chain	Res	Type
64	A2	645	OMG
64	A2	661	C
64	A2	669	A2M
64	A2	670	A
64	A2	672	A
64	A2	673	A
64	A2	674	G
64	A2	733	U
64	A2	734	C
64	A2	747	C
64	A2	748	U
64	A2	754	C
64	A2	755	G
64	A2	756	C
64	A2	798	C
64	A2	799	G
64	A2	812	A
64	A2	822	G
64	A2	823	PSU
64	A2	831	A
64	A2	832	G
64	A2	837	G
64	A2	838	A
64	A2	839	G
64	A2	840	C
64	A2	841	C
64	A2	842	G
64	A2	848	A
64	A2	871	A
64	A2	873	A
64	A2	879	G
64	A2	886	U
64	A2	892	G
64	A2	914	A
64	A2	915	U
64	A2	921	A
64	A2	923	A
64	A2	934	G
64	A2	944	U
64	A2	956	A
64	A2	972	G
64	A2	991	A

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Mol	Chain	Res	Type
64	A2	993	A
64	A2	1000	G
64	A2	1003	U
64	A2	1024	A
64	A2	1061	A
64	A2	1062	U
64	A2	1063	A
64	A2	1084	A
64	A2	1086	C
64	A2	1116	U
64	A2	1117	C
64	A2	1118	C
64	A2	1119	C
64	A2	1122	G
64	A2	1134	A
64	A2	1145	A
64	A2	1154	C
64	A2	1155	U
64	A2	1196	A
64	A2	1208	G
64	A2	1216	C
64	A2	1217	C
64	A2	1225	G
64	A2	1243	U
64	A2	1252	A
64	A2	1254	A
64	A2	1257	G
64	A2	1258	G
64	A2	1260	A
64	A2	1272	C
64	A2	1275	G
64	A2	1276	G
64	A2	1303	G
64	A2	1305	U
64	A2	1343	U
64	A2	1372	U
64	A2	1373	U
64	A2	1379	A
64	A2	1398	U
64	A2	1403	A
64	A2	1406	A
64	A2	1407	G

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Mol	Chain	Res	Type
64	A2	1419	C
64	A2	1420	C
64	A2	1422	A
64	A2	1424	C
64	A2	1425	G
64	A2	1436	C
64	A2	1455	A
64	A2	1463	U
64	A2	1464	U
64	A2	1481	A
64	A2	1490	A
64	A2	1491	OMG
64	A2	1495	U
64	A2	1498	G
64	A2	1499	A
64	A2	1508	G
64	A2	1522	C
64	A2	1523	A
64	A2	1534	A
64	A2	1553	G
64	A2	1554	C
64	A2	1580	A
64	A2	1581	A
64	A2	1586	U
64	A2	1589	A
64	A2	1602	A
64	A2	1618	G
64	A2	1622	U
64	A2	1624	A
64	A2	1647	C
64	A2	1655	G
64	A2	1666	G
64	A2	1684	C
64	A2	1699	C
64	A2	1722	U
64	A2	1723	G
64	A2	1749	G
64	A2	1783	G
64	A2	1784	C
64	A2	1785	G
64	A2	1836	A
64	A2	1837	G

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Mol	Chain	Res	Type
64	A2	1839	U
64	A2	1850	G
64	A2	1862	G
64	A2	1863	G
64	A2	1864	A
64	A2	1865	U
64	A2	1866	C

All (2) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
20	B5	1588	G
20	B5	4445	U

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

223 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
64	PSU	A2	573	64	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
64	PSU	A2	1693	64	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
64	4AC	A2	1338	64	21,24,25	1.07	1 (4%)	29,34,37	1.15	3 (10%)
64	B8N	A2	1249	64	24,29,30	1.33	3 (12%)	29,42,45	1.30	3 (10%)
64	PSU	A2	682	64	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
64	MA6	A2	1852	64	18,26,27	1.08	2 (11%)	19,38,41	1.93	4 (21%)
64	A2M	A2	1679	64	18,25,26	0.99	1 (5%)	18,36,39	1.36	2 (11%)
20	OMC	B5	1820	92,20	19,22,23	0.80	0	26,31,34	0.79	0
75	M3L	Bm	98	75	10,11,12	0.83	0	9,14,16	0.52	0
64	PSU	A2	823	64	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
64	A2M	A2	591	64	18,25,26	1.05	1 (5%)	18,36,39	1.28	2 (11%)
64	OMU	A2	121	64	19,22,23	1.21	3 (15%)	26,31,34	1.69	4 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	PSU	B5	1718	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	OMU	B5	2258	20	19,22,23	1.21	2 (10%)	26,31,34	1.67	4 (15%)
20	OMC	B5	3433	20	19,22,23	0.79	0	26,31,34	0.75	0
20	UR3	B5	4276	20	19,22,23	0.99	0	26,32,35	1.42	1 (3%)
64	PSU	A2	105	64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
64	A2M	A2	513	64	18,25,26	1.01	1 (5%)	18,36,39	1.25	2 (11%)
20	A2M	B5	3492	20,64	18,25,26	1.01	1 (5%)	18,36,39	1.37	2 (11%)
64	PSU	A2	815	64	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
64	OMG	A2	1329	64	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
64	OMG	A2	602	64	18,26,27	0.92	1 (5%)	19,38,41	1.06	2 (10%)
64	OMU	A2	1805	64	19,22,23	1.22	3 (15%)	26,31,34	1.69	5 (19%)
64	PSU	A2	1239	64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
20	A2M	B5	4336	20	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
20	PSU	B5	4177	20	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	3585	92,20	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
20	PSU	B5	4267	92,20	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
20	PSU	B5	3576	20	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
20	A2M	B5	1810	92,20	18,25,26	1.03	1 (5%)	18,36,39	1.24	2 (11%)
64	PSU	A2	1047	64	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
8	NMM	As	67	8	9,11,12	0.59	0	6,12,14	0.45	0
20	PSU	B5	3500	20	18,21,22	1.33	2 (11%)	22,30,33	1.85	3 (13%)
18	HY3	Aw	62	18	6,8,9	1.99	1 (16%)	5,10,12	1.10	1 (20%)
20	OMC	B5	3540	20	19,22,23	0.82	0	26,31,34	0.80	0
20	OMG	B5	4138	20	18,26,27	0.92	1 (5%)	19,38,41	1.06	2 (10%)
20	OMU	B5	2680	20	19,22,23	1.20	2 (10%)	26,31,34	1.70	5 (19%)
27	SAC	AZ	2	27	7,8,9	0.54	0	8,9,11	0.87	1 (12%)
20	PSU	B5	4042	20	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
64	PSU	A2	34	64	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
20	A2M	B5	2244	92,20	18,25,26	1.01	1 (5%)	18,36,39	1.22	2 (11%)
64	PSU	A2	1233	64	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
9	V5N	BA	216	9	4,11,12	0.78	0	5,14,16	1.53	1 (20%)
20	PSU	B5	1683	20	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
20	6MZ	B5	3966	20	18,25,26	0.89	1 (5%)	16,36,39	2.01	4 (25%)
20	PSU	B5	4322	20	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
64	6MZ	A2	1833	92,64	18,25,26	0.91	1 (5%)	16,36,39	1.91	4 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
64	OMU	A2	1327	92,64	19,22,23	1.19	2 (10%)	26,31,34	1.71	5 (19%)
64	PSU	A2	864	64	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	OMC	B5	2647	20	19,22,23	0.83	0	26,31,34	0.84	0
20	A2M	B5	3456	20	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
20	PSU	B5	3494	20	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	3652	92,20	18,21,22	1.37	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	3371	20	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
64	4AC	A2	1843	64	21,24,25	1.09	2 (9%)	29,34,37	1.23	3 (10%)
20	OMC	B5	2194	92,20	19,22,23	0.82	0	26,31,34	0.85	0
64	PSU	A2	967	64	18,21,22	1.37	2 (11%)	22,30,33	1.85	3 (13%)
20	OMG	B5	3974	20	18,26,27	0.92	1 (5%)	19,38,41	1.11	2 (10%)
20	PSU	B5	3427	20	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
20	PSU	B5	4107	20	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	4149	20	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	4278	20	18,21,22	1.36	2 (11%)	22,30,33	1.86	3 (13%)
12	HIC	BB	245	12	8,11,12	0.88	0	6,14,16	0.84	0
20	PSU	B5	3490	20	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
64	OMG	A2	645	64	18,26,27	0.95	1 (5%)	19,38,41	1.09	2 (10%)
64	A2M	A2	669	92,64	18,25,26	1.00	1 (5%)	18,36,39	1.37	2 (11%)
64	PSU	A2	802	64	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
64	OMG	A2	684	64	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
64	OMU	A2	1443	92,64	19,22,23	1.23	3 (15%)	26,31,34	1.69	5 (19%)
20	PSU	B5	1721	20	18,21,22	1.36	2 (11%)	22,30,33	1.88	3 (13%)
20	PSU	B5	4045	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
20	PSU	B5	2475	20	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
20	OMU	B5	3657	20	19,22,23	1.21	2 (10%)	26,31,34	1.71	5 (19%)
64	PSU	A2	1082	64	18,21,22	1.36	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	1537	20	18,21,22	1.35	2 (11%)	22,30,33	1.84	3 (13%)
2	MLZ	Bb	5	2	8,9,10	0.49	0	4,9,11	0.14	0
64	PSU	A2	1626	64	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	4711	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
64	OMC	A2	463	64	19,22,23	0.83	0	26,31,34	0.88	1 (3%)
64	PSU	A2	652	64	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
20	5MC	B5	4193	20	18,22,23	0.99	2 (11%)	26,32,35	1.17	2 (7%)
64	A2M	A2	166	64	18,25,26	1.05	1 (5%)	18,36,39	1.23	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	PSU	B5	1632	20	18,21,22	1.36	2 (11%)	22,30,33	1.85	4 (18%)
6	OMG	B8	75	6	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
20	OMG	B5	4364	20	18,26,27	0.93	1 (5%)	19,38,41	1.09	2 (10%)
64	PSU	A2	1245	64	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
64	PSU	A2	650	64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
20	PSU	B5	3369	20	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
20	A2M	B5	3450	20	18,25,26	1.03	1 (5%)	18,36,39	1.18	2 (11%)
20	OMC	B5	3619	20	19,22,23	0.81	0	26,31,34	0.84	0
64	PSU	A2	1368	64	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
20	OMG	B5	4245	20	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
64	A2M	A2	159	64	18,25,26	1.02	1 (5%)	18,36,39	1.28	2 (11%)
20	PSU	B5	1801	20	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
20	OMG	B5	4240	20	18,26,27	0.95	1 (5%)	19,38,41	1.09	2 (10%)
20	PSU	B5	1731	20	18,21,22	1.35	2 (11%)	22,30,33	1.89	4 (18%)
64	OMC	A2	174	92,64	19,22,23	0.81	0	26,31,34	0.80	0
64	OMU	A2	1289	64	19,22,23	1.22	3 (15%)	26,31,34	1.67	5 (19%)
20	PSU	B5	4374	20	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	4419	20	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
64	PSU	A2	816	64	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
20	OMG	B5	3524	20	18,26,27	0.94	1 (5%)	19,38,41	1.06	2 (10%)
20	A2M	B5	3599	20	18,25,26	1.00	1 (5%)	18,36,39	1.30	2 (11%)
64	OMG	A2	437	64	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
20	A2M	B5	400	20	18,25,26	1.03	1 (5%)	18,36,39	1.21	2 (11%)
20	OMG	B5	3631	20	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
64	PSU	A2	210	64	18,21,22	1.35	2 (11%)	22,30,33	1.82	3 (13%)
20	PSU	B5	3447	20	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
78	MLZ	B ₀	53	78	8,9,10	0.49	0	4,9,11	0.13	0
20	OMG	B5	2207	20	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
64	OMU	A2	172	64	19,22,23	1.20	3 (15%)	26,31,34	1.70	4 (15%)
20	5MC	B5	3514	92,20	18,22,23	0.97	2 (11%)	26,32,35	1.15	3 (11%)
64	PSU	A2	1046	64	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
6	PSU	B8	55	6	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
64	MA6	A2	1851	64	18,26,27	1.08	2 (11%)	19,38,41	2.01	3 (15%)
20	PSU	B5	4246	20	18,21,22	1.34	2 (11%)	22,30,33	1.92	4 (18%)
64	OMU	A2	429	64	19,22,23	1.21	3 (15%)	26,31,34	1.67	4 (15%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
64	OMC	A2	518	64	19,22,23	0.82	0	26,31,34	0.87	1 (3%)
20	OMC	B5	2208	92,20	19,22,23	0.81	0	26,31,34	0.84	0
64	OMG	A2	1448	64	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
20	PSU	B5	3462	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
80	IAS	An	138	80	6,7,8	1.07	0	6,8,10	1.33	1 (16%)
20	A2M	B5	3562	20	18,25,26	1.02	1 (5%)	18,36,39	1.19	2 (11%)
64	PSU	A2	1005	64	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	3554	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
20	OMG	B5	2267	20	18,26,27	0.93	1 (5%)	19,38,41	1.08	2 (10%)
20	A2M	B5	1270	20	18,25,26	0.99	1 (5%)	18,36,39	1.25	2 (11%)
64	A2M	A2	99	92,64	18,25,26	1.03	1 (5%)	18,36,39	1.18	2 (11%)
20	OMU	B5	4366	20	19,22,23	1.21	2 (10%)	26,31,34	1.71	4 (15%)
20	OMC	B5	2667	20	19,22,23	0.81	0	26,31,34	0.82	0
20	PSU	B5	4382	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	4058	20	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	4325	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	PSU	B5	4298	20	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
20	OMC	B5	3573	20	19,22,23	0.81	0	26,31,34	0.87	1 (3%)
84	SAC	Br	2	84	7,8,9	0.53	0	8,9,11	0.83	1 (12%)
20	PSU	B5	4169	20	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
64	PSU	A2	109	64	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
64	PSU	A2	1175	64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
20	PSU	B5	3583	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
20	PSU	B5	1638	20	18,21,22	1.35	2 (11%)	22,30,33	1.89	3 (13%)
20	PSU	B5	4740	20	18,21,22	1.35	2 (11%)	22,30,33	1.85	3 (13%)
20	A2M	B5	1479	20	18,25,26	1.02	1 (5%)	18,36,39	1.27	2 (11%)
20	PSU	B5	1491	20	18,21,22	1.36	2 (11%)	22,30,33	1.89	3 (13%)
20	PSU	B5	4099	20	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
64	A2M	A2	485	64	18,25,26	1.02	1 (5%)	18,36,39	1.24	2 (11%)
64	OMU	A2	628	64	19,22,23	1.18	2 (10%)	26,31,34	1.73	5 (19%)
64	OMG	A2	1491	92,64	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
64	PSU	A2	36	64	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	3466	20	18,21,22	1.36	2 (11%)	22,30,33	1.85	3 (13%)
20	OMC	B5	3601	20	19,22,23	0.81	0	26,31,34	0.81	0
20	OMG	B5	3942	20,4	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
64	PSU	A2	1644	92,64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
20	PSU	B5	1799	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	A2M	B5	398	20	18,25,26	1.01	1 (5%)	18,36,39	1.24	2 (11%)
20	A2M	B5	1489	92,20	18,25,26	0.99	1 (5%)	18,36,39	1.32	2 (11%)
64	OMU	A2	116	64	19,22,23	1.20	2 (10%)	26,31,34	1.70	4 (15%)
20	A2M	B5	2206	92,20	18,25,26	1.03	1 (5%)	18,36,39	1.18	2 (11%)
20	PSU	B5	4166	20	18,21,22	1.40	3 (16%)	22,30,33	1.81	4 (18%)
20	OMC	B5	1284	20	19,22,23	0.82	0	26,31,34	0.82	0
64	A2M	A2	27	92,64	18,25,26	1.02	1 (5%)	18,36,39	1.22	2 (11%)
20	UY1	B5	3550	20	19,22,23	1.40	3 (15%)	22,31,34	1.85	5 (22%)
64	A2M	A2	1384	64	18,25,26	1.02	1 (5%)	18,36,39	1.23	2 (11%)
20	OMC	B5	4282	92,20	19,22,23	0.82	0	26,31,34	0.87	1 (3%)
20	PSU	B5	2351	20	18,21,22	1.34	2 (11%)	22,30,33	1.86	3 (13%)
20	OMG	B5	3359	20	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
20	A2M	B5	4269	92,20	18,25,26	1.03	1 (5%)	18,36,39	1.21	2 (11%)
20	A2M	B5	2658	92,20	18,25,26	1.02	1 (5%)	18,36,39	1.20	2 (11%)
20	PSU	B5	3496	20	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
20	PSU	B5	4203	20	18,21,22	1.36	2 (11%)	22,30,33	1.83	3 (13%)
64	PSU	A2	1446	64	18,21,22	1.34	2 (11%)	22,30,33	1.88	3 (13%)
22	V5N	Ba	39	22	4,11,12	0.77	0	5,14,16	1.49	1 (20%)
20	OMG	B5	2719	20	18,26,27	0.94	1 (5%)	19,38,41	1.07	2 (10%)
64	PSU	A2	93	64	18,21,22	1.35	2 (11%)	22,30,33	1.86	3 (13%)
64	OMG	A2	868	64	18,26,27	0.92	1 (5%)	19,38,41	1.07	2 (10%)
20	OMG	B5	1260	20	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
20	A2M	B5	3517	20	18,25,26	0.97	1 (5%)	18,36,39	1.32	2 (11%)
20	OMG	B5	4383	20	18,26,27	0.94	1 (5%)	19,38,41	1.10	2 (10%)
64	PSU	A2	1178	64	18,21,22	1.34	2 (11%)	22,30,33	1.90	3 (13%)
20	A2M	B5	4317	20	18,25,26	1.01	1 (5%)	18,36,39	1.28	2 (11%)
20	PSU	B5	3616	20	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
64	A2M	A2	1032	64	18,25,26	1.02	1 (5%)	18,36,39	1.21	2 (11%)
20	PSU	B5	3502	20	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
20	OMC	B5	2704	20	19,22,23	0.82	0	26,31,34	0.82	0
20	A2M	B5	2630	92,20	18,25,26	1.00	1 (5%)	18,36,39	1.36	2 (11%)
20	PSU	B5	4435	20	18,21,22	1.35	2 (11%)	22,30,33	1.87	3 (13%)
20	OMG	B5	1477	20	18,26,27	0.95	1 (5%)	19,38,41	1.06	2 (10%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	A2M	B5	3557	20	18,25,26	1.01	1 (5%)	18,36,39	1.21	2 (11%)
20	OMC	B5	4202	20	19,22,23	0.82	0	26,31,34	0.81	0
20	OMG	B5	4369	20	18,26,27	0.95	1 (5%)	19,38,41	1.08	2 (10%)
20	OMU	B5	4052	20	19,22,23	1.22	3 (15%)	26,31,34	1.69	4 (15%)
64	OMC	A2	1704	64	19,22,23	0.80	0	26,31,34	0.79	0
6	PSU	B8	69	6	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
20	PSU	B5	4749	20	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
20	OMU	B5	3973	20	19,22,23	1.21	2 (10%)	26,31,34	1.69	4 (15%)
64	A2M	A2	469	64	18,25,26	1.03	1 (5%)	18,36,39	1.20	2 (11%)
20	PSU	B5	4039	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
20	OMG	B5	3476	20	18,26,27	0.92	1 (5%)	19,38,41	1.08	2 (10%)
64	A2M	A2	577	64	18,25,26	1.02	1 (5%)	18,36,39	1.21	2 (11%)
64	PSU	A2	610	64	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
64	PSU	A2	1057	64	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
20	OMG	B5	1580	20	18,26,27	0.93	1 (5%)	19,38,41	1.07	2 (10%)
64	PSU	A2	867	64	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
20	PSU	B5	1720	20	18,21,22	1.34	2 (11%)	22,30,33	1.87	3 (13%)
20	OMG	B5	3676	20	18,26,27	0.94	1 (5%)	19,38,41	1.09	2 (10%)
64	OMU	A2	355	64	19,22,23	1.22	3 (15%)	26,31,34	1.69	4 (15%)
20	PSU	B5	4188	20	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
64	G7M	A2	1640	64	20,26,27	3.00	7 (35%)	17,39,42	0.96	1 (5%)
64	PSU	A2	687	64	18,21,22	1.34	2 (11%)	22,30,33	1.85	3 (13%)
64	OMC	A2	1392	64	19,22,23	0.82	0	26,31,34	0.86	1 (3%)
20	OMC	B5	2265	92,20	19,22,23	0.82	0	26,31,34	0.86	1 (3%)
64	PSU	A2	218	64	18,21,22	1.35	2 (11%)	22,30,33	1.88	3 (13%)
64	OMG	A2	510	92,64	18,26,27	0.94	1 (5%)	19,38,41	1.08	2 (10%)
64	PSU	A2	407	64	18,21,22	1.34	2 (11%)	22,30,33	1.89	3 (13%)
15	AYA	BC	2	15	6,7,8	0.70	0	5,8,10	0.39	0
64	PSU	A2	1348	64	18,21,22	1.33	2 (11%)	22,30,33	1.86	3 (13%)
20	OMU	B5	4244	20	19,22,23	1.20	2 (10%)	26,31,34	1.68	5 (19%)
5	SAC	Ar	2	5	7,8,9	0.52	0	8,9,11	0.90	1 (12%)
20	OMG	B5	4116	20	18,26,27	0.93	1 (5%)	19,38,41	1.06	2 (10%)
20	PSU	B5	4217	20	18,21,22	1.33	2 (11%)	22,30,33	1.88	3 (13%)
64	PSU	A2	119	64	18,21,22	1.33	2 (11%)	22,30,33	1.87	3 (13%)
20	1MA	B5	1266	92,20	16,25,26	1.60	2 (12%)	18,37,40	1.04	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
14	AME	Au	1	14	9,10,11	0.47	0	9,11,13	0.87	1 (11%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
64	PSU	A2	573	64	-	0/7/25/26	0/2/2/2
64	PSU	A2	1693	64	-	0/7/25/26	0/2/2/2
64	4AC	A2	1338	64	-	3/11/29/30	0/2/2/2
64	B8N	A2	1249	64	-	4/16/34/35	0/2/2/2
64	PSU	A2	682	64	-	0/7/25/26	0/2/2/2
64	MA6	A2	1852	64	-	4/7/29/30	0/3/3/3
64	A2M	A2	1679	64	-	1/5/27/28	0/3/3/3
20	OMC	B5	1820	92,20	-	0/9/27/28	0/2/2/2
75	M3L	Bm	98	75	-	0/9/10/12	-
64	PSU	A2	823	64	-	0/7/25/26	0/2/2/2
64	A2M	A2	591	64	-	1/5/27/28	0/3/3/3
64	OMU	A2	121	64	-	0/9/27/28	0/2/2/2
20	PSU	B5	1718	20	-	0/7/25/26	0/2/2/2
20	OMU	B5	2258	20	-	0/9/27/28	0/2/2/2
20	OMC	B5	3433	20	-	4/9/27/28	0/2/2/2
20	UR3	B5	4276	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	105	64	-	0/7/25/26	0/2/2/2
64	A2M	A2	513	64	-	2/5/27/28	0/3/3/3
20	A2M	B5	3492	20,64	-	1/5/27/28	0/3/3/3
64	PSU	A2	815	64	-	0/7/25/26	0/2/2/2
64	OMG	A2	1329	64	-	0/5/27/28	0/3/3/3
64	OMG	A2	602	64	-	0/5/27/28	0/3/3/3
64	OMU	A2	1805	64	-	0/9/27/28	0/2/2/2
64	PSU	A2	1239	64	-	0/7/25/26	0/2/2/2
20	A2M	B5	4336	20	-	1/5/27/28	0/3/3/3
20	PSU	B5	4177	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	3585	92,20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4267	92,20	-	0/7/25/26	0/2/2/2
20	PSU	B5	3576	20	-	1/7/25/26	0/2/2/2
20	A2M	B5	1810	92,20	-	0/5/27/28	0/3/3/3
64	PSU	A2	1047	64	-	0/7/25/26	0/2/2/2
8	NMM	As	67	8	-	0/9/11/13	-
20	PSU	B5	3500	20	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	HY3	Aw	62	18	-	1/1/12/14	0/1/1/1
20	OMC	B5	3540	20	-	0/9/27/28	0/2/2/2
20	OMG	B5	4138	20	-	0/5/27/28	0/3/3/3
20	OMU	B5	2680	20	-	1/9/27/28	0/2/2/2
27	SAC	AZ	2	27	-	2/7/8/10	-
20	PSU	B5	4042	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	34	64	-	0/7/25/26	0/2/2/2
20	A2M	B5	2244	92,20	-	0/5/27/28	0/3/3/3
64	PSU	A2	1233	64	-	0/7/25/26	0/2/2/2
9	V5N	BA	216	9	-	1/5/10/12	0/1/1/1
20	PSU	B5	1683	20	-	0/7/25/26	0/2/2/2
20	6MZ	B5	3966	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	4322	20	-	0/7/25/26	0/2/2/2
64	6MZ	A2	1833	92,64	-	0/5/27/28	0/3/3/3
64	OMU	A2	1327	92,64	-	0/9/27/28	0/2/2/2
64	PSU	A2	864	64	-	0/7/25/26	0/2/2/2
20	OMC	B5	2647	20	-	0/9/27/28	0/2/2/2
20	A2M	B5	3456	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	3494	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	3652	92,20	-	0/7/25/26	0/2/2/2
20	PSU	B5	3371	20	-	0/7/25/26	0/2/2/2
64	4AC	A2	1843	64	-	4/11/29/30	0/2/2/2
20	OMC	B5	2194	92,20	-	1/9/27/28	0/2/2/2
64	PSU	A2	967	64	-	0/7/25/26	0/2/2/2
20	OMG	B5	3974	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	3427	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4107	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4149	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4278	20	-	0/7/25/26	0/2/2/2
12	HIC	BB	245	12	-	2/5/6/8	0/1/1/1
20	PSU	B5	3490	20	-	0/7/25/26	0/2/2/2
64	OMG	A2	645	64	-	3/5/27/28	0/3/3/3
64	A2M	A2	669	92,64	-	2/5/27/28	0/3/3/3
64	PSU	A2	802	64	-	0/7/25/26	0/2/2/2
64	OMG	A2	684	64	-	0/5/27/28	0/3/3/3
64	OMU	A2	1443	92,64	-	0/9/27/28	0/2/2/2
20	PSU	B5	1721	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4045	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	2475	20	-	0/7/25/26	0/2/2/2
20	OMU	B5	3657	20	-	1/9/27/28	0/2/2/2
64	PSU	A2	1082	64	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	PSU	B5	1537	20	-	0/7/25/26	0/2/2/2
2	MLZ	Bb	5	2	-	2/7/8/10	-
64	PSU	A2	1626	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	4711	20	-	0/7/25/26	0/2/2/2
64	OMC	A2	463	64	-	0/9/27/28	0/2/2/2
64	PSU	A2	652	64	-	0/7/25/26	0/2/2/2
20	5MC	B5	4193	20	-	4/7/25/26	0/2/2/2
64	A2M	A2	166	64	-	0/5/27/28	0/3/3/3
20	PSU	B5	1632	20	-	0/7/25/26	0/2/2/2
6	OMG	B8	75	6	-	0/5/27/28	0/3/3/3
20	OMG	B5	4364	20	-	1/5/27/28	0/3/3/3
64	PSU	A2	1245	64	-	0/7/25/26	0/2/2/2
64	PSU	A2	650	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	3369	20	-	0/7/25/26	0/2/2/2
20	A2M	B5	3450	20	-	0/5/27/28	0/3/3/3
20	OMC	B5	3619	20	-	2/9/27/28	0/2/2/2
64	PSU	A2	1368	64	-	0/7/25/26	0/2/2/2
20	OMG	B5	4245	20	-	0/5/27/28	0/3/3/3
64	A2M	A2	159	64	-	0/5/27/28	0/3/3/3
20	PSU	B5	1801	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	4240	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	1731	20	-	0/7/25/26	0/2/2/2
64	OMC	A2	174	92,64	-	0/9/27/28	0/2/2/2
64	OMU	A2	1289	64	-	0/9/27/28	0/2/2/2
20	PSU	B5	4374	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4419	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	816	64	-	0/7/25/26	0/2/2/2
20	OMG	B5	3524	20	-	0/5/27/28	0/3/3/3
20	A2M	B5	3599	20	-	1/5/27/28	0/3/3/3
64	OMG	A2	437	64	-	0/5/27/28	0/3/3/3
20	A2M	B5	400	20	-	0/5/27/28	0/3/3/3
20	OMG	B5	3631	20	-	1/5/27/28	0/3/3/3
64	PSU	A2	210	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	3447	20	-	0/7/25/26	0/2/2/2
78	MLZ	Bo	53	78	-	1/7/8/10	-
20	OMG	B5	2207	20	-	2/5/27/28	0/3/3/3
64	OMU	A2	172	64	-	0/9/27/28	0/2/2/2
20	5MC	B5	3514	92,20	-	0/7/25/26	0/2/2/2
64	PSU	A2	1046	64	-	0/7/25/26	0/2/2/2
6	PSU	B8	55	6	-	0/7/25/26	0/2/2/2
64	MA6	A2	1851	64	-	3/7/29/30	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	PSU	B5	4246	20	-	2/7/25/26	0/2/2/2
64	OMU	A2	429	64	-	4/9/27/28	0/2/2/2
64	OMC	A2	518	64	-	0/9/27/28	0/2/2/2
20	OMC	B5	2208	92,20	-	0/9/27/28	0/2/2/2
64	OMG	A2	1448	64	-	3/5/27/28	0/3/3/3
20	PSU	B5	3462	20	-	0/7/25/26	0/2/2/2
80	IAS	An	138	80	-	2/7/7/8	-
20	A2M	B5	3562	20	-	0/5/27/28	0/3/3/3
64	PSU	A2	1005	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	3554	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	2267	20	-	0/5/27/28	0/3/3/3
20	A2M	B5	1270	20	-	0/5/27/28	0/3/3/3
64	A2M	A2	99	92,64	-	1/5/27/28	0/3/3/3
20	OMU	B5	4366	20	-	0/9/27/28	0/2/2/2
20	OMC	B5	2667	20	-	1/9/27/28	0/2/2/2
20	PSU	B5	4382	20	-	4/7/25/26	0/2/2/2
20	PSU	B5	4058	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4325	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4298	20	-	0/7/25/26	0/2/2/2
20	OMC	B5	3573	20	-	0/9/27/28	0/2/2/2
84	SAC	Br	2	84	-	1/7/8/10	-
20	PSU	B5	4169	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	109	64	-	0/7/25/26	0/2/2/2
64	PSU	A2	1175	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	3583	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	1638	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4740	20	-	0/7/25/26	0/2/2/2
20	A2M	B5	1479	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	1491	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4099	20	-	0/7/25/26	0/2/2/2
64	A2M	A2	485	64	-	0/5/27/28	0/3/3/3
64	OMU	A2	628	64	-	4/9/27/28	0/2/2/2
64	OMG	A2	1491	92,64	-	0/5/27/28	0/3/3/3
64	PSU	A2	36	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	3466	20	-	0/7/25/26	0/2/2/2
20	OMC	B5	3601	20	-	0/9/27/28	0/2/2/2
20	OMG	B5	3942	20,4	-	0/5/27/28	0/3/3/3
64	PSU	A2	1644	92,64	-	0/7/25/26	0/2/2/2
20	PSU	B5	1799	20	-	0/7/25/26	0/2/2/2
20	A2M	B5	398	20	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	A2M	B5	1489	92,20	-	2/5/27/28	0/3/3/3
64	OMU	A2	116	64	-	0/9/27/28	0/2/2/2
20	A2M	B5	2206	92,20	-	0/5/27/28	0/3/3/3
20	PSU	B5	4166	20	-	3/7/25/26	0/2/2/2
20	OMC	B5	1284	20	-	0/9/27/28	0/2/2/2
64	A2M	A2	27	92,64	-	3/5/27/28	0/3/3/3
20	UY1	B5	3550	20	-	1/9/27/28	0/2/2/2
64	A2M	A2	1384	64	-	0/5/27/28	0/3/3/3
20	OMC	B5	4282	92,20	-	0/9/27/28	0/2/2/2
20	PSU	B5	2351	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	3359	20	-	0/5/27/28	0/3/3/3
20	A2M	B5	4269	92,20	-	0/5/27/28	0/3/3/3
20	A2M	B5	2658	92,20	-	0/5/27/28	0/3/3/3
20	PSU	B5	3496	20	-	0/7/25/26	0/2/2/2
20	PSU	B5	4203	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	1446	64	-	0/7/25/26	0/2/2/2
22	V5N	Ba	39	22	-	0/5/10/12	0/1/1/1
20	OMG	B5	2719	20	-	0/5/27/28	0/3/3/3
64	PSU	A2	93	64	-	0/7/25/26	0/2/2/2
64	OMG	A2	868	64	-	1/5/27/28	0/3/3/3
20	OMG	B5	1260	20	-	0/5/27/28	0/3/3/3
20	A2M	B5	3517	20	-	2/5/27/28	0/3/3/3
20	OMG	B5	4383	20	-	1/5/27/28	0/3/3/3
64	PSU	A2	1178	64	-	0/7/25/26	0/2/2/2
20	A2M	B5	4317	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	3616	20	-	0/7/25/26	0/2/2/2
64	A2M	A2	1032	64	-	0/5/27/28	0/3/3/3
20	PSU	B5	3502	20	-	0/7/25/26	0/2/2/2
20	OMC	B5	2704	20	-	0/9/27/28	0/2/2/2
20	A2M	B5	2630	92,20	-	0/5/27/28	0/3/3/3
20	PSU	B5	4435	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	1477	20	-	0/5/27/28	0/3/3/3
20	A2M	B5	3557	20	-	0/5/27/28	0/3/3/3
20	OMC	B5	4202	20	-	0/9/27/28	0/2/2/2
20	OMG	B5	4369	20	-	0/5/27/28	0/3/3/3
20	OMU	B5	4052	20	-	1/9/27/28	0/2/2/2
64	OMC	A2	1704	64	-	1/9/27/28	0/2/2/2
6	PSU	B8	69	6	-	0/7/25/26	0/2/2/2
20	PSU	B5	4749	20	-	0/7/25/26	0/2/2/2
20	OMU	B5	3973	20	-	0/9/27/28	0/2/2/2
64	A2M	A2	469	64	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
20	PSU	B5	4039	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	3476	20	-	1/5/27/28	0/3/3/3
64	A2M	A2	577	64	-	2/5/27/28	0/3/3/3
64	PSU	A2	610	64	-	0/7/25/26	0/2/2/2
64	PSU	A2	1057	64	-	0/7/25/26	0/2/2/2
20	OMG	B5	1580	20	-	0/5/27/28	0/3/3/3
64	PSU	A2	867	64	-	0/7/25/26	0/2/2/2
20	PSU	B5	1720	20	-	0/7/25/26	0/2/2/2
20	OMG	B5	3676	20	-	0/5/27/28	0/3/3/3
64	OMU	A2	355	64	-	0/9/27/28	0/2/2/2
20	PSU	B5	4188	20	-	0/7/25/26	0/2/2/2
64	G7M	A2	1640	64	-	2/3/25/26	0/3/3/3
64	PSU	A2	687	64	-	0/7/25/26	0/2/2/2
64	OMC	A2	1392	64	-	0/9/27/28	0/2/2/2
20	OMC	B5	2265	92,20	-	0/9/27/28	0/2/2/2
64	PSU	A2	218	64	-	0/7/25/26	0/2/2/2
64	OMG	A2	510	92,64	-	1/5/27/28	0/3/3/3
64	PSU	A2	407	64	-	0/7/25/26	0/2/2/2
15	AYA	BC	2	15	-	3/4/6/8	-
64	PSU	A2	1348	64	-	0/7/25/26	0/2/2/2
20	OMU	B5	4244	20	-	0/9/27/28	0/2/2/2
5	SAC	Ar	2	5	-	0/7/8/10	-
20	OMG	B5	4116	20	-	0/5/27/28	0/3/3/3
20	PSU	B5	4217	20	-	0/7/25/26	0/2/2/2
64	PSU	A2	119	64	-	0/7/25/26	0/2/2/2
20	1MA	B5	1266	92,20	-	0/3/25/26	0/3/3/3
14	AME	Au	1	14	-	2/9/10/12	-

All (327) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	A2	1640	G7M	C5-C4	7.45	1.54	1.39
64	A2	1640	G7M	O6-C6	7.28	1.38	1.23
20	B5	1266	1MA	C2-N3	5.00	1.35	1.29
18	Aw	62	HY3	C3-CA	-4.49	1.50	1.55
64	A2	1640	G7M	C2-N2	4.48	1.44	1.34
64	A2	1640	G7M	C2-N1	3.87	1.47	1.37
20	B5	3550	UY1	C6-C5	3.71	1.39	1.35
64	A2	1640	G7M	C8-N9	3.48	1.39	1.33
64	A2	1851	MA6	C5-N7	3.37	1.52	1.39
64	A2	1640	G7M	C2-N3	3.32	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	B5	4166	PSU	C6-C5	3.31	1.39	1.35
20	B5	1632	PSU	C6-C5	3.29	1.39	1.35
64	A2	1852	MA6	C5-N7	3.28	1.51	1.39
64	A2	967	PSU	C6-C5	3.28	1.39	1.35
20	B5	1266	1MA	C6-N6	3.25	1.35	1.27
64	A2	34	PSU	C6-C5	3.21	1.39	1.35
20	B5	1721	PSU	C6-C5	3.21	1.39	1.35
64	A2	218	PSU	C6-C5	3.21	1.39	1.35
64	A2	210	PSU	C6-C5	3.20	1.39	1.35
20	B5	3585	PSU	C6-C5	3.20	1.39	1.35
64	A2	1626	PSU	C6-C5	3.20	1.39	1.35
20	B5	3494	PSU	C6-C5	3.19	1.39	1.35
64	A2	1640	G7M	C6-N1	3.19	1.42	1.37
20	B5	4203	PSU	C6-C5	3.18	1.39	1.35
20	B5	3462	PSU	C6-C5	3.18	1.39	1.35
64	A2	573	PSU	C6-C5	3.18	1.39	1.35
64	A2	823	PSU	C6-C5	3.18	1.39	1.35
20	B5	3466	PSU	C6-C5	3.18	1.39	1.35
64	A2	867	PSU	C6-C5	3.17	1.39	1.35
20	B5	4169	PSU	C6-C5	3.17	1.39	1.35
64	A2	1057	PSU	C6-C5	3.17	1.39	1.35
64	A2	1249	B8N	C6-C5	3.17	1.39	1.34
20	B5	4322	PSU	C6-C5	3.16	1.39	1.35
20	B5	4382	PSU	C6-C5	3.16	1.39	1.35
20	B5	4149	PSU	C6-C5	3.16	1.39	1.35
64	A2	1233	PSU	C6-C5	3.16	1.39	1.35
20	B5	3496	PSU	C6-C5	3.16	1.39	1.35
20	B5	4107	PSU	C6-C5	3.16	1.39	1.35
64	A2	1046	PSU	C6-C5	3.16	1.39	1.35
20	B5	3490	PSU	C6-C5	3.15	1.39	1.35
20	B5	4278	PSU	C6-C5	3.15	1.39	1.35
64	A2	1693	PSU	C6-C5	3.15	1.39	1.35
20	B5	4711	PSU	C6-C5	3.15	1.39	1.35
64	A2	407	PSU	C6-C5	3.15	1.39	1.35
64	A2	109	PSU	C6-C5	3.15	1.39	1.35
64	A2	1368	PSU	C6-C5	3.15	1.39	1.35
64	A2	682	PSU	C6-C5	3.15	1.39	1.35
6	B8	69	PSU	C6-C5	3.14	1.39	1.35
20	B5	2475	PSU	C6-C5	3.14	1.39	1.35
64	A2	816	PSU	C6-C5	3.14	1.39	1.35
20	B5	1799	PSU	C6-C5	3.14	1.39	1.35
64	A2	815	PSU	C6-C5	3.14	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	B5	4099	PSU	C6-C5	3.14	1.39	1.35
20	B5	4435	PSU	C6-C5	3.14	1.39	1.35
64	A2	1446	PSU	C6-C5	3.14	1.39	1.35
20	B5	3583	PSU	C6-C5	3.13	1.39	1.35
20	B5	4042	PSU	C6-C5	3.13	1.39	1.35
64	A2	650	PSU	C6-C5	3.13	1.39	1.35
64	A2	1239	PSU	C6-C5	3.13	1.39	1.35
20	B5	1720	PSU	C6-C5	3.13	1.39	1.35
64	A2	802	PSU	C6-C5	3.13	1.39	1.35
64	A2	1082	PSU	C6-C5	3.13	1.39	1.35
64	A2	1178	PSU	C6-C5	3.13	1.39	1.35
20	B5	3427	PSU	C6-C5	3.12	1.39	1.35
20	B5	3576	PSU	C6-C5	3.12	1.39	1.35
64	A2	610	PSU	C6-C5	3.12	1.39	1.35
20	B5	3371	PSU	C6-C5	3.12	1.39	1.35
20	B5	3652	PSU	C6-C5	3.12	1.39	1.35
20	B5	1718	PSU	C6-C5	3.12	1.39	1.35
20	B5	4325	PSU	C6-C5	3.12	1.39	1.35
20	B5	4188	PSU	C6-C5	3.11	1.39	1.35
64	A2	687	PSU	C6-C5	3.11	1.39	1.35
20	B5	3502	PSU	C6-C5	3.11	1.38	1.35
20	B5	4246	PSU	C6-C5	3.11	1.38	1.35
20	B5	3554	PSU	C6-C5	3.11	1.38	1.35
20	B5	4740	PSU	C6-C5	3.11	1.38	1.35
64	A2	105	PSU	C6-C5	3.11	1.38	1.35
64	A2	1245	PSU	C6-C5	3.11	1.38	1.35
20	B5	3616	PSU	C6-C5	3.11	1.38	1.35
64	A2	864	PSU	C6-C5	3.11	1.38	1.35
64	A2	1005	PSU	C6-C5	3.11	1.38	1.35
20	B5	1731	PSU	C6-C5	3.11	1.38	1.35
20	B5	3447	PSU	C6-C5	3.11	1.38	1.35
20	B5	4419	PSU	C6-C5	3.11	1.38	1.35
20	B5	3369	PSU	C6-C5	3.11	1.38	1.35
64	A2	36	PSU	C6-C5	3.10	1.38	1.35
64	A2	119	PSU	C6-C5	3.10	1.38	1.35
64	A2	652	PSU	C6-C5	3.10	1.38	1.35
20	B5	1801	PSU	C6-C5	3.10	1.38	1.35
20	B5	4217	PSU	C6-C5	3.10	1.38	1.35
64	A2	1175	PSU	C6-C5	3.10	1.38	1.35
20	B5	1537	PSU	C6-C5	3.09	1.38	1.35
6	B8	55	PSU	C6-C5	3.09	1.38	1.35
64	A2	93	PSU	C6-C5	3.09	1.38	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	B5	4177	PSU	C6-C5	3.09	1.38	1.35
20	B5	4058	PSU	C6-C5	3.08	1.38	1.35
64	A2	1047	PSU	C6-C5	3.08	1.38	1.35
20	B5	4045	PSU	C6-C5	3.07	1.38	1.35
64	A2	1348	PSU	C6-C5	3.07	1.38	1.35
64	A2	1249	B8N	C4-N3	-3.07	1.34	1.40
20	B5	4267	PSU	C6-C5	3.06	1.38	1.35
20	B5	2351	PSU	C6-C5	3.06	1.38	1.35
20	B5	1638	PSU	C6-C5	3.06	1.38	1.35
20	B5	1683	PSU	C6-C5	3.06	1.38	1.35
20	B5	4374	PSU	C6-C5	3.06	1.38	1.35
20	B5	3500	PSU	C6-C5	3.06	1.38	1.35
20	B5	1491	PSU	C6-C5	3.05	1.38	1.35
20	B5	4039	PSU	C6-C5	3.04	1.38	1.35
64	A2	1644	PSU	C6-C5	3.04	1.38	1.35
20	B5	4749	PSU	C6-C5	3.03	1.38	1.35
20	B5	4298	PSU	C6-C5	3.01	1.38	1.35
64	A2	1843	4AC	C4-N4	-2.94	1.35	1.39
20	B5	4193	5MC	C6-C5	2.86	1.39	1.34
64	A2	1338	4AC	C4-N4	-2.84	1.35	1.39
20	B5	3550	UY1	C2-N1	2.81	1.40	1.36
20	B5	3514	5MC	C6-C5	2.79	1.39	1.34
20	B5	1731	PSU	C4-N3	-2.72	1.33	1.38
20	B5	3652	PSU	C4-N3	-2.72	1.33	1.38
20	B5	1491	PSU	C4-N3	-2.71	1.33	1.38
64	A2	1082	PSU	C4-N3	-2.70	1.33	1.38
64	A2	610	PSU	C4-N3	-2.69	1.33	1.38
20	B5	3369	PSU	C4-N3	-2.69	1.33	1.38
20	B5	3616	PSU	C4-N3	-2.68	1.33	1.38
20	B5	4169	PSU	C4-N3	-2.68	1.33	1.38
20	B5	3427	PSU	C4-N3	-2.68	1.33	1.38
20	B5	2351	PSU	C4-N3	-2.68	1.33	1.38
20	B5	4042	PSU	C4-N3	-2.67	1.33	1.38
20	B5	1721	PSU	C4-N3	-2.67	1.33	1.38
64	A2	1644	PSU	C4-N3	-2.67	1.33	1.38
20	B5	4278	PSU	C4-N3	-2.66	1.33	1.38
20	B5	3576	PSU	C4-N3	-2.66	1.33	1.38
64	A2	218	PSU	C4-N3	-2.66	1.33	1.38
20	B5	1720	PSU	C4-N3	-2.66	1.33	1.38
20	B5	4267	PSU	C4-N3	-2.66	1.33	1.38
20	B5	1799	PSU	C4-N3	-2.66	1.33	1.38
20	B5	1683	PSU	C4-N3	-2.66	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	A2	119	PSU	C4-N3	-2.66	1.33	1.38
64	A2	687	PSU	C4-N3	-2.66	1.33	1.38
20	B5	1718	PSU	C4-N3	-2.66	1.33	1.38
20	B5	3447	PSU	C4-N3	-2.66	1.33	1.38
64	A2	1368	PSU	C4-N3	-2.65	1.33	1.38
20	B5	3371	PSU	C4-N3	-2.65	1.33	1.38
20	B5	3583	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4419	PSU	C4-N3	-2.65	1.33	1.38
64	A2	682	PSU	C4-N3	-2.65	1.33	1.38
20	B5	3466	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4217	PSU	C4-N3	-2.65	1.33	1.38
6	B8	55	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4246	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4435	PSU	C4-N3	-2.65	1.33	1.38
64	A2	823	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4298	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4374	PSU	C4-N3	-2.65	1.33	1.38
20	B5	2475	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4107	PSU	C4-N3	-2.65	1.33	1.38
20	B5	1638	PSU	C4-N3	-2.65	1.33	1.38
20	B5	1801	PSU	C4-N3	-2.65	1.33	1.38
20	B5	4177	PSU	C4-N3	-2.65	1.33	1.38
64	A2	1233	PSU	C4-N3	-2.65	1.33	1.38
20	B5	3554	PSU	C4-N3	-2.65	1.33	1.38
64	A2	105	PSU	C4-N3	-2.65	1.33	1.38
20	B5	3490	PSU	C4-N3	-2.64	1.33	1.38
64	A2	816	PSU	C4-N3	-2.64	1.33	1.38
64	A2	652	PSU	C4-N3	-2.64	1.33	1.38
64	A2	650	PSU	C4-N3	-2.64	1.33	1.38
20	B5	1537	PSU	C4-N3	-2.64	1.33	1.38
64	A2	1348	PSU	C4-N3	-2.64	1.33	1.38
64	A2	93	PSU	C4-N3	-2.64	1.33	1.38
64	A2	573	PSU	C4-N3	-2.64	1.33	1.38
64	A2	1693	PSU	C4-N3	-2.64	1.33	1.38
20	B5	4039	PSU	C4-N3	-2.64	1.33	1.38
64	A2	1175	PSU	C4-N3	-2.64	1.33	1.38
64	A2	815	PSU	C4-N3	-2.63	1.33	1.38
64	A2	1047	PSU	C4-N3	-2.63	1.33	1.38
20	B5	3462	PSU	C4-N3	-2.63	1.34	1.38
20	B5	4749	PSU	C4-N3	-2.63	1.34	1.38
64	A2	1057	PSU	C4-N3	-2.63	1.34	1.38
20	B5	4203	PSU	C4-N3	-2.63	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	B5	3500	PSU	C4-N3	-2.63	1.34	1.38
20	B5	4058	PSU	C4-N3	-2.63	1.34	1.38
20	B5	4188	PSU	C4-N3	-2.62	1.34	1.38
64	A2	1005	PSU	C4-N3	-2.62	1.34	1.38
64	A2	1239	PSU	C4-N3	-2.62	1.34	1.38
20	B5	4325	PSU	C4-N3	-2.62	1.34	1.38
20	B5	4149	PSU	C4-N3	-2.62	1.34	1.38
64	A2	1178	PSU	C4-N3	-2.62	1.34	1.38
20	B5	4099	PSU	C4-N3	-2.62	1.34	1.38
64	A2	1245	PSU	C4-N3	-2.62	1.34	1.38
64	A2	407	PSU	C4-N3	-2.62	1.34	1.38
64	A2	967	PSU	C4-N3	-2.62	1.34	1.38
64	A2	36	PSU	C4-N3	-2.62	1.34	1.38
64	A2	867	PSU	C4-N3	-2.61	1.34	1.38
20	B5	3502	PSU	C4-N3	-2.61	1.34	1.38
20	B5	4740	PSU	C4-N3	-2.61	1.34	1.38
64	A2	1446	PSU	C4-N3	-2.61	1.34	1.38
6	B8	69	PSU	C4-N3	-2.61	1.34	1.38
20	B5	4382	PSU	C4-N3	-2.61	1.34	1.38
64	A2	864	PSU	C4-N3	-2.61	1.34	1.38
64	A2	210	PSU	C4-N3	-2.61	1.34	1.38
20	B5	4322	PSU	C4-N3	-2.60	1.34	1.38
20	B5	4045	PSU	C4-N3	-2.60	1.34	1.38
20	B5	4711	PSU	C4-N3	-2.60	1.34	1.38
64	A2	34	PSU	C4-N3	-2.60	1.34	1.38
64	A2	1046	PSU	C4-N3	-2.60	1.34	1.38
20	B5	3496	PSU	C4-N3	-2.60	1.34	1.38
64	A2	1626	PSU	C4-N3	-2.59	1.34	1.38
20	B5	3585	PSU	C4-N3	-2.59	1.34	1.38
20	B5	3494	PSU	C4-N3	-2.59	1.34	1.38
64	A2	802	PSU	C4-N3	-2.59	1.34	1.38
20	B5	1632	PSU	C4-N3	-2.59	1.34	1.38
64	A2	109	PSU	C4-N3	-2.58	1.34	1.38
64	A2	591	A2M	C5-C4	2.57	1.47	1.40
20	B5	3657	OMU	C4-N3	-2.56	1.34	1.38
20	B5	2719	OMG	C6-N1	-2.52	1.34	1.37
64	A2	1327	OMU	C4-N3	-2.52	1.34	1.38
64	A2	1249	B8N	C2-N3	-2.52	1.34	1.38
64	A2	429	OMU	C4-N3	-2.51	1.34	1.38
20	B5	4052	OMU	C4-N3	-2.51	1.34	1.38
64	A2	510	OMG	C6-N1	-2.51	1.34	1.37
64	A2	355	OMU	C4-N3	-2.51	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	A2	1443	OMU	C4-N3	-2.50	1.34	1.38
20	B5	4166	PSU	C4-N3	-2.50	1.34	1.38
64	A2	172	OMU	C4-N3	-2.50	1.34	1.38
20	B5	2258	OMU	C4-N3	-2.50	1.34	1.38
20	B5	3492	A2M	C5-C4	2.50	1.47	1.40
64	A2	513	A2M	C5-C4	2.50	1.47	1.40
20	B5	4244	OMU	C4-N3	-2.50	1.34	1.38
20	B5	4240	OMG	C6-N1	-2.49	1.34	1.37
20	B5	1477	OMG	C6-N1	-2.49	1.34	1.37
64	A2	159	A2M	C5-C4	2.48	1.47	1.40
20	B5	3973	OMU	C4-N3	-2.48	1.34	1.38
20	B5	3524	OMG	C6-N1	-2.48	1.34	1.37
64	A2	645	OMG	C6-N1	-2.48	1.34	1.37
64	A2	1491	OMG	C6-N1	-2.48	1.34	1.37
64	A2	116	OMU	C4-N3	-2.48	1.34	1.38
64	A2	1289	OMU	C4-N3	-2.47	1.34	1.38
20	B5	2658	A2M	C5-C4	2.47	1.47	1.40
20	B5	400	A2M	C5-C4	2.47	1.47	1.40
20	B5	4369	OMG	C6-N1	-2.47	1.34	1.37
20	B5	1260	OMG	C6-N1	-2.47	1.34	1.37
20	B5	4366	OMU	C4-N3	-2.47	1.34	1.38
64	A2	1833	6MZ	C5-C4	2.47	1.47	1.40
20	B5	4317	A2M	C5-C4	2.46	1.47	1.40
64	A2	1805	OMU	C4-N3	-2.46	1.34	1.38
20	B5	3942	OMG	C6-N1	-2.46	1.34	1.37
20	B5	4383	OMG	C6-N1	-2.46	1.34	1.37
64	A2	669	A2M	C5-C4	2.46	1.47	1.40
64	A2	485	A2M	C5-C4	2.46	1.47	1.40
20	B5	2680	OMU	C4-N3	-2.46	1.34	1.38
20	B5	1479	A2M	C5-C4	2.46	1.47	1.40
64	A2	166	A2M	C5-C4	2.46	1.47	1.40
20	B5	3966	6MZ	C5-C4	2.45	1.47	1.40
64	A2	469	A2M	C5-C4	2.45	1.47	1.40
64	A2	577	A2M	C5-C4	2.45	1.47	1.40
20	B5	3450	A2M	C5-C4	2.45	1.47	1.40
20	B5	2207	OMG	C6-N1	-2.45	1.34	1.37
20	B5	2630	A2M	C5-C4	2.45	1.47	1.40
20	B5	3599	A2M	C5-C4	2.45	1.47	1.40
20	B5	3359	OMG	C6-N1	-2.45	1.34	1.37
20	B5	2267	OMG	C6-N1	-2.45	1.34	1.37
6	B8	75	OMG	C6-N1	-2.45	1.34	1.37
20	B5	398	A2M	C5-C4	2.45	1.47	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	B5	2206	A2M	C5-C4	2.44	1.47	1.40
20	B5	4336	A2M	C5-C4	2.44	1.47	1.40
64	A2	99	A2M	C5-C4	2.44	1.47	1.40
20	B5	1810	A2M	C5-C4	2.44	1.47	1.40
20	B5	3562	A2M	C5-C4	2.44	1.47	1.40
20	B5	4138	OMG	C6-N1	-2.44	1.34	1.37
64	A2	1384	A2M	C5-C4	2.44	1.47	1.40
64	A2	684	OMG	C6-N1	-2.44	1.34	1.37
64	A2	27	A2M	C5-C4	2.43	1.47	1.40
64	A2	628	OMU	C4-N3	-2.43	1.34	1.38
20	B5	2244	A2M	C5-C4	2.43	1.47	1.40
64	A2	121	OMU	C4-N3	-2.43	1.34	1.38
64	A2	1448	OMG	C6-N1	-2.43	1.34	1.37
20	B5	1580	OMG	C6-N1	-2.43	1.34	1.37
20	B5	4116	OMG	C6-N1	-2.43	1.34	1.37
20	B5	3557	A2M	C5-C4	2.43	1.47	1.40
20	B5	4269	A2M	C5-C4	2.43	1.47	1.40
64	A2	1032	A2M	C5-C4	2.42	1.47	1.40
64	A2	1329	OMG	C6-N1	-2.42	1.34	1.37
64	A2	1679	A2M	C5-C4	2.41	1.47	1.40
20	B5	3631	OMG	C6-N1	-2.41	1.34	1.37
20	B5	3676	OMG	C6-N1	-2.41	1.34	1.37
20	B5	1270	A2M	C5-C4	2.41	1.47	1.40
20	B5	3974	OMG	C6-N1	-2.40	1.34	1.37
20	B5	4245	OMG	C6-N1	-2.40	1.34	1.37
64	A2	437	OMG	C6-N1	-2.40	1.34	1.37
20	B5	3456	A2M	C5-C4	2.40	1.47	1.40
20	B5	1489	A2M	C5-C4	2.39	1.47	1.40
20	B5	4364	OMG	C6-N1	-2.39	1.34	1.37
64	A2	602	OMG	C6-N1	-2.39	1.34	1.37
20	B5	3476	OMG	C6-N1	-2.38	1.34	1.37
20	B5	3517	A2M	C5-C4	2.37	1.47	1.40
64	A2	868	OMG	C6-N1	-2.32	1.34	1.37
20	B5	3514	5MC	C6-N1	-2.30	1.34	1.38
20	B5	4193	5MC	C6-N1	-2.19	1.34	1.38
64	A2	1443	OMU	C2-N1	2.19	1.42	1.38
64	A2	1289	OMU	C2-N1	2.18	1.42	1.38
20	B5	3550	UY1	C6-N1	-2.18	1.32	1.36
64	A2	1805	OMU	C2-N1	2.17	1.41	1.38
64	A2	355	OMU	C2-N3	-2.17	1.34	1.38
20	B5	3973	OMU	C2-N3	-2.15	1.34	1.38
64	A2	628	OMU	C2-N3	-2.15	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
64	A2	121	OMU	C2-N3	-2.15	1.34	1.38
20	B5	4366	OMU	C2-N3	-2.15	1.34	1.38
64	A2	1327	OMU	C2-N3	-2.13	1.34	1.38
64	A2	429	OMU	C2-N3	-2.12	1.34	1.38
20	B5	4052	OMU	C2-N3	-2.11	1.34	1.38
20	B5	2680	OMU	C2-N3	-2.11	1.34	1.38
20	B5	2258	OMU	C2-N3	-2.11	1.34	1.38
64	A2	1443	OMU	C2-N3	-2.11	1.34	1.38
64	A2	1851	MA6	C4-N3	-2.10	1.32	1.35
64	A2	172	OMU	C2-N3	-2.10	1.34	1.38
64	A2	1805	OMU	C2-N3	-2.10	1.34	1.38
20	B5	3657	OMU	C2-N3	-2.09	1.34	1.38
64	A2	1289	OMU	C2-N3	-2.09	1.34	1.38
64	A2	1843	4AC	C7-N4	-2.09	1.33	1.37
20	B5	4244	OMU	C2-N3	-2.09	1.34	1.38
64	A2	429	OMU	C2-N1	2.09	1.41	1.38
64	A2	116	OMU	C2-N3	-2.08	1.34	1.38
20	B5	4166	PSU	C4-C5	2.07	1.50	1.44
20	B5	4052	OMU	C2-N1	2.04	1.41	1.38
64	A2	355	OMU	C2-N1	2.04	1.41	1.38
64	A2	172	OMU	C2-N1	2.02	1.41	1.38
64	A2	1852	MA6	C4-N3	-2.01	1.32	1.35
64	A2	121	OMU	C2-N1	2.01	1.41	1.38

All (546) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	4246	PSU	N1-C2-N3	6.09	122.03	115.13
20	B5	3494	PSU	N1-C2-N3	6.04	121.97	115.13
64	A2	682	PSU	N1-C2-N3	6.03	121.97	115.13
64	A2	1178	PSU	N1-C2-N3	6.01	121.94	115.13
20	B5	4267	PSU	N1-C2-N3	6.00	121.93	115.13
64	A2	610	PSU	N1-C2-N3	6.00	121.93	115.13
20	B5	1638	PSU	N1-C2-N3	6.00	121.93	115.13
64	A2	1047	PSU	N1-C2-N3	6.00	121.93	115.13
20	B5	1491	PSU	N1-C2-N3	5.99	121.92	115.13
64	A2	802	PSU	N1-C2-N3	5.99	121.92	115.13
64	A2	1057	PSU	N1-C2-N3	5.99	121.92	115.13
64	A2	407	PSU	N1-C2-N3	5.99	121.91	115.13
20	B5	3616	PSU	N1-C2-N3	5.98	121.91	115.13
64	A2	1446	PSU	N1-C2-N3	5.98	121.91	115.13
20	B5	4298	PSU	N1-C2-N3	5.98	121.91	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	1644	PSU	N1-C2-N3	5.98	121.91	115.13
20	B5	1721	PSU	N1-C2-N3	5.98	121.90	115.13
20	B5	1731	PSU	N1-C2-N3	5.97	121.90	115.13
6	B8	55	PSU	N1-C2-N3	5.97	121.90	115.13
64	A2	652	PSU	N1-C2-N3	5.97	121.90	115.13
64	A2	1239	PSU	N1-C2-N3	5.97	121.89	115.13
20	B5	3576	PSU	N1-C2-N3	5.97	121.89	115.13
64	A2	1245	PSU	N1-C2-N3	5.97	121.89	115.13
20	B5	3369	PSU	N1-C2-N3	5.97	121.89	115.13
20	B5	3502	PSU	N1-C2-N3	5.97	121.89	115.13
20	B5	3447	PSU	N1-C2-N3	5.96	121.89	115.13
64	A2	650	PSU	N1-C2-N3	5.96	121.89	115.13
64	A2	105	PSU	N1-C2-N3	5.96	121.89	115.13
20	B5	4217	PSU	N1-C2-N3	5.96	121.88	115.13
64	A2	815	PSU	N1-C2-N3	5.96	121.88	115.13
64	A2	1005	PSU	N1-C2-N3	5.96	121.88	115.13
20	B5	4058	PSU	N1-C2-N3	5.96	121.88	115.13
20	B5	4278	PSU	N1-C2-N3	5.95	121.88	115.13
64	A2	867	PSU	N1-C2-N3	5.95	121.88	115.13
64	A2	1175	PSU	N1-C2-N3	5.95	121.88	115.13
64	A2	1626	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	1801	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	1720	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	4042	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	1683	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	4382	PSU	N1-C2-N3	5.95	121.87	115.13
64	A2	816	PSU	N1-C2-N3	5.95	121.87	115.13
64	A2	93	PSU	N1-C2-N3	5.95	121.87	115.13
20	B5	1799	PSU	N1-C2-N3	5.94	121.86	115.13
20	B5	3371	PSU	N1-C2-N3	5.94	121.86	115.13
20	B5	4749	PSU	N1-C2-N3	5.94	121.86	115.13
20	B5	3490	PSU	N1-C2-N3	5.94	121.86	115.13
64	A2	864	PSU	N1-C2-N3	5.93	121.85	115.13
20	B5	3462	PSU	N1-C2-N3	5.93	121.85	115.13
64	A2	573	PSU	N1-C2-N3	5.93	121.85	115.13
20	B5	4169	PSU	N1-C2-N3	5.93	121.85	115.13
20	B5	4177	PSU	N1-C2-N3	5.93	121.85	115.13
20	B5	3652	PSU	N1-C2-N3	5.93	121.85	115.13
64	A2	1368	PSU	N1-C2-N3	5.92	121.84	115.13
20	B5	4374	PSU	N1-C2-N3	5.92	121.84	115.13
20	B5	1718	PSU	N1-C2-N3	5.92	121.84	115.13
64	A2	218	PSU	N1-C2-N3	5.92	121.84	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	4435	PSU	N1-C2-N3	5.92	121.84	115.13
64	A2	34	PSU	N1-C2-N3	5.92	121.84	115.13
20	B5	4045	PSU	N1-C2-N3	5.92	121.83	115.13
64	A2	967	PSU	N1-C2-N3	5.91	121.83	115.13
20	B5	3496	PSU	N1-C2-N3	5.91	121.83	115.13
20	B5	2351	PSU	N1-C2-N3	5.91	121.83	115.13
20	B5	3585	PSU	N1-C2-N3	5.91	121.83	115.13
64	A2	1082	PSU	N1-C2-N3	5.91	121.83	115.13
20	B5	4740	PSU	N1-C2-N3	5.91	121.82	115.13
20	B5	4099	PSU	N1-C2-N3	5.91	121.82	115.13
20	B5	4419	PSU	N1-C2-N3	5.91	121.82	115.13
64	A2	119	PSU	N1-C2-N3	5.91	121.82	115.13
20	B5	2475	PSU	N1-C2-N3	5.90	121.82	115.13
20	B5	3466	PSU	N1-C2-N3	5.90	121.82	115.13
20	B5	4325	PSU	N1-C2-N3	5.90	121.81	115.13
64	A2	1233	PSU	N1-C2-N3	5.90	121.81	115.13
64	A2	687	PSU	N1-C2-N3	5.90	121.81	115.13
64	A2	823	PSU	N1-C2-N3	5.89	121.81	115.13
20	B5	3583	PSU	N1-C2-N3	5.89	121.81	115.13
64	A2	1046	PSU	N1-C2-N3	5.89	121.81	115.13
64	A2	109	PSU	N1-C2-N3	5.89	121.81	115.13
20	B5	3427	PSU	N1-C2-N3	5.89	121.80	115.13
20	B5	4322	PSU	N1-C2-N3	5.89	121.80	115.13
20	B5	4711	PSU	N1-C2-N3	5.89	121.80	115.13
64	A2	36	PSU	N1-C2-N3	5.89	121.80	115.13
20	B5	3966	6MZ	C2-N1-C6	5.89	121.64	116.59
20	B5	4039	PSU	N1-C2-N3	5.88	121.80	115.13
20	B5	4149	PSU	N1-C2-N3	5.88	121.80	115.13
20	B5	1537	PSU	N1-C2-N3	5.88	121.79	115.13
20	B5	4107	PSU	N1-C2-N3	5.88	121.79	115.13
64	A2	1693	PSU	N1-C2-N3	5.87	121.78	115.13
6	B8	69	PSU	N1-C2-N3	5.86	121.77	115.13
20	B5	3500	PSU	N1-C2-N3	5.86	121.77	115.13
20	B5	3554	PSU	N1-C2-N3	5.86	121.77	115.13
64	A2	1348	PSU	N1-C2-N3	5.86	121.76	115.13
20	B5	4276	UR3	C4-N3-C2	-5.84	119.06	124.56
20	B5	4188	PSU	N1-C2-N3	5.82	121.73	115.13
64	A2	210	PSU	N1-C2-N3	5.81	121.72	115.13
20	B5	1632	PSU	N1-C2-N3	5.81	121.71	115.13
20	B5	4203	PSU	N1-C2-N3	5.81	121.71	115.13
64	A2	1833	6MZ	C2-N1-C6	5.74	121.51	116.59
20	B5	4166	PSU	N1-C2-N3	5.65	121.54	115.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	1851	MA6	C4-C5-N7	-5.60	103.57	109.40
20	B5	3550	UY1	C4-N3-C2	-5.12	118.96	126.34
64	A2	1852	MA6	C4-C5-N7	-5.10	104.08	109.40
64	A2	1851	MA6	C1'-N9-C4	-4.75	118.30	126.64
64	A2	628	OMU	C4-N3-C2	-4.60	120.52	126.58
64	A2	1843	4AC	N4-C4-N3	4.52	121.44	113.85
64	A2	1327	OMU	C4-N3-C2	-4.51	120.63	126.58
20	B5	3657	OMU	C4-N3-C2	-4.50	120.64	126.58
20	B5	2680	OMU	C4-N3-C2	-4.50	120.64	126.58
64	A2	116	OMU	C4-N3-C2	-4.45	120.72	126.58
20	B5	4366	OMU	C4-N3-C2	-4.44	120.72	126.58
20	B5	3973	OMU	C4-N3-C2	-4.43	120.73	126.58
64	A2	172	OMU	C4-N3-C2	-4.43	120.74	126.58
20	B5	4052	OMU	C4-N3-C2	-4.41	120.77	126.58
20	B5	4244	OMU	C4-N3-C2	-4.39	120.78	126.58
64	A2	355	OMU	C4-N3-C2	-4.37	120.82	126.58
64	A2	121	OMU	C4-N3-C2	-4.35	120.84	126.58
20	B5	2258	OMU	C4-N3-C2	-4.34	120.86	126.58
64	A2	429	OMU	C4-N3-C2	-4.31	120.90	126.58
64	A2	1852	MA6	C1'-N9-C4	-4.30	119.09	126.64
64	A2	1443	OMU	C4-N3-C2	-4.29	120.92	126.58
64	A2	1289	OMU	C4-N3-C2	-4.28	120.94	126.58
64	A2	1805	OMU	C4-N3-C2	-4.26	120.96	126.58
64	A2	628	OMU	N3-C2-N1	4.26	120.54	114.89
20	B5	3657	OMU	N3-C2-N1	4.19	120.45	114.89
64	A2	1851	MA6	N3-C2-N1	-4.15	122.20	128.68
64	A2	1338	4AC	N4-C4-N3	4.13	120.78	113.85
20	B5	4366	OMU	N3-C2-N1	4.12	120.36	114.89
64	A2	1327	OMU	N3-C2-N1	4.12	120.36	114.89
20	B5	3550	UY1	N1-C2-N3	4.11	119.78	115.13
20	B5	3973	OMU	N3-C2-N1	4.10	120.33	114.89
64	A2	1852	MA6	N3-C2-N1	-4.09	122.28	128.68
64	A2	116	OMU	N3-C2-N1	4.09	120.32	114.89
20	B5	2258	OMU	N3-C2-N1	4.07	120.29	114.89
20	B5	2680	OMU	N3-C2-N1	4.05	120.27	114.89
20	B5	4244	OMU	N3-C2-N1	4.05	120.26	114.89
64	A2	429	OMU	N3-C2-N1	4.04	120.25	114.89
20	B5	4052	OMU	N3-C2-N1	4.04	120.25	114.89
64	A2	355	OMU	N3-C2-N1	4.04	120.25	114.89
64	A2	1805	OMU	N3-C2-N1	4.03	120.23	114.89
20	B5	4246	PSU	C4-N3-C2	-4.01	120.57	126.34
64	A2	1443	OMU	N3-C2-N1	4.00	120.20	114.89

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	1801	PSU	C4-N3-C2	-3.98	120.60	126.34
64	A2	121	OMU	N3-C2-N1	3.98	120.17	114.89
64	A2	172	OMU	N3-C2-N1	3.97	120.17	114.89
20	B5	4217	PSU	C4-N3-C2	-3.96	120.63	126.34
64	A2	1289	OMU	N3-C2-N1	3.96	120.15	114.89
64	A2	1178	PSU	C4-N3-C2	-3.96	120.63	126.34
64	A2	407	PSU	C4-N3-C2	-3.95	120.65	126.34
20	B5	1683	PSU	C4-N3-C2	-3.94	120.66	126.34
20	B5	1731	PSU	C4-N3-C2	-3.93	120.68	126.34
20	B5	1491	PSU	C4-N3-C2	-3.93	120.68	126.34
64	A2	650	PSU	C4-N3-C2	-3.92	120.68	126.34
64	A2	864	PSU	C4-N3-C2	-3.92	120.68	126.34
64	A2	105	PSU	C4-N3-C2	-3.92	120.69	126.34
20	B5	3616	PSU	C4-N3-C2	-3.92	120.69	126.34
6	B8	55	PSU	C4-N3-C2	-3.91	120.70	126.34
64	A2	682	PSU	C4-N3-C2	-3.91	120.71	126.34
64	A2	610	PSU	C4-N3-C2	-3.91	120.71	126.34
20	B5	4267	PSU	C4-N3-C2	-3.90	120.71	126.34
20	B5	1799	PSU	C4-N3-C2	-3.90	120.72	126.34
64	A2	218	PSU	C4-N3-C2	-3.90	120.72	126.34
20	B5	1720	PSU	C4-N3-C2	-3.90	120.72	126.34
64	A2	1446	PSU	C4-N3-C2	-3.90	120.72	126.34
64	A2	1175	PSU	C4-N3-C2	-3.89	120.73	126.34
20	B5	4749	PSU	C4-N3-C2	-3.89	120.73	126.34
64	A2	1082	PSU	C4-N3-C2	-3.89	120.74	126.34
64	A2	815	PSU	C4-N3-C2	-3.89	120.74	126.34
20	B5	4107	PSU	C4-N3-C2	-3.88	120.74	126.34
20	B5	4325	PSU	C4-N3-C2	-3.88	120.74	126.34
20	B5	1638	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	119	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	1047	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	1644	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	1348	PSU	C4-N3-C2	-3.88	120.75	126.34
20	B5	1718	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	1239	PSU	C4-N3-C2	-3.88	120.75	126.34
64	A2	1368	PSU	C4-N3-C2	-3.88	120.75	126.34
20	B5	2351	PSU	C4-N3-C2	-3.88	120.75	126.34
20	B5	4042	PSU	C4-N3-C2	-3.87	120.76	126.34
20	B5	3502	PSU	C4-N3-C2	-3.87	120.76	126.34
64	A2	802	PSU	C4-N3-C2	-3.87	120.77	126.34
64	A2	867	PSU	C4-N3-C2	-3.86	120.77	126.34
64	A2	1693	PSU	C4-N3-C2	-3.86	120.77	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	4177	PSU	C4-N3-C2	-3.86	120.78	126.34
20	B5	3369	PSU	C4-N3-C2	-3.86	120.78	126.34
20	B5	4298	PSU	C4-N3-C2	-3.86	120.78	126.34
20	B5	4169	PSU	C4-N3-C2	-3.86	120.78	126.34
20	B5	4058	PSU	C4-N3-C2	-3.86	120.78	126.34
64	A2	1046	PSU	C4-N3-C2	-3.86	120.78	126.34
64	A2	1005	PSU	C4-N3-C2	-3.85	120.79	126.34
20	B5	4193	5MC	C5-C6-N1	-3.85	119.38	123.34
64	A2	1057	PSU	C4-N3-C2	-3.85	120.79	126.34
20	B5	3554	PSU	C4-N3-C2	-3.85	120.80	126.34
20	B5	1721	PSU	C4-N3-C2	-3.85	120.80	126.34
20	B5	3576	PSU	C4-N3-C2	-3.84	120.80	126.34
20	B5	3462	PSU	C4-N3-C2	-3.84	120.80	126.34
64	A2	1233	PSU	C4-N3-C2	-3.84	120.80	126.34
20	B5	4435	PSU	C4-N3-C2	-3.84	120.80	126.34
64	A2	1245	PSU	C4-N3-C2	-3.84	120.81	126.34
64	A2	816	PSU	C4-N3-C2	-3.84	120.81	126.34
20	B5	3447	PSU	C4-N3-C2	-3.84	120.81	126.34
64	A2	93	PSU	C4-N3-C2	-3.83	120.82	126.34
64	A2	652	PSU	C4-N3-C2	-3.83	120.82	126.34
20	B5	3490	PSU	C4-N3-C2	-3.83	120.82	126.34
64	A2	36	PSU	C4-N3-C2	-3.83	120.82	126.34
64	A2	109	PSU	C4-N3-C2	-3.83	120.82	126.34
20	B5	4045	PSU	C4-N3-C2	-3.83	120.82	126.34
64	A2	573	PSU	C4-N3-C2	-3.83	120.83	126.34
64	A2	1626	PSU	C4-N3-C2	-3.82	120.83	126.34
20	B5	3496	PSU	C4-N3-C2	-3.82	120.83	126.34
20	B5	3427	PSU	C4-N3-C2	-3.82	120.83	126.34
6	B8	69	PSU	C4-N3-C2	-3.82	120.83	126.34
20	B5	4099	PSU	C4-N3-C2	-3.82	120.83	126.34
20	B5	4374	PSU	C4-N3-C2	-3.82	120.83	126.34
64	A2	34	PSU	C4-N3-C2	-3.82	120.83	126.34
20	B5	4149	PSU	C4-N3-C2	-3.82	120.84	126.34
20	B5	3494	PSU	C4-N3-C2	-3.82	120.84	126.34
20	B5	3500	PSU	C4-N3-C2	-3.82	120.84	126.34
20	B5	4419	PSU	C4-N3-C2	-3.81	120.85	126.34
20	B5	3466	PSU	C4-N3-C2	-3.81	120.86	126.34
20	B5	4322	PSU	C4-N3-C2	-3.80	120.86	126.34
20	B5	3583	PSU	C4-N3-C2	-3.80	120.86	126.34
20	B5	4711	PSU	C4-N3-C2	-3.80	120.86	126.34
20	B5	4039	PSU	C4-N3-C2	-3.80	120.87	126.34
64	A2	687	PSU	C4-N3-C2	-3.80	120.87	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	4188	PSU	C4-N3-C2	-3.79	120.88	126.34
20	B5	4740	PSU	C4-N3-C2	-3.78	120.89	126.34
20	B5	4278	PSU	C4-N3-C2	-3.78	120.90	126.34
20	B5	4382	PSU	C4-N3-C2	-3.77	120.90	126.34
64	A2	823	PSU	C4-N3-C2	-3.77	120.90	126.34
20	B5	3371	PSU	C4-N3-C2	-3.77	120.91	126.34
64	A2	967	PSU	C4-N3-C2	-3.76	120.92	126.34
20	B5	3652	PSU	C4-N3-C2	-3.75	120.93	126.34
20	B5	2475	PSU	C4-N3-C2	-3.74	120.94	126.34
20	B5	4203	PSU	C4-N3-C2	-3.74	120.95	126.34
20	B5	1537	PSU	C4-N3-C2	-3.74	120.96	126.34
64	A2	210	PSU	C4-N3-C2	-3.72	120.97	126.34
20	B5	3585	PSU	C4-N3-C2	-3.72	120.98	126.34
20	B5	1632	PSU	C4-N3-C2	-3.71	120.99	126.34
20	B5	2680	OMU	C5-C4-N3	3.61	120.25	114.84
64	A2	172	OMU	C5-C4-N3	3.61	120.25	114.84
64	A2	116	OMU	C5-C4-N3	3.59	120.21	114.84
64	A2	1327	OMU	C5-C4-N3	3.59	120.21	114.84
20	B5	4052	OMU	C5-C4-N3	3.58	120.20	114.84
64	A2	628	OMU	C5-C4-N3	3.56	120.17	114.84
64	A2	355	OMU	C5-C4-N3	3.55	120.16	114.84
20	B5	4244	OMU	C5-C4-N3	3.54	120.13	114.84
20	B5	3973	OMU	C5-C4-N3	3.54	120.13	114.84
64	A2	1289	OMU	C5-C4-N3	3.54	120.13	114.84
20	B5	3657	OMU	C5-C4-N3	3.53	120.12	114.84
64	A2	429	OMU	C5-C4-N3	3.53	120.12	114.84
20	B5	4366	OMU	C5-C4-N3	3.52	120.11	114.84
64	A2	121	OMU	C5-C4-N3	3.52	120.10	114.84
64	A2	1443	OMU	C5-C4-N3	3.51	120.09	114.84
6	B8	55	PSU	O2-C2-N1	-3.50	118.94	122.79
64	A2	1805	OMU	C5-C4-N3	3.50	120.07	114.84
20	B5	4298	PSU	O2-C2-N1	-3.49	118.95	122.79
20	B5	1638	PSU	O2-C2-N1	-3.48	118.96	122.79
20	B5	2258	OMU	C5-C4-N3	3.48	120.04	114.84
64	A2	1175	PSU	O2-C2-N1	-3.47	118.97	122.79
20	B5	3576	PSU	O2-C2-N1	-3.47	118.97	122.79
20	B5	4382	PSU	O2-C2-N1	-3.46	118.98	122.79
20	B5	4435	PSU	O2-C2-N1	-3.45	118.99	122.79
64	A2	1239	PSU	O2-C2-N1	-3.45	119.00	122.79
20	B5	4419	PSU	O2-C2-N1	-3.44	119.00	122.79
20	B5	3369	PSU	O2-C2-N1	-3.44	119.00	122.79
20	B5	4267	PSU	O2-C2-N1	-3.44	119.00	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	652	PSU	O2-C2-N1	-3.43	119.01	122.79
64	A2	1233	PSU	O2-C2-N1	-3.43	119.02	122.79
64	A2	1057	PSU	O2-C2-N1	-3.43	119.02	122.79
64	A2	1644	PSU	O2-C2-N1	-3.43	119.02	122.79
20	B5	4374	PSU	O2-C2-N1	-3.42	119.02	122.79
64	A2	1446	PSU	O2-C2-N1	-3.42	119.03	122.79
20	B5	3494	PSU	O2-C2-N1	-3.42	119.03	122.79
64	A2	1178	PSU	O2-C2-N1	-3.42	119.03	122.79
20	B5	1491	PSU	O2-C2-N1	-3.42	119.03	122.79
20	B5	1721	PSU	O2-C2-N1	-3.41	119.04	122.79
20	B5	4749	PSU	O2-C2-N1	-3.41	119.04	122.79
64	A2	802	PSU	O2-C2-N1	-3.41	119.04	122.79
20	B5	3496	PSU	O2-C2-N1	-3.40	119.04	122.79
64	A2	867	PSU	O2-C2-N1	-3.40	119.04	122.79
20	B5	3585	PSU	O2-C2-N1	-3.40	119.05	122.79
64	A2	1005	PSU	O2-C2-N1	-3.40	119.05	122.79
64	A2	1626	PSU	O2-C2-N1	-3.40	119.05	122.79
20	B5	3514	5MC	C5-C6-N1	-3.40	119.84	123.34
20	B5	2475	PSU	O2-C2-N1	-3.39	119.05	122.79
64	A2	815	PSU	O2-C2-N1	-3.39	119.06	122.79
64	A2	573	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	4188	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	4169	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	4149	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	1683	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	4042	PSU	O2-C2-N1	-3.39	119.06	122.79
20	B5	3462	PSU	O2-C2-N1	-3.38	119.06	122.79
20	B5	4278	PSU	O2-C2-N1	-3.38	119.07	122.79
20	B5	3447	PSU	O2-C2-N1	-3.38	119.07	122.79
20	B5	1718	PSU	O2-C2-N1	-3.38	119.07	122.79
64	A2	682	PSU	O2-C2-N1	-3.38	119.07	122.79
64	A2	1245	PSU	O2-C2-N1	-3.38	119.07	122.79
64	A2	1047	PSU	O2-C2-N1	-3.38	119.07	122.79
20	B5	4058	PSU	O2-C2-N1	-3.38	119.07	122.79
20	B5	3490	PSU	O2-C2-N1	-3.37	119.08	122.79
20	B5	4107	PSU	O2-C2-N1	-3.37	119.08	122.79
64	A2	650	PSU	O2-C2-N1	-3.37	119.08	122.79
20	B5	1720	PSU	O2-C2-N1	-3.37	119.08	122.79
20	B5	4039	PSU	O2-C2-N1	-3.37	119.08	122.79
64	A2	218	PSU	O2-C2-N1	-3.36	119.09	122.79
64	A2	687	PSU	O2-C2-N1	-3.36	119.09	122.79
20	B5	3616	PSU	O2-C2-N1	-3.36	119.09	122.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	3652	PSU	O2-C2-N1	-3.36	119.09	122.79
64	A2	407	PSU	O2-C2-N1	-3.36	119.09	122.79
20	B5	4246	PSU	O2-C2-N1	-3.36	119.09	122.79
64	A2	109	PSU	O2-C2-N1	-3.36	119.10	122.79
20	B5	4045	PSU	O2-C2-N1	-3.35	119.10	122.79
64	A2	610	PSU	O2-C2-N1	-3.35	119.10	122.79
64	A2	823	PSU	O2-C2-N1	-3.35	119.10	122.79
20	B5	3502	PSU	O2-C2-N1	-3.35	119.10	122.79
20	B5	4322	PSU	O2-C2-N1	-3.35	119.10	122.79
64	A2	967	PSU	O2-C2-N1	-3.35	119.10	122.79
20	B5	4711	PSU	O2-C2-N1	-3.35	119.10	122.79
20	B5	1799	PSU	O2-C2-N1	-3.35	119.11	122.79
20	B5	4740	PSU	O2-C2-N1	-3.35	119.11	122.79
20	B5	1801	PSU	O2-C2-N1	-3.35	119.11	122.79
20	B5	3500	PSU	O2-C2-N1	-3.34	119.11	122.79
20	B5	1731	PSU	O2-C2-N1	-3.34	119.11	122.79
64	A2	1368	PSU	O2-C2-N1	-3.34	119.11	122.79
20	B5	4177	PSU	O2-C2-N1	-3.34	119.12	122.79
64	A2	105	PSU	O2-C2-N1	-3.34	119.12	122.79
64	A2	36	PSU	O2-C2-N1	-3.33	119.12	122.79
20	B5	3583	PSU	O2-C2-N1	-3.33	119.12	122.79
64	A2	816	PSU	O2-C2-N1	-3.33	119.12	122.79
20	B5	4217	PSU	O2-C2-N1	-3.33	119.12	122.79
64	A2	93	PSU	O2-C2-N1	-3.33	119.12	122.79
64	A2	1679	A2M	N3-C2-N1	-3.33	123.48	128.68
20	B5	3427	PSU	O2-C2-N1	-3.32	119.13	122.79
20	B5	4325	PSU	O2-C2-N1	-3.32	119.13	122.79
64	A2	1693	PSU	O2-C2-N1	-3.32	119.13	122.79
64	A2	119	PSU	O2-C2-N1	-3.32	119.14	122.79
64	A2	34	PSU	O2-C2-N1	-3.31	119.14	122.79
64	A2	864	PSU	O2-C2-N1	-3.31	119.14	122.79
6	B8	69	PSU	O2-C2-N1	-3.31	119.14	122.79
20	B5	1537	PSU	O2-C2-N1	-3.31	119.14	122.79
64	A2	1348	PSU	O2-C2-N1	-3.31	119.15	122.79
20	B5	3966	6MZ	C9-N6-C6	-3.31	120.03	122.87
20	B5	3371	PSU	O2-C2-N1	-3.30	119.16	122.79
64	A2	1046	PSU	O2-C2-N1	-3.30	119.16	122.79
20	B5	3554	PSU	O2-C2-N1	-3.30	119.16	122.79
20	B5	4099	PSU	O2-C2-N1	-3.29	119.17	122.79
20	B5	3466	PSU	O2-C2-N1	-3.29	119.17	122.79
20	B5	4203	PSU	O2-C2-N1	-3.29	119.17	122.79
20	B5	1489	A2M	N3-C2-N1	-3.29	123.54	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	4166	PSU	C4-N3-C2	-3.28	121.61	126.34
20	B5	4166	PSU	O2-C2-N1	-3.27	119.19	122.79
20	B5	2351	PSU	O2-C2-N1	-3.26	119.21	122.79
20	B5	1632	PSU	O2-C2-N1	-3.25	119.21	122.79
64	A2	1082	PSU	O2-C2-N1	-3.24	119.22	122.79
20	B5	3456	A2M	N3-C2-N1	-3.23	123.63	128.68
64	A2	166	A2M	N3-C2-N1	-3.23	123.63	128.68
64	A2	591	A2M	N3-C2-N1	-3.22	123.64	128.68
64	A2	210	PSU	O2-C2-N1	-3.22	119.24	122.79
20	B5	4336	A2M	N3-C2-N1	-3.21	123.66	128.68
20	B5	1810	A2M	N3-C2-N1	-3.21	123.66	128.68
64	A2	27	A2M	N3-C2-N1	-3.21	123.66	128.68
64	A2	1032	A2M	N3-C2-N1	-3.21	123.67	128.68
20	B5	3517	A2M	N3-C2-N1	-3.20	123.67	128.68
20	B5	3557	A2M	N3-C2-N1	-3.20	123.67	128.68
20	B5	3599	A2M	N3-C2-N1	-3.19	123.69	128.68
64	A2	513	A2M	N3-C2-N1	-3.19	123.69	128.68
20	B5	3492	A2M	N3-C2-N1	-3.19	123.69	128.68
20	B5	1270	A2M	N3-C2-N1	-3.18	123.71	128.68
64	A2	1384	A2M	N3-C2-N1	-3.18	123.71	128.68
20	B5	3562	A2M	N3-C2-N1	-3.18	123.71	128.68
20	B5	398	A2M	N3-C2-N1	-3.18	123.72	128.68
20	B5	2658	A2M	N3-C2-N1	-3.17	123.73	128.68
20	B5	2244	A2M	N3-C2-N1	-3.16	123.73	128.68
64	A2	469	A2M	N3-C2-N1	-3.16	123.73	128.68
64	A2	669	A2M	N3-C2-N1	-3.16	123.74	128.68
20	B5	4317	A2M	N3-C2-N1	-3.15	123.75	128.68
20	B5	4269	A2M	N3-C2-N1	-3.15	123.75	128.68
64	A2	1249	B8N	C4-N3-C2	-3.14	121.48	125.46
64	A2	99	A2M	N3-C2-N1	-3.14	123.77	128.68
64	A2	485	A2M	N3-C2-N1	-3.14	123.78	128.68
64	A2	159	A2M	N3-C2-N1	-3.13	123.79	128.68
20	B5	2630	A2M	N3-C2-N1	-3.13	123.79	128.68
64	A2	577	A2M	N3-C2-N1	-3.12	123.79	128.68
20	B5	1479	A2M	N3-C2-N1	-3.12	123.80	128.68
20	B5	3966	6MZ	N3-C2-N1	-3.12	123.80	128.68
20	B5	2206	A2M	N3-C2-N1	-3.10	123.83	128.68
20	B5	400	A2M	N3-C2-N1	-3.09	123.85	128.68
20	B5	3450	A2M	N3-C2-N1	-3.08	123.86	128.68
64	A2	1833	6MZ	N3-C2-N1	-3.04	123.93	128.68
20	B5	2680	OMU	O4-C4-C5	-3.02	119.85	125.16
64	A2	172	OMU	O4-C4-C5	-3.01	119.87	125.16

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	116	OMU	O4-C4-C5	-3.00	119.88	125.16
64	A2	121	OMU	O4-C4-C5	-3.00	119.89	125.16
64	A2	1640	G7M	C2-N1-C6	-2.99	119.59	125.10
64	A2	1289	OMU	O4-C4-C5	-2.99	119.91	125.16
64	A2	355	OMU	O4-C4-C5	-2.98	119.92	125.16
64	A2	1327	OMU	O4-C4-C5	-2.98	119.92	125.16
20	B5	4244	OMU	O4-C4-C5	-2.98	119.92	125.16
20	B5	3973	OMU	O4-C4-C5	-2.97	119.94	125.16
64	A2	429	OMU	O4-C4-C5	-2.96	119.96	125.16
64	A2	628	OMU	O4-C4-C5	-2.95	119.97	125.16
64	A2	1805	OMU	O4-C4-C5	-2.94	120.00	125.16
20	B5	4366	OMU	O4-C4-C5	-2.93	120.00	125.16
20	B5	4052	OMU	O4-C4-C5	-2.93	120.01	125.16
64	A2	1443	OMU	O4-C4-C5	-2.92	120.03	125.16
20	B5	2258	OMU	O4-C4-C5	-2.91	120.04	125.16
20	B5	3657	OMU	O4-C4-C5	-2.90	120.06	125.16
64	A2	1249	B8N	N3-C2-N1	2.87	120.81	116.76
64	A2	1833	6MZ	C9-N6-C6	-2.78	120.47	122.87
64	A2	1679	A2M	C4-C5-N7	-2.76	106.52	109.40
20	B5	1489	A2M	C4-C5-N7	-2.73	106.55	109.40
20	B5	4336	A2M	C4-C5-N7	-2.72	106.56	109.40
64	A2	513	A2M	C4-C5-N7	-2.71	106.58	109.40
64	A2	577	A2M	C4-C5-N7	-2.71	106.58	109.40
64	A2	159	A2M	C4-C5-N7	-2.71	106.58	109.40
20	B5	1810	A2M	C4-C5-N7	-2.70	106.58	109.40
64	A2	27	A2M	C4-C5-N7	-2.70	106.58	109.40
20	B5	2206	A2M	C4-C5-N7	-2.70	106.59	109.40
20	B5	4269	A2M	C4-C5-N7	-2.69	106.59	109.40
64	A2	669	A2M	C4-C5-N7	-2.69	106.59	109.40
20	B5	1479	A2M	C4-C5-N7	-2.69	106.60	109.40
20	B5	3450	A2M	C4-C5-N7	-2.69	106.60	109.40
64	A2	469	A2M	C4-C5-N7	-2.69	106.60	109.40
64	A2	485	A2M	C4-C5-N7	-2.69	106.60	109.40
20	B5	4317	A2M	C4-C5-N7	-2.68	106.61	109.40
20	B5	1270	A2M	C4-C5-N7	-2.66	106.63	109.40
20	B5	2244	A2M	C4-C5-N7	-2.66	106.63	109.40
64	A2	1384	A2M	C4-C5-N7	-2.65	106.63	109.40
20	B5	3517	A2M	C4-C5-N7	-2.65	106.64	109.40
80	An	138	IAS	OD1-CG-CB	-2.64	117.74	125.43
20	B5	398	A2M	C4-C5-N7	-2.63	106.66	109.40
20	B5	3599	A2M	C4-C5-N7	-2.63	106.66	109.40
64	A2	1032	A2M	C4-C5-N7	-2.63	106.66	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
20	B5	400	A2M	C4-C5-N7	-2.63	106.66	109.40
20	B5	2658	A2M	C4-C5-N7	-2.63	106.66	109.40
20	B5	3966	6MZ	C4-C5-N7	-2.62	106.67	109.40
64	A2	166	A2M	C4-C5-N7	-2.62	106.67	109.40
20	B5	4166	PSU	C6-C5-C4	-2.60	116.38	118.20
64	A2	99	A2M	C4-C5-N7	-2.59	106.70	109.40
20	B5	3557	A2M	C4-C5-N7	-2.59	106.70	109.40
20	B5	3514	5MC	C5-C4-N3	-2.57	118.90	121.67
20	B5	3492	A2M	C4-C5-N7	-2.57	106.72	109.40
20	B5	3456	A2M	C4-C5-N7	-2.57	106.72	109.40
20	B5	3562	A2M	C4-C5-N7	-2.56	106.73	109.40
20	B5	2630	A2M	C4-C5-N7	-2.53	106.76	109.40
64	A2	591	A2M	C4-C5-N7	-2.53	106.77	109.40
64	A2	1833	6MZ	C4-C5-N7	-2.50	106.79	109.40
14	Au	1	AME	O-C-CA	-2.50	118.22	124.78
20	B5	4193	5MC	C5-C4-N3	-2.44	119.04	121.67
9	BA	216	V5N	O-C-CA	-2.44	118.39	124.78
5	Ar	2	SAC	O-C-CA	-2.43	118.41	124.78
64	A2	1843	4AC	C5-C4-N4	-2.40	118.75	122.92
64	A2	1338	4AC	C6-C5-C4	2.38	119.87	116.96
20	B5	4369	OMG	C8-N7-C5	2.38	107.52	102.99
20	B5	3550	UY1	CM2-O2'-C2'	-2.37	108.29	114.52
64	A2	628	OMU	O2-C2-N1	-2.37	119.63	122.79
20	B5	4383	OMG	C8-N7-C5	2.37	107.50	102.99
27	AZ	2	SAC	O-C-CA	-2.37	118.57	124.78
64	A2	868	OMG	C8-N7-C5	2.36	107.49	102.99
64	A2	1852	MA6	N1-C6-N6	2.36	119.54	117.06
20	B5	1260	OMG	C8-N7-C5	2.36	107.48	102.99
64	A2	1329	OMG	C8-N7-C5	2.36	107.48	102.99
20	B5	3631	OMG	C5-C6-N1	2.35	118.11	113.95
20	B5	2207	OMG	C5-C6-N1	2.35	118.10	113.95
64	A2	602	OMG	C8-N7-C5	2.35	107.47	102.99
64	A2	645	OMG	C5-C6-N1	2.35	118.10	113.95
20	B5	2207	OMG	C8-N7-C5	2.35	107.47	102.99
64	A2	645	OMG	C8-N7-C5	2.35	107.46	102.99
20	B5	3550	UY1	C6-C5-C4	2.35	119.84	118.20
20	B5	3676	OMG	C8-N7-C5	2.35	107.46	102.99
20	B5	4364	OMG	C8-N7-C5	2.34	107.45	102.99
20	B5	3974	OMG	C8-N7-C5	2.34	107.44	102.99
20	B5	2719	OMG	C5-C6-N1	2.34	118.08	113.95
20	B5	3524	OMG	C5-C6-N1	2.34	118.08	113.95
20	B5	3359	OMG	C8-N7-C5	2.33	107.44	102.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	1448	OMG	C8-N7-C5	2.33	107.43	102.99
20	B5	4383	OMG	C5-C6-N1	2.33	118.07	113.95
6	B8	75	OMG	C8-N7-C5	2.32	107.42	102.99
64	A2	684	OMG	C8-N7-C5	2.32	107.41	102.99
6	B8	75	OMG	C5-C6-N1	2.32	118.05	113.95
20	B5	4245	OMG	C8-N7-C5	2.32	107.41	102.99
20	B5	1266	1MA	C8-N7-C5	2.32	107.41	102.99
20	B5	4240	OMG	C5-C6-N1	2.32	118.04	113.95
20	B5	1266	1MA	C5-C6-N1	2.32	117.35	113.90
20	B5	4138	OMG	C8-N7-C5	2.31	107.40	102.99
20	B5	4240	OMG	C8-N7-C5	2.31	107.40	102.99
64	A2	510	OMG	C5-C6-N1	2.31	118.03	113.95
20	B5	4116	OMG	C8-N7-C5	2.31	107.39	102.99
20	B5	1477	OMG	C8-N7-C5	2.31	107.39	102.99
64	A2	437	OMG	C8-N7-C5	2.31	107.39	102.99
64	A2	1443	OMU	C1'-N1-C2	2.31	121.75	117.57
20	B5	4245	OMG	C5-C6-N1	2.31	118.02	113.95
20	B5	3524	OMG	C8-N7-C5	2.30	107.38	102.99
64	A2	1491	OMG	C8-N7-C5	2.30	107.38	102.99
20	B5	3476	OMG	C8-N7-C5	2.30	107.38	102.99
20	B5	4364	OMG	C5-C6-N1	2.30	118.02	113.95
20	B5	3676	OMG	C5-C6-N1	2.30	118.01	113.95
20	B5	4116	OMG	C5-C6-N1	2.30	118.01	113.95
20	B5	1580	OMG	C8-N7-C5	2.30	107.37	102.99
20	B5	3476	OMG	C5-C6-N1	2.30	118.01	113.95
20	B5	2267	OMG	C5-C6-N1	2.30	118.01	113.95
64	A2	1448	OMG	C5-C6-N1	2.29	118.00	113.95
64	A2	1491	OMG	C5-C6-N1	2.29	118.00	113.95
20	B5	4369	OMG	C5-C6-N1	2.29	118.00	113.95
20	B5	2719	OMG	C8-N7-C5	2.29	107.35	102.99
20	B5	3631	OMG	C8-N7-C5	2.29	107.35	102.99
20	B5	2267	OMG	C8-N7-C5	2.29	107.34	102.99
64	A2	510	OMG	C8-N7-C5	2.28	107.34	102.99
64	A2	684	OMG	C5-C6-N1	2.28	117.98	113.95
64	A2	437	OMG	C5-C6-N1	2.28	117.98	113.95
20	B5	3974	OMG	C5-C6-N1	2.28	117.98	113.95
20	B5	1260	OMG	C5-C6-N1	2.28	117.98	113.95
20	B5	1477	OMG	C5-C6-N1	2.28	117.97	113.95
20	B5	3942	OMG	C8-N7-C5	2.27	107.32	102.99
20	B5	3550	UY1	O2-C2-N1	-2.27	120.29	122.79
20	B5	3942	OMG	C5-C6-N1	2.27	117.97	113.95
20	B5	3359	OMG	C5-C6-N1	2.27	117.95	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
64	A2	602	OMG	C5-C6-N1	2.26	117.95	113.95
20	B5	4138	OMG	C5-C6-N1	2.26	117.94	113.95
64	A2	868	OMG	C5-C6-N1	2.26	117.94	113.95
64	A2	1329	OMG	C5-C6-N1	2.26	117.94	113.95
20	B5	1580	OMG	C5-C6-N1	2.26	117.94	113.95
22	Ba	39	V5N	O-C-CA	-2.24	118.90	124.78
64	A2	1843	4AC	C6-C5-C4	2.24	119.70	116.96
84	Br	2	SAC	O-C-CA	-2.23	118.93	124.78
64	A2	1249	B8N	C5-C4-N3	2.22	120.29	116.17
18	Aw	62	HY3	O-C-CA	-2.20	118.68	124.83
64	A2	1327	OMU	O2-C2-N1	-2.20	119.86	122.79
64	A2	463	OMC	O2-C2-N3	-2.18	118.79	122.33
64	A2	1805	OMU	C1'-N1-C2	2.14	121.45	117.57
20	B5	3514	5MC	O2-C2-N3	-2.14	118.86	122.33
20	B5	3573	OMC	O2-C2-N3	-2.12	118.88	122.33
64	A2	1289	OMU	C1'-N1-C2	2.12	121.41	117.57
20	B5	3657	OMU	O2-C2-N1	-2.09	120.01	122.79
20	B5	2265	OMC	O2-C2-N3	-2.08	118.95	122.33
64	A2	1392	OMC	O2-C2-N3	-2.07	118.97	122.33
64	A2	518	OMC	O2-C2-N3	-2.07	118.97	122.33
20	B5	4282	OMC	O2-C2-N3	-2.05	119.00	122.33
20	B5	1632	PSU	O4'-C1'-C2'	2.04	108.03	105.14
64	A2	1338	4AC	C5-C4-N4	-2.03	119.39	122.92
20	B5	2680	OMU	O2-C2-N1	-2.02	120.10	122.79
20	B5	4244	OMU	O2-C2-N1	-2.02	120.10	122.79
20	B5	4246	PSU	C5-C6-N1	-2.02	119.08	122.11
20	B5	1731	PSU	C5-C6-N1	-2.01	119.10	122.11

There are no chirality outliers.

All (109) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	BA	216	V5N	O-C-CA-CB
12	BB	245	HIC	CA-CB-CG-ND1
15	BC	2	AYA	C-CA-N-CT
20	B5	3433	OMC	C2'-C1'-N1-C2
20	B5	3433	OMC	C2'-C1'-N1-C6
20	B5	4166	PSU	C2'-C1'-C5-C4
20	B5	4166	PSU	C2'-C1'-C5-C6
20	B5	4193	5MC	C2'-C1'-N1-C2
20	B5	4193	5MC	C2'-C1'-N1-C6
20	B5	4336	A2M	C4'-C5'-O5'-P

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Mol	Chain	Res	Type	Atoms
20	B5	4382	PSU	O4'-C1'-C5-C4
20	B5	4382	PSU	O4'-C1'-C5-C6
20	B5	4382	PSU	C3'-C4'-C5'-O5'
64	A2	429	OMU	C2'-C1'-N1-C2
64	A2	429	OMU	C2'-C1'-N1-C6
64	A2	513	A2M	C3'-C4'-C5'-O5'
64	A2	628	OMU	C2'-C1'-N1-C2
64	A2	628	OMU	C2'-C1'-N1-C6
64	A2	669	A2M	O4'-C4'-C5'-O5'
64	A2	1448	OMG	C3'-C4'-C5'-O5'
64	A2	1851	MA6	C5-C6-N6-C9
64	A2	1851	MA6	C5-C6-N6-C10
64	A2	1852	MA6	C5-C6-N6-C9
78	Bo	53	MLZ	O-C-CA-CB
64	A2	1249	B8N	N34-C33-C34-O35
64	A2	1338	4AC	N3-C4-N4-C7
64	A2	1338	4AC	O7-C7-N4-C4
64	A2	1338	4AC	CM7-C7-N4-C4
64	A2	1843	4AC	N3-C4-N4-C7
64	A2	1843	4AC	C5-C4-N4-C7
64	A2	1843	4AC	O7-C7-N4-C4
64	A2	1843	4AC	CM7-C7-N4-C4
15	BC	2	AYA	OT-CT-N-CA
15	BC	2	AYA	CM-CT-N-CA
64	A2	429	OMU	O4'-C1'-N1-C2
20	B5	398	A2M	O4'-C4'-C5'-O5'
20	B5	1489	A2M	O4'-C4'-C5'-O5'
20	B5	3517	A2M	O4'-C4'-C5'-O5'
64	A2	513	A2M	O4'-C4'-C5'-O5'
64	A2	645	OMG	O4'-C4'-C5'-O5'
64	A2	645	OMG	C3'-C4'-C5'-O5'
14	Au	1	AME	CT2-CT1-N-CA
14	Au	1	AME	OT-CT1-N-CA
64	A2	1249	B8N	N34-C33-C34-O36
20	B5	398	A2M	C3'-C4'-C5'-O5'
20	B5	2207	OMG	O4'-C4'-C5'-O5'
20	B5	3517	A2M	C3'-C4'-C5'-O5'
64	A2	27	A2M	O4'-C4'-C5'-O5'
64	A2	669	A2M	C3'-C4'-C5'-O5'
64	A2	1851	MA6	N1-C6-N6-C9
64	A2	1852	MA6	N1-C6-N6-C9
64	A2	429	OMU	O4'-C1'-N1-C6

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Mol	Chain	Res	Type	Atoms
20	B5	1489	A2M	C3'-C4'-C5'-O5'
20	B5	4382	PSU	O4'-C4'-C5'-O5'
64	A2	27	A2M	C3'-C4'-C5'-O5'
64	A2	1448	OMG	O4'-C4'-C5'-O5'
64	A2	1852	MA6	C5-C6-N6-C10
20	B5	2207	OMG	C3'-C4'-C5'-O5'
64	A2	591	A2M	C3'-C4'-C5'-O5'
64	A2	1640	G7M	O4'-C4'-C5'-O5'
20	B5	3433	OMC	O4'-C1'-N1-C6
64	A2	628	OMU	O4'-C1'-N1-C6
64	A2	1249	B8N	C32-C33-C34-O36
20	B5	3576	PSU	C4'-C5'-O5'-P
20	B5	3619	OMC	C4'-C5'-O5'-P
64	A2	469	A2M	O4'-C4'-C5'-O5'
64	A2	1640	G7M	C3'-C4'-C5'-O5'
27	AZ	2	SAC	C-CA-N-C1A
27	AZ	2	SAC	CB-CA-N-C1A
20	B5	3476	OMG	C3'-C2'-O2'-CM2
20	B5	3619	OMC	C3'-C2'-O2'-CM2
20	B5	3657	OMU	C3'-C2'-O2'-CM2
64	A2	510	OMG	C3'-C2'-O2'-CM2
80	An	138	IAS	C-CA-CB-CG
20	B5	4246	PSU	C4'-C5'-O5'-P
2	Bb	5	MLZ	N-CA-CB-CG
64	A2	577	A2M	C3'-C4'-C5'-O5'
64	A2	1249	B8N	C32-C33-C34-O35
20	B5	3433	OMC	O4'-C1'-N1-C2
64	A2	628	OMU	O4'-C1'-N1-C2
64	A2	1852	MA6	C4'-C5'-O5'-P
64	A2	645	OMG	C4'-C5'-O5'-P
64	A2	99	A2M	O4'-C4'-C5'-O5'
20	B5	3631	OMG	C3'-C2'-O2'-CM2
20	B5	4052	OMU	C3'-C2'-O2'-CM2
64	A2	868	OMG	C3'-C2'-O2'-CM2
64	A2	1448	OMG	C3'-C2'-O2'-CM2
20	B5	4193	5MC	O4'-C1'-N1-C6
12	BB	245	HIC	CA-CB-CG-CD2
20	B5	3550	UY1	C4'-C5'-O5'-P
20	B5	4166	PSU	O4'-C1'-C5-C4
20	B5	2667	OMC	C3'-C2'-O2'-CM2
20	B5	2680	OMU	C3'-C2'-O2'-CM2
20	B5	4383	OMG	C3'-C2'-O2'-CM2

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Mol	Chain	Res	Type	Atoms
64	A2	27	A2M	C3'-C2'-O2'-CM'
64	A2	1679	A2M	C3'-C2'-O2'-CM'
20	B5	2194	OMC	O4'-C4'-C5'-O5'
64	A2	577	A2M	O4'-C4'-C5'-O5'
2	Bb	5	MLZ	C-CA-CB-CG
20	B5	3599	A2M	C1'-C2'-O2'-CM'
20	B5	4193	5MC	O4'-C1'-N1-C2
18	Aw	62	HY3	O-C-CA-C3
20	B5	3492	A2M	O4'-C4'-C5'-O5'
20	B5	4246	PSU	C3'-C4'-C5'-O5'
80	An	138	IAS	N-CA-CB-CG
84	Br	2	SAC	C-CA-N-C1A
20	B5	4364	OMG	C3'-C2'-O2'-CM2
64	A2	1704	OMC	C3'-C2'-O2'-CM2
64	A2	469	A2M	C3'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 740 ligands modelled in this entry, 277 are unknown and 428 are monoatomic - leaving 35 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
94	SPD	A2	1921	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	B5	5338	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	A2	1935	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	A2	1908	-	9,9,9	0.15	0	8,8,8	0.19	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
94	SPD	B5	5084	-	9,9,9	0.15	0	8,8,8	0.20	0
94	SPD	B5	5276	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	B5	4968	-	9,9,9	0.15	0	8,8,8	0.17	0
94	SPD	B5	5122	-	9,9,9	0.15	0	8,8,8	0.19	0
95	SPM	B5	4947	-	13,13,13	0.15	0	12,12,12	0.19	0
94	SPD	B5	5101	-	9,9,9	0.15	0	8,8,8	0.17	0
97	IHP	DB	901	-	36,36,36	1.55	6 (16%)	54,60,60	1.13	4 (7%)
94	SPD	B5	5257	-	9,9,9	0.16	0	8,8,8	0.17	0
94	SPD	B5	5159	-	9,9,9	0.15	0	8,8,8	0.16	0
94	SPD	B5	5297	-	9,9,9	0.16	0	8,8,8	0.18	0
94	SPD	B5	4926	-	9,9,9	0.15	0	8,8,8	0.18	0
93	GTP	B7	212	3	26,34,34	0.94	2 (7%)	32,54,54	0.76	0
94	SPD	A2	1901	-	9,9,9	0.16	0	8,8,8	0.19	0
94	SPD	B5	4905	-	9,9,9	0.15	0	8,8,8	0.19	0
94	SPD	B5	5027	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	A2	1915	-	9,9,9	0.16	0	8,8,8	0.18	0
94	SPD	B5	5377	-	9,9,9	0.16	0	8,8,8	0.18	0
95	SPM	B5	5203	-	13,13,13	0.15	0	12,12,12	0.14	0
95	SPM	A2	1939	-	13,13,13	0.14	0	12,12,12	0.17	0
94	SPD	B5	5140	-	9,9,9	0.16	0	8,8,8	0.18	0
94	SPD	A2	2056	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	A2	2063	-	9,9,9	0.16	0	8,8,8	0.17	0
94	SPD	A2	1928	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	B5	5216	-	9,9,9	0.15	0	8,8,8	0.15	0
94	SPD	B5	5359	-	9,9,9	0.15	0	8,8,8	0.20	0
94	SPD	B5	4989	-	9,9,9	0.15	0	8,8,8	0.20	0
94	SPD	B5	5046	-	9,9,9	0.15	0	8,8,8	0.18	0
94	SPD	B5	5318	-	9,9,9	0.16	0	8,8,8	0.17	0
94	SPD	B5	5010	-	9,9,9	0.16	0	8,8,8	0.19	0
94	SPD	B5	5066	-	9,9,9	0.15	0	8,8,8	0.19	0
94	SPD	B5	5237	-	9,9,9	0.16	0	8,8,8	0.18	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
94	SPD	A2	1921	-	-	0/7/7/7	-
94	SPD	B5	5338	-	-	0/7/7/7	-
94	SPD	A2	1935	-	-	0/7/7/7	-
94	SPD	A2	1908	-	-	0/7/7/7	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
94	SPD	B5	5084	-	-	0/7/7/7	-
94	SPD	B5	5276	-	-	0/7/7/7	-
94	SPD	B5	4968	-	-	0/7/7/7	-
94	SPD	B5	5122	-	-	1/7/7/7	-
95	SPM	B5	4947	-	-	1/11/11/11	-
94	SPD	B5	5101	-	-	0/7/7/7	-
97	IHP	DB	901	-	-	8/30/54/54	0/1/1/1
94	SPD	B5	5257	-	-	1/7/7/7	-
94	SPD	B5	5159	-	-	1/7/7/7	-
94	SPD	B5	5297	-	-	1/7/7/7	-
94	SPD	B5	4926	-	-	0/7/7/7	-
93	GTP	B7	212	3	-	0/18/38/38	0/3/3/3
94	SPD	A2	1901	-	-	0/7/7/7	-
94	SPD	B5	4905	-	-	1/7/7/7	-
94	SPD	B5	5027	-	-	0/7/7/7	-
94	SPD	A2	1915	-	-	0/7/7/7	-
94	SPD	B5	5377	-	-	0/7/7/7	-
95	SPM	B5	5203	-	-	0/11/11/11	-
95	SPM	A2	1939	-	-	1/11/11/11	-
94	SPD	B5	5140	-	-	0/7/7/7	-
94	SPD	A2	2056	-	-	1/7/7/7	-
94	SPD	A2	2063	-	-	0/7/7/7	-
94	SPD	A2	1928	-	-	1/7/7/7	-
94	SPD	B5	5216	-	-	1/7/7/7	-
94	SPD	B5	5359	-	-	0/7/7/7	-
94	SPD	B5	4989	-	-	0/7/7/7	-
94	SPD	B5	5046	-	-	0/7/7/7	-
94	SPD	B5	5318	-	-	1/7/7/7	-
94	SPD	B5	5010	-	-	0/7/7/7	-
94	SPD	B5	5066	-	-	0/7/7/7	-
94	SPD	B5	5237	-	-	1/7/7/7	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
97	DB	901	IHP	P2-O12	3.53	1.66	1.59
97	DB	901	IHP	P5-O15	3.45	1.65	1.59
97	DB	901	IHP	P1-O11	3.25	1.65	1.59
97	DB	901	IHP	P6-O16	3.22	1.65	1.59
97	DB	901	IHP	P3-O13	3.20	1.65	1.59
97	DB	901	IHP	P4-O14	3.19	1.65	1.59
93	B7	212	GTP	C5-C6	-2.57	1.42	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
93	B7	212	GTP	C8-N7	-2.05	1.31	1.35

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
97	DB	901	IHP	C6-C5-C4	4.29	119.80	110.41
97	DB	901	IHP	C5-C4-C3	3.60	118.29	110.41
97	DB	901	IHP	C5-C6-C1	3.58	118.24	110.41
97	DB	901	IHP	C4-C3-C2	2.22	115.27	110.41

There are no chirality outliers.

All (20) torsion outliers are listed below:

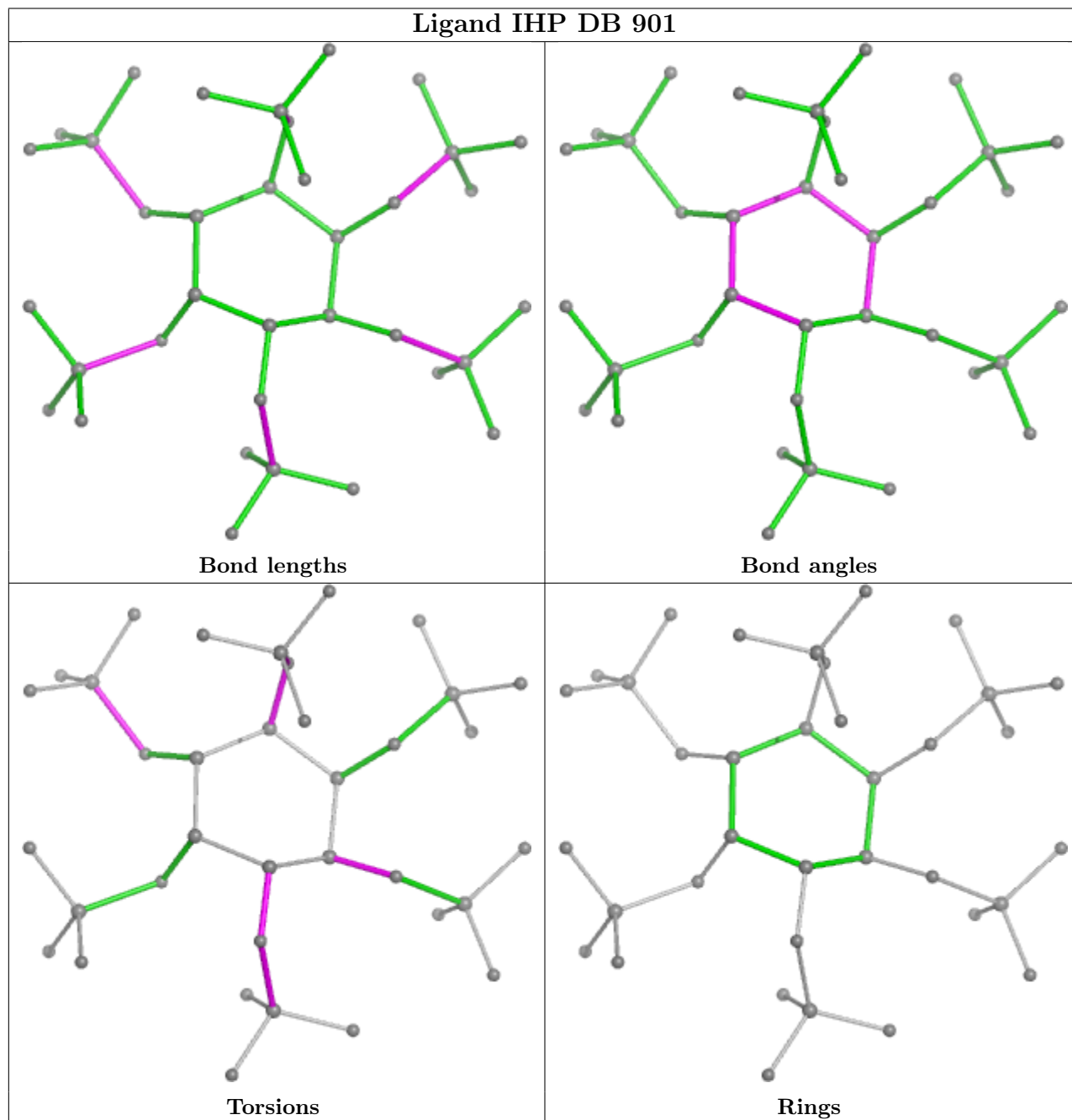
Mol	Chain	Res	Type	Atoms
97	DB	901	IHP	C1-C2-O12-P2
97	DB	901	IHP	C4-C5-O15-P5
97	DB	901	IHP	C4-O14-P4-O34
95	A2	1939	SPM	C8-C9-N10-C11
97	DB	901	IHP	C4-O14-P4-O24
97	DB	901	IHP	C2-O12-P2-O32
94	B5	5237	SPD	C2-C3-C4-C5
94	B5	5159	SPD	C2-C3-C4-C5
94	A2	1928	SPD	C2-C3-C4-C5
94	B5	5216	SPD	C2-C3-C4-C5
97	DB	901	IHP	C6-C1-O11-P1
97	DB	901	IHP	C2-O12-P2-O42
97	DB	901	IHP	C5-O15-P5-O45
94	A2	2056	SPD	C2-C3-C4-C5
94	B5	5257	SPD	C2-C3-C4-C5
94	B5	5297	SPD	C2-C3-C4-C5
94	B5	5122	SPD	C2-C3-C4-C5
94	B5	5318	SPD	C2-C3-C4-C5
94	B5	4905	SPD	C4-C5-N6-C7
95	B5	4947	SPM	C6-C7-C8-C9

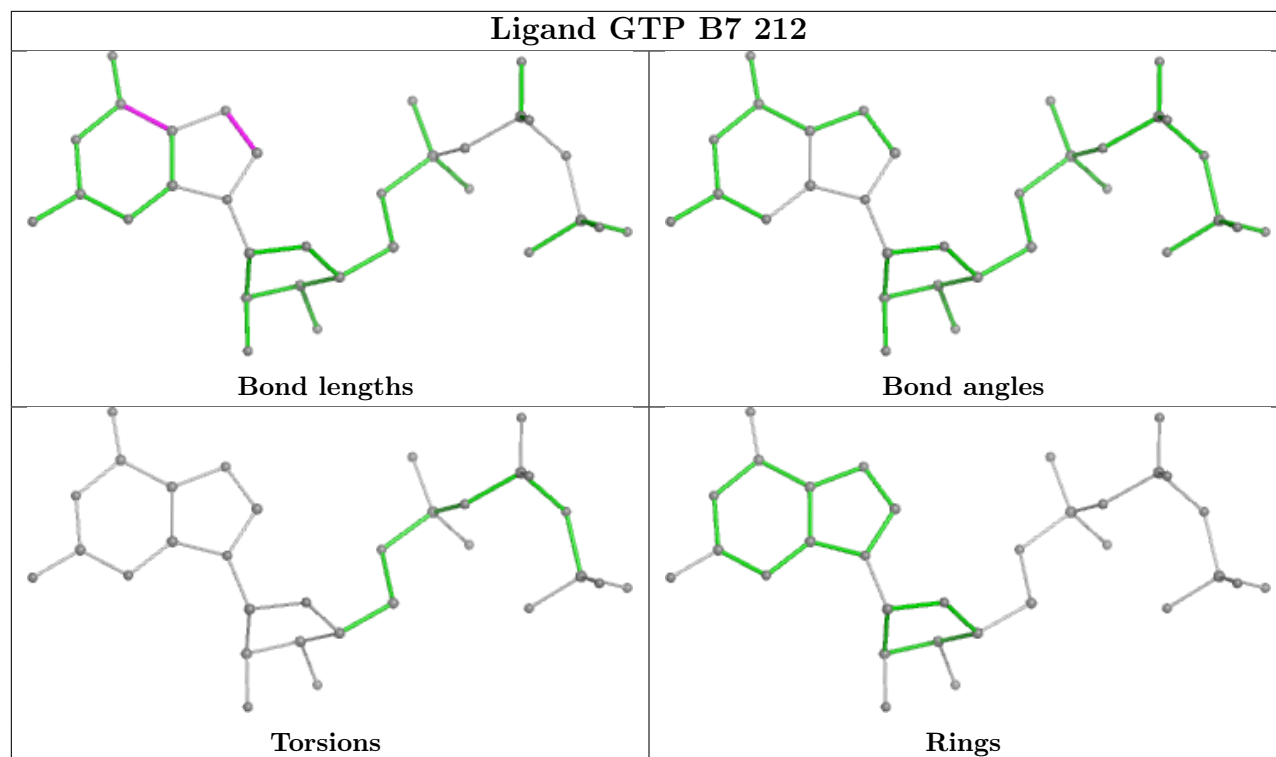
There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is

within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

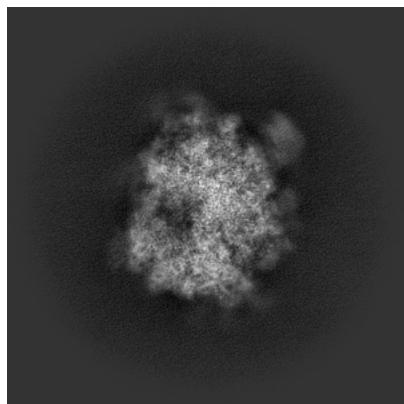
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-50125. These allow visual inspection of the internal detail of the map and identification of artifacts.

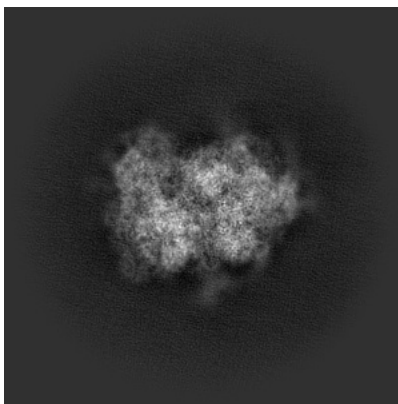
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

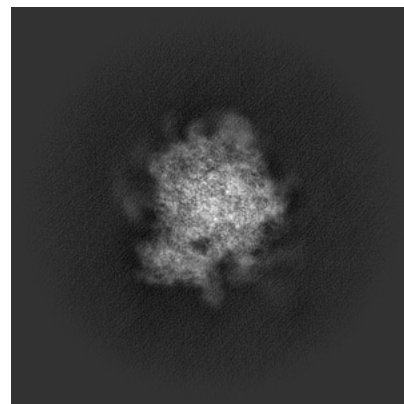
6.1.1 Primary map



X

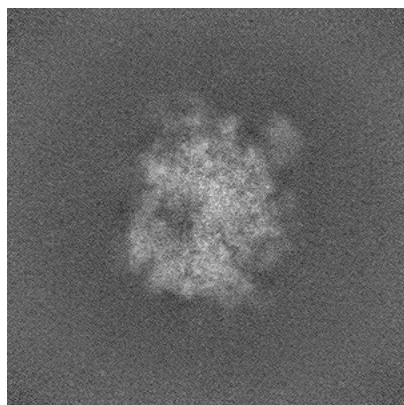


Y

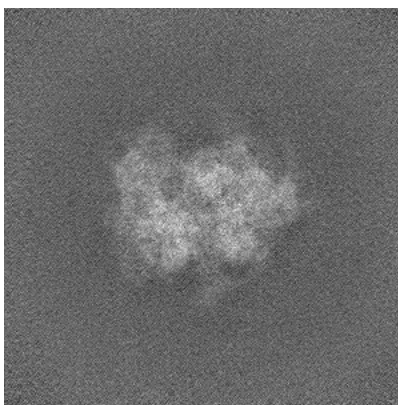


Z

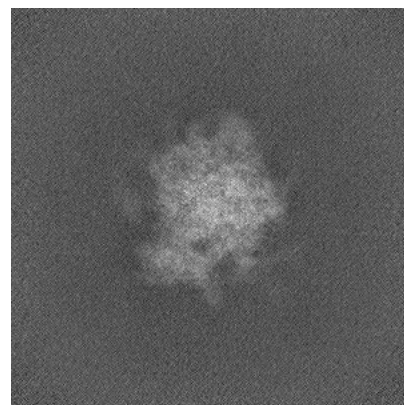
6.1.2 Raw map



X



Y

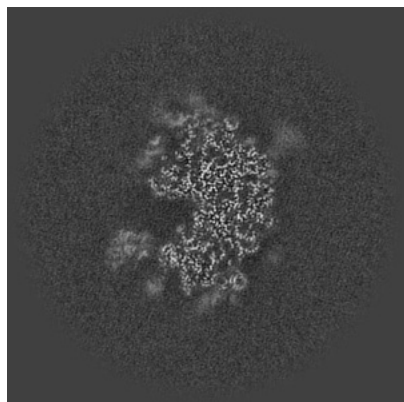


Z

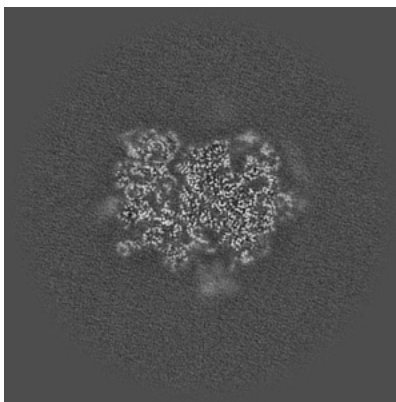
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

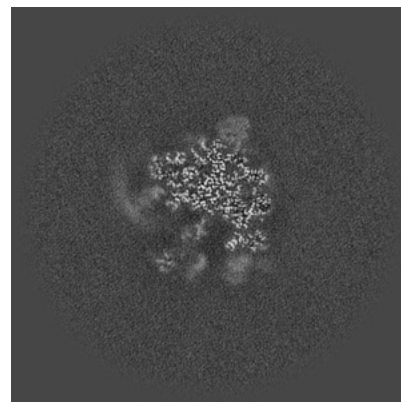
6.2.1 Primary map



X Index: 280

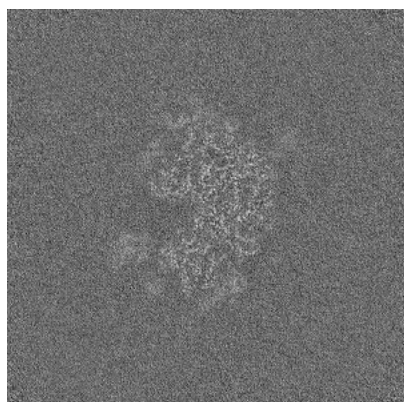


Y Index: 280

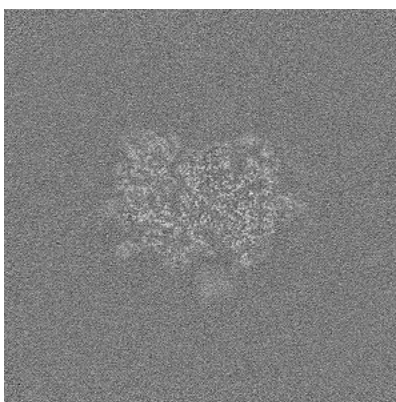


Z Index: 280

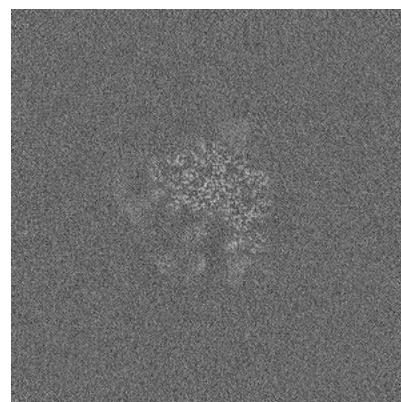
6.2.2 Raw map



X Index: 280



Y Index: 280

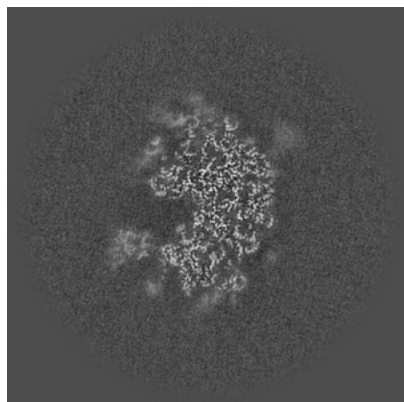


Z Index: 280

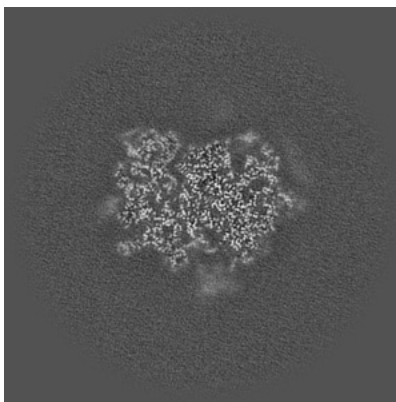
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

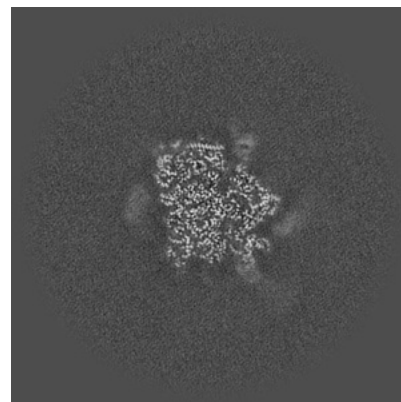
6.3.1 Primary map



X Index: 279

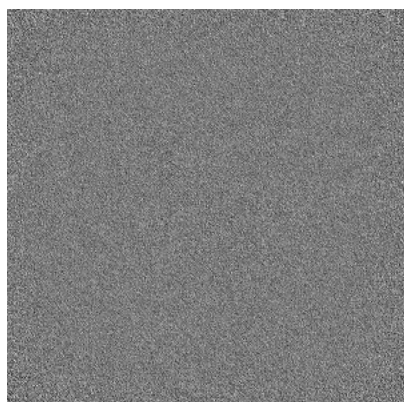


Y Index: 281

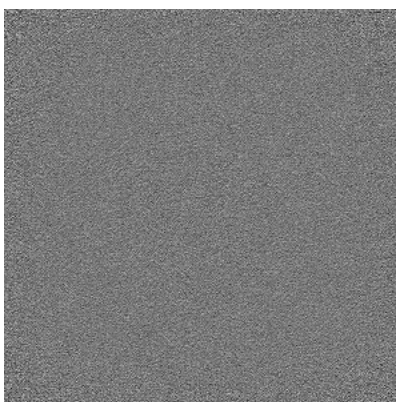


Z Index: 309

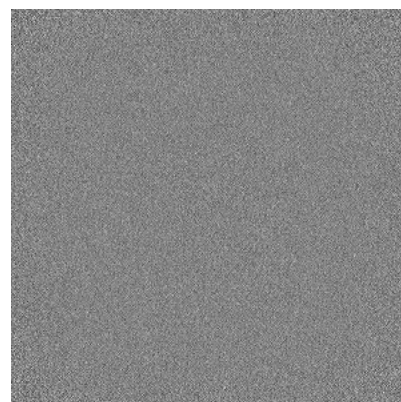
6.3.2 Raw map



X Index: 0



Y Index: 0

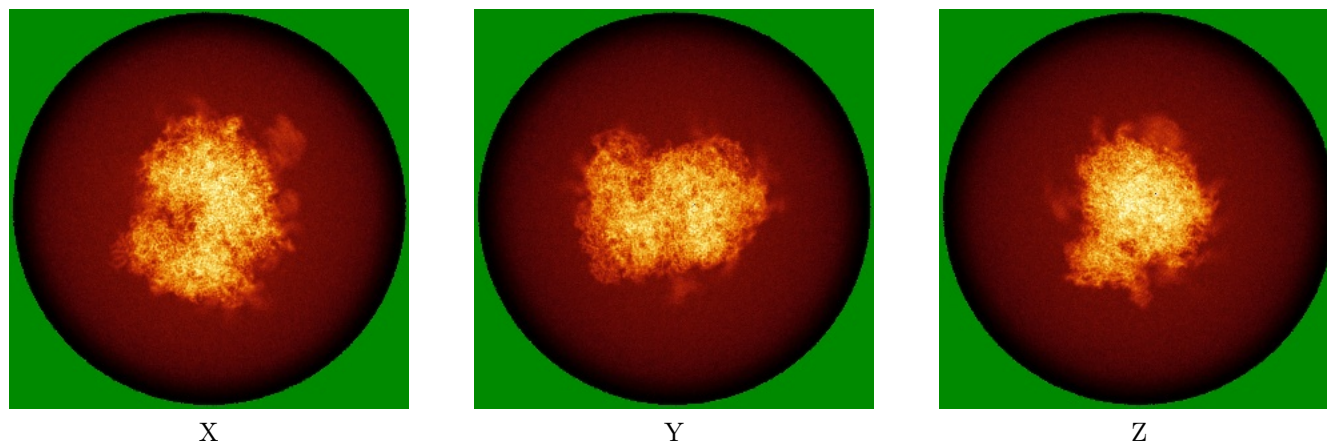


Z Index: 0

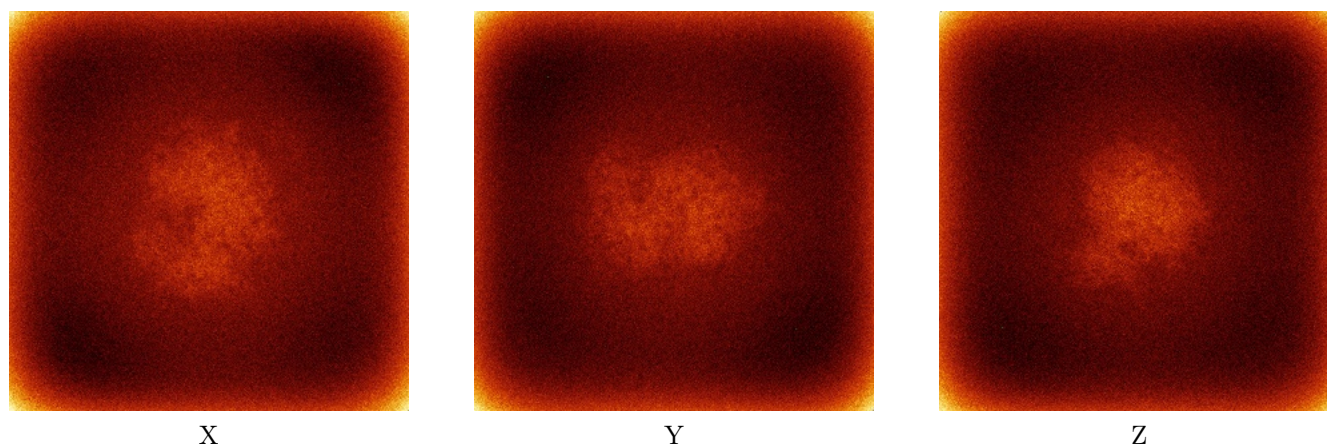
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



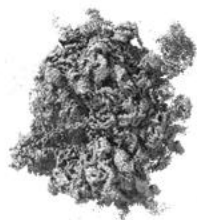
6.4.2 Raw map



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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



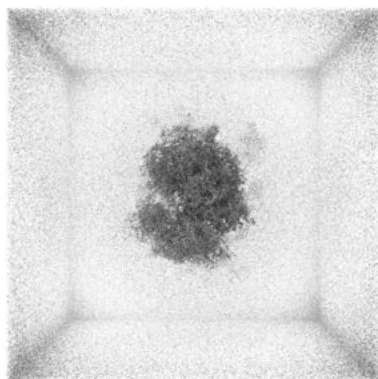
Y



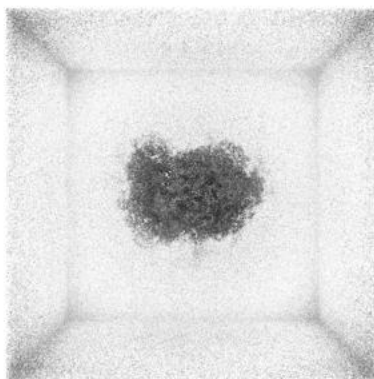
Z

The images above show the 3D surface view of the map at the recommended contour level 0.175. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

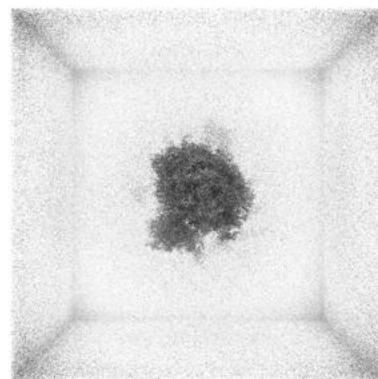
6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

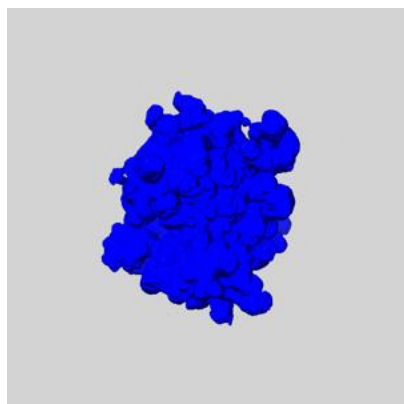
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

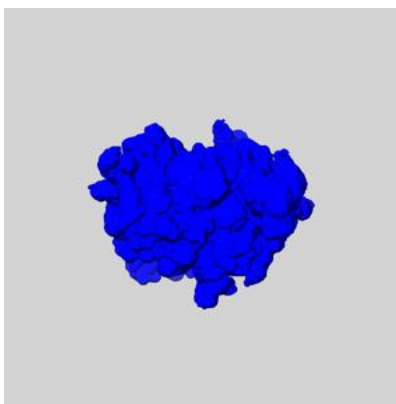
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

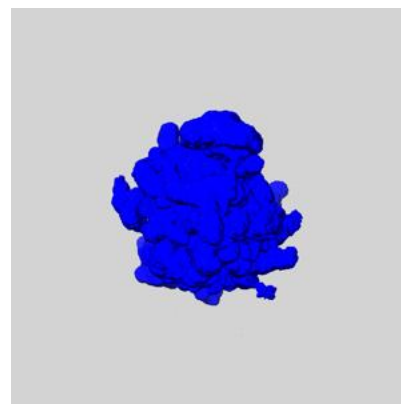
6.6.1 emd_50125_msk_1.map [i](#)



X

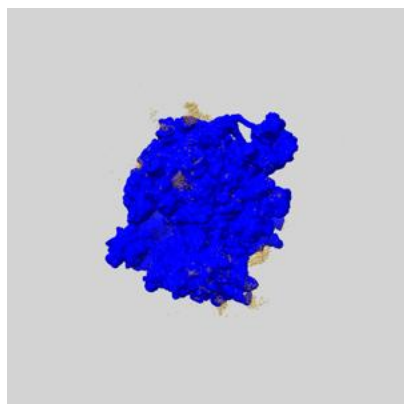


Y

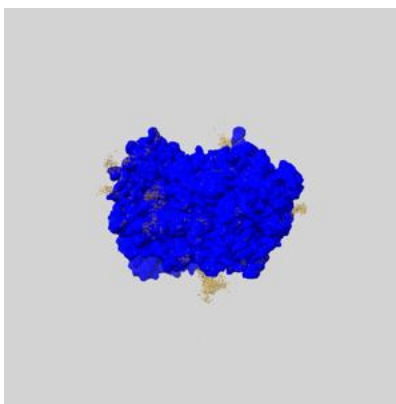


Z

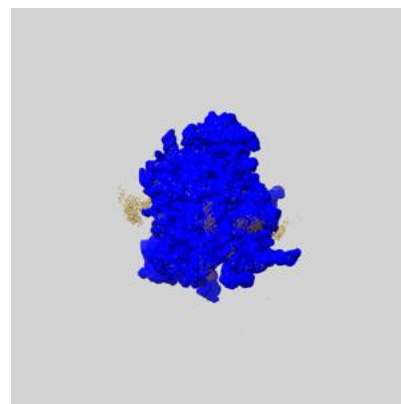
6.6.2 emd_50125_msk_2.map [i](#)



X



Y

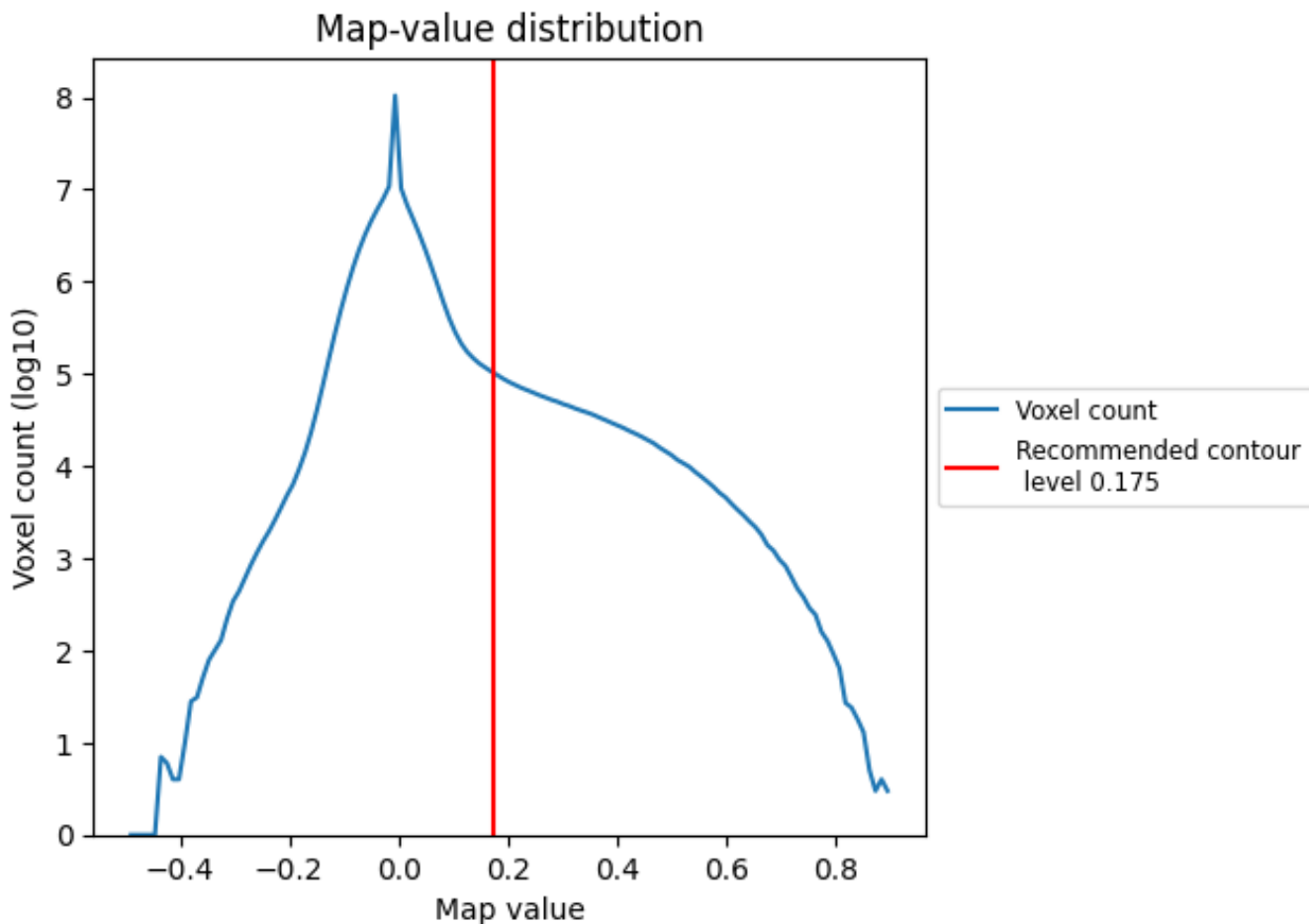


Z

7 Map analysis [i](#)

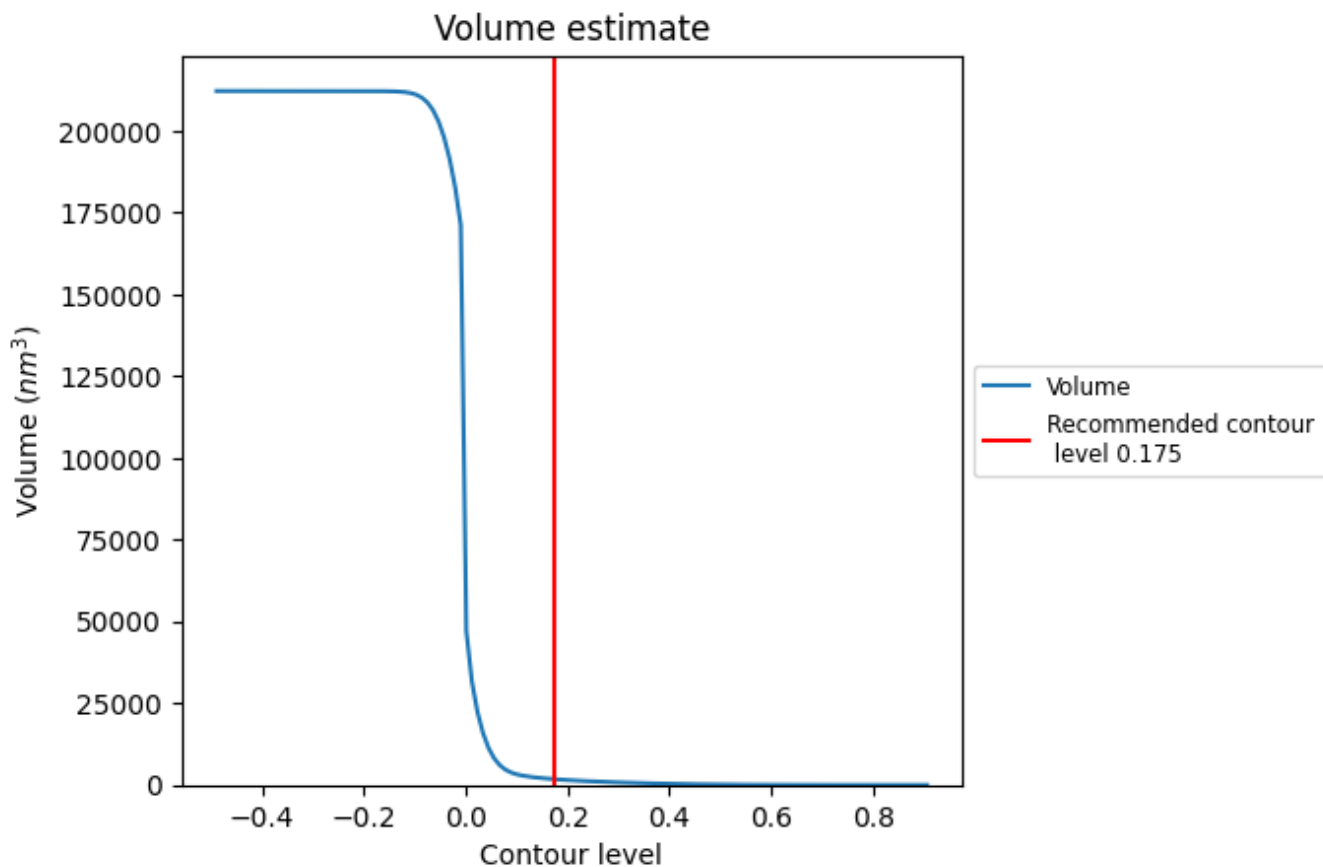
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

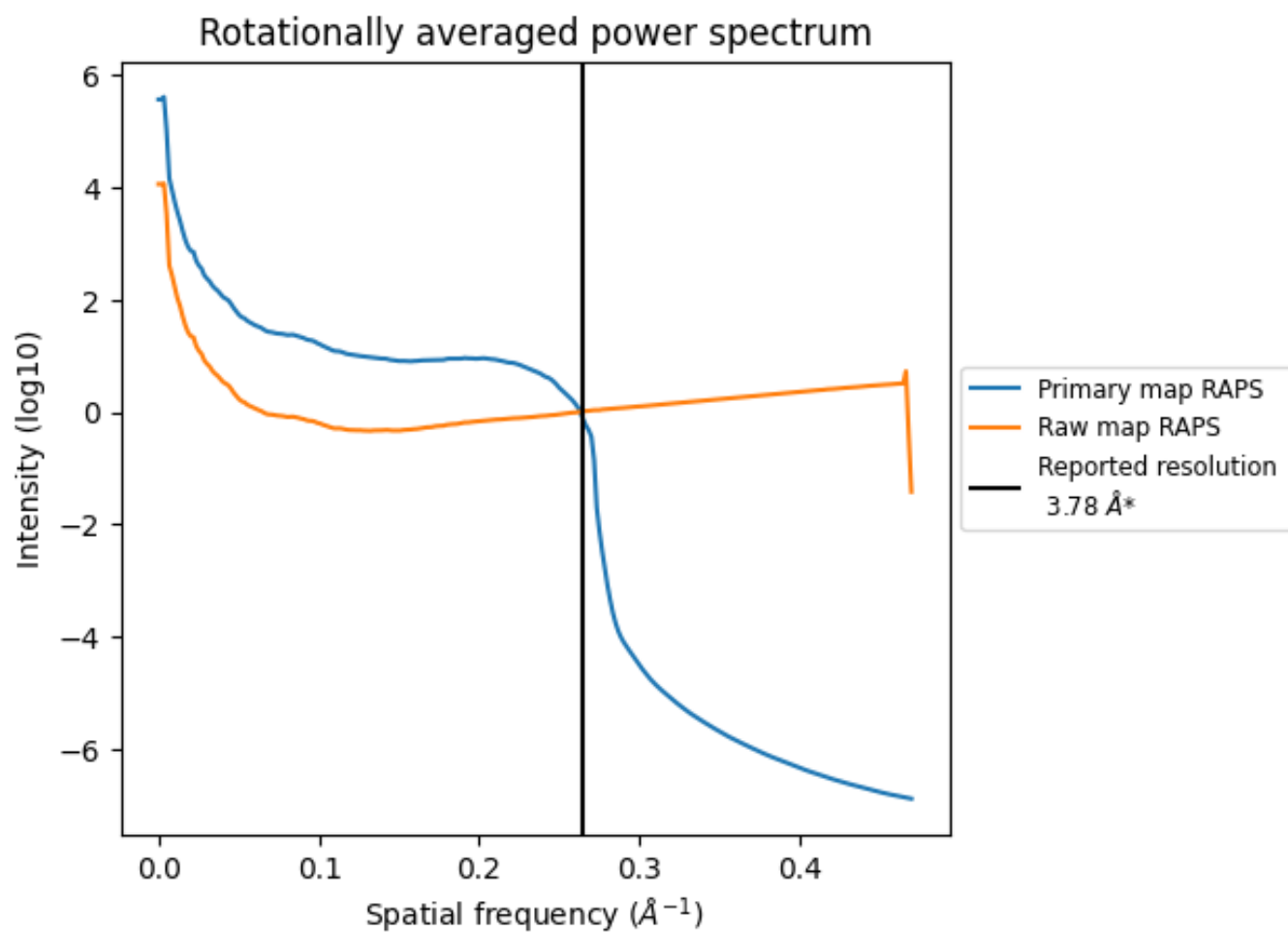
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1752 nm^3 ; this corresponds to an approximate mass of 1582 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](#)

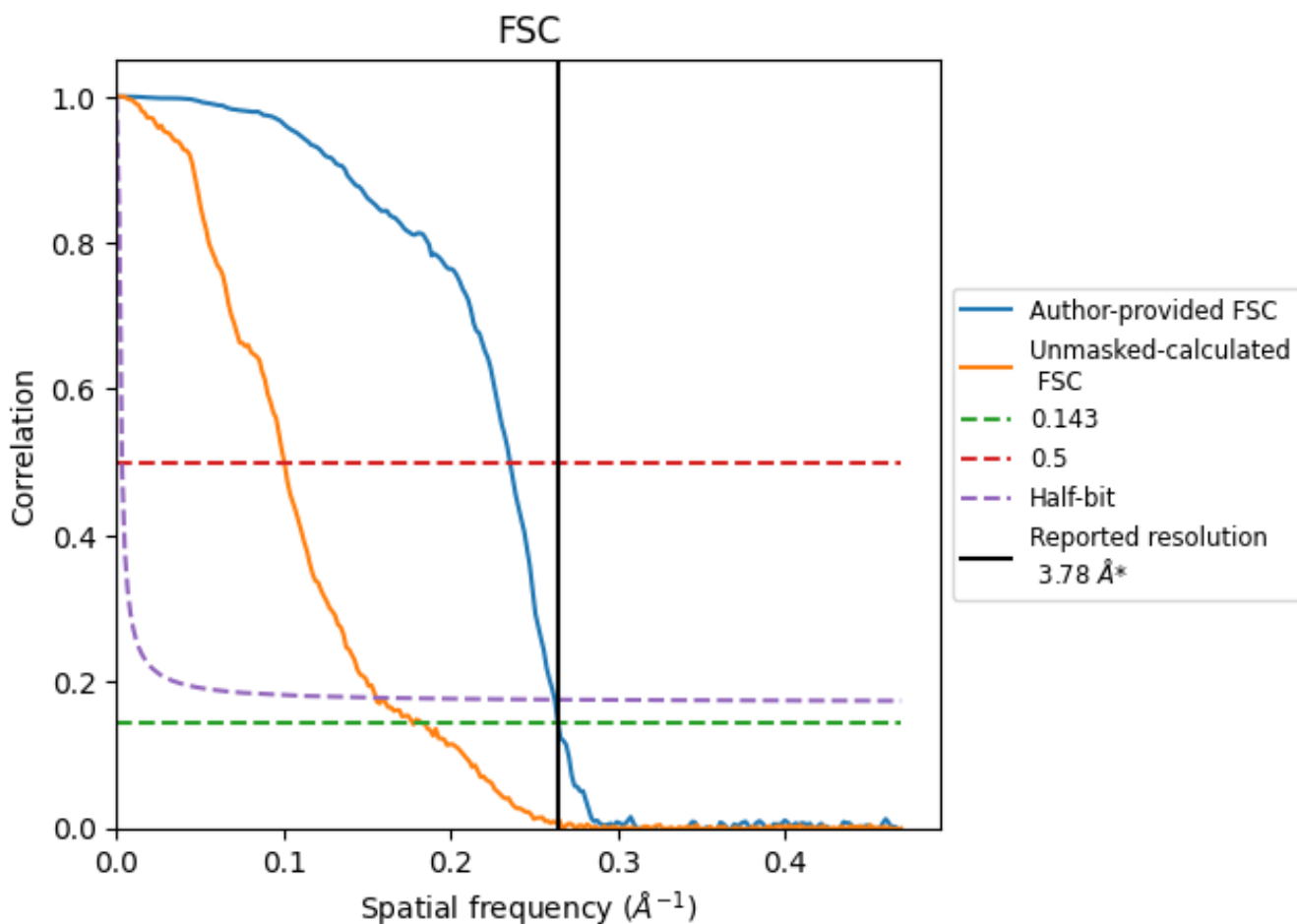


*Reported resolution corresponds to spatial frequency of 0.265 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.265 Å⁻¹

8.2 Resolution estimates [i](#)

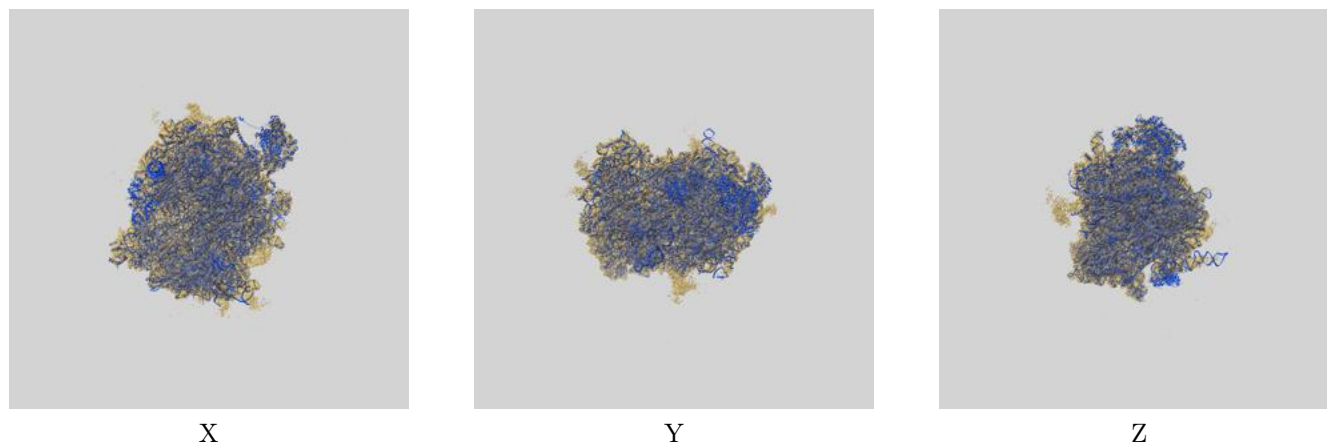
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.78	-	-
Author-provided FSC curve	3.79	4.25	3.81
Unmasked-calculated*	5.64	9.95	6.44

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 5.64 differs from the reported value 3.78 by more than 10 %

9 Map-model fit [i](#)

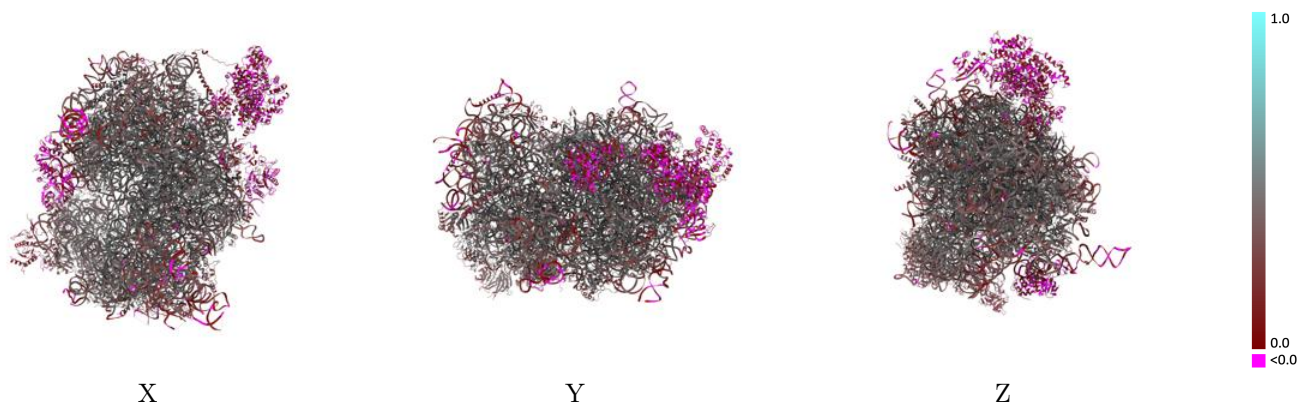
This section contains information regarding the fit between EMDB map EMD-50125 and PDB model 9F1C. Per-residue inclusion information can be found in section 3 on page 33.

9.1 Map-model overlay [i](#)



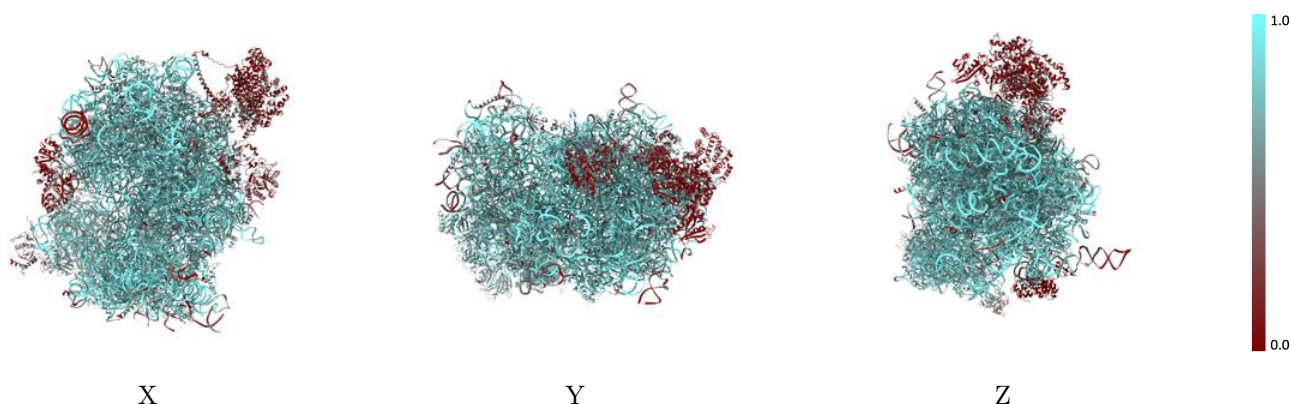
The images above show the 3D surface view of the map at the recommended contour level 0.175 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



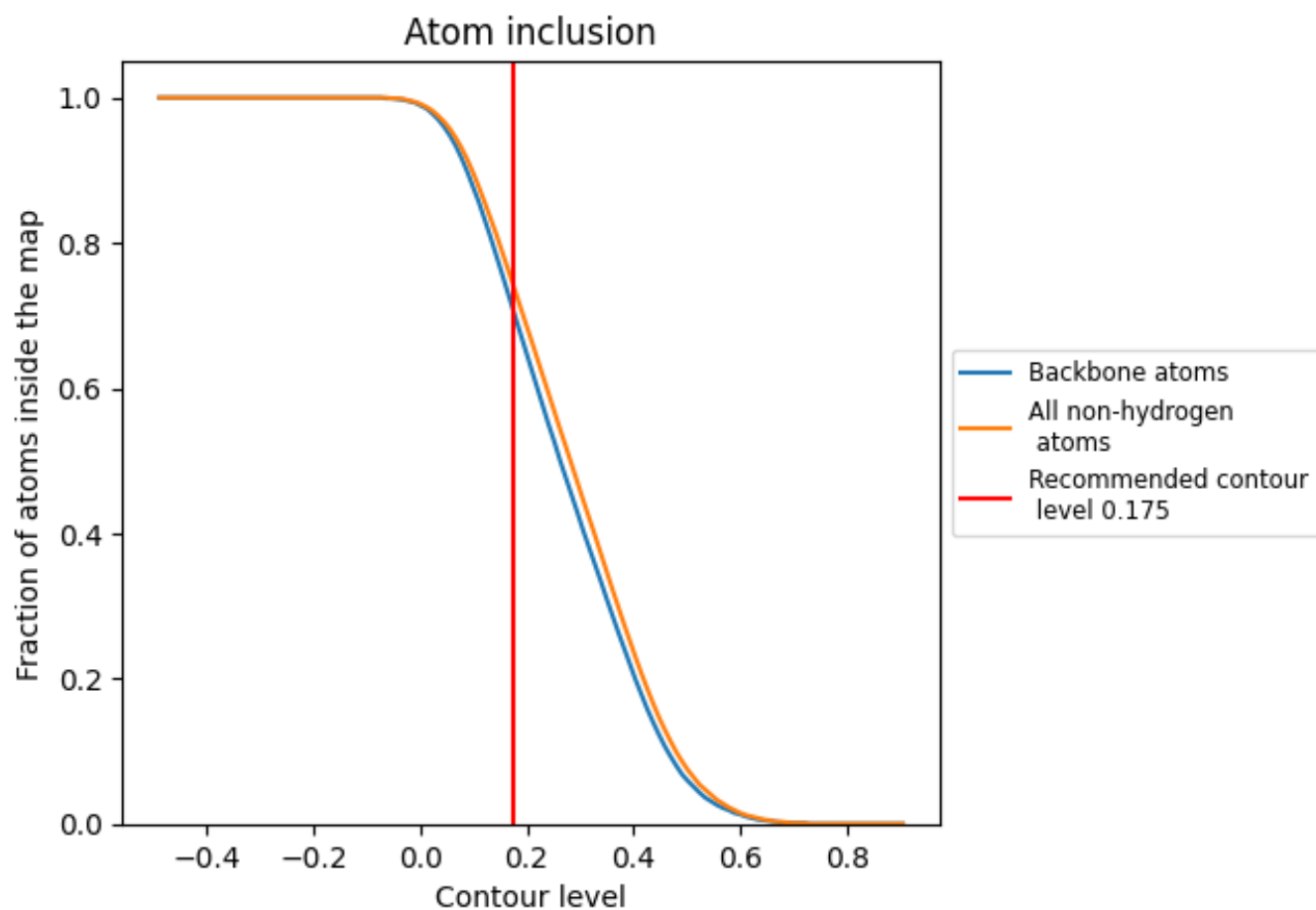
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.175).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 71% of all backbone atoms, 74% 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 (0.175) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7410	 0.3710
A2	 0.8600	 0.3810
AA	 0.6760	 0.4110
AB	 0.6600	 0.3880
AC	 0.3940	 0.1490
AD	 0.5930	 0.3680
AE	 0.7560	 0.4390
AF	 0.6470	 0.3060
AG	 0.7510	 0.4020
AH	 0.0280	 0.3250
AT	 0.6350	 0.3910
AZ	 0.7240	 0.4020
Aa	 0.6740	 0.3990
Ab	 0.7340	 0.4300
Ac	 0.6500	 0.3710
Ad	 0.7290	 0.4210
Ae	 0.6520	 0.3620
Af	 0.6510	 0.3130
Ag	 0.6710	 0.3600
Ah	 0.7170	 0.4040
Ai	 0.7510	 0.4030
Aj	 0.6900	 0.3310
Ak	 0.6670	 0.4120
Al	 0.3330	 0.1440
Am	 0.7160	 0.4190
An	 0.7180	 0.4140
Ao	 0.6340	 0.3030
Ap	 0.6990	 0.3720
Aq	 0.6880	 0.3610
Ar	 0.6410	 0.3170
As	 0.6820	 0.3330
At	 0.6270	 0.3340
Au	 0.7240	 0.4110
Av	 0.6950	 0.4460
Aw	 0.7440	 0.4470































Continued on next page...

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Chain	Atom inclusion	Q-score
Ax	 0.7400	 0.3790
Ay	 0.5380	 0.2820
Az	 0.6060	 0.4180
B	 0.7560	 0.3920
B5	 0.8520	 0.3890
B7	 0.9210	 0.4170
B8	 0.8800	 0.4080
BA	 0.7300	 0.4580
BB	 0.7510	 0.4410
BC	 0.7560	 0.4440
BE	 0.6790	 0.3760
BF	 0.7450	 0.4340
BG	 0.7050	 0.3870
BH	 0.7190	 0.4120
BI	 0.7360	 0.4420
BJ	 0.7080	 0.3880
BK	 0.2060	 0.4310
BL	 0.7220	 0.4110
BM	 0.7450	 0.4020
BN	 0.7720	 0.4610
BO	 0.7430	 0.4370
BP	 0.7280	 0.4460
BQ	 0.7530	 0.4590
BR	 0.7160	 0.3890
BS	 0.7550	 0.4500
BT	 0.7140	 0.4400
BU	 0.7220	 0.4260
BV	 0.7000	 0.4500
BW	 0.5760	 0.3170
BX	 0.7130	 0.4280
BY	 0.7160	 0.4270
BZ	 0.7470	 0.3990
Ba	 0.7950	 0.4520
Bb	 0.6600	 0.3700
Bc	 0.6290	 0.3620
Bd	 0.7350	 0.4430
Be	 0.7580	 0.4550
Bf	 0.7740	 0.4620
Bg	 0.7120	 0.4330
Bh	 0.7340	 0.4130
Bi	 0.7240	 0.4000
Bj	 0.8250	 0.4710

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Chain	Atom inclusion	Q-score
Bk	 0.6340	 0.3640
Bl	 0.7260	 0.4500
Bm	 0.7280	 0.4220
Bo	 0.7080	 0.4360
Bp	 0.7130	 0.4270
Br	 0.7430	 0.4560
Bs	 0.0440	 0.0350
Bt	 0.0450	 0.0550
Ct	 0.1950	 0.1080
Cu	 0.3250	 0.2200
DA	 0.0350	 0.0460
DB	 0.1690	 0.0860
DC	 0.1490	 0.0510
EA	 0.1620	 0.0470