



# Full wwPDB X-ray Structure Validation Report ⓘ

Dec 16, 2024 – 07:34 AM EST

PDB ID : 6N9E  
Title : Crystal structure of the *Thermus thermophilus* 70S ribosome in complex with a short substrate mimic CC-Pmn and bound to mRNA and P-site tRNA at 3.7Å resolution  
Authors : Melnikov, S.V.; Khabibullina, N.F.; Mairhofer, E.; Vargas-Rodriguez, O.; Reynolds, N.M.; Micura, R.; Soll, D.; Polikanov, Y.S.  
Deposited on : 2018-12-03  
Resolution : 3.70 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at  
<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>  
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>.

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

MolProbity : 4.02b-467  
Mogul : 2022.3.0, CSD as543be (2022)  
Xtriage (Phenix) : 1.21  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.004 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.40

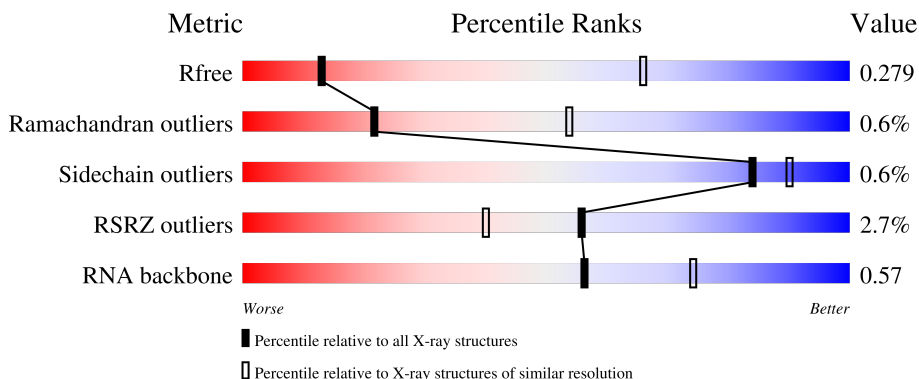
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

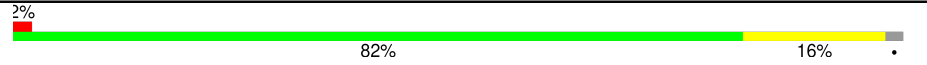



The reported resolution of this entry is 3.70 Å.

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)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	164625	1017 (3.80-3.60)
Ramachandran outliers	177936	1055 (3.80-3.60)
Sidechain outliers	177891	1052 (3.80-3.60)
RSRZ outliers	164620	1017 (3.80-3.60)
RNA backbone	3690	1122 (4.40-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1A	2915	 2% 82% 16%
1	2A	2915	 2% 80% 16%
2	1B	121	 90% 8%
2	2B	121	 88% 11%

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Mol	Chain	Length	Quality of chain
3	1D	276	7% 100%
3	2D	276	9% 99%
4	1E	206	11% 98%
4	2E	206	5% 98%
5	1F	210	2% 96%
5	2F	210	15% 96%
6	1G	182	2% 97%
6	2G	182	% 98%
7	1H	180	2% 95%
7	2H	180	% 95%
8	1I	148	% 99%
8	2I	148	5% 99%
9	1N	140	4% 99%
9	2N	140	4% 99%
10	1O	122	% 100%
10	2O	122	2% 100%
11	1P	150	4% 95%
11	2P	150	% 99%
12	1Q	141	4% 100%
12	2Q	141	% 100%
13	1R	118	4% 100%
13	2R	118	10% 100%
14	1S	112	4% 97%
14	2S	112	% 98%
15	1T	146	3% 89%

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Mol	Chain	Length	Quality of chain
15	2T	146	3% 90% 10%
16	1U	118	3% 98%
16	2U	118	14% 98%
17	1V	101	2% 96%
17	2V	101	97%
18	1W	113	3% 98%
18	2W	113	% 98%
19	1X	96	99%
19	2X	96	3% 99%
20	1Y	110	% 96%
20	2Y	110	3% 95%
21	1Z	206	% 74% 25%
21	2Z	206	77% 22%
22	10	85	96%
22	20	85	5% 95%
23	11	98	9% 96%
23	21	98	16% 98%
24	12	72	3% 97%
24	22	72	% 97%
25	13	60	98%
25	23	60	2% 98%
26	14	71	85% 11%
26	24	71	90% 6%
27	15	60	2% 97%
27	25	60	8% 98%

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Mol	Chain	Length	Quality of chain
28	16	54	7% 98%
28	26	54	98%
29	17	49	8% 98%
29	27	49	6% 98%
30	18	65	12% 98%
30	28	65	5% 98%
31	19	37	3% 100%
31	29	37	3% 100%
32	1a	1521	% 82% 17%
32	2a	1521	% 83% 16%
33	1b	256	89% 10%
33	2b	256	87% 10%
34	1c	239	86% 14%
34	2c	239	86% 14%
35	1d	209	8% 99%
35	2d	209	% 99%
36	1e	162	91% 9%
36	2e	162	3% 91% 9%
37	1f	101	5% 99%
37	2f	101	99%
38	1g	156	3% 98% ..
38	2g	156	2% 97% ..
39	1h	138	99%
39	2h	138	2% 99% ..
40	1i	128	8% 98% ..






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Mol	Chain	Length	Quality of chain
40	2i	128	9% 98% ..
41	1j	105	4% 90% 8%
41	2j	105	4% 90% 9%
42	1k	129	4% 88% 12%
42	2k	129	5% 85% 12%
43	1l	132	3% 92% 8%
43	2l	132	4% 92% 8%
44	1m	126	97% ..
44	2m	126	8% 96% ..
45	1n	61	97% ..
45	2n	61	97% ..
46	1o	89	3% 99% .
46	2o	89	2% 99% .
47	1p	88	% 91% 7%
47	2p	88	% 92% 7%
48	1q	105	6% 94% 6%
48	2q	105	2% 94% 6%
49	1r	88	77% 23%
49	2r	88	77% 23%
50	1s	93	% 87% 11%
50	2s	93	86% 11%
51	1t	106	5% 88% 9%
51	2t	106	10% 88% 9%
52	1u	27	85% 15%
52	2u	27	85% 15%

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Mol	Chain	Length	Quality of chain
53	1v	24	
53	2v	24	
54	1w	3	
54	2w	3	
55	1x	77	
55	2x	77	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	MG	1A	3017	-	-	-	X
56	MG	1A	3078	-	-	-	X
56	MG	1A	3137	-	-	-	X
56	MG	1A	3247	-	-	-	X
56	MG	1A	3304	-	-	-	X
56	MG	1A	3306	-	-	-	X
56	MG	1A	3340	-	-	-	X
56	MG	1A	3414	-	-	-	X
56	MG	1A	3415	-	-	-	X
56	MG	1A	3428	-	-	-	X
56	MG	1a	1651	-	-	-	X
56	MG	2A	3141	-	-	-	X
56	MG	2A	3205	-	-	-	X
56	MG	2A	3258	-	-	-	X
56	MG	2A	3259	-	-	-	X
56	MG	2A	3276	-	-	-	X
56	MG	2A	3373	-	-	-	X

## 2 Entry composition [i](#)

There are 59 unique types of molecules in this entry. The entry contains 287828 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 23S Ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	1A	2871	Total	C	N	O	P	0	0	0
			61852	27531	11572	19878	2871			
1	2A	2800	Total	C	N	O	P	0	0	0
			60322	26848	11284	19390	2800			

- Molecule 2 is a RNA chain called 5S Ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	1B	120	Total	C	N	O	P	0	0	0
			2577	1146	476	835	120			
2	2B	120	Total	C	N	O	P	0	0	0
			2575	1146	476	833	120			

- Molecule 3 is a protein called 50S Ribosomal Protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	1D	275	Total	C	N	O	S	0	0	0
			2136	1349	423	361	3			
3	2D	275	Total	C	N	O	S	0	0	0
			2136	1349	423	361	3			

- Molecule 4 is a protein called 50S Ribosomal Protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	1E	204	Total	C	N	O	S	0	0	0
			1559	985	298	270	6			
4	2E	204	Total	C	N	O	S	0	0	0
			1559	985	298	270	6			

- Molecule 5 is a protein called 50S Ribosomal Protein L4.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	1F	203	Total 1584	C 1009	N 298	O 275	S 2	0	0	1
5	2F	203	Total 1580	C 1007	N 297	O 274	S 2	0	0	1

- Molecule 6 is a protein called 50S Ribosomal Protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
6	1G	181	Total 1423	C 913	N 253	O 253	S 4	0	0	0
6	2G	181	Total 1428	C 913	N 258	O 253	S 4	0	0	0

- Molecule 7 is a protein called 50S Ribosomal Protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
7	1H	174	Total 1330	C 845	N 248	O 236	S 1	0	0	0
7	2H	174	Total 1330	C 845	N 248	O 236	S 1	0	0	0

- Molecule 8 is a protein called 50S Ribosomal Protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
8	1I	146	Total 1097	C 701	N 191	O 204	S 1	0	0	0
8	2I	146	Total 1064	C 681	N 186	O 196	S 1	0	0	0

- Molecule 9 is a protein called 50S Ribosomal Protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
9	1N	140	Total 1117	C 719	N 207	O 187	S 4	0	0	0
9	2N	140	Total 1117	C 719	N 207	O 187	S 4	0	0	0

- Molecule 10 is a protein called 50S Ribosomal Protein L14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	1O	122	Total 933	C 588	N 171	O 170	S 4	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	2O	122	Total	C	N	O	S	0	0	0
			933	588	171	170	4			

- Molecule 11 is a protein called 50S Ribosomal Protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	1P	149	Total	C	N	O	S	0	0	0
			1135	706	230	196	3			
11	2P	149	Total	C	N	O	S	0	0	0
			1135	706	230	196	3			

- Molecule 12 is a protein called 50S Ribosomal Protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	1Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
12	2Q	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 13 is a protein called 50S Ribosomal Protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	1R	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
13	2R	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 14 is a protein called 50S Ribosomal Protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
14	1S	110	Total	C	N	O	0	0	0
			873	550	174	149			
14	2S	110	Total	C	N	O	0	0	0
			870	549	173	148			

- Molecule 15 is a protein called 50S Ribosomal Protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	1T	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			
15	2T	131	Total	C	N	O	S	0	0	0
			1083	675	224	183	1			

- Molecule 16 is a protein called 50S Ribosomal Protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
16	1U	116	Total 959	C 608	N 201	O 149	S 1	0	0	0
16	2U	116	Total 959	C 608	N 201	O 149	S 1	0	0	0

- Molecule 17 is a protein called 50S Ribosomal Protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
17	1V	101	Total 771	C 495	N 140	O 135	S 1	0	0	0
17	2V	101	Total 771	C 495	N 140	O 135	S 1	0	0	0

- Molecule 18 is a protein called 50S Ribosomal Protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
18	1W	112	Total 886	C 557	N 174	O 153	S 2	0	0	0
18	2W	112	Total 886	C 557	N 174	O 153	S 2	0	0	0

- Molecule 19 is a protein called 50S Ribosomal Protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
19	1X	95	Total 750	C 488	N 135	O 126	S 1	0	0	0
19	2X	95	Total 750	C 488	N 135	O 126	S 1	0	0	0

- Molecule 20 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
20	1Y	107	Total 806	C 517	N 152	O 131	S 6	0	0	0
20	2Y	107	Total 806	C 517	N 152	O 131	S 6	0	0	0

- Molecule 21 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	1Z	154	Total	C	N	O	S	0	0	0
			1240	795	222	220	3			
21	2Z	160	Total	C	N	O	S	0	0	0
			1271	814	228	227	2			

- Molecule 22 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	10	83	Total	C	N	O	S	0	0	0
			653	404	139	109	1			
22	20	83	Total	C	N	O	S	0	0	0
			653	404	139	109	1			

- Molecule 23 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	11	97	Total	C	N	O	S	0	0	0
			755	475	148	131	1			
23	21	97	Total	C	N	O	S	0	0	0
			755	475	148	131	1			

- Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	12	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			
24	22	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

- Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
25	13	59	Total	C	N	O	0	0	0
			469	298	90	81			
25	23	59	Total	C	N	O	0	0	0
			464	296	90	78			

- Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	14	69	Total	C	N	O	S	0	0	0
			552	349	99	99	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	24	69	Total	C	N	O	S	0	0	0
			532	339	97	91	5			

- Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	15	59	Total	C	N	O	S	0	0	0
			455	285	89	76	5			
27	25	59	Total	C	N	O	S	0	0	0
			455	285	89	76	5			

- Molecule 28 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	16	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
28	26	53	Total	C	N	O	S	0	0	0
			449	279	91	75	4			

- Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	17	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
29	27	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 30 is a protein called 50S Ribosomal Protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	18	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
30	28	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 31 is a protein called 50S Ribosomal Protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	19	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
31	29	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 32 is a RNA chain called 16S Ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
32	1a	1500	Total 32246	C 14358	N 5975	O 10413	P 1500	0	0	0
32	2a	1503	Total 32327	C 14396	N 5990	O 10438	P 1503	0	0	0

- Molecule 33 is a protein called 30S Ribosomal Protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
33	1b	231	Total 1846	C 1179	N 331	O 331	S 5	0	0	0
33	2b	231	Total 1825	C 1167	N 326	O 327	S 5	0	0	0

- Molecule 34 is a protein called 30S Ribosomal Protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
34	1c	206	Total 1548	C 973	N 301	O 273	S 1	0	0	0
34	2c	206	Total 1542	C 968	N 300	O 273	S 1	0	0	0

- Molecule 35 is a protein called 30S Ribosomal Protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
35	1d	208	Total 1655	C 1038	N 326	O 284	S 7	0	0	0
35	2d	208	Total 1674	C 1050	N 333	O 284	S 7	0	0	0

- Molecule 36 is a protein called 30S Ribosomal Protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
36	1e	148	Total 1129	C 714	N 213	O 198	S 4	0	0	0
36	2e	148	Total 1133	C 716	N 214	O 199	S 4	0	0	0

- Molecule 37 is a protein called 30S Ribosomal Protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	1f	100	Total	C	N	O	S	0	0	0
			810	514	144	149	3			
37	2f	100	Total	C	N	O	S	0	0	0
			816	516	146	151	3			

- Molecule 38 is a protein called 30S Ribosomal Protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	1g	155	Total	C	N	O	S	0	0	0
			1231	766	243	216	6			
38	2g	155	Total	C	N	O	S	0	0	0
			1235	769	244	216	6			

- Molecule 39 is a protein called 30S Ribosomal Protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	1h	137	Total	C	N	O	S	0	0	0
			1088	689	206	191	2			
39	2h	137	Total	C	N	O	S	0	0	0
			1088	689	206	191	2			

- Molecule 40 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
40	1i	127	Total	C	N	O	0	0	0
			983	623	193	167			
40	2i	127	Total	C	N	O	0	0	0
			978	619	190	169			

- Molecule 41 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
41	1j	97	Total	C	N	O	0	0	0
			709	440	138	131			
41	2j	96	Total	C	N	O	0	0	0
			714	445	138	131			

- Molecule 42 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	1k	114	Total	C	N	O	S	0	0	0
			829	516	155	155	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
42	2k	114	833	519	156	155	3	0	0	0

- Molecule 43 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
43	1l	122	932	586	185	159	2	0	0	0
43	2l	122	932	586	185	159	2	0	0	0

- Molecule 44 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
44	1m	123	958	592	198	166	2	0	0	0
44	2m	122	950	586	197	165	2	0	0	0

- Molecule 45 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
45	1n	60	492	312	104	72	4	0	0	0
45	2n	60	492	312	104	72	4	0	0	0

- Molecule 46 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	1o	88	728	456	144	126	2	0	0	0
46	2o	88	728	456	144	126	2	0	0	0

- Molecule 47 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
47	1p	82	681	433	134	113	1	0	0	0
47	2p	82	677	430	133	113	1	0	0	0



- Molecule 48 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
48	1q	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			
48	2q	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			

- Molecule 49 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	1r	68	Total	C	N	O		0	0	0
			555	355	108	92				
49	2r	68	Total	C	N	O		0	0	0
			555	355	108	92				

- Molecule 50 is a protein called 30S Ribosomal Protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	1s	83	Total	C	N	O	S	0	0	0
			652	417	120	113	2			
50	2s	83	Total	C	N	O	S	0	0	0
			646	412	119	113	2			

- Molecule 51 is a protein called 30S Ribosomal Protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
51	1t	96	Total	C	N	O	S	0	0	0
			728	446	156	124	2			
51	2t	96	Total	C	N	O	S	0	0	0
			727	446	155	124	2			

- Molecule 52 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
52	1u	23	Total	C	N	O		0	0	0
			199	122	48	29				
52	2u	23	Total	C	N	O		0	0	0
			199	122	48	29				

- Molecule 53 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	1v	6	Total	C	N	O	P	0	0	0
			113	49	22	36	6			
53	2v	6	Total	C	N	O	P	0	0	0
			113	49	22	36	6			

- Molecule 54 is a RNA chain called CC-Pmn.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	1w	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
54	2w	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

- Molecule 55 is a RNA chain called P-site tRNA, Deacylated Initiator Methionyl-tRNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
55	1x	76	Total	C	N	O	P	S	0	0	0
			1625	725	294	529	76	1			
55	2x	76	Total	C	N	O	P	S	0	0	0
			1625	725	294	529	76	1			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
56	1A	498	Total	Mg	0	0
			498	498		
56	1B	12	Total	Mg	0	0
			12	12		
56	1D	1	Total	Mg	0	0
			1	1		
56	1E	6	Total	Mg	0	0
			6	6		
56	1F	1	Total	Mg	0	0
			1	1		
56	1Q	1	Total	Mg	0	0
			1	1		
56	1S	1	Total	Mg	0	0
			1	1		
56	1U	1	Total	Mg	0	0
			1	1		
56	1V	3	Total	Mg	0	0
			3	3		

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	1W	1	Total Mg 1 1	0	0
56	10	3	Total Mg 3 3	0	0
56	13	1	Total Mg 1 1	0	0
56	15	1	Total Mg 1 1	0	0
56	16	1	Total Mg 1 1	0	0
56	17	2	Total Mg 2 2	0	0
56	18	1	Total Mg 1 1	0	0
56	1a	93	Total Mg 93 93	0	0
56	1d	1	Total Mg 1 1	0	0
56	1l	1	Total Mg 1 1	0	0
56	1r	1	Total Mg 1 1	0	0
56	1x	2	Total Mg 2 2	0	0
56	2A	385	Total Mg 385 385	0	0
56	2B	9	Total Mg 9 9	0	0
56	2D	1	Total Mg 1 1	0	0
56	2E	6	Total Mg 6 6	0	0
56	2O	1	Total Mg 1 1	0	0
56	2Q	2	Total Mg 2 2	0	0
56	2R	2	Total Mg 2 2	0	0
56	2T	2	Total Mg 2 2	0	0
56	2Y	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
56	20	2	Total Mg 2 2	0	0
56	21	1	Total Mg 1 1	0	0
56	23	1	Total Mg 1 1	0	0
56	25	1	Total Mg 1 1	0	0
56	27	1	Total Mg 1 1	0	0
56	28	2	Total Mg 2 2	0	0
56	2a	103	Total Mg 103 103	0	0
56	2d	1	Total Mg 1 1	0	0
56	2f	1	Total Mg 1 1	0	0
56	2l	1	Total Mg 1 1	0	0
56	2r	1	Total Mg 1 1	0	0

- Molecule 57 is ZINC ION (three-letter code: ZN) (formula: Zn).

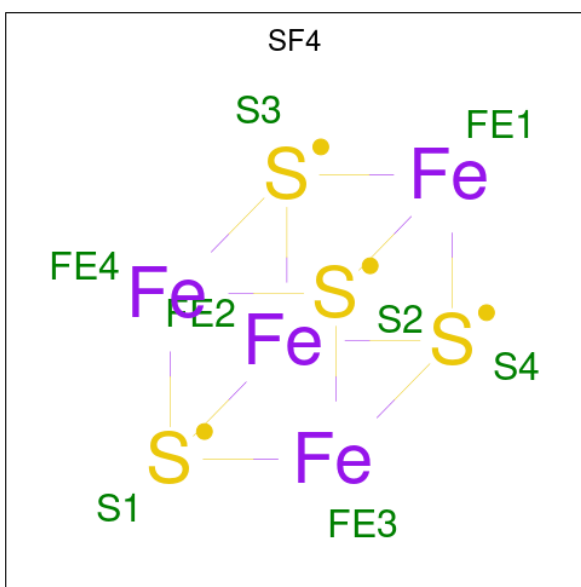
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	1Y	1	Total Zn 1 1	0	0
57	14	1	Total Zn 1 1	0	0
57	15	1	Total Zn 1 1	0	0
57	16	1	Total Zn 1 1	0	0
57	19	1	Total Zn 1 1	0	0
57	1n	1	Total Zn 1 1	0	0
57	2Y	1	Total Zn 1 1	0	0
57	24	1	Total Zn 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	25	1	Total Zn 1 1	0	0
57	26	1	Total Zn 1 1	0	0
57	29	1	Total Zn 1 1	0	0
57	2n	1	Total Zn 1 1	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	1d	1	Total Fe S 8 4 4	0	0
58	2d	1	Total Fe S 8 4 4	0	0

- Molecule 59 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
59	1A	53	Total O 53 53	0	0
59	1D	3	Total O 3 3	0	0
59	1a	15	Total O 15 15	0	0

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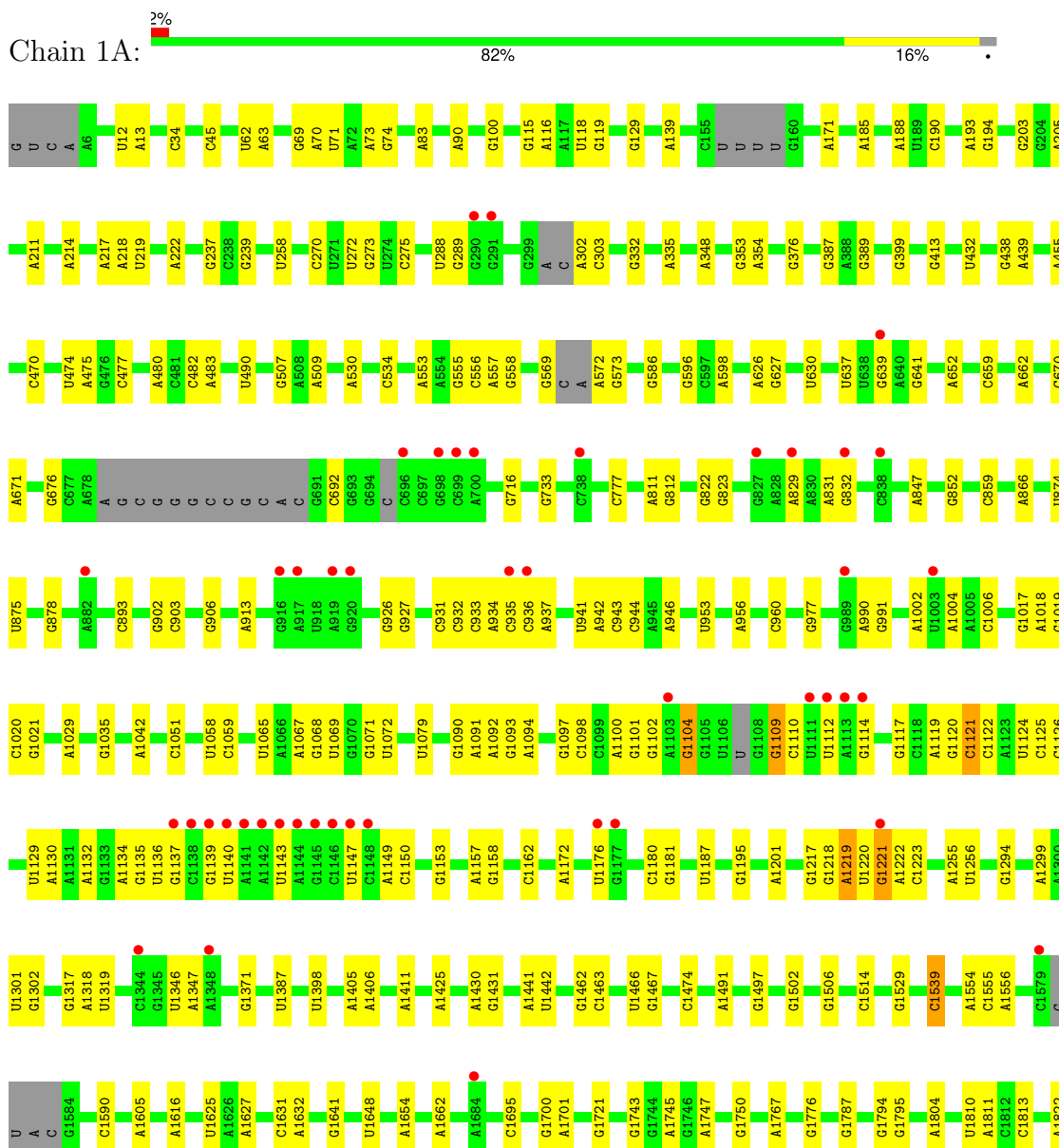
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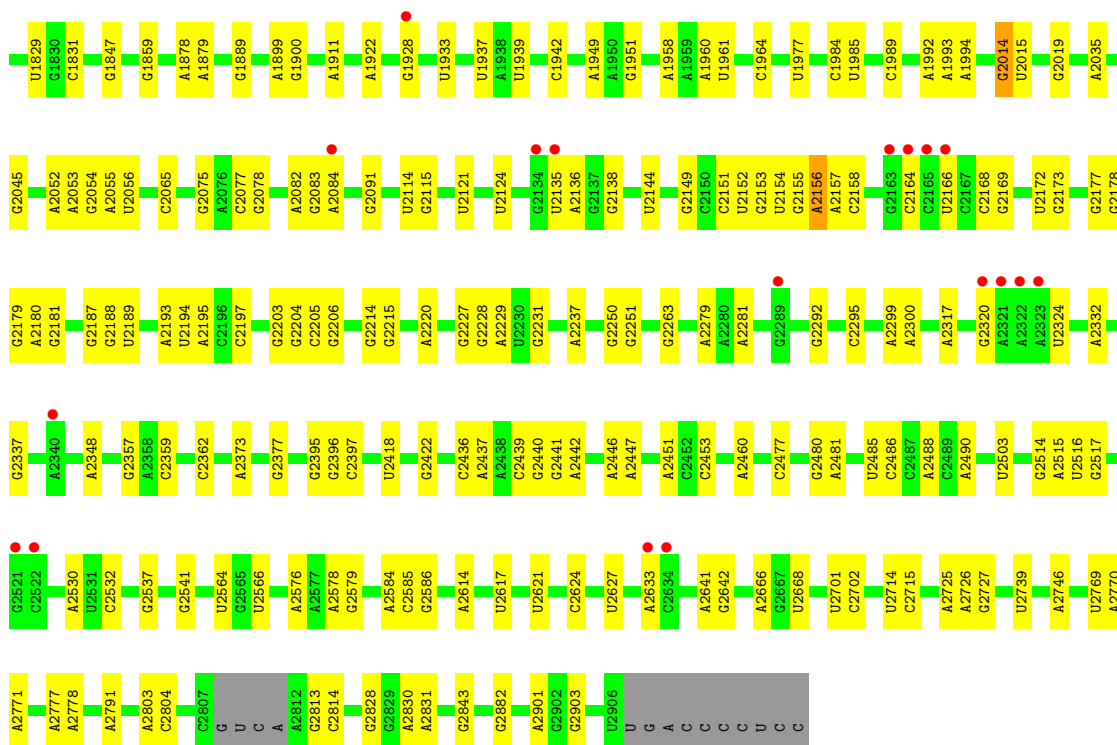
<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>	<b>ZeroOcc</b>	<b>AltConf</b>
59	1x	2	Total O 2 2	0	0
59	2A	32	Total O 32 32	0	0
59	2B	1	Total O 1 1	0	0
59	2a	19	Total O 19 19	0	0

### 3 Residue-property plots i

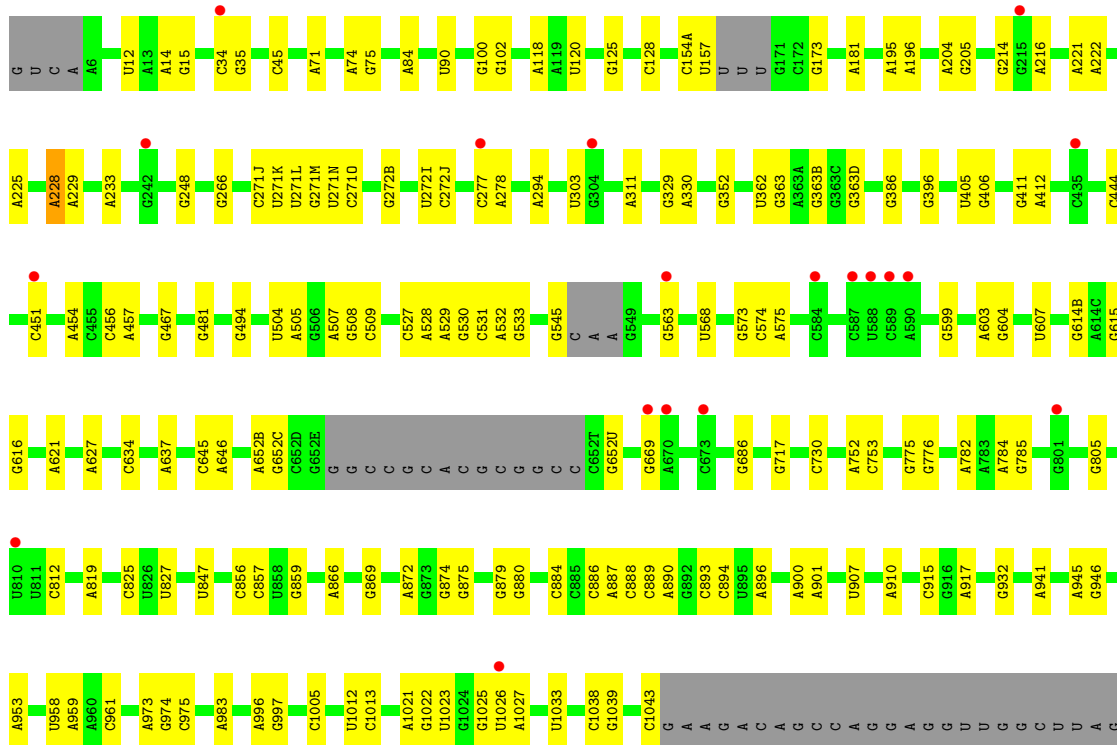
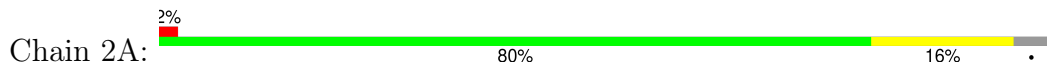
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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 dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). 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: 23S Ribosomal RNA

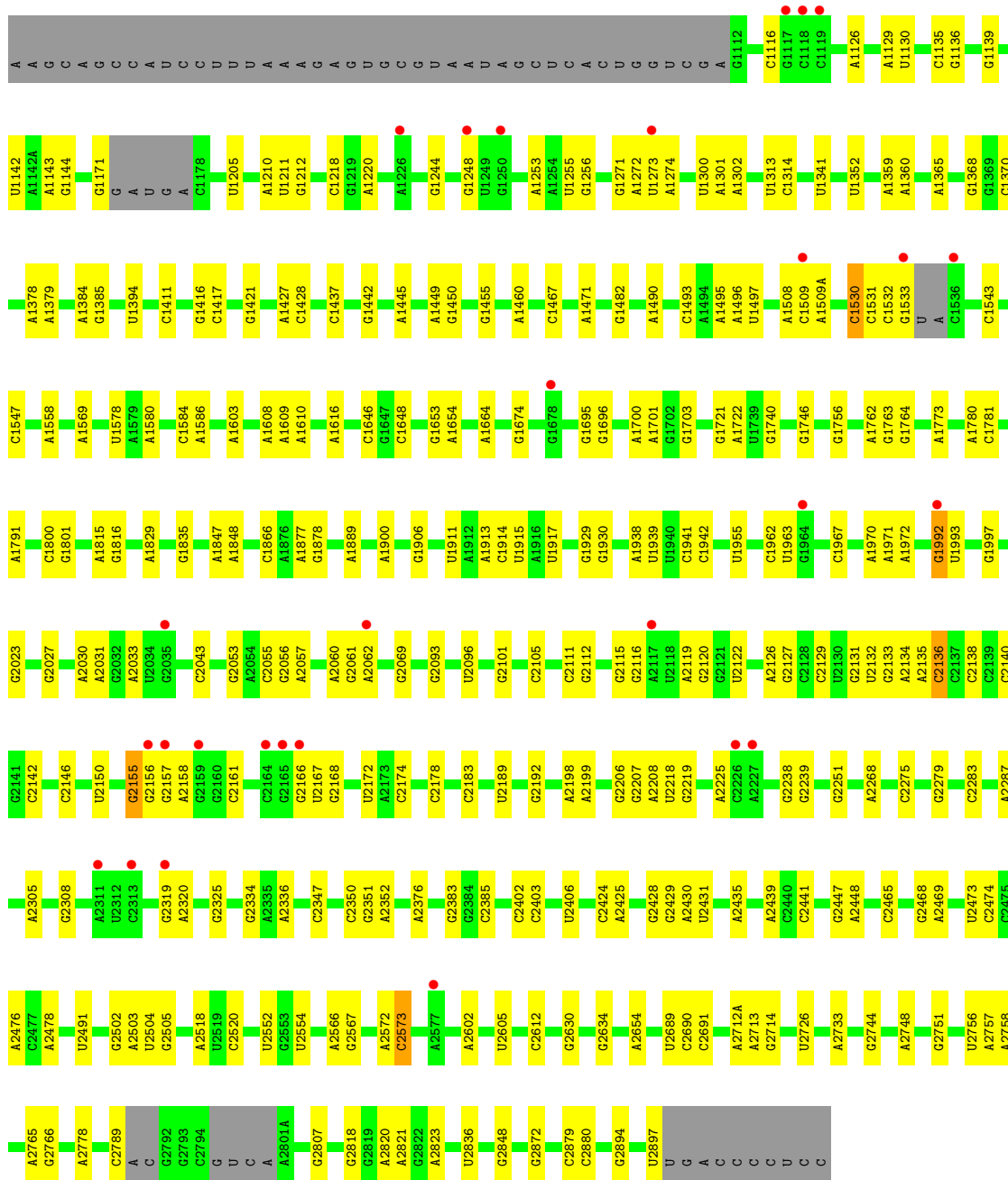




• Molecule 1: 23S Ribosomal RNA



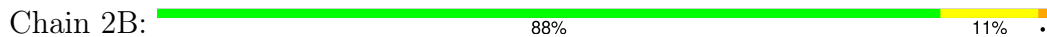


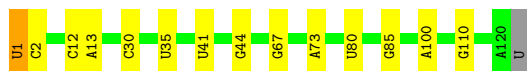


• Molecule 2: 5S Ribosomal RNA

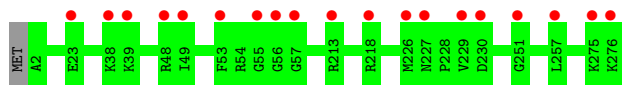


• Molecule 2: 5S Ribosomal RNA

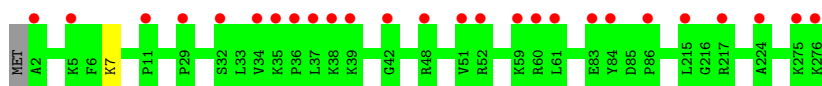




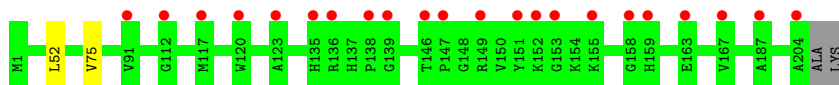
- Molecule 3: 50S Ribosomal Protein L2



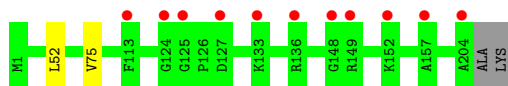
- Molecule 3: 50S Ribosomal Protein L2



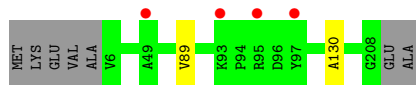
- Molecule 4: 50S Ribosomal Protein L3



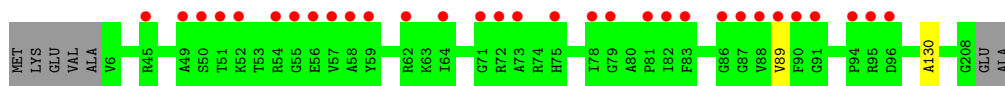
- Molecule 4: 50S Ribosomal Protein L3



- Molecule 5: 50S Ribosomal Protein L4

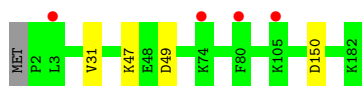


- Molecule 5: 50S Ribosomal Protein L4



- Molecule 6: 50S Ribosomal Protein L5





- Molecule 6: 50S Ribosomal Protein L5



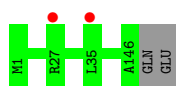
- Molecule 7: 50S Ribosomal Protein L6



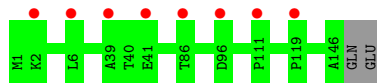
- Molecule 7: 50S Ribosomal Protein L6



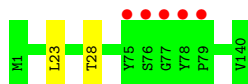
- Molecule 8: 50S Ribosomal Protein L9



- Molecule 8: 50S Ribosomal Protein L9

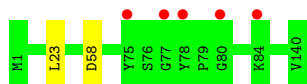


- Molecule 9: 50S Ribosomal Protein L13



- Molecule 9: 50S Ribosomal Protein L13





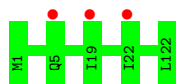
- Molecule 10: 50S Ribosomal Protein L14

Chain 1O: 100%

There are no outlier residues recorded for this chain.

- Molecule 10: 50S Ribosomal Protein L14

Chain 2O: 2% 100%



- Molecule 11: 50S Ribosomal Protein L15

Chain 1P: 4% 95%



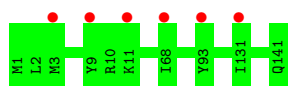
- Molecule 11: 50S Ribosomal Protein L15

Chain 2P: % 99%



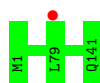
- Molecule 12: 50S Ribosomal Protein L16

Chain 1Q: 4% 100%



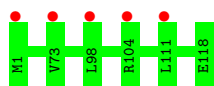
- Molecule 12: 50S Ribosomal Protein L16

Chain 2Q: % 100%

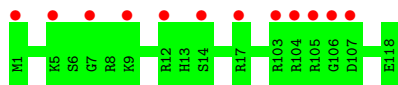


- Molecule 13: 50S Ribosomal Protein L17

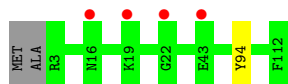
Chain 1R: 4% 100%



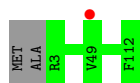
- Molecule 13: 50S Ribosomal Protein L17



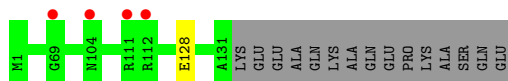
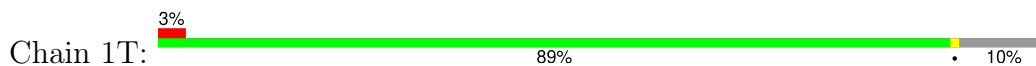
- Molecule 14: 50S Ribosomal Protein L18



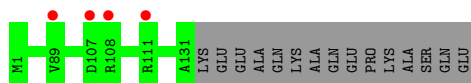
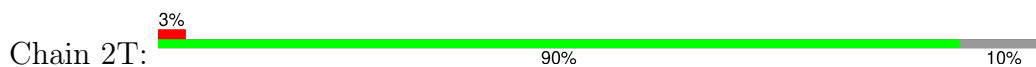
- Molecule 14: 50S Ribosomal Protein L18



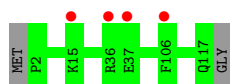
- Molecule 15: 50S Ribosomal Protein L19



- Molecule 15: 50S Ribosomal Protein L19

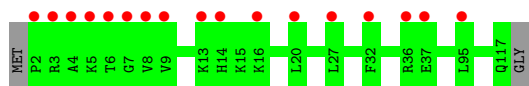


- Molecule 16: 50S Ribosomal Protein L20

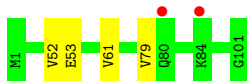


- Molecule 16: 50S Ribosomal Protein L20





- Molecule 17: 50S Ribosomal Protein L21



- Molecule 17: 50S Ribosomal Protein L21



- Molecule 18: 50S Ribosomal Protein L22



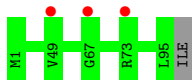
- Molecule 18: 50S Ribosomal Protein L22



- Molecule 19: 50S Ribosomal Protein L23

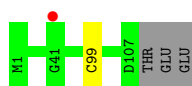


- Molecule 19: 50S Ribosomal Protein L23

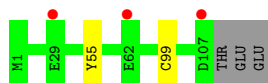


- Molecule 20: 50S ribosomal protein L24

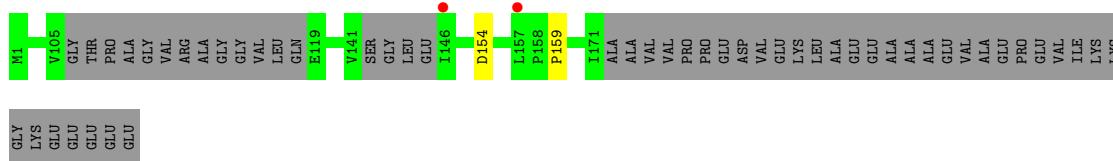
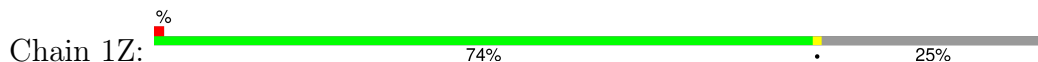




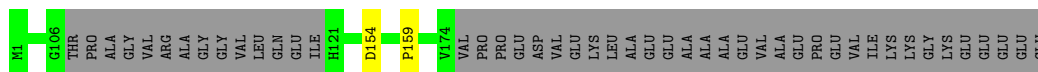
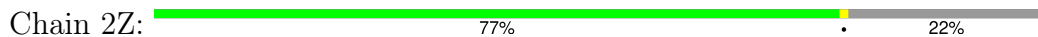
- Molecule 20: 50S ribosomal protein L24



- Molecule 21: 50S ribosomal protein L25



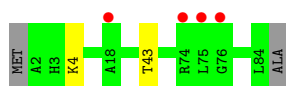
- Molecule 21: 50S ribosomal protein L25



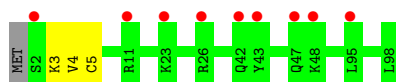
- Molecule 22: 50S ribosomal protein L27



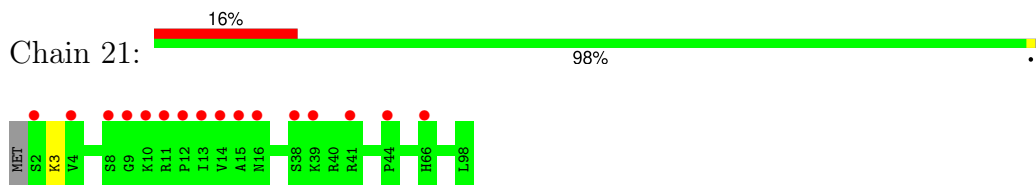
- Molecule 22: 50S ribosomal protein L27



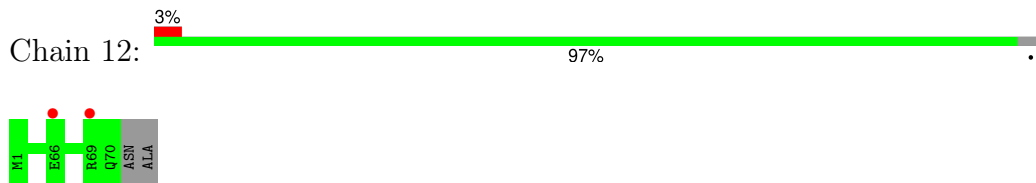
- Molecule 23: 50S ribosomal protein L28



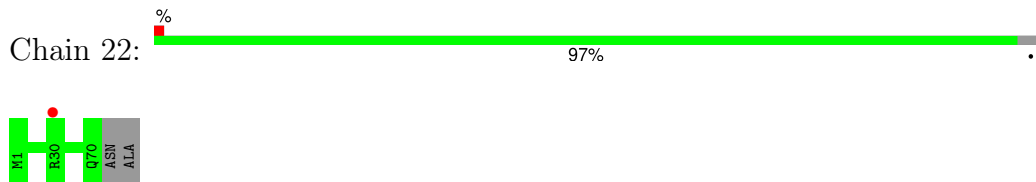
- Molecule 23: 50S ribosomal protein L28



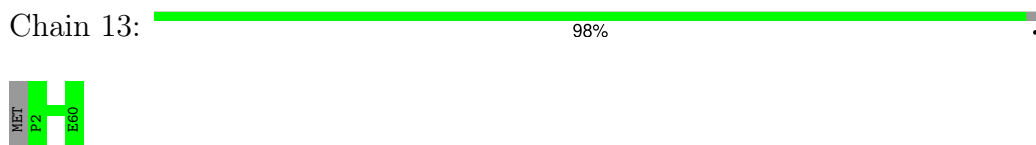
- Molecule 24: 50S ribosomal protein L29



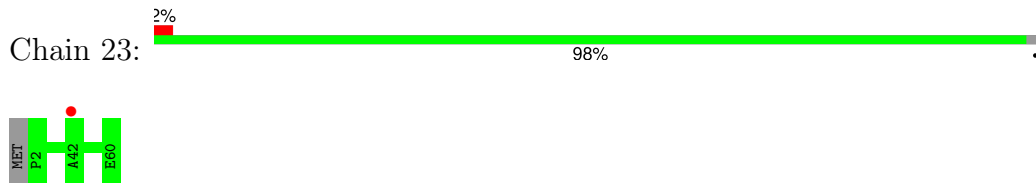
- Molecule 24: 50S ribosomal protein L29



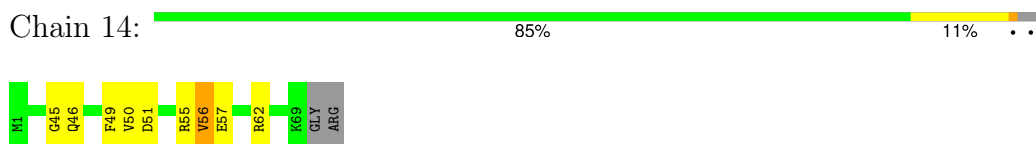
- Molecule 25: 50S ribosomal protein L30



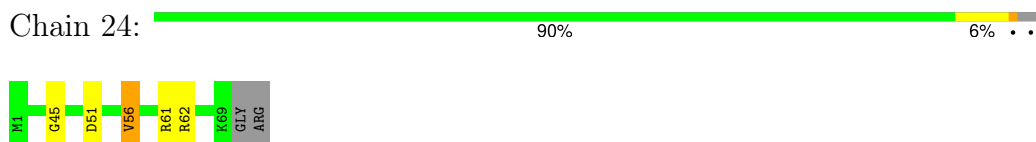
- Molecule 25: 50S ribosomal protein L30



- Molecule 26: 50S ribosomal protein L31

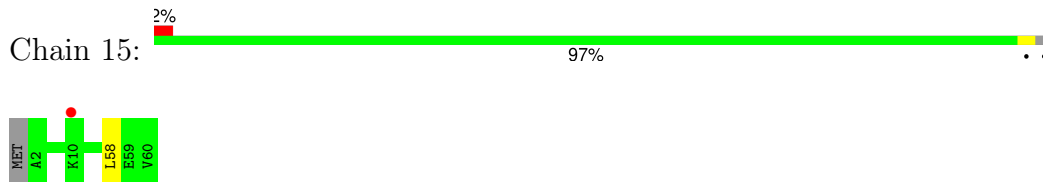


- Molecule 26: 50S ribosomal protein L31

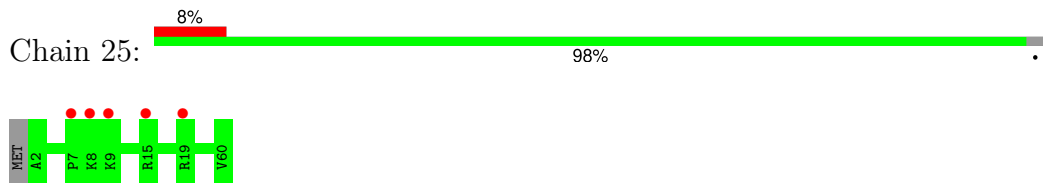




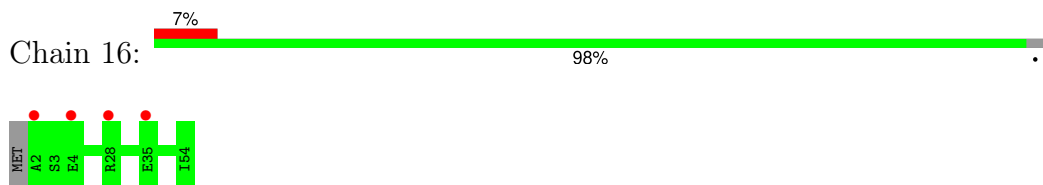
- Molecule 27: 50S ribosomal protein L32



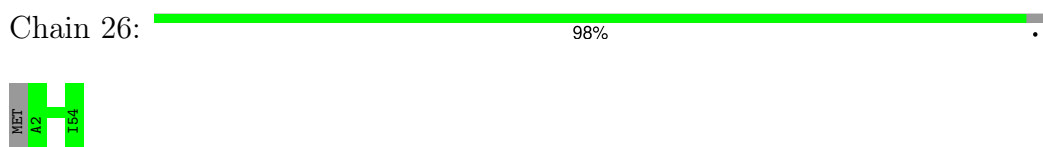
- Molecule 27: 50S ribosomal protein L32



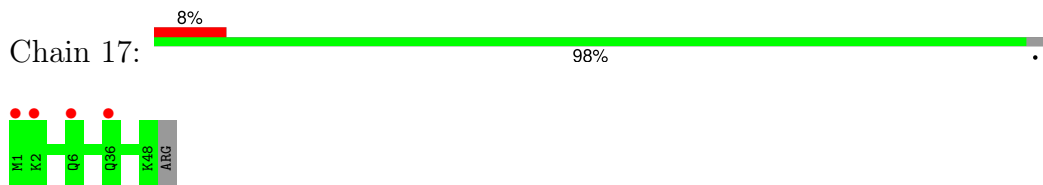
- Molecule 28: 50S ribosomal protein L33



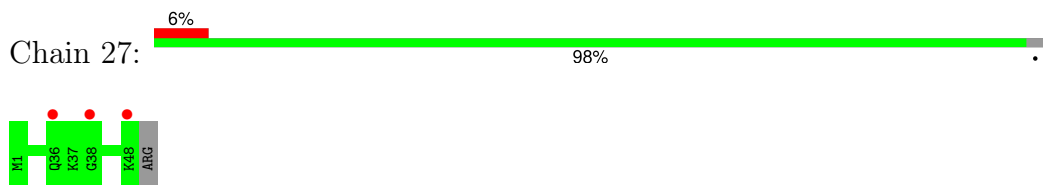
- Molecule 28: 50S ribosomal protein L33



- Molecule 29: 50S ribosomal protein L34

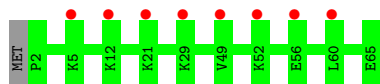


- Molecule 29: 50S ribosomal protein L34

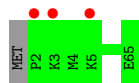


- Molecule 30: 50S Ribosomal Protein L35

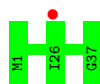




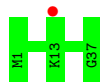
• Molecule 30: 50S Ribosomal Protein L35



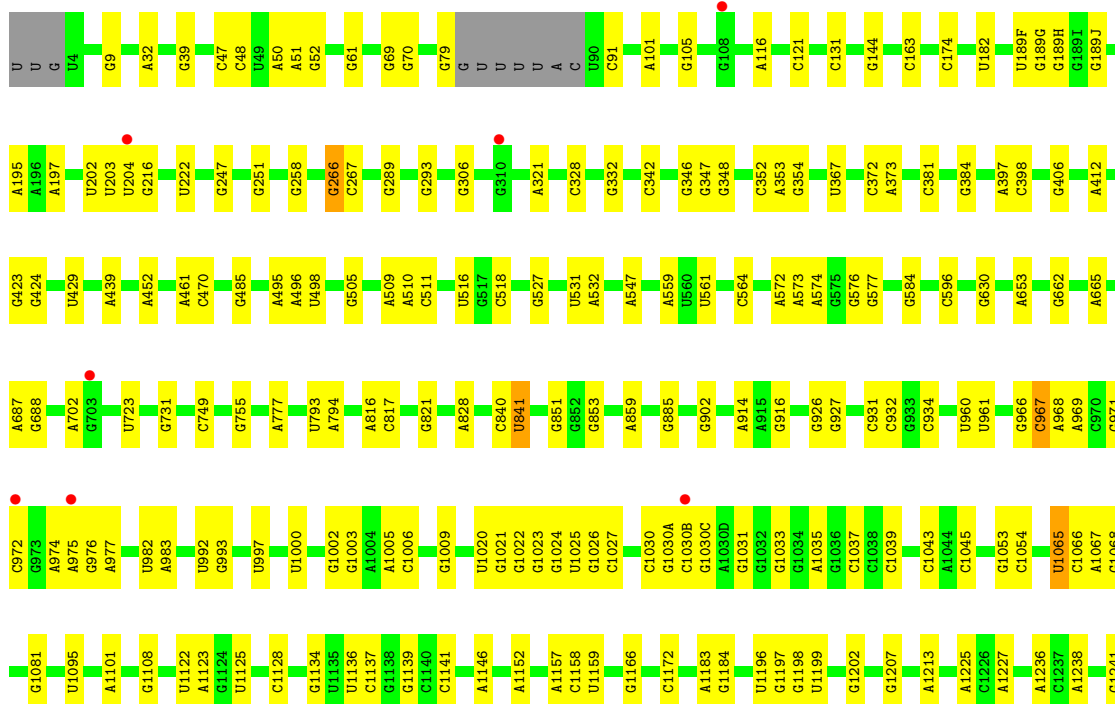
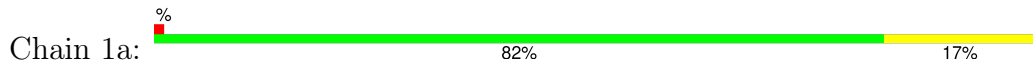
• Molecule 31: 50S Ribosomal Protein L36

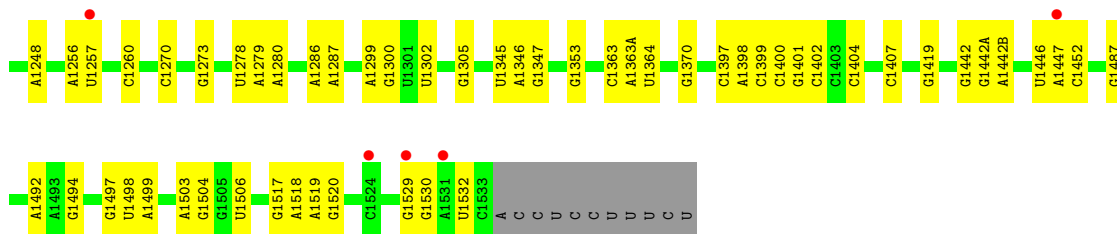


• Molecule 31: 50S Ribosomal Protein L36

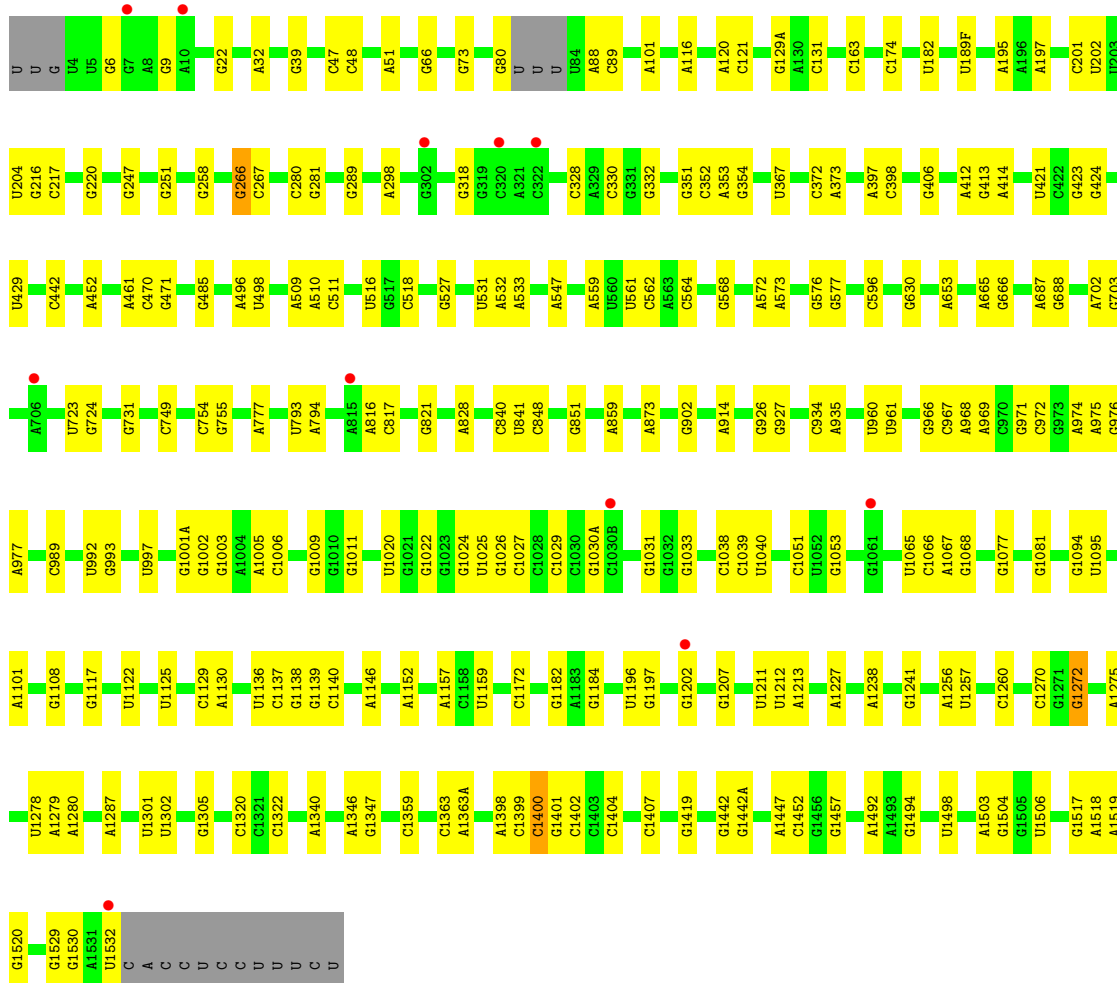
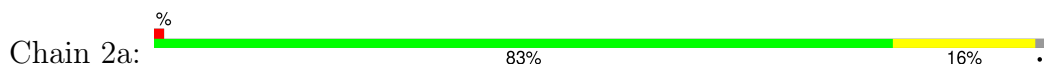


• Molecule 32: 16S Ribosomal RNA

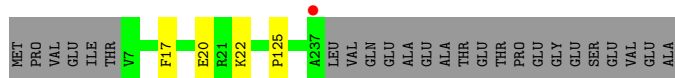





• Molecule 32: 16S Ribosomal RNA



• Molecule 33: 30S Ribosomal Protein S2



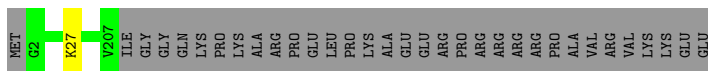
• Molecule 33: 30S Ribosomal Protein S2

Chain 2b:  87% 10%




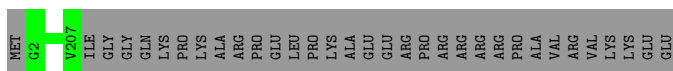
• Molecule 34: 30S Ribosomal Protein S3

Chain 1c:  86% 14%



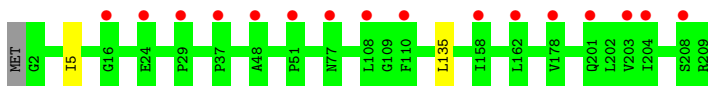
• Molecule 34: 30S Ribosomal Protein S3

Chain 2c:  86% 14%



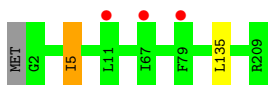
• Molecule 35: 30S Ribosomal Protein S4

Chain 1d:  8% 99%



• Molecule 35: 30S Ribosomal Protein S4

Chain 2d:  1% 99%




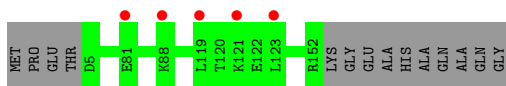
• Molecule 36: 30S Ribosomal Protein S5

Chain 1e:  91% 9%



• Molecule 36: 30S Ribosomal Protein S5

Chain 2e:  3% 91% 9%



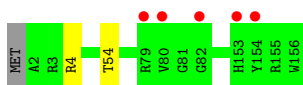
• Molecule 37: 30S Ribosomal Protein S6



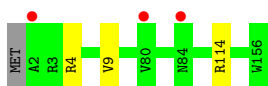
- Molecule 37: 30S Ribosomal Protein S6



- Molecule 38: 30S Ribosomal Protein S7



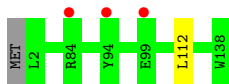
- Molecule 38: 30S Ribosomal Protein S7



- Molecule 39: 30S Ribosomal Protein S8



- Molecule 39: 30S Ribosomal Protein S8



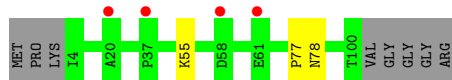
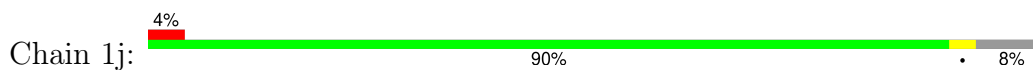
- Molecule 40: 30S ribosomal protein S9



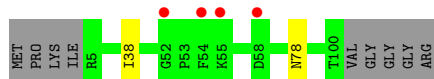
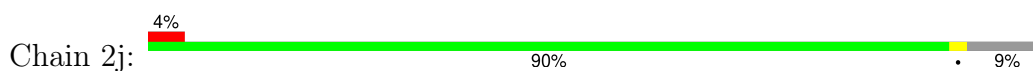
- Molecule 40: 30S ribosomal protein S9



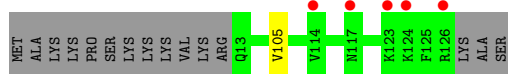
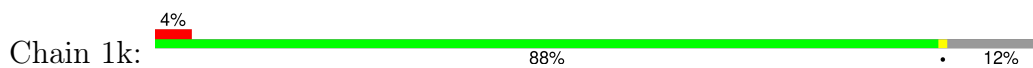
- Molecule 41: 30S ribosomal protein S10



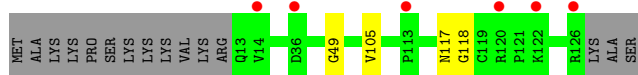
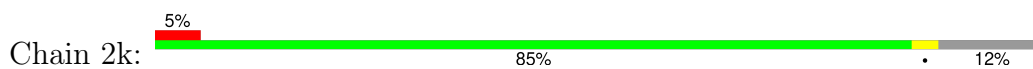
- Molecule 41: 30S ribosomal protein S10



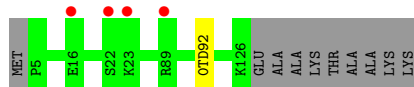
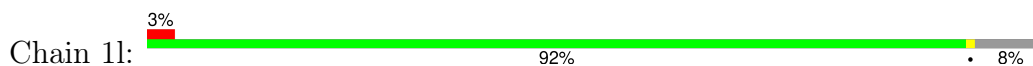
- Molecule 42: 30S ribosomal protein S11



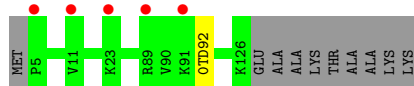
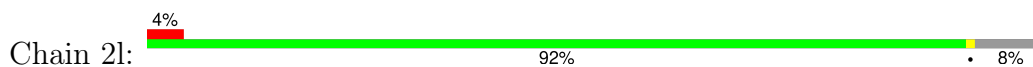
- Molecule 42: 30S ribosomal protein S11



- Molecule 43: 30S ribosomal protein S12



- Molecule 43: 30S ribosomal protein S12



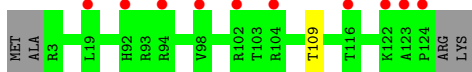
- Molecule 44: 30S ribosomal protein S13

Chain 1m:  97%



- Molecule 44: 30S ribosomal protein S13

Chain 2m:  8% 96%



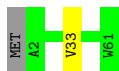
- Molecule 45: 30S ribosomal protein S14 type Z

Chain 1n:  97%



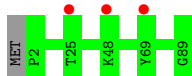
- Molecule 45: 30S ribosomal protein S14 type Z

Chain 2n:  97%



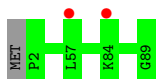
- Molecule 46: 30S ribosomal protein S15

Chain 1o:  3% 99%



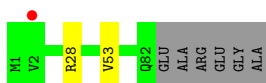
- Molecule 46: 30S ribosomal protein S15

Chain 2o:  2% 99%

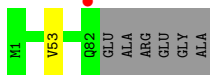
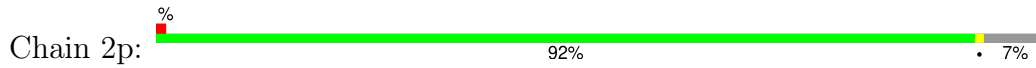


- Molecule 47: 30S ribosomal protein S16

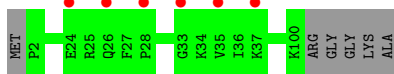
Chain 1p:  % 91% 7%



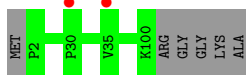
- Molecule 47: 30S ribosomal protein S16



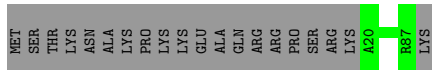
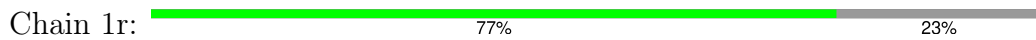
- Molecule 48: 30S ribosomal protein S17



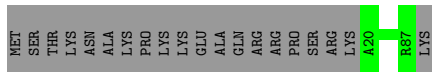
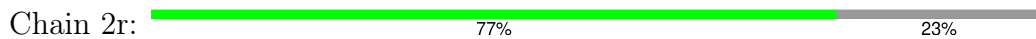
- Molecule 48: 30S ribosomal protein S17



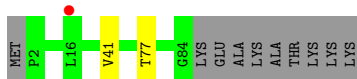
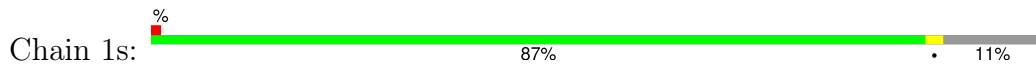
- Molecule 49: 30S ribosomal protein S18



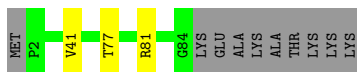
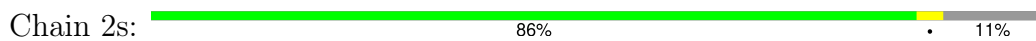
- Molecule 49: 30S ribosomal protein S18



- Molecule 50: 30S Ribosomal Protein S19

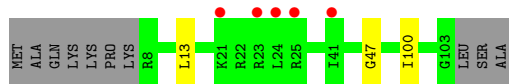
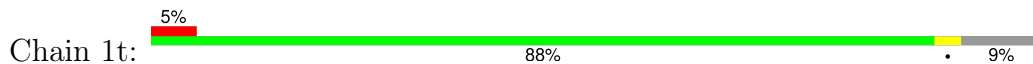


- Molecule 50: 30S Ribosomal Protein S19

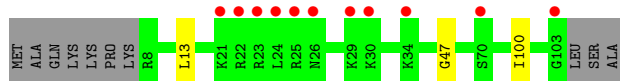
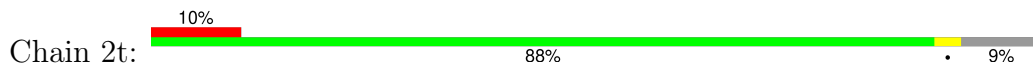




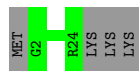
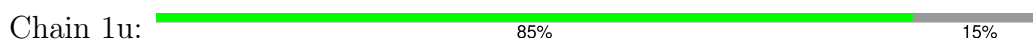
• Molecule 51: 30S Ribosomal Protein S20



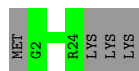
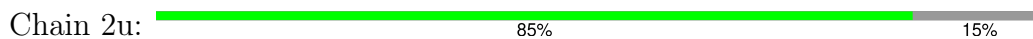
• Molecule 51: 30S Ribosomal Protein S20



• Molecule 52: 30S ribosomal protein Thx



• Molecule 52: 30S ribosomal protein Thx



• Molecule 53: mRNA



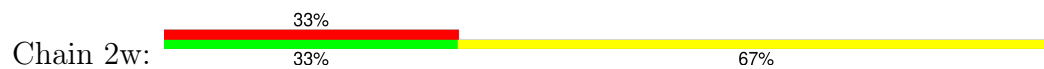
• Molecule 53: mRNA



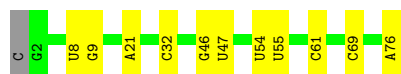
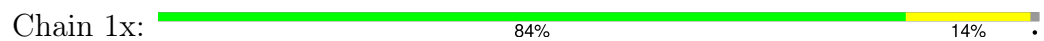
• Molecule 54: CC-Pmn



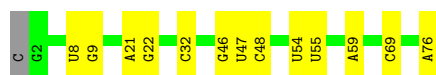
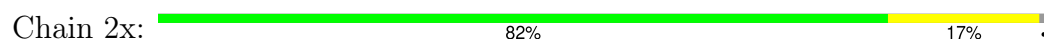
• Molecule 54: CC-Pmn



- Molecule 55: P-site tRNA, Deacylated Initiator Methionyl-tRNA



- Molecule 55: P-site tRNA, Deacylated Initiator Methionyl-tRNA



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	212.24Å 452.84Å 620.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	146.71 – 3.70 146.71 – 3.70	Depositor EDS
% Data completeness (in resolution range)	99.1 (146.71-3.70) 99.1 (146.71-3.70)	Depositor EDS
$R_{merge}$	0.24	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.31 (at 3.68Å)	Xtrriage
Refinement program	PHENIX 1.8.2	Depositor
R, $R_{free}$	0.237 , 0.278 0.237 , 0.279	Depositor DCC
$R_{free}$ test set	31702 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	135.2	Xtrriage
Anisotropy	0.099	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 50.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.42$ , $\langle L^2 \rangle = 0.24$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	287828	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	113.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.03% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 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: M2G, 4OC, PPU, 2MA, UR3, MA6, 7MG, 5MU, SF4, 2MU, MG, 4SU, 5MC, OMG, 0TD, 2MG, PSU, ZN

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	1A	0.37	0/69009	0.82	20/107712 (0.0%)
1	2A	0.33	0/67293	0.80	13/105034 (0.0%)
2	1B	0.33	1/2882 (0.0%)	0.76	0/4494
2	2B	0.33	1/2879 (0.0%)	0.78	1/4487 (0.0%)
3	1D	0.33	0/2186	0.48	0/2944
3	2D	0.35	1/2186 (0.0%)	0.48	0/2944
4	1E	0.29	0/1592	0.48	0/2149
4	2E	0.28	0/1592	0.46	0/2149
5	1F	0.30	0/1619	0.46	0/2193
5	2F	0.28	0/1615	0.44	0/2188
6	1G	0.27	0/1448	0.47	0/1957
6	2G	0.27	0/1453	0.46	0/1963
7	1H	0.27	0/1356	0.43	0/1834
7	2H	0.28	0/1356	0.43	0/1834
8	1I	0.26	0/1112	0.44	0/1514
8	2I	0.27	0/1079	0.45	0/1475
9	1N	0.31	0/1144	0.47	0/1543
9	2N	0.28	0/1144	0.46	0/1543
10	1O	0.31	0/943	0.47	0/1269
10	2O	0.30	0/943	0.47	0/1269
11	1P	0.28	0/1152	0.52	1/1533 (0.1%)
11	2P	0.29	0/1152	0.52	0/1533
12	1Q	0.30	0/1143	0.47	0/1527
12	2Q	0.27	0/1143	0.45	0/1527
13	1R	0.26	0/982	0.46	0/1312
13	2R	0.26	0/982	0.44	0/1312
14	1S	0.27	0/883	0.43	0/1176
14	2S	0.28	0/880	0.42	0/1172
15	1T	0.28	0/1105	0.45	0/1477
15	2T	0.28	0/1097	0.44	0/1468
16	1U	0.28	0/977	0.41	0/1301

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
16	2U	0.27	0/977	0.40	0/1301
17	1V	0.29	0/782	0.48	0/1049
17	2V	0.28	0/782	0.50	0/1049
18	1W	0.28	0/897	0.44	0/1205
18	2W	0.29	0/897	0.46	0/1205
19	1X	0.30	0/764	0.47	0/1025
19	2X	0.27	0/764	0.46	0/1025
20	1Y	0.31	0/819	0.46	0/1095
20	2Y	0.30	0/819	0.46	0/1095
21	1Z	0.27	0/1267	0.48	0/1717
21	2Z	0.27	0/1299	0.46	0/1763
22	10	0.28	0/662	0.47	0/881
22	20	0.28	0/662	0.46	0/881
23	11	0.30	0/762	0.46	0/1014
23	21	0.30	0/762	0.46	0/1014
24	12	0.27	0/590	0.39	0/781
24	22	0.27	0/590	0.37	0/781
25	13	0.29	0/474	0.43	0/635
25	23	0.26	0/469	0.43	0/630
26	14	0.30	0/565	0.56	0/761
26	24	0.35	0/545	0.50	0/737
27	15	0.33	0/469	0.48	0/635
27	25	0.32	0/469	0.47	0/635
28	16	0.27	0/460	0.47	0/613
28	26	0.26	0/456	0.46	0/608
29	17	0.29	0/426	0.43	0/561
29	27	0.26	0/426	0.44	0/561
30	18	0.28	0/525	0.45	0/691
30	28	0.27	0/525	0.45	0/691
31	19	0.33	0/310	0.50	0/407
31	29	0.30	0/310	0.48	0/407
32	1a	0.31	0/35795	0.83	19/55864 (0.0%)
32	2a	0.31	2/35886 (0.0%)	0.83	11/56005 (0.0%)
33	1b	0.28	0/1881	0.46	0/2542
33	2b	0.28	0/1860	0.45	0/2518
34	1c	0.28	0/1572	0.45	0/2126
34	2c	0.27	0/1566	0.44	0/2119
35	1d	0.29	0/1685	0.44	0/2262
35	2d	0.28	0/1704	0.44	0/2284
36	1e	0.27	0/1145	0.46	0/1543
36	2e	0.28	0/1149	0.48	0/1548
37	1f	0.27	0/823	0.46	0/1115
37	2f	0.27	0/829	0.47	0/1123

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	1g	0.27	0/1250	0.42	0/1679
38	2g	0.28	0/1254	0.41	0/1683
39	1h	0.26	0/1108	0.44	0/1494
39	2h	0.28	0/1108	0.44	0/1494
40	1i	0.29	0/1002	0.46	0/1346
40	2i	0.30	0/997	0.46	0/1343
41	1j	0.26	0/722	0.46	0/982
41	2j	0.26	0/727	0.46	0/988
42	1k	0.27	0/844	0.44	0/1145
42	2k	0.26	0/848	0.43	0/1149
43	1l	0.28	0/937	0.49	0/1260
43	2l	0.28	0/937	0.48	0/1260
44	1m	0.26	0/969	0.43	0/1302
44	2m	0.26	0/961	0.46	0/1291
45	1n	0.28	0/501	0.44	0/664
45	2n	0.28	0/501	0.45	0/664
46	1o	0.26	0/739	0.40	0/985
46	2o	0.25	0/739	0.40	0/985
47	1p	0.26	0/697	0.47	0/939
47	2p	0.27	0/693	0.45	0/935
48	1q	0.27	0/836	0.43	0/1117
48	2q	0.27	0/836	0.42	0/1117
49	1r	0.26	0/560	0.42	0/746
49	2r	0.27	0/560	0.44	0/746
50	1s	0.26	0/667	0.47	0/900
50	2s	0.25	0/661	0.48	0/893
51	1t	0.31	0/730	0.41	0/965
51	2t	0.25	0/729	0.39	0/965
52	1u	0.23	0/203	0.44	0/266
52	2u	0.24	0/203	0.43	0/266
53	1v	0.35	0/126	0.86	0/195
53	2v	0.33	0/126	0.81	0/195
54	1w	0.46	0/40	0.95	0/60
54	2w	0.35	0/40	1.05	0/60
55	1x	0.38	0/1725	0.97	1/2689 (0.0%)
55	2x	0.37	0/1725	0.96	3/2689 (0.1%)
All	All	0.32	5/310047 (0.0%)	0.74	69/463792 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
21	1Z	0	1
21	2Z	0	1
33	2b	0	1
All	All	0	3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	1B	1	U	OP3-P	-10.34	1.48	1.61
2	2B	1	U	OP3-P	-10.27	1.48	1.61
3	2D	7	LYS	C-N	-8.87	1.17	1.34
32	2a	1272	G	C6-N1	-6.71	1.34	1.39
32	2a	1272	G	N1-C2	-5.10	1.33	1.37

All (69) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	2a	1272	G	C5-C6-O6	13.95	136.97	128.60
32	2a	1272	G	N1-C6-O6	-11.59	112.94	119.90
32	2a	1272	G	N3-C2-N2	11.37	127.86	119.90
32	2a	1272	G	N1-C2-N2	-10.97	106.33	116.20
1	1A	1109	G	C5-C6-O6	9.10	134.06	128.60
32	1a	1030(B)	C	C2-N1-C1'	9.02	128.72	118.80
32	1a	1030(B)	C	N1-C2-O2	8.98	124.29	118.90
1	1A	1121	C	C2-N3-C4	8.21	124.01	119.90
32	1a	1027	C	N3-C2-O2	-7.96	116.33	121.90
32	1a	1030(B)	C	N3-C2-O2	-7.72	116.49	121.90
1	1A	1121	C	C5-C4-N4	7.68	125.57	120.20
32	1a	1027	C	N3-C4-C5	-7.59	118.86	121.90
32	1a	1030(B)	C	C6-N1-C2	-7.36	117.36	120.30
32	2a	1272	G	C4-N9-C1'	7.02	135.62	126.50
1	1A	1109	G	C6-N1-C2	6.93	129.26	125.10
1	2A	2473	U	C2-N1-C1'	6.86	125.93	117.70
1	2A	2136	C	N1-C2-O2	6.75	122.95	118.90
1	2A	2473	U	N1-C2-O2	6.64	127.45	122.80
1	1A	1810	U	C2-N1-C1'	6.56	125.57	117.70
32	2a	1272	G	C8-N9-C1'	-6.51	118.54	127.00
32	1a	1027	C	C6-N1-C2	-6.49	117.70	120.30
2	2B	80	U	O4'-C1'-N1	6.45	113.36	108.20
32	1a	1158	C	C2-N1-C1'	6.33	125.76	118.80
1	2A	2473	U	N3-C2-O2	-6.32	117.78	122.20
32	1a	1027	C	C5-C4-N4	6.30	124.61	120.20
55	2x	22	G	N1-C6-O6	-6.26	116.14	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1A	1104	G	C5-C6-O6	6.25	132.35	128.60
1	1A	1126	C	C2-N3-C4	6.24	123.02	119.90
1	2A	847	U	N1-C2-O2	6.24	127.17	122.80
1	1A	1121	C	N1-C2-O2	6.15	122.59	118.90
1	2A	847	U	C2-N1-C1'	6.05	124.95	117.70
1	1A	2156	A	P-O3'-C3'	6.03	126.93	119.70
1	1A	1539	C	N1-C2-O2	5.95	122.47	118.90
32	1a	1158	C	N1-C2-O2	5.87	122.42	118.90
1	1A	1221	G	OP1-P-O3'	5.82	118.01	105.20
1	1A	1121	C	N3-C4-N4	-5.82	113.93	118.00
32	1a	1030(B)	C	C6-N1-C1'	-5.78	113.87	120.80
1	1A	1153	G	C5-C6-O6	5.76	132.06	128.60
1	1A	1810	U	N1-C2-O2	5.74	126.82	122.80
1	2A	847	U	N3-C2-O2	-5.74	118.18	122.20
55	2x	46	G	C6-N1-C2	-5.74	121.66	125.10
1	1A	2014	G	P-O3'-C3'	5.68	126.52	119.70
1	2A	2155	G	C6-N1-C2	5.65	128.49	125.10
1	1A	1104	G	N1-C6-O6	-5.55	116.57	119.90
32	2a	266	G	P-O3'-C3'	5.48	126.28	119.70
11	1P	33	ARG	C-N-CA	-5.48	110.80	122.30
1	2A	1992	G	P-O3'-C3'	5.40	126.18	119.70
55	1x	46	G	C6-N1-C2	-5.38	121.87	125.10
32	1a	1199	U	N1-C2-O2	5.38	126.57	122.80
32	2a	1067	A	P-O3'-C3'	5.35	126.12	119.70
1	2A	228	A	OP1-P-O3'	5.35	116.96	105.20
32	1a	1027	C	N1-C2-O2	5.33	122.10	118.90
1	2A	2573	C	N1-C2-O2	5.33	122.10	118.90
32	1a	1030(B)	C	C5-C6-N1	5.29	123.65	121.00
32	2a	266	G	OP2-P-O3'	5.28	116.81	105.20
32	2a	754	C	C2-N1-C1'	5.27	124.60	118.80
1	2A	1530	C	P-O3'-C3'	5.25	126.00	119.70
1	2A	2136	C	N3-C2-O2	-5.23	118.24	121.90
1	1A	1219	A	P-O3'-C3'	5.18	125.91	119.70
32	1a	266	G	N3-C4-C5	-5.16	126.02	128.60
32	1a	841	U	C5-C6-N1	5.15	125.28	122.70
1	1A	1221	G	P-O3'-C3'	5.12	125.85	119.70
32	2a	1272	G	N3-C4-N9	5.08	129.05	126.00
1	1A	1539	C	C2-N1-C1'	5.05	124.35	118.80
1	1A	1539	C	N3-C2-O2	-5.04	118.37	121.90
55	2x	22	G	C5-C6-N1	5.03	114.02	111.50
32	1a	1067	A	P-O3'-C3'	5.02	125.72	119.70
32	1a	1065	U	P-O3'-C3'	5.01	125.72	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	1a	266	G	P-O3'-C3'	5.00	125.70	119.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
21	1Z	159	PRO	Peptide
21	2Z	159	PRO	Peptide
33	2b	9	GLU	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 X-ray entries followed by that with respect to entries of similar resolution.

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	
3	1D	273/276 (99%)	262 (96%)	11 (4%)	0	100	100
3	2D	273/276 (99%)	262 (96%)	11 (4%)	0	100	100
4	1E	202/206 (98%)	191 (95%)	10 (5%)	1 (0%)	25	57
4	2E	202/206 (98%)	192 (95%)	9 (4%)	1 (0%)	25	57
5	1F	201/210 (96%)	196 (98%)	3 (2%)	2 (1%)	13	44
5	2F	201/210 (96%)	194 (96%)	5 (2%)	2 (1%)	13	44
6	1G	179/182 (98%)	168 (94%)	9 (5%)	2 (1%)	12	43
6	2G	179/182 (98%)	170 (95%)	7 (4%)	2 (1%)	12	43
7	1H	172/180 (96%)	162 (94%)	8 (5%)	2 (1%)	11	41
7	2H	172/180 (96%)	165 (96%)	4 (2%)	3 (2%)	7	36
8	1I	144/148 (97%)	135 (94%)	9 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	2I	144/148 (97%)	132 (92%)	12 (8%)	0	100	100
9	1N	138/140 (99%)	129 (94%)	8 (6%)	1 (1%)	19	51
9	2N	138/140 (99%)	129 (94%)	8 (6%)	1 (1%)	19	51
10	1O	120/122 (98%)	111 (92%)	9 (8%)	0	100	100
10	2O	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
11	1P	147/150 (98%)	136 (92%)	8 (5%)	3 (2%)	6	34
11	2P	147/150 (98%)	136 (92%)	10 (7%)	1 (1%)	19	51
12	1Q	139/141 (99%)	133 (96%)	6 (4%)	0	100	100
12	2Q	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
13	1R	116/118 (98%)	110 (95%)	6 (5%)	0	100	100
13	2R	116/118 (98%)	110 (95%)	6 (5%)	0	100	100
14	1S	108/112 (96%)	104 (96%)	3 (3%)	1 (1%)	14	47
14	2S	108/112 (96%)	104 (96%)	4 (4%)	0	100	100
15	1T	129/146 (88%)	123 (95%)	5 (4%)	1 (1%)	16	49
15	2T	129/146 (88%)	126 (98%)	3 (2%)	0	100	100
16	1U	114/118 (97%)	113 (99%)	1 (1%)	0	100	100
16	2U	114/118 (97%)	114 (100%)	0	0	100	100
17	1V	99/101 (98%)	92 (93%)	6 (6%)	1 (1%)	13	44
17	2V	99/101 (98%)	93 (94%)	6 (6%)	0	100	100
18	1W	110/113 (97%)	105 (96%)	5 (4%)	0	100	100
18	2W	110/113 (97%)	106 (96%)	4 (4%)	0	100	100
19	1X	93/96 (97%)	88 (95%)	5 (5%)	0	100	100
19	2X	93/96 (97%)	90 (97%)	3 (3%)	0	100	100
20	1Y	105/110 (96%)	102 (97%)	3 (3%)	0	100	100
20	2Y	105/110 (96%)	100 (95%)	5 (5%)	0	100	100
21	1Z	148/206 (72%)	130 (88%)	18 (12%)	0	100	100
21	2Z	156/206 (76%)	142 (91%)	14 (9%)	0	100	100
22	10	81/85 (95%)	76 (94%)	4 (5%)	1 (1%)	11	41
22	20	81/85 (95%)	76 (94%)	4 (5%)	1 (1%)	11	41
23	11	95/98 (97%)	94 (99%)	0	1 (1%)	12	43
23	21	95/98 (97%)	93 (98%)	1 (1%)	1 (1%)	12	43

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	12	68/72 (94%)	68 (100%)	0	0	100	100
24	22	68/72 (94%)	68 (100%)	0	0	100	100
25	13	57/60 (95%)	57 (100%)	0	0	100	100
25	23	57/60 (95%)	57 (100%)	0	0	100	100
26	14	67/71 (94%)	51 (76%)	9 (13%)	7 (10%)	0	6
26	24	67/71 (94%)	53 (79%)	9 (13%)	5 (8%)	1	11
27	15	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
27	25	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
28	16	51/54 (94%)	51 (100%)	0	0	100	100
28	26	51/54 (94%)	50 (98%)	1 (2%)	0	100	100
29	17	46/49 (94%)	46 (100%)	0	0	100	100
29	27	46/49 (94%)	45 (98%)	1 (2%)	0	100	100
30	18	62/65 (95%)	60 (97%)	2 (3%)	0	100	100
30	28	62/65 (95%)	61 (98%)	1 (2%)	0	100	100
31	19	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
31	29	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
33	1b	229/256 (90%)	201 (88%)	24 (10%)	4 (2%)	7	36
33	2b	229/256 (90%)	203 (89%)	23 (10%)	3 (1%)	10	40
34	1c	204/239 (85%)	188 (92%)	15 (7%)	1 (0%)	25	57
34	2c	204/239 (85%)	190 (93%)	14 (7%)	0	100	100
35	1d	206/209 (99%)	198 (96%)	7 (3%)	1 (0%)	25	57
35	2d	206/209 (99%)	197 (96%)	8 (4%)	1 (0%)	25	57
36	1e	146/162 (90%)	132 (90%)	14 (10%)	0	100	100
36	2e	146/162 (90%)	138 (94%)	8 (6%)	0	100	100
37	1f	98/101 (97%)	97 (99%)	1 (1%)	0	100	100
37	2f	98/101 (97%)	94 (96%)	4 (4%)	0	100	100
38	1g	153/156 (98%)	139 (91%)	12 (8%)	2 (1%)	10	40
38	2g	153/156 (98%)	139 (91%)	12 (8%)	2 (1%)	10	40
39	1h	135/138 (98%)	127 (94%)	8 (6%)	0	100	100
39	2h	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
40	1i	125/128 (98%)	113 (90%)	11 (9%)	1 (1%)	16	49

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
40	2i	125/128 (98%)	114 (91%)	10 (8%)	1 (1%)	16	49
41	1j	95/105 (90%)	88 (93%)	4 (4%)	3 (3%)	3	27
41	2j	94/105 (90%)	86 (92%)	7 (7%)	1 (1%)	12	43
42	1k	112/129 (87%)	106 (95%)	5 (4%)	1 (1%)	14	47
42	2k	112/129 (87%)	104 (93%)	4 (4%)	4 (4%)	3	24
43	1l	119/132 (90%)	107 (90%)	12 (10%)	0	100	100
43	2l	119/132 (90%)	109 (92%)	10 (8%)	0	100	100
44	1m	121/126 (96%)	115 (95%)	6 (5%)	0	100	100
44	2m	120/126 (95%)	114 (95%)	6 (5%)	0	100	100
45	1n	58/61 (95%)	56 (97%)	2 (3%)	0	100	100
45	2n	58/61 (95%)	57 (98%)	1 (2%)	0	100	100
46	1o	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
46	2o	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
47	1p	80/88 (91%)	74 (92%)	4 (5%)	2 (2%)	4	30
47	2p	80/88 (91%)	72 (90%)	7 (9%)	1 (1%)	10	40
48	1q	97/105 (92%)	92 (95%)	5 (5%)	0	100	100
48	2q	97/105 (92%)	91 (94%)	6 (6%)	0	100	100
49	1r	66/88 (75%)	66 (100%)	0	0	100	100
49	2r	66/88 (75%)	66 (100%)	0	0	100	100
50	1s	81/93 (87%)	71 (88%)	10 (12%)	0	100	100
50	2s	81/93 (87%)	74 (91%)	6 (7%)	1 (1%)	11	41
51	1t	94/106 (89%)	85 (90%)	7 (7%)	2 (2%)	5	33
51	2t	94/106 (89%)	87 (93%)	5 (5%)	2 (2%)	5	33
52	1u	21/27 (78%)	20 (95%)	1 (5%)	0	100	100
52	2u	21/27 (78%)	20 (95%)	1 (5%)	0	100	100
All	All	11370/12128 (94%)	10706 (94%)	591 (5%)	73 (1%)	22	54

All (73) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	1H	92	ILE
26	14	46	GLN
26	14	51	ASP

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
26	14	57	GLU
33	1b	22	LYS
35	1d	5	ILE
5	2F	89	VAL
5	2F	130	ALA
35	2d	5	ILE
5	1F	130	ALA
23	11	3	LYS
33	1b	17	PHE
47	1p	53	VAL
6	2G	49	ASP
7	2H	92	ILE
23	21	3	LYS
26	24	51	ASP
26	24	56	VAL
33	2b	126	GLU
41	2j	78	ASN
47	2p	53	VAL
5	1F	89	VAL
11	1P	38	GLN
17	1V	53	GLU
26	14	62	ARG
33	1b	20	GLU
41	1j	55	LYS
41	1j	78	ASN
6	2G	47	LYS
9	2N	23	LEU
11	2P	29	LYS
26	24	61	ARG
33	2b	17	PHE
33	2b	20	GLU
38	2g	4	ARG
42	2k	49	GLY
4	1E	52	LEU
6	1G	49	ASP
9	1N	23	LEU
11	1P	29	LYS
14	1S	94	TYR
15	1T	128	GLU
22	10	4	LYS
34	1c	27	LYS
38	1g	54	THR

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Mol	Chain	Res	Type
47	1p	28	ARG
51	1t	47	GLY
4	2E	52	LEU
38	2g	114	ARG
50	2s	81	ARG
51	2t	47	GLY
6	1G	47	LYS
11	1P	43	GLY
26	14	55	ARG
26	14	56	VAL
38	1g	4	ARG
40	1i	119	ALA
22	20	4	LYS
26	24	62	ARG
42	2k	117	ASN
51	2t	100	ILE
7	2H	12	PRO
26	24	45	GLY
40	2i	56	LEU
7	1H	126	PRO
26	14	45	GLY
42	2k	105	VAL
41	1j	77	PRO
42	1k	105	VAL
51	1t	100	ILE
42	2k	118	GLY
7	2H	126	PRO
33	1b	125	PRO

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	
3	1D	215/218 (99%)	215 (100%)	0	100	100
3	2D	215/218 (99%)	215 (100%)	0	100	100
4	1E	164/166 (99%)	163 (99%)	1 (1%)	84	90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	2E	164/166 (99%)	163 (99%)	1 (1%)	84	90
5	1F	160/166 (96%)	160 (100%)	0	100	100
5	2F	159/166 (96%)	159 (100%)	0	100	100
6	1G	143/156 (92%)	141 (99%)	2 (1%)	62	76
6	2G	143/156 (92%)	142 (99%)	1 (1%)	81	88
7	1H	144/148 (97%)	143 (99%)	1 (1%)	81	88
7	2H	144/148 (97%)	144 (100%)	0	100	100
8	1I	113/124 (91%)	113 (100%)	0	100	100
8	2I	105/124 (85%)	105 (100%)	0	100	100
9	1N	118/119 (99%)	117 (99%)	1 (1%)	79	85
9	2N	118/119 (99%)	117 (99%)	1 (1%)	79	85
10	1O	100/100 (100%)	100 (100%)	0	100	100
10	2O	100/100 (100%)	100 (100%)	0	100	100
11	1P	115/116 (99%)	113 (98%)	2 (2%)	56	73
11	2P	115/116 (99%)	115 (100%)	0	100	100
12	1Q	111/111 (100%)	111 (100%)	0	100	100
12	2Q	111/111 (100%)	111 (100%)	0	100	100
13	1R	101/101 (100%)	101 (100%)	0	100	100
13	2R	101/101 (100%)	101 (100%)	0	100	100
14	1S	86/88 (98%)	86 (100%)	0	100	100
14	2S	85/88 (97%)	85 (100%)	0	100	100
15	1T	115/127 (91%)	115 (100%)	0	100	100
15	2T	113/127 (89%)	113 (100%)	0	100	100
16	1U	93/94 (99%)	93 (100%)	0	100	100
16	2U	93/94 (99%)	93 (100%)	0	100	100
17	1V	80/82 (98%)	77 (96%)	3 (4%)	28	53
17	2V	80/82 (98%)	77 (96%)	3 (4%)	28	53
18	1W	90/92 (98%)	89 (99%)	1 (1%)	70	80
18	2W	90/92 (98%)	89 (99%)	1 (1%)	70	80
19	1X	77/78 (99%)	77 (100%)	0	100	100
19	2X	77/78 (99%)	77 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	1Y	85/91 (93%)	84 (99%)	1 (1%)	67	79
20	2Y	85/91 (93%)	83 (98%)	2 (2%)	44	63
21	1Z	135/179 (75%)	134 (99%)	1 (1%)	81	88
21	2Z	137/179 (76%)	136 (99%)	1 (1%)	81	88
22	10	65/67 (97%)	65 (100%)	0	100	100
22	20	65/67 (97%)	64 (98%)	1 (2%)	60	75
23	11	80/83 (96%)	78 (98%)	2 (2%)	42	62
23	21	80/83 (96%)	80 (100%)	0	100	100
24	12	65/67 (97%)	65 (100%)	0	100	100
24	22	65/67 (97%)	65 (100%)	0	100	100
25	13	51/52 (98%)	51 (100%)	0	100	100
25	23	50/52 (96%)	50 (100%)	0	100	100
26	14	59/63 (94%)	56 (95%)	3 (5%)	20	47
26	24	53/63 (84%)	52 (98%)	1 (2%)	52	70
27	15	50/52 (96%)	49 (98%)	1 (2%)	50	68
27	25	50/52 (96%)	50 (100%)	0	100	100
28	16	51/52 (98%)	51 (100%)	0	100	100
28	26	50/52 (96%)	50 (100%)	0	100	100
29	17	41/42 (98%)	41 (100%)	0	100	100
29	27	41/42 (98%)	41 (100%)	0	100	100
30	18	54/55 (98%)	54 (100%)	0	100	100
30	28	54/55 (98%)	54 (100%)	0	100	100
31	19	34/34 (100%)	34 (100%)	0	100	100
31	29	34/34 (100%)	34 (100%)	0	100	100
33	1b	192/220 (87%)	192 (100%)	0	100	100
33	2b	187/220 (85%)	183 (98%)	4 (2%)	48	67
34	1c	142/188 (76%)	142 (100%)	0	100	100
34	2c	140/188 (74%)	140 (100%)	0	100	100
35	1d	169/181 (93%)	168 (99%)	1 (1%)	84	90
35	2d	173/181 (96%)	171 (99%)	2 (1%)	67	79
36	1e	113/123 (92%)	112 (99%)	1 (1%)	75	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	2e	114/123 (93%)	114 (100%)	0	100	100
37	1f	84/90 (93%)	84 (100%)	0	100	100
37	2f	85/90 (94%)	85 (100%)	0	100	100
38	1g	119/127 (94%)	119 (100%)	0	100	100
38	2g	120/127 (94%)	119 (99%)	1 (1%)	79	85
39	1h	114/119 (96%)	114 (100%)	0	100	100
39	2h	114/119 (96%)	113 (99%)	1 (1%)	75	84
40	1i	90/99 (91%)	90 (100%)	0	100	100
40	2i	89/99 (90%)	89 (100%)	0	100	100
41	1j	66/92 (72%)	66 (100%)	0	100	100
41	2j	69/92 (75%)	68 (99%)	1 (1%)	62	76
42	1k	82/99 (83%)	82 (100%)	0	100	100
42	2k	83/99 (84%)	83 (100%)	0	100	100
43	1l	96/108 (89%)	96 (100%)	0	100	100
43	2l	96/108 (89%)	96 (100%)	0	100	100
44	1m	93/101 (92%)	92 (99%)	1 (1%)	70	80
44	2m	92/101 (91%)	91 (99%)	1 (1%)	70	80
45	1n	49/50 (98%)	48 (98%)	1 (2%)	50	68
45	2n	49/50 (98%)	48 (98%)	1 (2%)	50	68
46	1o	78/80 (98%)	78 (100%)	0	100	100
46	2o	78/80 (98%)	78 (100%)	0	100	100
47	1p	69/74 (93%)	69 (100%)	0	100	100
47	2p	68/74 (92%)	68 (100%)	0	100	100
48	1q	94/97 (97%)	94 (100%)	0	100	100
48	2q	94/97 (97%)	94 (100%)	0	100	100
49	1r	59/77 (77%)	59 (100%)	0	100	100
49	2r	59/77 (77%)	59 (100%)	0	100	100
50	1s	69/80 (86%)	67 (97%)	2 (3%)	37	59
50	2s	67/80 (84%)	65 (97%)	2 (3%)	36	58
51	1t	70/82 (85%)	69 (99%)	1 (1%)	62	76
51	2t	70/82 (85%)	69 (99%)	1 (1%)	62	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	1u	18/22 (82%)	18 (100%)	0	100	100
52	2u	18/22 (82%)	18 (100%)	0	100	100
All	All	9303/10064 (92%)	9251 (99%)	52 (1%)	84	90

All (52) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	1E	75	VAL
6	1G	31	VAL
6	1G	150	ASP
7	1H	107	VAL
9	1N	28	THR
11	1P	83	VAL
11	1P	112	LEU
17	1V	52	VAL
17	1V	61	VAL
17	1V	79	VAL
18	1W	67	ASP
20	1Y	99	CYS
21	1Z	154	ASP
23	11	4	VAL
23	11	5	CYS
26	14	49	PHE
26	14	50	VAL
26	14	56	VAL
27	15	58	LEU
35	1d	135	LEU
36	1e	41	VAL
44	1m	109	THR
45	1n	33	VAL
50	1s	41	VAL
50	1s	77	THR
51	1t	13	LEU
4	2E	75	VAL
6	2G	31	VAL
9	2N	58	ASP
17	2V	52	VAL
17	2V	61	VAL
17	2V	79	VAL
18	2W	67	ASP
20	2Y	55	TYR

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Mol	Chain	Res	Type
20	2Y	99	CYS
21	2Z	154	ASP
22	20	43	THR
26	24	56	VAL
33	2b	8	LYS
33	2b	24	TRP
33	2b	127	ILE
33	2b	189	ASP
35	2d	5	ILE
35	2d	135	LEU
38	2g	9	VAL
39	2h	112	LEU
41	2j	38	ILE
44	2m	109	THR
45	2n	33	VAL
50	2s	41	VAL
50	2s	77	THR
51	2t	13	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (60) such sidechains are listed below:

Mol	Chain	Res	Type
3	1D	220	HIS
4	1E	137	HIS
5	1F	69	HIS
5	1F	75	HIS
6	1G	40	ASN
8	1I	139	GLN
10	1O	3	GLN
12	1Q	12	GLN
12	1Q	123	HIS
15	1T	58	ASN
18	1W	60	ASN
21	1Z	151	HIS
23	11	56	GLN
33	1b	19	HIS
33	1b	40	HIS
33	1b	78	GLN
33	1b	113	HIS
34	1c	162	GLN
36	1e	78	HIS
38	1g	64	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
39	1h	15	ASN
40	1i	58	HIS
43	1l	80	HIS
43	1l	99	HIS
45	1n	49	HIS
46	1o	62	GLN
47	1p	76	GLN
49	1r	63	GLN
50	1s	83	HIS
4	2E	137	HIS
5	2F	40	GLN
5	2F	75	HIS
5	2F	133	ASN
6	2G	26	GLN
6	2G	79	ASN
8	2I	11	ASN
8	2I	139	GLN
10	2O	3	GLN
12	2Q	12	GLN
17	2V	80	GLN
19	2X	82	GLN
21	2Z	132	ASN
23	2l	56	GLN
26	24	46	GLN
33	2b	19	HIS
33	2b	78	GLN
33	2b	113	HIS
34	2c	37	GLN
34	2c	104	GLN
34	2c	176	HIS
35	2d	201	GLN
36	2e	78	HIS
37	2f	100	ASN
38	2g	28	ASN
38	2g	122	HIS
40	2i	58	HIS
43	2l	80	HIS
43	2l	99	HIS
47	2p	16	HIS
50	2s	57	HIS

### 5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1A	2861/2915 (98%)	438 (15%)	28 (0%)
1	2A	2788/2915 (95%)	443 (15%)	21 (0%)
2	1B	120/121 (99%)	10 (8%)	1 (0%)
2	2B	119/121 (98%)	12 (10%)	1 (0%)
32	1a	1494/1521 (98%)	243 (16%)	0
32	2a	1498/1521 (98%)	231 (15%)	0
53	1v	4/24 (16%)	0	0
53	2v	4/24 (16%)	0	0
54	1w	1/3 (33%)	1 (100%)	0
54	2w	1/3 (33%)	1 (100%)	0
55	1x	75/77 (97%)	6 (8%)	0
55	2x	75/77 (97%)	7 (9%)	0
All	All	9040/9322 (96%)	1392 (15%)	51 (0%)

All (1392) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1A	12	U
1	1A	13	A
1	1A	34	C
1	1A	45	C
1	1A	62	U
1	1A	63	A
1	1A	70	A
1	1A	71	U
1	1A	73	A
1	1A	74	G
1	1A	83	A
1	1A	90	A
1	1A	100	G
1	1A	116	A
1	1A	118	U
1	1A	119	G
1	1A	129	G
1	1A	139	A
1	1A	171	A
1	1A	185	A
1	1A	188	A
1	1A	190	C
1	1A	193	A
1	1A	194	G
1	1A	203	G
1	1A	205	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	211	A
1	1A	214	A
1	1A	217	A
1	1A	218	A
1	1A	219	U
1	1A	222	A
1	1A	237	G
1	1A	239	G
1	1A	258	U
1	1A	270	C
1	1A	272	U
1	1A	273	G
1	1A	275	C
1	1A	288	U
1	1A	289	G
1	1A	303	C
1	1A	332	G
1	1A	335	A
1	1A	348	A
1	1A	353	G
1	1A	354	A
1	1A	376	G
1	1A	387	G
1	1A	389	G
1	1A	399	G
1	1A	413	G
1	1A	432	U
1	1A	438	G
1	1A	439	A
1	1A	455	A
1	1A	470	C
1	1A	474	U
1	1A	475	A
1	1A	477	C
1	1A	480	A
1	1A	482	C
1	1A	483	A
1	1A	490	U
1	1A	507	G
1	1A	530	A
1	1A	534	C
1	1A	553	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	555	G
1	1A	556	C
1	1A	557	A
1	1A	558	G
1	1A	569	G
1	1A	573	G
1	1A	586	G
1	1A	596	G
1	1A	598	A
1	1A	626	A
1	1A	627	G
1	1A	630	U
1	1A	637	U
1	1A	639	G
1	1A	641	G
1	1A	652	A
1	1A	659	C
1	1A	662	A
1	1A	670	C
1	1A	671	A
1	1A	676	G
1	1A	692	C
1	1A	716	G
1	1A	733	G
1	1A	777	C
1	1A	811	A
1	1A	812	G
1	1A	822	G
1	1A	823	G
1	1A	829	A
1	1A	831	A
1	1A	832	G
1	1A	847	A
1	1A	852	G
1	1A	859	C
1	1A	866	A
1	1A	874	U
1	1A	875	U
1	1A	878	G
1	1A	893	C
1	1A	902	G
1	1A	903	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	906	G
1	1A	913	A
1	1A	926	G
1	1A	927	G
1	1A	931	C
1	1A	932	C
1	1A	933	C
1	1A	934	A
1	1A	935	C
1	1A	936	C
1	1A	937	A
1	1A	942	A
1	1A	943	C
1	1A	944	C
1	1A	946	A
1	1A	953	U
1	1A	956	A
1	1A	960	C
1	1A	977	G
1	1A	990	A
1	1A	991	G
1	1A	1002	A
1	1A	1004	A
1	1A	1006	C
1	1A	1017	G
1	1A	1018	A
1	1A	1019	G
1	1A	1020	C
1	1A	1021	G
1	1A	1029	A
1	1A	1035	G
1	1A	1042	A
1	1A	1051	C
1	1A	1058	U
1	1A	1059	C
1	1A	1068	G
1	1A	1069	U
1	1A	1071	G
1	1A	1072	U
1	1A	1079	U
1	1A	1090	G
1	1A	1091	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	1092	A
1	1A	1093	G
1	1A	1094	A
1	1A	1098	C
1	1A	1100	A
1	1A	1101	G
1	1A	1102	G
1	1A	1104	G
1	1A	1109	G
1	1A	1110	C
1	1A	1112	U
1	1A	1114	G
1	1A	1117	G
1	1A	1119	A
1	1A	1120	G
1	1A	1121	C
1	1A	1122	C
1	1A	1124	U
1	1A	1125	C
1	1A	1129	U
1	1A	1130	A
1	1A	1132	A
1	1A	1134	A
1	1A	1135	G
1	1A	1136	U
1	1A	1137	G
1	1A	1139	G
1	1A	1140	U
1	1A	1143	U
1	1A	1147	U
1	1A	1149	A
1	1A	1150	C
1	1A	1157	A
1	1A	1158	G
1	1A	1162	C
1	1A	1172	A
1	1A	1176	U
1	1A	1180	C
1	1A	1181	G
1	1A	1187	U
1	1A	1195	G
1	1A	1201	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	1217	G
1	1A	1218	G
1	1A	1219	A
1	1A	1220	U
1	1A	1221	G
1	1A	1222	A
1	1A	1223	C
1	1A	1256	U
1	1A	1294	G
1	1A	1299	A
1	1A	1301	U
1	1A	1302	G
1	1A	1317	G
1	1A	1318	A
1	1A	1319	U
1	1A	1346	U
1	1A	1347	A
1	1A	1371	G
1	1A	1387	U
1	1A	1398	U
1	1A	1405	A
1	1A	1406	A
1	1A	1411	A
1	1A	1425	A
1	1A	1430	A
1	1A	1431	G
1	1A	1441	A
1	1A	1442	U
1	1A	1462	G
1	1A	1463	C
1	1A	1466	U
1	1A	1467	G
1	1A	1474	C
1	1A	1491	A
1	1A	1497	G
1	1A	1502	G
1	1A	1506	G
1	1A	1514	C
1	1A	1529	G
1	1A	1539	C
1	1A	1554	A
1	1A	1555	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	1556	A
1	1A	1590	C
1	1A	1605	A
1	1A	1616	A
1	1A	1625	U
1	1A	1627	A
1	1A	1631	C
1	1A	1632	A
1	1A	1641	G
1	1A	1648	U
1	1A	1654	A
1	1A	1662	A
1	1A	1695	C
1	1A	1701	A
1	1A	1721	G
1	1A	1743	G
1	1A	1745	A
1	1A	1747	A
1	1A	1750	G
1	1A	1767	A
1	1A	1776	G
1	1A	1787	G
1	1A	1794	G
1	1A	1795	G
1	1A	1804	A
1	1A	1811	A
1	1A	1813	C
1	1A	1822	A
1	1A	1829	U
1	1A	1831	C
1	1A	1847	G
1	1A	1859	G
1	1A	1878	A
1	1A	1879	A
1	1A	1889	G
1	1A	1899	A
1	1A	1900	G
1	1A	1911	A
1	1A	1922	A
1	1A	1928	G
1	1A	1949	A
1	1A	1951	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	1958	A
1	1A	1960	A
1	1A	1977	U
1	1A	1985	U
1	1A	1989	C
1	1A	1992	A
1	1A	1993	A
1	1A	1994	A
1	1A	2015	U
1	1A	2019	G
1	1A	2035	A
1	1A	2045	G
1	1A	2052	A
1	1A	2053	A
1	1A	2054	G
1	1A	2055	A
1	1A	2056	U
1	1A	2065	C
1	1A	2075	G
1	1A	2077	C
1	1A	2078	G
1	1A	2082	A
1	1A	2083	G
1	1A	2084	A
1	1A	2091	G
1	1A	2114	U
1	1A	2115	G
1	1A	2121	U
1	1A	2124	U
1	1A	2135	U
1	1A	2136	A
1	1A	2138	G
1	1A	2144	U
1	1A	2149	G
1	1A	2151	C
1	1A	2152	U
1	1A	2153	G
1	1A	2154	U
1	1A	2155	G
1	1A	2156	A
1	1A	2157	A
1	1A	2158	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	2164	C
1	1A	2166	U
1	1A	2168	C
1	1A	2169	G
1	1A	2172	U
1	1A	2173	G
1	1A	2177	G
1	1A	2178	G
1	1A	2179	G
1	1A	2180	A
1	1A	2181	G
1	1A	2187	G
1	1A	2188	G
1	1A	2189	U
1	1A	2193	A
1	1A	2194	U
1	1A	2195	A
1	1A	2197	C
1	1A	2204	G
1	1A	2206	G
1	1A	2214	G
1	1A	2215	G
1	1A	2220	A
1	1A	2227	G
1	1A	2228	G
1	1A	2229	A
1	1A	2231	G
1	1A	2237	A
1	1A	2250	G
1	1A	2251	G
1	1A	2279	A
1	1A	2281	A
1	1A	2292	G
1	1A	2295	C
1	1A	2299	A
1	1A	2300	A
1	1A	2317	A
1	1A	2320	G
1	1A	2324	U
1	1A	2332	A
1	1A	2337	G
1	1A	2348	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	2357	G
1	1A	2359	C
1	1A	2362	C
1	1A	2373	A
1	1A	2377	G
1	1A	2395	G
1	1A	2396	G
1	1A	2397	C
1	1A	2418	U
1	1A	2422	G
1	1A	2436	C
1	1A	2437	A
1	1A	2439	C
1	1A	2440	G
1	1A	2441	G
1	1A	2442	A
1	1A	2446	A
1	1A	2447	A
1	1A	2451	A
1	1A	2453	C
1	1A	2460	A
1	1A	2477	C
1	1A	2480	G
1	1A	2481	A
1	1A	2486	C
1	1A	2488	A
1	1A	2490	A
1	1A	2503	U
1	1A	2514	G
1	1A	2516	U
1	1A	2517	G
1	1A	2530	A
1	1A	2532	C
1	1A	2537	G
1	1A	2541	G
1	1A	2566	U
1	1A	2576	A
1	1A	2578	A
1	1A	2579	G
1	1A	2584	A
1	1A	2585	C
1	1A	2586	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	2614	A
1	1A	2621	U
1	1A	2624	C
1	1A	2627	U
1	1A	2633	A
1	1A	2641	A
1	1A	2642	G
1	1A	2666	A
1	1A	2668	U
1	1A	2701	U
1	1A	2702	C
1	1A	2714	U
1	1A	2715	C
1	1A	2725	A
1	1A	2726	A
1	1A	2727	G
1	1A	2739	U
1	1A	2746	A
1	1A	2770	A
1	1A	2771	A
1	1A	2777	A
1	1A	2778	A
1	1A	2791	A
1	1A	2803	A
1	1A	2804	C
1	1A	2813	G
1	1A	2814	C
1	1A	2828	G
1	1A	2830	A
1	1A	2831	A
1	1A	2843	G
1	1A	2882	G
1	1A	2901	A
1	1A	2903	G
2	1B	2	C
2	1B	12	C
2	1B	13	A
2	1B	30	C
2	1B	35	U
2	1B	41	U
2	1B	67	G
2	1B	73	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	1B	85	G
2	1B	110	G
32	1a	9	G
32	1a	32	A
32	1a	39	G
32	1a	47	C
32	1a	48	C
32	1a	50	A
32	1a	51	A
32	1a	52	G
32	1a	61	G
32	1a	69	G
32	1a	70	G
32	1a	79	G
32	1a	91	C
32	1a	101	A
32	1a	105	G
32	1a	116	A
32	1a	121	C
32	1a	131	C
32	1a	144	G
32	1a	163	C
32	1a	174	C
32	1a	182	U
32	1a	189(F)	U
32	1a	189(G)	G
32	1a	189(H)	G
32	1a	189(J)	G
32	1a	195	A
32	1a	197	A
32	1a	202	U
32	1a	203	U
32	1a	204	U
32	1a	216	G
32	1a	222	U
32	1a	247	G
32	1a	251	G
32	1a	258	G
32	1a	266	G
32	1a	267	C
32	1a	289	G
32	1a	293	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	1a	306	G
32	1a	321	A
32	1a	328	C
32	1a	332	G
32	1a	342	C
32	1a	346	G
32	1a	347	G
32	1a	348	G
32	1a	352	C
32	1a	353	A
32	1a	354	G
32	1a	367	U
32	1a	372	C
32	1a	373	A
32	1a	381	C
32	1a	384	G
32	1a	397	A
32	1a	398	C
32	1a	406	G
32	1a	412	A
32	1a	423	G
32	1a	424	G
32	1a	429	U
32	1a	439	A
32	1a	452	A
32	1a	461	A
32	1a	470	C
32	1a	485	G
32	1a	495	A
32	1a	496	A
32	1a	498	U
32	1a	505	G
32	1a	509	A
32	1a	510	A
32	1a	511	C
32	1a	518	C
32	1a	531	U
32	1a	532	A
32	1a	547	A
32	1a	559	A
32	1a	561	U
32	1a	564	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	1a	572	A
32	1a	573	A
32	1a	574	A
32	1a	576	G
32	1a	577	G
32	1a	584	G
32	1a	596	C
32	1a	630	G
32	1a	653	A
32	1a	662	G
32	1a	665	A
32	1a	687	A
32	1a	688	G
32	1a	702	A
32	1a	723	U
32	1a	731	G
32	1a	749	C
32	1a	755	G
32	1a	777	A
32	1a	793	U
32	1a	794	A
32	1a	816	A
32	1a	817	C
32	1a	821	G
32	1a	828	A
32	1a	840	C
32	1a	841	U
32	1a	851	G
32	1a	853	G
32	1a	859	A
32	1a	885	G
32	1a	902	G
32	1a	914	A
32	1a	916	G
32	1a	926	G
32	1a	927	G
32	1a	931	C
32	1a	932	C
32	1a	934	C
32	1a	960	U
32	1a	961	U
32	1a	967	5MC

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	1a	968	A
32	1a	969	A
32	1a	971	G
32	1a	972	C
32	1a	974	A
32	1a	975	A
32	1a	976	G
32	1a	977	A
32	1a	982	U
32	1a	983	A
32	1a	992	U
32	1a	993	G
32	1a	997	U
32	1a	1000	U
32	1a	1002	G
32	1a	1003	G
32	1a	1005	A
32	1a	1006	C
32	1a	1009	G
32	1a	1020	U
32	1a	1021	G
32	1a	1022	G
32	1a	1023	G
32	1a	1024	G
32	1a	1025	U
32	1a	1026	G
32	1a	1030	C
32	1a	1030(A)	G
32	1a	1030(C)	G
32	1a	1031	G
32	1a	1033	G
32	1a	1035	A
32	1a	1037	C
32	1a	1039	C
32	1a	1043	C
32	1a	1045	C
32	1a	1053	G
32	1a	1054	C
32	1a	1065	U
32	1a	1066	C
32	1a	1068	G
32	1a	1081	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	1a	1095	U
32	1a	1101	A
32	1a	1108	G
32	1a	1122	U
32	1a	1123	A
32	1a	1125	U
32	1a	1128	C
32	1a	1134	G
32	1a	1136	U
32	1a	1137	C
32	1a	1139	G
32	1a	1141	C
32	1a	1146	A
32	1a	1152	A
32	1a	1157	A
32	1a	1159	U
32	1a	1166	G
32	1a	1172	C
32	1a	1183	A
32	1a	1184	G
32	1a	1196	U
32	1a	1197	G
32	1a	1198	G
32	1a	1202	G
32	1a	1213	A
32	1a	1225	A
32	1a	1227	A
32	1a	1236	A
32	1a	1238	A
32	1a	1241	G
32	1a	1248	A
32	1a	1256	A
32	1a	1257	U
32	1a	1260	C
32	1a	1270	C
32	1a	1273	G
32	1a	1278	U
32	1a	1279	A
32	1a	1280	A
32	1a	1286	A
32	1a	1287	A
32	1a	1299	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	1a	1300	G
32	1a	1302	U
32	1a	1305	G
32	1a	1345	U
32	1a	1346	A
32	1a	1347	G
32	1a	1353	G
32	1a	1363	C
32	1a	1363(A)	A
32	1a	1364	U
32	1a	1370	G
32	1a	1397	C
32	1a	1398	A
32	1a	1399	C
32	1a	1401	G
32	1a	1419	G
32	1a	1442	G
32	1a	1442(A)	G
32	1a	1442(B)	A
32	1a	1446	U
32	1a	1447	A
32	1a	1452	C
32	1a	1487	G
32	1a	1492	A
32	1a	1494	G
32	1a	1497	G
32	1a	1499	A
32	1a	1503	A
32	1a	1504	G
32	1a	1506	U
32	1a	1517	G
32	1a	1520	G
32	1a	1529	G
32	1a	1530	G
32	1a	1532	U
54	1w	75	C
55	1x	9	G
55	1x	21	A
55	1x	47	U
55	1x	61	C
55	1x	69	C
55	1x	76	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	12	U
1	2A	14	A
1	2A	15	G
1	2A	34	C
1	2A	35	G
1	2A	45	C
1	2A	71	A
1	2A	74	A
1	2A	75	G
1	2A	84	A
1	2A	90	U
1	2A	100	G
1	2A	102	G
1	2A	118	A
1	2A	120	U
1	2A	125	G
1	2A	128	C
1	2A	154(A)	C
1	2A	157	U
1	2A	173	G
1	2A	181	A
1	2A	196	A
1	2A	204	A
1	2A	205	G
1	2A	214	G
1	2A	216	A
1	2A	221	A
1	2A	222	A
1	2A	225	A
1	2A	228	A
1	2A	229	A
1	2A	233	A
1	2A	248	G
1	2A	271(J)	C
1	2A	271(K)	U
1	2A	271(L)	U
1	2A	271(M)	G
1	2A	271(N)	U
1	2A	271(O)	C
1	2A	272(B)	G
1	2A	272(I)	U
1	2A	272(J)	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	277	C
1	2A	278	A
1	2A	294	A
1	2A	303	U
1	2A	311	A
1	2A	329	G
1	2A	330	A
1	2A	352	G
1	2A	362	U
1	2A	363	G
1	2A	363(B)	G
1	2A	363(D)	G
1	2A	386	G
1	2A	396	G
1	2A	405	U
1	2A	406	G
1	2A	411	G
1	2A	412	A
1	2A	444	C
1	2A	451	C
1	2A	454	A
1	2A	456	C
1	2A	457	A
1	2A	467	G
1	2A	481	G
1	2A	494	G
1	2A	504	U
1	2A	505	A
1	2A	507	A
1	2A	508	G
1	2A	509	C
1	2A	527	C
1	2A	528	A
1	2A	529	A
1	2A	530	G
1	2A	531	C
1	2A	532	A
1	2A	533	G
1	2A	545	G
1	2A	563	G
1	2A	568	U
1	2A	573	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	574	C
1	2A	575	A
1	2A	599	G
1	2A	603	A
1	2A	604	G
1	2A	607	U
1	2A	614(B)	G
1	2A	615	G
1	2A	616	G
1	2A	621	A
1	2A	627	A
1	2A	634	C
1	2A	637	A
1	2A	645	C
1	2A	646	A
1	2A	652(B)	A
1	2A	652(C)	G
1	2A	652(U)	G
1	2A	669	G
1	2A	686	G
1	2A	717	G
1	2A	730	C
1	2A	753	C
1	2A	775	G
1	2A	776	G
1	2A	782	A
1	2A	784	A
1	2A	785	G
1	2A	805	G
1	2A	812	C
1	2A	819	A
1	2A	825	C
1	2A	827	U
1	2A	857	C
1	2A	859	G
1	2A	866	A
1	2A	869	G
1	2A	872	A
1	2A	874	G
1	2A	875	G
1	2A	879	G
1	2A	880	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	884	C
1	2A	886	C
1	2A	887	A
1	2A	888	C
1	2A	889	C
1	2A	890	A
1	2A	893	C
1	2A	894	C
1	2A	896	A
1	2A	900	A
1	2A	901	A
1	2A	907	U
1	2A	910	A
1	2A	915	C
1	2A	917	A
1	2A	932	G
1	2A	941	A
1	2A	945	A
1	2A	946	G
1	2A	953	A
1	2A	958	U
1	2A	959	A
1	2A	961	C
1	2A	973	A
1	2A	974	G
1	2A	975	C
1	2A	983	A
1	2A	996	A
1	2A	997	G
1	2A	1005	C
1	2A	1012	U
1	2A	1013	C
1	2A	1021	A
1	2A	1022	G
1	2A	1023	U
1	2A	1025	G
1	2A	1027	A
1	2A	1033	U
1	2A	1038	C
1	2A	1039	G
1	2A	1043	C
1	2A	1116	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	1126	A
1	2A	1129	A
1	2A	1130	U
1	2A	1135	C
1	2A	1136	G
1	2A	1139	G
1	2A	1142	U
1	2A	1143	A
1	2A	1144	G
1	2A	1171	G
1	2A	1205	U
1	2A	1211	U
1	2A	1212	G
1	2A	1218	C
1	2A	1220	A
1	2A	1244	G
1	2A	1248	G
1	2A	1253	A
1	2A	1255	U
1	2A	1256	G
1	2A	1271	G
1	2A	1272	A
1	2A	1273	U
1	2A	1274	A
1	2A	1300	U
1	2A	1301	A
1	2A	1302	A
1	2A	1313	U
1	2A	1314	C
1	2A	1341	U
1	2A	1352	U
1	2A	1359	A
1	2A	1360	A
1	2A	1365	A
1	2A	1368	G
1	2A	1370	C
1	2A	1378	A
1	2A	1379	A
1	2A	1384	A
1	2A	1385	G
1	2A	1394	U
1	2A	1411	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	1416	G
1	2A	1417	C
1	2A	1421	G
1	2A	1427	A
1	2A	1428	C
1	2A	1437	C
1	2A	1445	A
1	2A	1449	A
1	2A	1450	G
1	2A	1455	G
1	2A	1460	A
1	2A	1467	C
1	2A	1471	A
1	2A	1482	G
1	2A	1490	A
1	2A	1493	C
1	2A	1495	A
1	2A	1496	A
1	2A	1497	U
1	2A	1508	A
1	2A	1509	C
1	2A	1509(A)	A
1	2A	1531	C
1	2A	1532	C
1	2A	1533	G
1	2A	1543	C
1	2A	1547	C
1	2A	1558	A
1	2A	1569	A
1	2A	1578	U
1	2A	1580	A
1	2A	1584	C
1	2A	1586	A
1	2A	1603	A
1	2A	1608	A
1	2A	1609	A
1	2A	1610	A
1	2A	1616	A
1	2A	1646	C
1	2A	1648	C
1	2A	1654	A
1	2A	1664	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	1674	G
1	2A	1695	G
1	2A	1696	G
1	2A	1700	A
1	2A	1701	A
1	2A	1703	G
1	2A	1721	G
1	2A	1722	A
1	2A	1740	G
1	2A	1746	G
1	2A	1756	G
1	2A	1762	A
1	2A	1763	G
1	2A	1764	G
1	2A	1773	A
1	2A	1780	A
1	2A	1781	C
1	2A	1791	A
1	2A	1800	C
1	2A	1801	G
1	2A	1815	A
1	2A	1816	G
1	2A	1829	A
1	2A	1835	G
1	2A	1847	A
1	2A	1848	A
1	2A	1866	C
1	2A	1877	A
1	2A	1878	G
1	2A	1889	A
1	2A	1900	A
1	2A	1906	G
1	2A	1913	A
1	2A	1914	C
1	2A	1929	G
1	2A	1930	G
1	2A	1938	A
1	2A	1941	C
1	2A	1955	U
1	2A	1963	U
1	2A	1967	C
1	2A	1970	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	1971	A
1	2A	1972	A
1	2A	1993	U
1	2A	1997	G
1	2A	2023	G
1	2A	2027	G
1	2A	2030	A
1	2A	2031	A
1	2A	2033	A
1	2A	2043	C
1	2A	2053	G
1	2A	2055	C
1	2A	2056	G
1	2A	2057	A
1	2A	2060	A
1	2A	2061	G
1	2A	2062	A
1	2A	2069	G
1	2A	2093	G
1	2A	2096	U
1	2A	2101	G
1	2A	2105	C
1	2A	2111	C
1	2A	2112	G
1	2A	2115	G
1	2A	2116	G
1	2A	2120	G
1	2A	2122	U
1	2A	2126	A
1	2A	2127	G
1	2A	2129	C
1	2A	2131	G
1	2A	2132	U
1	2A	2133	G
1	2A	2134	A
1	2A	2135	A
1	2A	2136	C
1	2A	2138	C
1	2A	2140	C
1	2A	2142	C
1	2A	2146	C
1	2A	2150	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	2155	G
1	2A	2156	G
1	2A	2157	G
1	2A	2158	A
1	2A	2161	C
1	2A	2166	G
1	2A	2167	U
1	2A	2168	G
1	2A	2172	U
1	2A	2174	C
1	2A	2178	C
1	2A	2183	C
1	2A	2189	U
1	2A	2192	G
1	2A	2198	A
1	2A	2199	A
1	2A	2206	G
1	2A	2207	G
1	2A	2208	A
1	2A	2218	U
1	2A	2219	G
1	2A	2225	A
1	2A	2238	G
1	2A	2239	G
1	2A	2268	A
1	2A	2275	C
1	2A	2279	G
1	2A	2283	C
1	2A	2287	A
1	2A	2305	A
1	2A	2308	G
1	2A	2319	G
1	2A	2320	A
1	2A	2325	G
1	2A	2334	G
1	2A	2336	A
1	2A	2347	C
1	2A	2350	C
1	2A	2352	A
1	2A	2376	A
1	2A	2383	G
1	2A	2385	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	2402	C
1	2A	2403	C
1	2A	2406	U
1	2A	2424	C
1	2A	2425	A
1	2A	2428	G
1	2A	2429	G
1	2A	2430	A
1	2A	2431	U
1	2A	2435	A
1	2A	2439	A
1	2A	2441	C
1	2A	2447	G
1	2A	2448	A
1	2A	2465	C
1	2A	2468	G
1	2A	2469	A
1	2A	2474	C
1	2A	2476	A
1	2A	2478	A
1	2A	2491	U
1	2A	2502	G
1	2A	2504	U
1	2A	2505	G
1	2A	2518	A
1	2A	2520	C
1	2A	2554	U
1	2A	2566	A
1	2A	2567	G
1	2A	2572	A
1	2A	2573	C
1	2A	2602	A
1	2A	2612	C
1	2A	2630	G
1	2A	2634	G
1	2A	2654	A
1	2A	2689	U
1	2A	2690	C
1	2A	2691	C
1	2A	2712(A)	A
1	2A	2713	A
1	2A	2714	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	2A	2726	U
1	2A	2733	A
1	2A	2744	G
1	2A	2748	A
1	2A	2751	G
1	2A	2757	A
1	2A	2758	A
1	2A	2765	A
1	2A	2766	G
1	2A	2778	A
1	2A	2789	C
1	2A	2807	G
1	2A	2818	G
1	2A	2820	A
1	2A	2821	A
1	2A	2823	A
1	2A	2836	U
1	2A	2848	G
1	2A	2872	G
1	2A	2879	C
1	2A	2880	C
1	2A	2894	G
1	2A	2897	U
2	2B	2	C
2	2B	12	C
2	2B	13	A
2	2B	30	C
2	2B	35	U
2	2B	41	U
2	2B	44	G
2	2B	67	G
2	2B	73	A
2	2B	85	G
2	2B	100	A
2	2B	110	G
32	2a	6	G
32	2a	9	G
32	2a	22	G
32	2a	32	A
32	2a	39	G
32	2a	47	C
32	2a	48	C

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	51	A
32	2a	66	G
32	2a	73	G
32	2a	80	G
32	2a	88	A
32	2a	89	C
32	2a	101	A
32	2a	116	A
32	2a	120	A
32	2a	121	C
32	2a	129(A)	G
32	2a	131	C
32	2a	163	C
32	2a	174	C
32	2a	182	U
32	2a	189(F)	U
32	2a	195	A
32	2a	197	A
32	2a	201	C
32	2a	202	U
32	2a	204	U
32	2a	216	G
32	2a	217	C
32	2a	220	G
32	2a	247	G
32	2a	251	G
32	2a	258	G
32	2a	266	G
32	2a	267	C
32	2a	280	C
32	2a	281	G
32	2a	289	G
32	2a	298	A
32	2a	318	G
32	2a	328	C
32	2a	330	C
32	2a	332	G
32	2a	351	G
32	2a	352	C
32	2a	353	A
32	2a	354	G
32	2a	367	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	372	C
32	2a	373	A
32	2a	397	A
32	2a	398	C
32	2a	406	G
32	2a	412	A
32	2a	413	G
32	2a	414	A
32	2a	421	U
32	2a	423	G
32	2a	424	G
32	2a	429	U
32	2a	442	C
32	2a	452	A
32	2a	461	A
32	2a	470	C
32	2a	471	G
32	2a	485	G
32	2a	496	A
32	2a	498	U
32	2a	509	A
32	2a	510	A
32	2a	511	C
32	2a	518	C
32	2a	531	U
32	2a	532	A
32	2a	533	A
32	2a	547	A
32	2a	559	A
32	2a	561	U
32	2a	562	C
32	2a	564	C
32	2a	568	G
32	2a	572	A
32	2a	573	A
32	2a	576	G
32	2a	577	G
32	2a	596	C
32	2a	630	G
32	2a	653	A
32	2a	665	A
32	2a	666	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	687	A
32	2a	688	G
32	2a	702	A
32	2a	703	G
32	2a	723	U
32	2a	724	G
32	2a	731	G
32	2a	749	C
32	2a	755	G
32	2a	777	A
32	2a	793	U
32	2a	794	A
32	2a	816	A
32	2a	817	C
32	2a	821	G
32	2a	828	A
32	2a	840	C
32	2a	841	U
32	2a	848	C
32	2a	851	G
32	2a	859	A
32	2a	873	A
32	2a	902	G
32	2a	914	A
32	2a	926	G
32	2a	927	G
32	2a	934	C
32	2a	935	A
32	2a	960	U
32	2a	961	U
32	2a	968	A
32	2a	969	A
32	2a	971	G
32	2a	972	C
32	2a	974	A
32	2a	975	A
32	2a	976	G
32	2a	977	A
32	2a	989	C
32	2a	992	U
32	2a	993	G
32	2a	997	U

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	1001(A)	G
32	2a	1002	G
32	2a	1003	G
32	2a	1005	A
32	2a	1006	C
32	2a	1009	G
32	2a	1011	G
32	2a	1020	U
32	2a	1022	G
32	2a	1024	G
32	2a	1025	U
32	2a	1026	G
32	2a	1027	C
32	2a	1029	C
32	2a	1030(A)	G
32	2a	1031	G
32	2a	1033	G
32	2a	1038	C
32	2a	1039	C
32	2a	1040	U
32	2a	1051	C
32	2a	1053	G
32	2a	1065	U
32	2a	1066	C
32	2a	1068	G
32	2a	1077	G
32	2a	1081	G
32	2a	1094	G
32	2a	1095	U
32	2a	1101	A
32	2a	1108	G
32	2a	1117	G
32	2a	1122	U
32	2a	1125	U
32	2a	1129	C
32	2a	1130	A
32	2a	1136	U
32	2a	1137	C
32	2a	1138	G
32	2a	1139	G
32	2a	1140	C
32	2a	1146	A

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	1152	A
32	2a	1157	A
32	2a	1159	U
32	2a	1172	C
32	2a	1182	G
32	2a	1184	G
32	2a	1196	U
32	2a	1197	G
32	2a	1202	G
32	2a	1211	U
32	2a	1212	U
32	2a	1213	A
32	2a	1227	A
32	2a	1238	A
32	2a	1241	G
32	2a	1256	A
32	2a	1257	U
32	2a	1260	C
32	2a	1270	C
32	2a	1272	G
32	2a	1275	A
32	2a	1278	U
32	2a	1279	A
32	2a	1280	A
32	2a	1287	A
32	2a	1301	U
32	2a	1302	U
32	2a	1305	G
32	2a	1320	C
32	2a	1322	C
32	2a	1340	A
32	2a	1346	A
32	2a	1347	G
32	2a	1359	C
32	2a	1363	C
32	2a	1363(A)	A
32	2a	1398	A
32	2a	1399	C
32	2a	1400	5MC
32	2a	1401	G
32	2a	1419	G
32	2a	1442	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	2a	1442(A)	G
32	2a	1447	A
32	2a	1452	C
32	2a	1457	G
32	2a	1492	A
32	2a	1494	G
32	2a	1503	A
32	2a	1504	G
32	2a	1506	U
32	2a	1517	G
32	2a	1520	G
32	2a	1529	G
32	2a	1530	G
32	2a	1532	U
54	2w	75	C
55	2x	9	G
55	2x	21	A
55	2x	47	U
55	2x	48	C
55	2x	59	A
55	2x	69	C
55	2x	76	A

All (51) RNA pucker outliers are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	1A	69	G
1	1A	115	G
1	1A	302	A
1	1A	509	A
1	1A	572	A
1	1A	913	A
1	1A	941	U
1	1A	1065	U
1	1A	1067	A
1	1A	1093	G
1	1A	1097	G
1	1A	1201	A
1	1A	1219	A
1	1A	1220	U
1	1A	1221	G
1	1A	1255	A

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Mol	Chain	Res	Type
1	1A	1466	U
1	1A	1554	A
1	1A	1700	G
1	1A	2014	G
1	1A	2156	A
1	1A	2203	G
1	1A	2205	C
1	1A	2418	U
1	1A	2485	U
1	1A	2641	A
1	1A	2701	U
1	1A	2769	U
2	1B	1	U
1	2A	195	A
1	2A	228	A
1	2A	266	G
1	2A	271(M)	G
1	2A	277	C
1	2A	528	A
1	2A	752	A
1	2A	856	C
1	2A	900	A
1	2A	1026	U
1	2A	1210	A
1	2A	1442	G
1	2A	1530	C
1	2A	1653	G
1	2A	1913	A
1	2A	1992	G
1	2A	2119	A
1	2A	2126	A
1	2A	2351	G
1	2A	2689	U
1	2A	2756	U
2	2B	1	U

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

58 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
1	5MC	1A	1984	1	19,22,23	1.66	3 (15%)	26,32,35	1.29	5 (19%)
55	5MC	1x	32	55	19,22,23	1.65	3 (15%)	26,32,35	1.23	3 (11%)
32	7MG	1a	527	32	23,26,27	1.35	3 (13%)	27,39,42	2.54	5 (18%)
43	0TD	1l	92	43	8,9,10	4.37	1 (12%)	6,11,13	7.53	2 (33%)
32	UR3	2a	1498	32	19,22,23	1.01	2 (10%)	26,32,35	1.67	4 (15%)
32	PSU	1a	516	56,32	18,21,22	1.41	2 (11%)	21,30,33	1.92	4 (19%)
32	MA6	1a	1519	32	19,26,27	1.06	1 (5%)	18,38,41	2.20	7 (38%)
32	5MC	2a	1404	32	19,22,23	1.74	3 (15%)	26,32,35	1.09	3 (11%)
54	PPU	2w	76	1,56,54	33,40,41	0.96	1 (3%)	33,57,60	1.84	9 (27%)
1	2MU	1A	2564	1	19,22,24	1.29	3 (15%)	25,31,36	1.78	5 (20%)
32	UR3	1a	1498	32	19,22,23	1.04	1 (5%)	26,32,35	1.72	4 (15%)
1	4OC	1A	1942	1	19,22,24	0.78	0	25,31,35	0.98	1 (4%)
1	PSU	2A	1911	1	18,21,22	1.40	2 (11%)	21,30,33	2.02	3 (14%)
1	2MA	2A	2503	1,56	17,25,26	1.06	1 (5%)	16,37,40	1.32	2 (12%)
32	4OC	2a	1402	32	20,23,24	0.79	0	25,32,35	0.90	1 (4%)
55	4SU	1x	8	55	18,21,22	1.96	5 (27%)	25,30,33	1.86	6 (24%)
1	5MU	2A	1939	1	19,22,23	1.34	4 (21%)	27,32,35	2.16	6 (22%)
1	OMG	1A	2263	1,55	19,26,27	0.97	1 (5%)	21,38,41	1.02	1 (4%)
32	M2G	1a	966	32	20,27,28	1.36	3 (15%)	19,40,43	1.03	2 (10%)
32	MA6	2a	1518	32	19,26,27	1.08	2 (10%)	18,38,41	2.34	7 (38%)
32	5MC	1a	1407	32	19,22,23	1.71	2 (10%)	26,32,35	1.21	3 (11%)
1	2MU	2A	2552	1	19,22,24	1.28	2 (10%)	25,31,36	1.90	5 (20%)
1	OMG	2A	2251	1,55	19,26,27	0.96	1 (5%)	21,38,41	0.98	1 (4%)
32	5MC	2a	967	32	19,22,23	1.73	2 (10%)	26,32,35	1.06	2 (7%)
1	2MA	1A	2515	1,56	17,25,26	1.05	1 (5%)	16,37,40	1.21	3 (18%)
32	2MG	2a	1207	32	18,26,27	0.83	0	16,38,41	1.39	4 (25%)
1	5MC	2A	1942	1	19,22,23	1.61	3 (15%)	26,32,35	1.16	3 (11%)
1	4OC	2A	1920	1	19,22,24	0.80	0	25,31,35	0.86	0
55	PSU	1x	55	55	18,21,22	1.35	2 (11%)	21,30,33	2.06	5 (23%)
32	5MC	1a	1404	32	19,22,23	1.63	3 (15%)	26,32,35	1.11	2 (7%)
32	4OC	1a	1402	32	20,23,24	0.76	0	25,32,35	0.82	1 (4%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
1	PSU	1A	2617	1	18,21,22	1.40	2 (11%)	21,30,33	2.03	4 (19%)
32	5MC	2a	1400	32	19,22,23	1.75	3 (15%)	26,32,35	1.08	2 (7%)
55	5MU	1x	54	55	19,22,23	1.43	6 (31%)	27,32,35	1.90	6 (22%)
32	M2G	2a	966	32	20,27,28	1.38	3 (15%)	19,40,43	0.96	1 (5%)
55	4SU	2x	8	55	18,21,22	2.07	6 (33%)	25,30,33	1.63	5 (20%)
32	5MC	2a	1407	32	19,22,23	1.66	3 (15%)	26,32,35	1.16	3 (11%)
1	PSU	1A	1933	1	18,21,22	1.38	2 (11%)	21,30,33	1.98	3 (14%)
1	PSU	2A	2605	1	18,21,22	1.35	3 (16%)	21,30,33	1.94	5 (23%)
32	5MC	1a	1400	32	19,22,23	1.68	3 (15%)	26,32,35	1.11	3 (11%)
32	5MC	1a	967	32	19,22,23	1.66	2 (10%)	26,32,35	1.12	3 (11%)
54	PPU	1w	76	1,54	33,40,41	0.92	1 (3%)	33,57,60	1.93	9 (27%)
32	7MG	2a	527	32	23,26,27	1.35	3 (13%)	27,39,42	2.64	7 (25%)
1	PSU	1A	1939	1	18,21,22	1.40	2 (11%)	21,30,33	1.97	3 (14%)
32	2MG	1a	1207	32	18,26,27	0.87	1 (5%)	16,38,41	1.23	1 (6%)
1	PSU	2A	1917	1	18,21,22	1.43	3 (16%)	21,30,33	2.06	5 (23%)
32	MA6	1a	1518	32	19,26,27	1.05	1 (5%)	18,38,41	2.23	6 (33%)
55	5MU	2x	54	55	19,22,23	1.37	5 (26%)	27,32,35	2.07	6 (22%)
1	5MC	2A	1962	1	19,22,23	1.50	3 (15%)	26,32,35	1.25	4 (15%)
1	5MU	2A	1915	1	19,22,23	1.38	5 (26%)	27,32,35	2.06	6 (22%)
1	5MU	1A	1961	1	19,22,23	1.41	5 (26%)	27,32,35	2.31	6 (22%)
43	0TD	2l	92	43	8,9,10	4.41	1 (12%)	6,11,13	7.99	2 (33%)
1	5MC	1A	1964	1	19,22,23	1.61	3 (15%)	26,32,35	1.06	3 (11%)
32	PSU	2a	516	32	18,21,22	1.36	2 (11%)	21,30,33	1.95	4 (19%)
32	MA6	2a	1519	32	19,26,27	1.09	2 (10%)	18,38,41	2.26	6 (33%)
55	5MC	2x	32	55	19,22,23	1.61	3 (15%)	26,32,35	1.17	3 (11%)
55	PSU	2x	55	55	18,21,22	1.38	2 (11%)	21,30,33	2.12	4 (19%)
1	5MU	1A	1937	1	19,22,23	1.46	4 (21%)	27,32,35	2.02	6 (22%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
1	5MC	1A	1984	1	-	0/7/25/26	0/2/2/2
55	5MC	1x	32	55	-	0/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	7MG	1a	527	32	-	0/7/37/38	0/3/3/3
43	0TD	1l	92	43	-	1/7/12/14	-
32	UR3	2a	1498	32	-	0/7/25/26	0/2/2/2
32	PSU	1a	516	56,32	-	2/7/25/26	0/2/2/2
32	MA6	1a	1519	32	-	3/7/29/30	0/3/3/3
32	5MC	2a	1404	32	-	0/7/25/26	0/2/2/2
54	PPU	2w	76	1,56,54	-	4/21/43/44	0/4/4/4
1	2MU	1A	2564	1	-	0/9/27/28	0/2/2/2
32	UR3	1a	1498	32	-	0/7/25/26	0/2/2/2
1	4OC	1A	1942	1	-	1/9/27/30	0/2/2/2
1	PSU	2A	1911	1	-	0/7/25/26	0/2/2/2
1	2MA	2A	2503	1,56	-	1/3/25/26	0/3/3/3
32	4OC	2a	1402	32	-	2/9/29/30	0/2/2/2
55	4SU	1x	8	55	-	0/7/25/26	0/2/2/2
1	5MU	2A	1939	1	-	0/7/25/26	0/2/2/2
1	OMG	1A	2263	1,55	-	0/5/27/28	0/3/3/3
32	M2G	1a	966	32	-	0/7/29/30	0/3/3/3
32	MA6	2a	1518	32	-	0/7/29/30	0/3/3/3
32	5MC	1a	1407	32	-	0/7/25/26	0/2/2/2
1	2MU	2A	2552	1	-	0/9/27/28	0/2/2/2
1	OMG	2A	2251	1,55	-	0/5/27/28	0/3/3/3
32	5MC	2a	967	32	-	0/7/25/26	0/2/2/2
1	2MA	1A	2515	1,56	-	0/3/25/26	0/3/3/3
32	2MG	2a	1207	32	-	0/5/27/28	0/3/3/3
1	5MC	2A	1942	1	-	0/7/25/26	0/2/2/2
1	4OC	2A	1920	1	-	0/9/27/30	0/2/2/2
55	PSU	1x	55	55	-	0/7/25/26	0/2/2/2
32	5MC	1a	1404	32	-	0/7/25/26	0/2/2/2
32	4OC	1a	1402	32	-	2/9/29/30	0/2/2/2
1	PSU	1A	2617	1	-	0/7/25/26	0/2/2/2
32	5MC	2a	1400	32	-	2/7/25/26	0/2/2/2
55	5MU	1x	54	55	-	0/7/25/26	0/2/2/2
32	M2G	2a	966	32	-	4/7/29/30	0/3/3/3
55	4SU	2x	8	55	-	0/7/25/26	0/2/2/2
32	5MC	2a	1407	32	-	0/7/25/26	0/2/2/2
1	PSU	1A	1933	1	-	0/7/25/26	0/2/2/2
1	PSU	2A	2605	1	-	0/7/25/26	0/2/2/2
32	5MC	1a	1400	32	-	2/7/25/26	0/2/2/2
32	5MC	1a	967	32	-	2/7/25/26	0/2/2/2
54	PPU	1w	76	1,54	-	4/21/43/44	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
32	7MG	2a	527	32	-	0/7/37/38	0/3/3/3
1	PSU	1A	1939	1	-	0/7/25/26	0/2/2/2
32	2MG	1a	1207	32	-	0/5/27/28	0/3/3/3
1	PSU	2A	1917	1	-	0/7/25/26	0/2/2/2
32	MA6	1a	1518	32	-	1/7/29/30	0/3/3/3
55	5MU	2x	54	55	-	0/7/25/26	0/2/2/2
1	5MC	2A	1962	1	-	0/7/25/26	0/2/2/2
1	5MU	2A	1915	1	-	0/7/25/26	0/2/2/2
1	5MU	1A	1961	1	-	0/7/25/26	0/2/2/2
43	0TD	2l	92	43	-	3/7/12/14	-
1	5MC	1A	1964	1	-	0/7/25/26	0/2/2/2
32	PSU	2a	516	32	-	0/7/25/26	0/2/2/2
32	MA6	2a	1519	32	-	3/7/29/30	0/3/3/3
55	5MC	2x	32	55	-	0/7/25/26	0/2/2/2
55	PSU	2x	55	55	-	0/7/25/26	0/2/2/2
1	5MU	1A	1937	1	-	0/7/25/26	0/2/2/2

All (136) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
43	2l	92	0TD	CB-SB	-12.17	1.70	1.82
43	1l	92	0TD	CB-SB	-12.03	1.70	1.82
32	2a	1400	5MC	C5-C4	6.46	1.49	1.44
32	2a	1404	5MC	C5-C4	6.41	1.49	1.44
32	2a	967	5MC	C5-C4	6.29	1.48	1.44
32	1a	1407	5MC	C5-C4	6.15	1.48	1.44
32	1a	1400	5MC	C5-C4	6.13	1.48	1.44
1	1A	1984	5MC	C5-C4	5.98	1.48	1.44
32	2a	1407	5MC	C5-C4	5.91	1.48	1.44
55	1x	32	5MC	C5-C4	5.89	1.48	1.44
32	1a	967	5MC	C5-C4	5.88	1.48	1.44
32	1a	1404	5MC	C5-C4	5.87	1.48	1.44
1	1A	1964	5MC	C5-C4	5.76	1.48	1.44
55	2x	32	5MC	C5-C4	5.75	1.48	1.44
1	2A	1942	5MC	C5-C4	5.72	1.48	1.44
1	2A	1962	5MC	C5-C4	5.20	1.48	1.44
55	1x	8	4SU	C4-S4	-5.05	1.59	1.68
55	2x	8	4SU	C4-S4	-4.85	1.60	1.68
55	2x	8	4SU	C4-N3	-4.32	1.33	1.37
32	1a	966	M2G	C2-N3	4.10	1.36	1.30
32	2a	966	M2G	C2-N3	4.08	1.36	1.30
1	2A	1911	PSU	C6-C5	3.76	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
55	2x	55	PSU	C6-C5	3.65	1.39	1.35
32	1a	516	PSU	C6-C5	3.60	1.39	1.35
1	2A	1917	PSU	C6-C5	3.59	1.39	1.35
55	1x	8	4SU	C4-N3	-3.59	1.33	1.37
1	1A	1939	PSU	C6-C5	3.57	1.39	1.35
32	2a	527	7MG	C4-N9	-3.57	1.33	1.37
1	1A	2617	PSU	C6-C5	3.49	1.39	1.35
32	2a	516	PSU	C6-C5	3.48	1.39	1.35
55	1x	8	4SU	C5-C4	-3.45	1.38	1.42
55	1x	55	PSU	C6-C5	3.39	1.39	1.35
32	1a	527	7MG	C5-C4	3.36	1.48	1.37
1	2A	2605	PSU	C6-C5	3.34	1.39	1.35
1	1A	1933	PSU	C6-C5	3.25	1.38	1.35
32	2a	527	7MG	C5-C4	3.19	1.47	1.37
55	2x	8	4SU	C5-C4	-3.19	1.38	1.42
32	1a	966	M2G	C2-N2	3.11	1.40	1.35
32	1a	967	5MC	C6-C5	3.04	1.39	1.34
32	1a	1407	5MC	C6-C5	3.03	1.39	1.34
55	1x	32	5MC	C6-C5	3.02	1.39	1.34
55	2x	8	4SU	C2-N3	-3.02	1.32	1.38
32	2a	967	5MC	C6-C5	2.99	1.39	1.34
1	2A	2552	2MU	C4-N3	-2.96	1.33	1.38
32	2a	1407	5MC	C6-C5	2.93	1.39	1.34
1	1A	1937	5MU	C6-C5	2.89	1.39	1.34
32	1a	527	7MG	C4-N9	-2.89	1.34	1.37
54	2w	76	PPU	C6-C5	2.84	1.49	1.44
55	2x	32	5MC	C6-C5	2.84	1.39	1.34
1	2A	1939	5MU	C6-C5	2.84	1.39	1.34
1	1A	1961	5MU	C4-N3	-2.82	1.33	1.38
1	1A	2564	2MU	C4-N3	-2.82	1.33	1.38
1	2A	1915	5MU	C6-C5	2.82	1.39	1.34
1	2A	1942	5MC	C6-C5	2.81	1.39	1.34
32	2a	1404	5MC	C6-C5	2.80	1.39	1.34
1	2A	1917	PSU	C4-N3	-2.80	1.33	1.38
32	2a	966	M2G	C2-N2	2.78	1.40	1.35
1	1A	1964	5MC	C6-C5	2.76	1.39	1.34
1	1A	2263	OMG	C6-N1	-2.76	1.33	1.37
1	1A	1937	5MU	C2-N1	2.75	1.42	1.38
32	1a	1404	5MC	C6-C5	2.72	1.39	1.34
55	1x	54	5MU	C6-C5	2.71	1.39	1.34
55	2x	55	PSU	C4-N3	-2.71	1.33	1.38
1	1A	2617	PSU	C4-N3	-2.69	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	2a	1400	5MC	C6-C5	2.69	1.39	1.34
32	1a	1400	5MC	C6-C5	2.68	1.39	1.34
1	1A	1984	5MC	C6-N1	-2.68	1.33	1.38
55	1x	55	PSU	C4-N3	-2.67	1.33	1.38
55	2x	54	5MU	C6-C5	2.66	1.39	1.34
32	1a	1518	MA6	C6-C5	2.66	1.48	1.44
1	1A	1937	5MU	C4-C5	2.62	1.49	1.44
1	2A	2605	PSU	C4-N3	-2.60	1.34	1.38
55	1x	54	5MU	C4-N3	-2.60	1.34	1.38
1	1A	1961	5MU	C6-C5	2.59	1.38	1.34
32	1a	1519	MA6	C6-C5	2.57	1.48	1.44
1	2A	2251	OMG	C6-N1	-2.55	1.33	1.37
1	1A	1937	5MU	C4-N3	-2.55	1.34	1.38
32	1a	527	7MG	C6-N1	-2.54	1.34	1.38
1	1A	1933	PSU	C4-N3	-2.51	1.34	1.38
32	2a	1518	MA6	C6-C5	2.51	1.48	1.44
1	2A	1962	5MC	C6-C5	2.49	1.38	1.34
1	1A	1961	5MU	C6-N1	-2.48	1.33	1.38
1	2A	1962	5MC	C6-N1	-2.47	1.33	1.38
55	1x	54	5MU	C4-C5	2.46	1.48	1.44
32	2a	966	M2G	C6-N1	-2.45	1.34	1.37
32	2a	516	PSU	C4-N3	-2.43	1.34	1.38
1	1A	1939	PSU	C4-N3	-2.43	1.34	1.38
1	2A	1915	5MU	C4-C5	2.42	1.48	1.44
55	1x	8	4SU	C2-N3	-2.42	1.33	1.38
32	2a	1519	MA6	C6-C5	2.42	1.48	1.44
55	2x	54	5MU	C4-C5	2.41	1.48	1.44
1	1A	1961	5MU	C4-C5	2.37	1.48	1.44
1	2A	1915	5MU	C2-N1	2.37	1.42	1.38
1	2A	1915	5MU	C4-N3	-2.36	1.34	1.38
1	2A	1911	PSU	C4-N3	-2.36	1.34	1.38
55	2x	54	5MU	C4-N3	-2.36	1.34	1.38
55	1x	54	5MU	C6-N1	-2.35	1.34	1.38
1	1A	1984	5MC	C6-C5	2.34	1.38	1.34
32	1a	1498	UR3	C2-N1	2.34	1.41	1.38
55	2x	8	4SU	C2-N1	2.34	1.42	1.38
1	2A	1939	5MU	C4-N3	-2.34	1.34	1.38
32	1a	1207	2MG	C6-N1	-2.33	1.34	1.37
32	1a	516	PSU	C4-N3	-2.32	1.34	1.38
1	1A	1961	5MU	C2-N3	-2.27	1.34	1.38
54	1w	76	PPU	C6-C5	2.26	1.48	1.44
32	2a	527	7MG	C6-N1	-2.25	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	2a	1400	5MC	C6-N1	-2.24	1.34	1.38
32	2a	1518	MA6	C6-N1	2.23	1.35	1.32
55	2x	54	5MU	C2-N1	2.21	1.41	1.38
32	1a	1400	5MC	C6-N1	-2.21	1.34	1.38
32	2a	1407	5MC	C6-N1	-2.21	1.34	1.38
55	2x	54	5MU	C6-N1	-2.20	1.34	1.38
1	1A	2564	2MU	C2-N1	2.20	1.41	1.38
1	1A	2564	2MU	C5-C4	2.19	1.48	1.43
55	1x	54	5MU	C2-N1	2.19	1.41	1.38
32	1a	1404	5MC	C6-N1	-2.16	1.34	1.38
55	1x	54	5MU	C2-N3	-2.16	1.34	1.38
1	2A	1939	5MU	C6-N1	-2.15	1.34	1.38
1	1A	1964	5MC	C6-N1	-2.15	1.34	1.38
1	2A	2605	PSU	C2-N3	-2.13	1.34	1.37
32	2a	1498	UR3	C2-N1	2.13	1.41	1.38
1	1A	2515	2MA	C6-N1	-2.12	1.33	1.37
32	2a	1404	5MC	C6-N1	-2.11	1.34	1.38
1	2A	2552	2MU	C5-C4	2.11	1.48	1.43
1	2A	1942	5MC	C6-N1	-2.10	1.34	1.38
1	2A	1939	5MU	C2-N1	2.10	1.41	1.38
55	1x	32	5MC	C6-N1	-2.09	1.34	1.38
1	2A	2503	2MA	C6-N6	2.09	1.36	1.27
32	2a	1498	UR3	C6-C5	2.08	1.39	1.35
32	2a	1519	MA6	C6-N1	2.08	1.35	1.32
1	2A	1915	5MU	C6-N1	-2.07	1.34	1.38
1	2A	1917	PSU	C2-N3	-2.07	1.34	1.37
55	2x	32	5MC	C6-N1	-2.05	1.34	1.38
55	1x	8	4SU	C2-N1	2.04	1.41	1.38
32	1a	966	M2G	C6-N1	-2.04	1.34	1.37
55	2x	8	4SU	O2-C2	2.03	1.26	1.23

All (225) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
43	2l	92	0TD	CSB-SB-CB	-19.22	67.82	102.36
43	1l	92	0TD	CSB-SB-CB	-18.13	69.78	102.36
32	2a	527	7MG	N9-C4-N3	8.94	138.56	125.46
32	1a	527	7MG	N9-C4-N3	8.73	138.25	125.46
32	1a	1498	UR3	C4-N3-C2	-6.80	119.11	124.58
55	2x	55	PSU	N1-C2-N3	6.67	122.20	115.17
1	2A	1917	PSU	N1-C2-N3	6.64	122.17	115.17
32	2a	1498	UR3	C4-N3-C2	-6.55	119.31	124.58

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	1x	55	PSU	N1-C2-N3	6.38	121.90	115.17
1	1A	2617	PSU	N1-C2-N3	6.28	121.79	115.17
1	1A	1933	PSU	N1-C2-N3	6.27	121.78	115.17
1	2A	1911	PSU	N1-C2-N3	6.27	121.78	115.17
1	1A	1939	PSU	N1-C2-N3	6.15	121.66	115.17
32	2a	1518	MA6	C2-N1-C6	6.06	122.78	116.84
32	2a	516	PSU	N1-C2-N3	5.93	121.43	115.17
32	1a	1518	MA6	C2-N1-C6	5.80	122.53	116.84
1	1A	1961	5MU	C4-N3-C2	-5.77	119.78	127.34
32	1a	516	PSU	N1-C2-N3	5.75	121.23	115.17
32	2a	1519	MA6	C2-N1-C6	5.66	122.39	116.84
1	2A	2605	PSU	N1-C2-N3	5.65	121.13	115.17
32	2a	527	7MG	N9-C8-N7	-5.64	95.39	103.37
32	1a	1519	MA6	C2-N1-C6	5.55	122.29	116.84
32	1a	527	7MG	C5-C4-N3	-5.51	117.78	128.13
1	1A	1961	5MU	N3-C2-N1	5.48	122.03	114.89
1	2A	1939	5MU	O4-C4-C5	-5.28	118.88	124.92
32	2a	527	7MG	C5-C4-N3	-5.17	118.42	128.13
32	1a	527	7MG	N9-C8-N7	-5.16	96.06	103.37
55	1x	8	4SU	C5-C4-N3	5.12	119.51	114.75
1	2A	1939	5MU	C4-N3-C2	-5.09	120.66	127.34
1	2A	2552	2MU	N3-C2-N1	5.09	121.51	114.89
1	1A	1937	5MU	N3-C2-N1	5.03	121.44	114.89
55	2x	54	5MU	C4-N3-C2	-5.01	120.78	127.34
1	1A	2564	2MU	N3-C2-N1	4.95	121.34	114.89
1	2A	1915	5MU	C4-N3-C2	-4.95	120.85	127.34
55	2x	54	5MU	N3-C2-N1	4.79	121.12	114.89
1	2A	1915	5MU	N3-C2-N1	4.76	121.08	114.89
1	1A	1937	5MU	C4-N3-C2	-4.74	121.12	127.34
1	2A	2552	2MU	C4-N3-C2	-4.68	120.81	126.61
54	1w	76	PPU	C2-N1-C6	4.65	121.40	116.84
55	1x	54	5MU	N3-C2-N1	4.63	120.92	114.89
1	1A	1961	5MU	C5-C6-N1	-4.60	118.32	123.31
54	2w	76	PPU	C2-N1-C6	4.57	121.32	116.84
1	2A	1939	5MU	N3-C2-N1	4.56	120.83	114.89
1	1A	1961	5MU	C5-C4-N3	4.54	119.27	115.32
1	2A	1939	5MU	C5-C4-N3	4.48	119.22	115.32
54	1w	76	PPU	C3'-N3'-C	-4.48	116.39	123.20
55	1x	54	5MU	C4-N3-C2	-4.44	121.52	127.34
1	2A	1915	5MU	O4-C4-C5	-4.41	119.87	124.92
1	1A	2564	2MU	C4-N3-C2	-4.38	121.18	126.61
1	2A	1915	5MU	C5-C4-N3	4.37	119.12	115.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	2a	527	7MG	C2-N3-C4	4.34	119.77	112.30
55	1x	55	PSU	C4-N3-C2	-4.34	120.39	126.37
32	1a	527	7MG	C2-N3-C4	4.29	119.69	112.30
1	1A	1937	5MU	C5-C4-N3	4.24	119.01	115.32
55	2x	54	5MU	C5-C4-N3	4.22	118.99	115.32
1	1A	2617	PSU	C4-N3-C2	-4.21	120.57	126.37
55	2x	8	4SU	C5-C4-N3	4.21	118.67	114.75
55	2x	55	PSU	C4-N3-C2	-4.19	120.60	126.37
1	2A	2605	PSU	C4-N3-C2	-4.16	120.64	126.37
1	2A	1917	PSU	C4-N3-C2	-4.15	120.66	126.37
55	2x	54	5MU	O4-C4-C5	-4.11	120.22	124.92
32	2a	1518	MA6	N3-C2-N1	-4.06	123.17	128.67
1	2A	1911	PSU	O2-C2-N1	-4.02	118.64	122.79
1	1A	1933	PSU	O2-C2-N1	-3.99	118.67	122.79
32	1a	1518	MA6	N3-C2-N1	-3.93	123.34	128.67
54	1w	76	PPU	C9-N6-C6	-3.91	108.61	119.40
54	2w	76	PPU	C9-N6-C6	-3.90	108.64	119.40
1	2A	1939	5MU	C5-C6-N1	-3.90	119.08	123.31
32	1a	1518	MA6	C9-N6-C6	-3.90	108.65	119.40
1	1A	1984	5MC	C5-C6-N1	-3.84	119.15	123.31
32	2a	1519	MA6	N1-C6-N6	3.83	121.26	116.83
1	2A	1911	PSU	C4-N3-C2	-3.83	121.10	126.37
55	2x	55	PSU	O2-C2-N1	-3.80	118.88	122.79
32	2a	516	PSU	O2-C2-N1	-3.77	118.90	122.79
1	1A	1939	PSU	O2-C2-N1	-3.76	118.91	122.79
1	1A	1933	PSU	C4-N3-C2	-3.75	121.21	126.37
32	2a	516	PSU	C4-N3-C2	-3.73	121.24	126.37
1	1A	1961	5MU	O4-C4-C5	-3.72	120.66	124.92
1	1A	1939	PSU	C4-N3-C2	-3.71	121.26	126.37
55	1x	8	4SU	C5-C4-S4	-3.68	120.10	124.31
55	1x	54	5MU	C5-C4-N3	3.64	118.49	115.32
32	2a	1407	5MC	C5-C6-N1	-3.64	119.36	123.31
32	1a	1519	MA6	C9-N6-C6	-3.64	109.36	119.40
32	1a	1400	5MC	C5-C6-N1	-3.63	119.37	123.31
32	2a	1518	MA6	C9-N6-C6	-3.62	109.43	119.40
32	1a	516	PSU	C4-N3-C2	-3.59	121.43	126.37
54	1w	76	PPU	N3-C2-N1	-3.58	123.81	128.67
1	2A	1962	5MC	C5-C6-N1	-3.54	119.47	123.31
32	1a	1519	MA6	N3-C2-N1	-3.53	123.88	128.67
1	1A	1961	5MU	O2-C2-N1	-3.53	118.20	122.80
55	1x	8	4SU	C4-N3-C2	-3.49	123.97	127.31
54	2w	76	PPU	N3-C2-N1	-3.48	123.95	128.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	2a	1519	MA6	N3-C2-N1	-3.45	123.98	128.67
32	2a	1519	MA6	C9-N6-C6	-3.44	109.90	119.40
55	2x	8	4SU	C1 <sup>?</sup> -N1-C2	3.42	123.74	117.59
1	1A	1937	5MU	O4-C4-C5	-3.42	121.00	124.92
55	2x	54	5MU	C5-C6-N1	-3.41	119.61	123.31
55	1x	54	5MU	O4-C4-C5	-3.39	121.04	124.92
32	1a	1404	5MC	C5-C6-N1	-3.35	119.67	123.31
32	1a	516	PSU	O2-C2-N1	-3.31	119.37	122.79
55	1x	32	5MC	C5-C6-N1	-3.30	119.72	123.31
55	1x	8	4SU	C1 <sup>?</sup> -N1-C2	3.30	123.52	117.59
54	2w	76	PPU	C4-C5-N7	-3.30	105.85	109.34
32	2a	1400	5MC	C5-C6-N1	-3.30	119.73	123.31
1	2A	1915	5MU	C5-C6-N1	-3.29	119.74	123.31
1	1A	2617	PSU	O2-C2-N1	-3.27	119.42	122.79
55	1x	32	5MC	C5-C4-N3	-3.25	118.42	121.75
32	1a	1518	MA6	C4-C5-N7	-3.25	105.91	109.34
1	1A	1964	5MC	C5-C6-N1	-3.24	119.79	123.31
55	1x	55	PSU	O2-C2-N1	-3.24	119.45	122.79
1	2A	2503	2MA	C4-N3-C2	-3.24	120.81	123.30
32	2a	1404	5MC	C5-C6-N1	-3.23	119.81	123.31
55	2x	32	5MC	C5-C6-N1	-3.22	119.82	123.31
32	1a	1498	UR3	C5-C4-N3	3.18	119.23	115.04
55	1x	54	5MU	C5-C6-N1	-3.16	119.88	123.31
32	1a	1519	MA6	C4-C5-N7	-3.15	106.01	109.34
1	2A	1939	5MU	O2-C2-N1	-3.13	118.72	122.80
54	2w	76	PPU	CG-CB-CA	-3.12	107.74	114.13
1	2A	1942	5MC	C5-C6-N1	-3.10	119.94	123.31
54	1w	76	PPU	N1-C6-N6	3.10	120.41	116.83
32	2a	1207	2MG	C8-N7-C5	3.09	107.81	102.55
54	1w	76	PPU	C10-N6-C6	-3.07	110.94	119.40
1	2A	1942	5MC	C5-C4-N3	-3.02	118.65	121.75
32	2a	967	5MC	C5-C6-N1	-3.02	120.03	123.31
32	1a	1407	5MC	C5-C6-N1	-3.00	120.05	123.31
1	2A	1917	PSU	O2-C2-N1	-2.99	119.70	122.79
32	1a	1407	5MC	O2-C2-N3	-2.99	117.62	122.33
32	1a	516	PSU	C6-C5-C4	-2.99	116.16	118.17
54	1w	76	PPU	CG-CB-CA	-2.98	108.03	114.13
54	2w	76	PPU	C10-N6-C6	-2.94	111.29	119.40
1	2A	2552	2MU	C5-C4-N3	2.94	118.92	114.80
1	2A	2503	2MA	C8-N7-C5	2.93	107.55	102.55
32	2a	1518	MA6	C4-C5-N7	-2.88	106.29	109.34
32	2a	1518	MA6	N1-C6-N6	2.86	120.14	116.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	2w	76	PPU	C3'-N3'-C	-2.86	118.85	123.20
32	1a	1207	2MG	C8-N7-C5	2.86	107.42	102.55
32	2a	1498	UR3	C5-C4-N3	2.85	118.79	115.04
55	2x	32	5MC	C5-C4-N3	-2.83	118.85	121.75
55	1x	8	4SU	C6-C5-C4	-2.83	117.50	119.95
1	1A	2564	2MU	C5-C4-N3	2.82	118.75	114.80
32	2a	527	7MG	C5-C6-N1	2.80	115.86	110.94
32	1a	967	5MC	C5-C4-N3	-2.80	118.89	121.75
32	1a	967	5MC	C5-C6-N1	-2.79	120.28	123.31
32	1a	1404	5MC	C5-C4-N3	-2.78	118.90	121.75
1	2A	2552	2MU	O2-C2-N1	-2.78	119.18	122.80
32	2a	1407	5MC	C5-C4-N3	-2.76	118.93	121.75
32	1a	1519	MA6	N1-C6-N6	2.75	120.01	116.83
32	2a	1519	MA6	C4-C5-N7	-2.75	106.43	109.34
43	2l	92	0TD	OD2-CG-CB	2.74	119.06	113.15
1	2A	2552	2MU	O4-C4-C5	-2.73	120.45	125.16
1	1A	1937	5MU	C5-C6-N1	-2.72	120.36	123.31
1	1A	2515	2MA	C8-N7-C5	2.72	107.17	102.55
32	1a	1407	5MC	C5-C4-N3	-2.70	118.99	121.75
32	2a	967	5MC	C5-C4-N3	-2.69	119.00	121.75
55	2x	54	5MU	O2-C2-N1	-2.65	119.34	122.80
55	2x	8	4SU	C6-C5-C4	-2.65	117.66	119.95
54	1w	76	PPU	C4-C5-N7	-2.65	106.54	109.34
32	2a	1518	MA6	C10-N6-C6	-2.64	112.13	119.40
1	2A	2605	PSU	O2-C2-N1	-2.64	120.07	122.79
1	1A	2263	OMG	C8-N7-C5	2.63	107.02	102.55
1	2A	1962	5MC	C5-C4-N3	-2.62	119.07	121.75
32	2a	527	7MG	C5-C4-N9	-2.61	102.99	106.33
1	2A	2251	OMG	C8-N7-C5	2.58	106.95	102.55
32	2a	966	M2G	C8-N7-C5	2.57	106.93	102.55
1	1A	2515	2MA	C4-N3-C2	-2.57	121.33	123.30
32	2a	1519	MA6	C10-N6-C6	-2.57	112.32	119.40
1	2A	1915	5MU	O2-C2-N1	-2.54	119.49	122.80
55	2x	8	4SU	O2-C2-N3	-2.54	116.81	121.49
54	2w	76	PPU	N1-C6-N6	2.53	119.76	116.83
1	1A	2564	2MU	O4-C4-C5	-2.53	120.81	125.16
55	2x	8	4SU	O2-C2-N1	2.53	126.08	122.80
32	1a	527	7MG	C5-C6-N1	2.52	115.37	110.94
54	2w	76	PPU	C10-N6-C9	-2.51	108.11	116.18
43	1l	92	0TD	OD2-CG-CB	2.50	118.56	113.15
55	1x	32	5MC	O2-C2-N3	-2.49	118.41	122.33
32	2a	1400	5MC	C5-C4-N3	-2.46	119.23	121.75

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	1A	1937	5MU	C5M-C5-C4	2.44	121.39	118.78
32	1a	967	5MC	O2-C2-N3	-2.44	118.48	122.33
1	1A	2515	2MA	C5-C6-N1	2.44	118.66	114.12
32	2a	1404	5MC	C5-C4-N3	-2.42	119.27	121.75
55	1x	55	PSU	C5-C6-N1	-2.40	118.81	122.14
32	1a	1519	MA6	C10-N6-C6	-2.35	112.93	119.40
1	1A	1984	5MC	C5-C4-N3	-2.34	119.35	121.75
1	1A	1942	4OC	O2-C2-N3	-2.34	118.64	122.33
32	1a	966	M2G	C8-N7-C5	2.32	106.50	102.55
1	1A	2564	2MU	O2-C2-N1	-2.30	119.80	122.80
1	1A	1964	5MC	O2-C2-N3	-2.28	118.73	122.33
55	1x	8	4SU	N3-C2-N1	2.27	117.85	114.89
1	2A	1942	5MC	O2-C2-N3	-2.26	118.77	122.33
1	1A	1964	5MC	C5-C4-N3	-2.26	119.44	121.75
55	1x	54	5MU	C5M-C5-C4	2.25	121.19	118.78
32	2a	527	7MG	O6-C6-C5	-2.24	122.12	127.62
1	1A	1984	5MC	O2-C2-N3	-2.22	118.83	122.33
32	2a	1518	MA6	C10-N6-C9	-2.22	109.05	116.18
32	1a	966	M2G	O6-C6-C5	-2.22	119.92	124.32
32	2a	1402	4OC	C6-C5-C4	2.22	119.67	117.00
1	2A	1917	PSU	C5-C6-N1	-2.20	119.09	122.14
32	1a	1498	UR3	C3U-N3-C2	2.19	121.15	117.33
32	1a	1400	5MC	C5-C4-N3	-2.18	119.52	121.75
32	2a	1404	5MC	O2-C2-N3	-2.18	118.89	122.33
55	2x	32	5MC	O2-C2-N3	-2.18	118.90	122.33
32	2a	1207	2MG	N1-C2-N2	2.16	118.76	116.56
55	2x	55	PSU	C5-C6-N1	-2.14	119.17	122.14
32	2a	1498	UR3	C3U-N3-C4	2.14	120.83	117.87
1	2A	1962	5MC	O2-C2-N3	-2.13	118.97	122.33
1	1A	2617	PSU	C5-C6-N1	-2.13	119.18	122.14
32	2a	516	PSU	O4'-C1'-C2'	2.13	108.09	105.15
1	1A	1984	5MC	C1'-N1-C6	-2.12	117.66	121.15
1	2A	2605	PSU	C6-C5-C4	-2.12	116.75	118.17
1	2A	2605	PSU	C5-C6-N1	-2.11	119.21	122.14
32	1a	1518	MA6	C10-N6-C6	-2.11	113.59	119.40
1	2A	1917	PSU	O2-C2-N3	-2.10	118.13	121.86
32	1a	1518	MA6	C10-N6-C9	-2.09	109.46	116.18
32	2a	1207	2MG	C5-C6-N1	2.09	118.05	114.07
32	2a	1498	UR3	C6-N1-C2	-2.08	120.10	121.80
1	1A	1984	5MC	CM5-C5-C6	-2.08	120.04	122.85
32	1a	1498	UR3	C6-N1-C2	-2.07	120.11	121.80
1	2A	1962	5MC	C1'-N1-C6	-2.06	117.76	121.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
55	1x	55	PSU	O4'-C1'-C2'	2.04	107.98	105.15
32	1a	1402	4OC	C6-C5-C4	2.04	119.45	117.00
54	1w	76	PPU	C10-N6-C9	-2.03	109.65	116.18
32	1a	1519	MA6	C10-N6-C9	-2.03	109.67	116.18
32	2a	1407	5MC	O2-C2-N3	-2.03	119.14	122.33
32	1a	1400	5MC	O2-C2-N3	-2.02	119.14	122.33
32	2a	1207	2MG	CM2-N2-C2	-2.01	119.33	123.65

There are no chirality outliers.

All (37) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
43	2l	92	0TD	O-C-CA-CB
32	1a	516	PSU	C2'-C1'-C5-C4
32	1a	516	PSU	C2'-C1'-C5-C6
32	2a	966	M2G	N1-C2-N2-CM2
32	2a	966	M2G	N3-C2-N2-CM1
32	2a	966	M2G	N3-C2-N2-CM2
32	1a	967	5MC	O4'-C4'-C5'-O5'
32	2a	1400	5MC	O4'-C4'-C5'-O5'
32	1a	1402	4OC	O4'-C4'-C5'-O5'
32	2a	1402	4OC	O4'-C4'-C5'-O5'
32	1a	1519	MA6	O4'-C4'-C5'-O5'
32	2a	1519	MA6	O4'-C4'-C5'-O5'
54	1w	76	PPU	C3'-C4'-C5'-O5'
32	1a	1402	4OC	C3'-C4'-C5'-O5'
32	2a	1402	4OC	C3'-C4'-C5'-O5'
32	2a	1519	MA6	C3'-C4'-C5'-O5'
54	1w	76	PPU	O4'-C4'-C5'-O5'
32	1a	967	5MC	C3'-C4'-C5'-O5'
54	2w	76	PPU	C3'-C4'-C5'-O5'
32	2a	1400	5MC	C3'-C4'-C5'-O5'
32	1a	1519	MA6	C3'-C4'-C5'-O5'
32	1a	1400	5MC	O4'-C4'-C5'-O5'
54	2w	76	PPU	O4'-C4'-C5'-O5'
32	2a	966	M2G	N1-C2-N2-CM1
43	2l	92	0TD	SB-CB-CG-OD1
54	1w	76	PPU	N-CA-CB-CG
54	2w	76	PPU	N-CA-CB-CG
32	2a	1519	MA6	C4'-C5'-O5'-P
32	1a	1518	MA6	N1-C6-N6-C9
32	1a	1400	5MC	C3'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
32	1a	1519	MA6	C4'-C5'-O5'-P
54	1w	76	PPU	C-CA-CB-CG
54	2w	76	PPU	C-CA-CB-CG
43	1l	92	0TD	CG-CB-SB-CSB
43	2l	92	0TD	CG-CB-SB-CSB
1	1A	1942	4OC	C2'-C1'-N1-C2
1	2A	2503	2MA	O4'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 1170 ligands modelled in this entry, 1168 are monoatomic - leaving 2 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
58	SF4	1d	302	35	0,12,12	-	-	-		
58	SF4	2d	302	35	0,12,12	-	-	-		

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
58	SF4	1d	302	35	-	-	0/6/5/5
58	SF4	2d	302	35	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	2D	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	2D	7:LYS	C	8:PRO	N	1.17

## 6 Fit of model and data i

### 6.1 Protein, DNA and RNA chains i

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	1A	2860/2915 (98%)	-0.04	63 (2%) 62 44	82, 102, 143, 157	0
1	2A	2789/2915 (95%)	-0.18	47 (1%) 69 50	88, 107, 136, 157	0
2	1B	120/121 (99%)	-0.56	0 100 100	104, 121, 132, 134	0
2	2B	120/121 (99%)	-0.43	0 100 100	111, 125, 135, 152	0
3	1D	275/276 (99%)	0.43	19 (6%) 24 19	84, 95, 108, 127	0
3	2D	275/276 (99%)	0.66	26 (9%) 15 14	88, 104, 114, 123	0
4	1E	204/206 (99%)	0.39	22 (10%) 12 13	86, 108, 122, 131	0
4	2E	204/206 (99%)	-0.12	11 (5%) 32 24	88, 105, 119, 129	0
5	1F	203/210 (96%)	-0.23	4 (1%) 64 47	79, 102, 120, 137	0
5	2F	203/210 (96%)	0.47	31 (15%) 6 9	90, 108, 122, 130	0
6	1G	181/182 (99%)	0.08	4 (2%) 62 44	112, 122, 131, 139	0
6	2G	181/182 (99%)	-0.08	1 (0%) 85 70	113, 126, 136, 149	0
7	1H	174/180 (96%)	-0.05	3 (1%) 69 50	96, 113, 124, 131	0
7	2H	174/180 (96%)	-0.31	0 100 100	105, 125, 134, 142	0
8	1I	146/148 (98%)	-0.26	2 (1%) 73 54	102, 115, 124, 134	0
8	2I	146/148 (98%)	0.39	8 (5%) 32 24	109, 124, 138, 143	0
9	1N	140/140 (100%)	0.03	5 (3%) 46 34	93, 106, 119, 122	0
9	2N	140/140 (100%)	0.33	5 (3%) 46 34	97, 111, 122, 135	0
10	1O	122/122 (100%)	0.15	0 100 100	90, 108, 122, 128	0
10	2O	122/122 (100%)	0.20	3 (2%) 58 42	87, 102, 113, 118	0
11	1P	149/150 (99%)	0.23	6 (4%) 43 31	85, 109, 124, 130	0
11	2P	149/150 (99%)	-0.20	2 (1%) 74 55	90, 115, 126, 134	0
12	1Q	141/141 (100%)	0.17	6 (4%) 40 30	89, 108, 119, 127	0
12	2Q	141/141 (100%)	-0.25	1 (0%) 84 68	96, 110, 122, 130	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	1R	118/118 (100%)	0.16	5 (4%) 41 30	94, 104, 116, 125	0
13	2R	118/118 (100%)	0.41	12 (10%) 13 13	89, 103, 111, 118	0
14	1S	110/112 (98%)	0.02	4 (3%) 46 34	106, 116, 125, 131	0
14	2S	110/112 (98%)	0.01	1 (0%) 81 64	106, 119, 127, 130	0
15	1T	131/146 (89%)	0.05	4 (3%) 51 36	95, 110, 123, 138	0
15	2T	131/146 (89%)	-0.03	4 (3%) 51 36	92, 106, 121, 129	0
16	1U	116/118 (98%)	0.15	4 (3%) 48 34	86, 105, 119, 134	0
16	2U	116/118 (98%)	0.67	17 (14%) 7 10	94, 109, 121, 125	0
17	1V	101/101 (100%)	-0.16	2 (1%) 64 47	88, 106, 120, 127	0
17	2V	101/101 (100%)	-0.14	0 100 100	93, 114, 127, 136	0
18	1W	112/113 (99%)	0.11	3 (2%) 56 40	88, 101, 120, 131	0
18	2W	112/113 (99%)	-0.10	1 (0%) 81 64	87, 101, 113, 129	0
19	1X	95/96 (98%)	-0.05	0 100 100	87, 98, 116, 125	0
19	2X	95/96 (98%)	0.34	3 (3%) 50 35	98, 107, 127, 132	0
20	1Y	107/110 (97%)	0.07	1 (0%) 81 64	86, 108, 121, 126	0
20	2Y	107/110 (97%)	0.15	3 (2%) 55 39	91, 113, 126, 133	0
21	1Z	154/206 (74%)	-0.19	2 (1%) 74 55	109, 120, 132, 138	0
21	2Z	160/206 (77%)	-0.45	0 100 100	111, 123, 131, 135	0
22	10	83/85 (97%)	0.04	0 100 100	94, 108, 116, 124	0
22	20	83/85 (97%)	0.13	4 (4%) 36 27	101, 114, 122, 125	0
23	11	97/98 (98%)	0.54	9 (9%) 16 14	87, 101, 121, 131	0
23	21	97/98 (98%)	0.98	16 (16%) 5 8	92, 110, 124, 130	0
24	12	70/72 (97%)	0.02	2 (2%) 54 38	87, 101, 111, 128	0
24	22	70/72 (97%)	0.12	1 (1%) 73 54	106, 116, 126, 129	0
25	13	59/60 (98%)	-0.09	0 100 100	86, 107, 121, 139	0
25	23	59/60 (98%)	-0.17	1 (1%) 69 50	99, 108, 131, 143	0
26	14	69/71 (97%)	-0.03	0 100 100	121, 130, 141, 147	0
26	24	69/71 (97%)	-0.34	0 100 100	117, 128, 137, 144	0
27	15	59/60 (98%)	0.08	1 (1%) 69 50	89, 103, 117, 122	0
27	25	59/60 (98%)	0.17	5 (8%) 18 16	90, 103, 117, 125	0
28	16	53/54 (98%)	0.18	4 (7%) 22 18	95, 108, 120, 126	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	26	53/54 (98%)	-0.35	0 100 100	105, 114, 124, 134	0
29	17	48/49 (97%)	0.78	4 (8%) 19 16	82, 90, 107, 119	0
29	27	48/49 (97%)	0.51	3 (6%) 27 22	86, 99, 116, 124	0
30	18	64/65 (98%)	0.90	8 (12%) 9 11	89, 100, 111, 120	0
30	28	64/65 (98%)	0.21	3 (4%) 37 28	98, 106, 114, 120	0
31	19	37/37 (100%)	0.09	1 (2%) 56 40	99, 108, 113, 117	0
31	29	37/37 (100%)	0.07	1 (2%) 56 40	105, 116, 127, 130	0
32	1a	1488/1521 (97%)	-0.25	12 (0%) 82 66	92, 123, 141, 160	0
32	2a	1491/1521 (98%)	-0.30	11 (0%) 84 68	97, 119, 138, 155	0
33	1b	231/256 (90%)	-0.20	1 (0%) 89 76	113, 127, 135, 144	0
33	2b	231/256 (90%)	-0.06	0 100 100	105, 126, 137, 143	0
34	1c	206/239 (86%)	-0.19	0 100 100	113, 129, 137, 141	0
34	2c	206/239 (86%)	-0.41	0 100 100	115, 124, 132, 141	0
35	1d	208/209 (99%)	0.49	16 (7%) 21 17	104, 121, 131, 137	0
35	2d	208/209 (99%)	-0.04	3 (1%) 73 54	104, 117, 128, 136	0
36	1e	148/162 (91%)	-0.19	0 100 100	103, 119, 127, 133	0
36	2e	148/162 (91%)	0.01	5 (3%) 48 34	107, 117, 128, 136	0
37	1f	100/101 (99%)	0.06	5 (5%) 35 26	101, 117, 126, 133	0
37	2f	100/101 (99%)	-0.14	0 100 100	105, 118, 127, 132	0
38	1g	155/156 (99%)	-0.25	5 (3%) 50 35	111, 125, 135, 141	0
38	2g	155/156 (99%)	-0.33	3 (1%) 66 47	112, 124, 135, 145	0
39	1h	137/138 (99%)	-0.28	0 100 100	108, 122, 129, 134	0
39	2h	137/138 (99%)	-0.01	3 (2%) 62 44	103, 118, 127, 135	0
40	1i	127/128 (99%)	0.43	10 (7%) 20 16	114, 128, 135, 139	0
40	2i	127/128 (99%)	0.66	12 (9%) 15 14	115, 127, 135, 144	0
41	1j	97/105 (92%)	0.28	4 (4%) 42 31	121, 131, 138, 143	0
41	2j	96/105 (91%)	0.38	4 (4%) 41 30	118, 129, 137, 142	0
42	1k	114/129 (88%)	0.05	5 (4%) 39 29	103, 117, 126, 130	0
42	2k	114/129 (88%)	0.24	6 (5%) 33 25	107, 120, 129, 137	0
43	1l	121/132 (91%)	-0.07	4 (3%) 49 35	103, 117, 124, 136	0
43	2l	121/132 (91%)	-0.10	5 (4%) 42 31	100, 112, 122, 128	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	1m	123/126 (97%)	-0.12	0 100 100	113, 125, 133, 139	0
44	2m	122/126 (96%)	0.51	10 (8%) 19 16	111, 125, 136, 147	0
45	1n	60/61 (98%)	0.21	0 100 100	118, 128, 137, 144	0
45	2n	60/61 (98%)	-0.04	0 100 100	114, 124, 130, 134	0
46	1o	88/89 (98%)	0.13	3 (3%) 48 34	101, 116, 122, 124	0
46	2o	88/89 (98%)	0.08	2 (2%) 61 43	101, 119, 127, 132	0
47	1p	82/88 (93%)	0.22	1 (1%) 76 57	115, 124, 131, 137	0
47	2p	82/88 (93%)	-0.08	1 (1%) 76 57	99, 111, 118, 123	0
48	1q	99/105 (94%)	0.11	6 (6%) 28 22	103, 118, 125, 131	0
48	2q	99/105 (94%)	-0.14	2 (2%) 64 47	102, 113, 122, 126	0
49	1r	68/88 (77%)	-0.31	0 100 100	109, 116, 125, 130	0
49	2r	68/88 (77%)	-0.22	0 100 100	109, 119, 126, 131	0
50	1s	83/93 (89%)	0.21	1 (1%) 76 57	117, 128, 136, 143	0
50	2s	83/93 (89%)	0.02	0 100 100	116, 126, 135, 137	0
51	1t	96/106 (90%)	0.26	5 (5%) 34 26	111, 122, 128, 132	0
51	2t	96/106 (90%)	0.31	11 (11%) 11 12	101, 116, 126, 129	0
52	1u	23/27 (85%)	0.13	0 100 100	119, 126, 129, 131	0
52	2u	23/27 (85%)	0.12	0 100 100	123, 127, 131, 133	0
53	1v	6/24 (25%)	0.34	0 100 100	110, 116, 131, 136	0
53	2v	6/24 (25%)	0.42	1 (16%) 5 7	113, 116, 131, 147	0
54	1w	2/3 (66%)	-0.59	0 100 100	88, 88, 88, 89	0
54	2w	2/3 (66%)	1.74	1 (50%) 0 0	103, 103, 103, 106	0
55	1x	72/77 (93%)	-0.74	0 100 100	90, 118, 130, 140	0
55	2x	72/77 (93%)	-0.26	0 100 100	96, 123, 134, 144	0
All	All	20600/21450 (96%)	-0.03	556 (2%) 56 40	79, 114, 134, 160	0

All (556) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
44	2m	124	PRO	9.3
5	2F	87	GLY	9.1
23	2I	39	LYS	7.6
5	2F	52	LYS	7.2
23	2I	4	VAL	7.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
5	2F	56	GLU	6.9
42	1k	126	ARG	6.9
48	1q	37	LYS	6.6
23	21	11	ARG	6.4
5	2F	51	THR	6.4
5	2F	88	VAL	6.3
24	12	69	ARG	6.1
13	2R	9	LYS	6.0
1	1A	1138	C	5.9
23	21	9	GLY	5.8
3	1D	56	GLY	5.5
29	27	36	GLN	5.5
1	1A	1141	A	5.5
42	2k	126	ARG	5.4
5	2F	50	SER	5.4
37	1f	18	GLN	5.4
1	1A	1146	C	5.2
3	2D	276	LYS	5.2
23	11	2	SER	5.2
9	1N	77	GLY	5.2
40	1i	115	GLY	5.1
51	2t	23	ARG	5.1
16	2U	3	ARG	5.0
1	1A	1140	U	5.0
40	1i	121	ARG	4.9
1	1A	1145	G	4.9
43	1l	16	GLU	4.9
41	1j	58	ASP	4.9
1	1A	1139	G	4.9
3	2D	2	ALA	4.8
4	1E	149	ARG	4.8
3	2D	37	LEU	4.8
3	2D	5	LYS	4.7
36	2e	88	LYS	4.7
1	1A	2322	A	4.7
14	1S	43	GLU	4.7
16	2U	7	GLY	4.7
29	27	38	GLY	4.6
1	1A	1176	U	4.6
1	1A	1113	A	4.5
1	2A	34	C	4.5
5	2F	81	PRO	4.5

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Mol	Chain	Res	Type	RSRZ
32	1a	1531	A	4.5
3	2D	35	LYS	4.4
27	25	9	LYS	4.4
44	2m	104	ARG	4.4
23	21	2	SER	4.4
9	2N	78	TYR	4.4
4	1E	151	TYR	4.3
23	21	16	ASN	4.3
9	1N	75	TYR	4.3
1	1A	1144	A	4.3
38	2g	84	ASN	4.3
44	2m	116	THR	4.3
4	1E	152	LYS	4.2
4	1E	155	LYS	4.2
44	2m	123	ALA	4.2
3	1D	275	LYS	4.2
3	2D	36	PRO	4.1
5	2F	82	ILE	4.1
43	2l	23	LYS	4.1
5	2F	72	ARG	4.1
16	2U	5	LYS	4.1
32	1a	975	A	4.1
4	1E	117	MET	4.1
1	2A	1248	G	4.1
1	2A	2035	G	4.1
5	2F	83	PHE	4.1
20	1Y	41	GLY	4.0
3	2D	32	SER	4.0
4	2E	125	GLY	4.0
5	2F	90	PHE	4.0
16	2U	37	GLU	4.0
4	1E	153	GLY	4.0
44	2m	102	ARG	3.9
1	1A	2084	A	3.9
4	1E	112	GLY	3.9
16	2U	4	ALA	3.9
1	1A	2320	G	3.9
38	1g	79	ARG	3.8
1	1A	696	C	3.8
43	2l	91	LYS	3.8
30	18	52	LYS	3.8
37	1f	56	PRO	3.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
4	1E	147	PRO	3.8
40	1i	124	GLN	3.8
40	2i	121	ARG	3.8
1	2A	669	G	3.8
1	2A	1536	C	3.8
5	2F	95	ARG	3.8
3	2D	38	LYS	3.8
9	1N	78	TYR	3.8
1	1A	935	C	3.7
1	1A	2163	G	3.7
1	1A	2634	C	3.7
3	1D	229	VAL	3.7
48	1q	35	VAL	3.7
35	1d	158	ILE	3.7
32	2a	7	G	3.7
43	2l	89	ARG	3.7
30	28	3	LYS	3.7
5	2F	86	GLY	3.6
1	1A	2166	U	3.6
27	25	15	ARG	3.6
20	2Y	107	ASP	3.6
32	1a	1030(B)	C	3.6
3	2D	84	TYR	3.6
3	2D	34	VAL	3.6
3	2D	275	LYS	3.6
51	2t	25	ARG	3.5
51	2t	29	LYS	3.5
31	29	13	LYS	3.5
1	2A	1026	U	3.5
3	1D	276	LYS	3.5
5	2F	64	ILE	3.5
30	18	5	LYS	3.5
35	2d	11	LEU	3.5
11	1P	36	LYS	3.5
23	11	23	LYS	3.5
32	2a	1532	U	3.5
6	1G	80	PHE	3.5
15	1T	104	ASN	3.5
3	1D	38	LYS	3.5
40	1i	114	TYR	3.4
16	2U	36	ARG	3.4
41	2j	54	PHE	3.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
48	1q	26	GLN	3.4
35	1d	162	LEU	3.4
22	20	76	GLY	3.4
4	2E	149	ARG	3.4
32	2a	815	A	3.4
13	2R	5	LYS	3.4
40	1i	127	LYS	3.4
1	2A	1509	C	3.4
3	1D	48	ARG	3.4
23	21	14	VAL	3.4
16	2U	16	LYS	3.4
27	25	7	PRO	3.3
40	1i	116	LYS	3.3
8	2I	96	ASP	3.3
23	21	8	SER	3.3
29	17	36	GLN	3.3
40	2i	125	TYR	3.3
1	1A	699	C	3.3
11	1P	43	GLY	3.3
15	1T	111	ARG	3.3
38	1g	80	VAL	3.3
37	1f	55	ASP	3.3
3	2D	39	LYS	3.3
1	1A	2135	U	3.3
23	11	42	GLN	3.3
41	2j	58	ASP	3.3
46	1o	48	LYS	3.3
28	16	4	GLU	3.3
3	2D	11	PRO	3.2
35	1d	29	PRO	3.2
29	17	1	MET	3.2
36	2e	123	LEU	3.2
1	1A	1137	G	3.2
44	2m	92	HIS	3.2
50	1s	16	LEU	3.2
13	1R	104	ARG	3.2
1	1A	1114	G	3.2
3	2D	217	ARG	3.2
36	2e	121	LYS	3.2
1	2A	1533	G	3.2
9	1N	79	PRO	3.2
5	2F	55	GLY	3.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
13	2R	1	MET	3.2
1	1A	1112	U	3.1
35	1d	16	GLY	3.1
1	1A	989	G	3.1
23	21	41	ARG	3.1
23	21	10	LYS	3.1
27	25	8	LYS	3.1
23	21	13	ILE	3.1
15	2T	111	ARG	3.1
3	1D	23	GLU	3.1
40	2i	123	PRO	3.1
16	1U	37	GLU	3.1
8	2I	39	ALA	3.1
1	1A	838	C	3.1
1	2A	451	C	3.1
1	1A	700	A	3.1
35	2d	67	ILE	3.1
5	2F	57	VAL	3.1
22	20	74	ARG	3.1
1	2A	2159	G	3.0
1	2A	2166	G	3.0
3	1D	226	MET	3.0
1	1A	1148	C	3.0
1	2A	589	C	3.0
24	12	66	GLU	3.0
5	2F	54	ARG	3.0
1	1A	1147	U	3.0
36	2e	119	LEU	3.0
4	1E	120	TRP	3.0
13	2R	7	GLY	3.0
28	16	2	ALA	3.0
51	1t	23	ARG	3.0
23	21	12	PRO	3.0
5	2F	89	VAL	3.0
4	2E	133	LYS	3.0
4	2E	152	LYS	3.0
29	17	2	LYS	3.0
42	1k	114	VAL	3.0
30	18	60	LEU	3.0
9	1N	76	SER	3.0
40	2i	115	GLY	3.0
4	1E	187	ALA	3.0

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	1A	698	G	2.9
1	1A	919	A	2.9
32	1a	1447	A	2.9
1	2A	2313	C	2.9
15	1T	69	GLY	2.9
30	28	5	LYS	2.9
40	2i	11	LYS	2.9
48	2q	35	VAL	2.9
30	28	2	PRO	2.9
1	1A	2165	C	2.9
13	1R	111	LEU	2.9
35	1d	77	ASN	2.9
22	20	75	LEU	2.9
51	2t	24	LEU	2.9
1	2A	1118	C	2.9
3	1D	213	ARG	2.9
39	2h	84	ARG	2.9
11	1P	75	ILE	2.9
53	2v	14	A	2.9
38	1g	154	TYR	2.9
16	2U	27	LEU	2.8
1	1A	2164	C	2.8
12	1Q	131	ILE	2.8
1	1A	639	G	2.8
9	2N	75	TYR	2.8
28	16	35	GLU	2.8
40	2i	49	PRO	2.8
7	1H	42	ARG	2.8
43	1l	89	ARG	2.8
1	1A	738	C	2.8
4	2E	136	ARG	2.8
6	1G	74	LYS	2.8
3	1D	230	ASP	2.8
35	1d	208	SER	2.8
3	2D	52	ARG	2.8
13	2R	104	ARG	2.8
42	2k	120	ARG	2.8
1	1A	1344	C	2.7
1	2A	242	G	2.7
1	2A	2311	A	2.7
8	1I	27	ARG	2.7
23	1I	26	ARG	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	2D	59	LYS	2.7
8	2I	2	LYS	2.7
20	2Y	62	GLU	2.7
4	2E	148	GLY	2.7
5	2F	78	ILE	2.7
1	2A	1273	U	2.7
14	1S	19	LYS	2.7
1	1A	916	G	2.7
1	1A	1348	A	2.7
3	2D	215	LEU	2.7
8	1I	35	LEU	2.7
17	1V	84	LYS	2.7
18	1W	90	ARG	2.7
51	1t	21	LYS	2.7
3	2D	51	VAL	2.7
16	2U	9	VAL	2.7
16	2U	6	THR	2.7
3	1D	55	GLY	2.7
4	1E	135	HIS	2.7
4	1E	204	ALA	2.7
32	1a	1524	C	2.7
41	2j	52	GLY	2.7
10	2O	22	ILE	2.7
5	2F	75	HIS	2.6
1	1A	2321	A	2.6
1	1A	832	G	2.6
1	1A	2134	G	2.6
1	2A	801	G	2.6
5	2F	49	ALA	2.6
40	2i	15	ALA	2.6
14	1S	22	GLY	2.6
16	2U	2	PRO	2.6
11	2P	29	LYS	2.6
1	2A	2165	G	2.6
13	2R	12	ARG	2.6
29	17	6	GLN	2.6
37	1f	54	LYS	2.6
1	1A	1103	A	2.6
3	2D	48	ARG	2.6
23	11	11	ARG	2.6
24	22	30	ARG	2.6
27	25	19	ARG	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
38	1g	82	GLY	2.6
21	1Z	157	LEU	2.6
13	2R	14	SER	2.6
13	2R	103	ARG	2.6
40	1i	49	PRO	2.5
12	1Q	93	TYR	2.5
35	1d	201	GLN	2.5
13	1R	73	VAL	2.5
15	2T	89	VAL	2.5
5	1F	95	ARG	2.5
43	1l	22	SER	2.5
11	1P	50	ARG	2.5
13	2R	105	ARG	2.5
16	2U	32	PHE	2.5
48	1q	33	GLY	2.5
1	1A	920	G	2.5
23	2l	66	HIS	2.5
1	2A	2062	A	2.5
3	2D	61	LEU	2.5
12	1Q	11	LYS	2.5
16	1U	15	LYS	2.5
1	2A	587	C	2.5
30	18	56	GLU	2.5
4	1E	167	VAL	2.5
40	2i	96	LEU	2.5
28	16	28	ARG	2.5
1	1A	1142	A	2.5
1	1A	1177	G	2.5
1	2A	215	G	2.5
1	2A	304	G	2.5
5	2F	96	ASP	2.5
16	2U	8	VAL	2.5
47	2p	82	GLN	2.5
1	1A	1143	U	2.5
1	1A	936	C	2.5
13	1R	98	LEU	2.5
16	2U	20	LEU	2.5
3	2D	29	PRO	2.5
1	1A	2323	A	2.5
1	1A	290	G	2.4
1	2A	1117	G	2.4
4	1E	138	PRO	2.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	2A	673	C	2.4
40	2i	43	ALA	2.4
30	18	21	LYS	2.4
51	2t	30	LYS	2.4
16	1U	36	ARG	2.4
1	2A	1250	G	2.4
1	2A	2157	G	2.4
31	19	26	ILE	2.4
42	2k	36	ASP	2.4
51	2t	21	LYS	2.4
46	1o	25	THR	2.4
1	1A	1579	C	2.4
1	2A	277	C	2.4
40	2i	128	ARG	2.4
3	1D	49	ILE	2.4
32	2a	10	A	2.4
3	1D	39	LYS	2.4
4	2E	127	ASP	2.4
1	1A	1928	G	2.4
42	1k	123	LYS	2.4
44	2m	122	LYS	2.4
5	2F	73	ALA	2.4
42	1k	117	ASN	2.4
51	2t	22	ARG	2.4
44	2m	98	VAL	2.4
1	1A	1111	U	2.4
46	1o	69	TYR	2.4
23	21	44	PRO	2.4
29	27	48	LYS	2.4
40	2i	37	PHE	2.4
5	2F	94	PRO	2.4
8	2I	111	PRO	2.4
41	1j	37	PRO	2.4
1	1A	2289	G	2.4
4	1E	136	ARG	2.4
40	2i	117	HIS	2.4
23	21	38	SER	2.4
18	1W	85	VAL	2.3
9	2N	77	GLY	2.3
5	1F	97	TYR	2.3
6	1G	105	LYS	2.3
1	1A	2633	A	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
42	2k	113	PRO	2.3
4	2E	204	ALA	2.3
23	11	47	GLN	2.3
42	2k	14	VAL	2.3
13	2R	106	GLY	2.3
1	2A	563	G	2.3
5	1F	49	ALA	2.3
20	2Y	29	GLU	2.3
14	1S	16	ASN	2.3
9	2N	80	GLY	2.3
32	1a	204	U	2.3
13	2R	17	ARG	2.3
16	2U	95	LEU	2.3
40	1i	117	HIS	2.3
14	2S	49	VAL	2.3
43	1l	23	LYS	2.3
46	2o	84	LYS	2.3
1	1A	1221	G	2.3
32	1a	108	G	2.3
32	1a	972	C	2.3
32	2a	1202	G	2.3
40	1i	126	SER	2.3
3	1D	257	LEU	2.3
5	2F	58	ALA	2.3
32	1a	1257	U	2.3
3	2D	83	GLU	2.3
17	1V	80	GLN	2.3
4	1E	139	GLY	2.3
35	1d	108	LEU	2.3
23	21	15	ALA	2.3
32	2a	706	A	2.3
35	1d	24	GLU	2.3
39	2h	99	GLU	2.3
43	2l	11	VAL	2.3
35	1d	110	PHE	2.3
12	1Q	9	TYR	2.3
30	18	29	LYS	2.2
18	1W	91	GLY	2.2
1	2A	2577	A	2.2
1	1A	1003	U	2.2
1	2A	2156	G	2.2
32	2a	302	G	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
35	1d	204	ILE	2.2
38	2g	80	VAL	2.2
13	2R	107	ASP	2.2
48	1q	28	PRO	2.2
1	2A	2164	C	2.2
1	2A	590	A	2.2
44	2m	94	ARG	2.2
51	1t	24	LEU	2.2
4	1E	159	HIS	2.2
11	1P	35	HIS	2.2
32	1a	310	G	2.2
51	1t	41	ILE	2.2
4	1E	146	THR	2.2
3	2D	86	PRO	2.2
43	2l	5	PRO	2.2
8	2I	41	GLU	2.2
36	2e	81	GLU	2.2
48	1q	24	GLU	2.2
5	2F	91	GLY	2.2
27	15	10	LYS	2.2
1	1A	882	A	2.2
41	1j	20	ALA	2.2
4	2E	113	PHE	2.2
8	2I	119	PRO	2.2
3	1D	227	ASN	2.2
51	2t	26	ASN	2.2
1	2A	1678	G	2.2
32	2a	1061	G	2.2
5	1F	93	LYS	2.2
9	2N	84	LYS	2.2
16	2U	13	LYS	2.2
25	23	42	ALA	2.2
3	1D	53	PHE	2.2
48	2q	30	PRO	2.2
15	2T	107	ASP	2.2
4	1E	158	GLY	2.1
3	2D	224	ALA	2.1
6	2G	39	ILE	2.1
1	2A	1992	G	2.1
23	11	48	LYS	2.1
4	1E	163	GLU	2.1
1	2A	810	U	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
12	1Q	3	MET	2.1
3	1D	251	GLY	2.1
11	2P	43	GLY	2.1
1	2A	1226	A	2.1
1	2A	2117	A	2.1
23	11	43	TYR	2.1
1	2A	584	C	2.1
3	2D	60	ARG	2.1
32	2a	322	C	2.1
33	1b	237	ALA	2.1
51	1t	25	ARG	2.1
35	1d	203	VAL	2.1
51	2t	70	SER	2.1
1	2A	1964	G	2.1
35	1d	48	ALA	2.1
37	1f	48	LEU	2.1
44	2m	19	LEU	2.1
11	1P	14	LYS	2.1
1	2A	670	A	2.1
1	2A	1119	C	2.1
32	2a	1030(B)	C	2.1
54	2w	74	C	2.1
3	1D	218	ARG	2.1
4	2E	157	ALA	2.1
4	1E	91	VAL	2.1
16	2U	14	HIS	2.1
41	2j	55	LYS	2.1
42	2k	122	LYS	2.1
51	2t	34	LYS	2.1
35	1d	37	PRO	2.1
1	1A	2521	G	2.1
1	2A	2319	G	2.1
32	1a	703	G	2.1
32	1a	1529	G	2.1
3	2D	42	GLY	2.1
1	1A	2522	C	2.1
35	1d	178	VAL	2.1
47	1p	2	VAL	2.1
38	1g	153	HIS	2.1
35	1d	51	PRO	2.1
5	2F	45	ARG	2.1
8	2I	86	THR	2.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
12	1Q	68	ILE	2.1
39	2h	94	TYR	2.1
41	1j	61	GLU	2.1
8	2I	6	LEU	2.1
1	2A	588	U	2.0
1	1A	291	G	2.0
1	1A	827	G	2.0
1	1A	829	A	2.0
1	1A	917	A	2.0
1	1A	1684	A	2.0
1	1A	2340	A	2.0
1	2A	2227	A	2.0
13	1R	1	MET	2.0
18	2W	90	ARG	2.0
19	2X	73	ARG	2.0
10	2O	19	ILE	2.0
32	2a	320	C	2.0
5	2F	59	TYR	2.0
5	2F	79	GLY	2.0
6	1G	3	LEU	2.0
23	11	95	LEU	2.0
42	1k	124	LYS	2.0
19	2X	49	VAL	2.0
38	2g	2	ALA	2.0
7	1H	143	GLN	2.0
10	2O	5	GLN	2.0
5	2F	62	ARG	2.0
15	1T	112	ARG	2.0
15	2T	108	ARG	2.0
21	1Z	146	ILE	2.0
40	1i	123	PRO	2.0
12	2Q	79	LEU	2.0
3	1D	57	GLY	2.0
4	1E	123	ALA	2.0
4	2E	124	GLY	2.0
5	2F	71	GLY	2.0
19	2X	67	GLY	2.0
22	20	18	ALA	2.0
30	18	49	VAL	2.0
51	2t	103	GLY	2.0
1	2A	435	C	2.0
1	2A	2226	C	2.0

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Mol	Chain	Res	Type	RSRZ
7	1H	147	ASN	2.0
30	18	12	LYS	2.0
16	1U	106	PHE	2.0
35	2d	79	PHE	2.0
46	2o	57	LEU	2.0

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

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
1	5MU	2A	1915	21/22	0.78	0.09	114,120,131,143	0
55	4SU	2x	8	20/21	0.78	0.07	120,133,139,140	0
55	PSU	1x	55	20/21	0.78	0.08	109,117,129,133	0
32	PSU	1a	516	20/21	0.81	0.07	113,120,128,129	0
55	PSU	2x	55	20/21	0.83	0.10	114,125,136,143	0
1	PSU	1A	1933	20/21	0.84	0.08	90,105,108,109	0
1	5MU	2A	1939	21/22	0.84	0.15	89,98,104,114	0
55	5MU	1x	54	21/22	0.85	0.07	111,118,130,131	0
55	5MU	2x	54	21/22	0.86	0.10	108,120,136,142	0
55	5MC	1x	32	21/22	0.86	0.10	99,116,123,128	0
32	2MG	2a	1207	24/25	0.86	0.10	114,124,129,137	0
1	5MU	1A	1937	21/22	0.88	0.08	115,126,133,144	0
1	PSU	2A	1911	20/21	0.88	0.10	96,105,117,118	0
32	PSU	2a	516	20/21	0.88	0.07	117,122,126,128	0
32	5MC	2a	967	21/22	0.88	0.13	102,116,124,125	0
1	PSU	2A	1917	20/21	0.88	0.09	106,110,120,127	0
55	4SU	1x	8	20/21	0.88	0.06	111,122,128,128	0
32	5MC	1a	967	21/22	0.89	0.10	104,115,127,130	0
32	7MG	1a	527	24/25	0.89	0.10	101,115,123,126	0
1	5MC	1A	1964	21/22	0.90	0.09	82,93,104,111	0
32	5MC	1a	1407	21/22	0.90	0.09	100,110,116,121	0
32	2MG	1a	1207	24/25	0.90	0.07	114,124,132,136	0
1	4OC	2A	1920	21/23	0.91	0.11	94,114,119,120	0
32	5MC	1a	1400	21/22	0.91	0.09	106,115,124,131	0
32	5MC	2a	1400	21/22	0.91	0.13	101,114,128,132	0
32	4OC	2a	1402	22/23	0.91	0.10	104,109,115,116	0
1	4OC	1A	1942	21/23	0.91	0.09	96,108,120,123	0
32	7MG	2a	527	24/25	0.91	0.10	99,117,123,125	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
32	M2G	1a	966	25/26	0.92	0.09	104,110,120,121	0
1	5MC	2A	1962	21/22	0.92	0.15	79,100,106,110	0
1	PSU	2A	2605	20/21	0.92	0.10	81,91,98,102	0
1	5MC	2A	1942	21/22	0.92	0.11	88,97,104,108	0
1	5MU	1A	1961	21/22	0.93	0.09	85,92,100,103	0
1	PSU	1A	2617	20/21	0.93	0.11	81,90,100,100	0
32	UR3	1a	1498	21/22	0.93	0.09	96,107,111,114	0
32	M2G	2a	966	25/26	0.93	0.14	107,119,123,126	0
32	4OC	1a	1402	22/23	0.93	0.09	104,112,120,123	0
1	2MU	2A	2552	21/23	0.94	0.09	84,90,101,104	0
55	5MC	2x	32	21/22	0.94	0.10	110,118,124,126	0
32	MA6	2a	1518	24/25	0.94	0.13	100,109,116,117	0
54	PPU	2w	76	37/38	0.94	0.16	86,100,107,111	0
1	PSU	1A	1939	20/21	0.94	0.05	95,110,117,117	0
1	2MU	1A	2564	21/23	0.94	0.10	85,95,105,109	0
32	5MC	1a	1404	21/22	0.95	0.09	95,106,113,115	0
32	5MC	2a	1404	21/22	0.95	0.09	101,111,116,121	0
43	0TD	1l	92	10/11	0.95	0.09	110,119,124,142	0
32	5MC	2a	1407	21/22	0.95	0.09	90,106,116,118	0
1	2MA	1A	2515	23/24	0.95	0.12	76,84,97,103	0
43	0TD	2l	92	10/11	0.95	0.12	117,123,129,141	0
32	MA6	1a	1519	24/25	0.95	0.11	93,107,119,119	0
1	5MC	1A	1984	21/22	0.95	0.08	87,96,104,106	0
1	OMG	1A	2263	24/25	0.96	0.10	70,88,102,105	0
32	MA6	2a	1519	24/25	0.96	0.11	93,107,112,116	0
54	PPU	1w	76	37/38	0.96	0.12	84,91,103,108	0
32	UR3	2a	1498	21/22	0.96	0.09	95,105,114,115	0
32	MA6	1a	1518	24/25	0.96	0.10	103,109,113,116	0
1	2MA	2A	2503	23/24	0.96	0.13	81,92,103,114	0
1	OMG	2A	2251	24/25	0.97	0.08	85,96,109,111	0

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3416	1/1	0.21	0.30	103,103,103,103	0
56	MG	1a	1607	1/1	0.27	0.36	100,100,100,100	0
56	MG	1A	3172	1/1	0.28	0.39	96,96,96,96	0
56	MG	1A	3008	1/1	0.32	0.25	109,109,109,109	0
56	MG	2A	3305	1/1	0.38	0.35	83,83,83,83	0
56	MG	1A	3426	1/1	0.40	0.38	89,89,89,89	0
56	MG	1A	3072	1/1	0.41	0.20	79,79,79,79	0
56	MG	2a	3011	1/1	0.41	0.25	94,94,94,94	0
56	MG	1B	202	1/1	0.42	0.28	80,80,80,80	0
56	MG	2A	3037	1/1	0.44	0.30	90,90,90,90	0
56	MG	1a	1629	1/1	0.46	0.13	94,94,94,94	0
56	MG	2a	3046	1/1	0.46	0.19	99,99,99,99	0
56	MG	2A	3205	1/1	0.47	0.41	81,81,81,81	0
56	MG	2A	3098	1/1	0.47	0.22	97,97,97,97	0
56	MG	1a	1669	1/1	0.48	0.10	102,102,102,102	0
56	MG	2A	3157	1/1	0.50	0.32	88,88,88,88	0
56	MG	1a	1633	1/1	0.51	0.30	97,97,97,97	0
56	MG	2A	3181	1/1	0.51	0.18	101,101,101,101	0
56	MG	1A	3396	1/1	0.51	0.36	84,84,84,84	0
56	MG	1B	201	1/1	0.52	0.21	82,82,82,82	0
56	MG	1A	3263	1/1	0.52	0.30	105,105,105,105	0
56	MG	2A	3151	1/1	0.52	0.22	109,109,109,109	0
56	MG	2A	3245	1/1	0.53	0.36	64,64,64,64	0
56	MG	2A	3078	1/1	0.53	0.36	79,79,79,79	0
56	MG	1A	3040	1/1	0.53	0.37	79,79,79,79	0
56	MG	1a	1611	1/1	0.53	0.20	93,93,93,93	0
56	MG	1A	3124	1/1	0.54	0.21	75,75,75,75	0
56	MG	1A	3059	1/1	0.54	0.33	92,92,92,92	0
56	MG	2a	3088	1/1	0.54	0.35	83,83,83,83	0
56	MG	1A	3102	1/1	0.55	0.34	74,74,74,74	0
56	MG	1A	3358	1/1	0.55	0.37	75,75,75,75	0
56	MG	2A	3155	1/1	0.56	0.25	92,92,92,92	0
56	MG	1A	3397	1/1	0.56	0.28	84,84,84,84	0
56	MG	1A	3347	1/1	0.56	0.20	90,90,90,90	0
56	MG	2a	3008	1/1	0.57	0.14	102,102,102,102	0
56	MG	2A	3150	1/1	0.57	0.17	101,101,101,101	0
56	MG	2A	3114	1/1	0.57	0.32	75,75,75,75	0
56	MG	2A	3336	1/1	0.57	0.30	91,91,91,91	0
56	MG	1a	1631	1/1	0.58	0.15	97,97,97,97	0
56	MG	1A	3034	1/1	0.58	0.26	91,91,91,91	0
56	MG	1A	3352	1/1	0.58	0.24	101,101,101,101	0
56	MG	1A	3258	1/1	0.58	0.26	98,98,98,98	0
56	MG	1A	3027	1/1	0.58	0.28	78,78,78,78	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3308	1/1	0.59	0.23	76,76,76,76	0
56	MG	1A	3443	1/1	0.59	0.20	91,91,91,91	0
56	MG	1A	3444	1/1	0.59	0.09	109,109,109,109	0
56	MG	1A	3115	1/1	0.59	0.13	89,89,89,89	0
56	MG	1a	1647	1/1	0.59	0.13	106,106,106,106	0
56	MG	1A	3414	1/1	0.59	0.46	70,70,70,70	0
56	MG	2A	3003	1/1	0.59	0.30	73,73,73,73	0
56	MG	1A	3377	1/1	0.59	0.30	77,77,77,77	0
56	MG	2A	3101	1/1	0.60	0.35	80,80,80,80	0
56	MG	1B	203	1/1	0.60	0.19	106,106,106,106	0
56	MG	2A	3259	1/1	0.60	0.46	72,72,72,72	0
56	MG	2A	3294	1/1	0.60	0.22	87,87,87,87	0
56	MG	2A	3014	1/1	0.60	0.15	90,90,90,90	0
56	MG	1A	3479	1/1	0.60	0.38	72,72,72,72	0
56	MG	2A	3049	1/1	0.60	0.23	73,73,73,73	0
56	MG	1A	3410	1/1	0.60	0.31	83,83,83,83	0
56	MG	1A	3159	1/1	0.60	0.17	81,81,81,81	0
56	MG	2A	3198	1/1	0.60	0.25	96,96,96,96	0
56	MG	1A	3240	1/1	0.61	0.39	66,66,66,66	0
56	MG	1a	1665	1/1	0.61	0.19	74,74,74,74	0
56	MG	1A	3438	1/1	0.61	0.35	84,84,84,84	0
56	MG	2A	3239	1/1	0.61	0.29	68,68,68,68	0
56	MG	1a	1632	1/1	0.61	0.33	88,88,88,88	0
56	MG	2A	3258	1/1	0.61	0.40	80,80,80,80	0
56	MG	1a	1617	1/1	0.61	0.22	91,91,91,91	0
56	MG	1B	212	1/1	0.62	0.23	83,83,83,83	0
56	MG	2A	3031	1/1	0.62	0.25	89,89,89,89	0
56	MG	1A	3415	1/1	0.62	0.52	80,80,80,80	0
56	MG	2A	3039	1/1	0.62	0.31	93,93,93,93	0
56	MG	1A	3051	1/1	0.62	0.18	89,89,89,89	0
56	MG	1A	3322	1/1	0.62	0.22	94,94,94,94	0
56	MG	2B	202	1/1	0.62	0.22	87,87,87,87	0
56	MG	2A	3094	1/1	0.62	0.33	83,83,83,83	0
56	MG	1A	3370	1/1	0.62	0.23	88,88,88,88	0
56	MG	2A	3235	1/1	0.62	0.32	75,75,75,75	0
56	MG	1A	3245	1/1	0.62	0.20	81,81,81,81	0
56	MG	2A	3090	1/1	0.63	0.09	110,110,110,110	0
56	MG	1A	3289	1/1	0.63	0.28	84,84,84,84	0
56	MG	2A	3208	1/1	0.63	0.18	82,82,82,82	0
56	MG	2A	3229	1/1	0.63	0.26	72,72,72,72	0
56	MG	2A	3337	1/1	0.63	0.17	87,87,87,87	0
56	MG	1A	3341	1/1	0.64	0.25	77,77,77,77	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3343	1/1	0.64	0.32	80,80,80,80	0
56	MG	1A	3009	1/1	0.64	0.23	84,84,84,84	0
56	MG	2A	3373	1/1	0.64	0.42	69,69,69,69	0
56	MG	1a	1671	1/1	0.64	0.27	99,99,99,99	0
56	MG	1a	1678	1/1	0.64	0.17	89,89,89,89	0
56	MG	1A	3313	1/1	0.64	0.31	70,70,70,70	0
56	MG	1A	3262	1/1	0.64	0.18	82,82,82,82	0
56	MG	1A	3369	1/1	0.64	0.28	76,76,76,76	0
56	MG	2a	3097	1/1	0.64	0.19	74,74,74,74	0
56	MG	2A	3030	1/1	0.65	0.09	91,91,91,91	0
56	MG	1B	209	1/1	0.65	0.10	122,122,122,122	0
56	MG	2A	3351	1/1	0.65	0.24	94,94,94,94	0
56	MG	1A	3360	1/1	0.65	0.30	82,82,82,82	0
56	MG	1A	3383	1/1	0.65	0.18	73,73,73,73	0
56	MG	1A	3001	1/1	0.65	0.17	80,80,80,80	0
56	MG	1a	1681	1/1	0.65	0.35	79,79,79,79	0
56	MG	2a	3022	1/1	0.65	0.22	81,81,81,81	0
56	MG	1a	1640	1/1	0.65	0.16	91,91,91,91	0
56	MG	1A	3138	1/1	0.65	0.17	108,108,108,108	0
56	MG	2A	3019	1/1	0.65	0.31	69,69,69,69	0
56	MG	1a	1674	1/1	0.66	0.24	92,92,92,92	0
56	MG	2A	3175	1/1	0.66	0.23	107,107,107,107	0
56	MG	2A	3306	1/1	0.66	0.28	80,80,80,80	0
56	MG	1A	3236	1/1	0.66	0.27	102,102,102,102	0
56	MG	1A	3039	1/1	0.66	0.16	71,71,71,71	0
56	MG	1A	3219	1/1	0.66	0.27	90,90,90,90	0
56	MG	10	102	1/1	0.66	0.12	73,73,73,73	0
56	MG	1a	1641	1/1	0.67	0.20	82,82,82,82	0
56	MG	1A	3252	1/1	0.67	0.31	80,80,80,80	0
56	MG	2A	3107	1/1	0.67	0.38	81,81,81,81	0
56	MG	1A	3398	1/1	0.67	0.30	70,70,70,70	0
56	MG	2A	3301	1/1	0.67	0.17	77,77,77,77	0
56	MG	2A	3004	1/1	0.67	0.24	88,88,88,88	0
56	MG	2a	3041	1/1	0.67	0.15	80,80,80,80	0
56	MG	1A	3014	1/1	0.67	0.16	86,86,86,86	0
56	MG	1A	3260	1/1	0.67	0.26	81,81,81,81	0
56	MG	1A	3211	1/1	0.67	0.24	93,93,93,93	0
56	MG	1A	3086	1/1	0.68	0.21	90,90,90,90	0
56	MG	1A	3303	1/1	0.68	0.20	83,83,83,83	0
56	MG	1A	3129	1/1	0.68	0.11	77,77,77,77	0
56	MG	1a	1649	1/1	0.68	0.24	106,106,106,106	0
56	MG	1A	3095	1/1	0.68	0.23	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2a	3066	1/1	0.68	0.21	86,86,86,86	0
56	MG	2A	3209	1/1	0.68	0.14	77,77,77,77	0
56	MG	2A	3173	1/1	0.68	0.31	78,78,78,78	0
56	MG	2A	3352	1/1	0.69	0.15	107,107,107,107	0
56	MG	2A	3052	1/1	0.69	0.25	86,86,86,86	0
56	MG	2A	3122	1/1	0.69	0.35	85,85,85,85	0
56	MG	2B	206	1/1	0.69	0.23	89,89,89,89	0
56	MG	1a	1686	1/1	0.69	0.27	76,76,76,76	0
56	MG	1a	1687	1/1	0.69	0.15	100,100,100,100	0
56	MG	1a	1689	1/1	0.69	0.29	78,78,78,78	0
56	MG	1A	3048	1/1	0.69	0.34	69,69,69,69	0
56	MG	2A	3308	1/1	0.69	0.32	85,85,85,85	0
56	MG	2A	3171	1/1	0.69	0.18	94,94,94,94	0
56	MG	1a	1634	1/1	0.69	0.20	102,102,102,102	0
56	MG	1A	3390	1/1	0.69	0.31	61,61,61,61	0
56	MG	1A	3109	1/1	0.70	0.25	92,92,92,92	0
56	MG	2a	3015	1/1	0.70	0.13	80,80,80,80	0
56	MG	1A	3469	1/1	0.70	0.29	88,88,88,88	0
56	MG	2a	3034	1/1	0.70	0.15	78,78,78,78	0
56	MG	1A	3101	1/1	0.70	0.17	74,74,74,74	0
56	MG	1A	3400	1/1	0.70	0.21	87,87,87,87	0
56	MG	1A	3068	1/1	0.70	0.37	75,75,75,75	0
56	MG	1A	3375	1/1	0.70	0.27	95,95,95,95	0
56	MG	1x	102	1/1	0.70	0.12	85,85,85,85	0
56	MG	1A	3047	1/1	0.71	0.27	67,67,67,67	0
56	MG	1A	3088	1/1	0.71	0.26	74,74,74,74	0
56	MG	2A	3371	1/1	0.71	0.25	62,62,62,62	0
56	MG	1A	3434	1/1	0.71	0.29	72,72,72,72	0
56	MG	1a	1679	1/1	0.71	0.18	107,107,107,107	0
56	MG	1A	3226	1/1	0.71	0.13	79,79,79,79	0
56	MG	2A	3254	1/1	0.71	0.32	82,82,82,82	0
56	MG	1A	3113	1/1	0.71	0.11	77,77,77,77	0
56	MG	2a	3014	1/1	0.71	0.15	81,81,81,81	0
56	MG	1A	3187	1/1	0.71	0.15	83,83,83,83	0
56	MG	1A	3453	1/1	0.71	0.23	80,80,80,80	0
56	MG	1r	101	1/1	0.71	0.22	81,81,81,81	0
56	MG	1A	3464	1/1	0.71	0.19	95,95,95,95	0
56	MG	2A	3001	1/1	0.71	0.29	80,80,80,80	0
56	MG	2A	3097	1/1	0.71	0.21	93,93,93,93	0
56	MG	1A	3189	1/1	0.71	0.26	82,82,82,82	0
56	MG	1A	3202	1/1	0.71	0.14	85,85,85,85	0
56	MG	2A	3084	1/1	0.72	0.17	79,79,79,79	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3339	1/1	0.72	0.25	73,73,73,73	0
56	MG	2A	3022	1/1	0.72	0.29	66,66,66,66	0
56	MG	1A	3477	1/1	0.72	0.34	61,61,61,61	0
56	MG	2A	3266	1/1	0.72	0.24	69,69,69,69	0
56	MG	1A	3355	1/1	0.72	0.13	71,71,71,71	0
56	MG	1a	1603	1/1	0.72	0.20	94,94,94,94	0
56	MG	1A	3491	1/1	0.72	0.20	91,91,91,91	0
56	MG	2A	3042	1/1	0.72	0.18	75,75,75,75	0
56	MG	1A	3106	1/1	0.72	0.26	73,73,73,73	0
56	MG	2A	3310	1/1	0.72	0.27	67,67,67,67	0
56	MG	1A	3210	1/1	0.72	0.29	81,81,81,81	0
56	MG	2A	3055	1/1	0.72	0.28	82,82,82,82	0
56	MG	2a	3071	1/1	0.72	0.31	75,75,75,75	0
56	MG	2A	3238	1/1	0.72	0.33	67,67,67,67	0
56	MG	2a	3092	1/1	0.72	0.13	82,82,82,82	0
56	MG	2a	3095	1/1	0.72	0.11	84,84,84,84	0
56	MG	1A	3140	1/1	0.72	0.24	73,73,73,73	0
56	MG	2A	3268	1/1	0.73	0.34	68,68,68,68	0
56	MG	2A	3293	1/1	0.73	0.24	77,77,77,77	0
56	MG	2B	207	1/1	0.73	0.28	84,84,84,84	0
56	MG	1A	3247	1/1	0.73	0.44	69,69,69,69	0
56	MG	1A	3075	1/1	0.73	0.11	72,72,72,72	0
56	MG	15	101	1/1	0.73	0.27	70,70,70,70	0
56	MG	1A	3157	1/1	0.73	0.33	79,79,79,79	0
56	MG	1A	3228	1/1	0.73	0.30	77,77,77,77	0
56	MG	1A	3437	1/1	0.73	0.11	99,99,99,99	0
56	MG	2A	3311	1/1	0.73	0.28	79,79,79,79	0
56	MG	2A	3166	1/1	0.73	0.16	94,94,94,94	0
56	MG	2A	3095	1/1	0.73	0.25	81,81,81,81	0
56	MG	1A	3130	1/1	0.73	0.22	84,84,84,84	0
56	MG	1A	3077	1/1	0.73	0.34	81,81,81,81	0
56	MG	2A	3365	1/1	0.73	0.38	67,67,67,67	0
56	MG	1A	3180	1/1	0.73	0.31	61,61,61,61	0
56	MG	1A	3292	1/1	0.73	0.24	75,75,75,75	0
56	MG	1A	3471	1/1	0.74	0.33	75,75,75,75	0
56	MG	2A	3357	1/1	0.74	0.28	69,69,69,69	0
56	MG	1a	1655	1/1	0.74	0.22	84,84,84,84	0
56	MG	2A	3369	1/1	0.74	0.24	70,70,70,70	0
56	MG	2A	3247	1/1	0.74	0.23	81,81,81,81	0
56	MG	1A	3017	1/1	0.74	0.41	61,61,61,61	0
56	MG	1A	3316	1/1	0.74	0.22	63,63,63,63	0
56	MG	1A	3407	1/1	0.74	0.24	94,94,94,94	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	2A	3091	1/1	0.74	0.27	75,75,75,75	0
56	MG	2A	3267	1/1	0.74	0.30	81,81,81,81	0
56	MG	1A	3188	1/1	0.74	0.34	62,62,62,62	0
56	MG	1A	3065	1/1	0.74	0.29	88,88,88,88	0
56	MG	2A	3184	1/1	0.74	0.38	70,70,70,70	0
56	MG	2A	3186	1/1	0.74	0.27	92,92,92,92	0
56	MG	1A	3447	1/1	0.74	0.30	78,78,78,78	0
56	MG	1A	3241	1/1	0.74	0.31	61,61,61,61	0
56	MG	2A	3206	1/1	0.74	0.19	78,78,78,78	0
56	MG	2a	3061	1/1	0.74	0.23	72,72,72,72	0
56	MG	2A	3034	1/1	0.74	0.18	94,94,94,94	0
56	MG	1B	210	1/1	0.74	0.15	96,96,96,96	0
56	MG	2A	3314	1/1	0.74	0.25	78,78,78,78	0
56	MG	1A	3454	1/1	0.74	0.21	73,73,73,73	0
56	MG	1A	3361	1/1	0.74	0.24	94,94,94,94	0
56	MG	1A	3058	1/1	0.74	0.35	73,73,73,73	0
56	MG	2a	3099	1/1	0.74	0.23	79,79,79,79	0
56	MG	2d	301	1/1	0.74	0.07	81,81,81,81	0
56	MG	1a	1609	1/1	0.75	0.10	103,103,103,103	0
56	MG	2A	3029	1/1	0.75	0.25	70,70,70,70	0
56	MG	2A	3275	1/1	0.75	0.29	62,62,62,62	0
56	MG	2A	3281	1/1	0.75	0.24	73,73,73,73	0
56	MG	1A	3032	1/1	0.75	0.21	77,77,77,77	0
56	MG	1A	3234	1/1	0.75	0.38	85,85,85,85	0
56	MG	1A	3167	1/1	0.75	0.24	80,80,80,80	0
56	MG	1A	3237	1/1	0.75	0.26	79,79,79,79	0
56	MG	1A	3118	1/1	0.75	0.27	75,75,75,75	0
56	MG	2A	3141	1/1	0.75	0.47	81,81,81,81	0
56	MG	1A	3445	1/1	0.75	0.34	78,78,78,78	0
56	MG	2A	3236	1/1	0.75	0.34	66,66,66,66	0
56	MG	1B	206	1/1	0.75	0.18	89,89,89,89	0
56	MG	2a	3056	1/1	0.75	0.20	82,82,82,82	0
56	MG	2A	3334	1/1	0.75	0.29	77,77,77,77	0
56	MG	1A	3020	1/1	0.75	0.19	84,84,84,84	0
56	MG	1A	3449	1/1	0.75	0.31	83,83,83,83	0
56	MG	2a	3085	1/1	0.75	0.23	92,92,92,92	0
56	MG	1A	3144	1/1	0.75	0.32	87,87,87,87	0
56	MG	1A	3221	1/1	0.75	0.34	86,86,86,86	0
56	MG	1A	3420	1/1	0.75	0.29	70,70,70,70	0
56	MG	2A	3364	1/1	0.75	0.19	80,80,80,80	0
56	MG	1A	3114	1/1	0.75	0.33	82,82,82,82	0
56	MG	1A	3433	1/1	0.75	0.36	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3099	1/1	0.76	0.18	98,98,98,98	0
56	MG	1A	3304	1/1	0.76	0.41	61,61,61,61	0
56	MG	2A	3007	1/1	0.76	0.22	78,78,78,78	0
56	MG	2A	3100	1/1	0.76	0.34	74,74,74,74	0
56	MG	1A	3253	1/1	0.76	0.13	79,79,79,79	0
56	MG	2A	3015	1/1	0.76	0.32	76,76,76,76	0
56	MG	1V	202	1/1	0.76	0.29	68,68,68,68	0
56	MG	1a	1652	1/1	0.76	0.18	74,74,74,74	0
56	MG	2A	3377	1/1	0.76	0.12	92,92,92,92	0
56	MG	2A	3123	1/1	0.76	0.27	78,78,78,78	0
56	MG	1A	3069	1/1	0.76	0.24	81,81,81,81	0
56	MG	2A	3263	1/1	0.76	0.28	70,70,70,70	0
56	MG	1a	1662	1/1	0.76	0.16	94,94,94,94	0
56	MG	1A	3457	1/1	0.76	0.38	62,62,62,62	0
56	MG	16	101	1/1	0.76	0.30	75,75,75,75	0
56	MG	1A	3079	1/1	0.76	0.14	78,78,78,78	0
56	MG	1A	3154	1/1	0.76	0.14	77,77,77,77	0
56	MG	2a	3029	1/1	0.76	0.21	104,104,104,104	0
56	MG	2A	3041	1/1	0.76	0.27	91,91,91,91	0
56	MG	1A	3329	1/1	0.76	0.20	74,74,74,74	0
56	MG	1A	3083	1/1	0.76	0.21	83,83,83,83	0
56	MG	1A	3340	1/1	0.76	0.41	61,61,61,61	0
56	MG	1a	1618	1/1	0.76	0.13	96,96,96,96	0
56	MG	2A	3185	1/1	0.76	0.21	72,72,72,72	0
56	MG	2A	3063	1/1	0.76	0.20	79,79,79,79	0
56	MG	1A	3279	1/1	0.76	0.26	65,65,65,65	0
56	MG	1A	3137	1/1	0.76	0.42	61,61,61,61	0
56	MG	2A	3315	1/1	0.76	0.37	68,68,68,68	0
56	MG	2A	3318	1/1	0.76	0.29	62,62,62,62	0
56	MG	1A	3291	1/1	0.76	0.21	77,77,77,77	0
56	MG	1A	3349	1/1	0.76	0.17	80,80,80,80	0
56	MG	1A	3194	1/1	0.76	0.09	92,92,92,92	0
56	MG	2A	3081	1/1	0.77	0.30	76,76,76,76	0
56	MG	1A	3150	1/1	0.77	0.30	90,90,90,90	0
56	MG	2D	3100	1/1	0.77	0.27	83,83,83,83	0
56	MG	2Q	202	1/1	0.77	0.12	69,69,69,69	0
56	MG	1A	3100	1/1	0.77	0.21	86,86,86,86	0
56	MG	1A	3452	1/1	0.77	0.23	76,76,76,76	0
56	MG	1a	1636	1/1	0.77	0.07	93,93,93,93	0
56	MG	1A	3336	1/1	0.77	0.31	64,64,64,64	0
56	MG	1A	3231	1/1	0.77	0.20	65,65,65,65	0
56	MG	2A	3320	1/1	0.77	0.26	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	2A	3330	1/1	0.77	0.14	82,82,82,82	0
56	MG	2A	3176	1/1	0.77	0.15	79,79,79,79	0
56	MG	1A	3143	1/1	0.77	0.21	62,62,62,62	0
56	MG	1A	3461	1/1	0.77	0.35	83,83,83,83	0
56	MG	1B	208	1/1	0.77	0.13	81,81,81,81	0
56	MG	1A	3028	1/1	0.77	0.17	107,107,107,107	0
56	MG	2A	3111	1/1	0.77	0.09	76,76,76,76	0
56	MG	2A	3202	1/1	0.77	0.27	70,70,70,70	0
56	MG	1A	3423	1/1	0.77	0.34	62,62,62,62	0
56	MG	2A	3291	1/1	0.77	0.24	78,78,78,78	0
56	MG	1a	1621	1/1	0.77	0.31	73,73,73,73	0
56	MG	1a	1667	1/1	0.77	0.17	78,78,78,78	0
56	MG	1B	211	1/1	0.77	0.11	72,72,72,72	0
56	MG	1A	3424	1/1	0.77	0.34	61,61,61,61	0
56	MG	2A	3376	1/1	0.78	0.17	72,72,72,72	0
56	MG	1A	3026	1/1	0.78	0.23	75,75,75,75	0
56	MG	2A	3193	1/1	0.78	0.10	87,87,87,87	0
56	MG	13	101	1/1	0.78	0.28	72,72,72,72	0
56	MG	1A	3405	1/1	0.78	0.31	93,93,93,93	0
56	MG	2A	3110	1/1	0.78	0.07	88,88,88,88	0
56	MG	1A	3406	1/1	0.78	0.27	76,76,76,76	0
56	MG	1A	3299	1/1	0.78	0.19	83,83,83,83	0
56	MG	1A	3097	1/1	0.78	0.23	77,77,77,77	0
56	MG	1A	3165	1/1	0.78	0.16	84,84,84,84	0
56	MG	2A	3129	1/1	0.78	0.35	61,61,61,61	0
56	MG	2A	3054	1/1	0.78	0.10	78,78,78,78	0
56	MG	1A	3078	1/1	0.78	0.42	80,80,80,80	0
56	MG	1A	3378	1/1	0.78	0.21	77,77,77,77	0
56	MG	2A	3009	1/1	0.78	0.12	110,110,110,110	0
56	MG	1A	3270	1/1	0.78	0.27	62,62,62,62	0
56	MG	2A	3083	1/1	0.78	0.19	77,77,77,77	0
56	MG	1A	3044	1/1	0.78	0.16	83,83,83,83	0
56	MG	1A	3121	1/1	0.78	0.30	79,79,79,79	0
56	MG	2A	3261	1/1	0.78	0.31	72,72,72,72	0
56	MG	2A	3021	1/1	0.78	0.14	90,90,90,90	0
56	MG	2A	3359	1/1	0.78	0.15	74,74,74,74	0
56	MG	1A	3290	1/1	0.78	0.21	80,80,80,80	0
56	MG	2A	3180	1/1	0.78	0.16	76,76,76,76	0
56	MG	1A	3428	1/1	0.78	0.49	61,61,61,61	0
56	MG	1A	3186	1/1	0.78	0.22	84,84,84,84	0
56	MG	1A	3465	1/1	0.78	0.27	61,61,61,61	0
56	MG	2A	3147	1/1	0.79	0.28	75,75,75,75	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3243	1/1	0.79	0.28	64,64,64,64	0
56	MG	2A	3358	1/1	0.79	0.29	81,81,81,81	0
56	MG	2A	3244	1/1	0.79	0.28	61,61,61,61	0
56	MG	2A	3148	1/1	0.79	0.26	72,72,72,72	0
56	MG	1A	3257	1/1	0.79	0.18	82,82,82,82	0
56	MG	1A	3173	1/1	0.79	0.29	87,87,87,87	0
56	MG	2A	3152	1/1	0.79	0.32	81,81,81,81	0
56	MG	2A	3153	1/1	0.79	0.12	100,100,100,100	0
56	MG	2A	3087	1/1	0.79	0.19	68,68,68,68	0
56	MG	2A	3027	1/1	0.79	0.26	83,83,83,83	0
56	MG	1A	3456	1/1	0.79	0.34	68,68,68,68	0
56	MG	2A	3092	1/1	0.79	0.26	75,75,75,75	0
56	MG	1A	3325	1/1	0.79	0.40	70,70,70,70	0
56	MG	1A	3004	1/1	0.79	0.13	89,89,89,89	0
56	MG	2A	3276	1/1	0.79	0.44	74,74,74,74	0
56	MG	1A	3098	1/1	0.79	0.14	81,81,81,81	0
56	MG	1A	3435	1/1	0.79	0.23	90,90,90,90	0
56	MG	1A	3297	1/1	0.79	0.27	79,79,79,79	0
56	MG	2A	3183	1/1	0.79	0.20	81,81,81,81	0
56	MG	1A	3082	1/1	0.79	0.22	74,74,74,74	0
56	MG	2A	3105	1/1	0.79	0.17	74,74,74,74	0
56	MG	1A	3411	1/1	0.79	0.31	75,75,75,75	0
56	MG	2a	3037	1/1	0.79	0.06	84,84,84,84	0
56	MG	1A	3171	1/1	0.79	0.27	76,76,76,76	0
56	MG	1A	3274	1/1	0.79	0.24	74,74,74,74	0
56	MG	1A	3306	1/1	0.79	0.54	61,61,61,61	0
56	MG	1A	3002	1/1	0.79	0.13	94,94,94,94	0
56	MG	2a	3065	1/1	0.79	0.15	75,75,75,75	0
56	MG	1A	3451	1/1	0.79	0.17	77,77,77,77	0
56	MG	2A	3125	1/1	0.79	0.12	82,82,82,82	0
56	MG	1A	3285	1/1	0.79	0.23	83,83,83,83	0
56	MG	2A	3221	1/1	0.79	0.23	80,80,80,80	0
56	MG	2A	3137	1/1	0.79	0.37	62,62,62,62	0
56	MG	2A	3139	1/1	0.79	0.18	64,64,64,64	0
56	MG	1B	207	1/1	0.79	0.16	106,106,106,106	0
56	MG	2A	3340	1/1	0.79	0.21	86,86,86,86	0
56	MG	2A	3146	1/1	0.79	0.37	79,79,79,79	0
56	MG	1A	3385	1/1	0.80	0.21	63,63,63,63	0
56	MG	1A	3018	1/1	0.80	0.21	77,77,77,77	0
56	MG	2A	3124	1/1	0.80	0.11	94,94,94,94	0
56	MG	1A	3321	1/1	0.80	0.30	67,67,67,67	0
56	MG	2E	302	1/1	0.80	0.17	80,80,80,80	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2E	303	1/1	0.80	0.26	81,81,81,81	0
56	MG	2A	3182	1/1	0.80	0.18	76,76,76,76	0
56	MG	2A	3248	1/1	0.80	0.29	78,78,78,78	0
56	MG	1A	3151	1/1	0.80	0.23	76,76,76,76	0
56	MG	1A	3293	1/1	0.80	0.24	84,84,84,84	0
56	MG	1d	301	1/1	0.80	0.19	91,91,91,91	0
56	MG	1a	1651	1/1	0.80	0.43	71,71,71,71	0
56	MG	2A	3093	1/1	0.80	0.25	82,82,82,82	0
56	MG	2A	3339	1/1	0.80	0.10	85,85,85,85	0
56	MG	2A	3194	1/1	0.80	0.16	79,79,79,79	0
56	MG	2A	3348	1/1	0.80	0.30	77,77,77,77	0
56	MG	1A	3327	1/1	0.80	0.23	83,83,83,83	0
56	MG	1A	3062	1/1	0.80	0.14	89,89,89,89	0
56	MG	2A	3271	1/1	0.80	0.26	63,63,63,63	0
56	MG	1A	3271	1/1	0.80	0.26	75,75,75,75	0
56	MG	1A	3156	1/1	0.80	0.20	78,78,78,78	0
56	MG	2A	3045	1/1	0.80	0.13	74,74,74,74	0
56	MG	2a	3077	1/1	0.80	0.12	95,95,95,95	0
56	MG	1A	3371	1/1	0.80	0.25	75,75,75,75	0
56	MG	1A	3206	1/1	0.80	0.31	76,76,76,76	0
56	MG	1A	3142	1/1	0.80	0.14	71,71,71,71	0
56	MG	2A	3372	1/1	0.80	0.27	70,70,70,70	0
56	MG	1A	3046	1/1	0.80	0.20	78,78,78,78	0
56	MG	2A	3016	1/1	0.80	0.11	72,72,72,72	0
56	MG	1A	3042	1/1	0.80	0.24	79,79,79,79	0
56	MG	2l	201	1/1	0.80	0.11	80,80,80,80	0
56	MG	2A	3005	1/1	0.81	0.16	85,85,85,85	0
56	MG	1A	3395	1/1	0.81	0.24	67,67,67,67	0
56	MG	1A	3450	1/1	0.81	0.17	75,75,75,75	0
56	MG	2A	3174	1/1	0.81	0.13	80,80,80,80	0
56	MG	2E	301	1/1	0.81	0.11	87,87,87,87	0
56	MG	2A	3057	1/1	0.81	0.11	91,91,91,91	0
56	MG	1a	1668	1/1	0.81	0.32	78,78,78,78	0
56	MG	2A	3179	1/1	0.81	0.28	93,93,93,93	0
56	MG	20	102	1/1	0.81	0.15	75,75,75,75	0
56	MG	1a	1630	1/1	0.81	0.14	80,80,80,80	0
56	MG	2A	3328	1/1	0.81	0.28	68,68,68,68	0
56	MG	1A	3478	1/1	0.81	0.26	76,76,76,76	0
56	MG	1A	3353	1/1	0.81	0.12	62,62,62,62	0
56	MG	2a	3019	1/1	0.81	0.20	77,77,77,77	0
56	MG	1A	3096	1/1	0.81	0.22	76,76,76,76	0
56	MG	2a	3025	1/1	0.81	0.34	81,81,81,81	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	2a	3028	1/1	0.81	0.13	83,83,83,83	0
56	MG	2A	3136	1/1	0.81	0.30	78,78,78,78	0
56	MG	2A	3262	1/1	0.81	0.21	80,80,80,80	0
56	MG	2a	3035	1/1	0.81	0.34	73,73,73,73	0
56	MG	1A	3043	1/1	0.81	0.08	76,76,76,76	0
56	MG	1A	3031	1/1	0.81	0.20	69,69,69,69	0
56	MG	1a	1602	1/1	0.81	0.18	74,74,74,74	0
56	MG	1A	3269	1/1	0.81	0.25	92,92,92,92	0
56	MG	2A	3354	1/1	0.81	0.27	65,65,65,65	0
56	MG	1A	3338	1/1	0.81	0.38	61,61,61,61	0
56	MG	1A	3387	1/1	0.81	0.21	80,80,80,80	0
56	MG	1A	3446	1/1	0.81	0.25	77,77,77,77	0
56	MG	2a	3076	1/1	0.81	0.08	82,82,82,82	0
56	MG	1A	3323	1/1	0.81	0.43	62,62,62,62	0
56	MG	1A	3448	1/1	0.81	0.26	74,74,74,74	0
56	MG	2A	3367	1/1	0.81	0.34	62,62,62,62	0
56	MG	2a	3090	1/1	0.81	0.23	73,73,73,73	0
56	MG	2A	3002	1/1	0.81	0.20	70,70,70,70	0
56	MG	1a	1660	1/1	0.81	0.40	61,61,61,61	0
56	MG	2A	3297	1/1	0.81	0.30	77,77,77,77	0
56	MG	1a	1619	1/1	0.81	0.13	92,92,92,92	0
56	MG	2A	3304	1/1	0.81	0.33	63,63,63,63	0
56	MG	2A	3160	1/1	0.81	0.22	75,75,75,75	0
56	MG	2r	101	1/1	0.81	0.20	77,77,77,77	0
56	MG	2A	3113	1/1	0.82	0.19	70,70,70,70	0
56	MG	1A	3084	1/1	0.82	0.16	79,79,79,79	0
56	MG	1A	3261	1/1	0.82	0.14	77,77,77,77	0
56	MG	1A	3460	1/1	0.82	0.33	67,67,67,67	0
56	MG	1a	1635	1/1	0.82	0.08	84,84,84,84	0
56	MG	1E	303	1/1	0.82	0.32	62,62,62,62	0
56	MG	2A	3126	1/1	0.82	0.17	76,76,76,76	0
56	MG	1A	3199	1/1	0.82	0.15	84,84,84,84	0
56	MG	2Q	201	1/1	0.82	0.09	93,93,93,93	0
56	MG	1A	3333	1/1	0.82	0.23	68,68,68,68	0
56	MG	2A	3056	1/1	0.82	0.11	79,79,79,79	0
56	MG	1a	1643	1/1	0.82	0.14	71,71,71,71	0
56	MG	1A	3135	1/1	0.82	0.23	80,80,80,80	0
56	MG	2A	3219	1/1	0.82	0.20	75,75,75,75	0
56	MG	1a	1648	1/1	0.82	0.12	100,100,100,100	0
56	MG	2A	3079	1/1	0.82	0.07	79,79,79,79	0
56	MG	1A	3011	1/1	0.82	0.28	72,72,72,72	0
56	MG	2A	3006	1/1	0.82	0.09	76,76,76,76	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3323	1/1	0.82	0.12	64,64,64,64	0
56	MG	2A	3237	1/1	0.82	0.15	82,82,82,82	0
56	MG	1A	3177	1/1	0.82	0.17	62,62,62,62	0
56	MG	1A	3373	1/1	0.82	0.29	61,61,61,61	0
56	MG	1A	3374	1/1	0.82	0.23	62,62,62,62	0
56	MG	1A	3024	1/1	0.82	0.29	85,85,85,85	0
56	MG	1A	3481	1/1	0.82	0.22	68,68,68,68	0
56	MG	2A	3246	1/1	0.82	0.20	79,79,79,79	0
56	MG	2A	3341	1/1	0.82	0.21	76,76,76,76	0
56	MG	2A	3159	1/1	0.82	0.13	83,83,83,83	0
56	MG	1A	3216	1/1	0.82	0.31	65,65,65,65	0
56	MG	2A	3250	1/1	0.82	0.34	62,62,62,62	0
56	MG	2a	3075	1/1	0.82	0.11	92,92,92,92	0
56	MG	2A	3253	1/1	0.82	0.26	62,62,62,62	0
56	MG	2A	3162	1/1	0.82	0.23	90,90,90,90	0
56	MG	2a	3079	1/1	0.82	0.13	62,62,62,62	0
56	MG	1A	3122	1/1	0.82	0.17	106,106,106,106	0
56	MG	1A	3379	1/1	0.82	0.17	80,80,80,80	0
56	MG	2A	3025	1/1	0.82	0.15	89,89,89,89	0
56	MG	1A	3054	1/1	0.82	0.11	75,75,75,75	0
56	MG	2a	3093	1/1	0.82	0.11	77,77,77,77	0
56	MG	1a	1670	1/1	0.82	0.14	97,97,97,97	0
56	MG	1A	3223	1/1	0.82	0.18	64,64,64,64	0
56	MG	1a	1624	1/1	0.82	0.09	109,109,109,109	0
56	MG	1A	3127	1/1	0.82	0.17	69,69,69,69	0
56	MG	1A	3425	1/1	0.82	0.34	67,67,67,67	0
56	MG	1A	3015	1/1	0.82	0.20	62,62,62,62	0
56	MG	1A	3363	1/1	0.83	0.35	77,77,77,77	0
56	MG	1A	3239	1/1	0.83	0.09	90,90,90,90	0
56	MG	1A	3337	1/1	0.83	0.15	79,79,79,79	0
56	MG	1A	3402	1/1	0.83	0.34	62,62,62,62	0
56	MG	1A	3288	1/1	0.83	0.29	78,78,78,78	0
56	MG	2A	3177	1/1	0.83	0.29	63,63,63,63	0
56	MG	2A	3333	1/1	0.83	0.73	74,74,74,74	0
56	MG	2A	3058	1/1	0.83	0.31	82,82,82,82	0
56	MG	1A	3468	1/1	0.83	0.21	63,63,63,63	0
56	MG	2A	3071	1/1	0.83	0.22	61,61,61,61	0
56	MG	2a	3020	1/1	0.83	0.10	105,105,105,105	0
56	MG	1A	3312	1/1	0.83	0.22	65,65,65,65	0
56	MG	2a	3023	1/1	0.83	0.17	72,72,72,72	0
56	MG	1A	3091	1/1	0.83	0.19	77,77,77,77	0
56	MG	1a	1677	1/1	0.83	0.20	85,85,85,85	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3133	1/1	0.83	0.28	77,77,77,77	0
56	MG	2A	3350	1/1	0.83	0.10	93,93,93,93	0
56	MG	2A	3082	1/1	0.83	0.23	79,79,79,79	0
56	MG	1A	3123	1/1	0.83	0.34	81,81,81,81	0
56	MG	2a	3039	1/1	0.83	0.31	79,79,79,79	0
56	MG	2A	3353	1/1	0.83	0.25	70,70,70,70	0
56	MG	2a	3043	1/1	0.83	0.29	62,62,62,62	0
56	MG	1a	1638	1/1	0.83	0.21	75,75,75,75	0
56	MG	2A	3355	1/1	0.83	0.10	86,86,86,86	0
56	MG	1A	3204	1/1	0.83	0.20	72,72,72,72	0
56	MG	2A	3200	1/1	0.83	0.21	74,74,74,74	0
56	MG	1A	3264	1/1	0.83	0.18	83,83,83,83	0
56	MG	2a	3070	1/1	0.83	0.11	78,78,78,78	0
56	MG	1A	3149	1/1	0.83	0.23	72,72,72,72	0
56	MG	1a	1644	1/1	0.83	0.23	76,76,76,76	0
56	MG	1A	3070	1/1	0.83	0.15	87,87,87,87	0
56	MG	1A	3126	1/1	0.83	0.33	80,80,80,80	0
56	MG	2A	3213	1/1	0.83	0.18	67,67,67,67	0
56	MG	1A	3328	1/1	0.83	0.18	61,61,61,61	0
56	MG	1A	3178	1/1	0.83	0.28	65,65,65,65	0
56	MG	2A	3374	1/1	0.83	0.41	62,62,62,62	0
56	MG	2a	3091	1/1	0.83	0.18	79,79,79,79	0
56	MG	2A	3375	1/1	0.83	0.17	66,66,66,66	0
56	MG	1A	3392	1/1	0.83	0.27	73,73,73,73	0
56	MG	2A	3234	1/1	0.83	0.24	68,68,68,68	0
56	MG	2A	3099	1/1	0.83	0.27	81,81,81,81	0
56	MG	1A	3198	1/1	0.83	0.20	64,64,64,64	0
56	MG	2A	3048	1/1	0.83	0.07	82,82,82,82	0
56	MG	2A	3103	1/1	0.83	0.22	78,78,78,78	0
56	MG	1A	3334	1/1	0.83	0.20	62,62,62,62	0
56	MG	1A	3093	1/1	0.84	0.30	76,76,76,76	0
56	MG	2A	3345	1/1	0.84	0.29	62,62,62,62	0
56	MG	1A	3280	1/1	0.84	0.20	64,64,64,64	0
56	MG	1A	3010	1/1	0.84	0.21	72,72,72,72	0
56	MG	1A	3372	1/1	0.84	0.14	72,72,72,72	0
56	MG	1A	3155	1/1	0.84	0.28	73,73,73,73	0
56	MG	1A	3408	1/1	0.84	0.41	61,61,61,61	0
56	MG	2A	3282	1/1	0.84	0.17	74,74,74,74	0
56	MG	2A	3284	1/1	0.84	0.24	71,71,71,71	0
56	MG	2a	3030	1/1	0.84	0.11	74,74,74,74	0
56	MG	2A	3356	1/1	0.84	0.19	68,68,68,68	0
56	MG	1A	3409	1/1	0.84	0.28	82,82,82,82	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3169	1/1	0.84	0.15	62,62,62,62	0
56	MG	2A	3012	1/1	0.84	0.25	66,66,66,66	0
56	MG	1a	1622	1/1	0.84	0.11	66,66,66,66	0
56	MG	2A	3067	1/1	0.84	0.13	73,73,73,73	0
56	MG	2A	3115	1/1	0.84	0.19	84,84,84,84	0
56	MG	2a	3052	1/1	0.84	0.10	68,68,68,68	0
56	MG	2A	3069	1/1	0.84	0.20	83,83,83,83	0
56	MG	2A	3242	1/1	0.84	0.28	61,61,61,61	0
56	MG	1A	3111	1/1	0.84	0.30	78,78,78,78	0
56	MG	1A	3246	1/1	0.84	0.19	77,77,77,77	0
56	MG	2a	3067	1/1	0.84	0.07	96,96,96,96	0
56	MG	1A	3232	1/1	0.84	0.18	77,77,77,77	0
56	MG	1A	3268	1/1	0.84	0.17	68,68,68,68	0
56	MG	2a	3073	1/1	0.84	0.13	76,76,76,76	0
56	MG	1A	3326	1/1	0.84	0.22	63,63,63,63	0
56	MG	2A	3317	1/1	0.84	0.24	65,65,65,65	0
56	MG	1A	3294	1/1	0.84	0.20	75,75,75,75	0
56	MG	1A	3249	1/1	0.84	0.06	90,90,90,90	0
56	MG	2A	3251	1/1	0.84	0.26	75,75,75,75	0
56	MG	2A	3324	1/1	0.84	0.17	82,82,82,82	0
56	MG	1A	3357	1/1	0.84	0.10	68,68,68,68	0
56	MG	1A	3391	1/1	0.84	0.24	66,66,66,66	0
56	MG	1A	3251	1/1	0.84	0.18	82,82,82,82	0
56	MG	10	103	1/1	0.84	0.19	69,69,69,69	0
56	MG	1A	3331	1/1	0.84	0.20	63,63,63,63	0
56	MG	1A	3217	1/1	0.84	0.22	65,65,65,65	0
56	MG	2a	3001	1/1	0.84	0.17	80,80,80,80	0
56	MG	1A	3061	1/1	0.84	0.20	71,71,71,71	0
56	MG	1A	3366	1/1	0.84	0.25	61,61,61,61	0
56	MG	2a	3013	1/1	0.84	0.07	80,80,80,80	0
56	MG	1A	3235	1/1	0.85	0.22	77,77,77,77	0
56	MG	1A	3356	1/1	0.85	0.19	61,61,61,61	0
56	MG	1A	3320	1/1	0.85	0.26	74,74,74,74	0
56	MG	21	101	1/1	0.85	0.24	63,63,63,63	0
56	MG	1x	101	1/1	0.85	0.10	92,92,92,92	0
56	MG	1A	3164	1/1	0.85	0.27	69,69,69,69	0
56	MG	1A	3087	1/1	0.85	0.14	82,82,82,82	0
56	MG	2a	3012	1/1	0.85	0.08	104,104,104,104	0
56	MG	2A	3156	1/1	0.85	0.09	63,63,63,63	0
56	MG	2A	3240	1/1	0.85	0.36	61,61,61,61	0
56	MG	1A	3238	1/1	0.85	0.30	75,75,75,75	0
56	MG	1a	1659	1/1	0.85	0.33	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3384	1/1	0.85	0.12	71,71,71,71	0
56	MG	1A	3362	1/1	0.85	0.38	62,62,62,62	0
56	MG	2A	3165	1/1	0.85	0.26	73,73,73,73	0
56	MG	2A	3102	1/1	0.85	0.05	73,73,73,73	0
56	MG	2a	3027	1/1	0.85	0.22	79,79,79,79	0
56	MG	1A	3224	1/1	0.85	0.47	76,76,76,76	0
56	MG	2A	3249	1/1	0.85	0.17	74,74,74,74	0
56	MG	1A	3365	1/1	0.85	0.23	69,69,69,69	0
56	MG	2a	3033	1/1	0.85	0.08	72,72,72,72	0
56	MG	2A	3008	1/1	0.85	0.20	69,69,69,69	0
56	MG	1A	3050	1/1	0.85	0.12	83,83,83,83	0
56	MG	2A	3349	1/1	0.85	0.29	76,76,76,76	0
56	MG	2A	3010	1/1	0.85	0.16	87,87,87,87	0
56	MG	2A	3255	1/1	0.85	0.26	71,71,71,71	0
56	MG	2A	3112	1/1	0.85	0.14	68,68,68,68	0
56	MG	2A	3059	1/1	0.85	0.21	82,82,82,82	0
56	MG	2A	3062	1/1	0.85	0.19	72,72,72,72	0
56	MG	2A	3011	1/1	0.85	0.09	82,82,82,82	0
56	MG	2A	3120	1/1	0.85	0.17	78,78,78,78	0
56	MG	2A	3265	1/1	0.85	0.27	73,73,73,73	0
56	MG	1A	3472	1/1	0.85	0.25	67,67,67,67	0
56	MG	1A	3227	1/1	0.85	0.11	71,71,71,71	0
56	MG	1A	3023	1/1	0.85	0.09	73,73,73,73	0
56	MG	1A	3422	1/1	0.85	0.34	61,61,61,61	0
56	MG	2a	3072	1/1	0.85	0.11	72,72,72,72	0
56	MG	2A	3366	1/1	0.85	0.30	63,63,63,63	0
56	MG	2A	3190	1/1	0.85	0.16	82,82,82,82	0
56	MG	1a	1637	1/1	0.85	0.14	89,89,89,89	0
56	MG	1A	3116	1/1	0.85	0.24	68,68,68,68	0
56	MG	2A	3195	1/1	0.85	0.22	66,66,66,66	0
56	MG	2A	3130	1/1	0.85	0.34	63,63,63,63	0
56	MG	2a	3087	1/1	0.85	0.18	61,61,61,61	0
56	MG	1A	3484	1/1	0.85	0.17	67,67,67,67	0
56	MG	2A	3134	1/1	0.85	0.19	82,82,82,82	0
56	MG	2A	3203	1/1	0.85	0.28	61,61,61,61	0
56	MG	1A	3488	1/1	0.85	0.20	69,69,69,69	0
56	MG	1a	1683	1/1	0.85	0.16	118,118,118,118	0
56	MG	2A	3302	1/1	0.85	0.14	82,82,82,82	0
56	MG	2A	3138	1/1	0.85	0.04	76,76,76,76	0
56	MG	2A	3086	1/1	0.85	0.15	77,77,77,77	0
56	MG	1A	3161	1/1	0.85	0.11	65,65,65,65	0
56	MG	2A	3088	1/1	0.85	0.17	76,76,76,76	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3203	1/1	0.85	0.28	72,72,72,72	0
56	MG	1A	3467	1/1	0.86	0.24	66,66,66,66	0
56	MG	1A	3430	1/1	0.86	0.18	68,68,68,68	0
56	MG	1A	3067	1/1	0.86	0.21	64,64,64,64	0
56	MG	1A	3248	1/1	0.86	0.17	68,68,68,68	0
56	MG	1A	3190	1/1	0.86	0.34	79,79,79,79	0
56	MG	2A	3064	1/1	0.86	0.12	101,101,101,101	0
56	MG	2A	3066	1/1	0.86	0.20	85,85,85,85	0
56	MG	1A	3473	1/1	0.86	0.28	61,61,61,61	0
56	MG	2E	304	1/1	0.86	0.15	63,63,63,63	0
56	MG	2A	3127	1/1	0.86	0.17	93,93,93,93	0
56	MG	1A	3307	1/1	0.86	0.20	71,71,71,71	0
56	MG	2A	3161	1/1	0.86	0.13	72,72,72,72	0
56	MG	1A	3403	1/1	0.86	0.21	87,87,87,87	0
56	MG	2A	3164	1/1	0.86	0.22	68,68,68,68	0
56	MG	2a	3003	1/1	0.86	0.16	90,90,90,90	0
56	MG	2A	3307	1/1	0.86	0.14	77,77,77,77	0
56	MG	2a	3009	1/1	0.86	0.13	79,79,79,79	0
56	MG	2A	3131	1/1	0.86	0.19	63,63,63,63	0
56	MG	2A	3309	1/1	0.86	0.17	61,61,61,61	0
56	MG	2A	3044	1/1	0.86	0.14	81,81,81,81	0
56	MG	2a	3078	1/1	0.86	0.21	62,62,62,62	0
56	MG	1A	3074	1/1	0.86	0.14	77,77,77,77	0
56	MG	1A	3134	1/1	0.86	0.23	80,80,80,80	0
56	MG	2A	3212	1/1	0.86	0.15	78,78,78,78	0
56	MG	1S	201	1/1	0.86	0.10	78,78,78,78	0
56	MG	2A	3051	1/1	0.86	0.34	79,79,79,79	0
56	MG	1A	3045	1/1	0.86	0.20	74,74,74,74	0
56	MG	2a	3024	1/1	0.86	0.14	83,83,83,83	0
56	MG	2A	3227	1/1	0.86	0.20	62,62,62,62	0
56	MG	2a	3094	1/1	0.86	0.16	66,66,66,66	0
56	MG	1A	3266	1/1	0.86	0.10	77,77,77,77	0
56	MG	2A	3178	1/1	0.86	0.16	75,75,75,75	0
56	MG	2A	3145	1/1	0.86	0.20	79,79,79,79	0
56	MG	1A	3230	1/1	0.86	0.27	79,79,79,79	0
56	MG	2a	3032	1/1	0.86	0.08	75,75,75,75	0
56	MG	1A	3302	1/1	0.86	0.21	62,62,62,62	0
56	MG	1A	3296	1/1	0.87	0.19	73,73,73,73	0
56	MG	2A	3132	1/1	0.87	0.21	71,71,71,71	0
56	MG	1A	3181	1/1	0.87	0.21	73,73,73,73	0
56	MG	1A	3298	1/1	0.87	0.22	71,71,71,71	0
56	MG	1A	3183	1/1	0.87	0.23	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3257	1/1	0.87	0.24	84,84,84,84	0
56	MG	1a	1690	1/1	0.87	0.15	84,84,84,84	0
56	MG	2A	3191	1/1	0.87	0.07	78,78,78,78	0
56	MG	1A	3003	1/1	0.87	0.42	68,68,68,68	0
56	MG	1A	3063	1/1	0.87	0.22	77,77,77,77	0
56	MG	1A	3243	1/1	0.87	0.21	71,71,71,71	0
56	MG	2A	3264	1/1	0.87	0.14	70,70,70,70	0
56	MG	1A	3305	1/1	0.87	0.32	61,61,61,61	0
56	MG	2A	3199	1/1	0.87	0.14	83,83,83,83	0
56	MG	1A	3071	1/1	0.87	0.14	75,75,75,75	0
56	MG	1A	3089	1/1	0.87	0.16	74,74,74,74	0
56	MG	1A	3272	1/1	0.87	0.17	70,70,70,70	0
56	MG	2A	3204	1/1	0.87	0.20	68,68,68,68	0
56	MG	1A	3090	1/1	0.87	0.12	75,75,75,75	0
56	MG	1A	3277	1/1	0.87	0.29	61,61,61,61	0
56	MG	1A	3386	1/1	0.87	0.14	77,77,77,77	0
56	MG	2A	3361	1/1	0.87	0.22	62,62,62,62	0
56	MG	2A	3283	1/1	0.87	0.18	61,61,61,61	0
56	MG	1A	3191	1/1	0.87	0.23	70,70,70,70	0
56	MG	2A	3286	1/1	0.87	0.20	62,62,62,62	0
56	MG	2A	3210	1/1	0.87	0.30	68,68,68,68	0
56	MG	2a	3048	1/1	0.87	0.17	80,80,80,80	0
56	MG	2A	3104	1/1	0.87	0.17	80,80,80,80	0
56	MG	1A	3389	1/1	0.87	0.19	71,71,71,71	0
56	MG	1A	3354	1/1	0.87	0.16	61,61,61,61	0
56	MG	2A	3300	1/1	0.87	0.12	74,74,74,74	0
56	MG	2A	3158	1/1	0.87	0.11	73,73,73,73	0
56	MG	1A	3319	1/1	0.87	0.20	61,61,61,61	0
56	MG	1A	3192	1/1	0.87	0.29	61,61,61,61	0
56	MG	1A	3168	1/1	0.87	0.15	71,71,71,71	0
56	MG	1A	3081	1/1	0.87	0.17	65,65,65,65	0
56	MG	2B	203	1/1	0.87	0.20	75,75,75,75	0
56	MG	2a	3074	1/1	0.87	0.25	76,76,76,76	0
56	MG	1A	3152	1/1	0.87	0.20	64,64,64,64	0
56	MG	1A	3480	1/1	0.87	0.37	69,69,69,69	0
56	MG	2A	3117	1/1	0.87	0.16	74,74,74,74	0
56	MG	2A	3118	1/1	0.87	0.15	71,71,71,71	0
56	MG	1A	3440	1/1	0.87	0.28	70,70,70,70	0
56	MG	2A	3076	1/1	0.87	0.14	69,69,69,69	0
56	MG	1A	3441	1/1	0.87	0.15	76,76,76,76	0
56	MG	1A	3136	1/1	0.87	0.24	76,76,76,76	0
56	MG	2A	3080	1/1	0.87	0.24	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	20	101	1/1	0.87	0.11	75,75,75,75	0
56	MG	1A	3005	1/1	0.87	0.14	82,82,82,82	0
56	MG	1A	3041	1/1	0.87	0.20	69,69,69,69	0
56	MG	23	101	1/1	0.87	0.18	68,68,68,68	0
56	MG	25	101	1/1	0.87	0.20	69,69,69,69	0
56	MG	27	101	1/1	0.87	0.21	69,69,69,69	0
56	MG	28	101	1/1	0.87	0.07	80,80,80,80	0
56	MG	1A	3030	1/1	0.87	0.27	76,76,76,76	0
56	MG	1A	3158	1/1	0.87	0.11	75,75,75,75	0
56	MG	2a	3005	1/1	0.87	0.08	87,87,87,87	0
56	MG	1a	1616	1/1	0.88	0.20	69,69,69,69	0
56	MG	1A	3033	1/1	0.88	0.10	86,86,86,86	0
56	MG	1a	1661	1/1	0.88	0.18	72,72,72,72	0
56	MG	2A	3222	1/1	0.88	0.15	75,75,75,75	0
56	MG	2A	3163	1/1	0.88	0.28	62,62,62,62	0
56	MG	1A	3139	1/1	0.88	0.22	70,70,70,70	0
56	MG	1a	1663	1/1	0.88	0.22	68,68,68,68	0
56	MG	2a	3026	1/1	0.88	0.31	76,76,76,76	0
56	MG	1A	3310	1/1	0.88	0.78	62,62,62,62	0
56	MG	2A	3013	1/1	0.88	0.20	73,73,73,73	0
56	MG	1A	3455	1/1	0.88	0.32	63,63,63,63	0
56	MG	2A	3368	1/1	0.88	0.40	62,62,62,62	0
56	MG	1B	204	1/1	0.88	0.11	66,66,66,66	0
56	MG	2A	3370	1/1	0.88	0.19	75,75,75,75	0
56	MG	1A	3330	1/1	0.88	0.18	69,69,69,69	0
56	MG	1A	3007	1/1	0.88	0.09	74,74,74,74	0
56	MG	2A	3020	1/1	0.88	0.13	88,88,88,88	0
56	MG	2a	3038	1/1	0.88	0.08	80,80,80,80	0
56	MG	1A	3141	1/1	0.88	0.18	83,83,83,83	0
56	MG	1A	3314	1/1	0.88	0.26	71,71,71,71	0
56	MG	2A	3023	1/1	0.88	0.08	73,73,73,73	0
56	MG	2a	3044	1/1	0.88	0.11	75,75,75,75	0
56	MG	1a	1675	1/1	0.88	0.08	110,110,110,110	0
56	MG	2B	201	1/1	0.88	0.22	80,80,80,80	0
56	MG	2a	3051	1/1	0.88	0.14	79,79,79,79	0
56	MG	1a	1676	1/1	0.88	0.13	77,77,77,77	0
56	MG	1A	3335	1/1	0.88	0.14	85,85,85,85	0
56	MG	2a	3058	1/1	0.88	0.19	73,73,73,73	0
56	MG	1A	3037	1/1	0.88	0.17	68,68,68,68	0
56	MG	1A	3205	1/1	0.88	0.19	74,74,74,74	0
56	MG	2B	209	1/1	0.88	0.10	91,91,91,91	0
56	MG	1D	301	1/1	0.88	0.18	73,73,73,73	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3252	1/1	0.88	0.16	77,77,77,77	0
56	MG	2A	3321	1/1	0.88	0.22	81,81,81,81	0
56	MG	1A	3281	1/1	0.88	0.26	63,63,63,63	0
56	MG	1A	3006	1/1	0.88	0.13	72,72,72,72	0
56	MG	2E	305	1/1	0.88	0.08	67,67,67,67	0
56	MG	2A	3327	1/1	0.88	0.23	70,70,70,70	0
56	MG	2A	3140	1/1	0.88	0.15	73,73,73,73	0
56	MG	2T	202	1/1	0.88	0.28	82,82,82,82	0
56	MG	1A	3364	1/1	0.88	0.12	81,81,81,81	0
56	MG	1A	3388	1/1	0.88	0.20	71,71,71,71	0
56	MG	2A	3197	1/1	0.88	0.20	61,61,61,61	0
56	MG	1A	3105	1/1	0.88	0.07	108,108,108,108	0
56	MG	1A	3474	1/1	0.88	0.16	70,70,70,70	0
56	MG	2a	3089	1/1	0.88	0.21	79,79,79,79	0
56	MG	1A	3148	1/1	0.88	0.31	79,79,79,79	0
56	MG	1A	3229	1/1	0.88	0.10	75,75,75,75	0
56	MG	1A	3418	1/1	0.88	0.25	76,76,76,76	0
56	MG	1A	3419	1/1	0.88	0.32	72,72,72,72	0
56	MG	2A	3053	1/1	0.88	0.14	74,74,74,74	0
56	MG	1a	1650	1/1	0.88	0.07	82,82,82,82	0
56	MG	1A	3254	1/1	0.88	0.20	77,77,77,77	0
56	MG	2a	3098	1/1	0.88	0.15	85,85,85,85	0
56	MG	2A	3272	1/1	0.88	0.16	62,62,62,62	0
56	MG	1A	3421	1/1	0.88	0.17	65,65,65,65	0
56	MG	2f	201	1/1	0.88	0.22	77,77,77,77	0
56	MG	1a	1654	1/1	0.88	0.18	71,71,71,71	0
56	MG	1A	3394	1/1	0.88	0.29	61,61,61,61	0
56	MG	1A	3350	1/1	0.89	0.18	78,78,78,78	0
56	MG	1A	3195	1/1	0.89	0.26	71,71,71,71	0
56	MG	2A	3344	1/1	0.89	0.12	78,78,78,78	0
56	MG	1A	3021	1/1	0.89	0.15	73,73,73,73	0
56	MG	1A	3022	1/1	0.89	0.07	89,89,89,89	0
56	MG	1A	3220	1/1	0.89	0.17	85,85,85,85	0
56	MG	2O	201	1/1	0.89	0.19	73,73,73,73	0
56	MG	2A	3295	1/1	0.89	0.10	76,76,76,76	0
56	MG	2a	3045	1/1	0.89	0.12	79,79,79,79	0
56	MG	1A	3128	1/1	0.89	0.19	77,77,77,77	0
56	MG	2a	3047	1/1	0.89	0.09	77,77,77,77	0
56	MG	2R	202	1/1	0.89	0.27	67,67,67,67	0
56	MG	1l	201	1/1	0.89	0.06	80,80,80,80	0
56	MG	1A	3300	1/1	0.89	0.25	63,63,63,63	0
56	MG	2a	3053	1/1	0.89	0.08	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3282	1/1	0.89	0.21	70,70,70,70	0
56	MG	1F	301	1/1	0.89	0.12	72,72,72,72	0
56	MG	2A	3169	1/1	0.89	0.27	69,69,69,69	0
56	MG	2A	3170	1/1	0.89	0.16	67,67,67,67	0
56	MG	1A	3359	1/1	0.89	0.14	78,78,78,78	0
56	MG	1V	201	1/1	0.89	0.21	80,80,80,80	0
56	MG	1A	3120	1/1	0.89	0.28	61,61,61,61	0
56	MG	2A	3362	1/1	0.89	0.14	80,80,80,80	0
56	MG	2a	3004	1/1	0.89	0.11	91,91,91,91	0
56	MG	2A	3211	1/1	0.89	0.25	63,63,63,63	0
56	MG	2A	3073	1/1	0.89	0.19	73,73,73,73	0
56	MG	1A	3250	1/1	0.89	0.20	71,71,71,71	0
56	MG	2a	3010	1/1	0.89	0.21	70,70,70,70	0
56	MG	1A	3429	1/1	0.89	0.18	79,79,79,79	0
56	MG	1A	3482	1/1	0.89	0.23	61,61,61,61	0
56	MG	1A	3175	1/1	0.89	0.14	62,62,62,62	0
56	MG	2a	3081	1/1	0.89	0.15	64,64,64,64	0
56	MG	2a	3084	1/1	0.89	0.17	72,72,72,72	0
56	MG	2A	3319	1/1	0.89	0.23	64,64,64,64	0
56	MG	1A	3431	1/1	0.89	0.17	62,62,62,62	0
56	MG	2a	3016	1/1	0.89	0.16	84,84,84,84	0
56	MG	2a	3017	1/1	0.89	0.06	87,87,87,87	0
56	MG	1A	3055	1/1	0.89	0.08	83,83,83,83	0
56	MG	1A	3013	1/1	0.89	0.15	83,83,83,83	0
56	MG	1A	3344	1/1	0.89	0.23	73,73,73,73	0
56	MG	2A	3085	1/1	0.89	0.39	71,71,71,71	0
56	MG	2A	3273	1/1	0.89	0.18	62,62,62,62	0
56	MG	1A	3104	1/1	0.89	0.14	69,69,69,69	0
56	MG	2A	3385	1/1	0.89	0.12	76,76,76,76	0
56	MG	2A	3119	1/1	0.89	0.30	63,63,63,63	0
56	MG	2A	3277	1/1	0.89	0.26	70,70,70,70	0
56	MG	2A	3335	1/1	0.89	0.19	68,68,68,68	0
56	MG	2A	3188	1/1	0.89	0.20	74,74,74,74	0
56	MG	1A	3367	1/1	0.89	0.20	61,61,61,61	0
56	MG	1A	3035	1/1	0.89	0.22	75,75,75,75	0
56	MG	2A	3038	1/1	0.90	0.22	77,77,77,77	0
56	MG	1A	3242	1/1	0.90	0.19	61,61,61,61	0
56	MG	2a	3007	1/1	0.90	0.07	73,73,73,73	0
56	MG	2A	3241	1/1	0.90	0.21	65,65,65,65	0
56	MG	2A	3325	1/1	0.90	0.26	67,67,67,67	0
56	MG	1a	1623	1/1	0.90	0.12	79,79,79,79	0
56	MG	1A	3413	1/1	0.90	0.19	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3076	1/1	0.90	0.30	65,65,65,65	0
56	MG	2A	3332	1/1	0.90	0.31	80,80,80,80	0
56	MG	2A	3167	1/1	0.90	0.22	72,72,72,72	0
56	MG	1A	3174	1/1	0.90	0.21	73,73,73,73	0
56	MG	2A	3046	1/1	0.90	0.18	65,65,65,65	0
56	MG	2A	3108	1/1	0.90	0.12	67,67,67,67	0
56	MG	1A	3351	1/1	0.90	0.09	64,64,64,64	0
56	MG	1B	205	1/1	0.90	0.06	68,68,68,68	0
56	MG	2A	3050	1/1	0.90	0.16	76,76,76,76	0
56	MG	1A	3267	1/1	0.90	0.16	70,70,70,70	0
56	MG	2A	3342	1/1	0.90	0.12	85,85,85,85	0
56	MG	1A	3025	1/1	0.90	0.15	77,77,77,77	0
56	MG	1A	3176	1/1	0.90	0.23	75,75,75,75	0
56	MG	2A	3346	1/1	0.90	0.14	86,86,86,86	0
56	MG	1A	3107	1/1	0.90	0.07	64,64,64,64	0
56	MG	1A	3209	1/1	0.90	0.34	61,61,61,61	0
56	MG	1A	3160	1/1	0.90	0.21	67,67,67,67	0
56	MG	1a	1639	1/1	0.90	0.13	77,77,77,77	0
56	MG	1A	3301	1/1	0.90	0.14	82,82,82,82	0
56	MG	1A	3179	1/1	0.90	0.09	64,64,64,64	0
56	MG	2A	3060	1/1	0.90	0.07	88,88,88,88	0
56	MG	1A	3463	1/1	0.90	0.29	72,72,72,72	0
56	MG	1A	3275	1/1	0.90	0.30	63,63,63,63	0
56	MG	2A	3189	1/1	0.90	0.33	75,75,75,75	0
56	MG	1A	3332	1/1	0.90	0.18	74,74,74,74	0
56	MG	2A	3128	1/1	0.90	0.54	61,61,61,61	0
56	MG	2A	3269	1/1	0.90	0.25	62,62,62,62	0
56	MG	1A	3212	1/1	0.90	0.20	62,62,62,62	0
56	MG	1A	3170	1/1	0.90	0.23	79,79,79,79	0
56	MG	1W	201	1/1	0.90	0.10	65,65,65,65	0
56	MG	2A	3274	1/1	0.90	0.21	61,61,61,61	0
56	MG	2A	3196	1/1	0.90	0.11	78,78,78,78	0
56	MG	1A	3057	1/1	0.90	0.08	73,73,73,73	0
56	MG	1A	3470	1/1	0.90	0.15	68,68,68,68	0
56	MG	2a	3055	1/1	0.90	0.06	79,79,79,79	0
56	MG	2A	3278	1/1	0.90	0.23	61,61,61,61	0
56	MG	2A	3280	1/1	0.90	0.30	61,61,61,61	0
56	MG	2a	3059	1/1	0.90	0.07	80,80,80,80	0
56	MG	2A	3074	1/1	0.90	0.15	71,71,71,71	0
56	MG	1A	3432	1/1	0.90	0.29	68,68,68,68	0
56	MG	1A	3218	1/1	0.90	0.22	66,66,66,66	0
56	MG	1A	3196	1/1	0.90	0.18	65,65,65,65	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3285	1/1	0.90	0.29	73,73,73,73	0
56	MG	18	101	1/1	0.90	0.39	65,65,65,65	0
56	MG	2A	3288	1/1	0.90	0.17	66,66,66,66	0
56	MG	2A	3290	1/1	0.90	0.34	72,72,72,72	0
56	MG	1a	1601	1/1	0.90	0.21	72,72,72,72	0
56	MG	2A	3017	1/1	0.90	0.19	69,69,69,69	0
56	MG	2A	3207	1/1	0.90	0.11	89,89,89,89	0
56	MG	2A	3142	1/1	0.90	0.26	73,73,73,73	0
56	MG	1A	3283	1/1	0.90	0.29	61,61,61,61	0
56	MG	2A	3298	1/1	0.90	0.17	69,69,69,69	0
56	MG	1A	3476	1/1	0.90	0.20	62,62,62,62	0
56	MG	1A	3259	1/1	0.90	0.11	73,73,73,73	0
56	MG	1A	3404	1/1	0.90	0.19	81,81,81,81	0
56	MG	2A	3303	1/1	0.90	0.14	76,76,76,76	0
56	MG	1A	3182	1/1	0.90	0.12	69,69,69,69	0
56	MG	2A	3214	1/1	0.90	0.18	82,82,82,82	0
56	MG	2A	3024	1/1	0.90	0.06	73,73,73,73	0
56	MG	1a	1612	1/1	0.90	0.09	97,97,97,97	0
56	MG	1a	1614	1/1	0.90	0.20	76,76,76,76	0
56	MG	2A	3225	1/1	0.90	0.13	62,62,62,62	0
56	MG	1A	3110	1/1	0.90	0.22	70,70,70,70	0
56	MG	1A	3315	1/1	0.90	0.20	80,80,80,80	0
56	MG	2A	3313	1/1	0.90	0.17	76,76,76,76	0
56	MG	2A	3231	1/1	0.90	0.24	74,74,74,74	0
56	MG	1A	3201	1/1	0.90	0.19	69,69,69,69	0
56	MG	2A	3032	1/1	0.90	0.06	85,85,85,85	0
56	MG	1A	3345	1/1	0.90	0.15	72,72,72,72	0
56	MG	2A	3035	1/1	0.90	0.15	76,76,76,76	0
56	MG	1A	3346	1/1	0.90	0.27	65,65,65,65	0
56	MG	1A	3213	1/1	0.91	0.09	72,72,72,72	0
56	MG	1A	3085	1/1	0.91	0.12	79,79,79,79	0
56	MG	1a	1642	1/1	0.91	0.10	81,81,81,81	0
56	MG	2A	3223	1/1	0.91	0.16	70,70,70,70	0
56	MG	1A	3286	1/1	0.91	0.14	76,76,76,76	0
56	MG	2a	3049	1/1	0.91	0.08	80,80,80,80	0
56	MG	1A	3184	1/1	0.91	0.20	69,69,69,69	0
56	MG	2A	3316	1/1	0.91	0.16	62,62,62,62	0
56	MG	2a	3002	1/1	0.91	0.09	65,65,65,65	0
56	MG	1A	3436	1/1	0.91	0.40	61,61,61,61	0
56	MG	1a	1613	1/1	0.91	0.12	87,87,87,87	0
56	MG	1E	301	1/1	0.91	0.11	71,71,71,71	0
56	MG	1a	1615	1/1	0.91	0.13	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3401	1/1	0.91	0.24	64,64,64,64	0
56	MG	2a	3062	1/1	0.91	0.13	68,68,68,68	0
56	MG	2a	3064	1/1	0.91	0.18	67,67,67,67	0
56	MG	2A	3072	1/1	0.91	0.12	96,96,96,96	0
56	MG	1E	304	1/1	0.91	0.14	78,78,78,78	0
56	MG	1E	305	1/1	0.91	0.16	72,72,72,72	0
56	MG	2A	3326	1/1	0.91	0.21	74,74,74,74	0
56	MG	1A	3049	1/1	0.91	0.09	104,104,104,104	0
56	MG	2A	3192	1/1	0.91	0.21	79,79,79,79	0
56	MG	2A	3154	1/1	0.91	0.24	68,68,68,68	0
56	MG	2A	3331	1/1	0.91	0.11	73,73,73,73	0
56	MG	1a	1656	1/1	0.91	0.12	82,82,82,82	0
56	MG	2A	3382	1/1	0.91	0.12	124,124,124,124	0
56	MG	2A	3116	1/1	0.91	0.25	72,72,72,72	0
56	MG	2a	3021	1/1	0.91	0.10	82,82,82,82	0
56	MG	1a	1657	1/1	0.91	0.11	93,93,93,93	0
56	MG	2a	3080	1/1	0.91	0.09	74,74,74,74	0
56	MG	1Q	201	1/1	0.91	0.12	75,75,75,75	0
56	MG	1A	3066	1/1	0.91	0.19	72,72,72,72	0
56	MG	1A	3462	1/1	0.91	0.23	79,79,79,79	0
56	MG	1A	3012	1/1	0.91	0.14	75,75,75,75	0
56	MG	1V	203	1/1	0.91	0.18	81,81,81,81	0
56	MG	1A	3276	1/1	0.91	0.18	75,75,75,75	0
56	MG	2A	3047	1/1	0.91	0.11	81,81,81,81	0
56	MG	1A	3166	1/1	0.91	0.26	69,69,69,69	0
56	MG	1A	3060	1/1	0.91	0.20	79,79,79,79	0
56	MG	1A	3073	1/1	0.91	0.12	86,86,86,86	0
56	MG	1A	3427	1/1	0.91	0.30	61,61,61,61	0
56	MG	1A	3311	1/1	0.91	0.24	62,62,62,62	0
56	MG	2a	3096	1/1	0.91	0.14	70,70,70,70	0
56	MG	2a	3036	1/1	0.91	0.14	76,76,76,76	0
56	MG	1a	1672	1/1	0.91	0.07	104,104,104,104	0
56	MG	17	101	1/1	0.91	0.09	66,66,66,66	0
56	MG	1A	3255	1/1	0.91	0.13	77,77,77,77	0
56	MG	2a	3040	1/1	0.91	0.23	78,78,78,78	0
56	MG	1A	3256	1/1	0.91	0.20	78,78,78,78	0
56	MG	1A	3376	1/1	0.91	0.20	61,61,61,61	0
56	MG	2A	3218	1/1	0.92	0.07	72,72,72,72	0
56	MG	1E	306	1/1	0.92	0.22	72,72,72,72	0
56	MG	1A	3185	1/1	0.92	0.31	62,62,62,62	0
56	MG	1a	1682	1/1	0.92	0.11	96,96,96,96	0
56	MG	2A	3270	1/1	0.92	0.10	80,80,80,80	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1A	3233	1/1	0.92	0.19	76,76,76,76	0
56	MG	1A	3222	1/1	0.92	0.22	71,71,71,71	0
56	MG	1A	3412	1/1	0.92	0.22	65,65,65,65	0
56	MG	1a	1620	1/1	0.92	0.07	81,81,81,81	0
56	MG	2A	3144	1/1	0.92	0.19	83,83,83,83	0
56	MG	2a	3063	1/1	0.92	0.21	61,61,61,61	0
56	MG	1a	1653	1/1	0.92	0.30	63,63,63,63	0
56	MG	2A	3106	1/1	0.92	0.04	83,83,83,83	0
56	MG	2A	3068	1/1	0.92	0.12	90,90,90,90	0
56	MG	1A	3153	1/1	0.92	0.11	72,72,72,72	0
56	MG	1A	3193	1/1	0.92	0.18	71,71,71,71	0
56	MG	2A	3329	1/1	0.92	0.07	82,82,82,82	0
56	MG	1A	3393	1/1	0.92	0.25	61,61,61,61	0
56	MG	1A	3287	1/1	0.92	0.28	63,63,63,63	0
56	MG	1a	1627	1/1	0.92	0.14	80,80,80,80	0
56	MG	1A	3029	1/1	0.92	0.10	86,86,86,86	0
56	MG	2A	3077	1/1	0.92	0.10	62,62,62,62	0
56	MG	1A	3273	1/1	0.92	0.18	80,80,80,80	0
56	MG	2B	204	1/1	0.92	0.15	80,80,80,80	0
56	MG	2B	205	1/1	0.92	0.14	89,89,89,89	0
56	MG	1A	3466	1/1	0.92	0.17	61,61,61,61	0
56	MG	1A	3442	1/1	0.92	0.18	61,61,61,61	0
56	MG	2a	3083	1/1	0.92	0.38	61,61,61,61	0
56	MG	2B	208	1/1	0.92	0.21	62,62,62,62	0
56	MG	1A	3108	1/1	0.92	0.13	75,75,75,75	0
56	MG	2a	3086	1/1	0.92	0.23	74,74,74,74	0
56	MG	1a	1666	1/1	0.92	0.07	94,94,94,94	0
56	MG	17	102	1/1	0.92	0.10	83,83,83,83	0
56	MG	2A	3201	1/1	0.92	0.10	75,75,75,75	0
56	MG	1A	3019	1/1	0.92	0.12	80,80,80,80	0
56	MG	2A	3299	1/1	0.92	0.21	78,78,78,78	0
56	MG	1A	3197	1/1	0.92	0.29	71,71,71,71	0
56	MG	1A	3208	1/1	0.92	0.10	62,62,62,62	0
56	MG	1A	3380	1/1	0.92	0.17	73,73,73,73	0
56	MG	1A	3381	1/1	0.92	0.20	63,63,63,63	0
56	MG	1a	1673	1/1	0.92	0.08	99,99,99,99	0
56	MG	1A	3309	1/1	0.92	0.13	62,62,62,62	0
56	MG	1A	3265	1/1	0.92	0.20	72,72,72,72	0
56	MG	1A	3295	1/1	0.92	0.14	69,69,69,69	0
56	MG	2A	3172	1/1	0.92	0.04	87,87,87,87	0
56	MG	1A	3348	1/1	0.92	0.34	79,79,79,79	0
56	MG	2A	3018	1/1	0.92	0.18	73,73,73,73	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3038	1/1	0.92	0.10	61,61,61,61	0
56	MG	2A	3312	1/1	0.93	0.15	64,64,64,64	0
56	MG	2a	3069	1/1	0.93	0.17	104,104,104,104	0
56	MG	1A	3495	1/1	0.93	0.13	98,98,98,98	0
56	MG	2a	3031	1/1	0.93	0.06	76,76,76,76	0
56	MG	2A	3224	1/1	0.93	0.21	61,61,61,61	0
56	MG	1a	1688	1/1	0.93	0.08	80,80,80,80	0
56	MG	2A	3226	1/1	0.93	0.12	82,82,82,82	0
56	MG	28	102	1/1	0.93	0.24	61,61,61,61	0
56	MG	1A	3207	1/1	0.93	0.24	62,62,62,62	0
56	MG	1A	3053	1/1	0.93	0.29	77,77,77,77	0
56	MG	1A	3318	1/1	0.93	0.24	75,75,75,75	0
56	MG	1A	3064	1/1	0.93	0.18	79,79,79,79	0
56	MG	1A	3439	1/1	0.93	0.22	67,67,67,67	0
56	MG	2A	3322	1/1	0.93	0.09	89,89,89,89	0
56	MG	2a	3042	1/1	0.93	0.06	91,91,91,91	0
56	MG	2A	3036	1/1	0.93	0.12	77,77,77,77	0
56	MG	1A	3244	1/1	0.93	0.14	77,77,77,77	0
56	MG	1A	3094	1/1	0.93	0.05	84,84,84,84	0
56	MG	1A	3162	1/1	0.93	0.13	65,65,65,65	0
56	MG	2A	3061	1/1	0.93	0.10	69,69,69,69	0
56	MG	2A	3040	1/1	0.93	0.09	95,95,95,95	0
56	MG	2A	3360	1/1	0.93	0.16	61,61,61,61	0
56	MG	1a	1604	1/1	0.93	0.05	107,107,107,107	0
56	MG	1A	3056	1/1	0.93	0.07	85,85,85,85	0
56	MG	2A	3043	1/1	0.93	0.09	70,70,70,70	0
56	MG	1A	3200	1/1	0.93	0.07	69,69,69,69	0
56	MG	2E	306	1/1	0.93	0.16	64,64,64,64	0
56	MG	1a	1628	1/1	0.93	0.30	61,61,61,61	0
56	MG	1A	3485	1/1	0.93	0.13	72,72,72,72	0
56	MG	2A	3215	1/1	0.93	0.14	61,61,61,61	0
56	MG	2A	3143	1/1	0.93	0.23	69,69,69,69	0
56	MG	2a	3100	1/1	0.93	0.13	95,95,95,95	0
56	MG	2a	3103	1/1	0.93	0.07	101,101,101,101	0
56	MG	1A	3399	1/1	0.93	0.24	73,73,73,73	0
56	MG	2Y	201	1/1	0.93	0.21	71,71,71,71	0
56	MG	1A	3214	1/1	0.93	0.35	69,69,69,69	0
56	MG	2A	3026	1/1	0.93	0.17	76,76,76,76	0
56	MG	2A	3380	1/1	0.94	0.05	85,85,85,85	0
56	MG	2A	3149	1/1	0.94	0.14	82,82,82,82	0
56	MG	1a	1646	1/1	0.94	0.07	71,71,71,71	0
56	MG	1A	3483	1/1	0.94	0.07	68,68,68,68	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	1a	1680	1/1	0.94	0.14	73,73,73,73	0
56	MG	1a	1664	1/1	0.94	0.12	67,67,67,67	0
56	MG	2A	3228	1/1	0.94	0.11	67,67,67,67	0
56	MG	2A	3065	1/1	0.94	0.16	68,68,68,68	0
56	MG	2A	3292	1/1	0.94	0.20	64,64,64,64	0
56	MG	2A	3230	1/1	0.94	0.17	62,62,62,62	0
56	MG	2a	3082	1/1	0.94	0.36	66,66,66,66	0
56	MG	1A	3342	1/1	0.94	0.24	62,62,62,62	0
56	MG	2A	3232	1/1	0.94	0.16	66,66,66,66	0
56	MG	1A	3317	1/1	0.94	0.09	77,77,77,77	0
56	MG	1a	1684	1/1	0.94	0.28	74,74,74,74	0
56	MG	2A	3135	1/1	0.94	0.09	111,111,111,111	0
56	MG	1a	1685	1/1	0.94	0.10	76,76,76,76	0
56	MG	1A	3163	1/1	0.94	0.07	78,78,78,78	0
56	MG	2a	3018	1/1	0.94	0.09	86,86,86,86	0
56	MG	1A	3382	1/1	0.94	0.08	91,91,91,91	0
56	MG	1A	3225	1/1	0.94	0.07	90,90,90,90	0
56	MG	1A	3497	1/1	0.94	0.24	65,65,65,65	0
56	MG	1a	1606	1/1	0.94	0.15	69,69,69,69	0
56	MG	1A	3131	1/1	0.94	0.05	76,76,76,76	0
56	MG	2A	3121	1/1	0.94	0.13	66,66,66,66	0
56	MG	1A	3052	1/1	0.94	0.09	85,85,85,85	0
56	MG	2A	3216	1/1	0.94	0.16	62,62,62,62	0
56	MG	1E	302	1/1	0.94	0.10	76,76,76,76	0
56	MG	1A	3103	1/1	0.94	0.27	64,64,64,64	0
56	MG	2a	3102	1/1	0.94	0.04	127,127,127,127	0
56	MG	2A	3220	1/1	0.94	0.28	64,64,64,64	0
56	MG	2A	3343	1/1	0.94	0.12	73,73,73,73	0
56	MG	1A	3112	1/1	0.94	0.26	63,63,63,63	0
56	MG	1A	3145	1/1	0.94	0.08	79,79,79,79	0
56	MG	2A	3379	1/1	0.94	0.14	77,77,77,77	0
57	ZN	2Y	202	1/1	0.94	0.16	176,176,176,176	0
56	MG	2a	3060	1/1	0.95	0.09	120,120,120,120	0
56	MG	1A	3036	1/1	0.95	0.06	83,83,83,83	0
56	MG	1A	3132	1/1	0.95	0.05	74,74,74,74	0
56	MG	1A	3498	1/1	0.95	0.06	74,74,74,74	0
56	MG	2A	3089	1/1	0.95	0.06	87,87,87,87	0
56	MG	2A	3233	1/1	0.95	0.16	70,70,70,70	0
56	MG	1A	3324	1/1	0.95	0.07	67,67,67,67	0
56	MG	2A	3363	1/1	0.95	0.34	65,65,65,65	0
56	MG	2a	3068	1/1	0.95	0.19	81,81,81,81	0
56	MG	1a	1645	1/1	0.95	0.06	90,90,90,90	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	MG	1A	3215	1/1	0.95	0.12	67,67,67,67	0
56	MG	1A	3368	1/1	0.95	0.15	77,77,77,77	0
56	MG	1A	3146	1/1	0.95	0.06	64,64,64,64	0
56	MG	2A	3279	1/1	0.95	0.21	80,80,80,80	0
56	MG	10	101	1/1	0.95	0.06	65,65,65,65	0
56	MG	2A	3096	1/1	0.95	0.06	92,92,92,92	0
56	MG	1a	1605	1/1	0.95	0.06	99,99,99,99	0
56	MG	1A	3080	1/1	0.95	0.07	82,82,82,82	0
56	MG	2A	3168	1/1	0.95	0.09	68,68,68,68	0
56	MG	1A	3489	1/1	0.95	0.08	78,78,78,78	0
56	MG	1A	3278	1/1	0.95	0.14	63,63,63,63	0
56	MG	2A	3287	1/1	0.95	0.33	66,66,66,66	0
56	MG	1A	3494	1/1	0.95	0.07	85,85,85,85	0
56	MG	1a	1625	1/1	0.95	0.12	102,102,102,102	0
56	MG	1A	3147	1/1	0.96	0.30	76,76,76,76	0
56	MG	2A	3384	1/1	0.96	0.04	91,91,91,91	0
56	MG	1A	3119	1/1	0.96	0.16	64,64,64,64	0
56	MG	2a	3057	1/1	0.96	0.05	101,101,101,101	0
56	MG	2A	3033	1/1	0.96	0.10	82,82,82,82	0
56	MG	1A	3417	1/1	0.96	0.11	64,64,64,64	0
56	MG	1a	1658	1/1	0.96	0.09	75,75,75,75	0
56	MG	1a	1608	1/1	0.96	0.10	73,73,73,73	0
56	MG	2T	201	1/1	0.96	0.07	63,63,63,63	0
56	MG	1A	3458	1/1	0.96	0.13	79,79,79,79	0
56	MG	2A	3187	1/1	0.96	0.08	74,74,74,74	0
56	MG	2A	3070	1/1	0.96	0.10	81,81,81,81	0
56	MG	2A	3347	1/1	0.96	0.28	61,61,61,61	0
56	MG	2A	3256	1/1	0.96	0.30	66,66,66,66	0
56	MG	1A	3117	1/1	0.96	0.18	63,63,63,63	0
56	MG	2A	3378	1/1	0.96	0.07	83,83,83,83	0
56	MG	2A	3296	1/1	0.96	0.15	66,66,66,66	0
56	MG	2A	3109	1/1	0.96	0.22	63,63,63,63	0
56	MG	2a	3006	1/1	0.97	0.05	76,76,76,76	0
56	MG	1A	3125	1/1	0.97	0.07	62,62,62,62	0
56	MG	1a	1626	1/1	0.97	0.04	81,81,81,81	0
56	MG	2A	3383	1/1	0.97	0.06	76,76,76,76	0
56	MG	1A	3092	1/1	0.97	0.08	71,71,71,71	0
56	MG	2R	201	1/1	0.97	0.11	64,64,64,64	0
56	MG	2A	3338	1/1	0.97	0.27	75,75,75,75	0
56	MG	2A	3028	1/1	0.97	0.08	91,91,91,91	0
56	MG	1A	3133	1/1	0.97	0.08	72,72,72,72	0
56	MG	2A	3217	1/1	0.97	0.06	78,78,78,78	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	MG	2A	3260	1/1	0.97	0.12	70,70,70,70	0
56	MG	2a	3054	1/1	0.97	0.04	69,69,69,69	0
57	ZN	1Y	501	1/1	0.97	0.04	156,156,156,156	0
56	MG	1A	3284	1/1	0.97	0.09	76,76,76,76	0
56	MG	1A	3016	1/1	0.98	0.04	95,95,95,95	0
56	MG	2a	3050	1/1	0.98	0.05	88,88,88,88	0
56	MG	1A	3496	1/1	0.98	0.04	94,94,94,94	0
56	MG	1A	3475	1/1	0.98	0.20	65,65,65,65	0
56	MG	1a	1610	1/1	0.98	0.05	104,104,104,104	0
56	MG	2A	3289	1/1	0.98	0.07	77,77,77,77	0
56	MG	1A	3459	1/1	0.98	0.07	76,76,76,76	0
56	MG	1A	3486	1/1	0.98	0.05	78,78,78,78	0
56	MG	1a	1692	1/1	0.98	0.04	114,114,114,114	0
57	ZN	14	501	1/1	0.98	0.07	166,166,166,166	0
57	ZN	1n	501	1/1	0.98	0.04	148,148,148,148	0
56	MG	1a	1693	1/1	0.98	0.03	127,127,127,127	0
57	ZN	24	501	1/1	0.98	0.06	182,182,182,182	0
58	SF4	1d	302	8/8	0.98	0.04	111,128,150,164	0
58	SF4	2d	302	8/8	0.98	0.06	99,114,123,127	0
56	MG	1A	3487	1/1	0.99	0.08	74,74,74,74	0
56	MG	1a	1691	1/1	0.99	0.04	94,94,94,94	0
56	MG	1A	3492	1/1	0.99	0.03	95,95,95,95	0
56	MG	2A	3381	1/1	0.99	0.04	76,76,76,76	0
57	ZN	16	102	1/1	0.99	0.06	102,102,102,102	0
57	ZN	19	501	1/1	0.99	0.07	104,104,104,104	0
56	MG	2a	3101	1/1	0.99	0.03	102,102,102,102	0
56	MG	1U	201	1/1	0.99	0.11	67,67,67,67	0
56	MG	1A	3493	1/1	0.99	0.03	97,97,97,97	0
57	ZN	25	102	1/1	0.99	0.04	104,104,104,104	0
57	ZN	26	501	1/1	0.99	0.03	107,107,107,107	0
57	ZN	29	501	1/1	0.99	0.05	114,114,114,114	0
57	ZN	2n	501	1/1	0.99	0.03	118,118,118,118	0
56	MG	2A	3075	1/1	0.99	0.07	95,95,95,95	0
56	MG	1A	3490	1/1	0.99	0.03	79,79,79,79	0
57	ZN	15	102	1/1	1.00	0.02	106,106,106,106	0

## 6.5 Other polymers

There are no such residues in this entry.