



Full wwPDB EM Validation Report ⓘ

Nov 6, 2023 – 11:17 AM JST

PDB ID : 8IDY
EMDB ID : EMD-35371
Title : human nuclear pre-60S ribosomal particle - State F
Authors : Zhang, Y.; Gao, N.
Deposited on : 2023-02-14
Resolution : 3.00 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:

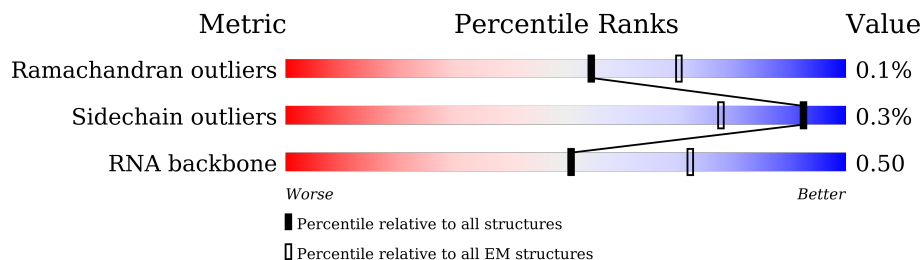
EMDB validation analysis : 0.0.1.dev70
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance

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

The reported resolution of this entry is 3.00 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.



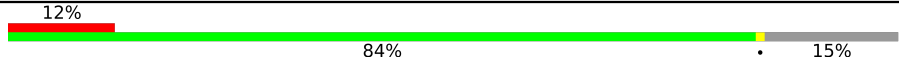
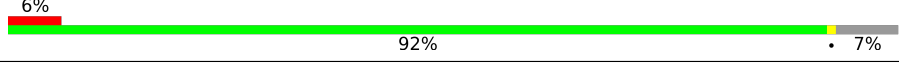
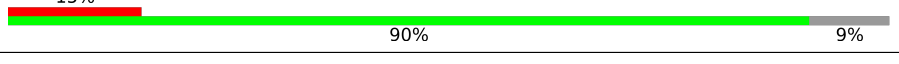
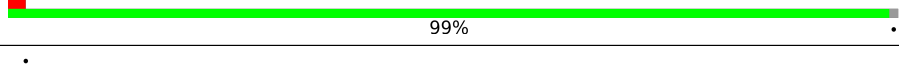
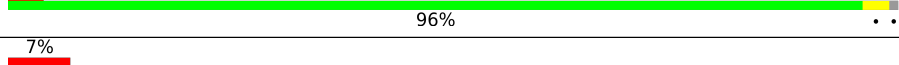
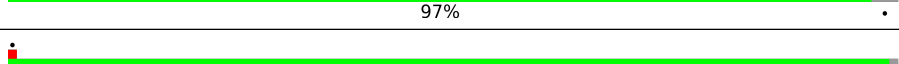
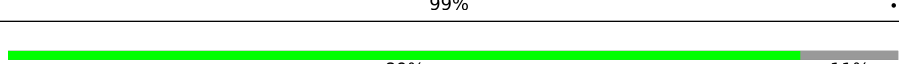
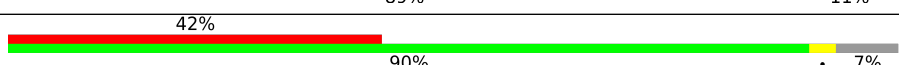
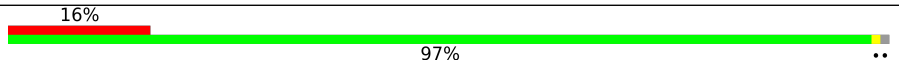
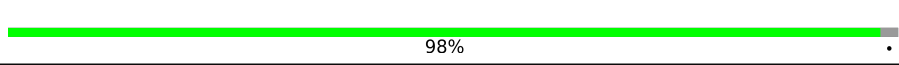
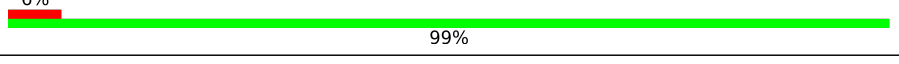
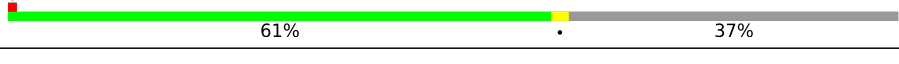
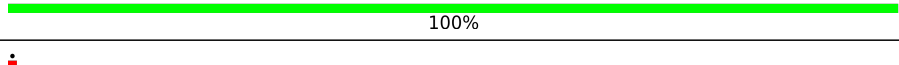
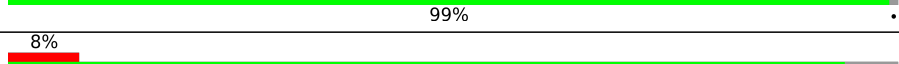
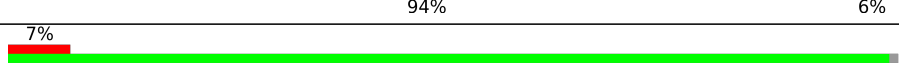
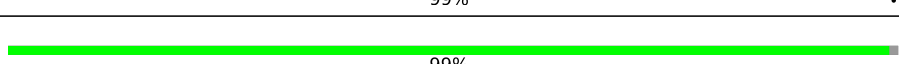

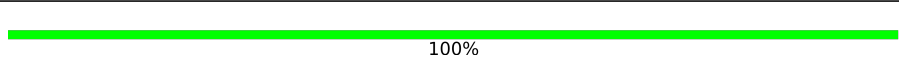
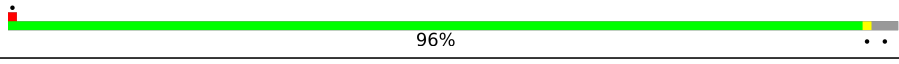
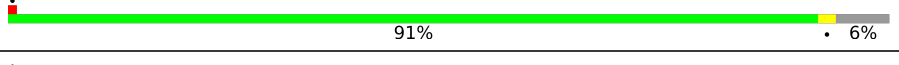

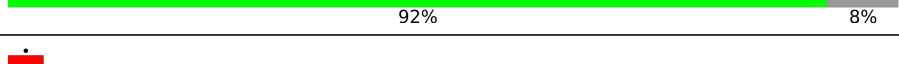
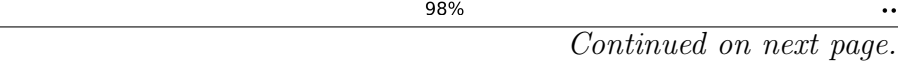


Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	5	120	 74% 25%
2	6	245	 99%
3	7	163	 83% 17%
4	8	156	 65% 31%
5	9	134	 69% 28%
6	B	403	 99%
7	C	159	 58% 42%
8	D	427	 83% 16%


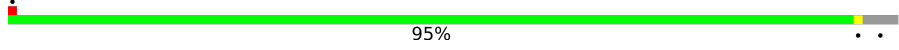
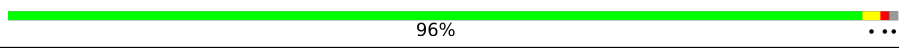

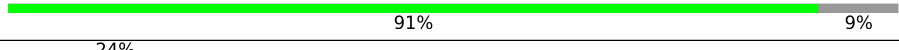
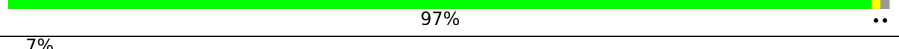
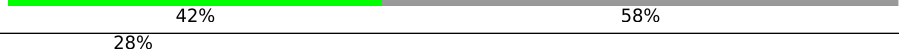

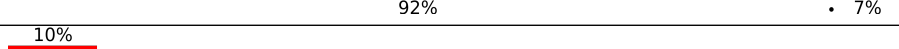
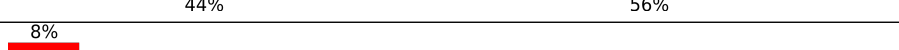
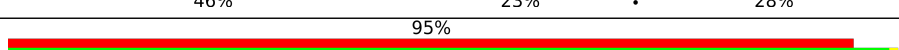
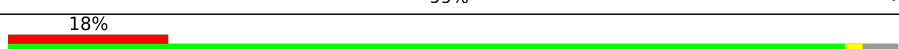


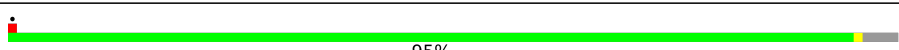


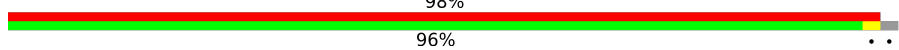



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Mol	Chain	Length	Quality of chain
9	E	115	
10	F	117	
11	G	266	
12	H	123	
13	I	192	
14	K	105	
15	L	148	
16	M	97	
17	N	178	
18	O	70	
19	P	51	
20	Q	211	
21	S	215	
22	U	204	
23	V	203	
24	W	106	
25	X	92	
26	Z	188	
27	a	196	
28	b	176	
29	c	160	
30	e	140	
31	g	156	
32	h	145	
33	i	136	

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Mol	Chain	Length	Quality of chain
34	l	137	 91% 9%
35	m	257	 95%
36	n	110	 96%
37	o	288	 10% 81% 18%
38	p	248	 91% 9%
39	r	297	 24% 97%
40	A	731	 7% 42% 58%
41	R	203	 28% 73% 25%
42	J	239	 87% 92% 7%
43	T	99	 10% 44% 56%
44	2	5054	 8% 46% 23% 28%
45	y	165	 95% 99%
46	4	634	 18% 94%
47	d	128	 5% 79% 19%
48	j	125	 8% 88% 11%
49	k	135	 95%
50	Y	184	 6% 89% 9%
51	z	129	 16% 50% 48%
52	t	217	 98% 96%
53	u	687	 75% 79% 19%
54	v	260	 13% 13% 87%

2 Entry composition [i](#)

There are 57 unique types of molecules in this entry. The entry contains 155910 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	793	484	171	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
			Total	C	N	O	S		
7	C	93	764	476	167	117	4	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	L	147	1162	736	237	186	3	0	0

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

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

- Molecule 17 is a protein called 60S ribosomal protein L11.

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

- Molecule 18 is a protein called 60S ribosomal protein L38.

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

- Molecule 19 is a protein called 60S ribosomal protein L39.

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

- Molecule 20 is a protein called 60S ribosomal protein L13.

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

- Molecule 21 is a protein called 60S ribosomal protein L14.

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

- Molecule 22 is a protein called 60S ribosomal protein L15.

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

- Molecule 23 is a protein called 60S ribosomal protein L13a.

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

- Molecule 24 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	W	100	Total	C	N	O	S	0	0
			818	512	168	132	6		

- Molecule 25 is a protein called 60S ribosomal protein L37a.

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

- Molecule 26 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	Z	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 27 is a protein called 60S ribosomal protein L19.

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

- Molecule 28 is a protein called 60S ribosomal protein L18a.

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

- Molecule 29 is a protein called 60S ribosomal protein L21.

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

- Molecule 30 is a protein called 60S ribosomal protein L23.

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

- Molecule 31 is a protein called 60S ribosomal protein L23a.

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

- Molecule 32 is a protein called 60S ribosomal protein L26.

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

- Molecule 33 is a protein called 60S ribosomal protein L27.

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

- Molecule 34 is a protein called 60S ribosomal protein L28.

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

- Molecule 35 is a protein called 60S ribosomal protein L8.

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

- Molecule 36 is a protein called 60S ribosomal protein L35a.

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

- Molecule 37 is a protein called 60S ribosomal protein L6.

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

- Molecule 38 is a protein called 60S ribosomal protein L7.

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

- Molecule 39 is a protein called 60S ribosomal protein L5.

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

- Molecule 40 is a protein called G Protein Nucleolar 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	A	307	Total	C	N	O	S	0	0
			2460	1576	419	457	8		

- Molecule 41 is a protein called Translation machinery-associated protein 16.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	R	153	Total	C	N	O	S	0	0
			1296	810	248	233	5		

- Molecule 42 is a protein called mRNA turnover protein 4 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	J	223	1809	1140	309	349	11	0	0

- Molecule 43 is a protein called Leydig cell tumor 10 kDa protein homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	T	44	343	215	71	56	1	0	0

- Molecule 44 is a RNA chain called 28S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
44	2	3641	77442	34506	14094	25202	3640	0	0

- Molecule 45 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
45	y	165	1250	779	232	234	5	0	0

- Molecule 46 is a protein called GTP-binding protein 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
46	4	611	5016	3151	918	920	27	0	0

- Molecule 47 is a protein called 60S ribosomal protein L22.

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

- Molecule 48 is a protein called 60S ribosomal protein L31.

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

- Molecule 49 is a protein called 60S ribosomal protein L32.

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

- Molecule 50 is a protein called 60S ribosomal protein L17.

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

- Molecule 51 is a protein called Protein LLP homolog.

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

- Molecule 52 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	t	212	1708	1092	308	300	8	0	0

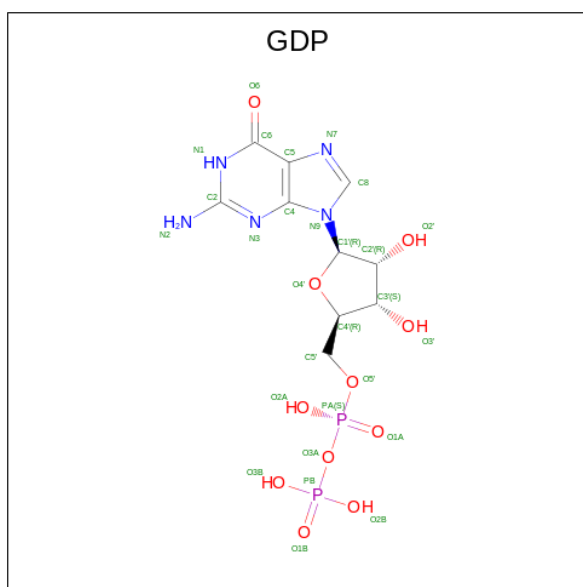
- Molecule 53 is a protein called Protein SDA1 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	u	554	4536	2890	810	804	32	0	0

- Molecule 54 is a protein called Ribosome biogenesis protein NSA2 homolog.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
54	v	35	316	196	68	52	0	0

- Molecule 55 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: C₁₀H₁₅N₅O₁₁P₂).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
55	A	1	28	10	5	11	2	0

- Molecule 56 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
56	A	1	1	1	0

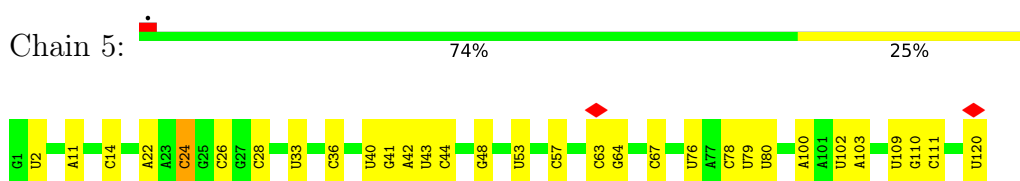
- Molecule 57 is POTASSIUM ION (three-letter code: K) (formula: K).

Mol	Chain	Residues	Atoms		AltConf
			Total	K	
57	A	1	1	1	0

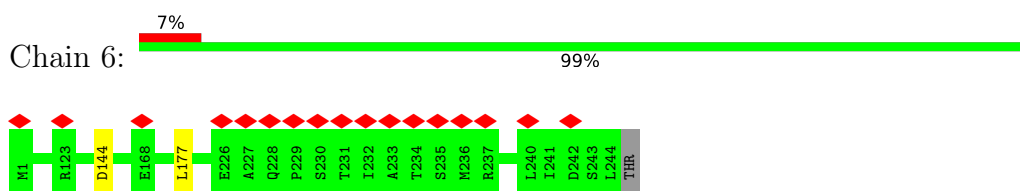
3 Residue-property plots [i](#)

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

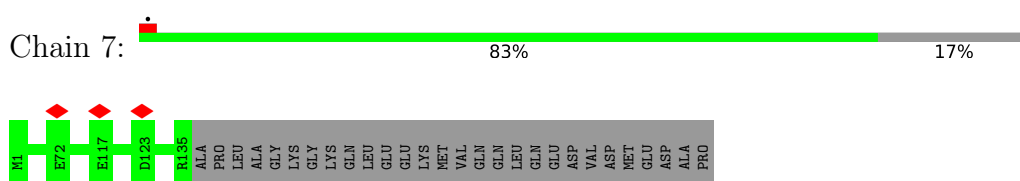
- Molecule 1: 5S rRNA



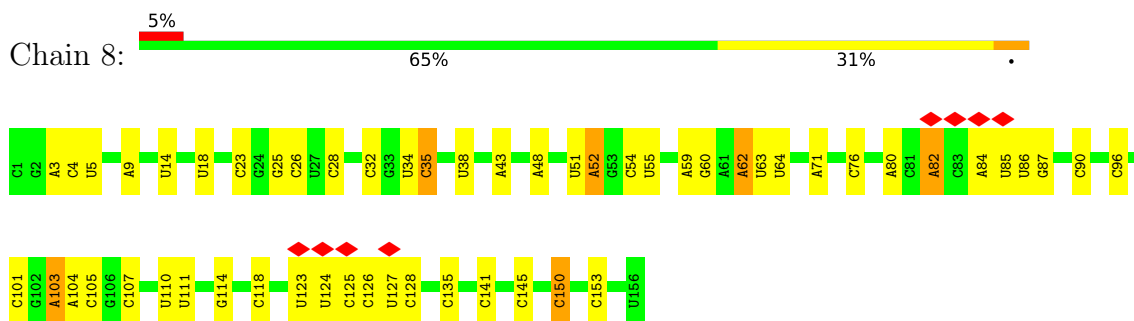
- Molecule 2: Eukaryotic translation initiation factor 6



- Molecule 3: Probable ribosome biogenesis protein RLP24



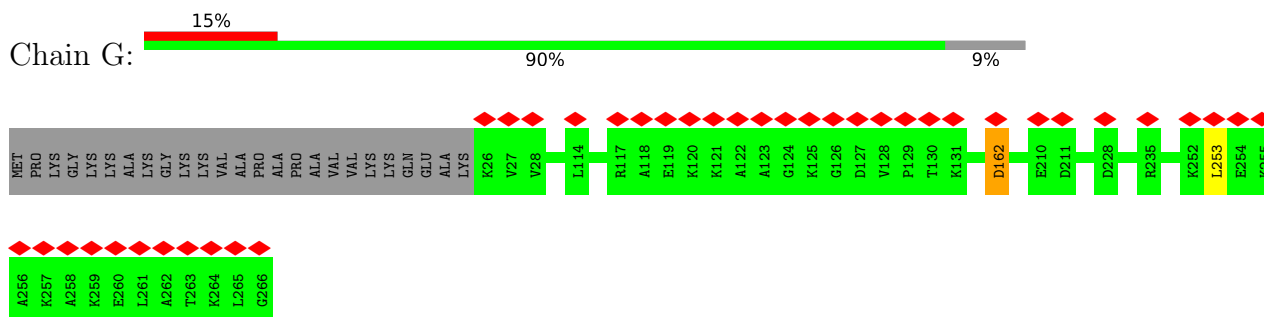
- Molecule 4: 5.8S rRNA



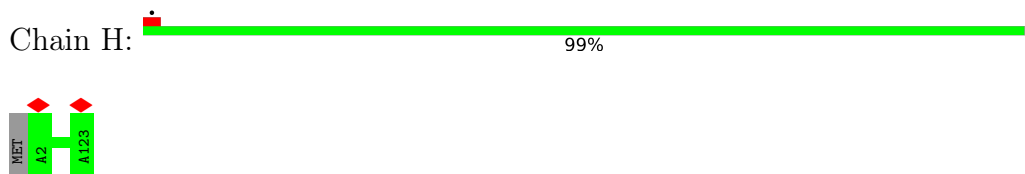
- Molecule 5: Zinc finger protein 593



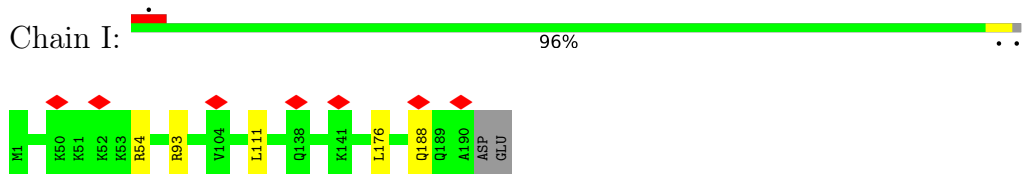
- Molecule 11: 60S ribosomal protein L7a



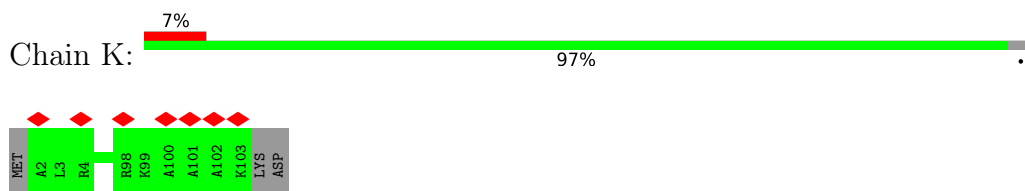
- Molecule 12: 60S ribosomal protein L35



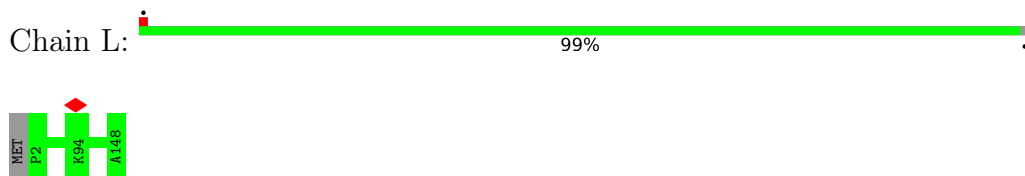
- Molecule 13: 60S ribosomal protein L9



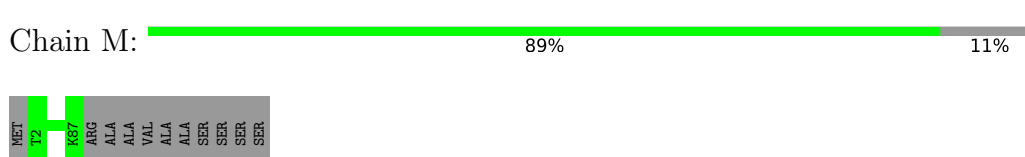
- Molecule 14: 60S ribosomal protein L36



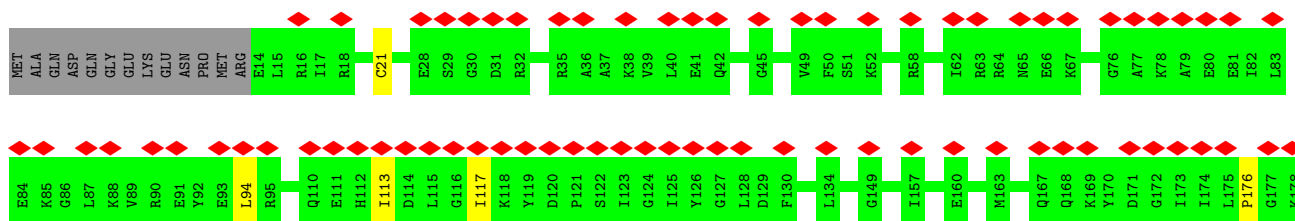
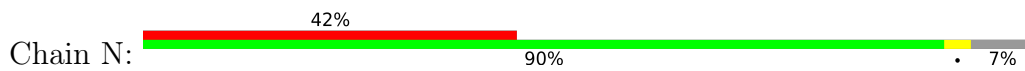
- Molecule 15: 60S ribosomal protein L27a



- Molecule 16: 60S ribosomal protein L37



- Molecule 17: 60S ribosomal protein L11



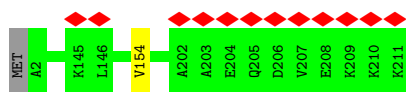
- Molecule 18: 60S ribosomal protein L38



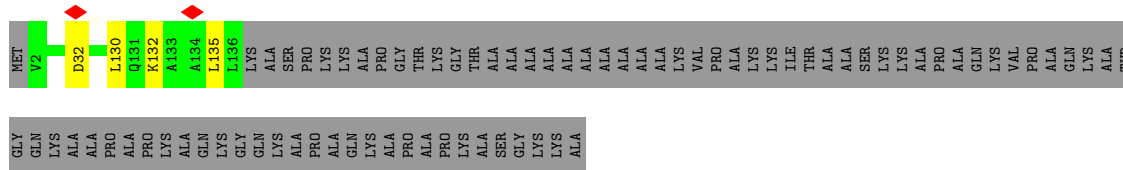
- Molecule 19: 60S ribosomal protein L39



- Molecule 20: 60S ribosomal protein L13



- Molecule 21: 60S ribosomal protein L14

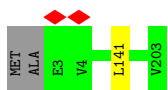


- Molecule 22: 60S ribosomal protein L15



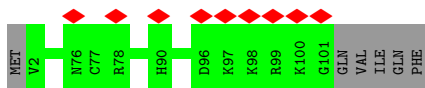
- Molecule 23: 60S ribosomal protein L13a

Chain V:  99%



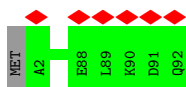
- Molecule 24: 60S ribosomal protein L36a

Chain W:  8% 94% 6%



- Molecule 25: 60S ribosomal protein L37a

Chain X:  7% 99%




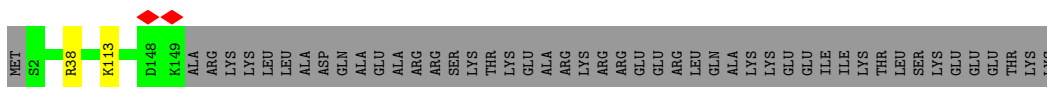
- Molecule 26: 60S ribosomal protein L18

Chain Z:  99%



- Molecule 27: 60S ribosomal protein L19

Chain a:  74% 24%



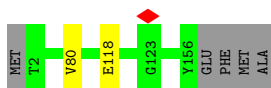
- Molecule 28: 60S ribosomal protein L18a

Chain b:  100%

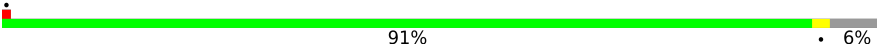
There are no outlier residues recorded for this chain.

- Molecule 29: 60S ribosomal protein L21

Chain c:  96%




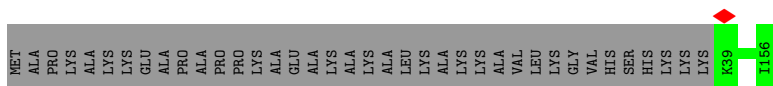
- Molecule 30: 60S ribosomal protein L23

Chain e:  91% 6%



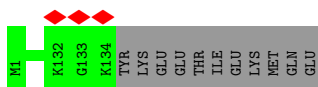
- Molecule 31: 60S ribosomal protein L23a

Chain g:  76% 24%



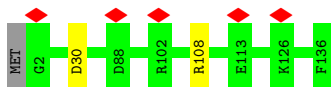
- Molecule 32: 60S ribosomal protein L26

Chain h:  92% 8%




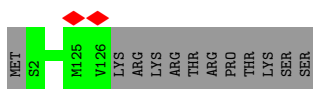
- Molecule 33: 60S ribosomal protein L27

Chain i:  98%



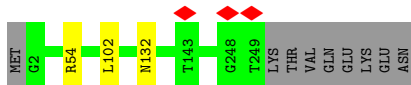
- Molecule 34: 60S ribosomal protein L28

Chain l:  91% 9%



- Molecule 35: 60S ribosomal protein L8

Chain m:  95%

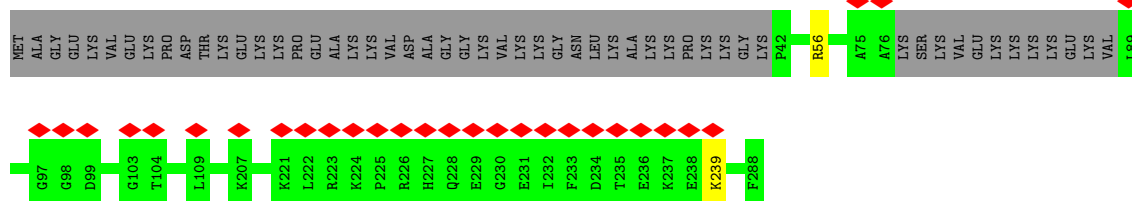
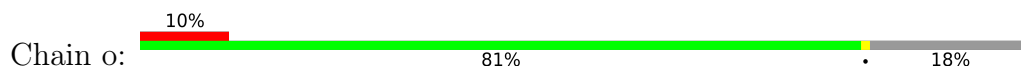


- Molecule 36: 60S ribosomal protein L35a

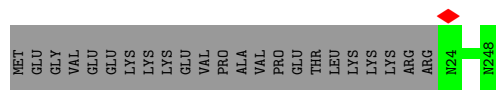
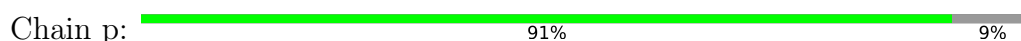
Chain n:  96%



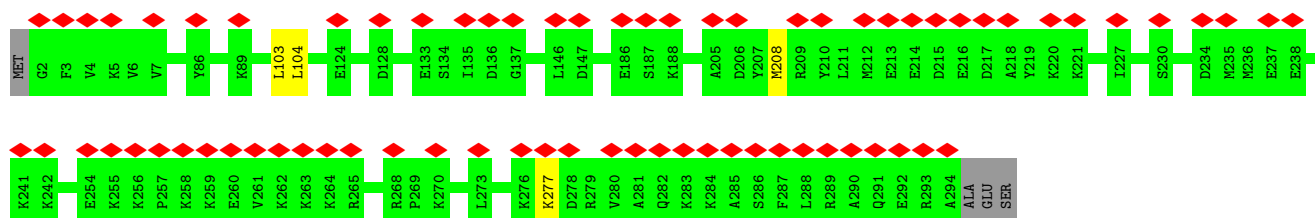
Molecule 37: 60S ribosomal protein L6



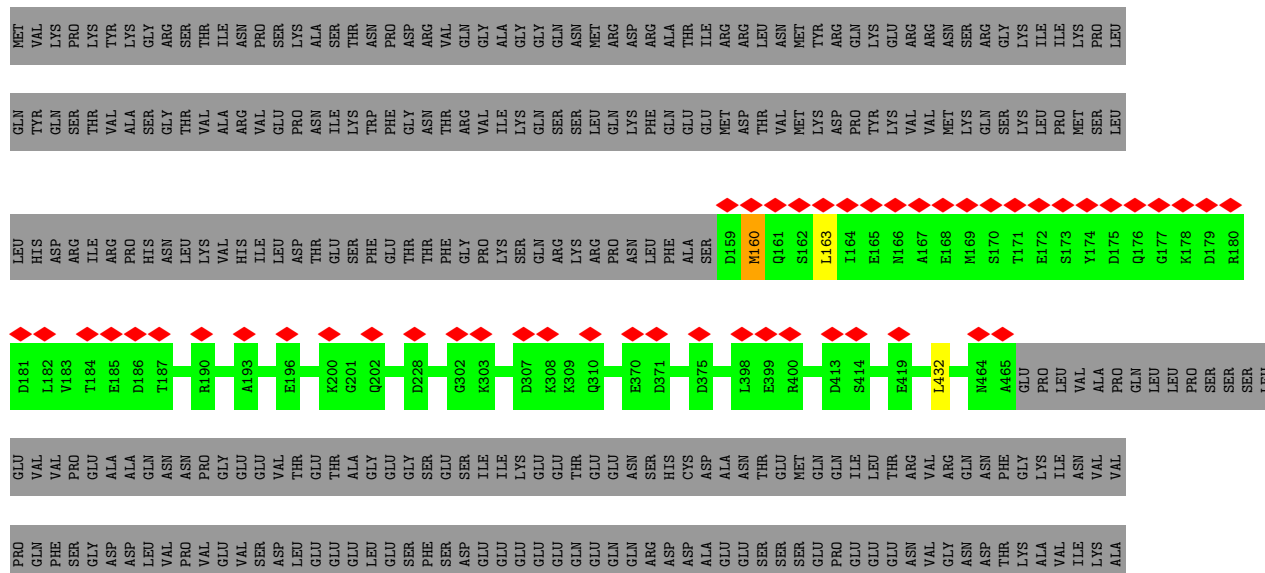
Molecule 38: 60S ribosomal protein L7

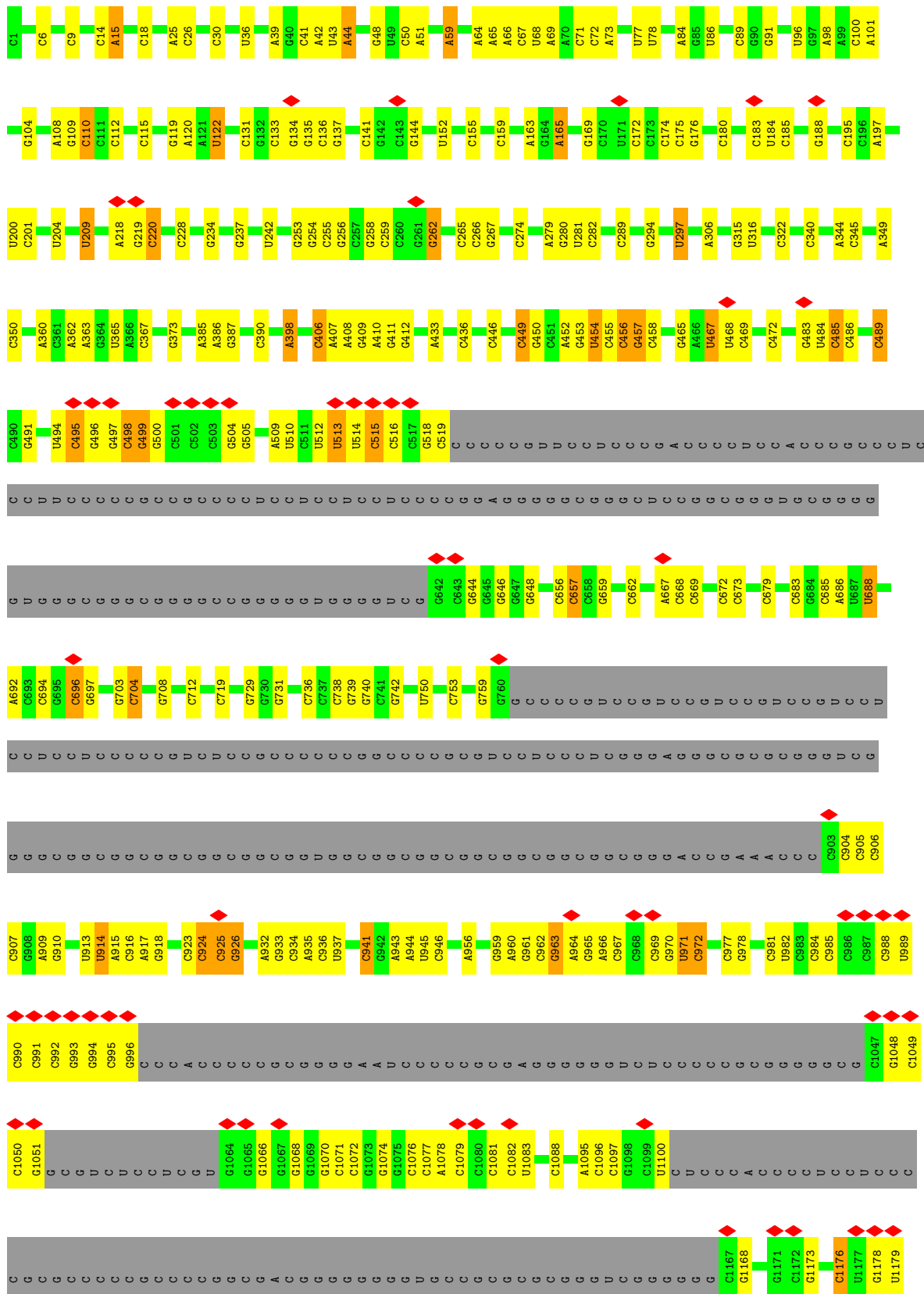


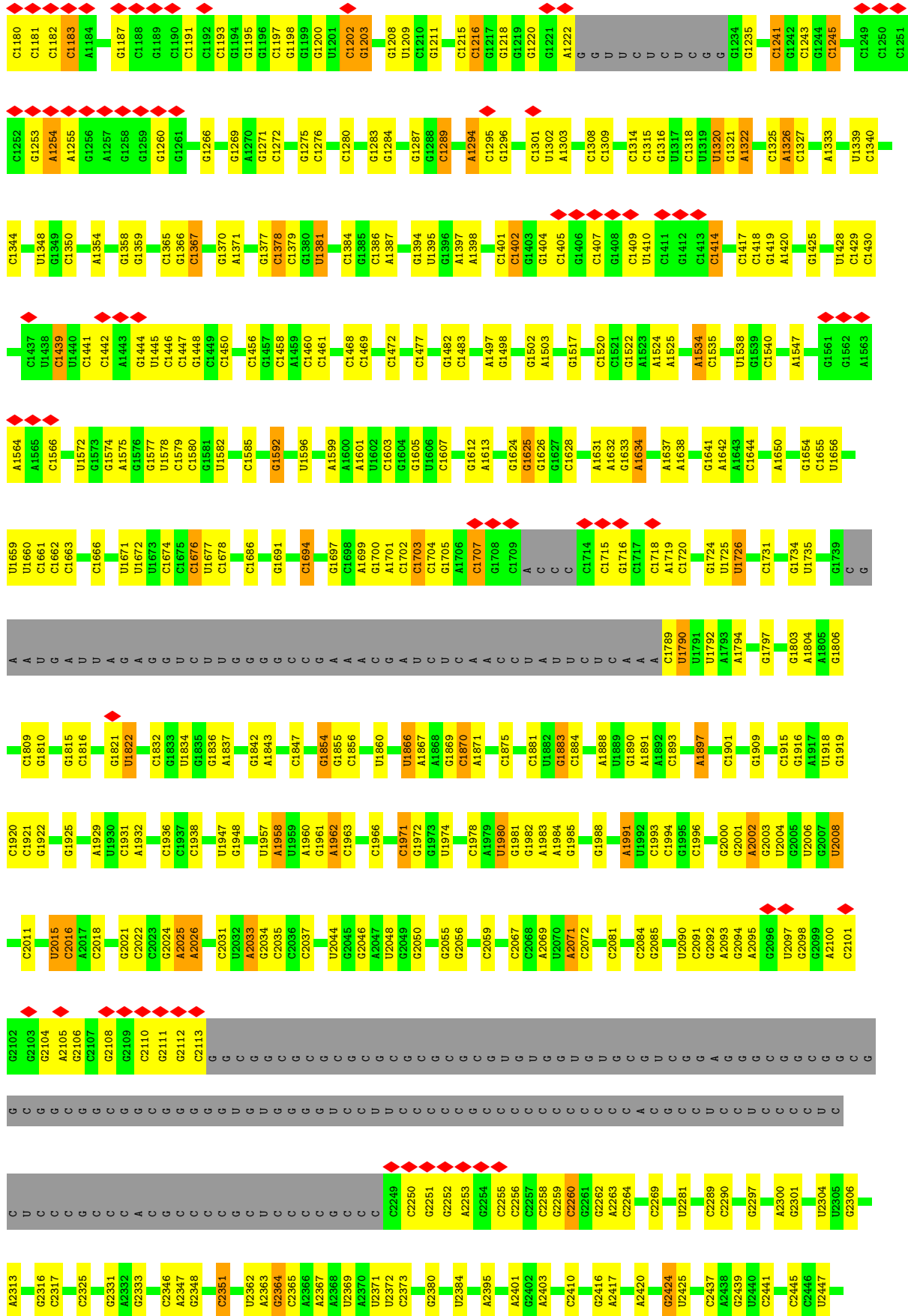
Molecule 39: 60S ribosomal protein L5



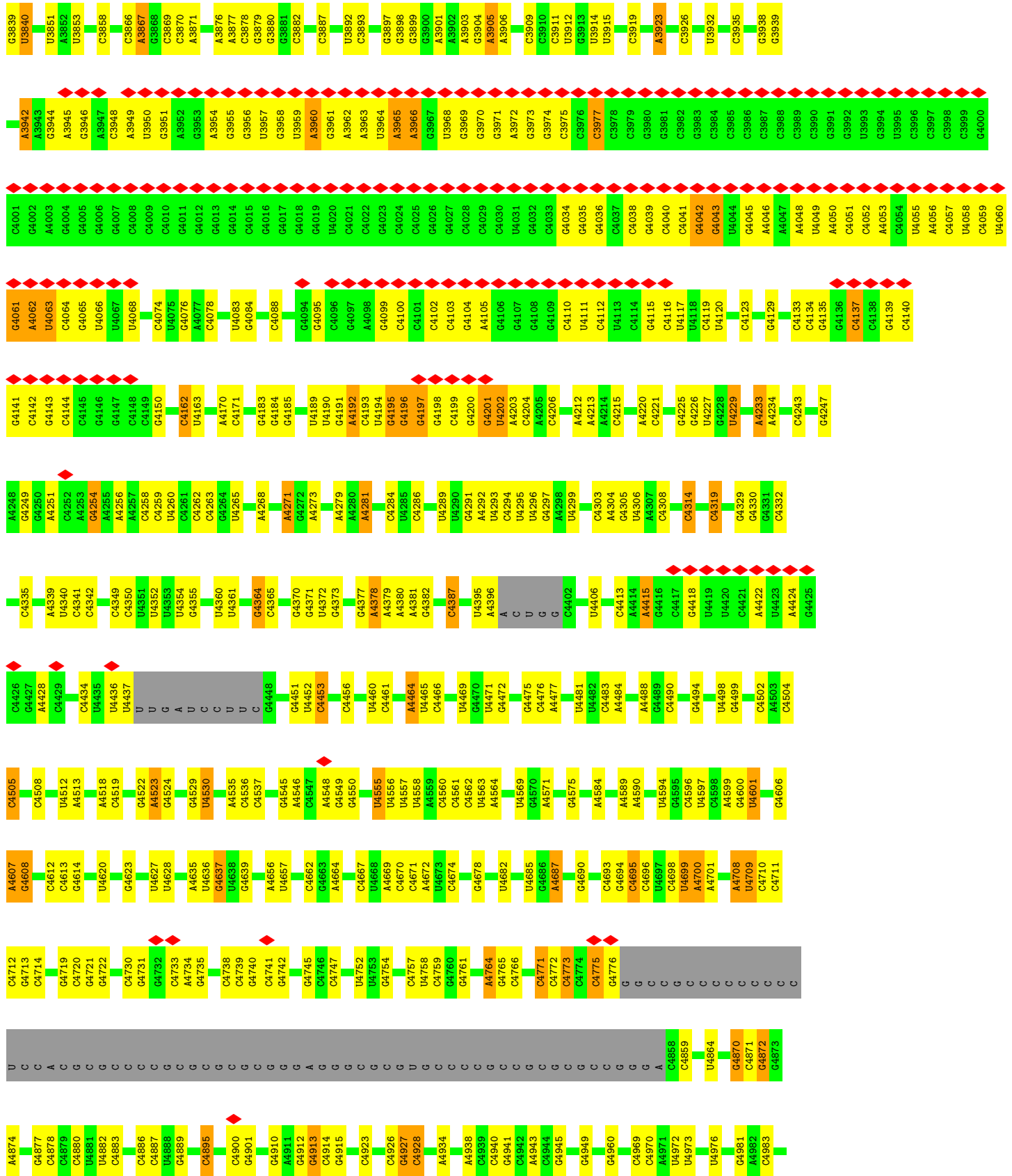
Molecule 40: G Protein Nucleolar 2

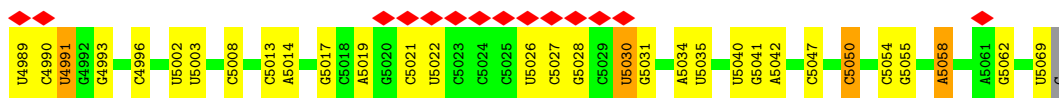




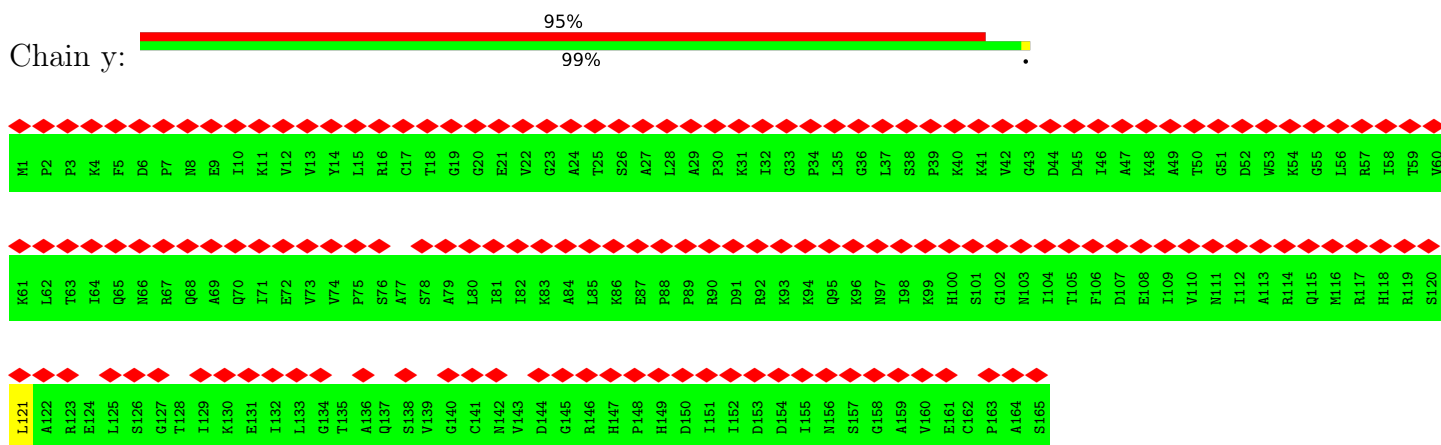


G2450	G2453	C2464	C2465	C2469	G2471	G2475	C2478	G2479	C2482	G2483	A2484	U2485	C2486	G2487	C2488	C2489	U2490	C2491	C2492	G2493	U2494	U2495	C2496	C2497	G2503	C2504	C2505	U2508	A2511	A2512	A2513	U2519	C2520	C2521	G2522	G2528	A2529	C2532	C2533	C2540	C2544	U2545	G2546	G2547								
U2554	G2555	G2559	C2560	C2561	G2562	C2563	G2564	A2565	G2566	G2567	C2568	A2573	C2583	G2586	A2587	C2588	C2589	U2592	C2593	A2600	A2601	G2602	C2603	C2615	U2625	U2626	C2627	U2628	C2629	C2634	G2638	G2652	C2653	G2652	G2662	C2669	C2670	G2675	C2684	U2687	G2688	C2689										
G2694	A2695	A2696	A2697	C2702	G2705	G2706	U2707	U2708	C2709	C2710	G2711	C2719	C2720	G2721	G2724	A2725	G2726	C2729	C2739	G2742	A2743	G2754	A2755	G2756	G2760	U2761	G2762	U2763	U2764	U2769	C2770	G2773	A2783	C2786	A2787	U2788	A2789	U2790	C2791	C2792	G2799	U2803	C2804									
C2806	A2806	C2814	A2815	C2820	U2821	U2826	U2827	A2835	A2836	U2837	U2843	A2844	A2845	A2850	C2853	G2854	G2855	C2856	C2860	C2861	C2867	C2872	G2877	A2882	C2882	C2887	U2900	G2901	G2902	G2903	U2904	C2905	U2906	G2907	U2908	C2909	G2910	G	G	C	U	G	G									
G	C	C	G	C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C					
C	C	C	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C				
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
G	G	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
G	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
C	A	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C			
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G	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
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G	G	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
U	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C		
C3684	G3685	G3691	A3692	U3693	U3694	U3695	C3696	U3697	C3698	C3701	A3702	U3709	G3710	A3711	A3712	U3713	G3714	A3718	A3723	U3729	G3735	A3736	C3739	G3740	C3741	A3748	C3753	G	G	A	A	G	U	A	A	A	U	U	U	U	U	U	U	U	U	U	U	U	U			
C	U	U	A	A	A	C	A	A	U	G	C	C	G	U	C	U	C	U	A	A	U	U	A	C	C	C	C	U	G	A	A	A	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
U3822	G3823	A3824	A3825	U3831	U3832	U3838																																														

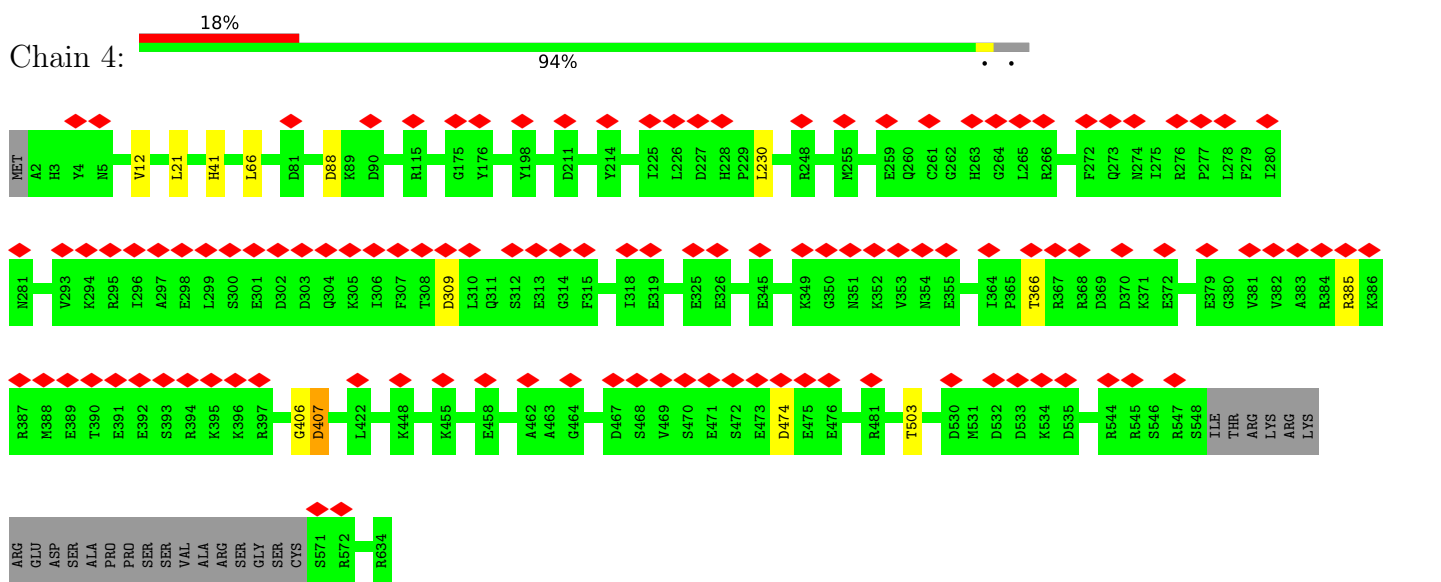




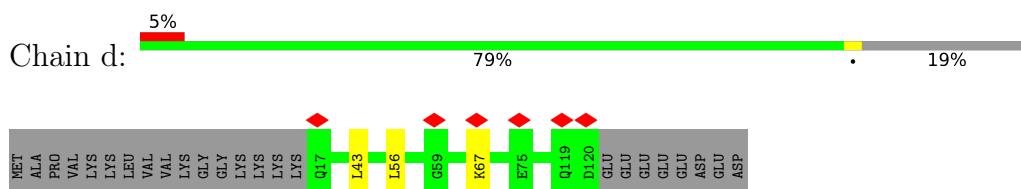
• Molecule 45: 60S ribosomal protein L12



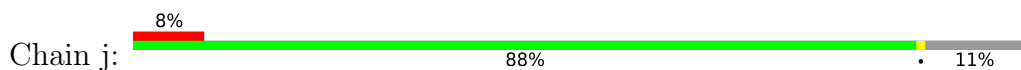
• Molecule 46: GTP-binding protein 4



• Molecule 47: 60S ribosomal protein L22

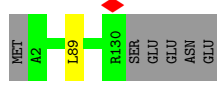


• Molecule 48: 60S ribosomal protein L31

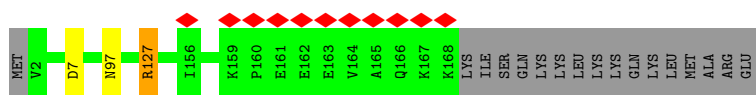
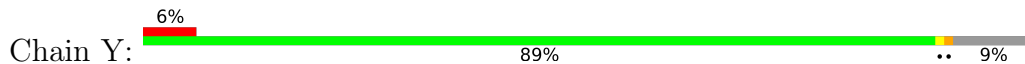




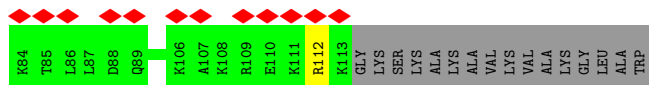
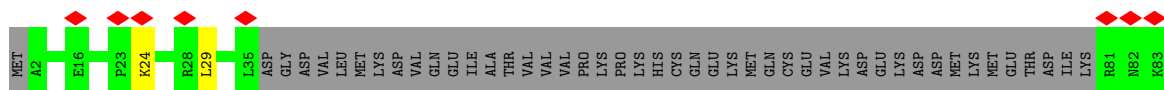
• Molecule 49: 60S ribosomal protein L32



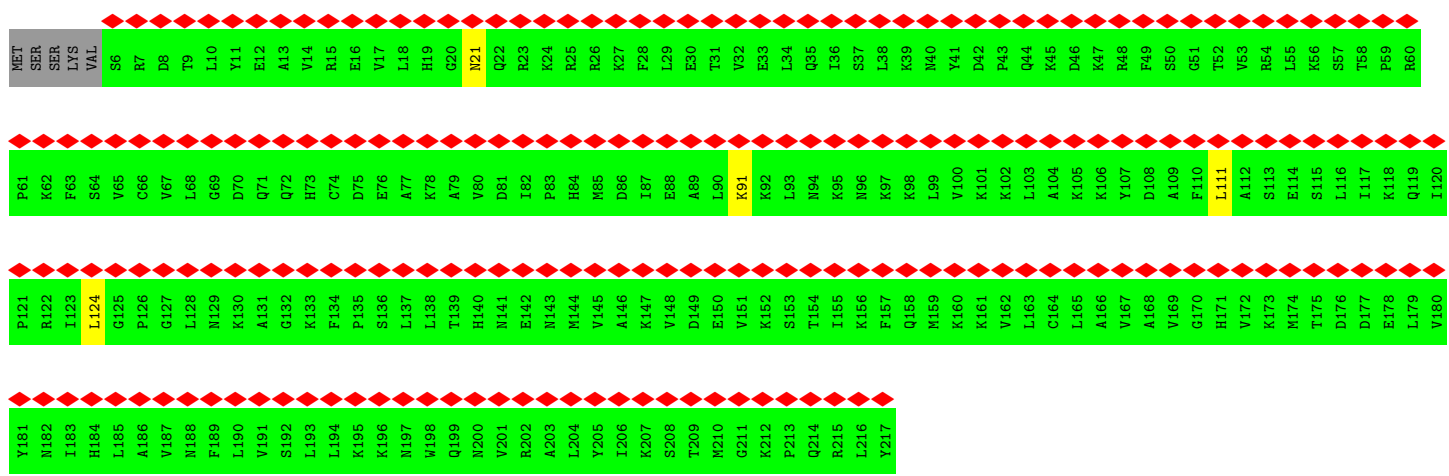
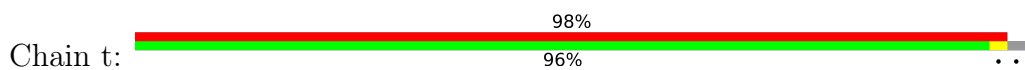
• Molecule 50: 60S ribosomal protein L17



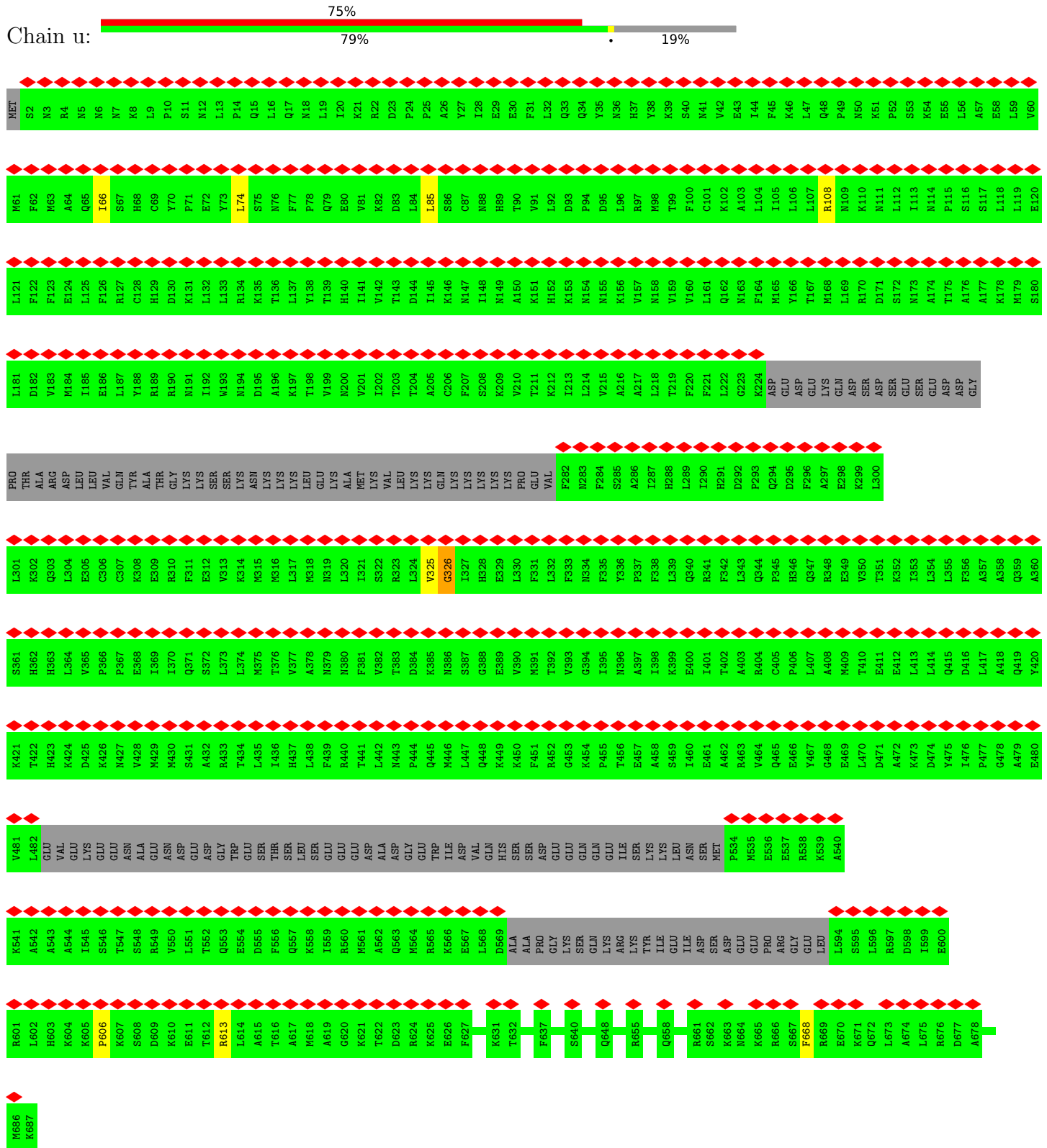
• Molecule 51: Protein LLP homolog



• Molecule 52: 60S ribosomal protein L10a



• Molecule 53: Protein SDA1 homolog



MET	PRO	GLN	ASN	GLU	TYR	I7	E8	L9	H10	R11	K12	R13	Y14	G15	Y16	R17	L18	D19	Y20	H21	E22	K23	K24	R25	K26	K27	E28	S29	R30	E31	A32	H33	E34	R35	S36	K37	K38	A39	K40	K41	MET	ILE	GLY	LEU	LYS	ALA	LYS	TRP	GLU	VAL	PRO		
MET	LYS	THR	ILE	LYS	MET	HIS	GLU	LYS	ARG	ASN	THR	LYS	GLN	ASN	ASP	GLY	LYS	THR	PRO	GLN	GLY	ALA	VAL	PRO	ALA	TYR	LEU	LEU	ASP	ARG	ALA	LYS	THR	VAL	LEU	SER	ASN	MET	ILE	LYS	GLN	LYS	ARG	LYS	TRP	GLU	VAL	PRO					
LEU	PRO	LYS	VAL	THR	ALA	GLN	GLY	THR	GLU	VAL	LEU	LYS	VAL	ILE	ARG	GLY	LYS	ARG	LYS	PRO	LYS	LYS	ALA	TRP	LYS	ARG	ALA	CYS	VAL	GLY	ASP	GLY	THR	PHE	THR	VAL	ARG	LYS	PRO	PRO	ILE	LYS	TYR	GLY	ARG	PHE	LYS						
ALA	HIS	VAL	THR	HIS	PRO	GLU	LEU	LYS	ALA	THR	PHE	CYS	LEU	PRO	ILE	ALA	VAL	GLY	VAL	LYS	ASN	PRO	SER	SER	PRO	LEU	TYR	THR	THR	LEU	GLY	VAL	VAL	ILE	THR	LYS	VAL	SER	GLU	LEU	GLY	LEU	VAL	THR	GLN	GLY	GLY	LYS	VAL	ILE	TRP	GLY	LYS
TYR	ALA	GLN	VAL	THR	ASN	ASN	PRO	GLU	ASN	ASN	GLY	CYS	ILE	ASN	ALA	VAL	LEU	LEU	VAL	LYS	ASN	PRO	SER	SER	PRO	LEU	TYR	THR	THR	LEU	GLY	VAL	VAL	ILE	THR	LYS	VAL	SER	GLU	LEU	GLY	LEU	VAL	THR	GLN	GLY	GLY	LYS	VAL	ILE	TRP	GLY	LYS

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	41193	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	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	0.223	Depositor
Minimum map value	-0.065	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0365	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: M7A, 6MZ, B9H, B8H, I4U, P7G, 7MG, A2M, B8W, 1MA, GDP, E7G, E6G, K, B8K, B9B, OMG, MHG, B8T, 2MG, B8Q, UR3, P4U, 5MU, BGH, MG, 5MC, OMC, OMU

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	0.43	0/2858	1.35	38/4455 (0.9%)
2	6	0.34	0/1877	0.75	2/2554 (0.1%)
3	7	0.37	0/1181	0.68	0/1563
4	8	0.45	0/3679	1.40	64/5732 (1.1%)
5	9	0.34	0/808	0.84	3/1076 (0.3%)
6	B	0.32	0/3315	0.70	3/4435 (0.1%)
7	C	0.29	0/777	0.77	1/1026 (0.1%)
8	D	0.31	0/2907	0.75	4/3905 (0.1%)
9	E	0.32	0/774	0.67	1/1038 (0.1%)
10	F	0.29	0/878	0.72	0/1170
11	G	0.34	0/1971	0.73	2/2651 (0.1%)
12	H	0.35	0/1023	0.71	0/1351
13	I	0.33	0/1537	0.75	3/2066 (0.1%)
14	K	0.30	0/843	0.65	0/1115
15	L	0.29	0/1191	0.65	0/1591
16	M	0.31	0/720	0.70	0/952
17	N	0.39	0/1341	0.88	2/1793 (0.1%)
18	O	0.37	0/575	0.90	2/761 (0.3%)
19	P	0.31	0/454	0.66	0/599
20	Q	0.33	0/1732	0.70	0/2315
21	S	0.36	0/1133	0.76	3/1516 (0.2%)
22	U	0.29	0/1746	0.66	0/2338
23	V	0.31	0/1682	0.67	1/2250 (0.0%)
24	W	0.33	0/831	0.70	0/1095
25	X	0.30	0/718	0.61	0/953
26	Z	0.30	0/1537	0.68	0/2052
27	a	0.33	0/1255	0.75	2/1662 (0.1%)
28	b	0.32	0/1501	0.65	0/2013
29	c	0.33	0/1291	0.71	2/1725 (0.1%)
30	e	0.33	0/993	0.75	1/1332 (0.1%)
31	g	0.29	0/984	0.60	0/1323

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	h	0.31	0/1132	0.68	0/1504
33	i	0.35	0/1130	0.70	1/1507 (0.1%)
34	l	0.30	0/1017	0.69	0/1364
35	m	0.32	0/1936	0.71	1/2596 (0.0%)
36	n	0.30	0/895	0.76	3/1198 (0.3%)
37	o	0.31	0/1935	0.69	0/2596
38	p	0.34	0/1916	0.69	0/2553
39	r	0.33	0/2428	0.70	3/3252 (0.1%)
40	A	0.31	0/2515	0.60	3/3403 (0.1%)
41	R	0.36	0/1317	0.72	2/1757 (0.1%)
42	J	0.39	0/1844	0.72	1/2476 (0.0%)
43	T	0.29	0/345	0.77	0/455
44	2	0.44	7/84533 (0.0%)	1.36	1230/131714 (0.9%)
45	y	0.31	0/1269	0.71	1/1712 (0.1%)
46	4	0.33	0/5099	0.77	12/6840 (0.2%)
47	d	0.37	0/864	0.78	2/1160 (0.2%)
48	j	0.34	0/933	0.73	0/1256
49	k	0.31	0/1082	0.71	1/1443 (0.1%)
50	Y	0.30	0/1383	0.66	2/1856 (0.1%)
51	z	0.33	0/587	0.84	1/767 (0.1%)
52	t	0.31	0/1736	0.62	2/2328 (0.1%)
53	u	0.39	2/4614 (0.0%)	0.65	4/6191 (0.1%)
54	v	0.31	0/321	0.55	0/418
All	All	0.39	9/164943 (0.0%)	1.14	1403/240753 (0.6%)

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
6	B	0	1
11	G	0	1
17	N	0	1
20	Q	0	1
29	c	0	1
30	e	0	1
35	m	0	2
36	n	0	1
42	J	0	1
50	Y	0	1
53	u	0	3
All	All	0	14

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	u	668	PHE	CD2-CE2	11.13	1.61	1.39
53	u	668	PHE	CE2-CZ	9.61	1.55	1.37
44	2	4060	U	O3'-P	7.15	1.69	1.61
44	2	4062	A	O3'-P	6.91	1.69	1.61
44	2	4061	G	O3'-P	6.69	1.69	1.61
44	2	1929	A	N9-C4	5.55	1.41	1.37
44	2	1632	A	N9-C4	5.46	1.41	1.37
44	2	457	G	N9-C8	-5.12	1.34	1.37
44	2	485	C	N1-C2	5.12	1.45	1.40

All (1403) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	485	C	C2-N1-C1'	14.89	135.18	118.80
18	O	30	ASP	CB-CG-OD1	12.50	129.55	118.30
44	2	753	C	N1-C2-O2	12.46	126.38	118.90
44	2	485	C	N1-C2-O2	12.20	126.22	118.90
4	8	128	C	N1-C2-O2	12.03	126.12	118.90
44	2	457	G	N7-C8-N9	11.91	119.06	113.10
44	2	4926	C	N1-C2-O2	11.89	126.03	118.90
44	2	4502	C	N1-C2-O2	11.82	125.99	118.90
44	2	4192	A	P-O3'-C3'	-11.57	105.82	119.70
44	2	4200	G	P-O3'-C3'	-11.30	106.14	119.70
44	2	1994	C	C2-N1-C1'	11.24	131.17	118.80
4	8	128	C	C6-N1-C2	-11.21	115.82	120.30
44	2	2016	C	C5-C6-N1	11.12	126.56	121.00
44	2	753	C	N3-C2-O2	-11.10	114.13	121.90
53	u	668	PHE	CZ-CE2-CD2	-10.95	106.96	120.10
44	2	485	C	C6-N1-C2	-10.91	115.94	120.30
44	2	4202	U	P-O3'-C3'	-10.90	106.61	119.70
44	2	100	C	C2-N1-C1'	10.90	130.79	118.80
44	2	495	C	N1-C2-O2	10.79	125.38	118.90
44	2	516	C	N1-C2-O2	10.78	125.37	118.90
44	2	753	C	C6-N1-C2	-10.78	115.99	120.30
44	2	100	C	N1-C2-O2	10.72	125.33	118.90
44	2	495	C	C2-N1-C1'	10.71	130.58	118.80
44	2	4502	C	N3-C2-O2	-10.66	114.43	121.90
44	2	2860	C	C6-N1-C2	-10.58	116.07	120.30
44	2	1994	C	N1-C2-O2	10.57	125.24	118.90
44	2	467	U	N1-C2-O2	10.55	130.18	122.80
17	N	113	ILE	CG1-CB-CG2	-10.51	88.28	111.40
44	2	2820	C	N1-C2-O2	10.50	125.20	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4502	C	C6-N1-C2	-10.50	116.10	120.30
44	2	4926	C	C2-N1-C1'	10.48	130.33	118.80
44	2	1325	C	C2-N1-C1'	10.43	130.27	118.80
44	2	516	C	N3-C2-O2	-10.41	114.61	121.90
44	2	2016	C	C6-N1-C2	-10.34	116.16	120.30
46	4	230	LEU	CA-CB-CG	10.33	139.05	115.30
44	2	467	U	N3-C2-O2	-10.27	115.01	122.20
53	u	74	LEU	CA-CB-CG	10.16	138.66	115.30
44	2	2860	C	N1-C2-O2	10.07	124.94	118.90
4	8	128	C	C2-N1-C1'	10.06	129.86	118.80
44	2	467	U	C2-N1-C1'	10.04	129.75	117.70
44	2	1325	C	N1-C2-O2	10.02	124.91	118.90
44	2	485	C	C6-N1-C1'	-10.01	108.79	120.80
44	2	485	C	C5-C6-N1	9.93	125.97	121.00
4	8	128	C	N3-C2-O2	-9.88	114.98	121.90
44	2	4613	C	N1-C2-O2	9.86	124.82	118.90
44	2	77	U	N3-C2-O2	-9.86	115.30	122.20
44	2	4505	C	C6-N1-C2	-9.83	116.37	120.30
4	8	128	C	C5-C6-N1	9.81	125.90	121.00
44	2	1856	C	N1-C2-O2	9.80	124.78	118.90
44	2	4453	C	N1-C2-O2	9.78	124.77	118.90
44	2	3636	C	C6-N1-C2	-9.72	116.41	120.30
44	2	4682	U	N3-C2-O2	-9.66	115.44	122.20
44	2	4612	C	N1-C2-O2	9.65	124.69	118.90
44	2	4880	C	N1-C2-O2	9.65	124.69	118.90
8	D	319	LEU	CA-CB-CG	9.61	137.40	115.30
44	2	1325	C	C6-N1-C2	-9.54	116.48	120.30
8	D	171	LEU	CA-CB-CG	9.53	137.22	115.30
44	2	4758	U	N3-C2-O2	-9.51	115.55	122.20
44	2	4758	U	N1-C2-O2	9.50	129.45	122.80
44	2	1703	C	N1-C2-O2	9.49	124.60	118.90
44	2	1241	C	N1-C2-O2	9.49	124.59	118.90
44	2	516	C	C6-N1-C2	-9.44	116.53	120.30
44	2	4926	C	N3-C2-O2	-9.42	115.30	121.90
44	2	220	C	N1-C2-O2	9.39	124.53	118.90
44	2	4709	U	N3-C2-O2	-9.37	115.64	122.20
44	2	4758	U	C2-N1-C1'	9.34	128.91	117.70
44	2	4709	U	N1-C2-O2	9.33	129.33	122.80
44	2	1822	U	N1-C2-O2	9.27	129.29	122.80
44	2	4502	C	C2-N1-C1'	9.27	129.00	118.80
44	2	4453	C	C2-N1-C1'	9.26	128.98	118.80
44	2	753	C	C2-N1-C1'	9.25	128.98	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1822	U	N3-C2-O2	-9.24	115.73	122.20
44	2	1325	C	N3-C2-O2	-9.20	115.46	121.90
44	2	4682	U	N1-C2-O2	9.14	129.20	122.80
44	2	4201	G	P-O3'-C3'	-9.13	108.74	119.70
44	2	2262	G	C4-N9-C1'	9.12	138.36	126.50
44	2	100	C	N3-C2-O2	-9.10	115.53	121.90
44	2	4887	C	N1-C2-O2	9.09	124.35	118.90
6	B	360	LEU	CA-CB-CG	9.03	136.06	115.30
44	2	4197	G	P-O3'-C3'	-8.99	108.91	119.70
44	2	2410	C	C6-N1-C2	-8.97	116.71	120.30
44	2	4195	G	P-O3'-C3'	-8.97	108.94	119.70
44	2	1994	C	N3-C2-O2	-8.96	115.63	121.90
44	2	495	C	N3-C2-O2	-8.94	115.64	121.90
44	2	2563	C	N1-C2-O2	8.94	124.26	118.90
1	5	24	C	N1-C2-O2	8.93	124.26	118.90
44	2	4198	G	P-O3'-C3'	-8.90	109.02	119.70
2	6	144	ASP	CB-CG-OD1	8.81	126.23	118.30
44	2	242	U	N3-C2-O2	-8.81	116.03	122.20
44	2	457	G	C6-C5-N7	-8.81	125.11	130.40
44	2	1183	C	N1-C2-O2	8.75	124.15	118.90
44	2	2860	C	N3-C2-O2	-8.72	115.79	121.90
44	2	1079	C	N1-C2-O2	8.72	124.13	118.90
44	2	2262	G	N3-C4-N9	8.70	131.22	126.00
44	2	485	C	N3-C2-O2	-8.70	115.81	121.90
44	2	4262	C	N1-C2-O2	8.69	124.12	118.90
44	2	4505	C	C5-C6-N1	8.70	125.35	121.00
44	2	112	C	C6-N1-C2	-8.68	116.83	120.30
44	2	96	U	N3-C2-O2	-8.67	116.13	122.20
44	2	1726	U	N3-C2-O2	-8.67	116.13	122.20
44	2	2262	G	N3-C4-C5	-8.65	124.28	128.60
44	2	2820	C	N3-C2-O2	-8.65	115.84	121.90
44	2	4215	C	N1-C2-O2	8.64	124.09	118.90
30	e	100	ASP	CB-CG-OD2	8.64	126.08	118.30
44	2	498	C	N1-C2-O2	8.62	124.08	118.90
44	2	282	C	N1-C2-O2	8.61	124.07	118.90
44	2	1655	C	C6-N1-C2	-8.60	116.86	120.30
44	2	77	U	N1-C2-O2	8.59	128.81	122.80
44	2	2260	C	N1-C2-O2	8.59	124.06	118.90
44	2	1971	C	C6-N1-C2	-8.57	116.87	120.30
44	2	1655	C	N1-C2-O2	8.56	124.03	118.90
44	2	2351	C	C6-N1-C2	-8.54	116.88	120.30
44	2	1929	A	C2-N3-C4	8.53	114.86	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1458	C	N1-C2-O2	8.46	123.98	118.90
44	2	498	C	C6-N1-C2	-8.46	116.92	120.30
44	2	112	C	C2-N1-C1'	8.45	128.10	118.80
44	2	4314	C	N1-C2-O2	8.45	123.97	118.90
44	2	1320	U	N1-C2-O2	8.44	128.71	122.80
8	D	179	ASP	CB-CG-OD1	8.43	125.88	118.30
44	2	4505	C	C2-N1-C1'	8.42	128.06	118.80
44	2	4193	C	P-O3'-C3'	-8.41	109.61	119.70
44	2	4215	C	N3-C2-O2	-8.40	116.02	121.90
44	2	1320	U	N3-C2-O2	-8.40	116.32	122.20
44	2	495	C	C6-N1-C2	-8.39	116.94	120.30
44	2	456	C	O4'-C1'-N1	8.34	114.87	108.20
44	2	4360	U	N3-C2-O2	-8.29	116.40	122.20
44	2	1921	C	C6-N1-C2	-8.26	117.00	120.30
44	2	4171	C	N1-C2-O2	8.26	123.85	118.90
44	2	4864	U	N3-C2-O2	-8.25	116.43	122.20
44	2	1241	C	C2-N1-C1'	8.24	127.86	118.80
4	8	64	U	N3-C2-O2	-8.21	116.46	122.20
44	2	1921	C	N1-C2-O2	8.20	123.82	118.90
44	2	1320	U	C2-N1-C1'	8.20	127.54	117.70
44	2	4864	U	N1-C2-O2	8.18	128.53	122.80
44	2	1822	U	C2-N1-C1'	8.17	127.51	117.70
44	2	1971	C	C2-N1-C1'	8.17	127.79	118.80
44	2	3926	C	N1-C2-O2	8.17	123.80	118.90
44	2	2860	C	C5-C6-N1	8.16	125.08	121.00
44	2	515	C	C6-N1-C2	-8.16	117.04	120.30
44	2	4215	C	C6-N1-C2	-8.14	117.05	120.30
44	2	50	C	N1-C2-O2	8.13	123.78	118.90
44	2	4471	U	N3-C2-O2	-8.13	116.51	122.20
1	5	24	C	C6-N1-C2	-8.12	117.05	120.30
44	2	2563	C	C6-N1-C2	-8.12	117.05	120.30
44	2	1726	U	N1-C2-O2	8.11	128.47	122.80
44	2	4196	G	P-O3'-C3'	-8.10	109.98	119.70
36	n	105	LEU	C-N-CA	8.10	141.94	121.70
44	2	3587	C	N1-C2-O2	8.08	123.75	118.90
44	2	4263	C	N1-C2-O2	8.08	123.75	118.90
44	2	2008	U	N3-C2-O2	-8.07	116.55	122.20
44	2	2410	C	C2-N1-C1'	8.07	127.68	118.80
44	2	322	C	N1-C2-O2	8.04	123.73	118.90
44	2	457	G	C4-N9-C1'	8.01	136.91	126.50
44	2	4308	C	N1-C2-O2	8.00	123.70	118.90
44	2	1856	C	N3-C2-O2	-7.99	116.31	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1632	A	C2-N3-C4	7.99	114.59	110.60
44	2	2856	C	N1-C2-O2	7.96	123.68	118.90
44	2	1472	C	C6-N1-C2	-7.95	117.12	120.30
44	2	2760	G	P-O3'-C3'	7.94	129.23	119.70
44	2	4613	C	N3-C2-O2	-7.94	116.34	121.90
46	4	407	ASP	CB-CG-OD1	7.93	125.44	118.30
44	2	1994	C	C6-N1-C2	-7.92	117.13	120.30
44	2	1655	C	N3-C2-O2	-7.92	116.36	121.90
44	2	1607	C	N1-C2-O2	7.92	123.65	118.90
44	2	2410	C	C5-C6-N1	7.91	124.95	121.00
44	2	4712	C	C6-N1-C2	-7.91	117.14	120.30
44	2	4340	U	N3-C2-O2	-7.90	116.67	122.20
44	2	1216	C	C2-N1-C1'	7.88	127.47	118.80
44	2	914	U	P-O3'-C3'	7.88	129.16	119.70
11	G	162	ASP	CB-CG-OD2	7.86	125.37	118.30
44	2	1703	C	C2-N1-C1'	7.85	127.44	118.80
44	2	220	C	C6-N1-C2	-7.84	117.16	120.30
44	2	1720	C	C6-N1-C2	-7.84	117.16	120.30
44	2	4747	C	C2-N1-C1'	7.84	127.42	118.80
44	2	515	C	N1-C2-O2	7.81	123.59	118.90
44	2	4537	C	N1-C2-O2	7.81	123.58	118.90
44	2	4612	C	N3-C2-O2	-7.80	116.44	121.90
44	2	4880	C	N3-C2-O2	-7.79	116.45	121.90
44	2	3636	C	N1-C2-O2	7.77	123.56	118.90
44	2	2410	C	N1-C2-O2	7.73	123.54	118.90
44	2	4340	U	N1-C2-O2	7.72	128.21	122.80
44	2	1472	C	C2-N1-C1'	7.72	127.29	118.80
44	2	2627	C	C6-N1-C2	-7.72	117.21	120.30
44	2	1243	C	C6-N1-C2	-7.72	117.21	120.30
44	2	2528	G	C4-N9-C1'	7.71	136.53	126.50
44	2	50	C	C6-N1-C2	-7.70	117.22	120.30
44	2	2820	C	C6-N1-C2	-7.70	117.22	120.30
44	2	495	C	C6-N1-C1'	-7.70	111.56	120.80
44	2	1176	C	N1-C2-O2	7.70	123.52	118.90
2	6	177	LEU	CA-CB-CG	7.68	132.96	115.30
40	A	163	LEU	CA-CB-CG	7.68	132.96	115.30
44	2	2026	A	O4'-C1'-N9	7.67	114.34	108.20
44	2	2281	U	N1-C2-O2	7.67	128.17	122.80
44	2	2262	G	C8-N9-C1'	-7.67	117.03	127.00
44	2	4747	C	C6-N1-C2	-7.66	117.24	120.30
44	2	3636	C	N3-C2-O2	-7.64	116.55	121.90
44	2	4206	C	C6-N1-C2	-7.64	117.24	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2033	A	P-O3'-C3'	7.62	128.84	119.70
44	2	1671	U	N3-C2-O2	-7.61	116.87	122.20
1	5	28	C	C6-N1-C2	-7.61	117.26	120.30
44	2	4887	C	N3-C2-O2	-7.61	116.58	121.90
44	2	1216	C	N1-C2-O2	7.59	123.45	118.90
44	2	1994	C	C6-N1-C1'	-7.58	111.70	120.80
44	2	4471	U	N1-C2-O2	7.58	128.10	122.80
47	d	56	LEU	CA-CB-CG	7.57	132.72	115.30
44	2	4162	C	N1-C2-O2	7.57	123.44	118.90
44	2	1607	C	N3-C2-O2	-7.56	116.61	121.90
44	2	4926	C	C6-N1-C2	-7.56	117.28	120.30
44	2	2892	C	C2-N1-C1'	7.56	127.11	118.80
44	2	4453	C	N3-C2-O2	-7.54	116.62	121.90
44	2	4766	C	C6-N1-C2	-7.54	117.29	120.30
44	2	1980	U	P-O3'-C3'	7.52	128.72	119.70
44	2	457	G	C5-N7-C8	-7.50	100.55	104.30
44	2	4262	C	N3-C2-O2	-7.50	116.65	121.90
44	2	657	C	N1-C2-O2	7.50	123.40	118.90
4	8	35	C	C6-N1-C2	-7.49	117.30	120.30
44	2	2592	U	N3-C2-O2	-7.49	116.95	122.20
44	2	972	C	N1-C2-O2	7.49	123.39	118.90
44	2	2362	U	N3-C2-O2	-7.49	116.96	122.20
44	2	1809	C	C6-N1-C2	-7.48	117.31	120.30
44	2	4042	G	N3-C4-N9	7.48	130.49	126.00
44	2	4341	C	N1-C2-O2	7.47	123.38	118.90
44	2	100	C	C6-N1-C1'	-7.46	111.84	120.80
44	2	1702	C	C2-N1-C1'	7.45	127.00	118.80
44	2	1405	C	N1-C2-O2	7.44	123.36	118.90
44	2	2072	C	C6-N1-C2	-7.44	117.33	120.30
44	2	498	C	N3-C2-O2	-7.43	116.70	121.90
44	2	115	C	C2-N1-C1'	7.41	126.95	118.80
44	2	4505	C	N1-C2-O2	7.40	123.34	118.90
44	2	100	C	C6-N1-C2	-7.39	117.34	120.30
44	2	4360	U	N1-C2-O2	7.38	127.96	122.80
44	2	5035	U	N3-C2-O2	-7.38	117.03	122.20
44	2	1856	C	C6-N1-C2	-7.38	117.35	120.30
44	2	281	U	N3-C2-O2	-7.37	117.04	122.20
44	2	753	C	C5-C6-N1	7.36	124.68	121.00
44	2	1703	C	N3-C2-O2	-7.35	116.75	121.90
44	2	656	C	N1-C2-O2	7.33	123.30	118.90
44	2	1915	C	N1-C2-O2	7.33	123.30	118.90
44	2	1241	C	N3-C2-O2	-7.33	116.77	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4042	G	C4-N9-C1'	7.32	136.02	126.50
44	2	112	C	N1-C2-O2	7.31	123.29	118.90
44	2	96	U	N1-C2-O2	7.30	127.91	122.80
1	5	14	C	C6-N1-C2	-7.30	117.38	120.30
44	2	3670	C	N1-C2-O2	7.30	123.28	118.90
1	5	24	C	N3-C2-O2	-7.29	116.80	121.90
44	2	155	C	N1-C2-O2	7.28	123.27	118.90
44	2	515	C	C5-C6-N1	7.28	124.64	121.00
44	2	3905	A	P-O3'-C3'	7.28	128.43	119.70
44	2	1414	C	C6-N1-C2	-7.27	117.39	120.30
44	2	2260	C	C2-N1-C1'	7.27	126.80	118.80
44	2	1079	C	C6-N1-C2	-7.25	117.40	120.30
44	2	4314	C	C6-N1-C2	-7.25	117.40	120.30
44	2	2856	C	C6-N1-C2	-7.24	117.41	120.30
44	2	282	C	N3-C2-O2	-7.23	116.84	121.90
44	2	1340	C	C5-C6-N1	7.22	124.61	121.00
44	2	972	C	C6-N1-C2	-7.22	117.41	120.30
44	2	457	G	N3-C4-N9	7.22	130.33	126.00
4	8	32	C	N1-C2-O2	7.21	123.23	118.90
44	2	4928	C	C2-N1-C1'	7.21	126.74	118.80
44	2	242	U	N1-C2-O2	7.21	127.84	122.80
44	2	115	C	N1-C2-O2	7.20	123.22	118.90
44	2	2094	G	C4-N9-C1'	7.20	135.86	126.50
44	2	4395	U	N3-C2-O2	-7.19	117.16	122.20
44	2	1191	C	N3-C2-O2	-7.19	116.87	121.90
36	n	5	LEU	CA-CB-CG	7.18	131.82	115.30
44	2	2627	C	C2-N1-C1'	7.18	126.70	118.80
44	2	220	C	N3-C2-O2	-7.17	116.88	121.90
44	2	2281	U	N3-C2-O2	-7.17	117.18	122.20
44	2	155	C	N3-C2-O2	-7.16	116.89	121.90
44	2	2563	C	N3-C2-O2	-7.16	116.89	121.90
44	2	1816	C	C6-N1-C2	-7.16	117.44	120.30
44	2	4194	U	P-O3'-C3'	-7.15	111.12	119.70
44	2	3631	U	N3-C2-O2	-7.15	117.20	122.20
44	2	2860	C	C2-N1-C1'	7.14	126.66	118.80
44	2	26	C	C6-N1-C2	-7.14	117.44	120.30
44	2	406	C	P-O3'-C3'	7.14	128.26	119.70
44	2	1978	C	N1-C2-O2	7.14	123.18	118.90
44	2	4206	C	C2-N1-C1'	7.13	126.65	118.80
13	I	176	LEU	CA-CB-CG	7.12	131.67	115.30
44	2	457	G	C8-N9-C4	-7.11	103.56	106.40
44	2	4627	U	N3-C2-O2	-7.10	117.23	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4314	C	N3-C2-O2	-7.10	116.93	121.90
44	2	209	U	N1-C2-O2	7.10	127.77	122.80
44	2	2008	U	N1-C2-O2	7.09	127.77	122.80
44	2	489	C	C6-N1-C2	-7.09	117.46	120.30
44	2	4395	U	N1-C2-O2	7.09	127.76	122.80
44	2	1971	C	C5-C6-N1	7.09	124.55	121.00
1	5	43	U	N1-C2-O2	7.09	127.76	122.80
44	2	4775	C	C2-N1-C1'	7.09	126.60	118.80
44	2	985	C	C6-N1-C2	-7.09	117.47	120.30
44	2	2362	U	N1-C2-O2	7.09	127.76	122.80
4	8	54	C	N1-C2-O2	7.08	123.15	118.90
44	2	4887	C	C6-N1-C2	-7.08	117.47	120.30
44	2	2351	C	C5-C6-N1	7.08	124.54	121.00
44	2	1921	C	N3-C2-O2	-7.07	116.95	121.90
44	2	3739	C	C6-N1-C2	-7.06	117.47	120.30
44	2	1702	C	N1-C2-O2	7.06	123.14	118.90
44	2	4303	C	C2-N1-C1'	7.05	126.56	118.80
44	2	4608	G	C8-N9-C4	-7.05	103.58	106.40
44	2	4453	C	C6-N1-C1'	-7.05	112.34	120.80
44	2	4926	C	C6-N1-C1'	-7.05	112.34	120.80
44	2	3622	C	N1-C2-O2	7.04	123.13	118.90
44	2	1340	C	C6-N1-C2	-7.03	117.49	120.30
44	2	2791	C	C6-N1-C2	-7.03	117.49	120.30
44	2	472	C	C6-N1-C2	-7.03	117.49	120.30
44	2	2015	U	P-O3'-C3'	7.02	128.12	119.70
44	2	2710	C	C2-N1-C1'	7.01	126.51	118.80
44	2	2528	G	N3-C4-C5	-7.01	125.10	128.60
44	2	2371	U	N3-C2-O2	-7.00	117.30	122.20
44	2	4286	C	C6-N1-C2	-6.99	117.50	120.30
44	2	112	C	C5-C6-N1	6.98	124.49	121.00
44	2	2589	C	C6-N1-C2	-6.98	117.51	120.30
45	y	121	LEU	CA-CB-CG	6.98	131.36	115.30
44	2	1183	C	N3-C2-O2	-6.98	117.01	121.90
44	2	50	C	N3-C2-O2	-6.98	117.02	121.90
44	2	2814	C	N1-C2-O2	6.98	123.09	118.90
44	2	3702	A	C2-N3-C4	6.97	114.09	110.60
44	2	1676	C	OP2-P-O3'	6.97	120.53	105.20
46	4	474	ASP	CB-CG-OD1	6.97	124.57	118.30
44	2	449	C	N1-C2-O2	6.96	123.08	118.90
44	2	1197	C	N1-C2-O2	6.96	123.08	118.90
44	2	2892	C	C6-N1-C2	-6.96	117.52	120.30
44	2	1671	U	N1-C2-O2	6.95	127.67	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1676	C	P-O3'-C3'	6.95	128.04	119.70
44	2	1241	C	C6-N1-C2	-6.95	117.52	120.30
44	2	4537	C	N3-C2-O2	-6.95	117.04	121.90
44	2	4352	U	N3-C2-O2	-6.94	117.34	122.20
44	2	1458	C	N3-C2-O2	-6.93	117.05	121.90
44	2	2008	U	C2-N1-C1'	6.93	126.02	117.70
44	2	1079	C	C5-C6-N1	6.92	124.46	121.00
44	2	977	C	C6-N1-C2	-6.92	117.53	120.30
44	2	4747	C	N1-C2-O2	6.91	123.04	118.90
1	5	43	U	N3-C2-O2	-6.90	117.37	122.20
4	8	32	C	C6-N1-C2	-6.90	117.54	120.30
44	2	4476	C	C2-N1-C1'	6.90	126.39	118.80
44	2	5030	U	C5-C6-N1	6.90	126.15	122.70
44	2	4434	C	N1-C2-O2	6.90	123.04	118.90
44	2	4913	G	P-O3'-C3'	6.90	127.98	119.70
4	8	54	C	C6-N1-C2	-6.90	117.54	120.30
4	8	135	C	C6-N1-C2	-6.90	117.54	120.30
44	2	4042	G	N3-C4-C5	-6.90	125.15	128.60
44	2	2563	C	C5-C6-N1	6.89	124.44	121.00
44	2	1081	C	C6-N1-C2	-6.89	117.55	120.30
44	2	220	C	C5-C6-N1	6.89	124.44	121.00
44	2	2528	G	N3-C4-N9	6.88	130.13	126.00
44	2	281	U	N1-C2-O2	6.86	127.60	122.80
44	2	2351	C	C2-N1-C1'	6.85	126.34	118.80
44	2	1477	C	C6-N1-C2	-6.85	117.56	120.30
44	2	390	C	C6-N1-C2	-6.84	117.56	120.30
44	2	4766	C	C5-C6-N1	6.84	124.42	121.00
44	2	209	U	N3-C2-O2	-6.84	117.41	122.20
44	2	3650	C	C6-N1-C2	-6.84	117.56	120.30
44	2	2627	C	N1-C2-O2	6.84	123.00	118.90
44	2	1079	C	C2-N1-C1'	6.83	126.32	118.80
44	2	2856	C	N3-C2-O2	-6.83	117.12	121.90
44	2	1731	C	C6-N1-C2	-6.83	117.57	120.30
44	2	4171	C	C6-N1-C2	-6.83	117.57	120.30
44	2	3637	U	N3-C2-O2	-6.82	117.42	122.20
44	2	704	C	N1-C2-O2	6.82	122.99	118.90
44	2	1325	C	O4'-C1'-N1	6.82	113.65	108.20
44	2	1720	C	N1-C2-O2	6.81	122.99	118.90
44	2	2837	U	N3-C2-O2	-6.81	117.43	122.20
44	2	1978	C	C6-N1-C2	-6.80	117.58	120.30
44	2	1731	C	N1-C2-O2	6.80	122.98	118.90
44	2	4289	U	N1-C2-O2	6.80	127.56	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4895	C	N1-C2-O2	6.80	122.98	118.90
44	2	4289	U	N3-C2-O2	-6.79	117.44	122.20
44	2	1367	C	C2-N1-C1'	6.79	126.27	118.80
44	2	4613	C	C6-N1-C2	-6.79	117.58	120.30
44	2	4880	C	C6-N1-C2	-6.78	117.59	120.30
44	2	1472	C	C5-C6-N1	6.76	124.38	121.00
44	2	489	C	C2-N1-C1'	6.75	126.23	118.80
44	2	4627	U	N1-C2-O2	6.75	127.53	122.80
44	2	322	C	C6-N1-C2	-6.75	117.60	120.30
44	2	1822	U	C5-C6-N1	6.75	126.08	122.70
44	2	2627	C	C5-C6-N1	6.74	124.37	121.00
44	2	3657	U	N3-C2-O2	-6.74	117.48	122.20
44	2	1450	C	C6-N1-C2	-6.74	117.61	120.30
44	2	1915	C	N3-C2-O2	-6.74	117.18	121.90
44	2	1582	U	N3-C2-O2	-6.73	117.49	122.20
44	2	2464	C	O4'-C1'-N1	6.73	113.58	108.20
44	2	472	C	N1-C2-O2	6.72	122.93	118.90
44	2	4308	C	N3-C2-O2	-6.72	117.20	121.90
44	2	4395	U	C2-N1-C1'	6.72	125.76	117.70
44	2	195	C	C6-N1-C2	-6.71	117.61	120.30
44	2	2094	G	N3-C4-N9	6.71	130.03	126.00
44	2	4972	U	N3-C2-O2	-6.71	117.50	122.20
1	5	24	C	C5-C6-N1	6.70	124.35	121.00
44	2	1991	A	C2-N3-C4	6.69	113.95	110.60
44	2	4537	C	C6-N1-C2	-6.69	117.62	120.30
44	2	4502	C	C5-C6-N1	6.69	124.34	121.00
44	2	1245	C	C5-C6-N1	6.68	124.34	121.00
44	2	657	C	C6-N1-C2	-6.68	117.63	120.30
44	2	2497	C	N1-C2-O2	6.67	122.91	118.90
44	2	516	C	C5-C6-N1	6.67	124.34	121.00
44	2	694	C	C6-N1-C2	-6.67	117.63	120.30
4	8	111	U	C2-N1-C1'	6.66	125.69	117.70
44	2	515	C	C2-N1-C1'	6.66	126.13	118.80
44	2	2094	G	N3-C4-C5	-6.66	125.27	128.60
44	2	4171	C	N3-C2-O2	-6.65	117.25	121.90
44	2	3926	C	N3-C2-O2	-6.64	117.25	121.90
44	2	3926	C	C6-N1-C2	-6.64	117.64	120.30
44	2	2260	C	N3-C2-O2	-6.63	117.26	121.90
44	2	2465	C	N1-C2-O2	6.62	122.88	118.90
44	2	1971	C	N1-C2-O2	6.62	122.87	118.90
44	2	1183	C	C6-N1-C2	-6.61	117.66	120.30
44	2	1720	C	C5-C6-N1	6.61	124.30	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1469	C	C6-N1-C2	-6.60	117.66	120.30
44	2	1809	C	C2-N1-C1'	6.60	126.06	118.80
44	2	2710	C	N1-C2-O2	6.60	122.86	118.90
44	2	4133	C	C6-N1-C2	-6.60	117.66	120.30
44	2	4361	U	N3-C2-O2	-6.59	117.59	122.20
44	2	1607	C	C6-N1-C2	-6.59	117.67	120.30
44	2	1325	C	C5-C6-N1	6.59	124.29	121.00
44	2	2025	A	C2-N3-C4	6.58	113.89	110.60
44	2	4476	C	N1-C2-O2	6.58	122.85	118.90
44	2	906	C	C2-N1-C1'	6.58	126.04	118.80
4	8	64	U	N1-C2-O2	6.57	127.40	122.80
44	2	4199	C	P-O3'-C3'	-6.57	111.82	119.70
4	8	55	U	N3-C2-O2	-6.56	117.61	122.20
44	2	322	C	N3-C2-O2	-6.56	117.31	121.90
44	2	907	C	C6-N1-C2	-6.56	117.68	120.30
44	2	1809	C	C5-C6-N1	6.56	124.28	121.00
44	2	4263	C	N3-C2-O2	-6.56	117.31	121.90
44	2	1921	C	C5-C6-N1	6.55	124.28	121.00
44	2	4887	C	C2-N1-C1'	6.55	126.00	118.80
44	2	4773	C	C6-N1-C2	-6.55	117.68	120.30
44	2	4342	C	C6-N1-C2	-6.54	117.68	120.30
44	2	4608	G	N7-C8-N9	6.54	116.37	113.10
44	2	4709	U	C2-N1-C1'	6.54	125.55	117.70
44	2	1395	U	N3-C2-O2	-6.54	117.62	122.20
44	2	3840	U	N3-C2-O2	-6.54	117.62	122.20
44	2	2892	C	N1-C2-O2	6.54	122.82	118.90
44	2	4569	U	N3-C2-O2	-6.54	117.63	122.20
44	2	274	C	C6-N1-C2	-6.53	117.69	120.30
52	t	124	LEU	CA-CB-CG	6.52	130.31	115.30
17	N	94	LEU	CA-CB-CG	6.52	130.30	115.30
44	2	1245	C	C6-N1-C2	-6.52	117.69	120.30
44	2	1929	A	C4-N9-C1'	6.51	138.02	126.30
23	V	141	LEU	CA-CB-CG	6.50	130.25	115.30
44	2	906	C	C6-N1-C2	-6.50	117.70	120.30
44	2	3587	C	N3-C2-O2	-6.49	117.36	121.90
44	2	2528	G	C8-N9-C1'	-6.49	118.57	127.00
44	2	694	C	N1-C2-O2	6.48	122.79	118.90
44	2	4682	U	C2-N1-C1'	6.48	125.48	117.70
44	2	2006	U	N3-C2-O2	-6.47	117.67	122.20
44	2	175	C	N3-C2-O2	-6.47	117.37	121.90
44	2	175	C	C6-N1-C2	-6.46	117.72	120.30
44	2	972	C	N3-C2-O2	-6.45	117.38	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4614	G	C5-C6-O6	6.45	132.47	128.60
44	2	30	C	C6-N1-C2	-6.45	117.72	120.30
44	2	4766	C	C2-N1-C1'	6.45	125.89	118.80
44	2	2445	C	C6-N1-C2	-6.44	117.72	120.30
44	2	495	C	C5-C6-N1	6.44	124.22	121.00
44	2	925	C	C6-N1-C2	-6.44	117.72	120.30
4	8	32	C	C2-N1-C1'	6.44	125.88	118.80
44	2	977	C	C2-N1-C1'	6.43	125.88	118.80
44	2	4522	G	C4-N9-C1'	6.43	134.86	126.50
44	2	242	U	C6-N1-C2	-6.43	117.14	121.00
44	2	4880	C	C2-N1-C1'	6.43	125.87	118.80
44	2	86	U	N3-C2-O2	-6.43	117.70	122.20
44	2	1726	U	C2-N1-C1'	6.43	125.41	117.70
44	2	2615	C	N1-C2-O2	6.42	122.75	118.90
44	2	3636	C	C2-N1-C1'	6.42	125.87	118.80
44	2	1662	C	C6-N1-C2	-6.42	117.73	120.30
44	2	2592	U	N1-C2-O2	6.42	127.29	122.80
44	2	4710	C	C6-N1-C2	-6.42	117.73	120.30
44	2	2371	U	N1-C2-O2	6.41	127.29	122.80
44	2	985	C	C2-N1-C1'	6.41	125.85	118.80
44	2	1472	C	N1-C2-O2	6.41	122.74	118.90
44	2	4714	C	N1-C2-O2	6.40	122.74	118.90
1	5	78	C	C6-N1-C2	-6.40	117.74	120.30
44	2	2563	C	C2-N1-C1'	6.40	125.84	118.80
44	2	4708	A	C2-N3-C4	6.40	113.80	110.60
44	2	1656	U	N3-C2-O2	-6.40	117.72	122.20
1	5	14	C	C5-C6-N1	6.40	124.20	121.00
44	2	2850	A	C2-N3-C4	6.39	113.80	110.60
1	5	76	U	N3-C2-O2	-6.39	117.72	122.20
44	2	457	G	C4-C5-N7	6.39	113.36	110.80
1	5	76	U	N1-C2-O2	6.39	127.27	122.80
44	2	2532	C	C6-N1-C2	-6.39	117.74	120.30
44	2	4206	C	C5-C6-N1	6.39	124.19	121.00
44	2	4864	U	C2-N1-C1'	6.39	125.36	117.70
44	2	365	U	N3-C2-O2	-6.38	117.73	122.20
4	8	118	C	C6-N1-C2	-6.38	117.75	120.30
44	2	1582	U	N1-C2-O2	6.37	127.26	122.80
44	2	365	U	N1-C2-O2	6.37	127.26	122.80
44	2	1325	C	C6-N1-C1'	-6.37	113.15	120.80
44	2	3587	C	C6-N1-C2	-6.37	117.75	120.30
44	2	4928	C	N1-C2-O2	6.36	122.72	118.90
44	2	4970	C	C6-N1-C2	-6.36	117.76	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
46	4	503	THR	C-N-CA	6.36	137.60	121.70
44	2	1367	C	N1-C2-O2	6.33	122.70	118.90
44	2	673	C	C6-N1-C2	-6.32	117.77	120.30
44	2	4284	C	C6-N1-C2	-6.32	117.77	120.30
44	2	4612	C	C6-N1-C2	-6.32	117.77	120.30
44	2	656	C	C6-N1-C2	-6.31	117.78	120.30
44	2	472	C	C2-N1-C1'	6.31	125.74	118.80
44	2	1088	C	C6-N1-C2	-6.31	117.78	120.30
44	2	1243	C	C2-N1-C1'	6.30	125.74	118.80
40	A	160	MET	CA-CB-CG	6.30	124.01	113.30
44	2	30	C	C2-N1-C1'	6.30	125.73	118.80
44	2	4766	C	N1-C2-O2	6.30	122.68	118.90
44	2	907	C	C2-N1-C1'	6.30	125.73	118.80
44	2	4710	C	C5-C6-N1	6.30	124.15	121.00
44	2	4711	C	C6-N1-C2	-6.29	117.78	120.30
44	2	1428	U	N3-C2-O2	-6.29	117.80	122.20
44	2	1666	C	C6-N1-C2	-6.29	117.78	120.30
44	2	3739	C	N1-C2-O2	6.29	122.67	118.90
1	5	57	C	C6-N1-C2	-6.29	117.78	120.30
44	2	657	C	N3-C2-O2	-6.29	117.50	121.90
44	2	4481	U	N3-C2-O2	-6.29	117.80	122.20
44	2	2560	C	C6-N1-C2	-6.28	117.79	120.30
44	2	220	C	C2-N1-C1'	6.28	125.71	118.80
44	2	1243	C	N1-C2-O2	6.28	122.67	118.90
1	5	28	C	N1-C2-O2	6.28	122.67	118.90
44	2	4662	C	C6-N1-C2	-6.28	117.79	120.30
44	2	1077	C	C6-N1-C2	-6.27	117.79	120.30
44	2	696	C	C6-N1-C2	-6.27	117.79	120.30
44	2	1191	C	N1-C2-O2	6.27	122.66	118.90
47	d	43	LEU	CA-CB-CG	6.27	129.73	115.30
44	2	204	U	N3-C2-O2	-6.27	117.81	122.20
44	2	4042	G	C8-N9-C1'	-6.27	118.85	127.00
44	2	26	C	C2-N1-C1'	6.26	125.69	118.80
44	2	1096	C	C6-N1-C2	-6.26	117.80	120.30
44	2	2281	U	C5-C6-N1	6.26	125.83	122.70
44	2	498	C	C5-C6-N1	6.26	124.13	121.00
44	2	4674	C	C6-N1-C2	-6.25	117.80	120.30
44	2	4773	C	N1-C2-O2	6.25	122.65	118.90
44	2	2892	C	C5-C6-N1	6.25	124.12	121.00
44	2	1822	U	C6-N1-C2	-6.25	117.25	121.00
44	2	4123	C	N1-C2-O2	6.25	122.65	118.90
44	2	1308	C	C6-N1-C2	-6.24	117.80	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4286	C	C5-C6-N1	6.24	124.12	121.00
44	2	4341	C	C6-N1-C2	-6.24	117.80	120.30
44	2	467	U	C6-N1-C1'	-6.24	112.47	121.20
44	2	1289	C	N1-C2-O2	6.24	122.64	118.90
44	2	4352	U	N1-C2-O2	6.24	127.17	122.80
44	2	4504	C	N1-C2-O2	6.24	122.64	118.90
1	5	102	U	N3-C2-O2	-6.23	117.84	122.20
44	2	1378	C	C2-N1-C1'	6.23	125.66	118.80
44	2	2867	C	C6-N1-C2	-6.23	117.81	120.30
44	2	242	U	C2-N1-C1'	6.23	125.18	117.70
44	2	4341	C	N3-C2-O2	-6.23	117.54	121.90
44	2	4926	C	C5-C6-N1	6.23	124.11	121.00
44	2	4695	C	N1-C2-O2	6.22	122.63	118.90
44	2	2026	A	C2-N3-C4	6.22	113.71	110.60
44	2	3631	U	N1-C2-O2	6.22	127.15	122.80
44	2	1577	G	C2-N3-C4	6.21	115.01	111.90
44	2	4996	C	C6-N1-C2	-6.21	117.82	120.30
44	2	4773	C	C2-N1-C1'	6.21	125.63	118.80
44	2	2802	C	C6-N1-C2	-6.20	117.82	120.30
44	2	122	U	N3-C2-O2	-6.20	117.86	122.20
44	2	4365	C	C6-N1-C2	-6.20	117.82	120.30
44	2	454	U	N3-C2-O2	-6.19	117.87	122.20
44	2	1414	C	C5-C6-N1	6.19	124.09	121.00
44	2	1672	U	N3-C2-O2	-6.19	117.87	122.20
44	2	2025	A	N1-C2-N3	-6.19	126.20	129.30
44	2	4747	C	C5-C6-N1	6.19	124.09	121.00
44	2	2026	A	N1-C6-N6	-6.19	114.89	118.60
44	2	3637	U	N1-C2-O2	6.19	127.13	122.80
44	2	282	C	C6-N1-C2	-6.18	117.83	120.30
44	2	1216	C	N3-C2-O2	-6.18	117.57	121.90
44	2	1577	G	N3-C2-N2	-6.18	115.58	119.90
44	2	2837	U	N1-C2-O2	6.18	127.12	122.80
44	2	1276	C	C6-N1-C2	-6.17	117.83	120.30
44	2	4088	C	C6-N1-C2	-6.17	117.83	120.30
44	2	68	U	N3-C2-O2	-6.17	117.88	122.20
44	2	4712	C	C5-C6-N1	6.17	124.08	121.00
44	2	26	C	N1-C2-O2	6.16	122.60	118.90
44	2	4342	C	N1-C2-O2	6.16	122.60	118.90
1	5	14	C	C2-N1-C1'	6.15	125.57	118.80
44	2	1079	C	N3-C2-O2	-6.15	117.59	121.90
4	8	101	C	C6-N1-C2	-6.15	117.84	120.30
44	2	4764	A	N1-C2-N3	-6.14	126.23	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	489	C	N1-C2-O2	6.14	122.59	118.90
44	2	2532	C	N1-C2-O2	6.14	122.59	118.90
44	2	498	C	C2-N1-C1'	6.13	125.55	118.80
44	2	1809	C	N1-C2-O2	6.13	122.58	118.90
44	2	2544	G	C4-N9-C1'	6.13	134.47	126.50
44	2	4700	A	C2-N3-C4	6.13	113.66	110.60
44	2	1656	U	N1-C2-O2	6.12	127.09	122.80
44	2	3636	C	C5-C6-N1	6.12	124.06	121.00
44	2	30	C	N1-C2-O2	6.12	122.57	118.90
44	2	2035	C	C6-N1-C2	-6.12	117.85	120.30
44	2	1655	C	C5-C6-N1	6.12	124.06	121.00
44	2	1663	C	C5-C6-N1	6.12	124.06	121.00
44	2	1243	C	C5-C6-N1	6.11	124.06	121.00
44	2	906	C	N1-C2-O2	6.11	122.57	118.90
44	2	141	C	N1-C2-O2	6.10	122.56	118.90
44	2	4886	C	N1-C2-O2	6.10	122.56	118.90
4	8	51	U	N3-C2-O2	-6.09	117.94	122.20
44	2	1731	C	C5-C6-N1	6.09	124.04	121.00
44	2	36	U	N3-C2-O2	-6.09	117.94	122.20
44	2	2729	C	C6-N1-C2	-6.09	117.86	120.30
44	2	472	C	C5-C6-N1	6.08	124.04	121.00
44	2	1663	C	C6-N1-C2	-6.08	117.87	120.30
44	2	2021	G	N3-C4-N9	6.08	129.65	126.00
44	2	4771	C	C5-C6-N1	6.08	124.04	121.00
44	2	274	C	C2-N1-C1'	6.08	125.48	118.80
44	2	4773	C	C5-C6-N1	6.07	124.04	121.00
44	2	4969	C	C6-N1-C2	-6.07	117.87	120.30
44	2	1176	C	N3-C2-O2	-6.07	117.65	121.90
44	2	14	C	C6-N1-C2	-6.07	117.87	120.30
44	2	4555	U	P-O3'-C3'	6.07	126.98	119.70
44	2	926	G	N3-C4-C5	-6.07	125.57	128.60
44	2	1176	C	C6-N1-C2	-6.07	117.87	120.30
1	5	2	U	N3-C2-O2	-6.06	117.96	122.20
44	2	3598	C	N1-C2-O2	6.06	122.53	118.90
4	8	135	C	C2-N1-C1'	6.05	125.46	118.80
44	2	367	C	C6-N1-C2	-6.05	117.88	120.30
44	2	1816	C	C2-N1-C1'	6.05	125.46	118.80
44	2	977	C	N1-C2-O2	6.04	122.53	118.90
44	2	2072	C	C5-C6-N1	6.04	124.02	121.00
44	2	4233	A	C2-N3-C4	6.04	113.62	110.60
44	2	656	C	N3-C2-O2	-6.04	117.67	121.90
44	2	1963	C	N1-C2-O2	6.03	122.52	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1735	U	N3-C2-O2	-6.03	117.98	122.20
44	2	1477	C	C2-N1-C1'	6.03	125.43	118.80
44	2	3960	A	N1-C2-N3	-6.02	126.29	129.30
44	2	4972	U	N1-C2-O2	6.01	127.01	122.80
21	S	32	ASP	CB-CG-OD1	6.01	123.71	118.30
44	2	86	U	N1-C2-O2	6.01	127.01	122.80
44	2	4387	C	N1-C2-O2	6.01	122.51	118.90
44	2	4771	C	C6-N1-C2	-6.01	117.90	120.30
44	2	174	C	N1-C2-O2	6.01	122.50	118.90
44	2	4284	C	C5-C6-N1	6.01	124.00	121.00
46	4	230	LEU	CB-CG-CD1	6.01	121.21	111.00
44	2	4162	C	C2-N1-C1'	6.00	125.40	118.80
44	2	1672	U	N1-C2-O2	6.00	127.00	122.80
44	2	4137	C	C6-N1-C2	-6.00	117.90	120.30
44	2	204	U	N1-C2-O2	6.00	127.00	122.80
44	2	457	G	N1-C6-O6	5.99	123.50	119.90
44	2	489	C	C5-C6-N1	5.99	124.00	121.00
44	2	1469	C	C5-C6-N1	5.99	124.00	121.00
44	2	2814	C	C2-N1-C1'	5.99	125.39	118.80
44	2	3739	C	C2-N1-C1'	5.99	125.39	118.80
44	2	4243	C	C6-N1-C2	-5.99	117.90	120.30
4	8	51	U	N1-C2-O2	5.99	126.99	122.80
44	2	386	A	C2-N3-C4	5.99	113.59	110.60
44	2	4303	C	N1-C2-O2	5.99	122.49	118.90
44	2	1402	C	N1-C2-O2	5.99	122.49	118.90
44	2	4350	C	C6-N1-C2	-5.98	117.91	120.30
44	2	5035	U	N1-C2-O2	5.98	126.99	122.80
44	2	1994	C	C5-C6-N1	5.98	123.99	121.00
44	2	115	C	N3-C2-O2	-5.97	117.72	121.90
44	2	1381	U	N3-C2-O2	-5.96	118.03	122.20
44	2	2094	G	C8-N9-C1'	-5.96	119.25	127.00
44	2	1193	C	N1-C2-O2	5.96	122.47	118.90
44	2	2035	C	C5-C6-N1	5.95	123.98	121.00
44	2	2853	C	N1-C2-O2	5.95	122.47	118.90
44	2	1405	C	C6-N1-C2	-5.95	117.92	120.30
44	2	1429	C	C6-N1-C2	-5.94	117.92	120.30
44	2	4895	C	C2-N1-C1'	5.94	125.33	118.80
44	2	1856	C	C5-C6-N1	5.94	123.97	121.00
1	5	102	U	N1-C2-O2	5.93	126.95	122.80
4	8	55	U	N1-C2-O2	5.93	126.95	122.80
44	2	390	C	C5-C6-N1	5.93	123.97	121.00
44	2	971	U	C2-N1-C1'	5.93	124.81	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1993	C	C6-N1-C2	-5.93	117.93	120.30
44	2	3670	C	N3-C2-O2	-5.93	117.75	121.90
1	5	103	A	C2-N3-C4	5.92	113.56	110.60
44	2	2684	C	C5-C6-N1	5.92	123.96	121.00
44	2	2820	C	C2-N1-C1'	5.92	125.32	118.80
41	R	149	ASP	CB-CG-OD1	5.92	123.63	118.30
44	2	2821	U	N3-C2-O2	-5.92	118.06	122.20
44	2	201	C	C6-N1-C2	-5.92	117.93	120.30
44	2	3851	U	N3-C2-O2	-5.92	118.06	122.20
44	2	2281	U	C2-N1-C1'	5.92	124.80	117.70
44	2	2059	C	C6-N1-C2	-5.91	117.94	120.30
44	2	44	A	C2-N3-C4	5.91	113.55	110.60
44	2	2508	U	N3-C2-O2	-5.91	118.07	122.20
44	2	2589	C	C5-C6-N1	5.91	123.95	121.00
44	2	4481	U	N1-C2-O2	5.91	126.93	122.80
44	2	1254	A	C2-N3-C4	5.90	113.55	110.60
4	8	28	C	C6-N1-C2	-5.90	117.94	120.30
44	2	2362	U	C2-N1-C1'	5.90	124.78	117.70
44	2	4133	C	C2-N1-C1'	5.90	125.29	118.80
44	2	2021	G	N3-C4-C5	-5.90	125.65	128.60
44	2	4308	C	C6-N1-C2	-5.90	117.94	120.30
44	2	2593	C	C6-N1-C2	-5.90	117.94	120.30
44	2	5042	A	C2-N3-C4	5.90	113.55	110.60
44	2	1794	A	C2-N3-C4	5.89	113.55	110.60
44	2	1978	C	C2-N1-C1'	5.89	125.28	118.80
44	2	36	U	N1-C2-O2	5.89	126.92	122.80
4	8	54	C	N3-C2-O2	-5.89	117.78	121.90
44	2	2540	C	C6-N1-C2	-5.89	117.94	120.30
44	2	1428	U	N1-C2-O2	5.89	126.92	122.80
4	8	80	A	C2-N3-C4	5.88	113.54	110.60
44	2	2497	C	N3-C2-O2	-5.88	117.78	121.90
44	2	2791	C	C2-N1-C1'	5.88	125.27	118.80
44	2	3882	C	C6-N1-C2	-5.88	117.95	120.30
44	2	2033	A	N1-C2-N3	-5.88	126.36	129.30
1	5	36	C	C6-N1-C2	-5.87	117.95	120.30
44	2	3912	U	N3-C2-O2	-5.87	118.09	122.20
1	5	26	C	N1-C2-O2	5.87	122.42	118.90
44	2	1884	C	C6-N1-C2	-5.87	117.95	120.30
44	2	4040	C	N1-C2-O2	5.87	122.42	118.90
44	2	467	U	C5-C6-N1	5.87	125.63	122.70
1	5	2	U	N1-C2-O2	5.86	126.91	122.80
44	2	4133	C	C5-C6-N1	5.86	123.93	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	657	C	C2-N1-C1'	5.86	125.25	118.80
44	2	1402	C	N3-C2-O2	-5.86	117.80	121.90
44	2	3714	G	C4-N9-C1'	5.86	134.12	126.50
44	2	719	C	C6-N1-C2	-5.85	117.96	120.30
44	2	1978	C	C5-C6-N1	5.85	123.93	121.00
44	2	963	G	C4-N9-C1'	5.85	134.10	126.50
44	2	3882	C	N1-C2-O2	5.85	122.41	118.90
44	2	454	U	N1-C2-O2	5.84	126.89	122.80
44	2	1381	U	N1-C2-O2	5.84	126.89	122.80
44	2	4162	C	N3-C2-O2	-5.84	117.81	121.90
44	2	4928	C	N3-C2-O2	-5.84	117.81	121.90
44	2	4471	U	C2-N1-C1'	5.83	124.70	117.70
44	2	1078	A	C2-N3-C4	5.83	113.51	110.60
44	2	1245	C	C2-N1-C1'	5.83	125.21	118.80
44	2	2031	C	C6-N1-C2	-5.83	117.97	120.30
44	2	1856	C	C2-N1-C1'	5.82	125.20	118.80
44	2	4775	C	N1-C2-O2	5.82	122.39	118.90
44	2	3866	C	C6-N1-C2	-5.82	117.97	120.30
44	2	4229	U	N3-C2-O2	-5.82	118.13	122.20
51	z	29	LEU	CB-CG-CD1	5.81	120.88	111.00
4	8	32	C	N3-C2-O2	-5.81	117.83	121.90
44	2	1458	C	C6-N1-C2	-5.81	117.98	120.30
44	2	50	C	C5-C6-N1	5.81	123.90	121.00
44	2	495	C	N1-C1'-C2'	5.81	121.55	114.00
4	8	101	C	N1-C2-O2	5.81	122.38	118.90
44	2	100	C	O4'-C1'-N1	5.81	112.84	108.20
44	2	2867	C	C2-N1-C1'	5.81	125.19	118.80
44	2	499	G	N3-C4-C5	-5.80	125.70	128.60
44	2	2026	A	N9-C4-C5	5.80	108.12	105.80
44	2	4758	U	C6-N1-C1'	-5.80	113.07	121.20
44	2	1816	C	C5-C6-N1	5.80	123.90	121.00
44	2	2783	A	N1-C2-N3	-5.80	126.40	129.30
44	2	4508	C	N1-C2-O2	5.80	122.38	118.90
44	2	467	U	C6-N1-C2	-5.80	117.52	121.00
44	2	1460	C	C6-N1-C2	-5.80	117.98	120.30
44	2	1694	C	C6-N1-C2	-5.79	117.98	120.30
44	2	4714	C	C6-N1-C2	-5.79	117.98	120.30
44	2	1315	C	C6-N1-C2	-5.79	117.98	120.30
44	2	3618	C	C6-N1-C2	-5.79	117.98	120.30
44	2	4639	G	N3-C4-C5	-5.79	125.70	128.60
44	2	4923	C	N1-C2-O2	5.79	122.38	118.90
1	5	28	C	N3-C2-O2	-5.79	117.85	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1405	C	N3-C2-O2	-5.79	117.85	121.90
44	2	4206	C	N1-C2-O2	5.79	122.37	118.90
44	2	1477	C	C5-C6-N1	5.78	123.89	121.00
44	2	4596	C	N1-C2-O2	5.78	122.37	118.90
44	2	4464	A	C2-N3-C4	5.78	113.49	110.60
44	2	2505	C	C6-N1-C2	-5.77	117.99	120.30
44	2	4361	U	N1-C2-O2	5.77	126.84	122.80
44	2	4696	C	N1-C2-O2	5.76	122.36	118.90
44	2	1378	C	N1-C2-O2	5.76	122.36	118.90
44	2	71	C	C6-N1-C2	-5.76	118.00	120.30
44	2	907	C	C5-C6-N1	5.76	123.88	121.00
44	2	1662	C	C5-C6-N1	5.76	123.88	121.00
44	2	4229	U	N1-C2-O2	5.76	126.83	122.80
44	2	4299	U	N3-C2-O2	-5.76	118.17	122.20
4	8	35	C	C5-C6-N1	5.75	123.88	121.00
4	8	54	C	C5-C6-N1	5.75	123.88	121.00
44	2	100	C	C5-C6-N1	5.75	123.88	121.00
44	2	1592	G	C4-N9-C1'	5.75	133.98	126.50
44	2	457	G	C8-N9-C1'	-5.75	119.53	127.00
44	2	201	C	N1-C2-O2	5.74	122.34	118.90
44	2	924	C	C6-N1-C2	-5.74	118.00	120.30
44	2	1540	C	C6-N1-C2	-5.74	118.00	120.30
44	2	2372	U	N3-C2-O2	-5.74	118.18	122.20
6	B	248	LEU	CA-CB-CG	5.74	128.50	115.30
44	2	2792	C	C6-N1-C2	-5.74	118.00	120.30
44	2	679	C	C6-N1-C2	-5.74	118.00	120.30
1	5	80	U	N3-C2-O2	-5.73	118.19	122.20
44	2	1731	C	C2-N1-C1'	5.73	125.11	118.80
44	2	2540	C	C5-C6-N1	5.73	123.87	121.00
1	5	14	C	N1-C2-O2	5.73	122.34	118.90
44	2	3587	C	C2-N1-C1'	5.73	125.10	118.80
44	2	513	U	N3-C2-O2	-5.73	118.19	122.20
44	2	1792	U	N3-C2-O2	-5.72	118.19	122.20
44	2	972	C	C5-C6-N1	5.72	123.86	121.00
44	2	2843	U	N3-C2-O2	-5.72	118.19	122.20
44	2	5008	C	N1-C2-O2	5.72	122.33	118.90
6	B	201	LEU	CA-CB-CG	5.72	128.46	115.30
44	2	704	C	C2-N1-C1'	5.72	125.09	118.80
44	2	1418	C	C6-N1-C2	-5.72	118.01	120.30
44	2	2625	U	N3-C2-O2	-5.71	118.20	122.20
44	2	4120	U	N3-C2-O2	-5.71	118.20	122.20
1	5	28	C	C5-C6-N1	5.71	123.86	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1096	C	C5-C6-N1	5.71	123.85	121.00
44	2	1707	C	C6-N1-C2	-5.71	118.02	120.30
44	2	3714	G	N3-C4-C5	-5.71	125.75	128.60
44	2	2615	C	N3-C2-O2	-5.70	117.91	121.90
35	m	102	LEU	CA-CB-CG	5.70	128.41	115.30
44	2	449	C	C2-N1-C1'	5.70	125.07	118.80
44	2	673	C	N1-C2-O2	5.70	122.32	118.90
44	2	1725	U	N3-C2-O2	-5.69	118.22	122.20
46	4	66	LEU	CA-CB-CG	5.69	128.38	115.30
44	2	1978	C	N3-C2-O2	-5.69	117.92	121.90
44	2	926	G	N3-C4-N9	5.68	129.41	126.00
8	D	7	LEU	CA-CB-CG	5.68	128.37	115.30
44	2	2791	C	C5-C6-N1	5.68	123.84	121.00
44	2	2022	C	N1-C2-O2	5.68	122.31	118.90
44	2	3622	C	C6-N1-C2	-5.68	118.03	120.30
44	2	4040	C	C6-N1-C2	-5.68	118.03	120.30
44	2	4233	A	N1-C2-N3	-5.68	126.46	129.30
44	2	3882	C	C2-N1-C1'	5.67	125.04	118.80
44	2	4613	C	C2-N1-C1'	5.67	125.04	118.80
21	S	135	LEU	CA-CB-CG	5.67	128.34	115.30
44	2	1097	C	C6-N1-C2	-5.67	118.03	120.30
44	2	1197	C	C6-N1-C2	-5.67	118.03	120.30
44	2	2290	C	C6-N1-C2	-5.67	118.03	120.30
46	4	406	GLY	C-N-CA	5.67	135.87	121.70
44	2	1962	A	C2-N3-C4	5.67	113.43	110.60
44	2	1632	A	C4-N9-C1'	5.66	136.49	126.30
4	8	96	C	N1-C2-O2	5.66	122.30	118.90
44	2	3853	U	N3-C2-O2	-5.66	118.24	122.20
44	2	977	C	C5-C6-N1	5.66	123.83	121.00
44	2	1193	C	N3-C2-O2	-5.66	117.94	121.90
44	2	2533	C	C6-N1-C2	-5.66	118.04	120.30
44	2	3685	C	C6-N1-C2	-5.66	118.04	120.30
1	5	42	A	C2-N3-C4	5.65	113.43	110.60
36	n	106	TYR	N-CA-C	5.65	126.26	111.00
44	2	1183	C	C2-N1-C1'	5.65	125.02	118.80
44	2	2708	U	N1-C2-O2	5.65	126.76	122.80
44	2	3851	U	N1-C2-O2	5.65	126.76	122.80
44	2	4406	U	C2-N1-C1'	5.65	124.48	117.70
44	2	2000	G	C4-N9-C1'	5.65	133.85	126.50
44	2	2729	C	C2-N1-C1'	5.65	125.02	118.80
44	2	4243	C	N1-C2-O2	5.65	122.29	118.90
44	2	513	U	N1-C2-O2	5.65	126.75	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1994	C	O4'-C1'-N1	5.65	112.72	108.20
44	2	1720	C	N3-C2-O2	-5.65	117.95	121.90
44	2	3905	A	OP2-P-O3'	5.65	117.62	105.20
1	5	24	C	C2-N1-C1'	5.64	125.01	118.80
44	2	1915	C	C2-N1-C1'	5.64	125.01	118.80
44	2	4350	C	N1-C2-O2	5.64	122.28	118.90
44	2	2410	C	N3-C2-O2	-5.64	117.95	121.90
44	2	2802	C	C5-C6-N1	5.64	123.82	121.00
44	2	4134	C	C6-N1-C2	-5.64	118.04	120.30
44	2	4712	C	N1-C2-O2	5.64	122.28	118.90
39	r	103	LEU	CA-CB-CG	5.63	128.25	115.30
44	2	1644	C	C6-N1-C2	-5.63	118.05	120.30
44	2	4215	C	C2-N1-C1'	5.63	124.99	118.80
50	Y	127	ARG	CG-CD-NE	5.63	123.62	111.80
44	2	2872	C	C6-N1-C2	-5.63	118.05	120.30
4	8	111	U	N3-C2-O2	-5.62	118.26	122.20
44	2	1929	A	N3-C4-N9	5.62	131.90	127.40
44	2	4303	C	C6-N1-C2	-5.62	118.05	120.30
44	2	4561	C	C2-N1-C1'	5.62	124.99	118.80
44	2	4991	U	N3-C2-O2	-5.62	118.26	122.20
4	8	118	C	C5-C6-N1	5.62	123.81	121.00
44	2	2544	G	N3-C4-N9	5.62	129.37	126.00
44	2	4601	U	N3-C2-O2	-5.62	118.27	122.20
44	2	4613	C	C5-C6-N1	5.62	123.81	121.00
44	2	1936	C	N1-C2-O2	5.62	122.27	118.90
44	2	712	C	C5-C6-N1	5.62	123.81	121.00
44	2	694	C	C2-N1-C1'	5.61	124.97	118.80
44	2	3882	C	C5-C6-N1	5.61	123.81	121.00
4	8	135	C	C5-C6-N1	5.61	123.81	121.00
18	O	30	ASP	CB-CG-OD2	-5.61	113.25	118.30
4	8	101	C	C2-N1-C1'	5.61	124.97	118.80
44	2	712	C	C6-N1-C2	-5.61	118.06	120.30
46	4	12	VAL	CA-CB-CG1	5.61	119.31	110.90
44	2	703	G	C4-N9-C1'	5.60	133.78	126.50
44	2	985	C	N1-C2-O2	5.60	122.26	118.90
44	2	494	U	N3-C2-O2	-5.60	118.28	122.20
44	2	1077	C	C5-C6-N1	5.60	123.80	121.00
44	2	1197	C	N3-C2-O2	-5.60	117.98	121.90
44	2	1414	C	C2-N1-C1'	5.60	124.96	118.80
44	2	4561	C	C6-N1-C2	-5.60	118.06	120.30
44	2	458	C	C6-N1-C2	-5.60	118.06	120.30
44	2	4562	C	C6-N1-C2	-5.59	118.06	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	3831	U	N3-C2-O2	-5.59	118.28	122.20
44	2	1320	U	C5-C6-N1	5.59	125.50	122.70
13	I	111	LEU	CA-CB-CG	5.59	128.15	115.30
44	2	112	C	N3-C2-O2	-5.59	117.99	121.90
44	2	4687	A	C2-N3-C4	5.59	113.39	110.60
7	C	54	LEU	CA-CB-CG	5.58	128.15	115.30
44	2	4289	U	C2-N1-C1'	5.58	124.40	117.70
44	2	985	C	C5-C6-N1	5.58	123.79	121.00
44	2	2262	G	C2-N3-C4	5.58	114.69	111.90
44	2	1203	G	N3-C4-N9	5.58	129.35	126.00
44	2	4137	C	C5-C6-N1	5.58	123.79	121.00
44	2	3622	C	N3-C2-O2	-5.58	118.00	121.90
44	2	4314	C	C5-C6-N1	5.58	123.79	121.00
44	2	4752	U	N3-C2-O2	-5.58	118.30	122.20
44	2	4137	C	N1-C2-O2	5.57	122.24	118.90
4	8	26	C	C6-N1-C2	-5.57	118.07	120.30
13	I	188	GLN	CA-CB-CG	5.57	125.65	113.40
44	2	165	A	C2-N3-C4	5.57	113.38	110.60
44	2	1450	C	C2-N1-C1'	5.57	124.92	118.80
44	2	4878	C	C6-N1-C2	-5.57	118.07	120.30
44	2	1579	C	C6-N1-C2	-5.57	118.07	120.30
4	8	107	C	C6-N1-C2	-5.56	118.07	120.30
44	2	981	C	C6-N1-C2	-5.56	118.07	120.30
4	8	111	U	N1-C2-O2	5.56	126.69	122.80
44	2	1289	C	N3-C2-O2	-5.56	118.01	121.90
44	2	4171	C	C5-C6-N1	5.56	123.78	121.00
44	2	2729	C	N1-C2-O2	5.56	122.24	118.90
44	2	2002	A	C2-N3-C4	5.56	113.38	110.60
44	2	2031	C	N1-C2-O2	5.56	122.23	118.90
44	2	4303	C	N3-C2-O2	-5.56	118.01	121.90
4	8	96	C	C6-N1-C2	-5.55	118.08	120.30
44	2	3831	U	C2-N1-C1'	5.55	124.36	117.70
44	2	1632	A	N1-C2-N3	-5.55	126.52	129.30
44	2	4711	C	C5-C6-N1	5.55	123.78	121.00
44	2	180	C	C5-C6-N1	5.55	123.77	121.00
44	2	1096	C	N1-C2-O2	5.55	122.23	118.90
44	2	1401	C	N1-C2-O2	5.54	122.23	118.90
44	2	3739	C	C5-C6-N1	5.54	123.77	121.00
44	2	3977	C	N1-C2-O2	5.54	122.22	118.90
44	2	4074	C	C2-N1-C1'	5.54	124.89	118.80
1	5	67	C	C6-N1-C2	-5.54	118.08	120.30
4	8	35	C	N1-C2-O2	5.54	122.22	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1538	U	N3-C2-O2	-5.54	118.33	122.20
44	2	2820	C	C5-C6-N1	5.54	123.77	121.00
44	2	4352	U	C2-N1-C1'	5.53	124.34	117.70
4	8	150	C	C6-N1-C2	-5.53	118.09	120.30
44	2	1445	U	N1-C2-O2	5.53	126.67	122.80
44	2	1921	C	C2-N1-C1'	5.53	124.88	118.80
44	2	4945	G	N3-C4-N9	5.53	129.32	126.00
44	2	494	U	N1-C2-O2	5.52	126.67	122.80
33	i	30	ASP	CB-CG-OD2	5.52	123.27	118.30
1	5	44	C	N1-C2-O2	5.52	122.21	118.90
44	2	1929	A	C8-N9-C1'	-5.52	117.77	127.70
44	2	3926	C	C5-C6-N1	5.52	123.76	121.00
44	2	2689	C	C6-N1-C2	-5.52	118.09	120.30
44	2	209	U	C2-N1-C1'	5.51	124.32	117.70
44	2	1350	C	C6-N1-C2	-5.51	118.09	120.30
44	2	1445	U	N3-C2-O2	-5.51	118.34	122.20
44	2	2465	C	N3-C2-O2	-5.51	118.04	121.90
44	2	4387	C	N3-C2-O2	-5.51	118.04	121.90
44	2	4709	U	C6-N1-C2	-5.51	117.69	121.00
44	2	4342	C	N3-C2-O2	-5.51	118.04	121.90
44	2	9	C	C6-N1-C2	-5.51	118.10	120.30
44	2	1216	C	C6-N1-C1'	-5.51	114.19	120.80
44	2	3650	C	C5-C6-N1	5.51	123.75	121.00
1	5	79	U	N3-C2-O2	-5.51	118.34	122.20
44	2	43	U	N3-C2-O2	-5.51	118.34	122.20
44	2	4434	C	N3-C2-O2	-5.51	118.05	121.90
44	2	1535	C	N1-C2-O2	5.51	122.20	118.90
44	2	2037	C	C6-N1-C2	-5.51	118.10	120.30
44	2	4561	C	N1-C2-O2	5.51	122.20	118.90
44	2	683	C	N1-C2-O2	5.50	122.20	118.90
44	2	1628	C	C6-N1-C2	-5.50	118.10	120.30
44	2	1702	C	N3-C2-O2	-5.50	118.05	121.90
44	2	4088	C	C5-C6-N1	5.50	123.75	121.00
44	2	1988	G	N3-C4-N9	5.50	129.30	126.00
44	2	26	C	C5-C6-N1	5.50	123.75	121.00
44	2	4364	G	N3-C4-C5	-5.50	125.85	128.60
4	8	118	C	C2-N1-C1'	5.50	124.85	118.80
44	2	1577	G	N1-C6-O6	-5.50	116.60	119.90
44	2	2532	C	C5-C6-N1	5.50	123.75	121.00
44	2	30	C	C5-C6-N1	5.49	123.75	121.00
44	2	289	C	C6-N1-C2	-5.49	118.10	120.30
44	2	274	C	N1-C2-O2	5.49	122.19	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	78	U	N3-C2-O2	-5.49	118.36	122.20
44	2	2071	A	C2-N3-C4	5.49	113.34	110.60
50	Y	7	ASP	CB-CG-OD1	5.49	123.24	118.30
44	2	1599	A	C2-N3-C4	5.48	113.34	110.60
44	2	1901	C	C6-N1-C2	-5.48	118.11	120.30
44	2	4262	C	C6-N1-C2	-5.48	118.11	120.30
44	2	2560	C	C2-N1-C1'	5.47	124.82	118.80
44	2	2856	C	C5-C6-N1	5.47	123.73	121.00
4	8	90	C	C6-N1-C2	-5.47	118.11	120.30
44	2	2264	C	N1-C2-O2	5.47	122.18	118.90
44	2	4281	A	O4'-C1'-N9	5.47	112.57	108.20
44	2	3694	U	N1-C2-O2	5.46	126.62	122.80
44	2	3693	U	N3-C2-O2	-5.46	118.38	122.20
4	8	128	C	C6-N1-C1'	-5.46	114.25	120.80
4	8	4	C	C6-N1-C2	-5.46	118.12	120.30
44	2	2304	U	N1-C2-O2	5.46	126.62	122.80
44	2	4738	C	N1-C2-O2	5.46	122.17	118.90
44	2	406	C	C6-N1-C2	-5.46	118.12	120.30
44	2	3714	G	N3-C4-N9	5.46	129.27	126.00
44	2	4601	U	N1-C2-O2	5.46	126.62	122.80
44	2	3893	C	C6-N1-C2	-5.46	118.12	120.30
44	2	4469	U	N3-C2-O2	-5.46	118.38	122.20
44	2	4522	G	N3-C4-N9	5.45	129.27	126.00
44	2	322	C	C5-C6-N1	5.45	123.72	121.00
44	2	2026	A	C6-C5-N7	5.44	136.11	132.30
44	2	385	A	N1-C2-N3	-5.44	126.58	129.30
44	2	4981	G	C4-N9-C1'	5.44	133.58	126.50
53	u	326	GLY	N-CA-C	5.44	126.71	113.10
11	G	253	LEU	CA-CB-CG	5.44	127.81	115.30
44	2	1847	C	C6-N1-C2	-5.44	118.12	120.30
44	2	4461	C	C6-N1-C2	-5.44	118.12	120.30
44	2	4522	G	N3-C4-C5	-5.44	125.88	128.60
44	2	5008	C	C6-N1-C2	-5.44	118.12	120.30
44	2	4569	U	N1-C2-O2	5.43	126.60	122.80
44	2	4714	C	C5-C6-N1	5.43	123.72	121.00
44	2	3831	U	N1-C2-O2	5.43	126.60	122.80
44	2	2684	C	C6-N1-C2	-5.43	118.13	120.30
44	2	1203	G	C4-N9-C1'	5.42	133.55	126.50
44	2	2465	C	C6-N1-C2	-5.42	118.13	120.30
44	2	297	U	N3-C2-O2	-5.42	118.41	122.20
44	2	1344	C	C6-N1-C2	-5.42	118.13	120.30
44	2	1577	G	C8-N9-C4	-5.42	104.23	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2021	G	C4-N9-C1'	5.42	133.54	126.50
44	2	2835	A	N1-C2-N3	-5.42	126.59	129.30
44	2	2710	C	N3-C2-O2	-5.41	118.11	121.90
4	8	150	C	N1-C2-O2	5.41	122.15	118.90
44	2	1477	C	N1-C2-O2	5.41	122.14	118.90
44	2	3923	A	N1-C2-N3	-5.41	126.60	129.30
44	2	1203	G	N3-C4-C5	-5.41	125.90	128.60
44	2	1320	U	C6-N1-C2	-5.41	117.76	121.00
44	2	3668	C	C6-N1-C2	-5.41	118.14	120.30
44	2	274	C	C5-C6-N1	5.40	123.70	121.00
44	2	4043	G	C4-N9-C1'	5.40	133.52	126.50
44	2	4508	C	C6-N1-C2	-5.40	118.14	120.30
44	2	3623	C	C6-N1-C2	-5.40	118.14	120.30
44	2	1081	C	C5-C6-N1	5.40	123.70	121.00
44	2	4685	U	N3-C2-O2	-5.40	118.42	122.20
44	2	4880	C	C5-C6-N1	5.40	123.70	121.00
44	2	1585	C	C6-N1-C2	-5.40	118.14	120.30
44	2	2845	A	C2-N3-C4	5.40	113.30	110.60
44	2	3858	C	N1-C2-O2	5.39	122.14	118.90
44	2	499	G	N3-C4-N9	5.39	129.24	126.00
44	2	1216	C	O4'-C1'-N1	5.39	112.51	108.20
4	8	135	C	N1-C2-O2	5.39	122.13	118.90
44	2	2702	C	C6-N1-C2	-5.39	118.14	120.30
44	2	1993	C	C2-N1-C1'	5.38	124.72	118.80
44	2	2528	G	C2-N3-C4	5.38	114.59	111.90
44	2	3932	U	N3-C2-O2	-5.38	118.43	122.20
44	2	924	C	C5-C6-N1	5.38	123.69	121.00
44	2	1644	C	C5-C6-N1	5.38	123.69	121.00
44	2	1468	C	C6-N1-C2	-5.38	118.15	120.30
44	2	1202	C	C6-N1-C2	-5.38	118.15	120.30
44	2	1703	C	C6-N1-C1'	-5.38	114.34	120.80
44	2	516	C	C2-N1-C1'	5.38	124.72	118.80
44	2	1520	C	C6-N1-C2	-5.38	118.15	120.30
44	2	2290	C	N1-C2-O2	5.38	122.13	118.90
39	r	208	MET	CA-CB-CG	5.38	122.44	113.30
44	2	446	C	C6-N1-C2	-5.38	118.15	120.30
44	2	1378	C	C6-N1-C1'	-5.37	114.35	120.80
44	2	1241	C	C5-C6-N1	5.37	123.69	121.00
44	2	2729	C	C5-C6-N1	5.37	123.69	121.00
44	2	3741	C	N3-C2-O2	-5.37	118.14	121.90
29	c	118	GLU	N-CA-CB	5.37	120.26	110.60
44	2	1832	C	N1-C2-O2	5.37	122.12	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2439	G	C4-N9-C1'	5.37	133.48	126.50
44	2	1193	C	C6-N1-C2	-5.37	118.15	120.30
44	2	4674	C	C5-C6-N1	5.36	123.68	121.00
44	2	4709	U	C5-C6-N1	5.36	125.38	122.70
44	2	694	C	C5-C6-N1	5.36	123.68	121.00
44	2	1929	A	N1-C2-N3	-5.36	126.62	129.30
44	2	4469	U	N1-C2-O2	5.36	126.55	122.80
44	2	14	C	N3-C2-O2	-5.36	118.15	121.90
44	2	4215	C	C5-C6-N1	5.36	123.68	121.00
44	2	683	C	C6-N1-C2	-5.36	118.16	120.30
44	2	68	U	N1-C2-O2	5.35	126.55	122.80
44	2	4490	C	C6-N1-C2	-5.35	118.16	120.30
44	2	1097	C	C5-C6-N1	5.35	123.68	121.00
4	8	9	A	N1-C2-N3	-5.35	126.62	129.30
44	2	4254	G	C4-N9-C1'	5.35	133.46	126.50
5	9	76	LEU	CA-CB-CG	5.35	127.61	115.30
44	2	1183	C	C5-C6-N1	5.35	123.67	121.00
44	2	1327	C	N1-C2-O2	5.34	122.11	118.90
44	2	3694	U	N3-C2-O2	-5.34	118.46	122.20
44	2	926	G	C4-N9-C1'	5.34	133.44	126.50
44	2	2821	U	N1-C2-O2	5.34	126.54	122.80
44	2	4926	C	O4'-C1'-N1	5.34	112.47	108.20
44	2	1405	C	C5-C6-N1	5.34	123.67	121.00
44	2	688	U	N3-C2-O2	-5.33	118.47	122.20
44	2	2081	C	C6-N1-C2	-5.33	118.17	120.30
44	2	3866	C	N1-C2-O2	5.33	122.10	118.90
44	2	1566	C	C6-N1-C2	-5.33	118.17	120.30
44	2	515	C	N3-C2-O2	-5.33	118.17	121.90
44	2	4722	G	C4-N9-C1'	5.33	133.43	126.50
44	2	4738	C	C6-N1-C2	-5.33	118.17	120.30
44	2	1603	C	C6-N1-C2	-5.33	118.17	120.30
44	2	1735	U	N1-C2-O2	5.33	126.53	122.80
1	5	78	C	C5-C6-N1	5.32	123.66	121.00
21	S	130	LEU	CA-CB-CG	5.32	127.54	115.30
44	2	1790	U	N1-C2-O2	5.32	126.53	122.80
44	2	4456	C	N1-C2-O2	5.32	122.09	118.90
44	2	4667	C	C6-N1-C2	-5.32	118.17	120.30
44	2	449	C	N3-C2-O2	-5.32	118.18	121.90
44	2	3697	U	C6-N1-C2	-5.32	117.81	121.00
41	R	89	LEU	CA-CB-CG	5.32	127.53	115.30
44	2	2482	C	C6-N1-C2	-5.31	118.18	120.30
44	2	1315	C	C5-C6-N1	5.31	123.66	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1429	C	N1-C2-O2	5.31	122.08	118.90
44	2	228	C	C6-N1-C2	-5.31	118.18	120.30
44	2	3901	A	C2-N3-C4	5.31	113.25	110.60
44	2	262	G	N1-C6-O6	-5.31	116.72	119.90
44	2	750	U	N3-C2-O2	-5.31	118.49	122.20
44	2	2615	C	C6-N1-C2	-5.30	118.18	120.30
44	2	3926	C	C2-N1-C1'	5.30	124.63	118.80
44	2	2367	A	N1-C2-N3	-5.30	126.65	129.30
44	2	3866	C	C5-C6-N1	5.30	123.65	121.00
44	2	4887	C	C5-C6-N1	5.30	123.65	121.00
44	2	696	C	N1-C2-O2	5.30	122.08	118.90
46	4	309	ASP	CB-CG-OD1	5.30	123.07	118.30
44	2	41	C	C6-N1-C2	-5.30	118.18	120.30
44	2	4672	A	N1-C2-N3	-5.30	126.65	129.30
4	8	3	A	C2-N3-C4	5.29	113.25	110.60
44	2	455	C	C6-N1-C2	-5.29	118.18	120.30
44	2	1245	C	N1-C2-O2	5.29	122.08	118.90
44	2	1450	C	C5-C6-N1	5.29	123.64	121.00
44	2	436	C	N1-C2-O2	5.29	122.07	118.90
44	2	4752	U	N1-C2-O2	5.29	126.50	122.80
44	2	1176	C	C5-C6-N1	5.29	123.64	121.00
44	2	1963	C	C6-N1-C2	-5.29	118.18	120.30
44	2	2000	G	N3-C4-C5	-5.29	125.96	128.60
44	2	4927	G	N3-C4-C5	-5.29	125.96	128.60
44	2	1339	U	N3-C2-O2	-5.29	118.50	122.20
44	2	2625	U	N1-C2-O2	5.29	126.50	122.80
44	2	4504	C	C6-N1-C2	-5.29	118.19	120.30
44	2	1726	U	C6-N1-C2	-5.28	117.83	121.00
44	2	1958	A	N1-C2-N3	-5.28	126.66	129.30
44	2	1703	C	C6-N1-C2	-5.28	118.19	120.30
44	2	3966	A	C2-N3-C4	5.27	113.24	110.60
44	2	2544	G	C8-N9-C1'	-5.27	120.15	127.00
44	2	4120	U	C2-N1-C1'	5.27	124.03	117.70
1	5	80	U	N1-C2-O2	5.27	126.49	122.80
44	2	4562	C	N1-C2-O2	5.27	122.06	118.90
44	2	3606	U	N3-C2-O2	-5.27	118.51	122.20
39	r	104	LEU	CA-CB-CG	5.26	127.40	115.30
4	8	43	A	C2-N3-C4	5.26	113.23	110.60
44	2	4708	A	N1-C2-N3	-5.26	126.67	129.30
44	2	2351	C	N1-C2-O2	5.26	122.06	118.90
44	2	89	C	C6-N1-C2	-5.26	118.20	120.30
44	2	1794	A	N1-C2-N3	-5.25	126.67	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1076	C	C6-N1-C2	-5.25	118.20	120.30
44	2	3702	A	N1-C2-N3	-5.25	126.67	129.30
44	2	2726	G	N3-C4-C5	-5.25	125.97	128.60
44	2	4476	C	N3-C2-O2	-5.25	118.23	121.90
44	2	672	C	N1-C2-O2	5.25	122.05	118.90
44	2	436	C	C6-N1-C2	-5.25	118.20	120.30
44	2	77	U	C2-N1-C1'	5.24	123.99	117.70
44	2	5019	A	N1-C2-N3	-5.24	126.68	129.30
44	2	4319	C	C6-N1-C2	-5.24	118.20	120.30
44	2	1996	C	C6-N1-C2	-5.24	118.20	120.30
44	2	4639	G	N3-C4-N9	5.24	129.14	126.00
52	t	111	LEU	CA-CB-CG	5.24	127.34	115.30
44	2	2018	C	C6-N1-C2	-5.24	118.21	120.30
44	2	2260	C	C6-N1-C1'	-5.24	114.52	120.80
44	2	4062	A	C4'-C3'-O3'	5.24	123.47	113.00
44	2	4563	U	N3-C2-O2	-5.24	118.53	122.20
44	2	4639	G	C4-N9-C1'	5.24	133.31	126.50
4	8	32	C	C5-C6-N1	5.23	123.62	121.00
44	2	110	C	C6-N1-C2	-5.23	118.21	120.30
44	2	1378	C	C5-C4-N4	-5.23	116.54	120.20
53	u	85	LEU	CA-CB-CG	5.23	127.33	115.30
44	2	3965	A	C4-C5-C6	-5.23	114.39	117.00
44	2	4286	C	C2-N1-C1'	5.23	124.55	118.80
44	2	5003	U	N3-C2-O2	-5.23	118.54	122.20
44	2	1401	C	C6-N1-C2	-5.23	118.21	120.30
44	2	2384	U	N3-C2-O2	-5.23	118.54	122.20
44	2	4628	U	N3-C2-O2	-5.23	118.54	122.20
44	2	4970	C	C2-N1-C1'	5.23	124.55	118.80
27	a	113	LYS	CA-CB-CG	5.22	124.89	113.40
1	5	36	C	C5-C6-N1	5.22	123.61	121.00
44	2	294	G	C4-N9-C1'	5.22	133.29	126.50
44	2	3832	U	N3-C2-O2	-5.22	118.55	122.20
44	2	495	C	O4'-C1'-N1	5.22	112.37	108.20
44	2	4546	A	N1-C2-N3	-5.22	126.69	129.30
44	2	4639	G	C2-N3-C4	5.22	114.51	111.90
44	2	4682	U	C6-N1-C2	-5.22	117.87	121.00
44	2	26	C	N3-C2-O2	-5.21	118.25	121.90
44	2	1847	C	C5-C6-N1	5.21	123.61	121.00
44	2	2560	C	N1-C2-O2	5.21	122.03	118.90
44	2	2856	C	C2-N1-C1'	5.21	124.54	118.80
44	2	4063	U	C4'-C3'-O3'	5.21	123.43	113.00
44	2	5002	U	N3-C2-O2	-5.21	118.55	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2033	A	OP1-P-O3'	5.21	116.66	105.20
4	8	141	C	C6-N1-C2	-5.21	118.22	120.30
44	2	360	A	N1-C2-N3	-5.21	126.70	129.30
44	2	2317	C	C6-N1-C2	-5.21	118.22	120.30
44	2	4713	G	N3-C4-C5	-5.21	126.00	128.60
44	2	2325	C	N3-C2-O2	-5.20	118.26	121.90
1	5	42	A	N1-C2-N3	-5.20	126.70	129.30
44	2	4747	C	N3-C2-O2	-5.20	118.26	121.90
44	2	282	C	C2-N1-C1'	5.20	124.52	118.80
44	2	1078	A	N1-C2-N3	-5.20	126.70	129.30
44	2	2325	C	C6-N1-C2	-5.20	118.22	120.30
44	2	3587	C	C5-C6-N1	5.20	123.60	121.00
44	2	3912	U	N1-C2-O2	5.20	126.44	122.80
44	2	4378	A	N1-C2-N3	-5.20	126.70	129.30
44	2	4983	C	N1-C2-O2	5.20	122.02	118.90
44	2	4699	U	OP1-P-O3'	5.20	116.63	105.20
44	2	1294	A	O4'-C1'-N9	5.19	112.36	108.20
44	2	4137	C	C2-N1-C1'	5.19	124.51	118.80
44	2	4120	U	N1-C2-O2	5.19	126.44	122.80
46	4	41	HIS	C-N-CA	5.19	134.68	121.70
44	2	672	C	C2-N1-C1'	5.19	124.51	118.80
44	2	3853	U	N1-C2-O2	5.19	126.43	122.80
44	2	4133	C	N1-C2-O2	5.19	122.01	118.90
44	2	4535	A	N1-C2-N3	-5.19	126.71	129.30
44	2	2653	C	C6-N1-C2	-5.18	118.23	120.30
44	2	4669	A	N1-C2-N3	-5.18	126.71	129.30
44	2	1686	C	C6-N1-C2	-5.18	118.23	120.30
44	2	3693	U	N1-C2-O2	5.18	126.43	122.80
44	2	86	U	C2-N1-C1'	5.18	123.91	117.70
44	2	981	C	C5-C6-N1	5.18	123.59	121.00
44	2	1890	G	C4-N9-C1'	5.18	133.23	126.50
44	2	4913	G	OP2-P-O3'	5.18	116.59	105.20
44	2	485	C	C2-N3-C4	5.17	122.49	119.90
44	2	4700	A	N1-C2-N3	-5.17	126.71	129.30
44	2	1309	C	C6-N1-C2	-5.17	118.23	120.30
44	2	1386	C	C6-N1-C2	-5.17	118.23	120.30
44	2	2520	C	C6-N1-C2	-5.17	118.23	120.30
44	2	4078	C	C6-N1-C2	-5.17	118.23	120.30
44	2	242	U	C5-C6-N1	5.17	125.29	122.70
4	8	103	A	N1-C2-N3	-5.17	126.72	129.30
44	2	122	U	N1-C2-O2	5.17	126.42	122.80
44	2	1429	C	C2-N1-C1'	5.17	124.49	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2465	C	C2-N1-C1'	5.17	124.49	118.80
44	2	1702	C	C6-N1-C1'	-5.17	114.60	120.80
44	2	2094	G	C2-N3-C4	5.17	114.48	111.90
44	2	907	C	N1-C2-O2	5.16	122.00	118.90
44	2	1439	C	C6-N1-C2	-5.16	118.23	120.30
44	2	2603	C	C6-N1-C2	-5.16	118.23	120.30
40	A	432	LEU	CA-CB-CG	5.16	127.17	115.30
44	2	1966	C	C6-N1-C2	-5.16	118.23	120.30
44	2	1430	C	C6-N1-C2	-5.16	118.24	120.30
44	2	1294	A	C2-N3-C4	5.16	113.18	110.60
44	2	4406	U	N3-C2-O2	-5.16	118.59	122.20
44	2	971	U	N1-C2-O2	5.16	126.41	122.80
44	2	141	C	N3-C2-O2	-5.16	118.29	121.90
44	2	1208	G	N3-C4-C5	-5.16	126.02	128.60
44	2	1725	U	N1-C2-O2	5.15	126.41	122.80
44	2	4739	C	C6-N1-C2	-5.15	118.24	120.30
44	2	1241	C	C6-N1-C1'	-5.15	114.62	120.80
44	2	3935	C	C6-N1-C2	-5.15	118.24	120.30
44	2	4996	C	C5-C6-N1	5.15	123.58	121.00
44	2	2882	A	C2-N3-C4	5.15	113.17	110.60
44	2	2560	C	C5-C6-N1	5.15	123.57	121.00
44	2	2629	C	N1-C2-O2	5.15	121.99	118.90
44	2	4213	A	N1-C2-N3	-5.15	126.73	129.30
44	2	4340	U	C2-N1-C1'	5.15	123.88	117.70
44	2	4927	G	C4-N9-C1'	5.14	133.19	126.50
44	2	362	A	N1-C2-N3	-5.14	126.73	129.30
44	2	385	A	OP1-P-O3'	5.14	116.51	105.20
44	2	408	A	N1-C2-N3	-5.14	126.73	129.30
44	2	688	U	N1-C2-O2	5.14	126.40	122.80
44	2	1333	A	N1-C2-N3	-5.14	126.73	129.30
44	2	2304	U	N3-C2-O2	-5.14	118.60	122.20
44	2	694	C	N3-C2-O2	-5.14	118.30	121.90
44	2	2544	G	N3-C4-C5	-5.14	126.03	128.60
44	2	3840	U	N1-C2-O2	5.14	126.39	122.80
44	2	4522	G	C8-N9-C1'	-5.14	120.32	127.00
44	2	736	C	C6-N1-C2	-5.13	118.25	120.30
44	2	971	U	N3-C2-O2	-5.13	118.61	122.20
44	2	4505	C	N3-C2-O2	-5.13	118.31	121.90
44	2	4695	C	N3-C2-O2	-5.13	118.31	121.90
44	2	469	C	C6-N1-C2	-5.13	118.25	120.30
44	2	4682	U	C5-C6-N1	5.13	125.27	122.70
44	2	1461	C	C6-N1-C2	-5.13	118.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2006	U	N1-C2-O2	5.13	126.39	122.80
44	2	4271	A	N1-C2-N3	-5.13	126.74	129.30
4	8	4	C	C5-C6-N1	5.13	123.56	121.00
4	8	5	U	N3-C2-O2	-5.13	118.61	122.20
4	8	18	U	N3-C2-O2	-5.13	118.61	122.20
44	2	4628	U	N1-C2-O2	5.13	126.39	122.80
44	2	4775	C	C6-N1-C2	-5.13	118.25	120.30
44	2	1460	C	N1-C2-O2	5.12	121.97	118.90
44	2	2697	A	N1-C2-N3	-5.12	126.74	129.30
4	8	82	A	C2-N3-C4	5.12	113.16	110.60
44	2	4314	C	C2-N1-C1'	5.12	124.44	118.80
44	2	1367	C	N3-C2-O2	-5.12	118.31	121.90
44	2	4775	C	C5-C6-N1	5.12	123.56	121.00
44	2	3911	C	C6-N1-C2	-5.12	118.25	120.30
44	2	1395	U	N1-C2-O2	5.12	126.38	122.80
44	2	1789	C	N1-C2-O2	5.12	121.97	118.90
44	2	4701	A	N1-C2-N3	-5.12	126.74	129.30
46	4	21	LEU	CA-CB-CG	5.12	127.07	115.30
44	2	1888	A	C2-N3-C4	5.12	113.16	110.60
44	2	3670	C	C6-N1-C2	-5.12	118.25	120.30
4	8	80	A	N1-C2-N3	-5.11	126.74	129.30
44	2	4594	U	N3-C2-O2	-5.11	118.62	122.20
4	8	52	A	N1-C2-N3	-5.11	126.74	129.30
44	2	4061	G	C4'-C3'-O3'	5.11	123.22	113.00
5	9	27	ASP	CB-CG-OD1	5.11	122.90	118.30
44	2	1540	C	N1-C2-O2	5.11	121.97	118.90
44	2	1991	A	N1-C2-N3	-5.11	126.75	129.30
44	2	2439	G	N3-C4-N9	5.11	129.07	126.00
44	2	4981	G	N3-C4-N9	5.11	129.07	126.00
44	2	1947	U	C2-N1-C1'	5.11	123.83	117.70
44	2	2067	C	N1-C2-O2	5.11	121.97	118.90
44	2	2420	A	N1-C2-N3	-5.11	126.75	129.30
44	2	4923	C	C6-N1-C2	-5.11	118.26	120.30
44	2	101	A	N1-C2-N3	-5.10	126.75	129.30
44	2	4710	C	N1-C2-O2	5.10	121.96	118.90
4	8	76	C	C6-N1-C2	-5.10	118.26	120.30
44	2	18	C	N1-C2-O2	5.10	121.96	118.90
44	2	1074	G	N3-C4-N9	5.10	129.06	126.00
44	2	3741	C	C6-N1-C2	-5.10	118.26	120.30
44	2	906	C	C5-C6-N1	5.10	123.55	121.00
44	2	4764	A	C4-C5-C6	-5.10	114.45	117.00
44	2	2850	A	C4-N9-C1'	5.10	135.48	126.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	3604	A	C2-N3-C4	5.10	113.15	110.60
44	2	4772	C	C6-N1-C2	-5.10	118.26	120.30
44	2	4259	C	C6-N1-C2	-5.10	118.26	120.30
44	2	1076	C	C5-C6-N1	5.10	123.55	121.00
44	2	2373	C	C6-N1-C2	-5.10	118.26	120.30
44	2	4227	U	N3-C2-O2	-5.10	118.63	122.20
44	2	5042	A	N1-C2-N3	-5.10	126.75	129.30
44	2	1309	C	C5-C6-N1	5.09	123.55	121.00
44	2	1634	A	C2-N3-C4	5.09	113.15	110.60
4	8	141	C	C5-C6-N1	5.09	123.55	121.00
44	2	4477	A	C2-N3-C4	5.09	113.15	110.60
44	2	5050	C	C6-N1-C2	-5.09	118.26	120.30
44	2	1322	A	N1-C2-N3	-5.09	126.75	129.30
44	2	4973	U	N3-C2-O2	-5.09	118.64	122.20
44	2	67	C	C6-N1-C2	-5.09	118.27	120.30
44	2	14	C	N1-C2-O2	5.09	121.95	118.90
44	2	2403	A	N1-C2-N3	-5.09	126.76	129.30
44	2	4413	C	C6-N1-C2	-5.09	118.27	120.30
44	2	4607	A	N1-C2-N3	-5.09	126.76	129.30
44	2	406	C	C2'-C3'-O3'	5.08	121.84	113.70
44	2	3870	C	N1-C2-O2	5.08	121.95	118.90
44	2	3919	C	N3-C2-O2	-5.08	118.34	121.90
46	4	474	ASP	CA-C-N	5.08	128.38	117.20
49	k	89	LEU	CA-CB-CG	5.08	126.99	115.30
44	2	1686	C	N1-C2-O2	5.08	121.95	118.90
44	2	2022	C	N3-C2-O2	-5.08	118.34	121.90
44	2	2403	A	C2-N3-C4	5.08	113.14	110.60
44	2	2519	U	O4'-C1'-N1	5.08	112.27	108.20
44	2	4460	U	N3-C2-O2	-5.08	118.64	122.20
44	2	165	A	N1-C2-N3	-5.08	126.76	129.30
44	2	1854	G	C2-N3-C4	5.08	114.44	111.90
44	2	2867	C	C5-C6-N1	5.08	123.54	121.00
44	2	1897	A	N1-C2-N3	-5.08	126.76	129.30
44	2	4710	C	C2-N1-C1'	5.08	124.39	118.80
4	8	62	A	N1-C2-N3	-5.08	126.76	129.30
44	2	1572	U	N3-C2-O2	-5.08	118.65	122.20
44	2	1957	U	N1-C2-N3	5.08	117.94	114.90
44	2	1875	C	N1-C2-O2	5.07	121.94	118.90
4	8	153	C	C6-N1-C2	-5.07	118.27	120.30
9	E	11	LEU	CA-CB-CG	5.07	126.97	115.30
44	2	455	C	N1-C2-O2	5.07	121.94	118.90
44	2	3598	C	N3-C2-O2	-5.07	118.35	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4286	C	N1-C2-O2	5.07	121.94	118.90
44	2	5058	A	N1-C2-N3	-5.07	126.77	129.30
44	2	3858	C	C6-N1-C2	-5.07	118.27	120.30
44	2	4664	A	N1-C2-N3	-5.07	126.77	129.30
1	5	111	C	N1-C2-O2	5.06	121.94	118.90
44	2	1890	G	N3-C4-C5	-5.06	126.07	128.60
1	5	57	C	C5-C6-N1	5.06	123.53	121.00
44	2	195	C	C5-C6-N1	5.06	123.53	121.00
44	2	1216	C	C6-N1-C2	-5.06	118.28	120.30
44	2	1915	C	C6-N1-C2	-5.06	118.28	120.30
44	2	2815	A	C2-N3-C4	5.06	113.13	110.60
44	2	1384	C	C6-N1-C2	-5.05	118.28	120.30
44	2	1327	C	N3-C2-O2	-5.05	118.36	121.90
44	2	2532	C	N3-C2-O2	-5.05	118.36	121.90
44	2	3853	U	C2-N1-C1'	5.05	123.76	117.70
4	8	18	U	N1-C2-O2	5.05	126.33	122.80
42	J	192	LEU	CA-CB-CG	5.05	126.91	115.30
44	2	2491	C	C6-N1-C2	-5.05	118.28	120.30
44	2	115	C	C6-N1-C1'	-5.04	114.75	120.80
44	2	2836	A	N1-C2-N3	-5.04	126.78	129.30
1	5	43	U	C5-C6-N1	5.04	125.22	122.70
44	2	1893	C	C6-N1-C2	-5.04	118.28	120.30
44	2	2806	A	N1-C2-N3	-5.04	126.78	129.30
44	2	1726	U	C5-C6-N1	5.04	125.22	122.70
44	2	4134	C	C5-C6-N1	5.04	123.52	121.00
44	2	3942	A	C2-N3-C4	5.04	113.12	110.60
44	2	2593	C	N1-C2-O2	5.04	121.92	118.90
44	2	3668	C	C2-N1-C1'	5.04	124.34	118.80
44	2	2844	A	N1-C2-N3	-5.04	126.78	129.30
29	c	118	GLU	CA-CB-CG	5.04	124.48	113.40
44	2	457	G	C5-C6-O6	-5.04	125.58	128.60
44	2	15	A	N1-C2-N3	-5.03	126.78	129.30
44	2	673	C	C5-C6-N1	5.03	123.52	121.00
44	2	3741	C	N1-C2-O2	5.03	121.92	118.90
44	2	925	C	C5-C6-N1	5.03	123.52	121.00
44	2	1601	A	N1-C2-N3	-5.03	126.78	129.30
44	2	1081	C	N1-C2-O2	5.03	121.92	118.90
5	9	28	LEU	CA-CB-CG	5.03	126.86	115.30
44	2	4502	C	C6-N1-C1'	-5.03	114.77	120.80
44	2	2689	C	C5-C6-N1	5.03	123.51	121.00
44	2	4714	C	N3-C2-O2	-5.03	118.38	121.90
4	8	145	C	C5-C6-N1	5.02	123.51	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	472	C	N3-C2-O2	-5.02	118.38	121.90
44	2	656	C	C2-N1-C1'	5.02	124.32	118.80
44	2	2814	C	N3-C2-O2	-5.02	118.38	121.90
44	2	51	A	N1-C2-N3	-5.02	126.79	129.30
44	2	458	C	C5-C6-N1	5.02	123.51	121.00
44	2	1580	C	C6-N1-C2	-5.02	118.29	120.30
44	2	1671	U	C2-N1-C1'	5.02	123.72	117.70
44	2	4712	C	C2-N1-C1'	5.02	124.32	118.80
44	2	115	C	C6-N1-C2	-5.01	118.29	120.30
44	2	1450	C	N1-C2-O2	5.01	121.91	118.90
44	2	350	C	C2-N1-C1'	5.01	124.31	118.80
44	2	1535	C	C6-N1-C2	-5.01	118.30	120.30
27	a	38	ARG	C-N-CA	5.01	134.23	121.70
44	2	367	C	C5-C6-N1	5.01	123.50	121.00
44	2	1870	C	C6-N1-C2	-5.01	118.30	120.30
44	2	4758	U	C6-N1-C2	-5.01	117.99	121.00
44	2	4928	C	C6-N1-C1'	-5.01	114.79	120.80
44	2	1790	U	N3-C2-O2	-5.01	118.69	122.20
44	2	4722	G	N3-C4-N9	5.01	129.00	126.00
44	2	2016	C	O4'-C1'-N1	5.01	112.21	108.20
44	2	2347	A	N1-C2-N3	-5.01	126.80	129.30
44	2	941	C	C6-N1-C2	-5.01	118.30	120.30
44	2	1993	C	N1-C2-O2	5.01	121.90	118.90
44	2	59	A	N1-C2-N3	-5.00	126.80	129.30
44	2	174	C	N3-C2-O2	-5.00	118.40	121.90
44	2	1671	U	C6-N1-C2	-5.00	118.00	121.00
44	2	1674	C	C6-N1-C2	-5.00	118.30	120.30
44	2	2634	C	C6-N1-C2	-5.00	118.30	120.30
44	2	163	A	N1-C2-N3	-5.00	126.80	129.30
44	2	350	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (14) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
6	B	16	PHE	Peptide
11	G	162	ASP	Peptide
42	J	238	ASP	Peptide
17	N	117	ILE	Peptide
20	Q	154	VAL	Peptide
50	Y	127	ARG	Sidechain
29	c	80	VAL	Peptide

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Mol	Chain	Res	Type	Group
30	e	96	LEU	Peptide
35	m	132	ASN	Peptide
35	m	54	ARG	Peptide
36	n	106	TYR	Peptide
53	u	325	VAL	Peptide
53	u	606	PRO	Peptide
53	u	66	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%)	225 (93%)	17 (7%)	0	100	100
3	7	133/163 (82%)	129 (97%)	4 (3%)	0	100	100
5	9	93/134 (69%)	81 (87%)	12 (13%)	0	100	100
6	B	401/403 (100%)	376 (94%)	25 (6%)	0	100	100
7	C	89/159 (56%)	87 (98%)	2 (2%)	0	100	100
8	D	356/427 (83%)	331 (93%)	25 (7%)	0	100	100
9	E	96/115 (84%)	92 (96%)	4 (4%)	0	100	100
10	F	107/117 (92%)	104 (97%)	3 (3%)	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%)	178 (95%)	10 (5%)	0	100	100
14	K	100/105 (95%)	95 (95%)	5 (5%)	0	100	100
15	L	145/148 (98%)	135 (93%)	10 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	M	84/97 (87%)	78 (93%)	6 (7%)	0	100	100
17	N	163/178 (92%)	140 (86%)	21 (13%)	2 (1%)	13	48
18	O	67/70 (96%)	63 (94%)	4 (6%)	0	100	100
19	P	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
20	Q	208/211 (99%)	195 (94%)	13 (6%)	0	100	100
21	S	133/215 (62%)	127 (96%)	6 (4%)	0	100	100
22	U	201/204 (98%)	192 (96%)	9 (4%)	0	100	100
23	V	199/203 (98%)	193 (97%)	6 (3%)	0	100	100
24	W	98/106 (92%)	94 (96%)	4 (4%)	0	100	100
25	X	89/92 (97%)	85 (96%)	4 (4%)	0	100	100
26	Z	185/188 (98%)	180 (97%)	5 (3%)	0	100	100
27	a	146/196 (74%)	140 (96%)	6 (4%)	0	100	100
28	b	174/176 (99%)	168 (97%)	6 (3%)	0	100	100
29	c	153/160 (96%)	149 (97%)	4 (3%)	0	100	100
30	e	129/140 (92%)	114 (88%)	15 (12%)	0	100	100
31	g	116/156 (74%)	113 (97%)	3 (3%)	0	100	100
32	h	132/145 (91%)	130 (98%)	2 (2%)	0	100	100
33	i	133/136 (98%)	121 (91%)	12 (9%)	0	100	100
34	l	123/137 (90%)	117 (95%)	6 (5%)	0	100	100
35	m	246/257 (96%)	216 (88%)	30 (12%)	0	100	100
36	n	107/110 (97%)	103 (96%)	3 (3%)	1 (1%)	17	55
37	o	231/288 (80%)	215 (93%)	16 (7%)	0	100	100
38	p	224/248 (90%)	213 (95%)	11 (5%)	0	100	100
39	r	291/297 (98%)	278 (96%)	13 (4%)	0	100	100
40	A	305/731 (42%)	296 (97%)	8 (3%)	1 (0%)	41	76
41	R	151/203 (74%)	143 (95%)	7 (5%)	1 (1%)	22	60
42	J	221/239 (92%)	209 (95%)	12 (5%)	0	100	100
43	T	42/99 (42%)	42 (100%)	0	0	100	100
45	y	163/165 (99%)	159 (98%)	4 (2%)	0	100	100
46	4	607/634 (96%)	559 (92%)	45 (7%)	3 (0%)	29	68
47	d	102/128 (80%)	94 (92%)	8 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
48	j	109/125 (87%)	103 (94%)	6 (6%)	0	100	100
49	k	127/135 (94%)	121 (95%)	6 (5%)	0	100	100
50	Y	165/184 (90%)	154 (93%)	11 (7%)	0	100	100
51	z	63/129 (49%)	60 (95%)	2 (3%)	1 (2%)	9	40
52	t	210/217 (97%)	201 (96%)	9 (4%)	0	100	100
53	u	546/687 (80%)	515 (94%)	30 (6%)	1 (0%)	47	82
54	v	33/260 (13%)	33 (100%)	0	0	100	100
All	All	8834/10594 (83%)	8338 (94%)	486 (6%)	10 (0%)	54	85

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	N	176	PRO
36	n	106	TYR
40	A	160	MET
53	u	326	GLY
17	N	21	CYS
51	z	24	LYS
46	4	88	ASP
41	R	99	ARG
46	4	407	ASP
46	4	366	THR

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%)	126 (100%)	0	100	100
5	9	82/114 (72%)	80 (98%)	2 (2%)	49	79
6	B	349/349 (100%)	348 (100%)	1 (0%)	92	97
7	C	78/126 (62%)	78 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	D	298/348 (86%)	297 (100%)	1 (0%)	92	97
9	E	83/97 (86%)	83 (100%)	0	100	100
10	F	94/100 (94%)	93 (99%)	1 (1%)	73	90
11	G	204/223 (92%)	204 (100%)	0	100	100
12	H	109/110 (99%)	109 (100%)	0	100	100
13	I	169/171 (99%)	167 (99%)	2 (1%)	71	90
14	K	86/89 (97%)	86 (100%)	0	100	100
15	L	120/121 (99%)	120 (100%)	0	100	100
16	M	73/80 (91%)	73 (100%)	0	100	100
17	N	138/149 (93%)	138 (100%)	0	100	100
18	O	64/65 (98%)	64 (100%)	0	100	100
19	P	47/48 (98%)	47 (100%)	0	100	100
20	Q	176/177 (99%)	176 (100%)	0	100	100
21	S	115/161 (71%)	114 (99%)	1 (1%)	78	92
22	U	171/172 (99%)	171 (100%)	0	100	100
23	V	173/174 (99%)	173 (100%)	0	100	100
24	W	88/94 (94%)	88 (100%)	0	100	100
25	X	74/75 (99%)	74 (100%)	0	100	100
26	Z	164/165 (99%)	164 (100%)	0	100	100
27	a	133/175 (76%)	133 (100%)	0	100	100
28	b	157/157 (100%)	157 (100%)	0	100	100
29	c	136/140 (97%)	136 (100%)	0	100	100
30	e	101/107 (94%)	100 (99%)	1 (1%)	76	91
31	g	106/133 (80%)	106 (100%)	0	100	100
32	h	124/135 (92%)	124 (100%)	0	100	100
33	i	117/118 (99%)	116 (99%)	1 (1%)	78	92
34	l	109/121 (90%)	109 (100%)	0	100	100
35	m	190/199 (96%)	190 (100%)	0	100	100
36	n	88/89 (99%)	88 (100%)	0	100	100
37	o	208/252 (82%)	206 (99%)	2 (1%)	76	91
38	p	195/215 (91%)	195 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
39	r	246/250 (98%)	245 (100%)	1 (0%)	91	97
40	A	272/654 (42%)	272 (100%)	0	100	100
41	R	141/184 (77%)	140 (99%)	1 (1%)	84	94
42	J	199/214 (93%)	199 (100%)	0	100	100
43	T	37/76 (49%)	37 (100%)	0	100	100
45	y	137/137 (100%)	137 (100%)	0	100	100
46	4	554/574 (96%)	553 (100%)	1 (0%)	93	98
47	d	94/115 (82%)	93 (99%)	1 (1%)	73	90
48	j	101/110 (92%)	100 (99%)	1 (1%)	76	91
49	k	115/121 (95%)	115 (100%)	0	100	100
50	Y	147/163 (90%)	146 (99%)	1 (1%)	84	94
51	z	61/115 (53%)	60 (98%)	1 (2%)	62	86
52	t	191/196 (97%)	189 (99%)	2 (1%)	76	91
53	u	509/629 (81%)	507 (100%)	2 (0%)	91	97
54	v	32/228 (14%)	31 (97%)	1 (3%)	40	75
All	All	7793/9177 (85%)	7769 (100%)	24 (0%)	92	97

All (24) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	9	115	ARG
5	9	116	ARG
6	B	297	LYS
8	D	188	ARG
10	F	105	LYS
13	I	54	ARG
13	I	93	ARG
21	S	132	LYS
30	e	48	ARG
33	i	108	ARG
37	o	56	ARG
37	o	239	LYS
39	r	277	LYS
41	R	68	ARG
46	4	385	ARG
47	d	67	LYS
48	j	100	ASN

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Mol	Chain	Res	Type
50	Y	97	ASN
51	z	112	ARG
52	t	21	ASN
52	t	91	LYS
53	u	108	ARG
53	u	613	ARG
54	v	36	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
17	N	23	ASN
28	b	77	ASN
35	m	215	ASN
48	j	100	ASN
52	t	171	HIS
53	u	155	ASN
54	v	10	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	5	119/120 (99%)	14 (11%)	0
4	8	155/156 (99%)	28 (18%)	0
44	2	3543/5054 (70%)	868 (24%)	22 (0%)
All	All	3817/5330 (71%)	910 (23%)	22 (0%)

All (910) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	5	11	A
1	5	22	A
1	5	24	C
1	5	33	U
1	5	40	U
1	5	41	G
1	5	48	G
1	5	53	U
1	5	63	C
1	5	64	G

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Mol	Chain	Res	Type
1	5	100	A
1	5	109	U
1	5	110	G
1	5	120	U
4	8	23	C
4	8	25	G
4	8	34	U
4	8	35	C
4	8	38	U
4	8	48	A
4	8	52	A
4	8	59	A
4	8	60	G
4	8	62	A
4	8	63	U
4	8	71	A
4	8	82	A
4	8	84	A
4	8	85	U
4	8	86	U
4	8	87	G
4	8	103	A
4	8	104	A
4	8	105	C
4	8	110	U
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
44	2	6	C
44	2	15	A
44	2	25	A
44	2	39	A
44	2	42	A
44	2	44	A
44	2	48	G
44	2	59	A
44	2	64	A
44	2	65	A

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Mol	Chain	Res	Type
44	2	66	A
44	2	69	A
44	2	72	C
44	2	73	A
44	2	84	A
44	2	91	G
44	2	98	A
44	2	104	G
44	2	108	A
44	2	109	G
44	2	110	C
44	2	119	G
44	2	120	A
44	2	122	U
44	2	131	C
44	2	133	C
44	2	134	G
44	2	135	G
44	2	136	C
44	2	137	G
44	2	144	G
44	2	152	U
44	2	159	C
44	2	165	A
44	2	169	G
44	2	172	C
44	2	176	G
44	2	183	C
44	2	184	U
44	2	185	C
44	2	188	G
44	2	197	A
44	2	200	U
44	2	209	U
44	2	218	A
44	2	219	G
44	2	220	C
44	2	234	G
44	2	253	G
44	2	254	G
44	2	255	C
44	2	256	G

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Mol	Chain	Res	Type
44	2	258	G
44	2	259	C
44	2	262	G
44	2	265	C
44	2	266	C
44	2	267	G
44	2	279	A
44	2	280	G
44	2	297	U
44	2	306	A
44	2	315	G
44	2	316	U
44	2	340	C
44	2	344	A
44	2	345	C
44	2	349	A
44	2	363	A
44	2	387	G
44	2	398	A2M
44	2	406	C
44	2	407	A
44	2	409	G
44	2	410	A
44	2	411	G
44	2	412	G
44	2	433	A
44	2	449	C
44	2	450	G
44	2	452	A
44	2	453	G
44	2	454	U
44	2	456	C
44	2	457	G
44	2	465	G
44	2	467	U
44	2	468	U
44	2	483	G
44	2	484	U
44	2	485	C
44	2	486	C
44	2	489	C
44	2	491	G

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Mol	Chain	Res	Type
44	2	495	C
44	2	496	G
44	2	497	G
44	2	498	C
44	2	499	G
44	2	500	G
44	2	504	G
44	2	505	G
44	2	509	A
44	2	510	U
44	2	512	U
44	2	513	U
44	2	514	U
44	2	515	C
44	2	518	G
44	2	519	C
44	2	644	G
44	2	646	G
44	2	648	G
44	2	657	C
44	2	659	G
44	2	662	C
44	2	667	A
44	2	668	C
44	2	669	C
44	2	685	C
44	2	686	A
44	2	688	U
44	2	692	A
44	2	696	C
44	2	697	G
44	2	704	C
44	2	708	G
44	2	731	G
44	2	738	C
44	2	739	G
44	2	740	G
44	2	742	G
44	2	759	G
44	2	904	C
44	2	905	C
44	2	909	A

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Mol	Chain	Res	Type
44	2	910	G
44	2	913	U
44	2	914	U
44	2	915	A
44	2	916	C
44	2	917	A
44	2	918	G
44	2	923	C
44	2	924	C
44	2	925	C
44	2	926	G
44	2	932	A
44	2	933	G
44	2	934	C
44	2	935	A
44	2	936	C
44	2	937	U
44	2	941	C
44	2	943	A
44	2	944	A
44	2	945	U
44	2	946	C
44	2	956	A
44	2	959	G
44	2	960	A
44	2	961	G
44	2	962	C
44	2	963	G
44	2	964	A
44	2	965	G
44	2	966	A
44	2	967	C
44	2	969	C
44	2	970	G
44	2	971	U
44	2	972	C
44	2	982	U
44	2	984	C
44	2	988	C
44	2	989	U
44	2	990	C
44	2	991	C

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Mol	Chain	Res	Type
44	2	992	C
44	2	993	G
44	2	994	G
44	2	995	C
44	2	996	G
44	2	1048	G
44	2	1049	C
44	2	1050	C
44	2	1051	G
44	2	1066	G
44	2	1068	G
44	2	1070	G
44	2	1071	C
44	2	1072	C
44	2	1082	C
44	2	1083	U
44	2	1095	A
44	2	1100	U
44	2	1168	G
44	2	1173	G
44	2	1176	C
44	2	1178	G
44	2	1179	U
44	2	1180	C
44	2	1181	C
44	2	1182	C
44	2	1183	C
44	2	1187	G
44	2	1195	G
44	2	1198	G
44	2	1200	G
44	2	1202	C
44	2	1203	G
44	2	1209	U
44	2	1211	G
44	2	1215	C
44	2	1216	C
44	2	1218	G
44	2	1220	G
44	2	1222	A
44	2	1235	G
44	2	1241	C

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Mol	Chain	Res	Type
44	2	1245	C
44	2	1253	G
44	2	1254	A
44	2	1255	A
44	2	1260	G
44	2	1266	G
44	2	1269	G
44	2	1271	G
44	2	1272	C
44	2	1275	G
44	2	1280	C
44	2	1283	G
44	2	1284	G
44	2	1287	G
44	2	1289	C
44	2	1294	A
44	2	1295	C
44	2	1296	G
44	2	1301	C
44	2	1302	U
44	2	1303	A
44	2	1314	C
44	2	1318	C
44	2	1320	U
44	2	1321	G
44	2	1322	A
44	2	1326	A2M
44	2	1354	A
44	2	1358	G
44	2	1359	G
44	2	1365	C
44	2	1366	G
44	2	1367	C
44	2	1370	G
44	2	1371	A
44	2	1377	G
44	2	1378	C
44	2	1379	C
44	2	1381	U
44	2	1387	A
44	2	1394	G
44	2	1397	A

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Mol	Chain	Res	Type
44	2	1398	A
44	2	1402	C
44	2	1404	G
44	2	1407	C
44	2	1409	C
44	2	1410	U
44	2	1414	C
44	2	1417	C
44	2	1419	G
44	2	1420	A
44	2	1425	G
44	2	1439	C
44	2	1441	C
44	2	1442	C
44	2	1444	G
44	2	1446	C
44	2	1447	C
44	2	1448	G
44	2	1482	G
44	2	1483	C
44	2	1497	A
44	2	1498	G
44	2	1502	G
44	2	1503	A
44	2	1525	A
44	2	1534	A2M
44	2	1547	A
44	2	1564	A
44	2	1575	A
44	2	1578	U
44	2	1592	G
44	2	1596	U
44	2	1612	G
44	2	1613	A
44	2	1624	G
44	2	1625	OMG
44	2	1626	G
44	2	1631	A
44	2	1633	G
44	2	1634	A
44	2	1637	A
44	2	1638	A

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Mol	Chain	Res	Type
44	2	1641	G
44	2	1642	A
44	2	1650	A
44	2	1654	G
44	2	1660	U
44	2	1661	C
44	2	1676	C
44	2	1677	U
44	2	1678	C
44	2	1691	G
44	2	1694	C
44	2	1697	G
44	2	1699	A
44	2	1700	G
44	2	1701	A
44	2	1703	C
44	2	1704	C
44	2	1705	G
44	2	1707	C
44	2	1715	C
44	2	1716	G
44	2	1718	C
44	2	1719	A
44	2	1724	G
44	2	1726	U
44	2	1734	G
44	2	1790	U
44	2	1803	G
44	2	1804	A
44	2	1806	G
44	2	1810	G
44	2	1815	G
44	2	1821	G
44	2	1822	U
44	2	1834	U
44	2	1836	G
44	2	1837	A
44	2	1842	G
44	2	1843	A
44	2	1854	G
44	2	1855	G
44	2	1866	UR3

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Mol	Chain	Res	Type
44	2	1867	A
44	2	1869	G
44	2	1870	C
44	2	1881	C
44	2	1883	OMG
44	2	1891	A
44	2	1897	A
44	2	1916	G
44	2	1918	U
44	2	1919	G
44	2	1920	C
44	2	1922	G
44	2	1925	G
44	2	1931	C
44	2	1932	A
44	2	1938	C
44	2	1948	G
44	2	1958	A
44	2	1960	A
44	2	1961	G
44	2	1962	A
44	2	1971	C
44	2	1972	G
44	2	1974	U
44	2	1980	U
44	2	1981	G
44	2	1982	G
44	2	1983	A
44	2	1984	A
44	2	1985	G
44	2	1991	A
44	2	2001	G
44	2	2002	A
44	2	2003	G
44	2	2004	U
44	2	2008	U
44	2	2011	C
44	2	2015	U
44	2	2016	C
44	2	2024	G
44	2	2025	A
44	2	2026	A

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Mol	Chain	Res	Type
44	2	2033	A
44	2	2034	G
44	2	2044	U
44	2	2046	G
44	2	2048	U
44	2	2055	G
44	2	2056	G
44	2	2069	A
44	2	2071	A
44	2	2084	C
44	2	2085	G
44	2	2090	U
44	2	2091	C
44	2	2092	G
44	2	2093	A
44	2	2095	A
44	2	2097	U
44	2	2098	G
44	2	2100	A
44	2	2101	C
44	2	2104	G
44	2	2105	A
44	2	2106	G
44	2	2108	G
44	2	2110	C
44	2	2111	G
44	2	2112	G
44	2	2113	C
44	2	2250	C
44	2	2251	G
44	2	2252	G
44	2	2253	A
44	2	2255	C
44	2	2256	C
44	2	2258	C
44	2	2259	G
44	2	2260	C
44	2	2263	A
44	2	2269	C
44	2	2289	C
44	2	2300	A
44	2	2301	G

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Mol	Chain	Res	Type
44	2	2306	G
44	2	2313	A
44	2	2316	G
44	2	2331	G
44	2	2333	G
44	2	2346	C
44	2	2348	G
44	2	2351	C
44	2	2364	OMG
44	2	2369	U
44	2	2395	A
44	2	2416	G
44	2	2417	A
44	2	2424	OMG
44	2	2425	U
44	2	2437	C
44	2	2441	C
44	2	2447	U
44	2	2450	G
44	2	2453	A
44	2	2464	C
44	2	2465	C
44	2	2469	C
44	2	2471	G
44	2	2475	G
44	2	2479	G
44	2	2483	G
44	2	2484	A
44	2	2485	U
44	2	2487	G
44	2	2489	C
44	2	2490	U
44	2	2491	C
44	2	2493	G
44	2	2495	U
44	2	2503	G
44	2	2504	C
44	2	2505	C
44	2	2511	A
44	2	2512	A
44	2	2513	A
44	2	2519	U

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Mol	Chain	Res	Type
44	2	2529	A
44	2	2544	G
44	2	2546	G
44	2	2547	G
44	2	2554	U
44	2	2555	G
44	2	2559	G
44	2	2560	C
44	2	2566	G
44	2	2573	A
44	2	2583	C
44	2	2586	G
44	2	2587	A
44	2	2589	C
44	2	2600	A
44	2	2601	A
44	2	2627	C
44	2	2638	G
44	2	2652	G
44	2	2653	C
44	2	2662	G
44	2	2669	C
44	2	2670	C
44	2	2675	G
44	2	2687	U
44	2	2694	G
44	2	2695	A
44	2	2696	A
44	2	2705	G
44	2	2707	U
44	2	2708	U
44	2	2710	C
44	2	2711	G
44	2	2719	C
44	2	2721	G
44	2	2724	G
44	2	2726	G
44	2	2739	C
44	2	2742	G
44	2	2743	A
44	2	2756	G
44	2	2761	U

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Mol	Chain	Res	Type
44	2	2763	U
44	2	2764	A
44	2	2769	U
44	2	2770	C
44	2	2788	U
44	2	2789	A
44	2	2790	U
44	2	2799	G
44	2	2814	C
44	2	2815	A
44	2	2826	U
44	2	2827	G
44	2	2845	A
44	2	2855	G
44	2	2877	G
44	2	2897	G
44	2	2900	U
44	2	2901	G
44	2	2903	G
44	2	2904	U
44	2	2905	C
44	2	2906	G
44	2	2908	U
44	2	3585	G
44	2	3591	C
44	2	3595	U
44	2	3596	A
44	2	3597	G
44	2	3598	C
44	2	3599	A
44	2	3605	C
44	2	3606	U
44	2	3616	U
44	2	3626	G
44	2	3635	A
44	2	3638	G
44	2	3644	U
44	2	3648	A
44	2	3662	A
44	2	3670	C
44	2	3672	G
44	2	3673	C

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Mol	Chain	Res	Type
44	2	3680	U
44	2	3682	A
44	2	3683	C
44	2	3691	G
44	2	3696	C
44	2	3697	U
44	2	3698	G
44	2	3709	U
44	2	3710	G
44	2	3711	A
44	2	3712	A
44	2	3729	U
44	2	3735	G
44	2	3736	A
44	2	3748	A
44	2	3824	A
44	2	3838	U
44	2	3839	G
44	2	3840	U
44	2	3867	A2M
44	2	3871	A
44	2	3876	A
44	2	3877	A
44	2	3878	C
44	2	3879	G
44	2	3892	U
44	2	3898	G
44	2	3903	A
44	2	3904	G
44	2	3905	A
44	2	3906	A
44	2	3914	U
44	2	3915	U
44	2	3923	A
44	2	3938	G
44	2	3939	G
44	2	3942	A
44	2	3944	G
44	2	3945	A
44	2	3946	G
44	2	3948	C
44	2	3949	A

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Mol	Chain	Res	Type
44	2	3950	U
44	2	3951	G
44	2	3955	G
44	2	3956	G
44	2	3957	U
44	2	3958	G
44	2	3959	U
44	2	3960	A
44	2	3961	G
44	2	3962	A
44	2	3963	A
44	2	3964	U
44	2	3965	A
44	2	3966	A
44	2	3968	U
44	2	3969	G
44	2	3970	G
44	2	3971	G
44	2	3972	A
44	2	3973	G
44	2	3974	G
44	2	3975	C
44	2	3977	C
44	2	4034	G
44	2	4035	G
44	2	4036	G
44	2	4038	C
44	2	4039	G
44	2	4041	C
44	2	4042	G
44	2	4043	G
44	2	4045	G
44	2	4046	A
44	2	4048	A
44	2	4049	U
44	2	4050	A
44	2	4051	C
44	2	4052	C
44	2	4053	A
44	2	4055	U
44	2	4056	A
44	2	4057	C

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Mol	Chain	Res	Type
44	2	4058	U
44	2	4059	C
44	2	4061	G
44	2	4062	A
44	2	4063	U
44	2	4064	C
44	2	4065	G
44	2	4066	U
44	2	4068	U
44	2	4076	G
44	2	4084	G
44	2	4095	G
44	2	4099	G
44	2	4100	C
44	2	4102	C
44	2	4103	C
44	2	4104	G
44	2	4105	A
44	2	4110	C
44	2	4111	U
44	2	4112	C
44	2	4115	G
44	2	4116	C
44	2	4117	U
44	2	4119	C
44	2	4135	G
44	2	4137	C
44	2	4139	G
44	2	4140	C
44	2	4141	G
44	2	4142	C
44	2	4143	G
44	2	4144	C
44	2	4150	G
44	2	4162	C
44	2	4163	U
44	2	4170	A
44	2	4183	G
44	2	4184	G
44	2	4189	U
44	2	4190	U
44	2	4191	G

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Mol	Chain	Res	Type
44	2	4192	A
44	2	4195	G
44	2	4196	G
44	2	4197	G
44	2	4201	G
44	2	4202	U
44	2	4203	A
44	2	4204	C
44	2	4212	A
44	2	4221	C
44	2	4225	G
44	2	4226	G
44	2	4229	U
44	2	4233	A
44	2	4234	A
44	2	4247	G
44	2	4249	G
44	2	4251	A
44	2	4254	G
44	2	4256	A
44	2	4258	C
44	2	4260	U
44	2	4265	U
44	2	4268	A
44	2	4271	A
44	2	4273	A
44	2	4279	A
44	2	4281	A
44	2	4291	G
44	2	4292	A
44	2	4293	U
44	2	4294	C
44	2	4295	U
44	2	4297	G
44	2	4304	A
44	2	4305	G
44	2	4314	C
44	2	4319	C
44	2	4329	G
44	2	4330	G
44	2	4332	C
44	2	4339	A

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Mol	Chain	Res	Type
44	2	4349	C
44	2	4354	U
44	2	4364	G
44	2	4372	U
44	2	4373	G
44	2	4377	G
44	2	4378	A
44	2	4379	A
44	2	4380	A
44	2	4381	A
44	2	4382	G
44	2	4387	C
44	2	4396	A
44	2	4415	1MA
44	2	4418	G
44	2	4422	A
44	2	4424	A
44	2	4428	A
44	2	4436	U
44	2	4437	U
44	2	4451	G
44	2	4452	U
44	2	4453	C
44	2	4464	A
44	2	4465	U
44	2	4466	C
44	2	4475	G
44	2	4484	A
44	2	4488	A
44	2	4498	U
44	2	4499	G
44	2	4505	C
44	2	4512	U
44	2	4513	A
44	2	4518	A
44	2	4519	C
44	2	4523	A2M
44	2	4524	G
44	2	4530	UR3
44	2	4545	G
44	2	4548	A
44	2	4549	G

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Mol	Chain	Res	Type
44	2	4555	U
44	2	4556	U
44	2	4557	U
44	2	4558	U
44	2	4560	C
44	2	4575	G
44	2	4584	A
44	2	4589	A
44	2	4590	A
44	2	4599	A
44	2	4600	G
44	2	4601	U
44	2	4606	G
44	2	4607	A
44	2	4608	G
44	2	4635	A
44	2	4636	U
44	2	4637	OMG
44	2	4656	A
44	2	4657	U
44	2	4670	C
44	2	4678	G
44	2	4687	A
44	2	4693	C
44	2	4694	G
44	2	4695	C
44	2	4698	C
44	2	4700	A
44	2	4708	A
44	2	4709	U
44	2	4719	G
44	2	4720	C
44	2	4721	G
44	2	4730	C
44	2	4731	G
44	2	4733	C
44	2	4734	A
44	2	4735	G
44	2	4740	G
44	2	4741	C
44	2	4742	G
44	2	4745	G

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Mol	Chain	Res	Type
44	2	4754	G
44	2	4757	C
44	2	4759	C
44	2	4761	G
44	2	4764	A
44	2	4765	G
44	2	4771	C
44	2	4773	C
44	2	4775	C
44	2	4776	G
44	2	4859	C
44	2	4870	OMG
44	2	4871	C
44	2	4872	2MG
44	2	4874	A
44	2	4877	G
44	2	4882	U
44	2	4883	C
44	2	4889	G
44	2	4895	C
44	2	4900	C
44	2	4901	G
44	2	4910	G
44	2	4912	G
44	2	4914	C
44	2	4915	G
44	2	4927	G
44	2	4928	C
44	2	4934	A
44	2	4938	A
44	2	4940	C
44	2	4941	G
44	2	4943	A
44	2	4949	G
44	2	4960	G
44	2	4976	U
44	2	4989	U
44	2	4990	C
44	2	4991	U
44	2	4993	G
44	2	5013	C
44	2	5014	A

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Mol	Chain	Res	Type
44	2	5017	G
44	2	5021	C
44	2	5022	U
44	2	5026	U
44	2	5027	C
44	2	5028	G
44	2	5030	U
44	2	5031	G
44	2	5034	A
44	2	5040	U
44	2	5041	G
44	2	5047	C
44	2	5050	C
44	2	5054	C
44	2	5055	G
44	2	5058	A
44	2	5062	G
44	2	5069	U

All (22) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
44	2	406	C
44	2	914	U
44	2	1676	C
44	2	1980	U
44	2	2015	U
44	2	2033	A
44	2	2760	G
44	2	3596	A
44	2	3905	A
44	2	3945	A
44	2	3954	A
44	2	4063	U
44	2	4191	G
44	2	4195	G
44	2	4202	U
44	2	4204	C
44	2	4380	A
44	2	4382	G
44	2	4498	U
44	2	4555	U

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Mol	Chain	Res	Type
44	2	4699	U
44	2	4913	G

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

78 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$
44	A2M	2	1871	53,44	18,25,26	3.58	8 (44%)	18,36,39	3.47	3 (16%)
44	A2M	2	2401	44	18,25,26	3.62	8 (44%)	18,36,39	3.37	3 (16%)
44	OMG	2	1883	44	18,26,27	2.90	8 (44%)	19,38,41	1.56	4 (21%)
44	OMG	2	1316	44	18,26,27	2.85	8 (44%)	19,38,41	1.54	5 (26%)
44	A2M	2	1326	44	18,25,26	3.63	8 (44%)	18,36,39	3.53	4 (22%)
44	B9B	2	1574	44	21,28,29	1.95	3 (14%)	23,40,43	6.43	5 (21%)
44	OMG	2	4637	44	18,26,27	2.86	8 (44%)	19,38,41	1.54	4 (21%)
44	A2M	2	3718	44	18,25,26	3.58	8 (44%)	18,36,39	3.39	4 (22%)
44	B8W	2	4129	44	18,26,27	2.11	2 (11%)	21,38,41	2.42	7 (33%)
44	A2M	2	398	44	18,25,26	3.61	8 (44%)	18,36,39	3.44	4 (22%)
44	B8H	2	1860	44	20,22,23	6.60	6 (30%)	21,32,35	2.36	5 (23%)
44	2MG	2	978	44	18,26,27	2.72	6 (33%)	16,38,41	1.38	4 (25%)
44	5MC	2	4335	44	18,22,23	3.59	7 (38%)	26,32,35	1.11	2 (7%)
44	OMU	2	4620	44	19,22,23	2.97	8 (42%)	26,31,34	1.69	4 (15%)
44	5MU	2	4083	44	19,22,23	7.22	8 (42%)	28,32,35	3.42	10 (35%)
44	OMG	2	4370	44	18,26,27	2.87	8 (44%)	19,38,41	1.50	5 (26%)
44	OMG	2	2424	44	18,26,27	2.87	8 (44%)	19,38,41	1.50	4 (21%)
44	OMC	2	4536	44	19,22,23	2.98	8 (42%)	26,31,34	1.13	3 (11%)
44	E6G	2	4355	44	20,27,28	2.81	3 (15%)	22,39,42	3.26	7 (31%)
44	OMC	2	3869	44	19,22,23	3.06	8 (42%)	26,31,34	1.56	4 (15%)
44	OMG	2	4494	44	18,26,27	2.85	8 (44%)	19,38,41	1.45	4 (21%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
44	B8W	2	2380	44	18,26,27	2.09	2 (11%)	21,38,41	2.46	7 (33%)
44	B8W	2	4529	44	18,26,27	2.13	2 (11%)	21,38,41	2.71	7 (33%)
44	A2M	2	3825	44	18,25,26	3.58	8 (44%)	18,36,39	3.38	3 (16%)
44	OMC	2	2804	44	19,22,23	2.91	8 (42%)	26,31,34	1.36	3 (11%)
44	B8W	2	4185	44	18,26,27	2.12	2 (11%)	21,38,41	2.49	6 (28%)
44	B9B	2	2754	44	21,28,29	2.00	3 (14%)	23,40,43	6.39	5 (21%)
44	2MG	2	1517	44	18,26,27	2.71	6 (33%)	16,38,41	1.55	4 (25%)
44	7MG	2	2522	44	22,26,27	3.73	10 (45%)	29,39,42	1.96	9 (31%)
44	OMG	2	373	44	18,26,27	2.88	8 (44%)	19,38,41	1.59	5 (26%)
44	OMC	2	3701	44	19,22,23	2.99	8 (42%)	26,31,34	0.78	0
44	OMC	2	2861	44	19,22,23	3.06	8 (42%)	26,31,34	1.18	3 (11%)
44	B8T	2	4483	44	19,22,23	3.65	8 (42%)	26,31,34	1.31	3 (11%)
44	B8W	2	4472	44	18,26,27	2.15	2 (11%)	21,38,41	2.59	7 (33%)
44	A2M	2	1534	44	18,25,26	3.58	8 (44%)	18,36,39	3.56	4 (22%)
44	OMG	2	1522	44	18,26,27	2.81	8 (44%)	19,38,41	1.50	5 (26%)
44	OMG	2	2364	44	18,26,27	2.85	8 (44%)	19,38,41	1.50	5 (26%)
44	UR3	2	1866	53,44	19,22,23	2.95	6 (31%)	26,32,35	2.11	6 (23%)
44	M7A	2	4564	44	20,25,26	1.99	3 (15%)	28,37,40	3.87	7 (25%)
44	A2M	2	3867	44	18,25,26	3.57	8 (44%)	18,36,39	3.45	4 (22%)
44	B8K	2	3897	44	24,28,29	3.43	11 (45%)	30,42,45	2.51	11 (36%)
44	E7G	2	1797	44	24,27,28	4.07	11 (45%)	30,40,43	2.18	9 (30%)
44	OMG	2	4870	44	18,26,27	2.87	8 (44%)	19,38,41	1.56	4 (21%)
44	OMC	2	3887	44	19,22,23	3.03	8 (42%)	26,31,34	0.83	1 (3%)
44	2MG	2	729	44	18,26,27	2.68	6 (33%)	16,38,41	1.42	4 (25%)
44	B8Q	2	1456	44	17,22,23	2.95	5 (29%)	22,32,35	2.30	6 (27%)
44	2MG	2	4872	44	18,26,27	2.61	6 (33%)	16,38,41	1.72	4 (25%)
44	UR3	2	4597	44	19,22,23	2.78	7 (36%)	26,32,35	1.93	4 (15%)
44	OMC	2	2365	44	19,22,23	3.00	8 (42%)	26,31,34	0.76	0
44	P7G	2	3880	44	24,28,29	4.09	11 (45%)	27,41,44	1.47	4 (14%)
44	7MG	2	1605	44	22,26,27	3.82	10 (45%)	29,39,42	1.96	9 (31%)
44	MHG	2	4371	44	29,32,33	3.93	11 (37%)	34,46,49	2.37	12 (35%)
44	A2M	2	3723	44	18,25,26	3.56	8 (44%)	18,36,39	3.37	4 (22%)
44	1MA	2	4415	44	16,25,26	4.38	5 (31%)	18,37,40	1.67	3 (16%)
44	B8H	2	4296	44	20,22,23	6.62	6 (30%)	21,32,35	2.39	5 (23%)
44	UR3	2	4530	44	19,22,23	2.86	6 (31%)	26,32,35	1.28	2 (7%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
44	E7G	2	2297	44	24,27,28	4.02	11 (45%)	30,40,43	2.15	10 (33%)
44	P4U	2	1348	44	21,24,25	3.62	8 (38%)	27,33,36	1.06	1 (3%)
44	BGH	2	3899	44	25,29,30	4.62	17 (68%)	31,43,46	2.59	12 (38%)
44	B9B	2	237	44	21,28,29	2.00	3 (14%)	23,40,43	6.42	5 (21%)
44	7MG	2	4550	44	22,26,27	3.82	10 (45%)	29,39,42	1.92	8 (27%)
44	B8T	2	4671	44	19,22,23	3.59	8 (42%)	26,31,34	0.93	1 (3%)
44	OMU	2	4306	44	19,22,23	3.04	8 (42%)	26,31,34	1.69	4 (15%)
44	OMG	2	2050	44	18,26,27	2.83	8 (44%)	19,38,41	1.49	4 (21%)
44	6MZ	2	4220	44	18,25,26	1.87	3 (16%)	16,36,39	3.75	3 (18%)
44	B8K	2	4690	44	24,28,29	3.42	11 (45%)	30,42,45	2.59	11 (36%)
44	P7G	2	1909	44	24,28,29	4.05	11 (45%)	27,41,44	1.55	3 (11%)
44	I4U	2	1659	44	21,24,25	3.59	9 (42%)	27,34,37	1.20	1 (3%)
44	A2M	2	2363	44	18,25,26	3.60	8 (44%)	18,36,39	3.40	4 (22%)
44	B9H	2	2786	44	20,25,26	3.28	5 (25%)	22,35,38	2.40	7 (31%)
44	A2M	2	4571	44	18,25,26	3.58	8 (44%)	18,36,39	3.42	4 (22%)
44	A2M	2	4523	44	18,25,26	3.57	8 (44%)	18,36,39	3.45	4 (22%)
44	A2M	2	1524	44	18,25,26	3.62	8 (44%)	18,36,39	3.44	4 (22%)
44	OMC	2	3909	44	19,22,23	3.01	8 (42%)	26,31,34	1.24	5 (19%)
44	OMG	2	2773	44	18,26,27	2.91	8 (44%)	19,38,41	1.54	5 (26%)
4	OMU	8	14	4,44	19,22,23	2.99	8 (42%)	26,31,34	1.78	5 (19%)
44	OMG	2	1625	44	18,26,27	2.91	8 (44%)	19,38,41	1.50	4 (21%)
44	OMG	2	4623	44	18,26,27	2.86	8 (44%)	19,38,41	1.55	5 (26%)

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
44	A2M	2	1871	53,44	-	0/5/27/28	0/3/3/3
44	A2M	2	2401	44	-	1/5/27/28	0/3/3/3
44	OMG	2	1883	44	-	2/5/27/28	0/3/3/3
44	OMG	2	1316	44	-	0/5/27/28	0/3/3/3
44	A2M	2	1326	44	-	3/5/27/28	0/3/3/3
44	B9B	2	1574	44	-	3/7/29/30	0/3/3/3
44	OMG	2	4637	44	-	3/5/27/28	0/3/3/3
44	A2M	2	3718	44	-	0/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	B8W	2	4129	44	-	2/5/27/28	0/3/3/3
44	A2M	2	398	44	-	2/5/27/28	0/3/3/3
44	B8H	2	1860	44	-	2/7/25/26	0/2/2/2
44	2MG	2	978	44	-	0/5/27/28	0/3/3/3
44	5MC	2	4335	44	-	0/7/25/26	0/2/2/2
44	OMU	2	4620	44	-	0/9/27/28	0/2/2/2
44	5MU	2	4083	44	-	0/7/25/26	0/2/2/2
44	OMG	2	4370	44	-	1/5/27/28	0/3/3/3
44	OMG	2	2424	44	-	2/5/27/28	0/3/3/3
44	OMC	2	4536	44	-	0/9/27/28	0/2/2/2
44	E6G	2	4355	44	-	2/6/28/29	0/3/3/3
44	OMC	2	3869	44	-	4/9/27/28	0/2/2/2
44	OMG	2	4494	44	-	0/5/27/28	0/3/3/3
44	B8W	2	2380	44	-	2/5/27/28	0/3/3/3
44	B8W	2	4529	44	-	0/5/27/28	0/3/3/3
44	A2M	2	3825	44	-	0/5/27/28	0/3/3/3
44	OMC	2	2804	44	-	0/9/27/28	0/2/2/2
44	B8W	2	4185	44	-	2/5/27/28	0/3/3/3
44	B9B	2	2754	44	-	2/7/29/30	0/3/3/3
44	2MG	2	1517	44	-	0/5/27/28	0/3/3/3
44	7MG	2	2522	44	-	0/7/37/38	0/3/3/3
44	OMG	2	373	44	-	1/5/27/28	0/3/3/3
44	OMC	2	3701	44	-	4/9/27/28	0/2/2/2
44	OMC	2	2861	44	-	0/9/27/28	0/2/2/2
44	B8T	2	4483	44	-	0/7/27/28	0/2/2/2
44	B8W	2	4472	44	-	2/5/27/28	0/3/3/3
44	A2M	2	1534	44	-	1/5/27/28	0/3/3/3
44	OMG	2	1522	44	-	0/5/27/28	0/3/3/3
44	OMG	2	2364	44	-	2/5/27/28	0/3/3/3
44	UR3	2	1866	53,44	-	3/7/25/26	0/2/2/2
44	M7A	2	4564	44	-	0/7/37/38	0/3/3/3
44	A2M	2	3867	44	-	2/5/27/28	0/3/3/3
44	B8K	2	3897	44	-	3/11/41/42	0/3/3/3
44	E7G	2	1797	44	-	2/9/39/40	0/3/3/3
44	OMG	2	4870	44	-	3/5/27/28	0/3/3/3
44	OMC	2	3887	44	-	1/9/27/28	0/2/2/2
44	2MG	2	729	44	-	2/5/27/28	0/3/3/3
44	B8Q	2	1456	44	-	0/7/42/43	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
44	2MG	2	4872	44	-	2/5/27/28	0/3/3/3
44	UR3	2	4597	44	-	0/7/25/26	0/2/2/2
44	OMC	2	2365	44	-	0/9/27/28	0/2/2/2
44	P7G	2	3880	44	-	4/10/40/41	0/3/3/3
44	7MG	2	1605	44	-	0/7/37/38	0/3/3/3
44	MHG	2	4371	44	-	3/16/46/47	0/3/3/3
44	A2M	2	3723	44	-	2/5/27/28	0/3/3/3
44	1MA	2	4415	44	-	3/3/25/26	0/3/3/3
44	B8H	2	4296	44	-	2/7/25/26	0/2/2/2
44	UR3	2	4530	44	-	0/7/25/26	0/2/2/2
44	E7G	2	2297	44	-	1/9/39/40	0/3/3/3
44	P4U	2	1348	44	-	1/10/29/30	0/2/2/2
44	BGH	2	3899	44	-	1/13/43/44	0/3/3/3
44	B9B	2	237	44	-	5/7/29/30	0/3/3/3
44	7MG	2	4550	44	-	0/7/37/38	0/3/3/3
44	B8T	2	4671	44	-	0/7/27/28	0/2/2/2
44	OMU	2	4306	44	-	0/9/27/28	0/2/2/2
44	OMG	2	2050	44	-	0/5/27/28	0/3/3/3
44	6MZ	2	4220	44	-	1/5/27/28	0/3/3/3
44	B8K	2	4690	44	-	0/11/41/42	0/3/3/3
44	P7G	2	1909	44	-	3/10/40/41	0/3/3/3
44	I4U	2	1659	44	-	2/9/29/30	0/2/2/2
44	A2M	2	2363	44	-	0/5/27/28	0/3/3/3
44	B9H	2	2786	44	-	0/12/47/48	0/2/2/2
44	A2M	2	4571	44	-	0/5/27/28	0/3/3/3
44	A2M	2	4523	44	-	4/5/27/28	0/3/3/3
44	A2M	2	1524	44	-	1/5/27/28	0/3/3/3
44	OMC	2	3909	44	-	1/9/27/28	0/2/2/2
44	OMG	2	2773	44	-	0/5/27/28	0/3/3/3
4	OMU	8	14	4,44	-	1/9/27/28	0/2/2/2
44	OMG	2	1625	44	-	3/5/27/28	0/3/3/3
44	OMG	2	4623	44	-	1/5/27/28	0/3/3/3

All (574) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	4083	5MU	C4-C5	20.79	1.79	1.44
44	2	4296	B8H	C6-C5	-16.51	1.11	1.34
44	2	1860	B8H	C6-C5	-16.35	1.12	1.34
44	2	4415	1MA	C2-N3	16.16	1.48	1.29

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	4083	5MU	C6-N1	15.93	1.65	1.38
44	2	4296	B8H	C4-N3	-15.73	1.09	1.38
44	2	1860	B8H	C4-N3	-15.64	1.09	1.38
44	2	1860	B8H	C4-C5	13.38	1.82	1.44
44	2	4296	B8H	C4-C5	13.26	1.82	1.44
44	2	1860	B8H	C6-N1	12.26	1.66	1.36
44	2	4296	B8H	C6-N1	12.25	1.66	1.36
44	2	4083	5MU	C6-C5	-11.51	1.15	1.34
44	2	4083	5MU	C4-N3	-11.13	1.18	1.38
44	2	1659	I4U	C4-N3	10.76	1.45	1.31
44	2	1348	P4U	C4-N3	10.57	1.45	1.31
44	2	4355	E6G	O6-C6	10.30	1.43	1.35
44	2	2786	B9H	C2-N3	9.97	1.49	1.37
44	2	2297	E7G	C5-N7	9.70	1.46	1.35
44	2	3880	P7G	C5-N7	9.53	1.46	1.35
44	2	1797	E7G	C5-N7	9.50	1.46	1.35
44	2	4371	MHG	C8-N9	9.39	1.51	1.46
44	2	3897	B8K	C8-N9	9.30	1.51	1.46
44	2	4550	7MG	C8-N9	9.29	1.51	1.46
44	2	1909	P7G	C8-N9	9.27	1.51	1.46
44	2	1797	E7G	C8-N9	9.25	1.51	1.46
44	2	1909	P7G	C5-N7	9.23	1.45	1.35
44	2	4690	B8K	C8-N9	9.19	1.51	1.46
44	2	1605	7MG	C8-N9	9.18	1.51	1.46
44	2	4335	5MC	C6-C5	9.05	1.49	1.34
44	2	3899	BGH	C8-N9	9.01	1.51	1.46
44	2	2297	E7G	C8-N9	8.92	1.50	1.46
44	2	1524	A2M	C3'-C4'	-8.91	1.30	1.53
44	2	4371	MHG	C5-N7	8.89	1.45	1.35
44	2	3899	BGH	O4'-C1'	8.89	1.63	1.42
44	2	1326	A2M	C3'-C4'	-8.83	1.30	1.53
44	2	398	A2M	C3'-C4'	-8.82	1.30	1.53
44	2	3867	A2M	C3'-C4'	-8.81	1.30	1.53
44	2	1871	A2M	C3'-C4'	-8.80	1.30	1.53
44	2	3899	BGH	C2'-C1'	-8.79	1.30	1.53
44	2	4550	7MG	C5-N7	8.78	1.45	1.35
44	2	2363	A2M	C3'-C4'	-8.72	1.30	1.53
44	2	4571	A2M	C3'-C4'	-8.72	1.30	1.53
44	2	3825	A2M	C3'-C4'	-8.72	1.30	1.53
44	2	2401	A2M	C3'-C4'	-8.70	1.30	1.53
44	2	1534	A2M	C3'-C4'	-8.69	1.30	1.53
44	2	3718	A2M	C3'-C4'	-8.68	1.30	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	3723	A2M	C3'-C4'	-8.67	1.30	1.53
44	2	1605	7MG	C5-N7	8.67	1.45	1.35
44	2	2522	7MG	C5-N7	8.66	1.45	1.35
44	2	3880	P7G	C8-N9	8.62	1.50	1.46
44	2	4523	A2M	C3'-C4'	-8.56	1.31	1.53
44	2	2522	7MG	C8-N9	8.55	1.50	1.46
44	2	1456	B8Q	C6-C5	8.29	1.52	1.33
44	2	4371	MHG	C2-N3	8.16	1.47	1.31
44	2	4129	B8W	C2-N2	8.04	1.50	1.33
44	2	4472	B8W	C2-N2	8.01	1.49	1.33
44	2	4529	B8W	C2-N2	8.00	1.49	1.33
44	2	4185	B8W	C2-N2	7.93	1.49	1.33
44	2	2380	B8W	C2-N2	7.84	1.49	1.33
44	2	398	A2M	O4'-C4'	7.76	1.62	1.45
44	2	1871	A2M	O4'-C4'	7.73	1.62	1.45
44	2	3718	A2M	O4'-C4'	7.73	1.62	1.45
44	2	2401	A2M	O4'-C4'	7.69	1.62	1.45
44	2	1326	A2M	O4'-C4'	7.69	1.62	1.45
44	2	1534	A2M	O4'-C4'	7.67	1.62	1.45
44	2	4523	A2M	O4'-C4'	7.62	1.62	1.45
44	2	3825	A2M	O4'-C4'	7.61	1.62	1.45
44	2	2363	A2M	O4'-C4'	7.60	1.62	1.45
44	2	3899	BGH	O4'-C4'	-7.58	1.28	1.45
44	2	4483	B8T	C2-N3	7.51	1.51	1.36
44	2	3723	A2M	O4'-C4'	7.50	1.61	1.45
44	2	1524	A2M	O4'-C4'	7.46	1.61	1.45
44	2	4571	A2M	O4'-C4'	7.45	1.61	1.45
44	2	3867	A2M	O4'-C1'	-7.35	1.30	1.41
44	2	1524	A2M	O4'-C1'	-7.30	1.30	1.41
44	2	2401	A2M	O4'-C1'	-7.30	1.30	1.41
44	2	4571	A2M	O4'-C1'	-7.29	1.30	1.41
44	2	1326	A2M	O4'-C1'	-7.25	1.31	1.41
44	2	4671	B8T	C2-N3	7.24	1.51	1.36
44	2	3867	A2M	O4'-C4'	7.22	1.61	1.45
44	2	4483	B8T	C4-N3	7.17	1.45	1.32
44	2	4306	OMU	C2-N1	7.16	1.49	1.38
44	2	3723	A2M	O4'-C1'	-7.13	1.31	1.41
44	2	4523	A2M	O4'-C1'	-7.11	1.31	1.41
44	2	2786	B9H	C2-N1	7.11	1.48	1.38
44	2	1866	UR3	C2-N1	7.10	1.48	1.38
44	2	2363	A2M	O4'-C1'	-7.09	1.31	1.41
4	8	14	OMU	C2-N1	7.06	1.49	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	4620	OMU	C2-N1	7.06	1.49	1.38
44	2	3825	A2M	O4'-C1'	-7.06	1.31	1.41
44	2	4671	B8T	C4-N3	7.05	1.45	1.32
44	2	1534	A2M	O4'-C1'	-7.04	1.31	1.41
44	2	398	A2M	O4'-C1'	-7.01	1.31	1.41
44	2	3718	A2M	O4'-C1'	-7.00	1.31	1.41
44	2	2786	B9H	C6-C5	6.93	1.48	1.33
44	2	4671	B8T	C6-C5	6.90	1.51	1.35
44	2	4530	UR3	C2-N1	6.81	1.48	1.38
44	2	1866	UR3	C6-C5	6.81	1.50	1.35
44	2	1871	A2M	O4'-C1'	-6.80	1.31	1.41
44	2	4597	UR3	C6-C5	6.77	1.50	1.35
44	2	1517	2MG	C2-N2	6.76	1.48	1.33
44	2	978	2MG	C2-N2	6.75	1.48	1.33
44	2	4530	UR3	C6-C5	6.72	1.50	1.35
44	2	4306	OMU	C2-N3	6.71	1.49	1.38
44	2	4483	B8T	C6-C5	6.69	1.50	1.35
44	2	729	2MG	C2-N2	6.67	1.48	1.33
44	2	4690	B8K	C2-N3	6.66	1.49	1.33
44	2	3897	B8K	C2-N3	6.63	1.49	1.33
44	2	4220	6MZ	C6-N6	6.62	1.45	1.35
4	8	14	OMU	C2-N3	6.60	1.49	1.38
44	2	3909	OMC	C6-C5	6.57	1.50	1.35
44	2	1456	B8Q	C2-N3	6.56	1.46	1.35
44	2	4371	MHG	C8-N7	6.53	1.51	1.45
44	2	4620	OMU	C2-N3	6.53	1.49	1.38
44	2	4335	5MC	C4-N3	6.49	1.45	1.34
44	2	2861	OMC	C2-N3	6.42	1.49	1.36
44	2	3887	OMC	C2-N3	6.42	1.49	1.36
44	2	3880	P7G	C4-N9	6.39	1.44	1.35
44	2	3869	OMC	C2-N3	6.38	1.49	1.36
44	2	3880	P7G	C4-N3	6.38	1.48	1.37
44	2	1909	P7G	C4-N9	6.38	1.44	1.35
44	2	4872	2MG	C2-N2	6.36	1.47	1.33
44	2	2297	E7G	C8-N7	6.35	1.51	1.45
44	2	1659	I4U	C2-N3	6.34	1.49	1.36
44	2	4536	OMC	C2-N3	6.31	1.49	1.36
44	2	2365	OMC	C2-N3	6.30	1.49	1.36
44	2	1909	P7G	C4-N3	6.29	1.48	1.37
44	2	4371	MHG	C2-N1	6.28	1.46	1.36
44	2	4483	B8T	C4-N4	6.28	1.48	1.35
44	2	3701	OMC	C2-N3	6.28	1.49	1.36

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	1797	E7G	C4-N9	6.27	1.45	1.37
44	2	1348	P4U	C2-N3	6.26	1.49	1.36
44	2	1625	OMG	C2-N3	6.25	1.48	1.33
44	2	4870	OMG	C2-N3	6.21	1.48	1.33
44	2	1883	OMG	C2-N3	6.19	1.48	1.33
44	2	4671	B8T	C4-N4	6.19	1.48	1.35
44	2	4335	5MC	C2-N3	6.19	1.48	1.36
44	2	2754	B9B	O6-C6	6.17	1.40	1.35
44	2	1797	E7G	C8-N7	6.16	1.51	1.45
44	2	237	B9B	O6-C6	6.16	1.40	1.35
44	2	4597	UR3	C2-N3	6.15	1.50	1.39
44	2	2773	OMG	C2-N3	6.14	1.48	1.33
44	2	2424	OMG	C2-N3	6.13	1.48	1.33
44	2	1659	I4U	C6-C5	6.11	1.49	1.35
44	2	2804	OMC	C2-N3	6.07	1.48	1.36
44	2	3701	OMC	C6-C5	6.07	1.49	1.35
44	2	3880	P7G	C8-N7	6.07	1.51	1.45
44	2	4637	OMG	C2-N3	6.06	1.47	1.33
44	2	1625	OMG	C2-N2	6.06	1.48	1.34
44	2	2773	OMG	C2-N2	6.05	1.48	1.34
44	2	1883	OMG	C2-N2	6.04	1.48	1.34
44	2	1348	P4U	C6-C5	6.04	1.49	1.35
44	2	4355	E6G	C2-N2	6.02	1.45	1.33
44	2	2364	OMG	C2-N3	6.02	1.47	1.33
44	2	3887	OMC	C6-C5	6.01	1.49	1.35
44	2	2424	OMG	C2-N2	6.00	1.48	1.34
44	2	3899	BGH	C4-N9	6.00	1.44	1.37
44	2	1316	OMG	C2-N3	5.99	1.47	1.33
44	2	4494	OMG	C2-N3	5.99	1.47	1.33
44	2	4870	OMG	C2-N2	5.99	1.48	1.34
44	2	373	OMG	C2-N2	5.98	1.48	1.34
44	2	2365	OMC	C6-C5	5.98	1.49	1.35
44	2	3880	P7G	C2-N2	5.98	1.48	1.34
44	2	1909	P7G	C2-N2	5.97	1.48	1.34
44	2	4370	OMG	C2-N3	5.97	1.47	1.33
44	2	2050	OMG	C2-N3	5.95	1.47	1.33
44	2	1866	UR3	C2-N3	5.95	1.50	1.39
44	2	2861	OMC	C6-C5	5.95	1.48	1.35
44	2	4370	OMG	C2-N2	5.94	1.48	1.34
44	2	2364	OMG	C2-N2	5.94	1.48	1.34
44	2	4623	OMG	C2-N2	5.94	1.48	1.34
44	2	4536	OMC	C6-C5	5.93	1.48	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	373	OMG	C2-N3	5.93	1.47	1.33
44	2	4637	OMG	C2-N2	5.93	1.48	1.34
44	2	2050	OMG	C2-N2	5.90	1.48	1.34
44	2	1316	OMG	C2-N2	5.89	1.48	1.34
44	2	4494	OMG	C2-N2	5.86	1.48	1.34
44	2	4597	UR3	C2-N1	5.85	1.46	1.38
44	2	1797	E7G	C4-N3	5.83	1.48	1.34
44	2	1522	OMG	C2-N2	5.83	1.48	1.34
44	2	1574	B9B	O6-C6	5.82	1.40	1.35
44	2	1522	OMG	C2-N3	5.81	1.47	1.33
44	2	4623	OMG	C2-N3	5.80	1.47	1.33
44	2	2804	OMC	C6-C5	5.79	1.48	1.35
44	2	3869	OMC	C6-C5	5.79	1.48	1.35
44	2	4530	UR3	C2-N3	5.77	1.50	1.39
44	2	2297	E7G	C4-N3	5.75	1.47	1.34
44	2	1797	E7G	C2-N3	5.73	1.47	1.33
44	2	2754	B9B	C2-N2	5.72	1.45	1.33
44	2	2297	E7G	C4-N9	5.71	1.44	1.37
44	2	4306	OMU	C6-C5	5.69	1.48	1.35
44	2	3897	B8K	C4-N9	5.69	1.44	1.37
44	2	2297	E7G	C2-N3	5.67	1.46	1.33
44	2	4371	MHG	C2-N2	5.66	1.46	1.33
44	2	4550	7MG	C2-N3	5.65	1.46	1.33
44	2	3899	BGH	C2-N3	5.64	1.46	1.33
44	2	3869	OMC	C2-N1	5.64	1.52	1.40
44	2	3899	BGH	C4-N3	5.63	1.47	1.34
44	2	1605	7MG	C2-N3	5.62	1.46	1.33
44	2	2522	7MG	C2-N3	5.61	1.46	1.33
44	2	4690	B8K	C4-N9	5.61	1.44	1.37
44	2	4371	MHG	C4-N9	5.61	1.44	1.37
44	2	4564	M7A	C4-N9	5.61	1.48	1.38
44	2	237	B9B	C2-N2	5.61	1.45	1.33
44	2	1574	B9B	C2-N2	5.58	1.45	1.33
44	2	1517	2MG	C4-N3	5.55	1.50	1.37
44	2	4620	OMU	C6-C5	5.52	1.47	1.35
44	2	3909	OMC	C2-N3	5.52	1.47	1.36
44	2	4371	MHG	C4-N3	5.51	1.47	1.34
44	2	4550	7MG	C4-N3	5.50	1.47	1.34
44	2	2522	7MG	C4-N3	5.48	1.47	1.34
4	8	14	OMU	C6-C5	5.47	1.47	1.35
44	2	1605	7MG	C4-N3	5.46	1.47	1.34
44	2	3909	OMC	C4-N4	5.43	1.46	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	3880	P7G	C2-N1	5.42	1.46	1.33
44	2	729	2MG	C4-N3	5.37	1.50	1.37
44	2	1909	P7G	C8-N7	5.29	1.50	1.45
44	2	4483	B8T	C2-N1	5.26	1.51	1.40
44	2	1605	7MG	C4-N9	5.21	1.43	1.37
44	2	1909	P7G	C2-N1	5.19	1.45	1.33
44	2	2297	E7G	C2-N2	5.19	1.46	1.34
44	2	978	2MG	C4-N3	5.18	1.49	1.37
44	2	1797	E7G	C2-N2	5.18	1.46	1.34
44	2	2365	OMC	C4-N3	5.15	1.44	1.34
44	2	2861	OMC	C4-N3	5.12	1.44	1.34
44	2	3887	OMC	C4-N3	5.12	1.44	1.34
44	2	2861	OMC	C2-N1	5.11	1.51	1.40
44	2	3701	OMC	C4-N3	5.06	1.44	1.34
44	2	2522	7MG	C4-N9	5.04	1.43	1.37
44	2	1348	P4U	O4-C4	5.00	1.40	1.35
44	2	4550	7MG	C4-N9	4.99	1.43	1.37
44	2	2804	OMC	C2-N1	4.92	1.50	1.40
44	2	3869	OMC	C4-N4	4.88	1.45	1.33
44	2	2861	OMC	C4-N4	4.87	1.45	1.33
44	2	3899	BGH	C2-N2	4.86	1.45	1.34
44	2	1625	OMG	C4-N3	4.86	1.49	1.37
44	2	4536	OMC	C4-N4	4.86	1.45	1.33
44	2	3869	OMC	C4-N3	4.86	1.44	1.34
44	2	2365	OMC	C4-N4	4.84	1.45	1.33
44	2	4536	OMC	C2-N1	4.83	1.50	1.40
44	2	4536	OMC	C4-N3	4.83	1.44	1.34
44	2	1456	B8Q	C2-N1	4.83	1.45	1.38
44	2	3701	OMC	C4-N4	4.81	1.45	1.33
44	2	373	OMG	C6-N1	4.81	1.45	1.37
44	2	3887	OMC	C4-N4	4.80	1.45	1.33
44	2	2804	OMC	C4-N4	4.79	1.45	1.33
44	2	2522	7MG	C2-N2	4.78	1.45	1.34
44	2	4550	7MG	C2-N2	4.78	1.45	1.34
44	2	1883	OMG	C4-N3	4.77	1.48	1.37
44	2	1605	7MG	C2-N2	4.77	1.45	1.34
44	2	4870	OMG	C4-N3	4.77	1.48	1.37
44	2	2773	OMG	C4-N3	4.72	1.48	1.37
44	2	4494	OMG	C6-N1	4.72	1.44	1.37
44	2	2424	OMG	C4-N3	4.71	1.48	1.37
44	2	4637	OMG	C4-N3	4.70	1.48	1.37
44	2	1659	I4U	C5-C4	4.68	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	4370	OMG	C6-N1	4.67	1.44	1.37
44	2	3887	OMC	C2-N1	4.67	1.50	1.40
44	2	4494	OMG	C4-N3	4.67	1.48	1.37
44	2	4872	2MG	C4-N3	4.65	1.48	1.37
44	2	4623	OMG	C6-N1	4.65	1.44	1.37
44	2	4370	OMG	C4-N3	4.65	1.48	1.37
44	2	2773	OMG	C6-N1	4.63	1.44	1.37
44	2	4671	B8T	C2-N1	4.63	1.50	1.40
44	2	2364	OMG	C4-N3	4.62	1.48	1.37
44	2	2050	OMG	C4-N3	4.60	1.48	1.37
44	2	2804	OMC	C4-N3	4.60	1.43	1.34
44	2	1316	OMG	C6-N1	4.59	1.44	1.37
44	2	4637	OMG	C6-N1	4.59	1.44	1.37
44	2	3899	BGH	C5-N7	4.58	1.47	1.39
44	2	4623	OMG	C4-N3	4.58	1.48	1.37
44	2	1522	OMG	C6-N1	4.57	1.44	1.37
44	2	2424	OMG	C6-N1	4.57	1.44	1.37
44	2	1316	OMG	C4-N3	4.54	1.48	1.37
44	2	3909	OMC	C4-N3	4.54	1.43	1.34
44	2	373	OMG	C4-N3	4.54	1.48	1.37
44	2	2364	OMG	C6-N1	4.53	1.44	1.37
44	2	4335	5MC	C6-N1	4.52	1.45	1.38
44	2	1883	OMG	C6-N1	4.51	1.44	1.37
44	2	2365	OMC	C2-N1	4.49	1.49	1.40
44	2	4690	B8K	C4-N3	4.48	1.44	1.34
44	2	1522	OMG	C4-N3	4.48	1.48	1.37
44	2	4335	5MC	C2-N1	4.47	1.49	1.40
44	2	3897	B8K	C4-N3	4.46	1.44	1.34
44	2	1625	OMG	C6-N1	4.46	1.44	1.37
44	2	1348	P4U	C5-C4	4.45	1.48	1.43
44	2	1860	B8H	C2-N3	4.44	1.45	1.38
44	2	2050	OMG	C6-N1	4.42	1.44	1.37
44	2	4335	5MC	C4-N4	4.41	1.45	1.34
44	2	4296	B8H	C2-N3	4.39	1.45	1.38
44	2	4083	5MU	C2-N3	4.38	1.45	1.38
44	2	3701	OMC	C2-N1	4.38	1.49	1.40
44	2	3909	OMC	C2-N1	4.35	1.49	1.40
44	2	3897	B8K	C5-C6	4.33	1.54	1.43
44	2	4564	M7A	C6-N6	4.32	1.45	1.34
44	2	1348	P4U	C2-N1	4.32	1.49	1.40
44	2	978	2MG	C2-N1	4.29	1.43	1.36
44	2	4690	B8K	C5-N7	4.29	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	1659	I4U	C2-N1	4.27	1.49	1.40
44	2	4415	1MA	C2-N1	4.24	1.43	1.35
44	2	3897	B8K	C5-N7	4.23	1.46	1.39
44	2	4870	OMG	C6-N1	4.22	1.44	1.37
44	2	4872	2MG	C2-N1	4.21	1.43	1.36
44	2	3899	BGH	C5-C6	4.21	1.54	1.43
44	2	4690	B8K	C5-C6	4.20	1.54	1.43
44	2	729	2MG	C2-N1	4.16	1.43	1.36
44	2	4306	OMU	C4-N3	4.13	1.46	1.38
44	2	4415	1MA	C4-N3	4.09	1.50	1.37
4	8	14	OMU	C4-N3	4.08	1.45	1.38
44	2	1517	2MG	C2-N1	4.03	1.43	1.36
44	2	4564	M7A	C5-N7	3.97	1.49	1.39
44	2	4620	OMU	C4-N3	3.94	1.45	1.38
44	2	978	2MG	C6-N1	3.90	1.43	1.37
44	2	4671	B8T	C5-C4	3.87	1.49	1.40
44	2	1797	E7G	C5-C6	3.85	1.53	1.43
44	2	4872	2MG	C6-N1	3.82	1.43	1.37
44	2	4371	MHG	C5-C6	3.80	1.53	1.43
44	2	2297	E7G	C5-C6	3.79	1.53	1.43
44	2	3880	P7G	C2-N3	3.77	1.47	1.37
44	2	1605	7MG	C5-C6	3.74	1.53	1.43
44	2	1909	P7G	C2-N3	3.73	1.46	1.37
44	2	4550	7MG	C5-C6	3.71	1.53	1.43
44	2	3899	BGH	O2'-C2'	3.69	1.52	1.42
44	2	3880	P7G	C6-N1	3.69	1.44	1.38
44	2	1605	7MG	C2-N1	3.60	1.46	1.37
44	2	1517	2MG	C6-N1	3.60	1.43	1.37
44	2	4690	B8K	C71-N7	3.60	1.47	1.39
44	2	3897	B8K	C6-N1	3.59	1.45	1.38
44	2	2522	7MG	C5-C6	3.59	1.52	1.43
44	2	4872	2MG	C5-C6	3.58	1.54	1.47
44	2	2522	7MG	C2-N1	3.57	1.46	1.37
44	2	4690	B8K	C6-N1	3.56	1.45	1.38
44	2	3899	BGH	C71-N7	3.55	1.47	1.39
44	2	1797	E7G	C2-N1	3.55	1.46	1.37
44	2	4483	B8T	C5-C4	3.53	1.48	1.40
44	2	2297	E7G	C2-N1	3.53	1.46	1.37
44	2	4690	B8K	C2-N2	3.52	1.42	1.34
44	2	978	2MG	C5-C6	3.52	1.54	1.47
44	2	3909	OMC	C6-N1	3.52	1.46	1.38
44	2	1909	P7G	C6-N1	3.51	1.44	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	3897	B8K	C2-N2	3.50	1.42	1.34
44	2	729	2MG	C5-C6	3.48	1.54	1.47
44	2	3897	B8K	C71-N7	3.47	1.47	1.39
44	2	729	2MG	C6-N1	3.46	1.43	1.37
44	2	4550	7MG	C2-N1	3.46	1.46	1.37
44	2	1517	2MG	C5-C6	3.44	1.54	1.47
44	2	3869	OMC	C6-N1	3.43	1.46	1.38
44	2	1866	UR3	C6-N1	3.40	1.46	1.38
44	2	1348	P4U	C6-N1	3.38	1.46	1.38
44	2	3880	P7G	C5-C4	3.38	1.44	1.37
44	2	3887	OMC	C6-N1	3.38	1.46	1.38
44	2	4530	UR3	C6-N1	3.38	1.46	1.38
44	2	4483	B8T	C6-N1	3.37	1.46	1.38
44	2	2297	E7G	C6-N1	3.35	1.45	1.38
44	2	3899	BGH	C2-N1	3.34	1.45	1.37
44	2	3899	BGH	C6-N1	3.33	1.45	1.38
44	2	1797	E7G	C6-N1	3.32	1.45	1.38
44	2	1909	P7G	C5-C4	3.32	1.44	1.37
44	2	1605	7MG	C6-N1	3.32	1.45	1.38
44	2	4623	OMG	C5-C6	3.30	1.54	1.47
44	2	4083	5MU	C2-N1	3.30	1.43	1.38
44	2	2773	OMG	C5-C6	3.29	1.54	1.47
44	2	1659	I4U	C6-N1	3.29	1.45	1.38
44	2	1316	OMG	C5-C6	3.27	1.54	1.47
44	2	4370	OMG	C5-C6	3.27	1.54	1.47
44	2	4371	MHG	C6-N1	3.27	1.44	1.38
44	2	2050	OMG	C5-C6	3.27	1.54	1.47
44	2	4690	B8K	C2-N1	3.26	1.45	1.37
44	2	3897	B8K	C2-N1	3.26	1.45	1.37
44	2	2861	OMC	C6-N1	3.25	1.45	1.38
44	2	2522	7MG	C6-N1	3.23	1.44	1.38
44	2	2364	OMG	C5-C6	3.23	1.54	1.47
44	2	2365	OMC	C6-N1	3.23	1.45	1.38
44	2	373	OMG	C5-C6	3.23	1.54	1.47
44	2	4550	7MG	C6-N1	3.22	1.44	1.38
44	2	4637	OMG	C5-C6	3.22	1.53	1.47
44	2	1522	OMG	C5-C6	3.21	1.53	1.47
44	2	4671	B8T	C6-N1	3.20	1.45	1.38
44	2	4870	OMG	C5-C6	3.18	1.53	1.47
44	2	1871	A2M	C6-N6	3.17	1.45	1.34
44	2	4494	OMG	C5-C6	3.17	1.53	1.47
44	2	1909	P7G	O6-C6	-3.16	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	1524	A2M	C6-N6	3.16	1.45	1.34
44	2	3723	A2M	C6-N6	3.15	1.45	1.34
44	2	4597	UR3	C6-N1	3.15	1.45	1.38
44	2	3718	A2M	C6-N6	3.15	1.45	1.34
44	2	3701	OMC	C6-N1	3.15	1.45	1.38
44	2	1326	A2M	C6-N6	3.14	1.45	1.34
44	2	4571	A2M	C6-N6	3.14	1.45	1.34
44	2	1625	OMG	C5-C6	3.13	1.53	1.47
44	2	4523	A2M	C6-N6	3.13	1.45	1.34
44	2	3825	A2M	C6-N6	3.13	1.45	1.34
44	2	398	A2M	C6-N6	3.12	1.45	1.34
44	2	3867	A2M	C6-N6	3.12	1.45	1.34
44	2	2363	A2M	C6-N6	3.12	1.45	1.34
44	2	4536	OMC	C6-N1	3.11	1.45	1.38
44	2	3880	P7G	O6-C6	-3.10	1.18	1.23
44	2	2401	A2M	C6-N6	3.10	1.45	1.34
44	2	2401	A2M	O3'-C3'	3.08	1.50	1.43
44	2	1534	A2M	C6-N6	3.07	1.45	1.34
44	2	1534	A2M	O3'-C3'	3.01	1.50	1.43
44	2	2424	OMG	C5-C6	3.01	1.53	1.47
44	2	2804	OMC	C6-N1	3.00	1.45	1.38
44	2	4355	E6G	C5-C4	-2.96	1.33	1.40
44	2	4872	2MG	C5-C4	-2.95	1.35	1.43
44	2	4620	OMU	O4-C4	-2.95	1.18	1.24
44	2	3899	BGH	O3'-C3'	-2.95	1.36	1.43
4	8	14	OMU	O4-C4	-2.94	1.18	1.24
44	2	3718	A2M	O3'-C3'	2.92	1.49	1.43
44	2	4083	5MU	O4-C4	-2.92	1.18	1.23
44	2	1883	OMG	C5-C6	2.91	1.53	1.47
44	2	1871	A2M	O3'-C3'	2.91	1.49	1.43
44	2	2363	A2M	O3'-C3'	2.91	1.49	1.43
44	2	1659	I4U	O4-C4	2.90	1.41	1.35
44	2	3867	A2M	O3'-C3'	2.90	1.49	1.43
44	2	4306	OMU	O4-C4	-2.88	1.18	1.24
44	2	3897	B8K	C5-C4	2.87	1.47	1.38
44	2	1883	OMG	O6-C6	-2.87	1.17	1.23
44	2	3825	A2M	O3'-C3'	2.87	1.49	1.43
44	2	1326	A2M	O3'-C3'	2.87	1.49	1.43
44	2	4523	A2M	O3'-C3'	2.87	1.49	1.43
44	2	4306	OMU	C6-N1	2.86	1.44	1.38
44	2	398	A2M	O3'-C3'	2.85	1.49	1.43
44	2	3723	A2M	O3'-C3'	2.85	1.49	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	1524	A2M	O3'-C3'	2.82	1.49	1.43
44	2	4671	B8T	O2-C2	-2.82	1.18	1.23
44	2	4690	B8K	C5-C4	2.81	1.47	1.38
44	2	3909	OMC	C5-C4	2.81	1.49	1.42
44	2	1574	B9B	C5-C4	-2.81	1.33	1.40
44	2	2380	B8W	C5-C4	-2.81	1.33	1.40
44	2	4623	OMG	O6-C6	-2.80	1.17	1.23
44	2	237	B9B	C5-C4	-2.80	1.33	1.40
44	2	4370	OMG	O6-C6	-2.78	1.17	1.23
44	2	4870	OMG	O6-C6	-2.78	1.17	1.23
44	2	1522	OMG	O6-C6	-2.78	1.17	1.23
44	2	1316	OMG	O6-C6	-2.77	1.17	1.23
44	2	2424	OMG	O6-C6	-2.77	1.17	1.23
44	2	4083	5MU	O2-C2	-2.77	1.18	1.23
44	2	4472	B8W	C5-C4	-2.77	1.33	1.40
44	2	3899	BGH	O6-C6	-2.76	1.18	1.23
44	2	978	2MG	C5-C4	-2.76	1.36	1.43
44	2	4571	A2M	O3'-C3'	2.76	1.49	1.43
44	2	1348	P4U	O2-C2	-2.76	1.18	1.23
44	2	3701	OMC	O2-C2	-2.75	1.18	1.23
44	2	1659	I4U	O2-C2	-2.75	1.18	1.23
44	2	2365	OMC	O2-C2	-2.75	1.18	1.23
44	2	1625	OMG	O6-C6	-2.74	1.17	1.23
44	2	2050	OMG	O6-C6	-2.73	1.17	1.23
4	8	14	OMU	C6-N1	2.73	1.44	1.38
44	2	4529	B8W	C5-C4	-2.72	1.33	1.40
44	2	2401	A2M	C5-C4	-2.72	1.33	1.40
44	2	2364	OMG	O6-C6	-2.72	1.17	1.23
44	2	4220	6MZ	C5-C4	-2.72	1.33	1.40
44	2	4494	OMG	O6-C6	-2.71	1.17	1.23
44	2	2773	OMG	O6-C6	-2.71	1.17	1.23
44	2	373	OMG	O6-C6	-2.70	1.17	1.23
44	2	4637	OMG	O6-C6	-2.70	1.17	1.23
44	2	2804	OMC	O2-C2	-2.70	1.18	1.23
44	2	729	2MG	C5-C4	-2.69	1.36	1.43
44	2	1871	A2M	C5-C4	-2.67	1.33	1.40
44	2	2754	B9B	C5-C4	-2.67	1.33	1.40
44	2	1524	A2M	O2'-C2'	-2.66	1.35	1.42
44	2	2401	A2M	O2'-C2'	-2.66	1.35	1.42
44	2	4620	OMU	C6-N1	2.65	1.44	1.38
44	2	3825	A2M	C5-C4	-2.65	1.33	1.40
44	2	4185	B8W	C5-C4	-2.65	1.33	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	2363	A2M	C5-C4	-2.65	1.33	1.40
44	2	1534	A2M	C5-C4	-2.64	1.33	1.40
44	2	1659	I4U	O4-C41	-2.64	1.41	1.47
44	2	4483	B8T	O2-C2	-2.64	1.18	1.23
44	2	4571	A2M	C5-C4	-2.63	1.34	1.40
44	2	2363	A2M	O2'-C2'	-2.63	1.35	1.42
44	2	4523	A2M	O2'-C2'	-2.62	1.35	1.42
44	2	1517	2MG	C5-C4	-2.61	1.36	1.43
44	2	2522	7MG	O6-C6	-2.60	1.18	1.23
44	2	398	A2M	O2'-C2'	-2.60	1.35	1.42
44	2	398	A2M	C5-C4	-2.60	1.34	1.40
44	2	1326	A2M	O2'-C2'	-2.60	1.36	1.42
44	2	2861	OMC	O2-C2	-2.60	1.18	1.23
44	2	4523	A2M	C5-C4	-2.60	1.34	1.40
44	2	1524	A2M	C5-C4	-2.59	1.34	1.40
44	2	3718	A2M	C5-C4	-2.58	1.34	1.40
44	2	373	OMG	C2-N1	2.58	1.44	1.37
44	2	3887	OMC	O2-C2	-2.57	1.18	1.23
44	2	3718	A2M	O2'-C2'	-2.57	1.36	1.42
44	2	1534	A2M	O2'-C2'	-2.57	1.36	1.42
44	2	3909	OMC	O2-C2	-2.57	1.18	1.23
44	2	4536	OMC	O2-C2	-2.56	1.19	1.23
44	2	3825	A2M	O2'-C2'	-2.56	1.36	1.42
44	2	3701	OMC	C5-C4	2.55	1.48	1.42
44	2	3723	A2M	C5-C4	-2.54	1.34	1.40
44	2	3867	A2M	O2'-C2'	-2.54	1.36	1.42
44	2	3869	OMC	O2-C2	-2.54	1.19	1.23
44	2	1605	7MG	O6-C6	-2.54	1.18	1.23
44	2	4370	OMG	C2-N1	2.53	1.43	1.37
44	2	4335	5MC	O2-C2	-2.53	1.19	1.23
44	2	4494	OMG	C2-N1	2.52	1.43	1.37
44	2	2773	OMG	C2-N1	2.52	1.43	1.37
44	2	1871	A2M	O2'-C2'	-2.52	1.36	1.42
44	2	3867	A2M	C5-C4	-2.51	1.34	1.40
44	2	2297	E7G	O6-C6	-2.51	1.18	1.23
44	2	2364	OMG	C2-N1	2.50	1.43	1.37
4	8	14	OMU	O2-C2	-2.50	1.18	1.23
44	2	1625	OMG	C2-N1	2.49	1.43	1.37
44	2	1522	OMG	C2-N1	2.48	1.43	1.37
44	2	1326	A2M	C5-C4	-2.47	1.34	1.40
44	2	1883	OMG	C2-N1	2.47	1.43	1.37
44	2	3723	A2M	O2'-C2'	-2.46	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	4623	OMG	C2-N1	2.45	1.43	1.37
44	2	3887	OMC	C5-C4	2.45	1.48	1.42
44	2	2050	OMG	C2-N1	2.45	1.43	1.37
44	2	4550	7MG	O6-C6	-2.44	1.18	1.23
44	2	4637	OMG	C2-N1	2.44	1.43	1.37
44	2	4571	A2M	O2'-C2'	-2.43	1.36	1.42
44	2	4620	OMU	O2-C2	-2.43	1.18	1.23
44	2	373	OMG	C5-C4	-2.43	1.36	1.43
44	2	1797	E7G	O6-C6	-2.42	1.19	1.23
44	2	4306	OMU	C5-C4	2.42	1.49	1.43
44	2	4129	B8W	C5-C4	-2.42	1.34	1.40
44	2	2424	OMG	C2-N1	2.41	1.43	1.37
44	2	2861	OMC	C5-C4	2.41	1.48	1.42
44	2	1316	OMG	C2-N1	2.40	1.43	1.37
44	2	2365	OMC	C5-C4	2.40	1.48	1.42
44	2	1883	OMG	C5-C4	-2.40	1.36	1.43
44	2	1866	UR3	C4-N3	2.40	1.46	1.40
44	2	2363	A2M	C2-N3	2.39	1.35	1.32
44	2	1326	A2M	C2-N3	2.39	1.35	1.32
44	2	1456	B8Q	C6-N1	2.38	1.43	1.38
44	2	1524	A2M	C2-N3	2.38	1.35	1.32
44	2	4870	OMG	C2-N1	2.37	1.43	1.37
44	2	4623	OMG	C5-C4	-2.36	1.37	1.43
44	2	4306	OMU	O2-C2	-2.36	1.18	1.23
44	2	1316	OMG	C5-C4	-2.35	1.37	1.43
44	2	4523	A2M	C2-N3	2.35	1.35	1.32
44	2	4571	A2M	C2-N3	2.34	1.35	1.32
4	8	14	OMU	C5-C4	2.33	1.48	1.43
44	2	4371	MHG	O6-C6	-2.33	1.19	1.23
44	2	1866	UR3	C5-C4	2.32	1.49	1.43
44	2	3723	A2M	C2-N3	2.32	1.35	1.32
44	2	4597	UR3	C5-C4	2.31	1.49	1.43
44	2	3825	A2M	C2-N3	2.30	1.35	1.32
44	2	1522	OMG	C5-C4	-2.30	1.37	1.43
44	2	4620	OMU	C5-C4	2.29	1.48	1.43
44	2	2364	OMG	C5-C4	-2.29	1.37	1.43
44	2	4530	UR3	C4-N3	2.29	1.45	1.40
44	2	398	A2M	C2-N3	2.28	1.35	1.32
44	2	1534	A2M	C2-N3	2.27	1.35	1.32
44	2	4870	OMG	C5-C4	-2.27	1.37	1.43
44	2	4415	1MA	C5-C4	-2.27	1.37	1.43
44	2	2050	OMG	C5-C4	-2.26	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	2	2424	OMG	C5-C4	-2.26	1.37	1.43
44	2	4536	OMC	C5-C4	2.25	1.48	1.42
44	2	1871	A2M	C2-N3	2.24	1.35	1.32
44	2	3867	A2M	C2-N3	2.24	1.35	1.32
44	2	2786	B9H	C6-N1	2.24	1.43	1.38
44	2	4637	OMG	C5-C4	-2.22	1.37	1.43
44	2	4370	OMG	C5-C4	-2.20	1.37	1.43
44	2	2773	OMG	C5-C4	-2.19	1.37	1.43
44	2	4597	UR3	C4-N3	2.19	1.45	1.40
44	2	3899	BGH	C5-C4	2.17	1.45	1.38
44	2	4530	UR3	C5-C4	2.17	1.49	1.43
44	2	2401	A2M	C2-N3	2.16	1.35	1.32
44	2	4415	1MA	CM1-N1	2.14	1.51	1.46
44	2	4494	OMG	C5-C4	-2.14	1.37	1.43
44	2	1456	B8Q	O2-C2	-2.13	1.18	1.22
44	2	1625	OMG	C5-C4	-2.13	1.37	1.43
44	2	4296	B8H	O4-C4	-2.12	1.19	1.23
44	2	3718	A2M	C2-N3	2.12	1.35	1.32
44	2	4597	UR3	O2-C2	-2.09	1.18	1.22
44	2	4220	6MZ	C2-N3	2.08	1.35	1.32
44	2	3869	OMC	C5-C4	2.07	1.47	1.42
44	2	2786	B9H	C31-N3	-2.04	1.43	1.46
44	2	2804	OMC	C5-C4	2.03	1.47	1.42
44	2	1860	B8H	O4-C4	-2.01	1.19	1.23

All (380) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1574	B9B	O6-C6-N1	-29.48	94.67	120.12
44	2	237	B9B	O6-C6-N1	-29.29	94.84	120.12
44	2	2754	B9B	O6-C6-N1	-29.20	94.92	120.12
44	2	4564	M7A	C5-C6-N6	13.69	147.13	123.74
44	2	4220	6MZ	C1'-N9-C4	-12.71	104.32	126.64
44	2	4564	M7A	N6-C6-N1	-11.53	93.11	118.35
44	2	1534	A2M	C5-C6-N6	10.73	136.66	120.35
44	2	1326	A2M	C5-C6-N6	10.56	136.40	120.35
44	2	3718	A2M	C5-C6-N6	10.52	136.34	120.35
44	2	4355	E6G	O6-C6-N1	10.52	129.20	120.12
44	2	4523	A2M	C5-C6-N6	10.50	136.32	120.35
44	2	1871	A2M	C5-C6-N6	10.49	136.29	120.35
44	2	398	A2M	C5-C6-N6	10.47	136.27	120.35
44	2	3867	A2M	C5-C6-N6	10.42	136.18	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1524	A2M	C5-C6-N6	10.37	136.11	120.35
44	2	4571	A2M	C5-C6-N6	10.33	136.05	120.35
44	2	3825	A2M	C5-C6-N6	10.30	136.00	120.35
44	2	4083	5MU	C5-C4-N3	10.27	124.08	115.31
44	2	3723	A2M	C5-C6-N6	10.25	135.92	120.35
44	2	2363	A2M	C5-C6-N6	10.24	135.92	120.35
44	2	2401	A2M	C5-C6-N6	10.24	135.91	120.35
44	2	4083	5MU	C5-C6-N1	-8.18	114.92	123.34
44	2	4597	UR3	C4-N3-C2	-7.76	117.26	124.56
44	2	1534	A2M	N6-C6-N1	-7.68	102.64	118.57
44	2	1326	A2M	N6-C6-N1	-7.40	103.21	118.57
44	2	4523	A2M	N6-C6-N1	-7.36	103.29	118.57
44	2	1524	A2M	N6-C6-N1	-7.30	103.43	118.57
44	2	3867	A2M	N6-C6-N1	-7.29	103.45	118.57
44	2	398	A2M	N6-C6-N1	-7.26	103.50	118.57
44	2	1871	A2M	N6-C6-N1	-7.25	103.52	118.57
44	2	3718	A2M	N6-C6-N1	-7.25	103.53	118.57
44	2	4571	A2M	N6-C6-N1	-7.22	103.59	118.57
44	2	4083	5MU	C4-N3-C2	-7.21	118.01	127.35
44	2	3825	A2M	N6-C6-N1	-7.21	103.61	118.57
44	2	2363	A2M	N6-C6-N1	-7.20	103.62	118.57
44	2	2401	A2M	N6-C6-N1	-7.19	103.66	118.57
44	2	3723	A2M	N6-C6-N1	-7.14	103.76	118.57
44	2	4296	B8H	C4-N3-C2	-6.78	118.58	127.35
44	2	2786	B9H	C6-N1-C2	-6.77	115.72	121.79
44	2	4371	MHG	C2-N3-C4	6.69	120.34	112.04
44	2	1871	A2M	N3-C2-N1	-6.59	118.37	128.68
44	2	1860	B8H	C4-N3-C2	-6.54	118.88	127.35
44	2	4220	6MZ	N3-C2-N1	-6.54	118.46	128.68
44	2	2401	A2M	N3-C2-N1	-6.37	118.73	128.68
44	2	3825	A2M	N3-C2-N1	-6.35	118.75	128.68
44	2	4355	E6G	N2-C2-N3	6.35	128.13	117.79
44	2	398	A2M	N3-C2-N1	-6.34	118.76	128.68
44	2	4690	B8K	C72-C71-N7	6.33	128.39	118.86
44	2	4523	A2M	N3-C2-N1	-6.30	118.84	128.68
44	2	1534	A2M	N3-C2-N1	-6.29	118.84	128.68
44	2	3723	A2M	N3-C2-N1	-6.28	118.86	128.68
44	2	1524	A2M	N3-C2-N1	-6.27	118.88	128.68
44	2	4571	A2M	N3-C2-N1	-6.27	118.88	128.68
44	2	1326	A2M	N3-C2-N1	-6.27	118.89	128.68
44	2	2363	A2M	N3-C2-N1	-6.25	118.90	128.68
44	2	4564	M7A	N3-C2-N1	-6.21	118.89	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	3897	B8K	C72-C71-N7	6.16	128.12	118.86
44	2	3867	A2M	N3-C2-N1	-6.12	119.11	128.68
44	2	3899	BGH	C72-C71-N7	5.98	127.86	118.86
44	2	4690	B8K	C5-C6-N1	5.98	121.53	110.99
44	2	3718	A2M	N3-C2-N1	-5.95	119.38	128.68
44	2	4472	B8W	O6-C6-N1	5.89	127.20	119.03
44	2	4529	B8W	N2-C2-N3	5.82	127.27	117.79
44	2	2786	B9H	C31-N3-C2	5.80	124.46	117.21
44	2	4129	B8W	N2-C2-N3	5.75	127.17	117.79
44	2	2380	B8W	N2-C2-N3	5.74	127.15	117.79
44	2	3899	BGH	C5-C6-N1	5.74	121.10	110.99
44	2	3897	B8K	C5-C6-N1	5.69	121.02	110.99
44	2	4296	B8H	N3-C2-N1	5.69	121.29	115.14
44	2	1860	B8H	N3-C2-N1	5.66	121.26	115.14
44	2	1456	B8Q	N3-C2-N1	5.66	123.78	117.13
44	2	4185	B8W	N2-C2-N3	5.65	127.00	117.79
44	2	237	B9B	N3-C2-N1	-5.56	119.81	127.22
44	2	4129	B8W	N3-C2-N1	-5.53	119.84	127.22
44	2	1866	UR3	O3'-C3'-C2'	5.48	129.55	111.82
44	2	4355	E6G	N3-C2-N1	-5.46	119.94	127.22
44	2	4472	B8W	N2-C2-N3	5.42	126.62	117.79
44	2	1574	B9B	N3-C2-N1	-5.38	120.05	127.22
44	2	2754	B9B	N3-C2-N1	-5.37	120.05	127.22
44	2	4185	B8W	N3-C2-N1	-5.35	120.09	127.22
44	2	2380	B8W	N3-C2-N1	-5.29	120.17	127.22
44	2	4529	B8W	N3-C2-N1	-5.28	120.17	127.22
44	2	1797	E7G	C5-C6-N1	5.23	120.20	110.99
44	2	4472	B8W	N3-C2-N1	-5.22	120.26	127.22
44	2	4564	M7A	N3-C4-N9	5.20	133.44	126.87
44	2	4306	OMU	C4-N3-C2	-5.20	119.72	126.58
4	8	14	OMU	C4-N3-C2	-5.20	119.72	126.58
44	2	4371	MHG	C5-C6-N1	5.20	120.15	110.99
44	2	2297	E7G	C5-C6-N1	5.19	120.14	110.99
44	2	1456	B8Q	C31-N3-C4	5.15	122.02	114.25
44	2	3880	P7G	C4-C5-N7	5.14	109.38	106.67
44	2	4620	OMU	C4-N3-C2	-5.10	119.85	126.58
44	2	4083	5MU	N3-C2-N1	5.05	121.60	114.89
44	2	3899	BGH	C2-N3-C4	5.03	121.25	112.30
44	2	1909	P7G	C4-C5-N7	5.00	109.31	106.67
44	2	1456	B8Q	O2-C2-N3	-4.99	115.62	122.95
44	2	2297	E7G	C4-C5-N7	4.96	109.32	104.91
44	2	4415	1MA	N1-C2-N3	-4.96	120.24	126.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1605	7MG	C5-C6-N1	4.91	119.64	110.99
44	2	1866	UR3	C4-N3-C2	-4.88	119.97	124.56
44	2	4690	B8K	C2-N3-C4	4.88	120.99	112.30
44	2	4529	B8W	O6-C6-N1	4.87	125.79	119.03
44	2	4185	B8W	O6-C6-N1	4.85	125.76	119.03
44	2	3897	B8K	C2-N3-C4	4.84	120.92	112.30
44	2	2522	7MG	C5-C6-N1	4.83	119.50	110.99
44	2	237	B9B	C2-N3-C4	4.81	120.86	115.36
44	2	4371	MHG	C4-C5-N7	4.78	109.16	104.91
44	2	1797	E7G	C4-C5-N7	4.77	109.16	104.91
44	2	4550	7MG	C5-C6-N1	4.76	119.38	110.99
44	2	1797	E7G	C2-N3-C4	4.73	120.72	112.30
44	2	4185	B8W	C2-N3-C4	4.72	120.75	115.36
44	2	3869	OMC	O2-C2-N3	-4.72	114.65	122.33
44	2	1866	UR3	O3'-C3'-C4'	4.64	124.48	111.05
44	2	2297	E7G	C2-N3-C4	4.64	120.56	112.30
44	2	4083	5MU	C5M-C5-C6	-4.61	116.70	122.85
44	2	4529	B8W	C1'-N9-C4	-4.59	118.57	126.64
44	2	2754	B9B	C2-N3-C4	4.58	120.59	115.36
44	2	4530	UR3	C4-N3-C2	-4.58	120.25	124.56
44	2	4129	B8W	C2-N3-C4	4.53	120.53	115.36
44	2	1574	B9B	C2-N3-C4	4.52	120.52	115.36
44	2	2754	B9B	N2-C2-N3	4.41	124.98	117.79
44	2	237	B9B	N2-C2-N3	4.38	124.93	117.79
44	2	1659	I4U	C5-C4-N3	-4.36	118.27	124.91
44	2	4355	E6G	C2-N3-C4	4.36	120.33	115.36
44	2	4872	2MG	CM2-N2-C2	-4.33	114.29	123.86
44	2	4690	B8K	C4-C5-N7	4.31	108.74	104.91
44	2	4472	B8W	C2-N3-C4	4.30	120.26	115.36
44	2	2522	7MG	C2-N3-C4	4.29	119.94	112.30
44	2	4550	7MG	C2-N3-C4	4.26	119.89	112.30
44	2	3899	BGH	N9-C8-N7	4.25	109.04	103.33
44	2	1605	7MG	C2-N3-C4	4.25	119.86	112.30
44	2	1574	B9B	N2-C2-N3	4.24	124.70	117.79
44	2	3899	BGH	C5-C4-N9	4.23	111.83	106.35
44	2	4220	6MZ	C2-N1-C6	4.22	120.21	116.59
44	2	3899	BGH	C4-C5-N7	4.16	108.61	104.91
44	2	2380	B8W	C2-N3-C4	4.12	120.06	115.36
44	2	3897	B8K	C5-C4-N9	4.08	111.65	106.35
44	2	4529	B8W	C2-N3-C4	4.07	120.00	115.36
44	2	1797	E7G	C5-C4-N3	-4.06	120.40	128.13
44	2	4690	B8K	C5-C4-N9	4.03	111.58	106.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2804	OMC	O2-C2-N3	-4.00	115.82	122.33
44	2	2380	B8W	C1'-N9-C4	-3.98	119.65	126.64
44	2	1456	B8Q	C6-N1-C2	-3.95	118.25	121.79
44	2	4083	5MU	O4-C4-C5	-3.95	120.32	124.90
44	2	3897	B8K	C4-C5-N7	3.93	108.41	104.91
44	2	4415	1MA	C5-C6-N1	3.88	119.68	113.90
44	2	1866	UR3	O2'-C2'-C3'	3.84	124.25	111.82
44	2	4306	OMU	N3-C2-N1	3.80	119.93	114.89
44	2	2786	B9H	O3'-C3'-C2'	3.78	121.89	111.17
44	2	4371	MHG	C5-C4-N3	-3.77	120.94	128.13
44	2	1517	2MG	C5-C6-N1	3.77	120.61	113.95
44	2	2297	E7G	C5-C4-N3	-3.73	121.02	128.13
44	2	4870	OMG	C5-C6-N1	3.72	120.52	113.95
44	2	4690	B8K	N9-C8-N7	3.72	108.32	103.33
44	2	2380	B8W	O6-C6-N1	3.70	124.15	119.03
4	8	14	OMU	N3-C2-N1	3.69	119.79	114.89
44	2	1605	7MG	C5-C4-N9	3.67	111.11	106.35
44	2	1348	P4U	C5-C4-N3	-3.67	119.33	124.91
44	2	4620	OMU	N3-C2-N1	3.66	119.75	114.89
44	2	1883	OMG	C5-C6-N1	3.64	120.39	113.95
44	2	4371	MHG	C2-N1-C6	-3.59	120.35	124.48
44	2	4637	OMG	C5-C6-N1	3.57	120.26	113.95
44	2	4872	2MG	C5-C6-N1	3.56	120.23	113.95
44	2	2522	7MG	C5-C4-N9	3.55	110.96	106.35
44	2	3899	BGH	C5-C4-N3	-3.55	121.36	128.13
44	2	4296	B8H	C5-C4-N3	3.54	124.59	116.58
44	2	729	2MG	C5-C6-N1	3.54	120.20	113.95
44	2	3897	B8K	N9-C8-N7	3.53	108.06	103.33
44	2	1625	OMG	C5-C6-N1	3.52	120.17	113.95
44	2	2424	OMG	C5-C6-N1	3.51	120.15	113.95
44	2	2522	7MG	C5-C4-N3	-3.51	121.45	128.13
44	2	2773	OMG	C5-C6-N1	3.49	120.12	113.95
44	2	4371	MHG	C72-C71-N7	-3.48	108.99	112.41
44	2	1860	B8H	C5-C4-N3	3.46	124.41	116.58
44	2	1316	OMG	C5-C6-N1	3.46	120.06	113.95
44	2	1605	7MG	C5-C4-N3	-3.46	121.55	128.13
44	2	2364	OMG	C5-C6-N1	3.44	120.03	113.95
44	2	2050	OMG	C5-C6-N1	3.44	120.03	113.95
44	2	978	2MG	C5-C6-N1	3.44	120.02	113.95
4	8	14	OMU	C5-C4-N3	3.43	119.97	114.84
44	2	4564	M7A	C2-N3-C4	3.43	119.84	111.75
44	2	4355	E6G	N2-C2-N1	-3.42	111.93	117.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1797	E7G	C5-C4-N9	3.42	110.79	106.35
44	2	4550	7MG	C5-C4-N9	3.42	110.79	106.35
44	2	373	OMG	C5-C6-N1	3.41	119.98	113.95
44	2	3869	OMC	C1'-N1-C2	3.40	126.01	118.42
44	2	4083	5MU	C5M-C5-C4	3.39	122.50	118.77
44	2	4623	OMG	C5-C6-N1	3.39	119.93	113.95
44	2	2297	E7G	C5-C4-N9	3.38	110.73	106.35
44	2	4370	OMG	C5-C6-N1	3.36	119.88	113.95
44	2	4371	MHG	C5-C4-N9	3.35	110.69	106.35
44	2	4620	OMU	C5-C4-N3	3.35	119.84	114.84
44	2	1522	OMG	C5-C6-N1	3.34	119.84	113.95
44	2	4690	B8K	C6-C5-C4	-3.32	115.78	122.62
44	2	4083	5MU	C6-C5-C4	3.31	120.80	118.03
44	2	4306	OMU	C5-C4-N3	3.28	119.75	114.84
44	2	4494	OMG	C5-C6-N1	3.28	119.75	113.95
44	2	4550	7MG	C5-C4-N3	-3.28	121.88	128.13
44	2	1909	P7G	N9-C8-N7	3.25	108.03	103.38
44	2	4870	OMG	C2-N1-C6	-3.24	119.12	125.10
44	2	3897	B8K	C6-C5-C4	-3.21	115.99	122.62
44	2	2861	OMC	O2-C2-N3	-3.21	117.10	122.33
44	2	1883	OMG	C2-N1-C6	-3.19	119.22	125.10
44	2	4637	OMG	C2-N1-C6	-3.18	119.25	125.10
44	2	2050	OMG	C2-N1-C6	-3.17	119.26	125.10
44	2	1522	OMG	C2-N1-C6	-3.16	119.28	125.10
44	2	2364	OMG	C2-N1-C6	-3.14	119.31	125.10
44	2	1316	OMG	C2-N1-C6	-3.14	119.32	125.10
44	2	3897	B8K	C5-C4-N3	-3.13	122.16	128.13
44	2	4690	B8K	C5-C4-N3	-3.13	122.17	128.13
44	2	1625	OMG	C2-N1-C6	-3.12	119.35	125.10
44	2	4536	OMC	O2-C2-N3	-3.08	117.31	122.33
44	2	4494	OMG	C2-N1-C6	-3.08	119.42	125.10
44	2	2773	OMG	C2-N1-C6	-3.07	119.44	125.10
44	2	373	OMG	C2-N1-C6	-3.03	119.53	125.10
44	2	2424	OMG	C2-N1-C6	-3.02	119.54	125.10
44	2	4529	B8W	N2-C2-N1	-3.02	112.55	117.25
44	2	4355	E6G	C61-O6-C6	-3.01	114.59	117.56
44	2	2522	7MG	N9-C8-N7	2.98	107.64	103.38
4	8	14	OMU	O4-C4-C5	-2.98	119.92	125.16
44	2	4472	B8W	C1'-N9-C4	-2.98	121.41	126.64
44	2	4623	OMG	C2-N1-C6	-2.96	119.64	125.10
44	2	3899	BGH	C6-C5-C4	-2.95	116.53	122.62
44	2	4370	OMG	C2-N1-C6	-2.94	119.68	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	2380	B8W	N2-C2-N1	-2.94	112.68	117.25
44	2	2861	OMC	C1'-N1-C2	2.93	124.95	118.42
44	2	4620	OMU	O4-C4-C5	-2.92	120.02	125.16
44	2	3869	OMC	O2-C2-N1	2.92	124.92	118.89
44	2	1909	P7G	C71-N7-C5	2.87	131.32	124.52
44	2	4550	7MG	C4-C5-N7	2.84	109.48	105.53
44	2	4415	1MA	C8-N7-C5	2.83	108.38	102.99
44	2	1326	A2M	C1'-N9-C4	2.83	131.60	126.64
44	2	4129	B8W	C2-N1-C6	2.81	120.60	116.08
44	2	1860	B8H	O2-C2-N1	-2.80	119.72	122.87
44	2	2804	OMC	O2-C2-N1	2.80	124.67	118.89
44	2	4306	OMU	O4-C4-C5	-2.79	120.25	125.16
44	2	1605	7MG	N9-C8-N7	2.79	107.37	103.38
44	2	4185	B8W	N2-C2-N1	-2.79	112.92	117.25
44	2	2522	7MG	C4-C5-N7	2.79	109.40	105.53
44	2	3899	BGH	O6-C6-N1	-2.79	114.77	120.12
44	2	4597	UR3	C6-N1-C2	-2.78	119.30	121.79
44	2	1883	OMG	O6-C6-C5	-2.77	118.95	124.37
44	2	3909	OMC	C5-C4-N4	2.76	124.92	120.57
44	2	4083	5MU	O2-C2-N1	-2.76	119.11	122.79
44	2	3909	OMC	O2-C2-N3	-2.75	117.86	122.33
44	2	4597	UR3	C3U-N3-C2	2.74	122.12	117.31
44	2	4129	B8W	N2-C2-N1	-2.74	112.99	117.25
44	2	1860	B8H	O4-C4-N3	-2.72	114.90	120.12
44	2	4483	B8T	O2-C2-N3	-2.70	117.94	122.33
44	2	4483	B8T	O3'-C3'-C2'	2.70	120.55	111.82
44	2	1605	7MG	C4-C5-N7	2.69	109.27	105.53
44	2	2804	OMC	C1'-N1-C2	2.69	124.42	118.42
44	2	2363	A2M	C1'-N9-C4	2.69	131.37	126.64
44	2	4671	B8T	C6-C5-C4	2.68	120.24	116.96
44	2	4371	MHG	N1-C2-N3	-2.68	119.81	123.95
44	2	3867	A2M	C1'-N9-C4	2.68	131.34	126.64
44	2	3880	P7G	N9-C8-N7	2.67	107.20	103.38
44	2	3897	B8K	O6-C6-N1	-2.66	115.02	120.12
44	2	4472	B8W	N2-C2-N1	-2.66	113.12	117.25
44	2	4872	2MG	C8-N7-C5	2.66	108.05	102.99
44	2	1456	B8Q	C1'-N1-C2	2.66	121.47	116.99
44	2	1797	E7G	C2-N1-C6	-2.65	120.28	125.10
44	2	978	2MG	C8-N7-C5	2.64	108.03	102.99
44	2	4472	B8W	O6-C6-C5	-2.63	112.25	116.01
44	2	729	2MG	C8-N7-C5	2.63	108.00	102.99
44	2	4296	B8H	O2-C2-N1	-2.61	119.93	122.87

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4690	B8K	O6-C6-N1	-2.61	115.11	120.12
44	2	4296	B8H	O4-C4-N3	-2.61	115.11	120.12
44	2	4335	5MC	C5-C6-N1	-2.60	120.66	123.34
44	2	1797	E7G	N9-C8-N7	2.58	107.07	103.38
44	2	2786	B9H	O3'-C3'-C4'	2.57	118.47	111.05
44	2	1456	B8Q	C31-N3-C2	2.57	121.52	117.79
44	2	2297	E7G	N9-C8-N7	2.56	107.03	103.38
44	2	4550	7MG	N9-C8-N7	2.55	107.02	103.38
44	2	4690	B8K	C2-N1-C6	-2.53	120.48	125.10
44	2	4530	UR3	C6-N1-C2	-2.51	119.54	121.79
44	2	2786	B9H	C1'-N1-C6	2.50	126.30	120.84
4	8	14	OMU	C1'-N1-C2	2.47	122.05	117.57
44	2	1517	2MG	O6-C6-C5	-2.46	119.57	124.37
44	2	1574	B9B	C61-O6-C6	-2.45	112.93	117.51
44	2	4483	B8T	O3'-C3'-C4'	2.45	118.12	111.05
44	2	2297	E7G	C2-N1-C6	-2.45	120.64	125.10
44	2	1517	2MG	C8-N7-C5	2.44	107.64	102.99
44	2	1316	OMG	C8-N7-C5	2.44	107.63	102.99
44	2	4129	B8W	C1'-N9-C4	-2.44	122.36	126.64
44	2	237	B9B	C61-O6-C6	-2.43	112.97	117.51
44	2	3899	BGH	C2-N1-C6	-2.42	120.69	125.10
44	2	1605	7MG	C2-N1-C6	-2.41	120.70	125.10
44	2	1625	OMG	O6-C6-C5	-2.41	119.67	124.37
44	2	373	OMG	C8-N7-C5	2.41	107.57	102.99
44	2	4870	OMG	O6-C6-C5	-2.40	119.68	124.37
44	2	4623	OMG	C8-N7-C5	2.40	107.55	102.99
44	2	3869	OMC	C6-N1-C2	-2.39	116.34	120.49
44	2	1866	UR3	O2'-C2'-C1'	2.38	117.99	110.02
44	2	4870	OMG	C8-N7-C5	2.38	107.52	102.99
44	2	4623	OMG	N2-C2-N1	2.37	121.76	116.71
44	2	4571	A2M	C1'-N9-C4	2.37	130.81	126.64
44	2	4083	5MU	O4-C4-N3	-2.36	115.60	120.12
44	2	373	OMG	N2-C2-N1	2.35	121.72	116.71
44	2	2424	OMG	O6-C6-C5	-2.35	119.78	124.37
44	2	3897	B8K	C2-N1-C6	-2.34	120.84	125.10
44	2	1534	A2M	C1'-N9-C4	2.33	130.74	126.64
44	2	4355	E6G	C2-N1-C6	2.33	119.82	116.08
44	2	4637	OMG	C8-N7-C5	2.32	107.42	102.99
44	2	4371	MHG	N9-C8-N7	2.31	106.68	103.38
44	2	2754	B9B	C61-O6-C6	-2.31	113.19	117.51
44	2	4529	B8W	C2-N1-C6	2.31	119.79	116.08
44	2	4564	M7A	C5-C4-N3	-2.31	121.21	126.62

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	4872	2MG	O6-C6-C5	-2.30	119.89	124.37
44	2	4637	OMG	O6-C6-C5	-2.29	119.89	124.37
44	2	3899	BGH	N1-C2-N3	-2.29	119.06	123.32
44	2	4690	B8K	N1-C2-N3	-2.29	119.06	123.32
44	2	1522	OMG	C8-N7-C5	2.28	107.34	102.99
44	2	4370	OMG	C8-N7-C5	2.28	107.33	102.99
44	2	3897	B8K	N1-C2-N3	-2.28	119.07	123.32
44	2	3880	P7G	C71-N7-C5	2.27	129.90	124.52
44	2	4335	5MC	CM5-C5-C6	-2.27	119.82	122.85
44	2	4371	MHG	O6-C6-C5	-2.27	121.98	127.54
44	2	2364	OMG	O6-C6-C5	-2.26	119.96	124.37
44	2	2773	OMG	O6-C6-C5	-2.26	119.96	124.37
44	2	2773	OMG	C8-N7-C5	2.25	107.29	102.99
44	2	2786	B9H	O2-C2-N3	-2.25	119.22	122.07
44	2	4550	7MG	C6-C5-C4	-2.25	117.98	122.62
44	2	3723	A2M	C1'-N9-C4	2.24	130.58	126.64
44	2	1883	OMG	C8-N7-C5	2.24	107.25	102.99
44	2	1524	A2M	C1'-N9-C4	2.23	130.57	126.64
44	2	1797	E7G	N9-C4-N3	2.23	128.81	125.47
44	2	2364	OMG	C8-N7-C5	2.23	107.24	102.99
44	2	373	OMG	O6-C6-C5	-2.23	120.02	124.37
44	2	4536	OMC	O2-C2-N1	2.23	123.50	118.89
44	2	1316	OMG	O6-C6-C5	-2.23	120.02	124.37
44	2	2786	B9H	O2-C2-N1	-2.22	117.51	122.72
44	2	2522	7MG	C2-N1-C6	-2.22	121.05	125.10
44	2	2380	B8W	C2-N1-C6	2.22	119.64	116.08
44	2	2050	OMG	O6-C6-C5	-2.21	120.05	124.37
44	2	1316	OMG	N2-C2-N1	2.21	121.42	116.71
44	2	729	2MG	O6-C6-C5	-2.20	120.07	124.37
44	2	4370	OMG	O6-C6-C5	-2.20	120.08	124.37
44	2	2050	OMG	C8-N7-C5	2.20	107.18	102.99
44	2	4494	OMG	O6-C6-C5	-2.19	120.09	124.37
44	2	3718	A2M	C1'-N9-C4	2.18	130.47	126.64
44	2	2297	E7G	O6-C6-C5	-2.18	122.20	127.54
44	2	3909	OMC	C4-N3-C2	2.17	123.77	120.25
44	2	4536	OMC	C1'-N1-C2	2.17	123.27	118.42
44	2	1522	OMG	N2-C2-N1	2.17	121.34	116.71
44	2	2297	E7G	C6-C5-C4	-2.16	118.16	122.62
44	2	3899	BGH	O4'-C1'-N9	2.16	112.24	109.30
44	2	4623	OMG	O6-C6-C5	-2.16	120.16	124.37
44	2	1797	E7G	O6-C6-C5	-2.15	122.26	127.54
44	2	4550	7MG	N1-C2-N3	-2.15	119.31	123.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
44	2	1522	OMG	O6-C6-C5	-2.13	120.21	124.37
44	2	4370	OMG	N2-C2-N1	2.13	121.24	116.71
44	2	1625	OMG	C8-N7-C5	2.13	107.04	102.99
44	2	4371	MHG	C71-N7-C5	2.12	129.54	124.52
44	2	4564	M7A	C71-N7-C5	-2.12	115.88	124.01
44	2	2424	OMG	C8-N7-C5	2.11	107.01	102.99
44	2	2861	OMC	O2-C2-N1	2.10	123.23	118.89
44	2	1605	7MG	C6-C5-C4	-2.10	118.30	122.62
44	2	1866	UR3	C6-N1-C2	-2.09	119.91	121.79
44	2	398	A2M	C1'-N9-C4	2.09	130.31	126.64
44	2	978	2MG	CM2-N2-C2	-2.09	119.26	123.86
44	2	4494	OMG	C8-N7-C5	2.06	106.92	102.99
44	2	2297	E7G	N1-C2-N3	-2.06	119.47	123.32
44	2	3887	OMC	O2-C2-N3	-2.06	118.98	122.33
44	2	4597	UR3	O2-C2-N3	-2.05	118.45	121.34
44	2	2364	OMG	N2-C2-N1	2.05	121.07	116.71
44	2	1605	7MG	O6-C6-C5	-2.05	122.52	127.54
44	2	2522	7MG	C6-C5-C4	-2.05	118.40	122.62
44	2	978	2MG	O6-C6-C5	-2.05	120.38	124.37
44	2	4371	MHG	C6-C5-C4	-2.04	118.42	122.62
44	2	4185	B8W	C2-N1-C6	2.04	119.36	116.08
44	2	729	2MG	CM2-N2-C2	-2.03	119.38	123.86
44	2	2773	OMG	N2-C2-N1	2.03	121.03	116.71
44	2	1517	2MG	C3'-C2'-C1'	2.03	104.03	100.98
44	2	3909	OMC	C5-C4-N3	-2.02	117.89	121.33
44	2	4129	B8W	O6-C6-C5	2.02	118.90	116.01
44	2	2522	7MG	O6-C6-C5	-2.01	122.60	127.54
44	2	3909	OMC	O2-C2-N1	2.01	123.05	118.89
44	2	3880	P7G	N3-C2-N1	-2.01	119.58	123.32
44	2	4523	A2M	C1'-N9-C4	2.00	130.16	126.64

There are no chirality outliers.

All (100) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	8	14	OMU	C1'-C2'-O2'-CM2
44	2	237	B9B	C5-C6-O6-C61
44	2	237	B9B	N1-C6-O6-C61
44	2	237	B9B	C3'-C4'-C5'-O5'
44	2	237	B9B	O4'-C4'-C5'-O5'
44	2	237	B9B	C62-C61-O6-C6
44	2	398	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
44	2	1348	P4U	N3-C4-O4-C41
44	2	1574	B9B	C5-C6-O6-C61
44	2	1574	B9B	N1-C6-O6-C61
44	2	1625	OMG	C3'-C4'-C5'-O5'
44	2	1797	E7G	O4'-C4'-C5'-O5'
44	2	1883	OMG	C3'-C4'-C5'-O5'
44	2	2364	OMG	O4'-C4'-C5'-O5'
44	2	2380	B8W	C5-C6-O6-C61
44	2	2424	OMG	C3'-C4'-C5'-O5'
44	2	2754	B9B	C5-C6-O6-C61
44	2	2754	B9B	N1-C6-O6-C61
44	2	3867	A2M	O4'-C4'-C5'-O5'
44	2	3867	A2M	C3'-C4'-C5'-O5'
44	2	3869	OMC	O4'-C1'-N1-C2
44	2	3869	OMC	O4'-C1'-N1-C6
44	2	3880	P7G	O4'-C4'-C5'-O5'
44	2	3897	B8K	O4'-C4'-C5'-O5'
44	2	4129	B8W	C5-C6-O6-C61
44	2	4129	B8W	N1-C6-O6-C61
44	2	4185	B8W	C5-C6-O6-C61
44	2	4220	6MZ	N1-C6-N6-C9
44	2	4355	E6G	C5-C6-O6-C61
44	2	4355	E6G	N1-C6-O6-C61
44	2	4472	B8W	C5-C6-O6-C61
44	2	4472	B8W	N1-C6-O6-C61
44	2	4637	OMG	C1'-C2'-O2'-CM2
44	2	4870	OMG	O4'-C4'-C5'-O5'
44	2	4870	OMG	C3'-C4'-C5'-O5'
44	2	398	A2M	C3'-C4'-C5'-O5'
44	2	1326	A2M	C3'-C4'-C5'-O5'
44	2	1883	OMG	O4'-C4'-C5'-O5'
44	2	2364	OMG	C3'-C4'-C5'-O5'
44	2	2424	OMG	O4'-C4'-C5'-O5'
44	2	3880	P7G	C3'-C4'-C5'-O5'
44	2	3897	B8K	C3'-C4'-C5'-O5'
44	2	4637	OMG	O4'-C4'-C5'-O5'
44	2	4872	2MG	O4'-C4'-C5'-O5'
44	2	2380	B8W	N1-C6-O6-C61
44	2	3880	P7G	N7-C71-C72-C73
44	2	729	2MG	O4'-C4'-C5'-O5'
44	2	1326	A2M	O4'-C4'-C5'-O5'
44	2	1625	OMG	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
44	2	1797	E7G	C3'-C4'-C5'-O5'
44	2	1866	UR3	O4'-C4'-C5'-O5'
44	2	1909	P7G	O4'-C4'-C5'-O5'
44	2	3723	A2M	O4'-C4'-C5'-O5'
44	2	4415	1MA	O4'-C4'-C5'-O5'
44	2	4872	2MG	C3'-C4'-C5'-O5'
44	2	4185	B8W	N1-C6-O6-C61
44	2	3869	OMC	C2'-C1'-N1-C6
44	2	1866	UR3	C3'-C4'-C5'-O5'
44	2	4415	1MA	C3'-C4'-C5'-O5'
44	2	1909	P7G	C3'-C4'-C5'-O5'
44	2	4523	A2M	O4'-C4'-C5'-O5'
44	2	4637	OMG	C3'-C4'-C5'-O5'
44	2	1574	B9B	C62-C61-O6-C6
44	2	3701	OMC	C2'-C1'-N1-C6
44	2	4523	A2M	C3'-C4'-C5'-O5'
44	2	4371	MHG	C2'-C1'-N9-C8
44	2	4296	B8H	O4'-C4'-C5'-O5'
44	2	4523	A2M	C3'-C2'-O2'-CM?
44	2	1860	B8H	O4'-C4'-C5'-O5'
44	2	729	2MG	C3'-C4'-C5'-O5'
44	2	4296	B8H	C3'-C4'-C5'-O5'
44	2	3869	OMC	C2'-C1'-N1-C2
44	2	4370	OMG	C3'-C2'-O2'-CM2
44	2	1326	A2M	C4'-C5'-O5'-P
44	2	1625	OMG	C4'-C5'-O5'-P
44	2	4870	OMG	C4'-C5'-O5'-P
44	2	3880	P7G	C72-C71-N7-C8
44	2	3897	B8K	C4'-C5'-O5'-P
44	2	3701	OMC	O4'-C1'-N1-C6
44	2	3701	OMC	C2'-C1'-N1-C2
44	2	373	OMG	C4'-C5'-O5'-P
44	2	3887	OMC	C4'-C5'-O5'-P
44	2	1534	A2M	O4'-C4'-C5'-O5'
44	2	2297	E7G	C72-C71-N7-C8
44	2	4371	MHG	O4'-C4'-C5'-O5'
44	2	3701	OMC	O4'-C1'-N1-C2
44	2	1909	P7G	C72-C71-N7-C8
44	2	2401	A2M	C3'-C2'-O2'-CM?
44	2	3909	OMC	O4'-C4'-C5'-O5'
44	2	3899	BGH	O4'-C4'-C5'-O5'
44	2	4371	MHG	O4'-C1'-N9-C8

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Mol	Chain	Res	Type	Atoms
44	2	3723	A2M	C3'-C4'-C5'-O5'
44	2	4623	OMG	C1'-C2'-O2'-CM2
44	2	1524	A2M	C3'-C2'-O2'-CM'
44	2	1866	UR3	C4'-C5'-O5'-P
44	2	4415	1MA	C4'-C5'-O5'-P
44	2	1860	B8H	C3'-C4'-C5'-O5'
44	2	1659	I4U	C42-C41-O4-C4
44	2	1659	I4U	C43-C41-O4-C4
44	2	4523	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](#)

Of 3 ligands modelled in this entry, 2 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
55	GDP	A	801	57,56	24,30,30	1.20	2 (8%)	30,47,47	1.41	5 (16%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
55	GDP	A	801	57,56	-	2/12/32/32	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	A	801	GDP	C6-N1	-3.47	1.32	1.37
55	A	801	GDP	C2'-C1'	-2.22	1.50	1.53

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	A	801	GDP	PA-O3A-PB	-3.52	120.74	132.83
55	A	801	GDP	C3'-C2'-C1'	3.26	105.89	100.98
55	A	801	GDP	C8-N7-C5	2.47	107.69	102.99
55	A	801	GDP	O3B-PB-O2B	2.35	116.63	107.64
55	A	801	GDP	C5-C6-N1	2.32	118.05	113.95

There are no chirality outliers.

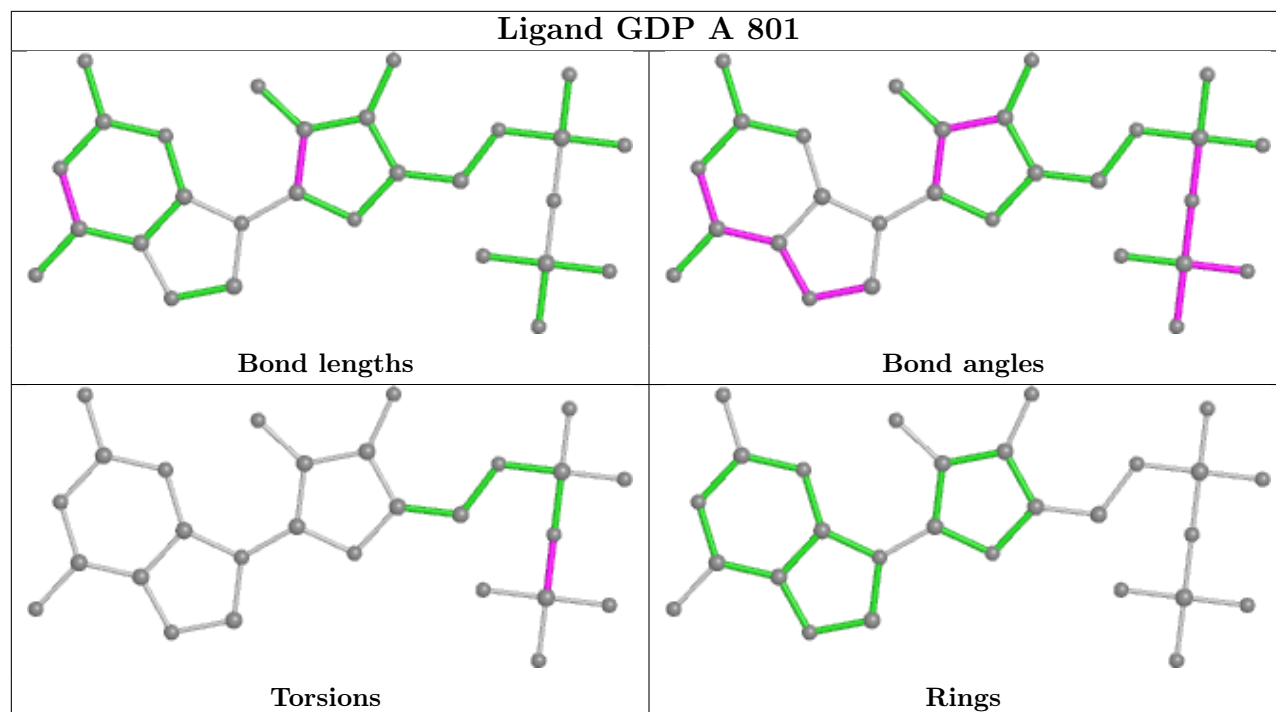
All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
55	A	801	GDP	PA-O3A-PB-O2B
55	A	801	GDP	PA-O3A-PB-O1B

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

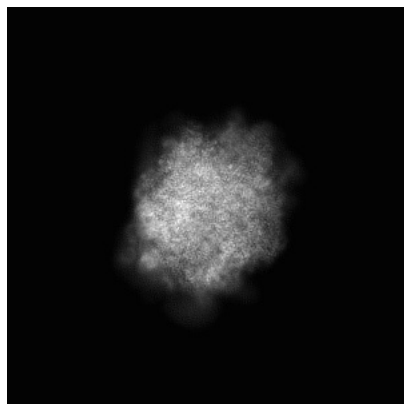
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-35371. These allow visual inspection of the internal detail of the map and identification of artifacts.

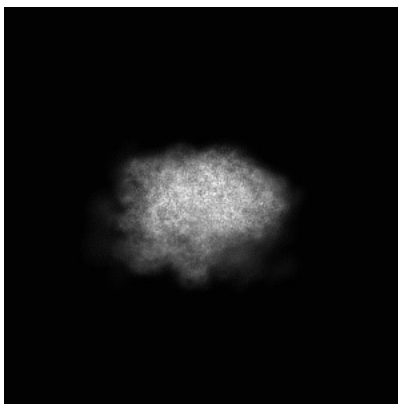
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

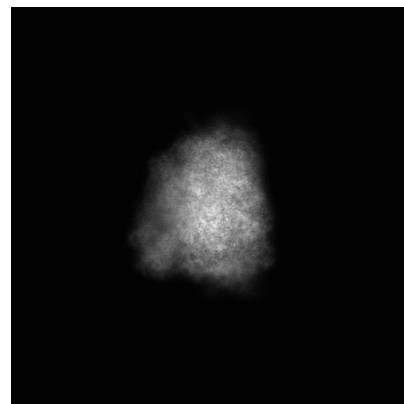
6.1.1 Primary map



X

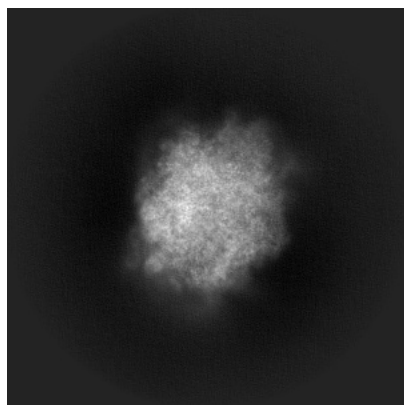


Y

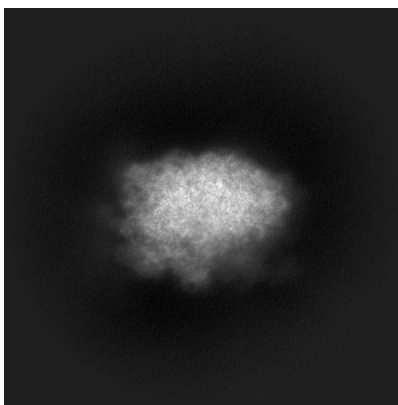


Z

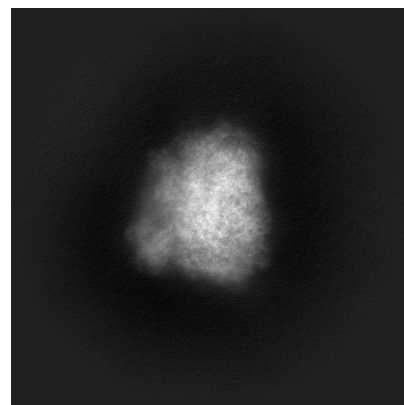
6.1.2 Raw map



X



Y

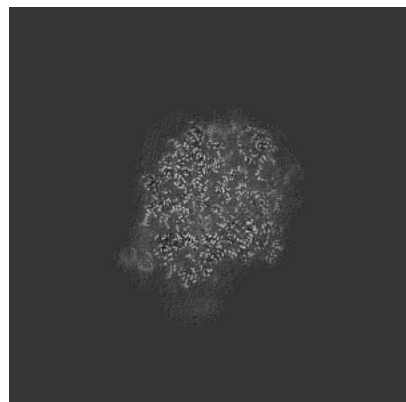


Z

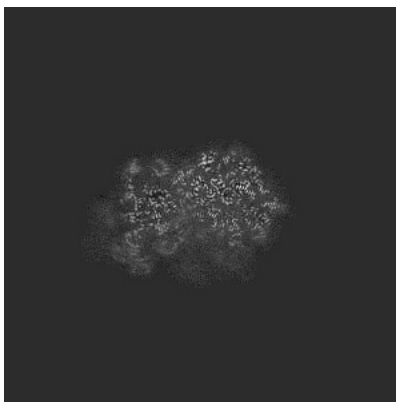
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

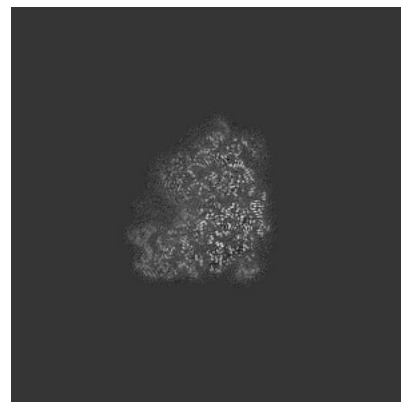
6.2.1 Primary map



X Index: 200

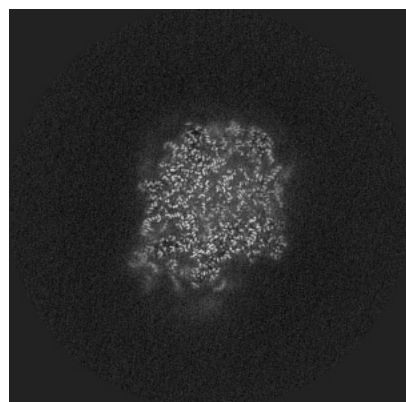


Y Index: 200

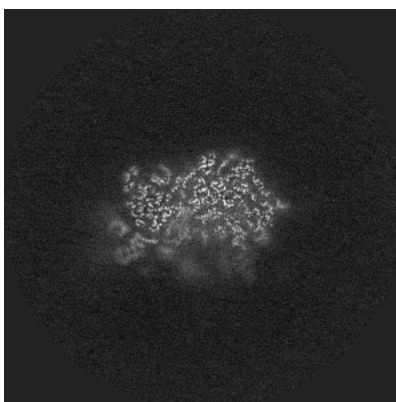


Z Index: 200

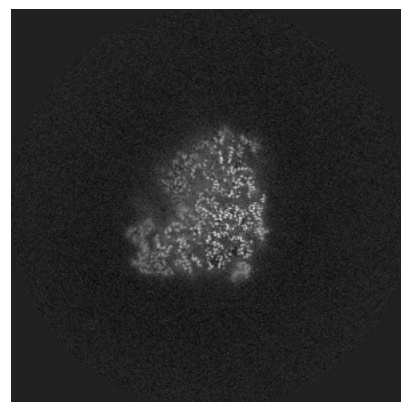
6.2.2 Raw map



X Index: 200



Y Index: 200

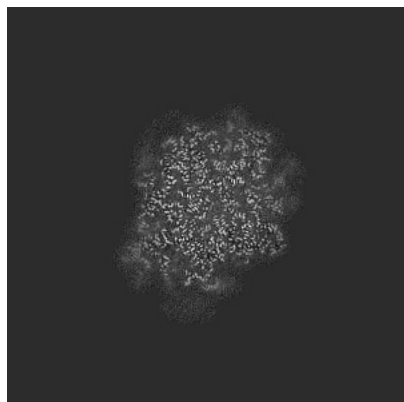


Z Index: 200

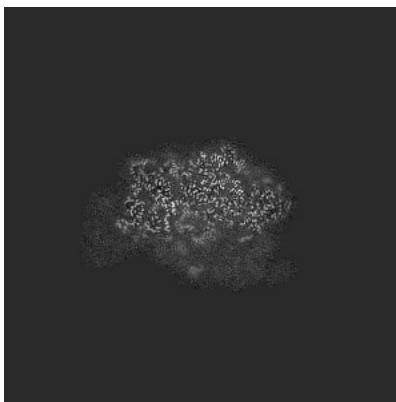
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

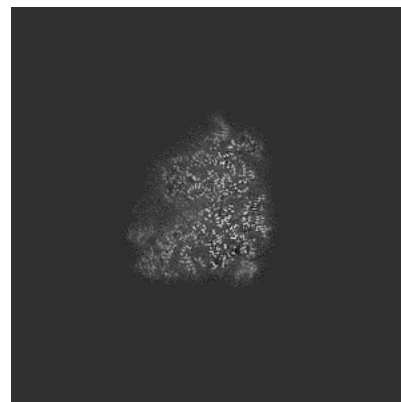
6.3.1 Primary map



X Index: 206

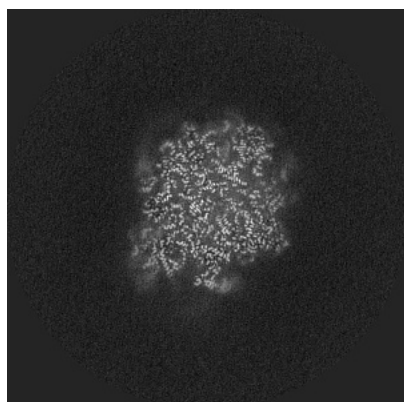


Y Index: 182

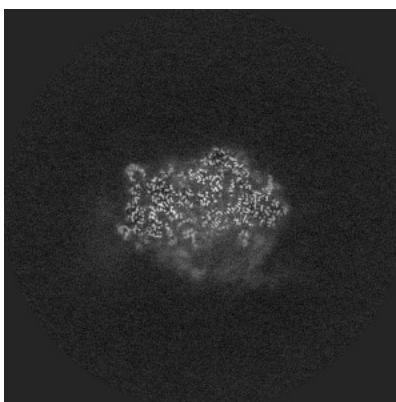


Z Index: 202

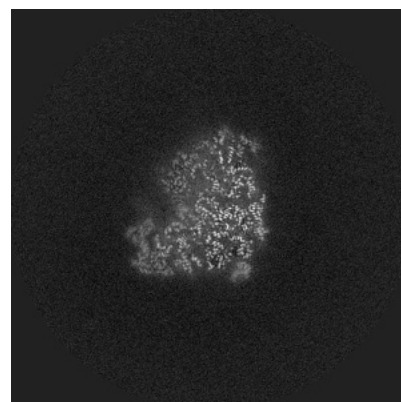
6.3.2 Raw map



X Index: 205



Y Index: 189

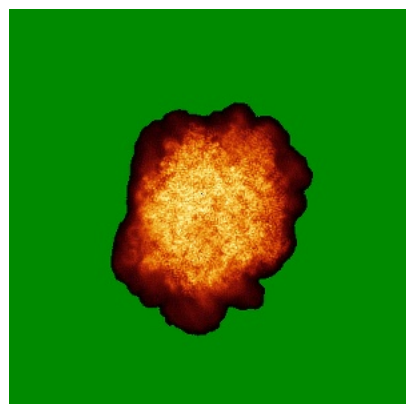


Z Index: 200

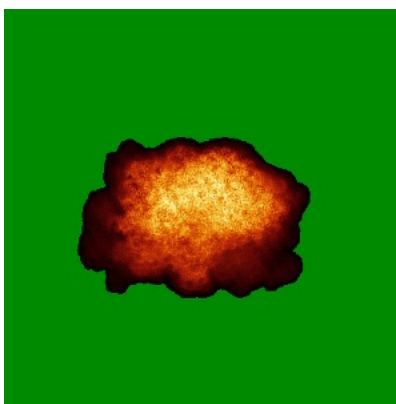
The images above show the largest variance slices of the map in three orthogonal directions.

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

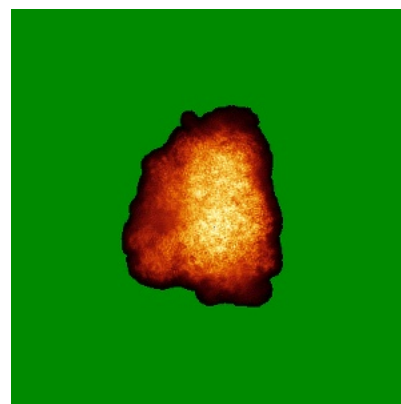
6.4.1 Primary map



X

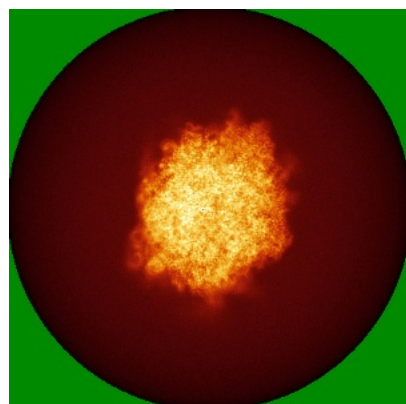


Y

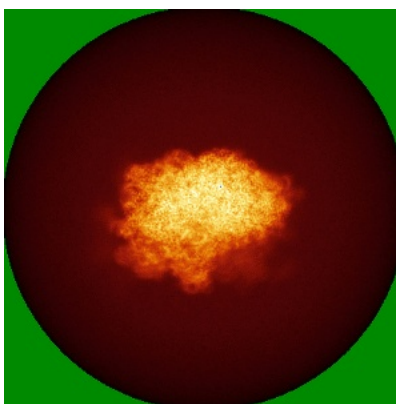


Z

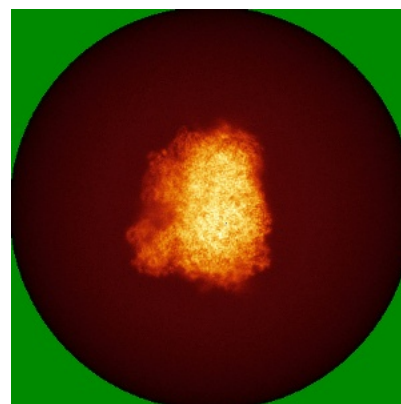
6.4.2 Raw map



X



Y

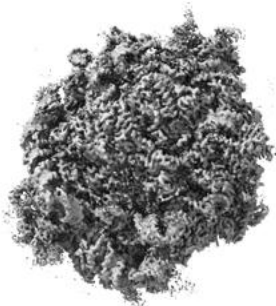


Z

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



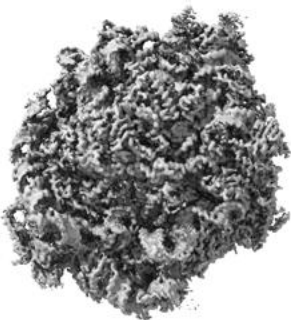
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0365. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

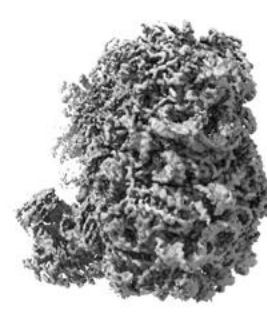
6.5.2 Raw map



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.

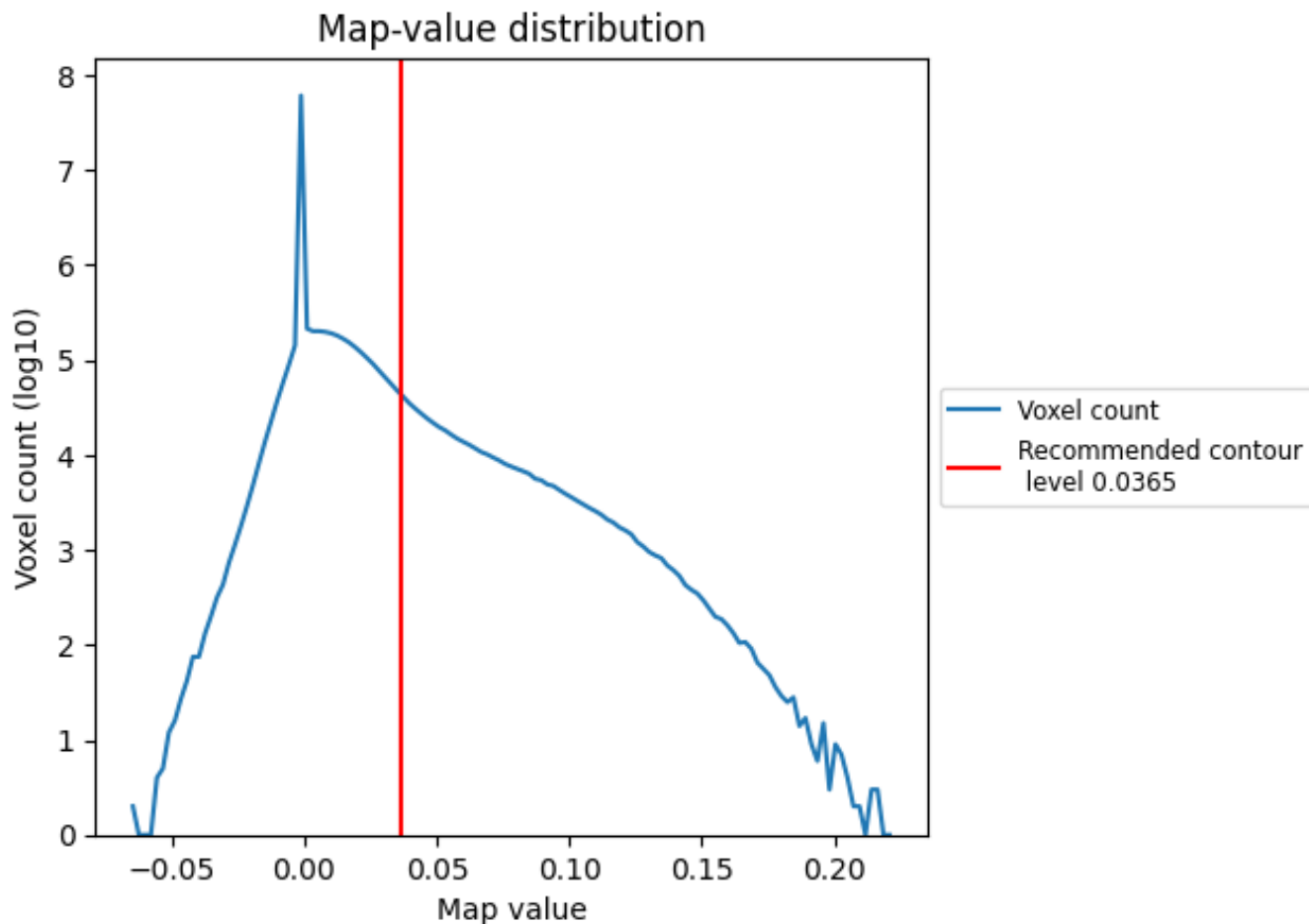
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

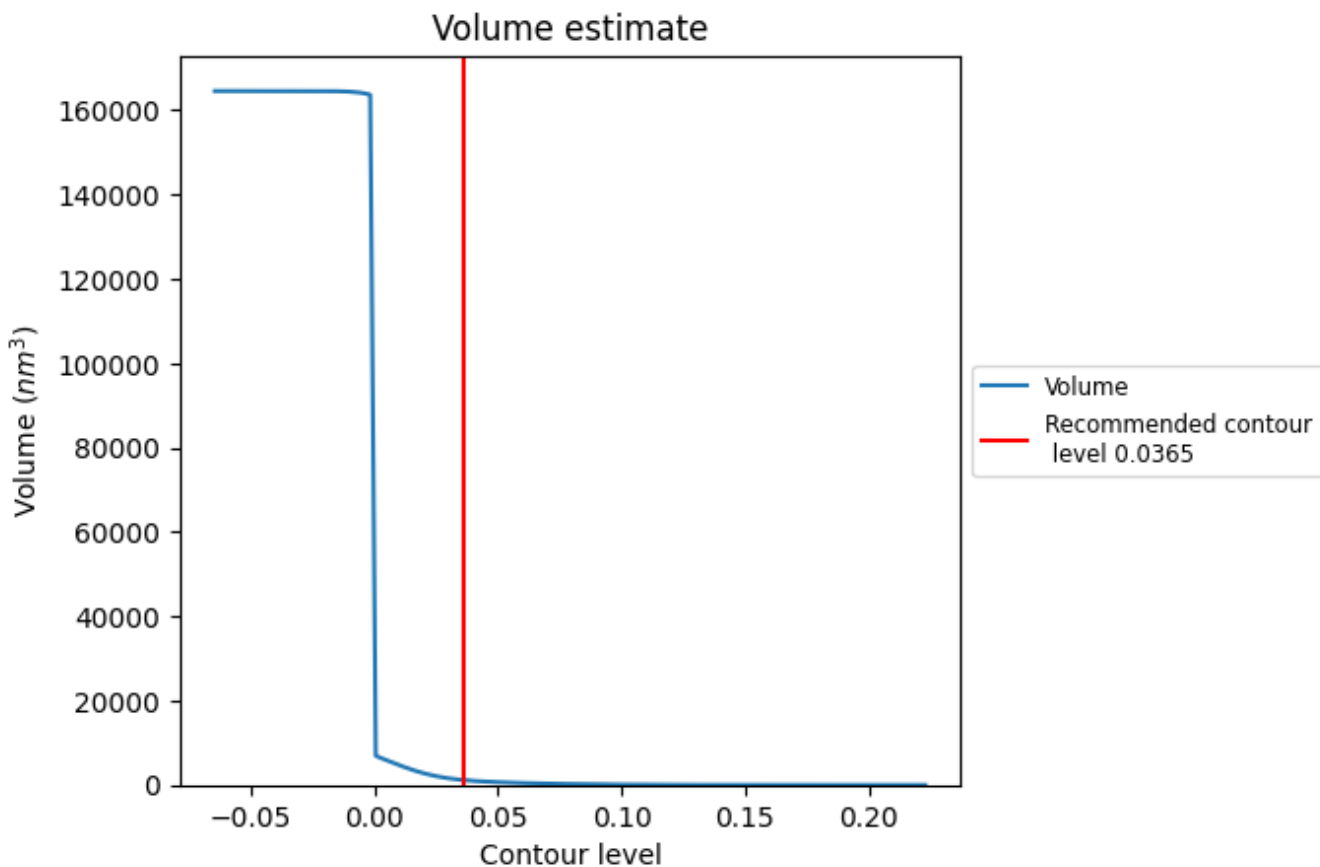
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

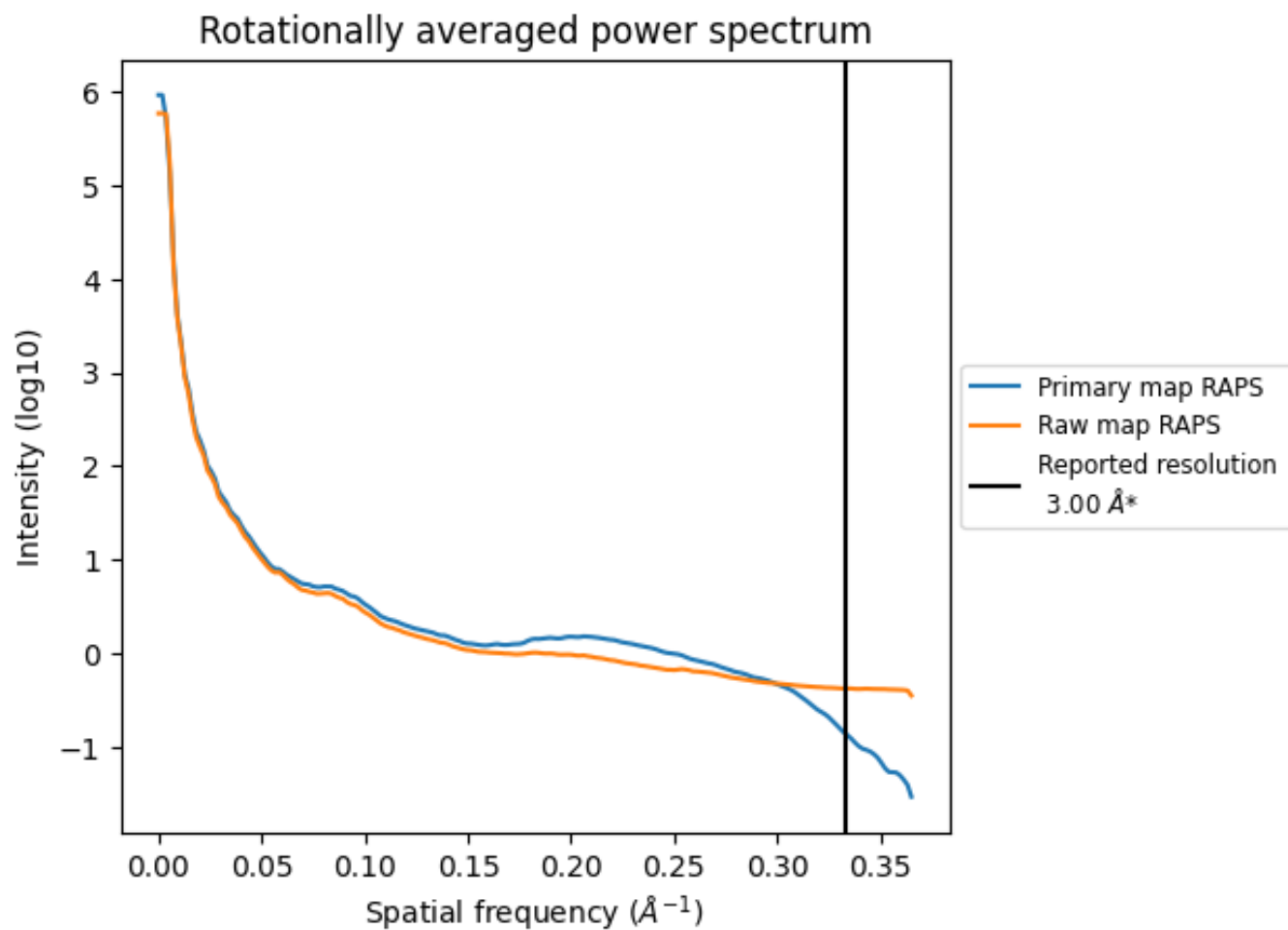
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1145 nm³; this corresponds to an approximate mass of 1034 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

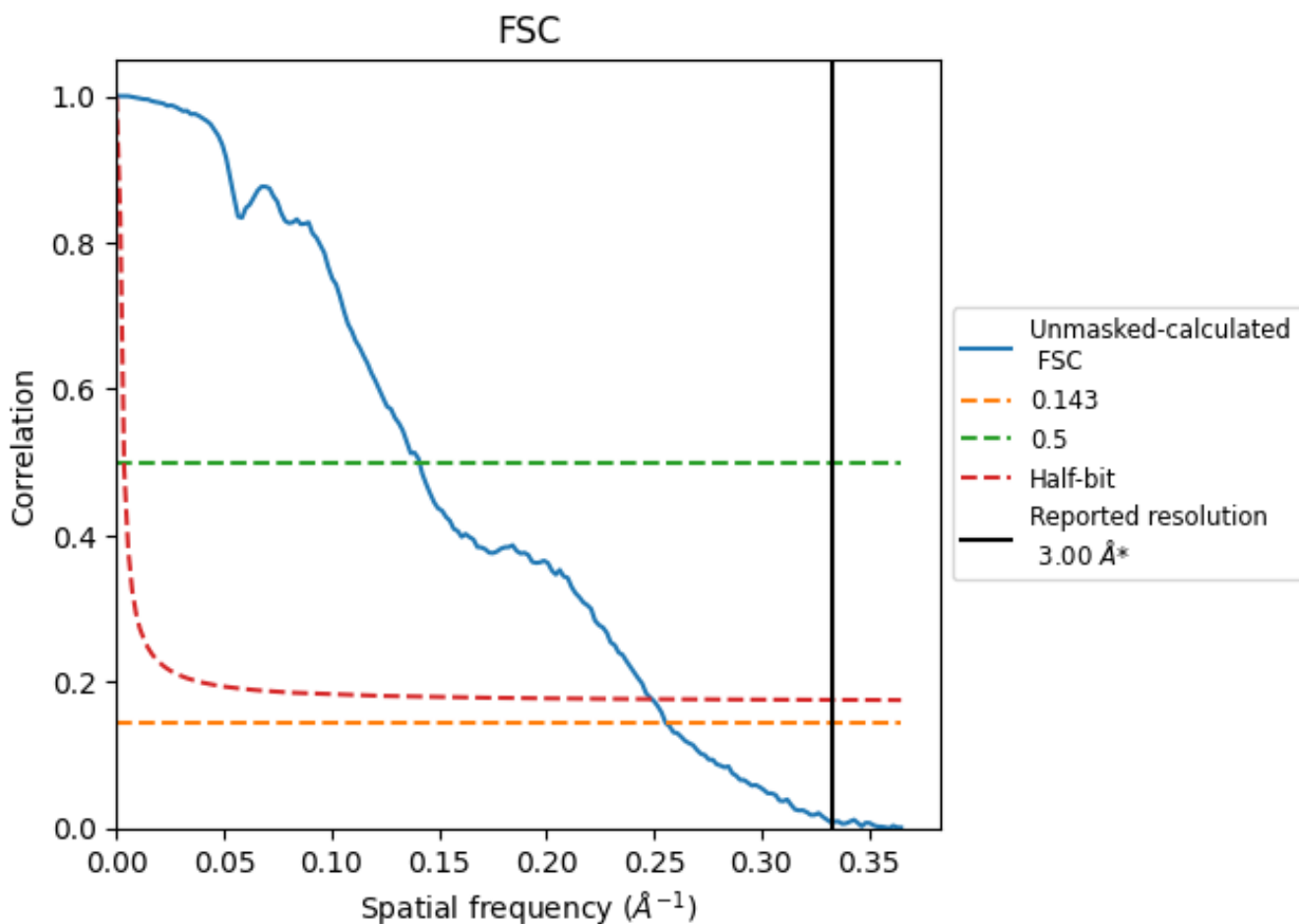


*Reported resolution corresponds to spatial frequency of 0.333 \AA^{-1}

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.333 Å⁻¹

8.2 Resolution estimates [i](#)

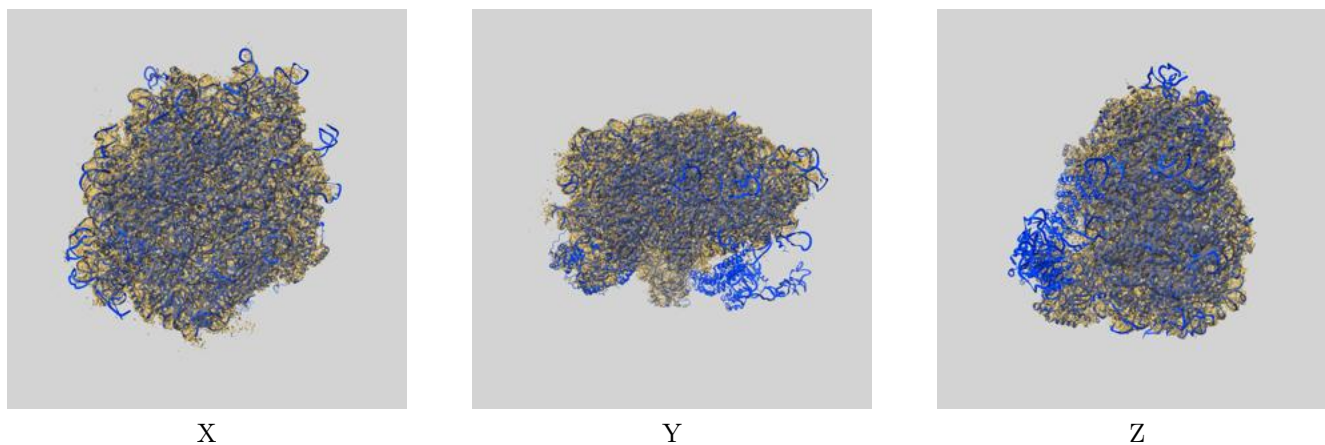
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.91	7.10	4.01

*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 3.91 differs from the reported value 3.0 by more than 10 %

9 Map-model fit [i](#)

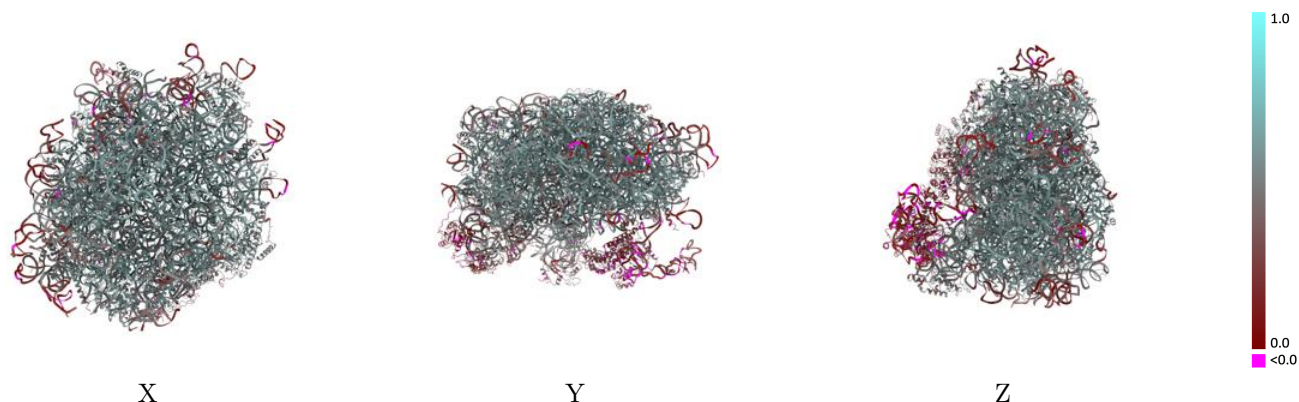
This section contains information regarding the fit between EMDB map EMD-35371 and PDB model 8IDY. Per-residue inclusion information can be found in section 3 on page 14.

9.1 Map-model overlay [i](#)



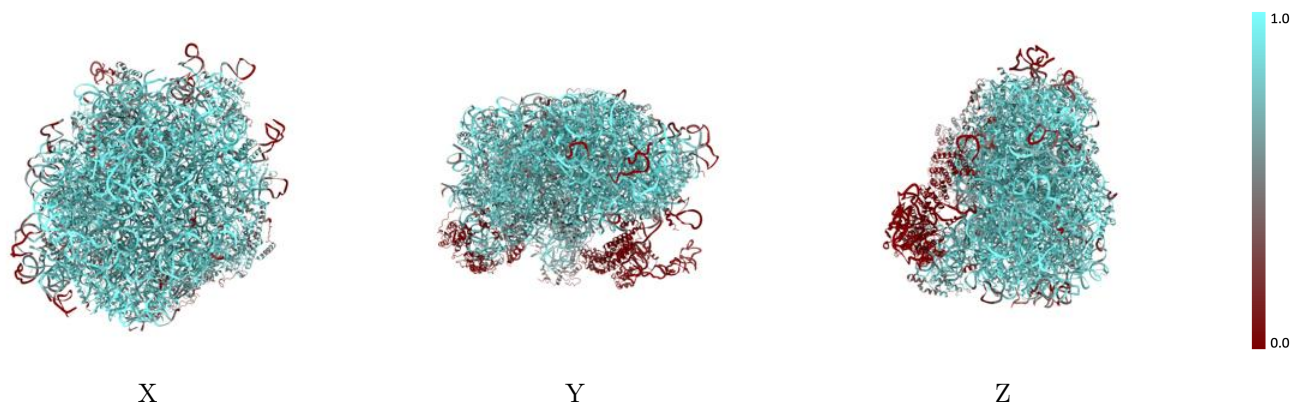
The images above show the 3D surface view of the map at the recommended contour level 0.0365 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



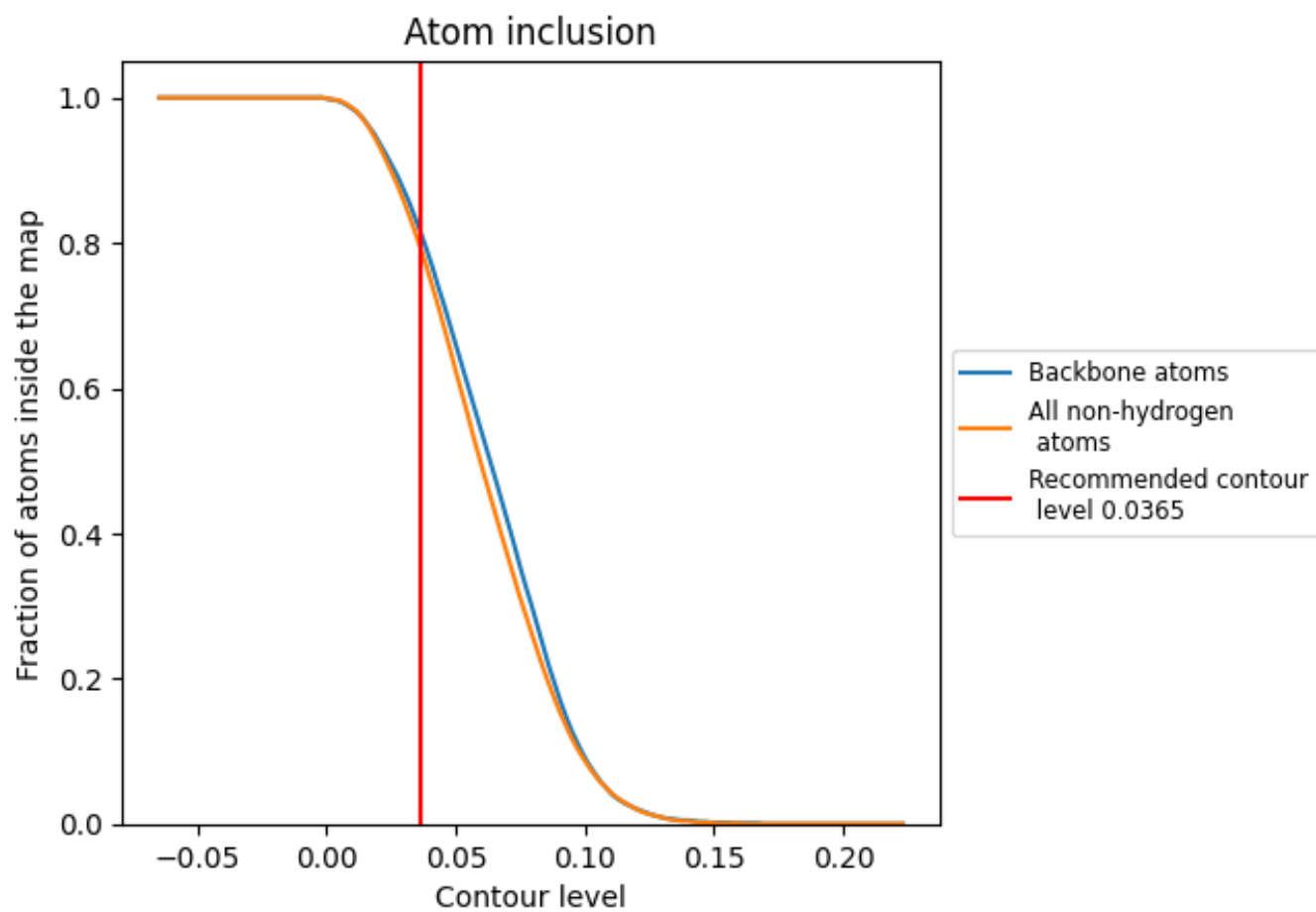
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0365).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 79% 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 (0.0365) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7920	 0.4860
2	 0.8620	 0.4910
4	 0.6540	 0.4620
5	 0.9190	 0.4800
6	 0.7350	 0.5080
7	 0.8090	 0.5400
8	 0.9440	 0.5440
9	 0.5540	 0.4670
A	 0.6590	 0.4950
B	 0.9060	 0.5680
C	 0.7520	 0.4750
D	 0.9290	 0.5640
E	 0.6830	 0.5060
F	 0.8820	 0.5540
G	 0.7040	 0.4800
H	 0.8700	 0.5420
I	 0.8030	 0.5240
J	 0.1120	 0.1850
K	 0.8360	 0.5280
L	 0.9320	 0.5790
M	 0.9660	 0.5810
N	 0.4190	 0.3070
O	 0.6770	 0.4920
P	 0.9760	 0.5780
Q	 0.8420	 0.5250
R	 0.4700	 0.4450
S	 0.8970	 0.5510
T	 0.6060	 0.4370
U	 0.9680	 0.5860
V	 0.9220	 0.5660
W	 0.7290	 0.5170
X	 0.8050	 0.5360
Y	 0.8660	 0.5560
Z	 0.9480	 0.5890
a	 0.8740	 0.5430



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Chain	Atom inclusion	Q-score
b	 0.9330	 0.5780
c	 0.8790	 0.5320
d	 0.7520	 0.5180
e	 0.8800	 0.5480
g	 0.8960	 0.5580
h	 0.8860	 0.5570
i	 0.7600	 0.5220
j	 0.8340	 0.5350
k	 0.9400	 0.5790
l	 0.9250	 0.5640
m	 0.9030	 0.5600
n	 0.9530	 0.5870
o	 0.7650	 0.4980
p	 0.9150	 0.5590
r	 0.6190	 0.4250
t	 0.0010	 0.1380
u	 0.0710	 0.2110
v	 0.0860	 0.2300
y	 0.1120	 0.2100
z	 0.5670	 0.4230