Full wwPDB EM Validation Report ⓘ

Nov 6, 2023 – 10:58 AM JST

PDB ID	:	8IE3
EMDB ID	:	EMD-35375
Title	:	human nuclear pre-60S ribosomal particle - State E
Authors	:	Zhang, Y.; Gao, N.
Deposited on	:	2023-02-15
Resolution	:	3.30 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:

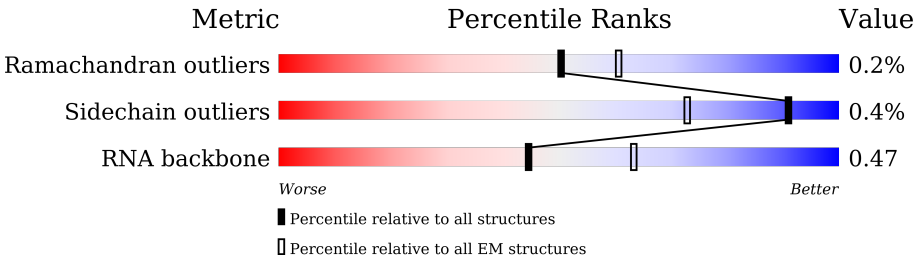
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 3.30 Å.

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



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	5	120	11% 64% 34%
2	6	245	27% 98%
3	7	163	6% 82% 17%
4	8	156	62% 34%
5	9	134	72% 71% 28%
6	B	403	99%
7	C	159	27% 58% 42%
8	D	427	83% 16%

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Mol	Chain	Length	Quality of chain
9	E	115	58% 83% 15%
10	F	117	14% 93% 7%
11	G	266	21% 89% 9%
12	H	123	99%
13	I	192	9% 97%
14	K	105	6% 95%
15	L	148	88% 11%
16	M	97	89% 11%
17	O	70	27% 97%
18	P	51	94%
19	Q	211	8% 98%
20	S	215	62% 37%
21	U	204	6% 98%
22	V	203	98%
23	X	92	41% 99%
24	Z	188	80% 19%
25	a	196	21% 75% 24%
26	b	176	100%
27	c	160	12% 96%
28	e	140	6% 92% 6%
29	g	156	75% 24%
30	h	145	92% 8%
31	i	136	49% 96%
32	l	137	91% 9%
33	m	257	31% 96%

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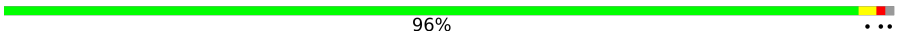
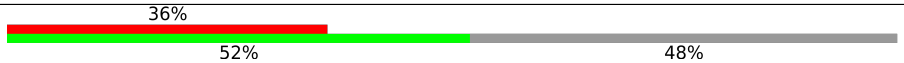
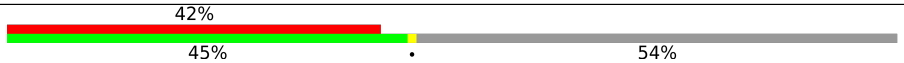
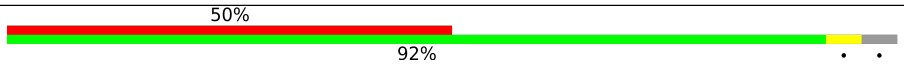
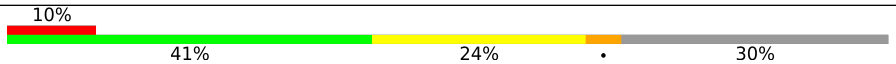
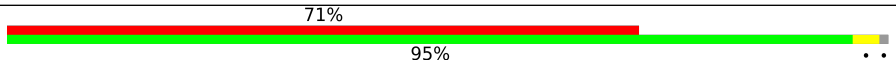
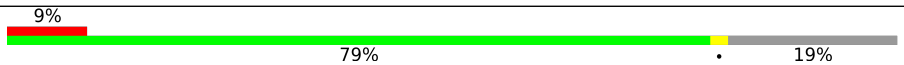
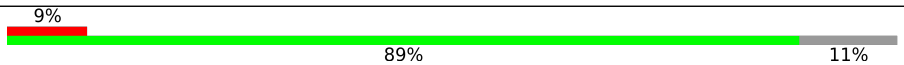
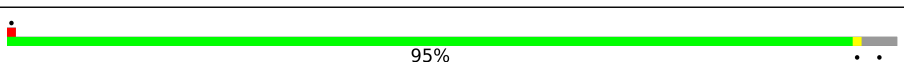
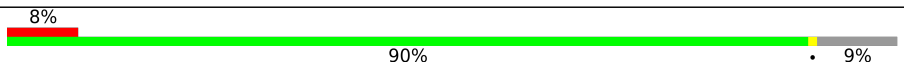
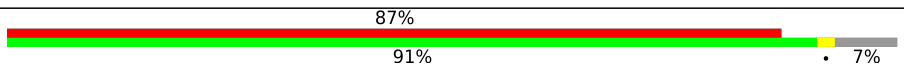
Mol	Chain	Length	Quality of chain
34	n	110	
35	o	288	
36	p	248	
37	z	129	
38	A	731	
39	4	634	
40	R	260	
41	2	5054	
42	r	297	
43	d	128	
44	j	125	
45	k	135	
46	Y	184	
47	J	239	
48	T	178	

2 Entry composition

There are 48 unique types of molecules in this entry. The entry contains 145205 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 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	5	120	2558	1141	456	842	119	0	0

- Molecule 2 is a protein called Eukaryotic translation initiation factor 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	6	244	1852	1149	318	372	13	0	0

- Molecule 3 is a protein called Probable ribosome biogenesis protein RLP24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	7	135	1159	737	225	187	10	0	0

- Molecule 4 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
4	8	156	3315	1481	585	1094	155	0	0

- Molecule 5 is a protein called Zinc finger protein 593.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	9	97	787	481	168	134	4	0	0

- Molecule 6 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	B	402	3244	2065	609	556	14	1	0

- Molecule 7 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	C	93	Total	C	N	O	S	0	0
			764	476	167	117	4		

- Molecule 8 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	D	358	Total	C	N	O	S	0	0
			2853	1797	570	473	13		

- Molecule 9 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	E	98	Total	C	N	O	S	0	0
			764	485	135	138	6		

- Molecule 10 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	F	109	Total	C	N	O	S	0	0
			868	544	179	139	6		

- Molecule 11 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	G	241	Total	C	N	O	S	1	0
			1935	1233	374	324	4		

- Molecule 12 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	H	122	Total	C	N	O	S	0	0
			1015	641	205	168	1		

- Molecule 13 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	I	190	Total	C	N	O	S	0	0
			1518	956	284	272	6		

- Molecule 14 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	K	102	Total	C	N	O	S	0	0
			832	521	177	129	5		

- Molecule 15 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	L	131	Total	C	N	O	S	0	0
			1043	666	205	169	3		

- Molecule 16 is a protein called 60S ribosomal protein L37.

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

- Molecule 17 is a protein called 60S ribosomal protein L38.

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

- Molecule 18 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	P	50	Total	C	N	O	S	0	0
			444	281	98	64	1		

- Molecule 19 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Q	210	Total	C	N	O	S	0	0
			1701	1064	352	281	4		

- Molecule 20 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	S	135	Total	C	N	O	S	0	0
			1111	713	213	178	7		

- Molecule 21 is a protein called 60S ribosomal protein L15.

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

- Molecule 22 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	V	201	Total	C	N	O	S	0	0
			1650	1063	321	261	5		

- Molecule 23 is a protein called 60S ribosomal protein L37a.

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

- Molecule 24 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Z	152	Total	C	N	O	S	0	0
			1227	770	248	204	5		

- Molecule 25 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	a	148	Total	C	N	O	S	0	0
			1239	772	266	192	9		

- Molecule 26 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	b	176	Total	C	N	O	S	0	0
			1461	930	284	236	11		

- Molecule 27 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	c	155	Total	C	N	O	S	0	0
			1264	801	248	210	5		

- Molecule 28 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	e	131	Total	C	N	O	S	0	0
			979	618	184	172	5		

- Molecule 29 is a protein called 60S ribosomal protein L23a.

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
32	l	125	Total	C	N	O	S	0	0
			1002	622	207	168	5		

- Molecule 33 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	m	248	Total	C	N	O	S	0	0
			1898	1189	389	314	6		

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	n	109	Total	C	N	O	S	0	0
			876	555	174	144	3		

- Molecule 35 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	o	235	Total	C	N	O	S	0	0
			1897	1217	360	316	4		

- Molecule 36 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	p	225	Total	C	N	O	S	1	0
			1878	1207	361	301	9		

- Molecule 37 is a protein called Protein LLP homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	z	67	Total	C	N	O	S	0	0
			581	363	128	88	2		

- Molecule 38 is a protein called G Protein Nucleolar 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	A	333	Total	C	N	O	S	0	0
			2672	1710	457	497	8		

- Molecule 39 is a protein called GTP-binding protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	4	608	Total	C	N	O	S	0	0
			4992	3138	912	915	27		

- Molecule 40 is a protein called Ribosome biogenesis protein NSA2 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	R	225	Total	C	N	O	S	0	0
			1843	1178	350	307	8		

- Molecule 41 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	2	3519	Total	C	N	O	P	0	0
			75565	33698	13833	24516	3518		

- Molecule 42 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	r	293	Total	C	N	O	S	0	0
			2382	1507	434	427	14		

- Molecule 43 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	d	104	Total	C	N	O	S	0	0
			850	542	149	157	2		

- Molecule 44 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	j	111	Total	C	N	O	S	0	0
			918	578	178	160	2		

- Molecule 45 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	k	129	Total	C	N	O	S	0	0
			1064	673	220	166	5		

- Molecule 46 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	Y	167	Total	C	N	O	S	0	0
			1355	848	260	238	9		

- Molecule 47 is a protein called mRNA turnover protein 4 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	J	203	Total	C	N	O	S	0	0
			1658	1058	289	300	11		

- Molecule 48 is a protein called 60S ribosomal protein L11.

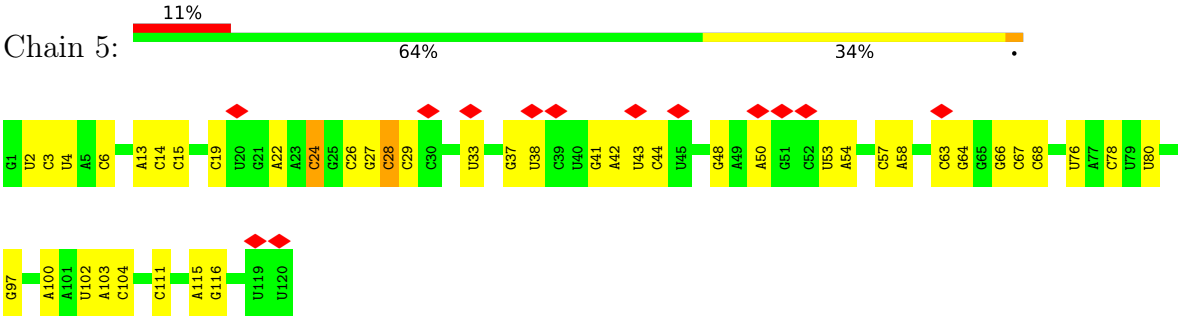
Mol	Chain	Residues	Atoms					AltConf	Trace
48	T	165	Total	C	N	O	S	0	0
			1319	836	245	233	5		

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.

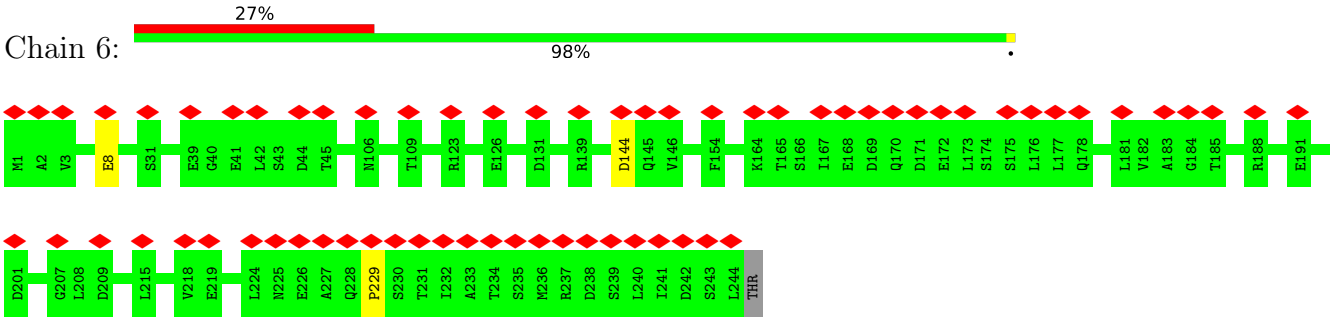
• Molecule 1: 5S rRNA

Chain 5:



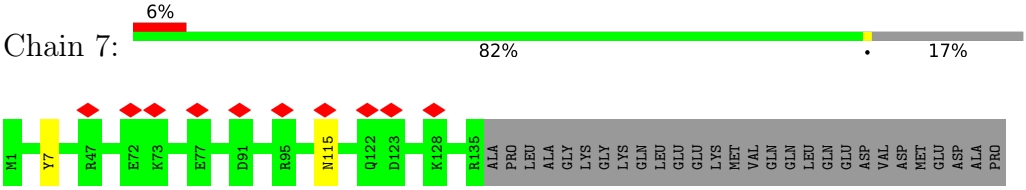
• Molecule 2: Eukaryotic translation initiation factor 6

Chain 6:



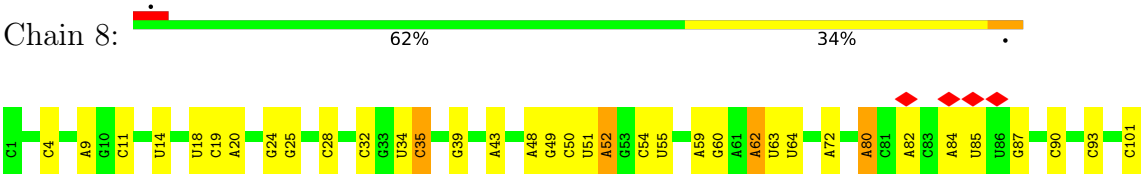
• Molecule 3: Probable ribosome biogenesis protein RLP24

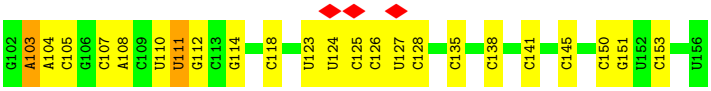
Chain 7:



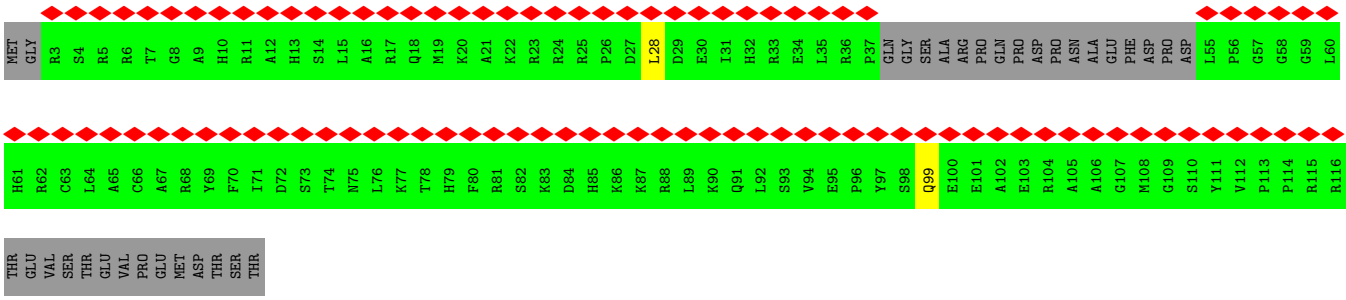
• Molecule 4: 5.8S rRNA

Chain 8:

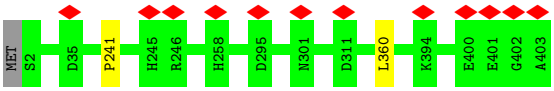




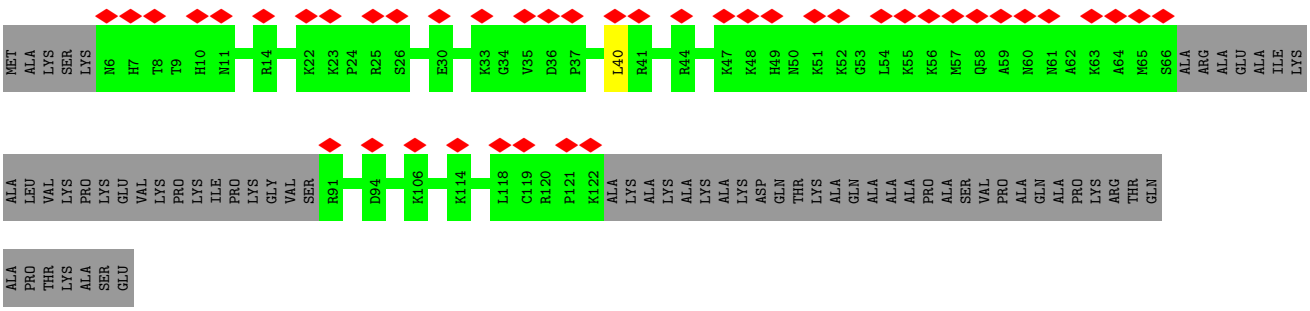
• Molecule 5: Zinc finger protein 593



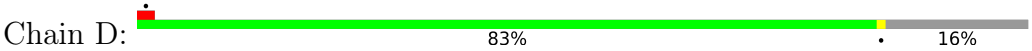
• Molecule 6: 60S ribosomal protein L3

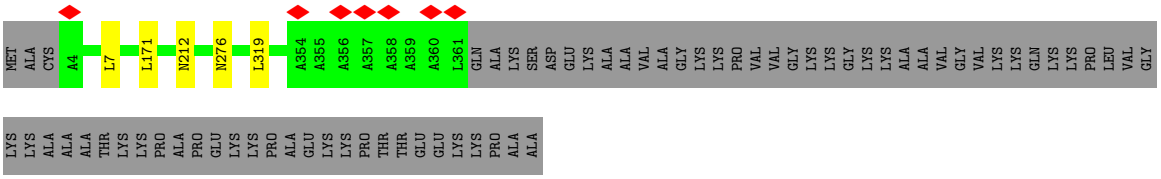


• Molecule 7: 60S ribosomal protein L29



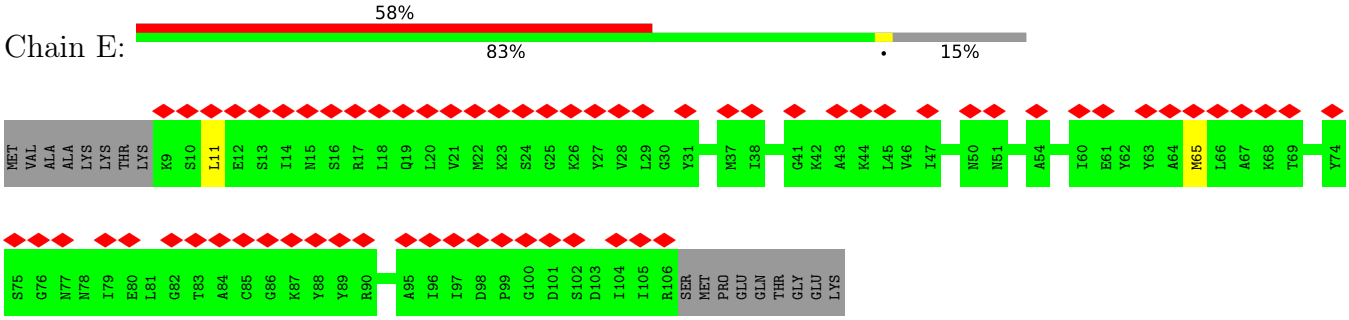
• Molecule 8: 60S ribosomal protein L4





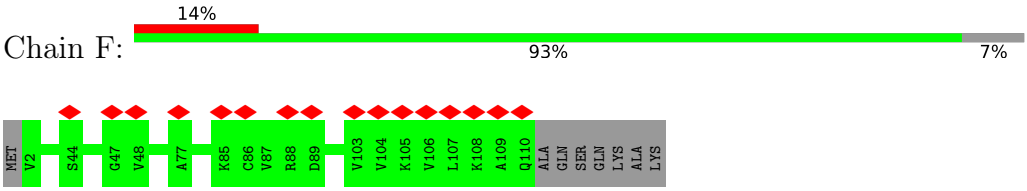
• Molecule 9: 60S ribosomal protein L30

Chain E:



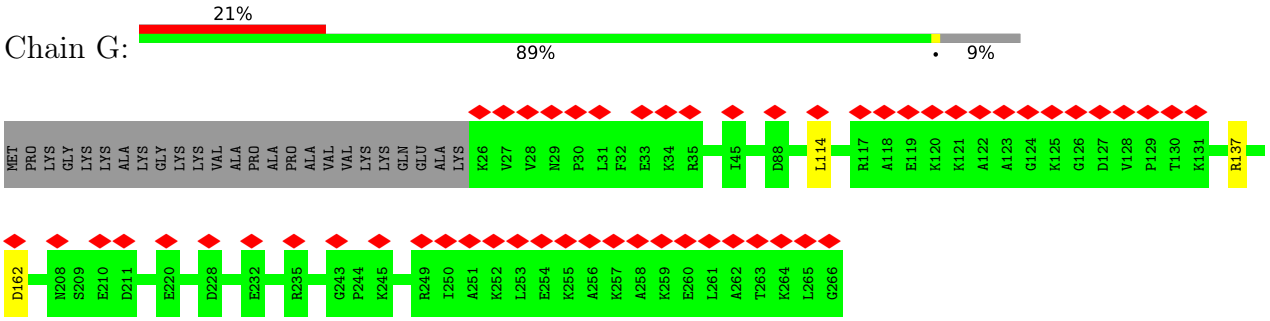
- Molecule 10: 60S ribosomal protein L34

Chain F:



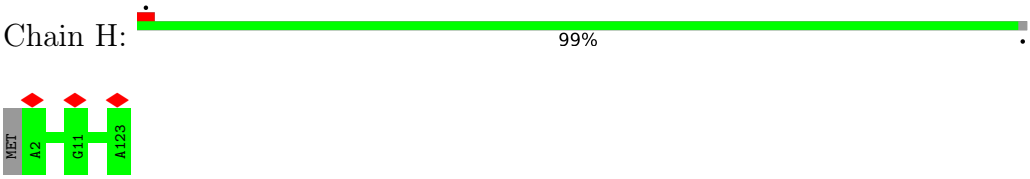
- Molecule 11: 60S ribosomal protein L7a

Chain G:



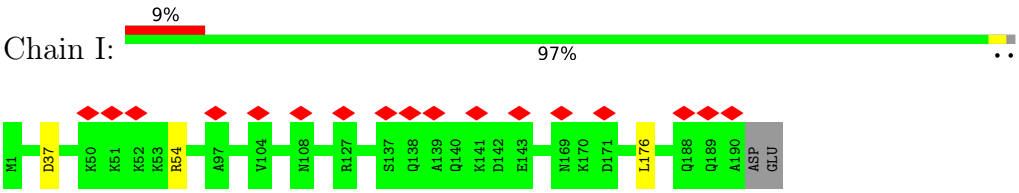
- Molecule 12: 60S ribosomal protein L35

Chain H:



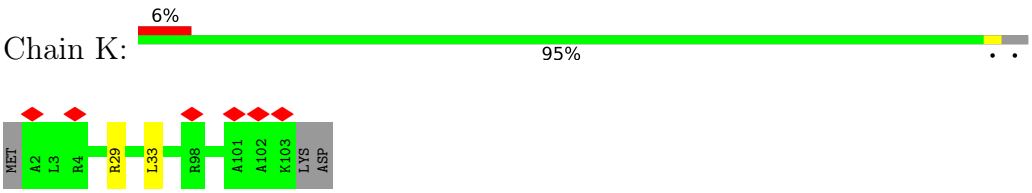
- Molecule 13: 60S ribosomal protein L9

Chain I:

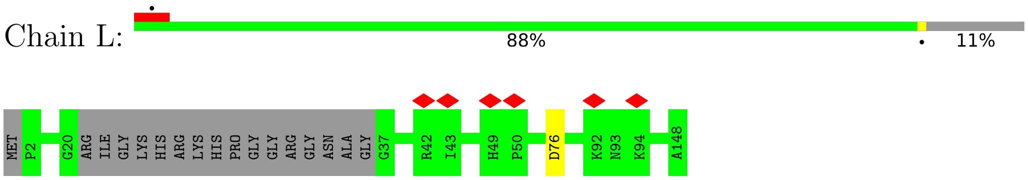


- Molecule 14: 60S ribosomal protein L36

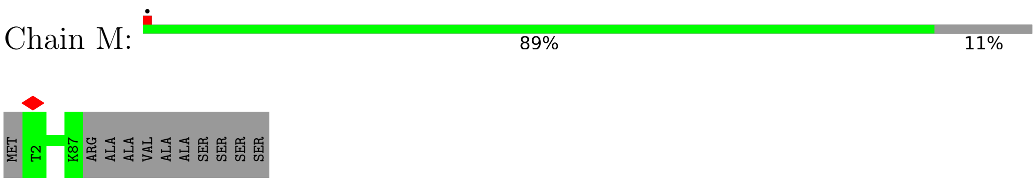
Chain K:



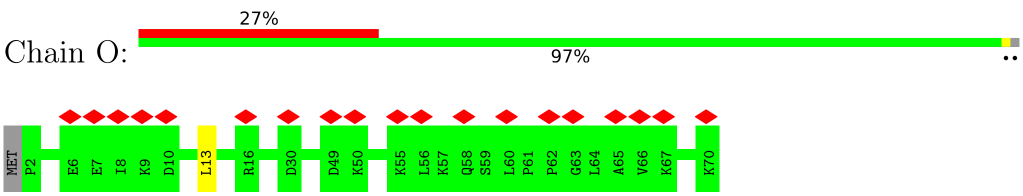
• Molecule 15: 60S ribosomal protein L27a



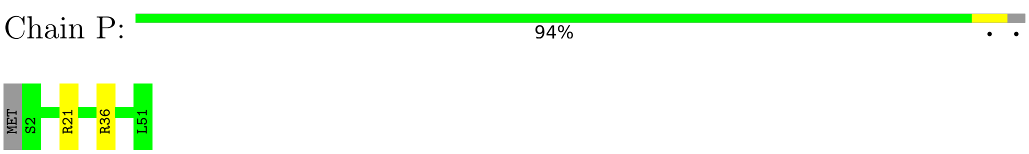
• Molecule 16: 60S ribosomal protein L37



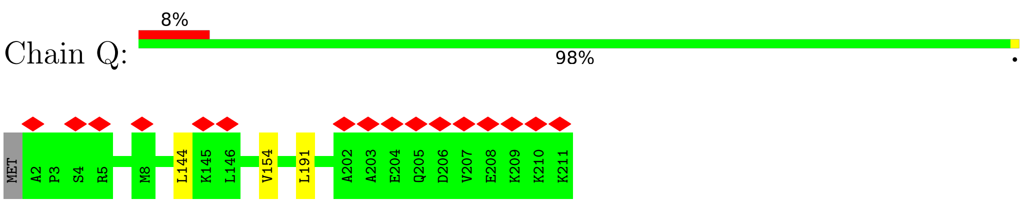
• Molecule 17: 60S ribosomal protein L38



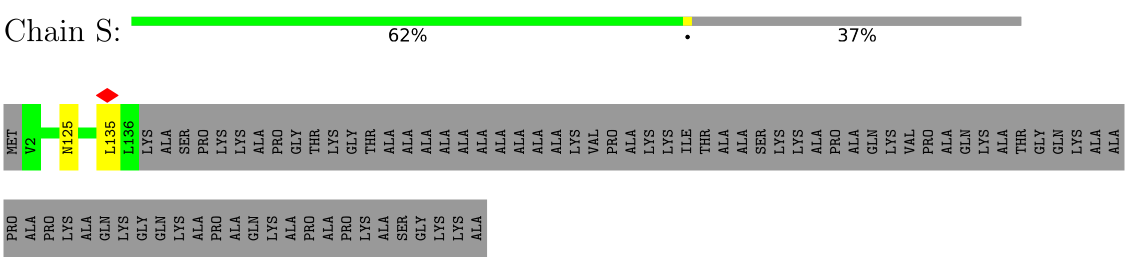
• Molecule 18: 60S ribosomal protein L39



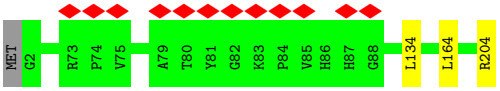
• Molecule 19: 60S ribosomal protein L13



• Molecule 20: 60S ribosomal protein L14

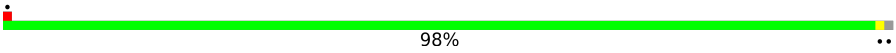


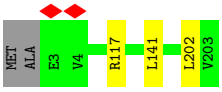
• Molecule 21: 60S ribosomal protein L15



• Molecule 22: 60S ribosomal protein L13a

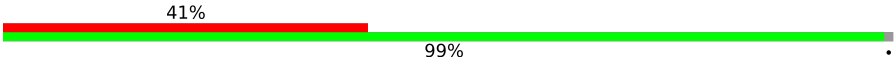
Chain V:

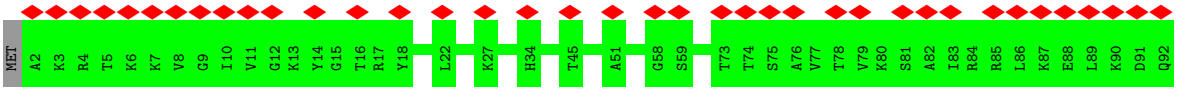




• Molecule 23: 60S ribosomal protein L37a

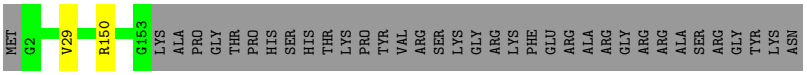
Chain X:





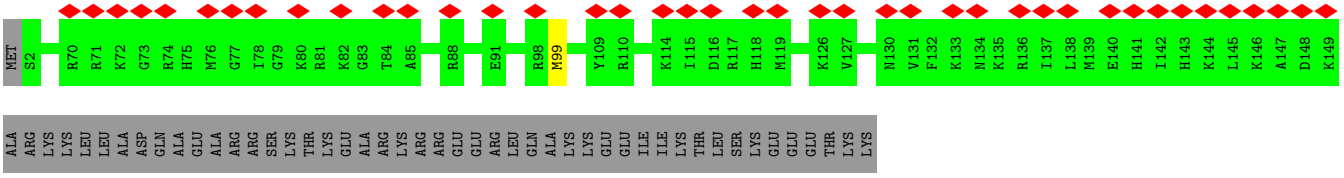
• Molecule 24: 60S ribosomal protein L18

Chain Z:



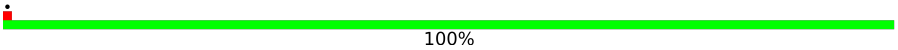
• Molecule 25: 60S ribosomal protein L19

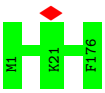
Chain a:



• Molecule 26: 60S ribosomal protein L18a

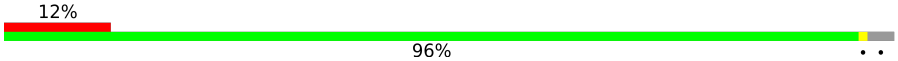
Chain b:

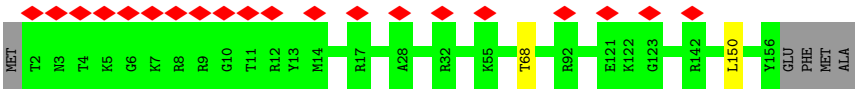




• Molecule 27: 60S ribosomal protein L21

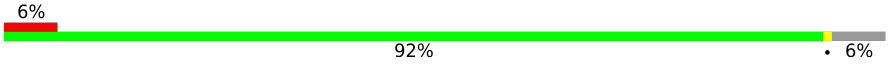
Chain c:

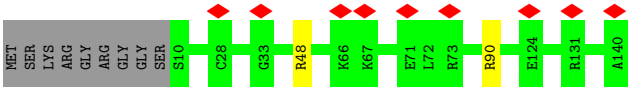




• Molecule 28: 60S ribosomal protein L23

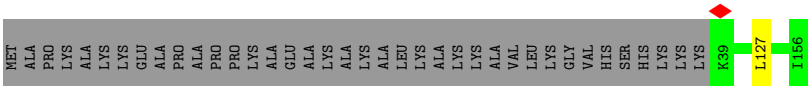
Chain e:





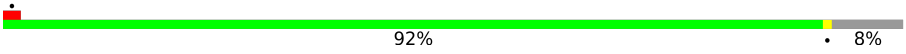
• Molecule 29: 60S ribosomal protein L23a

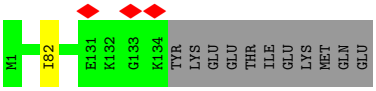
Chain g:



• Molecule 30: 60S ribosomal protein L26

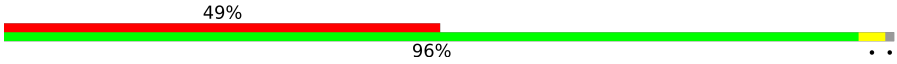
Chain h:

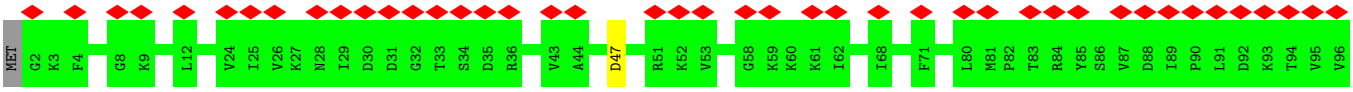


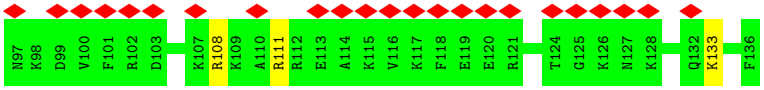


• Molecule 31: 60S ribosomal protein L27

Chain i:

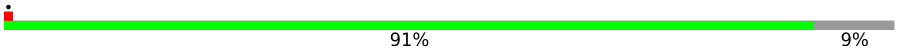


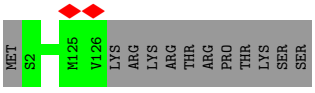




• Molecule 32: 60S ribosomal protein L28

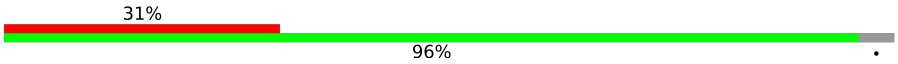
Chain l:

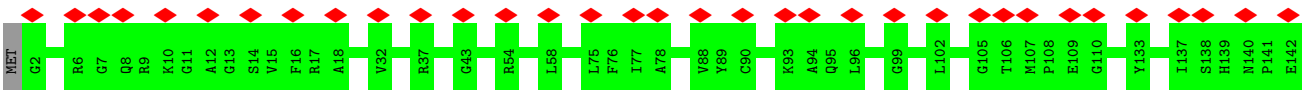


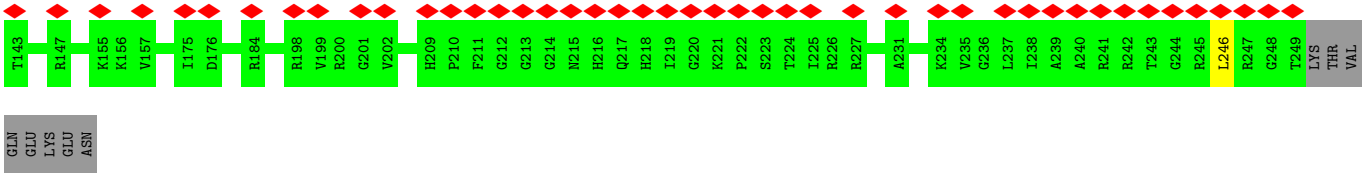


• Molecule 33: 60S ribosomal protein L8

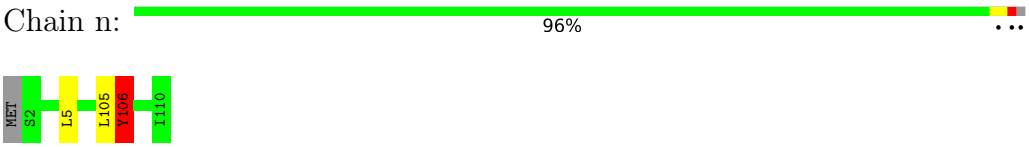
Chain m:



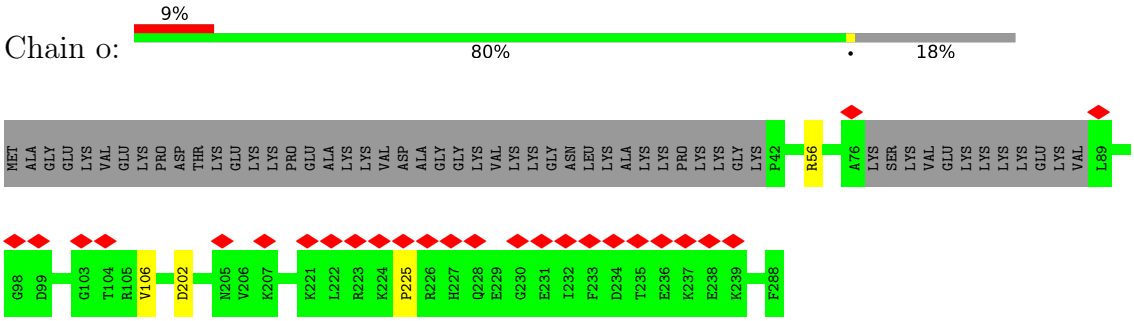




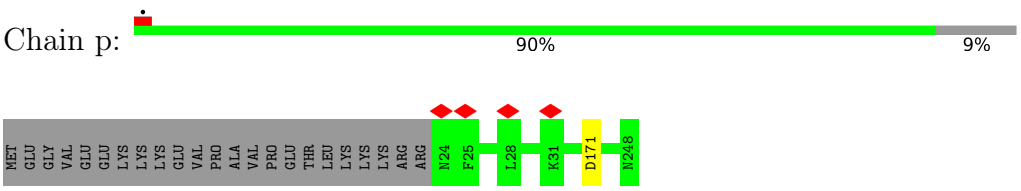
• Molecule 34: 60S ribosomal protein L35a



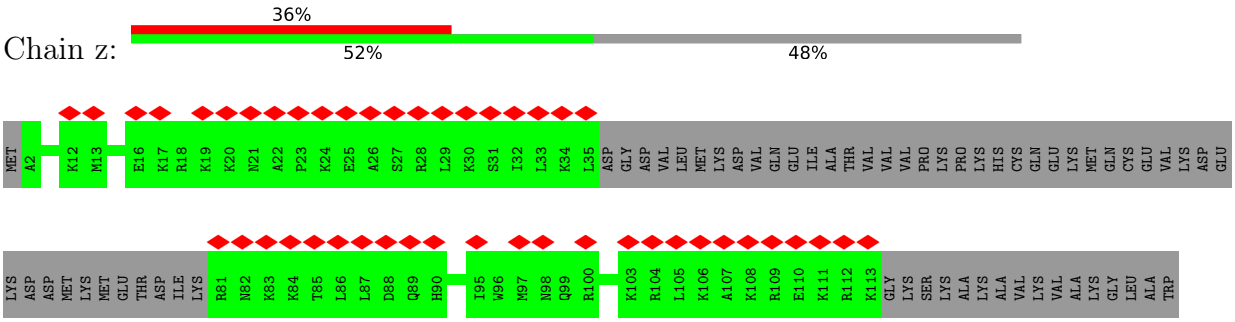
• Molecule 35: 60S ribosomal protein L6



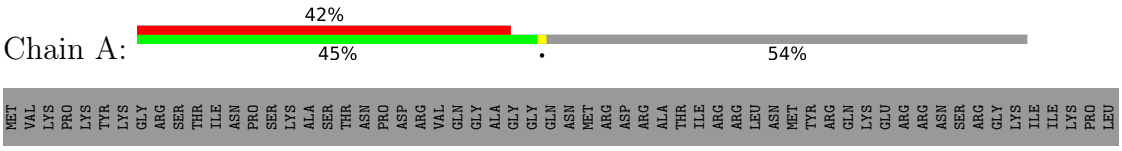
• Molecule 36: 60S ribosomal protein L7

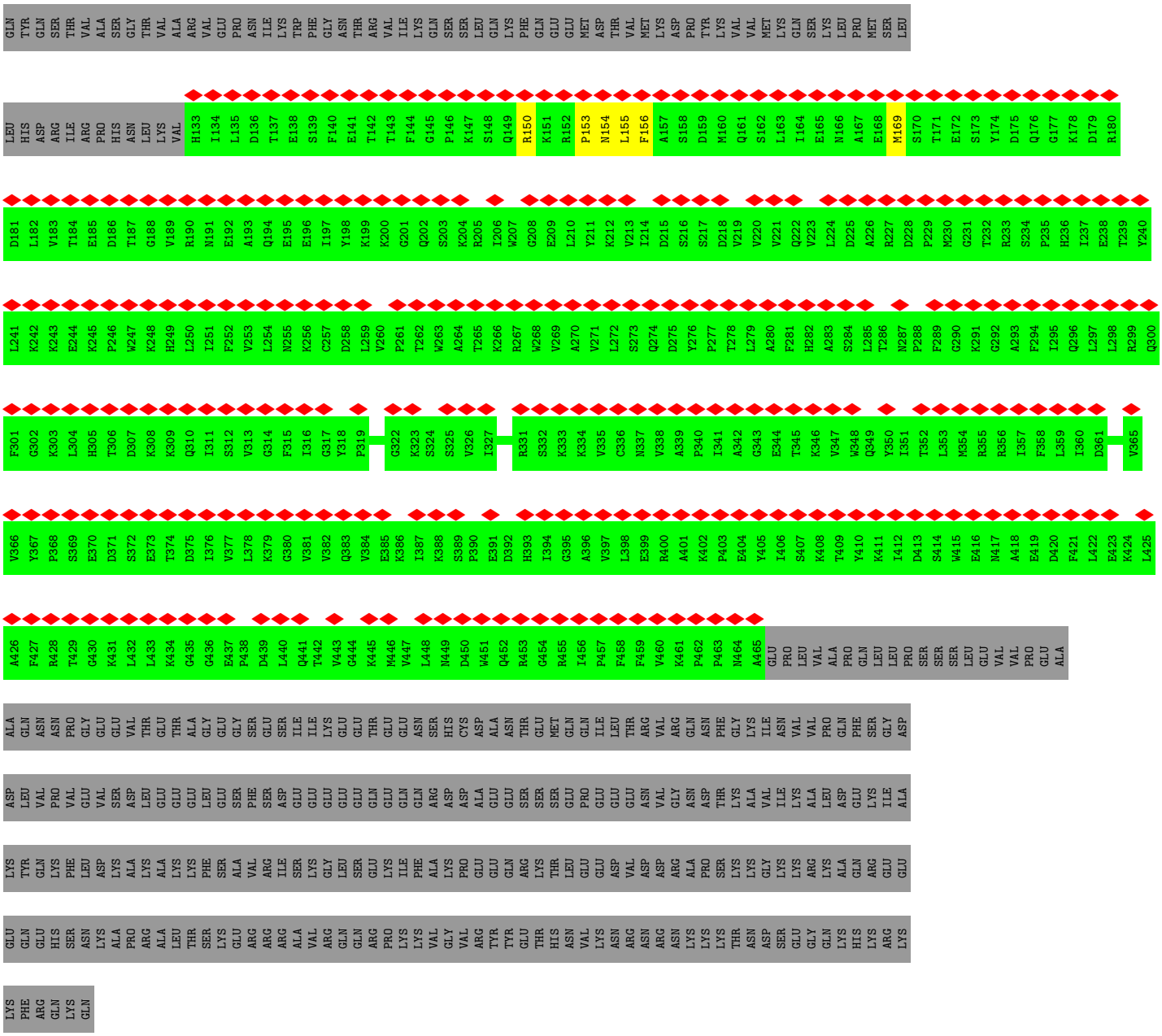


• Molecule 37: Protein LLP homolog



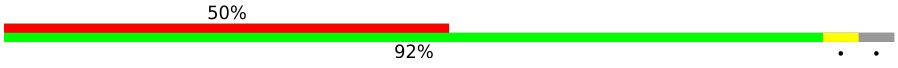
• Molecule 38: G Protein Nucleolar 2

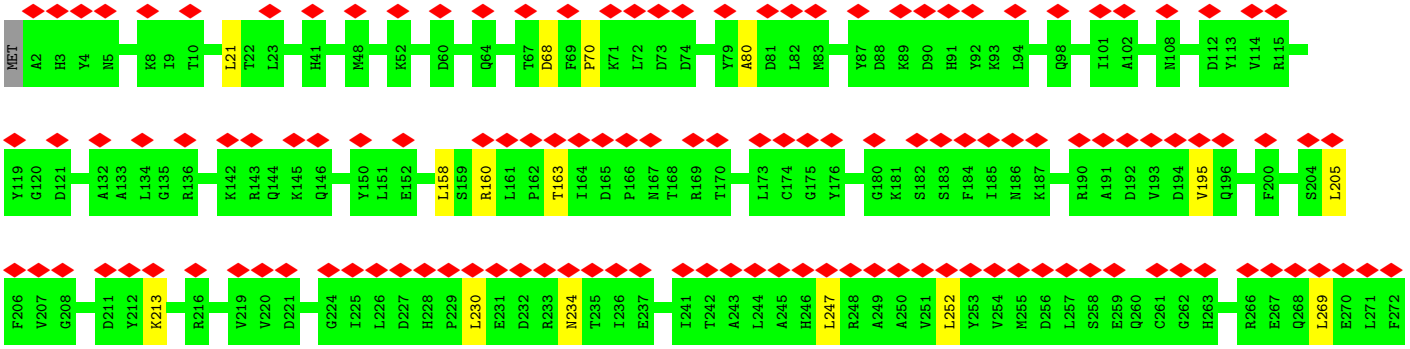


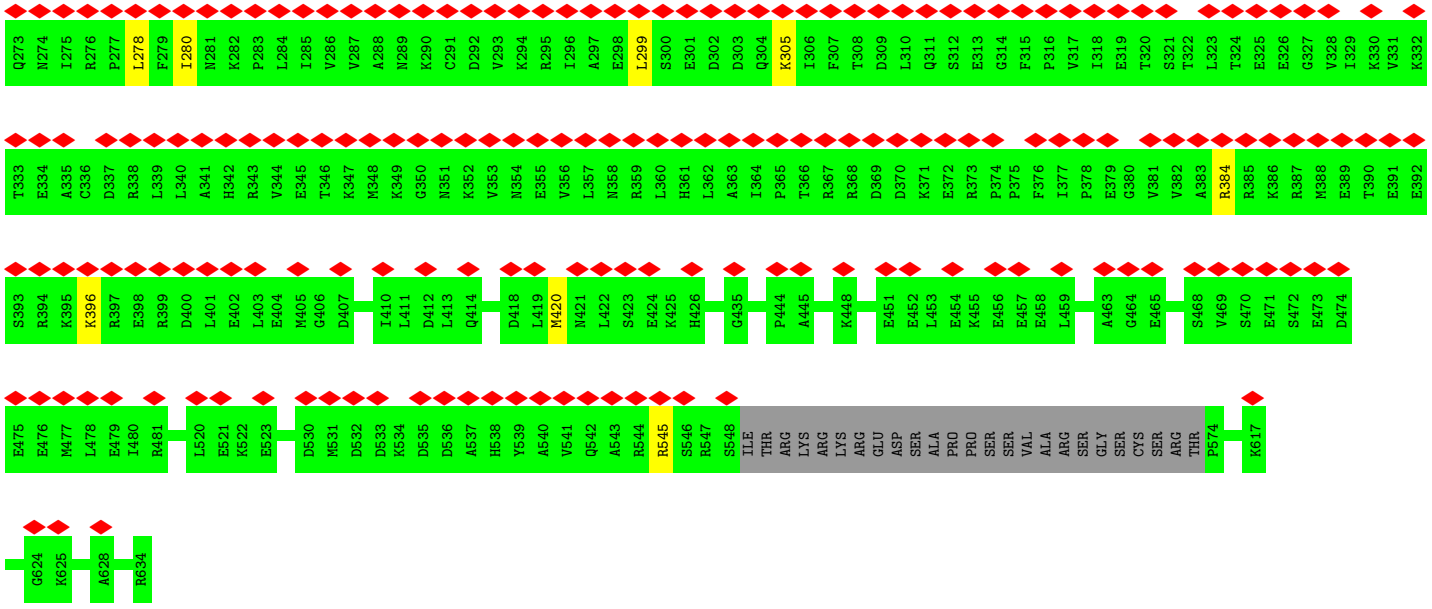


• Molecule 39: GTP-binding protein 4

Chain 4:

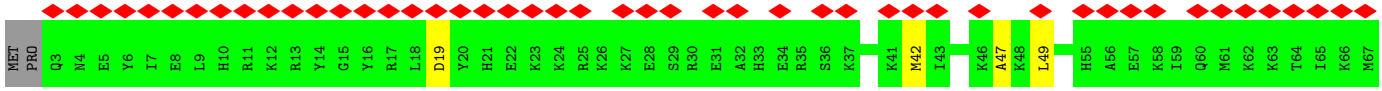






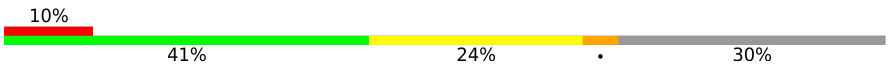
• Molecule 40: Ribosome biogenesis protein NSA2 homolog

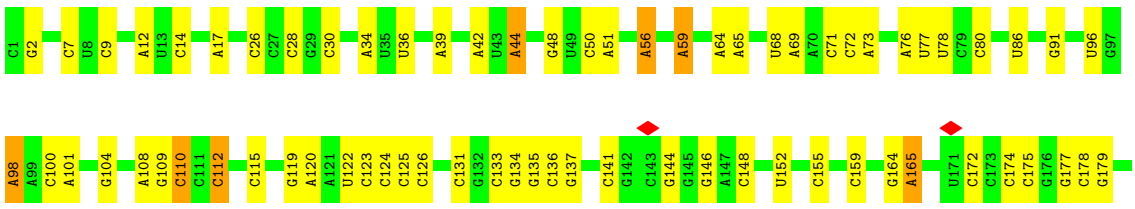
Chain R:

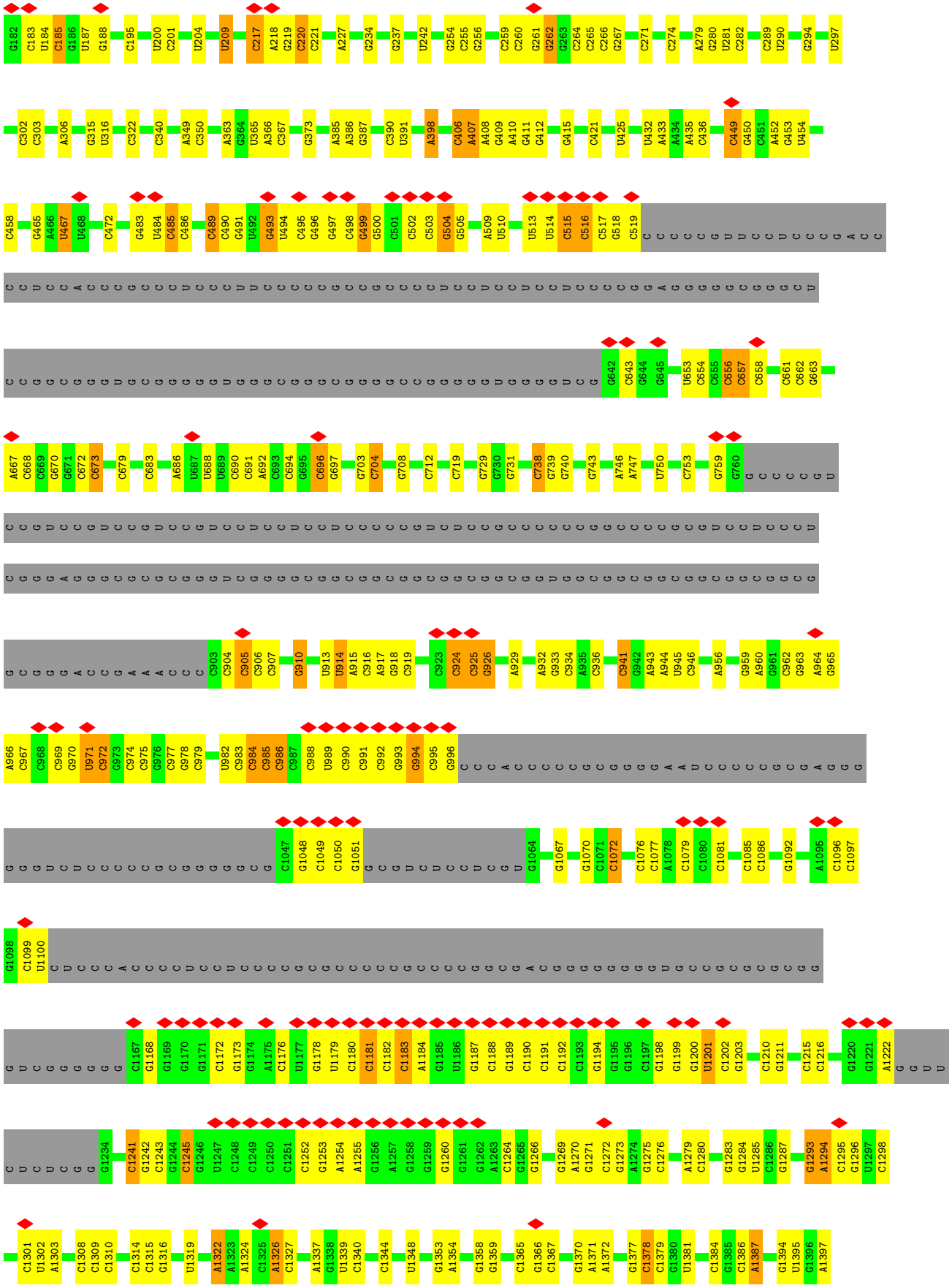


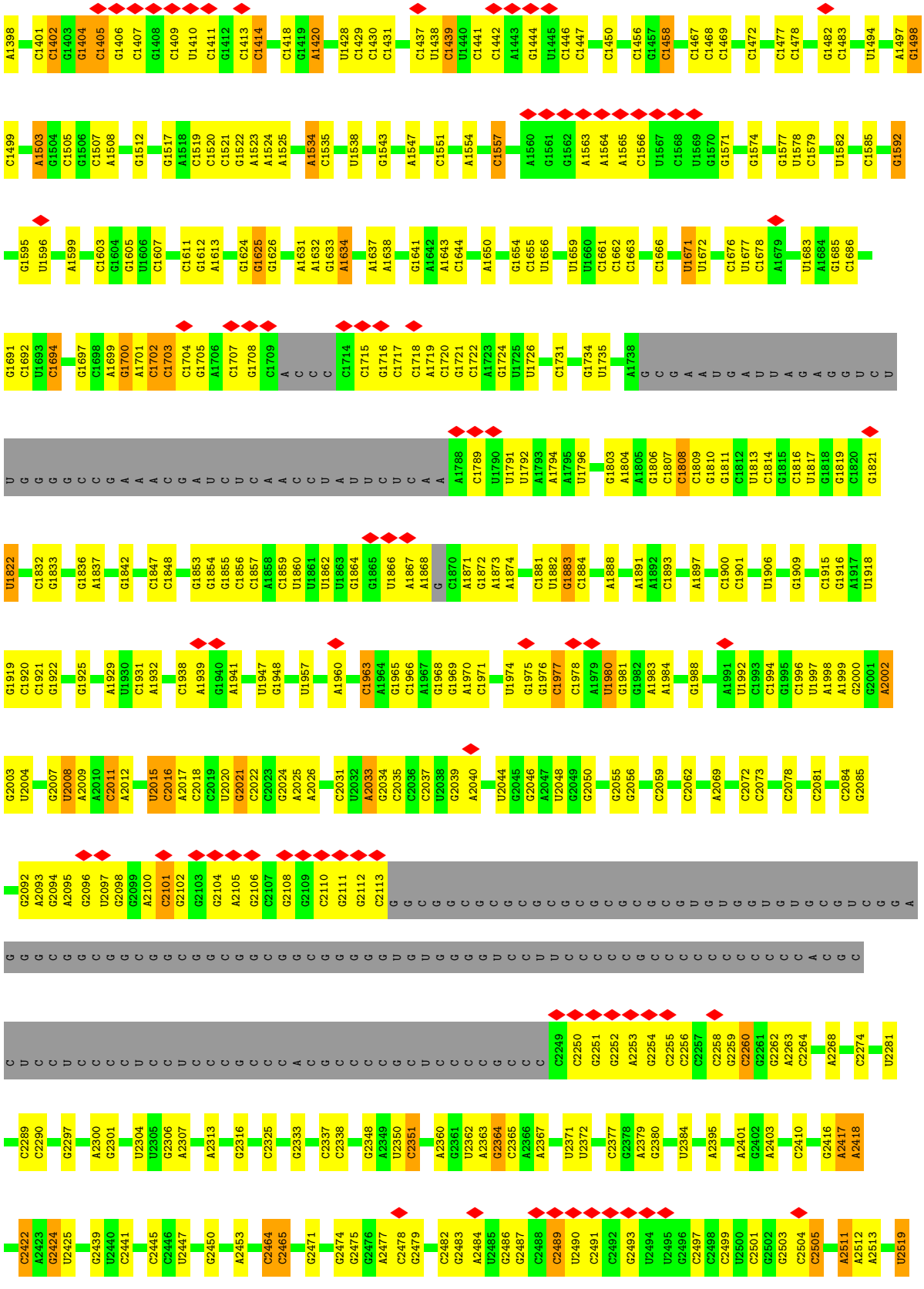
• Molecule 41: 28S rRNA

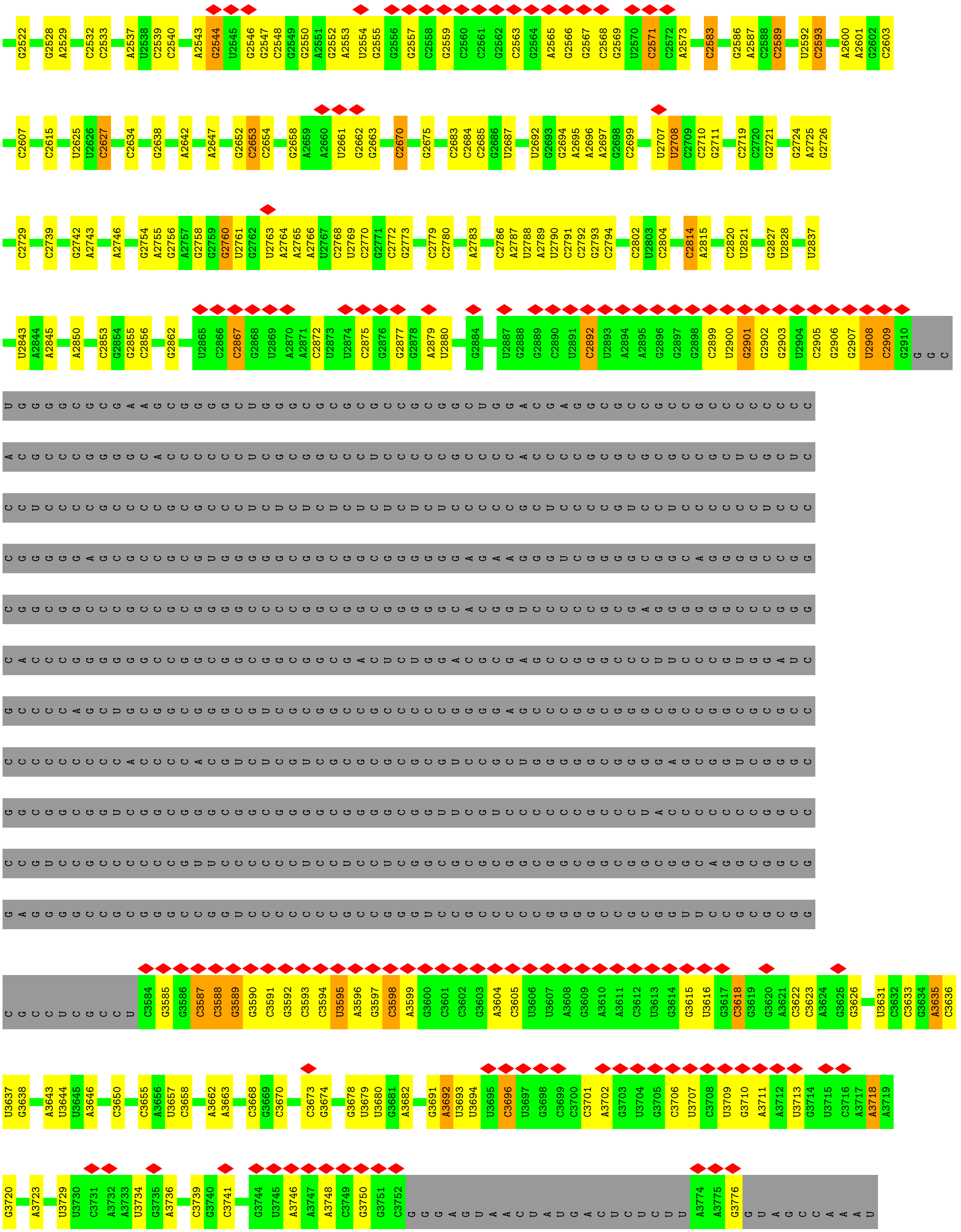
Chain 2:







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C2607 C2615 U2625 U2626 C2627 C2634 G2638 A2642 A2647 G2652 C2653 C2654 G2658 A2659 A2660 U2661 G2662 G2663 C2670 G2675 C2683 C2684 C2685 G2686 U2687 U2692 G2693 G2694 A2695 A2696 A2697 G2698 C2699 U2707 U2708 C2709 C2710 G2711 C2719 C2720 G2721 G2724 A2725 G2726
C2729 C2739 G2742 A2743 A2746 G2754 A2755 G2756 A2757 G2758 G2759 G2760 U2761 G2762 U2763 A2764 A2765 A2766 U2767 C2768 U2769 C2770 G2771 C2772 G2773 C2779 C2780 A2783 C2786 A2787 U2788 A2789 U2790 C2791 C2792 G2793 C2794 C2802 U2803 C2804 C2814 A2815 C2820 U2821 G2827 U2828 U2837
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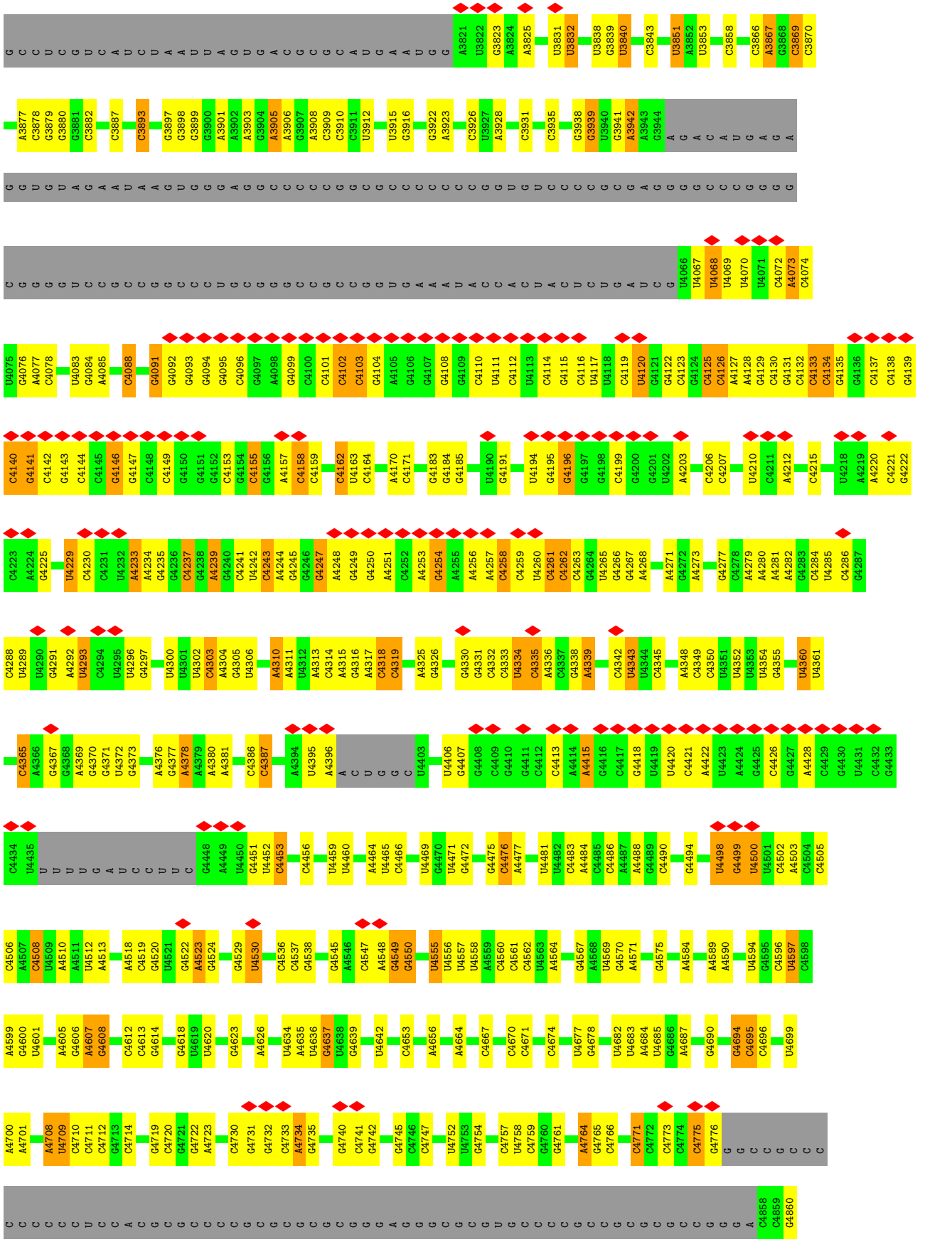
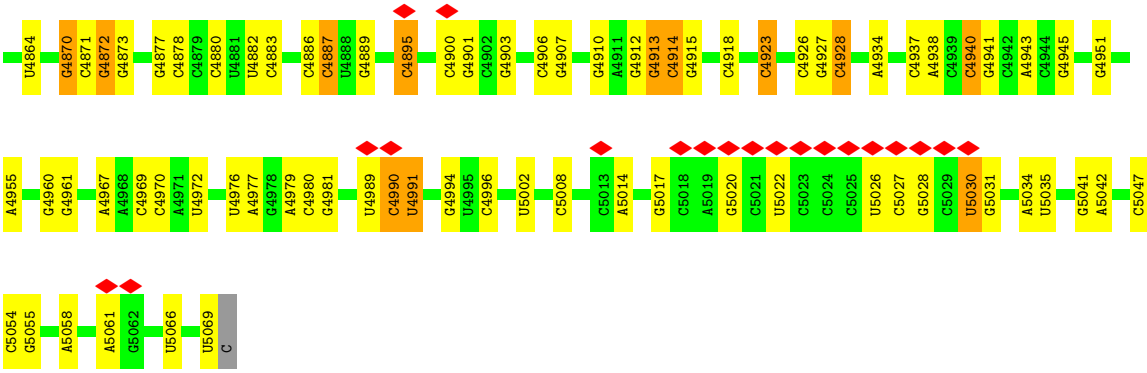
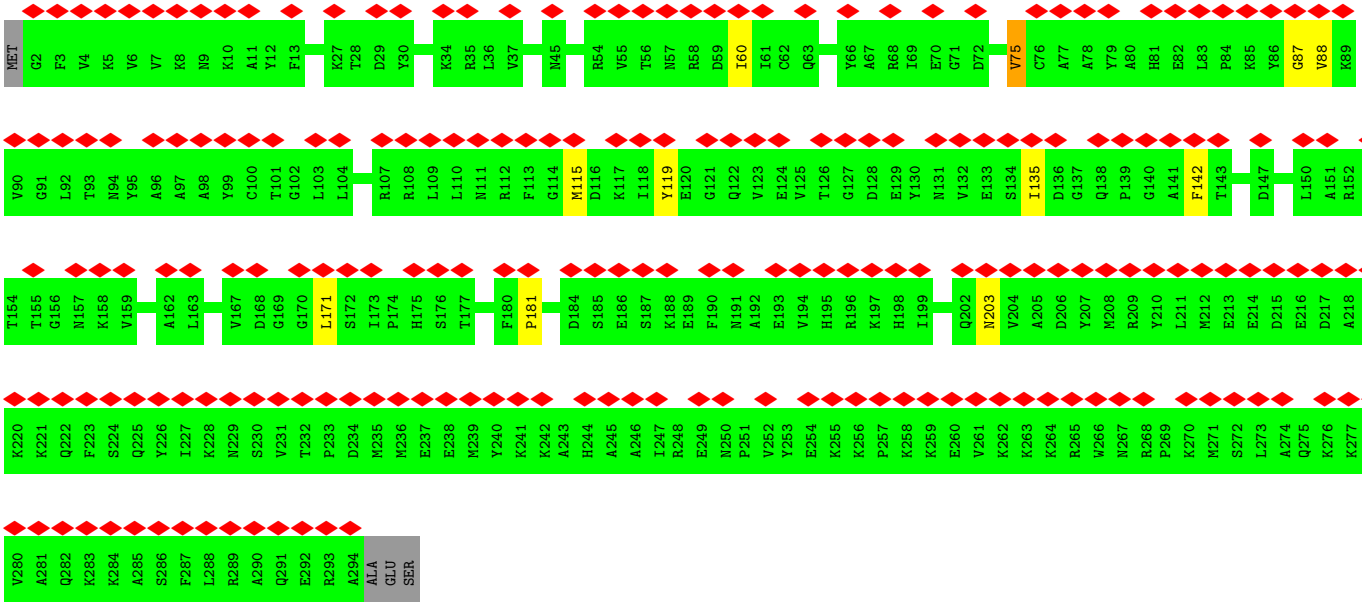
U3637 G3638 A3643 U3644 U3645 A3646 C3650 C3655 A3656 U3657 C3658 A3662 A3663 C3668 G3669 C3670 C3673 G3674 G3678 U3679 U3680 G3681 A3682 G3691 A3692 U3693 U3694 U3695 C3696 U3697 G3698 C3699 C3700 C3701 A3702 G3703 U3704 G3705 C3706 U3707 C3708 U3709 G3710 A3711 A3712 U3713 G3714 U3715 C3716 A3717 A3718 A3719
G3720 A3723 U3729 U3730 C3731 A3732 A3733 U3734 G3735 A3736 C3739 G3740 C3741 G3744 U3745 A3746 A3747 A3748 C3749 G3750 G3751 C3752 G G A G U A A C U A U G A C U C U C U U A3774 A3775 G3776 G U A G C C A A A U

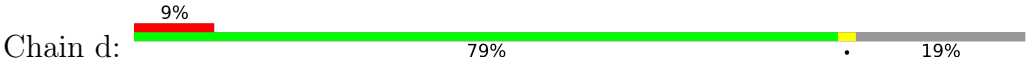


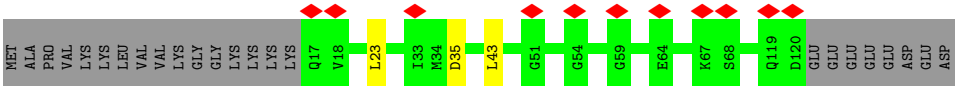


• Molecule 42: 60S ribosomal protein L5

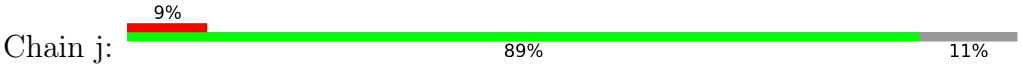


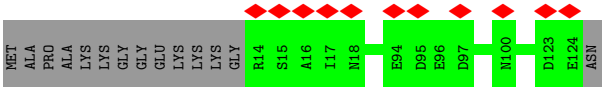
• Molecule 43: 60S ribosomal protein L22





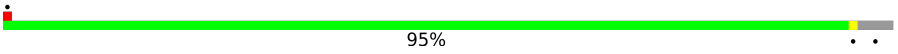
• Molecule 44: 60S ribosomal protein L31

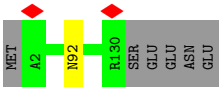




• Molecule 45: 60S ribosomal protein L32

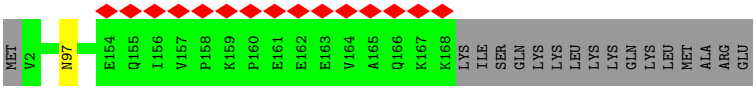
Chain k:





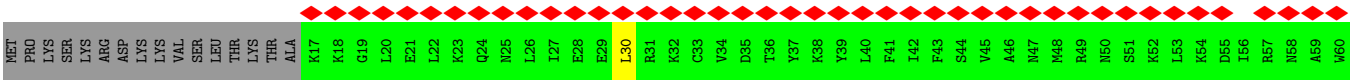
• Molecule 46: 60S ribosomal protein L17

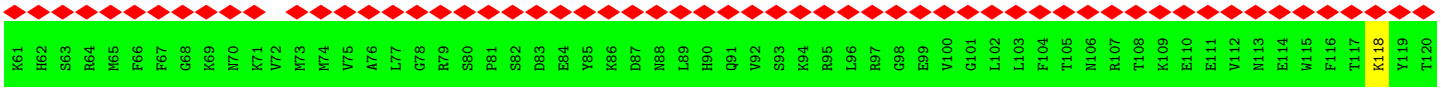
Chain Y:

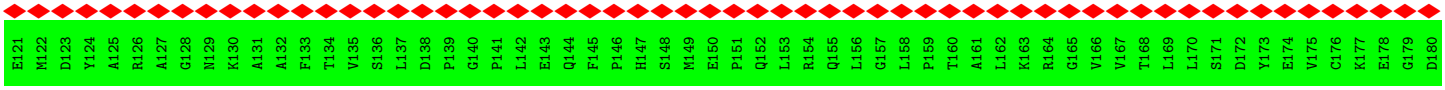


• Molecule 47: mRNA turnover protein 4 homolog

Chain J:

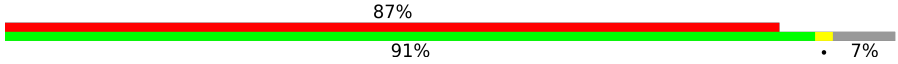


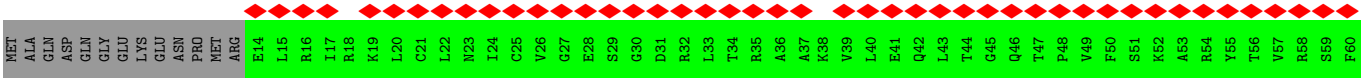


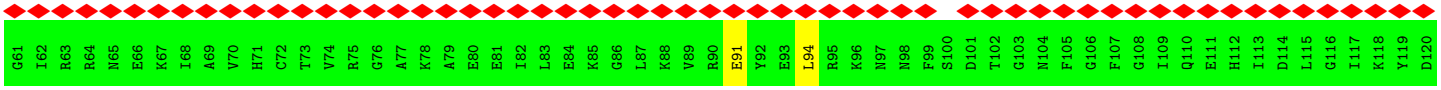


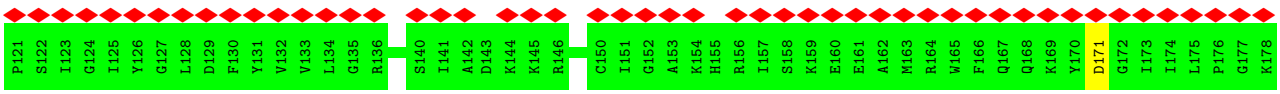
• Molecule 48: 60S ribosomal protein L11

Chain T:









4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	34292	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.8	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.176	Depositor
Minimum map value	-0.052	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.035	Depositor
Map size (Å)	548.0, 548.0, 548.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.37, 1.37, 1.37	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: UR3, E7G, E6G, 5MU, B8Q, OMC, B9H, P7G, 6MZ, A2M, I4U, P4U, MHG, B8K, OMG, BGH, 1MA, 7MG, OMU, 2MG, B8T, B8W, M7A, B9B

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	5	0.47	0/2858	1.45	65/4455 (1.5%)
2	6	0.36	0/1877	0.78	2/2554 (0.1%)
3	7	0.39	0/1181	0.72	1/1563 (0.1%)
4	8	0.51	0/3679	1.45	68/5732 (1.2%)
5	9	0.31	0/802	0.82	1/1069 (0.1%)
6	B	0.33	0/3315	0.70	1/4435 (0.0%)
7	C	0.33	0/777	0.74	1/1026 (0.1%)
8	D	0.33	0/2907	0.75	3/3905 (0.1%)
9	E	0.35	0/774	0.76	2/1038 (0.2%)
10	F	0.32	0/878	0.78	0/1170
11	G	0.36	0/1971	0.73	2/2651 (0.1%)
12	H	0.34	0/1023	0.66	0/1351
13	I	0.37	0/1537	0.80	2/2066 (0.1%)
14	K	0.36	0/843	0.73	1/1115 (0.1%)
15	L	0.31	0/1068	0.69	1/1428 (0.1%)
16	M	0.33	0/720	0.74	0/952
17	O	0.39	0/575	0.78	1/761 (0.1%)
18	P	0.30	0/454	0.66	0/599
19	Q	0.35	0/1732	0.75	2/2315 (0.1%)
20	S	0.35	0/1133	0.70	1/1516 (0.1%)
21	U	0.32	0/1746	0.70	2/2338 (0.1%)
22	V	0.33	0/1682	0.68	2/2250 (0.1%)
23	X	0.32	0/718	0.66	0/953
24	Z	0.30	0/1243	0.69	1/1663 (0.1%)
25	a	0.36	0/1255	0.78	2/1662 (0.1%)
26	b	0.33	0/1501	0.65	0/2013
27	c	0.35	0/1291	0.74	2/1725 (0.1%)
28	e	0.31	0/993	0.72	1/1332 (0.1%)
29	g	0.32	0/984	0.64	1/1323 (0.1%)
30	h	0.34	0/1132	0.72	1/1504 (0.1%)
31	i	0.39	0/1130	0.80	1/1507 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	l	0.31	0/1017	0.69	0/1364
33	m	0.33	0/1936	0.74	1/2596 (0.0%)
34	n	0.32	0/895	0.78	4/1198 (0.3%)
35	o	0.33	0/1935	0.72	2/2596 (0.1%)
36	p	0.35	0/1916	0.70	1/2553 (0.0%)
37	z	0.32	0/587	0.73	0/767
38	A	0.34	0/2733	0.65	2/3697 (0.1%)
39	4	0.37	0/5075	0.82	10/6807 (0.1%)
40	R	0.34	0/1878	0.75	3/2503 (0.1%)
41	2	1.70	12/82657 (0.0%)	1.46	1519/128870 (1.2%)
42	r	0.40	0/2428	0.86	5/3252 (0.2%)
43	d	0.41	0/864	0.85	3/1160 (0.3%)
44	j	0.34	0/933	0.71	0/1256
45	k	0.33	0/1082	0.71	0/1443
46	Y	0.32	0/1383	0.64	0/1856
47	J	0.36	0/1692	0.70	2/2270 (0.1%)
48	T	0.37	0/1341	0.81	2/1793 (0.1%)
All	All	1.27	12/154131 (0.0%)	1.23	1721/225952 (0.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	6	0	1
6	B	0	1
19	Q	0	1
31	i	0	1
34	n	0	1
35	o	0	1
38	A	0	2
39	4	0	2
40	R	0	2
41	2	0	1
42	r	0	3
48	T	0	1
All	All	0	17

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4605	A	N3-C4	250.96	2.85	1.34
41	2	4605	A	C6-N1	219.00	2.88	1.35
41	2	4605	A	C5-C4	181.40	2.65	1.38
41	2	4605	A	C2-N3	160.71	2.78	1.33
41	2	4605	A	N1-C2	159.34	2.77	1.34
41	2	4605	A	C5-C6	157.75	2.83	1.41
41	2	4605	A	C8-N7	13.24	1.40	1.31
41	2	4605	A	N9-C8	10.31	1.46	1.37
41	2	3589	G	C6-O6	-6.65	1.18	1.24
41	2	1632	A	N9-C4	5.84	1.41	1.37
41	2	1929	A	N9-C4	5.60	1.41	1.37
41	2	4091	G	N9-C4	5.04	1.42	1.38

All (1721) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4335	C	O5'-P-OP1	-61.45	36.96	110.70
41	2	4605	A	C4-C5-N7	-47.80	86.80	110.70
41	2	4605	A	N7-C8-N9	46.34	136.97	113.80
41	2	4605	A	N9-C4-C5	-30.53	93.59	105.80
41	2	4605	A	N1-C2-N3	-25.97	116.32	129.30
41	2	4605	A	C6-C5-N7	25.68	150.27	132.30
41	2	4605	A	N3-C4-N9	24.57	147.06	127.40
41	2	4605	A	C2-N3-C4	23.51	122.36	110.60
41	2	4335	C	O5'-P-OP2	22.16	137.30	110.70
41	2	4605	A	C5-N7-C8	20.09	113.94	103.90
41	2	4548	A	N1-C6-N6	-17.32	108.21	118.60
41	2	3587	C	N1-C2-O2	16.38	128.73	118.90
41	2	516	C	N1-C2-O2	15.23	128.04	118.90
41	2	3589	G	C5-C6-O6	-14.89	119.66	128.60
41	2	485	C	C2-N1-C1'	14.29	134.52	118.80
41	2	3587	C	C2-N1-C1'	14.07	134.28	118.80
41	2	3587	C	N3-C2-O2	-13.09	112.74	121.90
41	2	485	C	N1-C2-O2	13.00	126.70	118.90
41	2	516	C	N3-C2-O2	-12.64	113.05	121.90
41	2	467	U	N1-C2-O2	12.57	131.60	122.80
41	2	753	C	N1-C2-O2	12.56	126.44	118.90
41	2	3589	G	N3-C4-N9	12.46	133.48	126.00
41	2	3587	C	C6-N1-C2	-12.42	115.33	120.30
41	2	4926	C	N1-C2-O2	12.38	126.33	118.90
41	2	4613	C	N1-C2-O2	12.31	126.29	118.90
41	2	4335	C	OP1-P-OP2	-12.25	101.23	119.60
4	8	128	C	N1-C2-O2	12.21	126.22	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	467	U	N3-C2-O2	-12.19	113.66	122.20
41	2	4258	C	C5-C6-N1	12.05	127.02	121.00
1	5	57	C	N1-C2-O2	11.91	126.05	118.90
41	2	515	C	N1-C2-O2	11.89	126.04	118.90
4	8	128	C	C6-N1-C2	-11.88	115.55	120.30
41	2	516	C	C6-N1-C2	-11.82	115.57	120.30
41	2	4091	G	C4-N9-C1'	11.80	141.84	126.50
41	2	467	U	C2-N1-C1'	11.80	131.86	117.70
41	2	2563	C	N1-C2-O2	11.79	125.97	118.90
41	2	1703	C	N1-C2-O2	11.77	125.96	118.90
41	2	986	C	C2-N1-C1'	11.73	131.70	118.80
41	2	2820	C	N1-C2-O2	11.65	125.89	118.90
41	2	4243	C	N1-C2-O2	11.46	125.78	118.90
41	2	4243	C	C6-N1-C2	-11.37	115.75	120.30
41	2	1216	C	N1-C2-O2	11.23	125.64	118.90
41	2	1963	C	C6-N1-C2	-11.15	115.84	120.30
41	2	100	C	C2-N1-C1'	11.15	131.06	118.80
41	2	4926	C	C6-N1-C2	-11.14	115.84	120.30
41	2	1216	C	C2-N1-C1'	11.14	131.05	118.80
41	2	4091	G	N3-C4-N9	11.07	132.65	126.00
41	2	4267	G	C2-N3-C4	11.07	117.43	111.90
41	2	4243	C	N3-C2-O2	-10.98	114.21	121.90
41	2	4605	A	C4-C5-C6	10.98	122.49	117.00
41	2	753	C	N3-C2-O2	-10.91	114.26	121.90
41	2	77	U	N3-C2-O2	-10.89	114.58	122.20
41	2	4091	G	C8-N9-C1'	-10.86	112.88	127.00
41	2	1183	C	N1-C2-O2	10.80	125.38	118.90
41	2	3590	G	O4'-C1'-N9	10.75	116.80	108.20
4	8	128	C	C2-N1-C1'	10.73	130.60	118.80
41	2	4343	U	C5-C6-N1	10.72	128.06	122.70
41	2	4548	A	C5-C6-N6	10.72	132.27	123.70
41	2	4605	A	N3-C4-C5	-10.70	119.31	126.80
41	2	100	C	N1-C2-O2	10.67	125.30	118.90
41	2	516	C	C2-N1-C1'	10.62	130.48	118.80
41	2	3589	G	C6-N1-C2	-10.60	118.74	125.10
41	2	753	C	C6-N1-C2	-10.54	116.08	120.30
41	2	4926	C	N3-C2-O2	-10.53	114.53	121.90
41	2	485	C	C6-N1-C2	-10.52	116.09	120.30
1	5	57	C	N3-C2-O2	-10.38	114.63	121.90
41	2	986	C	C6-N1-C2	-10.33	116.17	120.30
41	2	1671	U	N3-C2-O2	-10.29	115.00	122.20
41	2	1921	C	C6-N1-C2	-10.29	116.18	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	128	C	N3-C2-O2	-10.19	114.77	121.90
41	2	1921	C	N1-C2-O2	10.19	125.02	118.90
4	8	128	C	C5-C6-N1	10.07	126.04	121.00
41	2	4928	C	N1-C2-O2	10.07	124.94	118.90
41	2	3636	C	C6-N1-C2	-10.06	116.28	120.30
41	2	3587	C	C5-C6-N1	10.02	126.01	121.00
41	2	485	C	N3-C2-O2	-9.96	114.92	121.90
41	2	4928	C	C2-N1-C1'	9.90	129.69	118.80
41	2	4613	C	N3-C2-O2	-9.90	114.97	121.90
41	2	4453	C	N1-C2-O2	9.88	124.83	118.90
1	5	28	C	C6-N1-C2	-9.87	116.35	120.30
41	2	1458	C	C6-N1-C2	-9.85	116.36	120.30
41	2	3709	U	N3-C2-O2	-9.84	115.31	122.20
41	2	4138	C	N3-C2-O2	-9.84	115.01	121.90
41	2	4267	G	C8-N9-C4	-9.83	102.47	106.40
8	D	171	LEU	CA-CB-CG	9.80	137.84	115.30
41	2	3636	C	N3-C2-O2	-9.78	115.05	121.90
41	2	1994	C	C2-N1-C1'	9.78	129.56	118.80
41	2	4319	C	C2-N1-C1'	9.78	129.55	118.80
41	2	515	C	C6-N1-C2	-9.76	116.40	120.30
41	2	4258	C	C2-N1-C1'	9.73	129.51	118.80
38	A	155	LEU	CA-CB-CG	9.73	137.68	115.30
41	2	2820	C	N3-C2-O2	-9.72	115.10	121.90
41	2	4261	C	C2-N1-C1'	9.61	129.37	118.80
41	2	4267	G	N3-C4-C5	-9.61	123.80	128.60
41	2	485	C	C6-N1-C1'	-9.60	109.28	120.80
41	2	4123	C	N1-C2-O2	9.60	124.66	118.90
41	2	1703	C	C2-N1-C1'	9.59	129.34	118.80
41	2	4880	C	N1-C2-O2	9.58	124.65	118.90
41	2	185	C	N1-C2-O2	9.58	124.65	118.90
41	2	2563	C	N3-C2-O2	-9.58	115.20	121.90
1	5	28	C	C5-C6-N1	9.57	125.79	121.00
41	2	1439	C	C6-N1-C2	-9.54	116.48	120.30
41	2	1241	C	N1-C2-O2	9.51	124.61	118.90
41	2	1963	C	C2-N1-C1'	9.50	129.25	118.80
41	2	50	C	N1-C2-O2	9.49	124.60	118.90
41	2	4258	C	N1-C2-O2	9.49	124.59	118.90
41	2	4548	A	C6-C5-N7	9.47	138.93	132.30
41	2	1079	C	N1-C2-O2	9.44	124.56	118.90
41	2	2563	C	C2-N1-C1'	9.44	129.18	118.80
41	2	4709	U	N1-C2-O2	9.40	129.38	122.80
41	2	3636	C	N1-C2-O2	9.40	124.54	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4682	U	N3-C2-O2	-9.40	115.62	122.20
41	2	4091	G	N3-C4-C5	-9.39	123.90	128.60
41	2	3589	G	N3-C4-C5	-9.38	123.91	128.60
41	2	4926	C	C2-N1-C1'	9.35	129.08	118.80
41	2	2351	C	C6-N1-C2	-9.33	116.57	120.30
41	2	77	U	N1-C2-O2	9.33	129.33	122.80
41	2	1808	C	C2-N1-C1'	9.33	129.06	118.80
41	2	515	C	C2-N1-C1'	9.33	129.06	118.80
41	2	1703	C	N3-C2-O2	-9.32	115.38	121.90
41	2	2445	C	C6-N1-C2	-9.29	116.58	120.30
41	2	3588	C	N1-C2-O2	9.28	124.47	118.90
41	2	4709	U	N3-C2-O2	-9.26	115.72	122.20
1	5	28	C	N1-C2-O2	9.23	124.44	118.90
41	2	4138	C	C6-N1-C2	-9.16	116.64	120.30
41	2	1963	C	C5-C6-N1	9.16	125.58	121.00
41	2	4215	C	N1-C2-O2	9.15	124.39	118.90
41	2	100	C	N3-C2-O2	-9.14	115.50	121.90
4	8	64	U	N3-C2-O2	-9.13	115.81	122.20
41	2	1726	U	N3-C2-O2	-9.11	115.82	122.20
41	2	515	C	N3-C2-O2	-9.11	115.52	121.90
41	2	4171	C	N1-C2-O2	9.11	124.36	118.90
41	2	4319	C	C6-N1-C2	-9.10	116.66	120.30
41	2	1671	U	N1-C2-O2	9.09	129.16	122.80
41	2	1241	C	C2-N1-C1'	9.09	128.80	118.80
41	2	4319	C	N1-C2-O2	9.08	124.35	118.90
41	2	4352	U	N3-C2-O2	-9.07	115.85	122.20
41	2	4229	U	N3-C2-O2	-9.05	115.87	122.20
41	2	3622	C	N1-C2-O2	9.04	124.33	118.90
41	2	4682	U	N1-C2-O2	9.04	129.13	122.80
41	2	2262	G	C4-N9-C1'	9.04	138.25	126.50
8	D	319	LEU	CA-CB-CG	9.03	136.07	115.30
41	2	2563	C	C6-N1-C2	-9.01	116.70	120.30
41	2	485	C	C5-C6-N1	9.00	125.50	121.00
41	2	516	C	C5-C6-N1	8.99	125.50	121.00
41	2	986	C	C5-C6-N1	8.97	125.48	121.00
41	2	282	C	N1-C2-O2	8.96	124.28	118.90
41	2	499	G	N3-C4-N9	8.92	131.35	126.00
6	B	360	LEU	CA-CB-CG	8.91	135.79	115.30
41	2	4302	U	N3-C2-O2	-8.88	115.99	122.20
41	2	2410	C	C6-N1-C2	-8.86	116.75	120.30
41	2	50	C	C6-N1-C2	-8.85	116.76	120.30
41	2	112	C	C2-N1-C1'	8.84	128.53	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2589	C	C6-N1-C2	-8.84	116.77	120.30
41	2	3709	U	N1-C2-O2	8.82	128.98	122.80
41	2	1929	A	C2-N3-C4	8.79	114.99	110.60
41	2	1176	C	N1-C2-O2	8.78	124.17	118.90
41	2	1183	C	N3-C2-O2	-8.78	115.75	121.90
41	2	1632	A	C2-N3-C4	8.77	114.99	110.60
4	8	35	C	C6-N1-C2	-8.77	116.79	120.30
41	2	986	C	N1-C2-O2	8.77	124.16	118.90
41	2	4302	U	N1-C2-O2	8.77	128.94	122.80
41	2	972	C	N1-C2-O2	8.75	124.15	118.90
41	2	112	C	C6-N1-C2	-8.74	116.80	120.30
41	2	220	C	N1-C2-O2	8.74	124.15	118.90
41	2	185	C	C6-N1-C2	-8.74	116.80	120.30
41	2	4612	C	N1-C2-O2	8.74	124.14	118.90
41	2	1216	C	N3-C2-O2	-8.72	115.80	121.90
41	2	3587	C	C6-N1-C1'	-8.71	110.35	120.80
41	2	4120	U	C2-N1-C1'	8.70	128.14	117.70
1	5	28	C	C2-N1-C1'	8.66	128.32	118.80
41	2	4548	A	C4-C5-N7	-8.65	106.37	110.70
41	2	4258	C	C6-N1-C2	-8.64	116.84	120.30
41	2	4206	C	N1-C2-O2	8.64	124.08	118.90
1	5	57	C	C6-N1-C2	-8.62	116.85	120.30
41	2	4476	C	N1-C2-O2	8.62	124.07	118.90
41	2	4302	U	C2-N1-C1'	8.58	128.00	117.70
41	2	1822	U	N1-C2-O2	8.58	128.80	122.80
41	2	489	C	C6-N1-C2	-8.55	116.88	120.30
41	2	1439	C	C2-N1-C1'	8.54	128.19	118.80
41	2	1439	C	C5-C6-N1	8.53	125.27	121.00
41	2	1963	C	N1-C2-O2	8.53	124.02	118.90
41	2	753	C	C2-N1-C1'	8.51	128.16	118.80
41	2	1921	C	N3-C2-O2	-8.50	115.95	121.90
2	6	229	PRO	CA-N-CD	-8.49	99.62	111.50
41	2	515	C	C5-C6-N1	8.49	125.25	121.00
41	2	4284	C	N1-C2-O2	8.48	123.98	118.90
41	2	1921	C	C5-C6-N1	8.46	125.23	121.00
43	d	43	LEU	CA-CB-CG	8.44	134.72	115.30
13	I	37	ASP	CB-CG-OD1	8.43	125.89	118.30
41	2	2779	C	N1-C2-O2	8.40	123.94	118.90
41	2	2710	C	N1-C2-O2	8.40	123.94	118.90
41	2	3693	U	N3-C2-O2	-8.35	116.35	122.20
41	2	4267	G	N1-C6-O6	-8.35	114.89	119.90
41	2	4926	C	C5-C6-N1	8.34	125.17	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2410	C	C5-C6-N1	8.33	125.17	121.00
41	2	3588	C	C6-N1-C2	-8.33	116.97	120.30
41	2	1822	U	N3-C2-O2	-8.31	116.38	122.20
41	2	1994	C	N1-C2-O2	8.31	123.89	118.90
39	4	205	LEU	CA-CB-CG	8.29	134.37	115.30
41	2	2820	C	C6-N1-C2	-8.29	116.99	120.30
41	2	499	G	C4-N9-C1'	8.28	137.27	126.50
41	2	1808	C	C6-N1-C2	-8.28	116.99	120.30
41	2	50	C	N3-C2-O2	-8.25	116.12	121.90
41	2	4120	U	N1-C2-O2	8.25	128.58	122.80
41	2	4091	G	C6-C5-N7	-8.25	125.45	130.40
41	2	1097	C	C5-C6-N1	8.24	125.12	121.00
41	2	4453	C	N3-C2-O2	-8.21	116.16	121.90
41	2	4549	G	N3-C4-N9	8.21	130.92	126.00
41	2	1816	C	C2-N1-C1'	8.21	127.83	118.80
41	2	4612	C	C6-N1-C2	-8.19	117.02	120.30
41	2	2262	G	N3-C4-N9	8.19	130.91	126.00
41	2	2710	C	C2-N1-C1'	8.18	127.79	118.80
41	2	2262	G	N3-C4-C5	-8.17	124.52	128.60
41	2	4352	U	N1-C2-O2	8.17	128.52	122.80
41	2	209	U	N1-C2-O2	8.16	128.51	122.80
41	2	1607	C	N1-C2-O2	8.15	123.79	118.90
41	2	1458	C	C5-C6-N1	8.14	125.07	121.00
41	2	4206	C	N3-C2-O2	-8.14	116.20	121.90
41	2	3693	U	N1-C2-O2	8.14	128.50	122.80
41	2	4199	C	C6-N1-C2	-8.13	117.05	120.30
41	2	1807	C	C2-N1-C1'	8.13	127.74	118.80
41	2	4229	U	N1-C2-O2	8.13	128.49	122.80
41	2	1183	C	C6-N1-C2	-8.12	117.05	120.30
41	2	100	C	C6-N1-C2	-8.12	117.05	120.30
41	2	1807	C	N1-C2-O2	8.12	123.77	118.90
41	2	185	C	N3-C2-O2	-8.11	116.22	121.90
41	2	2856	C	N1-C2-O2	8.10	123.76	118.90
41	2	4243	C	C2-N1-C1'	8.09	127.70	118.80
41	2	4261	C	N1-C2-O2	8.08	123.75	118.90
41	2	4481	U	N3-C2-O2	-8.04	116.57	122.20
41	2	2281	U	N1-C2-O2	8.03	128.42	122.80
41	2	2410	C	C2-N1-C1'	8.02	127.62	118.80
41	2	1405	C	N1-C2-O2	8.01	123.70	118.90
41	2	4476	C	C2-N1-C1'	8.01	127.61	118.80
41	2	1726	U	N1-C2-O2	8.00	128.40	122.80
41	2	4215	C	C6-N1-C2	-7.99	117.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4318	C	N1-C2-O2	7.98	123.69	118.90
41	2	2589	C	C5-C6-N1	7.97	124.98	121.00
41	2	1414	C	C5-C6-N1	7.97	124.98	121.00
41	2	4318	C	C6-N1-C2	-7.97	117.11	120.30
41	2	1822	U	C2-N1-C1'	7.96	127.25	117.70
41	2	4864	U	N1-C2-O2	7.95	128.36	122.80
41	2	1414	C	C6-N1-C2	-7.94	117.12	120.30
41	2	2362	U	N3-C2-O2	-7.92	116.66	122.20
41	2	4758	U	N1-C2-O2	7.91	128.34	122.80
41	2	985	C	C6-N1-C2	-7.90	117.14	120.30
41	2	2528	G	C4-N9-C1'	7.90	136.78	126.50
41	2	4146	G	C4-N9-C1'	7.90	136.78	126.50
41	2	4596	C	N1-C2-O2	7.89	123.64	118.90
41	2	4758	U	C2-N1-C1'	7.89	127.17	117.70
41	2	2410	C	N1-C2-O2	7.89	123.63	118.90
41	2	1978	C	N1-C2-O2	7.89	123.63	118.90
41	2	1096	C	C5-C6-N1	7.88	124.94	121.00
41	2	4453	C	C2-N1-C1'	7.87	127.45	118.80
41	2	467	U	C6-N1-C1'	-7.86	110.20	121.20
41	2	753	C	C5-C6-N1	7.85	124.93	121.00
41	2	914	U	P-O3'-C3'	7.85	129.12	119.70
41	2	4758	U	N3-C2-O2	-7.85	116.70	122.20
41	2	1921	C	C2-N1-C1'	7.84	127.42	118.80
41	2	4199	C	N1-C2-O2	7.83	123.59	118.90
41	2	2351	C	C5-C6-N1	7.82	124.91	121.00
41	2	3670	C	N1-C2-O2	7.81	123.59	118.90
41	2	1458	C	N1-C2-O2	7.78	123.57	118.90
41	2	4481	U	N1-C2-O2	7.78	128.25	122.80
41	2	4864	U	N3-C2-O2	-7.78	116.75	122.20
41	2	2615	C	N1-C2-O2	7.77	123.56	118.90
41	2	322	C	N1-C2-O2	7.77	123.56	118.90
41	2	1996	C	C6-N1-C2	-7.76	117.19	120.30
41	2	1808	C	C5-C6-N1	7.75	124.88	121.00
41	2	1191	C	N3-C2-O2	-7.75	116.48	121.90
41	2	4360	U	N3-C2-O2	-7.73	116.79	122.20
41	2	2892	C	C6-N1-C2	-7.73	117.21	120.30
41	2	1096	C	C6-N1-C2	-7.72	117.21	120.30
41	2	1216	C	C6-N1-C2	-7.71	117.21	120.30
41	2	4972	U	N3-C2-O2	-7.70	116.81	122.20
41	2	4712	C	C6-N1-C2	-7.70	117.22	120.30
41	2	2072	C	C6-N1-C2	-7.68	117.23	120.30
41	2	3926	C	N1-C2-O2	7.68	123.51	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2281	U	N3-C2-O2	-7.68	116.82	122.20
41	2	1702	C	C2-N1-C1'	7.68	127.25	118.80
41	2	4928	C	N3-C2-O2	-7.67	116.53	121.90
41	2	2362	U	N1-C2-O2	7.65	128.16	122.80
15	L	76	ASP	CB-CG-OD2	7.64	125.17	118.30
41	2	4261	C	C6-N1-C2	-7.63	117.25	120.30
41	2	1702	C	N1-C2-O2	7.63	123.48	118.90
41	2	4548	A	C5-N7-C8	7.62	107.71	103.90
41	2	489	C	C2-N1-C1'	7.61	127.17	118.80
41	2	4215	C	N3-C2-O2	-7.61	116.57	121.90
41	2	2760	G	P-O3'-C3'	7.61	128.83	119.70
41	2	4137	C	N1-C2-O2	7.61	123.47	118.90
41	2	657	C	C6-N1-C2	-7.60	117.26	120.30
41	2	499	G	N3-C4-C5	-7.60	124.80	128.60
41	2	1439	C	N1-C2-O2	7.58	123.44	118.90
41	2	209	U	N3-C2-O2	-7.57	116.90	122.20
41	2	220	C	C6-N1-C2	-7.57	117.27	120.30
41	2	4880	C	N3-C2-O2	-7.56	116.61	121.90
41	2	1216	C	C6-N1-C1'	-7.56	111.73	120.80
41	2	4153	C	N1-C2-O2	7.55	123.43	118.90
41	2	4319	C	C5-C6-N1	7.55	124.78	121.00
41	2	175	C	C6-N1-C2	-7.55	117.28	120.30
41	2	1079	C	C6-N1-C2	-7.55	117.28	120.30
4	8	32	C	C6-N1-C2	-7.55	117.28	120.30
40	R	19	ASP	CB-CG-OD2	7.54	125.09	118.30
41	2	282	C	N3-C2-O2	-7.53	116.63	121.90
41	2	3589	G	C5-C6-N1	7.53	115.27	111.50
34	n	105	LEU	C-N-CA	7.53	140.52	121.70
41	2	4146	G	C8-N9-C1'	-7.53	117.22	127.00
41	2	2262	G	C8-N9-C1'	-7.51	117.24	127.00
41	2	1472	C	C6-N1-C2	-7.51	117.30	120.30
41	2	1176	C	C6-N1-C2	-7.51	117.30	120.30
41	2	1607	C	N3-C2-O2	-7.50	116.65	121.90
41	2	3650	C	C6-N1-C2	-7.49	117.30	120.30
4	8	64	U	N1-C2-O2	7.49	128.04	122.80
41	2	2033	A	P-O3'-C3'	7.48	128.68	119.70
41	2	274	C	C6-N1-C2	-7.48	117.31	120.30
41	2	4263	C	C6-N1-C2	-7.46	117.31	120.30
41	2	4614	G	C5-C6-O6	7.46	133.08	128.60
41	2	115	C	C2-N1-C1'	7.46	127.00	118.80
41	2	2528	G	N3-C4-C5	-7.45	124.87	128.60
41	2	2909	C	C6-N1-C2	-7.45	117.32	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	19	C	C5-C6-N1	7.45	124.72	121.00
41	2	3631	U	N3-C2-O2	-7.45	116.99	122.20
41	2	986	C	C6-N1-C1'	-7.44	111.87	120.80
41	2	100	C	C6-N1-C1'	-7.44	111.87	120.80
41	2	489	C	C5-C6-N1	7.43	124.72	121.00
41	2	3696	C	N1-C2-O2	7.42	123.36	118.90
41	2	2867	C	C2-N1-C1'	7.42	126.96	118.80
41	2	4267	G	C4-N9-C1'	7.42	136.14	126.50
41	2	141	C	N1-C2-O2	7.41	123.35	118.90
41	2	112	C	N1-C2-O2	7.41	123.34	118.90
4	8	32	C	N1-C2-O2	7.40	123.34	118.90
4	8	145	C	C5-C6-N1	7.40	124.70	121.00
41	2	2867	C	N1-C2-O2	7.40	123.34	118.90
41	2	1472	C	C2-N1-C1'	7.40	126.94	118.80
41	2	972	C	N3-C2-O2	-7.40	116.72	121.90
41	2	1808	C	N1-C2-O2	7.39	123.34	118.90
41	2	1994	C	N3-C2-O2	-7.39	116.73	121.90
41	2	4146	G	N3-C4-N9	7.39	130.44	126.00
41	2	499	G	C8-N9-C1'	-7.39	117.39	127.00
41	2	112	C	C5-C6-N1	7.38	124.69	121.00
41	2	1807	C	C6-N1-C2	-7.37	117.35	120.30
41	2	4887	C	N1-C2-O2	7.37	123.32	118.90
41	2	4766	C	C6-N1-C2	-7.37	117.35	120.30
1	5	76	U	N3-C2-O2	-7.37	117.04	122.20
41	2	2445	C	C5-C6-N1	7.37	124.68	121.00
41	2	3935	C	C6-N1-C2	-7.36	117.36	120.30
41	2	4133	C	C6-N1-C2	-7.35	117.36	120.30
41	2	1656	U	N3-C2-O2	-7.34	117.06	122.20
41	2	673	C	C6-N1-C2	-7.34	117.36	120.30
41	2	4141	G	N3-C4-C5	-7.33	124.93	128.60
41	2	4505	C	N1-C2-O2	7.33	123.30	118.90
41	2	1980	U	P-O3'-C3'	7.33	128.50	119.70
41	2	242	U	N3-C2-O2	-7.33	117.07	122.20
41	2	4141	G	N3-C4-N9	7.32	130.39	126.00
41	2	36	U	N3-C2-O2	-7.32	117.08	122.20
41	2	4120	U	N3-C2-O2	-7.31	117.08	122.20
41	2	3589	G	C6-C5-N7	-7.31	126.01	130.40
41	2	4171	C	N3-C2-O2	-7.30	116.79	121.90
41	2	985	C	C5-C6-N1	7.30	124.65	121.00
41	2	4133	C	C2-N1-C1'	7.30	126.83	118.80
41	2	96	U	N3-C2-O2	-7.29	117.10	122.20
41	2	1097	C	C6-N1-C2	-7.29	117.39	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2544	G	C4-N9-C1'	7.29	135.97	126.50
41	2	4714	C	N1-C2-O2	7.28	123.27	118.90
41	2	4123	C	N3-C2-O2	-7.28	116.80	121.90
41	2	4162	C	N1-C2-O2	7.28	123.27	118.90
1	5	57	C	C2-N1-C1'	7.27	126.80	118.80
4	8	54	C	N1-C2-O2	7.27	123.26	118.90
41	2	3926	C	C6-N1-C2	-7.27	117.39	120.30
1	5	76	U	N1-C2-O2	7.27	127.89	122.80
41	2	2528	G	N3-C4-N9	7.27	130.36	126.00
41	2	4237	C	C6-N1-C2	-7.27	117.39	120.30
41	2	3840	U	N3-C2-O2	-7.26	117.12	122.20
41	2	1994	C	C6-N1-C2	-7.26	117.39	120.30
41	2	2563	C	C5-C6-N1	7.25	124.63	121.00
1	5	14	C	C6-N1-C2	-7.25	117.40	120.30
41	2	2837	U	N3-C2-O2	-7.25	117.13	122.20
41	2	2021	G	N3-C4-C5	-7.24	124.98	128.60
41	2	4747	C	C6-N1-C2	-7.24	117.40	120.30
41	2	36	U	N1-C2-O2	7.23	127.86	122.80
41	2	1655	C	C6-N1-C2	-7.23	117.41	120.30
41	2	449	C	N1-C2-O2	7.23	123.24	118.90
41	2	2445	C	C2-N1-C1'	7.21	126.73	118.80
1	5	24	C	C6-N1-C2	-7.21	117.42	120.30
41	2	972	C	C6-N1-C2	-7.21	117.42	120.30
41	2	2814	C	N1-C2-O2	7.18	123.21	118.90
41	2	489	C	N1-C2-O2	7.16	123.19	118.90
41	2	4505	C	C6-N1-C2	-7.16	117.44	120.30
41	2	4138	C	N1-C2-O2	7.15	123.19	118.90
41	2	4237	C	N1-C2-O2	7.15	123.19	118.90
39	4	278	LEU	CA-CB-CG	7.15	131.74	115.30
41	2	3622	C	N3-C2-O2	-7.14	116.90	121.90
41	2	4928	C	C6-N1-C1'	-7.14	112.23	120.80
41	2	1079	C	C2-N1-C1'	7.14	126.65	118.80
41	2	4206	C	C6-N1-C2	-7.14	117.44	120.30
41	2	1809	C	C6-N1-C2	-7.13	117.45	120.30
41	2	2627	C	C6-N1-C2	-7.12	117.45	120.30
41	2	2351	C	C2-N1-C1'	7.12	126.64	118.80
41	2	4088	C	C6-N1-C2	-7.12	117.45	120.30
41	2	4243	C	C5-C6-N1	7.12	124.56	121.00
41	2	1079	C	C5-C6-N1	7.11	124.56	121.00
41	2	673	C	N1-C2-O2	7.11	123.17	118.90
41	2	4708	A	C2-N3-C4	7.11	114.15	110.60
41	2	220	C	C5-C6-N1	7.10	124.55	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4261	C	C5-C6-N1	7.10	124.55	121.00
41	2	2837	U	N1-C2-O2	7.10	127.77	122.80
41	2	4141	G	C4-N9-C1'	7.10	135.73	126.50
41	2	4549	G	N3-C4-C5	-7.09	125.05	128.60
41	2	4263	C	C5-C6-N1	7.08	124.54	121.00
41	2	406	C	P-O3'-C3'	7.08	128.20	119.70
41	2	185	C	C5-C6-N1	7.08	124.54	121.00
41	2	1405	C	C6-N1-C2	-7.08	117.47	120.30
41	2	1378	C	C2-N1-C1'	7.08	126.58	118.80
41	2	907	C	C2-N1-C1'	7.07	126.58	118.80
41	2	1241	C	N3-C2-O2	-7.07	116.95	121.90
41	2	1792	U	N3-C2-O2	-7.07	117.25	122.20
1	5	42	A	C2-N3-C4	7.06	114.13	110.60
41	2	4293	U	N1-C2-O2	7.06	127.74	122.80
41	2	185	C	C2-N1-C1'	7.06	126.56	118.80
41	2	925	C	C6-N1-C2	-7.06	117.48	120.30
41	2	1978	C	C2-N1-C1'	7.06	126.56	118.80
41	2	4605	A	C8-N9-C4	7.05	108.62	105.80
1	5	19	C	C6-N1-C2	-7.04	117.48	120.30
41	2	2505	C	C6-N1-C2	-7.04	117.48	120.30
41	2	4972	U	N1-C2-O2	7.04	127.73	122.80
41	2	2867	C	C6-N1-C2	-7.04	117.48	120.30
41	2	1703	C	C6-N1-C2	-7.04	117.49	120.30
41	2	2850	A	C2-N3-C4	7.03	114.11	110.60
41	2	3905	A	P-O3'-C3'	7.03	128.14	119.70
41	2	1656	U	N1-C2-O2	7.02	127.72	122.80
41	2	1816	C	N1-C2-O2	7.01	123.11	118.90
41	2	2022	C	N1-C2-O2	7.01	123.11	118.90
42	r	119	TYR	CA-CB-CG	7.01	126.72	113.40
41	2	4549	G	C4-N9-C1'	7.00	135.60	126.50
41	2	4775	C	C2-N1-C1'	6.99	126.49	118.80
41	2	3590	G	C4-N9-C1'	6.99	135.59	126.50
41	2	2371	U	N3-C2-O2	-6.99	117.31	122.20
41	2	115	C	N1-C2-O2	6.99	123.09	118.90
41	2	1216	C	C5-C6-N1	6.99	124.49	121.00
41	2	3598	C	N1-C2-O2	6.98	123.09	118.90
41	2	1655	C	N1-C2-O2	6.98	123.09	118.90
43	d	35	ASP	CB-CG-OD1	6.98	124.58	118.30
41	2	4293	U	N3-C2-O2	-6.97	117.32	122.20
41	2	3589	G	N9-C4-C5	-6.97	102.61	105.40
41	2	1978	C	C6-N1-C2	-6.97	117.51	120.30
41	2	4360	U	N1-C2-O2	6.96	127.67	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	281	U	N3-C2-O2	-6.96	117.33	122.20
41	2	1315	C	C6-N1-C2	-6.96	117.52	120.30
41	2	126	C	C6-N1-C2	-6.95	117.52	120.30
41	2	1079	C	N3-C2-O2	-6.95	117.03	121.90
41	2	1726	U	C2-N1-C1'	6.95	126.04	117.70
41	2	1915	C	N1-C2-O2	6.95	123.07	118.90
41	2	1191	C	N1-C2-O2	6.94	123.07	118.90
41	2	2002	A	C2-N3-C4	6.94	114.07	110.60
4	8	118	C	C6-N1-C2	-6.94	117.53	120.30
41	2	1367	C	C2-N1-C1'	6.94	126.43	118.80
41	2	2465	C	N1-C2-O2	6.93	123.06	118.90
41	2	124	C	C6-N1-C2	-6.93	117.53	120.30
41	2	4319	C	N3-C2-O2	-6.92	117.05	121.90
41	2	1577	G	C8-N9-C4	-6.92	103.63	106.40
41	2	2892	C	C2-N1-C1'	6.92	126.41	118.80
1	5	57	C	C5-C6-N1	6.91	124.46	121.00
41	2	4126	C	C6-N1-C2	-6.91	117.53	120.30
25	a	99	MET	CA-CB-CG	-6.91	101.55	113.30
1	5	15	C	C6-N1-C2	-6.91	117.54	120.30
41	2	2892	C	C5-C6-N1	6.91	124.45	121.00
41	2	2592	U	N3-C2-O2	-6.91	117.36	122.20
1	5	102	U	N3-C2-O2	-6.90	117.37	122.20
41	2	2011	C	N1-C2-O2	6.90	123.04	118.90
41	2	4771	C	C5-C6-N1	6.90	124.45	121.00
41	2	2260	C	N1-C2-O2	6.89	123.04	118.90
41	2	5008	C	N1-C2-O2	6.89	123.03	118.90
41	2	5035	U	N3-C2-O2	-6.88	117.38	122.20
41	2	1176	C	N3-C2-O2	-6.87	117.09	121.90
41	2	1315	C	C5-C6-N1	6.87	124.44	121.00
41	2	3939	G	N3-C4-N9	6.87	130.12	126.00
41	2	4895	C	N1-C2-O2	6.87	123.02	118.90
41	2	3594	C	N1-C2-O2	6.85	123.01	118.90
41	2	3702	A	C2-N3-C4	6.85	114.02	110.60
41	2	4318	C	C5-C6-N1	6.85	124.42	121.00
41	2	4505	C	C2-N1-C1'	6.85	126.33	118.80
1	5	44	C	N1-C2-O2	6.85	123.01	118.90
41	2	704	C	N1-C2-O2	6.84	123.01	118.90
41	2	4605	A	C6-N1-C2	6.84	122.71	118.60
41	2	2000	G	N3-C4-C5	-6.84	125.18	128.60
4	8	35	C	C5-C6-N1	6.84	124.42	121.00
41	2	2900	U	N3-C2-O2	-6.84	117.41	122.20
41	2	4505	C	C5-C6-N1	6.84	124.42	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	3939	G	N3-C4-C5	-6.84	125.18	128.60
41	2	4607	A	O4'-C1'-N9	6.84	113.67	108.20
1	5	102	U	N1-C2-O2	6.83	127.58	122.80
41	2	985	C	C2-N1-C1'	6.83	126.31	118.80
41	2	1816	C	C6-N1-C2	-6.83	117.57	120.30
1	5	24	C	N1-C2-O2	6.82	122.99	118.90
41	2	155	C	N1-C2-O2	6.82	122.99	118.90
41	2	2615	C	N3-C2-O2	-6.81	117.13	121.90
48	T	171	ASP	CB-CG-OD1	6.81	124.43	118.30
41	2	4709	U	C2-N1-C1'	6.79	125.85	117.70
41	2	1469	C	C6-N1-C2	-6.78	117.59	120.30
41	2	4140	C	C6-N1-C2	-6.78	117.59	120.30
41	2	4303	C	C2-N1-C1'	6.78	126.26	118.80
41	2	4747	C	C2-N1-C1'	6.78	126.25	118.80
41	2	2779	C	N3-C2-O2	-6.77	117.16	121.90
41	2	386	A	C2-N3-C4	6.77	113.98	110.60
41	2	4537	C	N1-C2-O2	6.76	122.96	118.90
41	2	4773	C	C6-N1-C2	-6.76	117.60	120.30
41	2	4913	G	P-O3'-C3'	6.76	127.81	119.70
41	2	3588	C	N3-C2-O2	-6.76	117.17	121.90
41	2	220	C	N3-C2-O2	-6.75	117.17	121.90
41	2	1414	C	N1-C2-O2	6.75	122.95	118.90
41	2	4133	C	N1-C2-O2	6.75	122.95	118.90
4	8	145	C	C6-N1-C2	-6.75	117.60	120.30
41	2	4199	C	N3-C2-O2	-6.74	117.18	121.90
41	2	3590	G	N3-C4-C5	-6.74	125.23	128.60
4	8	32	C	C2-N1-C1'	6.73	126.21	118.80
41	2	3935	C	C5-C6-N1	6.73	124.36	121.00
41	2	1183	C	C2-N1-C1'	6.73	126.20	118.80
41	2	4267	G	N9-C4-C5	6.72	108.09	105.40
4	8	55	U	N3-C2-O2	-6.72	117.50	122.20
41	2	2627	C	C5-C6-N1	6.72	124.36	121.00
41	2	1429	C	C6-N1-C2	-6.72	117.61	120.30
41	2	657	C	N1-C2-O2	6.72	122.93	118.90
41	2	1720	C	C6-N1-C2	-6.72	117.61	120.30
41	2	4352	U	C2-N1-C1'	6.71	125.76	117.70
41	2	4969	C	C6-N1-C2	-6.71	117.61	120.30
41	2	4171	C	C6-N1-C2	-6.71	117.61	120.30
41	2	4284	C	N3-C2-O2	-6.71	117.20	121.90
41	2	175	C	N3-C2-O2	-6.71	117.20	121.90
41	2	924	C	C6-N1-C2	-6.70	117.62	120.30
41	2	516	C	C2-N3-C4	6.70	123.25	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	3587	C	C2-N3-C4	6.70	123.25	119.90
41	2	4343	U	C6-N1-C2	-6.70	116.98	121.00
41	2	4286	C	C6-N1-C2	-6.70	117.62	120.30
41	2	122	U	N3-C2-O2	-6.70	117.51	122.20
41	2	2856	C	N3-C2-O2	-6.69	117.21	121.90
41	2	4864	U	C2-N1-C1'	6.69	125.73	117.70
41	2	1929	A	C4-N9-C1'	6.69	138.35	126.30
41	2	2710	C	N3-C2-O2	-6.68	117.22	121.90
41	2	1963	C	N3-C2-O2	-6.68	117.22	121.90
41	2	2497	C	N1-C2-O2	6.68	122.91	118.90
41	2	4771	C	C6-N1-C2	-6.67	117.63	120.30
41	2	2899	C	C5-C6-N1	6.67	124.33	121.00
41	2	30	C	C6-N1-C2	-6.67	117.63	120.30
41	2	1538	U	N3-C2-O2	-6.67	117.53	122.20
41	2	643	C	N3-C2-O2	-6.66	117.24	121.90
41	2	4267	G	N3-C2-N2	-6.66	115.24	119.90
41	2	4123	C	C2-N1-C1'	6.65	126.12	118.80
41	2	390	C	C6-N1-C2	-6.64	117.64	120.30
41	2	2031	C	N1-C2-O2	6.64	122.89	118.90
41	2	2900	U	N1-C2-O2	6.64	127.45	122.80
41	2	2592	U	N1-C2-O2	6.63	127.44	122.80
41	2	4230	C	N1-C2-O2	6.62	122.87	118.90
41	2	1477	C	C6-N1-C2	-6.62	117.65	120.30
41	2	472	C	C6-N1-C2	-6.61	117.66	120.30
41	2	195	C	C6-N1-C2	-6.61	117.66	120.30
41	2	4996	C	C6-N1-C2	-6.60	117.66	120.30
41	2	4522	G	C4-N9-C1'	6.60	135.08	126.50
41	2	4254	G	C4-N9-C1'	6.59	135.07	126.50
41	2	365	U	N3-C2-O2	-6.59	117.58	122.20
41	2	1378	C	C6-N1-C1'	-6.59	112.89	120.80
41	2	1862	U	N3-C2-O2	-6.59	117.59	122.20
41	2	155	C	N3-C2-O2	-6.58	117.29	121.90
41	2	3631	U	N1-C2-O2	6.58	127.41	122.80
41	2	86	U	N3-C2-O2	-6.58	117.59	122.20
41	2	1472	C	N1-C2-O2	6.58	122.85	118.90
41	2	1968	G	C4-N9-C1'	6.58	135.06	126.50
41	2	3650	C	C5-C6-N1	6.58	124.29	121.00
41	2	3912	U	N3-C2-O2	-6.58	117.59	122.20
41	2	1176	C	C5-C6-N1	6.58	124.29	121.00
41	2	281	U	N1-C2-O2	6.57	127.40	122.80
41	2	1807	C	C5-C6-N1	6.57	124.28	121.00
41	2	1731	C	C6-N1-C2	-6.57	117.67	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1245	C	C5-C6-N1	6.56	124.28	121.00
41	2	4237	C	C2-N1-C1'	6.56	126.02	118.80
41	2	4522	G	N3-C4-N9	6.56	129.94	126.00
1	5	14	C	C5-C6-N1	6.55	124.28	121.00
4	8	135	C	C6-N1-C2	-6.55	117.68	120.30
41	2	4612	C	N3-C2-O2	-6.55	117.31	121.90
41	2	4608	G	C8-N9-C4	-6.55	103.78	106.40
39	4	158	LEU	CA-CB-CG	6.54	130.34	115.30
41	2	1472	C	C5-C6-N1	6.54	124.27	121.00
41	2	50	C	C5-C6-N1	6.54	124.27	121.00
41	2	4887	C	C6-N1-C2	-6.53	117.69	120.30
41	2	1176	C	C2-N1-C1'	6.53	125.98	118.80
41	2	2627	C	N1-C2-O2	6.53	122.82	118.90
1	5	67	C	C6-N1-C2	-6.53	117.69	120.30
41	2	3589	G	C8-N9-C1'	-6.53	118.52	127.00
41	2	125	C	C6-N1-C2	-6.52	117.69	120.30
39	4	213	LYS	CA-CB-CG	6.51	127.73	113.40
41	2	1957	U	N3-C2-O2	-6.50	117.65	122.20
41	2	1994	C	C6-N1-C1'	-6.50	113.00	120.80
41	2	2544	G	N3-C4-N9	6.50	129.90	126.00
41	2	4880	C	C6-N1-C2	-6.50	117.70	120.30
41	2	2528	G	C8-N9-C1'	-6.49	118.56	127.00
41	2	4413	C	C6-N1-C2	-6.49	117.70	120.30
4	8	28	C	C6-N1-C2	-6.48	117.71	120.30
4	8	4	C	C6-N1-C2	-6.48	117.71	120.30
4	8	54	C	C6-N1-C2	-6.48	117.71	120.30
41	2	1702	C	N3-C2-O2	-6.48	117.36	121.90
41	2	1458	C	N3-C2-O2	-6.48	117.37	121.90
41	2	2021	G	N3-C4-N9	6.47	129.88	126.00
41	2	4991	U	N3-C2-O2	-6.47	117.67	122.20
41	2	3622	C	C6-N1-C2	-6.47	117.71	120.30
1	5	26	C	N1-C2-O2	6.47	122.78	118.90
2	6	144	ASP	CB-CG-OD1	6.46	124.11	118.30
4	8	101	C	N1-C2-O2	6.46	122.78	118.90
41	2	3588	C	C2-N1-C1'	6.46	125.91	118.80
41	2	1241	C	C6-N1-C1'	-6.45	113.06	120.80
41	2	4261	C	C6-N1-C1'	-6.45	113.06	120.80
41	2	4476	C	N3-C2-O2	-6.45	117.39	121.90
4	8	111	U	C2-N1-C1'	6.45	125.44	117.70
41	2	1557	C	C6-N1-C2	-6.45	117.72	120.30
41	2	44	A	C2-N3-C4	6.45	113.82	110.60
41	2	4284	C	C6-N1-C2	-6.44	117.72	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	124	C	C5-C6-N1	6.44	124.22	121.00
41	2	4258	C	C6-N1-C1'	-6.44	113.08	120.80
41	2	26	C	C6-N1-C2	-6.43	117.73	120.30
41	2	1395	U	N3-C2-O2	-6.43	117.70	122.20
41	2	4508	C	C6-N1-C2	-6.43	117.73	120.30
41	2	4522	G	N3-C4-C5	-6.43	125.38	128.60
41	2	2017	A	C2-N3-C4	6.43	113.81	110.60
1	5	2	U	N3-C2-O2	-6.43	117.70	122.20
41	2	1243	C	C6-N1-C2	-6.42	117.73	120.30
41	2	2464	C	O4'-C1'-N1	6.42	113.33	108.20
41	2	1402	C	N1-C2-O2	6.42	122.75	118.90
41	2	2820	C	C2-N1-C1'	6.42	125.86	118.80
41	2	4613	C	C2-N1-C1'	6.42	125.86	118.80
41	2	4880	C	C2-N1-C1'	6.42	125.86	118.80
41	2	1405	C	C2-N1-C1'	6.42	125.86	118.80
41	2	673	C	C5-C6-N1	6.40	124.20	121.00
41	2	3926	C	N3-C2-O2	-6.40	117.42	121.90
41	2	294	G	C4-N9-C1'	6.40	134.82	126.50
41	2	2589	C	C2-N1-C1'	6.40	125.84	118.80
41	2	3670	C	C6-N1-C2	-6.40	117.74	120.30
41	2	3741	C	N1-C2-O2	6.40	122.74	118.90
41	2	3590	G	C8-N9-C1'	-6.39	118.69	127.00
41	2	274	C	C5-C6-N1	6.39	124.19	121.00
41	2	4508	C	C5-C6-N1	6.39	124.19	121.00
41	2	100	C	C5-C6-N1	6.39	124.19	121.00
41	2	2008	U	C2-N1-C1'	6.38	125.36	117.70
41	2	2589	C	N1-C2-O2	6.38	122.73	118.90
41	2	2264	C	N1-C2-O2	6.37	122.72	118.90
41	2	1655	C	N3-C2-O2	-6.37	117.44	121.90
41	2	672	C	N1-C2-O2	6.37	122.72	118.90
41	2	1535	C	N1-C2-O2	6.37	122.72	118.90
1	5	28	C	N3-C2-O2	-6.36	117.45	121.90
41	2	1703	C	C6-N1-C1'	-6.36	113.16	120.80
41	2	4345	C	C6-N1-C2	-6.36	117.75	120.30
41	2	2022	C	N3-C2-O2	-6.36	117.45	121.90
41	2	1450	C	C6-N1-C2	-6.36	117.76	120.30
41	2	4569	U	N3-C2-O2	-6.35	117.75	122.20
41	2	365	U	N1-C2-O2	6.35	127.24	122.80
41	2	1884	C	C6-N1-C2	-6.34	117.76	120.30
41	2	1607	C	C6-N1-C2	-6.34	117.76	120.30
41	2	1809	C	C5-C6-N1	6.34	124.17	121.00
39	4	252	LEU	CA-CB-CG	6.34	129.88	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4153	C	N3-C2-O2	-6.34	117.46	121.90
1	5	43	U	N1-C2-O2	6.33	127.23	122.80
41	2	274	C	C2-N1-C1'	6.33	125.76	118.80
41	2	1672	U	N3-C2-O2	-6.33	117.77	122.20
41	2	4970	C	C6-N1-C2	-6.33	117.77	120.30
13	I	176	LEU	CA-CB-CG	6.32	129.84	115.30
1	5	14	C	N1-C2-O2	6.32	122.69	118.90
41	2	4596	C	N3-C2-O2	-6.32	117.48	121.90
41	2	3840	U	N1-C2-O2	6.31	127.22	122.80
41	2	679	C	C6-N1-C2	-6.31	117.78	120.30
1	5	111	C	C6-N1-C2	-6.31	117.78	120.30
41	2	322	C	N3-C2-O2	-6.30	117.49	121.90
41	2	988	C	N1-C2-O2	6.30	122.68	118.90
41	2	4674	C	C6-N1-C2	-6.30	117.78	120.30
41	2	3590	G	N3-C4-N9	6.30	129.78	126.00
41	2	1183	C	C5-C6-N1	6.30	124.15	121.00
41	2	4506	C	N1-C2-O2	6.30	122.68	118.90
41	2	1181	C	C6-N1-C2	-6.29	117.78	120.30
41	2	1243	C	N1-C2-O2	6.29	122.67	118.90
41	2	3706	C	C6-N1-C2	-6.29	117.78	120.30
41	2	282	C	C6-N1-C2	-6.29	117.78	120.30
41	2	2828	U	N3-C2-O2	-6.29	117.80	122.20
1	5	111	C	C5-C6-N1	6.28	124.14	121.00
41	2	1450	C	N1-C2-O2	6.28	122.67	118.90
41	2	4387	C	N1-C2-O2	6.28	122.67	118.90
41	2	4153	C	C6-N1-C2	-6.27	117.79	120.30
41	2	4612	C	C5-C6-N1	6.27	124.14	121.00
41	2	2072	C	C5-C6-N1	6.27	124.13	121.00
41	2	4126	C	C5-C6-N1	6.27	124.13	121.00
41	2	4887	C	N3-C2-O2	-6.27	117.51	121.90
41	2	1402	C	C5-C6-N1	6.27	124.13	121.00
41	2	1551	C	N1-C2-O2	6.26	122.66	118.90
41	2	1694	C	C6-N1-C2	-6.26	117.80	120.30
41	2	242	U	C6-N1-C2	-6.26	117.24	121.00
41	2	2362	U	C2-N1-C1'	6.26	125.22	117.70
41	2	4923	C	N1-C2-O2	6.26	122.66	118.90
41	2	2417	A	O4'-C1'-N9	6.26	113.21	108.20
41	2	4123	C	C6-N1-C2	-6.26	117.80	120.30
19	Q	144	LEU	CA-CB-CG	6.26	129.70	115.30
41	2	643	C	N1-C2-O2	6.26	122.66	118.90
41	2	1726	U	C6-N1-C2	-6.25	117.25	121.00
41	2	2031	C	C6-N1-C2	-6.25	117.80	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2899	C	C6-N1-C2	-6.25	117.80	120.30
40	R	49	LEU	CA-CB-CG	6.25	129.68	115.30
41	2	1816	C	C5-C6-N1	6.25	124.13	121.00
41	2	2094	G	C4-N9-C1'	6.25	134.63	126.50
41	2	2290	C	C6-N1-C2	-6.25	117.80	120.30
41	2	4254	G	N3-C4-C5	-6.25	125.47	128.60
41	2	3851	U	N1-C2-O2	6.25	127.17	122.80
41	2	977	C	C6-N1-C2	-6.25	117.80	120.30
41	2	4773	C	N1-C2-O2	6.25	122.65	118.90
41	2	4091	G	N1-C2-N2	-6.25	110.58	116.20
41	2	4237	C	C5-C6-N1	6.25	124.12	121.00
41	2	4561	C	C2-N1-C1'	6.24	125.67	118.80
41	2	1577	G	N1-C6-O6	-6.24	116.16	119.90
41	2	209	U	C2-N1-C1'	6.24	125.19	117.70
41	2	2544	G	N3-C4-C5	-6.24	125.48	128.60
41	2	719	C	C6-N1-C2	-6.23	117.81	120.30
41	2	3851	U	N3-C2-O2	-6.23	117.84	122.20
41	2	4133	C	C5-C6-N1	6.23	124.12	121.00
41	2	4508	C	N1-C2-O2	6.23	122.64	118.90
41	2	926	G	N3-C4-C5	-6.23	125.49	128.60
41	2	115	C	N3-C2-O2	-6.22	117.54	121.90
41	2	985	C	N1-C2-O2	6.22	122.63	118.90
41	2	1735	U	N3-C2-O2	-6.22	117.84	122.20
41	2	1893	C	N1-C2-O2	6.22	122.63	118.90
41	2	4714	C	C6-N1-C2	-6.22	117.81	120.30
41	2	96	U	N1-C2-O2	6.22	127.15	122.80
41	2	1994	C	O4'-C1'-N1	6.22	113.17	108.20
41	2	986	C	N3-C2-O2	-6.21	117.55	121.90
41	2	907	C	C6-N1-C2	-6.21	117.82	120.30
41	2	3623	C	N1-C2-O2	6.21	122.62	118.90
22	V	141	LEU	CA-CB-CG	6.21	129.57	115.30
41	2	2372	U	N3-C2-O2	-6.21	117.86	122.20
41	2	3604	A	C2-N3-C4	6.20	113.70	110.60
41	2	5008	C	C6-N1-C2	-6.20	117.82	120.30
41	2	4215	C	C5-C6-N1	6.20	124.10	121.00
19	Q	191	LEU	CA-CB-CG	6.20	129.56	115.30
41	2	390	C	C5-C6-N1	6.20	124.10	121.00
41	2	1862	U	N1-C2-O2	6.20	127.14	122.80
41	2	86	U	N1-C2-O2	6.20	127.14	122.80
41	2	4747	C	N1-C2-O2	6.20	122.62	118.90
41	2	2856	C	C6-N1-C2	-6.19	117.82	120.30
41	2	1720	C	N1-C2-O2	6.19	122.61	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2544	G	C8-N9-C1'	-6.19	118.95	127.00
41	2	1428	U	N3-C2-O2	-6.19	117.87	122.20
41	2	3588	C	C5-C6-N1	6.18	124.09	121.00
41	2	4775	C	N1-C2-O2	6.18	122.61	118.90
41	2	220	C	C2-N1-C1'	6.18	125.60	118.80
41	2	1467	C	C6-N1-C2	-6.18	117.83	120.30
41	2	4990	C	N1-C2-O2	6.18	122.61	118.90
41	2	242	U	N1-C2-O2	6.18	127.13	122.80
41	2	2015	U	P-O3'-C3'	6.18	127.11	119.70
41	2	1190	C	N1-C2-O2	6.17	122.61	118.90
41	2	1405	C	N3-C2-O2	-6.17	117.58	121.90
41	2	4549	G	C8-N9-C1'	-6.17	118.97	127.00
41	2	2532	C	C6-N1-C2	-6.17	117.83	120.30
41	2	4137	C	N3-C2-O2	-6.17	117.58	121.90
41	2	4162	C	C2-N1-C1'	6.17	125.58	118.80
41	2	322	C	C6-N1-C2	-6.17	117.83	120.30
41	2	2779	C	C6-N1-C2	-6.17	117.83	120.30
41	2	2008	U	N3-C2-O2	-6.17	117.88	122.20
41	2	2900	U	C2-N1-C1'	6.17	125.10	117.70
41	2	4773	C	C2-N1-C1'	6.16	125.58	118.80
41	2	2627	C	C2-N1-C1'	6.16	125.57	118.80
41	2	2791	C	C6-N1-C2	-6.16	117.84	120.30
41	2	1996	C	C5-C6-N1	6.15	124.08	121.00
41	2	4469	U	N3-C2-O2	-6.15	117.89	122.20
41	2	2872	C	C6-N1-C2	-6.15	117.84	120.30
41	2	1822	U	C5-C6-N1	6.15	125.77	122.70
41	2	2264	C	C6-N1-C2	-6.15	117.84	120.30
41	2	271	C	C5-C6-N1	6.14	124.07	121.00
41	2	274	C	N1-C2-O2	6.14	122.59	118.90
41	2	2008	U	N1-C2-O2	6.14	127.10	122.80
1	5	67	C	C5-C6-N1	6.14	124.07	121.00
41	2	1683	U	N1-C2-O2	6.14	127.10	122.80
41	2	1853	G	C4-N9-C1'	6.14	134.48	126.50
41	2	2445	C	N1-C2-O2	6.14	122.58	118.90
41	2	994	G	N3-C4-C5	-6.14	125.53	128.60
41	2	4764	A	N1-C2-N3	-6.14	126.23	129.30
41	2	3657	U	N3-C2-O2	-6.13	117.91	122.20
41	2	4712	C	C5-C6-N1	6.13	124.06	121.00
41	2	4233	A	N1-C2-N3	-6.12	126.24	129.30
41	2	3670	C	C2-N1-C1'	6.12	125.53	118.80
41	2	4406	U	C2-N1-C1'	6.12	125.04	117.70
1	5	3	C	N1-C2-O2	6.12	122.57	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2684	C	C5-C6-N1	6.12	124.06	121.00
41	2	4548	A	N9-C4-C5	6.12	108.25	105.80
41	2	1469	C	C5-C6-N1	6.11	124.06	121.00
41	2	1099	C	C6-N1-C2	-6.11	117.86	120.30
1	5	111	C	N1-C2-O2	6.11	122.57	118.90
41	2	221	C	C6-N1-C2	-6.11	117.86	120.30
41	2	3696	C	N3-C2-O2	-6.11	117.62	121.90
41	2	1577	G	C2-N3-C4	6.11	114.95	111.90
41	2	1966	C	C6-N1-C2	-6.10	117.86	120.30
41	2	2625	U	N3-C2-O2	-6.10	117.93	122.20
41	2	3637	U	N3-C2-O2	-6.10	117.93	122.20
41	2	2540	C	N1-C2-O2	6.10	122.56	118.90
34	n	5	LEU	CA-CB-CG	6.10	129.32	115.30
41	2	994	G	N3-C4-N9	6.10	129.66	126.00
34	n	106	TYR	C-N-CD	-6.09	107.19	120.60
41	2	2281	U	C5-C6-N1	6.09	125.75	122.70
41	2	4752	U	N3-C2-O2	-6.09	117.94	122.20
41	2	977	C	N1-C2-O2	6.09	122.55	118.90
41	2	924	C	C5-C6-N1	6.08	124.04	121.00
41	2	2532	C	N1-C2-O2	6.08	122.55	118.90
41	2	4120	U	C6-N1-C1'	-6.08	112.68	121.20
41	2	994	G	C4-N9-C1'	6.08	134.40	126.50
41	2	1245	C	C6-N1-C2	-6.08	117.87	120.30
41	2	1686	C	C6-N1-C2	-6.08	117.87	120.30
41	2	4318	C	N3-C2-O2	-6.07	117.65	121.90
36	p	171	ASP	CB-CG-OD2	6.07	123.76	118.30
41	2	1847	C	C6-N1-C2	-6.07	117.87	120.30
41	2	3670	C	N3-C2-O2	-6.07	117.65	121.90
41	2	1344	C	C6-N1-C2	-6.07	117.87	120.30
41	2	1402	C	C2-N1-C1'	6.07	125.47	118.80
41	2	4319	C	C6-N1-C1'	-6.07	113.52	120.80
1	5	24	C	C5-C6-N1	6.06	124.03	121.00
41	2	2603	C	C6-N1-C2	-6.06	117.88	120.30
41	2	1968	G	C8-N9-C1'	-6.06	119.12	127.00
41	2	672	C	C2-N1-C1'	6.06	125.46	118.80
41	2	2892	C	N1-C2-O2	6.05	122.53	118.90
41	2	2729	C	C2-N1-C1'	6.05	125.46	118.80
41	2	1968	G	N3-C4-N9	6.05	129.63	126.00
41	2	4714	C	N3-C2-O2	-6.05	117.67	121.90
41	2	3592	G	N3-C4-N9	6.05	129.63	126.00
41	2	3623	C	C6-N1-C2	-6.04	117.88	120.30
41	2	4262	C	C6-N1-C2	-6.04	117.88	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	914	U	C5-C4-O4	-6.04	122.27	125.90
41	2	1978	C	N3-C2-O2	-6.04	117.67	121.90
41	2	4561	C	N1-C2-O2	6.04	122.52	118.90
4	8	32	C	N3-C2-O2	-6.04	117.67	121.90
41	2	4613	C	C6-N1-C2	-6.04	117.88	120.30
41	2	657	C	N3-C2-O2	-6.04	117.68	121.90
41	2	1384	C	C6-N1-C2	-6.04	117.89	120.30
41	2	2820	C	C5-C6-N1	6.03	124.02	121.00
41	2	4773	C	C5-C6-N1	6.03	124.02	121.00
4	8	54	C	N3-C2-O2	-6.03	117.68	121.90
41	2	1703	C	C5-C6-N1	6.03	124.02	121.00
41	2	2729	C	C6-N1-C2	-6.03	117.89	120.30
41	2	3589	G	C4-C5-N7	6.03	113.21	110.80
41	2	2031	C	N3-C2-O2	-6.03	117.68	121.90
41	2	100	C	O4'-C1'-N1	6.03	113.02	108.20
41	2	4766	C	C5-C6-N1	6.03	124.01	121.00
41	2	2281	U	C2-N1-C1'	6.02	124.93	117.70
4	8	51	U	N1-C2-O2	6.02	127.02	122.80
41	2	4254	G	O4'-C1'-N9	-6.02	103.38	108.20
41	2	1381	U	N3-C2-O2	-6.02	117.99	122.20
41	2	2371	U	N1-C2-O2	6.02	127.01	122.80
41	2	4594	U	N3-C2-O2	-6.02	117.99	122.20
41	2	2783	A	N1-C2-N3	-6.01	126.29	129.30
41	2	1672	U	N1-C2-O2	6.01	127.01	122.80
1	5	111	C	C2-N1-C1'	6.01	125.41	118.80
41	2	1192	C	N1-C2-O2	6.01	122.51	118.90
1	5	43	U	N3-C2-O2	-6.00	118.00	122.20
41	2	1792	U	N1-C2-O2	6.00	127.00	122.80
41	2	3912	U	N1-C2-O2	6.00	127.00	122.80
41	2	3939	G	C2-N3-C4	6.00	114.90	111.90
41	2	3598	C	N3-C2-O2	-6.00	117.70	121.90
39	4	247	LEU	CA-CB-CG	6.00	129.09	115.30
41	2	673	C	C2-N1-C1'	6.00	125.40	118.80
41	2	1402	C	C6-N1-C2	-6.00	117.90	120.30
41	2	4250	G	N3-C2-N2	6.00	124.10	119.90
41	2	2708	U	N1-C2-O2	5.99	127.00	122.80
41	2	242	U	C5-C6-N1	5.99	125.70	122.70
4	8	55	U	N1-C2-O2	5.99	126.99	122.80
35	o	202	ASP	CB-CG-OD1	5.99	123.69	118.30
41	2	4199	C	C5-C6-N1	5.99	124.00	121.00
41	2	3931	C	C6-N1-C2	-5.99	117.91	120.30
41	2	4096	C	C6-N1-C2	-5.99	117.91	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1720	C	C5-C6-N1	5.99	123.99	121.00
41	2	2021	G	C2-N3-C4	5.99	114.89	111.90
1	5	80	U	N1-C2-O2	5.98	126.99	122.80
4	8	11	C	C6-N1-C2	-5.98	117.91	120.30
35	o	106	VAL	CG1-CB-CG2	-5.98	101.33	110.90
41	2	4137	C	C6-N1-C2	-5.98	117.91	120.30
40	R	149	MET	CB-CG-SD	5.98	130.34	112.40
41	2	472	C	N1-C2-O2	5.98	122.49	118.90
41	2	4254	G	N3-C4-N9	5.98	129.59	126.00
1	5	80	U	N3-C2-O2	-5.98	118.02	122.20
41	2	4155	C	C6-N1-C2	-5.97	117.91	120.30
41	2	4683	U	N3-C2-O2	-5.97	118.02	122.20
1	5	6	C	C6-N1-C2	-5.97	117.91	120.30
41	2	2821	U	N3-C2-O2	-5.97	118.02	122.20
41	2	2901	G	N3-C4-N9	5.97	129.58	126.00
41	2	2439	G	C4-N9-C1'	5.97	134.26	126.50
41	2	1808	C	C6-N1-C1'	-5.96	113.64	120.80
41	2	4723	A	C2-N3-C4	5.96	113.58	110.60
41	2	926	G	N3-C4-N9	5.96	129.58	126.00
41	2	4695	C	N1-C2-O2	5.96	122.48	118.90
41	2	1978	C	C5-C6-N1	5.96	123.98	121.00
41	2	3696	C	C6-N1-C2	-5.96	117.92	120.30
41	2	1429	C	C5-C6-N1	5.95	123.98	121.00
41	2	1807	C	N3-C2-O2	-5.95	117.74	121.90
41	2	3590	G	N9-C1'-C2'	5.95	121.73	114.00
41	2	2021	G	C4-N9-C1'	5.94	134.23	126.50
41	2	2304	U	N3-C2-O2	-5.94	118.04	122.20
41	2	984	C	C2-N1-C1'	5.94	125.33	118.80
41	2	1499	C	N1-C2-O2	5.94	122.46	118.90
41	2	4653	C	C6-N1-C2	-5.94	117.92	120.30
41	2	4766	C	C2-N1-C1'	5.93	125.33	118.80
41	2	4642	U	N3-C2-O2	-5.93	118.05	122.20
41	2	1929	A	N3-C4-N9	5.93	132.14	127.40
41	2	4254	G	C8-N9-C1'	-5.93	119.30	127.00
41	2	1468	C	C6-N1-C2	-5.92	117.93	120.30
41	2	2814	C	C2-N1-C1'	5.92	125.32	118.80
41	2	4091	G	N3-C2-N2	5.92	124.05	119.90
39	4	299	LEU	CA-CB-CG	5.92	128.92	115.30
41	2	126	C	C5-C6-N1	5.92	123.96	121.00
41	2	2684	C	C6-N1-C2	-5.92	117.93	120.30
4	8	32	C	C5-C6-N1	5.92	123.96	121.00
41	2	1201	U	C5-C6-N1	5.92	125.66	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	131	C	C6-N1-C2	-5.91	117.94	120.30
4	8	141	C	C6-N1-C2	-5.91	117.94	120.30
41	2	1413	C	C5-C6-N1	5.91	123.95	121.00
41	2	4262	C	N1-C2-O2	5.91	122.44	118.90
41	2	1906	U	N3-C2-O2	-5.91	118.06	122.20
41	2	449	C	C2-N1-C1'	5.91	125.30	118.80
41	2	1450	C	C2-N1-C1'	5.90	125.29	118.80
41	2	2583	C	N1-C2-O2	5.90	122.44	118.90
41	2	4332	C	C5-C6-N1	5.90	123.95	121.00
41	2	4486	C	N1-C2-O2	5.90	122.44	118.90
41	2	4123	C	C5-C6-N1	5.90	123.95	121.00
41	2	907	C	N1-C2-O2	5.89	122.44	118.90
41	2	4555	U	P-O3'-C3'	5.89	126.77	119.70
41	2	906	C	C2-N1-C1'	5.89	125.28	118.80
41	2	4103	C	N1-C2-O2	5.89	122.43	118.90
41	2	4561	C	C6-N1-C2	-5.89	117.94	120.30
41	2	4981	G	C4-N9-C1'	5.89	134.16	126.50
4	8	118	C	C5-C6-N1	5.89	123.94	121.00
41	2	1413	C	C6-N1-C2	-5.89	117.94	120.30
41	2	4469	U	N1-C2-O2	5.89	126.92	122.80
41	2	2532	C	C5-C6-N1	5.88	123.94	121.00
41	2	4267	G	C5-C6-O6	5.88	132.13	128.60
41	2	1381	U	N1-C2-O2	5.88	126.92	122.80
41	2	1915	C	C2-N1-C1'	5.88	125.27	118.80
1	5	58	A	N7-C8-N9	5.88	116.74	113.80
41	2	1418	C	C6-N1-C2	-5.88	117.95	120.30
41	2	661	C	C6-N1-C2	-5.88	117.95	120.30
41	2	3589	G	O4'-C1'-N9	5.88	112.90	108.20
41	2	1683	U	N3-C2-O2	-5.87	118.09	122.20
41	2	3931	C	C5-C6-N1	5.87	123.94	121.00
17	O	13	LEU	CA-CB-CG	5.87	128.80	115.30
41	2	3633	C	C6-N1-C2	-5.87	117.95	120.30
41	2	174	C	N1-C2-O2	5.87	122.42	118.90
41	2	4088	C	N1-C2-O2	5.87	122.42	118.90
41	2	3622	C	C2-N1-C1'	5.87	125.25	118.80
41	2	3636	C	C2-N1-C1'	5.87	125.25	118.80
39	4	195	VAL	CG1-CB-CG2	-5.86	101.52	110.90
28	e	90	ARG	C-N-CA	5.86	136.36	121.70
41	2	4258	C	C4-C5-C6	-5.86	114.47	117.40
41	2	3658	C	C6-N1-C2	-5.86	117.96	120.30
41	2	1429	C	N1-C2-O2	5.86	122.42	118.90
41	2	4711	C	C6-N1-C2	-5.86	117.96	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	128	C	C6-N1-C1'	-5.86	113.77	120.80
41	2	4700	A	C2-N3-C4	5.86	113.53	110.60
41	2	2683	C	C6-N1-C2	-5.86	117.96	120.30
1	5	14	C	C2-N1-C1'	5.85	125.24	118.80
41	2	2304	U	N1-C2-O2	5.85	126.90	122.80
41	2	516	C	C6-N1-C1'	-5.85	113.78	120.80
41	2	2096	G	N3-C4-N9	5.85	129.51	126.00
41	2	2260	C	C2-N1-C1'	5.85	125.24	118.80
41	2	4506	C	N3-C2-O2	-5.85	117.80	121.90
41	2	26	C	N1-C2-O2	5.85	122.41	118.90
41	2	3939	G	C4-N9-C1'	5.85	134.10	126.50
4	8	4	C	C5-C6-N1	5.84	123.92	121.00
4	8	43	A	C2-N3-C4	5.84	113.52	110.60
41	2	1731	C	C5-C6-N1	5.84	123.92	121.00
41	2	4712	C	N1-C2-O2	5.84	122.40	118.90
41	2	1847	C	C5-C6-N1	5.84	123.92	121.00
41	2	68	U	N3-C2-O2	-5.83	118.12	122.20
41	2	2337	C	C6-N1-C2	-5.83	117.97	120.30
41	2	2465	C	N3-C2-O2	-5.83	117.82	121.90
41	2	4387	C	N3-C2-O2	-5.83	117.82	121.90
41	2	4694	G	N3-C4-C5	-5.83	125.69	128.60
41	2	3637	U	N1-C2-O2	5.83	126.88	122.80
41	2	4500	U	C2-N1-C1'	5.83	124.69	117.70
41	2	2593	C	C6-N1-C2	-5.82	117.97	120.30
41	2	4608	G	N7-C8-N9	5.82	116.01	113.10
41	2	2033	A	N1-C2-N3	-5.82	126.39	129.30
41	2	971	U	C2-N1-C1'	5.82	124.68	117.70
41	2	910	G	C4-N9-C1'	5.82	134.06	126.50
41	2	977	C	C2-N1-C1'	5.82	125.20	118.80
41	2	1201	U	N3-C2-O2	-5.82	118.13	122.20
41	2	4141	G	C8-N9-C1'	-5.81	119.45	127.00
41	2	3592	G	N3-C4-C5	-5.80	125.70	128.60
4	8	101	C	C6-N1-C2	-5.80	117.98	120.30
41	2	4091	G	N7-C8-N9	5.80	116.00	113.10
41	2	694	C	N1-C2-O2	5.80	122.38	118.90
41	2	515	C	C2-N3-C4	5.80	122.80	119.90
41	2	2037	C	C6-N1-C2	-5.80	117.98	120.30
4	8	111	U	N1-C2-O2	5.79	126.86	122.80
41	2	1076	C	N1-C2-O2	5.79	122.38	118.90
41	2	704	C	C2-N1-C1'	5.79	125.17	118.80
41	2	910	G	N3-C4-N9	5.79	129.47	126.00
41	2	1446	C	C6-N1-C2	-5.79	117.98	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	3592	G	C4-N9-C1'	5.78	134.02	126.50
41	2	4103	C	C6-N1-C2	-5.78	117.99	120.30
41	2	1096	C	C2-N1-C1'	5.78	125.16	118.80
41	2	3588	C	C2-N3-C4	5.78	122.79	119.90
41	2	983	C	C6-N1-C2	-5.78	117.99	120.30
4	8	35	C	N1-C2-O2	5.78	122.37	118.90
41	2	195	C	N1-C2-O2	5.78	122.36	118.90
41	2	4895	C	C2-N1-C1'	5.77	125.15	118.80
4	8	111	U	N3-C2-O2	-5.77	118.16	122.20
41	2	1340	C	C6-N1-C2	-5.77	117.99	120.30
41	2	3893	C	C6-N1-C2	-5.77	117.99	120.30
41	2	4766	C	N1-C2-O2	5.77	122.36	118.90
39	4	21	LEU	CA-CB-CG	5.77	128.56	115.30
41	2	972	C	C5-C6-N1	5.76	123.88	121.00
41	2	2710	C	C6-N1-C1'	-5.76	113.88	120.80
41	2	4078	C	C6-N1-C2	-5.76	117.99	120.30
41	2	4639	G	C4-N9-C1'	5.76	134.00	126.50
41	2	2000	G	C4-N9-C1'	5.76	133.99	126.50
41	2	925	C	C5-C6-N1	5.76	123.88	121.00
41	2	4945	G	N3-C4-N9	5.76	129.46	126.00
1	5	2	U	N1-C2-O2	5.76	126.83	122.80
20	S	135	LEU	CA-CB-CG	5.76	128.54	115.30
41	2	3594	C	C6-N1-C2	-5.76	118.00	120.30
41	2	2000	G	C2-N3-C4	5.75	114.78	111.90
41	2	5035	U	N1-C2-O2	5.75	126.83	122.80
41	2	1888	A	C2-N3-C4	5.75	113.47	110.60
41	2	2497	C	C6-N1-C2	-5.75	118.00	120.30
41	2	4471	U	N3-C2-O2	-5.75	118.18	122.20
11	G	114	LEU	CA-CB-CG	5.75	128.52	115.30
1	5	15	C	C5-C6-N1	5.74	123.87	121.00
4	8	135	C	C2-N1-C1'	5.74	125.12	118.80
41	2	3694	U	N3-C2-O2	-5.74	118.18	122.20
41	2	983	C	C5-C6-N1	5.74	123.87	121.00
41	2	1644	C	C6-N1-C2	-5.74	118.00	120.30
41	2	4207	C	C6-N1-C2	-5.74	118.00	120.30
41	2	204	U	N3-C2-O2	-5.74	118.18	122.20
41	2	1201	U	N1-C2-O2	5.74	126.82	122.80
41	2	3882	C	C6-N1-C2	-5.74	118.00	120.30
41	2	2867	C	N3-C2-O2	-5.73	117.89	121.90
41	2	2465	C	C6-N1-C2	-5.73	118.01	120.30
41	2	2563	C	C6-N1-C1'	-5.73	113.93	120.80
41	2	2653	C	C6-N1-C2	-5.72	118.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1243	C	C2-N1-C1'	5.72	125.09	118.80
41	2	4537	C	C6-N1-C2	-5.72	118.01	120.30
41	2	242	U	C2-N1-C1'	5.72	124.56	117.70
41	2	4991	U	C2-N1-C1'	5.72	124.56	117.70
41	2	1663	C	C5-C6-N1	5.72	123.86	121.00
41	2	3832	U	N3-C2-O2	-5.72	118.20	122.20
41	2	3668	C	C6-N1-C2	-5.71	118.01	120.30
41	2	1632	A	N1-C2-N3	-5.71	126.44	129.30
41	2	294	G	N3-C4-C5	-5.71	125.75	128.60
41	2	1735	U	N1-C2-O2	5.71	126.80	122.80
41	2	30	C	C2-N1-C1'	5.71	125.08	118.80
30	h	82	ILE	CG1-CB-CG2	-5.71	98.85	111.40
41	2	350	C	C6-N1-C2	-5.70	118.02	120.30
41	2	467	U	C6-N1-C2	-5.70	117.58	121.00
41	2	1929	A	C8-N9-C1'	-5.70	117.44	127.70
41	2	4562	C	C6-N1-C2	-5.70	118.02	120.30
41	2	4300	U	N3-C2-O2	-5.69	118.21	122.20
41	2	7	C	C5-C6-N1	5.69	123.84	121.00
41	2	1893	C	C6-N1-C2	-5.69	118.02	120.30
41	2	988	C	N3-C2-O2	-5.69	117.92	121.90
41	2	4302	U	C6-N1-C2	-5.69	117.59	121.00
41	2	1634	A	C2-N3-C4	5.69	113.44	110.60
41	2	2484	A	C2-N3-C4	5.69	113.44	110.60
41	2	4237	C	N3-C2-O2	-5.69	117.92	121.90
41	2	4343	U	C5-C4-O4	-5.69	122.49	125.90
41	2	472	C	C5-C6-N1	5.68	123.84	121.00
41	2	3926	C	C5-C6-N1	5.68	123.84	121.00
41	2	974	C	N1-C2-O2	5.68	122.31	118.90
41	2	2016	C	N1-C2-O2	5.68	122.31	118.90
41	2	2634	C	C6-N1-C2	-5.68	118.03	120.30
41	2	3870	C	C6-N1-C2	-5.67	118.03	120.30
41	2	1429	C	C2-N1-C1'	5.67	125.04	118.80
41	2	4991	U	N1-C2-O2	5.67	126.77	122.80
41	2	712	C	C5-C6-N1	5.67	123.83	121.00
41	2	4709	U	C5-C6-N1	5.67	125.53	122.70
41	2	1308	C	C6-N1-C2	-5.67	118.03	120.30
41	2	141	C	N3-C2-O2	-5.66	117.94	121.90
1	5	4	U	N1-C2-O2	5.66	126.76	122.80
41	2	4230	C	C6-N1-C2	-5.65	118.04	120.30
41	2	1367	C	N1-C2-O2	5.65	122.29	118.90
41	2	2670	C	N1-C2-O2	5.65	122.29	118.90
1	5	68	C	C6-N1-C2	-5.65	118.04	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	703	G	C4-N9-C1'	5.65	133.84	126.50
41	2	2418	A	N7-C8-N9	5.65	116.62	113.80
41	2	9	C	C6-N1-C2	-5.64	118.04	120.30
41	2	984	C	C6-N1-C2	-5.64	118.04	120.30
41	2	2872	C	C5-C6-N1	5.64	123.82	121.00
41	2	4453	C	C6-N1-C1'	-5.64	114.03	120.80
41	2	1853	G	N3-C4-N9	5.64	129.39	126.00
4	8	51	U	N3-C2-O2	-5.64	118.25	122.20
41	2	3739	C	N1-C2-O2	5.64	122.28	118.90
41	2	4215	C	C2-N1-C1'	5.64	125.00	118.80
4	8	107	C	C6-N1-C2	-5.64	118.05	120.30
41	2	2593	C	C2-N1-C1'	5.64	125.00	118.80
41	2	4413	C	N1-C2-O2	5.63	122.28	118.90
41	2	4752	U	N1-C2-O2	5.63	126.74	122.80
41	2	4096	C	N1-C2-O2	5.63	122.28	118.90
41	2	4747	C	C5-C6-N1	5.63	123.82	121.00
41	2	3853	U	N3-C2-O2	-5.63	118.26	122.20
41	2	4125	C	C6-N1-C2	-5.63	118.05	120.30
41	2	1096	C	N1-C2-O2	5.63	122.28	118.90
41	2	3831	U	N1-C2-O2	5.63	126.74	122.80
41	2	691	C	C6-N1-C2	-5.63	118.05	120.30
41	2	1582	U	N3-C2-O2	-5.63	118.26	122.20
41	2	4722	G	C4-N9-C1'	5.63	133.81	126.50
41	2	4923	C	C6-N1-C2	-5.62	118.05	120.30
38	A	169	MET	CA-CB-CG	5.62	122.86	113.30
41	2	4284	C	C5-C6-N1	5.62	123.81	121.00
47	J	30	LEU	CB-CG-CD1	5.62	120.56	111.00
41	2	4146	G	C6-C5-N7	-5.62	127.03	130.40
41	2	3926	C	C2-N1-C1'	5.62	124.98	118.80
41	2	4091	G	C4-C5-C6	5.62	122.17	118.80
41	2	1663	C	C6-N1-C2	-5.62	118.05	120.30
41	2	2647	A	C2-N3-C4	5.62	113.41	110.60
41	2	2791	C	C5-C6-N1	5.62	123.81	121.00
41	2	4907	G	N3-C4-N9	5.62	129.37	126.00
41	2	1418	C	N1-C2-O2	5.62	122.27	118.90
41	2	4547	C	C6-N1-C2	-5.61	118.06	120.30
41	2	4562	C	N1-C2-O2	5.61	122.27	118.90
41	2	449	C	N3-C2-O2	-5.61	117.97	121.90
41	2	4233	A	C2-N3-C4	5.61	113.41	110.60
1	5	104	C	N1-C2-O2	5.61	122.27	118.90
41	2	3594	C	N3-C2-O2	-5.61	117.97	121.90
41	2	4683	U	N1-C2-O2	5.61	126.73	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	28	C	C6-N1-C2	-5.61	118.06	120.30
41	2	4284	C	C2-N1-C1'	5.61	124.97	118.80
41	2	683	C	C6-N1-C2	-5.60	118.06	120.30
41	2	3905	A	OP2-P-O3'	5.60	117.53	105.20
41	2	5008	C	N3-C2-O2	-5.60	117.98	121.90
41	2	1309	C	C6-N1-C2	-5.60	118.06	120.30
41	2	1192	C	N3-C2-O2	-5.60	117.98	121.90
41	2	3668	C	C2-N1-C1'	5.60	124.95	118.80
41	2	262	G	N1-C6-O6	-5.59	116.54	119.90
41	2	4261	C	N3-C2-O2	-5.59	117.98	121.90
41	2	4476	C	C6-N1-C1'	-5.59	114.09	120.80
41	2	2439	G	N3-C4-C5	-5.59	125.80	128.60
41	2	2593	C	N1-C2-O2	5.59	122.25	118.90
4	8	141	C	C5-C6-N1	5.59	123.80	121.00
41	2	926	G	C4-N9-C1'	5.59	133.77	126.50
41	2	2410	C	N3-C2-O2	-5.59	117.99	121.90
41	2	4426	C	C6-N1-C2	-5.59	118.06	120.30
41	2	1538	U	N1-C2-O2	5.59	126.71	122.80
41	2	4318	C	C2-N1-C1'	5.58	124.94	118.80
41	2	1666	C	C6-N1-C2	-5.58	118.07	120.30
41	2	2094	G	N3-C4-N9	5.58	129.35	126.00
41	2	1592	G	C4-N9-C1'	5.58	133.75	126.50
41	2	2528	G	C2-N3-C4	5.58	114.69	111.90
41	2	1298	C	C6-N1-C2	-5.58	118.07	120.30
41	2	1822	U	C6-N1-C2	-5.58	117.66	121.00
41	2	3882	C	C2-N1-C1'	5.58	124.93	118.80
41	2	4387	C	C6-N1-C2	-5.58	118.07	120.30
41	2	4878	C	C6-N1-C2	-5.58	118.07	120.30
41	2	112	C	N3-C2-O2	-5.57	118.00	121.90
41	2	490	C	C6-N1-C2	-5.57	118.07	120.30
41	2	2016	C	C6-N1-C2	-5.57	118.07	120.30
1	5	78	C	C6-N1-C2	-5.57	118.07	120.30
41	2	50	C	C2-N1-C1'	5.57	124.93	118.80
41	2	1340	C	C5-C6-N1	5.57	123.78	121.00
41	2	1632	A	C4-N9-C1'	5.57	136.32	126.30
41	2	4928	C	C6-N1-C2	-5.57	118.07	120.30
9	E	11	LEU	CA-CB-CG	5.57	128.10	115.30
1	5	44	C	N3-C2-O2	-5.56	118.01	121.90
41	2	425	U	N3-C2-O2	-5.56	118.31	122.20
41	2	673	C	N3-C2-O2	-5.56	118.01	121.90
41	2	367	C	C6-N1-C2	-5.56	118.08	120.30
41	2	467	U	C5-C6-N1	5.56	125.48	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	62	A	N1-C2-N3	-5.56	126.52	129.30
34	n	106	TYR	N-CA-C	5.56	126.00	111.00
41	2	1551	C	C6-N1-C2	-5.56	118.08	120.30
41	2	3858	C	C6-N1-C2	-5.56	118.08	120.30
41	2	4126	C	N1-C2-O2	5.55	122.23	118.90
4	8	101	C	C2-N1-C1'	5.55	124.91	118.80
41	2	14	C	C6-N1-C2	-5.55	118.08	120.30
41	2	217	C	C6-N1-C2	-5.55	118.08	120.30
41	2	750	U	N3-C2-O2	-5.55	118.31	122.20
41	2	643	C	C6-N1-C2	-5.55	118.08	120.30
41	2	98	A	C2-N3-C4	5.55	113.37	110.60
41	2	3739	C	C6-N1-C2	-5.55	118.08	120.30
41	2	907	C	C5-C6-N1	5.54	123.77	121.00
41	2	3670	C	C5-C6-N1	5.54	123.77	121.00
41	2	3870	C	C5-C6-N1	5.54	123.77	121.00
41	2	1671	U	C6-N1-C2	-5.54	117.68	121.00
41	2	2094	G	C8-N9-C1'	-5.54	119.80	127.00
4	8	135	C	C5-C6-N1	5.54	123.77	121.00
41	2	4262	C	C5-C6-N1	5.54	123.77	121.00
41	2	303	C	C6-N1-C2	-5.54	118.09	120.30
41	2	1428	U	N1-C2-O2	5.54	126.67	122.80
41	2	4140	C	N1-C2-O2	5.54	122.22	118.90
41	2	4685	U	N3-C2-O2	-5.54	118.33	122.20
41	2	1404	G	N3-C4-C5	-5.53	125.83	128.60
41	2	1965	G	N3-C4-C5	-5.53	125.83	128.60
31	i	47	ASP	CB-CG-OD1	5.53	123.28	118.30
41	2	294	G	N3-C4-N9	5.53	129.32	126.00
41	2	4907	G	C4-N9-C1'	5.53	133.69	126.50
48	T	91	GLU	CA-CB-CG	5.53	125.57	113.40
41	2	1965	G	N3-C4-N9	5.53	129.32	126.00
41	2	712	C	C6-N1-C2	-5.53	118.09	120.30
41	2	2096	G	N3-C4-C5	-5.53	125.84	128.60
41	2	2780	C	C6-N1-C2	-5.53	118.09	120.30
41	2	391	U	N3-C2-O2	-5.53	118.33	122.20
41	2	2555	G	C6-C5-N7	-5.53	127.08	130.40
41	2	2634	C	C5-C6-N1	5.53	123.76	121.00
41	2	1085	C	C6-N1-C2	-5.52	118.09	120.30
41	2	204	U	N1-C2-O2	5.52	126.67	122.80
41	2	694	C	C6-N1-C2	-5.52	118.09	120.30
41	2	1577	G	N3-C2-N2	-5.52	116.03	119.90
41	2	2603	C	C5-C6-N1	5.52	123.76	121.00
1	5	24	C	N3-C2-O2	-5.52	118.03	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4886	C	N1-C2-O2	5.52	122.21	118.90
41	2	271	C	C6-N1-C2	-5.52	118.09	120.30
41	2	1216	C	O4'-C1'-N1	5.52	112.62	108.20
41	2	2078	C	C6-N1-C2	-5.52	118.09	120.30
41	2	1726	U	C5-C6-N1	5.51	125.46	122.70
41	2	2802	C	C6-N1-C2	-5.51	118.09	120.30
41	2	2439	G	N3-C4-N9	5.51	129.31	126.00
41	2	1535	C	C6-N1-C2	-5.51	118.10	120.30
41	2	1915	C	N3-C2-O2	-5.51	118.04	121.90
41	2	2555	G	C4-C5-N7	5.51	113.00	110.80
41	2	2908	U	N1-C2-O2	5.50	126.65	122.80
41	2	201	C	C6-N1-C2	-5.50	118.10	120.30
41	2	499	G	C2-N3-C4	5.50	114.65	111.90
41	2	972	C	C2-N1-C1'	5.50	124.85	118.80
41	2	1966	C	C5-C6-N1	5.50	123.75	121.00
14	K	33	LEU	CA-CB-CG	5.50	127.94	115.30
41	2	4302	U	C5-C6-N1	5.50	125.45	122.70
41	2	3633	C	C5-C6-N1	5.50	123.75	121.00
41	2	123	C	C6-N1-C2	-5.49	118.10	120.30
41	2	406	C	C6-N1-C2	-5.49	118.10	120.30
41	2	3831	U	N3-C2-O2	-5.49	118.36	122.20
42	r	171	LEU	CA-CB-CG	5.49	127.93	115.30
41	2	1662	C	C6-N1-C2	-5.49	118.10	120.30
41	2	98	A	N1-C2-N3	-5.49	126.56	129.30
41	2	4258	C	N3-C2-O2	-5.49	118.06	121.90
9	E	65	MET	CA-CB-CG	5.49	122.63	113.30
41	2	30	C	C5-C6-N1	5.49	123.74	121.00
41	2	1450	C	C5-C6-N1	5.49	123.74	121.00
41	2	4880	C	C5-C6-N1	5.49	123.74	121.00
42	r	87	GLY	C-N-CA	5.48	135.41	121.70
41	2	4710	C	C5-C6-N1	5.48	123.74	121.00
41	2	3589	G	C4-N9-C1'	5.48	133.63	126.50
41	2	4864	U	C5-C6-N1	5.48	125.44	122.70
41	2	2814	C	N3-C2-O2	-5.48	118.07	121.90
41	2	4548	A	C2-N3-C4	5.48	113.34	110.60
4	8	80	A	C2-N3-C4	5.47	113.34	110.60
41	2	2489	C	C6-N1-C2	-5.47	118.11	120.30
41	2	662	C	N1-C2-O2	5.47	122.18	118.90
41	2	101	A	N1-C2-N3	-5.46	126.57	129.30
41	2	1644	C	C5-C6-N1	5.46	123.73	121.00
41	2	2853	C	N1-C2-O2	5.46	122.18	118.90
41	2	4286	C	N1-C2-O2	5.46	122.18	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1853	G	C8-N9-C1'	-5.46	119.90	127.00
41	2	1957	U	N1-C2-O2	5.46	126.62	122.80
41	2	3636	C	C5-C6-N1	5.46	123.73	121.00
41	2	1437	C	C6-N1-C2	-5.46	118.12	120.30
7	C	40	LEU	CA-CB-CG	5.45	127.84	115.30
41	2	1431	C	C6-N1-C2	-5.45	118.12	120.30
41	2	963	G	C4-N9-C1'	5.45	133.59	126.50
41	2	1414	C	C2-N1-C1'	5.45	124.79	118.80
41	2	1309	C	C5-C6-N1	5.45	123.72	121.00
41	2	2729	C	C5-C6-N1	5.45	123.72	121.00
41	2	4764	A	C6-N1-C2	5.45	121.87	118.60
41	2	350	C	C2-N1-C1'	5.44	124.78	118.80
41	2	436	C	C6-N1-C2	-5.44	118.12	120.30
41	2	2625	U	N1-C2-O2	5.44	126.61	122.80
41	2	2692	U	N3-C2-O2	-5.44	118.39	122.20
41	2	30	C	N1-C2-O2	5.44	122.16	118.90
41	2	4310	A	C2-N3-C4	5.44	113.32	110.60
41	2	1191	C	C6-N1-C2	-5.44	118.13	120.30
41	2	1603	C	C6-N1-C2	-5.44	118.13	120.30
41	2	975	C	C6-N1-C2	-5.43	118.13	120.30
41	2	1478	C	C6-N1-C2	-5.43	118.13	120.30
41	2	2351	C	N1-C2-O2	5.43	122.16	118.90
41	2	80	C	C6-N1-C2	-5.43	118.13	120.30
41	2	3595	U	N1-C2-O2	5.43	126.60	122.80
4	8	103	A	N1-C2-N3	-5.43	126.58	129.30
41	2	385	A	N1-C2-N3	-5.43	126.59	129.30
41	2	941	C	C6-N1-C2	-5.43	118.13	120.30
41	2	2697	A	N1-C2-N3	-5.43	126.59	129.30
41	2	906	C	N1-C2-O2	5.43	122.16	118.90
41	2	4887	C	C5-C6-N1	5.43	123.71	121.00
41	2	1458	C	C2-N1-C1'	5.42	124.77	118.80
41	2	2015	U	N3-C2-O2	-5.42	118.40	122.20
41	2	302	C	C6-N1-C2	-5.42	118.13	120.30
41	2	919	C	N1-C2-O2	5.42	122.15	118.90
41	2	4420	U	N3-C2-O2	-5.42	118.41	122.20
41	2	984	C	C5-C6-N1	5.42	123.71	121.00
41	2	26	C	C2-N1-C1'	5.42	124.76	118.80
41	2	2802	C	C5-C6-N1	5.42	123.71	121.00
41	2	4614	G	N1-C6-O6	-5.42	116.65	119.90
41	2	2059	C	C6-N1-C2	-5.42	118.13	120.30
41	2	1241	C	C6-N1-C2	-5.41	118.14	120.30
41	2	4334	U	O3'-P-O5'	-5.41	93.71	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4709	U	C6-N1-C2	-5.41	117.75	121.00
1	5	104	C	N3-C2-O2	-5.40	118.12	121.90
41	2	2843	U	N3-C2-O2	-5.40	118.42	122.20
4	8	153	C	C6-N1-C2	-5.40	118.14	120.30
41	2	1585	C	C6-N1-C2	-5.40	118.14	120.30
41	2	2338	C	C6-N1-C2	-5.40	118.14	120.30
21	U	164	LEU	CA-CB-CG	5.39	127.71	115.30
41	2	4171	C	C5-C6-N1	5.39	123.70	121.00
41	2	4149	C	N1-C2-O2	5.39	122.14	118.90
41	2	4102	C	C6-N1-C2	-5.39	118.14	120.30
41	2	3657	U	N1-C2-O2	5.39	126.57	122.80
41	2	1809	C	C2-N1-C1'	5.39	124.73	118.80
41	2	2384	U	N3-C2-O2	-5.39	118.43	122.20
41	2	679	C	C5-C6-N1	5.38	123.69	121.00
41	2	1264	C	C6-N1-C2	-5.38	118.15	120.30
41	2	2073	C	C6-N1-C2	-5.38	118.15	120.30
41	2	4206	C	C2-N1-C1'	5.38	124.72	118.80
41	2	1662	C	C5-C6-N1	5.38	123.69	121.00
41	2	1965	G	C4-N9-C1'	5.38	133.49	126.50
41	2	691	C	C5-C6-N1	5.38	123.69	121.00
41	2	974	C	C6-N1-C2	-5.38	118.15	120.30
41	2	1551	C	N3-C2-O2	-5.38	118.14	121.90
41	2	1816	C	C6-N1-C1'	-5.38	114.35	120.80
41	2	4159	C	N1-C2-O2	5.38	122.13	118.90
41	2	4682	U	C2-N1-C1'	5.38	124.15	117.70
41	2	115	C	C6-N1-C2	-5.37	118.15	120.30
41	2	4153	C	C5-C6-N1	5.37	123.69	121.00
41	2	924	C	N1-C2-O2	5.37	122.12	118.90
41	2	3866	C	C6-N1-C2	-5.37	118.15	120.30
4	8	118	C	C2-N1-C1'	5.37	124.70	118.80
41	2	1405	C	C5-C6-N1	5.37	123.68	121.00
4	8	54	C	C5-C6-N1	5.36	123.68	121.00
4	8	90	C	C6-N1-C2	-5.36	118.15	120.30
41	2	1477	C	C5-C6-N1	5.36	123.68	121.00
41	2	3622	C	C5-C6-N1	5.36	123.68	121.00
41	2	4230	C	N3-C2-O2	-5.36	118.15	121.90
41	2	4267	G	N1-C2-N2	5.36	121.03	116.20
41	2	2035	C	C6-N1-C2	-5.36	118.16	120.30
41	2	131	C	C5-C6-N1	5.36	123.68	121.00
41	2	1977	C	C5-C6-N1	5.36	123.68	121.00
41	2	2729	C	N1-C2-O2	5.36	122.11	118.90
41	2	2900	U	C5-C6-N1	5.36	125.38	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4138	C	C5-C6-N1	5.36	123.68	121.00
41	2	4522	G	C8-N9-C1'	-5.36	120.04	127.00
41	2	5008	C	C5-C6-N1	5.35	123.68	121.00
4	8	72	A	N1-C2-N3	-5.35	126.62	129.30
41	2	905	C	C6-N1-C2	-5.35	118.16	120.30
41	2	1293	G	N3-C4-C5	-5.35	125.92	128.60
41	2	1188	C	C6-N1-C2	-5.35	118.16	120.30
41	2	4352	U	C6-N1-C2	-5.35	117.79	121.00
41	2	919	C	N3-C2-O2	-5.35	118.16	121.90
41	2	2501	C	C6-N1-C2	-5.35	118.16	120.30
41	2	4639	G	N3-C4-C5	-5.35	125.93	128.60
41	2	4918	C	C6-N1-C2	-5.35	118.16	120.30
41	2	515	C	C6-N1-C1'	-5.35	114.39	120.80
41	2	3595	U	N3-C2-O2	-5.34	118.46	122.20
41	2	3623	C	C5-C6-N1	5.34	123.67	121.00
41	2	3741	C	N3-C2-O2	-5.34	118.16	121.90
41	2	4699	U	OP1-P-O3'	5.34	116.96	105.20
41	2	110	C	C6-N1-C2	-5.34	118.16	120.30
41	2	4132	C	C6-N1-C2	-5.34	118.16	120.30
39	4	269	LEU	CA-CB-CG	5.34	127.59	115.30
41	2	3618	C	C6-N1-C2	-5.34	118.16	120.30
41	2	4996	C	C5-C6-N1	5.34	123.67	121.00
41	2	2497	C	C2-N1-C1'	5.34	124.67	118.80
41	2	4315	A	N1-C2-N3	-5.34	126.63	129.30
41	2	195	C	C5-C6-N1	5.34	123.67	121.00
41	2	1794	A	C2-N3-C4	5.34	113.27	110.60
41	2	4141	G	C2-N3-C4	5.33	114.57	111.90
41	2	1310	C	C6-N1-C2	-5.33	118.17	120.30
41	2	294	G	C8-N9-C1'	-5.33	120.07	127.00
41	2	493	G	C4-N9-C1'	5.33	133.43	126.50
41	2	3692	A	C2-N3-C4	5.33	113.27	110.60
41	2	1439	C	N3-C2-O2	-5.33	118.17	121.90
41	2	201	C	N1-C2-O2	5.33	122.09	118.90
41	2	2264	C	C5-C6-N1	5.33	123.66	121.00
41	2	1401	C	N1-C2-O2	5.32	122.09	118.90
41	2	3901	A	C2-N3-C4	5.32	113.26	110.60
41	2	4569	U	N1-C2-O2	5.32	126.53	122.80
41	2	4708	A	N1-C2-N3	-5.32	126.64	129.30
8	D	7	LEU	CA-CB-CG	5.32	127.53	115.30
41	2	2035	C	C5-C6-N1	5.32	123.66	121.00
41	2	165	A	C2-N3-C4	5.31	113.26	110.60
41	2	2642	A	N1-C2-N3	-5.31	126.64	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4714	C	C5-C6-N1	5.31	123.66	121.00
41	2	1503	A	N1-C2-N3	-5.31	126.65	129.30
1	5	3	C	C6-N1-C2	-5.31	118.18	120.30
41	2	4345	C	C5-C6-N1	5.31	123.65	121.00
41	2	4477	A	C2-N3-C4	5.31	113.25	110.60
41	2	1717	C	C6-N1-C2	-5.30	118.18	120.30
41	2	2901	G	C4-N9-C1'	5.30	133.40	126.50
41	2	4608	G	O4'-C1'-N9	5.30	112.44	108.20
1	5	15	C	N1-C2-O2	5.30	122.08	118.90
41	2	4162	C	N3-C2-O2	-5.30	118.19	121.90
41	2	4471	U	N1-C2-O2	5.30	126.51	122.80
41	2	2497	C	N3-C2-O2	-5.30	118.19	121.90
41	2	77	U	C2-N1-C1'	5.30	124.06	117.70
41	2	1643	A	N1-C2-N3	-5.29	126.65	129.30
41	2	2011	C	N3-C2-O2	-5.29	118.19	121.90
41	2	1700	G	N3-C4-N9	5.29	129.18	126.00
41	2	4360	U	C6-N1-C2	-5.29	117.83	121.00
41	2	4970	C	C2-N1-C1'	5.29	124.62	118.80
41	2	910	G	N3-C4-C5	-5.29	125.96	128.60
1	5	42	A	N1-C2-N3	-5.29	126.66	129.30
41	2	2325	C	C6-N1-C2	-5.29	118.19	120.30
41	2	3866	C	C5-C6-N1	5.29	123.64	121.00
41	2	4369	A	N1-C2-N3	-5.29	126.66	129.30
41	2	264	C	C6-N1-C2	-5.28	118.19	120.30
42	r	75	VAL	CA-CB-CG1	5.28	118.83	110.90
41	2	4499	G	C4-N9-C1'	5.28	133.37	126.50
41	2	1702	C	C6-N1-C2	-5.28	118.19	120.30
41	2	662	C	C6-N1-C2	-5.28	118.19	120.30
41	2	4506	C	C6-N1-C2	-5.28	118.19	120.30
41	2	415	G	N3-C4-C5	-5.28	125.96	128.60
41	2	2685	C	C6-N1-C2	-5.28	118.19	120.30
41	2	1499	C	C6-N1-C2	-5.27	118.19	120.30
41	2	3882	C	N1-C2-O2	5.27	122.06	118.90
41	2	112	C	C6-N1-C1'	-5.27	114.47	120.80
41	2	1893	C	N3-C2-O2	-5.27	118.21	121.90
41	2	719	C	C5-C6-N1	5.27	123.64	121.00
41	2	1947	U	C2-N1-C1'	5.27	124.02	117.70
41	2	1853	G	N3-C4-C5	-5.27	125.97	128.60
41	2	4303	C	N1-C2-O2	5.26	122.06	118.90
41	2	2000	G	N3-C4-N9	5.26	129.16	126.00
41	2	3694	U	N1-C2-O2	5.26	126.48	122.80
41	2	2274	C	C6-N1-C2	-5.26	118.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4980	C	C6-N1-C2	-5.26	118.20	120.30
41	2	2909	C	C5-C6-N1	5.26	123.63	121.00
41	2	4710	C	C6-N1-C2	-5.26	118.20	120.30
41	2	4456	C	N1-C2-O2	5.25	122.05	118.90
41	2	1632	A	N3-C4-N9	5.25	131.60	127.40
41	2	1686	C	N1-C2-O2	5.25	122.05	118.90
41	2	2615	C	C6-N1-C2	-5.25	118.20	120.30
41	2	4072	C	C6-N1-C2	-5.25	118.20	120.30
41	2	4771	C	C2-N1-C1'	5.25	124.58	118.80
4	8	4	C	N1-C2-O2	5.25	122.05	118.90
41	2	122	U	N1-C2-O2	5.25	126.47	122.80
41	2	1099	C	N1-C2-O2	5.25	122.05	118.90
41	2	4887	C	C2-N1-C1'	5.25	124.58	118.80
41	2	4459	U	N3-C2-O2	-5.25	118.53	122.20
41	2	4878	C	C5-C6-N1	5.25	123.62	121.00
41	2	110	C	N3-C2-O2	-5.25	118.23	121.90
41	2	289	C	C6-N1-C2	-5.25	118.20	120.30
41	2	4088	C	C2-N1-C1'	5.25	124.57	118.80
21	U	134	LEU	CA-CB-CG	5.25	127.36	115.30
41	2	1599	A	C2-N3-C4	5.24	113.22	110.60
41	2	2792	C	C6-N1-C2	-5.24	118.20	120.30
41	2	17	A	N1-C2-N3	-5.24	126.68	129.30
41	2	4147	G	N1-C6-O6	-5.24	116.76	119.90
41	2	1294	A	O4'-C1'-N9	5.24	112.39	108.20
41	2	1386	C	C6-N1-C2	-5.24	118.20	120.30
41	2	1700	G	N3-C4-C5	-5.24	125.98	128.60
41	2	2367	A	N1-C2-N3	-5.24	126.68	129.30
41	2	4696	C	N1-C2-O2	5.24	122.04	118.90
41	2	1968	G	N3-C4-C5	-5.24	125.98	128.60
41	2	2607	C	C6-N1-C2	-5.24	118.20	120.30
41	2	4361	U	N3-C2-O2	-5.24	118.53	122.20
4	8	52	A	N1-C2-N3	-5.24	126.68	129.30
41	2	221	C	C5-C6-N1	5.24	123.62	121.00
41	2	4263	C	C2-N1-C1'	5.23	124.56	118.80
41	2	2867	C	C5-C6-N1	5.23	123.61	121.00
41	2	322	C	C5-C6-N1	5.23	123.61	121.00
1	5	4	U	C2-N1-C1'	5.22	123.97	117.70
1	5	4	U	N3-C2-O2	-5.22	118.54	122.20
41	2	78	U	N3-C2-O2	-5.22	118.54	122.20
41	2	4247	G	N3-C4-N9	5.22	129.13	126.00
4	8	9	A	N1-C2-N3	-5.22	126.69	129.30
41	2	4477	A	N1-C2-N3	-5.22	126.69	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1378	C	O4'-C1'-N1	5.22	112.38	108.20
41	2	1384	C	C5-C6-N1	5.22	123.61	121.00
41	2	5042	A	C2-N3-C4	5.22	113.21	110.60
41	2	2260	C	N3-C2-O2	-5.22	118.25	121.90
41	2	4239	A	N1-C2-N3	-5.22	126.69	129.30
41	2	59	A	C2-N3-C4	5.21	113.21	110.60
41	2	489	C	N3-C2-O2	-5.21	118.25	121.90
41	2	1076	C	C6-N1-C2	-5.21	118.21	120.30
41	2	4250	G	N1-C2-N2	-5.21	111.51	116.20
41	2	4498	U	C2-N1-C1'	5.21	123.95	117.70
41	2	1188	C	C5-C6-N1	5.21	123.60	121.00
41	2	1563	A	C2-N3-C4	5.21	113.20	110.60
41	2	3635	A	N1-C2-N3	-5.21	126.70	129.30
41	2	4486	C	N3-C2-O2	-5.21	118.25	121.90
41	2	2482	C	C6-N1-C2	-5.21	118.22	120.30
41	2	1702	C	C6-N1-C1'	-5.20	114.56	120.80
41	2	1906	U	N1-C2-O2	5.20	126.44	122.80
41	2	2519	U	O4'-C1'-N1	5.20	112.36	108.20
41	2	2539	C	C5-C6-N1	5.20	123.60	121.00
41	2	2571	C	N1-C2-O2	5.20	122.02	118.90
41	2	2708	U	N3-C2-O2	-5.20	118.56	122.20
41	2	2908	U	N3-C2-O2	-5.20	118.56	122.20
41	2	4605	A	C4-N9-C1'	-5.20	116.93	126.30
1	5	103	A	C2-N3-C4	5.20	113.20	110.60
41	2	4332	C	C6-N1-C2	-5.20	118.22	120.30
41	2	1294	A	C2-N3-C4	5.20	113.20	110.60
41	2	4664	A	N1-C2-N3	-5.20	126.70	129.30
41	2	4928	C	O4'-C1'-N1	5.20	112.36	108.20
41	2	148	C	C6-N1-C2	-5.20	118.22	120.30
41	2	1293	G	N3-C4-N9	5.20	129.12	126.00
41	2	3709	U	C6-N1-C2	-5.20	117.88	121.00
4	8	101	C	N3-C2-O2	-5.19	118.26	121.90
1	5	58	A	N1-C2-N3	-5.19	126.70	129.30
41	2	1809	C	N1-C2-O2	5.19	122.02	118.90
41	2	2012	A	C2-N3-C4	5.19	113.20	110.60
41	2	4073	A	C2-N3-C4	5.19	113.19	110.60
41	2	1190	C	N3-C2-O2	-5.19	118.27	121.90
41	2	4701	A	N1-C2-N3	-5.19	126.70	129.30
41	2	408	A	N1-C2-N3	-5.19	126.71	129.30
1	5	76	U	C2-N1-C1'	5.19	123.92	117.70
25	a	99	MET	CG-SD-CE	-5.19	91.90	100.20
41	2	1072	C	C6-N1-C2	-5.19	118.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	5	76	U	C5-C6-N1	5.18	125.29	122.70
41	2	4626	A	N1-C2-N3	-5.18	126.71	129.30
41	2	1498	G	N3-C4-C5	-5.18	126.01	128.60
41	2	4639	G	N3-C4-N9	5.18	129.11	126.00
4	8	108	A	N1-C2-N3	-5.18	126.71	129.30
41	2	1507	C	C6-N1-C2	-5.18	118.23	120.30
41	2	4365	C	C6-N1-C2	-5.18	118.23	120.30
43	d	23	LEU	CA-CB-CG	5.18	127.21	115.30
41	2	4070	U	C5-C6-N1	5.18	125.29	122.70
41	2	4088	C	C5-C6-N1	5.18	123.59	121.00
41	2	4286	C	N3-C2-O2	-5.18	118.28	121.90
41	2	1521	C	C6-N1-C2	-5.18	118.23	120.30
41	2	3923	A	N1-C2-N3	-5.18	126.71	129.30
5	9	28	LEU	CA-CB-CG	5.17	127.20	115.30
41	2	227	A	N1-C2-N3	-5.17	126.71	129.30
41	2	26	C	C5-C6-N1	5.17	123.59	121.00
41	2	51	A	N1-C2-N3	-5.17	126.71	129.30
41	2	2062	C	C6-N1-C2	-5.17	118.23	120.30
41	2	4068	U	N3-C2-O2	-5.17	118.58	122.20
41	2	436	C	N1-C2-O2	5.17	122.00	118.90
41	2	435	A	N1-C2-N3	-5.17	126.72	129.30
41	2	1201	U	C6-N1-C2	-5.17	117.90	121.00
41	2	1929	A	N3-C4-C5	-5.17	123.18	126.80
41	2	1243	C	C5-C6-N1	5.16	123.58	121.00
41	2	3882	C	C5-C6-N1	5.16	123.58	121.00
41	2	4771	C	N1-C2-O2	5.16	122.00	118.90
3	7	7	TYR	C-N-CA	5.16	134.60	121.70
27	c	150	LEU	CA-CB-CG	5.16	127.17	115.30
41	2	4413	C	C5-C6-N1	5.16	123.58	121.00
41	2	56	A	N1-C2-N3	-5.16	126.72	129.30
41	2	1276	C	C6-N1-C2	-5.16	118.24	120.30
41	2	1901	C	C6-N1-C2	-5.16	118.24	120.30
41	2	2371	U	C6-N1-C2	-5.16	117.90	121.00
41	2	2403	A	C2-N3-C4	5.16	113.18	110.60
41	2	1420	A	N1-C2-N3	-5.16	126.72	129.30
41	2	1884	C	C5-C6-N1	5.16	123.58	121.00
41	2	3935	C	N1-C2-O2	5.16	121.99	118.90
4	8	18	U	N3-C2-O2	-5.15	118.59	122.20
42	r	115	MET	CA-CB-CG	5.15	122.06	113.30
41	2	2533	C	C6-N1-C2	-5.15	118.24	120.30
41	2	4158	C	N1-C2-O2	5.15	121.99	118.90
41	2	458	C	C6-N1-C2	-5.15	118.24	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1579	C	C6-N1-C2	-5.15	118.24	120.30
41	2	656	C	C6-N1-C2	-5.15	118.24	120.30
41	2	1520	C	C6-N1-C2	-5.15	118.24	120.30
41	2	1848	C	C6-N1-C2	-5.15	118.24	120.30
4	8	118	C	N1-C2-O2	5.14	121.99	118.90
41	2	1535	C	N3-C2-O2	-5.14	118.30	121.90
41	2	2081	C	C6-N1-C2	-5.14	118.24	120.30
41	2	4420	U	N1-C2-O2	5.14	126.40	122.80
41	2	366	A	N1-C2-N3	-5.14	126.73	129.30
41	2	2264	C	N3-C2-O2	-5.14	118.30	121.90
41	2	1245	C	C2-N1-C1'	5.14	124.45	118.80
11	G	162	ASP	CB-CG-OD1	5.14	122.93	118.30
41	2	1086	C	C6-N1-C2	-5.14	118.24	120.30
41	2	3709	U	C2-N1-C1'	5.14	123.87	117.70
41	2	3707	U	N3-C2-O2	-5.14	118.60	122.20
41	2	738	C	C6-N1-C2	-5.14	118.25	120.30
41	2	71	C	C6-N1-C2	-5.13	118.25	120.30
41	2	485	C	OP1-P-O3'	5.13	116.50	105.20
41	2	1577	G	N3-C4-C5	-5.13	126.03	128.60
41	2	4072	C	C5-C6-N1	5.13	123.57	121.00
41	2	4967	A	N1-C2-N3	-5.13	126.73	129.30
4	8	90	C	C5-C6-N1	5.13	123.57	121.00
41	2	407	A	N1-C2-N3	-5.13	126.73	129.30
41	2	164	G	N3-C4-N9	5.13	129.08	126.00
41	2	986	C	C2-N3-C4	5.13	122.47	119.90
41	2	1519	C	C6-N1-C2	-5.13	118.25	120.30
41	2	4486	C	C6-N1-C2	-5.13	118.25	120.30
41	2	282	C	C2-N1-C1'	5.13	124.44	118.80
41	2	2372	U	N1-C2-O2	5.13	126.39	122.80
41	2	2379	A	N1-C2-N3	-5.13	126.74	129.30
41	2	4464	A	C2-N3-C4	5.13	113.16	110.60
41	2	4088	C	N3-C2-O2	-5.12	118.31	121.90
27	c	68	THR	OG1-CB-CG2	-5.12	98.22	110.00
41	2	2015	U	N1-C2-O2	5.12	126.39	122.80
41	2	2497	C	C5-C6-N1	5.12	123.56	121.00
41	2	653	U	N3-C2-O2	-5.12	118.62	122.20
41	2	656	C	N1-C2-O2	5.12	121.97	118.90
41	2	906	C	C6-N1-C2	-5.12	118.25	120.30
41	2	2016	C	N3-C2-O2	-5.12	118.31	121.90
41	2	2699	C	C6-N1-C2	-5.12	118.25	120.30
41	2	4137	C	C5-C6-N1	5.12	123.56	121.00
4	8	50	C	C6-N1-C2	-5.12	118.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2255	C	C6-N1-C2	-5.12	118.25	120.30
41	2	2418	A	N1-C2-N3	-5.12	126.74	129.30
4	8	138	C	C6-N1-C2	-5.12	118.25	120.30
41	2	3693	U	C2-N1-C1'	5.12	123.84	117.70
41	2	4977	A	N1-C2-N3	-5.12	126.74	129.30
41	2	4700	A	N1-C2-N3	-5.11	126.75	129.30
41	2	110	C	N1-C2-O2	5.11	121.97	118.90
41	2	1557	C	N1-C2-O2	5.11	121.97	118.90
41	2	4914	C	C6-N1-C2	-5.11	118.26	120.30
41	2	3655	C	C6-N1-C2	-5.11	118.26	120.30
41	2	3928	A	N1-C2-N3	-5.11	126.75	129.30
41	2	4981	G	C8-N9-C1'	-5.10	120.37	127.00
41	2	1655	C	C5-C6-N1	5.10	123.55	121.00
41	2	3942	A	N1-C2-N3	-5.10	126.75	129.30
41	2	2900	U	C6-N1-C2	-5.10	117.94	121.00
41	2	4994	G	C4-N9-C1'	5.10	133.13	126.50
41	2	4102	C	N1-C2-O2	5.10	121.96	118.90
41	2	4267	G	N7-C8-N9	5.10	115.65	113.10
33	m	246	LEU	CA-CB-CG	5.10	127.02	115.30
41	2	672	C	C6-N1-C2	-5.10	118.26	120.30
41	2	2101	C	C6-N1-C2	-5.10	118.26	120.30
41	2	86	U	C2-N1-C1'	5.09	123.81	117.70
41	2	657	C	C5-C6-N1	5.09	123.55	121.00
41	2	2828	U	N1-C2-O2	5.09	126.37	122.80
41	2	2845	A	C2-N3-C4	5.09	113.15	110.60
41	2	2856	C	C2-N1-C1'	5.09	124.40	118.80
41	2	1505	C	C5-C6-N1	5.09	123.55	121.00
41	2	2465	C	C5-C6-N1	5.09	123.54	121.00
41	2	4302	U	C6-N1-C1'	-5.09	114.08	121.20
41	2	4460	U	N3-C2-O2	-5.09	118.64	122.20
1	5	3	C	C5-C6-N1	5.08	123.54	121.00
41	2	4864	U	C6-N1-C2	-5.08	117.95	121.00
47	J	30	LEU	CA-CB-CG	5.08	126.99	115.30
41	2	34	A	N1-C2-N3	-5.08	126.76	129.30
41	2	4481	U	C2-N1-C1'	5.08	123.80	117.70
41	2	1557	C	C5-C6-N1	5.08	123.54	121.00
41	2	1592	G	N3-C4-C5	-5.08	126.06	128.60
41	2	1404	G	N3-C4-N9	5.08	129.05	126.00
41	2	1508	A	N1-C2-N3	-5.08	126.76	129.30
41	2	2779	C	C5-C6-N1	5.08	123.54	121.00
41	2	2901	G	N3-C4-C5	-5.08	126.06	128.60
41	2	4928	C	C5-C6-N1	5.08	123.54	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	8	153	C	N1-C2-O2	5.08	121.95	118.90
41	2	1478	C	N1-C2-O2	5.07	121.94	118.90
41	2	1722	C	C6-N1-C2	-5.07	118.27	120.30
41	2	2377	C	C6-N1-C2	-5.07	118.27	120.30
41	2	2654	C	C6-N1-C2	-5.07	118.27	120.30
41	2	4923	C	N3-C2-O2	-5.07	118.35	121.90
41	2	2002	A	N1-C2-N3	-5.07	126.77	129.30
1	5	76	U	C6-N1-C2	-5.07	117.96	121.00
41	2	1387	A	N1-C2-N3	-5.07	126.77	129.30
41	2	2338	C	C5-C6-N1	5.07	123.53	121.00
41	2	4490	C	C6-N1-C2	-5.07	118.27	120.30
41	2	4562	C	N3-C2-O2	-5.07	118.35	121.90
41	2	4069	U	N3-C2-O2	-5.07	118.65	122.20
41	2	504	G	N3-C4-C5	-5.06	126.07	128.60
41	2	2439	G	C8-N9-C1'	-5.06	120.42	127.00
41	2	5030	U	C5-C6-N1	5.06	125.23	122.70
41	2	1554	A	N1-C2-N3	-5.06	126.77	129.30
41	2	2307	A	N1-C2-N3	-5.06	126.77	129.30
41	2	3739	C	C2-N1-C1'	5.06	124.37	118.80
41	2	3893	C	C5-C6-N1	5.06	123.53	121.00
41	2	926	G	C2-N3-C4	5.06	114.43	111.90
41	2	977	C	C5-C6-N1	5.06	123.53	121.00
41	2	1404	G	C4-N9-C1'	5.06	133.08	126.50
41	2	4476	C	C5-C6-N1	5.06	123.53	121.00
1	5	26	C	N3-C2-O2	-5.06	118.36	121.90
4	8	19	C	C6-N1-C2	-5.06	118.28	120.30
41	2	910	G	C8-N9-C1'	-5.06	120.43	127.00
41	2	1692	C	N1-C2-O2	5.06	121.94	118.90
41	2	1477	C	C2-N1-C1'	5.06	124.36	118.80
41	2	4711	C	C5-C6-N1	5.06	123.53	121.00
4	8	135	C	N1-C2-O2	5.05	121.93	118.90
41	2	4134	C	O4'-C1'-N1	5.05	112.24	108.20
41	2	4940	C	N1-C2-O2	5.05	121.93	118.90
41	2	12	A	C2-N3-C4	5.05	113.13	110.60
41	2	4360	U	C5-C6-N1	5.05	125.23	122.70
22	V	202	LEU	CB-CG-CD1	-5.05	102.42	111.00
29	g	127	LEU	CA-CB-CG	5.05	126.91	115.30
41	2	101	A	C2-N3-C4	5.05	113.12	110.60
41	2	3831	U	C2-N1-C1'	5.05	123.76	117.70
41	2	988	C	C6-N1-C2	-5.05	118.28	120.30
41	2	1339	U	N3-C2-O2	-5.05	118.67	122.20
41	2	4476	C	C6-N1-C2	-5.05	118.28	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4537	C	N3-C2-O2	-5.05	118.37	121.90
41	2	5002	U	N3-C2-O2	-5.05	118.67	122.20
41	2	290	U	N3-C2-O2	-5.04	118.67	122.20
41	2	4667	C	C6-N1-C2	-5.04	118.28	120.30
41	2	1577	G	N9-C4-C5	5.04	107.42	105.40
1	5	2	U	C6-N1-C2	-5.04	117.98	121.00
1	5	115	A	N1-C2-N3	-5.04	126.78	129.30
4	8	20	A	N1-C2-N3	-5.04	126.78	129.30
41	2	1372	A	N1-C2-N3	-5.04	126.78	129.30
41	2	1499	C	N3-C2-O2	-5.04	118.37	121.90
41	2	2000	G	C8-N9-C4	-5.04	104.38	106.40
41	2	5066	U	N3-C2-O2	-5.04	118.67	122.20
41	2	472	C	C2-N1-C1'	5.04	124.34	118.80
41	2	1807	C	C6-N1-C1'	-5.04	114.75	120.80
41	2	4378	A	N1-C2-N3	-5.04	126.78	129.30
41	2	406	C	C2'-C3'-O3'	5.04	121.76	113.70
41	2	1395	U	N1-C2-O2	5.04	126.33	122.80
41	2	1557	C	C2-N1-C1'	5.04	124.34	118.80
41	2	2566	G	C4-N9-C1'	5.04	133.05	126.50
41	2	4980	C	C5-C6-N1	5.04	123.52	121.00
41	2	174	C	N3-C2-O2	-5.03	118.38	121.90
41	2	2821	U	N1-C2-O2	5.03	126.32	122.80
4	8	4	C	C2-N1-C1'	5.03	124.33	118.80
41	2	1430	C	C6-N1-C2	-5.03	118.29	120.30
41	2	2262	G	C6-C5-N7	-5.03	127.38	130.40
41	2	2445	C	N3-C2-O2	-5.03	118.38	121.90
41	2	4164	C	N1-C2-O2	5.03	121.92	118.90
41	2	2096	G	C2-N3-C4	5.03	114.41	111.90
41	2	2511	A	N1-C2-N3	-5.03	126.79	129.30
41	2	1344	C	C2-N1-C1'	5.02	124.33	118.80
41	2	3623	C	N3-C2-O2	-5.02	118.39	121.90
1	5	68	C	C5-C6-N1	5.02	123.51	121.00
41	2	1077	C	C6-N1-C2	-5.02	118.29	120.30
41	2	2566	G	N3-C4-N9	5.02	129.01	126.00
41	2	59	A	N1-C2-N3	-5.02	126.79	129.30
41	2	76	A	N1-C2-N3	-5.01	126.79	129.30
41	2	2499	C	C6-N1-C2	-5.01	118.29	120.30
4	8	80	A	O4'-C1'-N9	5.01	112.21	108.20
41	2	696	C	C6-N1-C2	-5.01	118.30	120.30
41	2	753	C	C2-N3-C4	5.01	122.41	119.90
41	2	979	C	N3-C2-O2	-5.01	118.39	121.90
41	2	1720	C	N3-C2-O2	-5.01	118.39	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4155	C	C5-C6-N1	5.01	123.50	121.00
41	2	4906	C	N1-C2-O2	5.01	121.91	118.90
41	2	2787	A	N1-C2-N3	-5.01	126.80	129.30
41	2	4764	A	C4-C5-C6	-5.01	114.50	117.00
41	2	421	C	C6-N1-C2	-5.01	118.30	120.30
41	2	365	U	C2-N1-C1'	5.00	123.70	117.70
41	2	1401	C	C2-N1-C1'	5.00	124.30	118.80
41	2	1525	A	C2-N3-C4	5.00	113.10	110.60
41	2	2583	C	N3-C2-O2	-5.00	118.40	121.90
41	2	4339	A	N1-C2-N3	-5.00	126.80	129.30
24	Z	29	VAL	CG1-CB-CG2	-5.00	102.90	110.90
41	2	4694	G	C4-N9-C1'	5.00	133.00	126.50
41	2	4694	G	N3-C4-N9	5.00	129.00	126.00
41	2	4734	A	O4'-C1'-N9	5.00	112.20	108.20

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
41	2	3589	G	Sidechain
39	4	163	THR	Peptide
39	4	234	ASN	Peptide
2	6	8	GLU	Peptide
38	A	150	ARG	Peptide
38	A	154	ASN	Peptide
6	B	241	PRO	Peptide
19	Q	154	VAL	Peptide
40	R	42	MET	Peptide
40	R	47	ALA	Peptide
48	T	94	LEU	Peptide
31	i	133	LYS	Peptide
34	n	106	TYR	Peptide
35	o	225	PRO	Peptide
42	r	142	PHE	Peptide
42	r	181	PRO	Peptide
42	r	60	ILE	Peptide

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	6	242/245 (99%)	221 (91%)	21 (9%)	0	100	100
3	7	133/163 (82%)	128 (96%)	5 (4%)	0	100	100
5	9	93/134 (69%)	80 (86%)	12 (13%)	1 (1%)	14	45
6	B	401/403 (100%)	381 (95%)	20 (5%)	0	100	100
7	C	89/159 (56%)	85 (96%)	4 (4%)	0	100	100
8	D	356/427 (83%)	334 (94%)	22 (6%)	0	100	100
9	E	96/115 (84%)	92 (96%)	4 (4%)	0	100	100
10	F	107/117 (92%)	105 (98%)	2 (2%)	0	100	100
11	G	240/266 (90%)	229 (95%)	11 (5%)	0	100	100
12	H	120/123 (98%)	116 (97%)	4 (3%)	0	100	100
13	I	188/192 (98%)	174 (93%)	14 (7%)	0	100	100
14	K	100/105 (95%)	95 (95%)	5 (5%)	0	100	100
15	L	127/148 (86%)	120 (94%)	7 (6%)	0	100	100
16	M	84/97 (87%)	79 (94%)	5 (6%)	0	100	100
17	O	67/70 (96%)	63 (94%)	4 (6%)	0	100	100
18	P	48/51 (94%)	48 (100%)	0	0	100	100
19	Q	208/211 (99%)	192 (92%)	16 (8%)	0	100	100
20	S	133/215 (62%)	125 (94%)	8 (6%)	0	100	100
21	U	201/204 (98%)	189 (94%)	12 (6%)	0	100	100
22	V	199/203 (98%)	195 (98%)	4 (2%)	0	100	100
23	X	89/92 (97%)	84 (94%)	5 (6%)	0	100	100
24	Z	150/188 (80%)	148 (99%)	2 (1%)	0	100	100
25	a	146/196 (74%)	141 (97%)	5 (3%)	0	100	100
26	b	174/176 (99%)	168 (97%)	6 (3%)	0	100	100
27	c	153/160 (96%)	143 (94%)	10 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	e	129/140 (92%)	118 (92%)	11 (8%)	0	100	100
29	g	116/156 (74%)	114 (98%)	2 (2%)	0	100	100
30	h	132/145 (91%)	129 (98%)	3 (2%)	0	100	100
31	i	133/136 (98%)	122 (92%)	11 (8%)	0	100	100
32	l	123/137 (90%)	114 (93%)	9 (7%)	0	100	100
33	m	246/257 (96%)	219 (89%)	27 (11%)	0	100	100
34	n	107/110 (97%)	100 (94%)	6 (6%)	1 (1%)	17	48
35	o	231/288 (80%)	215 (93%)	16 (7%)	0	100	100
36	p	224/248 (90%)	214 (96%)	10 (4%)	0	100	100
37	z	63/129 (49%)	60 (95%)	3 (5%)	0	100	100
38	A	331/731 (45%)	311 (94%)	18 (5%)	2 (1%)	25	57
39	4	604/634 (95%)	540 (89%)	57 (9%)	7 (1%)	13	42
40	R	221/260 (85%)	212 (96%)	9 (4%)	0	100	100
42	r	291/297 (98%)	251 (86%)	37 (13%)	3 (1%)	15	46
43	d	102/128 (80%)	98 (96%)	4 (4%)	0	100	100
44	j	109/125 (87%)	105 (96%)	4 (4%)	0	100	100
45	k	127/135 (94%)	120 (94%)	7 (6%)	0	100	100
46	Y	165/184 (90%)	154 (93%)	11 (7%)	0	100	100
47	J	201/239 (84%)	189 (94%)	12 (6%)	0	100	100
48	T	163/178 (92%)	147 (90%)	16 (10%)	0	100	100
All	All	7762/9117 (85%)	7267 (94%)	481 (6%)	14 (0%)	50	77

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
34	n	106	TYR
39	4	280	ILE
42	r	75	VAL
42	r	88	VAL
5	9	99	GLN
38	A	153	PRO
39	4	68	ASP
39	4	80	ALA
39	4	396	LYS
38	A	156	PHE

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Mol	Chain	Res	Type
39	4	230	LEU
39	4	420	MET
42	r	135	ILE
39	4	70	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	6	212/213 (100%)	212 (100%)	0	100 100
3	7	126/149 (85%)	125 (99%)	1 (1%)	81 89
5	9	81/114 (71%)	81 (100%)	0	100 100
6	B	349/349 (100%)	349 (100%)	0	100 100
7	C	78/126 (62%)	78 (100%)	0	100 100
8	D	298/348 (86%)	296 (99%)	2 (1%)	84 90
9	E	83/97 (86%)	83 (100%)	0	100 100
10	F	94/100 (94%)	94 (100%)	0	100 100
11	G	204/223 (92%)	202 (99%)	2 (1%)	76 86
12	H	109/110 (99%)	109 (100%)	0	100 100
13	I	169/171 (99%)	168 (99%)	1 (1%)	86 91
14	K	86/89 (97%)	85 (99%)	1 (1%)	71 83
15	L	110/121 (91%)	110 (100%)	0	100 100
16	M	73/80 (91%)	73 (100%)	0	100 100
17	O	64/65 (98%)	64 (100%)	0	100 100
18	P	47/48 (98%)	45 (96%)	2 (4%)	29 59
19	Q	176/177 (99%)	176 (100%)	0	100 100
20	S	115/161 (71%)	114 (99%)	1 (1%)	78 87
21	U	171/172 (99%)	170 (99%)	1 (1%)	86 91
22	V	173/174 (99%)	172 (99%)	1 (1%)	86 91

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
23	X	74/75 (99%)	74 (100%)	0	100 100
24	Z	136/165 (82%)	135 (99%)	1 (1%)	84 90
25	a	133/175 (76%)	133 (100%)	0	100 100
26	b	157/157 (100%)	157 (100%)	0	100 100
27	c	136/140 (97%)	136 (100%)	0	100 100
28	e	101/107 (94%)	100 (99%)	1 (1%)	76 86
29	g	106/133 (80%)	106 (100%)	0	100 100
30	h	124/135 (92%)	124 (100%)	0	100 100
31	i	117/118 (99%)	115 (98%)	2 (2%)	60 78
32	l	109/121 (90%)	109 (100%)	0	100 100
33	m	190/199 (96%)	190 (100%)	0	100 100
34	n	88/89 (99%)	88 (100%)	0	100 100
35	o	208/252 (82%)	207 (100%)	1 (0%)	88 93
36	p	195/215 (91%)	195 (100%)	0	100 100
37	z	61/115 (53%)	61 (100%)	0	100 100
38	A	296/654 (45%)	296 (100%)	0	100 100
39	4	551/574 (96%)	547 (99%)	4 (1%)	84 90
40	R	198/228 (87%)	197 (100%)	1 (0%)	88 93
42	r	246/250 (98%)	245 (100%)	1 (0%)	91 95
43	d	94/115 (82%)	94 (100%)	0	100 100
44	j	101/110 (92%)	101 (100%)	0	100 100
45	k	115/121 (95%)	114 (99%)	1 (1%)	78 87
46	Y	147/163 (90%)	146 (99%)	1 (1%)	84 90
47	J	180/214 (84%)	178 (99%)	2 (1%)	73 85
48	T	138/149 (93%)	138 (100%)	0	100 100
All	All	6819/7861 (87%)	6792 (100%)	27 (0%)	91 95

All (27) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	7	115	ASN
8	D	212	ASN
8	D	276	ASN

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Mol	Chain	Res	Type
11	G	137[A]	ARG
11	G	137[B]	ARG
13	I	54	ARG
14	K	29	ARG
18	P	21	ARG
18	P	36	ARG
20	S	125	ASN
21	U	204	ARG
22	V	117	ARG
24	Z	150	ARG
28	e	48	ARG
31	i	108	ARG
31	i	111	ARG
35	o	56	ARG
39	4	160	ARG
39	4	305	LYS
39	4	384	ARG
39	4	545	ARG
40	R	125	ARG
42	r	203	ASN
45	k	92	ASN
46	Y	97	ASN
47	J	118	LYS
47	J	214	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
2	6	145	GLN
20	S	125	ASN
26	b	77	ASN
30	h	43	ASN
30	h	127	GLN
39	4	76	HIS
45	k	92	ASN
47	J	50	ASN
48	T	110	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	119/120 (99%)	20 (16%)	0
4	8	155/156 (99%)	32 (20%)	0
41	2	3478/5054 (68%)	955 (27%)	21 (0%)
All	All	3752/5330 (70%)	1007 (26%)	21 (0%)

All (1007) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	13	A
1	5	22	A
1	5	24	C
1	5	27	G
1	5	28	C
1	5	29	C
1	5	33	U
1	5	37	G
1	5	38	U
1	5	41	G
1	5	48	G
1	5	50	A
1	5	53	U
1	5	54	A
1	5	63	C
1	5	64	G
1	5	66	G
1	5	97	G
1	5	100	A
1	5	116	G
4	8	24	G
4	8	25	G
4	8	34	U
4	8	35	C
4	8	39	G
4	8	48	A
4	8	49	G
4	8	52	A
4	8	59	A
4	8	60	G
4	8	62	A
4	8	63	U
4	8	80	A
4	8	82	A
4	8	84	A

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Mol	Chain	Res	Type
4	8	85	U
4	8	87	G
4	8	93	C
4	8	103	A
4	8	104	A
4	8	105	C
4	8	110	U
4	8	111	U
4	8	112	G
4	8	114	G
4	8	123	U
4	8	124	U
4	8	125	C
4	8	126	C
4	8	127	U
4	8	150	C
4	8	151	G
41	2	2	G
41	2	39	A
41	2	42	A
41	2	44	A
41	2	48	G
41	2	56	A
41	2	59	A
41	2	64	A
41	2	65	A
41	2	69	A
41	2	72	C
41	2	73	A
41	2	91	G
41	2	98	A
41	2	104	G
41	2	108	A
41	2	109	G
41	2	110	C
41	2	112	C
41	2	119	G
41	2	120	A
41	2	133	C
41	2	134	G
41	2	135	G
41	2	136	C

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Mol	Chain	Res	Type
41	2	137	G
41	2	144	G
41	2	146	G
41	2	152	U
41	2	159	C
41	2	165	A
41	2	172	C
41	2	177	G
41	2	178	C
41	2	179	G
41	2	183	C
41	2	184	U
41	2	185	C
41	2	187	U
41	2	188	G
41	2	200	U
41	2	209	U
41	2	217	C
41	2	218	A
41	2	219	G
41	2	220	C
41	2	234	G
41	2	254	G
41	2	255	C
41	2	256	G
41	2	259	C
41	2	260	C
41	2	261	G
41	2	262	G
41	2	265	C
41	2	266	C
41	2	267	G
41	2	279	A
41	2	280	G
41	2	297	U
41	2	306	A
41	2	315	G
41	2	316	U
41	2	340	C
41	2	349	A
41	2	363	A
41	2	387	G

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Mol	Chain	Res	Type
41	2	398	A2M
41	2	406	C
41	2	407	A
41	2	409	G
41	2	410	A
41	2	411	G
41	2	412	G
41	2	432	U
41	2	433	A
41	2	449	C
41	2	450	G
41	2	452	A
41	2	453	G
41	2	454	U
41	2	465	G
41	2	467	U
41	2	483	G
41	2	484	U
41	2	485	C
41	2	486	C
41	2	489	C
41	2	491	G
41	2	493	G
41	2	494	U
41	2	495	C
41	2	496	G
41	2	497	G
41	2	498	C
41	2	499	G
41	2	500	G
41	2	502	C
41	2	503	C
41	2	504	G
41	2	505	G
41	2	509	A
41	2	510	U
41	2	513	U
41	2	514	U
41	2	515	C
41	2	516	C
41	2	517	C
41	2	518	G

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Mol	Chain	Res	Type
41	2	519	C
41	2	654	C
41	2	656	C
41	2	657	C
41	2	658	C
41	2	663	G
41	2	667	A
41	2	668	C
41	2	670	G
41	2	673	C
41	2	686	A
41	2	688	U
41	2	690	C
41	2	692	A
41	2	696	C
41	2	697	G
41	2	704	C
41	2	708	G
41	2	731	G
41	2	738	C
41	2	739	G
41	2	740	G
41	2	743	G
41	2	746	A
41	2	747	A
41	2	759	G
41	2	904	C
41	2	905	C
41	2	910	G
41	2	913	U
41	2	914	U
41	2	915	A
41	2	916	C
41	2	917	A
41	2	918	G
41	2	924	C
41	2	925	C
41	2	926	G
41	2	929	A
41	2	932	A
41	2	933	G
41	2	934	C

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Mol	Chain	Res	Type
41	2	936	C
41	2	941	C
41	2	943	A
41	2	944	A
41	2	945	U
41	2	946	C
41	2	956	A
41	2	959	G
41	2	960	A
41	2	962	C
41	2	964	A
41	2	965	G
41	2	966	A
41	2	967	C
41	2	969	C
41	2	970	G
41	2	971	U
41	2	972	C
41	2	982	U
41	2	984	C
41	2	985	C
41	2	986	C
41	2	989	U
41	2	990	C
41	2	991	C
41	2	992	C
41	2	993	G
41	2	994	G
41	2	995	C
41	2	996	G
41	2	1048	G
41	2	1049	C
41	2	1050	C
41	2	1051	G
41	2	1067	G
41	2	1070	G
41	2	1072	C
41	2	1081	C
41	2	1092	G
41	2	1100	U
41	2	1168	G
41	2	1172	C

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Mol	Chain	Res	Type
41	2	1173	G
41	2	1178	G
41	2	1179	U
41	2	1180	C
41	2	1181	C
41	2	1182	C
41	2	1183	C
41	2	1184	A
41	2	1187	G
41	2	1189	G
41	2	1194	G
41	2	1198	G
41	2	1199	G
41	2	1200	G
41	2	1201	U
41	2	1202	C
41	2	1203	G
41	2	1210	C
41	2	1211	G
41	2	1215	C
41	2	1222	A
41	2	1241	C
41	2	1242	G
41	2	1245	C
41	2	1252	C
41	2	1253	G
41	2	1254	A
41	2	1255	A
41	2	1260	G
41	2	1266	G
41	2	1269	G
41	2	1270	A
41	2	1271	G
41	2	1272	C
41	2	1273	G
41	2	1275	G
41	2	1279	A
41	2	1280	C
41	2	1283	G
41	2	1284	G
41	2	1285	U
41	2	1287	G

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Mol	Chain	Res	Type
41	2	1293	G
41	2	1294	A
41	2	1295	C
41	2	1296	G
41	2	1301	C
41	2	1302	U
41	2	1303	A
41	2	1314	C
41	2	1319	U
41	2	1324	A
41	2	1326	A2M
41	2	1327	C
41	2	1337	A
41	2	1353	G
41	2	1354	A
41	2	1358	G
41	2	1359	G
41	2	1365	C
41	2	1366	G
41	2	1370	G
41	2	1371	A
41	2	1377	G
41	2	1378	C
41	2	1379	C
41	2	1387	A
41	2	1394	G
41	2	1397	A
41	2	1398	A
41	2	1402	C
41	2	1404	G
41	2	1405	C
41	2	1406	G
41	2	1407	C
41	2	1409	C
41	2	1410	U
41	2	1411	C
41	2	1414	C
41	2	1420	A
41	2	1438	U
41	2	1439	C
41	2	1441	C
41	2	1442	C

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Mol	Chain	Res	Type
41	2	1444	G
41	2	1447	C
41	2	1458	C
41	2	1482	G
41	2	1483	C
41	2	1494	U
41	2	1497	A
41	2	1498	G
41	2	1503	A
41	2	1512	G
41	2	1523	A
41	2	1534	A2M
41	2	1543	G
41	2	1547	A
41	2	1557	C
41	2	1564	A
41	2	1565	A
41	2	1566	C
41	2	1571	G
41	2	1578	U
41	2	1592	G
41	2	1595	G
41	2	1596	U
41	2	1611	C
41	2	1612	G
41	2	1613	A
41	2	1624	G
41	2	1625	OMG
41	2	1626	G
41	2	1631	A
41	2	1633	G
41	2	1634	A
41	2	1637	A
41	2	1638	A
41	2	1641	G
41	2	1650	A
41	2	1654	G
41	2	1661	C
41	2	1671	U
41	2	1676	C
41	2	1677	U
41	2	1678	C

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Mol	Chain	Res	Type
41	2	1685	G
41	2	1691	G
41	2	1694	C
41	2	1697	G
41	2	1699	A
41	2	1700	G
41	2	1701	A
41	2	1702	C
41	2	1703	C
41	2	1704	C
41	2	1705	G
41	2	1707	C
41	2	1708	G
41	2	1715	C
41	2	1716	G
41	2	1718	C
41	2	1719	A
41	2	1721	G
41	2	1724	G
41	2	1734	G
41	2	1789	C
41	2	1791	U
41	2	1796	U
41	2	1803	G
41	2	1804	A
41	2	1806	G
41	2	1808	C
41	2	1810	G
41	2	1811	G
41	2	1813	U
41	2	1814	C
41	2	1817	U
41	2	1819	G
41	2	1821	G
41	2	1822	U
41	2	1832	C
41	2	1833	G
41	2	1836	G
41	2	1837	A
41	2	1842	G
41	2	1854	G
41	2	1855	G

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Mol	Chain	Res	Type
41	2	1856	C
41	2	1857	C
41	2	1859	C
41	2	1860	U
41	2	1864	G
41	2	1866	U
41	2	1867	A
41	2	1868	A
41	2	1871	A
41	2	1872	G
41	2	1873	A
41	2	1874	A
41	2	1881	C
41	2	1882	U
41	2	1883	OMG
41	2	1891	A
41	2	1897	A
41	2	1900	C
41	2	1916	G
41	2	1918	U
41	2	1919	G
41	2	1920	C
41	2	1922	G
41	2	1925	G
41	2	1931	C
41	2	1932	A
41	2	1938	C
41	2	1939	A
41	2	1941	A
41	2	1948	G
41	2	1960	A
41	2	1963	C
41	2	1969	G
41	2	1970	A
41	2	1971	C
41	2	1974	U
41	2	1975	G
41	2	1976	G
41	2	1977	C
41	2	1980	U
41	2	1981	G
41	2	1983	A

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Mol	Chain	Res	Type
41	2	1984	A
41	2	1988	G
41	2	1992	U
41	2	1997	U
41	2	1998	A
41	2	1999	A
41	2	2002	A
41	2	2003	G
41	2	2004	U
41	2	2007	G
41	2	2008	U
41	2	2009	A
41	2	2011	C
41	2	2016	C
41	2	2018	C
41	2	2020	U
41	2	2021	G
41	2	2024	G
41	2	2025	A
41	2	2026	A
41	2	2033	A
41	2	2034	G
41	2	2039	G
41	2	2040	A
41	2	2044	U
41	2	2046	G
41	2	2048	U
41	2	2055	G
41	2	2056	G
41	2	2069	A
41	2	2084	C
41	2	2085	G
41	2	2092	G
41	2	2093	A
41	2	2095	A
41	2	2097	U
41	2	2098	G
41	2	2100	A
41	2	2101	C
41	2	2102	G
41	2	2104	G
41	2	2105	A

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Mol	Chain	Res	Type
41	2	2106	G
41	2	2108	G
41	2	2110	C
41	2	2111	G
41	2	2112	G
41	2	2113	C
41	2	2250	C
41	2	2251	G
41	2	2252	G
41	2	2253	A
41	2	2254	G
41	2	2256	C
41	2	2258	C
41	2	2259	G
41	2	2260	C
41	2	2263	A
41	2	2268	A
41	2	2289	C
41	2	2300	A
41	2	2301	G
41	2	2306	G
41	2	2313	A
41	2	2316	G
41	2	2333	G
41	2	2348	G
41	2	2350	U
41	2	2351	C
41	2	2360	A
41	2	2364	OMG
41	2	2395	A
41	2	2416	G
41	2	2417	A
41	2	2418	A
41	2	2422	OMC
41	2	2424	OMG
41	2	2425	U
41	2	2441	C
41	2	2447	U
41	2	2450	G
41	2	2453	A
41	2	2464	C
41	2	2465	C

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Mol	Chain	Res	Type
41	2	2471	G
41	2	2474	G
41	2	2475	G
41	2	2477	A
41	2	2478	C
41	2	2479	G
41	2	2483	G
41	2	2486	G
41	2	2487	G
41	2	2489	C
41	2	2490	U
41	2	2491	C
41	2	2493	G
41	2	2503	G
41	2	2504	C
41	2	2505	C
41	2	2511	A
41	2	2512	A
41	2	2513	A
41	2	2519	U
41	2	2529	A
41	2	2537	A
41	2	2543	A
41	2	2544	G
41	2	2546	G
41	2	2547	G
41	2	2548	C
41	2	2550	G
41	2	2552	G
41	2	2553	A
41	2	2554	U
41	2	2557	G
41	2	2559	G
41	2	2565	A
41	2	2567	G
41	2	2568	C
41	2	2569	G
41	2	2571	C
41	2	2573	A
41	2	2583	C
41	2	2586	G
41	2	2587	A

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Mol	Chain	Res	Type
41	2	2589	C
41	2	2593	C
41	2	2600	A
41	2	2601	A
41	2	2627	C
41	2	2638	G
41	2	2652	G
41	2	2653	C
41	2	2658	G
41	2	2661	U
41	2	2662	G
41	2	2663	G
41	2	2670	C
41	2	2675	G
41	2	2687	U
41	2	2694	G
41	2	2695	A
41	2	2696	A
41	2	2707	U
41	2	2708	U
41	2	2711	G
41	2	2719	C
41	2	2721	G
41	2	2724	G
41	2	2725	A
41	2	2726	G
41	2	2739	C
41	2	2742	G
41	2	2743	A
41	2	2746	A
41	2	2754	G
41	2	2755	A
41	2	2756	G
41	2	2758	G
41	2	2761	U
41	2	2763	U
41	2	2764	A
41	2	2765	A
41	2	2766	A
41	2	2768	C
41	2	2769	U
41	2	2770	C

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Mol	Chain	Res	Type
41	2	2772	C
41	2	2788	U
41	2	2789	A
41	2	2790	U
41	2	2793	G
41	2	2794	C
41	2	2814	C
41	2	2815	A
41	2	2827	G
41	2	2855	G
41	2	2862	G
41	2	2867	C
41	2	2875	C
41	2	2877	G
41	2	2879	A
41	2	2880	U
41	2	2892	C
41	2	2901	G
41	2	2902	G
41	2	2903	G
41	2	2905	C
41	2	2906	G
41	2	2907	G
41	2	2908	U
41	2	2909	C
41	2	3585	G
41	2	3587	C
41	2	3588	C
41	2	3591	C
41	2	3593	C
41	2	3595	U
41	2	3596	A
41	2	3597	G
41	2	3598	C
41	2	3599	A
41	2	3605	C
41	2	3615	G
41	2	3616	U
41	2	3618	C
41	2	3626	G
41	2	3635	A
41	2	3638	G

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Mol	Chain	Res	Type
41	2	3643	A
41	2	3644	U
41	2	3646	A
41	2	3662	A
41	2	3663	A
41	2	3673	C
41	2	3674	G
41	2	3678	G
41	2	3679	U
41	2	3680	U
41	2	3682	A
41	2	3691	G
41	2	3692	A
41	2	3696	C
41	2	3710	G
41	2	3711	A
41	2	3713	U
41	2	3718	A2M
41	2	3720	G
41	2	3729	U
41	2	3734	U
41	2	3736	A
41	2	3746	A
41	2	3748	A
41	2	3750	G
41	2	3776	G
41	2	3823	G
41	2	3832	U
41	2	3838	U
41	2	3839	G
41	2	3840	U
41	2	3843	C
41	2	3851	U
41	2	3867	A2M
41	2	3869	OMC
41	2	3877	A
41	2	3878	C
41	2	3879	G
41	2	3893	C
41	2	3898	G
41	2	3903	A
41	2	3905	A

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Mol	Chain	Res	Type
41	2	3906	A
41	2	3908	A
41	2	3909	C
41	2	3910	C
41	2	3915	U
41	2	3916	G
41	2	3922	G
41	2	3938	G
41	2	3939	G
41	2	3941	G
41	2	3942	A
41	2	4067	U
41	2	4068	U
41	2	4073	A
41	2	4074	C
41	2	4076	G
41	2	4077	A
41	2	4084	G
41	2	4085	A
41	2	4088	C
41	2	4091	G
41	2	4092	G
41	2	4093	G
41	2	4094	G
41	2	4095	G
41	2	4099	G
41	2	4101	C
41	2	4102	C
41	2	4103	C
41	2	4104	G
41	2	4108	G
41	2	4110	C
41	2	4111	U
41	2	4112	C
41	2	4114	C
41	2	4115	G
41	2	4116	C
41	2	4117	U
41	2	4119	C
41	2	4120	U
41	2	4122	G
41	2	4125	C

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Mol	Chain	Res	Type
41	2	4126	C
41	2	4127	A
41	2	4128	A
41	2	4129	G
41	2	4130	C
41	2	4131	G
41	2	4133	C
41	2	4134	C
41	2	4135	G
41	2	4139	G
41	2	4140	C
41	2	4141	G
41	2	4142	C
41	2	4143	G
41	2	4144	C
41	2	4146	G
41	2	4155	C
41	2	4157	A
41	2	4158	C
41	2	4162	C
41	2	4163	U
41	2	4170	A
41	2	4183	G
41	2	4184	G
41	2	4191	G
41	2	4195	G
41	2	4196	OMG
41	2	4203	A
41	2	4210	U
41	2	4212	A
41	2	4221	C
41	2	4222	G
41	2	4225	G
41	2	4229	U
41	2	4233	A
41	2	4234	A
41	2	4235	G
41	2	4237	C
41	2	4239	A
41	2	4241	C
41	2	4242	U
41	2	4243	C

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Mol	Chain	Res	Type
41	2	4244	A
41	2	4245	G
41	2	4247	G
41	2	4248	A
41	2	4249	G
41	2	4251	A
41	2	4253	A
41	2	4254	G
41	2	4256	A
41	2	4257	A
41	2	4258	C
41	2	4259	C
41	2	4260	U
41	2	4261	C
41	2	4262	C
41	2	4265	U
41	2	4266	G
41	2	4268	A
41	2	4271	A
41	2	4273	A
41	2	4277	G
41	2	4279	A
41	2	4280	A
41	2	4281	A
41	2	4282	A
41	2	4285	U
41	2	4288	C
41	2	4289	U
41	2	4291	G
41	2	4292	A
41	2	4293	U
41	2	4296	U
41	2	4297	G
41	2	4303	C
41	2	4304	A
41	2	4305	G
41	2	4306	U
41	2	4310	A
41	2	4311	A
41	2	4313	A
41	2	4314	C
41	2	4316	G

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Mol	Chain	Res	Type
41	2	4317	A
41	2	4318	C
41	2	4319	C
41	2	4325	A
41	2	4326	G
41	2	4330	G
41	2	4331	G
41	2	4334	U
41	2	4335	C
41	2	4336	A
41	2	4338	G
41	2	4339	A
41	2	4342	C
41	2	4343	U
41	2	4348	A
41	2	4349	C
41	2	4350	C
41	2	4354	U
41	2	4360	U
41	2	4365	C
41	2	4367	G
41	2	4372	U
41	2	4373	G
41	2	4376	A
41	2	4377	G
41	2	4378	A
41	2	4380	A
41	2	4381	A
41	2	4386	C
41	2	4387	C
41	2	4395	U
41	2	4396	A
41	2	4407	G
41	2	4415	1MA
41	2	4418	G
41	2	4421	C
41	2	4422	A
41	2	4428	A
41	2	4451	G
41	2	4452	U
41	2	4453	C
41	2	4465	U

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Mol	Chain	Res	Type
41	2	4466	C
41	2	4475	G
41	2	4476	C
41	2	4484	A
41	2	4488	A
41	2	4498	U
41	2	4499	G
41	2	4500	U
41	2	4502	C
41	2	4503	A
41	2	4508	C
41	2	4510	A
41	2	4512	U
41	2	4513	A
41	2	4518	A
41	2	4519	C
41	2	4520	G
41	2	4523	A2M
41	2	4524	G
41	2	4530	UR3
41	2	4538	G
41	2	4545	G
41	2	4549	G
41	2	4550	7MG
41	2	4555	U
41	2	4556	U
41	2	4557	U
41	2	4558	U
41	2	4560	C
41	2	4567	G
41	2	4570	G
41	2	4575	G
41	2	4584	A
41	2	4589	A
41	2	4590	A
41	2	4597	UR3
41	2	4599	A
41	2	4600	G
41	2	4601	U
41	2	4606	G
41	2	4607	A
41	2	4608	G

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Mol	Chain	Res	Type
41	2	4618	G
41	2	4634	U
41	2	4635	A
41	2	4636	U
41	2	4637	OMG
41	2	4656	A
41	2	4670	C
41	2	4677	U
41	2	4678	G
41	2	4684	A
41	2	4687	A
41	2	4694	G
41	2	4695	C
41	2	4708	A
41	2	4709	U
41	2	4719	G
41	2	4720	C
41	2	4730	C
41	2	4731	G
41	2	4732	G
41	2	4733	C
41	2	4734	A
41	2	4735	G
41	2	4740	G
41	2	4741	C
41	2	4742	G
41	2	4745	G
41	2	4754	G
41	2	4757	C
41	2	4759	C
41	2	4761	G
41	2	4764	A
41	2	4765	G
41	2	4771	C
41	2	4775	C
41	2	4776	G
41	2	4860	G
41	2	4870	OMG
41	2	4871	C
41	2	4872	2MG
41	2	4873	G
41	2	4877	G

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Mol	Chain	Res	Type
41	2	4882	U
41	2	4883	C
41	2	4887	C
41	2	4889	G
41	2	4895	C
41	2	4900	C
41	2	4901	G
41	2	4903	G
41	2	4910	G
41	2	4912	G
41	2	4914	C
41	2	4915	G
41	2	4923	C
41	2	4927	G
41	2	4928	C
41	2	4934	A
41	2	4937	C
41	2	4938	A
41	2	4940	C
41	2	4941	G
41	2	4943	A
41	2	4951	G
41	2	4955	A
41	2	4960	G
41	2	4961	G
41	2	4976	U
41	2	4979	A
41	2	4989	U
41	2	4990	C
41	2	4991	U
41	2	5014	A
41	2	5017	G
41	2	5020	G
41	2	5022	U
41	2	5026	U
41	2	5027	C
41	2	5028	G
41	2	5030	U
41	2	5031	G
41	2	5034	A
41	2	5041	G
41	2	5047	C

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Mol	Chain	Res	Type
41	2	5050	C
41	2	5054	C
41	2	5055	G
41	2	5058	A
41	2	5061	A
41	2	5069	U

All (21) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
41	2	406	C
41	2	914	U
41	2	1322	1MA
41	2	1625	OMG
41	2	1676	C
41	2	1859	C
41	2	1970	A
41	2	1976	G
41	2	1980	U
41	2	2015	U
41	2	2033	A
41	2	2760	G
41	2	3905	A
41	2	4092	G
41	2	4130	C
41	2	4266	G
41	2	4333	C
41	2	4334	U
41	2	4335	C
41	2	4555	U
41	2	4913	G

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

71 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	$\#\|Z\|>2$
41	A2M	2	1534	41	18,25,26	3.62	8 (44%)	18,36,39	3.60	5 (27%)
41	OMG	2	4196	41	18,26,27	2.93	7 (38%)	19,38,41	1.62	5 (26%)
41	MHG	2	4371	41	29,32,33	4.00	12 (41%)	34,46,49	2.30	12 (35%)
41	A2M	2	2401	41	18,25,26	3.65	8 (44%)	18,36,39	3.37	3 (16%)
41	B9B	2	1574	41	21,28,29	1.99	3 (14%)	23,40,43	6.60	5 (21%)
41	B8K	2	3897	41	24,28,29	3.41	11 (45%)	30,42,45	2.50	11 (36%)
41	OMG	2	1316	41	18,26,27	2.84	8 (44%)	19,38,41	1.54	5 (26%)
41	E7G	2	2297	41	24,27,28	4.01	11 (45%)	30,40,43	2.19	11 (36%)
41	B8T	2	4671	41	19,22,23	3.58	8 (42%)	26,31,34	0.95	1 (3%)
41	A2M	2	4571	41	18,25,26	3.58	8 (44%)	18,36,39	3.40	4 (22%)
41	BGH	2	3899	41	25,29,30	4.64	17 (68%)	31,43,46	2.60	11 (35%)
41	OMC	2	3869	41	19,22,23	3.07	8 (42%)	26,31,34	1.41	4 (15%)
41	A2M	2	3718	41	18,25,26	3.57	8 (44%)	18,36,39	3.39	4 (22%)
41	B8Q	2	1456	41	17,22,23	2.95	5 (29%)	22,32,35	2.36	6 (27%)
41	UR3	2	4530	41	19,22,23	2.93	6 (31%)	26,32,35	1.32	2 (7%)
41	OMC	2	2804	41	19,22,23	2.91	8 (42%)	26,31,34	1.31	3 (11%)
41	OMU	2	4620	41	19,22,23	2.96	8 (42%)	26,31,34	1.68	5 (19%)
41	5MU	2	4083	41	19,22,23	7.18	8 (42%)	28,32,35	3.45	10 (35%)
41	P7G	2	1909	41	24,28,29	4.01	11 (45%)	27,41,44	1.51	3 (11%)
41	B8W	2	2380	41	18,26,27	2.09	2 (11%)	21,38,41	2.42	7 (33%)
41	OMC	2	2422	46,41	19,22,23	3.00	8 (42%)	26,31,34	1.16	3 (11%)
41	2MG	2	1517	41	18,26,27	2.67	6 (33%)	16,38,41	1.45	3 (18%)
41	I4U	2	1659	41	21,24,25	3.53	9 (42%)	27,34,37	1.19	2 (7%)
41	B8K	2	4690	41	24,28,29	3.36	11 (45%)	30,42,45	2.64	12 (40%)
41	OMC	2	4536	41	19,22,23	3.04	8 (42%)	26,31,34	1.19	3 (11%)
41	OMG	2	2364	41	18,26,27	2.80	8 (44%)	19,38,41	1.56	5 (26%)
41	OMC	2	3887	41	19,22,23	3.04	8 (42%)	26,31,34	0.84	1 (3%)
41	2MG	2	978	41	18,26,27	2.70	6 (33%)	16,38,41	1.41	3 (18%)
41	B8T	2	4483	41	19,22,23	3.67	8 (42%)	26,31,34	1.23	3 (11%)
41	A2M	2	4523	41	18,25,26	3.57	8 (44%)	18,36,39	3.40	4 (22%)
41	OMG	2	2773	41	18,26,27	2.87	7 (38%)	19,38,41	1.33	3 (15%)
41	B9B	2	237	41	21,28,29	2.02	3 (14%)	23,40,43	6.54	5 (21%)
41	OMG	2	2050	41	18,26,27	2.81	8 (44%)	19,38,41	1.52	5 (26%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
41	OMG	2	373	41	18,26,27	2.83	8 (44%)	19,38,41	1.61	5 (26%)
41	P7G	2	3880	41	24,28,29	4.18	11 (45%)	27,41,44	1.40	3 (11%)
41	OMG	2	4370	41	18,26,27	2.92	8 (44%)	19,38,41	1.55	4 (21%)
41	B8W	2	4529	41	18,26,27	2.13	2 (11%)	21,38,41	2.72	7 (33%)
41	OMG	2	4637	41	18,26,27	2.85	8 (44%)	19,38,41	1.52	4 (21%)
41	A2M	2	3825	41	18,25,26	3.58	8 (44%)	18,36,39	3.39	4 (22%)
41	A2M	2	3867	41	18,25,26	3.55	8 (44%)	18,36,39	3.46	4 (22%)
41	OMC	2	2365	41	19,22,23	2.90	8 (42%)	26,31,34	0.81	0
41	E6G	2	4355	41	20,27,28	2.81	3 (15%)	22,39,42	3.07	7 (31%)
41	B8W	2	4185	41	18,26,27	2.13	2 (11%)	21,38,41	2.50	7 (33%)
41	1MA	2	1322	41	16,25,26	4.40	5 (31%)	18,37,40	1.68	3 (16%)
41	2MG	2	4872	41	18,26,27	2.52	6 (33%)	16,38,41	1.73	4 (25%)
41	B8W	2	4472	41	18,26,27	2.14	2 (11%)	21,38,41	2.56	7 (33%)
41	A2M	2	3723	41	18,25,26	3.59	8 (44%)	18,36,39	3.43	3 (16%)
41	OMG	2	1522	41	18,26,27	2.79	8 (44%)	19,38,41	1.45	4 (21%)
41	UR3	2	4597	41	19,22,23	2.82	7 (36%)	26,32,35	1.91	3 (11%)
41	OMG	2	2424	41	18,26,27	2.87	8 (44%)	19,38,41	1.52	4 (21%)
41	M7A	2	4564	41	20,25,26	2.02	3 (15%)	28,37,40	3.92	8 (28%)
41	B9H	2	2786	41	20,25,26	3.36	4 (20%)	22,35,38	2.67	7 (31%)
4	OMU	8	14	4,41	19,22,23	2.97	8 (42%)	26,31,34	1.87	6 (23%)
41	7MG	2	4550	41	22,26,27	3.83	10 (45%)	29,39,42	1.92	8 (27%)
41	A2M	2	1524	41	18,25,26	3.59	8 (44%)	18,36,39	3.48	4 (22%)
41	A2M	2	2363	41	18,25,26	3.62	8 (44%)	18,36,39	3.42	4 (22%)
41	2MG	2	729	41	18,26,27	2.66	6 (33%)	16,38,41	1.35	3 (18%)
41	P4U	2	1348	41	21,24,25	3.50	8 (38%)	27,33,36	1.07	2 (7%)
41	6MZ	2	4220	41	18,25,26	1.85	3 (16%)	16,36,39	3.73	3 (18%)
41	OMG	2	4623	41	18,26,27	2.83	8 (44%)	19,38,41	1.51	5 (26%)
41	OMG	2	4494	41	18,26,27	2.91	8 (44%)	19,38,41	1.49	4 (21%)
41	1MA	2	4415	41	16,25,26	4.36	5 (31%)	18,37,40	1.72	3 (16%)
41	A2M	2	398	41	18,25,26	3.59	8 (44%)	18,36,39	3.49	4 (22%)
41	OMG	2	1625	41	18,26,27	2.94	7 (38%)	19,38,41	1.49	4 (21%)
41	OMG	2	1883	41	18,26,27	2.87	8 (44%)	19,38,41	1.61	4 (21%)
41	OMG	2	4870	41	18,26,27	2.89	8 (44%)	19,38,41	1.52	4 (21%)
41	I4U	2	4194	41	21,24,25	3.61	9 (42%)	27,34,37	0.96	1 (3%)
41	OMC	2	3701	41	19,22,23	3.03	8 (42%)	26,31,34	0.78	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
41	7MG	2	2522	41	22,26,27	3.72	10 (45%)	29,39,42	1.95	8 (27%)
41	7MG	2	1605	41	22,26,27	3.82	10 (45%)	29,39,42	1.96	9 (31%)
41	A2M	2	1326	41	18,25,26	3.55	8 (44%)	18,36,39	3.52	4 (22%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	A2M	2	1534	41	-	3/5/27/28	0/3/3/3
41	OMG	2	4196	41	-	4/5/27/28	0/3/3/3
41	MHG	2	4371	41	-	8/16/46/47	0/3/3/3
41	A2M	2	2401	41	-	3/5/27/28	0/3/3/3
41	B9B	2	1574	41	-	5/7/29/30	0/3/3/3
41	B8K	2	3897	41	-	3/11/41/42	0/3/3/3
41	OMG	2	1316	41	-	0/5/27/28	0/3/3/3
41	E7G	2	2297	41	-	1/9/39/40	0/3/3/3
41	B8T	2	4671	41	-	0/7/27/28	0/2/2/2
41	A2M	2	4571	41	-	1/5/27/28	0/3/3/3
41	BGH	2	3899	41	-	0/13/43/44	0/3/3/3
41	OMC	2	3869	41	-	5/9/27/28	0/2/2/2
41	A2M	2	3718	41	-	3/5/27/28	0/3/3/3
41	B8Q	2	1456	41	-	0/7/42/43	0/2/2/2
41	UR3	2	4530	41	-	0/7/25/26	0/2/2/2
41	OMC	2	2804	41	-	0/9/27/28	0/2/2/2
41	OMU	2	4620	41	-	1/9/27/28	0/2/2/2
41	5MU	2	4083	41	-	0/7/25/26	0/2/2/2
41	P7G	2	1909	41	-	2/10/40/41	0/3/3/3
41	B8W	2	2380	41	-	2/5/27/28	0/3/3/3
41	OMC	2	2422	46,41	-	1/9/27/28	0/2/2/2
41	2MG	2	1517	41	-	1/5/27/28	0/3/3/3
41	I4U	2	1659	41	-	1/9/29/30	0/2/2/2
41	B8K	2	4690	41	-	0/11/41/42	0/3/3/3
41	OMC	2	4536	41	-	0/9/27/28	0/2/2/2
41	OMG	2	2364	41	-	2/5/27/28	0/3/3/3
41	OMC	2	3887	41	-	1/9/27/28	0/2/2/2
41	2MG	2	978	41	-	0/5/27/28	0/3/3/3
41	B8T	2	4483	41	-	0/7/27/28	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	A2M	2	4523	41	-	4/5/27/28	0/3/3/3
41	OMG	2	2773	41	-	0/5/27/28	0/3/3/3
41	B9B	2	237	41	-	4/7/29/30	0/3/3/3
41	OMG	2	2050	41	-	0/5/27/28	0/3/3/3
41	OMG	2	373	41	-	1/5/27/28	0/3/3/3
41	P7G	2	3880	41	-	4/10/40/41	0/3/3/3
41	OMG	2	4370	41	-	0/5/27/28	0/3/3/3
41	B8W	2	4529	41	-	0/5/27/28	0/3/3/3
41	OMG	2	4637	41	-	3/5/27/28	0/3/3/3
41	A2M	2	3825	41	-	0/5/27/28	0/3/3/3
41	A2M	2	3867	41	-	3/5/27/28	0/3/3/3
41	OMC	2	2365	41	-	0/9/27/28	0/2/2/2
41	E6G	2	4355	41	-	2/6/28/29	0/3/3/3
41	B8W	2	4185	41	-	2/5/27/28	0/3/3/3
41	1MA	2	1322	41	-	0/3/25/26	0/3/3/3
41	2MG	2	4872	41	-	2/5/27/28	0/3/3/3
41	B8W	2	4472	41	-	2/5/27/28	0/3/3/3
41	A2M	2	3723	41	-	1/5/27/28	0/3/3/3
41	OMG	2	1522	41	-	0/5/27/28	0/3/3/3
41	UR3	2	4597	41	-	2/7/25/26	0/2/2/2
41	OMG	2	2424	41	-	2/5/27/28	0/3/3/3
41	M7A	2	4564	41	-	0/7/37/38	0/3/3/3
41	B9H	2	2786	41	-	1/12/47/48	0/2/2/2
4	OMU	8	14	4,41	-	1/9/27/28	0/2/2/2
41	7MG	2	4550	41	-	2/7/37/38	0/3/3/3
41	A2M	2	1524	41	-	1/5/27/28	0/3/3/3
41	A2M	2	2363	41	-	0/5/27/28	0/3/3/3
41	2MG	2	729	41	-	2/5/27/28	0/3/3/3
41	P4U	2	1348	41	-	1/10/29/30	0/2/2/2
41	6MZ	2	4220	41	-	1/5/27/28	0/3/3/3
41	OMG	2	4623	41	-	0/5/27/28	0/3/3/3
41	OMG	2	4494	41	-	0/5/27/28	0/3/3/3
41	1MA	2	4415	41	-	2/3/25/26	0/3/3/3
41	A2M	2	398	41	-	2/5/27/28	0/3/3/3
41	OMG	2	1625	41	-	3/5/27/28	0/3/3/3
41	OMG	2	1883	41	-	2/5/27/28	0/3/3/3
41	OMG	2	4870	41	-	3/5/27/28	0/3/3/3
41	I4U	2	4194	41	-	8/9/29/30	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
41	OMC	2	3701	41	-	4/9/27/28	0/2/2/2
41	7MG	2	2522	41	-	0/7/37/38	0/3/3/3
41	7MG	2	1605	41	-	0/7/37/38	0/3/3/3
41	A2M	2	1326	41	-	1/5/27/28	0/3/3/3

All (528) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4083	5MU	C4-C5	20.75	1.79	1.44
41	2	1322	1MA	C2-N3	16.28	1.48	1.29
41	2	4415	1MA	C2-N3	16.08	1.48	1.29
41	2	4083	5MU	C6-N1	15.72	1.64	1.38
41	2	4083	5MU	C6-C5	-11.53	1.15	1.34
41	2	4083	5MU	C4-N3	-10.94	1.18	1.38
41	2	4194	I4U	C4-N3	10.85	1.45	1.31
41	2	2786	B9H	C2-N3	10.70	1.50	1.37
41	2	1659	I4U	C4-N3	10.55	1.45	1.31
41	2	1348	P4U	C4-N3	10.38	1.44	1.31
41	2	4355	E6G	O6-C6	10.34	1.44	1.35
41	2	4371	MHG	C8-N9	9.60	1.51	1.46
41	2	2297	E7G	C5-N7	9.50	1.46	1.35
41	2	3880	P7G	C5-N7	9.48	1.46	1.35
41	2	4550	7MG	C8-N9	9.35	1.51	1.46
41	2	3880	P7G	C8-N9	9.33	1.51	1.46
41	2	1909	P7G	C8-N9	9.27	1.51	1.46
41	2	1909	P7G	C5-N7	9.15	1.45	1.35
41	2	1605	7MG	C8-N9	9.09	1.51	1.46
41	2	3897	B8K	C8-N9	9.09	1.51	1.46
41	2	4371	MHG	C5-N7	9.07	1.45	1.35
41	2	3899	BGH	O4'-C1'	8.91	1.63	1.42
41	2	4690	B8K	C8-N9	8.90	1.50	1.46
41	2	3899	BGH	C8-N9	8.89	1.50	1.46
41	2	398	A2M	C3'-C4'	-8.86	1.30	1.53
41	2	1524	A2M	C3'-C4'	-8.86	1.30	1.53
41	2	2297	E7G	C8-N9	8.85	1.50	1.46
41	2	2401	A2M	C3'-C4'	-8.84	1.30	1.53
41	2	3867	A2M	C3'-C4'	-8.83	1.30	1.53
41	2	4550	7MG	C5-N7	8.82	1.45	1.35
41	2	1534	A2M	C3'-C4'	-8.78	1.30	1.53
41	2	2363	A2M	C3'-C4'	-8.78	1.30	1.53
41	2	1605	7MG	C5-N7	8.74	1.45	1.35
41	2	3723	A2M	C3'-C4'	-8.74	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4571	A2M	C3'-C4'	-8.74	1.30	1.53
41	2	3899	BGH	C2'-C1'	-8.73	1.30	1.53
41	2	1326	A2M	C3'-C4'	-8.71	1.30	1.53
41	2	3825	A2M	C3'-C4'	-8.71	1.30	1.53
41	2	2522	7MG	C8-N9	8.67	1.50	1.46
41	2	3718	A2M	C3'-C4'	-8.59	1.31	1.53
41	2	2522	7MG	C5-N7	8.58	1.45	1.35
41	2	4523	A2M	C3'-C4'	-8.48	1.31	1.53
41	2	4371	MHG	C2-N3	8.25	1.47	1.31
41	2	1456	B8Q	C6-C5	8.17	1.51	1.33
41	2	4529	B8W	C2-N2	8.01	1.49	1.33
41	2	4472	B8W	C2-N2	8.01	1.49	1.33
41	2	4185	B8W	C2-N2	7.95	1.49	1.33
41	2	3718	A2M	O4'-C4'	7.87	1.62	1.45
41	2	2380	B8W	C2-N2	7.81	1.49	1.33
41	2	3825	A2M	O4'-C4'	7.71	1.62	1.45
41	2	1534	A2M	O4'-C4'	7.69	1.62	1.45
41	2	2401	A2M	O4'-C4'	7.63	1.62	1.45
41	2	3899	BGH	O4'-C4'	-7.61	1.28	1.45
41	2	4523	A2M	O4'-C4'	7.60	1.62	1.45
41	2	398	A2M	O4'-C4'	7.60	1.62	1.45
41	2	2363	A2M	O4'-C4'	7.59	1.62	1.45
41	2	3723	A2M	O4'-C4'	7.58	1.61	1.45
41	2	4483	B8T	C2-N3	7.47	1.51	1.36
41	2	1524	A2M	O4'-C4'	7.41	1.61	1.45
41	2	2401	A2M	O4'-C1'	-7.39	1.30	1.41
41	2	4571	A2M	O4'-C4'	7.38	1.61	1.45
41	2	3867	A2M	O4'-C4'	7.36	1.61	1.45
41	2	1326	A2M	O4'-C4'	7.36	1.61	1.45
41	2	4483	B8T	C4-N3	7.32	1.45	1.32
41	2	4571	A2M	O4'-C1'	-7.27	1.30	1.41
41	2	2363	A2M	O4'-C1'	-7.23	1.31	1.41
41	2	4523	A2M	O4'-C1'	-7.22	1.31	1.41
41	2	4671	B8T	C2-N3	7.21	1.51	1.36
41	2	2786	B9H	C2-N1	7.18	1.48	1.38
41	2	1524	A2M	O4'-C1'	-7.18	1.31	1.41
41	2	3723	A2M	O4'-C1'	-7.17	1.31	1.41
41	2	1534	A2M	O4'-C1'	-7.16	1.31	1.41
41	2	4530	UR3	C2-N1	7.14	1.48	1.38
41	2	4671	B8T	C4-N3	7.11	1.45	1.32
41	2	1326	A2M	O4'-C1'	-7.10	1.31	1.41
41	2	398	A2M	O4'-C1'	-7.02	1.31	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	3867	A2M	O4'-C1'	-6.99	1.31	1.41
41	2	3825	A2M	O4'-C1'	-6.93	1.31	1.41
41	2	3718	A2M	O4'-C1'	-6.84	1.31	1.41
41	2	4671	B8T	C6-C5	6.84	1.51	1.35
41	2	4620	OMU	C2-N1	6.83	1.49	1.38
41	2	4530	UR3	C6-C5	6.82	1.50	1.35
41	2	4220	6MZ	C6-N6	6.78	1.46	1.35
41	2	978	2MG	C2-N2	6.77	1.48	1.33
41	2	3880	P7G	C8-N7	6.77	1.52	1.45
41	2	1517	2MG	C2-N2	6.74	1.48	1.33
41	2	4597	UR3	C6-C5	6.73	1.50	1.35
41	2	2786	B9H	C6-C5	6.69	1.48	1.33
4	8	14	OMU	C2-N3	6.69	1.49	1.38
41	2	4483	B8T	C6-C5	6.69	1.50	1.35
41	2	4620	OMU	C2-N3	6.68	1.49	1.38
4	8	14	OMU	C2-N1	6.68	1.49	1.38
41	2	1456	B8Q	C2-N3	6.67	1.46	1.35
41	2	729	2MG	C2-N2	6.61	1.48	1.33
41	2	4690	B8K	C2-N3	6.61	1.49	1.33
41	2	3897	B8K	C2-N3	6.58	1.49	1.33
41	2	4371	MHG	C8-N7	6.58	1.52	1.45
41	2	2297	E7G	C8-N7	6.53	1.52	1.45
41	2	3880	P7G	C4-N9	6.49	1.44	1.35
41	2	4483	B8T	C4-N4	6.42	1.49	1.35
41	2	1625	OMG	C2-N3	6.40	1.48	1.33
41	2	4536	OMC	C2-N3	6.40	1.49	1.36
41	2	3701	OMC	C2-N3	6.39	1.49	1.36
41	2	3869	OMC	C2-N3	6.38	1.49	1.36
41	2	3887	OMC	C2-N3	6.37	1.49	1.36
41	2	4196	OMG	C2-N3	6.35	1.48	1.33
41	2	4371	MHG	C2-N1	6.31	1.46	1.36
41	2	2422	OMC	C2-N3	6.29	1.49	1.36
41	2	4370	OMG	C2-N3	6.29	1.48	1.33
41	2	4194	I4U	C6-C5	6.28	1.49	1.35
41	2	2773	OMG	C2-N3	6.26	1.48	1.33
41	2	3880	P7G	C4-N3	6.24	1.48	1.37
41	2	4194	I4U	C2-N3	6.23	1.49	1.36
41	2	4597	UR3	C2-N3	6.23	1.51	1.39
41	2	4671	B8T	C4-N4	6.23	1.48	1.35
41	2	4494	OMG	C2-N3	6.22	1.48	1.33
41	2	1909	P7G	C4-N3	6.21	1.48	1.37
41	2	4597	UR3	C2-N1	6.21	1.47	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4872	2MG	C2-N2	6.18	1.47	1.33
41	2	2424	OMG	C2-N3	6.18	1.48	1.33
41	2	237	B9B	O6-C6	6.18	1.40	1.35
41	2	4870	OMG	C2-N3	6.18	1.48	1.33
41	2	1659	I4U	C2-N3	6.16	1.48	1.36
41	2	1348	P4U	C2-N3	6.14	1.48	1.36
41	2	3899	BGH	C4-N9	6.13	1.44	1.37
41	2	3701	OMC	C6-C5	6.13	1.49	1.35
41	2	1574	B9B	O6-C6	6.10	1.40	1.35
41	2	2773	OMG	C2-N2	6.09	1.48	1.34
41	2	4370	OMG	C2-N2	6.08	1.48	1.34
41	2	2804	OMC	C2-N3	6.06	1.48	1.36
41	2	4196	OMG	C2-N2	6.06	1.48	1.34
41	2	1659	I4U	C6-C5	6.06	1.49	1.35
41	2	1883	OMG	C2-N2	6.05	1.48	1.34
41	2	2365	OMC	C2-N3	6.05	1.48	1.36
41	2	3887	OMC	C6-C5	6.04	1.49	1.35
41	2	4637	OMG	C2-N3	6.04	1.47	1.33
41	2	1883	OMG	C2-N3	6.04	1.47	1.33
41	2	4870	OMG	C2-N2	6.03	1.48	1.34
41	2	4355	E6G	C2-N2	6.02	1.45	1.33
41	2	4494	OMG	C2-N2	6.02	1.48	1.34
41	2	1625	OMG	C2-N2	6.01	1.48	1.34
41	2	2424	OMG	C2-N2	5.99	1.48	1.34
41	2	1348	P4U	C6-C5	5.99	1.49	1.35
41	2	1909	P7G	C4-N9	5.99	1.44	1.35
41	2	4536	OMC	C6-C5	5.99	1.49	1.35
41	2	1909	P7G	C2-N2	5.93	1.48	1.34
41	2	373	OMG	C2-N2	5.92	1.48	1.34
41	2	1316	OMG	C2-N3	5.92	1.47	1.33
41	2	1522	OMG	C2-N3	5.89	1.47	1.33
41	2	2422	OMC	C6-C5	5.89	1.48	1.35
41	2	1316	OMG	C2-N2	5.89	1.48	1.34
41	2	3880	P7G	C2-N2	5.88	1.48	1.34
41	2	2050	OMG	C2-N3	5.88	1.47	1.33
41	2	4623	OMG	C2-N2	5.88	1.48	1.34
41	2	2804	OMC	C6-C5	5.86	1.48	1.35
41	2	2365	OMC	C6-C5	5.86	1.48	1.35
41	2	1522	OMG	C2-N2	5.86	1.48	1.34
41	2	4530	UR3	C2-N3	5.85	1.50	1.39
41	2	2050	OMG	C2-N2	5.85	1.48	1.34
41	2	3869	OMC	C6-C5	5.84	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4564	M7A	C4-N9	5.84	1.49	1.38
41	2	2364	OMG	C2-N3	5.83	1.47	1.33
41	2	4637	OMG	C2-N2	5.82	1.48	1.34
41	2	2364	OMG	C2-N2	5.82	1.48	1.34
41	2	4623	OMG	C2-N3	5.81	1.47	1.33
41	2	2297	E7G	C4-N3	5.80	1.48	1.34
41	2	3899	BGH	C2-N3	5.79	1.47	1.33
41	2	4371	MHG	C4-N9	5.78	1.44	1.37
41	2	2297	E7G	C4-N9	5.76	1.44	1.37
41	2	4371	MHG	C2-N2	5.75	1.46	1.33
41	2	373	OMG	C2-N3	5.74	1.47	1.33
41	2	3897	B8K	C4-N9	5.74	1.44	1.37
41	2	3899	BGH	C4-N3	5.72	1.47	1.34
41	2	1574	B9B	C2-N2	5.71	1.45	1.33
41	2	237	B9B	C2-N2	5.69	1.45	1.33
41	2	2297	E7G	C2-N3	5.67	1.46	1.33
41	2	4371	MHG	C4-N3	5.66	1.47	1.34
41	2	4550	7MG	C2-N3	5.64	1.46	1.33
41	2	2522	7MG	C2-N3	5.61	1.46	1.33
41	2	1605	7MG	C2-N3	5.58	1.46	1.33
41	2	3869	OMC	C2-N1	5.57	1.52	1.40
41	2	1909	P7G	C8-N7	5.55	1.51	1.45
41	2	4620	OMU	C6-C5	5.55	1.48	1.35
41	2	4690	B8K	C4-N9	5.51	1.44	1.37
4	8	14	OMU	C6-C5	5.46	1.47	1.35
41	2	1605	7MG	C4-N3	5.44	1.47	1.34
41	2	4550	7MG	C4-N3	5.43	1.47	1.34
41	2	2522	7MG	C4-N3	5.40	1.47	1.34
41	2	1605	7MG	C4-N9	5.32	1.43	1.37
41	2	729	2MG	C4-N3	5.29	1.50	1.37
41	2	1517	2MG	C4-N3	5.27	1.50	1.37
41	2	3880	P7G	C2-N1	5.22	1.45	1.33
41	2	978	2MG	C4-N3	5.20	1.50	1.37
41	2	3701	OMC	C4-N3	5.16	1.44	1.34
41	2	3887	OMC	C4-N3	5.16	1.44	1.34
41	2	4483	B8T	C2-N1	5.16	1.51	1.40
41	2	1909	P7G	C2-N1	5.12	1.45	1.33
41	2	4536	OMC	C2-N1	5.08	1.51	1.40
41	2	2297	E7G	C2-N2	5.06	1.46	1.34
41	2	2422	OMC	C2-N1	5.06	1.51	1.40
41	2	4536	OMC	C4-N3	4.98	1.44	1.34
41	2	3701	OMC	C4-N4	4.95	1.45	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	2522	7MG	C4-N9	4.95	1.43	1.37
41	2	4196	OMG	C4-N3	4.92	1.49	1.37
41	2	1456	B8Q	C2-N1	4.92	1.45	1.38
41	2	1625	OMG	C4-N3	4.90	1.49	1.37
41	2	3869	OMC	C4-N4	4.89	1.45	1.33
41	2	3869	OMC	C4-N3	4.89	1.44	1.34
41	2	2422	OMC	C4-N3	4.87	1.44	1.34
41	2	3899	BGH	C2-N2	4.86	1.45	1.34
41	2	3887	OMC	C4-N4	4.86	1.45	1.33
41	2	4370	OMG	C4-N3	4.84	1.49	1.37
41	2	4536	OMC	C4-N4	4.83	1.45	1.33
41	2	2422	OMC	C4-N4	4.83	1.45	1.33
41	2	4194	I4U	C5-C4	4.83	1.49	1.43
41	2	4870	OMG	C4-N3	4.80	1.49	1.37
41	2	2365	OMC	C4-N3	4.80	1.44	1.34
41	2	2365	OMC	C4-N4	4.80	1.45	1.33
41	2	2804	OMC	C2-N1	4.80	1.50	1.40
41	2	2424	OMG	C4-N3	4.77	1.48	1.37
41	2	4637	OMG	C4-N3	4.77	1.48	1.37
41	2	4494	OMG	C4-N3	4.76	1.48	1.37
41	2	1605	7MG	C2-N2	4.74	1.45	1.34
41	2	4550	7MG	C2-N2	4.74	1.45	1.34
41	2	373	OMG	C6-N1	4.73	1.44	1.37
41	2	4550	7MG	C4-N9	4.73	1.43	1.37
41	2	2773	OMG	C4-N3	4.70	1.48	1.37
41	2	4494	OMG	C6-N1	4.70	1.44	1.37
41	2	3887	OMC	C2-N1	4.69	1.50	1.40
41	2	2804	OMC	C4-N4	4.69	1.45	1.33
41	2	2522	7MG	C2-N2	4.69	1.45	1.34
41	2	1659	I4U	C5-C4	4.67	1.49	1.43
41	2	1883	OMG	C4-N3	4.65	1.48	1.37
41	2	4623	OMG	C6-N1	4.63	1.44	1.37
41	2	4196	OMG	C6-N1	4.63	1.44	1.37
41	2	1316	OMG	C4-N3	4.62	1.48	1.37
41	2	2804	OMC	C4-N3	4.60	1.43	1.34
41	2	3899	BGH	C5-N7	4.60	1.47	1.39
41	2	373	OMG	C4-N3	4.57	1.48	1.37
41	2	2364	OMG	C6-N1	4.57	1.44	1.37
41	2	4671	B8T	C2-N1	4.56	1.49	1.40
41	2	4083	5MU	C2-N3	4.56	1.46	1.38
41	2	1316	OMG	C6-N1	4.55	1.44	1.37
41	2	4872	2MG	C4-N3	4.55	1.48	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	1522	OMG	C4-N3	4.54	1.48	1.37
41	2	1625	OMG	C6-N1	4.52	1.44	1.37
41	2	2050	OMG	C4-N3	4.51	1.48	1.37
41	2	4870	OMG	C6-N1	4.49	1.44	1.37
41	2	4370	OMG	C6-N1	4.49	1.44	1.37
41	2	1348	P4U	O4-C4	4.48	1.40	1.35
41	2	2050	OMG	C6-N1	4.48	1.44	1.37
41	2	4637	OMG	C6-N1	4.47	1.44	1.37
41	2	3897	B8K	C4-N3	4.46	1.44	1.34
41	2	2364	OMG	C4-N3	4.46	1.48	1.37
41	2	4623	OMG	C4-N3	4.45	1.48	1.37
41	2	1883	OMG	C6-N1	4.43	1.44	1.37
41	2	2773	OMG	C6-N1	4.42	1.44	1.37
41	2	4690	B8K	C4-N3	4.41	1.44	1.34
41	2	2424	OMG	C6-N1	4.39	1.44	1.37
41	2	2365	OMC	C2-N1	4.36	1.49	1.40
41	2	3701	OMC	C2-N1	4.35	1.49	1.40
41	2	3897	B8K	C5-C6	4.32	1.54	1.43
41	2	4564	M7A	C6-N6	4.32	1.45	1.34
41	2	4194	I4U	C2-N1	4.30	1.49	1.40
41	2	3899	BGH	C5-C6	4.29	1.54	1.43
41	2	1322	1MA	C2-N1	4.25	1.43	1.35
41	2	1522	OMG	C6-N1	4.22	1.44	1.37
41	2	3897	B8K	C5-N7	4.22	1.46	1.39
41	2	1348	P4U	C2-N1	4.19	1.49	1.40
41	2	729	2MG	C2-N1	4.18	1.43	1.36
41	2	4415	1MA	C4-N3	4.16	1.50	1.37
41	2	1659	I4U	C2-N1	4.16	1.49	1.40
41	2	4690	B8K	C5-N7	4.16	1.46	1.39
4	8	14	OMU	C4-N3	4.15	1.46	1.38
41	2	978	2MG	C2-N1	4.13	1.43	1.36
41	2	1322	1MA	C4-N3	4.11	1.50	1.37
41	2	4415	1MA	C2-N1	4.07	1.43	1.35
41	2	4690	B8K	C5-C6	4.05	1.54	1.43
41	2	4564	M7A	C5-N7	4.03	1.49	1.39
41	2	4620	OMU	C4-N3	4.01	1.45	1.38
41	2	1517	2MG	C2-N1	3.98	1.43	1.36
41	2	4872	2MG	C2-N1	3.97	1.43	1.36
41	2	1348	P4U	C5-C4	3.95	1.48	1.43
41	2	4371	MHG	C5-C6	3.87	1.53	1.43
41	2	4671	B8T	C5-C4	3.84	1.49	1.40
41	2	4550	7MG	C5-C6	3.81	1.53	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	1605	7MG	C5-C6	3.76	1.53	1.43
41	2	2297	E7G	C5-C6	3.76	1.53	1.43
41	2	3899	BGH	O2'-C2'	3.71	1.52	1.42
41	2	2522	7MG	C5-C6	3.71	1.53	1.43
41	2	3880	P7G	C6-N1	3.71	1.44	1.38
41	2	3899	BGH	C71-N7	3.70	1.47	1.39
41	2	978	2MG	C6-N1	3.68	1.43	1.37
41	2	3880	P7G	C2-N3	3.64	1.46	1.37
41	2	1909	P7G	C2-N3	3.63	1.46	1.37
41	2	1605	7MG	C2-N1	3.63	1.46	1.37
41	2	4483	B8T	C5-C4	3.63	1.48	1.40
41	2	4550	7MG	C2-N1	3.62	1.46	1.37
41	2	3897	B8K	C6-N1	3.60	1.45	1.38
41	2	4690	B8K	C71-N7	3.57	1.47	1.39
41	2	4872	2MG	C6-N1	3.57	1.43	1.37
41	2	3897	B8K	C2-N2	3.56	1.42	1.34
41	2	729	2MG	C6-N1	3.55	1.43	1.37
41	2	978	2MG	C5-C6	3.54	1.54	1.47
41	2	2522	7MG	C2-N1	3.53	1.46	1.37
41	2	4690	B8K	C6-N1	3.51	1.45	1.38
41	2	1517	2MG	C6-N1	3.49	1.43	1.37
41	2	4690	B8K	C2-N2	3.49	1.42	1.34
41	2	2297	E7G	C2-N1	3.48	1.46	1.37
41	2	3897	B8K	C71-N7	3.47	1.47	1.39
41	2	1909	P7G	C6-N1	3.47	1.44	1.38
41	2	4371	MHG	C6-N1	3.45	1.45	1.38
41	2	4550	7MG	C6-N1	3.43	1.45	1.38
41	2	4483	B8T	C6-N1	3.42	1.46	1.38
41	2	4530	UR3	C6-N1	3.41	1.46	1.38
41	2	3899	BGH	C6-N1	3.40	1.45	1.38
41	2	3899	BGH	C2-N1	3.40	1.46	1.37
41	2	4872	2MG	C5-C6	3.39	1.54	1.47
41	2	4194	I4U	C6-N1	3.39	1.46	1.38
41	2	3887	OMC	C6-N1	3.39	1.46	1.38
41	2	3869	OMC	C6-N1	3.37	1.46	1.38
41	2	1605	7MG	C6-N1	3.37	1.45	1.38
41	2	3897	B8K	C2-N1	3.34	1.45	1.37
41	2	4370	OMG	C5-C6	3.32	1.54	1.47
41	2	729	2MG	C5-C6	3.31	1.54	1.47
41	2	4196	OMG	C5-C6	3.31	1.54	1.47
41	2	1625	OMG	C5-C6	3.31	1.54	1.47
41	2	3880	P7G	C5-C4	3.30	1.43	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4536	OMC	C6-N1	3.29	1.45	1.38
41	2	4494	OMG	C5-C6	3.29	1.54	1.47
41	2	2773	OMG	C5-C6	3.29	1.54	1.47
41	2	4690	B8K	C2-N1	3.27	1.45	1.37
41	2	1517	2MG	C5-C6	3.26	1.54	1.47
41	2	2297	E7G	C6-N1	3.25	1.44	1.38
41	2	2522	7MG	C6-N1	3.23	1.44	1.38
41	2	4083	5MU	C2-N1	3.22	1.43	1.38
41	2	2422	OMC	C6-N1	3.21	1.45	1.38
41	2	1659	I4U	C6-N1	3.19	1.45	1.38
41	2	3825	A2M	C6-N6	3.18	1.45	1.34
41	2	3718	A2M	C6-N6	3.18	1.45	1.34
41	2	3701	OMC	C6-N1	3.17	1.45	1.38
41	2	1348	P4U	C6-N1	3.17	1.45	1.38
41	2	4523	A2M	C6-N6	3.16	1.45	1.34
41	2	4637	OMG	C5-C6	3.15	1.53	1.47
41	2	1909	P7G	C5-C4	3.15	1.43	1.37
41	2	1909	P7G	O6-C6	-3.14	1.18	1.23
41	2	3867	A2M	C6-N6	3.14	1.45	1.34
41	2	1883	OMG	O6-C6	-3.14	1.16	1.23
41	2	4623	OMG	C5-C6	3.14	1.53	1.47
41	2	2804	OMC	C6-N1	3.14	1.45	1.38
41	2	398	A2M	C6-N6	3.13	1.45	1.34
41	2	2401	A2M	C6-N6	3.13	1.45	1.34
41	2	4870	OMG	C5-C6	3.13	1.53	1.47
41	2	4597	UR3	C6-N1	3.13	1.45	1.38
41	2	4671	B8T	C6-N1	3.12	1.45	1.38
41	2	1524	A2M	C6-N6	3.12	1.45	1.34
41	2	1534	A2M	C6-N6	3.11	1.45	1.34
41	2	2365	OMC	C6-N1	3.10	1.45	1.38
41	2	1326	A2M	C6-N6	3.09	1.45	1.34
41	2	3880	P7G	O6-C6	-3.09	1.18	1.23
41	2	1316	OMG	C5-C6	3.08	1.53	1.47
41	2	4571	A2M	C6-N6	3.08	1.45	1.34
41	2	2364	OMG	C5-C6	3.08	1.53	1.47
41	2	3723	A2M	C6-N6	3.08	1.45	1.34
41	2	2050	OMG	C5-C6	3.06	1.53	1.47
41	2	4194	I4U	O4-C41	-3.06	1.40	1.47
41	2	3718	A2M	O3'-C3'	3.05	1.50	1.43
41	2	4083	5MU	O4-C4	-3.05	1.17	1.23
41	2	2363	A2M	C6-N6	3.04	1.45	1.34
4	8	14	OMU	O4-C4	-3.04	1.18	1.24

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	1522	OMG	C5-C6	3.01	1.53	1.47
41	2	4355	E6G	C5-C4	-3.00	1.33	1.40
41	2	2424	OMG	C5-C6	2.99	1.53	1.47
41	2	4872	2MG	C5-C4	-2.98	1.35	1.43
41	2	4671	B8T	O2-C2	-2.98	1.18	1.23
41	2	3825	A2M	O3'-C3'	2.95	1.49	1.43
41	2	3899	BGH	O3'-C3'	-2.94	1.36	1.43
41	2	373	OMG	C5-C6	2.94	1.53	1.47
41	2	3897	B8K	C5-C4	2.93	1.47	1.38
41	2	2401	A2M	O3'-C3'	2.93	1.49	1.43
41	2	4620	OMU	O4-C4	-2.92	1.18	1.24
41	2	1534	A2M	O3'-C3'	2.92	1.49	1.43
41	2	3723	A2M	O3'-C3'	2.91	1.49	1.43
41	2	2363	A2M	O3'-C3'	2.90	1.49	1.43
41	2	4690	B8K	C5-C4	2.89	1.47	1.38
41	2	1524	A2M	O3'-C3'	2.89	1.49	1.43
41	2	4523	A2M	O3'-C3'	2.87	1.49	1.43
41	2	2380	B8W	C5-C4	-2.86	1.33	1.40
41	2	237	B9B	C5-C4	-2.85	1.33	1.40
41	2	398	A2M	O3'-C3'	2.85	1.49	1.43
41	2	1522	OMG	O6-C6	-2.85	1.17	1.23
41	2	1659	I4U	O4-C4	2.84	1.41	1.35
41	2	4370	OMG	O6-C6	-2.84	1.17	1.23
41	2	1348	P4U	O2-C2	-2.84	1.18	1.23
41	2	3867	A2M	O3'-C3'	2.84	1.49	1.43
41	2	1316	OMG	O6-C6	-2.83	1.17	1.23
41	2	2424	OMG	O6-C6	-2.81	1.17	1.23
41	2	4623	OMG	O6-C6	-2.81	1.17	1.23
41	2	2804	OMC	O2-C2	-2.80	1.18	1.23
41	2	2050	OMG	O6-C6	-2.80	1.17	1.23
41	2	2364	OMG	O6-C6	-2.80	1.17	1.23
41	2	373	OMG	O6-C6	-2.80	1.17	1.23
41	2	1517	2MG	C5-C4	-2.80	1.35	1.43
41	2	978	2MG	C5-C4	-2.79	1.35	1.43
41	2	4571	A2M	O3'-C3'	2.79	1.49	1.43
41	2	1534	A2M	O2'-C2'	-2.79	1.35	1.42
41	2	4870	OMG	O6-C6	-2.78	1.17	1.23
41	2	4637	OMG	O6-C6	-2.78	1.17	1.23
41	2	2401	A2M	C5-C4	-2.78	1.33	1.40
41	2	1326	A2M	O3'-C3'	2.78	1.49	1.43
41	2	2401	A2M	O2'-C2'	-2.78	1.35	1.42
41	2	4472	B8W	C5-C4	-2.78	1.33	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	2363	A2M	O2'-C2'	-2.77	1.35	1.42
41	2	1883	OMG	C5-C6	2.77	1.53	1.47
41	2	2365	OMC	O2-C2	-2.77	1.18	1.23
41	2	1659	I4U	O2-C2	-2.76	1.18	1.23
41	2	3899	BGH	O6-C6	-2.73	1.18	1.23
41	2	1574	B9B	C5-C4	-2.73	1.33	1.40
4	8	14	OMU	C6-N1	2.73	1.44	1.38
41	2	4529	B8W	C5-C4	-2.72	1.33	1.40
41	2	1659	I4U	O4-C41	-2.71	1.40	1.47
41	2	1625	OMG	O6-C6	-2.71	1.17	1.23
41	2	3723	A2M	C5-C4	-2.70	1.33	1.40
41	2	729	2MG	C5-C4	-2.69	1.36	1.43
41	2	4185	B8W	C5-C4	-2.69	1.33	1.40
41	2	3701	OMC	O2-C2	-2.69	1.18	1.23
41	2	2363	A2M	C5-C4	-2.68	1.33	1.40
41	2	4483	B8T	O2-C2	-2.66	1.18	1.23
41	2	3701	OMC	C5-C4	2.66	1.49	1.42
41	2	4083	5MU	O2-C2	-2.66	1.18	1.23
41	2	2422	OMC	O2-C2	-2.64	1.18	1.23
41	2	4620	OMU	C6-N1	2.64	1.44	1.38
41	2	4536	OMC	O2-C2	-2.63	1.18	1.23
41	2	398	A2M	C5-C4	-2.63	1.34	1.40
41	2	4494	OMG	O6-C6	-2.62	1.18	1.23
41	2	3867	A2M	O2'-C2'	-2.61	1.35	1.42
41	2	398	A2M	O2'-C2'	-2.61	1.35	1.42
41	2	2773	OMG	O6-C6	-2.60	1.18	1.23
41	2	3869	OMC	O2-C2	-2.60	1.18	1.23
41	2	1524	A2M	O2'-C2'	-2.59	1.36	1.42
41	2	4571	A2M	C5-C4	-2.59	1.34	1.40
41	2	4194	I4U	O2-C2	-2.58	1.18	1.23
41	2	4196	OMG	O6-C6	-2.58	1.18	1.23
41	2	1326	A2M	C5-C4	-2.58	1.34	1.40
41	2	3718	A2M	O2'-C2'	-2.57	1.36	1.42
41	2	1883	OMG	C5-C4	-2.56	1.36	1.43
41	2	3887	OMC	O2-C2	-2.56	1.19	1.23
41	2	1625	OMG	C2-N1	2.56	1.44	1.37
41	2	2773	OMG	C2-N1	2.56	1.44	1.37
41	2	4523	A2M	C5-C4	-2.56	1.34	1.40
41	2	3867	A2M	C5-C4	-2.55	1.34	1.40
41	2	1326	A2M	O2'-C2'	-2.55	1.36	1.42
41	2	4571	A2M	O2'-C2'	-2.54	1.36	1.42
41	2	1605	7MG	O6-C6	-2.54	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4194	I4U	O4-C4	2.54	1.40	1.35
41	2	4620	OMU	O2-C2	-2.53	1.18	1.23
41	2	4523	A2M	O2'-C2'	-2.53	1.36	1.42
41	2	1534	A2M	C5-C4	-2.53	1.34	1.40
41	2	4494	OMG	C2-N1	2.52	1.43	1.37
41	2	4196	OMG	C2-N1	2.52	1.43	1.37
41	2	3825	A2M	O2'-C2'	-2.51	1.36	1.42
41	2	2522	7MG	O6-C6	-2.51	1.18	1.23
41	2	3723	A2M	O2'-C2'	-2.50	1.36	1.42
41	2	3825	A2M	C5-C4	-2.49	1.34	1.40
41	2	4550	7MG	O6-C6	-2.49	1.18	1.23
41	2	2297	E7G	O6-C6	-2.47	1.18	1.23
41	2	1524	A2M	C5-C4	-2.47	1.34	1.40
41	2	373	OMG	C5-C4	-2.47	1.36	1.43
41	2	1534	A2M	C2-N3	2.47	1.36	1.32
41	2	4220	6MZ	C5-C4	-2.46	1.34	1.40
41	2	4623	OMG	C2-N1	2.45	1.43	1.37
41	2	4370	OMG	C2-N1	2.45	1.43	1.37
41	2	2050	OMG	C2-N1	2.45	1.43	1.37
41	2	373	OMG	C2-N1	2.44	1.43	1.37
41	2	1883	OMG	C2-N1	2.44	1.43	1.37
4	8	14	OMU	O2-C2	-2.43	1.18	1.23
41	2	2364	OMG	C2-N1	2.43	1.43	1.37
41	2	3825	A2M	C2-N3	2.43	1.36	1.32
41	2	4623	OMG	C5-C4	-2.42	1.36	1.43
41	2	2424	OMG	C2-N1	2.42	1.43	1.37
41	2	4530	UR3	C4-N3	2.41	1.46	1.40
41	2	1316	OMG	C5-C4	-2.41	1.36	1.43
41	2	2050	OMG	C5-C4	-2.41	1.36	1.43
41	2	4523	A2M	C2-N3	2.41	1.36	1.32
4	8	14	OMU	C5-C4	2.41	1.49	1.43
41	2	4870	OMG	C2-N1	2.40	1.43	1.37
41	2	2364	OMG	C5-C4	-2.39	1.37	1.43
41	2	1524	A2M	C2-N3	2.38	1.35	1.32
41	2	1316	OMG	C2-N1	2.38	1.43	1.37
41	2	3887	OMC	C5-C4	2.38	1.48	1.42
41	2	1522	OMG	C2-N1	2.38	1.43	1.37
41	2	3718	A2M	C5-C4	-2.37	1.34	1.40
41	2	4637	OMG	C2-N1	2.36	1.43	1.37
41	2	4571	A2M	C2-N3	2.36	1.35	1.32
41	2	2424	OMG	C5-C4	-2.34	1.37	1.43
41	2	1522	OMG	C5-C4	-2.32	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
41	2	4637	OMG	C5-C4	-2.31	1.37	1.43
41	2	2363	A2M	C2-N3	2.31	1.35	1.32
41	2	1326	A2M	C2-N3	2.28	1.35	1.32
41	2	4530	UR3	C5-C4	2.27	1.49	1.43
41	2	1456	B8Q	C6-N1	2.27	1.43	1.38
41	2	4597	UR3	C4-N3	2.26	1.45	1.40
41	2	4536	OMC	C5-C4	2.25	1.48	1.42
41	2	4597	UR3	C5-C4	2.25	1.49	1.43
41	2	4870	OMG	C5-C4	-2.25	1.37	1.43
41	2	3718	A2M	C2-N3	2.25	1.35	1.32
41	2	2422	OMC	C5-C4	2.25	1.48	1.42
41	2	4415	1MA	C5-C4	-2.24	1.37	1.43
41	2	3867	A2M	C2-N3	2.24	1.35	1.32
41	2	2365	OMC	C5-C4	2.24	1.48	1.42
41	2	4371	MHG	O6-C6	-2.23	1.19	1.23
41	2	4620	OMU	C5-C4	2.20	1.48	1.43
41	2	3723	A2M	C2-N3	2.18	1.35	1.32
41	2	398	A2M	C2-N3	2.17	1.35	1.32
41	2	4494	OMG	C5-C4	-2.16	1.37	1.43
41	2	2401	A2M	C2-N3	2.14	1.35	1.32
41	2	1322	1MA	C5-C4	-2.14	1.37	1.43
41	2	3899	BGH	C5-C4	2.13	1.45	1.38
41	2	4370	OMG	C5-C4	-2.13	1.37	1.43
41	2	1456	B8Q	O2-C2	-2.10	1.18	1.22
41	2	4597	UR3	O2-C2	-2.10	1.18	1.22
41	2	3869	OMC	C5-C4	2.09	1.47	1.42
41	2	4220	6MZ	C2-N3	2.09	1.35	1.32
41	2	4371	MHG	C5-C4	2.08	1.44	1.38
41	2	2786	B9H	C6-N1	2.06	1.43	1.38
41	2	4415	1MA	CM1-N1	2.06	1.50	1.46
41	2	2804	OMC	C5-C4	2.04	1.47	1.42
41	2	1322	1MA	CM1-N1	2.02	1.50	1.46

All (337) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1574	B9B	O6-C6-N1	-30.26	94.01	120.12
41	2	237	B9B	O6-C6-N1	-29.95	94.27	120.12
41	2	4564	M7A	C5-C6-N6	13.81	147.33	123.74
41	2	4220	6MZ	C1'-N9-C4	-12.57	104.56	126.64
41	2	4564	M7A	N6-C6-N1	-11.85	92.41	118.35
41	2	1534	A2M	C5-C6-N6	10.82	136.79	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4083	5MU	C5-C4-N3	10.78	124.51	115.31
41	2	398	A2M	C5-C6-N6	10.68	136.59	120.35
41	2	1326	A2M	C5-C6-N6	10.65	136.54	120.35
41	2	3723	A2M	C5-C6-N6	10.42	136.19	120.35
41	2	1524	A2M	C5-C6-N6	10.41	136.16	120.35
41	2	3867	A2M	C5-C6-N6	10.40	136.15	120.35
41	2	3718	A2M	C5-C6-N6	10.39	136.15	120.35
41	2	3825	A2M	C5-C6-N6	10.33	136.05	120.35
41	2	4571	A2M	C5-C6-N6	10.23	135.91	120.35
41	2	4523	A2M	C5-C6-N6	10.23	135.89	120.35
41	2	2363	A2M	C5-C6-N6	10.22	135.89	120.35
41	2	2401	A2M	C5-C6-N6	10.20	135.86	120.35
41	2	4355	E6G	O6-C6-N1	9.36	128.20	120.12
41	2	2786	B9H	C31-N3-C2	8.05	127.27	117.21
41	2	4083	5MU	C5-C6-N1	-8.02	115.09	123.34
41	2	1534	A2M	N6-C6-N1	-7.75	102.49	118.57
41	2	4597	UR3	C4-N3-C2	-7.63	117.38	124.56
41	2	398	A2M	N6-C6-N1	-7.50	103.00	118.57
41	2	1326	A2M	N6-C6-N1	-7.41	103.19	118.57
41	2	3723	A2M	N6-C6-N1	-7.35	103.32	118.57
41	2	3867	A2M	N6-C6-N1	-7.33	103.36	118.57
41	2	1524	A2M	N6-C6-N1	-7.27	103.48	118.57
41	2	2363	A2M	N6-C6-N1	-7.27	103.49	118.57
41	2	3718	A2M	N6-C6-N1	-7.23	103.56	118.57
41	2	3825	A2M	N6-C6-N1	-7.19	103.66	118.57
41	2	4083	5MU	C4-N3-C2	-7.18	118.05	127.35
41	2	4523	A2M	N6-C6-N1	-7.15	103.73	118.57
41	2	2401	A2M	N6-C6-N1	-7.13	103.76	118.57
41	2	4571	A2M	N6-C6-N1	-7.11	103.81	118.57
41	2	4371	MHG	C2-N3-C4	6.82	120.49	112.04
41	2	4690	B8K	C72-C71-N7	6.64	128.84	118.86
41	2	1326	A2M	N3-C2-N1	-6.48	118.55	128.68
41	2	2401	A2M	N3-C2-N1	-6.43	118.63	128.68
41	2	4220	6MZ	N3-C2-N1	-6.40	118.68	128.68
41	2	1524	A2M	N3-C2-N1	-6.39	118.69	128.68
41	2	2786	B9H	C6-N1-C2	-6.35	116.10	121.79
41	2	3723	A2M	N3-C2-N1	-6.34	118.77	128.68
41	2	398	A2M	N3-C2-N1	-6.31	118.81	128.68
41	2	3899	BGH	C72-C71-N7	6.31	128.35	118.86
41	2	4523	A2M	N3-C2-N1	-6.30	118.84	128.68
41	2	2363	A2M	N3-C2-N1	-6.27	118.88	128.68
41	2	3867	A2M	N3-C2-N1	-6.27	118.88	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4571	A2M	N3-C2-N1	-6.27	118.89	128.68
41	2	3825	A2M	N3-C2-N1	-6.25	118.91	128.68
41	2	3897	B8K	C72-C71-N7	6.12	128.06	118.86
41	2	4355	E6G	N2-C2-N3	6.10	127.74	117.79
41	2	1534	A2M	N3-C2-N1	-6.05	119.23	128.68
41	2	4564	M7A	N3-C2-N1	-6.03	119.16	128.60
41	2	4690	B8K	C5-C6-N1	5.92	121.42	110.99
41	2	3718	A2M	N3-C2-N1	-5.84	119.55	128.68
41	2	4472	B8W	N2-C2-N3	5.81	127.25	117.79
41	2	3899	BGH	C5-C6-N1	5.80	121.20	110.99
41	2	4529	B8W	N2-C2-N3	5.73	127.14	117.79
41	2	4185	B8W	N2-C2-N3	5.72	127.12	117.79
41	2	2380	B8W	N2-C2-N3	5.66	127.02	117.79
41	2	237	B9B	N3-C2-N1	-5.59	119.77	127.22
41	2	3897	B8K	C5-C6-N1	5.55	120.78	110.99
41	2	1456	B8Q	N3-C2-N1	5.55	123.66	117.13
41	2	4355	E6G	N3-C2-N1	-5.53	119.84	127.22
41	2	4472	B8W	N3-C2-N1	-5.48	119.91	127.22
41	2	1574	B9B	N3-C2-N1	-5.48	119.92	127.22
4	8	14	OMU	C4-N3-C2	-5.41	119.44	126.58
41	2	4529	B8W	N3-C2-N1	-5.35	120.09	127.22
41	2	1909	P7G	C4-C5-N7	5.31	109.47	106.67
41	2	4185	B8W	N3-C2-N1	-5.26	120.21	127.22
41	2	4529	B8W	O6-C6-N1	5.22	126.27	119.03
41	2	2297	E7G	C5-C6-N1	5.16	120.08	110.99
41	2	2297	E7G	C4-C5-N7	5.15	109.50	104.91
41	2	4415	1MA	N1-C2-N3	-5.10	120.07	126.02
41	2	2380	B8W	N3-C2-N1	-5.09	120.44	127.22
41	2	3899	BGH	C2-N3-C4	5.01	121.23	112.30
41	2	4371	MHG	C5-C6-N1	5.00	119.81	110.99
41	2	1456	B8Q	C31-N3-C4	5.00	121.79	114.25
41	2	4564	M7A	N3-C4-N9	4.99	133.18	126.87
41	2	1456	B8Q	O2-C2-N3	-4.96	115.66	122.95
41	2	4185	B8W	O6-C6-N1	4.95	125.90	119.03
41	2	4620	OMU	C4-N3-C2	-4.94	120.06	126.58
41	2	1605	7MG	C5-C6-N1	4.88	119.59	110.99
41	2	2522	7MG	C5-C6-N1	4.87	119.58	110.99
41	2	4371	MHG	C4-C5-N7	4.85	109.23	104.91
41	2	1322	1MA	N1-C2-N3	-4.82	120.40	126.02
41	2	237	B9B	C2-N3-C4	4.81	120.85	115.36
41	2	4550	7MG	C5-C6-N1	4.80	119.46	110.99
41	2	4690	B8K	C2-N3-C4	4.78	120.81	112.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	3897	B8K	C2-N3-C4	4.77	120.80	112.30
41	2	4083	5MU	O4-C4-C5	-4.75	119.40	124.90
41	2	2297	E7G	C2-N3-C4	4.69	120.66	112.30
41	2	4472	B8W	O6-C6-N1	4.68	125.51	119.03
41	2	4690	B8K	C4-C5-N7	4.63	109.03	104.91
41	2	4530	UR3	C4-N3-C2	-4.62	120.21	124.56
41	2	3880	P7G	C4-C5-N7	4.61	109.10	106.67
41	2	1574	B9B	C2-N3-C4	4.58	120.58	115.36
41	2	4083	5MU	C5M-C5-C6	-4.57	116.75	122.85
41	2	4529	B8W	C1'-N9-C4	-4.54	118.67	126.64
41	2	4872	2MG	CM2-N2-C2	-4.50	113.91	123.86
41	2	2380	B8W	O6-C6-N1	4.48	125.24	119.03
41	2	1574	B9B	N2-C2-N3	4.47	125.07	117.79
41	2	4472	B8W	C2-N3-C4	4.43	120.42	115.36
41	2	4355	E6G	C2-N3-C4	4.42	120.40	115.36
41	2	4083	5MU	N3-C2-N1	4.38	120.71	114.89
41	2	237	B9B	N2-C2-N3	4.37	124.91	117.79
41	2	3869	OMC	O2-C2-N3	-4.36	115.24	122.33
41	2	1659	I4U	C5-C4-N3	-4.35	118.29	124.91
41	2	1456	B8Q	C6-N1-C2	-4.33	117.91	121.79
41	2	2522	7MG	C2-N3-C4	4.29	119.94	112.30
41	2	3899	BGH	C4-C5-N7	4.28	108.72	104.91
41	2	4185	B8W	C2-N3-C4	4.27	120.24	115.36
41	2	4220	6MZ	C2-N1-C6	4.25	120.23	116.59
41	2	4690	B8K	N9-C8-N7	4.24	109.03	103.33
41	2	1605	7MG	C2-N3-C4	4.24	119.85	112.30
41	2	4550	7MG	C2-N3-C4	4.23	119.83	112.30
41	2	3899	BGH	C5-C4-N9	4.14	111.72	106.35
41	2	3899	BGH	N9-C8-N7	4.12	108.86	103.33
41	2	3897	B8K	C5-C4-N9	4.10	111.67	106.35
41	2	4529	B8W	C2-N3-C4	4.05	119.98	115.36
41	2	4415	1MA	C5-C6-N1	3.99	119.85	113.90
41	2	4690	B8K	C5-C4-N9	3.98	111.51	106.35
41	2	1605	7MG	C5-C4-N9	3.91	111.42	106.35
41	2	2297	E7G	C5-C4-N3	-3.90	120.71	128.13
41	2	2804	OMC	O2-C2-N3	-3.89	116.00	122.33
41	2	1322	1MA	C5-C6-N1	3.89	119.70	113.90
41	2	4620	OMU	N3-C2-N1	3.89	120.05	114.89
41	2	3897	B8K	C4-C5-N7	3.88	108.36	104.91
41	2	4083	5MU	C5M-C5-C4	3.88	123.04	118.77
41	2	2380	B8W	C2-N3-C4	3.88	119.78	115.36
41	2	2786	B9H	O3'-C3'-C2'	3.84	122.08	111.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1883	OMG	C5-C6-N1	3.84	120.72	113.95
41	2	4371	MHG	C5-C4-N3	-3.80	120.88	128.13
41	2	1517	2MG	C5-C6-N1	3.77	120.61	113.95
41	2	4370	OMG	C5-C6-N1	3.71	120.50	113.95
41	2	3897	B8K	N9-C8-N7	3.70	108.30	103.33
41	2	4550	7MG	C5-C4-N9	3.68	111.12	106.35
41	2	2522	7MG	C5-C4-N9	3.66	111.10	106.35
4	8	14	OMU	C5-C4-N3	3.65	120.30	114.84
41	2	2424	OMG	C5-C6-N1	3.57	120.26	113.95
41	2	3899	BGH	C5-C4-N3	-3.57	121.33	128.13
41	2	4564	M7A	C2-N3-C4	3.57	120.18	111.75
4	8	14	OMU	N3-C2-N1	3.55	119.61	114.89
41	2	978	2MG	C5-C6-N1	3.55	120.23	113.95
41	2	4870	OMG	C5-C6-N1	3.54	120.20	113.95
41	2	4637	OMG	C5-C6-N1	3.54	120.20	113.95
41	2	1605	7MG	C5-C4-N3	-3.53	121.39	128.13
41	2	1316	OMG	C5-C6-N1	3.51	120.16	113.95
41	2	1348	P4U	C5-C4-N3	-3.49	119.60	124.91
41	2	4494	OMG	C5-C6-N1	3.49	120.11	113.95
41	2	1625	OMG	C5-C6-N1	3.48	120.10	113.95
41	2	2050	OMG	C5-C6-N1	3.48	120.10	113.95
41	2	729	2MG	C5-C6-N1	3.48	120.10	113.95
41	2	2522	7MG	C5-C4-N3	-3.47	121.51	128.13
41	2	4872	2MG	C5-C6-N1	3.47	120.08	113.95
41	2	373	OMG	C5-C6-N1	3.46	120.07	113.95
41	2	2364	OMG	C5-C6-N1	3.46	120.07	113.95
41	2	4472	B8W	C1'-N9-C4	-3.44	120.59	126.64
41	2	2297	E7G	C5-C4-N9	3.44	110.81	106.35
41	2	4196	OMG	C5-C6-N1	3.41	119.97	113.95
41	2	2422	OMC	O2-C2-N3	-3.37	116.85	122.33
41	2	4371	MHG	C5-C4-N9	3.35	110.70	106.35
41	2	4536	OMC	O2-C2-N3	-3.33	116.92	122.33
41	2	4623	OMG	C5-C6-N1	3.33	119.83	113.95
41	2	4194	I4U	C5-C4-N3	-3.33	119.85	124.91
41	2	1522	OMG	C5-C6-N1	3.32	119.81	113.95
41	2	1883	OMG	C2-N1-C6	-3.29	119.04	125.10
41	2	4550	7MG	C5-C4-N3	-3.28	121.88	128.13
41	2	1456	B8Q	C1'-N1-C2	3.27	122.51	116.99
41	2	2380	B8W	C1'-N9-C4	-3.26	120.91	126.64
41	2	4690	B8K	C5-C4-N3	-3.21	122.02	128.13
41	2	2364	OMG	C2-N1-C6	-3.20	119.20	125.10
41	2	1625	OMG	C2-N1-C6	-3.19	119.22	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4637	OMG	C2-N1-C6	-3.19	119.23	125.10
41	2	4690	B8K	C6-C5-C4	-3.19	116.05	122.62
41	2	2050	OMG	C2-N1-C6	-3.18	119.25	125.10
41	2	4494	OMG	C2-N1-C6	-3.16	119.28	125.10
41	2	3897	B8K	C6-C5-C4	-3.15	116.13	122.62
41	2	4370	OMG	C2-N1-C6	-3.13	119.33	125.10
41	2	4371	MHG	C2-N1-C6	-3.13	120.88	124.48
41	2	3897	B8K	C5-C4-N3	-3.12	122.19	128.13
41	2	2424	OMG	C2-N1-C6	-3.12	119.36	125.10
41	2	1316	OMG	C2-N1-C6	-3.11	119.37	125.10
41	2	4355	E6G	N2-C2-N1	-3.11	112.42	117.25
4	8	14	OMU	O4-C4-C5	-3.10	119.70	125.16
41	2	4620	OMU	C5-C4-N3	3.08	119.45	114.84
41	2	2773	OMG	C5-C6-N1	3.08	119.40	113.95
41	2	1909	P7G	N9-C8-N7	3.08	107.78	103.38
41	2	4196	OMG	C2-N1-C6	-3.06	119.46	125.10
41	2	2380	B8W	N2-C2-N1	-3.02	112.55	117.25
4	8	14	OMU	CM2-O2'-C2'	3.02	122.44	114.52
41	2	2786	B9H	O2-C2-N1	-3.00	115.71	122.72
41	2	4870	OMG	C2-N1-C6	-2.99	119.60	125.10
41	2	373	OMG	C2-N1-C6	-2.98	119.61	125.10
41	2	1524	A2M	C1'-N9-C4	2.97	131.87	126.64
41	2	4597	UR3	C6-N1-C2	-2.97	119.13	121.79
41	2	4623	OMG	C2-N1-C6	-2.96	119.64	125.10
41	2	4185	B8W	N2-C2-N1	-2.96	112.65	117.25
41	2	1883	OMG	O6-C6-C5	-2.96	118.60	124.37
41	2	3899	BGH	C6-C5-C4	-2.92	116.60	122.62
41	2	4196	OMG	CM2-O2'-C2'	2.92	122.18	114.52
41	2	4371	MHG	N1-C2-N3	-2.91	119.46	123.95
41	2	2773	OMG	C2-N1-C6	-2.89	119.77	125.10
41	2	3867	A2M	C1'-N9-C4	2.88	131.70	126.64
41	2	1522	OMG	C2-N1-C6	-2.88	119.80	125.10
41	2	4529	B8W	N2-C2-N1	-2.88	112.77	117.25
41	2	4620	OMU	O4-C4-C5	-2.85	120.14	125.16
41	2	4083	5MU	O2-C2-N1	-2.84	119.00	122.79
41	2	4472	B8W	N2-C2-N1	-2.84	112.84	117.25
41	2	4355	E6G	C61-O6-C6	-2.84	114.75	117.56
41	2	4185	B8W	C1'-N9-C4	-2.82	121.69	126.64
41	2	2363	A2M	C1'-N9-C4	2.80	131.57	126.64
41	2	2786	B9H	C32-C31-N3	2.80	118.32	112.47
41	2	2297	E7G	N9-C8-N7	2.80	107.38	103.38
41	2	2804	OMC	C1'-N1-C2	2.79	124.64	118.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	1605	7MG	N9-C8-N7	2.78	107.36	103.38
41	2	1456	B8Q	C31-N3-C2	2.78	121.83	117.79
41	2	4597	UR3	C3U-N3-C2	2.77	122.16	117.31
41	2	4671	B8T	C6-C5-C4	2.76	120.34	116.96
41	2	3899	BGH	O6-C6-N1	-2.74	114.86	120.12
41	2	2522	7MG	N9-C8-N7	2.74	107.30	103.38
41	2	3869	OMC	C1'-N1-C2	2.74	124.53	118.42
41	2	1534	A2M	C1'-N9-C4	2.73	131.44	126.64
41	2	978	2MG	C8-N7-C5	2.69	108.11	102.99
41	2	2522	7MG	C4-C5-N7	2.69	109.26	105.53
41	2	4550	7MG	C4-C5-N7	2.66	109.22	105.53
41	2	4415	1MA	C8-N7-C5	2.66	108.06	102.99
41	2	4530	UR3	C6-N1-C2	-2.65	119.42	121.79
41	2	3880	P7G	N9-C8-N7	2.64	107.15	103.38
41	2	1322	1MA	C8-N7-C5	2.63	108.00	102.99
41	2	4371	MHG	C71-C72-C73	-2.62	106.84	114.20
41	2	4872	2MG	C8-N7-C5	2.62	107.99	102.99
41	2	2786	B9H	O3'-C3'-C4'	2.62	118.63	111.05
41	2	4083	5MU	C6-C5-C4	2.61	120.21	118.03
41	2	4571	A2M	C1'-N9-C4	2.60	131.21	126.64
41	2	4690	B8K	C2-N1-C6	-2.60	120.35	125.10
41	2	3869	OMC	O2-C2-N1	2.59	124.23	118.89
41	2	2804	OMC	O2-C2-N1	2.58	124.22	118.89
41	2	4483	B8T	O3'-C3'-C2'	2.57	120.14	111.82
41	2	4371	MHG	N9-C8-N7	2.56	107.03	103.38
41	2	3718	A2M	C1'-N9-C4	2.56	131.13	126.64
41	2	1605	7MG	C2-N1-C6	-2.52	120.51	125.10
41	2	729	2MG	C8-N7-C5	2.51	107.78	102.99
41	2	1517	2MG	O6-C6-C5	-2.51	119.47	124.37
41	2	3899	BGH	C2-N1-C6	-2.50	120.53	125.10
41	2	3897	B8K	O6-C6-N1	-2.50	115.32	120.12
41	2	4355	E6G	C2-N1-C6	2.49	120.09	116.08
41	2	2422	OMC	C1'-N1-C2	2.49	123.98	118.42
41	2	4564	M7A	C5-C4-N3	-2.47	120.83	126.62
41	2	1605	7MG	C4-C5-N7	2.45	108.93	105.53
41	2	4870	OMG	C8-N7-C5	2.44	107.64	102.99
41	2	4564	M7A	C4-N9-C1'	-2.43	120.83	126.60
41	2	4483	B8T	O3'-C3'-C4'	2.43	118.07	111.05
41	2	4550	7MG	N9-C8-N7	2.41	106.83	103.38
41	2	2050	OMG	O6-C6-C5	-2.41	119.66	124.37
41	2	2297	E7G	C2-N1-C6	-2.41	120.70	125.10
41	2	1909	P7G	C71-N7-C5	2.41	130.22	124.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	2424	OMG	O6-C6-C5	-2.40	119.69	124.37
41	2	4370	OMG	C8-N7-C5	2.38	107.52	102.99
41	2	4483	B8T	O2-C2-N3	-2.37	118.47	122.33
41	2	2364	OMG	O6-C6-C5	-2.37	119.74	124.37
41	2	373	OMG	C8-N7-C5	2.37	107.50	102.99
41	2	4529	B8W	C2-N1-C6	2.37	119.88	116.08
41	2	2364	OMG	N2-C2-N1	2.37	121.75	116.71
41	2	373	OMG	O6-C6-C5	-2.36	119.77	124.37
41	2	4623	OMG	C8-N7-C5	2.34	107.46	102.99
41	2	2522	7MG	C2-N1-C6	-2.33	120.85	125.10
41	2	1517	2MG	C8-N7-C5	2.33	107.43	102.99
41	2	1316	OMG	C8-N7-C5	2.33	107.43	102.99
41	2	4196	OMG	O6-C6-C5	-2.33	119.83	124.37
41	2	4637	OMG	C8-N7-C5	2.32	107.42	102.99
41	2	4620	OMU	O2-C2-N1	-2.31	119.71	122.79
41	2	1625	OMG	O6-C6-C5	-2.31	119.86	124.37
41	2	3869	OMC	C6-N1-C2	-2.30	116.50	120.49
41	2	2786	B9H	C1'-N1-C6	2.28	125.82	120.84
4	8	14	OMU	O2-C2-N1	-2.28	119.76	122.79
41	2	3897	B8K	C2-N1-C6	-2.27	120.96	125.10
41	2	729	2MG	O6-C6-C5	-2.27	119.94	124.37
41	2	4494	OMG	O6-C6-C5	-2.27	119.94	124.37
41	2	1574	B9B	C61-O6-C6	-2.27	113.27	117.51
41	2	4371	MHG	O6-C6-C5	-2.27	121.98	127.54
41	2	1326	A2M	C1'-N9-C4	2.26	130.62	126.64
41	2	3899	BGH	N1-C2-N3	-2.26	119.10	123.32
41	2	4623	OMG	N2-C2-N1	2.25	121.51	116.71
41	2	1316	OMG	O6-C6-C5	-2.24	119.99	124.37
41	2	4872	2MG	O6-C6-C5	-2.24	120.00	124.37
41	2	3897	B8K	N1-C2-N3	-2.24	119.15	123.32
41	2	4550	7MG	C2-N1-C6	-2.23	121.03	125.10
41	2	373	OMG	N2-C2-N1	2.23	121.46	116.71
41	2	4494	OMG	C8-N7-C5	2.22	107.22	102.99
41	2	4371	MHG	C71-N7-C5	2.22	129.78	124.52
41	2	4637	OMG	O6-C6-C5	-2.22	120.04	124.37
41	2	4870	OMG	O6-C6-C5	-2.22	120.04	124.37
41	2	4550	7MG	C6-C5-C4	-2.20	118.09	122.62
41	2	4196	OMG	C8-N7-C5	2.19	107.16	102.99
41	2	4472	B8W	C2-N1-C6	2.18	119.58	116.08
41	2	2364	OMG	C8-N7-C5	2.18	107.14	102.99
41	2	1522	OMG	C8-N7-C5	2.17	107.12	102.99
41	2	978	2MG	O6-C6-C5	-2.16	120.14	124.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
41	2	4523	A2M	C1'-N9-C4	2.15	130.42	126.64
41	2	1522	OMG	O6-C6-C5	-2.15	120.17	124.37
41	2	1348	P4U	C41-O4-C4	-2.14	112.90	117.24
41	2	4690	B8K	N1-C2-N3	-2.13	119.34	123.32
41	2	2773	OMG	C8-N7-C5	2.13	107.05	102.99
41	2	237	B9B	C61-O6-C6	-2.13	113.53	117.51
41	2	1534	A2M	O4'-C1'-C2'	-2.13	102.90	106.59
41	2	4690	B8K	O6-C6-N1	-2.12	116.05	120.12
41	2	3880	P7G	N3-C2-N1	-2.12	119.36	123.32
41	2	4536	OMC	C1'-N1-C2	2.12	123.15	118.42
41	2	2424	OMG	C8-N7-C5	2.12	107.03	102.99
41	2	4623	OMG	O6-C6-C5	-2.12	120.24	124.37
41	2	2422	OMC	O2-C2-N1	2.10	123.23	118.89
41	2	4083	5MU	O4-C4-N3	-2.10	116.09	120.12
41	2	3887	OMC	O2-C2-N3	-2.10	118.91	122.33
41	2	4370	OMG	O6-C6-C5	-2.10	120.27	124.37
41	2	4564	M7A	C71-N7-C5	-2.10	115.95	124.01
41	2	2522	7MG	C6-C5-C4	-2.09	118.30	122.62
41	2	2380	B8W	C2-N1-C6	2.09	119.44	116.08
41	2	1605	7MG	O6-C6-C5	-2.09	122.41	127.54
41	2	3825	A2M	C1'-N9-C4	2.09	130.32	126.64
41	2	1625	OMG	C8-N7-C5	2.09	106.97	102.99
41	2	1883	OMG	C8-N7-C5	2.07	106.94	102.99
41	2	4536	OMC	O2-C2-N1	2.07	123.17	118.89
41	2	2050	OMG	C8-N7-C5	2.07	106.93	102.99
41	2	2297	E7G	N1-C2-N3	-2.07	119.47	123.32
41	2	2297	E7G	C6-C5-C4	-2.06	118.37	122.62
41	2	4185	B8W	C2-N1-C6	2.06	119.38	116.08
41	2	398	A2M	C1'-N9-C4	2.06	130.25	126.64
41	2	2050	OMG	N2-C2-N1	2.05	121.08	116.71
41	2	4690	B8K	O6-C6-C5	-2.04	122.53	127.54
41	2	1316	OMG	N2-C2-N1	2.04	121.06	116.71
41	2	2297	E7G	C8-N7-C71	2.02	125.30	120.50
41	2	1605	7MG	C6-C5-C4	-2.02	118.46	122.62
41	2	1659	I4U	O2-C2-N3	-2.01	119.06	122.33
41	2	2297	E7G	N9-C4-N3	2.01	128.48	125.47
41	2	4371	MHG	C6-C5-C4	-2.01	118.48	122.62

There are no chirality outliers.

All (113) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	8	14	OMU	C1'-C2'-O2'-CM2
41	2	237	B9B	C5-C6-O6-C61
41	2	237	B9B	N1-C6-O6-C61
41	2	237	B9B	C3'-C4'-C5'-O5'
41	2	237	B9B	O4'-C4'-C5'-O5'
41	2	398	A2M	O4'-C4'-C5'-O5'
41	2	1348	P4U	N3-C4-O4-C41
41	2	1574	B9B	C5-C6-O6-C61
41	2	1574	B9B	N1-C6-O6-C61
41	2	1625	OMG	C3'-C4'-C5'-O5'
41	2	1883	OMG	C3'-C4'-C5'-O5'
41	2	2364	OMG	O4'-C4'-C5'-O5'
41	2	2380	B8W	C5-C6-O6-C61
41	2	2380	B8W	N1-C6-O6-C61
41	2	2424	OMG	O4'-C4'-C5'-O5'
41	2	2424	OMG	C3'-C4'-C5'-O5'
41	2	3867	A2M	C3'-C4'-C5'-O5'
41	2	3869	OMC	O4'-C1'-N1-C2
41	2	3869	OMC	O4'-C1'-N1-C6
41	2	3880	P7G	C3'-C4'-C5'-O5'
41	2	3880	P7G	O4'-C4'-C5'-O5'
41	2	3897	B8K	O4'-C4'-C5'-O5'
41	2	4185	B8W	C5-C6-O6-C61
41	2	4185	B8W	N1-C6-O6-C61
41	2	4194	I4U	O4'-C4'-C5'-O5'
41	2	4196	OMG	C1'-C2'-O2'-CM2
41	2	4220	6MZ	N1-C6-N6-C9
41	2	4355	E6G	C5-C6-O6-C61
41	2	4355	E6G	N1-C6-O6-C61
41	2	4371	MHG	C71-C72-C73-C75
41	2	4415	1MA	O4'-C4'-C5'-O5'
41	2	4472	B8W	C5-C6-O6-C61
41	2	4620	OMU	C1'-C2'-O2'-CM2
41	2	4637	OMG	O4'-C4'-C5'-O5'
41	2	4637	OMG	C1'-C2'-O2'-CM2
41	2	4870	OMG	O4'-C4'-C5'-O5'
41	2	4870	OMG	C3'-C4'-C5'-O5'
41	2	729	2MG	O4'-C4'-C5'-O5'
41	2	1534	A2M	O4'-C4'-C5'-O5'
41	2	1883	OMG	O4'-C4'-C5'-O5'
41	2	2364	OMG	C3'-C4'-C5'-O5'
41	2	2401	A2M	C3'-C4'-C5'-O5'
41	2	3718	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
41	2	3897	B8K	C3'-C4'-C5'-O5'
41	2	4194	I4U	C3'-C4'-C5'-O5'
41	2	4371	MHG	O4'-C4'-C5'-O5'
41	2	4415	1MA	C3'-C4'-C5'-O5'
41	2	4550	7MG	C3'-C4'-C5'-O5'
41	2	4637	OMG	C3'-C4'-C5'-O5'
41	2	4872	2MG	O4'-C4'-C5'-O5'
41	2	3869	OMC	C2'-C1'-N1-C6
41	2	398	A2M	C3'-C4'-C5'-O5'
41	2	1625	OMG	O4'-C4'-C5'-O5'
41	2	3718	A2M	C3'-C4'-C5'-O5'
41	2	3867	A2M	O4'-C4'-C5'-O5'
41	2	4196	OMG	C3'-C4'-C5'-O5'
41	2	4523	A2M	O4'-C4'-C5'-O5'
41	2	4523	A2M	C3'-C4'-C5'-O5'
41	2	4550	7MG	O4'-C4'-C5'-O5'
41	2	4872	2MG	C3'-C4'-C5'-O5'
41	2	4472	B8W	N1-C6-O6-C61
41	2	4194	I4U	C2'-C1'-N1-C6
41	2	3869	OMC	C2'-C1'-N1-C2
41	2	4194	I4U	C2'-C1'-N1-C2
41	2	729	2MG	C3'-C4'-C5'-O5'
41	2	1534	A2M	C3'-C4'-C5'-O5'
41	2	4196	OMG	O4'-C4'-C5'-O5'
41	2	3701	OMC	C2'-C1'-N1-C6
41	2	4371	MHG	C72-C73-C74-C76
41	2	2401	A2M	O4'-C4'-C5'-O5'
41	2	3880	P7G	C72-C71-N7-C8
41	2	4371	MHG	C71-C72-C73-C74
41	2	1909	P7G	O4'-C4'-C5'-O5'
41	2	2786	B9H	C32-C31-N3-C2
41	2	4371	MHG	C3'-C4'-C5'-O5'
41	2	4371	MHG	C75-C73-C74-C76
41	2	4194	I4U	O4'-C1'-N1-C6
41	2	3718	A2M	C3'-C2'-O2'-CM'
41	2	4597	UR3	O4'-C4'-C5'-O5'
41	2	4371	MHG	C2'-C1'-N9-C8
41	2	1574	B9B	O4'-C4'-C5'-O5'
41	2	2297	E7G	C72-C71-N7-C8
41	2	1534	A2M	C4'-C5'-O5'-P
41	2	4523	A2M	C3'-C2'-O2'-CM'
41	2	4194	I4U	O4'-C1'-N1-C2

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Mol	Chain	Res	Type	Atoms
41	2	3701	OMC	O4'-C1'-N1-C6
41	2	1625	OMG	C4'-C5'-O5'-P
41	2	3723	A2M	O4'-C4'-C5'-O5'
41	2	4571	A2M	O4'-C4'-C5'-O5'
41	2	3701	OMC	C2'-C1'-N1-C2
41	2	4523	A2M	C4'-C5'-O5'-P
41	2	373	OMG	C4'-C5'-O5'-P
41	2	1517	2MG	C4'-C5'-O5'-P
41	2	3867	A2M	C4'-C5'-O5'-P
41	2	3887	OMC	C4'-C5'-O5'-P
41	2	3897	B8K	C4'-C5'-O5'-P
41	2	4196	OMG	C4'-C5'-O5'-P
41	2	4870	OMG	C4'-C5'-O5'-P
41	2	3869	OMC	C4'-C5'-O5'-P
41	2	1574	B9B	C3'-C4'-C5'-O5'
41	2	3701	OMC	O4'-C1'-N1-C2
41	2	4194	I4U	C43-C41-O4-C4
41	2	2401	A2M	C3'-C2'-O2'-CM'
41	2	1574	B9B	C4'-C5'-O5'-P
41	2	3880	P7G	C72-C71-N7-C5
41	2	1909	P7G	C3'-C4'-C5'-O5'
41	2	4371	MHG	O4'-C1'-N9-C8
41	2	2422	OMC	O4'-C4'-C5'-O5'
41	2	1659	I4U	C43-C41-O4-C4
41	2	4194	I4U	C42-C41-O4-C4
41	2	4597	UR3	C3'-C4'-C5'-O5'
41	2	1326	A2M	C4'-C5'-O5'-P
41	2	1524	A2M	C4'-C5'-O5'-P

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

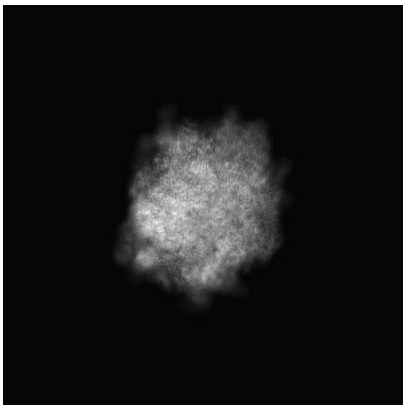
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-35375. These allow visual inspection of the internal detail of the map and identification of artifacts.

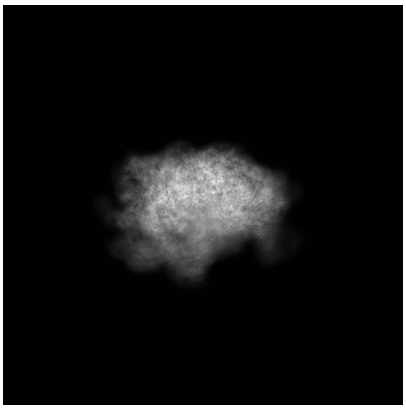
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

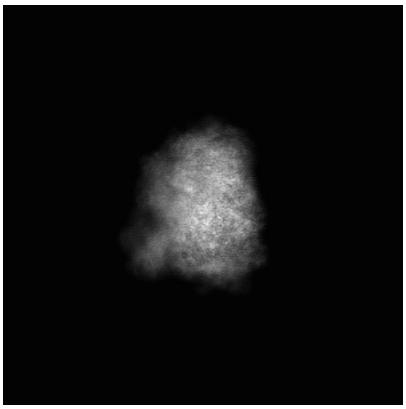
6.1.1 Primary map



X

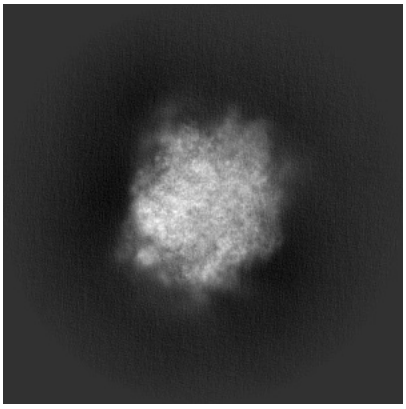


Y

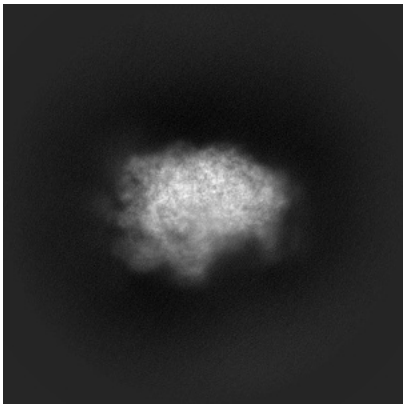


Z

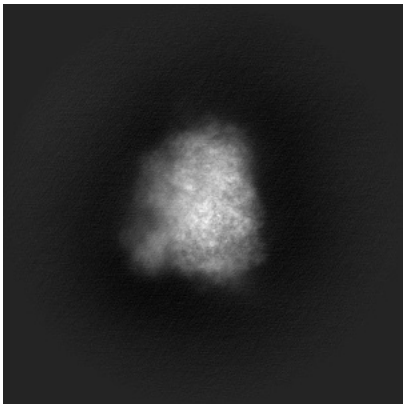
6.1.2 Raw map



X



Y

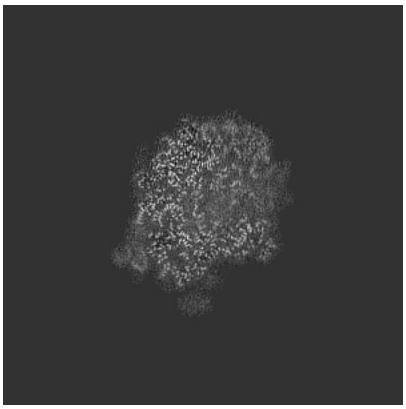


Z

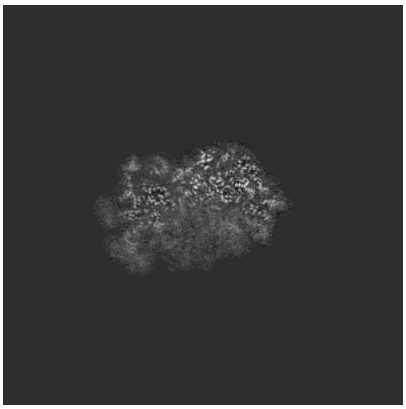
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

6.2.1 Primary map



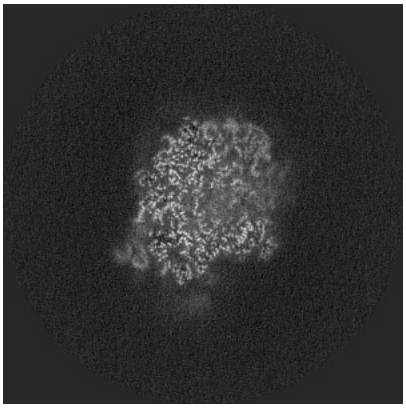
X Index: 200



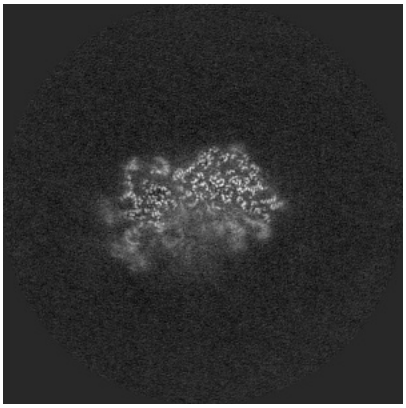
Y Index: 200

Z Index: 200

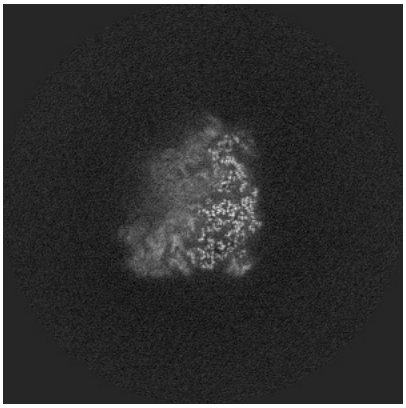
6.2.2 Raw map



X Index: 200



Y Index: 200

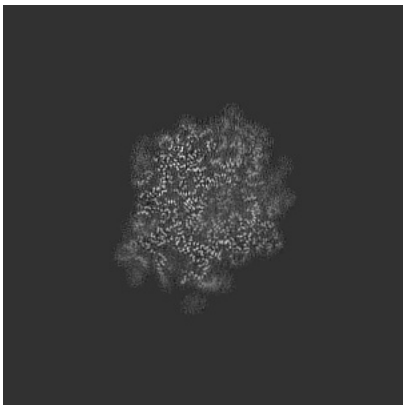


Z Index: 200

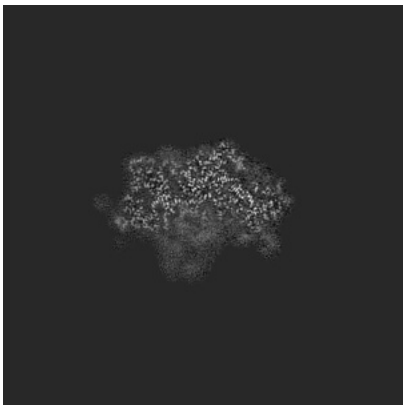
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

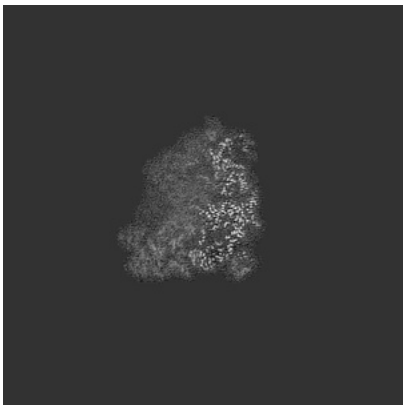
6.3.1 Primary map



X Index: 207

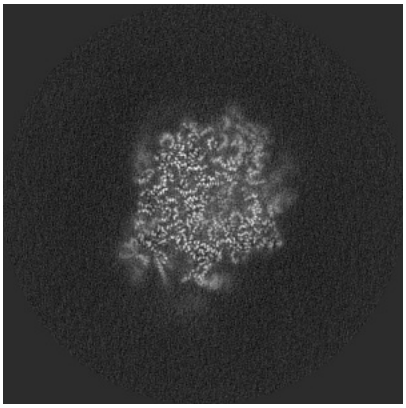


Y Index: 181

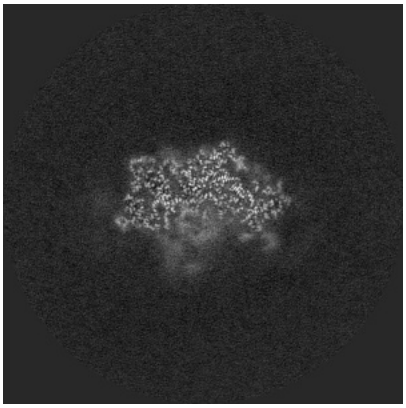


Z Index: 198

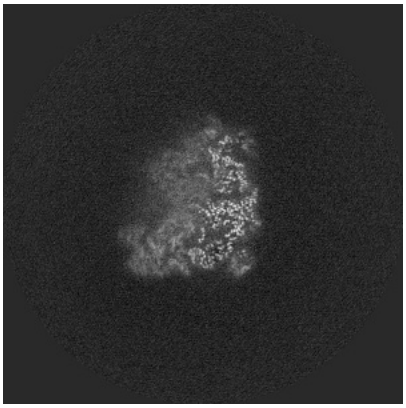
6.3.2 Raw map



X Index: 207



Y Index: 182

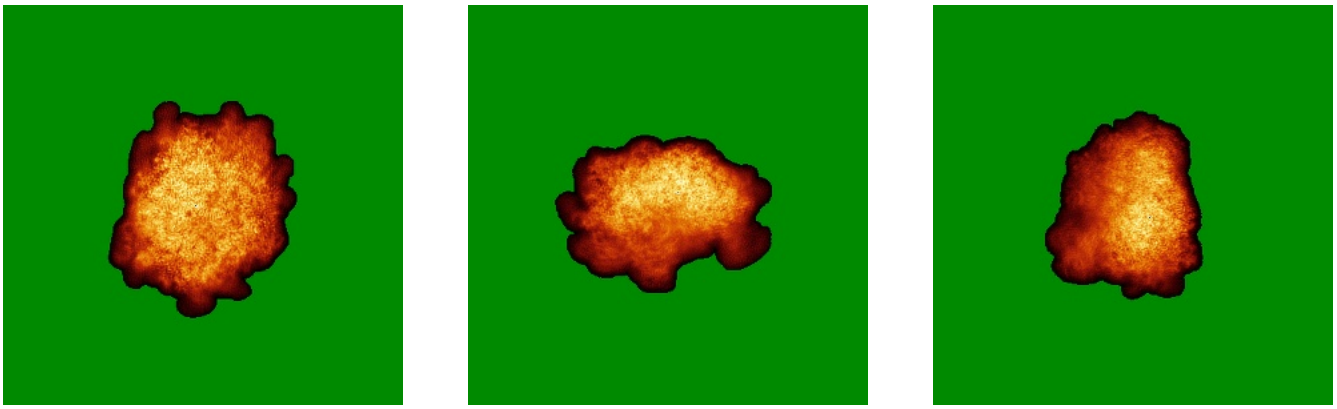


Z Index: 199

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

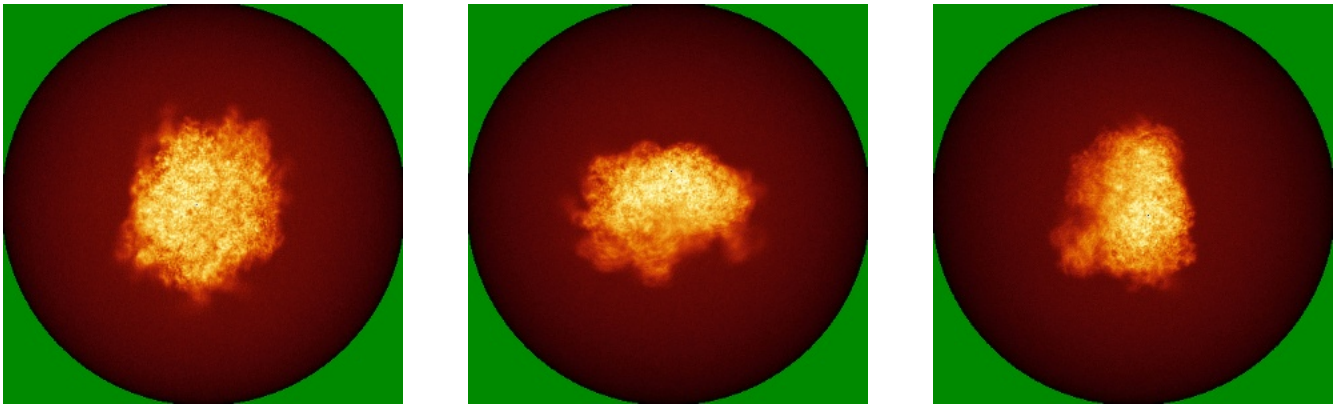
6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



X Y Z

6.4.2 Raw map



X Y Z

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

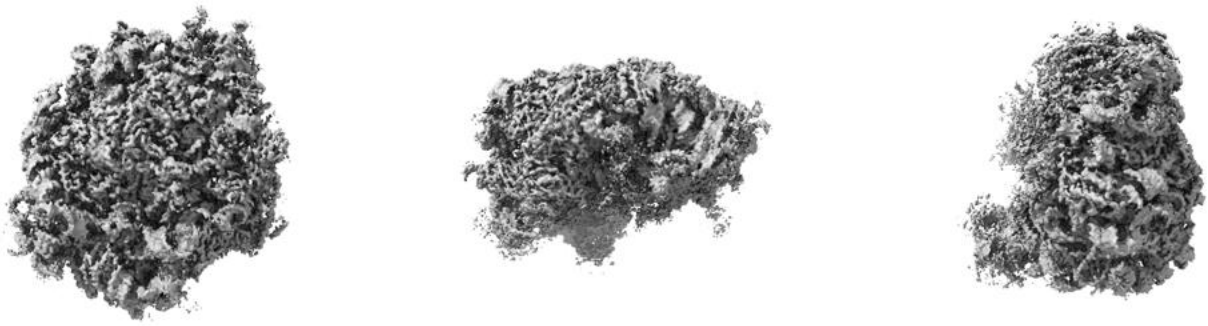
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.035. 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.

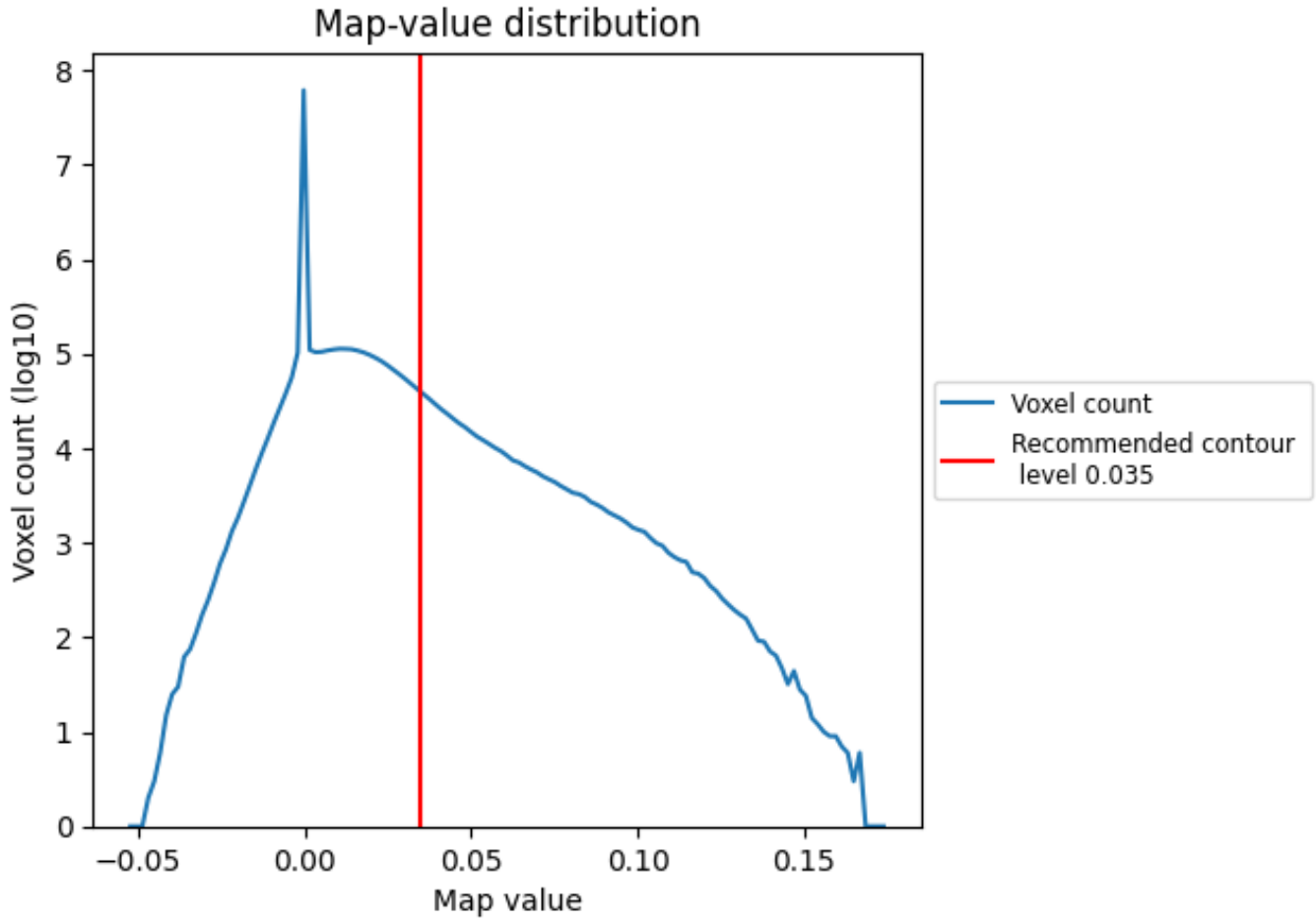
6.6 Mask visualisation (i)

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

7 Map analysis

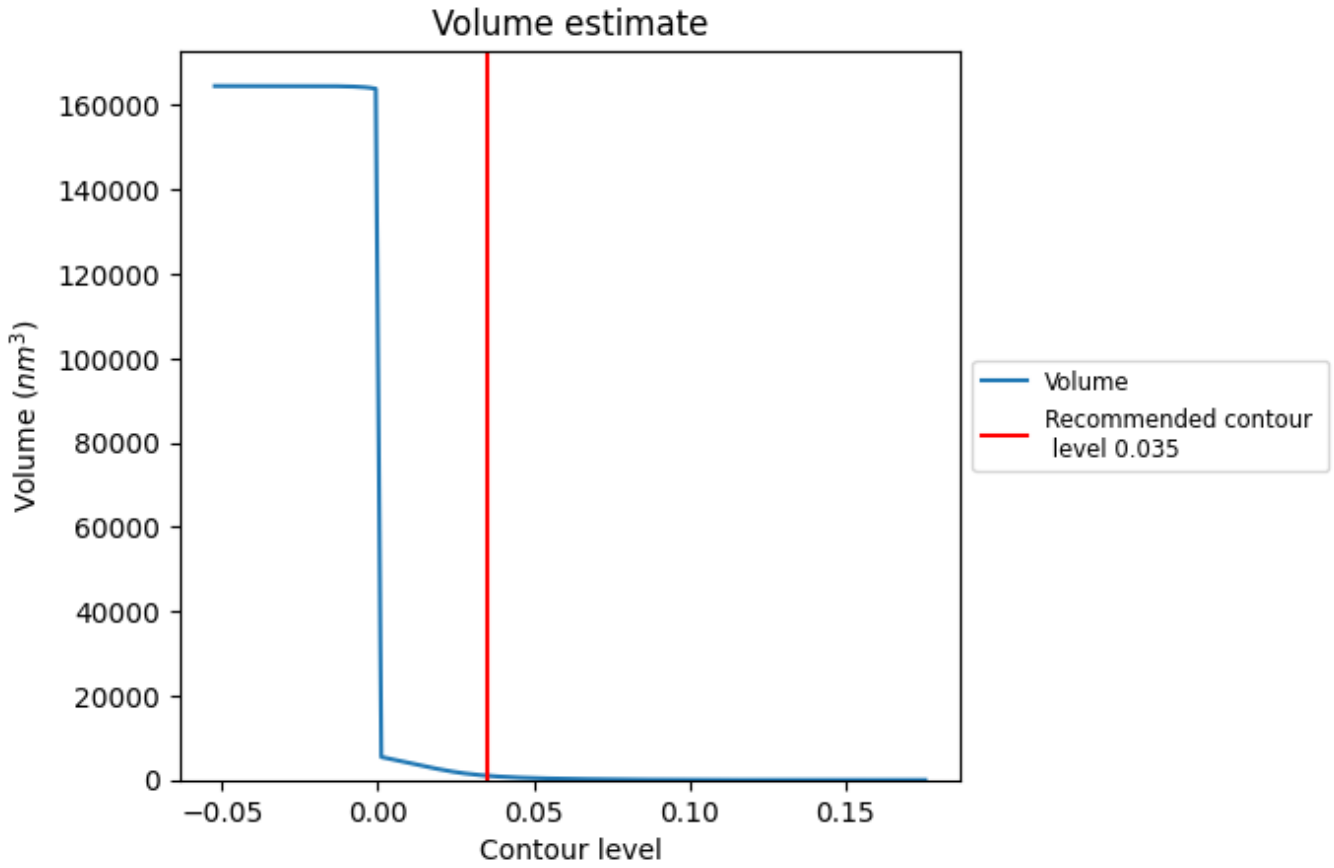
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

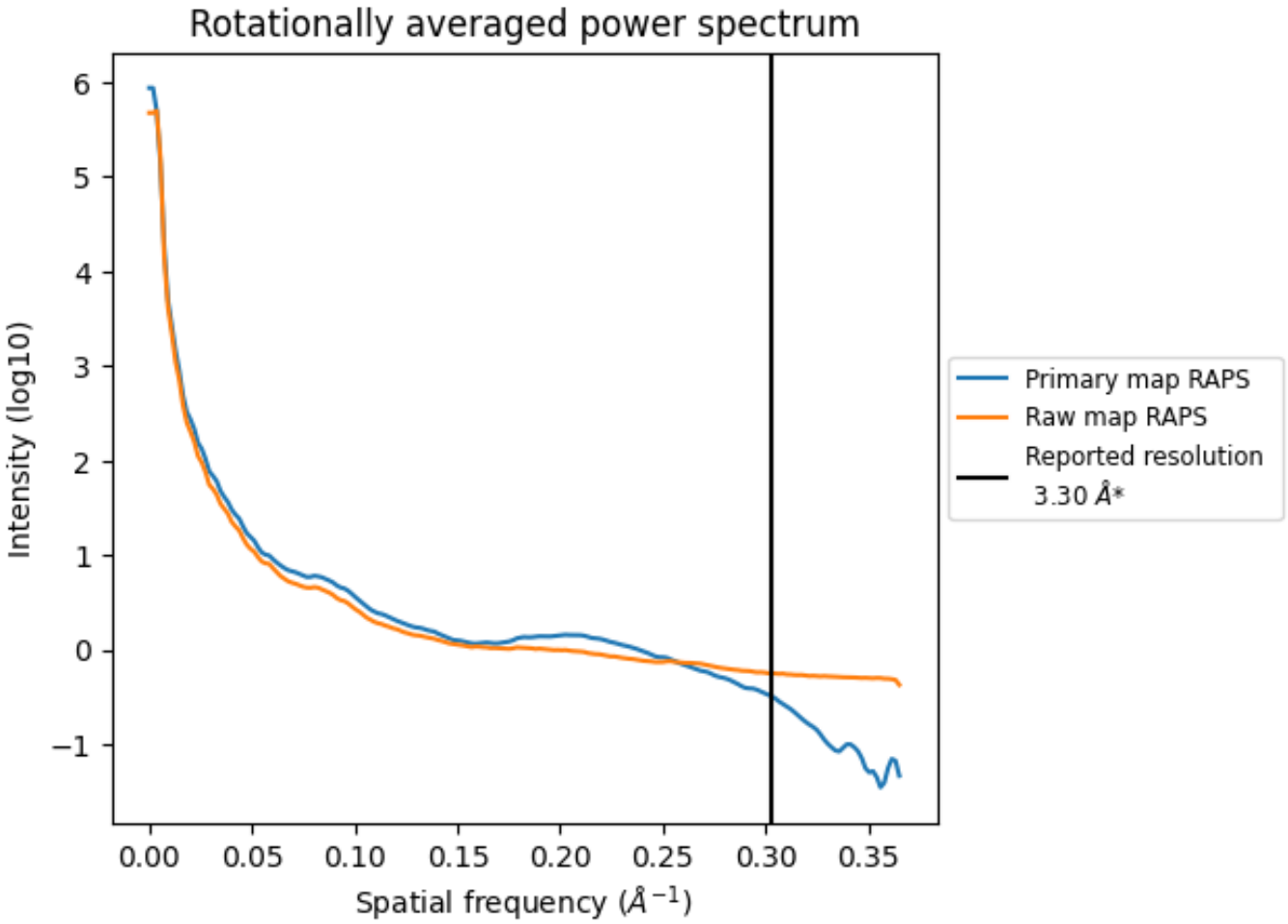
7.2 Volume estimate



The volume at the recommended contour level is 1007 nm^3; this corresponds to an approximate mass of 910 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)

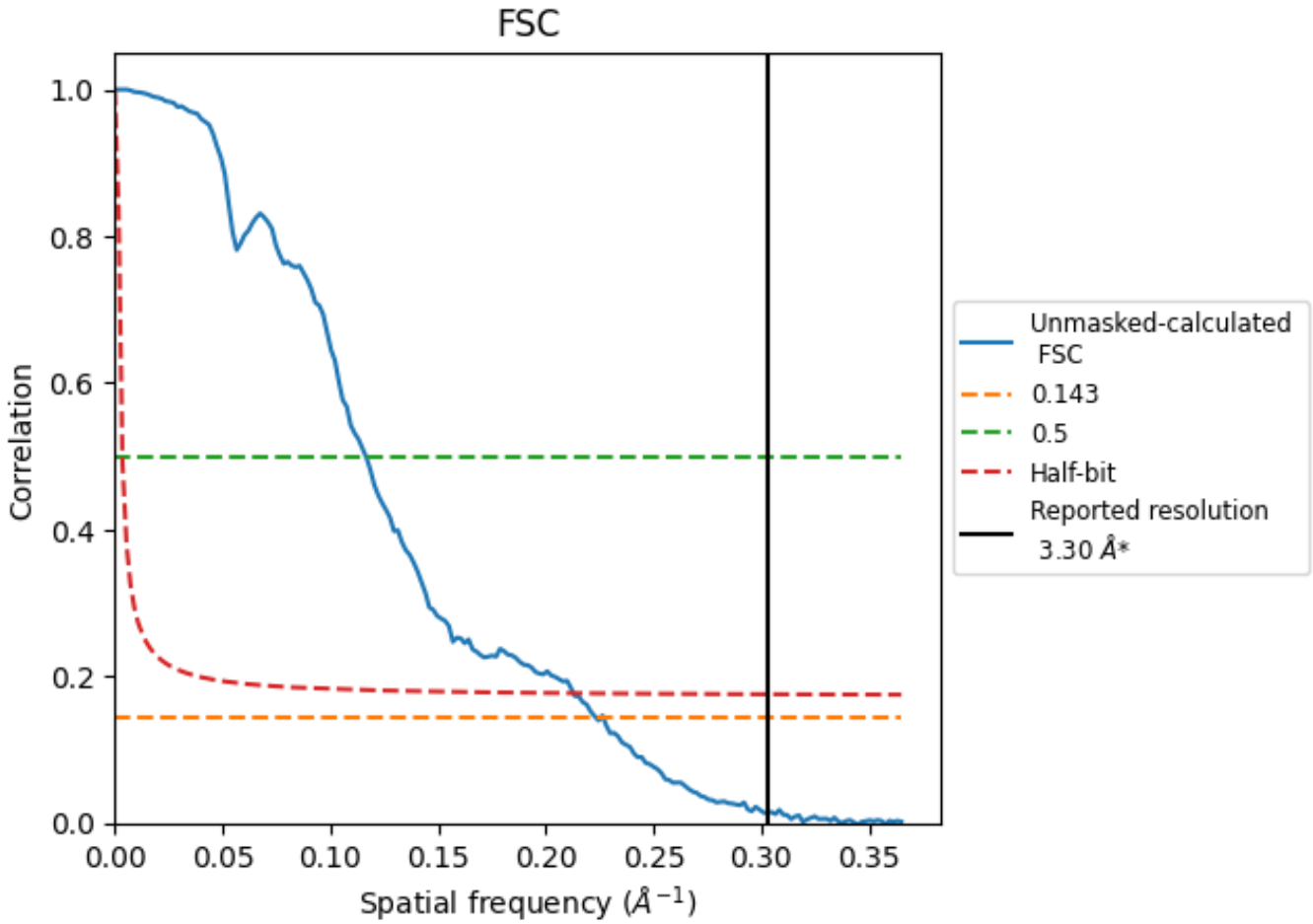


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8.2 Resolution estimates (i)

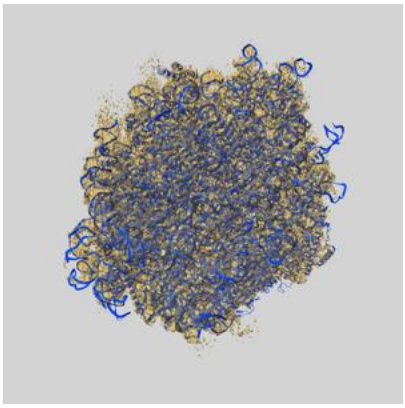
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.48	8.58	4.70

*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 4.48 differs from the reported value 3.3 by more than 10 %

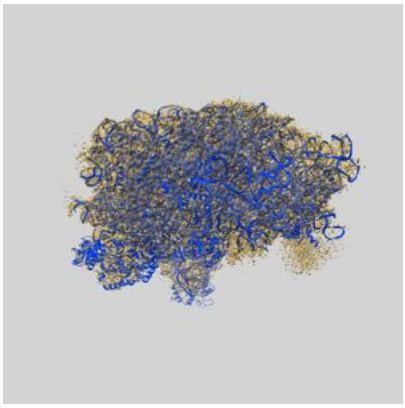
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-35375 and PDB model 8IE3. Per-residue inclusion information can be found in section 3 on page 12.

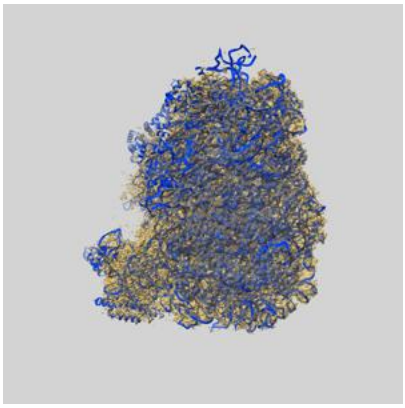
9.1 Map-model overlay



X



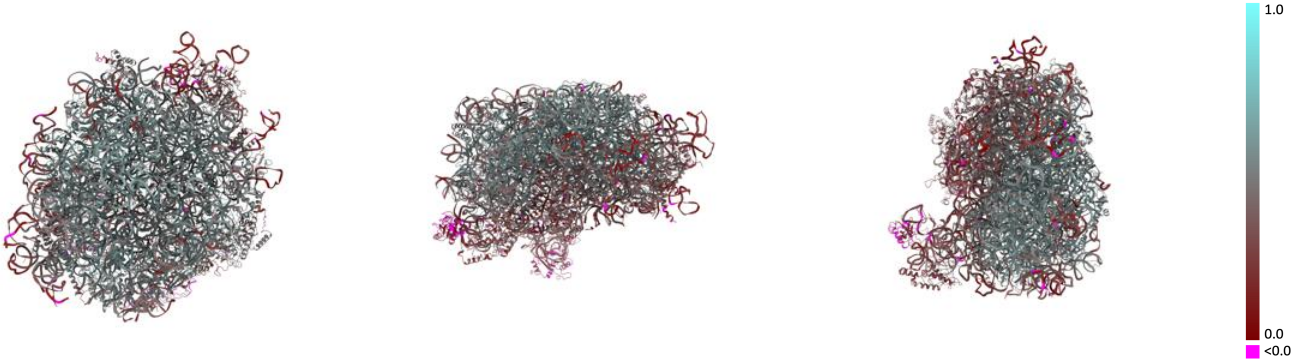
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.035 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

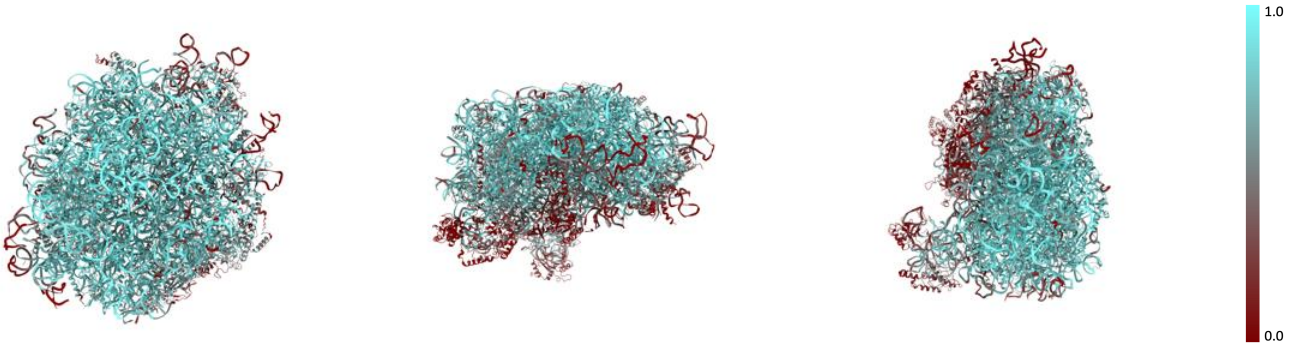
9.2 Q-score mapped to coordinate model



X Y Z

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

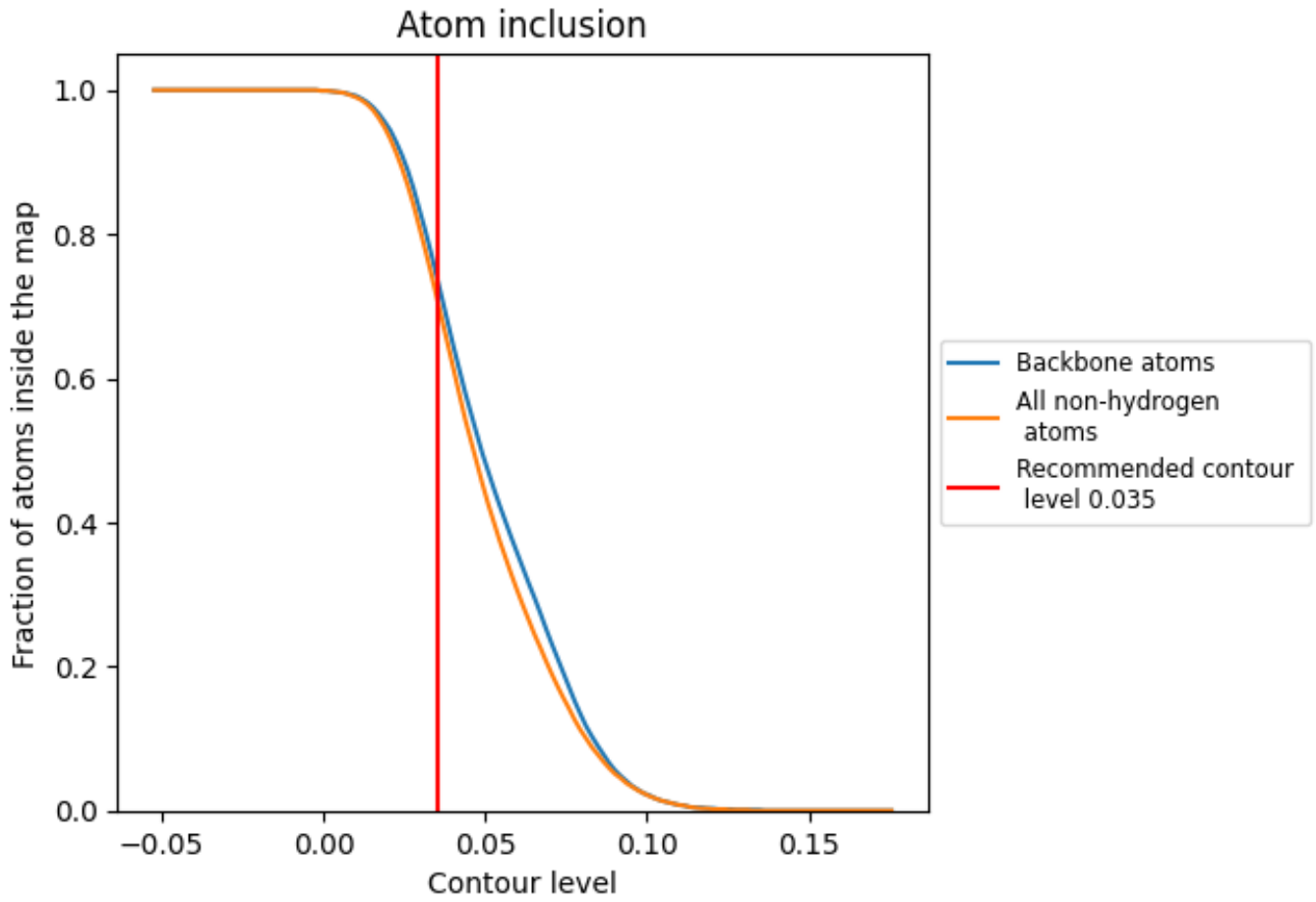
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.035).

9.4 Atom inclusion (i)



At the recommended contour level, 74% of all backbone atoms, 71% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.035) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7130	0.4330
2	0.7830	0.4280
4	0.3960	0.3700
5	0.7430	0.3490
6	0.5140	0.4200
7	0.7080	0.4940
8	0.9370	0.5170
9	0.0190	0.2760
A	0.1270	0.3110
B	0.8080	0.5250
C	0.4950	0.3610
D	0.8990	0.5500
E	0.2820	0.3360
F	0.7150	0.4470
G	0.6350	0.4250
H	0.8490	0.5390
I	0.6680	0.4800
J	0.0340	0.0670
K	0.7980	0.4970
L	0.8500	0.5450
M	0.9200	0.5440
O	0.5820	0.4330
P	0.9290	0.5490
Q	0.7920	0.5080
R	0.1550	0.2590
S	0.8340	0.5220
T	0.1020	0.0780
U	0.8880	0.5480
V	0.8570	0.5340
X	0.4810	0.3740
Y	0.8070	0.5250
Z	0.9000	0.5710
a	0.6220	0.4370
b	0.8690	0.5470
c	0.6460	0.4150

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Continued from previous page...

Chain	Atom inclusion	Q-score
d	0.6810	0.4720
e	0.6840	0.4720
g	0.8460	0.5310
h	0.8610	0.5440
i	0.4390	0.3340
j	0.7830	0.5170
k	0.9110	0.5640
l	0.8740	0.5510
m	0.5320	0.4030
n	0.9250	0.5660
o	0.7080	0.4820
p	0.8440	0.5390
r	0.2790	0.2800
z	0.3000	0.4130