Full wwPDB X-ray Structure Validation Report ⓘ

Jul 18, 2023 – 06:38 PM EDT

PDB ID	:	4W2E
Title	:	Crystal structure of Elongation Factor 4 (EF4/LepA) bound to the Thermus thermophilus 70S ribosome
Authors	:	Gagnon, M.G.; Lin, J.; Steitz, T.A.
Deposited on	:	2014-06-04
Resolution	:	2.90 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*
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.

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

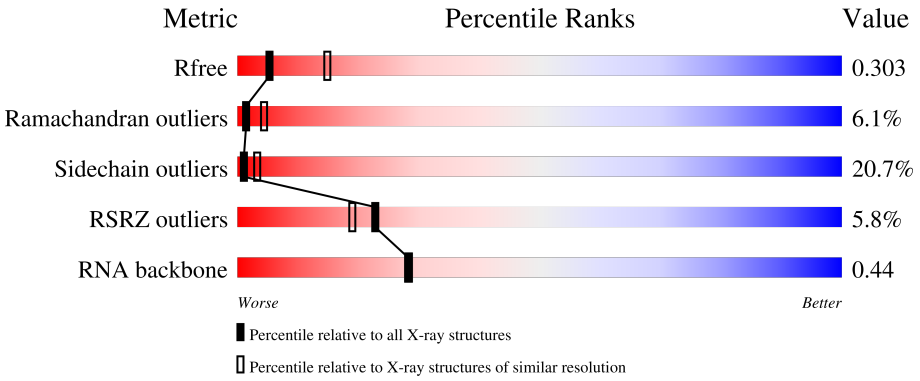
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.34
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.34

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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}	130704	1957 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)
RNA backbone	3102	1007 (3.16-2.64)

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 >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	2915	3% 60% 32% 6%
2	B	122	78% 19%
3	D	276	% 76% 22%
4	E	206	2% 81% 17%
5	F	205	81% 17%

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Mol	Chain	Length	Quality of chain
6	G	182	3% 74% 24%
7	H	180	7% 76% 20%
8	J	173	29% 57% 15% 25%
9	K	147	54% 76% 18% 5%
10	N	140	77% 22%
11	O	122	88% 11%
12	P	150	15% 77% 22%
13	Q	141	84% 15%
14	R	118	83% 16%
15	S	112	4% 79% 18%
16	T	146	75% 14% 10%
17	U	118	76% 20%
18	V	101	74% 26%
19	W	113	4% 78% 19%
20	X	96	80% 17%
21	Y	110	9% 71% 25%
22	Z	206	3% 70% 18% 10%
23	0	85	6% 75% 12% 13%
24	1	98	76% 22%
25	2	72	75% 22%
26	3	60	5% 78% 20%
27	4	71	4% 65% 30%
28	5	60	73% 22%
29	6	54	72% 24%
30	7	49	4% 82% 16%

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Mol	Chain	Length	Quality of chain
31	8	65	85% 14%
32	9	37	11% 86% 14%
33	w	76	42% 49% 9%
33	x	76	87% 41% 43% 13%
34	a	1521	63% 30% 6%
35	b	256	2% 66% 21% 10%
36	c	239	74% 12% 14%
37	d	209	1% 76% 22%
38	e	162	1% 69% 22% 9%
39	f	101	2% 72% 24%
40	g	156	4% 81% 19%
41	h	138	82% 17%
42	i	128	81% 16%
43	j	105	3% 68% 24% 9%
44	k	129	2% 77% 12% 12%
45	l	132	1% 77% 15% 8%
46	m	126	2% 75% 16% 6%
47	n	61	75% 15% 8%
48	o	89	3% 85% 13%
49	p	88	3% 77% 15% 7%
50	q	105	5% 74% 19% 6%
51	r	88	5% 60% 16% 23%
52	s	93	66% 18% 5% 11%
53	t	106	1% 71% 19% 9%
54	u	27	4% 74% 11% 15%

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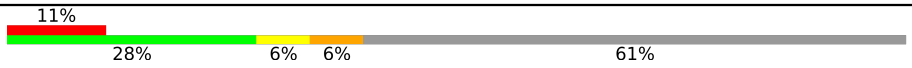
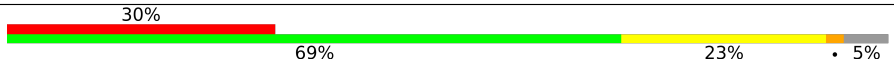
Mol	Chain	Length	Quality of chain
55	v	18	
56	y	679	

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
33	PSU	x	32	-	-	-	X
33	MIA	x	37	-	-	-	X
33	5MU	x	54	-	-	-	X
33	PSU	x	55	-	-	-	X
33	4SU	x	8	-	-	-	X
57	MG	A	3011	-	-	-	X
57	MG	A	3056	-	-	-	X
57	MG	A	3058	-	-	-	X
57	MG	A	3132	-	-	-	X
57	MG	A	3152	-	-	-	X
57	MG	A	3160	-	-	-	X
57	MG	A	3161	-	-	-	X
57	MG	A	3165	-	-	-	X
57	MG	A	3213	-	-	-	X
57	MG	A	3226	-	-	-	X
57	MG	A	3282	-	-	-	X
57	MG	A	3608	-	-	-	X
57	MG	B	214	-	-	-	X
57	MG	P	201	-	-	-	X
57	MG	U	203	-	-	-	X
57	MG	a	3323	-	-	-	X
57	MG	a	3390	-	-	-	X
57	MG	x	3002	-	-	-	X
57	MG	x	3003	-	-	-	X
60	PHE	w	107	-	-	-	X

2 Entry composition (i)

There are 62 unique types of molecules in this entry. The entry contains 152111 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	A	2873	61879	27541	11577	19890	2871	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
2	B	120	2573	1146	476	832	119	0	0	0

- Molecule 3 is a protein called 50S ribosomal protein L2.

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

- Molecule 4 is a protein called 50S ribosomal protein L3.

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

- Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	F	203	1584	1009	298	275	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	G	181	1425	914	256	251	4	0	0	0

- Molecule 7 is a protein called 50S ribosomal protein L6.

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

- Molecule 8 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
8	J	130	Total	C	N	O	0	0	0
			641	381	130	130			

- Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	K	139	Total	C	N	O	S	0	0	0
			1025	653	181	186	5			

- Molecule 10 is a protein called 50S ribosomal protein L13.

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

- Molecule 11 is a protein called 50S ribosomal protein L14.

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

- Molecule 12 is a protein called 50S ribosomal protein L15.

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

- Molecule 13 is a protein called 50S ribosomal protein L16.

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

- Molecule 14 is a protein called 50S ribosomal protein L17.

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

- Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
15	S	110	Total	C	N	O	0	0	0
			877	553	175	149			

- Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	T	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			

- Molecule 17 is a protein called 50S ribosomal protein L20.

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

- Molecule 18 is a protein called 50S ribosomal protein L21.

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

- Molecule 19 is a protein called 50S ribosomal protein L22.

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

- Molecule 20 is a protein called 50S ribosomal protein L23.

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

- Molecule 21 is a protein called 50S ribosomal protein L24.

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

- Molecule 22 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	Z	185	Total	C	N	O	S	0	0	0
			1451	927	258	264	2			

- Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	0	74	Total	C	N	O	S	0	0	0
			591	366	126	98	1			

- Molecule 24 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	1	97	Total	C	N	O	S	0	0	0
			755	475	148	131	1			

- Molecule 25 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	2	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

- Molecule 26 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
26	3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 27 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	4	69	Total	C	N	O	S	0	0	0
			557	350	101	101	5			

- Molecule 28 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 29 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			

- Molecule 30 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 31 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	8	64	Total	C	N	O	S	0	0	0
			511	328	99	82	2			

- Molecule 32 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 33 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
33	x	74	Total	C	N	O	P	S	0	0	0
			1581	707	285	515	73	1			
33	w	76	Total	C	N	O	P	S	0	0	0
			1632	731	290	533	76	2			

- Molecule 34 is a RNA chain called 16S Ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	a	1496	Total	C	N	O	P	0	0	0
			32163	14314	5963	10390	1496			

- Molecule 35 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	b	231	Total	C	N	O	S	0	0	0
			1850	1181	331	333	5			

- Molecule 36 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	c	206	Total	C	N	O	S	0	0	0
			1550	974	302	273	1			

- Molecule 37 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	d	208	Total	C	N	O	S	0	0	0
			1655	1038	326	284	7			

- Molecule 38 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	e	148	Total	C	N	O	S	0	0	0
			1129	714	213	198	4			

- Molecule 39 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	f	100	Total	C	N	O	S	0	0	0
			806	511	143	149	3			

- Molecule 40 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	g	155	Total	C	N	O	S	0	0	0
			1227	764	242	215	6			

- Molecule 41 is a protein called 30S ribosomal protein S8.

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

- Molecule 42 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
42	i	127	Total	C	N	O	0	0	0
			983	623	193	167			

- Molecule 43 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	j	96	Total	C	N	O	0	0	0
			698	434	134	130			

- Molecule 44 is a protein called 30S ribosomal protein S11.

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

- Molecule 45 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	l	122	Total	C	N	O	S	0	0	0
			930	585	185	159	1			

- Molecule 46 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	m	119	Total	C	N	O	S	0	0	0
			924	570	192	160	2			

- Molecule 47 is a protein called 30S ribosomal protein S14 type Z.

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

- Molecule 48 is a protein called 30S ribosomal protein S15.

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

- Molecule 49 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
49	p	82	Total	C	N	O	S	0	0	0
			681	433	134	113	1			

- Molecule 50 is a protein called 30S ribosomal protein S17.

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

- Molecule 51 is a protein called 30S ribosomal protein S18.

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

- Molecule 52 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	s	83	Total	C	N	O	S	0	0	0
			650	415	120	113	2			

- Molecule 53 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	t	96	Total	C	N	O	S	0	0	0
			724	443	155	124	2			

- Molecule 54 is a protein called 30S ribosomal protein Thx.

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

- Molecule 55 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	v	7	Total	C	N	O	P	0	0	0
			148	67	27	47	7			

- Molecule 56 is a protein called 50S ribosomal protein L9, Elongation factor 4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	y	644	Total 4000	C 2438	N 760	O 799	S 3	0	0	0

- Molecule 57 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	A	635	Total 635	Mg 635	0	0
57	B	18	Total 18	Mg 18	0	0
57	D	5	Total 5	Mg 5	0	0
57	E	4	Total 4	Mg 4	0	0
57	F	5	Total 5	Mg 5	0	0
57	G	3	Total 3	Mg 3	0	0
57	N	1	Total 1	Mg 1	0	0
57	O	1	Total 1	Mg 1	0	0
57	P	2	Total 2	Mg 2	0	0
57	Q	5	Total 5	Mg 5	0	0
57	R	3	Total 3	Mg 3	0	0
57	U	4	Total 4	Mg 4	0	0
57	V	2	Total 2	Mg 2	0	0
57	W	1	Total 1	Mg 1	0	0
57	X	1	Total 1	Mg 1	0	0
57	Z	1	Total 1	Mg 1	0	0
57	0	3	Total 3	Mg 3	0	0
57	5	1	Total 1	Mg 1	0	0
57	6	1	Total 1	Mg 1	0	0

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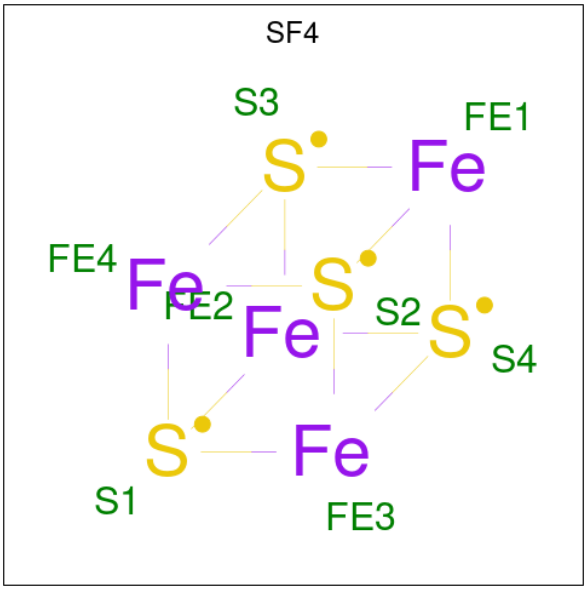
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	7	3	Total Mg 3 3	0	0
57	8	1	Total Mg 1 1	0	0
57	9	1	Total Mg 1 1	0	0
57	x	3	Total Mg 3 3	0	0
57	a	187	Total Mg 187 187	0	0
57	e	1	Total Mg 1 1	0	0
57	f	1	Total Mg 1 1	0	0
57	l	2	Total Mg 2 2	0	0
57	m	1	Total Mg 1 1	0	0
57	n	1	Total Mg 1 1	0	0
57	w	6	Total Mg 6 6	0	0
57	v	1	Total Mg 1 1	0	0
57	y	2	Total Mg 2 2	0	0

- Molecule 58 is ZINC ION (three-letter code: ZN) (formula: Zn).

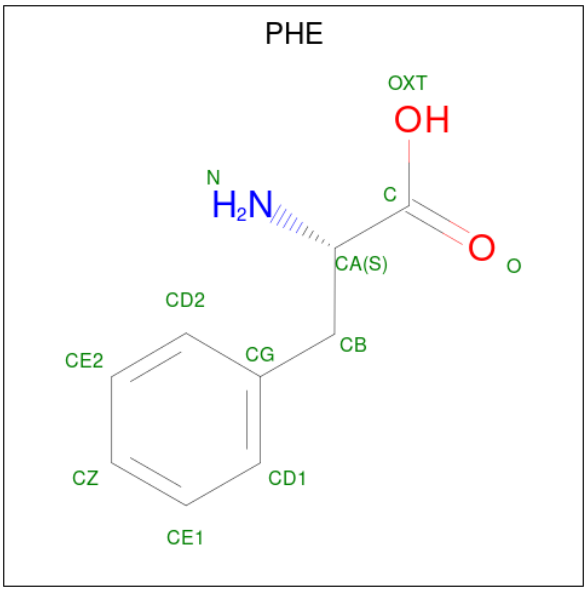
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
58	Y	1	Total Zn 1 1	0	0
58	4	1	Total Zn 1 1	0	0
58	5	1	Total Zn 1 1	0	0
58	6	1	Total Zn 1 1	0	0
58	9	1	Total Zn 1 1	0	0
58	n	1	Total Zn 1 1	0	0

- Molecule 59 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



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

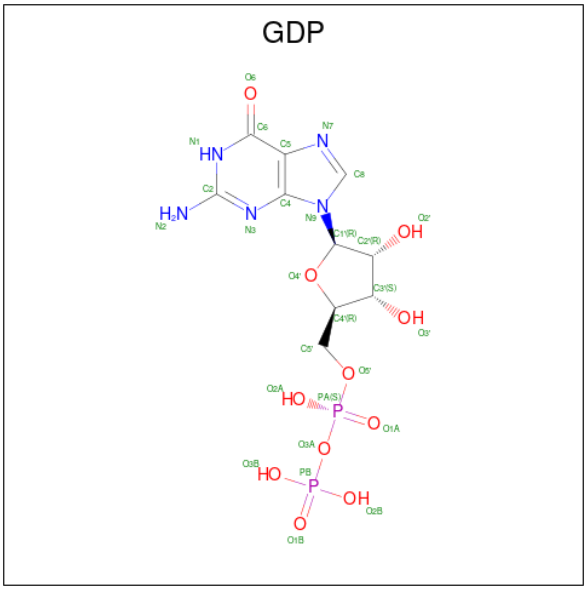
- Molecule 60 is PHENYLALANINE (three-letter code: PHE) (formula: $C_9H_{11}NO_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
60	w	1	Total C N O 11 9 1 1	0	0

- Molecule 61 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula:

$C_{10}H_{15}N_5O_{11}P_2$).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
61	y	1	Total	C	N	O	P	0	0
			28	10	5	11	2		

- Molecule 62 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
62	A	710	Total	O	0	2
			710	710		
62	B	34	Total	O	0	0
			34	34		
62	D	4	Total	O	0	0
			4	4		
62	E	7	Total	O	0	0
			7	7		
62	F	5	Total	O	0	0
			5	5		
62	G	1	Total	O	0	0
			1	1		
62	H	1	Total	O	0	0
			1	1		
62	N	1	Total	O	0	0
			1	1		
62	O	3	Total	O	0	0
			3	3		
62	P	3	Total	O	0	0
			3	3		

Continued on next page...

Continued from previous page...

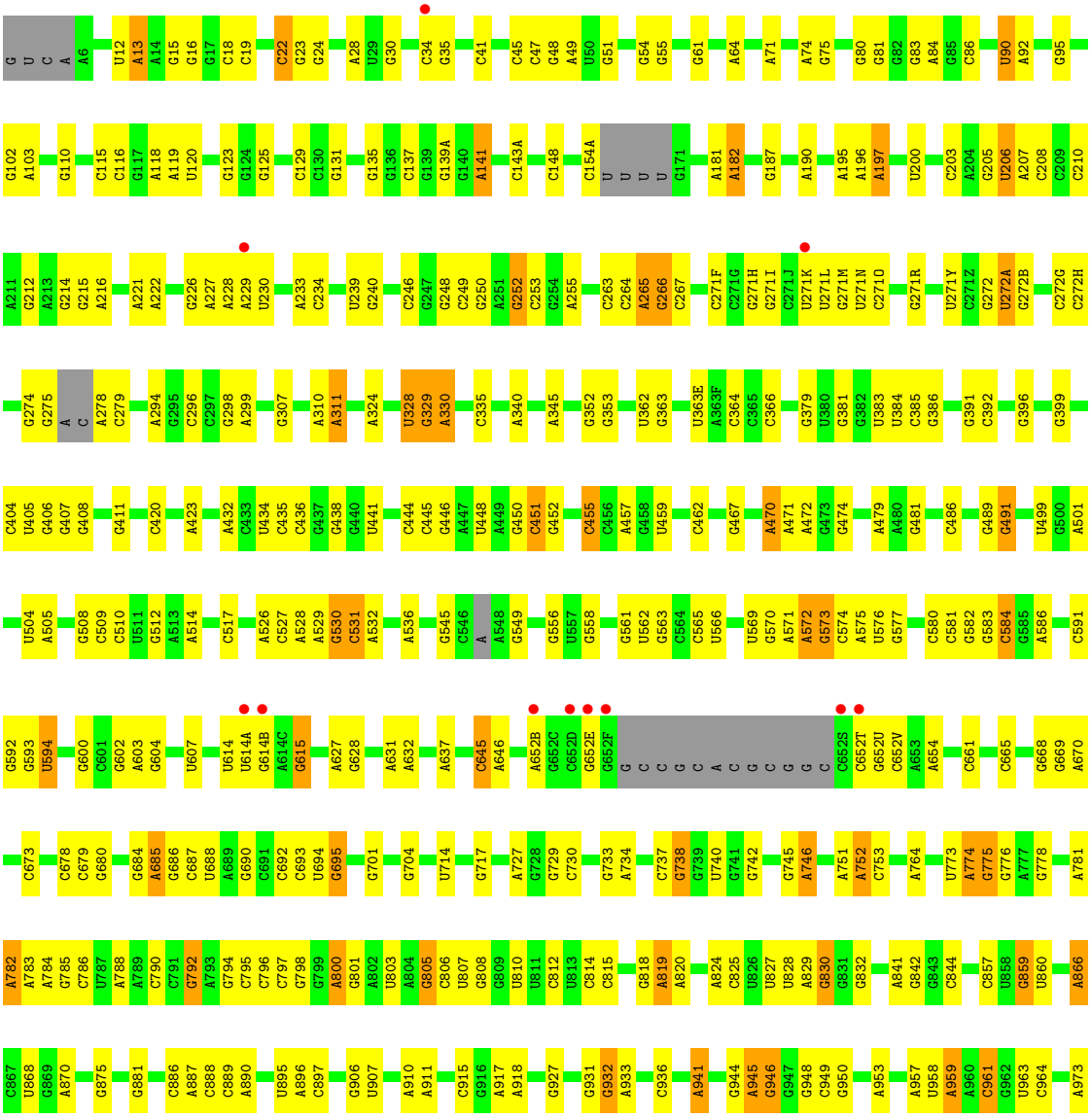
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
62	Q	4	Total O 4 4	0	0
62	R	2	Total O 2 2	0	0
62	T	1	Total O 1 1	0	0
62	U	2	Total O 2 2	0	0
62	V	1	Total O 1 1	0	0
62	W	2	Total O 2 2	0	0
62	Y	1	Total O 1 1	0	0
62	0	4	Total O 4 4	0	0
62	1	2	Total O 2 2	0	0
62	3	1	Total O 1 1	0	0
62	5	1	Total O 1 1	0	0
62	7	2	Total O 2 2	0	0
62	8	4	Total O 4 4	0	0
62	9	1	Total O 1 1	0	0
62	x	1	Total O 1 1	0	0
62	a	167	Total O 167 167	0	0
62	l	1	Total O 1 1	0	0
62	v	3	Total O 3 3	0	0

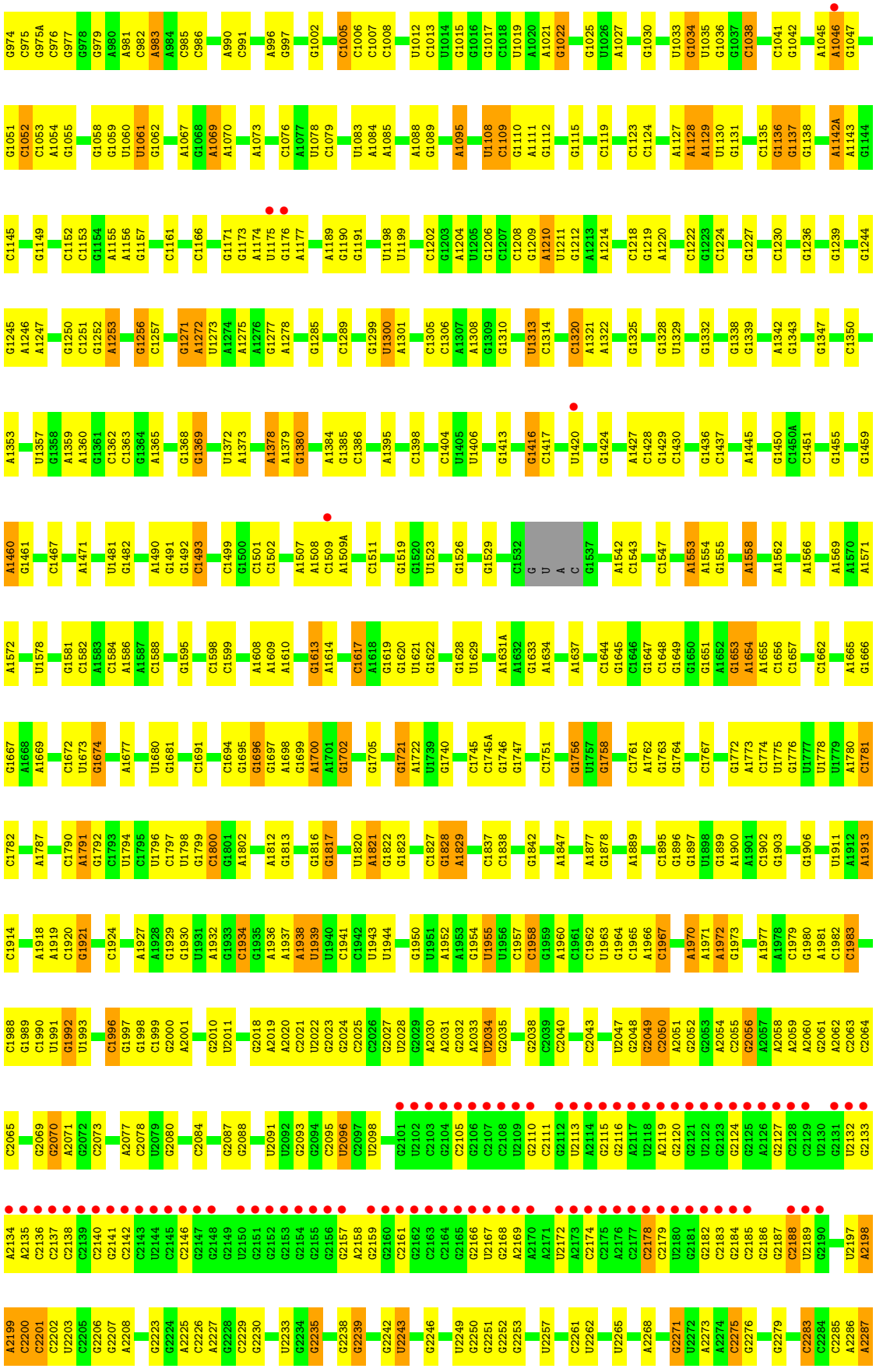
3 Residue-property plots (i)

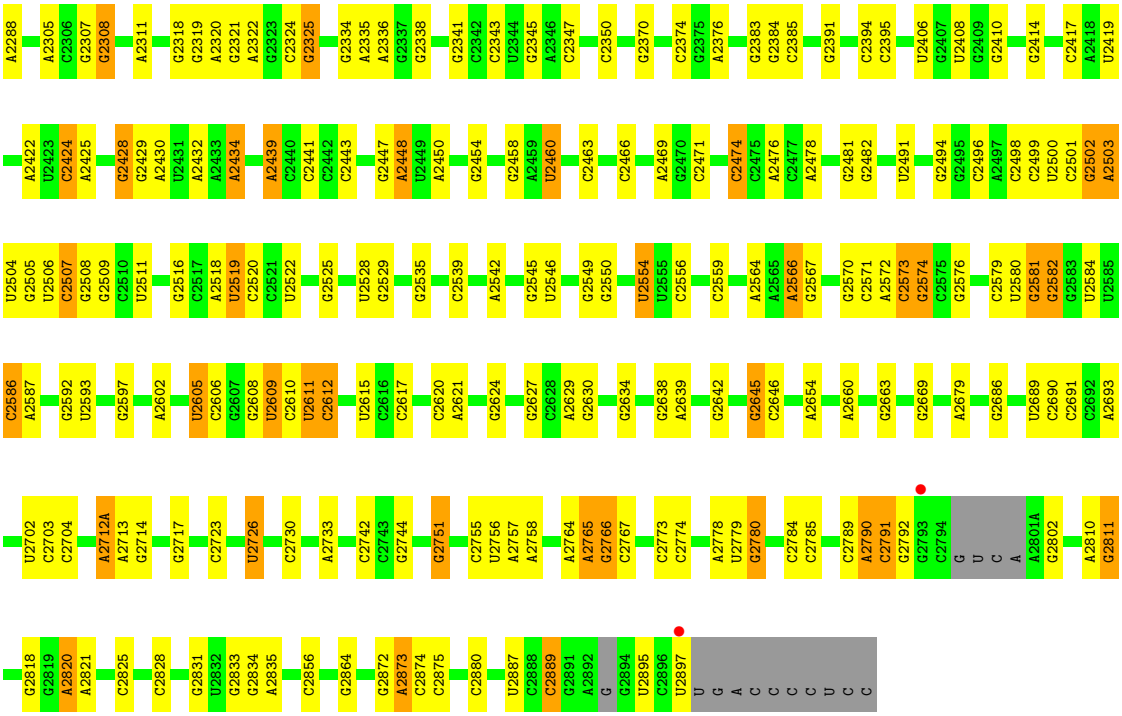
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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

Chain A:

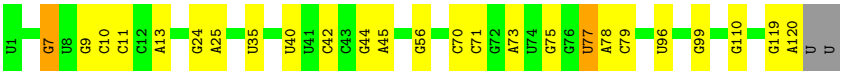



G974 C975 G975A C976 G977 G978 G979 A980 A981 C982 A983 A984 C985 C986 A990 C991 A996 G997 G1002 C1005 C1006 C1007 C1008 U1012 C1013 U1014 G1015 G1016 G1017 C1018 U1019 A1020 A1021 G1022 G1025 U1026 A1027 G1030 U1033 G1034 U1035 G1036 G1037 C1038 C1041 G1042 A1045 A1046 G1047
G1051 C1052 C1053 A1054 G1055 G1058 G1059 U1060 U1061 G1062 A1067 G1068 A1069 A1070 A1073 C1076 A1077 U1078 C1079 U1083 A1084 A1085 A1088 G1089 A1095 U1108 C1109 G1110 A1111 G1112 G1115 C1119 C1123 C1124 A1127 A1128 A1129 U1130 G1131 C1135 G1136 G1137 G1138 A1142A A1143 G1144
C1145 G1149 C1152 C1153 G1154 A1155 A1156 G1157 C1161 C1166 G1171 G1173 A1174 U1175 G1176 A1177 A1189 G1190 G1191 U1198 U1199 C1202 G1203 A1204 U1205 G1206 C1207 C1208 G1209 A1210 U1211 U1212 A1213 A1214 C1218 G1219 A1220 C1222 G1223 C1224 G1227 C1230 G1236 G1239 G1244
G1245 A1246 A1247 G1250 C1251 G1252 A1253 G1256 C1257 G1271 A1272 U1273 A1274 A1275 A1276 G1277 A1278 G1285 C1289 G1299 U1300 A1301 C1305 C1306 A1307 A1308 G1309 G1310 U1313 C1314 C1320 A1321 A1322 G1325 G1328 U1329 G1332 G1338 G1339 A1342 G1343 G1347 C1350
A1353 U1357 G1358 A1359 A1360 G1361 C1362 C1363 G1364 A1365 G1368 G1369 U1372 A1373 A1378 A1379 G1380 A1384 G1385 C1386 A1395 C1398 C1404 U1405 U1406 G1413 G1416 C1417 U1420 G1424 A1427 C1428 G1429 C1430 G1436 C1437 A1445 G1450 C1450A C1451 G1455 G1459
A1460 G1461 C1467 A1471 U1481 G1482 A1490 G1491 G1492 C1493 C1499 G1500 C1501 C1502 A1507 A1508 C1509 A1509A C1511 G1519 G1520 U1523 G1526 G1529 C1532 G U A C G1537 A1542 C1543 C1547 A1553 A1554 G1555 A1558 A1562 A1566 A1569 A1570 A1571
A1572 U1578 G1581 C1582 A1583 C1584 A1586 A1587 C1588 G1595 C1598 C1599 A1608 A1609 A1610 G1613 A1614 C1617 A1618 G1619 G1620 U1621 U1622 G1628 U1629 G1631A A1632 G1633 A1634 A1637 C1644 G1645 C1646 G1647 C1648 G1649 G1650 G1651 A1652 G1653 A1654 A1655 C1656 C1657 C1662 A1665 G1666
G1667 A1668 A1669 C1672 U1673 G1674 A1677 U1680 G1681 C1691 C1694 G1695 G1696 G1697 A1698 G1699 A1700 A1701 G1702 G1705 G1721 A1722 U1739 G1740 C1745 C1745A G1746 G1747 C1751 G1756 U1757 G1758 C1761 A1762 G1763 G1764 C1767 G1772 A1773 C1774 U1775 G1776 U1777 U1778 U1779 A1780 C1781
C1782 A1787 C1790 A1791 G1792 C1793 U1794 C1795 U1796 C1797 U1798 G1799 C1800 G1801 A1802 A1812 G1813 G1816 G1817 U1820 A1821 G1822 G1823 C1827 G1828 A1829 C1837 C1838 G1842 A1847 A1877 G1878 A1889 C1895 G1896 G1897 U1898 G1899 A1900 A1901 C1902 G1903 G1906 U1911 A1912 A1913
C1914 A1918 A1919 C1920 G1921 C1924 A1927 A1928 G1929 G1930 U1931 A1932 G1933 C1934 G1935 A1936 A1937 A1938 U1939 U1940 C1941 C1942 U1943 U1944 G1950 U1951 A1952 A1953 G1954 U1955 U1956 C1957 C1958 G1959 A1960 C1961 C1962 U1963 G1964 C1965 A1966 C1967 A1970 A1971 A1972 G1973 A1977 A1978 C1979 G1980 A1981 C1982 C1983
C1988 G1989 C1990 U1991 G1992 U1993 C1996 G1997 G1998 C1999 G2000 A2001 G2010 U2011 G2018 A2019 A2020 C2021 U2022 G2023 G2024 C2025 C2026 G2027 U2028 G2029 A2030 A2031 G2032 A2033 U2034 G2035 G2038 C2039 C2040 C2043 U2047 G2048 G2049 C2050 A2051 C2052 G2053 A2054 C2055 G2056 A2057 A2058 A2059 A2060 G2061 A2062 C2063 C2064
C2065 G2069 G2070 A2071 G2072 C2073 A2077 C2078 U2079 G2080 C2084 G2087 G2088 U2091 U2092 G2093 G2094 C2095 U2096 C2097 U2098 G2101 U2102 C2103 G2104 C2105 G2106 C2107 C2108 U2109 G2110 C2111 G2112 U2113 A2114 G2115 G2116 A2117 U2118 A2119 G2120 G2121 U2122 G2123 G2124 G2125 A2126 G2127 C2128 C2129 U2130 G2131 U2132 G2133
A2134 A2135 C2136 C2137 C2138 C2139 C2140 G2141 C2142 C2143 U2144 C2145 C2146 G2147 G2148 G2149 U2150 G2151 G2152 G2153 G2154 G2155 G2156 G2157 A2158 G2159 G2160 C2161 G2162 C2163 C2164 G2165 G2166 U2167 G2168 A2169 A2170 A2171 U2172 A2173 C2174 C2175 A2176 C2177 C2178 C2179 U2180 G2181 G2182 C2183 G2184 C2185 G2186 G2187 C2188 U2189 G2190 U2197 A2198
A2199 C2200 C2201 C2202 U2203 C2205 G2206 G2207 A2208 G2223 G2224 A2226 C2226 A2227 G2228 C2229 C2230 U2233 C2234 G2235 G2238 G2239 G2242 U2243 G2246 U2249 G2250 G2251 G2252 G2253 U2257 C2261 U2262 U2265 A2268 G2271 U2272 A2273 A2274 C2275 G2276 G2279 C2283 C2284 C2285 A2286 A2287



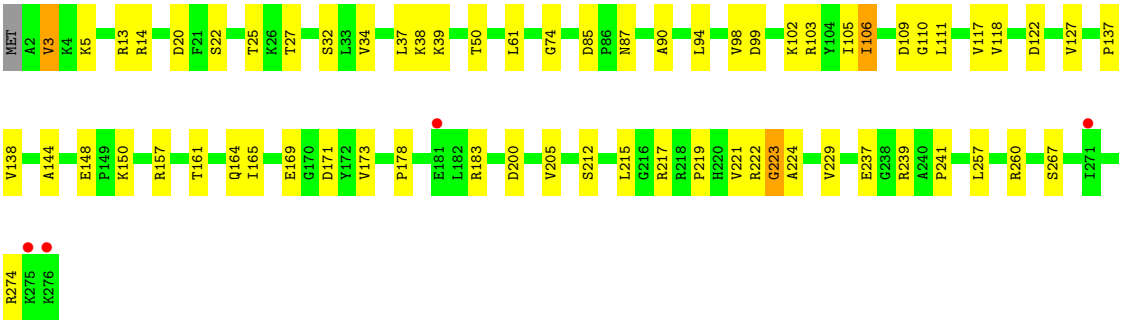
• Molecule 2: 5S Ribosomal RNA

Chain B:



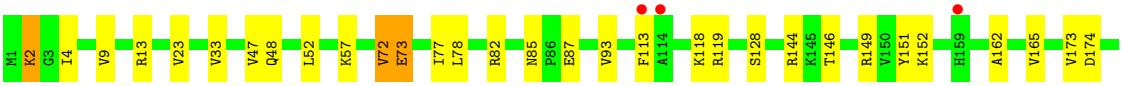
• Molecule 3: 50S ribosomal protein L2

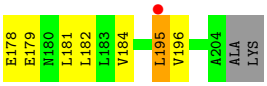
Chain D:



• Molecule 4: 50S ribosomal protein L3

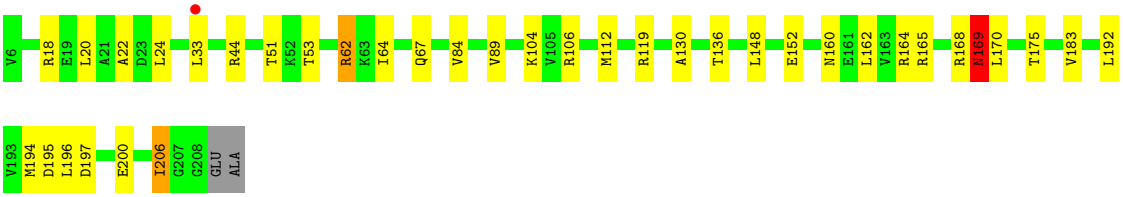
Chain E:





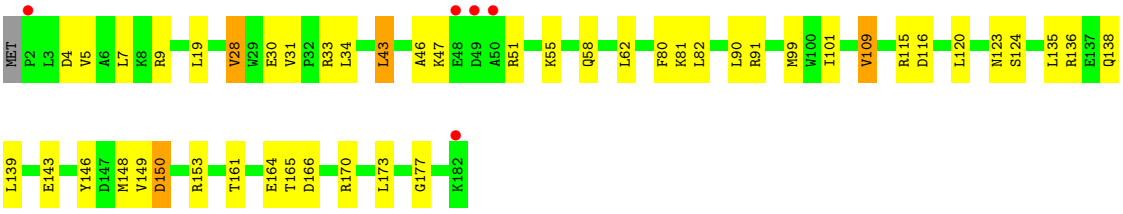
• Molecule 5: 50S ribosomal protein L4

Chain F:



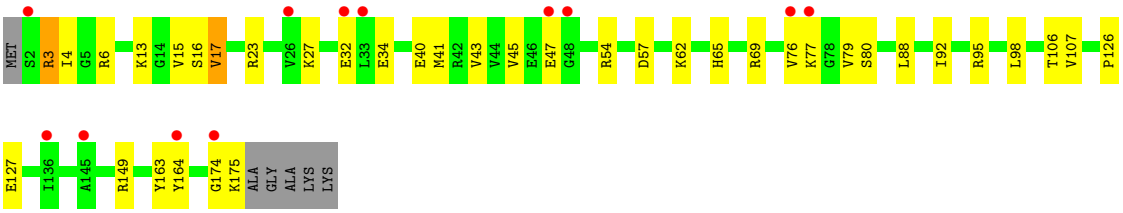
• Molecule 6: 50S ribosomal protein L5

Chain G:



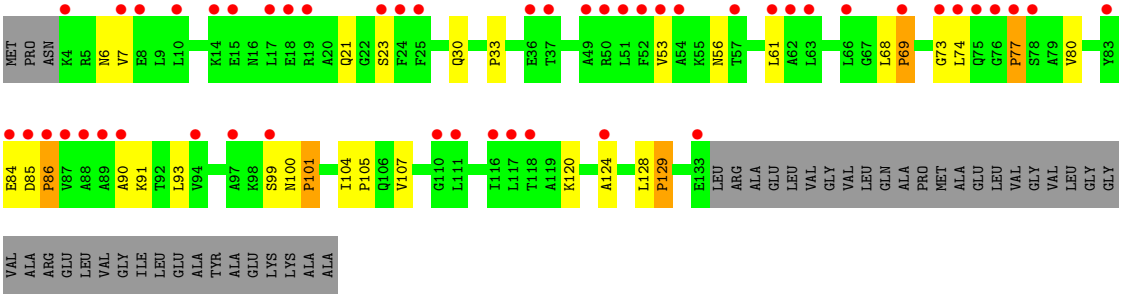
• Molecule 7: 50S ribosomal protein L6

Chain H:



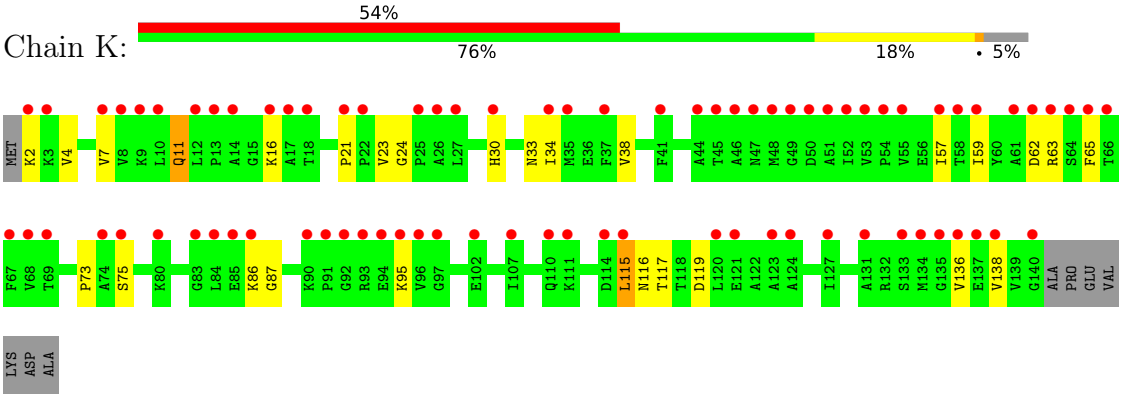
• Molecule 8: 50S ribosomal protein L10

Chain J:



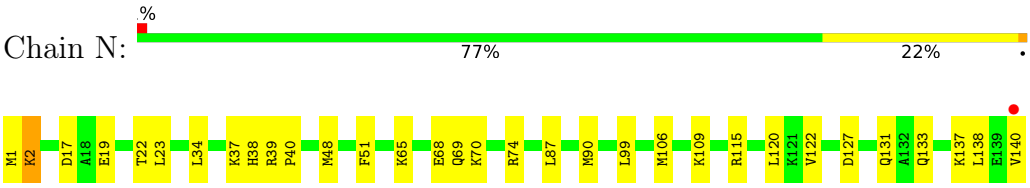
• Molecule 9: 50S ribosomal protein L11

Chain K:



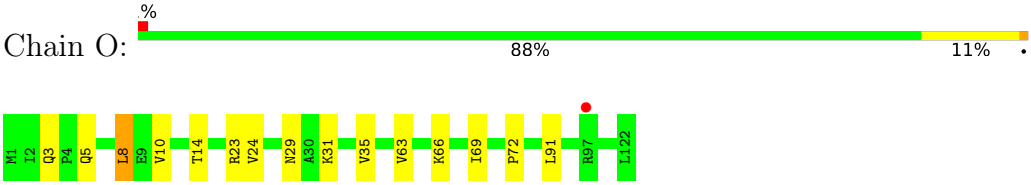
• Molecule 10: 50S ribosomal protein L13

Chain N:



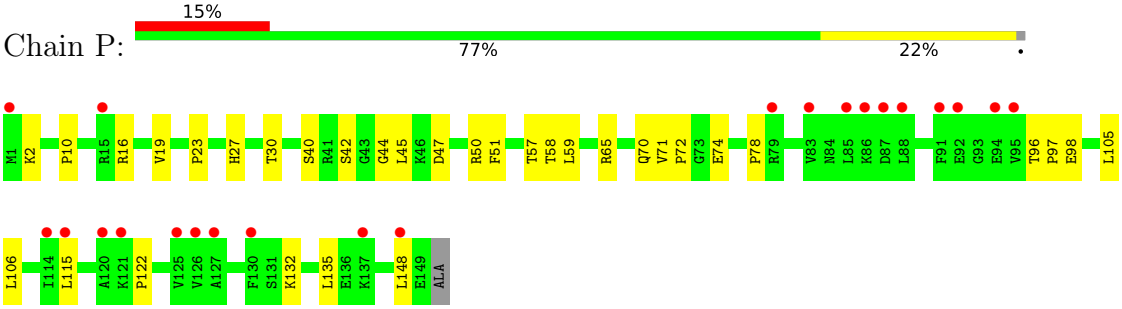
• Molecule 11: 50S ribosomal protein L14

Chain O:



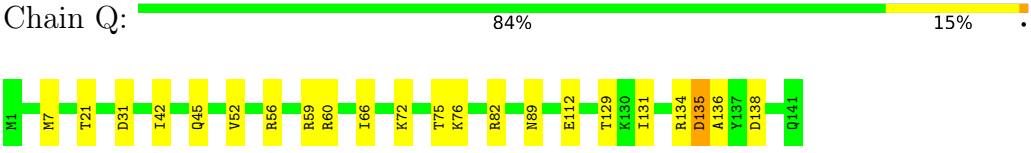
• Molecule 12: 50S ribosomal protein L15

Chain P:



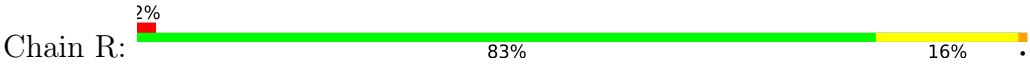
• Molecule 13: 50S ribosomal protein L16

Chain Q:

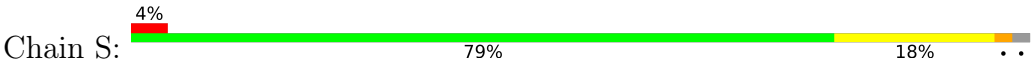


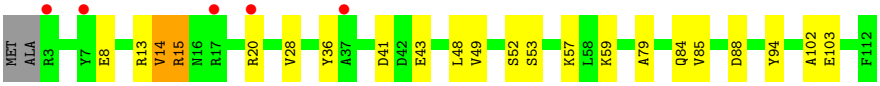
• Molecule 14: 50S ribosomal protein L17

Chain R:

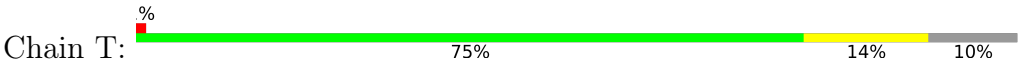


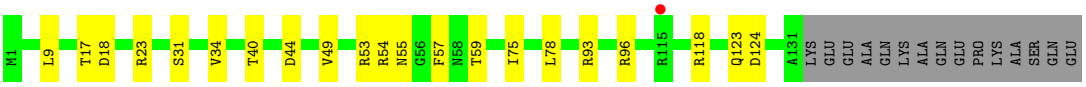
• Molecule 15: 50S ribosomal protein L18





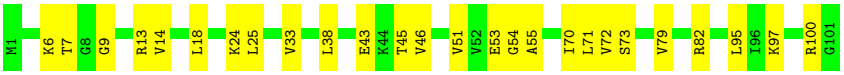
• Molecule 16: 50S ribosomal protein L19



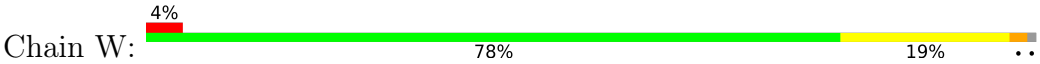


• Molecule 17: 50S ribosomal protein L20

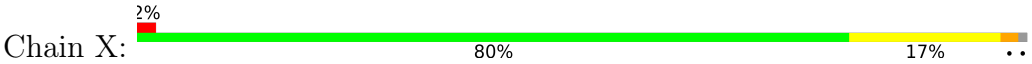
• Molecule 18: 50S ribosomal protein L21

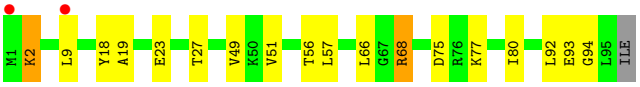


• Molecule 19: 50S ribosomal protein L22



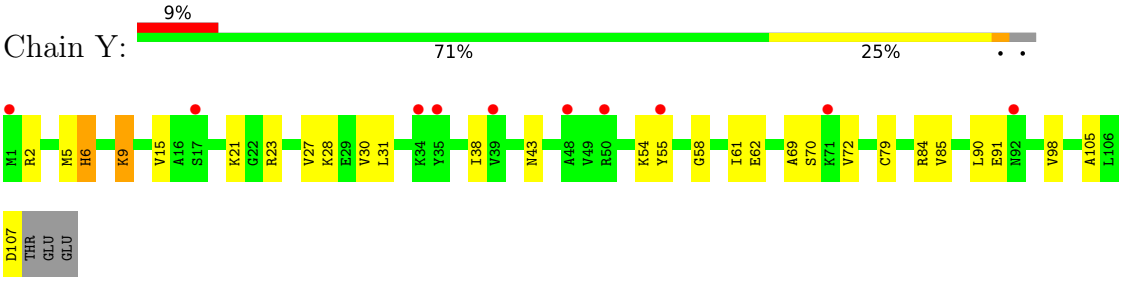
• Molecule 20: 50S ribosomal protein L23





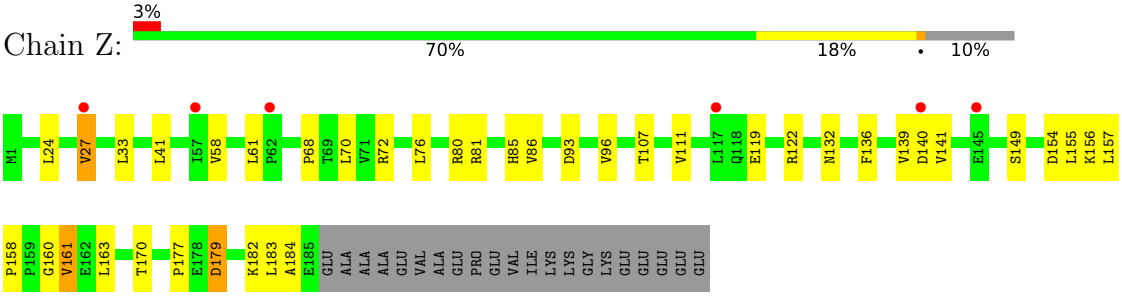
• Molecule 21: 50S ribosomal protein L24

Chain Y:



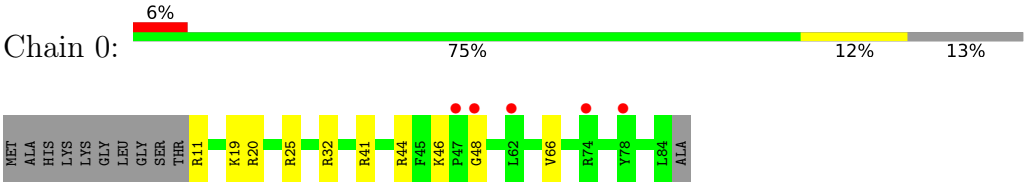
• Molecule 22: 50S ribosomal protein L25

Chain Z:



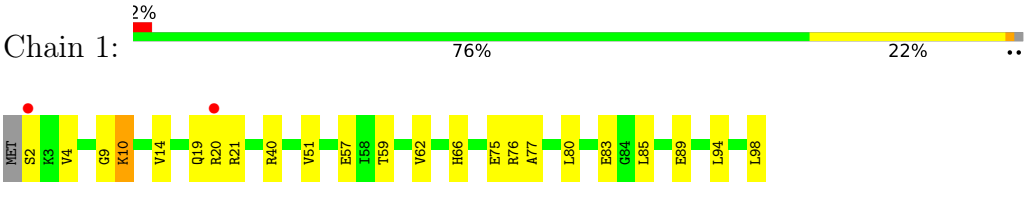
• Molecule 23: 50S ribosomal protein L27

Chain 0:



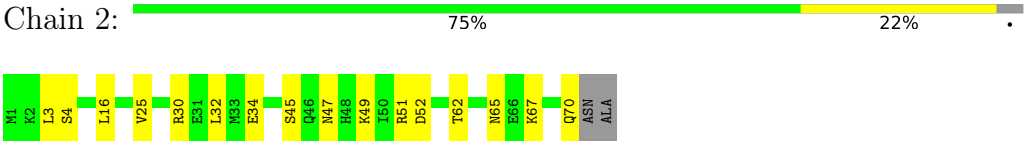
• Molecule 24: 50S ribosomal protein L28

Chain 1:



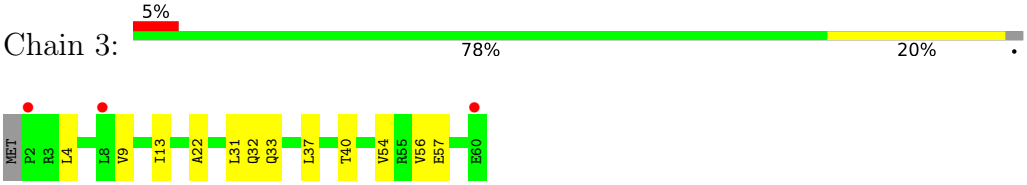
• Molecule 25: 50S ribosomal protein L29

Chain 2:



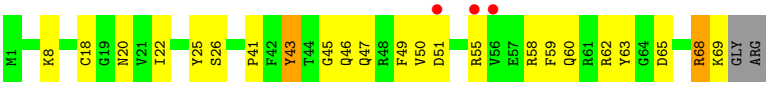
• Molecule 26: 50S ribosomal protein L30

Chain 3:



• Molecule 27: 50S ribosomal protein L31

Chain 4:



• Molecule 28: 50S ribosomal protein L32

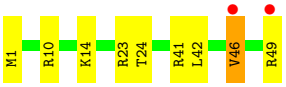
Chain 5:

• Molecule 29: 50S ribosomal protein L33

Chain 6:

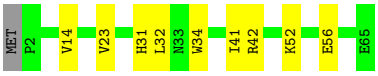
• Molecule 30: 50S ribosomal protein L34

Chain 7:



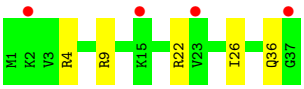
• Molecule 31: 50S ribosomal protein L35

Chain 8:



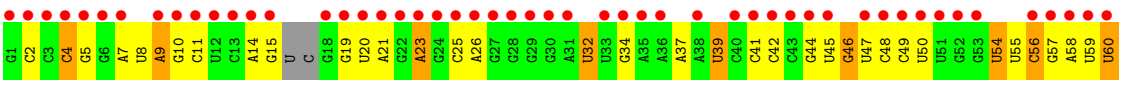
• Molecule 32: 50S ribosomal protein L36

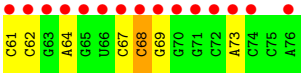
Chain 9:



• Molecule 33: E-site tRNA

Chain x:



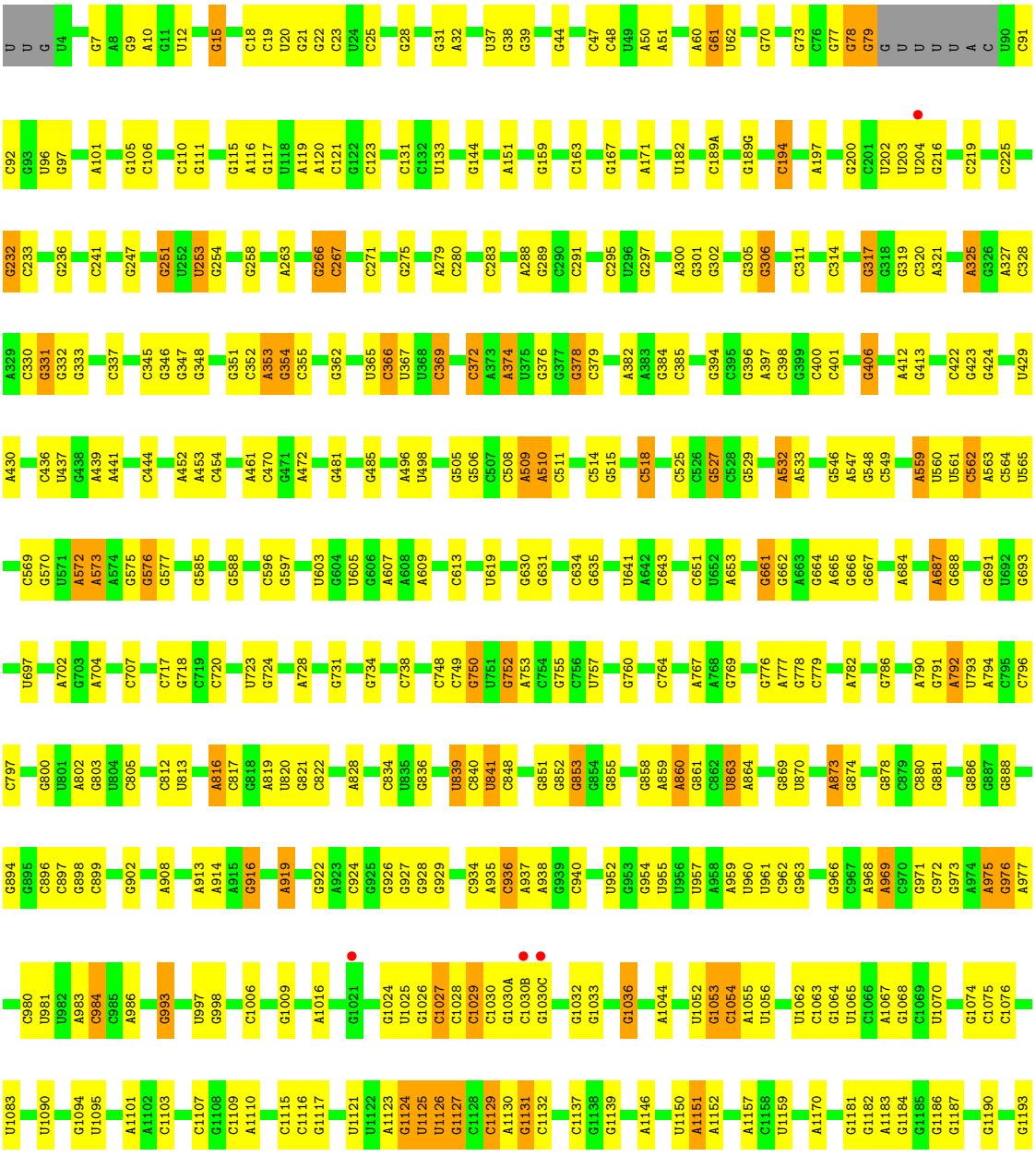


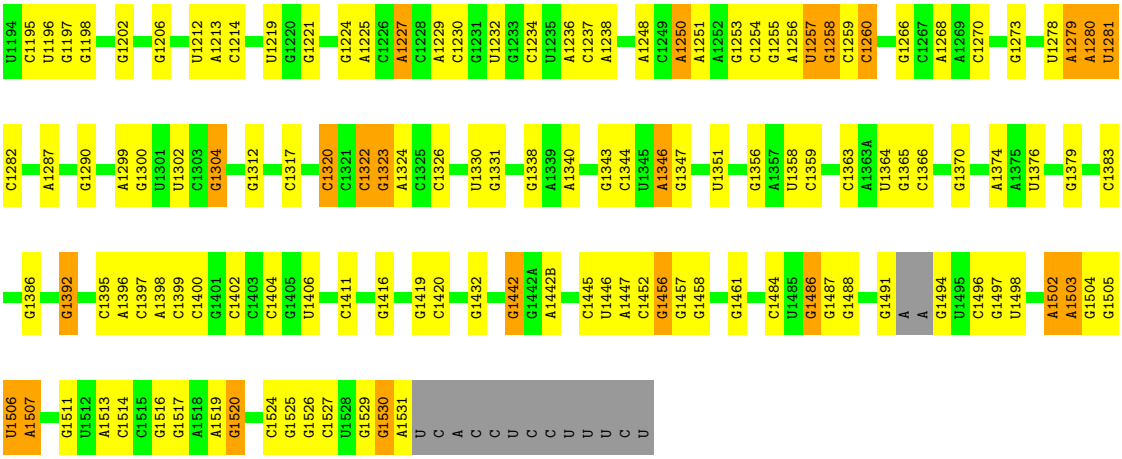
• Molecule 33: E-site tRNA

Chain w:

• Molecule 34: 16S Ribosomal RNA

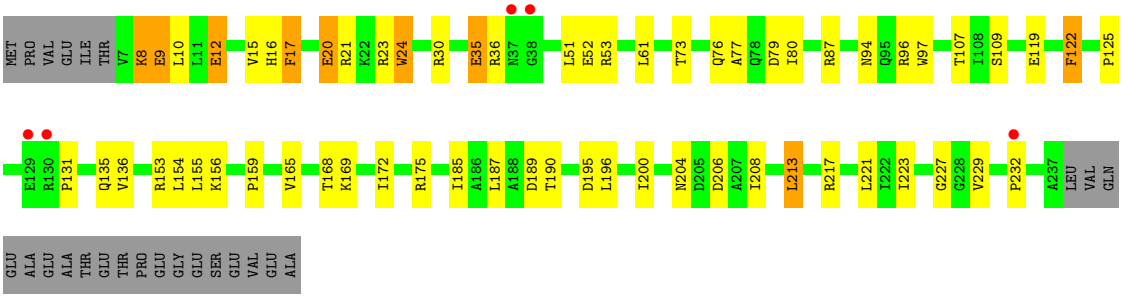
Chain a:





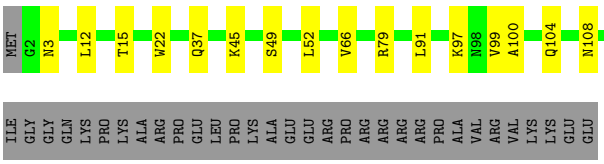
• Molecule 35: 30S ribosomal protein S2

Chain b:



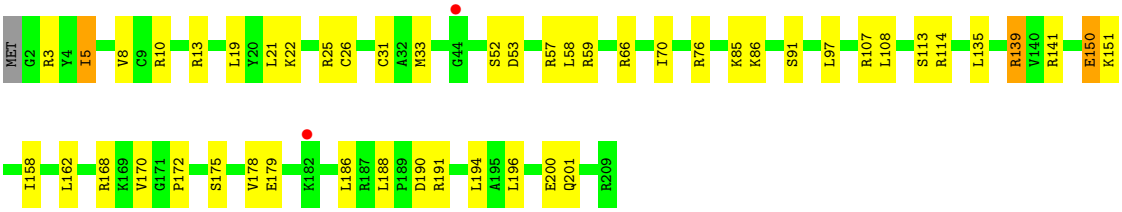
• Molecule 36: 30S ribosomal protein S3

Chain c:



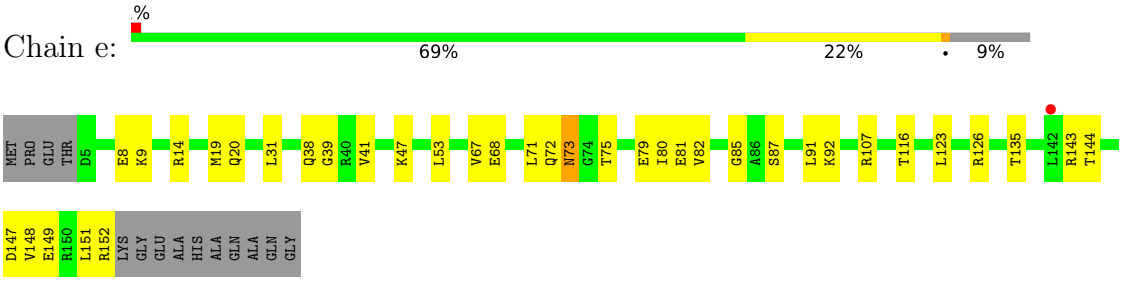
• Molecule 37: 30S ribosomal protein S4

Chain d:



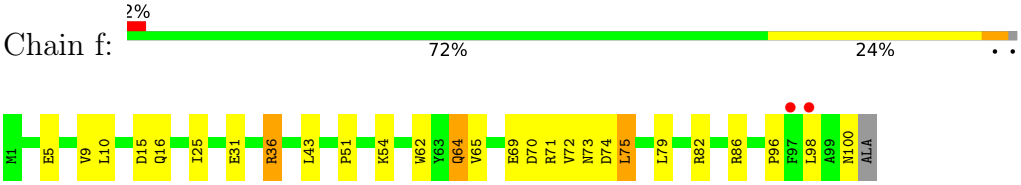
• Molecule 38: 30S ribosomal protein S5

Chain e:



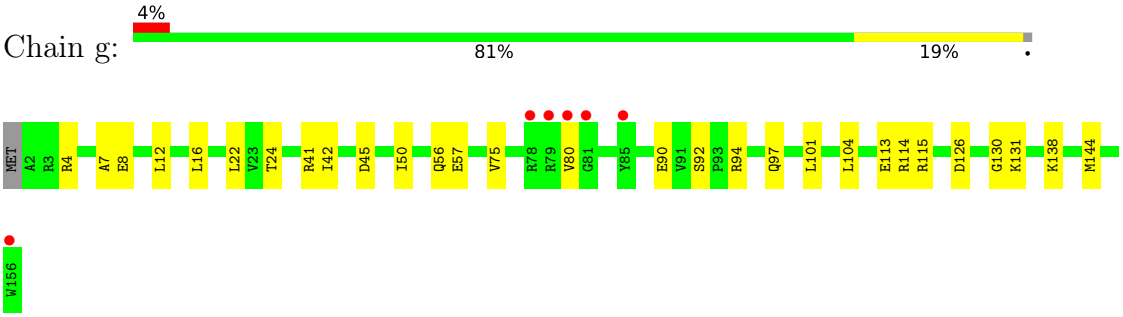
• Molecule 39: 30S ribosomal protein S6

Chain f:



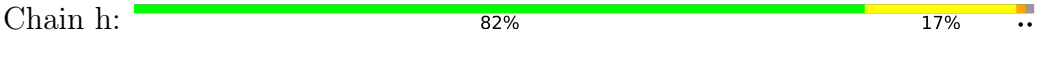
• Molecule 40: 30S ribosomal protein S7

Chain g:



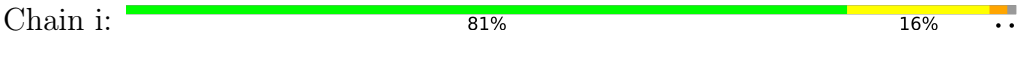
• Molecule 41: 30S ribosomal protein S8

Chain h:



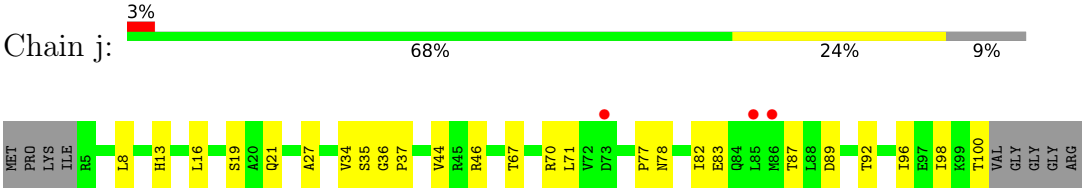
• Molecule 42: 30S ribosomal protein S9

Chain i:



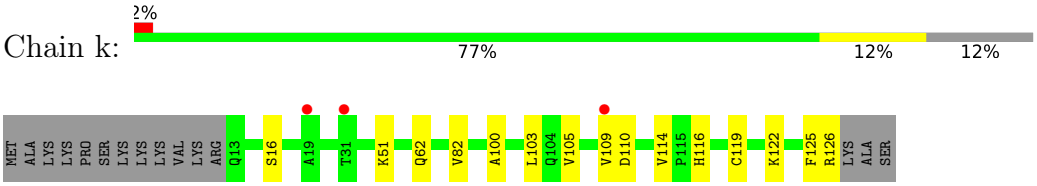
• Molecule 43: 30S ribosomal protein S10

Chain j:



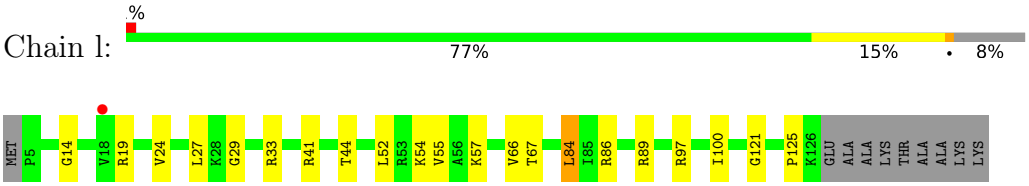
• Molecule 44: 30S ribosomal protein S11

Chain k:



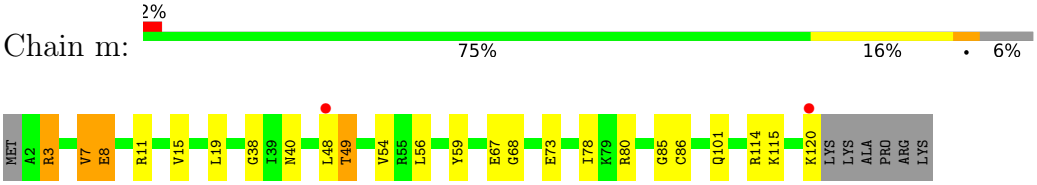
• Molecule 45: 30S ribosomal protein S12

Chain l:



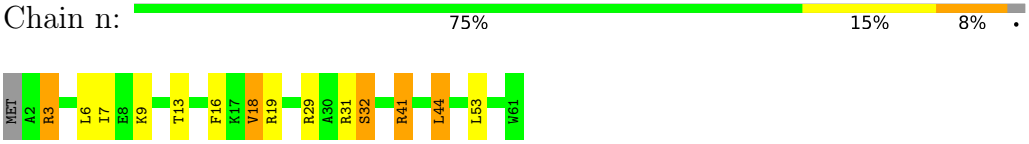
• Molecule 46: 30S ribosomal protein S13

Chain m:



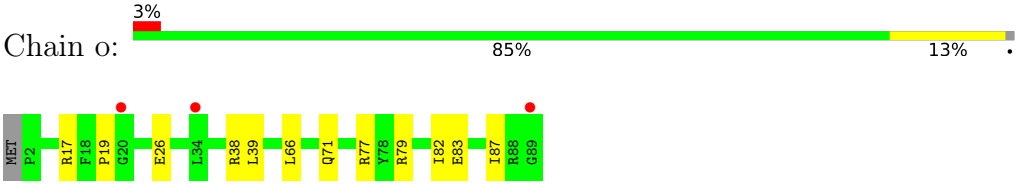
• Molecule 47: 30S ribosomal protein S14 type Z

Chain n:



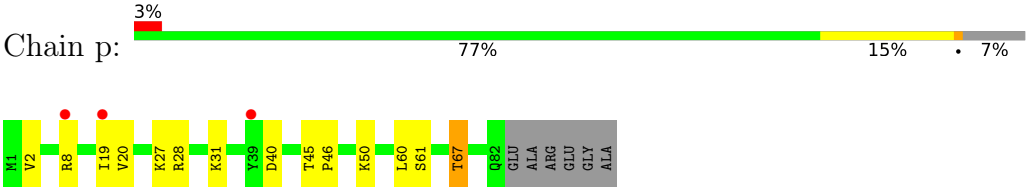
• Molecule 48: 30S ribosomal protein S15

Chain o:



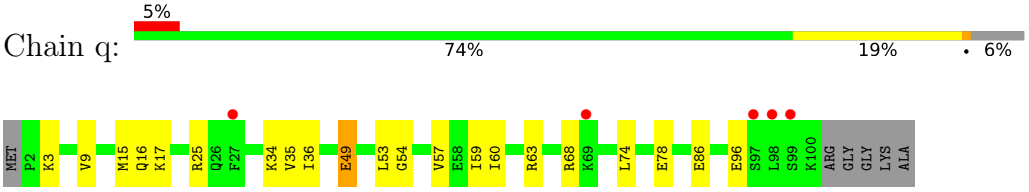
• Molecule 49: 30S ribosomal protein S16

Chain p:



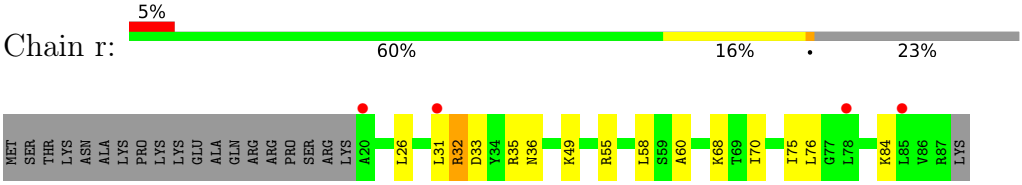
• Molecule 50: 30S ribosomal protein S17

Chain q:



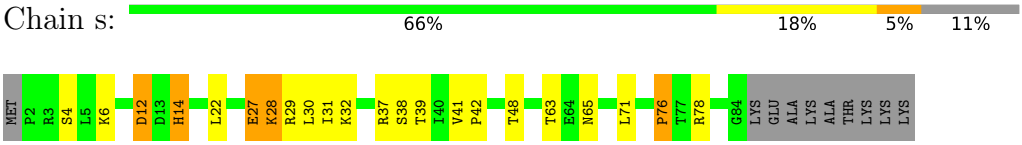
• Molecule 51: 30S ribosomal protein S18

Chain r:



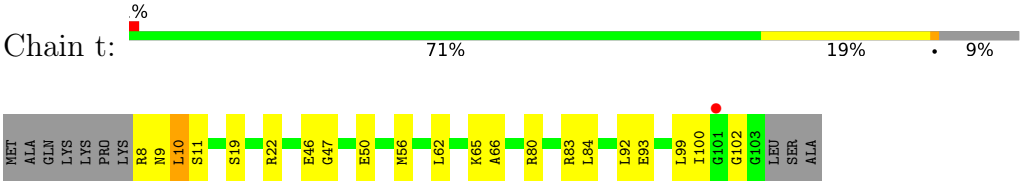
• Molecule 52: 30S ribosomal protein S19

Chain s:



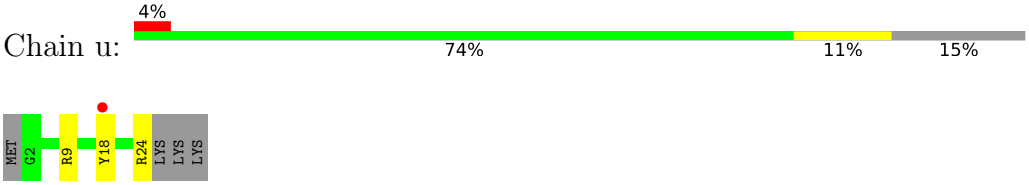
• Molecule 53: 30S ribosomal protein S20

Chain t:



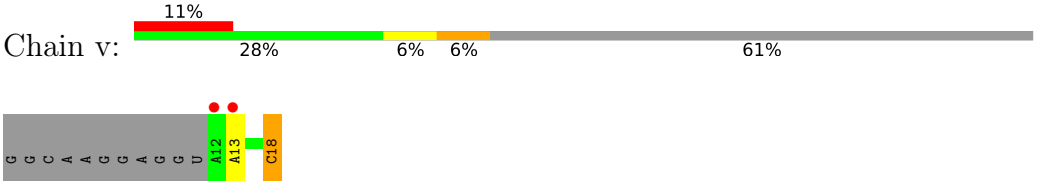
• Molecule 54: 30S ribosomal protein Thx

Chain u:



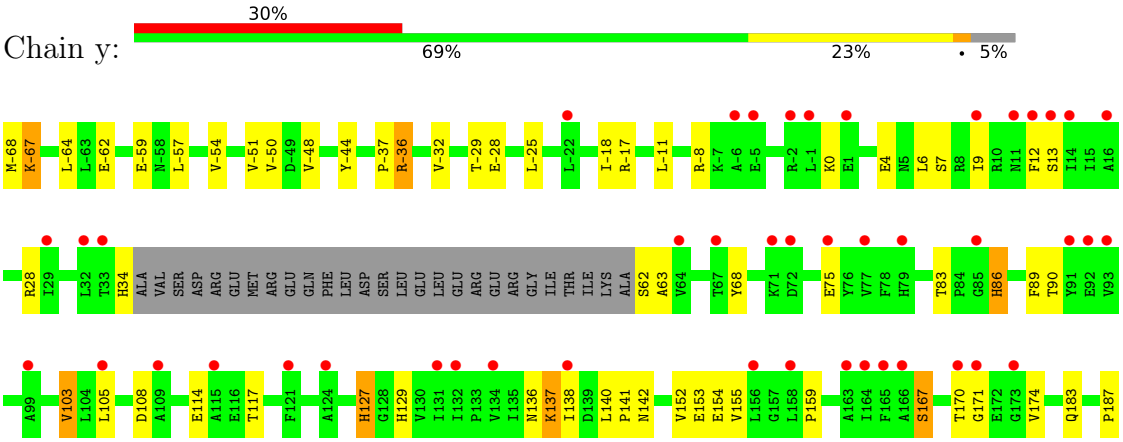
• Molecule 55: mRNA

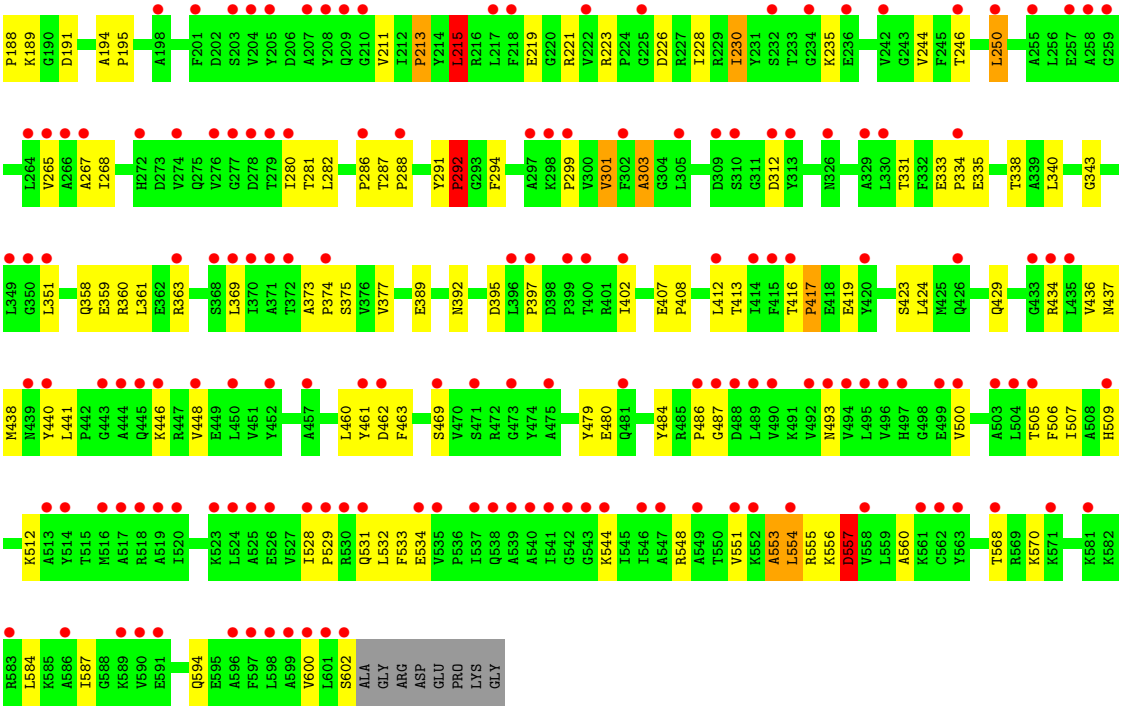
Chain v:



• Molecule 56: 50S ribosomal protein L9, Elongation factor 4

Chain y:




P188 K189 G190 D191 A194 P195 A198 F201 D202 S203 V204 Y205 D206 A207 Y208 Q209 G210 V211 I212 P213 Y214 L215 R216 L217 F218 E219 G220 R221 V222 R223 P224 G225 D226 R227 I228 R229 I230 Y231 S232 T233 G234 K235 E236 V242 G243 V244 F245 T246 L250 A255 L256 E257 A258 G259
L264 V265 A266 A267 I268 H272 D273 V274 Q275 V276 G277 D278 T279 I280 T281 L282 P286 T287 P288 Y291 P292 G293 F294 A297 K298 P299 V300 V301 F302 A303 G304 L305 D309 S310 G311 D312 Y313 N326 A329 L330 T331 F332 E333 P334 E335 T338 A339 L340 G343
L349 G350 L351 Q358 E359 R360 L361 E362 R363 S368 L369 I370 A371 T372 A373 P374 S375 V376 V377 E389 N392 D395 L396 P397 D398 P399 T400 R401 I402 E407 P408 L412 T413 I414 F415 T416 P417 E418 E419 Y420 S423 L424 M425 Q426 Q429 G433 R434 L435 V436 N437
M438 N439 Y440 L441 P442 G443 A444 Q445 K446 R447 V448 E449 L450 V451 Y452 A457 L460 Y461 D462 F463 S469 V470 S471 R472 G473 Y474 A475 Y479 E480 Q481 Y484 R485 P486 G487 D488 L489 V490 K491 V492 N493 V494 L495 V496 H497 G498 E499 V500 A503 L504 T505 F506 I507 A508 H509
K512 A513 Y514 T515 M516 A517 R518 A519 I520 K523 L524 A525 E526 V527 I528 P529 R530 Q531 L532 F533 E534 V535 P536 I537 Q538 A539 A540 I541 G542 G543 K544 I545 I546 A547 R548 A549 T550 V551 K552 A553 L554 R555 K556 D557 V558 L559 A560 K561 C562 Y563 T568 R569 K570 K571 K581 K582
R583 L584 K585 A586 I587 G588 K589 V590 E591 Q594 E595 A596 F597 L598 A599 V600 L601 S602 ALA GLY ARG ASP GLU PRO LYS GLY

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	239.29Å 272.85Å 431.88Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.76 – 2.90 49.76 – 2.89	Depositor EDS
% Data completeness (in resolution range)	93.8 (49.76-2.90) 93.1 (49.76-2.89)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.51 (at 2.91Å)	Xtriage
Refinement program	PHENIX 1.8.2_1309	Depositor
R, R_{free}	0.238 , 0.304 0.239 , 0.303	Depositor DCC
R_{free} test set	29295 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	62.9	Xtriage
Anisotropy	0.242	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.27 , 67.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	152111	wwPDB-VP
Average B, all atoms (Å^2)	79.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.42% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ 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: GDP, MG, 7MG, MIA, ZN, 4SU, SF4, 5MU, PSU

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	A	0.86	29/69298 (0.0%)	1.53	1145/108168 (1.1%)
2	B	0.61	0/2878	1.24	15/4490 (0.3%)
3	D	0.66	1/2186 (0.0%)	0.84	0/2944
4	E	0.64	0/1592	0.87	2/2149 (0.1%)
5	F	0.60	0/1619	0.80	2/2193 (0.1%)
6	G	0.45	0/1450	0.73	0/1959
7	H	0.47	0/1356	0.72	1/1834 (0.1%)
8	J	0.42	0/640	0.86	7/889 (0.8%)
9	K	0.30	0/1044	0.56	0/1416
10	N	0.58	0/1144	0.75	0/1543
11	O	0.75	0/943	0.88	1/1269 (0.1%)
12	P	0.53	0/1152	0.85	1/1533 (0.1%)
13	Q	0.62	0/1143	0.72	0/1527
14	R	0.51	0/982	0.74	0/1312
15	S	0.45	0/887	0.73	0/1180
16	T	0.62	0/1105	0.79	0/1477
17	U	0.63	0/977	0.78	1/1301 (0.1%)
18	V	0.56	0/782	0.78	0/1049
19	W	0.61	0/897	0.84	0/1205
20	X	0.56	0/764	0.76	0/1025
21	Y	0.54	0/819	0.78	1/1095 (0.1%)
22	Z	0.53	0/1483	0.71	0/2017
23	0	0.53	0/599	0.73	0/798
24	1	0.61	0/762	0.79	0/1014
25	2	0.50	0/590	0.70	0/781
26	3	0.57	0/474	0.81	1/635 (0.2%)
27	4	0.52	0/570	0.82	0/768
28	5	0.57	0/473	0.74	0/639
29	6	0.56	0/460	0.73	0/613
30	7	0.64	0/438	0.82	0/575
31	8	0.59	0/519	0.66	0/684
32	9	0.61	0/310	0.77	0/407

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
33	w	0.92	2/1651 (0.1%)	1.77	54/2569 (2.1%)
33	x	0.60	0/1602	1.35	18/2493 (0.7%)
34	a	0.87	14/36002 (0.0%)	1.53	589/56188 (1.0%)
35	b	0.54	0/1885	0.82	1/2547 (0.0%)
36	c	0.58	0/1574	0.71	0/2127
37	d	0.59	0/1685	0.81	2/2262 (0.1%)
38	e	0.69	0/1145	0.83	0/1543
39	f	0.47	0/819	0.69	1/1111 (0.1%)
40	g	0.55	0/1246	0.70	0/1674
41	h	0.58	0/1108	0.75	0/1494
42	i	0.56	0/1002	0.78	0/1346
43	j	0.54	0/711	0.77	0/968
44	k	0.53	0/844	0.69	0/1145
45	l	0.65	0/946	0.87	2/1274 (0.2%)
46	m	0.58	0/934	0.84	0/1256
47	n	0.66	0/501	0.91	3/664 (0.5%)
48	o	0.54	0/739	0.74	0/985
49	p	0.65	0/697	0.80	0/939
50	q	0.66	0/836	0.81	0/1117
51	r	0.49	0/560	0.66	0/746
52	s	0.62	0/665	0.84	0/897
53	t	0.51	0/726	0.79	0/961
54	u	0.51	0/203	0.76	0/266
55	v	0.82	0/165	1.41	3/254 (1.2%)
56	y	0.78	13/4067 (0.3%)	1.12	30/5503 (0.5%)
All	All	0.78	59/162649 (0.0%)	1.36	1880/242818 (0.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	D	0	1
8	J	0	1
42	i	0	1
46	m	0	2
52	s	0	1
53	t	0	1
56	y	0	23
All	All	0	30

All (59) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	w	1	G	OP3-P	-10.81	1.48	1.61
34	a	1125	U	P-O5'	7.89	1.67	1.59
1	A	945	A	N9-C4	-7.33	1.33	1.37
1	A	945	A	N3-C4	-7.19	1.30	1.34
1	A	2790	A	N9-C4	7.08	1.42	1.37
34	a	1125	U	O3'-P	6.66	1.69	1.61
34	a	1323	G	N7-C5	-6.48	1.35	1.39
1	A	2765	A	N9-C4	-6.40	1.34	1.37
1	A	2287	A	N9-C4	-6.38	1.34	1.37
33	w	45	U	N1-C2	6.25	1.44	1.38
3	D	237	GLU	CG-CD	6.19	1.61	1.51
34	a	975	A	N9-C4	-6.08	1.34	1.37
1	A	2058	A	N9-C4	-6.02	1.34	1.37
1	A	2566	A	N3-C4	-5.96	1.31	1.34
34	a	563	A	N9-C4	-5.68	1.34	1.37
34	a	767	A	N9-C4	5.67	1.41	1.37
1	A	265	A	N9-C4	-5.65	1.34	1.37
1	A	1021	A	C5-C6	-5.62	1.35	1.41
1	A	1571	A	N9-C4	-5.61	1.34	1.37
1	A	1021	A	N9-C4	-5.59	1.34	1.37
1	A	1667	G	N9-C8	-5.59	1.33	1.37
1	A	2765	A	N7-C5	-5.57	1.35	1.39
34	a	563	A	N3-C4	-5.57	1.31	1.34
34	a	1227	A	N9-C4	-5.56	1.34	1.37
34	a	1281	U	N1-C2	5.52	1.43	1.38
1	A	197	A	N9-C4	-5.50	1.34	1.37
56	y	141	PRO	N-CD	5.47	1.55	1.47
1	A	526	A	N9-C4	-5.46	1.34	1.37
1	A	1021	A	N7-C5	-5.45	1.35	1.39
1	A	1190	G	C6-N1	5.45	1.43	1.39
56	y	299	PRO	N-CD	5.45	1.55	1.47
34	a	1530	G	N9-C4	-5.42	1.33	1.38
34	a	983	A	N7-C5	-5.38	1.36	1.39
56	y	188	PRO	N-CD	5.38	1.55	1.47
1	A	973	A	N9-C4	-5.30	1.34	1.37
1	A	959	A	N9-C4	-5.29	1.34	1.37
56	y	195	PRO	N-CD	5.26	1.55	1.47
56	y	374	PRO	N-CD	5.24	1.55	1.47
56	y	397	PRO	N-CD	5.22	1.55	1.47
1	A	1674	G	N7-C5	-5.21	1.36	1.39
34	a	397	A	N7-C5	-5.20	1.36	1.39
1	A	820	A	N3-C4	-5.18	1.31	1.34
56	y	529	PRO	N-CD	5.18	1.55	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	1142(A)	A	N9-C4	-5.17	1.34	1.37
56	y	288	PRO	N-CD	5.17	1.55	1.47
1	A	1322	A	N9-C4	-5.15	1.34	1.37
1	A	958	U	N1-C2	5.15	1.43	1.38
56	y	189	LYS	C-N	5.14	1.42	1.33
34	a	975	A	C5-C6	-5.14	1.36	1.41
56	y	334	PRO	N-CD	5.13	1.55	1.47
1	A	1919	A	C6-N1	-5.10	1.31	1.35
56	y	408	PRO	N-CD	5.09	1.54	1.47
34	a	1125	U	C4'-C3'	5.09	1.58	1.53
1	A	2506	U	C2-N3	5.08	1.41	1.37
56	y	292	PRO	N-CD	5.08	1.54	1.47
56	y	460	LEU	C-O	5.08	1.32	1.23
1	A	1828	G	N1-C2	-5.05	1.33	1.37
1	A	528	A	C5-C6	-5.04	1.36	1.41
1	A	2242	G	N9-C4	-5.03	1.33	1.38

All (1880) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	w	76	A	C2-N3-C4	19.40	120.30	110.60
1	A	2096	U	O5'-P-OP1	-18.05	89.04	110.70
34	a	1281	U	N3-C2-O2	-14.81	111.83	122.20
33	w	76	A	N1-C2-N3	-14.62	121.99	129.30
33	w	75	C	OP2-P-O3'	14.16	136.36	105.20
1	A	1021	A	C2-N3-C4	-13.57	103.82	110.60
33	w	76	A	C8-N9-C4	13.43	111.17	105.80
1	A	945	A	N1-C6-N6	13.26	126.56	118.60
1	A	1190	G	N1-C6-O6	13.08	127.75	119.90
33	w	76	A	N7-C8-N9	-12.40	107.60	113.80
1	A	945	A	C6-C5-N7	-12.08	123.84	132.30
1	A	1190	G	C5-C6-O6	-12.00	121.40	128.60
34	a	1281	U	N1-C2-N3	11.79	121.97	114.90
1	A	2200	C	C6-N1-C2	-11.61	115.66	120.30
34	a	1126	U	C5-C6-N1	11.60	128.50	122.70
1	A	1791	A	O5'-P-OP1	-11.36	95.48	105.70
1	A	945	A	C2-N3-C4	-11.33	104.94	110.60
1	A	814	C	O5'-P-OP2	-11.04	95.77	105.70
34	a	1127	G	N3-C4-N9	-10.99	119.40	126.00
1	A	1798	U	O5'-P-OP2	-10.83	95.95	105.70
34	a	1281	U	C6-N1-C2	-10.79	114.52	121.00
1	A	2059	A	N1-C6-N6	10.64	124.99	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1129	C	C6-N1-C2	-10.45	116.12	120.30
34	a	1125	U	N3-C2-O2	10.12	129.29	122.20
34	a	1126	U	C2-N1-C1'	10.03	129.73	117.70
1	A	1021	A	N1-C6-N6	9.91	124.55	118.60
34	a	365	U	C5-C6-N1	-9.91	117.75	122.70
34	a	518	C	C5-C4-N4	9.90	127.13	120.20
34	a	975	A	N1-C6-N6	9.90	124.54	118.60
1	A	1776	G	O5'-P-OP2	-9.88	96.81	105.70
1	A	945	A	C5-N7-C8	-9.86	98.97	103.90
1	A	1021	A	C5-N7-C8	-9.82	98.99	103.90
1	A	2791	C	C6-N1-C2	-9.72	116.41	120.30
34	a	975	A	C5-N7-C8	-9.68	99.06	103.90
34	a	518	C	N3-C4-N4	-9.63	111.26	118.00
34	a	365	U	C2-N1-C1'	-9.61	106.17	117.70
1	A	2539	C	O5'-P-OP2	-9.56	97.09	105.70
1	A	2096	U	C5-C6-N1	9.52	127.46	122.70
34	a	518	C	C6-N1-C1'	9.49	132.18	120.80
34	a	1281	U	C5-C4-O4	9.45	131.57	125.90
34	a	1279	A	N7-C8-N9	9.43	118.51	113.80
1	A	945	A	C5-C6-N1	-9.42	112.99	117.70
1	A	1142(A)	A	C2-N3-C4	-9.39	105.91	110.60
1	A	2202	C	C6-N1-C2	-9.38	116.55	120.30
34	a	560	U	O5'-P-OP2	-9.31	97.32	105.70
34	a	792	A	O4'-C1'-N9	9.29	115.64	108.20
1	A	2610	C	C6-N1-C2	-9.19	116.62	120.30
1	A	632	A	C8-N9-C4	9.15	109.46	105.80
33	w	75	C	OP1-P-O3'	-9.15	85.07	105.20
1	A	1977	A	C2-N3-C4	-9.14	106.03	110.60
34	a	518	C	C2-N1-C1'	-9.11	108.78	118.80
1	A	945	A	C4-C5-C6	9.09	121.55	117.00
34	a	1127	G	C8-N9-C1'	9.09	138.81	127.00
1	A	2059	A	C5-C6-N6	-9.07	116.44	123.70
34	a	527	G	C8-N9-C4	-9.04	102.78	106.40
1	A	774	A	O5'-P-OP2	-9.03	97.58	105.70
34	a	527	G	N9-C4-C5	9.03	109.01	105.40
34	a	253	U	O5'-P-OP1	-8.99	97.61	105.70
1	A	2501	C	O5'-P-OP2	-8.99	97.61	105.70
34	a	1129	C	O4'-C1'-N1	8.98	115.39	108.20
1	A	1021	A	N7-C8-N9	8.97	118.28	113.80
1	A	528	A	N7-C8-N9	8.96	118.28	113.80
1	A	528	A	C5-N7-C8	-8.96	99.42	103.90
1	A	1109	C	C2-N1-C1'	8.93	128.62	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	197	A	O5'-P-OP2	-8.91	97.68	105.70
33	w	76	A	C5-N7-C8	8.91	108.35	103.90
34	a	975	A	C4-C5-N7	8.88	115.14	110.70
1	A	253	C	C6-N1-C2	8.88	123.85	120.30
1	A	383	U	O4'-C1'-N1	8.87	115.30	108.20
1	A	1109	C	C5-C6-N1	8.85	125.42	121.00
1	A	1967	C	O5'-P-OP2	-8.80	97.78	105.70
33	x	50	U	C5-C4-O4	8.77	131.16	125.90
34	a	1279	A	C8-N9-C4	-8.77	102.29	105.80
1	A	2506	U	C5-C6-N1	8.75	127.08	122.70
1	A	2496	C	N3-C2-O2	-8.74	115.78	121.90
1	A	1190	G	C4-C5-N7	8.68	114.27	110.80
1	A	1647	G	O5'-P-OP1	-8.67	97.89	105.70
1	A	1558	A	N1-C6-N6	8.65	123.79	118.60
1	A	2096	U	C2-N1-C1'	8.64	128.07	117.70
56	y	463	PHE	N-CA-C	8.64	134.32	111.00
1	A	1792	G	O5'-P-OP2	-8.63	97.93	105.70
34	a	1127	G	N9-C4-C5	8.62	108.85	105.40
33	w	76	A	N3-C4-C5	-8.61	120.78	126.80
34	a	1524	C	N3-C4-C5	8.58	125.33	121.90
34	a	1530	G	N3-C4-C5	8.58	132.89	128.60
1	A	1021	A	N1-C2-N3	8.56	133.58	129.30
34	a	1150	U	C5-C4-O4	8.56	131.04	125.90
1	A	2503	A	C2-N3-C4	8.55	114.88	110.60
1	A	1558	A	C2-N3-C4	-8.54	106.33	110.60
33	x	50	U	C2-N3-C4	8.54	132.12	127.00
34	a	266	G	C5-N7-C8	-8.53	100.03	104.30
33	w	73	A	O4'-C1'-N9	8.51	115.01	108.20
1	A	1983	C	N1-C2-O2	-8.50	113.80	118.90
1	A	1781	C	N1-C2-O2	8.46	123.98	118.90
1	A	2073	C	O5'-P-OP2	-8.46	98.09	105.70
1	A	973	A	C2-N3-C4	-8.45	106.37	110.60
1	A	2448	A	N1-C6-N6	8.45	123.67	118.60
34	a	1257	U	N1-C2-O2	8.45	128.71	122.80
1	A	330	A	C2-N3-C4	-8.44	106.38	110.60
1	A	1109	C	C6-N1-C2	-8.43	116.93	120.30
34	a	1116	C	C6-N1-C2	8.42	123.67	120.30
1	A	1153	C	C6-N1-C2	-8.41	116.93	120.30
34	a	1127	G	C4-N9-C1'	-8.38	115.61	126.50
1	A	1021	A	C6-C5-N7	-8.37	126.44	132.30
1	A	1350	C	O5'-P-OP1	-8.35	98.19	105.70
1	A	2554	U	C5-C4-O4	-8.31	120.91	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1599	C	C6-N1-C2	-8.29	116.99	120.30
1	A	528	A	C2-N3-C4	-8.28	106.46	110.60
1	A	945	A	N1-C2-N3	8.27	133.43	129.30
33	w	45	U	N3-C2-O2	-8.26	116.42	122.20
34	a	575	G	C5-C6-O6	-8.26	123.65	128.60
34	a	1123	A	C5-C6-N6	8.26	130.30	123.70
1	A	1131	G	O5'-P-OP2	-8.24	98.28	105.70
33	w	76	A	N3-C4-N9	8.23	133.98	127.40
33	w	76	A	OP1-P-OP2	-8.22	107.27	119.60
1	A	1300	U	N3-C2-O2	-8.21	116.45	122.20
1	A	1380	G	O5'-P-OP2	-8.20	98.32	105.70
1	A	746	A	O4'-C1'-N9	8.19	114.75	108.20
1	A	2242	G	N3-C4-C5	8.19	132.69	128.60
34	a	1530	G	N3-C4-N9	-8.19	121.09	126.00
33	x	68	C	N1-C2-O2	8.18	123.81	118.90
1	A	693	C	N3-C2-O2	-8.17	116.18	121.90
34	a	365	U	N1-C2-N3	8.17	119.80	114.90
34	a	436	C	C5-C6-N1	8.17	125.08	121.00
34	a	776	G	O5'-P-OP1	-8.16	98.36	105.70
1	A	782	A	C8-N9-C4	8.15	109.06	105.80
1	A	2275	C	O5'-P-OP2	-8.15	98.37	105.70
1	A	1021	A	C5-C6-N1	-8.13	113.63	117.70
34	a	333	G	C5-C6-O6	-8.13	123.72	128.60
1	A	2424	C	C6-N1-C2	-8.12	117.05	120.30
1	A	530	G	N1-C6-O6	-8.11	115.04	119.90
34	a	1322	C	O5'-P-OP2	-8.10	98.41	105.70
34	a	117	G	N9-C4-C5	-8.10	102.16	105.40
1	A	1981	A	N1-C6-N6	8.08	123.45	118.60
33	x	64	A	C6-N1-C2	8.08	123.45	118.60
1	A	2202	C	C5-C6-N1	8.07	125.03	121.00
1	A	528	A	C6-C5-N7	-8.05	126.67	132.30
1	A	240	G	C4-C5-N7	-8.05	107.58	110.80
34	a	91	C	N1-C2-O2	8.03	123.72	118.90
1	A	1952	A	N1-C6-N6	8.03	123.42	118.60
1	A	263	C	N1-C2-O2	7.99	123.69	118.90
34	a	266	G	P-O3'-C3'	7.96	129.26	119.70
34	a	10	A	N1-C6-N6	7.94	123.36	118.60
1	A	528	A	N1-C6-N6	7.93	123.36	118.60
34	a	1074	G	C5-C6-O6	-7.92	123.85	128.60
34	a	70	G	C5-C6-O6	-7.89	123.87	128.60
1	A	2239	G	O5'-P-OP2	-7.89	98.60	105.70
1	A	2774	C	C6-N1-C2	7.89	123.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1126	U	C6-N1-C2	-7.87	116.28	121.00
34	a	365	U	C6-N1-C1'	7.87	132.21	121.20
1	A	512	G	O4'-C1'-N9	7.86	114.49	108.20
1	A	645	C	N1-C2-O2	7.84	123.61	118.90
1	A	2506	U	N3-C4-O4	7.84	124.89	119.40
1	A	1774	C	N3-C4-C5	-7.83	118.77	121.90
34	a	975	A	C6-C5-N7	-7.83	126.82	132.30
1	A	2766	G	C6-C5-N7	-7.83	125.70	130.40
1	A	945	A	C4-C5-N7	7.82	114.61	110.70
1	A	745	G	N1-C6-O6	-7.80	115.22	119.90
1	A	1002	G	O5'-P-OP2	-7.79	98.69	105.70
1	A	2024	G	C8-N9-C4	-7.78	103.29	106.40
33	w	73	A	N7-C8-N9	7.77	117.69	113.80
34	a	976	G	N1-C6-O6	7.77	124.56	119.90
1	A	1021	A	C8-N9-C4	-7.76	102.69	105.80
34	a	1107	C	N1-C2-O2	-7.75	114.25	118.90
1	A	1108	U	C2-N1-C1'	7.74	126.99	117.70
1	A	528	A	C8-N9-C4	-7.74	102.70	105.80
34	a	820	U	N3-C2-O2	-7.73	116.79	122.20
1	A	1667	G	C8-N9-C4	7.73	109.49	106.40
34	a	1065	U	O5'-P-OP2	-7.73	98.74	105.70
1	A	12	U	N1-C2-O2	7.73	128.21	122.80
34	a	1392	G	C5-C6-O6	7.72	133.23	128.60
34	a	266	G	N7-C8-N9	7.72	116.96	113.10
1	A	2227	A	O5'-P-OP2	-7.71	98.76	105.70
1	A	2271	G	N3-C4-N9	7.69	130.62	126.00
1	A	2638	G	N3-C4-C5	-7.69	124.76	128.60
1	A	2394	C	C2-N1-C1'	7.68	127.25	118.80
1	A	364	C	C6-N1-C2	-7.68	117.23	120.30
1	A	530	G	C5-C6-O6	7.67	133.20	128.60
1	A	80	G	N1-C6-O6	7.65	124.49	119.90
1	A	678	C	N3-C4-C5	-7.65	118.84	121.90
1	A	581	C	C6-N1-C2	-7.63	117.25	120.30
1	A	1645	G	O5'-P-OP2	-7.63	98.84	105.70
1	A	1653	G	C4-N9-C1'	7.62	136.41	126.50
1	A	1189	A	O5'-P-OP2	-7.62	98.84	105.70
1	A	2499	C	N1-C2-O2	-7.62	114.33	118.90
1	A	2605	U	C6-N1-C2	-7.61	116.43	121.00
34	a	1524	C	C6-N1-C2	7.61	123.34	120.30
34	a	1257	U	N3-C2-O2	-7.60	116.88	122.20
34	a	241	C	C6-N1-C2	7.59	123.34	120.30
1	A	1272	A	O4'-C1'-N9	7.59	114.27	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1511	G	C5-C6-O6	-7.58	124.05	128.60
34	a	333	G	N1-C6-O6	7.58	124.45	119.90
34	a	1076	C	C6-N1-C2	-7.58	117.27	120.30
1	A	1108	U	N1-C2-O2	7.58	128.10	122.80
33	x	56	C	N1-C2-O2	7.58	123.45	118.90
34	a	266	G	C4-C5-N7	7.57	113.83	110.80
34	a	1127	G	C6-C5-N7	7.57	134.94	130.40
1	A	566	U	C6-N1-C2	-7.56	116.46	121.00
1	A	392	C	N1-C2-O2	7.56	123.44	118.90
1	A	2391	G	O4'-C1'-N9	7.56	114.25	108.20
1	A	2271	G	N9-C4-C5	-7.54	102.38	105.40
34	a	976	G	C5-C6-N1	-7.54	107.73	111.50
34	a	1123	A	N3-C4-N9	-7.54	121.37	127.40
34	a	1125	U	C6-N1-C2	7.51	125.51	121.00
1	A	2503	A	O5'-P-OP1	-7.51	98.94	105.70
1	A	13	A	C8-N9-C4	-7.50	102.80	105.80
1	A	1005	C	N1-C2-O2	7.50	123.40	118.90
34	a	797	C	N1-C2-O2	-7.50	114.40	118.90
1	A	591	C	C6-N1-C2	-7.50	117.30	120.30
1	A	1653	G	C6-C5-N7	-7.50	125.90	130.40
1	A	933	A	O4'-C1'-N9	7.50	114.20	108.20
1	A	2573	C	N3-C2-O2	7.49	127.14	121.90
1	A	2496	C	N1-C2-O2	7.49	123.39	118.90
1	A	1918	A	N1-C6-N6	-7.47	114.12	118.60
34	a	971	G	O4'-C1'-N9	7.47	114.18	108.20
1	A	746	A	C8-N9-C4	-7.47	102.81	105.80
1	A	1030	G	C5-C6-O6	-7.47	124.12	128.60
1	A	584	C	N3-C2-O2	-7.46	116.68	121.90
1	A	129	C	C6-N1-C2	7.46	123.28	120.30
1	A	531	C	N3-C2-O2	-7.46	116.68	121.90
1	A	1030	G	N9-C4-C5	-7.45	102.42	105.40
1	A	226	G	N1-C6-O6	-7.44	115.43	119.90
34	a	91	C	C2-N3-C4	7.44	123.62	119.90
34	a	1027	C	N1-C2-O2	7.42	123.35	118.90
1	A	141	A	N1-C6-N6	7.41	123.05	118.60
33	w	20	U	C2-N1-C1'	7.41	126.59	117.70
34	a	819	A	N1-C6-N6	7.40	123.04	118.60
1	A	1980	G	C8-N9-C4	7.40	109.36	106.40
1	A	2200	C	N3-C2-O2	-7.40	116.72	121.90
34	a	317	G	C6-C5-N7	-7.38	125.97	130.40
34	a	509	A	C8-N9-C4	-7.38	102.85	105.80
1	A	2605	U	N3-C2-O2	-7.38	117.03	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	486	C	C6-N1-C2	7.37	123.25	120.30
1	A	2200	C	C5-C6-N1	7.37	124.69	121.00
1	A	2820	A	N1-C6-N6	7.37	123.02	118.60
1	A	2620	C	O5'-P-OP2	-7.36	99.08	105.70
1	A	240	G	C5-C6-O6	7.36	133.01	128.60
1	A	819	A	N1-C6-N6	7.36	123.01	118.60
1	A	1681	G	N3-C4-C5	7.36	132.28	128.60
1	A	2428	G	P-O3'-C3'	7.35	128.52	119.70
34	a	1202	G	O5'-P-OP2	-7.35	99.08	105.70
33	x	64	A	C5-C6-N6	7.33	129.56	123.70
1	A	1061	U	O4'-C1'-N1	7.32	114.06	108.20
34	a	1502	A	C6-C5-N7	-7.32	127.18	132.30
34	a	510	A	C5-C6-N6	7.32	129.55	123.70
1	A	1021	A	C4-C5-N7	7.31	114.36	110.70
1	A	985	C	C6-N1-C2	7.31	123.22	120.30
34	a	976	G	C4-C5-C6	7.31	123.18	118.80
34	a	1219	U	C2-N3-C4	-7.30	122.62	127.00
34	a	1486	G	C5-C6-O6	-7.29	124.22	128.60
1	A	1212	G	C8-N9-C4	7.29	109.32	106.40
1	A	1665	A	C8-N9-C4	7.29	108.72	105.80
1	A	438	G	N1-C6-O6	7.28	124.27	119.90
1	A	1002	G	O5'-P-OP1	7.28	119.44	110.70
1	A	531	C	N3-C4-C5	-7.28	118.99	121.90
34	a	1125	U	N1-C2-O2	-7.27	117.71	122.80
34	a	834	C	C6-N1-C2	7.27	123.21	120.30
1	A	2059	A	N9-C4-C5	-7.26	102.89	105.80
1	A	2443	C	C5-C6-N1	-7.26	117.37	121.00
1	A	2494	G	C5-C6-O6	-7.26	124.25	128.60
34	a	813	U	O5'-P-OP1	7.23	119.37	110.70
34	a	1123	A	C6-N1-C2	7.22	122.93	118.60
1	A	1406	U	O5'-P-OP1	-7.21	99.21	105.70
1	A	2088	G	N3-C4-N9	-7.19	121.68	126.00
34	a	1304	G	N1-C6-O6	7.19	124.21	119.90
34	a	1520	G	O5'-P-OP2	-7.19	99.23	105.70
1	A	1634	A	C8-N9-C4	7.18	108.67	105.80
34	a	955	U	C5-C4-O4	7.18	130.21	125.90
1	A	226	G	O4'-C1'-N9	7.18	113.94	108.20
1	A	1300	U	N1-C2-O2	7.17	127.82	122.80
34	a	366	C	N3-C2-O2	-7.17	116.88	121.90
34	a	1198	G	O5'-P-OP2	7.17	119.31	110.70
1	A	2572	A	N1-C6-N6	-7.17	114.30	118.60
34	a	916	G	C8-N9-C4	-7.17	103.53	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	385	C	C6-N1-C2	-7.17	117.43	120.30
34	a	515	G	N1-C6-O6	7.17	124.20	119.90
1	A	528	A	N1-C2-N3	7.17	132.88	129.30
1	A	2202	C	C2-N1-C1'	7.16	126.68	118.80
1	A	2275	C	C6-N1-C2	7.16	123.17	120.30
1	A	859	G	N3-C4-N9	-7.16	121.70	126.00
33	w	9	A	C8-N9-C4	7.16	108.67	105.80
34	a	266	G	C8-N9-C4	-7.15	103.54	106.40
34	a	1502	A	C2-N3-C4	-7.15	107.03	110.60
34	a	972	C	C6-N1-C2	-7.14	117.44	120.30
34	a	1036	G	C4-N9-C1'	7.14	135.79	126.50
1	A	570	G	C4-C5-N7	-7.14	107.94	110.80
34	a	1511	G	N1-C6-O6	7.14	124.18	119.90
1	A	2439	A	O4'-C1'-N9	-7.13	102.50	108.20
33	w	73	A	C5-N7-C8	-7.12	100.34	103.90
1	A	1691	C	N1-C2-O2	-7.12	114.63	118.90
34	a	1331	G	O4'-C1'-N9	7.12	113.90	108.20
1	A	2834	G	N1-C6-O6	-7.12	115.63	119.90
1	A	1698	A	C6-C5-N7	-7.11	127.32	132.30
1	A	2766	G	N1-C6-O6	7.11	124.17	119.90
1	A	528	A	C4-C5-N7	7.11	114.25	110.70
1	A	1613	G	C4-C5-N7	-7.10	107.96	110.80
34	a	873	A	C2-N3-C4	7.09	114.15	110.60
34	a	510	A	N1-C6-N6	-7.09	114.34	118.60
1	A	915	C	N3-C2-O2	-7.09	116.94	121.90
1	A	2022	U	N1-C2-O2	-7.08	117.84	122.80
1	A	1800	C	N1-C2-O2	-7.08	114.65	118.90
1	A	399	G	N3-C4-C5	7.08	132.14	128.60
1	A	2582	G	C2-N3-C4	7.07	115.44	111.90
1	A	2617	C	C6-N1-C2	-7.07	117.47	120.30
1	A	2790	A	C2-N3-C4	7.06	114.13	110.60
1	A	2500	U	O5'-P-OP1	-7.06	99.34	105.70
34	a	529	G	N1-C6-O6	7.06	124.14	119.90
1	A	1300	U	C2-N1-C1'	7.06	126.17	117.70
1	A	340	A	O5'-P-OP1	-7.05	99.35	105.70
1	A	2516	G	N1-C6-O6	7.05	124.13	119.90
1	A	645	C	C2-N1-C1'	7.05	126.55	118.80
1	A	2197	U	N3-C2-O2	-7.04	117.27	122.20
34	a	374	A	N1-C6-N6	7.04	122.83	118.60
33	w	45	U	C6-N1-C2	-7.04	116.78	121.00
34	a	1324	A	C8-N9-C4	-7.03	102.99	105.80
1	A	1633	G	N1-C6-O6	7.03	124.12	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	933	A	C5-N7-C8	-7.03	100.39	103.90
1	A	1950	G	C5-C6-O6	7.02	132.81	128.60
1	A	2011	U	OP1-P-O3'	7.02	120.64	105.20
1	A	2287	A	C2-N3-C4	-7.02	107.09	110.60
1	A	2325	G	C8-N9-C4	-7.02	103.59	106.40
1	A	859	G	C4-N9-C1'	-7.01	117.38	126.50
1	A	30	G	N3-C4-N9	7.00	130.20	126.00
1	A	1501	C	C5-C6-N1	7.00	124.50	121.00
1	A	1614	A	O5'-P-OP1	-7.00	99.40	105.70
1	A	446	G	C8-N9-C4	-6.99	103.60	106.40
34	a	436	C	C2-N1-C1'	6.99	126.49	118.80
1	A	818	G	N1-C6-O6	6.99	124.09	119.90
1	A	2394	C	N1-C2-O2	6.99	123.09	118.90
1	A	2509	G	C5-C6-O6	-6.99	124.41	128.60
1	A	1796	U	C5-C4-O4	6.98	130.09	125.90
1	A	2605	U	C5-C6-N1	6.98	126.19	122.70
1	A	2765	A	C2-N3-C4	-6.98	107.11	110.60
1	A	2056	G	C4-C5-N7	6.97	113.59	110.80
1	A	1782	C	C6-N1-C2	-6.97	117.51	120.30
1	A	958	U	N3-C2-O2	-6.97	117.32	122.20
34	a	757	U	O5'-P-OP2	-6.96	99.43	105.70
1	A	2096	U	N1-C2-O2	6.96	127.67	122.80
1	A	945	A	O5'-P-OP2	-6.96	99.44	105.70
34	a	1124	G	N3-C4-C5	-6.96	125.12	128.60
34	a	1322	C	C6-N1-C2	6.96	123.08	120.30
34	a	366	C	N1-C2-O2	6.95	123.07	118.90
45	l	84	LEU	CA-CB-CG	6.94	131.27	115.30
1	A	693	C	C6-N1-C2	-6.94	117.52	120.30
1	A	2789	C	O4'-C1'-N1	6.94	113.75	108.20
34	a	888	G	O5'-P-OP2	-6.94	99.45	105.70
1	A	2229	C	N3-C2-O2	-6.94	117.04	121.90
1	A	584	C	C2-N1-C1'	6.93	126.42	118.80
34	a	728	A	N1-C6-N6	6.93	122.76	118.60
1	A	2624	G	N3-C4-N9	6.93	130.16	126.00
1	A	2766	G	C4-C5-N7	6.92	113.57	110.80
1	A	1204	A	C2-N3-C4	-6.91	107.14	110.60
1	A	2056	G	C6-C5-N7	-6.91	126.25	130.40
34	a	852	G	N1-C2-N2	-6.91	109.98	116.20
34	a	38	G	N1-C6-O6	6.90	124.04	119.90
1	A	945	A	C4-N9-C1'	6.90	138.71	126.30
34	a	959	A	C8-N9-C4	6.89	108.56	105.80
1	A	734	A	C8-N9-C4	6.88	108.55	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2609	U	C5-C6-N1	-6.88	119.26	122.70
1	A	1776	G	C8-N9-C4	6.88	109.15	106.40
34	a	1502	A	C5-N7-C8	-6.88	100.46	103.90
1	A	1827	C	C6-N1-C2	-6.87	117.55	120.30
1	A	1966	A	O5'-P-OP1	-6.87	99.52	105.70
34	a	1494	G	N3-C4-C5	-6.86	125.17	128.60
1	A	1647	G	O5'-P-OP2	6.86	118.93	110.70
34	a	576	G	C6-C5-N7	-6.86	126.29	130.40
1	A	2767	C	N1-C2-O2	6.86	123.01	118.90
56	y	215	LEU	N-CA-C	-6.86	92.49	111.00
1	A	679	C	C5-C6-N1	-6.85	117.57	121.00
34	a	894	G	N1-C6-O6	6.85	124.01	119.90
33	w	62	C	N3-C4-C5	-6.84	119.16	121.90
34	a	573	A	O5'-P-OP2	-6.84	99.54	105.70
1	A	1698	A	N1-C6-N6	6.83	122.70	118.60
34	a	1331	G	N1-C6-O6	-6.83	115.80	119.90
1	A	945	A	C8-N9-C1'	-6.83	115.41	127.70
2	B	70	C	C6-N1-C2	-6.82	117.57	120.30
34	a	1290	G	N1-C6-O6	6.82	123.99	119.90
34	a	1503	A	O4'-C1'-N9	6.81	113.65	108.20
1	A	2229	C	O5'-P-OP2	-6.81	99.57	105.70
1	A	740	U	OP1-P-OP2	-6.81	109.39	119.60
1	A	933	A	N7-C8-N9	6.80	117.20	113.80
56	y	215	LEU	CB-CG-CD1	6.80	122.56	111.00
1	A	90	U	C5-C6-N1	6.80	126.10	122.70
1	A	1745	C	C5-C6-N1	6.79	124.40	121.00
1	A	561	G	C8-N9-C4	6.79	109.12	106.40
33	w	29	G	N1-C6-O6	6.79	123.97	119.90
1	A	1991	U	C5-C6-N1	-6.78	119.31	122.70
1	A	451	C	N3-C4-N4	6.78	122.75	118.00
1	A	1796	U	C2-N1-C1'	-6.78	109.56	117.70
1	A	2791	C	C2-N1-C1'	6.77	126.25	118.80
1	A	1191	G	N3-C4-C5	6.77	131.98	128.60
1	A	265	A	C2-N3-C4	-6.76	107.22	110.60
1	A	801	G	N1-C6-O6	-6.76	115.84	119.90
34	a	510	A	N9-C4-C5	6.76	108.50	105.80
1	A	1823	G	O5'-P-OP2	6.75	118.80	110.70
1	A	12	U	N3-C2-O2	-6.75	117.48	122.20
1	A	1253	A	OP1-P-OP2	6.75	129.72	119.60
34	a	929	G	N1-C6-O6	-6.74	115.85	119.90
1	A	2200	C	C2-N1-C1'	6.74	126.22	118.80
1	A	798	G	OP1-P-OP2	-6.74	109.49	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	945	A	N7-C8-N9	6.74	117.17	113.80
34	a	1126	U	C5-C4-O4	-6.74	121.86	125.90
1	A	1799	G	N1-C6-O6	-6.73	115.86	119.90
1	A	1927	A	C8-N9-C4	6.73	108.49	105.80
34	a	105	G	O5'-P-OP2	-6.73	99.64	105.70
8	J	77	PRO	N-CA-CB	6.73	111.37	103.30
1	A	1030	G	C8-N9-C4	6.72	109.09	106.40
1	A	1622	G	C5-C6-O6	-6.72	124.57	128.60
1	A	2566	A	N9-C4-C5	6.72	108.49	105.80
34	a	687	A	P-O3'-C3'	6.72	127.76	119.70
33	w	45	U	O4'-C1'-N1	6.72	113.58	108.20
1	A	1677	A	N1-C6-N6	-6.72	114.57	118.60
1	A	584	C	C6-N1-C2	-6.71	117.61	120.30
1	A	573	G	C5-C6-O6	-6.71	124.57	128.60
1	A	2582	G	C5-C6-N1	6.71	114.86	111.50
1	A	2073	C	N1-C2-O2	6.70	122.92	118.90
1	A	2712(A)	A	N9-C4-C5	6.70	108.48	105.80
34	a	365	U	C5-C4-O4	6.70	129.92	125.90
1	A	234	C	N1-C2-O2	6.70	122.92	118.90
1	A	1958	C	O5'-P-OP1	6.70	118.73	110.70
1	A	2199	A	OP2-P-O3'	6.69	119.92	105.20
34	a	963	G	C2-N3-C4	-6.68	108.56	111.90
34	a	975	A	C2-N3-C4	-6.68	107.26	110.60
34	a	1234	C	C6-N1-C2	-6.68	117.63	120.30
1	A	2040	C	N3-C2-O2	-6.68	117.22	121.90
1	A	1778	U	N3-C4-C5	6.67	118.60	114.60
34	a	1511	G	C6-C5-N7	-6.65	126.41	130.40
1	A	206	U	N3-C2-O2	-6.65	117.55	122.20
1	A	1300	U	P-O3'-C3'	6.65	127.68	119.70
1	A	773	U	C6-N1-C2	6.64	124.99	121.00
1	A	1694	C	N1-C2-O2	-6.64	114.92	118.90
1	A	1190	G	C5-N7-C8	-6.64	100.98	104.30
1	A	2034	U	C2-N1-C1'	6.64	125.67	117.70
33	w	1	G	C8-N9-C4	-6.63	103.75	106.40
1	A	986	C	C6-N1-C2	6.63	122.95	120.30
1	A	1790	C	N3-C2-O2	6.63	126.54	121.90
1	A	1698	A	N7-C8-N9	6.62	117.11	113.80
34	a	320	C	C6-N1-C2	6.62	122.95	120.30
34	a	91	C	N3-C4-C5	-6.62	119.25	121.90
34	a	839	U	C2-N1-C1'	6.61	125.64	117.70
34	a	812	C	N1-C2-O2	6.61	122.86	118.90
1	A	859	G	N3-C4-C5	6.60	131.90	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	822	C	N1-C2-O2	-6.60	114.94	118.90
1	A	1129	A	N1-C6-N6	-6.59	114.64	118.60
1	A	2646	C	C6-N1-C2	-6.59	117.66	120.30
1	A	1095	A	O4'-C1'-N9	6.59	113.47	108.20
33	w	20	U	N1-C2-O2	6.59	127.41	122.80
1	A	844	C	C6-N1-C2	6.59	122.93	120.30
1	A	2080	G	C5-C6-O6	-6.59	124.65	128.60
1	A	531	C	C4-C5-C6	6.58	120.69	117.40
34	a	515	G	C5-C6-O6	-6.57	124.66	128.60
1	A	1227	G	N1-C6-O6	6.57	123.84	119.90
1	A	330	A	N1-C2-N3	6.57	132.58	129.30
1	A	582	G	C8-N9-C4	-6.57	103.77	106.40
34	a	980	C	C5-C6-N1	6.57	124.28	121.00
34	a	1530	G	C4-N9-C1'	-6.56	117.97	126.50
34	a	1127	G	C4-C5-N7	-6.56	108.17	110.80
1	A	1634	A	N7-C8-N9	-6.55	110.52	113.80
34	a	1027	C	N3-C2-O2	-6.55	117.32	121.90
1	A	1313	U	C2-N1-C1'	6.55	125.56	117.70
1	A	673	C	N3-C4-N4	6.55	122.58	118.00
1	A	2506	U	O5'-P-OP2	6.55	118.56	110.70
1	A	1837	C	N1-C2-O2	-6.54	114.97	118.90
1	A	1721	G	C4-C5-N7	6.54	113.42	110.80
34	a	1129	C	P-O3'-C3'	6.54	127.55	119.70
34	a	813	U	OP1-P-OP2	-6.53	109.80	119.60
1	A	990	A	N1-C6-N6	6.53	122.52	118.60
1	A	392	C	N3-C2-O2	-6.53	117.33	121.90
34	a	1432	G	C8-N9-C4	-6.53	103.79	106.40
1	A	1038	C	C6-N1-C2	-6.53	117.69	120.30
1	A	116	C	O5'-P-OP2	-6.52	99.83	105.70
1	A	830	G	O5'-P-OP1	-6.52	99.83	105.70
1	A	1981	A	C5-C6-N6	-6.52	118.48	123.70
1	A	2499	C	C2-N3-C4	-6.52	116.64	119.90
33	x	4	C	C6-N1-C2	-6.52	117.69	120.30
34	a	1331	G	C8-N9-C4	-6.52	103.79	106.40
1	A	1791	A	OP2-P-O3'	6.52	119.54	105.20
34	a	916	G	C4-N9-C1'	6.52	134.97	126.50
1	A	733	G	C4-C5-N7	6.51	113.41	110.80
1	A	561	G	N7-C8-N9	-6.51	109.84	113.10
1	A	210	C	C5-C6-N1	-6.51	117.75	121.00
34	a	839	U	N1-C2-O2	6.51	127.35	122.80
34	a	1117	G	C8-N9-C4	6.50	109.00	106.40
1	A	1899	G	N1-C2-N2	-6.50	110.35	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2463	C	C5-C6-N1	6.50	124.25	121.00
34	a	861	G	N3-C4-N9	6.50	129.90	126.00
34	a	975	A	C5-C6-N6	-6.49	118.50	123.70
1	A	1667	G	N7-C8-N9	-6.49	109.86	113.10
1	A	2200	C	N1-C2-O2	6.49	122.79	118.90
34	a	778	G	O5'-P-OP2	-6.49	99.86	105.70
34	a	1502	A	N1-C6-N6	6.48	122.49	118.60
1	A	679	C	C2-N3-C4	-6.48	116.66	119.90
1	A	1897	G	N9-C4-C5	-6.47	102.81	105.40
1	A	573	G	O5'-P-OP2	-6.47	99.87	105.70
1	A	1653	G	C4-C5-C6	6.47	122.68	118.80
1	A	2766	G	C5-C6-O6	-6.47	124.72	128.60
34	a	769	G	N3-C4-N9	6.47	129.88	126.00
34	a	514	C	C6-N1-C2	6.47	122.89	120.30
34	a	1526	G	C6-C5-N7	-6.46	126.52	130.40
33	w	74	C	C6-N1-C2	-6.46	117.72	120.30
1	A	1030	G	N3-C4-N9	6.46	129.88	126.00
1	A	1775	U	C5-C6-N1	-6.46	119.47	122.70
1	A	452	G	N1-C6-O6	6.46	123.77	119.90
33	x	4	C	N3-C2-O2	-6.46	117.38	121.90
1	A	1190	G	C6-C5-N7	-6.45	126.53	130.40
1	A	1629	U	N1-C2-N3	6.45	118.77	114.90
1	A	866	A	C8-N9-C4	-6.45	103.22	105.80
1	A	1108	U	C6-N1-C1'	-6.45	112.17	121.20
1	A	2073	C	N3-C2-O2	-6.45	117.39	121.90
1	A	945	A	O4'-C1'-N9	6.45	113.36	108.20
1	A	1061	U	C2-N1-C1'	6.44	125.43	117.70
1	A	2286	A	N7-C8-N9	6.44	117.02	113.80
1	A	2448	A	N9-C4-C5	-6.44	103.22	105.80
34	a	1255	G	C8-N9-C4	6.44	108.98	106.40
1	A	2785	C	C6-N1-C2	-6.43	117.73	120.30
34	a	1248	A	C2-N3-C4	6.43	113.81	110.60
1	A	2286	A	C8-N9-C4	-6.43	103.23	105.80
1	A	2064	C	N3-C2-O2	6.42	126.39	121.90
1	A	798	G	C8-N9-C4	-6.42	103.83	106.40
1	A	2825	C	C5-C6-N1	-6.42	117.79	121.00
34	a	518	C	O4'-C1'-N1	6.42	113.33	108.20
1	A	561	G	N1-C6-O6	-6.42	116.05	119.90
1	A	182	A	C8-N9-C4	-6.42	103.23	105.80
34	a	1198	G	N3-C2-N2	-6.41	115.41	119.90
34	a	28	G	N1-C6-O6	6.41	123.75	119.90
1	A	364	C	C5-C6-N1	6.41	124.21	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	F	62	ARG	NE-CZ-NH1	-6.41	117.09	120.30
34	a	254	G	O5'-P-OP1	-6.41	99.93	105.70
56	y	416	THR	C-N-CD	6.41	141.86	128.40
1	A	958	U	C6-N1-C2	-6.40	117.16	121.00
33	w	76	A	C6-C5-N7	6.40	136.78	132.30
1	A	265	A	N1-C6-N6	6.40	122.44	118.60
1	A	819	A	C4-C5-N7	6.40	113.90	110.70
1	A	2615	U	N3-C4-O4	-6.39	114.92	119.40
1	A	1758	G	C4-C5-C6	6.39	122.64	118.80
1	A	2197	U	N1-C2-O2	6.39	127.27	122.80
1	A	2052	G	C4-C5-N7	-6.39	108.25	110.80
1	A	2789	C	C2-N1-C1'	-6.39	111.77	118.80
34	a	275	G	N3-C4-C5	-6.39	125.41	128.60
1	A	1109	C	N1-C2-O2	6.38	122.73	118.90
1	A	1962	C	C5-C6-N1	6.38	124.19	121.00
1	A	573	G	N1-C6-O6	6.38	123.73	119.90
1	A	275	G	C8-N9-C4	-6.37	103.85	106.40
1	A	1962	C	C6-N1-C2	-6.37	117.75	120.30
1	A	2751	G	C4-N9-C1'	6.37	134.78	126.50
34	a	1488	G	N1-C6-O6	6.37	123.72	119.90
1	A	1672	C	C6-N1-C2	-6.37	117.75	120.30
1	A	1629	U	C4-C5-C6	6.37	123.52	119.70
34	a	317	G	N3-C4-N9	6.36	129.82	126.00
34	a	337	C	C6-N1-C2	-6.36	117.76	120.30
34	a	981	U	N3-C2-O2	6.35	126.65	122.20
1	A	2250	G	C5-C6-N1	6.35	114.67	111.50
1	A	680	G	O5'-P-OP2	-6.35	99.99	105.70
33	w	26	A	N1-C6-N6	6.35	122.41	118.60
1	A	2049	G	C8-N9-C4	-6.34	103.86	106.40
34	a	619	U	C5-C4-O4	6.34	129.71	125.90
1	A	788	A	N9-C4-C5	-6.34	103.26	105.80
34	a	241	C	N3-C4-C5	6.34	124.44	121.90
34	a	1506	U	N1-C2-O2	-6.34	118.36	122.80
1	A	208	C	N1-C2-O2	-6.34	115.10	118.90
1	A	580	C	N1-C2-O2	-6.34	115.10	118.90
1	A	1300	U	C6-N1-C2	-6.34	117.20	121.00
1	A	2050	C	O5'-P-OP1	-6.34	100.00	105.70
1	A	577	G	C8-N9-C4	-6.34	103.87	106.40
8	J	86	PRO	N-CA-CB	6.33	110.89	103.30
1	A	1698	A	C2-N3-C4	-6.32	107.44	110.60
1	A	2048	G	N1-C6-O6	6.32	123.69	119.90
1	A	531	C	C6-N1-C2	-6.32	117.77	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	139(A)	G	N3-C4-C5	-6.32	125.44	128.60
1	A	2549	G	O5'-P-OP2	-6.31	100.02	105.70
1	A	1328	G	N1-C6-O6	6.31	123.69	119.90
34	a	78	G	N1-C6-O6	-6.31	116.12	119.90
1	A	1204	A	N1-C6-N6	6.30	122.38	118.60
1	A	1558	A	C4-C5-N7	6.30	113.85	110.70
1	A	1212	G	N7-C8-N9	-6.30	109.95	113.10
1	A	1153	C	N3-C4-C5	-6.30	119.38	121.90
1	A	2516	G	C5-C6-O6	-6.30	124.82	128.60
1	A	1322	A	C2-N3-C4	-6.30	107.45	110.60
1	A	2820	A	O5'-P-OP2	-6.29	100.03	105.70
1	A	2723	C	C6-N1-C2	-6.29	117.78	120.30
34	a	1123	A	C5-C6-N1	-6.29	114.55	117.70
1	A	915	C	N1-C2-O2	6.29	122.67	118.90
34	a	1127	G	N3-C4-C5	6.29	131.74	128.60
1	A	1460	A	O4'-C1'-N9	6.28	113.23	108.20
1	A	803	U	N1-C2-N3	6.28	118.67	114.90
34	a	864	A	N1-C6-N6	6.28	122.37	118.60
1	A	961	C	N3-C4-N4	6.28	122.40	118.00
1	A	2559	C	C4-C5-C6	6.28	120.54	117.40
34	a	527	G	C4-C5-N7	-6.27	108.29	110.80
34	a	1132	C	C6-N1-C2	-6.27	117.79	120.30
1	A	2022	U	N3-C2-O2	6.27	126.59	122.20
1	A	2271	G	C8-N9-C1'	-6.27	118.85	127.00
34	a	1461	G	C4-N9-C1'	6.27	134.65	126.50
1	A	1621	U	O5'-P-OP2	-6.27	100.06	105.70
34	a	1063	C	C2-N1-C1'	-6.27	111.91	118.80
33	w	41	C	N3-C4-C5	6.27	124.41	121.90
1	A	239	U	C6-N1-C2	6.26	124.76	121.00
1	A	265	A	C5-C6-N1	-6.26	114.57	117.70
1	A	275	G	C4-N9-C1'	6.26	134.64	126.50
1	A	1998	G	O5'-P-OP1	-6.26	100.06	105.70
1	A	2820	A	C5-N7-C8	-6.26	100.77	103.90
1	A	246	C	N1-C2-O2	-6.25	115.15	118.90
1	A	275	G	N7-C8-N9	6.25	116.23	113.10
1	A	1957	C	OP2-P-O3'	6.25	118.96	105.20
1	A	2065	C	O5'-P-OP1	-6.25	100.07	105.70
1	A	2522	U	N3-C4-O4	6.25	123.78	119.40
34	a	115	G	C5-C6-O6	-6.25	124.85	128.60
1	A	2576	G	C4-N9-C1'	6.25	134.63	126.50
34	a	1505	G	C4-C5-N7	-6.25	108.30	110.80
34	a	880	C	C6-N1-C2	6.24	122.80	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1619	G	N3-C2-N2	-6.24	115.53	119.90
34	a	365	U	C4-C5-C6	6.24	123.44	119.70
1	A	561	G	C6-C5-N7	6.24	134.14	130.40
34	a	119	A	N1-C6-N6	-6.23	114.86	118.60
33	x	64	A	C5-C6-N1	-6.23	114.58	117.70
34	a	314	C	N3-C2-O2	-6.23	117.54	121.90
1	A	459	U	C5-C4-O4	-6.23	122.16	125.90
34	a	1125	U	O5'-P-OP2	6.23	118.17	110.70
1	A	491	G	N3-C4-N9	-6.22	122.27	126.00
1	A	1645	G	N3-C4-N9	6.22	129.73	126.00
1	A	364	C	C2-N1-C1'	6.22	125.64	118.80
34	a	748	C	C6-N1-C2	-6.22	117.81	120.30
34	a	841	U	C5-C6-N1	6.21	125.81	122.70
1	A	1430	C	C6-N1-C2	-6.21	117.82	120.30
34	a	1279	A	C5-N7-C8	-6.21	100.80	103.90
1	A	272	G	N1-C6-O6	6.21	123.63	119.90
1	A	1813	G	C8-N9-C4	6.21	108.88	106.40
1	A	1256	G	C8-N9-C4	-6.21	103.92	106.40
1	A	1772	G	C2-N3-C4	-6.21	108.80	111.90
1	A	2056	G	N1-C6-O6	6.20	123.62	119.90
34	a	940	C	N1-C2-O2	-6.20	115.18	118.90
1	A	129	C	C5-C6-N1	-6.20	117.90	121.00
34	a	860	A	C2-N3-C4	-6.20	107.50	110.60
1	A	467	G	C2-N3-C4	-6.20	108.80	111.90
1	A	2638	G	C8-N9-C4	-6.20	103.92	106.40
1	A	774	A	N1-C2-N3	6.20	132.40	129.30
1	A	1214	A	N1-C6-N6	-6.20	114.88	118.60
34	a	957	U	N1-C2-O2	-6.20	118.46	122.80
34	a	117	G	C6-C5-N7	-6.19	126.68	130.40
34	a	117	G	N3-C4-N9	6.19	129.72	126.00
35	b	213	LEU	CA-CB-CG	6.19	129.54	115.30
1	A	2059	A	C6-C5-N7	-6.19	127.97	132.30
34	a	1206	G	N3-C2-N2	-6.19	115.57	119.90
34	a	1036	G	C8-N9-C1'	-6.19	118.95	127.00
34	a	1187	G	C8-N9-C4	-6.19	103.92	106.40
1	A	2774	C	N3-C4-C5	6.19	124.37	121.90
1	A	592	G	N1-C6-O6	6.18	123.61	119.90
34	a	1053	G	N7-C8-N9	-6.18	110.01	113.10
1	A	190	A	OP2-P-O3'	6.18	118.79	105.20
1	A	2742	C	N1-C2-O2	-6.18	115.19	118.90
34	a	1151	A	N1-C6-N6	-6.18	114.89	118.60
34	a	319	G	N1-C6-O6	-6.17	116.20	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	13	A	N9-C4-C5	6.17	108.27	105.80
1	A	2717	G	N1-C6-O6	6.17	123.60	119.90
8	J	69	PRO	N-CA-CB	6.17	110.70	103.30
34	a	117	G	C4-C5-N7	6.17	113.27	110.80
34	a	805	C	C5-C6-N1	6.17	124.08	121.00
8	J	101	PRO	N-CA-CB	6.16	110.69	103.30
1	A	1034	G	C5-C6-O6	-6.16	124.91	128.60
1	A	788	A	C8-N9-C4	6.15	108.26	105.80
34	a	1363	C	C6-N1-C1'	6.15	128.18	120.80
33	w	76	A	C4-C5-N7	-6.15	107.62	110.70
1	A	584	C	N1-C2-O2	6.15	122.59	118.90
1	A	1190	G	N9-C4-C5	-6.15	102.94	105.40
1	A	1944	U	C4-C5-C6	6.15	123.39	119.70
1	A	2474	C	N1-C2-O2	6.14	122.58	118.90
1	A	452	G	C5-C6-O6	-6.14	124.92	128.60
33	w	76	A	C5-C6-N1	6.14	120.77	117.70
1	A	963	U	N1-C2-N3	-6.14	111.22	114.90
1	A	778	G	C5-C6-O6	-6.14	124.92	128.60
1	A	1166	C	C6-N1-C2	-6.14	117.84	120.30
34	a	115	G	P-O3'-C3'	6.14	127.06	119.70
1	A	450	G	C5-C6-N1	-6.13	108.43	111.50
1	A	2394	C	C6-N1-C2	-6.13	117.85	120.30
34	a	819	A	C6-C5-N7	-6.13	128.01	132.30
1	A	685	A	O5'-P-OP2	-6.13	100.18	105.70
1	A	961	C	C6-N1-C2	-6.13	117.85	120.30
1	A	2466	C	C6-N1-C2	6.13	122.75	120.30
34	a	123	C	C6-N1-C2	6.13	122.75	120.30
1	A	1271	G	C5-C6-N1	-6.13	108.44	111.50
1	A	1698	A	O4'-C1'-N9	6.13	113.10	108.20
1	A	2434	A	O5'-P-OP2	-6.13	100.19	105.70
33	x	23	A	N1-C6-N6	-6.13	114.92	118.60
1	A	795	C	C6-N1-C2	-6.12	117.85	120.30
1	A	2509	G	N1-C6-O6	6.12	123.57	119.90
1	A	687	C	C6-N1-C2	-6.12	117.85	120.30
34	a	852	G	N3-C2-N2	6.12	124.18	119.90
1	A	1939	U	O5'-P-OP1	-6.12	100.19	105.70
1	A	2095	C	O3'-P-O5'	6.12	115.62	104.00
1	A	2779	U	O5'-P-OP2	-6.12	100.19	105.70
1	A	565	C	OP1-P-OP2	-6.12	110.43	119.60
34	a	1363	C	O4'-C1'-N1	6.12	113.09	108.20
34	a	959	A	N1-C6-N6	6.11	122.27	118.60
34	a	1351	U	N1-C2-O2	-6.11	118.52	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1432	G	N3-C4-C5	-6.11	125.54	128.60
1	A	570	G	C5-C6-O6	6.11	132.27	128.60
1	A	1245	G	N1-C6-O6	-6.11	116.23	119.90
34	a	1123	A	N9-C4-C5	6.11	108.24	105.80
34	a	1237	C	N3-C4-C5	6.11	124.34	121.90
1	A	866	A	N7-C8-N9	6.10	116.85	113.80
1	A	1320	C	C5-C4-N4	-6.10	115.93	120.20
34	a	605	U	C5-C4-O4	6.09	129.56	125.90
34	a	1491	G	C8-N9-C4	-6.09	103.96	106.40
1	A	985	C	C5-C6-N1	-6.09	117.95	121.00
1	A	2394	C	N3-C2-O2	-6.09	117.64	121.90
1	A	2610	C	N3-C2-O2	-6.09	117.64	121.90
34	a	1126	U	N3-C4-O4	6.09	123.66	119.40
1	A	1620	G	C5-C6-N1	-6.08	108.46	111.50
2	B	96	U	N3-C2-O2	-6.08	117.94	122.20
1	A	1970	A	N1-C6-N6	6.08	122.25	118.60
1	A	1999	C	C6-N1-C2	6.08	122.73	120.30
1	A	2570	G	C8-N9-C4	6.07	108.83	106.40
8	J	105	PRO	N-CA-CB	6.07	110.58	103.30
1	A	2712(A)	A	C8-N9-C4	-6.06	103.38	105.80
34	a	117	G	C5-C6-O6	-6.06	124.96	128.60
34	a	1054	C	N1-C2-O2	6.06	122.54	118.90
1	A	1191	G	N3-C4-N9	-6.06	122.36	126.00
34	a	855	G	N1-C6-O6	6.06	123.53	119.90
1	A	1667	G	C5-N7-C8	6.05	107.33	104.30
34	a	748	C	N1-C2-O2	6.05	122.53	118.90
1	A	1214	A	N9-C4-C5	6.05	108.22	105.80
1	A	2592	G	C6-C5-N7	-6.05	126.77	130.40
1	A	1046	A	O4'-C1'-N9	6.05	113.04	108.20
1	A	1424	G	N3-C4-N9	6.05	129.63	126.00
1	A	2820	A	N9-C4-C5	-6.05	103.38	105.80
34	a	515	G	C6-C5-N7	-6.05	126.77	130.40
1	A	1617	C	C2-N1-C1'	-6.05	112.15	118.80
1	A	1992	G	P-O3'-C3'	6.05	126.96	119.70
33	w	57	G	C8-N9-C4	-6.04	103.98	106.40
1	A	1424	G	C6-C5-N7	-6.04	126.78	130.40
1	A	2324	C	C6-N1-C2	6.04	122.71	120.30
1	A	391	G	N1-C6-O6	6.03	123.52	119.90
1	A	806	C	N3-C4-C5	6.03	124.31	121.90
1	A	2417	C	C6-N1-C2	6.03	122.71	120.30
56	y	282	LEU	N-CA-C	-6.03	94.71	111.00
1	A	2019	A	C8-N9-C4	-6.03	103.39	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	298	G	N1-C6-O6	6.03	123.52	119.90
1	A	1653	G	N3-C4-C5	-6.03	125.58	128.60
34	a	1124	G	C8-N9-C4	-6.03	103.99	106.40
1	A	2780	G	N3-C4-N9	6.03	129.62	126.00
1	A	941	A	C8-N9-C4	6.03	108.21	105.80
34	a	527	G	C5-C6-O6	6.03	132.22	128.60
1	A	240	G	N9-C4-C5	6.02	107.81	105.40
1	A	1958	C	N3-C4-N4	6.02	122.22	118.00
1	A	1306	C	N1-C2-O2	6.02	122.51	118.90
1	A	2460	U	C5-C6-N1	-6.02	119.69	122.70
34	a	575	G	N1-C6-O6	6.02	123.51	119.90
1	A	328	U	C6-N1-C2	-6.02	117.39	121.00
1	A	2810	A	C8-N9-C4	6.02	108.21	105.80
34	a	1221	G	C4-C5-N7	-6.02	108.39	110.80
1	A	733	G	C5-N7-C8	-6.01	101.29	104.30
1	A	2093	G	N9-C4-C5	6.01	107.81	105.40
34	a	394	G	O5'-P-OP2	-6.01	100.29	105.70
11	O	8	LEU	CA-CB-CG	6.01	129.12	115.30
1	A	2078	C	O5'-P-OP1	-6.01	100.29	105.70
1	A	2856	C	N3-C2-O2	-6.00	117.70	121.90
1	A	1343	G	C8-N9-C4	-6.00	104.00	106.40
34	a	562	C	N3-C4-C5	6.00	124.30	121.90
33	w	57	G	N3-C4-C5	-6.00	125.60	128.60
1	A	2071	A	N1-C6-N6	6.00	122.20	118.60
1	A	781	A	C5-C6-N1	6.00	120.70	117.70
1	A	991	C	C6-N1-C2	-6.00	117.90	120.30
34	a	314	C	N1-C2-O2	5.99	122.50	118.90
1	A	818	G	O5'-P-OP1	5.99	117.89	110.70
1	A	446	G	O5'-P-OP2	-5.99	100.31	105.70
56	y	291	TYR	C-N-CD	5.99	140.98	128.40
1	A	2064	C	N1-C2-O2	-5.99	115.31	118.90
34	a	1258	G	C5-C6-N1	5.99	114.49	111.50
34	a	1502	A	C4-C5-N7	5.99	113.69	110.70
1	A	1555	G	N1-C6-O6	5.99	123.49	119.90
1	A	961	C	C4-C5-C6	5.98	120.39	117.40
1	A	964	C	N3-C4-C5	5.98	124.29	121.90
1	A	2610	C	N3-C4-C5	-5.98	119.51	121.90
1	A	2820	A	C4-C5-N7	5.98	113.69	110.70
2	B	71	C	N1-C2-O2	5.98	122.49	118.90
1	A	1698	A	C5-N7-C8	-5.98	100.91	103.90
1	A	379	G	C8-N9-C4	-5.98	104.01	106.40
1	A	1936	A	O4'-C1'-N9	5.98	112.98	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1202	C	N1-C2-O2	-5.97	115.31	118.90
1	A	2586	C	N1-C2-O2	-5.97	115.32	118.90
1	A	2576	G	C8-N9-C1'	-5.97	119.23	127.00
56	y	159	PRO	C-N-CA	-5.97	106.77	121.70
34	a	855	G	C6-C5-N7	-5.97	126.82	130.40
39	f	75	LEU	CA-CB-CG	5.97	129.02	115.30
1	A	1899	G	C4-N9-C1'	5.96	134.25	126.50
8	J	33	PRO	N-CA-CB	5.96	110.46	103.30
34	a	1036	G	N3-C4-N9	5.96	129.58	126.00
34	a	748	C	P-O3'-C3'	5.96	126.86	119.70
1	A	1021	A	O5'-P-OP1	-5.96	100.34	105.70
1	A	1919	A	C8-N9-C4	-5.96	103.42	105.80
34	a	1124	G	C4-C5-N7	-5.96	108.42	110.80
1	A	1628	G	C6-C5-N7	-5.96	126.83	130.40
34	a	1068	G	C4-N9-C1'	5.96	134.24	126.50
33	w	29	G	C6-C5-N7	-5.96	126.83	130.40
56	y	191	ASP	C-N-CD	5.95	140.90	128.40
1	A	512	G	N1-C6-O6	-5.95	116.33	119.90
34	a	401	C	C6-N1-C2	-5.95	117.92	120.30
34	a	575	G	O5'-P-OP2	-5.95	100.35	105.70
1	A	570	G	N9-C4-C5	5.95	107.78	105.40
1	A	1285	G	OP2-P-O3'	5.95	118.28	105.20
1	A	1897	G	C8-N9-C4	5.95	108.78	106.40
1	A	1227	G	C2-N3-C4	-5.94	108.93	111.90
1	A	1758	G	C6-C5-N7	-5.94	126.84	130.40
1	A	1653	G	P-O3'-C3'	5.94	126.82	119.70
1	A	714	U	C5-C6-N1	-5.93	119.74	122.70
1	A	2789	C	C6-N1-C2	5.93	122.67	120.30
34	a	573	A	C8-N9-C4	-5.93	103.43	105.80
34	a	23	C	C6-N1-C2	-5.92	117.93	120.30
34	a	1076	C	N3-C2-O2	-5.92	117.75	121.90
34	a	855	G	C5-C6-O6	-5.92	125.05	128.60
1	A	1958	C	OP1-P-OP2	-5.91	110.73	119.60
34	a	1219	U	N1-C2-O2	-5.91	118.66	122.80
34	a	1227	A	C2-N3-C4	-5.91	107.64	110.60
1	A	252	G	C6-C5-N7	-5.91	126.85	130.40
1	A	1698	A	N1-C2-N3	5.91	132.25	129.30
34	a	1254	C	C6-N1-C2	5.91	122.66	120.30
1	A	692	C	N3-C2-O2	-5.91	117.76	121.90
1	A	2889	C	C2-N1-C1'	5.91	125.30	118.80
34	a	515	G	C4-C5-N7	5.91	113.16	110.80
1	A	2395	C	C6-N1-C2	-5.90	117.94	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	258	G	C8-N9-C1'	-5.90	119.33	127.00
34	a	805	C	C5-C4-N4	-5.90	116.07	120.20
34	a	91	C	N3-C2-O2	-5.90	117.77	121.90
1	A	526	A	N1-C6-N6	-5.90	115.06	118.60
34	a	301	G	N1-C6-O6	5.90	123.44	119.90
1	A	451	C	N3-C2-O2	5.89	126.03	121.90
1	A	1034	G	N1-C6-O6	5.89	123.44	119.90
33	x	15	G	N3-C2-N2	5.89	124.03	119.90
1	A	742	G	C8-N9-C4	5.89	108.76	106.40
34	a	1525	G	C5-N7-C8	-5.89	101.36	104.30
1	A	1772	G	N1-C6-O6	5.89	123.43	119.90
1	A	1896	G	N1-C6-O6	5.89	123.43	119.90
56	y	441	LEU	C-N-CD	5.89	140.76	128.40
1	A	182	A	N7-C8-N9	5.88	116.74	113.80
1	A	661	C	C6-N1-C2	5.88	122.65	120.30
1	A	701	G	C8-N9-C4	5.88	108.75	106.40
1	A	1653	G	C8-N9-C4	-5.88	104.05	106.40
34	a	258	G	C6-C5-N7	-5.88	126.87	130.40
34	a	717	C	N3-C2-O2	5.88	126.02	121.90
1	A	859	G	C8-N9-C1'	5.88	134.64	127.00
1	A	944	G	C6-C5-N7	-5.88	126.87	130.40
1	A	1992	G	O4'-C1'-N9	-5.88	103.50	108.20
34	a	1150	U	C2-N3-C4	5.88	130.53	127.00
1	A	1950	G	N1-C6-O6	-5.88	116.37	119.90
34	a	394	G	C5-C6-O6	5.88	132.12	128.60
34	a	1187	G	N9-C4-C5	5.88	107.75	105.40
1	A	1992	G	N3-C4-N9	5.87	129.52	126.00
1	A	139(A)	G	C8-N9-C4	-5.87	104.05	106.40
34	a	117	G	N1-C6-O6	5.87	123.42	119.90
34	a	1527	C	C4-C5-C6	-5.87	114.47	117.40
1	A	558	G	N1-C6-O6	5.86	123.42	119.90
1	A	1061	U	C5-C6-N1	5.86	125.63	122.70
1	A	2624	G	N3-C4-C5	-5.86	125.67	128.60
1	A	190	A	N1-C6-N6	-5.86	115.08	118.60
1	A	2242	G	N3-C4-N9	-5.86	122.48	126.00
34	a	954	G	C8-N9-C4	5.86	108.74	106.40
34	a	1356	G	C5-C6-O6	5.86	132.11	128.60
37	d	139	ARG	NE-CZ-NH1	5.86	123.23	120.30
34	a	1254	C	N3-C4-C5	5.85	124.24	121.90
1	A	645	C	C6-N1-C2	-5.85	117.96	120.30
1	A	1796	U	C5-C6-N1	-5.85	119.78	122.70
34	a	79	G	N1-C6-O6	-5.85	116.39	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1404	C	C2-N1-C1'	5.85	125.23	118.80
2	B	7	G	C8-N9-C4	-5.85	104.06	106.40
1	A	2443	C	C2-N3-C4	-5.85	116.98	119.90
33	w	73	A	C8-N9-C4	-5.84	103.46	105.80
1	A	1328	G	C5-C6-O6	-5.84	125.10	128.60
1	A	1299	G	O5'-P-OP2	-5.84	100.44	105.70
56	y	303	ALA	N-CA-C	-5.84	95.23	111.00
1	A	1973	G	N9-C4-C5	5.84	107.73	105.40
1	A	2096	U	OP1-P-OP2	5.84	128.35	119.60
56	y	557	ASP	C-N-CA	5.84	136.29	121.70
1	A	2038	G	OP2-P-O3'	5.83	118.03	105.20
1	A	335	C	C5-C6-N1	5.83	123.92	121.00
1	A	2286	A	C2-N3-C4	-5.83	107.69	110.60
1	A	2450	A	O5'-P-OP1	-5.83	100.45	105.70
34	a	333	G	C4-C5-N7	5.83	113.13	110.80
1	A	961	C	N3-C4-C5	-5.83	119.57	121.90
34	a	1280	A	N3-C4-C5	-5.83	122.72	126.80
1	A	2084	C	N3-C4-C5	5.82	124.23	121.90
1	A	2324	C	C5-C6-N1	-5.82	118.09	121.00
1	A	800	A	O5'-P-OP2	-5.82	100.46	105.70
1	A	1654	A	O5'-P-OP1	-5.82	100.46	105.70
1	A	797	C	O5'-P-OP2	-5.82	100.47	105.70
1	A	2566	A	N1-C6-N6	-5.82	115.11	118.60
56	y	407	GLU	C-N-CD	5.82	140.62	128.40
1	A	1239	G	C8-N9-C4	-5.81	104.08	106.40
34	a	509	A	N7-C8-N9	5.81	116.70	113.80
34	a	851	G	N1-C6-O6	5.81	123.39	119.90
1	A	2439	A	OP1-P-O3'	5.81	117.98	105.20
1	A	2559	C	C5-C6-N1	-5.81	118.10	121.00
1	A	2791	C	N3-C4-N4	5.81	122.06	118.00
1	A	195	A	C4-C5-N7	5.81	113.60	110.70
34	a	78	G	C5-C6-O6	5.80	132.08	128.60
34	a	1266	G	N3-C4-N9	-5.80	122.52	126.00
1	A	1921	G	N1-C6-O6	5.80	123.38	119.90
1	A	2789	C	C5-C6-N1	-5.80	118.10	121.00
1	A	1955	U	C5-C4-O4	5.80	129.38	125.90
34	a	1206	G	C5-C6-O6	-5.80	125.12	128.60
1	A	307	G	C8-N9-C4	-5.79	104.08	106.40
1	A	797	C	O5'-P-OP1	5.79	117.65	110.70
1	A	2179	C	N1-C2-O2	5.79	122.38	118.90
17	U	92	ARG	NE-CZ-NH1	-5.79	117.40	120.30
34	a	327	A	N1-C6-N6	5.79	122.08	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	330	C	OP1-P-O3'	5.79	117.95	105.20
34	a	1442	G	N1-C6-O6	5.79	123.38	119.90
1	A	1980	G	N9-C4-C5	-5.79	103.08	105.40
34	a	1124	G	N9-C4-C5	5.79	107.72	105.40
1	A	1343	G	C4-N9-C1'	5.79	134.03	126.50
1	A	531	C	N1-C2-O2	5.79	122.37	118.90
1	A	818	G	O5'-P-OP2	-5.78	100.49	105.70
1	A	1325	G	O4'-C1'-N9	5.78	112.83	108.20
33	x	56	C	N3-C2-O2	-5.78	117.85	121.90
34	a	258	G	C4-N9-C1'	5.78	134.02	126.50
34	a	406	G	N3-C4-N9	5.78	129.47	126.00
34	a	1123	A	N1-C6-N6	-5.78	115.13	118.60
1	A	808	G	C4-N9-C1'	5.78	134.01	126.50
1	A	2448	A	C5-C6-N6	-5.78	119.08	123.70
1	A	2030	A	O4'-C1'-N9	5.78	112.82	108.20
34	a	976	G	C4-N9-C1'	5.77	134.00	126.50
1	A	1919	A	N1-C6-N6	-5.77	115.14	118.60
1	A	1979	C	C6-N1-C2	5.77	122.61	120.30
1	A	2174	C	C2-N3-C4	5.77	122.78	119.90
1	A	2335	A	O4'-C1'-N9	5.77	112.82	108.20
34	a	569	C	C6-N1-C2	5.77	122.61	120.30
1	A	945	A	N9-C4-C5	-5.77	103.49	105.80
1	A	2501	C	C5-C6-N1	-5.77	118.12	121.00
7	H	3	ARG	NE-CZ-NH1	5.76	123.18	120.30
34	a	1461	G	C6-C5-N7	-5.76	126.94	130.40
37	d	194	LEU	CA-CB-CG	5.76	128.56	115.30
1	A	329	G	N3-C4-N9	5.76	129.46	126.00
34	a	362	G	N1-C6-O6	5.76	123.36	119.90
34	a	1237	C	C6-N1-C2	5.76	122.60	120.30
34	a	1343	G	N1-C2-N3	5.76	127.36	123.90
34	a	1420	C	N1-C2-O2	-5.76	115.44	118.90
56	y	553	ALA	N-CA-C	5.76	126.55	111.00
1	A	1653	G	C8-N9-C1'	-5.76	119.52	127.00
34	a	1036	G	N3-C4-C5	-5.76	125.72	128.60
33	x	68	C	C5-C6-N1	5.76	123.88	121.00
34	a	1402	C	C6-N1-C2	-5.75	118.00	120.30
1	A	868	U	C5-C6-N1	-5.75	119.82	122.70
1	A	1272	A	N1-C2-N3	5.75	132.18	129.30
1	A	1519	G	N3-C4-C5	-5.75	125.72	128.60
1	A	565	C	O5'-P-OP1	-5.75	100.53	105.70
1	A	572	A	N1-C6-N6	5.75	122.05	118.60
34	a	841	U	C6-N1-C2	-5.75	117.55	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	586	A	C2-N3-C4	-5.75	107.73	110.60
1	A	2458	G	N3-C2-N2	-5.74	115.88	119.90
1	A	2095	C	OP1-P-O3'	-5.74	92.57	105.20
4	E	47	VAL	CB-CA-C	-5.74	100.50	111.40
34	a	1392	G	C5-C6-N1	-5.74	108.63	111.50
33	w	40	C	N1-C2-O2	5.74	122.34	118.90
34	a	962	C	N1-C2-O2	-5.73	115.46	118.90
34	a	1359	C	N1-C2-O2	5.73	122.34	118.90
34	a	1290	G	C5-C6-O6	-5.73	125.16	128.60
34	a	1486	G	C4-N9-C1'	5.73	133.95	126.50
34	a	79	G	C5-C6-O6	5.73	132.03	128.60
34	a	1386	G	N3-C2-N2	-5.72	115.89	119.90
34	a	1530	G	C8-N9-C1'	5.72	134.44	127.00
1	A	1758	G	C4-N9-C1'	5.72	133.94	126.50
1	A	1138	G	C5-C6-N1	5.72	114.36	111.50
1	A	973	A	N1-C2-N3	5.72	132.16	129.30
34	a	263	A	C5-C6-N1	5.72	120.56	117.70
1	A	2230	G	C5-C6-O6	5.72	132.03	128.60
34	a	1053	G	C8-N9-C4	5.72	108.69	106.40
1	A	1558	A	C5-N7-C8	-5.71	101.04	103.90
1	A	2243	U	O5'-P-OP1	5.71	117.55	110.70
34	a	37	U	N3-C4-O4	5.71	123.39	119.40
34	a	15	G	C4-C5-N7	5.71	113.08	110.80
34	a	936	C	C6-N1-C2	-5.71	118.02	120.30
34	a	717	C	N1-C2-O2	-5.71	115.48	118.90
34	a	1330	U	N3-C2-O2	-5.70	118.21	122.20
55	v	13	A	C8-N9-C4	-5.70	103.52	105.80
56	y	333	GLU	C-N-CD	5.70	140.37	128.40
1	A	1767	C	C6-N1-C2	-5.70	118.02	120.30
34	a	1227	A	C5-N7-C8	-5.70	101.05	103.90
1	A	330	A	C5-N7-C8	-5.69	101.05	103.90
1	A	781	A	C2-N3-C4	5.69	113.45	110.60
34	a	752	G	N1-C6-O6	-5.69	116.48	119.90
34	a	1456	G	N3-C4-C5	5.69	131.45	128.60
56	y	287	THR	C-N-CD	5.69	140.35	128.40
1	A	2556	C	N3-C4-N4	5.69	121.98	118.00
1	A	2611	U	C5-C4-O4	-5.69	122.48	125.90
34	a	1516	G	N3-C4-C5	5.69	131.44	128.60
34	a	1230	C	C5-C6-N1	5.69	123.84	121.00
1	A	1189	A	N1-C6-N6	5.69	122.01	118.60
1	A	1218	C	C6-N1-C2	-5.68	118.03	120.30
34	a	897	C	O5'-P-OP2	-5.68	100.58	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2140	C	C5-C4-N4	5.68	124.18	120.20
34	a	232	G	N1-C6-O6	5.68	123.31	119.90
1	A	1902	C	N3-C2-O2	-5.68	117.92	121.90
1	A	2283	C	C6-N1-C2	-5.67	118.03	120.30
34	a	288	A	C4-C5-C6	5.67	119.84	117.00
1	A	80	G	C5-C6-O6	-5.67	125.20	128.60
1	A	581	C	C2-N1-C1'	5.67	125.04	118.80
1	A	1491	G	N1-C6-O6	-5.67	116.50	119.90
1	A	1369	G	C8-N9-C4	-5.67	104.13	106.40
1	A	1697	G	C5-C6-O6	-5.67	125.20	128.60
34	a	233	C	C6-N1-C2	-5.67	118.03	120.30
34	a	863	U	C2-N1-C1'	-5.67	110.89	117.70
1	A	979	G	N7-C8-N9	5.67	115.94	113.10
1	A	1899	G	N3-C4-C5	-5.67	125.77	128.60
34	a	300	A	C8-N9-C4	-5.67	103.53	105.80
1	A	830	G	C5-C6-O6	5.67	132.00	128.60
34	a	91	C	C6-N1-C2	-5.67	118.03	120.30
1	A	1936	A	C8-N9-C4	-5.66	103.53	105.80
34	a	959	A	N9-C4-C5	-5.66	103.53	105.80
34	a	1229	A	OP1-P-O3'	5.66	117.66	105.20
1	A	1899	G	C8-N9-C1'	-5.66	119.64	127.00
1	A	1772	G	C6-C5-N7	-5.66	127.00	130.40
34	a	619	U	C6-N1-C1'	5.66	129.13	121.20
1	A	1972	A	O5'-P-OP1	-5.66	100.61	105.70
33	x	60	U	C2-N1-C1'	5.66	124.49	117.70
34	a	913	A	C4-C5-C6	5.66	119.83	117.00
34	a	406	G	C5-C6-O6	-5.66	125.21	128.60
34	a	1067	A	N1-C6-N6	-5.66	115.21	118.60
1	A	139(A)	G	N1-C6-O6	-5.66	116.51	119.90
1	A	399	G	C2-N3-C4	-5.65	109.07	111.90
1	A	1416	G	O4'-C1'-N9	5.65	112.72	108.20
1	A	2070	G	C5-C6-N1	5.65	114.33	111.50
1	A	1657	C	N3-C4-N4	-5.65	114.04	118.00
1	A	2612	C	C6-N1-C2	5.65	122.56	120.30
34	a	302	G	N1-C6-O6	-5.65	116.51	119.90
34	a	572	A	N1-C2-N3	-5.65	126.47	129.30
1	A	645	C	C5-C6-N1	5.65	123.83	121.00
1	A	141	A	C5-N7-C8	-5.65	101.08	103.90
34	a	1514	C	C4-C5-C6	5.65	120.22	117.40
1	A	1493	C	C6-N1-C2	-5.65	118.04	120.30
1	A	2503	A	N1-C2-N3	-5.65	126.48	129.30
1	A	263	C	C2-N1-C1'	5.64	125.01	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2276	G	N3-C4-N9	5.64	129.38	126.00
1	A	803	U	C4-C5-C6	5.64	123.08	119.70
34	a	10	A	C5-C6-N6	-5.64	119.19	123.70
34	a	369	C	C6-N1-C2	-5.64	118.04	120.30
34	a	549	C	N1-C2-O2	-5.64	115.52	118.90
1	A	1214	A	C5-C6-N6	5.64	128.21	123.70
1	A	1572	A	N1-C6-N6	5.64	121.98	118.60
34	a	1324	A	N9-C4-C5	5.64	108.05	105.80
34	a	1326	C	N1-C2-O2	-5.64	115.52	118.90
1	A	272(A)	U	C5-C6-N1	5.63	125.52	122.70
1	A	2828	C	C5-C6-N1	-5.63	118.19	121.00
34	a	325	A	C8-N9-C4	5.63	108.05	105.80
1	A	576	U	C5-C6-N1	5.63	125.51	122.70
34	a	331	G	OP1-P-O3'	5.63	117.58	105.20
34	a	880	C	C5-C6-N1	-5.63	118.19	121.00
34	a	1029	C	P-O3'-C3'	5.63	126.45	119.70
12	P	44	GLY	N-CA-C	-5.63	99.04	113.10
1	A	570	G	C8-N9-C4	-5.62	104.15	106.40
1	A	2508	G	O5'-P-OP2	-5.62	100.64	105.70
34	a	117	G	C8-N9-C1'	-5.62	119.69	127.00
1	A	983	A	N1-C6-N6	5.62	121.97	118.60
1	A	1797	C	C6-N1-C2	5.62	122.55	120.30
1	A	961	C	OP1-P-OP2	5.62	128.03	119.60
1	A	2693	A	C8-N9-C4	-5.62	103.55	105.80
34	a	1402	C	N3-C4-C5	-5.62	119.65	121.90
1	A	737	C	C6-N1-C2	5.62	122.55	120.30
1	A	1052	C	C5-C6-N1	5.62	123.81	121.00
47	n	44	LEU	CA-CB-CG	5.62	128.22	115.30
8	J	129	PRO	N-CA-CB	5.62	110.04	103.30
34	a	1125	U	C2-N1-C1'	-5.62	110.96	117.70
1	A	2638	G	N3-C4-N9	5.62	129.37	126.00
34	a	975	A	N7-C8-N9	5.62	116.61	113.80
1	A	945	A	N9-C1'-C2'	5.62	121.30	114.00
1	A	1787	A	C4-N9-C1'	5.62	136.41	126.30
1	A	2519	U	C2-N3-C4	-5.62	123.63	127.00
34	a	1399	C	O5'-P-OP1	-5.61	100.65	105.70
1	A	527	C	N3-C2-O2	-5.61	117.97	121.90
34	a	803	G	C5-C6-O6	5.61	131.96	128.60
34	a	976	G	N3-C2-N2	-5.61	115.97	119.90
33	w	29	G	C5-C6-O6	-5.61	125.23	128.60
34	a	569	C	C5-C6-N1	-5.61	118.20	121.00
56	y	140	LEU	C-N-CD	5.61	140.17	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	695	G	N1-C6-O6	5.60	123.26	119.90
1	A	137	C	C6-N1-C2	-5.60	118.06	120.30
1	A	569	U	N3-C2-O2	-5.60	118.28	122.20
1	A	1913	A	N1-C6-N6	5.60	121.96	118.60
1	A	571	A	O5'-P-OP1	-5.60	100.66	105.70
34	a	406	G	C4-N9-C1'	5.60	133.78	126.50
1	A	963	U	C6-N1-C2	5.60	124.36	121.00
1	A	1955	U	N1-C2-N3	5.60	118.26	114.90
1	A	2432	A	C8-N9-C4	5.59	108.04	105.80
34	a	1526	G	N1-C6-O6	5.59	123.26	119.90
1	A	830	G	N1-C6-O6	-5.59	116.55	119.90
1	A	2638	G	C4-N9-C1'	5.59	133.77	126.50
1	A	2503	A	N3-C4-N9	5.59	131.87	127.40
1	A	510	C	O5'-P-OP2	-5.59	100.67	105.70
34	a	796	C	C6-N1-C2	5.59	122.53	120.30
1	A	335	C	C6-N1-C2	-5.58	118.07	120.30
34	a	44	G	N1-C6-O6	-5.58	116.55	119.90
34	a	353	A	OP2-P-O3'	5.58	117.49	105.20
1	A	2554	U	N3-C4-O4	5.58	123.31	119.40
1	A	742	G	N1-C6-O6	5.58	123.25	119.90
34	a	345	C	N3-C2-O2	-5.58	117.99	121.90
34	a	750	G	N3-C4-C5	-5.58	125.81	128.60
1	A	581	C	N3-C2-O2	-5.58	118.00	121.90
1	A	1006	C	C5-C6-N1	5.58	123.79	121.00
1	A	1571	A	N1-C6-N6	-5.58	115.25	118.60
1	A	1721	G	C5-C6-O6	-5.58	125.25	128.60
1	A	1973	G	N3-C2-N2	-5.58	116.00	119.90
33	w	73	A	C4-C5-N7	5.58	113.49	110.70
34	a	937	A	N1-C6-N6	-5.58	115.25	118.60
1	A	1617	C	N1-C2-O2	-5.58	115.56	118.90
1	A	1562	A	N1-C6-N6	5.57	121.94	118.60
1	A	1314	C	C2-N1-C1'	5.57	124.93	118.80
1	A	1617	C	C6-N1-C1'	5.57	127.49	120.80
34	a	1363	C	N1-C2-O2	-5.57	115.56	118.90
1	A	1191	G	C4-N9-C1'	-5.57	119.27	126.50
1	A	141	A	C6-C5-N7	-5.56	128.41	132.30
1	A	263	C	C6-N1-C1'	-5.56	114.12	120.80
34	a	258	G	N3-C4-N9	5.56	129.34	126.00
34	a	899	C	C6-N1-C2	5.56	122.53	120.30
1	A	574	C	C6-N1-C2	5.56	122.53	120.30
1	A	973	A	C5-C6-N1	-5.56	114.92	117.70
1	A	2027	G	O5'-P-OP2	-5.56	100.69	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2496	C	C5-C6-N1	-5.56	118.22	121.00
1	A	2546	U	N3-C2-O2	-5.56	118.31	122.20
33	w	45	U	N3-C4-O4	-5.56	115.51	119.40
1	A	1992	G	C5-C6-N1	5.56	114.28	111.50
26	3	31	LEU	CA-CB-CG	5.56	128.08	115.30
1	A	841	A	O5'-P-OP2	-5.56	100.70	105.70
1	A	2638	G	C6-C5-N7	-5.56	127.07	130.40
34	a	1396	A	N1-C2-N3	5.56	132.08	129.30
1	A	815	C	C2-N1-C1'	5.55	124.91	118.80
34	a	365	U	N1-C2-O2	-5.55	118.91	122.80
34	a	1344	C	C6-N1-C2	5.55	122.52	120.30
1	A	399	G	C8-N9-C4	5.55	108.62	106.40
34	a	973	G	C4-C5-N7	-5.55	108.58	110.80
1	A	1320	C	C6-N1-C1'	-5.55	114.14	120.80
1	A	2419	U	O5'-P-OP2	-5.55	100.71	105.70
1	A	2820	A	C6-C5-N7	-5.55	128.42	132.30
1	A	805	G	C8-N9-C4	5.54	108.62	106.40
34	a	1129	C	N3-C2-O2	-5.54	118.02	121.90
34	a	559	A	O5'-P-OP2	-5.54	100.71	105.70
34	a	1206	G	N1-C6-O6	5.54	123.22	119.90
1	A	381	G	N1-C6-O6	5.54	123.22	119.90
1	A	501	A	N1-C6-N6	-5.54	115.28	118.60
34	a	111	G	C5-C6-O6	-5.54	125.28	128.60
34	a	816	A	C8-N9-C4	5.54	108.02	105.80
1	A	803	U	C5-C6-N1	-5.54	119.93	122.70
1	A	1628	G	N1-C6-O6	5.54	123.22	119.90
1	A	1992	G	N3-C4-C5	-5.54	125.83	128.60
1	A	1208	C	C5-C6-N1	5.54	123.77	121.00
1	A	2308	G	O4'-C1'-N9	-5.53	103.77	108.20
1	A	307	G	N7-C8-N9	5.53	115.87	113.10
1	A	2766	G	C4-N9-C1'	5.53	133.69	126.50
34	a	651	C	C6-N1-C2	-5.53	118.09	120.30
1	A	195	A	C5-N7-C8	-5.53	101.14	103.90
1	A	1681	G	N3-C4-N9	-5.53	122.68	126.00
1	A	2198	A	OP1-P-O3'	5.53	117.36	105.20
1	A	2550	G	C6-C5-N7	-5.53	127.08	130.40
1	A	2579	C	N1-C2-O2	-5.53	115.58	118.90
1	A	751	A	N1-C2-N3	-5.52	126.54	129.30
1	A	1277	G	C8-N9-C4	5.52	108.61	106.40
34	a	913	A	P-O3'-C3'	5.52	126.33	119.70
1	A	1252	G	C6-C5-N7	-5.52	127.09	130.40
1	A	2503	A	C5-C6-N6	-5.52	119.28	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1366	C	N1-C2-O2	-5.52	115.59	118.90
1	A	1199	U	C5-C6-N1	-5.52	119.94	122.70
1	A	1620	G	N1-C6-O6	5.52	123.21	119.90
34	a	881	G	O5'-P-OP2	5.52	117.32	110.70
1	A	614	U	O4'-C1'-N1	5.51	112.61	108.20
34	a	1524	C	C2-N3-C4	-5.51	117.14	119.90
1	A	561	G	C5-C6-N1	5.51	114.25	111.50
1	A	2742	C	C6-N1-C2	5.51	122.50	120.30
56	y	155	VAL	CB-CA-C	-5.51	100.93	111.40
34	a	981	U	C5-C4-O4	-5.51	122.59	125.90
34	a	878	G	N1-C6-O6	5.51	123.20	119.90
34	a	1346	A	C8-N9-C4	5.51	108.00	105.80
1	A	857	C	N1-C2-O2	-5.51	115.60	118.90
1	A	2040	C	N1-C2-O2	5.51	122.20	118.90
1	A	2235	G	C6-C5-N7	-5.50	127.10	130.40
33	w	12	U	C5-C6-N1	-5.50	119.95	122.70
1	A	2001	A	N1-C2-N3	5.50	132.05	129.30
1	A	2638	G	C4-C5-C6	5.50	122.10	118.80
34	a	1346	A	OP1-P-O3'	5.50	117.31	105.20
34	a	976	G	C8-N9-C1'	-5.50	119.85	127.00
56	y	187	PRO	C-N-CD	5.50	139.95	128.40
1	A	1598	C	C5-C4-N4	-5.50	116.35	120.20
34	a	271	C	C6-N1-C2	-5.50	118.10	120.30
1	A	2546	U	C5-C6-N1	-5.50	119.95	122.70
47	n	53	LEU	CA-CB-CG	5.50	127.94	115.30
1	A	997	G	O5'-P-OP1	-5.49	100.76	105.70
34	a	25	C	C6-N1-C2	-5.49	118.10	120.30
1	A	1761	C	C6-N1-C2	5.49	122.50	120.30
33	w	24	G	C5-N7-C8	-5.49	101.55	104.30
1	A	364	C	N1-C2-O2	5.49	122.19	118.90
34	a	1486	G	N3-C4-C5	-5.49	125.86	128.60
34	a	481	G	C5-C6-O6	-5.49	125.31	128.60
1	A	1778	U	N3-C4-O4	-5.48	115.56	119.40
34	a	1230	C	C6-N1-C2	-5.48	118.11	120.30
1	A	979	G	N1-C6-O6	5.48	123.19	119.90
1	A	1202	C	N3-C2-O2	5.48	125.74	121.90
34	a	1502	A	N7-C8-N9	5.48	116.54	113.80
34	a	1248	A	C5-C6-N1	5.48	120.44	117.70
56	y	103	VAL	CB-CA-C	-5.48	101.00	111.40
1	A	948	G	N1-C6-O6	5.47	123.18	119.90
1	A	1702	G	N9-C4-C5	5.47	107.59	105.40
34	a	559	A	C2-N3-C4	5.47	113.34	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1494	G	N3-C4-N9	5.47	129.28	126.00
1	A	693	C	N1-C2-O2	5.47	122.18	118.90
1	A	2239	G	N1-C6-O6	5.47	123.18	119.90
1	A	2612	C	N3-C4-C5	5.47	124.09	121.90
1	A	1950	G	N9-C4-C5	5.47	107.59	105.40
1	A	2262	U	O5'-P-OP1	-5.47	100.78	105.70
34	a	1221	G	C5-C6-O6	5.47	131.88	128.60
1	A	941	A	O5'-P-OP1	-5.47	100.78	105.70
1	A	1395	A	O4'-C1'-N9	5.47	112.58	108.20
33	x	50	U	N3-C4-C5	-5.46	111.32	114.60
34	a	400	C	N3-C4-C5	-5.46	119.71	121.90
34	a	1083	U	C2-N3-C4	5.46	130.28	127.00
1	A	266	G	C6-C5-N7	-5.46	127.12	130.40
56	y	374	PRO	CA-N-CD	-5.46	103.85	111.50
1	A	22	C	N1-C2-O2	5.46	122.17	118.90
34	a	1195	C	N1-C2-O2	-5.46	115.62	118.90
1	A	2047	U	N1-C2-N3	5.46	118.17	114.90
1	A	2767	C	C2-N1-C1'	5.46	124.80	118.80
34	a	369	C	C5-C6-N1	5.46	123.73	121.00
1	A	298	G	C4-C5-N7	5.46	112.98	110.80
1	A	2581	G	O4'-C1'-N9	5.46	112.56	108.20
1	A	2088	G	N9-C4-C5	5.45	107.58	105.40
34	a	70	G	N1-C6-O6	5.45	123.17	119.90
34	a	976	G	C6-C5-N7	-5.45	127.13	130.40
34	a	1461	G	C8-N9-C1'	-5.45	119.91	127.00
1	A	1938	A	C8-N9-C4	5.45	107.98	105.80
33	w	70	G	N1-C6-O6	5.45	123.17	119.90
33	w	73	A	C6-C5-N7	-5.45	128.49	132.30
1	A	796	C	OP1-P-OP2	5.45	127.77	119.60
34	a	225	C	C5-C6-N1	-5.45	118.28	121.00
34	a	1502	A	C5-C6-N1	-5.45	114.98	117.70
1	A	1142(A)	A	N3-C4-C5	5.44	130.61	126.80
34	a	295	C	C6-N1-C2	5.44	122.48	120.30
1	A	1950	G	C4-C5-N7	-5.44	108.62	110.80
34	a	508	C	N1-C2-O2	-5.44	115.64	118.90
34	a	529	G	C5-C6-O6	-5.44	125.34	128.60
34	a	975	A	N9-C4-C5	-5.44	103.62	105.80
1	A	1799	G	C4-C5-N7	-5.44	108.62	110.80
34	a	397	A	C4-C5-C6	5.44	119.72	117.00
34	a	61	G	N1-C6-O6	5.43	123.16	119.90
1	A	2584	U	C5-C4-O4	5.43	129.16	125.90
34	a	317	G	C5-C6-O6	-5.43	125.34	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1496	C	N1-C2-O2	-5.43	115.64	118.90
34	a	1525	G	C4-C5-N7	5.43	112.97	110.80
1	A	2252	G	OP2-P-O3'	5.43	117.14	105.20
1	A	1108	U	P-O3'-C3'	5.43	126.21	119.70
1	A	90	U	N1-C2-O2	5.43	126.60	122.80
34	a	940	C	N3-C2-O2	5.43	125.70	121.90
1	A	1599	C	C5-C6-N1	5.42	123.71	121.00
34	a	929	G	C6-C5-N7	5.42	133.65	130.40
1	A	933	A	C6-C5-N7	-5.42	128.51	132.30
1	A	24	G	N1-C6-O6	5.42	123.15	119.90
1	A	1109	C	C6-N1-C1'	-5.42	114.30	120.80
1	A	1700	A	N1-C6-N6	5.42	121.85	118.60
33	x	23	A	C4-C5-C6	-5.42	114.29	117.00
33	x	68	C	N3-C2-O2	-5.42	118.11	121.90
34	a	986	A	C5-C6-N6	-5.42	119.37	123.70
1	A	48	G	N9-C4-C5	5.41	107.56	105.40
1	A	997	G	C8-N9-C4	5.41	108.56	106.40
1	A	1493	C	C2-N1-C1'	5.41	124.75	118.80
1	A	47	C	O5'-P-OP1	-5.41	100.83	105.70
1	A	436	C	N1-C2-O2	5.41	122.14	118.90
1	A	810	U	C5-C6-N1	-5.41	120.00	122.70
1	A	1138	G	N1-C6-O6	-5.41	116.65	119.90
34	a	819	A	C5-N7-C8	-5.41	101.20	103.90
1	A	1019	U	N3-C2-O2	-5.41	118.42	122.20
1	A	2059	A	C4-C5-N7	5.41	113.40	110.70
34	a	667	G	C8-N9-C4	-5.41	104.24	106.40
1	A	2502	G	O5'-P-OP2	-5.40	100.84	105.70
1	A	1842	G	C6-C5-N7	-5.40	127.16	130.40
34	a	1225	A	N1-C2-N3	-5.40	126.60	129.30
1	A	673	C	C5-C4-N4	-5.40	116.42	120.20
1	A	2178	C	C5-C4-N4	5.40	123.98	120.20
1	A	562	U	OP1-P-OP2	5.40	127.70	119.60
34	a	576	G	C4-N9-C1'	5.40	133.52	126.50
56	y	213	PRO	CA-N-CD	-5.40	103.94	111.50
34	a	194	C	C5-C4-N4	-5.40	116.42	120.20
1	A	661	C	N3-C2-O2	5.39	125.68	121.90
1	A	959	A	C6-N1-C2	5.39	121.84	118.60
1	A	1314	C	N1-C2-O2	5.39	122.14	118.90
34	a	436	C	C5-C4-N4	-5.39	116.42	120.20
1	A	1136	G	N1-C6-O6	5.39	123.14	119.90
34	a	1074	G	C8-N9-C4	5.39	108.56	106.40
34	a	365	U	O4'-C1'-N1	5.39	112.51	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	436	C	C6-N1-C2	-5.39	118.14	120.30
1	A	979	G	N1-C2-N3	5.39	127.13	123.90
1	A	2257	U	N3-C2-O2	5.39	125.97	122.20
1	A	1990	C	N3-C4-C5	-5.39	119.75	121.90
1	A	1702	G	C8-N9-C4	-5.38	104.25	106.40
1	A	1955	U	C5-C6-N1	-5.38	120.01	122.70
1	A	2573	C	N3-C4-N4	5.38	121.77	118.00
34	a	515	G	C5-N7-C8	-5.38	101.61	104.30
34	a	1221	G	C5-N7-C8	5.38	106.99	104.30
34	a	1266	G	C8-N9-C1'	5.38	134.00	127.00
33	w	10	G	C5-N7-C8	-5.38	101.61	104.30
56	y	246	THR	C-N-CD	5.38	139.70	128.40
1	A	2325	G	N1-C6-O6	-5.38	116.67	119.90
1	A	2501	C	C6-N1-C2	5.38	122.45	120.30
1	A	818	G	C6-C5-N7	-5.38	127.17	130.40
1	A	2096	U	C6-N1-C2	-5.38	117.77	121.00
34	a	20	U	N3-C2-O2	5.38	125.97	122.20
34	a	924	C	C2-N3-C4	5.38	122.59	119.90
1	A	298	G	C5-N7-C8	-5.38	101.61	104.30
1	A	1794	U	O5'-P-OP1	-5.38	100.86	105.70
34	a	769	G	N3-C4-C5	-5.38	125.91	128.60
34	a	728	A	C6-C5-N7	-5.38	128.54	132.30
1	A	1204	A	O4'-C1'-N9	5.37	112.50	108.20
1	A	2096	U	N3-C2-O2	-5.37	118.44	122.20
34	a	1461	G	N3-C4-N9	5.37	129.22	126.00
1	A	1069	A	P-O3'-C3'	5.37	126.15	119.70
1	A	2587	A	OP2-P-O3'	5.37	117.02	105.20
1	A	2820	A	C2-N3-C4	-5.37	107.92	110.60
1	A	1210	A	C5-C6-N1	5.37	120.38	117.70
34	a	548	G	C5-C6-O6	-5.37	125.38	128.60
34	a	1281	U	N3-C4-O4	-5.37	115.64	119.40
1	A	2271	G	N1-C2-N2	-5.37	111.37	116.20
2	B	75	G	C8-N9-C4	-5.37	104.25	106.40
34	a	20	U	N1-C2-O2	-5.37	119.04	122.80
34	a	1491	G	N3-C4-C5	-5.37	125.92	128.60
1	A	489	G	C6-C5-N7	-5.37	127.18	130.40
1	A	1932	A	N1-C6-N6	5.37	121.82	118.60
1	A	2095	C	P-O3'-C3'	-5.37	113.26	119.70
34	a	894	G	C5-C6-O6	-5.37	125.38	128.60
33	w	70	G	N3-C2-N2	-5.37	116.14	119.90
2	B	96	U	C6-N1-C2	-5.36	117.78	121.00
1	A	2250	G	C8-N9-C4	5.36	108.54	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	22	C	N3-C2-O2	-5.36	118.15	121.90
1	A	255	A	C2-N3-C4	-5.36	107.92	110.60
1	A	1343	G	N7-C8-N9	5.36	115.78	113.10
1	A	1655	A	N1-C6-N6	5.36	121.81	118.60
1	A	206	U	N1-C2-N3	5.36	118.11	114.90
1	A	462	C	C6-N1-C2	5.36	122.44	120.30
1	A	819	A	C5-N7-C8	-5.36	101.22	103.90
1	A	2024	G	N7-C8-N9	5.36	115.78	113.10
1	A	2056	G	C5-C6-O6	-5.36	125.39	128.60
1	A	2454	G	C6-N1-C2	-5.36	121.89	125.10
34	a	219	C	N3-C2-O2	-5.35	118.15	121.90
1	A	340	A	C2-N3-C4	-5.35	107.93	110.60
1	A	752	A	P-O3'-C3'	5.35	126.12	119.70
1	A	1190	G	N3-C2-N2	-5.35	116.16	119.90
34	a	852	G	N9-C4-C5	-5.35	103.26	105.40
1	A	2080	G	C4-C5-N7	5.35	112.94	110.80
1	A	602	G	C4-N9-C1'	5.35	133.45	126.50
1	A	1123	C	C4-C5-C6	5.35	120.07	117.40
1	A	2503	A	C5-C6-N1	5.35	120.37	117.70
1	A	1822	G	C8-N9-C4	5.34	108.54	106.40
34	a	886	G	C5-C6-O6	-5.34	125.39	128.60
1	A	1667	G	C8-N9-C1'	-5.34	120.06	127.00
1	A	2088	G	C8-N9-C1'	5.34	133.94	127.00
1	A	2341	G	C5-C6-O6	-5.34	125.39	128.60
34	a	748	C	N3-C2-O2	-5.34	118.16	121.90
56	y	159	PRO	O-C-N	-5.34	114.16	122.70
1	A	786	C	C6-N1-C2	5.34	122.44	120.30
1	A	1278	A	C2-N3-C4	-5.34	107.93	110.60
1	A	311	A	N1-C6-N6	5.34	121.80	118.60
1	A	1828	G	N1-C6-O6	-5.34	116.70	119.90
34	a	1186	G	C8-N9-C1'	5.34	133.94	127.00
1	A	83	G	O5'-P-OP1	-5.33	100.90	105.70
1	A	977	G	C5-N7-C8	5.33	106.97	104.30
1	A	1628	G	C4-N9-C1'	5.33	133.43	126.50
1	A	1669	A	C6-N1-C2	-5.33	115.40	118.60
1	A	2271	G	C4-C5-N7	5.33	112.93	110.80
1	A	933	A	C8-N9-C4	-5.33	103.67	105.80
1	A	2276	G	N9-C4-C5	-5.33	103.27	105.40
1	A	48	G	C5-C6-O6	5.33	131.80	128.60
1	A	1817	G	O5'-P-OP2	-5.33	100.90	105.70
1	A	2370	G	O5'-P-OP1	-5.33	100.90	105.70
34	a	913	A	N1-C2-N3	5.33	131.96	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	298	G	N7-C8-N9	5.33	115.76	113.10
1	A	782	A	N7-C8-N9	-5.33	111.14	113.80
1	A	1721	G	N9-C4-C5	-5.33	103.27	105.40
34	a	993	G	C4-N9-C1'	5.33	133.43	126.50
1	A	2507	C	C2-N1-C1'	5.33	124.66	118.80
1	A	2611	U	N3-C4-O4	5.33	123.13	119.40
1	A	2751	G	C8-N9-C1'	-5.33	120.08	127.00
34	a	1126	U	C6-N1-C1'	-5.33	113.74	121.20
1	A	986	C	C2-N1-C1'	-5.32	112.94	118.80
1	A	1558	A	C6-C5-N7	-5.32	128.57	132.30
34	a	619	U	C2-N1-C1'	-5.32	111.31	117.70
34	a	1514	C	C5-C6-N1	-5.32	118.34	121.00
1	A	1823	G	N9-C4-C5	-5.32	103.27	105.40
34	a	362	G	C6-C5-N7	-5.32	127.21	130.40
1	A	1199	U	O5'-P-OP2	-5.32	100.92	105.70
34	a	908	A	OP2-P-O3'	5.32	116.89	105.20
1	A	958	U	N1-C2-O2	5.31	126.52	122.80
1	A	2439	A	P-O3'-C3'	5.31	126.08	119.70
1	A	459	U	N3-C4-O4	5.31	123.12	119.40
34	a	527	G	N3-C4-N9	-5.31	122.81	126.00
1	A	2506	U	C5-C4-O4	-5.31	122.71	125.90
34	a	1505	G	C5-C6-O6	5.31	131.79	128.60
1	A	1656	C	C4-C5-C6	5.31	120.05	117.40
1	A	1954	G	C5-C6-O6	-5.31	125.42	128.60
56	y	343	GLY	O-C-N	-5.31	114.20	122.70
34	a	12	U	N1-C2-N3	5.31	118.08	114.90
34	a	317	G	N1-C6-O6	5.30	123.08	119.90
34	a	1198	G	N9-C4-C5	5.30	107.52	105.40
34	a	532	A	N1-C6-N6	5.30	121.78	118.60
34	a	869	G	N3-C4-N9	-5.30	122.82	126.00
1	A	927	G	C6-C5-N7	-5.30	127.22	130.40
1	A	1005	C	N3-C4-C5	5.30	124.02	121.90
1	A	1222	C	C6-N1-C2	-5.30	118.18	120.30
34	a	839	U	N3-C2-O2	-5.30	118.49	122.20
34	a	1395	C	C5-C4-N4	5.30	123.91	120.20
34	a	1432	G	N9-C4-C5	5.30	107.52	105.40
1	A	1204	A	C4-C5-N7	5.30	113.35	110.70
1	A	1502	C	C6-N1-C2	-5.30	118.18	120.30
1	A	1781	C	N3-C2-O2	-5.30	118.19	121.90
34	a	1260	C	N1-C2-O2	5.30	122.08	118.90
1	A	195	A	C4-C5-C6	-5.29	114.35	117.00
1	A	2051	A	N1-C6-N6	5.29	121.78	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1198	U	OP1-P-OP2	5.29	127.54	119.60
1	A	2384	G	C8-N9-C4	-5.29	104.28	106.40
1	A	80	G	C6-C5-N7	-5.29	127.23	130.40
1	A	600	G	C5-C6-N1	-5.29	108.86	111.50
1	A	1035	U	C5-C4-O4	5.29	129.07	125.90
1	A	2253	G	N1-C6-O6	5.29	123.07	119.90
34	a	1224	G	N1-C6-O6	-5.29	116.73	119.90
1	A	1911	U	N3-C2-O2	-5.29	118.50	122.20
1	A	2811	G	C4-C5-N7	5.29	112.91	110.80
1	A	678	C	C6-N1-C2	-5.28	118.19	120.30
1	A	775	G	O5'-P-OP1	-5.28	100.94	105.70
34	a	275	G	N3-C4-N9	5.28	129.17	126.00
34	a	314	C	C6-N1-C2	-5.28	118.19	120.30
34	a	643	C	N1-C2-O2	-5.28	115.73	118.90
1	A	1395	A	N1-C6-N6	5.28	121.77	118.60
1	A	1306	C	N3-C2-O2	-5.28	118.20	121.90
34	a	750	G	C8-N9-C4	-5.28	104.29	106.40
34	a	767	A	N3-C4-C5	-5.28	123.10	126.80
34	a	1131	G	C4-N9-C1'	5.28	133.37	126.50
1	A	139(A)	G	C5-C6-N1	5.28	114.14	111.50
1	A	517	C	C6-N1-C2	-5.28	118.19	120.30
34	a	738	C	C5-C6-N1	5.28	123.64	121.00
1	A	1199	U	C2-N3-C4	-5.28	123.83	127.00
2	B	11	C	C6-N1-C2	5.28	122.41	120.30
56	y	136	ASN	N-CA-C	5.28	125.25	111.00
1	A	704	G	N1-C6-O6	-5.28	116.73	119.90
1	A	2780	G	N3-C2-N2	5.28	123.59	119.90
1	A	2642	G	OP1-P-OP2	-5.27	111.69	119.60
1	A	438	G	C5-C6-O6	-5.27	125.44	128.60
34	a	514	C	C2-N1-C1'	-5.27	113.00	118.80
34	a	333	G	N9-C4-C5	-5.27	103.29	105.40
1	A	1368	G	N1-C6-O6	-5.27	116.74	119.90
1	A	1378	A	C2-N3-C4	-5.27	107.97	110.60
1	A	2261	C	N1-C2-O2	-5.27	115.74	118.90
1	A	2049	G	O5'-P-OP2	-5.27	100.96	105.70
34	a	1257	U	C2-N1-C1'	5.27	124.02	117.70
34	a	1330	U	N1-C2-O2	5.27	126.49	122.80
1	A	2080	G	N3-C4-N9	5.27	129.16	126.00
34	a	311	C	C5-C6-N1	-5.27	118.37	121.00
34	a	1068	G	C8-N9-C1'	-5.27	120.15	127.00
1	A	602	G	C6-C5-N7	-5.26	127.24	130.40
34	a	301	G	C6-C5-N7	-5.26	127.24	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1052	U	N1-C2-O2	5.26	126.49	122.80
34	a	1110	A	C8-N9-C4	-5.26	103.69	105.80
2	B	79	C	OP2-P-O3'	5.26	116.78	105.20
34	a	251	G	C5-C6-O6	-5.26	125.44	128.60
1	A	1965	C	C5-C4-N4	-5.26	116.52	120.20
1	A	2229	C	N1-C2-O2	5.26	122.06	118.90
34	a	253	U	N3-C2-O2	5.26	125.88	122.20
34	a	588	G	C8-N9-C4	-5.26	104.30	106.40
1	A	526	A	N9-C4-C5	5.26	107.90	105.80
1	A	790	C	N1-C2-O2	5.26	122.06	118.90
1	A	792	G	O4'-C1'-N9	-5.26	103.99	108.20
2	B	75	G	C6-C5-N7	-5.26	127.24	130.40
56	y	194	ALA	C-N-CD	5.26	139.45	128.40
1	A	1662	C	OP2-P-O3'	5.26	116.77	105.20
1	A	2010	G	C8-N9-C4	-5.26	104.30	106.40
1	A	2120	G	C5-C6-O6	5.26	131.75	128.60
1	A	48	G	C5-C6-N1	-5.26	108.87	111.50
1	A	1899	G	N3-C4-N9	5.26	129.15	126.00
1	A	2516	G	N9-C4-C5	-5.26	103.30	105.40
1	A	234	C	C6-N1-C1'	-5.25	114.49	120.80
1	A	432	A	C8-N9-C4	-5.25	103.70	105.80
1	A	819	A	N9-C4-C5	-5.25	103.70	105.80
34	a	1496	C	N3-C2-O2	5.25	125.58	121.90
1	A	474	G	N3-C4-N9	5.25	129.15	126.00
1	A	979	G	C8-N9-C4	-5.25	104.30	106.40
34	a	569	C	C2-N3-C4	-5.25	117.27	119.90
1	A	808	G	C8-N9-C1'	-5.25	120.17	127.00
34	a	19	C	N3-C4-C5	-5.25	119.80	121.90
1	A	1696	G	C5-N7-C8	-5.25	101.67	104.30
1	A	1952	A	C6-C5-N7	-5.25	128.62	132.30
34	a	454	C	C6-N1-C2	-5.25	118.20	120.30
34	a	728	A	C5-C6-N6	-5.25	119.50	123.70
34	a	1358	U	C5-C6-N1	-5.25	120.08	122.70
1	A	806	C	O5'-P-OP2	-5.25	100.98	105.70
1	A	1781	C	C6-N1-C1'	-5.25	114.50	120.80
34	a	585	G	N1-C6-O6	5.25	123.05	119.90
1	A	2586	C	OP2-P-O3'	5.25	116.74	105.20
1	A	2704	C	C6-N1-C2	-5.25	118.20	120.30
34	a	267	C	N3-C4-C5	5.24	124.00	121.90
34	a	664	G	C4-C5-N7	-5.24	108.70	110.80
34	a	1198	G	C4-C5-N7	-5.24	108.70	110.80
33	w	20	U	N3-C2-O2	-5.24	118.53	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2230	G	N1-C6-O6	-5.24	116.75	119.90
1	A	566	U	N3-C2-O2	-5.24	118.53	122.20
1	A	1787	A	C8-N9-C1'	-5.24	118.27	127.70
1	A	2308	G	C4-C5-N7	5.24	112.90	110.80
2	B	7	G	N7-C8-N9	5.24	115.72	113.10
33	w	74	C	N3-C4-C5	-5.24	119.80	121.90
1	A	690	G	C8-N9-C4	-5.24	104.31	106.40
34	a	684	A	C8-N9-C4	-5.24	103.70	105.80
34	a	969	A	N1-C6-N6	5.24	121.74	118.60
1	A	1300	U	C5-C6-N1	5.24	125.32	122.70
1	A	632	A	N7-C8-N9	-5.24	111.18	113.80
1	A	781	A	OP1-P-OP2	5.24	127.45	119.60
1	A	1553	A	O4'-C1'-N9	5.24	112.39	108.20
34	a	1224	G	N9-C4-C5	5.24	107.49	105.40
1	A	678	C	N1-C2-O2	-5.23	115.76	118.90
1	A	1153	C	C5-C6-N1	5.23	123.62	121.00
1	A	1247	A	C8-N9-C4	5.23	107.89	105.80
1	A	2875	C	N1-C2-O2	-5.23	115.76	118.90
34	a	1075	C	OP1-P-O3'	5.23	116.71	105.20
1	A	239	U	N3-C4-C5	5.23	117.74	114.60
1	A	1022	G	C4-N9-C1'	-5.23	119.70	126.50
34	a	634	C	C6-N1-C2	-5.23	118.21	120.30
45	l	29	GLY	N-CA-C	-5.23	100.03	113.10
34	a	1109	C	C2-N1-C1'	5.23	124.55	118.80
56	y	417	PRO	CA-N-CD	-5.23	104.18	111.50
1	A	805	G	C8-N9-C1'	-5.23	120.20	127.00
1	A	1698	A	C4-C5-C6	5.23	119.61	117.00
1	A	1988	C	N1-C2-O2	5.23	122.04	118.90
1	A	2271	G	N3-C2-N2	5.22	123.56	119.90
1	A	2612	C	C2-N1-C1'	-5.22	113.05	118.80
34	a	1323	G	C6-C5-N7	-5.22	127.27	130.40
1	A	932	G	C4-C5-N7	-5.22	108.71	110.80
1	A	961	C	N1-C2-O2	-5.22	115.77	118.90
1	A	1629	U	N3-C4-C5	-5.22	111.47	114.60
2	B	77	U	OP1-P-O3'	5.22	116.69	105.20
34	a	406	G	C6-C5-N7	-5.22	127.27	130.40
34	a	852	G	C6-C5-N7	-5.22	127.27	130.40
1	A	141	A	N7-C8-N9	5.22	116.41	113.80
34	a	984	C	N1-C2-O2	5.22	122.03	118.90
34	a	1406	U	C5-C6-N1	-5.22	120.09	122.70
34	a	1227	A	N1-C6-N6	5.22	121.73	118.60
1	A	1357	U	N1-C2-O2	-5.22	119.15	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	206	U	C5-C4-O4	5.21	129.03	125.90
1	A	818	G	C5-C6-O6	-5.21	125.47	128.60
1	A	1251	C	C6-N1-C2	-5.21	118.21	120.30
1	A	2573	C	C5-C4-N4	-5.21	116.55	120.20
1	A	2592	G	N1-C6-O6	5.21	123.03	119.90
1	A	1787	A	O4'-C1'-N9	-5.21	104.03	108.20
1	A	1982	C	N3-C4-N4	5.21	121.65	118.00
1	A	470	A	O5'-P-OP1	-5.21	101.01	105.70
1	A	1699	G	O5'-P-OP2	-5.21	101.01	105.70
34	a	106	C	N1-C2-O2	-5.21	115.77	118.90
34	a	394	G	N1-C6-O6	-5.21	116.77	119.90
1	A	583	G	C8-N9-C4	-5.21	104.32	106.40
1	A	782	A	N9-C4-C5	-5.21	103.72	105.80
34	a	855	G	C4-C5-N7	5.21	112.88	110.80
33	w	26	A	N9-C4-C5	-5.21	103.72	105.80
1	A	526	A	C5-C6-N6	5.21	127.87	123.70
1	A	915	C	C6-N1-C2	-5.21	118.22	120.30
34	a	1363	C	C2-N1-C1'	-5.21	113.07	118.80
1	A	1191	G	C8-N9-C4	5.21	108.48	106.40
1	A	340	A	C5-C6-N1	-5.20	115.10	117.70
1	A	517	C	N3-C4-N4	5.20	121.64	118.00
1	A	808	G	N1-C6-O6	5.20	123.02	119.90
1	A	1813	G	N7-C8-N9	-5.20	110.50	113.10
34	a	1127	G	N3-C2-N2	-5.20	116.26	119.90
1	A	2873	A	O4'-C1'-N9	5.20	112.36	108.20
34	a	1506	U	N3-C2-O2	5.20	125.84	122.20
1	A	1958	C	C5-C4-N4	-5.20	116.56	120.20
34	a	1290	G	C6-C5-N7	-5.20	127.28	130.40
33	w	20	U	C6-N1-C1'	-5.20	113.92	121.20
34	a	1131	G	C4-C5-C6	5.20	121.92	118.80
1	A	103	A	N1-C6-N6	5.20	121.72	118.60
1	A	234	C	C2-N1-C1'	5.20	124.51	118.80
34	a	397	A	C6-C5-N7	-5.20	128.66	132.30
1	A	514	A	C5-C6-N1	-5.19	115.10	117.70
1	A	825	C	N3-C4-C5	-5.19	119.82	121.90
34	a	1281	U	C4-C5-C6	5.19	122.82	119.70
1	A	807	U	C5-C4-O4	-5.19	122.79	125.90
34	a	1232	U	N1-C2-O2	5.19	126.43	122.80
1	A	265	A	O4'-C1'-N9	5.19	112.35	108.20
1	A	531	C	C2-N1-C1'	5.19	124.50	118.80
1	A	2054	A	OP2-P-O3'	5.19	116.61	105.20
34	a	585	G	C6-C5-N7	-5.19	127.29	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	916	G	C5-C6-O6	5.19	131.71	128.60
56	y	292	PRO	CA-N-CD	-5.19	104.24	111.50
1	A	1007	C	N3-C4-N4	5.18	121.63	118.00
1	A	1161	C	N1-C2-O2	5.18	122.01	118.90
1	A	2627	G	C6-C5-N7	-5.18	127.29	130.40
34	a	782	A	N1-C6-N6	-5.18	115.49	118.60
1	A	734	A	C2-N3-C4	-5.18	108.01	110.60
1	A	1227	G	C6-C5-N7	-5.18	127.29	130.40
1	A	2571	C	C6-N1-C2	5.18	122.37	120.30
1	A	445	C	OP2-P-O3'	5.18	116.59	105.20
34	a	317	G	C4-C5-N7	5.18	112.87	110.80
2	B	71	C	C5-C6-N1	5.18	123.59	121.00
34	a	396	G	C8-N9-C4	-5.18	104.33	106.40
34	a	662	G	O4'-C1'-N9	5.18	112.34	108.20
34	a	1524	C	C5-C6-N1	-5.18	118.41	121.00
1	A	187	G	N1-C6-O6	5.17	123.00	119.90
1	A	1637	A	C8-N9-C4	5.17	107.87	105.80
33	w	24	G	N3-C4-N9	-5.17	122.89	126.00
1	A	944	G	C4-N9-C1'	5.17	133.22	126.50
1	A	1666	G	O5'-P-OP2	5.17	116.91	110.70
1	A	1136	G	C5-C6-O6	-5.17	125.50	128.60
1	A	2765	A	C6-C5-N7	-5.17	128.68	132.30
34	a	406	G	N3-C4-C5	-5.17	126.01	128.60
34	a	1356	G	C4-C5-N7	-5.17	108.73	110.80
34	a	1513	A	N9-C4-C5	5.17	107.87	105.80
34	a	916	G	N3-C4-C5	-5.17	126.02	128.60
1	A	727	A	N1-C6-N6	5.17	121.70	118.60
1	A	949	C	C6-N1-C2	-5.17	118.23	120.30
1	A	1339	G	C8-N9-C4	-5.17	104.33	106.40
34	a	1416	G	C2-N3-C4	-5.17	109.32	111.90
34	a	1486	G	N3-C4-N9	5.17	129.10	126.00
47	n	18	VAL	CB-CA-C	-5.17	101.58	111.40
1	A	572	A	C6-C5-N7	-5.17	128.68	132.30
1	A	2730	C	OP1-P-O3'	5.17	116.56	105.20
1	A	2574	G	N3-C4-N9	-5.16	122.90	126.00
1	A	2791	C	N3-C4-C5	-5.16	119.83	121.90
34	a	1115	C	C6-N1-C2	5.16	122.37	120.30
1	A	577	G	OP1-P-O3'	5.16	116.56	105.20
56	y	528	ILE	C-N-CD	5.16	139.24	128.40
1	A	1021	A	N3-C4-C5	5.16	130.41	126.80
1	A	1424	G	C8-N9-C1'	-5.16	120.30	127.00
1	A	2605	U	N1-C2-O2	5.16	126.41	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	w	43	C	C5-C6-N1	-5.16	118.42	121.00
55	v	18	C	N3-C2-O2	-5.16	118.29	121.90
1	A	467	G	N1-C6-O6	5.16	122.99	119.90
1	A	729	G	C6-C5-N7	-5.16	127.31	130.40
1	A	2690	C	N1-C2-O2	5.16	121.99	118.90
34	a	378	G	N1-C6-O6	5.16	122.99	119.90
34	a	436	C	N3-C4-N4	5.16	121.61	118.00
34	a	1214	C	N3-C4-C5	-5.16	119.84	121.90
1	A	2525	G	N3-C2-N2	5.15	123.51	119.90
1	A	115	C	OP2-P-O3'	5.15	116.53	105.20
1	A	1667	G	N3-C4-N9	5.15	129.09	126.00
1	A	2608	G	C8-N9-C4	5.15	108.46	106.40
1	A	2617	C	C4-C5-C6	5.15	119.98	117.40
1	A	195	A	C5-C6-N6	-5.15	119.58	123.70
1	A	857	C	C5-C6-N1	-5.15	118.42	121.00
1	A	1645	G	C5-C6-O6	-5.15	125.51	128.60
1	A	1751	C	N3-C4-N4	-5.15	114.39	118.00
1	A	1698	A	C8-N9-C4	-5.15	103.74	105.80
1	A	946	G	C5-C6-O6	-5.15	125.51	128.60
1	A	2634	G	OP2-P-O3'	5.15	116.53	105.20
1	A	265	A	C5-N7-C8	-5.15	101.33	103.90
34	a	800	G	N3-C4-C5	-5.15	126.03	128.60
1	A	586	A	OP2-P-O3'	5.14	116.52	105.20
1	A	2481	G	C5-C6-O6	-5.14	125.51	128.60
1	A	249	C	C2-N1-C1'	5.14	124.46	118.80
1	A	1665	A	N9-C4-C5	-5.14	103.74	105.80
1	A	1989	G	N1-C6-O6	5.14	122.98	119.90
34	a	297	G	N3-C4-N9	-5.14	122.92	126.00
34	a	720	C	N3-C4-C5	5.14	123.96	121.90
1	A	30	G	N9-C4-C5	-5.14	103.34	105.40
1	A	577	G	N7-C8-N9	5.14	115.67	113.10
1	A	977	G	C4-C5-N7	-5.14	108.75	110.80
1	A	1209	G	O5'-P-OP1	-5.14	101.08	105.70
1	A	1338	G	N3-C4-C5	-5.14	126.03	128.60
1	A	1813	G	C5-N7-C8	5.14	106.87	104.30
55	v	13	A	N9-C4-C5	5.14	107.86	105.80
5	F	169	ASN	N-CA-C	5.14	124.87	111.00
34	a	379	C	C2-N1-C1'	-5.14	113.15	118.80
34	a	1126	U	P-O3'-C3'	5.14	125.86	119.70
34	a	115	G	N1-C6-O6	5.14	122.98	119.90
34	a	317	G	N9-C4-C5	-5.14	103.34	105.40
34	a	820	U	N1-C2-O2	5.14	126.40	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	1227	A	C6-C5-N7	-5.14	128.70	132.30
1	A	207	A	C8-N9-C4	5.13	107.85	105.80
33	w	12	U	O5'-P-OP2	-5.13	101.08	105.70
1	A	1653	G	N3-C4-N9	5.13	129.08	126.00
34	a	691	G	C6-C5-N7	-5.13	127.32	130.40
34	a	1366	C	N3-C4-C5	-5.13	119.85	121.90
1	A	210	C	C2-N3-C4	-5.13	117.33	119.90
1	A	491	G	C4-N9-C1'	-5.13	119.83	126.50
1	A	499	U	N1-C2-N3	5.13	117.98	114.90
1	A	2018	G	N3-C4-N9	5.13	129.08	126.00
1	A	2073	C	N3-C4-N4	-5.13	114.41	118.00
34	a	1056	U	C2-N3-C4	5.13	130.08	127.00
1	A	581	C	OP1-P-OP2	-5.13	111.91	119.60
1	A	2542	A	O5'-P-OP1	-5.13	101.09	105.70
1	A	2609	U	C6-N1-C2	5.13	124.08	121.00
1	A	2611	U	C2-N1-C1'	5.13	123.85	117.70
1	A	1700	A	C5-C6-N6	-5.12	119.60	123.70
1	A	1973	G	C4-C5-N7	-5.12	108.75	110.80
1	A	2059	A	C8-N9-C4	5.12	107.85	105.80
1	A	203	C	N3-C2-O2	5.12	125.48	121.90
34	a	1123	A	N3-C4-C5	5.12	130.38	126.80
1	A	1501	C	N3-C4-N4	5.12	121.58	118.00
1	A	18	C	C6-N1-C2	-5.12	118.25	120.30
1	A	857	C	C2-N1-C1'	-5.12	113.17	118.80
1	A	1128	A	N3-C4-C5	5.12	130.38	126.80
1	A	2025	C	C2-N1-C1'	5.12	124.43	118.80
34	a	225	C	C6-N1-C2	5.12	122.35	120.30
1	A	1499	C	C2-N1-C1'	-5.12	113.17	118.80
1	A	2048	G	C5-C6-O6	-5.12	125.53	128.60
1	A	2519	U	N1-C2-O2	-5.12	119.22	122.80
1	A	16	G	O5'-P-OP1	-5.11	101.10	105.70
1	A	2587	A	C2-N3-C4	5.11	113.16	110.60
34	a	613	C	C6-N1-C2	-5.11	118.25	120.30
1	A	143(A)	C	C6-N1-C2	-5.11	118.26	120.30
1	A	1142(A)	A	C5-C6-N1	-5.11	115.14	117.70
34	a	966	G	C5-C6-N1	5.11	114.06	111.50
1	A	918	A	O5'-P-OP1	-5.11	101.10	105.70
1	A	2597	G	N3-C4-C5	-5.11	126.05	128.60
1	A	328	U	C5-C6-N1	5.11	125.25	122.70
1	A	1796	U	C6-N1-C1'	5.11	128.35	121.20
1	A	2494	G	N1-C6-O6	5.11	122.96	119.90
34	a	12	U	C6-N1-C2	-5.11	117.94	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	354	G	N3-C4-C5	-5.11	126.05	128.60
1	A	1781	C	C2-N1-C1'	5.10	124.42	118.80
1	A	1051	G	N1-C6-O6	5.10	122.96	119.90
1	A	1204	A	C5-N7-C8	-5.10	101.35	103.90
1	A	1979	C	C5-C6-N1	-5.10	118.45	121.00
34	a	424	G	N1-C6-O6	-5.10	116.84	119.90
34	a	306	G	N1-C6-O6	-5.10	116.84	119.90
1	A	391	G	C5-C6-O6	-5.09	125.54	128.60
1	A	981	A	C2-N3-C4	-5.09	108.05	110.60
1	A	1006	C	O5'-P-OP1	-5.09	101.11	105.70
1	A	1776	G	O5'-P-OP1	5.09	116.81	110.70
1	A	2766	G	N7-C8-N9	5.09	115.65	113.10
34	a	1025	U	N1-C2-O2	5.09	126.37	122.80
34	a	1254	C	C5-C6-N1	-5.09	118.45	121.00
1	A	1362	C	C6-N1-C2	-5.09	118.26	120.30
34	a	372	C	C5-C6-N1	5.09	123.55	121.00
34	a	1524	C	N3-C4-N4	-5.09	114.44	118.00
33	w	76	A	C5-C6-N6	-5.09	119.62	123.70
4	E	78	LEU	CA-CB-CG	5.09	127.01	115.30
1	A	239	U	N1-C2-O2	5.09	126.36	122.80
1	A	491	G	C8-N9-C1'	5.09	133.62	127.00
1	A	805	G	N3-C4-N9	5.09	129.05	126.00
2	B	99	G	C4-N9-C1'	5.09	133.12	126.50
1	A	1924	C	C4-C5-C6	5.09	119.94	117.40
34	a	952	U	N3-C2-O2	5.09	125.76	122.20
1	A	688	U	N3-C4-C5	5.08	117.65	114.60
1	A	1142(A)	A	N3-C4-N9	-5.08	123.33	127.40
1	A	2249	U	N3-C4-O4	5.08	122.96	119.40
1	A	2790	A	N3-C4-N9	5.08	131.47	127.40
1	A	2185	C	C2-N3-C4	5.08	122.44	119.90
1	A	2556	C	C2-N1-C1'	5.08	124.39	118.80
34	a	60	A	OP1-P-O3'	5.08	116.38	105.20
34	a	576	G	C4-C5-C6	5.08	121.85	118.80
1	A	2188	C	N1-C2-O2	5.08	121.95	118.90
1	A	2376	A	N1-C6-N6	-5.08	115.55	118.60
1	A	2522	U	OP2-P-O3'	5.08	116.38	105.20
2	B	75	G	C4-N9-C1'	5.08	133.10	126.50
1	A	455	C	C5-C4-N4	-5.08	116.65	120.20
1	A	479	A	O4'-C1'-N9	5.08	112.26	108.20
1	A	645	C	N3-C2-O2	-5.08	118.35	121.90
1	A	745	G	C6-N1-C2	-5.08	122.06	125.10
1	A	1665	A	N7-C8-N9	-5.08	111.26	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	a	661	G	C8-N9-C4	-5.08	104.37	106.40
1	A	2096	U	C6-N1-C1'	-5.07	114.10	121.20
34	a	750	G	C4-N9-C1'	5.07	133.10	126.50
1	A	1780	A	O5'-P-OP2	-5.07	101.14	105.70
1	A	1996	C	C6-N1-C2	5.07	122.33	120.30
1	A	2597	G	C4-C5-N7	-5.07	108.77	110.80
1	A	526	A	C4-C5-N7	-5.07	108.17	110.70
1	A	1289	C	C6-N1-C2	5.07	122.33	120.30
33	x	9	A	N1-C6-N6	5.07	121.64	118.60
34	a	21	G	OP2-P-O3'	5.07	116.36	105.20
34	a	812	C	N3-C2-O2	-5.07	118.35	121.90
1	A	1257	C	C2-N1-C1'	5.07	124.38	118.80
1	A	991	C	C5-C6-N1	5.07	123.53	121.00
1	A	1673	U	C5-C4-O4	5.07	128.94	125.90
1	A	2028	U	N3-C4-C5	-5.07	111.56	114.60
2	B	99	G	C8-N9-C1'	-5.07	120.41	127.00
34	a	283	C	O5'-P-OP1	-5.07	101.14	105.70
34	a	1374	A	C5-C6-N6	5.07	127.75	123.70
34	a	189(A)	C	O5'-P-OP2	-5.07	101.14	105.70
34	a	986	A	C6-N1-C2	-5.06	115.56	118.60
1	A	214	G	O4'-C1'-N9	5.06	112.25	108.20
1	A	1982	C	C5-C4-N4	-5.06	116.66	120.20
34	a	376	G	N1-C6-O6	5.06	122.94	119.90
33	w	27	G	C8-N9-C4	5.06	108.42	106.40
1	A	738	G	C8-N9-C4	-5.06	104.38	106.40
34	a	609	A	O5'-P-OP1	-5.06	101.15	105.70
34	a	1125	U	C5-C6-N1	-5.06	120.17	122.70
1	A	615	G	N1-C6-O6	5.06	122.93	119.90
34	a	18	C	N3-C2-O2	-5.06	118.36	121.90
34	a	1484	C	C6-N1-C2	-5.06	118.28	120.30
34	a	1494	G	C4-N9-C1'	5.06	133.07	126.50
1	A	2593	U	C5-C4-O4	-5.06	122.87	125.90
1	A	2000	G	OP1-P-OP2	5.05	127.18	119.60
34	a	1486	G	C6-C5-N7	-5.05	127.37	130.40
1	A	1774	C	C6-N1-C2	-5.05	118.28	120.30
34	a	858	G	C6-C5-N7	-5.05	127.37	130.40
1	A	594	U	C5-C6-N1	-5.05	120.17	122.70
1	A	950	G	O5'-P-OP2	-5.05	101.15	105.70
1	A	1790	C	C5-C4-N4	-5.05	116.66	120.20
34	a	1127	G	C5-C6-O6	5.05	131.63	128.60
1	A	1272	A	O5'-P-OP2	-5.05	101.16	105.70
34	a	1404	C	N3-C4-C5	5.05	123.92	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	263	C	N3-C2-O2	-5.05	118.37	121.90
1	A	2242	G	C2-N3-C4	-5.05	109.38	111.90
34	a	1027	C	C5-C4-N4	5.05	123.73	120.20
1	A	450	G	C4-C5-C6	5.04	121.83	118.80
1	A	824	A	O5'-P-OP1	-5.04	101.16	105.70
1	A	2088	G	N3-C2-N2	-5.04	116.37	119.90
1	A	2124	G	C5-C6-O6	5.04	131.63	128.60
1	A	19	C	C5-C6-N1	-5.04	118.48	121.00
1	A	445	C	O5'-P-OP2	-5.04	101.16	105.70
1	A	1745	C	C6-N1-C2	-5.04	118.28	120.30
1	A	1756	G	C8-N9-C4	-5.04	104.38	106.40
33	w	35	A	C2-N3-C4	-5.04	108.08	110.60
1	A	778	G	N3-C4-N9	5.04	129.02	126.00
1	A	2580	U	N3-C2-O2	-5.04	118.67	122.20
1	A	990	A	N7-C8-N9	5.04	116.32	113.80
1	A	2253	G	OP1-P-OP2	-5.04	112.04	119.60
1	A	2504	U	C5-C6-N1	-5.04	120.18	122.70
1	A	1372	U	C2-N1-C1'	5.04	123.74	117.70
1	A	2864	G	N1-C2-N2	-5.04	111.67	116.20
34	a	189(A)	C	N3-C4-C5	5.04	123.92	121.90
1	A	1996	C	N1-C2-O2	-5.03	115.88	118.90
34	a	585	G	N9-C4-C5	-5.03	103.39	105.40
1	A	1210	A	P-O3'-C3'	5.03	125.74	119.70
34	a	424	G	N9-C4-C5	5.03	107.41	105.40
1	A	2233	U	C5-C6-N1	-5.03	120.18	122.70
34	a	200	G	C5-C6-O6	5.03	131.62	128.60
34	a	805	C	C4-C5-C6	-5.03	114.89	117.40
56	y	230	ILE	CB-CA-C	-5.03	101.54	111.60
1	A	2645	G	O5'-P-OP2	-5.03	101.17	105.70
1	A	593	G	N1-C6-O6	5.03	122.92	119.90
1	A	1829	A	OP2-P-O3'	5.03	116.26	105.20
1	A	1934	C	C6-N1-C2	5.03	122.31	120.30
1	A	2502	G	N1-C6-O6	5.03	122.92	119.90
1	A	2609	U	N1-C2-O2	-5.03	119.28	122.80
34	a	603	U	N1-C2-O2	-5.03	119.28	122.80
34	a	863	U	O4'-C1'-N1	5.03	112.22	108.20
1	A	467	G	C6-C5-N7	-5.03	127.38	130.40
1	A	1353	A	N1-C6-N6	-5.03	115.58	118.60
34	a	1190	G	C5-C6-O6	-5.03	125.58	128.60
1	A	576	U	C5-C4-O4	-5.02	122.89	125.90
1	A	782	A	C5-C6-N6	-5.02	119.68	123.70
33	w	41	C	C2-N3-C4	-5.02	117.39	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	2271	G	C8-N9-C4	5.02	108.41	106.40
1	A	2285	C	C6-N1-C2	5.02	122.31	120.30
1	A	2773	C	N1-C2-O2	-5.02	115.89	118.90
34	a	570	G	OP2-P-O3'	5.02	116.25	105.20
33	w	42	C	C6-N1-C2	5.02	122.31	120.30
1	A	1368	G	C5-C6-N1	5.02	114.01	111.50
1	A	574	C	N1-C2-N3	-5.02	115.69	119.20
1	A	2864	G	C6-C5-N7	-5.02	127.39	130.40
1	A	2874	C	C6-N1-C2	5.02	122.31	120.30
1	A	1972	A	N1-C6-N6	-5.02	115.59	118.60
34	a	62	U	N1-C2-N3	5.02	117.91	114.90
34	a	279	A	N1-C6-N6	5.02	121.61	118.60
34	a	779	C	C5-C4-N4	5.02	123.71	120.20
34	a	1250	A	C8-N9-C4	-5.02	103.79	105.80
1	A	1680	U	N1-C2-N3	5.02	117.91	114.90
34	a	791	G	O5'-P-OP2	5.02	116.72	110.70
34	a	1507	A	N3-C4-C5	-5.02	123.29	126.80
1	A	981	A	N1-C6-N6	5.01	121.61	118.60
1	A	2726	U	O5'-P-OP1	-5.01	101.19	105.70
21	Y	9	LYS	N-CA-C	-5.01	97.46	111.00
34	a	797	C	N3-C2-O2	5.01	125.41	121.90
34	a	919	A	C8-N9-C4	-5.01	103.79	105.80
34	a	1074	G	N9-C4-C5	-5.01	103.39	105.40
34	a	869	G	N3-C4-C5	5.01	131.11	128.60
1	A	441	U	C5-C6-N1	5.01	125.21	122.70
1	A	1310	G	N1-C2-N2	-5.01	111.69	116.20
1	A	2201	C	C6-N1-C2	-5.01	118.30	120.30
34	a	635	G	C6-C5-N7	-5.01	127.39	130.40
34	a	834	C	C5-C6-N1	-5.01	118.50	121.00
34	a	898	G	C5-C6-O6	-5.01	125.59	128.60
1	A	86	C	OP2-P-O3'	5.01	116.22	105.20
1	A	139(A)	G	N7-C8-N9	5.01	115.61	113.10
1	A	665	C	O5'-P-OP2	5.01	116.71	110.70
1	A	1137	G	N1-C6-O6	-5.01	116.89	119.90
1	A	1305	C	N3-C4-C5	5.01	123.90	121.90
34	a	724	G	C5-C6-O6	-5.01	125.59	128.60
1	A	1821	A	C8-N9-C4	5.01	107.80	105.80
1	A	1246	A	C8-N9-C4	5.01	107.80	105.80
1	A	1310	G	N3-C2-N2	5.01	123.40	119.90
1	A	2050	C	C5-C6-N1	-5.01	118.50	121.00
1	A	2040	C	C2-N1-C1'	5.00	124.31	118.80
1	A	918	A	N1-C6-N6	5.00	121.60	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1653	G	N7-C8-N9	5.00	115.60	113.10
1	A	2606	C	C2-N3-C4	-5.00	117.40	119.90
34	a	111	G	N1-C2-N2	5.00	120.70	116.20
34	a	853	G	N3-C4-N9	5.00	129.00	126.00
34	a	924	C	C5-C4-N4	5.00	123.70	120.20
34	a	1320	C	C5-C6-N1	-5.00	118.50	121.00
1	A	330	A	N1-C6-N6	5.00	121.60	118.60
1	A	1052	C	N1-C2-O2	5.00	121.90	118.90
34	a	767	A	C4-C5-C6	5.00	119.50	117.00
34	a	1320	C	C6-N1-C2	5.00	122.30	120.30

There are no chirality outliers.

All (30) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	D	223	GLY	Peptide
8	J	6	ASN	Peptide
42	i	45	ALA	Peptide
46	m	7	VAL	Peptide
46	m	8	GLU	Peptide
52	s	28	LYS	Peptide
53	t	10	LEU	Peptide
56	y	127	HIS	Peptide
56	y	137	LYS	Peptide
56	y	152	VAL	Peptide
56	y	171	GLY	Peptide
56	y	174	VAL	Peptide
56	y	226	ASP	Peptide
56	y	230	ILE	Peptide
56	y	235	LYS	Peptide
56	y	250	LEU	Peptide
56	y	268	ILE	Peptide
56	y	292	PRO	Peptide
56	y	294	PHE	Mainchain
56	y	301	VAL	Peptide
56	y	331	THR	Peptide
56	y	389	GLU	Peptide
56	y	395	ASP	Peptide
56	y	419	GLU	Peptide
56	y	480	GLU	Peptide
56	y	553	ALA	Peptide
56	y	554	LEU	Peptide

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Mol	Chain	Res	Type	Group
56	y	557	ASP	Peptide
56	y	6	LEU	Peptide
56	y	86	HIS	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	D	273/276 (99%)	233 (85%)	26 (10%)	14 (5%)	2 7
4	E	202/206 (98%)	165 (82%)	27 (13%)	10 (5%)	2 7
5	F	201/205 (98%)	152 (76%)	37 (18%)	12 (6%)	1 4
6	G	179/182 (98%)	143 (80%)	25 (14%)	11 (6%)	1 4
7	H	172/180 (96%)	128 (74%)	34 (20%)	10 (6%)	1 5
8	J	128/173 (74%)	69 (54%)	31 (24%)	28 (22%)	0 0
9	K	137/147 (93%)	94 (69%)	33 (24%)	10 (7%)	1 3
10	N	138/140 (99%)	106 (77%)	24 (17%)	8 (6%)	1 5
11	O	120/122 (98%)	101 (84%)	15 (12%)	4 (3%)	4 15
12	P	147/150 (98%)	108 (74%)	29 (20%)	10 (7%)	1 3
13	Q	139/141 (99%)	122 (88%)	12 (9%)	5 (4%)	3 14
14	R	116/118 (98%)	92 (79%)	21 (18%)	3 (3%)	5 20
15	S	108/112 (96%)	77 (71%)	20 (18%)	11 (10%)	0 1
16	T	129/146 (88%)	113 (88%)	15 (12%)	1 (1%)	19 51
17	U	114/118 (97%)	92 (81%)	16 (14%)	6 (5%)	2 6
18	V	99/101 (98%)	72 (73%)	18 (18%)	9 (9%)	1 1

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
19	W	110/113 (97%)	86 (78%)	14 (13%)	10 (9%)	1 1
20	X	93/96 (97%)	73 (78%)	12 (13%)	8 (9%)	1 2
21	Y	105/110 (96%)	82 (78%)	12 (11%)	11 (10%)	0 1
22	Z	183/206 (89%)	145 (79%)	24 (13%)	14 (8%)	1 2
23	0	72/85 (85%)	65 (90%)	6 (8%)	1 (1%)	11 36
24	1	95/98 (97%)	76 (80%)	13 (14%)	6 (6%)	1 4
25	2	68/72 (94%)	59 (87%)	8 (12%)	1 (2%)	10 34
26	3	57/60 (95%)	50 (88%)	5 (9%)	2 (4%)	3 14
27	4	67/71 (94%)	42 (63%)	14 (21%)	11 (16%)	0 0
28	5	57/60 (95%)	47 (82%)	5 (9%)	5 (9%)	1 2
29	6	51/54 (94%)	43 (84%)	6 (12%)	2 (4%)	3 12
30	7	47/49 (96%)	42 (89%)	4 (8%)	1 (2%)	7 26
31	8	62/65 (95%)	57 (92%)	5 (8%)	0	100 100
32	9	35/37 (95%)	31 (89%)	3 (9%)	1 (3%)	4 18
35	b	229/256 (90%)	167 (73%)	41 (18%)	21 (9%)	1 1
36	c	204/239 (85%)	171 (84%)	25 (12%)	8 (4%)	3 12
37	d	206/209 (99%)	163 (79%)	33 (16%)	10 (5%)	2 8
38	e	146/162 (90%)	108 (74%)	30 (20%)	8 (6%)	2 5
39	f	98/101 (97%)	70 (71%)	20 (20%)	8 (8%)	1 2
40	g	153/156 (98%)	123 (80%)	26 (17%)	4 (3%)	5 20
41	h	135/138 (98%)	115 (85%)	18 (13%)	2 (2%)	10 34
42	i	125/128 (98%)	98 (78%)	17 (14%)	10 (8%)	1 2
43	j	94/105 (90%)	73 (78%)	12 (13%)	9 (10%)	0 1
44	k	112/129 (87%)	88 (79%)	20 (18%)	4 (4%)	3 14
45	l	120/132 (91%)	106 (88%)	9 (8%)	5 (4%)	3 10
46	m	117/126 (93%)	91 (78%)	16 (14%)	10 (8%)	1 2
47	n	58/61 (95%)	51 (88%)	4 (7%)	3 (5%)	2 6
48	o	86/89 (97%)	69 (80%)	15 (17%)	2 (2%)	6 23
49	p	80/88 (91%)	61 (76%)	17 (21%)	2 (2%)	5 21
50	q	97/105 (92%)	78 (80%)	13 (13%)	6 (6%)	1 4
51	r	66/88 (75%)	57 (86%)	6 (9%)	3 (4%)	2 9

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
52	s	81/93 (87%)	64 (79%)	9 (11%)	8 (10%)	0 1
53	t	94/106 (89%)	74 (79%)	10 (11%)	10 (11%)	0 1
54	u	21/27 (78%)	19 (90%)	2 (10%)	0	100 100
56	y	640/679 (94%)	534 (83%)	67 (10%)	39 (6%)	1 4
All	All	6466/6910 (94%)	5145 (80%)	924 (14%)	397 (6%)	1 4

All (397) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	14	ARG
3	D	224	ALA
4	E	195	LEU
5	F	89	VAL
5	F	130	ALA
5	F	136	THR
5	F	168	ARG
5	F	169	ASN
6	G	28	VAL
6	G	47	LYS
6	G	115	ARG
6	G	150	ASP
7	H	80	SER
8	J	7	VAL
8	J	53	VAL
8	J	56	ASN
8	J	74	LEU
8	J	77	PRO
8	J	80	VAL
8	J	93	LEU
8	J	99	SER
8	J	100	ASN
8	J	107	VAL
8	J	128	LEU
9	K	7	VAL
9	K	115	LEU
10	N	23	LEU
10	N	37	LYS
10	N	69	GLN
11	O	72	PRO
12	P	45	LEU
13	Q	59	ARG

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Mol	Chain	Res	Type
13	Q	134	ARG
13	Q	135	ASP
16	T	55	ASN
17	U	86	ALA
19	W	25	ARG
19	W	36	LEU
19	W	57	ASN
20	X	18	TYR
20	X	19	ALA
20	X	77	LYS
21	Y	5	MET
21	Y	6	HIS
22	Z	161	VAL
22	Z	177	PRO
22	Z	179	ASP
22	Z	182	LYS
22	Z	184	ALA
24	1	76	ARG
24	1	77	ALA
26	3	13	ILE
27	4	51	ASP
30	7	46	VAL
35	b	9	GLU
35	b	12	GLU
35	b	17	PHE
35	b	23	ARG
35	b	77	ALA
35	b	165	VAL
37	d	150	GLU
37	d	179	GLU
37	d	200	GLU
38	e	72	GLN
39	f	36	ARG
41	h	51	VAL
42	i	95	LYS
42	i	105	ASP
42	i	118	LYS
43	j	34	VAL
43	j	87	THR
44	k	122	LYS
46	m	7	VAL
46	m	8	GLU

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Mol	Chain	Res	Type
47	n	3	ARG
47	n	41	ARG
48	o	19	PRO
49	p	67	THR
50	q	17	LYS
50	q	34	LYS
50	q	49	GLU
50	q	53	LEU
52	s	27	GLU
53	t	9	ASN
53	t	10	LEU
53	t	11	SER
53	t	46	GLU
53	t	47	GLY
53	t	100	ILE
56	y	-67	LYS
56	y	-59	GLU
56	y	9	ILE
56	y	63	ALA
56	y	89	PHE
56	y	138	ILE
56	y	153	GLU
56	y	213	PRO
56	y	244	VAL
56	y	280	ILE
56	y	281	THR
56	y	373	ALA
56	y	402	ILE
56	y	437	ASN
56	y	438	MET
56	y	487	GLY
56	y	555	ARG
56	y	600	VAL
3	D	3	VAL
3	D	90	ALA
3	D	110	GLY
3	D	127	VAL
3	D	241	PRO
4	E	2	LYS
4	E	151	TYR
5	F	119	ARG
5	F	160	ASN

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Mol	Chain	Res	Type
6	G	116	ASP
7	H	76	VAL
7	H	77	LYS
7	H	92	ILE
7	H	126	PRO
8	J	21	GLN
8	J	73	GLY
8	J	101	PRO
8	J	104	ILE
8	J	120	LYS
9	K	33	ASN
10	N	19	GLU
11	O	5	GLN
12	P	23	PRO
12	P	42	SER
12	P	132	LYS
13	Q	136	ALA
15	S	13	ARG
15	S	14	VAL
15	S	57	LYS
15	S	88	ASP
15	S	102	ALA
15	S	103	GLU
17	U	79	PHE
18	V	24	LYS
18	V	54	GLY
18	V	55	ALA
19	W	67	ASP
20	X	66	LEU
20	X	68	ARG
20	X	93	GLU
21	Y	70	SER
21	Y	105	ALA
22	Z	154	ASP
22	Z	183	LEU
24	1	10	LYS
27	4	18	CYS
27	4	45	GLY
27	4	60	GLN
27	4	62	ARG
27	4	68	ARG
28	5	21	SER

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Mol	Chain	Res	Type
28	5	35	GLU
29	6	33	LYS
35	b	8	LYS
35	b	24	TRP
35	b	131	PRO
35	b	204	ASN
35	b	227	GLY
35	b	232	PRO
36	c	22	TRP
36	c	130	VAL
37	d	5	ILE
37	d	10	ARG
37	d	151	LYS
38	e	68	GLU
38	e	85	GLY
38	e	148	VAL
38	e	149	GLU
39	f	70	ASP
40	g	7	ALA
41	h	54	ASP
42	i	42	ARG
42	i	54	ASP
42	i	88	TYR
42	i	126	SER
42	i	127	LYS
43	j	27	ALA
43	j	36	GLY
43	j	77	PRO
43	j	82	ILE
44	k	103	LEU
45	l	14	GLY
46	m	68	GLY
46	m	85	GLY
49	p	46	PRO
50	q	3	LYS
50	q	54	GLY
51	r	36	ASN
52	s	14	HIS
52	s	30	LEU
52	s	71	LEU
53	t	65	LYS
53	t	99	LEU

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Mol	Chain	Res	Type
56	y	13	SER
56	y	167	SER
56	y	215	LEU
56	y	286	PRO
56	y	301	VAL
56	y	446	LYS
56	y	486	PRO
3	D	219	PRO
4	E	52	LEU
4	E	162	ALA
5	F	165	ARG
5	F	206	ILE
6	G	43	LEU
6	G	46	ALA
6	G	55	LYS
7	H	34	GLU
7	H	65	HIS
7	H	174	GLY
8	J	23	SER
8	J	30	GLN
8	J	61	LEU
8	J	69	PRO
8	J	91	LYS
9	K	11	GLN
9	K	73	PRO
9	K	87	GLY
10	N	22	THR
13	Q	60	ARG
14	R	45	ARG
14	R	93	GLY
15	S	59	LYS
15	S	79	ALA
17	U	54	LYS
17	U	98	LEU
18	V	45	THR
18	V	97	LYS
19	W	27	LYS
19	W	56	ALA
19	W	66	GLU
22	Z	93	ASP
22	Z	155	LEU
22	Z	158	PRO

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Mol	Chain	Res	Type
27	4	55	ARG
29	6	34	LEU
35	b	20	GLU
35	b	36	ARG
35	b	76	GLN
36	c	79	ARG
37	d	26	CYS
37	d	172	PRO
37	d	191	ARG
39	f	5	GLU
39	f	62	TRP
39	f	64	GLN
39	f	71	ARG
42	i	70	LYS
42	i	99	LEU
45	l	121	GLY
45	l	125	PRO
46	m	3	ARG
46	m	49	THR
47	n	32	SER
51	r	32	ARG
56	y	86	HIS
56	y	90	THR
56	y	267	ALA
4	E	72	VAL
5	F	67	GLN
5	F	194	MET
8	J	84	GLU
9	K	16	LYS
11	O	29	ASN
12	P	97	PRO
12	P	122	PRO
15	S	84	GLN
15	S	94	TYR
17	U	87	GLY
18	V	43	GLU
20	X	2	LYS
21	Y	2	ARG
21	Y	54	LYS
22	Z	160	GLY
26	3	22	ALA
27	4	43	TYR

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Mol	Chain	Res	Type
27	4	46	GLN
28	5	24	ALA
28	5	37	LYS
35	b	30	ARG
35	b	35	GLU
35	b	122	PHE
35	b	153	ARG
36	c	99	VAL
36	c	100	ALA
38	e	9	LYS
38	e	73	ASN
39	f	51	PRO
40	g	80	VAL
43	j	78	ASN
45	l	19	ARG
46	m	40	ASN
52	s	29	ARG
53	t	66	ALA
56	y	-17	ARG
56	y	417	PRO
56	y	560	ALA
3	D	223	GLY
4	E	57	LYS
4	E	73	GLU
4	E	128	SER
5	F	22	ALA
6	G	109	VAL
6	G	177	GLY
8	J	85	ASP
8	J	90	ALA
8	J	124	ALA
10	N	2	LYS
10	N	40	PRO
10	N	65	LYS
12	P	10	PRO
12	P	78	PRO
14	R	28	LEU
15	S	15	ARG
18	V	100	ARG
19	W	28	SER
19	W	51	LEU
19	W	59	VAL

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Mol	Chain	Res	Type
21	Y	58	GLY
21	Y	69	ALA
22	Z	157	LEU
23	0	48	GLY
24	1	9	GLY
24	1	83	GLU
25	2	67	LYS
27	4	47	GLN
28	5	59	GLU
32	9	36	GLN
36	c	3	ASN
36	c	66	VAL
37	d	175	SER
39	f	96	PRO
40	g	50	ILE
43	j	83	GLU
44	k	100	ALA
46	m	67	GLU
46	m	101	GLN
48	o	79	ARG
52	s	12	ASP
56	y	-36	ARG
56	y	137	LYS
56	y	303	ALA
56	y	500	VAL
56	y	594	GLN
3	D	144	ALA
4	E	178	GLU
8	J	86	PRO
9	K	24	GLY
11	O	35	VAL
24	1	51	VAL
27	4	41	PRO
38	e	39	GLY
43	j	37	PRO
51	r	60	ALA
52	s	76	PRO
56	y	448	VAL
6	G	149	VAL
9	K	23	VAL
12	P	47	ASP
21	Y	15	VAL

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Mol	Chain	Res	Type
21	Y	27	VAL
36	c	108	ASN
56	y	-37	PRO
3	D	106	ILE
3	D	137	PRO
3	D	178	PRO
7	H	17	VAL
17	U	8	VAL
18	V	9	GLY
22	Z	27	VAL
44	k	105	VAL
46	m	38	GLY
20	X	94	GLY
21	Y	72	VAL
53	t	102	GLY
56	y	-48	VAL
7	H	4	ILE
8	J	68	LEU
8	J	129	PRO
9	K	21	PRO
18	V	79	VAL
35	b	159	PRO
45	l	24	VAL
52	s	42	PRO
3	D	74	GLY
22	Z	68	PRO
40	g	130	GLY
12	P	72	PRO
35	b	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	D	215/218 (99%)	163 (76%)	52 (24%)	0 2
4	E	164/166 (99%)	134 (82%)	30 (18%)	1 5

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	F	160/162 (99%)	133 (83%)	27 (17%)	2 6
6	G	143/156 (92%)	103 (72%)	40 (28%)	0 1
7	H	144/148 (97%)	115 (80%)	29 (20%)	1 4
9	K	104/111 (94%)	84 (81%)	20 (19%)	1 4
10	N	118/119 (99%)	93 (79%)	25 (21%)	1 3
11	O	100/100 (100%)	89 (89%)	11 (11%)	6 19
12	P	115/116 (99%)	93 (81%)	22 (19%)	1 4
13	Q	111/111 (100%)	93 (84%)	18 (16%)	2 7
14	R	101/101 (100%)	83 (82%)	18 (18%)	2 5
15	S	87/88 (99%)	74 (85%)	13 (15%)	3 9
16	T	115/127 (91%)	95 (83%)	20 (17%)	2 6
17	U	93/94 (99%)	72 (77%)	21 (23%)	1 2
18	V	80/82 (98%)	63 (79%)	17 (21%)	1 3
19	W	90/92 (98%)	74 (82%)	16 (18%)	2 5
20	X	77/78 (99%)	65 (84%)	12 (16%)	2 8
21	Y	85/91 (93%)	66 (78%)	19 (22%)	1 2
22	Z	156/179 (87%)	127 (81%)	29 (19%)	1 5
23	0	59/67 (88%)	50 (85%)	9 (15%)	2 8
24	1	80/83 (96%)	62 (78%)	18 (22%)	1 2
25	2	65/67 (97%)	50 (77%)	15 (23%)	1 2
26	3	51/52 (98%)	42 (82%)	9 (18%)	2 5
27	4	60/63 (95%)	46 (77%)	14 (23%)	1 2
28	5	51/52 (98%)	39 (76%)	12 (24%)	1 2
29	6	51/52 (98%)	38 (74%)	13 (26%)	0 1
30	7	42/42 (100%)	33 (79%)	9 (21%)	1 3
31	8	53/55 (96%)	44 (83%)	9 (17%)	2 6
32	9	34/34 (100%)	30 (88%)	4 (12%)	5 16
35	b	193/220 (88%)	144 (75%)	49 (25%)	0 1
36	c	142/188 (76%)	121 (85%)	21 (15%)	3 9
37	d	169/181 (93%)	129 (76%)	40 (24%)	1 2
38	e	113/123 (92%)	83 (74%)	30 (26%)	0 1

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
39	f	83/90 (92%)	62 (75%)	21 (25%)	0 2
40	g	118/127 (93%)	93 (79%)	25 (21%)	1 3
41	h	114/119 (96%)	91 (80%)	23 (20%)	1 4
42	i	90/99 (91%)	76 (84%)	14 (16%)	2 8
43	j	65/92 (71%)	49 (75%)	16 (25%)	0 2
44	k	82/99 (83%)	71 (87%)	11 (13%)	4 11
45	l	97/109 (89%)	82 (84%)	15 (16%)	2 8
46	m	89/101 (88%)	73 (82%)	16 (18%)	1 5
47	n	49/50 (98%)	36 (74%)	13 (26%)	0 1
48	o	78/80 (98%)	68 (87%)	10 (13%)	4 13
49	p	69/74 (93%)	56 (81%)	13 (19%)	1 4
50	q	94/97 (97%)	78 (83%)	16 (17%)	2 6
51	r	59/77 (77%)	46 (78%)	13 (22%)	1 3
52	s	68/80 (85%)	50 (74%)	18 (26%)	0 1
53	t	69/82 (84%)	58 (84%)	11 (16%)	2 7
54	u	18/22 (82%)	15 (83%)	3 (17%)	2 6
56	y	289/560 (52%)	193 (67%)	96 (33%)	0 0
All	All	4952/5576 (89%)	3927 (79%)	1025 (21%)	1 3

All (1025) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	3	VAL
3	D	5	LYS
3	D	13	ARG
3	D	20	ASP
3	D	22	SER
3	D	25	THR
3	D	27	THR
3	D	32	SER
3	D	34	VAL
3	D	37	LEU
3	D	38	LYS
3	D	39	LYS
3	D	50	THR
3	D	61	LEU

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Mol	Chain	Res	Type
3	D	85	ASP
3	D	87	ASN
3	D	94	LEU
3	D	98	VAL
3	D	99	ASP
3	D	102	LYS
3	D	103	ARG
3	D	105	ILE
3	D	106	ILE
3	D	109	ASP
3	D	111	LEU
3	D	117	VAL
3	D	118	VAL
3	D	122	ASP
3	D	138	VAL
3	D	148	GLU
3	D	150	LYS
3	D	157	ARG
3	D	161	THR
3	D	164	GLN
3	D	165	ILE
3	D	169	GLU
3	D	171	ASP
3	D	173	VAL
3	D	183	ARG
3	D	200	ASP
3	D	205	VAL
3	D	212	SER
3	D	215	LEU
3	D	217	ARG
3	D	221	VAL
3	D	222	ARG
3	D	229	VAL
3	D	239	ARG
3	D	257	LEU
3	D	260	ARG
3	D	267	SER
3	D	274	ARG
4	E	2	LYS
4	E	4	ILE
4	E	9	VAL
4	E	13	ARG

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Mol	Chain	Res	Type
4	E	23	VAL
4	E	33	VAL
4	E	48	GLN
4	E	72	VAL
4	E	73	GLU
4	E	77	ILE
4	E	82	ARG
4	E	85	ASN
4	E	87	GLU
4	E	93	VAL
4	E	113	PHE
4	E	118	LYS
4	E	119	ARG
4	E	144	ARG
4	E	146	THR
4	E	149	ARG
4	E	152	LYS
4	E	165	VAL
4	E	173	VAL
4	E	174	ASP
4	E	179	GLU
4	E	181	LEU
4	E	182	LEU
4	E	184	VAL
4	E	195	LEU
4	E	196	VAL
5	F	18	ARG
5	F	20	LEU
5	F	24	LEU
5	F	33	LEU
5	F	44	ARG
5	F	51	THR
5	F	53	THR
5	F	62	ARG
5	F	64	ILE
5	F	84	VAL
5	F	104	LYS
5	F	106	ARG
5	F	112	MET
5	F	148	LEU
5	F	152	GLU
5	F	162	LEU

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Mol	Chain	Res	Type
5	F	164	ARG
5	F	169	ASN
5	F	170	LEU
5	F	175	THR
5	F	183	VAL
5	F	192	LEU
5	F	195	ASP
5	F	196	LEU
5	F	197	ASP
5	F	200	GLU
5	F	206	ILE
6	G	4	ASP
6	G	5	VAL
6	G	7	LEU
6	G	9	ARG
6	G	19	LEU
6	G	28	VAL
6	G	30	GLU
6	G	31	VAL
6	G	33	ARG
6	G	34	LEU
6	G	43	LEU
6	G	51	ARG
6	G	58	GLN
6	G	62	LEU
6	G	80	PHE
6	G	81	LYS
6	G	82	LEU
6	G	90	LEU
6	G	91	ARG
6	G	99	MET
6	G	101	ILE
6	G	109	VAL
6	G	120	LEU
6	G	123	ASN
6	G	124	SER
6	G	135	LEU
6	G	136	ARG
6	G	138	GLN
6	G	139	LEU
6	G	143	GLU
6	G	146	TYR

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Mol	Chain	Res	Type
6	G	148	MET
6	G	150	ASP
6	G	153	ARG
6	G	161	THR
6	G	164	GLU
6	G	165	THR
6	G	166	ASP
6	G	170	ARG
6	G	173	LEU
7	H	3	ARG
7	H	6	ARG
7	H	13	LYS
7	H	15	VAL
7	H	16	SER
7	H	17	VAL
7	H	23	ARG
7	H	27	LYS
7	H	32	GLU
7	H	40	GLU
7	H	41	MET
7	H	43	VAL
7	H	45	VAL
7	H	47	GLU
7	H	54	ARG
7	H	57	ASP
7	H	62	LYS
7	H	69	ARG
7	H	79	VAL
7	H	88	LEU
7	H	95	ARG
7	H	98	LEU
7	H	106	THR
7	H	107	VAL
7	H	127	GLU
7	H	149	ARG
7	H	163	TYR
7	H	164	TYR
7	H	175	LYS
9	K	2	LYS
9	K	4	VAL
9	K	11	GLN
9	K	30	HIS

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Mol	Chain	Res	Type
9	K	34	ILE
9	K	38	VAL
9	K	57	ILE
9	K	59	ILE
9	K	62	ASP
9	K	63	ARG
9	K	65	PHE
9	K	75	SER
9	K	86	LYS
9	K	95	LYS
9	K	115	LEU
9	K	116	ASN
9	K	117	THR
9	K	119	ASP
9	K	136	VAL
9	K	138	VAL
10	N	1	MET
10	N	2	LYS
10	N	17	ASP
10	N	34	LEU
10	N	38	HIS
10	N	39	ARG
10	N	48	MET
10	N	51	PHE
10	N	68	GLU
10	N	70	LYS
10	N	74	ARG
10	N	87	LEU
10	N	90	MET
10	N	99	LEU
10	N	106	MET
10	N	109	LYS
10	N	115	ARG
10	N	120	LEU
10	N	122	VAL
10	N	127	ASP
10	N	131	GLN
10	N	133	GLN
10	N	137	LYS
10	N	138	LEU
10	N	140	VAL
11	O	3	GLN

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Mol	Chain	Res	Type
11	O	8	LEU
11	O	10	VAL
11	O	14	THR
11	O	23	ARG
11	O	24	VAL
11	O	31	LYS
11	O	63	VAL
11	O	66	LYS
11	O	69	ILE
11	O	91	LEU
12	P	2	LYS
12	P	16	ARG
12	P	19	VAL
12	P	27	HIS
12	P	30	THR
12	P	40	SER
12	P	50	ARG
12	P	51	PHE
12	P	57	THR
12	P	58	THR
12	P	59	LEU
12	P	65	ARG
12	P	70	GLN
12	P	71	VAL
12	P	74	GLU
12	P	96	THR
12	P	98	GLU
12	P	105	LEU
12	P	106	LEU
12	P	115	LEU
12	P	135	LEU
12	P	148	LEU
13	Q	7	MET
13	Q	21	THR
13	Q	31	ASP
13	Q	42	ILE
13	Q	45	GLN
13	Q	52	VAL
13	Q	56	ARG
13	Q	66	ILE
13	Q	72	LYS
13	Q	75	THR

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Mol	Chain	Res	Type
13	Q	76	LYS
13	Q	82	ARG
13	Q	89	ASN
13	Q	112	GLU
13	Q	129	THR
13	Q	131	ILE
13	Q	135	ASP
13	Q	138	ASP
14	R	15	SER
14	R	18	LEU
14	R	28	LEU
14	R	30	THR
14	R	36	THR
14	R	38	VAL
14	R	44	LEU
14	R	60	LEU
14	R	65	LEU
14	R	67	LEU
14	R	71	GLN
14	R	77	ARG
14	R	79	LEU
14	R	91	GLN
14	R	100	LEU
14	R	113	LEU
14	R	114	VAL
14	R	118	GLU
15	S	8	GLU
15	S	14	VAL
15	S	15	ARG
15	S	20	ARG
15	S	28	VAL
15	S	36	TYR
15	S	41	ASP
15	S	43	GLU
15	S	48	LEU
15	S	49	VAL
15	S	52	SER
15	S	53	SER
15	S	85	VAL
16	T	9	LEU
16	T	17	THR
16	T	18	ASP

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Mol	Chain	Res	Type
16	T	23	ARG
16	T	31	SER
16	T	34	VAL
16	T	40	THR
16	T	44	ASP
16	T	49	VAL
16	T	53	ARG
16	T	54	ARG
16	T	57	PHE
16	T	59	THR
16	T	75	ILE
16	T	78	LEU
16	T	93	ARG
16	T	96	ARG
16	T	118	ARG
16	T	123	GLN
16	T	124	ASP
17	U	8	VAL
17	U	11	ARG
17	U	18	LEU
17	U	19	LYS
17	U	20	LEU
17	U	33	ARG
17	U	34	LYS
17	U	36	ARG
17	U	55	ARG
17	U	56	ASP
17	U	63	VAL
17	U	64	ARG
17	U	71	GLN
17	U	74	LEU
17	U	78	THR
17	U	85	LYS
17	U	92	ARG
17	U	95	LEU
17	U	101	ARG
17	U	104	GLN
17	U	112	ARG
18	V	6	LYS
18	V	7	THR
18	V	13	ARG
18	V	14	VAL

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Mol	Chain	Res	Type
18	V	18	LEU
18	V	25	LEU
18	V	33	VAL
18	V	38	LEU
18	V	46	VAL
18	V	51	VAL
18	V	53	GLU
18	V	70	ILE
18	V	71	LEU
18	V	72	VAL
18	V	73	SER
18	V	82	ARG
18	V	95	LEU
19	W	8	ARG
19	W	10	VAL
19	W	11	ARG
19	W	19	LEU
19	W	20	VAL
19	W	33	ARG
19	W	39	THR
19	W	51	LEU
19	W	52	GLU
19	W	57	ASN
19	W	65	LEU
19	W	86	LEU
19	W	92	ARG
19	W	100	THR
19	W	107	LEU
19	W	111	HIS
20	X	2	LYS
20	X	9	LEU
20	X	23	GLU
20	X	27	THR
20	X	49	VAL
20	X	51	VAL
20	X	56	THR
20	X	57	LEU
20	X	68	ARG
20	X	75	ASP
20	X	80	ILE
20	X	92	LEU
21	Y	6	HIS

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Mol	Chain	Res	Type
21	Y	9	LYS
21	Y	21	LYS
21	Y	23	ARG
21	Y	28	LYS
21	Y	30	VAL
21	Y	31	LEU
21	Y	38	ILE
21	Y	43	ASN
21	Y	55	TYR
21	Y	61	ILE
21	Y	62	GLU
21	Y	79	CYS
21	Y	84	ARG
21	Y	85	VAL
21	Y	90	LEU
21	Y	91	GLU
21	Y	98	VAL
21	Y	107	ASP
22	Z	24	LEU
22	Z	27	VAL
22	Z	33	LEU
22	Z	41	LEU
22	Z	58	VAL
22	Z	61	LEU
22	Z	70	LEU
22	Z	72	ARG
22	Z	76	LEU
22	Z	80	ARG
22	Z	81	ARG
22	Z	85	HIS
22	Z	86	VAL
22	Z	96	VAL
22	Z	107	THR
22	Z	111	VAL
22	Z	119	GLU
22	Z	122	ARG
22	Z	132	ASN
22	Z	136	PHE
22	Z	139	VAL
22	Z	140	ASP
22	Z	141	VAL
22	Z	149	SER

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Mol	Chain	Res	Type
22	Z	156	LYS
22	Z	161	VAL
22	Z	163	LEU
22	Z	170	THR
22	Z	179	ASP
23	0	11	ARG
23	0	19	LYS
23	0	20	ARG
23	0	25	ARG
23	0	32	ARG
23	0	41	ARG
23	0	44	ARG
23	0	46	LYS
23	0	66	VAL
24	1	2	SER
24	1	4	VAL
24	1	10	LYS
24	1	14	VAL
24	1	19	GLN
24	1	20	ARG
24	1	21	ARG
24	1	40	ARG
24	1	57	GLU
24	1	59	THR
24	1	62	VAL
24	1	66	HIS
24	1	75	GLU
24	1	80	LEU
24	1	85	LEU
24	1	89	GLU
24	1	94	LEU
24	1	98	LEU
25	2	3	LEU
25	2	4	SER
25	2	16	LEU
25	2	25	VAL
25	2	30	ARG
25	2	32	LEU
25	2	34	GLU
25	2	45	SER
25	2	47	ASN
25	2	49	LYS

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Mol	Chain	Res	Type
25	2	51	ARG
25	2	52	ASP
25	2	62	THR
25	2	65	ASN
25	2	70	GLN
26	3	4	LEU
26	3	9	VAL
26	3	32	GLN
26	3	33	GLN
26	3	37	LEU
26	3	40	THR
26	3	54	VAL
26	3	56	VAL
26	3	57	GLU
27	4	8	LYS
27	4	20	ASN
27	4	22	ILE
27	4	25	TYR
27	4	26	SER
27	4	43	TYR
27	4	49	PHE
27	4	50	VAL
27	4	58	ARG
27	4	59	PHE
27	4	63	TYR
27	4	65	ASP
27	4	68	ARG
27	4	69	LYS
28	5	6	VAL
28	5	8	LYS
28	5	11	THR
28	5	25	LEU
28	5	26	THR
28	5	29	THR
28	5	35	GLU
28	5	37	LYS
28	5	40	LYS
28	5	48	GLU
28	5	49	CYS
28	5	57	VAL
29	6	3	SER
29	6	4	GLU

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Mol	Chain	Res	Type
29	6	6	ARG
29	6	13	CYS
29	6	19	ARG
29	6	23	THR
29	6	27	LYS
29	6	28	ARG
29	6	34	LEU
29	6	36	LEU
29	6	38	LYS
29	6	46	HIS
29	6	52	VAL
30	7	1	MET
30	7	10	ARG
30	7	14	LYS
30	7	23	ARG
30	7	24	THR
30	7	41	ARG
30	7	42	LEU
30	7	46	VAL
30	7	49	ARG
31	8	14	VAL
31	8	23	VAL
31	8	31	HIS
31	8	32	LEU
31	8	34	TRP
31	8	41	ILE
31	8	42	ARG
31	8	52	LYS
31	8	56	GLU
32	9	4	ARG
32	9	9	ARG
32	9	22	ARG
32	9	26	ILE
35	b	8	LYS
35	b	9	GLU
35	b	10	LEU
35	b	12	GLU
35	b	15	VAL
35	b	16	HIS
35	b	17	PHE
35	b	20	GLU
35	b	21	ARG

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Mol	Chain	Res	Type
35	b	24	TRP
35	b	35	GLU
35	b	51	LEU
35	b	52	GLU
35	b	53	ARG
35	b	61	LEU
35	b	73	THR
35	b	79	ASP
35	b	80	ILE
35	b	87	ARG
35	b	94	ASN
35	b	96	ARG
35	b	97	TRP
35	b	107	THR
35	b	109	SER
35	b	119	GLU
35	b	122	PHE
35	b	135	GLN
35	b	136	VAL
35	b	154	LEU
35	b	155	LEU
35	b	156	LYS
35	b	168	THR
35	b	169	LYS
35	b	172	ILE
35	b	175	ARG
35	b	185	ILE
35	b	187	LEU
35	b	189	ASP
35	b	190	THR
35	b	195	ASP
35	b	196	LEU
35	b	200	ILE
35	b	206	ASP
35	b	208	ILE
35	b	213	LEU
35	b	217	ARG
35	b	221	LEU
35	b	223	ILE
35	b	229	VAL
36	c	12	LEU
36	c	15	THR

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Mol	Chain	Res	Type
36	c	37	GLN
36	c	45	LYS
36	c	49	SER
36	c	52	LEU
36	c	91	LEU
36	c	97	LYS
36	c	104	GLN
36	c	132	ARG
36	c	134	ILE
36	c	138	VAL
36	c	150	LYS
36	c	152	ILE
36	c	165	THR
36	c	179	ARG
36	c	188	LEU
36	c	190	ARG
36	c	191	THR
36	c	192	THR
36	c	195	VAL
37	d	3	ARG
37	d	5	ILE
37	d	8	VAL
37	d	13	ARG
37	d	19	LEU
37	d	21	LEU
37	d	22	LYS
37	d	25	ARG
37	d	31	CYS
37	d	33	MET
37	d	52	SER
37	d	53	ASP
37	d	57	ARG
37	d	58	LEU
37	d	59	ARG
37	d	66	ARG
37	d	70	ILE
37	d	76	ARG
37	d	85	LYS
37	d	86	LYS
37	d	91	SER
37	d	97	LEU
37	d	107	ARG

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Mol	Chain	Res	Type
37	d	108	LEU
37	d	113	SER
37	d	114	ARG
37	d	135	LEU
37	d	139	ARG
37	d	141	ARG
37	d	150	GLU
37	d	158	ILE
37	d	162	LEU
37	d	168	ARG
37	d	170	VAL
37	d	178	VAL
37	d	186	LEU
37	d	188	LEU
37	d	190	ASP
37	d	196	LEU
37	d	201	GLN
38	e	8	GLU
38	e	14	ARG
38	e	19	MET
38	e	20	GLN
38	e	31	LEU
38	e	38	GLN
38	e	41	VAL
38	e	47	LYS
38	e	53	LEU
38	e	67	VAL
38	e	71	LEU
38	e	73	ASN
38	e	75	THR
38	e	79	GLU
38	e	80	ILE
38	e	81	GLU
38	e	82	VAL
38	e	87	SER
38	e	91	LEU
38	e	92	LYS
38	e	107	ARG
38	e	116	THR
38	e	123	LEU
38	e	126	ARG
38	e	135	THR

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Mol	Chain	Res	Type
38	e	143	ARG
38	e	144	THR
38	e	147	ASP
38	e	151	LEU
38	e	152	ARG
39	f	9	VAL
39	f	10	LEU
39	f	15	ASP
39	f	16	GLN
39	f	25	ILE
39	f	31	GLU
39	f	36	ARG
39	f	43	LEU
39	f	54	LYS
39	f	64	GLN
39	f	65	VAL
39	f	69	GLU
39	f	72	VAL
39	f	73	ASN
39	f	74	ASP
39	f	75	LEU
39	f	79	LEU
39	f	82	ARG
39	f	86	ARG
39	f	98	LEU
39	f	100	ASN
40	g	4	ARG
40	g	8	GLU
40	g	12	LEU
40	g	16	LEU
40	g	22	LEU
40	g	24	THR
40	g	41	ARG
40	g	42	ILE
40	g	45	ASP
40	g	56	GLN
40	g	57	GLU
40	g	75	VAL
40	g	90	GLU
40	g	92	SER
40	g	94	ARG
40	g	97	GLN

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Mol	Chain	Res	Type
40	g	101	LEU
40	g	104	LEU
40	g	113	GLU
40	g	114	ARG
40	g	115	ARG
40	g	126	ASP
40	g	131	LYS
40	g	138	LYS
40	g	144	MET
41	h	2	LEU
41	h	3	THR
41	h	6	ILE
41	h	10	LEU
41	h	19	VAL
41	h	54	ASP
41	h	56	LYS
41	h	60	ARG
41	h	63	LEU
41	h	68	ARG
41	h	75	ARG
41	h	78	GLN
41	h	84	ARG
41	h	87	SER
41	h	88	LYS
41	h	91	ARG
41	h	100	ILE
41	h	104	ARG
41	h	111	ILE
41	h	112	LEU
41	h	120	THR
41	h	122	ARG
41	h	137	VAL
42	i	23	ASN
42	i	25	LYS
42	i	27	THR
42	i	41	VAL
42	i	54	ASP
42	i	56	LEU
42	i	59	PHE
42	i	66	ARG
42	i	83	ARG
42	i	89	ASN

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Mol	Chain	Res	Type
42	i	97	LYS
42	i	99	LEU
42	i	120	ARG
42	i	128	ARG
43	j	8	LEU
43	j	13	HIS
43	j	16	LEU
43	j	19	SER
43	j	21	GLN
43	j	35	SER
43	j	44	VAL
43	j	46	ARG
43	j	67	THR
43	j	70	ARG
43	j	71	LEU
43	j	89	ASP
43	j	92	THR
43	j	96	ILE
43	j	98	ILE
43	j	100	THR
44	k	16	SER
44	k	51	LYS
44	k	62	GLN
44	k	82	VAL
44	k	109	VAL
44	k	110	ASP
44	k	114	VAL
44	k	116	HIS
44	k	119	CYS
44	k	125	PHE
44	k	126	ARG
45	l	27	LEU
45	l	33	ARG
45	l	41	ARG
45	l	44	THR
45	l	52	LEU
45	l	54	LYS
45	l	55	VAL
45	l	57	LYS
45	l	66	VAL
45	l	67	THR
45	l	84	LEU

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Mol	Chain	Res	Type
45	l	86	ARG
45	l	89	ARG
45	l	97	ARG
45	l	100	ILE
46	m	3	ARG
46	m	11	ARG
46	m	15	VAL
46	m	19	LEU
46	m	48	LEU
46	m	49	THR
46	m	54	VAL
46	m	56	LEU
46	m	59	TYR
46	m	73	GLU
46	m	78	ILE
46	m	80	ARG
46	m	86	CYS
46	m	114	ARG
46	m	115	LYS
46	m	120	LYS
47	n	3	ARG
47	n	6	LEU
47	n	7	ILE
47	n	9	LYS
47	n	13	THR
47	n	16	PHE
47	n	18	VAL
47	n	19	ARG
47	n	29	ARG
47	n	31	ARG
47	n	32	SER
47	n	41	ARG
47	n	44	LEU
48	o	17	ARG
48	o	26	GLU
48	o	38	ARG
48	o	39	LEU
48	o	66	LEU
48	o	71	GLN
48	o	77	ARG
48	o	82	ILE
48	o	83	GLU

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Mol	Chain	Res	Type
48	o	87	ILE
49	p	2	VAL
49	p	8	ARG
49	p	19	ILE
49	p	20	VAL
49	p	27	LYS
49	p	28	ARG
49	p	31	LYS
49	p	40	ASP
49	p	45	THR
49	p	50	LYS
49	p	60	LEU
49	p	61	SER
49	p	67	THR
50	q	9	VAL
50	q	15	MET
50	q	16	GLN
50	q	25	ARG
50	q	35	VAL
50	q	36	ILE
50	q	49	GLU
50	q	57	VAL
50	q	59	ILE
50	q	60	ILE
50	q	63	ARG
50	q	68	ARG
50	q	74	LEU
50	q	78	GLU
50	q	86	GLU
50	q	96	GLU
51	r	26	LEU
51	r	31	LEU
51	r	32	ARG
51	r	33	ASP
51	r	35	ARG
51	r	49	LYS
51	r	55	ARG
51	r	58	LEU
51	r	68	LYS
51	r	70	ILE
51	r	75	ILE
51	r	76	LEU

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Mol	Chain	Res	Type
51	r	84	LYS
52	s	4	SER
52	s	6	LYS
52	s	12	ASP
52	s	14	HIS
52	s	22	LEU
52	s	27	GLU
52	s	28	LYS
52	s	31	ILE
52	s	32	LYS
52	s	37	ARG
52	s	38	SER
52	s	39	THR
52	s	41	VAL
52	s	48	THR
52	s	63	THR
52	s	65	ASN
52	s	76	PRO
52	s	78	ARG
53	t	8	ARG
53	t	19	SER
53	t	22	ARG
53	t	50	GLU
53	t	56	MET
53	t	62	LEU
53	t	80	ARG
53	t	83	ARG
53	t	84	LEU
53	t	92	LEU
53	t	93	GLU
54	u	9	ARG
54	u	18	TYR
54	u	24	ARG
56	y	-68	MET
56	y	-67	LYS
56	y	-64	LEU
56	y	-62	GLU
56	y	-57	LEU
56	y	-54	VAL
56	y	-51	VAL
56	y	-50	VAL
56	y	-44	TYR

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Mol	Chain	Res	Type
56	y	-36	ARG
56	y	-32	VAL
56	y	-29	THR
56	y	-28	GLU
56	y	-25	LEU
56	y	-18	ILE
56	y	-11	LEU
56	y	-8	ARG
56	y	0	LYS
56	y	4	GLU
56	y	7	SER
56	y	12	PHE
56	y	28	ARG
56	y	34	HIS
56	y	62	SER
56	y	68	TYR
56	y	75	GLU
56	y	83	THR
56	y	103	VAL
56	y	105	LEU
56	y	108	ASP
56	y	114	GLU
56	y	117	THR
56	y	127	HIS
56	y	129	HIS
56	y	142	ASN
56	y	154	GLU
56	y	167	SER
56	y	170	THR
56	y	183	GLN
56	y	211	VAL
56	y	215	LEU
56	y	219	GLU
56	y	221	ARG
56	y	223	ARG
56	y	228	ILE
56	y	250	LEU
56	y	265	VAL
56	y	292	PRO
56	y	312	ASP
56	y	335	GLU
56	y	338	THR

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Mol	Chain	Res	Type
56	y	340	LEU
56	y	351	LEU
56	y	358	GLN
56	y	359	GLU
56	y	360	ARG
56	y	361	LEU
56	y	363	ARG
56	y	369	LEU
56	y	375	SER
56	y	377	VAL
56	y	392	ASN
56	y	412	LEU
56	y	413	THR
56	y	423	SER
56	y	424	LEU
56	y	429	GLN
56	y	434	ARG
56	y	436	VAL
56	y	440	TYR
56	y	461	TYR
56	y	462	ASP
56	y	469	SER
56	y	479	TYR
56	y	484	TYR
56	y	493	ASN
56	y	505	THR
56	y	506	PHE
56	y	507	ILE
56	y	509	HIS
56	y	512	LYS
56	y	531	GLN
56	y	532	LEU
56	y	533	PHE
56	y	534	GLU
56	y	544	LYS
56	y	548	ARG
56	y	551	VAL
56	y	554	LEU
56	y	556	LYS
56	y	557	ASP
56	y	568	THR
56	y	570	LYS

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Mol	Chain	Res	Type
56	y	584	LEU
56	y	587	ILE
56	y	602	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (89) such sidechains are listed below:

Mol	Chain	Res	Type
3	D	164	GLN
3	D	166	GLN
3	D	220	HIS
3	D	253	GLN
4	E	85	ASN
5	F	69	HIS
5	F	169	ASN
6	G	41	GLN
6	G	58	GLN
6	G	123	ASN
9	K	29	GLN
9	K	42	ASN
9	K	89	HIS
10	N	8	GLN
11	O	29	ASN
12	P	128	HIS
13	Q	13	GLN
13	Q	57	HIS
14	R	50	HIS
14	R	91	GLN
15	S	34	HIS
16	T	58	ASN
17	U	72	HIS
18	V	80	GLN
20	X	31	HIS
20	X	82	GLN
21	Y	6	HIS
22	Z	34	ASN
22	Z	50	GLN
22	Z	65	GLN
22	Z	73	GLN
22	Z	132	ASN
23	0	17	GLN
24	1	56	GLN
25	2	9	GLN

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Mol	Chain	Res	Type
25	2	46	GLN
25	2	47	ASN
25	2	65	ASN
26	3	32	GLN
27	4	20	ASN
29	6	29	ASN
31	8	35	GLN
32	9	36	GLN
35	b	19	HIS
35	b	45	GLN
35	b	94	ASN
36	c	37	GLN
36	c	102	ASN
36	c	104	GLN
36	c	136	GLN
36	c	162	GLN
36	c	176	HIS
36	c	181	ASN
37	d	42	GLN
37	d	123	HIS
37	d	125	HIS
38	e	38	GLN
38	e	73	ASN
38	e	141	GLN
39	f	73	ASN
39	f	94	GLN
39	f	100	ASN
40	g	28	ASN
40	g	68	ASN
40	g	86	GLN
41	h	82	HIS
42	i	89	ASN
42	i	124	GLN
43	j	56	HIS
44	k	38	ASN
45	l	99	HIS
46	m	12	ASN
46	m	92	HIS
48	o	28	GLN
48	o	71	GLN
49	p	76	GLN
50	q	26	GLN

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Mol	Chain	Res	Type
52	s	14	HIS
52	s	47	HIS
52	s	56	GLN
52	s	65	ASN
52	s	83	HIS
53	t	16	HIS
53	t	75	ASN
56	y	127	HIS
56	y	142	ASN
56	y	183	GLN
56	y	426	GLN
56	y	493	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A	2865/2915 (98%)	639 (22%)	38 (1%)
2	B	119/122 (97%)	18 (15%)	0
33	w	74/76 (97%)	22 (29%)	0
33	x	71/76 (93%)	37 (52%)	0
34	a	1493/1521 (98%)	311 (20%)	0
55	v	6/18 (33%)	1 (16%)	0
All	All	4628/4728 (97%)	1028 (22%)	38 (0%)

All (1028) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A	13	A
1	A	15	G
1	A	22	C
1	A	23	G
1	A	28	A
1	A	35	G
1	A	41	C
1	A	45	C
1	A	49	A
1	A	51	G
1	A	54	G
1	A	55	G
1	A	61	G
1	A	64	A

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Mol	Chain	Res	Type
1	A	71	A
1	A	74	A
1	A	75	G
1	A	81	G
1	A	84	A
1	A	90	U
1	A	92	A
1	A	95	G
1	A	102	G
1	A	110	G
1	A	118	A
1	A	119	A
1	A	120	U
1	A	123	G
1	A	125	G
1	A	131	G
1	A	135	G
1	A	141	A
1	A	148	C
1	A	154(A)	C
1	A	181	A
1	A	182	A
1	A	196	A
1	A	197	A
1	A	200	U
1	A	205	G
1	A	206	U
1	A	212	G
1	A	215	G
1	A	216	A
1	A	221	A
1	A	222	A
1	A	227	A
1	A	228	A
1	A	229	A
1	A	230	U
1	A	233	A
1	A	248	G
1	A	250	G
1	A	252	G
1	A	264	C
1	A	265	A

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Mol	Chain	Res	Type
1	A	266	G
1	A	267	C
1	A	271(F)	C
1	A	271(H)	G
1	A	271(I)	G
1	A	271(K)	U
1	A	271(L)	U
1	A	271(M)	G
1	A	271(N)	U
1	A	271(O)	C
1	A	271(R)	G
1	A	271(Y)	U
1	A	272(A)	U
1	A	272(B)	G
1	A	272(G)	C
1	A	272(H)	C
1	A	274	G
1	A	279	C
1	A	294	A
1	A	296	C
1	A	299	A
1	A	310	A
1	A	311	A
1	A	324	A
1	A	329	G
1	A	330	A
1	A	345	A
1	A	352	G
1	A	353	G
1	A	362	U
1	A	363	G
1	A	363(E)	U
1	A	366	C
1	A	384	U
1	A	385	C
1	A	386	G
1	A	396	G
1	A	404	C
1	A	405	U
1	A	406	G
1	A	407	G
1	A	408	G

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Mol	Chain	Res	Type
1	A	411	G
1	A	420	C
1	A	423	A
1	A	434	U
1	A	435	C
1	A	444	C
1	A	448	U
1	A	451	C
1	A	455	C
1	A	457	A
1	A	470	A
1	A	471	A
1	A	472	A
1	A	481	G
1	A	491	G
1	A	504	U
1	A	505	A
1	A	508	G
1	A	509	C
1	A	530	G
1	A	531	C
1	A	532	A
1	A	536	A
1	A	545	G
1	A	549	G
1	A	556	G
1	A	563	G
1	A	572	A
1	A	573	G
1	A	575	A
1	A	584	C
1	A	594	U
1	A	603	A
1	A	604	G
1	A	607	U
1	A	614(A)	U
1	A	614(B)	G
1	A	615	G
1	A	627	A
1	A	628	G
1	A	631	A
1	A	637	A

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Mol	Chain	Res	Type
1	A	645	C
1	A	646	A
1	A	652(B)	A
1	A	652(E)	G
1	A	652(T)	C
1	A	652(U)	G
1	A	652(V)	C
1	A	654	A
1	A	668	G
1	A	669	G
1	A	670	A
1	A	684	G
1	A	686	G
1	A	694	U
1	A	695	G
1	A	717	G
1	A	730	C
1	A	738	G
1	A	752	A
1	A	753	C
1	A	764	A
1	A	775	G
1	A	776	G
1	A	782	A
1	A	783	A
1	A	784	A
1	A	785	G
1	A	792	G
1	A	794	G
1	A	800	A
1	A	805	G
1	A	812	C
1	A	819	A
1	A	827	U
1	A	828	U
1	A	829	A
1	A	830	G
1	A	832	G
1	A	842	G
1	A	859	G
1	A	860	U
1	A	866	A

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Mol	Chain	Res	Type
1	A	870	A
1	A	875	G
1	A	881	G
1	A	886	C
1	A	887	A
1	A	888	C
1	A	889	C
1	A	890	A
1	A	895	U
1	A	896	A
1	A	897	C
1	A	906	G
1	A	907	U
1	A	910	A
1	A	911	A
1	A	917	A
1	A	931	G
1	A	932	G
1	A	936	C
1	A	941	A
1	A	945	A
1	A	946	G
1	A	953	A
1	A	957	A
1	A	959	A
1	A	961	C
1	A	974	G
1	A	975	C
1	A	975(A)	G
1	A	976	C
1	A	982	C
1	A	983	A
1	A	996	A
1	A	1005	C
1	A	1008	C
1	A	1012	U
1	A	1013	C
1	A	1015	G
1	A	1017	G
1	A	1022	G
1	A	1025	G
1	A	1027	A

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Mol	Chain	Res	Type
1	A	1033	U
1	A	1034	G
1	A	1036	G
1	A	1038	C
1	A	1041	C
1	A	1042	G
1	A	1045	A
1	A	1046	A
1	A	1047	G
1	A	1052	C
1	A	1053	C
1	A	1054	A
1	A	1055	G
1	A	1058	G
1	A	1059	G
1	A	1060	U
1	A	1061	U
1	A	1062	G
1	A	1067	A
1	A	1070	A
1	A	1073	A
1	A	1076	C
1	A	1079	C
1	A	1083	U
1	A	1084	A
1	A	1085	A
1	A	1088	A
1	A	1089	G
1	A	1095	A
1	A	1109	C
1	A	1110	G
1	A	1111	A
1	A	1112	G
1	A	1115	G
1	A	1119	C
1	A	1124	C
1	A	1127	A
1	A	1128	A
1	A	1129	A
1	A	1130	U
1	A	1135	C
1	A	1136	G

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Mol	Chain	Res	Type
1	A	1137	G
1	A	1142(A)	A
1	A	1143	A
1	A	1149	G
1	A	1152	C
1	A	1155	A
1	A	1156	A
1	A	1157	G
1	A	1171	G
1	A	1173	G
1	A	1174	A
1	A	1175	U
1	A	1176	G
1	A	1177	A
1	A	1206	G
1	A	1210	A
1	A	1211	U
1	A	1219	G
1	A	1220	A
1	A	1224	C
1	A	1230	C
1	A	1236	G
1	A	1244	G
1	A	1250	G
1	A	1253	A
1	A	1256	G
1	A	1271	G
1	A	1272	A
1	A	1273	U
1	A	1275	A
1	A	1300	U
1	A	1301	A
1	A	1308	A
1	A	1313	U
1	A	1320	C
1	A	1321	A
1	A	1329	U
1	A	1332	G
1	A	1342	A
1	A	1347	G
1	A	1359	A
1	A	1360	A

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Mol	Chain	Res	Type
1	A	1363	C
1	A	1365	A
1	A	1369	G
1	A	1373	A
1	A	1378	A
1	A	1380	G
1	A	1384	A
1	A	1385	G
1	A	1386	C
1	A	1398	C
1	A	1413	G
1	A	1416	G
1	A	1417	C
1	A	1420	U
1	A	1427	A
1	A	1428	C
1	A	1429	G
1	A	1436	G
1	A	1437	C
1	A	1445	A
1	A	1450	G
1	A	1451	C
1	A	1455	G
1	A	1459	G
1	A	1460	A
1	A	1461	G
1	A	1467	C
1	A	1471	A
1	A	1481	U
1	A	1482	G
1	A	1490	A
1	A	1492	G
1	A	1493	C
1	A	1507	A
1	A	1508	A
1	A	1509	C
1	A	1509(A)	A
1	A	1511	C
1	A	1523	U
1	A	1526	G
1	A	1542	A
1	A	1543	C

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Mol	Chain	Res	Type
1	A	1547	C
1	A	1553	A
1	A	1554	A
1	A	1558	A
1	A	1566	A
1	A	1569	A
1	A	1578	U
1	A	1581	G
1	A	1582	C
1	A	1584	C
1	A	1586	A
1	A	1588	C
1	A	1595	G
1	A	1608	A
1	A	1609	A
1	A	1610	A
1	A	1613	G
1	A	1617	C
1	A	1631(A)	A
1	A	1644	C
1	A	1648	C
1	A	1649	G
1	A	1651	G
1	A	1654	A
1	A	1674	G
1	A	1695	G
1	A	1696	G
1	A	1700	A
1	A	1702	G
1	A	1705	G
1	A	1721	G
1	A	1722	A
1	A	1740	G
1	A	1745(A)	C
1	A	1746	G
1	A	1747	G
1	A	1756	G
1	A	1758	G
1	A	1762	A
1	A	1763	G
1	A	1764	G
1	A	1773	A

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Mol	Chain	Res	Type
1	A	1781	C
1	A	1791	A
1	A	1800	C
1	A	1802	A
1	A	1812	A
1	A	1816	G
1	A	1817	G
1	A	1820	U
1	A	1821	A
1	A	1828	G
1	A	1829	A
1	A	1838	C
1	A	1847	A
1	A	1877	A
1	A	1878	G
1	A	1889	A
1	A	1895	C
1	A	1900	A
1	A	1903	G
1	A	1906	G
1	A	1913	A
1	A	1914	C
1	A	1920	C
1	A	1921	G
1	A	1929	G
1	A	1930	G
1	A	1934	C
1	A	1937	A
1	A	1938	A
1	A	1939	U
1	A	1941	C
1	A	1943	U
1	A	1955	U
1	A	1958	C
1	A	1960	A
1	A	1963	U
1	A	1964	G
1	A	1967	C
1	A	1970	A
1	A	1971	A
1	A	1972	A
1	A	1983	C

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Mol	Chain	Res	Type
1	A	1992	G
1	A	1993	U
1	A	1996	C
1	A	1997	G
1	A	2020	A
1	A	2021	C
1	A	2023	G
1	A	2031	A
1	A	2032	G
1	A	2033	A
1	A	2034	U
1	A	2035	G
1	A	2043	C
1	A	2049	G
1	A	2050	C
1	A	2055	C
1	A	2056	G
1	A	2060	A
1	A	2061	G
1	A	2062	A
1	A	2063	C
1	A	2069	G
1	A	2070	G
1	A	2077	A
1	A	2087	G
1	A	2091	U
1	A	2096	U
1	A	2098	U
1	A	2105	C
1	A	2110	G
1	A	2111	C
1	A	2113	U
1	A	2115	G
1	A	2116	G
1	A	2119	A
1	A	2127	G
1	A	2132	U
1	A	2133	G
1	A	2134	A
1	A	2135	A
1	A	2136	C
1	A	2137	C

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Mol	Chain	Res	Type
1	A	2138	C
1	A	2141	G
1	A	2142	C
1	A	2146	C
1	A	2157	G
1	A	2158	A
1	A	2159	G
1	A	2161	C
1	A	2166	G
1	A	2167	U
1	A	2168	G
1	A	2169	A
1	A	2172	U
1	A	2178	C
1	A	2182	G
1	A	2184	G
1	A	2186	G
1	A	2187	G
1	A	2188	C
1	A	2189	U
1	A	2198	A
1	A	2199	A
1	A	2200	C
1	A	2201	C
1	A	2203	U
1	A	2206	G
1	A	2207	G
1	A	2208	A
1	A	2223	G
1	A	2225	A
1	A	2226	C
1	A	2235	G
1	A	2238	G
1	A	2239	G
1	A	2243	U
1	A	2246	G
1	A	2251	G
1	A	2265	U
1	A	2268	A
1	A	2271	G
1	A	2273	A
1	A	2275	C

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Mol	Chain	Res	Type
1	A	2279	G
1	A	2283	C
1	A	2287	A
1	A	2288	A
1	A	2305	A
1	A	2307	G
1	A	2308	G
1	A	2311	A
1	A	2319	G
1	A	2320	A
1	A	2321	G
1	A	2322	A
1	A	2325	G
1	A	2334	G
1	A	2336	A
1	A	2338	G
1	A	2343	C
1	A	2345	G
1	A	2347	C
1	A	2350	C
1	A	2374	C
1	A	2383	G
1	A	2385	C
1	A	2406	U
1	A	2408	U
1	A	2410	G
1	A	2414	G
1	A	2422	A
1	A	2424	C
1	A	2425	A
1	A	2428	G
1	A	2429	G
1	A	2430	A
1	A	2434	A
1	A	2439	A
1	A	2441	C
1	A	2447	G
1	A	2448	A
1	A	2460	U
1	A	2469	A
1	A	2471	C
1	A	2474	C

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Mol	Chain	Res	Type
1	A	2476	A
1	A	2478	A
1	A	2482	G
1	A	2491	U
1	A	2498	C
1	A	2502	G
1	A	2503	A
1	A	2505	G
1	A	2507	C
1	A	2511	U
1	A	2518	A
1	A	2519	U
1	A	2520	C
1	A	2528	U
1	A	2529	G
1	A	2535	G
1	A	2545	G
1	A	2554	U
1	A	2564	A
1	A	2566	A
1	A	2567	G
1	A	2573	C
1	A	2574	G
1	A	2581	G
1	A	2582	G
1	A	2586	C
1	A	2602	A
1	A	2605	U
1	A	2609	U
1	A	2611	U
1	A	2612	C
1	A	2621	A
1	A	2629	A
1	A	2630	G
1	A	2639	A
1	A	2645	G
1	A	2654	A
1	A	2660	A
1	A	2663	G
1	A	2669	G
1	A	2679	A
1	A	2686	G

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Mol	Chain	Res	Type
1	A	2689	U
1	A	2691	C
1	A	2702	U
1	A	2703	C
1	A	2712(A)	A
1	A	2713	A
1	A	2714	G
1	A	2726	U
1	A	2733	A
1	A	2744	G
1	A	2751	G
1	A	2755	C
1	A	2757	A
1	A	2758	A
1	A	2764	A
1	A	2765	A
1	A	2766	G
1	A	2778	A
1	A	2780	G
1	A	2784	C
1	A	2790	A
1	A	2791	C
1	A	2792	G
1	A	2802	G
1	A	2811	G
1	A	2818	G
1	A	2820	A
1	A	2821	A
1	A	2831	G
1	A	2833	G
1	A	2835	A
1	A	2872	G
1	A	2880	C
1	A	2887	U
1	A	2889	C
1	A	2895	U
1	A	2897	U
2	B	7	G
2	B	9	G
2	B	10	C
2	B	13	A
2	B	24	G

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Mol	Chain	Res	Type
2	B	25	A
2	B	35	U
2	B	40	U
2	B	42	C
2	B	44	G
2	B	45	A
2	B	56	G
2	B	73	A
2	B	77	U
2	B	78	A
2	B	110	G
2	B	119	G
2	B	120	A
33	x	2	C
33	x	4	C
33	x	5	G
33	x	7	A
33	x	9	A
33	x	10	G
33	x	11	C
33	x	14	A
33	x	19	G
33	x	20	U
33	x	21	A
33	x	23	A
33	x	25	C
33	x	26	A
33	x	32	PSU
33	x	34	G
33	x	39	PSU
33	x	41	C
33	x	42	C
33	x	44	G
33	x	45	U
33	x	46	7MG
33	x	47	U
33	x	48	C
33	x	49	C
33	x	54	5MU
33	x	56	C
33	x	57	G
33	x	58	A

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Mol	Chain	Res	Type
33	x	59	U
33	x	60	U
33	x	61	C
33	x	62	C
33	x	67	C
33	x	68	C
33	x	69	G
33	x	73	A
34	a	7	G
34	a	9	G
34	a	15	G
34	a	22	G
34	a	31	G
34	a	32	A
34	a	39	G
34	a	47	C
34	a	48	C
34	a	50	A
34	a	51	A
34	a	61	G
34	a	73	G
34	a	77	G
34	a	78	G
34	a	79	G
34	a	92	C
34	a	96	U
34	a	97	G
34	a	101	A
34	a	110	C
34	a	116	A
34	a	120	A
34	a	121	C
34	a	131	C
34	a	133	U
34	a	144	G
34	a	151	A
34	a	159	G
34	a	163	C
34	a	167	G
34	a	171	A
34	a	182	U
34	a	189(G)	G

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Mol	Chain	Res	Type
34	a	194	C
34	a	197	A
34	a	202	U
34	a	203	U
34	a	204	U
34	a	216	G
34	a	232	G
34	a	236	G
34	a	247	G
34	a	251	G
34	a	253	U
34	a	266	G
34	a	267	C
34	a	280	C
34	a	289	G
34	a	291	C
34	a	305	G
34	a	306	G
34	a	317	G
34	a	321	A
34	a	325	A
34	a	328	C
34	a	331	G
34	a	332	G
34	a	346	G
34	a	347	G
34	a	348	G
34	a	351	G
34	a	352	C
34	a	353	A
34	a	354	G
34	a	355	C
34	a	366	C
34	a	367	U
34	a	369	C
34	a	372	C
34	a	374	A
34	a	378	G
34	a	382	A
34	a	384	G
34	a	398	C
34	a	406	G

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Mol	Chain	Res	Type
34	a	412	A
34	a	413	G
34	a	422	C
34	a	423	G
34	a	429	U
34	a	430	A
34	a	437	U
34	a	439	A
34	a	441	A
34	a	444	C
34	a	452	A
34	a	453	A
34	a	461	A
34	a	470	C
34	a	472	A
34	a	485	G
34	a	496	A
34	a	498	U
34	a	505	G
34	a	506	G
34	a	509	A
34	a	510	A
34	a	511	C
34	a	518	C
34	a	525	C
34	a	527	G
34	a	532	A
34	a	533	A
34	a	546	G
34	a	547	A
34	a	559	A
34	a	561	U
34	a	562	C
34	a	564	C
34	a	565	U
34	a	572	A
34	a	573	A
34	a	576	G
34	a	577	G
34	a	596	C
34	a	597	G
34	a	607	A

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Mol	Chain	Res	Type
34	a	630	G
34	a	631	G
34	a	641	U
34	a	653	A
34	a	661	G
34	a	665	A
34	a	666	G
34	a	687	A
34	a	688	G
34	a	693	G
34	a	697	U
34	a	702	A
34	a	704	A
34	a	707	C
34	a	718	G
34	a	723	U
34	a	731	G
34	a	734	G
34	a	749	C
34	a	750	G
34	a	752	G
34	a	753	A
34	a	755	G
34	a	760	G
34	a	764	C
34	a	777	A
34	a	786	G
34	a	790	A
34	a	792	A
34	a	793	U
34	a	794	A
34	a	802	A
34	a	816	A
34	a	817	C
34	a	821	G
34	a	828	A
34	a	836	G
34	a	839	U
34	a	840	C
34	a	841	U
34	a	848	C
34	a	853	G

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Mol	Chain	Res	Type
34	a	859	A
34	a	860	A
34	a	863	U
34	a	870	U
34	a	873	A
34	a	874	G
34	a	896	C
34	a	902	G
34	a	914	A
34	a	916	G
34	a	919	A
34	a	922	G
34	a	926	G
34	a	927	G
34	a	928	G
34	a	934	C
34	a	935	A
34	a	936	C
34	a	938	A
34	a	960	U
34	a	961	U
34	a	968	A
34	a	969	A
34	a	975	A
34	a	976	G
34	a	977	A
34	a	984	C
34	a	993	G
34	a	997	U
34	a	998	G
34	a	1006	C
34	a	1009	G
34	a	1016	A
34	a	1024	G
34	a	1026	G
34	a	1027	C
34	a	1028	C
34	a	1029	C
34	a	1030	C
34	a	1030(A)	G
34	a	1030(B)	C
34	a	1030(C)	G

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Mol	Chain	Res	Type
34	a	1032	G
34	a	1033	G
34	a	1036	G
34	a	1044	A
34	a	1053	G
34	a	1054	C
34	a	1055	A
34	a	1062	U
34	a	1064	G
34	a	1070	U
34	a	1090	U
34	a	1094	G
34	a	1095	U
34	a	1101	A
34	a	1103	C
34	a	1121	U
34	a	1124	G
34	a	1125	U
34	a	1126	U
34	a	1127	G
34	a	1129	C
34	a	1130	A
34	a	1131	G
34	a	1137	C
34	a	1139	G
34	a	1146	A
34	a	1151	A
34	a	1152	A
34	a	1157	A
34	a	1159	U
34	a	1170	A
34	a	1181	G
34	a	1182	G
34	a	1183	A
34	a	1184	G
34	a	1193	G
34	a	1196	U
34	a	1197	G
34	a	1212	U
34	a	1213	A
34	a	1227	A
34	a	1236	A

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Mol	Chain	Res	Type
34	a	1238	A
34	a	1250	A
34	a	1251	A
34	a	1253	G
34	a	1256	A
34	a	1257	U
34	a	1258	G
34	a	1259	C
34	a	1260	C
34	a	1268	A
34	a	1270	C
34	a	1273	G
34	a	1278	U
34	a	1279	A
34	a	1280	A
34	a	1281	U
34	a	1282	C
34	a	1287	A
34	a	1299	A
34	a	1300	G
34	a	1302	U
34	a	1304	G
34	a	1312	G
34	a	1317	C
34	a	1320	C
34	a	1322	C
34	a	1323	G
34	a	1338	G
34	a	1340	A
34	a	1346	A
34	a	1347	G
34	a	1364	U
34	a	1365	G
34	a	1370	G
34	a	1376	U
34	a	1379	G
34	a	1383	C
34	a	1392	G
34	a	1397	C
34	a	1398	A
34	a	1400	C
34	a	1411	C

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Mol	Chain	Res	Type
34	a	1419	G
34	a	1442	G
34	a	1442(B)	A
34	a	1445	C
34	a	1446	U
34	a	1447	A
34	a	1452	C
34	a	1456	G
34	a	1457	G
34	a	1458	G
34	a	1486	G
34	a	1487	G
34	a	1497	G
34	a	1498	U
34	a	1502	A
34	a	1503	A
34	a	1504	G
34	a	1506	U
34	a	1507	A
34	a	1517	G
34	a	1519	A
34	a	1520	G
34	a	1529	G
34	a	1530	G
34	a	1531	A
33	w	10	G
33	w	13	C
33	w	16	U
33	w	17	C
33	w	18	G
33	w	19	G
33	w	20	U
33	w	21	A
33	w	22	G
33	w	35	A
33	w	38	A
33	w	41	C
33	w	44	G
33	w	45	U
33	w	46	7MG
33	w	47	U
33	w	48	C

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Mol	Chain	Res	Type
33	w	49	C
33	w	61	C
33	w	64	A
33	w	71	G
33	w	76	A
55	v	18	C

All (38) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A	34	C
1	A	90	U
1	A	196	A
1	A	266	G
1	A	278	A
1	A	328	U
1	A	529	A
1	A	685	A
1	A	746	A
1	A	752	A
1	A	774	A
1	A	895	U
1	A	1033	U
1	A	1052	C
1	A	1069	A
1	A	1078	U
1	A	1108	U
1	A	1145	C
1	A	1174	A
1	A	1176	G
1	A	1210	A
1	A	1300	U
1	A	1379	A
1	A	1529	G
1	A	1608	A
1	A	1617	C
1	A	1653	G
1	A	1992	G
1	A	2110	G
1	A	2132	U
1	A	2183	C
1	A	2187	G

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Mol	Chain	Res	Type
1	A	2318	G
1	A	2428	G
1	A	2439	A
1	A	2611	U
1	A	2756	U
1	A	2873	A

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

14 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	$\#\|Z\| > 2$
33	7MG	w	46	33	22,26,27	1.33	4 (18%)	29,39,42	2.61	8 (27%)
33	7MG	x	46	33	22,26,27	1.26	3 (13%)	29,39,42	2.92	9 (31%)
33	PSU	x	32	33	18,21,22	1.39	2 (11%)	22,30,33	1.79	3 (13%)
33	PSU	w	39	33	18,21,22	1.39	2 (11%)	22,30,33	2.22	4 (18%)
33	PSU	x	39	33	18,21,22	1.40	2 (11%)	22,30,33	1.76	4 (18%)
33	PSU	w	55	33	18,21,22	1.45	3 (16%)	22,30,33	2.06	4 (18%)
33	5MU	w	54	33	19,22,23	1.36	5 (26%)	28,32,35	2.01	6 (21%)
33	MIA	w	37	33	24,31,32	2.75	5 (20%)	26,44,47	3.57	7 (26%)
33	MIA	x	37	33	18,24,32	1.16	2 (11%)	18,35,47	1.24	2 (11%)
33	PSU	x	55	33	18,21,22	1.30	2 (11%)	22,30,33	1.94	5 (22%)
33	5MU	x	54	33	19,22,23	1.56	5 (26%)	28,32,35	2.02	6 (21%)
33	4SU	w	8	33	18,21,22	1.52	4 (22%)	26,30,33	2.08	5 (19%)
33	PSU	w	32	33	18,21,22	1.36	1 (5%)	22,30,33	1.75	5 (22%)
33	4SU	x	8	33	18,21,22	1.68	3 (16%)	26,30,33	2.25	6 (23%)

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
33	7MG	w	46	33	-	1/7/37/38	0/3/3/3
33	7MG	x	46	33	-	4/7/37/38	0/3/3/3
33	PSU	x	32	33	-	2/7/25/26	0/2/2/2
33	PSU	w	39	33	-	0/7/25/26	0/2/2/2
33	PSU	x	39	33	-	2/7/25/26	0/2/2/2
33	PSU	w	55	33	-	0/7/25/26	0/2/2/2
33	5MU	w	54	33	-	0/7/25/26	0/2/2/2
33	MIA	w	37	33	-	4/11/33/34	0/3/3/3
33	MIA	x	37	33	-	3/3/25/34	0/3/3/3
33	PSU	x	55	33	-	1/7/25/26	0/2/2/2
33	5MU	x	54	33	-	4/7/25/26	0/2/2/2
33	4SU	w	8	33	-	0/7/25/26	0/2/2/2
33	PSU	w	32	33	-	0/7/25/26	0/2/2/2
33	4SU	x	8	33	-	0/7/25/26	0/2/2/2

All (43) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	w	37	MIA	C2-S10	-9.18	1.67	1.75
33	w	37	MIA	C13-C14	7.75	1.54	1.32
33	x	8	4SU	C4-S4	-4.42	1.60	1.68
33	w	8	4SU	C4-S4	-3.98	1.60	1.68
33	w	32	PSU	C6-C5	3.96	1.39	1.35
33	w	39	PSU	C6-C5	3.92	1.39	1.35
33	w	46	7MG	C4-N9	-3.87	1.33	1.37
33	x	39	PSU	C6-C5	3.80	1.39	1.35
33	x	32	PSU	C6-C5	3.60	1.39	1.35
33	w	55	PSU	C6-C5	3.17	1.39	1.35
33	x	55	PSU	C6-C5	3.12	1.39	1.35
33	x	54	5MU	C2-N1	3.12	1.43	1.38
33	w	55	PSU	C4-N3	-3.11	1.33	1.38
33	x	54	5MU	C6-C5	2.96	1.39	1.34
33	x	46	7MG	C5-C4	2.95	1.47	1.38
33	x	8	4SU	C4-N3	-2.89	1.34	1.37
33	x	37	MIA	C5-C4	2.82	1.48	1.40
33	x	37	MIA	C2-N3	2.81	1.36	1.32
33	x	8	4SU	C5-C4	-2.80	1.39	1.42
33	w	54	5MU	C6-C5	2.75	1.39	1.34
33	w	37	MIA	C5-C4	2.73	1.48	1.40
33	w	37	MIA	C2-N1	2.73	1.38	1.34
33	x	54	5MU	C4-N3	-2.73	1.33	1.38
33	x	39	PSU	C4-N3	-2.67	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	x	32	PSU	C4-N3	-2.61	1.34	1.38
33	w	46	7MG	C5-C4	2.60	1.46	1.38
33	w	37	MIA	C6-N1	2.58	1.36	1.32
33	w	54	5MU	C4-N3	-2.58	1.34	1.38
33	x	54	5MU	C4-C5	2.50	1.48	1.44
33	w	55	PSU	C2-N3	-2.49	1.33	1.37
33	x	55	PSU	C4-N3	-2.48	1.34	1.38
33	x	46	7MG	C6-N1	-2.45	1.34	1.38
33	w	46	7MG	C6-N1	-2.29	1.34	1.38
33	x	46	7MG	C8-N9	2.14	1.47	1.46
33	w	8	4SU	C4-N3	-2.14	1.35	1.37
33	w	54	5MU	C2-N3	-2.13	1.34	1.38
33	w	8	4SU	C2-N1	2.12	1.41	1.38
33	w	8	4SU	C5-C4	-2.11	1.39	1.42
33	w	54	5MU	C2-N1	2.07	1.41	1.38
33	w	39	PSU	C4-C5	2.07	1.50	1.44
33	x	54	5MU	C2-N3	-2.04	1.34	1.38
33	w	46	7MG	C5-C6	2.02	1.48	1.43
33	w	54	5MU	C4-C5	2.01	1.48	1.44

All (74) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	w	37	MIA	C11-S10-C2	-15.14	90.96	102.27
33	x	46	7MG	N9-C4-N3	10.65	141.39	125.47
33	w	46	7MG	N9-C4-N3	7.99	137.42	125.47
33	x	8	4SU	C4-N3-C2	-6.89	120.64	127.34
33	w	46	7MG	N9-C8-N7	-6.63	93.90	103.38
33	w	39	PSU	N1-C2-N3	6.53	122.53	115.13
33	w	55	PSU	N1-C2-N3	6.49	122.48	115.13
33	x	46	7MG	C5-C4-N3	-6.25	116.21	128.13
33	x	55	PSU	N1-C2-N3	6.16	122.11	115.13
33	w	8	4SU	C4-N3-C2	-6.08	121.43	127.34
33	x	8	4SU	C5-C4-N3	5.80	120.06	114.69
33	x	32	PSU	N1-C2-N3	5.60	121.47	115.13
33	x	39	PSU	N1-C2-N3	5.51	121.37	115.13
33	w	8	4SU	C5-C4-N3	5.47	119.77	114.69
33	x	54	5MU	N3-C2-N1	5.18	121.77	114.89
33	w	54	5MU	N3-C2-N1	5.08	121.63	114.89
33	w	32	PSU	N1-C2-N3	5.02	120.81	115.13
33	x	46	7MG	N9-C8-N7	-4.96	96.29	103.38
33	w	46	7MG	C5-C4-N3	-4.84	118.90	128.13

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	w	37	MIA	C5-C6-N1	-4.84	116.79	120.81
33	w	54	5MU	C4-N3-C2	-4.84	121.09	127.35
33	w	39	PSU	O2-C2-N1	-4.83	117.48	122.79
33	w	37	MIA	C16-C14-C13	-4.81	108.74	122.65
33	w	37	MIA	C12-C13-C14	-4.81	117.78	127.14
33	x	54	5MU	C4-N3-C2	-4.79	121.15	127.35
33	x	46	7MG	C2-N3-C4	4.67	120.61	112.30
33	w	46	7MG	C2-N3-C4	4.56	120.42	112.30
33	w	55	PSU	C4-N3-C2	-4.50	119.85	126.34
33	w	54	5MU	C5-C4-N3	4.22	118.91	115.31
33	w	54	5MU	O4-C4-C5	-4.22	120.01	124.90
33	w	39	PSU	C4-N3-C2	-4.08	120.46	126.34
33	x	8	4SU	N3-C2-N1	4.04	120.25	114.89
33	w	8	4SU	C5-C4-S4	-4.00	119.31	124.47
33	x	8	4SU	C5-C4-S4	-3.92	119.42	124.47
33	w	32	PSU	C4-N3-C2	-3.91	120.71	126.34
33	x	32	PSU	C4-N3-C2	-3.86	120.77	126.34
33	x	55	PSU	C4-N3-C2	-3.86	120.77	126.34
33	x	54	5MU	C5-C4-N3	3.78	118.54	115.31
33	x	55	PSU	O2-C2-N1	-3.73	118.68	122.79
33	x	39	PSU	C4-N3-C2	-3.63	121.11	126.34
33	w	8	4SU	N3-C2-N1	3.49	119.53	114.89
33	x	54	5MU	C5-C6-N1	-3.47	119.77	123.34
33	x	54	5MU	O4-C4-C5	-3.46	120.89	124.90
33	x	46	7MG	O6-C6-C5	-3.25	119.56	127.54
33	x	37	MIA	N3-C2-N1	-3.24	123.62	128.68
33	w	46	7MG	C5-C6-N1	3.23	116.68	110.99
33	w	39	PSU	C6-C5-C4	-3.18	115.97	118.20
33	x	46	7MG	C5-C6-N1	3.10	116.45	110.99
33	w	55	PSU	O2-C2-N1	-3.05	119.44	122.79
33	x	46	7MG	C5-C4-N9	-3.04	102.39	106.35
33	w	54	5MU	C5-C6-N1	-2.85	120.41	123.34
33	x	54	5MU	O2-C2-N3	-2.80	116.28	121.50
33	x	37	MIA	C4-C5-N7	-2.75	106.53	109.40
33	w	37	MIA	C4-C5-N7	-2.66	106.63	109.40
33	w	46	7MG	C6-C5-N7	2.65	136.08	131.91
33	w	37	MIA	C2-N3-C4	2.65	118.97	115.32
33	x	32	PSU	O2-C2-N1	-2.58	119.95	122.79
33	w	37	MIA	C15-C14-C13	-2.54	115.31	122.65
33	w	8	4SU	O2-C2-N1	-2.51	119.44	122.79
33	x	8	4SU	O2-C2-N1	-2.33	119.69	122.79
33	w	55	PSU	C5-C6-N1	-2.32	118.63	122.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	w	54	5MU	O2-C2-N1	-2.27	119.77	122.79
33	w	32	PSU	C5-C6-N1	-2.24	118.75	122.11
33	x	8	4SU	C1'-N1-C2	2.19	121.54	117.57
33	w	46	7MG	C6-C5-C4	-2.16	118.17	122.62
33	x	46	7MG	CM7-N7-C5	2.16	131.97	126.40
33	w	32	PSU	O2-C2-N1	-2.09	120.49	122.79
33	w	46	7MG	C5-C4-N9	-2.08	103.65	106.35
33	x	39	PSU	O2-C2-N3	-2.07	117.92	121.82
33	w	32	PSU	O4-C4-C5	-2.06	118.66	124.05
33	x	55	PSU	C5-C6-N1	-2.05	119.04	122.11
33	x	46	7MG	O6-C6-N1	2.02	123.99	120.12
33	x	39	PSU	C5-C6-N1	-2.02	119.08	122.11
33	x	55	PSU	O4'-C1'-C2'	2.00	107.97	105.14

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
33	x	32	PSU	O4'-C4'-C5'-O5'
33	x	37	MIA	C3'-C4'-C5'-O5'
33	x	46	7MG	C4'-C5'-O5'-P
33	x	54	5MU	C3'-C4'-C5'-O5'
33	w	37	MIA	C5-C6-N6-C12
33	w	37	MIA	N1-C6-N6-C12
33	w	37	MIA	C12-C13-C14-C16
33	x	54	5MU	O4'-C4'-C5'-O5'
33	x	32	PSU	C3'-C4'-C5'-O5'
33	x	39	PSU	C3'-C4'-C5'-O5'
33	x	37	MIA	O4'-C4'-C5'-O5'
33	x	39	PSU	O4'-C4'-C5'-O5'
33	x	46	7MG	C2'-C1'-N9-C8
33	w	37	MIA	C4'-C5'-O5'-P
33	x	55	PSU	O4'-C1'-C5-C4
33	x	46	7MG	O4'-C1'-N9-C8
33	x	54	5MU	C2'-C1'-N1-C2
33	x	37	MIA	C4'-C5'-O5'-P
33	w	46	7MG	C2'-C1'-N9-C8
33	x	54	5MU	C2'-C1'-N1-C6
33	x	46	7MG	C3'-C4'-C5'-O5'

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 915 ligands modelled in this entry, 912 are monoatomic - leaving 3 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	$\#\|Z\| > 2$
60	PHE	w	107	33	10,11,12	1.27	0	10,13,15	1.10	0
61	GDP	y	703	57	24,30,30	1.06	1 (4%)	30,47,47	1.25	5 (16%)
59	SF4	d	501	37	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. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
60	PHE	w	107	33	-	2/5/6/8	0/1/1/1
61	GDP	y	703	57	-	1/12/32/32	0/3/3/3
59	SF4	d	501	37	-	-	0/6/5/5

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
61	y	703	GDP	C6-N1	-2.55	1.34	1.37

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	y	703	GDP	C3'-C2'-C1'	3.28	105.91	100.98
61	y	703	GDP	C8-N7-C5	2.45	107.66	102.99
61	y	703	GDP	PA-O3A-PB	-2.40	124.59	132.83
61	y	703	GDP	C5-C6-N1	2.38	118.15	113.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
61	y	703	GDP	C2-N1-C6	-2.02	121.37	125.10

There are no chirality outliers.

All (3) torsion outliers are listed below:

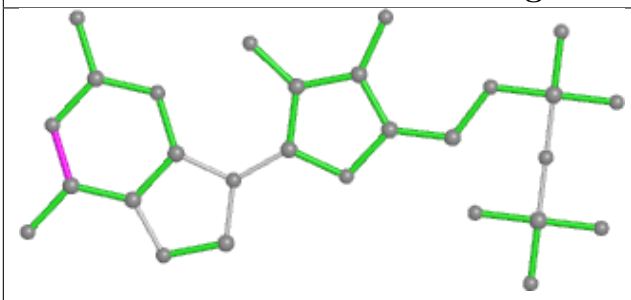
Mol	Chain	Res	Type	Atoms
60	w	107	PHE	CA-CB-CG-CD2
60	w	107	PHE	CA-CB-CG-CD1
61	y	703	GDP	C5'-O5'-PA-O1A

There are no ring outliers.

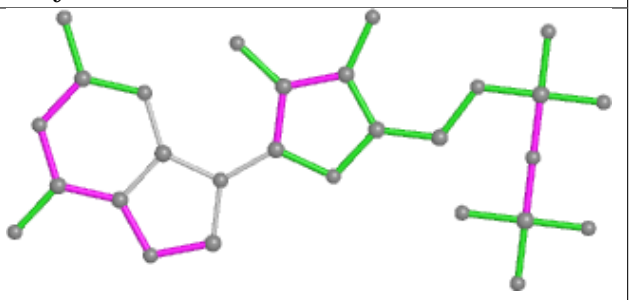
No monomer is involved in short contacts.

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

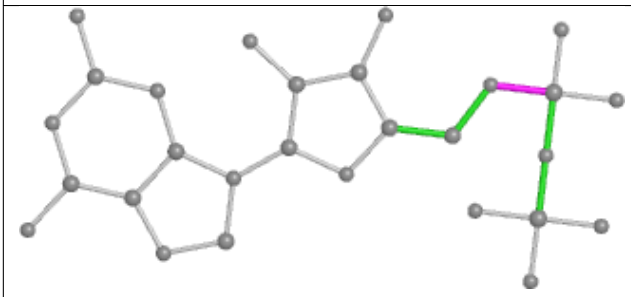
Ligand GDP y 703



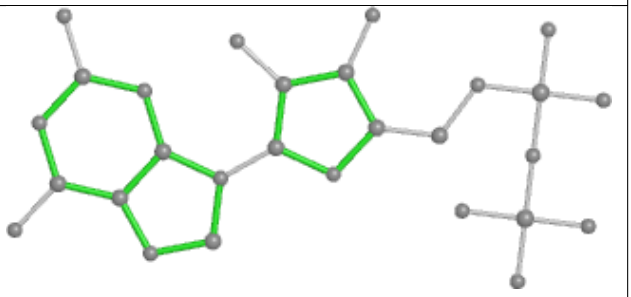
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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^{th} 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^2)	Q<0.9
1	A	2873/2915 (98%)	-0.06	101 (3%) 44 38	35, 61, 175, 394	0
2	B	120/122 (98%)	-0.11	0 100 100	65, 93, 121, 133	0
3	D	275/276 (99%)	-0.01	4 (1%) 73 73	35, 56, 75, 108	0
4	E	204/206 (99%)	-0.14	4 (1%) 65 63	34, 57, 77, 101	0
5	F	203/205 (99%)	0.03	1 (0%) 91 91	38, 70, 108, 135	0
6	G	181/182 (99%)	-0.06	5 (2%) 53 49	68, 84, 106, 128	0
7	H	174/180 (96%)	0.42	12 (6%) 16 13	62, 96, 131, 154	0
8	J	130/173 (75%)	2.10	50 (38%) 0 0	129, 161, 183, 197	0
9	K	139/147 (94%)	2.84	80 (57%) 0 0	192, 218, 229, 234	0
10	N	140/140 (100%)	-0.01	1 (0%) 87 87	47, 64, 93, 110	0
11	O	122/122 (100%)	-0.00	1 (0%) 86 86	37, 52, 68, 75	0
12	P	149/150 (99%)	0.68	22 (14%) 2 1	42, 81, 109, 116	0
13	Q	141/141 (100%)	-0.00	0 100 100	44, 64, 80, 97	0
14	R	118/118 (100%)	0.34	2 (1%) 70 69	46, 66, 86, 102	0
15	S	110/112 (98%)	0.27	5 (4%) 33 29	75, 90, 102, 113	0
16	T	131/146 (89%)	-0.04	1 (0%) 86 86	49, 61, 94, 113	0
17	U	116/118 (98%)	-0.09	0 100 100	42, 56, 75, 83	0
18	V	101/101 (100%)	0.04	0 100 100	41, 73, 93, 104	0
19	W	112/113 (99%)	0.28	4 (3%) 42 37	46, 62, 89, 128	0
20	X	95/96 (98%)	0.17	2 (2%) 63 61	56, 74, 95, 116	0
21	Y	107/110 (97%)	0.64	10 (9%) 8 6	66, 79, 116, 137	0
22	Z	185/206 (89%)	0.29	6 (3%) 47 43	68, 90, 114, 135	0
23	0	74/85 (87%)	0.51	5 (6%) 17 13	50, 67, 85, 105	0
24	1	97/98 (98%)	0.37	2 (2%) 63 61	48, 68, 104, 112	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
25	2	70/72 (97%)	0.15	0 100 100	69, 86, 100, 109	0
26	3	59/60 (98%)	0.42	3 (5%) 28 24	52, 68, 101, 116	0
27	4	69/71 (97%)	0.13	3 (4%) 35 31	80, 107, 150, 158	0
28	5	59/60 (98%)	-0.24	1 (1%) 70 69	41, 63, 81, 100	0
29	6	53/54 (98%)	0.04	0 100 100	62, 71, 85, 87	0
30	7	49/49 (100%)	0.08	2 (4%) 37 32	40, 49, 73, 96	0
31	8	64/65 (98%)	0.10	0 100 100	51, 59, 65, 86	0
32	9	37/37 (100%)	0.76	4 (10%) 5 4	52, 63, 78, 88	0
33	w	69/76 (90%)	-0.30	0 100 100	43, 73, 96, 137	0
33	x	67/76 (88%)	5.04	66 (98%) 0 0	94, 267, 283, 306	0
34	a	1496/1521 (98%)	-0.26	4 (0%) 94 94	37, 60, 119, 295	0
35	b	231/256 (90%)	-0.11	5 (2%) 62 59	53, 84, 134, 165	0
36	c	206/239 (86%)	-0.36	1 (0%) 91 91	50, 65, 88, 99	0
37	d	208/209 (99%)	0.03	2 (0%) 82 82	52, 68, 95, 109	0
38	e	148/162 (91%)	-0.25	1 (0%) 87 87	40, 55, 72, 107	0
39	f	100/101 (99%)	0.22	2 (2%) 65 63	74, 106, 138, 146	0
40	g	155/156 (99%)	-0.00	6 (3%) 39 35	54, 73, 124, 156	0
41	h	137/138 (99%)	0.03	0 100 100	47, 59, 72, 90	0
42	i	127/128 (99%)	0.07	0 100 100	45, 70, 91, 102	0
43	j	96/105 (91%)	-0.01	3 (3%) 49 44	42, 70, 119, 133	0
44	k	114/129 (88%)	0.05	3 (2%) 56 52	49, 77, 96, 104	0
45	l	122/132 (92%)	-0.17	1 (0%) 86 86	39, 53, 68, 80	0
46	m	119/126 (94%)	-0.03	2 (1%) 70 69	43, 72, 99, 111	0
47	n	60/61 (98%)	-0.27	0 100 100	42, 51, 66, 69	0
48	o	88/89 (98%)	0.19	3 (3%) 45 40	57, 74, 98, 107	0
49	p	82/88 (93%)	0.20	3 (3%) 41 37	45, 57, 69, 85	0
50	q	99/105 (94%)	0.12	5 (5%) 28 24	50, 62, 80, 93	0
51	r	68/88 (77%)	0.52	4 (5%) 22 18	67, 85, 107, 116	0
52	s	83/93 (89%)	-0.20	0 100 100	45, 57, 76, 89	0
53	t	96/106 (90%)	0.17	1 (1%) 82 82	51, 65, 88, 96	0
54	u	23/27 (85%)	0.43	1 (4%) 35 31	54, 62, 69, 79	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
55	v	7/18 (38%)	1.39	2 (28%) 0 0	49, 50, 130, 149	0
56	y	644/679 (94%)	1.55	202 (31%) 0 0	69, 151, 188, 213	0
All	All	11202/11638 (96%)	0.17	648 (5%) 23 19	34, 68, 168, 394	0

All (648) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
8	J	51	LEU	23.3
9	K	52	ILE	16.9
1	A	2178	C	15.9
1	A	2145	C	13.3
1	A	2165	G	13.2
1	A	1509	C	12.3
1	A	2179	C	10.7
33	x	34	G	10.7
1	A	2114	A	10.6
33	x	30	G	10.3
56	y	13	SER	10.2
1	A	2182	G	10.1
8	J	50	ARG	10.0
56	y	599	ALA	10.0
8	J	53	VAL	9.9
9	K	48	MET	9.9
1	A	2146	C	9.8
9	K	10	LEU	9.6
56	y	310	SER	9.6
33	x	35	A	9.1
8	J	89	ALA	9.0
1	A	2166	G	8.9
1	A	2104	G	8.9
1	A	2169	A	8.8
56	y	600	VAL	8.8
8	J	7	VAL	8.7
1	A	2164	C	8.7
1	A	2116	G	8.7
56	y	209	GLN	8.6
33	x	31	A	8.6
1	A	2159	G	8.5
33	x	36	A	8.5
9	K	51	ALA	8.2
33	x	56	C	8.2

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Mol	Chain	Res	Type	RSRZ
9	K	9	LYS	8.2
9	K	8	VAL	8.0
33	x	26	A	8.0
33	x	33	U	7.9
33	x	61	C	7.9
9	K	47	ASN	7.9
56	y	539	ALA	7.8
33	x	64	A	7.7
1	A	2105	C	7.7
1	A	2177	C	7.6
9	K	13	PRO	7.5
9	K	95	LYS	7.2
1	A	2152	G	7.0
56	y	299	PRO	7.0
1	A	2181	G	7.0
56	y	543	GLY	7.0
19	W	112	GLY	6.9
56	y	264	LEU	6.9
56	y	217	LEU	6.9
1	A	2107	C	6.9
8	J	49	ALA	6.8
1	A	2125	G	6.8
1	A	2170	A	6.7
33	x	5	G	6.7
1	A	2154	G	6.7
9	K	22	PRO	6.5
1	A	2173	A	6.5
56	y	554	LEU	6.4
33	x	11	C	6.4
1	A	2155	G	6.4
9	K	96	VAL	6.4
56	y	266	ALA	6.3
40	g	79	ARG	6.3
56	y	462	ASP	6.3
1	A	2133	G	6.3
33	x	1	G	6.2
56	y	517	ALA	6.2
9	K	2	LYS	6.2
9	K	12	LEU	6.2
33	x	13	C	6.1
1	A	2121	G	6.1
1	A	2112	G	6.1

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Mol	Chain	Res	Type	RSRZ
3	D	276	LYS	6.1
1	A	2106	G	6.1
33	x	28	G	6.1
33	x	29	G	6.0
56	y	542	GLY	6.0
9	K	16	LYS	6.0
33	x	3	C	6.0
56	y	371	ALA	6.0
1	A	2151	G	5.9
56	y	309	ASP	5.9
33	x	44	G	5.9
33	x	62	C	5.9
56	y	138	ILE	5.9
33	x	53	G	5.9
33	x	20	U	5.8
1	A	2120	G	5.8
56	y	156	LEU	5.8
1	A	2138	C	5.8
1	A	614(B)	G	5.8
9	K	107	ILE	5.8
56	y	77	VAL	5.8
56	y	225	GLY	5.7
1	A	2141	G	5.7
8	J	88	ALA	5.7
1	A	2176	A	5.7
33	x	19	G	5.7
56	y	416	THR	5.7
9	K	123	ALA	5.6
56	y	92	GLU	5.6
9	K	57	ILE	5.6
56	y	513	ALA	5.6
33	x	63	G	5.5
1	A	2142	C	5.5
1	A	2123	G	5.5
1	A	2137	C	5.5
56	y	208	TYR	5.5
33	x	57	G	5.5
40	g	156	TRP	5.5
56	y	435	LEU	5.4
33	x	65	G	5.4
56	y	16	ALA	5.4
56	y	529	PRO	5.4

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Mol	Chain	Res	Type	RSRZ
1	A	2126	A	5.4
10	N	140	VAL	5.3
33	x	60	U	5.3
9	K	66	THR	5.3
9	K	62	ASP	5.3
33	x	76	A	5.2
9	K	54	PRO	5.2
56	y	205	TYR	5.2
8	J	54	ALA	5.2
1	A	2143	C	5.2
9	K	45	THR	5.2
56	y	329	ALA	5.2
56	y	525	ALA	5.2
33	x	43	C	5.2
56	y	370	ILE	5.2
1	A	2167	U	5.1
8	J	90	ALA	5.1
33	x	52	G	5.1
8	J	62	ALA	5.1
56	y	414	ILE	5.1
56	y	494	VAL	5.1
9	K	120	LEU	5.0
33	x	70	G	5.0
56	y	590	VAL	5.0
8	J	116	ILE	5.0
56	y	397	PRO	5.0
9	K	41	PHE	5.0
56	y	504	LEU	5.0
8	J	37	THR	5.0
1	A	2161	C	5.0
33	x	2	C	5.0
9	K	93	ARG	5.0
1	A	2109	U	5.0
33	x	10	G	5.0
56	y	265	VAL	5.0
1	A	2122	U	4.9
56	y	313	TYR	4.9
9	K	7	VAL	4.9
56	y	204	VAL	4.9
33	x	71	G	4.9
56	y	222	VAL	4.9
33	x	47	U	4.9

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Mol	Chain	Res	Type	RSRZ
9	K	92	GLY	4.9
1	A	2128	C	4.8
9	K	97	GLY	4.8
33	x	67	C	4.8
56	y	368	SER	4.8
1	A	2127	G	4.8
1	A	2162	G	4.8
56	y	538	GLN	4.8
33	x	18	G	4.7
33	x	22	G	4.7
1	A	2117	A	4.7
12	P	95	VAL	4.7
1	A	2160	G	4.7
33	x	12	U	4.7
8	J	83	TYR	4.6
24	1	2	SER	4.6
12	P	114	ILE	4.6
9	K	3	LYS	4.6
9	K	68	VAL	4.6
56	y	369	LEU	4.6
56	y	601	LEU	4.6
56	y	302	PHE	4.6
9	K	61	ALA	4.6
56	y	272	HIS	4.6
56	y	547	ALA	4.5
55	v	12	A	4.5
33	x	6	G	4.5
56	y	596	ALA	4.5
56	y	32	LEU	4.5
56	y	218	PHE	4.5
1	A	2131	G	4.4
1	A	2174	C	4.4
12	P	85	LEU	4.4
33	x	48	C	4.4
9	K	67	PHE	4.4
50	q	98	LEU	4.4
1	A	2134	A	4.4
56	y	64	VAL	4.4
9	K	110	GLN	4.3
33	x	27	G	4.3
33	x	58	A	4.3
1	A	2113	U	4.3

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Mol	Chain	Res	Type	RSRZ
56	y	492	VAL	4.3
1	A	2144	U	4.3
9	K	134	MET	4.3
56	y	79	HIS	4.3
33	x	4	C	4.3
56	y	493	ASN	4.3
56	y	602	SER	4.3
12	P	88	LEU	4.2
33	x	45	U	4.2
56	y	496	VAL	4.2
9	K	44	ALA	4.2
1	A	2190	G	4.2
48	o	20	GLY	4.2
56	y	568	THR	4.2
33	x	23	A	4.2
56	y	29	ILE	4.2
56	y	330	LEU	4.2
8	J	23	SER	4.1
33	x	38	A	4.1
8	J	118	THR	4.1
33	x	68	C	4.1
8	J	8	GLU	4.0
8	J	94	VAL	4.0
56	y	541	ILE	4.0
56	y	433	GLY	4.0
1	A	2139	C	4.0
33	x	69	G	4.0
9	K	127	ILE	4.0
1	A	2153	G	4.0
9	K	35	MET	3.9
6	G	2	PRO	3.9
56	y	374	PRO	3.9
8	J	61	LEU	3.9
56	y	91	TYR	3.9
1	A	2119	A	3.9
56	y	520	ILE	3.9
56	y	516	MET	3.9
56	y	530	ARG	3.9
56	y	583	ARG	3.9
9	K	14	ALA	3.9
56	y	544	LYS	3.8
56	y	497	HIS	3.8

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Mol	Chain	Res	Type	RSRZ
8	J	52	PHE	3.8
43	j	85	LEU	3.8
9	K	65	PHE	3.8
33	x	14	A	3.8
56	y	563	TYR	3.8
1	A	2175	C	3.8
33	x	21	A	3.8
1	A	1175	U	3.7
56	y	312	ASP	3.7
1	A	2148	G	3.7
56	y	471	SER	3.7
7	H	26	VAL	3.7
9	K	80	LYS	3.7
56	y	452	TYR	3.7
56	y	33	THR	3.7
1	A	2136	C	3.7
1	A	2140	C	3.7
33	x	51	U	3.7
9	K	94	GLU	3.7
8	J	85	ASP	3.7
56	y	445	GLN	3.6
56	y	503	ALA	3.6
56	y	495	LEU	3.6
33	x	25	C	3.6
3	D	275	LYS	3.6
1	A	652(F)	G	3.6
56	y	-5	GLU	3.6
8	J	4	LYS	3.6
9	K	25	PRO	3.6
30	7	46	VAL	3.6
56	y	581	LYS	3.6
33	x	15	G	3.6
1	A	2168	G	3.6
56	y	489	LEU	3.6
56	y	242	VAL	3.6
9	K	49	GLY	3.5
56	y	350	GLY	3.5
53	t	101	GLY	3.5
56	y	279	THR	3.5
56	y	198	ALA	3.5
9	K	37	PHE	3.5
34	a	204	U	3.5

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Mol	Chain	Res	Type	RSRZ
9	K	17	ALA	3.5
9	K	18	THR	3.5
1	A	2163	C	3.5
56	y	207	ALA	3.5
33	x	72	C	3.5
1	A	271(K)	U	3.4
1	A	1420	U	3.4
56	y	526	GLU	3.4
56	y	448	VAL	3.4
56	y	286	PRO	3.4
33	x	73	A	3.4
56	y	163	ALA	3.4
32	9	37	GLY	3.4
56	y	444	ALA	3.4
56	y	400	THR	3.4
56	y	531	GLN	3.4
7	H	2	SER	3.4
40	g	80	VAL	3.4
9	K	83	GLY	3.3
56	y	487	GLY	3.3
1	A	2147	G	3.3
21	Y	1	MET	3.3
56	y	274	VAL	3.3
9	K	21	PRO	3.3
56	y	349	LEU	3.3
1	A	2101	G	3.3
56	y	552	LYS	3.3
56	y	440	TYR	3.3
7	H	47	GLU	3.3
56	y	561	LYS	3.3
1	A	1046	A	3.3
56	y	11	ASN	3.3
56	y	9	ILE	3.3
9	K	63	ARG	3.3
8	J	14	LYS	3.2
22	Z	57	ILE	3.2
8	J	63	LEU	3.2
1	A	2102	U	3.2
1	A	2793	G	3.2
56	y	399	PRO	3.2
20	X	1	MET	3.2
8	J	97	ALA	3.2

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Mol	Chain	Res	Type	RSRZ
12	P	121	LYS	3.2
37	d	182	LYS	3.2
8	J	24	PHE	3.2
8	J	75	GLN	3.1
56	y	457	ALA	3.1
56	y	280	ILE	3.1
12	P	83	VAL	3.1
1	A	652(B)	A	3.1
56	y	132	ILE	3.1
1	A	2110	G	3.1
56	y	446	LYS	3.1
1	A	2156	G	3.1
26	3	2	PRO	3.1
56	y	236	GLU	3.1
8	J	17	LEU	3.0
19	W	65	LEU	3.0
8	J	78	SER	3.0
56	y	524	LEU	3.0
9	K	138	VAL	3.0
9	K	58	THR	3.0
15	S	20	ARG	3.0
56	y	93	VAL	3.0
50	q	99	SER	3.0
56	y	523	LYS	3.0
56	y	131	ILE	3.0
9	K	85	GLU	3.0
56	y	72	ASP	3.0
19	W	111	HIS	3.0
56	y	558	VAL	3.0
12	P	127	ALA	3.0
39	f	97	PHE	3.0
33	x	40	C	3.0
56	y	67	THR	2.9
21	Y	39	VAL	2.9
9	K	91	PRO	2.9
56	y	-2	ARG	2.9
56	y	99	ALA	2.9
56	y	-1	LEU	2.9
9	K	27	LEU	2.9
46	m	120	LYS	2.9
1	A	2135	A	2.9
56	y	473	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
56	y	1	GLU	2.9
56	y	75	GLU	2.9
56	y	537	ILE	2.9
9	K	55	VAL	2.9
56	y	166	ALA	2.9
12	P	126	VAL	2.9
56	y	12	PHE	2.9
33	x	50	U	2.9
56	y	164	ILE	2.9
9	K	121	GLU	2.9
1	A	652(S)	C	2.8
1	A	2118	U	2.8
1	A	2132	U	2.8
34	a	1030(B)	C	2.8
56	y	551	VAL	2.8
15	S	37	ALA	2.8
56	y	267	ALA	2.8
9	K	64	SER	2.8
1	A	2124	G	2.8
9	K	115	LEU	2.8
56	y	540	ALA	2.8
56	y	586	ALA	2.8
1	A	2189	U	2.8
56	y	519	ALA	2.8
56	y	591	GLU	2.8
56	y	486	PRO	2.8
56	y	461	TYR	2.8
12	P	87	ASP	2.8
56	y	499	GLU	2.8
1	A	2115	G	2.8
9	K	59	ILE	2.8
14	R	118	GLU	2.7
9	K	133	SER	2.7
56	y	597	PHE	2.7
56	y	134	VAL	2.7
56	y	250	LEU	2.7
16	T	115	ARG	2.7
1	A	2103	C	2.7
56	y	426	GLN	2.7
6	G	48	GLU	2.7
12	P	130	PHE	2.7
33	x	74	C	2.7

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Mol	Chain	Res	Type	RSRZ
28	5	60	VAL	2.7
39	f	98	LEU	2.7
56	y	598	LEU	2.7
9	K	74	ALA	2.7
56	y	-6	ALA	2.7
12	P	86	LYS	2.7
56	y	288	PRO	2.7
49	p	39	TYR	2.7
1	A	652(D)	C	2.7
1	A	2180	U	2.7
43	j	73	ASP	2.7
56	y	396	LEU	2.7
1	A	2129	C	2.7
8	J	110	GLY	2.7
27	4	55	ARG	2.7
1	A	614(A)	U	2.6
9	K	137	GLU	2.6
9	K	53	VAL	2.6
8	J	84	GLU	2.6
34	a	1030(C)	G	2.6
51	r	31	LEU	2.6
56	y	535	VAL	2.6
8	J	19	ARG	2.6
55	v	13	A	2.6
1	A	34	C	2.6
1	A	652(T)	C	2.6
9	K	114	ASP	2.6
9	K	135	GLY	2.6
9	K	140	GLY	2.6
8	J	124	ALA	2.6
35	b	129	GLU	2.6
56	y	85	GLY	2.6
8	J	77	PRO	2.6
9	K	30	HIS	2.6
9	K	86	LYS	2.6
22	Z	140	ASP	2.6
27	4	51	ASP	2.6
56	y	518	ARG	2.6
56	y	14	ILE	2.6
8	J	111	LEU	2.6
56	y	105	LEU	2.6
7	H	33	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
33	x	59	U	2.6
21	Y	35	TYR	2.6
56	y	514	TYR	2.6
56	y	534	GLU	2.5
9	K	90	LYS	2.5
35	b	38	GLY	2.5
9	K	50	ASP	2.5
33	x	49	C	2.5
6	G	49	ASP	2.5
12	P	120	ALA	2.5
7	H	77	LYS	2.5
56	y	173	GLY	2.5
12	P	137	LYS	2.5
1	A	2185	C	2.5
1	A	1176	G	2.5
1	A	2108	C	2.5
1	A	2183	C	2.5
23	0	48	GLY	2.5
56	y	203	SER	2.5
21	Y	55	TYR	2.5
33	x	41	C	2.5
33	x	9	A	2.5
56	y	363	ARG	2.5
8	J	76	GLY	2.5
9	K	84	LEU	2.5
51	r	85	LEU	2.5
56	y	500	VAL	2.5
7	H	48	GLY	2.5
56	y	505	THR	2.5
8	J	18	GLU	2.4
56	y	488	ASP	2.4
56	y	589	LYS	2.4
8	J	74	LEU	2.4
23	0	62	LEU	2.4
8	J	87	VAL	2.4
9	K	136	VAL	2.4
50	q	69	LYS	2.4
21	Y	48	ALA	2.4
1	A	2157	G	2.4
35	b	37	ASN	2.4
30	7	49	ARG	2.4
56	y	450	LEU	2.4

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Mol	Chain	Res	Type	RSRZ
56	y	415	PHE	2.4
1	A	2897	U	2.4
12	P	1	MET	2.4
8	J	10	LEU	2.4
9	K	34	ILE	2.4
51	r	78	LEU	2.4
56	y	509	HIS	2.4
15	S	3	ARG	2.4
12	P	92	GLU	2.4
33	x	42	C	2.4
56	y	546	ILE	2.4
8	J	57	THR	2.4
5	F	33	LEU	2.4
1	A	652(E)	G	2.4
37	d	44	GLY	2.4
56	y	124	ALA	2.4
56	y	165	PHE	2.4
56	y	562	CYS	2.4
1	A	2150	U	2.4
44	k	19	ALA	2.4
26	3	8	LEU	2.4
38	e	142	LEU	2.4
8	J	133	GLU	2.3
56	y	210	GLY	2.3
56	y	278	ASP	2.3
9	K	69	THR	2.3
23	0	47	PRO	2.3
9	K	46	ALA	2.3
12	P	91	PHE	2.3
56	y	443	GLY	2.3
45	l	18	VAL	2.3
35	b	232	PRO	2.3
56	y	434	ARG	2.3
56	y	115	ALA	2.3
33	x	24	G	2.3
56	y	298	LYS	2.3
1	A	2172	U	2.3
8	J	69	PRO	2.3
56	y	334	PRO	2.3
56	y	475	ALA	2.3
56	y	549	ALA	2.3
23	0	74	ARG	2.3

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Mol	Chain	Res	Type	RSRZ
12	P	148	LEU	2.3
22	Z	117	LEU	2.3
56	y	170	THR	2.3
56	y	257	GLU	2.3
9	K	75	SER	2.3
56	y	276	VAL	2.3
4	E	195	LEU	2.3
43	j	86	MET	2.3
8	J	25	PHE	2.3
26	3	60	GLU	2.3
56	y	439	ASN	2.3
4	E	114	ALA	2.3
8	J	117	LEU	2.3
23	0	78	TYR	2.3
33	x	7	A	2.3
9	K	102	GLU	2.3
34	a	1021	G	2.3
56	y	259	GLY	2.2
46	m	48	LEU	2.2
7	H	32	GLU	2.2
56	y	481	GLN	2.2
21	Y	50	ARG	2.2
56	y	71	LYS	2.2
1	A	2184	G	2.2
56	y	171	GLY	2.2
54	u	18	TYR	2.2
48	o	89	GLY	2.2
56	y	109	ALA	2.2
35	b	130	ARG	2.2
32	9	23	VAL	2.2
1	A	2188	C	2.2
8	J	36	GLU	2.2
24	1	20	ARG	2.2
56	y	351	LEU	2.2
56	y	469	SER	2.2
22	Z	62	PRO	2.2
56	y	158	LEU	2.2
56	y	121	PHE	2.2
56	y	402	ILE	2.2
1	A	229	A	2.2
8	J	15	GLU	2.2
21	Y	71	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
56	y	297	ALA	2.2
4	E	159	HIS	2.2
9	K	111	LYS	2.2
56	y	571	LYS	2.2
56	y	326	ASN	2.1
21	Y	34	LYS	2.1
40	g	78	ARG	2.1
20	X	9	LEU	2.1
50	q	27	PHE	2.1
11	O	97	ARG	2.1
12	P	94	GLU	2.1
36	c	126	ARG	2.1
56	y	234	GLY	2.1
56	y	-22	LEU	2.1
56	y	201	PHE	2.1
8	J	73	GLY	2.1
21	Y	17	SER	2.1
56	y	372	THR	2.1
12	P	115	LEU	2.1
15	S	7	TYR	2.1
56	y	258	ALA	2.1
56	y	528	ILE	2.1
8	J	86	PRO	2.1
32	9	15	LYS	2.1
12	P	15	ARG	2.1
51	r	20	ALA	2.1
56	y	255	ALA	2.1
7	H	174	GLY	2.1
22	Z	27	VAL	2.1
8	J	99	SER	2.1
6	G	50	ALA	2.1
7	H	145	ALA	2.1
12	P	125	VAL	2.1
56	y	490	VAL	2.1
56	y	232	SER	2.1
44	k	31	THR	2.1
49	p	19	ILE	2.1
56	y	420	TYR	2.1
12	P	79	ARG	2.1
19	W	1	MET	2.1
27	4	56	VAL	2.1
50	q	97	SER	2.1

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Mol	Chain	Res	Type	RSRZ
9	K	26	ALA	2.1
9	K	124	ALA	2.1
40	g	85	TYR	2.1
33	x	66	U	2.1
56	y	277	GLY	2.1
56	y	305	LEU	2.0
7	H	136	ILE	2.0
3	D	181	GLU	2.0
6	G	182	LYS	2.0
14	R	97	VAL	2.0
8	J	66	LEU	2.0
15	S	17	ARG	2.0
7	H	164	TYR	2.0
4	E	113	PHE	2.0
56	y	412	LEU	2.0
49	p	8	ARG	2.0
9	K	131	ALA	2.0
22	Z	145	GLU	2.0
7	H	76	VAL	2.0
21	Y	92	ASN	2.0
48	o	34	LEU	2.0
3	D	271	ILE	2.0
40	g	81	GLY	2.0
44	k	109	VAL	2.0
56	y	246	THR	2.0
32	9	2	LYS	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^{th} 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^2)	Q<0.9
33	5MU	x	54	21/22	0.20	0.65	275,282,283,285	0
33	4SU	x	8	20/21	0.32	0.42	263,275,277,277	0
33	PSU	x	55	20/21	0.33	0.83	274,285,289,293	0
33	7MG	x	46	24/25	0.34	0.36	275,282,285,287	0
33	PSU	x	32	20/21	0.41	0.63	188,202,216,216	0
33	MIA	x	37	22/30	0.50	0.78	204,221,237,241	0
33	PSU	x	39	20/21	0.73	0.33	175,193,200,201	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
33	7MG	w	46	24/25	0.92	0.18	59,76,103,118	0
33	PSU	w	55	20/21	0.93	0.17	75,83,85,86	0
33	4SU	w	8	20/21	0.95	0.14	56,58,64,64	0
33	MIA	w	37	29/30	0.95	0.17	46,55,61,64	0
33	5MU	w	54	21/22	0.96	0.14	67,77,82,84	0
33	PSU	w	39	20/21	0.96	0.14	41,50,55,56	0
33	PSU	w	32	20/21	0.97	0.12	40,46,49,51	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, 95th 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^2)	Q<0.9
57	MG	A	3608	1/1	0.29	0.47	108,108,108,108	0
57	MG	A	3157	1/1	0.34	0.24	118,118,118,118	0
57	MG	A	3435	1/1	0.37	0.38	95,95,95,95	0
57	MG	a	3390	1/1	0.44	0.44	45,45,45,45	0
57	MG	x	3001	1/1	0.50	0.28	237,237,237,237	0
57	MG	U	203	1/1	0.53	0.47	67,67,67,67	0
57	MG	x	3003	1/1	0.55	1.33	215,215,215,215	0
57	MG	A	3282	1/1	0.56	0.44	66,66,66,66	0
57	MG	D	302	1/1	0.58	0.29	74,74,74,74	0
57	MG	A	3056	1/1	0.59	0.42	68,68,68,68	0
57	MG	A	3265	1/1	0.60	0.18	61,61,61,61	0
57	MG	B	215	1/1	0.61	0.12	114,114,114,114	0
57	MG	A	3011	1/1	0.61	0.47	79,79,79,79	0
57	MG	0	101	1/1	0.62	0.39	73,73,73,73	0
57	MG	a	3323	1/1	0.62	0.49	69,69,69,69	0
57	MG	B	214	1/1	0.62	1.50	83,83,83,83	0
57	MG	B	216	1/1	0.63	0.12	86,86,86,86	0
57	MG	A	3253	1/1	0.63	0.30	66,66,66,66	0
57	MG	A	3161	1/1	0.64	0.45	67,67,67,67	0
57	MG	A	3068	1/1	0.65	0.27	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B	209	1/1	0.65	0.27	70,70,70,70	0
57	MG	A	3093	1/1	0.65	0.32	81,81,81,81	0
57	MG	A	3216	1/1	0.66	0.38	62,62,62,62	0
57	MG	B	213	1/1	0.66	0.11	81,81,81,81	0
57	MG	A	3160	1/1	0.66	0.49	61,61,61,61	0
57	MG	A	3334	1/1	0.67	0.13	84,84,84,84	0
57	MG	A	3577	1/1	0.67	0.20	72,72,72,72	0
57	MG	A	3354	1/1	0.67	0.24	101,101,101,101	0
57	MG	A	3560	1/1	0.68	0.26	79,79,79,79	0
57	MG	A	3572	1/1	0.68	0.38	70,70,70,70	0
57	MG	A	3165	1/1	0.68	1.03	60,60,60,60	0
57	MG	A	3002	1/1	0.68	0.34	50,50,50,50	0
57	MG	A	3213	1/1	0.69	0.46	67,67,67,67	0
57	MG	G	202	1/1	0.69	0.24	67,67,67,67	0
57	MG	a	3391	1/1	0.69	0.15	72,72,72,72	0
57	MG	a	3455	1/1	0.69	0.10	67,67,67,67	0
57	MG	A	3132	1/1	0.70	0.78	48,48,48,48	0
57	MG	A	3319	1/1	0.70	0.23	31,31,31,31	0
57	MG	A	3054	1/1	0.71	0.27	71,71,71,71	0
57	MG	A	3554	1/1	0.71	0.21	74,74,74,74	0
57	MG	A	3084	1/1	0.71	0.20	57,57,57,57	0
57	MG	B	208	1/1	0.72	0.11	74,74,74,74	0
57	MG	A	3044	1/1	0.72	0.38	72,72,72,72	0
57	MG	A	3226	1/1	0.72	0.43	68,68,68,68	0
57	MG	A	3408	1/1	0.72	0.12	98,98,98,98	0
57	MG	a	3388	1/1	0.73	0.23	59,59,59,59	0
60	PHE	w	107	11/12	0.73	0.59	56,72,80,81	0
57	MG	A	3254	1/1	0.74	0.37	67,67,67,67	0
57	MG	a	3316	1/1	0.74	0.24	54,54,54,54	0
57	MG	a	3392	1/1	0.74	0.14	65,65,65,65	0
57	MG	A	3152	1/1	0.74	0.43	68,68,68,68	0
57	MG	A	3603	1/1	0.74	0.35	82,82,82,82	0
57	MG	A	3410	1/1	0.75	0.20	51,51,51,51	0
57	MG	a	3472	1/1	0.75	0.17	61,61,61,61	0
57	MG	A	3058	1/1	0.75	0.51	57,57,57,57	0
57	MG	A	3075	1/1	0.76	0.17	67,67,67,67	0
57	MG	a	3369	1/1	0.76	0.24	60,60,60,60	0
57	MG	A	3220	1/1	0.76	0.22	49,49,49,49	0
57	MG	N	201	1/1	0.76	0.39	57,57,57,57	0
57	MG	B	210	1/1	0.76	0.22	68,68,68,68	0
57	MG	A	3113	1/1	0.76	0.31	63,63,63,63	0
57	MG	A	3231	1/1	0.76	0.39	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3087	1/1	0.76	0.29	58,58,58,58	0
57	MG	A	3619	1/1	0.76	0.28	78,78,78,78	0
57	MG	a	3440	1/1	0.77	0.14	69,69,69,69	0
57	MG	A	3108	1/1	0.77	0.35	54,54,54,54	0
57	MG	A	3284	1/1	0.77	0.29	67,67,67,67	0
57	MG	A	3025	1/1	0.77	0.20	60,60,60,60	0
57	MG	A	3564	1/1	0.78	0.21	75,75,75,75	0
57	MG	x	3002	1/1	0.78	1.22	101,101,101,101	0
57	MG	A	3095	1/1	0.78	0.40	63,63,63,63	0
57	MG	A	3066	1/1	0.78	0.19	56,56,56,56	0
57	MG	A	3052	1/1	0.78	0.38	59,59,59,59	0
57	MG	A	3263	1/1	0.78	0.33	55,55,55,55	0
57	MG	a	3480	1/1	0.78	0.27	77,77,77,77	0
57	MG	A	3182	1/1	0.78	0.32	53,53,53,53	0
57	MG	A	3209	1/1	0.79	0.18	71,71,71,71	0
57	MG	a	3352	1/1	0.79	0.25	59,59,59,59	0
57	MG	A	3032	1/1	0.79	0.32	50,50,50,50	0
57	MG	P	201	1/1	0.79	0.53	54,54,54,54	0
57	MG	A	3040	1/1	0.80	0.29	58,58,58,58	0
57	MG	A	3375	1/1	0.80	0.12	55,55,55,55	0
57	MG	A	3059	1/1	0.80	0.34	66,66,66,66	0
57	MG	A	3270	1/1	0.80	0.25	61,61,61,61	0
57	MG	A	3240	1/1	0.80	0.24	79,79,79,79	0
57	MG	A	3245	1/1	0.80	0.29	56,56,56,56	0
57	MG	A	3293	1/1	0.80	0.33	51,51,51,51	0
57	MG	A	3294	1/1	0.80	0.37	44,44,44,44	0
57	MG	A	3297	1/1	0.80	0.24	67,67,67,67	0
57	MG	A	3305	1/1	0.80	0.29	70,70,70,70	0
57	MG	a	3436	1/1	0.80	0.26	66,66,66,66	0
57	MG	A	3101	1/1	0.80	0.32	74,74,74,74	0
57	MG	A	3607	1/1	0.80	0.17	90,90,90,90	0
57	MG	A	3073	1/1	0.80	0.44	56,56,56,56	0
57	MG	6	101	1/1	0.80	0.32	64,64,64,64	0
57	MG	A	3339	1/1	0.80	0.17	68,68,68,68	0
57	MG	A	3570	1/1	0.81	0.17	57,57,57,57	0
57	MG	A	3236	1/1	0.81	0.56	67,67,67,67	0
57	MG	A	3174	1/1	0.81	0.32	59,59,59,59	0
57	MG	A	3273	1/1	0.81	0.43	77,77,77,77	0
57	MG	B	217	1/1	0.81	0.27	67,67,67,67	0
57	MG	a	3371	1/1	0.81	0.25	65,65,65,65	0
57	MG	A	3255	1/1	0.81	0.33	57,57,57,57	0
57	MG	A	3259	1/1	0.81	0.09	74,74,74,74	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3617	1/1	0.81	0.19	65,65,65,65	0
57	MG	A	3287	1/1	0.81	0.26	54,54,54,54	0
57	MG	A	3635	1/1	0.81	0.62	69,69,69,69	0
57	MG	V	201	1/1	0.81	0.15	53,53,53,53	0
57	MG	B	207	1/1	0.81	0.26	103,103,103,103	0
57	MG	A	3067	1/1	0.81	0.16	70,70,70,70	0
57	MG	A	3568	1/1	0.81	0.20	83,83,83,83	0
57	MG	A	3569	1/1	0.81	0.45	85,85,85,85	0
57	MG	A	3112	1/1	0.82	0.37	66,66,66,66	0
57	MG	a	3348	1/1	0.82	0.50	53,53,53,53	0
57	MG	A	3185	1/1	0.82	0.36	63,63,63,63	0
57	MG	D	305	1/1	0.82	0.17	37,37,37,37	0
57	MG	A	3162	1/1	0.82	0.18	71,71,71,71	0
57	MG	A	3565	1/1	0.82	0.15	67,67,67,67	0
57	MG	B	206	1/1	0.82	0.18	75,75,75,75	0
57	MG	A	3352	1/1	0.82	0.32	47,47,47,47	0
57	MG	A	3288	1/1	0.82	0.32	60,60,60,60	0
57	MG	A	3357	1/1	0.82	0.24	69,69,69,69	0
57	MG	A	3057	1/1	0.82	0.25	56,56,56,56	0
57	MG	A	3171	1/1	0.82	0.18	37,37,37,37	0
57	MG	A	3598	1/1	0.82	0.14	74,74,74,74	0
57	MG	A	3247	1/1	0.82	0.43	66,66,66,66	0
57	MG	A	3003	1/1	0.82	0.28	59,59,59,59	0
57	MG	A	3120	1/1	0.83	0.76	52,52,52,52	0
57	MG	A	3122	1/1	0.83	0.20	35,35,35,35	0
57	MG	A	3405	1/1	0.83	0.15	61,61,61,61	0
57	MG	A	3576	1/1	0.83	0.33	89,89,89,89	0
57	MG	A	3124	1/1	0.83	0.14	54,54,54,54	0
57	MG	A	3596	1/1	0.83	0.20	45,45,45,45	0
57	MG	A	3034	1/1	0.83	0.20	71,71,71,71	0
57	MG	a	3377	1/1	0.83	0.23	85,85,85,85	0
57	MG	A	3426	1/1	0.83	0.28	55,55,55,55	0
57	MG	A	3434	1/1	0.83	0.23	56,56,56,56	0
57	MG	A	3175	1/1	0.83	0.38	46,46,46,46	0
57	MG	A	3481	1/1	0.83	0.32	65,65,65,65	0
57	MG	a	3393	1/1	0.83	0.52	69,69,69,69	0
57	MG	A	3045	1/1	0.83	0.22	68,68,68,68	0
57	MG	A	3243	1/1	0.83	0.56	58,58,58,58	0
57	MG	A	3563	1/1	0.83	0.19	73,73,73,73	0
57	MG	A	3029	1/1	0.83	0.18	52,52,52,52	0
57	MG	A	3114	1/1	0.83	1.03	57,57,57,57	0
57	MG	a	3484	1/1	0.83	0.24	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	f	201	1/1	0.83	0.25	92,92,92,92	0
57	MG	A	3117	1/1	0.83	1.10	50,50,50,50	0
57	MG	A	3246	1/1	0.84	0.24	49,49,49,49	0
57	MG	A	3102	1/1	0.84	0.13	59,59,59,59	0
57	MG	A	3573	1/1	0.84	0.21	70,70,70,70	0
57	MG	A	3121	1/1	0.84	0.18	62,62,62,62	0
57	MG	R	201	1/1	0.84	0.54	67,67,67,67	0
57	MG	a	3425	1/1	0.84	0.26	47,47,47,47	0
57	MG	a	3327	1/1	0.84	0.12	62,62,62,62	0
57	MG	a	3329	1/1	0.84	0.16	46,46,46,46	0
57	MG	a	3332	1/1	0.84	0.16	45,45,45,45	0
57	MG	A	3328	1/1	0.84	0.20	62,62,62,62	0
57	MG	A	3360	1/1	0.84	0.21	60,60,60,60	0
57	MG	A	3181	1/1	0.84	0.10	35,35,35,35	0
57	MG	A	3388	1/1	0.84	0.15	47,47,47,47	0
57	MG	v	101	1/1	0.84	0.53	89,89,89,89	0
57	MG	7	102	1/1	0.84	1.31	66,66,66,66	0
57	MG	A	3009	1/1	0.85	0.30	50,50,50,50	0
57	MG	A	3276	1/1	0.85	0.07	73,73,73,73	0
57	MG	A	3085	1/1	0.85	0.34	52,52,52,52	0
57	MG	A	3039	1/1	0.85	0.82	59,59,59,59	0
57	MG	A	3001	1/1	0.85	0.34	70,70,70,70	0
57	MG	A	3589	1/1	0.85	0.25	46,46,46,46	0
57	MG	A	3436	1/1	0.85	0.18	87,87,87,87	0
57	MG	A	3451	1/1	0.85	0.18	82,82,82,82	0
57	MG	F	305	1/1	0.85	0.25	59,59,59,59	0
57	MG	A	3601	1/1	0.85	0.20	45,45,45,45	0
57	MG	A	3239	1/1	0.85	0.32	56,56,56,56	0
57	MG	A	3514	1/1	0.85	0.14	34,34,34,34	0
57	MG	P	202	1/1	0.85	0.27	86,86,86,86	0
57	MG	A	3549	1/1	0.85	0.47	75,75,75,75	0
57	MG	a	3400	1/1	0.85	0.31	61,61,61,61	0
57	MG	a	3403	1/1	0.85	0.16	61,61,61,61	0
57	MG	A	3614	1/1	0.85	0.16	75,75,75,75	0
57	MG	a	3426	1/1	0.85	0.13	69,69,69,69	0
57	MG	a	3428	1/1	0.85	0.27	46,46,46,46	0
57	MG	a	3434	1/1	0.85	0.24	54,54,54,54	0
57	MG	A	3615	1/1	0.85	0.24	50,50,50,50	0
57	MG	A	3018	1/1	0.85	0.24	49,49,49,49	0
57	MG	a	3450	1/1	0.85	0.08	55,55,55,55	0
57	MG	0	102	1/1	0.85	0.10	61,61,61,61	0
57	MG	A	3135	1/1	0.85	0.46	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3244	1/1	0.85	0.20	59,59,59,59	0
57	MG	A	3376	1/1	0.85	0.12	67,67,67,67	0
57	MG	A	3383	1/1	0.85	0.24	55,55,55,55	0
57	MG	A	3298	1/1	0.85	0.17	58,58,58,58	0
57	MG	y	701	1/1	0.85	0.26	68,68,68,68	0
57	MG	A	3081	1/1	0.85	0.29	61,61,61,61	0
57	MG	A	3141	1/1	0.86	0.23	55,55,55,55	0
57	MG	A	3148	1/1	0.86	0.38	60,60,60,60	0
57	MG	A	3600	1/1	0.86	0.26	64,64,64,64	0
57	MG	a	3396	1/1	0.86	0.11	42,42,42,42	0
57	MG	a	3306	1/1	0.86	0.68	55,55,55,55	0
57	MG	A	3461	1/1	0.86	0.51	59,59,59,59	0
57	MG	a	3419	1/1	0.86	0.24	72,72,72,72	0
57	MG	A	3109	1/1	0.86	0.26	52,52,52,52	0
57	MG	Q	203	1/1	0.86	0.21	45,45,45,45	0
57	MG	a	3328	1/1	0.86	0.25	60,60,60,60	0
57	MG	A	3498	1/1	0.86	0.18	76,76,76,76	0
57	MG	A	3370	1/1	0.86	0.16	64,64,64,64	0
57	MG	A	3520	1/1	0.86	0.21	80,80,80,80	0
57	MG	A	3532	1/1	0.86	0.42	66,66,66,66	0
57	MG	a	3451	1/1	0.86	0.13	49,49,49,49	0
57	MG	a	3358	1/1	0.86	0.36	70,70,70,70	0
57	MG	a	3458	1/1	0.86	0.26	62,62,62,62	0
57	MG	a	3360	1/1	0.86	0.35	40,40,40,40	0
57	MG	A	3110	1/1	0.86	0.26	42,42,42,42	0
57	MG	5	101	1/1	0.86	0.58	69,69,69,69	0
57	MG	a	3373	1/1	0.86	0.24	63,63,63,63	0
57	MG	A	3275	1/1	0.86	0.16	63,63,63,63	0
57	MG	A	3353	1/1	0.86	0.18	79,79,79,79	0
57	MG	7	103	1/1	0.86	0.26	57,57,57,57	0
57	MG	A	3104	1/1	0.87	0.21	64,64,64,64	0
57	MG	A	3373	1/1	0.87	0.08	64,64,64,64	0
57	MG	A	3197	1/1	0.87	0.29	40,40,40,40	0
57	MG	A	3042	1/1	0.87	0.16	92,92,92,92	0
57	MG	A	3544	1/1	0.87	0.17	55,55,55,55	0
57	MG	A	3272	1/1	0.87	0.33	62,62,62,62	0
57	MG	a	3409	1/1	0.87	0.10	74,74,74,74	0
57	MG	a	3410	1/1	0.87	0.37	45,45,45,45	0
57	MG	a	3418	1/1	0.87	0.12	67,67,67,67	0
57	MG	A	3606	1/1	0.87	0.19	55,55,55,55	0
57	MG	A	3309	1/1	0.87	0.25	52,52,52,52	0
57	MG	A	3212	1/1	0.87	0.15	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3119	1/1	0.87	0.27	50,50,50,50	0
57	MG	A	3145	1/1	0.87	0.09	48,48,48,48	0
57	MG	a	3341	1/1	0.87	0.28	60,60,60,60	0
57	MG	A	3278	1/1	0.87	0.46	64,64,64,64	0
57	MG	A	3350	1/1	0.87	0.10	63,63,63,63	0
57	MG	A	3014	1/1	0.87	0.14	39,39,39,39	0
57	MG	A	3097	1/1	0.87	0.13	60,60,60,60	0
57	MG	a	3362	1/1	0.87	0.15	73,73,73,73	0
57	MG	a	3368	1/1	0.87	0.23	44,44,44,44	0
57	MG	V	202	1/1	0.87	0.74	51,51,51,51	0
57	MG	A	3072	1/1	0.87	0.33	43,43,43,43	0
57	MG	A	3092	1/1	0.87	0.38	67,67,67,67	0
57	MG	w	101	1/1	0.87	0.79	60,60,60,60	0
57	MG	A	3237	1/1	0.87	0.17	51,51,51,51	0
57	MG	A	3490	1/1	0.87	0.25	47,47,47,47	0
57	MG	A	3586	1/1	0.87	0.28	55,55,55,55	0
57	MG	A	3285	1/1	0.88	0.24	50,50,50,50	0
57	MG	A	3286	1/1	0.88	0.16	62,62,62,62	0
57	MG	A	3464	1/1	0.88	0.25	49,49,49,49	0
57	MG	A	3118	1/1	0.88	0.87	52,52,52,52	0
57	MG	A	3355	1/1	0.88	0.13	84,84,84,84	0
57	MG	A	3134	1/1	0.88	0.43	67,67,67,67	0
57	MG	A	3502	1/1	0.88	0.25	56,56,56,56	0
57	MG	A	3264	1/1	0.88	0.33	65,65,65,65	0
57	MG	Z	301	1/1	0.88	0.17	66,66,66,66	0
57	MG	A	3516	1/1	0.88	0.21	55,55,55,55	0
57	MG	A	3086	1/1	0.88	0.19	50,50,50,50	0
57	MG	A	3268	1/1	0.88	0.26	58,58,58,58	0
57	MG	A	3543	1/1	0.88	0.14	71,71,71,71	0
57	MG	A	3103	1/1	0.88	0.29	56,56,56,56	0
57	MG	A	3215	1/1	0.88	0.19	66,66,66,66	0
57	MG	a	3413	1/1	0.88	0.14	54,54,54,54	0
57	MG	A	3624	1/1	0.88	0.15	52,52,52,52	0
57	MG	A	3551	1/1	0.88	0.20	63,63,63,63	0
57	MG	a	3421	1/1	0.88	0.11	61,61,61,61	0
57	MG	a	3423	1/1	0.88	0.40	66,66,66,66	0
57	MG	A	3013	1/1	0.88	0.22	52,52,52,52	0
57	MG	A	3089	1/1	0.88	0.19	47,47,47,47	0
57	MG	a	3314	1/1	0.88	0.20	60,60,60,60	0
57	MG	A	3562	1/1	0.88	0.18	59,59,59,59	0
57	MG	a	3321	1/1	0.88	0.18	48,48,48,48	0
57	MG	A	3326	1/1	0.88	0.17	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3223	1/1	0.88	0.30	61,61,61,61	0
57	MG	A	3330	1/1	0.88	0.34	55,55,55,55	0
57	MG	A	3419	1/1	0.88	0.13	74,74,74,74	0
57	MG	A	3030	1/1	0.88	0.36	64,64,64,64	0
57	MG	a	3468	1/1	0.88	0.18	69,69,69,69	0
57	MG	a	3340	1/1	0.88	0.43	81,81,81,81	0
57	MG	a	3474	1/1	0.88	0.16	64,64,64,64	0
57	MG	A	3430	1/1	0.88	0.14	44,44,44,44	0
57	MG	A	3433	1/1	0.88	0.09	64,64,64,64	0
57	MG	A	3126	1/1	0.88	0.22	60,60,60,60	0
57	MG	A	3574	1/1	0.88	0.16	57,57,57,57	0
57	MG	a	3359	1/1	0.88	0.14	65,65,65,65	0
57	MG	A	3347	1/1	0.88	0.18	75,75,75,75	0
57	MG	A	3129	1/1	0.88	0.24	48,48,48,48	0
57	MG	A	3060	1/1	0.89	0.26	81,81,81,81	0
57	MG	E	304	1/1	0.89	0.21	55,55,55,55	0
57	MG	A	3585	1/1	0.89	0.18	47,47,47,47	0
57	MG	a	3361	1/1	0.89	0.15	73,73,73,73	0
57	MG	A	3281	1/1	0.89	0.14	57,57,57,57	0
57	MG	a	3366	1/1	0.89	0.24	38,38,38,38	0
57	MG	A	3374	1/1	0.89	0.15	58,58,58,58	0
57	MG	A	3079	1/1	0.89	0.46	63,63,63,63	0
57	MG	A	3507	1/1	0.89	0.17	46,46,46,46	0
57	MG	A	3198	1/1	0.89	0.22	55,55,55,55	0
57	MG	A	3064	1/1	0.89	0.38	50,50,50,50	0
57	MG	a	3385	1/1	0.89	0.12	33,33,33,33	0
57	MG	A	3602	1/1	0.89	0.11	73,73,73,73	0
57	MG	A	3335	1/1	0.89	0.09	56,56,56,56	0
57	MG	A	3605	1/1	0.89	0.24	70,70,70,70	0
57	MG	A	3525	1/1	0.89	0.14	54,54,54,54	0
57	MG	A	3397	1/1	0.89	0.16	36,36,36,36	0
57	MG	A	3020	1/1	0.89	0.16	50,50,50,50	0
57	MG	A	3611	1/1	0.89	0.20	52,52,52,52	0
57	MG	A	3343	1/1	0.89	0.14	69,69,69,69	0
57	MG	A	3346	1/1	0.89	0.24	68,68,68,68	0
57	MG	A	3616	1/1	0.89	0.32	59,59,59,59	0
57	MG	A	3173	1/1	0.89	0.18	57,57,57,57	0
57	MG	A	3423	1/1	0.89	0.21	59,59,59,59	0
57	MG	A	3555	1/1	0.89	0.17	69,69,69,69	0
57	MG	a	3303	1/1	0.89	0.17	58,58,58,58	0
57	MG	A	3005	1/1	0.89	0.37	40,40,40,40	0
57	MG	a	3310	1/1	0.89	0.10	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3313	1/1	0.89	0.20	61,61,61,61	0
57	MG	A	3050	1/1	0.89	0.12	39,39,39,39	0
57	MG	a	3315	1/1	0.89	0.21	60,60,60,60	0
57	MG	A	3010	1/1	0.89	0.20	41,41,41,41	0
57	MG	A	3053	1/1	0.89	0.45	61,61,61,61	0
57	MG	A	3224	1/1	0.89	0.45	51,51,51,51	0
57	MG	A	3250	1/1	0.89	0.21	58,58,58,58	0
57	MG	A	3252	1/1	0.89	0.27	58,58,58,58	0
57	MG	A	3366	1/1	0.89	0.11	58,58,58,58	0
57	MG	a	3330	1/1	0.89	0.57	63,63,63,63	0
57	MG	A	3367	1/1	0.89	0.48	51,51,51,51	0
57	MG	a	3334	1/1	0.89	0.35	43,43,43,43	0
57	MG	a	3335	1/1	0.89	0.37	37,37,37,37	0
57	MG	A	3465	1/1	0.89	0.15	68,68,68,68	0
57	MG	A	3467	1/1	0.89	0.35	52,52,52,52	0
57	MG	l	201	1/1	0.89	0.48	61,61,61,61	0
57	MG	a	3346	1/1	0.89	0.14	50,50,50,50	0
57	MG	A	3478	1/1	0.89	0.11	65,65,65,65	0
57	MG	a	3350	1/1	0.89	0.12	73,73,73,73	0
57	MG	D	303	1/1	0.89	0.93	49,49,49,49	0
57	MG	a	3357	1/1	0.90	0.12	48,48,48,48	0
57	MG	A	3207	1/1	0.90	0.17	40,40,40,40	0
57	MG	G	201	1/1	0.90	0.17	71,71,71,71	0
57	MG	A	3046	1/1	0.90	0.18	55,55,55,55	0
57	MG	A	3463	1/1	0.90	0.25	46,46,46,46	0
57	MG	A	3037	1/1	0.90	0.27	61,61,61,61	0
57	MG	A	3062	1/1	0.90	0.26	42,42,42,42	0
57	MG	Q	202	1/1	0.90	0.98	51,51,51,51	0
57	MG	A	3251	1/1	0.90	0.14	35,35,35,35	0
57	MG	Q	205	1/1	0.90	0.18	55,55,55,55	0
57	MG	A	3131	1/1	0.90	0.29	53,53,53,53	0
57	MG	A	3479	1/1	0.90	0.18	43,43,43,43	0
57	MG	a	3380	1/1	0.90	0.22	57,57,57,57	0
57	MG	a	3383	1/1	0.90	0.21	56,56,56,56	0
57	MG	A	3063	1/1	0.90	0.16	62,62,62,62	0
57	MG	A	3291	1/1	0.90	0.12	60,60,60,60	0
57	MG	X	101	1/1	0.90	0.22	72,72,72,72	0
57	MG	A	3493	1/1	0.90	0.37	33,33,33,33	0
57	MG	A	3074	1/1	0.90	0.16	42,42,42,42	0
57	MG	A	3023	1/1	0.90	0.30	48,48,48,48	0
57	MG	A	3139	1/1	0.90	0.59	62,62,62,62	0
57	MG	A	3511	1/1	0.90	0.17	99,99,99,99	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3512	1/1	0.90	0.15	51,51,51,51	0
57	MG	A	3260	1/1	0.90	0.10	68,68,68,68	0
57	MG	A	3299	1/1	0.90	0.19	64,64,64,64	0
57	MG	A	3517	1/1	0.90	0.25	51,51,51,51	0
57	MG	A	3304	1/1	0.90	0.18	39,39,39,39	0
57	MG	A	3106	1/1	0.90	0.40	57,57,57,57	0
57	MG	A	3386	1/1	0.90	0.17	59,59,59,59	0
57	MG	A	3533	1/1	0.90	0.18	47,47,47,47	0
57	MG	A	3308	1/1	0.90	0.13	56,56,56,56	0
57	MG	A	3143	1/1	0.90	0.27	60,60,60,60	0
57	MG	A	3235	1/1	0.90	0.14	48,48,48,48	0
57	MG	A	3322	1/1	0.90	0.24	61,61,61,61	0
57	MG	A	3107	1/1	0.90	1.43	75,75,75,75	0
57	MG	A	3269	1/1	0.90	0.23	54,54,54,54	0
57	MG	a	3324	1/1	0.90	0.47	40,40,40,40	0
57	MG	a	3325	1/1	0.90	0.83	55,55,55,55	0
57	MG	A	3078	1/1	0.90	0.35	47,47,47,47	0
57	MG	B	211	1/1	0.90	0.34	61,61,61,61	0
57	MG	a	3459	1/1	0.90	0.26	91,91,91,91	0
57	MG	A	3186	1/1	0.90	0.16	90,90,90,90	0
57	MG	A	3150	1/1	0.90	0.14	74,74,74,74	0
57	MG	A	3431	1/1	0.90	0.35	69,69,69,69	0
57	MG	A	3242	1/1	0.90	0.11	63,63,63,63	0
57	MG	A	3008	1/1	0.90	0.98	80,80,80,80	0
57	MG	A	3277	1/1	0.90	0.52	71,71,71,71	0
57	MG	A	3199	1/1	0.90	0.15	42,42,42,42	0
57	MG	A	3571	1/1	0.90	0.38	89,89,89,89	0
57	MG	E	301	1/1	0.90	0.79	56,56,56,56	0
57	MG	A	3448	1/1	0.90	0.45	48,48,48,48	0
57	MG	F	301	1/1	0.90	0.31	71,71,71,71	0
57	MG	a	3308	1/1	0.91	0.21	41,41,41,41	0
57	MG	D	304	1/1	0.91	0.36	74,74,74,74	0
57	MG	A	3248	1/1	0.91	0.61	57,57,57,57	0
57	MG	A	3452	1/1	0.91	0.27	53,53,53,53	0
57	MG	A	3061	1/1	0.91	0.22	54,54,54,54	0
57	MG	A	3546	1/1	0.91	0.32	53,53,53,53	0
57	MG	a	3319	1/1	0.91	0.38	39,39,39,39	0
57	MG	F	304	1/1	0.91	0.27	60,60,60,60	0
57	MG	A	3266	1/1	0.91	0.39	61,61,61,61	0
57	MG	A	3403	1/1	0.91	0.15	40,40,40,40	0
57	MG	A	3312	1/1	0.91	0.22	59,59,59,59	0
57	MG	a	3405	1/1	0.91	0.19	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3407	1/1	0.91	0.35	82,82,82,82	0
57	MG	A	3406	1/1	0.91	0.14	56,56,56,56	0
57	MG	A	3471	1/1	0.91	0.33	56,56,56,56	0
57	MG	A	3168	1/1	0.91	0.41	48,48,48,48	0
57	MG	A	3356	1/1	0.91	0.24	57,57,57,57	0
57	MG	A	3411	1/1	0.91	0.23	47,47,47,47	0
57	MG	Q	204	1/1	0.91	0.62	56,56,56,56	0
57	MG	A	3414	1/1	0.91	0.28	31,31,31,31	0
57	MG	a	3336	1/1	0.91	0.29	62,62,62,62	0
57	MG	A	3491	1/1	0.91	0.26	72,72,72,72	0
57	MG	A	3031	1/1	0.91	0.18	70,70,70,70	0
57	MG	a	3433	1/1	0.91	0.12	32,32,32,32	0
57	MG	A	3631	1/1	0.91	0.24	87,87,87,87	0
57	MG	A	3069	1/1	0.91	0.23	46,46,46,46	0
57	MG	W	201	1/1	0.91	1.28	77,77,77,77	0
57	MG	A	3290	1/1	0.91	0.23	49,49,49,49	0
57	MG	a	3353	1/1	0.91	0.16	48,48,48,48	0
57	MG	a	3454	1/1	0.91	0.24	39,39,39,39	0
57	MG	A	3048	1/1	0.91	0.20	43,43,43,43	0
57	MG	A	3142	1/1	0.91	0.10	84,84,84,84	0
57	MG	A	3432	1/1	0.91	0.21	58,58,58,58	0
57	MG	A	3177	1/1	0.91	0.18	65,65,65,65	0
57	MG	A	3515	1/1	0.91	0.29	48,48,48,48	0
57	MG	A	3578	1/1	0.91	0.24	64,64,64,64	0
57	MG	A	3580	1/1	0.91	0.24	67,67,67,67	0
57	MG	A	3043	1/1	0.91	0.16	59,59,59,59	0
57	MG	a	3486	1/1	0.91	0.19	38,38,38,38	0
57	MG	A	3261	1/1	0.91	0.23	61,61,61,61	0
57	MG	a	3370	1/1	0.91	0.18	66,66,66,66	0
57	MG	A	3262	1/1	0.91	0.08	63,63,63,63	0
57	MG	A	3444	1/1	0.91	0.34	48,48,48,48	0
57	MG	a	3376	1/1	0.91	0.20	46,46,46,46	0
57	MG	A	3051	1/1	0.91	0.24	43,43,43,43	0
57	MG	A	3006	1/1	0.92	0.60	57,57,57,57	0
57	MG	A	3136	1/1	0.92	0.39	49,49,49,49	0
57	MG	A	3138	1/1	0.92	0.21	77,77,77,77	0
57	MG	A	3336	1/1	0.92	0.22	36,36,36,36	0
57	MG	A	3214	1/1	0.92	0.41	52,52,52,52	0
57	MG	A	3341	1/1	0.92	0.33	57,57,57,57	0
57	MG	A	3625	1/1	0.92	0.19	84,84,84,84	0
57	MG	A	3627	1/1	0.92	0.14	91,91,91,91	0
57	MG	A	3393	1/1	0.92	0.32	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3159	1/1	0.92	0.13	78,78,78,78	0
57	MG	A	3466	1/1	0.92	0.08	67,67,67,67	0
57	MG	A	3398	1/1	0.92	0.26	43,43,43,43	0
57	MG	A	3345	1/1	0.92	0.19	44,44,44,44	0
57	MG	A	3567	1/1	0.92	0.17	47,47,47,47	0
57	MG	A	3004	1/1	0.92	0.21	55,55,55,55	0
57	MG	A	3217	1/1	0.92	0.39	50,50,50,50	0
57	MG	A	3407	1/1	0.92	0.10	38,38,38,38	0
57	MG	A	3487	1/1	0.92	0.23	60,60,60,60	0
57	MG	A	3076	1/1	0.92	0.19	41,41,41,41	0
57	MG	A	3130	1/1	0.92	0.47	43,43,43,43	0
57	MG	A	3196	1/1	0.92	0.18	44,44,44,44	0
57	MG	A	3575	1/1	0.92	0.09	70,70,70,70	0
57	MG	A	3497	1/1	0.92	0.26	50,50,50,50	0
57	MG	a	3420	1/1	0.92	0.17	62,62,62,62	0
57	MG	a	3326	1/1	0.92	0.21	48,48,48,48	0
57	MG	A	3036	1/1	0.92	0.11	74,74,74,74	0
57	MG	a	3424	1/1	0.92	0.11	43,43,43,43	0
57	MG	A	3415	1/1	0.92	0.27	42,42,42,42	0
57	MG	A	3504	1/1	0.92	0.37	38,38,38,38	0
57	MG	E	303	1/1	0.92	0.19	41,41,41,41	0
57	MG	A	3581	1/1	0.92	0.14	55,55,55,55	0
57	MG	A	3505	1/1	0.92	0.18	68,68,68,68	0
57	MG	F	302	1/1	0.92	0.81	52,52,52,52	0
57	MG	A	3227	1/1	0.92	0.44	43,43,43,43	0
57	MG	a	3339	1/1	0.92	0.24	50,50,50,50	0
57	MG	A	3508	1/1	0.92	0.13	46,46,46,46	0
57	MG	A	3590	1/1	0.92	0.13	59,59,59,59	0
57	MG	A	3591	1/1	0.92	0.13	66,66,66,66	0
57	MG	A	3594	1/1	0.92	0.19	37,37,37,37	0
57	MG	A	3019	1/1	0.92	0.28	49,49,49,49	0
57	MG	a	3461	1/1	0.92	0.15	44,44,44,44	0
57	MG	a	3462	1/1	0.92	0.13	74,74,74,74	0
57	MG	A	3425	1/1	0.92	0.23	62,62,62,62	0
57	MG	A	3232	1/1	0.92	0.30	36,36,36,36	0
57	MG	A	3146	1/1	0.92	0.27	56,56,56,56	0
57	MG	A	3361	1/1	0.92	0.12	84,84,84,84	0
57	MG	A	3365	1/1	0.92	0.14	51,51,51,51	0
57	MG	A	3201	1/1	0.92	0.20	63,63,63,63	0
57	MG	e	201	1/1	0.92	0.15	69,69,69,69	0
57	MG	A	3323	1/1	0.92	0.15	42,42,42,42	0
57	MG	A	3204	1/1	0.92	0.25	43,43,43,43	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3364	1/1	0.92	0.43	56,56,56,56	0
57	MG	A	3099	1/1	0.92	0.20	34,34,34,34	0
57	MG	A	3441	1/1	0.92	0.14	73,73,73,73	0
57	MG	A	3613	1/1	0.92	0.17	52,52,52,52	0
57	MG	A	3022	1/1	0.93	0.28	33,33,33,33	0
57	MG	8	101	1/1	0.93	0.12	66,66,66,66	0
57	MG	9	101	1/1	0.93	0.30	57,57,57,57	0
57	MG	A	3082	1/1	0.93	0.64	53,53,53,53	0
57	MG	A	3313	1/1	0.93	0.17	44,44,44,44	0
57	MG	A	3016	1/1	0.93	0.14	49,49,49,49	0
57	MG	a	3301	1/1	0.93	0.23	49,49,49,49	0
57	MG	A	3428	1/1	0.93	0.15	36,36,36,36	0
57	MG	A	3096	1/1	0.93	0.23	58,58,58,58	0
57	MG	A	3153	1/1	0.93	0.22	82,82,82,82	0
57	MG	A	3506	1/1	0.93	0.13	49,49,49,49	0
57	MG	A	3325	1/1	0.93	0.28	52,52,52,52	0
57	MG	A	3584	1/1	0.93	0.25	62,62,62,62	0
57	MG	A	3221	1/1	0.93	0.49	58,58,58,58	0
57	MG	a	3401	1/1	0.93	0.38	44,44,44,44	0
57	MG	A	3327	1/1	0.93	0.14	49,49,49,49	0
57	MG	A	3154	1/1	0.93	0.18	60,60,60,60	0
57	MG	A	3024	1/1	0.93	0.15	63,63,63,63	0
57	MG	a	3408	1/1	0.93	0.12	55,55,55,55	0
57	MG	A	3439	1/1	0.93	0.18	58,58,58,58	0
57	MG	A	3158	1/1	0.93	0.50	97,97,97,97	0
57	MG	a	3411	1/1	0.93	0.16	53,53,53,53	0
57	MG	A	3595	1/1	0.93	0.15	63,63,63,63	0
57	MG	A	3442	1/1	0.93	0.19	56,56,56,56	0
57	MG	A	3137	1/1	0.93	0.48	59,59,59,59	0
57	MG	F	303	1/1	0.93	0.11	36,36,36,36	0
57	MG	A	3007	1/1	0.93	0.27	46,46,46,46	0
57	MG	A	3449	1/1	0.93	0.23	51,51,51,51	0
57	MG	a	3331	1/1	0.93	0.24	55,55,55,55	0
57	MG	A	3392	1/1	0.93	0.22	47,47,47,47	0
57	MG	a	3333	1/1	0.93	0.16	51,51,51,51	0
57	MG	a	3427	1/1	0.93	0.26	50,50,50,50	0
57	MG	A	3542	1/1	0.93	0.66	60,60,60,60	0
57	MG	a	3429	1/1	0.93	0.14	49,49,49,49	0
57	MG	a	3431	1/1	0.93	0.10	41,41,41,41	0
57	MG	A	3111	1/1	0.93	0.52	61,61,61,61	0
57	MG	A	3454	1/1	0.93	0.50	51,51,51,51	0
57	MG	a	3435	1/1	0.93	0.19	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3140	1/1	0.93	0.16	57,57,57,57	0
57	MG	a	3437	1/1	0.93	0.15	54,54,54,54	0
57	MG	A	3202	1/1	0.93	0.37	50,50,50,50	0
57	MG	a	3445	1/1	0.93	0.20	66,66,66,66	0
57	MG	A	3610	1/1	0.93	0.22	61,61,61,61	0
57	MG	a	3345	1/1	0.93	0.22	47,47,47,47	0
57	MG	A	3203	1/1	0.93	0.19	53,53,53,53	0
57	MG	A	3404	1/1	0.93	0.20	57,57,57,57	0
57	MG	a	3349	1/1	0.93	0.37	47,47,47,47	0
57	MG	A	3125	1/1	0.93	0.29	31,31,31,31	0
57	MG	U	201	1/1	0.93	0.38	72,72,72,72	0
57	MG	A	3027	1/1	0.93	0.25	44,44,44,44	0
57	MG	a	3463	1/1	0.93	0.21	45,45,45,45	0
57	MG	a	3354	1/1	0.93	0.13	51,51,51,51	0
57	MG	a	3470	1/1	0.93	0.15	56,56,56,56	0
57	MG	a	3356	1/1	0.93	0.22	49,49,49,49	0
57	MG	A	3469	1/1	0.93	0.12	54,54,54,54	0
57	MG	A	3080	1/1	0.93	0.31	54,54,54,54	0
57	MG	a	3481	1/1	0.93	0.27	46,46,46,46	0
57	MG	A	3211	1/1	0.93	0.47	55,55,55,55	0
57	MG	A	3621	1/1	0.93	0.30	59,59,59,59	0
57	MG	A	3301	1/1	0.93	0.17	57,57,57,57	0
57	MG	A	3172	1/1	0.93	0.32	31,31,31,31	0
57	MG	A	3482	1/1	0.93	0.09	67,67,67,67	0
57	MG	0	103	1/1	0.93	0.19	61,61,61,61	0
57	MG	w	105	1/1	0.93	0.23	29,29,29,29	0
57	MG	A	3484	1/1	0.93	0.14	50,50,50,50	0
57	MG	A	3271	1/1	0.93	0.16	57,57,57,57	0
57	MG	A	3091	1/1	0.93	0.21	63,63,63,63	0
61	GDP	y	703	28/28	0.93	0.15	91,120,142,146	0
57	MG	A	3047	1/1	0.94	0.19	39,39,39,39	0
57	MG	A	3363	1/1	0.94	0.18	30,30,30,30	0
57	MG	a	3384	1/1	0.94	0.14	49,49,49,49	0
57	MG	B	204	1/1	0.94	0.15	85,85,85,85	0
57	MG	a	3387	1/1	0.94	0.08	55,55,55,55	0
57	MG	A	3295	1/1	0.94	0.27	30,30,30,30	0
57	MG	A	3065	1/1	0.94	0.25	74,74,74,74	0
57	MG	a	3302	1/1	0.94	0.25	58,58,58,58	0
57	MG	A	3147	1/1	0.94	0.22	64,64,64,64	0
57	MG	a	3304	1/1	0.94	0.10	55,55,55,55	0
57	MG	A	3486	1/1	0.94	0.23	40,40,40,40	0
57	MG	A	3331	1/1	0.94	0.12	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3489	1/1	0.94	0.12	55,55,55,55	0
57	MG	A	3427	1/1	0.94	0.16	62,62,62,62	0
57	MG	A	3371	1/1	0.94	0.11	53,53,53,53	0
57	MG	A	3333	1/1	0.94	0.08	62,62,62,62	0
57	MG	A	3279	1/1	0.94	0.14	55,55,55,55	0
57	MG	A	3105	1/1	0.94	0.12	35,35,35,35	0
57	MG	a	3320	1/1	0.94	0.14	39,39,39,39	0
57	MG	A	3302	1/1	0.94	0.34	59,59,59,59	0
57	MG	A	3379	1/1	0.94	0.25	50,50,50,50	0
57	MG	A	3380	1/1	0.94	0.20	52,52,52,52	0
57	MG	A	3382	1/1	0.94	0.24	36,36,36,36	0
57	MG	A	3149	1/1	0.94	0.18	53,53,53,53	0
57	MG	E	302	1/1	0.94	0.13	35,35,35,35	0
57	MG	a	3422	1/1	0.94	0.32	50,50,50,50	0
57	MG	A	3026	1/1	0.94	0.09	55,55,55,55	0
57	MG	A	3342	1/1	0.94	0.15	61,61,61,61	0
57	MG	A	3028	1/1	0.94	0.27	66,66,66,66	0
57	MG	A	3446	1/1	0.94	0.29	39,39,39,39	0
57	MG	A	3167	1/1	0.94	0.54	65,65,65,65	0
57	MG	A	3310	1/1	0.94	0.14	45,45,45,45	0
57	MG	A	3450	1/1	0.94	0.17	57,57,57,57	0
57	MG	A	3311	1/1	0.94	0.28	52,52,52,52	0
57	MG	A	3524	1/1	0.94	0.12	53,53,53,53	0
57	MG	a	3337	1/1	0.94	0.26	50,50,50,50	0
57	MG	G	203	1/1	0.94	0.09	69,69,69,69	0
57	MG	A	3401	1/1	0.94	0.11	37,37,37,37	0
57	MG	A	3529	1/1	0.94	0.25	56,56,56,56	0
57	MG	a	3342	1/1	0.94	0.46	50,50,50,50	0
57	MG	a	3441	1/1	0.94	0.19	62,62,62,62	0
57	MG	a	3442	1/1	0.94	0.08	45,45,45,45	0
57	MG	A	3531	1/1	0.94	0.07	91,91,91,91	0
57	MG	a	3446	1/1	0.94	0.18	68,68,68,68	0
57	MG	Q	201	1/1	0.94	0.50	51,51,51,51	0
57	MG	A	3402	1/1	0.94	0.09	50,50,50,50	0
57	MG	A	3456	1/1	0.94	0.29	47,47,47,47	0
57	MG	A	3241	1/1	0.94	0.15	42,42,42,42	0
57	MG	a	3457	1/1	0.94	0.33	41,41,41,41	0
57	MG	a	3351	1/1	0.94	0.18	36,36,36,36	0
57	MG	A	3462	1/1	0.94	0.12	53,53,53,53	0
57	MG	A	3041	1/1	0.94	0.24	42,42,42,42	0
57	MG	R	202	1/1	0.94	0.29	53,53,53,53	0
57	MG	A	3545	1/1	0.94	0.23	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3466	1/1	0.94	0.18	60,60,60,60	0
57	MG	a	3467	1/1	0.94	0.16	62,62,62,62	0
57	MG	U	202	1/1	0.94	0.35	62,62,62,62	0
57	MG	a	3469	1/1	0.94	0.38	42,42,42,42	0
57	MG	A	3315	1/1	0.94	0.27	56,56,56,56	0
57	MG	A	3316	1/1	0.94	0.30	47,47,47,47	0
57	MG	A	3289	1/1	0.94	0.15	43,43,43,43	0
57	MG	a	3476	1/1	0.94	0.09	50,50,50,50	0
57	MG	a	3477	1/1	0.94	0.12	68,68,68,68	0
57	MG	A	3552	1/1	0.94	0.18	64,64,64,64	0
57	MG	A	3258	1/1	0.94	0.21	43,43,43,43	0
57	MG	a	3363	1/1	0.94	0.24	43,43,43,43	0
57	MG	a	3485	1/1	0.94	0.25	51,51,51,51	0
57	MG	A	3210	1/1	0.94	0.20	56,56,56,56	0
57	MG	A	3620	1/1	0.94	0.31	49,49,49,49	0
57	MG	A	3558	1/1	0.94	0.15	73,73,73,73	0
57	MG	A	3622	1/1	0.94	0.24	49,49,49,49	0
57	MG	m	201	1/1	0.94	0.20	35,35,35,35	0
57	MG	A	3033	1/1	0.94	0.18	39,39,39,39	0
57	MG	w	103	1/1	0.94	0.17	38,38,38,38	0
57	MG	A	3472	1/1	0.94	0.17	53,53,53,53	0
57	MG	a	3372	1/1	0.94	0.30	47,47,47,47	0
57	MG	A	3476	1/1	0.94	0.30	50,50,50,50	0
58	ZN	5	102	1/1	0.94	0.08	70,70,70,70	0
57	MG	A	3628	1/1	0.94	0.16	87,87,87,87	0
57	MG	A	3629	1/1	0.94	0.20	70,70,70,70	0
57	MG	A	3228	1/1	0.95	0.19	62,62,62,62	0
57	MG	A	3035	1/1	0.95	0.09	47,47,47,47	0
57	MG	A	3634	1/1	0.95	0.14	56,56,56,56	0
57	MG	A	3453	1/1	0.95	0.15	44,44,44,44	0
57	MG	B	201	1/1	0.95	0.33	51,51,51,51	0
57	MG	A	3359	1/1	0.95	0.13	45,45,45,45	0
57	MG	A	3455	1/1	0.95	0.22	73,73,73,73	0
57	MG	A	3133	1/1	0.95	0.49	44,44,44,44	0
57	MG	A	3274	1/1	0.95	0.47	45,45,45,45	0
57	MG	a	3430	1/1	0.95	0.08	65,65,65,65	0
57	MG	7	101	1/1	0.95	0.71	48,48,48,48	0
57	MG	A	3164	1/1	0.95	0.19	51,51,51,51	0
57	MG	A	3582	1/1	0.95	0.14	63,63,63,63	0
57	MG	A	3098	1/1	0.95	0.16	48,48,48,48	0
57	MG	B	212	1/1	0.95	0.18	75,75,75,75	0
57	MG	A	3300	1/1	0.95	0.17	60,60,60,60	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3257	1/1	0.95	0.18	50,50,50,50	0
57	MG	A	3368	1/1	0.95	0.23	47,47,47,47	0
57	MG	A	3200	1/1	0.95	0.18	44,44,44,44	0
57	MG	a	3444	1/1	0.95	0.16	53,53,53,53	0
57	MG	a	3365	1/1	0.95	0.74	45,45,45,45	0
57	MG	A	3420	1/1	0.95	0.20	31,31,31,31	0
57	MG	B	218	1/1	0.95	0.22	74,74,74,74	0
57	MG	A	3303	1/1	0.95	0.07	55,55,55,55	0
57	MG	A	3539	1/1	0.95	0.14	52,52,52,52	0
57	MG	A	3180	1/1	0.95	0.65	44,44,44,44	0
57	MG	a	3456	1/1	0.95	0.19	59,59,59,59	0
57	MG	A	3474	1/1	0.95	0.13	51,51,51,51	0
57	MG	a	3311	1/1	0.95	0.20	51,51,51,51	0
57	MG	A	3475	1/1	0.95	0.07	55,55,55,55	0
57	MG	A	3280	1/1	0.95	0.28	32,32,32,32	0
57	MG	A	3477	1/1	0.95	0.14	65,65,65,65	0
57	MG	A	3083	1/1	0.95	0.07	37,37,37,37	0
57	MG	a	3464	1/1	0.95	0.07	44,44,44,44	0
57	MG	A	3604	1/1	0.95	0.35	64,64,64,64	0
57	MG	A	3550	1/1	0.95	0.14	58,58,58,58	0
57	MG	a	3386	1/1	0.95	0.47	41,41,41,41	0
57	MG	A	3123	1/1	0.95	0.17	51,51,51,51	0
57	MG	A	3218	1/1	0.95	0.45	32,32,32,32	0
57	MG	a	3389	1/1	0.95	0.11	38,38,38,38	0
57	MG	A	3553	1/1	0.95	0.08	40,40,40,40	0
57	MG	A	3344	1/1	0.95	0.07	53,53,53,53	0
57	MG	A	3088	1/1	0.95	0.15	63,63,63,63	0
57	MG	A	3205	1/1	0.95	0.12	43,43,43,43	0
57	MG	A	3559	1/1	0.95	0.22	46,46,46,46	0
57	MG	A	3384	1/1	0.95	0.23	51,51,51,51	0
57	MG	A	3222	1/1	0.95	0.20	33,33,33,33	0
57	MG	A	3348	1/1	0.95	0.19	71,71,71,71	0
57	MG	A	3618	1/1	0.95	0.29	45,45,45,45	0
57	MG	A	3390	1/1	0.95	0.24	46,46,46,46	0
57	MG	A	3314	1/1	0.95	0.24	54,54,54,54	0
57	MG	l	202	1/1	0.95	0.33	61,61,61,61	0
57	MG	A	3351	1/1	0.95	0.20	38,38,38,38	0
57	MG	A	3394	1/1	0.95	0.20	30,30,30,30	0
57	MG	A	3623	1/1	0.95	0.20	52,52,52,52	0
57	MG	A	3206	1/1	0.95	0.14	65,65,65,65	0
57	MG	w	106	1/1	0.95	0.17	45,45,45,45	0
57	MG	a	3414	1/1	0.95	0.20	50,50,50,50	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3416	1/1	0.95	0.25	61,61,61,61	0
58	ZN	4	501	1/1	0.95	0.06	117,117,117,117	0
57	MG	A	3151	1/1	0.95	0.29	43,43,43,43	0
57	MG	A	3208	1/1	0.95	0.27	40,40,40,40	0
57	MG	A	3189	1/1	0.95	0.31	37,37,37,37	0
57	MG	A	3219	1/1	0.96	0.11	61,61,61,61	0
57	MG	A	3440	1/1	0.96	0.20	74,74,74,74	0
57	MG	a	3417	1/1	0.96	0.31	37,37,37,37	0
57	MG	A	3187	1/1	0.96	0.44	47,47,47,47	0
57	MG	A	3547	1/1	0.96	0.20	60,60,60,60	0
57	MG	A	3548	1/1	0.96	0.14	40,40,40,40	0
57	MG	a	3338	1/1	0.96	0.17	66,66,66,66	0
57	MG	A	3070	1/1	0.96	0.11	57,57,57,57	0
57	MG	A	3292	1/1	0.96	0.24	54,54,54,54	0
57	MG	A	3445	1/1	0.96	0.08	51,51,51,51	0
57	MG	A	3190	1/1	0.96	0.30	38,38,38,38	0
57	MG	a	3344	1/1	0.96	0.12	51,51,51,51	0
57	MG	A	3128	1/1	0.96	0.19	45,45,45,45	0
57	MG	A	3492	1/1	0.96	0.10	62,62,62,62	0
57	MG	a	3347	1/1	0.96	0.23	41,41,41,41	0
57	MG	A	3115	1/1	0.96	0.12	48,48,48,48	0
57	MG	R	203	1/1	0.96	0.25	44,44,44,44	0
57	MG	a	3432	1/1	0.96	0.09	46,46,46,46	0
57	MG	A	3556	1/1	0.96	0.15	55,55,55,55	0
57	MG	A	3557	1/1	0.96	0.33	60,60,60,60	0
57	MG	A	3496	1/1	0.96	0.17	47,47,47,47	0
57	MG	A	3116	1/1	0.96	0.34	50,50,50,50	0
57	MG	A	3317	1/1	0.96	0.20	31,31,31,31	0
57	MG	A	3561	1/1	0.96	0.14	54,54,54,54	0
57	MG	A	3499	1/1	0.96	0.10	60,60,60,60	0
57	MG	A	3500	1/1	0.96	0.29	40,40,40,40	0
57	MG	A	3501	1/1	0.96	0.26	46,46,46,46	0
57	MG	A	3318	1/1	0.96	0.32	60,60,60,60	0
57	MG	A	3566	1/1	0.96	0.11	40,40,40,40	0
57	MG	A	3503	1/1	0.96	0.21	41,41,41,41	0
57	MG	A	3632	1/1	0.96	0.27	63,63,63,63	0
57	MG	a	3452	1/1	0.96	0.11	52,52,52,52	0
57	MG	A	3077	1/1	0.96	0.13	48,48,48,48	0
57	MG	A	3412	1/1	0.96	0.22	45,45,45,45	0
57	MG	A	3321	1/1	0.96	0.09	41,41,41,41	0
57	MG	a	3367	1/1	0.96	0.25	30,30,30,30	0
57	MG	B	203	1/1	0.96	0.07	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3349	1/1	0.96	0.27	39,39,39,39	0
57	MG	B	205	1/1	0.96	0.21	81,81,81,81	0
57	MG	A	3417	1/1	0.96	0.20	30,30,30,30	0
57	MG	A	3510	1/1	0.96	0.15	60,60,60,60	0
57	MG	A	3163	1/1	0.96	0.16	34,34,34,34	0
57	MG	a	3375	1/1	0.96	0.57	41,41,41,41	0
57	MG	A	3381	1/1	0.96	0.24	43,43,43,43	0
57	MG	A	3422	1/1	0.96	0.18	52,52,52,52	0
57	MG	a	3378	1/1	0.96	0.24	39,39,39,39	0
57	MG	A	3090	1/1	0.96	0.39	38,38,38,38	0
57	MG	A	3324	1/1	0.96	0.21	43,43,43,43	0
57	MG	A	3155	1/1	0.96	0.28	44,44,44,44	0
57	MG	a	3475	1/1	0.96	0.38	38,38,38,38	0
57	MG	a	3309	1/1	0.96	0.81	37,37,37,37	0
57	MG	A	3468	1/1	0.96	0.13	48,48,48,48	0
57	MG	A	3522	1/1	0.96	0.17	51,51,51,51	0
57	MG	A	3385	1/1	0.96	0.19	57,57,57,57	0
57	MG	A	3267	1/1	0.96	0.28	59,59,59,59	0
57	MG	A	3527	1/1	0.96	0.20	63,63,63,63	0
57	MG	A	3587	1/1	0.96	0.25	48,48,48,48	0
57	MG	A	3387	1/1	0.96	0.18	53,53,53,53	0
57	MG	A	3234	1/1	0.96	0.36	48,48,48,48	0
57	MG	A	3166	1/1	0.96	0.30	57,57,57,57	0
57	MG	a	3399	1/1	0.96	0.18	36,36,36,36	0
57	MG	A	3156	1/1	0.96	0.08	86,86,86,86	0
57	MG	A	3534	1/1	0.96	0.36	45,45,45,45	0
57	MG	A	3536	1/1	0.96	0.21	39,39,39,39	0
57	MG	w	104	1/1	0.96	0.09	38,38,38,38	0
57	MG	a	3404	1/1	0.96	0.44	38,38,38,38	0
57	MG	A	3597	1/1	0.96	0.28	65,65,65,65	0
57	MG	A	3358	1/1	0.96	0.18	63,63,63,63	0
57	MG	A	3599	1/1	0.96	0.22	57,57,57,57	0
57	MG	A	3540	1/1	0.96	0.22	55,55,55,55	0
57	MG	A	3541	1/1	0.96	0.26	56,56,56,56	0
57	MG	A	3307	1/1	0.96	0.21	45,45,45,45	0
57	MG	A	3071	1/1	0.96	0.22	41,41,41,41	0
57	MG	A	3364	1/1	0.97	0.16	61,61,61,61	0
57	MG	A	3144	1/1	0.97	0.32	38,38,38,38	0
57	MG	A	3389	1/1	0.97	0.25	30,30,30,30	0
57	MG	a	3355	1/1	0.97	0.20	39,39,39,39	0
57	MG	A	3494	1/1	0.97	0.17	42,42,42,42	0
57	MG	A	3593	1/1	0.97	0.30	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3049	1/1	0.97	0.19	41,41,41,41	0
57	MG	A	3391	1/1	0.97	0.21	30,30,30,30	0
57	MG	A	3424	1/1	0.97	0.27	57,57,57,57	0
57	MG	A	3457	1/1	0.97	0.21	41,41,41,41	0
57	MG	A	3458	1/1	0.97	0.32	27,27,27,27	0
57	MG	A	3459	1/1	0.97	0.18	36,36,36,36	0
57	MG	A	3225	1/1	0.97	0.26	36,36,36,36	0
57	MG	A	3100	1/1	0.97	0.13	45,45,45,45	0
57	MG	D	301	1/1	0.97	0.29	41,41,41,41	0
57	MG	a	3439	1/1	0.97	0.21	48,48,48,48	0
57	MG	A	3369	1/1	0.97	0.16	54,54,54,54	0
57	MG	a	3307	1/1	0.97	0.14	35,35,35,35	0
57	MG	A	3396	1/1	0.97	0.24	38,38,38,38	0
57	MG	a	3443	1/1	0.97	0.06	46,46,46,46	0
57	MG	A	3012	1/1	0.97	0.16	37,37,37,37	0
57	MG	A	3055	1/1	0.97	0.12	45,45,45,45	0
57	MG	A	3400	1/1	0.97	0.09	35,35,35,35	0
57	MG	a	3448	1/1	0.97	0.07	42,42,42,42	0
57	MG	a	3449	1/1	0.97	0.21	50,50,50,50	0
57	MG	a	3312	1/1	0.97	0.07	26,26,26,26	0
57	MG	A	3509	1/1	0.97	0.25	51,51,51,51	0
57	MG	A	3372	1/1	0.97	0.17	59,59,59,59	0
57	MG	a	3453	1/1	0.97	0.07	41,41,41,41	0
57	MG	A	3609	1/1	0.97	0.14	39,39,39,39	0
57	MG	A	3306	1/1	0.97	0.17	50,50,50,50	0
57	MG	a	3317	1/1	0.97	0.31	26,26,26,26	0
57	MG	a	3381	1/1	0.97	0.18	55,55,55,55	0
57	MG	a	3382	1/1	0.97	0.21	31,31,31,31	0
57	MG	A	3470	1/1	0.97	0.17	43,43,43,43	0
57	MG	a	3460	1/1	0.97	0.14	52,52,52,52	0
57	MG	A	3612	1/1	0.97	0.05	53,53,53,53	0
57	MG	A	3320	1/1	0.97	0.12	49,49,49,49	0
57	MG	a	3322	1/1	0.97	0.09	50,50,50,50	0
57	MG	A	3337	1/1	0.97	0.27	44,44,44,44	0
57	MG	a	3465	1/1	0.97	0.07	57,57,57,57	0
57	MG	A	3473	1/1	0.97	0.15	46,46,46,46	0
57	MG	A	3437	1/1	0.97	0.20	28,28,28,28	0
57	MG	A	3519	1/1	0.97	0.30	30,30,30,30	0
57	MG	A	3438	1/1	0.97	0.12	53,53,53,53	0
57	MG	O	201	1/1	0.97	0.09	38,38,38,38	0
57	MG	a	3471	1/1	0.97	0.27	49,49,49,49	0
57	MG	A	3338	1/1	0.97	0.28	30,30,30,30	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	a	3473	1/1	0.97	0.45	43,43,43,43	0
57	MG	A	3283	1/1	0.97	0.12	55,55,55,55	0
57	MG	a	3397	1/1	0.97	0.39	27,27,27,27	0
57	MG	a	3398	1/1	0.97	0.39	27,27,27,27	0
57	MG	A	3340	1/1	0.97	0.23	65,65,65,65	0
57	MG	a	3478	1/1	0.97	0.14	48,48,48,48	0
57	MG	a	3479	1/1	0.97	0.18	47,47,47,47	0
57	MG	A	3526	1/1	0.97	0.10	41,41,41,41	0
57	MG	A	3229	1/1	0.97	0.13	46,46,46,46	0
57	MG	a	3482	1/1	0.97	0.14	37,37,37,37	0
57	MG	A	3409	1/1	0.97	0.25	60,60,60,60	0
57	MG	A	3296	1/1	0.97	0.36	52,52,52,52	0
57	MG	A	3626	1/1	0.97	0.14	51,51,51,51	0
57	MG	A	3230	1/1	0.97	0.24	46,46,46,46	0
57	MG	A	3485	1/1	0.97	0.22	38,38,38,38	0
57	MG	A	3447	1/1	0.97	0.21	67,67,67,67	0
57	MG	A	3630	1/1	0.97	0.18	43,43,43,43	0
57	MG	A	3579	1/1	0.97	0.19	53,53,53,53	0
57	MG	a	3412	1/1	0.97	0.11	48,48,48,48	0
57	MG	U	204	1/1	0.97	0.14	37,37,37,37	0
57	MG	A	3535	1/1	0.97	0.22	49,49,49,49	0
57	MG	a	3415	1/1	0.97	0.20	62,62,62,62	0
57	MG	A	3633	1/1	0.97	0.30	64,64,64,64	0
57	MG	A	3169	1/1	0.97	0.30	57,57,57,57	0
57	MG	A	3538	1/1	0.97	0.16	40,40,40,40	0
58	ZN	Y	501	1/1	0.97	0.08	92,92,92,92	0
57	MG	A	3583	1/1	0.97	0.10	55,55,55,55	0
57	MG	A	3488	1/1	0.97	0.31	50,50,50,50	0
58	ZN	6	102	1/1	0.97	0.09	70,70,70,70	0
58	ZN	9	102	1/1	0.97	0.10	72,72,72,72	0
57	MG	A	3362	1/1	0.97	0.18	50,50,50,50	0
57	MG	A	3178	1/1	0.97	0.23	31,31,31,31	0
57	MG	a	3374	1/1	0.98	0.41	30,30,30,30	0
57	MG	A	3460	1/1	0.98	0.20	44,44,44,44	0
57	MG	A	3523	1/1	0.98	0.23	36,36,36,36	0
57	MG	A	3332	1/1	0.98	0.20	39,39,39,39	0
57	MG	A	3015	1/1	0.98	0.20	43,43,43,43	0
57	MG	a	3379	1/1	0.98	0.21	30,30,30,30	0
57	MG	A	3127	1/1	0.98	0.14	73,73,73,73	0
57	MG	A	3238	1/1	0.98	0.27	45,45,45,45	0
57	MG	A	3528	1/1	0.98	0.09	51,51,51,51	0
57	MG	a	3343	1/1	0.98	0.16	29,29,29,29	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	A	3413	1/1	0.98	0.25	51,51,51,51	0
57	MG	A	3495	1/1	0.98	0.25	40,40,40,40	0
57	MG	A	3179	1/1	0.98	0.18	43,43,43,43	0
57	MG	A	3188	1/1	0.98	0.32	44,44,44,44	0
57	MG	A	3416	1/1	0.98	0.21	41,41,41,41	0
57	MG	A	3256	1/1	0.98	0.15	55,55,55,55	0
57	MG	A	3443	1/1	0.98	0.14	39,39,39,39	0
57	MG	A	3537	1/1	0.98	0.18	32,32,32,32	0
57	MG	A	3418	1/1	0.98	0.38	32,32,32,32	0
57	MG	A	3170	1/1	0.98	0.23	43,43,43,43	0
57	MG	a	3394	1/1	0.98	0.19	32,32,32,32	0
57	MG	a	3395	1/1	0.98	0.30	32,32,32,32	0
57	MG	A	3021	1/1	0.98	0.18	34,34,34,34	0
57	MG	A	3421	1/1	0.98	0.18	40,40,40,40	0
57	MG	a	3487	1/1	0.98	0.32	35,35,35,35	0
57	MG	a	3318	1/1	0.98	0.24	41,41,41,41	0
57	MG	A	3377	1/1	0.98	0.17	44,44,44,44	0
57	MG	A	3399	1/1	0.98	0.28	29,29,29,29	0
57	MG	A	3191	1/1	0.98	0.36	33,33,33,33	0
57	MG	a	3447	1/1	0.98	0.41	36,36,36,36	0
57	MG	n	101	1/1	0.98	0.25	42,42,42,42	0
57	MG	A	3194	1/1	0.98	0.34	34,34,34,34	0
57	MG	A	3195	1/1	0.98	0.23	41,41,41,41	0
57	MG	A	3480	1/1	0.98	0.15	35,35,35,35	0
57	MG	A	3176	1/1	0.98	0.10	35,35,35,35	0
57	MG	A	3233	1/1	0.98	0.17	53,53,53,53	0
57	MG	A	3483	1/1	0.98	0.18	55,55,55,55	0
57	MG	A	3429	1/1	0.98	0.24	30,30,30,30	0
57	MG	y	702	1/1	0.98	0.18	75,75,75,75	0
57	MG	A	3183	1/1	0.98	0.19	54,54,54,54	0
57	MG	A	3329	1/1	0.98	0.14	40,40,40,40	0
57	MG	A	3588	1/1	0.98	0.17	40,40,40,40	0
57	MG	A	3518	1/1	0.98	0.04	65,65,65,65	0
57	MG	A	3249	1/1	0.98	0.11	31,31,31,31	0
58	ZN	n	102	1/1	0.98	0.15	61,61,61,61	0
57	MG	A	3184	1/1	0.98	0.39	40,40,40,40	0
57	MG	A	3592	1/1	0.98	0.09	67,67,67,67	0
57	MG	A	3395	1/1	0.99	0.12	31,31,31,31	0
57	MG	w	102	1/1	0.99	0.30	49,49,49,49	0
57	MG	a	3406	1/1	0.99	0.21	52,52,52,52	0
57	MG	A	3192	1/1	0.99	0.28	39,39,39,39	0
57	MG	A	3378	1/1	0.99	0.19	31,31,31,31	0

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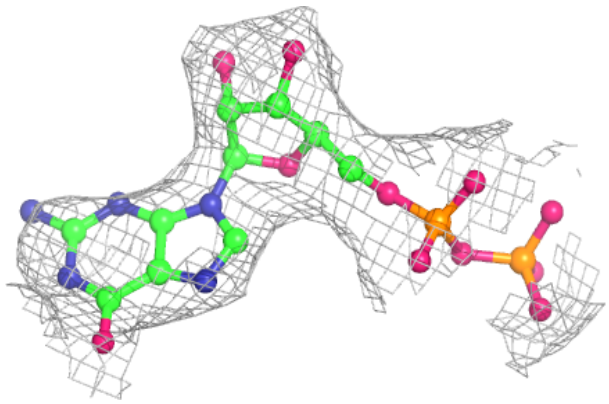
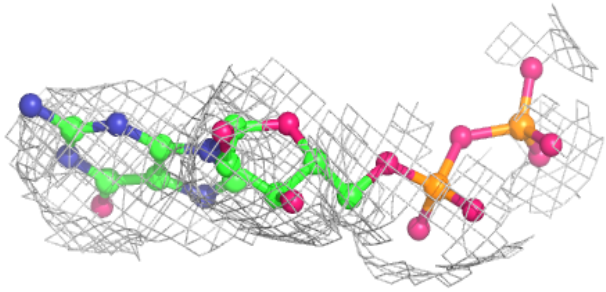
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
57	MG	B	202	1/1	0.99	0.27	66,66,66,66	0
57	MG	a	3483	1/1	0.99	0.18	39,39,39,39	0
57	MG	a	3438	1/1	0.99	0.16	34,34,34,34	0
57	MG	A	3193	1/1	0.99	0.22	38,38,38,38	0
57	MG	A	3017	1/1	0.99	0.11	63,63,63,63	0
57	MG	A	3094	1/1	0.99	0.27	31,31,31,31	0
57	MG	A	3530	1/1	0.99	0.25	38,38,38,38	0
57	MG	A	3521	1/1	0.99	0.21	60,60,60,60	0
57	MG	a	3305	1/1	0.99	0.19	46,46,46,46	0
57	MG	a	3402	1/1	0.99	0.19	43,43,43,43	0
59	SF4	d	501	8/8	0.99	0.16	48,60,64,65	0
57	MG	A	3513	1/1	0.99	0.29	41,41,41,41	0
57	MG	A	3038	1/1	0.99	0.15	55,55,55,55	0

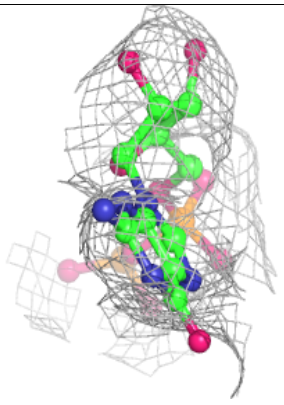
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around GDP y 703:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)







6.5 Other polymers (i)

There are no such residues in this entry.