



# Full wwPDB X-ray Structure Validation Report ⓘ

Dec 16, 2024 – 12:59 PM EST

PDB ID : 4WQU  
Title : Crystal structure of the *Thermus thermophilus* 70S ribosome in complex with elongation factor G trapped by the antibiotic dityromycin  
Authors : Lin, J.; Gagnon, M.G.; Steitz, T.A.  
Deposited on : 2014-10-22  
Resolution : 2.80 Å (reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.21
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.004 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

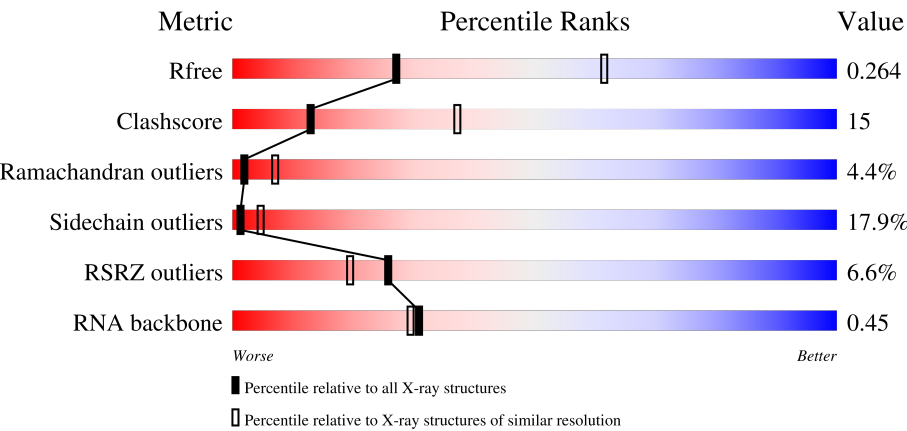
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.80 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 <sub>free</sub>	164625	3657 (2.80-2.80)
Clashscore	180529	4123 (2.80-2.80)
Ramachandran outliers	177936	4071 (2.80-2.80)
Sidechain outliers	177891	4073 (2.80-2.80)
RSRZ outliers	164620	3659 (2.80-2.80)
RNA backbone	3690	1037 (3.00-2.60)

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

Mol	Chain	Length	Quality of chain
1	AA	2915	<div><div>2%</div><div><div></div><div>24%</div><div>47%</div><div>23%</div><div></div></div><div>..</div></div>
1	CA	2915	<div><div>3%</div><div><div></div><div>32%</div><div>44%</div><div>19%</div><div></div></div><div>..</div></div>
2	AB	121	<div><div>%</div><div><div></div><div>28%</div><div>55%</div><div>14%</div><div></div></div><div>..</div></div>
2	CB	121	<div><div>5%</div><div><div></div><div>36%</div><div>47%</div><div>17%</div><div></div></div><div>.</div></div>



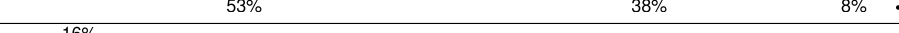

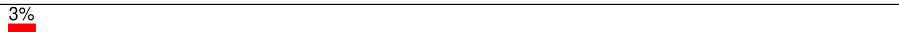
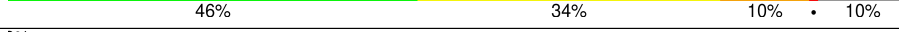

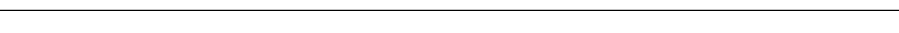





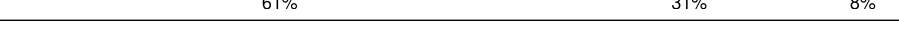

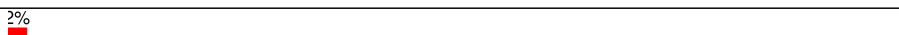


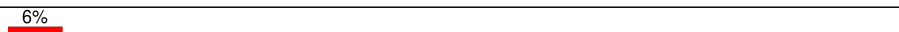


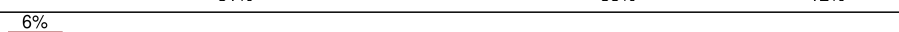


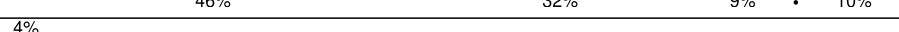
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Mol	Chain	Length	Quality of chain
3	AC	228	
3	CC	228	
4	AD	276	
4	CD	276	
5	AE	206	
5	CE	206	
6	AF	210	
6	CF	210	
7	AG	182	
7	CG	182	
8	AH	180	
8	CH	180	
9	AK	173	
9	CK	173	
10	AL	147	
10	CL	147	
11	AN	140	
11	CN	140	
12	AO	122	
12	CO	122	
13	AP	150	
13	CP	150	
14	AQ	141	
14	CQ	141	
15	AR	118	



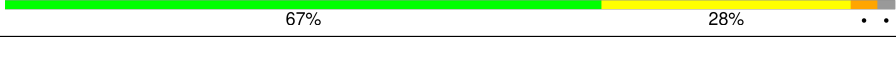
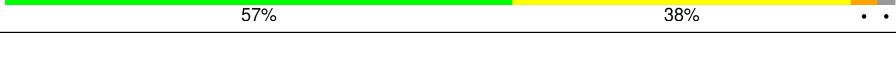

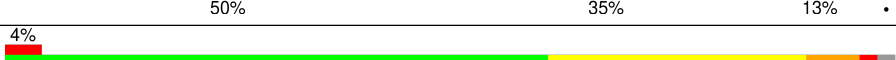
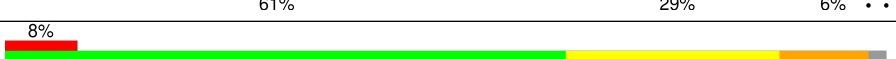


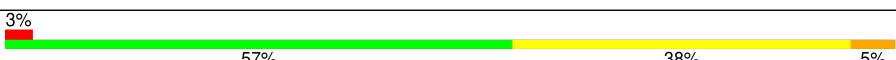
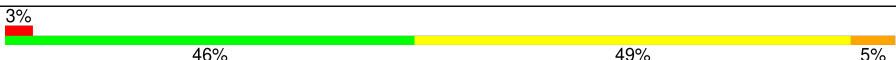
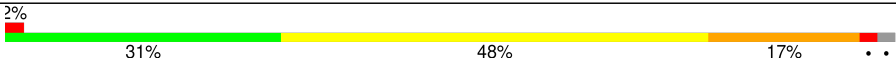





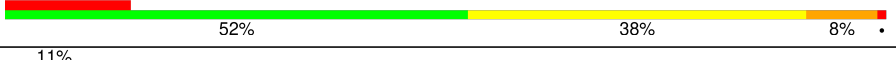

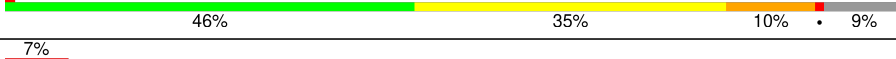





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Mol	Chain	Length	Quality of chain
15	CR	118	
16	AS	112	
16	CS	112	
17	AT	146	
17	CT	146	
18	AU	118	
18	CU	118	
19	AV	101	
19	CV	101	
20	AW	113	
20	CW	113	
21	AX	96	
21	CX	96	
22	AY	110	
22	CY	110	
23	AZ	206	
23	CZ	206	
24	A0	85	
24	C0	85	
25	A1	98	
25	C1	98	
26	A2	72	
26	C2	72	
27	A3	60	
27	C3	60	

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Mol	Chain	Length	Quality of chain
28	A4	71	
28	C4	71	
29	A5	60	
29	C5	60	
30	A6	54	
30	C6	54	
31	A7	49	
31	C7	49	
32	A8	65	
32	C8	65	
33	A9	37	
33	C9	37	
34	BA	1521	
34	DA	1521	
35	BB	256	
35	DB	256	
36	BC	239	
36	DC	239	
37	BD	209	
37	DD	209	
38	BE	162	
38	DE	162	
39	BF	101	
39	DF	101	
40	BG	156	

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Mol	Chain	Length	Quality of chain
40	DG	156	
41	BH	138	
41	DH	138	
42	BI	128	
42	DI	128	
43	BJ	105	
43	DJ	105	
44	BK	129	
44	DK	129	
45	BL	132	
45	DL	132	
46	BM	126	
46	DM	126	
47	BN	61	
47	DN	61	
48	BO	89	
48	DO	89	
49	BP	88	
49	DP	88	
50	BQ	105	
50	DQ	105	
51	BR	88	
51	DR	88	
52	BS	93	
52	DS	93	

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Mol	Chain	Length	Quality of chain
53	BT	106	
53	DT	106	
54	BU	27	
54	DU	27	
55	BV	18	
55	DV	18	
56	BW	76	
56	BY	76	
56	DW	76	
56	DY	76	
57	BZ	758	
57	DZ	758	
58	BX	10	
58	DX	10	

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
58	2QY	DX	10	-	-	X	-
59	MG	AA	3056	-	-	-	X
59	MG	AA	3093	-	-	-	X
59	MG	AA	3717	-	-	-	X
59	MG	AA	3773	-	-	-	X
59	MG	CA	3093	-	-	-	X
59	MG	DA	1611	-	-	-	X
61	SF4	DD	501	-	-	X	-

## 2 Entry composition

There are 63 unique types of molecules in this entry. The entry contains 310038 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
1	AA	2872	Total	C	N	O	P	0	0	0
			61861	27532	11574	19884	2871			
1	CA	2868	Total	C	N	O	P	0	0	0
			61771	27492	11554	19858	2867			

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

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

- Molecule 3 is a protein called 50S ribosomal protein L1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	AC	137	Total	C	N	O	S	0	0	0
			1063	669	201	192	1			
3	CC	137	Total	C	N	O	S	0	0	0
			1063	669	201	192	1			

- Molecule 4 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	AD	275	Total	C	N	O	S	0	0	0
			2136	1349	423	361	3			
4	CD	275	Total	C	N	O	S	0	0	0
			2142	1352	426	361	3			

- Molecule 5 is a protein called 50S ribosomal protein L3.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	AE	204	Total	C	N	O	S	0	0	0
			1559	985	298	270	6			
5	CE	204	Total	C	N	O	S	0	0	0
			1559	985	298	270	6			

- Molecule 6 is a protein called 50S ribosomal protein L4.

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

- Molecule 7 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	AG	181	Total	C	N	O	S	0	0	0
			1425	914	256	251	4			
7	CG	181	Total	C	N	O	S	0	0	0
			1424	911	258	251	4			

- Molecule 8 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	AH	174	Total	C	N	O	S	0	0	0
			1330	845	248	236	1			
8	CH	174	Total	C	N	O	S	0	0	0
			1330	845	248	236	1			

- Molecule 9 is a protein called 50S ribosomal protein L10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	AK	130	Total	C	N	O		0	0	0
			641	381	130	130				
9	CK	130	Total	C	N	O		0	0	0
			641	381	130	130				

- Molecule 10 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	AL	66	Total	C	N	O	S	0	0	0
			498	310	93	92	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	CL	66	Total	C	N	O	S	0	0	0
			498	310	93	92	3			

- Molecule 11 is a protein called 50S ribosomal protein L13.

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

- Molecule 12 is a protein called 50S ribosomal protein L14.

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

- Molecule 13 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	AP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			
13	CP	149	Total	C	N	O	S	0	0	0
			1135	706	230	196	3			

- Molecule 14 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	AQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
14	CQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 15 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	AR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
15	CR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 16 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
16	AS	110	Total	C	N	O	0	0	0
			877	553	175	149			
16	CS	110	Total	C	N	O	0	0	0
			870	549	173	148			

- Molecule 17 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	AT	131	Total	C	N	O	S	0	0	0
			1091	680	225	185	1			
17	CT	131	Total	C	N	O	S	0	0	0
			1083	675	224	183	1			

- Molecule 18 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	AU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			
18	CU	116	Total	C	N	O	S	0	0	0
			959	608	201	149	1			

- Molecule 19 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	AV	101	Total	C	N	O	S	0	0	0
			771	495	140	135	1			
19	CV	101	Total	C	N	O	S	0	0	0
			771	495	140	135	1			

- Molecule 20 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	AW	112	Total	C	N	O	S	0	0	0
			886	557	174	153	2			
20	CW	112	Total	C	N	O	S	0	0	0
			886	557	174	153	2			

- Molecule 21 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	AX	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			
21	CX	95	Total	C	N	O	S	0	0	0
			750	488	135	126	1			

- Molecule 22 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	AY	107	Total	C	N	O	S	0	0	0
			806	517	152	131	6			
22	CY	107	Total	C	N	O	S	0	0	0
			806	517	152	131	6			

- Molecule 23 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	AZ	185	Total	C	N	O	S	0	0	0
			1451	927	258	264	2			
23	CZ	185	Total	C	N	O	S	0	0	0
			1451	927	258	264	2			

- Molecule 24 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	A0	77	Total	C	N	O	S	0	0	0
			608	375	129	103	1			
24	C0	77	Total	C	N	O	S	0	0	0
			608	375	129	103	1			

- Molecule 25 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	A1	97	Total	C	N	O	S	0	0	0
			755	475	148	131	1			
25	C1	97	Total	C	N	O	S	0	0	0
			755	475	148	131	1			

- Molecule 26 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	A2	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	C2	70	Total	C	N	O	S	0	0	0
			588	365	118	103	2			

- Molecule 27 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	A3	59	Total	C	N	O	S	0	0	0
			469	298	90	81				
27	C3	59	Total	C	N	O	S	0	0	0
			464	296	90	78				

- Molecule 28 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	A4	69	Total	C	N	O	S	0	0	0
			558	352	102	99	5			
28	C4	69	Total	C	N	O	S	0	0	0
			532	339	97	91	5			

- Molecule 29 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	A5	59	Total	C	N	O	S	0	0	0
			455	285	89	76	5			
29	C5	59	Total	C	N	O	S	0	0	0
			455	285	89	76	5			

- Molecule 30 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	A6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
30	C6	53	Total	C	N	O	S	0	0	0
			449	279	91	75	4			

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	A7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			
31	C7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 32 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	A8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
32	C8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 33 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	A9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
33	C9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	BA	1495	Total	C	N	O	P	0	0	0
			32141	14304	5958	10384	1495			
34	DA	1501	Total	C	N	O	P	0	0	0
			32268	14361	5980	10426	1501			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	BB	231	Total	C	N	O	S	0	0	0
			1846	1179	331	331	5			
35	DB	231	Total	C	N	O	S	0	0	0
			1825	1167	326	327	5			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	BC	206	Total	C	N	O	S	0	0	0
			1552	976	302	273	1			
36	DC	206	Total	C	N	O	S	0	0	0
			1544	970	300	273	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	BD	208	Total	C	N	O	S	0	0	0
			1659	1040	326	286	7			
37	DD	208	Total	C	N	O	S	0	0	0
			1678	1052	333	286	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	BE	148	Total	C	N	O	S	0	0	0
			1129	714	213	198	4			
38	DE	148	Total	C	N	O	S	0	0	0
			1133	716	214	199	4			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	BF	100	Total	C	N	O	S	0	0	0
			812	514	146	149	3			
39	DF	100	Total	C	N	O	S	0	0	0
			820	518	147	152	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	BG	155	Total	C	N	O	S	0	0	0
			1231	766	243	216	6			
40	DG	155	Total	C	N	O	S	0	0	0
			1235	769	244	216	6			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	BH	137	Total	C	N	O	S	0	0	0
			1088	689	206	191	2			
41	DH	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	BI	127	Total	C	N	O		0	0	0
			986	626	193	167				

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
42	DI	127	Total	C	N	O	0	0	0
			978	619	190	169			

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

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
43	BJ	97	Total	C	N	O	0	0	0
			709	440	138	131			
43	DJ	96	Total	C	N	O	0	0	0
			714	445	138	131			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
44	BK	114	Total	C	N	O	S	0	0	0
			833	519	156	155	3			
44	DK	114	Total	C	N	O	S	0	0	0
			833	519	156	155	3			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	BL	122	Total	C	N	O	S	0	0	0
			930	585	185	159	1			
45	DL	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	BM	117	Total	C	N	O	S	0	0	0
			923	570	191	160	2			
46	DM	116	Total	C	N	O	S	0	0	0
			907	558	188	159	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	BN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
47	DN	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	BO	88	Total	C	N	O	S	0	0	0
			728	456	144	126	2			
48	DO	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	BP	82	Total	C	N	O	S	0	0	0
			681	433	134	113	1			
49	DP	82	Total	C	N	O	S	0	0	0
			677	430	133	113	1			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
50	BQ	99	Total	C	N	O	S	0	0	0
			823	528	151	142	2			
50	DQ	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	BR	68	Total	C	N	O	0	0	0
			555	355	108	92			
51	DR	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	BS	84	Total	C	N	O	S	0	0	0
			661	423	122	114	2			
52	DS	83	Total	C	N	O	S	0	0	0
			646	412	119	113	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	BT	96	Total	C	N	O	S	0	0	0
			728	446	156	124	2			
53	DT	96	Total	C	N	O	S	0	0	0
			731	449	156	124	2			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	BU	23	Total	C	N	O		0	0	0
			199	122	48	29				
54	DU	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	BV	7	Total	C	N	O	P	0	0	0
			148	67	27	47	7			
55	DV	6	Total	C	N	O	P	0	0	0
			123	57	22	39	5			

- Molecule 56 is a RNA chain called P-site tRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	BW	76	Total	C	N	O	P	S	0	0
			1631	731	290	532	76	2		
56	BY	74	Total	C	N	O	P	S	0	0
			1581	707	285	515	73	1		
56	DW	76	Total	C	N	O	P	S	0	0
			1631	731	290	532	76	2		
56	DY	73	Total	C	N	O	P	S	0	0
			1561	698	283	507	72	1		

- Molecule 57 is a protein called 50S ribosomal protein L9,Elongation factor G.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
57	BZ	728	Total	C	N	O	S	0	0	0
			5663	3599	973	1072	19			
57	DZ	730	Total	C	N	O	S	0	0	0
			5682	3611	978	1074	19			

- Molecule 58 is a protein called Dityromycin.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
58	BX	10	Total	C	N	O	0	0	0
			93	67	10	16			
58	DX	10	Total	C	N	O	0	0	0
			93	67	10	16			

- Molecule 59 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	AA	821	Total	Mg	0	0
			821	821		
59	AB	23	Total	Mg	0	0
			23	23		
59	AD	12	Total	Mg	0	0
			12	12		
59	AE	5	Total	Mg	0	0
			5	5		
59	AF	8	Total	Mg	0	0
			8	8		
59	AG	2	Total	Mg	0	0
			2	2		
59	AH	1	Total	Mg	0	0
			1	1		
59	AN	3	Total	Mg	0	0
			3	3		
59	AO	1	Total	Mg	0	0
			1	1		
59	AP	4	Total	Mg	0	0
			4	4		
59	AQ	3	Total	Mg	0	0
			3	3		
59	AR	2	Total	Mg	0	0
			2	2		
59	AU	3	Total	Mg	0	0
			3	3		
59	AV	6	Total	Mg	0	0
			6	6		
59	AW	3	Total	Mg	0	0
			3	3		
59	AX	1	Total	Mg	0	0
			1	1		
59	AY	1	Total	Mg	0	0
			1	1		
59	AZ	2	Total	Mg	0	0
			2	2		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	A0	5	Total 5	Mg 5	0	0
59	A2	1	Total 1	Mg 1	0	0
59	A5	1	Total 1	Mg 1	0	0
59	A6	2	Total 2	Mg 2	0	0
59	A7	4	Total 4	Mg 4	0	0
59	A8	1	Total 1	Mg 1	0	0
59	A9	1	Total 1	Mg 1	0	0
59	BA	215	Total 215	Mg 215	0	0
59	BB	1	Total 1	Mg 1	0	0
59	BD	1	Total 1	Mg 1	0	0
59	BE	1	Total 1	Mg 1	0	0
59	BF	1	Total 1	Mg 1	0	0
59	BK	1	Total 1	Mg 1	0	0
59	BL	2	Total 2	Mg 2	0	0
59	BM	1	Total 1	Mg 1	0	0
59	BN	2	Total 2	Mg 2	0	0
59	BS	1	Total 1	Mg 1	0	0
59	BT	1	Total 1	Mg 1	0	0
59	BW	3	Total 3	Mg 3	0	0
59	BZ	1	Total 1	Mg 1	0	0
59	CA	664	Total 664	Mg 664	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	CB	13	Total 13	Mg 13	0	0
59	CD	4	Total 4	Mg 4	0	0
59	CE	5	Total 5	Mg 5	0	0
59	CF	4	Total 4	Mg 4	0	0
59	CG	1	Total 1	Mg 1	0	0
59	CN	1	Total 1	Mg 1	0	0
59	CO	1	Total 1	Mg 1	0	0
59	CP	1	Total 1	Mg 1	0	0
59	CQ	4	Total 4	Mg 4	0	0
59	CR	1	Total 1	Mg 1	0	0
59	CU	1	Total 1	Mg 1	0	0
59	CV	2	Total 2	Mg 2	0	0
59	CW	1	Total 1	Mg 1	0	0
59	CX	1	Total 1	Mg 1	0	0
59	C0	1	Total 1	Mg 1	0	0
59	C1	1	Total 1	Mg 1	0	0
59	C3	1	Total 1	Mg 1	0	0
59	C5	1	Total 1	Mg 1	0	0
59	C7	1	Total 1	Mg 1	0	0
59	C8	1	Total 1	Mg 1	0	0
59	DA	171	Total 171	Mg 171	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	DD	1	Total 1	Mg 1	0	0
59	DE	2	Total 2	Mg 2	0	0
59	DF	1	Total 1	Mg 1	0	0
59	DJ	1	Total 1	Mg 1	0	0
59	DK	1	Total 1	Mg 1	0	0
59	DT	1	Total 1	Mg 1	0	0
59	DW	3	Total 3	Mg 3	0	0
59	DZ	2	Total 2	Mg 2	0	0

- Molecule 60 is ZINC ION (three-letter code: ZN) (formula: Zn).

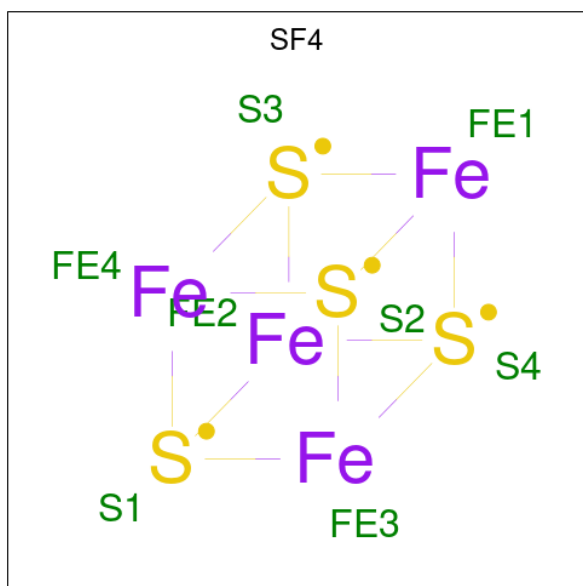
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
60	AY	1	Total 1	Zn 1	0	0
60	A4	1	Total 1	Zn 1	0	0
60	A5	1	Total 1	Zn 1	0	0
60	A6	1	Total 1	Zn 1	0	0
60	A9	1	Total 1	Zn 1	0	0
60	BN	1	Total 1	Zn 1	0	0
60	CY	1	Total 1	Zn 1	0	0
60	C4	1	Total 1	Zn 1	0	0
60	C5	1	Total 1	Zn 1	0	0
60	C6	1	Total 1	Zn 1	0	0
60	C9	1	Total 1	Zn 1	0	0

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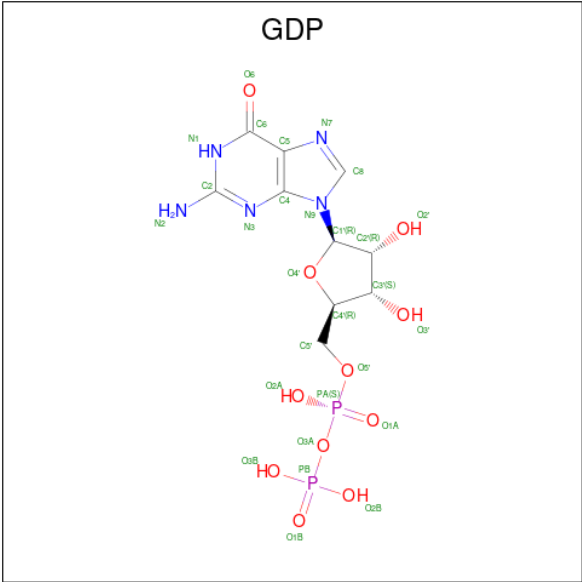
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
60	DN	1	Total	Zn	0	0
			1	1		

- Molecule 61 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
61	BD	1	Total	Fe	S	0	0
			8	4	4		
61	DD	1	Total	Fe	S	0	0
			8	4	4		

- Molecule 62 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>O<sub>11</sub>P<sub>2</sub>).





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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	AQ	4	Total 4	O 4	0	0
63	AR	2	Total 2	O 2	0	0
63	AS	1	Total 1	O 1	0	0
63	AT	1	Total 1	O 1	0	0
63	AU	4	Total 4	O 4	0	0
63	AV	1	Total 1	O 1	0	0
63	AW	1	Total 1	O 1	0	0
63	AX	3	Total 3	O 3	0	0
63	AZ	1	Total 1	O 1	0	0
63	A0	6	Total 6	O 6	0	0
63	A1	2	Total 2	O 2	0	0
63	A3	2	Total 2	O 2	0	0
63	A5	3	Total 3	O 3	0	0
63	A6	1	Total 1	O 1	0	0
63	A7	2	Total 2	O 2	0	0
63	A8	10	Total 10	O 10	0	0
63	A9	1	Total 1	O 1	0	0
63	BA	213	Total 213	O 213	0	0
63	BD	1	Total 1	O 1	0	0
63	BM	1	Total 1	O 1	0	0
63	BO	1	Total 1	O 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	BP	1	Total 1	O 1	0	0
63	BV	1	Total 1	O 1	0	0
63	BW	1	Total 1	O 1	0	0
63	BZ	2	Total 2	O 2	0	0
63	CA	983	Total 983	O 983	0	0
63	CB	9	Total 9	O 9	0	0
63	CD	15	Total 15	O 15	0	0
63	CE	9	Total 9	O 9	0	0
63	CF	6	Total 6	O 6	0	0
63	CN	1	Total 1	O 1	0	0
63	CO	1	Total 1	O 1	0	0
63	CP	11	Total 11	O 11	0	0
63	CQ	2	Total 2	O 2	0	0
63	CT	3	Total 3	O 3	0	0
63	CU	2	Total 2	O 2	0	0
63	CV	1	Total 1	O 1	0	0
63	CW	1	Total 1	O 1	0	0
63	CX	1	Total 1	O 1	0	0
63	CY	2	Total 2	O 2	0	0
63	C0	4	Total 4	O 4	0	0
63	C3	2	Total 2	O 2	0	0

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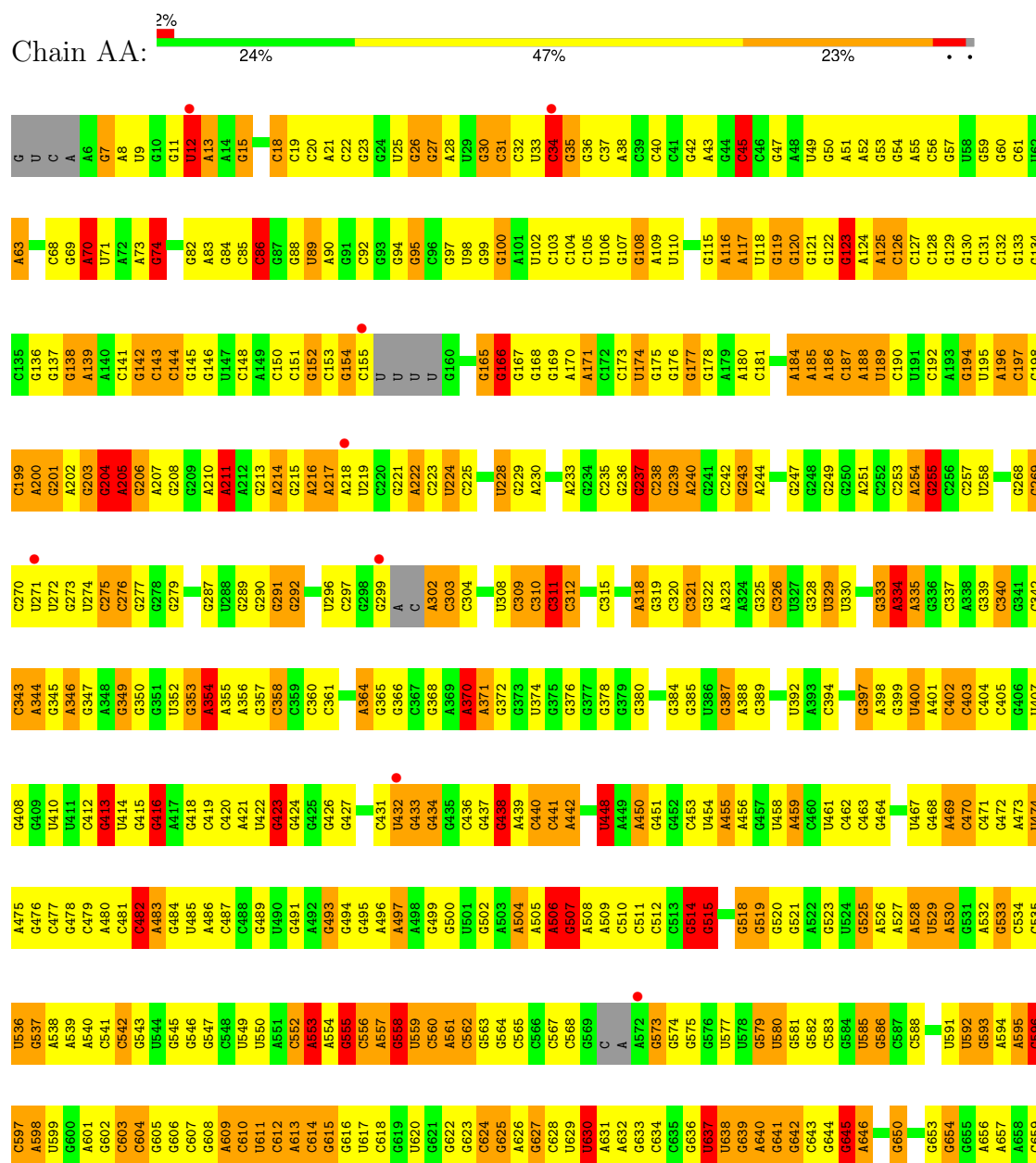
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
63	C5	1	Total	O	0	0
			1	1		
63	C7	2	Total	O	0	0
			2	2		
63	C8	4	Total	O	0	0
			4	4		
63	DA	157	Total	O	0	0
			157	157		
63	DD	1	Total	O	0	0
			1	1		
63	DE	2	Total	O	0	0
			2	2		
63	DH	1	Total	O	0	0
			1	1		
63	DJ	1	Total	O	0	0
			1	1		
63	DK	2	Total	O	0	0
			2	2		
63	DL	1	Total	O	0	0
			1	1		
63	DT	1	Total	O	0	0
			1	1		

### 3 Residue-property plots

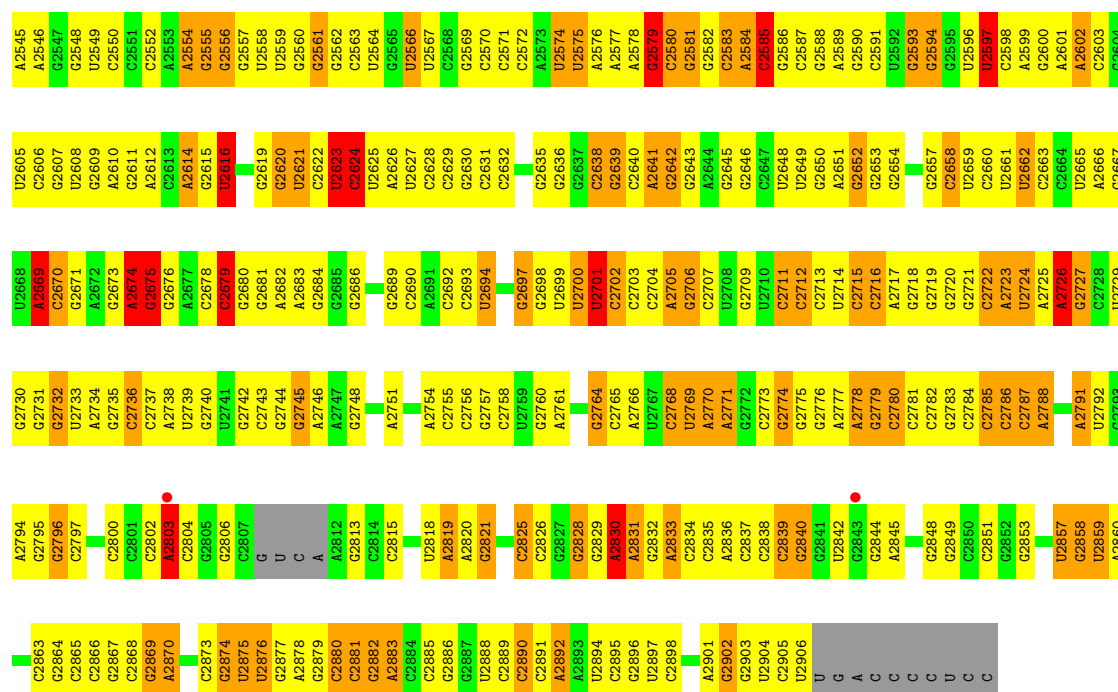
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density.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

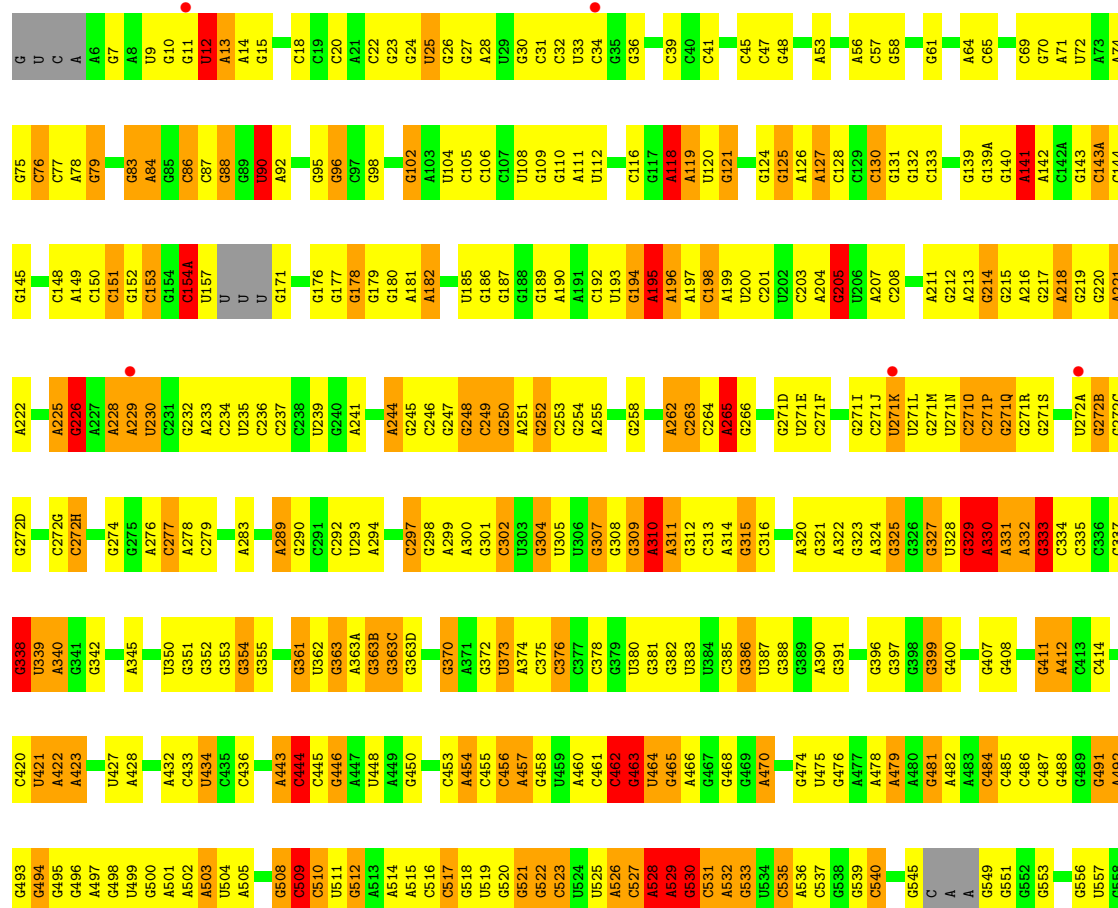


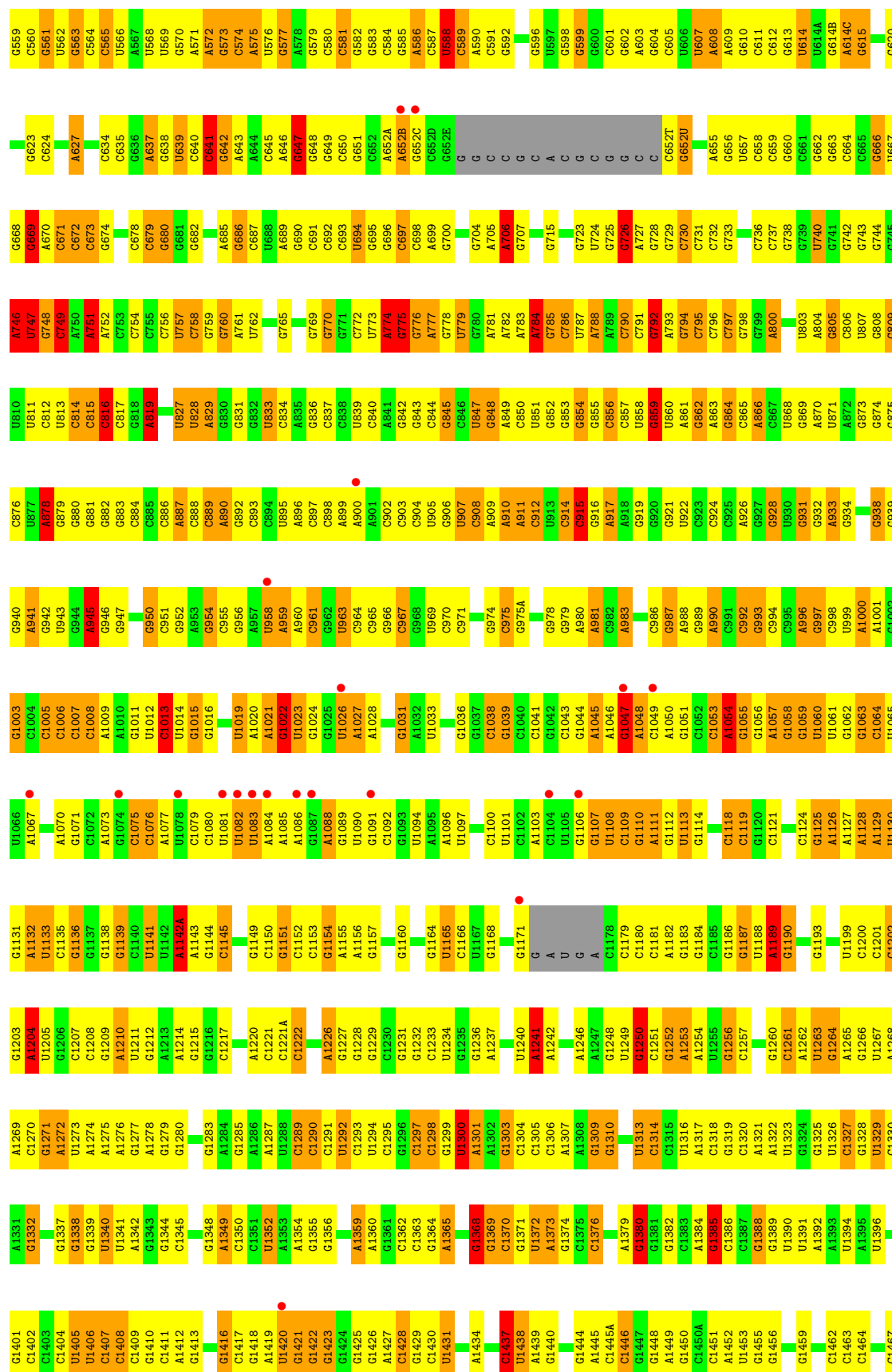
A1557	G1487	C1431	G1296	A1174	G1108	A1047	G987	C914	C852	G790	A724	C660
G1558	C1422	C1422	C1297	A1175	G1109	G1048	G988	G915	C853	G791	A725	G661
C1559	G1490	G1490	C1298	A1176	C1110	G1049	G989	C916	U854	A793	C726	A662
U1560	A1423	A1423	A1299	G1177	U1111	C1050	A990	C1050	G855	A794	C727	G663
U1561	C1492	A1425	A1300	A1178	U1112	C1051	G991	G919	G856	G795	G728	U664
U1562	G1426	G1426	A1301	U1179	U1113	C1052	G992	G920	G857	G796	G729	G665
G1563	A1430	A1430	G1302	C1180	G1114	C1053	G993	G921	U858	A798	C730	C666
C1564	G1497	A1431	C1303	G1181	A1115	C1054	C994	G922	C859	A799	G731	G667
G1565	G1498	G1431	C1304	G1182	A1116	A1055	G995	G927	U860	C800	A732	A668
U1566	C1432	A1432	G1305	G1183	G1117	A1056	C996	C996	C861	C801	G733	A669
G1567	A1500	G1370	G1306	U1184	G1118	G1057	G997	G997	C862	C802	A734	C670
U1568	U1501	G1435	C1307	G1185	A1119	U1058	A998	G998	C863	C803	C734	A671
U1569	U1436	U1436	A1308	U1186	C1122	C1059	G999	C932	C864	C804	U735	G672
G1570	U1437	U1437	U1309	U1187	U1123	U1060	C1000	A934	C865	C805	A736	G673
G1571	A1438	A1438	G1310	U1188	U1124	G1061	G1001	A935	C866	G806	C737	G674
C1572	C1445	C1445	A1311	A1189	A1125	G1062	A1002	C936	U867	C807	C738	G675
U1573	G1449	C1450	G1312	G1190	C1126	G1063	A1003	A937	C868	C808	G739	G676
G1574	U1451	U1451	U1250	C1191	G1126	C1064	A1004	G938	C869	C809	U741	A678
U1575	G1384	G1384	G1257	C1192	U1127	U1065	A1005	C939	U869	U809	G742	A679
U1576	A1321	A1321	U1258	C1193	U1128	A1066	C1006	G942	C870	G810	G743	A680
U1577	A1322	A1322	G1259	U1194	U1129	U1067	G1007	A942	C871	G811	G744	A681
U1578	G1385	U1386	G1260	U1195	U1130	G1068	U1008	C948	C872	G812	G745	A682
U1579	G1386	U1387	G1261	C1196	A1131	U1069	C1009	C949	U873	C813	C746	A683
U1580	A1318	A1318	G1262	G1197	U1132	G1070	C1010	C950	U874	U814	A746	A684
U1581	G1323	G1323	C1263	G1198	A1133	G1071	G1011	G951	U875	G815	G747	A685
U1582	G1324	G1324	G1264	C1199	U1134	U1072	C1012	U951	U876	G816	G748	A686
U1583	G1325	G1325	U1265	C1200	G1135	U1073	G1013	G952	C877	G817	G749	A687
U1584	G1326	G1326	G1266	U1201	U1136	A1074	U1014	U953	C878	G818	U750	A688
U1585	G1327	G1327	G1267	A1202	G1137	U1075	C1015	C954	U879	C819	G751	A689
U1586	G1328	G1328	C1268	G1203	U1138	A1076	C1016	A955	U880	U820	A752	A690
U1587	G1329	G1329	G1269	U1204	A1141	G1077	G1017	A956	C881	A821	A753	A691
U1588	G1330	G1330	U1270	U1205	A1142	U1078	A1018	A957	U882	G822	G760	A692
U1589	G1331	G1331	G1271	G1206	U1143	U1079	G1019	C958	C883	G823	G761	A693
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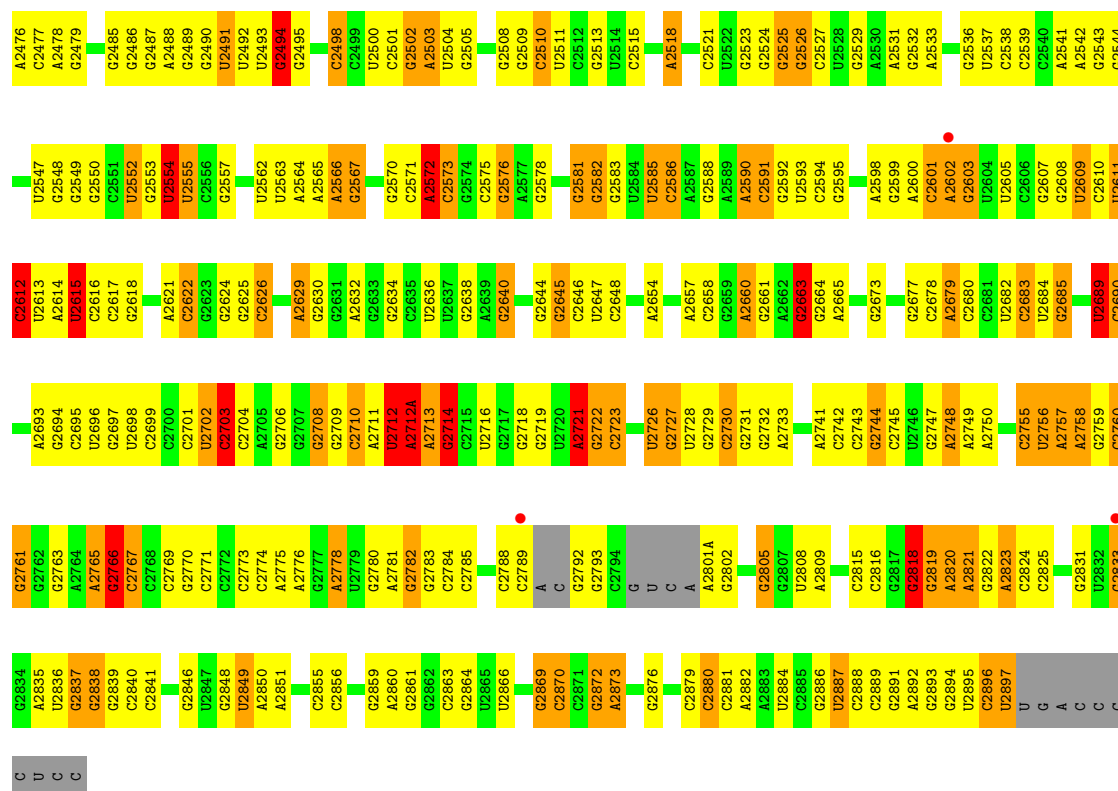
• Molecule 1: 23S Ribosomal RNA



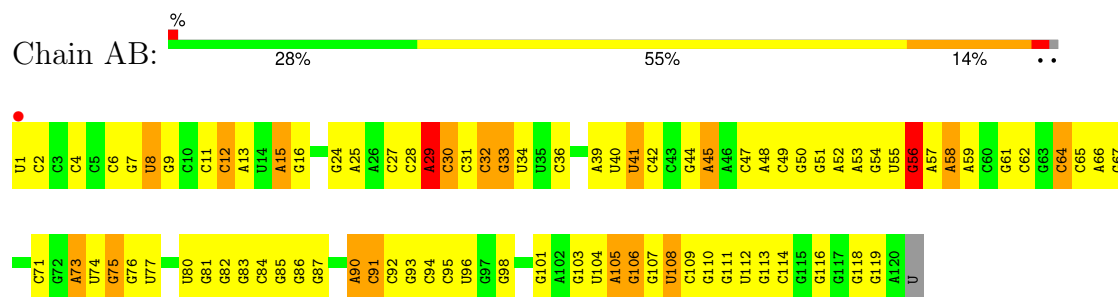




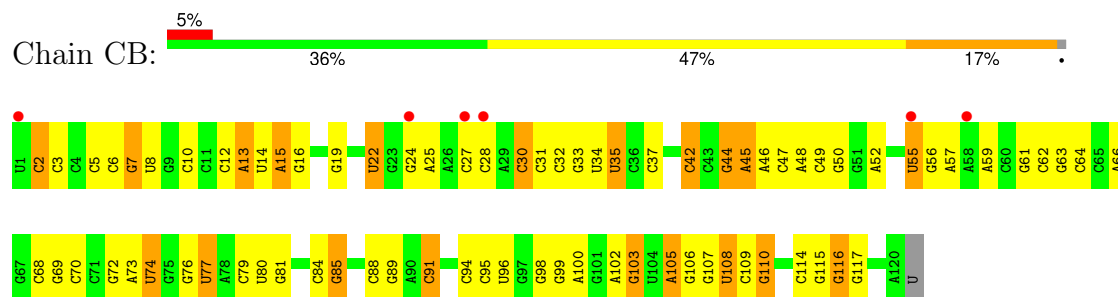
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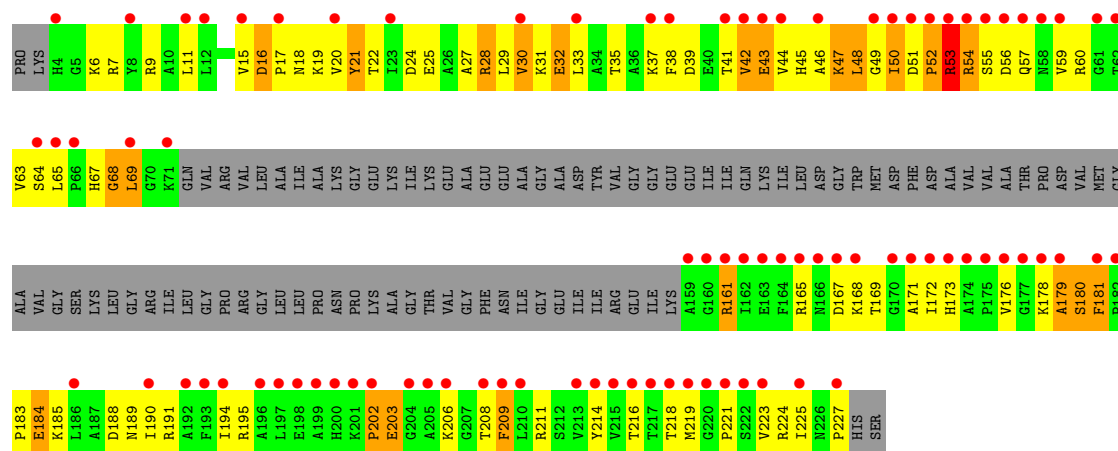
- Molecule 2: 5S Ribosomal RNA



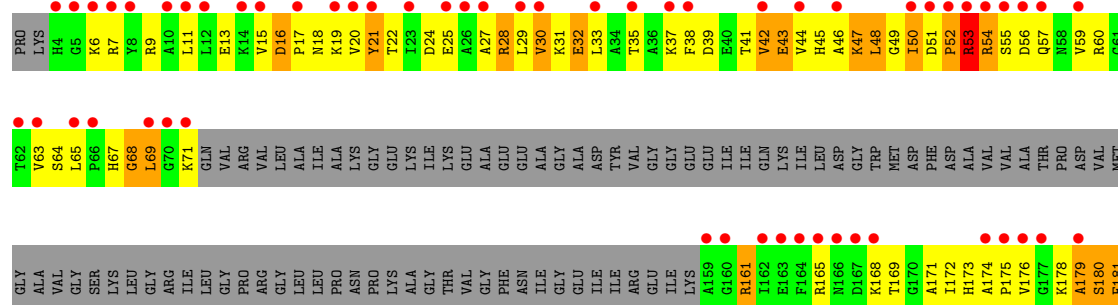
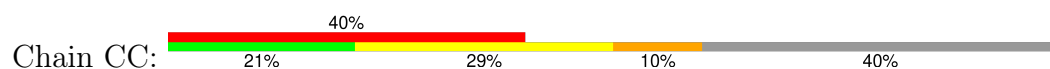
- Molecule 2: 5S Ribosomal RNA



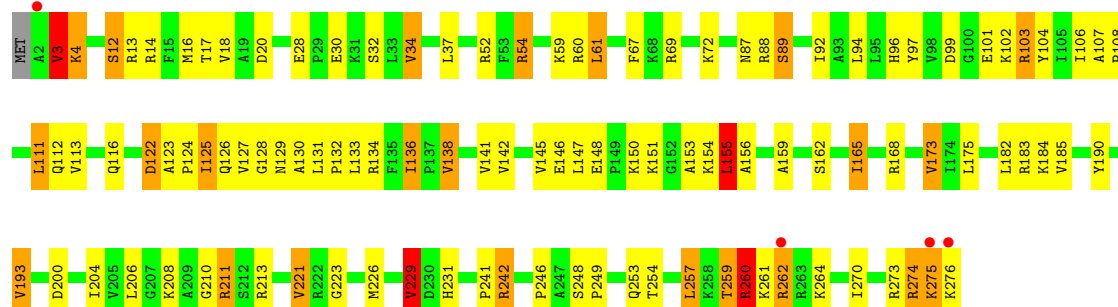
- Molecule 3: 50S ribosomal protein L1



• Molecule 3: 50S ribosomal protein L1

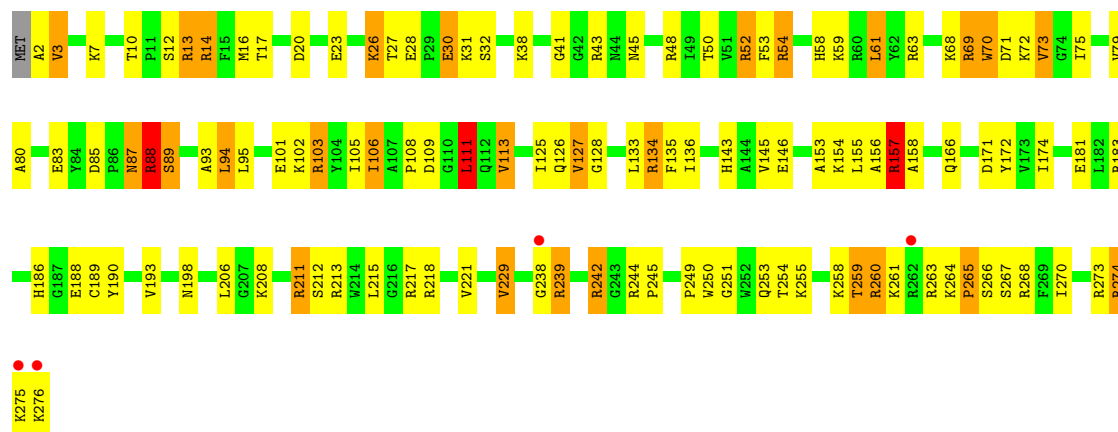


• Molecule 4: 50S ribosomal protein L2

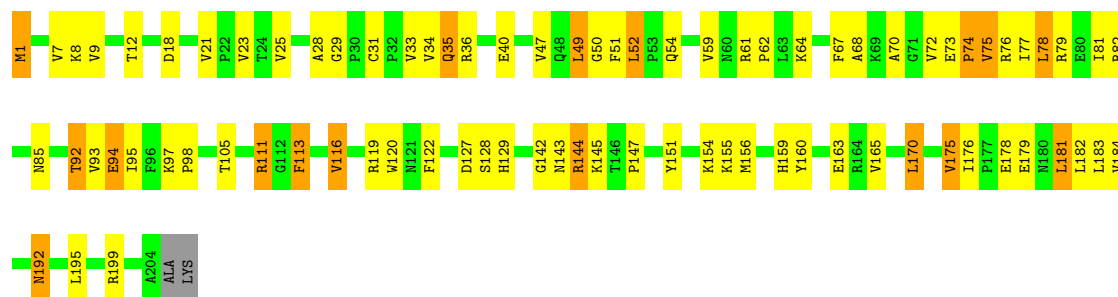


• Molecule 4: 50S ribosomal protein L2

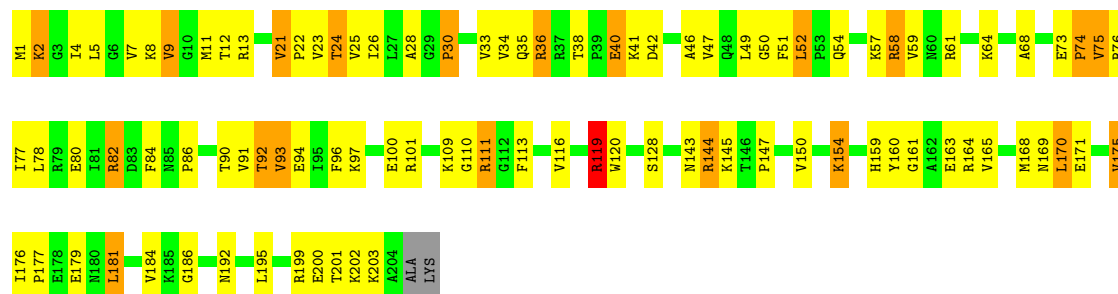




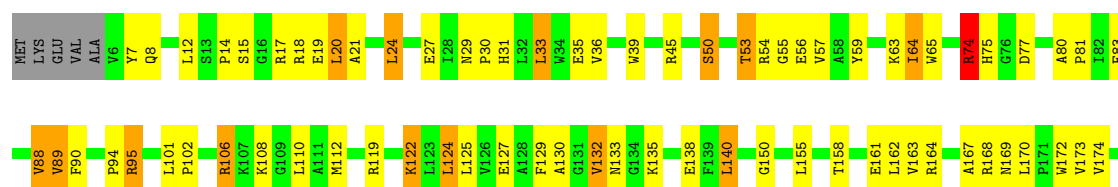
- Molecule 5: 50S ribosomal protein L3



- Molecule 5: 50S ribosomal protein L3



- Molecule 6: 50S ribosomal protein L4

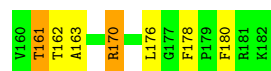
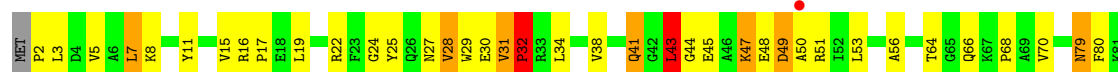




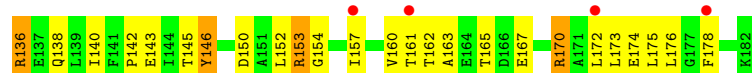
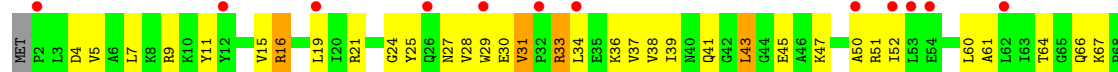
• Molecule 6: 50S ribosomal protein L4



• Molecule 7: 50S ribosomal protein L5

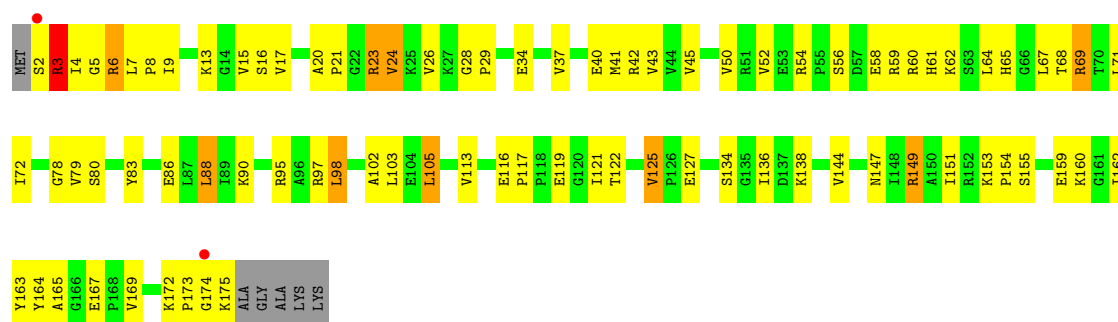


• Molecule 7: 50S ribosomal protein L5

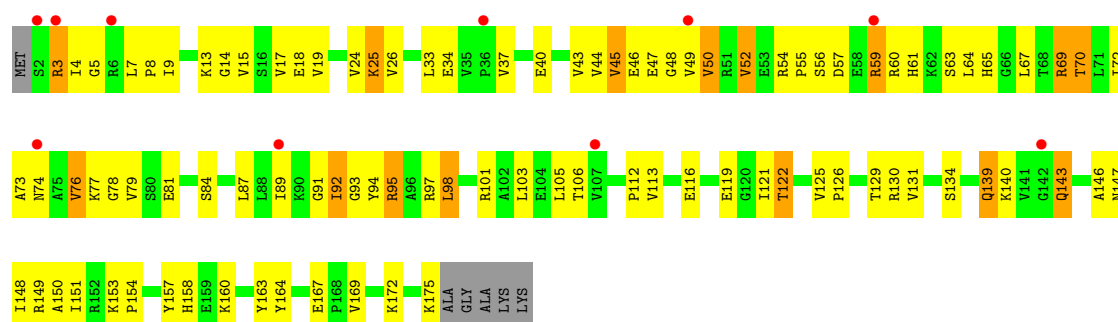


• Molecule 8: 50S ribosomal protein L6

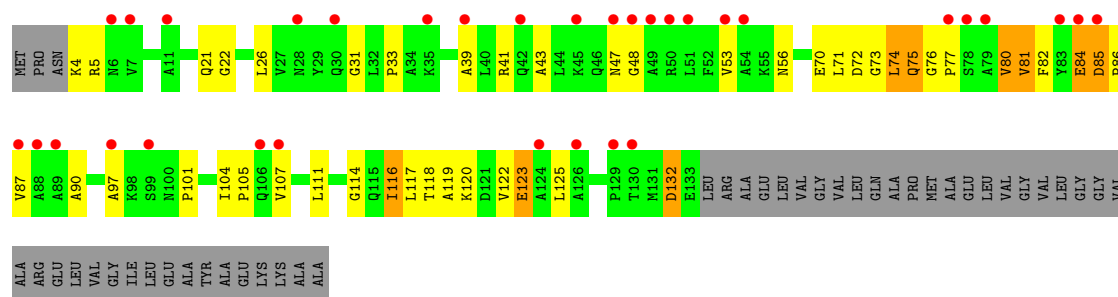




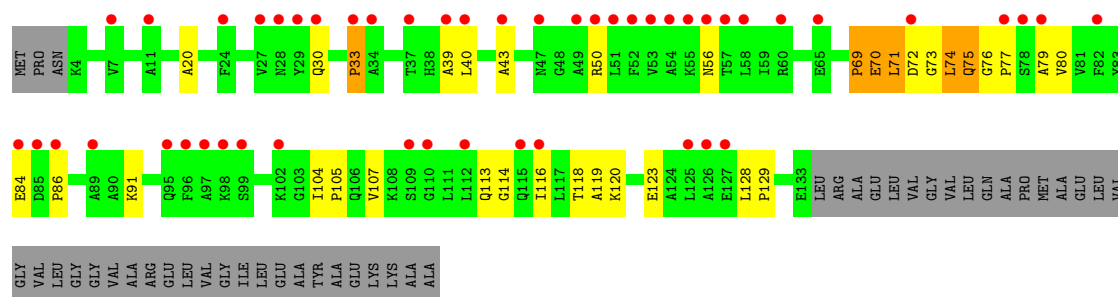
• Molecule 8: 50S ribosomal protein L6



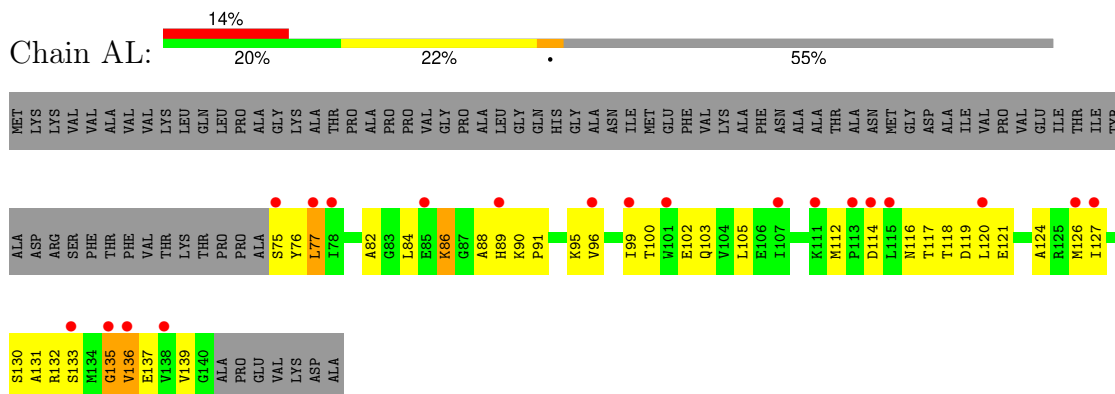
• Molecule 9: 50S ribosomal protein L10



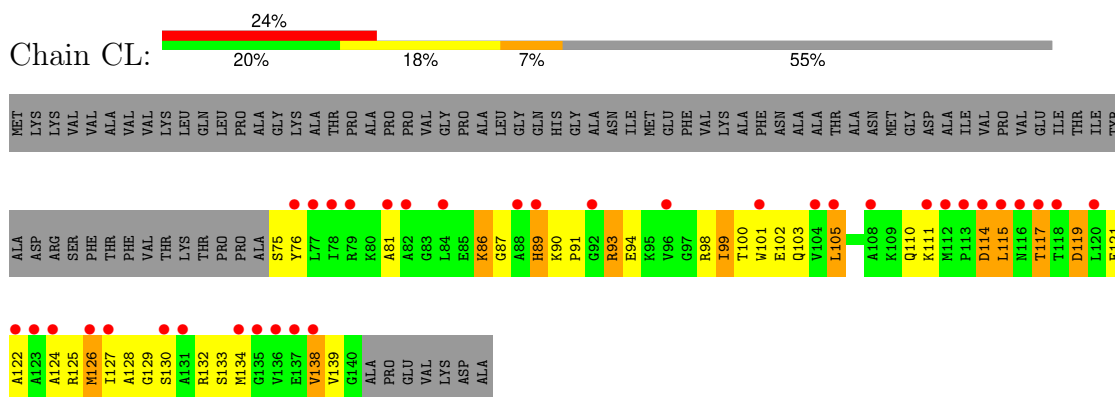
• Molecule 9: 50S ribosomal protein L10



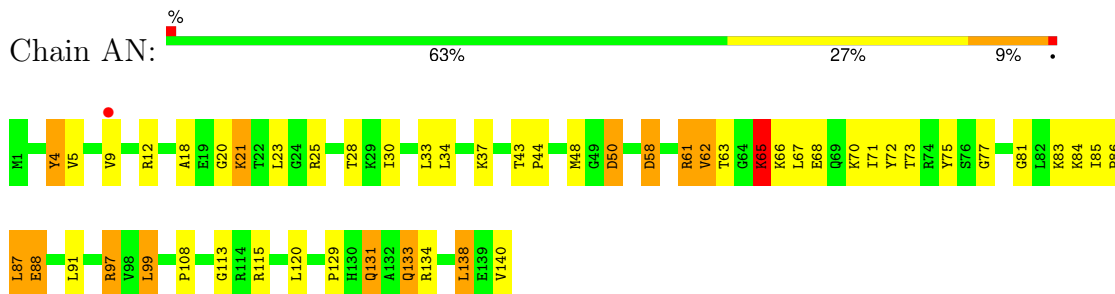
- Molecule 10: 50S ribosomal protein L11



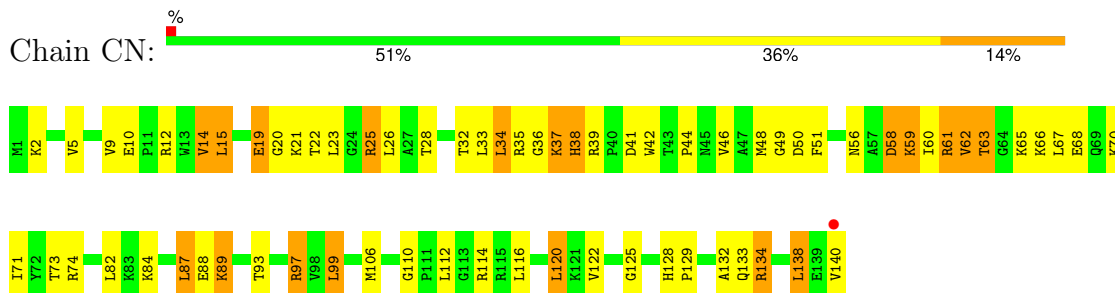
- Molecule 10: 50S ribosomal protein L11



- Molecule 11: 50S ribosomal protein L13

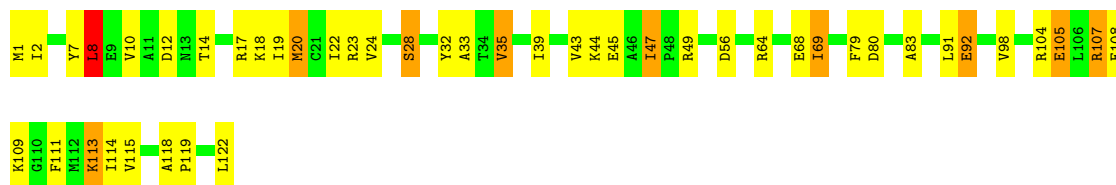


- Molecule 11: 50S ribosomal protein L13



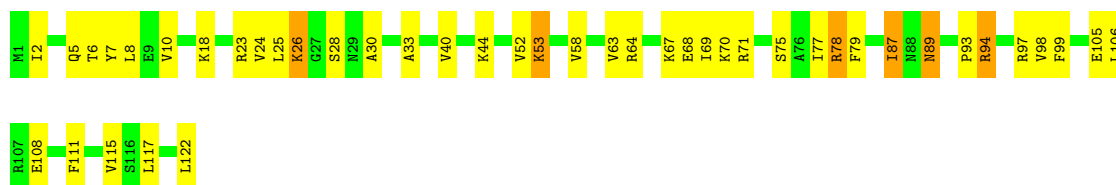
- Molecule 12: 50S ribosomal protein L14

Chain AO:  62% 30% 7%



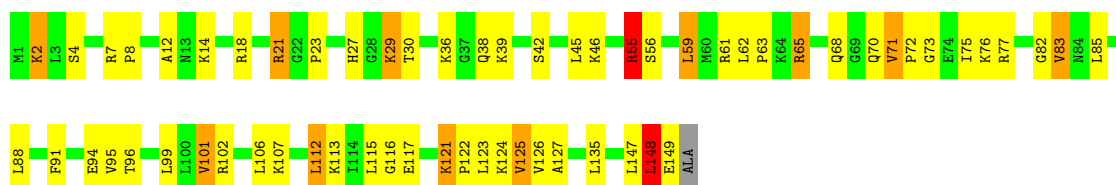
- Molecule 12: 50S ribosomal protein L14

Chain CO:  64% 31% 5%



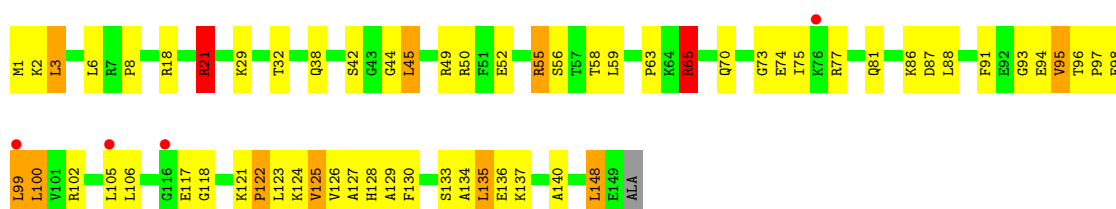
- Molecule 13: 50S ribosomal protein L15

Chain AP:  58% 33% 7%



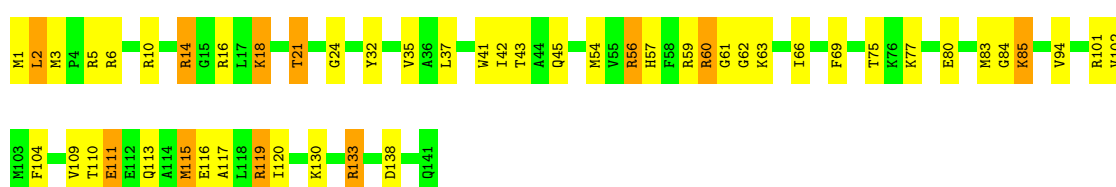
- Molecule 13: 50S ribosomal protein L15

Chain CP:  58% 33% 7%



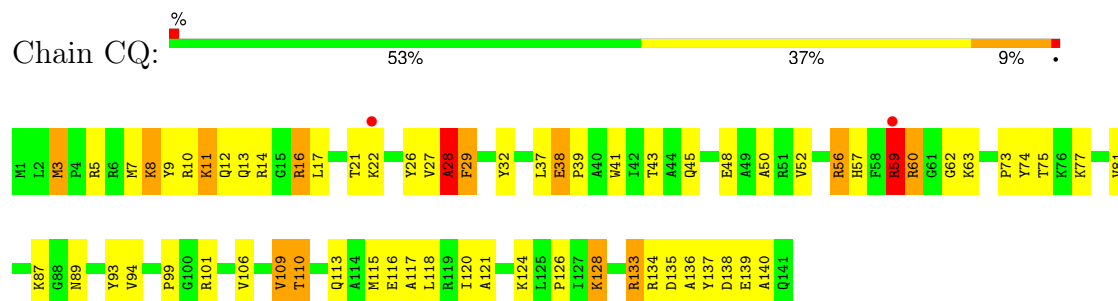
- Molecule 14: 50S ribosomal protein L16

Chain AQ:  65% 28% 8%

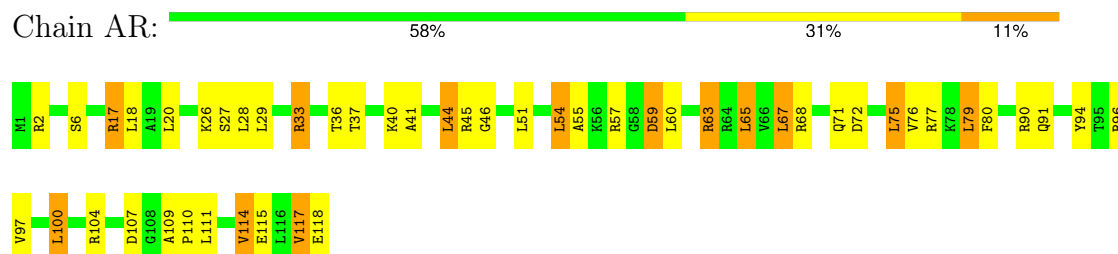




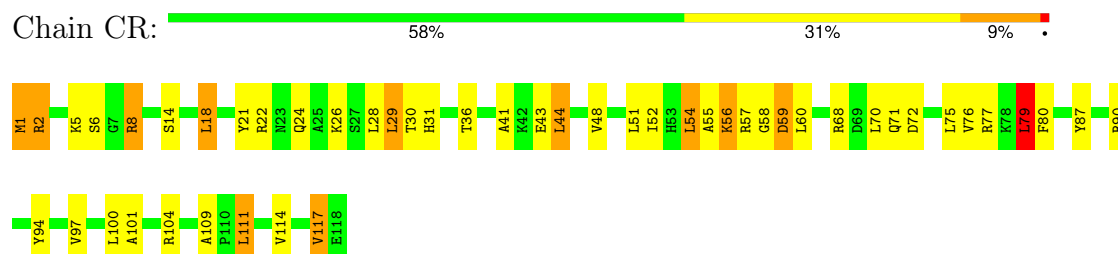
- Molecule 14: 50S ribosomal protein L16



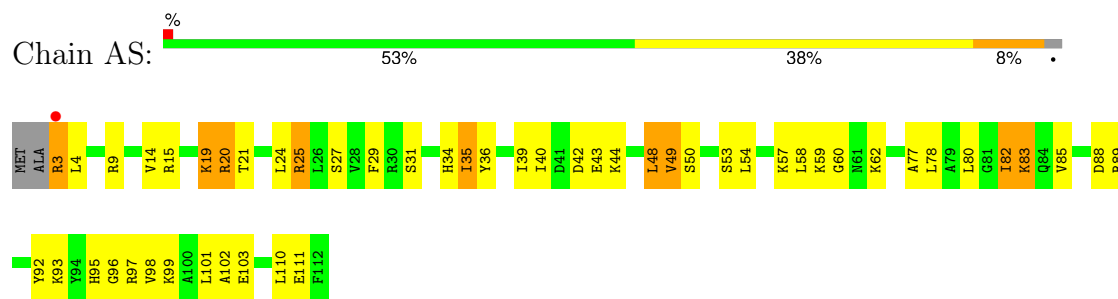
- Molecule 15: 50S ribosomal protein L17



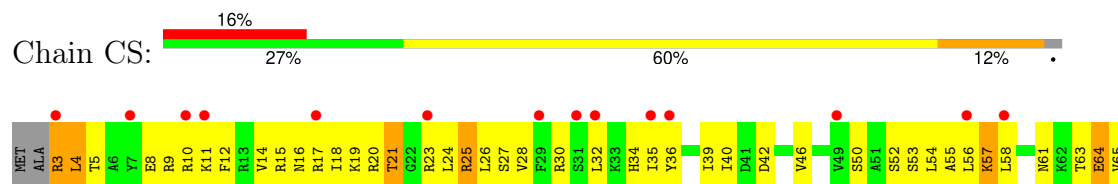
- Molecule 15: 50S ribosomal protein L17



- Molecule 16: 50S ribosomal protein L18

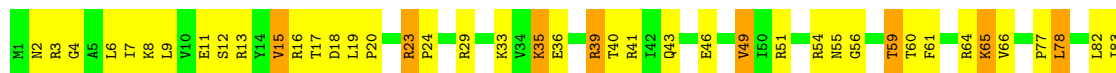


- Molecule 16: 50S ribosomal protein L18

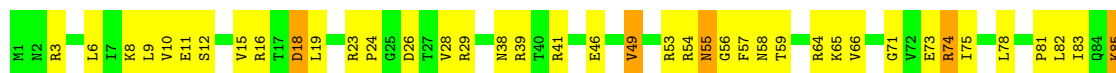




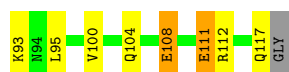
- Molecule 17: 50S ribosomal protein L19



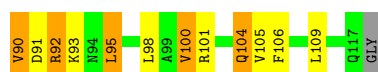
- Molecule 17: 50S ribosomal protein L19



- Molecule 18: 50S ribosomal protein L20



- Molecule 18: 50S ribosomal protein L20

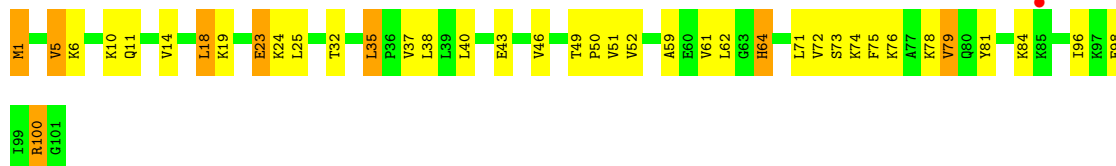


- Molecule 19: 50S ribosomal protein L21





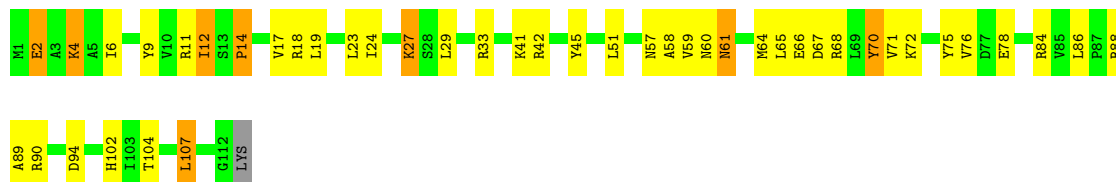
- Molecule 19: 50S ribosomal protein L21



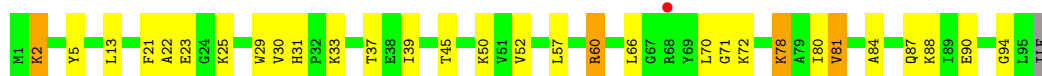
- Molecule 20: 50S ribosomal protein L22



- Molecule 20: 50S ribosomal protein L22



- Molecule 21: 50S ribosomal protein L23

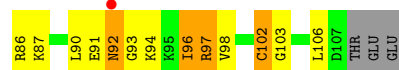


- Molecule 21: 50S ribosomal protein L23

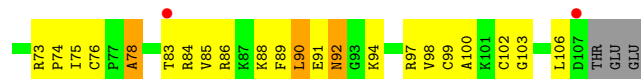
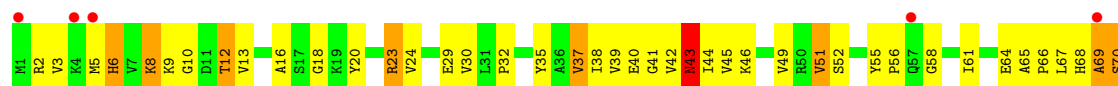
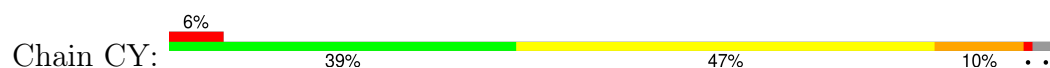




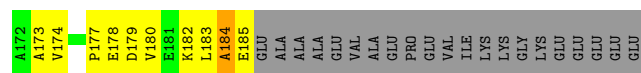
- Molecule 22: 50S ribosomal protein L24



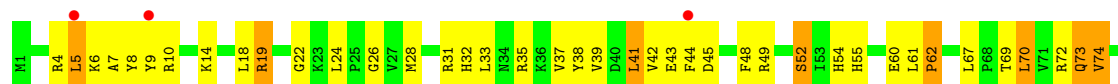
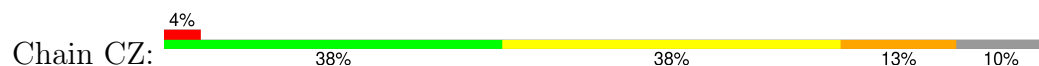
- Molecule 22: 50S ribosomal protein L24

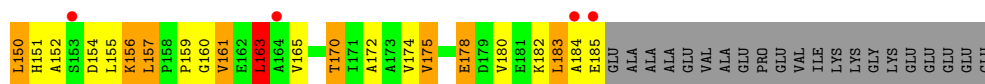


- Molecule 23: 50S ribosomal protein L25

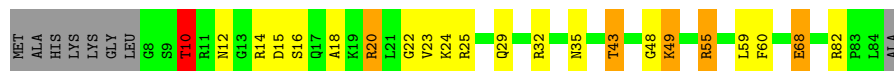


- Molecule 23: 50S ribosomal protein L25

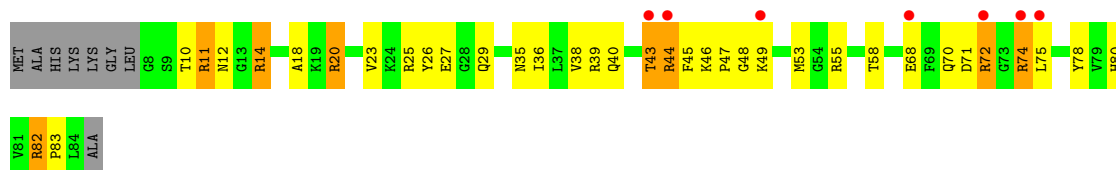




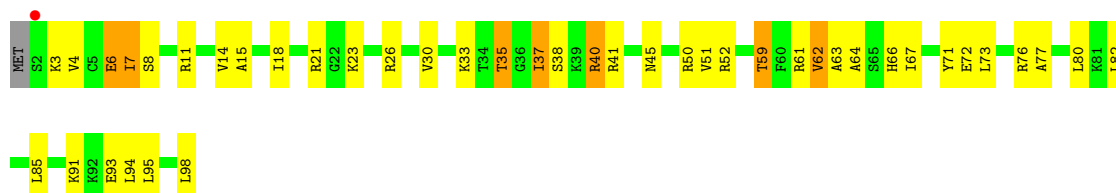
- Molecule 24: 50S ribosomal protein L27



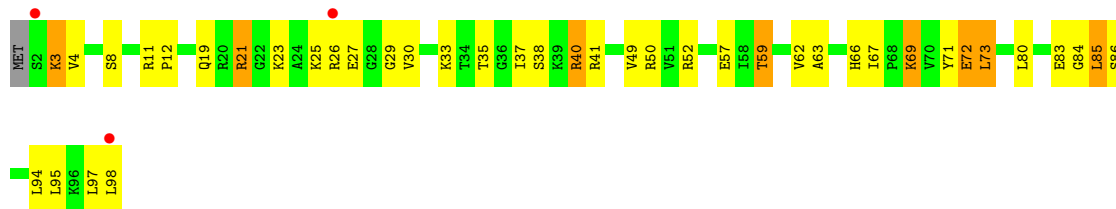
- Molecule 24: 50S ribosomal protein L27



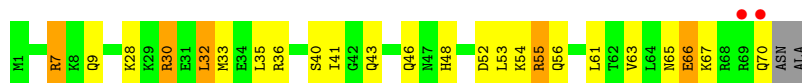
- Molecule 25: 50S ribosomal protein L28



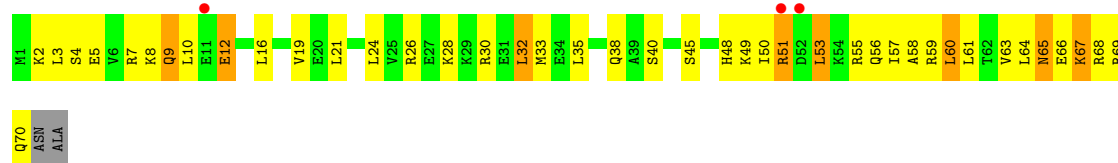
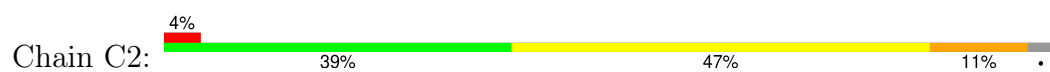
- Molecule 25: 50S ribosomal protein L28



- Molecule 26: 50S ribosomal protein L29



- Molecule 26: 50S ribosomal protein L29



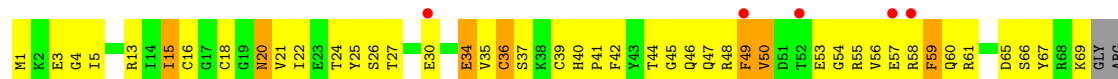
- Molecule 27: 50S ribosomal protein L30



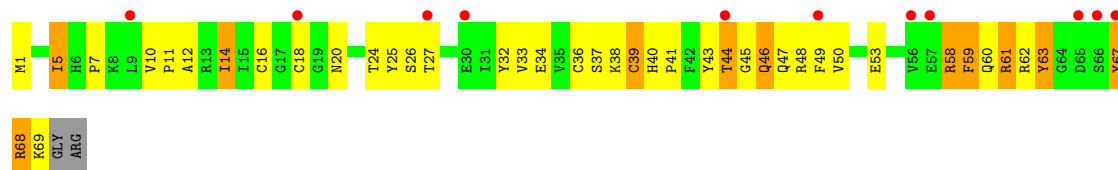
- Molecule 27: 50S ribosomal protein L30



- Molecule 28: 50S ribosomal protein L31



- Molecule 28: 50S ribosomal protein L31



- Molecule 29: 50S ribosomal protein L32

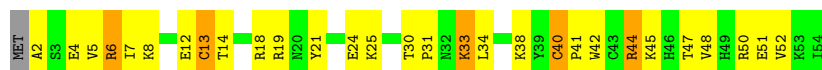


- Molecule 29: 50S ribosomal protein L32





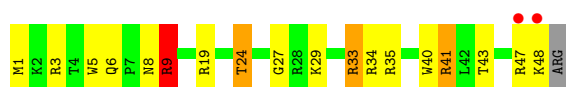
- Molecule 30: 50S ribosomal protein L33



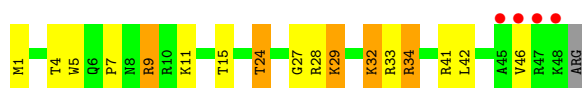
- Molecule 30: 50S ribosomal protein L33



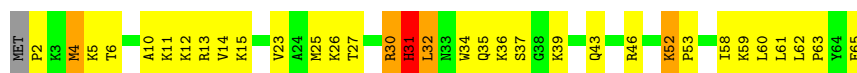
- Molecule 31: 50S ribosomal protein L34



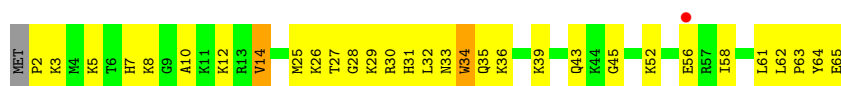
- Molecule 31: 50S ribosomal protein L34



- Molecule 32: 50S ribosomal protein L35



- Molecule 32: 50S ribosomal protein L35



- Molecule 33: 50S ribosomal protein L36

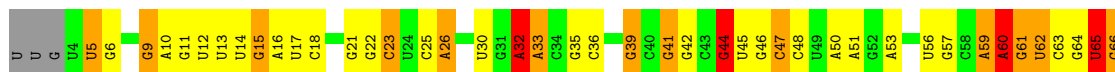




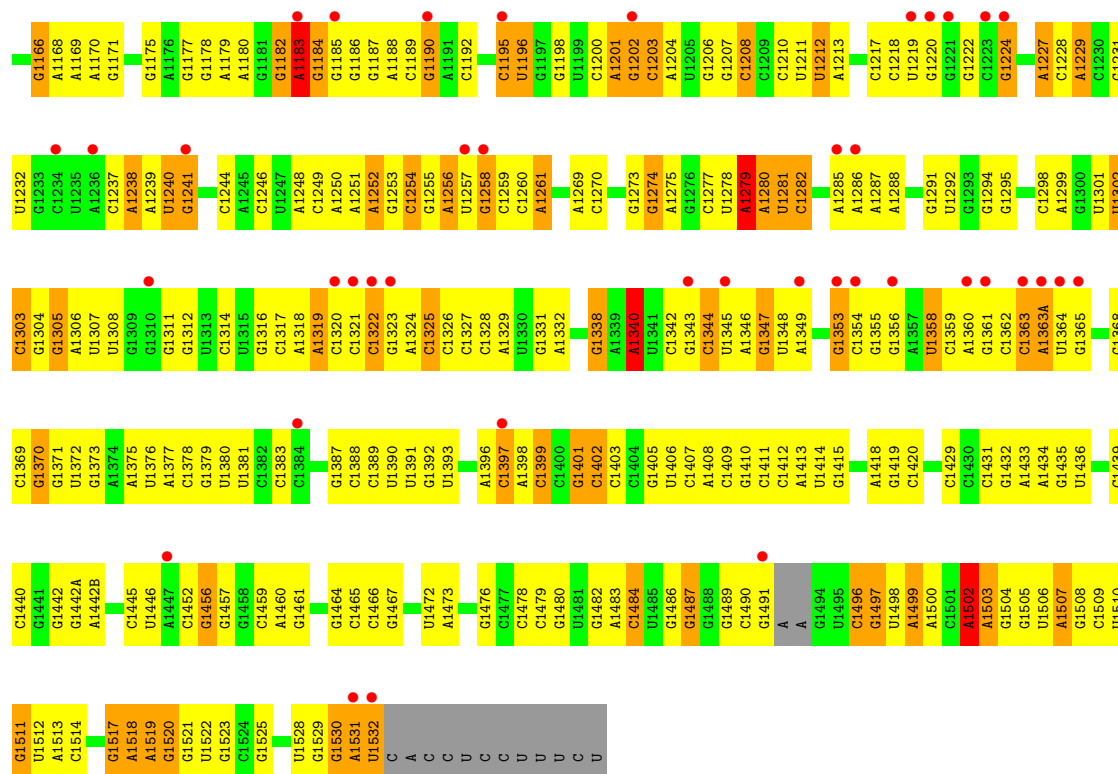




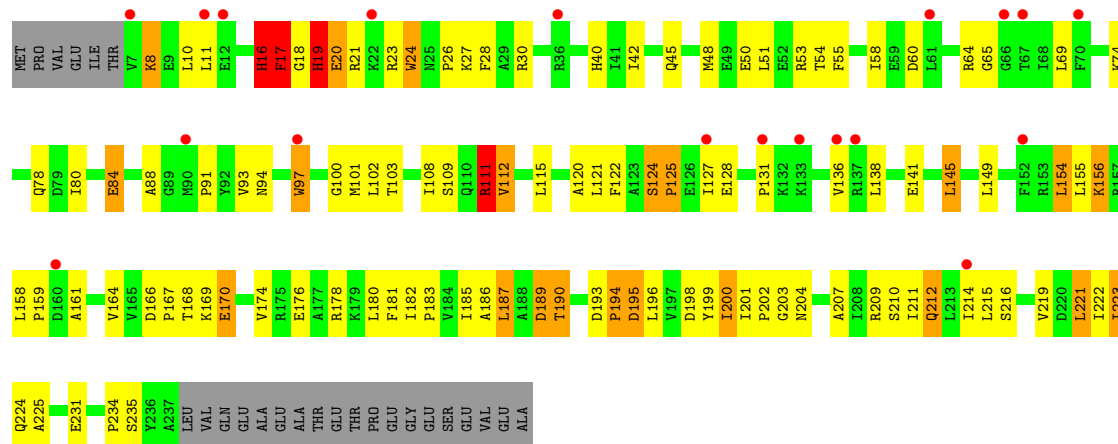
- Molecule 34: 16S Ribosomal RNA



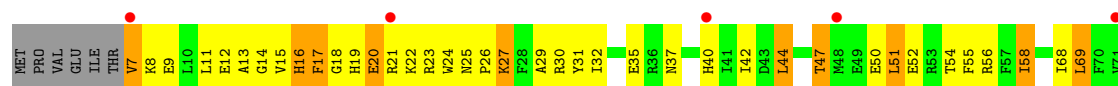
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A1102	U1040	A978	A908	G829	G763	G688	C599	A532	C450	A382	C314	C237	C163	G70
G1103	C979	C990	A909	G830	G764	C689	C600	A533	A451	A383	C315	C240	U164	C71
A1105	G1042	U981	C912	C832	G765	G690	C601		A452	A315	C316	C241	G166	C72
G1106	U982	U981	A913	U833	A766	U692	A602	C536	C453	G388	C320	C242	A171	G73
C1107	A1044	A933	A914	C834	A767	G693	A607	G538	C454	A389	A321	A243	A172	
G1108	C1045	C984	A915	U835	A768	A694	A608	A539	C455	C390	A322	U244	G171	
A1046	U1046	G985	A916	G836	G769	A695	A609	G540	C458	G391	C322	U245	U173	G79
A1110	A1047	A986	G917	G837	C770	A696	G610	G541	U458	G392	C323	C174	C174	U
A1111	G1048	G987	A918	G838	G771	U697	A611	G542	C460	A393	C324	C175	C175	U
C1112	U1049	G988	A919	U839	G773	G698	G612	C543	C470	G394	A325	C176	G176	
C1113	U920	U840	U921	C840	G774		C613	G544	C471	C395	C326	G251	C177	U84
C1114	C990	U841	U922	U841	G775	C701			A472	G396	A327		C178	A88
C1115	U991	G848	G922	G848	G776	A702	C618	A547	C473	A397	C328	G254	U179	C89
C1116	U992	G849	A923	C849	A777	G703	U619	G548	C474	A398	C329	G255	U180	
C1117	G993	U850	G924	U850	G778	C620	C620	C549	C475	C403	C330	U256	U181	G97
C1118	A994	G951	G926	G951	G779	C707	A621	G550		U404	C331	G257	G182	G98
C1119	U1056	G952	G927	G952	A780	C708	C622	U551	U480	U405	C332	G258	U183	U99
G1120	G988	G853		G853	A781		C623	U552	C481	G406	G333	G259	C186	C100
U1121	G999	G854	C932	G854	A782	G713	C624	A553	C482	G407	C334	G260	C187	A101
C1069	U1000	G855	G933	G855	C783	G714	G625	C554	C483	A408		U261	C188	G102
A1122	C1069	C934	G934	C856	C784	A715	U626	C555	C484	A409	A338	G262	C189	C103
G1123	A1001	G857	A935	G857	G785	A716	G627	C556	C485	G409	C339	G263	G104	G104
U1125	G1001A	G858	C936	G858	G786			G557	U486	G410		U264	G189D	G105
C1063	G1003	A859	A937	A859	A787	C719	G630	G558	A487	A411	A344	G265	U189E	C106
G1064	A1004	A860	A938	A860	A790	C720		A559	C488	A412	C345	G266	U189F	G107
U1065	A1005	G861	G939	G861	G791	G721	G638	U560	C489	G413	C346	C267	G189G	G108
C1066	C1006	C962	C940	C862	G792	A722	G639	U561	C490	A414		C268	G189H	A109
A1130	C1007	G963	G941	U863	A793	C723		C562	C491	A415	A349	C269	C110	
G1131	C1008	A864	G944	A864	U793	G724	A642	A563	C492	G416	C350	A270	G189L	G113
C1132	G1009	A865	G945	A865	C795	G725	C643	C564	A496	C417	C351	C271	U190	G114
G1133	G1010	C866	A946	C866	G796		G644	U565	U498	C418	C352	C272	U191	U114
U1134	U1011	G867		G867	G798	A728	G649	G566	A499	C419	A353	A273	U192	G115
C1074	U1012	G868		G868		C732	G650	U567		U420	C354	A274	C193	A116
C1075	G1013	G869		G869	A802	G730	C651	G570	G502	C422	C355	G275	C194	
C1076	A1014	C875	U955	C875	G803	G731	U652	U571	C503	G425	G357	G276	A195	G121
G1077	A1015	G876	U956	G876	C805	A733	A653	A572	C504	G426	U358	C277	A196	G122
U1078	A1016	C877	U957	C877	C806	C736	C656	A574	G505	U427	U359	A278	A197	C123
A1080	G1021	G878	U958	G878	A807	A737	G662	G575	A509	G428	C361	C280	G198	G124
G1081	G1022	C879	A959	C879	C810	C738	A663	G576	A510	U429	G362	G281	G199	U125
C1082	G1023	C880	U960	C880	C811	C739	G664	G577	C511	A430	A363	G289	G200	G126
G1084	U1025	G881	U961	C881	C912	U740	A665	C578	U512	A431	A364	U202	C201	G127
U1085	G1026	C882	G962	C882	U813	G741	G669	G579	C513	A432	U365	C291	U203	U128
U1086	C1027	U884	A964	U884	A814	G742		U580	C514	C433	C366	G292	U204	G129A
G1089	C1028	G885	U965	G885	A815	U743	G670	G581	G515	U434	U367	G293	G216	A130
U1090	C1029		G966		A816		G671	C586	U516	C435	U368		C221	C131
A1091	G1030	U891	C967	U891	C817	C747	U672	G587	C517	C436	G371	G297	U222	A134
C1092	G1030B		A968		G818	C748	U673	G588	C518	U437	C372	A298	U223	
G1093	G1030C	C899	A969	C899	G819	C749	G674	G589	C519	G438	C373	G299	C224	A143
A1094	A1030D	A900	C970	A900	G821	A753	A675	C590	A520	A439	A374	A300	G144	G144
U1095	G1031	G971	G971	A901	C822	G754	A676	U591	G521	A441	U375	G302	G227	G147
C1096	G1032	C972	G972	G902	G823	G755	U677	G592	A523	C442	G376	A303	A228	G148
C1097	G1033	G973	G973	G903	C824	C756	U678	G593	G524	C443	G377	U304	G231	A149
U1098	G1034	A974	A974	C904	G825	U757		G595	G527	C444	G378	G305	G232	C150
C1161	A1035	A975	C975	U905	C826	G758	A684	C596		G445	C379		C235	
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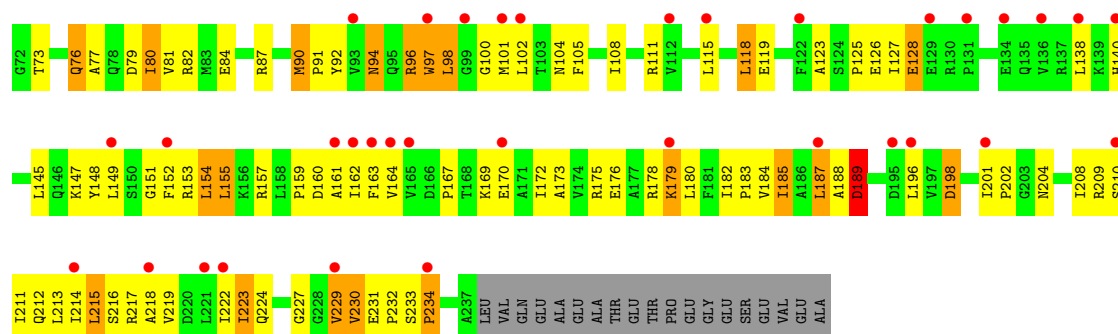


• Molecule 35: 30S ribosomal protein S2

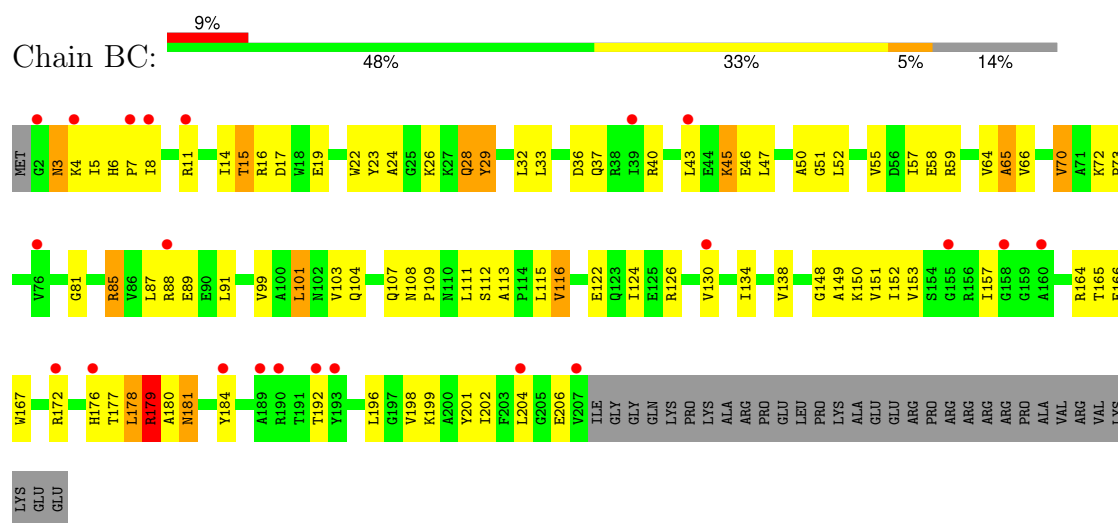


• Molecule 35: 30S ribosomal protein S2





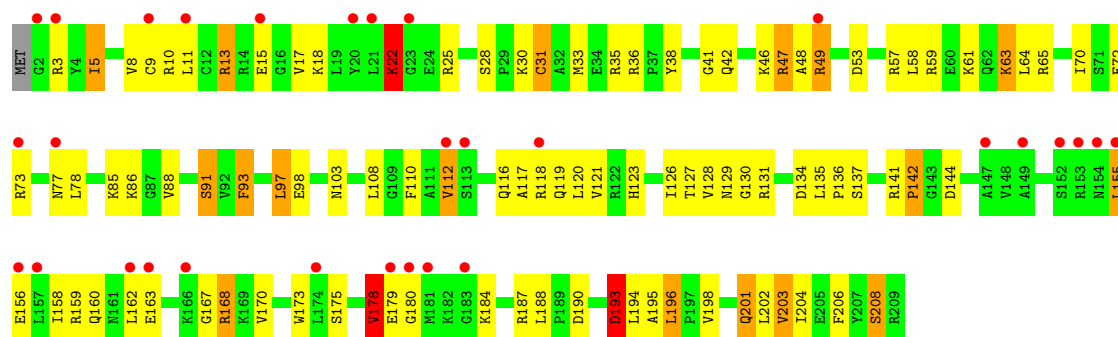
• Molecule 36: 30S ribosomal protein S3



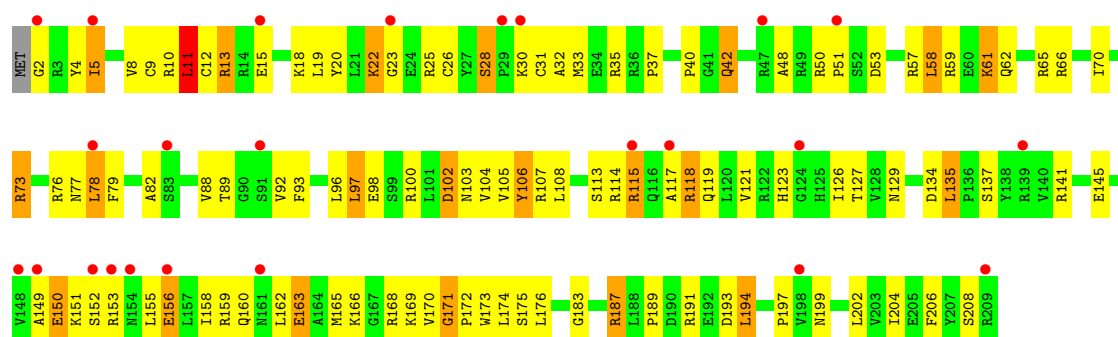
• Molecule 36: 30S ribosomal protein S3



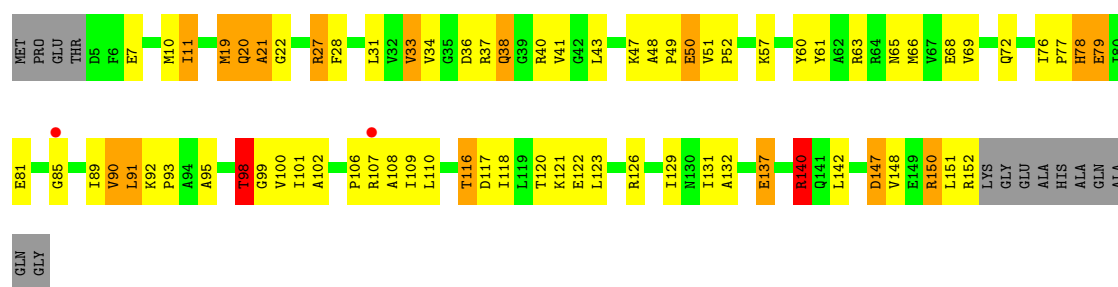
• Molecule 37: 30S ribosomal protein S4



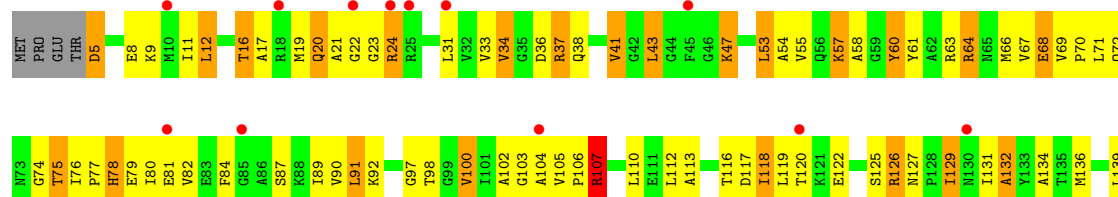
• Molecule 37: 30S ribosomal protein S4

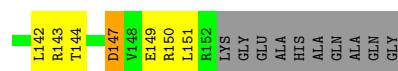


• Molecule 38: 30S ribosomal protein S5

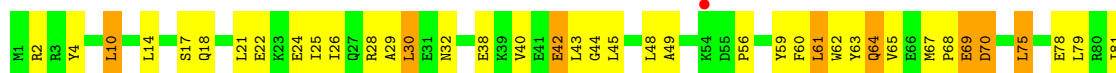


• Molecule 38: 30S ribosomal protein S5

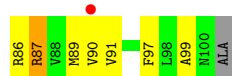
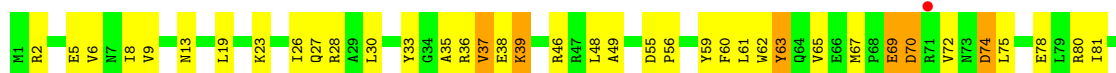




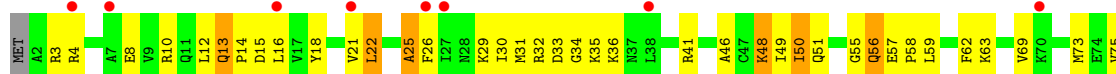
- Molecule 39: 30S ribosomal protein S6



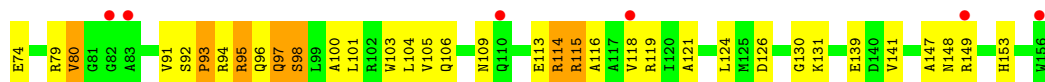
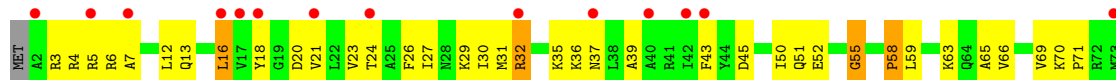
- Molecule 39: 30S ribosomal protein S6



- Molecule 40: 30S ribosomal protein S7

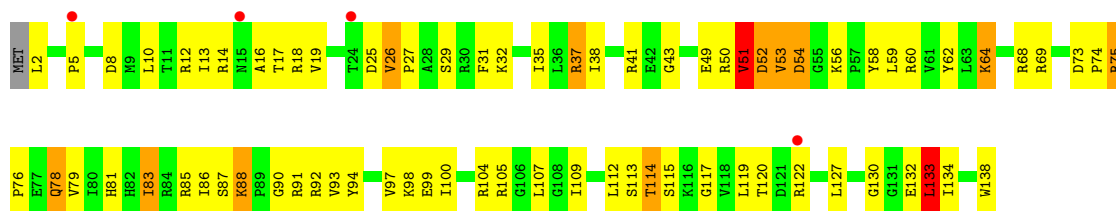


- Molecule 40: 30S ribosomal protein S7

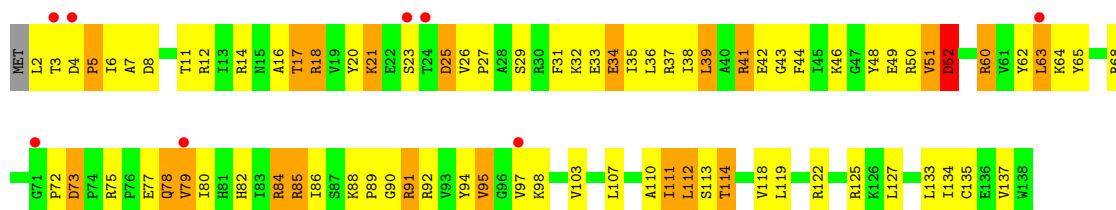


- Molecule 41: 30S ribosomal protein S8

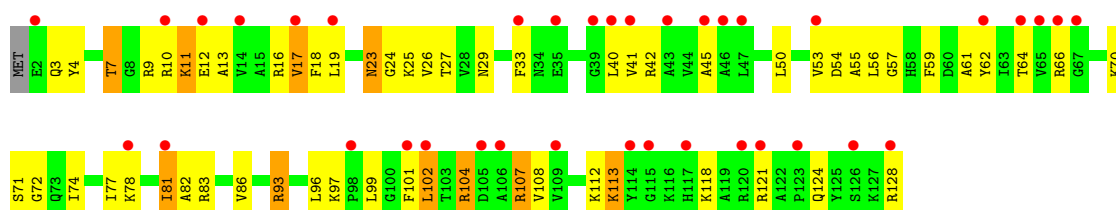




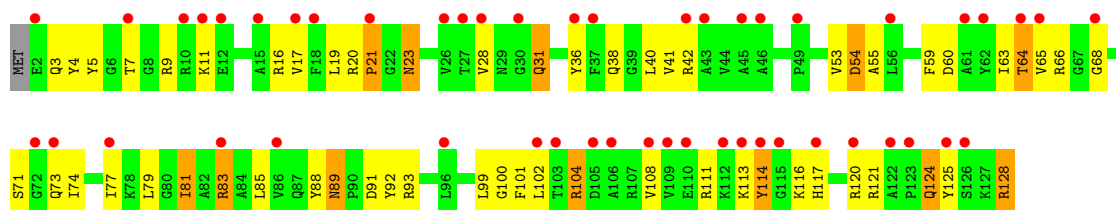
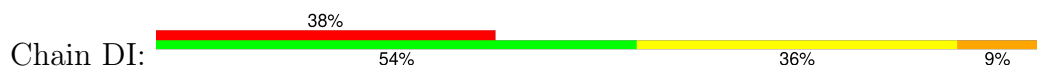
• Molecule 41: 30S ribosomal protein S8



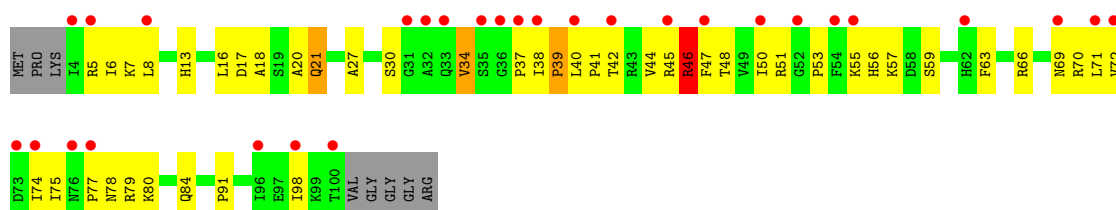
• Molecule 42: 30S ribosomal protein S9



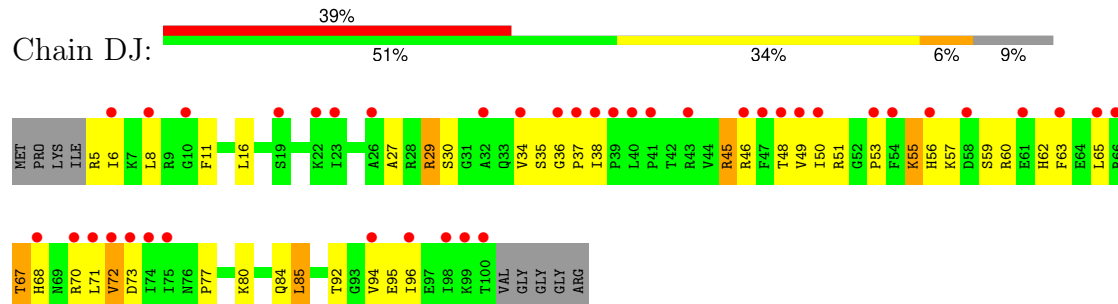
• Molecule 42: 30S ribosomal protein S9



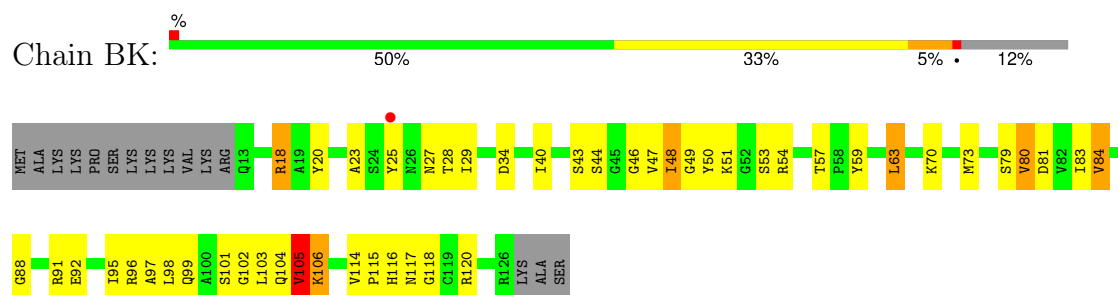
• Molecule 43: 30S ribosomal protein S10



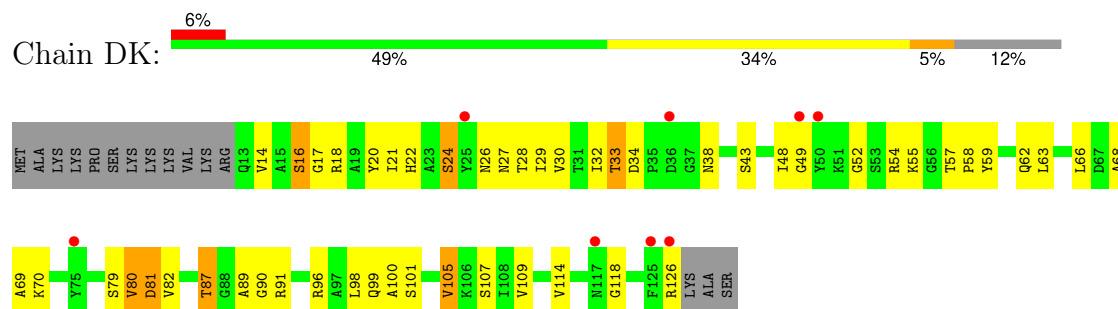
- Molecule 43: 30S ribosomal protein S10



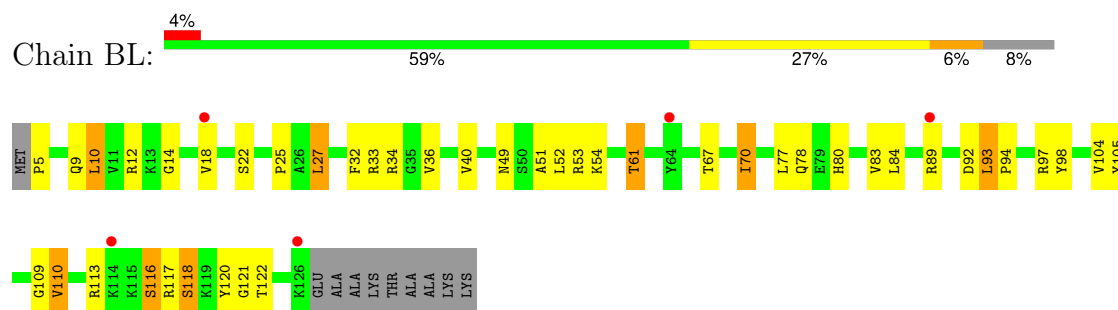
- Molecule 44: 30S ribosomal protein S11



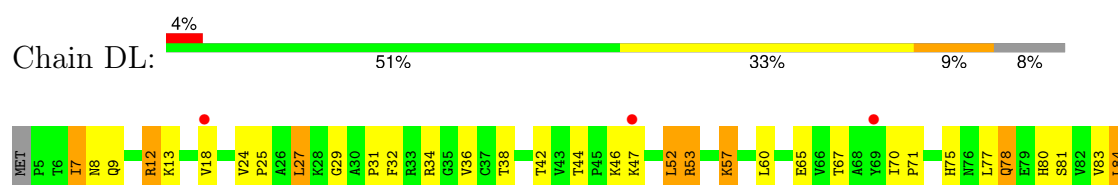
- Molecule 44: 30S ribosomal protein S11



- Molecule 45: 30S ribosomal protein S12



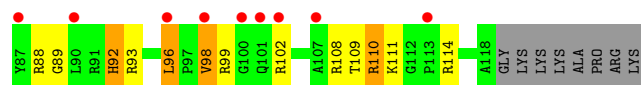
- Molecule 45: 30S ribosomal protein S12



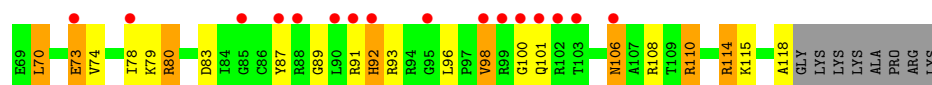
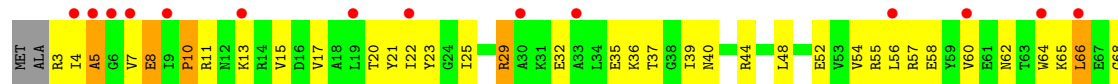




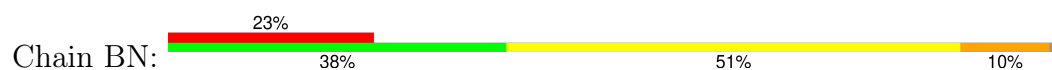
- Molecule 46: 30S ribosomal protein S13



- Molecule 46: 30S ribosomal protein S13



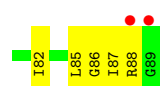
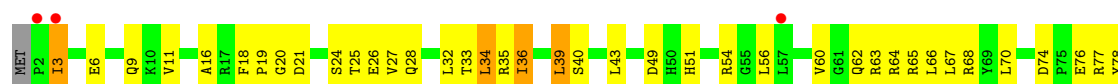
- Molecule 47: 30S ribosomal protein S14 type Z



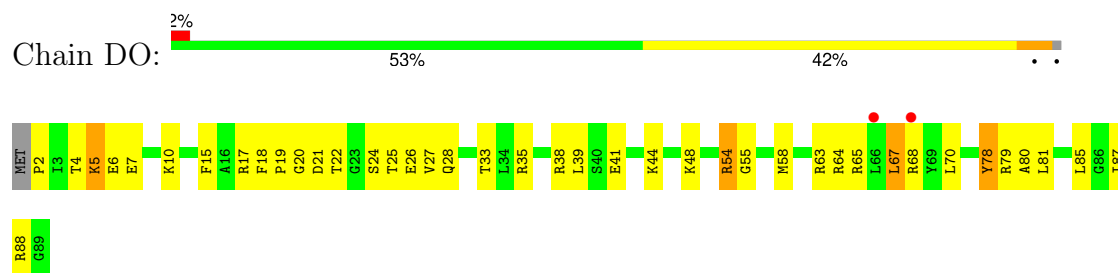
- Molecule 47: 30S ribosomal protein S14 type Z



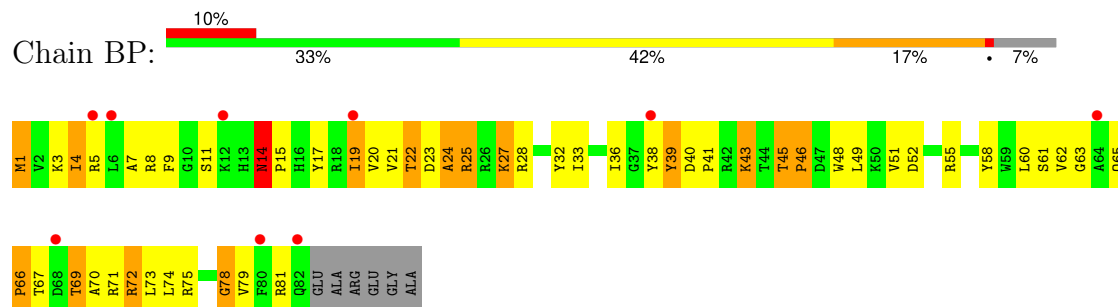
- Molecule 48: 30S ribosomal protein S15



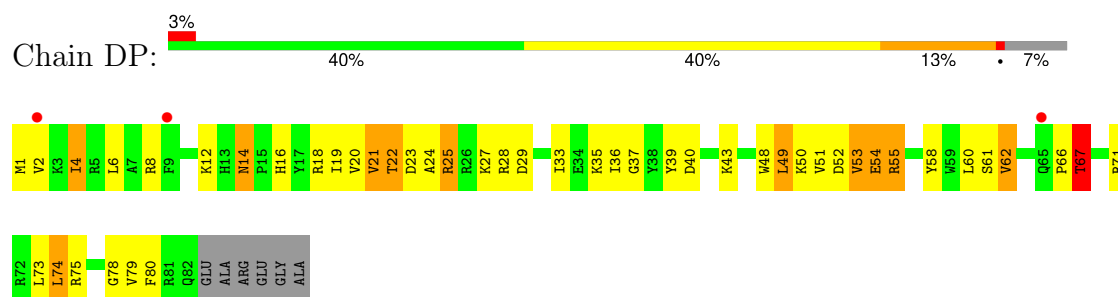
## • Molecule 48: 30S ribosomal protein S15



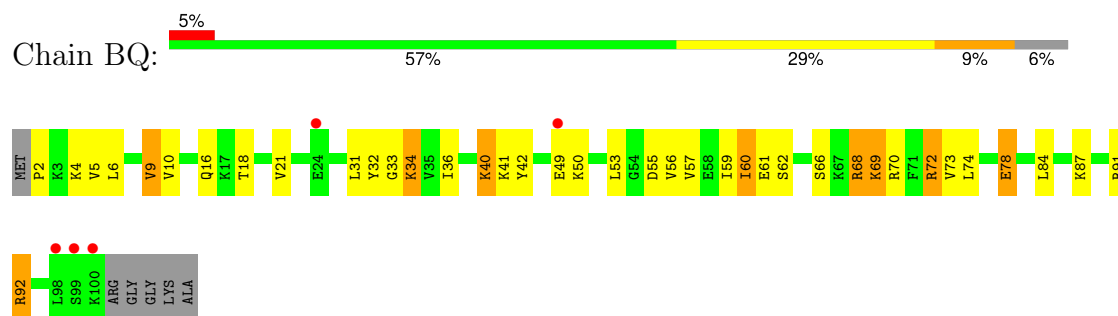
## • Molecule 49: 30S ribosomal protein S16



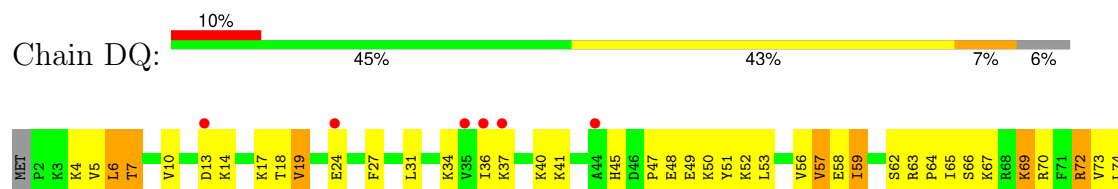
## • Molecule 49: 30S ribosomal protein S16

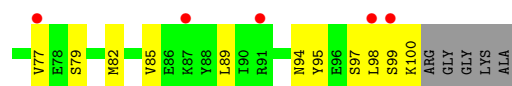


## • Molecule 50: 30S ribosomal protein S17

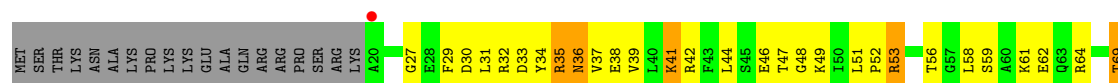


## • Molecule 50: 30S ribosomal protein S17

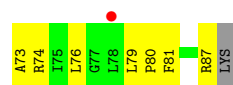
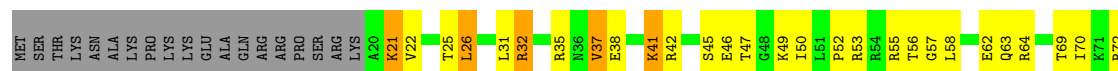




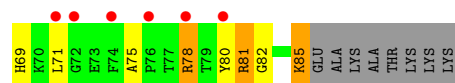
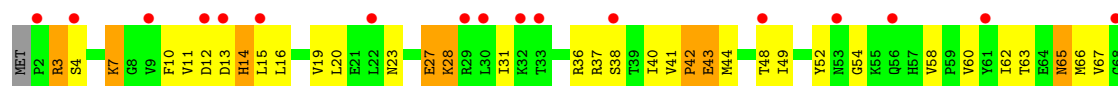
- Molecule 51: 30S ribosomal protein S18



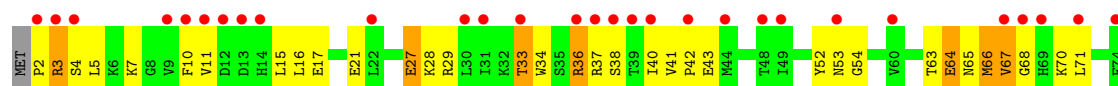
- Molecule 51: 30S ribosomal protein S18



- Molecule 52: 30S ribosomal protein S19

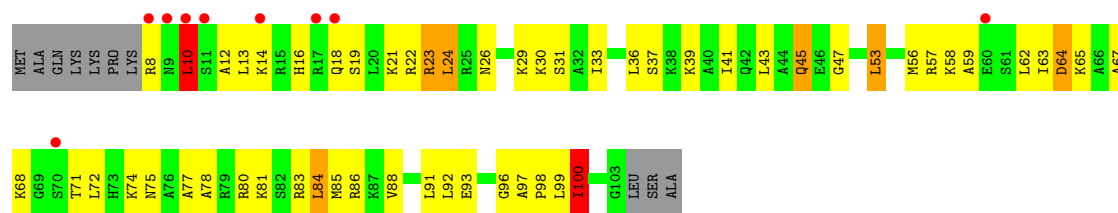


- Molecule 52: 30S ribosomal protein S19

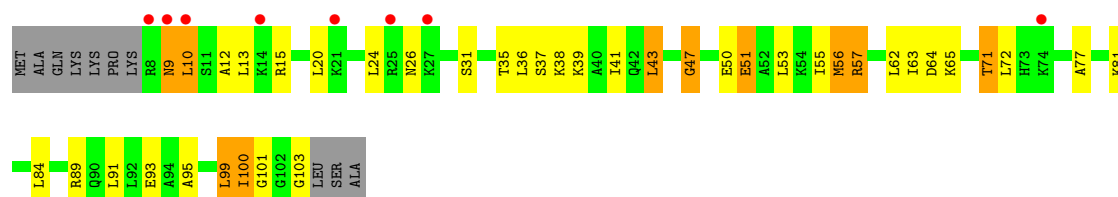


- Molecule 53: 30S ribosomal protein S20

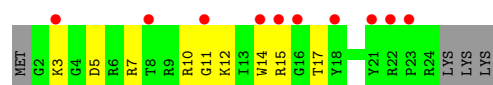
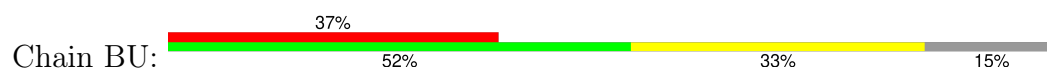




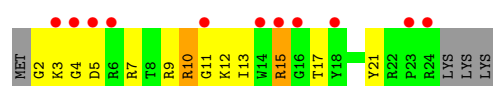
• Molecule 53: 30S ribosomal protein S20



• Molecule 54: 30S ribosomal protein Thx



• Molecule 54: 30S ribosomal protein Thx



• Molecule 55: mRNA

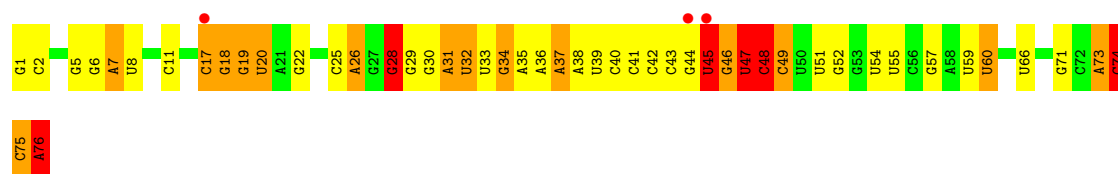


• Molecule 55: mRNA

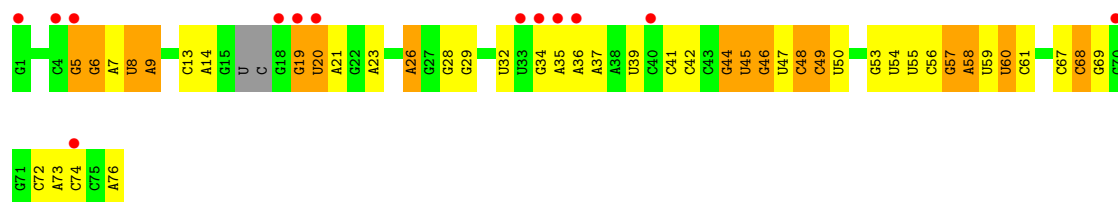


• Molecule 56: P-site tRNA

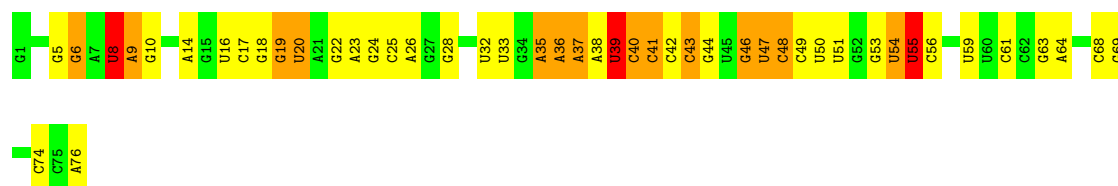




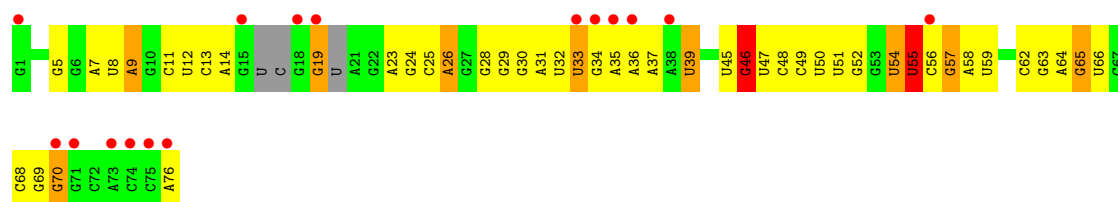
• Molecule 56: P-site tRNA



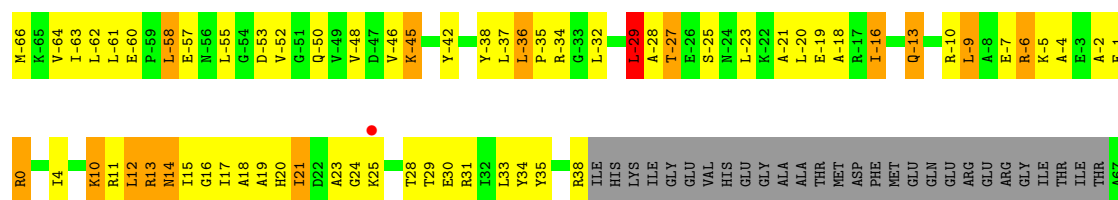
• Molecule 56: P-site tRNA

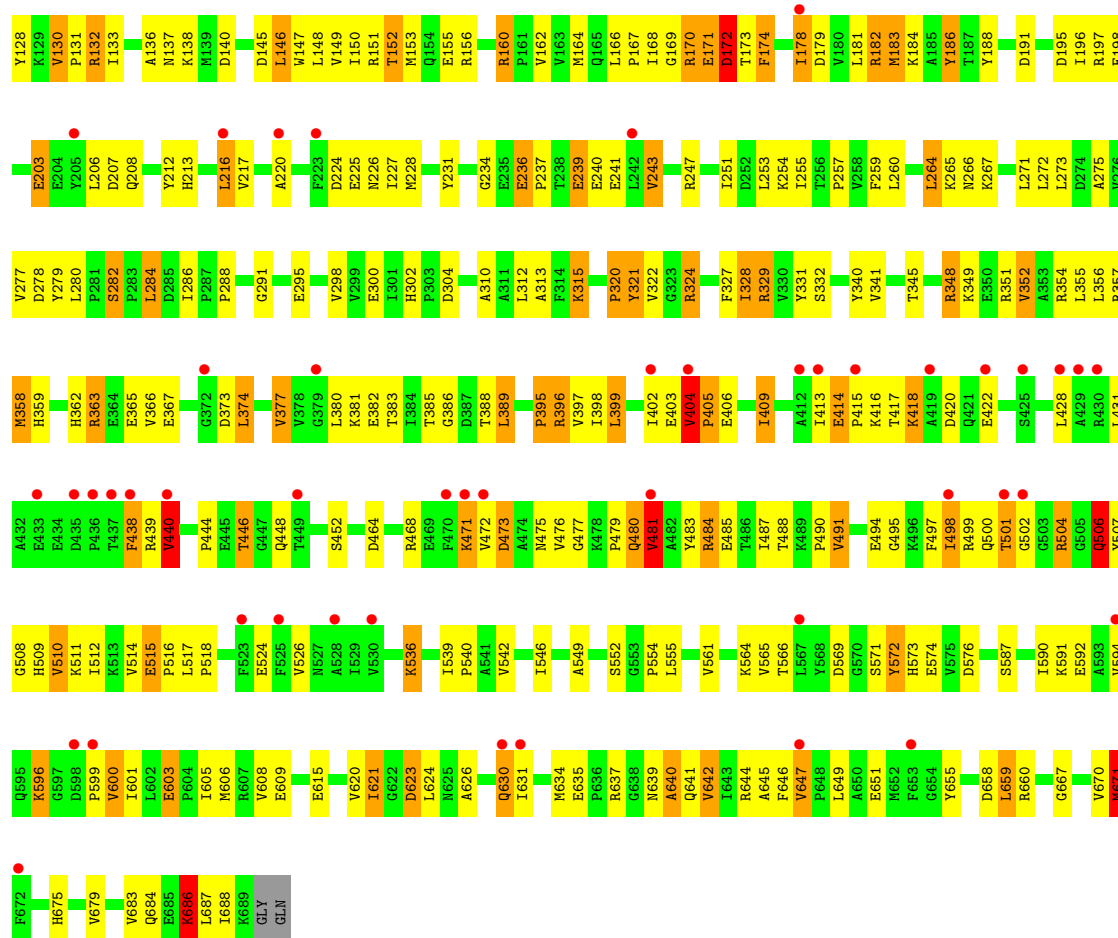


• Molecule 56: P-site tRNA

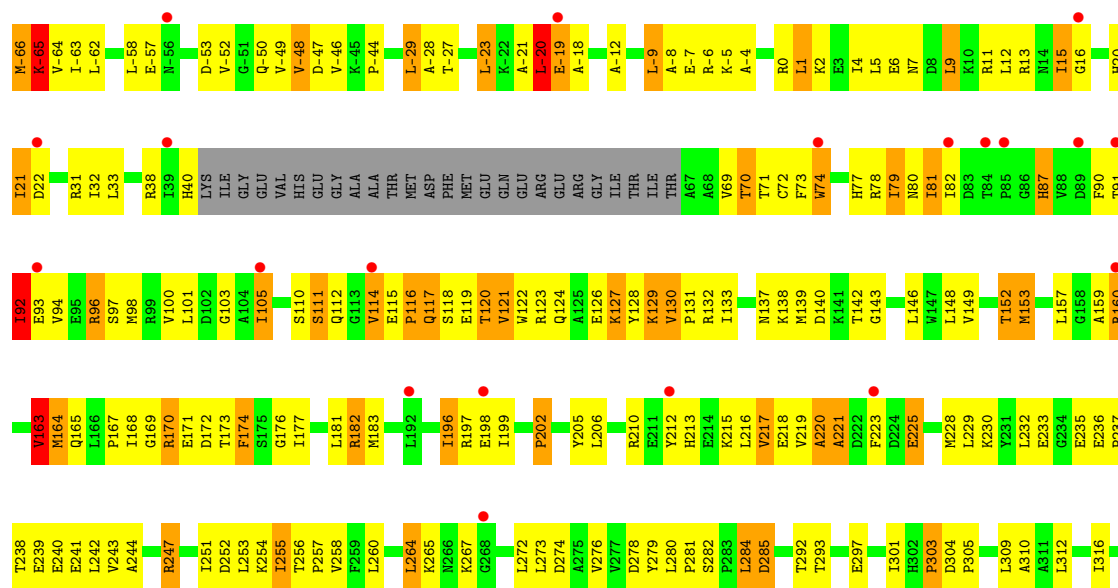


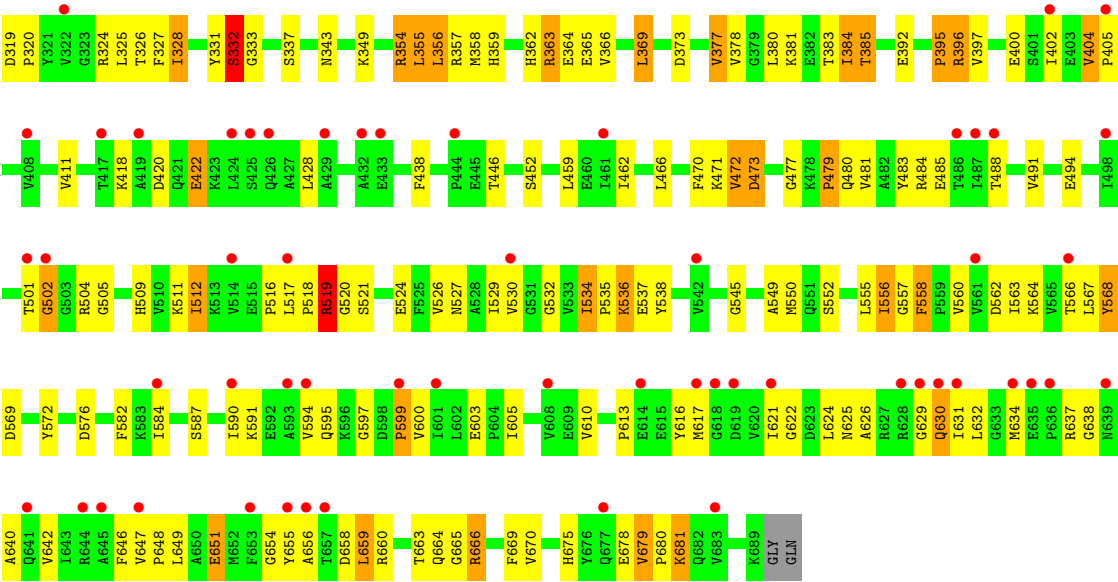
• Molecule 57: 50S ribosomal protein L9,Elongation factor G



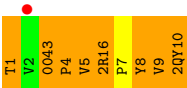


• Molecule 57: 50S ribosomal protein L9, Elongation factor G





• Molecule 58: Dityromycin



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	209.84Å 450.58Å 623.43Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.81 – 2.80 49.81 – 2.80	Depositor EDS
% Data completeness (in resolution range)	94.5 (49.81-2.80) 94.5 (49.81-2.80)	Depositor EDS
$R_{merge}$	0.13	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.61 (at 2.81Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.8.2_1309)	Depositor
R, $R_{free}$	0.209 , 0.264 0.210 , 0.264	Depositor DCC
$R_{free}$ test set	67916 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	56.0	Xtriage
Anisotropy	0.111	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 73.5	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	310038	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	79.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.56% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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



## 5 Model quality ⓘ

### 5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: SF4, PSU, GDP, MVA, 5MU, 2R3, 7MG, MIA, MG, 004, 2QZ, ZN, 4SU, 2QY, 2R1

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	AA	1.41	444/69281 (0.6%)	2.07	3848/108144 (3.6%)
1	CA	1.00	75/69179 (0.1%)	1.66	1653/107984 (1.5%)
2	AB	1.17	7/2878 (0.2%)	1.92	120/4490 (2.7%)
2	CB	0.66	0/2878	1.33	24/4490 (0.5%)
3	AC	0.34	0/1083	0.65	0/1460
3	CC	0.34	0/1083	0.65	0/1460
4	AD	0.94	2/2186 (0.1%)	1.04	5/2944 (0.2%)
4	CD	0.74	0/2192	0.95	6/2951 (0.2%)
5	AE	0.93	0/1592	1.08	2/2149 (0.1%)
5	CE	0.72	0/1592	0.91	1/2149 (0.0%)
6	AF	0.91	2/1619 (0.1%)	1.01	4/2193 (0.2%)
6	CF	0.63	0/1615	0.83	1/2188 (0.0%)
7	AG	0.60	0/1450	0.83	2/1959 (0.1%)
7	CG	0.36	0/1449	0.62	0/1958
8	AH	0.84	0/1356	0.96	1/1834 (0.1%)
8	CH	0.49	0/1356	0.67	0/1834
9	AK	0.34	0/640	0.67	0/889
9	CK	0.28	0/640	0.61	0/889
10	AL	0.31	0/503	0.54	0/673
10	CL	0.34	0/503	0.60	0/673
11	AN	0.95	0/1144	1.01	3/1543 (0.2%)
11	CN	0.61	0/1144	0.81	0/1543
12	AO	0.91	1/943 (0.1%)	1.02	3/1269 (0.2%)
12	CO	0.77	0/943	0.87	0/1269
13	AP	0.85	0/1156	1.03	4/1537 (0.3%)
13	CP	0.57	0/1152	0.87	2/1533 (0.1%)
14	AQ	0.91	0/1143	0.97	2/1527 (0.1%)
14	CQ	0.64	0/1143	0.82	1/1527 (0.1%)
15	AR	0.90	0/982	1.07	4/1312 (0.3%)
15	CR	0.65	0/982	0.88	1/1312 (0.1%)
16	AS	0.76	0/887	0.95	1/1180 (0.1%)
16	CS	0.49	0/880	0.74	0/1172

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
17	AT	0.89	0/1105	1.02	3/1477 (0.2%)
17	CT	0.65	0/1097	0.89	1/1468 (0.1%)
18	AU	1.11	3/977 (0.3%)	1.05	1/1301 (0.1%)
18	CU	0.69	1/977 (0.1%)	0.79	0/1301
19	AV	0.98	0/782	1.08	2/1049 (0.2%)
19	CV	0.58	0/782	0.79	0/1049
20	AW	1.10	2/897 (0.2%)	1.09	7/1205 (0.6%)
20	CW	0.80	0/897	0.92	0/1205
21	AX	0.96	0/764	0.99	0/1025
21	CX	0.67	0/764	0.83	1/1025 (0.1%)
22	AY	0.88	0/819	0.97	0/1095
22	CY	0.56	0/819	0.72	0/1095
23	AZ	0.72	1/1483 (0.1%)	0.93	4/2017 (0.2%)
23	CZ	0.45	0/1483	0.73	0/2017
24	A0	0.87	0/616	1.05	1/821 (0.1%)
24	C0	0.60	0/616	0.76	0/821
25	A1	0.87	0/762	0.92	0/1014
25	C1	0.67	0/762	0.89	1/1014 (0.1%)
26	A2	0.79	0/590	0.93	1/781 (0.1%)
26	C2	0.59	0/590	0.73	0/781
27	A3	1.01	0/474	1.06	0/635
27	C3	0.57	0/469	0.81	0/630
28	A4	0.50	0/571	0.72	0/768
28	C4	0.35	0/545	0.59	0/737
29	A5	0.99	0/469	1.05	0/635
29	C5	0.76	1/469 (0.2%)	0.86	0/635
30	A6	0.95	0/460	1.03	1/613 (0.2%)
30	C6	0.71	0/456	0.81	1/608 (0.2%)
31	A7	0.99	0/426	1.11	3/561 (0.5%)
31	C7	0.77	0/426	0.99	1/561 (0.2%)
32	A8	0.95	0/525	0.94	0/691
32	C8	0.63	0/525	0.82	0/691
33	A9	0.98	0/310	1.05	0/407
33	C9	0.64	0/310	0.80	0/407
34	BA	0.77	3/35976 (0.0%)	1.42	439/56145 (0.8%)
34	DA	0.68	1/36119 (0.0%)	1.30	238/56370 (0.4%)
35	BB	0.45	0/1881	0.69	1/2542 (0.0%)
35	DB	0.38	0/1860	0.66	0/2518
36	BC	0.40	0/1576	0.61	0/2130
36	DC	0.35	0/1568	0.55	0/2122
37	BD	0.49	0/1689	0.71	0/2267
37	DD	0.51	0/1708	0.73	1/2289 (0.0%)
38	BE	0.60	0/1145	0.79	0/1543

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
38	DE	0.51	0/1149	0.77	0/1548
39	BF	0.50	0/825	0.77	0/1118
39	DF	0.51	0/833	0.72	0/1128
40	BG	0.43	0/1250	0.60	0/1679
40	DG	0.35	0/1254	0.58	0/1683
41	BH	0.55	0/1108	0.76	0/1494
41	DH	0.45	0/1108	0.75	1/1494 (0.1%)
42	BI	0.44	0/1005	0.64	0/1350
42	DI	0.34	0/997	0.56	0/1343
43	BJ	0.39	0/722	0.71	2/982 (0.2%)
43	DJ	0.34	0/727	0.59	0/988
44	BK	0.56	0/848	0.72	0/1149
44	DK	0.48	0/848	0.63	0/1149
45	BL	0.65	0/946	0.79	0/1274
45	DL	0.64	0/946	0.84	1/1274 (0.1%)
46	BM	0.42	0/933	0.67	0/1253
46	DM	0.30	0/917	0.52	0/1234
47	BN	0.45	0/501	0.67	0/664
47	DN	0.33	0/501	0.60	0/664
48	BO	0.57	0/739	0.74	0/985
48	DO	0.50	0/739	0.70	0/985
49	BP	0.55	0/697	0.81	1/939 (0.1%)
49	DP	0.49	0/693	0.72	0/935
50	BQ	0.58	0/836	0.78	0/1117
50	DQ	0.51	0/836	0.72	0/1117
51	BR	0.55	0/560	0.83	0/746
51	DR	0.48	0/560	0.70	0/746
52	BS	0.34	0/676	0.59	0/911
52	DS	0.31	0/661	0.66	0/893
53	BT	0.50	0/730	0.81	0/965
53	DT	0.46	0/733	0.72	0/969
54	BU	0.42	0/203	0.69	0/266
54	DU	0.38	0/203	0.59	0/266
55	BV	0.64	0/165	1.06	0/254
55	DV	0.54	0/137	1.11	0/211
56	BW	0.86	0/1650	1.64	45/2569 (1.8%)
56	BY	0.42	0/1602	0.95	1/2493 (0.0%)
56	DW	0.65	0/1650	1.29	7/2569 (0.3%)
56	DY	0.35	0/1579	0.86	0/2455
57	BZ	0.49	0/5763	0.72	1/7804 (0.0%)
57	DZ	0.45	0/5784	0.69	1/7835 (0.0%)
58	BX	0.67	0/20	0.66	0/23
58	DX	0.70	0/20	1.43	0/23

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
All	All	0.95	543/329767 (0.2%)	1.50	6455/491645 (1.3%)

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
5	AE	0	1
6	AF	0	1
19	AV	0	1
35	BB	0	1
57	DZ	0	1
58	BX	0	1
All	All	0	6

All (543) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1067	A	N9-C4	-15.28	1.28	1.37
1	AA	354	A	N9-C4	-13.92	1.29	1.37
1	AA	2299	A	N9-C4	-13.50	1.29	1.37
1	AA	1188	A	N9-C4	-13.32	1.29	1.37
1	AA	990	A	N9-C4	-11.81	1.30	1.37
1	CA	528	A	N9-C4	-11.59	1.30	1.37
1	AA	978	A	N9-C4	-10.98	1.31	1.37
1	AA	553	A	C5-C6	-10.92	1.31	1.41
1	AA	1249	A	N9-C4	-10.80	1.31	1.37
4	AD	28	GLU	CG-CD	10.52	1.67	1.51
1	AA	830	A	N7-C5	-10.46	1.32	1.39
1	AA	2065	C	N1-C6	-10.08	1.31	1.37
1	CA	945	A	N9-C4	-9.81	1.31	1.37
1	AA	990	A	N7-C5	-9.50	1.33	1.39
1	AA	1157	A	N9-C4	-9.17	1.32	1.37
1	AA	195	U	C2-N3	-9.10	1.31	1.37
1	AA	1067	A	N3-C4	-8.92	1.29	1.34
1	AA	1745	A	N3-C4	-8.79	1.29	1.34
1	AA	2299	A	N3-C4	-8.70	1.29	1.34
1	CA	945	A	N3-C4	-8.68	1.29	1.34
1	CA	2617	C	N1-C6	-8.66	1.31	1.37
4	AD	28	GLU	CB-CG	8.54	1.68	1.52
1	AA	553	A	N7-C5	-8.53	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1718	U	C4-O4	-8.31	1.17	1.23
1	CA	1021	A	N9-C4	-8.29	1.32	1.37
1	AA	1679	A	N3-C4	-8.15	1.29	1.34
1	AA	2520	G	C6-N1	-8.05	1.33	1.39
1	AA	555	G	N9-C8	8.02	1.43	1.37
1	CA	2441	C	N1-C6	-7.98	1.32	1.37
1	AA	2047	C	N3-C4	-7.96	1.28	1.33
1	AA	978	A	N3-C4	-7.91	1.30	1.34
1	AA	751	G	C5-C4	-7.82	1.32	1.38
1	AA	2298	A	N7-C5	-7.80	1.34	1.39
1	AA	1321	A	N7-C5	-7.79	1.34	1.39
1	CA	2287	A	N9-C4	-7.78	1.33	1.37
1	AA	1605	A	C5-C6	-7.75	1.34	1.41
34	BA	900	A	N9-C4	-7.70	1.33	1.37
1	AA	2803	A	N9-C4	7.66	1.42	1.37
1	CA	330	A	N9-C4	-7.55	1.33	1.37
1	CA	2442	C	N1-C6	-7.54	1.32	1.37
1	CA	1365	A	N7-C5	-7.48	1.34	1.39
1	AA	43	A	N9-C4	-7.45	1.33	1.37
1	AA	1311	A	N9-C4	-7.45	1.33	1.37
1	AA	593	G	C6-O6	-7.44	1.17	1.24
1	AA	990	A	N1-C2	7.44	1.41	1.34
1	AA	356	A	N9-C4	-7.41	1.33	1.37
1	AA	746	A	N9-C4	-7.40	1.33	1.37
1	AA	874	U	N1-C2	-7.38	1.31	1.38
1	AA	1605	A	N9-C4	-7.37	1.33	1.37
1	AA	2869	G	N7-C5	-7.32	1.34	1.39
1	AA	1068	G	N9-C4	-7.30	1.32	1.38
1	AA	831	A	C5-C4	-7.29	1.33	1.38
1	AA	125	A	C6-N6	-7.28	1.28	1.33
1	AA	978	A	N9-C8	7.24	1.43	1.37
1	CA	980	A	N9-C4	-7.23	1.33	1.37
1	AA	598	A	N7-C5	-7.22	1.34	1.39
1	AA	52	A	N3-C4	-7.22	1.30	1.34
1	CA	1698	A	N9-C4	-7.22	1.33	1.37
1	AA	1617	A	C5-C6	-7.18	1.34	1.41
1	AA	593	G	N7-C5	-7.13	1.34	1.39
1	AA	1727	U	C4-O4	-7.13	1.18	1.23
1	AA	593	G	C6-N1	-7.11	1.34	1.39
1	AA	593	G	C5-C6	-7.09	1.35	1.42
1	AA	897	C	N3-C4	-7.08	1.28	1.33
1	AA	491	G	C6-N1	-7.08	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	333	G	N1-C2	-7.05	1.32	1.37
1	AA	1011	G	C6-N1	-7.04	1.34	1.39
1	AA	1371	G	N9-C8	-7.03	1.32	1.37
1	AA	601	A	N9-C4	-7.02	1.33	1.37
1	AA	254	A	C5-C6	-7.01	1.34	1.41
1	AA	2063	U	C2-O2	-6.97	1.16	1.22
1	AA	499	G	C6-N1	-6.96	1.34	1.39
1	AA	1188	A	N3-C4	-6.96	1.30	1.34
1	AA	990	A	C5-C4	6.96	1.43	1.38
1	AA	990	A	N3-C4	-6.96	1.30	1.34
1	AA	1723	A	N9-C4	-6.94	1.33	1.37
1	AA	818	G	N1-C2	-6.94	1.32	1.37
1	AA	1422	C	N3-C4	-6.94	1.29	1.33
1	AA	580	U	C4-O4	-6.92	1.18	1.23
1	AA	2302	G	C6-N1	-6.91	1.34	1.39
1	CA	1698	A	N3-C4	-6.90	1.30	1.34
1	AA	1664	A	N3-C4	-6.86	1.30	1.34
1	AA	1354	A	N7-C5	-6.85	1.35	1.39
1	AA	862	C	N1-C6	-6.85	1.33	1.37
1	AA	476	G	C6-N1	-6.84	1.34	1.39
1	AA	2082	A	N9-C8	-6.82	1.32	1.37
1	AA	553	A	N3-C4	-6.78	1.30	1.34
1	AA	598	A	N9-C4	-6.78	1.33	1.37
1	AA	1721	G	N7-C5	-6.77	1.35	1.39
1	AA	1711	A	N9-C4	-6.77	1.33	1.37
18	AU	69	CYS	CB-SG	-6.75	1.70	1.82
1	AA	2068	G	N7-C5	-6.73	1.35	1.39
1	AA	2104	A	N9-C4	-6.72	1.33	1.37
1	AA	2730	G	N9-C4	6.72	1.43	1.38
1	AA	1293	A	N3-C4	-6.71	1.30	1.34
1	AA	1010	C	C2-N3	-6.67	1.30	1.35
1	AA	2373	A	N9-C4	-6.66	1.33	1.37
20	AW	41	LYS	CE-NZ	6.66	1.65	1.49
1	AA	527	A	N3-C4	-6.65	1.30	1.34
1	AA	2569	G	C5-C4	-6.63	1.33	1.38
1	AA	2737	C	N1-C6	-6.62	1.33	1.37
1	CA	678	C	N3-C4	-6.60	1.29	1.33
1	AA	978	A	C5-C6	-6.59	1.35	1.41
1	AA	819	C	N3-C4	-6.57	1.29	1.33
1	AA	1383	G	C5-C4	-6.56	1.33	1.38
1	AA	555	G	C2-N3	-6.55	1.27	1.32
1	AA	424	G	N1-C2	-6.55	1.32	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	827	G	N9-C8	-6.55	1.33	1.37
1	AA	2271	G	C6-N1	-6.54	1.34	1.39
1	AA	251	A	N9-C4	-6.54	1.33	1.37
1	CA	788	A	N9-C4	6.52	1.41	1.37
1	AA	1321	A	N9-C8	-6.51	1.32	1.37
1	AA	1790	A	N7-C5	-6.51	1.35	1.39
1	AA	506	A	N7-C5	-6.50	1.35	1.39
1	AA	1292	A	N3-C4	-6.50	1.30	1.34
1	AA	539	A	N3-C4	-6.50	1.30	1.34
1	AA	195	U	N3-C4	-6.50	1.32	1.38
1	AA	475	A	N9-C4	-6.48	1.33	1.37
1	AA	603	C	N1-C6	-6.47	1.33	1.37
1	AA	185	A	C6-N1	-6.47	1.31	1.35
1	AA	1068	G	N3-C4	-6.47	1.30	1.35
1	CA	571	A	N9-C4	-6.45	1.33	1.37
12	AO	24	VAL	CA-CB	6.44	1.68	1.54
1	AA	521	G	N7-C5	-6.44	1.35	1.39
1	CA	1373	A	N9-C4	-6.43	1.33	1.37
1	AA	1010	C	N1-C6	-6.43	1.33	1.37
1	AA	1283	A	N7-C5	-6.43	1.35	1.39
20	AW	20	VAL	CB-CG2	-6.43	1.39	1.52
1	AA	2400	A	N9-C4	-6.42	1.33	1.37
1	AA	2730	G	N7-C5	-6.42	1.35	1.39
1	AA	139	A	N9-C4	-6.41	1.34	1.37
1	AA	1324	A	N9-C4	-6.41	1.34	1.37
1	AA	2880	C	N3-C4	-6.41	1.29	1.33
1	AA	597	C	N1-C6	-6.39	1.33	1.37
1	AA	1353	A	C5-C6	-6.39	1.35	1.41
1	AA	2459	G	C5-C4	-6.38	1.33	1.38
1	AA	2102	G	N9-C8	-6.38	1.33	1.37
1	AA	2010	C	N3-C4	-6.37	1.29	1.33
1	CA	678	C	N1-C2	-6.34	1.33	1.40
1	AA	424	G	C6-N1	-6.33	1.35	1.39
1	AA	2298	A	N3-C4	-6.33	1.31	1.34
1	AA	2630	G	C8-N7	-6.33	1.27	1.30
1	AA	2493	G	N7-C5	-6.32	1.35	1.39
1	AA	434	G	C8-N7	-6.32	1.27	1.30
1	AA	1002	A	N7-C5	-6.32	1.35	1.39
1	CA	1981	A	N3-C4	-6.32	1.31	1.34
1	AA	1300	A	N3-C4	-6.32	1.31	1.34
1	CA	945	A	C5-C6	-6.31	1.35	1.41
1	AA	786	G	C5-C4	-6.30	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1850	A	N9-C8	-6.30	1.32	1.37
1	AA	180	A	N7-C5	-6.29	1.35	1.39
1	AA	52	A	N9-C4	-6.27	1.34	1.37
1	AA	1249	A	N3-C4	-6.26	1.31	1.34
1	AA	365	G	N3-C4	-6.26	1.31	1.35
1	AA	597	C	C4-C5	-6.25	1.38	1.43
1	AA	753	A	N9-C4	-6.25	1.34	1.37
1	AA	1412	A	N3-C4	6.24	1.38	1.34
1	AA	727	G	N9-C8	-6.24	1.33	1.37
1	AA	2390	A	N9-C4	-6.24	1.34	1.37
1	AA	2357	G	C5-C6	-6.24	1.36	1.42
1	AA	2516	U	C4-O4	-6.23	1.18	1.23
1	AA	851	A	N9-C4	-6.23	1.34	1.37
1	AA	2582	G	C5-C4	-6.22	1.33	1.38
1	AA	1617	A	N7-C5	-6.21	1.35	1.39
1	AA	2612	A	N3-C4	-6.21	1.31	1.34
1	AA	1038	C	N3-C4	6.21	1.38	1.33
1	AA	464	G	N3-C4	-6.21	1.31	1.35
1	AA	831	A	C5-C6	-6.20	1.35	1.41
1	CA	2437	U	C4-O4	-6.20	1.18	1.23
1	AA	845	G	C2-N3	-6.20	1.27	1.32
1	AA	1424	A	N9-C4	-6.20	1.34	1.37
1	CA	1365	A	C5-C6	-6.19	1.35	1.41
1	AA	1745	A	N9-C4	-6.15	1.34	1.37
1	AA	806	G	C5-C4	-6.12	1.34	1.38
1	AA	478	G	C5-C4	-6.10	1.34	1.38
1	AA	2299	A	C5-C6	-6.08	1.35	1.41
1	AA	21	A	N3-C4	-6.07	1.31	1.34
1	AA	1067	A	C5-C6	-6.07	1.35	1.41
1	AA	2684	G	N3-C4	-6.05	1.31	1.35
1	AA	725	C	C4-N4	-6.05	1.28	1.33
1	CA	211	A	C5-C6	-6.05	1.35	1.41
1	CA	1142(A)	A	N9-C4	-6.04	1.34	1.37
1	AA	2082	A	N9-C4	-6.03	1.34	1.37
1	AA	1723	A	N3-C4	-6.03	1.31	1.34
1	AA	178	G	N9-C8	-6.02	1.33	1.37
1	AA	210	A	N9-C4	-6.02	1.34	1.37
1	AA	2441	G	N9-C8	-6.01	1.33	1.37
1	AA	2467	G	C6-N1	-6.01	1.35	1.39
1	AA	855	G	N1-C2	-6.01	1.32	1.37
1	AA	1030	A	N3-C4	-6.01	1.31	1.34
1	AA	1702	A	N3-C4	-6.01	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	125	A	C5-C6	-6.00	1.35	1.41
1	AA	2029	C	N1-C6	-6.00	1.33	1.37
1	AA	509	A	N7-C5	-6.00	1.35	1.39
1	AA	2399	U	N1-C2	-6.00	1.33	1.38
1	AA	2041	A	N3-C4	-5.99	1.31	1.34
1	AA	1282	G	C6-N1	-5.99	1.35	1.39
1	AA	1841	A	N3-C4	-5.99	1.31	1.34
1	AA	205	A	N9-C4	-5.98	1.34	1.37
1	AA	788	G	C5-C4	-5.98	1.34	1.38
2	AB	81	G	C6-N1	-5.98	1.35	1.39
1	CA	1788	C	N1-C6	-5.96	1.33	1.37
1	AA	1283	A	N3-C4	-5.95	1.31	1.34
1	CA	2510	C	N3-C4	-5.92	1.29	1.33
1	CA	784	A	N3-C4	5.92	1.38	1.34
1	AA	2600	G	C6-N1	-5.90	1.35	1.39
1	AA	1422	C	C2-N3	-5.89	1.31	1.35
1	AA	2441	G	C8-N7	-5.88	1.27	1.30
1	AA	637	U	N3-C4	-5.88	1.33	1.38
1	AA	623	G	N7-C5	-5.87	1.35	1.39
1	AA	2423	A	C5-C6	-5.87	1.35	1.41
2	AB	93	G	N3-C4	-5.87	1.31	1.35
1	CA	678	C	N1-C6	-5.87	1.33	1.37
1	AA	781	A	N7-C5	-5.87	1.35	1.39
1	AA	2625	U	C4-O4	-5.86	1.19	1.23
1	CA	981	A	N7-C5	-5.86	1.35	1.39
1	CA	2515	C	N1-C6	-5.86	1.33	1.37
1	AA	1324	A	N7-C5	-5.86	1.35	1.39
1	AA	641	G	N1-C2	-5.84	1.33	1.37
1	AA	2343	G	N7-C5	-5.83	1.35	1.39
18	AU	9	VAL	CB-CG1	-5.82	1.40	1.52
1	AA	662	A	N9-C8	-5.82	1.33	1.37
1	AA	200	A	N9-C8	-5.82	1.33	1.37
1	AA	1424	A	N3-C4	-5.81	1.31	1.34
1	CA	432	A	N9-C4	-5.81	1.34	1.37
1	CA	2685	G	C6-O6	-5.81	1.19	1.24
23	AZ	135	GLU	CG-CD	5.81	1.60	1.51
1	AA	553	A	N9-C8	5.80	1.42	1.37
1	AA	1011	G	N1-C2	-5.79	1.33	1.37
1	AA	1053	C	C2-O2	-5.79	1.19	1.24
1	AA	2549	U	C2-N3	-5.79	1.33	1.37
1	AA	1795	G	C6-N1	-5.78	1.35	1.39
34	DA	611	A	N9-C4	-5.78	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	666	C	N1-C6	-5.77	1.33	1.37
1	AA	593	G	C5-C4	-5.76	1.34	1.38
1	AA	595	A	N3-C4	-5.76	1.31	1.34
1	AA	782	A	N3-C4	-5.75	1.31	1.34
1	AA	195	U	C2-O2	-5.75	1.17	1.22
1	AA	364	A	N7-C5	-5.75	1.35	1.39
1	AA	1480	A	N9-C4	-5.75	1.34	1.37
1	AA	2426	G	C6-N1	-5.75	1.35	1.39
1	AA	1283	A	N9-C4	-5.74	1.34	1.37
1	AA	1238	G	C5-C4	-5.74	1.34	1.38
1	CA	791	C	N1-C6	-5.74	1.33	1.37
1	AA	418	G	C5-C4	-5.73	1.34	1.38
1	AA	870	G	N1-C2	-5.72	1.33	1.37
1	AA	1370	G	C8-N7	5.72	1.34	1.30
1	AA	2690	C	N3-C4	-5.72	1.29	1.33
1	AA	1952	G	C6-N1	-5.72	1.35	1.39
1	CA	746	A	C6-N1	-5.72	1.31	1.35
1	AA	730	C	C2-N3	-5.71	1.31	1.35
1	AA	555	G	C5-C4	5.71	1.42	1.38
1	AA	608	G	N3-C4	-5.71	1.31	1.35
1	AA	2516	U	N3-C4	-5.71	1.33	1.38
1	AA	2372	A	N7-C5	-5.71	1.35	1.39
1	AA	1232	G	N9-C4	-5.71	1.33	1.38
1	AA	2863	C	N1-C6	-5.71	1.33	1.37
1	AA	1725	G	N7-C5	-5.70	1.35	1.39
1	AA	798	A	N7-C5	-5.70	1.35	1.39
1	AA	2338	C	N3-C4	-5.70	1.29	1.33
1	AA	986	A	N9-C4	-5.69	1.34	1.37
1	AA	1353	A	N7-C5	-5.69	1.35	1.39
1	CA	2082	A	N3-C4	-5.69	1.31	1.34
1	CA	1776	G	N7-C5	-5.69	1.35	1.39
1	AA	788	G	N9-C8	-5.69	1.33	1.37
1	CA	1269	A	C5-C6	-5.69	1.35	1.41
1	AA	2415	C	N3-C4	-5.68	1.29	1.33
2	AB	103	G	C5-C4	-5.68	1.34	1.38
1	AA	2526	U	C2-N3	-5.68	1.33	1.37
1	CA	733	G	N7-C5	-5.68	1.35	1.39
1	AA	2088	C	N3-C4	-5.68	1.29	1.33
6	AF	88	VAL	CB-CG1	-5.67	1.41	1.52
1	AA	451	G	C6-N1	-5.66	1.35	1.39
1	AA	1314	A	C6-N6	5.66	1.38	1.33
1	AA	1314	A	N7-C5	-5.66	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1659	G	C6-N1	-5.66	1.35	1.39
1	AA	2078	G	C6-N1	-5.64	1.35	1.39
1	AA	1208	G	C2-N2	-5.64	1.28	1.34
1	AA	1853	G	C6-N1	-5.64	1.35	1.39
1	AA	1681	A	N3-C4	-5.64	1.31	1.34
1	AA	1043	G	N3-C4	-5.63	1.31	1.35
1	AA	2065	C	C5-C6	-5.62	1.29	1.34
1	AA	2260	C	C4-N4	-5.62	1.28	1.33
1	AA	2490	A	N9-C4	-5.62	1.34	1.37
1	AA	480	A	N7-C5	-5.62	1.35	1.39
1	AA	2454	C	C2-O2	-5.62	1.19	1.24
1	AA	720	C	N1-C6	-5.61	1.33	1.37
1	AA	130	G	C5-C4	-5.60	1.34	1.38
1	AA	22	C	N1-C6	-5.60	1.33	1.37
1	CA	1829	A	N3-C4	-5.60	1.31	1.34
1	AA	2044	U	N1-C6	-5.60	1.32	1.38
1	AA	13	A	N7-C5	-5.59	1.35	1.39
1	AA	1284	G	N7-C5	-5.59	1.35	1.39
1	AA	2009	G	C2-N3	-5.59	1.28	1.32
1	AA	35	G	C6-N1	-5.58	1.35	1.39
1	AA	1715	A	N9-C4	5.58	1.41	1.37
1	AA	1449	C	N1-C6	-5.58	1.33	1.37
1	AA	1273	G	N9-C8	-5.57	1.33	1.37
1	AA	995	G	C6-N1	-5.57	1.35	1.39
1	AA	1273	G	C5-C4	-5.57	1.34	1.38
1	AA	2010	C	N1-C6	-5.57	1.33	1.37
1	AA	2284	U	C2-N3	-5.57	1.33	1.37
1	AA	559	U	C2-N3	-5.56	1.33	1.37
2	AB	75	G	C2-N3	5.56	1.37	1.32
1	AA	835	A	C6-N1	-5.55	1.31	1.35
1	AA	2626	A	N9-C4	-5.55	1.34	1.37
1	AA	1838	G	N9-C4	-5.54	1.33	1.38
1	AA	560	C	N3-C4	-5.54	1.30	1.33
1	AA	990	A	C2-N3	5.53	1.38	1.33
1	AA	1371	G	N7-C5	-5.52	1.35	1.39
1	AA	192	C	N1-C6	-5.52	1.33	1.37
1	AA	2724	U	C2-O2	5.51	1.27	1.22
1	AA	335	A	N9-C8	-5.50	1.33	1.37
1	AA	553	A	N1-C2	5.50	1.39	1.34
1	CA	744	G	C5-C6	-5.50	1.36	1.42
1	AA	2285	A	C5-C6	-5.50	1.36	1.41
1	CA	528	A	N3-C4	-5.50	1.31	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	2608	U	C4-O4	-5.50	1.19	1.23
1	AA	1545	C	N3-C4	-5.50	1.30	1.33
1	AA	2830	A	C6-N1	-5.50	1.31	1.35
1	AA	786	G	N1-C2	-5.49	1.33	1.37
1	AA	579	G	N7-C5	-5.49	1.35	1.39
1	AA	2445	A	N3-C4	-5.49	1.31	1.34
1	AA	2897	U	C2-O2	5.48	1.27	1.22
1	AA	2520	G	N1-C2	-5.48	1.33	1.37
1	AA	2529	C	N1-C6	-5.48	1.33	1.37
1	CA	2490	G	C6-O6	-5.47	1.19	1.24
1	AA	2343	G	N9-C8	-5.47	1.34	1.37
1	AA	1368	A	N7-C5	-5.46	1.35	1.39
1	AA	2047	C	C4-C5	-5.45	1.38	1.43
1	AA	1848	G	N9-C4	5.45	1.42	1.38
1	AA	2331	G	N9-C4	-5.45	1.33	1.38
1	AA	489	G	N1-C2	-5.45	1.33	1.37
1	AA	1247	C	N1-C6	-5.45	1.33	1.37
1	CA	1322	A	C5-C4	-5.45	1.34	1.38
1	AA	1290	G	N1-C2	-5.44	1.33	1.37
1	AA	1039	G	N7-C5	-5.43	1.35	1.39
1	AA	1414	G	N1-C2	-5.43	1.33	1.37
1	AA	2828	G	C5-C4	-5.43	1.34	1.38
1	AA	798	A	C5-C4	-5.43	1.34	1.38
18	AU	111	GLU	CG-CD	5.43	1.60	1.51
1	AA	884	C	N3-C4	-5.42	1.30	1.33
1	AA	591	U	C4-C5	-5.42	1.38	1.43
1	AA	2463	A	C5-C4	-5.42	1.34	1.38
1	CA	530	G	N9-C8	5.41	1.41	1.37
1	CA	828	U	C2-N3	-5.41	1.33	1.37
1	AA	601	A	N3-C4	-5.40	1.31	1.34
1	AA	2833	A	N3-C4	-5.40	1.31	1.34
1	AA	2272	C	N1-C6	-5.40	1.33	1.37
1	AA	2464	C	N3-C4	-5.39	1.30	1.33
1	AA	710	G	C5-C4	-5.39	1.34	1.38
1	AA	2298	A	N9-C4	-5.39	1.34	1.37
1	AA	1304	C	N3-C4	-5.39	1.30	1.33
1	AA	1064	C	N3-C4	-5.38	1.30	1.33
1	AA	2087	C	N3-C4	-5.38	1.30	1.33
18	CU	69	CYS	CB-SG	-5.38	1.73	1.81
1	AA	1691	C	N1-C6	-5.38	1.33	1.37
1	CA	1755	A	N3-C4	-5.38	1.31	1.34
1	AA	1431	G	N9-C8	-5.37	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1807	G	C8-N7	-5.37	1.27	1.30
1	AA	1255	A	N7-C5	-5.37	1.36	1.39
1	AA	1322	A	C6-N6	-5.37	1.29	1.33
1	AA	1965	U	C2-N3	-5.36	1.33	1.37
2	AB	108	U	C2-N3	-5.36	1.33	1.37
1	AA	553	A	C5-C4	5.36	1.42	1.38
1	AA	115	G	N7-C5	-5.36	1.36	1.39
1	AA	711	C	C2-O2	-5.36	1.19	1.24
1	AA	2240	G	N3-C4	-5.36	1.31	1.35
1	AA	200	A	C5-C4	-5.35	1.35	1.38
1	AA	1229	G	N9-C4	-5.35	1.33	1.38
1	AA	2372	A	N3-C4	-5.35	1.31	1.34
1	AA	1616	A	C6-N1	-5.35	1.31	1.35
1	AA	97	G	N3-C4	-5.35	1.31	1.35
1	AA	1284	G	C2-N3	-5.35	1.28	1.32
1	AA	2343	G	C5-C4	-5.34	1.34	1.38
1	AA	607	C	N1-C6	-5.34	1.33	1.37
1	AA	624	C	C4-C5	-5.34	1.38	1.43
1	AA	1816	A	N7-C5	-5.34	1.36	1.39
1	AA	827	G	N7-C5	-5.34	1.36	1.39
1	AA	1259	A	N7-C5	-5.33	1.36	1.39
1	CA	1900	A	N7-C5	-5.33	1.36	1.39
1	AA	1367	A	N7-C5	-5.33	1.36	1.39
1	AA	2660	C	N1-C6	-5.33	1.33	1.37
1	AA	119	G	N3-C4	-5.33	1.31	1.35
1	AA	1701	A	C5-C6	-5.33	1.36	1.41
1	AA	2086	C	N3-C4	-5.32	1.30	1.33
1	AA	1790	A	C5-C6	-5.32	1.36	1.41
1	CA	1373	A	N3-C4	-5.32	1.31	1.34
1	AA	1197	G	N9-C8	-5.31	1.34	1.37
1	AA	2645	G	C6-N1	-5.31	1.35	1.39
1	AA	2449	U	C2-N3	-5.30	1.34	1.37
1	AA	2035	A	C6-N1	-5.30	1.31	1.35
29	C5	49	CYS	CB-SG	-5.30	1.73	1.81
1	AA	455	A	N3-C4	-5.30	1.31	1.34
1	CA	2060	A	N7-C5	-5.30	1.36	1.39
1	AA	1271	G	N3-C4	-5.29	1.31	1.35
1	AA	1431	G	C5-C4	-5.29	1.34	1.38
1	AA	1817	A	N3-C4	-5.29	1.31	1.34
1	AA	2791	A	C6-N1	-5.29	1.31	1.35
1	AA	47	G	N7-C5	-5.29	1.36	1.39
1	AA	2527	C	N1-C6	-5.29	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	877	G	N9-C8	-5.29	1.34	1.37
1	AA	2063	U	N1-C2	-5.28	1.33	1.38
1	AA	139	A	N1-C2	5.28	1.39	1.34
1	AA	2582	G	C8-N7	-5.28	1.27	1.30
1	CA	2576	G	C6-N1	-5.28	1.35	1.39
1	AA	1067	A	N9-C8	5.27	1.42	1.37
1	AA	1194	A	N7-C5	-5.27	1.36	1.39
1	AA	1264	G	N9-C4	-5.26	1.33	1.38
1	AA	1833	A	N3-C4	-5.26	1.31	1.34
1	AA	2584	A	N9-C4	-5.26	1.34	1.37
1	AA	1261	G	C6-N1	-5.26	1.35	1.39
1	CA	2081	C	N1-C6	-5.26	1.33	1.37
1	AA	254	A	N9-C8	5.25	1.42	1.37
1	AA	983	G	N9-C4	-5.25	1.33	1.38
1	CA	1214	A	N9-C4	-5.25	1.34	1.37
1	AA	30	G	N7-C5	-5.25	1.36	1.39
1	CA	1021	A	C5-C6	-5.25	1.36	1.41
1	AA	2294	G	C2-N3	-5.25	1.28	1.32
1	AA	2447	A	N9-C4	-5.25	1.34	1.37
1	AA	84	G	N7-C5	-5.24	1.36	1.39
1	AA	1298	G	C5-C4	-5.24	1.34	1.38
1	AA	597	C	N3-C4	-5.24	1.30	1.33
1	AA	2785	C	N1-C6	-5.23	1.34	1.37
1	AA	69	G	N1-C2	-5.23	1.33	1.37
1	AA	2068	G	C6-N1	-5.23	1.35	1.39
1	AA	1591	A	N9-C4	5.22	1.41	1.37
1	AA	1833	A	N7-C5	-5.22	1.36	1.39
1	AA	836	A	N7-C5	-5.22	1.36	1.39
1	AA	2509	A	C6-N1	-5.22	1.31	1.35
1	AA	895	G	N9-C8	-5.22	1.34	1.37
1	AA	2755	C	N1-C6	-5.21	1.34	1.37
1	AA	719	C	C4-C5	-5.21	1.38	1.43
1	AA	2607	G	P-O5'	-5.21	1.54	1.59
1	AA	1754	G	C6-N1	-5.21	1.35	1.39
1	AA	2054	G	C6-N1	-5.21	1.35	1.39
1	AA	495	G	C5-C4	-5.20	1.34	1.38
1	AA	2657	G	N9-C4	-5.20	1.33	1.38
1	AA	2844	G	C5-C4	-5.20	1.34	1.38
1	CA	2673	G	C6-N1	-5.20	1.35	1.39
1	CA	332	A	N9-C4	-5.20	1.34	1.37
1	AA	727	G	C5-C4	-5.19	1.34	1.38
1	CA	680	G	C6-N1	-5.19	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	CA	249	C	N1-C6	-5.19	1.34	1.37
1	AA	1282	G	C5-C4	-5.18	1.34	1.38
1	AA	2372	A	C5-C4	-5.18	1.35	1.38
1	AA	2690	C	C4-C5	-5.18	1.38	1.43
1	AA	20	C	C4-N4	-5.17	1.29	1.33
1	AA	1300	A	N9-C4	-5.17	1.34	1.37
1	AA	2343	G	N9-C4	-5.17	1.33	1.38
1	CA	1292	U	N1-C2	-5.17	1.33	1.38
1	AA	2073	A	N3-C4	-5.17	1.31	1.34
1	CA	2593	U	C2-N3	-5.17	1.34	1.37
1	CA	48	G	C6-O6	5.16	1.28	1.24
1	AA	1255	A	C3'-O3'	5.16	1.49	1.42
1	AA	1431	G	N9-C4	-5.16	1.33	1.38
6	AF	59	TYR	CB-CG	-5.16	1.44	1.51
1	AA	1021	G	C5-C4	-5.16	1.34	1.38
1	AA	2828	G	N9-C8	-5.16	1.34	1.37
1	AA	199	C	N3-C4	-5.16	1.30	1.33
1	AA	644	G	N7-C5	-5.16	1.36	1.39
1	CA	1054	A	O3'-P	-5.16	1.54	1.61
1	AA	1169	C	C4-N4	-5.15	1.29	1.33
1	AA	2838	C	C5-C6	-5.15	1.30	1.34
34	BA	716	A	C5-C4	-5.14	1.35	1.38
1	AA	553	A	N9-C4	-5.14	1.34	1.37
1	AA	1283	A	C5-C4	-5.14	1.35	1.38
1	AA	552	C	N1-C6	-5.13	1.34	1.37
1	AA	966	G	N9-C8	-5.13	1.34	1.37
1	AA	198	C	N1-C6	-5.13	1.34	1.37
1	AA	1244	U	C2-N3	-5.13	1.34	1.37
1	AA	243	G	C6-O6	-5.13	1.19	1.24
1	CA	2723	C	N3-C4	-5.13	1.30	1.33
1	AA	178	G	N7-C5	-5.12	1.36	1.39
1	CA	705	A	C5-C6	-5.12	1.36	1.41
1	CA	1698	A	N7-C5	-5.12	1.36	1.39
1	AA	1850	A	N7-C5	-5.12	1.36	1.39
1	AA	902	G	C6-N1	-5.12	1.35	1.39
1	AA	1234	A	C5-C6	-5.12	1.36	1.41
1	AA	2291	G	C6-O6	5.12	1.28	1.24
1	AA	2493	G	C5-C6	-5.12	1.37	1.42
1	CA	2072	G	N1-C2	-5.12	1.33	1.37
1	AA	1331	G	N7-C5	-5.11	1.36	1.39
2	AB	54	G	N9-C4	-5.11	1.33	1.38
1	CA	2607	G	N1-C2	-5.11	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	751	G	N3-C4	-5.11	1.31	1.35
1	AA	1473	A	N3-C4	-5.11	1.31	1.34
1	AA	354	A	N9-C8	5.10	1.41	1.37
1	AA	2331	G	N9-C8	5.10	1.41	1.37
1	AA	2754	A	N7-C5	-5.10	1.36	1.39
1	CA	2448	A	N9-C4	-5.10	1.34	1.37
1	AA	319	G	N7-C5	-5.10	1.36	1.39
1	AA	807	G	C6-N1	-5.10	1.35	1.39
1	AA	2271	G	N1-C2	-5.10	1.33	1.37
1	CA	2490	G	C5-C6	-5.10	1.37	1.42
1	AA	2043	C	C2-O2	5.09	1.29	1.24
1	AA	2561	G	N7-C5	-5.09	1.36	1.39
1	AA	442	A	N3-C4	-5.09	1.31	1.34
1	AA	1406	A	C6-N1	5.09	1.39	1.35
2	AB	9	G	C6-N1	-5.09	1.35	1.39
1	AA	95	G	C6-N1	-5.09	1.35	1.39
1	AA	2653	G	N7-C5	-5.08	1.36	1.39
1	AA	13	A	N3-C4	-5.08	1.31	1.34
1	AA	898	U	C2-N3	-5.08	1.34	1.37
1	AA	2336	C	N3-C4	5.08	1.37	1.33
1	AA	1290	G	C6-N1	-5.08	1.35	1.39
1	AA	1322	A	C6-N1	-5.08	1.31	1.35
1	CA	1022	G	N9-C4	-5.08	1.33	1.38
1	AA	2254	G	N7-C5	-5.07	1.36	1.39
1	AA	2368	C	N1-C6	-5.07	1.34	1.37
1	AA	2496	G	C6-N1	-5.07	1.36	1.39
1	CA	1903	G	N3-C4	-5.07	1.31	1.35
1	AA	32	C	C2-O2	-5.06	1.19	1.24
1	AA	343	C	C2-O2	-5.06	1.19	1.24
1	AA	1602	G	N9-C8	-5.06	1.34	1.37
1	CA	770	G	N3-C4	-5.06	1.31	1.35
1	AA	2582	G	N3-C4	-5.05	1.31	1.35
34	BA	903	G	N3-C4	-5.05	1.31	1.35
1	AA	2051	G	N9-C4	-5.05	1.33	1.38
1	AA	1229	G	N7-C5	-5.04	1.36	1.39
1	AA	550	U	C4-O4	-5.04	1.19	1.23
1	AA	436	C	C4-C5	-5.04	1.39	1.43
1	CA	1776	G	N9-C8	-5.04	1.34	1.37
1	AA	775	G	C6-O6	5.03	1.28	1.24
1	AA	2526	U	N3-C4	-5.03	1.33	1.38
1	AA	124	A	N9-C4	-5.03	1.34	1.37
1	AA	561	A	N9-C4	-5.03	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	AA	1828	C	C2-O2	-5.03	1.20	1.24
1	AA	131	C	N1-C6	-5.02	1.34	1.37
1	CA	2552	U	C4-O4	-5.02	1.19	1.23
1	AA	475	A	C5-C6	-5.02	1.36	1.41
1	CA	1275	A	N9-C8	-5.02	1.33	1.37
1	CA	1620	G	N3-C4	-5.02	1.31	1.35
1	AA	1852	A	C5-C4	-5.02	1.35	1.38
1	AA	645	G	N3-C4	-5.01	1.31	1.35
1	AA	964	A	N9-C4	-5.01	1.34	1.37
1	AA	1174	A	C5-C6	-5.01	1.36	1.41
1	AA	2366	G	N9-C4	-5.01	1.33	1.38
1	AA	2464	C	N1-C6	-5.01	1.34	1.37
1	AA	1811	A	N7-C5	-5.01	1.36	1.39
1	AA	499	G	N1-C2	-5.00	1.33	1.37
1	AA	1602	G	N7-C5	-5.00	1.36	1.39
1	AA	2279	A	C8-N7	-5.00	1.28	1.31

All (6455) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	553	A	N1-C6-N6	26.84	134.71	118.60
1	AA	990	A	N1-C2-N3	21.55	140.07	129.30
1	AA	990	A	C6-C5-N7	-21.18	117.48	132.30
1	AA	354	A	C2-N3-C4	-21.03	100.09	110.60
1	AA	553	A	C6-C5-N7	-20.90	117.67	132.30
1	AA	1067	A	C2-N3-C4	-20.48	100.36	110.60
1	AA	990	A	C2-N3-C4	-19.69	100.76	110.60
1	AA	1503	G	O5'-P-OP2	-19.07	87.82	110.70
1	AA	990	A	C5-N7-C8	-18.91	94.45	103.90
1	AA	553	A	C5-N7-C8	-18.86	94.47	103.90
1	AA	990	A	N1-C6-N6	17.86	129.32	118.60
1	AA	2299	A	C2-N3-C4	-17.82	101.69	110.60
1	AA	553	A	C2-N3-C4	-17.82	101.69	110.60
1	AA	553	A	C4-C5-N7	17.61	119.50	110.70
1	AA	978	A	C5-N7-C8	-17.42	95.19	103.90
1	AA	1605	A	C2-N3-C4	-17.34	101.93	110.60
1	AA	2045	G	O5'-P-OP1	-17.11	90.17	110.70
1	AA	553	A	C5-C6-N6	-16.85	110.22	123.70
1	AA	847	A	O5'-P-OP1	-16.37	90.96	105.70
1	AA	353	G	O5'-P-OP2	-16.19	91.13	105.70
1	AA	354	A	N3-C4-C5	16.10	138.07	126.80
1	AA	894	U	C5-C6-N1	-16.04	114.68	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1067	A	N3-C4-N9	-15.98	114.62	127.40
1	AA	553	A	N1-C2-N3	15.93	137.26	129.30
1	AA	1067	A	N3-C4-C5	15.85	137.89	126.80
1	AA	553	A	N7-C8-N9	15.66	121.63	113.80
1	AA	990	A	N7-C8-N9	15.58	121.59	113.80
1	AA	990	A	C4-C5-C6	15.45	124.72	117.00
1	AA	1605	A	N1-C6-N6	15.18	127.71	118.60
1	CA	528	A	C2-N3-C4	-14.92	103.14	110.60
1	CA	757	U	O5'-P-OP2	-14.91	92.28	105.70
1	AA	2554	A	O5'-P-OP2	-14.79	92.39	105.70
1	AA	1006	C	O5'-P-OP2	-14.51	92.64	105.70
1	CA	1314	C	O5'-P-OP2	-14.38	92.76	105.70
1	AA	1847	G	O5'-P-OP1	-14.21	92.91	105.70
1	AA	894	U	C2-N3-C4	-14.20	118.48	127.00
1	AA	990	A	C4-C5-N7	14.20	117.80	110.70
1	AA	991	G	O5'-P-OP1	-14.19	92.93	105.70
1	AA	199	C	C5-C6-N1	-14.13	113.93	121.00
1	AA	2591	C	O5'-P-OP2	-14.07	93.03	105.70
1	AA	354	A	N3-C4-N9	-14.00	116.20	127.40
1	CA	945	A	C2-N3-C4	-13.71	103.75	110.60
34	DA	1340	A	O5'-P-OP1	-13.62	93.44	105.70
1	AA	2418	U	O5'-P-OP1	-13.58	93.48	105.70
1	AA	1067	A	C5-N7-C8	-13.53	97.14	103.90
1	AA	1249	A	C2-N3-C4	-13.48	103.86	110.60
1	AA	2083	G	O5'-P-OP2	-13.35	93.69	105.70
1	CA	1993	U	O5'-P-OP1	-13.32	93.71	105.70
1	AA	254	A	C5-N7-C8	-13.28	97.26	103.90
1	CA	1021	A	C2-N3-C4	-13.24	103.98	110.60
1	AA	555	G	C5-N7-C8	-13.23	97.68	104.30
1	CA	133	C	C6-N1-C2	13.21	125.58	120.30
1	AA	2732	G	C5-C6-O6	-13.20	120.68	128.60
1	AA	1440	U	O5'-P-OP1	-13.18	93.84	105.70
1	AA	2287	C	O5'-P-OP2	-13.17	93.85	105.70
1	CA	2578	G	O5'-P-OP1	-13.16	93.85	105.70
1	AA	592	U	N1-C2-O2	-13.15	113.59	122.80
1	AA	2694	U	O5'-P-OP2	-13.10	93.91	105.70
1	AA	978	A	C2-N3-C4	-13.07	104.07	110.60
1	AA	438	G	O5'-P-OP1	-13.05	93.95	105.70
1	AA	2453	C	O5'-P-OP1	-13.05	93.96	105.70
1	AA	1067	A	C5-C6-N1	-13.02	111.19	117.70
1	AA	749	G	O5'-P-OP2	-13.00	94.00	105.70
1	AA	1747	A	O5'-P-OP1	-13.00	94.00	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	978	A	C4-C5-N7	12.96	117.18	110.70
1	AA	777	C	C2-N3-C4	-12.90	113.45	119.90
1	AA	555	G	N3-C4-N9	-12.81	118.31	126.00
1	AA	2298	A	N1-C2-N3	12.80	135.70	129.30
1	AA	1790	A	N1-C6-N6	12.79	126.27	118.60
1	AA	821	A	O5'-P-OP2	-12.71	94.26	105.70
1	CA	528	A	N3-C4-C5	12.68	135.67	126.80
1	AA	2712	C	C6-N1-C2	12.59	125.34	120.30
1	AA	2298	A	C2-N3-C4	-12.58	104.31	110.60
1	AA	1188	A	N3-C4-N9	-12.56	117.35	127.40
1	AA	855	G	N1-C6-O6	-12.54	112.37	119.90
1	CA	742	G	O5'-P-OP2	-12.53	94.42	105.70
1	AA	1815	A	O5'-P-OP2	-12.52	94.43	105.70
1	AA	2298	A	C6-C5-N7	-12.52	123.53	132.30
1	AA	2834	C	N1-C2-O2	-12.51	111.40	118.90
1	AA	2052	A	N1-C6-N6	12.47	126.08	118.60
1	AA	1249	A	C5-N7-C8	-12.43	97.68	103.90
1	AA	1011	G	C5-C6-O6	12.37	136.02	128.60
1	AA	1023	G	O5'-P-OP2	-12.36	94.58	105.70
1	AA	1440	U	O5'-P-OP2	12.36	125.53	110.70
1	AA	555	G	C8-N9-C4	-12.32	101.47	106.40
1	CA	945	A	C5-N7-C8	-12.30	97.75	103.90
1	AA	1188	A	C2-N3-C4	-12.29	104.46	110.60
1	AA	1695	C	O5'-P-OP2	12.29	125.44	110.70
1	AA	978	A	N7-C8-N9	12.27	119.94	113.80
1	AA	1157	A	O4'-C1'-N9	12.27	118.02	108.20
1	AA	542	C	C6-N1-C2	12.26	125.20	120.30
1	AA	537	G	O4'-C1'-N9	12.25	118.00	108.20
1	AA	555	G	N7-C8-N9	12.25	119.22	113.10
1	AA	2372	A	O5'-P-OP2	-12.24	94.69	105.70
34	BA	884	U	O5'-P-OP2	-12.22	94.70	105.70
1	AA	210	A	O5'-P-OP1	-12.20	94.72	105.70
1	CA	512	G	O4'-C1'-N9	12.20	117.96	108.20
1	AA	2892	A	O5'-P-OP2	-12.15	94.76	105.70
1	AA	2298	A	N7-C8-N9	12.14	119.87	113.80
1	AA	1314	A	C5-C6-N1	-12.03	111.69	117.70
1	AA	1202	A	N1-C6-N6	12.01	125.81	118.60
1	AA	1020	C	N1-C2-O2	-11.96	111.72	118.90
1	AA	555	G	N3-C4-C5	11.96	134.58	128.60
1	AA	2299	A	C5-N7-C8	-11.96	97.92	103.90
1	AA	1655	A	N1-C6-N6	11.95	125.77	118.60
1	AA	1184	G	O5'-P-OP2	-11.95	94.95	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	555	G	C2-N3-C4	-11.94	105.93	111.90
1	AA	69	G	N1-C6-O6	-11.88	112.77	119.90
1	CA	1272	A	O5'-P-OP2	-11.84	95.05	105.70
1	AA	553	A	O4'-C1'-N9	-11.82	98.75	108.20
1	AA	637	U	C5-C4-O4	11.82	132.99	125.90
1	AA	254	A	C2-N3-C4	-11.74	104.73	110.60
1	AA	2043	C	C6-N1-C2	11.71	124.98	120.30
1	AA	1790	A	C5-C6-N6	-11.71	114.34	123.70
1	CA	2498	C	C6-N1-C2	11.65	124.96	120.30
1	AA	553	A	C4-C5-C6	11.64	122.82	117.00
1	CA	1698	A	C2-N3-C4	-11.61	104.80	110.60
1	AA	139	A	C2-N3-C4	-11.58	104.81	110.60
1	AA	581	G	C5-C6-O6	11.56	135.54	128.60
1	AA	1971	G	O5'-P-OP2	-11.53	95.32	105.70
1	CA	265	A	N1-C6-N6	11.50	125.50	118.60
1	AA	2834	C	N3-C4-N4	11.46	126.02	118.00
1	CA	528	A	N3-C4-N9	-11.44	118.25	127.40
1	AA	2476	C	O5'-P-OP2	-11.43	95.42	105.70
2	AB	90	A	C8-N9-C4	11.42	110.37	105.80
1	CA	2082	A	C8-N9-C4	-11.42	101.23	105.80
34	BA	1519	A	O5'-P-OP2	-11.41	95.43	105.70
1	AA	310	C	C6-N1-C2	11.39	124.86	120.30
1	AA	2299	A	C5-C6-N1	-11.39	112.00	117.70
1	AA	1486	G	O5'-P-OP2	-11.37	95.47	105.70
1	AA	255	G	O5'-P-OP2	-11.37	95.47	105.70
1	AA	745	C	O5'-P-OP2	-11.36	95.47	105.70
1	CA	1775	U	C5-C6-N1	-11.35	117.03	122.70
1	AA	2389	A	C8-N9-C4	11.28	110.31	105.80
1	AA	2298	A	C8-N9-C4	-11.24	101.30	105.80
34	BA	1113	C	C6-N1-C2	-11.24	115.80	120.30
1	AA	2577	A	O5'-P-OP1	-11.24	95.58	105.70
1	CA	945	A	N1-C6-N6	11.23	125.34	118.60
1	AA	2299	A	N3-C4-C5	11.19	134.63	126.80
1	AA	1011	G	N1-C6-O6	-11.18	113.19	119.90
1	AA	855	G	N1-C2-N2	-11.16	106.15	116.20
1	CA	945	A	C4-C5-N7	11.14	116.27	110.70
1	AA	1695	C	O5'-P-OP1	-11.14	95.67	105.70
1	AA	1311	A	O5'-P-OP2	-11.10	95.71	105.70
34	BA	902	G	O5'-P-OP2	-11.10	95.71	105.70
1	CA	2479	G	N1-C6-O6	-11.08	113.25	119.90
1	CA	307	G	N1-C6-O6	11.06	126.54	119.90
1	CA	2023	G	O5'-P-OP1	-11.04	95.76	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2594	G	O5'-P-OP2	-11.02	95.78	105.70
1	AA	894	U	N1-C2-N3	11.01	121.50	114.90
1	CA	2582	G	O5'-P-OP2	-11.00	95.80	105.70
1	AA	2045	G	O5'-P-OP2	10.99	123.89	110.70
1	AA	214	A	O5'-P-OP2	-10.94	95.86	105.70
1	CA	2465	C	O5'-P-OP2	-10.93	95.86	105.70
1	AA	139	A	C5-N7-C8	-10.93	98.44	103.90
1	AA	2298	A	C5-N7-C8	-10.93	98.44	103.90
1	AA	2627	U	O5'-P-OP1	-10.92	95.87	105.70
1	CA	1142(A)	A	C2-N3-C4	-10.92	105.14	110.60
1	AA	1169	C	C2-N3-C4	-10.90	114.45	119.90
1	AA	335	A	O5'-P-OP2	-10.87	95.91	105.70
1	AA	2331	G	N3-C4-C5	10.86	134.03	128.60
2	AB	41	U	C5-C6-N1	-10.86	117.27	122.70
1	CA	1783	A	O5'-P-OP1	-10.85	95.94	105.70
1	AA	553	A	C8-N9-C4	-10.84	101.46	105.80
1	AA	2307	C	O5'-P-OP1	-10.83	95.95	105.70
1	CA	751	A	C8-N9-C4	10.81	110.12	105.80
1	AA	187	C	C6-N1-C2	10.81	124.62	120.30
1	AA	2442	A	O5'-P-OP2	-10.80	95.98	105.70
1	AA	1072	U	N1-C2-O2	10.77	130.34	122.80
1	AA	2331	G	N3-C4-N9	-10.75	119.55	126.00
1	AA	2298	A	C4-C5-C6	10.71	122.36	117.00
2	CB	10	C	C6-N1-C2	-10.71	116.02	120.30
1	AA	2052	A	C5-C6-N6	-10.69	115.15	123.70
1	AA	254	A	N7-C8-N9	10.67	119.13	113.80
1	CA	1327	C	C6-N1-C2	-10.64	116.04	120.30
1	AA	1832	G	C5-C6-O6	-10.64	122.22	128.60
1	CA	1139	G	O5'-P-OP2	-10.62	96.14	105.70
1	AA	978	A	N3-C4-C5	10.61	134.23	126.80
1	CA	1200	C	C6-N1-C2	10.60	124.54	120.30
1	CA	575	A	O5'-P-OP1	-10.59	96.17	105.70
1	CA	2060	A	N1-C6-N6	10.58	124.95	118.60
1	AA	2608	U	C2-N3-C4	-10.58	120.65	127.00
1	AA	139	A	N7-C8-N9	10.56	119.08	113.80
1	CA	1126	A	N1-C6-N6	10.53	124.92	118.60
1	AA	1605	A	C4-C5-N7	10.52	115.96	110.70
1	AA	1232	G	C5-C6-O6	10.51	134.91	128.60
1	CA	574	C	O5'-P-OP1	-10.49	96.26	105.70
1	AA	2283	G	O5'-P-OP2	-10.48	96.26	105.70
1	AA	1262	C	C6-N1-C2	10.48	124.49	120.30
1	AA	1202	A	C5-C6-N6	-10.46	115.33	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1188	A	C5-N7-C8	-10.45	98.67	103.90
1	AA	974	G	N1-C6-O6	10.44	126.17	119.90
1	AA	585	U	O5'-P-OP1	-10.40	96.34	105.70
1	AA	1188	A	N3-C4-C5	10.39	134.08	126.80
1	AA	1843	A	O5'-P-OP1	-10.38	96.36	105.70
1	AA	2874	G	O5'-P-OP2	-10.32	96.41	105.70
1	AA	2829	G	O5'-P-OP1	-10.31	96.42	105.70
1	AA	254	A	C4-C5-N7	10.30	115.85	110.70
1	AA	1255	A	C8-N9-C4	-10.28	101.69	105.80
1	CA	1828	G	O5'-P-OP1	-10.26	96.47	105.70
1	AA	604	C	N1-C2-O2	-10.25	112.75	118.90
1	CA	772	C	C6-N1-C2	10.25	124.40	120.30
1	AA	880	U	C5-C6-N1	-10.23	117.59	122.70
1	AA	2638	C	C5-C6-N1	-10.22	115.89	121.00
1	AA	1263	C	O5'-P-OP2	-10.21	96.51	105.70
1	AA	1832	G	C4-C5-N7	10.19	114.88	110.80
1	AA	215	G	O4'-C1'-N9	10.18	116.35	108.20
1	AA	2561	G	O5'-P-OP2	-10.18	96.53	105.70
1	AA	139	A	C8-N9-C4	-10.17	101.73	105.80
1	AA	1745	A	C2-N3-C4	-10.14	105.53	110.60
1	AA	2272	C	C6-N1-C2	10.14	124.36	120.30
1	AA	993	G	O5'-P-OP1	-10.13	96.58	105.70
1	CA	2571	C	C2-N3-C4	-10.13	114.83	119.90
1	AA	1710	C	N3-C4-C5	-10.12	117.85	121.90
1	AA	1438	A	C8-N9-C4	10.07	109.83	105.80
1	AA	2631	C	C5-C6-N1	-10.03	115.98	121.00
1	AA	2703	C	O5'-P-OP1	-10.03	96.68	105.70
1	AA	2838	C	C6-N1-C2	10.02	124.31	120.30
1	AA	609	A	N1-C2-N3	-10.01	124.29	129.30
1	AA	2518	U	OP2-P-O3'	10.01	127.22	105.20
1	AA	2641	A	N7-C8-N9	10.01	118.80	113.80
1	AA	1273	G	N3-C2-N2	-9.99	112.91	119.90
1	CA	2571	C	N3-C4-C5	9.99	125.90	121.90
1	AA	637	U	N3-C2-O2	-9.99	115.21	122.20
1	AA	2641	A	O4'-C1'-N9	9.99	116.19	108.20
1	AA	2742	G	C8-N9-C4	9.99	110.39	106.40
1	AA	2331	G	C5-N7-C8	-9.98	99.31	104.30
1	CA	1365	A	N1-C6-N6	9.98	124.59	118.60
1	AA	2054	G	C5-N7-C8	9.98	109.29	104.30
1	CA	2082	A	C6-N1-C2	-9.96	112.62	118.60
1	AA	1232	G	N1-C6-O6	-9.95	113.93	119.90
1	AA	2411	G	C8-N9-C4	9.94	110.37	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2631	C	C6-N1-C2	9.94	124.27	120.30
1	CA	1949	G	O5'-P-OP2	-9.94	96.76	105.70
1	CA	214	G	O5'-P-OP2	-9.92	96.77	105.70
1	AA	856	G	N1-C6-O6	-9.89	113.97	119.90
1	CA	2441	C	O5'-P-OP2	-9.89	96.80	105.70
1	AA	562	C	O5'-P-OP2	-9.87	96.81	105.70
1	AA	748	G	O5'-P-OP2	-9.87	96.82	105.70
1	AA	1361	C	O5'-P-OP2	-9.87	96.82	105.70
1	AA	744	C	C2-N3-C4	-9.86	114.97	119.90
1	AA	1249	A	O4'-C1'-N9	9.85	116.08	108.20
1	AA	335	A	C8-N9-C4	9.83	109.73	105.80
1	AA	2006	G	C5-C6-O6	9.83	134.50	128.60
1	CA	2503	A	C2-N3-C4	9.82	115.51	110.60
1	AA	2073	A	O5'-P-OP2	-9.81	96.87	105.70
1	CA	133	C	N3-C4-C5	9.81	125.82	121.90
1	AA	2084	A	N7-C8-N9	9.80	118.70	113.80
1	AA	993	G	O5'-P-OP2	9.79	122.45	110.70
1	AA	254	A	N1-C6-N6	9.79	124.48	118.60
1	AA	1199	C	N3-C4-N4	9.79	124.85	118.00
1	AA	1303	C	N3-C4-C5	-9.76	118.00	121.90
1	AA	2711	C	N1-C2-O2	-9.76	113.05	118.90
1	AA	1242	G	C8-N9-C4	9.75	110.30	106.40
1	CA	2722	G	O5'-P-OP1	-9.75	96.93	105.70
1	AA	2293	C	N3-C4-N4	9.75	124.82	118.00
1	AA	1150	C	OP1-P-O3'	-9.74	83.77	105.20
1	AA	2631	C	C2-N3-C4	-9.73	115.03	119.90
1	CA	1269	A	N1-C6-N6	9.73	124.44	118.60
1	AA	1843	A	OP1-P-OP2	9.72	134.18	119.60
2	AB	52	A	C8-N9-C4	9.72	109.69	105.80
1	AA	990	A	C6-N1-C2	-9.71	112.77	118.60
1	AA	1057	G	O5'-P-OP2	-9.71	96.97	105.70
1	AA	2234	G	N9-C4-C5	9.70	109.28	105.40
1	AA	1205	U	O5'-P-OP2	-9.70	96.97	105.70
1	AA	848	G	O5'-P-OP2	-9.70	96.97	105.70
1	AA	2712	C	C5-C6-N1	-9.69	116.15	121.00
1	AA	964	A	C8-N9-C4	9.69	109.67	105.80
1	AA	69	G	C5-C6-O6	9.68	134.41	128.60
1	AA	1298	G	C5-C6-N1	9.68	116.34	111.50
1	CA	1251	C	O5'-P-OP2	-9.68	96.99	105.70
1	AA	854	U	N3-C2-O2	-9.67	115.43	122.20
1	AA	542	C	C5-C4-N4	-9.67	113.43	120.20
1	AA	2643	G	O5'-P-OP1	-9.67	97.00	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1330	A	O5'-P-OP2	-9.66	97.00	105.70
1	AA	2347	A	O5'-P-OP2	-9.65	97.01	105.70
2	AB	91	C	C6-N1-C2	9.65	124.16	120.30
1	CA	482	A	O5'-P-OP2	-9.63	97.03	105.70
1	AA	1686	U	O5'-P-OP2	-9.63	97.03	105.70
1	AA	1309	U	C5-C4-O4	-9.63	120.12	125.90
1	AA	722	A	O5'-P-OP1	-9.61	97.05	105.70
1	AA	1001	G	N1-C6-O6	9.60	125.66	119.90
56	BW	17	C	C2-N1-C1'	9.60	129.36	118.80
1	CA	1299	G	C5-C6-O6	9.60	134.36	128.60
1	CA	330	A	O5'-P-OP2	-9.60	97.06	105.70
1	AA	725	C	N1-C2-O2	-9.59	113.14	118.90
1	AA	2858	G	O4'-C1'-N9	9.59	115.87	108.20
1	CA	2622	C	N3-C4-C5	9.59	125.73	121.90
1	AA	2883	A	O4'-C1'-N9	9.58	115.86	108.20
1	AA	1422	C	N3-C4-C5	9.58	125.73	121.90
1	AA	2718	G	C8-N9-C4	9.58	110.23	106.40
1	CA	2538	C	O5'-P-OP2	-9.57	97.08	105.70
1	CA	2617	C	C6-N1-C2	9.56	124.12	120.30
1	AA	2718	G	N7-C8-N9	-9.54	108.33	113.10
1	AA	441	C	O5'-P-OP2	-9.54	97.11	105.70
1	AA	60	G	N3-C4-N9	-9.53	120.28	126.00
1	AA	1658	C	N1-C2-O2	-9.53	113.18	118.90
1	AA	1605	A	C6-C5-N7	-9.52	125.64	132.30
1	AA	883	G	OP1-P-OP2	-9.52	105.33	119.60
1	AA	2331	G	C2-N3-C4	-9.51	107.15	111.90
1	AA	2386	C	C2-N3-C4	-9.50	115.15	119.90
1	AA	2641	A	C5-N7-C8	-9.49	99.15	103.90
1	CA	116	C	O5'-P-OP2	-9.49	97.15	105.70
1	AA	1418	U	N3-C4-O4	9.49	126.04	119.40
2	AB	41	U	C2-N1-C1'	-9.49	106.31	117.70
1	AA	1010	C	N3-C2-O2	-9.49	115.26	121.90
1	AA	2246	G	N1-C6-O6	-9.49	114.21	119.90
1	AA	821	A	N1-C6-N6	-9.48	112.91	118.60
1	AA	1273	G	C4-C5-N7	-9.46	107.02	110.80
1	AA	2343	G	N3-C2-N2	-9.45	113.28	119.90
1	AA	1199	C	N1-C2-O2	-9.45	113.23	118.90
1	AA	1605	A	N1-C2-N3	9.44	134.02	129.30
1	AA	1347	A	O5'-P-OP2	-9.44	97.20	105.70
1	AA	2707	C	C5-C6-N1	-9.43	116.28	121.00
1	AA	2476	C	C6-N1-C2	9.42	124.07	120.30
1	AA	412	C	C6-N1-C2	-9.41	116.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1813	C	O5'-P-OP1	-9.41	97.23	105.70
1	AA	2834	C	C5-C4-N4	-9.40	113.62	120.20
1	AA	1249	A	N3-C4-C5	9.39	133.37	126.80
1	AA	499	G	N1-C6-O6	-9.38	114.27	119.90
1	AA	254	A	C6-C5-N7	-9.38	125.74	132.30
1	AA	1527	G	O5'-P-OP1	-9.37	97.26	105.70
1	AA	2399	U	N1-C2-O2	-9.37	116.24	122.80
1	CA	2549	G	N1-C6-O6	9.37	125.52	119.90
1	CA	2490	G	C5-C6-O6	-9.37	122.98	128.60
1	AA	1059	C	C6-N1-C2	9.37	124.05	120.30
1	CA	1214	A	C8-N9-C4	9.37	109.55	105.80
1	AA	343	C	C6-N1-C2	-9.36	116.55	120.30
1	AA	2667	G	O4'-C1'-N9	9.36	115.69	108.20
34	BA	525	C	C6-N1-C2	-9.36	116.56	120.30
1	AA	552	C	C5-C6-N1	-9.35	116.33	121.00
1	AA	2706	G	C8-N9-C4	9.34	110.14	106.40
1	AA	251	A	C8-N9-C4	9.34	109.53	105.80
1	AA	468	G	N3-C4-C5	-9.33	123.93	128.60
1	AA	593	G	C5-C6-N1	9.33	116.17	111.50
1	AA	2383	G	C5-C6-O6	-9.32	123.01	128.60
34	BA	896	C	C6-N1-C2	9.31	124.03	120.30
1	AA	437	G	C8-N9-C4	9.30	110.12	106.40
34	BA	218	C	C6-N1-C2	-9.30	116.58	120.30
1	AA	1269	G	C4-N9-C1'	-9.30	114.41	126.50
1	AA	783	C	N3-C4-C5	9.30	125.62	121.90
1	AA	555	G	C4-C5-N7	9.30	114.52	110.80
1	AA	974	G	C6-C5-N7	-9.29	124.83	130.40
1	AA	1361	C	C6-N1-C2	-9.28	116.59	120.30
1	CA	1269	A	N9-C4-C5	-9.28	102.09	105.80
1	AA	1279	C	N3-C4-C5	9.28	125.61	121.90
34	DA	1158	C	N1-C2-O2	9.28	124.47	118.90
1	AA	2084	A	C8-N9-C4	-9.24	102.10	105.80
1	CA	2438	U	O5'-P-OP2	-9.24	97.38	105.70
1	AA	1718	U	N3-C4-C5	9.24	120.14	114.60
1	CA	1021	A	C5-N7-C8	-9.24	99.28	103.90
1	AA	468	G	N3-C4-N9	9.23	131.54	126.00
1	CA	975	C	N1-C2-O2	9.23	124.44	118.90
1	CA	2503	A	N1-C2-N3	-9.23	124.68	129.30
1	AA	978	A	O4'-C1'-N9	9.23	115.58	108.20
1	CA	1828	G	O5'-P-OP2	9.22	121.77	110.70
1	CA	2618	G	O5'-P-OP2	-9.22	97.41	105.70
1	AA	205	A	C8-N9-C4	9.21	109.48	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1019	G	N3-C2-N2	-9.21	113.45	119.90
1	AA	2224	C	C6-N1-C2	9.21	123.99	120.30
1	CA	1287	A	C8-N9-C4	-9.21	102.11	105.80
1	AA	2631	C	N3-C4-C5	9.21	125.58	121.90
1	AA	2640	C	N3-C4-C5	9.21	125.58	121.90
1	CA	1558	A	C2-N3-C4	-9.21	106.00	110.60
1	AA	176	G	C4-C5-N7	9.20	114.48	110.80
1	AA	1548	C	C6-N1-C2	-9.19	116.62	120.30
1	AA	1789	G	O5'-P-OP1	-9.19	97.43	105.70
1	CA	2613	U	N3-C2-O2	-9.19	115.77	122.20
1	CA	772	C	C5-C6-N1	-9.17	116.42	121.00
1	CA	1200	C	C5-C6-N1	-9.16	116.42	121.00
1	CA	1428	C	C6-N1-C2	9.15	123.96	120.30
1	AA	2598	C	C6-N1-C2	-9.14	116.64	120.30
1	AA	2298	A	N1-C6-N6	9.13	124.08	118.60
1	CA	1437	C	C6-N1-C2	-9.13	116.65	120.30
1	AA	2641	A	C6-C5-N7	-9.13	125.91	132.30
1	AA	801	C	C2-N3-C4	-9.12	115.34	119.90
1	AA	542	C	N3-C4-C5	9.12	125.55	121.90
1	AA	783	C	C6-N1-C2	9.12	123.95	120.30
1	AA	1235	G	C5-N7-C8	9.11	108.86	104.30
1	AA	1805	C	C6-N1-C2	-9.11	116.66	120.30
1	AA	1249	A	N3-C4-N9	-9.10	120.12	127.40
1	AA	2638	C	C6-N1-C2	9.10	123.94	120.30
1	AA	730	C	N1-C2-O2	9.10	124.36	118.90
1	AA	1073	A	C8-N9-C4	9.10	109.44	105.80
1	AA	54	G	C8-N9-C4	-9.09	102.76	106.40
1	AA	2697	G	C2-N3-C4	9.09	116.45	111.90
1	AA	563	G	N7-C8-N9	-9.08	108.56	113.10
1	CA	2360	A	C8-N9-C4	9.08	109.43	105.80
1	AA	1028	C	C5-C4-N4	-9.08	113.85	120.20
1	CA	800	A	O5'-P-OP1	-9.08	97.53	105.70
1	AA	400	U	O5'-P-OP1	9.07	121.59	110.70
1	AA	471	C	OP1-P-OP2	-9.07	105.99	119.60
1	AA	1058	U	C4-C5-C6	9.07	125.14	119.70
1	AA	2023	A	N1-C6-N6	-9.06	113.16	118.60
1	AA	1040	C	N1-C2-O2	-9.06	113.46	118.90
1	AA	180	A	C5-C6-N1	-9.06	113.17	117.70
1	CA	1269	A	O5'-P-OP2	-9.06	97.55	105.70
1	AA	2660	C	C4-C5-C6	9.05	121.93	117.40
1	CA	141	A	C5-N7-C8	-9.05	99.37	103.90
34	BA	778	G	C5-C6-O6	9.05	134.03	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	330	A	C2-N3-C4	-9.05	106.08	110.60
1	AA	1003	U	N3-C4-C5	-9.04	109.17	114.60
1	AA	2357	G	N9-C4-C5	-9.04	101.78	105.40
1	AA	1255	A	N7-C8-N9	9.04	118.32	113.80
1	AA	884	C	N3-C2-O2	-9.03	115.58	121.90
1	CA	1808	U	O5'-P-OP1	-9.03	97.57	105.70
34	BA	567	G	O5'-P-OP1	-9.03	97.58	105.70
1	AA	2791	A	N1-C6-N6	-9.02	113.19	118.60
34	BA	322	C	C6-N1-C2	9.02	123.91	120.30
1	AA	2386	C	C5-C6-N1	-9.02	116.49	121.00
1	CA	1996	C	O5'-P-OP1	-9.02	97.58	105.70
1	AA	978	A	N1-C6-N6	9.02	124.01	118.60
1	AA	906	G	O4'-C1'-N9	-9.01	101.00	108.20
1	AA	2299	A	N3-C4-N9	-9.01	120.19	127.40
1	AA	2834	C	N3-C2-O2	9.01	128.21	121.90
1	CA	182	A	N1-C6-N6	9.00	124.00	118.60
1	AA	1150	C	OP2-P-O3'	-9.00	85.40	105.20
1	AA	1726	U	N1-C2-O2	-9.00	116.50	122.80
1	AA	856	G	C5-C6-O6	8.99	134.00	128.60
1	AA	554	A	C5-N7-C8	-8.98	99.41	103.90
1	CA	744	G	C5-C6-O6	-8.98	123.21	128.60
1	AA	424	G	N3-C2-N2	8.97	126.18	119.90
1	AA	1612	C	O5'-P-OP2	-8.97	97.63	105.70
1	CA	225	A	O5'-P-OP2	-8.96	97.63	105.70
1	CA	265	A	C4-C5-N7	8.96	115.18	110.70
1	AA	554	A	C4-C5-N7	8.95	115.17	110.70
1	AA	2223	C	C5-C4-N4	-8.95	113.94	120.20
1	AA	2509	A	C8-N9-C4	8.95	109.38	105.80
1	CA	1365	A	C6-C5-N7	-8.94	126.04	132.30
1	AA	1059	C	N3-C2-O2	8.94	128.16	121.90
1	AA	741	U	O5'-P-OP2	-8.94	97.66	105.70
1	AA	1944	G	C5-C6-O6	-8.94	123.24	128.60
34	DA	904	C	O5'-P-OP1	8.94	121.42	110.70
1	AA	744	C	C5-C6-N1	-8.93	116.53	121.00
1	AA	859	C	N1-C2-O2	-8.93	113.54	118.90
1	AA	2756	C	C6-N1-C2	-8.93	116.73	120.30
1	AA	1249	A	N7-C8-N9	8.93	118.26	113.80
1	AA	1710	C	C4-C5-C6	8.93	121.86	117.40
1	AA	1664	A	N1-C6-N6	-8.92	113.25	118.60
1	AA	2506	G	C5-C6-N1	-8.90	107.05	111.50
1	AA	1154	U	C5-C6-N1	8.89	127.15	122.70
1	AA	1342	G	N1-C6-O6	-8.89	114.57	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2025	G	C8-N9-C4	8.89	109.95	106.40
1	AA	2087	C	N1-C2-O2	8.89	124.23	118.90
1	AA	1605	A	C5-N7-C8	-8.88	99.46	103.90
1	AA	1790	A	C6-C5-N7	-8.88	126.08	132.30
1	AA	2794	A	N1-C6-N6	-8.88	113.27	118.60
1	AA	2368	C	C6-N1-C2	8.88	123.85	120.30
1	AA	2694	U	O5'-P-OP1	8.88	121.35	110.70
1	AA	1546	G	N1-C6-O6	8.87	125.22	119.90
34	BA	912	C	C6-N1-C2	8.87	123.85	120.30
1	AA	714	U	N1-C2-N3	8.87	120.22	114.90
1	AA	885	C	N3-C4-C5	8.86	125.44	121.90
1	AA	148	C	N3-C2-O2	-8.85	115.70	121.90
34	BA	345	C	C6-N1-C2	-8.85	116.76	120.30
1	CA	25	U	N3-C2-O2	8.84	128.39	122.20
1	AA	2826	C	N3-C4-C5	8.84	125.43	121.90
2	AB	101	G	N3-C2-N2	8.84	126.08	119.90
1	CA	2007	C	C6-N1-C2	8.84	123.83	120.30
1	CA	945	A	C6-C5-N7	-8.83	126.12	132.30
1	AA	2591	C	N3-C2-O2	-8.83	115.72	121.90
1	AA	1474	C	C4-C5-C6	8.83	121.81	117.40
1	AA	898	U	C5-C6-N1	-8.82	118.29	122.70
1	AA	2468	C	C2-N3-C4	8.82	124.31	119.90
34	BA	1512	U	O5'-P-OP2	-8.82	97.76	105.70
1	AA	121	G	O5'-P-OP1	8.82	121.28	110.70
1	AA	1795	G	N1-C6-O6	-8.81	114.61	119.90
1	CA	2622	C	C6-N1-C2	8.81	123.83	120.30
1	AA	855	G	N3-C2-N2	8.81	126.07	119.90
1	AA	749	G	C5-C6-O6	-8.81	123.32	128.60
1	AA	874	U	N3-C2-O2	8.80	128.36	122.20
1	AA	1857	G	N1-C6-O6	-8.80	114.62	119.90
1	AA	2162	C	C2-N1-C1'	8.80	128.48	118.80
1	AA	581	G	C4-C5-N7	-8.79	107.28	110.80
1	CA	2036	C	O5'-P-OP1	-8.79	97.79	105.70
1	AA	2627	U	N3-C2-O2	-8.78	116.06	122.20
1	AA	254	A	O4'-C1'-N9	8.77	115.22	108.20
1	AA	2029	C	C6-N1-C2	-8.77	116.79	120.30
1	AA	806	G	C2-N3-C4	8.77	116.28	111.90
1	AA	224	U	O5'-P-OP2	-8.76	97.81	105.70
1	AA	612	C	C5-C6-N1	-8.76	116.62	121.00
1	AA	2450	U	N1-C2-O2	-8.76	116.67	122.80
1	AA	2459	G	N7-C8-N9	-8.76	108.72	113.10
1	AA	630	U	O5'-P-OP1	-8.76	97.82	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2671	G	C5-C6-O6	8.75	133.85	128.60
1	CA	195	A	N9-C4-C5	8.75	109.30	105.80
1	CA	2840	C	O5'-P-OP2	-8.74	97.83	105.70
1	AA	1262	C	N3-C4-C5	8.74	125.40	121.90
1	AA	2641	A	C8-N9-C4	-8.73	102.31	105.80
1	AA	2079	A	C8-N9-C4	8.73	109.29	105.80
1	AA	2397	C	C2-N3-C4	-8.73	115.53	119.90
1	AA	2693	C	C6-N1-C2	-8.73	116.81	120.30
1	AA	608	G	C5-C6-O6	-8.73	123.36	128.60
1	AA	1809	U	N3-C2-O2	8.73	128.31	122.20
1	AA	2828	G	C8-N9-C4	8.72	109.89	106.40
1	CA	1698	A	C5-C6-N1	-8.72	113.34	117.70
1	CA	2256	G	C5-C6-O6	-8.72	123.37	128.60
1	AA	990	A	C5-C6-N6	-8.71	116.73	123.70
1	AA	725	C	N3-C4-C5	8.71	125.38	121.90
1	AA	1331	G	C5-C6-O6	-8.70	123.38	128.60
56	BW	28	G	O5'-P-OP2	-8.69	97.88	105.70
1	AA	2258	G	C8-N9-C4	8.69	109.88	106.40
1	CA	2610	C	N1-C2-O2	8.69	124.11	118.90
1	AA	2641	A	N1-C2-N3	8.67	133.64	129.30
1	AA	1742	G	C5-C6-O6	-8.67	123.40	128.60
1	AA	2223	C	C6-N1-C2	8.67	123.77	120.30
1	AA	1199	C	C5-C4-N4	-8.67	114.13	120.20
1	AA	2437	A	O5'-P-OP2	-8.67	97.90	105.70
1	AA	592	U	C5-C4-O4	-8.66	120.70	125.90
1	AA	2103	C	C5-C6-N1	-8.66	116.67	121.00
1	AA	523	G	N1-C6-O6	-8.66	114.70	119.90
1	AA	2614	A	O5'-P-OP2	-8.66	97.91	105.70
1	AA	1655	A	N9-C4-C5	-8.65	102.34	105.80
1	CA	307	G	C5-C6-O6	-8.65	123.41	128.60
1	AA	354	A	C5-N7-C8	-8.65	99.57	103.90
1	AA	1745	A	C5-N7-C8	-8.65	99.58	103.90
34	BA	762	C	N3-C2-O2	-8.64	115.85	121.90
1	AA	2828	G	N7-C8-N9	-8.64	108.78	113.10
1	AA	2888	U	C6-N1-C2	-8.64	115.81	121.00
1	AA	1755	C	C6-N1-C2	8.64	123.75	120.30
1	AA	2524	C	C6-N1-C2	8.64	123.75	120.30
1	CA	265	A	C5-N7-C8	-8.63	99.58	103.90
1	AA	2010	C	C5-C6-N1	-8.63	116.69	121.00
1	CA	1993	U	C5-C6-N1	-8.63	118.39	122.70
1	CA	1779	U	N3-C4-C5	8.61	119.76	114.60
1	AA	1011	G	N1-C2-N2	-8.61	108.46	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1204	A	N1-C6-N6	8.60	123.76	118.60
1	CA	88	G	O5'-P-OP1	-8.59	97.97	105.70
34	DA	509	A	C8-N9-C4	-8.59	102.36	105.80
1	CA	1782	C	C6-N1-C2	8.58	123.73	120.30
1	AA	1176	U	N3-C2-O2	-8.58	116.19	122.20
1	AA	2879	G	N9-C4-C5	8.58	108.83	105.40
1	AA	150	C	C2-N3-C4	-8.58	115.61	119.90
1	CA	1955	U	C6-N1-C2	8.58	126.15	121.00
1	AA	2357	G	C8-N9-C4	8.57	109.83	106.40
1	AA	873	U	C5-C6-N1	-8.56	118.42	122.70
1	AA	2636	G	N3-C2-N2	8.56	125.89	119.90
1	AA	894	U	N3-C4-O4	-8.56	113.41	119.40
1	CA	1968	G	N1-C6-O6	8.56	125.03	119.90
1	AA	1714	G	N1-C6-O6	-8.55	114.77	119.90
1	AA	2217	C	C6-N1-C2	8.55	123.72	120.30
1	AA	2430	A	O5'-P-OP2	-8.55	98.00	105.70
1	AA	1790	A	N9-C4-C5	-8.55	102.38	105.80
34	BA	1529	G	C8-N9-C4	-8.55	102.98	106.40
1	AA	1271	G	N1-C6-O6	8.54	125.03	119.90
1	CA	1955	U	C5-C6-N1	-8.54	118.43	122.70
1	AA	2299	A	C4-C5-N7	8.54	114.97	110.70
1	CA	581	C	N1-C2-O2	-8.54	113.78	118.90
2	AB	71	C	C5-C4-N4	-8.53	114.23	120.20
1	AA	222	A	C8-N9-C4	8.53	109.21	105.80
1	CA	1788	C	C4-C5-C6	8.53	121.66	117.40
1	AA	424	G	N1-C2-N2	-8.53	108.53	116.20
1	AA	2084	A	C5-N7-C8	-8.52	99.64	103.90
2	AB	52	A	N7-C8-N9	-8.52	109.54	113.80
1	AA	199	C	C6-N1-C2	8.51	123.70	120.30
2	AB	75	G	N1-C2-N2	-8.51	108.54	116.20
1	AA	1438	A	N7-C8-N9	-8.51	109.55	113.80
1	AA	1514	C	C6-N1-C2	8.51	123.70	120.30
1	AA	2331	G	N7-C8-N9	8.51	117.35	113.10
34	BA	898	G	C5-C6-O6	-8.51	123.50	128.60
1	CA	1670	C	O5'-P-OP1	-8.50	98.05	105.70
1	CA	1788	C	N3-C4-C5	-8.50	118.50	121.90
1	AA	1732	C	C2-N3-C4	-8.50	115.65	119.90
1	CA	2045	C	N1-C2-O2	-8.50	113.80	118.90
1	AA	1207	C	C6-N1-C2	8.49	123.70	120.30
1	AA	2065	C	C2-N3-C4	-8.49	115.66	119.90
1	AA	2520	G	N1-C6-O6	-8.49	114.81	119.90
1	CA	2550	G	N1-C6-O6	8.48	124.99	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	514	G	O5'-P-OP2	-8.48	98.07	105.70
1	AA	1657	C	C2-N3-C4	-8.48	115.66	119.90
1	AA	2234	G	C4-C5-N7	-8.47	107.41	110.80
1	AA	2248	C	C5-C6-N1	-8.47	116.76	121.00
1	AA	1664	A	C5-C6-N6	8.47	130.48	123.70
1	AA	2217	C	C5-C6-N1	-8.47	116.77	121.00
1	AA	1028	C	N3-C4-C5	8.46	125.29	121.90
1	AA	2252	C	C6-N1-C2	8.45	123.68	120.30
1	CA	528	A	C5-C6-N1	-8.46	113.47	117.70
1	CA	2495	G	N3-C4-C5	8.45	132.83	128.60
1	AA	1314	A	C2-N3-C4	-8.45	106.38	110.60
1	CA	2032	G	N1-C6-O6	-8.45	114.83	119.90
1	AA	19	C	C2-N3-C4	-8.45	115.67	119.90
34	BA	244	U	N3-C2-O2	-8.45	116.28	122.20
1	AA	1204	C	C6-N1-C2	8.45	123.68	120.30
1	AA	1732	C	N3-C4-C5	8.45	125.28	121.90
34	BA	764	C	C6-N1-C2	8.44	123.68	120.30
1	CA	2206	G	C8-N9-C4	8.45	109.78	106.40
1	AA	2600	G	C8-N9-C4	8.44	109.78	106.40
1	AA	354	A	C5-C6-N1	-8.44	113.48	117.70
1	AA	1011	G	N3-C2-N2	8.43	125.80	119.90
1	AA	1059	C	C5-C4-N4	-8.43	114.30	120.20
1	AA	1071	G	C5-C6-O6	8.43	133.66	128.60
1	AA	2300	A	C8-N9-C4	8.43	109.17	105.80
1	CA	133	C	C5-C6-N1	-8.43	116.78	121.00
1	AA	1185	C	C4-C5-C6	8.43	121.61	117.40
1	AA	2261	U	C6-N1-C2	8.43	126.06	121.00
1	AA	2715	C	C6-N1-C2	-8.42	116.93	120.30
1	AA	1254	G	O5'-P-OP2	-8.42	98.12	105.70
1	AA	1956	C	N3-C4-C5	8.42	125.27	121.90
1	AA	2496	G	N1-C6-O6	-8.42	114.85	119.90
1	AA	874	U	C2-N1-C1'	-8.41	107.60	117.70
1	AA	1624	C	O5'-P-OP2	-8.41	98.13	105.70
1	AA	552	C	C4-C5-C6	8.41	121.61	117.40
1	AA	1543	U	C5-C4-O4	8.41	130.95	125.90
1	AA	1169	C	N1-C2-O2	-8.40	113.86	118.90
1	AA	2272	C	C5-C6-N1	-8.40	116.80	121.00
34	BA	1519	A	C5-C6-N6	8.40	130.42	123.70
1	AA	2514	G	O5'-P-OP1	-8.40	98.14	105.70
1	AA	86	C	N3-C4-C5	8.39	125.26	121.90
1	AA	874	U	C6-N1-C2	8.39	126.03	121.00
1	AA	2756	C	N3-C4-C5	-8.39	118.54	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	265	A	C6-C5-N7	-8.39	126.43	132.30
1	CA	1776	G	N3-C4-N9	8.39	131.03	126.00
1	AA	1738	C	C6-N1-C2	-8.39	116.95	120.30
1	AA	859	C	C2-N3-C4	-8.38	115.71	119.90
2	AB	90	A	N7-C8-N9	-8.38	109.61	113.80
34	DA	1158	C	N3-C2-O2	-8.38	116.03	121.90
1	CA	2261	C	O5'-P-OP1	8.37	120.75	110.70
1	AA	2732	G	C4-C5-N7	8.37	114.15	110.80
1	CA	1294	U	N1-C2-O2	-8.37	116.94	122.80
1	AA	853	C	N1-C2-O2	8.37	123.92	118.90
1	AA	777	C	C5-C6-N1	-8.36	116.82	121.00
1	AA	1425	A	N1-C6-N6	8.36	123.61	118.60
1	AA	1807	G	O5'-P-OP2	-8.36	98.18	105.70
1	AA	176	G	C6-C5-N7	-8.35	125.39	130.40
1	AA	554	A	N1-C6-N6	8.35	123.61	118.60
1	AA	1264	G	C2-N3-C4	-8.35	107.72	111.90
34	BA	1260	C	C2-N1-C1'	8.35	127.99	118.80
34	DA	549	C	OP1-P-OP2	-8.35	107.07	119.60
1	AA	499	G	N1-C2-N2	-8.35	108.69	116.20
1	AA	1252	C	O5'-P-OP1	-8.35	98.19	105.70
1	AA	2441	G	C6-N1-C2	-8.35	120.09	125.10
1	AA	990	A	C8-N9-C4	-8.34	102.46	105.80
1	CA	1292	U	N3-C2-O2	8.34	128.04	122.20
1	AA	2255	U	N1-C2-O2	-8.34	116.96	122.80
1	CA	2608	G	O5'-P-OP2	-8.34	98.19	105.70
1	CA	1985	G	O5'-P-OP2	-8.34	98.19	105.70
1	CA	2723	C	N3-C2-O2	-8.34	116.06	121.90
1	CA	53	A	C2-N3-C4	-8.34	106.43	110.60
1	AA	2389	A	N7-C8-N9	-8.33	109.63	113.80
1	AA	434	G	C8-N9-C1'	-8.32	116.18	127.00
1	CA	1676	A	C8-N9-C4	8.32	109.13	105.80
1	AA	1169	C	N3-C4-C5	8.32	125.23	121.90
1	AA	914	C	N1-C2-O2	-8.31	113.91	118.90
1	CA	1021	A	N3-C4-C5	8.31	132.62	126.80
1	AA	883	G	C8-N9-C4	-8.31	103.08	106.40
1	AA	563	G	C8-N9-C4	8.31	109.72	106.40
1	AA	1535	U	O5'-P-OP1	-8.30	98.23	105.70
1	AA	1790	A	C4-C5-N7	8.30	114.85	110.70
43	BJ	46	ARG	NE-CZ-NH1	8.30	124.45	120.30
1	CA	576	U	O5'-P-OP1	-8.30	98.23	105.70
1	CA	1994	C	C6-N1-C2	8.30	123.62	120.30
1	AA	813	C	C5-C6-N1	-8.30	116.85	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2062	A	C5-N7-C8	-8.29	99.75	103.90
1	AA	992	G	O5'-P-OP1	-8.29	98.24	105.70
1	AA	999	G	N1-C6-O6	-8.29	114.92	119.90
1	CA	195	A	N1-C6-N6	-8.29	113.62	118.60
1	AA	343	C	N3-C2-O2	-8.29	116.10	121.90
1	CA	2040	C	C6-N1-C2	8.29	123.61	120.30
1	AA	637	U	N1-C2-N3	8.29	119.87	114.90
1	AA	392	U	O5'-P-OP2	8.29	120.64	110.70
1	AA	408	G	N7-C8-N9	-8.29	108.96	113.10
1	CA	1963	U	N3-C2-O2	-8.28	116.40	122.20
1	AA	499	G	C5-C6-O6	8.28	133.57	128.60
1	AA	542	C	C2-N3-C4	-8.28	115.76	119.90
1	AA	1862	G	C5-C6-N1	-8.28	107.36	111.50
1	CA	747	U	O5'-P-OP1	-8.28	98.25	105.70
1	CA	444	C	C6-N1-C2	8.27	123.61	120.30
34	BA	804	U	N3-C4-O4	-8.27	113.61	119.40
1	CA	330	A	N3-C4-C5	8.27	132.59	126.80
34	DA	914	A	O5'-P-OP1	-8.27	98.26	105.70
1	AA	1663	C	N1-C2-O2	-8.27	113.94	118.90
1	AA	199	C	C4-C5-C6	8.27	121.53	117.40
1	AA	1201	A	N1-C2-N3	-8.27	125.17	129.30
1	AA	2299	A	N1-C6-N6	8.26	123.56	118.60
1	AA	2830	A	N1-C2-N3	8.26	133.43	129.30
34	BA	665	A	O5'-P-OP2	-8.26	98.27	105.70
1	AA	354	A	C4-C5-C6	-8.25	112.87	117.00
1	AA	2087	C	N3-C2-O2	-8.25	116.12	121.90
34	BA	915	A	O5'-P-OP2	-8.25	98.27	105.70
1	CA	1788	C	C6-N1-C2	-8.25	117.00	120.30
1	AA	870	G	N1-C6-O6	-8.25	114.95	119.90
1	AA	1718	U	C6-N1-C2	8.25	125.95	121.00
1	CA	2248	C	O5'-P-OP2	-8.25	98.28	105.70
1	CA	1661	G	C8-N9-C4	8.25	109.70	106.40
1	CA	2446	G	C5-C6-O6	8.25	133.55	128.60
1	AA	2643	G	C8-N9-C4	-8.24	103.10	106.40
1	CA	1340	U	C5-C4-O4	-8.24	120.95	125.90
1	AA	1271	G	C5-C6-O6	-8.24	123.66	128.60
1	AA	875	U	O5'-P-OP1	-8.23	98.29	105.70
1	CA	2685	G	C5-C6-N1	8.23	115.61	111.50
1	AA	1309	U	C2-N3-C4	-8.23	122.06	127.00
1	AA	813	C	C6-N1-C2	8.23	123.59	120.30
1	AA	1297	C	C5-C6-N1	8.22	125.11	121.00
1	AA	437	G	N9-C4-C5	-8.22	102.11	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	120	G	C5-C6-O6	-8.21	123.67	128.60
1	AA	542	C	C5-C6-N1	-8.21	116.89	121.00
1	AA	225	C	C5-C6-N1	-8.21	116.90	121.00
1	AA	2266	C	O5'-P-OP1	8.21	120.55	110.70
1	AA	223	C	N3-C2-O2	-8.19	116.17	121.90
1	AA	2678	C	OP2-P-O3'	8.19	123.22	105.20
1	AA	123	G	C5-C6-O6	-8.19	123.69	128.60
1	AA	829	A	N7-C8-N9	-8.19	109.70	113.80
34	BA	375	U	O5'-P-OP1	-8.19	98.33	105.70
1	AA	484	G	N1-C6-O6	8.19	124.81	119.90
1	AA	616	G	O5'-P-OP2	-8.19	98.33	105.70
1	AA	1196	C	OP2-P-O3'	8.19	123.21	105.20
34	BA	883	C	C6-N1-C2	-8.19	117.03	120.30
1	CA	2203	U	C2-N1-C1'	-8.18	107.89	117.70
1	AA	154	G	N3-C4-C5	8.18	132.69	128.60
1	AA	2221	A	N1-C6-N6	-8.17	113.70	118.60
1	AA	2883	A	C8-N9-C4	-8.17	102.53	105.80
1	AA	829	A	O5'-P-OP1	-8.17	98.35	105.70
1	CA	141	A	C4-C5-N7	8.17	114.78	110.70
1	AA	851	A	C2-N3-C4	-8.16	106.52	110.60
1	AA	1605	A	O4'-C1'-N9	8.16	114.73	108.20
1	CA	2876	G	C5-C6-O6	-8.16	123.70	128.60
1	AA	2902	G	N7-C8-N9	8.16	117.18	113.10
1	AA	1644	C	N1-C2-O2	-8.15	114.01	118.90
1	AA	777	C	N3-C4-C5	8.15	125.16	121.90
1	CA	1647	G	O4'-C1'-N9	-8.15	101.68	108.20
1	CA	1130	U	O5'-P-OP1	-8.15	98.37	105.70
1	AA	1068	G	N3-C4-N9	-8.13	121.12	126.00
1	AA	1690	G	N1-C6-O6	-8.13	115.02	119.90
1	AA	2876	U	C5-C6-N1	-8.13	118.64	122.70
1	AA	2266	C	N1-C2-O2	-8.13	114.02	118.90
1	AA	2636	G	N1-C2-N2	-8.12	108.89	116.20
1	CA	2374	C	OP1-P-OP2	8.12	131.79	119.60
1	AA	1721	G	C8-N9-C4	-8.12	103.15	106.40
1	CA	2818	G	C8-N9-C4	8.12	109.65	106.40
1	AA	507	G	O5'-P-OP2	-8.12	98.39	105.70
2	AB	75	G	N3-C2-N2	8.12	125.58	119.90
1	CA	41	C	O5'-P-OP2	-8.11	98.40	105.70
1	AA	408	G	C8-N9-C4	8.11	109.64	106.40
1	AA	2774	G	N7-C8-N9	-8.11	109.05	113.10
1	CA	305	U	C5-C4-O4	-8.11	121.04	125.90
1	AA	581	G	N1-C6-O6	-8.10	115.04	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2732	G	N1-C6-O6	8.10	124.76	119.90
1	CA	530	G	C4-C5-N7	8.10	114.04	110.80
1	AA	42	G	C5-C6-O6	-8.10	123.74	128.60
1	AA	2054	G	N7-C8-N9	-8.10	109.05	113.10
1	CA	2082	A	N1-C2-N3	8.10	133.35	129.30
1	AA	751	G	N7-C8-N9	-8.10	109.05	113.10
1	AA	830	A	C4-C5-C6	8.09	121.05	117.00
1	CA	945	A	N3-C4-C5	8.09	132.46	126.80
1	AA	22	C	N3-C2-O2	-8.09	116.24	121.90
1	AA	2025	G	N7-C8-N9	-8.09	109.06	113.10
1	CA	1200	C	C2-N3-C4	-8.09	115.86	119.90
1	AA	2550	C	C6-N1-C2	8.09	123.53	120.30
1	AA	2518	U	P-O3'-C3'	8.08	129.40	119.70
1	AA	199	C	C2-N3-C4	-8.08	115.86	119.90
1	AA	847	A	C2-N3-C4	8.08	114.64	110.60
1	AA	254	A	C8-N9-C4	-8.07	102.57	105.80
1	AA	31	C	O5'-P-OP1	-8.07	98.44	105.70
1	AA	991	G	N7-C8-N9	-8.07	109.06	113.10
1	AA	853	C	C6-N1-C2	8.07	123.53	120.30
1	CA	862	G	O5'-P-OP2	-8.07	98.44	105.70
1	AA	1076	G	N3-C2-N2	8.06	125.55	119.90
1	AA	2035	A	N9-C4-C5	-8.06	102.57	105.80
1	CA	1695	G	O5'-P-OP2	-8.06	98.44	105.70
1	AA	977	G	N1-C2-N2	-8.06	108.94	116.20
1	AA	1026	A	C8-N9-C4	8.06	109.02	105.80
1	AA	1067	A	N7-C8-N9	8.06	117.83	113.80
1	CA	2490	G	C4-C5-N7	8.06	114.02	110.80
2	AB	33	G	C8-N9-C4	8.06	109.62	106.40
34	BA	770	C	O5'-P-OP2	-8.06	98.45	105.70
1	AA	2706	G	N7-C8-N9	-8.05	109.08	113.10
1	AA	978	A	N3-C4-N9	-8.05	120.96	127.40
1	AA	1199	C	C4-C5-C6	8.05	121.42	117.40
1	AA	1406	A	O5'-P-OP1	-8.05	98.46	105.70
1	AA	1184	G	N1-C6-O6	-8.04	115.07	119.90
1	CA	2893	G	N3-C4-N9	8.04	130.82	126.00
1	AA	27	G	O5'-P-OP2	-8.04	98.46	105.70
1	AA	148	C	C6-N1-C2	-8.04	117.08	120.30
1	AA	641	G	O5'-P-OP1	-8.03	98.48	105.70
1	AA	833	C	O5'-P-OP1	-8.03	98.48	105.70
1	AA	1443	U	C2-N3-C4	-8.02	122.19	127.00
1	AA	2580	C	C5-C4-N4	-8.02	114.58	120.20
1	AA	882	A	OP2-P-O3'	8.02	122.84	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1262	C	C5-C4-N4	-8.01	114.59	120.20
1	CA	1126	A	C5-C6-N6	-8.01	117.30	123.70
1	CA	2741	A	C8-N9-C4	8.00	109.00	105.80
1	AA	1646	C	C5-C4-N4	-8.00	114.60	120.20
1	AA	2524	C	N3-C2-O2	8.00	127.50	121.90
1	CA	205	G	C8-N9-C4	8.00	109.60	106.40
1	AA	725	C	N3-C2-O2	8.00	127.50	121.90
1	AA	2742	G	N9-C4-C5	-8.00	102.20	105.40
1	AA	2590	G	N1-C6-O6	-8.00	115.10	119.90
1	AA	2826	C	O5'-P-OP2	-8.00	98.50	105.70
2	AB	91	C	N3-C4-C5	8.00	125.10	121.90
1	AA	1252	C	C2-N3-C4	-8.00	115.90	119.90
1	AA	751	G	C5-N7-C8	7.99	108.30	104.30
1	CA	1761	C	C6-N1-C2	7.99	123.50	120.30
1	AA	1157	A	C2-N3-C4	-7.99	106.60	110.60
1	AA	964	A	O5'-P-OP1	-7.99	98.51	105.70
1	CA	1165	U	N3-C2-O2	-7.99	116.61	122.20
1	AA	2870	A	C8-N9-C4	7.98	108.99	105.80
1	CA	1294	U	N3-C2-O2	7.98	127.79	122.20
1	AA	146	G	N1-C2-N2	-7.98	109.02	116.20
1	AA	903	C	C6-N1-C2	-7.98	117.11	120.30
1	AA	1207	C	N3-C4-C5	7.98	125.09	121.90
1	AA	794	U	C5-C4-O4	7.97	130.68	125.90
1	AA	127	C	C2-N3-C4	-7.97	115.92	119.90
1	AA	2293	C	C5-C4-N4	-7.97	114.62	120.20
1	AA	222	A	O5'-P-OP1	-7.97	98.53	105.70
1	AA	335	A	N7-C8-N9	-7.97	109.82	113.80
1	CA	2247	A	C8-N9-C4	7.96	108.99	105.80
1	AA	2659	U	C6-N1-C2	7.96	125.78	121.00
1	AA	1040	C	N3-C2-O2	7.96	127.47	121.90
1	AA	1650	C	O5'-P-OP1	-7.96	98.54	105.70
1	CA	133	C	O5'-P-OP1	7.96	120.25	110.70
1	CA	339	U	N3-C2-O2	7.96	127.77	122.20
1	AA	1605	A	N9-C4-C5	-7.96	102.62	105.80
1	AA	2519	C	C2-N3-C4	-7.96	115.92	119.90
1	AA	2103	C	N1-C2-N3	7.96	124.77	119.20
1	AA	2715	C	N3-C4-C5	-7.95	118.72	121.90
1	CA	1365	A	C5-C6-N6	-7.95	117.34	123.70
1	AA	1809	U	C5-C4-O4	-7.95	121.13	125.90
1	AA	2063	U	C2-N3-C4	-7.95	122.23	127.00
1	AA	1252	C	N3-C4-C5	7.95	125.08	121.90
1	AA	1478	C	N1-C2-O2	-7.95	114.13	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2613	U	N1-C2-O2	7.95	128.36	122.80
1	AA	315	C	C6-N1-C2	7.94	123.48	120.30
1	AA	127	C	N3-C4-C5	7.94	125.08	121.90
1	AA	176	G	C5-N7-C8	-7.94	100.33	104.30
1	CA	313	C	N3-C2-O2	7.94	127.46	121.90
1	CA	1681	G	N3-C4-N9	-7.94	121.23	126.00
1	CA	380	U	C6-N1-C2	-7.94	116.24	121.00
1	AA	862	C	N3-C2-O2	-7.94	116.34	121.90
2	AB	32	C	O5'-P-OP1	-7.93	98.56	105.70
1	CA	573	G	C5-C6-O6	-7.93	123.84	128.60
1	AA	1067	A	C4-C5-N7	7.93	114.67	110.70
1	CA	1006	C	N3-C4-C5	-7.93	118.73	121.90
1	AA	1040	C	C6-N1-C2	7.93	123.47	120.30
1	CA	2350	C	C6-N1-C2	7.93	123.47	120.30
1	AA	1801	G	N1-C6-O6	-7.93	115.14	119.90
1	AA	1071	G	N1-C6-O6	-7.92	115.14	119.90
1	CA	1292	U	N1-C2-O2	-7.92	117.25	122.80
1	AA	414	U	N3-C4-O4	7.92	124.94	119.40
34	BA	799	G	C5-C6-O6	7.92	133.35	128.60
1	AA	1017	G	O5'-P-OP2	-7.92	98.58	105.70
1	AA	527	A	N9-C4-C5	7.91	108.97	105.80
1	AA	2108	U	O5'-P-OP2	-7.91	98.58	105.70
1	AA	2530	A	C8-N9-C4	-7.91	102.63	105.80
34	DA	39	G	N1-C6-O6	-7.91	115.15	119.90
1	CA	1126	A	C6-C5-N7	-7.91	126.76	132.30
1	AA	1067	A	N1-C6-N6	7.91	123.35	118.60
1	AA	2602	A	C2-N3-C4	-7.91	106.64	110.60
34	BA	795	C	N1-C2-O2	-7.91	114.15	118.90
34	BA	1113	C	C5-C6-N1	7.91	124.95	121.00
1	AA	1270	C	N1-C2-O2	-7.91	114.16	118.90
1	AA	2641	A	C4-C5-N7	7.91	114.65	110.70
1	CA	2543	G	C5-C6-O6	-7.91	123.86	128.60
1	AA	515	G	C8-N9-C4	7.91	109.56	106.40
1	AA	568	C	N3-C4-C5	7.91	125.06	121.90
34	BA	345	C	C5-C6-N1	7.90	124.95	121.00
1	AA	108	G	O5'-P-OP2	-7.90	98.59	105.70
1	AA	785	G	OP1-P-O3'	7.90	122.58	105.20
34	BA	889	A	OP1-P-OP2	7.90	131.45	119.60
1	AA	168	G	N3-C2-N2	-7.89	114.38	119.90
1	AA	1202	A	N9-C4-C5	-7.89	102.64	105.80
34	BA	884	U	OP1-P-OP2	7.89	131.44	119.60
1	AA	967	G	N3-C4-C5	-7.89	124.66	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1979	C	O5'-P-OP2	-7.89	98.60	105.70
1	AA	453	C	C6-N1-C2	-7.88	117.15	120.30
1	AA	730	C	N3-C2-O2	-7.88	116.38	121.90
1	AA	2460	A	O5'-P-OP1	-7.88	98.61	105.70
1	CA	1000	A	C8-N9-C4	7.88	108.95	105.80
1	AA	804	U	O5'-P-OP2	-7.88	98.61	105.70
1	AA	2462	A	O5'-P-OP2	-7.87	98.61	105.70
2	AB	75	G	N1-C6-O6	-7.87	115.18	119.90
1	CA	1204	A	C5-N7-C8	-7.87	99.97	103.90
1	CA	1824	G	C8-N9-C4	-7.87	103.25	106.40
1	AA	2383	G	C2-N3-C4	7.86	115.83	111.90
1	AA	512	C	OP1-P-O3'	7.86	122.49	105.20
1	AA	751	G	N3-C2-N2	-7.86	114.40	119.90
1	AA	1211	U	N3-C2-O2	-7.86	116.70	122.20
1	AA	2355	C	OP1-P-OP2	7.86	131.39	119.60
1	AA	2791	A	O5'-P-OP2	-7.86	98.63	105.70
1	CA	1202	C	C6-N1-C2	7.86	123.44	120.30
1	CA	2363	C	C6-N1-C2	7.85	123.44	120.30
1	AA	1059	C	N1-C2-O2	-7.85	114.19	118.90
1	AA	413	G	O5'-P-OP1	-7.85	98.64	105.70
1	AA	592	U	N3-C2-O2	7.84	127.69	122.20
1	AA	1252	C	C5-C6-N1	-7.84	117.08	121.00
1	AA	1367	A	C4-C5-C6	7.84	120.92	117.00
1	AA	437	G	C5-C6-O6	-7.84	123.90	128.60
1	AA	1397	C	N1-C2-O2	-7.84	114.20	118.90
34	BA	787	A	O5'-P-OP2	-7.84	98.65	105.70
34	BA	878	G	N1-C6-O6	-7.83	115.20	119.90
1	AA	2004	C	N1-C2-O2	-7.83	114.20	118.90
1	AA	2383	G	C4-C5-N7	7.83	113.93	110.80
1	AA	1176	U	N1-C2-O2	7.83	128.28	122.80
1	AA	2467	G	N1-C2-N2	-7.82	109.16	116.20
34	BA	1529	G	N3-C4-C5	-7.82	124.69	128.60
1	CA	1275	A	C8-N9-C4	7.82	108.93	105.80
21	CX	57	LEU	CA-CB-CG	7.82	133.28	115.30
1	AA	1166	G	N1-C6-O6	-7.82	115.21	119.90
1	AA	1807	G	N1-C6-O6	7.82	124.59	119.90
17	AT	118	ARG	NE-CZ-NH1	7.82	124.21	120.30
1	AA	776	G	O5'-P-OP2	-7.82	98.67	105.70
1	AA	1965	U	C5-C6-N1	-7.81	118.79	122.70
1	AA	1412	A	N9-C4-C5	-7.81	102.68	105.80
1	AA	2836	A	N1-C2-N3	7.81	133.21	129.30
1	AA	2686	G	C5-C6-O6	-7.81	123.92	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	486	C	N1-C2-O2	-7.80	114.22	118.90
1	AA	582	G	N1-C6-O6	-7.80	115.22	119.90
1	AA	2821	G	O5'-P-OP2	-7.80	98.68	105.70
1	CA	2679	A	O5'-P-OP2	-7.80	98.68	105.70
34	DA	365	U	C5-C6-N1	-7.80	118.80	122.70
1	CA	1992	G	C8-N9-C4	-7.80	103.28	106.40
1	AA	95	G	C5-C6-O6	7.80	133.28	128.60
1	AA	399	G	O5'-P-OP2	-7.80	98.68	105.70
1	AA	1249	A	C4-C5-N7	7.80	114.60	110.70
1	AA	2162	C	N1-C2-O2	7.80	123.58	118.90
34	BA	769	G	O5'-P-OP1	7.79	120.05	110.70
1	AA	623	G	C8-N9-C4	-7.79	103.28	106.40
1	AA	2099	A	C2-N3-C4	7.79	114.50	110.60
1	CA	182	A	N9-C4-C5	-7.79	102.68	105.80
1	AA	139	A	O4'-C1'-N9	7.79	114.43	108.20
1	AA	2902	G	P-O3'-C3'	7.79	129.05	119.70
1	CA	2465	C	O5'-P-OP1	7.79	120.05	110.70
1	AA	1783	C	N1-C2-O2	-7.79	114.23	118.90
1	CA	1844	C	N3-C4-N4	7.79	123.45	118.00
1	AA	704	U	C5-C6-N1	-7.78	118.81	122.70
1	CA	1761	C	C5-C6-N1	-7.78	117.11	121.00
1	AA	2515	A	N1-C2-N3	-7.78	125.41	129.30
1	AA	2641	A	O5'-P-OP2	-7.78	98.70	105.70
1	AA	120	G	C6-N1-C2	-7.78	120.44	125.10
1	AA	2482	G	C8-N9-C4	7.77	109.51	106.40
1	CA	2539	C	C6-N1-C2	7.77	123.41	120.30
1	AA	2312	G	N9-C4-C5	7.77	108.51	105.40
1	AA	61	C	N1-C2-O2	-7.77	114.24	118.90
34	DA	1158	C	C2-N1-C1'	7.77	127.34	118.80
34	BA	879	C	N3-C4-C5	7.76	125.00	121.90
1	CA	2062	A	N1-C6-N6	7.76	123.25	118.60
1	AA	1028	C	N3-C2-O2	7.75	127.33	121.90
1	CA	1704	G	C8-N9-C4	-7.75	103.30	106.40
1	AA	559	U	C5-C4-O4	7.75	130.55	125.90
1	AA	2873	C	C6-N1-C2	7.75	123.40	120.30
1	AA	1003	U	C5-C4-O4	7.75	130.55	125.90
1	AA	2880	C	C4-C5-C6	7.74	121.27	117.40
1	CA	2244	U	O5'-P-OP2	-7.74	98.73	105.70
1	CA	2286	A	N1-C6-N6	7.74	123.25	118.60
1	CA	1622	G	N3-C2-N2	-7.74	114.48	119.90
1	AA	1766	G	C4-C5-N7	7.74	113.89	110.80
1	CA	1200	C	N3-C4-C5	7.74	125.00	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2518	U	OP1-P-O3'	-7.74	88.18	105.20
1	AA	414	U	N1-C2-O2	-7.73	117.39	122.80
1	AA	2641	A	N1-C6-N6	7.73	123.24	118.60
1	CA	960	A	C8-N9-C4	7.73	108.89	105.80
1	CA	2439	A	O5'-P-OP2	-7.73	98.74	105.70
1	AA	2610	A	OP2-P-O3'	7.73	122.20	105.20
1	CA	2235	G	N1-C6-O6	7.73	124.54	119.90
1	AA	1605	A	N3-C4-C5	7.73	132.21	126.80
1	AA	1462	G	O4'-C1'-N9	7.72	114.38	108.20
1	AA	2600	G	N7-C8-N9	-7.72	109.24	113.10
1	AA	1021	G	O5'-P-OP1	-7.72	98.75	105.70
1	AA	2479	C	C2-N3-C4	-7.72	116.04	119.90
1	CA	1142(A)	A	C5-C6-N1	-7.72	113.84	117.70
1	CA	1304	C	C6-N1-C2	7.72	123.39	120.30
1	AA	240	A	N1-C6-N6	-7.71	113.97	118.60
1	AA	2870	A	N7-C8-N9	-7.71	109.94	113.80
1	AA	1664	A	N9-C4-C5	7.71	108.89	105.80
1	AA	1344	C	O5'-P-OP2	7.71	119.95	110.70
1	AA	2703	C	C2-N3-C4	-7.71	116.04	119.90
1	AA	54	G	N9-C4-C5	7.71	108.48	105.40
34	BA	1465	C	N3-C2-O2	-7.71	116.51	121.90
34	BA	1509	C	N1-C2-O2	-7.71	114.28	118.90
1	AA	1010	C	N1-C2-O2	7.70	123.52	118.90
1	AA	414	U	N3-C2-O2	7.70	127.59	122.20
1	AA	2794	A	N9-C4-C5	7.70	108.88	105.80
1	CA	2547	U	C5-C6-N1	-7.70	118.85	122.70
1	CA	2329	G	O5'-P-OP1	7.70	119.94	110.70
1	CA	76	C	C6-N1-C2	-7.69	117.22	120.30
1	AA	1956	C	O5'-P-OP2	-7.69	98.78	105.70
26	A2	7	ARG	NE-CZ-NH2	-7.69	116.45	120.30
34	DA	1519	A	O5'-P-OP2	-7.69	98.78	105.70
1	AA	1516	A	N1-C6-N6	7.69	123.21	118.60
1	AA	2360	U	C6-N1-C2	7.68	125.61	121.00
56	BW	45	U	N3-C2-O2	-7.68	116.82	122.20
1	AA	859	C	C5-C6-N1	-7.68	117.16	121.00
1	AA	2876	U	C5-C4-O4	7.68	130.51	125.90
1	AA	1732	C	C5-C6-N1	-7.68	117.16	121.00
34	BA	560	U	C5-C6-N1	7.68	126.54	122.70
1	AA	1026	A	C6-N1-C2	7.68	123.21	118.60
1	CA	783	A	O5'-P-OP2	-7.68	98.79	105.70
1	AA	775	G	N9-C4-C5	7.67	108.47	105.40
1	AA	1722	C	C6-N1-C2	-7.67	117.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	DA	760	G	C8-N9-C4	7.67	109.47	106.40
1	CA	2286	A	OP1-P-O3'	7.67	122.07	105.20
1	CA	1440	G	O5'-P-OP2	-7.67	98.80	105.70
1	AA	2258	G	N9-C4-C5	-7.66	102.33	105.40
1	AA	2559	U	N1-C2-N3	7.66	119.50	114.90
1	AA	751	G	C4-C5-N7	-7.66	107.74	110.80
1	AA	504	A	O5'-P-OP1	-7.66	98.81	105.70
1	AA	831	A	N7-C8-N9	-7.66	109.97	113.80
1	AA	553	A	N9-C4-C5	-7.65	102.74	105.80
1	CA	751	A	O5'-P-OP1	-7.65	98.81	105.70
1	AA	1977	U	C5-C6-N1	-7.65	118.88	122.70
1	AA	2411	G	N7-C8-N9	-7.65	109.27	113.10
1	CA	2286	A	C6-C5-N7	-7.65	126.94	132.30
1	AA	2503	U	N3-C2-O2	7.64	127.55	122.20
1	AA	2880	C	C5-C6-N1	-7.64	117.18	121.00
1	AA	839	G	C8-N9-C4	-7.64	103.34	106.40
1	AA	1076	G	N1-C2-N2	-7.64	109.32	116.20
1	CA	2893	G	C5-C6-O6	-7.64	124.02	128.60
1	AA	2062	C	C6-N1-C2	7.64	123.36	120.30
1	AA	2502	G	C2-N3-C4	7.64	115.72	111.90
1	AA	977	G	C5-C6-O6	7.63	133.18	128.60
1	AA	884	C	N1-C2-O2	7.63	123.48	118.90
1	AA	2368	C	N3-C4-C5	7.63	124.95	121.90
34	BA	1442	G	C4-C5-N7	7.63	113.85	110.80
34	BA	1495	U	N3-C2-O2	-7.63	116.86	122.20
1	CA	2588	G	C5-C6-O6	7.63	133.18	128.60
1	CA	1214	A	N7-C8-N9	-7.63	109.99	113.80
1	CA	2591	C	N1-C2-O2	-7.63	114.33	118.90
1	CA	1698	A	C5-N7-C8	-7.62	100.09	103.90
1	AA	139	A	N1-C2-N3	7.62	133.11	129.30
1	AA	12	U	N3-C2-O2	-7.62	116.87	122.20
1	AA	1819	C	C6-N1-C2	7.62	123.35	120.30
1	AA	2510	C	O5'-P-OP1	7.62	119.84	110.70
1	CA	2543	G	N1-C6-O6	7.62	124.47	119.90
34	BA	266	G	N7-C8-N9	7.61	116.91	113.10
34	BA	1404	C	N1-C2-O2	-7.61	114.33	118.90
1	AA	1440	U	OP1-P-OP2	-7.61	108.18	119.60
1	AA	1546	G	C5-C6-O6	-7.61	124.03	128.60
1	AA	2284	U	N3-C2-O2	-7.61	116.87	122.20
34	DA	720	C	N1-C2-O2	7.61	123.47	118.90
1	AA	1905	G	N9-C4-C5	7.61	108.44	105.40
34	DA	1500	A	N1-C6-N6	7.61	123.16	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2707	C	C6-N1-C2	7.60	123.34	120.30
34	DA	1487	G	C8-N9-C4	-7.60	103.36	106.40
1	AA	50	G	C8-N9-C4	-7.60	103.36	106.40
1	AA	2261	U	C5-C6-N1	-7.60	118.90	122.70
1	CA	2055	C	O5'-P-OP1	7.60	119.82	110.70
1	CA	2042	A	C8-N9-C4	7.60	108.84	105.80
1	AA	413	G	N3-C4-C5	-7.60	124.80	128.60
1	AA	2775	G	N1-C6-O6	-7.59	115.34	119.90
56	BW	17	C	N1-C2-O2	7.59	123.46	118.90
1	AA	106	U	O5'-P-OP1	-7.59	98.87	105.70
1	AA	1635	C	C6-N1-C2	-7.59	117.26	120.30
34	DA	324	G	O5'-P-OP2	-7.59	98.87	105.70
1	CA	2043	C	C2-N1-C1'	7.59	127.14	118.80
1	AA	811	A	O5'-P-OP2	-7.58	98.87	105.70
1	AA	525	G	O5'-P-OP1	-7.58	98.88	105.70
1	AA	844	C	N1-C2-O2	-7.58	114.35	118.90
1	AA	805	C	N3-C4-N4	-7.58	112.69	118.00
1	AA	2460	A	C8-N9-C4	-7.58	102.77	105.80
1	CA	48	G	C5-C6-N1	-7.58	107.71	111.50
34	DA	1407	C	C5-C4-N4	-7.58	114.90	120.20
1	CA	1394	U	O5'-P-OP2	7.57	119.79	110.70
1	AA	1745	A	O4'-C1'-N9	7.57	114.26	108.20
1	AA	2266	C	N3-C2-O2	7.57	127.20	121.90
34	BA	876	G	O5'-P-OP1	-7.57	98.89	105.70
1	AA	2755	C	C2-N3-C4	-7.57	116.12	119.90
1	AA	1660	A	O5'-P-OP1	-7.57	98.89	105.70
1	CA	573	G	C4-C5-N7	7.57	113.83	110.80
1	AA	2101	U	OP1-P-OP2	7.56	130.95	119.60
1	AA	2021	C	N1-C2-O2	-7.56	114.36	118.90
1	AA	1460	G	N9-C4-C5	7.56	108.42	105.40
1	AA	32	C	O5'-P-OP2	-7.56	98.90	105.70
1	AA	1188	A	C5-C6-N1	-7.56	113.92	117.70
1	AA	2073	A	N1-C6-N6	-7.55	114.07	118.60
1	CA	141	A	N7-C8-N9	7.55	117.58	113.80
1	CA	2285	C	O5'-P-OP2	-7.55	98.90	105.70
1	AA	1238	G	N7-C8-N9	-7.55	109.33	113.10
1	AA	2332	A	N1-C6-N6	7.55	123.13	118.60
1	AA	2608	U	C5-C4-O4	-7.55	121.37	125.90
34	BA	898	G	N1-C6-O6	7.55	124.43	119.90
1	AA	607	C	C2-N3-C4	-7.54	116.13	119.90
1	AA	623	G	N7-C8-N9	7.54	116.87	113.10
1	AA	738	C	N1-C2-O2	-7.54	114.37	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1331	G	N1-C6-O6	7.54	124.43	119.90
1	AA	1842	G	N3-C2-N2	-7.54	114.62	119.90
1	AA	1922	A	C8-N9-C4	-7.54	102.78	105.80
34	BA	836	G	N1-C6-O6	7.54	124.43	119.90
1	AA	2097	U	C2-N3-C4	-7.54	122.47	127.00
1	AA	2440	G	N1-C6-O6	-7.54	115.38	119.90
34	BA	1413	A	N1-C6-N6	7.54	123.12	118.60
34	BA	1442	G	C5-N7-C8	-7.54	100.53	104.30
1	AA	868	A	C4-C5-N7	-7.53	106.93	110.70
1	AA	1372	U	C5-C6-N1	-7.53	118.93	122.70
1	AA	2902	G	C6-C5-N7	-7.53	125.88	130.40
1	AA	1003	U	C6-N1-C2	-7.53	116.48	121.00
1	AA	1059	C	N3-C4-C5	7.53	124.91	121.90
1	AA	2437	A	C5-N7-C8	-7.53	100.13	103.90
1	AA	2902	G	C4-C5-N7	7.53	113.81	110.80
1	AA	556	C	N3-C2-O2	-7.53	116.63	121.90
1	AA	150	C	C5-C6-N1	-7.53	117.24	121.00
1	AA	2611	G	N1-C6-O6	-7.53	115.38	119.90
1	CA	751	A	N9-C4-C5	-7.53	102.79	105.80
1	CA	2198	A	C8-N9-C4	7.52	108.81	105.80
1	CA	1792	G	N7-C8-N9	-7.51	109.34	113.10
1	AA	1782	C	C6-N1-C2	7.51	123.31	120.30
1	AA	894	U	C2-N1-C1'	-7.51	108.69	117.70
1	AA	1273	G	C5-N7-C8	7.51	108.06	104.30
1	CA	2360	A	N7-C8-N9	-7.51	110.05	113.80
1	AA	1503	G	O5'-P-OP1	7.50	119.70	110.70
1	AA	1822	A	OP2-P-O3'	7.50	121.71	105.20
1	AA	2559	U	C5-C6-N1	-7.50	118.95	122.70
1	CA	1299	G	C8-N9-C4	-7.50	103.40	106.40
1	CA	1428	C	C5-C6-N1	-7.50	117.25	121.00
1	AA	990	A	C5-C6-N1	-7.50	113.95	117.70
1	CA	1022	G	N3-C2-N2	-7.50	114.65	119.90
34	DA	798	G	C8-N9-C4	-7.49	103.40	106.40
1	AA	456	A	C8-N9-C4	7.49	108.80	105.80
1	AA	2068	G	N3-C2-N2	7.49	125.14	119.90
1	AA	2287	C	C5'-C4'-O4'	-7.49	100.11	109.10
1	CA	2846	G	C8-N9-C4	7.49	109.40	106.40
1	AA	607	C	C5-C4-N4	-7.49	114.96	120.20
1	CA	381	G	N3-C2-N2	-7.49	114.66	119.90
1	AA	470	C	O5'-P-OP1	7.49	119.68	110.70
1	CA	914	C	N1-C2-O2	7.49	123.39	118.90
1	CA	1791	A	OP1-P-OP2	-7.49	108.37	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1197	G	O5'-P-OP2	-7.48	98.97	105.70
1	AA	1230	C	N1-C2-O2	7.48	123.39	118.90
1	AA	1263	C	OP1-P-OP2	7.48	130.82	119.60
1	AA	2620	G	C5-C6-O6	-7.48	124.11	128.60
34	BA	321	A	C8-N9-C4	7.48	108.79	105.80
1	CA	2503	A	C5-C6-N1	7.48	121.44	117.70
1	AA	1232	G	O5'-P-OP2	-7.48	98.97	105.70
1	AA	12	U	C2-N1-C1'	7.47	126.67	117.70
1	AA	2035	A	C8-N9-C4	7.47	108.79	105.80
34	BA	1030(B)	C	C2-N1-C1'	7.47	127.02	118.80
1	AA	818	G	N1-C6-O6	-7.47	115.42	119.90
1	AA	1230	C	C5-C4-N4	7.47	125.43	120.20
1	AA	2774	G	C8-N9-C4	7.46	109.39	106.40
1	AA	69	G	C4-C5-N7	-7.46	107.81	110.80
1	AA	751	G	N9-C4-C5	7.46	108.38	105.40
1	CA	527	C	N3-C4-N4	-7.46	112.78	118.00
1	AA	563	G	C5-N7-C8	7.45	108.03	104.30
1	CA	819	A	O5'-P-OP1	-7.45	98.99	105.70
1	AA	2290	A	N9-C4-C5	7.45	108.78	105.80
1	AA	1067	A	C6-N1-C2	7.45	123.07	118.60
1	AA	2873	C	O5'-P-OP2	-7.45	99.00	105.70
1	CA	2256	G	N1-C6-O6	7.45	124.37	119.90
1	AA	1007	G	OP1-P-OP2	-7.45	108.43	119.60
1	AA	2227	G	C4-N9-C1'	-7.45	116.82	126.50
1	AA	2751	A	C8-N9-C4	7.45	108.78	105.80
1	CA	2616	C	N3-C4-C5	7.44	124.88	121.90
1	AA	1694	G	C5-C6-O6	-7.44	124.13	128.60
1	AA	95	G	N1-C2-N2	-7.44	109.50	116.20
1	AA	1271	G	N3-C2-N2	-7.44	114.69	119.90
1	AA	1327	G	C8-N9-C4	-7.44	103.42	106.40
1	AA	2441	G	N1-C2-N3	7.44	128.36	123.90
1	CA	933	A	O4'-C1'-N9	7.44	114.15	108.20
1	AA	1949	A	O5'-P-OP2	-7.43	99.01	105.70
1	AA	2727	G	N1-C6-O6	-7.43	115.44	119.90
1	CA	1780	A	O5'-P-OP2	-7.43	99.01	105.70
1	AA	71	U	C2-N1-C1'	-7.43	108.78	117.70
1	AA	874	U	N1-C2-O2	-7.43	117.60	122.80
1	AA	1297	C	C2-N3-C4	7.43	123.62	119.90
1	AA	1921	G	C4-C5-N7	7.43	113.77	110.80
1	AA	83	A	O4'-C1'-N9	7.43	114.14	108.20
34	BA	863	U	C2-N1-C1'	-7.43	108.79	117.70
1	CA	25	U	N1-C2-O2	-7.43	117.60	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	991	G	C8-N9-C4	7.43	109.37	106.40
34	BA	1502	A	O5'-P-OP2	-7.43	99.02	105.70
1	AA	2052	A	C4-C5-N7	7.42	114.41	110.70
1	AA	2287	C	C6-N1-C2	-7.42	117.33	120.30
1	CA	1776	G	N3-C4-C5	-7.42	124.89	128.60
34	BA	131	C	N3-C2-O2	-7.42	116.70	121.90
1	AA	1411	A	O5'-P-OP1	7.42	119.61	110.70
1	AA	2791	A	C5-C6-N6	7.42	129.63	123.70
1	AA	1766	G	C5-N7-C8	-7.42	100.59	104.30
1	CA	1792	G	C8-N9-C4	7.42	109.37	106.40
1	AA	195	U	N3-C4-O4	-7.41	114.21	119.40
1	AA	1334	U	N1-C2-N3	7.41	119.35	114.90
1	CA	1844	C	N1-C2-O2	-7.41	114.45	118.90
1	AA	20	C	C6-N1-C2	7.41	123.26	120.30
1	AA	1360	C	C6-N1-C2	-7.41	117.34	120.30
1	AA	2293	C	N1-C2-O2	-7.41	114.45	118.90
1	AA	1617	A	N1-C6-N6	7.40	123.04	118.60
1	AA	2453	C	O5'-P-OP2	7.40	119.58	110.70
1	CA	2000	G	O5'-P-OP1	7.40	119.58	110.70
1	AA	715	G	N1-C6-O6	7.40	124.34	119.90
1	AA	1359	U	N3-C2-O2	-7.40	117.02	122.20
1	AA	1605	A	C5-C6-N6	-7.40	117.78	123.70
1	AA	2295	C	C6-N1-C2	7.40	123.26	120.30
1	CA	2327	A	N1-C6-N6	-7.40	114.16	118.60
1	AA	2712	C	OP1-P-OP2	7.40	130.69	119.60
1	CA	2495	G	O5'-P-OP2	-7.40	99.04	105.70
1	AA	1691	C	N3-C2-O2	-7.39	116.73	121.90
1	AA	2394	G	N3-C4-C5	-7.39	124.90	128.60
1	AA	588	C	C5-C6-N1	7.39	124.69	121.00
1	AA	1798	C	O5'-P-OP1	-7.39	99.05	105.70
34	BA	1519	A	C5-C6-N1	-7.39	114.01	117.70
1	AA	2679	C	O5'-P-OP2	-7.38	99.05	105.70
1	AA	633	G	C2-N3-C4	-7.38	108.21	111.90
1	AA	2331	G	C8-N9-C4	-7.38	103.45	106.40
1	AA	146	G	C5-C6-O6	7.38	133.03	128.60
1	AA	2029	C	N3-C4-C5	-7.38	118.95	121.90
1	AA	203	G	O5'-P-OP2	-7.38	99.06	105.70
1	AA	2550	C	C5-C6-N1	-7.38	117.31	121.00
1	AA	893	C	C6-N1-C2	7.38	123.25	120.30
1	AA	2464	C	N3-C4-C5	7.38	124.85	121.90
1	AA	1060	U	C5-C6-N1	-7.38	119.01	122.70
1	AA	2442	A	O5'-P-OP1	7.37	119.55	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2705	A	O5'-P-OP1	7.37	119.55	110.70
1	AA	592	U	C2-N3-C4	-7.37	122.58	127.00
34	BA	887	G	O5'-P-OP2	-7.37	99.07	105.70
1	CA	2457	U	N1-C2-O2	7.37	127.96	122.80
1	AA	40	C	C4-C5-C6	7.36	121.08	117.40
1	AA	254	A	N1-C2-N3	7.36	132.98	129.30
1	AA	2470	G	C4-C5-N7	-7.36	107.86	110.80
1	AA	1185	C	C5-C6-N1	-7.36	117.32	121.00
1	CA	2588	G	N1-C6-O6	-7.36	115.48	119.90
34	DA	824	C	C6-N1-C2	-7.36	117.36	120.30
1	AA	510	C	OP1-P-OP2	-7.36	108.56	119.60
1	AA	862	C	N1-C2-O2	7.36	123.32	118.90
1	AA	2902	G	C8-N9-C4	-7.36	103.46	106.40
1	CA	2658	C	O5'-P-OP1	-7.36	99.08	105.70
34	BA	576	G	N3-C4-C5	-7.36	124.92	128.60
34	BA	674	G	O5'-P-OP1	-7.36	99.08	105.70
1	AA	1832	G	N1-C6-O6	7.35	124.31	119.90
1	AA	662	A	N1-C6-N6	7.35	123.01	118.60
1	AA	143	C	C6-N1-C2	-7.35	117.36	120.30
1	AA	1411	A	C6-N1-C2	-7.35	114.19	118.60
1	AA	2421	G	O5'-P-OP2	-7.35	99.09	105.70
34	BA	1519	A	OP1-P-OP2	7.34	130.62	119.60
1	AA	997	G	C5-C6-O6	7.34	133.01	128.60
1	AA	2525	G	C8-N9-C4	7.34	109.34	106.40
1	AA	208	G	N1-C6-O6	-7.34	115.50	119.90
1	AA	361	C	C2-N3-C4	-7.34	116.23	119.90
1	AA	855	G	C5-C6-O6	7.34	133.00	128.60
1	AA	1894	G	C5-C6-O6	-7.34	124.20	128.60
1	CA	2022	U	N3-C2-O2	7.34	127.34	122.20
1	AA	125	A	C5-C6-N1	7.34	121.37	117.70
56	BW	49	C	N1-C2-O2	7.33	123.30	118.90
1	AA	1952	G	N1-C6-O6	-7.33	115.50	119.90
1	CA	18	C	N1-C2-O2	-7.33	114.50	118.90
1	CA	1325	G	N1-C6-O6	7.33	124.30	119.90
1	CA	527	C	C5-C4-N4	7.33	125.33	120.20
1	CA	2060	A	O5'-P-OP1	-7.33	99.10	105.70
1	AA	705	C	C5-C6-N1	-7.33	117.33	121.00
1	AA	1600	A	O5'-P-OP2	-7.33	99.10	105.70
2	AB	64	C	C2-N3-C4	-7.33	116.23	119.90
1	AA	171	A	C5-N7-C8	-7.33	100.23	103.90
1	AA	2386	C	C6-N1-C2	7.33	123.23	120.30
1	CA	1391	U	O5'-P-OP1	-7.33	99.10	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	20	C	N3-C4-C5	7.33	124.83	121.90
1	AA	221	G	N9-C4-C5	-7.33	102.47	105.40
34	BA	772	U	OP2-P-O3'	7.33	121.31	105.20
1	AA	978	A	C8-N9-C4	-7.32	102.87	105.80
1	CA	205	G	N7-C8-N9	-7.32	109.44	113.10
1	CA	1786	A	O4'-C1'-N9	7.32	114.06	108.20
1	CA	195	A	C8-N9-C4	-7.32	102.87	105.80
1	CA	522	G	C5-C6-O6	-7.32	124.21	128.60
1	AA	2451	A	C2-N3-C4	-7.31	106.94	110.60
1	AA	870	G	C5-C6-O6	7.31	132.99	128.60
1	CA	2532	G	N1-C6-O6	7.31	124.29	119.90
1	CA	2523	G	C6-C5-N7	-7.31	126.01	130.40
1	AA	1543	U	N3-C4-O4	-7.31	114.28	119.40
1	AA	2660	C	C5-C6-N1	-7.31	117.35	121.00
1	AA	1188	A	C8-N9-C4	-7.30	102.88	105.80
1	AA	1321	A	C4-C5-C6	7.30	120.65	117.00
1	AA	1978	U	O5'-P-OP2	-7.30	99.13	105.70
1	AA	1307	C	N3-C4-C5	7.30	124.82	121.90
1	CA	217	G	C8-N9-C4	7.29	109.32	106.40
1	AA	2383	G	O5'-P-OP2	7.29	119.45	110.70
1	CA	535	C	N1-C2-O2	-7.29	114.53	118.90
1	AA	354	A	N1-C2-N3	7.29	132.94	129.30
1	AA	553	A	C6-N1-C2	-7.29	114.23	118.60
1	AA	1699	A	O5'-P-OP2	-7.29	99.14	105.70
1	AA	2567	U	O5'-P-OP2	-7.28	99.15	105.70
1	CA	205	G	OP1-P-OP2	7.28	130.52	119.60
1	AA	1072	U	N3-C2-O2	-7.28	117.10	122.20
1	AA	2429	C	C5-C4-N4	7.28	125.30	120.20
1	CA	961	C	C6-N1-C2	7.28	123.21	120.30
1	AA	1168	G	N1-C6-O6	7.28	124.27	119.90
1	AA	736	A	O5'-P-OP2	-7.28	99.15	105.70
1	AA	868	A	C5-N7-C8	7.27	107.54	103.90
1	CA	569	U	C5-C4-O4	-7.27	121.54	125.90
1	CA	697	C	N3-C2-O2	-7.27	116.81	121.90
1	CA	1946	U	O5'-P-OP2	-7.27	99.16	105.70
1	AA	23	G	N1-C2-N3	7.27	128.26	123.90
1	AA	1067	A	C8-N9-C4	-7.27	102.89	105.80
1	AA	852	G	C8-N9-C4	-7.27	103.49	106.40
1	AA	1826	C	N1-C2-O2	-7.27	114.54	118.90
1	AA	2773	C	C5-C6-N1	-7.27	117.37	121.00
1	AA	774	A	C8-N9-C4	7.27	108.71	105.80
1	AA	146	G	C2-N3-C4	-7.26	108.27	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2106	C	OP1-P-O3'	-7.26	89.22	105.20
1	CA	2260	C	O5'-P-OP2	-7.26	99.16	105.70
1	AA	749	G	N1-C6-O6	7.26	124.26	119.90
1	CA	2605	U	C6-N1-C2	-7.26	116.64	121.00
1	CA	592	G	C8-N9-C4	7.26	109.30	106.40
1	AA	2417	G	C5-C6-O6	-7.26	124.25	128.60
2	AB	62	C	O5'-P-OP2	-7.26	99.17	105.70
1	CA	589	C	N3-C4-C5	7.25	124.80	121.90
1	AA	1726	U	N1-C2-N3	7.25	119.25	114.90
1	AA	2562	G	OP1-P-OP2	-7.25	108.72	119.60
1	AA	45	C	N1-C2-O2	-7.25	114.55	118.90
1	AA	2015	U	O5'-P-OP1	-7.25	99.18	105.70
1	AA	2298	A	C4-N9-C1'	7.25	139.34	126.30
1	CA	376	C	O5'-P-OP1	7.25	119.39	110.70
1	CA	842	G	C8-N9-C4	7.25	109.30	106.40
1	CA	2256	G	N9-C4-C5	-7.25	102.50	105.40
1	CA	190	A	N9-C4-C5	-7.24	102.90	105.80
1	AA	200	A	N7-C8-N9	-7.24	110.18	113.80
1	CA	749	C	N1-C2-O2	7.24	123.25	118.90
1	CA	1698	A	C6-C5-N7	-7.24	127.23	132.30
1	AA	2441	G	OP1-P-OP2	-7.24	108.74	119.60
1	AA	954	C	N3-C4-C5	7.24	124.79	121.90
1	AA	1262	C	C2-N3-C4	-7.24	116.28	119.90
34	BA	131	C	N1-C2-O2	7.24	123.24	118.90
1	AA	440	C	C6-N1-C2	7.23	123.19	120.30
1	AA	125	A	C5-C6-N6	-7.23	117.91	123.70
16	AS	48	LEU	CA-CB-CG	7.23	131.93	115.30
1	CA	514	A	O5'-P-OP1	-7.23	99.19	105.70
1	AA	36	G	O5'-P-OP2	-7.23	99.19	105.70
1	AA	2331	G	O4'-C1'-N9	7.23	113.98	108.20
2	AB	76	G	C8-N9-C4	7.23	109.29	106.40
34	BA	247	G	N3-C4-C5	-7.23	124.98	128.60
1	CA	154(A)	C	C6-N1-C2	-7.23	117.41	120.30
1	CA	2818	G	N7-C8-N9	-7.23	109.49	113.10
1	AA	2718	G	C5-N7-C8	7.22	107.91	104.30
1	AA	2671	G	N9-C4-C5	7.22	108.29	105.40
1	CA	1126	A	C4-C5-N7	7.22	114.31	110.70
1	AA	2028	C	C5-C4-N4	-7.22	115.14	120.20
1	CA	1962	C	N3-C2-O2	7.22	126.95	121.90
1	AA	1207	C	C2-N3-C4	-7.22	116.29	119.90
1	AA	467	U	C5-C6-N1	-7.21	119.09	122.70
1	AA	1265	A	C8-N9-C4	-7.21	102.91	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2509	A	N7-C8-N9	-7.21	110.19	113.80
1	CA	1003	G	C5-C6-O6	-7.21	124.27	128.60
1	AA	842	C	N3-C4-C5	7.21	124.78	121.90
1	AA	2530	A	C2-N3-C4	7.21	114.21	110.60
34	BA	25	C	C6-N1-C2	-7.21	117.42	120.30
1	CA	1622	G	O5'-P-OP1	-7.21	99.21	105.70
1	AA	1483	C	N3-C2-O2	-7.20	116.86	121.90
1	AA	493	G	N3-C2-N2	-7.20	114.86	119.90
1	AA	1691	C	N1-C2-O2	7.20	123.22	118.90
1	CA	2538	C	C6-N1-C2	7.20	123.18	120.30
1	AA	559	U	N3-C4-O4	-7.19	114.37	119.40
1	AA	891	C	N1-C2-O2	-7.19	114.59	118.90
1	AA	1802	C	N1-C2-O2	-7.19	114.59	118.90
1	AA	2902	G	C5-N7-C8	-7.19	100.70	104.30
1	AA	197	C	C5-C6-N1	-7.19	117.41	121.00
1	AA	484	G	C5-C6-O6	-7.19	124.29	128.60
1	CA	999	U	O5'-P-OP1	-7.19	99.23	105.70
1	AA	410	U	C5-C6-N1	-7.18	119.11	122.70
34	BA	762	C	N1-C2-O2	7.18	123.21	118.90
1	CA	728	G	C8-N9-C4	7.18	109.27	106.40
1	AA	2346	G	N1-C6-O6	7.18	124.21	119.90
1	AA	2781	C	O5'-P-OP2	-7.18	99.24	105.70
34	BA	836	G	C5-C6-O6	-7.18	124.29	128.60
1	AA	585	U	OP1-P-OP2	7.18	130.37	119.60
1	AA	618	C	C4-C5-C6	-7.18	113.81	117.40
1	CA	12	U	C2-N1-C1'	7.18	126.31	117.70
1	AA	798	A	OP1-P-OP2	-7.18	108.83	119.60
1	AA	1619	A	C8-N9-C4	7.17	108.67	105.80
1	AA	2067	C	C5-C6-N1	-7.17	117.41	121.00
1	AA	2740	G	C4-C5-N7	-7.17	107.93	110.80
1	AA	1247	C	N3-C4-C5	-7.17	119.03	121.90
1	AA	1394	G	C6-N1-C2	-7.17	120.80	125.10
1	CA	1779	U	C5-C6-N1	-7.17	119.12	122.70
1	CA	2374	C	O5'-P-OP2	-7.17	99.25	105.70
1	AA	741	U	C5-C6-N1	-7.16	119.12	122.70
1	AA	1175	A	O5'-P-OP2	-7.16	99.25	105.70
1	AA	2050	U	N3-C2-O2	-7.16	117.19	122.20
34	BA	879	C	C6-N1-C2	7.16	123.16	120.30
34	BA	1465	C	N1-C2-O2	7.16	123.20	118.90
34	BA	782	A	C8-N9-C4	7.16	108.66	105.80
1	AA	1377	A	O5'-P-OP2	-7.16	99.26	105.70
1	AA	1706	U	C5-C4-O4	-7.16	121.61	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2465	C	N3-C4-C5	7.16	124.76	121.90
1	CA	2565	A	O5'-P-OP2	7.16	119.29	110.70
1	AA	30	G	N7-C8-N9	-7.15	109.52	113.10
1	AA	1655	A	C6-C5-N7	-7.15	127.29	132.30
1	AA	2516	U	C2-N3-C4	-7.15	122.71	127.00
1	AA	1039	G	N1-C6-O6	7.15	124.19	119.90
1	CA	744	G	C4-C5-N7	7.15	113.66	110.80
1	AA	2641	A	N9-C1'-C2'	7.15	123.29	114.00
1	AA	42	G	C5-C6-N1	7.14	115.07	111.50
1	AA	2896	G	O5'-P-OP1	-7.14	99.27	105.70
34	BA	841	U	C5-C6-N1	7.14	126.27	122.70
1	CA	2539	C	C5-C6-N1	-7.14	117.43	121.00
1	AA	603	C	C4-C5-C6	7.14	120.97	117.40
1	AA	1676	G	C4-C5-N7	-7.14	107.94	110.80
1	CA	2031	A	C6-N1-C2	-7.14	114.31	118.60
1	AA	198	C	N3-C2-O2	-7.14	116.90	121.90
1	CA	672	C	N3-C4-C5	7.14	124.76	121.90
1	AA	1722	C	C5-C4-N4	7.14	125.20	120.20
1	AA	1722	C	N3-C4-C5	-7.14	119.05	121.90
1	AA	1832	G	C5-N7-C8	-7.14	100.73	104.30
1	AA	165	G	N1-C2-N2	-7.13	109.78	116.20
1	CA	2261	C	O5'-P-OP2	-7.13	99.28	105.70
1	AA	1835	C	N3-C4-C5	7.13	124.75	121.90
1	CA	1979	C	N3-C4-C5	-7.13	119.05	121.90
1	AA	1038	C	C5-C4-N4	-7.13	115.21	120.20
1	CA	2203	U	N3-C2-O2	7.13	127.19	122.20
1	CA	2571	C	N1-C2-O2	-7.13	114.62	118.90
2	AB	25	A	C8-N9-C4	7.12	108.65	105.80
1	AA	2709	G	O5'-P-OP2	-7.12	99.29	105.70
2	AB	106	G	N3-C2-N2	-7.12	114.91	119.90
34	DA	754	C	N1-C2-O2	7.12	123.17	118.90
1	AA	472	G	C8-N9-C4	7.12	109.25	106.40
1	AA	641	G	N1-C6-O6	-7.12	115.63	119.90
1	AA	2440	G	C5-C6-O6	7.12	132.87	128.60
1	CA	1993	U	OP1-P-OP2	7.12	130.28	119.60
1	AA	1855	G	OP2-P-O3'	7.12	120.86	105.20
1	AA	1098	C	C6-N1-C2	-7.12	117.45	120.30
1	AA	178	G	C5-C6-O6	-7.12	124.33	128.60
1	AA	2496	G	C5-C6-O6	7.12	132.87	128.60
1	CA	2441	C	C4-C5-C6	7.12	120.96	117.40
1	CA	2576	G	N1-C6-O6	-7.12	115.63	119.90
1	AA	2388	A	C8-N9-C4	7.11	108.64	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	200	A	C4-C5-C6	7.11	120.55	117.00
1	AA	579	G	C8-N9-C4	-7.11	103.56	106.40
1	CA	1857	G	C4-C5-N7	7.11	113.64	110.80
1	AA	1278	G	N3-C2-N2	-7.11	114.92	119.90
1	AA	2760	G	C5-C6-O6	-7.11	124.33	128.60
2	AB	42	C	O5'-P-OP1	-7.11	99.30	105.70
1	AA	833	C	OP2-P-O3'	7.11	120.83	105.20
1	AA	1611	C	C6-N1-C2	7.11	123.14	120.30
1	CA	1815	A	N7-C8-N9	-7.11	110.25	113.80
1	AA	1056	A	OP2-P-O3'	7.10	120.83	105.20
1	AA	2839	C	OP2-P-O3'	7.10	120.83	105.20
1	AA	705	C	C2-N3-C4	-7.10	116.35	119.90
1	AA	1008	U	C2-N3-C4	-7.10	122.74	127.00
1	AA	2516	U	C5-C6-N1	-7.10	119.15	122.70
1	AA	50	G	N1-C2-N3	7.09	128.16	123.90
1	AA	1646	C	C6-N1-C2	7.09	123.14	120.30
1	CA	2028	U	N3-C4-O4	-7.09	114.44	119.40
1	AA	2083	G	N7-C8-N9	-7.09	109.55	113.10
1	AA	1608	G	O5'-P-OP2	7.09	119.21	110.70
1	AA	2051	G	N1-C6-O6	7.09	124.15	119.90
1	CA	759	G	C5-C6-O6	-7.08	124.35	128.60
1	AA	2343	G	N1-C6-O6	7.08	124.15	119.90
1	AA	2524	C	C2-N1-C1'	-7.08	111.01	118.80
34	DA	817	C	O5'-P-OP1	-7.08	99.33	105.70
1	AA	1197	G	C4-C5-N7	-7.08	107.97	110.80
1	AA	1813	C	N1-C2-O2	-7.08	114.65	118.90
1	AA	2062	C	N3-C4-C5	7.08	124.73	121.90
1	CA	232	G	N1-C6-O6	7.08	124.15	119.90
1	AA	405	C	N3-C4-N4	7.08	122.95	118.00
1	AA	1369	U	N3-C4-O4	-7.08	114.45	119.40
1	CA	1781	C	C6-N1-C2	7.08	123.13	120.30
1	AA	2548	G	C8-N9-C4	7.08	109.23	106.40
1	AA	2738	A	C8-N9-C4	7.08	108.63	105.80
1	AA	69	G	N9-C4-C5	7.07	108.23	105.40
2	AB	112	U	O5'-P-OP1	-7.07	99.33	105.70
1	CA	1021	A	C4-C5-N7	7.07	114.24	110.70
5	AE	151	TYR	CB-CA-C	-7.07	96.26	110.40
1	AA	1694	G	O5'-P-OP1	-7.07	99.34	105.70
1	AA	2640	C	C6-N1-C2	7.07	123.13	120.30
1	CA	1963	U	N1-C2-O2	7.07	127.75	122.80
1	CA	2465	C	C2-N3-C4	-7.07	116.36	119.90
1	AA	2103	C	N3-C2-O2	-7.07	116.95	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	219	G	C6-C5-N7	-7.07	126.16	130.40
1	AA	549	U	N3-C2-O2	-7.07	117.25	122.20
1	AA	2523	U	C2-N3-C4	-7.07	122.76	127.00
1	AA	473	A	N1-C6-N6	-7.06	114.36	118.60
1	CA	942	G	C8-N9-C4	7.06	109.22	106.40
1	AA	1728	G	C5-N7-C8	-7.06	100.77	104.30
1	AA	2704	C	C6-N1-C2	7.06	123.12	120.30
1	CA	265	A	N7-C8-N9	7.06	117.33	113.80
1	AA	1355	G	C5-C6-N1	7.06	115.03	111.50
34	BA	345	C	N1-C2-O2	7.06	123.13	118.90
1	AA	2571	C	N1-C2-O2	7.05	123.13	118.90
1	AA	1330	A	OP1-P-OP2	7.05	130.18	119.60
1	CA	380	U	C5-C6-N1	7.05	126.23	122.70
1	AA	641	G	O5'-P-OP2	7.05	119.16	110.70
1	AA	2875	U	N3-C4-O4	7.05	124.33	119.40
1	CA	330	A	C4-C5-N7	7.05	114.22	110.70
1	CA	1812	A	OP1-P-OP2	7.05	130.18	119.60
1	AA	2521	G	C8-N9-C4	7.05	109.22	106.40
1	AA	2103	C	C2-N3-C4	-7.05	116.38	119.90
34	BA	890	G	C5-C6-O6	7.05	132.83	128.60
1	CA	987	G	C4-N9-C1'	-7.04	117.34	126.50
1	AA	597	C	N1-C2-O2	7.04	123.13	118.90
1	CA	1662	C	N3-C4-C5	7.04	124.72	121.90
1	AA	1356	G	O4'-C1'-N9	7.04	113.83	108.20
1	AA	2251	G	N1-C2-N2	-7.04	109.86	116.20
1	CA	528	A	C6-N1-C2	7.04	122.82	118.60
1	CA	1949	G	N3-C4-C5	-7.04	125.08	128.60
1	AA	194	G	C8-N9-C4	7.04	109.21	106.40
1	AA	2006	G	N1-C6-O6	-7.04	115.68	119.90
1	AA	2394	G	N3-C4-N9	7.04	130.22	126.00
2	CB	74	U	C5-C4-O4	7.04	130.12	125.90
1	AA	2336	C	C6-N1-C2	7.03	123.11	120.30
1	CA	2626	C	C6-N1-C2	7.03	123.11	120.30
1	AA	1344	C	C6-N1-C2	7.03	123.11	120.30
1	CA	2565	A	O5'-P-OP1	-7.03	99.37	105.70
1	AA	953	U	N3-C4-O4	7.03	124.32	119.40
1	AA	1516	A	C5-C6-N6	-7.03	118.08	123.70
1	AA	1848	G	O5'-P-OP2	-7.03	99.37	105.70
1	AA	744	C	C6-N1-C2	7.03	123.11	120.30
1	AA	2255	U	N3-C4-O4	7.03	124.32	119.40
1	CA	1189	A	N1-C6-N6	7.03	122.81	118.60
1	CA	2532	G	C5-C6-O6	-7.03	124.38	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	555	G	C5-C6-O6	7.02	132.81	128.60
1	CA	1992	G	N1-C6-O6	-7.02	115.69	119.90
1	AA	963	A	OP1-P-O3'	7.02	120.64	105.20
1	AA	809	U	N1-C2-O2	7.02	127.71	122.80
1	AA	2619	G	C6-N1-C2	-7.02	120.89	125.10
1	AA	434	G	C4-N9-C1'	7.01	135.62	126.50
1	AA	637	U	N3-C4-O4	-7.01	114.49	119.40
1	CA	2034	U	N3-C2-O2	-7.01	117.29	122.20
56	BW	47	U	N3-C2-O2	-7.01	117.30	122.20
1	AA	1249	A	C8-N9-C4	-7.01	103.00	105.80
1	AA	2227	G	C8-N9-C1'	7.01	136.11	127.00
1	AA	2774	G	C5-C6-N1	7.00	115.00	111.50
1	CA	2629	A	O4'-C1'-N9	7.00	113.80	108.20
1	AA	959	U	O5'-P-OP2	-7.00	99.40	105.70
1	AA	1731	C	N1-C2-O2	-7.00	114.70	118.90
1	AA	2249	G	O5'-P-OP1	-7.00	99.40	105.70
1	AA	1169	C	C5-C6-N1	-7.00	117.50	121.00
1	AA	2016	C	O5'-P-OP2	-7.00	99.40	105.70
1	AA	2092	G	C5-C6-N1	7.00	115.00	111.50
1	AA	554	A	N1-C2-N3	-7.00	125.80	129.30
1	AA	623	G	C5-N7-C8	-7.00	100.80	104.30
1	AA	964	A	N9-C4-C5	-7.00	103.00	105.80
1	AA	2502	G	C5-C6-O6	-7.00	124.40	128.60
1	CA	1437	C	C5-C6-N1	7.00	124.50	121.00
1	AA	593	G	C4-C5-N7	7.00	113.60	110.80
1	AA	1378	G	N7-C8-N9	7.00	116.60	113.10
1	CA	2069	G	N9-C4-C5	7.00	108.20	105.40
1	AA	121	G	O5'-P-OP2	-6.99	99.41	105.70
1	AA	1843	A	N1-C6-N6	-6.99	114.40	118.60
1	AA	2299	A	C6-C5-N7	-6.99	127.41	132.30
1	AA	2599	A	O5'-P-OP1	-6.99	99.41	105.70
1	AA	2616	U	N3-C4-C5	6.99	118.79	114.60
1	CA	1994	C	C5-C6-N1	-6.99	117.50	121.00
1	CA	2332	U	O5'-P-OP1	6.99	119.09	110.70
34	DA	913	A	P-O3'-C3'	6.99	128.09	119.70
1	AA	1076	G	C6-C5-N7	-6.99	126.21	130.40
1	AA	1700	G	P-O3'-C3'	6.99	128.09	119.70
1	AA	2778	A	N1-C6-N6	6.99	122.79	118.60
1	CA	1962	C	N1-C2-O2	-6.99	114.71	118.90
1	CA	2082	A	N9-C4-C5	6.99	108.60	105.80
1	AA	1242	G	N7-C8-N9	-6.99	109.61	113.10
1	AA	990	A	C4-N9-C1'	6.99	138.87	126.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	760	G	N1-C6-O6	6.99	124.09	119.90
1	AA	337	C	C6-N1-C2	6.98	123.09	120.30
1	AA	633	G	C8-N9-C4	6.98	109.19	106.40
1	AA	2092	G	N1-C6-O6	-6.98	115.71	119.90
1	CA	118	A	O5'-P-OP1	-6.98	99.42	105.70
1	AA	88	G	N3-C2-N2	-6.98	115.02	119.90
1	AA	2450	U	O5'-P-OP2	-6.98	99.42	105.70
1	AA	1166	G	C5-C6-O6	6.98	132.79	128.60
1	AA	2740	G	O5'-P-OP2	-6.98	99.42	105.70
1	AA	1177	G	C5-C6-O6	6.97	132.78	128.60
1	AA	2724	U	O4'-C1'-N1	6.97	113.78	108.20
1	AA	2876	U	O5'-P-OP2	-6.97	99.43	105.70
34	BA	1370	G	N1-C6-O6	6.97	124.08	119.90
1	AA	1171	G	C5-C6-O6	-6.97	124.42	128.60
1	CA	474	G	O5'-P-OP2	-6.97	99.43	105.70
1	AA	1478	C	C6-N1-C2	-6.96	117.51	120.30
1	AA	1420	G	OP1-P-OP2	-6.96	109.16	119.60
1	AA	1282	G	N3-C4-N9	6.96	130.18	126.00
1	AA	2115	G	C8-N9-C4	6.96	109.19	106.40
1	AA	2383	G	N1-C2-N3	-6.96	119.72	123.90
1	AA	1054	C	C2-N3-C4	-6.96	116.42	119.90
1	AA	2496	G	O5'-P-OP1	-6.96	99.44	105.70
1	AA	2504	U	N1-C2-O2	6.96	127.67	122.80
1	CA	2590	A	O5'-P-OP1	-6.96	99.44	105.70
1	AA	777	C	C5-C4-N4	-6.95	115.33	120.20
1	AA	2162	C	C6-N1-C2	-6.95	117.52	120.30
1	AA	491	G	C5-C6-O6	6.95	132.77	128.60
1	AA	1961	U	C5-C6-N1	6.95	126.18	122.70
1	AA	2354	C	N3-C4-N4	6.95	122.87	118.00
1	CA	330	A	C5-N7-C8	-6.95	100.42	103.90
1	AA	990	A	N9-C1'-C2'	6.95	123.03	114.00
1	AA	2316	G	N3-C4-N9	-6.94	121.83	126.00
1	AA	1703	C	C6-N1-C2	6.94	123.08	120.30
1	CA	1299	G	N1-C6-O6	-6.94	115.74	119.90
1	CA	2554	U	O5'-P-OP1	-6.94	99.45	105.70
1	AA	820	U	C5-C6-N1	-6.94	119.23	122.70
1	CA	2198	A	N7-C8-N9	-6.94	110.33	113.80
1	AA	2882	G	N9-C4-C5	6.94	108.17	105.40
1	CA	2395	C	C2-N3-C4	-6.94	116.43	119.90
2	CB	116	G	O5'-P-OP2	-6.94	99.46	105.70
1	AA	787	U	O5'-P-OP2	-6.94	99.46	105.70
1	AA	1397	C	O5'-P-OP1	6.94	119.02	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2383	G	N3-C4-C5	-6.94	125.13	128.60
1	AA	1249	A	C5-C6-N1	-6.93	114.23	117.70
1	AA	1285	G	C8-N9-C4	-6.93	103.63	106.40
1	CA	2572	A	N1-C2-N3	-6.93	125.83	129.30
1	AA	997	G	N3-C4-N9	-6.93	121.84	126.00
1	AA	2248	C	C6-N1-C2	6.93	123.07	120.30
1	AA	115	G	N3-C4-C5	-6.93	125.13	128.60
1	CA	127	A	O5'-P-OP2	-6.93	99.46	105.70
1	AA	1394	G	C5-C6-O6	-6.93	124.44	128.60
1	AA	2384	G	O5'-P-OP1	-6.93	99.46	105.70
1	AA	2608	U	O5'-P-OP1	-6.93	99.46	105.70
34	BA	1354	C	C6-N1-C2	-6.93	117.53	120.30
1	AA	1085	G	C8-N9-C4	6.93	109.17	106.40
1	AA	2542	A	C8-N9-C4	6.93	108.57	105.80
1	AA	2028	C	N3-C4-C5	6.93	124.67	121.90
1	CA	2498	C	C5-C6-N1	-6.93	117.54	121.00
1	AA	2519	C	C5-C6-N1	-6.92	117.54	121.00
1	CA	659	C	C6-N1-C2	6.92	123.07	120.30
1	AA	745	C	OP1-P-OP2	6.92	129.98	119.60
1	AA	1894	G	C8-N9-C4	6.92	109.17	106.40
1	AA	195	U	N3-C2-O2	-6.92	117.36	122.20
1	CA	133	C	C2-N3-C4	-6.92	116.44	119.90
1	AA	559	U	N3-C2-O2	-6.92	117.36	122.20
1	AA	790	G	N1-C6-O6	-6.92	115.75	119.90
34	BA	266	G	C5-N7-C8	-6.92	100.84	104.30
1	AA	2081	A	C8-N9-C4	6.92	108.57	105.80
1	AA	971	C	N3-C4-C5	6.91	124.67	121.90
1	AA	1050	C	N1-C2-O2	-6.91	114.75	118.90
1	AA	1373	C	N3-C2-O2	6.91	126.74	121.90
1	CA	740	U	C5-C4-O4	6.91	130.05	125.90
1	CA	808	G	N3-C4-N9	6.91	130.15	126.00
1	CA	2371	G	N1-C6-O6	-6.91	115.75	119.90
1	AA	1724	A	N1-C2-N3	6.91	132.76	129.30
34	DA	671	G	O5'-P-OP2	-6.91	99.48	105.70
1	AA	815	G	O5'-P-OP2	-6.91	99.48	105.70
1	AA	2377	G	O5'-P-OP2	-6.91	99.48	105.70
1	CA	915	C	N3-C2-O2	-6.91	117.06	121.90
1	CA	1422	G	O5'-P-OP1	-6.91	99.48	105.70
1	AA	2081	A	N1-C6-N6	6.90	122.74	118.60
1	AA	482	C	C6-N1-C2	6.90	123.06	120.30
1	AA	777	C	N1-C2-N3	6.90	124.03	119.20
1	AA	1216	G	N1-C6-O6	6.90	124.04	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	182	A	C5-C6-N6	-6.90	118.18	123.70
1	CA	1327	C	C5-C4-N4	6.90	125.03	120.20
1	CA	2831	G	N3-C4-C5	6.90	132.05	128.60
1	AA	110	U	O5'-P-OP1	-6.90	99.49	105.70
1	AA	2397	C	N1-C2-O2	-6.90	114.76	118.90
1	AA	1439	A	OP1-P-O3'	6.90	120.38	105.20
1	AA	2411	G	OP2-P-O3'	6.90	120.37	105.20
1	CA	265	A	C5-C6-N6	-6.90	118.18	123.70
1	CA	2685	G	C8-N9-C4	6.90	109.16	106.40
1	CA	2709	G	N3-C2-N2	6.90	124.73	119.90
1	AA	781	A	C8-N9-C4	-6.90	103.04	105.80
1	AA	1170	C	C5-C4-N4	-6.90	115.37	120.20
1	CA	1139	G	O5'-P-OP1	6.89	118.97	110.70
1	CA	706	A	C2-N3-C4	-6.89	107.15	110.60
34	DA	914	A	C8-N9-C4	6.89	108.56	105.80
2	AB	96	U	C5-C4-O4	6.89	130.03	125.90
56	BW	75	C	C5-C4-N4	-6.89	115.38	120.20
1	CA	1828	G	C5-C6-O6	6.89	132.73	128.60
1	CA	2256	G	C4-C5-N7	6.89	113.56	110.80
1	AA	40	C	C2-N3-C4	-6.89	116.46	119.90
1	AA	906	G	C8-N9-C4	6.89	109.16	106.40
1	AA	1411	A	C5-C6-N6	-6.89	118.19	123.70
1	CA	2258	C	C6-N1-C2	6.89	123.06	120.30
1	CA	530	G	C5-N7-C8	-6.88	100.86	104.30
34	DA	904	C	N3-C4-C5	6.88	124.65	121.90
1	AA	139	A	N3-C4-N9	-6.88	121.89	127.40
1	AA	557	A	C6-N1-C2	-6.88	114.47	118.60
1	AA	2876	U	N3-C2-O2	-6.88	117.38	122.20
34	BA	1418	A	N1-C6-N6	-6.88	114.47	118.60
1	CA	1385	G	O4'-C1'-N9	6.88	113.70	108.20
1	AA	1595	C	N1-C2-O2	6.88	123.03	118.90
1	AA	1371	G	C8-N9-C4	-6.88	103.65	106.40
1	AA	2722	C	O5'-P-OP1	-6.88	99.51	105.70
1	CA	2406	U	O4'-C1'-N1	-6.88	102.70	108.20
1	AA	1745	A	C4-C5-N7	6.88	114.14	110.70
34	BA	128	G	O5'-P-OP1	-6.88	99.51	105.70
34	BA	1502	A	O4'-C1'-N9	6.88	113.70	108.20
1	CA	2325	G	C5-N7-C8	-6.88	100.86	104.30
1	AA	1424	A	N1-C6-N6	6.87	122.72	118.60
1	AA	1743	G	O5'-P-OP2	-6.87	99.52	105.70
1	AA	2458	G	C8-N9-C4	-6.87	103.65	106.40
1	CA	2082	A	N3-C4-C5	-6.87	121.99	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	853	C	N3-C4-C5	6.87	124.65	121.90
1	AA	887	C	C5-C6-N1	-6.87	117.56	121.00
1	AA	1713	G	OP1-P-O3'	6.87	120.31	105.20
1	CA	2043	C	C6-N1-C2	-6.87	117.55	120.30
1	AA	37	C	C6-N1-C2	6.87	123.05	120.30
1	AA	793	A	O4'-C1'-N9	6.87	113.69	108.20
1	CA	1261	C	N3-C2-O2	6.87	126.70	121.90
1	AA	257	C	N3-C2-O2	-6.86	117.10	121.90
1	AA	991	G	C5-N7-C8	6.86	107.73	104.30
34	BA	900	A	O5'-P-OP2	6.86	118.93	110.70
34	BA	1067	A	P-O3'-C3'	6.86	127.93	119.70
1	CA	1937	A	O4'-C1'-N9	6.86	113.69	108.20
1	AA	1435	G	N1-C6-O6	-6.86	115.79	119.90
1	CA	2060	A	C6-C5-N7	-6.86	127.50	132.30
1	AA	1951	G	C5-C6-O6	6.85	132.71	128.60
1	AA	2826	C	N3-C4-N4	-6.85	113.20	118.00
1	AA	1952	G	O5'-P-OP2	-6.85	99.53	105.70
1	AA	2408	G	C5-C6-O6	6.85	132.71	128.60
34	BA	852	G	C8-N9-C4	6.85	109.14	106.40
1	CA	528	A	C5-N7-C8	-6.85	100.47	103.90
1	AA	1298	G	N3-C2-N2	-6.85	115.11	119.90
1	AA	1681	A	N9-C4-C5	6.85	108.54	105.80
1	AA	2295	C	C5-C6-N1	-6.85	117.58	121.00
1	AA	484	G	C4-C5-N7	6.85	113.54	110.80
1	AA	1685	C	O5'-P-OP1	-6.85	99.54	105.70
1	AA	858	U	N3-C4-O4	-6.84	114.61	119.40
1	AA	2357	G	C8-N9-C1'	-6.84	118.10	127.00
34	BA	671	G	N1-C6-O6	-6.84	115.80	119.90
1	CA	672	C	C6-N1-C2	6.84	123.04	120.30
1	CA	2196	C	O5'-P-OP2	-6.84	99.54	105.70
1	AA	1321	A	C5-N7-C8	6.84	107.32	103.90
1	AA	1811	A	O5'-P-OP2	-6.84	99.54	105.70
1	AA	1312	G	C2-N3-C4	6.84	115.32	111.90
1	AA	1151	U	OP1-P-OP2	6.84	129.85	119.60
1	AA	1186	U	C2-N3-C4	-6.83	122.90	127.00
34	BA	799	G	N1-C6-O6	-6.83	115.80	119.90
1	CA	1368	G	N3-C4-C5	-6.83	125.18	128.60
1	AA	1418	U	C5-C4-O4	-6.83	121.80	125.90
1	AA	954	C	C2-N3-C4	-6.83	116.48	119.90
34	BA	913	A	P-O3'-C3'	6.83	127.90	119.70
1	CA	2541	A	C5-C6-N1	6.83	121.12	117.70
1	AA	839	G	C5-N7-C8	-6.83	100.89	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	640	A	C8-N9-C4	6.83	108.53	105.80
1	AA	2262	G	C6-N1-C2	6.83	129.20	125.10
1	AA	2470	G	N1-C6-O6	-6.83	115.80	119.90
34	BA	816	A	O5'-P-OP1	6.83	118.89	110.70
1	CA	1233	C	N3-C4-N4	6.83	122.78	118.00
1	AA	2539	C	C6-N1-C2	6.83	123.03	120.30
34	BA	107	G	N1-C6-O6	6.83	124.00	119.90
1	AA	129	G	O5'-P-OP2	-6.83	99.56	105.70
1	AA	876	A	C5-N7-C8	-6.83	100.49	103.90
1	AA	1369	U	N3-C4-C5	6.83	118.69	114.60
1	AA	1958	A	O4'-C1'-N9	6.83	113.66	108.20
1	CA	313	C	C6-N1-C2	6.83	123.03	120.30
1	AA	989	G	C4-C5-N7	6.82	113.53	110.80
1	AA	2282	G	OP1-P-OP2	-6.82	109.37	119.60
1	AA	1188	A	N9-C4-C5	6.82	108.53	105.80
2	AB	84	C	OP2-P-O3'	6.82	120.20	105.20
1	CA	2876	G	N1-C6-O6	6.82	123.99	119.90
1	AA	1273	G	N7-C8-N9	-6.82	109.69	113.10
1	AA	1284	G	N3-C2-N2	-6.82	115.13	119.90
1	AA	2039	U	O5'-P-OP1	-6.82	99.57	105.70
1	CA	2320	A	C2-N3-C4	6.82	114.01	110.60
2	CB	116	G	C8-N9-C4	6.82	109.13	106.40
1	AA	2242	G	C5-C6-N1	6.81	114.91	111.50
34	BA	586	C	C4-C5-C6	6.81	120.81	117.40
1	AA	2713	C	C2-N3-C4	-6.81	116.50	119.90
1	CA	2763	G	N1-C6-O6	-6.81	115.81	119.90
1	AA	1977	U	C6-N1-C2	6.81	125.08	121.00
1	AA	2298	A	C4-C5-N7	6.81	114.10	110.70
1	AA	902	G	C5-C6-O6	6.80	132.68	128.60
1	AA	1669	G	N3-C4-C5	-6.80	125.20	128.60
1	CA	265	A	C2-N3-C4	-6.80	107.20	110.60
1	CA	772	C	C4-C5-C6	6.80	120.80	117.40
1	AA	481	C	C4-C5-C6	6.80	120.80	117.40
34	BA	589	C	C6-N1-C2	-6.80	117.58	120.30
1	CA	2552	U	N3-C2-O2	6.80	126.96	122.20
34	DA	271	C	C6-N1-C2	-6.80	117.58	120.30
1	AA	1069	U	O5'-P-OP2	-6.80	99.58	105.70
56	BW	47	U	N1-C2-O2	6.80	127.56	122.80
1	CA	2846	G	N7-C8-N9	-6.80	109.70	113.10
34	DA	1484	C	C6-N1-C2	6.80	123.02	120.30
1	CA	635	C	C6-N1-C2	-6.80	117.58	120.30
1	AA	2472	U	N3-C4-O4	-6.79	114.64	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1404	C	C5-C4-N4	6.79	124.96	120.20
1	AA	1505	C	C5-C6-N1	-6.79	117.60	121.00
56	BW	34	G	C4-N9-C1'	6.79	135.33	126.50
1	CA	1617	C	N1-C2-O2	-6.79	114.83	118.90
1	AA	1807	G	N9-C4-C5	-6.79	102.68	105.40
1	CA	47	C	O5'-P-OP2	-6.79	99.59	105.70
1	AA	1952	G	C5-C6-O6	6.79	132.67	128.60
1	CA	939	G	N3-C2-N2	-6.79	115.15	119.90
1	AA	1657	C	N1-C2-N3	6.79	123.95	119.20
1	AA	2840	G	C5-C6-N1	-6.79	108.11	111.50
1	CA	90	U	N3-C2-O2	-6.79	117.45	122.20
1	AA	2280	A	OP1-P-OP2	-6.78	109.42	119.60
1	CA	790	C	C5-C4-N4	-6.78	115.45	120.20
1	AA	69	G	C6-C5-N7	6.78	134.47	130.40
1	CA	1309	G	OP1-P-OP2	-6.78	109.43	119.60
1	CA	2394	C	C5-C4-N4	6.78	124.95	120.20
1	AA	55	A	O5'-P-OP1	-6.78	99.60	105.70
1	CA	2001	A	N1-C6-N6	-6.78	114.53	118.60
1	AA	958	C	C6-N1-C2	-6.78	117.59	120.30
1	AA	1668	G	C6-N1-C2	-6.78	121.03	125.10
1	AA	2876	U	C4-C5-C6	6.78	123.77	119.70
1	CA	1204	A	C4-C5-N7	6.78	114.09	110.70
1	CA	1698	A	N1-C2-N3	6.78	132.69	129.30
1	AA	1000	C	C5-C4-N4	6.77	124.94	120.20
1	AA	2607	G	N3-C2-N2	6.77	124.64	119.90
1	AA	433	G	O5'-P-OP2	6.77	118.83	110.70
1	AA	1298	G	C6-N1-C2	-6.77	121.04	125.10
1	AA	1474	C	C5-C6-N1	-6.77	117.61	121.00
1	CA	1779	U	C2-N3-C4	-6.77	122.94	127.00
1	CA	647	G	C6-C5-N7	-6.77	126.34	130.40
1	CA	1373	A	C8-N9-C4	6.77	108.51	105.80
34	DA	1500	A	C5-C6-N1	-6.77	114.31	117.70
1	AA	2247	G	C2-N3-C4	-6.77	108.52	111.90
1	CA	494	G	N1-C6-O6	6.77	123.96	119.90
1	AA	1058	U	N1-C2-N3	6.77	118.96	114.90
1	CA	954	G	N3-C4-C5	-6.77	125.22	128.60
1	CA	1326	U	N1-C2-N3	-6.77	110.84	114.90
1	CA	2074	U	C5-C4-O4	-6.77	121.84	125.90
34	DA	687	A	P-O3'-C3'	6.77	127.82	119.70
1	AA	1971	G	N3-C2-N2	-6.76	115.17	119.90
1	AA	2388	A	O5'-P-OP1	-6.76	99.61	105.70
1	AA	2897	U	C5-C4-O4	-6.76	121.84	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1821	C	OP1-P-O3'	6.76	120.08	105.20
1	AA	1971	G	C5-C6-N1	-6.76	108.12	111.50
34	BA	687	A	P-O3'-C3'	6.76	127.82	119.70
1	AA	820	U	C2-N3-C4	-6.76	122.94	127.00
1	AA	1379	C	C4-C5-C6	-6.76	114.02	117.40
1	AA	1409	C	C5-C6-N1	-6.76	117.62	121.00
1	AA	1423	G	N1-C6-O6	-6.76	115.84	119.90
34	BA	284	G	N1-C6-O6	-6.76	115.84	119.90
34	BA	1416	G	C8-N9-C4	-6.76	103.70	106.40
1	CA	2701	C	O5'-P-OP1	-6.76	99.62	105.70
1	AA	906	G	C4-N9-C1'	-6.75	117.72	126.50
1	AA	145	G	N1-C2-N2	-6.75	110.12	116.20
1	AA	1790	A	N3-C4-N9	6.75	132.80	127.40
1	AA	2234	G	N1-C6-O6	-6.75	115.85	119.90
56	BW	17	C	C6-N1-C1'	-6.75	112.70	120.80
1	CA	190	A	C8-N9-C4	6.75	108.50	105.80
1	AA	202	A	OP2-P-O3'	6.75	120.05	105.20
1	AA	705	C	N1-C2-N3	6.75	123.92	119.20
1	AA	1679	A	N1-C2-N3	6.75	132.68	129.30
1	AA	2030	C	C4-C5-C6	6.75	120.78	117.40
1	CA	834	C	C6-N1-C2	-6.75	117.60	120.30
1	AA	150	C	C4-C5-C6	6.75	120.77	117.40
1	AA	402	C	C2-N3-C4	-6.75	116.53	119.90
1	AA	1302	G	N7-C8-N9	-6.75	109.73	113.10
1	AA	868	A	N9-C4-C5	6.74	108.50	105.80
1	CA	141	A	N1-C6-N6	6.74	122.65	118.60
1	CA	151	C	C6-N1-C2	6.74	123.00	120.30
1	CA	516	C	N3-C4-C5	6.74	124.60	121.90
1	AA	876	A	N7-C8-N9	6.74	117.17	113.80
1	AA	1360	C	C2-N1-C1'	6.74	126.22	118.80
1	AA	1786	A	C8-N9-C4	-6.74	103.10	105.80
1	CA	2490	G	N9-C4-C5	-6.74	102.70	105.40
1	AA	2084	A	OP2-P-O3'	6.74	120.03	105.20
34	BA	782	A	C2-N3-C4	-6.74	107.23	110.60
1	CA	263	C	N1-C2-O2	6.74	122.94	118.90
1	AA	1438	A	N1-C2-N3	-6.74	125.93	129.30
1	CA	2276	G	O5'-P-OP1	-6.74	99.64	105.70
34	BA	1526	G	C5-C6-O6	-6.74	124.56	128.60
1	CA	1036	G	O5'-P-OP1	6.74	118.78	110.70
1	AA	2660	C	N1-C2-O2	-6.74	114.86	118.90
6	AF	74	ARG	NE-CZ-NH1	6.73	123.67	120.30
34	BA	365	U	C2-N1-C1'	-6.73	109.62	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	222	A	N7-C8-N9	-6.73	110.44	113.80
1	AA	228	U	N3-C4-O4	-6.73	114.69	119.40
1	AA	2312	G	N3-C2-N2	-6.73	115.19	119.90
56	BW	73	A	N1-C6-N6	6.73	122.64	118.60
2	AB	98	G	C5-C6-O6	-6.73	124.56	128.60
1	AA	251	A	C6-N1-C2	-6.73	114.56	118.60
1	AA	2504	U	N3-C2-O2	-6.73	117.49	122.20
1	CA	2235	G	C5-C6-O6	-6.73	124.56	128.60
1	AA	1248	G	C5-C6-O6	-6.73	124.56	128.60
1	AA	1455	C	OP1-P-O3'	-6.73	90.40	105.20
1	AA	2674	A	C8-N9-C4	-6.73	103.11	105.80
1	AA	1805	C	N1-C2-O2	-6.72	114.86	118.90
1	AA	1738	C	O5'-P-OP1	-6.72	99.65	105.70
1	AA	42	G	C6-N1-C2	-6.72	121.07	125.10
1	AA	738	C	C2-N3-C4	-6.72	116.54	119.90
1	AA	2299	A	N7-C8-N9	6.72	117.16	113.80
2	AB	92	C	C6-N1-C2	-6.72	117.61	120.30
1	AA	1003	U	C2-N3-C4	6.72	131.03	127.00
1	CA	2422	A	O5'-P-OP2	-6.72	99.65	105.70
1	CA	2327	A	C5-C6-N6	6.72	129.07	123.70
1	AA	1237	G	O5'-P-OP1	6.71	118.76	110.70
1	AA	2268	G	C8-N9-C4	6.71	109.09	106.40
1	CA	2082	A	N7-C8-N9	6.71	117.16	113.80
1	AA	132	C	C6-N1-C2	-6.71	117.61	120.30
1	AA	1561	C	C5-C6-N1	-6.71	117.64	121.00
1	AA	2065	C	C5-C6-N1	-6.71	117.64	121.00
1	CA	1388	G	C4-C5-N7	-6.71	108.11	110.80
34	DA	104	G	C5-C6-N1	-6.71	108.14	111.50
1	AA	1802	C	N1-C2-N3	6.71	123.90	119.20
1	AA	2079	A	N7-C8-N9	-6.71	110.44	113.80
34	DA	365	U	C2-N1-C1'	-6.71	109.65	117.70
1	CA	744	G	O5'-P-OP2	-6.71	99.67	105.70
1	CA	752	A	OP1-P-O3'	6.71	119.95	105.20
1	AA	2879	G	C4-C5-N7	-6.71	108.12	110.80
34	BA	332	G	O5'-P-OP1	-6.71	99.67	105.70
1	AA	674	G	N1-C6-O6	-6.70	115.88	119.90
1	AA	1287	A	C8-N9-C4	6.70	108.48	105.80
1	AA	2803	A	C3'-C2'-C1'	-6.70	96.14	101.50
1	AA	502	G	O5'-P-OP2	-6.70	99.67	105.70
2	AB	108	U	C6-N1-C2	6.70	125.02	121.00
1	AA	586	G	N1-C6-O6	6.70	123.92	119.90
1	AA	1202	A	C6-C5-N7	-6.70	127.61	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2073	A	N9-C4-C5	6.70	108.48	105.80
1	AA	2351	G	C4-C5-C6	6.70	122.82	118.80
1	AA	2461	U	N3-C2-O2	6.70	126.89	122.20
1	CA	1813	G	O5'-P-OP1	-6.70	99.67	105.70
1	AA	967	G	C2-N3-C4	6.70	115.25	111.90
1	AA	2535	G	N1-C6-O6	-6.70	115.88	119.90
1	CA	315	G	N1-C6-O6	-6.70	115.88	119.90
1	CA	2730	C	C6-N1-C2	-6.70	117.62	120.30
1	AA	2579	G	N1-C6-O6	-6.69	115.88	119.90
1	CA	1306	C	C6-N1-C2	6.69	122.98	120.30
1	AA	2571	C	N3-C2-O2	-6.69	117.22	121.90
1	AA	60	G	N3-C4-C5	6.69	131.94	128.60
1	AA	704	U	O5'-P-OP2	-6.69	99.68	105.70
1	AA	813	C	C2-N3-C4	-6.69	116.56	119.90
1	AA	1188	A	N7-C8-N9	6.69	117.15	113.80
1	CA	856	C	C6-N1-C2	-6.69	117.62	120.30
1	AA	2555	G	OP1-P-OP2	-6.69	109.57	119.60
4	AD	60	ARG	NE-CZ-NH1	-6.69	116.96	120.30
1	CA	671	C	N1-C2-O2	-6.69	114.89	118.90
1	CA	1644	C	N1-C2-O2	6.69	122.91	118.90
1	CA	2601	C	C6-N1-C2	-6.69	117.62	120.30
1	AA	2271	G	OP1-P-OP2	-6.69	109.57	119.60
1	AA	402	C	N3-C2-O2	-6.68	117.22	121.90
1	AA	1081	U	C5-C6-N1	-6.68	119.36	122.70
2	AB	71	C	C2-N3-C4	-6.68	116.56	119.90
1	CA	339	U	N1-C2-O2	-6.68	118.12	122.80
34	BA	1495	U	N1-C2-O2	6.68	127.48	122.80
1	CA	1698	A	N1-C6-N6	6.68	122.61	118.60
1	AA	2331	G	C4-C5-N7	6.68	113.47	110.80
1	CA	2525	G	C8-N9-C4	6.68	109.07	106.40
1	AA	399	G	O4'-C1'-N9	6.68	113.54	108.20
2	AB	101	G	N1-C2-N2	-6.68	110.19	116.20
1	CA	1217	C	C6-N1-C2	-6.68	117.63	120.30
1	AA	1443	U	C5-C6-N1	-6.68	119.36	122.70
1	AA	1455	C	OP2-P-O3'	6.68	119.89	105.20
1	AA	2494	G	C5-C6-O6	-6.68	124.59	128.60
1	AA	2576	A	N1-C6-N6	-6.68	114.59	118.60
1	CA	2050	C	N3-C4-C5	6.68	124.57	121.90
1	CA	2567	G	OP1-P-OP2	6.68	129.62	119.60
1	AA	1405	A	N1-C2-N3	-6.67	125.96	129.30
34	BA	253	U	OP2-P-O3'	6.67	119.89	105.20
34	BA	1502	A	N1-C2-N3	6.67	132.64	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2581	G	O4'-C1'-N9	6.67	113.54	108.20
1	AA	1514	C	O5'-P-OP2	6.67	118.71	110.70
1	CA	967	C	O5'-P-OP2	-6.67	99.70	105.70
1	AA	2053	A	C5-C6-N6	-6.67	118.36	123.70
1	CA	2072	G	N1-C6-O6	-6.67	115.90	119.90
1	CA	2583	G	N1-C6-O6	-6.67	115.90	119.90
1	AA	778	C	C2-N3-C4	-6.67	116.56	119.90
1	AA	1290	G	N1-C2-N2	-6.67	110.20	116.20
1	AA	1298	G	C2-N3-C4	6.67	115.23	111.90
1	AA	152	G	C8-N9-C4	-6.67	103.73	106.40
1	AA	1068	G	OP2-P-O3'	6.67	119.87	105.20
1	AA	2431	U	OP1-P-O3'	6.67	119.87	105.20
1	AA	2705	A	C5-C6-N1	6.67	121.03	117.70
1	AA	602	G	C4-C5-N7	-6.67	108.13	110.80
1	AA	2081	A	N7-C8-N9	-6.66	110.47	113.80
1	AA	2561	G	OP2-P-O3'	6.66	119.86	105.20
1	CA	329	G	C5-C6-N1	6.66	114.83	111.50
1	CA	340	A	C8-N9-C4	6.66	108.47	105.80
1	CA	2457	U	N3-C2-O2	-6.66	117.53	122.20
1	AA	1164	C	C6-N1-C2	6.66	122.97	120.30
1	AA	2388	A	N7-C8-N9	-6.66	110.47	113.80
1	AA	623	G	N3-C2-N2	6.66	124.56	119.90
34	BA	582	U	C5-C6-N1	-6.66	119.37	122.70
1	AA	201	G	C8-N9-C4	6.66	109.06	106.40
1	AA	2332	A	C5-C6-N6	-6.66	118.37	123.70
1	AA	2459	G	C8-N9-C4	6.66	109.06	106.40
1	AA	458	U	N3-C2-O2	-6.66	117.54	122.20
1	AA	1805	C	N1-C2-N3	6.66	123.86	119.20
1	CA	1779	U	C5-C4-O4	-6.66	121.91	125.90
1	AA	30	G	C8-N9-C4	6.65	109.06	106.40
1	AA	344	A	O5'-P-OP2	-6.65	99.72	105.70
1	AA	2053	A	C6-N1-C2	-6.65	114.61	118.60
1	AA	2527	C	C2-N1-C1'	-6.65	111.49	118.80
1	AA	1334	U	C4-C5-C6	6.65	123.69	119.70
1	AA	2657	G	C5-N7-C8	-6.65	100.98	104.30
34	BA	560	U	C2-N1-C1'	6.65	125.68	117.70
34	BA	1416	G	N9-C4-C5	6.65	108.06	105.40
1	CA	116	C	C6-N1-C2	-6.65	117.64	120.30
34	DA	1500	A	C2-N3-C4	-6.65	107.28	110.60
1	AA	720	C	O5'-P-OP2	-6.65	99.72	105.70
1	AA	2732	G	C5-N7-C8	-6.65	100.98	104.30
1	AA	1470	G	C5-C6-O6	6.64	132.59	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1287	A	N7-C8-N9	6.64	117.12	113.80
34	DA	576	G	N3-C2-N2	6.64	124.55	119.90
34	DA	900	A	O5'-P-OP2	6.64	118.67	110.70
1	AA	1793	A	N9-C4-C5	6.64	108.46	105.80
1	AA	2101	U	O5'-P-OP1	-6.64	99.72	105.70
1	AA	1241	C	C2-N3-C4	-6.64	116.58	119.90
1	AA	2406	C	C6-N1-C2	-6.64	117.64	120.30
1	AA	831	A	C8-N9-C4	6.64	108.45	105.80
1	AA	2062	C	C5-C4-N4	-6.64	115.55	120.20
1	AA	2641	A	C4-N9-C1'	6.64	138.25	126.30
1	AA	586	G	C4-C5-N7	6.63	113.45	110.80
1	AA	1445	C	N3-C4-C5	-6.63	119.25	121.90
1	AA	1882	U	C5-C6-N1	-6.63	119.38	122.70
1	AA	2698	G	N3-C2-N2	6.63	124.54	119.90
56	BW	26	A	C8-N9-C4	6.63	108.45	105.80
1	CA	1388	G	N1-C6-O6	-6.63	115.92	119.90
34	DA	905	U	O5'-P-OP1	-6.63	99.73	105.70
1	AA	1745	A	C6-C5-N7	-6.63	127.66	132.30
1	AA	748	G	N3-C2-N2	6.63	124.54	119.90
1	AA	2833	A	OP1-P-O3'	6.63	119.78	105.20
4	AD	229	VAL	CB-CA-C	-6.63	98.81	111.40
2	AB	41	U	C2-N3-C4	-6.63	123.02	127.00
34	BA	1508	G	N9-C4-C5	6.62	108.05	105.40
34	DA	1338	G	N3-C4-C5	-6.62	125.29	128.60
1	AA	2246	G	C5-C6-O6	6.62	132.57	128.60
2	AB	58	A	O5'-P-OP2	-6.62	99.74	105.70
34	BA	917	G	N3-C2-N2	-6.62	115.26	119.90
1	CA	2537	U	O5'-P-OP1	-6.62	99.74	105.70
1	CA	1921	G	C8-N9-C4	6.62	109.05	106.40
1	CA	2442	C	C4-C5-C6	6.62	120.71	117.40
1	AA	1055	A	N1-C2-N3	-6.62	125.99	129.30
1	AA	1518	A	OP1-P-OP2	-6.62	109.67	119.60
1	AA	2448	G	C5-C6-O6	6.62	132.57	128.60
1	AA	434	G	N9-C4-C5	-6.62	102.75	105.40
1	AA	2671	G	C4-C5-N7	-6.62	108.15	110.80
1	AA	714	U	C2-N3-C4	-6.62	123.03	127.00
1	AA	180	A	C6-N1-C2	6.61	122.57	118.60
1	AA	1801	G	C4-C5-N7	-6.61	108.15	110.80
1	AA	2357	G	C6-C5-N7	-6.61	126.43	130.40
34	BA	671	G	C5-C6-O6	6.61	132.57	128.60
1	CA	412	A	C8-N9-C4	6.61	108.45	105.80
1	CA	1614	A	O5'-P-OP1	-6.61	99.75	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	13	A	N9-C4-C5	6.61	108.44	105.80
1	AA	2646	G	C5-C6-O6	-6.61	124.63	128.60
1	AA	2740	G	C5-C6-O6	6.61	132.57	128.60
1	AA	2776	G	N1-C6-O6	6.61	123.86	119.90
1	CA	2490	G	C8-N9-C4	6.61	109.04	106.40
34	DA	555	C	O5'-P-OP1	-6.61	99.75	105.70
1	AA	1054	C	N1-C2-O2	-6.61	114.94	118.90
1	AA	2776	G	C5-C6-O6	-6.61	124.64	128.60
1	AA	2842	U	C5-C6-N1	-6.60	119.40	122.70
1	AA	2450	U	N3-C2-O2	6.60	126.82	122.20
34	BA	811	C	N3-C4-C5	6.60	124.54	121.90
34	BA	1508	G	C8-N9-C4	-6.60	103.76	106.40
1	AA	1405	A	C8-N9-C4	6.60	108.44	105.80
1	AA	1431	G	O4'-C1'-N9	6.60	113.48	108.20
1	CA	1857	G	N9-C4-C5	-6.60	102.76	105.40
1	CA	915	C	C6-N1-C2	-6.60	117.66	120.30
1	AA	134	G	C5-C6-N1	-6.59	108.20	111.50
1	AA	873	U	N3-C2-O2	-6.59	117.58	122.20
1	AA	1052	C	C2-N1-C1'	-6.59	111.55	118.80
1	AA	2282	G	N3-C2-N2	-6.59	115.28	119.90
1	CA	1204	A	C2-N3-C4	-6.59	107.30	110.60
1	AA	637	U	C6-N1-C2	-6.59	117.04	121.00
1	AA	2583	C	C6-N1-C2	6.59	122.94	120.30
1	AA	2577	A	C8-N9-C4	6.59	108.44	105.80
1	CA	470	A	O5'-P-OP1	-6.59	99.77	105.70
1	CA	965	C	N3-C2-O2	-6.59	117.29	121.90
1	CA	1838	C	O4'-C1'-N1	6.59	113.47	108.20
1	CA	2444	G	C2-N3-C4	-6.59	108.60	111.90
1	AA	126	C	O5'-P-OP2	-6.59	99.77	105.70
1	AA	1710	C	N3-C4-N4	6.59	122.61	118.00
1	AA	2600	G	N9-C4-C5	-6.59	102.76	105.40
1	CA	2547	U	C2-N3-C4	-6.59	123.05	127.00
1	CA	1622	G	N1-C2-N2	6.59	122.13	116.20
1	AA	1670	G	C8-N9-C4	6.59	109.03	106.40
34	BA	576	G	C4-N9-C1'	6.59	135.06	126.50
1	CA	444	C	OP2-P-O3'	6.58	119.69	105.20
1	AA	1202	A	C4-C5-N7	6.58	113.99	110.70
1	CA	217	G	N9-C4-C5	-6.58	102.77	105.40
34	DA	754	C	N3-C2-O2	-6.58	117.29	121.90
1	AA	839	G	C4-C5-N7	6.58	113.43	110.80
1	AA	318	A	OP1-P-OP2	-6.58	109.73	119.60
1	AA	2443	U	C5-C6-N1	-6.58	119.41	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2459	G	O5'-P-OP2	-6.58	99.78	105.70
56	BW	73	A	C5-N7-C8	-6.58	100.61	103.90
1	AA	2730	G	N3-C4-C5	-6.58	125.31	128.60
1	AA	2593	G	OP1-P-O3'	6.58	119.67	105.20
1	AA	2733	U	C2-N3-C4	-6.57	123.06	127.00
17	AT	118	ARG	NE-CZ-NH2	-6.57	117.01	120.30
1	CA	1558	A	O4'-C1'-N9	6.57	113.46	108.20
1	AA	437	G	N1-C6-O6	6.57	123.84	119.90
1	AA	1282	G	N3-C2-N2	6.57	124.50	119.90
1	CA	1828	G	C4-C5-N7	-6.57	108.17	110.80
1	CA	2036	C	N1-C2-O2	-6.57	114.96	118.90
1	CA	2374	C	C6-N1-C2	6.57	122.93	120.30
1	AA	948	C	O5'-P-OP1	-6.57	99.79	105.70
1	AA	2757	G	N1-C6-O6	-6.57	115.96	119.90
1	AA	2828	G	O5'-P-OP1	-6.57	99.79	105.70
1	CA	2765	A	O5'-P-OP1	-6.57	99.79	105.70
1	AA	1260	G	N9-C4-C5	6.56	108.03	105.40
1	AA	2559	U	N3-C2-O2	-6.56	117.61	122.20
1	CA	1954	G	N1-C6-O6	6.56	123.84	119.90
1	AA	1185	C	O5'-P-OP2	-6.56	99.80	105.70
1	CA	2550	G	C2-N3-C4	-6.56	108.62	111.90
34	DA	1075	C	C6-N1-C2	6.56	122.92	120.30
1	AA	115	G	N1-C2-N3	6.56	127.83	123.90
1	CA	372	G	O5'-P-OP2	-6.56	99.80	105.70
1	CA	939	G	N1-C2-N2	6.56	122.10	116.20
1	AA	49	U	N3-C2-O2	-6.55	117.61	122.20
1	AA	354	A	C6-N1-C2	6.55	122.53	118.60
1	AA	1438	A	C4-C5-C6	-6.55	113.72	117.00
1	CA	13	A	N1-C6-N6	-6.55	114.67	118.60
1	CA	1234	U	N3-C2-O2	-6.55	117.61	122.20
1	AA	1435	G	C6-N1-C2	-6.55	121.17	125.10
1	AA	1032	C	N1-C2-O2	-6.55	114.97	118.90
34	BA	336	C	C6-N1-C2	6.55	122.92	120.30
1	CA	69	C	N1-C2-O2	-6.55	114.97	118.90
34	DA	1486	G	C8-N9-C4	6.55	109.02	106.40
1	AA	1233	U	OP2-P-O3'	6.55	119.61	105.20
2	AB	103	G	N1-C6-O6	6.55	123.83	119.90
2	AB	49	C	N1-C2-O2	-6.55	114.97	118.90
1	CA	2367	G	N1-C6-O6	6.55	123.83	119.90
1	CA	2575	C	C5-C6-N1	-6.55	117.73	121.00
1	AA	125	A	N9-C4-C5	-6.54	103.18	105.80
1	AA	725	C	C2-N1-C1'	-6.54	111.60	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2741	A	N7-C8-N9	-6.54	110.53	113.80
1	AA	204	G	C2-N3-C4	-6.54	108.63	111.90
1	AA	2357	G	N3-C4-N9	6.54	129.93	126.00
1	CA	1620	G	O5'-P-OP2	6.54	118.55	110.70
1	CA	2567	G	O5'-P-OP2	-6.54	99.82	105.70
1	CA	2723	C	N1-C2-O2	6.54	122.82	118.90
1	AA	2365	G	C8-N9-C4	-6.54	103.79	106.40
1	CA	965	C	N1-C2-O2	6.54	122.82	118.90
1	CA	1261	C	C5-C4-N4	-6.54	115.63	120.20
1	CA	2566	A	OP1-P-OP2	6.54	129.40	119.60
1	AA	347	G	N1-C6-O6	6.53	123.82	119.90
1	AA	616	G	C5-C6-O6	6.53	132.52	128.60
1	AA	1269	G	N7-C8-N9	-6.53	109.83	113.10
1	AA	2418	U	C5-C4-O4	-6.53	121.98	125.90
1	AA	521	G	C2-N3-C4	-6.53	108.63	111.90
1	AA	1821	C	C6-N1-C2	6.53	122.91	120.30
1	AA	178	G	N1-C6-O6	6.53	123.82	119.90
1	AA	1273	G	C6-N1-C2	-6.53	121.18	125.10
1	AA	420	C	N1-C2-O2	-6.53	114.98	118.90
1	AA	1783	C	N3-C2-O2	6.53	126.47	121.90
1	AA	2101	U	N1-C2-N3	6.53	118.82	114.90
34	BA	1524	C	N1-C2-O2	-6.53	114.98	118.90
1	CA	987	G	C8-N9-C1'	6.53	135.49	127.00
1	CA	2855	C	C6-N1-C2	-6.53	117.69	120.30
1	AA	568	C	C6-N1-C2	6.53	122.91	120.30
1	AA	1216	G	C4-C5-N7	6.52	113.41	110.80
34	BA	1103	C	C5-C6-N1	6.52	124.26	121.00
34	DA	449	C	N1-C2-O2	6.52	122.81	118.90
1	AA	238	C	C6-N1-C2	6.52	122.91	120.30
1	AA	1742	G	N1-C6-O6	6.52	123.81	119.90
1	AA	84	G	C6-C5-N7	-6.52	126.49	130.40
1	AA	145	G	N1-C2-N3	6.52	127.81	123.90
1	AA	774	A	N7-C8-N9	-6.52	110.54	113.80
1	AA	875	U	N3-C2-O2	-6.52	117.64	122.20
1	AA	1343	C	OP1-P-O3'	6.52	119.54	105.20
1	AA	1851	U	C2-N3-C4	-6.52	123.09	127.00
34	BA	827	U	N3-C2-O2	-6.52	117.64	122.20
1	CA	1261	C	N3-C4-C5	6.52	124.51	121.90
1	AA	2320	G	C5-N7-C8	-6.51	101.04	104.30
1	AA	2393	C	C5-C6-N1	-6.51	117.74	121.00
1	AA	2643	G	N9-C4-C5	6.51	108.01	105.40
1	CA	945	A	N1-C2-N3	6.51	132.56	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	BA	266	G	C8-N9-C4	-6.51	103.80	106.40
1	AA	2552	C	N1-C2-O2	6.51	122.81	118.90
1	AA	2718	G	N1-C6-O6	-6.51	115.99	119.90
34	BA	19	C	C6-N1-C2	-6.51	117.70	120.30
1	CA	1744	C	C6-N1-C2	6.51	122.91	120.30
1	AA	555	G	C8-N9-C1'	6.51	135.46	127.00
1	AA	1024	G	C5-C6-O6	6.51	132.51	128.60
1	AA	1355	G	C6-N1-C2	-6.51	121.19	125.10
1	AA	1965	U	C2-N3-C4	-6.51	123.09	127.00
1	AA	2797	C	C2-N3-C4	-6.51	116.64	119.90
34	BA	562	C	C5-C4-N4	-6.51	115.64	120.20
1	AA	1355	G	N3-C4-C5	-6.51	125.35	128.60
1	AA	1441	A	C8-N9-C4	6.51	108.40	105.80
1	AA	1623	U	N3-C2-O2	-6.51	117.64	122.20
34	DA	322	C	C6-N1-C2	6.51	122.90	120.30
1	AA	200	A	C5-N7-C8	6.50	107.15	103.90
1	AA	361	C	C5-C6-N1	-6.50	117.75	121.00
1	AA	528	A	C4-C5-C6	6.50	120.25	117.00
1	AA	1382	A	O5'-P-OP2	-6.50	99.85	105.70
1	CA	126	A	C8-N9-C4	-6.50	103.20	105.80
1	CA	848	G	C4-N9-C1'	6.50	134.95	126.50
1	AA	2285	A	N1-C6-N6	6.50	122.50	118.60
1	AA	2425	G	O5'-P-OP2	-6.50	99.85	105.70
1	AA	2794	A	C5-C6-N6	6.50	128.90	123.70
1	AA	82	G	C8-N9-C4	6.50	109.00	106.40
1	AA	1685	C	C5-C4-N4	-6.50	115.65	120.20
2	AB	73	A	O5'-P-OP1	6.50	118.50	110.70
1	CA	2479	G	C5-C6-O6	6.50	132.50	128.60
1	AA	249	G	O5'-P-OP2	-6.50	99.85	105.70
1	AA	595	A	N9-C4-C5	6.50	108.40	105.80
1	AA	1908	C	N3-C4-C5	6.50	124.50	121.90
1	AA	224	U	OP1-P-OP2	6.50	129.34	119.60
1	AA	1078	A	N7-C8-N9	-6.50	110.55	113.80
1	AA	1162	C	C6-N1-C2	6.50	122.90	120.30
1	AA	2397	C	O5'-P-OP1	-6.50	99.85	105.70
1	AA	482	C	OP2-P-O3'	6.49	119.48	105.20
1	AA	1270	C	N3-C2-O2	6.49	126.45	121.90
1	AA	1640	G	C8-N9-C4	-6.49	103.80	106.40
1	AA	2579	G	C5-C6-O6	6.49	132.50	128.60
1	CA	2061	G	C4-C5-N7	6.49	113.40	110.80
1	CA	690	G	C5-C6-O6	-6.49	124.70	128.60
1	AA	735	U	C5-C4-O4	-6.49	122.01	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1487	G	N3-C2-N2	-6.49	115.36	119.90
1	AA	2260	C	N3-C4-C5	6.49	124.50	121.90
1	AA	913	A	O5'-P-OP1	-6.49	99.86	105.70
1	AA	1690	G	C5-N7-C8	6.49	107.54	104.30
1	AA	2504	U	OP2-P-O3'	6.49	119.47	105.20
1	AA	2527	C	N1-C2-O2	-6.49	115.01	118.90
1	CA	2253	G	C6-C5-N7	-6.49	126.51	130.40
1	CA	304	G	N1-C6-O6	6.48	123.79	119.90
1	AA	882	A	N9-C4-C5	6.48	108.39	105.80
1	AA	115	G	N3-C4-N9	6.48	129.89	126.00
1	AA	119	G	C6-N1-C2	-6.48	121.21	125.10
1	AA	594	A	C6-N1-C2	-6.48	114.71	118.60
1	CA	1776	G	C5-C6-O6	-6.48	124.71	128.60
1	CA	2026	C	O5'-P-OP2	-6.48	99.87	105.70
1	AA	2072	C	C2-N3-C4	-6.48	116.66	119.90
1	AA	2453	C	N1-C2-N3	6.48	123.73	119.20
20	AW	90	ARG	NE-CZ-NH2	-6.48	117.06	120.30
34	BA	879	C	C5-C4-N4	-6.48	115.67	120.20
1	CA	833	U	O5'-P-OP2	-6.48	99.87	105.70
1	AA	2367	C	N1-C2-O2	-6.48	115.01	118.90
1	AA	194	G	O5'-P-OP1	-6.47	99.87	105.70
1	AA	1033	G	C4-C5-N7	-6.47	108.21	110.80
1	AA	434	G	N3-C4-N9	6.47	129.88	126.00
1	AA	1821	C	C5-C6-N1	-6.47	117.76	121.00
1	AA	2734	A	OP2-P-O3'	6.47	119.44	105.20
1	AA	1655	A	C5-C6-N6	-6.47	118.52	123.70
1	AA	2438	A	OP1-P-O3'	6.47	119.44	105.20
1	AA	2766	A	OP2-P-O3'	6.47	119.44	105.20
1	AA	1168	G	C5-C6-O6	-6.47	124.72	128.60
1	AA	855	G	N1-C2-N3	6.47	127.78	123.90
2	CB	2	C	C2-N1-C1'	6.47	125.92	118.80
1	AA	1426	G	C5-C6-O6	-6.47	124.72	128.60
1	AA	1718	U	O5'-P-OP2	-6.47	99.88	105.70
1	CA	1892	C	C6-N1-C2	-6.47	117.71	120.30
1	AA	1237	G	C5-N7-C8	6.46	107.53	104.30
1	AA	1752	G	C5-C6-O6	6.46	132.48	128.60
1	AA	1331	G	C4-C5-N7	6.46	113.39	110.80
34	BA	778	G	N1-C6-O6	-6.46	116.02	119.90
34	DA	1158	C	C6-N1-C2	-6.46	117.72	120.30
1	AA	604	C	C2-N3-C4	-6.46	116.67	119.90
1	AA	913	A	N9-C4-C5	-6.46	103.22	105.80
1	CA	1815	A	C8-N9-C4	6.46	108.38	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2617	C	OP2-P-O3'	6.46	119.41	105.20
1	AA	1474	C	N1-C2-O2	-6.46	115.03	118.90
1	CA	752	A	C6-N1-C2	6.46	122.47	118.60
1	AA	1658	C	N3-C2-O2	6.46	126.42	121.90
34	BA	974	A	C8-N9-C4	-6.46	103.22	105.80
1	CA	1021	A	N3-C4-N9	-6.46	122.23	127.40
1	CA	2356	C	N1-C2-O2	-6.46	115.03	118.90
1	AA	822	G	N9-C4-C5	-6.46	102.82	105.40
1	AA	612	C	C2-N3-C4	-6.45	116.67	119.90
1	AA	1949	A	C8-N9-C4	-6.45	103.22	105.80
1	AA	2461	U	C5-C4-O4	-6.45	122.03	125.90
1	CA	647	G	C8-N9-C4	-6.45	103.82	106.40
1	CA	647	G	N7-C8-N9	6.45	116.33	113.10
1	CA	2541	A	N1-C6-N6	-6.45	114.73	118.60
1	AA	1090	G	O4'-C1'-N9	6.45	113.36	108.20
1	AA	1266	C	C6-N1-C2	-6.45	117.72	120.30
1	AA	1309	U	OP1-P-OP2	6.45	129.28	119.60
1	AA	2624	C	N3-C4-C5	-6.45	119.32	121.90
1	AA	781	A	C4-C5-C6	6.45	120.22	117.00
2	AB	29	A	OP1-P-OP2	-6.45	109.93	119.60
34	BA	560	U	C6-N1-C2	-6.45	117.13	121.00
1	CA	2327	A	N9-C4-C5	6.45	108.38	105.80
1	AA	494	G	C5-C6-N1	-6.45	108.28	111.50
1	AA	2657	G	N3-C4-N9	-6.45	122.13	126.00
1	CA	106	C	C5-C4-N4	-6.45	115.69	120.20
1	AA	1269	G	C8-N9-C4	6.45	108.98	106.40
1	AA	176	G	N7-C8-N9	6.44	116.32	113.10
1	AA	850	U	N1-C2-N3	6.44	118.77	114.90
1	AA	2711	C	N3-C2-O2	6.44	126.41	121.90
34	BA	1442	G	C2-N3-C4	-6.44	108.68	111.90
1	AA	175	G	N1-C2-N3	6.44	127.77	123.90
1	AA	849	A	N1-C6-N6	-6.44	114.73	118.60
1	AA	1157	A	N3-C4-C5	6.44	131.31	126.80
1	AA	1353	A	C5-C6-N6	-6.44	118.55	123.70
15	AR	45	ARG	NE-CZ-NH1	-6.44	117.08	120.30
1	CA	1275	A	N7-C8-N9	-6.44	110.58	113.80
34	BA	822	C	C6-N1-C2	6.44	122.88	120.30
1	CA	2490	G	C5-C6-N1	6.44	114.72	111.50
1	AA	491	G	N1-C6-O6	-6.44	116.04	119.90
56	DW	43	C	C2-N1-C1'	6.44	125.88	118.80
1	AA	28	A	N1-C2-N3	-6.44	126.08	129.30
1	AA	2014	G	C8-N9-C4	-6.44	103.83	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2310	A	C8-N9-C4	6.44	108.38	105.80
1	AA	484	G	C6-C5-N7	-6.44	126.54	130.40
1	AA	996	C	N3-C4-N4	-6.43	113.50	118.00
1	AA	1184	G	C5-C6-O6	6.43	132.46	128.60
1	AA	2087	C	O5'-P-OP2	-6.43	99.91	105.70
1	AA	2896	G	N1-C6-O6	6.43	123.76	119.90
1	AA	1849	U	C5-C4-O4	-6.43	122.04	125.90
1	AA	1077	G	OP1-P-OP2	6.43	129.24	119.60
1	CA	2248	C	N1-C2-O2	-6.43	115.05	118.90
1	CA	2357	U	O5'-P-OP2	-6.43	99.92	105.70
1	AA	427	G	O5'-P-OP2	-6.42	99.92	105.70
1	AA	1713	G	O5'-P-OP1	-6.42	99.92	105.70
1	AA	1048	G	C8-N9-C4	-6.42	103.83	106.40
1	AA	2221	A	O5'-P-OP1	-6.42	99.92	105.70
1	AA	143	C	N3-C2-O2	-6.42	117.41	121.90
1	AA	894	U	C4-C5-C6	6.42	123.55	119.70
1	AA	2437	A	N7-C8-N9	6.42	117.01	113.80
1	AA	2559	U	C4-C5-C6	6.42	123.55	119.70
2	AB	77	U	C5-C6-N1	-6.42	119.49	122.70
1	CA	179	G	C8-N9-C4	-6.42	103.83	106.40
1	CA	309	G	N3-C4-C5	-6.42	125.39	128.60
1	CA	1956	U	N3-C4-O4	-6.42	114.91	119.40
1	AA	171	A	C4-C5-N7	6.42	113.91	110.70
1	AA	910	A	N1-C2-N3	6.42	132.51	129.30
1	AA	1062	G	C8-N9-C4	-6.42	103.83	106.40
1	AA	2623	U	C5-C4-O4	6.42	129.75	125.90
1	CA	1992	G	N3-C4-C5	-6.42	125.39	128.60
1	CA	262	A	O5'-P-OP2	-6.42	99.93	105.70
1	CA	2501	C	N1-C2-O2	-6.42	115.05	118.90
1	AA	151	C	C6-N1-C2	6.41	122.87	120.30
1	AA	751	G	O4'-C1'-N9	6.41	113.33	108.20
1	CA	2543	G	N3-C2-N2	-6.41	115.41	119.90
1	AA	311	C	C6-N1-C2	6.41	122.86	120.30
1	AA	1061	G	O5'-P-OP1	6.41	118.39	110.70
1	CA	1005	C	O5'-P-OP2	-6.41	99.93	105.70
1	AA	663	G	O5'-P-OP1	-6.41	99.93	105.70
1	AA	2671	G	N1-C6-O6	-6.41	116.05	119.90
1	CA	1272	A	O4'-C1'-N9	6.41	113.33	108.20
34	DA	760	G	N1-C6-O6	6.41	123.75	119.90
1	AA	221	G	C8-N9-C4	6.41	108.96	106.40
1	AA	1068	G	C5-N7-C8	-6.41	101.09	104.30
1	AA	1905	G	C4-C5-N7	-6.41	108.24	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	AB	41	U	C6-N1-C1'	6.41	130.17	121.20
7	AG	34	LEU	CB-CG-CD1	-6.41	100.11	111.00
34	BA	108	G	C5-C6-O6	-6.41	124.75	128.60
34	DA	576	G	N3-C4-N9	6.41	129.85	126.00
34	DA	753	A	C8-N9-C4	-6.41	103.24	105.80
2	AB	74	U	N1-C2-O2	-6.41	118.31	122.80
1	AA	1960	A	N1-C2-N3	6.41	132.50	129.30
1	AA	130	G	OP2-P-O3'	6.40	119.29	105.20
1	CA	2563	U	C2-N3-C4	-6.40	123.16	127.00
1	AA	54	G	C2-N3-C4	6.40	115.10	111.90
1	AA	95	G	N1-C6-O6	-6.40	116.06	119.90
1	AA	885	C	N1-C2-O2	6.40	122.74	118.90
1	AA	2897	U	N1-C2-N3	-6.40	111.06	114.90
1	AA	741	U	C4-C5-C6	6.40	123.54	119.70
1	AA	829	A	C5-N7-C8	6.40	107.10	103.90
1	AA	2902	G	C4-N9-C1'	6.40	134.82	126.50
34	BA	725	G	C5-C6-O6	-6.40	124.76	128.60
1	AA	1602	G	C2-N3-C4	-6.40	108.70	111.90
1	CA	1769	G	C6-C5-N7	-6.40	126.56	130.40
1	AA	858	U	C5-C6-N1	-6.40	119.50	122.70
1	AA	1238	G	C8-N9-C4	6.40	108.96	106.40
1	AA	1450	C	O5'-P-OP2	-6.40	99.94	105.70
1	AA	1701	A	C8-N9-C4	6.40	108.36	105.80
1	AA	2429	C	N3-C4-N4	-6.40	113.52	118.00
1	AA	2700	U	N3-C4-C5	-6.40	110.76	114.60
1	CA	1492	G	C8-N9-C4	-6.39	103.84	106.40
1	CA	2524	G	C5-C6-N1	6.39	114.70	111.50
1	AA	1251	G	O5'-P-OP2	6.39	118.37	110.70
1	AA	2882	G	C4-C5-N7	-6.39	108.24	110.80
1	AA	1245	C	N1-C2-O2	-6.39	115.07	118.90
1	AA	2477	C	N3-C4-N4	-6.39	113.53	118.00
1	AA	840	A	N1-C6-N6	6.39	122.43	118.60
1	AA	2646	G	C2-N3-C4	6.39	115.09	111.90
1	CA	1269	A	C6-N1-C2	6.39	122.43	118.60
1	CA	1332	G	O5'-P-OP2	-6.39	99.95	105.70
1	CA	2285	C	O5'-P-OP1	6.39	118.36	110.70
34	DA	567	G	O5'-P-OP1	-6.39	99.95	105.70
1	AA	618	C	C5-C6-N1	6.38	124.19	121.00
1	AA	1611	C	O5'-P-OP2	-6.38	99.95	105.70
1	AA	2238	C	C6-N1-C2	6.38	122.85	120.30
34	DA	610	G	C6-C5-N7	-6.38	126.57	130.40
34	BA	1442	G	N7-C8-N9	6.38	116.29	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2359	C	C6-N1-C2	-6.38	117.75	120.30
1	AA	1605	A	C5-C6-N1	-6.38	114.51	117.70
1	AA	1693	C	N1-C2-O2	-6.38	115.07	118.90
6	AF	89	VAL	C-N-CA	-6.38	105.75	121.70
2	AB	30	C	O5'-P-OP1	-6.38	99.96	105.70
34	DA	754	C	C2-N1-C1'	6.38	125.82	118.80
1	AA	1233	U	C5-C4-O4	6.38	129.73	125.90
56	BW	48	C	O5'-P-OP1	-6.38	99.96	105.70
1	CA	2816	C	O5'-P-OP1	-6.38	99.96	105.70
1	AA	372	G	C4-C5-N7	-6.38	108.25	110.80
1	AA	2727	G	C5-C6-O6	6.38	132.43	128.60
2	AB	94	C	N3-C2-O2	-6.38	117.44	121.90
1	AA	978	A	C6-C5-N7	-6.38	127.84	132.30
1	AA	2737	C	N3-C4-N4	6.38	122.46	118.00
1	AA	880	U	C2-N3-C4	-6.37	123.18	127.00
1	AA	1192	C	N3-C4-N4	6.37	122.46	118.00
1	AA	2298	A	N9-C1'-C2'	6.37	122.29	114.00
1	AA	2686	G	N3-C2-N2	-6.37	115.44	119.90
1	CA	88	G	N3-C2-N2	-6.37	115.44	119.90
1	CA	983	A	N1-C6-N6	-6.37	114.78	118.60
1	AA	1078	A	C8-N9-C4	6.37	108.35	105.80
1	AA	2686	G	C5-C6-N1	6.37	114.69	111.50
1	CA	272(D)	G	N3-C4-C5	6.37	131.78	128.60
2	CB	94	C	O5'-P-OP1	6.37	118.34	110.70
1	AA	831	A	O4'-C1'-N9	6.37	113.30	108.20
1	AA	2493	G	C2-N3-C4	-6.37	108.72	111.90
1	CA	945	A	N7-C8-N9	6.37	116.98	113.80
1	AA	200	A	C8-N9-C4	6.37	108.35	105.80
1	AA	412	C	N1-C2-O2	-6.37	115.08	118.90
1	AA	1373	C	N1-C2-O2	-6.37	115.08	118.90
1	AA	2162	C	N3-C2-O2	-6.37	117.44	121.90
1	AA	1040	C	C5-C4-N4	-6.37	115.74	120.20
1	AA	2025	G	C5-N7-C8	6.37	107.48	104.30
1	AA	2882	G	O5'-P-OP1	-6.37	99.97	105.70
1	CA	1836	C	N1-C2-O2	6.37	122.72	118.90
1	CA	2838	G	N3-C2-N2	-6.37	115.44	119.90
2	CB	10	C	N3-C2-O2	-6.37	117.44	121.90
1	AA	1617	A	C5-C6-N6	-6.36	118.61	123.70
1	CA	525	U	C5-C4-O4	6.36	129.72	125.90
34	DA	1522	U	O5'-P-OP2	-6.36	99.97	105.70
1	AA	481	C	N1-C2-N3	6.36	123.65	119.20
1	AA	1042	A	O5'-P-OP1	-6.36	99.97	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1745	A	N1-C2-N3	6.36	132.48	129.30
1	AA	225	C	C2-N3-C4	-6.36	116.72	119.90
1	AA	552	C	C2-N3-C4	-6.36	116.72	119.90
1	AA	477	C	N3-C4-C5	6.36	124.44	121.90
1	AA	2366	G	N1-C6-O6	6.36	123.72	119.90
1	AA	2697	G	C5-C6-N1	6.36	114.68	111.50
1	CA	1222	C	C6-N1-C2	-6.36	117.76	120.30
1	AA	746	A	C8-N9-C4	6.36	108.34	105.80
1	AA	1571	G	O5'-P-OP1	-6.36	99.98	105.70
1	AA	187	C	N3-C4-C5	6.36	124.44	121.90
1	AA	1664	A	C8-N9-C4	-6.36	103.26	105.80
1	CA	1307	A	C8-N9-C4	-6.36	103.26	105.80
1	CA	2771	C	N1-C2-O2	-6.36	115.09	118.90
1	CA	682	G	N3-C4-N9	6.35	129.81	126.00
1	CA	752	A	C5-C6-N1	-6.35	114.52	117.70
1	CA	2437	U	N3-C4-C5	6.35	118.41	114.60
1	AA	2401	G	OP1-P-O3'	6.35	119.17	105.20
34	BA	1496	C	O5'-P-OP2	-6.35	99.98	105.70
1	AA	477	C	C6-N1-C2	6.35	122.84	120.30
1	AA	1644	C	C2-N3-C4	-6.35	116.72	119.90
1	AA	983	G	C2-N3-C4	-6.35	108.73	111.90
1	AA	2052	A	N9-C4-C5	-6.35	103.26	105.80
1	CA	671	C	N3-C4-C5	-6.35	119.36	121.90
1	AA	471	C	C6-N1-C2	-6.34	117.76	120.30
1	AA	723	A	C8-N9-C4	6.34	108.34	105.80
1	AA	2302	G	N1-C6-O6	-6.34	116.09	119.90
1	AA	2323	A	O5'-P-OP1	-6.34	99.99	105.70
1	AA	821	A	C8-N9-C4	-6.34	103.26	105.80
1	CA	945	A	O4'-C1'-N9	6.34	113.27	108.20
1	AA	953	U	OP2-P-O3'	6.34	119.15	105.20
1	AA	2383	G	C5-C6-N1	6.34	114.67	111.50
1	AA	2608	U	N1-C2-O2	-6.34	118.36	122.80
1	AA	1766	G	N7-C8-N9	6.34	116.27	113.10
1	CA	2618	G	N1-C6-O6	-6.34	116.10	119.90
1	AA	419	C	O5'-P-OP1	-6.34	100.00	105.70
1	AA	1054	C	C6-N1-C2	6.33	122.83	120.30
1	AA	2354	C	C5-C4-N4	-6.33	115.77	120.20
1	CA	2363	C	C5-C6-N1	-6.33	117.83	121.00
1	AA	1894	G	N1-C6-O6	6.33	123.70	119.90
2	AB	81	G	C5-C6-O6	6.33	132.40	128.60
1	CA	559	G	C5-C6-O6	6.33	132.40	128.60
1	AA	322	G	N3-C4-N9	6.33	129.80	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	592	U	N1-C2-N3	6.33	118.70	114.90
2	AB	80	U	C5-C6-N1	-6.33	119.53	122.70
1	AA	69	G	C2-N3-C4	6.33	115.06	111.90
1	AA	2453	C	N3-C2-O2	-6.33	117.47	121.90
34	BA	194	C	C6-N1-C2	-6.33	117.77	120.30
34	BA	1260	C	C6-N1-C1'	-6.33	113.21	120.80
1	AA	399	G	O5'-P-OP1	6.33	118.29	110.70
1	AA	434	G	O4'-C1'-N9	-6.32	103.14	108.20
1	AA	1264	G	C8-N9-C4	6.32	108.93	106.40
1	AA	1862	G	OP2-P-O3'	6.32	119.11	105.20
1	CA	1365	A	C4-C5-C6	6.32	120.16	117.00
34	DA	739	C	N3-C4-C5	-6.32	119.37	121.90
1	AA	1269	G	C8-N9-C1'	6.32	135.22	127.00
1	AA	1701	A	N9-C4-C5	-6.32	103.27	105.80
1	AA	1191	C	N1-C2-O2	-6.32	115.11	118.90
1	AA	2394	G	C4-N9-C1'	6.32	134.71	126.50
1	CA	966	G	O5'-P-OP2	-6.32	100.01	105.70
1	CA	1775	U	C2-N3-C4	-6.32	123.21	127.00
1	AA	2513	C	OP1-P-O3'	6.31	119.09	105.20
1	AA	1858	C	C4-C5-C6	6.31	120.56	117.40
1	AA	2302	G	N9-C4-C5	6.31	107.92	105.40
1	AA	415	G	N3-C4-N9	6.31	129.79	126.00
1	AA	1212	C	N1-C2-O2	-6.31	115.11	118.90
1	AA	2290	A	C8-N9-C4	-6.31	103.28	105.80
56	BW	74	C	N1-C2-O2	-6.31	115.11	118.90
1	AA	2389	A	N9-C4-C5	-6.31	103.28	105.80
2	AB	104	U	N3-C4-C5	6.31	118.39	114.60
1	CA	1579	A	N1-C6-N6	6.31	122.39	118.60
1	CA	1670	C	N3-C4-C5	-6.31	119.38	121.90
1	CA	2698	U	N3-C4-O4	6.31	123.82	119.40
1	AA	1655	A	C4-C5-N7	6.31	113.85	110.70
1	AA	2670	C	C6-N1-C2	6.31	122.82	120.30
56	BW	34	G	C8-N9-C1'	-6.31	118.80	127.00
1	CA	2386	C	C6-N1-C2	6.31	122.82	120.30
34	BA	841	U	C2-N1-C1'	6.31	125.27	117.70
34	DA	728	A	C8-N9-C4	-6.31	103.28	105.80
1	AA	185	A	C2-N3-C4	-6.30	107.45	110.60
1	AA	2599	A	C8-N9-C4	-6.30	103.28	105.80
1	AA	2831	A	O4'-C1'-N9	-6.30	103.16	108.20
34	BA	781	A	OP2-P-O3'	6.30	119.07	105.20
34	BA	1392	G	O5'-P-OP2	-6.30	100.03	105.70
57	BZ	-29	LEU	CA-CB-CG	6.30	129.80	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1345	G	C5-C6-N1	6.30	114.65	111.50
1	AA	2730	G	C4-C5-C6	6.30	122.58	118.80
1	AA	2743	C	OP2-P-O3'	6.30	119.07	105.20
34	BA	369	C	C6-N1-C2	-6.30	117.78	120.30
34	BA	1502	A	N7-C8-N9	6.30	116.95	113.80
34	BA	1524	C	C2-N3-C4	-6.30	116.75	119.90
1	AA	2795	G	N1-C6-O6	-6.30	116.12	119.90
1	CA	1152	C	O5'-P-OP1	-6.30	100.03	105.70
34	DA	21	G	N9-C4-C5	-6.30	102.88	105.40
1	AA	456	A	N9-C4-C5	-6.30	103.28	105.80
1	AA	1175	A	OP1-P-OP2	6.30	129.05	119.60
1	AA	2783	G	N3-C4-N9	6.30	129.78	126.00
1	AA	468	G	C5-C6-N1	6.30	114.65	111.50
1	CA	1788	C	N1-C2-N3	6.30	123.61	119.20
1	AA	595	A	N1-C2-N3	6.30	132.45	129.30
34	BA	764	C	C5-C6-N1	-6.30	117.85	121.00
1	CA	1299	G	N9-C4-C5	6.30	107.92	105.40
1	AA	1813	C	N3-C2-O2	6.29	126.31	121.90
1	AA	2867	G	O5'-P-OP1	-6.29	100.03	105.70
1	AA	43	A	C2-N3-C4	-6.29	107.45	110.60
1	AA	1053	C	N3-C4-C5	6.29	124.42	121.90
1	AA	1252	C	N1-C2-O2	-6.29	115.12	118.90
20	AW	23	LEU	CA-CB-CG	6.29	129.77	115.30
34	BA	244	U	N1-C2-O2	6.29	127.20	122.80
1	AA	1422	C	C2-N3-C4	-6.29	116.75	119.90
1	AA	595	A	C6-N1-C2	-6.29	114.83	118.60
1	AA	2894	U	N3-C4-O4	-6.29	115.00	119.40
1	CA	614	U	N3-C2-O2	-6.29	117.80	122.20
1	AA	798	A	O5'-P-OP2	6.29	118.24	110.70
1	CA	2610	C	N3-C2-O2	-6.29	117.50	121.90
34	DA	104	G	C2-N3-C4	-6.29	108.76	111.90
1	AA	818	G	C5-C6-N1	6.28	114.64	111.50
34	BA	5	U	N1-C2-O2	6.28	127.20	122.80
1	AA	714	U	N3-C2-O2	-6.28	117.80	122.20
1	AA	2873	C	N3-C4-C5	6.28	124.41	121.90
34	BA	1513	A	C5-C6-N1	6.28	120.84	117.70
1	CA	729	G	OP2-P-O3'	6.28	119.02	105.20
1	CA	845	G	O4'-C1'-N9	6.28	113.22	108.20
1	CA	1804	C	OP2-P-O3'	6.28	119.02	105.20
1	CA	2006	C	N3-C2-O2	6.28	126.30	121.90
1	AA	1832	G	OP1-P-OP2	6.28	129.02	119.60
1	AA	965	G	OP1-P-OP2	6.28	129.02	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1350	C	O5'-P-OP1	-6.28	100.05	105.70
1	AA	420	C	C2-N3-C4	-6.28	116.76	119.90
1	AA	802	C	N1-C2-O2	6.28	122.67	118.90
1	CA	125	G	C2-N3-C4	6.28	115.04	111.90
1	CA	132	G	N1-C6-O6	6.28	123.67	119.90
1	CA	592	G	N9-C4-C5	-6.28	102.89	105.40
1	CA	1951	U	O5'-P-OP2	-6.28	100.05	105.70
34	DA	904	C	C5-C4-N4	-6.27	115.81	120.20
1	AA	705	C	C4-C5-C6	6.27	120.54	117.40
1	AA	2219	U	C5-C6-N1	-6.27	119.56	122.70
1	AA	2527	C	N3-C4-C5	6.27	124.41	121.90
1	CA	2605	U	N1-C2-N3	6.27	118.66	114.90
1	AA	52	A	C2-N3-C4	-6.27	107.47	110.60
1	AA	1326	G	OP2-P-O3'	6.27	118.99	105.20
1	AA	1422	C	C5-C6-N1	-6.27	117.86	121.00
34	BA	1529	G	C4-N9-C1'	6.27	134.65	126.50
1	AA	1195	G	OP1-P-OP2	-6.27	110.20	119.60
1	AA	2001	C	N3-C4-C5	6.27	124.41	121.90
1	AA	2026	G	OP2-P-O3'	6.27	118.99	105.20
1	AA	2624	C	C5-C4-N4	6.27	124.59	120.20
1	CA	1779	U	C6-N1-C2	6.27	124.76	121.00
1	AA	874	U	C5-C6-N1	-6.27	119.57	122.70
1	AA	1257	G	N1-C6-O6	6.27	123.66	119.90
1	CA	1007	C	C5-C6-N1	-6.27	117.87	121.00
1	CA	1027	A	N7-C8-N9	-6.27	110.67	113.80
1	CA	2537	U	C5-C6-N1	-6.27	119.57	122.70
1	AA	976	G	C6-N1-C2	-6.26	121.34	125.10
1	AA	2648	U	O5'-P-OP2	-6.26	100.06	105.70
1	AA	1305	G	C5-C6-N1	6.26	114.63	111.50
1	AA	1457	C	N3-C4-C5	6.26	124.41	121.90
1	CA	307	G	C6-C5-N7	-6.26	126.64	130.40
1	AA	474	U	O5'-P-OP2	-6.26	100.06	105.70
1	AA	802	C	C6-N1-C2	6.26	122.81	120.30
1	AA	2033	U	OP1-P-OP2	-6.26	110.21	119.60
1	CA	463	G	OP1-P-O3'	6.26	118.98	105.20
1	CA	1267	U	N1-C2-N3	-6.26	111.14	114.90
1	CA	2629	A	N7-C8-N9	6.26	116.93	113.80
1	AA	2744	G	O5'-P-OP2	-6.26	100.07	105.70
34	BA	557	G	N1-C6-O6	-6.26	116.14	119.90
1	CA	608	A	O5'-P-OP1	-6.26	100.07	105.70
1	CA	529	A	C8-N9-C4	-6.26	103.30	105.80
1	AA	192	C	C4-C5-C6	6.26	120.53	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	223	C	N1-C2-O2	6.26	122.65	118.90
1	AA	475	A	N1-C6-N6	6.26	122.35	118.60
1	AA	1235	G	C4-C5-N7	-6.26	108.30	110.80
1	AA	1012	C	C2-N3-C4	-6.25	116.77	119.90
1	AA	1608	G	C8-N9-C4	-6.25	103.90	106.40
34	BA	771	G	N3-C4-N9	-6.25	122.25	126.00
34	DA	610	G	N1-C6-O6	6.25	123.65	119.90
1	AA	1216	G	C5-C6-O6	-6.25	124.85	128.60
1	AA	2518	U	O5'-P-OP1	6.25	118.20	110.70
1	CA	751	A	C2-N3-C4	-6.25	107.47	110.60
1	CA	775	G	N3-C2-N2	-6.25	115.52	119.90
1	AA	775	G	C4-C5-N7	-6.25	108.30	110.80
1	AA	863	C	N1-C2-O2	-6.25	115.15	118.90
1	AA	1342	G	N7-C8-N9	-6.25	109.98	113.10
1	AA	2599	A	OP1-P-O3'	6.25	118.95	105.20
34	BA	771	G	C8-N9-C4	-6.25	103.90	106.40
34	BA	785	G	N3-C4-C5	6.25	131.72	128.60
1	AA	893	C	OP1-P-OP2	6.25	128.97	119.60
1	AA	2065	C	C6-N1-C2	6.25	122.80	120.30
1	AA	2462	A	C2-N3-C4	6.25	113.72	110.60
34	BA	189(D)	C	C6-N1-C2	-6.25	117.80	120.30
56	BW	73	A	C4-C5-N7	6.25	113.82	110.70
1	AA	1076	G	C4-C5-N7	6.25	113.30	110.80
1	AA	1345	G	N1-C6-O6	-6.25	116.15	119.90
2	CB	116	G	N1-C6-O6	6.25	123.65	119.90
1	CA	400	G	N1-C6-O6	6.24	123.65	119.90
1	CA	2825	C	C5-C4-N4	-6.24	115.83	120.20
1	AA	2582	G	N1-C6-O6	-6.24	116.16	119.90
1	AA	2851	C	C4-C5-C6	6.24	120.52	117.40
1	AA	2886	G	C8-N9-C4	-6.24	103.90	106.40
1	CA	2673	G	C4-C5-N7	6.24	113.30	110.80
1	AA	818	G	N3-C2-N2	6.24	124.27	119.90
1	AA	855	G	C5-C6-N1	6.24	114.62	111.50
1	AA	196	A	C6-N1-C2	-6.24	114.86	118.60
56	BW	45	U	N1-C2-O2	6.24	127.17	122.80
1	CA	915	C	N1-C2-O2	6.24	122.64	118.90
1	CA	2571	C	C5-C4-N4	-6.24	115.83	120.20
1	AA	1028	C	C4-C5-C6	-6.24	114.28	117.40
1	AA	2503	U	C6-N1-C2	6.24	124.74	121.00
1	AA	1298	G	N1-C2-N2	6.24	121.81	116.20
1	AA	1745	A	N7-C8-N9	6.24	116.92	113.80
1	CA	1646	C	C6-N1-C2	6.24	122.79	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2527	C	C6-N1-C2	6.23	122.79	120.30
1	AA	438	G	N3-C2-N2	-6.23	115.54	119.90
1	AA	883	G	C5-C6-O6	6.23	132.34	128.60
1	AA	1375	U	N1-C2-O2	-6.23	118.44	122.80
1	AA	1719	C	N3-C4-N4	6.23	122.36	118.00
1	AA	2670	C	C5-C6-N1	-6.23	117.88	121.00
34	BA	600	C	O5'-P-OP2	-6.23	100.09	105.70
1	AA	50	G	N3-C4-C5	-6.23	125.49	128.60
1	AA	835	A	OP2-P-O3'	6.23	118.90	105.20
1	AA	45	C	C2-N3-C4	-6.23	116.79	119.90
1	AA	177	G	C2-N3-C4	-6.23	108.79	111.90
1	AA	1718	U	OP1-P-OP2	6.23	128.94	119.60
1	AA	2522	C	C5-C6-N1	-6.23	117.89	121.00
34	BA	260	G	N1-C6-O6	6.22	123.64	119.90
1	AA	1728	G	C4-C5-N7	6.22	113.29	110.80
1	AA	1742	G	N3-C4-N9	6.22	129.73	126.00
1	AA	2343	G	C5-C6-O6	-6.22	124.87	128.60
2	AB	48	A	N1-C2-N3	6.22	132.41	129.30
1	CA	474	G	N1-C6-O6	-6.22	116.17	119.90
1	CA	2050	C	O5'-P-OP2	-6.22	100.10	105.70
34	DA	397	A	OP2-P-O3'	6.22	118.89	105.20
1	AA	22	C	C2-N3-C4	-6.22	116.79	119.90
1	AA	2357	G	C4-C5-N7	6.22	113.29	110.80
1	AA	2882	G	N1-C2-N3	6.22	127.63	123.90
1	CA	1761	C	C2-N3-C4	-6.22	116.79	119.90
1	CA	2286	A	N7-C8-N9	6.22	116.91	113.80
1	AA	2889	C	O5'-P-OP1	-6.22	100.10	105.70
1	CA	1992	G	P-O3'-C3'	6.22	127.16	119.70
1	AA	1053	C	C2-N3-C4	-6.22	116.79	119.90
1	AA	1808	U	C5-C4-O4	-6.22	122.17	125.90
1	AA	2456	G	C5-C6-O6	6.22	132.33	128.60
1	AA	2894	U	N3-C4-C5	6.22	118.33	114.60
1	CA	1190	G	O5'-P-OP2	-6.22	100.11	105.70
34	DA	576	G	N3-C4-C5	-6.22	125.49	128.60
1	AA	168	G	N1-C2-N3	6.21	127.63	123.90
1	AA	2306	C	N3-C4-C5	6.21	124.39	121.90
34	BA	728	A	C5-C6-N6	-6.21	118.73	123.70
1	CA	2495	G	C8-N9-C4	6.21	108.89	106.40
1	AA	176	G	C2-N3-C4	-6.21	108.79	111.90
1	AA	850	U	C2-N3-C4	-6.21	123.27	127.00
1	AA	2255	U	N3-C2-O2	6.21	126.55	122.20
1	AA	2271	G	N1-C6-O6	-6.21	116.17	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	475	A	C5-N7-C8	-6.21	100.80	103.90
1	AA	2000	A	N1-C2-N3	-6.21	126.19	129.30
1	AA	2459	G	C5-N7-C8	6.21	107.40	104.30
1	AA	2828	G	C5-N7-C8	6.21	107.40	104.30
1	CA	1124	C	N3-C4-C5	6.21	124.38	121.90
1	AA	751	G	N1-C2-N2	6.21	121.79	116.20
1	AA	2539	C	C5-C4-N4	-6.21	115.86	120.20
1	AA	2705	A	C2-N3-C4	6.21	113.70	110.60
34	BA	20	U	OP2-P-O3'	6.21	118.85	105.20
34	BA	659	U	O5'-P-OP2	-6.21	100.11	105.70
1	CA	1824	G	N9-C4-C5	6.21	107.88	105.40
1	AA	2549	U	C5-C4-O4	6.20	129.62	125.90
1	AA	1298	G	C5-C6-O6	-6.20	124.88	128.60
1	AA	1411	A	N1-C2-N3	6.20	132.40	129.30
1	CA	1616	A	C2-N3-C4	-6.20	107.50	110.60
1	CA	2703	C	N3-C4-C5	6.20	124.38	121.90
1	AA	1548	C	N3-C2-O2	-6.20	117.56	121.90
1	AA	2052	A	C5-N7-C8	-6.20	100.80	103.90
1	AA	2298	A	C5-C6-N1	-6.20	114.60	117.70
1	AA	2743	C	C2-N3-C4	-6.20	116.80	119.90
12	AO	20	MET	CG-SD-CE	6.20	110.12	100.20
34	BA	34	C	C6-N1-C2	6.20	122.78	120.30
1	AA	1514	C	N3-C4-N4	-6.20	113.66	118.00
1	AA	1971	G	N1-C6-O6	6.20	123.62	119.90
1	AA	2475	C	C6-N1-C2	6.20	122.78	120.30
2	AB	84	C	N1-C2-O2	-6.20	115.18	118.90
1	CA	1365	A	C4-C5-N7	6.20	113.80	110.70
1	AA	1795	G	C5-C6-O6	6.20	132.32	128.60
1	AA	2782	C	C4-C5-C6	6.20	120.50	117.40
2	AB	108	U	C5-C6-N1	-6.20	119.60	122.70
34	DA	1525	G	C4-C5-N7	-6.20	108.32	110.80
1	AA	413	G	C4-C5-N7	-6.20	108.32	110.80
1	AA	462	C	OP1-P-OP2	6.20	128.89	119.60
1	AA	2531	U	C2-N3-C4	-6.20	123.28	127.00
1	AA	2550	C	C2-N3-C4	-6.20	116.80	119.90
20	AW	17	VAL	CB-CA-C	-6.20	99.63	111.40
1	CA	2253	G	C4-C5-N7	6.20	113.28	110.80
1	CA	2626	C	C5-C6-N1	-6.20	117.90	121.00
1	AA	211	A	O4'-C1'-N9	-6.19	103.25	108.20
1	AA	634	C	C6-N1-C2	6.19	122.78	120.30
1	CA	383	U	O4'-C1'-N1	6.19	113.16	108.20
1	AA	606	G	N1-C2-N3	-6.19	120.19	123.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1056	A	C5-C6-N1	6.19	120.80	117.70
1	AA	2223	C	N3-C4-N4	6.19	122.33	118.00
1	CA	931	G	OP2-P-O3'	6.19	118.82	105.20
1	CA	959	A	O5'-P-OP2	-6.19	100.13	105.70
1	AA	130	G	N7-C8-N9	-6.19	110.00	113.10
1	AA	1302	G	C8-N9-C4	6.19	108.88	106.40
1	AA	2588	G	C8-N9-C4	6.19	108.88	106.40
34	BA	696	A	C8-N9-C4	-6.19	103.32	105.80
1	CA	12	U	N1-C2-O2	6.19	127.13	122.80
1	AA	1296	G	N3-C4-C5	-6.19	125.50	128.60
34	DA	720	C	N3-C2-O2	-6.19	117.57	121.90
1	AA	361	C	N1-C2-O2	-6.19	115.19	118.90
1	AA	2297	C	O5'-P-OP1	6.19	118.12	110.70
1	CA	1792	G	C5-N7-C8	6.19	107.39	104.30
1	CA	2332	U	C6-N1-C2	6.19	124.71	121.00
34	DA	884	U	C4-C5-C6	6.19	123.41	119.70
1	AA	103	C	OP2-P-O3'	6.18	118.81	105.20
1	AA	2624	C	N1-C2-O2	6.18	122.61	118.90
34	DA	1397	C	C6-N1-C2	-6.18	117.83	120.30
1	AA	1659	G	N3-C2-N2	6.18	124.23	119.90
1	AA	2761	A	O5'-P-OP2	-6.18	100.14	105.70
1	CA	1365	A	C5-N7-C8	-6.18	100.81	103.90
1	CA	2451	A	C2-N3-C4	-6.18	107.51	110.60
34	DA	509	A	N7-C8-N9	6.18	116.89	113.80
1	CA	1781	C	N3-C4-C5	6.18	124.37	121.90
34	DA	882	C	C5-C6-N1	6.18	124.09	121.00
1	AA	790	G	C5-C6-O6	6.18	132.31	128.60
1	AA	1303	C	C4-C5-C6	6.18	120.49	117.40
1	AA	2549	U	N3-C4-O4	-6.18	115.07	119.40
1	AA	1255	A	P-O3'-C3'	6.18	127.11	119.70
34	DA	557	G	N3-C2-N2	6.18	124.22	119.90
34	BA	852	G	N7-C8-N9	-6.18	110.01	113.10
1	CA	1325	G	C5-C6-O6	-6.18	124.89	128.60
1	AA	416	G	N1-C2-N2	-6.17	110.64	116.20
1	AA	608	G	C6-N1-C2	-6.17	121.39	125.10
1	AA	2083	G	C5-N7-C8	6.17	107.39	104.30
1	AA	2555	G	C5-C6-N1	6.17	114.59	111.50
1	CA	213	A	OP2-P-O3'	6.17	118.78	105.20
1	CA	2340	G	N3-C4-N9	6.17	129.71	126.00
1	AA	34	C	O4'-C1'-N1	6.17	113.14	108.20
1	AA	240	A	C5-C6-N6	6.17	128.64	123.70
1	AA	2056	U	C4-C5-C6	6.17	123.40	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	BA	771	G	N9-C4-C5	6.17	107.87	105.40
1	AA	732	A	C2-N3-C4	-6.17	107.51	110.60
1	AA	1019	G	C4-C5-N7	-6.17	108.33	110.80
1	AA	1626	A	O5'-P-OP1	-6.17	100.15	105.70
1	CA	2538	C	C5-C6-N1	-6.17	117.91	121.00
1	CA	2022	U	C6-N1-C2	6.17	124.70	121.00
1	AA	1152	G	OP1-P-O3'	6.17	118.77	105.20
1	AA	2439	C	C4-C5-C6	6.17	120.48	117.40
1	AA	2645	G	N1-C6-O6	-6.17	116.20	119.90
1	CA	445	C	C6-N1-C2	6.17	122.77	120.30
1	CA	1567	A	N1-C6-N6	-6.17	114.90	118.60
1	CA	1721	G	C4-C5-N7	6.17	113.27	110.80
1	CA	2029	G	C4-C5-N7	-6.17	108.33	110.80
1	AA	1566	U	O5'-P-OP2	-6.17	100.15	105.70
1	AA	2227	G	N3-C4-N9	-6.17	122.30	126.00
34	BA	1514	C	N1-C2-O2	-6.17	115.20	118.90
1	CA	829	A	N1-C6-N6	6.17	122.30	118.60
1	CA	2709	G	N1-C6-O6	-6.17	116.20	119.90
34	DA	795	C	N1-C2-O2	-6.17	115.20	118.90
1	AA	195	U	C5-C4-O4	6.17	129.60	125.90
1	AA	1472	G	N7-C8-N9	-6.17	110.02	113.10
1	CA	1973	G	N1-C6-O6	-6.16	116.20	119.90
1	CA	2373	G	N1-C6-O6	6.16	123.60	119.90
1	AA	1006	C	N3-C4-C5	-6.16	119.44	121.90
1	CA	1674	G	O5'-P-OP1	-6.16	100.16	105.70
1	AA	1197	G	N1-C2-N3	6.16	127.60	123.90
2	AB	61	G	C8-N9-C4	-6.16	103.94	106.40
1	CA	641	C	C5-C6-N1	6.16	124.08	121.00
1	AA	1232	G	N3-C2-N2	6.16	124.21	119.90
1	AA	1623	U	N1-C2-O2	6.16	127.11	122.80
1	AA	1726	U	C4-C5-C6	6.16	123.39	119.70
1	AA	2048	C	C2-N3-C4	-6.16	116.82	119.90
1	AA	2234	G	C5-C6-O6	6.16	132.29	128.60
1	AA	623	G	C4-C5-N7	6.16	113.26	110.80
1	CA	2066	C	O5'-P-OP1	-6.16	100.16	105.70
1	AA	1316	C	C6-N1-C2	6.16	122.76	120.30
1	AA	2693	C	OP1-P-O3'	6.16	118.74	105.20
1	CA	751	A	N7-C8-N9	-6.16	110.72	113.80
1	CA	2819	G	N3-C2-N2	6.16	124.21	119.90
1	AA	1029	A	O5'-P-OP1	6.15	118.08	110.70
1	AA	2848	G	N1-C6-O6	6.15	123.59	119.90
34	BA	727	G	O5'-P-OP1	-6.15	100.16	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2087	G	C4-C5-N7	6.15	113.26	110.80
1	CA	2329	G	C8-N9-C4	6.15	108.86	106.40
1	CA	2029	G	N9-C4-C5	6.15	107.86	105.40
1	AA	1006	C	C5-C4-N4	6.15	124.50	120.20
2	AB	74	U	N3-C2-O2	6.15	126.50	122.20
1	CA	1202	C	N3-C4-C5	6.15	124.36	121.90
1	AA	1676	G	C6-C5-N7	6.15	134.09	130.40
1	AA	1287	A	N7-C8-N9	-6.15	110.73	113.80
1	AA	2786	C	N1-C2-O2	-6.15	115.21	118.90
1	CA	53	A	C8-N9-C4	6.15	108.26	105.80
1	AA	1040	C	C5-C6-N1	-6.14	117.93	121.00
1	AA	1154	U	C2-N1-C1'	6.14	125.07	117.70
1	AA	1710	C	OP2-P-O3'	6.14	118.72	105.20
1	AA	1842	G	C4-C5-N7	-6.14	108.34	110.80
1	CA	2771	C	O5'-P-OP2	6.14	118.07	110.70
1	AA	1622	C	O5'-P-OP2	6.14	118.07	110.70
34	DA	1518	A	N1-C2-N3	6.14	132.37	129.30
1	CA	195	A	P-O3'-C3'	6.14	127.07	119.70
1	AA	2776	G	OP2-P-O3'	6.14	118.71	105.20
34	BA	1501	C	N1-C2-O2	-6.14	115.22	118.90
1	CA	2022	U	N1-C2-O2	-6.14	118.50	122.80
1	CA	2537	U	N3-C4-O4	-6.14	115.10	119.40
1	AA	18	C	OP1-P-OP2	-6.14	110.39	119.60
1	AA	1710	C	N1-C2-O2	-6.14	115.22	118.90
1	AA	1255	A	O5'-P-OP2	-6.14	100.18	105.70
1	AA	1830	G	C5-C6-O6	6.14	132.28	128.60
1	AA	2636	G	N3-C4-N9	6.14	129.68	126.00
34	BA	674	G	N1-C6-O6	6.14	123.58	119.90
1	CA	797	C	C2-N3-C4	6.14	122.97	119.90
1	AA	171	A	C5-C6-N6	-6.13	118.79	123.70
1	AA	2391	G	C2-N3-C4	6.13	114.97	111.90
1	AA	254	A	C5-C6-N6	-6.13	118.79	123.70
1	CA	694	U	O5'-P-OP2	-6.13	100.18	105.70
1	AA	206	G	N1-C6-O6	6.13	123.58	119.90
1	AA	2509	A	C5-N7-C8	6.13	106.97	103.90
1	AA	2837	C	N3-C2-O2	6.13	126.19	121.90
34	DA	513	C	C2-N1-C1'	6.13	125.54	118.80
1	CA	2824	C	N3-C4-N4	6.13	122.29	118.00
34	BA	316	G	O5'-P-OP2	-6.13	100.18	105.70
1	CA	212	G	O5'-P-OP1	6.13	118.06	110.70
1	CA	1943	U	C2-N3-C4	-6.13	123.32	127.00
1	AA	827	G	C5-C6-O6	-6.13	124.92	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	875	U	OP2-P-O3'	6.13	118.68	105.20
1	CA	2024	G	O5'-P-OP2	-6.13	100.19	105.70
34	DA	32	A	C8-N9-C4	-6.13	103.35	105.80
34	DA	1279	A	OP1-P-O3'	6.13	118.68	105.20
34	DA	1525	G	N9-C4-C5	6.12	107.85	105.40
1	AA	727	G	C8-N9-C1'	-6.12	119.04	127.00
1	AA	2548	G	O5'-P-OP1	-6.12	100.19	105.70
34	BA	1526	G	C2-N3-C4	6.12	114.96	111.90
1	CA	1373	A	N7-C8-N9	-6.12	110.74	113.80
1	AA	806	G	N7-C8-N9	-6.12	110.04	113.10
1	AA	1462	G	O5'-P-OP2	-6.12	100.19	105.70
2	CB	74	U	C6-N1-C1'	6.12	129.77	121.20
56	BW	5	G	C8-N9-C4	6.12	108.85	106.40
1	CA	333	G	C5-C6-O6	-6.12	124.93	128.60
1	AA	911	G	N1-C6-O6	-6.12	116.23	119.90
1	AA	1068	G	N3-C4-C5	6.12	131.66	128.60
1	AA	1952	G	N3-C2-N2	6.12	124.18	119.90
1	AA	2890	C	O5'-P-OP2	-6.12	100.19	105.70
1	CA	963	U	O5'-P-OP2	6.12	118.04	110.70
1	CA	1416	G	O4'-C1'-N9	6.12	113.09	108.20
1	CA	2056	G	OP1-P-O3'	6.12	118.66	105.20
1	AA	788	G	N7-C8-N9	-6.12	110.04	113.10
1	CA	1019	U	N3-C2-O2	-6.11	117.92	122.20
1	AA	60	G	C8-N9-C1'	6.11	134.95	127.00
1	AA	154	G	N3-C4-N9	-6.11	122.33	126.00
1	CA	1600	C	C6-N1-C2	6.11	122.75	120.30
34	DA	1502	A	O5'-P-OP2	-6.11	100.20	105.70
1	AA	1686	U	O5'-P-OP1	6.11	118.03	110.70
1	CA	530	G	N3-C4-C5	6.11	131.66	128.60
1	CA	692	C	N3-C4-C5	6.11	124.34	121.90
1	CA	2605	U	C5-C4-O4	6.11	129.57	125.90
1	AA	2562	G	O5'-P-OP1	6.11	118.03	110.70
1	AA	2732	G	C5-C6-N1	6.11	114.55	111.50
1	AA	2757	G	C5-C6-N1	6.11	114.55	111.50
34	BA	901	A	N1-C2-N3	6.11	132.35	129.30
1	CA	1968	G	C5-C6-O6	-6.11	124.94	128.60
1	AA	1616	A	C8-N9-C4	-6.11	103.36	105.80
1	AA	2711	C	OP1-P-OP2	6.11	128.76	119.60
1	AA	2256	U	N3-C2-O2	-6.10	117.93	122.20
1	CA	805	G	N3-C2-N2	6.10	124.17	119.90
1	CA	2081	C	N1-C2-O2	-6.10	115.24	118.90
1	AA	1790	A	C8-N9-C1'	-6.10	116.72	127.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2659	U	C5-C6-N1	-6.10	119.65	122.70
1	AA	13	A	C8-N9-C4	-6.10	103.36	105.80
1	AA	646	A	C4-C5-C6	-6.10	113.95	117.00
1	AA	1685	C	N3-C4-C5	6.10	124.34	121.90
1	AA	1958	A	C5-N7-C8	-6.10	100.85	103.90
1	CA	1405	U	O5'-P-OP2	-6.10	100.21	105.70
1	AA	353	G	OP1-P-OP2	6.10	128.75	119.60
1	AA	838	C	N3-C4-C5	-6.10	119.46	121.90
1	AA	1208	G	N1-C2-N3	6.10	127.56	123.90
1	CA	2689	U	P-O3'-C3'	6.10	127.02	119.70
1	AA	1635	C	N3-C4-N4	6.10	122.27	118.00
1	CA	848	G	N3-C4-C5	-6.10	125.55	128.60
1	CA	1857	G	N3-C4-N9	6.10	129.66	126.00
1	AA	2462	A	N1-C2-N3	-6.09	126.25	129.30
34	BA	289	G	N1-C6-O6	-6.09	116.24	119.90
1	CA	529	A	C5-N7-C8	-6.09	100.85	103.90
1	AA	2453	C	C2-N3-C4	-6.09	116.85	119.90
1	AA	833	C	C6-N1-C2	-6.09	117.86	120.30
1	AA	21	A	N9-C4-C5	6.09	108.24	105.80
34	BA	285	G	OP1-P-OP2	-6.09	110.47	119.60
1	CA	53	A	N1-C2-N3	6.09	132.34	129.30
1	AA	974	G	C5-C6-O6	-6.09	124.95	128.60
1	AA	413	G	C8-N9-C4	-6.09	103.97	106.40
1	AA	421	A	C2-N3-C4	-6.09	107.56	110.60
1	AA	1072	U	C5-C6-N1	6.09	125.74	122.70
1	AA	456	A	N1-C6-N6	6.08	122.25	118.60
1	AA	12	U	N1-C2-O2	6.08	127.06	122.80
1	AA	50	G	C4-C5-C6	6.08	122.45	118.80
1	AA	468	G	N1-C2-N2	-6.08	110.72	116.20
1	CA	816	C	C6-N1-C2	-6.08	117.87	120.30
1	AA	1851	U	C5-C6-N1	-6.08	119.66	122.70
1	AA	2641	A	C2-N3-C4	-6.08	107.56	110.60
2	AB	8	U	N3-C2-O2	-6.08	117.94	122.20
34	BA	336	C	C2-N1-C1'	-6.08	112.11	118.80
1	CA	1125	G	N1-C6-O6	6.08	123.55	119.90
1	CA	2227	A	N1-C6-N6	6.08	122.25	118.60
1	AA	2248	C	C2-N3-C4	-6.08	116.86	119.90
1	AA	60	G	N3-C2-N2	-6.08	115.64	119.90
1	AA	1828	C	C2-N3-C4	-6.08	116.86	119.90
1	AA	2115	G	N7-C8-N9	-6.08	110.06	113.10
1	AA	2265	G	C8-N9-C4	6.08	108.83	106.40
34	BA	859	A	N9-C4-C5	6.08	108.23	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	BA	1525	G	C5-C6-O6	6.08	132.25	128.60
35	BB	111	ARG	NE-CZ-NH1	6.08	123.34	120.30
34	DA	44	G	N3-C4-N9	6.08	129.65	126.00
1	AA	552	C	C5-C4-N4	6.08	124.45	120.20
1	AA	610	C	N3-C4-C5	6.08	124.33	121.90
1	AA	2227	G	N3-C4-C5	6.08	131.64	128.60
1	CA	2274	A	O5'-P-OP2	-6.08	100.23	105.70
1	AA	826	U	N3-C4-O4	6.08	123.65	119.40
1	CA	2446	G	N3-C2-N2	6.08	124.15	119.90
1	CA	2571	C	C5-C6-N1	-6.07	117.96	121.00
2	AB	87	G	C5-C6-N1	6.07	114.54	111.50
1	CA	1266	G	C5-C6-O6	-6.07	124.96	128.60
1	CA	1305	C	C5-C6-N1	6.07	124.04	121.00
1	AA	2825	C	O5'-P-OP2	-6.07	100.24	105.70
34	BA	194	C	C5-C6-N1	6.07	124.03	121.00
1	CA	2021	C	C6-N1-C2	6.07	122.73	120.30
34	DA	795	C	C2-N3-C4	-6.07	116.86	119.90
1	AA	1742	G	C6-C5-N7	-6.07	126.76	130.40
34	DA	560	U	C5-C6-N1	6.07	125.73	122.70
34	BA	1384	C	C6-N1-C2	-6.07	117.87	120.30
1	AA	2023	A	N9-C4-C5	6.06	108.23	105.80
1	AA	1664	A	O5'-P-OP2	6.06	117.97	110.70
1	AA	2418	U	N3-C4-O4	6.06	123.64	119.40
1	CA	672	C	C2-N1-C1'	-6.06	112.13	118.80
34	DA	907	A	C5-C6-N1	-6.06	114.67	117.70
1	AA	1409	C	C6-N1-C2	6.06	122.72	120.30
1	AA	1801	G	C6-N1-C2	-6.06	121.46	125.10
34	BA	1404	C	N3-C2-O2	6.06	126.14	121.90
1	CA	530	G	O5'-P-OP1	-6.06	100.25	105.70
1	CA	1533	G	N3-C4-N9	6.06	129.64	126.00
1	AA	1830	G	N3-C2-N2	6.06	124.14	119.90
1	AA	2076	A	N1-C2-N3	6.06	132.33	129.30
1	CA	2038	G	OP2-P-O3'	6.06	118.53	105.20
1	AA	195	U	N1-C2-N3	6.05	118.53	114.90
1	AA	2048	C	OP2-P-O3'	6.05	118.52	105.20
1	AA	2282	G	C5-C6-O6	-6.05	124.97	128.60
34	BA	689	C	C5-C4-N4	-6.05	115.96	120.20
1	CA	1404	C	N3-C4-N4	-6.05	113.76	118.00
1	CA	1618	A	C8-N9-C4	-6.05	103.38	105.80
1	CA	1721	G	C5-C6-O6	-6.05	124.97	128.60
34	DA	23	C	O5'-P-OP2	6.05	117.97	110.70
1	AA	640	A	OP2-P-O3'	6.05	118.52	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1199	U	O5'-P-OP1	-6.05	100.25	105.70
1	AA	169	G	N3-C2-N2	6.05	124.14	119.90
1	AA	520	G	OP2-P-O3'	6.05	118.51	105.20
1	AA	897	C	N3-C4-C5	6.05	124.32	121.90
1	AA	1212	C	OP1-P-O3'	-6.05	91.89	105.20
1	CA	1653	G	N3-C2-N2	-6.05	115.66	119.90
1	CA	2893	G	N9-C4-C5	-6.05	102.98	105.40
1	AA	1694	G	C8-N9-C4	6.05	108.82	106.40
1	CA	2474	C	C6-N1-C1'	-6.05	113.54	120.80
1	CA	2612	C	N1-C2-O2	6.05	122.53	118.90
1	CA	2831	G	N3-C4-N9	-6.05	122.37	126.00
1	AA	883	G	C2-N3-C4	6.05	114.92	111.90
1	AA	1395	A	O5'-P-OP2	-6.05	100.26	105.70
1	AA	1460	G	N3-C4-N9	-6.05	122.37	126.00
1	AA	1639	G	N3-C4-N9	6.05	129.63	126.00
1	AA	2084	A	C6-C5-N7	-6.04	128.07	132.30
1	CA	2766	G	C4-C5-N7	6.04	113.22	110.80
1	AA	100	G	O5'-P-OP2	-6.04	100.26	105.70
1	AA	976	G	N1-C2-N3	6.04	127.53	123.90
1	AA	2479	C	C5-C6-N1	-6.04	117.98	121.00
34	DA	39	G	N3-C2-N2	6.04	124.13	119.90
2	AB	96	U	N3-C4-O4	-6.04	115.17	119.40
1	CA	726	G	O5'-P-OP1	-6.04	100.26	105.70
1	CA	1840	G	N1-C6-O6	6.04	123.52	119.90
1	AA	35	G	N1-C6-O6	-6.04	116.28	119.90
1	AA	410	U	C2-N1-C1'	-6.04	110.45	117.70
1	AA	1372	U	N3-C4-O4	-6.04	115.17	119.40
1	AA	2259	A	N1-C6-N6	-6.04	114.98	118.60
1	CA	2595	G	N1-C6-O6	6.04	123.52	119.90
1	AA	1545	C	C5-C6-N1	-6.04	117.98	121.00
1	AA	2368	C	C2-N3-C4	-6.04	116.88	119.90
1	AA	2724	U	N1-C2-O2	6.04	127.03	122.80
1	CA	1261	C	C6-N1-C2	6.04	122.71	120.30
1	CA	1681	G	N9-C4-C5	6.04	107.81	105.40
1	CA	1708	C	C5-C6-N1	-6.04	117.98	121.00
1	AA	347	G	C5-C6-O6	-6.03	124.98	128.60
34	BA	1468	A	C5-C6-N6	-6.03	118.87	123.70
1	CA	220	G	C8-N9-C4	-6.03	103.99	106.40
1	CA	315	G	C5-C6-O6	6.03	132.22	128.60
1	CA	2010	G	OP1-P-OP2	-6.03	110.55	119.60
1	AA	392	U	O5'-P-OP1	-6.03	100.27	105.70
1	AA	738	C	OP1-P-OP2	-6.03	110.55	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	AB	53	A	N1-C6-N6	6.03	122.22	118.60
1	CA	997	G	O5'-P-OP1	-6.03	100.27	105.70
1	CA	966	G	OP2-P-O3'	6.03	118.47	105.20
1	CA	503	A	N1-C6-N6	-6.03	114.98	118.60
1	CA	2233	U	N1-C2-O2	-6.03	118.58	122.80
1	AA	811	A	C5-C6-N1	6.03	120.71	117.70
1	AA	1419	A	OP1-P-OP2	-6.03	110.56	119.60
1	AA	1699	A	C5-N7-C8	6.03	106.91	103.90
1	AA	1961	U	O5'-P-OP1	-6.03	100.28	105.70
1	AA	1981	G	C5-C6-O6	6.03	132.22	128.60
1	AA	127	C	N1-C2-O2	-6.03	115.28	118.90
1	AA	426	G	C5-N7-C8	6.03	107.31	104.30
1	CA	680	G	C5-C6-O6	6.03	132.22	128.60
1	CA	1646	C	N1-C2-O2	6.03	122.52	118.90
1	CA	1957	C	C2-N3-C4	-6.03	116.89	119.90
1	AA	251	A	N7-C8-N9	-6.02	110.79	113.80
1	AA	519	G	OP1-P-OP2	-6.02	110.56	119.60
1	AA	748	G	N1-C6-O6	-6.02	116.28	119.90
34	BA	1260	C	N1-C2-O2	6.02	122.51	118.90
1	AA	1613	A	C5-C6-N1	6.02	120.71	117.70
34	DA	1518	A	C5-C6-N6	6.02	128.52	123.70
1	AA	2730	G	C5-N7-C8	6.02	107.31	104.30
2	AB	6	C	C2-N3-C4	-6.02	116.89	119.90
1	CA	2361	A	C2-N3-C4	-6.02	107.59	110.60
1	AA	1016	C	O5'-P-OP1	6.02	117.92	110.70
1	AA	1208	G	C5-N7-C8	6.02	107.31	104.30
1	AA	2719	G	N9-C4-C5	-6.02	102.99	105.40
1	AA	2788	A	C2-N3-C4	-6.02	107.59	110.60
56	BW	75	C	C2-N3-C4	-6.02	116.89	119.90
1	AA	2622	C	C5-C6-N1	-6.02	117.99	121.00
1	AA	2883	A	N7-C8-N9	6.02	116.81	113.80
2	AB	32	C	N3-C4-N4	-6.02	113.79	118.00
1	CA	540	C	N1-C2-O2	6.02	122.51	118.90
1	CA	736	C	OP2-P-O3'	6.02	118.44	105.20
1	AA	28	A	OP1-P-O3'	6.02	118.44	105.20
1	AA	1678	A	N1-C2-N3	6.02	132.31	129.30
1	AA	2481	A	OP2-P-O3'	6.02	118.44	105.20
2	AB	34	U	C4-C5-C6	6.01	123.31	119.70
1	CA	705	A	N9-C4-C5	-6.01	103.39	105.80
1	CA	2277	G	C4-C5-N7	-6.01	108.39	110.80
34	DA	104	G	C6-C5-N7	-6.01	126.79	130.40
1	AA	22	C	N1-C2-O2	6.01	122.51	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	83	A	C5-C6-N6	-6.01	118.89	123.70
1	AA	2019	G	C5'-C4'-O4'	6.01	116.32	109.10
1	CA	969	U	OP1-P-O3'	6.01	118.43	105.20
1	AA	60	G	C4-N9-C1'	-6.01	118.68	126.50
1	AA	894	U	N3-C4-C5	6.01	118.21	114.60
1	AA	1345	G	C6-N1-C2	-6.01	121.49	125.10
1	AA	1668	G	C5-C6-N1	6.01	114.51	111.50
1	AA	2346	G	OP2-P-O3'	6.01	118.43	105.20
1	AA	2562	G	N3-C4-C5	-6.01	125.59	128.60
2	AB	61	G	N9-C4-C5	6.01	107.80	105.40
34	BA	509	A	O5'-P-OP1	-6.01	100.29	105.70
1	CA	1493	C	N1-C2-O2	6.01	122.51	118.90
1	AA	786	G	OP1-P-O3'	6.01	118.42	105.20
1	AA	806	G	N3-C4-C5	-6.01	125.59	128.60
34	BA	365	U	C5-C6-N1	-6.01	119.69	122.70
1	CA	2502	G	C6-C5-N7	-6.01	126.79	130.40
1	CA	2855	C	C5-C6-N1	6.01	124.00	121.00
34	DA	739	C	C6-N1-C2	-6.01	117.90	120.30
1	AA	849	A	C5-N7-C8	6.01	106.90	103.90
1	CA	1934	C	C6-N1-C2	6.01	122.70	120.30
1	AA	1794	G	OP2-P-O3'	6.01	118.42	105.20
1	AA	1798	C	C5-C6-N1	-6.01	118.00	121.00
1	AA	2521	G	N7-C8-N9	-6.01	110.10	113.10
34	DA	899	C	C6-N1-C2	6.00	122.70	120.30
1	AA	491	G	N3-C2-N2	6.00	124.10	119.90
1	AA	1188	A	O5'-P-OP1	-6.00	100.30	105.70
1	CA	911	A	N1-C6-N6	-6.00	115.00	118.60
1	CA	2755	C	C5-C6-N1	6.00	124.00	121.00
1	AA	1470	G	N1-C2-N2	-6.00	110.80	116.20
1	AA	2265	G	N1-C6-O6	6.00	123.50	119.90
1	AA	2895	C	N3-C4-N4	6.00	122.20	118.00
1	CA	201	C	C2-N3-C4	-6.00	116.90	119.90
1	CA	785	G	C5-C6-O6	-6.00	125.00	128.60
1	CA	992	C	N3-C4-C5	6.00	124.30	121.90
1	CA	1774	C	C6-N1-C2	-6.00	117.90	120.30
1	AA	141	C	O5'-P-OP2	-6.00	100.30	105.70
1	AA	2745	G	N3-C2-N2	-6.00	115.70	119.90
34	BA	731	G	C8-N9-C4	-6.00	104.00	106.40
34	BA	1524	C	C5-C6-N1	-6.00	118.00	121.00
1	CA	198	C	N1-C2-O2	-6.00	115.30	118.90
1	CA	2256	G	C6-C5-N7	-6.00	126.80	130.40
1	CA	2523	G	C8-N9-C4	-6.00	104.00	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2240	G	O5'-P-OP2	-6.00	100.30	105.70
1	AA	2756	C	N1-C2-N3	6.00	123.40	119.20
1	CA	2042	A	N7-C8-N9	-6.00	110.80	113.80
1	CA	2273	A	N7-C8-N9	-6.00	110.80	113.80
34	DA	907	A	OP2-P-O3'	6.00	118.40	105.20
1	AA	1444	C	C2-N3-C4	-6.00	116.90	119.90
1	AA	2662	U	C5-C4-O4	6.00	129.50	125.90
1	CA	2549	G	O5'-P-OP2	-6.00	100.30	105.70
34	DA	484	G	N3-C4-C5	-6.00	125.60	128.60
1	AA	2830	A	C2-N3-C4	-6.00	107.60	110.60
1	CA	940	G	O5'-P-OP1	-6.00	100.30	105.70
1	AA	627	G	OP1-P-OP2	5.99	128.59	119.60
1	AA	2722	C	OP2-P-O3'	5.99	118.39	105.20
1	AA	2788	A	C8-N9-C4	5.99	108.20	105.80
1	CA	1404	C	O5'-P-OP2	-5.99	100.31	105.70
1	AA	2419	G	N1-C6-O6	5.99	123.50	119.90
1	CA	1703	G	C8-N9-C4	5.99	108.80	106.40
1	AA	2611	G	C5-C6-O6	5.99	132.19	128.60
1	AA	1745	A	C5-C6-N1	-5.99	114.70	117.70
1	AA	2259	A	C5-C6-N6	5.99	128.49	123.70
1	AA	221	G	N3-C4-N9	5.99	129.59	126.00
1	AA	2886	G	N3-C2-N2	-5.99	115.71	119.90
1	AA	1199	C	C2-N3-C4	-5.98	116.91	119.90
1	AA	2082	A	OP1-P-O3'	5.98	118.37	105.20
1	AA	2085	C	OP1-P-OP2	-5.98	110.62	119.60
1	AA	1097	G	OP1-P-OP2	-5.98	110.63	119.60
1	AA	500	G	N1-C6-O6	-5.98	116.31	119.90
1	AA	805	C	C5-C4-N4	5.98	124.39	120.20
1	AA	1237	G	C5-C6-O6	5.98	132.19	128.60
1	AA	1409	C	C2-N3-C4	-5.98	116.91	119.90
1	AA	2577	A	N7-C8-N9	-5.98	110.81	113.80
1	AA	2740	G	N9-C4-C5	5.98	107.79	105.40
1	AA	2756	C	N3-C4-N4	5.98	122.19	118.00
34	DA	1528	U	C5-C6-N1	-5.98	119.71	122.70
1	AA	127	C	C5-C4-N4	-5.98	116.02	120.20
1	AA	1862	G	C8-N9-C4	-5.98	104.01	106.40
34	BA	17	U	OP1-P-OP2	-5.98	110.63	119.60
1	CA	499	U	C2-N3-C4	-5.98	123.41	127.00
1	CA	2055	C	O5'-P-OP2	-5.98	100.32	105.70
1	AA	1444	C	N1-C2-O2	-5.98	115.31	118.90
1	AA	1547	C	C5-C6-N1	5.98	123.99	121.00
34	BA	284	G	C8-N9-C4	5.98	108.79	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1186	G	N1-C6-O6	5.98	123.49	119.90
1	AA	84	G	C2-N3-C4	-5.98	108.91	111.90
1	AA	1378	G	C8-N9-C4	-5.98	104.01	106.40
1	AA	2293	C	N3-C2-O2	5.97	126.08	121.90
1	CA	258	G	O5'-P-OP2	5.97	117.87	110.70
1	AA	1542	A	O5'-P-OP1	-5.97	100.32	105.70
1	AA	1690	G	C5-C6-O6	5.97	132.18	128.60
1	CA	211	A	C5-C6-N6	-5.97	118.92	123.70
1	CA	2062	A	N7-C8-N9	5.97	116.78	113.80
1	AA	581	G	C5-N7-C8	5.97	107.28	104.30
1	AA	726	C	C6-N1-C2	5.97	122.69	120.30
1	CA	2563	U	C5-C6-N1	-5.97	119.72	122.70
1	AA	434	G	C6-C5-N7	-5.97	126.82	130.40
1	AA	475	A	C4-C5-N7	5.97	113.68	110.70
1	AA	728	G	OP2-P-O3'	5.97	118.33	105.20
1	AA	2107	C	C2-N3-C4	-5.97	116.92	119.90
1	AA	2712	C	N3-C4-C5	5.97	124.29	121.90
1	CA	104	U	O5'-P-OP2	-5.97	100.33	105.70
1	AA	184	A	P-O3'-C3'	5.97	126.86	119.70
1	AA	335	A	C5-N7-C8	5.97	106.88	103.90
1	AA	1374	G	N3-C2-N2	5.97	124.08	119.90
1	AA	115	G	C4-C5-C6	5.96	122.38	118.80
1	AA	343	C	C2-N1-C1'	5.96	125.36	118.80
1	AA	916	G	N1-C6-O6	-5.96	116.32	119.90
1	AA	1318	A	O5'-P-OP2	-5.96	100.33	105.70
12	AO	91	LEU	CA-CB-CG	5.96	129.02	115.30
1	CA	2253	G	C8-N9-C1'	-5.96	119.25	127.00
1	AA	311	C	O5'-P-OP2	-5.96	100.33	105.70
1	AA	1918	G	N3-C2-N2	-5.96	115.73	119.90
1	AA	2875	U	C5-C4-O4	-5.96	122.32	125.90
2	AB	105	A	C8-N9-C4	5.96	108.19	105.80
1	AA	748	G	OP2-P-O3'	5.96	118.31	105.20
1	AA	2516	U	N3-C4-C5	5.96	118.18	114.60
56	BW	17	C	C5-C6-N1	5.96	123.98	121.00
1	CA	454	A	OP2-P-O3'	5.96	118.32	105.20
1	AA	1057	G	OP2-P-O3'	5.96	118.31	105.20
56	BW	73	A	C6-C5-N7	-5.96	128.13	132.30
1	AA	529	U	C5-C4-O4	5.96	129.47	125.90
1	AA	2583	C	C5-C6-N1	-5.96	118.02	121.00
15	AR	17	ARG	NE-CZ-NH1	-5.96	117.32	120.30
1	AA	475	A	C5-C6-N6	-5.96	118.93	123.70
1	AA	1067	A	C8-N9-C1'	5.96	138.42	127.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2244	U	C6-N1-C2	5.96	124.57	121.00
1	AA	2249	G	OP1-P-OP2	5.96	128.53	119.60
1	AA	2724	U	N1-C2-N3	-5.96	111.33	114.90
2	AB	85	G	C8-N9-C4	5.96	108.78	106.40
1	CA	941	A	C2-N3-C4	-5.96	107.62	110.60
34	DA	811	C	C6-N1-C2	5.96	122.68	120.30
56	DW	6	G	C8-N9-C4	5.96	108.78	106.40
1	AA	97	G	N9-C4-C5	5.96	107.78	105.40
1	AA	1334	U	C5-C6-N1	-5.95	119.72	122.70
1	AA	1377	A	OP1-P-O3'	-5.95	92.10	105.20
1	AA	1927	C	OP1-P-O3'	5.95	118.30	105.20
1	AA	2755	C	C5-C4-N4	-5.95	116.03	120.20
34	BA	1457	G	C8-N9-C4	5.95	108.78	106.40
1	AA	733	G	O4'-C1'-N9	5.95	112.96	108.20
1	AA	2357	G	N3-C2-N2	5.95	124.06	119.90
34	BA	266	G	N1-C6-O6	-5.95	116.33	119.90
1	CA	529	A	N7-C8-N9	5.95	116.77	113.80
1	AA	567	C	N3-C4-N4	-5.95	113.84	118.00
1	AA	581	G	C6-C5-N7	5.95	133.97	130.40
1	AA	1253	C	C2-N3-C4	-5.95	116.93	119.90
56	BW	17	C	C6-N1-C2	-5.95	117.92	120.30
1	AA	1072	U	C2-N3-C4	5.95	130.57	127.00
1	AA	1166	G	C4-C5-N7	-5.95	108.42	110.80
1	AA	1314	A	C5-C6-N6	5.95	128.46	123.70
1	AA	2378	A	N7-C8-N9	-5.95	110.83	113.80
1	AA	2698	G	N1-C2-N2	-5.95	110.85	116.20
1	AA	821	A	C2-N3-C4	5.94	113.57	110.60
1	AA	830	A	C5-N7-C8	5.94	106.87	103.90
1	AA	2081	A	O5'-P-OP2	-5.94	100.35	105.70
1	AA	374	U	C5-C4-O4	-5.94	122.33	125.90
1	AA	1174	A	C2-N3-C4	-5.94	107.63	110.60
1	AA	1212	C	OP2-P-O3'	5.94	118.27	105.20
1	AA	2266	C	N3-C4-N4	5.94	122.16	118.00
1	AA	2705	A	N7-C8-N9	-5.94	110.83	113.80
34	BA	28	G	N7-C8-N9	5.94	116.07	113.10
34	BA	635	G	N1-C6-O6	5.94	123.47	119.90
1	AA	426	G	C6-N1-C2	-5.94	121.54	125.10
1	AA	1979	C	N3-C4-C5	5.94	124.28	121.90
1	AA	2251	G	O5'-P-OP2	-5.94	100.35	105.70
1	CA	2286	A	C5-C6-N1	-5.94	114.73	117.70
1	CA	1790	C	C6-N1-C2	5.94	122.68	120.30
34	DA	65	U	P-O3'-C3'	5.94	126.83	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	23	G	C5-N7-C8	5.94	107.27	104.30
1	AA	60	G	N9-C4-C5	5.94	107.78	105.40
1	AA	136	G	C5-C6-O6	-5.94	125.04	128.60
1	AA	1269	G	C6-C5-N7	5.94	133.96	130.40
1	AA	1864	U	C5-C6-N1	-5.94	119.73	122.70
1	AA	2608	U	C5-C6-N1	-5.94	119.73	122.70
2	AB	106	G	C8-N9-C4	-5.94	104.03	106.40
1	CA	1349	A	O5'-P-OP1	-5.94	100.36	105.70
1	AA	907	U	C5-C6-N1	-5.94	119.73	122.70
1	CA	1660	C	O5'-P-OP2	-5.94	100.36	105.70
1	AA	1821	C	C2-N3-C4	-5.93	116.93	119.90
1	AA	2248	C	C2-N1-C1'	-5.93	112.27	118.80
1	AA	2470	G	C5-N7-C8	5.93	107.27	104.30
34	BA	577	G	N3-C2-N2	5.93	124.06	119.90
1	CA	1955	U	N3-C2-O2	5.93	126.35	122.20
1	AA	122	G	C5-C6-N1	-5.93	108.53	111.50
1	AA	1077	G	N1-C2-N3	5.93	127.46	123.90
1	AA	1167	C	OP2-P-O3'	5.93	118.25	105.20
1	AA	1353	A	C4-C5-N7	5.93	113.67	110.70
1	AA	2403	G	O5'-P-OP2	-5.93	100.36	105.70
34	BA	718	G	N1-C6-O6	5.93	123.46	119.90
1	CA	1446	C	N1-C2-O2	5.93	122.46	118.90
1	AA	1925	G	OP2-P-O3'	5.93	118.25	105.20
1	AA	2340	A	N7-C8-N9	-5.93	110.83	113.80
1	AA	1057	G	C8-N9-C4	5.93	108.77	106.40
1	CA	254	G	C8-N9-C4	5.93	108.77	106.40
34	DA	920	U	C6-N1-C2	-5.93	117.44	121.00
1	AA	723	A	OP1-P-OP2	5.93	128.49	119.60
1	AA	1260	G	C4-C5-N7	-5.93	108.43	110.80
1	AA	1310	G	O5'-P-OP1	-5.93	100.37	105.70
1	AA	1752	G	N1-C6-O6	-5.93	116.34	119.90
1	AA	2706	G	C5-N7-C8	5.93	107.26	104.30
1	AA	591	U	O5'-P-OP2	5.92	117.81	110.70
1	AA	952	G	N9-C4-C5	5.92	107.77	105.40
1	CA	730	C	C6-N1-C2	5.92	122.67	120.30
1	CA	2430	A	C8-N9-C4	5.92	108.17	105.80
1	AA	781	A	N7-C8-N9	5.92	116.76	113.80
1	AA	1355	G	N1-C6-O6	-5.92	116.35	119.90
1	CA	1187	G	N7-C8-N9	5.92	116.06	113.10
1	AA	358	C	C5-C6-N1	-5.92	118.04	121.00
1	AA	470	C	C5-C4-N4	5.92	124.35	120.20
1	AA	1646	C	C2-N3-C4	-5.92	116.94	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1789	G	N1-C2-N3	5.92	127.45	123.90
1	AA	2051	G	C8-N9-C4	5.92	108.77	106.40
1	AA	2083	G	C8-N9-C4	5.92	108.77	106.40
1	CA	540	C	N3-C2-O2	-5.92	117.75	121.90
1	CA	1561	G	O5'-P-OP2	5.92	117.81	110.70
34	DA	831	U	C6-N1-C2	-5.92	117.45	121.00
1	AA	146	G	N1-C6-O6	-5.92	116.35	119.90
1	AA	2106	C	OP2-P-O3'	5.92	118.22	105.20
13	AP	55	ARG	NE-CZ-NH2	-5.92	117.34	120.30
1	CA	72	U	C5-C6-N1	-5.92	119.74	122.70
1	CA	1953	A	C8-N9-C4	5.92	108.17	105.80
1	AA	95	G	N3-C2-N2	5.92	124.04	119.90
1	AA	292	G	C8-N9-C4	5.92	108.77	106.40
1	AA	1342	G	C5-C6-O6	5.92	132.15	128.60
1	AA	2523	U	N3-C4-C5	5.92	118.15	114.60
34	BA	245	C	O5'-P-OP2	-5.92	100.38	105.70
34	BA	974	A	N7-C8-N9	5.92	116.76	113.80
1	CA	1506	C	C6-N1-C2	-5.92	117.93	120.30
1	AA	1704	C	C2-N3-C4	-5.92	116.94	119.90
1	AA	2474	U	C6-N1-C2	5.92	124.55	121.00
1	AA	2522	C	N3-C2-O2	-5.92	117.76	121.90
1	CA	1955	U	C2-N3-C4	-5.92	123.45	127.00
1	CA	1972	A	C8-N9-C4	-5.92	103.43	105.80
1	CA	2032	G	C5-C6-N1	5.92	114.46	111.50
1	AA	703	G	OP2-P-O3'	5.91	118.21	105.20
1	CA	848	G	N3-C4-N9	5.91	129.55	126.00
1	CA	864	G	OP1-P-O3'	5.91	118.21	105.20
1	CA	1008	C	C6-N1-C2	-5.91	117.94	120.30
1	AA	223	C	C6-N1-C2	-5.91	117.94	120.30
1	AA	1020	C	OP1-P-O3'	5.91	118.21	105.20
1	AA	1848	G	N3-C2-N2	5.91	124.04	119.90
1	AA	2475	C	C2-N3-C4	-5.91	116.94	119.90
1	AA	2794	A	C8-N9-C4	-5.91	103.44	105.80
1	AA	1230	C	N3-C2-O2	-5.91	117.76	121.90
1	AA	1813	C	N3-C4-C5	5.91	124.26	121.90
1	CA	2599	G	OP2-P-O3'	5.91	118.20	105.20
1	AA	579	G	N7-C8-N9	5.91	116.05	113.10
1	AA	2366	G	C5-C6-O6	-5.91	125.06	128.60
1	CA	774	A	OP1-P-OP2	5.91	128.46	119.60
1	CA	1812	A	O5'-P-OP1	-5.91	100.38	105.70
1	AA	1638	C	OP2-P-O3'	5.91	118.19	105.20
1	AA	1745	A	N1-C6-N6	5.91	122.14	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1233	U	N3-C4-O4	-5.91	115.27	119.40
1	AA	2394	G	C8-N9-C1'	-5.91	119.32	127.00
1	AA	2418	U	C5-C6-N1	-5.91	119.75	122.70
1	AA	2639	G	C8-N9-C4	5.91	108.76	106.40
1	AA	2674	A	N9-C4-C5	5.91	108.16	105.80
34	BA	284	G	C4-C5-N7	-5.91	108.44	110.80
1	AA	1928	G	C5-C6-O6	-5.90	125.06	128.60
1	AA	2018	C	C2-N3-C4	-5.90	116.95	119.90
1	AA	981	C	N3-C4-C5	5.90	124.26	121.90
1	AA	1694	G	C5-C6-N1	5.90	114.45	111.50
1	AA	2312	G	C8-N9-C4	-5.90	104.04	106.40
1	CA	194	G	C4-C5-N7	-5.90	108.44	110.80
1	AA	345	G	N3-C4-N9	5.90	129.54	126.00
1	AA	780	G	C5-C6-O6	-5.90	125.06	128.60
1	CA	2400	G	N3-C2-N2	5.90	124.03	119.90
1	AA	1206	G	C5-C6-O6	-5.90	125.06	128.60
34	BA	1375	A	N1-C6-N6	-5.90	115.06	118.60
1	AA	19	C	C5-C4-N4	-5.90	116.07	120.20
1	AA	2342	G	N9-C4-C5	5.90	107.76	105.40
1	AA	2632	C	C5-C4-N4	5.90	124.33	120.20
2	AB	77	U	C2-N3-C4	-5.90	123.46	127.00
1	CA	380	U	N3-C2-O2	-5.90	118.07	122.20
1	CA	482	A	C8-N9-C4	5.90	108.16	105.80
1	CA	742	G	O5'-P-OP1	5.90	117.78	110.70
1	CA	2282	G	O4'-C1'-N9	5.90	112.92	108.20
56	BW	74	C	C6-N1-C2	-5.90	117.94	120.30
1	AA	880	U	C6-N1-C2	5.89	124.54	121.00
34	BA	696	A	C6-N1-C2	-5.89	115.06	118.60
34	BA	1401	G	N3-C2-N2	-5.89	115.77	119.90
1	CA	250	G	N3-C4-C5	-5.89	125.65	128.60
1	CA	758	C	C2-N3-C4	-5.89	116.95	119.90
1	CA	2237	G	N7-C8-N9	-5.89	110.15	113.10
1	CA	2513	G	C5-C6-O6	-5.89	125.06	128.60
4	CD	88	ARG	NE-CZ-NH1	-5.89	117.35	120.30
1	AA	120	G	C5-C6-N1	5.89	114.44	111.50
11	AN	65	LYS	CD-CE-NZ	5.89	125.25	111.70
1	CA	1939	U	C4-C5-C6	-5.89	116.17	119.70
1	CA	2837	G	N3-C2-N2	-5.89	115.78	119.90
1	AA	595	A	N1-C6-N6	-5.89	115.07	118.60
1	AA	654	G	C4-C5-N7	-5.89	108.44	110.80
1	AA	859	C	C4-C5-C6	5.89	120.34	117.40
1	AA	1694	G	O4'-C1'-N9	-5.89	103.49	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2529	C	N1-C2-O2	5.89	122.43	118.90
1	AA	2778	A	N9-C4-C5	-5.89	103.44	105.80
34	DA	853	G	C8-N9-C4	-5.89	104.04	106.40
12	AO	8	LEU	CA-CB-CG	5.89	128.84	115.30
1	CA	12	U	N3-C2-O2	-5.89	118.08	122.20
1	AA	2067	C	N3-C2-O2	-5.89	117.78	121.90
34	DA	665	A	O5'-P-OP2	-5.89	100.40	105.70
1	AA	213	G	N3-C2-N2	5.88	124.02	119.90
1	AA	1797	U	N1-C2-N3	5.88	118.43	114.90
1	AA	2652	G	OP2-P-O3'	5.88	118.14	105.20
34	BA	664	G	N1-C6-O6	-5.88	116.37	119.90
1	AA	722	A	O5'-P-OP2	5.88	117.76	110.70
1	AA	1026	A	C2-N3-C4	-5.88	107.66	110.60
1	CA	933	A	C5-N7-C8	-5.88	100.96	103.90
1	CA	2495	G	C2-N3-C4	-5.88	108.96	111.90
1	AA	2017	U	N1-C2-N3	5.88	118.43	114.90
1	AA	2439	C	N3-C4-C5	-5.88	119.55	121.90
1	AA	2537	G	N3-C2-N2	5.88	124.02	119.90
1	CA	798	G	C5-C6-O6	5.88	132.13	128.60
1	AA	205	A	N9-C4-C5	-5.88	103.45	105.80
1	AA	845	G	C5-C6-N1	-5.88	108.56	111.50
1	AA	2103	C	C4-C5-C6	5.88	120.34	117.40
34	DA	576	G	N1-C2-N2	-5.88	110.91	116.20
1	AA	975	U	N1-C2-N3	5.88	118.43	114.90
1	CA	1365	A	N7-C8-N9	5.88	116.74	113.80
1	CA	2035	G	N1-C6-O6	-5.88	116.37	119.90
1	AA	2289	G	O5'-P-OP2	-5.88	100.41	105.70
1	CA	116	C	OP1-P-OP2	5.88	128.41	119.60
1	AA	177	G	C5-C6-O6	-5.87	125.08	128.60
1	AA	843	C	C2-N3-C4	-5.87	116.96	119.90
1	AA	1323	G	C4-C5-N7	-5.87	108.45	110.80
1	AA	1918	G	N3-C4-N9	-5.87	122.48	126.00
1	AA	1927	C	P-O3'-C3'	5.87	126.75	119.70
1	AA	2423	A	C5-C6-N6	-5.87	119.00	123.70
1	CA	565	C	N3-C2-O2	5.87	126.01	121.90
1	CA	2325	G	N7-C8-N9	5.87	116.04	113.10
1	CA	2536	G	C5-C6-O6	-5.87	125.08	128.60
1	AA	309	C	OP2-P-O3'	5.87	118.12	105.20
1	AA	353	G	C2-N3-C4	5.87	114.84	111.90
1	AA	881	C	C2-N1-C1'	-5.87	112.34	118.80
1	AA	1324	A	C2-N3-C4	-5.87	107.67	110.60
1	AA	1828	C	N1-C2-N3	5.87	123.31	119.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2387	G	C4-N9-C1'	-5.87	118.87	126.50
34	BA	509	A	C8-N9-C4	-5.87	103.45	105.80
34	BA	970	C	C6-N1-C2	-5.87	117.95	120.30
1	AA	559	U	C5-C6-N1	-5.87	119.77	122.70
1	AA	870	G	C2-N3-C4	5.87	114.83	111.90
1	AA	1823	G	OP1-P-OP2	-5.87	110.79	119.60
1	CA	245	G	O5'-P-OP2	5.87	117.74	110.70
1	AA	886	U	O5'-P-OP2	-5.87	100.42	105.70
1	AA	1678	A	N9-C4-C5	5.87	108.15	105.80
34	BA	689	C	N3-C4-N4	5.87	122.11	118.00
1	CA	859	G	N3-C4-N9	-5.87	122.48	126.00
1	CA	1003	G	C4-C5-N7	5.87	113.15	110.80
1	CA	2206	G	N7-C8-N9	-5.87	110.17	113.10
1	AA	150	C	N1-C2-O2	-5.87	115.38	118.90
1	CA	13	A	N9-C4-C5	5.87	108.15	105.80
34	DA	760	G	N9-C4-C5	-5.87	103.05	105.40
1	AA	408	G	C5-N7-C8	5.87	107.23	104.30
1	AA	715	G	C6-C5-N7	-5.87	126.88	130.40
1	AA	819	C	N1-C2-O2	-5.87	115.38	118.90
1	AA	1185	C	C5-C4-N4	5.87	124.31	120.20
1	AA	1210	G	C5-C6-N1	-5.87	108.57	111.50
34	BA	811	C	C6-N1-C2	5.87	122.65	120.30
34	BA	1030(B)	C	N1-C2-O2	5.87	122.42	118.90
34	BA	1103	C	C6-N1-C2	-5.87	117.95	120.30
1	AA	1045	U	O5'-P-OP2	-5.86	100.42	105.70
1	AA	1837	C	C5-C4-N4	-5.86	116.10	120.20
1	AA	184	A	OP2-P-O3'	5.86	118.10	105.20
1	AA	1285	G	OP1-P-OP2	-5.86	110.81	119.60
1	CA	2576	G	C5-C6-O6	5.86	132.12	128.60
1	AA	719	C	N3-C2-O2	5.86	126.00	121.90
1	AA	2223	C	C6-N1-C1'	-5.86	113.77	120.80
1	CA	445	C	C5-C6-N1	-5.86	118.07	121.00
1	CA	1515	G	C5-C6-O6	-5.86	125.08	128.60
1	CA	1844	C	C5-C4-N4	-5.86	116.10	120.20
1	AA	1254	G	OP2-P-O3'	5.86	118.09	105.20
1	AA	2448	G	N1-C2-N2	-5.86	110.93	116.20
1	CA	1295	C	C6-N1-C2	-5.86	117.96	120.30
34	DA	805	C	C6-N1-C2	-5.86	117.96	120.30
1	AA	527	A	C8-N9-C4	-5.86	103.46	105.80
1	AA	1625	U	O5'-P-OP2	-5.86	100.43	105.70
1	AA	2608	U	N3-C4-C5	5.86	118.11	114.60
1	AA	717	A	O4'-C1'-N9	-5.86	103.52	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	863	C	C5-C4-N4	-5.86	116.10	120.20
1	AA	997	G	N3-C4-C5	5.86	131.53	128.60
1	AA	1832	G	N9-C4-C5	-5.86	103.06	105.40
1	CA	1023	U	C5-C4-O4	5.86	129.41	125.90
1	CA	2730	C	N1-C2-N3	5.86	123.30	119.20
34	DA	1064	G	P-O3'-C3'	5.86	126.73	119.70
1	AA	1227	A	N1-C6-N6	5.85	122.11	118.60
1	AA	1228	G	C5-C6-N1	5.85	114.43	111.50
34	DA	1487	G	N9-C4-C5	5.85	107.74	105.40
1	AA	37	C	OP2-P-O3'	5.85	118.08	105.20
1	AA	523	G	C5-C6-O6	5.85	132.11	128.60
1	AA	533	G	OP2-P-O3'	5.85	118.08	105.20
1	AA	608	G	N1-C6-O6	5.85	123.41	119.90
1	AA	2580	C	N3-C4-N4	5.85	122.10	118.00
34	DA	827	U	N1-C2-O2	5.85	126.90	122.80
1	AA	433	G	O5'-P-OP1	-5.85	100.43	105.70
1	AA	2512	U	C5-C4-O4	-5.85	122.39	125.90
1	CA	2893	G	C8-N9-C1'	-5.85	119.39	127.00
1	AA	809	U	OP1-P-OP2	-5.85	110.83	119.60
1	AA	1376	C	N1-C2-O2	-5.85	115.39	118.90
1	AA	2299	A	N9-C1'-C2'	-5.85	105.56	112.00
1	AA	2733	U	C5-C4-O4	-5.85	122.39	125.90
34	BA	337	C	N3-C4-N4	5.85	122.09	118.00
1	AA	614	C	C5-C6-N1	-5.85	118.08	121.00
1	AA	858	U	N3-C4-C5	5.85	118.11	114.60
1	AA	1922	A	N1-C2-N3	5.85	132.22	129.30
1	AA	2093	A	O5'-P-OP2	-5.85	100.44	105.70
1	AA	2509	A	N1-C6-N6	-5.85	115.09	118.60
34	DA	882	C	C2-N1-C1'	5.85	125.23	118.80
1	AA	349	G	C4-C5-N7	-5.84	108.46	110.80
1	AA	1846	A	C8-N9-C4	5.84	108.14	105.80
1	CA	2567	G	C8-N9-C4	5.84	108.74	106.40
1	AA	1349	G	N1-C6-O6	-5.84	116.39	119.90
1	AA	2800	C	C2-N3-C4	-5.84	116.98	119.90
1	CA	2770	G	O5'-P-OP2	-5.84	100.44	105.70
34	DA	1511	G	N3-C2-N2	-5.84	115.81	119.90
1	AA	595	A	C8-N9-C4	-5.84	103.46	105.80
1	AA	603	C	N3-C4-C5	-5.84	119.56	121.90
1	AA	1779	G	O5'-P-OP2	-5.84	100.44	105.70
1	CA	1836	C	C6-N1-C2	-5.84	117.96	120.30
1	CA	2286	A	C5-N7-C8	-5.84	100.98	103.90
1	AA	368	G	C8-N9-C4	5.84	108.74	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	467	U	C2-N3-C4	-5.84	123.50	127.00
1	AA	530	A	C8-N9-C4	-5.84	103.46	105.80
1	AA	794	U	OP1-P-O3'	5.84	118.05	105.20
1	CA	1327	C	N3-C4-C5	-5.84	119.56	121.90
1	CA	1380	G	C5-C6-O6	5.84	132.10	128.60
1	CA	2361	A	N1-C6-N6	5.84	122.10	118.60
34	DA	780	A	C2-N3-C4	-5.84	107.68	110.60
1	AA	959	U	N3-C4-O4	5.84	123.49	119.40
1	AA	1316	C	N3-C4-C5	5.84	124.23	121.90
34	DA	1408	A	N1-C6-N6	5.84	122.10	118.60
1	AA	1989	C	C6-N1-C2	-5.84	117.97	120.30
1	AA	139	A	N3-C4-C5	5.83	130.88	126.80
1	AA	2831	A	OP1-P-OP2	-5.83	110.85	119.60
34	BA	28	G	C5-C6-O6	-5.83	125.10	128.60
34	BA	815	A	C8-N9-C4	5.83	108.13	105.80
1	AA	122	G	O5'-P-OP2	-5.83	100.45	105.70
1	AA	715	G	OP2-P-O3'	5.83	118.03	105.20
1	AA	883	G	N3-C4-C5	-5.83	125.68	128.60
1	AA	983	G	N3-C4-N9	-5.83	122.50	126.00
2	AB	113	G	C4-C5-N7	5.83	113.13	110.80
1	CA	2066	C	C6-N1-C2	5.83	122.63	120.30
1	AA	2803	A	C8-N9-C4	-5.83	103.47	105.80
34	DA	1279	A	P-O3'-C3'	5.83	126.70	119.70
1	AA	2242	G	C8-N9-C4	5.83	108.73	106.40
34	BA	52	G	C5-C6-O6	-5.83	125.10	128.60
34	DA	199	G	C8-N9-C4	5.83	108.73	106.40
1	AA	1444	C	N3-C4-C5	5.83	124.23	121.90
1	AA	1639	G	N3-C4-C5	-5.83	125.69	128.60
1	AA	1694	G	N3-C2-N2	-5.83	115.82	119.90
1	AA	1809	U	C6-N1-C2	5.83	124.50	121.00
1	AA	2231	G	N1-C6-O6	5.83	123.40	119.90
1	CA	992	C	C2-N3-C4	-5.83	116.99	119.90
1	CA	2714	G	O5'-P-OP1	-5.83	100.45	105.70
1	AA	176	G	C8-N9-C4	-5.83	104.07	106.40
1	AA	1302	G	C5-N7-C8	5.83	107.21	104.30
34	BA	1525	G	O5'-P-OP2	5.83	117.69	110.70
1	CA	1129	A	C5-N7-C8	-5.83	100.99	103.90
1	AA	468	G	C4-N9-C1'	5.83	134.07	126.50
1	AA	1619	A	OP1-P-OP2	-5.83	110.86	119.60
1	AA	1896	G	O4'-C1'-N9	5.83	112.86	108.20
1	AA	2502	G	N3-C2-N2	-5.83	115.82	119.90
1	AA	2844	G	OP1-P-OP2	5.83	128.34	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1617	C	N3-C2-O2	5.83	125.98	121.90
1	CA	2414	G	N1-C6-O6	5.83	123.39	119.90
1	AA	1917	C	O5'-P-OP1	-5.82	100.46	105.70
1	AA	2010	C	C4-C5-C6	5.82	120.31	117.40
2	AB	114	C	C2-N3-C4	-5.82	116.99	119.90
1	AA	785	G	C6-C5-N7	-5.82	126.91	130.40
1	AA	1852	A	C2-N3-C4	5.82	113.51	110.60
34	DA	813	U	OP1-P-OP2	-5.82	110.87	119.60
1	AA	198	C	C2-N3-C4	-5.82	116.99	119.90
1	AA	463	C	N3-C4-C5	-5.82	119.57	121.90
1	AA	593	G	C5-C6-O6	-5.82	125.11	128.60
1	AA	728	G	C4-C5-N7	-5.82	108.47	110.80
1	AA	786	G	C6-C5-N7	5.82	133.89	130.40
1	AA	1072	U	C2-N1-C1'	5.82	124.69	117.70
1	AA	1344	C	N1-C2-O2	-5.82	115.41	118.90
2	AB	9	G	OP2-P-O3'	5.82	118.00	105.20
2	AB	83	G	OP1-P-OP2	-5.82	110.87	119.60
1	CA	378	C	C6-N1-C2	5.82	122.63	120.30
34	DA	1149	C	C5-C6-N1	5.82	123.91	121.00
1	AA	88	G	N9-C4-C5	5.82	107.73	105.40
1	AA	499	G	N1-C2-N3	5.82	127.39	123.90
1	AA	549	U	N3-C4-O4	-5.82	115.33	119.40
1	AA	980	C	C5-C6-N1	-5.82	118.09	121.00
13	AP	148	LEU	CA-CB-CG	5.82	128.68	115.30
34	BA	365	U	C5-C4-O4	5.82	129.39	125.90
1	CA	705	A	N1-C6-N6	5.82	122.09	118.60
1	CA	1275	A	C5-N7-C8	5.82	106.81	103.90
1	CA	1771	C	C5-C4-N4	-5.82	116.13	120.20
1	AA	2580	C	OP2-P-O3'	5.82	118.00	105.20
1	CA	819	A	C8-N9-C4	-5.82	103.47	105.80
1	CA	2380	C	N3-C4-C5	5.82	124.23	121.90
1	CA	304	G	C5-C6-O6	-5.81	125.11	128.60
34	DA	884	U	C5-C6-N1	-5.81	119.79	122.70
1	AA	146	G	N1-C2-N3	5.81	127.39	123.90
1	AA	1282	G	C8-N9-C1'	-5.81	119.44	127.00
1	AA	1290	G	N9-C4-C5	-5.81	103.08	105.40
1	AA	2268	G	N9-C4-C5	-5.81	103.08	105.40
1	AA	2678	C	C6-N1-C2	-5.81	117.97	120.30
1	CA	1204	A	C6-C5-N7	-5.81	128.23	132.30
2	AB	33	G	N1-C6-O6	5.81	123.39	119.90
2	CB	116	G	N3-C4-C5	5.81	131.51	128.60
1	AA	1008	U	C5-C4-O4	-5.81	122.42	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1310	G	C5-C6-O6	-5.81	125.11	128.60
1	AA	1905	G	C5-C6-O6	5.81	132.09	128.60
1	AA	2642	G	N1-C6-O6	5.81	123.39	119.90
20	AW	15	ARG	NE-CZ-NH1	5.81	123.20	120.30
1	CA	1939	U	C5-C4-O4	-5.81	122.41	125.90
1	CA	2222	G	C8-N9-C4	-5.81	104.08	106.40
1	CA	2685	G	N1-C6-O6	-5.81	116.41	119.90
1	AA	1015	C	C5-C4-N4	-5.81	116.14	120.20
1	CA	121	G	C8-N9-C1'	-5.81	119.45	127.00
1	CA	526	A	N1-C6-N6	-5.81	115.12	118.60
1	CA	993	G	C8-N9-C4	5.81	108.72	106.40
1	CA	1165	U	N1-C2-O2	5.81	126.87	122.80
1	CA	2286	A	C2-N3-C4	-5.81	107.70	110.60
1	AA	481	C	N3-C2-O2	-5.81	117.84	121.90
1	AA	977	G	N3-C2-N2	5.81	123.96	119.90
1	AA	2527	C	N3-C2-O2	5.81	125.96	121.90
1	CA	2459	A	C8-N9-C4	5.81	108.12	105.80
1	AA	786	G	O5'-P-OP1	-5.80	100.47	105.70
1	AA	2057	G	OP1-P-OP2	5.80	128.31	119.60
1	AA	2531	U	N1-C2-N3	5.80	118.38	114.90
2	AB	33	G	N7-C8-N9	-5.80	110.20	113.10
34	BA	886	G	N1-C6-O6	5.80	123.38	119.90
1	CA	522	G	N1-C6-O6	5.80	123.38	119.90
1	CA	1210	A	O5'-P-OP1	5.80	117.66	110.70
1	CA	1909	C	O5'-P-OP2	-5.80	100.47	105.70
1	CA	2062	A	OP2-P-O3'	5.80	117.97	105.20
1	AA	622	G	N1-C2-N2	-5.80	110.98	116.20
34	DA	1149	C	C6-N1-C2	-5.80	117.98	120.30
1	AA	533	G	C2-N3-C4	-5.80	109.00	111.90
1	AA	902	G	C5-C6-N1	-5.80	108.60	111.50
34	BA	30	U	C2-N1-C1'	5.80	124.66	117.70
1	CA	2057	A	O5'-P-OP2	-5.80	100.48	105.70
4	CD	157	ARG	NE-CZ-NH1	-5.80	117.40	120.30
1	AA	725	C	C6-N1-C1'	5.80	127.76	120.80
1	AA	802	C	N3-C4-C5	5.80	124.22	121.90
1	AA	1083	G	C2-N3-C4	-5.80	109.00	111.90
1	AA	1996	C	C4-C5-C6	5.80	120.30	117.40
1	AA	2491	G	OP1-P-OP2	5.80	128.30	119.60
1	AA	2654	G	N3-C4-C5	5.80	131.50	128.60
1	AA	361	C	C6-N1-C2	5.80	122.62	120.30
1	AA	1309	U	N3-C4-C5	5.80	118.08	114.60
1	AA	1721	G	C6-C5-N7	-5.80	126.92	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2449	U	C5-C6-N1	-5.80	119.80	122.70
1	CA	1777	U	C5-C6-N1	-5.80	119.80	122.70
1	CA	933	A	N7-C8-N9	5.79	116.70	113.80
1	CA	1128	A	N1-C2-N3	-5.79	126.40	129.30
1	AA	554	A	N7-C8-N9	5.79	116.70	113.80
1	AA	787	U	OP1-P-O3'	5.79	117.94	105.20
1	AA	2675	G	C8-N9-C4	-5.79	104.08	106.40
1	CA	1821	A	N1-C6-N6	-5.79	115.12	118.60
1	CA	2511	U	N1-C2-O2	-5.79	118.74	122.80
1	AA	1922	A	N9-C4-C5	5.79	108.12	105.80
1	AA	2877	G	C8-N9-C4	-5.79	104.08	106.40
2	AB	112	U	OP1-P-OP2	5.79	128.29	119.60
1	CA	2407	G	N3-C4-C5	-5.79	125.70	128.60
1	AA	74	G	C5-C6-O6	-5.79	125.13	128.60
1	AA	1001	G	C5-C6-N1	-5.79	108.61	111.50
1	AA	1646	C	N3-C4-N4	5.79	122.05	118.00
1	CA	1619	G	O5'-P-OP2	-5.79	100.49	105.70
34	DA	60	A	P-O3'-C3'	5.79	126.65	119.70
1	AA	197	C	O5'-P-OP2	-5.79	100.49	105.70
1	AA	744	C	N1-C2-O2	-5.79	115.43	118.90
1	AA	2031	G	N3-C2-N2	-5.79	115.85	119.90
1	AA	2244	U	C5-C6-N1	-5.79	119.81	122.70
1	AA	1801	G	C6-C5-N7	5.79	133.87	130.40
1	AA	2058	C	N3-C4-C5	5.79	124.22	121.90
34	DA	277	C	N3-C2-O2	-5.79	117.85	121.90
1	AA	165	G	C2-N3-C4	-5.79	109.01	111.90
1	AA	1008	U	N3-C4-C5	5.79	118.07	114.60
1	AA	1726	U	C5-C6-N1	-5.79	119.81	122.70
1	AA	2238	C	C5-C6-N1	-5.79	118.11	121.00
2	AB	92	C	C5-C6-N1	5.79	123.89	121.00
1	CA	2371	G	C4-C5-N7	-5.79	108.49	110.80
34	DA	909	A	N7-C8-N9	-5.79	110.91	113.80
1	AA	468	G	C6-N1-C2	-5.78	121.63	125.10
1	CA	265	A	N9-C4-C5	-5.78	103.49	105.80
1	CA	1394	U	O5'-P-OP1	-5.78	100.50	105.70
1	CA	1601	G	O5'-P-OP2	-5.78	100.49	105.70
1	AA	2608	U	N1-C2-N3	5.78	118.37	114.90
1	CA	205	G	O5'-P-OP2	-5.78	100.50	105.70
1	AA	1388	A	C5-C6-N1	5.78	120.59	117.70
34	BA	284	G	N7-C8-N9	-5.78	110.21	113.10
1	CA	1027	A	C8-N9-C4	5.78	108.11	105.80
1	CA	2456	C	C4-C5-C6	5.78	120.29	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	95	G	C2-N3-C4	-5.78	109.01	111.90
1	AA	878	G	N1-C6-O6	-5.78	116.43	119.90
1	AA	2239	A	C8-N9-C4	-5.78	103.49	105.80
1	CA	588	U	C2-N1-C1'	5.78	124.63	117.70
1	CA	1820	U	C5-C6-N1	-5.78	119.81	122.70
1	CA	411	G	O5'-P-OP2	-5.78	100.50	105.70
1	CA	570	G	N3-C4-C5	-5.78	125.71	128.60
1	CA	795	C	C6-N1-C2	-5.78	117.99	120.30
1	CA	219	G	OP2-P-O3'	5.77	117.90	105.20
1	AA	2266	C	C5-C4-N4	-5.77	116.16	120.20
1	AA	2501	G	C6-C5-N7	-5.77	126.94	130.40
1	AA	2870	A	C5-N7-C8	5.77	106.79	103.90
34	BA	124	G	C5-C6-O6	5.77	132.06	128.60
1	CA	2776	A	C8-N9-C4	5.77	108.11	105.80
1	AA	1098	C	P-O3'-C3'	5.77	126.62	119.70
1	AA	1409	C	N3-C4-N4	-5.77	113.96	118.00
1	AA	611	U	OP1-P-OP2	-5.77	110.94	119.60
1	AA	1300	A	C5-N7-C8	-5.77	101.02	103.90
1	AA	2731	G	C5-C6-N1	-5.77	108.61	111.50
1	AA	604	C	O5'-P-OP2	-5.77	100.51	105.70
1	AA	662	A	C4-C5-C6	5.77	119.88	117.00
1	AA	741	U	OP2-P-O3'	5.77	117.89	105.20
1	AA	1048	G	N1-C6-O6	-5.77	116.44	119.90
1	AA	1372	U	N1-C2-O2	5.77	126.84	122.80
1	AA	1690	G	N3-C2-N2	5.77	123.94	119.90
2	AB	41	U	N1-C2-N3	5.77	118.36	114.90
34	BA	1201	A	P-O3'-C3'	5.77	126.62	119.70
19	AV	95	LEU	CA-CB-CG	5.77	128.56	115.30
34	BA	896	C	C5-C6-N1	-5.77	118.12	121.00
1	AA	30	G	N1-C6-O6	5.76	123.36	119.90
1	AA	2502	G	N1-C2-N2	5.76	121.39	116.20
1	AA	2624	C	C2-N3-C4	5.76	122.78	119.90
1	CA	314	A	O5'-P-OP1	5.76	117.62	110.70
1	AA	36	G	C5-C6-O6	5.76	132.06	128.60
1	AA	1740	U	O5'-P-OP1	-5.76	100.51	105.70
1	AA	1513	G	C5-C6-N1	-5.76	108.62	111.50
1	AA	1832	G	O5'-P-OP1	-5.76	100.51	105.70
1	AA	1835	C	C4-C5-C6	-5.76	114.52	117.40
1	AA	2371	C	N3-C4-C5	5.76	124.20	121.90
1	AA	2649	U	C5-C4-O4	-5.76	122.44	125.90
1	CA	468	G	OP1-P-OP2	-5.76	110.96	119.60
1	CA	760	G	N3-C2-N2	-5.76	115.87	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1252	G	O5'-P-OP1	-5.76	100.52	105.70
1	CA	2060	A	C5-C6-N6	-5.76	119.09	123.70
1	CA	2549	G	C8-N9-C4	5.76	108.70	106.40
1	CA	2626	C	C2-N3-C4	-5.76	117.02	119.90
1	AA	199	C	N3-C4-N4	-5.76	113.97	118.00
1	AA	616	G	N9-C4-C5	5.76	107.70	105.40
1	AA	2018	C	N3-C4-C5	5.76	124.20	121.90
1	AA	2407	C	C6-N1-C2	5.76	122.60	120.30
34	BA	228	A	C8-N9-C4	5.76	108.10	105.80
34	BA	274	A	C8-N9-C4	5.76	108.10	105.80
1	CA	1404	C	N3-C2-O2	-5.76	117.87	121.90
1	CA	2608	G	OP1-P-OP2	5.76	128.24	119.60
1	AA	1921	G	C5-N7-C8	-5.76	101.42	104.30
1	AA	2385	G	C2-N3-C4	-5.76	109.02	111.90
1	CA	2550	G	C5-C6-N1	-5.76	108.62	111.50
1	AA	197	C	C4-C5-C6	5.76	120.28	117.40
1	AA	831	A	N1-C2-N3	-5.76	126.42	129.30
1	AA	849	A	C4-C5-N7	-5.76	107.82	110.70
1	AA	1383	G	C6-N1-C2	-5.76	121.65	125.10
1	AA	2307	C	O5'-P-OP2	5.76	117.61	110.70
1	CA	695	G	C5-C6-N1	-5.76	108.62	111.50
1	CA	2848	G	O4'-C1'-N9	5.76	112.81	108.20
1	AA	2662	U	N3-C4-O4	-5.75	115.37	119.40
1	CA	2062	A	C4-C5-N7	5.75	113.58	110.70
1	AA	989	G	C5-N7-C8	-5.75	101.42	104.30
1	AA	1374	G	N1-C2-N2	-5.75	111.02	116.20
34	BA	781	A	N1-C6-N6	5.75	122.05	118.60
34	BA	804	U	C2-N1-C1'	-5.75	110.80	117.70
1	AA	885	C	N3-C2-O2	-5.75	117.87	121.90
1	AA	955	A	C8-N9-C4	-5.75	103.50	105.80
1	AA	986	A	O5'-P-OP2	5.75	117.60	110.70
1	CA	464	U	C5-C4-O4	5.75	129.35	125.90
1	CA	1118	C	C6-N1-C2	-5.75	118.00	120.30
1	AA	102	U	OP2-P-O3'	5.75	117.85	105.20
1	AA	462	C	C6-N1-C2	5.75	122.60	120.30
1	AA	2116	G	OP2-P-O3'	5.75	117.85	105.20
1	AA	2600	G	N3-C2-N2	5.75	123.92	119.90
1	CA	2680	C	C6-N1-C2	5.75	122.60	120.30
1	AA	349	G	N3-C4-C5	-5.75	125.73	128.60
1	AA	902	G	N1-C2-N2	-5.75	111.03	116.20
1	AA	1674	G	C8-N9-C4	-5.75	104.10	106.40
1	AA	2067	C	C4-C5-C6	5.75	120.27	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2162	C	C6-N1-C1'	-5.75	113.91	120.80
1	CA	1616	A	N1-C6-N6	5.75	122.05	118.60
1	CA	2364	C	C2-N1-C1'	-5.75	112.48	118.80
34	DA	1420	C	C6-N1-C2	-5.75	118.00	120.30
1	AA	554	A	C5-C6-N6	-5.74	119.10	123.70
1	AA	1652	G	N1-C2-N3	-5.74	120.45	123.90
1	AA	2387	G	N9-C1'-C2'	-5.74	105.68	112.00
1	AA	2625	U	N1-C2-O2	5.74	126.82	122.80
2	AB	91	C	C5-C6-N1	-5.74	118.13	121.00
1	CA	302	C	C6-N1-C2	-5.74	118.00	120.30
1	AA	36	G	N1-C6-O6	-5.74	116.45	119.90
1	AA	131	C	O5'-P-OP2	-5.74	100.53	105.70
34	BA	337	C	C5-C6-N1	5.74	123.87	121.00
34	DA	1491	G	C8-N9-C4	-5.74	104.10	106.40
1	AA	2619	G	C5-C6-N1	5.74	114.37	111.50
1	CA	232	G	C5-C6-O6	-5.74	125.16	128.60
1	CA	975	C	N3-C2-O2	-5.74	117.88	121.90
1	CA	1142(A)	A	N3-C4-C5	5.74	130.82	126.80
1	CA	2227	A	C5-C6-N6	-5.74	119.11	123.70
34	DA	1407	C	N3-C4-N4	5.74	122.02	118.00
1	AA	2335	G	C4-C5-N7	5.74	113.09	110.80
1	CA	1815	A	C5-N7-C8	5.74	106.77	103.90
1	AA	1981	G	N1-C6-O6	-5.74	116.46	119.90
49	BP	25	ARG	NE-CZ-NH1	-5.74	117.43	120.30
1	CA	1187	G	C8-N9-C4	-5.74	104.11	106.40
1	CA	1264	G	N1-C6-O6	-5.74	116.46	119.90
1	CA	1955	U	N1-C2-O2	-5.74	118.78	122.80
31	C7	34	ARG	NE-CZ-NH1	-5.74	117.43	120.30
1	AA	827	G	C8-N9-C4	5.73	108.69	106.40
1	AA	1244	U	N3-C2-O2	-5.73	118.19	122.20
2	AB	93	G	N1-C6-O6	5.73	123.34	119.90
1	AA	491	G	N1-C2-N2	-5.73	111.04	116.20
1	AA	1185	C	N3-C4-C5	-5.73	119.61	121.90
1	AA	1479	U	C5-C6-N1	-5.73	119.83	122.70
1	AA	1741	C	C5-C6-N1	-5.73	118.13	121.00
34	BA	804	U	C5-C4-O4	5.73	129.34	125.90
1	CA	1678	G	C6-N1-C2	-5.73	121.66	125.10
1	AA	632	A	OP2-P-O3'	5.73	117.81	105.20
1	AA	968	U	C5-C4-O4	-5.73	122.46	125.90
1	AA	1405	A	N9-C4-C5	-5.73	103.51	105.80
1	AA	2091	G	N1-C6-O6	-5.73	116.46	119.90
1	AA	2797	C	C5-C6-N1	-5.73	118.13	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2489	G	OP2-P-O3'	5.73	117.81	105.20
1	CA	572	A	N1-C2-N3	5.73	132.16	129.30
1	CA	574	C	C6-N1-C2	5.73	122.59	120.30
1	AA	499	G	N3-C2-N2	5.73	123.91	119.90
1	AA	1255	A	C4-C5-C6	5.73	119.86	117.00
1	AA	2299	A	N1-C2-N3	5.73	132.16	129.30
1	AA	2397	C	N1-C2-N3	5.73	123.21	119.20
1	AA	2643	G	N1-C6-O6	-5.73	116.46	119.90
1	AA	2730	G	N3-C4-N9	5.73	129.44	126.00
1	CA	785	G	N1-C6-O6	5.73	123.34	119.90
30	C6	34	LEU	CA-CB-CG	5.73	128.47	115.30
1	AA	1000	C	N3-C4-N4	-5.73	113.99	118.00
1	AA	2086	C	C6-N1-C2	-5.73	118.01	120.30
1	AA	2669	A	OP1-P-OP2	-5.73	111.01	119.60
1	CA	1903	G	OP2-P-O3'	5.73	117.80	105.20
1	AA	23	G	C4-C5-N7	-5.72	108.51	110.80
1	AA	1234	A	C8-N9-C4	5.72	108.09	105.80
34	BA	7	G	C8-N9-C1'	5.72	134.44	127.00
1	CA	1515	G	N1-C6-O6	5.72	123.33	119.90
1	CA	2893	G	C4-N9-C1'	5.72	133.94	126.50
1	AA	749	G	N7-C8-N9	-5.72	110.24	113.10
1	AA	868	A	N1-C6-N6	-5.72	115.17	118.60
1	AA	989	G	OP2-P-O3'	5.72	117.79	105.20
1	AA	1791	A	N1-C6-N6	5.72	122.03	118.60
1	AA	1934	A	O4'-C1'-N9	5.72	112.78	108.20
1	CA	22	C	N3-C4-C5	5.72	124.19	121.90
1	CA	744	G	C6-C5-N7	-5.72	126.97	130.40
1	CA	1215	G	O5'-P-OP2	-5.72	100.55	105.70
1	CA	1290	C	OP1-P-OP2	5.72	128.19	119.60
1	AA	608	G	N3-C2-N2	-5.72	115.90	119.90
1	AA	1640	G	N7-C8-N9	5.72	115.96	113.10
34	BA	785	G	N3-C4-N9	-5.72	122.57	126.00
1	AA	40	C	N1-C2-O2	-5.72	115.47	118.90
1	AA	783	C	C5-C6-N1	-5.72	118.14	121.00
1	AA	887	C	C2-N3-C4	-5.72	117.04	119.90
1	AA	1192	C	C4-C5-C6	5.72	120.26	117.40
1	AA	1269	G	N9-C1'-C2'	-5.72	105.71	112.00
1	AA	1460	G	C4-C5-N7	-5.72	108.51	110.80
1	AA	2738	A	N9-C4-C5	-5.72	103.51	105.80
1	AA	2742	G	N7-C8-N9	-5.72	110.24	113.10
1	CA	1013	C	C6-N1-C2	5.72	122.59	120.30
1	CA	1142(A)	A	N3-C4-N9	-5.72	122.82	127.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1997	G	O5'-P-OP2	-5.72	100.55	105.70
1	CA	2286	A	C4-C5-C6	5.72	119.86	117.00
1	CA	2325	G	C4-C5-N7	5.72	113.09	110.80
1	AA	599	U	C5-C6-N1	5.72	125.56	122.70
1	AA	1831	C	N3-C4-C5	5.72	124.19	121.90
1	AA	2014	G	N3-C4-C5	-5.72	125.74	128.60
1	CA	127	A	C2-N3-C4	-5.71	107.74	110.60
1	CA	1674	G	O4'-C1'-N9	-5.71	103.63	108.20
34	DA	326	G	C5-C6-N1	-5.71	108.64	111.50
34	DA	993	G	C4-N9-C1'	5.71	133.93	126.50
1	AA	854	U	N1-C2-N3	5.71	118.33	114.90
1	AA	1342	G	C8-N9-C4	5.71	108.68	106.40
1	AA	1591	A	C5-C6-N1	5.71	120.56	117.70
23	AZ	150	LEU	CA-CB-CG	5.71	128.44	115.30
1	CA	1707	G	C5-C6-O6	-5.71	125.17	128.60
1	CA	2521	C	C2-N3-C4	-5.71	117.04	119.90
1	AA	1061	G	O5'-P-OP2	-5.71	100.56	105.70
1	CA	187	G	N3-C4-N9	5.71	129.43	126.00
1	AA	413	G	N9-C4-C5	5.71	107.68	105.40
1	AA	1263	C	N3-C4-C5	5.71	124.18	121.90
4	CD	229	VAL	CB-CA-C	-5.71	100.56	111.40
34	DA	882	C	N3-C4-N4	5.71	122.00	118.00
1	AA	423	G	N3-C2-N2	-5.71	115.91	119.90
34	BA	562	C	N3-C4-C5	5.71	124.18	121.90
34	BA	769	G	C5-N7-C8	5.71	107.15	104.30
1	CA	1157	G	N7-C8-N9	5.71	115.95	113.10
1	AA	1539	C	C5-C6-N1	-5.71	118.15	121.00
1	AA	2627	U	N1-C2-O2	5.71	126.79	122.80
1	AA	1345	G	C6-C5-N7	5.70	133.82	130.40
1	AA	2394	G	C4-C5-C6	5.70	122.22	118.80
1	CA	2567	G	C8-N9-C1'	-5.70	119.59	127.00
1	AA	185	A	O4'-C1'-N9	5.70	112.76	108.20
1	AA	1346	U	OP1-P-O3'	5.70	117.74	105.20
1	AA	1820	A	C5-C6-N6	-5.70	119.14	123.70
1	CA	2052	G	C5-C6-O6	-5.70	125.18	128.60
1	AA	499	G	C2-N3-C4	-5.70	109.05	111.90
1	AA	1359	U	C6-N1-C2	-5.70	117.58	121.00
1	AA	1395	A	C5-N7-C8	-5.70	101.05	103.90
1	AA	1698	G	C2-N3-C4	5.70	114.75	111.90
1	AA	2054	G	C4-C5-N7	-5.70	108.52	110.80
1	AA	2651	A	N1-C6-N6	5.70	122.02	118.60
1	CA	1501	C	O5'-P-OP1	-5.70	100.57	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2279	A	OP1-P-O3'	5.70	117.74	105.20
1	AA	2493	G	C6-C5-N7	-5.70	126.98	130.40
1	AA	2558	U	C2-N3-C4	-5.70	123.58	127.00
1	AA	2611	G	N9-C4-C5	5.70	107.68	105.40
34	BA	522	C	N1-C2-O2	-5.70	115.48	118.90
34	BA	917	G	C8-N9-C4	-5.70	104.12	106.40
1	CA	2253	G	C4-N9-C1'	5.70	133.91	126.50
1	CA	234	C	C6-N1-C2	5.70	122.58	120.30
1	CA	2028	U	N3-C4-C5	5.70	118.02	114.60
1	AA	528	A	C5-C6-N1	-5.70	114.85	117.70
1	AA	1020	C	N1-C2-N3	5.70	123.19	119.20
1	AA	1498	C	C6-N1-C2	5.70	122.58	120.30
1	AA	2068	G	C5-C6-O6	5.70	132.02	128.60
1	CA	1409	C	O5'-P-OP2	-5.70	100.57	105.70
34	DA	235	C	C6-N1-C2	5.70	122.58	120.30
34	DA	366	C	C6-N1-C2	5.70	122.58	120.30
1	AA	1367	A	N1-C2-N3	5.69	132.15	129.30
1	AA	2641	A	C5-C6-N6	-5.69	119.14	123.70
1	AA	2703	C	C5-C6-N1	-5.69	118.15	121.00
1	CA	694	U	OP2-P-O3'	5.69	117.73	105.20
1	AA	38	A	O5'-P-OP1	5.69	117.53	110.70
1	AA	847	A	C8-N9-C4	-5.69	103.52	105.80
1	AA	1239	A	OP1-P-OP2	5.69	128.14	119.60
1	AA	1953	U	C5-C4-O4	5.69	129.31	125.90
1	AA	2222	C	N3-C4-N4	-5.69	114.02	118.00
1	CA	1996	C	N3-C2-O2	5.69	125.89	121.90
1	CA	2887	U	O5'-P-OP1	-5.69	100.58	105.70
34	DA	570	G	C8-N9-C1'	-5.69	119.60	127.00
1	AA	715	G	C5-C6-O6	-5.69	125.19	128.60
1	AA	1235	G	N3-C4-N9	5.69	129.41	126.00
1	AA	1551	C	C6-N1-C2	-5.69	118.02	120.30
1	AA	1690	G	N7-C8-N9	-5.69	110.25	113.10
2	AB	48	A	N1-C6-N6	5.69	122.01	118.60
1	AA	2286	A	OP2-P-O3'	5.69	117.72	105.20
1	AA	2734	A	C2-N3-C4	-5.69	107.76	110.60
1	CA	330	A	O5'-P-OP1	5.69	117.53	110.70
1	AA	785	G	C5-C6-O6	-5.69	125.19	128.60
1	CA	476	G	O5'-P-OP2	-5.69	100.58	105.70
1	CA	1241	A	N7-C8-N9	5.69	116.64	113.80
1	CA	1376	C	O5'-P-OP1	-5.69	100.58	105.70
1	CA	1698	A	C4-C5-N7	5.69	113.54	110.70
34	DA	611	A	C8-N9-C4	5.69	108.08	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	198	C	C5-C6-N1	-5.69	118.16	121.00
1	AA	1378	G	C6-C5-N7	-5.69	126.99	130.40
1	AA	2519	C	C6-N1-C2	5.69	122.57	120.30
34	BA	403	C	C6-N1-C2	-5.69	118.03	120.30
1	AA	1029	A	OP1-P-OP2	-5.68	111.07	119.60
1	AA	1745	A	C8-N9-C4	-5.68	103.53	105.80
1	AA	2441	G	O5'-P-OP1	5.68	117.52	110.70
43	BJ	46	ARG	NE-CZ-NH2	-5.68	117.46	120.30
1	CA	1988	C	N3-C2-O2	-5.68	117.92	121.90
1	CA	2069	G	C8-N9-C4	-5.68	104.13	106.40
1	CA	2488	A	C8-N9-C4	5.68	108.07	105.80
1	AA	1925	G	O5'-P-OP1	-5.68	100.58	105.70
1	AA	2059	G	O5'-P-OP2	-5.68	100.58	105.70
56	BW	60	U	N3-C2-O2	-5.68	118.22	122.20
1	CA	1828	G	C5-C6-N1	-5.68	108.66	111.50
1	AA	834	U	OP1-P-O3'	5.68	117.70	105.20
34	BA	1340	A	O5'-P-OP1	-5.68	100.59	105.70
1	AA	437	G	N7-C8-N9	-5.68	110.26	113.10
1	AA	2350	G	O5'-P-OP1	-5.68	100.59	105.70
1	AA	2838	C	C5-C6-N1	-5.68	118.16	121.00
1	CA	2383	G	N3-C4-N9	5.68	129.41	126.00
1	CA	2629	A	C5-N7-C8	-5.68	101.06	103.90
1	AA	646	A	N1-C2-N3	-5.68	126.46	129.30
1	AA	2290	A	C5-C6-N6	5.68	128.24	123.70
34	DA	1472	U	C5-C4-O4	-5.68	122.49	125.90
1	AA	141	C	N3-C4-C5	5.68	124.17	121.90
1	AA	747	G	OP1-P-OP2	-5.68	111.09	119.60
1	AA	786	G	N1-C2-N3	-5.68	120.49	123.90
1	AA	1284	G	C5-C6-N1	-5.68	108.66	111.50
1	AA	1304	C	N3-C4-N4	-5.68	114.03	118.00
1	AA	2108	U	OP2-P-O3'	5.68	117.69	105.20
1	AA	2390	A	C5-N7-C8	-5.68	101.06	103.90
2	AB	47	C	O5'-P-OP2	-5.68	100.59	105.70
34	DA	766	A	C5-C6-N6	-5.68	119.16	123.70
1	AA	708	C	N3-C4-N4	-5.67	114.03	118.00
34	BA	750	G	C4-N9-C1'	5.67	133.88	126.50
1	CA	770	G	N9-C4-C5	5.67	107.67	105.40
1	CA	2079	U	C4-C5-C6	5.67	123.10	119.70
1	AA	1001	G	N3-C2-N2	-5.67	115.93	119.90
1	AA	2611	G	OP2-P-O3'	5.67	117.68	105.20
2	AB	12	C	O5'-P-OP1	-5.67	100.59	105.70
23	AZ	49	ARG	NE-CZ-NH1	5.67	123.14	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2685	G	N7-C8-N9	-5.67	110.26	113.10
1	AA	908	A	O5'-P-OP2	5.67	117.50	110.70
1	AA	2264	G	N1-C6-O6	-5.67	116.50	119.90
1	CA	297	C	N3-C2-O2	-5.67	117.93	121.90
1	CA	647	G	N1-C6-O6	5.67	123.30	119.90
34	DA	1397	C	C2-N1-C1'	5.67	125.04	118.80
1	CA	12	U	O4'-C1'-N1	-5.67	103.66	108.20
1	CA	1269	A	C6-C5-N7	-5.67	128.33	132.30
1	CA	1478	G	OP1-P-O3'	5.67	117.67	105.20
1	AA	807	G	C8-N9-C4	5.67	108.67	106.40
1	AA	1917	C	C2-N3-C4	-5.67	117.07	119.90
1	CA	858	U	C2-N1-C1'	5.67	124.50	117.70
1	CA	908	C	O5'-P-OP2	-5.67	100.60	105.70
1	AA	984	G	N1-C6-O6	-5.67	116.50	119.90
1	AA	987	G	N1-C6-O6	-5.67	116.50	119.90
1	AA	1347	A	C6-N1-C2	5.67	122.00	118.60
1	AA	2783	G	C2-N3-C4	5.67	114.73	111.90
34	BA	30	U	N1-C2-O2	5.67	126.77	122.80
34	BA	1196	U	O4'-C1'-N1	5.67	112.73	108.20
1	CA	1021	A	N1-C6-N6	5.67	122.00	118.60
1	CA	1142(A)	A	N1-C2-N3	5.67	132.13	129.30
34	DA	305	G	O5'-P-OP2	-5.67	100.60	105.70
1	AA	1719	C	N1-C2-O2	-5.67	115.50	118.90
1	AA	704	U	O5'-P-OP1	5.66	117.50	110.70
1	AA	1329	G	N1-C2-N3	5.66	127.30	123.90
1	AA	2835	C	O5'-P-OP1	-5.66	100.60	105.70
34	BA	813	U	OP1-P-OP2	-5.66	111.11	119.60
1	AA	725	C	N3-C4-N4	-5.66	114.04	118.00
1	AA	1271	G	C6-N1-C2	-5.66	121.70	125.10
1	AA	2336	C	C5-C4-N4	-5.66	116.24	120.20
34	BA	801	U	O5'-P-OP1	-5.66	100.61	105.70
1	AA	401	A	N7-C8-N9	5.66	116.63	113.80
1	AA	914	C	N3-C2-O2	5.66	125.86	121.90
1	AA	1264	G	N1-C2-N3	5.66	127.30	123.90
2	AB	71	C	C6-N1-C1'	-5.66	114.01	120.80
34	BA	878	G	C5-C6-O6	5.66	132.00	128.60
1	CA	573	G	C5-C6-N1	5.66	114.33	111.50
1	CA	1304	C	N3-C4-C5	5.66	124.16	121.90
1	CA	2673	G	C2-N3-C4	-5.66	109.07	111.90
1	AA	1602	G	C5-C6-N1	-5.66	108.67	111.50
1	AA	2526	U	C5-C6-N1	-5.66	119.87	122.70
1	CA	1332	G	C8-N9-C4	5.66	108.66	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1857	G	N3-C2-N2	5.66	123.86	119.90
1	CA	775	G	N1-C6-O6	5.66	123.29	119.90
1	AA	2287	C	C5-C6-N1	5.66	123.83	121.00
1	AA	2570	C	C6-N1-C2	-5.66	118.04	120.30
1	AA	2756	C	C4-C5-C6	5.66	120.23	117.40
1	AA	2864	G	C8-N9-C4	5.66	108.66	106.40
2	AB	27	C	OP2-P-O3'	5.66	117.64	105.20
1	CA	219	G	N1-C6-O6	5.66	123.29	119.90
2	CB	30	C	N3-C2-O2	-5.66	117.94	121.90
1	AA	51	A	N1-C6-N6	5.65	121.99	118.60
1	CA	2045	C	C2-N3-C4	-5.65	117.07	119.90
1	AA	508	A	OP1-P-OP2	-5.65	111.12	119.60
1	AA	1394	G	C5-C6-N1	5.65	114.33	111.50
1	AA	1908	C	C5-C4-N4	-5.65	116.24	120.20
1	AA	2005	C	C6-N1-C2	-5.65	118.04	120.30
1	AA	2378	A	C8-N9-C4	5.65	108.06	105.80
34	BA	321	A	O5'-P-OP2	-5.65	100.61	105.70
1	CA	1026	U	C5-C6-N1	5.65	125.53	122.70
1	CA	1612	C	N1-C2-O2	-5.65	115.51	118.90
34	DA	1503	A	C8-N9-C4	5.65	108.06	105.80
1	AA	1928	G	N1-C6-O6	5.65	123.29	119.90
1	AA	2429	C	N3-C2-O2	-5.65	117.94	121.90
1	AA	2590	G	C6-C5-N7	5.65	133.79	130.40
34	BA	639	G	N1-C6-O6	-5.65	116.51	119.90
1	CA	2716	U	N3-C2-O2	-5.65	118.25	122.20
34	DA	1496	C	O5'-P-OP2	-5.65	100.61	105.70
1	AA	913	A	O4'-C1'-N9	-5.65	103.68	108.20
1	AA	1987	C	C6-N1-C2	5.65	122.56	120.30
34	BA	107	G	C4-C5-N7	5.65	113.06	110.80
1	AA	1199	C	N3-C2-O2	5.65	125.85	121.90
1	CA	769	G	C5-N7-C8	5.65	107.12	104.30
1	CA	770	G	N1-C6-O6	-5.65	116.51	119.90
1	CA	1164	G	OP1-P-OP2	5.65	128.07	119.60
1	CA	2718	G	C2-N3-C4	5.65	114.72	111.90
1	CA	2869	G	C8-N9-C4	-5.65	104.14	106.40
1	AA	956	A	O5'-P-OP1	-5.65	100.62	105.70
1	AA	1393	G	OP1-P-O3'	5.65	117.62	105.20
1	AA	2223	C	C2-N3-C4	-5.65	117.08	119.90
1	CA	486	C	N3-C2-O2	5.65	125.85	121.90
1	AA	450	A	C8-N9-C4	5.64	108.06	105.80
1	AA	1460	G	C8-N9-C1'	5.64	134.34	127.00
1	AA	1725	G	C5-C6-N1	-5.64	108.68	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2689	G	N3-C4-C5	5.64	131.42	128.60
34	BA	106	C	C6-N1-C2	-5.64	118.04	120.30
1	CA	338	G	C5-C6-O6	-5.64	125.21	128.60
1	CA	573	G	C5-N7-C8	-5.64	101.48	104.30
1	CA	1573	G	C8-N9-C4	5.64	108.66	106.40
1	CA	2609	U	C5-C6-N1	-5.64	119.88	122.70
1	AA	1517	G	C5-C6-O6	5.64	131.99	128.60
1	AA	1714	G	C5-C6-N1	5.64	114.32	111.50
1	AA	2512	U	C2-N3-C4	-5.64	123.61	127.00
23	AZ	155	LEU	CA-CB-CG	5.64	128.28	115.30
1	AA	68	C	C6-N1-C2	5.64	122.56	120.30
1	AA	1718	U	C5-C6-N1	-5.64	119.88	122.70
1	AA	2795	G	C5-C6-O6	5.64	131.98	128.60
1	AA	1398	U	OP2-P-O3'	5.64	117.61	105.20
1	AA	1595	C	N3-C2-O2	-5.64	117.95	121.90
1	CA	141	A	C5-C6-N6	-5.64	119.19	123.70
6	CF	176	LEU	CA-CB-CG	5.64	128.27	115.30
1	AA	139	A	C4-C5-N7	5.64	113.52	110.70
1	AA	2088	C	C5-C4-N4	5.64	124.15	120.20
1	AA	552	C	N3-C4-N4	-5.64	114.06	118.00
1	AA	1210	G	C2-N3-C4	-5.64	109.08	111.90
1	AA	1652	G	N7-C8-N9	-5.64	110.28	113.10
1	AA	1704	C	N3-C4-C5	5.64	124.16	121.90
1	AA	1795	G	N1-C2-N2	-5.64	111.13	116.20
1	AA	2355	C	N1-C2-O2	-5.64	115.52	118.90
1	AA	2616	U	OP1-P-O3'	5.64	117.60	105.20
1	AA	2773	C	C2-N3-C4	-5.64	117.08	119.90
34	BA	899	C	N1-C2-O2	-5.64	115.52	118.90
1	CA	1199	U	O5'-P-OP2	5.64	117.46	110.70
1	CA	1676	A	N7-C8-N9	-5.64	110.98	113.80
1	AA	528	A	N1-C2-N3	5.63	132.12	129.30
1	AA	1285	G	N9-C4-C5	5.63	107.65	105.40
1	AA	1312	G	C5-C6-N1	5.63	114.32	111.50
34	BA	108	G	N1-C6-O6	5.63	123.28	119.90
1	AA	883	G	N9-C4-C5	5.63	107.65	105.40
2	AB	65	C	O5'-P-OP2	5.63	117.46	110.70
34	BA	1502	A	C6-C5-N7	-5.63	128.36	132.30
1	AA	1342	G	C6-C5-N7	5.63	133.78	130.40
1	AA	1377	A	OP2-P-O3'	5.63	117.59	105.20
1	AA	1491	A	OP2-P-O3'	5.63	117.59	105.20
1	AA	2701	U	P-O3'-C3'	5.63	126.46	119.70
1	AA	2882	G	N3-C2-N2	-5.63	115.96	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	565	C	N1-C2-O2	-5.63	115.52	118.90
1	CA	2064	C	C5-C4-N4	5.63	124.14	120.20
34	BA	442	C	C5-C6-N1	5.63	123.81	121.00
1	CA	2373	G	N3-C2-N2	-5.63	115.96	119.90
1	CA	2442	C	C5-C6-N1	-5.63	118.19	121.00
1	AA	1263	C	C2-N3-C4	-5.63	117.08	119.90
1	AA	1379	C	C5-C6-N1	5.63	123.81	121.00
1	AA	1483	C	C6-N1-C2	-5.63	118.05	120.30
1	AA	1658	C	N3-C4-N4	5.63	121.94	118.00
34	DA	21	G	N3-C4-N9	5.63	129.38	126.00
1	AA	2783	G	N7-C8-N9	-5.63	110.29	113.10
1	AA	2867	G	N1-C6-O6	-5.63	116.53	119.90
2	AB	116	G	C8-N9-C4	5.63	108.65	106.40
1	CA	1382	G	OP2-P-O3'	5.63	117.58	105.20
1	AA	1012	C	N3-C4-C5	5.62	124.15	121.90
1	AA	1792	C	OP1-P-OP2	-5.62	111.17	119.60
1	AA	1965	U	N1-C2-N3	5.62	118.28	114.90
1	AA	2309	C	N1-C2-O2	5.62	122.27	118.90
1	AA	2615	G	O5'-P-OP1	-5.62	100.64	105.70
2	AB	107	G	O5'-P-OP1	-5.62	100.64	105.70
1	CA	2612	C	C6-N1-C2	5.62	122.55	120.30
2	AB	98	G	N1-C6-O6	5.62	123.27	119.90
34	BA	863	U	C5-C6-N1	-5.62	119.89	122.70
1	CA	464	U	OP1-P-OP2	-5.62	111.17	119.60
1	CA	748	G	C5-C6-O6	5.62	131.97	128.60
1	AA	642	G	N7-C8-N9	-5.62	110.29	113.10
1	AA	2073	A	C5-C6-N6	5.62	128.20	123.70
1	CA	2523	G	N7-C8-N9	5.62	115.91	113.10
1	AA	1231	G	N1-C2-N2	-5.62	111.14	116.20
1	CA	1692	U	C5-C4-O4	-5.62	122.53	125.90
1	CA	1984	G	C4-N9-C1'	5.62	133.81	126.50
1	AA	2819	A	C4-C5-C6	5.62	119.81	117.00
1	AA	2877	G	N9-C4-C5	5.62	107.65	105.40
1	CA	2526	G	N3-C4-C5	5.62	131.41	128.60
34	DA	642	A	O5'-P-OP1	-5.62	100.64	105.70
1	AA	556	C	C5-C4-N4	5.62	124.13	120.20
1	AA	1378	G	C4-N9-C1'	5.62	133.80	126.50
1	AA	2015	U	C2-N3-C4	-5.62	123.63	127.00
1	CA	1775	U	C6-N1-C2	5.62	124.37	121.00
1	CA	2237	G	C5-N7-C8	5.62	107.11	104.30
34	DA	368	U	C5-C6-N1	-5.62	119.89	122.70
34	DA	1519	A	C5-C6-N6	5.62	128.19	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	181	C	C2-N3-C4	-5.61	117.09	119.90
1	AA	352	U	N3-C2-O2	-5.61	118.27	122.20
1	AA	1478	C	N3-C4-N4	5.61	121.93	118.00
1	AA	2265	G	C5-C6-O6	-5.61	125.23	128.60
1	CA	1970	A	O4'-C1'-N9	-5.61	103.71	108.20
1	AA	1235	G	C4-C5-C6	5.61	122.17	118.80
1	CA	2405	G	N3-C4-N9	5.61	129.37	126.00
1	CA	2510	C	N3-C4-N4	-5.61	114.07	118.00
56	DW	6	G	N3-C4-C5	5.61	131.41	128.60
1	CA	954	G	N1-C6-O6	-5.61	116.53	119.90
2	CB	10	C	C5-C6-N1	5.61	123.81	121.00
34	DA	740	U	O5'-P-OP2	-5.61	100.65	105.70
1	AA	864	C	C6-N1-C2	-5.61	118.06	120.30
1	AA	1713	G	N3-C4-C5	-5.61	125.80	128.60
1	CA	2769	C	C4-C5-C6	5.61	120.20	117.40
1	AA	1432	C	C2-N3-C4	-5.61	117.10	119.90
1	AA	1846	A	N7-C8-N9	-5.61	111.00	113.80
1	AA	2836	A	OP1-P-O3'	5.61	117.53	105.20
1	CA	571	A	OP2-P-O3'	5.61	117.53	105.20
1	CA	1362	C	N1-C2-O2	-5.61	115.54	118.90
34	DA	178	C	C6-N1-C2	-5.61	118.06	120.30
1	AA	815	G	OP1-P-OP2	5.61	128.01	119.60
1	AA	839	G	N7-C8-N9	5.61	115.90	113.10
1	AA	1614	A	OP1-P-O3'	5.61	117.53	105.20
1	AA	2758	C	C2-N1-C1'	5.61	124.97	118.80
34	BA	1442	G	N3-C4-C5	5.61	131.40	128.60
1	CA	2549	G	C5-C6-O6	-5.61	125.24	128.60
1	AA	1278	G	N9-C4-C5	5.60	107.64	105.40
1	AA	1831	C	C6-N1-C2	5.60	122.54	120.30
1	AA	2067	C	N3-C4-N4	-5.60	114.08	118.00
1	AA	2361	G	N9-C4-C5	-5.60	103.16	105.40
1	AA	2394	G	OP2-P-O3'	5.60	117.53	105.20
1	AA	2418	U	C6-N1-C2	5.60	124.36	121.00
1	CA	1783	A	OP2-P-O3'	5.60	117.53	105.20
1	AA	134	G	C5-C6-O6	5.60	131.96	128.60
1	AA	186	A	N9-C4-C5	-5.60	103.56	105.80
1	AA	235	C	N3-C2-O2	5.60	125.82	121.90
1	AA	353	G	C5-C6-N1	5.60	114.30	111.50
1	AA	364	A	N1-C6-N6	5.60	121.96	118.60
1	AA	881	C	C6-N1-C1'	5.60	127.52	120.80
1	AA	1355	G	C2-N3-C4	5.60	114.70	111.90
1	AA	2445	A	C6-N1-C2	-5.60	115.24	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2519	C	N3-C4-C5	5.60	124.14	121.90
1	AA	2716	C	OP1-P-O3'	5.60	117.52	105.20
1	AA	2853	G	C8-N9-C4	5.60	108.64	106.40
34	DA	23	C	N3-C4-C5	-5.60	119.66	121.90
34	DA	764	C	N3-C2-O2	-5.60	117.98	121.90
1	CA	141	A	C6-C5-N7	-5.60	128.38	132.30
34	DA	1183	A	P-O3'-C3'	5.60	126.42	119.70
1	AA	92	C	C6-N1-C2	-5.60	118.06	120.30
1	AA	144	C	C6-N1-C2	5.60	122.54	120.30
1	AA	538	A	OP2-P-O3'	5.60	117.52	105.20
1	AA	980	C	C2-N3-C4	-5.60	117.10	119.90
1	AA	2380	C	C5-C6-N1	-5.60	118.20	121.00
1	AA	2902	G	C5-C6-O6	-5.60	125.24	128.60
2	AB	34	U	N1-C2-N3	5.60	118.26	114.90
34	BA	1442(B)	A	C8-N9-C4	5.60	108.04	105.80
1	CA	1126	A	C5-N7-C8	-5.60	101.10	103.90
1	AA	1820	A	N1-C6-N6	5.60	121.96	118.60
1	AA	2711	C	C2-N3-C4	-5.60	117.10	119.90
1	CA	978	G	C2-N3-C4	-5.60	109.10	111.90
34	DA	266	G	C8-N9-C4	-5.60	104.16	106.40
1	AA	1432	C	C5-C6-N1	-5.60	118.20	121.00
1	AA	2478	C	C6-N1-C1'	-5.60	114.08	120.80
1	CA	2235	G	C6-C5-N7	-5.60	127.04	130.40
1	AA	1357	G	O5'-P-OP2	-5.59	100.67	105.70
1	AA	1611	C	OP2-P-O3'	5.59	117.51	105.20
34	BA	576	G	C8-N9-C1'	-5.59	119.73	127.00
34	BA	1523	G	C2-N3-C4	5.59	114.70	111.90
1	CA	499	U	C5-C6-N1	-5.59	119.90	122.70
1	CA	2407	G	C4-N9-C1'	5.59	133.77	126.50
1	CA	2873	A	O4'-C1'-N9	5.59	112.67	108.20
1	AA	1177	G	O4'-C1'-N9	5.59	112.67	108.20
1	AA	2067	C	C5-C4-N4	5.59	124.11	120.20
1	AA	2351	G	C6-C5-N7	-5.59	127.05	130.40
34	BA	889	A	O5'-P-OP1	-5.59	100.67	105.70
1	AA	974	G	C4-C5-C6	5.59	122.15	118.80
1	AA	1727	U	N3-C4-C5	5.59	117.95	114.60
1	AA	1967	G	C5-C6-O6	5.59	131.95	128.60
1	AA	2079	A	O5'-P-OP1	5.59	117.41	110.70
1	AA	2464	C	C6-N1-C2	5.59	122.54	120.30
1	AA	2891	C	OP1-P-O3'	5.59	117.50	105.20
34	BA	1071	C	C6-N1-C2	-5.59	118.06	120.30
1	CA	24	G	O5'-P-OP1	-5.59	100.67	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1368	G	C2-N3-C4	5.59	114.69	111.90
1	CA	2318	G	O4'-C1'-N9	5.59	112.67	108.20
1	AA	2833	A	N1-C2-N3	5.59	132.09	129.30
34	BA	1348	U	C5-C6-N1	-5.59	119.91	122.70
1	AA	582	G	C5-N7-C8	5.59	107.09	104.30
1	AA	1282	G	C8-N9-C4	5.59	108.64	106.40
1	AA	1978	U	C2-N3-C4	-5.59	123.65	127.00
1	CA	498	G	N1-C2-N2	5.59	121.23	116.20
1	CA	583	G	N3-C2-N2	-5.59	115.99	119.90
1	CA	732	C	C5-C4-N4	-5.59	116.29	120.20
1	CA	1776	G	C6-C5-N7	-5.59	127.05	130.40
1	AA	40	C	C5-C6-N1	-5.58	118.21	121.00
1	AA	875	U	OP1-P-OP2	5.58	127.98	119.60
1	CA	815	C	N1-C2-O2	5.58	122.25	118.90
1	AA	154	G	C4-N9-C1'	-5.58	119.24	126.50
1	AA	1240	G	N3-C2-N2	-5.58	115.99	119.90
1	AA	1440	U	OP2-P-O3'	5.58	117.48	105.20
1	AA	1639	G	C5-N7-C8	5.58	107.09	104.30
1	AA	2044	U	C4-C5-C6	5.58	123.05	119.70
1	AA	2599	A	N7-C8-N9	5.58	116.59	113.80
1	AA	2612	A	OP2-P-O3'	5.58	117.48	105.20
34	BA	120	A	O4'-C1'-N9	-5.58	103.73	108.20
1	AA	705	C	N3-C2-O2	-5.58	117.99	121.90
1	AA	2073	A	C8-N9-C4	-5.58	103.57	105.80
1	AA	2260	C	N3-C4-N4	-5.58	114.09	118.00
1	AA	1412	A	C2-N3-C4	-5.58	107.81	110.60
1	AA	1470	G	N1-C6-O6	-5.58	116.55	119.90
1	AA	2004	C	O5'-P-OP2	-5.58	100.68	105.70
1	AA	2471	A	N1-C2-N3	-5.58	126.51	129.30
2	CB	10	C	C2-N1-C1'	5.58	124.94	118.80
1	AA	194	G	N7-C8-N9	-5.58	110.31	113.10
1	AA	1085	G	C4-N9-C1'	-5.58	119.25	126.50
6	AF	54	ARG	NE-CZ-NH2	-5.58	117.51	120.30
1	CA	1369	G	OP1-P-O3'	5.58	117.47	105.20
1	AA	801	C	N1-C2-N3	5.58	123.10	119.20
1	AA	1347	A	N1-C2-N3	-5.58	126.51	129.30
2	AB	81	G	N9-C4-C5	5.58	107.63	105.40
2	AB	85	G	N7-C8-N9	-5.58	110.31	113.10
1	CA	744	G	N1-C6-O6	5.58	123.25	119.90
1	AA	329	U	N1-C2-O2	-5.57	118.90	122.80
1	AA	365	G	C5-C6-O6	5.57	131.94	128.60
1	AA	461	U	N1-C2-O2	-5.57	118.90	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1314	A	N1-C2-N3	5.57	132.09	129.30
1	AA	1435	G	C5-N7-C8	5.57	107.09	104.30
2	AB	91	C	N3-C4-N4	-5.57	114.10	118.00
1	CA	330	A	N1-C6-N6	5.57	121.94	118.60
1	CA	992	C	C5-C6-N1	-5.57	118.21	121.00
1	CA	1380	G	N1-C6-O6	-5.57	116.56	119.90
1	CA	1981	A	N9-C4-C5	5.57	108.03	105.80
34	DA	438	G	O5'-P-OP2	-5.57	100.69	105.70
1	AA	994	C	N1-C2-O2	-5.57	115.56	118.90
1	AA	1019	G	N3-C4-C5	-5.57	125.81	128.60
1	AA	1835	C	C5-C4-N4	-5.57	116.30	120.20
1	CA	1996	C	N1-C2-O2	-5.57	115.56	118.90
1	AA	132	C	N3-C4-C5	-5.57	119.67	121.90
1	AA	2094	G	C5-C6-O6	5.57	131.94	128.60
1	AA	2301	G	C5-C6-O6	-5.57	125.26	128.60
1	AA	2513	C	C2-N1-C1'	-5.57	112.67	118.80
1	AA	2864	G	N7-C8-N9	-5.57	110.31	113.10
56	BW	7	A	N1-C6-N6	5.57	121.94	118.60
1	CA	312	G	O5'-P-OP1	-5.57	100.69	105.70
1	CA	1388	G	C5-C6-O6	5.57	131.94	128.60
1	AA	378	G	C8-N9-C4	5.57	108.63	106.40
1	AA	1859	G	C5-C6-N1	-5.57	108.72	111.50
1	AA	2450	U	C5-C4-O4	-5.57	122.56	125.90
34	BA	365	U	N3-C4-O4	-5.57	115.50	119.40
34	BA	1366	C	C6-N1-C2	-5.57	118.07	120.30
34	BA	1467	G	C8-N9-C1'	-5.57	119.76	127.00
1	AA	178	G	N3-C4-C5	-5.57	125.82	128.60
1	AA	478	G	C5-C6-O6	-5.57	125.26	128.60
1	AA	809	U	C2-N1-C1'	5.57	124.38	117.70
1	AA	1290	G	N3-C2-N2	5.57	123.80	119.90
1	AA	1505	C	C6-N1-C2	5.57	122.53	120.30
1	AA	2511	C	C6-N1-C2	5.57	122.53	120.30
34	BA	970	C	C5-C6-N1	5.57	123.78	121.00
1	CA	381	G	N9-C4-C5	5.57	107.63	105.40
1	CA	2541	A	C6-N1-C2	-5.57	115.26	118.60
1	AA	1905	G	N1-C6-O6	-5.57	116.56	119.90
34	BA	1370	G	C4-C5-N7	5.57	113.03	110.80
1	CA	1257	C	N1-C2-O2	-5.57	115.56	118.90
1	CA	1621	U	C5-C4-O4	-5.57	122.56	125.90
1	AA	214	A	C2-N3-C4	-5.56	107.82	110.60
1	AA	321	C	C5-C6-N1	-5.56	118.22	121.00
1	AA	1051	C	N1-C2-O2	-5.56	115.56	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1174	A	C8-N9-C4	5.56	108.03	105.80
1	AA	2859	U	C5-C4-O4	-5.56	122.56	125.90
34	BA	799	G	C4-C5-N7	-5.56	108.57	110.80
1	AA	19	C	N3-C2-O2	-5.56	118.01	121.90
1	AA	1929	G	C5-C6-O6	5.56	131.94	128.60
1	AA	2630	G	C8-N9-C4	-5.56	104.17	106.40
18	AU	36	ARG	NE-CZ-NH2	-5.56	117.52	120.30
34	DA	610	G	C5-C6-O6	-5.56	125.26	128.60
34	DA	33	A	C2-N3-C4	5.56	113.38	110.60
1	AA	478	G	N1-C2-N2	5.56	121.20	116.20
1	AA	2441	G	N3-C2-N2	-5.56	116.01	119.90
34	BA	1370	G	C5-C6-O6	-5.56	125.26	128.60
56	BW	41	C	N1-C2-O2	-5.56	115.56	118.90
1	AA	216	A	C4-C5-N7	-5.56	107.92	110.70
1	AA	617	U	OP2-P-O3'	5.56	117.43	105.20
1	AA	812	G	OP1-P-OP2	-5.56	111.27	119.60
1	AA	1154	U	C4-C5-C6	-5.56	116.37	119.70
1	AA	1250	U	N3-C2-O2	-5.56	118.31	122.20
1	AA	1864	U	C2-N3-C4	-5.56	123.67	127.00
1	AA	2389	A	N1-C6-N6	5.56	121.93	118.60
1	CA	2607	G	C5-C6-N1	5.56	114.28	111.50
1	CA	2644	G	N9-C4-C5	5.56	107.62	105.40
1	AA	120	G	N3-C4-N9	5.56	129.33	126.00
1	AA	1235	G	N7-C8-N9	-5.56	110.32	113.10
1	AA	1960	A	O5'-P-OP2	-5.56	100.70	105.70
34	BA	568	G	N1-C6-O6	-5.56	116.57	119.90
1	AA	74	G	N3-C2-N2	-5.55	116.01	119.90
34	BA	1442	G	C6-C5-N7	-5.55	127.07	130.40
1	CA	1641	A	C8-N9-C4	-5.55	103.58	105.80
1	CA	1886	C	N1-C2-O2	5.55	122.23	118.90
1	CA	2624	G	O5'-P-OP2	-5.55	100.70	105.70
1	AA	1686	U	C5-C4-O4	-5.55	122.57	125.90
1	AA	1699	A	C5-C6-N1	-5.55	114.92	117.70
34	BA	886	G	C5-C6-N1	-5.55	108.72	111.50
1	CA	528	A	C4-C5-C6	-5.55	114.22	117.00
1	CA	532	A	O4'-C1'-N9	5.55	112.64	108.20
1	AA	723	A	P-O3'-C3'	-5.55	113.04	119.70
1	AA	920	G	N1-C6-O6	-5.55	116.57	119.90
1	AA	974	G	C4-C5-N7	5.55	113.02	110.80
1	AA	1344	C	C5-C6-N1	-5.55	118.22	121.00
1	AA	1397	C	C6-N1-C1'	5.55	127.46	120.80
1	AA	1716	A	C5-C6-N1	5.55	120.48	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1862	G	N1-C2-N3	5.55	127.23	123.90
1	CA	2329	G	N7-C8-N9	-5.55	110.32	113.10
1	AA	132	C	N1-C2-O2	-5.55	115.57	118.90
1	AA	980	C	C6-N1-C2	5.55	122.52	120.30
1	AA	1827	U	N3-C4-O4	-5.55	115.52	119.40
2	AB	4	C	C2-N3-C4	-5.55	117.12	119.90
2	AB	33	G	C5-C6-O6	-5.55	125.27	128.60
56	BW	71	G	C8-N9-C4	5.55	108.62	106.40
1	CA	1770	G	N1-C2-N3	5.55	127.23	123.90
2	CB	72	G	C8-N9-C4	5.55	108.62	106.40
34	DA	435	C	C6-N1-C2	-5.55	118.08	120.30
1	AA	999	G	OP2-P-O3'	5.55	117.41	105.20
1	AA	1318	A	O4'-C1'-N9	5.55	112.64	108.20
1	AA	186	A	C2-N3-C4	-5.55	107.83	110.60
1	AA	883	G	N7-C8-N9	5.55	115.87	113.10
1	AA	1048	G	C5-C6-O6	5.55	131.93	128.60
1	AA	1950	A	N1-C6-N6	5.55	121.93	118.60
1	AA	2820	A	C4-C5-C6	-5.55	114.23	117.00
1	CA	1021	A	C5-C6-N1	-5.55	114.93	117.70
1	CA	1624	G	N1-C6-O6	-5.54	116.57	119.90
1	AA	786	G	C2-N3-C4	5.54	114.67	111.90
1	CA	859	G	C4-N9-C1'	-5.54	119.29	126.50
1	CA	1326	U	N3-C2-O2	5.54	126.08	122.20
1	CA	2485	G	C5-C6-N1	5.54	114.27	111.50
1	CA	2841	C	C5-C4-N4	-5.54	116.32	120.20
1	CA	2870	C	C6-N1-C2	-5.54	118.08	120.30
34	DA	363	A	C8-N9-C4	5.54	108.02	105.80
34	DA	513	C	N1-C2-O2	5.54	122.23	118.90
1	AA	1175	A	N1-C6-N6	5.54	121.92	118.60
1	AA	2560	G	O5'-P-OP2	-5.54	100.71	105.70
1	CA	139(A)	G	N3-C4-N9	5.54	129.32	126.00
1	CA	1939	U	N3-C4-C5	5.54	117.92	114.60
1	CA	2206	G	C4-N9-C1'	-5.54	119.30	126.50
34	BA	819	A	N1-C6-N6	5.54	121.92	118.60
1	AA	329	U	C5-C4-O4	-5.54	122.58	125.90
1	AA	463	C	C6-N1-C2	-5.54	118.08	120.30
1	AA	641	G	C5-C6-O6	5.54	131.92	128.60
1	AA	2260	C	OP2-P-O3'	5.54	117.39	105.20
14	AQ	14	ARG	NE-CZ-NH2	-5.54	117.53	120.30
1	CA	211	A	N1-C6-N6	5.54	121.92	118.60
1	CA	510	C	O5'-P-OP2	-5.54	100.72	105.70
1	CA	2567	G	N1-C2-N2	-5.54	111.22	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	167	G	N3-C2-N2	-5.54	116.02	119.90
1	AA	1963	C	N1-C2-O2	-5.54	115.58	118.90
1	AA	2057	G	O5'-P-OP1	-5.54	100.72	105.70
1	AA	2261	U	C5-C4-O4	-5.54	122.58	125.90
1	CA	448	U	O5'-P-OP1	-5.54	100.72	105.70
1	CA	1250	G	C5-C6-O6	5.54	131.92	128.60
1	CA	1269	A	C4-C5-N7	5.54	113.47	110.70
1	AA	2095	C	OP2-P-O3'	5.54	117.38	105.20
1	AA	2344	U	C5-C6-N1	-5.54	119.93	122.70
1	AA	2356	U	O5'-P-OP2	-5.54	100.72	105.70
1	AA	2712	C	N3-C4-N4	-5.54	114.12	118.00
1	AA	2857	U	C5-C4-O4	-5.54	122.58	125.90
1	CA	596	G	C5-N7-C8	5.54	107.07	104.30
1	CA	804	A	N1-C2-N3	5.54	132.07	129.30
1	CA	2202	C	N3-C4-N4	-5.54	114.12	118.00
34	DA	330	C	C5-C6-N1	5.54	123.77	121.00
1	AA	426	G	N3-C4-C5	-5.53	125.83	128.60
1	AA	468	G	C8-N9-C1'	-5.53	119.81	127.00
1	AA	477	C	C4-C5-C6	-5.53	114.63	117.40
1	AA	2037	A	C5-N7-C8	5.53	106.67	103.90
1	AA	2097	U	C5-C6-N1	-5.53	119.93	122.70
1	CA	264	C	C6-N1-C2	5.53	122.51	120.30
1	CA	779	U	C6-N1-C2	5.53	124.32	121.00
1	AA	1361	C	C5-C6-N1	5.53	123.77	121.00
1	AA	2774	G	C5-N7-C8	5.53	107.07	104.30
34	BA	117	G	N1-C6-O6	5.53	123.22	119.90
1	CA	577	G	O5'-P-OP1	-5.53	100.72	105.70
1	AA	2088	C	O5'-P-OP1	-5.53	100.72	105.70
1	AA	2483	C	N3-C4-C5	-5.53	119.69	121.90
1	AA	2732	G	N3-C4-N9	5.53	129.32	126.00
1	CA	980	A	N3-C4-C5	5.53	130.67	126.80
34	DA	562	C	N3-C2-O2	5.53	125.77	121.90
1	AA	2088	C	C5-C6-N1	-5.53	118.24	121.00
1	CA	2701	C	N1-C2-O2	-5.53	115.58	118.90
1	AA	84	G	OP2-P-O3'	5.53	117.36	105.20
1	AA	729	G	N1-C2-N3	-5.53	120.58	123.90
1	AA	1241	C	C5-C6-N1	-5.53	118.24	121.00
1	AA	2030	C	O5'-P-OP2	-5.53	100.73	105.70
1	AA	2360	U	N3-C4-C5	5.53	117.92	114.60
1	AA	418	G	C5-C6-N1	5.53	114.26	111.50
1	AA	1059	C	C2-N3-C4	-5.53	117.14	119.90
1	AA	1269	G	O4'-C1'-N9	5.53	112.62	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1454	C	N1-C2-O2	-5.53	115.58	118.90
1	AA	1896	G	C8-N9-C1'	5.53	134.18	127.00
1	CA	86	C	N3-C2-O2	-5.53	118.03	121.90
1	CA	2390	U	O5'-P-OP1	-5.52	100.73	105.70
1	AA	2162	C	C5-C6-N1	5.52	123.76	121.00
1	CA	940	G	OP2-P-O3'	5.52	117.35	105.20
1	CA	1365	A	C8-N9-C4	-5.52	103.59	105.80
34	DA	915	A	N9-C4-C5	5.52	108.01	105.80
1	AA	991	G	C2-N3-C4	-5.52	109.14	111.90
34	DA	1065	U	P-O3'-C3'	5.52	126.33	119.70
1	AA	1461	U	C5-C6-N1	-5.52	119.94	122.70
1	AA	2032	G	N9-C4-C5	5.52	107.61	105.40
34	BA	619	U	C5-C6-N1	-5.52	119.94	122.70
1	CA	1600	C	C5-C6-N1	-5.52	118.24	121.00
1	AA	744	C	C2-N1-C1'	-5.52	112.73	118.80
1	AA	2785	C	OP2-P-O3'	5.52	117.34	105.20
1	CA	2006	C	C6-N1-C2	5.52	122.51	120.30
1	CA	2557	G	OP1-P-OP2	5.52	127.88	119.60
1	CA	2663	G	C8-N9-C4	5.52	108.61	106.40
34	DA	818	G	O5'-P-OP1	-5.52	100.73	105.70
1	AA	851	A	N1-C6-N6	5.52	121.91	118.60
1	AA	967	G	C8-N9-C4	-5.52	104.19	106.40
1	AA	1038	C	N3-C4-N4	5.52	121.86	118.00
1	AA	2234	G	C6-C5-N7	5.52	133.71	130.40
1	AA	2510	C	OP1-P-OP2	-5.52	111.33	119.60
34	BA	553	A	C8-N9-C4	5.51	108.01	105.80
1	CA	499	U	N1-C2-N3	5.51	118.21	114.90
1	CA	1698	A	N7-C8-N9	5.51	116.56	113.80
1	CA	2202	C	C5-C6-N1	-5.51	118.24	121.00
1	AA	521	G	OP2-P-O3'	5.51	117.33	105.20
1	AA	999	G	N3-C4-C5	-5.51	125.84	128.60
1	AA	1268	C	OP1-P-OP2	-5.51	111.33	119.60
1	AA	2239	A	N9-C4-C5	5.51	108.00	105.80
34	BA	708	C	N1-C2-O2	5.51	122.21	118.90
1	CA	460	A	OP1-P-O3'	5.51	117.33	105.20
1	CA	1269	A	C5-C6-N1	-5.51	114.94	117.70
4	CD	111	LEU	CA-CB-CG	5.51	127.98	115.30
1	AA	151	C	C5-C6-N1	-5.51	118.24	121.00
1	AA	1048	G	N1-C2-N2	-5.51	111.24	116.20
1	AA	1316	C	N1-C2-O2	5.51	122.21	118.90
1	CA	118	A	O5'-P-OP2	5.51	117.31	110.70
1	CA	1773	A	N1-C2-N3	5.51	132.06	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
57	DZ	369	LEU	CA-CB-CG	5.51	127.98	115.30
1	AA	201	G	N3-C4-C5	5.51	131.35	128.60
1	AA	1297	C	C4-C5-C6	-5.51	114.64	117.40
1	AA	2021	C	C2-N1-C1'	-5.51	112.74	118.80
1	AA	2063	U	OP2-P-O3'	5.51	117.32	105.20
1	AA	2868	C	OP1-P-OP2	5.51	127.86	119.60
1	CA	788	A	C2-N3-C4	5.51	113.36	110.60
1	CA	1438	U	O5'-P-OP1	-5.51	100.74	105.70
34	DA	884	U	O5'-P-OP2	-5.51	100.74	105.70
56	DW	6	G	C4-N9-C1'	-5.51	119.34	126.50
1	CA	2438	U	OP2-P-O3'	5.51	117.32	105.20
1	AA	1064	C	N3-C2-O2	-5.51	118.05	121.90
1	AA	2703	C	O5'-P-OP2	5.51	117.31	110.70
1	AA	2765	C	C6-N1-C2	5.51	122.50	120.30
1	AA	2888	U	N3-C2-O2	-5.51	118.34	122.20
1	CA	647	G	N3-C4-C5	-5.51	125.85	128.60
1	CA	672	C	N3-C4-N4	-5.50	114.15	118.00
34	BA	320	C	C6-N1-C2	5.50	122.50	120.30
1	CA	573	G	OP1-P-O3'	5.50	117.31	105.20
1	CA	1023	U	N1-C2-N3	5.50	118.20	114.90
1	CA	1151	G	N1-C6-O6	5.50	123.20	119.90
1	AA	441	C	C6-N1-C2	5.50	122.50	120.30
1	AA	665	C	N1-C2-O2	-5.50	115.60	118.90
1	AA	1216	G	C6-C5-N7	-5.50	127.10	130.40
1	AA	1411	A	N1-C6-N6	5.50	121.90	118.60
1	AA	1971	G	C4-C5-C6	5.50	122.10	118.80
1	AA	2295	C	C2-N1-C1'	-5.50	112.75	118.80
1	AA	2380	C	OP1-P-OP2	5.50	127.85	119.60
1	AA	2479	C	OP2-P-O3'	5.50	117.30	105.20
1	AA	2745	G	N1-C2-N3	5.50	127.20	123.90
1	AA	2791	A	OP2-P-O3'	5.50	117.30	105.20
34	BA	28	G	N1-C6-O6	5.50	123.20	119.90
34	BA	442	C	C2-N1-C1'	5.50	124.85	118.80
1	CA	333	G	N9-C4-C5	-5.50	103.20	105.40
1	CA	1141	U	N3-C4-O4	-5.50	115.55	119.40
1	CA	2573	C	O5'-P-OP2	-5.50	100.75	105.70
34	DA	570	G	C4-N9-C1'	5.50	133.65	126.50
34	DA	644	G	N1-C6-O6	-5.50	116.60	119.90
1	AA	26	G	OP2-P-O3'	5.50	117.30	105.20
1	AA	594	A	C4-C5-C6	5.50	119.75	117.00
1	AA	2291	G	C8-N9-C4	-5.50	104.20	106.40
1	AA	2418	U	N3-C2-O2	5.50	126.05	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1955	U	C2-N1-C1'	-5.50	111.10	117.70
1	CA	2428	G	N3-C2-N2	5.50	123.75	119.90
1	CA	2441	C	C5-C6-N1	-5.50	118.25	121.00
1	AA	98	U	N3-C4-O4	-5.50	115.55	119.40
1	AA	640	A	N9-C4-C5	-5.50	103.60	105.80
1	AA	2046	G	C5-C6-O6	-5.50	125.30	128.60
1	AA	451	G	N1-C6-O6	-5.50	116.60	119.90
1	AA	579	G	OP2-P-O3'	5.50	117.29	105.20
1	AA	1215	G	C5-C6-O6	-5.50	125.30	128.60
1	AA	1505	C	N1-C2-O2	-5.50	115.60	118.90
1	AA	2537	G	N3-C4-N9	5.50	129.30	126.00
34	BA	816	A	O5'-P-OP2	-5.50	100.75	105.70
34	BA	1370	G	C6-C5-N7	-5.50	127.10	130.40
34	BA	1478	C	N3-C4-C5	5.50	124.10	121.90
1	CA	2479	G	C5-C6-N1	5.50	114.25	111.50
2	CB	55	U	C6-N1-C2	-5.50	117.70	121.00
34	DA	904	C	C6-N1-C2	5.50	122.50	120.30
1	AA	596	G	OP1-P-O3'	5.50	117.29	105.20
1	AA	1036	A	C2-N3-C4	-5.50	107.85	110.60
1	AA	2575	U	C2-N1-C1'	5.50	124.29	117.70
34	BA	276	G	N1-C2-N2	-5.50	111.25	116.20
1	CA	444	C	C5-C6-N1	-5.50	118.25	121.00
1	AA	983	G	N3-C4-C5	5.49	131.35	128.60
1	AA	1050	C	O4'-C1'-N1	-5.49	103.81	108.20
1	AA	1305	G	C6-N1-C2	-5.49	121.80	125.10
1	AA	1974	A	C5-N7-C8	5.49	106.65	103.90
1	AA	2577	A	O5'-P-OP2	5.49	117.29	110.70
1	CA	1828	G	N3-C4-N9	-5.49	122.70	126.00
1	CA	2006	C	O5'-P-OP1	5.49	117.29	110.70
1	AA	786	G	C4-C5-C6	-5.49	115.50	118.80
34	BA	1030(B)	C	C6-N1-C2	-5.49	118.10	120.30
1	CA	1783	A	O5'-P-OP2	5.49	117.29	110.70
1	AA	953	U	N3-C4-C5	-5.49	111.31	114.60
1	AA	2732	G	N9-C4-C5	-5.49	103.20	105.40
1	AA	2836	A	C6-N1-C2	-5.49	115.31	118.60
1	CA	132	G	N3-C4-C5	5.49	131.35	128.60
1	CA	725	G	C4-C5-N7	-5.49	108.60	110.80
1	CA	945	A	C5-C6-N1	-5.49	114.95	117.70
1	CA	1936	A	O4'-C1'-N9	5.49	112.59	108.20
1	AA	990	A	N9-C4-C5	-5.49	103.61	105.80
1	AA	1507	A	O4'-C1'-N9	5.49	112.59	108.20
1	AA	2476	C	C5-C4-N4	-5.49	116.36	120.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	BA	13	U	N1-C2-O2	-5.49	118.96	122.80
1	CA	1027	A	C5-N7-C8	5.49	106.64	103.90
34	DA	1402	C	C6-N1-C2	-5.49	118.11	120.30
1	AA	2518	U	N3-C2-O2	-5.49	118.36	122.20
1	AA	2889	C	N3-C2-O2	-5.49	118.06	121.90
2	AB	24	G	N3-C4-N9	5.49	129.29	126.00
34	BA	859	A	N1-C6-N6	-5.49	115.31	118.60
34	BA	905	U	O5'-P-OP2	5.49	117.28	110.70
1	CA	201	C	N3-C4-C5	5.49	124.09	121.90
1	CA	427	U	C5-C6-N1	-5.49	119.96	122.70
1	CA	1843	C	O5'-P-OP1	5.49	117.28	110.70
1	AA	2470	G	N7-C8-N9	-5.48	110.36	113.10
1	AA	2522	C	C4-C5-C6	5.48	120.14	117.40
1	AA	1524	A	O5'-P-OP2	-5.48	100.77	105.70
1	AA	1924	C	C2-N3-C4	-5.48	117.16	119.90
1	CA	647	G	C5-C6-O6	-5.48	125.31	128.60
1	AA	1314	A	C6-N1-C2	5.48	121.89	118.60
1	AA	2393	C	C2-N3-C4	-5.48	117.16	119.90
1	AA	2723	A	N1-C6-N6	-5.48	115.31	118.60
1	AA	2737	C	C5-C4-N4	-5.48	116.36	120.20
1	CA	1370	C	C2-N1-C1'	5.48	124.83	118.80
1	CA	1492	G	N7-C8-N9	5.48	115.84	113.10
1	CA	1944	U	O4'-C1'-N1	5.48	112.58	108.20
34	DA	557	G	N1-C2-N2	-5.48	111.27	116.20
1	AA	897	C	O5'-P-OP2	-5.48	100.77	105.70
1	AA	2408	G	N1-C6-O6	-5.48	116.61	119.90
1	AA	426	G	C4-C5-N7	-5.48	108.61	110.80
1	AA	1350	C	C5-C6-N1	5.48	123.74	121.00
1	AA	2088	C	C4-C5-C6	5.48	120.14	117.40
1	AA	2550	C	N3-C4-C5	5.48	124.09	121.90
1	CA	691	C	C6-N1-C2	5.48	122.49	120.30
1	CA	2442	C	N3-C2-O2	-5.48	118.07	121.90
1	CA	2721	A	O5'-P-OP1	-5.48	100.77	105.70
34	DA	818	G	OP2-P-O3'	5.48	117.25	105.20
34	DA	1431	C	C6-N1-C2	-5.48	118.11	120.30
1	AA	1001	G	C4-C5-C6	5.48	122.08	118.80
1	AA	1383	G	C5-C6-O6	-5.48	125.31	128.60
1	AA	22	C	C5-C6-N1	-5.47	118.26	121.00
1	AA	176	G	N1-C6-O6	5.47	123.19	119.90
1	AA	852	G	N7-C8-N9	5.47	115.84	113.10
1	AA	1485	A	OP1-P-O3'	5.47	117.24	105.20
1	AA	1636	U	O5'-P-OP1	-5.47	100.77	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1828	C	C5-C6-N1	-5.47	118.26	121.00
1	AA	2458	G	N7-C8-N9	5.47	115.84	113.10
1	AA	2525	G	N9-C4-C5	-5.47	103.21	105.40
34	BA	1522	U	OP1-P-OP2	5.47	127.81	119.60
1	AA	199	C	OP2-P-O3'	5.47	117.24	105.20
1	AA	1786	A	N9-C4-C5	5.47	107.99	105.80
2	AB	84	C	OP1-P-O3'	-5.47	93.16	105.20
8	AH	3	ARG	N-CA-C	5.47	125.78	111.00
34	BA	819	A	C8-N9-C4	5.47	107.99	105.80
17	CT	103	ARG	NE-CZ-NH1	-5.47	117.56	120.30
1	AA	1370	G	O5'-P-OP2	5.47	117.27	110.70
1	AA	2084	A	N1-C6-N6	5.47	121.88	118.60
1	CA	182	A	C4-C5-N7	5.47	113.44	110.70
1	AA	1261	G	N1-C6-O6	-5.47	116.62	119.90
1	AA	2844	G	C8-N9-C4	5.47	108.59	106.40
1	CA	669	G	O4'-C1'-N9	-5.47	103.82	108.20
1	CA	1263	U	OP2-P-O3'	5.47	117.23	105.20
1	CA	1773	A	N1-C6-N6	5.47	121.88	118.60
1	AA	1177	G	N1-C6-O6	-5.47	116.62	119.90
1	AA	2591	C	C2-N3-C4	-5.47	117.17	119.90
34	DA	882	C	C6-N1-C2	-5.47	118.11	120.30
1	AA	19	C	N3-C4-C5	5.47	124.09	121.90
1	AA	38	A	C4-C5-C6	-5.47	114.27	117.00
1	AA	420	C	N3-C4-C5	5.47	124.09	121.90
1	AA	960	C	OP1-P-O3'	5.47	117.23	105.20
1	AA	1626	A	N1-C6-N6	5.47	121.88	118.60
1	AA	1670	G	C2-N3-C4	-5.47	109.17	111.90
1	AA	2544	G	C6-N1-C2	-5.47	121.82	125.10
1	AA	2570	C	OP2-P-O3'	5.47	117.22	105.20
1	CA	203	C	N3-C2-O2	5.47	125.73	121.90
1	CA	987	G	C6-C5-N7	5.47	133.68	130.40
1	AA	139	A	C6-C5-N7	-5.46	128.47	132.30
1	AA	203	G	O4'-C1'-N9	5.46	112.57	108.20
1	AA	986	A	C2-N3-C4	-5.46	107.87	110.60
1	AA	2299	A	C6-N1-C2	5.46	121.88	118.60
1	AA	2616	U	C5-C6-N1	-5.46	119.97	122.70
1	CA	1701	A	OP1-P-OP2	-5.46	111.40	119.60
1	AA	1334	U	O5'-P-OP1	-5.46	100.78	105.70
1	AA	120	G	N3-C4-C5	-5.46	125.87	128.60
1	AA	851	A	OP2-P-O3'	5.46	117.22	105.20
1	AA	885	C	C2-N3-C4	-5.46	117.17	119.90
1	AA	1425	A	O4'-C1'-N9	-5.46	103.83	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2028	C	C2-N1-C1'	5.46	124.81	118.80
34	BA	1113	C	C2-N1-C1'	5.46	124.81	118.80
2	CB	116	G	N9-C4-C5	-5.46	103.22	105.40
1	AA	778	C	C5-C6-N1	-5.46	118.27	121.00
1	AA	662	A	C8-N9-C4	5.46	107.98	105.80
1	AA	1984	C	C5-C6-N1	5.46	123.73	121.00
34	BA	321	A	N7-C8-N9	-5.46	111.07	113.80
1	CA	757	U	C5-C6-N1	-5.46	119.97	122.70
1	CA	1345	C	N1-C2-O2	-5.46	115.62	118.90
4	CD	52	ARG	NE-CZ-NH2	5.46	123.03	120.30
1	AA	437	G	N3-C4-N9	5.46	129.27	126.00
1	AA	1718	U	N1-C2-N3	-5.46	111.63	114.90
1	AA	1950	A	N9-C4-C5	-5.46	103.62	105.80
1	CA	2699	C	C6-N1-C2	5.46	122.48	120.30
1	AA	174	U	OP2-P-O3'	5.45	117.20	105.20
1	AA	1373	C	OP2-P-O3'	5.45	117.20	105.20
1	AA	1862	G	OP1-P-O3'	-5.45	93.20	105.20
34	BA	1507	A	C2-N3-C4	-5.45	107.87	110.60
1	CA	497	A	O5'-P-OP2	-5.45	100.79	105.70
1	CA	1370	C	N3-C4-N4	5.45	121.82	118.00
1	AA	1059	C	C5-C6-N1	-5.45	118.27	121.00
1	CA	1908	C	OP2-P-O3'	5.45	117.19	105.20
1	AA	354	A	C4-C5-N7	5.45	113.42	110.70
1	AA	1188	A	C8-N9-C1'	5.45	137.51	127.70
1	AA	1395	A	N1-C6-N6	5.45	121.87	118.60
1	AA	1700	G	OP1-P-O3'	5.45	117.19	105.20
1	AA	2339	A	C8-N9-C4	5.45	107.98	105.80
1	AA	2736	C	N3-C2-O2	-5.45	118.08	121.90
34	BA	1488	G	OP2-P-O3'	5.45	117.19	105.20
1	CA	571	A	OP1-P-OP2	-5.45	111.42	119.60
1	CA	790	C	N3-C4-C5	5.45	124.08	121.90
1	CA	1373	A	C2-N3-C4	-5.45	107.88	110.60
1	AA	800	C	C6-N1-C2	5.45	122.48	120.30
1	AA	1235	G	N3-C4-C5	-5.45	125.88	128.60
1	AA	1375	U	C2-N3-C4	-5.45	123.73	127.00
1	AA	2384	G	OP1-P-OP2	5.45	127.77	119.60
1	CA	2061	G	C5-N7-C8	-5.45	101.58	104.30
1	CA	2509	G	N1-C2-N3	5.45	127.17	123.90
1	AA	82	G	N3-C4-C5	5.45	131.32	128.60
1	AA	1544	C	C6-N1-C2	5.45	122.48	120.30
1	AA	1926	G	OP2-P-O3'	5.45	117.18	105.20
1	CA	804	A	C2-N3-C4	-5.45	107.88	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	86	C	C2-N3-C4	-5.45	117.18	119.90
1	AA	1028	C	C6-N1-C2	5.45	122.48	120.30
1	AA	2621	U	N3-C2-O2	5.45	126.01	122.20
1	AA	2764	G	C6-C5-N7	-5.45	127.13	130.40
1	CA	96	G	O5'-P-OP2	-5.45	100.80	105.70
1	CA	2080	G	C8-N9-C4	5.45	108.58	106.40
1	AA	2642	G	C6-C5-N7	-5.44	127.13	130.40
1	AA	50	G	N3-C2-N2	-5.44	116.09	119.90
1	AA	1170	C	C6-N1-C1'	-5.44	114.27	120.80
1	AA	2481	A	O5'-P-OP1	-5.44	100.80	105.70
1	AA	2791	A	N9-C4-C5	5.44	107.98	105.80
1	CA	777	A	O5'-P-OP2	-5.44	100.80	105.70
1	CA	786	C	C5-C4-N4	5.44	124.01	120.20
1	CA	2037	G	C8-N9-C4	-5.44	104.22	106.40
1	CA	2856	C	C6-N1-C2	-5.44	118.12	120.30
34	DA	766	A	N1-C6-N6	5.44	121.86	118.60
34	DA	777	A	O5'-P-OP2	-5.44	100.80	105.70
1	AA	225	C	C6-N1-C2	5.44	122.48	120.30
1	AA	358	C	C6-N1-C2	5.44	122.48	120.30
1	AA	642	G	C5-N7-C8	5.44	107.02	104.30
1	AA	1798	C	C4-C5-C6	5.44	120.12	117.40
1	AA	2635	G	C8-N9-C4	-5.44	104.22	106.40
1	AA	2877	G	OP1-P-O3'	5.44	117.17	105.20
1	CA	305	U	N3-C4-O4	5.44	123.21	119.40
1	CA	1340	U	C5-C6-N1	-5.44	119.98	122.70
1	CA	2062	A	C2-N3-C4	-5.44	107.88	110.60
1	CA	2257	U	N1-C2-N3	-5.44	111.64	114.90
1	AA	61	C	OP2-P-O3'	5.44	117.17	105.20
1	AA	1265	A	N9-C4-C5	5.44	107.98	105.80
1	AA	2703	C	OP1-P-OP2	-5.44	111.44	119.60
1	CA	178	G	N9-C1'-C2'	-5.44	106.02	112.00
7	AG	19	LEU	CA-CB-CG	5.44	127.81	115.30
34	BA	827	U	N1-C2-O2	5.44	126.61	122.80
1	CA	1027	A	N1-C6-N6	-5.44	115.34	118.60
1	CA	2200	C	C5-C6-N1	5.44	123.72	121.00
1	CA	2513	G	C8-N9-C4	5.44	108.58	106.40
1	AA	214	A	O5'-P-OP1	5.44	117.22	110.70
1	AA	1740	U	N3-C4-O4	5.44	123.20	119.40
34	BA	124	G	N1-C6-O6	-5.44	116.64	119.90
1	CA	679	C	N1-C2-O2	-5.44	115.64	118.90
1	CA	2222	G	N1-C6-O6	-5.44	116.64	119.90
1	AA	1423	G	N3-C2-N2	5.43	123.70	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1837	C	O5'-P-OP1	-5.43	100.81	105.70
34	DA	266	G	N7-C8-N9	5.43	115.82	113.10
1	AA	365	G	C8-N9-C4	-5.43	104.23	106.40
1	AA	471	C	N3-C4-C5	-5.43	119.73	121.90
1	AA	785	G	N3-C4-N9	5.43	129.26	126.00
1	AA	1601	A	O5'-P-OP2	-5.43	100.81	105.70
1	AA	1716	A	C6-N1-C2	-5.43	115.34	118.60
1	AA	2077	C	C4-C5-C6	5.43	120.12	117.40
1	CA	815	C	N3-C4-C5	5.43	124.07	121.90
1	CA	1047	G	N3-C4-N9	5.43	129.26	126.00
1	CA	2030	A	N1-C2-N3	5.43	132.02	129.30
1	AA	222	A	OP1-P-OP2	5.43	127.75	119.60
1	AA	247	G	C8-N9-C4	-5.43	104.23	106.40
1	AA	1060	U	N3-C4-O4	-5.43	115.60	119.40
4	AD	155	LEU	CA-CB-CG	5.43	127.79	115.30
1	AA	1708	G	N7-C8-N9	-5.43	110.39	113.10
1	AA	2234	G	C8-N9-C4	-5.43	104.23	106.40
1	CA	192	C	OP1-P-OP2	5.43	127.75	119.60
1	CA	205	G	N9-C4-C5	-5.43	103.23	105.40
1	CA	1895	C	C5-C6-N1	5.43	123.72	121.00
1	AA	71	U	C6-N1-C1'	5.43	128.80	121.20
1	AA	152	G	N1-C6-O6	5.43	123.16	119.90
1	AA	333	G	N1-C6-O6	-5.43	116.64	119.90
1	AA	752	A	OP2-P-O3'	5.43	117.14	105.20
1	AA	896	A	C5-C6-N1	-5.43	114.99	117.70
1	AA	1283	A	O4'-C1'-N9	-5.43	103.86	108.20
34	BA	1429	C	N1-C2-O2	5.43	122.16	118.90
1	AA	2467	G	N1-C2-N3	5.43	127.16	123.90
1	AA	2718	G	C5-C6-O6	5.43	131.86	128.60
1	CA	2557	G	N1-C2-N2	-5.43	111.31	116.20
1	AA	40	C	N1-C2-N3	5.42	123.00	119.20
1	AA	2074	G	C4-C5-N7	-5.42	108.63	110.80
56	BW	75	C	N1-C2-O2	-5.42	115.65	118.90
1	AA	2611	G	N3-C4-N9	-5.42	122.75	126.00
1	AA	738	C	OP1-P-O3'	5.42	117.13	105.20
1	AA	2025	G	C5-C6-N1	5.42	114.21	111.50
1	AA	2084	A	O5'-P-OP2	-5.42	100.82	105.70
1	AA	2418	U	O5'-P-OP2	5.42	117.21	110.70
1	CA	1306	C	N3-C2-O2	5.42	125.69	121.90
1	CA	1779	U	O5'-P-OP1	-5.42	100.82	105.70
34	DA	134	A	N1-C6-N6	5.42	121.85	118.60
1	AA	1214	G	N3-C4-N9	5.42	129.25	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1345	G	N9-C4-C5	5.42	107.57	105.40
1	AA	1395	A	C5-C6-N6	-5.42	119.36	123.70
1	AA	2257	U	OP1-P-OP2	5.42	127.73	119.60
34	DA	266	G	C5-N7-C8	-5.42	101.59	104.30
1	AA	32	C	C5-C4-N4	5.42	123.99	120.20
1	AA	1020	C	O5'-P-OP1	-5.42	100.82	105.70
1	AA	1415	G	C5-N7-C8	5.42	107.01	104.30
1	AA	2518	U	C5-C4-O4	5.42	129.15	125.90
1	CA	647	G	N3-C4-N9	5.42	129.25	126.00
1	CA	1564	C	O5'-P-OP2	-5.42	100.82	105.70
1	CA	1809	A	N1-C6-N6	5.42	121.85	118.60
1	AA	2583	C	C2-N3-C4	-5.42	117.19	119.90
1	AA	2848	G	N3-C2-N2	-5.42	116.11	119.90
34	BA	52	G	C6-C5-N7	-5.42	127.15	130.40
34	BA	266	G	P-O3'-C3'	5.42	126.20	119.70
34	BA	1519	A	C4-C5-N7	-5.42	107.99	110.70
1	CA	804	A	C8-N9-C4	5.42	107.97	105.80
1	CA	2539	C	C2-N3-C4	-5.42	117.19	119.90
1	AA	32	C	OP2-P-O3'	5.42	117.11	105.20
1	AA	1064	C	N1-C2-N3	5.42	122.99	119.20
1	AA	2002	G	C5-N7-C8	5.42	107.01	104.30
34	BA	123	C	C2-N3-C4	-5.42	117.19	119.90
1	CA	1133	U	C2-N1-C1'	-5.42	111.20	117.70
1	AA	715	G	C4-C5-N7	5.41	112.97	110.80
2	AB	82	G	OP2-P-O3'	5.41	117.11	105.20
1	AA	360	C	C4-C5-C6	5.41	120.11	117.40
1	AA	1240	G	C2-N3-C4	5.41	114.61	111.90
1	AA	588	C	C2-N1-C1'	5.41	124.75	118.80
1	AA	1780	A	C2-N3-C4	-5.41	107.89	110.60
1	AA	2731	G	N1-C6-O6	5.41	123.15	119.90
1	AA	2830	A	C6-N1-C2	-5.41	115.35	118.60
34	BA	20	U	C5-C4-O4	-5.41	122.65	125.90
1	CA	570	G	C8-N9-C4	-5.41	104.24	106.40
1	CA	1256	G	C4-C5-N7	5.41	112.96	110.80
1	AA	556	C	N3-C4-N4	-5.41	114.21	118.00
1	AA	901	G	C5-C6-N1	-5.41	108.80	111.50
1	AA	1024	G	C6-C5-N7	5.41	133.65	130.40
1	AA	1685	C	C6-N1-C2	5.41	122.46	120.30
1	AA	2104	A	N3-C4-C5	5.41	130.59	126.80
1	AA	2609	G	OP2-P-O3'	5.41	117.10	105.20
34	BA	757	U	N1-C2-O2	-5.41	119.01	122.80
1	CA	943	U	N3-C4-C5	-5.41	111.36	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	DA	557	G	N3-C4-N9	5.41	129.25	126.00
1	AA	318	A	C5-N7-C8	5.41	106.60	103.90
1	AA	1676	G	N1-C6-O6	-5.41	116.66	119.90
1	CA	588	U	N3-C2-O2	-5.41	118.42	122.20
1	AA	540	A	O4'-C1'-N9	5.41	112.52	108.20
1	AA	610	C	N3-C2-O2	-5.41	118.12	121.90
1	AA	2081	A	OP2-P-O3'	5.41	117.09	105.20
1	AA	2407	C	C5-C4-N4	-5.41	116.42	120.20
1	CA	2555	U	N3-C2-O2	-5.41	118.42	122.20
1	CA	2573	C	N3-C4-C5	-5.41	119.74	121.90
1	AA	625	G	C8-N9-C4	5.40	108.56	106.40
1	AA	1478	C	C5-C4-N4	-5.40	116.42	120.20
1	AA	2249	G	C2-N3-C4	5.40	114.60	111.90
2	CB	74	U	C2-N1-C1'	-5.40	111.22	117.70
1	AA	1822	A	O5'-P-OP1	-5.40	100.84	105.70
1	AA	2563	C	C6-N1-C2	5.40	122.46	120.30
34	BA	610	G	C6-C5-N7	-5.40	127.16	130.40
34	BA	890	G	O4'-C1'-N9	5.40	112.52	108.20
1	CA	737	C	C4-C5-C6	5.40	120.10	117.40
1	AA	50	G	N7-C8-N9	5.40	115.80	113.10
1	AA	148	C	N1-C2-O2	5.40	122.14	118.90
1	AA	586	G	C5-C6-O6	-5.40	125.36	128.60
1	AA	1017	G	C6-N1-C2	-5.40	121.86	125.10
1	AA	1283	A	N1-C6-N6	5.40	121.84	118.60
1	AA	1301	U	C4-C5-C6	-5.40	116.46	119.70
1	CA	784	A	O4'-C1'-N9	5.40	112.52	108.20
1	CA	859	G	N3-C4-C5	5.40	131.30	128.60
1	CA	1142(A)	A	N1-C6-N6	5.40	121.84	118.60
1	CA	1707	G	N1-C6-O6	5.40	123.14	119.90
1	CA	2016	U	C5-C6-N1	5.40	125.40	122.70
34	DA	618	C	C6-N1-C2	-5.40	118.14	120.30
1	AA	749	G	N3-C4-N9	5.40	129.24	126.00
1	CA	1021	A	N7-C8-N9	5.40	116.50	113.80
1	AA	2467	G	N3-C2-N2	5.40	123.68	119.90
34	BA	354	G	C6-C5-N7	-5.40	127.16	130.40
34	DA	357	G	OP1-P-OP2	-5.40	111.50	119.60
1	AA	905	U	O5'-P-OP2	-5.40	100.84	105.70
1	AA	1615	G	OP1-P-OP2	-5.40	111.51	119.60
1	AA	2014	G	C2'-C3'-O3'	5.40	122.33	113.70
1	AA	2891	C	C6-N1-C2	-5.40	118.14	120.30
1	CA	48	G	C4-C5-N7	-5.40	108.64	110.80
1	CA	788	A	N3-C4-C5	-5.40	123.02	126.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2495	G	O5'-P-OP1	5.40	117.17	110.70
1	AA	441	C	C5-C6-N1	-5.39	118.30	121.00
1	AA	2053	A	C5-C6-N1	5.39	120.40	117.70
1	AA	119	G	C5-C6-O6	-5.39	125.36	128.60
1	AA	622	G	C2-N3-C4	-5.39	109.20	111.90
1	AA	853	C	N1-C2-N3	-5.39	115.43	119.20
1	AA	1375	U	N1-C2-N3	5.39	118.14	114.90
1	AA	2258	G	N7-C8-N9	-5.39	110.40	113.10
1	AA	2406	C	C5-C6-N1	5.39	123.70	121.00
34	BA	36	C	C6-N1-C2	-5.39	118.14	120.30
1	AA	88	G	N1-C2-N2	5.39	121.05	116.20
1	AA	174	U	C4-C5-C6	5.39	122.94	119.70
1	AA	424	G	N1-C6-O6	-5.39	116.67	119.90
1	AA	471	C	OP1-P-O3'	5.39	117.06	105.20
1	AA	1282	G	N7-C8-N9	-5.39	110.40	113.10
1	CA	2013	A	C2-N3-C4	-5.39	107.90	110.60
1	AA	198	C	N1-C2-O2	5.39	122.13	118.90
1	AA	640	A	N1-C6-N6	5.39	121.83	118.60
1	AA	1599	G	C5-C6-O6	-5.39	125.37	128.60
1	AA	1807	G	C5-C6-O6	-5.39	125.37	128.60
34	BA	619	U	C2-N1-C1'	-5.39	111.23	117.70
1	CA	1954	G	C5-C6-O6	-5.39	125.37	128.60
34	DA	783	C	N1-C2-O2	-5.39	115.67	118.90
1	AA	68	C	C2-N3-C4	-5.39	117.21	119.90
1	AA	541	C	N1-C2-O2	-5.39	115.67	118.90
1	AA	1435	G	C4-C5-N7	-5.39	108.64	110.80
34	BA	366	C	O5'-P-OP2	-5.39	100.85	105.70
1	CA	1127	A	N1-C2-N3	-5.39	126.61	129.30
1	AA	484	G	C5-N7-C8	-5.39	101.61	104.30
1	AA	1978	U	N3-C4-C5	5.39	117.83	114.60
1	AA	2610	A	C5-C6-N1	5.39	120.39	117.70
20	AW	41	LYS	CD-CE-NZ	5.39	124.09	111.70
34	DA	692	U	N3-C4-O4	5.39	123.17	119.40
1	AA	167	G	OP2-P-O3'	5.38	117.05	105.20
1	AA	546	G	C4-C5-N7	-5.38	108.65	110.80
1	AA	772	G	C8-N9-C4	5.38	108.55	106.40
1	AA	1858	C	N3-C4-C5	-5.38	119.75	121.90
1	AA	2312	G	N3-C4-N9	-5.38	122.77	126.00
1	CA	141	A	O4'-C1'-N9	5.38	112.51	108.20
1	CA	1953	A	O5'-P-OP2	5.38	117.16	110.70
1	CA	2763	G	C5-C6-O6	5.38	131.83	128.60
1	AA	1026	A	N7-C8-N9	-5.38	111.11	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2455	C	C6-N1-C2	-5.38	118.15	120.30
34	BA	228	A	N9-C4-C5	-5.38	103.65	105.80
1	AA	987	G	C5-C6-O6	5.38	131.83	128.60
1	AA	2114	U	N3-C4-C5	5.38	117.83	114.60
34	BA	28	G	C8-N9-C4	-5.38	104.25	106.40
34	BA	328	C	O4'-C1'-N1	5.38	112.50	108.20
34	BA	532	A	C8-N9-C4	5.38	107.95	105.80
34	BA	662	G	OP1-P-O3'	5.38	117.04	105.20
34	BA	790	A	N7-C8-N9	-5.38	111.11	113.80
1	CA	1289	C	C6-N1-C2	-5.38	118.15	120.30
1	AA	2726	A	OP2-P-O3'	5.38	117.03	105.20
1	CA	762	U	N1-C2-O2	5.38	126.57	122.80
1	CA	2036	C	N3-C2-O2	5.38	125.67	121.90
1	AA	482	C	N3-C2-O2	5.38	125.67	121.90
1	AA	2440	G	OP2-P-O3'	5.38	117.03	105.20
1	CA	775	G	C5-C6-O6	-5.38	125.37	128.60
1	AA	835	A	OP1-P-OP2	-5.38	111.54	119.60
1	AA	840	A	C6-C5-N7	-5.38	128.54	132.30
1	AA	1350	C	C2-N3-C4	5.38	122.59	119.90
1	CA	106	C	N3-C4-N4	5.38	121.76	118.00
1	AA	741	U	O5'-P-OP1	5.38	117.15	110.70
1	AA	2636	G	C5-C6-N1	5.38	114.19	111.50
37	DD	19	LEU	CA-CB-CG	5.38	127.66	115.30
1	AA	318	A	OP2-P-O3'	5.37	117.02	105.20
1	AA	2482	G	N3-C4-C5	5.37	131.29	128.60
1	AA	2719	G	C4-C5-N7	5.37	112.95	110.80
1	AA	2776	G	C6-C5-N7	-5.37	127.18	130.40
1	CA	1252	G	C4-N9-C1'	-5.37	119.51	126.50
1	AA	123	G	N1-C6-O6	5.37	123.12	119.90
1	AA	1548	C	N1-C2-N3	5.37	122.96	119.20
1	AA	2256	U	C5-C4-O4	5.37	129.12	125.90
34	BA	128	G	N1-C6-O6	5.37	123.12	119.90
1	CA	244	A	C2-N3-C4	-5.37	107.92	110.60
1	CA	2356	C	C5-C6-N1	-5.37	118.31	121.00
1	CA	2778	A	O5'-P-OP1	5.37	117.14	110.70
34	BA	1508	G	C5-C6-N1	-5.37	108.81	111.50
1	CA	400	G	N1-C2-N2	5.37	121.03	116.20
34	DA	768	A	C8-N9-C4	5.37	107.95	105.80
1	AA	705	C	O5'-P-OP2	-5.37	100.87	105.70
1	AA	1443	U	N1-C2-N3	5.37	118.12	114.90
1	AA	1525	G	N3-C2-N2	5.37	123.66	119.90
1	AA	2468	C	C5-C6-N1	5.37	123.69	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2544	G	OP1-P-OP2	5.37	127.65	119.60
2	AB	83	G	C2-N3-C4	-5.37	109.22	111.90
34	BA	34	C	C5-C4-N4	-5.37	116.44	120.20
1	CA	1023	U	N3-C4-O4	-5.37	115.64	119.40
1	CA	2016	U	C6-N1-C2	-5.37	117.78	121.00
1	AA	934	A	O4'-C1'-N9	5.37	112.49	108.20
1	AA	2582	G	C2-N3-C4	5.37	114.58	111.90
1	AA	2879	G	C8-N9-C4	-5.37	104.25	106.40
1	CA	986	C	N3-C2-O2	-5.37	118.14	121.90
1	CA	1967	C	O5'-P-OP2	-5.37	100.87	105.70
1	AA	30	G	N9-C4-C5	-5.37	103.25	105.40
1	AA	554	A	C6-C5-N7	-5.37	128.54	132.30
1	AA	1497	G	C8-N9-C4	-5.37	104.25	106.40
1	AA	1823	G	C5-N7-C8	5.37	106.98	104.30
34	BA	580	U	O5'-P-OP1	-5.37	100.87	105.70
34	BA	1529	G	N7-C8-N9	5.37	115.78	113.10
1	CA	361	G	N1-C6-O6	5.37	123.12	119.90
1	CA	1670	C	C6-N1-C2	-5.37	118.15	120.30
34	DA	125	U	C6-N1-C2	-5.37	117.78	121.00
34	DA	874	G	N1-C2-N2	-5.37	111.37	116.20
1	AA	1682	G	N3-C4-N9	5.36	129.22	126.00
1	AA	2229	A	O4'-C1'-N9	5.36	112.49	108.20
1	CA	1894	C	C6-N1-C2	-5.36	118.15	120.30
1	CA	2265	U	O5'-P-OP1	-5.36	100.87	105.70
1	CA	2542	A	N1-C6-N6	-5.36	115.38	118.60
1	AA	20	C	C5-C6-N1	-5.36	118.32	121.00
1	AA	400	U	OP1-P-OP2	-5.36	111.56	119.60
1	AA	2417	G	N1-C6-O6	5.36	123.12	119.90
34	BA	748	C	P-O3'-C3'	5.36	126.13	119.70
1	CA	1129	A	N7-C8-N9	5.36	116.48	113.80
1	CA	1226	A	N1-C6-N6	-5.36	115.38	118.60
1	CA	2375	G	C4-N9-C1'	-5.36	119.53	126.50
2	CB	77	U	N3-C2-O2	-5.36	118.45	122.20
1	AA	609	A	C6-N1-C2	5.36	121.82	118.60
1	AA	662	A	C5-C6-N6	-5.36	119.41	123.70
1	AA	1721	G	N7-C8-N9	5.36	115.78	113.10
2	AB	71	C	N3-C4-C5	5.36	124.04	121.90
1	CA	2062	A	C6-C5-N7	-5.36	128.55	132.30
1	CA	2567	G	N3-C2-N2	5.36	123.65	119.90
34	DA	63	C	C6-N1-C2	-5.36	118.16	120.30
1	AA	203	G	C5-C6-O6	-5.36	125.39	128.60
1	AA	977	G	N1-C6-O6	-5.36	116.69	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	928	G	C5-C6-O6	-5.36	125.39	128.60
34	DA	905	U	O5'-P-OP2	5.36	117.13	110.70
1	AA	167	G	N7-C8-N9	-5.36	110.42	113.10
1	AA	421	A	N3-C4-C5	5.36	130.55	126.80
1	AA	2336	C	N3-C4-N4	5.36	121.75	118.00
34	BA	665	A	C8-N9-C4	5.36	107.94	105.80
1	CA	521	G	N1-C6-O6	-5.36	116.69	119.90
1	CA	569	U	N3-C4-C5	5.36	117.81	114.60
1	CA	912	C	C2-N1-C1'	5.36	124.69	118.80
1	CA	1673	U	C2-N3-C4	-5.36	123.79	127.00
1	CA	2429	G	OP1-P-OP2	-5.36	111.57	119.60
34	DA	673	G	C4-C5-N7	-5.36	108.66	110.80
1	AA	1790	A	C4-N9-C1'	5.35	135.94	126.30
1	AA	2077	C	OP1-P-O3'	5.35	116.98	105.20
34	BA	107	G	C5-C6-O6	-5.35	125.39	128.60
1	CA	1129	A	O4'-C1'-N9	5.35	112.48	108.20
1	CA	1186	G	C6-C5-N7	-5.35	127.19	130.40
1	AA	489	G	C5-C6-O6	5.35	131.81	128.60
1	AA	847	A	N9-C4-C5	5.35	107.94	105.80
1	AA	2419	G	C5-C6-O6	-5.35	125.39	128.60
34	BA	1332	A	C8-N9-C4	-5.35	103.66	105.80
1	CA	751	A	N1-C6-N6	5.35	121.81	118.60
1	CA	1573	G	N7-C8-N9	-5.35	110.42	113.10
1	CA	2537	U	C5-C4-O4	5.35	129.11	125.90
1	AA	558	G	N1-C6-O6	-5.35	116.69	119.90
1	AA	775	G	C8-N9-C4	-5.35	104.26	106.40
1	AA	1665	G	C2-N3-C4	5.35	114.58	111.90
1	AA	1709	C	C5-C4-N4	-5.35	116.45	120.20
1	AA	1936	C	C6-N1-C2	-5.35	118.16	120.30
1	CA	382	G	C5-C6-O6	-5.35	125.39	128.60
1	CA	2598	A	N1-C6-N6	5.35	121.81	118.60
1	CA	2708	G	N1-C2-N2	-5.35	111.38	116.20
1	AA	228	U	C5-C6-N1	-5.35	120.03	122.70
1	CA	2043	C	N3-C2-O2	-5.35	118.16	121.90
1	CA	2712(A)	A	O5'-P-OP1	-5.35	100.89	105.70
1	AA	604	C	N3-C2-O2	5.35	125.64	121.90
1	AA	1306	G	C2-N3-C4	-5.35	109.23	111.90
1	AA	2494	G	C6-N1-C2	-5.35	121.89	125.10
1	CA	305	U	C5-C6-N1	5.35	125.37	122.70
1	CA	390	A	C6-N1-C2	5.35	121.81	118.60
1	CA	1263	U	N1-C2-N3	5.35	118.11	114.90
1	CA	2286	A	C8-N9-C4	-5.35	103.66	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1829	U	N3-C4-O4	-5.35	115.66	119.40
1	AA	2073	A	O5'-P-OP1	5.35	117.11	110.70
56	BW	49	C	C6-N1-C2	-5.35	118.16	120.30
1	CA	525	U	N3-C4-O4	-5.35	115.66	119.40
1	CA	1368	G	N9-C4-C5	5.35	107.54	105.40
1	AA	120	G	N1-C2-N3	5.34	127.11	123.90
1	AA	1451	U	O5'-P-OP2	-5.34	100.89	105.70
1	CA	848	G	C8-N9-C1'	-5.34	120.05	127.00
1	CA	1660	C	N1-C2-N3	5.34	122.94	119.20
1	CA	2380	C	C5-C4-N4	-5.34	116.46	120.20
1	CA	2531	A	C2-N3-C4	-5.34	107.93	110.60
1	CA	2586	C	N3-C4-C5	5.34	124.04	121.90
2	AB	49	C	N3-C2-O2	5.34	125.64	121.90
34	BA	771	G	N3-C2-N2	-5.34	116.16	119.90
1	CA	304	G	N9-C4-C5	-5.34	103.26	105.40
1	CA	549	G	N1-C6-O6	5.34	123.11	119.90
1	CA	2578	G	O5'-P-OP2	5.34	117.11	110.70
1	AA	1834	A	N1-C2-N3	5.34	131.97	129.30
1	AA	2310	A	N9-C4-C5	-5.34	103.66	105.80
1	CA	331	A	OP1-P-OP2	5.34	127.61	119.60
1	CA	2819	G	N1-C2-N2	-5.34	111.39	116.20
1	CA	2870	C	OP2-P-O3'	5.34	116.95	105.20
1	AA	353	G	C5-C6-O6	-5.34	125.40	128.60
1	AA	542	C	C6-N1-C1'	-5.34	114.39	120.80
1	AA	588	C	OP1-P-OP2	-5.34	111.59	119.60
1	AA	1192	C	N3-C4-C5	-5.34	119.76	121.90
1	AA	1722	C	C6-N1-C1'	5.34	127.21	120.80
1	AA	2654	G	C2-N3-C4	-5.34	109.23	111.90
2	AB	75	G	N3-C4-N9	5.34	129.20	126.00
30	A6	34	LEU	CA-CB-CG	5.34	127.58	115.30
34	BA	897	C	C6-N1-C2	5.34	122.44	120.30
1	CA	492	A	O5'-P-OP2	-5.34	100.89	105.70
1	CA	1000	A	N9-C4-C5	-5.34	103.66	105.80
1	CA	1022	G	N1-C6-O6	5.34	123.10	119.90
1	AA	1237	G	N1-C6-O6	-5.34	116.70	119.90
34	BA	45	U	OP2-P-O3'	5.34	116.94	105.20
1	AA	238	C	C5-C6-N1	-5.34	118.33	121.00
1	AA	727	G	C4-C5-C6	5.34	122.00	118.80
1	AA	1678	A	C5-C6-N6	5.34	127.97	123.70
1	AA	2888	U	N1-C2-N3	5.34	118.10	114.90
1	CA	414	C	C5-C6-N1	-5.34	118.33	121.00
1	CA	1145	C	O5'-P-OP2	5.34	117.10	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1714	G	OP2-P-O3'	5.33	116.94	105.20
1	AA	1957	G	OP1-P-O3'	5.33	116.94	105.20
34	BA	284	G	C5-C6-O6	5.33	131.80	128.60
34	BA	509	A	C2'-C3'-O3'	5.33	122.24	113.70
1	AA	56	C	C4-C5-C6	5.33	120.07	117.40
1	AA	59	G	N1-C6-O6	5.33	123.10	119.90
1	AA	169	G	C5-N7-C8	-5.33	101.63	104.30
1	AA	613	A	C5-C6-N1	-5.33	115.03	117.70
1	AA	650	G	C2-N3-C4	-5.33	109.23	111.90
1	AA	1157	A	C5-N7-C8	-5.33	101.23	103.90
1	AA	1999	A	C2-N3-C4	-5.33	107.93	110.60
34	BA	349	A	N1-C6-N6	-5.33	115.40	118.60
34	BA	1190	G	C8-N9-C4	-5.33	104.27	106.40
1	CA	786	C	N3-C4-N4	-5.33	114.27	118.00
1	CA	1189	A	O5'-P-OP1	5.33	117.10	110.70
1	CA	1251	C	C6-N1-C2	-5.33	118.17	120.30
1	CA	1776	G	C4-N9-C1'	5.33	133.43	126.50
34	DA	352	C	C5-C6-N1	5.33	123.67	121.00
1	AA	187	C	O4'-C1'-N1	-5.33	103.94	108.20
1	AA	715	G	C5-N7-C8	-5.33	101.63	104.30
1	AA	752	A	N1-C6-N6	5.33	121.80	118.60
1	AA	821	A	C5-C6-N6	5.33	127.97	123.70
1	AA	1435	G	N3-C4-C5	-5.33	125.93	128.60
1	AA	1922	A	N1-C6-N6	-5.33	115.40	118.60
1	AA	2642	G	C5-C6-O6	-5.33	125.40	128.60
2	AB	74	U	N3-C4-O4	5.33	123.13	119.40
1	CA	456	C	N3-C2-O2	-5.33	118.17	121.90
1	CA	934	G	OP1-P-OP2	5.33	127.60	119.60
1	CA	1487	G	OP1-P-O3'	5.33	116.93	105.20
1	AA	2716	C	OP2-P-O3'	-5.33	93.47	105.20
1	AA	2719	G	C6-C5-N7	-5.33	127.20	130.40
34	BA	1498	U	C2-N3-C4	-5.33	123.80	127.00
1	CA	582	G	C4-C5-C6	5.33	122.00	118.80
1	CA	2492	U	OP1-P-OP2	-5.33	111.61	119.60
1	CA	2500	U	C2-N1-C1'	-5.33	111.30	117.70
34	DA	817	C	C6-N1-C2	5.33	122.43	120.30
1	AA	1961	U	C5-C4-O4	-5.33	122.70	125.90
1	AA	2115	G	C5-C6-O6	-5.33	125.40	128.60
1	AA	2285	A	N9-C4-C5	-5.33	103.67	105.80
1	AA	2657	G	N3-C4-C5	5.33	131.26	128.60
1	CA	465	G	O5'-P-OP1	-5.33	100.90	105.70
1	CA	1610	A	OP1-P-O3'	5.33	116.92	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2427	C	C6-N1-C2	5.33	122.43	120.30
1	AA	130	G	C8-N9-C4	5.33	108.53	106.40
1	AA	1384	G	OP1-P-OP2	-5.33	111.61	119.60
2	AB	71	C	N3-C4-N4	5.33	121.73	118.00
2	AB	86	G	C5-C6-N1	5.33	114.16	111.50
15	CR	79	LEU	CA-CB-CG	5.33	127.55	115.30
1	AA	702	A	OP2-P-O3'	5.33	116.92	105.20
1	CA	1566	A	C5-N7-C8	-5.33	101.24	103.90
1	CA	1809	A	C5-C6-N6	-5.33	119.44	123.70
1	AA	240	A	C5-N7-C8	5.32	106.56	103.90
1	AA	580	U	OP2-P-O3'	5.32	116.91	105.20
1	AA	2590	G	C8-N9-C1'	5.32	133.92	127.00
1	AA	2597	U	C2-N1-C1'	5.32	124.09	117.70
1	CA	829	A	C5-N7-C8	-5.32	101.24	103.90
1	AA	660	C	O5'-P-OP2	-5.32	100.91	105.70
1	AA	900	G	C5-C6-O6	5.32	131.79	128.60
1	AA	1720	U	OP2-P-O3'	5.32	116.91	105.20
1	AA	2754	A	N1-C2-N3	-5.32	126.64	129.30
1	CA	217	G	C2-N3-C4	-5.32	109.24	111.90
1	AA	322	G	N9-C4-C5	-5.32	103.27	105.40
1	AA	511	C	C2-N3-C4	-5.32	117.24	119.90
1	AA	1246	C	C5-C6-N1	-5.32	118.34	121.00
1	AA	1826	C	N3-C4-C5	5.32	124.03	121.90
1	AA	2719	G	N1-C6-O6	5.32	123.09	119.90
1	AA	2796	G	C8-N9-C4	-5.32	104.27	106.40
1	AA	2896	G	N3-C2-N2	-5.32	116.18	119.90
34	BA	801	U	N3-C4-O4	-5.32	115.68	119.40
1	CA	997	G	C8-N9-C4	5.32	108.53	106.40
1	CA	1699	G	C8-N9-C4	-5.32	104.27	106.40
2	CB	116	G	OP1-P-OP2	5.32	127.58	119.60
1	AA	974	G	C2-N3-C4	-5.32	109.24	111.90
1	AA	2445	A	C8-N9-C4	5.32	107.93	105.80
1	AA	2591	C	N1-C2-O2	5.32	122.09	118.90
34	BA	907	A	OP1-P-OP2	5.32	127.58	119.60
1	CA	1294	U	N3-C4-O4	5.32	123.12	119.40
1	AA	167	G	N1-C2-N2	5.32	120.98	116.20
1	AA	195	U	C5-C6-N1	-5.32	120.04	122.70
1	AA	1959	A	OP2-P-O3'	5.32	116.89	105.20
1	AA	2391	G	C5-C6-N1	5.32	114.16	111.50
34	BA	1491	G	N3-C4-C5	-5.32	125.94	128.60
1	CA	226	G	C8-N9-C4	-5.32	104.27	106.40
1	CA	1023	U	C5-C6-N1	-5.32	120.04	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1408	C	N1-C2-O2	-5.32	115.71	118.90
1	CA	1772	G	O5'-P-OP1	-5.32	100.92	105.70
1	CA	2500	U	C5-C6-N1	-5.32	120.04	122.70
2	CB	74	U	O4'-C1'-N1	5.32	112.45	108.20
1	CA	412	A	N9-C4-C5	-5.31	103.67	105.80
1	CA	1775	U	N3-C4-O4	-5.31	115.68	119.40
1	AA	854	U	C5-C6-N1	-5.31	120.04	122.70
1	AA	876	A	C8-N9-C4	-5.31	103.67	105.80
1	AA	2258	G	OP2-P-O3'	5.31	116.89	105.20
1	AA	2377	G	O5'-P-OP1	5.31	117.08	110.70
1	AA	2537	G	N1-C2-N2	-5.31	111.42	116.20
2	AB	15	A	C8-N9-C4	5.31	107.92	105.80
34	BA	390	C	C6-N1-C2	-5.31	118.17	120.30
1	CA	1388	G	C5-N7-C8	5.31	106.96	104.30
1	CA	1668	A	N1-C2-N3	-5.31	126.64	129.30
1	AA	1257	G	O4'-C1'-N9	5.31	112.45	108.20
1	AA	1425	A	N9-C4-C5	-5.31	103.67	105.80
1	AA	1686	U	OP2-P-O3'	5.31	116.88	105.20
34	BA	1393	U	O5'-P-OP2	-5.31	100.92	105.70
1	CA	498	G	OP2-P-O3'	5.31	116.88	105.20
1	AA	592	U	N3-C4-O4	5.31	123.11	119.40
1	AA	822	G	C4-C5-N7	5.31	112.92	110.80
1	AA	1169	C	N1-C2-N3	5.31	122.92	119.20
1	AA	1294	G	C2-N3-C4	-5.31	109.25	111.90
1	AA	2440	G	N3-C2-N2	5.31	123.62	119.90
2	AB	56	G	N3-C4-C5	-5.31	125.95	128.60
14	AQ	119	ARG	NE-CZ-NH1	-5.31	117.65	120.30
1	CA	2371	G	C2-N3-C4	5.31	114.55	111.90
1	CA	2491	U	OP1-P-O3'	5.31	116.88	105.20
1	AA	1927	C	C4-C5-C6	5.31	120.05	117.40
1	AA	125	A	C8-N9-C4	5.30	107.92	105.80
1	AA	405	C	N1-C2-O2	-5.30	115.72	118.90
1	AA	777	C	N1-C2-O2	-5.30	115.72	118.90
1	AA	2434	A	C8-N9-C1'	5.30	137.25	127.70
1	CA	487	C	OP2-P-O3'	5.30	116.87	105.20
1	CA	2315	G	N3-C4-N9	5.30	129.18	126.00
34	BA	1528	U	O5'-P-OP2	-5.30	100.93	105.70
1	CA	1329	U	N3-C2-O2	5.30	125.91	122.20
1	AA	1230	C	C2-N3-C4	5.30	122.55	119.90
1	AA	1422	C	C6-N1-C2	5.30	122.42	120.30
1	AA	1913	G	OP2-P-O3'	5.30	116.86	105.20
1	AA	2562	G	C6-N1-C2	-5.30	121.92	125.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2888	U	C5-C6-N1	5.30	125.35	122.70
1	CA	2273	A	OP2-P-O3'	5.30	116.86	105.20
1	AA	7	G	O5'-P-OP1	-5.30	100.93	105.70
1	AA	545	G	N1-C6-O6	-5.30	116.72	119.90
1	AA	580	U	C2-N3-C4	-5.30	123.82	127.00
1	AA	785	G	C4-C5-N7	5.30	112.92	110.80
1	AA	1059	C	O5'-P-OP2	-5.30	100.93	105.70
1	AA	2014	G	N1-C2-N3	5.30	127.08	123.90
1	AA	2457	G	OP1-P-OP2	5.30	127.55	119.60
56	BW	49	C	C5-C6-N1	5.30	123.65	121.00
1	CA	2870	C	N3-C2-O2	-5.30	118.19	121.90
1	AA	1065	U	N1-C2-N3	5.30	118.08	114.90
1	CA	792	G	C8-N9-C4	-5.30	104.28	106.40
34	DA	1099	G	C4-C5-N7	-5.30	108.68	110.80
1	AA	727	G	N1-C6-O6	5.30	123.08	119.90
1	AA	1208	G	N1-C2-N2	-5.30	111.43	116.20
1	AA	2076	A	N7-C8-N9	-5.30	111.15	113.80
1	AA	2534	U	C5-C6-N1	-5.30	120.05	122.70
1	CA	756	C	C4-C5-C6	5.30	120.05	117.40
1	CA	1475	G	O5'-P-OP2	5.30	117.06	110.70
1	CA	1571	A	C8-N9-C4	5.30	107.92	105.80
1	AA	1520	G	C8-N9-C4	5.29	108.52	106.40
1	AA	2357	G	OP1-P-O3'	5.29	116.85	105.20
1	AA	2399	U	N3-C4-O4	5.29	123.11	119.40
1	AA	2556	G	OP1-P-OP2	-5.29	111.66	119.60
1	CA	2731	G	OP2-P-O3'	5.29	116.85	105.20
1	AA	175	G	C4-C5-C6	5.29	121.98	118.80
1	AA	748	G	N1-C2-N2	-5.29	111.44	116.20
1	AA	921	G	O5'-P-OP1	5.29	117.05	110.70
1	AA	986	A	C4-C5-C6	5.29	119.65	117.00
1	AA	2692	C	N3-C4-C5	-5.29	119.78	121.90
34	BA	110	C	C6-N1-C2	-5.29	118.18	120.30
1	CA	728	G	N7-C8-N9	-5.29	110.45	113.10
1	CA	1493	C	N3-C2-O2	-5.29	118.19	121.90
1	CA	1699	G	N1-C6-O6	5.29	123.08	119.90
1	AA	999	G	C5-C6-O6	5.29	131.78	128.60
1	AA	1064	C	N3-C4-N4	-5.29	114.30	118.00
1	AA	1626	A	C5-C6-N6	-5.29	119.47	123.70
1	AA	1679	A	OP1-P-O3'	5.29	116.84	105.20
1	AA	2787	C	N3-C4-C5	5.29	124.02	121.90
34	BA	677	U	N1-C2-N3	5.29	118.08	114.90
1	CA	192	C	N1-C2-O2	5.29	122.08	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	381	G	C4-C5-N7	-5.29	108.68	110.80
1	CA	814	C	O5'-P-OP2	-5.29	100.94	105.70
1	CA	2424	C	C6-N1-C2	5.29	122.42	120.30
34	BA	1080	A	OP1-P-O3'	5.29	116.83	105.20
1	CA	1966	A	N7-C8-N9	-5.29	111.16	113.80
1	AA	1435	G	C5-C6-N1	5.29	114.14	111.50
1	AA	1723	A	C8-N9-C4	5.29	107.92	105.80
1	AA	618	C	O5'-P-OP1	-5.29	100.94	105.70
1	AA	747	G	N1-C2-N3	5.29	127.07	123.90
1	AA	1040	C	C2-N3-C4	-5.29	117.26	119.90
1	AA	1245	C	C6-N1-C2	-5.29	118.19	120.30
1	AA	2291	G	N3-C2-N2	-5.29	116.20	119.90
1	AA	2479	C	N3-C4-C5	5.29	124.01	121.90
1	CA	1836	C	C2-N3-C4	5.29	122.54	119.90
1	CA	2250	G	OP1-P-OP2	5.29	127.53	119.60
1	AA	674	G	C5-C6-O6	5.28	131.77	128.60
1	AA	806	G	C5-N7-C8	5.28	106.94	104.30
1	AA	1316	C	N3-C4-N4	-5.28	114.30	118.00
1	AA	2026	G	N7-C8-N9	5.28	115.74	113.10
1	AA	2282	G	N1-C6-O6	5.28	123.07	119.90
34	BA	1030(B)	C	C5-C6-N1	5.28	123.64	121.00
1	CA	434	U	C5-C6-N1	-5.28	120.06	122.70
1	CA	1567	A	OP1-P-O3'	5.28	116.82	105.20
1	CA	1653	G	N3-C4-N9	-5.28	122.83	126.00
25	C1	41	ARG	NE-CZ-NH2	-5.28	117.66	120.30
1	AA	659	C	OP2-P-O3'	5.28	116.82	105.20
1	AA	1547	C	C2-N3-C4	5.28	122.54	119.90
1	CA	130	C	C5-C4-N4	-5.28	116.50	120.20
1	AA	1516	A	C6-C5-N7	-5.28	128.60	132.30
1	AA	2246	G	N3-C2-N2	5.28	123.60	119.90
1	AA	2459	G	N1-C6-O6	-5.28	116.73	119.90
1	AA	2493	G	N1-C6-O6	5.28	123.07	119.90
34	BA	23	C	C5-C6-N1	5.28	123.64	121.00
1	CA	1708	C	C2-N1-C1'	-5.28	112.99	118.80
1	CA	1776	G	C6-N1-C2	-5.28	121.93	125.10
1	AA	1085	G	N7-C8-N9	-5.28	110.46	113.10
1	AA	1263	C	OP2-P-O3'	5.28	116.81	105.20
1	AA	1921	G	C5-C6-O6	-5.28	125.43	128.60
13	AP	55	ARG	NE-CZ-NH1	5.28	122.94	120.30
2	CB	85	G	N9-C4-C5	-5.28	103.29	105.40
1	AA	57	G	C8-N9-C4	-5.28	104.29	106.40
1	AA	109	A	C8-N9-C4	-5.28	103.69	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	312	C	C5-C6-N1	5.28	123.64	121.00
1	AA	896	A	C6-N1-C2	5.28	121.77	118.60
1	AA	911	G	C2-N3-C4	5.28	114.54	111.90
1	AA	1709	C	O5'-P-OP1	-5.28	100.95	105.70
1	AA	1959	A	C2-N3-C4	-5.28	107.96	110.60
1	AA	2213	G	C4-N9-C1'	5.28	133.36	126.50
1	AA	2256	U	N1-C2-N3	5.28	118.07	114.90
1	AA	2500	A	C8-N9-C4	5.28	107.91	105.80
1	AA	2628	C	C2-N3-C4	-5.28	117.26	119.90
34	BA	689	C	C2-N1-C1'	5.28	124.61	118.80
34	BA	790	A	C5-C6-N6	5.28	127.92	123.70
1	CA	666	G	N1-C2-N2	-5.28	111.45	116.20
1	CA	808	G	N3-C2-N2	5.28	123.59	119.90
1	CA	1558	A	N3-C4-C5	5.28	130.49	126.80
1	CA	2524	G	C6-N1-C2	-5.28	121.93	125.10
1	AA	543	G	O5'-P-OP2	-5.28	100.95	105.70
1	AA	557	A	C5-C6-N1	5.28	120.34	117.70
1	AA	616	G	N3-C4-N9	-5.28	122.83	126.00
1	AA	2054	G	N1-C6-O6	-5.28	116.73	119.90
1	AA	2102	G	C4-C5-N7	-5.28	108.69	110.80
1	AA	2360	U	C5-C6-N1	-5.28	120.06	122.70
1	CA	390	A	C4-C5-C6	-5.28	114.36	117.00
1	CA	975(A)	G	N9-C4-C5	-5.28	103.29	105.40
1	CA	1779	U	C6-N1-C1'	-5.28	113.81	121.20
1	AA	990	A	C8-N9-C1'	-5.27	118.21	127.70
1	AA	1063	G	N3-C4-N9	-5.27	122.84	126.00
1	AA	2729	U	N3-C4-C5	5.27	117.76	114.60
1	CA	143(A)	C	O5'-P-OP1	-5.27	100.95	105.70
1	CA	639	U	C5-C4-O4	5.27	129.06	125.90
1	CA	983	A	C5-C6-N6	5.27	127.92	123.70
1	CA	1234	U	N1-C2-O2	5.27	126.49	122.80
1	CA	2383	G	N1-C6-O6	-5.27	116.73	119.90
1	AA	146	G	N3-C2-N2	5.27	123.59	119.90
1	AA	567	C	N3-C4-C5	5.27	124.01	121.90
1	AA	790	G	N1-C2-N2	-5.27	111.45	116.20
1	AA	1377	A	C2-N3-C4	-5.27	107.96	110.60
1	CA	1825	A	N9-C4-C5	5.27	107.91	105.80
34	DA	62	U	OP1-P-OP2	-5.27	111.69	119.60
1	AA	1344	C	N3-C4-C5	5.27	124.01	121.90
4	AD	260	ARG	NE-CZ-NH1	5.27	122.94	120.30
1	AA	665	C	O5'-P-OP2	-5.27	100.96	105.70
1	AA	743	G	O5'-P-OP2	-5.27	100.96	105.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1705	C	C5-C6-N1	-5.27	118.37	121.00
34	BA	582	U	C6-N1-C2	5.27	124.16	121.00
34	BA	586	C	C2-N3-C4	-5.27	117.27	119.90
1	CA	498	G	N3-C4-C5	5.27	131.24	128.60
1	CA	1339	G	O5'-P-OP1	-5.27	100.96	105.70
1	AA	405	C	C5-C4-N4	-5.27	116.51	120.20
1	AA	708	C	N1-C2-O2	5.27	122.06	118.90
1	AA	1365	G	C4-C5-N7	5.27	112.91	110.80
2	AB	56	G	C8-N9-C4	-5.27	104.29	106.40
34	BA	600	C	N3-C4-C5	5.27	124.01	121.90
1	AA	154	G	C2-N3-C4	-5.27	109.27	111.90
1	AA	1670	G	N3-C2-N2	5.27	123.59	119.90
1	AA	2082	A	OP1-P-OP2	-5.27	111.70	119.60
1	AA	763	A	N1-C6-N6	5.26	121.76	118.60
1	CA	313	C	N1-C2-O2	-5.26	115.74	118.90
1	CA	842	G	N7-C8-N9	-5.26	110.47	113.10
1	CA	2837	G	N1-C6-O6	5.26	123.06	119.90
56	DW	19	G	OP2-P-O3'	5.26	116.78	105.20
1	AA	1317	G	OP1-P-OP2	-5.26	111.71	119.60
19	AV	58	VAL	CB-CA-C	-5.26	101.40	111.40
1	AA	115	G	C8-N9-C1'	-5.26	120.16	127.00
1	AA	1437	U	C2-N1-C1'	5.26	124.01	117.70
1	AA	2692	C	C2-N1-C1'	5.26	124.59	118.80
34	BA	1190	G	C5-C6-O6	5.26	131.76	128.60
1	CA	809	G	C5-N7-C8	5.26	106.93	104.30
1	CA	1313	U	C2-N1-C1'	5.26	124.01	117.70
1	CA	1975	G	O5'-P-OP1	5.26	117.01	110.70
1	CA	2278	A	O5'-P-OP2	-5.26	100.96	105.70
1	CA	2371	G	C6-C5-N7	5.26	133.56	130.40
1	AA	208	G	C5-C6-O6	5.26	131.76	128.60
1	AA	349	G	C6-N1-C2	-5.26	121.94	125.10
1	AA	977	G	N1-C2-N3	5.26	127.06	123.90
1	AA	1795	G	N3-C2-N2	5.26	123.58	119.90
1	AA	2898	C	O5'-P-OP2	-5.26	100.97	105.70
2	AB	116	G	N7-C8-N9	-5.26	110.47	113.10
1	CA	465	G	N9-C4-C5	-5.26	103.30	105.40
1	CA	494	G	N3-C2-N2	-5.26	116.22	119.90
1	CA	527	C	O4'-C1'-N1	5.26	112.41	108.20
1	CA	862	G	C8-N9-C4	-5.26	104.30	106.40
1	CA	1979	C	C6-N1-C2	-5.26	118.20	120.30
1	CA	2706	G	C6-N1-C2	-5.26	121.94	125.10
2	CB	30	C	C6-N1-C2	-5.26	118.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	DA	346	G	C4-C5-N7	5.26	112.90	110.80
1	AA	453	C	N1-C2-O2	-5.26	115.75	118.90
1	AA	2581	G	O5'-P-OP2	-5.26	100.97	105.70
34	BA	898	G	C8-N9-C4	5.26	108.50	106.40
1	CA	2003	G	C5-C6-O6	5.26	131.75	128.60
34	DA	784	C	N3-C2-O2	5.26	125.58	121.90
1	AA	854	U	C4-C5-C6	5.26	122.85	119.70
1	AA	1035	G	OP1-P-O3'	5.26	116.76	105.20
1	AA	1173	A	OP2-P-O3'	5.26	116.77	105.20
1	AA	2355	C	C2-N1-C1'	-5.26	113.02	118.80
1	AA	2367	C	N3-C4-C5	5.26	124.00	121.90
34	BA	557	G	C5-C6-O6	5.26	131.75	128.60
34	BA	1103	C	N1-C2-O2	5.26	122.05	118.90
1	CA	1031	G	OP1-P-OP2	5.26	127.48	119.60
1	CA	1372	U	C5-C4-O4	-5.26	122.75	125.90
34	BA	868	C	N3-C2-O2	5.25	125.58	121.90
34	DA	904	C	OP1-P-OP2	-5.25	111.72	119.60
1	AA	459	A	C5-C6-N6	-5.25	119.50	123.70
1	AA	553	A	C5-C6-N1	-5.25	115.07	117.70
1	AA	1050	C	N3-C2-O2	5.25	125.58	121.90
1	AA	1359	U	N1-C2-O2	5.25	126.48	122.80
1	AA	1525	G	O4'-C1'-N9	5.25	112.40	108.20
1	AA	1558	G	OP1-P-O3'	5.25	116.76	105.20
1	AA	1749	G	C4-N9-C1'	-5.25	119.67	126.50
1	AA	1825	U	OP2-P-O3'	5.25	116.76	105.20
1	AA	2242	G	N9-C4-C5	-5.25	103.30	105.40
1	AA	2713	C	C5-C6-N1	-5.25	118.37	121.00
34	BA	790	A	C5-C6-N1	-5.25	115.07	117.70
34	BA	1529	G	N9-C4-C5	5.25	107.50	105.40
1	CA	769	G	N7-C8-N9	-5.25	110.47	113.10
1	CA	2640	G	C5-C6-O6	-5.25	125.45	128.60
1	AA	903	C	O5'-P-OP1	-5.25	100.97	105.70
1	AA	1368	A	C8-N9-C4	-5.25	103.70	105.80
2	AB	77	U	C4-C5-C6	5.25	122.85	119.70
1	CA	1290	C	O5'-P-OP1	-5.25	100.97	105.70
1	CA	2350	C	OP1-P-OP2	5.25	127.48	119.60
1	CA	2585	U	C6-N1-C2	5.25	124.15	121.00
1	AA	552	C	O4'-C1'-N1	5.25	112.40	108.20
1	AA	1612	C	C6-N1-C2	5.25	122.40	120.30
1	AA	142	G	C8-N9-C4	5.25	108.50	106.40
1	AA	291	G	C8-N9-C4	5.25	108.50	106.40
1	AA	318	A	C8-N9-C4	5.25	107.90	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	801	C	C5-C6-N1	-5.25	118.38	121.00
1	AA	974	G	C5-C6-N1	-5.25	108.88	111.50
1	AA	1154	U	OP1-P-O3'	5.25	116.75	105.20
1	AA	1679	A	C4-C5-C6	5.25	119.62	117.00
1	AA	1720	U	N1-C2-N3	-5.25	111.75	114.90
1	CA	807	U	C5-C4-O4	-5.25	122.75	125.90
1	CA	1898	U	C6-N1-C2	5.25	124.15	121.00
1	CA	2379	G	N1-C6-O6	5.25	123.05	119.90
1	AA	1040	C	N3-C4-N4	5.25	121.67	118.00
1	AA	2058	C	N3-C4-N4	-5.25	114.33	118.00
1	AA	2496	G	C6-C5-N7	5.25	133.55	130.40
1	AA	2515	A	C8-N9-C4	5.25	107.90	105.80
34	BA	30	U	C6-N1-C1'	-5.25	113.86	121.20
34	BA	819	A	N9-C4-C5	-5.25	103.70	105.80
1	CA	2363	C	N3-C4-C5	5.25	124.00	121.90
1	AA	354	A	C8-N9-C1'	5.24	137.14	127.70
1	AA	494	G	C2-N3-C4	-5.24	109.28	111.90
1	AA	537	G	C6-N1-C2	5.24	128.25	125.10
1	AA	1206	G	C2-N3-C4	5.24	114.52	111.90
1	AA	1232	G	O5'-P-OP1	5.24	116.99	110.70
1	AA	1317	G	N1-C2-N2	-5.24	111.48	116.20
1	AA	1657	C	C5-C4-N4	-5.24	116.53	120.20
1	AA	1958	A	N1-C6-N6	5.24	121.75	118.60
1	AA	2079	A	N9-C4-C5	-5.24	103.70	105.80
1	AA	2726	A	C4-C5-C6	5.24	119.62	117.00
1	CA	151	C	C5-C6-N1	-5.24	118.38	121.00
1	AA	1390	G	C5-C6-O6	-5.24	125.45	128.60
1	CA	1136	G	OP1-P-OP2	5.24	127.46	119.60
1	CA	1300	U	P-O3'-C3'	5.24	125.99	119.70
1	CA	1696	G	N1-C6-O6	-5.24	116.75	119.90
1	CA	1927	A	N1-C2-N3	-5.24	126.68	129.30
1	CA	2683	C	N3-C4-C5	-5.24	119.80	121.90
1	AA	89	U	N3-C2-O2	-5.24	118.53	122.20
1	AA	1715	A	O5'-P-OP2	-5.24	100.98	105.70
34	BA	345	C	C2-N3-C4	5.24	122.52	119.90
34	BA	1294	G	O4'-C1'-N9	5.24	112.39	108.20
1	CA	2050	C	OP2-P-O3'	5.24	116.73	105.20
1	CA	2501	C	C2-N1-C1'	-5.24	113.04	118.80
1	AA	352	U	N1-C2-N3	5.24	118.04	114.90
1	AA	1285	G	N3-C4-C5	-5.24	125.98	128.60
1	AA	1742	G	N3-C4-C5	-5.24	125.98	128.60
1	AA	1967	G	C4-C5-N7	-5.24	108.70	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2714	U	C5-C6-N1	-5.24	120.08	122.70
1	AA	2890	C	C6-N1-C2	5.24	122.40	120.30
4	AD	28	GLU	OE1-CD-OE2	-5.24	117.01	123.30
1	CA	561	G	N3-C2-N2	5.24	123.57	119.90
1	CA	1478	G	N3-C4-C5	-5.24	125.98	128.60
34	DA	1397	C	N1-C2-O2	5.24	122.04	118.90
45	DL	29	GLY	N-CA-C	-5.24	100.00	113.10
1	AA	384	G	N1-C6-O6	5.24	123.04	119.90
1	AA	2574	U	C5-C6-N1	-5.24	120.08	122.70
1	AA	747	G	N9-C4-C5	5.24	107.49	105.40
1	AA	1516	A	N9-C4-C5	-5.24	103.71	105.80
1	AA	1819	C	N3-C4-C5	5.24	123.99	121.90
1	AA	2065	C	O5'-P-OP2	5.24	116.98	110.70
1	AA	2714	U	N3-C2-O2	5.24	125.86	122.20
34	BA	1530	G	C4-N9-C1'	-5.24	119.69	126.50
1	CA	1307	A	N9-C4-C5	5.24	107.89	105.80
1	CA	1423	G	C5-C6-N1	5.24	114.12	111.50
1	CA	1533	G	N3-C4-C5	-5.24	125.98	128.60
1	CA	2203	U	C6-N1-C1'	5.24	128.53	121.20
1	AA	1747	A	O5'-P-OP2	5.23	116.98	110.70
1	CA	1407	C	O5'-P-OP2	5.23	116.98	110.70
1	CA	1674	G	C8-N9-C1'	-5.23	120.20	127.00
1	CA	2361	A	N9-C4-C5	-5.23	103.71	105.80
1	AA	119	G	C8-N9-C1'	-5.23	120.20	127.00
1	AA	556	C	N1-C2-N3	5.23	122.86	119.20
1	AA	727	G	O4'-C1'-N9	-5.23	104.01	108.20
1	AA	1206	G	C4-C5-N7	5.23	112.89	110.80
1	AA	1230	C	N3-C4-N4	-5.23	114.34	118.00
1	AA	1261	G	C5-C6-N1	5.23	114.12	111.50
1	AA	1301	U	N3-C4-C5	5.23	117.74	114.60
1	AA	1717	C	C4-C5-C6	5.23	120.02	117.40
1	AA	2271	G	N1-C2-N2	-5.23	111.49	116.20
1	AA	2393	C	N1-C2-N3	5.23	122.86	119.20
1	AA	2755	C	N3-C4-C5	5.23	123.99	121.90
56	DW	9	A	O4'-C1'-N9	5.23	112.39	108.20
1	AA	539	A	O5'-P-OP2	-5.23	100.99	105.70
1	AA	595	A	O5'-P-OP1	-5.23	100.99	105.70
1	AA	968	U	C2-N3-C4	-5.23	123.86	127.00
1	AA	2452	C	O5'-P-OP1	-5.23	100.99	105.70
34	BA	284	G	C6-C5-N7	5.23	133.54	130.40
34	BA	640	A	C8-N9-C4	-5.23	103.71	105.80
1	CA	474	G	C5-C6-N1	5.23	114.11	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1304	C	C5-C6-N1	-5.23	118.39	121.00
1	CA	2319	G	C4-C5-N7	5.23	112.89	110.80
13	CP	65	ARG	NE-CZ-NH2	-5.23	117.69	120.30
1	AA	33	U	N3-C4-C5	5.23	117.74	114.60
1	AA	1331	G	O5'-P-OP1	-5.23	100.99	105.70
1	AA	2084	A	C4-C5-N7	5.23	113.31	110.70
1	AA	2648	U	OP1-P-OP2	5.23	127.44	119.60
34	BA	563	A	N7-C8-N9	5.23	116.42	113.80
1	CA	338	G	O5'-P-OP1	5.23	116.97	110.70
34	DA	992	U	P-O3'-C3'	5.23	125.97	119.70
1	AA	1664	A	N3-C4-N9	-5.23	123.22	127.40
1	AA	1987	C	N3-C4-C5	5.23	123.99	121.90
1	AA	2346	G	C4-C5-N7	5.23	112.89	110.80
34	BA	1107	C	N3-C4-C5	-5.23	119.81	121.90
1	CA	808	G	N3-C4-C5	-5.23	125.99	128.60
1	AA	181	C	N3-C4-C5	5.23	123.99	121.90
1	AA	2704	C	C5-C4-N4	-5.23	116.54	120.20
34	BA	773	G	OP2-P-O3'	5.23	116.70	105.20
1	CA	121	G	O5'-P-OP1	-5.23	101.00	105.70
1	CA	2234	G	C6-C5-N7	-5.23	127.26	130.40
1	CA	2515	C	C4-C5-C6	5.23	120.01	117.40
1	AA	2468	C	N1-C2-N3	-5.22	115.54	119.20
34	BA	1285	A	P-O3'-C3'	5.22	125.97	119.70
1	CA	1564	C	OP2-P-O3'	5.22	116.69	105.20
2	CB	3	C	C6-N1-C2	-5.22	118.21	120.30
34	DA	1525	G	N1-C6-O6	-5.22	116.77	119.90
1	AA	1390	G	O4'-C1'-N9	5.22	112.38	108.20
1	AA	1947	C	OP2-P-O3'	5.22	116.69	105.20
1	AA	1961	U	OP2-P-O3'	5.22	116.69	105.20
1	AA	2768	C	C2-N3-C4	5.22	122.51	119.90
2	AB	48	A	C2-N3-C4	-5.22	107.99	110.60
34	BA	298	A	C4-C5-C6	5.22	119.61	117.00
1	CA	1698	A	O4'-C1'-N9	5.22	112.38	108.20
1	AA	541	C	C5-C4-N4	-5.22	116.55	120.20
1	AA	2361	G	C4-C5-N7	5.22	112.89	110.80
11	AN	50	ASP	CB-CG-OD1	5.22	123.00	118.30
34	BA	802	A	N9-C4-C5	-5.22	103.71	105.80
1	CA	2763	G	N3-C4-C5	-5.22	125.99	128.60
1	AA	1026	A	N9-C4-C5	-5.22	103.71	105.80
1	AA	1837	C	N3-C4-C5	5.22	123.99	121.90
34	BA	748	C	C6-N1-C2	-5.22	118.21	120.30
1	CA	325	G	O5'-P-OP1	5.22	116.96	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1968	G	O5'-P-OP1	5.22	116.96	110.70
1	CA	2066	C	O5'-P-OP2	5.22	116.96	110.70
1	CA	2351	G	N3-C4-N9	5.22	129.13	126.00
1	CA	2391	G	OP1-P-OP2	5.22	127.43	119.60
34	DA	922	G	O5'-P-OP1	-5.22	101.00	105.70
34	DA	1429	C	C5-C6-N1	-5.22	118.39	121.00
1	AA	83	A	N1-C6-N6	5.22	121.73	118.60
1	AA	750	U	N1-C2-N3	5.22	118.03	114.90
1	AA	1253	C	N3-C2-O2	-5.22	118.25	121.90
1	AA	2357	G	N7-C8-N9	-5.22	110.49	113.10
1	CA	1154	G	C4-C5-N7	5.22	112.89	110.80
1	CA	2872	G	OP2-P-O3'	5.22	116.68	105.20
1	AA	413	G	C2-N3-C4	5.22	114.51	111.90
1	AA	1989	C	C2-N1-C1'	5.22	124.54	118.80
1	AA	2029	C	N1-C2-N3	5.22	122.85	119.20
34	BA	1491	G	C8-N9-C4	-5.22	104.31	106.40
1	CA	754	C	O5'-P-OP2	-5.22	101.00	105.70
1	AA	27	G	C4-C5-N7	5.21	112.89	110.80
1	AA	371	A	O5'-P-OP1	-5.21	101.01	105.70
1	AA	459	A	N1-C6-N6	5.21	121.73	118.60
1	AA	2461	U	OP2-P-O3'	5.21	116.67	105.20
1	AA	2768	C	N1-C2-O2	5.21	122.03	118.90
1	AA	2787	C	C2-N3-C4	-5.21	117.29	119.90
1	CA	457	A	C8-N9-C4	5.21	107.89	105.80
1	CA	829	A	C4-C5-N7	5.21	113.31	110.70
1	CA	2350	C	C5-C4-N4	-5.21	116.55	120.20
1	AA	405	C	N3-C2-O2	5.21	125.55	121.90
56	BW	45	U	C2-N1-C1'	5.21	123.95	117.70
1	CA	1022	G	N3-C4-N9	-5.21	122.87	126.00
1	AA	1033	G	N3-C2-N2	-5.21	116.25	119.90
1	AA	1261	G	C2-N3-C4	5.21	114.50	111.90
1	AA	1389	G	C5-C6-N1	5.21	114.11	111.50
1	AA	2306	C	C4-C5-C6	-5.21	114.80	117.40
1	AA	2388	A	O5'-P-OP2	5.21	116.95	110.70
1	AA	2472	U	C2-N1-C1'	-5.21	111.45	117.70
1	AA	2530	A	C5-C6-N1	5.21	120.31	117.70
11	AN	50	ASP	CB-CG-OD2	-5.21	113.61	118.30
1	CA	2590	A	N7-C8-N9	-5.21	111.19	113.80
1	AA	320	C	C2-N3-C4	-5.21	117.30	119.90
1	AA	334	A	OP1-P-O3'	5.21	116.66	105.20
1	AA	350	G	OP2-P-O3'	5.21	116.66	105.20
1	AA	1394	G	OP1-P-OP2	-5.21	111.79	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2667	G	C4-C5-N7	-5.21	108.72	110.80
34	BA	801	U	N3-C2-O2	-5.21	118.55	122.20
56	BW	76	A	C2-N3-C4	-5.21	108.00	110.60
1	CA	2773	C	C4-C5-C6	5.21	120.00	117.40
1	AA	21	A	OP2-P-O3'	5.21	116.66	105.20
1	AA	237	G	N1-C6-O6	-5.21	116.78	119.90
1	AA	883	G	N1-C6-O6	-5.21	116.78	119.90
1	AA	1071	G	N3-C2-N2	5.21	123.55	119.90
1	AA	1487	G	N1-C2-N2	5.21	120.89	116.20
1	AA	1716	A	C5-N7-C8	5.21	106.50	103.90
31	A7	9	ARG	NE-CZ-NH1	5.21	122.90	120.30
34	BA	765	G	O5'-P-OP2	-5.21	101.01	105.70
1	CA	1294	U	OP1-P-OP2	-5.21	111.79	119.60
1	CA	2605	U	N3-C4-O4	-5.21	115.75	119.40
34	DA	553	A	O5'-P-OP1	5.21	116.95	110.70
1	AA	803	C	C6-N1-C2	-5.21	118.22	120.30
1	AA	875	U	N1-C2-O2	5.21	126.44	122.80
1	AA	1239	A	C2-N3-C4	5.21	113.20	110.60
1	AA	1419	A	C8-N9-C4	5.21	107.88	105.80
1	AA	1608	G	N3-C2-N2	-5.21	116.25	119.90
1	CA	2014	A	C5-N7-C8	5.21	106.50	103.90
1	CA	2479	G	N3-C2-N2	5.21	123.55	119.90
1	AA	607	C	N3-C4-C5	5.21	123.98	121.90
1	AA	733	G	N3-C2-N2	5.21	123.54	119.90
1	AA	1206	G	N3-C4-N9	5.21	129.12	126.00
1	AA	1579	C	C6-N1-C2	-5.21	118.22	120.30
1	AA	2411	G	N9-C4-C5	-5.21	103.32	105.40
2	AB	93	G	N3-C2-N2	-5.21	116.26	119.90
34	BA	306	G	C6-C5-N7	5.21	133.52	130.40
1	CA	1156	A	C5-N7-C8	-5.21	101.30	103.90
1	CA	2575	C	C5-C4-N4	5.21	123.84	120.20
1	AA	115	G	C4-N9-C1'	5.20	133.26	126.50
1	AA	1043	G	N9-C4-C5	5.20	107.48	105.40
1	AA	2284	U	OP2-P-O3'	5.20	116.65	105.20
1	AA	2599	A	N9-C4-C5	5.20	107.88	105.80
34	BA	34	C	N3-C2-O2	5.20	125.54	121.90
1	CA	1943	U	N1-C2-N3	5.20	118.02	114.90
34	DA	760	G	C5-C6-O6	-5.20	125.48	128.60
1	AA	638	U	OP1-P-OP2	5.20	127.40	119.60
34	DA	62	U	N1-C2-O2	5.20	126.44	122.80
34	DA	880	C	C6-N1-C2	5.20	122.38	120.30
1	AA	1458	A	N1-C6-N6	5.20	121.72	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2113	U	OP1-P-O3'	5.20	116.64	105.20
1	AA	2423	A	N9-C4-C5	-5.20	103.72	105.80
1	AA	2779	G	N3-C4-N9	5.20	129.12	126.00
1	AA	2797	C	C5-C4-N4	-5.20	116.56	120.20
2	AB	91	C	C2-N3-C4	-5.20	117.30	119.90
34	BA	337	C	C6-N1-C2	-5.20	118.22	120.30
1	CA	614	U	C5-C4-O4	5.20	129.02	125.90
1	CA	2043	C	O5'-P-OP1	-5.20	101.02	105.70
34	DA	325	A	O5'-P-OP1	-5.20	101.02	105.70
1	AA	526	A	N7-C8-N9	5.20	116.40	113.80
1	AA	1262	C	C5-C6-N1	-5.20	118.40	121.00
1	AA	1677	C	N1-C2-O2	-5.20	115.78	118.90
1	AA	2394	G	C6-C5-N7	-5.20	127.28	130.40
1	AA	2442	A	C8-N9-C4	-5.20	103.72	105.80
34	BA	7	G	C4-N9-C1'	-5.20	119.74	126.50
34	BA	291	C	C2-N1-C1'	-5.20	113.08	118.80
1	CA	862	G	N9-C4-C5	5.20	107.48	105.40
1	CA	1365	A	OP2-P-O3'	5.20	116.64	105.20
1	CA	1860	G	N1-C6-O6	5.20	123.02	119.90
1	CA	2395	C	C5-C6-N1	-5.20	118.40	121.00
1	CA	2438	U	C2-N3-C4	-5.20	123.88	127.00
1	AA	1545	C	N3-C4-N4	-5.20	114.36	118.00
1	AA	1609	A	N1-C6-N6	-5.20	115.48	118.60
1	AA	1720	U	C6-N1-C2	5.20	124.12	121.00
23	AZ	5	LEU	CA-CB-CG	5.20	127.25	115.30
34	BA	784	C	N1-C2-O2	5.20	122.02	118.90
1	AA	188	A	OP2-P-O3'	5.20	116.63	105.20
1	AA	564	G	N1-C6-O6	-5.20	116.78	119.90
1	AA	1027	A	N1-C2-N3	-5.20	126.70	129.30
1	AA	1591	A	C2-N3-C4	5.20	113.20	110.60
1	AA	2257	U	N3-C4-O4	5.20	123.04	119.40
1	AA	2524	C	C5-C4-N4	-5.20	116.56	120.20
1	CA	88	G	N1-C2-N2	5.20	120.88	116.20
1	CA	1839	G	N3-C4-N9	5.20	129.12	126.00
1	CA	2222	G	N9-C4-C5	5.20	107.48	105.40
1	CA	2524	G	N3-C4-C5	-5.20	126.00	128.60
1	CA	2710	C	N1-C2-O2	5.20	122.02	118.90
13	CP	21	ARG	NE-CZ-NH1	-5.20	117.70	120.30
34	DA	1138	G	C4-N9-C1'	5.20	133.25	126.50
1	AA	1184	G	N9-C4-C5	5.19	107.48	105.40
1	AA	1204	C	N3-C2-O2	5.19	125.54	121.90
1	AA	1343	C	N3-C4-N4	-5.19	114.36	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1666	G	O5'-P-OP2	5.19	116.93	110.70
34	BA	352	C	N3-C2-O2	-5.19	118.26	121.90
1	CA	2479	G	O5'-P-OP2	-5.19	101.03	105.70
34	DA	324	G	C5-C6-O6	-5.19	125.48	128.60
1	AA	124	A	OP2-P-O3'	5.19	116.62	105.20
1	AA	347	G	C8-N9-C4	5.19	108.48	106.40
1	CA	272(D)	G	N3-C4-N9	-5.19	122.88	126.00
1	CA	694	U	N3-C2-O2	-5.19	118.56	122.20
1	CA	803	U	C6-N1-C2	-5.19	117.88	121.00
1	CA	2712	U	P-O3'-C3'	5.19	125.93	119.70
1	AA	472	G	N9-C4-C5	-5.19	103.32	105.40
1	AA	808	A	C5-C6-N1	-5.19	115.11	117.70
1	AA	1340	U	C5-C6-N1	-5.19	120.11	122.70
1	AA	1926	G	O5'-P-OP2	-5.19	101.03	105.70
1	AA	2409	G	N3-C4-C5	-5.19	126.00	128.60
1	AA	2721	G	C5-C6-N1	-5.19	108.91	111.50
1	AA	2783	G	C8-N9-C4	5.19	108.48	106.40
56	BW	7	A	N9-C4-C5	-5.19	103.72	105.80
1	CA	1431	U	C5-C6-N1	5.19	125.30	122.70
1	CA	1795	C	N3-C4-C5	5.19	123.98	121.90
1	CA	2064	C	N3-C4-C5	-5.19	119.82	121.90
1	AA	575	G	OP2-P-O3'	5.19	116.62	105.20
1	AA	2308	U	C5-C4-O4	-5.19	122.79	125.90
1	AA	292	G	N9-C4-C5	-5.19	103.33	105.40
1	AA	1242	G	N9-C4-C5	-5.19	103.33	105.40
1	AA	1273	G	N9-C4-C5	5.19	107.47	105.40
1	AA	1458	A	C5-C6-N6	-5.19	119.55	123.70
1	AA	2437	A	OP2-P-O3'	5.19	116.61	105.20
1	AA	2627	U	N3-C4-O4	-5.19	115.77	119.40
2	AB	48	A	N9-C4-C5	-5.19	103.72	105.80
2	AB	84	C	N3-C2-O2	5.19	125.53	121.90
34	BA	20	U	N3-C4-O4	5.19	123.03	119.40
34	BA	835	U	C6-N1-C2	5.19	124.11	121.00
1	CA	803	U	OP2-P-O3'	5.19	116.61	105.20
1	CA	987	G	N3-C4-N9	-5.19	122.89	126.00
1	CA	1126	A	N9-C4-C5	-5.19	103.72	105.80
1	CA	1603	A	C8-N9-C4	5.19	107.88	105.80
1	CA	1996	C	OP1-P-O3'	5.19	116.61	105.20
34	DA	874	G	N3-C2-N2	5.19	123.53	119.90
1	AA	780	G	N1-C2-N2	5.19	120.87	116.20
1	AA	1784	G	N3-C2-N2	5.19	123.53	119.90
1	AA	2100	C	C4-C5-C6	5.19	119.99	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2837	C	N1-C2-O2	-5.19	115.79	118.90
34	DA	689	C	N3-C4-C5	-5.19	119.83	121.90
34	DA	776	G	N1-C6-O6	5.19	123.01	119.90
1	AA	1458	A	N9-C4-C5	-5.18	103.73	105.80
1	AA	1836	U	OP1-P-OP2	-5.18	111.82	119.60
2	AB	25	A	N9-C4-C5	-5.18	103.73	105.80
1	CA	859	G	C8-N9-C1'	5.18	133.74	127.00
34	DA	334	C	C6-N1-C2	5.18	122.37	120.30
1	AA	480	A	OP2-P-O3'	5.18	116.60	105.20
1	AA	811	A	C5'-C4'-O4'	-5.18	102.88	109.10
1	AA	2005	C	N3-C4-C5	-5.18	119.83	121.90
1	AA	2563	C	OP1-P-OP2	-5.18	111.83	119.60
2	AB	55	U	O5'-P-OP1	-5.18	101.04	105.70
2	AB	114	C	C5-C6-N1	-5.18	118.41	121.00
34	BA	813	U	N1-C2-N3	5.18	118.01	114.90
1	CA	148	C	C6-N1-C2	5.18	122.37	120.30
1	CA	149	A	OP1-P-OP2	-5.18	111.83	119.60
1	CA	2065	C	N1-C2-O2	5.18	122.01	118.90
1	CA	2247	A	N9-C4-C5	-5.18	103.73	105.80
34	BA	880	C	O5'-P-OP2	-5.18	101.04	105.70
1	CA	126	A	N7-C8-N9	5.18	116.39	113.80
1	CA	2521	C	N1-C2-O2	-5.18	115.79	118.90
1	AA	1170	C	C2-N3-C4	-5.18	117.31	119.90
1	AA	2351	G	C5-C6-N1	-5.18	108.91	111.50
1	AA	2638	C	C2-N3-C4	-5.18	117.31	119.90
2	AB	64	C	C5-C6-N1	-5.18	118.41	121.00
1	CA	2003	G	N3-C2-N2	5.18	123.53	119.90
1	CA	2069	G	C4-C5-N7	-5.18	108.73	110.80
1	CA	2493	U	C5-C6-N1	-5.18	120.11	122.70
34	DA	21	G	O5'-P-OP2	-5.18	101.04	105.70
1	AA	166	G	N3-C4-C5	-5.18	126.01	128.60
13	AP	147	LEU	CA-CB-CG	5.18	127.21	115.30
20	AW	15	ARG	NE-CZ-NH2	-5.18	117.71	120.30
1	AA	1460	G	N3-C2-N2	-5.18	116.28	119.90
1	AA	1715	A	OP1-P-O3'	5.18	116.59	105.20
1	AA	2423	A	C4-C5-N7	5.18	113.29	110.70
1	AA	2548	G	N7-C8-N9	-5.18	110.51	113.10
2	AB	98	G	N3-C4-N9	5.18	129.11	126.00
1	CA	1207	C	N3-C2-O2	5.18	125.52	121.90
1	CA	2034	U	C2-N1-C1'	5.18	123.91	117.70
1	CA	2387	U	OP1-P-OP2	5.18	127.36	119.60
1	AA	448	U	OP1-P-OP2	-5.17	111.84	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	504	A	N1-C2-N3	5.17	131.89	129.30
1	AA	845	G	O5'-P-OP1	-5.17	101.04	105.70
1	AA	2022	G	N9-C1'-C2'	-5.17	106.31	112.00
1	AA	2091	G	O5'-P-OP1	5.17	116.91	110.70
34	BA	303	A	N1-C6-N6	5.17	121.70	118.60
1	CA	1276	A	O4'-C1'-N9	-5.17	104.06	108.20
1	CA	2440	C	C6-N1-C2	-5.17	118.23	120.30
34	DA	301	G	O5'-P-OP1	5.17	116.91	110.70
34	BA	891	U	N3-C2-O2	-5.17	118.58	122.20
1	CA	2394	C	C2-N3-C4	5.17	122.49	119.90
1	CA	2615	U	C5-C6-N1	5.17	125.29	122.70
1	AA	586	G	N3-C4-C5	5.17	131.19	128.60
1	AA	1670	G	N1-C2-N2	-5.17	111.55	116.20
1	AA	1917	C	C6-N1-C2	5.17	122.37	120.30
1	AA	2265	G	OP1-P-OP2	-5.17	111.84	119.60
1	AA	2268	G	OP2-P-O3'	5.17	116.58	105.20
34	BA	345	C	C2-N1-C1'	5.17	124.49	118.80
34	BA	799	G	C8-N9-C4	-5.17	104.33	106.40
34	BA	802	A	C4-C5-N7	5.17	113.29	110.70
34	BA	1286	A	C8-N9-C4	-5.17	103.73	105.80
56	BW	17	C	N3-C2-O2	-5.17	118.28	121.90
56	BW	74	C	C4-C5-C6	5.17	119.99	117.40
1	CA	383	U	C2-N1-C1'	-5.17	111.49	117.70
1	CA	1394	U	OP2-P-O3'	5.17	116.58	105.20
1	CA	2617	C	C5-C6-N1	-5.17	118.41	121.00
1	AA	1014	U	C5-C4-O4	-5.17	122.80	125.90
41	DH	112	LEU	CA-CB-CG	5.17	127.19	115.30
1	AA	450	A	N9-C4-C5	-5.17	103.73	105.80
1	AA	913	A	C8-N9-C1'	-5.17	118.40	127.70
1	AA	1516	A	C4-C5-N7	5.17	113.28	110.70
1	AA	2787	C	OP1-P-OP2	-5.17	111.85	119.60
34	BA	328	C	O5'-P-OP1	-5.17	101.05	105.70
1	CA	448	U	N1-C2-O2	5.17	126.42	122.80
1	CA	465	G	C4-C5-N7	5.17	112.87	110.80
1	CA	1337	G	N7-C8-N9	-5.17	110.52	113.10
5	CE	119	ARG	CG-CD-NE	5.17	122.65	111.80
1	AA	84	G	N1-C6-O6	5.17	123.00	119.90
1	AA	1060	U	C2-N3-C4	-5.17	123.90	127.00
1	AA	1534	G	OP1-P-O3'	5.17	116.57	105.20
1	AA	1564	C	C6-N1-C2	-5.17	118.23	120.30
1	AA	1723	A	N7-C8-N9	-5.17	111.22	113.80
1	AA	2027	A	OP1-P-OP2	-5.17	111.85	119.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2390	A	O4'-C1'-N9	-5.17	104.07	108.20
1	AA	2700	U	C4-C5-C6	5.17	122.80	119.70
34	BA	398	C	N3-C4-N4	-5.17	114.38	118.00
34	BA	567	G	C4-C5-N7	-5.17	108.73	110.80
34	BA	792	A	O4'-C1'-N9	5.17	112.33	108.20
1	CA	1021	A	OP2-P-O3'	5.17	116.57	105.20
1	CA	2614	A	C8-N9-C4	5.17	107.87	105.80
34	DA	719	C	C6-N1-C2	-5.17	118.23	120.30
1	AA	22	C	C4-C5-C6	5.17	119.98	117.40
1	AA	526	A	C5-N7-C8	-5.17	101.32	103.90
1	AA	643	C	C6-N1-C2	5.17	122.37	120.30
1	AA	662	A	C6-N1-C2	-5.17	115.50	118.60
1	AA	1025	G	C5-C6-O6	5.17	131.70	128.60
1	AA	1941	A	OP1-P-O3'	5.17	116.56	105.20
1	AA	2372	A	O5'-P-OP1	5.17	116.90	110.70
1	AA	2393	C	C4-C5-C6	5.17	119.98	117.40
1	CA	252	G	C4-C5-N7	-5.17	108.73	110.80
1	CA	549	G	C6-C5-N7	-5.17	127.30	130.40
1	CA	955	C	N1-C2-O2	-5.17	115.80	118.90
1	CA	1023	U	N3-C2-O2	-5.17	118.58	122.20
1	AA	613	A	C4-C5-C6	5.16	119.58	117.00
1	AA	1262	C	N3-C2-O2	5.16	125.51	121.90
1	AA	1300	A	N7-C8-N9	5.16	116.38	113.80
1	AA	2902	G	C3'-C2'-C1'	5.16	105.63	101.50
2	AB	64	C	N3-C4-C5	5.16	123.97	121.90
1	CA	573	G	C6-N1-C2	-5.16	122.00	125.10
1	CA	1860	G	N7-C8-N9	5.16	115.68	113.10
1	CA	1893	C	C6-N1-C2	5.16	122.37	120.30
1	CA	2387	U	C5-C6-N1	-5.16	120.12	122.70
1	AA	2472	U	N3-C4-C5	5.16	117.70	114.60
34	BA	576	G	C4-C5-C6	5.16	121.90	118.80
1	CA	2820	A	P-O3'-C3'	5.16	125.89	119.70
1	AA	950	C	OP1-P-O3'	5.16	116.55	105.20
1	AA	952	G	C8-N9-C4	-5.16	104.34	106.40
1	AA	1365	G	N9-C4-C5	-5.16	103.34	105.40
1	AA	1544	C	C5-C6-N1	-5.16	118.42	121.00
1	AA	1826	C	N3-C2-O2	5.16	125.51	121.90
1	AA	2251	G	C5-C6-O6	5.16	131.70	128.60
31	A7	41	ARG	NE-CZ-NH2	-5.16	117.72	120.30
34	BA	576	G	N3-C4-N9	5.16	129.10	126.00
1	CA	2526	G	C2-N3-C4	-5.16	109.32	111.90
34	DA	832	C	C6-N1-C2	-5.16	118.24	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	318	A	N7-C8-N9	-5.16	111.22	113.80
1	AA	410	U	O4'-C1'-N1	5.16	112.33	108.20
1	AA	1482	G	N3-C4-N9	5.16	129.09	126.00
34	BA	1065	U	P-O3'-C3'	5.16	125.89	119.70
1	CA	1241	A	N1-C6-N6	5.16	121.69	118.60
1	AA	346	A	C8-N9-C4	5.16	107.86	105.80
2	AB	41	U	N1-C2-O2	-5.16	119.19	122.80
31	A7	33	ARG	NE-CZ-NH1	5.16	122.88	120.30
34	BA	796	C	N1-C2-O2	-5.16	115.81	118.90
1	CA	1637	A	C8-N9-C4	-5.16	103.74	105.80
1	AA	70	A	C5-N7-C8	-5.16	101.32	103.90
1	AA	217	A	C8-N9-C4	-5.16	103.74	105.80
1	AA	2380	C	C4-C5-C6	5.16	119.98	117.40
1	AA	2399	U	N3-C2-O2	5.16	125.81	122.20
1	AA	2778	A	C8-N9-C4	5.16	107.86	105.80
34	BA	813	U	N1-C2-O2	-5.16	119.19	122.80
1	CA	1121	C	N3-C4-N4	-5.16	114.39	118.00
1	CA	1827	C	C2-N3-C4	5.16	122.48	119.90
56	BW	73	A	N7-C8-N9	5.15	116.38	113.80
1	AA	1090	G	N9-C4-C5	5.15	107.46	105.40
1	AA	1344	C	C2-N3-C4	-5.15	117.32	119.90
1	AA	2093	A	N7-C8-N9	-5.15	111.22	113.80
34	BA	23	C	C6-N1-C2	-5.15	118.24	120.30
34	BA	522	C	O5'-P-OP2	-5.15	101.06	105.70
34	BA	901	A	OP2-P-O3'	5.15	116.54	105.20
1	CA	517	C	OP2-P-O3'	5.15	116.54	105.20
1	CA	1310	G	C5-C6-O6	-5.15	125.51	128.60
1	CA	2565	A	N1-C6-N6	5.15	121.69	118.60
14	CQ	28	ALA	N-CA-C	5.15	124.91	111.00
34	DA	147	G	C4-N9-C1'	5.15	133.20	126.50
34	DA	449	C	C2-N1-C1'	5.15	124.47	118.80
1	AA	1318	A	O5'-P-OP1	5.15	116.88	110.70
1	AA	1371	G	O4'-C1'-N9	5.15	112.32	108.20
1	AA	2076	A	C8-N9-C4	5.15	107.86	105.80
1	AA	2730	G	C6-C5-N7	-5.15	127.31	130.40
34	BA	343	U	C5-C6-N1	5.15	125.28	122.70
1	CA	1836	C	C5-C4-N4	5.15	123.81	120.20
1	CA	2525	G	N9-C4-C5	-5.15	103.34	105.40
2	CB	77	U	O5'-P-OP2	-5.15	101.06	105.70
34	DA	104	G	C4-C5-C6	5.15	121.89	118.80
1	CA	689	A	N1-C2-N3	5.15	131.88	129.30
1	CA	950	G	N9-C4-C5	5.15	107.46	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	DA	689	C	C6-N1-C2	-5.15	118.24	120.30
1	AA	1989	C	C5-C6-N1	5.15	123.57	121.00
1	AA	2475	C	C5-C6-N1	-5.15	118.43	121.00
1	AA	2557	G	C5-C6-O6	-5.15	125.51	128.60
34	BA	354	G	OP2-P-O3'	5.15	116.53	105.20
1	CA	2003	G	N1-C2-N2	-5.15	111.57	116.20
34	DA	301	G	N1-C6-O6	5.15	122.99	119.90
34	BA	1461	G	OP2-P-O3'	5.15	116.52	105.20
1	CA	382	G	C6-N1-C2	-5.15	122.01	125.10
1	CA	1790	C	OP1-P-O3'	5.15	116.52	105.20
1	AA	354	A	C4-N9-C1'	-5.14	117.04	126.30
1	AA	610	C	C2-N3-C4	-5.14	117.33	119.90
1	AA	660	C	N3-C2-O2	-5.14	118.30	121.90
1	AA	1490	G	N3-C4-C5	-5.14	126.03	128.60
1	AA	1742	G	C4-C5-N7	5.14	112.86	110.80
1	AA	2594	G	N9-C4-C5	-5.14	103.34	105.40
1	AA	2776	G	C4-C5-N7	5.14	112.86	110.80
1	AA	2834	C	C5-C6-N1	5.14	123.57	121.00
34	BA	527	G	C8-N9-C4	-5.14	104.34	106.40
34	BA	1477	C	N3-C2-O2	-5.14	118.30	121.90
1	CA	933	A	C8-N9-C4	-5.14	103.74	105.80
1	AA	744	C	N3-C4-C5	5.14	123.96	121.90
1	AA	867	A	C4-C5-N7	5.14	113.27	110.70
1	AA	1324	A	C5-C6-N1	-5.14	115.13	117.70
1	AA	1819	C	N1-C2-O2	5.14	121.98	118.90
1	AA	2346	G	C6-C5-N7	-5.14	127.31	130.40
1	CA	1608	A	C8-N9-C4	-5.14	103.74	105.80
1	CA	2776	A	N7-C8-N9	-5.14	111.23	113.80
34	DA	104	G	N1-C6-O6	5.14	122.98	119.90
1	CA	987	G	OP1-P-OP2	-5.14	111.89	119.60
1	AA	403	C	O5'-P-OP2	-5.14	101.08	105.70
1	AA	564	G	OP2-P-O3'	5.14	116.51	105.20
1	AA	1635	C	N3-C4-C5	-5.14	119.84	121.90
1	AA	2306	C	C5-C4-N4	-5.14	116.60	120.20
1	AA	2556	G	O5'-P-OP1	5.14	116.87	110.70
34	BA	812	C	C6-N1-C2	5.14	122.36	120.30
34	BA	909	A	OP1-P-OP2	5.14	127.31	119.60
1	CA	1207	C	O5'-P-OP1	-5.14	101.07	105.70
1	CA	1992	G	C2'-C3'-O3'	5.14	121.92	113.70
1	CA	2567	G	N1-C6-O6	-5.14	116.82	119.90
34	DA	562	C	N1-C2-O2	-5.14	115.82	118.90
1	AA	1364	C	N1-C2-O2	-5.14	115.82	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1483	C	N1-C2-O2	5.14	121.98	118.90
1	AA	1707	C	O5'-P-OP2	-5.14	101.08	105.70
1	AA	2606	C	N1-C2-O2	5.14	121.98	118.90
1	AA	856	G	C4-C5-N7	-5.14	108.75	110.80
1	AA	2056	U	N3-C2-O2	-5.14	118.60	122.20
1	AA	798	A	N7-C8-N9	-5.13	111.23	113.80
1	AA	870	G	N3-C2-N2	5.13	123.50	119.90
1	AA	1424	A	O5'-P-OP2	5.13	116.86	110.70
1	AA	1643	A	C4-C5-N7	-5.13	108.13	110.70
1	AA	2252	C	OP1-P-OP2	-5.13	111.90	119.60
34	BA	322	C	C5-C6-N1	-5.13	118.43	121.00
1	CA	1632	A	C8-N9-C4	-5.13	103.75	105.80
1	AA	343	C	N1-C2-N3	5.13	122.79	119.20
1	AA	529	U	N3-C4-O4	-5.13	115.81	119.40
1	AA	1331	G	OP1-P-OP2	5.13	127.30	119.60
1	AA	2896	G	C5-C6-O6	-5.13	125.52	128.60
1	CA	560	C	C5-C6-N1	-5.13	118.43	121.00
1	CA	2594	C	N1-C2-O2	-5.13	115.82	118.90
34	DA	1383	C	C6-N1-C2	-5.13	118.25	120.30
1	AA	323	A	C5-C6-N1	5.13	120.27	117.70
1	AA	1024	G	C4-C5-N7	-5.13	108.75	110.80
1	AA	1438	A	C6-C5-N7	5.13	135.89	132.30
1	AA	1654	A	O5'-P-OP1	-5.13	101.08	105.70
1	AA	1773	C	C6-N1-C2	5.13	122.35	120.30
1	AA	2316	G	C8-N9-C1'	5.13	133.67	127.00
1	AA	2528	G	N9-C4-C5	5.13	107.45	105.40
1	AA	2713	C	C4-C5-C6	5.13	119.97	117.40
34	BA	909	A	O5'-P-OP1	-5.13	101.08	105.70
1	CA	337	C	C6-N1-C2	5.13	122.35	120.30
1	AA	230	A	OP1-P-OP2	5.13	127.30	119.60
1	AA	340	C	N3-C4-C5	5.13	123.95	121.90
1	AA	458	U	C5-C4-O4	5.13	128.98	125.90
34	BA	1064	G	N3-C2-N2	-5.13	116.31	119.90
56	BW	73	A	O4'-C1'-N9	5.13	112.30	108.20
1	CA	462	C	N3-C2-O2	-5.13	118.31	121.90
1	CA	858	U	N1-C2-O2	5.13	126.39	122.80
1	CA	2446	G	N1-C6-O6	-5.13	116.82	119.90
1	AA	481	C	C2-N3-C4	-5.13	117.34	119.90
1	AA	1284	G	N1-C6-O6	5.13	122.98	119.90
1	AA	2605	U	N3-C4-C5	5.13	117.68	114.60
1	AA	2703	C	N3-C4-C5	5.13	123.95	121.90
34	BA	134	A	C8-N9-C4	5.13	107.85	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	BY	74	C	C6-N1-C2	5.13	122.35	120.30
1	CA	1611	C	C4-C5-C6	-5.13	114.83	117.40
34	BA	12	U	O5'-P-OP2	-5.13	101.09	105.70
34	BA	879	C	C2-N3-C4	-5.13	117.34	119.90
34	BA	907	A	O5'-P-OP2	-5.13	101.09	105.70
1	AA	863	C	N3-C2-O2	5.12	125.49	121.90
1	AA	2283	G	N1-C2-N2	-5.12	111.59	116.20
56	BW	49	C	N3-C2-O2	-5.12	118.31	121.90
1	CA	522	G	N3-C2-N2	-5.12	116.31	119.90
1	CA	2592	G	C8-N9-C4	-5.12	104.35	106.40
34	DA	729	A	C8-N9-C4	-5.12	103.75	105.80
1	AA	471	C	N1-C2-N3	5.12	122.79	119.20
1	AA	817	G	C5-C6-O6	5.12	131.67	128.60
1	AA	872	C	OP1-P-O3'	5.12	116.47	105.20
1	AA	1361	C	N3-C4-N4	5.12	121.59	118.00
1	AA	1444	C	C5-C4-N4	-5.12	116.61	120.20
1	AA	2675	G	N3-C2-N2	-5.12	116.31	119.90
20	AW	97	LYS	CD-CE-NZ	5.12	123.48	111.70
34	BA	980	C	N3-C2-O2	-5.12	118.31	121.90
34	BA	1036	G	C4-N9-C1'	5.12	133.16	126.50
1	CA	454	A	C5-C6-N1	-5.12	115.14	117.70
1	CA	549	G	C5-C6-O6	-5.12	125.53	128.60
1	CA	1886	C	N3-C2-O2	-5.12	118.31	121.90
1	CA	2815	C	C6-N1-C2	5.12	122.35	120.30
1	AA	194	G	N1-C2-N2	-5.12	111.59	116.20
1	AA	948	C	N3-C4-N4	-5.12	114.42	118.00
1	AA	1845	G	C4-C5-N7	5.12	112.85	110.80
1	AA	2091	G	OP2-P-O3'	5.12	116.47	105.20
1	AA	2421	G	O5'-P-OP1	5.12	116.85	110.70
34	BA	1107	C	O5'-P-OP1	-5.12	101.09	105.70
56	BW	19	G	OP2-P-O3'	5.12	116.47	105.20
1	CA	727	A	C8-N9-C4	5.12	107.85	105.80
1	CA	1820	U	C6-N1-C2	5.12	124.07	121.00
1	CA	2071	A	C6-N1-C2	-5.12	115.53	118.60
1	AA	1420	G	O5'-P-OP1	5.12	116.84	110.70
1	AA	2014	G	P-O3'-C3'	5.12	125.84	119.70
1	AA	2271	G	C5-C6-N1	5.12	114.06	111.50
1	AA	2638	C	C4-C5-C6	5.12	119.96	117.40
34	BA	1494	G	OP1-P-O3'	5.12	116.46	105.20
1	CA	204	A	O5'-P-OP2	-5.12	101.09	105.70
1	CA	574	C	O5'-P-OP2	5.12	116.84	110.70
1	CA	828	U	N3-C2-O2	-5.12	118.62	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1857	G	C6-C5-N7	-5.12	127.33	130.40
1	AA	554	A	N9-C4-C5	-5.12	103.75	105.80
1	AA	825	G	C5-N7-C8	5.12	106.86	104.30
1	AA	1298	G	OP2-P-O3'	5.12	116.46	105.20
1	AA	2283	G	N3-C4-N9	5.12	129.07	126.00
1	AA	2342	G	C4-C5-N7	-5.12	108.75	110.80
1	AA	2346	G	C5-C6-O6	-5.12	125.53	128.60
56	BW	75	C	N3-C4-C5	5.12	123.95	121.90
1	CA	205	G	N3-C2-N2	5.12	123.48	119.90
1	CA	2345	G	OP2-P-O3'	5.12	116.46	105.20
1	CA	2357	U	C5-C6-N1	5.12	125.26	122.70
34	DA	244	U	C6-N1-C2	-5.12	117.93	121.00
56	DW	56	C	C6-N1-C2	-5.12	118.25	120.30
1	AA	1752	G	C4-C5-N7	-5.12	108.75	110.80
1	AA	1792	C	C5-C4-N4	-5.12	116.62	120.20
1	CA	1431	U	N3-C2-O2	5.12	125.78	122.20
1	AA	144	C	OP2-P-O3'	5.12	116.45	105.20
1	AA	668	A	C8-N9-C4	5.12	107.85	105.80
1	AA	749	G	C8-N9-C4	5.12	108.45	106.40
1	AA	1298	G	O4'-C1'-N9	-5.12	104.11	108.20
1	AA	2788	A	N3-C4-C5	5.12	130.38	126.80
34	BA	607	A	N1-C6-N6	5.12	121.67	118.60
1	CA	121	G	C4-N9-C1'	5.12	133.15	126.50
1	CA	673	C	C6-N1-C2	5.12	122.35	120.30
1	CA	871	U	OP1-P-O3'	5.12	116.45	105.20
1	CA	939	G	C4-C5-N7	-5.12	108.75	110.80
1	CA	1604	C	C6-N1-C2	5.12	122.35	120.30
1	CA	1775	U	C2-N1-C1'	-5.12	111.56	117.70
1	CA	2334	G	OP2-P-O3'	5.12	116.45	105.20
1	AA	25	U	C6-N1-C2	5.11	124.07	121.00
1	AA	2606	C	C6-N1-C2	5.11	122.35	120.30
1	CA	806	C	OP1-P-OP2	-5.11	111.93	119.60
1	CA	1155	A	O4'-C1'-N9	5.11	112.29	108.20
1	CA	1787	A	O5'-P-OP2	5.11	116.83	110.70
1	CA	1824	G	N7-C8-N9	5.11	115.66	113.10
1	CA	2330	G	C4-C5-C6	5.11	121.87	118.80
1	CA	2501	C	C5-C6-N1	-5.11	118.44	121.00
1	CA	2502	G	N3-C4-N9	5.11	129.07	126.00
34	DA	1519	A	N9-C4-C5	5.11	107.84	105.80
1	AA	709	G	N9-C4-C5	5.11	107.44	105.40
1	AA	2788	A	C6-N1-C2	5.11	121.67	118.60
1	AA	479	C	C2-N1-C1'	-5.11	113.18	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	515	G	N7-C8-N9	-5.11	110.54	113.10
1	AA	1219	A	P-O3'-C3'	5.11	125.83	119.70
1	AA	1815	A	N1-C2-N3	5.11	131.86	129.30
1	AA	2355	C	C5-C4-N4	5.11	123.78	120.20
1	AA	2513	C	C6-N1-C1'	5.11	126.93	120.80
1	AA	2576	A	C5-C6-N6	5.11	127.79	123.70
2	AB	1	U	N1-C2-O2	5.11	126.38	122.80
17	AT	98	LYS	CD-CE-NZ	5.11	123.46	111.70
56	BW	76	A	N1-C2-N3	5.11	131.85	129.30
1	AA	1334	U	C2-N3-C4	-5.11	123.93	127.00
1	AA	2650	G	N9-C4-C5	-5.11	103.36	105.40
1	AA	2876	U	N1-C2-N3	5.11	117.97	114.90
1	AA	965	G	N1-C6-O6	-5.11	116.83	119.90
1	AA	1374	G	N3-C4-N9	5.11	129.06	126.00
1	AA	1905	G	C8-N9-C4	-5.11	104.36	106.40
1	AA	2026	G	C4-C5-N7	5.11	112.84	110.80
1	AA	2467	G	C2-N3-C4	-5.11	109.35	111.90
1	AA	2802	C	O4'-C1'-N1	5.11	112.29	108.20
34	BA	770	C	OP1-P-OP2	-5.11	111.94	119.60
34	BA	1381	U	C2-N1-C1'	-5.11	111.57	117.70
1	CA	1204	A	N7-C8-N9	5.11	116.35	113.80
1	CA	2491	U	C2-N3-C4	-5.11	123.94	127.00
1	CA	2510	C	C5-C4-N4	5.11	123.78	120.20
1	AA	1009	C	O5'-P-OP2	-5.11	101.11	105.70
1	AA	1273	G	N1-C2-N2	5.11	120.80	116.20
1	AA	1294	G	N3-C4-C5	5.11	131.15	128.60
1	AA	2056	U	N1-C2-N3	5.11	117.96	114.90
1	CA	458	G	C4-N9-C1'	-5.11	119.86	126.50
1	CA	494	G	C8-N9-C4	5.11	108.44	106.40
1	CA	553	G	OP2-P-O3'	5.11	116.43	105.20
1	CA	784	A	O5'-P-OP2	5.11	116.83	110.70
1	CA	980	A	C2-N3-C4	-5.11	108.05	110.60
1	CA	1605	C	C2-N3-C4	-5.11	117.35	119.90
1	CA	2548	G	C4-C5-N7	5.11	112.84	110.80
1	CA	2763	G	C4-C5-N7	-5.11	108.76	110.80
1	AA	781	A	N1-C2-N3	5.10	131.85	129.30
1	AA	1789	G	C8-N9-C1'	-5.10	120.36	127.00
1	CA	945	A	N3-C4-N9	-5.10	123.32	127.40
1	CA	2590	A	C5-N7-C8	5.10	106.45	103.90
1	AA	74	G	N1-C6-O6	5.10	122.96	119.90
1	AA	511	C	N3-C4-C5	5.10	123.94	121.90
1	AA	1194	A	C6-N1-C2	-5.10	115.54	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2712	C	O5'-P-OP2	-5.10	101.11	105.70
1	AA	2721	G	C4-C5-C6	5.10	121.86	118.80
34	BA	350	G	N3-C4-C5	-5.10	126.05	128.60
1	CA	2382	G	C8-N9-C4	5.10	108.44	106.40
34	DA	1476	G	C5-C6-N1	5.10	114.05	111.50
1	CA	680	G	C4-C5-N7	-5.10	108.76	110.80
1	CA	759	G	C5-C6-N1	5.10	114.05	111.50
1	CA	2233	U	N3-C2-O2	5.10	125.77	122.20
1	CA	2409	G	N1-C6-O6	5.10	122.96	119.90
1	CA	2548	G	C5-N7-C8	-5.10	101.75	104.30
34	DA	1473	A	C8-N9-C4	5.10	107.84	105.80
1	AA	793	A	N9-C4-C5	5.10	107.84	105.80
1	AA	1215	G	N1-C6-O6	5.10	122.96	119.90
1	AA	1395	A	C4-C5-N7	5.10	113.25	110.70
1	AA	2056	U	C5-C6-N1	-5.10	120.15	122.70
1	AA	2343	G	N1-C2-N2	5.10	120.79	116.20
1	AA	2400	A	N3-C4-N9	-5.10	123.32	127.40
34	BA	545	C	N3-C2-O2	-5.10	118.33	121.90
34	BA	1509	C	C2-N3-C4	-5.10	117.35	119.90
1	CA	408	G	N1-C6-O6	-5.10	116.84	119.90
34	DA	489	C	C6-N1-C2	-5.10	118.26	120.30
1	AA	1062	G	OP1-P-OP2	-5.10	111.95	119.60
1	AA	1170	C	N3-C4-N4	5.10	121.57	118.00
1	AA	1823	G	N1-C6-O6	-5.10	116.84	119.90
1	AA	2616	U	C2-N3-C4	-5.10	123.94	127.00
5	AE	156	MET	CG-SD-CE	5.10	108.36	100.20
34	BA	52	G	C4-C5-N7	5.10	112.84	110.80
1	CA	954	G	C8-N9-C4	-5.10	104.36	106.40
1	CA	2203	U	N1-C2-O2	-5.10	119.23	122.80
1	CA	2495	G	N3-C4-N9	-5.10	122.94	126.00
1	AA	2375	C	C5-C6-N1	-5.10	118.45	121.00
1	AA	2524	C	N3-C4-C5	5.10	123.94	121.90
1	AA	2755	C	O5'-P-OP1	5.10	116.81	110.70
34	BA	893	C	N3-C4-N4	5.10	121.57	118.00
1	CA	1193	G	C5-C6-O6	-5.10	125.54	128.60
1	CA	1988	C	N1-C2-O2	5.10	121.96	118.90
1	CA	2364	C	N1-C2-O2	-5.10	115.84	118.90
1	AA	15	G	N9-C1'-C2'	-5.09	106.40	112.00
1	AA	872	C	O5'-P-OP2	5.09	116.81	110.70
1	AA	1602	G	N1-C2-N3	5.09	126.96	123.90
2	AB	116	G	C2-N3-C4	-5.09	109.35	111.90
34	DA	760	G	N9-C1'-C2'	-5.09	106.39	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	125	A	OP1-P-O3'	5.09	116.40	105.20
1	AA	565	C	O5'-P-OP1	-5.09	101.12	105.70
1	AA	1802	C	C6-N1-C2	-5.09	118.26	120.30
1	AA	2397	C	O5'-P-OP2	5.09	116.81	110.70
1	AA	2780	C	C5-C4-N4	5.09	123.77	120.20
2	AB	108	U	OP1-P-OP2	5.09	127.24	119.60
1	CA	310	A	O4'-C1'-N9	5.09	112.27	108.20
1	AA	1060	U	N3-C2-O2	-5.09	118.64	122.20
1	AA	1262	C	N1-C2-O2	-5.09	115.85	118.90
1	AA	1345	G	C4-C5-N7	-5.09	108.76	110.80
1	AA	1454	C	C6-N1-C2	-5.09	118.26	120.30
1	AA	1617	A	C4-C5-N7	5.09	113.25	110.70
1	AA	1853	G	C5-C6-O6	5.09	131.66	128.60
1	AA	2029	C	C4-C5-C6	5.09	119.95	117.40
6	AF	77	ASP	CB-CG-OD1	-5.09	113.72	118.30
1	CA	1340	U	C2-N3-C4	-5.09	123.94	127.00
1	CA	1678	G	N3-C2-N2	-5.09	116.34	119.90
34	DA	189(D)	C	C6-N1-C2	-5.09	118.26	120.30
1	AA	2658	C	N3-C2-O2	5.09	125.46	121.90
1	CA	589	C	C2-N3-C4	-5.09	117.36	119.90
1	CA	2460	U	C5-C6-N1	-5.09	120.16	122.70
1	AA	88	G	C8-N9-C4	-5.09	104.36	106.40
1	AA	833	C	OP1-P-O3'	-5.09	94.01	105.20
1	AA	1273	G	C6-C5-N7	5.09	133.45	130.40
1	AA	2880	C	N1-C2-N3	5.09	122.76	119.20
1	AA	70	A	N7-C8-N9	5.09	116.34	113.80
1	AA	99	G	N3-C4-N9	-5.09	122.95	126.00
1	AA	128	C	N3-C2-O2	-5.09	118.34	121.90
1	AA	468	G	N3-C2-N2	5.09	123.46	119.90
34	BA	886	G	C2-N3-C4	-5.09	109.36	111.90
1	CA	743	G	C5-C6-O6	5.09	131.65	128.60
1	CA	748	G	N3-C4-N9	-5.09	122.95	126.00
1	CA	2466	C	N3-C4-C5	5.09	123.94	121.90
34	DA	769	G	C5-C6-N1	-5.09	108.96	111.50
1	AA	614	C	C5-C4-N4	5.08	123.76	120.20
1	AA	1681	A	C8-N9-C4	-5.08	103.77	105.80
34	BA	60	A	O5'-P-OP2	-5.08	101.12	105.70
1	CA	445	C	O5'-P-OP2	-5.08	101.12	105.70
1	CA	1668	A	C2-N3-C4	5.08	113.14	110.60
1	CA	2447	G	N1-C6-O6	-5.08	116.85	119.90
1	AA	60	G	C6-C5-N7	5.08	133.45	130.40
1	AA	216	A	N9-C4-C5	5.08	107.83	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	892	G	O4'-C1'-N9	5.08	112.27	108.20
1	AA	1497	G	N9-C4-C5	5.08	107.43	105.40
1	AA	2291	G	N1-C6-O6	5.08	122.95	119.90
1	AA	2408	G	C4-C5-N7	-5.08	108.77	110.80
1	AA	2878	A	C2-N3-C4	5.08	113.14	110.60
34	BA	883	C	C5-C6-N1	5.08	123.54	121.00
34	BA	1515	C	N1-C2-O2	-5.08	115.85	118.90
1	CA	673	C	C5-C6-N1	-5.08	118.46	121.00
1	CA	1561	G	N3-C4-N9	-5.08	122.95	126.00
1	AA	1801	G	N1-C2-N3	5.08	126.95	123.90
1	AA	2332	A	N9-C4-C5	-5.08	103.77	105.80
34	BA	1513	A	C5-C6-N6	-5.08	119.64	123.70
34	BA	1526	G	N1-C6-O6	5.08	122.95	119.90
1	CA	130	C	C2-N3-C4	-5.08	117.36	119.90
1	CA	791	C	N3-C2-O2	-5.08	118.34	121.90
1	CA	2255	G	OP2-P-O3'	5.08	116.38	105.20
1	CA	2258	C	N3-C4-C5	5.08	123.93	121.90
1	AA	969	C	C6-N1-C2	-5.08	118.27	120.30
1	AA	1244	U	N3-C4-O4	-5.08	115.84	119.40
1	AA	1804	A	N9-C1'-C2'	-5.08	106.41	112.00
1	AA	2654	G	OP2-P-O3'	5.08	116.38	105.20
1	AA	2881	C	N3-C4-C5	5.08	123.93	121.90
1	AA	1178	A	OP1-P-OP2	5.08	127.22	119.60
1	AA	1345	G	OP2-P-O3'	5.08	116.37	105.20
1	AA	2295	C	N1-C2-O2	-5.08	115.85	118.90
1	CA	124	G	N3-C4-C5	5.08	131.14	128.60
1	CA	411	G	O4'-C1'-N9	-5.08	104.14	108.20
1	CA	2760	C	C6-N1-C2	5.08	122.33	120.30
1	AA	397	G	O4'-C1'-N9	-5.08	104.14	108.20
1	AA	575	G	N1-C6-O6	-5.08	116.85	119.90
1	AA	996	C	N1-C2-O2	5.08	121.94	118.90
1	AA	1166	G	C6-C5-N7	5.08	133.44	130.40
1	AA	1672	G	C5-C6-N1	5.08	114.04	111.50
1	CA	491	G	C4-C5-N7	-5.08	108.77	110.80
1	CA	2256	G	N3-C4-N9	5.08	129.04	126.00
1	CA	2572	A	C2-N3-C4	5.08	113.14	110.60
1	AA	50	G	C4-N9-C1'	5.07	133.09	126.50
1	AA	54	G	N3-C4-C5	-5.07	126.06	128.60
1	AA	1464	G	N3-C2-N2	5.07	123.45	119.90
1	AA	1467	G	N3-C2-N2	5.07	123.45	119.90
1	AA	1788	U	OP1-P-O3'	5.07	116.36	105.20
1	AA	2456	G	N9-C4-C5	5.07	107.43	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2501	G	N3-C2-N2	5.07	123.45	119.90
1	AA	2718	G	OP2-P-O3'	5.07	116.36	105.20
2	AB	47	C	OP1-P-O3'	5.07	116.36	105.20
1	CA	198	C	C6-N1-C2	-5.07	118.27	120.30
1	CA	523	C	OP2-P-O3'	5.07	116.36	105.20
1	CA	1125	G	C5-C6-O6	-5.07	125.56	128.60
1	AA	1837	C	C6-N1-C2	5.07	122.33	120.30
1	CA	1812	A	C8-N9-C4	-5.07	103.77	105.80
34	DA	907	A	C2-N3-C4	-5.07	108.06	110.60
1	AA	1000	C	N3-C2-O2	-5.07	118.35	121.90
1	AA	2015	U	C5-C6-N1	-5.07	120.16	122.70
1	AA	2105	G	OP2-P-O3'	5.07	116.35	105.20
1	AA	2714	U	C6-N1-C2	5.07	124.04	121.00
1	CA	337	C	C5-C6-N1	-5.07	118.47	121.00
1	CA	421	U	OP1-P-O3'	5.07	116.36	105.20
1	CA	562	U	O5'-P-OP1	-5.07	101.14	105.70
1	CA	1139	G	N9-C4-C5	-5.07	103.37	105.40
1	AA	321	C	C6-N1-C2	5.07	122.33	120.30
1	AA	431	C	N1-C2-O2	5.07	121.94	118.90
1	AA	873	U	C4-C5-C6	5.07	122.74	119.70
1	AA	1199	C	C5-C6-N1	-5.07	118.47	121.00
1	AA	1206	G	N3-C4-C5	-5.07	126.07	128.60
1	AA	2300	A	N7-C8-N9	-5.07	111.27	113.80
34	BA	354	G	C4-C5-N7	5.07	112.83	110.80
1	CA	1810	A	C2-N3-C4	5.07	113.13	110.60
1	AA	518	G	OP2-P-O3'	5.07	116.34	105.20
1	AA	630	U	C5-C6-N1	-5.07	120.17	122.70
1	AA	1210	G	C5-C6-O6	5.07	131.64	128.60
1	AA	2018	C	O5'-P-OP1	-5.07	101.14	105.70
1	AA	2063	U	N1-C2-N3	5.07	117.94	114.90
1	AA	2399	U	N1-C2-N3	5.07	117.94	114.90
1	AA	2576	A	O5'-P-OP1	-5.07	101.14	105.70
2	AB	16	G	N1-C6-O6	5.07	122.94	119.90
1	CA	102	G	N3-C4-N9	-5.07	122.96	126.00
1	CA	773	U	N1-C2-O2	-5.07	119.25	122.80
1	CA	1970	A	N7-C8-N9	5.07	116.33	113.80
1	AA	165	G	N1-C2-N3	5.06	126.94	123.90
1	AA	177	G	N1-C2-N2	-5.06	111.64	116.20
1	AA	2529	C	C6-N1-C1'	-5.06	114.72	120.80
34	BA	130	A	C8-N9-C4	5.06	107.83	105.80
34	BA	815	A	C2-N3-C4	-5.06	108.07	110.60
1	CA	672	C	N3-C2-O2	5.06	125.44	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
34	DA	484	G	N3-C4-N9	5.06	129.04	126.00
1	AA	69	G	N3-C4-C5	-5.06	126.07	128.60
1	AA	979	G	C5-N7-C8	5.06	106.83	104.30
1	AA	1594	C	N3-C4-C5	5.06	123.92	121.90
1	AA	1981	G	C8-N9-C4	-5.06	104.38	106.40
1	AA	2044	U	N3-C4-O4	5.06	122.94	119.40
1	AA	2282	G	N1-C2-N2	5.06	120.76	116.20
1	AA	2399	U	N3-C4-C5	-5.06	111.56	114.60
1	AA	2511	C	O5'-P-OP1	-5.06	101.14	105.70
34	BA	726	C	OP1-P-O3'	5.06	116.34	105.20
34	BA	1496	C	C5-C4-N4	-5.06	116.66	120.20
34	BA	1519	A	N1-C6-N6	-5.06	115.56	118.60
56	BW	11	C	C2-N3-C4	-5.06	117.37	119.90
1	CA	187	G	N3-C4-C5	-5.06	126.07	128.60
1	CA	517	C	C6-N1-C2	5.06	122.33	120.30
1	CA	1806	C	N1-C2-O2	-5.06	115.86	118.90
34	DA	23	C	N3-C4-N4	5.06	121.54	118.00
34	DA	53	A	O5'-P-OP1	-5.06	101.14	105.70
34	DA	729	A	OP1-P-O3'	5.06	116.34	105.20
34	DA	1523	G	N3-C4-C5	5.06	131.13	128.60
1	AA	829	A	C8-N9-C4	5.06	107.82	105.80
1	AA	1457	C	O5'-P-OP2	-5.06	101.14	105.70
1	CA	1648	C	OP2-P-O3'	5.06	116.33	105.20
1	AA	415	G	N3-C4-C5	-5.06	126.07	128.60
1	AA	846	G	C8-N9-C4	-5.06	104.38	106.40
1	AA	967	G	C4-N9-C1'	5.06	133.08	126.50
1	AA	2074	G	C5-N7-C8	5.06	106.83	104.30
1	AA	2251	G	N3-C2-N2	5.06	123.44	119.90
15	AR	75	LEU	CA-CB-CG	5.06	126.94	115.30
1	AA	23	G	N3-C2-N2	-5.06	116.36	119.90
1	AA	426	G	N7-C8-N9	-5.06	110.57	113.10
1	AA	497	A	N1-C2-N3	5.06	131.83	129.30
1	AA	716	G	N1-C6-O6	-5.06	116.86	119.90
1	AA	1157	A	C1'-O4'-C4'	-5.06	105.86	109.90
1	AA	1395	A	C6-C5-N7	-5.06	128.76	132.30
1	AA	2283	G	N9-C4-C5	-5.06	103.38	105.40
1	AA	2287	C	N1-C2-O2	-5.06	115.87	118.90
1	AA	2748	G	C5-C6-O6	5.06	131.63	128.60
34	BA	293	G	C8-N9-C4	-5.06	104.38	106.40
1	CA	1368	G	C6-N1-C2	-5.06	122.07	125.10
1	CA	2277	G	N3-C4-N9	-5.06	122.97	126.00
1	AA	1742	G	C4-N9-C1'	5.06	133.07	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	1661	G	N7-C8-N9	-5.06	110.57	113.10
1	AA	88	G	C4-C5-N7	-5.05	108.78	110.80
1	AA	753	A	N1-C2-N3	-5.05	126.77	129.30
1	AA	1424	A	C5-N7-C8	-5.05	101.37	103.90
1	AA	2530	A	N9-C4-C5	5.05	107.82	105.80
2	AB	36	C	OP2-P-O3'	5.05	116.32	105.20
1	CA	315	G	O5'-P-OP2	-5.05	101.15	105.70
1	CA	2056	G	C2-N3-C4	5.05	114.43	111.90
34	DA	428	G	C8-N9-C4	5.05	108.42	106.40
34	DA	866	C	C6-N1-C2	-5.05	118.28	120.30
34	BA	728	A	N1-C6-N6	5.05	121.63	118.60
1	CA	234	C	C5-C4-N4	-5.05	116.66	120.20
1	CA	265	A	O4'-C1'-N9	5.05	112.24	108.20
1	AA	165	G	C6-C5-N7	-5.05	127.37	130.40
1	AA	537	G	N1-C2-N3	-5.05	120.87	123.90
1	AA	774	A	O4'-C1'-N9	-5.05	104.16	108.20
1	AA	1172	A	N1-C6-N6	5.05	121.63	118.60
1	AA	1725	G	C4-C5-C6	5.05	121.83	118.80
1	AA	2217	C	OP1-P-O3'	5.05	116.31	105.20
1	AA	2248	C	O5'-P-OP1	-5.05	101.15	105.70
1	AA	2445	A	N1-C2-N3	5.05	131.83	129.30
1	AA	2523	U	C5-C6-N1	-5.05	120.17	122.70
1	AA	2557	G	C6-C5-N7	-5.05	127.37	130.40
1	CA	446	G	OP1-P-OP2	-5.05	112.02	119.60
1	CA	1368	G	N1-C6-O6	-5.05	116.87	119.90
1	CA	1698	A	N3-C4-C5	5.05	130.34	126.80
1	CA	2004	G	OP1-P-OP2	-5.05	112.02	119.60
1	AA	1956	C	C2-N3-C4	-5.05	117.38	119.90
1	CA	858	U	N3-C2-O2	-5.05	118.67	122.20
1	CA	2024	G	OP1-P-OP2	5.05	127.17	119.60
1	AA	974	G	C5-N7-C8	-5.05	101.78	104.30
1	AA	1046	A	N1-C6-N6	5.05	121.63	118.60
1	AA	1197	G	C5-C6-O6	5.05	131.63	128.60
1	AA	2882	G	C8-N9-C4	-5.05	104.38	106.40
34	BA	1502	A	C5-N7-C8	-5.05	101.38	103.90
1	AA	404	C	C5-C6-N1	-5.05	118.48	121.00
1	AA	583	C	C6-N1-C2	5.05	122.32	120.30
1	AA	1058	U	C2-N3-C4	-5.05	123.97	127.00
1	AA	2283	G	C6-C5-N7	-5.05	127.37	130.40
1	AA	2700	U	C6-N1-C2	-5.05	117.97	121.00
1	CA	788	A	OP1-P-OP2	-5.05	112.03	119.60
1	CA	1899	G	N3-C2-N2	-5.05	116.37	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2586	C	OP1-P-OP2	-5.05	112.03	119.60
1	CA	2709	G	N3-C4-N9	5.05	129.03	126.00
34	DA	1521	G	N1-C6-O6	-5.05	116.87	119.90
1	AA	27	G	N3-C2-N2	5.04	123.43	119.90
34	BA	516	U	C6-N1-C2	-5.04	117.97	121.00
34	BA	1441	G	OP1-P-O3'	5.04	116.30	105.20
34	BA	1524	C	C4-C5-C6	5.04	119.92	117.40
1	AA	1450	C	OP1-P-OP2	5.04	127.16	119.60
1	AA	1539	C	C2-N3-C4	-5.04	117.38	119.90
1	AA	2476	C	OP1-P-OP2	5.04	127.17	119.60
1	CA	752	A	N9-C4-C5	-5.04	103.78	105.80
1	AA	1359	U	C2-N1-C1'	5.04	123.75	117.70
1	AA	1974	A	C4-C5-N7	-5.04	108.18	110.70
1	AA	2065	C	C4-C5-C6	5.04	119.92	117.40
1	AA	2074	G	C2-N3-C4	5.04	114.42	111.90
1	CA	327	G	N1-C6-O6	5.04	122.92	119.90
1	CA	509	C	O4'-C1'-N1	5.04	112.23	108.20
1	CA	786	C	O5'-P-OP1	-5.04	101.16	105.70
1	CA	1297	C	C4-C5-C6	5.04	119.92	117.40
1	CA	1640	C	OP2-P-O3'	5.04	116.29	105.20
34	DA	854	G	C8-N9-C4	-5.04	104.38	106.40
1	AA	1024	G	N1-C6-O6	-5.04	116.88	119.90
1	AA	2820	A	N1-C2-N3	-5.04	126.78	129.30
1	CA	1721	G	N1-C6-O6	5.04	122.92	119.90
1	CA	2069	G	N3-C4-N9	-5.04	122.98	126.00
34	DA	353	A	C8-N9-C4	5.04	107.82	105.80
1	AA	380	G	N1-C6-O6	5.04	122.92	119.90
1	AA	897	C	C6-N1-C2	5.04	122.31	120.30
1	AA	1207	C	C5-C4-N4	-5.04	116.67	120.20
1	AA	1860	A	OP2-P-O3'	5.04	116.28	105.20
1	AA	2268	G	N3-C2-N2	5.04	123.43	119.90
1	AA	2587	C	C2-N1-C1'	5.04	124.34	118.80
1	AA	2795	G	C4-C5-N7	-5.04	108.78	110.80
24	A0	10	THR	CA-CB-CG2	-5.04	105.35	112.40
34	BA	802	A	N1-C6-N6	5.04	121.62	118.60
1	CA	132	G	OP2-P-O3'	5.04	116.28	105.20
1	CA	488	G	O5'-P-OP2	-5.04	101.17	105.70
1	AA	640	A	P-O3'-C3'	5.04	125.74	119.70
1	AA	641	G	N3-C4-C5	-5.04	126.08	128.60
1	AA	1566	U	N3-C2-O2	-5.04	118.67	122.20
1	AA	1617	A	C6-C5-N7	-5.04	128.78	132.30
1	AA	2572	C	N1-C2-O2	-5.04	115.88	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	CA	2474	C	C2-N1-C1'	5.04	124.34	118.80
1	AA	152	G	C6-C5-N7	-5.03	127.38	130.40
1	AA	439	A	O5'-P-OP1	5.03	116.74	110.70
1	AA	772	G	C8-N9-C1'	-5.03	120.46	127.00
1	AA	1006	C	C6-N1-C1'	5.03	126.84	120.80
1	AA	1221	G	P-O3'-C3'	5.03	125.74	119.70
1	AA	1741	C	C2-N3-C4	-5.03	117.38	119.90
1	AA	2571	C	N3-C4-C5	5.03	123.91	121.90
1	AA	2585	C	C2-N3-C4	-5.03	117.38	119.90
34	BA	785	G	N1-C6-O6	5.03	122.92	119.90
34	BA	1190	G	P-O3'-C3'	5.03	125.74	119.70
34	BA	1463	C	O5'-P-OP1	-5.03	101.17	105.70
1	CA	414	C	O5'-P-OP2	-5.03	101.17	105.70
1	CA	664	C	O5'-P-OP2	-5.03	101.17	105.70
1	CA	2040	C	O5'-P-OP1	-5.03	101.17	105.70
1	AA	59	G	C5-C6-O6	-5.03	125.58	128.60
1	AA	2682	A	C8-N9-C4	5.03	107.81	105.80
15	AR	17	ARG	NE-CZ-NH2	5.03	122.82	120.30
1	CA	2244	U	C4-C5-C6	5.03	122.72	119.70
1	AA	54	G	N7-C8-N9	5.03	115.61	113.10
1	AA	322	G	C5-N7-C8	5.03	106.81	104.30
1	AA	749	G	C6-N1-C2	-5.03	122.08	125.10
1	AA	882	A	C2-N3-C4	5.03	113.11	110.60
1	AA	1341	C	O5'-P-OP2	-5.03	101.17	105.70
1	AA	2524	C	N1-C2-O2	-5.03	115.88	118.90
34	DA	246	A	OP1-P-O3'	5.03	116.27	105.20
34	DA	1518	A	C2-N3-C4	-5.03	108.08	110.60
1	AA	707	G	N3-C2-N2	-5.03	116.38	119.90
34	BA	867	G	C8-N9-C4	5.03	108.41	106.40
56	BW	33	U	N3-C2-O2	-5.03	118.68	122.20
1	CA	928	G	N1-C6-O6	5.03	122.92	119.90
1	CA	1298	C	C2-N3-C4	-5.03	117.39	119.90
1	AA	365	G	N9-C4-C5	5.03	107.41	105.40
1	AA	545	G	OP1-P-OP2	-5.03	112.06	119.60
1	AA	781	A	C6-C5-N7	-5.03	128.78	132.30
1	AA	1293	A	OP2-P-O3'	5.03	116.26	105.20
1	AA	1808	U	C6-N1-C2	5.03	124.02	121.00
1	CA	218	A	O5'-P-OP2	-5.03	101.17	105.70
1	CA	1368	G	C5-C6-N1	5.03	114.01	111.50
1	AA	237	G	C5-C6-O6	5.03	131.62	128.60
1	AA	623	G	C6-C5-N7	-5.03	127.38	130.40
1	AA	751	G	C2-N3-C4	5.03	114.41	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	751	G	C6-N1-C2	-5.03	122.08	125.10
1	AA	1219	A	OP1-P-O3'	5.03	116.25	105.20
1	AA	1980	C	C4-C5-C6	5.03	119.91	117.40
1	AA	2076	A	C5-N7-C8	5.03	106.41	103.90
1	AA	2282	G	O5'-P-OP1	5.03	116.73	110.70
1	AA	2397	C	C4-C5-C6	5.03	119.91	117.40
1	AA	2515	A	C2-N3-C4	5.03	113.11	110.60
1	AA	2611	G	OP1-P-OP2	-5.03	112.06	119.60
34	BA	291	C	C6-N1-C2	5.03	122.31	120.30
34	BA	1460	A	O5'-P-OP1	5.03	116.73	110.70
4	CD	52	ARG	NE-CZ-NH1	-5.03	117.79	120.30
1	AA	809	U	N3-C2-O2	-5.02	118.68	122.20
1	AA	1402	G	C4-C5-N7	5.02	112.81	110.80
1	AA	2051	G	C5-C6-N1	-5.02	108.99	111.50
1	AA	2242	G	C4-C5-N7	5.02	112.81	110.80
1	AA	2780	C	N3-C4-N4	-5.02	114.48	118.00
34	BA	886	G	N3-C2-N2	-5.02	116.38	119.90
1	AA	497	A	C2-N3-C4	-5.02	108.09	110.60
1	AA	582	G	C5-C6-O6	5.02	131.61	128.60
1	AA	620	U	N3-C4-O4	-5.02	115.88	119.40
1	CA	432	A	OP2-P-O3'	5.02	116.25	105.20
1	CA	598	G	C8-N9-C4	5.02	108.41	106.40
1	CA	1157	G	C8-N9-C4	-5.02	104.39	106.40
1	CA	1261	C	N1-C2-O2	-5.02	115.89	118.90
1	CA	2494	G	C8-N9-C4	5.02	108.41	106.40
1	AA	872	C	OP1-P-OP2	-5.02	112.07	119.60
1	AA	1920	U	N3-C4-C5	5.02	117.61	114.60
1	AA	2620	G	C8-N9-C4	5.02	108.41	106.40
1	CA	465	G	C2-N3-C4	-5.02	109.39	111.90
1	CA	1664	A	N1-C6-N6	-5.02	115.59	118.60
1	AA	216	A	N3-C4-C5	-5.02	123.29	126.80
1	AA	816	G	N3-C2-N2	5.02	123.41	119.90
1	AA	1789	G	C4-C5-C6	5.02	121.81	118.80
34	BA	610	G	C4-N9-C1'	5.02	133.02	126.50
34	BA	616	G	C8-N9-C4	-5.02	104.39	106.40
1	CA	975(A)	G	C8-N9-C4	5.02	108.41	106.40
1	CA	2053	G	C8-N9-C4	5.02	108.41	106.40
1	CA	2287	A	C2-N3-C4	-5.02	108.09	110.60
1	CA	2498	C	O4'-C1'-N1	-5.02	104.19	108.20
1	CA	2897	U	C5-C6-N1	5.02	125.21	122.70
1	AA	201	G	N7-C8-N9	-5.02	110.59	113.10
1	AA	760	G	C5-C6-O6	-5.02	125.59	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	838	C	O4'-C1'-N1	5.02	112.22	108.20
1	AA	1235	G	N3-C2-N2	5.02	123.41	119.90
1	AA	1687	C	C4-C5-C6	5.02	119.91	117.40
1	AA	2482	G	N9-C4-C5	-5.02	103.39	105.40
34	BA	574	A	OP2-P-O3'	5.02	116.24	105.20
34	BA	671	G	C6-C5-N7	5.02	133.41	130.40
1	CA	205	G	N3-C4-N9	5.02	129.01	126.00
1	CA	1774	C	C4-C5-C6	5.02	119.91	117.40
1	CA	1807	G	N9-C1'-C2'	-5.02	106.48	112.00
1	CA	1993	U	OP1-P-O3'	5.02	116.24	105.20
1	CA	2258	C	C2-N3-C4	-5.02	117.39	119.90
1	AA	453	C	N1-C2-N3	5.02	122.71	119.20
1	AA	511	C	OP1-P-OP2	-5.02	112.08	119.60
1	AA	1067	A	N1-C2-N3	5.02	131.81	129.30
1	AA	1342	G	C4-C5-C6	-5.02	115.79	118.80
34	DA	115	G	P-O3'-C3'	5.02	125.72	119.70
1	AA	1211	U	C6-N1-C2	-5.01	117.99	121.00
1	AA	2631	C	N3-C4-N4	-5.01	114.49	118.00
34	BA	784	C	C5-C6-N1	-5.01	118.49	121.00
1	CA	193	U	OP1-P-OP2	-5.01	112.08	119.60
1	CA	530	G	C2-N3-C4	-5.01	109.39	111.90
1	CA	878	A	O4'-C1'-N9	5.01	112.21	108.20
1	CA	1523	U	C5-C6-N1	5.01	125.21	122.70
34	DA	396	G	OP1-P-OP2	5.01	127.12	119.60
34	DA	698	G	N1-C6-O6	5.01	122.91	119.90
1	AA	1601	A	OP1-P-O3'	5.01	116.23	105.20
1	AA	2020	G	N3-C4-C5	-5.01	126.09	128.60
1	CA	190	A	N1-C6-N6	5.01	121.61	118.60
1	CA	2782	G	OP2-P-O3'	5.01	116.23	105.20
34	DA	1518	A	C4-C5-N7	-5.01	108.19	110.70
1	AA	30	G	C5-N7-C8	5.01	106.81	104.30
1	AA	74	G	N1-C2-N2	5.01	120.71	116.20
1	AA	197	C	OP2-P-O3'	5.01	116.23	105.20
1	AA	2260	C	C6-N1-C2	-5.01	118.30	120.30
1	AA	2390	A	C4-C5-N7	5.01	113.21	110.70
1	CA	2045	C	N3-C2-O2	5.01	125.41	121.90
34	DA	328	C	O4'-C1'-N1	5.01	112.21	108.20
1	AA	1087	C	O5'-P-OP1	5.01	116.71	110.70
1	AA	1090	G	C4-C5-N7	-5.01	108.80	110.80
1	AA	1623	U	OP2-P-O3'	5.01	116.22	105.20
1	AA	1665	G	N3-C4-C5	-5.01	126.09	128.60
1	AA	1682	G	C6-C5-N7	-5.01	127.39	130.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	2000	A	C6-N1-C2	5.01	121.61	118.60
56	BW	34	G	C6-C5-N7	-5.01	127.39	130.40
1	CA	246	C	C6-N1-C2	5.01	122.30	120.30
1	CA	503	A	C5-C6-N6	5.01	127.71	123.70
1	CA	961	C	N3-C2-O2	5.01	125.41	121.90
1	CA	2634	G	C5-C6-O6	5.01	131.61	128.60
34	DA	551	U	N1-C2-O2	-5.01	119.29	122.80
34	DA	1522	U	OP2-P-O3'	5.01	116.22	105.20
1	AA	1813	C	C5-C4-N4	-5.01	116.69	120.20
1	AA	2369	U	C4-C5-C6	5.01	122.70	119.70
1	AA	2544	G	C5-C6-O6	-5.01	125.59	128.60
2	AB	29	A	N1-C6-N6	-5.01	115.59	118.60
1	CA	581	C	N3-C2-O2	5.01	125.41	121.90
1	CA	2465	C	C5-C6-N1	-5.01	118.50	121.00
1	CA	2893	G	C2-N3-C4	5.01	114.40	111.90
1	AA	973	G	N1-C6-O6	5.01	122.90	119.90
1	AA	1073	A	N7-C8-N9	-5.01	111.30	113.80
1	AA	1245	C	C6-N1-C1'	5.01	126.81	120.80
1	AA	1376	C	C4-C5-C6	5.01	119.90	117.40
1	AA	1378	G	C5-N7-C8	-5.01	101.80	104.30
1	AA	1487	G	N9-C4-C5	5.01	107.40	105.40
1	AA	2411	G	N9-C1'-C2'	-5.01	106.49	112.00
1	AA	2443	U	OP1-P-O3'	5.01	116.22	105.20
1	AA	2448	G	N3-C2-N2	5.01	123.41	119.90
1	AA	2781	C	N3-C4-N4	-5.01	114.50	118.00
1	CA	1679	U	C5-C4-O4	5.01	128.90	125.90
1	CA	2893	G	C6-C5-N7	-5.01	127.40	130.40
34	DA	781	A	OP2-P-O3'	5.01	116.22	105.20
1	AA	326	C	N3-C4-N4	-5.00	114.50	118.00
1	AA	1021	G	N1-C2-N3	-5.00	120.90	123.90
1	AA	2021	C	C6-N1-C1'	5.00	126.81	120.80
1	AA	2470	G	C5-C6-O6	5.00	131.60	128.60
1	AA	1449	C	N1-C2-O2	-5.00	115.90	118.90
1	AA	1706	U	N3-C2-O2	5.00	125.70	122.20
1	AA	1741	C	C4-C5-C6	5.00	119.90	117.40
1	CA	141	A	C8-N9-C4	-5.00	103.80	105.80
1	CA	391	G	N3-C2-N2	-5.00	116.40	119.90
1	CA	737	C	OP1-P-OP2	-5.00	112.09	119.60
34	DA	1523	G	N3-C4-N9	-5.00	123.00	126.00
1	AA	370	A	OP1-P-O3'	5.00	116.20	105.20
1	AA	911	G	OP2-P-O3'	5.00	116.20	105.20
1	AA	1344	C	N3-C2-O2	5.00	125.40	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	AA	1369	U	C6-N1-C2	5.00	124.00	121.00
1	AA	2453	C	C5-C6-N1	-5.00	118.50	121.00
34	BA	991	U	P-O3'-C3'	5.00	125.70	119.70
1	CA	154(A)	C	C5-C6-N1	5.00	123.50	121.00
1	CA	333	G	C4-C5-N7	5.00	112.80	110.80
1	CA	1348	G	C8-N9-C4	5.00	108.40	106.40
1	CA	2051	A	N1-C6-N6	5.00	121.60	118.60

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	AE	74	PRO	Peptide
6	AF	194	MET	Peptide
19	AV	54	GLY	Peptide
35	BB	93	VAL	Peptide
58	BX	3	004	Peptide
57	DZ	159	ALA	Peptide

## 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	AA	61861	0	31172	849	0
1	CA	61771	0	31146	1165	0
2	AB	2573	0	1306	27	0
2	CB	2573	0	1306	57	0
3	AC	1063	0	1091	153	4
3	CC	1063	0	1090	186	17
4	AD	2136	0	2218	84	0
4	CD	2142	0	2229	85	0
5	AE	1559	0	1618	58	0
5	CE	1559	0	1618	76	0
6	AF	1584	0	1625	62	0
6	CF	1580	0	1619	75	0
7	AG	1425	0	1443	64	0
7	CG	1424	0	1434	82	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	AH	1330	0	1407	53	0
8	CH	1330	0	1407	54	0
9	AK	641	0	309	15	0
9	CK	641	0	309	9	0
10	AL	498	0	521	20	0
10	CL	498	0	521	29	0
11	AN	1117	0	1184	31	0
11	CN	1117	0	1184	38	0
12	AO	933	0	996	30	0
12	CO	933	0	996	26	0
13	AP	1139	0	1223	44	0
13	CP	1135	0	1212	57	0
14	AQ	1122	0	1179	37	0
14	CQ	1122	0	1179	54	0
15	AR	968	0	1033	32	0
15	CR	968	0	1033	37	0
16	AS	877	0	938	42	0
16	CS	870	0	923	67	0
17	AT	1091	0	1151	48	0
17	CT	1083	0	1136	42	0
18	AU	959	0	1019	29	0
18	CU	959	0	1018	40	0
19	AV	771	0	830	11	0
19	CV	771	0	830	24	0
20	AW	886	0	940	23	0
20	CW	886	0	940	40	0
21	AX	750	0	814	24	0
21	CX	750	0	814	28	0
22	AY	806	0	881	37	0
22	CY	806	0	882	45	0
23	AZ	1451	0	1457	61	0
23	CZ	1451	0	1457	72	0
24	A0	608	0	622	20	0
24	C0	608	0	622	27	0
25	A1	755	0	826	29	0
25	C1	755	0	826	23	0
26	A2	588	0	643	16	0
26	C2	588	0	643	28	0
27	A3	469	0	518	12	0
27	C3	464	0	514	25	0
28	A4	558	0	545	31	0
28	C4	532	0	507	28	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	A5	455	0	465	15	0
29	C5	455	0	465	16	0
30	A6	453	0	473	17	0
30	C6	449	0	469	20	0
31	A7	418	0	467	16	0
31	C7	418	0	467	12	0
32	A8	517	0	582	25	0
32	C8	517	0	582	24	0
33	A9	307	0	335	11	0
33	C9	307	0	335	13	0
34	BA	32141	0	16224	681	0
34	DA	32268	0	16287	737	0
35	BB	1846	0	1867	78	0
35	DB	1825	0	1828	101	0
36	BC	1552	0	1546	65	0
36	DC	1544	0	1524	63	0
37	BD	1659	0	1679	68	0
37	DD	1678	0	1719	86	0
38	BE	1129	0	1185	51	0
38	DE	1133	0	1191	69	0
39	BF	812	0	804	29	0
39	DF	820	0	814	37	0
40	BG	1231	0	1238	45	0
40	DG	1235	0	1249	52	0
41	BH	1088	0	1126	53	0
41	DH	1088	0	1126	74	0
42	BI	986	0	995	52	0
42	DI	978	0	966	56	0
43	BJ	709	0	650	32	0
43	DJ	714	0	672	32	0
44	BK	833	0	836	34	0
44	DK	833	0	836	26	0
45	BL	930	0	980	39	0
45	DL	930	0	980	45	0
46	BM	923	0	970	37	0
46	DM	907	0	934	39	0
47	BN	492	0	529	30	0
47	DN	492	0	531	46	0
48	BO	728	0	760	29	0
48	DO	728	0	760	29	0
49	BP	681	0	697	50	0
49	DP	677	0	686	36	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
50	BQ	823	0	891	32	0
50	DQ	823	0	891	35	0
51	BR	555	0	618	24	0
51	DR	555	0	618	30	0
52	BS	661	0	675	36	0
52	DS	646	0	644	34	0
53	BT	728	0	798	36	0
53	DT	731	0	807	27	0
54	BU	199	0	208	7	0
54	DU	199	0	208	9	0
55	BV	148	0	76	3	0
55	DV	123	0	66	1	0
56	BW	1631	0	839	25	0
56	BY	1581	0	805	24	0
56	DW	1631	0	839	33	0
56	DY	1561	0	796	33	0
57	BZ	5663	0	5747	265	17
57	DZ	5682	0	5766	236	4
58	BX	93	0	85	14	0
58	DX	93	0	85	15	0
59	A0	5	0	0	0	0
59	A2	1	0	0	0	0
59	A5	1	0	0	0	0
59	A6	2	0	0	0	0
59	A7	4	0	0	0	0
59	A8	1	0	0	0	0
59	A9	1	0	0	0	0
59	AA	821	0	0	0	0
59	AB	23	0	0	0	0
59	AD	12	0	0	0	0
59	AE	5	0	0	0	0
59	AF	8	0	0	0	0
59	AG	2	0	0	0	0
59	AH	1	0	0	0	0
59	AN	3	0	0	0	0
59	AO	1	0	0	0	0
59	AP	4	0	0	0	0
59	AQ	3	0	0	0	0
59	AR	2	0	0	0	0
59	AU	3	0	0	0	0
59	AV	6	0	0	0	0
59	AW	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	AX	1	0	0	0	0
59	AY	1	0	0	0	0
59	AZ	2	0	0	0	0
59	BA	215	0	0	0	0
59	BB	1	0	0	0	0
59	BD	1	0	0	0	0
59	BE	1	0	0	0	0
59	BF	1	0	0	0	0
59	BK	1	0	0	0	0
59	BL	2	0	0	0	0
59	BM	1	0	0	0	0
59	BN	2	0	0	0	0
59	BS	1	0	0	0	0
59	BT	1	0	0	0	0
59	BW	3	0	0	0	0
59	BZ	1	0	0	0	0
59	C0	1	0	0	0	0
59	C1	1	0	0	0	0
59	C3	1	0	0	0	0
59	C5	1	0	0	0	0
59	C7	1	0	0	0	0
59	C8	1	0	0	0	0
59	CA	664	0	0	0	0
59	CB	13	0	0	0	0
59	CD	4	0	0	0	0
59	CE	5	0	0	0	0
59	CF	4	0	0	0	0
59	CG	1	0	0	0	0
59	CN	1	0	0	0	0
59	CO	1	0	0	0	0
59	CP	1	0	0	0	0
59	CQ	4	0	0	0	0
59	CR	1	0	0	0	0
59	CU	1	0	0	0	0
59	CV	2	0	0	0	0
59	CW	1	0	0	0	0
59	CX	1	0	0	0	0
59	DA	171	0	0	0	0
59	DD	1	0	0	0	0
59	DE	2	0	0	0	0
59	DF	1	0	0	0	0
59	DJ	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
59	DK	1	0	0	0	0
59	DT	1	0	0	0	0
59	DW	3	0	0	0	0
59	DZ	2	0	0	0	0
60	A4	1	0	0	0	0
60	A5	1	0	0	0	0
60	A6	1	0	0	0	0
60	A9	1	0	0	0	0
60	AY	1	0	0	0	0
60	BN	1	0	0	0	0
60	C4	1	0	0	0	0
60	C5	1	0	0	0	0
60	C6	1	0	0	0	0
60	C9	1	0	0	0	0
60	CY	1	0	0	0	0
60	DN	1	0	0	0	0
61	BD	8	0	0	1	0
61	DD	8	0	0	2	0
62	BZ	28	0	12	5	0
62	DZ	28	0	12	7	0
63	A0	6	0	0	0	0
63	A1	2	0	0	0	0
63	A3	2	0	0	0	0
63	A5	3	0	0	0	0
63	A6	1	0	0	0	0
63	A7	2	0	0	1	0
63	A8	10	0	0	1	0
63	A9	1	0	0	0	0
63	AA	1413	0	0	66	0
63	AB	38	0	0	3	0
63	AD	10	0	0	2	0
63	AE	17	0	0	4	0
63	AF	11	0	0	1	0
63	AG	3	0	0	1	0
63	AH	1	0	0	0	0
63	AN	1	0	0	0	0
63	AO	3	0	0	0	0
63	AP	16	0	0	1	0
63	AQ	4	0	0	1	0
63	AR	2	0	0	0	0
63	AS	1	0	0	1	0
63	AT	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
63	AU	4	0	0	0	0
63	AV	1	0	0	0	0
63	AW	1	0	0	0	0
63	AX	3	0	0	0	0
63	AZ	1	0	0	0	0
63	BA	213	0	0	19	0
63	BD	1	0	0	0	0
63	BM	1	0	0	0	0
63	BO	1	0	0	0	0
63	BP	1	0	0	0	0
63	BV	1	0	0	0	0
63	BW	1	0	0	0	0
63	BZ	2	0	0	0	0
63	C0	4	0	0	0	0
63	C3	2	0	0	0	0
63	C5	1	0	0	0	0
63	C7	2	0	0	0	0
63	C8	4	0	0	0	0
63	CA	983	0	0	79	0
63	CB	9	0	0	1	0
63	CD	15	0	0	1	0
63	CE	9	0	0	1	0
63	CF	6	0	0	0	0
63	CN	1	0	0	0	0
63	CO	1	0	0	0	0
63	CP	11	0	0	2	0
63	CQ	2	0	0	1	0
63	CT	3	0	0	0	0
63	CU	2	0	0	0	0
63	CV	1	0	0	1	0
63	CW	1	0	0	0	0
63	CX	1	0	0	0	0
63	CY	2	0	0	1	0
63	DA	157	0	0	13	0
63	DD	1	0	0	0	0
63	DE	2	0	0	2	0
63	DH	1	0	0	0	0
63	DJ	1	0	0	0	0
63	DK	2	0	0	0	0
63	DL	1	0	0	0	0
63	DT	1	0	0	0	0
All	All	310038	0	209219	7350	21

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 15.

All (7350) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1891:G:H5''	3:AC:206:LYS:CG	1.32	1.59
1:AA:1891:G:C5'	3:AC:206:LYS:HD2	1.36	1.52
1:CA:2128:C:H5''	3:CC:219:MET:CE	1.36	1.51
1:CA:2132:U:C4	3:CC:6:LYS:HE3	1.51	1.41
1:AA:1891:G:C5'	3:AC:206:LYS:CD	2.01	1.37
1:CA:2121:G:C1'	3:CC:168:LYS:CD	1.99	1.33
1:CA:2121:G:C1'	3:CC:168:LYS:HD3	1.51	1.32
1:CA:2121:G:O2'	3:CC:168:LYS:HB3	1.17	1.32
1:CA:2121:G:C2'	3:CC:168:LYS:HD3	1.61	1.30
1:CA:2128:C:C5'	3:CC:219:MET:CE	2.08	1.30
1:AA:1891:G:C5'	3:AC:206:LYS:CG	2.12	1.27
1:CA:2128:C:C5'	3:CC:219:MET:HE3	1.66	1.25
1:CA:2178:C:OP1	3:CC:47:LYS:HG2	1.28	1.24
1:CA:2121:G:O2'	3:CC:168:LYS:CB	1.88	1.21
1:AA:1891:G:H5'	3:AC:206:LYS:CD	1.68	1.14
1:CA:1053:C:C4	1:CA:1054:A:H8	1.68	1.11
1:CA:1054:A:C2	1:CA:1055:G:C8	2.38	1.10
1:CA:1053:C:N3	1:CA:1054:A:C8	2.20	1.10
1:CA:2121:G:O2'	3:CC:168:LYS:HD3	1.50	1.10
1:AA:1891:G:H5''	3:AC:206:LYS:HG2	1.18	1.09
1:CA:1053:C:C4	1:CA:1054:A:C8	2.40	1.09
1:CA:2121:G:H1'	3:CC:168:LYS:CD	1.60	1.09
1:CA:2128:C:OP1	3:CC:219:MET:HE2	1.51	1.08
1:CA:2128:C:OP1	3:CC:219:MET:CE	2.01	1.06
1:AA:1891:G:H5''	3:AC:206:LYS:HG3	1.36	1.03
1:AA:2154:U:O2	3:AC:6:LYS:HB3	1.58	1.03
1:CA:2128:C:C5'	3:CC:219:MET:HE1	1.89	1.01
1:CA:1107:G:C8	1:CA:1107:G:H5''	1.96	1.00
1:CA:1798:U:OP2	4:CD:274:ARG:NH2	1.94	0.99
1:CA:2178:C:OP1	3:CC:47:LYS:CG	2.11	0.99
1:CA:2121:G:O2'	3:CC:168:LYS:CD	2.10	0.98
1:CA:2176:A:H4'	3:CC:45:HIS:CD2	1.98	0.98
20:CW:14:PRO:HG2	20:CW:78:GLU:HG2	1.47	0.97
1:CA:1689:A:H62	1:CA:1698:A:H2	1.08	0.97
1:CA:2120:G:H21	3:CC:168:LYS:CE	1.78	0.97
1:AA:9:U:H3	1:AA:2641:A:H2	1.10	0.97
1:CA:2132:U:C4	3:CC:6:LYS:CE	2.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2121:G:N2	3:CC:169:THR:OG1	1.99	0.96
1:CA:2120:G:N2	3:CC:168:LYS:HE2	1.79	0.96
1:AA:1405:A:H61	1:AA:1418:U:H3	1.13	0.96
1:AA:831:A:OP2	63:AA:3901:HOH:O	1.83	0.95
1:AA:1090:G:O2'	1:AA:1157:A:N6	1.99	0.95
1:CA:2121:G:H1'	3:CC:168:LYS:CG	1.97	0.94
45:DL:32:PHE:HB3	45:DL:84:LEU:HD11	1.50	0.93
1:CA:2132:U:C5	3:CC:6:LYS:HE3	2.04	0.93
1:CA:2176:A:O2'	3:CC:45:HIS:CG	2.21	0.93
7:AG:110:ALA:HB1	7:AG:140:ILE:HG23	1.51	0.93
33:C9:25:VAL:HB	33:C9:34:GLN:HB2	1.50	0.93
45:DL:36:VAL:HG23	58:DX:10:2QY:H89	1.51	0.92
1:CA:1332:G:OP1	63:CA:3701:HOH:O	1.86	0.92
1:CA:2206:G:H3'	1:CA:2207:G:C8	2.04	0.92
1:AA:2198:A:O2'	3:AC:45:HIS:CD2	2.23	0.92
1:AA:1891:G:C4'	3:AC:206:LYS:HD2	1.98	0.92
1:CA:2128:C:H5''	3:CC:219:MET:HE3	0.92	0.92
38:DE:100:VAL:O	38:DE:107:ARG:NH2	2.03	0.92
31:A7:24:THR:HG22	31:A7:27:GLY:H	1.35	0.92
34:DA:358:U:OP1	57:DZ:381:LYS:NZ	2.01	0.91
1:AA:1829:U:H5'	4:AD:259:THR:HG22	1.52	0.91
1:CA:993:G:OP1	18:CU:50:ARG:NH2	2.03	0.91
12:CO:25:LEU:HD11	12:CO:40:VAL:HG23	1.53	0.91
1:AA:1717:C:OP1	63:AA:3902:HOH:O	1.89	0.91
1:CA:1053:C:N3	1:CA:1054:A:H8	1.60	0.90
34:BA:368:U:OP1	57:BZ:351:ARG:NH1	2.04	0.90
1:AA:1087:C:H42	1:AA:1160:G:H1	1.17	0.90
1:CA:2120:G:H21	3:CC:168:LYS:HE3	1.37	0.89
1:AA:1891:G:H4'	3:AC:206:LYS:CD	2.01	0.89
34:BA:134:A:H61	49:BP:25:ARG:HH12	1.16	0.89
1:AA:1891:G:H5''	3:AC:206:LYS:CD	1.81	0.89
1:AA:2459:G:OP2	63:AA:3903:HOH:O	1.91	0.89
57:BZ:373:ASP:OD2	57:BZ:374:LEU:N	2.06	0.89
1:AA:1249:A:H2	1:AA:1287:A:H62	1.19	0.89
8:AH:86:GLU:HB2	8:AH:165:ALA:HB2	1.55	0.88
57:BZ:13:ARG:NH1	57:BZ:277:VAL:O	2.05	0.88
1:AA:2143:G:O4'	3:AC:168:LYS:NZ	2.06	0.88
4:AD:69:ARG:NH2	4:AD:128:GLY:O	2.06	0.88
1:CA:1054:A:C2	1:CA:1055:G:C5	2.62	0.88
34:BA:69:G:H1	34:BA:100:C:H42	1.18	0.88
6:CF:101:LEU:HD12	6:CF:102:PRO:HD2	1.54	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1736:A:H62	1:AA:1745:A:H2	1.22	0.88
3:AC:31:LYS:NZ	3:AC:181:PHE:O	2.06	0.88
15:AR:67:LEU:HD13	15:AR:76:VAL:HG21	1.54	0.88
1:CA:2121:G:O2'	3:CC:168:LYS:CG	2.21	0.87
1:CA:2287:A:H62	1:CA:2344:U:H3	1.20	0.87
3:CC:31:LYS:NZ	3:CC:181:PHE:O	2.06	0.87
1:CA:601:C:OP1	6:CF:108:LYS:NZ	2.08	0.87
1:AA:1118:C:N4	1:AA:1145:G:O6	2.08	0.87
1:CA:1153:C:OP1	18:CU:92:ARG:NH1	2.06	0.87
1:AA:1891:G:C4'	3:AC:206:LYS:CD	2.51	0.87
4:CD:238:GLY:O	63:CD:401:HOH:O	1.92	0.87
1:AA:2143:G:N2	3:AC:169:THR:OG1	2.09	0.86
36:BC:70:VAL:HG22	36:BC:72:LYS:H	1.39	0.86
45:BL:49:ASN:ND2	45:BL:92:ASP:OD2	2.08	0.86
1:CA:2227:A:OP2	63:CA:3703:HOH:O	1.93	0.86
51:DR:53:ARG:HG3	51:DR:63:GLN:HE21	1.39	0.86
3:AC:52:PRO:HG2	3:AC:53:ARG:HD3	1.57	0.86
6:CF:185:ASP:OD1	6:CF:188:ARG:NH1	2.08	0.86
34:BA:864:A:OP1	63:BA:1901:HOH:O	1.94	0.86
34:BA:1221:G:OP1	34:BA:1320:C:N4	2.07	0.86
47:BN:51:GLY:O	47:BN:53:LEU:N	2.08	0.86
1:CA:2121:G:C4'	3:CC:168:LYS:HD3	1.98	0.86
34:BA:358:U:OP1	57:BZ:381:LYS:NZ	2.09	0.86
34:BA:559:A:OP1	38:BE:126:ARG:NH2	2.08	0.86
3:CC:52:PRO:HG2	3:CC:53:ARG:HD3	1.57	0.86
34:DA:1004:A:H62	34:DA:1037:C:H2'	1.39	0.86
1:CA:2788:C:OP1	5:CE:61:ARG:NH2	2.08	0.85
1:AA:1105:G:H1	1:AA:1125:C:H42	1.20	0.85
1:AA:1891:G:C4'	3:AC:206:LYS:HG3	2.07	0.85
1:CA:1054:A:H2'	1:CA:1054:A:N3	1.90	0.85
1:CA:1456:G:OP2	63:CA:3702:HOH:O	1.92	0.85
1:AA:1094:A:OP2	1:AA:1155:C:N4	2.10	0.85
1:CA:2121:G:HO2'	3:CC:168:LYS:HB3	0.98	0.85
56:DY:7:A:H61	56:DY:66:U:H3	1.23	0.85
34:DA:677:U:H3	34:DA:713:G:H22	1.22	0.85
1:AA:2601:A:OP1	63:AA:3901:HOH:O	1.94	0.85
1:CA:2365:G:N7	32:C8:39:LYS:NZ	2.25	0.85
36:DC:7:PRO:HG3	36:DC:201:TYR:HE2	1.42	0.84
1:AA:2297:C:OP2	30:A6:6:ARG:NH1	2.10	0.84
1:CA:1106:G:C2	1:CA:1107:G:C8	2.64	0.84
1:AA:1151:U:H2'	1:AA:1152:G:H8	1.39	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:656:A:OP1	13:AP:65:ARG:NH1	2.11	0.84
1:AA:1405:A:N6	1:AA:1418:U:H3	1.75	0.84
1:AA:989:G:O6	63:AA:3905:HOH:O	1.95	0.84
34:BA:501:C:OP1	45:BL:117:ARG:NH2	2.10	0.84
1:CA:1054:A:C2	1:CA:1055:G:N7	2.46	0.84
1:AA:1151:U:H2'	1:AA:1152:G:C8	2.12	0.84
15:AR:36:THR:HG22	15:AR:37:THR:H	1.41	0.84
35:DB:104:ASN:HB3	35:DB:108:ILE:HD11	1.60	0.84
57:BZ:115:GLU:H	57:BZ:156:ARG:HH12	1.24	0.84
1:CA:1268:A:OP1	63:CA:3704:HOH:O	1.95	0.84
1:AA:1108:G:H1	1:AA:1122:C:H42	1.25	0.84
22:AY:54:LYS:HA	22:AY:56:PRO:HD3	1.60	0.84
41:BH:86:ILE:HG21	41:BH:133:LEU:HD13	1.58	0.84
1:AA:11:G:H2'	1:AA:12:U:H5''	1.58	0.83
1:CA:1798:U:H5'	4:CD:259:THR:HG22	1.58	0.83
1:AA:778:C:OP1	63:AA:3904:HOH:O	1.94	0.83
34:DA:1132:C:H42	34:DA:1142:G:H1	1.21	0.83
1:AA:1891:G:C5'	3:AC:206:LYS:HG3	1.98	0.82
1:AA:2825:C:H5'	29:A5:29:THR:HG21	1.61	0.82
1:CA:289:A:N6	1:CA:351:G:O2'	2.11	0.82
34:BA:148:G:H1	34:BA:174:C:H42	1.27	0.82
1:CA:2823:A:OP1	5:CE:159:HIS:NE2	2.11	0.82
2:CB:22:U:H3	2:CB:61:G:H1	1.26	0.82
22:AY:15:VAL:HG21	22:AY:42:VAL:HG11	1.61	0.82
34:BA:12:U:O4	63:BA:1902:HOH:O	1.97	0.82
1:CA:847:U:O4	1:CA:933:A:N6	2.12	0.82
1:CA:1603:A:OP1	63:CA:3705:HOH:O	1.97	0.82
1:CA:300:A:OP1	22:CY:86:ARG:NH2	2.13	0.82
1:AA:422:U:O2'	1:AA:423:G:N7	2.13	0.82
3:AC:54:ARG:NH2	3:AC:56:ASP:HB3	1.95	0.82
22:AY:92:ASN:H	22:AY:92:ASN:HD22	1.27	0.82
1:CA:652(B):A:H61	1:CA:655:A:H1'	1.42	0.82
1:AA:1055:A:OP2	11:AN:37:LYS:NZ	2.13	0.82
34:DA:922:G:H4'	38:DE:20:GLN:HA	1.62	0.82
37:DD:100:ARG:HH11	37:DD:137:SER:HB3	1.45	0.82
35:BB:16:HIS:HB2	35:BB:204:ASN:HB3	1.62	0.82
38:DE:43:LEU:HD22	38:DE:136:MET:HG3	1.62	0.82
57:BZ:-66:MET:N	57:BZ:-46:VAL:O	2.13	0.81
1:CA:1376:C:OP2	63:CA:3706:HOH:O	1.97	0.81
3:CC:54:ARG:NH2	3:CC:56:ASP:HB3	1.95	0.81
1:AA:1111:U:O2	1:AA:1119:A:N6	2.12	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1935:A:H4'	1:AA:1936:C:H5''	1.62	0.81
11:AN:12:ARG:NH1	11:AN:50:ASP:OD2	2.13	0.81
57:BZ:380:LEU:HD21	57:BZ:389:LEU:HD21	1.62	0.81
11:CN:20:GLY:HA2	11:CN:61:ARG:HE	1.45	0.81
34:DA:656:C:O2'	48:DO:28:GLN:NE2	2.12	0.81
35:DB:69:LEU:HB3	35:DB:162:ILE:HG22	1.60	0.81
1:AA:1891:G:H5'	3:AC:206:LYS:HD2	0.81	0.81
34:BA:977:A:HO2'	34:BA:981:U:H3	1.26	0.81
1:CA:1076:C:H2'	1:CA:1077:A:H8	1.46	0.81
1:AA:1036:A:OP2	63:AA:3906:HOH:O	1.97	0.81
13:AP:38:GLN:HG2	13:AP:45:LEU:HD23	1.61	0.81
45:BL:80:HIS:CE1	58:BX:6:2R1:H53	1.99	0.81
1:CA:1053:C:H6	1:CA:1053:C:C5'	1.94	0.81
1:AA:95:G:OP1	26:A2:46:GLN:NE2	2.13	0.81
1:CA:1019:U:H3	1:CA:1142(A):A:H62	1.28	0.81
22:CY:94:LYS:NZ	63:CY:601:HOH:O	2.13	0.81
57:BZ:169:GLY:O	57:BZ:173:THR:OG1	1.99	0.80
1:CA:2110:G:H1	1:CA:2179:C:H42	1.29	0.80
49:BP:55:ARG:HH11	49:BP:55:ARG:HA	1.47	0.80
47:BN:48:ALA:HB2	47:BN:53:LEU:HD12	1.61	0.80
1:CA:1053:C:H6	1:CA:1053:C:H5'	1.45	0.80
1:CA:2296:U:OP2	16:CS:9:ARG:NH2	2.15	0.80
20:CW:29:LEU:HD21	20:CW:33:ARG:HH21	1.46	0.80
34:DA:1119:C:OP1	42:DI:83:ARG:NH2	2.14	0.80
53:DT:10:LEU:HB3	53:DT:12:ALA:H	1.46	0.80
1:AA:354:A:H2	1:AA:1255:A:H2'	1.47	0.80
1:AA:1001:G:OP2	14:AQ:14:ARG:NH2	2.13	0.80
34:BA:1352:C:OP1	54:BU:3:LYS:NZ	2.13	0.80
57:DZ:21:ILE:HD11	57:DZ:117:GLN:HE22	1.46	0.80
12:AO:49:ARG:NH2	34:BA:1423:G:OP1	2.15	0.80
57:BZ:499:ARG:HB2	57:BZ:506:GLN:HB3	1.61	0.80
35:BB:88:ALA:HB2	35:BB:219:VAL:HG13	1.64	0.80
57:BZ:13:ARG:HE	57:BZ:277:VAL:HA	1.47	0.80
1:CA:2120:G:N2	3:CC:168:LYS:CE	2.41	0.80
1:CA:2128:C:OP1	3:CC:219:MET:HE1	1.81	0.80
34:DA:1238:A:OP2	63:DA:1801:HOH:O	2.00	0.79
34:BA:395:C:O3'	57:BZ:349:LYS:NZ	2.14	0.79
1:CA:1648:C:OP1	63:CA:3707:HOH:O	2.00	0.79
5:CE:119:ARG:HD3	5:CE:120:TRP:NE1	1.97	0.79
30:C6:23:THR:OG1	30:C6:24:GLU:N	2.14	0.79
34:BA:656:C:O2'	48:BO:28:GLN:NE2	2.15	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:179:ARG:NH1	36:BC:206:GLU:OE2	2.16	0.79
50:DQ:59:ILE:HG22	50:DQ:73:VAL:HA	1.62	0.79
57:DZ:13:ARG:HH12	57:DZ:282:SER:HB3	1.47	0.79
23:AZ:157:LEU:HD11	23:AZ:163:LEU:HD13	1.63	0.79
34:BA:673:G:H2'	34:BA:674:G:C8	2.17	0.79
34:BA:1118:C:OP1	42:BI:9:ARG:NH1	2.15	0.79
4:AD:101:GLU:OE1	4:AD:103:ARG:NH1	2.15	0.79
32:A8:62:LEU:HB3	32:A8:65:GLU:HG2	1.63	0.79
57:DZ:165:GLN:HE21	57:DZ:260:LEU:H	1.30	0.79
1:AA:1873:G:O2'	4:AD:253:GLN:NE2	2.15	0.79
15:AR:33:ARG:NH1	15:AR:115:GLU:OE2	2.16	0.79
57:BZ:495:GLY:HA3	57:BZ:510:VAL:HG12	1.64	0.79
8:AH:7:LEU:HD12	8:AH:8:PRO:HD2	1.65	0.79
34:BA:689:C:HO2'	34:BA:705:U:HO2'	1.30	0.79
34:BA:1502:A:H2	34:BA:1505:G:H1	1.30	0.79
1:AA:709:G:OP1	63:AA:3907:HOH:O	2.01	0.79
1:AA:2101:U:OP1	25:A1:21:ARG:NH2	2.16	0.79
1:AA:2399:U:OP1	24:A0:55:ARG:NH2	2.16	0.79
1:CA:1022:G:H22	1:CA:1142(A):A:H2	1.26	0.79
1:CA:1053:C:H2'	1:CA:1054:A:C4'	2.13	0.79
1:CA:2177:C:H4'	3:CC:46:ALA:O	1.82	0.79
45:DL:57:LYS:HG3	45:DL:67:THR:HG22	1.64	0.79
46:DM:25:ILE:HG23	46:DM:29:ARG:HB3	1.65	0.79
23:CZ:110:GLY:HA3	23:CZ:174:VAL:HG11	1.65	0.78
34:BA:1369:C:H2'	34:BA:1370:G:C8	2.18	0.78
1:CA:1300:U:H4'	1:CA:1301:A:H5'	1.64	0.78
14:CQ:38:GLU:OE2	14:CQ:128:LYS:N	2.15	0.78
3:CC:20:VAL:O	3:CC:21:TYR:HB2	1.83	0.78
12:AO:35:VAL:HG21	12:AO:69:ILE:HD12	1.65	0.78
27:A3:8:LEU:HD13	27:A3:31:LEU:HD23	1.66	0.78
41:BH:114:THR:OG1	41:BH:117:GLY:O	2.00	0.78
1:CA:1053:C:N4	1:CA:1107:G:C6	2.51	0.78
30:C6:10:LEU:HD23	30:C6:22:ALA:HB2	1.64	0.78
1:AA:237:G:OP1	63:AA:3908:HOH:O	2.01	0.78
57:BZ:126:GLU:OE2	57:BZ:132:ARG:NH2	2.16	0.78
17:CT:56:GLY:O	17:CT:59:THR:HG22	1.84	0.78
34:DA:613:C:N4	34:DA:627:G:O6	2.13	0.78
34:DA:878:G:H5'	41:DH:89:PRO:HG2	1.65	0.78
1:CA:2285:C:OP2	30:C6:6:ARG:NH1	2.17	0.78
34:DA:728:A:H2'	34:DA:729:A:H8	1.48	0.78
39:DF:91:VAL:HG11	51:DR:72:ARG:HH12	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CQ:140:ALA:HB1	23:CZ:74:VAL:HG21	1.66	0.78
57:BZ:546:ILE:HG23	57:BZ:590:ILE:HG13	1.63	0.78
1:AA:1356:G:OP2	31:A7:9:ARG:NH1	2.17	0.78
13:AP:63:PRO:HD3	32:A8:27:THR:HG22	1.66	0.78
1:CA:1310:G:OP2	31:C7:9:ARG:NH1	2.16	0.78
53:DT:43:LEU:O	53:DT:47:GLY:N	2.16	0.78
20:AW:14:PRO:HG2	20:AW:78:GLU:HG2	1.67	0.77
1:CA:1054:A:C2	1:CA:1055:G:C4	2.72	0.77
34:BA:964:A:OP1	63:BA:1903:HOH:O	2.03	0.77
56:DW:9:A:O2'	56:DW:10:G:N7	2.18	0.77
14:AQ:111:GLU:OE1	14:AQ:133:ARG:NH2	2.16	0.77
15:AR:59:ASP:OD1	15:AR:59:ASP:N	2.14	0.77
17:AT:127:ALA:O	17:AT:129:ARG:N	2.18	0.77
36:BC:116:VAL:HG21	36:BC:202:ILE:HD11	1.66	0.77
1:CA:2121:G:H1'	3:CC:168:LYS:HG2	1.67	0.77
19:CV:59:ALA:HB2	19:CV:96:ILE:HD13	1.67	0.77
48:BO:3:ILE:HG21	48:BO:34:LEU:HD21	1.65	0.77
13:CP:38:GLN:HG2	13:CP:45:LEU:H	1.47	0.77
20:CW:12:ILE:HD12	20:CW:42:ARG:HH11	1.48	0.77
35:DB:77:ALA:HB2	35:DB:211:ILE:HD13	1.65	0.77
1:AA:1231:G:OP2	63:AA:3906:HOH:O	2.01	0.77
12:AO:18:LYS:HB2	12:AO:45:GLU:HB2	1.64	0.77
1:CA:833:U:O2	13:CP:55:ARG:NH2	2.18	0.77
34:DA:522:C:H41	45:DL:53:ARG:HH22	1.29	0.77
35:BB:111:ARG:HG2	35:BB:111:ARG:HH11	1.49	0.77
38:BE:102:ALA:HB1	38:BE:106:PRO:HB2	1.66	0.77
56:BW:73:A:H5'	56:BW:74:C:H5'	1.67	0.77
57:BZ:78:ARG:HH11	57:BZ:78:ARG:CG	1.97	0.77
5:AE:179:GLU:HB3	5:AE:181:LEU:HD22	1.65	0.77
1:CA:370:G:N7	63:CA:3744:HOH:O	2.18	0.77
1:CA:1053:C:H2'	1:CA:1054:A:C5'	2.15	0.77
13:AP:126:VAL:HG12	13:AP:148:LEU:HD22	1.65	0.77
27:C3:6:VAL:HG12	27:C3:56:VAL:HG22	1.67	0.77
3:AC:20:VAL:O	3:AC:21:TYR:HB2	1.83	0.76
3:AC:24:ASP:O	3:AC:28:ARG:HG3	1.85	0.76
1:AA:1846:A:O3'	63:AA:3909:HOH:O	2.01	0.76
1:AA:2564:U:OP2	63:AA:3910:HOH:O	2.02	0.76
34:DA:644:G:H4'	41:DH:92:ARG:HH21	1.49	0.76
38:DE:100:VAL:HG22	38:DE:118:ILE:HG22	1.68	0.76
57:DZ:117:GLN:O	57:DZ:121:VAL:N	2.18	0.76
3:AC:27:ALA:O	3:AC:30:VAL:HG22	1.85	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BB:27:LYS:NZ	35:BB:193:ASP:OD1	2.17	0.76
3:CC:27:ALA:O	3:CC:30:VAL:HG22	1.85	0.76
34:DA:664:G:H22	34:DA:741:G:H1	1.34	0.76
38:BE:33:VAL:HG21	38:BE:109:ILE:HA	1.68	0.76
34:DA:1251:A:O2'	34:DA:1369:C:O2'	2.00	0.76
57:DZ:148:LEU:O	57:DZ:152:THR:OG1	2.04	0.76
1:CA:397:G:N7	63:CA:3743:HOH:O	2.17	0.76
1:CA:1780:A:OP1	63:CA:3708:HOH:O	2.02	0.76
1:CA:1054:A:N1	1:CA:1055:G:C5	2.54	0.76
17:AT:56:GLY:O	17:AT:59:THR:HG22	1.86	0.76
1:CA:1059:G:H5'	1:CA:1060:U:H2'	1.67	0.76
1:CA:1107:G:C2	1:CA:1108:U:C2	2.73	0.76
1:CA:2128:C:H5'	3:CC:219:MET:CE	2.12	0.76
1:CA:2494:G:N7	63:CA:3750:HOH:O	2.19	0.76
2:CB:16:G:H1	2:CB:68:C:H42	1.33	0.76
34:DA:1133:G:H2'	34:DA:1134:G:H8	1.49	0.76
34:DA:1069:C:O2'	34:DA:1192:C:O2	2.03	0.76
34:BA:977:A:O2'	34:BA:981:U:N3	2.15	0.76
7:CG:31:VAL:O	7:CG:33:ARG:NH1	2.19	0.76
7:AG:105:LYS:NZ	28:A4:25:TYR:O	2.19	0.76
1:CA:875:G:H1	1:CA:902:C:H42	1.31	0.76
1:CA:1313:U:OP1	63:CA:3711:HOH:O	2.04	0.76
28:C4:40:HIS:HB3	28:C4:43:TYR:HB2	1.66	0.76
43:DJ:62:HIS:HB3	47:DN:59:ALA:HB3	1.69	0.76
34:BA:984:C:N4	34:BA:1221:G:O6	2.20	0.75
3:CC:24:ASP:O	3:CC:28:ARG:HG3	1.85	0.75
57:DZ:129:LYS:NZ	57:DZ:129:LYS:HB3	2.00	0.75
22:AY:23:ARG:HG2	22:AY:42:VAL:HG22	1.67	0.75
57:BZ:169:GLY:HA3	57:BZ:174:PHE:HA	1.66	0.75
1:CA:491:G:H2'	1:CA:492:A:C8	2.21	0.75
1:AA:206:G:OP2	63:AA:3911:HOH:O	2.03	0.75
1:CA:526:A:OP1	63:CA:3709:HOH:O	2.03	0.75
5:CE:47:VAL:HG11	5:CE:86:PRO:HD2	1.68	0.75
34:BA:36:C:O2'	45:BL:117:ARG:NH2	2.18	0.75
50:BQ:59:ILE:HG22	50:BQ:73:VAL:HA	1.69	0.75
7:CG:161:THR:HG22	7:CG:163:ALA:H	1.49	0.75
38:DE:74:GLY:HA3	38:DE:116:THR:HG22	1.68	0.75
42:DI:128:ARG:NH2	56:DW:33:U:OP2	2.18	0.75
52:BS:11:VAL:HG11	52:BS:16:LEU:HB2	1.67	0.75
57:BZ:-55:LEU:HD22	57:BZ:-48:VAL:HG21	1.67	0.75
6:CF:101:LEU:O	6:CF:106:ARG:NH1	2.17	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:161:THR:HG23	7:AG:163:ALA:H	1.50	0.75
41:BH:43:GLY:O	41:BH:64:LYS:NZ	2.18	0.75
57:BZ:10:LYS:O	57:BZ:12:LEU:N	2.19	0.75
1:CA:674:G:O2'	6:CF:74:ARG:HD3	1.87	0.75
6:CF:154:VAL:HB	6:CF:173:VAL:HG22	1.68	0.75
23:CZ:104:PHE:HB3	23:CZ:141:VAL:HG11	1.68	0.75
1:AA:2840:G:N7	63:AA:3941:HOH:O	2.20	0.75
1:CA:2177:C:O2	3:CC:171:ALA:CB	2.35	0.75
1:CA:2498:C:OP2	63:CA:3710:HOH:O	2.04	0.75
28:C4:36:CYS:SG	28:C4:37:SER:N	2.60	0.75
36:DC:150:LYS:HB3	36:DC:201:TYR:HB2	1.67	0.75
8:CH:106:THR:HG22	8:CH:112:PRO:HB3	1.67	0.75
1:AA:894:U:OP2	63:AA:3912:HOH:O	2.03	0.75
57:DZ:129:LYS:HE3	57:DZ:517:LEU:HG	1.69	0.75
2:CB:27:C:H5''	16:CS:54:LEU:HD11	1.69	0.74
8:AH:98:LEU:HD22	8:AH:125:VAL:HG23	1.68	0.74
34:BA:160:A:N6	34:BA:345:C:OP2	2.18	0.74
1:CA:2313:C:H4'	7:CG:91:ARG:HG3	1.69	0.74
35:DB:187:LEU:HA	35:DB:201:ILE:HB	1.70	0.74
1:AA:1891:G:C4'	3:AC:206:LYS:CG	2.65	0.74
22:AY:92:ASN:HB2	22:AY:94:LYS:H	1.51	0.74
1:CA:309:G:N3	1:CA:329:G:O2'	2.21	0.74
34:DA:115:G:OP1	63:DA:1803:HOH:O	2.05	0.74
34:DA:581:G:OP2	63:DA:1802:HOH:O	2.05	0.74
34:BA:766:A:OP2	63:BA:1906:HOH:O	2.06	0.74
36:BC:19:GLU:O	36:BC:40:ARG:NH2	2.20	0.74
1:CA:1054:A:N3	1:CA:1055:G:C8	2.55	0.74
1:CA:2319:G:H22	16:CS:3:ARG:HH21	1.35	0.74
16:CS:100:ALA:HA	16:CS:103:GLU:HB2	1.68	0.74
34:DA:1303:C:OP1	63:DA:1804:HOH:O	2.06	0.74
56:DW:23:A:H2'	56:DW:24:G:C8	2.23	0.74
34:BA:1069:C:OP2	63:BA:1905:HOH:O	2.06	0.74
37:BD:25:ARG:NH1	37:BD:30:LYS:O	2.20	0.74
51:BR:47:THR:O	51:BR:49:LYS:N	2.18	0.74
1:AA:2055:A:OP1	63:AA:3914:HOH:O	2.05	0.74
3:CC:48:LEU:HB3	3:CC:50:ILE:HD12	1.70	0.74
36:DC:50:ALA:HB1	36:DC:70:VAL:HG21	1.68	0.74
1:AA:1549:U:H2'	1:AA:1550:C:C6	2.23	0.74
23:CZ:69:THR:HG22	23:CZ:90:VAL:HG22	1.70	0.74
1:AA:542:C:OP1	29:A5:16:ARG:NH2	2.21	0.74
1:AA:2266:C:OP2	63:AA:3913:HOH:O	2.04	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:122:ASP:OD1	4:AD:122:ASP:N	2.19	0.74
23:AZ:45:ASP:OD1	23:AZ:49:ARG:NH1	2.20	0.74
1:AA:1553:A:O2'	1:AA:1554:A:O4'	2.06	0.74
34:BA:134:A:N6	49:BP:25:ARG:HH12	1.84	0.74
1:CA:10:G:O2'	1:CA:2801(A):A:N7	2.21	0.74
1:CA:2128:C:H5'	3:CC:219:MET:HE1	1.68	0.74
1:CA:2150:U:H2'	1:CA:2151:G:H8	1.52	0.74
30:C6:26:ASN:O	30:C6:28:ARG:N	2.20	0.74
34:BA:1303:C:OP1	63:BA:1904:HOH:O	2.05	0.73
1:CA:2137:C:H42	1:CA:2154:G:H1	1.36	0.73
34:DA:396:G:OP1	57:DZ:349:LYS:NZ	2.19	0.73
5:AE:29:GLY:HA3	63:AE:402:HOH:O	1.87	0.73
1:CA:2121:G:C4'	3:CC:168:LYS:CD	2.66	0.73
14:AQ:14:ARG:HG2	14:AQ:41:TRP:HH2	1.52	0.73
20:AW:18:ARG:NH1	20:AW:76:VAL:O	2.21	0.73
57:DZ:-63:ILE:HG12	57:DZ:-49:VAL:HG22	1.70	0.73
7:AG:131:TYR:HB3	7:AG:159:VAL:HG13	1.71	0.73
34:BA:975:A:H4'	34:BA:976:G:H5''	1.70	0.73
34:DA:1373:G:H5''	40:DG:36:LYS:HD2	1.70	0.73
18:CU:76:TYR:OH	18:CU:92:ARG:NH1	2.20	0.73
40:DG:113:GLU:HB2	40:DG:119:ARG:HG2	1.71	0.73
16:AS:31:SER:O	16:AS:97:ARG:NH2	2.20	0.73
34:BA:1399:C:H4'	34:BA:1400:C:H5''	1.69	0.73
16:CS:94:TYR:OH	16:CS:106:ARG:NH1	2.22	0.73
57:BZ:78:ARG:HH11	57:BZ:78:ARG:HG3	1.54	0.73
34:DA:736:C:H2'	34:DA:737:A:C8	2.24	0.73
39:DF:89:MET:HE2	51:DR:76:LEU:HD13	1.71	0.73
37:BD:178:VAL:O	37:BD:180:GLY:N	2.22	0.73
1:CA:2128:C:H5''	3:CC:219:MET:HE2	1.61	0.73
34:DA:35:G:O2'	45:DL:118:SER:O	2.06	0.73
34:BA:1318:A:H1'	52:BS:37:ARG:HH21	1.53	0.73
34:BA:1353:G:OP1	54:BU:10:ARG:NH1	2.21	0.73
1:CA:648:G:O2'	1:CA:2351:G:OP1	2.04	0.73
3:CC:55:SER:O	3:CC:57:GLN:N	2.22	0.73
7:CG:103:LEU:HD23	7:CG:106:LEU:HD22	1.70	0.73
34:DA:324:G:N7	63:DA:1813:HOH:O	2.22	0.73
47:DN:48:ALA:HB2	47:DN:53:LEU:HD12	1.71	0.73
1:AA:2443:U:OP2	63:AA:3916:HOH:O	2.07	0.72
28:A4:59:PHE:HB3	52:BS:67:VAL:HG21	1.69	0.72
1:CA:1430:C:H2'	1:CA:1431:U:C6	2.24	0.72
57:DZ:92:ILE:O	57:DZ:96:ARG:NH1	2.19	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1054:A:C2	1:CA:1055:G:N9	2.57	0.72
1:CA:2178:C:H4'	3:CC:47:LYS:NZ	2.04	0.72
1:CA:2287:A:N6	1:CA:2344:U:H3	1.87	0.72
42:BI:40:LEU:O	42:BI:42:ARG:N	2.22	0.72
1:AA:1020:C:O2	63:AA:3915:HOH:O	2.07	0.72
1:AA:1829:U:OP2	4:AD:274:ARG:NH2	2.22	0.72
57:BZ:125:ALA:HB1	57:BZ:132:ARG:NH1	2.04	0.72
4:CD:69:ARG:NH2	4:CD:128:GLY:O	2.23	0.72
42:DI:7:THR:OG1	42:DI:83:ARG:NH1	2.21	0.72
57:DZ:170:ARG:N	57:DZ:170:ARG:HH11	1.87	0.72
57:DZ:217:VAL:HG13	57:DZ:242:LEU:HD21	1.72	0.72
1:AA:2154:U:C2	3:AC:6:LYS:HB3	2.24	0.72
57:BZ:21:ILE:HD11	57:BZ:117:GLN:HE22	1.53	0.72
1:CA:2683:C:OP1	17:CT:53:ARG:NH2	2.22	0.72
44:DK:99:GLN:HE21	44:DK:105:VAL:HG21	1.55	0.72
1:AA:1809:U:H2'	1:AA:1815:A:N6	2.04	0.72
35:BB:55:PHE:HA	35:BB:58:ILE:HG13	1.70	0.72
1:CA:1419:A:OP2	63:CA:3712:HOH:O	2.06	0.72
1:CA:1932:A:OP2	63:CA:3713:HOH:O	2.07	0.72
57:BZ:388:THR:HG23	57:BZ:399:LEU:HD22	1.71	0.72
34:DA:674:G:H2'	34:DA:675:A:H8	1.53	0.72
57:BZ:417:THR:HA	57:BZ:418:LYS:HG2	1.72	0.72
23:CZ:24:LEU:HB2	23:CZ:41:LEU:HD22	1.72	0.72
36:DC:152:ILE:HB	36:DC:167:TRP:HB3	1.70	0.72
36:BC:172:ARG:NH2	36:BC:206:GLU:OE1	2.19	0.72
32:C8:33:ASN:HA	32:C8:36:LYS:HG3	1.71	0.72
35:DB:100:GLY:O	35:DB:104:ASN:N	2.21	0.72
57:DZ:181:LEU:HD23	57:DZ:182:ARG:HG2	1.71	0.72
48:BO:33:THR:HG21	48:BO:85:LEU:HD22	1.70	0.72
1:CA:491:G:H2'	1:CA:492:A:H8	1.54	0.72
8:CH:24:VAL:HG13	8:CH:37:VAL:HG21	1.72	0.72
56:DY:19:G:N2	56:DY:56:C:N3	2.37	0.72
34:DA:460:G:N2	34:DA:471:G:OP2	2.22	0.71
34:DA:1244:C:O2	34:DA:1294:G:N2	2.22	0.71
1:AA:1485:A:OP1	63:AA:3917:HOH:O	2.07	0.71
10:AL:75:SER:HB2	10:AL:127:ILE:HD12	1.69	0.71
27:A3:3:ARG:NH1	27:A3:60:GLU:OE1	2.24	0.71
34:BA:560:U:H5'	34:BA:566:G:N2	2.05	0.71
57:BZ:171:GLU:O	57:BZ:173:THR:N	2.20	0.71
1:CA:2859:G:OP1	63:CA:3714:HOH:O	2.08	0.71
34:DA:1316:G:N2	34:DA:1319:A:OP2	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:A3:7:LYS:HG3	27:A3:34:GLU:HG2	1.72	0.71
1:CA:1107:G:N2	1:CA:1108:U:O2	2.23	0.71
24:C0:70:GLN:HE21	24:C0:72:ARG:HG3	1.54	0.71
49:DP:25:ARG:HH11	49:DP:25:ARG:HB2	1.53	0.71
1:AA:1100:A:N6	1:AA:1151:U:H3	1.88	0.71
1:AA:2299:A:H62	1:AA:2356:U:H3	1.38	0.71
57:BZ:69:VAL:HG12	57:BZ:327:PHE:HD1	1.56	0.71
34:DA:707:C:H2'	34:DA:708:C:C6	2.25	0.71
3:CC:51:ASP:HB3	3:CC:57:GLN:OE1	1.91	0.71
3:AC:48:LEU:HB3	3:AC:50:ILE:HD12	1.70	0.71
1:CA:848:G:H2'	1:CA:849:A:C8	2.26	0.71
1:CA:1271:G:OP2	63:CA:3707:HOH:O	2.08	0.71
1:AA:1221:G:H1'	1:AA:1222:A:H5'	1.73	0.71
35:BB:170:GLU:O	35:BB:174:VAL:HG23	1.90	0.71
1:CA:96:G:H4'	26:C2:48:HIS:CD2	2.25	0.71
1:CA:279:C:N3	1:CA:361:G:N2	2.38	0.71
1:CA:1054:A:H2	1:CA:1055:G:N9	1.88	0.71
1:CA:1277:G:N3	63:CA:3766:HOH:O	2.23	0.71
1:CA:2615:U:OP1	63:CA:3716:HOH:O	2.08	0.71
37:BD:98:GLU:OE1	37:BD:103:ASN:ND2	2.22	0.71
1:CA:2128:C:P	3:CC:219:MET:HE1	2.31	0.71
49:DP:18:ARG:HD3	49:DP:35:LYS:HD2	1.72	0.71
1:AA:1891:G:O3'	3:AC:206:LYS:HG3	1.90	0.71
34:BA:352:C:OP2	63:BA:1907:HOH:O	2.08	0.71
48:BO:18:PHE:O	48:BO:20:GLY:N	2.23	0.71
1:CA:890:A:H2'	1:CA:892:G:H8	1.54	0.71
14:CQ:14:ARG:HG2	14:CQ:41:TRP:HH2	1.55	0.71
34:DA:803:G:OP1	63:DA:1805:HOH:O	2.09	0.71
34:DA:1456:G:N1	53:DT:51:GLU:OE2	2.21	0.71
34:DA:1459:C:OP1	53:DT:31:SER:OG	2.09	0.71
1:AA:173:C:H2'	1:AA:174:U:H6	1.56	0.70
34:BA:1239:A:H4'	34:BA:1240:U:H5''	1.73	0.70
35:BB:48:MET:HA	35:BB:51:LEU:HD12	1.73	0.70
1:CA:2444:G:OP2	6:CF:68:LYS:HE2	1.90	0.70
9:CK:73:GLY:O	9:CK:75:GLN:N	2.23	0.70
34:DA:393:A:OP2	49:DP:12:LYS:NZ	2.23	0.70
1:AA:2143:G:H1'	3:AC:168:LYS:HE2	1.72	0.70
1:AA:2154:U:H3	3:AC:6:LYS:HB2	1.56	0.70
17:AT:16:ARG:NH2	17:AT:83:ILE:O	2.24	0.70
1:CA:1604:C:OP1	63:CA:3715:HOH:O	2.08	0.70
28:C4:16:CYS:HB3	28:C4:20:ASN:H	1.56	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DB:189:ASP:OD1	35:DB:189:ASP:N	2.21	0.70
1:AA:1189:A:OP1	11:AN:25:ARG:NH2	2.25	0.70
1:CA:2357:U:OP1	24:C0:20:ARG:NH1	2.25	0.70
34:DA:742:G:OP2	48:DO:35:ARG:NH2	2.24	0.70
3:AC:51:ASP:HB3	3:AC:57:GLN:OE1	1.91	0.70
4:AD:148:GLU:HB2	4:AD:151:LYS:HD2	1.73	0.70
57:BZ:495:GLY:N	57:BZ:510:VAL:O	2.21	0.70
1:CA:588:U:OP2	63:CA:3718:HOH:O	2.09	0.70
1:CA:1405:U:H2'	1:CA:1406:U:C6	2.26	0.70
20:CW:88:ARG:NH1	20:CW:94:ASP:OD2	2.23	0.70
21:CX:35:THR:HG22	21:CX:38:GLU:H	1.56	0.70
34:DA:1103:C:OP1	35:DB:96:ARG:NH2	2.25	0.70
38:DE:102:ALA:HB1	38:DE:106:PRO:HG2	1.71	0.70
57:DZ:-53:ASP:H	57:DZ:-50:GLN:NE2	1.89	0.70
34:BA:881:G:P	45:BL:12:ARG:HH22	2.14	0.70
34:DA:673:G:H2'	34:DA:674:G:C8	2.26	0.70
47:DN:21:TYR:OH	47:DN:23:ARG:NH2	2.25	0.70
1:AA:2803:A:H5''	1:AA:2804:C:H5'	1.73	0.70
12:AO:2:ILE:HB	12:AO:33:ALA:HB3	1.73	0.70
34:BA:572:A:OP1	63:BA:1908:HOH:O	2.10	0.70
56:BY:60:U:H5''	56:BY:61:C:H5	1.56	0.70
1:CA:229:A:H5''	1:CA:230:U:H5'	1.73	0.70
6:CF:53:THR:HG22	6:CF:56:GLU:HG3	1.72	0.70
24:C0:27:GLU:HG3	24:C0:68:GLU:HA	1.73	0.70
1:AA:1222:A:O2'	1:AA:1223:C:O4'	2.09	0.70
8:AH:113:VAL:HG11	8:AH:151:ILE:HD13	1.72	0.70
34:DA:407:G:H5''	37:DD:115:ARG:HD2	1.74	0.70
40:BG:156:TRP:HE3	40:BG:156:TRP:H	1.40	0.70
53:BT:26:ASN:ND2	53:BT:71:THR:OG1	2.25	0.70
6:CF:50:SER:HB2	6:CF:94:PRO:HD3	1.74	0.70
5:AE:76:ARG:HB2	5:AE:77:ILE:HD12	1.72	0.70
34:BA:976:G:N2	34:BA:1363:C:OP2	2.20	0.70
36:BC:11:ARG:NH2	36:BC:177:THR:O	2.25	0.70
37:BD:167:GLY:H	37:BD:168:ARG:HH12	1.38	0.70
57:BZ:73:PHE:CZ	57:BZ:78:ARG:NH1	2.60	0.70
1:CA:1141:U:H2'	11:CN:63:THR:HG21	1.74	0.70
2:CB:76:G:N7	63:CB:3101:HOH:O	2.23	0.70
17:CT:85:LYS:NZ	17:CT:87:ASP:OD2	2.24	0.70
41:DH:21:LYS:O	41:DH:65:TYR:OH	2.07	0.70
34:BA:560:U:H5'	34:BA:566:G:H22	1.56	0.69
34:BA:591:U:H2'	34:BA:592:G:H8	1.57	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:2:VAL:HG22	58:BX:3:004:HN	1.56	0.69
1:CA:643:A:N1	1:CA:2369:A:O2'	2.23	0.69
2:CB:66:A:H61	2:CB:109:C:H5'	1.55	0.69
6:CF:157:VAL:HB	6:CF:194:MET:HG2	1.73	0.69
34:DA:1307:U:OP1	46:DM:101:GLN:NE2	2.25	0.69
1:AA:1040:C:OP2	18:AU:54:LYS:NZ	2.25	0.69
1:AA:2764:G:H4'	8:AH:4:ILE:HD11	1.72	0.69
3:AC:55:SER:O	3:AC:57:GLN:N	2.22	0.69
57:BZ:125:ALA:HB1	57:BZ:132:ARG:HH11	1.57	0.69
1:CA:1024:G:OP2	63:CA:3717:HOH:O	2.08	0.69
5:CE:59:VAL:HG21	5:CE:74:PRO:HB3	1.74	0.69
34:DA:266:G:H5''	34:DA:268:C:H41	1.57	0.69
34:DA:1326:C:OP1	54:DU:12:LYS:NZ	2.24	0.69
1:CA:2238:G:N7	63:CA:3767:HOH:O	2.24	0.69
34:DA:17:U:H2'	34:DA:18:C:C6	2.27	0.69
36:DC:7:PRO:O	36:DC:11:ARG:NH1	2.25	0.69
9:AK:70:GLU:O	9:AK:72:ASP:N	2.25	0.69
1:CA:20:C:OP1	18:CU:22:LYS:NZ	2.23	0.69
1:CA:1053:C:H2'	1:CA:1054:A:O4'	1.90	0.69
1:CA:2611:U:C4	29:C5:3:LYS:HG2	2.28	0.69
34:DA:1346:A:H5''	42:DI:120:ARG:HH22	1.57	0.69
17:AT:29:ARG:NH2	17:AT:46:GLU:OE1	2.25	0.69
1:CA:528:A:O2'	1:CA:529:A:H5''	1.92	0.69
1:CA:2312:U:H5'	7:CG:88:ILE:HD11	1.73	0.69
1:AA:1834:A:O2'	4:AD:259:THR:HG21	1.93	0.69
3:AC:57:GLN:HG3	3:AC:57:GLN:O	1.93	0.69
34:BA:1338:G:H2'	34:BA:1339:A:C8	2.27	0.69
57:BZ:227:ILE:HG23	57:BZ:237:PRO:HG2	1.74	0.69
1:AA:483:A:OP1	63:AA:3918:HOH:O	2.10	0.69
3:AC:183:PRO:HG2	3:AC:184:GLU:OE2	1.93	0.69
38:DE:147:ASP:HA	38:DE:150:ARG:HD3	1.74	0.69
1:AA:1219:A:H1'	1:AA:1220:U:H5''	1.74	0.69
34:BA:193:C:O2'	53:BT:64:ASP:OD2	2.11	0.69
34:BA:835:U:OP1	51:BR:64:ARG:NH2	2.24	0.69
34:BA:995:C:N3	34:BA:1046:A:O2'	2.24	0.69
35:BB:200:ILE:HB	35:BB:202:PRO:HD3	1.74	0.69
36:BC:58:GLU:H	36:BC:65:ALA:HB3	1.58	0.69
1:CA:2305:A:H61	7:CG:43:LEU:HD13	1.57	0.69
3:CC:46:ALA:HB3	3:CC:172:ILE:HG22	1.75	0.69
26:C2:64:LEU:HD11	26:C2:68:ARG:HH21	1.57	0.69
27:C3:8:LEU:HD13	27:C3:31:LEU:HD22	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:404:U:H2'	34:DA:405:U:H6	1.58	0.69
34:DA:1203:C:H2'	34:DA:1204:A:H8	1.57	0.69
35:DB:178:ARG:NH1	35:DB:196:LEU:O	2.25	0.69
36:DC:65:ALA:HA	36:DC:100:ALA:HB3	1.72	0.69
44:DK:81:ASP:OD1	44:DK:81:ASP:N	2.24	0.69
13:AP:83:VAL:HG13	13:AP:112:LEU:HD21	1.74	0.69
1:AA:173:C:H2'	1:AA:174:U:C6	2.27	0.69
1:AA:535:C:OP1	63:AA:3919:HOH:O	2.10	0.69
1:AA:1261:G:OP2	18:AU:12:ARG:NH2	2.26	0.69
1:AA:1324:A:OP1	15:AR:36:THR:HG23	1.93	0.69
3:AC:46:ALA:HB3	3:AC:172:ILE:HG22	1.75	0.69
46:BM:84:ILE:HG13	46:BM:86:CYS:H	1.56	0.69
57:BZ:363:ARG:HG2	57:BZ:363:ARG:HH11	1.58	0.69
3:CC:30:VAL:HG23	3:CC:31:LYS:H	1.58	0.69
40:DG:59:LEU:HG	40:DG:63:LYS:HE3	1.75	0.69
1:AA:630:U:OP1	6:AF:102:PRO:HA	1.92	0.68
5:AE:127:ASP:OD2	63:AE:401:HOH:O	2.10	0.68
57:BZ:78:ARG:HE	57:BZ:357:ARG:CZ	2.06	0.68
34:DA:824:C:HO2'	41:DH:2:LEU:N	1.89	0.68
1:AA:483:A:H5''	63:AA:3918:HOH:O	1.92	0.68
36:BC:52:LEU:HD21	36:BC:55:VAL:HG23	1.75	0.68
3:CC:46:ALA:HB3	3:CC:172:ILE:CG2	2.23	0.68
8:CH:119:GLU:O	8:CH:140:LYS:NZ	2.26	0.68
34:DA:977:A:N6	34:DA:1224:G:OP1	2.27	0.68
1:AA:2227:G:H5'	1:AA:2228:G:N7	2.08	0.68
3:AC:25:GLU:HA	3:AC:28:ARG:HD2	1.74	0.68
34:BA:27:G:H2'	34:BA:28:G:C8	2.28	0.68
1:CA:244:A:C2	1:CA:255:A:C4	2.82	0.68
1:CA:1611:C:OP1	63:CA:3721:HOH:O	2.11	0.68
3:CC:183:PRO:HG2	3:CC:184:GLU:OE2	1.92	0.68
1:AA:1090:G:HO2'	1:AA:1157:A:N6	1.91	0.68
1:AA:1249:A:H2	1:AA:1287:A:N6	1.91	0.68
1:AA:2291:G:N7	24:A0:14:ARG:NH1	2.42	0.68
34:DA:1095:U:OP1	34:DA:1108:G:N2	2.24	0.68
1:AA:2122:G:H1	1:AA:2211:U:H3	1.40	0.68
3:AC:15:VAL:O	3:AC:16:ASP:HB3	1.92	0.68
6:AF:89:VAL:O	63:AF:401:HOH:O	2.11	0.68
28:A4:69:LYS:HE2	52:BS:20:LEU:HD13	1.75	0.68
34:BA:409:G:H1	34:BA:433:C:H42	1.42	0.68
34:BA:577:G:N7	63:BA:1918:HOH:O	2.26	0.68
42:BI:16:ARG:HB2	42:BI:64:THR:HB	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:-7:GLU:HG3	57:BZ:-6:ARG:HH12	1.59	0.68
1:CA:796:C:H2'	1:CA:797:C:C6	2.29	0.68
6:CF:184:TYR:O	6:CF:188:ARG:HB2	1.93	0.68
34:DA:1070:U:H2'	34:DA:1071:C:H6	1.59	0.68
35:DB:77:ALA:HA	35:DB:80:ILE:HG22	1.74	0.68
48:DO:63:ARG:HG2	48:DO:67:LEU:HD11	1.75	0.68
1:AA:1016:C:OP2	63:AA:3921:HOH:O	2.11	0.68
3:AC:30:VAL:HG23	3:AC:31:LYS:H	1.58	0.68
3:CC:15:VAL:O	3:CC:16:ASP:HB3	1.92	0.68
6:CF:53:THR:HG23	6:CF:55:GLY:H	1.58	0.68
7:CG:16:ARG:HH22	7:CG:28:VAL:HG12	1.59	0.68
45:DL:24:VAL:HG13	45:DL:98:TYR:HE1	1.58	0.68
53:DT:50:GLU:HB2	53:DT:99:LEU:HD12	1.75	0.68
57:DZ:264:LEU:HB2	62:DZ:703:GDP:C6	2.28	0.68
1:AA:2511:C:OP2	63:AA:3920:HOH:O	2.10	0.68
34:BA:1278:U:H5'	34:BA:1279:A:O4'	1.93	0.68
35:BB:115:LEU:HD13	35:BB:145:LEU:HB3	1.74	0.68
49:BP:67:THR:HG22	49:BP:69:THR:H	1.57	0.68
57:BZ:148:LEU:O	57:BZ:152:THR:OG1	2.11	0.68
1:CA:1309:G:H4'	31:C7:7:PRO:HB2	1.74	0.68
1:CA:1711:C:H42	1:CA:1747(A):G:H1	1.42	0.68
1:CA:1784:A:OP1	63:CA:3723:HOH:O	2.11	0.68
34:DA:382:A:H2'	34:DA:383:A:C8	2.29	0.68
35:DB:201:ILE:HG21	35:DB:214:ILE:HG21	1.76	0.68
17:AT:12:SER:HA	17:AT:15:VAL:CG2	2.24	0.68
34:BA:165:C:H2'	34:BA:166:G:C8	2.29	0.68
39:BF:42:GLU:OE1	39:BF:59:TYR:OH	2.09	0.68
3:CC:57:GLN:O	3:CC:57:GLN:HG3	1.93	0.68
19:CV:78:LYS:O	63:CV:301:HOH:O	2.11	0.68
1:AA:1100:A:H62	1:AA:1151:U:H3	1.42	0.68
1:AA:1232:G:H5''	19:AV:81:TYR:CE1	2.28	0.68
6:AF:185:ASP:HA	6:AF:188:ARG:HD3	1.76	0.68
34:BA:27:G:H2'	34:BA:28:G:H8	1.58	0.68
34:BA:409:G:H2'	34:BA:410:G:C8	2.29	0.68
34:BA:1189:C:H5'	36:BC:5:ILE:HD12	1.75	0.68
3:CC:30:VAL:HG23	3:CC:31:LYS:N	2.09	0.68
11:CN:22:THR:HB	11:CN:25:ARG:HG3	1.73	0.68
12:CO:7:TYR:CZ	12:CO:44:LYS:HG3	2.28	0.68
1:AA:2050:U:O4	63:AA:3914:HOH:O	2.10	0.68
3:AC:30:VAL:HG23	3:AC:31:LYS:N	2.09	0.68
57:BZ:168:ILE:HD11	57:BZ:178:ILE:HG13	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:405:PRO:HB2	57:BZ:406:GLU:HA	1.76	0.68
1:CA:131:G:OP1	63:CA:3722:HOH:O	2.11	0.68
1:CA:1518:U:H2'	1:CA:1519:G:O4'	1.94	0.68
34:DA:1148:U:O2'	42:DI:66:ARG:NH2	2.27	0.68
1:AA:2143:G:O4'	3:AC:168:LYS:CE	2.42	0.67
31:A7:34:ARG:NH1	31:A7:41:ARG:O	2.26	0.67
42:BI:11:LYS:O	42:BI:13:ALA:N	2.26	0.67
1:CA:1316:U:H2'	1:CA:1317:A:C8	2.30	0.67
34:DA:557:G:H2'	34:DA:558:G:C8	2.29	0.67
51:DR:38:GLU:HA	51:DR:41:LYS:HE3	1.76	0.67
57:DZ:357:ARG:NH1	57:DZ:373:ASP:OD1	2.27	0.67
3:AC:46:ALA:HB3	3:AC:172:ILE:CG2	2.23	0.67
34:BA:692:U:O2'	34:BA:694:A:N7	2.22	0.67
57:BZ:74:TRP:CD1	57:BZ:273:LEU:HB3	2.30	0.67
1:CA:399:G:OP2	63:CA:3725:HOH:O	2.12	0.67
1:CA:784:A:OP2	63:CA:3728:HOH:O	2.13	0.67
57:DZ:276:VAL:HG13	57:DZ:280:LEU:HD12	1.74	0.67
1:AA:1846:A:OP2	4:AD:54:ARG:NH2	2.28	0.67
34:BA:976:G:OP1	47:BN:32:SER:N	2.27	0.67
1:CA:1060:U:OP2	10:CL:75:SER:N	2.27	0.67
41:DH:5:PRO:O	41:DH:8:ASP:N	2.27	0.67
1:AA:1106:U:H4'	1:AA:1107:U:H5'	1.75	0.67
8:AH:41:MET:HE1	8:AH:65:HIS:HA	1.77	0.67
17:AT:118:ARG:HG3	17:AT:118:ARG:HH11	1.59	0.67
23:AZ:144:LEU:HD11	23:AZ:150:LEU:HD23	1.76	0.67
34:BA:881:G:OP2	45:BL:12:ARG:NH2	2.26	0.67
47:BN:6:LEU:HG	47:BN:23:ARG:HH22	1.59	0.67
48:BO:16:ALA:HB1	48:BO:21:ASP:HB3	1.77	0.67
35:DB:68:ILE:H	35:DB:90:MET:HG2	1.59	0.67
1:AA:2143:G:C1'	3:AC:168:LYS:HE2	2.24	0.67
7:AG:41:GLN:NE2	7:AG:154:GLY:O	2.27	0.67
34:BA:890:G:O2'	34:BA:906:G:O6	2.06	0.67
3:CC:25:GLU:HA	3:CC:28:ARG:HD2	1.74	0.67
41:DH:37:ARG:HH21	41:DH:38:ILE:HD11	1.60	0.67
46:DM:54:VAL:HA	46:DM:57:ARG:HB3	1.77	0.67
6:AF:101:LEU:HD12	6:AF:102:PRO:HD2	1.75	0.67
34:BA:1279:A:H4'	34:BA:1281:U:H5	1.59	0.67
34:BA:1305:G:H22	34:BA:1331:G:H1'	1.59	0.67
1:CA:1109:C:H2'	1:CA:1110:G:C8	2.29	0.67
3:CC:41:THR:O	3:CC:42:VAL:HB	1.94	0.67
4:CD:58:HIS:HD1	4:CD:59:LYS:N	1.93	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:975:A:H4'	34:DA:976:G:H5''	1.75	0.67
34:DA:1187:G:H2'	34:DA:1188:A:C8	2.28	0.67
35:DB:96:ARG:HD2	35:DB:98:LEU:HD22	1.76	0.67
41:DH:51:VAL:HG21	41:DH:60:ARG:HD2	1.77	0.67
1:AA:2658:C:OP2	1:AA:2745:G:O2'	2.12	0.67
23:AZ:152:ALA:HB3	23:AZ:167:PRO:HA	1.75	0.67
1:CA:839:U:H2'	1:CA:840:C:C6	2.29	0.67
1:CA:1047:G:O2'	1:CA:1109:C:N4	2.27	0.67
26:C2:16:LEU:O	26:C2:67:LYS:NZ	2.28	0.67
34:DA:355:C:O4'	34:DA:388:G:O2'	2.12	0.67
34:DA:1053:G:H4'	34:DA:1054:C:H5'	1.75	0.67
34:DA:1249:C:O2'	42:DI:73:GLN:NE2	2.27	0.67
37:DD:18:LYS:HB3	37:DD:20:TYR:HE2	1.60	0.67
1:AA:2735:G:H2'	1:AA:2736:C:C6	2.30	0.67
5:AE:93:VAL:HG13	63:AE:402:HOH:O	1.95	0.67
34:BA:1000:U:H2'	34:BA:1001:A:H8	1.59	0.67
1:CA:1503:U:H2'	1:CA:1504:C:C6	2.28	0.67
1:CA:1634:A:OP2	63:CA:3726:HOH:O	2.12	0.67
49:DP:52:ASP:O	49:DP:54:GLU:N	2.26	0.67
57:DZ:11:ARG:HB2	57:DZ:11:ARG:HH11	1.59	0.67
1:AA:2869:G:OP1	63:AA:3922:HOH:O	2.12	0.67
20:AW:13:SER:HB3	20:AW:16:LYS:HD2	1.76	0.67
1:CA:1057:A:H62	1:CA:1086:A:H2'	1.59	0.67
8:CH:143:GLN:NE2	8:CH:147:ASN:OD1	2.28	0.67
34:DA:1279:A:O2'	34:DA:1282:C:N4	2.27	0.67
57:DZ:202:PRO:HG2	57:DZ:205:TYR:HB2	1.76	0.67
1:AA:553:A:C8	1:AA:553:A:H3'	2.30	0.67
25:A1:18:ILE:HG12	25:A1:37:ILE:HD13	1.75	0.67
34:BA:598:U:H4'	41:BH:94:TYR:CD2	2.30	0.67
50:BQ:41:LYS:HZ3	50:BQ:92:ARG:HH21	1.41	0.67
53:BT:10:LEU:HB3	53:BT:12:ALA:H	1.59	0.67
53:BT:53:LEU:HA	53:BT:56:MET:HG2	1.76	0.67
57:BZ:363:ARG:HH11	57:BZ:363:ARG:CG	2.08	0.67
1:CA:987:G:O2'	1:CA:1000:A:N3	2.28	0.67
1:CA:1058:G:H2'	1:CA:1059:G:H5''	1.77	0.67
1:CA:1423:G:O6	63:CA:3719:HOH:O	2.10	0.67
1:CA:1762:A:N1	63:CA:3782:HOH:O	2.28	0.67
40:BG:48:LYS:O	40:BG:51:GLN:N	2.23	0.66
49:BP:5:ARG:NH2	49:BP:28:ARG:HA	2.10	0.66
1:CA:2178:C:O2	3:CC:169:THR:HG21	1.95	0.66
22:CY:90:LEU:HD22	22:CY:92:ASN:HD22	1.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:605:ILE:HA	57:DZ:648:PRO:HA	1.76	0.66
1:AA:720:C:H5''	6:AF:81:PRO:HD2	1.77	0.66
7:AG:11:TYR:HB2	7:AG:176:LEU:HD21	1.75	0.66
34:BA:1016:A:O2'	34:BA:1217:C:O2'	2.13	0.66
3:CC:31:LYS:NZ	3:CC:180:SER:O	2.28	0.66
4:CD:146:GLU:HB2	4:CD:189:CYS:HB3	1.77	0.66
8:CH:3:ARG:CZ	8:CH:4:ILE:H	2.08	0.66
34:DA:113:G:OP1	63:DA:1806:HOH:O	2.12	0.66
50:DQ:62:SER:OG	50:DQ:72:ARG:NH1	2.26	0.66
57:DZ:584:ILE:HA	57:DZ:587:SER:HB3	1.77	0.66
1:AA:1524:A:N6	1:AA:1562:U:O4	2.20	0.66
3:AC:31:LYS:NZ	3:AC:180:SER:O	2.28	0.66
15:AR:20:LEU:HD21	15:AR:40:LYS:HD3	1.75	0.66
1:CA:2453:A:N7	63:CA:3788:HOH:O	2.29	0.66
1:CA:2611:U:H6	1:CA:2611:U:H5'	1.60	0.66
15:CR:56:LYS:NZ	15:CR:90:ARG:O	2.28	0.66
23:CZ:183:LEU:O	23:CZ:185:GLU:N	2.29	0.66
34:DA:110:C:O2'	49:DP:25:ARG:O	2.14	0.66
1:CA:827:U:OP1	63:CA:3730:HOH:O	2.13	0.66
34:DA:596:C:O2	34:DA:644:G:N2	2.19	0.66
34:DA:692:U:O2'	34:DA:694:A:N7	2.29	0.66
42:DI:9:ARG:H	42:DI:79:LEU:HD23	1.61	0.66
1:AA:1405:A:N1	1:AA:1418:U:O4	2.29	0.66
3:AC:41:THR:O	3:AC:42:VAL:HB	1.94	0.66
37:BD:65:ARG:HG3	37:BD:70:ILE:HG22	1.77	0.66
57:BZ:28:THR:O	57:BZ:31:ARG:N	2.28	0.66
34:DA:1114:C:H42	34:DA:1186:G:H1	1.41	0.66
35:DB:22:LYS:HG2	35:DB:40:HIS:CE1	2.31	0.66
36:DC:122:GLU:O	36:DC:126:ARG:NH1	2.28	0.66
41:DH:79:VAL:HG12	41:DH:80:ILE:HG13	1.77	0.66
1:AA:1114:G:N2	1:AA:1141:A:O2'	2.29	0.66
3:AC:42:VAL:HG13	3:AC:43:GLU:N	2.10	0.66
34:BA:382:A:H2'	34:BA:383:A:C8	2.30	0.66
34:BA:933:G:O6	40:BG:3:ARG:NH2	2.29	0.66
34:BA:1381:U:H5'	40:BG:79:ARG:HH11	1.60	0.66
57:BZ:160:ARG:HD3	57:BZ:254:LYS:O	1.96	0.66
1:CA:881:G:H1	1:CA:895:U:H3	1.44	0.66
3:CC:42:VAL:HG13	3:CC:43:GLU:N	2.10	0.66
3:CC:176:VAL:HG11	3:CC:190:ILE:HD13	1.76	0.66
13:CP:118:GLY:O	13:CP:137:LYS:NZ	2.28	0.66
49:DP:43:LYS:HG2	49:DP:48:TRP:CD2	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:611:U:H2'	1:AA:612:C:C6	2.31	0.66
34:BA:903:G:OP1	63:BA:1910:HOH:O	2.13	0.66
39:BF:18:GLN:HA	39:BF:21:LEU:HD12	1.76	0.66
3:CC:65:LEU:HB3	3:CC:189:ASN:ND2	2.11	0.66
12:CO:64:ARG:HG2	12:CO:79:PHE:CG	2.31	0.66
15:CR:97:VAL:HG22	15:CR:114:VAL:HG22	1.77	0.66
37:DD:22:LYS:O	37:DD:113:SER:HB3	1.96	0.66
1:AA:1785:C:OP1	17:AT:96:ARG:NH1	2.27	0.66
1:AA:2143:G:O2'	3:AC:168:LYS:HD3	1.96	0.66
53:BT:56:MET:HA	53:BT:59:ALA:HB3	1.77	0.66
57:BZ:603:GLU:HB3	57:BZ:679:VAL:HG12	1.78	0.66
1:CA:1106:G:C6	1:CA:1107:G:N7	2.63	0.66
16:CS:88:ASP:OD1	16:CS:90:GLY:N	2.28	0.66
34:DA:278:G:OP2	50:DQ:41:LYS:NZ	2.28	0.66
34:DA:1050:G:N2	34:DA:1208:C:O2	2.18	0.66
1:AA:1087:C:N4	1:AA:1160:G:H1	1.91	0.66
1:AA:2007:G:OP2	63:AA:3924:HOH:O	2.13	0.66
17:AT:12:SER:HA	17:AT:15:VAL:HG23	1.77	0.66
43:BJ:17:ASP:OD1	43:BJ:70:ARG:NH1	2.28	0.66
56:BY:53:G:H1	56:BY:61:C:H42	1.42	0.66
1:CA:854:G:H2'	1:CA:855:G:H8	1.61	0.66
1:CA:1604:C:OP2	63:CA:3727:HOH:O	2.13	0.66
1:CA:1667:G:O2'	1:CA:1991:U:O4	2.14	0.66
14:CQ:57:HIS:HD2	14:CQ:117:ALA:HB2	1.60	0.66
30:C6:14:THR:OG1	30:C6:48:VAL:O	2.13	0.66
34:DA:649:G:H2'	34:DA:650:G:H8	1.60	0.66
34:DA:932:C:H2'	34:DA:933:G:H8	1.60	0.66
34:DA:1314:C:OP2	52:DS:4:SER:OG	2.12	0.66
57:DZ:357:ARG:HB2	57:DZ:364:GLU:HB3	1.78	0.66
34:BA:193:C:H2'	34:BA:194:C:C6	2.30	0.66
34:BA:193:C:H2'	34:BA:194:C:H6	1.60	0.66
34:BA:989:C:H1'	34:BA:1016:A:H2	1.60	0.66
1:CA:11:G:H2'	1:CA:12:U:H5''	1.77	0.66
1:CA:2165:G:H22	1:CA:2172:U:H5	1.44	0.66
7:AG:137:GLU:HB3	7:AG:139:LEU:HD12	1.78	0.65
34:BA:572:A:OP2	63:BA:1911:HOH:O	2.13	0.65
1:CA:1023:U:OP2	63:CA:3717:HOH:O	2.14	0.65
3:AC:176:VAL:HG11	3:AC:190:ILE:HD13	1.76	0.65
34:BA:259:G:H2'	34:BA:260:G:C8	2.31	0.65
36:BC:134:ILE:HG23	36:BC:151:VAL:HB	1.78	0.65
3:CC:63:VAL:O	3:CC:161:ARG:HA	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CO:71:ARG:NE	12:CO:105:GLU:OE2	2.30	0.65
13:CP:44:GLY:O	63:CP:301:HOH:O	2.14	0.65
17:CT:120:ARG:HA	17:CT:123:GLN:HE21	1.61	0.65
1:AA:1219:A:H4'	1:AA:1220:U:OP1	1.97	0.65
1:AA:2207:C:H2'	1:AA:2208:G:C8	2.30	0.65
18:AU:108:GLU:OE2	18:AU:112:ARG:NH1	2.29	0.65
19:AV:29:PRO:HA	19:AV:61:VAL:HG22	1.77	0.65
34:BA:742:G:OP2	48:BO:35:ARG:NH2	2.29	0.65
34:BA:1226:C:O2'	46:BM:111:LYS:NZ	2.28	0.65
1:CA:2113:U:H3	1:CA:2170:A:H61	1.42	0.65
1:CA:2371:G:O6	63:CA:3720:HOH:O	2.11	0.65
17:CT:18:ASP:OD1	17:CT:18:ASP:N	2.30	0.65
56:DW:39:PSU:O3'	56:DY:35:A:O2'	2.14	0.65
11:AN:75:TYR:CZ	11:AN:77:GLY:HA2	2.31	0.65
49:BP:75:ARG:O	49:BP:78:GLY:N	2.25	0.65
57:BZ:313:ALA:O	57:BZ:386:GLY:N	2.29	0.65
34:DA:395:C:O3'	57:DZ:349:LYS:NZ	2.26	0.65
45:DL:75:HIS:HD2	45:DL:77:LEU:H	1.44	0.65
56:DY:50:U:H3	56:DY:64:A:H61	1.44	0.65
57:DZ:-65:LYS:HB3	57:DZ:-28:ALA:HB3	1.78	0.65
58:DX:6:2R1:OD2	58:DX:6:2R1:N	2.29	0.65
1:AA:965:G:N2	1:AA:2281:A:OP2	2.27	0.65
3:AC:65:LEU:HB3	3:AC:189:ASN:ND2	2.11	0.65
11:AN:67:LEU:O	11:AN:88:GLU:HB2	1.97	0.65
34:BA:442:C:H42	34:BA:492:G:H1	1.44	0.65
57:BZ:-36:LEU:HD21	57:BZ:-29:LEU:HD22	1.78	0.65
57:BZ:97:SER:O	57:BZ:99:ARG:N	2.29	0.65
1:CA:851:U:H5'	27:C3:49:LYS:HD2	1.78	0.65
1:CA:1371:G:H2'	1:CA:1372:U:H5	1.61	0.65
1:CA:1423:G:OP1	1:CA:1492:G:O2'	2.13	0.65
1:CA:2177:C:H1'	3:CC:171:ALA:CB	2.25	0.65
22:CY:39:VAL:HB	22:CY:42:VAL:HB	1.79	0.65
1:AA:2720:G:H1'	15:AR:71:GLN:HE22	1.60	0.65
2:AB:58:A:OP2	63:AB:3102:HOH:O	2.15	0.65
48:BO:74:ASP:HB3	48:BO:77:ARG:HB2	1.78	0.65
1:CA:731:C:OP1	63:CA:3729:HOH:O	2.13	0.65
5:CE:11:MET:HG2	5:CE:24:THR:HB	1.77	0.65
34:DA:186:C:H2'	34:DA:187:C:H6	1.61	0.65
1:AA:1065:U:HO2'	1:AA:1067:A:H2	1.43	0.65
1:AA:1072:U:O2	1:AA:1072:U:H2'	1.97	0.65
3:AC:63:VAL:O	3:AC:161:ARG:HA	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:AE:23:VAL:HG21	5:AE:183:LEU:HD23	1.77	0.65
34:BA:573:A:OP2	63:BA:1911:HOH:O	2.13	0.65
34:BA:667:G:H4'	48:BO:51:HIS:ND1	2.12	0.65
41:BH:49:GLU:HG3	41:BH:62:TYR:HE1	1.61	0.65
43:BJ:34:VAL:HG12	43:BJ:74:ILE:HA	1.79	0.65
49:BP:71:ARG:HA	49:BP:74:LEU:HB2	1.78	0.65
1:CA:1188:U:H4'	19:CV:79:VAL:HG22	1.77	0.65
3:CC:206:LYS:NZ	3:CC:206:LYS:HB3	2.12	0.65
27:C3:22:ALA:HB2	27:C3:49:LYS:HD3	1.78	0.65
36:DC:179:ARG:NH1	36:DC:206:GLU:OE1	2.29	0.65
20:AW:79:GLY:HA3	20:AW:100:THR:HG22	1.79	0.65
34:DA:590:C:H2'	34:DA:591:U:H6	1.62	0.65
57:DZ:170:ARG:HH11	57:DZ:170:ARG:H	1.43	0.65
57:DZ:494:GLU:HG2	57:DZ:511:LYS:HG2	1.79	0.65
1:AA:1650:C:OP2	63:AA:3928:HOH:O	2.15	0.65
1:AA:1749:G:N7	63:AA:3973:HOH:O	2.29	0.65
1:AA:1891:G:C3'	3:AC:206:LYS:HG3	2.27	0.65
52:BS:3:ARG:HH21	52:BS:7:LYS:HE3	1.62	0.65
57:BZ:509:HIS:CD2	57:BZ:571:SER:H	2.15	0.65
1:CA:641:C:O2'	1:CA:2350:C:OP1	2.08	0.65
57:DZ:82:ILE:HD13	57:DZ:101:LEU:HB3	1.79	0.65
1:AA:2333:G:H5''	1:AA:2334:A:OP2	1.97	0.65
40:BG:25:ALA:HB1	40:BG:101:LEU:HD13	1.79	0.65
3:CC:69:LEU:O	3:CC:178:LYS:HG3	1.97	0.65
23:CZ:120:ILE:HG13	23:CZ:172:ALA:HA	1.79	0.65
40:DG:32:ARG:HH22	40:DG:109:ASN:ND2	1.95	0.65
45:DL:75:HIS:CD2	45:DL:77:LEU:H	2.14	0.65
50:DQ:62:SER:HB3	50:DQ:72:ARG:HD3	1.79	0.65
1:AA:1391:C:OP2	63:AA:3929:HOH:O	2.15	0.64
3:AC:206:LYS:HB3	3:AC:206:LYS:NZ	2.12	0.64
9:AK:74:LEU:O	9:AK:76:GLY:N	2.27	0.64
28:A4:18:CYS:SG	28:A4:20:ASN:ND2	2.61	0.64
34:BA:1323:G:H2'	34:BA:1324:A:C8	2.31	0.64
1:CA:2132:U:N3	3:CC:6:LYS:HE3	2.08	0.64
5:CE:110:GLY:HA2	5:CE:161:GLY:HA3	1.79	0.64
34:DA:559:A:H4'	34:DA:560:U:H5''	1.80	0.64
34:DA:1342:C:H4'	42:DI:125:TYR:HB3	1.79	0.64
46:DM:58:GLU:O	46:DM:62:ASN:ND2	2.30	0.64
1:AA:311:C:H2'	1:AA:312:C:H6	1.62	0.64
16:AS:89:ARG:HD2	16:AS:92:TYR:O	1.97	0.64
34:BA:1347:G:H5''	42:BI:107:ARG:HB3	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:492:A:H2'	1:CA:493:G:O4'	1.97	0.64
1:CA:989:G:OP2	27:C3:11:SER:OG	2.15	0.64
10:CL:130:SER:HA	10:CL:133:SER:HB2	1.79	0.64
17:CT:24:PRO:HA	17:CT:49:VAL:HG22	1.79	0.64
1:AA:1740:U:O2'	4:AD:14:ARG:NH2	2.30	0.64
22:AY:92:ASN:HB2	22:AY:94:LYS:N	2.12	0.64
34:BA:827:U:H5''	34:BA:828:A:OP2	1.97	0.64
1:CA:2121:G:C3'	3:CC:168:LYS:HD3	2.25	0.64
1:AA:1102:G:H5''	1:AA:1103:A:O4'	1.98	0.64
1:AA:1827:U:H2'	1:AA:1828:C:C6	2.32	0.64
17:AT:108:ARG:HH11	17:AT:109:GLU:HG2	1.62	0.64
34:BA:179:A:H2'	34:BA:180:U:C6	2.32	0.64
35:BB:16:HIS:O	35:BB:18:GLY:N	2.31	0.64
1:CA:279:C:H42	1:CA:361:G:H1	1.44	0.64
7:CG:71:THR:OG1	7:CG:89:GLY:O	2.15	0.64
29:C5:41:PRO:O	29:C5:44:THR:OG1	2.13	0.64
34:DA:523:A:H61	45:DL:92:ASP:HB2	1.62	0.64
1:AA:1525:G:O2'	1:AA:1605:A:H2	1.80	0.64
1:AA:2385:G:N7	63:AA:3977:HOH:O	2.30	0.64
3:AC:69:LEU:O	3:AC:178:LYS:HG3	1.98	0.64
28:A4:57:GLU:HB2	28:A4:58:ARG:HG2	1.79	0.64
57:BZ:18:ALA:HB1	57:BZ:121:VAL:HG21	1.79	0.64
1:CA:817:C:O2'	1:CA:839:U:OP1	2.15	0.64
34:DA:41:G:H2'	34:DA:42:G:C8	2.33	0.64
38:DE:110:LEU:HD13	38:DE:118:ILE:HG21	1.79	0.64
49:DP:21:VAL:HG22	49:DP:33:ILE:HB	1.80	0.64
53:DT:9:ASN:O	53:DT:10:LEU:HB2	1.97	0.64
1:AA:2255:U:H2'	1:AA:2256:U:C6	2.31	0.64
34:BA:1241:G:H2'	34:BA:1242:C:C6	2.32	0.64
1:CA:1212:G:N2	1:CA:1236:G:O2'	2.30	0.64
14:CQ:110:THR:HG23	14:CQ:113:GLN:OE1	1.98	0.64
18:CU:104:GLN:HE21	18:CU:105:VAL:H	1.46	0.64
27:C3:8:LEU:HB2	27:C3:28:LEU:HD22	1.80	0.64
57:DZ:549:ALA:O	57:DZ:591:LYS:NZ	2.20	0.64
1:AA:2289:G:OP2	24:A0:10:THR:HG21	1.98	0.64
4:AD:242:ARG:N	4:AD:242:ARG:HD3	2.12	0.64
19:AV:40:LEU:HB2	19:AV:46:VAL:HG13	1.80	0.64
22:AY:5:MET:HG2	22:AY:30:VAL:HG11	1.80	0.64
34:BA:664:G:H22	34:BA:741:G:H1	1.44	0.64
1:CA:882:G:H2'	1:CA:883:G:H8	1.63	0.64
1:CA:1059:G:H1	1:CA:1079:C:H42	1.45	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:CW:29:LEU:HD21	20:CW:33:ARG:NH2	2.13	0.64
34:DA:1353:G:OP1	54:DU:10:ARG:NH1	2.29	0.64
36:DC:182:ILE:HG12	36:DC:203:PHE:HA	1.80	0.64
57:BZ:14:ASN:OD1	57:BZ:80:ASN:ND2	2.28	0.64
1:CA:1021:A:H62	1:CA:1141:U:H3	1.45	0.64
3:CC:44:VAL:CG2	3:CC:176:VAL:HG21	2.28	0.64
34:DA:564:C:O2'	41:DH:91:ARG:NH2	2.30	0.64
35:DB:18:GLY:HA2	35:DB:42:ILE:HG13	1.79	0.64
35:DB:73:THR:OG1	35:DB:170:GLU:OE2	2.16	0.64
3:AC:68:GLY:N	3:AC:189:ASN:HD21	1.96	0.64
30:C6:26:ASN:HB3	30:C6:29:ASN:HB2	1.79	0.64
36:DC:110:ASN:ND2	36:DC:144:SER:OG	2.29	0.64
38:DE:69:VAL:HG11	38:DE:113:ALA:HB1	1.80	0.64
1:AA:1284:G:OP2	63:AA:3925:HOH:O	2.14	0.64
7:AG:68:PRO:HB3	7:AG:92:VAL:HB	1.80	0.64
34:BA:368:U:P	57:BZ:351:ARG:HH11	2.20	0.64
36:BC:50:ALA:HB1	36:BC:72:LYS:HD2	1.80	0.64
34:DA:9:G:H2'	34:DA:10:A:C8	2.33	0.64
1:AA:9:U:N3	1:AA:2641:A:H2	1.89	0.63
1:AA:1093:G:H21	1:AA:1157:A:H2	1.46	0.63
1:AA:1101:G:O2'	1:AA:1131:A:N1	2.28	0.63
22:AY:92:ASN:H	22:AY:92:ASN:ND2	1.96	0.63
57:BZ:555:LEU:HD11	57:BZ:599:PRO:HB2	1.79	0.63
2:CB:46:A:H2'	2:CB:47:C:C6	2.34	0.63
23:CZ:140:ASP:OD2	23:CZ:142:SER:OG	2.16	0.63
57:DZ:252:ASP:O	57:DZ:254:LYS:NZ	2.30	0.63
3:AC:29:LEU:O	3:AC:32:GLU:N	2.32	0.63
3:AC:44:VAL:CG2	3:AC:176:VAL:HG21	2.28	0.63
6:AF:125:LEU:HD21	6:AF:199:TRP:CD2	2.33	0.63
34:BA:574:A:OP2	63:BA:1911:HOH:O	2.15	0.63
34:BA:1028:C:H42	34:BA:1033:G:H1	1.46	0.63
57:BZ:78:ARG:HG3	57:BZ:78:ARG:NH1	2.13	0.63
57:BZ:679:VAL:HG22	57:BZ:684:GLN:HB2	1.80	0.63
1:CA:1604:C:OP2	63:CA:3705:HOH:O	2.15	0.63
1:CA:2349:G:OP1	63:CA:3731:HOH:O	2.15	0.63
34:DA:1133:G:H2'	34:DA:1134:G:C8	2.33	0.63
41:DH:91:ARG:HB2	45:DL:7:ILE:HG13	1.80	0.63
56:DW:39:PSU:O2'	56:DY:35:A:H1'	1.97	0.63
1:AA:1157:A:H8	1:AA:1158:G:H1'	1.63	0.63
35:BB:50:GLU:O	35:BB:54:THR:N	2.27	0.63
35:BB:124:SER:HB3	35:BB:125:PRO:HA	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BB:201:ILE:HG21	35:BB:214:ILE:HG21	1.79	0.63
1:CA:1557:C:OP2	1:CA:1558:A:O2'	2.17	0.63
8:CH:76:VAL:O	8:CH:78:GLY:N	2.29	0.63
11:CN:14:VAL:HG12	11:CN:138:LEU:HB2	1.80	0.63
21:CX:11:PRO:HG2	21:CX:13:LEU:HD21	1.79	0.63
23:CZ:134:PRO:O	23:CZ:136:PHE:N	2.26	0.63
34:DA:254:G:OP1	50:DQ:66:SER:OG	2.08	0.63
35:DB:96:ARG:O	35:DB:98:LEU:N	2.32	0.63
1:AA:311:C:H2'	1:AA:312:C:C6	2.33	0.63
3:AC:7:ARG:O	3:AC:11:LEU:HD23	1.99	0.63
10:AL:99:ILE:HG23	10:AL:103:GLN:HB2	1.79	0.63
34:BA:353:A:H5'	34:BA:353:A:H8	1.63	0.63
37:BD:167:GLY:H	37:BD:168:ARG:NH1	1.96	0.63
43:BJ:6:ILE:HA	43:BJ:98:ILE:HG13	1.79	0.63
6:CF:34:TRP:CE2	13:CP:8:PRO:HG3	2.33	0.63
37:DD:129:ASN:HD21	37:DD:145:GLU:H	1.46	0.63
40:DG:147:ALA:O	40:DG:149:ARG:N	2.27	0.63
1:AA:1525:G:H2'	1:AA:1526:G:H8	1.63	0.63
14:AQ:14:ARG:HG2	14:AQ:41:TRP:CH2	2.33	0.63
34:BA:179:A:H2'	34:BA:180:U:H6	1.62	0.63
34:BA:1118:C:OP1	42:BI:104:ARG:NH1	2.31	0.63
34:BA:1412:C:H2'	34:BA:1413:A:C8	2.33	0.63
40:BG:32:ARG:O	40:BG:34:GLY:N	2.32	0.63
53:BT:65:LYS:HA	53:BT:68:LYS:HD3	1.79	0.63
57:BZ:341:VAL:HG22	57:BZ:352:VAL:HG12	1.81	0.63
1:CA:2886:G:H2'	1:CA:2887:U:H6	1.63	0.63
3:CC:7:ARG:O	3:CC:11:LEU:HD23	1.99	0.63
3:CC:29:LEU:O	3:CC:32:GLU:N	2.32	0.63
25:C1:50:ARG:HG2	25:C1:59:THR:HB	1.80	0.63
57:DZ:182:ARG:HD3	57:DZ:239:GLU:OE2	1.98	0.63
56:BY:8:4SU:H4'	56:BY:48:C:H4'	1.79	0.63
57:BZ:-64:VAL:HG12	57:BZ:-29:LEU:HA	1.79	0.63
3:CC:68:GLY:N	3:CC:189:ASN:HD21	1.96	0.63
20:CW:18:ARG:NH1	20:CW:76:VAL:O	2.32	0.63
34:DA:419:C:OP1	34:DA:513:C:O2'	2.14	0.63
1:AA:615:G:O6	63:AA:3923:HOH:O	2.12	0.63
1:AA:921:G:O6	1:AA:949:C:N4	2.14	0.63
45:BL:36:VAL:HG23	58:BX:10:2QY:H89	1.80	0.63
1:CA:1053:C:H5'	1:CA:1053:C:C6	2.31	0.63
1:CA:2284:C:OP2	30:C6:2:ALA:N	2.32	0.63
34:DA:826:C:H4'	41:DH:12:ARG:HG2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1254:C:OP1	43:DJ:45:ARG:HA	1.99	0.63
1:AA:553:A:C2	1:AA:2064:A:H2'	2.34	0.63
5:AE:36:ARG:HH11	5:AE:85:ASN:HD21	1.47	0.63
45:BL:80:HIS:CG	58:BX:6:2R1:H53	2.15	0.63
1:CA:1011:G:OP1	18:CU:77:SER:HB3	1.99	0.63
1:CA:1665:A:OP2	63:CA:3736:HOH:O	2.16	0.63
3:CC:6:LYS:HG3	3:CC:7:ARG:N	2.14	0.63
34:DA:1055:A:N3	36:DC:156:ARG:NH1	2.46	0.63
35:DB:16:HIS:CD2	35:DB:204:ASN:HB3	2.32	0.63
42:DI:128:ARG:NH1	56:DW:35:A:OP2	2.32	0.63
43:DJ:55:LYS:O	43:DJ:57:LYS:N	2.32	0.63
44:DK:22:HIS:HB3	44:DK:29:ILE:HB	1.81	0.63
44:DK:66:LEU:O	44:DK:69:ALA:N	2.28	0.63
48:DO:78:TYR:O	48:DO:80:ALA:N	2.32	0.63
34:BA:736:C:H2'	34:BA:737:A:C8	2.33	0.63
57:BZ:-9:LEU:O	57:BZ:-6:ARG:N	2.21	0.63
1:CA:1412:A:H2'	1:CA:1413:G:C8	2.34	0.63
1:CA:2064:C:OP2	63:CA:3734:HOH:O	2.15	0.63
34:DA:1348:U:H2'	34:DA:1349:A:H8	1.63	0.63
41:DH:12:ARG:NH1	41:DH:27:PRO:HD2	2.14	0.63
25:A1:4:VAL:HG22	25:A1:11:ARG:HB3	1.80	0.62
32:A8:6:THR:HG22	32:A8:63:PRO:HD2	1.80	0.62
34:BA:1182:G:H5'	34:BA:1184:G:H5'	1.79	0.62
1:CA:1041:C:H42	1:CA:1114:G:H1	1.47	0.62
7:CG:67:LYS:HD2	28:C4:5:ILE:HG13	1.81	0.62
20:CW:59:VAL:HG12	20:CW:60:ASN:HD22	1.64	0.62
22:CY:102:CYS:SG	22:CY:103:GLY:N	2.72	0.62
34:DA:1305:G:N2	34:DA:1331:G:H1'	2.14	0.62
44:DK:87:THR:O	44:DK:87:THR:OG1	2.12	0.62
57:DZ:555:LEU:HD11	57:DZ:599:PRO:HB2	1.81	0.62
1:AA:1615:G:H4'	4:AD:59:LYS:HB3	1.81	0.62
1:AA:2859:U:O4	17:AT:23:ARG:NH2	2.28	0.62
3:AC:6:LYS:HG3	3:AC:7:ARG:N	2.14	0.62
6:AF:204:ASN:O	6:AF:207:GLY:N	2.26	0.62
26:A2:9:GLN:HE22	26:A2:56:GLN:HB3	1.64	0.62
41:BH:56:LYS:HB2	41:BH:58:TYR:HE1	1.64	0.62
45:BL:51:ALA:O	45:BL:52:LEU:HD23	1.99	0.62
1:CA:1107:G:N1	1:CA:1108:U:C2	2.67	0.62
1:CA:1864:U:OP1	1:CA:2410:G:O2'	2.16	0.62
1:CA:2046:G:H5'	29:C5:19:ARG:HA	1.81	0.62
16:CS:15:ARG:HB3	16:CS:19:LYS:NZ	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:AH:98:LEU:HD12	8:AH:102:ALA:O	1.99	0.62
35:BB:155:LEU:HD21	35:BB:159:PRO:HD3	1.80	0.62
57:BZ:497:PHE:HB3	57:BZ:508:GLY:H	1.64	0.62
7:CG:41:GLN:NE2	7:CG:154:GLY:O	2.28	0.62
22:CY:43:ASN:HB3	22:CY:65:ALA:HB3	1.81	0.62
34:DA:1410:G:H2'	34:DA:1411:C:C6	2.34	0.62
1:AA:1199:C:OP1	18:AU:92:ARG:NH1	2.32	0.62
1:AA:2143:G:C1'	3:AC:168:LYS:CE	2.78	0.62
23:AZ:104:PHE:HA	23:AZ:139:VAL:HG23	1.82	0.62
34:BA:1060:C:H4'	43:BJ:51:ARG:HB3	1.80	0.62
34:BA:1149:C:H2'	34:BA:1150:U:H6	1.65	0.62
34:BA:1172:C:H2'	34:BA:1173:G:H8	1.62	0.62
43:BJ:47:PHE:HB2	43:BJ:63:PHE:HB2	1.82	0.62
1:CA:479:A:N3	1:CA:481:G:H5''	2.14	0.62
34:DA:572:A:OP1	63:DA:1807:HOH:O	2.15	0.62
36:DC:59:ARG:HG2	36:DC:64:VAL:HG13	1.82	0.62
46:DM:118:ALA:HB1	56:DW:28:G:H4'	1.81	0.62
50:DQ:53:LEU:HD23	50:DQ:82:MET:HE1	1.79	0.62
57:DZ:-20:LEU:O	57:DZ:-18:ALA:N	2.30	0.62
11:AN:75:TYR:CE2	11:AN:77:GLY:HA2	2.34	0.62
18:AU:36:ARG:HD2	18:AU:40:PHE:CZ	2.35	0.62
34:BA:1066:C:O2'	34:BA:1067:A:H5'	2.00	0.62
40:BG:111:ARG:NH1	40:BG:113:GLU:OE2	2.32	0.62
49:BP:69:THR:O	49:BP:69:THR:OG1	2.15	0.62
1:CA:9:U:H3	1:CA:2629:A:H2	1.45	0.62
1:CA:919:G:N2	1:CA:2269:A:OP2	2.32	0.62
1:CA:1430:C:H2'	1:CA:1431:U:H6	1.64	0.62
16:CS:52:SER:HB2	16:CS:55:ALA:HB3	1.81	0.62
1:AA:553:A:H3'	1:AA:553:A:H8	1.63	0.62
34:BA:134:A:H61	49:BP:25:ARG:NH1	1.94	0.62
45:BL:53:ARG:HG3	45:BL:93:LEU:HD21	1.82	0.62
1:CA:792:G:H5''	1:CA:793:A:H5'	1.80	0.62
1:CA:908:C:OP2	14:CQ:22:LYS:NZ	2.32	0.62
2:CB:95:C:H2'	2:CB:96:U:C6	2.35	0.62
35:DB:198:ASP:OD2	35:DB:198:ASP:N	2.28	0.62
52:DS:41:VAL:HG12	52:DS:43:GLU:H	1.65	0.62
57:DZ:169:GLY:O	57:DZ:173:THR:OG1	2.16	0.62
3:CC:53:ARG:HD3	3:CC:53:ARG:H	1.65	0.62
7:CG:16:ARG:CZ	7:CG:31:VAL:HG11	2.30	0.62
10:CL:111:LYS:NZ	10:CL:114:ASP:OD2	2.33	0.62
21:CX:31:HIS:ND1	21:CX:32:PRO:HD2	2.14	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1318:A:H5''	52:DS:3:ARG:HH22	1.63	0.62
40:DG:94:ARG:O	40:DG:98:SER:OG	2.17	0.62
57:DZ:71:THR:HG22	57:DZ:80:ASN:OD1	2.00	0.62
3:AC:68:GLY:H	3:AC:189:ASN:HD21	1.47	0.62
28:A4:24:THR:OG1	28:A4:25:TYR:N	2.32	0.62
35:BB:101:MET:HA	35:BB:108:ILE:HG13	1.81	0.62
52:BS:27:GLU:HB3	52:BS:28:LYS:HB3	1.82	0.62
1:CA:195:A:N7	63:CA:3799:HOH:O	2.31	0.62
4:CD:134:ARG:HD2	4:CD:135:PHE:CZ	2.35	0.62
7:CG:43:LEU:HG	7:CG:45:GLU:H	1.63	0.62
34:DA:921:U:O4	34:DA:1396:A:N6	2.20	0.62
34:DA:958:A:H61	52:DS:77:THR:HG23	1.64	0.62
37:DD:57:ARG:HG2	37:DD:202:LEU:HD22	1.81	0.62
3:AC:53:ARG:HD3	3:AC:53:ARG:H	1.65	0.62
8:AH:40:GLU:OE1	8:AH:60:ARG:NH1	2.31	0.62
22:AY:77:PRO:HD3	22:AY:106:LEU:HD23	1.82	0.62
34:BA:321:A:N7	34:BA:328:C:O2'	2.30	0.62
34:BA:1319:A:H61	34:BA:1361:G:H21	1.47	0.62
41:BH:91:ARG:HG2	50:BQ:34:LYS:H	1.64	0.62
1:CA:196:A:H62	13:CP:38:GLN:HE22	1.46	0.62
1:CA:1963:U:H2'	1:CA:1963:U:O2	1.99	0.62
3:CC:11:LEU:HD12	3:CC:33:LEU:HA	1.82	0.62
7:CG:11:TYR:HA	7:CG:15:VAL:HB	1.82	0.62
7:CG:15:VAL:HA	7:CG:175:LEU:HD23	1.82	0.62
12:CO:98:VAL:HG13	12:CO:117:LEU:HB3	1.82	0.62
13:CP:99:LEU:HA	13:CP:102:ARG:HB2	1.82	0.62
34:DA:1123:A:H4'	43:DJ:37:PRO:HD2	1.82	0.62
39:DF:36:ARG:NH1	39:DF:38:GLU:OE2	2.31	0.62
1:AA:1995:G:H2'	1:AA:1996:C:C6	2.34	0.62
1:AA:2287:C:O2	14:AQ:85:LYS:HG3	2.00	0.62
1:AA:2343:G:O3'	24:A0:43:THR:HG22	2.00	0.62
1:AA:2379:G:N7	63:AA:3982:HOH:O	2.31	0.62
2:AB:45:A:O4'	7:AG:95:ARG:NH1	2.33	0.62
34:BA:1330:U:H2'	34:BA:1331:G:H5'	1.81	0.62
34:BA:1456:G:O3'	53:BT:39:LYS:NZ	2.33	0.62
44:BK:54:ARG:O	44:BK:57:THR:OG1	2.13	0.62
3:CC:68:GLY:H	3:CC:189:ASN:HD21	1.47	0.62
5:CE:54:GLN:HB2	5:CE:76:ARG:HG2	1.81	0.62
45:DL:24:VAL:HG11	45:DL:27:LEU:HD22	1.81	0.62
57:DZ:103:GLY:H	57:DZ:130:VAL:HG23	1.63	0.62
1:AA:354:A:H2	1:AA:1255:A:C2'	2.11	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:AS:15:ARG:O	16:AS:19:LYS:HG2	1.99	0.61
45:BL:80:HIS:ND1	58:BX:6:2R1:OD2	2.26	0.61
1:CA:297:C:H2'	1:CA:298:G:O4'	2.00	0.61
6:CF:20:LEU:HD13	6:CF:21:ALA:H	1.64	0.61
15:CR:21:TYR:OH	15:CR:43:GLU:HG2	2.00	0.61
34:DA:1060:C:H5	36:DC:2:GLY:HA3	1.64	0.61
52:DS:11:VAL:HB	52:DS:16:LEU:HD12	1.82	0.61
53:DT:64:ASP:OD2	53:DT:81:LYS:NZ	2.27	0.61
1:AA:2227:G:O2'	1:AA:2228:G:OP1	2.18	0.61
1:AA:2359:C:H2'	1:AA:2360:U:C6	2.34	0.61
1:AA:2434:A:O4'	56:BY:76:A:N6	2.32	0.61
34:BA:417:C:N4	34:BA:426:G:H1	1.98	0.61
37:BD:127:THR:OG1	37:BD:128:VAL:N	2.33	0.61
1:CA:1434:A:H61	1:CA:1558:A:H62	1.48	0.61
4:CD:80:ALA:HB3	4:CD:94:LEU:HB3	1.82	0.61
34:DA:1312:G:H5'	52:DS:5:LEU:HD11	1.81	0.61
36:DC:162:GLN:O	36:DC:164:ARG:N	2.30	0.61
1:AA:2013:U:H2'	1:AA:2014:G:H5''	1.83	0.61
34:BA:1100:C:O2'	34:BA:1102:A:OP1	2.17	0.61
41:BH:91:ARG:CG	50:BQ:34:LYS:H	2.12	0.61
41:BH:91:ARG:HD3	50:BQ:33:GLY:HA3	1.81	0.61
16:CS:27:SER:HA	16:CS:88:ASP:HB3	1.82	0.61
57:DZ:264:LEU:HD12	62:DZ:703:GDP:N3	2.15	0.61
1:AA:216:A:H5''	13:AP:76:LYS:HE2	1.81	0.61
1:AA:302:A:O2'	1:AA:303:C:OP1	2.16	0.61
1:AA:1123:A:O2'	10:AL:132:ARG:O	2.17	0.61
5:AE:116:VAL:HG13	5:AE:122:PHE:HB2	1.82	0.61
34:BA:266:G:H5''	34:BA:268:C:H41	1.65	0.61
1:CA:1053:C:O2	1:CA:1054:A:H1'	1.99	0.61
1:CA:1141:U:OP2	11:CN:63:THR:OG1	2.18	0.61
28:C4:24:THR:OG1	28:C4:25:TYR:N	2.30	0.61
34:DA:517:G:N1	34:DA:533:A:OP2	2.32	0.61
34:DA:707:C:H2'	34:DA:708:C:H6	1.64	0.61
46:DM:15:VAL:HG11	46:DM:48:LEU:HD11	1.82	0.61
45:BL:53:ARG:HB2	45:BL:93:LEU:HD11	1.83	0.61
57:BZ:357:ARG:NH1	57:BZ:373:ASP:OD1	2.32	0.61
20:CW:18:ARG:HG2	20:CW:76:VAL:HB	1.82	0.61
34:DA:410:G:OP1	37:DD:30:LYS:NZ	2.33	0.61
34:DA:920:U:H2'	34:DA:921:U:C6	2.35	0.61
34:DA:1059:C:O2'	47:DN:45:ARG:NH1	2.33	0.61
1:AA:1891:G:H4'	3:AC:206:LYS:HD3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:271(R):G:H5''	25:C1:97:LEU:HD21	1.82	0.61
7:CG:101:ILE:HG21	28:C4:25:TYR:HB2	1.82	0.61
34:DA:254:G:O3'	50:DQ:69:LYS:NZ	2.30	0.61
34:DA:918:A:H2'	34:DA:919:A:C8	2.34	0.61
44:DK:21:ILE:HD13	44:DK:82:VAL:HG13	1.81	0.61
58:DX:9:MVA:HB	58:DX:10:2QY:H82	1.83	0.61
1:AA:1228:G:O6	63:AA:3927:HOH:O	2.15	0.61
1:AA:1995:G:H2'	1:AA:1996:C:H6	1.66	0.61
1:AA:2059:G:O6	63:AA:3926:HOH:O	2.15	0.61
1:AA:2172:U:H2'	1:AA:2173:G:C8	2.35	0.61
1:AA:2339:A:H2'	1:AA:2340:A:C8	2.35	0.61
34:BA:1183:A:H3'	34:BA:1184:G:H5''	1.82	0.61
36:BC:150:LYS:HB3	36:BC:201:TYR:HB2	1.83	0.61
52:BS:12:ASP:O	52:BS:14:HIS:N	2.33	0.61
57:BZ:573:HIS:HD2	57:BZ:576:ASP:H	1.48	0.61
1:CA:1818:U:H2'	4:CD:157:ARG:HG3	1.83	0.61
1:CA:2150:U:H2'	1:CA:2151:G:C8	2.35	0.61
38:DE:81:GLU:HG2	38:DE:90:VAL:HG22	1.81	0.61
1:AA:2489:C:O2	33:A9:4:ARG:NH2	2.34	0.61
1:AA:2860:A:OP2	1:AA:2876:U:H5	1.83	0.61
5:AE:128:SER:OG	5:AE:129:HIS:N	2.30	0.61
11:AN:65:LYS:HB2	11:AN:65:LYS:NZ	2.15	0.61
41:BH:64:LYS:HB3	41:BH:79:VAL:HG21	1.83	0.61
57:BZ:102:ASP:HB3	57:BZ:286:ILE:HD13	1.81	0.61
57:BZ:416:LYS:HG2	57:BZ:417:THR:HG23	1.83	0.61
1:CA:517:C:OP1	29:C5:16:ARG:NH2	2.33	0.61
1:CA:2120:G:C2	3:CC:168:LYS:HE2	2.35	0.61
1:CA:2849:U:O4	17:CT:23:ARG:NH2	2.34	0.61
2:CB:15:A:H1'	2:CB:110:G:C5	2.36	0.61
16:CS:15:ARG:HB3	16:CS:19:LYS:HZ3	1.66	0.61
34:DA:503:C:OP2	45:DL:116:SER:HB3	1.99	0.61
34:DA:1010:G:H2'	34:DA:1011:G:C8	2.35	0.61
42:DI:28:VAL:HG22	42:DI:63:ILE:HB	1.82	0.61
57:DZ:22:ASP:HA	62:DZ:703:GDP:H5'	1.83	0.61
57:DZ:116:PRO:HA	57:DZ:119:GLU:HG3	1.83	0.61
10:AL:91:PRO:HB3	10:AL:135:GLY:HA2	1.83	0.61
23:AZ:183:LEU:O	23:AZ:185:GLU:N	2.34	0.61
57:BZ:182:ARG:NH2	57:BZ:278:ASP:OD2	2.34	0.61
1:CA:2518:A:OP2	63:CA:3737:HOH:O	2.16	0.61
34:DA:691:G:H2'	34:DA:692:U:C6	2.36	0.61
56:DY:5:G:H1	56:DY:68:C:H42	1.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:139:MET:HG3	57:DZ:260:LEU:HB2	1.82	0.61
1:AA:1426:G:OP2	63:AA:3931:HOH:O	2.16	0.61
34:BA:1182:G:H4'	34:BA:1183:A:H5'	1.81	0.61
1:CA:875:G:H1	1:CA:902:C:N4	1.99	0.61
1:CA:1800:C:OP2	4:CD:183:ARG:NH2	2.33	0.61
1:CA:2328:A:H2'	1:CA:2329:G:C8	2.35	0.61
7:CG:130:ASN:HB3	7:CG:160:VAL:HA	1.82	0.61
34:DA:56:U:H2'	34:DA:57:G:C8	2.36	0.61
34:DA:539:A:OP2	45:DL:115:LYS:NZ	2.33	0.61
34:DA:1123:A:H4'	43:DJ:36:GLY:HA3	1.83	0.61
41:DH:44:PHE:HD1	41:DH:79:VAL:HG13	1.66	0.61
1:AA:1312:G:O5'	20:AW:15:ARG:NH2	2.34	0.60
1:AA:1549:U:H2'	1:AA:1550:C:H6	1.64	0.60
4:AD:145:VAL:HG12	4:AD:146:GLU:O	2.01	0.60
13:AP:55:ARG:HG2	13:AP:56:SER:N	2.16	0.60
1:CA:1055:G:H5'	9:CK:33:PRO:HA	1.82	0.60
1:CA:1837:C:O2'	1:CA:1927:A:N3	2.30	0.60
1:CA:2319:G:H4'	1:CA:2320:A:O5'	2.01	0.60
34:DA:512:U:H2'	34:DA:513:C:H6	1.65	0.60
41:DH:17:THR:HG22	41:DH:63:LEU:HG	1.83	0.60
16:AS:27:SER:HA	16:AS:88:ASP:HB3	1.83	0.60
34:BA:1108:G:H5'	36:BC:176:HIS:CD2	2.35	0.60
49:BP:43:LYS:HG2	49:BP:48:TRP:CE2	2.35	0.60
57:BZ:494:GLU:OE1	57:BZ:511:LYS:NZ	2.35	0.60
1:CA:1782:C:OP1	63:CA:3708:HOH:O	2.16	0.60
34:DA:404:U:H2'	34:DA:405:U:C6	2.36	0.60
34:DA:537:G:OP1	45:DL:113:ARG:NH1	2.21	0.60
34:DA:987:G:N2	34:DA:1219:U:O2	2.34	0.60
51:DR:53:ARG:HG3	51:DR:63:GLN:NE2	2.12	0.60
57:DZ:660:ARG:NH1	57:DZ:665:GLY:O	2.33	0.60
1:AA:1154:U:O2'	1:AA:1155:C:H5''	2.02	0.60
34:BA:36:C:HO2'	45:BL:117:ARG:NH2	1.97	0.60
34:BA:456:C:N3	34:BA:476:G:N2	2.50	0.60
34:BA:1224:G:O2'	34:BA:1322:C:OP1	2.19	0.60
41:BH:10:LEU:HD22	41:BH:83:ILE:HD11	1.83	0.60
44:BK:29:ILE:HG12	44:BK:44:SER:HB2	1.81	0.60
57:BZ:264:LEU:HD23	57:BZ:265:LYS:HD3	1.83	0.60
1:CA:2781:A:H5''	1:CA:2782:G:H5'	1.82	0.60
24:C0:18:ALA:HB3	24:C0:20:ARG:HH21	1.66	0.60
25:C1:8:SER:HB3	25:C1:66:HIS:CD2	2.36	0.60
34:DA:130:A:O2'	34:DA:131:C:O5'	2.15	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:193:C:H2'	34:DA:194:C:C6	2.37	0.60
48:DO:24:SER:O	48:DO:28:GLN:HG3	2.01	0.60
1:AA:1793:A:H2'	63:AA:5094:HOH:O	2.01	0.60
1:AA:1890:A:N6	1:AA:1905:G:O2'	2.34	0.60
3:AC:194:ILE:HD11	3:AC:227:PRO:CB	2.32	0.60
12:AO:92:GLU:HG3	12:AO:113:LYS:HE2	1.83	0.60
22:AY:97:ARG:HB3	22:AY:106:LEU:HD12	1.82	0.60
40:BG:48:LYS:O	40:BG:50:ILE:N	2.34	0.60
40:BG:108:ALA:HA	40:BG:111:ARG:HD2	1.83	0.60
1:CA:1007:C:OP1	11:CN:35:ARG:NH1	2.33	0.60
5:CE:8:LYS:HG2	5:CE:192:ASN:HA	1.83	0.60
8:CH:113:VAL:HG11	8:CH:151:ILE:HG21	1.83	0.60
34:DA:601:C:H2'	34:DA:602:A:C8	2.36	0.60
38:DE:122:GLU:HB3	38:DE:126:ARG:HD3	1.82	0.60
38:DE:127:ASN:O	38:DE:131:ILE:HG12	2.01	0.60
56:DY:33:U:H2'	56:DY:35:A:OP2	2.02	0.60
1:AA:2316:G:H22	1:AA:2324:U:H3	1.50	0.60
22:AY:54:LYS:H	22:AY:56:PRO:HG3	1.65	0.60
34:BA:33:A:H8	34:BA:33:A:OP2	1.85	0.60
1:CA:888:C:OP1	46:DM:93:ARG:NH1	2.30	0.60
3:CC:194:ILE:HD11	3:CC:227:PRO:CB	2.32	0.60
13:CP:130:PHE:HB3	13:CP:134:ALA:HB3	1.84	0.60
34:DA:1358:U:H5''	47:DN:34:TYR:HA	1.82	0.60
37:DD:18:LYS:HB3	37:DD:20:TYR:CE2	2.37	0.60
38:DE:57:LYS:HD3	38:DE:61:TYR:HE2	1.66	0.60
42:DI:16:ARG:HB2	42:DI:64:THR:HG23	1.83	0.60
45:DL:80:HIS:HB3	58:DX:6:2R1:H49	1.84	0.60
57:DZ:663:THR:O	57:DZ:665:GLY:N	2.34	0.60
3:AC:11:LEU:HD12	3:AC:33:LEU:HA	1.82	0.60
42:BI:128:ARG:HH12	56:BW:35:A:P	2.24	0.60
57:BZ:554:PRO:HG3	57:BZ:594:VAL:HG12	1.83	0.60
1:CA:143:G:H4'	21:CX:35:THR:HG21	1.83	0.60
1:CA:300:A:H3'	22:CY:84:ARG:NH2	2.17	0.60
1:CA:608:A:H2'	1:CA:609:A:C8	2.36	0.60
1:CA:1053:C:C2	1:CA:1054:A:C8	2.90	0.60
1:CA:1081:U:H2'	1:CA:1082:U:C5	2.36	0.60
1:CA:1859:A:N6	1:CA:1883:G:O2'	2.35	0.60
1:CA:2000:G:N7	63:CA:3802:HOH:O	2.32	0.60
18:CU:9:VAL:O	18:CU:13:LYS:HG3	2.02	0.60
21:CX:53:LYS:HB3	21:CX:82:GLN:HB3	1.83	0.60
34:DA:1095:U:H5'	34:DA:1109:C:O2	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1354:C:H2'	34:DA:1355:G:H8	1.67	0.60
57:DZ:13:ARG:NH2	57:DZ:247:ARG:HH12	2.00	0.60
1:AA:721:G:H1'	6:AF:74:ARG:HD3	1.84	0.60
1:AA:1961:U:OP1	1:AA:2616:U:O2'	2.18	0.60
5:AE:120:TRP:CD2	5:AE:155:LYS:HG2	2.37	0.60
7:AG:79:ASN:OD1	7:AG:79:ASN:N	2.33	0.60
22:AY:20:TYR:CE1	22:AY:43:ASN:HA	2.35	0.60
34:BA:105:G:H2'	34:BA:106:C:C6	2.37	0.60
34:BA:1125:U:H4'	43:BJ:5:ARG:NH2	2.16	0.60
36:BC:122:GLU:O	36:BC:126:ARG:NH1	2.34	0.60
37:BD:8:VAL:HA	37:BD:11:LEU:HD13	1.82	0.60
57:BZ:509:HIS:HD2	57:BZ:571:SER:H	1.46	0.60
1:CA:189:G:H2'	1:CA:205:G:N2	2.17	0.60
1:CA:271(E):U:H2'	1:CA:271(F):C:C6	2.37	0.60
1:CA:1064:C:H4'	10:CL:89:HIS:HA	1.84	0.60
1:CA:2469:A:H2'	1:CA:2470:G:O4'	2.01	0.60
8:CH:103:LEU:HD21	8:CH:131:VAL:HG21	1.83	0.60
22:CY:85:VAL:HG13	22:CY:97:ARG:HB3	1.84	0.60
28:C4:44:THR:OG1	28:C4:45:GLY:N	2.33	0.60
34:DA:148:G:H2'	34:DA:149:A:C8	2.37	0.60
37:DD:102:ASP:OD2	37:DD:118:ARG:NH1	2.35	0.60
1:AA:441:C:H2'	1:AA:442:A:C8	2.36	0.60
23:AZ:98:MET:O	23:AZ:125:LEU:HD12	2.01	0.60
34:BA:11:G:C6	34:BA:12:U:N3	2.70	0.60
34:BA:1264:C:O2	34:BA:1272:G:N2	2.34	0.60
36:BC:181:ASN:HB3	36:BC:204:LEU:HB2	1.83	0.60
1:CA:86:C:OP1	22:CY:32:PRO:HG2	2.01	0.60
1:CA:662:G:OP1	63:CA:3740:HOH:O	2.17	0.60
1:CA:2879:C:OP2	63:CA:3735:HOH:O	2.15	0.60
4:CD:127:VAL:HA	4:CD:193:VAL:HG22	1.84	0.60
23:CZ:92:SER:OG	23:CZ:93:ASP:N	2.35	0.60
34:DA:728:A:H2'	34:DA:729:A:C8	2.33	0.60
34:DA:1119:C:OP2	42:DI:9:ARG:NH1	2.34	0.60
34:DA:1412:C:H2'	34:DA:1413:A:C8	2.36	0.60
38:DE:76:ILE:HD12	38:DE:142:LEU:HD21	1.83	0.60
7:AG:126:ASP:HB3	7:AG:128:ARG:H	1.65	0.60
34:BA:299:G:O6	63:BA:1909:HOH:O	2.11	0.60
34:BA:630:G:H2'	34:BA:631:G:H8	1.66	0.60
34:BA:939:G:H2'	34:BA:940:C:C6	2.36	0.60
37:BD:64:LEU:HD22	37:BD:198:VAL:HG11	1.83	0.60
1:CA:910:A:H62	14:CQ:12:GLN:HA	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2106:G:H2'	1:CA:2107:C:O4'	2.01	0.60
1:CA:2128:C:P	3:CC:219:MET:CE	2.89	0.60
1:CA:2136:C:N4	1:CA:2155:G:H1	1.99	0.60
1:CA:2303:G:O2'	7:CG:132:ASN:ND2	2.34	0.60
5:CE:176:ILE:HB	5:CE:181:LEU:HB2	1.83	0.60
34:DA:590:C:H2'	34:DA:591:U:C6	2.37	0.60
39:DF:87:ARG:HH11	39:DF:87:ARG:HG3	1.65	0.60
57:DZ:552:SER:O	57:DZ:591:LYS:NZ	2.27	0.60
1:AA:432:U:H4'	1:AA:433:G:OP2	2.02	0.60
1:AA:2021:C:H4'	1:AA:2736:C:O2	2.00	0.60
7:AG:27:ASN:HB3	7:AG:30:GLU:HG3	1.82	0.60
34:BA:229:U:H5''	49:BP:33:ILE:HD12	1.84	0.60
34:BA:869:G:H8	34:BA:869:G:O5'	1.84	0.60
57:BZ:213:HIS:O	57:BZ:217:VAL:HG23	2.02	0.60
57:BZ:515:GLU:HG2	57:BZ:564:LYS:HB3	1.82	0.60
1:CA:1798:U:H5'	4:CD:259:THR:CG2	2.30	0.60
23:CZ:160:GLY:HA2	23:CZ:161:VAL:HB	1.84	0.60
34:DA:921:U:O2	38:DE:19:MET:HB2	2.00	0.60
36:DC:152:ILE:HG23	36:DC:199:LYS:HB2	1.83	0.60
58:DX:1:2QZ:O	58:DX:10:2QY:H83	2.01	0.60
1:AA:2143:G:H1'	3:AC:168:LYS:CE	2.31	0.59
34:BA:105:G:H2'	34:BA:106:C:H6	1.66	0.59
34:BA:564:C:O2'	41:BH:91:ARG:NH2	2.25	0.59
34:BA:1325:C:H2'	34:BA:1326:C:H6	1.67	0.59
36:BC:26:LYS:HG2	43:BJ:45:ARG:HH22	1.66	0.59
57:BZ:-53:ASP:H	57:BZ:-50:GLN:NE2	1.99	0.59
1:CA:938:G:OP2	32:C8:52:LYS:NZ	2.31	0.59
5:CE:36:ARG:HG3	5:CE:47:VAL:HG12	1.82	0.59
34:DA:1241:G:OP1	40:DG:35:LYS:NZ	2.35	0.59
42:DI:42:ARG:NH2	42:DI:71:SER:OG	2.31	0.59
1:AA:2389:A:H2'	1:AA:2390:A:C8	2.36	0.59
4:AD:153:ALA:O	4:AD:154:LYS:HD3	2.02	0.59
5:AE:28:ALA:HB3	5:AE:93:VAL:HG12	1.83	0.59
1:CA:2498:C:OP1	63:CA:3738:HOH:O	2.16	0.59
13:CP:99:LEU:HD12	13:CP:100:LEU:HD23	1.84	0.59
17:CT:41:ARG:NH1	34:DA:346:G:OP1	2.33	0.59
17:CT:88:ILE:HG13	17:CT:91:ARG:NH2	2.18	0.59
34:DA:596:C:N3	34:DA:644:G:N1	2.36	0.59
34:DA:1192:C:OP1	36:DC:4:LYS:NZ	2.32	0.59
2:AB:105:A:OP1	23:AZ:72:ARG:NH1	2.36	0.59
28:A4:36:CYS:SG	28:A4:37:SER:N	2.75	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:456:C:N4	34:BA:475:G:H1	2.00	0.59
34:BA:542:G:OP1	37:BD:10:ARG:NH1	2.34	0.59
35:BB:16:HIS:CG	35:BB:17:PHE:N	2.69	0.59
1:CA:250:G:H2'	1:CA:251:A:C8	2.36	0.59
4:CD:73:VAL:O	4:CD:75:ILE:HD12	2.02	0.59
34:DA:826:C:H2'	34:DA:827:U:C6	2.38	0.59
3:AC:214:TYR:CE2	3:AC:224:ARG:HG2	2.36	0.59
17:AT:60:THR:HG22	17:AT:77:PRO:HA	1.83	0.59
34:BA:17:U:H2'	34:BA:18:C:C6	2.38	0.59
57:BZ:-29:LEU:O	57:BZ:-27:THR:HG23	2.03	0.59
57:BZ:151:ARG:O	57:BZ:155:GLU:HG3	2.03	0.59
57:BZ:310:ALA:O	57:BZ:331:TYR:N	2.33	0.59
1:CA:154(A):C:H42	1:CA:171:G:H1	1.50	0.59
1:CA:2375:G:O2'	1:CA:2377:A:N7	2.31	0.59
1:CA:2377:A:H2'	1:CA:2378:A:C8	2.36	0.59
3:CC:214:TYR:CE2	3:CC:224:ARG:HG2	2.37	0.59
6:CF:21:ALA:HB3	6:CF:22:ALA:HA	1.85	0.59
7:CG:97:ASP:HA	7:CG:100:TRP:HD1	1.66	0.59
1:AA:100:G:OP1	26:A2:7:ARG:NH2	2.35	0.59
5:AE:143:ASN:HD22	5:AE:147:PRO:HD3	1.67	0.59
7:AG:170:ARG:HH21	7:AG:180:PHE:HB3	1.66	0.59
8:AH:164:TYR:HB2	8:AH:167:GLU:HB2	1.84	0.59
12:AO:104:ARG:HH22	17:AT:43:GLN:NE2	2.00	0.59
22:AY:35:TYR:CE2	22:AY:69:ALA:HB3	2.37	0.59
34:BA:675:A:H1'	44:BK:116:HIS:CD2	2.38	0.59
1:CA:1773:A:H5''	63:CA:4294:HOH:O	2.03	0.59
17:CT:91:ARG:HH11	17:CT:120:ARG:NH1	2.01	0.59
34:DA:946:A:OP1	46:DM:114:ARG:NH1	2.35	0.59
1:AA:310:C:H2'	1:AA:311:C:H6	1.68	0.59
21:AX:31:HIS:CD2	21:AX:33:LYS:H	2.20	0.59
34:BA:737:A:H2'	34:BA:738:C:C6	2.37	0.59
56:BY:6:G:O6	56:BY:7:A:N6	2.36	0.59
1:CA:854:G:O6	63:CA:3732:HOH:O	2.15	0.59
1:CA:1899:G:H2'	1:CA:1899:G:N3	2.16	0.59
3:CC:41:THR:HG22	3:CC:42:VAL:N	2.17	0.59
15:CR:29:LEU:HB3	15:CR:75:LEU:HD21	1.83	0.59
20:CW:12:ILE:HD12	20:CW:42:ARG:HD3	1.84	0.59
21:CX:57:LEU:HD21	21:CX:78:LYS:HE2	1.84	0.59
34:DA:237:C:OP2	50:DQ:40:LYS:NZ	2.36	0.59
1:AA:387:G:H2'	1:AA:388:A:H8	1.67	0.59
1:AA:528:A:O2'	63:AA:3932:HOH:O	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:532:A:H5''	1:AA:533:G:H3'	1.85	0.59
1:AA:2833:A:OP1	5:AE:159:HIS:NE2	2.31	0.59
5:AE:9:VAL:HB	17:AT:3:ARG:HG2	1.84	0.59
8:AH:41:MET:CE	8:AH:65:HIS:HA	2.33	0.59
34:BA:757:U:H2'	34:BA:758:G:O4'	2.01	0.59
34:BA:1191:A:H5''	36:BC:4:LYS:HZ2	1.66	0.59
34:BA:1233:G:H2'	34:BA:1234:C:C6	2.38	0.59
1:CA:247:G:H4'	1:CA:386:G:C5	2.38	0.59
3:CC:214:TYR:CZ	3:CC:224:ARG:HG2	2.37	0.59
34:DA:1318:A:H2'	34:DA:1319:A:H5''	1.83	0.59
40:DG:16:LEU:HG	42:DI:41:VAL:O	2.02	0.59
43:DJ:5:ARG:N	43:DJ:73:ASP:OD1	2.35	0.59
3:AC:41:THR:HG22	3:AC:42:VAL:N	2.17	0.59
14:AQ:54:MET:HG2	14:AQ:117:ALA:HB1	1.84	0.59
34:BA:537:G:H2'	34:BA:538:G:H8	1.66	0.59
34:BA:598:U:H2'	34:BA:599:C:H6	1.67	0.59
35:BB:42:ILE:HD12	35:BB:203:GLY:HA2	1.84	0.59
36:BC:87:LEU:O	36:BC:89:GLU:N	2.36	0.59
57:BZ:490:PRO:HG3	57:BZ:516:PRO:HD2	1.84	0.59
5:CE:9:VAL:HG23	17:CT:3:ARG:HG2	1.83	0.59
57:DZ:96:ARG:HH11	57:DZ:96:ARG:HB2	1.68	0.59
1:AA:1337:C:H2'	1:AA:1338:U:H6	1.67	0.59
6:AF:50:SER:HB2	6:AF:94:PRO:HD3	1.83	0.59
6:AF:129:PHE:HB3	6:AF:132:VAL:HG13	1.85	0.59
34:BA:524:G:H2'	34:BA:525:C:C6	2.37	0.59
38:BE:57:LYS:HG2	38:BE:61:TYR:HE2	1.66	0.59
49:BP:11:SER:H	49:BP:14:ASN:HB3	1.68	0.59
56:BY:67:C:H2'	56:BY:68:C:C6	2.38	0.59
57:BZ:73:PHE:CE2	57:BZ:78:ARG:NH1	2.71	0.59
1:CA:1688:U:O2	1:CA:1700:A:H5'	2.03	0.59
34:DA:881:G:OP2	45:DL:12:ARG:NH2	2.35	0.59
37:DD:187:ARG:NH2	37:DD:193:ASP:OD2	2.35	0.59
45:DL:70:ILE:HG12	45:DL:100:ILE:HD12	1.85	0.59
54:DU:5:ASP:O	54:DU:11:GLY:HA3	2.03	0.59
1:AA:34:C:H5''	1:AA:35:G:OP2	2.03	0.59
4:AD:52:ARG:NH2	63:AD:403:HOH:O	2.36	0.59
6:AF:133:ASN:N	6:AF:138:GLU:OE1	2.29	0.59
34:BA:409:G:H2'	34:BA:410:G:H8	1.65	0.59
34:BA:1108:G:H5'	36:BC:176:HIS:HD2	1.68	0.59
34:BA:1498:U:O2'	55:BV:17:U:OP1	2.15	0.59
50:BQ:41:LYS:HZ3	50:BQ:92:ARG:NH2	2.01	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BW:18:G:O2'	56:BW:57:G:N2	2.30	0.59
1:CA:1138:G:H21	11:CN:106:MET:HG2	1.66	0.59
1:CA:2178:C:H4'	3:CC:47:LYS:HZ1	1.64	0.59
23:CZ:67:LEU:HD22	23:CZ:90:VAL:HG11	1.83	0.59
34:DA:149:A:H2'	34:DA:150:C:C6	2.38	0.59
40:DG:20:ASP:HB3	40:DG:23:VAL:HG23	1.83	0.59
9:AK:26:LEU:HA	9:AK:84:GLU:HA	1.85	0.58
34:BA:946:A:H2'	34:BA:947:G:C8	2.38	0.58
34:BA:1305:G:N2	34:BA:1331:G:H1'	2.17	0.58
39:BF:26:ILE:O	39:BF:30:LEU:HB2	2.03	0.58
1:CA:747:U:O2	1:CA:2014:A:H1'	2.02	0.58
1:CA:1923:U:OP1	56:DW:24:G:O2'	2.20	0.58
34:DA:862:C:H1'	34:DA:874:G:H5''	1.85	0.58
34:DA:1456:G:O3'	53:DT:39:LYS:NZ	2.36	0.58
46:DM:37:THR:O	46:DM:55:ARG:NH1	2.36	0.58
57:DZ:272:LEU:O	57:DZ:276:VAL:HG23	2.02	0.58
1:AA:1337:C:H2'	1:AA:1338:U:C6	2.38	0.58
1:AA:2121:U:H3	1:AA:2212:G:H1	1.52	0.58
3:AC:214:TYR:CZ	3:AC:224:ARG:HG2	2.37	0.58
4:AD:124:PRO:O	4:AD:126:GLN:N	2.36	0.58
23:AZ:138:GLU:H	23:AZ:156:LYS:NZ	2.01	0.58
28:A4:3:GLU:O	28:A4:5:ILE:N	2.36	0.58
1:CA:1080:C:O2'	10:CL:125:ARG:O	2.19	0.58
1:CA:1876:A:H2'	1:CA:1877:A:C8	2.38	0.58
1:CA:2504:U:OP2	63:CA:3741:HOH:O	2.17	0.58
13:CP:70:GLN:O	13:CP:73:GLY:N	2.36	0.58
34:DA:642:A:N3	41:DH:113:SER:OG	2.36	0.58
57:DZ:568:TYR:HD1	57:DZ:568:TYR:H	1.50	0.58
2:AB:8:U:O3'	16:AS:25:ARG:NH2	2.36	0.58
35:BB:60:ASP:OD1	35:BB:64:ARG:NH2	2.29	0.58
45:BL:70:ILE:HD13	45:BL:77:LEU:HD12	1.84	0.58
52:BS:63:THR:OG1	52:BS:65:ASN:ND2	2.36	0.58
57:BZ:98:MET:HA	57:BZ:101:LEU:HB2	1.85	0.58
57:BZ:609:GLU:HG2	57:BZ:644:ARG:HG2	1.85	0.58
1:CA:531:C:OP1	1:CA:561:G:N1	2.33	0.58
1:CA:1190:G:H5''	13:CP:32:THR:O	2.02	0.58
20:CW:24:ILE:HA	20:CW:27:LYS:HG3	1.86	0.58
22:CY:6:HIS:O	22:CY:97:ARG:NH2	2.37	0.58
23:CZ:79:ARG:HD2	23:CZ:80:ARG:NH2	2.18	0.58
34:DA:148:G:H2'	34:DA:149:A:H8	1.66	0.58
35:DB:219:VAL:O	35:DB:222:ILE:HG12	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:125:LEU:HD21	6:AF:199:TRP:CG	2.38	0.58
35:BB:111:ARG:HG2	35:BB:111:ARG:NH1	2.15	0.58
37:BD:18:LYS:HG3	37:BD:33:MET:HG2	1.84	0.58
57:BZ:247:ARG:HE	57:BZ:251:ILE:HD11	1.69	0.58
1:CA:1637:A:H4'	1:CA:2711:A:O2'	2.04	0.58
11:CN:58:ASP:OD2	11:CN:59:LYS:N	2.37	0.58
15:CR:24:GLN:OE1	15:CR:36:THR:HG21	2.03	0.58
49:DP:19:ILE:HG22	49:DP:36:ILE:HG13	1.86	0.58
1:AA:2175:G:H2'	1:AA:2176:G:H8	1.68	0.58
47:BN:6:LEU:HG	47:BN:23:ARG:NH2	2.17	0.58
51:BR:38:GLU:OE2	51:BR:41:LYS:NZ	2.29	0.58
56:BW:34:G:H8	56:BW:34:G:OP1	1.86	0.58
57:BZ:655:TYR:HA	57:BZ:658:ASP:HB2	1.85	0.58
1:CA:898:C:H2'	1:CA:899:A:O4'	2.03	0.58
1:CA:2646:C:OP2	1:CA:2732:G:O2'	2.22	0.58
2:CB:62:C:H2'	2:CB:63:G:H8	1.68	0.58
16:CS:16:ASN:HA	16:CS:19:LYS:HG3	1.85	0.58
31:C7:29:LYS:NZ	31:C7:33:ARG:HE	2.01	0.58
34:DA:437:U:H5'	37:DD:155:LEU:HD21	1.85	0.58
46:DM:17:VAL:O	46:DM:20:THR:OG1	2.18	0.58
57:DZ:629:GLY:HA3	57:DZ:647:VAL:HG12	1.85	0.58
1:AA:1186:U:H6	11:AN:63:THR:HG1	1.52	0.58
2:AB:33:G:H5'	7:AG:2:PRO:HD3	1.86	0.58
34:BA:110:C:O2'	49:BP:25:ARG:HB3	2.03	0.58
34:BA:403:C:OP1	37:BD:137:SER:OG	2.22	0.58
38:BE:7:GLU:OE1	38:BE:37:ARG:NH2	2.30	0.58
40:BG:46:ALA:O	40:BG:50:ILE:HG23	2.03	0.58
1:CA:7:G:H1	1:CA:2896:C:H42	1.51	0.58
1:CA:2572:A:N7	5:CE:145:LYS:HB2	2.19	0.58
8:CH:76:VAL:C	8:CH:78:GLY:H	2.06	0.58
10:CL:99:ILE:O	10:CL:138:VAL:HA	2.03	0.58
14:CQ:27:VAL:O	14:CQ:29:PHE:N	2.37	0.58
34:DA:9:G:H2'	34:DA:10:A:H8	1.67	0.58
34:DA:738:C:H2'	34:DA:739:C:H6	1.68	0.58
34:DA:979:C:H42	47:DN:18:VAL:HB	1.69	0.58
34:DA:1399:C:C2	34:DA:1502:A:N6	2.72	0.58
35:DB:172:ILE:HG22	35:DB:176:GLU:HG3	1.85	0.58
37:DD:191:ARG:O	37:DD:191:ARG:NH1	2.36	0.58
49:DP:28:ARG:HG3	49:DP:29:ASP:OD1	2.04	0.58
5:AE:1:MET:HE1	5:AE:199:ARG:HB3	1.85	0.58
5:AE:36:ARG:HH11	5:AE:85:ASN:ND2	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1504:G:OP1	34:BA:1507:A:H4'	2.04	0.58
57:BZ:224:ASP:OD2	57:BZ:227:ILE:HG13	2.03	0.58
1:CA:1274:A:N3	1:CA:1297:C:H1'	2.18	0.58
50:DQ:45:HIS:HB2	50:DQ:65:ILE:HD13	1.86	0.58
1:AA:2417:G:O2'	1:AA:2423:A:N6	2.36	0.58
1:AA:2771:A:OP2	63:AA:3933:HOH:O	2.17	0.58
7:AG:126:ASP:HB2	7:AG:130:ASN:H	1.67	0.58
23:AZ:150:LEU:O	23:AZ:171:ILE:HG13	2.04	0.58
34:BA:114:U:H2'	34:BA:115:G:C8	2.38	0.58
34:BA:1329:A:H5'	46:BM:29:ARG:HE	1.69	0.58
1:CA:907:U:O2'	14:CQ:101:ARG:NH2	2.36	0.58
1:CA:2572:A:C8	5:CE:144:ARG:HD2	2.38	0.58
1:CA:2728:U:H5'	12:CO:70:LYS:HZ1	1.69	0.58
6:CF:168:ARG:O	6:CF:170:LEU:N	2.36	0.58
34:DA:620:C:H2'	34:DA:621:A:O4'	2.04	0.58
35:DB:52:GLU:O	35:DB:56:ARG:HG2	2.04	0.58
35:DB:98:LEU:HB2	35:DB:101:MET:SD	2.44	0.58
36:DC:40:ARG:HH21	36:DC:55:VAL:HB	1.68	0.58
50:DQ:66:SER:O	50:DQ:70:ARG:NH1	2.36	0.58
57:DZ:-53:ASP:H	57:DZ:-50:GLN:HE22	1.49	0.58
1:AA:1491:A:H4'	1:AA:1492:C:OP2	2.03	0.58
1:AA:1525:G:HO2'	1:AA:1605:A:H2	1.49	0.58
5:AE:59:VAL:HB	5:AE:64:LYS:HZ3	1.69	0.58
8:AH:17:VAL:HG11	8:AH:50:VAL:HG21	1.85	0.58
15:AR:36:THR:HG22	15:AR:37:THR:N	2.15	0.58
27:A3:6:VAL:HG13	27:A3:56:VAL:HG22	1.84	0.58
34:BA:222:U:H2'	34:BA:223:U:C6	2.39	0.58
57:BZ:428:LEU:HD22	57:BZ:440:VAL:HG11	1.85	0.58
1:CA:751:A:H5'	20:CW:90:ARG:HA	1.85	0.58
1:CA:1064:C:OP1	10:CL:89:HIS:N	2.37	0.58
1:CA:1971:A:OP2	4:CD:242:ARG:NH2	2.35	0.58
34:DA:972:C:O3'	43:DJ:57:LYS:HD3	2.04	0.58
57:DZ:169:GLY:N	57:DZ:205:TYR:OH	2.35	0.58
57:DZ:225:GLU:HA	57:DZ:228:MET:HB3	1.86	0.58
1:AA:1653:C:H4'	1:AA:1654:A:O5'	2.04	0.58
1:AA:1688:A:H2'	1:AA:1689:G:O4'	2.04	0.58
6:AF:18:ARG:NH2	6:AF:127:GLU:OE1	2.36	0.58
22:AY:8:LYS:HG2	22:AY:11:ASP:OD2	2.03	0.58
23:AZ:154:ASP:OD2	23:AZ:154:ASP:N	2.37	0.58
34:BA:33:A:H5''	34:BA:364:A:H1'	1.86	0.58
34:BA:236:G:OP1	50:BQ:40:LYS:NZ	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1107:G:N2	1:CA:1108:U:C2	2.72	0.58
6:CF:117:ARG:NH2	6:CF:189:THR:O	2.34	0.58
20:CW:86:LEU:O	20:CW:94:ASP:N	2.37	0.58
22:CY:52:SER:HB3	22:CY:55:TYR:H	1.67	0.58
41:DH:51:VAL:HG12	41:DH:52:ASP:H	1.68	0.58
57:DZ:72:CYS:SG	57:DZ:79:ILE:HB	2.44	0.58
1:AA:2490:A:OP2	33:A9:2:LYS:NZ	2.26	0.57
13:AP:70:GLN:O	13:AP:73:GLY:N	2.31	0.57
36:BC:43:LEU:HD22	36:BC:47:LEU:HD11	1.86	0.57
37:BD:127:THR:OG1	37:BD:131:ARG:O	2.21	0.57
49:BP:67:THR:HB	49:BP:70:ALA:HB2	1.86	0.57
6:CF:51:THR:O	6:CF:93:LYS:HE2	2.04	0.57
23:CZ:54:HIS:ND1	23:CZ:101:PRO:HG3	2.19	0.57
34:DA:1354:C:H2'	34:DA:1355:G:C8	2.39	0.57
35:DB:212:GLN:NE2	35:DB:234:PRO:O	2.37	0.57
46:DM:8:GLU:HG2	46:DM:11:ARG:HH12	1.69	0.57
48:DO:41:GLU:HA	48:DO:44:LYS:HD2	1.86	0.57
56:DW:38:A:H2'	56:DW:39:PSU:O4'	2.04	0.57
57:DZ:-29:LEU:HB3	57:DZ:-27:THR:HG23	1.85	0.57
1:AA:325:G:OP2	22:AY:84:ARG:NH2	2.36	0.57
1:AA:1211:U:H2'	1:AA:1212:C:C6	2.38	0.57
1:AA:1540:A:H2'	1:AA:1541:A:C8	2.39	0.57
5:AE:93:VAL:N	63:AE:402:HOH:O	2.25	0.57
12:AO:64:ARG:HG2	12:AO:79:PHE:CG	2.38	0.57
23:AZ:156:LYS:HG2	23:AZ:157:LEU:N	2.19	0.57
34:BA:159:G:H2'	34:BA:161:A:OP2	2.04	0.57
34:BA:1057:G:H2'	34:BA:1058:G:O4'	2.04	0.57
34:BA:1130:A:O2'	42:BI:3:GLN:OE1	2.22	0.57
1:CA:1817:G:OP1	4:CD:88:ARG:NH2	2.35	0.57
1:CA:1849:G:H2'	1:CA:1850:G:H8	1.69	0.57
1:CA:2304:G:H22	1:CA:2312:U:H3	1.51	0.57
15:CR:104:ARG:HD2	15:CR:109:ALA:HB3	1.85	0.57
20:CW:9:TYR:CD1	20:CW:102:HIS:HE1	2.22	0.57
34:DA:1255:G:OP1	43:DJ:45:ARG:NH2	2.29	0.57
36:DC:22:TRP:HZ3	36:DC:24:ALA:HB2	1.68	0.57
37:DD:88:VAL:HG12	37:DD:89:THR:H	1.68	0.57
46:DM:29:ARG:HD3	46:DM:64:TRP:CE2	2.38	0.57
57:DZ:11:ARG:HB2	57:DZ:11:ARG:NH1	2.20	0.57
1:AA:1854:G:OP1	4:AD:54:ARG:NH1	2.38	0.57
8:AH:149:ARG:HH21	8:AH:153:LYS:HE2	1.68	0.57
19:AV:16:PRO:HB3	19:AV:97:LYS:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:148:G:H1	34:BA:174:C:N4	1.98	0.57
34:BA:149:A:H2'	34:BA:150:C:H6	1.70	0.57
34:BA:923:A:OP1	38:BE:21:ALA:HB2	2.04	0.57
34:BA:1268:A:H2'	34:BA:1269:A:C8	2.39	0.57
36:BC:3:ASN:OD1	36:BC:3:ASN:N	2.36	0.57
57:BZ:146:LEU:HD22	57:BZ:150:ILE:HD11	1.85	0.57
1:CA:27:G:O2'	1:CA:28:A:OP2	2.17	0.57
1:CA:882:G:H2'	1:CA:883:G:C8	2.40	0.57
1:CA:1759:A:N3	63:CA:3803:HOH:O	2.32	0.57
1:CA:2320:A:H2'	1:CA:2320:A:N3	2.17	0.57
7:CG:101:ILE:HD12	7:CG:101:ILE:H	1.68	0.57
39:DF:35:ALA:HB2	39:DF:67:MET:HE2	1.86	0.57
41:DH:14:ARG:HG2	41:DH:18:ARG:NH1	2.20	0.57
56:DW:5:G:H1	56:DW:68:C:H42	1.51	0.57
1:AA:1154:U:HO2'	1:AA:1155:C:H6	1.52	0.57
5:AE:54:GLN:HE21	5:AE:76:ARG:HG2	1.70	0.57
17:AT:118:ARG:HG2	34:BA:1442(A):G:C8	2.39	0.57
34:BA:15:G:C4	34:BA:16:A:C8	2.93	0.57
34:BA:502:G:C2	34:BA:503:C:C2	2.93	0.57
34:BA:1258:G:H2'	34:BA:1259:C:C6	2.39	0.57
34:BA:1367:C:H4'	43:BJ:48:THR:HG21	1.86	0.57
53:BT:33:ILE:O	53:BT:37:SER:OG	2.17	0.57
57:BZ:115:GLU:N	57:BZ:156:ARG:HH12	1.98	0.57
57:BZ:146:LEU:HD12	57:BZ:167:PRO:HD3	1.87	0.57
1:CA:118:A:H1'	1:CA:178:G:O4'	2.04	0.57
1:CA:461:C:C2'	1:CA:462:C:H5'	2.33	0.57
1:CA:528:A:N1	1:CA:2042:A:H2'	2.19	0.57
1:CA:602:G:O2'	1:CA:655:A:N6	2.36	0.57
1:CA:1054:A:O2'	9:CK:30:GLN:O	2.20	0.57
1:CA:1187:G:H5'	19:CV:81:TYR:CE1	2.40	0.57
1:CA:2723:C:OP1	5:CE:109:LYS:HD3	2.04	0.57
12:CO:111:PHE:O	12:CO:115:VAL:HG23	2.03	0.57
1:AA:139:A:H8	1:AA:1454:C:HO2'	1.48	0.57
21:AX:21:PHE:O	21:AX:23:GLU:N	2.38	0.57
28:A4:15:ILE:HG23	28:A4:21:VAL:HG22	1.86	0.57
33:A9:15:LYS:HD3	33:A9:26:ILE:HD11	1.87	0.57
34:BA:232:G:H1'	34:BA:262:A:N1	2.19	0.57
34:BA:437:U:C2'	34:BA:438:G:H5'	2.35	0.57
43:BJ:8:LEU:HD12	43:BJ:20:ALA:HB2	1.85	0.57
45:BL:97:ARG:HB2	45:BL:98:TYR:CE1	2.40	0.57
49:BP:39:TYR:CZ	49:BP:41:PRO:HB3	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:143(A):C:H2'	1:CA:144:C:H6	1.68	0.57
1:CA:501:A:O5'	1:CA:501:A:H8	1.86	0.57
1:CA:921:G:H2'	1:CA:922:U:C6	2.40	0.57
1:CA:2294:C:OP2	16:CS:89:ARG:NH2	2.37	0.57
34:DA:839:U:H5''	34:DA:840:C:H5	1.68	0.57
34:DA:1106:G:H5''	36:DC:172:ARG:HG2	1.87	0.57
38:DE:60:TYR:HE1	38:DE:64:ARG:CZ	2.17	0.57
39:DF:69:GLU:O	39:DF:72:VAL:HG12	2.04	0.57
45:DL:34:ARG:NH1	58:DX:10:2QY:OH	2.37	0.57
1:AA:207:A:C2	1:AA:224:U:H4'	2.40	0.57
1:AA:1556:A:H3'	1:AA:1557:A:H8	1.68	0.57
21:AX:84:ALA:HB3	21:AX:87:GLN:HE22	1.68	0.57
23:AZ:138:GLU:O	23:AZ:156:LYS:HE3	2.05	0.57
34:BA:1014:A:H4'	52:BS:14:HIS:NE2	2.20	0.57
35:BB:207:ALA:HB3	35:BB:210:SER:HB3	1.87	0.57
36:BC:113:ALA:HB2	36:BC:202:ILE:HG13	1.87	0.57
38:BE:147:ASP:HA	38:BE:150:ARG:HB3	1.87	0.57
53:BT:57:ARG:NH2	53:BT:100:ILE:HD12	2.20	0.57
1:CA:2121:G:H21	3:CC:169:THR:CB	2.17	0.57
1:CA:2708:G:H1'	15:CR:71:GLN:HE22	1.70	0.57
2:CB:49:C:H2'	2:CB:50:G:C8	2.40	0.57
7:CG:25:TYR:CD2	7:CG:30:GLU:HB3	2.40	0.57
13:CP:93:GLY:H	13:CP:123:LEU:HD21	1.70	0.57
15:CR:26:LYS:HG2	15:CR:70:LEU:HD23	1.86	0.57
20:CW:29:LEU:O	20:CW:33:ARG:HG3	2.05	0.57
34:DA:958:A:N6	52:DS:77:THR:HG23	2.20	0.57
49:DP:51:VAL:HG12	49:DP:53:VAL:H	1.69	0.57
3:AC:6:LYS:HG3	3:AC:7:ARG:H	1.69	0.57
4:AD:132:PRO:HD3	4:AD:190:TYR:CZ	2.39	0.57
34:BA:518:C:O2'	34:BA:530:G:N2	2.38	0.57
38:BE:27:ARG:HG3	38:BE:28:PHE:N	2.19	0.57
47:BN:19:ARG:O	47:BN:21:TYR:N	2.38	0.57
1:CA:2125:G:OP1	3:CC:71:LYS:NZ	2.37	0.57
11:CN:39:ARG:HB3	11:CN:41:ASP:OD1	2.05	0.57
16:CS:66:ALA:O	16:CS:69:VAL:HG13	2.04	0.57
34:DA:559:A:OP1	38:DE:126:ARG:NH2	2.38	0.57
34:DA:714:G:H2'	34:DA:715:A:C8	2.40	0.57
34:DA:1079:G:H2'	34:DA:1080:A:C8	2.39	0.57
49:DP:52:ASP:HB3	49:DP:55:ARG:HB2	1.86	0.57
57:DZ:172:ASP:N	57:DZ:172:ASP:OD2	2.38	0.57
1:AA:2442:A:OP1	63:AA:3936:HOH:O	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2697:G:H5'	12:AO:68:GLU:OE1	2.04	0.57
45:BL:40:VAL:HG21	45:BL:78:GLN:HA	1.85	0.57
49:BP:23:ASP:O	49:BP:25:ARG:N	2.37	0.57
57:BZ:75:LYS:O	57:BZ:77:HIS:HD2	1.87	0.57
1:CA:647:G:O5'	1:CA:647:G:H8	1.87	0.57
1:CA:1011:G:OP2	18:CU:66:ASN:ND2	2.36	0.57
1:CA:2080:G:OP1	25:C1:35:THR:HG21	2.03	0.57
2:CB:19:G:H1	2:CB:64:C:H42	1.50	0.57
7:CG:126:ASP:N	7:CG:126:ASP:OD1	2.34	0.57
16:CS:84:GLN:H	16:CS:111:GLU:HB2	1.70	0.57
17:CT:26:ASP:OD1	17:CT:120:ARG:NH2	2.35	0.57
18:CU:58:ARG:HA	18:CU:61:TRP:CE3	2.40	0.57
34:DA:1090:U:H2'	34:DA:1091:U:C6	2.40	0.57
35:DB:155:LEU:HD11	35:DB:159:PRO:HD3	1.86	0.57
36:DC:110:ASN:HB3	36:DC:141:VAL:HA	1.86	0.57
40:DG:74:GLU:OE1	40:DG:95:ARG:NH2	2.38	0.57
1:AA:624:C:OP1	6:AF:108:LYS:HE3	2.05	0.57
1:AA:662:A:H4'	1:AA:663:G:O5'	2.05	0.57
1:AA:2787:C:H2'	1:AA:2788:A:O4'	2.05	0.57
9:AK:117:LEU:HA	9:AK:122:VAL:HA	1.86	0.57
22:AY:30:VAL:O	22:AY:32:PRO:HD3	2.05	0.57
26:A2:63:VAL:HA	26:A2:66:GLU:HG3	1.86	0.57
34:BA:186:C:O4'	53:BT:81:LYS:NZ	2.38	0.57
34:BA:946:A:O2'	34:BA:1333:A:N3	2.34	0.57
42:BI:70:LYS:O	42:BI:74:ILE:HG13	2.04	0.57
47:BN:24:CYS:HB3	47:BN:28:GLY:H	1.69	0.57
1:CA:2294:C:P	16:CS:89:ARG:HH22	2.28	0.57
2:CB:13:A:N1	2:CB:69:G:O2'	2.30	0.57
4:CD:242:ARG:HD3	4:CD:242:ARG:N	2.20	0.57
11:CN:19:GLU:HG2	11:CN:59:LYS:HB3	1.86	0.57
34:DA:509:A:C8	34:DA:509:A:H3'	2.40	0.57
34:DA:1065:U:H5''	34:DA:1190:G:N2	2.18	0.57
34:DA:1103:C:H2'	34:DA:1104:G:O4'	2.04	0.57
34:DA:1239:A:H4'	34:DA:1240:U:C5'	2.35	0.57
1:AA:932:C:H3'	1:AA:933:C:H5''	1.86	0.57
1:AA:1221:G:H1'	1:AA:1222:A:C5'	2.35	0.57
1:AA:1551:C:H2'	1:AA:1552:C:H6	1.69	0.57
1:AA:2045:G:H5'	1:AA:2629:C:H4'	1.87	0.57
34:BA:765:G:H5''	34:BA:766:A:OP1	2.04	0.57
34:BA:1074:G:O2'	34:BA:1101:A:N1	2.28	0.57
34:BA:1309:G:N2	34:BA:1329:A:H1'	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:257:PRO:HB2	57:BZ:259:PHE:HE1	1.69	0.57
1:CA:265:A:C8	1:CA:266:G:H1'	2.39	0.57
1:CA:373:U:H2'	1:CA:374:A:H8	1.69	0.57
1:CA:2394:C:N3	56:DY:76:A:O3'	2.36	0.57
1:CA:2424:C:O2	1:CA:2429:G:O2'	2.19	0.57
8:CH:91:GLY:O	8:CH:93:GLY:N	2.38	0.57
16:CS:12:PHE:O	16:CS:16:ASN:ND2	2.35	0.57
57:DZ:206:LEU:HD11	57:DZ:210:ARG:NH1	2.20	0.57
57:DZ:326:THR:HB	57:DZ:377:VAL:HG13	1.87	0.57
1:AA:1154:U:H6	1:AA:1155:C:C6	2.23	0.56
1:AA:2127:C:H2'	1:AA:2128:G:C8	2.40	0.56
13:AP:101:VAL:HG23	13:AP:106:LEU:HB3	1.87	0.56
14:AQ:66:ILE:HG12	14:AQ:104:PHE:HD1	1.70	0.56
17:AT:54:ARG:HA	17:AT:59:THR:HB	1.87	0.56
32:A8:26:LYS:HD2	63:A8:5108:HOH:O	2.04	0.56
42:BI:42:ARG:NH1	42:BI:71:SER:OG	2.38	0.56
57:BZ:549:ALA:HB2	57:BZ:587:SER:HA	1.85	0.56
1:CA:324:A:N6	1:CA:338:G:O2'	2.38	0.56
1:CA:1418:G:O2'	1:CA:1580:A:N6	2.37	0.56
14:CQ:50:ALA:HB1	14:CQ:121:ALA:HB1	1.87	0.56
1:AA:346:A:H5'	1:AA:364:A:H1'	1.87	0.56
1:AA:1104:G:N2	1:AA:1127:U:H1'	2.20	0.56
4:AD:72:LYS:HD3	4:AD:97:TYR:CE2	2.40	0.56
40:BG:78:ARG:HD3	40:BG:79:ARG:H	1.70	0.56
48:BO:25:THR:HG21	48:BO:70:LEU:HB2	1.87	0.56
53:BT:37:SER:O	53:BT:41:ILE:HG13	2.05	0.56
1:CA:310:A:OP1	22:CY:18:GLY:N	2.21	0.56
1:CA:1823:G:OP1	4:CD:54:ARG:NH1	2.38	0.56
2:CB:91:C:OP1	14:CQ:16:ARG:HG3	2.05	0.56
7:CG:129:GLY:HA3	7:CG:163:ALA:O	2.05	0.56
24:C0:26:TYR:O	24:C0:29:GLN:HB2	2.05	0.56
34:DA:1085:U:H5'	34:DA:1094:G:N2	2.20	0.56
34:DA:1159:U:O4'	34:DA:1182:G:N2	2.38	0.56
35:DB:16:HIS:CD2	35:DB:17:PHE:H	2.23	0.56
38:DE:147:ASP:O	38:DE:151:LEU:HG	2.05	0.56
46:DM:39:ILE:HG12	46:DM:52:GLU:HB3	1.86	0.56
58:DX:9:MVA:CB	58:DX:10:2QY:H82	2.35	0.56
1:AA:254:A:H1'	1:AA:255:G:O4'	2.06	0.56
1:AA:555:G:N3	1:AA:555:G:O4'	2.37	0.56
1:AA:886:U:H1'	1:AA:1236:G:H1'	1.87	0.56
1:AA:990:A:H2	63:AA:4224:HOH:O	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:AP:62:LEU:O	32:A8:13:ARG:HD3	2.06	0.56
16:AS:20:ARG:NH2	24:A0:48:GLY:O	2.38	0.56
25:A1:64:ALA:O	25:A1:67:ILE:HG13	2.05	0.56
34:BA:836:G:OP1	51:BR:61:LYS:HE2	2.05	0.56
34:BA:920:U:H2'	34:BA:921:U:C6	2.40	0.56
34:BA:1133:G:H2'	34:BA:1134:G:H8	1.70	0.56
35:BB:103:THR:HG23	35:BB:176:GLU:HB3	1.86	0.56
35:BB:145:LEU:O	35:BB:149:LEU:HB2	2.05	0.56
35:BB:158:LEU:HG	35:BB:182:ILE:HD11	1.86	0.56
57:BZ:13:ARG:NH2	57:BZ:280:LEU:O	2.38	0.56
57:BZ:69:VAL:HG21	57:BZ:374:LEU:HD13	1.87	0.56
1:CA:1491:G:O2'	4:CD:101:GLU:HB2	2.05	0.56
20:CW:12:ILE:HD12	20:CW:42:ARG:NH1	2.19	0.56
34:DA:64:G:H4'	34:DA:65:U:H3'	1.88	0.56
34:DA:108:G:C2	53:DT:15:ARG:HG3	2.40	0.56
34:DA:649:G:H2'	34:DA:650:G:C8	2.41	0.56
34:DA:1052:U:H5''	34:DA:1053:G:OP2	2.06	0.56
35:DB:13:ALA:N	35:DB:14:GLY:HA3	2.20	0.56
43:DJ:8:LEU:HB2	43:DJ:70:ARG:HB2	1.88	0.56
56:DW:40:C:O2'	56:DW:41:C:O5'	2.23	0.56
57:DZ:21:ILE:HD11	57:DZ:117:GLN:NE2	2.19	0.56
1:AA:2014:G:OP2	63:AA:3935:HOH:O	2.18	0.56
4:AD:20:ASP:N	4:AD:20:ASP:OD1	2.35	0.56
8:AH:149:ARG:NH1	8:AH:167:GLU:OE2	2.34	0.56
34:BA:600:C:H2'	34:BA:601:C:C6	2.41	0.56
34:BA:1374:A:OP1	40:BG:36:LYS:NZ	2.32	0.56
56:BW:47:U:O2'	56:BW:48:C:OP1	2.16	0.56
1:CA:770:G:N3	1:CA:1354:A:H2	2.03	0.56
1:CA:1110:G:H2'	1:CA:1110:G:N3	2.21	0.56
1:CA:1153:C:OP1	18:CU:76:TYR:OH	2.21	0.56
1:CA:2193:G:H2'	1:CA:2194:G:O4'	2.05	0.56
4:CD:108:PRO:HG3	4:CD:143:HIS:CE1	2.41	0.56
7:CG:80:PHE:O	7:CG:82:LEU:N	2.39	0.56
34:DA:429:U:H2'	37:DD:25:ARG:NH1	2.19	0.56
34:DA:721:G:H4'	34:DA:722:A:O4'	2.05	0.56
34:DA:1375:A:O2'	40:DG:29:LYS:NZ	2.26	0.56
1:AA:1067:A:C8	1:AA:1067:A:H3'	2.40	0.56
21:AX:84:ALA:O	21:AX:87:GLN:HB2	2.06	0.56
34:BA:1244:C:O2	34:BA:1294:G:N2	2.38	0.56
35:BB:212:GLN:NE2	35:BB:235:SER:HA	2.20	0.56
1:CA:2693:A:H2'	1:CA:2694:G:H8	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:103:G:H21	23:CZ:73:GLN:CD	2.09	0.56
7:CG:50:ALA:O	7:CG:52:ILE:N	2.39	0.56
10:CL:129:GLY:HA2	10:CL:132:ARG:NH2	2.21	0.56
16:CS:95:HIS:HA	16:CS:99:LYS:HD2	1.87	0.56
34:DA:983:A:H1'	34:DA:1049:U:O2	2.04	0.56
34:DA:1318:A:OP1	52:DS:3:ARG:NH1	2.39	0.56
41:DH:16:ALA:O	41:DH:18:ARG:N	2.38	0.56
44:DK:59:TYR:CE2	44:DK:63:LEU:HD11	2.41	0.56
48:DO:17:ARG:HH11	48:DO:17:ARG:HG3	1.70	0.56
1:AA:613:A:OP1	6:AF:95:ARG:NH1	2.39	0.56
33:A9:2:LYS:HE2	33:A9:31:LYS:O	2.05	0.56
34:BA:1250:A:H2	34:BA:1370:G:H1'	1.69	0.56
53:BT:81:LYS:O	53:BT:85:MET:HG3	2.05	0.56
1:CA:90:U:H1'	1:CA:92:A:C8	2.40	0.56
1:CA:2102:U:H2'	1:CA:2103:C:C6	2.40	0.56
1:CA:2758:A:C2	1:CA:2759:G:H1'	2.39	0.56
7:CG:64:THR:HB	7:CG:94:LEU:HD21	1.88	0.56
35:DB:211:ILE:HG22	35:DB:215:LEU:HG	1.88	0.56
38:DE:100:VAL:HG12	38:DE:107:ARG:HH21	1.70	0.56
54:DU:2:GLY:O	54:DU:4:GLY:N	2.38	0.56
1:AA:2154:U:N3	3:AC:6:LYS:HB2	2.20	0.56
4:AD:127:VAL:HA	4:AD:193:VAL:HG22	1.87	0.56
6:AF:53:THR:HB	6:AF:56:GLU:OE2	2.06	0.56
16:AS:34:HIS:ND1	16:AS:53:SER:OG	2.31	0.56
22:AY:19:LYS:HE3	22:AY:20:TYR:CE1	2.40	0.56
38:BE:100:VAL:O	38:BE:107:ARG:NH2	2.39	0.56
1:CA:1429:G:H2'	1:CA:1430:C:C6	2.41	0.56
1:CA:2783:G:H2'	1:CA:2784:C:C6	2.41	0.56
17:CT:55:ASN:H	17:CT:59:THR:HB	1.70	0.56
21:CX:59:VAL:N	21:CX:76:ARG:O	2.32	0.56
4:AD:67:PHE:HE1	4:AD:106:ILE:HD11	1.69	0.56
32:A8:32:LEU:O	32:A8:36:LYS:HE3	2.06	0.56
34:BA:1239:A:H62	34:BA:1299:A:N6	2.03	0.56
34:BA:1412:C:H2'	34:BA:1413:A:H8	1.71	0.56
35:BB:109:SER:HA	35:BB:112:VAL:HG13	1.88	0.56
42:BI:26:VAL:HG22	42:BI:61:ALA:HB3	1.88	0.56
57:BZ:138:LYS:HE2	62:BZ:702:GDP:C4	2.41	0.56
1:CA:668:G:H5'	1:CA:669:G:OP2	2.06	0.56
1:CA:1076:C:H2'	1:CA:1077:A:C8	2.35	0.56
1:CA:1081:U:H2'	1:CA:1082:U:H5	1.71	0.56
1:CA:1556:C:H2'	1:CA:1557:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2695:C:H2'	1:CA:2696:U:H6	1.69	0.56
1:CA:2760:C:H2'	1:CA:2761:G:H5''	1.88	0.56
3:CC:42:VAL:O	3:CC:216:THR:O	2.24	0.56
15:CR:72:ASP:OD2	15:CR:75:LEU:HB2	2.05	0.56
24:C0:46:LYS:HG2	24:C0:47:PRO:HD2	1.87	0.56
34:DA:47:C:H5''	34:DA:365:U:O2	2.05	0.56
34:DA:371:G:H21	34:DA:373:A:N6	2.04	0.56
34:DA:564:C:C6	50:DQ:31:LEU:HD11	2.41	0.56
34:DA:978:A:H4'	34:DA:1322:C:N3	2.20	0.56
34:DA:1347:G:HO2'	34:DA:1373:G:H1	1.53	0.56
36:DC:137:ALA:HA	36:DC:140:ARG:HH11	1.71	0.56
38:DE:147:ASP:OD1	63:DE:301:HOH:O	2.18	0.56
1:AA:1111:U:H3'	1:AA:1112:U:C6	2.41	0.56
1:AA:1941:A:H5''	1:AA:1942:C:OP2	2.05	0.56
4:AD:206:LEU:HD22	4:AD:211:ARG:HG2	1.86	0.56
6:AF:12:LEU:HG	6:AF:124:LEU:HD11	1.88	0.56
6:AF:65:TRP:CZ2	6:AF:75:HIS:HD2	2.23	0.56
28:A4:48:ARG:O	28:A4:50:VAL:N	2.39	0.56
48:BO:6:GLU:N	48:BO:6:GLU:OE2	2.38	0.56
52:BS:19:VAL:HG11	52:BS:43:GLU:HB3	1.87	0.56
1:CA:535:C:O3'	18:CU:53:ARG:NH1	2.38	0.56
1:CA:1932:A:H2'	1:CA:1933:G:O4'	2.06	0.56
1:CA:2177:C:H1'	3:CC:171:ALA:HB2	1.88	0.56
1:CA:2178:C:OP1	3:CC:47:LYS:CD	2.53	0.56
1:CA:2533:A:OP1	1:CA:2665:A:O2'	2.19	0.56
2:CB:15:A:H5'	2:CB:16:G:C8	2.41	0.56
34:DA:125:U:H2'	34:DA:126:G:C8	2.41	0.56
34:DA:878:G:C5'	41:DH:89:PRO:HG2	2.34	0.56
34:DA:1060:C:H5'	47:DN:45:ARG:HH22	1.69	0.56
35:DB:102:LEU:HB3	35:DB:180:LEU:HD12	1.87	0.56
36:DC:77:ILE:HG13	36:DC:78:GLY:N	2.21	0.56
49:DP:14:ASN:OD1	49:DP:16:HIS:HE1	1.89	0.56
1:AA:125:A:H5''	1:AA:126:C:C6	2.41	0.56
1:AA:553:A:C8	1:AA:553:A:C3'	2.88	0.56
1:AA:905:U:O2	1:AA:2280:A:H2'	2.06	0.56
1:AA:1935:A:H4'	1:AA:1936:C:C5'	2.34	0.56
7:AG:16:ARG:HB2	7:AG:17:PRO:HD3	1.86	0.56
34:BA:1433:A:C4	34:BA:1468:A:C2	2.93	0.56
35:BB:97:TRP:HZ2	35:BB:102:LEU:HD13	1.70	0.56
41:BH:54:ASP:N	41:BH:54:ASP:OD1	2.38	0.56
51:BR:33:ASP:OD2	51:BR:36:ASN:HB3	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2273:A:H2'	1:CA:2274:A:C8	2.41	0.56
2:CB:34:U:O4	2:CB:44:G:O2'	2.19	0.56
2:CB:57:A:H1'	7:CG:29:TRP:HB2	1.88	0.56
3:CC:49:GLY:N	3:CC:209:PHE:O	2.39	0.56
34:DA:1133:G:H1	34:DA:1141:C:H42	1.53	0.56
35:DB:233:SER:HB2	35:DB:234:PRO:HD2	1.87	0.56
8:AH:20:ALA:HB1	8:AH:21:PRO:HD2	1.88	0.55
34:BA:1229:A:OP2	46:BM:114:ARG:HD3	2.06	0.55
57:BZ:96:ARG:NH2	57:BZ:315:LYS:NZ	2.54	0.55
1:CA:241:A:H8	1:CA:241:A:OP1	1.89	0.55
1:CA:1053:C:N4	1:CA:1054:A:C8	2.74	0.55
1:CA:1843:C:H5'	4:CD:253:GLN:NE2	2.21	0.55
13:CP:38:GLN:HG2	13:CP:45:LEU:N	2.20	0.55
16:CS:89:ARG:HD2	16:CS:92:TYR:O	2.06	0.55
34:DA:418:C:H2'	34:DA:419:C:C6	2.42	0.55
34:DA:1323:G:H2'	34:DA:1324:A:C8	2.41	0.55
46:DM:20:THR:HA	46:DM:25:ILE:HG22	1.87	0.55
1:AA:2143:G:H1'	3:AC:168:LYS:CD	2.35	0.55
9:AK:80:VAL:O	9:AK:82:PHE:N	2.39	0.55
13:AP:82:GLY:HA2	13:AP:113:LYS:O	2.07	0.55
16:AS:83:LYS:O	16:AS:111:GLU:N	2.32	0.55
34:BA:1062:U:H2'	34:BA:1063:C:C6	2.41	0.55
41:BH:114:THR:HG22	41:BH:130:GLY:O	2.05	0.55
1:CA:142:A:HO2'	1:CA:1407:C:HO2'	1.54	0.55
1:CA:1107:G:N1	1:CA:1108:U:N3	2.54	0.55
1:CA:1338:G:N7	21:CX:62:LYS:NZ	2.49	0.55
1:CA:2124:G:N2	3:CC:218:THR:HG23	2.21	0.55
1:CA:2178:C:P	3:CC:47:LYS:HG2	2.43	0.55
1:CA:2850:A:H2'	1:CA:2851:A:C8	2.40	0.55
3:CC:6:LYS:HG3	3:CC:7:ARG:H	1.69	0.55
14:CQ:43:THR:HG22	14:CQ:94:VAL:HG12	1.88	0.55
34:DA:60:A:H4'	34:DA:61:G:O5'	2.06	0.55
34:DA:70:G:H1	34:DA:99:U:H3	1.54	0.55
35:DB:80:ILE:HD11	35:DB:212:GLN:HA	1.87	0.55
51:DR:69:THR:HA	51:DR:72:ARG:HB2	1.87	0.55
57:DZ:122:TRP:NE1	57:DZ:157:LEU:HD13	2.21	0.55
34:BA:600:C:H2'	34:BA:601:C:H6	1.71	0.55
34:BA:652:U:O4	34:BA:752:G:O2'	2.17	0.55
34:BA:1017:G:H2'	34:BA:1018:C:C6	2.41	0.55
35:BB:211:ILE:O	35:BB:215:LEU:HB2	2.07	0.55
41:BH:81:HIS:N	41:BH:138:TRP:O	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BJ:46:ARG:CB	43:BJ:46:ARG:HH11	2.18	0.55
53:BT:30:LYS:HA	53:BT:33:ILE:HD12	1.89	0.55
57:BZ:-53:ASP:H	57:BZ:-50:GLN:HE21	1.55	0.55
1:CA:853:G:O2'	1:CA:854:G:H5'	2.07	0.55
1:CA:931:G:O2'	27:C3:24:LYS:HE2	2.07	0.55
1:CA:2360:A:O5'	1:CA:2360:A:H8	1.90	0.55
23:CZ:73:GLN:HB3	23:CZ:87:ASP:HB2	1.87	0.55
34:DA:814:A:H2'	34:DA:816:A:H5''	1.88	0.55
35:DB:149:LEU:HD23	35:DB:152:PHE:HD2	1.71	0.55
56:DW:23:A:H2'	56:DW:24:G:H8	1.71	0.55
57:DZ:491:VAL:HG21	57:DZ:597:GLY:HA3	1.89	0.55
1:AA:868:A:H2'	1:AA:991:G:H5''	1.89	0.55
1:AA:1551:C:H2'	1:AA:1552:C:C6	2.41	0.55
2:AB:41:U:H5	7:AG:70:VAL:O	1.90	0.55
4:AD:67:PHE:HB3	4:AD:153:ALA:HB3	1.88	0.55
27:A3:3:ARG:CZ	27:A3:36:VAL:HG11	2.37	0.55
1:CA:463:G:H5''	1:CA:464:U:OP2	2.07	0.55
1:CA:663:G:O6	63:CA:3733:HOH:O	2.15	0.55
1:CA:687:C:N3	1:CA:788:A:H5'	2.21	0.55
1:CA:1753:G:N1	1:CA:1756:G:OP2	2.40	0.55
1:CA:2679:A:H4'	5:CE:165:VAL:HG11	1.87	0.55
7:CG:94:LEU:HD22	7:CG:98:ARG:HB2	1.89	0.55
17:CT:99:LEU:O	17:CT:102:ILE:HG12	2.06	0.55
24:C0:10:THR:HG22	24:C0:12:ASN:H	1.72	0.55
37:DD:73:ARG:HG3	37:DD:77:ASN:ND2	2.22	0.55
37:DD:194:LEU:H	37:DD:194:LEU:HD12	1.72	0.55
43:DJ:30:SER:OG	43:DJ:80:LYS:O	2.21	0.55
57:DZ:355:LEU:HG	57:DZ:369:LEU:HD22	1.89	0.55
1:AA:2369:U:OP1	24:A0:20:ARG:HD3	2.06	0.55
3:AC:49:GLY:N	3:AC:209:PHE:O	2.39	0.55
7:AG:145:THR:O	7:AG:148:MET:HG3	2.07	0.55
34:BA:278:G:OP2	50:BQ:92:ARG:NH2	2.40	0.55
34:BA:951:G:N7	46:BM:102:ARG:NH2	2.54	0.55
34:BA:1059:C:OP2	36:BC:199:LYS:NZ	2.33	0.55
34:BA:1316:G:H4'	47:BN:18:VAL:HG11	1.89	0.55
39:BF:44:GLY:HA2	39:BF:59:TYR:CZ	2.42	0.55
1:CA:1031:G:H21	33:C9:36:GLN:HE22	1.54	0.55
1:CA:1550:C:OP1	1:CA:1720:U:O2'	2.19	0.55
16:CS:14:VAL:O	16:CS:18:ILE:HG12	2.06	0.55
31:C7:5:TRP:NE1	31:C7:7:PRO:HG3	2.21	0.55
34:DA:1502:A:H2	34:DA:1505:G:H1	1.53	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:DC:112:SER:HB3	36:DC:115:LEU:HD22	1.87	0.55
37:DD:15:GLU:OE2	37:DD:66:ARG:NH1	2.38	0.55
41:DH:78:GLN:N	41:DH:78:GLN:HE21	2.03	0.55
41:DH:103:VAL:HG21	41:DH:110:ALA:HB2	1.88	0.55
50:DQ:7:THR:HG23	50:DQ:58:GLU:HG3	1.88	0.55
53:DT:63:ILE:HD12	53:DT:81:LYS:HG2	1.88	0.55
1:AA:2832:G:H2'	1:AA:2833:A:H5''	1.87	0.55
3:AC:42:VAL:O	3:AC:216:THR:O	2.24	0.55
4:AD:242:ARG:O	63:AD:401:HOH:O	2.18	0.55
7:AG:49:ASP:O	7:AG:51:ARG:N	2.40	0.55
8:AH:4:ILE:O	8:AH:69:ARG:HD3	2.06	0.55
12:AO:12:ASP:OD1	12:AO:14:THR:OG1	2.10	0.55
20:AW:2:GLU:OE2	20:AW:72:LYS:NZ	2.29	0.55
22:AY:37:VAL:HG21	22:AY:72:VAL:HG21	1.89	0.55
23:AZ:43:GLU:O	23:AZ:47:VAL:HG23	2.07	0.55
34:BA:159:G:O2'	34:BA:161:A:N6	2.35	0.55
34:BA:520:A:N1	34:BA:536:C:H1'	2.22	0.55
34:BA:1251:A:H2'	34:BA:1252:A:C8	2.41	0.55
34:BA:1372:U:OP1	42:BI:72:GLY:N	2.39	0.55
37:BD:31:CYS:SG	37:BD:33:MET:HB3	2.47	0.55
50:BQ:18:THR:HG21	50:BQ:69:LYS:HD2	1.89	0.55
57:BZ:239:GLU:O	57:BZ:243:VAL:HG23	2.07	0.55
57:BZ:683:VAL:HA	57:BZ:686:LYS:HG2	1.89	0.55
1:CA:971:C:OP2	63:CA:3742:HOH:O	2.17	0.55
1:CA:1053:C:N4	1:CA:1107:G:N1	2.54	0.55
1:CA:1053:C:C2'	1:CA:1054:A:C5'	2.85	0.55
1:CA:1512:U:H2'	1:CA:1513:C:H6	1.71	0.55
1:CA:2177:C:O2	3:CC:171:ALA:HB3	2.05	0.55
1:CA:2678:C:H2'	1:CA:2679:A:O4'	2.06	0.55
4:CD:87:ASN:OD1	4:CD:87:ASN:N	2.39	0.55
4:CD:93:ALA:HB3	4:CD:105:ILE:HG13	1.88	0.55
12:CO:2:ILE:HD12	12:CO:6:THR:HG21	1.87	0.55
23:CZ:157:LEU:HD11	23:CZ:163:LEU:HB2	1.88	0.55
40:DG:31:MET:HG3	40:DG:35:LYS:O	2.06	0.55
41:DH:78:GLN:HE21	41:DH:78:GLN:H	1.55	0.55
47:DN:12:ARG:HG2	47:DN:13:THR:H	1.70	0.55
57:DZ:610:VAL:HG13	57:DZ:659:LEU:HD11	1.88	0.55
1:AA:275:C:H2'	1:AA:276:C:C6	2.42	0.55
4:AD:124:PRO:HG2	4:AD:129:ASN:HD21	1.70	0.55
34:BA:537:G:H5''	45:BL:113:ARG:HH12	1.71	0.55
34:BA:768:A:H4'	34:BA:1523:G:N2	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1189:C:H5''	34:BA:1190:G:OP2	2.07	0.55
34:BA:1401:G:C2	34:BA:1402:C:H1'	2.42	0.55
40:BG:113:GLU:HG2	40:BG:119:ARG:HG2	1.89	0.55
42:BI:16:ARG:N	42:BI:64:THR:O	2.38	0.55
53:BT:45:GLN:HA	53:BT:91:LEU:HD22	1.89	0.55
1:CA:1278:A:OP1	15:CR:36:THR:HG22	2.05	0.55
1:CA:2132:U:O4	3:CC:6:LYS:HE3	1.96	0.55
1:CA:2177:C:H1'	3:CC:171:ALA:HB1	1.87	0.55
34:DA:693:G:H2'	34:DA:694:A:C8	2.42	0.55
34:DA:814:A:N7	34:DA:816:A:C4	2.75	0.55
34:DA:876:G:O5'	41:DH:14:ARG:NH1	2.40	0.55
35:DB:178:ARG:HD3	41:DH:72:PRO:HA	1.89	0.55
36:DC:58:GLU:HB3	43:DJ:92:THR:HG21	1.88	0.55
43:DJ:6:ILE:HB	43:DJ:72:VAL:HG23	1.89	0.55
56:DW:40:C:O5'	56:DY:36:A:H5'	2.06	0.55
1:AA:1159:U:H2'	1:AA:1160:G:C8	2.42	0.55
1:AA:2102:G:OP1	25:A1:35:THR:HG21	2.06	0.55
1:AA:2268:G:O2'	1:AA:2269:U:H5'	2.06	0.55
8:AH:56:SER:OG	8:AH:58:GLU:HG2	2.06	0.55
30:A6:25:LYS:NZ	30:A6:51:GLU:OE2	2.35	0.55
34:BA:1399:C:C2	34:BA:1502:A:N6	2.75	0.55
49:BP:19:ILE:HD13	49:BP:36:ILE:HG13	1.87	0.55
1:CA:859:G:N2	1:CA:917:A:OP2	2.37	0.55
17:CT:16:ARG:NH2	17:CT:83:ILE:O	2.38	0.55
19:CV:50:PRO:HG2	19:CV:51:VAL:HG12	1.88	0.55
34:DA:1326:C:H2'	34:DA:1327:C:C6	2.42	0.55
57:DZ:164:MET:HG3	57:DZ:257:PRO:HB3	1.88	0.55
1:AA:1221:G:N2	1:AA:1223:C:OP2	2.40	0.55
1:AA:2228:G:O2'	1:AA:2229:A:OP1	2.22	0.55
3:AC:52:PRO:HB2	3:AC:168:LYS:O	2.07	0.55
16:AS:34:HIS:HD1	16:AS:53:SER:HG	1.51	0.55
34:BA:142:G:H2'	34:BA:143:A:C8	2.42	0.55
34:BA:159:G:HO2'	34:BA:161:A:H62	1.54	0.55
34:BA:1217:C:H2'	34:BA:1218:C:H6	1.71	0.55
35:BB:185:ILE:HG23	35:BB:199:TYR:HB2	1.88	0.55
45:BL:92:ASP:O	45:BL:94:PRO:HD3	2.07	0.55
46:BM:4:ILE:HB	46:BM:57:ARG:HG3	1.87	0.55
50:BQ:62:SER:OG	50:BQ:72:ARG:HD2	2.06	0.55
57:BZ:358:MET:HE1	57:BZ:363:ARG:NH1	2.22	0.55
1:CA:866:A:C6	1:CA:914:C:C5	2.94	0.55
1:CA:2302:G:O2'	7:CG:126:ASP:O	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2822:G:H2'	1:CA:2823:A:H5''	1.89	0.55
5:CE:84:PHE:CZ	5:CE:86:PRO:HB3	2.41	0.55
37:DD:108:LEU:HD21	37:DD:183:GLY:HA3	1.89	0.55
57:DZ:517:LEU:HD13	57:DZ:564:LYS:HD2	1.89	0.55
1:AA:2624:C:OP2	29:A5:2:ALA:N	2.40	0.55
15:AR:94:TYR:O	15:AR:117:VAL:HB	2.07	0.55
23:AZ:5:LEU:HD11	23:AZ:39:VAL:HG11	1.89	0.55
34:BA:262:A:H2'	34:BA:263:A:C8	2.41	0.55
34:BA:390:C:H2'	34:BA:391:G:C8	2.42	0.55
35:BB:223:ILE:O	35:BB:225:ALA:N	2.34	0.55
49:BP:3:LYS:O	49:BP:21:VAL:HA	2.07	0.55
57:BZ:78:ARG:HH11	57:BZ:78:ARG:CB	2.19	0.55
1:CA:78:A:H2'	1:CA:79:G:C8	2.42	0.55
1:CA:536:A:H2'	1:CA:537:C:C6	2.42	0.55
1:CA:850:C:O3'	27:C3:49:LYS:HE2	2.06	0.55
1:CA:1927:A:H2'	1:CA:1928:A:C8	2.42	0.55
1:CA:2176:A:O2'	3:CC:45:HIS:ND1	2.40	0.55
8:CH:18:GLU:HB3	8:CH:25:LYS:HB2	1.89	0.55
34:DA:316:G:OP2	34:DA:351:G:O2'	2.24	0.55
34:DA:859:A:H2'	34:DA:860:A:O4'	2.06	0.55
37:DD:58:LEU:HD22	37:DD:62:GLN:HG2	1.89	0.55
42:DI:20:ARG:O	42:DI:60:ASP:HB2	2.07	0.55
42:DI:53:VAL:O	42:DI:55:ALA:N	2.39	0.55
42:DI:85:LEU:HB3	42:DI:92:TYR:HD2	1.72	0.55
1:AA:553:A:H2	1:AA:2065:C:H5'	1.72	0.54
1:AA:1218:G:O2'	1:AA:1219:A:O4'	2.25	0.54
1:AA:1834:A:H4'	4:AD:259:THR:HG23	1.89	0.54
3:AC:54:ARG:CZ	3:AC:56:ASP:HB3	2.37	0.54
21:AX:29:TRP:CZ3	21:AX:78:LYS:HG2	2.42	0.54
22:AY:92:ASN:N	22:AY:93:GLY:HA2	2.21	0.54
29:A5:16:ARG:HD2	29:A5:20:ARG:NH1	2.21	0.54
34:BA:236:G:H5''	50:BQ:42:TYR:OH	2.07	0.54
40:BG:152:ALA:O	40:BG:155:ARG:N	2.38	0.54
48:BO:24:SER:HB3	48:BO:27:VAL:HG23	1.90	0.54
57:BZ:34:TYR:OH	57:BZ:38:ARG:NH2	2.40	0.54
57:BZ:257:PRO:HB2	57:BZ:259:PHE:CE1	2.42	0.54
5:CE:181:LEU:HD21	17:CT:6:LEU:HD12	1.89	0.54
8:CH:101:ARG:NH2	8:CH:121:ILE:O	2.40	0.54
14:CQ:41:TRP:HB3	14:CQ:94:VAL:HB	1.89	0.54
23:CZ:93:ASP:HA	23:CZ:130:PRO:HG2	1.88	0.54
23:CZ:111:VAL:C	23:CZ:113:ALA:H	2.10	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:C0:38:VAL:HG12	24:C0:40:GLN:HG2	1.88	0.54
25:C1:21:ARG:CB	25:C1:21:ARG:HH11	2.20	0.54
34:DA:509:A:H3'	34:DA:509:A:H8	1.72	0.54
34:DA:728:A:N7	48:DO:54:ARG:HD3	2.22	0.54
34:DA:922:G:H1'	38:DE:19:MET:HB3	1.88	0.54
41:DH:41:ARG:O	41:DH:43:GLY:N	2.40	0.54
51:DR:45:SER:HB3	51:DR:47:THR:HG22	1.90	0.54
57:DZ:357:ARG:HH21	57:DZ:366:VAL:HG11	1.71	0.54
7:AG:129:GLY:O	7:AG:161:THR:HG22	2.08	0.54
21:AX:31:HIS:HD2	21:AX:33:LYS:H	1.55	0.54
28:A4:18:CYS:HB3	28:A4:39:CYS:SG	2.47	0.54
34:BA:448:A:OP2	34:BA:485:G:N1	2.35	0.54
38:BE:36:ASP:OD1	38:BE:38:GLN:N	2.31	0.54
53:BT:16:HIS:O	53:BT:19:SER:OG	2.25	0.54
1:CA:988:A:N7	63:CA:3811:HOH:O	2.33	0.54
1:CA:2456:C:N4	63:CA:3846:HOH:O	2.40	0.54
1:CA:2572:A:N7	5:CE:144:ARG:HD2	2.23	0.54
17:CT:108:ARG:NH2	34:DA:1465:C:OP2	2.40	0.54
34:DA:293:G:H1	34:DA:304:U:H3	1.55	0.54
34:DA:693:G:H2'	34:DA:694:A:H8	1.72	0.54
56:DW:47:U:O2'	56:DW:48:C:OP1	2.23	0.54
3:AC:194:ILE:HD11	3:AC:227:PRO:HB3	1.89	0.54
7:AG:28:VAL:O	7:AG:31:VAL:HG13	2.06	0.54
7:AG:97:ASP:O	7:AG:101:ILE:HG13	2.07	0.54
34:BA:622:A:OP2	34:BA:623:C:N4	2.40	0.54
34:BA:1030(D):A:N7	34:BA:1031:G:N2	2.55	0.54
39:BF:25:ILE:O	39:BF:29:ALA:N	2.39	0.54
40:BG:120:ILE:O	40:BG:124:LEU:HB2	2.07	0.54
44:BK:92:GLU:HB3	44:BK:96:ARG:NH2	2.22	0.54
44:BK:98:LEU:O	44:BK:101:SER:OG	2.11	0.54
1:CA:500:G:N2	1:CA:502:A:H3'	2.21	0.54
1:CA:910:A:N3	1:CA:2264:C:O2'	2.38	0.54
1:CA:2745:C:O2	8:CH:139:GLN:NE2	2.40	0.54
3:CC:6:LYS:HA	3:CC:9:ARG:HH11	1.73	0.54
6:CF:126:VAL:HG21	6:CF:129:PHE:CE1	2.42	0.54
7:CG:15:VAL:HG13	7:CG:175:LEU:HB3	1.89	0.54
20:CW:60:ASN:HD22	20:CW:60:ASN:N	2.05	0.54
25:C1:19:GLN:O	25:C1:35:THR:HG22	2.08	0.54
34:DA:503:C:H2'	34:DA:504:C:H6	1.72	0.54
35:DB:19:HIS:CG	35:DB:20:GLU:H	2.25	0.54
38:DE:68:GLU:OE1	63:DE:302:HOH:O	2.18	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:149:VAL:O	57:DZ:153:MET:HB2	2.07	0.54
57:DZ:524:GLU:HB3	57:DZ:564:LYS:HG3	1.90	0.54
57:DZ:603:GLU:HG2	57:DZ:679:VAL:HG12	1.88	0.54
1:AA:1003:U:OP2	14:AQ:14:ARG:HD3	2.08	0.54
1:AA:2200:C:O2'	3:AC:169:THR:HB	2.07	0.54
17:AT:65:LYS:HG3	17:AT:66:VAL:O	2.07	0.54
18:AU:61:TRP:CH2	18:AU:93:LYS:HB2	2.42	0.54
37:BD:201:GLN:NE2	38:BE:99:GLY:HA2	2.23	0.54
1:CA:363(A):A:H2'	1:CA:363(B):G:C8	2.42	0.54
6:CF:37:VAL:HG13	6:CF:184:TYR:HD1	1.71	0.54
13:CP:63:PRO:HD3	32:C8:27:THR:HG22	1.90	0.54
34:DA:428:G:C6	34:DA:430:A:C6	2.95	0.54
35:DB:47:THR:HG23	35:DB:202:PRO:HG2	1.88	0.54
37:DD:117:ALA:O	37:DD:121:VAL:HG23	2.07	0.54
38:DE:33:VAL:HG13	38:DE:112:LEU:HD12	1.90	0.54
41:DH:51:VAL:HG21	41:DH:60:ARG:HB2	1.90	0.54
41:DH:112:LEU:HD12	41:DH:114:THR:HG22	1.90	0.54
57:DZ:94:VAL:HG11	57:DZ:124:GLN:HE22	1.73	0.54
1:AA:1387:U:O2	21:AX:80:ILE:HD12	2.06	0.54
1:AA:1466:U:O2'	1:AA:1467:G:OP1	2.23	0.54
1:AA:1485:A:H2'	1:AA:1486:G:O4'	2.06	0.54
2:AB:59:A:N6	63:AB:3103:HOH:O	2.27	0.54
13:AP:94:GLU:HG3	13:AP:124:LYS:HB3	1.89	0.54
17:AT:2:ASN:O	17:AT:6:LEU:HD23	2.07	0.54
28:A4:56:VAL:HA	28:A4:60:GLN:HE21	1.72	0.54
34:BA:1217:C:H2'	34:BA:1218:C:C6	2.42	0.54
39:BF:14:LEU:HD13	39:BF:18:GLN:HB3	1.90	0.54
44:BK:59:TYR:HE2	44:BK:63:LEU:HD12	1.73	0.54
56:BW:44:G:O2'	56:BW:45:U:H5'	2.07	0.54
1:CA:1208:C:H2'	1:CA:1209:G:H5'	1.89	0.54
1:CA:1363:C:H2'	1:CA:1364:G:H8	1.73	0.54
3:CC:52:PRO:HB2	3:CC:168:LYS:O	2.07	0.54
6:CF:164:ARG:HD2	6:CF:175:THR:HG23	1.88	0.54
25:C1:71:TYR:C	25:C1:73:LEU:H	2.11	0.54
37:DD:100:ARG:NH1	37:DD:137:SER:HB3	2.21	0.54
42:DI:77:ILE:O	42:DI:81:ILE:HB	2.08	0.54
57:DZ:206:LEU:HD11	57:DZ:210:ARG:HH12	1.73	0.54
57:DZ:466:LEU:HG	57:DZ:472:VAL:HG21	1.90	0.54
1:AA:579:G:H2'	1:AA:580:U:C6	2.43	0.54
1:AA:2357:G:H4'	1:AA:2358:A:O5'	2.08	0.54
1:AA:2509:A:H5''	63:AA:4188:HOH:O	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2699:U:H2'	1:AA:2700:U:O4'	2.08	0.54
21:AX:60:ARG:HH22	31:A7:47:ARG:HH12	1.55	0.54
22:AY:11:ASP:OD1	22:AY:97:ARG:NH2	2.40	0.54
34:BA:555:C:H2'	34:BA:556:C:C6	2.42	0.54
34:BA:582:U:OP1	48:BO:64:ARG:NH1	2.41	0.54
44:BK:27:ASN:OD1	44:BK:28:THR:N	2.36	0.54
1:CA:130:C:H4'	1:CA:1349:A:H4'	1.90	0.54
1:CA:870:A:C2	1:CA:908:C:C2	2.96	0.54
1:CA:2396:G:OP1	25:C1:25:LYS:NZ	2.26	0.54
8:CH:113:VAL:HG11	8:CH:151:ILE:HD13	1.89	0.54
26:C2:8:LYS:O	26:C2:12:GLU:HB2	2.08	0.54
34:DA:176:C:H2'	34:DA:177:C:C6	2.43	0.54
34:DA:396:G:P	57:DZ:349:LYS:NZ	2.81	0.54
34:DA:857:C:H2'	34:DA:858:G:O4'	2.08	0.54
34:DA:959:A:H3'	34:DA:960:U:H5''	1.90	0.54
34:DA:1302:U:OP2	46:DM:21:TYR:OH	2.14	0.54
34:DA:1314:C:N4	52:DS:2:PRO:O	2.41	0.54
34:DA:1406:U:O2	34:DA:1517:G:N2	2.37	0.54
35:DB:54:THR:HG21	35:DB:201:ILE:HD11	1.89	0.54
37:DD:15:GLU:OE2	37:DD:59:ARG:NH2	2.38	0.54
46:DM:65:LYS:NZ	46:DM:73:GLU:OE2	2.40	0.54
57:DZ:517:LEU:O	57:DZ:519:ARG:N	2.41	0.54
1:AA:70:A:N7	21:AX:31:HIS:HE1	2.06	0.54
1:AA:354:A:HO2'	1:AA:355:A:H8	1.52	0.54
1:AA:713:G:N2	32:A8:2:PRO:O	2.41	0.54
1:AA:844:C:H2'	1:AA:845:G:O4'	2.07	0.54
1:AA:1501:U:O2'	1:AA:1502:G:N7	2.34	0.54
3:AC:52:PRO:HG2	3:AC:53:ARG:H	1.73	0.54
21:AX:84:ALA:HB3	21:AX:87:GLN:NE2	2.23	0.54
34:BA:254:G:H21	50:BQ:16:GLN:NE2	2.05	0.54
34:BA:1172:C:H2'	34:BA:1173:G:C8	2.42	0.54
37:BD:204:ILE:O	37:BD:208:SER:OG	2.24	0.54
39:BF:44:GLY:O	39:BF:60:PHE:N	2.41	0.54
44:BK:48:ILE:O	44:BK:50:TYR:N	2.38	0.54
57:BZ:396:ARG:HG3	57:BZ:396:ARG:HH21	1.72	0.54
1:CA:300:A:P	22:CY:86:ARG:HH21	2.30	0.54
1:CA:385:C:O2'	1:CA:388:G:N2	2.40	0.54
3:CC:30:VAL:HG23	3:CC:31:LYS:HG2	1.89	0.54
14:CQ:26:TYR:CD1	14:CQ:28:ALA:HB2	2.43	0.54
17:CT:19:LEU:HD13	17:CT:86:ILE:HD12	1.90	0.54
34:DA:1273:G:H3'	34:DA:1274:G:C8	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1457:G:H5'	53:DT:35:THR:HG21	1.89	0.54
39:DF:2:ARG:CZ	39:DF:69:GLU:HG2	2.38	0.54
40:DG:13:GLN:O	40:DG:24:THR:HG21	2.07	0.54
44:DK:24:SER:OG	44:DK:27:ASN:N	2.41	0.54
1:AA:1338:U:H2'	1:AA:1339:C:C6	2.42	0.54
1:AA:2143:G:C1'	3:AC:168:LYS:HD3	2.38	0.54
1:AA:2204:G:H2'	1:AA:2205:C:C6	2.42	0.54
2:AB:91:C:OP2	14:AQ:16:ARG:NH1	2.41	0.54
40:BG:8:GLU:H	40:BG:8:GLU:CD	2.11	0.54
56:BY:53:G:H1	56:BY:61:C:N4	2.06	0.54
57:BZ:247:ARG:O	57:BZ:251:ILE:HG13	2.07	0.54
1:CA:1053:C:C5'	1:CA:1053:C:C6	2.85	0.54
1:CA:1359:A:N1	1:CA:1372:U:C4	2.76	0.54
2:CB:55:U:O3'	7:CG:27:ASN:ND2	2.36	0.54
3:CC:194:ILE:HD11	3:CC:227:PRO:HB3	1.89	0.54
5:CE:119:ARG:HG3	5:CE:160:TYR:HB2	1.90	0.54
18:CU:106:PHE:HA	18:CU:109:LEU:HD12	1.90	0.54
34:DA:565:U:OP2	34:DA:566:G:O2'	2.19	0.54
35:DB:162:ILE:O	35:DB:185:ILE:HG12	2.07	0.54
40:DG:50:ILE:HG13	40:DG:58:PRO:HG3	1.88	0.54
1:AA:344:A:HO2'	1:AA:346:A:H8	1.55	0.54
1:AA:1767:A:O2'	1:AA:1768:U:H2'	2.08	0.54
16:AS:49:VAL:HG11	16:AS:77:ALA:HB2	1.90	0.54
34:BA:1326:C:OP1	54:BU:12:LYS:NZ	2.26	0.54
38:BE:77:PRO:HG2	38:BE:78:HIS:HD2	1.73	0.54
44:BK:46:GLY:HA2	44:BK:50:TYR:O	2.08	0.54
1:CA:796:C:H2'	1:CA:797:C:H6	1.73	0.54
1:CA:1053:C:C2	1:CA:1054:A:H8	2.22	0.54
1:CA:1627:G:OP2	63:CA:3745:HOH:O	2.18	0.54
1:CA:2590:A:OP2	4:CD:238:GLY:HA2	2.08	0.54
1:CA:2788:C:P	5:CE:61:ARG:HH21	2.30	0.54
7:CG:39:ILE:N	7:CG:92:VAL:O	2.37	0.54
8:CH:92:ILE:H	8:CH:92:ILE:HD12	1.73	0.54
8:CH:164:TYR:HB2	8:CH:167:GLU:HB2	1.89	0.54
25:C1:62:VAL:HG22	25:C1:63:ALA:O	2.08	0.54
39:DF:97:PHE:HB2	51:DR:32:ARG:HH21	1.73	0.54
41:DH:49:GLU:OE2	41:DH:62:TYR:OH	2.16	0.54
1:AA:1218:G:O2'	1:AA:1219:A:O5'	2.26	0.54
1:AA:1736:A:N6	1:AA:1745:A:H2	2.00	0.54
12:AO:111:PHE:O	12:AO:115:VAL:HG23	2.07	0.54
34:BA:482:A:H2'	34:BA:483:C:C6	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:974:A:H8	34:BA:974:A:OP1	1.91	0.54
36:BC:178:LEU:O	36:BC:180:ALA:N	2.41	0.54
37:BD:155:LEU:HD23	37:BD:156:GLU:H	1.72	0.54
53:BT:29:LYS:O	53:BT:33:ILE:HG13	2.08	0.54
1:CA:657:U:O4	63:CA:3739:HOH:O	2.16	0.54
7:CG:114:ILE:HA	7:CG:136:ARG:HH22	1.73	0.54
8:CH:3:ARG:NH2	8:CH:5:GLY:H	2.06	0.54
13:CP:59:LEU:HD23	32:C8:58:ILE:HD13	1.90	0.54
34:DA:433:C:H2'	34:DA:434:U:H6	1.73	0.54
34:DA:1212:U:H4'	34:DA:1213:A:H5'	1.89	0.54
34:DA:1435:G:H2'	34:DA:1436:U:C6	2.43	0.54
37:DD:100:ARG:CG	37:DD:137:SER:HA	2.38	0.54
42:DI:17:VAL:HG21	42:DI:81:ILE:HG13	1.90	0.54
1:AA:515:G:N7	20:AW:49:LYS:NZ	2.56	0.53
1:AA:2542:A:N7	8:AH:172:LYS:NZ	2.56	0.53
1:AA:2674:A:H5''	1:AA:2675:G:OP2	2.08	0.53
7:AG:43:LEU:HD12	7:AG:45:GLU:HG2	1.90	0.53
9:AK:73:GLY:O	9:AK:75:GLN:N	2.33	0.53
34:BA:45:U:H2'	34:BA:46:G:C8	2.43	0.53
34:BA:805:C:C2'	34:BA:806:C:H5'	2.38	0.53
34:BA:870:U:H4'	34:BA:871:U:H5''	1.90	0.53
34:BA:1112:C:N4	36:BC:176:HIS:O	2.41	0.53
44:BK:29:ILE:HG12	44:BK:44:SER:CB	2.38	0.53
45:BL:84:LEU:HD23	45:BL:105:TYR:CE2	2.43	0.53
57:BZ:125:ALA:CB	57:BZ:132:ARG:NH1	2.71	0.53
1:CA:30:G:H2'	1:CA:31:C:C6	2.43	0.53
1:CA:143(A):C:H2'	1:CA:144:C:C6	2.43	0.53
1:CA:1204:A:H2	1:CA:1241:A:H62	1.55	0.53
1:CA:2719:G:OP2	63:CA:3747:HOH:O	2.18	0.53
3:CC:44:VAL:HG23	3:CC:176:VAL:HG21	1.89	0.53
3:CC:54:ARG:CZ	3:CC:56:ASP:HB3	2.37	0.53
4:CD:102:LYS:O	4:CD:103:ARG:HG2	2.08	0.53
5:CE:12:THR:HG22	5:CE:13:ARG:H	1.72	0.53
9:CK:69:PRO:O	9:CK:71:LEU:N	2.38	0.53
11:CN:12:ARG:HB3	11:CN:50:ASP:OD1	2.08	0.53
16:CS:92:TYR:HB3	16:CS:98:VAL:HG21	1.89	0.53
21:CX:29:TRP:CZ3	21:CX:78:LYS:HB2	2.43	0.53
35:DB:127:ILE:HG12	35:DB:128:GLU:H	1.74	0.53
48:DO:54:ARG:HG3	48:DO:58:MET:CE	2.39	0.53
57:DZ:219:VAL:O	57:DZ:221:ALA:N	2.38	0.53
1:AA:370:A:H5''	1:AA:371:A:OP2	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1660:A:C2	20:AW:93:ALA:HB2	2.43	0.53
3:AC:42:VAL:HG13	3:AC:43:GLU:H	1.73	0.53
34:BA:13:U:OP1	63:BA:1913:HOH:O	2.18	0.53
34:BA:1207:G:H2'	34:BA:1208:C:C6	2.43	0.53
35:BB:58:ILE:HB	35:BB:221:LEU:HD12	1.90	0.53
48:BO:78:TYR:OH	48:BO:88:ARG:NH2	2.41	0.53
57:BZ:572:TYR:OH	57:BZ:574:GLU:OE1	2.24	0.53
1:CA:853:G:C2'	1:CA:854:G:H5'	2.38	0.53
1:CA:1434:A:H61	1:CA:1558:A:N6	2.05	0.53
1:CA:2135:A:N1	1:CA:2156:G:O2'	2.37	0.53
8:CH:26:VAL:HG12	8:CH:79:VAL:HG21	1.89	0.53
38:DE:147:ASP:OD2	38:DE:147:ASP:N	2.38	0.53
57:DZ:181:LEU:HD12	57:DZ:216:LEU:HD21	1.91	0.53
1:AA:552:C:C5	1:AA:2792:U:H2'	2.43	0.53
1:AA:1071:G:C4	1:AA:1180:C:H1'	2.43	0.53
1:AA:2665:U:OP2	1:AA:2666:A:O2'	2.24	0.53
16:AS:93:LYS:HD3	16:AS:95:HIS:HB2	1.89	0.53
34:BA:76:C:N4	34:BA:78:G:H1	2.06	0.53
47:BN:23:ARG:NH1	47:BN:30:ALA:HB2	2.24	0.53
57:BZ:310:ALA:HB3	57:BZ:332:SER:HB3	1.89	0.53
57:BZ:428:LEU:HD13	57:BZ:440:VAL:HG21	1.90	0.53
1:CA:289:A:H2'	1:CA:290:G:O4'	2.08	0.53
1:CA:819:A:C4	1:CA:1189:A:C2	2.96	0.53
1:CA:862:G:H2'	1:CA:863:A:O4'	2.08	0.53
1:CA:2243:U:H2'	1:CA:2244:U:C6	2.43	0.53
6:CF:34:TRP:CZ2	13:CP:8:PRO:HG3	2.44	0.53
34:DA:410:G:H21	34:DA:432:A:H62	1.56	0.53
50:DQ:64:PRO:HB3	50:DQ:70:ARG:NH1	2.24	0.53
57:DZ:13:ARG:NH1	57:DZ:282:SER:HB3	2.19	0.53
1:AA:296:U:H2'	1:AA:297:C:O4'	2.09	0.53
1:AA:310:C:O2'	1:AA:311:C:H5'	2.08	0.53
1:AA:1480:A:H61	1:AA:1605:A:H62	1.56	0.53
1:AA:1940:A:O2'	1:AA:1942:C:N4	2.41	0.53
1:AA:2457:G:OP1	6:AF:74:ARG:NH2	2.40	0.53
4:AD:136:ILE:O	4:AD:168:ARG:NH2	2.42	0.53
29:A5:49:CYS:SG	29:A5:51:TYR:HB2	2.49	0.53
32:A8:61:LEU:C	32:A8:63:PRO:HD3	2.29	0.53
34:BA:374:A:C6	34:BA:375:U:C4	2.97	0.53
34:BA:430:A:OP2	37:BD:8:VAL:HG12	2.08	0.53
34:BA:450:G:OP2	34:BA:451:A:O2'	2.27	0.53
34:BA:631:G:H2'	34:BA:632:A:H8	1.73	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:BO:63:ARG:O	48:BO:67:LEU:HG	2.09	0.53
1:CA:800:A:H8	1:CA:800:A:OP1	1.92	0.53
1:CA:1237:A:OP1	63:CA:3749:HOH:O	2.19	0.53
1:CA:1250:G:OP2	13:CP:21:ARG:NH1	2.41	0.53
8:CH:56:SER:HB3	8:CH:61:HIS:ND1	2.23	0.53
16:CS:77:ALA:HA	16:CS:80:LEU:HD13	1.91	0.53
23:CZ:100:VAL:N	23:CZ:124:ILE:O	2.40	0.53
34:DA:222:U:H2'	34:DA:223:U:C6	2.43	0.53
34:DA:586:C:O2'	34:DA:878:G:H4'	2.08	0.53
38:DE:9:LYS:HB2	38:DE:112:LEU:HD11	1.91	0.53
38:DE:77:PRO:HD2	38:DE:142:LEU:HD22	1.91	0.53
1:AA:482:C:H4'	63:AA:3918:HOH:O	2.09	0.53
3:AC:171:ALA:HB1	3:AC:173:HIS:CE1	2.44	0.53
5:AE:92:THR:O	5:AE:95:ILE:HG23	2.08	0.53
8:AH:3:ARG:HH12	8:AH:54:ARG:HH12	1.55	0.53
13:AP:27:HIS:HB2	63:AP:304:HOH:O	2.09	0.53
21:AX:13:LEU:HD11	26:A2:41:ILE:HG22	1.90	0.53
34:BA:667:G:O2'	48:BO:49:ASP:OD1	2.23	0.53
34:BA:1246:C:H42	34:BA:1291:G:H1	1.57	0.53
35:BB:166:ASP:OD1	35:BB:167:PRO:HD2	2.07	0.53
57:BZ:69:VAL:HG12	57:BZ:327:PHE:CD1	2.41	0.53
1:CA:723:G:H2'	1:CA:724:U:O4'	2.08	0.53
1:CA:786:C:O2'	1:CA:787:U:H5'	2.08	0.53
1:CA:950:G:H2'	1:CA:951:C:C6	2.43	0.53
1:CA:2166:G:H3'	1:CA:2167:U:C5'	2.39	0.53
1:CA:2685:G:H5'	12:CO:68:GLU:OE1	2.08	0.53
7:CG:115:ARG:HH11	7:CG:115:ARG:H	1.57	0.53
13:CP:94:GLU:HG3	13:CP:124:LYS:HD3	1.91	0.53
32:C8:28:GLY:O	32:C8:36:LYS:NZ	2.40	0.53
34:DA:179:A:H2'	34:DA:180:U:C6	2.42	0.53
34:DA:223:U:H2'	34:DA:224:C:H6	1.74	0.53
34:DA:409:G:H1	34:DA:433:C:H42	1.55	0.53
34:DA:977:A:H1'	34:DA:981:U:H3	1.72	0.53
35:DB:12:GLU:HA	35:DB:213:LEU:HD11	1.91	0.53
40:DG:126:ASP:O	40:DG:130:GLY:N	2.42	0.53
50:DQ:53:LEU:HG	50:DQ:85:VAL:HG21	1.90	0.53
1:AA:561:A:H2'	1:AA:562:C:C6	2.44	0.53
1:AA:1451:U:H2'	1:AA:1452:U:C6	2.42	0.53
1:AA:2769:U:H1'	1:AA:2770:A:H5''	1.91	0.53
4:AD:101:GLU:OE1	4:AD:103:ARG:HD3	2.08	0.53
18:AU:28:ARG:NH1	18:AU:38:THR:OG1	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BD:159:ARG:HA	37:BD:162:LEU:HD12	1.90	0.53
39:BF:10:LEU:HD21	39:BF:61:LEU:HD22	1.89	0.53
1:CA:2176:A:O2'	3:CC:45:HIS:CD2	2.61	0.53
1:CA:2895:U:H2'	1:CA:2896:C:O4'	2.09	0.53
2:CB:12:C:O5'	2:CB:12:C:H6	1.91	0.53
4:CD:134:ARG:HD2	4:CD:135:PHE:CE2	2.44	0.53
10:CL:86:LYS:H	10:CL:86:LYS:HD2	1.74	0.53
21:CX:46:ALA:HB1	26:C2:33:MET:HE1	1.89	0.53
22:CY:49:VAL:HG21	22:CY:61:ILE:HG23	1.90	0.53
25:C1:21:ARG:HH11	25:C1:21:ARG:HB3	1.73	0.53
34:DA:404:U:C2	34:DA:405:U:C5	2.97	0.53
34:DA:1317:C:O2	52:DS:37:ARG:NH1	2.42	0.53
34:DA:1402:C:H2'	34:DA:1403:C:O4'	2.09	0.53
37:DD:150:GLU:O	37:DD:153:ARG:HG2	2.08	0.53
38:DE:16:THR:OG1	38:DE:17:ALA:N	2.41	0.53
41:DH:86:ILE:HG21	41:DH:133:LEU:HD22	1.90	0.53
50:DQ:45:HIS:CD2	50:DQ:47:PRO:HD3	2.43	0.53
57:DZ:309:LEU:HA	57:DZ:333:GLY:HA3	1.91	0.53
1:AA:308:U:H2'	1:AA:309:C:C6	2.44	0.53
1:AA:2331:G:H22	16:AS:3:ARG:CG	2.22	0.53
12:AO:19:ILE:HG22	12:AO:43:VAL:HA	1.91	0.53
14:AQ:138:ASP:OD2	23:AZ:81:ARG:NH1	2.42	0.53
34:BA:631:G:H2'	34:BA:632:A:C8	2.44	0.53
37:BD:121:VAL:O	37:BD:134:ASP:HA	2.08	0.53
48:BO:43:LEU:HD12	48:BO:56:LEU:HD22	1.90	0.53
1:CA:84:A:H5''	22:CY:8:LYS:HE3	1.90	0.53
1:CA:620:G:H5'	1:CA:620:G:N3	2.23	0.53
1:CA:2132:U:O2	3:CC:9:ARG:NH1	2.42	0.53
6:CF:25:PRO:HD2	6:CF:115:ALA:HB2	1.91	0.53
34:DA:979:C:H2'	34:DA:980:C:H5'	1.89	0.53
34:DA:1076:C:C2	34:DA:1082:G:N2	2.77	0.53
34:DA:1126:U:H4'	34:DA:1281:U:H1'	1.90	0.53
34:DA:1187:G:H2'	34:DA:1188:A:H8	1.71	0.53
41:DH:33:GLU:O	41:DH:36:LEU:N	2.41	0.53
1:AA:2154:U:O2	3:AC:6:LYS:CB	2.45	0.53
3:AC:30:VAL:HG23	3:AC:31:LYS:HG2	1.89	0.53
3:AC:64:SER:HA	3:AC:161:ARG:H	1.74	0.53
20:AW:14:PRO:HG2	20:AW:78:GLU:CG	2.37	0.53
24:A0:32:ARG:H	24:A0:35:ASN:ND2	2.06	0.53
34:BA:1081:G:H2'	34:BA:1082:G:H8	1.74	0.53
34:BA:1510:U:H2'	34:BA:1511:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:BB:69:LEU:HD13	35:BB:91:PRO:HB2	1.91	0.53
1:CA:649:G:H2'	1:CA:650:C:C6	2.43	0.53
3:CC:52:PRO:HG2	3:CC:53:ARG:H	1.73	0.53
6:CF:32:LEU:HD23	6:CF:112:MET:HE1	1.90	0.53
8:CH:52:VAL:HG21	8:CH:69:ARG:HB2	1.90	0.53
9:CK:39:ALA:O	9:CK:43:ALA:N	2.42	0.53
15:CR:26:LYS:HE2	15:CR:70:LEU:O	2.08	0.53
19:CV:35:LEU:H	19:CV:35:LEU:HD12	1.71	0.53
34:DA:1478:C:H2'	34:DA:1479:C:H6	1.73	0.53
37:DD:129:ASN:ND2	37:DD:145:GLU:H	2.07	0.53
39:DF:5:GLU:HG2	39:DF:62:TRP:CZ2	2.43	0.53
39:DF:39:LYS:O	39:DF:62:TRP:HZ3	1.92	0.53
57:DZ:278:ASP:HB3	57:DZ:279:TYR:CD1	2.44	0.53
57:DZ:637:ARG:HG3	57:DZ:642:VAL:HB	1.89	0.53
1:AA:45:C:OP2	1:AA:204:G:H5'	2.08	0.53
1:AA:650:G:N7	13:AP:107:LYS:NZ	2.57	0.53
1:AA:1410:G:P	25:A1:3:LYS:HG3	2.49	0.53
3:AC:6:LYS:HA	3:AC:9:ARG:HH11	1.72	0.53
3:AC:44:VAL:HG23	3:AC:176:VAL:HG21	1.89	0.53
6:AF:132:VAL:HG22	6:AF:163:VAL:HG22	1.91	0.53
17:AT:41:ARG:NH1	34:BA:346:G:OP1	2.19	0.53
35:BB:78:GLN:O	35:BB:94:ASN:ND2	2.41	0.53
37:BD:93:PHE:O	37:BD:97:LEU:HD23	2.09	0.53
1:CA:530:G:C5	1:CA:2022:U:H5''	2.43	0.53
1:CA:910:A:C5	14:CQ:13:GLN:HG3	2.43	0.53
1:CA:1183:G:O2'	27:C3:29:ARG:NH1	2.41	0.53
1:CA:1297:C:H2'	1:CA:1298:C:H6	1.74	0.53
1:CA:2110:G:H1	1:CA:2179:C:N4	2.02	0.53
2:CB:105:A:OP1	23:CZ:72:ARG:NH2	2.42	0.53
6:CF:107:LYS:HG3	6:CF:206:ILE:HA	1.91	0.53
6:CF:117:ARG:NH2	6:CF:187:VAL:O	2.42	0.53
34:DA:406:G:H4'	37:DD:5:ILE:HD11	1.90	0.53
34:DA:409:G:H1	34:DA:433:C:N4	2.07	0.53
34:DA:707:C:H4'	44:DK:20:TYR:CD2	2.43	0.53
34:DA:882:C:OP2	45:DL:13:LYS:NZ	2.41	0.53
35:DB:101:MET:HA	35:DB:108:ILE:HG13	1.91	0.53
35:DB:222:ILE:HG13	35:DB:223:ILE:N	2.24	0.53
37:DD:78:LEU:HB3	37:DD:93:PHE:HE1	1.74	0.53
38:DE:84:PHE:HB2	38:DE:134:ALA:HB2	1.90	0.53
41:DH:4:ASP:OD2	41:DH:85:ARG:NH1	2.42	0.53
41:DH:20:TYR:HD2	41:DH:65:TYR:CD2	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:DS:63:THR:OG1	52:DS:64:GLU:N	2.39	0.53
57:DZ:105:ILE:HG22	57:DZ:133:ILE:CG1	2.39	0.53
57:DZ:165:GLN:NE2	57:DZ:260:LEU:H	2.02	0.53
1:AA:1404:G:O2'	1:AA:1405:A:H5''	2.09	0.53
1:AA:1431:G:O2'	1:AA:1442:U:O2	2.23	0.53
1:AA:1501:U:OP1	15:AR:77:ARG:NH1	2.38	0.53
1:AA:2583:C:H5''	1:AA:2584:A:H5''	1.92	0.53
3:AC:65:LEU:HD22	3:AC:189:ASN:HB3	1.91	0.53
34:BA:127:G:HO2'	50:BQ:2:PRO:N	2.07	0.53
34:BA:502:G:H2'	34:BA:503:C:O4'	2.09	0.53
34:BA:1298:C:H4'	34:BA:1299:A:C4	2.44	0.53
37:BD:61:LYS:HA	37:BD:203:VAL:HG23	1.90	0.53
38:BE:11:ILE:HD11	38:BE:108:ALA:HB3	1.90	0.53
1:CA:328:U:H4'	22:CY:68:HIS:CE1	2.44	0.53
7:CG:96:ARG:O	7:CG:99:MET:HG2	2.08	0.53
17:CT:9:LEU:O	17:CT:12:SER:OG	2.25	0.53
22:CY:97:ARG:HB2	22:CY:106:LEU:HB2	1.91	0.53
23:CZ:6:LYS:HD2	23:CZ:43:GLU:OE2	2.08	0.53
34:DA:109:A:C6	34:DA:326:G:C6	2.97	0.53
36:DC:25:GLY:O	36:DC:29:TYR:HB2	2.09	0.53
1:AA:200:A:O2'	1:AA:201:G:H5'	2.09	0.52
1:AA:469:A:N7	6:AF:45:ARG:HG2	2.24	0.52
1:AA:1553:A:O2'	1:AA:1554:A:O5'	2.24	0.52
1:AA:1712:A:H2'	1:AA:1713:G:O4'	2.09	0.52
1:AA:1817:A:H8	63:AA:4215:HOH:O	1.91	0.52
5:AE:49:LEU:HD22	5:AE:81:ILE:HG13	1.90	0.52
7:AG:170:ARG:HH21	7:AG:180:PHE:CB	2.21	0.52
27:A3:39:ASP:OD2	27:A3:44:ARG:NH1	2.43	0.52
30:A6:30:THR:N	30:A6:31:PRO:HD3	2.24	0.52
34:BA:692:U:H2'	34:BA:694:A:OP2	2.09	0.52
35:BB:189:ASP:OD1	35:BB:189:ASP:N	2.42	0.52
41:BH:51:VAL:HG12	41:BH:52:ASP:H	1.74	0.52
1:CA:699:A:H2'	1:CA:700:G:O4'	2.08	0.52
1:CA:1418:G:H8	1:CA:1418:G:O5'	1.92	0.52
1:CA:1693:U:O2'	4:CD:14:ARG:NH2	2.42	0.52
3:CC:51:ASP:OD2	3:CC:54:ARG:HB2	2.09	0.52
3:CC:64:SER:HA	3:CC:161:ARG:H	1.74	0.52
3:CC:171:ALA:HB1	3:CC:173:HIS:CE1	2.43	0.52
30:C6:6:ARG:NH1	30:C6:26:ASN:HB2	2.24	0.52
34:DA:503:C:H2'	34:DA:504:C:C6	2.45	0.52
34:DA:724:G:C2	34:DA:725:G:C8	2.97	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:913:A:H4'	34:DA:914:A:O5'	2.09	0.52
34:DA:1256:A:H61	34:DA:1278:U:H1'	1.74	0.52
44:DK:52:GLY:O	44:DK:55:LYS:HE2	2.08	0.52
56:DW:51:U:H3	56:DW:63:G:H1	1.57	0.52
57:DZ:15:ILE:HA	57:DZ:103:GLY:O	2.09	0.52
1:AA:116:A:H3'	1:AA:117:A:C5'	2.39	0.52
1:AA:1261:G:P	18:AU:12:ARG:HH21	2.31	0.52
25:A1:7:ILE:HG12	25:A1:62:VAL:HG21	1.91	0.52
28:A4:44:THR:O	28:A4:46:GLN:N	2.42	0.52
34:BA:1101:A:H4'	34:BA:1102:A:O5'	2.09	0.52
35:BB:178:ARG:NH1	35:BB:196:LEU:O	2.39	0.52
42:BI:128:ARG:HD2	56:BW:32:PSU:OP2	2.09	0.52
49:BP:20:VAL:HG21	49:BP:32:TYR:CG	2.45	0.52
1:CA:1422:G:H1'	1:CA:1496:A:N1	2.24	0.52
4:CD:68:LYS:O	4:CD:70:TRP:N	2.38	0.52
4:CD:244:ARG:HB2	4:CD:245:PRO:HD2	1.91	0.52
5:CE:9:VAL:HG13	5:CE:25:VAL:O	2.09	0.52
21:CX:36:LYS:O	21:CX:39:ILE:N	2.41	0.52
34:DA:405:U:O4	37:DD:2:GLY:N	2.43	0.52
38:DE:70:PRO:O	38:DE:72:GLN:NE2	2.42	0.52
47:DN:23:ARG:HD3	47:DN:30:ALA:HB2	1.91	0.52
57:DZ:244:ALA:HA	57:DZ:247:ARG:HB3	1.90	0.52
1:AA:1296:G:OP2	13:AP:21:ARG:NH1	2.42	0.52
1:AA:1410:G:OP2	25:A1:3:LYS:HG3	2.09	0.52
1:AA:1411:A:O5'	25:A1:41:ARG:NH2	2.36	0.52
1:AA:1778:G:H2'	1:AA:1779:G:H5''	1.90	0.52
34:BA:1356:G:H2'	34:BA:1357:A:C8	2.45	0.52
37:BD:119:GLN:HG3	37:BD:123:HIS:CD2	2.44	0.52
42:BI:9:ARG:HB3	42:BI:104:ARG:NH1	2.23	0.52
49:BP:39:TYR:CE2	49:BP:41:PRO:HB3	2.44	0.52
1:CA:272(H):C:OP2	1:CA:272(H):C:H6	1.93	0.52
1:CA:990:A:OP2	63:CA:3751:HOH:O	2.19	0.52
2:CB:84:C:OP1	27:C3:15:TYR:OH	2.21	0.52
11:CN:67:LEU:HD13	11:CN:87:LEU:HD13	1.91	0.52
15:CR:44:LEU:HD22	15:CR:48:VAL:HG23	1.91	0.52
18:CU:65:ILE:HD11	18:CU:95:LEU:HB3	1.92	0.52
34:DA:382:A:H2'	34:DA:383:A:H8	1.73	0.52
34:DA:429:U:H3'	37:DD:9:CYS:SG	2.49	0.52
34:DA:826:C:H2'	34:DA:827:U:H6	1.74	0.52
50:DQ:94:ASN:O	50:DQ:97:SER:OG	2.26	0.52
57:DZ:142:THR:HA	57:DZ:171:GLU:HG2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:613:PRO:HD2	57:DZ:616:TYR:HD1	1.74	0.52
3:AC:51:ASP:OD2	3:AC:54:ARG:HB2	2.09	0.52
4:AD:124:PRO:HG2	4:AD:129:ASN:ND2	2.23	0.52
8:AH:29:PRO:HD2	8:AH:79:VAL:O	2.10	0.52
23:AZ:51:ALA:HA	23:AZ:55:HIS:HD2	1.74	0.52
34:BA:382:A:H2'	34:BA:383:A:H8	1.74	0.52
34:BA:647:C:H2'	34:BA:648:A:H8	1.73	0.52
36:BC:112:SER:HB3	36:BC:115:LEU:HD22	1.91	0.52
50:BQ:9:VAL:O	50:BQ:21:VAL:HA	2.09	0.52
1:CA:83:G:HO2'	1:CA:102:G:N2	2.07	0.52
1:CA:954:G:H5''	14:CQ:13:GLN:HB3	1.91	0.52
1:CA:2682:U:O2'	17:CT:58:ASN:ND2	2.43	0.52
11:CN:42:TRP:CZ3	11:CN:44:PRO:HG3	2.44	0.52
28:C4:45:GLY:O	28:C4:47:GLN:N	2.40	0.52
28:C4:59:PHE:HA	28:C4:61:ARG:N	2.24	0.52
34:DA:974:A:OP2	47:DN:41:ARG:NH1	2.43	0.52
35:DB:42:ILE:HG21	35:DB:202:PRO:O	2.09	0.52
37:DD:10:ARG:HB2	37:DD:40:PRO:HG3	1.91	0.52
57:DZ:1:LEU:O	57:DZ:4:ILE:N	2.42	0.52
57:DZ:114:VAL:O	57:DZ:118:SER:OG	2.22	0.52
1:AA:152:G:H2'	1:AA:153:C:C6	2.45	0.52
1:AA:794:U:O2	1:AA:2036:A:H1'	2.08	0.52
1:AA:847:A:H8	1:AA:847:A:OP1	1.91	0.52
1:AA:1466:U:HO2'	1:AA:1467:G:P	2.32	0.52
1:AA:1627:A:OP2	1:AA:1627:A:H8	1.93	0.52
1:AA:1929:G:H2'	1:AA:1930:C:C6	2.45	0.52
1:AA:2154:U:C2	3:AC:6:LYS:CB	2.92	0.52
4:AD:261:LYS:HG2	4:AD:264:LYS:HB2	1.91	0.52
10:AL:117:THR:OG1	10:AL:118:THR:N	2.41	0.52
28:A4:58:ARG:HD2	46:BM:80:ARG:NH2	2.24	0.52
30:A6:44:ARG:HB3	30:A6:44:ARG:HH11	1.75	0.52
34:BA:171:A:H2'	34:BA:172:A:C8	2.45	0.52
34:BA:216:G:H2'	34:BA:217:C:C6	2.44	0.52
34:BA:436:C:H2'	34:BA:437:U:C6	2.45	0.52
37:BD:15:GLU:HG3	37:BD:63:LYS:NZ	2.25	0.52
37:BD:31:CYS:SG	37:BD:33:MET:N	2.83	0.52
42:BI:23:ASN:HD22	42:BI:25:LYS:HG2	1.73	0.52
44:BK:79:SER:HB2	44:BK:106:LYS:HD2	1.90	0.52
53:BT:75:ASN:O	53:BT:78:ALA:HB3	2.09	0.52
57:BZ:186:TYR:CE2	57:BZ:271:LEU:HD21	2.45	0.52
1:CA:2116:G:N2	1:CA:2162:G:OP2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:29:LEU:O	3:CC:30:VAL:C	2.48	0.52
5:CE:33:VAL:HG21	5:CE:36:ARG:HH21	1.75	0.52
9:CK:40:LEU:HA	9:CK:43:ALA:HB3	1.92	0.52
34:DA:1340:A:OP1	56:DY:35:A:OP1	2.28	0.52
37:DD:25:ARG:HA	37:DD:28:SER:HB3	1.91	0.52
45:DL:71:PRO:O	45:DL:102:ARG:HD2	2.09	0.52
46:DM:22:ILE:HG21	46:DM:66:LEU:HD22	1.90	0.52
57:DZ:165:GLN:HE21	57:DZ:260:LEU:N	2.04	0.52
1:AA:663:G:H2'	1:AA:664:U:C6	2.44	0.52
1:AA:2299:A:C4	1:AA:2301:G:C8	2.98	0.52
3:AC:29:LEU:O	3:AC:30:VAL:C	2.48	0.52
12:AO:80:ASP:OD2	17:AT:64:ARG:NH2	2.43	0.52
34:BA:411:A:C8	34:BA:413:G:C8	2.97	0.52
35:BB:115:LEU:HB2	35:BB:145:LEU:HD12	1.92	0.52
46:BM:84:ILE:HG13	46:BM:86:CYS:N	2.23	0.52
57:BZ:546:ILE:HD13	57:BZ:565:VAL:HG11	1.92	0.52
1:CA:1842:G:O2'	4:CD:253:GLN:NE2	2.43	0.52
1:CA:2177:C:O3'	3:CC:47:LYS:HB2	2.10	0.52
11:CN:112:LEU:O	11:CN:116:LEU:HG	2.09	0.52
19:CV:6:LYS:HG2	19:CV:11:GLN:HG2	1.91	0.52
21:CX:5:TYR:CE2	26:C2:30:ARG:HB3	2.44	0.52
23:CZ:151:HIS:HA	23:CZ:170:THR:HA	1.91	0.52
34:DA:271:C:H2'	34:DA:272:C:H6	1.74	0.52
34:DA:418:C:H2'	34:DA:419:C:H6	1.75	0.52
34:DA:433:C:H2'	34:DA:434:U:C6	2.45	0.52
38:DE:57:LYS:O	38:DE:61:TYR:HD2	1.93	0.52
46:DM:13:LYS:HA	46:DM:44:ARG:HH21	1.74	0.52
56:DW:40:C:H4'	56:DY:36:A:OP1	2.09	0.52
1:AA:133:G:N7	63:AA:4004:HOH:O	2.34	0.52
3:AC:48:LEU:CB	3:AC:50:ILE:HD12	2.38	0.52
23:AZ:134:PRO:C	23:AZ:136:PHE:H	2.13	0.52
34:BA:189(C):C:H2'	34:BA:189(D):C:O4'	2.10	0.52
34:BA:226:G:N2	34:BA:227:G:H1'	2.25	0.52
34:BA:714:G:H2'	34:BA:715:A:C8	2.45	0.52
34:BA:1239:A:H62	34:BA:1299:A:H61	1.58	0.52
36:BC:138:VAL:HG13	36:BC:149:ALA:HB3	1.90	0.52
43:BJ:44:VAL:HG13	43:BJ:66:ARG:HG2	1.90	0.52
47:BN:21:TYR:OH	47:BN:23:ARG:NH2	2.43	0.52
53:BT:26:ASN:HD22	53:BT:71:THR:HG1	1.58	0.52
54:BU:14:TRP:HE3	54:BU:15:ARG:HD2	1.74	0.52
57:BZ:517:LEU:HD13	57:BZ:564:LYS:HB2	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BX:6:2R1:H48	58:BX:8:2R3:OB	2.09	0.52
1:CA:2124:G:H4'	3:CC:175:PRO:HG3	1.91	0.52
8:CH:149:ARG:HD2	8:CH:164:TYR:CE2	2.45	0.52
34:DA:562:C:H4'	34:DA:563:A:O5'	2.09	0.52
35:DB:91:PRO:HG3	35:DB:155:LEU:HG	1.91	0.52
38:DE:143:ARG:NH1	41:DH:77:GLU:OE2	2.41	0.52
46:DM:5:ALA:HB1	46:DM:66:LEU:HD13	1.91	0.52
1:AA:1314:A:H2'	1:AA:1315:A:O4'	2.10	0.52
7:AG:114:ILE:HG12	7:AG:140:ILE:HG12	1.92	0.52
8:AH:2:SER:O	8:AH:3:ARG:HD2	2.08	0.52
17:AT:92:GLY:O	17:AT:120:ARG:NH2	2.42	0.52
28:A4:57:GLU:CB	28:A4:58:ARG:HG2	2.40	0.52
34:BA:537:G:H5''	45:BL:113:ARG:NH1	2.24	0.52
34:BA:919:A:O2'	34:BA:920:U:H5'	2.10	0.52
35:BB:161:ALA:HA	35:BB:183:PRO:HD2	1.91	0.52
49:BP:67:THR:HG22	49:BP:69:THR:N	2.24	0.52
52:BS:15:LEU:O	52:BS:19:VAL:HG23	2.10	0.52
57:BZ:483:TYR:O	57:BZ:484:ARG:NE	2.37	0.52
1:CA:363(A):A:H2'	1:CA:363(B):G:H8	1.73	0.52
1:CA:564:C:O2'	1:CA:565:C:H5'	2.09	0.52
1:CA:1695:G:H3'	1:CA:1695:G:N3	2.24	0.52
3:CC:65:LEU:HD22	3:CC:189:ASN:HB3	1.91	0.52
16:CS:85:VAL:HG22	16:CS:86:ALA:H	1.75	0.52
34:DA:5:U:H5''	34:DA:6:G:C5	2.45	0.52
34:DA:231:G:H5''	34:DA:231:G:H8	1.75	0.52
34:DA:577:G:C8	34:DA:816:A:C6	2.98	0.52
34:DA:756:C:H2'	34:DA:757:U:O4'	2.09	0.52
36:DC:100:ALA:O	36:DC:102:ASN:N	2.43	0.52
42:DI:23:ASN:HD22	42:DI:23:ASN:H	1.57	0.52
57:DZ:-66:MET:O	57:DZ:-65:LYS:HB2	2.08	0.52
1:AA:1296:G:N7	13:AP:18:ARG:NH2	2.58	0.52
10:AL:100:THR:HG22	10:AL:139:VAL:HB	1.91	0.52
13:AP:68:GLN:HG3	32:A8:12:LYS:HD3	1.92	0.52
17:AT:118:ARG:HG3	17:AT:118:ARG:NH1	2.25	0.52
32:A8:39:LYS:O	32:A8:43:GLN:HG3	2.10	0.52
40:BG:22:LEU:HD22	40:BG:63:LYS:HE3	1.92	0.52
53:BT:53:LEU:O	53:BT:57:ARG:HG3	2.10	0.52
55:BV:17:U:C2	56:BW:36:A:C2	2.98	0.52
1:CA:301:G:OP2	22:CY:84:ARG:NH2	2.43	0.52
1:CA:443:A:H5''	1:CA:444:C:OP1	2.10	0.52
1:CA:993:G:N2	19:CV:23:GLU:OE2	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:181:GLU:OE1	4:CD:270:ILE:HD12	2.10	0.52
7:CG:114:ILE:HB	7:CG:117:PHE:HD2	1.75	0.52
15:CR:57:ARG:HB3	15:CR:59:ASP:OD1	2.09	0.52
34:DA:297:G:N2	34:DA:300:A:OP2	2.41	0.52
34:DA:452:A:O2'	34:DA:453:A:OP2	2.23	0.52
34:DA:669:U:H2'	34:DA:670:G:C8	2.45	0.52
34:DA:1095:U:H2'	34:DA:1096:C:O4'	2.09	0.52
34:DA:1510:U:H2'	34:DA:1511:G:C8	2.45	0.52
35:DB:16:HIS:CG	35:DB:17:PHE:H	2.28	0.52
51:DR:74:ARG:HB3	51:DR:81:PHE:CE1	2.45	0.52
57:DZ:247:ARG:NH2	57:DZ:285:ASP:OD1	2.43	0.52
57:DZ:264:LEU:HD12	62:DZ:703:GDP:C2	2.44	0.52
57:DZ:524:GLU:HG2	57:DZ:564:LYS:HE3	1.91	0.52
1:AA:233:A:C2	1:AA:244:A:C4	2.98	0.52
1:AA:843:C:H2'	1:AA:844:C:C6	2.44	0.52
1:AA:2697:G:OP2	17:AT:51:ARG:NH2	2.39	0.52
4:AD:125:ILE:HB	39:BF:81:ILE:HD11	1.92	0.52
6:AF:63:LYS:NZ	6:AF:75:HIS:O	2.43	0.52
23:AZ:30:ASN:OD1	23:AZ:33:LEU:HD23	2.10	0.52
23:AZ:108:PRO:HG3	23:AZ:141:VAL:HG23	1.92	0.52
28:A4:40:HIS:CE1	28:A4:42:PHE:HB3	2.45	0.52
37:BD:9:CYS:O	37:BD:13:ARG:HG2	2.10	0.52
39:BF:67:MET:HG3	39:BF:68:PRO:HD2	1.92	0.52
57:BZ:82:ILE:HD12	57:BZ:101:LEU:HD23	1.91	0.52
57:BZ:552:SER:O	57:BZ:591:LYS:NZ	2.43	0.52
1:CA:888:C:P	46:DM:93:ARG:HD3	2.50	0.52
1:CA:1011:G:H1	1:CA:1150:C:H42	1.56	0.52
1:CA:1019:U:H3	1:CA:1142(A):A:N6	2.02	0.52
1:CA:2233:U:H2'	1:CA:2234:G:C8	2.45	0.52
1:CA:2850:A:H2'	1:CA:2851:A:H8	1.75	0.52
3:CC:42:VAL:CG1	3:CC:43:GLU:N	2.73	0.52
3:CC:48:LEU:CB	3:CC:50:ILE:HD12	2.38	0.52
3:CC:67:HIS:CG	3:CC:185:LYS:HD2	2.45	0.52
6:CF:187:VAL:HG11	13:CP:3:LEU:HD13	1.91	0.52
7:CG:170:ARG:O	7:CG:174:GLU:HB2	2.10	0.52
14:CQ:26:TYR:CE1	14:CQ:28:ALA:HB2	2.45	0.52
14:CQ:77:LYS:HE2	63:CQ:3102:HOH:O	2.10	0.52
23:CZ:19:ARG:NH1	23:CZ:84:GLU:O	2.43	0.52
34:DA:1070:U:H2'	34:DA:1071:C:C6	2.44	0.52
45:DL:109:GLY:HA3	45:DL:121:GLY:O	2.10	0.52
1:AA:346:A:OP1	6:AF:168:ARG:HD2	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:968:U:H2'	1:AA:969:C:C6	2.45	0.51
1:AA:1725:G:N3	1:AA:1725:G:H5''	2.25	0.51
1:AA:2200:C:OP1	3:AC:47:LYS:HG2	2.10	0.51
1:AA:2585:C:OP1	63:AA:3934:HOH:O	2.17	0.51
3:AC:218:THR:HG22	3:AC:219:MET:SD	2.50	0.51
34:BA:189(K):U:H2'	34:BA:189(L):G:C8	2.45	0.51
34:BA:1511:G:H2'	34:BA:1512:U:O4'	2.10	0.51
57:BZ:181:LEU:C	57:BZ:183:MET:H	2.13	0.51
1:CA:1131:G:N2	1:CA:1132:A:C4	2.78	0.51
1:CA:1289:C:H2'	1:CA:1290:C:C6	2.45	0.51
1:CA:1359:A:C2	1:CA:1372:U:O4	2.63	0.51
1:CA:1959:G:H1'	34:DA:1418:A:N3	2.24	0.51
1:CA:2712(A):A:H5''	1:CA:2713:A:OP2	2.10	0.51
1:CA:2833:G:H21	5:CE:57:LYS:CB	2.23	0.51
4:CD:63:ARG:HH11	4:CD:63:ARG:HG3	1.75	0.51
5:CE:75:VAL:HG13	5:CE:77:ILE:H	1.74	0.51
15:CR:41:ALA:HB1	15:CR:114:VAL:HG23	1.92	0.51
18:CU:100:VAL:HG12	18:CU:101:ARG:HG3	1.92	0.51
34:DA:1051:C:H2'	34:DA:1052:U:C6	2.45	0.51
39:DF:33:TYR:CD1	39:DF:75:LEU:HD23	2.44	0.51
45:DL:24:VAL:HG13	45:DL:98:TYR:CE1	2.42	0.51
1:AA:18:C:O2'	1:AA:577:U:OP1	2.21	0.51
1:AA:610:C:OP2	13:AP:21:ARG:NH2	2.43	0.51
2:AB:105:A:H4'	23:AZ:89:PHE:CE2	2.45	0.51
17:AT:20:PRO:HD2	17:AT:86:ILE:HB	1.92	0.51
20:AW:29:LEU:O	20:AW:33:ARG:HG3	2.09	0.51
22:AY:11:ASP:OD2	22:AY:11:ASP:N	2.43	0.51
37:BD:120:LEU:HB3	37:BD:126:ILE:HD11	1.91	0.51
43:BJ:55:LYS:O	43:BJ:57:LYS:N	2.43	0.51
45:BL:34:ARG:O	45:BL:61:THR:OG1	2.29	0.51
1:CA:1211:U:H4'	1:CA:1212:G:OP2	2.11	0.51
1:CA:1638:C:H2'	1:CA:1639:U:O4'	2.09	0.51
1:CA:2109:U:H5''	1:CA:2149:G:H21	1.75	0.51
1:CA:2445:G:OP1	6:CF:74:ARG:NH2	2.43	0.51
3:CC:42:VAL:HG13	3:CC:43:GLU:H	1.73	0.51
3:CC:68:GLY:H	3:CC:189:ASN:ND2	2.09	0.51
5:CE:119:ARG:HD3	5:CE:120:TRP:CD1	2.44	0.51
34:DA:227:G:H2'	34:DA:228:A:O4'	2.10	0.51
40:DG:93:PRO:HA	40:DG:96:GLN:HB2	1.92	0.51
56:DW:19:G:H4'	56:DW:20:U:OP2	2.09	0.51
57:DZ:529:ILE:HD12	57:DZ:534:ILE:HB	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:919:A:H2'	1:AA:920:G:O4'	2.11	0.51
1:AA:1065:U:O2'	1:AA:1067:A:H2	1.93	0.51
34:BA:262:A:C6	34:BA:263:A:C6	2.98	0.51
34:BA:438:G:H4'	34:BA:439:A:OP1	2.11	0.51
34:BA:643:C:H5'	41:BH:31:PHE:CE1	2.46	0.51
34:BA:1000:U:H2'	34:BA:1001:A:C8	2.43	0.51
34:BA:1149:C:H2'	34:BA:1150:U:C6	2.45	0.51
34:BA:1355:G:H2'	34:BA:1356:G:C8	2.45	0.51
37:BD:156:GLU:O	37:BD:160:GLN:HB2	2.11	0.51
39:BF:96:PRO:HB3	51:BR:30:ASP:CG	2.30	0.51
50:BQ:18:THR:CG2	50:BQ:69:LYS:HD2	2.40	0.51
51:BR:32:ARG:HA	51:BR:69:THR:HG21	1.93	0.51
56:BW:47:U:O2	56:BW:47:U:H2'	2.10	0.51
57:BZ:328:ILE:HD12	57:BZ:377:VAL:HG12	1.93	0.51
1:CA:1861:G:OP2	3:CC:206:LYS:HG3	2.10	0.51
1:CA:2886:G:H2'	1:CA:2887:U:C6	2.43	0.51
1:CA:2887:U:H2'	1:CA:2888:C:C6	2.45	0.51
5:CE:101:ARG:CZ	5:CE:171:GLU:HB2	2.41	0.51
11:CN:37:LYS:HG3	11:CN:42:TRP:CE2	2.45	0.51
37:DD:100:ARG:HG3	37:DD:137:SER:HA	1.91	0.51
40:DG:69:VAL:HG21	40:DG:104:LEU:HD13	1.93	0.51
51:DR:73:ALA:HB3	51:DR:79:LEU:HD12	1.93	0.51
3:AC:65:LEU:HB3	3:AC:189:ASN:HD22	1.75	0.51
15:AR:55:ALA:HB2	15:AR:79:LEU:HD13	1.93	0.51
21:AX:30:VAL:HG11	21:AX:39:ILE:HG12	1.92	0.51
34:BA:834:C:H2'	34:BA:835:U:C6	2.45	0.51
35:BB:109:SER:O	35:BB:112:VAL:HG22	2.10	0.51
36:BC:58:GLU:HB2	36:BC:65:ALA:HB2	1.92	0.51
42:BI:82:ALA:HB1	42:BI:102:LEU:HD22	1.92	0.51
44:BK:18:ARG:HD3	44:BK:20:TYR:CE2	2.45	0.51
46:BM:80:ARG:HH12	52:BS:69:HIS:HE1	1.57	0.51
52:BS:36:ARG:HH12	52:BS:75:ALA:HB3	1.76	0.51
57:BZ:416:LYS:HB3	57:BZ:473:ASP:O	2.10	0.51
1:CA:998:C:P	18:CU:92:ARG:NH2	2.83	0.51
1:CA:1044:G:H4'	1:CA:1048:A:H1'	1.92	0.51
1:CA:1794:U:H2'	1:CA:1795:C:C6	2.46	0.51
1:CA:2166:G:H3'	1:CA:2167:U:H5''	1.92	0.51
1:CA:2206:G:H3'	1:CA:2207:G:N7	2.25	0.51
1:CA:2552:U:H2'	1:CA:2554:U:H5''	1.92	0.51
3:CC:6:LYS:N	3:CC:9:ARG:NH1	2.58	0.51
4:CD:145:VAL:HG12	4:CD:146:GLU:O	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:576:G:N1	34:DA:759:A:OP1	2.42	0.51
34:DA:919:A:O5'	34:DA:919:A:H8	1.94	0.51
37:DD:79:PHE:HE1	37:DD:204:ILE:HD13	1.74	0.51
38:DE:102:ALA:O	38:DE:107:ARG:NH1	2.43	0.51
57:DZ:5:LEU:HD13	57:DZ:305:PRO:HG2	1.92	0.51
1:AA:1154:U:O2'	1:AA:1155:C:H6	1.93	0.51
1:AA:1473:A:H4'	1:AA:1474:C:O5'	2.10	0.51
1:AA:1566:U:H2'	1:AA:1567:G:O4'	2.11	0.51
1:AA:1810:U:OP2	63:AA:3939:HOH:O	2.19	0.51
3:AC:50:ILE:H	3:AC:50:ILE:HD13	1.75	0.51
3:AC:67:HIS:CG	3:AC:185:LYS:HD2	2.45	0.51
3:AC:68:GLY:H	3:AC:189:ASN:ND2	2.09	0.51
18:AU:65:ILE:HD11	18:AU:95:LEU:HB3	1.93	0.51
22:AY:54:LYS:CA	22:AY:56:PRO:HD3	2.38	0.51
23:AZ:152:ALA:HB1	23:AZ:163:LEU:HD21	1.93	0.51
34:BA:965:A:C2	34:BA:969:A:C2	2.98	0.51
35:BB:19:HIS:HE1	35:BB:189:ASP:HB2	1.75	0.51
41:BH:132:GLU:O	41:BH:134:ILE:N	2.44	0.51
43:BJ:78:ASN:O	43:BJ:80:LYS:N	2.42	0.51
50:BQ:66:SER:O	50:BQ:70:ARG:NH1	2.44	0.51
56:BY:19:G:H4'	56:BY:20:U:OP2	2.09	0.51
1:CA:521:G:H2'	1:CA:522:G:C8	2.46	0.51
1:CA:687:C:C2	1:CA:788:A:H5'	2.45	0.51
1:CA:1340:U:H4'	1:CA:1341:U:OP2	2.10	0.51
1:CA:2454:G:H1'	63:CA:3853:HOH:O	2.10	0.51
22:CY:38:ILE:HD11	22:CY:66:PRO:HG3	1.93	0.51
34:DA:598:U:H2'	34:DA:599:C:C6	2.46	0.51
34:DA:1118:C:H1'	34:DA:1179:A:C4	2.46	0.51
39:DF:99:ALA:HB2	51:DR:31:LEU:HD21	1.92	0.51
1:AA:514:G:H5''	1:AA:515:G:OP2	2.10	0.51
1:AA:776:G:C6	4:AD:208:LYS:HB2	2.46	0.51
1:AA:2163:G:N7	1:AA:2173:G:N2	2.58	0.51
1:AA:2517:G:O2'	1:AA:2518:U:H5'	2.10	0.51
34:BA:833:U:H2'	34:BA:834:C:C6	2.45	0.51
1:CA:749:C:O2	1:CA:1618:A:H2'	2.10	0.51
1:CA:1330:C:OP1	63:CA:3753:HOH:O	2.19	0.51
1:CA:1701:A:H5''	1:CA:1702:G:OP2	2.10	0.51
1:CA:2334:G:H8	1:CA:2334:G:OP1	1.94	0.51
1:CA:2729:G:H2'	1:CA:2730:C:C6	2.45	0.51
34:DA:308:C:H2'	34:DA:309:G:H8	1.74	0.51
34:DA:1306:A:H1'	34:DA:1332:A:N1	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1342:C:O2'	42:DI:124:GLN:HG2	2.11	0.51
35:DB:153:ARG:C	35:DB:155:LEU:H	2.14	0.51
37:DD:189:PRO:CB	37:DD:194:LEU:HD11	2.41	0.51
56:DW:39:PSU:HO2'	56:DY:35:A:H1'	1.75	0.51
1:AA:189:U:O2	1:AA:413:G:N2	2.44	0.51
1:AA:469:A:C5	6:AF:45:ARG:HD2	2.46	0.51
1:AA:2279:A:H5''	1:AA:2280:A:H5''	1.92	0.51
2:AB:7:G:H5'	16:AS:29:PHE:CE2	2.46	0.51
52:BS:27:GLU:HB3	52:BS:28:LYS:HD2	1.92	0.51
53:BT:57:ARG:HH22	53:BT:100:ILE:HD12	1.73	0.51
1:CA:528:A:C2	1:CA:2043:C:H4'	2.44	0.51
1:CA:1316:U:H2'	1:CA:1317:A:H8	1.76	0.51
1:CA:2113:U:H2'	1:CA:2114:A:C8	2.45	0.51
1:CA:2250:G:H5''	1:CA:2250:G:N3	2.25	0.51
2:CB:49:C:H2'	2:CB:50:G:H8	1.74	0.51
5:CE:24:THR:HG22	5:CE:186:GLY:O	2.10	0.51
5:CE:73:GLU:OE2	5:CE:73:GLU:N	2.22	0.51
7:CG:79:ASN:OD1	7:CG:79:ASN:N	2.34	0.51
12:CO:75:SER:HB2	17:CT:75:ILE:O	2.10	0.51
13:CP:88:LEU:HD21	13:CP:100:LEU:HD11	1.92	0.51
34:DA:72:C:H2'	34:DA:73:G:O4'	2.11	0.51
34:DA:1010:G:H2'	34:DA:1011:G:H8	1.73	0.51
34:DA:1101:A:H4'	34:DA:1102:A:O5'	2.10	0.51
34:DA:1190:G:OP2	36:DC:5:ILE:HB	2.11	0.51
35:DB:161:ALA:HB1	35:DB:185:ILE:HD11	1.93	0.51
57:DZ:217:VAL:HA	57:DZ:220:ALA:HB3	1.92	0.51
58:DX:8:2R3:H65	58:DX:10:2QY:CE1	2.40	0.51
1:AA:1105:G:H1	1:AA:1125:C:N4	1.98	0.51
3:AC:57:GLN:HB2	3:AC:202:PRO:HG2	1.93	0.51
9:AK:116:ILE:O	9:AK:123:GLU:N	2.43	0.51
16:AS:25:ARG:O	16:AS:40:ILE:N	2.34	0.51
18:AU:108:GLU:O	18:AU:112:ARG:HG2	2.11	0.51
23:AZ:138:GLU:H	23:AZ:156:LYS:HZ1	1.58	0.51
26:A2:28:LYS:HE3	26:A2:56:GLN:OE1	2.09	0.51
30:A6:13:CYS:SG	30:A6:47:THR:HG21	2.51	0.51
34:BA:67:C:H2'	34:BA:68:G:C8	2.46	0.51
34:BA:558:G:OP1	63:BA:1909:HOH:O	2.19	0.51
34:BA:1486:G:H2'	34:BA:1487:G:O4'	2.11	0.51
34:BA:1519:A:C8	34:BA:1520:G:H1'	2.46	0.51
35:BB:97:TRP:CZ2	35:BB:102:LEU:HD13	2.46	0.51
44:BK:115:PRO:C	44:BK:117:ASN:H	2.13	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BY:5:G:H1	56:BY:68:C:H42	1.59	0.51
57:BZ:19:ALA:HB3	57:BZ:25:LYS:HB3	1.93	0.51
1:CA:98:G:H5'	26:C2:3:LEU:HG	1.93	0.51
1:CA:271(D):G:C6	1:CA:271(E):U:C4	2.99	0.51
1:CA:1212:G:O2'	1:CA:1236:G:N2	2.37	0.51
1:CA:1327:C:H2'	1:CA:1328:G:O4'	2.11	0.51
1:CA:2120:G:H2'	3:CC:168:LYS:NZ	2.26	0.51
1:CA:2286:A:OP1	30:C6:29:ASN:ND2	2.44	0.51
1:CA:2640:G:OP1	11:CN:97:ARG:NH2	2.44	0.51
1:CA:2657:A:O3'	8:CH:160:LYS:NZ	2.44	0.51
3:CC:54:ARG:HD2	3:CC:55:SER:H	1.76	0.51
6:CF:122:LYS:NZ	6:CF:152:GLU:OE2	2.39	0.51
24:C0:82:ARG:HH11	24:C0:82:ARG:HB2	1.74	0.51
30:C6:30:THR:O	30:C6:30:THR:HG22	2.11	0.51
34:DA:674:G:H2'	34:DA:675:A:C8	2.41	0.51
34:DA:740:U:H2'	34:DA:741:G:H8	1.75	0.51
34:DA:1083:U:H3'	34:DA:1084:G:C8	2.45	0.51
36:DC:63:ASN:HB2	36:DC:98:ASN:HB2	1.93	0.51
37:DD:156:GLU:HA	37:DD:159:ARG:HB2	1.92	0.51
41:DH:33:GLU:HA	41:DH:36:LEU:HD12	1.93	0.51
46:DM:54:VAL:HG12	46:DM:57:ARG:HD2	1.92	0.51
57:DZ:116:PRO:O	57:DZ:118:SER:N	2.43	0.51
1:AA:354:A:C2	1:AA:1255:A:H2'	2.37	0.51
1:AA:505:A:H4'	1:AA:506:A:OP1	2.11	0.51
1:AA:1400:A:H2'	1:AA:1401:G:O4'	2.10	0.51
1:AA:1766:G:H5'	1:AA:1767:A:OP2	2.10	0.51
1:AA:1891:G:H4'	3:AC:206:LYS:CG	2.37	0.51
3:AC:6:LYS:N	3:AC:9:ARG:NH1	2.58	0.51
15:AR:72:ASP:O	15:AR:76:VAL:HG23	2.11	0.51
34:BA:352:C:O2'	34:BA:354:G:OP1	2.24	0.51
34:BA:1314:C:OP2	52:BS:4:SER:OG	2.15	0.51
48:BO:87:ILE:HG22	48:BO:88:ARG:N	2.26	0.51
51:BR:51:LEU:HD23	51:BR:52:PRO:HD2	1.92	0.51
1:CA:102:G:OP1	26:C2:7:ARG:NH2	2.42	0.51
1:CA:615:G:OP1	6:CF:40:GLN:NE2	2.38	0.51
1:CA:1071:G:H1'	1:CA:1089:G:C8	2.46	0.51
3:CC:50:ILE:H	3:CC:50:ILE:HD13	1.76	0.51
16:CS:61:ASN:O	16:CS:65:VAL:HG23	2.10	0.51
34:DA:684:A:H1'	44:DK:38:ASN:HB3	1.92	0.51
34:DA:858:G:O6	34:DA:869:G:H3'	2.10	0.51
34:DA:903:G:OP1	63:DA:1810:HOH:O	2.19	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DB:179:LYS:HA	41:DH:72:PRO:HG3	1.93	0.51
36:DC:7:PRO:HG3	36:DC:201:TYR:CE2	2.33	0.51
36:DC:19:GLU:O	36:DC:56:ASP:HA	2.11	0.51
36:DC:172:ARG:O	36:DC:173:VAL:HG23	2.11	0.51
37:DD:189:PRO:HB2	37:DD:194:LEU:HD11	1.92	0.51
45:DL:36:VAL:HG23	58:DX:10:2QY:CE1	2.35	0.51
57:DZ:138:LYS:HG2	62:DZ:703:GDP:C5	2.45	0.51
1:AA:2354:C:O2'	1:AA:2386:C:H5''	2.10	0.51
3:AC:54:ARG:HD2	3:AC:55:SER:H	1.76	0.51
23:AZ:74:VAL:HG22	23:AZ:86:VAL:HG12	1.92	0.51
28:A4:16:CYS:SG	28:A4:36:CYS:HB3	2.50	0.51
34:BA:728:A:C5	48:BO:54:ARG:HD2	2.46	0.51
34:BA:1355:G:H2'	34:BA:1356:G:H8	1.75	0.51
34:BA:1434:A:H2'	34:BA:1435:G:O4'	2.10	0.51
40:BG:51:GLN:HA	40:BG:55:GLY:HA2	1.93	0.51
43:BJ:50:ILE:HD11	43:BJ:57:LYS:HD2	1.91	0.51
45:BL:89:ARG:HB3	45:BL:97:ARG:HA	1.93	0.51
57:BZ:72:CYS:SG	57:BZ:79:ILE:HB	2.51	0.51
57:BZ:491:VAL:HG21	57:BZ:596:LYS:HB3	1.93	0.51
58:BX:4:PRO:CB	58:BX:5:MVA:HN1	2.41	0.51
1:CA:236:C:H2'	1:CA:237:C:C6	2.46	0.51
1:CA:1653:G:H3'	15:CR:2:ARG:HG3	1.93	0.51
1:CA:2322:A:H2'	1:CA:2323:G:O4'	2.11	0.51
1:CA:2683:C:O2	12:CO:70:LYS:NZ	2.33	0.51
1:CA:2695:C:H2'	1:CA:2696:U:C6	2.46	0.51
1:CA:2758:A:H2'	1:CA:2759:G:O4'	2.10	0.51
2:CB:66:A:N6	2:CB:109:C:H5'	2.24	0.51
3:CC:218:THR:HG22	3:CC:219:MET:SD	2.50	0.51
8:CH:101:ARG:HH12	8:CH:122:THR:HG22	1.76	0.51
15:CR:18:LEU:HD13	15:CR:22:ARG:NH1	2.26	0.51
27:C3:26:LEU:HD21	27:C3:46:ASN:HB3	1.92	0.51
32:C8:10:ALA:HB3	32:C8:62:LEU:HD21	1.92	0.51
35:DB:32:ILE:HD13	35:DB:40:HIS:HB3	1.92	0.51
37:DD:150:GLU:O	37:DD:152:SER:N	2.44	0.51
46:DM:79:LYS:HG2	46:DM:83:ASP:OD1	2.11	0.51
56:DY:51:U:H3	56:DY:63:G:H1	1.58	0.51
57:DZ:-23:LEU:H	57:DZ:-21:ALA:H	1.58	0.51
57:DZ:293:THR:HA	57:DZ:397:VAL:HG12	1.92	0.51
57:DZ:358:MET:HE1	57:DZ:363:ARG:HD3	1.93	0.51
1:AA:2127:C:H2'	1:AA:2128:G:H8	1.76	0.50
6:AF:182:ASN:ND2	6:AF:185:ASP:OD2	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:8:LYS:HD3	7:AG:100:TRP:CD1	2.46	0.50
23:AZ:104:PHE:HD1	23:AZ:141:VAL:HG11	1.77	0.50
34:BA:584:G:H5'	50:BQ:91:ARG:HH22	1.76	0.50
34:BA:1458:G:H5''	53:BT:31:SER:HB3	1.92	0.50
42:BI:24:GLY:HA3	42:BI:57:GLY:HA2	1.92	0.50
1:CA:1049:C:H1'	1:CA:1113:U:O2'	2.11	0.50
1:CA:1075:C:OP1	14:CQ:59:ARG:NH1	2.44	0.50
1:CA:1368:G:C2	1:CA:1369:G:C8	2.99	0.50
1:CA:1860:G:O5'	1:CA:1860:G:H8	1.94	0.50
1:CA:2638:G:P	5:CE:82:ARG:HH21	2.34	0.50
6:CF:159:GLY:HA2	6:CF:164:ARG:HH12	1.75	0.50
6:CF:184:TYR:CE2	6:CF:188:ARG:HD2	2.46	0.50
7:CG:173:LEU:HB3	7:CG:178:PHE:CG	2.46	0.50
12:CO:77:ILE:HD11	12:CO:122:LEU:HB3	1.93	0.50
14:CQ:57:HIS:NE2	14:CQ:116:GLU:HB3	2.27	0.50
24:C0:70:GLN:NE2	24:C0:72:ARG:HG3	2.26	0.50
32:C8:34:TRP:CG	32:C8:35:GLN:N	2.79	0.50
34:DA:559:A:P	38:DE:126:ARG:HH22	2.34	0.50
38:DE:82:VAL:O	38:DE:89:ILE:N	2.38	0.50
57:DZ:16:GLY:HA3	57:DZ:101:LEU:HD22	1.91	0.50
1:AA:1475:G:H2'	1:AA:1476:C:C6	2.46	0.50
1:AA:1634:C:H2'	1:AA:1635:C:C6	2.46	0.50
1:AA:2874:G:OP1	17:AT:119:LYS:NZ	2.43	0.50
3:AC:42:VAL:CG1	3:AC:43:GLU:N	2.73	0.50
6:AF:64:ILE:HD12	6:AF:65:TRP:CE3	2.46	0.50
15:AR:67:LEU:CD1	15:AR:76:VAL:HG21	2.36	0.50
34:BA:9:G:O2'	34:BA:10:A:H5'	2.11	0.50
34:BA:37:U:H2'	34:BA:38:G:H8	1.75	0.50
34:BA:738:C:H2'	34:BA:739:C:H6	1.77	0.50
34:BA:1071:C:H2'	34:BA:1072:G:H8	1.75	0.50
34:BA:1103:C:H2'	34:BA:1104:G:O4'	2.11	0.50
34:BA:1349:A:OP2	42:BI:118:LYS:HE3	2.11	0.50
42:BI:7:THR:HG22	42:BI:83:ARG:NH1	2.26	0.50
43:BJ:7:LYS:HD2	43:BJ:71:LEU:HD13	1.93	0.50
44:BK:99:GLN:HE21	44:BK:105:VAL:HG21	1.76	0.50
45:BL:109:GLY:HA3	45:BL:121:GLY:O	2.11	0.50
52:BS:20:LEU:HA	52:BS:23:ASN:HB2	1.93	0.50
57:BZ:497:PHE:N	57:BZ:508:GLY:O	2.45	0.50
57:BZ:524:GLU:HG2	57:BZ:564:LYS:HD2	1.92	0.50
1:CA:563:G:OP2	63:CA:3748:HOH:O	2.18	0.50
2:CB:116:G:O5'	2:CB:116:G:H8	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:57:GLN:HB2	3:CC:202:PRO:HG2	1.93	0.50
4:CD:58:HIS:ND1	4:CD:59:LYS:N	2.58	0.50
7:CG:36:LYS:HB2	7:CG:95:ARG:HG2	1.91	0.50
17:CT:11:GLU:HG2	17:CT:57:PHE:CD2	2.47	0.50
28:C4:58:ARG:NH1	52:DS:68:GLY:H	2.09	0.50
34:DA:41:G:H2'	34:DA:42:G:H8	1.76	0.50
34:DA:716:A:N3	44:DK:118:GLY:HA2	2.25	0.50
34:DA:1222:G:H5''	52:DS:78:ARG:NH2	2.25	0.50
35:DB:162:ILE:HD11	35:DB:184:VAL:HG22	1.93	0.50
37:DD:8:VAL:O	37:DD:11:LEU:HB2	2.12	0.50
37:DD:18:LYS:HG3	37:DD:33:MET:HG3	1.94	0.50
38:DE:100:VAL:CG2	38:DE:118:ILE:HG22	2.40	0.50
43:DJ:35:SER:HB3	43:DJ:73:ASP:HB2	1.93	0.50
57:DZ:237:PRO:HB2	57:DZ:242:LEU:HG	1.92	0.50
58:DX:9:MVA:O	58:DX:10:2QY:CD2	2.60	0.50
1:AA:303:C:H42	1:AA:385:G:H1	1.58	0.50
4:AD:145:VAL:HG11	4:AD:175:LEU:HD11	1.94	0.50
12:AO:104:ARG:HH22	17:AT:43:GLN:HE22	1.57	0.50
13:AP:82:GLY:HA3	13:AP:115:LEU:HD11	1.94	0.50
21:AX:5:TYR:CE1	26:A2:30:ARG:HB2	2.46	0.50
57:BZ:114:VAL:HB	57:BZ:152:THR:HB	1.94	0.50
57:BZ:119:GLU:HG3	57:BZ:156:ARG:HH21	1.75	0.50
57:BZ:140:ASP:HA	57:BZ:172:ASP:H	1.76	0.50
57:BZ:509:HIS:HD2	57:BZ:571:SER:N	2.09	0.50
1:CA:1463:C:H2'	1:CA:1464:C:H6	1.76	0.50
1:CA:2121:G:C2'	3:CC:168:LYS:CD	2.49	0.50
1:CA:2690:C:OP2	15:CR:14:SER:HB2	2.12	0.50
4:CD:258:LYS:HE3	4:CD:273:ARG:NH2	2.26	0.50
6:CF:159:GLY:HA2	6:CF:164:ARG:NH1	2.26	0.50
7:CG:7:LEU:HD23	7:CG:100:TRP:HE3	1.76	0.50
24:C0:53:MET:HA	24:C0:58:THR:O	2.12	0.50
27:C3:18:ASP:OD1	27:C3:18:ASP:N	2.43	0.50
34:DA:914:A:OP1	63:DA:1809:HOH:O	2.18	0.50
34:DA:1004:A:H5'	34:DA:1024:G:N2	2.27	0.50
34:DA:1099:G:C2	34:DA:1100:C:C2	2.99	0.50
34:DA:1316:G:N7	52:DS:7:LYS:NZ	2.59	0.50
56:DY:25:C:H2'	56:DY:26:A:H8	1.77	0.50
57:DZ:-66:MET:HG2	57:DZ:-44:PRO:HG3	1.92	0.50
57:DZ:32:ILE:HG23	57:DZ:273:LEU:HD21	1.94	0.50
1:AA:625:G:O2'	1:AA:702:A:N6	2.44	0.50
1:AA:1480:A:H61	1:AA:1605:A:N6	2.09	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1563:G:H2'	1:AA:1564:C:C6	2.47	0.50
1:AA:1594:C:H2'	1:AA:1595:C:C6	2.46	0.50
1:AA:1993:A:C4	4:AD:241:PRO:HD3	2.46	0.50
3:AC:44:VAL:HG21	3:AC:176:VAL:HG21	1.92	0.50
4:AD:108:PRO:HD2	4:AD:111:LEU:HG	1.92	0.50
23:AZ:154:ASP:O	23:AZ:155:LEU:HB3	2.11	0.50
34:BA:116:A:H8	34:BA:116:A:O5'	1.95	0.50
34:BA:155:C:H2'	34:BA:156:G:H8	1.76	0.50
34:BA:515:G:H2'	34:BA:516:U:O4'	2.12	0.50
36:BC:14:ILE:HG22	36:BC:15:THR:OG1	2.11	0.50
38:BE:57:LYS:HG2	38:BE:61:TYR:CE2	2.45	0.50
45:BL:25:PRO:HD2	45:BL:97:ARG:NH2	2.26	0.50
45:BL:27:LEU:HD22	45:BL:98:TYR:HE2	1.76	0.50
1:CA:2176:A:C4'	3:CC:45:HIS:CD2	2.82	0.50
5:CE:2:LYS:HG3	5:CE:200:GLU:HB2	1.92	0.50
5:CE:30:PRO:HB3	5:CE:92:THR:HG23	1.92	0.50
7:CG:145:THR:OG1	7:CG:146:TYR:N	2.45	0.50
34:DA:124:G:H4'	34:DA:291:C:O2'	2.11	0.50
34:DA:243:A:H4'	34:DA:244:U:H5''	1.93	0.50
34:DA:543:C:C2	34:DA:544:G:C8	2.99	0.50
34:DA:1177:G:H2'	34:DA:1178:G:O4'	2.11	0.50
40:DG:113:GLU:O	40:DG:119:ARG:HD3	2.11	0.50
40:DG:115:ARG:CZ	40:DG:115:ARG:HB2	2.41	0.50
41:DH:34:GLU:HB3	41:DH:118:VAL:HG21	1.93	0.50
41:DH:134:ILE:HG22	41:DH:135:CYS:SG	2.51	0.50
42:DI:42:ARG:HH21	42:DI:71:SER:HG	1.57	0.50
43:DJ:65:LEU:HD12	47:DN:55:GLY:O	2.11	0.50
57:DZ:-66:MET:HE1	57:DZ:-29:LEU:HD11	1.93	0.50
57:DZ:87:HIS:HB3	57:DZ:90:PHE:H	1.77	0.50
1:AA:604:C:H2'	1:AA:605:G:C8	2.46	0.50
1:AA:957:A:OP1	63:AA:3940:HOH:O	2.19	0.50
20:AW:57:ASN:O	20:AW:61:ASN:HB2	2.11	0.50
34:BA:436:C:H2'	34:BA:437:U:H6	1.75	0.50
34:BA:1427:U:H2'	34:BA:1428:A:C8	2.46	0.50
36:BC:148:GLY:HA3	36:BC:172:ARG:O	2.11	0.50
41:BH:117:GLY:O	41:BH:119:LEU:HG	2.11	0.50
56:BY:58:A:C2	56:BY:60:U:H2'	2.46	0.50
57:BZ:-38:TYR:C	57:BZ:-35:PRO:HD2	2.32	0.50
1:CA:236:C:H2'	1:CA:237:C:H6	1.77	0.50
1:CA:1184:G:OP1	27:C3:30:ARG:NH1	2.45	0.50
3:CC:44:VAL:HG21	3:CC:176:VAL:HG21	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:CX:12:VAL:HG22	21:CX:29:TRP:CE2	2.47	0.50
34:DA:998:G:H22	34:DA:1043:C:H42	1.58	0.50
41:DH:16:ALA:C	41:DH:18:ARG:H	2.14	0.50
41:DH:51:VAL:CG2	41:DH:60:ARG:HB2	2.42	0.50
57:DZ:174:PHE:CE2	57:DZ:267:LYS:HD3	2.47	0.50
1:AA:504:A:N1	1:AA:525:G:H4'	2.26	0.50
1:AA:1558:G:H2'	1:AA:1559:C:C6	2.46	0.50
1:AA:1921:G:H2'	1:AA:1921:G:N3	2.25	0.50
1:AA:2579:G:H2'	1:AA:2580:C:C6	2.47	0.50
8:AH:103:LEU:HG	8:AH:105:LEU:HD13	1.93	0.50
16:AS:99:LYS:HE3	16:AS:103:GLU:OE2	2.12	0.50
33:A9:7:VAL:HG12	33:A9:34:GLN:HB3	1.93	0.50
43:BJ:46:ARG:HH11	43:BJ:46:ARG:HB3	1.77	0.50
53:BT:83:ARG:HG2	53:BT:86:ARG:HH12	1.77	0.50
56:BW:19:G:H4'	56:BW:20:U:OP2	2.11	0.50
57:BZ:549:ALA:HB1	57:BZ:591:LYS:HG3	1.92	0.50
1:CA:673:C:H5''	6:CF:81:PRO:HD2	1.94	0.50
2:CB:48:A:OP2	16:CS:30:ARG:NH2	2.39	0.50
8:CH:25:LYS:HE2	8:CH:34:GLU:HB3	1.93	0.50
28:C4:46:GLN:O	28:C4:48:ARG:N	2.37	0.50
34:DA:600:C:C2	34:DA:639:G:C2	3.00	0.50
34:DA:763:G:H2'	34:DA:764:C:H6	1.76	0.50
34:DA:827:U:H5''	34:DA:828:A:OP2	2.12	0.50
37:DD:105:VAL:HB	37:DD:117:ALA:HB1	1.94	0.50
48:DO:33:THR:OG1	48:DO:87:ILE:HD11	2.12	0.50
50:DQ:6:LEU:O	50:DQ:58:GLU:HA	2.11	0.50
56:DW:24:G:C6	56:DW:25:C:C4	3.00	0.50
57:DZ:278:ASP:HB3	57:DZ:279:TYR:CE1	2.47	0.50
57:DZ:552:SER:HB3	57:DZ:591:LYS:HZ1	1.76	0.50
1:AA:139:A:H8	1:AA:1454:C:O2'	1.95	0.50
1:AA:486:A:H2'	1:AA:487:C:O4'	2.12	0.50
1:AA:776:G:C5	4:AD:208:LYS:HB2	2.46	0.50
1:AA:1481:G:H21	1:AA:1525:G:H5'	1.76	0.50
7:AG:126:ASP:CB	7:AG:130:ASN:H	2.23	0.50
9:AK:118:THR:O	9:AK:120:LYS:N	2.45	0.50
34:BA:323:U:H5'	53:BT:23:ARG:HB2	1.93	0.50
34:BA:460:G:C6	34:BA:470:C:H5'	2.46	0.50
34:BA:591:U:H2'	34:BA:592:G:C8	2.42	0.50
57:BZ:105:ILE:HG21	57:BZ:272:LEU:HD11	1.92	0.50
1:CA:1131:G:C2	1:CA:1132:A:C4	2.99	0.50
1:CA:1665:A:H4'	12:CO:67:LYS:HB2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2785:C:OP1	5:CE:41:LYS:NZ	2.38	0.50
4:CD:53:PHE:HB3	4:CD:218:ARG:O	2.12	0.50
9:CK:74:LEU:O	9:CK:76:GLY:N	2.42	0.50
24:C0:11:ARG:O	24:C0:14:ARG:NH2	2.45	0.50
34:DA:130:A:N3	34:DA:263:A:O2'	2.42	0.50
50:DQ:62:SER:CB	50:DQ:72:ARG:HD3	2.40	0.50
1:AA:1209:G:O2'	1:AA:1210:G:H5'	2.11	0.50
1:AA:1423:G:H2'	63:AA:4750:HOH:O	2.12	0.50
1:AA:1764:G:C6	1:AA:1765:U:C4	3.00	0.50
5:AE:18:ASP:HB3	17:AT:82:LEU:HD11	1.94	0.50
16:AS:62:LYS:HB3	16:AS:97:ARG:HD2	1.93	0.50
34:BA:542:G:OP1	37:BD:10:ARG:NH2	2.44	0.50
34:BA:1192:C:H2'	34:BA:1193:G:O4'	2.11	0.50
35:BB:180:LEU:O	35:BB:181:PHE:HB2	2.11	0.50
42:BI:53:VAL:O	42:BI:55:ALA:N	2.42	0.50
57:BZ:356:LEU:HD12	57:BZ:365:GLU:HA	1.93	0.50
58:BX:4:PRO:HB3	58:BX:5:MVA:HN1	1.93	0.50
1:CA:568:U:H5'	1:CA:945:A:N1	2.26	0.50
1:CA:574:C:N3	5:CE:145:LYS:NZ	2.58	0.50
1:CA:956:G:OP2	14:CQ:14:ARG:NH2	2.45	0.50
1:CA:1188:U:C2'	1:CA:1189:A:H5'	2.42	0.50
1:CA:1260:G:H2'	1:CA:1261:C:O4'	2.12	0.50
1:CA:2371:G:C6	1:CA:2372:G:N7	2.79	0.50
2:CB:76:G:H2'	2:CB:77:U:O4'	2.11	0.50
7:CG:33:ARG:HB2	7:CG:33:ARG:CZ	2.42	0.50
10:CL:128:ALA:O	10:CL:132:ARG:NH2	2.44	0.50
11:CN:120:LEU:HD22	11:CN:122:VAL:HG23	1.94	0.50
34:DA:1317:C:N3	52:DS:37:ARG:NH2	2.59	0.50
36:DC:148:GLY:N	36:DC:203:PHE:HB3	2.27	0.50
40:DG:26:PHE:CE1	40:DG:30:ILE:HD11	2.47	0.50
40:DG:27:ILE:HG23	40:DG:39:ALA:HB1	1.94	0.50
40:DG:65:ALA:O	40:DG:69:VAL:HG23	2.11	0.50
41:DH:51:VAL:HG11	41:DH:60:ARG:NH1	2.27	0.50
57:DZ:247:ARG:HD2	57:DZ:278:ASP:O	2.11	0.50
1:AA:63:A:C5	21:AX:66:LEU:HD12	2.47	0.50
1:AA:692:C:O2	1:AA:698:G:N2	2.39	0.50
1:AA:1110:C:H5'	10:AL:86:LYS:HA	1.93	0.50
1:AA:2240:G:OP1	4:AD:261:LYS:NZ	2.44	0.50
1:AA:2538:G:O2'	33:A9:1:MET:N	2.35	0.50
1:AA:2724:U:O2'	1:AA:2726:A:H5'	2.11	0.50
3:AC:183:PRO:C	3:AC:185:LYS:H	2.16	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:191:ARG:O	3:AC:195:ARG:HG2	2.11	0.50
8:AH:3:ARG:HH22	8:AH:65:HIS:HB3	1.76	0.50
34:BA:499:A:H4'	34:BA:500:G:H5'	1.94	0.50
34:BA:662:G:H2'	34:BA:663:A:C8	2.46	0.50
34:BA:1325:C:H2'	34:BA:1326:C:C6	2.47	0.50
40:BG:18:TYR:CD2	40:BG:59:LEU:HD13	2.47	0.50
46:BM:70:LEU:O	46:BM:74:VAL:HG23	2.12	0.50
57:BZ:96:ARG:NH2	57:BZ:315:LYS:HZ1	2.09	0.50
1:CA:32:C:O2'	1:CA:33:U:H5'	2.12	0.50
1:CA:298:G:H5''	1:CA:299:A:OP1	2.12	0.50
1:CA:387:U:H4'	1:CA:388:G:O5'	2.12	0.50
1:CA:539:G:H2'	1:CA:540:C:H6	1.77	0.50
1:CA:1209:G:O2'	1:CA:1237:A:N1	2.38	0.50
4:CD:30:GLU:HG3	4:CD:94:LEU:HD11	1.94	0.50
4:CD:258:LYS:HE3	4:CD:273:ARG:HH21	1.77	0.50
11:CN:62:VAL:HG13	11:CN:66:LYS:HB2	1.92	0.50
23:CZ:7:ALA:HB3	23:CZ:61:LEU:HD13	1.94	0.50
34:DA:1117:G:O3'	42:DI:104:ARG:HD2	2.12	0.50
42:DI:89:ASN:HD22	42:DI:91:ASP:H	1.60	0.50
47:DN:29:ARG:HH12	47:DN:42:ILE:HD11	1.77	0.50
56:DY:12:U:H3	56:DY:23:A:H61	1.59	0.50
57:DZ:-12:ALA:HA	57:DZ:-9:LEU:HB3	1.93	0.50
1:AA:2115:G:O2'	1:AA:2220:A:N1	2.35	0.49
11:AN:18:ALA:O	11:AN:21:LYS:HG3	2.12	0.49
16:AS:93:LYS:HG2	16:AS:95:HIS:HB2	1.93	0.49
34:BA:357:G:C2	34:BA:358:U:C5	3.00	0.49
34:BA:444:C:H2'	34:BA:445:G:H8	1.76	0.49
34:BA:737:A:OP1	39:BF:92:LYS:HB2	2.12	0.49
35:BB:223:ILE:C	35:BB:225:ALA:H	2.15	0.49
36:BC:6:HIS:HD2	36:BC:8:ILE:H	1.59	0.49
56:BY:7:A:O2'	56:BY:49:C:H5'	2.13	0.49
57:BZ:-13:GLN:HE21	57:BZ:-13:GLN:HA	1.77	0.49
1:CA:515:A:H1'	1:CA:581:C:H1'	1.94	0.49
1:CA:963:U:H2'	1:CA:964:C:C6	2.46	0.49
1:CA:1405:U:H2'	1:CA:1406:U:H6	1.76	0.49
1:CA:1463:C:H2'	1:CA:1464:C:C6	2.47	0.49
1:CA:2884:U:H1'	29:C5:53:ALA:HB2	1.94	0.49
3:CC:191:ARG:O	3:CC:195:ARG:HG2	2.11	0.49
7:CG:64:THR:HG21	7:CG:92:VAL:HG11	1.94	0.49
13:CP:52:GLU:HB2	13:CP:55:ARG:HD2	1.94	0.49
34:DA:325:A:H2'	34:DA:326:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:538:G:H3'	45:DL:115:LYS:HZ3	1.77	0.49
34:DA:881:G:H2'	34:DA:882:C:O4'	2.12	0.49
34:DA:1479:C:H2'	34:DA:1480:G:H8	1.77	0.49
39:DF:87:ARG:HG3	39:DF:87:ARG:NH1	2.27	0.49
57:DZ:15:ILE:HD11	57:DZ:81:ILE:HG23	1.94	0.49
1:AA:715:G:H5'	1:AA:716:G:OP2	2.12	0.49
1:AA:1250:U:H4'	1:AA:1251:G:OP2	2.11	0.49
1:AA:1929:G:H2'	1:AA:1930:C:H6	1.77	0.49
1:AA:2785:C:H2'	1:AA:2786:C:C6	2.47	0.49
1:AA:2785:C:H2'	1:AA:2786:C:H6	1.77	0.49
3:AC:191:ARG:O	3:AC:194:ILE:HG22	2.12	0.49
4:AD:221:VAL:HG22	4:AD:226:MET:HE2	1.93	0.49
14:AQ:32:TYR:OH	14:AQ:111:GLU:HB2	2.10	0.49
16:AS:43:GLU:OE1	24:A0:49:LYS:HE3	2.13	0.49
34:BA:538:G:OP1	45:BL:113:ARG:HD2	2.11	0.49
34:BA:1326:C:H2'	34:BA:1327:C:C6	2.47	0.49
35:BB:97:TRP:HZ3	35:BB:100:GLY:H	1.60	0.49
37:BD:129:ASN:ND2	37:BD:144:ASP:OD1	2.45	0.49
38:BE:89:ILE:HG13	38:BE:90:VAL:N	2.27	0.49
38:BE:122:GLU:O	38:BE:126:ARG:NH1	2.45	0.49
42:BI:18:PHE:HB2	42:BI:62:TYR:HB3	1.94	0.49
50:BQ:62:SER:CB	50:BQ:72:ARG:HD2	2.42	0.49
57:BZ:138:LYS:HG2	62:BZ:702:GDP:C6	2.48	0.49
1:CA:647:G:H2'	1:CA:648:G:O4'	2.13	0.49
1:CA:686:G:N2	1:CA:788:A:H61	2.10	0.49
1:CA:697:C:H2'	1:CA:698:C:H6	1.76	0.49
1:CA:1401:G:H2'	1:CA:1402:C:O4'	2.13	0.49
4:CD:13:ARG:HD2	4:CD:16:MET:HE3	1.94	0.49
13:CP:93:GLY:H	13:CP:123:LEU:CD2	2.25	0.49
16:CS:36:TYR:OH	16:CS:54:LEU:HD13	2.12	0.49
34:DA:437:U:O2	37:DD:119:GLN:NE2	2.45	0.49
34:DA:451:A:H61	34:DA:480:U:H2'	1.76	0.49
34:DA:454:C:H5''	34:DA:455:C:OP2	2.12	0.49
34:DA:926:G:O2'	55:DV:13:A:N1	2.45	0.49
34:DA:1022:G:H2'	34:DA:1023:G:C8	2.47	0.49
34:DA:1261:A:C6	34:DA:1275:A:H1'	2.47	0.49
37:DD:65:ARG:HD2	37:DD:70:ILE:O	2.12	0.49
43:DJ:29:ARG:HB2	43:DJ:84:GLN:HE22	1.77	0.49
1:AA:595:A:H5''	1:AA:596:G:OP2	2.12	0.49
1:AA:664:U:H2'	1:AA:665:C:C6	2.47	0.49
1:AA:2146:G:H2'	1:AA:2147:G:O4'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:AF:119:ARG:NH1	6:AF:119:ARG:HB3	2.27	0.49
14:AQ:16:ARG:HG2	14:AQ:18:LYS:HE3	1.93	0.49
25:A1:80:LEU:HB3	25:A1:82:LEU:HG	1.92	0.49
34:BA:152:A:N6	34:BA:170:U:O2	2.45	0.49
34:BA:584:G:O6	63:BA:1914:HOH:O	2.20	0.49
34:BA:1136:U:H5''	34:BA:1137:C:C2	2.47	0.49
53:BT:14:LYS:O	53:BT:18:GLN:HG3	2.12	0.49
1:CA:864:G:H8	1:CA:864:G:O5'	1.95	0.49
1:CA:1063:G:H1'	10:CL:91:PRO:HG2	1.95	0.49
1:CA:1664:A:H61	1:CA:1996:C:H42	1.59	0.49
1:CA:2113:U:H3	1:CA:2170:A:N6	2.08	0.49
1:CA:2331:G:H5'	24:C0:44:ARG:HG3	1.93	0.49
3:CC:183:PRO:C	3:CC:185:LYS:H	2.16	0.49
5:CE:38:THR:HB	5:CE:40:GLU:HG2	1.92	0.49
22:CY:37:VAL:HG22	22:CY:69:ALA:HA	1.94	0.49
26:C2:61:LEU:O	26:C2:65:ASN:HB2	2.12	0.49
31:C7:29:LYS:HZ1	31:C7:33:ARG:HE	1.60	0.49
38:DE:75:THR:OG1	38:DE:117:ASP:O	2.20	0.49
50:DQ:56:VAL:HG12	50:DQ:77:VAL:HB	1.94	0.49
51:DR:25:THR:HG23	51:DR:26:LEU:HD22	1.94	0.49
53:DT:12:ALA:HA	53:DT:15:ARG:HB2	1.94	0.49
57:DZ:303:PRO:O	57:DZ:305:PRO:HD3	2.12	0.49
57:DZ:535:PRO:HG2	57:DZ:538:TYR:HD2	1.76	0.49
1:AA:242:C:OP2	32:A8:5:LYS:NZ	2.34	0.49
1:AA:1058:U:C5	11:AN:28:THR:HG21	2.47	0.49
1:AA:1911:A:N1	1:AA:2246:G:H1'	2.28	0.49
1:AA:2144:U:H2'	1:AA:2145:G:C8	2.47	0.49
1:AA:2285:A:H2'	1:AA:2286:A:C8	2.46	0.49
34:BA:516:U:C4	34:BA:517:G:C6	3.00	0.49
34:BA:576:G:N1	34:BA:759:A:OP1	2.42	0.49
34:BA:828:A:H2'	34:BA:829:G:O4'	2.12	0.49
34:BA:977:A:C8	34:BA:1223:C:C4	3.01	0.49
34:BA:1118:C:H1'	34:BA:1179:A:C4	2.48	0.49
44:BK:80:VAL:O	44:BK:105:VAL:HA	2.12	0.49
46:BM:84:ILE:HG13	46:BM:85:GLY:HA2	1.95	0.49
53:BT:97:ALA:N	53:BT:98:PRO:HD3	2.27	0.49
1:CA:96:G:H4'	26:C2:48:HIS:NE2	2.27	0.49
1:CA:670:A:H4'	1:CA:671:C:O5'	2.12	0.49
1:CA:1452:A:O2'	1:CA:1453:U:H2'	2.11	0.49
1:CA:2178:C:H4'	3:CC:47:LYS:CE	2.42	0.49
1:CA:2726:U:O2'	1:CA:2727:G:H5'	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:CD:2:ALA:O	4:CD:3:VAL:HB	2.12	0.49
8:CH:130:ARG:HG2	8:CH:131:VAL:N	2.27	0.49
8:CH:150:ALA:HA	8:CH:153:LYS:HG3	1.94	0.49
11:CN:89:LYS:O	11:CN:93:THR:HG23	2.12	0.49
23:CZ:4:ARG:NE	23:CZ:60:GLU:OE2	2.43	0.49
33:C9:22:ARG:HB3	33:C9:24:TYR:CE1	2.47	0.49
34:DA:174:C:H2'	34:DA:175:C:H6	1.77	0.49
34:DA:1029:C:H1'	34:DA:1033:G:H22	1.77	0.49
34:DA:1376:U:H2'	34:DA:1377:A:C8	2.48	0.49
34:DA:1410:G:H2'	34:DA:1411:C:H6	1.77	0.49
35:DB:17:PHE:CD2	35:DB:44:LEU:HD11	2.47	0.49
35:DB:182:ILE:HG22	35:DB:183:PRO:O	2.13	0.49
38:DE:139:LEU:HA	38:DE:142:LEU:HD12	1.94	0.49
1:AA:1219:A:H1'	1:AA:1220:U:C5'	2.42	0.49
1:AA:1298:G:N3	18:AU:33:ARG:HG2	2.27	0.49
1:AA:2157:A:H5'	1:AA:2182:G:H4'	1.95	0.49
1:AA:2874:G:H2'	1:AA:2875:U:O4'	2.12	0.49
16:AS:97:ARG:NE	63:AS:4001:HOH:O	2.39	0.49
34:BA:200:G:H1	34:BA:217:C:N4	2.10	0.49
34:BA:690:G:C6	34:BA:691:G:C6	3.00	0.49
34:BA:859:A:H2'	34:BA:860:A:C8	2.47	0.49
34:BA:988:G:N2	34:BA:1016:A:N3	2.55	0.49
34:BA:1329:A:P	46:BM:28:ALA:HB3	2.53	0.49
36:BC:153:VAL:HG22	36:BC:198:VAL:HG22	1.94	0.49
37:BD:46:LYS:O	37:BD:48:ALA:N	2.45	0.49
38:BE:40:ARG:NH2	38:BE:68:GLU:HA	2.26	0.49
57:BZ:621:ILE:O	57:BZ:624:LEU:N	2.43	0.49
1:CA:108:U:C2	1:CA:109:G:C8	3.00	0.49
1:CA:888:C:P	46:DM:93:ARG:HH11	2.35	0.49
1:CA:1008:C:H6	1:CA:1008:C:OP1	1.96	0.49
1:CA:1054:A:H2	1:CA:1055:G:C4	2.21	0.49
1:CA:1285:G:N2	1:CA:1328:G:H5''	2.27	0.49
1:CA:1689:A:N6	1:CA:1698:A:H2	1.92	0.49
1:CA:2602:A:H4'	1:CA:2603:G:O5'	2.13	0.49
1:CA:2645:G:N2	1:CA:2767:C:OP2	2.46	0.49
1:CA:2693:A:H2'	1:CA:2694:G:C8	2.47	0.49
1:CA:2766:G:H5''	1:CA:2767:C:OP2	2.12	0.49
3:CC:191:ARG:O	3:CC:194:ILE:HG22	2.12	0.49
8:CH:98:LEU:HD22	8:CH:125:VAL:HG23	1.94	0.49
16:CS:93:LYS:O	16:CS:95:HIS:N	2.45	0.49
34:DA:1305:G:H22	34:DA:1331:G:H1'	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1323:G:H4'	34:DA:1363:C:N3	2.28	0.49
35:DB:17:PHE:HB2	35:DB:44:LEU:HD12	1.94	0.49
40:DG:59:LEU:O	40:DG:63:LYS:HG3	2.12	0.49
44:DK:22:HIS:O	44:DK:28:THR:HA	2.13	0.49
57:DZ:-66:MET:H2	57:DZ:-46:VAL:H	1.60	0.49
1:AA:95:G:H4'	26:A2:48:HIS:CD2	2.47	0.49
1:AA:645:G:H5'	1:AA:645:G:N3	2.28	0.49
1:AA:1002:A:N1	1:AA:2470:G:H4'	2.28	0.49
1:AA:1370:G:C4	1:AA:1374:G:O6	2.66	0.49
1:AA:1392:G:OP2	63:AA:3929:HOH:O	2.20	0.49
1:AA:1502:G:C2'	1:AA:1503:G:H5'	2.41	0.49
1:AA:2074:G:H4'	5:AE:143:ASN:O	2.13	0.49
4:AD:12:SER:HB3	4:AD:208:LYS:HB3	1.93	0.49
6:AF:185:ASP:OD1	6:AF:188:ARG:NH1	2.37	0.49
11:AN:20:GLY:HA2	11:AN:61:ARG:HD2	1.95	0.49
16:AS:82:ILE:HG22	16:AS:110:LEU:HD11	1.95	0.49
17:AT:16:ARG:NH1	17:AT:18:ASP:OD1	2.45	0.49
34:BA:949:A:H2'	34:BA:950:U:O4'	2.12	0.49
35:BB:16:HIS:CG	35:BB:17:PHE:H	2.31	0.49
35:BB:54:THR:HG21	35:BB:201:ILE:HD11	1.93	0.49
40:BG:73:MET:HG3	40:BG:90:GLU:HA	1.94	0.49
42:BI:77:ILE:O	42:BI:81:ILE:HG23	2.13	0.49
56:BY:26:A:H61	56:BY:44:G:H1	1.59	0.49
57:BZ:87:HIS:HB3	57:BZ:90:PHE:HB3	1.95	0.49
57:BZ:147:TRP:CE3	57:BZ:150:ILE:HD12	2.47	0.49
57:BZ:438:PHE:HB2	57:BZ:452:SER:O	2.11	0.49
1:CA:144:C:H2'	1:CA:145:G:H8	1.77	0.49
1:CA:539:G:H2'	1:CA:540:C:C6	2.48	0.49
1:CA:1022:G:N7	11:CN:66:LYS:HE2	2.28	0.49
1:CA:1568:G:H5''	4:CD:61:LEU:HD22	1.95	0.49
1:CA:2305:A:H5''	7:CG:134:GLY:HA3	1.95	0.49
3:CC:65:LEU:HB3	3:CC:189:ASN:HD22	1.75	0.49
33:C9:7:VAL:HG12	33:C9:34:GLN:HB3	1.93	0.49
34:DA:179:A:H2'	34:DA:180:U:H6	1.78	0.49
37:DD:150:GLU:C	37:DD:152:SER:H	2.16	0.49
43:DJ:53:PRO:HA	47:DN:42:ILE:HD13	1.95	0.49
47:DN:32:SER:OG	47:DN:41:ARG:HG2	2.13	0.49
53:DT:37:SER:O	53:DT:41:ILE:HG13	2.13	0.49
1:AA:1108:G:H1	1:AA:1122:C:N4	2.04	0.49
1:AA:2053:A:C6	1:AA:2510:C:H1'	2.48	0.49
1:AA:2885:C:O2'	17:AT:4:GLY:HA3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2890:C:O2'	15:AR:90:ARG:NH1	2.36	0.49
5:AE:54:GLN:NE2	5:AE:76:ARG:HG2	2.26	0.49
14:AQ:111:GLU:O	14:AQ:115:MET:HB2	2.12	0.49
25:A1:3:LYS:HB2	25:A1:61:ARG:NH1	2.28	0.49
34:BA:601:C:H2'	34:BA:602:A:C8	2.48	0.49
34:BA:763:G:H2'	34:BA:764:C:H6	1.76	0.49
35:BB:27:LYS:O	35:BB:194:PRO:HG2	2.12	0.49
35:BB:185:ILE:HA	35:BB:199:TYR:O	2.13	0.49
38:BE:20:GLN:O	38:BE:22:GLY:N	2.45	0.49
39:BF:75:LEU:O	39:BF:79:LEU:HG	2.12	0.49
57:BZ:145:ASP:O	57:BZ:148:LEU:HB3	2.12	0.49
57:BZ:631:ILE:HA	57:BZ:645:ALA:HB2	1.93	0.49
1:CA:110:G:C2	1:CA:111:A:C8	3.00	0.49
1:CA:226:G:H21	1:CA:228:A:H62	1.60	0.49
1:CA:465:G:H2'	1:CA:466:A:C8	2.47	0.49
1:CA:1057:A:O2'	1:CA:1058:G:OP1	2.27	0.49
1:CA:1448:G:H4'	1:CA:1542:A:OP1	2.13	0.49
1:CA:1792:G:O2'	1:CA:1830:C:OP1	2.28	0.49
1:CA:2274:A:C5	1:CA:2276:G:C8	3.00	0.49
6:CF:125:LEU:HD11	6:CF:199:TRP:CD2	2.48	0.49
11:CN:36:GLY:HA3	11:CN:49:GLY:HA2	1.94	0.49
14:CQ:116:GLU:O	14:CQ:120:ILE:HG13	2.12	0.49
24:C0:46:LYS:HD2	24:C0:78:TYR:CZ	2.48	0.49
27:C3:3:ARG:HB3	27:C3:59:VAL:HG23	1.95	0.49
35:DB:19:HIS:CG	35:DB:20:GLU:N	2.81	0.49
36:DC:40:ARG:NH2	36:DC:55:VAL:O	2.45	0.49
1:AA:74:G:H4'	26:A2:55:ARG:NH1	2.28	0.49
1:AA:1751:G:O2'	1:AA:1752:G:H5'	2.12	0.49
1:AA:2806:G:N2	1:AA:2815:C:H1'	2.28	0.49
2:AB:57:A:N3	7:AG:29:TRP:HB3	2.28	0.49
6:AF:178:PRO:HB3	6:AF:198:ALA:HB1	1.94	0.49
10:AL:105:LEU:HD23	10:AL:124:ALA:HB2	1.95	0.49
34:BA:158:G:H2'	34:BA:159:G:C8	2.48	0.49
34:BA:195:A:C6	34:BA:196:A:N1	2.81	0.49
34:BA:427:U:OP2	37:BD:36:ARG:NH1	2.46	0.49
34:BA:986:A:H1'	52:BS:54:GLY:O	2.12	0.49
34:BA:1154:G:H2'	34:BA:1155:G:H8	1.76	0.49
39:BF:100:ASN:HB2	51:BR:27:GLY:O	2.13	0.49
52:BS:65:ASN:HD22	52:BS:66:MET:N	2.10	0.49
57:BZ:188:TYR:CB	57:BZ:267:LYS:HE3	2.43	0.49
57:BZ:481:VAL:HG23	57:BZ:483:TYR:CE2	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:609:GLU:OE1	57:BZ:637:ARG:NH2	2.46	0.49
1:CA:207:A:H2'	1:CA:208:C:O4'	2.12	0.49
1:CA:335:C:H4'	22:CY:73:ARG:CZ	2.43	0.49
1:CA:1019:U:O2'	1:CA:1021:A:H2	1.94	0.49
1:CA:1536:C:P	1:CA:1536:C:H6	2.36	0.49
6:CF:154:VAL:HG22	6:CF:191:ARG:HB2	1.95	0.49
14:CQ:52:VAL:HG22	23:CZ:183:LEU:HD11	1.95	0.49
23:CZ:45:ASP:O	23:CZ:49:ARG:HG3	2.13	0.49
34:DA:719:C:O2'	51:DR:49:LYS:HB3	2.12	0.49
35:DB:30:ARG:HG3	35:DB:31:TYR:CD1	2.47	0.49
38:DE:122:GLU:O	38:DE:126:ARG:NH1	2.46	0.49
48:DO:33:THR:HA	48:DO:63:ARG:HH11	1.77	0.49
49:DP:39:TYR:CD1	49:DP:73:LEU:HD13	2.48	0.49
1:AA:697:C:N4	1:AA:698:G:O6	2.46	0.49
1:AA:793:A:H2'	1:AA:2624:C:H5''	1.95	0.49
1:AA:1857:G:H4'	4:AD:242:ARG:CZ	2.43	0.49
1:AA:2143:G:C1'	3:AC:168:LYS:CD	2.91	0.49
27:A3:18:ASP:HB2	27:A3:49:LYS:HE3	1.95	0.49
30:A6:30:THR:HG22	30:A6:30:THR:O	2.12	0.49
34:BA:509:A:H3'	34:BA:509:A:C8	2.48	0.49
37:BD:64:LEU:HD13	37:BD:198:VAL:HG21	1.94	0.49
41:BH:87:SER:HA	41:BH:93:VAL:HG23	1.94	0.49
46:BM:89:GLY:O	46:BM:93:ARG:HG3	2.11	0.49
58:BX:3:004:CG1	58:BX:4:PRO:HD2	2.42	0.49
1:CA:1471:A:H5''	1:CA:1471:A:C8	2.48	0.49
1:CA:1848:A:H2'	1:CA:1849:G:O4'	2.12	0.49
1:CA:2176:A:H4'	3:CC:45:HIS:HD2	1.68	0.49
1:CA:2334:G:O6	24:C0:74:ARG:NH2	2.46	0.49
1:CA:2576:G:H1'	63:CA:3867:HOH:O	2.13	0.49
6:CF:161:GLU:O	6:CF:165:ARG:HB2	2.13	0.49
7:CG:37:VAL:O	7:CG:94:LEU:N	2.46	0.49
7:CG:38:VAL:HA	7:CG:93:THR:HA	1.95	0.49
13:CP:42:SER:O	63:CP:302:HOH:O	2.20	0.49
23:CZ:5:LEU:HD22	23:CZ:6:LYS:O	2.13	0.49
23:CZ:99:TYR:HA	23:CZ:124:ILE:O	2.13	0.49
27:C3:8:LEU:HD13	27:C3:31:LEU:HA	1.95	0.49
34:DA:46:G:H2'	34:DA:366:C:C5	2.47	0.49
34:DA:435:C:H2'	34:DA:436:C:H6	1.77	0.49
34:DA:692:U:H1'	34:DA:695:A:N7	2.28	0.49
34:DA:1063:C:OP2	34:DA:1064:G:O2'	2.23	0.49
34:DA:1298:C:P	40:DG:114:ARG:HH22	2.36	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:DB:19:HIS:HB2	35:DB:204:ASN:ND2	2.28	0.49
57:DZ:395:PRO:O	57:DZ:397:VAL:N	2.45	0.49
1:AA:144:C:H5'	21:AX:2:LYS:HE2	1.95	0.49
1:AA:1563:G:H2'	1:AA:1564:C:H6	1.77	0.49
5:AE:70:ALA:O	5:AE:72:VAL:HG23	2.13	0.49
17:AT:39:ARG:HH21	34:BA:345:C:H5	1.61	0.49
34:BA:159:G:N2	34:BA:161:A:O5'	2.46	0.49
34:BA:340:U:H3	34:BA:349:A:H61	1.60	0.49
34:BA:381:C:H2'	34:BA:382:A:O4'	2.13	0.49
34:BA:417:C:H42	34:BA:426:G:H1	1.61	0.49
34:BA:840:C:H4'	34:BA:841:U:OP1	2.12	0.49
34:BA:1008:C:H42	34:BA:1021:G:H1	1.61	0.49
45:BL:52:LEU:O	45:BL:54:LYS:HD2	2.12	0.49
54:BU:3:LYS:HB3	54:BU:14:TRP:CD1	2.48	0.49
58:BX:3:004:C	58:BX:4:PRO:O	2.61	0.49
1:CA:76:C:O3'	26:C2:59:ARG:HG3	2.13	0.49
1:CA:110:G:H2'	1:CA:111:A:H8	1.77	0.49
1:CA:533:G:H5'	18:CU:24:TYR:CD1	2.47	0.49
1:CA:952:G:OP1	14:CQ:16:ARG:NH2	2.40	0.49
1:CA:1922:G:H2'	1:CA:1923:U:O4'	2.12	0.49
10:CL:89:HIS:HB2	10:CL:94:GLU:OE1	2.13	0.49
16:CS:35:ILE:HB	16:CS:53:SER:HB3	1.95	0.49
18:CU:49:HIS:HA	18:CU:52:ARG:HG2	1.95	0.49
34:DA:523:A:C2	45:DL:91:LYS:HB3	2.48	0.49
34:DA:1189:C:H5''	34:DA:1190:G:OP2	2.13	0.49
36:DC:113:ALA:O	36:DC:116:VAL:N	2.36	0.49
49:DP:1:MET:O	49:DP:24:ALA:HB2	2.12	0.49
49:DP:23:ASP:OD1	49:DP:25:ARG:NH1	2.45	0.49
57:DZ:168:ILE:HG23	57:DZ:205:TYR:HE2	1.77	0.49
1:AA:553:A:H2	1:AA:2065:C:C5'	2.26	0.48
1:AA:922:G:H1	1:AA:948:C:H42	1.61	0.48
1:AA:1671:C:H2'	1:AA:1672:G:O4'	2.13	0.48
1:AA:1737:A:H3'	1:AA:1738:C:H6	1.78	0.48
1:AA:2331:G:H22	16:AS:3:ARG:HG2	1.77	0.48
3:AC:42:VAL:HA	3:AC:216:THR:O	2.13	0.48
25:A1:82:LEU:HA	25:A1:85:LEU:HD12	1.94	0.48
34:BA:978:A:O2'	34:BA:1322:C:N3	2.44	0.48
34:BA:1138:G:C6	34:BA:1140:C:H1'	2.47	0.48
37:BD:65:ARG:HG3	37:BD:70:ILE:CG2	2.43	0.48
1:CA:111:A:C2	1:CA:112:U:C2	3.01	0.48
1:CA:180:G:OP1	31:C7:32:LYS:HE3	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:813:U:H2'	1:CA:814:C:C6	2.48	0.48
1:CA:2393:A:H5''	13:CP:63:PRO:HB3	1.94	0.48
5:CE:35:GLN:HG2	5:CE:36:ARG:H	1.78	0.48
5:CE:101:ARG:NH1	5:CE:169:ASN:O	2.44	0.48
8:CH:40:GLU:OE1	8:CH:60:ARG:NH1	2.46	0.48
10:CL:81:ALA:HB3	10:CL:99:ILE:HD11	1.96	0.48
21:CX:84:ALA:O	21:CX:87:GLN:HB2	2.12	0.48
34:DA:1259:C:N4	34:DA:1260:C:O2	2.46	0.48
34:DA:1298:C:OP2	40:DG:114:ARG:NH2	2.37	0.48
42:DI:4:TYR:HB2	42:DI:19:LEU:HD12	1.95	0.48
42:DI:114:TYR:H	42:DI:114:TYR:HD2	1.60	0.48
44:DK:17:GLY:O	44:DK:80:VAL:HA	2.13	0.48
57:DZ:78:ARG:NH1	57:DZ:357:ARG:CZ	2.76	0.48
57:DZ:138:LYS:HG2	62:DZ:703:GDP:C6	2.48	0.48
57:DZ:255:ILE:HG12	57:DZ:256:THR:N	2.27	0.48
1:AA:104:C:H2'	1:AA:105:C:H6	1.79	0.48
1:AA:196:A:H2'	1:AA:197:C:O4'	2.12	0.48
1:AA:1073:A:C2	1:AA:2500:A:H5'	2.48	0.48
1:AA:1217:G:H3'	1:AA:1218:G:H5'	1.95	0.48
1:AA:2096:U:H2'	1:AA:2097:U:C6	2.48	0.48
1:AA:2325:C:H4'	7:AG:91:ARG:HG3	1.93	0.48
29:A5:16:ARG:HG2	29:A5:16:ARG:HH11	1.77	0.48
34:BA:148:G:H2'	34:BA:149:A:C8	2.48	0.48
34:BA:601:C:H2'	34:BA:602:A:H8	1.77	0.48
40:BG:13:GLN:HE21	40:BG:13:GLN:HA	1.78	0.48
57:BZ:302:HIS:O	57:BZ:304:ASP:N	2.43	0.48
57:BZ:363:ARG:NH1	57:BZ:363:ARG:HB3	2.28	0.48
57:BZ:601:ILE:HB	57:BZ:684:GLN:HG3	1.95	0.48
1:CA:271(P):C:H2'	1:CA:271(Q):G:O4'	2.13	0.48
1:CA:586:A:N1	1:CA:809:G:O2'	2.38	0.48
1:CA:693:C:H2'	1:CA:694:U:H6	1.77	0.48
1:CA:903:C:H2'	1:CA:904:C:C6	2.47	0.48
1:CA:2239:G:H5'	4:CD:251:GLY:HA3	1.94	0.48
1:CA:2331:G:O2'	1:CA:2336:A:N1	2.39	0.48
5:CE:2:LYS:HA	5:CE:84:PHE:CD1	2.48	0.48
11:CN:71:ILE:HG21	11:CN:84:LYS:HB3	1.96	0.48
18:CU:28:ARG:HD3	18:CU:38:THR:OG1	2.13	0.48
26:C2:9:GLN:OE1	26:C2:56:GLN:HG2	2.12	0.48
26:C2:64:LEU:HD11	26:C2:68:ARG:NH2	2.26	0.48
28:C4:58:ARG:HH12	52:DS:68:GLY:H	1.61	0.48
30:C6:7:ILE:HD13	30:C6:27:LYS:HB3	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:451:A:N6	34:DA:480:U:H2'	2.26	0.48
34:DA:954:G:H21	34:DA:1227:A:H62	1.59	0.48
34:DA:1022:G:H2'	34:DA:1023:G:H8	1.77	0.48
34:DA:1097:C:H2'	34:DA:1098:C:C6	2.48	0.48
34:DA:1178:G:OP1	42:DI:93:ARG:HD3	2.14	0.48
34:DA:1294:G:H2'	34:DA:1295:G:H8	1.78	0.48
34:DA:1318:A:H5''	52:DS:3:ARG:NH2	2.28	0.48
34:DA:1432:G:O6	63:DA:1808:HOH:O	2.17	0.48
37:DD:23:GLY:N	37:DD:26:CYS:SG	2.85	0.48
38:DE:54:ALA:O	38:DE:58:ALA:N	2.45	0.48
39:DF:2:ARG:NH2	48:DO:2:PRO:HD2	2.28	0.48
41:DH:111:ILE:HG23	41:DH:135:CYS:SG	2.53	0.48
1:AA:604:C:H2'	1:AA:605:G:H8	1.78	0.48
1:AA:811:A:OP1	4:AD:208:LYS:HE3	2.13	0.48
1:AA:2262:G:C6	14:AQ:83:MET:HB3	2.48	0.48
10:AL:127:ILE:HA	10:AL:130:SER:HB3	1.94	0.48
23:AZ:105:VAL:O	23:AZ:141:VAL:HG22	2.13	0.48
23:AZ:111:VAL:O	23:AZ:112:ARG:C	2.51	0.48
34:BA:461:A:C5	34:BA:471:G:C6	3.02	0.48
34:BA:604:G:N2	34:BA:635:G:C4	2.82	0.48
34:BA:833:U:H2'	34:BA:834:C:H6	1.78	0.48
34:BA:1513:A:H2'	34:BA:1514:C:C6	2.48	0.48
37:BD:190:ASP:O	37:BD:193:ASP:HB2	2.13	0.48
38:BE:92:LYS:O	38:BE:118:ILE:HG13	2.12	0.48
44:BK:59:TYR:CE2	44:BK:63:LEU:HD12	2.49	0.48
46:BM:75:ALA:HA	46:BM:78:ILE:HD12	1.95	0.48
49:BP:22:THR:OG1	49:BP:23:ASP:N	2.46	0.48
58:BX:9:MVA:HN2	58:BX:9:MVA:HG13	1.95	0.48
1:CA:601:C:O2'	6:CF:104:LYS:NZ	2.46	0.48
1:CA:1053:C:O2'	1:CA:1054:A:H5'	2.13	0.48
1:CA:1221(A):C:H42	1:CA:1228:G:H1	1.60	0.48
1:CA:2887:U:H2'	1:CA:2888:C:H6	1.78	0.48
2:CB:114:C:H2'	2:CB:115:G:C8	2.49	0.48
16:CS:64:GLU:H	16:CS:64:GLU:HG3	1.27	0.48
18:CU:62:ILE:HG23	18:CU:76:TYR:CE2	2.48	0.48
27:C3:52:HIS:CD2	27:C3:53:LEU:HG	2.48	0.48
34:DA:520:A:C2	34:DA:536:C:H1'	2.48	0.48
34:DA:665:A:H1'	34:DA:733:A:O4'	2.13	0.48
34:DA:866:C:C4'	34:DA:919:A:H5'	2.43	0.48
34:DA:867:G:OP2	34:DA:867:G:H8	1.95	0.48
57:DZ:111:SER:OG	57:DZ:112:GLN:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:139:A:C8	1:AA:1454:C:O2'	2.67	0.48
1:AA:1067:A:H3'	1:AA:1067:A:H8	1.77	0.48
1:AA:1525:G:O2'	1:AA:1605:A:C2	2.64	0.48
1:AA:1588:G:H3'	1:AA:1589:A:H2'	1.95	0.48
1:AA:1817:A:H1'	1:AA:1960:A:N6	2.28	0.48
1:AA:2858:G:H3'	17:AT:95:ARG:O	2.12	0.48
6:AF:124:LEU:HD12	6:AF:125:LEU:N	2.27	0.48
10:AL:88:ALA:O	10:AL:90:LYS:N	2.41	0.48
16:AS:25:ARG:NH1	16:AS:42:ASP:OD1	2.45	0.48
17:AT:35:LYS:HG3	17:AT:40:THR:HG22	1.96	0.48
35:BB:8:LYS:HD3	35:BB:8:LYS:N	2.28	0.48
35:BB:60:ASP:O	35:BB:64:ARG:HB2	2.13	0.48
38:BE:122:GLU:OE1	38:BE:131:ILE:HG13	2.14	0.48
39:BF:24:GLU:O	39:BF:28:ARG:N	2.37	0.48
46:BM:14:ARG:NH2	46:BM:16:ASP:OD1	2.40	0.48
57:BZ:16:GLY:O	57:BZ:104:ALA:HA	2.13	0.48
57:BZ:395:PRO:O	57:BZ:397:VAL:N	2.42	0.48
57:BZ:517:LEU:HG	57:BZ:518:PRO:HD2	1.95	0.48
1:CA:528:A:OP2	11:CN:114:ARG:NH1	2.47	0.48
1:CA:904:C:H2'	1:CA:905:U:C6	2.49	0.48
1:CA:1803:A:O2'	4:CD:259:THR:HG21	2.13	0.48
3:CC:42:VAL:HA	3:CC:216:THR:O	2.13	0.48
7:CG:39:ILE:HG23	7:CG:157:ILE:HG12	1.96	0.48
7:CG:109:VAL:HG21	28:C4:14:ILE:HD13	1.94	0.48
10:CL:101:TRP:HD1	10:CL:138:VAL:HG12	1.77	0.48
34:DA:23:C:H5	34:DA:561:U:O4	1.96	0.48
34:DA:1030(A):G:H21	34:DA:1030(C):G:H3'	1.78	0.48
34:DA:1496:C:H2'	34:DA:1497:G:O4'	2.13	0.48
47:DN:37:PHE:HB3	47:DN:39:LEU:HD12	1.95	0.48
56:DY:62:C:H2'	56:DY:63:G:C8	2.48	0.48
57:DZ:354:ARG:NH2	57:DZ:378:VAL:HG11	2.28	0.48
57:DZ:622:GLY:HA2	57:DZ:625:ASN:HB2	1.94	0.48
1:AA:123:G:H5''	31:A7:19:ARG:HD3	1.96	0.48
1:AA:174:U:H4'	1:AA:207:A:H4'	1.96	0.48
1:AA:1105:G:H1'	10:AL:126:MET:HE3	1.96	0.48
1:AA:1604:C:H5''	1:AA:1605:A:OP2	2.12	0.48
1:AA:1886:G:C2'	1:AA:1887:G:H5'	2.43	0.48
1:AA:2555:G:H2'	1:AA:2556:G:C8	2.49	0.48
18:AU:28:ARG:HD3	18:AU:38:THR:OG1	2.13	0.48
22:AY:102:CYS:SG	22:AY:103:GLY:N	2.86	0.48
24:A0:24:LYS:O	24:A0:25:ARG:HD3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:9:G:N2	34:BA:10:A:C4	2.82	0.48
34:BA:892:A:H2'	34:BA:893:C:C6	2.47	0.48
37:BD:194:LEU:HD12	37:BD:195:ALA:H	1.79	0.48
38:BE:93:PRO:HG2	41:BH:105:ARG:HG3	1.95	0.48
57:BZ:630:GLN:HG2	57:BZ:646:PHE:HB2	1.94	0.48
1:CA:322:A:OP2	6:CF:169:ASN:HB2	2.13	0.48
1:CA:815:C:H2'	1:CA:816:C:H6	1.78	0.48
3:CC:184:GLU:O	3:CC:188:ASP:OD2	2.31	0.48
4:CD:133:LEU:HA	4:CD:136:ILE:HD12	1.95	0.48
5:CE:28:ALA:HB3	5:CE:93:VAL:HG13	1.96	0.48
6:CF:21:ALA:CB	6:CF:22:ALA:HA	2.43	0.48
6:CF:37:VAL:HG13	6:CF:184:TYR:CD1	2.48	0.48
10:CL:119:ASP:HB3	10:CL:122:ALA:HB3	1.95	0.48
18:CU:19:LYS:O	18:CU:22:LYS:HG3	2.13	0.48
21:CX:40:LYS:HG3	21:CX:51:VAL:HB	1.95	0.48
34:DA:349:A:O2'	34:DA:350:G:H5'	2.13	0.48
34:DA:954:G:H2'	34:DA:955:U:O4'	2.14	0.48
34:DA:957:U:H2'	34:DA:959:A:OP2	2.14	0.48
36:DC:6:HIS:CD2	36:DC:7:PRO:HD2	2.48	0.48
40:DG:18:TYR:OH	40:DG:58:PRO:HB2	2.13	0.48
43:DJ:51:ARG:HD2	43:DJ:60:ARG:O	2.13	0.48
50:DQ:95:TYR:HA	50:DQ:98:LEU:HD12	1.95	0.48
51:DR:47:THR:HG23	51:DR:49:LYS:HG3	1.95	0.48
1:AA:239:G:OP2	32:A8:13:ARG:NH2	2.47	0.48
1:AA:1272:A:OP1	19:AV:84:LYS:HE2	2.13	0.48
1:AA:1828:C:H4'	4:AD:257:LEU:O	2.13	0.48
1:AA:2395:G:O2'	1:AA:2396:G:H5'	2.13	0.48
7:AG:110:ALA:HB1	7:AG:140:ILE:CG2	2.34	0.48
22:AY:5:MET:HG2	22:AY:30:VAL:CG1	2.43	0.48
23:AZ:134:PRO:O	23:AZ:136:PHE:N	2.46	0.48
24:A0:68:GLU:OE1	24:A0:82:ARG:HD3	2.14	0.48
34:BA:67:C:O2'	34:BA:171:A:H1'	2.13	0.48
34:BA:159:G:HO2'	34:BA:161:A:N6	2.11	0.48
39:BF:62:TRP:CD1	51:BR:35:ARG:NH1	2.82	0.48
41:BH:78:GLN:HE21	41:BH:78:GLN:HB2	1.40	0.48
51:BR:47:THR:O	51:BR:47:THR:OG1	2.22	0.48
1:CA:330:A:HO2'	1:CA:331:A:H8	1.59	0.48
1:CA:373:U:H1'	1:CA:423:A:C2	2.49	0.48
1:CA:746:A:H2'	1:CA:2612:C:H5''	1.96	0.48
1:CA:1154:G:H8	1:CA:1154:G:O5'	1.96	0.48
1:CA:1778:U:H2'	1:CA:1784:A:N6	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1857:G:C6	1:CA:1858:G:N1	2.82	0.48
1:CA:2703:C:H2'	1:CA:2704:C:H6	1.79	0.48
12:CO:63:VAL:HG12	12:CO:106:LEU:HD11	1.96	0.48
14:CQ:14:ARG:HG2	14:CQ:41:TRP:CH2	2.44	0.48
14:CQ:59:ARG:O	14:CQ:59:ARG:HG2	2.11	0.48
30:C6:6:ARG:NE	30:C6:24:GLU:OE1	2.43	0.48
34:DA:32:A:C2	34:DA:33:A:C4	3.01	0.48
34:DA:269:C:H2'	34:DA:270:A:C8	2.48	0.48
34:DA:949:A:H61	34:DA:1232:U:H3	1.62	0.48
38:DE:5:ASP:OD1	38:DE:5:ASP:N	2.47	0.48
51:DR:45:SER:OG	51:DR:46:GLU:N	2.46	0.48
1:AA:762:G:C2	48:BO:56:LEU:HD21	2.49	0.48
1:AA:1346:U:H4'	1:AA:1347:A:H5'	1.95	0.48
1:AA:2349:G:OP1	63:AA:3945:HOH:O	2.20	0.48
24:A0:25:ARG:HD2	24:A0:29:GLN:NE2	2.28	0.48
25:A1:77:ALA:HB2	25:A1:94:LEU:HD21	1.96	0.48
34:BA:158:G:H2'	34:BA:159:G:H8	1.79	0.48
45:BL:32:PHE:HB3	45:BL:84:LEU:HD11	1.96	0.48
49:BP:1:MET:HE3	49:BP:3:LYS:HE3	1.94	0.48
56:BW:44:G:C2'	56:BW:45:U:H5'	2.44	0.48
1:CA:2120:G:H22	3:CC:169:THR:HG23	1.79	0.48
2:CB:42:C:O2'	7:CG:67:LYS:O	2.19	0.48
3:CC:17:PRO:HG2	3:CC:18:ASN:H	1.79	0.48
20:CW:4:LYS:O	20:CW:57:ASN:ND2	2.45	0.48
20:CW:29:LEU:HD11	20:CW:33:ARG:HE	1.79	0.48
34:DA:73:G:C6	34:DA:97:G:C6	3.02	0.48
34:DA:490:G:H2'	34:DA:491:G:H8	1.77	0.48
34:DA:1129:C:H2'	34:DA:1139:G:N7	2.28	0.48
34:DA:1466:C:H2'	34:DA:1467:G:O4'	2.13	0.48
34:DA:1508:G:H2'	34:DA:1509:C:H6	1.78	0.48
37:DD:163:GLU:HG3	37:DD:166:LYS:HE3	1.96	0.48
39:DF:91:VAL:HG13	51:DR:72:ARG:HH22	1.77	0.48
41:DH:82:HIS:NE2	41:DH:84:ARG:HG2	2.29	0.48
47:DN:29:ARG:NH1	47:DN:42:ILE:HD11	2.28	0.48
56:DY:69:G:H2'	56:DY:70:G:O4'	2.14	0.48
57:DZ:120:THR:HG22	57:DZ:123:ARG:HH22	1.77	0.48
57:DZ:505:GLY:HA2	57:DZ:576:ASP:HA	1.96	0.48
1:AA:199:C:OP2	31:A7:29:LYS:NZ	2.45	0.48
1:AA:1973:U:O4	63:AA:3937:HOH:O	2.18	0.48
1:AA:2299:A:N1	1:AA:2358:A:N7	2.62	0.48
1:AA:2388:A:H2'	1:AA:2389:A:O4'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AG:126:ASP:CG	7:AG:130:ASN:HD22	2.17	0.48
9:AK:43:ALA:O	9:AK:47:ASN:N	2.28	0.48
16:AS:3:ARG:HD3	16:AS:4:LEU:N	2.29	0.48
19:AV:52:VAL:HG22	19:AV:55:ALA:HB3	1.96	0.48
24:A0:43:THR:O	24:A0:43:THR:HG23	2.13	0.48
34:BA:370:C:H2'	34:BA:371:G:O4'	2.14	0.48
34:BA:569:C:H42	34:BA:881:G:H1	1.62	0.48
34:BA:941:G:C2	34:BA:942:G:H1'	2.49	0.48
34:BA:1343:G:O2'	42:BI:121:ARG:HD3	2.14	0.48
35:BB:194:PRO:O	35:BB:196:LEU:N	2.47	0.48
41:BH:112:LEU:CD1	41:BH:114:THR:HG23	2.44	0.48
46:BM:34:LEU:HD13	46:BM:41:PRO:HA	1.96	0.48
48:BO:62:GLN:O	48:BO:65:ARG:N	2.47	0.48
51:BR:59:SER:H	51:BR:62:GLU:HB2	1.79	0.48
57:BZ:191:ASP:OD1	57:BZ:267:LYS:NZ	2.47	0.48
1:CA:656:G:H2'	1:CA:657:U:C6	2.49	0.48
1:CA:906:G:OP1	14:CQ:26:TYR:OH	2.31	0.48
1:CA:1053:C:C6	1:CA:1053:C:C4'	2.96	0.48
1:CA:1106:G:N1	1:CA:1107:G:N7	2.61	0.48
1:CA:2103:C:H1'	1:CA:2187:G:N2	2.29	0.48
1:CA:2324:C:H5''	1:CA:2325:G:H5'	1.96	0.48
5:CE:73:GLU:H	5:CE:73:GLU:CD	2.12	0.48
7:CG:7:LEU:HD23	7:CG:100:TRP:CE3	2.49	0.48
7:CG:19:LEU:HG	7:CG:175:LEU:HD22	1.96	0.48
11:CN:23:LEU:HD12	11:CN:99:LEU:HD23	1.94	0.48
12:CO:78:ARG:HG2	17:CT:73:GLU:HB2	1.95	0.48
15:CR:30:THR:HG22	15:CR:31:HIS:CD2	2.49	0.48
20:CW:59:VAL:HG12	20:CW:60:ASN:ND2	2.29	0.48
23:CZ:22:GLY:O	23:CZ:41:LEU:HB2	2.14	0.48
34:DA:833:U:H2'	34:DA:834:C:H6	1.79	0.48
37:DD:5:ILE:HG23	37:DD:5:ILE:O	2.14	0.48
39:DF:72:VAL:HG23	39:DF:90:VAL:HG11	1.96	0.48
40:DG:71:PRO:HG3	40:DG:103:TRP:HH2	1.79	0.48
41:DH:12:ARG:HH12	41:DH:27:PRO:HD2	1.78	0.48
1:AA:1243:U:H2'	1:AA:1244:U:C6	2.49	0.48
1:AA:1781:G:O2'	1:AA:2870:A:N1	2.39	0.48
6:AF:181:LEU:HD11	6:AF:186:ILE:HD11	1.96	0.48
34:BA:104:G:C2	34:BA:105:G:C8	3.02	0.48
34:BA:200:G:H1	34:BA:217:C:H42	1.62	0.48
34:BA:502:G:C6	34:BA:503:C:C4	3.02	0.48
34:BA:831:U:O2'	34:BA:832:C:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1095:U:H2'	34:BA:1096:C:O4'	2.13	0.48
35:BB:19:HIS:NE2	35:BB:20:GLU:OE1	2.47	0.48
40:BG:78:ARG:NH1	40:BG:80:VAL:HG23	2.29	0.48
41:BH:56:LYS:HB2	41:BH:58:TYR:CE1	2.48	0.48
56:BY:57:G:H2'	56:BY:58:A:H5'	1.95	0.48
57:BZ:324:ARG:HG3	57:BZ:324:ARG:HH11	1.79	0.48
57:BZ:511:LYS:HD2	57:BZ:569:ASP:HB3	1.96	0.48
1:CA:118:A:C8	1:CA:119:A:C8	3.02	0.48
1:CA:453:C:OP1	63:CA:3754:HOH:O	2.19	0.48
1:CA:533:G:H5'	18:CU:24:TYR:CE1	2.49	0.48
1:CA:2120:G:H2'	3:CC:168:LYS:HZ1	1.78	0.48
1:CA:2663:G:C6	1:CA:2664:G:C4	3.02	0.48
7:CG:16:ARG:NH2	7:CG:28:VAL:HG12	2.28	0.48
7:CG:101:ILE:HG22	7:CG:105:LYS:HE2	1.96	0.48
14:CQ:32:TYR:HE1	14:CQ:133:ARG:HB2	1.79	0.48
15:CR:28:LEU:O	15:CR:28:LEU:HD22	2.13	0.48
30:C6:13:CYS:SG	30:C6:47:THR:HG21	2.54	0.48
34:DA:186:C:H2'	34:DA:187:C:C6	2.46	0.48
34:DA:191:G:N3	53:DT:103:GLY:HA2	2.29	0.48
34:DA:620:C:C2	37:DD:135:LEU:HG	2.49	0.48
34:DA:1065:U:H5''	34:DA:1190:G:H22	1.78	0.48
34:DA:1117:G:H21	34:DA:1180:A:H1'	1.79	0.48
34:DA:1201:A:H4'	34:DA:1202:G:O5'	2.14	0.48
34:DA:1513:A:H2'	34:DA:1514:C:C6	2.49	0.48
40:DG:18:TYR:CE2	40:DG:59:LEU:HB2	2.48	0.48
57:DZ:163:VAL:HG11	57:DZ:212:TYR:CD1	2.48	0.48
1:AA:269:G:N7	1:AA:270:C:N4	2.61	0.48
1:AA:1273:G:OP1	18:AU:13:LYS:NZ	2.41	0.48
1:AA:2662:U:H2'	1:AA:2663:C:C6	2.49	0.48
3:AC:184:GLU:O	3:AC:188:ASP:OD2	2.31	0.48
7:AG:109:VAL:C	7:AG:112:PRO:HD2	2.34	0.48
12:AO:64:ARG:HB2	12:AO:83:ALA:HB3	1.96	0.48
13:AP:113:LYS:HD3	13:AP:115:LEU:HD21	1.96	0.48
15:AR:96:ARG:NH1	15:AR:115:GLU:OE1	2.46	0.48
17:AT:7:ILE:O	17:AT:11:GLU:HG3	2.14	0.48
23:AZ:30:ASN:O	23:AZ:32:HIS:N	2.47	0.48
23:AZ:70:LEU:HG	23:AZ:91:LEU:HD21	1.96	0.48
34:BA:200:G:N2	34:BA:218:C:C2	2.81	0.48
34:BA:200:G:N2	34:BA:218:C:O2	2.47	0.48
34:BA:620:C:H2'	34:BA:621:A:O4'	2.13	0.48
34:BA:1340:A:O2'	56:BW:31:A:O3'	2.31	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BD:57:ARG:HB3	37:BD:206:PHE:HB2	1.96	0.48
40:BG:16:LEU:HD11	42:BI:45:ALA:HB2	1.95	0.48
57:BZ:340:TYR:CE2	57:BZ:351:ARG:HD3	2.49	0.48
1:CA:461:C:O2'	1:CA:462:C:H5'	2.14	0.48
1:CA:704:G:H1'	1:CA:726:G:N2	2.29	0.48
1:CA:848:G:N3	1:CA:933:A:H1'	2.29	0.48
1:CA:1803:A:H4'	4:CD:259:THR:HG23	1.95	0.48
1:CA:2360:A:H2'	1:CA:2361:A:O4'	2.12	0.48
1:CA:2363:C:O2	24:C0:39:ARG:NH2	2.45	0.48
1:CA:2590:A:H2'	1:CA:2591:C:H6	1.78	0.48
11:CN:33:LEU:HD13	11:CN:38:HIS:HE2	1.79	0.48
12:CO:24:VAL:HB	12:CO:33:ALA:HB2	1.95	0.48
13:CP:87:ASP:HB3	13:CP:105:LEU:HD13	1.96	0.48
34:DA:865:A:H5'	34:DA:1078:U:O4	2.13	0.48
34:DA:1107:C:C4	34:DA:1108:G:C8	3.02	0.48
34:DA:1187:G:P	42:DI:113:LYS:HZ1	2.37	0.48
35:DB:118:LEU:HD21	35:DB:138:LEU:HD13	1.95	0.48
35:DB:167:PRO:HD3	35:DB:187:LEU:O	2.13	0.48
49:DP:52:ASP:OD1	49:DP:55:ARG:HG2	2.14	0.48
52:DS:63:THR:HG22	52:DS:66:MET:SD	2.54	0.48
56:DW:5:G:H1	56:DW:68:C:N4	2.12	0.48
57:DZ:129:LYS:HB3	57:DZ:129:LYS:HZ2	1.78	0.48
57:DZ:519:ARG:HA	57:DZ:562:ASP:HB3	1.96	0.48
1:AA:469:A:H1'	1:AA:1246:C:O4'	2.14	0.47
1:AA:773:G:O2'	1:AA:774:A:OP2	2.28	0.47
1:AA:1185:C:O3'	11:AN:25:ARG:NH1	2.47	0.47
14:AQ:43:THR:HG22	14:AQ:94:VAL:HG12	1.95	0.47
15:AR:118:GLU:H	15:AR:118:GLU:CD	2.17	0.47
20:AW:79:GLY:CA	20:AW:100:THR:HG22	2.44	0.47
34:BA:396:G:O2'	34:BA:398:C:OP1	2.28	0.47
34:BA:472:A:OP1	49:BP:75:ARG:NH1	2.47	0.47
34:BA:677:U:H3	34:BA:713:G:H22	1.61	0.47
34:BA:1349:A:H2'	34:BA:1350:A:C8	2.49	0.47
38:BE:50:GLU:OE1	38:BE:50:GLU:HA	2.13	0.47
42:BI:4:TYR:HB2	42:BI:19:LEU:HB2	1.95	0.47
53:BT:92:LEU:HD23	53:BT:92:LEU:HA	1.59	0.47
57:BZ:606:MET:HG2	57:BZ:649:LEU:HB2	1.96	0.47
58:BX:8:2R3:H62	58:BX:9:MVA:HN1	1.55	0.47
1:CA:271(J):C:O2'	1:CA:271(K):U:OP2	2.24	0.47
1:CA:527:C:H3'	63:CA:3960:HOH:O	2.13	0.47
1:CA:864:G:H2'	1:CA:865:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2282:G:H4'	1:CA:2389:G:O2'	2.14	0.47
17:CT:107:ASP:HA	17:CT:110:ILE:HD12	1.96	0.47
34:DA:102:G:H2'	34:DA:103:C:H6	1.78	0.47
34:DA:195:A:C6	34:DA:196:A:N1	2.82	0.47
34:DA:390:C:H2'	34:DA:391:G:C8	2.49	0.47
34:DA:1014:A:H1'	52:DS:34:TRP:HB2	1.96	0.47
34:DA:1062:U:H2'	34:DA:1063:C:C6	2.49	0.47
34:DA:1095:U:P	34:DA:1108:G:H1	2.36	0.47
34:DA:1318:A:O2'	52:DS:37:ARG:HB3	2.14	0.47
49:DP:25:ARG:HB2	49:DP:25:ARG:NH1	2.26	0.47
49:DP:49:LEU:HD12	49:DP:50:LYS:N	2.29	0.47
49:DP:55:ARG:HA	49:DP:55:ARG:HD2	1.49	0.47
52:DS:53:ASN:O	52:DS:77:THR:OG1	2.31	0.47
57:DZ:97:SER:HA	57:DZ:100:VAL:HG12	1.95	0.47
1:AA:354:A:H2	1:AA:1255:A:HO2'	1.57	0.47
1:AA:1053:C:OP2	63:AA:3943:HOH:O	2.20	0.47
1:AA:1764:G:C5	1:AA:1765:U:C5	3.02	0.47
1:AA:2701:U:H4'	1:AA:2702:C:OP2	2.14	0.47
8:AH:78:GLY:O	8:AH:136:ILE:HG22	2.14	0.47
14:AQ:2:LEU:HG	14:AQ:69:PHE:CE2	2.48	0.47
16:AS:39:ILE:HD11	16:AS:110:LEU:HD21	1.96	0.47
21:AX:60:ARG:NH2	31:A7:47:ARG:HH22	2.12	0.47
25:A1:72:GLU:OE1	25:A1:76:ARG:NH2	2.48	0.47
34:BA:136:C:H42	34:BA:227:G:H1	1.62	0.47
34:BA:519:C:H2'	34:BA:520:A:O4'	2.14	0.47
34:BA:1142:G:H2'	34:BA:1143:G:O4'	2.14	0.47
36:BC:157:ILE:HD13	36:BC:164:ARG:HB3	1.96	0.47
38:BE:48:ALA:C	38:BE:50:GLU:H	2.17	0.47
39:BF:2:ARG:CZ	39:BF:69:GLU:HG2	2.44	0.47
45:BL:5:PRO:HG2	45:BL:10:LEU:HD21	1.96	0.47
50:BQ:55:ASP:O	50:BQ:57:VAL:HG13	2.13	0.47
56:BW:1:G:H2'	56:BW:2:C:H6	1.79	0.47
56:BY:58:A:O2'	56:BY:60:U:H5	1.98	0.47
1:CA:1107:G:H5''	1:CA:1107:G:H8	1.69	0.47
1:CA:1252:G:N3	18:CU:33:ARG:HG2	2.29	0.47
7:CG:61:ALA:HB1	28:C4:7:PRO:HG2	1.96	0.47
14:CQ:32:TYR:CE1	14:CQ:133:ARG:HB2	2.49	0.47
15:CR:104:ARG:HG3	15:CR:111:LEU:HD21	1.97	0.47
20:CW:12:ILE:CD1	20:CW:42:ARG:HD3	2.43	0.47
34:DA:380:G:C2	34:DA:384:G:C6	3.02	0.47
34:DA:487:A:H2'	34:DA:488:C:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:491:G:H2'	34:DA:492:G:O4'	2.14	0.47
37:DD:98:GLU:C	37:DD:100:ARG:H	2.17	0.47
39:DF:37:VAL:HA	39:DF:65:VAL:HG12	1.95	0.47
52:DS:33:THR:HG21	52:DS:71:LEU:HD21	1.96	0.47
56:DW:50:U:H2'	56:DW:51:U:C6	2.49	0.47
56:DY:30:G:H2'	56:DY:31:A:H8	1.79	0.47
57:DZ:355:LEU:HG	57:DZ:369:LEU:CD2	2.44	0.47
57:DZ:519:ARG:HH21	57:DZ:519:ARG:HB2	1.79	0.47
57:DZ:617:MET:O	57:DZ:621:ILE:HG13	2.14	0.47
1:AA:638:U:H4'	1:AA:639:G:H5'	1.96	0.47
1:AA:1102:G:H21	1:AA:1149:A:H62	1.61	0.47
1:AA:2308:U:OP2	16:AS:9:ARG:NH2	2.43	0.47
3:AC:30:VAL:CG2	3:AC:31:LYS:H	2.27	0.47
28:A4:13:ARG:HB2	28:A4:30:GLU:HG2	1.96	0.47
34:BA:28:G:O2'	34:BA:296:U:OP1	2.17	0.47
34:BA:803:G:H2'	34:BA:804:U:O4'	2.14	0.47
34:BA:936:C:H2'	34:BA:937:A:O4'	2.14	0.47
34:BA:1191:A:H5''	36:BC:4:LYS:NZ	2.28	0.47
34:BA:1250:A:C2	34:BA:1370:G:H1'	2.48	0.47
35:BB:156:LYS:HE2	35:BB:156:LYS:O	2.14	0.47
37:BD:108:LEU:HB3	37:BD:110:PHE:CE1	2.49	0.47
40:BG:62:PHE:HA	40:BG:124:LEU:HD22	1.95	0.47
42:BI:18:PHE:O	42:BI:61:ALA:HA	2.14	0.47
48:BO:32:LEU:O	48:BO:35:ARG:N	2.47	0.47
50:BQ:60:ILE:HG12	50:BQ:61:GLU:N	2.28	0.47
51:BR:51:LEU:CD2	51:BR:52:PRO:HD2	2.44	0.47
57:BZ:87:HIS:O	57:BZ:89:ASP:N	2.46	0.47
57:BZ:115:GLU:C	57:BZ:156:ARG:HH22	2.17	0.47
57:BZ:357:ARG:HD2	57:BZ:366:VAL:HG11	1.96	0.47
1:CA:144:C:H2'	1:CA:145:G:C8	2.49	0.47
1:CA:2136:C:H1'	1:CA:2137:C:H5'	1.96	0.47
2:CB:16:G:H1	2:CB:68:C:N4	2.07	0.47
3:CC:68:GLY:N	3:CC:189:ASN:ND2	2.62	0.47
5:CE:175:VAL:O	5:CE:177:PRO:HD3	2.15	0.47
13:CP:122:PRO:O	13:CP:123:LEU:HD23	2.15	0.47
22:CY:68:HIS:CE1	22:CY:70:SER:HB3	2.50	0.47
27:C3:7:LYS:HB3	27:C3:55:ARG:HB3	1.96	0.47
29:C5:16:ARG:O	29:C5:20:ARG:HD2	2.13	0.47
31:C7:24:THR:O	31:C7:28:ARG:HG3	2.14	0.47
34:DA:1117:G:H5'	34:DA:1118:C:OP2	2.14	0.47
37:DD:165:MET:SD	37:DD:168:ARG:NH1	2.81	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:DP:19:ILE:N	49:DP:37:GLY:O	2.46	0.47
56:DW:37:MIA:H132	56:DW:38:A:C2	2.49	0.47
57:DZ:304:ASP:HA	57:DZ:305:PRO:HD2	1.75	0.47
57:DZ:638:GLY:C	57:DZ:640:ALA:HB3	2.34	0.47
1:AA:671:A:H2'	1:AA:672:G:O4'	2.13	0.47
1:AA:1154:U:H1'	1:AA:1155:C:OP1	2.14	0.47
1:AA:2317:A:H5''	7:AG:134:GLY:HA3	1.94	0.47
20:AW:86:LEU:HB2	20:AW:96:ILE:HD12	1.97	0.47
26:A2:41:ILE:HG13	26:A2:43:GLN:HG3	1.96	0.47
34:BA:257:G:H2'	34:BA:258:G:O4'	2.14	0.47
34:BA:946:A:C2	34:BA:1236:A:C2	3.02	0.47
34:BA:1014:A:H4'	52:BS:14:HIS:CE1	2.49	0.47
34:BA:1519:A:N7	34:BA:1520:G:H1'	2.30	0.47
35:BB:28:PHE:CD1	35:BB:190:THR:HA	2.49	0.47
47:BN:37:PHE:CE1	47:BN:53:LEU:HD13	2.49	0.47
58:BX:3:004:HG1	58:BX:4:PRO:HD2	1.95	0.47
1:CA:1149:G:H2'	1:CA:1150:C:C6	2.48	0.47
1:CA:1179:C:H2'	1:CA:1180:C:C6	2.48	0.47
1:CA:1539:G:H2'	1:CA:1540:U:O4'	2.15	0.47
4:CD:71:ASP:HB2	4:CD:103:ARG:NH2	2.29	0.47
4:CD:172:TYR:CD1	4:CD:186:HIS:HA	2.50	0.47
6:CF:64:ILE:HG23	6:CF:76:GLY:O	2.15	0.47
34:DA:921:U:H2'	34:DA:922:G:O4'	2.14	0.47
34:DA:1000:U:O4	34:DA:1001:A:N6	2.46	0.47
34:DA:1187:G:H4'	42:DI:111:ARG:NH1	2.29	0.47
34:DA:1344:C:H5''	42:DI:120:ARG:HB3	1.96	0.47
36:DC:18:TRP:CD1	47:DN:54:PRO:HA	2.50	0.47
38:DE:36:ASP:O	38:DE:38:GLN:N	2.46	0.47
39:DF:61:LEU:HB3	39:DF:63:TYR:HE1	1.79	0.47
1:AA:416:G:N1	13:AP:70:GLN:HG3	2.29	0.47
1:AA:1079:U:OP1	33:A9:9:ARG:NH2	2.48	0.47
6:AF:167:ALA:HB1	6:AF:173:VAL:HG11	1.97	0.47
21:AX:60:ARG:HH22	31:A7:47:ARG:HH22	1.63	0.47
30:A6:40:CYS:SG	30:A6:42:TRP:HB2	2.55	0.47
34:BA:1112:C:C2	36:BC:178:LEU:HB2	2.50	0.47
34:BA:1260:C:O5'	34:BA:1284:C:H4'	2.14	0.47
34:BA:1328:C:O2'	46:BM:29:ARG:NH2	2.47	0.47
34:BA:1329:A:H5'	46:BM:29:ARG:NE	2.29	0.47
35:BB:183:PRO:HA	35:BB:198:ASP:OD2	2.13	0.47
38:BE:137:GLU:HA	38:BE:140:ARG:HB3	1.96	0.47
49:BP:27:LYS:H	49:BP:27:LYS:HG2	1.37	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:272(B):G:H2'	1:CA:272(C):G:C8	2.48	0.47
1:CA:523:C:H4'	1:CA:540:C:O2	2.14	0.47
1:CA:589:C:H2'	1:CA:590:A:C8	2.49	0.47
1:CA:1106:G:N1	1:CA:1107:G:C8	2.81	0.47
1:CA:1462:C:H4'	1:CA:2703:C:H5'	1.97	0.47
1:CA:1652:A:OP1	15:CR:8:ARG:NH1	2.35	0.47
1:CA:2299:G:N1	1:CA:2318:G:N7	2.62	0.47
1:CA:2590:A:H2'	1:CA:2591:C:C6	2.50	0.47
1:CA:2836:U:H2'	1:CA:2837:G:C8	2.49	0.47
5:CE:13:ARG:O	17:CT:57:PHE:HE2	1.96	0.47
6:CF:140:LEU:HD13	6:CF:140:LEU:HA	1.74	0.47
15:CR:72:ASP:O	15:CR:76:VAL:HG23	2.14	0.47
16:CS:3:ARG:HA	16:CS:3:ARG:HE	1.79	0.47
19:CV:76:LYS:HB2	19:CV:81:TYR:HB3	1.96	0.47
30:C6:26:ASN:O	30:C6:29:ASN:N	2.47	0.47
34:DA:242:C:H2'	34:DA:243:A:H5'	1.96	0.47
34:DA:259:G:H2'	34:DA:260:G:O4'	2.15	0.47
34:DA:298:A:H2'	34:DA:299:G:O4'	2.15	0.47
39:DF:87:ARG:HH11	39:DF:87:ARG:CG	2.28	0.47
46:DM:91:ARG:HH21	46:DM:100:GLY:HA2	1.78	0.47
56:DW:40:C:O2'	56:DY:36:A:OP1	2.18	0.47
1:AA:344:A:O2'	1:AA:346:A:H8	1.97	0.47
1:AA:1074:A:N6	1:AA:1171:G:H2'	2.29	0.47
1:AA:2623:U:H6	1:AA:2623:U:H5'	1.80	0.47
3:AC:68:GLY:N	3:AC:189:ASN:ND2	2.62	0.47
5:AE:116:VAL:HG13	5:AE:122:PHE:CG	2.49	0.47
6:AF:31:HIS:NE2	6:AF:35:GLU:OE2	2.47	0.47
7:AG:96:ARG:H	7:AG:99:MET:HE2	1.79	0.47
13:AP:121:LYS:O	13:AP:123:LEU:N	2.47	0.47
23:AZ:150:LEU:HD13	23:AZ:154:ASP:OD1	2.14	0.47
34:BA:325:A:H2'	34:BA:326:G:O4'	2.14	0.47
34:BA:585:G:O2'	34:BA:879:C:H5''	2.15	0.47
34:BA:1114:C:H42	34:BA:1186:G:H1	1.61	0.47
49:BP:14:ASN:N	49:BP:15:PRO:HD3	2.29	0.47
56:BW:75:C:H2'	56:BW:76:A:C2	2.50	0.47
57:BZ:481:VAL:HG23	57:BZ:483:TYR:CD2	2.50	0.47
1:CA:127:A:H5''	1:CA:128:C:C6	2.50	0.47
1:CA:518:G:H2'	1:CA:519:U:C6	2.49	0.47
1:CA:1794:U:H2'	1:CA:1795:C:H6	1.79	0.47
1:CA:2128:C:H5'	1:CA:2173:A:C2	2.50	0.47
2:CB:66:A:N6	2:CB:108:U:H3'	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:80:U:H2'	2:CB:81:G:C8	2.50	0.47
3:CC:6:LYS:HA	3:CC:9:ARG:NH1	2.30	0.47
6:CF:12:LEU:HB2	6:CF:124:LEU:HD11	1.95	0.47
7:CG:103:LEU:HD23	7:CG:106:LEU:CD2	2.43	0.47
16:CS:10:ARG:HG2	16:CS:91:PRO:HA	1.96	0.47
18:CU:27:LEU:HB3	18:CU:31:SER:HB3	1.97	0.47
21:CX:29:TRP:CZ3	21:CX:78:LYS:HD3	2.50	0.47
23:CZ:150:LEU:HD22	23:CZ:150:LEU:HA	1.75	0.47
33:C9:29:ASN:HD22	33:C9:32:HIS:CE1	2.32	0.47
34:DA:618:C:C2	34:DA:622:A:N6	2.82	0.47
34:DA:738:C:H6	34:DA:738:C:O5'	1.97	0.47
34:DA:1312:G:N7	52:DS:2:PRO:HD3	2.29	0.47
35:DB:145:LEU:O	35:DB:149:LEU:HB2	2.15	0.47
36:DC:8:ILE:HD13	36:DC:184:TYR:HB3	1.97	0.47
38:DE:122:GLU:CB	38:DE:126:ARG:HD3	2.44	0.47
39:DF:8:ILE:HD12	39:DF:26:ILE:HD13	1.96	0.47
40:DG:91:VAL:HB	40:DG:96:GLN:HG2	1.95	0.47
41:DH:20:TYR:HA	41:DH:65:TYR:CE2	2.49	0.47
54:DU:12:LYS:HB3	54:DU:17:THR:O	2.15	0.47
1:AA:631:A:C4	1:AA:646:A:C6	3.02	0.47
1:AA:808:A:P	63:AA:3991:HOH:O	2.72	0.47
1:AA:1633:A:H2'	1:AA:1634:C:C6	2.49	0.47
1:AA:2230:U:O4'	25:A1:52:ARG:NH2	2.48	0.47
1:AA:2303:U:H2'	1:AA:2304:C:C6	2.50	0.47
7:AG:83:ARG:O	7:AG:86:MET:HB2	2.15	0.47
9:AK:48:GLY:HA3	9:AK:90:ALA:HB1	1.96	0.47
12:AO:107:ARG:CZ	17:AT:36:GLU:HG2	2.44	0.47
23:AZ:35:ARG:HD2	23:AZ:35:ARG:HA	1.61	0.47
25:A1:15:ALA:HB3	25:A1:40:ARG:HD3	1.95	0.47
28:A4:59:PHE:HA	28:A4:61:ARG:HG3	1.95	0.47
34:BA:100:C:H2'	34:BA:101:A:O4'	2.15	0.47
34:BA:390:C:H2'	34:BA:391:G:H8	1.79	0.47
34:BA:576:G:N2	34:BA:760:G:OP2	2.48	0.47
34:BA:684:A:C6	34:BA:685:G:C6	3.02	0.47
34:BA:771:G:H2'	34:BA:772:U:C6	2.49	0.47
34:BA:1048:G:OP1	47:BN:3:ARG:HB3	2.15	0.47
34:BA:1456:G:H22	53:BT:43:LEU:HD11	1.80	0.47
34:BA:1476:G:H2'	34:BA:1477:C:C6	2.50	0.47
39:BF:22:GLU:OE2	39:BF:82:ARG:HG2	2.15	0.47
39:BF:61:LEU:HG	39:BF:63:TYR:OH	2.14	0.47
50:BQ:31:LEU:HG	50:BQ:31:LEU:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BQ:60:ILE:HG22	50:BQ:74:LEU:HB2	1.95	0.47
51:BR:44:LEU:HD21	51:BR:70:ILE:HD13	1.95	0.47
51:BR:74:ARG:HG3	51:BR:79:LEU:HB2	1.97	0.47
52:BS:3:ARG:HH11	52:BS:10:PHE:HB2	1.79	0.47
52:BS:78:ARG:HE	52:BS:78:ARG:HB3	1.57	0.47
57:BZ:-29:LEU:H	57:BZ:-29:LEU:CD2	2.27	0.47
57:BZ:-23:LEU:HD12	57:BZ:-23:LEU:HA	1.59	0.47
57:BZ:414:GLU:HG2	57:BZ:415:PRO:HD2	1.97	0.47
1:CA:84:A:H2	1:CA:98:G:N3	2.12	0.47
1:CA:947:G:N2	1:CA:971:C:C2	2.82	0.47
1:CA:1038:C:H5'	1:CA:1039:G:OP2	2.15	0.47
1:CA:1179:C:H2'	1:CA:1180:C:H6	1.79	0.47
1:CA:1226:A:OP1	18:CU:16:LYS:NZ	2.41	0.47
1:CA:1263:U:C4	1:CA:1264:G:C6	3.03	0.47
1:CA:2331:G:O3'	24:C0:43:THR:HG22	2.14	0.47
1:CA:2354:G:O2'	24:C0:36:ILE:HG12	2.14	0.47
1:CA:2869:G:H2'	1:CA:2870:C:O4'	2.14	0.47
3:CC:223:VAL:HG23	3:CC:223:VAL:O	2.15	0.47
4:CD:20:ASP:OD1	4:CD:20:ASP:N	2.41	0.47
4:CD:89:SER:O	4:CD:198:ASN:ND2	2.46	0.47
6:CF:135:LYS:N	6:CF:135:LYS:HE2	2.30	0.47
6:CF:179:GLU:H	6:CF:179:GLU:CD	2.16	0.47
14:CQ:133:ARG:HG3	14:CQ:134:ARG:N	2.29	0.47
14:CQ:137:TYR:CZ	23:CZ:83:PRO:HG3	2.50	0.47
16:CS:100:ALA:O	16:CS:104:GLY:N	2.32	0.47
17:CT:16:ARG:HD3	17:CT:18:ASP:OD1	2.14	0.47
20:CW:2:GLU:OE2	20:CW:72:LYS:HD3	2.14	0.47
22:CY:86:ARG:HG3	22:CY:100:ALA:HB2	1.97	0.47
23:CZ:55:HIS:NE2	23:CZ:135:GLU:HB3	2.30	0.47
23:CZ:73:GLN:HB3	23:CZ:87:ASP:CG	2.35	0.47
26:C2:61:LEU:HD23	26:C2:61:LEU:HA	1.72	0.47
29:C5:32:PRO:HA	29:C5:38:ALA:O	2.14	0.47
34:DA:308:C:H2'	34:DA:309:G:C8	2.49	0.47
34:DA:439:A:C5	34:DA:441:A:H1'	2.50	0.47
34:DA:938:A:H2'	34:DA:939:G:O4'	2.15	0.47
34:DA:1003:G:H2'	34:DA:1004:A:O4'	2.14	0.47
34:DA:1185:G:H2'	34:DA:1186:G:O4'	2.15	0.47
37:DD:32:ALA:HB3	61:DD:501:SF4:S2	2.55	0.47
39:DF:19:LEU:HD11	39:DF:59:TYR:CE2	2.50	0.47
41:DH:25:ASP:OD1	41:DH:25:ASP:N	2.48	0.47
41:DH:34:GLU:HG3	41:DH:37:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DH:89:PRO:HA	41:DH:92:ARG:NH1	2.29	0.47
43:DJ:63:PHE:HE2	47:DN:45:ARG:HA	1.78	0.47
57:DZ:358:MET:HE3	57:DZ:363:ARG:HH11	1.79	0.47
57:DZ:466:LEU:O	57:DZ:472:VAL:HG22	2.15	0.47
58:DX:8:2R3:H62	58:DX:9:MVA:HN1	1.45	0.47
1:AA:137:G:C2'	1:AA:138:G:H5'	2.45	0.47
1:AA:165:G:C2'	1:AA:166:G:H5'	2.44	0.47
1:AA:2131:U:OP1	1:AA:2171:G:O2'	2.31	0.47
5:AE:8:LYS:HG2	5:AE:192:ASN:HA	1.97	0.47
12:AO:43:VAL:HG23	12:AO:56:ASP:O	2.15	0.47
13:AP:82:GLY:HA3	13:AP:115:LEU:CD1	2.45	0.47
28:A4:61:ARG:HH21	52:BS:42:PRO:HD2	1.79	0.47
32:A8:4:MET:HE2	32:A8:63:PRO:HB3	1.97	0.47
34:BA:1086:U:H3	34:BA:1099:G:H22	1.62	0.47
36:BC:164:ARG:HD2	36:BC:166:GLU:HG2	1.96	0.47
38:BE:148:VAL:HG21	41:BH:107:LEU:HD13	1.96	0.47
1:CA:39:C:O2	6:CF:46:ARG:NH2	2.44	0.47
1:CA:2258:C:O2'	1:CA:2427:C:OP2	2.31	0.47
1:CA:2291:U:H2'	1:CA:2292:C:C6	2.50	0.47
3:CC:180:SER:O	3:CC:181:PHE:O	2.33	0.47
6:CF:101:LEU:HD12	6:CF:102:PRO:CD	2.34	0.47
34:DA:36:C:O2'	45:DL:117:ARG:NH2	2.47	0.47
34:DA:729:A:H2'	34:DA:730:G:H8	1.78	0.47
34:DA:1003:G:N2	34:DA:1025:U:O4	2.48	0.47
34:DA:1206:G:C6	34:DA:1207:G:C6	3.02	0.47
34:DA:1401:G:C2	34:DA:1402:C:H1'	2.50	0.47
37:DD:13:ARG:HB2	37:DD:40:PRO:HD3	1.96	0.47
40:DG:20:ASP:HB3	40:DG:23:VAL:CG2	2.44	0.47
42:DI:42:ARG:NH2	42:DI:71:SER:HG	2.11	0.47
57:DZ:105:ILE:HG22	57:DZ:133:ILE:HG13	1.96	0.47
57:DZ:247:ARG:O	57:DZ:251:ILE:HG13	2.15	0.47
57:DZ:358:MET:SD	57:DZ:363:ARG:HB3	2.54	0.47
57:DZ:666:ARG:H	57:DZ:666:ARG:HG3	1.41	0.47
1:AA:574:G:O2'	1:AA:1265:A:N3	2.39	0.47
1:AA:1115:A:H4'	1:AA:1116:A:H5''	1.97	0.47
3:AC:42:VAL:CG1	3:AC:43:GLU:H	2.27	0.47
3:AC:46:ALA:O	3:AC:47:LYS:HB2	2.15	0.47
3:AC:180:SER:O	3:AC:181:PHE:O	2.33	0.47
3:AC:223:VAL:HG23	3:AC:223:VAL:O	2.15	0.47
11:AN:58:ASP:OD1	11:AN:58:ASP:N	2.36	0.47
20:AW:65:LEU:HD23	20:AW:68:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:994:A:N1	34:BA:1047:G:H4'	2.30	0.47
34:BA:1203:C:H2'	34:BA:1204:A:H8	1.79	0.47
34:BA:1411:C:O2'	34:BA:1412:C:H5'	2.15	0.47
36:BC:87:LEU:C	36:BC:89:GLU:H	2.17	0.47
42:BI:19:LEU:HB3	42:BI:59:PHE:HD1	1.80	0.47
57:BZ:188:TYR:HB2	57:BZ:267:LYS:HE3	1.96	0.47
1:CA:443:A:C5	6:CF:45:ARG:HD2	2.49	0.47
1:CA:1053:C:N4	1:CA:1054:A:N7	2.63	0.47
1:CA:1504:C:H2'	1:CA:1505:C:C6	2.49	0.47
2:CB:102:A:H2'	2:CB:103:G:O4'	2.15	0.47
3:CC:46:ALA:O	3:CC:47:LYS:HB2	2.15	0.47
13:CP:99:LEU:H	13:CP:99:LEU:HG	1.54	0.47
19:CV:1:MET:HG3	19:CV:43:GLU:OE2	2.15	0.47
23:CZ:45:ASP:OD2	23:CZ:49:ARG:NH1	2.48	0.47
34:DA:512:U:H2'	34:DA:513:C:C6	2.48	0.47
34:DA:673:G:N2	34:DA:674:G:C2	2.83	0.47
34:DA:806:C:O2'	34:DA:807:A:H5'	2.15	0.47
34:DA:977:A:O2'	34:DA:979:C:OP2	2.27	0.47
34:DA:1084:G:H5'	34:DA:1102:A:OP2	2.14	0.47
34:DA:1508:G:H2'	34:DA:1509:C:C6	2.50	0.47
36:DC:53:ALA:HB2	36:DC:115:LEU:HD11	1.96	0.47
37:DD:25:ARG:HH21	37:DD:30:LYS:HB3	1.80	0.47
37:DD:160:GLN:HE21	37:DD:160:GLN:HB3	1.56	0.47
38:DE:72:GLN:HE22	38:DE:77:PRO:HG3	1.79	0.47
46:DM:20:THR:C	46:DM:22:ILE:H	2.18	0.47
50:DQ:48:GLU:OE2	50:DQ:50:LYS:HE2	2.15	0.47
1:AA:142:G:H1'	21:AX:37:THR:HG21	1.96	0.47
1:AA:737:G:O6	63:AA:3938:HOH:O	2.18	0.47
14:AQ:66:ILE:HG12	14:AQ:104:PHE:CD1	2.49	0.47
16:AS:39:ILE:HB	16:AS:49:VAL:HG12	1.97	0.47
22:AY:55:TYR:N	22:AY:55:TYR:CD1	2.82	0.47
34:BA:872:A:C4	34:BA:874:G:N7	2.83	0.47
34:BA:1037:C:H2'	34:BA:1038:C:C6	2.49	0.47
44:BK:18:ARG:HD3	44:BK:20:TYR:HE2	1.80	0.47
56:BY:28:G:H2'	56:BY:29:G:H8	1.80	0.47
57:BZ:138:LYS:HG2	62:BZ:702:GDP:C5	2.50	0.47
1:CA:56:A:H2'	1:CA:57:C:O4'	2.14	0.47
5:CE:12:THR:HG22	5:CE:13:ARG:N	2.30	0.47
6:CF:156:LEU:HD12	6:CF:193:VAL:O	2.14	0.47
23:CZ:31:ARG:HH11	23:CZ:32:HIS:CE1	2.33	0.47
23:CZ:45:ASP:OD1	23:CZ:49:ARG:HD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:C4:67:TYR:O	28:C4:69:LYS:N	2.41	0.47
34:DA:737:A:H2'	34:DA:738:C:C6	2.50	0.47
34:DA:1028:C:H2'	34:DA:1029:C:C6	2.49	0.47
35:DB:230:VAL:HG22	35:DB:231:GLU:H	1.79	0.47
40:DG:79:ARG:HG2	40:DG:80:VAL:H	1.80	0.47
40:DG:92:SER:O	40:DG:95:ARG:N	2.48	0.47
42:DI:21:PRO:HA	42:DI:59:PHE:HA	1.97	0.47
48:DO:15:PHE:O	48:DO:27:VAL:HG23	2.14	0.47
53:DT:77:ALA:O	53:DT:81:LYS:HG3	2.15	0.47
1:AA:339:G:H2'	1:AA:340:C:C6	2.50	0.46
1:AA:597:C:N3	5:AE:145:LYS:NZ	2.62	0.46
1:AA:1340:U:O2'	15:AR:26:LYS:NZ	2.41	0.46
1:AA:2088:C:O2'	1:AA:2089:G:H5'	2.14	0.46
2:AB:64:C:O2'	63:AB:3101:HOH:O	1.96	0.46
3:AC:17:PRO:HG2	3:AC:18:ASN:H	1.79	0.46
8:AH:67:LEU:O	8:AH:71:LEU:HG	2.15	0.46
9:AK:97:ALA:HB2	9:AK:132:ASP:O	2.15	0.46
34:BA:255:G:H1'	50:BQ:16:GLN:NE2	2.31	0.46
34:BA:294:U:N3	34:BA:295:C:C5	2.83	0.46
34:BA:1471:G:C6	34:BA:1472:U:C4	3.03	0.46
37:BD:15:GLU:HG3	37:BD:63:LYS:HZ2	1.80	0.46
44:BK:115:PRO:HB2	44:BK:118:GLY:H	1.79	0.46
45:BL:84:LEU:HD23	45:BL:105:TYR:HE2	1.78	0.46
57:BZ:78:ARG:HE	57:BZ:357:ARG:NH2	2.13	0.46
57:BZ:115:GLU:HA	57:BZ:116:PRO:HD3	1.85	0.46
1:CA:304:G:O6	63:CA:3746:HOH:O	2.18	0.46
1:CA:339:U:H6	1:CA:339:U:O5'	1.98	0.46
1:CA:836:G:C5	1:CA:837:C:C4	3.03	0.46
1:CA:1053:C:C2	1:CA:1054:A:C1'	2.98	0.46
1:CA:1291:C:H2'	1:CA:1292:U:C6	2.50	0.46
1:CA:1675:C:O2	5:CE:128:SER:HB2	2.15	0.46
1:CA:2427:C:H5''	1:CA:2428:G:OP1	2.15	0.46
3:CC:176:VAL:O	3:CC:176:VAL:HG12	2.15	0.46
7:CG:15:VAL:HG21	7:CG:176:LEU:HD23	1.97	0.46
7:CG:123:ASN:ND2	7:CG:123:ASN:H	2.14	0.46
14:CQ:39:PRO:HB3	14:CQ:99:PRO:HD3	1.95	0.46
23:CZ:39:VAL:HG21	23:CZ:44:PHE:CD2	2.50	0.46
34:DA:314:C:O2'	34:DA:315:A:H5'	2.15	0.46
34:DA:833:U:H2'	34:DA:834:C:C6	2.50	0.46
34:DA:838:G:N2	34:DA:849:C:C2	2.83	0.46
34:DA:881:G:P	45:DL:12:ARG:HH22	2.37	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:939:G:N3	34:DA:1375:A:H2	2.13	0.46
39:DF:9:VAL:HG22	39:DF:60:PHE:CE2	2.50	0.46
40:DG:74:GLU:HB2	40:DG:141:VAL:HG12	1.97	0.46
43:DJ:48:THR:O	47:DN:34:TYR:OH	2.34	0.46
52:DS:40:ILE:HB	52:DS:67:VAL:O	2.15	0.46
1:AA:310:C:H2'	1:AA:311:C:C6	2.48	0.46
1:AA:1425:A:H4'	1:AA:1426:G:OP2	2.15	0.46
1:AA:2529:C:C6	1:AA:2554:A:N7	2.83	0.46
3:AC:176:VAL:O	3:AC:176:VAL:HG12	2.15	0.46
11:AN:91:LEU:HA	11:AN:91:LEU:HD23	1.69	0.46
14:AQ:37:LEU:HD21	14:AQ:130:LYS:HG2	1.96	0.46
34:BA:251:G:H4'	34:BA:252:U:OP1	2.15	0.46
35:BB:145:LEU:HD13	35:BB:149:LEU:HD12	1.96	0.46
36:BC:40:ARG:NH2	36:BC:55:VAL:O	2.48	0.46
49:BP:66:PRO:HG2	49:BP:71:ARG:HH21	1.79	0.46
1:CA:1006:C:H1'	11:CN:106:MET:HG2	1.97	0.46
1:CA:1056:G:H21	1:CA:1103:A:H62	1.63	0.46
1:CA:2155:G:C6	1:CA:2156:G:H1'	2.49	0.46
1:CA:2281:C:C2'	1:CA:2282:G:H5'	2.45	0.46
1:CA:2749:A:H1'	8:CH:63:SER:OG	2.15	0.46
7:CG:61:ALA:HA	7:CG:66:GLN:O	2.15	0.46
17:CT:122:ASP:O	17:CT:124:ASP:N	2.48	0.46
23:CZ:37:VAL:HG22	23:CZ:38:TYR:H	1.80	0.46
23:CZ:39:VAL:HG21	23:CZ:44:PHE:HB2	1.98	0.46
34:DA:303:A:H2'	34:DA:304:U:O4'	2.15	0.46
34:DA:591:U:H2'	34:DA:592:G:C8	2.51	0.46
34:DA:869:G:H8	34:DA:869:G:O5'	1.98	0.46
36:DC:114:PRO:HB3	36:DC:185:GLY:HA3	1.98	0.46
1:AA:908:A:C2	1:AA:963:A:C4	3.04	0.46
1:AA:1889:G:N2	1:AA:1905:G:H2'	2.31	0.46
1:AA:2402:U:P	32:A8:35:GLN:HE22	2.39	0.46
1:AA:2545:A:H2'	1:AA:2546:A:O4'	2.16	0.46
6:AF:140:LEU:HD12	6:AF:140:LEU:HA	1.79	0.46
7:AG:8:LYS:O	7:AG:11:TYR:N	2.49	0.46
8:AH:90:LYS:HD3	8:AH:159:GLU:HG2	1.96	0.46
31:A7:33:ARG:NH2	63:A7:201:HOH:O	2.45	0.46
34:BA:302:G:N3	34:BA:556:C:H4'	2.30	0.46
34:BA:373:A:O2'	34:BA:374:A:H5'	2.16	0.46
34:BA:407:G:H2'	34:BA:408:A:H8	1.80	0.46
34:BA:1039:C:H2'	34:BA:1040:U:C6	2.50	0.46
41:BH:75:ARG:HB2	41:BH:75:ARG:HH11	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:BJ:47:PHE:CZ	47:BN:37:PHE:HE2	2.33	0.46
57:BZ:13:ARG:CZ	57:BZ:280:LEU:O	2.63	0.46
1:CA:118:A:N3	1:CA:178:G:H1'	2.30	0.46
1:CA:271(E):U:H3	1:CA:271(S):G:H1	1.63	0.46
1:CA:1283:G:N2	1:CA:1285:G:H3'	2.30	0.46
1:CA:1425:G:H2'	1:CA:1426:G:C8	2.51	0.46
1:CA:1791:A:OP2	1:CA:1791:A:H8	1.99	0.46
1:CA:2370:G:C6	1:CA:2371:G:C6	3.04	0.46
1:CA:2712:U:H2'	1:CA:2714:G:H5''	1.97	0.46
11:CN:37:LYS:HA	11:CN:42:TRP:CD1	2.50	0.46
24:C0:48:GLY:HA3	24:C0:80:HIS:ND1	2.31	0.46
27:C3:15:TYR:CE2	27:C3:53:LEU:HD21	2.51	0.46
34:DA:192:U:H5'	53:DT:101:GLY:HA3	1.97	0.46
34:DA:749:C:H3'	34:DA:749:C:OP2	2.16	0.46
34:DA:782:A:OP1	63:DA:1811:HOH:O	2.21	0.46
34:DA:1104:G:H4'	35:DB:111:ARG:NH1	2.31	0.46
34:DA:1118:C:P	42:DI:104:ARG:HH11	2.38	0.46
34:DA:1251:A:H2'	34:DA:1252:A:C8	2.51	0.46
36:DC:134:ILE:HG22	36:DC:168:ALA:HB3	1.96	0.46
37:DD:32:ALA:N	61:DD:501:SF4:S2	2.88	0.46
41:DH:7:ALA:O	41:DH:11:THR:OG1	2.21	0.46
50:DQ:7:THR:HA	50:DQ:57:VAL:O	2.16	0.46
56:DY:19:G:H1	56:DY:56:C:H42	1.62	0.46
1:AA:536:U:H5''	1:AA:537:G:OP2	2.16	0.46
1:AA:558:G:H5'	18:AU:24:TYR:CD1	2.51	0.46
1:AA:1068:G:N2	1:AA:1069:U:O4	2.44	0.46
1:AA:2146:G:H1	1:AA:2196:C:H42	1.62	0.46
1:AA:2190:G:H3'	1:AA:2191:A:H5''	1.97	0.46
7:AG:43:LEU:HD12	7:AG:43:LEU:HA	1.65	0.46
14:AQ:109:VAL:HG22	14:AQ:110:THR:N	2.31	0.46
15:AR:57:ARG:HB3	15:AR:59:ASP:OD1	2.15	0.46
34:BA:44:G:N2	34:BA:399:G:C4	2.84	0.46
34:BA:97:G:O2'	34:BA:98:G:H5''	2.15	0.46
34:BA:259:G:H2'	34:BA:260:G:H8	1.77	0.46
34:BA:982:U:H5''	47:BN:6:LEU:HD21	1.98	0.46
34:BA:984:C:N3	34:BA:1221:G:N1	2.51	0.46
34:BA:1127:G:H5'	34:BA:1280:A:O2'	2.16	0.46
34:BA:1392:G:O2'	34:BA:1393:U:H5'	2.16	0.46
34:BA:1478:C:H2'	34:BA:1479:C:C6	2.50	0.46
37:BD:108:LEU:HB3	37:BD:110:PHE:CD1	2.50	0.46
40:BG:69:VAL:HG12	40:BG:69:VAL:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BG:150:ALA:HB2	44:BK:50:TYR:OH	2.16	0.46
45:BL:53:ARG:CB	45:BL:93:LEU:HD11	2.44	0.46
1:CA:27:G:C4	1:CA:512:G:N2	2.83	0.46
1:CA:584:C:N4	1:CA:585:G:C6	2.83	0.46
1:CA:704:G:H1'	1:CA:726:G:H22	1.81	0.46
1:CA:1149:G:H2'	1:CA:1150:C:H6	1.79	0.46
1:CA:1767:C:H2'	1:CA:1768:U:O4'	2.15	0.46
2:CB:117:G:H8	2:CB:117:G:O5'	1.98	0.46
13:CP:96:THR:H	13:CP:99:LEU:HD11	1.80	0.46
34:DA:621:A:OP2	34:DA:621:A:H8	1.97	0.46
34:DA:988:G:C2	34:DA:989:C:H1'	2.50	0.46
34:DA:1112:C:O2	36:DC:179:ARG:HG2	2.15	0.46
34:DA:1171:G:H8	34:DA:1171:G:OP2	1.97	0.46
34:DA:1195:C:H5''	34:DA:1196:U:O5'	2.16	0.46
34:DA:1439:C:OP1	53:DT:38:LYS:NZ	2.32	0.46
37:DD:149:ALA:HB3	37:DD:152:SER:OG	2.15	0.46
40:DG:97:GLN:HG3	40:DG:98:SER:N	2.29	0.46
41:DH:73:ASP:OD1	41:DH:75:ARG:HD3	2.14	0.46
49:DP:40:ASP:HB3	49:DP:48:TRP:HB2	1.97	0.46
49:DP:74:LEU:O	49:DP:79:VAL:HG23	2.16	0.46
57:DZ:4:ILE:O	57:DZ:7:ASN:N	2.44	0.46
1:AA:1752:G:C5	1:AA:1753:U:C4	3.04	0.46
1:AA:2418:U:C2	13:AP:75:ILE:HD13	2.51	0.46
1:AA:2819:A:C6	1:AA:2901:A:C8	3.03	0.46
3:AC:6:LYS:HA	3:AC:9:ARG:NH1	2.30	0.46
7:AG:96:ARG:N	7:AG:99:MET:HE2	2.30	0.46
7:AG:133:LEU:HA	63:AG:302:HOH:O	2.16	0.46
14:AQ:61:GLY:O	23:AZ:178:GLU:HB2	2.15	0.46
17:AT:24:PRO:HA	17:AT:49:VAL:HG22	1.96	0.46
20:AW:65:LEU:HD13	20:AW:65:LEU:HA	1.75	0.46
29:A5:45:VAL:HG11	29:A5:58:LEU:HD12	1.96	0.46
34:BA:437:U:H2'	34:BA:438:G:H5'	1.97	0.46
34:BA:735:C:H2'	34:BA:736:C:C6	2.51	0.46
39:BF:78:GLU:O	39:BF:81:ILE:HG22	2.15	0.46
46:BM:96:LEU:C	46:BM:110:ARG:HG2	2.35	0.46
53:BT:63:ILE:HD13	53:BT:80:ARG:HB3	1.98	0.46
57:BZ:278:ASP:HB2	57:BZ:279:TYR:CD2	2.51	0.46
1:CA:9:U:N3	1:CA:2629:A:H2	2.11	0.46
1:CA:495:G:O2'	20:CW:61:ASN:ND2	2.48	0.46
1:CA:958:U:OP2	14:CQ:14:ARG:NH1	2.48	0.46
1:CA:1480:G:C6	1:CA:1481:U:N3	2.83	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1614:A:P	1:CA:1614:A:H8	2.38	0.46
1:CA:2286:A:H4'	1:CA:2287:A:O4'	2.15	0.46
4:CD:206:LEU:HD23	4:CD:206:LEU:HA	1.70	0.46
7:CG:115:ARG:H	7:CG:115:ARG:NH1	2.12	0.46
8:CH:3:ARG:CZ	8:CH:5:GLY:H	2.28	0.46
16:CS:35:ILE:HG12	16:CS:97:ARG:HH21	1.80	0.46
19:CV:40:LEU:HB2	19:CV:46:VAL:HG13	1.97	0.46
34:DA:778:G:C6	34:DA:779:C:C4	3.03	0.46
34:DA:932:C:H2'	34:DA:933:G:C8	2.46	0.46
35:DB:51:LEU:O	35:DB:55:PHE:HD2	1.99	0.46
37:DD:89:THR:O	37:DD:93:PHE:N	2.37	0.46
38:DE:43:LEU:CD1	38:DE:132:ALA:HB1	2.46	0.46
40:DG:100:ALA:O	40:DG:104:LEU:HB2	2.16	0.46
45:DL:119:LYS:HB2	45:DL:120:TYR:HD2	1.80	0.46
46:DM:96:LEU:C	46:DM:110:ARG:HG2	2.35	0.46
51:DR:58:LEU:HD12	51:DR:62:GLU:HB3	1.98	0.46
56:DY:9:A:H8	56:DY:11:C:H41	1.64	0.46
1:AA:187:C:H5'	1:AA:2256:U:OP1	2.16	0.46
1:AA:211:A:H5''	1:AA:448:U:OP1	2.16	0.46
1:AA:1529:G:C2	1:AA:1530:G:C8	3.04	0.46
1:AA:1954:A:H2'	1:AA:1955:G:O4'	2.15	0.46
1:AA:2250:G:N3	1:AA:2250:G:H2'	2.30	0.46
6:AF:172:TRP:CE3	6:AF:173:VAL:HG23	2.51	0.46
14:AQ:59:ARG:HA	23:AZ:180:VAL:HG23	1.97	0.46
34:BA:918:A:C6	34:BA:919:A:C6	3.04	0.46
34:BA:1413:A:H2	34:BA:1487:G:H22	1.64	0.46
35:BB:102:LEU:HB3	35:BB:180:LEU:HD11	1.97	0.46
44:BK:23:ALA:HB1	44:BK:88:GLY:HA3	1.97	0.46
57:BZ:247:ARG:NE	57:BZ:251:ILE:HD11	2.30	0.46
1:CA:78:A:OP1	26:C2:10:LEU:HD13	2.15	0.46
1:CA:587:C:OP2	13:CP:21:ARG:NH2	2.48	0.46
1:CA:781:A:H2	1:CA:1776:G:N3	2.13	0.46
1:CA:853:G:H1	1:CA:924:C:N4	2.13	0.46
1:CA:1319:G:C6	1:CA:1320:C:N4	2.84	0.46
1:CA:1371:G:H2'	1:CA:1372:U:C5	2.45	0.46
1:CA:2140:C:O2	1:CA:2152:G:N1	2.48	0.46
1:CA:2788:C:O2'	1:CA:2809:A:N3	2.41	0.46
2:CB:98:G:H3'	2:CB:99:G:H8	1.80	0.46
4:CD:17:THR:O	4:CD:211:ARG:NH2	2.49	0.46
34:DA:473:G:C2	34:DA:474:G:N7	2.84	0.46
34:DA:540:G:H2'	34:DA:541:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:975:A:H5''	34:DA:1363(A):A:N6	2.30	0.46
39:DF:2:ARG:HH22	48:DO:2:PRO:HD2	1.80	0.46
41:DH:14:ARG:HG2	41:DH:18:ARG:HH12	1.81	0.46
42:DI:31:GLN:HE21	42:DI:31:GLN:HB3	1.57	0.46
47:DN:14:PRO:HB2	47:DN:16:PHE:O	2.14	0.46
56:DW:39:PSU:O2'	56:DY:35:A:O2'	2.34	0.46
57:DZ:466:LEU:HA	57:DZ:470:PHE:HD2	1.80	0.46
57:DZ:630:GLN:O	57:DZ:646:PHE:N	2.46	0.46
57:DZ:654:GLY:O	57:DZ:658:ASP:HB2	2.15	0.46
1:AA:1081:U:H2'	1:AA:1082:G:C8	2.51	0.46
1:AA:1091:A:P	1:AA:1093:G:H5''	2.55	0.46
1:AA:1134:A:N1	10:AL:133:SER:OG	2.46	0.46
1:AA:2701:U:C4'	1:AA:2702:C:OP2	2.64	0.46
6:AF:7:TYR:O	6:AF:21:ALA:HA	2.15	0.46
11:AN:85:ILE:HA	11:AN:86:PRO:HD3	1.84	0.46
23:AZ:157:LEU:HA	23:AZ:158:PRO:HD2	1.73	0.46
34:BA:33:A:H2'	34:BA:34:C:C6	2.51	0.46
34:BA:659:U:H2'	34:BA:660:G:C8	2.50	0.46
34:BA:857:C:H2'	34:BA:858:G:O4'	2.16	0.46
34:BA:1476:G:H2'	34:BA:1477:C:H6	1.81	0.46
57:BZ:10:LYS:HG3	57:BZ:284:LEU:HD23	1.96	0.46
57:BZ:216:LEU:O	57:BZ:220:ALA:N	2.45	0.46
1:CA:194:G:H2'	1:CA:195:A:O4'	2.16	0.46
1:CA:811:U:H2'	13:CP:21:ARG:HA	1.98	0.46
1:CA:1379:A:H4'	1:CA:1380:G:OP2	2.16	0.46
1:CA:1607:C:H4'	1:CA:1608:A:O5'	2.16	0.46
1:CA:2821:A:H2'	1:CA:2822:G:C8	2.51	0.46
2:CB:61:G:C6	2:CB:62:C:C4	3.04	0.46
34:DA:171:A:H2'	34:DA:172:A:C8	2.50	0.46
34:DA:921:U:O2'	38:DE:19:MET:O	2.22	0.46
34:DA:1080:A:H5''	34:DA:1081:G:OP2	2.16	0.46
34:DA:1405:G:N3	34:DA:1518:A:O2'	2.45	0.46
35:DB:167:PRO:HD2	35:DB:189:ASP:OD1	2.16	0.46
44:DK:27:ASN:CG	44:DK:28:THR:H	2.19	0.46
52:DS:28:LYS:HB3	52:DS:29:ARG:HA	1.98	0.46
56:DY:65:G:H2'	56:DY:66:U:C6	2.51	0.46
57:DZ:356:LEU:HD12	57:DZ:365:GLU:HA	1.98	0.46
1:AA:798:A:H5'	20:AW:90:ARG:HA	1.98	0.46
3:AC:211:ARG:HG2	3:AC:211:ARG:HH11	1.81	0.46
5:AE:176:ILE:HB	5:AE:181:LEU:HB2	1.97	0.46
12:AO:17:ARG:NH1	12:AO:47:ILE:HG21	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:AQ:18:LYS:HB2	14:AQ:18:LYS:NZ	2.31	0.46
26:A2:52:ASP:O	26:A2:56:GLN:HG3	2.16	0.46
34:BA:104:G:N1	34:BA:105:G:N7	2.63	0.46
34:BA:269:C:H2'	34:BA:270:A:C8	2.51	0.46
34:BA:542:G:H5''	37:BD:10:ARG:HH22	1.79	0.46
34:BA:1081:G:H2'	34:BA:1082:G:C8	2.51	0.46
35:BB:187:LEU:HA	35:BB:201:ILE:HB	1.97	0.46
36:BC:112:SER:O	36:BC:115:LEU:HB2	2.16	0.46
46:BM:45:VAL:O	46:BM:48:LEU:HG	2.15	0.46
49:BP:23:ASP:OD1	49:BP:24:ALA:N	2.49	0.46
49:BP:55:ARG:HH12	49:BP:58:TYR:HD1	1.62	0.46
50:BQ:87:LYS:HE2	50:BQ:87:LYS:HA	1.97	0.46
57:BZ:68:ALA:HB3	57:BZ:327:PHE:CD1	2.51	0.46
57:BZ:605:ILE:HB	57:BZ:675:HIS:O	2.16	0.46
1:CA:786:C:C2'	1:CA:787:U:H5'	2.46	0.46
1:CA:1064:C:C5	1:CA:1065:U:C4	3.04	0.46
1:CA:1270:C:H5''	1:CA:1271:G:O5'	2.16	0.46
1:CA:2407:G:C4	1:CA:2408:U:C5	3.04	0.46
2:CB:37:C:H2'	16:CS:95:HIS:HE1	1.81	0.46
3:CC:20:VAL:O	3:CC:224:ARG:O	2.33	0.46
5:CE:9:VAL:HA	17:CT:3:ARG:HD3	1.97	0.46
14:CQ:60:ARG:HE	14:CQ:60:ARG:HB2	1.56	0.46
28:C4:69:LYS:HE3	28:C4:69:LYS:HB2	1.82	0.46
34:DA:375:U:C2	34:DA:376:G:C8	3.03	0.46
34:DA:792:A:H4'	34:DA:793:U:O5'	2.15	0.46
34:DA:1007:C:H2'	34:DA:1008:C:C6	2.51	0.46
34:DA:1009:G:N2	34:DA:1021:G:H1'	2.31	0.46
34:DA:1343:G:N2	34:DA:1349:A:O2'	2.49	0.46
34:DA:1387:G:H2'	34:DA:1388:C:C6	2.51	0.46
38:DE:36:ASP:C	38:DE:38:GLN:H	2.18	0.46
43:DJ:85:LEU:HD23	43:DJ:85:LEU:HA	1.83	0.46
56:DY:9:A:H5'	56:DY:46:7MG:H1'	1.98	0.46
57:DZ:483:TYR:HD1	57:DZ:603:GLU:HA	1.81	0.46
1:AA:2023:A:H2'	1:AA:2024:G:C8	2.51	0.46
1:AA:2201:C:O4'	3:AC:169:THR:HG22	2.16	0.46
3:AC:20:VAL:O	3:AC:224:ARG:O	2.34	0.46
8:AH:17:VAL:HG22	8:AH:26:VAL:HG22	1.97	0.46
16:AS:24:LEU:HA	16:AS:24:LEU:HD23	1.69	0.46
23:AZ:48:PHE:HE2	23:AZ:71:VAL:HG11	1.80	0.46
32:A8:52:LYS:N	32:A8:53:PRO:HD2	2.31	0.46
34:BA:314:C:O2'	34:BA:315:A:H5'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:353:A:H5'	34:BA:353:A:C8	2.49	0.46
34:BA:735:C:H2'	34:BA:736:C:H6	1.80	0.46
34:BA:1202:G:H2'	34:BA:1203:C:O4'	2.16	0.46
34:BA:1292:U:H2'	34:BA:1293:G:C8	2.51	0.46
34:BA:1445:C:H2'	34:BA:1446:U:O4'	2.15	0.46
38:BE:43:LEU:HD21	38:BE:132:ALA:HB1	1.98	0.46
40:BG:56:GLN:HB3	40:BG:57:GLU:H	1.47	0.46
45:BL:97:ARG:HB2	45:BL:98:TYR:CD1	2.51	0.46
56:BW:29:G:H2'	56:BW:30:G:O4'	2.16	0.46
56:BW:40:C:H5'	56:BY:35:A:O2'	2.15	0.46
57:BZ:329:ARG:HG3	57:BZ:374:LEU:HD23	1.98	0.46
57:BZ:608:VAL:HG21	57:BZ:647:VAL:HG23	1.97	0.46
1:CA:774:A:HO2'	1:CA:775:G:H8	1.64	0.46
1:CA:860:U:H1'	1:CA:2268:A:H5'	1.97	0.46
1:CA:905:U:O5'	1:CA:905:U:H6	1.99	0.46
1:CA:2689:U:P	1:CA:2719:G:H22	2.39	0.46
1:CA:2881:C:H2'	1:CA:2882:A:O4'	2.16	0.46
6:CF:60:SER:OG	6:CF:61:GLY:N	2.46	0.46
19:CV:37:VAL:O	19:CV:51:VAL:HG23	2.15	0.46
34:DA:1147:C:H4'	42:DI:5:TYR:CZ	2.51	0.46
34:DA:1319:A:N6	34:DA:1361:G:H21	2.13	0.46
34:DA:1346:A:H5''	42:DI:120:ARG:NH2	2.28	0.46
38:DE:129:ILE:H	38:DE:129:ILE:HG12	1.53	0.46
42:DI:116:LYS:O	42:DI:117:HIS:HD2	1.99	0.46
57:DZ:120:THR:HG22	57:DZ:123:ARG:NH2	2.31	0.46
1:AA:1597:C:O2'	1:AA:1598:C:H5'	2.15	0.46
1:AA:1922:A:N1	1:AA:1992:A:C6	2.84	0.46
1:AA:2418:U:H5'	1:AA:2418:U:C6	2.51	0.46
3:AC:48:LEU:HD23	3:AC:59:VAL:HG21	1.98	0.46
7:AG:7:LEU:HD13	7:AG:100:TRP:CE3	2.51	0.46
26:A2:33:MET:O	26:A2:36:ARG:HB2	2.16	0.46
26:A2:61:LEU:HD23	26:A2:61:LEU:HA	1.61	0.46
34:BA:597:G:C4	34:BA:644:G:C2	3.04	0.46
34:BA:685:G:C2	34:BA:686:U:C4	3.03	0.46
34:BA:726:C:H2'	34:BA:727:G:H8	1.81	0.46
34:BA:767:A:H2'	34:BA:768:A:O4'	2.16	0.46
34:BA:982:U:H5''	47:BN:6:LEU:CD2	2.46	0.46
34:BA:1346:A:N1	34:BA:1374:A:H5''	2.31	0.46
34:BA:1460:A:H2'	34:BA:1461:G:O4'	2.16	0.46
36:BC:22:TRP:CH2	36:BC:32:LEU:HB2	2.51	0.46
37:BD:110:PHE:HD1	37:BD:110:PHE:H	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:77:PRO:HG2	38:BE:78:HIS:CD2	2.51	0.46
40:BG:26:PHE:CD2	40:BG:30:ILE:HD11	2.51	0.46
41:BH:26:VAL:HG22	41:BH:27:PRO:O	2.16	0.46
44:BK:34:ASP:HB3	44:BK:40:ILE:HD11	1.97	0.46
44:BK:48:ILE:HD12	44:BK:63:LEU:HB3	1.97	0.46
45:BL:27:LEU:HD22	45:BL:98:TYR:CE2	2.51	0.46
46:BM:67:GLU:OE2	46:BM:71:ARG:NH2	2.48	0.46
1:CA:323:G:O2'	1:CA:1205:U:N3	2.35	0.46
1:CA:478:A:N1	1:CA:500:G:H4'	2.31	0.46
1:CA:852:G:H2'	1:CA:853:G:H8	1.81	0.46
1:CA:1160:G:H22	19:CV:10:LYS:NZ	2.14	0.46
1:CA:2176:A:H2'	1:CA:2177:C:C6	2.50	0.46
1:CA:2371:G:N3	30:C6:46:HIS:HE1	2.14	0.46
3:CC:42:VAL:CG1	3:CC:43:GLU:H	2.28	0.46
3:CC:54:ARG:HH22	3:CC:56:ASP:HB3	1.75	0.46
16:CS:105:ALA:HB1	16:CS:110:LEU:HD23	1.98	0.46
17:CT:39:ARG:NH2	34:DA:345:C:OP2	2.48	0.46
34:DA:16:A:O2'	34:DA:17:U:H5'	2.16	0.46
34:DA:519:C:H2'	34:DA:520:A:O4'	2.16	0.46
34:DA:601:C:H2'	34:DA:602:A:H8	1.78	0.46
34:DA:1345:U:O2	34:DA:1375:A:N6	2.49	0.46
38:DE:41:VAL:O	38:DE:66:MET:HA	2.16	0.46
42:DI:9:ARG:O	42:DI:104:ARG:HG2	2.16	0.46
56:DW:8:4SU:H1'	56:DW:48:C:O2	2.16	0.46
57:DZ:377:VAL:HG21	57:DZ:380:LEU:HD13	1.98	0.46
57:DZ:484:ARG:HH11	57:DZ:558:PHE:HE1	1.64	0.46
1:AA:290:G:H2'	1:AA:291:G:O4'	2.16	0.45
6:AF:29:ASN:HA	6:AF:30:PRO:HD3	1.73	0.45
6:AF:135:LYS:HB2	6:AF:138:GLU:HG3	1.97	0.45
8:AH:43:VAL:HG22	8:AH:52:VAL:HG22	1.98	0.45
8:AH:144:VAL:O	8:AH:147:ASN:HB2	2.16	0.45
14:AQ:109:VAL:HG22	14:AQ:113:GLN:HB3	1.98	0.45
29:A5:16:ARG:O	29:A5:20:ARG:HG3	2.16	0.45
30:A6:12:GLU:HG3	30:A6:19:ARG:HG3	1.98	0.45
32:A8:60:LEU:HD23	32:A8:60:LEU:HA	1.71	0.45
34:BA:585:G:N3	34:BA:879:C:H4'	2.31	0.45
34:BA:742:G:P	48:BO:35:ARG:HH22	2.39	0.45
34:BA:977:A:H1'	34:BA:982:U:O4	2.15	0.45
34:BA:1137:C:H4'	34:BA:1138:G:C2	2.50	0.45
34:BA:1146:A:H2'	34:BA:1147:C:O4'	2.15	0.45
34:BA:1438:G:H2'	34:BA:1439:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:BC:37:GLN:NE2	47:BN:52:GLN:OE1	2.48	0.45
41:BH:27:PRO:HA	41:BH:58:TYR:HA	1.97	0.45
46:BM:74:VAL:O	46:BM:78:ILE:HG13	2.16	0.45
57:BZ:-7:GLU:HG3	57:BZ:-6:ARG:NH1	2.29	0.45
1:CA:27:G:HO2'	1:CA:28:A:P	2.37	0.45
1:CA:844:C:C2'	1:CA:845:G:H5'	2.46	0.45
1:CA:1721:G:C6	1:CA:1739:U:H5'	2.51	0.45
1:CA:1847:A:H3'	1:CA:1848:A:H5'	1.98	0.45
1:CA:2287:A:H2	1:CA:2346:A:H62	1.59	0.45
1:CA:2294:C:H2'	1:CA:2295:C:H6	1.80	0.45
1:CA:2722:G:H2'	1:CA:2723:C:C6	2.51	0.45
11:CN:74:ARG:O	11:CN:82:LEU:HD12	2.16	0.45
15:CR:55:ALA:HB2	15:CR:79:LEU:HD13	1.98	0.45
19:CV:18:LEU:HD22	19:CV:19:LYS:O	2.15	0.45
21:CX:35:THR:HG22	21:CX:37:THR:N	2.31	0.45
22:CY:5:MET:HG2	22:CY:30:VAL:HG11	1.98	0.45
24:C0:40:GLN:NE2	24:C0:45:PHE:HB2	2.30	0.45
34:DA:105:G:H2'	34:DA:106:C:C6	2.51	0.45
34:DA:390:C:O3'	49:DP:28:ARG:NH2	2.48	0.45
34:DA:1303:C:N4	34:DA:1304:G:C6	2.84	0.45
57:DZ:168:ILE:O	57:DZ:174:PHE:HA	2.15	0.45
57:DZ:681:LYS:HE2	57:DZ:681:LYS:HB3	1.74	0.45
1:AA:895:G:N9	1:AA:978:A:H8	2.14	0.45
1:AA:1355:G:P	31:A7:9:ARG:HD3	2.56	0.45
1:AA:2140:U:C4	1:AA:2171:G:H1'	2.52	0.45
1:AA:2178:G:H2'	1:AA:2179:G:C2	2.50	0.45
1:AA:2255:U:H2'	1:AA:2256:U:H6	1.80	0.45
1:AA:2528:G:O2'	1:AA:2529:C:H5'	2.16	0.45
1:AA:2658:C:O5'	1:AA:2658:C:H6	1.99	0.45
4:AD:4:LYS:HB3	4:AD:4:LYS:HE3	1.74	0.45
5:AE:78:LEU:O	5:AE:79:ARG:HD2	2.17	0.45
8:AH:3:ARG:HH12	8:AH:54:ARG:NH1	2.14	0.45
22:AY:6:HIS:H	22:AY:6:HIS:CD2	2.34	0.45
34:BA:72:C:O2	34:BA:98:G:N2	2.50	0.45
34:BA:109:A:N3	34:BA:109:A:H5''	2.30	0.45
34:BA:430:A:OP1	37:BD:9:CYS:N	2.32	0.45
34:BA:502:G:OP1	45:BL:118:SER:HB2	2.16	0.45
34:BA:943:U:H1'	42:BI:124:GLN:HE22	1.82	0.45
34:BA:1228:C:OP1	46:BM:108:ARG:NH1	2.47	0.45
34:BA:1371:G:OP2	42:BI:11:LYS:HD2	2.15	0.45
36:BC:6:HIS:CD2	36:BC:8:ILE:H	2.34	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:BT:84:LEU:O	53:BT:88:VAL:HG23	2.15	0.45
57:BZ:329:ARG:HA	57:BZ:374:LEU:HB3	1.97	0.45
57:BZ:659:LEU:HD13	57:BZ:667:GLY:HA3	1.98	0.45
1:CA:315:G:H2'	1:CA:316:C:C6	2.50	0.45
1:CA:624:C:O2'	1:CA:657:U:OP1	2.33	0.45
1:CA:881:G:H2'	1:CA:882:G:O4'	2.16	0.45
1:CA:950:G:H2'	1:CA:951:C:H6	1.80	0.45
1:CA:1292:U:H2'	1:CA:1293:C:C6	2.51	0.45
1:CA:1570:A:H2'	1:CA:1571:A:C8	2.52	0.45
3:CC:37:LYS:O	3:CC:38:PHE:HB3	2.17	0.45
3:CC:48:LEU:HD23	3:CC:59:VAL:HG21	1.98	0.45
12:CO:87:ILE:HG22	12:CO:93:PRO:HA	1.97	0.45
18:CU:58:ARG:O	18:CU:62:ILE:HG13	2.16	0.45
20:CW:86:LEU:HD23	20:CW:88:ARG:HD3	1.98	0.45
23:CZ:103:ARG:O	23:CZ:139:VAL:HG23	2.16	0.45
33:C9:11:CYS:SG	33:C9:12:ASP:N	2.89	0.45
34:DA:302:G:N3	34:DA:556:C:H4'	2.32	0.45
34:DA:1203:C:H2'	34:DA:1204:A:C8	2.44	0.45
34:DA:1380:U:C4	40:DG:3:ARG:HG2	2.50	0.45
36:DC:6:HIS:HB3	47:DN:49:HIS:ND1	2.30	0.45
37:DD:88:VAL:HG13	38:DE:97:GLY:HA2	1.98	0.45
46:DM:10:PRO:HG2	46:DM:21:TYR:CD1	2.51	0.45
48:DO:85:LEU:HA	48:DO:85:LEU:HD23	1.62	0.45
57:DZ:328:ILE:HD12	57:DZ:377:VAL:HG12	1.99	0.45
1:AA:30:G:H2'	1:AA:31:C:C6	2.51	0.45
1:AA:752:A:C2	1:AA:753:A:C4	3.05	0.45
1:AA:935:C:H2'	1:AA:936:C:C4	2.52	0.45
1:AA:1831:C:OP1	4:AD:260:ARG:NH2	2.49	0.45
1:AA:2162:C:O2	1:AA:2162:C:H2'	2.15	0.45
6:AF:8:GLN:HE22	6:AF:21:ALA:HB2	1.81	0.45
6:AF:164:ARG:O	6:AF:168:ARG:HB2	2.16	0.45
7:AG:7:LEU:HD13	7:AG:100:TRP:HE3	1.81	0.45
11:AN:4:TYR:CD2	18:AU:100:VAL:HG11	2.51	0.45
14:AQ:62:GLY:O	23:AZ:178:GLU:HG2	2.16	0.45
22:AY:92:ASN:ND2	22:AY:92:ASN:N	2.63	0.45
34:BA:294:U:C2	34:BA:295:C:C5	3.04	0.45
34:BA:865:A:O5'	34:BA:865:A:H8	1.98	0.45
46:BM:88:ARG:HG3	46:BM:98:VAL:HG13	1.99	0.45
51:BR:75:ILE:H	51:BR:75:ILE:HG13	1.58	0.45
52:BS:31:ILE:HB	52:BS:49:ILE:HG23	1.99	0.45
57:BZ:356:LEU:HD12	57:BZ:356:LEU:HA	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:409:ILE:HG13	57:BZ:480:GLN:CB	2.47	0.45
57:BZ:606:MET:HB3	57:BZ:671:MET:HG2	1.98	0.45
1:CA:443:A:H1'	1:CA:1201:C:O4'	2.16	0.45
1:CA:475:U:H4'	1:CA:510:C:H5'	1.98	0.45
1:CA:697:C:H2'	1:CA:698:C:C6	2.51	0.45
1:CA:1043:C:H2'	1:CA:1044:G:H5'	1.98	0.45
1:CA:1453:U:P	15:CR:77:ARG:HH11	2.40	0.45
1:CA:2055:C:OP1	29:C5:8:LYS:NZ	2.39	0.45
1:CA:2113:U:C2	1:CA:2114:A:N7	2.84	0.45
1:CA:2118:U:N3	1:CA:2149:G:H1'	2.31	0.45
8:CH:70:THR:HG22	8:CH:74:ASN:ND2	2.31	0.45
10:CL:115:LEU:HD12	10:CL:117:THR:OG1	2.16	0.45
13:CP:93:GLY:O	13:CP:123:LEU:HD22	2.15	0.45
22:CY:56:PRO:C	22:CY:58:GLY:H	2.19	0.45
26:C2:32:LEU:HD21	26:C2:50:ILE:HG23	1.98	0.45
34:DA:161:A:H2'	34:DA:162:A:O4'	2.16	0.45
34:DA:376:G:OP2	49:DP:67:THR:HG21	2.17	0.45
34:DA:428:G:C5	34:DA:430:A:C6	3.05	0.45
34:DA:663:A:H2'	34:DA:664:G:O4'	2.16	0.45
34:DA:747:C:H5''	34:DA:748:C:OP2	2.16	0.45
34:DA:834:C:H2'	34:DA:835:U:H6	1.81	0.45
34:DA:967:C:H2'	34:DA:968:A:C8	2.51	0.45
36:DC:182:ILE:HG23	36:DC:202:ILE:C	2.37	0.45
40:DG:121:ALA:HA	40:DG:124:LEU:HD12	1.98	0.45
47:DN:47:LEU:HB3	47:DN:53:LEU:HG	1.98	0.45
48:DO:7:GLU:OE2	48:DO:38:ARG:NH2	2.47	0.45
57:DZ:74:TRP:HE1	57:DZ:274:ASP:N	2.13	0.45
57:DZ:325:LEU:HD23	57:DZ:327:PHE:CE2	2.52	0.45
1:AA:1100:A:N6	1:AA:1151:U:N3	2.61	0.45
1:AA:1331:G:C5	1:AA:1375:U:C4	3.04	0.45
1:AA:1405:A:N1	1:AA:1418:U:C4	2.84	0.45
1:AA:2158:C:H42	1:AA:2177:G:H1	1.63	0.45
4:AD:168:ARG:HA	4:AD:173:VAL:HA	1.99	0.45
8:AH:154:PRO:HB3	8:AH:163:TYR:CE2	2.51	0.45
9:AK:4:LYS:HA	9:AK:5:ARG:HA	1.79	0.45
14:AQ:57:HIS:CE1	14:AQ:116:GLU:HG2	2.50	0.45
17:AT:120:ARG:HA	17:AT:123:GLN:HG3	1.98	0.45
34:BA:7:G:O2'	38:BE:120:THR:O	2.34	0.45
34:BA:402:G:O2'	34:BA:620:C:N3	2.45	0.45
34:BA:1004:A:H5'	34:BA:1024:G:H1	1.81	0.45
37:BD:88:VAL:HG12	37:BD:91:SER:H	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:BN:4:LYS:HA	47:BN:7:ILE:HG23	1.97	0.45
52:BS:82:GLY:O	52:BS:85:LYS:HE2	2.16	0.45
57:BZ:21:ILE:O	57:BZ:23:ALA:N	2.50	0.45
57:BZ:28:THR:O	57:BZ:29:THR:C	2.55	0.45
1:CA:781:A:C2	1:CA:1776:G:N3	2.85	0.45
1:CA:912:C:OP1	14:CQ:8:LYS:HE2	2.16	0.45
1:CA:2315:G:H5''	1:CA:2316:C:OP2	2.15	0.45
5:CE:4:ILE:HD13	5:CE:28:ALA:HB1	1.97	0.45
9:CK:118:THR:O	9:CK:120:LYS:N	2.49	0.45
13:CP:50:ARG:HD3	32:C8:7:HIS:CD2	2.51	0.45
16:CS:39:ILE:HG21	16:CS:82:ILE:HD13	1.97	0.45
16:CS:63:THR:HG23	16:CS:64:GLU:N	2.31	0.45
16:CS:69:VAL:O	16:CS:72:ALA:HB3	2.17	0.45
18:CU:74:LEU:HD23	18:CU:78:THR:HG22	1.98	0.45
18:CU:76:TYR:HH	18:CU:92:ARG:NH1	2.12	0.45
23:CZ:9:TYR:HE1	23:CZ:61:LEU:HB3	1.81	0.45
30:C6:28:ARG:O	30:C6:31:PRO:HD3	2.16	0.45
34:DA:201:C:H42	34:DA:216:G:H1	1.65	0.45
34:DA:360:A:H2'	34:DA:361:G:O4'	2.17	0.45
34:DA:429:U:H1'	34:DA:430:A:H5''	1.98	0.45
34:DA:448:A:C4	34:DA:487:A:C2	3.05	0.45
34:DA:724:G:N3	34:DA:725:G:C8	2.84	0.45
34:DA:936:C:H2'	34:DA:937:A:O4'	2.16	0.45
34:DA:983:A:H2	34:DA:984:C:C6	2.35	0.45
34:DA:1168:A:C6	34:DA:1169:A:C6	3.04	0.45
35:DB:84:GLU:HG3	35:DB:215:LEU:HB3	1.96	0.45
35:DB:125:PRO:O	35:DB:127:ILE:N	2.43	0.45
38:DE:92:LYS:HB3	38:DE:119:LEU:HB2	1.98	0.45
1:AA:346:A:OP2	6:AF:169:ASN:HB2	2.17	0.45
1:AA:1221:G:N3	1:AA:1222:A:H5'	2.31	0.45
1:AA:1417:G:HO2'	1:AA:1418:U:H5	1.61	0.45
1:AA:2652:G:OP1	11:AN:97:ARG:NH2	2.47	0.45
2:AB:29:A:H2'	2:AB:30:C:O4'	2.16	0.45
4:AD:130:ALA:C	4:AD:131:LEU:HD12	2.37	0.45
6:AF:101:LEU:O	6:AF:106:ARG:NH1	2.41	0.45
7:AG:11:TYR:HA	7:AG:15:VAL:HB	1.98	0.45
7:AG:108:ASN:HB3	28:A4:22:ILE:HD13	1.97	0.45
7:AG:145:THR:HG23	7:AG:148:MET:SD	2.57	0.45
13:AP:39:LYS:HG3	13:AP:45:LEU:HD11	1.97	0.45
18:AU:29:SER:O	18:AU:30:LYS:HD3	2.16	0.45
20:AW:78:GLU:OE2	20:AW:99:ARG:HD3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:35:G:O2'	45:BL:118:SER:O	2.25	0.45
34:BA:369:C:O2'	34:BA:370:C:H5'	2.17	0.45
34:BA:976:G:H5'	34:BA:1358:U:O2'	2.16	0.45
34:BA:1263:C:H2'	34:BA:1264:C:C6	2.51	0.45
34:BA:1297:C:H4'	34:BA:1298:C:H5'	1.99	0.45
36:BC:45:LYS:HE3	36:BC:45:LYS:HB2	1.70	0.45
39:BF:28:ARG:O	39:BF:32:ASN:ND2	2.49	0.45
43:BJ:70:ARG:HD3	43:BJ:70:ARG:HA	1.67	0.45
58:BX:6:2R1:OD1	58:BX:7:PRO:HD2	2.16	0.45
1:CA:321:G:O4'	6:CF:165:ARG:HG2	2.17	0.45
1:CA:666:G:H4'	13:CP:49:ARG:HH21	1.81	0.45
1:CA:1142(A):A:C4	1:CA:1144:G:C8	3.04	0.45
5:CE:50:GLY:HA2	5:CE:75:VAL:HG11	1.99	0.45
6:CF:192:LEU:HD22	6:CF:194:MET:HG3	1.97	0.45
8:CH:9:ILE:HD13	8:CH:72:ILE:HG22	1.99	0.45
15:CR:55:ALA:HB2	15:CR:79:LEU:CD1	2.46	0.45
25:C1:94:LEU:O	25:C1:97:LEU:HB2	2.17	0.45
34:DA:256:U:H2'	34:DA:257:G:C8	2.51	0.45
34:DA:392:G:H2'	34:DA:393:A:H8	1.80	0.45
34:DA:536:C:H2'	34:DA:537:G:C8	2.52	0.45
34:DA:543:C:O2'	34:DA:544:G:H5'	2.16	0.45
34:DA:664:G:P	51:DR:64:ARG:HH21	2.39	0.45
34:DA:967:C:H2'	34:DA:968:A:N7	2.31	0.45
34:DA:1040:U:H2'	34:DA:1041:A:C8	2.51	0.45
34:DA:1329:A:OP1	46:DM:29:ARG:HB2	2.16	0.45
40:DG:26:PHE:CZ	40:DG:30:ILE:HD11	2.52	0.45
42:DI:85:LEU:HB3	42:DI:92:TYR:CD2	2.51	0.45
56:DY:23:A:N6	56:DY:24:G:O6	2.50	0.45
1:AA:518:G:O6	63:AA:3944:HOH:O	2.20	0.45
1:AA:2080:A:H5''	1:AA:2081:A:OP2	2.16	0.45
2:AB:32:C:C2	2:AB:51:G:N2	2.84	0.45
4:AD:275:LYS:HB3	4:AD:276:LYS:H	1.39	0.45
7:AG:43:LEU:HB3	7:AG:44:GLY:H	1.50	0.45
15:AR:97:VAL:HG22	15:AR:114:VAL:HG13	1.99	0.45
20:AW:12:ILE:HD13	20:AW:17:VAL:HG22	1.99	0.45
34:BA:659:U:H2'	34:BA:660:G:H8	1.81	0.45
34:BA:721:G:C6	34:BA:733:A:C2	3.04	0.45
34:BA:864:A:H2'	34:BA:865:A:C8	2.51	0.45
34:BA:942:G:H21	42:BI:124:GLN:NE2	2.14	0.45
34:BA:1024:G:OP2	34:BA:1024:G:H8	1.99	0.45
34:BA:1173:G:H2'	34:BA:1174:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1203:C:H2'	34:BA:1204:A:C8	2.51	0.45
37:BD:13:ARG:NH1	37:BD:38:TYR:O	2.49	0.45
37:BD:22:LYS:HB2	61:BD:501:SF4:S3	2.57	0.45
40:BG:29:LYS:HD3	40:BG:29:LYS:HA	1.73	0.45
41:BH:112:LEU:HD12	41:BH:113:SER:N	2.31	0.45
56:BW:59:U:C4	56:BW:60:U:C4	3.05	0.45
57:BZ:21:ILE:C	57:BZ:23:ALA:H	2.20	0.45
57:BZ:179:ASP:N	57:BZ:184:LYS:O	2.40	0.45
57:BZ:321:TYR:H	57:BZ:321:TYR:HD2	1.65	0.45
57:BZ:536:LYS:H	57:BZ:536:LYS:HD2	1.82	0.45
1:CA:139:G:H21	21:CX:41:ASN:HD21	1.64	0.45
1:CA:253:C:OP2	32:C8:5:LYS:NZ	2.42	0.45
1:CA:866:A:C6	1:CA:914:C:C6	3.04	0.45
1:CA:1439:A:C2	1:CA:1553:A:C5	3.05	0.45
1:CA:2466:C:H5'	33:C9:5:ALA:HB3	1.98	0.45
4:CD:166:GLN:HB2	4:CD:174:ILE:HG22	1.97	0.45
5:CE:144:ARG:HB3	5:CE:145:LYS:H	1.29	0.45
8:CH:105:LEU:HD11	8:CH:148:ILE:HG23	1.98	0.45
13:CP:136:GLU:O	13:CP:140:ALA:HB3	2.17	0.45
23:CZ:73:GLN:O	23:CZ:87:ASP:N	2.34	0.45
34:DA:125:U:H2'	34:DA:126:G:H8	1.81	0.45
34:DA:1327:C:H2'	34:DA:1328:C:C6	2.51	0.45
35:DB:7:VAL:HG12	35:DB:8:LYS:HG2	1.99	0.45
35:DB:80:ILE:HG12	35:DB:80:ILE:O	2.16	0.45
36:DC:8:ILE:HG22	47:DN:49:HIS:O	2.16	0.45
37:DD:89:THR:O	37:DD:92:VAL:N	2.50	0.45
38:DE:78:HIS:CD2	38:DE:142:LEU:HD23	2.52	0.45
44:DK:43:SER:HB3	44:DK:68:ALA:HB2	1.97	0.45
45:DL:7:ILE:HG22	50:DQ:34:LYS:HZ2	1.81	0.45
45:DL:38:THR:OG1	45:DL:57:LYS:HB3	2.16	0.45
57:DZ:438:PHE:HB2	57:DZ:452:SER:O	2.16	0.45
1:AA:116:A:H3'	1:AA:117:A:H5''	1.97	0.45
1:AA:1946:C:H2'	1:AA:1947:C:O4'	2.17	0.45
1:AA:2157:A:N6	1:AA:2178:G:O2'	2.48	0.45
1:AA:2377:G:H4'	24:A0:60:PHE:CZ	2.52	0.45
3:AC:30:VAL:CG2	3:AC:31:LYS:N	2.78	0.45
3:AC:37:LYS:O	3:AC:38:PHE:HB3	2.17	0.45
3:AC:203:GLU:CD	3:AC:203:GLU:N	2.70	0.45
4:AD:96:HIS:HD2	4:AD:102:LYS:HG2	1.81	0.45
4:AD:175:LEU:HD12	4:AD:185:VAL:HG21	1.97	0.45
11:AN:4:TYR:CE2	18:AU:100:VAL:HG11	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:AZ:183:LEU:HB3	23:AZ:184:ALA:H	1.52	0.45
29:A5:35:GLU:HG3	29:A5:51:TYR:CD2	2.51	0.45
31:A7:24:THR:HG22	31:A7:27:GLY:N	2.17	0.45
34:BA:155:C:H2'	34:BA:156:G:C8	2.51	0.45
34:BA:411:A:C5	34:BA:429:U:C5	3.05	0.45
35:BB:91:PRO:HG3	35:BB:154:LEU:HB3	1.99	0.45
36:BC:152:ILE:HB	36:BC:199:LYS:HB2	1.98	0.45
1:CA:485:C:C2	1:CA:496:G:N2	2.85	0.45
1:CA:889:C:O2'	1:CA:890:A:O4'	2.31	0.45
1:CA:1015:G:H2'	1:CA:1016:G:H8	1.82	0.45
1:CA:1041:C:N3	1:CA:1114:G:N2	2.42	0.45
1:CA:1671:U:OP2	63:CA:3758:HOH:O	2.21	0.45
1:CA:1955:U:O2'	1:CA:1956:U:H5'	2.17	0.45
1:CA:1991:U:H2'	1:CA:1992:G:H5''	1.98	0.45
1:CA:2345:G:H4'	1:CA:2346:A:O5'	2.16	0.45
1:CA:2422:A:C5'	56:DY:76:A:N6	2.80	0.45
1:CA:2552:U:H6	1:CA:2552:U:O5'	1.99	0.45
2:CB:31:C:H2'	2:CB:32:C:H5'	1.99	0.45
7:CG:11:TYR:O	7:CG:16:ARG:N	2.50	0.45
8:CH:64:LEU:HD23	8:CH:67:LEU:HD23	1.98	0.45
11:CN:110:GLY:O	11:CN:114:ARG:HG3	2.16	0.45
13:CP:63:PRO:HG2	32:C8:25:MET:HB2	1.98	0.45
14:CQ:11:LYS:HE3	14:CQ:87:LYS:HG2	1.98	0.45
16:CS:63:THR:HG23	16:CS:64:GLU:H	1.81	0.45
18:CU:44:ASN:ND2	19:CV:75:PHE:HB3	2.32	0.45
20:CW:107:LEU:HD12	20:CW:107:LEU:HA	1.65	0.45
28:C4:58:ARG:NE	46:DM:80:ARG:HH12	2.15	0.45
34:DA:266:G:O2'	50:DQ:67:LYS:HB2	2.17	0.45
34:DA:429:U:H5'	37:DD:9:CYS:SG	2.56	0.45
34:DA:1342:C:H1'	42:DI:124:GLN:HG2	1.99	0.45
37:DD:199:ASN:O	37:DD:202:LEU:HB2	2.17	0.45
47:DN:26:ARG:HD3	47:DN:43:CYS:SG	2.56	0.45
49:DP:39:TYR:HD1	49:DP:49:LEU:HD22	1.81	0.45
50:DQ:51:TYR:CZ	50:DQ:73:VAL:HG11	2.51	0.45
57:DZ:73:PHE:HA	57:DZ:77:HIS:O	2.17	0.45
57:DZ:331:TYR:O	57:DZ:332:SER:HB3	2.16	0.45
57:DZ:536:LYS:H	57:DZ:536:LYS:HD2	1.81	0.45
1:AA:239:G:H2'	1:AA:240:A:C8	2.51	0.45
1:AA:949:C:H2'	1:AA:950:C:C6	2.52	0.45
1:AA:1074:A:H61	1:AA:1171:G:H2'	1.82	0.45
1:AA:1105:G:OP2	1:AA:1106:U:H3'	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1384:G:O2'	1:AA:1439:A:N1	2.41	0.45
1:AA:2228:G:H2'	1:AA:2229:A:C2	2.52	0.45
1:AA:2321:A:N6	1:AA:2322:A:N1	2.64	0.45
1:AA:2702:C:N4	1:AA:2726:A:H1'	2.31	0.45
1:AA:2705:A:H2'	1:AA:2706:G:C8	2.51	0.45
6:AF:53:THR:HG22	6:AF:56:GLU:H	1.82	0.45
15:AR:41:ALA:HB1	15:AR:114:VAL:HG22	1.99	0.45
19:AV:24:LYS:HE2	19:AV:24:LYS:HB3	1.71	0.45
23:AZ:69:THR:HG22	23:AZ:90:VAL:HA	1.98	0.45
26:A2:35:LEU:HD23	26:A2:35:LEU:HA	1.69	0.45
28:A4:59:PHE:HB2	52:BS:42:PRO:HG3	1.99	0.45
31:A7:3:ARG:O	31:A7:6:GLN:NE2	2.43	0.45
34:BA:452:A:O2'	34:BA:453:A:OP2	2.32	0.45
34:BA:517:G:H5'	34:BA:519:C:C2	2.52	0.45
34:BA:766:A:C8	34:BA:814:A:C6	3.05	0.45
34:BA:1036:G:H2'	34:BA:1036:G:N3	2.31	0.45
35:BB:166:ASP:O	35:BB:170:GLU:HB2	2.16	0.45
42:BI:78:LYS:HD3	42:BI:101:PHE:HD2	1.82	0.45
42:BI:113:LYS:HB2	42:BI:113:LYS:HE3	1.63	0.45
49:BP:17:TYR:HE2	49:BP:41:PRO:HG3	1.81	0.45
51:BR:53:ARG:NE	51:BR:59:SER:O	2.37	0.45
57:BZ:93:GLU:HB3	57:BZ:96:ARG:CZ	2.47	0.45
1:CA:330:A:H2	1:CA:1210:A:H2'	1.81	0.45
1:CA:363(C):G:H2'	1:CA:363(D):G:H8	1.82	0.45
1:CA:776:G:H4'	1:CA:777:A:O5'	2.17	0.45
1:CA:829:A:N7	1:CA:2248:C:H5'	2.31	0.45
1:CA:849:A:H2	27:C3:24:LYS:HG2	1.82	0.45
1:CA:1006:C:C2	1:CA:1138:G:N2	2.84	0.45
1:CA:1050:A:H2'	1:CA:1051:G:C8	2.52	0.45
1:CA:1063:G:O2'	10:CL:91:PRO:HG3	2.16	0.45
1:CA:1082:U:H5'	10:CL:117:THR:HB	1.98	0.45
1:CA:1568:G:H4'	4:CD:59:LYS:HG2	1.98	0.45
1:CA:1819:A:H5''	4:CD:158:ALA:HB3	1.99	0.45
1:CA:2272:U:H5''	1:CA:2273:A:OP1	2.16	0.45
1:CA:2351:G:H8	1:CA:2351:G:O5'	1.99	0.45
3:CC:203:GLU:CD	3:CC:203:GLU:N	2.70	0.45
7:CG:41:GLN:C	7:CG:43:LEU:H	2.20	0.45
14:CQ:8:LYS:HG2	14:CQ:9:TYR:CZ	2.52	0.45
15:CR:94:TYR:CD1	15:CR:94:TYR:N	2.83	0.45
20:CW:41:LYS:HE3	29:C5:25:LEU:HD11	1.98	0.45
26:C2:4:SER:HA	26:C2:7:ARG:NH1	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:515:G:N2	34:DA:537:G:C4	2.85	0.45
34:DA:1064:G:H21	34:DA:1190:G:H2'	1.82	0.45
34:DA:1147:C:N4	34:DA:1148:U:O4	2.50	0.45
34:DA:1328:C:OP1	54:DU:21:TYR:OH	2.28	0.45
34:DA:1530:G:H2'	34:DA:1531:A:O4'	2.17	0.45
35:DB:218:ALA:O	35:DB:222:ILE:HG23	2.17	0.45
57:DZ:164:MET:HB2	57:DZ:258:VAL:O	2.17	0.45
57:DZ:225:GLU:CD	57:DZ:225:GLU:H	2.20	0.45
1:AA:1006:C:OP2	63:AA:3942:HOH:O	2.20	0.45
1:AA:1014:U:H2'	1:AA:1015:C:C6	2.51	0.45
1:AA:1485:A:C2	1:AA:1600:A:C5	3.05	0.45
1:AA:1534:G:N2	1:AA:1548:C:C2	2.85	0.45
1:AA:2112:G:N2	25:A1:45:ASN:OD1	2.37	0.45
1:AA:2331:G:N1	16:AS:3:ARG:HA	2.31	0.45
3:AC:7:ARG:HH22	3:AC:219:MET:HB2	1.82	0.45
5:AE:120:TRP:CE2	5:AE:155:LYS:HG2	2.52	0.45
6:AF:155:LEU:HD12	6:AF:174:VAL:O	2.17	0.45
8:AH:56:SER:HG	8:AH:61:HIS:HD1	0.56	0.45
14:AQ:21:THR:HG21	14:AQ:101:ARG:HB2	1.98	0.45
34:BA:24:U:O2'	34:BA:25:C:H5'	2.17	0.45
34:BA:405:U:H3'	34:BA:406:G:H5'	1.99	0.45
34:BA:616:G:N2	34:BA:625:G:C4	2.85	0.45
34:BA:1126:U:O4	43:BJ:7:LYS:HE3	2.16	0.45
34:BA:1394:A:C5	34:BA:1501:C:H4'	2.51	0.45
37:BD:61:LYS:HD3	37:BD:206:PHE:CE1	2.52	0.45
37:BD:65:ARG:HD2	37:BD:70:ILE:O	2.16	0.45
44:BK:97:ALA:O	44:BK:101:SER:HB3	2.17	0.45
57:BZ:446:THR:HG23	57:BZ:448:GLN:HG2	1.98	0.45
57:BZ:526:VAL:HG23	57:BZ:566:THR:HG23	1.98	0.45
1:CA:1249:U:H2'	13:CP:18:ARG:HH22	1.82	0.45
1:CA:1352:U:P	63:CA:3759:HOH:O	2.73	0.45
1:CA:1690:A:H2'	1:CA:1691:C:O4'	2.17	0.45
1:CA:1709:U:O4'	1:CA:2860:A:H1'	2.17	0.45
1:CA:1805:U:O2	4:CD:50:THR:HB	2.17	0.45
1:CA:2070:G:H2'	1:CA:2071:A:C8	2.52	0.45
1:CA:2660:A:N6	57:DZ:634:MET:H	2.15	0.45
1:CA:2869:G:H2'	1:CA:2870:C:C6	2.52	0.45
3:CC:16:ASP:OD2	3:CC:19:LYS:HB2	2.17	0.45
3:CC:24:ASP:C	3:CC:24:ASP:OD1	2.55	0.45
4:CD:126:GLN:HA	4:CD:126:GLN:NE2	2.32	0.45
7:CG:142:PRO:HB3	28:C4:14:ILE:HD11	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:CO:44:LYS:HA	12:CO:44:LYS:HD3	1.70	0.45
17:CT:28:VAL:O	17:CT:46:GLU:HA	2.17	0.45
34:DA:11:G:C5	34:DA:12:U:C5	3.05	0.45
34:DA:355:C:H2'	34:DA:356:A:O4'	2.17	0.45
34:DA:414:A:N6	34:DA:431:A:N3	2.65	0.45
34:DA:542:G:OP1	37:DD:10:ARG:NH2	2.50	0.45
34:DA:618:C:N3	34:DA:622:A:N6	2.63	0.45
34:DA:663:A:O3'	51:DR:64:ARG:NH2	2.50	0.45
34:DA:1387:G:H2'	34:DA:1388:C:H6	1.81	0.45
35:DB:172:ILE:O	35:DB:176:GLU:N	2.32	0.45
42:DI:17:VAL:HG22	42:DI:63:ILE:HG12	1.98	0.45
57:DZ:-20:LEU:HD23	57:DZ:-20:LEU:HA	1.76	0.45
57:DZ:284:LEU:HD22	57:DZ:284:LEU:H	1.82	0.45
1:AA:954:C:C2'	1:AA:955:A:H5'	2.47	0.45
1:AA:1506:G:H5''	1:AA:1507:A:OP2	2.17	0.45
1:AA:1544:C:O4'	1:AA:1624:C:H4'	2.17	0.45
1:AA:1936:C:O2'	1:AA:1937:U:OP1	2.33	0.45
3:AC:16:ASP:OD2	3:AC:19:LYS:HB2	2.17	0.45
3:AC:22:THR:HG23	3:AC:25:GLU:OE1	2.17	0.45
3:AC:179:ALA:O	3:AC:180:SER:O	2.35	0.45
4:AD:261:LYS:HG3	4:AD:262:ARG:N	2.32	0.45
6:AF:20:LEU:HD22	6:AF:21:ALA:N	2.32	0.45
7:AG:80:PHE:HB2	7:AG:82:LEU:HB2	1.98	0.45
7:AG:114:ILE:HA	7:AG:140:ILE:HD11	1.98	0.45
19:AV:22:VAL:HG23	19:AV:23:GLU:O	2.16	0.45
34:BA:39:G:N7	34:BA:547:A:H8	2.15	0.45
34:BA:537:G:H2'	34:BA:538:G:C8	2.49	0.45
34:BA:1216:G:OP1	47:BN:2:ALA:HB3	2.17	0.45
36:BC:85:ARG:O	36:BC:89:GLU:HG2	2.17	0.45
42:BI:83:ARG:O	42:BI:86:VAL:HG22	2.17	0.45
44:BK:105:VAL:HG23	44:BK:105:VAL:O	2.17	0.45
49:BP:7:ALA:HB2	49:BP:20:VAL:HG11	1.98	0.45
57:BZ:-16:ILE:O	57:BZ:-13:GLN:HB3	2.16	0.45
57:BZ:70:THR:O	57:BZ:81:ILE:N	2.45	0.45
1:CA:862:G:H5'	2:CB:79:C:H4'	1.99	0.45
1:CA:945:A:C4	1:CA:2448:A:C2	3.05	0.45
1:CA:1682:G:H2'	1:CA:1683:C:C6	2.52	0.45
1:CA:1721:G:H8	1:CA:1741:A:H62	1.65	0.45
1:CA:2136:C:HO2'	1:CA:2137:C:C5'	2.30	0.45
1:CA:2336:A:H61	24:C0:43:THR:CG2	2.30	0.45
1:CA:2646:C:H2'	1:CA:2647:U:O4'	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:143:ASN:HD22	5:CE:147:PRO:HD3	1.81	0.45
16:CS:63:THR:HG23	16:CS:64:GLU:HG3	1.99	0.45
18:CU:76:TYR:CZ	18:CU:80:ILE:HG13	2.52	0.45
25:C1:23:LYS:HB3	25:C1:29:GLY:HA3	1.98	0.45
26:C2:21:LEU:HA	26:C2:21:LEU:HD23	1.72	0.45
34:DA:265:G:H2'	34:DA:267:C:H5	1.82	0.45
34:DA:577:G:O2'	34:DA:578:C:H5'	2.17	0.45
34:DA:834:C:H2'	34:DA:835:U:C6	2.52	0.45
34:DA:1255:G:O2'	34:DA:1258:G:O2'	2.34	0.45
38:DE:103:GLY:H	38:DE:106:PRO:HG2	1.81	0.45
50:DQ:10:VAL:HG13	50:DQ:19:VAL:HB	1.99	0.45
57:DZ:168:ILE:HG23	57:DZ:205:TYR:CE2	2.52	0.45
1:AA:63:A:O3'	21:AX:71:GLY:HA3	2.17	0.44
1:AA:493:G:OP1	31:A7:33:ARG:HD2	2.17	0.44
1:AA:789:G:H4'	1:AA:1723:A:H5'	1.98	0.44
1:AA:1047:A:OP2	63:AA:3947:HOH:O	2.21	0.44
1:AA:2143:G:O2'	3:AC:168:LYS:HB3	2.17	0.44
5:AE:178:GLU:H	5:AE:178:GLU:CD	2.21	0.44
18:AU:59:ARG:NH1	18:AU:59:ARG:HG2	2.32	0.44
34:BA:255:G:H2'	34:BA:256:U:C6	2.52	0.44
34:BA:584:G:OP2	50:BQ:87:LYS:NZ	2.46	0.44
34:BA:599:C:H4'	41:BH:130:GLY:C	2.37	0.44
34:BA:814:A:H2'	34:BA:816:A:H5''	1.98	0.44
34:BA:999:C:H42	34:BA:1042:G:H1	1.65	0.44
34:BA:1236:A:H2'	34:BA:1237:C:C6	2.52	0.44
56:BY:28:G:H2'	56:BY:29:G:C8	2.52	0.44
1:CA:696:G:O2'	1:CA:697:C:H5'	2.16	0.44
1:CA:996:A:N6	1:CA:1160:G:C6	2.85	0.44
1:CA:997:G:OP1	18:CU:92:ARG:HG2	2.17	0.44
1:CA:1053:C:H2'	1:CA:1054:A:O5'	2.17	0.44
1:CA:2465:C:O2	1:CA:2486:G:C2	2.70	0.44
6:CF:170:LEU:O	6:CF:173:VAL:N	2.39	0.44
7:CG:5:VAL:HG12	28:C4:25:TYR:CE1	2.51	0.44
20:CW:70:TYR:O	20:CW:107:LEU:HD12	2.17	0.44
21:CX:32:PRO:O	21:CX:77:LYS:HD3	2.16	0.44
22:CY:88:LYS:HB3	22:CY:88:LYS:HE2	1.79	0.44
23:CZ:9:TYR:CE1	23:CZ:61:LEU:HD12	2.53	0.44
23:CZ:73:GLN:HB3	23:CZ:87:ASP:CB	2.47	0.44
25:C1:21:ARG:HH11	25:C1:21:ARG:CG	2.29	0.44
28:C4:59:PHE:N	28:C4:60:GLN:HB2	2.32	0.44
34:DA:416:G:C5	34:DA:417:C:C4	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:601:C:C2	34:DA:638:G:N2	2.85	0.44
34:DA:612:C:H2'	34:DA:613:C:H6	1.81	0.44
34:DA:980:C:H1'	47:DN:19:ARG:HA	1.99	0.44
34:DA:1162:C:C2	34:DA:1175:G:C2	3.05	0.44
34:DA:1255:G:P	43:DJ:45:ARG:HH22	2.39	0.44
35:DB:22:LYS:HD2	35:DB:35:GLU:OE2	2.17	0.44
40:DG:101:LEU:O	40:DG:105:VAL:HG23	2.16	0.44
41:DH:51:VAL:HG12	41:DH:52:ASP:N	2.31	0.44
43:DJ:27:ALA:C	43:DJ:29:ARG:H	2.21	0.44
57:DZ:229:LEU:HA	57:DZ:232:LEU:HD23	1.97	0.44
57:DZ:319:ASP:HA	57:DZ:320:PRO:HD3	1.82	0.44
57:DZ:343:ASN:HD21	57:DZ:383:THR:HG23	1.81	0.44
58:DX:4:PRO:HA	58:DX:5:MVA:HN1	1.55	0.44
1:AA:1154:U:O2'	1:AA:1155:C:C6	2.70	0.44
1:AA:2027:A:H5''	1:AA:2028:C:OP2	2.17	0.44
1:AA:2589:A:O4'	29:A5:3:LYS:HB2	2.17	0.44
4:AD:89:SER:HB2	4:AD:159:ALA:CB	2.47	0.44
12:AO:105:GLU:O	12:AO:109:LYS:HG3	2.17	0.44
13:AP:95:VAL:HG13	13:AP:125:VAL:HB	1.99	0.44
15:AR:104:ARG:NH1	15:AR:107:ASP:OD2	2.51	0.44
17:AT:106:SER:OG	17:AT:109:GLU:HG3	2.17	0.44
18:AU:59:ARG:HG2	18:AU:59:ARG:HH11	1.81	0.44
34:BA:323:U:H2'	34:BA:324:G:O4'	2.18	0.44
34:BA:394:G:H2'	34:BA:395:C:H6	1.83	0.44
34:BA:921:U:O2	38:BE:19:MET:HB2	2.18	0.44
56:BY:48:C:OP1	56:BY:48:C:H2'	2.17	0.44
1:CA:83:G:O2'	1:CA:102:G:N2	2.44	0.44
1:CA:139:G:H21	21:CX:41:ASN:ND2	2.15	0.44
1:CA:639:U:H2'	1:CA:640:C:C6	2.51	0.44
1:CA:1094:U:N3	1:CA:1097:U:OP2	2.49	0.44
1:CA:1131:G:O6	1:CA:2040:C:H1'	2.17	0.44
3:CC:30:VAL:CG2	3:CC:31:LYS:N	2.78	0.44
3:CC:39:ASP:O	3:CC:178:LYS:HE3	2.17	0.44
12:CO:89:ASN:ND2	12:CO:89:ASN:H	2.15	0.44
14:CQ:59:ARG:HB2	23:CZ:180:VAL:H	1.82	0.44
22:CY:98:VAL:HG23	22:CY:99:CYS:O	2.17	0.44
34:DA:474:G:H2'	34:DA:475:G:H8	1.83	0.44
34:DA:481:G:H21	34:DA:482:A:N6	2.16	0.44
34:DA:688:G:H2'	34:DA:689:C:H6	1.82	0.44
34:DA:1321:C:H4'	46:DM:87:TYR:CE2	2.53	0.44
36:DC:10:PHE:HD1	47:DN:58:LYS:NZ	2.15	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:DD:42:GLN:O	37:DD:42:GLN:HG2	2.17	0.44
41:DH:64:LYS:HB2	41:DH:64:LYS:HE3	1.83	0.44
49:DP:39:TYR:CE1	49:DP:73:LEU:HD22	2.52	0.44
53:DT:26:ASN:OD1	53:DT:71:THR:HG23	2.17	0.44
56:DW:39:PSU:OP2	56:DW:39:PSU:H6	2.00	0.44
1:AA:904:C:H4'	24:A0:23:VAL:HG21	1.98	0.44
1:AA:2143:G:C4'	3:AC:168:LYS:NZ	2.81	0.44
1:AA:2416:C:O3'	13:AP:77:ARG:NH2	2.50	0.44
1:AA:2418:U:H6	1:AA:2418:U:H2'	1.61	0.44
4:AD:61:LEU:HD13	4:AD:61:LEU:HA	1.71	0.44
8:AH:3:ARG:NH1	8:AH:54:ARG:HH12	2.15	0.44
15:AR:65:LEU:O	15:AR:68:ARG:HB2	2.17	0.44
17:AT:33:LYS:O	17:AT:82:LEU:HD23	2.17	0.44
34:BA:134:A:N6	49:BP:25:ARG:NH1	2.58	0.44
34:BA:397:A:N6	34:BA:548:G:C5	2.85	0.44
34:BA:453:A:C5	34:BA:454:C:C4	3.05	0.44
34:BA:540:G:H2'	34:BA:541:G:O4'	2.18	0.44
34:BA:827:U:H2'	34:BA:859:A:H61	1.83	0.44
34:BA:954:G:H2'	34:BA:955:U:O4'	2.17	0.44
34:BA:1128:C:H1'	34:BA:1147:C:H42	1.83	0.44
34:BA:1347:G:C8	42:BI:107:ARG:HB2	2.53	0.44
36:BC:91:LEU:HD22	36:BC:101:LEU:HD22	1.99	0.44
38:BE:110:LEU:HD13	38:BE:118:ILE:HD13	2.00	0.44
40:BG:29:LYS:HB3	40:BG:105:VAL:HG21	1.99	0.44
41:BH:5:PRO:O	41:BH:8:ASP:HB3	2.16	0.44
42:BI:18:PHE:HD2	42:BI:62:TYR:HB3	1.82	0.44
42:BI:93:ARG:NH1	42:BI:93:ARG:HB2	2.32	0.44
46:BM:17:VAL:O	46:BM:20:THR:OG1	2.27	0.44
51:BR:34:TYR:CE1	51:BR:35:ARG:HD3	2.52	0.44
57:BZ:600:VAL:HA	57:BZ:684:GLN:NE2	2.32	0.44
1:CA:265:A:H8	1:CA:266:G:H1'	1.80	0.44
1:CA:433:C:H2'	1:CA:434:U:C6	2.52	0.44
1:CA:1013:C:H2'	1:CA:1014:U:C6	2.53	0.44
1:CA:2191:G:H2'	1:CA:2192:G:O4'	2.17	0.44
16:CS:34:HIS:ND1	16:CS:54:LEU:HB2	2.32	0.44
22:CY:68:HIS:O	22:CY:70:SER:N	2.51	0.44
23:CZ:111:VAL:O	23:CZ:112:ARG:HB3	2.17	0.44
34:DA:56:U:H2'	34:DA:57:G:H8	1.81	0.44
34:DA:66:G:C2	34:DA:67:C:C6	3.06	0.44
34:DA:113:G:O4'	34:DA:354:G:H4'	2.16	0.44
34:DA:1121:U:O5'	34:DA:1121:U:H6	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1183:A:H4'	34:DA:1184:G:OP2	2.17	0.44
34:DA:1324:A:H4'	34:DA:1362:C:O3'	2.17	0.44
36:DC:26:LYS:HE3	36:DC:26:LYS:HB3	1.64	0.44
37:DD:98:GLU:O	37:DD:100:ARG:N	2.51	0.44
41:DH:92:ARG:HB3	41:DH:94:TYR:CE2	2.52	0.44
47:DN:37:PHE:HE2	47:DN:53:LEU:HD22	1.83	0.44
57:DZ:74:TRP:HA	57:DZ:74:TRP:CE3	2.52	0.44
57:DZ:343:ASN:ND2	57:DZ:383:THR:HG23	2.33	0.44
57:DZ:356:LEU:HD12	57:DZ:356:LEU:HA	1.74	0.44
1:AA:116:A:O5'	1:AA:117:A:H5''	2.17	0.44
1:AA:387:G:H2'	1:AA:388:A:C8	2.49	0.44
1:AA:701:A:O2'	1:AA:702:A:H5'	2.17	0.44
1:AA:1117:G:H1'	1:AA:1135:G:C8	2.53	0.44
1:AA:1278:G:C6	1:AA:1279:C:C4	3.06	0.44
1:AA:1402:G:O6	63:AA:3946:HOH:O	2.21	0.44
1:AA:1529:G:N2	1:AA:1530:G:C4	2.86	0.44
1:AA:2274:U:OP2	24:A0:16:SER:OG	2.23	0.44
1:AA:2602:A:H2'	1:AA:2603:C:C6	2.52	0.44
3:AC:55:SER:C	3:AC:57:GLN:N	2.71	0.44
6:AF:122:LYS:HB3	6:AF:191:ARG:HG2	1.99	0.44
8:AH:154:PRO:HB3	8:AH:163:TYR:CZ	2.52	0.44
13:AP:112:LEU:HD13	13:AP:127:ALA:HB2	1.99	0.44
17:AT:128:GLU:O	17:AT:130:ALA:N	2.51	0.44
23:AZ:157:LEU:HD22	23:AZ:161:VAL:HG12	1.99	0.44
34:BA:472:A:O2'	49:BP:81:ARG:HA	2.18	0.44
34:BA:837:G:C2	34:BA:850:U:O2	2.70	0.44
34:BA:1129:C:C2	34:BA:1139:G:C6	3.06	0.44
34:BA:1237:C:O2'	34:BA:1300:G:N2	2.45	0.44
34:BA:1248:A:N3	42:BI:70:LYS:HE3	2.33	0.44
34:BA:1429:C:H2'	34:BA:1430:C:C6	2.52	0.44
35:BB:138:LEU:HA	35:BB:141:GLU:HB3	1.99	0.44
39:BF:62:TRP:CH2	39:BF:64:GLN:HB2	2.52	0.44
41:BH:58:TYR:O	41:BH:59:LEU:HD23	2.18	0.44
43:BJ:7:LYS:O	43:BJ:8:LEU:HD23	2.17	0.44
44:BK:102:GLY:O	44:BK:103:LEU:HD23	2.16	0.44
46:BM:59:TYR:O	46:BM:63:THR:OG1	2.34	0.44
57:BZ:21:ILE:H	57:BZ:21:ILE:HG12	1.48	0.44
57:BZ:403:GLU:HG2	57:BZ:404:VAL:HG22	1.99	0.44
57:BZ:483:TYR:C	57:BZ:484:ARG:HE	2.16	0.44
1:CA:308:G:H2'	1:CA:309:G:O4'	2.17	0.44
1:CA:704:G:N3	1:CA:726:G:C2	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:915:C:H2'	1:CA:916:G:H5'	1.99	0.44
1:CA:1231:G:H2'	1:CA:1232:G:C8	2.52	0.44
1:CA:2729:G:H2'	1:CA:2730:C:H6	1.82	0.44
3:CC:179:ALA:O	3:CC:180:SER:O	2.35	0.44
7:CG:97:ASP:O	7:CG:100:TRP:N	2.50	0.44
8:CH:17:VAL:O	8:CH:45:VAL:HG21	2.18	0.44
10:CL:117:THR:HG21	10:CL:126:MET:SD	2.58	0.44
13:CP:95:VAL:HG22	13:CP:125:VAL:HB	1.98	0.44
14:CQ:56:ARG:HE	14:CQ:56:ARG:HB3	1.36	0.44
15:CR:57:ARG:NE	15:CR:59:ASP:OD1	2.42	0.44
17:CT:90:GLN:OE1	17:CT:91:ARG:N	2.38	0.44
20:CW:60:ASN:N	20:CW:60:ASN:ND2	2.65	0.44
34:DA:102:G:H2'	34:DA:103:C:C6	2.53	0.44
34:DA:448:A:C2	34:DA:449:C:C2	3.05	0.44
34:DA:522:C:H41	45:DL:53:ARG:NH2	2.06	0.44
34:DA:838:G:N2	34:DA:849:C:O2	2.51	0.44
39:DF:19:LEU:O	39:DF:19:LEU:HD23	2.17	0.44
42:DI:17:VAL:HG11	42:DI:81:ILE:HA	1.99	0.44
48:DO:63:ARG:O	48:DO:67:LEU:HD12	2.17	0.44
1:AA:334:A:C2	1:AA:354:A:C4	3.05	0.44
1:AA:907:U:H1'	1:AA:2280:A:H5'	1.99	0.44
1:AA:1417:G:C2'	1:AA:1418:U:H5	2.30	0.44
1:AA:1833:A:N1	1:AA:1853:G:H1'	2.32	0.44
2:AB:30:C:H2'	2:AB:31:C:H5'	1.98	0.44
6:AF:198:ALA:HA	6:AF:201:VAL:HG13	2.00	0.44
8:AH:83:TYR:CE1	8:AH:138:LYS:HD2	2.53	0.44
8:AH:121:ILE:HD13	8:AH:121:ILE:HA	1.75	0.44
17:AT:24:PRO:HA	17:AT:49:VAL:O	2.18	0.44
23:AZ:183:LEU:HA	23:AZ:183:LEU:HD12	1.42	0.44
28:A4:35:VAL:HG22	28:A4:36:CYS:N	2.31	0.44
28:A4:53:GLU:HB2	28:A4:54:GLY:O	2.17	0.44
34:BA:401:C:H1'	34:BA:622:A:H1'	2.00	0.44
34:BA:559:A:P	38:BE:126:ARG:HH22	2.41	0.44
34:BA:1464:G:H2'	34:BA:1465:C:H6	1.83	0.44
35:BB:178:ARG:HH12	41:BH:68:ARG:HH22	1.65	0.44
37:BD:202:LEU:HD23	37:BD:202:LEU:HA	1.68	0.44
43:BJ:18:ALA:HA	43:BJ:21:GLN:HB2	1.98	0.44
48:BO:9:GLN:C	48:BO:11:VAL:H	2.21	0.44
49:BP:4:ILE:N	49:BP:65:GLN:O	2.45	0.44
52:BS:40:ILE:HG12	52:BS:71:LEU:HD12	1.97	0.44
57:BZ:130:VAL:HA	57:BZ:131:PRO:HD3	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:600:VAL:HG23	57:BZ:684:GLN:OE1	2.17	0.44
1:CA:332:A:C2	1:CA:335:C:C5	3.05	0.44
1:CA:887:A:OP1	1:CA:888:C:N4	2.50	0.44
1:CA:1221(A):C:N3	1:CA:1229:G:C2	2.85	0.44
1:CA:1420:U:O2'	1:CA:1421:G:OP1	2.33	0.44
1:CA:1448:G:H21	1:CA:1528(A):A:H2	1.63	0.44
1:CA:1796:U:H2'	1:CA:1797:C:C6	2.53	0.44
1:CA:2070:G:C2	1:CA:2442:C:C2	3.06	0.44
6:CF:120:GLU:OE1	6:CF:122:LYS:HG3	2.18	0.44
7:CG:19:LEU:HD11	7:CG:172:LEU:HB2	2.00	0.44
13:CP:44:GLY:HA2	13:CP:45:LEU:HB2	1.99	0.44
13:CP:65:ARG:HG3	32:C8:25:MET:CG	2.48	0.44
13:CP:81:GLN:NE2	13:CP:105:LEU:O	2.51	0.44
14:CQ:8:LYS:HG2	14:CQ:9:TYR:CE2	2.52	0.44
19:CV:98:GLU:OE1	19:CV:100:ARG:HD3	2.16	0.44
20:CW:65:LEU:HD12	20:CW:68:ARG:HE	1.81	0.44
23:CZ:119:GLU:OE2	23:CZ:122:ARG:NH1	2.50	0.44
24:C0:82:ARG:HB2	24:C0:82:ARG:NH1	2.32	0.44
34:DA:377:G:C2'	34:DA:378:G:H5'	2.47	0.44
34:DA:598:U:H4'	41:DH:94:TYR:CD1	2.52	0.44
34:DA:1085:U:O4'	34:DA:1094:G:N1	2.50	0.44
34:DA:1147:C:H4'	42:DI:5:TYR:CE2	2.53	0.44
34:DA:1228:C:H2'	34:DA:1229:A:C8	2.52	0.44
35:DB:15:VAL:HB	35:DB:209:ARG:HB3	1.98	0.44
35:DB:162:ILE:HG13	35:DB:184:VAL:HG13	1.99	0.44
35:DB:212:GLN:O	35:DB:216:SER:OG	2.15	0.44
36:DC:157:ILE:HG21	36:DC:164:ARG:HH21	1.83	0.44
39:DF:62:TRP:CD1	51:DR:35:ARG:CZ	3.00	0.44
49:DP:75:ARG:HG3	49:DP:80:PHE:CD2	2.52	0.44
1:AA:469:A:C6	6:AF:45:ARG:HD2	2.52	0.44
1:AA:937:A:C5	1:AA:938:G:C8	3.06	0.44
1:AA:2442:A:H2'	1:AA:2442:A:N3	2.32	0.44
1:AA:2564:U:H2'	1:AA:2566:U:OP2	2.18	0.44
1:AA:2722:C:H2'	1:AA:2723:A:C8	2.52	0.44
3:AC:24:ASP:C	3:AC:24:ASP:OD1	2.55	0.44
5:AE:51:PHE:CE2	5:AE:52:LEU:HG	2.53	0.44
5:AE:73:GLU:HA	5:AE:74:PRO:HD3	1.86	0.44
12:AO:49:ARG:HH22	34:BA:1423:G:P	2.36	0.44
17:AT:107:ASP:HA	17:AT:110:ILE:HD12	1.99	0.44
22:AY:97:ARG:HB2	22:AY:97:ARG:HH11	1.82	0.44
23:AZ:110:GLY:HA3	23:AZ:174:VAL:HG11	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:A4:55:ARG:HA	28:A4:55:ARG:HD3	1.72	0.44
34:BA:450:G:C8	34:BA:481:G:C6	3.05	0.44
34:BA:805:C:H2'	34:BA:806:C:H5'	2.00	0.44
41:BH:25:ASP:OD1	41:BH:60:ARG:HG3	2.17	0.44
51:BR:53:ARG:HA	51:BR:56:THR:HG1	1.82	0.44
52:BS:41:VAL:HG13	52:BS:42:PRO:HD2	2.00	0.44
52:BS:48:THR:O	52:BS:48:THR:OG1	2.24	0.44
1:CA:262:A:H2'	1:CA:263:C:O4'	2.18	0.44
1:CA:530:G:C6	1:CA:2022:U:H5''	2.53	0.44
1:CA:836:G:C6	1:CA:837:C:C4	3.06	0.44
1:CA:848:G:N9	1:CA:933:A:H8	2.16	0.44
1:CA:851:U:C5'	27:C3:49:LYS:HD2	2.47	0.44
1:CA:861:A:C2	1:CA:917:A:C4	3.05	0.44
1:CA:994:C:O2	19:CV:10:LYS:NZ	2.38	0.44
1:CA:1488:G:C6	1:CA:1489:U:N3	2.86	0.44
1:CA:1500:G:C6	1:CA:1501:C:C4	3.05	0.44
1:CA:1641:A:H2'	1:CA:1642:G:O4'	2.18	0.44
1:CA:2721:A:H2'	1:CA:2722:G:O4'	2.18	0.44
3:CC:22:THR:HG23	3:CC:25:GLU:OE1	2.17	0.44
3:CC:55:SER:C	3:CC:57:GLN:N	2.71	0.44
4:CD:153:ALA:O	4:CD:157:ARG:NH1	2.51	0.44
4:CD:265:PRO:O	4:CD:267:SER:N	2.51	0.44
5:CE:163:GLU:HG2	5:CE:164:ARG:N	2.33	0.44
7:CG:142:PRO:HG2	7:CG:143:GLU:OE1	2.18	0.44
11:CN:34:LEU:HD12	11:CN:34:LEU:HA	1.48	0.44
16:CS:4:LEU:HD22	16:CS:8:GLU:OE2	2.16	0.44
28:C4:33:VAL:HG12	28:C4:34:GLU:H	1.81	0.44
34:DA:235:C:H2'	34:DA:236:G:H8	1.83	0.44
34:DA:421:U:OP2	34:DA:422:C:H5	2.00	0.44
34:DA:438:G:H4'	37:DD:123:HIS:ND1	2.33	0.44
34:DA:579:G:H2'	34:DA:580:U:C6	2.53	0.44
34:DA:599:C:H5''	41:DH:95:VAL:O	2.17	0.44
37:DD:105:VAL:HG21	37:DD:126:ILE:HD12	2.00	0.44
54:DU:9:ARG:O	54:DU:13:ILE:HG13	2.17	0.44
56:DY:55:PSU:HN1	56:DY:57:G:H5'	1.82	0.44
57:DZ:170:ARG:HA	57:DZ:170:ARG:HD3	1.77	0.44
57:DZ:610:VAL:HG11	57:DZ:655:TYR:OH	2.17	0.44
1:AA:154:G:C6	1:AA:155:C:N4	2.86	0.44
1:AA:438:G:C5	13:AP:72:PRO:HB3	2.53	0.44
1:AA:990:A:C2	63:AA:4224:HOH:O	2.56	0.44
1:AA:1730:C:H2'	1:AA:1731:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1752:G:C6	1:AA:1753:U:C4	3.05	0.44
1:AA:1765:U:H2'	1:AA:1766:G:O4'	2.18	0.44
10:AL:105:LEU:HD22	10:AL:120:LEU:HD22	1.99	0.44
13:AP:71:VAL:HA	13:AP:72:PRO:HA	1.64	0.44
20:AW:20:VAL:HG11	20:AW:44:ALA:HA	2.00	0.44
34:BA:1183:A:H3'	34:BA:1184:G:C5'	2.46	0.44
46:BM:15:VAL:HG12	46:BM:19:LEU:CD1	2.47	0.44
49:BP:17:TYR:CE2	49:BP:41:PRO:HG3	2.52	0.44
49:BP:20:VAL:HG22	49:BP:21:VAL:N	2.31	0.44
50:BQ:84:LEU:O	50:BQ:87:LYS:HB2	2.18	0.44
57:BZ:123:ARG:CZ	57:BZ:123:ARG:HB2	2.46	0.44
57:BZ:405:PRO:HG2	57:BZ:439:ARG:NH2	2.33	0.44
1:CA:110:G:N3	1:CA:111:A:C8	2.86	0.44
1:CA:657:U:H2'	1:CA:658:C:C6	2.53	0.44
1:CA:853:G:H1	1:CA:924:C:H42	1.66	0.44
1:CA:992:C:OP1	19:CV:74:LYS:NZ	2.29	0.44
1:CA:1241:A:C2	1:CA:1242:A:C5	3.05	0.44
1:CA:1641:A:N6	1:CA:1642:G:C2	2.86	0.44
1:CA:2136:C:O2'	1:CA:2137:C:O5'	2.31	0.44
1:CA:2392:A:OP2	32:C8:31:HIS:NE2	2.47	0.44
1:CA:2544:G:H1'	1:CA:2646:C:H4'	1.99	0.44
1:CA:2743:C:H2'	1:CA:2744:G:O4'	2.18	0.44
3:CC:30:VAL:CG2	3:CC:31:LYS:H	2.27	0.44
3:CC:194:ILE:HD11	3:CC:227:PRO:HB2	1.99	0.44
5:CE:111:ARG:HD2	5:CE:160:TYR:CE2	2.51	0.44
7:CG:138:GLN:OE1	7:CG:153:ARG:N	2.51	0.44
10:CL:90:LYS:HA	10:CL:91:PRO:HD3	1.70	0.44
12:CO:77:ILE:HG13	17:CT:74:ARG:HG2	1.99	0.44
12:CO:97:ARG:CZ	12:CO:99:PHE:HE2	2.31	0.44
23:CZ:99:TYR:CE2	23:CZ:125:LEU:HD13	2.53	0.44
23:CZ:132:ASN:O	23:CZ:134:PRO:HD3	2.18	0.44
34:DA:46:G:H2'	34:DA:366:C:H5	1.82	0.44
34:DA:444:C:H2'	34:DA:445:G:C8	2.53	0.44
34:DA:690:G:H2'	34:DA:691:G:O4'	2.17	0.44
34:DA:1375:A:H2'	34:DA:1376:U:O4'	2.17	0.44
48:DO:55:GLY:HA2	48:DO:58:MET:HE3	1.99	0.44
49:DP:22:THR:HG23	49:DP:23:ASP:O	2.18	0.44
57:DZ:74:TRP:CD1	57:DZ:273:LEU:HB3	2.53	0.44
57:DZ:129:LYS:HA	57:DZ:253:LEU:HD21	1.99	0.44
57:DZ:219:VAL:C	57:DZ:221:ALA:H	2.21	0.44
57:DZ:325:LEU:HD23	57:DZ:327:PHE:CZ	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:630:GLN:HG2	57:DZ:646:PHE:O	2.18	0.44
1:AA:975:U:H4'	1:AA:976:G:O5'	2.18	0.44
1:AA:1686:U:O2'	1:AA:1687:C:H5'	2.18	0.44
1:AA:2768:C:C4	33:A9:19:ARG:NH1	2.86	0.44
4:AD:242:ARG:HG2	4:AD:246:PRO:HG3	1.99	0.44
8:AH:88:LEU:HA	8:AH:88:LEU:HD13	1.68	0.44
18:AU:76:TYR:CZ	18:AU:80:ILE:HG13	2.53	0.44
34:BA:1233:G:H2'	34:BA:1234:C:H6	1.79	0.44
35:BB:209:ARG:O	35:BB:212:GLN:HB2	2.18	0.44
39:BF:49:ALA:N	51:BR:77:GLY:O	2.28	0.44
40:BG:57:GLU:HA	40:BG:58:PRO:HD2	1.89	0.44
41:BH:37:ARG:HE	41:BH:37:ARG:HB3	1.34	0.44
57:BZ:-2:ALA:O	57:BZ:0:ARG:N	2.51	0.44
57:BZ:110:SER:HB2	57:BZ:137:ASN:O	2.16	0.44
57:BZ:363:ARG:HH11	57:BZ:363:ARG:CB	2.31	0.44
1:CA:328:U:H4'	22:CY:68:HIS:CG	2.53	0.44
1:CA:873:G:N2	1:CA:905:U:O2	2.51	0.44
1:CA:1045:A:O4'	1:CA:1047:G:H8	2.01	0.44
1:CA:1297:C:OP1	1:CA:2710:C:H4'	2.18	0.44
1:CA:1340:U:OP1	21:CX:16:LYS:NZ	2.46	0.44
1:CA:1363:C:H2'	1:CA:1364:G:C8	2.52	0.44
1:CA:1512:U:H2'	1:CA:1513:C:C6	2.50	0.44
1:CA:2415:G:C6	1:CA:2416:C:C4	3.06	0.44
1:CA:2660:A:H2'	1:CA:2661:G:O4'	2.18	0.44
1:CA:2869:G:H8	1:CA:2869:G:O5'	2.00	0.44
14:CQ:139:GLU:OE1	14:CQ:139:GLU:N	2.50	0.44
19:CV:76:LYS:HB2	19:CV:81:TYR:HD2	1.82	0.44
20:CW:75:TYR:CE1	20:CW:104:THR:HB	2.53	0.44
22:CY:29:GLU:HB3	22:CY:38:ILE:HG13	1.99	0.44
24:C0:23:VAL:HG22	24:C0:38:VAL:HG22	2.00	0.44
25:C1:83:GLU:HA	25:C1:84:GLY:HA2	1.60	0.44
31:C7:11:LYS:O	31:C7:15:THR:HB	2.18	0.44
34:DA:1479:C:H2'	34:DA:1480:G:C8	2.52	0.44
34:DA:1483:A:H2'	34:DA:1484:C:O4'	2.18	0.44
35:DB:175:ARG:O	35:DB:179:LYS:HB2	2.17	0.44
37:DD:158:ILE:O	37:DD:162:LEU:HB2	2.18	0.44
38:DE:75:THR:HG23	38:DE:76:ILE:O	2.18	0.44
39:DF:67:MET:HE3	39:DF:75:LEU:HG	1.99	0.44
43:DJ:37:PRO:HA	43:DJ:72:VAL:HG13	1.99	0.44
51:DR:52:PRO:O	51:DR:56:THR:HG23	2.17	0.44
56:DY:51:U:O2	56:DY:63:G:N2	2.33	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:DZ:6:GLU:HA	57:DZ:9:LEU:CD2	2.48	0.44
1:AA:85:C:O2'	1:AA:86:C:H5'	2.18	0.44
1:AA:310:C:C2'	1:AA:311:C:H5'	2.48	0.44
1:AA:1015:C:O2	1:AA:1030:A:O2'	2.29	0.44
1:AA:1410:G:C8	25:A1:3:LYS:HE2	2.52	0.44
1:AA:1550:C:H2'	1:AA:1551:C:C6	2.52	0.44
1:AA:1553:A:HO2'	1:AA:1554:A:P	2.41	0.44
1:AA:1781:G:N3	1:AA:2870:A:H2	2.15	0.44
1:AA:2181:G:H2'	1:AA:2182:G:H8	1.83	0.44
1:AA:2213:G:H5'	1:AA:2214:G:OP2	2.18	0.44
1:AA:2584:A:N7	5:AE:144:ARG:HD2	2.32	0.44
2:AB:66:A:C6	2:AB:109:C:C6	3.06	0.44
3:AC:39:ASP:O	3:AC:178:LYS:HE3	2.17	0.44
4:AD:223:GLY:HA3	4:AD:231:HIS:CE1	2.53	0.44
22:AY:96:ILE:HD12	22:AY:98:VAL:CG1	2.48	0.44
24:A0:10:THR:CG2	24:A0:12:ASN:HB2	2.48	0.44
34:BA:149:A:H2'	34:BA:150:C:C6	2.52	0.44
34:BA:192:U:H2'	34:BA:193:C:C6	2.53	0.44
34:BA:322:C:O3'	53:BT:23:ARG:HB2	2.17	0.44
34:BA:502:G:OP1	45:BL:116:SER:HA	2.18	0.44
34:BA:1112:C:H1'	36:BC:179:ARG:HG2	2.00	0.44
34:BA:1112:C:N3	36:BC:178:LEU:N	2.52	0.44
34:BA:1227:A:OP2	46:BM:96:LEU:HD21	2.18	0.44
34:BA:1502:A:H2	34:BA:1505:G:H22	1.66	0.44
41:BH:97:VAL:O	41:BH:100:ILE:HG13	2.18	0.44
42:BI:17:VAL:HG21	42:BI:81:ILE:HG22	1.99	0.44
50:BQ:41:LYS:NZ	50:BQ:92:ARG:HH21	2.11	0.44
52:BS:81:ARG:HE	52:BS:81:ARG:HB2	1.63	0.44
53:BT:97:ALA:O	53:BT:99:LEU:N	2.46	0.44
57:BZ:-23:LEU:C	57:BZ:-21:ALA:H	2.22	0.44
1:CA:333:G:H5''	1:CA:334:C:OP2	2.18	0.44
1:CA:1837:C:OP1	34:DA:784:C:H4'	2.17	0.44
1:CA:2275:C:H5'	1:CA:2275:C:H6	1.83	0.44
1:CA:2404:C:O3'	13:CP:77:ARG:NH2	2.50	0.44
2:CB:48:A:P	16:CS:30:ARG:HH12	2.41	0.44
2:CB:107:G:OP1	23:CZ:31:ARG:NH2	2.48	0.44
3:CC:211:ARG:HG2	3:CC:211:ARG:HH11	1.81	0.44
14:CQ:118:LEU:HD23	14:CQ:118:LEU:HA	1.80	0.44
16:CS:68:GLN:HA	16:CS:71:ARG:HG3	1.99	0.44
17:CT:66:VAL:HA	17:CT:71:GLY:HA2	2.00	0.44
18:CU:65:ILE:O	18:CU:69:CYS:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:C6:3:SER:OG	30:C6:5:VAL:HG13	2.17	0.44
34:DA:302:G:O2'	34:DA:556:C:H5''	2.18	0.44
34:DA:757:U:H2'	34:DA:758:G:O4'	2.18	0.44
35:DB:25:ASN:HA	35:DB:26:PRO:HD3	1.76	0.44
35:DB:175:ARG:HB3	35:DB:175:ARG:CZ	2.48	0.44
37:DD:171:GLY:HA2	37:DD:172:PRO:HD2	1.76	0.44
40:DG:51:GLN:O	40:DG:55:GLY:HA2	2.18	0.44
43:DJ:38:ILE:CG1	43:DJ:71:LEU:HB3	2.47	0.44
48:DO:78:TYR:C	48:DO:80:ALA:H	2.21	0.44
1:AA:239:G:C6	1:AA:240:A:C6	3.05	0.43
3:AC:54:ARG:HH22	3:AC:56:ASP:HB3	1.76	0.43
3:AC:194:ILE:HD11	3:AC:227:PRO:HB2	1.99	0.43
4:AD:17:THR:O	4:AD:204:ILE:HG23	2.18	0.43
8:AH:3:ARG:HD2	8:AH:3:ARG:HA	1.71	0.43
18:AU:74:LEU:HD12	18:AU:74:LEU:H	1.83	0.43
23:AZ:48:PHE:CE2	23:AZ:71:VAL:HG11	2.53	0.43
23:AZ:100:VAL:HA	23:AZ:101:PRO:HD3	1.83	0.43
25:A1:91:LYS:O	25:A1:95:LEU:HD22	2.18	0.43
28:A4:35:VAL:HG22	28:A4:36:CYS:H	1.81	0.43
31:A7:5:TRP:HA	31:A7:5:TRP:CE3	2.52	0.43
33:A9:11:CYS:HB3	33:A9:32:HIS:HE1	1.82	0.43
34:BA:401:C:OP2	37:BD:73:ARG:NH1	2.51	0.43
34:BA:454:C:H5''	34:BA:455:C:OP2	2.18	0.43
34:BA:1072:G:C2	34:BA:1073:U:C2	3.05	0.43
36:BC:184:TYR:HE1	36:BC:199:LYS:HB3	1.83	0.43
57:BZ:284:LEU:HD12	57:BZ:284:LEU:HA	1.76	0.43
57:BZ:487:ILE:O	57:BZ:516:PRO:HB3	2.18	0.43
1:CA:2331:G:H4'	24:C0:43:THR:H	1.83	0.43
1:CA:2689:U:OP2	1:CA:2719:G:N2	2.45	0.43
3:CC:7:ARG:HH22	3:CC:219:MET:HB2	1.82	0.43
4:CD:41:GLY:O	4:CD:43:ARG:HD2	2.18	0.43
8:CH:8:PRO:HA	8:CH:50:VAL:O	2.18	0.43
16:CS:5:THR:OG1	16:CS:8:GLU:OE2	2.35	0.43
17:CT:54:ARG:HA	17:CT:59:THR:HB	2.00	0.43
18:CU:90:VAL:O	18:CU:95:LEU:HD22	2.17	0.43
34:DA:1074:G:O2'	34:DA:1101:A:N1	2.39	0.43
34:DA:1307:U:H5''	46:DM:101:GLN:HE22	1.82	0.43
35:DB:179:LYS:HG3	41:DH:72:PRO:HG3	2.00	0.43
38:DE:11:ILE:HB	38:DE:31:LEU:HD12	1.99	0.43
48:DO:5:LYS:H	48:DO:5:LYS:HD3	1.82	0.43
48:DO:24:SER:OG	48:DO:25:THR:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:DO:28:GLN:HE21	48:DO:28:GLN:HB3	1.66	0.43
57:DZ:-9:LEU:O	57:DZ:-7:GLU:N	2.51	0.43
57:DZ:243:VAL:HG13	57:DZ:279:TYR:HE1	1.82	0.43
1:AA:152:G:H2'	1:AA:153:C:H6	1.82	0.43
1:AA:1204:C:H4'	27:A3:32:GLN:HB2	2.01	0.43
1:AA:1298:G:C2	18:AU:33:ARG:HG2	2.53	0.43
1:AA:1739:U:H2'	1:AA:1741:C:C5	2.54	0.43
1:AA:1993:A:H5'	1:AA:1994:A:H5''	2.00	0.43
1:AA:2227:G:H5'	1:AA:2228:G:C5	2.52	0.43
63:AA:4809:HOH:O	5:AE:159:HIS:HB3	2.17	0.43
6:AF:53:THR:CG2	6:AF:55:GLY:H	2.31	0.43
7:AG:8:LYS:HD3	7:AG:100:TRP:NE1	2.33	0.43
8:AH:3:ARG:HG3	8:AH:5:GLY:H	1.81	0.43
13:AP:2:LYS:HZ2	13:AP:4:SER:H	1.65	0.43
29:A5:16:ARG:NH1	29:A5:17:ASP:OD1	2.50	0.43
34:BA:377:G:OP1	49:BP:5:ARG:HD2	2.18	0.43
34:BA:1435:G:O5'	34:BA:1435:G:H8	2.02	0.43
38:BE:27:ARG:HE	38:BE:27:ARG:HB2	1.38	0.43
39:BF:49:ALA:HB2	51:BR:78:LEU:O	2.17	0.43
41:BH:51:VAL:HG21	41:BH:60:ARG:HB2	1.99	0.43
41:BH:53:VAL:O	41:BH:56:LYS:HG2	2.18	0.43
57:BZ:119:GLU:HB3	57:BZ:123:ARG:NH2	2.33	0.43
1:CA:302:C:H42	1:CA:315:G:H1	1.65	0.43
1:CA:309:G:O3'	22:CY:18:GLY:HA2	2.18	0.43
1:CA:530:G:N3	1:CA:530:G:O4'	2.49	0.43
1:CA:774:A:H2'	1:CA:774:A:N3	2.32	0.43
1:CA:1279:G:H2'	1:CA:1280:G:O4'	2.17	0.43
1:CA:1355:G:OP1	4:CD:38:LYS:HE2	2.18	0.43
1:CA:1657:C:O2'	1:CA:1658:C:H5'	2.19	0.43
1:CA:1798:U:H5''	4:CD:260:ARG:HB3	2.00	0.43
1:CA:2729:G:H1'	63:CE:402:HOH:O	2.18	0.43
4:CD:166:GLN:OE1	4:CD:166:GLN:HA	2.18	0.43
5:CE:97:LYS:N	5:CE:100:GLU:OE1	2.48	0.43
7:CG:120:LEU:HB3	7:CG:121:ASN:H	1.66	0.43
13:CP:97:PRO:HB2	13:CP:98:GLU:OE2	2.19	0.43
14:CQ:135:ASP:HB3	14:CQ:136:ALA:H	1.57	0.43
26:C2:59:ARG:O	26:C2:63:VAL:HG23	2.18	0.43
30:C6:13:CYS:O	30:C6:17:LYS:HA	2.18	0.43
34:DA:256:U:H5'	50:DQ:17:LYS:HZ2	1.83	0.43
34:DA:391:G:C6	34:DA:392:G:C5	3.06	0.43
34:DA:757:U:OP1	34:DA:822:C:O2'	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1239:A:O2'	40:DG:114:ARG:O	2.36	0.43
36:DC:22:TRP:HB2	36:DC:23:TYR:H	1.67	0.43
37:DD:79:PHE:O	37:DD:82:ALA:HB3	2.18	0.43
37:DD:103:ASN:OD1	37:DD:114:ARG:NE	2.38	0.43
40:DG:121:ALA:O	40:DG:124:LEU:HB2	2.18	0.43
53:DT:56:MET:HB2	53:DT:84:LEU:HD11	2.00	0.43
57:DZ:111:SER:HA	57:DZ:143:GLY:O	2.17	0.43
57:DZ:170:ARG:H	57:DZ:170:ARG:NH1	2.13	0.43
1:AA:333:G:H4'	22:AY:18:GLY:HA2	2.00	0.43
1:AA:1090:G:HO2'	1:AA:1157:A:H62	1.48	0.43
1:AA:2331:G:H1	16:AS:3:ARG:HA	1.83	0.43
3:AC:60:ARG:HG3	3:AC:165:ARG:HB2	2.01	0.43
4:AD:37:LEU:HA	4:AD:37:LEU:HD12	1.72	0.43
4:AD:108:PRO:HD2	4:AD:111:LEU:CB	2.48	0.43
7:AG:143:GLU:OE2	28:A4:26:SER:OG	2.28	0.43
17:AT:96:ARG:CZ	17:AT:96:ARG:HB3	2.42	0.43
23:AZ:156:LYS:CG	23:AZ:157:LEU:N	2.81	0.43
25:A1:71:TYR:O	25:A1:72:GLU:C	2.56	0.43
29:A5:41:PRO:HA	29:A5:42:PRO:HD2	1.82	0.43
34:BA:49:U:H3	34:BA:362:G:H1'	1.84	0.43
34:BA:271:C:H2'	34:BA:272:C:C6	2.54	0.43
34:BA:481:G:O2'	34:BA:483:C:N4	2.51	0.43
34:BA:515:G:N3	34:BA:537:G:C2	2.86	0.43
34:BA:763:G:H2'	34:BA:764:C:C6	2.53	0.43
34:BA:892:A:H2'	34:BA:893:C:H6	1.83	0.43
34:BA:1077:G:N1	34:BA:1081:G:C6	2.86	0.43
34:BA:1296:C:H4'	34:BA:1302:U:C5	2.53	0.43
36:BC:23:TYR:C	36:BC:23:TYR:CD2	2.92	0.43
37:BD:53:ASP:OD1	37:BD:53:ASP:N	2.50	0.43
40:BG:146:GLU:OE2	40:BG:149:ARG:HD2	2.18	0.43
57:BZ:149:VAL:O	57:BZ:153:MET:HG3	2.18	0.43
1:CA:375:C:H2'	1:CA:376:C:C6	2.53	0.43
1:CA:868:U:C4	1:CA:869:G:N7	2.87	0.43
1:CA:1049:C:H2'	1:CA:1050:A:H8	1.84	0.43
1:CA:1143:A:OP1	11:CN:25:ARG:NH2	2.38	0.43
1:CA:1509(B):A:H2'	1:CA:1510:G:O4'	2.17	0.43
1:CA:2177:C:O2	3:CC:171:ALA:HB2	2.18	0.43
1:CA:2320:A:C2	1:CA:2333:A:C8	3.07	0.43
7:CG:103:LEU:HA	7:CG:106:LEU:HB3	2.00	0.43
16:CS:35:ILE:HG23	16:CS:101:LEU:HD12	1.99	0.43
23:CZ:156:LYS:HD2	23:CZ:157:LEU:N	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:165:C:H2'	34:DA:166:G:C8	2.53	0.43
34:DA:833:U:O2'	34:DA:834:C:H5'	2.17	0.43
34:DA:976:G:P	47:DN:32:SER:H	2.40	0.43
35:DB:16:HIS:HB2	35:DB:204:ASN:HB3	2.00	0.43
35:DB:44:LEU:HD22	35:DB:44:LEU:H	1.82	0.43
35:DB:76:GLN:HE21	35:DB:76:GLN:HB3	1.60	0.43
38:DE:53:LEU:O	38:DE:57:LYS:HB2	2.17	0.43
40:DG:26:PHE:O	40:DG:30:ILE:HG13	2.18	0.43
40:DG:131:LYS:HB3	40:DG:131:LYS:HE2	1.79	0.43
42:DI:99:LEU:HB3	42:DI:101:PHE:CE1	2.52	0.43
44:DK:33:THR:OG1	44:DK:34:ASP:N	2.50	0.43
56:DW:33:U:H5	56:DW:36:A:OP2	2.01	0.43
57:DZ:420:ASP:HB3	57:DZ:473:ASP:OD1	2.17	0.43
1:AA:11:G:H2'	1:AA:12:U:C5'	2.40	0.43
1:AA:243:G:N7	32:A8:5:LYS:HE2	2.33	0.43
1:AA:400:U:H1'	1:AA:450:A:N3	2.33	0.43
1:AA:1036:A:H5''	1:AA:1037:C:OP1	2.18	0.43
1:AA:1359:U:H2'	1:AA:1656:A:C2	2.54	0.43
1:AA:1450:C:O2'	1:AA:1451:U:H5'	2.19	0.43
1:AA:1464:G:O5'	1:AA:1464:G:H8	2.01	0.43
1:AA:2298:A:H4'	1:AA:2299:A:O4'	2.19	0.43
1:AA:2340:A:H2'	1:AA:2341:G:O4'	2.18	0.43
3:AC:31:LYS:H	3:AC:31:LYS:HG2	1.57	0.43
6:AF:7:TYR:CD1	6:AF:24:LEU:HB2	2.53	0.43
15:AR:109:ALA:HA	15:AR:110:PRO:HD2	1.77	0.43
34:BA:376:G:H2'	34:BA:377:G:H8	1.83	0.43
34:BA:541:G:N2	34:BA:542:G:H1'	2.34	0.43
34:BA:567:G:H1'	63:BA:1954:HOH:O	2.18	0.43
34:BA:667:G:H4'	48:BO:51:HIS:CE1	2.54	0.43
34:BA:1079:G:C6	34:BA:1080:A:N6	2.87	0.43
55:BV:15:A:H2	56:BW:37:MIA:H131	1.84	0.43
57:BZ:12:LEU:HD12	57:BZ:78:ARG:HB3	1.99	0.43
57:BZ:114:VAL:HG12	57:BZ:156:ARG:NH2	2.33	0.43
1:CA:566:U:OP1	13:CP:29:LYS:NZ	2.40	0.43
1:CA:623:G:H2'	1:CA:624:C:C6	2.54	0.43
1:CA:686:G:C4	31:C7:11:LYS:HG2	2.54	0.43
1:CA:1252:G:O2'	1:CA:1253:A:C8	2.71	0.43
1:CA:2228:G:C6	1:CA:2229:C:C4	3.06	0.43
2:CB:6:C:H2'	2:CB:7:G:O4'	2.19	0.43
3:CC:60:ARG:HG3	3:CC:165:ARG:HB2	2.01	0.43
5:CE:58:ARG:HA	5:CE:58:ARG:HD3	1.72	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CF:159:GLY:O	6:CF:160:ASN:HB2	2.18	0.43
7:CG:34:LEU:HD13	7:CG:103:LEU:HD13	2.00	0.43
7:CG:167:GLU:N	7:CG:167:GLU:OE2	2.50	0.43
12:CO:26:LYS:O	12:CO:30:ALA:HB2	2.18	0.43
13:CP:65:ARG:HG3	32:C8:25:MET:HG3	2.00	0.43
16:CS:68:GLN:O	16:CS:71:ARG:HB2	2.18	0.43
30:C6:45:LYS:HE2	30:C6:46:HIS:O	2.19	0.43
34:DA:108:G:N1	53:DT:15:ARG:HG3	2.34	0.43
34:DA:392:G:H2'	34:DA:393:A:C8	2.54	0.43
34:DA:1316:G:H1	52:DS:3:ARG:HG3	1.83	0.43
38:DE:41:VAL:O	38:DE:67:VAL:N	2.49	0.43
39:DF:49:ALA:HB1	51:DR:80:PRO:HB3	2.00	0.43
40:DG:32:ARG:HH22	40:DG:109:ASN:HD21	1.66	0.43
41:DH:44:PHE:CD1	41:DH:79:VAL:HG13	2.51	0.43
57:DZ:126:GLU:O	57:DZ:128:TYR:N	2.52	0.43
57:DZ:358:MET:CE	57:DZ:363:ARG:HH11	2.32	0.43
57:DZ:656:ALA:HA	57:DZ:669:PHE:CZ	2.53	0.43
1:AA:504:A:C6	1:AA:506:A:C6	3.06	0.43
1:AA:603:C:H2'	1:AA:604:C:C6	2.53	0.43
1:AA:637:U:H5'	1:AA:640:A:N6	2.34	0.43
1:AA:1123:A:H4'	10:AL:91:PRO:HG2	2.01	0.43
1:AA:1153:G:H4'	9:AK:81:VAL:HA	2.00	0.43
1:AA:1249:A:N1	1:AA:1287:A:N7	2.67	0.43
1:AA:2431:U:H2'	1:AA:2432:C:C6	2.53	0.43
1:AA:2673:G:C6	1:AA:2674:A:C2	3.06	0.43
5:AE:170:LEU:HD23	5:AE:184:VAL:HG11	2.01	0.43
12:AO:1:MET:HE3	12:AO:32:TYR:CD1	2.54	0.43
28:A4:58:ARG:HD2	46:BM:80:ARG:HH21	1.82	0.43
34:BA:414:A:C4	34:BA:415:A:C8	3.07	0.43
34:BA:596:C:OP2	63:BA:1915:HOH:O	2.21	0.43
34:BA:859:A:H2'	34:BA:860:A:H8	1.82	0.43
34:BA:1277:C:H1'	34:BA:1282:C:O2	2.17	0.43
35:BB:19:HIS:HE1	35:BB:189:ASP:CB	2.30	0.43
35:BB:200:ILE:H	35:BB:200:ILE:HG12	1.64	0.43
36:BC:58:GLU:O	36:BC:59:ARG:HG3	2.18	0.43
38:BE:123:LEU:HA	38:BE:123:LEU:HD23	1.64	0.43
40:BG:153:HIS:HE1	44:BK:57:THR:HG22	1.82	0.43
41:BH:35:ILE:HD11	41:BH:134:ILE:HG21	2.00	0.43
57:BZ:487:ILE:HD13	57:BZ:514:VAL:HG12	2.00	0.43
57:BZ:631:ILE:HA	57:BZ:645:ALA:CB	2.48	0.43
1:CA:292:C:H2'	1:CA:293:U:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2137:C:N4	1:CA:2154:G:H1	2.11	0.43
1:CA:2328:A:H2'	1:CA:2329:G:O4'	2.18	0.43
8:CH:3:ARG:NH1	8:CH:5:GLY:H	2.16	0.43
16:CS:35:ILE:HG13	16:CS:66:ALA:HB2	2.00	0.43
19:CV:25:LEU:O	19:CV:64:HIS:NE2	2.52	0.43
21:CX:12:VAL:HG12	21:CX:17:ALA:HB2	1.99	0.43
24:C0:25:ARG:HD3	24:C0:25:ARG:HA	1.80	0.43
25:C1:95:LEU:HA	25:C1:98:LEU:HD12	1.99	0.43
26:C2:3:LEU:O	26:C2:7:ARG:HG3	2.18	0.43
34:DA:264:U:H2'	34:DA:265:G:O4'	2.19	0.43
34:DA:449:C:H2'	34:DA:450:G:O4'	2.19	0.43
34:DA:490:G:H2'	34:DA:491:G:C8	2.53	0.43
34:DA:854:G:C6	34:DA:855:G:N7	2.86	0.43
34:DA:983:A:H3'	34:DA:983:A:N3	2.34	0.43
34:DA:998:G:H22	34:DA:1043:C:N4	2.17	0.43
34:DA:1045:C:C4	34:DA:1046:A:C8	3.07	0.43
35:DB:16:HIS:HD2	35:DB:204:ASN:HB3	1.78	0.43
43:DJ:11:PHE:CE1	43:DJ:67:THR:HB	2.54	0.43
45:DL:24:VAL:CG1	45:DL:27:LEU:HD22	2.46	0.43
47:DN:24:CYS:HB3	47:DN:27:CYS:SG	2.58	0.43
51:DR:22:VAL:HG23	51:DR:55:ARG:O	2.18	0.43
57:DZ:20:HIS:O	57:DZ:21:ILE:HD13	2.18	0.43
57:DZ:177:ILE:HG23	57:DZ:260:LEU:HD11	2.01	0.43
1:AA:1202:A:C8	18:AU:51:LYS:HD2	2.53	0.43
1:AA:1740:U:O2'	1:AA:1742:G:O6	2.31	0.43
1:AA:2865:C:O2'	1:AA:2866:C:H5'	2.19	0.43
8:AH:149:ARG:HH11	8:AH:149:ARG:HD2	1.59	0.43
13:AP:56:SER:O	13:AP:61:ARG:HD2	2.19	0.43
16:AS:58:LEU:HD23	16:AS:58:LEU:HA	1.74	0.43
23:AZ:121:HIS:HB2	23:AZ:171:ILE:HG22	2.00	0.43
30:A6:40:CYS:HA	30:A6:41:PRO:HD3	1.81	0.43
32:A8:31:HIS:CE1	32:A8:32:LEU:HD22	2.54	0.43
34:BA:49:U:O4	34:BA:365:U:H5	2.01	0.43
34:BA:1148:U:OP1	42:BI:7:THR:OG1	2.25	0.43
36:BC:29:TYR:O	36:BC:33:LEU:HB2	2.18	0.43
37:BD:127:THR:OG1	37:BD:130:GLY:O	2.37	0.43
38:BE:116:THR:HG22	38:BE:117:ASP:OD2	2.18	0.43
40:BG:18:TYR:CE2	40:BG:59:LEU:HB2	2.53	0.43
41:BH:112:LEU:HD11	41:BH:114:THR:HG23	2.01	0.43
57:BZ:497:PHE:HB3	57:BZ:508:GLY:N	2.33	0.43
1:CA:311:A:O2'	1:CA:331:A:O2'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:608:A:C6	1:CA:609:A:C6	3.07	0.43
1:CA:979:G:O6	63:CA:3755:HOH:O	2.20	0.43
1:CA:2218:U:O4'	25:C1:52:ARG:NH2	2.52	0.43
1:CA:2378:A:H2	16:CS:18:ILE:HD13	1.84	0.43
1:CA:2677:G:H2'	1:CA:2678:C:C6	2.54	0.43
1:CA:2723:C:H5''	15:CR:1:MET:HE2	1.99	0.43
2:CB:14:U:OP2	2:CB:70:C:O2'	2.29	0.43
3:CC:11:LEU:HD11	3:CC:35:THR:HG23	2.01	0.43
3:CC:54:ARG:HE	3:CC:57:GLN:HG2	1.83	0.43
3:CC:206:LYS:HB3	3:CC:206:LYS:HZ3	1.82	0.43
16:CS:87:PHE:CZ	16:CS:102:ALA:HB2	2.53	0.43
20:CW:65:LEU:HB2	20:CW:68:ARG:CG	2.49	0.43
21:CX:72:LYS:NZ	21:CX:75:ASP:OD1	2.50	0.43
22:CY:88:LYS:HG2	22:CY:89:PHE:H	1.83	0.43
27:C3:10:LYS:HB3	27:C3:53:LEU:HA	2.01	0.43
31:C7:34:ARG:HB2	31:C7:42:LEU:HD22	2.01	0.43
34:DA:9:G:C2	34:DA:10:A:C4	3.07	0.43
34:DA:363:A:C5	45:DL:31:PRO:HD2	2.54	0.43
34:DA:451:A:C6	34:DA:481:G:N7	2.87	0.43
34:DA:458:C:N4	34:DA:474:G:O6	2.51	0.43
34:DA:460:G:H2'	34:DA:461:A:H2'	1.99	0.43
34:DA:622:A:C8	34:DA:623:C:C6	3.06	0.43
34:DA:939:G:C6	34:DA:940:C:N4	2.87	0.43
35:DB:153:ARG:O	35:DB:155:LEU:N	2.42	0.43
36:DC:130:VAL:O	36:DC:134:ILE:HG12	2.19	0.43
37:DD:93:PHE:O	37:DD:97:LEU:HB2	2.18	0.43
37:DD:175:SER:OG	37:DD:176:LEU:N	2.51	0.43
41:DH:48:TYR:HB2	41:DH:60:ARG:O	2.19	0.43
41:DH:51:VAL:CG1	41:DH:52:ASP:H	2.28	0.43
43:DJ:50:ILE:HB	47:DN:41:ARG:NE	2.34	0.43
53:DT:57:ARG:HH12	53:DT:100:ILE:CD1	2.32	0.43
54:DU:11:GLY:O	54:DU:15:ARG:HB2	2.19	0.43
57:DZ:552:SER:HB3	57:DZ:591:LYS:NZ	2.33	0.43
1:AA:907:U:C6	1:AA:2280:A:O4'	2.71	0.43
1:AA:2342:G:H2'	1:AA:2343:G:O4'	2.18	0.43
1:AA:2661:U:H2'	1:AA:2662:U:C6	2.54	0.43
4:AD:16:MET:HG3	4:AD:206:LEU:O	2.19	0.43
5:AE:85:ASN:HD22	5:AE:85:ASN:HA	1.57	0.43
8:AH:154:PRO:HD3	8:AH:162:ILE:O	2.19	0.43
14:AQ:84:GLY:O	14:AQ:85:LYS:HB2	2.18	0.43
15:AR:100:LEU:HD11	29:A5:58:LEU:HD11	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:592:G:C6	34:BA:648:A:C6	3.06	0.43
34:BA:1304:G:C6	34:BA:1305:G:N1	2.87	0.43
36:BC:46:GLU:C	36:BC:47:LEU:HD23	2.39	0.43
45:BL:117:ARG:HB3	45:BL:122:THR:O	2.18	0.43
50:BQ:31:LEU:HD23	50:BQ:32:TYR:CZ	2.54	0.43
57:BZ:162:VAL:HG21	57:BZ:255:ILE:HD12	2.00	0.43
1:CA:794:G:H2'	1:CA:795:C:C6	2.54	0.43
1:CA:1110:G:N3	1:CA:1110:G:C2'	2.81	0.43
1:CA:1355:G:H2'	1:CA:1356:G:O4'	2.18	0.43
1:CA:1437:C:H6	1:CA:1437:C:H5''	1.83	0.43
1:CA:2298:A:N6	1:CA:2318:G:C8	2.87	0.43
1:CA:2808:U:O2'	1:CA:2809:A:H5'	2.19	0.43
5:CE:90:THR:HG22	5:CE:91:VAL:N	2.34	0.43
8:CH:87:LEU:O	8:CH:131:VAL:N	2.47	0.43
8:CH:95:ARG:NH1	8:CH:97:ARG:HD3	2.33	0.43
8:CH:154:PRO:HB3	8:CH:163:TYR:CE2	2.54	0.43
10:CL:105:LEU:HG	10:CL:124:ALA:HB2	2.01	0.43
14:CQ:41:TRP:HB3	14:CQ:94:VAL:CB	2.48	0.43
21:CX:24:GLY:O	21:CX:83:VAL:HG22	2.19	0.43
28:C4:26:SER:OG	28:C4:27:THR:N	2.51	0.43
34:DA:975:A:N6	43:DJ:48:THR:HB	2.34	0.43
34:DA:1015:A:H2'	34:DA:1016:A:C8	2.54	0.43
34:DA:1112:C:N3	36:DC:178:LEU:HB2	2.34	0.43
34:DA:1177:G:H8	34:DA:1177:G:O5'	2.01	0.43
34:DA:1414:U:H2'	34:DA:1415:G:H8	1.83	0.43
34:DA:1499:A:H1'	34:DA:1520:G:H5'	2.01	0.43
36:DC:134:ILE:HD11	36:DC:153:VAL:HG22	2.01	0.43
57:DZ:82:ILE:HD13	57:DZ:101:LEU:CB	2.48	0.43
1:AA:1635:C:H2'	1:AA:1636:U:C6	2.54	0.43
1:AA:2304:C:H2'	1:AA:2305:C:C6	2.53	0.43
1:AA:2331:G:H22	16:AS:3:ARG:CD	2.32	0.43
1:AA:2584:A:N7	5:AE:145:LYS:HB2	2.33	0.43
1:AA:2596:U:H2'	1:AA:2597:U:C6	2.54	0.43
1:AA:2705:A:H2'	1:AA:2706:G:H8	1.83	0.43
5:AE:68:ALA:O	5:AE:70:ALA:N	2.52	0.43
5:AE:111:ARG:HG3	5:AE:160:TYR:CD2	2.54	0.43
6:AF:150:GLY:HA2	6:AF:172:TRP:CD2	2.54	0.43
7:AG:138:GLN:HE22	7:AG:153:ARG:NH2	2.17	0.43
10:AL:131:ALA:O	10:AL:136:VAL:HG13	2.19	0.43
11:AN:129:PRO:C	11:AN:131:GLN:HE21	2.21	0.43
13:AP:65:ARG:HD2	32:A8:25:MET:SD	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AT:127:ALA:O	17:AT:128:GLU:HG2	2.18	0.43
23:AZ:14:LYS:O	23:AZ:17:ALA:HB3	2.18	0.43
36:BC:11:ARG:HD3	36:BC:15:THR:HB	2.01	0.43
36:BC:73:PRO:HB3	36:BC:103:VAL:HG12	2.00	0.43
44:BK:98:LEU:HD23	44:BK:98:LEU:HA	1.84	0.43
53:BT:24:LEU:HD13	53:BT:24:LEU:HA	1.87	0.43
57:BZ:138:LYS:HA	62:BZ:702:GDP:N1	2.33	0.43
57:BZ:191:ASP:O	57:BZ:266:ASN:ND2	2.52	0.43
57:BZ:416:LYS:HD2	57:BZ:473:ASP:HB2	1.99	0.43
1:CA:1094:U:O2'	1:CA:1096:A:N7	2.44	0.43
1:CA:1107:G:C2	1:CA:1108:U:O2	2.70	0.43
1:CA:2863:C:O2'	1:CA:2864:G:H5'	2.18	0.43
3:CC:31:LYS:H	3:CC:31:LYS:HG2	1.57	0.43
3:CC:195:ARG:HH11	3:CC:195:ARG:HG3	1.83	0.43
4:CD:10:THR:OG1	4:CD:13:ARG:HB2	2.19	0.43
7:CG:107:LEU:HA	7:CG:111:LEU:HD22	2.01	0.43
8:CH:9:ILE:HD12	8:CH:50:VAL:HB	2.01	0.43
8:CH:54:ARG:HB2	8:CH:61:HIS:HB3	2.00	0.43
13:CP:44:GLY:CA	13:CP:45:LEU:HB2	2.49	0.43
16:CS:3:ARG:HG3	16:CS:4:LEU:N	2.33	0.43
19:CV:98:GLU:OE1	19:CV:100:ARG:NH1	2.44	0.43
25:C1:49:VAL:HG21	25:C1:67:ILE:HG23	2.01	0.43
32:C8:52:LYS:O	32:C8:56:GLU:HG3	2.19	0.43
34:DA:425:G:C2'	34:DA:426:G:H5'	2.49	0.43
34:DA:536:C:H6	34:DA:536:C:O5'	2.02	0.43
34:DA:625:G:H4'	49:DP:16:HIS:CD2	2.53	0.43
34:DA:1047:G:H1	34:DA:1210:C:H42	1.66	0.43
34:DA:1228:C:H2'	34:DA:1229:A:H8	1.84	0.43
34:DA:1291:G:H2'	34:DA:1292:U:C6	2.53	0.43
34:DA:1308:U:H5''	46:DM:98:VAL:HG23	2.00	0.43
34:DA:1460:A:H2'	34:DA:1461:G:O4'	2.19	0.43
35:DB:58:ILE:H	35:DB:58:ILE:HG13	1.53	0.43
36:DC:29:TYR:OH	47:DN:54:PRO:HG2	2.19	0.43
36:DC:114:PRO:HA	36:DC:117:ALA:HB3	2.01	0.43
36:DC:137:ALA:HA	36:DC:140:ARG:NH1	2.34	0.43
40:DG:16:LEU:H	40:DG:16:LEU:HD22	1.83	0.43
42:DI:3:GLN:OE1	42:DI:20:ARG:NH2	2.47	0.43
44:DK:70:LYS:HE2	44:DK:70:LYS:HB2	1.76	0.43
45:DL:42:THR:HA	45:DL:53:ARG:O	2.19	0.43
1:AA:1722:C:H2'	1:AA:1723:A:O4'	2.19	0.43
1:AA:2833:A:OP1	5:AE:113:PHE:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:195:ARG:HG3	3:AC:195:ARG:HH11	1.83	0.43
4:AD:89:SER:HB2	4:AD:159:ALA:HB2	1.99	0.43
5:AE:31:CYS:HB3	5:AE:50:GLY:O	2.18	0.43
7:AG:107:LEU:HD11	7:AG:178:PHE:CE1	2.53	0.43
8:AH:28:GLY:HA3	8:AH:79:VAL:CG2	2.49	0.43
16:AS:95:HIS:C	16:AS:99:LYS:HB3	2.39	0.43
23:AZ:102:LEU:HD11	23:AZ:124:ILE:HB	1.99	0.43
23:AZ:148:ASP:O	23:AZ:173:ALA:HA	2.19	0.43
25:A1:6:GLU:HB2	25:A1:61:ARG:O	2.19	0.43
34:BA:15:G:H2'	34:BA:16:A:H8	1.82	0.43
34:BA:142:G:H2'	34:BA:143:A:H8	1.84	0.43
34:BA:153:C:H42	34:BA:168:G:H1	1.67	0.43
34:BA:223:U:H2'	34:BA:224:C:O4'	2.18	0.43
34:BA:410:G:OP1	37:BD:30:LYS:NZ	2.32	0.43
34:BA:501:C:O2'	34:BA:502:G:H5'	2.18	0.43
34:BA:509:A:C6	34:BA:510:A:N1	2.87	0.43
34:BA:1202:G:O4'	47:BN:29:ARG:NH1	2.43	0.43
34:BA:1316:G:H1	52:BS:3:ARG:HG3	1.84	0.43
37:BD:160:GLN:O	37:BD:163:GLU:HB3	2.18	0.43
38:BE:48:ALA:O	38:BE:50:GLU:N	2.52	0.43
42:BI:99:LEU:HB3	42:BI:101:PHE:CE1	2.54	0.43
46:BM:56:LEU:O	46:BM:60:VAL:HG23	2.18	0.43
57:BZ:-20:LEU:O	57:BZ:-18:ALA:N	2.52	0.43
57:BZ:24:GLY:N	62:BZ:702:GDP:O2B	2.43	0.43
57:BZ:77:HIS:CE1	57:BZ:277:VAL:HG13	2.54	0.43
57:BZ:487:ILE:HD11	57:BZ:515:GLU:C	2.39	0.43
1:CA:247:G:H4'	1:CA:386:G:C6	2.54	0.43
1:CA:484:C:OP1	22:CY:51:VAL:HG23	2.18	0.43
1:CA:873:G:N2	1:CA:905:U:C2	2.87	0.43
1:CA:921:G:H4'	1:CA:2269:A:C5	2.54	0.43
1:CA:1352:U:OP2	63:CA:3759:HOH:O	2.21	0.43
1:CA:2132:U:C2'	3:CC:6:LYS:HB3	2.36	0.43
3:CC:41:THR:O	3:CC:42:VAL:CB	2.64	0.43
5:CE:201:THR:HG23	5:CE:203:LYS:H	1.82	0.43
8:CH:54:ARG:O	8:CH:56:SER:N	2.52	0.43
13:CP:21:ARG:HH11	13:CP:21:ARG:HD2	1.68	0.43
28:C4:38:LYS:O	28:C4:40:HIS:N	2.44	0.43
34:DA:61:G:C6	34:DA:62:U:C4	3.07	0.43
34:DA:731:G:H5'	34:DA:766:A:H4'	2.00	0.43
34:DA:927:G:H1	34:DA:1390:U:H3	1.65	0.43
34:DA:1027:C:O2	34:DA:1034:G:N2	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:1055:A:C6	34:DA:1206:G:C5	3.07	0.43
34:DA:1170:A:N6	34:DA:1171:G:N3	2.66	0.43
38:DE:129:ILE:O	38:DE:132:ALA:HB3	2.18	0.43
41:DH:34:GLU:OE1	41:DH:37:ARG:NH1	2.51	0.43
44:DK:16:SER:OG	44:DK:79:SER:OG	2.19	0.43
49:DP:43:LYS:HG2	49:DP:48:TRP:CE2	2.54	0.43
57:DZ:70:THR:HA	57:DZ:358:MET:O	2.19	0.43
57:DZ:411:VAL:HB	57:DZ:459:LEU:HD13	2.01	0.43
57:DZ:550:MET:SD	57:DZ:563:ILE:HD11	2.59	0.43
57:DZ:572:TYR:HB2	57:DZ:582:PHE:HZ	1.84	0.43
1:AA:737:G:H2'	1:AA:738:C:C6	2.54	0.43
1:AA:898:U:O2'	27:A3:45:GLY:HA3	2.18	0.43
1:AA:1406:A:H5''	1:AA:1407:G:OP2	2.19	0.43
1:AA:1814:A:H5'	1:AA:2620:G:H4'	2.01	0.43
1:AA:2323:A:C8	7:AG:80:PHE:CE2	3.07	0.43
3:AC:6:LYS:N	3:AC:9:ARG:HH12	2.17	0.43
4:AD:221:VAL:HG22	4:AD:226:MET:CE	2.48	0.43
5:AE:92:THR:OG1	5:AE:94:GLU:HG2	2.19	0.43
5:AE:182:LEU:HD12	5:AE:182:LEU:HA	1.75	0.43
13:AP:135:LEU:HD23	13:AP:135:LEU:HA	1.83	0.43
17:AT:3:ARG:HH21	17:AT:3:ARG:HD2	1.70	0.43
17:AT:105:LEU:HD23	17:AT:105:LEU:HA	1.60	0.43
34:BA:359:U:OP2	57:BZ:381:LYS:HE3	2.18	0.43
34:BA:562:C:H4'	34:BA:563:A:O5'	2.19	0.43
34:BA:718:G:C8	44:BK:116:HIS:HB3	2.54	0.43
34:BA:1225:A:H2'	34:BA:1226:C:C5	2.53	0.43
45:BL:5:PRO:HA	45:BL:9:GLN:OE1	2.19	0.43
46:BM:20:THR:C	46:BM:22:ILE:H	2.22	0.43
52:BS:48:THR:HA	52:BS:60:VAL:O	2.19	0.43
57:BZ:-20:LEU:HD23	57:BZ:-20:LEU:HA	1.80	0.43
57:BZ:226:ASN:HB3	57:BZ:241:GLU:OE2	2.19	0.43
1:CA:185:U:H4'	1:CA:218:A:H4'	2.00	0.43
1:CA:2074:U:H2'	1:CA:2075:U:C6	2.54	0.43
1:CA:2748:A:H2'	1:CA:2749:A:O4'	2.17	0.43
1:CA:2889:C:H3'	1:CA:2891:G:C8	2.53	0.43
2:CB:27:C:H5''	16:CS:54:LEU:CD1	2.46	0.43
4:CD:13:ARG:NH1	4:CD:16:MET:SD	2.92	0.43
4:CD:106:ILE:O	4:CD:108:PRO:HD3	2.19	0.43
4:CD:108:PRO:HD2	4:CD:111:LEU:HG	2.01	0.43
8:CH:13:LYS:HA	8:CH:14:GLY:HA2	1.74	0.43
11:CN:68:GLU:HG2	11:CN:88:GLU:OE2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:CQ:109:VAL:HG22	14:CQ:113:GLN:OE1	2.18	0.43
17:CT:120:ARG:HG2	17:CT:123:GLN:HE22	1.83	0.43
22:CY:12:THR:HG22	22:CY:75:ILE:HB	2.01	0.43
23:CZ:125:LEU:HA	23:CZ:125:LEU:HD12	1.73	0.43
25:C1:69:LYS:HA	25:C1:72:GLU:HG3	2.01	0.43
32:C8:39:LYS:O	32:C8:43:GLN:HG3	2.18	0.43
34:DA:32:A:H2'	34:DA:33:A:C8	2.54	0.43
34:DA:232:G:H1'	34:DA:262:A:N1	2.34	0.43
34:DA:565:U:H3'	34:DA:566:G:H2'	2.01	0.43
34:DA:757:U:O2'	34:DA:879:C:O2	2.34	0.43
34:DA:974:A:OP2	47:DN:29:ARG:NH2	2.48	0.43
34:DA:1218:C:OP2	47:DN:9:LYS:NZ	2.34	0.43
34:DA:1250:A:H2	34:DA:1370:G:H1'	1.84	0.43
41:DH:20:TYR:HD2	41:DH:65:TYR:CE2	2.37	0.43
42:DI:16:ARG:HD3	42:DI:64:THR:OG1	2.19	0.43
42:DI:85:LEU:HA	42:DI:88:TYR:HB3	2.01	0.43
52:DS:27:GLU:HB2	52:DS:28:LYS:NZ	2.34	0.43
57:DZ:422:GLU:H	57:DZ:422:GLU:HG3	1.66	0.43
58:DX:5:MVA:O	58:DX:7:PRO:HD3	2.19	0.43
1:AA:579:G:H2'	1:AA:580:U:H6	1.84	0.42
1:AA:1036:A:H5''	1:AA:1037:C:P	2.59	0.42
1:AA:1506:G:C6	1:AA:1508:G:C5	3.07	0.42
1:AA:1711:A:C6	1:AA:1712:A:C6	3.06	0.42
1:AA:2074:G:O4'	5:AE:142:GLY:HA3	2.19	0.42
1:AA:2214:G:H5'	1:AA:2215:G:OP2	2.19	0.42
2:AB:28:C:OP1	16:AS:36:TYR:OH	2.21	0.42
3:AC:195:ARG:HG3	3:AC:195:ARG:NH1	2.35	0.42
4:AD:147:LEU:HD22	4:AD:155:LEU:HD11	2.00	0.42
8:AH:173:PRO:O	8:AH:175:LYS:N	2.48	0.42
10:AL:77:LEU:H	10:AL:77:LEU:HG	1.37	0.42
14:AQ:60:ARG:HA	23:AZ:179:ASP:HA	2.01	0.42
16:AS:99:LYS:O	16:AS:102:ALA:HB3	2.19	0.42
21:AX:25:LYS:HA	21:AX:81:VAL:O	2.19	0.42
34:BA:557:G:N1	34:BA:558:G:C2	2.87	0.42
34:BA:942:G:C2	34:BA:1342:C:C2	3.07	0.42
34:BA:985:C:C2	34:BA:1221:G:N2	2.86	0.42
35:BB:164:VAL:HB	35:BB:186:ALA:HB2	2.00	0.42
41:BH:69:ARG:NH2	41:BH:73:ASP:O	2.52	0.42
47:BN:34:TYR:N	47:BN:39:LEU:O	2.51	0.42
48:BO:56:LEU:O	48:BO:60:VAL:HG23	2.19	0.42
51:BR:39:VAL:O	51:BR:42:ARG:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:BY:72:C:H2'	56:BY:73:A:O4'	2.18	0.42
57:BZ:-58:LEU:HD21	57:BZ:-32:LEU:HB3	2.01	0.42
57:BZ:288:PRO:HG3	57:BZ:300:GLU:OE1	2.19	0.42
57:BZ:388:THR:HG21	57:BZ:398:ILE:HA	2.01	0.42
57:BZ:413:ILE:HB	57:BZ:476:VAL:HG12	2.01	0.42
57:BZ:635:GLU:HB2	57:BZ:642:VAL:HG12	2.01	0.42
1:CA:556:G:H2'	1:CA:557:U:C6	2.54	0.42
1:CA:652(T):C:H5'	1:CA:652(U):G:OP1	2.19	0.42
1:CA:790:C:H6	1:CA:790:C:H2'	1.55	0.42
1:CA:869:G:C2	1:CA:909:A:C2	3.07	0.42
1:CA:1067:A:C2	57:DZ:626:ALA:HB1	2.53	0.42
1:CA:1082:U:N3	1:CA:1083:U:H1'	2.34	0.42
1:CA:1407:C:C2	1:CA:1596:A:C2	3.07	0.42
1:CA:1475:G:H2'	1:CA:1476:C:H6	1.84	0.42
1:CA:1477:A:H2'	1:CA:1478:G:O4'	2.18	0.42
1:CA:1478:G:O2'	1:CA:1558:A:C2	2.72	0.42
1:CA:1515:G:C2	1:CA:1516:C:C2	3.07	0.42
1:CA:2399:G:H2'	1:CA:2400:G:O4'	2.19	0.42
7:CG:173:LEU:HD13	7:CG:178:PHE:CE2	2.54	0.42
14:CQ:59:ARG:HA	14:CQ:60:ARG:HA	1.56	0.42
18:CU:55:ARG:H	18:CU:55:ARG:HG3	1.68	0.42
34:DA:355:C:C2	34:DA:356:A:C8	3.07	0.42
34:DA:1217:C:H2'	34:DA:1218:C:H6	1.84	0.42
34:DA:1355:G:H2'	34:DA:1356:G:C8	2.54	0.42
34:DA:1396:A:H2	38:DE:19:MET:HG3	1.83	0.42
35:DB:51:LEU:HD12	35:DB:51:LEU:HA	1.84	0.42
37:DD:33:MET:SD	37:DD:37:PRO:HA	2.59	0.42
46:DM:23:TYR:O	46:DM:70:LEU:HD12	2.19	0.42
47:DN:52:GLN:O	47:DN:53:LEU:HD23	2.19	0.42
56:DY:7:A:N6	56:DY:66:U:H3	2.02	0.42
57:DZ:167:PRO:HG2	57:DZ:170:ARG:NH2	2.33	0.42
57:DZ:247:ARG:HE	57:DZ:251:ILE:HD11	1.83	0.42
1:AA:636:G:N2	1:AA:640:A:O2'	2.52	0.42
1:AA:742:G:OP1	1:AA:1426:G:O2'	2.31	0.42
1:AA:1700:G:H3'	15:AR:2:ARG:HD3	2.01	0.42
1:AA:2154:U:H3	3:AC:6:LYS:CB	2.29	0.42
1:AA:2262:G:C8	1:AA:2508:C:H5''	2.55	0.42
1:AA:2830:A:OP1	15:AR:2:ARG:NH2	2.52	0.42
3:AC:54:ARG:HE	3:AC:57:GLN:HG2	1.83	0.42
4:AD:182:LEU:HD23	4:AD:182:LEU:HA	1.87	0.42
34:BA:417:C:H2'	34:BA:418:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:509:A:C5	34:BA:510:A:C6	3.07	0.42
34:BA:1350:A:H8	34:BA:1350:A:O5'	2.03	0.42
34:BA:1502:A:H2	34:BA:1505:G:N1	2.06	0.42
43:BJ:17:ASP:CG	43:BJ:70:ARG:HH12	2.22	0.42
57:BZ:-38:TYR:CE1	57:BZ:-34:ARG:HD2	2.54	0.42
1:CA:338:G:H2'	1:CA:339:U:C6	2.55	0.42
1:CA:446:G:OP1	18:CU:3:ARG:NH1	2.48	0.42
1:CA:511:U:H5''	1:CA:512:G:OP2	2.19	0.42
1:CA:602:G:C2	1:CA:656:G:C6	3.07	0.42
1:CA:921:G:C6	1:CA:922:U:C4	3.07	0.42
1:CA:1056:G:H5''	1:CA:1057:A:H5'	2.01	0.42
1:CA:1557:C:H5''	1:CA:1558:A:OP2	2.19	0.42
1:CA:2625:G:H2'	1:CA:2626:C:O4'	2.18	0.42
1:CA:2690:C:N4	1:CA:2713:A:H1'	2.34	0.42
2:CB:31:C:C2'	2:CB:32:C:H5'	2.49	0.42
2:CB:44:G:C2	2:CB:48:A:C2	3.07	0.42
4:CD:26:LYS:HE3	4:CD:28:GLU:O	2.19	0.42
6:CF:103:LYS:HA	6:CF:106:ARG:HG3	2.00	0.42
10:CL:75:SER:OG	10:CL:134:MET:SD	2.77	0.42
13:CP:6:LEU:HD23	13:CP:6:LEU:HA	1.75	0.42
13:CP:88:LEU:HA	13:CP:91:PHE:CE1	2.54	0.42
23:CZ:107:THR:OG1	23:CZ:112:ARG:NH2	2.52	0.42
34:DA:406:G:N2	34:DA:437:U:O2	2.52	0.42
34:DA:669:U:H2'	34:DA:670:G:H8	1.82	0.42
34:DA:922:G:H4'	38:DE:20:GLN:CA	2.42	0.42
34:DA:940:C:H2'	34:DA:941:G:C8	2.54	0.42
34:DA:1413:A:H2'	34:DA:1414:U:O4'	2.19	0.42
35:DB:50:GLU:O	35:DB:54:THR:OG1	2.21	0.42
35:DB:188:ALA:N	35:DB:201:ILE:O	2.45	0.42
37:DD:50:ARG:HG2	37:DD:51:PRO:HD2	1.99	0.42
38:DE:80:ILE:CG2	38:DE:91:LEU:HB2	2.50	0.42
39:DF:55:ASP:HA	39:DF:56:PRO:HD3	1.87	0.42
45:DL:24:VAL:O	45:DL:24:VAL:HG12	2.18	0.42
47:DN:59:ALA:O	47:DN:61:TRP:HE3	2.01	0.42
48:DO:54:ARG:HG3	48:DO:58:MET:HE2	2.01	0.42
50:DQ:18:THR:OG1	50:DQ:69:LYS:NZ	2.52	0.42
1:AA:26:G:C6	1:AA:27:G:N1	2.87	0.42
1:AA:276:C:H2'	1:AA:277:G:O4'	2.19	0.42
1:AA:795:G:C8	20:AW:89:ALA:HB1	2.54	0.42
1:AA:1157:A:O2'	1:AA:1158:G:H4'	2.18	0.42
1:AA:2857:U:P	17:AT:98:LYS:HZ3	2.42	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:AC:11:LEU:HD11	3:AC:35:THR:HG23	2.01	0.42
5:AE:97:LYS:HE2	5:AE:97:LYS:HB3	1.67	0.42
14:AQ:24:GLY:O	14:AQ:102:VAL:HG23	2.19	0.42
20:AW:4:LYS:HB2	20:AW:106:ILE:HG12	2.00	0.42
30:A6:2:ALA:HB1	30:A6:6:ARG:O	2.18	0.42
33:A9:35:ARG:HH11	33:A9:35:ARG:HD3	1.66	0.42
34:BA:447:G:H2'	34:BA:485:G:N2	2.34	0.42
34:BA:542:G:H5'	37:BD:41:GLY:HA3	2.01	0.42
34:BA:738:C:H2'	34:BA:739:C:C6	2.54	0.42
34:BA:1132:C:H2'	34:BA:1133:G:H8	1.83	0.42
35:BB:16:HIS:C	35:BB:17:PHE:HD1	2.23	0.42
36:BC:32:LEU:HD22	36:BC:59:ARG:NH1	2.35	0.42
38:BE:51:VAL:HB	38:BE:52:PRO:HD3	2.01	0.42
38:BE:137:GLU:HG2	38:BE:140:ARG:NH1	2.33	0.42
41:BH:51:VAL:HG12	41:BH:52:ASP:N	2.34	0.42
41:BH:88:LYS:O	41:BH:92:ARG:HD3	2.19	0.42
46:BM:3:ARG:HG3	46:BM:4:ILE:H	1.84	0.42
57:BZ:-45:LYS:H	57:BZ:-45:LYS:HG2	1.55	0.42
57:BZ:510:VAL:HG21	57:BZ:542:VAL:HG21	2.01	0.42
1:CA:221:A:N1	1:CA:265:A:O2'	2.49	0.42
1:CA:1658:C:H2'	1:CA:1659:U:C6	2.55	0.42
1:CA:1926:U:H2'	1:CA:1928:A:OP2	2.19	0.42
1:CA:1999:C:H5''	1:CA:2723:C:O2'	2.19	0.42
5:CE:46:ALA:HB2	5:CE:82:ARG:HA	2.01	0.42
5:CE:47:VAL:O	5:CE:80:GLU:HA	2.19	0.42
7:CG:107:LEU:HD21	7:CG:178:PHE:CE1	2.54	0.42
16:CS:23:ARG:HB2	16:CS:86:ALA:HB2	2.02	0.42
17:CT:81:PRO:HG2	17:CT:82:LEU:HD12	2.00	0.42
31:C7:24:THR:OG1	31:C7:27:GLY:N	2.38	0.42
32:C8:10:ALA:O	32:C8:14:VAL:N	2.52	0.42
33:C9:17:ILE:HG13	33:C9:18:ARG:H	1.83	0.42
34:DA:271:C:H2'	34:DA:272:C:C6	2.54	0.42
34:DA:425:G:H2'	34:DA:426:G:H5'	2.00	0.42
34:DA:435:C:H2'	34:DA:436:C:C6	2.54	0.42
34:DA:509:A:C8	34:DA:509:A:C3'	3.02	0.42
34:DA:979:C:O2	47:DN:19:ARG:NE	2.50	0.42
34:DA:991:U:H4'	34:DA:992:U:O5'	2.18	0.42
34:DA:1076:C:C2	34:DA:1082:G:C2	3.07	0.42
34:DA:1464:G:H2'	34:DA:1465:C:H6	1.84	0.42
35:DB:12:GLU:HG3	35:DB:13:ALA:N	2.33	0.42
35:DB:92:TYR:N	35:DB:151:GLY:O	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:DE:41:VAL:O	38:DE:67:VAL:HG12	2.19	0.42
48:DO:18:PHE:O	48:DO:21:ASP:HB2	2.19	0.42
56:DY:46:7MG:H81	56:DY:46:7MG:H2'	1.69	0.42
57:DZ:-66:MET:N	57:DZ:-46:VAL:H	2.16	0.42
1:AA:628:C:H2'	1:AA:629:U:O4'	2.19	0.42
1:AA:1737:A:H3'	1:AA:1738:C:C6	2.55	0.42
1:AA:2033:U:OP1	20:AW:42:ARG:NH1	2.49	0.42
1:AA:2125:C:N3	1:AA:2209:G:N1	2.68	0.42
1:AA:2444:A:C8	25:A1:33:LYS:HD3	2.54	0.42
1:AA:2602:A:H2'	1:AA:2603:C:H6	1.83	0.42
1:AA:2904:U:H2'	1:AA:2905:C:H6	1.84	0.42
7:AG:126:ASP:HB2	7:AG:130:ASN:N	2.34	0.42
8:AH:6:ARG:H	8:AH:6:ARG:HG2	1.61	0.42
14:AQ:1:MET:HB2	63:AQ:301:HOH:O	2.19	0.42
15:AR:63:ARG:HA	15:AR:80:PHE:CZ	2.54	0.42
19:AV:49:THR:HG22	19:AV:49:THR:O	2.18	0.42
22:AY:61:ILE:O	22:AY:61:ILE:HG12	2.12	0.42
23:AZ:99:TYR:CE2	23:AZ:125:LEU:HD13	2.55	0.42
34:BA:381:C:C4	34:BA:382:A:C5	3.06	0.42
34:BA:593:G:H2'	34:BA:594:G:O4'	2.20	0.42
34:BA:724:G:C2	34:BA:725:G:C8	3.08	0.42
34:BA:926:G:H5''	34:BA:927:G:O5'	2.19	0.42
34:BA:1368:G:OP2	42:BI:112:LYS:HG3	2.19	0.42
37:BD:117:ALA:O	37:BD:120:LEU:HB2	2.19	0.42
38:BE:78:HIS:HE2	38:BE:142:LEU:HA	1.84	0.42
39:BF:4:TYR:O	39:BF:65:VAL:HG22	2.20	0.42
40:BG:26:PHE:O	40:BG:30:ILE:HG13	2.20	0.42
40:BG:101:LEU:O	40:BG:105:VAL:HG23	2.19	0.42
57:BZ:101:LEU:HD23	57:BZ:101:LEU:HA	1.72	0.42
57:BZ:498:ILE:HG22	57:BZ:507:TYR:CE2	2.53	0.42
1:CA:198:C:H4'	1:CA:2243:U:O2'	2.19	0.42
1:CA:666:G:H4'	13:CP:49:ARG:NH2	2.34	0.42
1:CA:1722:A:O2'	1:CA:1739:U:H5''	2.19	0.42
1:CA:2086:U:H2'	1:CA:2087:G:C8	2.53	0.42
1:CA:2228:G:C5	1:CA:2229:C:C4	3.08	0.42
1:CA:2591:C:OP2	4:CD:239:ARG:HB3	2.20	0.42
1:CA:2600:A:C6	1:CA:2601:C:N4	2.87	0.42
1:CA:2730:C:H4'	5:CE:168:MET:O	2.19	0.42
1:CA:2784:C:H2'	1:CA:2785:C:H6	1.85	0.42
2:CB:42:C:O4'	7:CG:69:ALA:HB2	2.20	0.42
3:CC:6:LYS:N	3:CC:9:ARG:HH12	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:CE:96:PHE:O	5:CE:175:VAL:HG11	2.20	0.42
18:CU:83:LEU:HA	18:CU:86:ALA:HB3	2.01	0.42
22:CY:23:ARG:HG2	22:CY:42:VAL:HG22	2.00	0.42
23:CZ:6:LYS:HD3	23:CZ:8:TYR:OH	2.19	0.42
27:C3:17:LYS:H	27:C3:17:LYS:HG2	1.52	0.42
34:DA:236:G:H2'	34:DA:237:C:O4'	2.18	0.42
34:DA:502:G:P	45:DL:116:SER:HA	2.59	0.42
34:DA:1237:C:OP1	34:DA:1238:A:H1'	2.18	0.42
39:DF:23:LYS:O	39:DF:27:GLN:HG2	2.19	0.42
42:DI:16:ARG:O	42:DI:63:ILE:HG23	2.19	0.42
42:DI:59:PHE:HZ	42:DI:88:TYR:CE1	2.37	0.42
48:DO:6:GLU:OE2	48:DO:6:GLU:N	2.50	0.42
50:DQ:4:LYS:HD2	50:DQ:5:VAL:H	1.85	0.42
51:DR:22:VAL:HA	51:DR:25:THR:HG22	2.01	0.42
57:DZ:160:ARG:HE	57:DZ:160:ARG:HB2	1.65	0.42
58:DX:1:2QZ:C	58:DX:10:2QY:H83	2.49	0.42
1:AA:53:G:O2'	31:A7:35:ARG:HD3	2.20	0.42
1:AA:840:A:OP2	1:AA:2094:G:H5'	2.19	0.42
1:AA:1118:C:H42	1:AA:1138:C:H42	1.66	0.42
1:AA:1586:G:C6	1:AA:1587:U:C4	3.08	0.42
1:AA:1815:A:H4'	1:AA:1816:A:O5'	2.20	0.42
1:AA:1825:U:H2'	1:AA:1826:C:C6	2.54	0.42
1:AA:2147:G:O2'	1:AA:2195:A:N6	2.50	0.42
1:AA:2219:U:C6	1:AA:2236:G:C6	3.08	0.42
1:AA:2274:U:H4'	1:AA:2340:A:C2	2.55	0.42
1:AA:2303:U:O2'	1:AA:2304:C:H5'	2.20	0.42
1:AA:2716:C:H2'	1:AA:2717:A:O4'	2.20	0.42
2:AB:8:U:O2'	16:AS:40:ILE:HD13	2.20	0.42
2:AB:11:C:O5'	2:AB:12:C:H5	2.02	0.42
2:AB:29:A:C2	2:AB:56:G:C2	3.07	0.42
4:AD:102:LYS:C	4:AD:103:ARG:HG2	2.37	0.42
5:AE:98:PRO:HD3	5:AE:175:VAL:CG1	2.50	0.42
7:AG:25:TYR:CE2	7:AG:32:PRO:HD2	2.55	0.42
7:AG:56:ALA:HA	7:AG:153:ARG:NH2	2.35	0.42
13:AP:8:PRO:HB2	13:AP:12:ALA:HB3	2.02	0.42
16:AS:83:LYS:HE2	16:AS:83:LYS:HB2	1.58	0.42
23:AZ:108:PRO:HA	23:AZ:142:SER:HA	2.02	0.42
30:A6:8:LYS:HE2	32:A8:34:TRP:CH2	2.55	0.42
34:BA:191:G:C6	34:BA:192:U:C4	3.07	0.42
34:BA:900:A:H2'	34:BA:901:A:C8	2.54	0.42
34:BA:922:G:N3	34:BA:1398:A:H2	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1410:G:H1	34:BA:1490:C:H42	1.66	0.42
34:BA:1410:G:H2'	34:BA:1411:C:H6	1.85	0.42
34:BA:1436:U:OP1	53:BT:23:ARG:NH2	2.52	0.42
37:BD:120:LEU:HD13	37:BD:126:ILE:HD11	2.02	0.42
38:BE:91:LEU:HD12	38:BE:120:THR:HG22	2.01	0.42
42:BI:16:ARG:HD3	42:BI:64:THR:HG21	2.02	0.42
46:BM:15:VAL:HG12	46:BM:19:LEU:HD13	2.00	0.42
57:BZ:20:HIS:ND1	57:BZ:115:GLU:HB3	2.35	0.42
1:CA:611:C:H2'	1:CA:612:C:C6	2.55	0.42
1:CA:852:G:C6	1:CA:926:A:C6	3.08	0.42
1:CA:1301:A:C8	1:CA:1303:G:C8	3.08	0.42
1:CA:1482:G:N2	1:CA:1507:A:H1'	2.34	0.42
1:CA:1603:A:C6	1:CA:1604:C:C2	3.08	0.42
1:CA:2056:G:N2	29:C5:5:PRO:HA	2.34	0.42
4:CD:261:LYS:HZ1	4:CD:263:ARG:NH2	2.17	0.42
8:CH:157:TYR:O	8:CH:158:HIS:ND1	2.50	0.42
19:CV:6:LYS:HB2	19:CV:38:LEU:CD2	2.50	0.42
20:CW:18:ARG:HH11	20:CW:76:VAL:HB	1.84	0.42
23:CZ:48:PHE:CE2	23:CZ:52:SER:HA	2.54	0.42
25:C1:3:LYS:O	25:C1:12:PRO:HD3	2.19	0.42
26:C2:57:ILE:HA	26:C2:60:LEU:HB2	2.00	0.42
34:DA:33:A:N3	45:DL:32:PHE:HE2	2.18	0.42
34:DA:509:A:C5	34:DA:510:A:C6	3.07	0.42
34:DA:837:G:H1	34:DA:849:C:H42	1.65	0.42
34:DA:923:A:OP1	38:DE:21:ALA:HB2	2.19	0.42
34:DA:1239:A:H4'	34:DA:1240:U:H5'	2.01	0.42
34:DA:1316:G:H1	52:DS:3:ARG:CG	2.32	0.42
38:DE:43:LEU:HB3	38:DE:136:MET:SD	2.59	0.42
47:DN:23:ARG:HD2	47:DN:28:GLY:O	2.20	0.42
47:DN:51:GLY:C	47:DN:53:LEU:H	2.23	0.42
57:DZ:140:ASP:OD2	57:DZ:265:LYS:HD2	2.19	0.42
57:DZ:221:ALA:HB1	57:DZ:228:MET:HB2	2.00	0.42
57:DZ:479:PRO:HB2	57:DZ:480:GLN:H	1.59	0.42
1:AA:205:A:C4	1:AA:459:A:C2	3.08	0.42
1:AA:228:U:H2'	1:AA:229:G:O4'	2.19	0.42
1:AA:287:G:C2	1:AA:448:U:C4	3.08	0.42
1:AA:325:G:C4	1:AA:326:C:C5	3.08	0.42
1:AA:983:G:OP1	32:A8:52:LYS:NZ	2.45	0.42
1:AA:1052:C:C2	1:AA:1183:G:N2	2.87	0.42
1:AA:1155:C:C5	1:AA:1156:G:C6	3.08	0.42
1:AA:1215:G:H1	1:AA:1225:C:H42	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2186:C:H5	1:AA:2187:G:N3	2.17	0.42
1:AA:2258:G:H1'	1:AA:2438:A:C2	2.55	0.42
1:AA:2319:G:H4'	1:AA:2320:G:O5'	2.19	0.42
1:AA:2669:A:H5''	1:AA:2670:C:OP2	2.20	0.42
1:AA:2881:C:H6	1:AA:2881:C:O5'	2.02	0.42
2:AB:66:A:N6	2:AB:108:U:H2'	2.34	0.42
3:AC:225:ILE:O	3:AC:227:PRO:HD3	2.19	0.42
4:AD:37:LEU:HD22	4:AD:87:ASN:ND2	2.35	0.42
4:AD:92:ILE:HD12	4:AD:104:TYR:CD1	2.55	0.42
4:AD:131:LEU:HB2	4:AD:136:ILE:HD11	2.01	0.42
6:AF:14:PRO:HD2	6:AF:127:GLU:OE2	2.20	0.42
10:AL:82:ALA:HB2	10:AL:99:ILE:HD11	2.02	0.42
12:AO:118:ALA:HA	12:AO:119:PRO:HD2	1.85	0.42
18:AU:108:GLU:CD	18:AU:112:ARG:HH11	2.22	0.42
23:AZ:70:LEU:HD12	23:AZ:91:LEU:HD11	2.02	0.42
34:BA:430:A:P	37:BD:8:VAL:H	2.42	0.42
34:BA:1106:G:H2'	34:BA:1107:C:C6	2.54	0.42
34:BA:1240:U:OP2	40:BG:116:ALA:N	2.43	0.42
38:BE:34:VAL:HG11	38:BE:63:ARG:HG3	2.00	0.42
39:BF:95:GLU:HA	39:BF:96:PRO:HD3	1.84	0.42
41:BH:75:ARG:HA	41:BH:76:PRO:HD2	1.66	0.42
44:BK:84:VAL:HG21	44:BK:95:ILE:HD11	2.00	0.42
56:BY:60:U:H5''	56:BY:61:C:C5	2.45	0.42
57:BZ:-29:LEU:H	57:BZ:-29:LEU:HD23	1.84	0.42
57:BZ:-9:LEU:O	57:BZ:-7:GLU:N	2.53	0.42
1:CA:422:A:H2'	1:CA:423:A:C8	2.54	0.42
1:CA:875:G:H2'	1:CA:876:C:C6	2.55	0.42
1:CA:1475:G:H2'	1:CA:1476:C:C6	2.55	0.42
1:CA:1877:A:H5'	1:CA:1878:G:OP2	2.19	0.42
1:CA:2395:C:H2'	1:CA:2396:G:O4'	2.20	0.42
1:CA:2591:C:OP1	4:CD:239:ARG:HD2	2.19	0.42
3:CC:48:LEU:CD2	3:CC:59:VAL:HG21	2.50	0.42
3:CC:195:ARG:HG3	3:CC:195:ARG:NH1	2.35	0.42
8:CH:64:LEU:HD23	8:CH:64:LEU:HA	1.65	0.42
8:CH:76:VAL:C	8:CH:78:GLY:N	2.71	0.42
10:CL:100:THR:HG22	10:CL:139:VAL:HG23	2.01	0.42
12:CO:2:ILE:HB	12:CO:33:ALA:HB3	2.01	0.42
13:CP:126:VAL:HG12	13:CP:148:LEU:HD22	2.01	0.42
16:CS:11:LYS:HG2	16:CS:15:ARG:NH1	2.34	0.42
16:CS:83:LYS:O	16:CS:84:GLN:HB2	2.19	0.42
18:CU:91:ASP:O	18:CU:95:LEU:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:C2:35:LEU:HD23	26:C2:35:LEU:HA	1.83	0.42
26:C2:51:ARG:O	26:C2:55:ARG:HG3	2.20	0.42
29:C5:45:VAL:HG11	29:C5:58:LEU:HD22	2.02	0.42
32:C8:8:LYS:O	32:C8:12:LYS:HG3	2.18	0.42
34:DA:338:A:C5	34:DA:339:C:C4	3.08	0.42
34:DA:502:G:H2'	34:DA:503:C:O4'	2.19	0.42
34:DA:737:A:H8	34:DA:737:A:O5'	2.02	0.42
34:DA:826:C:C2	34:DA:827:U:C5	3.08	0.42
34:DA:936:C:H42	34:DA:1379:G:H1	1.65	0.42
34:DA:1531:A:N7	34:DA:1532:U:C4	2.87	0.42
35:DB:8:LYS:HG3	35:DB:9:GLU:H	1.85	0.42
35:DB:82:ARG:HG3	35:DB:92:TYR:OH	2.19	0.42
36:DC:148:GLY:HA3	36:DC:172:ARG:O	2.20	0.42
36:DC:156:ARG:HE	36:DC:156:ARG:HB3	1.50	0.42
41:DH:88:LYS:HB3	41:DH:89:PRO:HD2	2.01	0.42
51:DR:50:ILE:HG12	51:DR:70:ILE:HG21	2.01	0.42
57:DZ:130:VAL:HA	57:DZ:131:PRO:HD3	1.84	0.42
1:AA:268:G:O2'	1:AA:269:G:H8	2.02	0.42
1:AA:555:G:C5	1:AA:2044:U:H5''	2.54	0.42
1:AA:909:G:H2'	1:AA:910:A:O4'	2.20	0.42
1:AA:1644:C:H2'	1:AA:1645:C:H6	1.85	0.42
1:AA:2480:G:OP1	14:AQ:119:ARG:NH2	2.44	0.42
1:AA:2679:C:H2'	1:AA:2680:G:O4'	2.19	0.42
4:AD:138:VAL:HA	4:AD:165:ILE:HB	2.01	0.42
5:AE:51:PHE:CD2	5:AE:52:LEU:HG	2.55	0.42
5:AE:105:THR:HA	5:AE:165:VAL:O	2.19	0.42
8:AH:7:LEU:O	8:AH:69:ARG:HD2	2.19	0.42
8:AH:68:THR:O	8:AH:72:ILE:HG13	2.19	0.42
11:AN:87:LEU:HD22	11:AN:91:LEU:HG	2.02	0.42
12:AO:64:ARG:HG2	12:AO:79:PHE:CD2	2.54	0.42
13:AP:88:LEU:O	13:AP:91:PHE:HD2	2.03	0.42
18:AU:79:PHE:CE1	18:AU:83:LEU:HD13	2.55	0.42
22:AY:38:ILE:HD11	22:AY:66:PRO:HG3	2.01	0.42
23:AZ:8:TYR:CD1	23:AZ:8:TYR:N	2.88	0.42
34:BA:192:U:H2'	34:BA:193:C:H6	1.85	0.42
34:BA:574:A:N3	34:BA:883:C:H1'	2.34	0.42
34:BA:1152:A:H5'	43:BJ:13:HIS:ND1	2.34	0.42
34:BA:1438:G:H2'	34:BA:1439:C:C6	2.55	0.42
35:BB:195:ASP:O	41:BH:74:PRO:HG2	2.20	0.42
38:BE:79:GLU:OE1	41:BH:104:ARG:HA	2.18	0.42
42:BI:71:SER:HA	42:BI:74:ILE:HD12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BP:52:ASP:CG	49:BP:55:ARG:HG2	2.39	0.42
56:BY:9:A:H1'	56:BY:45:U:H2'	2.00	0.42
57:BZ:99:ARG:HB3	57:BZ:99:ARG:NH1	2.35	0.42
1:CA:110:G:C4	1:CA:111:A:C8	3.08	0.42
1:CA:508:G:H4'	1:CA:509:C:OP2	2.20	0.42
1:CA:666:G:O2'	1:CA:667:U:H5'	2.20	0.42
1:CA:1043:C:C2'	1:CA:1044:G:H5'	2.50	0.42
1:CA:1058:G:C2'	1:CA:1059:G:H5''	2.49	0.42
1:CA:1153:C:H5'	18:CU:76:TYR:CE1	2.55	0.42
1:CA:1168:G:H1	1:CA:1181:C:H42	1.66	0.42
1:CA:2128:C:H5'	1:CA:2173:A:H2	1.85	0.42
1:CA:2200:C:O2	1:CA:2226:C:N4	2.52	0.42
1:CA:2379:G:C2'	16:CS:17:ARG:HH21	2.31	0.42
1:CA:2747:G:O6	1:CA:2755:C:H5''	2.20	0.42
3:CC:225:ILE:O	3:CC:227:PRO:HD3	2.19	0.42
4:CD:48:ARG:O	4:CD:50:THR:HG23	2.20	0.42
7:CG:19:LEU:HD23	7:CG:19:LEU:HA	1.87	0.42
7:CG:64:THR:OG1	7:CG:66:GLN:O	2.33	0.42
8:CH:46:GLU:O	8:CH:48:GLY:N	2.52	0.42
10:CL:89:HIS:O	10:CL:91:PRO:HD3	2.19	0.42
14:CQ:3:MET:HB2	14:CQ:93:TYR:CD2	2.55	0.42
20:CW:27:LYS:O	20:CW:71:VAL:HG23	2.20	0.42
28:C4:10:VAL:O	28:C4:12:ALA:N	2.53	0.42
32:C8:62:LEU:HB3	32:C8:65:GLU:HB2	2.01	0.42
34:DA:165:C:H2'	34:DA:166:G:H8	1.83	0.42
34:DA:321:A:N7	34:DA:328:C:O2'	2.40	0.42
34:DA:453:A:C5	34:DA:454:C:C4	3.08	0.42
34:DA:580:U:H2'	34:DA:581:G:O4'	2.20	0.42
34:DA:650:G:C2'	34:DA:651:C:H5'	2.50	0.42
34:DA:862:C:O2'	34:DA:863:U:H5'	2.19	0.42
34:DA:1005:A:OP2	34:DA:1006:C:N4	2.53	0.42
37:DD:25:ARG:O	37:DD:28:SER:HB3	2.19	0.42
39:DF:33:TYR:HD1	39:DF:75:LEU:HD23	1.85	0.42
40:DG:27:ILE:HD11	40:DG:43:PHE:CD2	2.55	0.42
49:DP:43:LYS:HA	49:DP:48:TRP:CG	2.55	0.42
57:DZ:20:HIS:CE1	57:DZ:115:GLU:HB3	2.55	0.42
1:AA:860:U:OP2	13:AP:23:PRO:HD2	2.20	0.42
1:AA:1170:C:H2'	1:AA:1171:G:O4'	2.19	0.42
1:AA:2144:U:O2'	3:AC:167:ASP:HB3	2.20	0.42
1:AA:2154:U:N3	3:AC:6:LYS:CB	2.83	0.42
1:AA:2432:C:O5'	1:AA:2432:C:H6	2.03	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:2484:G:H2'	1:AA:2541:G:N2	2.35	0.42
2:AB:106:G:OP1	23:AZ:31:ARG:HG2	2.19	0.42
3:AC:48:LEU:CD2	3:AC:59:VAL:HG21	2.50	0.42
4:AD:133:LEU:HA	4:AD:136:ILE:HG13	2.01	0.42
4:AD:165:ILE:H	4:AD:165:ILE:HG12	1.58	0.42
4:AD:213:ARG:HA	4:AD:213:ARG:HD2	1.81	0.42
5:AE:61:ARG:N	5:AE:62:PRO:HD2	2.33	0.42
7:AG:133:LEU:HG	7:AG:157:ILE:HG13	2.01	0.42
11:AN:70:LYS:HE2	11:AN:72:TYR:CZ	2.55	0.42
12:AO:7:TYR:CE1	12:AO:20:MET:HG3	2.55	0.42
19:AV:97:LYS:HD2	19:AV:97:LYS:HA	1.81	0.42
21:AX:21:PHE:C	21:AX:23:GLU:N	2.73	0.42
25:A1:23:LYS:HB2	25:A1:23:LYS:HE3	1.92	0.42
27:A3:43:ILE:O	27:A3:47:VAL:HG23	2.20	0.42
34:BA:26:A:H5''	34:BA:27:G:OP2	2.20	0.42
34:BA:393:A:C2	34:BA:394:G:C8	3.07	0.42
34:BA:404:U:H2'	34:BA:405:U:H6	1.85	0.42
34:BA:657:G:C2	34:BA:658:G:C8	3.08	0.42
34:BA:967:C:O5'	34:BA:967:C:H6	2.03	0.42
34:BA:1074:G:C6	34:BA:1075:C:C4	3.08	0.42
44:BK:43:SER:OG	44:BK:44:SER:N	2.53	0.42
44:BK:99:GLN:HG2	44:BK:105:VAL:HG21	2.02	0.42
47:BN:23:ARG:HD2	47:BN:28:GLY:O	2.19	0.42
57:BZ:-42:TYR:CE2	57:BZ:-38:TYR:CD2	3.07	0.42
1:CA:274:G:N2	1:CA:363:G:N7	2.67	0.42
1:CA:444:C:H4'	6:CF:49:ALA:HB2	2.01	0.42
1:CA:577:G:O2'	1:CA:1254:A:OP1	2.33	0.42
1:CA:928:G:H8	1:CA:928:G:O5'	2.03	0.42
1:CA:1323:U:OP1	20:CW:84:ARG:NE	2.40	0.42
1:CA:1439:A:C2	1:CA:1553:A:C4	3.08	0.42
1:CA:1637:A:H2'	1:CA:1638:C:O4'	2.20	0.42
1:CA:1788:C:H2'	1:CA:1789:A:O4'	2.20	0.42
1:CA:2078:C:H1'	1:CA:2434:A:H1'	2.02	0.42
1:CA:2154:G:C2	1:CA:2155:G:C8	3.08	0.42
1:CA:2343:C:H4'	1:CA:2373:G:O3'	2.19	0.42
1:CA:2510:C:H4'	63:CA:4271:HOH:O	2.19	0.42
1:CA:2703:C:H2'	1:CA:2704:C:C6	2.54	0.42
1:CA:2774:C:H2'	1:CA:2775:A:O4'	2.19	0.42
4:CD:71:ASP:CB	4:CD:103:ARG:NH2	2.83	0.42
5:CE:1:MET:HE3	5:CE:199:ARG:HD2	2.01	0.42
6:CF:32:LEU:O	6:CF:36:VAL:HG23	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:CF:65:TRP:CZ2	6:CF:75:HIS:HD2	2.37	0.42
9:CK:70:GLU:O	9:CK:72:ASP:N	2.52	0.42
11:CN:70:LYS:HB3	11:CN:87:LEU:HB2	2.01	0.42
16:CS:10:ARG:O	16:CS:14:VAL:HG22	2.19	0.42
23:CZ:45:ASP:CG	23:CZ:49:ARG:HH11	2.23	0.42
34:DA:189(F):U:O2	50:DQ:63:ARG:NH2	2.53	0.42
34:DA:944:G:N1	34:DA:1338:G:OP2	2.53	0.42
34:DA:1026:G:O6	34:DA:1036:G:N2	2.52	0.42
34:DA:1058:G:H2'	34:DA:1059:C:C6	2.55	0.42
34:DA:1083:U:C5	34:DA:1084:G:C6	3.07	0.42
34:DA:1347:G:O2'	34:DA:1373:G:N1	2.45	0.42
43:DJ:49:VAL:HG23	47:DN:41:ARG:HB2	2.02	0.42
46:DM:74:VAL:O	46:DM:78:ILE:HG12	2.19	0.42
47:DN:40:CYS:SG	47:DN:43:CYS:HB2	2.60	0.42
52:DS:4:SER:HB3	52:DS:7:LYS:HD3	2.02	0.42
57:DZ:512:ILE:HD13	57:DZ:512:ILE:H	1.84	0.42
1:AA:107:G:H2'	1:AA:108:G:O4'	2.18	0.42
1:AA:559:U:H2'	1:AA:560:C:C6	2.55	0.42
1:AA:766:C:O5'	1:AA:766:C:H6	2.03	0.42
1:AA:2164:C:H2'	1:AA:2165:C:C6	2.55	0.42
1:AA:2225:U:H4'	4:AD:151:LYS:HG2	2.02	0.42
1:AA:2784:C:H2'	1:AA:2785:C:C6	2.54	0.42
3:AC:206:LYS:HB3	3:AC:206:LYS:HZ2	1.84	0.42
11:AN:23:LEU:HD11	11:AN:99:LEU:HA	2.01	0.42
12:AO:8:LEU:N	12:AO:8:LEU:HD23	2.34	0.42
13:AP:101:VAL:HG12	13:AP:102:ARG:N	2.35	0.42
27:A3:31:LEU:HD23	27:A3:31:LEU:HA	1.48	0.42
34:BA:258:G:H2'	34:BA:259:G:H8	1.84	0.42
34:BA:1175:G:H2'	34:BA:1176:A:C8	2.55	0.42
35:BB:24:TRP:CE3	35:BB:26:PRO:HA	2.55	0.42
35:BB:55:PHE:CD1	35:BB:221:LEU:HG	2.54	0.42
35:BB:219:VAL:HA	35:BB:222:ILE:HD12	2.01	0.42
42:BI:9:ARG:HB2	42:BI:104:ARG:HG3	2.02	0.42
45:BL:110:VAL:CG2	45:BL:120:TYR:HB3	2.50	0.42
49:BP:66:PRO:HD2	49:BP:71:ARG:HH21	1.85	0.42
50:BQ:56:VAL:HB	50:BQ:78:GLU:HB3	2.02	0.42
57:BZ:272:LEU:O	57:BZ:275:ALA:HB3	2.20	0.42
57:BZ:639:ASN:N	57:BZ:640:ALA:HB3	2.34	0.42
1:CA:176:G:O2'	1:CA:177:G:H5'	2.19	0.42
1:CA:697:C:C2	1:CA:698:C:C5	3.08	0.42
1:CA:2406:U:H2'	1:CA:2406:U:OP2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2838:G:C2	1:CA:2881:C:C2	3.08	0.42
2:CB:103:G:N2	23:CZ:73:GLN:OE1	2.53	0.42
3:CC:42:VAL:O	3:CC:216:THR:C	2.59	0.42
6:CF:170:LEU:HG	6:CF:172:TRP:NE1	2.34	0.42
16:CS:25:ARG:NH1	16:CS:42:ASP:OD2	2.53	0.42
23:CZ:94:GLU:H	23:CZ:94:GLU:HG3	1.42	0.42
34:DA:357:G:O2'	34:DA:358:U:H5'	2.20	0.42
34:DA:556:C:C4	34:DA:557:G:N7	2.88	0.42
34:DA:1008:C:H2'	34:DA:1009:G:O4'	2.19	0.42
34:DA:1077:G:C2	34:DA:1081:G:C6	3.08	0.42
34:DA:1317:C:OP1	47:DN:17:LYS:HG2	2.20	0.42
38:DE:8:GLU:HG3	38:DE:34:VAL:HG23	2.01	0.42
42:DI:19:LEU:HD13	42:DI:59:PHE:CE1	2.55	0.42
44:DK:89:ALA:O	44:DK:91:ARG:N	2.51	0.42
53:DT:53:LEU:HA	53:DT:56:MET:HG2	2.01	0.42
56:DW:10:G:N2	56:DW:26:A:H1'	2.34	0.42
56:DW:41:C:H2'	56:DW:42:C:C6	2.55	0.42
56:DY:35:A:N6	56:DY:36:A:N1	2.68	0.42
57:DZ:359:HIS:HB2	57:DZ:362:HIS:O	2.20	0.42
57:DZ:512:ILE:HG22	57:DZ:567:LEU:HD13	2.01	0.42
1:AA:12:U:O2	1:AA:12:U:H2'	2.20	0.42
1:AA:440:C:O5'	1:AA:440:C:H6	2.02	0.42
1:AA:769:A:H2'	1:AA:770:G:O4'	2.20	0.42
1:AA:904:C:H2'	1:AA:905:U:C6	2.55	0.42
1:AA:1470:G:H2'	1:AA:1471:G:O4'	2.20	0.42
1:AA:1744:G:OP2	1:AA:1745:A:O2'	2.33	0.42
1:AA:2331:G:N2	16:AS:3:ARG:HA	2.34	0.42
1:AA:2406:C:P	32:A8:30:ARG:HH11	2.42	0.42
5:AE:9:VAL:HG13	5:AE:25:VAL:O	2.20	0.42
5:AE:116:VAL:HG13	5:AE:122:PHE:CB	2.49	0.42
7:AG:44:GLY:HA3	7:AG:88:ILE:HG22	2.01	0.42
8:AH:28:GLY:HA3	8:AH:79:VAL:HG23	2.02	0.42
22:AY:79:CYS:SG	22:AY:81:LYS:HG3	2.59	0.42
23:AZ:156:LYS:HG2	23:AZ:157:LEU:H	1.85	0.42
26:A2:32:LEU:HD11	26:A2:54:LYS:HG2	2.01	0.42
28:A4:50:VAL:HB	46:BM:62:ASN:O	2.19	0.42
30:A6:33:LYS:HG3	30:A6:51:GLU:HG2	2.02	0.42
34:BA:11:G:C2	34:BA:12:U:O2	2.73	0.42
34:BA:327:A:H1'	34:BA:329:A:O4'	2.20	0.42
34:BA:426:G:H2'	34:BA:427:U:C6	2.54	0.42
34:BA:590:C:O2'	34:BA:591:U:H5'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BD:78:LEU:HD23	37:BD:78:LEU:HA	1.87	0.42
39:BF:48:LEU:HB2	39:BF:56:PRO:O	2.20	0.42
43:BJ:37:PRO:HA	43:BJ:72:VAL:HG12	2.01	0.42
56:BY:56:C:H2'	56:BY:57:G:O4'	2.19	0.42
57:BZ:136:ALA:HB3	57:BZ:260:LEU:CB	2.50	0.42
57:BZ:225:GLU:HA	57:BZ:228:MET:HB3	2.01	0.42
57:BZ:348:ARG:NH1	57:BZ:382:GLU:CD	2.73	0.42
1:CA:272(B):G:H2'	1:CA:272(C):G:H8	1.83	0.42
1:CA:607:U:OP1	6:CF:103:LYS:N	2.45	0.42
1:CA:660:G:H5'	6:CF:99:TYR:CD2	2.55	0.42
1:CA:831:G:O2'	13:CP:38:GLN:NE2	2.52	0.42
1:CA:1084:A:H2'	1:CA:1085:A:C8	2.54	0.42
1:CA:1088:A:N6	10:CL:133:SER:OG	2.51	0.42
1:CA:1241:A:C2	1:CA:1242:A:C4	3.07	0.42
1:CA:1586:A:H2'	1:CA:1587:A:O4'	2.20	0.42
1:CA:2176:A:H4'	3:CC:45:HIS:NE2	2.34	0.42
1:CA:2177:C:O2'	3:CC:47:LYS:HD3	2.20	0.42
1:CA:2293:C:OP1	1:CA:2377:A:N6	2.49	0.42
1:CA:2467:C:O2	14:CQ:124:LYS:NZ	2.51	0.42
1:CA:2526:G:O2'	33:C9:1:MET:N	2.41	0.42
1:CA:2749:A:N1	1:CA:2750:A:N6	2.67	0.42
1:CA:2880:C:O3'	15:CR:90:ARG:NH1	2.52	0.42
4:CD:206:LEU:HD22	4:CD:211:ARG:HG2	2.01	0.42
5:CE:73:GLU:HA	5:CE:74:PRO:HD2	1.76	0.42
5:CE:179:GLU:HG2	17:CT:9:LEU:HD22	2.02	0.42
19:CV:71:LEU:HD22	19:CV:84:LYS:HE3	2.02	0.42
20:CW:71:VAL:HA	20:CW:107:LEU:HD12	2.01	0.42
22:CY:9:LYS:HA	22:CY:10:GLY:HA2	1.51	0.42
31:C7:1:MET:HE3	31:C7:1:MET:HB3	1.78	0.42
34:DA:324:G:N2	34:DA:327:A:C8	2.88	0.42
34:DA:376:G:C4	34:DA:389:A:N1	2.88	0.42
34:DA:623:C:O5'	34:DA:623:C:H6	2.02	0.42
34:DA:830:G:C6	34:DA:831:U:C4	3.07	0.42
34:DA:975:A:H61	43:DJ:48:THR:HB	1.85	0.42
34:DA:1009:G:H3'	34:DA:1010:G:C8	2.55	0.42
34:DA:1041:A:N6	34:DA:1042:G:O6	2.53	0.42
34:DA:1273:G:H5'	34:DA:1274:G:OP2	2.19	0.42
34:DA:1355:G:H2'	34:DA:1356:G:H8	1.84	0.42
35:DB:76:GLN:HB2	35:DB:208:ILE:HG12	2.01	0.42
36:DC:152:ILE:HG12	36:DC:153:VAL:N	2.34	0.42
36:DC:157:ILE:HG21	36:DC:164:ARG:NH2	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:DD:173:TRP:HB2	37:DD:187:ARG:O	2.20	0.42
40:DG:115:ARG:HB3	40:DG:118:VAL:HG23	2.01	0.42
48:DO:54:ARG:HG3	48:DO:58:MET:HE1	2.01	0.42
53:DT:72:LEU:HD23	53:DT:72:LEU:HA	1.84	0.42
57:DZ:38:ARG:HG2	57:DZ:40:HIS:HB2	2.01	0.42
1:AA:811:A:H5''	4:AD:210:GLY:HA3	2.02	0.41
1:AA:1091:A:C8	1:AA:1093:G:C2	3.07	0.41
1:AA:1214:G:H2'	1:AA:1215:G:O4'	2.20	0.41
1:AA:1343:C:OP1	1:AA:2722:C:H4'	2.20	0.41
1:AA:1411:A:P	25:A1:41:ARG:HH22	2.43	0.41
1:AA:2119:C:H2'	1:AA:2120:U:C6	2.55	0.41
1:AA:2294:G:H4'	1:AA:2401:G:O2'	2.19	0.41
1:AA:2529:C:C5	1:AA:2554:A:C5	3.09	0.41
4:AD:132:PRO:HG3	4:AD:190:TYR:CE1	2.55	0.41
11:AN:108:PRO:O	11:AN:113:GLY:HA3	2.19	0.41
24:A0:59:LEU:HA	24:A0:59:LEU:HD23	1.81	0.41
25:A1:7:ILE:HD12	25:A1:98:LEU:HD11	2.01	0.41
28:A4:41:PRO:O	28:A4:48:ARG:NH2	2.53	0.41
28:A4:46:GLN:O	28:A4:48:ARG:HG2	2.20	0.41
34:BA:622:A:C8	34:BA:623:C:C6	3.08	0.41
34:BA:1017:G:H2'	34:BA:1018:C:H6	1.82	0.41
34:BA:1065:U:H4'	34:BA:1066:C:O5'	2.20	0.41
34:BA:1240:U:C2	40:BG:32:ARG:HD2	2.55	0.41
34:BA:1298:C:H2'	40:BG:114:ARG:NH1	2.35	0.41
34:BA:1350:A:C6	34:BA:1351:U:N3	2.88	0.41
35:BB:120:ALA:O	35:BB:121:LEU:HD22	2.20	0.41
38:BE:140:ARG:HE	38:BE:140:ARG:HB2	1.73	0.41
39:BF:45:LEU:HD12	39:BF:59:TYR:CD2	2.55	0.41
43:BJ:8:LEU:HB2	43:BJ:70:ARG:HB2	2.02	0.41
44:BK:95:ILE:O	44:BK:99:GLN:HG3	2.20	0.41
47:BN:7:ILE:C	47:BN:9:LYS:H	2.22	0.41
56:BW:37:MIA:C5	56:BW:38:A:C5	3.03	0.41
57:BZ:109:ASP:HB3	57:BZ:112:GLN:HB2	2.02	0.41
57:BZ:133:ILE:HG22	57:BZ:257:PRO:HD2	2.01	0.41
57:BZ:320:PRO:HB2	57:BZ:321:TYR:HD2	1.83	0.41
1:CA:1053:C:C6	1:CA:1053:C:C3'	3.03	0.41
1:CA:1053:C:C2	1:CA:1054:A:H1'	2.54	0.41
1:CA:1231:G:H2'	1:CA:1232:G:H8	1.85	0.41
1:CA:1344:G:C2	1:CA:1385:G:C8	3.07	0.41
1:CA:1528(A):A:H2'	1:CA:1529:G:O4'	2.19	0.41
6:CF:123:LEU:HD12	6:CF:124:LEU:N	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:CG:115:ARG:CZ	7:CG:115:ARG:HB3	2.50	0.41
7:CG:116:ASP:OD1	46:DM:68:GLY:HA3	2.20	0.41
8:CH:91:GLY:O	8:CH:94:TYR:N	2.53	0.41
14:CQ:73:PRO:HB3	14:CQ:93:TYR:CE1	2.55	0.41
15:CR:101:ALA:HA	29:C5:44:THR:HG21	2.01	0.41
18:CU:98:LEU:HD23	18:CU:98:LEU:HA	1.85	0.41
24:C0:72:ARG:HB3	24:C0:75:LEU:HB2	2.01	0.41
26:C2:2:LYS:HG2	26:C2:5:GLU:OE1	2.20	0.41
27:C3:28:LEU:HA	27:C3:33:GLN:OE1	2.20	0.41
34:DA:437:U:H5'	37:DD:155:LEU:HD11	2.01	0.41
34:DA:662:G:H2'	34:DA:663:A:C8	2.55	0.41
34:DA:694:A:C2	34:DA:695:A:H1'	2.54	0.41
35:DB:169:LYS:O	35:DB:169:LYS:HD3	2.19	0.41
37:DD:57:ARG:HB3	37:DD:206:PHE:HB2	2.01	0.41
39:DF:78:GLU:O	39:DF:81:ILE:HG22	2.19	0.41
44:DK:63:LEU:H	44:DK:63:LEU:HG	1.63	0.41
46:DM:3:ARG:HE	46:DM:11:ARG:HH21	1.68	0.41
48:DO:70:LEU:O	48:DO:70:LEU:HG	2.20	0.41
57:DZ:137:ASN:ND2	62:DZ:703:GDP:N7	2.68	0.41
57:DZ:196:ILE:O	57:DZ:196:ILE:HG13	2.20	0.41
57:DZ:215:LYS:O	57:DZ:218:GLU:HB3	2.20	0.41
57:DZ:511:LYS:HB2	57:DZ:569:ASP:HB3	2.03	0.41
1:AA:894:U:H5'	63:AA:3912:HOH:O	2.19	0.41
1:AA:1058:U:H5	11:AN:28:THR:HG21	1.85	0.41
1:AA:1116:A:H5'	1:AA:1118:C:OP2	2.20	0.41
1:AA:1287:A:O2'	1:AA:1288:A:H5'	2.19	0.41
1:AA:1644:C:H2'	1:AA:1645:C:C6	2.56	0.41
1:AA:1766:G:H3'	1:AA:1767:A:H5''	2.01	0.41
1:AA:1989:C:H2'	1:AA:1990:G:H5'	2.02	0.41
1:AA:2297:C:H2'	1:AA:2298:A:H5'	2.03	0.41
4:AD:96:HIS:CD2	4:AD:102:LYS:HG2	2.55	0.41
4:AD:107:ALA:HA	4:AD:108:PRO:HD3	1.77	0.41
5:AE:52:LEU:O	5:AE:76:ARG:N	2.49	0.41
5:AE:67:PHE:CZ	5:AE:75:VAL:HG12	2.55	0.41
7:AG:66:GLN:NE2	7:AG:94:LEU:HD23	2.35	0.41
23:AZ:156:LYS:O	23:AZ:157:LEU:HB2	2.20	0.41
30:A6:50:ARG:HG3	30:A6:51:GLU:O	2.20	0.41
34:BA:255:G:H1'	50:BQ:16:GLN:HE21	1.85	0.41
34:BA:407:G:H2'	34:BA:408:A:C8	2.55	0.41
34:BA:791:G:C2'	34:BA:792:A:H5'	2.50	0.41
34:BA:1118:C:C2	34:BA:1179:A:C2	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:1280:A:C8	43:BJ:41:PRO:HD3	2.55	0.41
35:BB:24:TRP:H	35:BB:24:TRP:HD1	1.67	0.41
39:BF:38:GLU:OE1	39:BF:64:GLN:NE2	2.53	0.41
41:BH:14:ARG:O	41:BH:18:ARG:HD3	2.20	0.41
43:BJ:63:PHE:HE2	47:BN:45:ARG:HA	1.85	0.41
52:BS:80:TYR:CZ	52:BS:82:GLY:HA2	2.55	0.41
53:BT:71:THR:O	53:BT:72:LEU:HD23	2.20	0.41
57:BZ:417:THR:HA	57:BZ:418:LYS:CG	2.46	0.41
1:CA:25:U:H2'	1:CA:26:G:O4'	2.20	0.41
1:CA:64:A:H2'	1:CA:65:C:O4'	2.20	0.41
1:CA:420:C:H2'	1:CA:421:U:C6	2.56	0.41
1:CA:494:G:H4'	20:CW:6:ILE:HB	2.02	0.41
1:CA:679:C:H2'	1:CA:680:G:H8	1.84	0.41
1:CA:844:C:H2'	1:CA:845:G:H5'	2.01	0.41
1:CA:1265:A:H5'	63:CA:3880:HOH:O	2.20	0.41
1:CA:1791:A:OP2	1:CA:1791:A:C8	2.72	0.41
1:CA:2136:C:O2'	1:CA:2137:C:H6	2.03	0.41
1:CA:2727:G:O2'	12:CO:70:LYS:NZ	2.52	0.41
1:CA:2742:C:OP1	33:C9:35:ARG:HD3	2.19	0.41
1:CA:2792:G:C6	1:CA:2805:G:C6	3.08	0.41
1:CA:2823:A:OP1	5:CE:113:PHE:HB2	2.20	0.41
1:CA:2850:A:OP2	1:CA:2866:U:H5	2.02	0.41
4:CD:72:LYS:HG3	4:CD:103:ARG:NH2	2.35	0.41
5:CE:64:LYS:O	5:CE:68:ALA:N	2.50	0.41
5:CE:101:ARG:HD3	5:CE:101:ARG:HA	1.82	0.41
6:CF:123:LEU:HD13	6:CF:192:LEU:HB3	2.01	0.41
16:CS:28:VAL:HG11	16:CS:98:VAL:HG13	2.00	0.41
22:CY:20:TYR:CZ	22:CY:43:ASN:HA	2.55	0.41
23:CZ:7:ALA:O	23:CZ:62:PRO:HD3	2.20	0.41
26:C2:53:LEU:HD23	26:C2:53:LEU:HA	1.76	0.41
30:C6:40:CYS:HA	30:C6:41:PRO:HD3	1.90	0.41
34:DA:227:G:O2'	49:DP:62:VAL:HG22	2.20	0.41
34:DA:643:C:H5'	41:DH:31:PHE:CD1	2.55	0.41
34:DA:861:G:P	41:DH:75:ARG:HH22	2.43	0.41
34:DA:971:G:OP2	34:DA:1231:G:N2	2.42	0.41
34:DA:1125:U:O2'	34:DA:1126:U:H2'	2.20	0.41
35:DB:96:ARG:HD3	35:DB:98:LEU:HA	2.02	0.41
38:DE:21:ALA:O	38:DE:23:GLY:N	2.52	0.41
39:DF:35:ALA:HA	39:DF:67:MET:HB3	2.02	0.41
40:DG:66:VAL:O	40:DG:70:LYS:HG3	2.20	0.41
44:DK:59:TYR:O	44:DK:62:GLN:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:653:G:H2'	1:AA:654:G:C8	2.55	0.41
1:AA:1122:C:O2'	10:AL:90:LYS:HA	2.19	0.41
1:AA:1739:U:O2'	1:AA:1740:U:H2'	2.19	0.41
1:AA:2191:A:N3	1:AA:2191:A:H2'	2.35	0.41
1:AA:2244:U:O2'	1:AA:2245:U:H5'	2.20	0.41
1:AA:2589:A:H5'	29:A5:3:LYS:HD2	2.00	0.41
1:AA:2638:C:H2'	1:AA:2639:G:O4'	2.19	0.41
3:AC:42:VAL:O	3:AC:216:THR:C	2.59	0.41
4:AD:248:SER:HB2	4:AD:249:PRO:HD2	2.02	0.41
6:AF:89:VAL:HG12	6:AF:90:PHE:CD2	2.55	0.41
16:AS:93:LYS:CD	16:AS:95:HIS:HB2	2.50	0.41
21:AX:66:LEU:HD23	21:AX:66:LEU:HA	1.88	0.41
34:BA:1117:G:H5''	42:BI:104:ARG:NH2	2.36	0.41
36:BC:24:ALA:HB1	36:BC:28:GLN:HB2	2.03	0.41
36:BC:29:TYR:OH	47:BN:54:PRO:O	2.25	0.41
36:BC:64:VAL:HG13	36:BC:99:VAL:HA	2.03	0.41
38:BE:57:LYS:O	38:BE:61:TYR:HD2	2.03	0.41
40:BG:114:ARG:O	40:BG:119:ARG:NH1	2.54	0.41
47:BN:23:ARG:HH11	47:BN:30:ALA:HB2	1.84	0.41
49:BP:43:LYS:HG2	49:BP:48:TRP:CD2	2.55	0.41
49:BP:55:ARG:HA	49:BP:55:ARG:NH1	2.26	0.41
1:CA:152:G:C6	1:CA:153:C:C4	3.08	0.41
1:CA:591:C:H1'	32:C8:2:PRO:HA	2.02	0.41
1:CA:599:G:H4'	6:CF:31:HIS:HD2	1.83	0.41
1:CA:1028:A:N6	1:CA:1125:G:H2'	2.36	0.41
1:CA:1803:A:H2	1:CA:1822:G:N3	2.18	0.41
1:CA:2379:G:O2'	16:CS:17:ARG:NH2	2.35	0.41
1:CA:2869:G:H2'	1:CA:2870:C:H6	1.86	0.41
6:CF:39:TRP:CB	6:CF:101:LEU:HD22	2.50	0.41
10:CL:93:ARG:HE	10:CL:93:ARG:HB3	1.65	0.41
10:CL:99:ILE:HG23	10:CL:103:GLN:HB2	2.02	0.41
13:CP:55:ARG:HG2	13:CP:56:SER:N	2.35	0.41
15:CR:54:LEU:O	15:CR:57:ARG:HB2	2.20	0.41
20:CW:65:LEU:O	20:CW:67:ASP:N	2.53	0.41
24:C0:82:ARG:HA	24:C0:83:PRO:HD3	1.67	0.41
34:DA:473:G:H2'	34:DA:474:G:H8	1.85	0.41
34:DA:1106:G:C6	34:DA:1107:C:N4	2.88	0.41
34:DA:1279:A:H4'	34:DA:1280:A:OP1	2.21	0.41
35:DB:79:ASP:C	35:DB:81:VAL:H	2.24	0.41
35:DB:100:GLY:HA3	35:DB:104:ASN:HB3	2.02	0.41
36:DC:47:LEU:HD22	36:DC:47:LEU:HA	1.88	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:DH:51:VAL:HG11	41:DH:60:ARG:HH11	1.86	0.41
57:DZ:293:THR:OG1	57:DZ:297:GLU:HG2	2.20	0.41
57:DZ:526:VAL:HG23	57:DZ:566:THR:HA	2.01	0.41
1:AA:585:U:C4	1:AA:2058:C:O4'	2.73	0.41
1:AA:815:G:H2'	1:AA:816:G:H8	1.86	0.41
1:AA:868:A:C2'	1:AA:991:G:H5''	2.50	0.41
1:AA:1289:G:H4'	13:AP:7:ARG:HH22	1.85	0.41
1:AA:1810:U:H2'	63:AA:4426:HOH:O	2.19	0.41
1:AA:2711:C:H2'	1:AA:2712:C:O4'	2.20	0.41
4:AD:30:GLU:O	4:AD:34:VAL:HG22	2.21	0.41
6:AF:192:LEU:HD22	6:AF:194:MET:HG3	2.03	0.41
7:AG:31:VAL:HA	7:AG:32:PRO:HD2	1.85	0.41
14:AQ:109:VAL:HG22	14:AQ:110:THR:H	1.85	0.41
18:AU:91:ASP:O	18:AU:95:LEU:HB2	2.20	0.41
25:A1:62:VAL:HG13	25:A1:63:ALA:O	2.21	0.41
34:BA:102:G:O2'	34:BA:151:A:N3	2.45	0.41
34:BA:109:A:H2'	34:BA:326:G:N2	2.35	0.41
34:BA:113:G:H2'	34:BA:114:U:C6	2.56	0.41
34:BA:387:U:H5''	34:BA:388:G:OP1	2.20	0.41
34:BA:408:A:O4'	37:BD:116:GLN:NE2	2.53	0.41
34:BA:414:A:N6	34:BA:431:A:N3	2.68	0.41
34:BA:771:G:H2'	34:BA:772:U:H6	1.85	0.41
35:BB:176:GLU:O	35:BB:180:LEU:HG	2.20	0.41
36:BC:36:ASP:OD1	36:BC:57:ILE:HG21	2.20	0.41
36:BC:108:ASN:HA	36:BC:109:PRO:HD2	1.84	0.41
36:BC:108:ASN:HB3	36:BC:111:LEU:HG	2.02	0.41
41:BH:13:ILE:O	41:BH:17:THR:HG23	2.19	0.41
47:BN:47:LEU:HD23	47:BN:50:LYS:NZ	2.35	0.41
49:BP:65:GLN:HA	49:BP:66:PRO:HD3	1.79	0.41
54:BU:5:ASP:O	54:BU:11:GLY:HA3	2.21	0.41
56:BW:25:C:H2'	56:BW:26:A:O4'	2.20	0.41
57:BZ:16:GLY:HA3	57:BZ:101:LEU:HD11	2.03	0.41
57:BZ:71:THR:HB	57:BZ:80:ASN:OD1	2.21	0.41
57:BZ:74:TRP:NE1	57:BZ:273:LEU:HB3	2.35	0.41
57:BZ:380:LEU:HD23	57:BZ:383:THR:HB	2.02	0.41
1:CA:26:G:C6	1:CA:27:G:N1	2.88	0.41
1:CA:64:A:O3'	21:CX:71:GLY:HA3	2.21	0.41
1:CA:143:G:C6	1:CA:143(A):C:C4	3.09	0.41
1:CA:320:A:H4'	1:CA:322:A:N7	2.36	0.41
1:CA:847:U:H2'	1:CA:848:G:H5'	2.01	0.41
1:CA:1144:G:C6	1:CA:1145:C:C4	3.08	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:1359:A:N6	1:CA:1372:U:H3	2.17	0.41
1:CA:1410:G:H2'	1:CA:1411:C:H6	1.85	0.41
4:CD:94:LEU:HD23	4:CD:94:LEU:HA	1.74	0.41
5:CE:21:VAL:HA	5:CE:22:PRO:HD3	1.80	0.41
5:CE:150:VAL:HG13	5:CE:154:LYS:HG3	2.03	0.41
6:CF:119:ARG:HE	6:CF:119:ARG:HB3	1.62	0.41
6:CF:195:ASP:HB3	6:CF:198:ALA:H	1.84	0.41
14:CQ:16:ARG:HG3	14:CQ:17:LEU:H	1.86	0.41
14:CQ:137:TYR:CE1	23:CZ:83:PRO:HG3	2.55	0.41
19:CV:37:VAL:HG11	19:CV:40:LEU:HG	2.01	0.41
23:CZ:156:LYS:HE2	23:CZ:156:LYS:HB3	1.90	0.41
28:C4:61:ARG:HA	28:C4:61:ARG:HD2	1.85	0.41
34:DA:560:U:H5'	34:DA:566:G:H22	1.84	0.41
34:DA:597:G:N3	34:DA:597:G:H2'	2.35	0.41
34:DA:677:U:C4	34:DA:678:U:C4	3.08	0.41
34:DA:1317:C:HO2'	52:DS:10:PHE:HE2	1.65	0.41
35:DB:16:HIS:CE1	35:DB:210:SER:HA	2.54	0.41
35:DB:27:LYS:C	35:DB:29:ALA:H	2.23	0.41
39:DF:89:MET:HE1	51:DR:76:LEU:HD22	2.03	0.41
44:DK:55:LYS:HB2	44:DK:55:LYS:HE3	1.69	0.41
44:DK:57:THR:HA	44:DK:58:PRO:HD3	1.83	0.41
46:DM:89:GLY:HA2	46:DM:92:HIS:HB2	2.02	0.41
50:DQ:27:PHE:CE2	50:DQ:36:ILE:HD11	2.55	0.41
51:DR:73:ALA:CB	51:DR:79:LEU:HD12	2.51	0.41
57:DZ:221:ALA:C	57:DZ:223:PHE:H	2.24	0.41
57:DZ:590:ILE:HD13	57:DZ:590:ILE:HA	1.92	0.41
1:AA:7:G:H2'	1:AA:8:A:C8	2.55	0.41
1:AA:89:U:H1'	1:AA:90:A:N7	2.35	0.41
1:AA:142:G:H2'	1:AA:143:C:C6	2.55	0.41
1:AA:236:G:H4'	1:AA:413:G:C5	2.55	0.41
1:AA:485:U:H4'	31:A7:40:TRP:CZ3	2.55	0.41
1:AA:573:G:H8	1:AA:573:G:O5'	2.04	0.41
1:AA:705:C:H2'	1:AA:706:C:C6	2.55	0.41
1:AA:1113:A:H4'	57:BZ:683:VAL:HG22	2.03	0.41
1:AA:1491:A:C8	1:AA:1507:A:C5	3.08	0.41
1:AA:1540:A:H2'	1:AA:1541:A:H8	1.81	0.41
2:AB:41:U:C5	7:AG:70:VAL:HB	2.55	0.41
13:AP:85:LEU:HD12	13:AP:116:GLY:O	2.21	0.41
16:AS:35:ILE:HG12	16:AS:101:LEU:HD12	2.02	0.41
25:A1:8:SER:HB3	25:A1:66:HIS:CD2	2.55	0.41
34:BA:545:C:H5'	37:BD:72:GLU:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:BA:557:G:C2	34:BA:558:G:C2	3.08	0.41
34:BA:1080:A:H5''	34:BA:1081:G:OP2	2.20	0.41
34:BA:1123:A:O2'	43:BJ:37:PRO:O	2.33	0.41
34:BA:1187:G:H5'	42:BI:113:LYS:HD3	2.03	0.41
34:BA:1303:C:H2'	34:BA:1304:G:H5'	2.03	0.41
35:BB:84:GLU:HG2	35:BB:216:SER:HA	2.01	0.41
40:BG:99:LEU:HD22	40:BG:103:TRP:CZ2	2.55	0.41
43:BJ:53:PRO:O	47:BN:41:ARG:NH2	2.52	0.41
47:BN:11:LYS:H	47:BN:11:LYS:HG3	1.70	0.41
51:BR:53:ARG:HA	51:BR:56:THR:OG1	2.20	0.41
52:BS:3:ARG:NH1	52:BS:10:PHE:HB2	2.36	0.41
53:BT:67:ALA:HB2	53:BT:77:ALA:HB2	2.02	0.41
56:BW:26:A:H61	56:BW:44:G:H1	1.68	0.41
57:BZ:414:GLU:C	57:BZ:416:LYS:H	2.24	0.41
57:BZ:590:ILE:HD13	57:BZ:590:ILE:HA	1.85	0.41
1:CA:141:A:C2'	1:CA:1408:C:O2'	2.68	0.41
1:CA:354:G:H2'	1:CA:355:G:O4'	2.21	0.41
1:CA:2417:C:C2	1:CA:2418:A:C8	3.09	0.41
1:CA:2755:C:C4	33:C9:19:ARG:NH1	2.89	0.41
2:CB:5:C:H42	2:CB:116:G:H1	1.69	0.41
2:CB:14:U:H1'	2:CB:108:U:O2'	2.21	0.41
4:CD:134:ARG:NH1	4:CD:188:GLU:OE2	2.51	0.41
7:CG:16:ARG:HH22	7:CG:28:VAL:CG1	2.29	0.41
12:CO:122:LEU:HD23	12:CO:122:LEU:HA	1.70	0.41
13:CP:121:LYS:HA	13:CP:122:PRO:HD2	1.65	0.41
14:CQ:41:TRP:HZ3	14:CQ:74:TYR:HE1	1.68	0.41
16:CS:18:ILE:O	16:CS:21:THR:HG23	2.21	0.41
23:CZ:103:ARG:N	23:CZ:137:ILE:O	2.53	0.41
26:C2:24:LEU:O	26:C2:28:LYS:HB2	2.20	0.41
29:C5:25:LEU:HA	29:C5:25:LEU:HD23	1.84	0.41
34:DA:25:C:O2'	34:DA:26:A:H5'	2.20	0.41
34:DA:127:G:C2	34:DA:128:G:C8	3.08	0.41
34:DA:575:G:C6	34:DA:821:G:N7	2.89	0.41
35:DB:80:ILE:HD13	35:DB:211:ILE:HB	2.02	0.41
36:DC:6:HIS:HD2	36:DC:7:PRO:HD2	1.85	0.41
41:DH:46:LYS:HG3	41:DH:63:LEU:O	2.21	0.41
51:DR:37:VAL:O	51:DR:41:LYS:HB3	2.20	0.41
57:DZ:238:THR:HG22	57:DZ:241:GLU:OE1	2.20	0.41
1:AA:292:G:C2	1:AA:394:C:N3	2.88	0.41
1:AA:1065:U:O2'	1:AA:1067:A:C2	2.70	0.41
1:AA:1068:G:N7	11:AN:66:LYS:HE2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1110:C:O2'	10:AL:89:HIS:NE2	2.54	0.41
1:AA:1385:G:O4'	1:AA:1439:A:C2	2.74	0.41
1:AA:2044:U:O2'	1:AA:2629:C:H5'	2.20	0.41
1:AA:2481:A:O2'	14:AQ:56:ARG:NE	2.52	0.41
1:AA:2675:G:C6	1:AA:2676:G:C4	3.08	0.41
3:AC:11:LEU:H	3:AC:11:LEU:HD22	1.86	0.41
4:AD:3:VAL:CG1	4:AD:17:THR:HB	2.51	0.41
5:AE:49:LEU:CD2	5:AE:81:ILE:HG13	2.51	0.41
18:AU:76:TYR:OH	18:AU:92:ARG:NH1	2.47	0.41
21:AX:21:PHE:C	21:AX:23:GLU:H	2.24	0.41
33:A9:17:ILE:HA	33:A9:17:ILE:HD12	1.71	0.41
34:BA:146:G:N2	34:BA:147:G:C4	2.89	0.41
34:BA:389:A:C6	34:BA:390:C:H1'	2.56	0.41
34:BA:487:A:H2'	34:BA:488:C:O4'	2.21	0.41
34:BA:580:U:H2'	34:BA:581:G:O4'	2.21	0.41
34:BA:639:G:O2'	34:BA:640:A:H5'	2.21	0.41
34:BA:1177:G:P	42:BI:97:LYS:HE3	2.61	0.41
56:BW:6:G:C6	56:BW:7:A:C6	3.09	0.41
56:BW:28:G:H5''	56:BW:28:G:H8	1.86	0.41
57:BZ:-62:LEU:HD11	57:BZ:-48:VAL:HG22	2.02	0.41
57:BZ:236:GLU:HA	57:BZ:237:PRO:HD3	1.92	0.41
1:CA:218:A:C2	1:CA:235:U:H4'	2.56	0.41
1:CA:251:A:C4	1:CA:252:G:H1'	2.55	0.41
1:CA:373:U:H2'	1:CA:374:A:C8	2.53	0.41
1:CA:641:C:H5''	1:CA:642:G:OP2	2.21	0.41
1:CA:748:G:C8	20:CW:89:ALA:HB1	2.56	0.41
1:CA:757:U:H2'	1:CA:758:C:O4'	2.19	0.41
1:CA:1053:C:N4	1:CA:1107:G:O6	2.51	0.41
1:CA:1208:C:C4	1:CA:1209:G:N7	2.89	0.41
1:CA:1437:C:C2	1:CA:1438:U:C5	3.09	0.41
1:CA:1812:A:O2'	4:CD:45:ASN:N	2.54	0.41
1:CA:2612:C:OP2	29:C5:2:ALA:HB3	2.21	0.41
1:CA:2784:C:O2'	1:CA:2785:C:H5'	2.21	0.41
2:CB:46:A:C5	2:CB:47:C:C4	3.09	0.41
4:CD:254:THR:HG23	4:CD:255:LYS:HG2	2.02	0.41
10:CL:115:LEU:HB2	10:CL:117:THR:HG23	2.02	0.41
13:CP:21:ARG:HA	13:CP:21:ARG:HD3	1.73	0.41
13:CP:50:ARG:HG2	32:C8:61:LEU:HD11	2.02	0.41
23:CZ:35:ARG:HD2	23:CZ:35:ARG:HA	1.80	0.41
23:CZ:144:LEU:HD21	23:CZ:150:LEU:HD23	2.01	0.41
28:C4:46:GLN:HG2	28:C4:48:ARG:NH2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:15:G:C4'	38:DE:24:ARG:HH21	2.32	0.41
34:DA:246:A:N1	34:DA:278:G:O2'	2.41	0.41
34:DA:473:G:O5'	34:DA:473:G:H8	2.04	0.41
34:DA:543:C:N3	34:DA:544:G:C8	2.88	0.41
34:DA:768:A:OP2	63:DA:1812:HOH:O	2.21	0.41
34:DA:804:U:H5''	34:DA:805:C:OP2	2.21	0.41
34:DA:1074:G:N2	34:DA:1102:A:C4	2.88	0.41
34:DA:1077:G:C2	34:DA:1081:G:C5	3.09	0.41
34:DA:1288:A:N1	34:DA:1371:G:H1'	2.35	0.41
34:DA:1325:C:H4'	54:DU:17:THR:HG21	2.03	0.41
34:DA:1489:G:C5	34:DA:1490:C:C5	3.09	0.41
57:DZ:-62:LEU:HD13	57:DZ:-48:VAL:HG23	2.03	0.41
57:DZ:560:VAL:HG21	57:DZ:594:VAL:HG11	2.03	0.41
1:AA:203:G:H2'	1:AA:204:G:O4'	2.21	0.41
1:AA:328:G:H2'	1:AA:329:U:C6	2.56	0.41
1:AA:831:A:C5	4:AD:229:VAL:HG21	2.56	0.41
1:AA:933:C:OP1	1:AA:933:C:H4'	2.20	0.41
1:AA:1154:U:C6	1:AA:1155:C:C6	3.07	0.41
1:AA:1402:G:H2'	1:AA:1403:U:O4'	2.20	0.41
1:AA:1974:A:N3	12:AO:22:ILE:HD12	2.35	0.41
1:AA:2849:G:H5'	15:AR:46:GLY:HA2	2.03	0.41
2:AB:57:A:C4	7:AG:29:TRP:HB3	2.56	0.41
3:AC:60:ARG:NH2	3:AC:165:ARG:HH21	2.18	0.41
11:AN:43:THR:HA	11:AN:44:PRO:HD3	1.91	0.41
25:A1:82:LEU:O	25:A1:85:LEU:HD12	2.20	0.41
34:BA:137:C:O4'	49:BP:63:GLY:HA2	2.21	0.41
34:BA:243:A:C2	34:BA:245:C:C2	3.09	0.41
34:BA:453:A:C6	34:BA:454:C:C4	3.08	0.41
34:BA:623:C:H2'	34:BA:624:C:H6	1.85	0.41
34:BA:791:G:H2'	34:BA:792:A:H5'	2.02	0.41
44:BK:115:PRO:C	44:BK:117:ASN:N	2.74	0.41
48:BO:36:ILE:O	48:BO:39:LEU:N	2.54	0.41
57:BZ:100:VAL:O	57:BZ:100:VAL:HG12	2.19	0.41
57:BZ:126:GLU:O	57:BZ:128:TYR:N	2.53	0.41
57:BZ:282:SER:O	57:BZ:284:LEU:N	2.53	0.41
57:BZ:420:ASP:HB3	57:BZ:473:ASP:OD2	2.20	0.41
1:CA:130:C:H4'	1:CA:1349:A:C4'	2.50	0.41
1:CA:248:G:C2	1:CA:2431:U:H4'	2.55	0.41
1:CA:601:C:O2'	1:CA:605:C:H5''	2.20	0.41
1:CA:613:G:C6	1:CA:614:U:C5	3.08	0.41
1:CA:815:C:H2'	1:CA:816:C:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:874:G:H5''	23:CZ:175:VAL:HG11	2.02	0.41
1:CA:1082:U:C2	1:CA:1083:U:H1'	2.55	0.41
1:CA:1088:A:H2'	1:CA:1088:A:N3	2.35	0.41
1:CA:1444:G:N2	1:CA:1548:C:C2	2.89	0.41
1:CA:1474:C:H2'	1:CA:1475:G:C8	2.56	0.41
1:CA:2031:A:C6	1:CA:2498:C:H1'	2.55	0.41
1:CA:2235:G:H2'	1:CA:2236:C:C6	2.56	0.41
1:CA:2280:G:H8	1:CA:2280:G:H5''	1.86	0.41
1:CA:2281:C:O2'	1:CA:2282:G:H5'	2.21	0.41
1:CA:2299:G:C6	1:CA:2318:G:N7	2.89	0.41
1:CA:2327:A:H2'	1:CA:2328:A:C8	2.56	0.41
1:CA:2712:U:OP1	1:CA:2714:G:H4'	2.21	0.41
1:CA:2742:C:H5''	33:C9:1:MET:HE3	2.02	0.41
3:CC:60:ARG:NH2	3:CC:165:ARG:HH21	2.18	0.41
5:CE:23:VAL:HA	5:CE:184:VAL:O	2.21	0.41
5:CE:179:GLU:HG2	17:CT:9:LEU:CD2	2.50	0.41
10:CL:115:LEU:HD12	10:CL:117:THR:HG1	1.85	0.41
11:CN:14:VAL:HG23	11:CN:51:PHE:O	2.21	0.41
15:CR:87:TYR:OH	15:CR:117:VAL:O	2.24	0.41
16:CS:74:ALA:O	16:CS:76:LYS:N	2.53	0.41
20:CW:14:PRO:CG	20:CW:78:GLU:HG2	2.34	0.41
21:CX:84:ALA:HB3	21:CX:87:GLN:NE2	2.35	0.41
26:C2:66:GLU:HA	26:C2:69:ARG:HD3	2.02	0.41
33:C9:2:LYS:HD3	33:C9:4:ARG:CZ	2.51	0.41
34:DA:189:G:C2	34:DA:189(L):G:C2	3.08	0.41
34:DA:382:A:C2	34:DA:383:A:C4	3.09	0.41
34:DA:512:U:C2	34:DA:513:C:C5	3.09	0.41
34:DA:885:G:H1	34:DA:912:C:H42	1.69	0.41
34:DA:920:U:O4'	34:DA:1080:A:C2	2.74	0.41
34:DA:1240:U:OP2	40:DG:116:ALA:N	2.52	0.41
35:DB:178:ARG:NH2	41:DH:68:ARG:HH22	2.18	0.41
37:DD:73:ARG:HG3	37:DD:77:ASN:HD22	1.84	0.41
38:DE:12:LEU:HD23	38:DE:12:LEU:HA	1.87	0.41
40:DG:5:ARG:O	40:DG:7:ALA:N	2.54	0.41
53:DT:15:ARG:HD3	53:DT:15:ARG:HA	1.92	0.41
57:DZ:74:TRP:HA	57:DZ:74:TRP:HE3	1.85	0.41
1:AA:321:C:OP1	22:AY:87:LYS:HG3	2.21	0.41
1:AA:981:C:H2'	1:AA:982:U:C6	2.56	0.41
1:AA:1534:G:H2'	1:AA:1535:U:O4'	2.21	0.41
1:AA:1776:G:N3	1:AA:1776:G:H2'	2.35	0.41
1:AA:2720:G:H1'	15:AR:71:GLN:NE2	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:AD:89:SER:HB2	4:AD:159:ALA:H	1.86	0.41
6:AF:33:LEU:HD12	6:AF:33:LEU:HA	1.84	0.41
6:AF:36:VAL:HG11	6:AF:183:VAL:HG13	2.03	0.41
6:AF:39:TRP:HB2	6:AF:101:LEU:HD22	2.03	0.41
6:AF:195:ASP:HB3	6:AF:198:ALA:H	1.85	0.41
7:AG:64:THR:HB	7:AG:94:LEU:HD21	2.03	0.41
8:AH:90:LYS:O	8:AH:160:LYS:HA	2.21	0.41
11:AN:133:GLN:O	11:AN:134:ARG:C	2.59	0.41
12:AO:7:TYR:CZ	12:AO:44:LYS:HG3	2.55	0.41
12:AO:107:ARG:HG2	12:AO:108:GLU:N	2.35	0.41
13:AP:46:LYS:HE2	13:AP:46:LYS:HB3	1.55	0.41
13:AP:59:LEU:HD11	32:A8:10:ALA:HB2	2.02	0.41
15:AR:51:LEU:HD23	15:AR:51:LEU:HA	1.81	0.41
16:AS:77:ALA:O	16:AS:80:LEU:HB2	2.20	0.41
17:AT:55:ASN:H	17:AT:59:THR:HB	1.86	0.41
20:AW:36:LEU:HD23	20:AW:36:LEU:HA	1.77	0.41
30:A6:50:ARG:HE	30:A6:50:ARG:HB2	1.65	0.41
34:BA:44:G:C2	34:BA:399:G:C2	3.09	0.41
34:BA:72:C:C2	34:BA:98:G:N2	2.89	0.41
34:BA:76:C:H2'	34:BA:77:G:C8	2.56	0.41
34:BA:423:G:N3	34:BA:423:G:H3'	2.35	0.41
34:BA:448:A:P	34:BA:485:G:H22	2.44	0.41
34:BA:477:A:C6	34:BA:479:C:N4	2.89	0.41
34:BA:647:C:H2'	34:BA:648:A:C8	2.54	0.41
34:BA:685:G:N2	34:BA:686:U:C4	2.89	0.41
34:BA:829:G:C2	34:BA:830:G:C5	3.08	0.41
34:BA:1030(D):A:H62	34:BA:1031:G:H21	1.69	0.41
34:BA:1199:U:H6	34:BA:1199:U:O5'	2.04	0.41
42:BI:96:LEU:HA	42:BI:96:LEU:HD23	1.76	0.41
56:BW:51:U:O2'	56:BW:52:G:H5'	2.20	0.41
57:BZ:208:GLN:O	57:BZ:212:TYR:N	2.51	0.41
57:BZ:365:GLU:HG3	57:BZ:366:VAL:N	2.36	0.41
1:CA:251:A:C5	1:CA:252:G:H1'	2.56	0.41
1:CA:610:G:H2'	1:CA:611:C:C6	2.55	0.41
1:CA:1009:A:H8	1:CA:1009:A:O5'	2.03	0.41
1:CA:1182:A:H2'	1:CA:1183:G:O4'	2.21	0.41
1:CA:2037:G:O6	63:CA:3756:HOH:O	2.20	0.41
1:CA:2109:U:H5''	1:CA:2149:G:N2	2.35	0.41
1:CA:2121:G:H1'	3:CC:168:LYS:HE2	1.33	0.41
1:CA:2378:A:H4'	16:CS:23:ARG:NH1	2.36	0.41
1:CA:2661:G:O6	8:CH:175:LYS:NZ	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CA:2702:U:H4'	1:CA:2703:C:OP1	2.20	0.41
4:CD:52:ARG:HH11	4:CD:52:ARG:HD3	1.66	0.41
5:CE:7:VAL:O	5:CE:26:ILE:HA	2.21	0.41
6:CF:32:LEU:HB3	6:CF:112:MET:HE1	2.03	0.41
6:CF:39:TRP:HB3	6:CF:101:LEU:HD22	2.02	0.41
7:CG:101:ILE:CG2	28:C4:25:TYR:HB2	2.49	0.41
8:CH:69:ARG:HE	8:CH:73:ALA:HB2	1.84	0.41
14:CQ:110:THR:O	14:CQ:113:GLN:HB2	2.21	0.41
17:CT:10:VAL:H	17:CT:10:VAL:HG23	1.56	0.41
20:CW:65:LEU:CD1	20:CW:68:ARG:HE	2.34	0.41
26:C2:26:ARG:CZ	26:C2:26:ARG:HB2	2.51	0.41
34:DA:430:A:C2	34:DA:431:A:H1'	2.56	0.41
34:DA:538:G:H5''	45:DL:114:LYS:HB2	2.02	0.41
34:DA:626:U:C2	34:DA:627:G:C8	3.09	0.41
34:DA:983:A:N1	34:DA:1222:G:N2	2.69	0.41
34:DA:1317:C:P	47:DN:17:LYS:HG2	2.61	0.41
37:DD:129:ASN:HD21	37:DD:145:GLU:N	2.14	0.41
38:DE:71:LEU:HD21	38:DE:113:ALA:O	2.20	0.41
39:DF:35:ALA:HB2	39:DF:67:MET:CE	2.50	0.41
42:DI:11:LYS:H	42:DI:104:ARG:HH21	1.69	0.41
45:DL:78:GLN:H	45:DL:78:GLN:HG3	1.68	0.41
49:DP:22:THR:HA	49:DP:33:ILE:HG13	2.03	0.41
50:DQ:24:GLU:OE2	50:DQ:37:LYS:HD2	2.20	0.41
52:DS:17:GLU:O	52:DS:21:GLU:HG3	2.20	0.41
52:DS:36:ARG:HB3	52:DS:71:LEU:HB3	2.02	0.41
53:DT:20:LEU:HA	53:DT:20:LEU:HD23	1.73	0.41
57:DZ:384:ILE:HG13	57:DZ:385:THR:N	2.35	0.41
57:DZ:488:THR:O	57:DZ:516:PRO:HG3	2.20	0.41
1:AA:154:G:O6	1:AA:155:C:N4	2.54	0.41
1:AA:507:G:C4	1:AA:532:A:C2	3.09	0.41
1:AA:592:U:C4	1:AA:593:G:C6	3.09	0.41
1:AA:613:A:H2'	1:AA:614:C:O4'	2.20	0.41
1:AA:852:G:O4'	13:AP:38:GLN:HB2	2.20	0.41
1:AA:866:A:C4	1:AA:1234:A:C2	3.09	0.41
1:AA:1056:A:N3	1:AA:1199:C:H1'	2.35	0.41
1:AA:1534:G:C6	1:AA:1535:U:N3	2.89	0.41
1:AA:2086:C:H2'	1:AA:2087:C:C6	2.56	0.41
1:AA:2102:G:H2'	1:AA:2103:C:C6	2.56	0.41
1:AA:2359:C:HO2'	30:A6:21:TYR:HH	1.65	0.41
1:AA:2575:U:H4'	12:AO:28:SER:HA	2.02	0.41
1:AA:2880:C:H2'	1:AA:2881:C:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:AB:39:A:C2	2:AB:40:U:C4	3.09	0.41
3:AC:194:ILE:CD1	3:AC:227:PRO:CB	2.99	0.41
5:AE:35:GLN:HG3	5:AE:36:ARG:N	2.35	0.41
6:AF:50:SER:CB	6:AF:94:PRO:HD3	2.48	0.41
6:AF:125:LEU:HD11	6:AF:199:TRP:CE3	2.56	0.41
8:AH:64:LEU:HD23	8:AH:64:LEU:HA	1.79	0.41
11:AN:75:TYR:HA	11:AN:81:GLY:O	2.21	0.41
11:AN:138:LEU:HD22	11:AN:138:LEU:HA	1.69	0.41
13:AP:29:LYS:HB3	13:AP:30:THR:H	1.27	0.41
14:AQ:10:ARG:HH11	14:AQ:10:ARG:HG3	1.86	0.41
14:AQ:63:LYS:HA	14:AQ:63:LYS:HD2	1.72	0.41
16:AS:19:LYS:C	16:AS:21:THR:H	2.23	0.41
17:AT:19:LEU:HD13	17:AT:86:ILE:HD12	2.03	0.41
18:AU:45:TYR:O	18:AU:49:HIS:N	2.47	0.41
23:AZ:153:SER:HB3	23:AZ:167:PRO:O	2.21	0.41
23:AZ:163:LEU:HD12	23:AZ:163:LEU:HA	1.80	0.41
26:A2:41:ILE:HG13	26:A2:41:ILE:O	2.20	0.41
34:BA:9:G:C2	34:BA:26:A:N1	2.88	0.41
34:BA:189(D):C:H1'	34:BA:189(H):G:C2	2.56	0.41
34:BA:257:G:C2	34:BA:258:G:C4	3.09	0.41
34:BA:270:A:H2'	34:BA:271:C:C6	2.55	0.41
34:BA:412:A:N6	37:BD:35:ARG:HB3	2.36	0.41
34:BA:437:U:H5'	37:BD:155:LEU:HD21	2.03	0.41
34:BA:501:C:H1'	34:BA:549:C:H1'	2.02	0.41
34:BA:600:C:OP1	41:BH:97:VAL:HG12	2.21	0.41
34:BA:799:G:O6	34:BA:800:G:C2	2.74	0.41
34:BA:955:U:H2'	34:BA:956:U:H6	1.86	0.41
34:BA:979:C:O2	47:BN:19:ARG:NE	2.54	0.41
34:BA:993:G:O2'	34:BA:994:A:N7	2.51	0.41
34:BA:1005:A:H5''	34:BA:1006:C:OP2	2.21	0.41
34:BA:1261:A:H5''	34:BA:1262:C:OP2	2.21	0.41
34:BA:1314:C:H2'	34:BA:1315:U:C6	2.56	0.41
34:BA:1359:C:OP1	47:BN:22:THR:OG1	2.28	0.41
34:BA:1435:G:H1	34:BA:1466:C:H42	1.69	0.41
35:BB:20:GLU:HB3	35:BB:190:THR:OG1	2.21	0.41
35:BB:196:LEU:HD12	35:BB:196:LEU:HA	1.95	0.41
36:BC:6:HIS:CD2	36:BC:7:PRO:HD2	2.56	0.41
36:BC:130:VAL:HG21	36:BC:157:ILE:HG23	2.02	0.41
37:BD:49:ARG:H	37:BD:49:ARG:HG2	1.67	0.41
37:BD:112:VAL:HG23	37:BD:116:GLN:OE1	2.21	0.41
38:BE:78:HIS:ND1	41:BH:104:ARG:HD2	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BE:91:LEU:HD12	38:BE:91:LEU:HA	1.85	0.41
40:BG:13:GLN:HA	40:BG:14:PRO:HD3	1.91	0.41
40:BG:77:SER:HA	40:BG:85:TYR:O	2.20	0.41
41:BH:12:ARG:O	41:BH:16:ALA:N	2.54	0.41
42:BI:93:ARG:HB2	42:BI:93:ARG:HH11	1.86	0.41
48:BO:18:PHE:O	48:BO:18:PHE:CD1	2.73	0.41
48:BO:78:TYR:O	48:BO:82:ILE:HG12	2.21	0.41
49:BP:1:MET:O	49:BP:24:ALA:HB2	2.20	0.41
49:BP:58:TYR:O	49:BP:61:SER:OG	2.17	0.41
49:BP:71:ARG:O	49:BP:75:ARG:HB2	2.20	0.41
54:BU:12:LYS:HG2	54:BU:17:THR:OG1	2.21	0.41
56:BY:49:C:H2'	56:BY:50:U:H6	1.86	0.41
57:BZ:-63:ILE:HD11	57:BZ:-23:LEU:CD1	2.50	0.41
1:CA:77:C:H42	1:CA:109:G:H1	1.69	0.41
1:CA:150:C:H2'	1:CA:151:C:C6	2.56	0.41
1:CA:300:A:H3'	22:CY:84:ARG:HH22	1.85	0.41
1:CA:363(B):G:O2'	1:CA:363(C):G:H5'	2.21	0.41
1:CA:493:G:H2'	1:CA:494:G:O4'	2.20	0.41
1:CA:510:C:OP1	1:CA:510:C:H3'	2.21	0.41
1:CA:638:G:C6	1:CA:639:U:C4	3.09	0.41
1:CA:706:A:H2'	1:CA:707:G:O4'	2.21	0.41
1:CA:878:A:C2	1:CA:900:A:N7	2.89	0.41
1:CA:903:C:H2'	1:CA:904:C:H6	1.85	0.41
1:CA:1053:C:H6	1:CA:1053:C:C4'	2.33	0.41
1:CA:1131:G:N2	1:CA:1132:A:N3	2.69	0.41
1:CA:1494:A:H2'	1:CA:1495:A:C8	2.56	0.41
1:CA:2274:A:C6	1:CA:2276:G:C8	3.08	0.41
1:CA:2306:C:H3'	1:CA:2307:G:C8	2.55	0.41
1:CA:2386:C:H2'	1:CA:2387:U:C6	2.56	0.41
1:CA:2526:G:H2'	1:CA:2527:C:C6	2.56	0.41
1:CA:2784:C:O3'	5:CE:41:LYS:NZ	2.53	0.41
1:CA:2818:G:O2'	1:CA:2819:G:H5'	2.21	0.41
2:CB:8:U:O2'	16:CS:25:ARG:NH2	2.54	0.41
4:CD:79:VAL:O	4:CD:113:VAL:HG23	2.20	0.41
5:CE:179:GLU:HB3	5:CE:181:LEU:CD2	2.51	0.41
6:CF:129:PHE:HB2	6:CF:132:VAL:HG21	2.02	0.41
8:CH:87:LEU:HD23	8:CH:164:TYR:HA	2.03	0.41
11:CN:15:LEU:HD23	11:CN:15:LEU:HA	1.90	0.41
11:CN:56:ASN:N	11:CN:125:GLY:O	2.45	0.41
13:CP:127:ALA:O	13:CP:129:ALA:N	2.54	0.41
14:CQ:62:GLY:O	23:CZ:178:GLU:HG2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:CR:52:ILE:HB	15:CR:94:TYR:HD2	1.86	0.41
16:CS:26:LEU:O	16:CS:88:ASP:HB3	2.21	0.41
16:CS:93:LYS:O	16:CS:93:LYS:HG2	2.21	0.41
20:CW:58:ALA:HB1	20:CW:64:MET:HB2	2.02	0.41
23:CZ:70:LEU:HD11	23:CZ:98:MET:HE3	2.02	0.41
25:C1:40:ARG:HE	25:C1:40:ARG:HB2	1.76	0.41
29:C5:33:CYS:O	29:C5:37:LYS:N	2.54	0.41
32:C8:63:PRO:HG2	32:C8:64:TYR:CD2	2.55	0.41
34:DA:25:C:C5'	34:DA:524:G:H1'	2.50	0.41
34:DA:35:G:H2'	34:DA:36:C:C6	2.56	0.41
34:DA:36:C:H4'	45:DL:122:THR:O	2.21	0.41
34:DA:47:C:H5''	34:DA:365:U:C2	2.56	0.41
34:DA:262:A:H2'	34:DA:263:A:C8	2.56	0.41
34:DA:267:C:OP1	50:DQ:67:LYS:HG3	2.20	0.41
34:DA:338:A:H2'	34:DA:339:C:C6	2.56	0.41
34:DA:588:G:C6	34:DA:753:A:C8	3.09	0.41
34:DA:597:G:N2	41:DH:94:TYR:OH	2.54	0.41
34:DA:828:A:H5''	34:DA:859:A:C2	2.55	0.41
34:DA:882:C:H41	45:DL:9:GLN:HE22	1.68	0.41
34:DA:900:A:H2'	34:DA:901:A:C8	2.56	0.41
34:DA:1060:C:H5'	47:DN:45:ARG:NH2	2.35	0.41
34:DA:1109:C:H2'	34:DA:1110:A:O4'	2.21	0.41
34:DA:1166:G:H5'	34:DA:1168:A:OP2	2.21	0.41
34:DA:1464:G:H2'	34:DA:1465:C:C6	2.56	0.41
34:DA:1511:G:H2'	34:DA:1512:U:O4'	2.21	0.41
36:DC:104:GLN:HE21	36:DC:105:GLU:H	1.69	0.41
41:DH:21:LYS:HG2	41:DH:23:SER:O	2.21	0.41
41:DH:49:GLU:HG2	41:DH:62:TYR:HE2	1.84	0.41
43:DJ:16:LEU:HG	43:DJ:94:VAL:HG22	2.02	0.41
43:DJ:50:ILE:HB	47:DN:41:ARG:NH2	2.36	0.41
44:DK:99:GLN:O	44:DK:101:SER:N	2.51	0.41
47:DN:9:LYS:HA	47:DN:12:ARG:HB2	2.02	0.41
49:DP:58:TYR:O	49:DP:61:SER:OG	2.22	0.41
51:DR:21:LYS:HD2	51:DR:57:GLY:HA3	2.03	0.41
56:DY:28:G:H2'	56:DY:29:G:H8	1.85	0.41
56:DY:55:PSU:HN1	56:DY:57:G:C5'	2.33	0.41
57:DZ:129:LYS:HD3	57:DZ:521:SER:H	1.85	0.41
57:DZ:168:ILE:HD12	57:DZ:176:GLY:HA3	2.02	0.41
57:DZ:324:ARG:HH21	57:DZ:383:THR:H	1.68	0.41
1:AA:402:C:H2'	1:AA:403:C:C6	2.55	0.41
1:AA:1051:C:H2'	1:AA:1052:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1624:C:H2'	1:AA:1625:U:C1'	2.51	0.41
1:AA:2574:U:H1'	12:AO:23:ARG:HD3	2.02	0.41
4:AD:108:PRO:HD2	4:AD:111:LEU:CG	2.51	0.41
7:AG:47:LYS:HG3	7:AG:48:GLU:H	1.86	0.41
8:AH:9:ILE:HD11	8:AH:69:ARG:HG3	2.03	0.41
14:AQ:21:THR:CG2	14:AQ:101:ARG:HB2	2.50	0.41
14:AQ:120:ILE:HG21	14:AQ:120:ILE:HD13	1.83	0.41
15:AR:44:LEU:O	15:AR:44:LEU:HD22	2.21	0.41
15:AR:54:LEU:HA	15:AR:54:LEU:HD12	1.68	0.41
35:BB:141:GLU:O	35:BB:145:LEU:HB2	2.20	0.41
36:BC:22:TRP:HB2	36:BC:23:TYR:H	1.72	0.41
37:BD:196:LEU:H	37:BD:196:LEU:HD12	1.86	0.41
40:BG:62:PHE:HA	40:BG:124:LEU:CD2	2.51	0.41
44:BK:73:MET:HG2	44:BK:103:LEU:HD21	2.03	0.41
46:BM:29:ARG:HH11	46:BM:64:TRP:HB3	1.85	0.41
50:BQ:4:LYS:O	50:BQ:60:ILE:HA	2.21	0.41
50:BQ:10:VAL:HG12	50:BQ:53:LEU:HA	2.02	0.41
51:BR:44:LEU:HD21	51:BR:70:ILE:HG21	2.02	0.41
57:BZ:-58:LEU:HD13	57:BZ:-58:LEU:HA	1.75	0.41
57:BZ:324:ARG:HG3	57:BZ:324:ARG:NH1	2.36	0.41
1:CA:520:G:H2'	1:CA:521:G:H8	1.85	0.41
1:CA:793:A:O2'	63:CA:3724:HOH:O	2.12	0.41
1:CA:861:A:C2	1:CA:917:A:N3	2.89	0.41
1:CA:1227:G:OP1	18:CU:13:LYS:HE3	2.20	0.41
1:CA:1583:A:H5''	1:CA:1584:C:H5''	2.03	0.41
1:CA:1651:G:N2	1:CA:2007:C:C2	2.89	0.41
1:CA:1917:U:H2'	1:CA:1918:A:O4'	2.21	0.41
1:CA:2062:A:C2	1:CA:2503:A:N6	2.89	0.41
1:CA:2491:U:H4'	1:CA:2570:G:OP1	2.21	0.41
4:CD:26:LYS:HE2	4:CD:83:GLU:OE2	2.21	0.41
4:CD:95:LEU:HD23	4:CD:95:LEU:HA	1.84	0.41
4:CD:249:PRO:HD2	4:CD:250:TRP:CZ3	2.56	0.41
5:CE:170:LEU:HB3	5:CE:184:VAL:CG2	2.51	0.41
6:CF:36:VAL:O	6:CF:40:GLN:HG3	2.20	0.41
6:CF:126:VAL:HG21	6:CF:129:PHE:CZ	2.55	0.41
6:CF:127:GLU:HA	6:CF:196:LEU:HD12	2.02	0.41
8:CH:143:GLN:O	8:CH:146:ALA:N	2.54	0.41
15:CR:54:LEU:HD12	15:CR:54:LEU:HA	1.87	0.41
15:CR:55:ALA:HA	15:CR:80:PHE:CE1	2.56	0.41
25:C1:95:LEU:C	25:C1:97:LEU:N	2.75	0.41
34:DA:70:G:H2'	34:DA:71:C:C6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:364:A:H2'	34:DA:365:U:H6	1.86	0.41
34:DA:414:A:N7	34:DA:431:A:C2	2.89	0.41
34:DA:868:C:H2'	34:DA:869:G:O4'	2.20	0.41
34:DA:986:A:N3	52:DS:52:TYR:OH	2.47	0.41
34:DA:1024:G:H2'	34:DA:1025:U:H5''	2.02	0.41
34:DA:1250:A:H4'	42:DI:68:GLY:H	1.85	0.41
34:DA:1277:C:O2'	34:DA:1279:A:H1'	2.21	0.41
43:DJ:50:ILE:HB	47:DN:41:ARG:CZ	2.51	0.41
45:DL:90:VAL:O	45:DL:91:LYS:C	2.59	0.41
46:DM:56:LEU:O	46:DM:60:VAL:HG12	2.21	0.41
49:DP:4:ILE:O	49:DP:66:PRO:HA	2.21	0.41
53:DT:39:LYS:HD3	53:DT:55:ILE:HD12	2.03	0.41
56:DW:14:A:C4	56:DW:22:G:C2	3.09	0.41
56:DW:54:5MU:H2'	56:DW:55:PSU:O4'	2.21	0.41
57:DZ:12:LEU:O	57:DZ:282:SER:HA	2.21	0.41
57:DZ:230:LYS:HD3	57:DZ:237:PRO:HG3	2.03	0.41
57:DZ:309:LEU:HD12	57:DZ:310:ALA:N	2.36	0.41
1:AA:1717:C:O2	5:AE:129:HIS:NE2	2.52	0.40
1:AA:2124:U:H2'	1:AA:2125:C:C6	2.56	0.40
8:AH:23:ARG:HD2	8:AH:34:GLU:OE2	2.21	0.40
8:AH:116:GLU:HA	8:AH:117:PRO:HD3	1.89	0.40
8:AH:172:LYS:HB2	8:AH:173:PRO:HD2	2.03	0.40
10:AL:88:ALA:CB	10:AL:135:GLY:HA3	2.51	0.40
11:AN:62:VAL:HG13	11:AN:66:LYS:HB2	2.02	0.40
23:AZ:28:MET:HB3	23:AZ:28:MET:HE2	1.92	0.40
24:A0:18:ALA:HB3	24:A0:20:ARG:HH21	1.85	0.40
34:BA:182:U:O4	34:BA:223:U:H1'	2.21	0.40
34:BA:623:C:O5'	34:BA:623:C:H6	2.03	0.40
35:BB:55:PHE:CD1	35:BB:58:ILE:HD12	2.56	0.40
38:BE:129:ILE:O	38:BE:132:ALA:HB3	2.20	0.40
49:BP:52:ASP:OD2	49:BP:55:ARG:HG2	2.20	0.40
49:BP:72:ARG:HD2	49:BP:73:LEU:HD23	2.02	0.40
52:BS:40:ILE:HA	52:BS:44:MET:SD	2.61	0.40
53:BT:53:LEU:HB2	53:BT:57:ARG:NH1	2.36	0.40
57:BZ:132:ARG:N	57:BZ:132:ARG:HD3	2.36	0.40
57:BZ:359:HIS:HD1	57:BZ:362:HIS:CD2	2.39	0.40
57:BZ:623:ASP:O	57:BZ:626:ALA:HB3	2.21	0.40
1:CA:322:A:H5'	1:CA:340:A:H1'	2.03	0.40
1:CA:1118:C:H2'	1:CA:1119:C:O4'	2.21	0.40
1:CA:2041:U:H2'	1:CA:2042:A:O4'	2.21	0.40
2:CB:14:U:H5'	2:CB:70:C:O2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:CB:100:A:H2'	2:CB:100:A:N3	2.37	0.40
3:CC:194:ILE:CD1	3:CC:227:PRO:CB	2.99	0.40
4:CD:213:ARG:HA	4:CD:213:ARG:HD2	1.81	0.40
23:CZ:10:ARG:NH2	23:CZ:26:GLY:O	2.49	0.40
27:C3:31:LEU:HD22	27:C3:31:LEU:HA	1.86	0.40
28:C4:61:ARG:HG3	52:DS:42:PRO:HG3	2.02	0.40
29:C5:2:ALA:O	29:C5:3:LYS:HG3	2.21	0.40
34:DA:44:G:H2'	34:DA:45:U:O4'	2.21	0.40
34:DA:403:C:O2'	34:DA:404:U:H5'	2.21	0.40
34:DA:472:A:H5''	49:DP:80:PHE:HB3	2.03	0.40
34:DA:619:U:N3	37:DD:134:ASP:OD1	2.46	0.40
34:DA:696:A:H2'	34:DA:697:U:O4'	2.21	0.40
34:DA:742:G:C2	34:DA:743:U:H1'	2.57	0.40
34:DA:1004:A:H8	34:DA:1005:A:H4'	1.86	0.40
34:DA:1186:G:O3'	42:DI:113:LYS:NZ	2.54	0.40
34:DA:1433:A:H2'	34:DA:1434:A:O4'	2.21	0.40
37:DD:61:LYS:HZ3	37:DD:206:PHE:HE2	1.69	0.40
40:DG:37:ASN:OD1	42:DI:40:LEU:HA	2.21	0.40
41:DH:36:LEU:HA	41:DH:39:LEU:HB2	2.02	0.40
41:DH:90:GLY:O	50:DQ:34:LYS:HE3	2.21	0.40
46:DM:10:PRO:O	46:DM:13:LYS:HB2	2.21	0.40
50:DQ:99:SER:OG	50:DQ:100:LYS:N	2.55	0.40
57:DZ:632:LEU:HA	57:DZ:632:LEU:HD23	1.83	0.40
1:AA:342:C:O2'	1:AA:343:C:H5'	2.21	0.40
1:AA:821:A:H2'	1:AA:821:A:N3	2.37	0.40
1:AA:1926:G:O2'	1:AA:1927:C:H5'	2.20	0.40
1:AA:1989:C:C2'	1:AA:1990:G:H5'	2.51	0.40
1:AA:2130:C:H2'	1:AA:2131:U:C6	2.57	0.40
1:AA:2276:C:N4	24:A0:15:ASP:OD2	2.48	0.40
1:AA:2555:G:H21	1:AA:2658:C:H5''	1.86	0.40
8:AH:24:VAL:HG13	8:AH:37:VAL:HG21	2.03	0.40
22:AY:86:ARG:HB2	22:AY:98:VAL:CG2	2.51	0.40
34:BA:132:C:C2	34:BA:231:G:C2	3.10	0.40
34:BA:1139:G:H4'	34:BA:1140:C:H5'	2.04	0.40
34:BA:1157:A:H1'	34:BA:1181:G:N2	2.36	0.40
34:BA:1164:G:N1	34:BA:1173:G:C6	2.90	0.40
34:BA:1226:C:H4'	52:BS:80:TYR:OH	2.20	0.40
37:BD:144:ASP:O	37:BD:184:LYS:HA	2.20	0.40
38:BE:76:ILE:HB	38:BE:77:PRO:HD2	2.04	0.40
38:BE:147:ASP:OD1	38:BE:147:ASP:N	2.48	0.40
41:BH:38:ILE:HD13	41:BH:41:ARG:HH21	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BS:36:ARG:HD2	52:BS:52:TYR:O	2.20	0.40
56:BW:44:G:H8	56:BW:44:G:P	2.45	0.40
1:CA:57:C:H2'	1:CA:58:G:O4'	2.21	0.40
1:CA:563:G:H5'	1:CA:572:A:H4'	2.02	0.40
1:CA:579:G:H2'	1:CA:580:C:C6	2.57	0.40
1:CA:614(C):A:N3	1:CA:615:G:H1'	2.36	0.40
1:CA:981:A:N1	1:CA:2027:G:O2'	2.35	0.40
1:CA:1165:U:H2'	1:CA:1166:C:C6	2.55	0.40
1:CA:1494:A:C6	1:CA:1495:A:C6	3.09	0.40
1:CA:2046:G:H2'	1:CA:2047:U:C6	2.56	0.40
1:CA:2261:C:O2'	1:CA:2262:U:H5'	2.21	0.40
1:CA:2647:U:H2'	1:CA:2648:C:C6	2.57	0.40
1:CA:2697:G:C2	1:CA:2711:A:C2	3.09	0.40
3:CC:174:ALA:HA	3:CC:175:PRO:HD3	1.82	0.40
8:CH:101:ARG:HH22	8:CH:122:THR:HG23	1.86	0.40
11:CN:62:VAL:CG1	11:CN:66:LYS:HB2	2.51	0.40
11:CN:128:HIS:HA	11:CN:129:PRO:HD3	1.85	0.40
17:CT:16:ARG:NH1	17:CT:19:LEU:HD21	2.37	0.40
22:CY:13:VAL:HG12	22:CY:74:PRO:HA	2.03	0.40
22:CY:83:THR:OG1	22:CY:84:ARG:N	2.53	0.40
22:CY:88:LYS:HE3	22:CY:89:PHE:O	2.21	0.40
32:C8:43:GLN:C	32:C8:45:GLY:H	2.25	0.40
32:C8:61:LEU:O	32:C8:63:PRO:HD3	2.21	0.40
34:DA:59:A:H5''	34:DA:60:A:H5''	2.03	0.40
34:DA:690:G:C6	34:DA:691:G:C6	3.10	0.40
34:DA:786:G:H2'	34:DA:787:A:O4'	2.22	0.40
34:DA:1250:A:H2'	34:DA:1251:A:O4'	2.20	0.40
34:DA:1363(A):A:C8	34:DA:1365:G:C4	3.10	0.40
35:DB:16:HIS:CG	35:DB:17:PHE:N	2.89	0.40
35:DB:73:THR:HG22	35:DB:94:ASN:C	2.41	0.40
37:DD:4:TYR:O	37:DD:5:ILE:HG22	2.21	0.40
37:DD:106:TYR:CD2	37:DD:106:TYR:C	2.94	0.40
38:DE:47:LYS:HB2	38:DE:47:LYS:HE2	1.85	0.40
41:DH:35:ILE:HG22	41:DH:39:LEU:HD22	2.02	0.40
44:DK:59:TYR:O	44:DK:63:LEU:HG	2.21	0.40
1:AA:357:G:H5''	1:AA:358:C:OP2	2.21	0.40
1:AA:552:C:H4'	1:AA:553:A:O5'	2.21	0.40
1:AA:801:C:H2'	1:AA:802:C:C6	2.57	0.40
1:AA:865:G:H5'	1:AA:886:U:OP1	2.21	0.40
1:AA:921:G:N1	1:AA:949:C:N3	2.48	0.40
1:AA:1208:G:O2'	19:AV:90:PRO:HG2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1370:G:C5	1:AA:1374:G:O6	2.75	0.40
1:AA:1569:U:H2'	1:AA:1570:G:O4'	2.21	0.40
1:AA:2701:U:P	1:AA:2732:G:H22	2.43	0.40
2:AB:29:A:O2'	2:AB:58:A:N1	2.38	0.40
4:AD:123:ALA:HA	4:AD:124:PRO:HD2	1.80	0.40
6:AF:39:TRP:CB	6:AF:101:LEU:HD22	2.51	0.40
9:AK:85:ASP:O	9:AK:87:VAL:N	2.54	0.40
12:AO:122:LEU:HA	12:AO:122:LEU:HD23	1.82	0.40
16:AS:19:LYS:HG2	16:AS:19:LYS:H	1.76	0.40
17:AT:61:PHE:CD1	17:AT:78:LEU:HD23	2.55	0.40
25:A1:50:ARG:HG2	25:A1:59:THR:CG2	2.52	0.40
29:A5:31:VAL:HG22	29:A5:42:PRO:HD3	2.03	0.40
30:A6:8:LYS:HE2	32:A8:34:TRP:CZ3	2.56	0.40
32:A8:58:ILE:O	32:A8:59:LYS:C	2.59	0.40
34:BA:377:G:O2'	34:BA:378:G:H5'	2.21	0.40
34:BA:403:C:C2'	34:BA:404:U:H5'	2.51	0.40
34:BA:442:C:N4	34:BA:492:G:H1	2.16	0.40
34:BA:544:G:C5	34:BA:545:C:C5	3.09	0.40
34:BA:567:G:H2'	34:BA:568:G:O4'	2.20	0.40
34:BA:651:C:O2'	34:BA:652:U:H5'	2.20	0.40
34:BA:1169:A:N6	34:BA:1170:A:N1	2.69	0.40
34:BA:1248:A:C6	34:BA:1249:C:C4	3.09	0.40
34:BA:1279:A:H5''	34:BA:1280:A:OP1	2.21	0.40
34:BA:1342:C:O2'	42:BI:124:GLN:HG2	2.20	0.40
38:BE:95:ALA:O	38:BE:117:ASP:HB3	2.21	0.40
38:BE:151:LEU:HD23	38:BE:151:LEU:HA	1.78	0.40
41:BH:29:SER:OG	41:BH:32:LYS:HG3	2.21	0.40
48:BO:32:LEU:O	48:BO:33:THR:C	2.60	0.40
1:CA:30:G:C5	1:CA:31:C:C4	3.10	0.40
1:CA:271(O):C:H2'	1:CA:271(P):C:C6	2.56	0.40
1:CA:574:C:OP2	63:CA:3760:HOH:O	2.22	0.40
1:CA:760:G:H2'	1:CA:761:A:O4'	2.22	0.40
1:CA:1110:G:O2'	1:CA:1111:A:OP2	2.34	0.40
1:CA:1204:A:H2	1:CA:1241:A:N6	2.18	0.40
1:CA:1221(A):C:O2'	1:CA:1222:C:H5'	2.20	0.40
1:CA:1993:U:H2'	1:CA:1994:C:O4'	2.22	0.40
1:CA:2032:G:H1'	5:CE:145:LYS:HD3	2.03	0.40
1:CA:2124:G:H4'	3:CC:175:PRO:CG	2.51	0.40
1:CA:2238:G:H2'	1:CA:2238:G:N3	2.36	0.40
1:CA:2684:U:C4	1:CA:2685:G:N7	2.90	0.40
2:CB:89:G:H8	2:CB:89:G:OP2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:CC:54:ARG:CZ	3:CC:55:SER:O	2.69	0.40
7:CG:91:ARG:HE	7:CG:91:ARG:HB3	1.46	0.40
12:CO:53:LYS:HE3	12:CO:53:LYS:HB3	1.98	0.40
21:CX:8:ILE:HD11	21:CX:43:VAL:HG23	2.02	0.40
22:CY:39:VAL:O	22:CY:41:GLY:N	2.55	0.40
22:CY:76:CYS:SG	22:CY:78:ALA:HB3	2.61	0.40
25:C1:50:ARG:NH1	25:C1:57:GLU:OE1	2.55	0.40
34:DA:122:G:H8	34:DA:122:G:O5'	2.04	0.40
34:DA:520:A:N1	34:DA:536:C:H1'	2.36	0.40
34:DA:1002:G:C2	34:DA:1004:A:H2	2.39	0.40
34:DA:1004:A:H62	34:DA:1037:C:C2'	2.23	0.40
34:DA:1055:A:H62	34:DA:1200:C:N4	2.19	0.40
34:DA:1217:C:H2'	34:DA:1218:C:O4'	2.21	0.40
34:DA:1507:A:C5	34:DA:1530:G:C2	3.09	0.40
35:DB:164:VAL:HG23	35:DB:185:ILE:O	2.21	0.40
35:DB:216:SER:H	35:DB:216:SER:HG	1.65	0.40
45:DL:32:PHE:HB3	45:DL:84:LEU:CD1	2.36	0.40
48:DO:18:PHE:O	48:DO:20:GLY:N	2.55	0.40
57:DZ:174:PHE:HE2	57:DZ:267:LYS:HD3	1.86	0.40
57:DZ:610:VAL:HG22	57:DZ:669:PHE:HB3	2.03	0.40
1:AA:611:U:O4	1:AA:717:A:H1'	2.21	0.40
1:AA:1463:C:N4	1:AA:1464:G:C6	2.89	0.40
1:AA:1634:C:H2'	1:AA:1635:C:H6	1.85	0.40
1:AA:2097:U:C4	1:AA:2250:G:C6	3.09	0.40
1:AA:2556:G:H1'	1:AA:2658:C:H4'	2.04	0.40
2:AB:118:G:H2'	2:AB:119:G:O4'	2.21	0.40
7:AG:53:LEU:N	7:AG:53:LEU:HD23	2.36	0.40
9:AK:39:ALA:C	9:AK:41:ARG:H	2.25	0.40
11:AN:71:ILE:HG22	11:AN:72:TYR:O	2.20	0.40
21:AX:88:LYS:HE3	21:AX:90:GLU:OE1	2.22	0.40
22:AY:13:VAL:HA	22:AY:73:ARG:O	2.21	0.40
30:A6:18:ARG:HD3	30:A6:42:TRP:NE1	2.36	0.40
34:BA:141:A:H1'	34:BA:182:U:C2	2.57	0.40
34:BA:304:U:H2'	34:BA:305:G:C8	2.56	0.40
34:BA:349:A:O2'	34:BA:350:G:H5'	2.20	0.40
34:BA:779:C:H2'	34:BA:780:A:O4'	2.21	0.40
34:BA:1036:G:H5''	34:BA:1037:C:C5	2.56	0.40
37:BD:13:ARG:HG2	37:BD:13:ARG:H	1.63	0.40
38:BE:98:THR:HB	38:BE:99:GLY:H	1.49	0.40
42:BI:50:LEU:HB2	42:BI:81:ILE:HD11	2.03	0.40
46:BM:29:ARG:HD3	46:BM:64:TRP:CD1	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:BP:45:THR:HA	49:BP:46:PRO:HD2	1.81	0.40
56:BY:5:G:H1'	56:BY:69:G:N2	2.37	0.40
57:BZ:291:GLY:O	57:BZ:298:VAL:HA	2.21	0.40
57:BZ:539:ILE:HB	57:BZ:540:PRO:HD3	2.04	0.40
1:CA:276:A:H5''	1:CA:277:C:H5'	2.03	0.40
1:CA:566:U:P	13:CP:29:LYS:HZ2	2.42	0.40
1:CA:627:A:C6	1:CA:637:A:C8	3.10	0.40
1:CA:672:C:O2'	1:CA:673:C:H5'	2.20	0.40
1:CA:778:G:C5	1:CA:779:U:C4	3.10	0.40
1:CA:1202:C:H2'	1:CA:1203:G:O4'	2.21	0.40
1:CA:1623:G:C2	1:CA:1624:G:C8	3.10	0.40
1:CA:2121:G:C1'	3:CC:168:LYS:CG	2.75	0.40
1:CA:2252:G:H1	56:DW:74:C:H42	1.67	0.40
1:CA:2400:G:H1	1:CA:2416:C:H42	1.70	0.40
1:CA:2400:G:H2'	1:CA:2401:U:H6	1.86	0.40
1:CA:2586:C:H6	1:CA:2586:C:O5'	2.04	0.40
2:CB:5:C:OP1	2:CB:62:C:H5'	2.22	0.40
2:CB:35:U:H6	2:CB:35:U:O5'	2.03	0.40
2:CB:45:A:C4	2:CB:46:A:C8	3.10	0.40
4:CD:85:ASP:OD2	4:CD:88:ARG:HD2	2.22	0.40
4:CD:215:LEU:HD23	4:CD:215:LEU:HA	1.83	0.40
5:CE:5:LEU:HD12	5:CE:51:PHE:HB3	2.02	0.40
15:CR:2:ARG:C	15:CR:5:LYS:HG3	2.42	0.40
15:CR:51:LEU:HD23	15:CR:51:LEU:HA	1.69	0.40
16:CS:57:LYS:O	16:CS:58:LEU:HD23	2.20	0.40
22:CY:85:VAL:CG1	22:CY:97:ARG:HB3	2.51	0.40
25:C1:85:LEU:HB3	25:C1:86:SER:H	1.60	0.40
27:C3:35:ARG:HB3	27:C3:37:LEU:HD21	2.04	0.40
34:DA:522:C:H2'	34:DA:523:A:O4'	2.22	0.40
34:DA:882:C:H41	45:DL:9:GLN:NE2	2.19	0.40
34:DA:1004:A:N6	34:DA:1037:C:C2	2.90	0.40
34:DA:1249:C:H4'	42:DI:36:TYR:OH	2.20	0.40
34:DA:1391:U:H2'	34:DA:1392:G:C8	2.56	0.40
36:DC:28:GLN:HE21	36:DC:28:GLN:HB3	1.65	0.40
37:DD:171:GLY:HA3	37:DD:174:LEU:HB2	2.04	0.40
37:DD:173:TRP:HA	37:DD:187:ARG:HE	1.85	0.40
39:DF:74:ASP:OD2	39:DF:74:ASP:N	2.54	0.40
48:DO:78:TYR:O	48:DO:81:LEU:N	2.54	0.40
56:DW:37:MIA:HN6	56:DW:37:MIA:H163	1.86	0.40
57:DZ:316:ILE:CD1	57:DZ:326:THR:HG23	2.52	0.40
57:DZ:466:LEU:HA	57:DZ:470:PHE:CD2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AA:1347:A:N3	1:AA:1347:A:H2'	2.37	0.40
3:AC:54:ARG:CZ	3:AC:55:SER:O	2.69	0.40
4:AD:183:ARG:HG2	4:AD:184:LYS:N	2.37	0.40
6:AF:80:ALA:HB3	6:AF:83:PHE:HD2	1.87	0.40
18:AU:20:LEU:HD23	18:AU:20:LEU:HA	1.91	0.40
22:AY:45:VAL:O	22:AY:62:GLU:HA	2.22	0.40
24:A0:22:GLY:O	24:A0:24:LYS:HG2	2.22	0.40
27:A3:7:LYS:HD3	27:A3:9:VAL:HG12	2.04	0.40
34:BA:33:A:H5''	34:BA:364:A:C1'	2.50	0.40
34:BA:306:G:C5	34:BA:307:C:C5	3.10	0.40
34:BA:396:G:P	57:BZ:349:LYS:NZ	2.94	0.40
34:BA:477:A:H2'	34:BA:479:C:C6	2.56	0.40
34:BA:723:U:O2'	34:BA:724:G:H5'	2.22	0.40
34:BA:794:A:H2'	34:BA:795:C:O4'	2.22	0.40
40:BG:18:TYR:HD2	40:BG:59:LEU:HD22	1.86	0.40
43:BJ:38:ILE:HA	43:BJ:39:PRO:HD3	1.83	0.40
43:BJ:40:LEU:HB2	43:BJ:69:ASN:HB2	2.04	0.40
43:BJ:46:ARG:HH11	43:BJ:46:ARG:CG	2.34	0.40
46:BM:11:ARG:HB3	46:BM:46:LYS:HB3	2.03	0.40
49:BP:74:LEU:O	49:BP:79:VAL:HG23	2.22	0.40
57:BZ:-6:ARG:HA	57:BZ:-6:ARG:CZ	2.52	0.40
1:CA:36:G:O2'	1:CA:450:G:H2'	2.21	0.40
1:CA:143:G:H2'	1:CA:143(A):C:C6	2.56	0.40
1:CA:679:C:H2'	1:CA:680:G:C8	2.56	0.40
1:CA:1000:A:C6	1:CA:1001:A:N1	2.90	0.40
1:CA:1053:C:C2'	1:CA:1054:A:O5'	2.70	0.40
1:CA:1079:C:N3	1:CA:1088:A:C6	2.90	0.40
1:CA:1091:G:H2'	1:CA:1092:C:C6	2.56	0.40
1:CA:1107:G:C2'	1:CA:1108:U:O5'	2.70	0.40
1:CA:1389:G:H2'	1:CA:1390:U:C6	2.57	0.40
1:CA:1582:C:O2'	1:CA:1586:A:H1'	2.22	0.40
1:CA:2070:G:OP2	63:CA:3761:HOH:O	2.22	0.40
1:CA:2756:U:H4'	1:CA:2757:A:OP1	2.22	0.40
16:CS:52:SER:HB2	16:CS:55:ALA:CB	2.50	0.40
17:CT:29:ARG:HH11	17:CT:29:ARG:HD2	1.78	0.40
17:CT:78:LEU:HD13	17:CT:78:LEU:O	2.22	0.40
18:CU:74:LEU:HD23	18:CU:78:THR:CG2	2.51	0.40
21:CX:32:PRO:HA	21:CX:77:LYS:HB2	2.03	0.40
22:CY:16:ALA:HB2	22:CY:73:ARG:HG3	2.03	0.40
23:CZ:152:ALA:O	23:CZ:163:LEU:HD21	2.22	0.40
23:CZ:156:LYS:HD2	23:CZ:157:LEU:H	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:DA:523:A:N1	45:DL:92:ASP:HB2	2.37	0.40
34:DA:607:A:C4	34:DA:608:A:C8	3.09	0.40
34:DA:926:G:C6	34:DA:1505:G:C5	3.09	0.40
34:DA:1126:U:C4'	34:DA:1281:U:H1'	2.51	0.40
34:DA:1372:U:H5''	42:DI:71:SER:HB3	2.03	0.40
34:DA:1409:C:H2'	34:DA:1410:G:C8	2.57	0.40
36:DC:113:ALA:HA	36:DC:202:ILE:HD12	2.03	0.40
37:DD:25:ARG:NH2	37:DD:30:LYS:HB3	2.36	0.40
39:DF:70:ASP:OD1	39:DF:70:ASP:N	2.34	0.40
39:DF:89:MET:CE	51:DR:76:LEU:HD22	2.51	0.40
41:DH:29:SER:HB3	41:DH:32:LYS:HG3	2.03	0.40
53:DT:91:LEU:HD23	53:DT:91:LEU:HA	1.93	0.40
57:DZ:127:LYS:O	57:DZ:520:GLY:HA3	2.21	0.40
57:DZ:354:ARG:HH22	57:DZ:378:VAL:HG11	1.87	0.40
58:DX:3:004:HA	58:DX:4:PRO:HD2	1.26	0.40

All (21) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:BZ:502:GLY:CA	3:CC:9:ARG:CD[2_655]	1.16	1.04
3:AC:9:ARG:NH2	57:DZ:504:ARG:NH1[3_654]	1.36	0.84
57:BZ:502:GLY:N	3:CC:9:ARG:CB[2_655]	1.54	0.66
57:BZ:502:GLY:N	3:CC:9:ARG:CD[2_655]	1.69	0.51
57:BZ:573:HIS:CE1	3:CC:13:GLU:OE1[2_655]	1.71	0.49
57:BZ:502:GLY:N	3:CC:9:ARG:CG[2_655]	1.79	0.41
57:BZ:504:ARG:NH1	3:CC:9:ARG:NH2[2_655]	1.79	0.41
57:BZ:573:HIS:NE2	3:CC:13:GLU:OE1[2_655]	1.79	0.41
3:AC:9:ARG:CB	57:DZ:502:GLY:O[3_654]	1.81	0.39
57:BZ:500:GLN:O	3:CC:9:ARG:O[2_655]	1.82	0.38
3:AC:6:LYS:O	57:DZ:502:GLY:CA[3_654]	2.01	0.19
57:BZ:500:GLN:OE1	3:CC:13:GLU:CG[2_655]	2.02	0.18
57:BZ:500:GLN:CD	3:CC:13:GLU:CG[2_655]	2.02	0.18
57:BZ:573:HIS:CE1	3:CC:13:GLU:CD[2_655]	2.05	0.15
57:BZ:504:ARG:NH1	3:CC:9:ARG:NE[2_655]	2.06	0.14
3:AC:6:LYS:NZ	57:DZ:501:THR:OG1[3_654]	2.07	0.13
57:BZ:501:THR:OG1	3:CC:9:ARG:CB[2_655]	2.11	0.09
57:BZ:504:ARG:NH1	3:CC:9:ARG:CZ[2_655]	2.14	0.06
57:BZ:501:THR:C	3:CC:9:ARG:CB[2_655]	2.16	0.04
57:BZ:501:THR:CA	3:CC:9:ARG:C[2_655]	2.16	0.04
57:BZ:573:HIS:CE1	3:CC:13:GLU:OE2[2_655]	2.16	0.04

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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	AC	133/228 (58%)	90 (68%)	25 (19%)	18 (14%)	0	0
3	CC	133/228 (58%)	90 (68%)	25 (19%)	18 (14%)	0	0
4	AD	273/276 (99%)	249 (91%)	19 (7%)	5 (2%)	7	24
4	CD	273/276 (99%)	234 (86%)	26 (10%)	13 (5%)	2	6
5	AE	202/206 (98%)	186 (92%)	14 (7%)	2 (1%)	13	39
5	CE	202/206 (98%)	179 (89%)	20 (10%)	3 (2%)	8	29
6	AF	201/210 (96%)	182 (90%)	18 (9%)	1 (0%)	25	56
6	CF	201/210 (96%)	177 (88%)	17 (8%)	7 (4%)	3	10
7	AG	179/182 (98%)	154 (86%)	19 (11%)	6 (3%)	3	11
7	CG	179/182 (98%)	141 (79%)	31 (17%)	7 (4%)	2	9
8	AH	172/180 (96%)	154 (90%)	15 (9%)	3 (2%)	7	26
8	CH	172/180 (96%)	144 (84%)	17 (10%)	11 (6%)	1	3
9	AK	128/173 (74%)	66 (52%)	36 (28%)	26 (20%)	0	0
9	CK	128/173 (74%)	76 (59%)	27 (21%)	25 (20%)	0	0
10	AL	64/147 (44%)	43 (67%)	17 (27%)	4 (6%)	1	3
10	CL	64/147 (44%)	42 (66%)	19 (30%)	3 (5%)	2	6
11	AN	138/140 (99%)	129 (94%)	8 (6%)	1 (1%)	19	48
11	CN	138/140 (99%)	120 (87%)	15 (11%)	3 (2%)	5	20
12	AO	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
12	CO	120/122 (98%)	107 (89%)	10 (8%)	3 (2%)	4	17
13	AP	147/150 (98%)	130 (88%)	15 (10%)	2 (1%)	9	30
13	CP	147/150 (98%)	119 (81%)	25 (17%)	3 (2%)	6	21
14	AQ	139/141 (99%)	126 (91%)	12 (9%)	1 (1%)	19	48
14	CQ	139/141 (99%)	123 (88%)	14 (10%)	2 (1%)	9	30
15	AR	116/118 (98%)	106 (91%)	10 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	CR	116/118 (98%)	102 (88%)	11 (10%)	3 (3%)	4	16
16	AS	108/112 (96%)	88 (82%)	16 (15%)	4 (4%)	2	9
16	CS	108/112 (96%)	83 (77%)	20 (18%)	5 (5%)	2	6
17	AT	129/146 (88%)	114 (88%)	13 (10%)	2 (2%)	8	27
17	CT	129/146 (88%)	116 (90%)	11 (8%)	2 (2%)	8	27
18	AU	114/118 (97%)	111 (97%)	3 (3%)	0	100	100
18	CU	114/118 (97%)	100 (88%)	11 (10%)	3 (3%)	4	16
19	AV	99/101 (98%)	95 (96%)	3 (3%)	1 (1%)	13	39
19	CV	99/101 (98%)	86 (87%)	10 (10%)	3 (3%)	3	13
20	AW	110/113 (97%)	104 (94%)	6 (6%)	0	100	100
20	CW	110/113 (97%)	105 (96%)	5 (4%)	0	100	100
21	AX	93/96 (97%)	85 (91%)	6 (6%)	2 (2%)	5	20
21	CX	93/96 (97%)	77 (83%)	11 (12%)	5 (5%)	1	5
22	AY	105/110 (96%)	93 (89%)	9 (9%)	3 (3%)	3	13
22	CY	105/110 (96%)	86 (82%)	14 (13%)	5 (5%)	2	6
23	AZ	183/206 (89%)	147 (80%)	24 (13%)	12 (7%)	1	3
23	CZ	183/206 (89%)	134 (73%)	33 (18%)	16 (9%)	0	1
24	A0	75/85 (88%)	70 (93%)	5 (7%)	0	100	100
24	C0	75/85 (88%)	67 (89%)	7 (9%)	1 (1%)	10	32
25	A1	95/98 (97%)	90 (95%)	5 (5%)	0	100	100
25	C1	95/98 (97%)	85 (90%)	7 (7%)	3 (3%)	3	12
26	A2	68/72 (94%)	62 (91%)	6 (9%)	0	100	100
26	C2	68/72 (94%)	60 (88%)	7 (10%)	1 (2%)	8	29
27	A3	57/60 (95%)	51 (90%)	6 (10%)	0	100	100
27	C3	57/60 (95%)	50 (88%)	5 (9%)	2 (4%)	3	10
28	A4	67/71 (94%)	46 (69%)	12 (18%)	9 (13%)	0	0
28	C4	67/71 (94%)	43 (64%)	15 (22%)	9 (13%)	0	0
29	A5	57/60 (95%)	51 (90%)	6 (10%)	0	100	100
29	C5	57/60 (95%)	53 (93%)	3 (5%)	1 (2%)	7	24
30	A6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
30	C6	51/54 (94%)	42 (82%)	8 (16%)	1 (2%)	6	21

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
31	A7	46/49 (94%)	45 (98%)	1 (2%)	0	100	100
31	C7	46/49 (94%)	41 (89%)	4 (9%)	1 (2%)	5	20
32	A8	62/65 (95%)	60 (97%)	1 (2%)	1 (2%)	8	27
32	C8	62/65 (95%)	54 (87%)	7 (11%)	1 (2%)	8	27
33	A9	35/37 (95%)	35 (100%)	0	0	100	100
33	C9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
35	BB	229/256 (90%)	182 (80%)	33 (14%)	14 (6%)	1	3
35	DB	229/256 (90%)	170 (74%)	41 (18%)	18 (8%)	1	2
36	BC	204/239 (85%)	155 (76%)	38 (19%)	11 (5%)	1	5
36	DC	204/239 (85%)	169 (83%)	29 (14%)	6 (3%)	3	13
37	BD	206/209 (99%)	166 (81%)	28 (14%)	12 (6%)	1	4
37	DD	206/209 (99%)	171 (83%)	27 (13%)	8 (4%)	2	9
38	BE	146/162 (90%)	114 (78%)	24 (16%)	8 (6%)	1	4
38	DE	146/162 (90%)	117 (80%)	22 (15%)	7 (5%)	2	6
39	BF	98/101 (97%)	84 (86%)	11 (11%)	3 (3%)	3	12
39	DF	98/101 (97%)	90 (92%)	5 (5%)	3 (3%)	3	12
40	BG	153/156 (98%)	128 (84%)	13 (8%)	12 (8%)	1	2
40	DG	153/156 (98%)	126 (82%)	22 (14%)	5 (3%)	3	11
41	BH	135/138 (98%)	110 (82%)	22 (16%)	3 (2%)	5	20
41	DH	135/138 (98%)	114 (84%)	14 (10%)	7 (5%)	1	5
42	BI	125/128 (98%)	103 (82%)	15 (12%)	7 (6%)	1	4
42	DI	125/128 (98%)	100 (80%)	21 (17%)	4 (3%)	3	12
43	BJ	95/105 (90%)	76 (80%)	12 (13%)	7 (7%)	1	2
43	DJ	94/105 (90%)	75 (80%)	16 (17%)	3 (3%)	3	12
44	BK	112/129 (87%)	96 (86%)	14 (12%)	2 (2%)	7	24
44	DK	112/129 (87%)	92 (82%)	16 (14%)	4 (4%)	3	10
45	BL	120/132 (91%)	108 (90%)	11 (9%)	1 (1%)	16	44
45	DL	120/132 (91%)	100 (83%)	16 (13%)	4 (3%)	3	11
46	BM	115/126 (91%)	93 (81%)	18 (16%)	4 (4%)	3	10
46	DM	114/126 (90%)	88 (77%)	17 (15%)	9 (8%)	1	2
47	BN	58/61 (95%)	46 (79%)	9 (16%)	3 (5%)	1	5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
47	DN	58/61 (95%)	49 (84%)	7 (12%)	2 (3%)	3	11
48	BO	86/89 (97%)	67 (78%)	16 (19%)	3 (4%)	3	10
48	DO	86/89 (97%)	72 (84%)	10 (12%)	4 (5%)	2	6
49	BP	80/88 (91%)	54 (68%)	17 (21%)	9 (11%)	0	1
49	DP	80/88 (91%)	58 (72%)	18 (22%)	4 (5%)	1	5
50	BQ	97/105 (92%)	87 (90%)	7 (7%)	3 (3%)	3	12
50	DQ	97/105 (92%)	87 (90%)	10 (10%)	0	100	100
51	BR	66/88 (75%)	57 (86%)	7 (11%)	2 (3%)	3	13
51	DR	66/88 (75%)	60 (91%)	6 (9%)	0	100	100
52	BS	82/93 (88%)	64 (78%)	14 (17%)	4 (5%)	2	6
52	DS	81/93 (87%)	63 (78%)	15 (18%)	3 (4%)	2	9
53	BT	94/106 (89%)	78 (83%)	12 (13%)	4 (4%)	2	7
53	DT	94/106 (89%)	75 (80%)	13 (14%)	6 (6%)	1	3
54	BU	21/27 (78%)	20 (95%)	1 (5%)	0	100	100
54	DU	21/27 (78%)	17 (81%)	2 (10%)	2 (10%)	0	1
57	BZ	722/758 (95%)	563 (78%)	107 (15%)	52 (7%)	1	2
57	DZ	726/758 (96%)	537 (74%)	132 (18%)	57 (8%)	1	2
58	BX	3/10 (30%)	1 (33%)	0	2 (67%)	0	0
58	DX	3/10 (30%)	0	2 (67%)	1 (33%)	0	0
All	All	13227/14464 (91%)	10975 (83%)	1666 (13%)	586 (4%)	2	7

All (586) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AC	42	VAL
3	AC	47	LYS
3	AC	68	GLY
3	AC	180	SER
3	AC	181	PHE
4	AD	3	VAL
6	AF	130	ALA
7	AG	50	ALA
7	AG	126	ASP
8	AH	155	SER
9	AK	71	LEU

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Mol	Chain	Res	Type
9	AK	75	GLN
9	AK	77	PRO
9	AK	80	VAL
9	AK	81	VAL
9	AK	105	PRO
9	AK	123	GLU
9	AK	132	ASP
16	AS	59	LYS
17	AT	128	GLU
17	AT	129	ARG
23	AZ	177	PRO
23	AZ	184	ALA
28	A4	49	PHE
28	A4	59	PHE
35	BB	17	PHE
35	BB	125	PRO
35	BB	224	GLN
36	BC	88	ARG
37	BD	5	ILE
37	BD	47	ARG
38	BE	140	ARG
39	BF	70	ASP
39	BF	90	VAL
40	BG	33	ASP
40	BG	48	LYS
40	BG	49	ILE
40	BG	131	LYS
42	BI	54	ASP
43	BJ	56	HIS
43	BJ	77	PRO
43	BJ	79	ARG
47	BN	20	ALA
47	BN	52	GLN
48	BO	19	PRO
49	BP	46	PRO
49	BP	51	VAL
49	BP	78	GLY
50	BQ	34	LYS
50	BQ	68	ARG
51	BR	48	GLY
52	BS	13	ASP
53	BT	100	ILE

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Mol	Chain	Res	Type
57	BZ	-57	GLU
57	BZ	11	ARG
57	BZ	87	HIS
57	BZ	127	LYS
57	BZ	172	ASP
57	BZ	183	MET
57	BZ	195	ASP
57	BZ	243	VAL
57	BZ	396	ARG
57	BZ	404	VAL
57	BZ	472	VAL
57	BZ	480	GLN
58	BX	4	PRO
3	CC	42	VAL
3	CC	47	LYS
3	CC	68	GLY
3	CC	180	SER
3	CC	181	PHE
6	CF	130	ALA
6	CF	160	ASN
6	CF	195	ASP
7	CG	43	LEU
7	CG	51	ARG
7	CG	81	LYS
8	CH	77	LYS
8	CH	92	ILE
8	CH	126	PRO
9	CK	71	LEU
9	CK	74	LEU
9	CK	77	PRO
9	CK	105	PRO
9	CK	107	VAL
9	CK	116	ILE
9	CK	123	GLU
9	CK	128	LEU
13	CP	128	HIS
14	CQ	28	ALA
15	CR	2	ARG
16	CS	57	LYS
16	CS	82	ILE
16	CS	94	TYR
17	CT	123	GLN

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Mol	Chain	Res	Type
22	CY	40	GLU
23	CZ	135	GLU
23	CZ	183	LEU
23	CZ	184	ALA
27	C3	38	GLU
28	C4	62	ARG
28	C4	63	TYR
30	C6	27	LYS
31	C7	46	VAL
35	DB	17	PHE
35	DB	97	TRP
35	DB	105	PHE
36	DC	101	LEU
36	DC	163	ALA
37	DD	48	ALA
39	DF	39	LYS
40	DG	148	ASN
42	DI	54	ASP
43	DJ	56	HIS
43	DJ	77	PRO
48	DO	19	PRO
52	DS	67	VAL
53	DT	10	LEU
53	DT	100	ILE
57	DZ	-65	LYS
57	DZ	-23	LEU
57	DZ	-4	ALA
57	DZ	199	ILE
57	DZ	400	GLU
57	DZ	402	ILE
57	DZ	472	VAL
57	DZ	479	PRO
57	DZ	481	VAL
57	DZ	518	PRO
57	DZ	664	GLN
58	DX	4	PRO
3	AC	53	ARG
3	AC	161	ARG
3	AC	179	ALA
4	AD	125	ILE
4	AD	275	LYS
9	AK	74	LEU

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Mol	Chain	Res	Type
9	AK	84	GLU
9	AK	116	ILE
9	AK	119	ALA
9	AK	125	LEU
11	AN	88	GLU
14	AQ	60	ARG
16	AS	96	GLY
19	AV	79	VAL
21	AX	94	GLY
22	AY	54	LYS
23	AZ	120	ILE
23	AZ	137	ILE
23	AZ	154	ASP
28	A4	45	GLY
28	A4	47	GLN
28	A4	66	SER
35	BB	10	LEU
35	BB	195	ASP
36	BC	51	GLY
36	BC	65	ALA
36	BC	107	GLN
36	BC	179	ARG
37	BD	170	VAL
38	BE	72	GLN
40	BG	56	GLN
41	BH	133	LEU
42	BI	12	GLU
42	BI	29	ASN
43	BJ	75	ILE
43	BJ	91	PRO
46	BM	67	GLU
49	BP	66	PRO
50	BQ	49	GLU
52	BS	27	GLU
53	BT	47	GLY
57	BZ	-4	ALA
57	BZ	-1	GLU
57	BZ	85	PRO
57	BZ	92	ILE
57	BZ	98	MET
57	BZ	126	GLU
57	BZ	171	GLU

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Mol	Chain	Res	Type
57	BZ	320	PRO
57	BZ	322	VAL
57	BZ	402	ILE
57	BZ	446	THR
57	BZ	471	LYS
57	BZ	479	PRO
57	BZ	481	VAL
57	BZ	498	ILE
57	BZ	506	GLN
57	BZ	621	ILE
3	CC	53	ARG
3	CC	161	ARG
3	CC	179	ALA
4	CD	3	VAL
4	CD	31	LYS
4	CD	268	ARG
6	CF	15	SER
6	CF	21	ALA
6	CF	169	ASN
7	CG	24	GLY
7	CG	47	LYS
8	CH	89	ILE
8	CH	169	VAL
9	CK	20	ALA
9	CK	56	ASN
9	CK	75	GLN
9	CK	79	ALA
9	CK	113	GLN
10	CL	89	HIS
12	CO	5	GLN
12	CO	94	ARG
13	CP	122	PRO
13	CP	135	LEU
14	CQ	59	ARG
15	CR	59	ASP
19	CV	24	LYS
21	CX	42	ALA
21	CX	94	GLY
22	CY	43	ASN
22	CY	51	VAL
22	CY	69	ALA
22	CY	78	ALA

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Mol	Chain	Res	Type
23	CZ	115	GLY
23	CZ	163	LEU
24	C0	35	ASN
25	C1	3	LYS
25	C1	85	LEU
27	C3	13	ILE
28	C4	39	CYS
28	C4	49	PHE
28	C4	68	ARG
29	C5	43	HIS
32	C8	3	LYS
35	DB	37	ASN
35	DB	80	ILE
35	DB	126	GLU
35	DB	154	LEU
35	DB	189	ASP
35	DB	229	VAL
35	DB	232	PRO
36	DC	129	ALA
37	DD	42	GLN
37	DD	151	LYS
37	DD	171	GLY
38	DE	104	ALA
38	DE	107	ARG
40	DG	6	ARG
40	DG	55	GLY
41	DH	6	ILE
41	DH	17	THR
42	DI	121	ARG
43	DJ	55	LYS
44	DK	49	GLY
45	DL	12	ARG
46	DM	5	ALA
46	DM	108	ARG
46	DM	114	ARG
49	DP	67	THR
53	DT	95	ALA
54	DU	3	LYS
57	DZ	-57	GLU
57	DZ	-20	LEU
57	DZ	-19	GLU
57	DZ	-9	LEU

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Mol	Chain	Res	Type
57	DZ	87	HIS
57	DZ	127	LYS
57	DZ	163	VAL
57	DZ	164	MET
57	DZ	220	ALA
57	DZ	233	GLU
57	DZ	235	GLU
57	DZ	332	SER
57	DZ	396	ARG
57	DZ	446	THR
57	DZ	556	ILE
57	DZ	595	GLN
57	DZ	599	PRO
57	DZ	600	VAL
57	DZ	651	GLU
3	AC	30	VAL
3	AC	43	GLU
3	AC	52	PRO
3	AC	69	LEU
3	AC	184	GLU
3	AC	202	PRO
3	AC	209	PHE
4	AD	156	ALA
4	AD	262	ARG
7	AG	47	LYS
9	AK	21	GLN
9	AK	22	GLY
9	AK	86	PRO
9	AK	101	PRO
9	AK	111	LEU
10	AL	135	GLY
13	AP	122	PRO
16	AS	60	GLY
21	AX	22	ALA
23	AZ	31	ARG
23	AZ	113	ALA
23	AZ	182	LYS
28	A4	4	GLY
28	A4	34	GLU
28	A4	50	VAL
28	A4	65	ASP
32	A8	31	HIS

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Mol	Chain	Res	Type
35	BB	19	HIS
36	BC	16	ARG
37	BD	22	LYS
37	BD	42	GLN
37	BD	136	PRO
37	BD	178	VAL
38	BE	21	ALA
40	BG	153	HIS
42	BI	10	ARG
42	BI	56	LEU
43	BJ	27	ALA
52	BS	14	HIS
57	BZ	-25	SER
57	BZ	203	GLU
57	BZ	239	GLU
57	BZ	405	PRO
57	BZ	418	LYS
57	BZ	596	LYS
57	BZ	671	MET
3	CC	30	VAL
3	CC	43	GLU
3	CC	52	PRO
3	CC	69	LEU
3	CC	184	GLU
3	CC	202	PRO
3	CC	209	PHE
4	CD	23	GLU
4	CD	266	SER
4	CD	275	LYS
5	CE	52	LEU
5	CE	74	PRO
7	CG	108	ASN
8	CH	47	GLU
8	CH	55	PRO
8	CH	59	ARG
9	CK	50	ARG
9	CK	84	GLU
9	CK	86	PRO
9	CK	119	ALA
9	CK	129	PRO
10	CL	87	GLY
10	CL	119	ASP

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Mol	Chain	Res	Type
11	CN	132	ALA
16	CS	74	ALA
18	CU	86	ALA
19	CV	23	GLU
23	CZ	136	PHE
23	CZ	154	ASP
28	C4	11	PRO
28	C4	46	GLN
35	DB	16	HIS
35	DB	20	GLU
35	DB	21	ARG
36	DC	81	GLY
36	DC	98	ASN
38	DE	37	ARG
40	DG	80	VAL
41	DH	5	PRO
41	DH	42	GLU
45	DL	52	LEU
46	DM	36	LYS
48	DO	79	ARG
48	DO	88	ARG
49	DP	53	VAL
53	DT	47	GLY
53	DT	99	LEU
57	DZ	-8	ALA
57	DZ	174	PHE
57	DZ	202	PRO
57	DZ	281	PRO
57	DZ	395	PRO
57	DZ	418	LYS
57	DZ	532	GLY
3	AC	16	ASP
5	AE	52	LEU
7	AG	32	PRO
7	AG	43	LEU
9	AK	31	GLY
9	AK	104	ILE
9	AK	107	VAL
10	AL	84	LEU
10	AL	114	ASP
10	AL	116	ASN
16	AS	54	LEU

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Mol	Chain	Res	Type
23	AZ	157	LEU
35	BB	16	HIS
35	BB	131	PRO
35	BB	231	GLU
35	BB	234	PRO
36	BC	3	ASN
36	BC	66	VAL
37	BD	3	ARG
37	BD	93	PHE
37	BD	142	PRO
37	BD	179	GLU
37	BD	193	ASP
38	BE	98	THR
39	BF	42	GLU
40	BG	25	ALA
40	BG	114	ARG
44	BK	49	GLY
46	BM	92	HIS
47	BN	60	SER
48	BO	86	GLY
49	BP	24	ALA
49	BP	43	LYS
51	BR	41	LYS
53	BT	96	GLY
57	BZ	-37	LEU
57	BZ	-5	LYS
57	BZ	115	GLU
57	BZ	170	ARG
57	BZ	182	ARG
57	BZ	620	VAL
57	BZ	640	ALA
58	BX	2	VAL
3	CC	16	ASP
4	CD	14	ARG
4	CD	69	ARG
4	CD	239	ARG
6	CF	171	PRO
7	CG	97	ASP
9	CK	33	PRO
9	CK	69	PRO
9	CK	70	GLU
9	CK	80	VAL

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Mol	Chain	Res	Type
9	CK	104	ILE
12	CO	26	LYS
17	CT	55	ASN
18	CU	51	LYS
23	CZ	155	LEU
23	CZ	157	LEU
23	CZ	178	GLU
23	CZ	182	LYS
25	C1	26	ARG
35	DB	123	ALA
36	DC	179	ARG
39	DF	46	ARG
42	DI	100	GLY
44	DK	100	ALA
46	DM	4	ILE
46	DM	7	VAL
46	DM	35	GLU
52	DS	70	LYS
54	DU	7	ARG
57	DZ	2	LYS
57	DZ	92	ILE
57	DZ	98	MET
57	DZ	170	ARG
57	DZ	183	MET
57	DZ	519	ARG
57	DZ	545	GLY
3	AC	21	TYR
9	AK	33	PRO
9	AK	85	ASP
13	AP	36	LYS
23	AZ	163	LEU
35	BB	124	SER
35	BB	212	GLN
36	BC	81	GLY
36	BC	101	LEU
38	BE	49	PRO
38	BE	101	ILE
40	BG	35	LYS
40	BG	152	ALA
42	BI	11	LYS
43	BJ	39	PRO
49	BP	14	ASN

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Mol	Chain	Res	Type
49	BP	39	TYR
52	BS	42	PRO
53	BT	10	LEU
57	BZ	-28	ALA
57	BZ	-19	GLU
57	BZ	686	LYS
3	CC	21	TYR
4	CD	156	ALA
11	CN	2	LYS
21	CX	92	LEU
23	CZ	52	SER
28	C4	44	THR
35	DB	98	LEU
37	DD	5	ILE
38	DE	98	THR
38	DE	105	VAL
38	DE	132	ALA
41	DH	52	ASP
44	DK	105	VAL
45	DL	25	PRO
46	DM	10	PRO
46	DM	106	ASN
47	DN	27	CYS
47	DN	52	GLN
48	DO	78	TYR
49	DP	78	GLY
52	DS	54	GLY
57	DZ	-52	VAL
57	DZ	117	GLN
57	DZ	477	GLY
57	DZ	502	GLY
3	AC	221	PRO
5	AE	192	ASN
9	AK	53	VAL
9	AK	56	ASN
9	AK	114	GLY
22	AY	102	CYS
23	AZ	111	VAL
23	AZ	161	VAL
40	BG	112	PRO
41	BH	90	GLY
46	BM	99	ARG

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Mol	Chain	Res	Type
48	BO	36	ILE
3	CC	221	PRO
4	CD	70	TRP
8	CH	65	HIS
8	CH	143	GLN
9	CK	91	LYS
11	CN	134	ARG
15	CR	58	GLY
16	CS	75	GLU
21	CX	91	ALA
26	C2	58	ALA
35	DB	173	ALA
37	DD	11	LEU
37	DD	28	SER
39	DF	6	VAL
41	DH	73	ASP
45	DL	125	PRO
53	DT	89	ARG
57	DZ	74	TRP
57	DZ	221	ALA
57	DZ	404	VAL
57	DZ	405	PRO
8	AH	169	VAL
22	AY	53	PRO
36	BC	70	VAL
40	BG	132	GLY
41	BH	51	VAL
42	BI	41	VAL
57	BZ	444	PRO
4	CD	125	ILE
8	CH	76	VAL
49	DP	14	ASN
57	DZ	303	PRO
8	AH	174	GLY
35	BB	65	GLY
38	BE	85	GLY
23	CZ	130	PRO
23	CZ	161	VAL
35	DB	234	PRO
38	DE	22	GLY
41	DH	51	VAL
57	DZ	557	GLY

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Mol	Chain	Res	Type
57	DZ	680	PRO
7	AG	24	GLY
38	BE	69	VAL
45	BL	14	GLY
49	BP	40	ASP
57	BZ	-36	LEU
57	BZ	440	VAL
19	CV	5	VAL
23	CZ	62	PRO
23	CZ	159	PRO
37	DD	197	PRO
42	DI	21	PRO
44	BK	105	VAL
46	BM	98	VAL
57	BZ	234	GLY
57	BZ	395	PRO
57	BZ	477	GLY
18	CU	7	GLY
21	CX	85	PRO
28	C4	41	PRO
35	DB	227	GLY
40	DG	58	PRO
57	DZ	116	PRO
35	BB	194	PRO
4	CD	127	VAL
9	CK	114	GLY
44	DK	90	GLY
57	DZ	530	VAL
5	CE	30	PRO

### 5.3.2 Protein sidechains ⓘ

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	AC	111/180 (62%)	103 (93%)	8 (7%)	12	34
3	CC	111/180 (62%)	103 (93%)	8 (7%)	12	34

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
4	AD	215/218 (99%)	173 (80%)	42 (20%)	1	3	
4	CD	216/218 (99%)	178 (82%)	38 (18%)	1	5	
5	AE	164/166 (99%)	138 (84%)	26 (16%)	2	7	
5	CE	164/166 (99%)	137 (84%)	27 (16%)	2	6	
6	AF	160/166 (96%)	132 (82%)	28 (18%)	1	5	
6	CF	159/166 (96%)	126 (79%)	33 (21%)	1	3	
7	AG	143/156 (92%)	115 (80%)	28 (20%)	1	3	
7	CG	142/156 (91%)	114 (80%)	28 (20%)	1	3	
8	AH	144/148 (97%)	120 (83%)	24 (17%)	2	6	
8	CH	144/148 (97%)	118 (82%)	26 (18%)	1	4	
10	AL	50/111 (45%)	39 (78%)	11 (22%)	1	2	
10	CL	50/111 (45%)	35 (70%)	15 (30%)	0	1	
11	AN	118/119 (99%)	93 (79%)	25 (21%)	1	3	
11	CN	118/119 (99%)	85 (72%)	33 (28%)	0	1	
12	AO	100/100 (100%)	87 (87%)	13 (13%)	3	11	
12	CO	100/100 (100%)	86 (86%)	14 (14%)	3	9	
13	AP	116/116 (100%)	97 (84%)	19 (16%)	2	6	
13	CP	115/116 (99%)	95 (83%)	20 (17%)	1	5	
14	AQ	111/111 (100%)	94 (85%)	17 (15%)	2	7	
14	CQ	111/111 (100%)	83 (75%)	28 (25%)	0	1	
15	AR	101/101 (100%)	80 (79%)	21 (21%)	1	3	
15	CR	101/101 (100%)	87 (86%)	14 (14%)	3	9	
16	AS	87/88 (99%)	71 (82%)	16 (18%)	1	4	
16	CS	85/88 (97%)	68 (80%)	17 (20%)	1	3	
17	AT	115/127 (91%)	96 (84%)	19 (16%)	2	6	
17	CT	113/127 (89%)	98 (87%)	15 (13%)	3	10	
18	AU	93/94 (99%)	77 (83%)	16 (17%)	1	5	
18	CU	93/94 (99%)	81 (87%)	12 (13%)	3	11	
19	AV	80/82 (98%)	67 (84%)	13 (16%)	2	6	
19	CV	80/82 (98%)	65 (81%)	15 (19%)	1	4	
20	AW	90/92 (98%)	76 (84%)	14 (16%)	2	7	

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	CW	90/92 (98%)	75 (83%)	15 (17%)	2	6
21	AX	77/78 (99%)	67 (87%)	10 (13%)	3	11
21	CX	77/78 (99%)	66 (86%)	11 (14%)	2	9
22	AY	85/91 (93%)	66 (78%)	19 (22%)	1	2
22	CY	85/91 (93%)	66 (78%)	19 (22%)	1	2
23	AZ	156/179 (87%)	120 (77%)	36 (23%)	0	2
23	CZ	156/179 (87%)	125 (80%)	31 (20%)	1	3
24	A0	61/67 (91%)	55 (90%)	6 (10%)	6	21
24	C0	61/67 (91%)	50 (82%)	11 (18%)	1	4
25	A1	80/83 (96%)	66 (82%)	14 (18%)	1	5
25	C1	80/83 (96%)	66 (82%)	14 (18%)	1	5
26	A2	65/67 (97%)	56 (86%)	9 (14%)	3	10
26	C2	65/67 (97%)	51 (78%)	14 (22%)	1	2
27	A3	51/52 (98%)	41 (80%)	10 (20%)	1	3
27	C3	50/52 (96%)	38 (76%)	12 (24%)	0	2
28	A4	60/63 (95%)	52 (87%)	8 (13%)	3	10
28	C4	53/63 (84%)	39 (74%)	14 (26%)	0	1
29	A5	50/52 (96%)	43 (86%)	7 (14%)	3	9
29	C5	50/52 (96%)	42 (84%)	8 (16%)	2	6
30	A6	51/52 (98%)	37 (72%)	14 (28%)	0	1
30	C6	50/52 (96%)	43 (86%)	7 (14%)	3	9
31	A7	41/42 (98%)	35 (85%)	6 (15%)	2	8
31	C7	41/42 (98%)	35 (85%)	6 (15%)	2	8
32	A8	54/55 (98%)	43 (80%)	11 (20%)	1	3
32	C8	54/55 (98%)	48 (89%)	6 (11%)	5	16
33	A9	34/34 (100%)	30 (88%)	4 (12%)	4	14
33	C9	34/34 (100%)	30 (88%)	4 (12%)	4	14
35	BB	192/220 (87%)	157 (82%)	35 (18%)	1	4
35	DB	187/220 (85%)	148 (79%)	39 (21%)	1	3
36	BC	143/188 (76%)	127 (89%)	16 (11%)	5	16
36	DC	141/188 (75%)	113 (80%)	28 (20%)	1	3

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	BD	170/181 (94%)	136 (80%)	34 (20%)	1	3
37	DD	174/181 (96%)	143 (82%)	31 (18%)	1	5
38	BE	113/123 (92%)	86 (76%)	27 (24%)	0	2
38	DE	114/123 (93%)	82 (72%)	32 (28%)	0	1
39	BF	84/90 (93%)	70 (83%)	14 (17%)	2	6
39	DF	86/90 (96%)	74 (86%)	12 (14%)	3	9
40	BG	119/127 (94%)	99 (83%)	20 (17%)	1	6
40	DG	120/127 (94%)	104 (87%)	16 (13%)	3	10
41	BH	114/119 (96%)	90 (79%)	24 (21%)	1	3
41	DH	114/119 (96%)	86 (75%)	28 (25%)	0	2
42	BI	91/99 (92%)	78 (86%)	13 (14%)	2	9
42	DI	89/99 (90%)	73 (82%)	16 (18%)	1	4
43	BJ	66/92 (72%)	58 (88%)	8 (12%)	4	13
43	DJ	69/92 (75%)	58 (84%)	11 (16%)	2	7
44	BK	83/99 (84%)	65 (78%)	18 (22%)	1	2
44	DK	83/99 (84%)	64 (77%)	19 (23%)	0	2
45	BL	97/109 (89%)	83 (86%)	14 (14%)	2	8
45	DL	97/109 (89%)	74 (76%)	23 (24%)	0	2
46	BM	91/101 (90%)	80 (88%)	11 (12%)	4	13
46	DM	88/101 (87%)	75 (85%)	13 (15%)	2	8
47	BN	49/50 (98%)	38 (78%)	11 (22%)	1	2
47	DN	49/50 (98%)	42 (86%)	7 (14%)	2	9
48	BO	78/80 (98%)	70 (90%)	8 (10%)	6	19
48	DO	78/80 (98%)	66 (85%)	12 (15%)	2	7
49	BP	69/74 (93%)	54 (78%)	15 (22%)	1	2
49	DP	68/74 (92%)	51 (75%)	17 (25%)	0	1
50	BQ	94/97 (97%)	82 (87%)	12 (13%)	3	12
50	DQ	94/97 (97%)	80 (85%)	14 (15%)	2	8
51	BR	59/77 (77%)	49 (83%)	10 (17%)	1	5
51	DR	59/77 (77%)	52 (88%)	7 (12%)	4	14
52	BS	70/80 (88%)	59 (84%)	11 (16%)	2	7

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	DS	67/80 (84%)	55 (82%)	12 (18%)	1	5
53	BT	70/82 (85%)	53 (76%)	17 (24%)	0	2
53	DT	71/82 (87%)	59 (83%)	12 (17%)	1	5
54	BU	18/22 (82%)	17 (94%)	1 (6%)	17	47
54	DU	18/22 (82%)	16 (89%)	2 (11%)	5	16
57	BZ	604/636 (95%)	477 (79%)	127 (21%)	1	3
57	DZ	607/636 (95%)	509 (84%)	98 (16%)	2	6
58	BX	3/3 (100%)	3 (100%)	0	100	100
58	DX	3/3 (100%)	3 (100%)	0	100	100
All	All	10664/11678 (91%)	8760 (82%)	1904 (18%)	1	5

All (1904) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AC	28	ARG
3	AC	32	GLU
3	AC	48	LEU
3	AC	50	ILE
3	AC	53	ARG
3	AC	54	ARG
3	AC	203	GLU
3	AC	208	THR
4	AD	3	VAL
4	AD	4	LYS
4	AD	12	SER
4	AD	13	ARG
4	AD	18	VAL
4	AD	32	SER
4	AD	34	VAL
4	AD	54	ARG
4	AD	61	LEU
4	AD	88	ARG
4	AD	89	SER
4	AD	94	LEU
4	AD	99	ASP
4	AD	103	ARG
4	AD	111	LEU
4	AD	112	GLN
4	AD	113	VAL

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Mol	Chain	Res	Type
4	AD	116	GLN
4	AD	122	ASP
4	AD	134	ARG
4	AD	136	ILE
4	AD	138	VAL
4	AD	141	VAL
4	AD	142	VAL
4	AD	150	LYS
4	AD	155	LEU
4	AD	162	SER
4	AD	165	ILE
4	AD	173	VAL
4	AD	193	VAL
4	AD	200	ASP
4	AD	211	ARG
4	AD	221	VAL
4	AD	229	VAL
4	AD	242	ARG
4	AD	254	THR
4	AD	257	LEU
4	AD	259	THR
4	AD	260	ARG
4	AD	270	ILE
4	AD	273	ARG
4	AD	274	ARG
5	AE	1	MET
5	AE	7	VAL
5	AE	12	THR
5	AE	21	VAL
5	AE	33	VAL
5	AE	34	VAL
5	AE	35	GLN
5	AE	40	GLU
5	AE	47	VAL
5	AE	49	LEU
5	AE	75	VAL
5	AE	78	LEU
5	AE	82	ARG
5	AE	92	THR
5	AE	94	GLU
5	AE	111	ARG
5	AE	113	PHE

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Mol	Chain	Res	Type
5	AE	116	VAL
5	AE	119	ARG
5	AE	144	ARG
5	AE	154	LYS
5	AE	163	GLU
5	AE	170	LEU
5	AE	175	VAL
5	AE	181	LEU
5	AE	195	LEU
6	AF	15	SER
6	AF	17	ARG
6	AF	19	GLU
6	AF	20	LEU
6	AF	24	LEU
6	AF	27	GLU
6	AF	33	LEU
6	AF	50	SER
6	AF	53	THR
6	AF	57	VAL
6	AF	64	ILE
6	AF	74	ARG
6	AF	88	VAL
6	AF	95	ARG
6	AF	106	ARG
6	AF	110	LEU
6	AF	112	MET
6	AF	122	LYS
6	AF	124	LEU
6	AF	132	VAL
6	AF	140	LEU
6	AF	158	THR
6	AF	161	GLU
6	AF	162	LEU
6	AF	170	LEU
6	AF	192	LEU
6	AF	195	ASP
6	AF	201	VAL
7	AG	3	LEU
7	AG	5	VAL
7	AG	7	LEU
7	AG	22	ARG
7	AG	28	VAL

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Mol	Chain	Res	Type
7	AG	31	VAL
7	AG	32	PRO
7	AG	38	VAL
7	AG	41	GLN
7	AG	43	LEU
7	AG	49	ASP
7	AG	79	ASN
7	AG	82	LEU
7	AG	86	MET
7	AG	91	ARG
7	AG	99	MET
7	AG	116	ASP
7	AG	138	GLN
7	AG	139	LEU
7	AG	140	ILE
7	AG	145	THR
7	AG	148	MET
7	AG	149	VAL
7	AG	157	ILE
7	AG	159	VAL
7	AG	161	THR
7	AG	162	THR
7	AG	170	ARG
8	AH	3	ARG
8	AH	6	ARG
8	AH	13	LYS
8	AH	15	VAL
8	AH	16	SER
8	AH	23	ARG
8	AH	24	VAL
8	AH	42	ARG
8	AH	45	VAL
8	AH	59	ARG
8	AH	62	LYS
8	AH	69	ARG
8	AH	80	SER
8	AH	88	LEU
8	AH	95	ARG
8	AH	97	ARG
8	AH	98	LEU
8	AH	105	LEU
8	AH	119	GLU

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Mol	Chain	Res	Type
8	AH	122	THR
8	AH	125	VAL
8	AH	127	GLU
8	AH	134	SER
8	AH	149	ARG
10	AL	76	TYR
10	AL	77	LEU
10	AL	86	LYS
10	AL	95	LYS
10	AL	96	VAL
10	AL	102	GLU
10	AL	112	MET
10	AL	119	ASP
10	AL	121	GLU
10	AL	136	VAL
10	AL	137	GLU
11	AN	4	TYR
11	AN	5	VAL
11	AN	9	VAL
11	AN	21	LYS
11	AN	30	ILE
11	AN	33	LEU
11	AN	34	LEU
11	AN	48	MET
11	AN	58	ASP
11	AN	61	ARG
11	AN	62	VAL
11	AN	65	LYS
11	AN	68	GLU
11	AN	73	THR
11	AN	83	LYS
11	AN	84	LYS
11	AN	87	LEU
11	AN	97	ARG
11	AN	99	LEU
11	AN	115	ARG
11	AN	120	LEU
11	AN	131	GLN
11	AN	133	GLN
11	AN	138	LEU
11	AN	140	VAL
12	AO	8	LEU

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Mol	Chain	Res	Type
12	AO	10	VAL
12	AO	28	SER
12	AO	35	VAL
12	AO	39	ILE
12	AO	47	ILE
12	AO	69	ILE
12	AO	92	GLU
12	AO	98	VAL
12	AO	105	GLU
12	AO	107	ARG
12	AO	113	LYS
12	AO	114	ILE
13	AP	2	LYS
13	AP	14	LYS
13	AP	21	ARG
13	AP	29	LYS
13	AP	42	SER
13	AP	55	ARG
13	AP	59	LEU
13	AP	65	ARG
13	AP	71	VAL
13	AP	83	VAL
13	AP	96	THR
13	AP	99	LEU
13	AP	101	VAL
13	AP	112	LEU
13	AP	117	GLU
13	AP	121	LYS
13	AP	125	VAL
13	AP	148	LEU
13	AP	149	GLU
14	AQ	2	LEU
14	AQ	3	MET
14	AQ	5	ARG
14	AQ	6	ARG
14	AQ	18	LYS
14	AQ	21	THR
14	AQ	35	VAL
14	AQ	42	ILE
14	AQ	45	GLN
14	AQ	56	ARG
14	AQ	75	THR

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Mol	Chain	Res	Type
14	AQ	77	LYS
14	AQ	80	GLU
14	AQ	85	LYS
14	AQ	111	GLU
14	AQ	115	MET
14	AQ	133	ARG
15	AR	6	SER
15	AR	17	ARG
15	AR	18	LEU
15	AR	27	SER
15	AR	28	LEU
15	AR	29	LEU
15	AR	33	ARG
15	AR	44	LEU
15	AR	54	LEU
15	AR	59	ASP
15	AR	60	LEU
15	AR	63	ARG
15	AR	65	LEU
15	AR	67	LEU
15	AR	75	LEU
15	AR	79	LEU
15	AR	91	GLN
15	AR	100	LEU
15	AR	111	LEU
15	AR	114	VAL
15	AR	117	VAL
16	AS	3	ARG
16	AS	14	VAL
16	AS	19	LYS
16	AS	20	ARG
16	AS	25	ARG
16	AS	35	ILE
16	AS	44	LYS
16	AS	48	LEU
16	AS	49	VAL
16	AS	50	SER
16	AS	57	LYS
16	AS	78	LEU
16	AS	82	ILE
16	AS	83	LYS
16	AS	85	VAL

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Mol	Chain	Res	Type
16	AS	98	VAL
17	AT	8	LYS
17	AT	9	LEU
17	AT	13	ARG
17	AT	15	VAL
17	AT	17	THR
17	AT	23	ARG
17	AT	35	LYS
17	AT	39	ARG
17	AT	49	VAL
17	AT	59	THR
17	AT	65	LYS
17	AT	78	LEU
17	AT	85	LYS
17	AT	96	ARG
17	AT	108	ARG
17	AT	115	ARG
17	AT	118	ARG
17	AT	123	GLN
17	AT	125	ARG
18	AU	5	LYS
18	AU	8	VAL
18	AU	16	LYS
18	AU	17	ILE
18	AU	29	SER
18	AU	36	ARG
18	AU	52	ARG
18	AU	59	ARG
18	AU	60	LEU
18	AU	74	LEU
18	AU	77	SER
18	AU	84	LYS
18	AU	104	GLN
18	AU	108	GLU
18	AU	111	GLU
18	AU	117	GLN
19	AV	18	LEU
19	AV	21	ARG
19	AV	28	GLU
19	AV	32	THR
19	AV	35	LEU
19	AV	43	GLU

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Mol	Chain	Res	Type
19	AV	46	VAL
19	AV	51	VAL
19	AV	61	VAL
19	AV	73	SER
19	AV	79	VAL
19	AV	95	LEU
19	AV	98	GLU
20	AW	4	LYS
20	AW	11	ARG
20	AW	14	PRO
20	AW	15	ARG
20	AW	17	VAL
20	AW	19	LEU
20	AW	51	LEU
20	AW	52	GLU
20	AW	92	ARG
20	AW	96	ILE
20	AW	98	LYS
20	AW	100	THR
20	AW	101	SER
20	AW	107	LEU
21	AX	2	LYS
21	AX	45	THR
21	AX	50	LYS
21	AX	52	VAL
21	AX	57	LEU
21	AX	60	ARG
21	AX	70	LEU
21	AX	72	LYS
21	AX	78	LYS
21	AX	81	VAL
22	AY	2	ARG
22	AY	7	VAL
22	AY	8	LYS
22	AY	11	ASP
22	AY	23	ARG
22	AY	28	LYS
22	AY	31	LEU
22	AY	55	TYR
22	AY	61	ILE
22	AY	63	LYS
22	AY	72	VAL

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Mol	Chain	Res	Type
22	AY	73	ARG
22	AY	79	CYS
22	AY	85	VAL
22	AY	90	LEU
22	AY	91	GLU
22	AY	92	ASN
22	AY	96	ILE
22	AY	97	ARG
23	AZ	5	LEU
23	AZ	31	ARG
23	AZ	37	VAL
23	AZ	40	ASP
23	AZ	41	LEU
23	AZ	46	LYS
23	AZ	49	ARG
23	AZ	50	GLN
23	AZ	53	ILE
23	AZ	56	VAL
23	AZ	65	GLN
23	AZ	72	ARG
23	AZ	76	LEU
23	AZ	81	ARG
23	AZ	86	VAL
23	AZ	91	LEU
23	AZ	93	ASP
23	AZ	98	MET
23	AZ	100	VAL
23	AZ	107	THR
23	AZ	121	HIS
23	AZ	124	ILE
23	AZ	136	PHE
23	AZ	137	ILE
23	AZ	139	VAL
23	AZ	142	SER
23	AZ	149	SER
23	AZ	150	LEU
23	AZ	151	HIS
23	AZ	154	ASP
23	AZ	155	LEU
23	AZ	156	LYS
23	AZ	163	LEU
23	AZ	165	VAL

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Mol	Chain	Res	Type
23	AZ	170	THR
23	AZ	171	ILE
24	A0	10	THR
24	A0	20	ARG
24	A0	43	THR
24	A0	49	LYS
24	A0	55	ARG
24	A0	68	GLU
25	A1	6	GLU
25	A1	7	ILE
25	A1	14	VAL
25	A1	26	ARG
25	A1	30	VAL
25	A1	35	THR
25	A1	37	ILE
25	A1	38	SER
25	A1	40	ARG
25	A1	51	VAL
25	A1	59	THR
25	A1	62	VAL
25	A1	73	LEU
25	A1	93	GLU
26	A2	30	ARG
26	A2	32	LEU
26	A2	40	SER
26	A2	53	LEU
26	A2	55	ARG
26	A2	65	ASN
26	A2	66	GLU
26	A2	67	LYS
26	A2	70	GLN
27	A3	3	ARG
27	A3	6	VAL
27	A3	8	LEU
27	A3	18	ASP
27	A3	23	LEU
27	A3	29	ARG
27	A3	35	ARG
27	A3	44	ARG
27	A3	54	VAL
27	A3	58	VAL
28	A4	1	MET

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Mol	Chain	Res	Type
28	A4	15	ILE
28	A4	20	ASN
28	A4	27	THR
28	A4	34	GLU
28	A4	36	CYS
28	A4	49	PHE
28	A4	67	TYR
29	A5	6	VAL
29	A5	15	ARG
29	A5	16	ARG
29	A5	29	THR
29	A5	33	CYS
29	A5	55	ARG
29	A5	60	VAL
30	A6	4	GLU
30	A6	5	VAL
30	A6	6	ARG
30	A6	7	ILE
30	A6	13	CYS
30	A6	14	THR
30	A6	24	GLU
30	A6	33	LYS
30	A6	38	LYS
30	A6	40	CYS
30	A6	44	ARG
30	A6	45	LYS
30	A6	48	VAL
30	A6	52	VAL
31	A7	1	MET
31	A7	8	ASN
31	A7	9	ARG
31	A7	24	THR
31	A7	43	THR
31	A7	48	LYS
32	A8	4	MET
32	A8	11	LYS
32	A8	14	VAL
32	A8	15	LYS
32	A8	23	VAL
32	A8	30	ARG
32	A8	31	HIS
32	A8	32	LEU

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Mol	Chain	Res	Type
32	A8	37	SER
32	A8	46	ARG
32	A8	52	LYS
33	A9	4	ARG
33	A9	13	LYS
33	A9	17	ILE
33	A9	28	GLU
35	BB	8	LYS
35	BB	11	LEU
35	BB	16	HIS
35	BB	17	PHE
35	BB	19	HIS
35	BB	20	GLU
35	BB	21	ARG
35	BB	23	ARG
35	BB	24	TRP
35	BB	30	ARG
35	BB	40	HIS
35	BB	45	GLN
35	BB	53	ARG
35	BB	74	LYS
35	BB	80	ILE
35	BB	84	GLU
35	BB	97	TRP
35	BB	111	ARG
35	BB	112	VAL
35	BB	122	PHE
35	BB	127	ILE
35	BB	128	GLU
35	BB	136	VAL
35	BB	145	LEU
35	BB	154	LEU
35	BB	156	LYS
35	BB	168	THR
35	BB	169	LYS
35	BB	170	GLU
35	BB	187	LEU
35	BB	189	ASP
35	BB	190	THR
35	BB	200	ILE
35	BB	221	LEU
35	BB	223	ILE

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Mol	Chain	Res	Type
36	BC	15	THR
36	BC	17	ASP
36	BC	28	GLN
36	BC	29	TYR
36	BC	45	LYS
36	BC	85	ARG
36	BC	104	GLN
36	BC	116	VAL
36	BC	124	ILE
36	BC	165	THR
36	BC	167	TRP
36	BC	178	LEU
36	BC	179	ARG
36	BC	181	ASN
36	BC	192	THR
36	BC	196	LEU
37	BD	5	ILE
37	BD	13	ARG
37	BD	17	VAL
37	BD	22	LYS
37	BD	28	SER
37	BD	31	CYS
37	BD	47	ARG
37	BD	49	ARG
37	BD	58	LEU
37	BD	59	ARG
37	BD	63	LYS
37	BD	77	ASN
37	BD	85	LYS
37	BD	86	LYS
37	BD	91	SER
37	BD	97	LEU
37	BD	112	VAL
37	BD	118	ARG
37	BD	135	LEU
37	BD	141	ARG
37	BD	142	PRO
37	BD	155	LEU
37	BD	158	ILE
37	BD	168	ARG
37	BD	173	TRP
37	BD	175	SER

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Mol	Chain	Res	Type
37	BD	178	VAL
37	BD	187	ARG
37	BD	188	LEU
37	BD	193	ASP
37	BD	196	LEU
37	BD	201	GLN
37	BD	203	VAL
37	BD	208	SER
38	BE	10	MET
38	BE	11	ILE
38	BE	19	MET
38	BE	20	GLN
38	BE	27	ARG
38	BE	31	LEU
38	BE	33	VAL
38	BE	38	GLN
38	BE	41	VAL
38	BE	47	LYS
38	BE	50	GLU
38	BE	60	TYR
38	BE	65	ASN
38	BE	66	MET
38	BE	78	HIS
38	BE	79	GLU
38	BE	81	GLU
38	BE	90	VAL
38	BE	91	LEU
38	BE	98	THR
38	BE	116	THR
38	BE	121	LYS
38	BE	137	GLU
38	BE	140	ARG
38	BE	147	ASP
38	BE	150	ARG
38	BE	152	ARG
39	BF	10	LEU
39	BF	17	SER
39	BF	30	LEU
39	BF	40	VAL
39	BF	43	LEU
39	BF	61	LEU
39	BF	64	GLN

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Mol	Chain	Res	Type
39	BF	69	GLU
39	BF	70	ASP
39	BF	75	LEU
39	BF	82	ARG
39	BF	89	MET
39	BF	92	LYS
39	BF	98	LEU
40	BG	4	ARG
40	BG	10	ARG
40	BG	12	LEU
40	BG	13	GLN
40	BG	15	ASP
40	BG	21	VAL
40	BG	22	LEU
40	BG	31	MET
40	BG	41	ARG
40	BG	50	ILE
40	BG	75	VAL
40	BG	78	ARG
40	BG	79	ARG
40	BG	90	GLU
40	BG	104	LEU
40	BG	114	ARG
40	BG	115	ARG
40	BG	138	LYS
40	BG	140	ASP
40	BG	156	TRP
41	BH	2	LEU
41	BH	19	VAL
41	BH	26	VAL
41	BH	37	ARG
41	BH	50	ARG
41	BH	51	VAL
41	BH	52	ASP
41	BH	53	VAL
41	BH	54	ASP
41	BH	64	LYS
41	BH	75	ARG
41	BH	78	GLN
41	BH	83	ILE
41	BH	85	ARG
41	BH	88	LYS

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Mol	Chain	Res	Type
41	BH	98	LYS
41	BH	99	GLU
41	BH	109	ILE
41	BH	114	THR
41	BH	115	SER
41	BH	120	THR
41	BH	122	ARG
41	BH	127	LEU
41	BH	133	LEU
42	BI	7	THR
42	BI	17	VAL
42	BI	23	ASN
42	BI	27	THR
42	BI	33	PHE
42	BI	66	ARG
42	BI	81	ILE
42	BI	93	ARG
42	BI	102	LEU
42	BI	104	ARG
42	BI	107	ARG
42	BI	108	VAL
42	BI	113	LYS
43	BJ	16	LEU
43	BJ	21	GLN
43	BJ	30	SER
43	BJ	34	VAL
43	BJ	42	THR
43	BJ	46	ARG
43	BJ	59	SER
43	BJ	84	GLN
44	BK	18	ARG
44	BK	25	TYR
44	BK	47	VAL
44	BK	48	ILE
44	BK	51	LYS
44	BK	53	SER
44	BK	63	LEU
44	BK	70	LYS
44	BK	80	VAL
44	BK	81	ASP
44	BK	83	ILE
44	BK	84	VAL

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Mol	Chain	Res	Type
44	BK	91	ARG
44	BK	104	GLN
44	BK	105	VAL
44	BK	106	LYS
44	BK	114	VAL
44	BK	120	ARG
45	BL	10	LEU
45	BL	18	VAL
45	BL	22	SER
45	BL	27	LEU
45	BL	33	ARG
45	BL	61	THR
45	BL	67	THR
45	BL	70	ILE
45	BL	83	VAL
45	BL	93	LEU
45	BL	104	VAL
45	BL	110	VAL
45	BL	116	SER
45	BL	118	SER
46	BM	3	ARG
46	BM	4	ILE
46	BM	15	VAL
46	BM	54	VAL
46	BM	56	LEU
46	BM	63	THR
46	BM	70	LEU
46	BM	92	HIS
46	BM	96	LEU
46	BM	109	THR
46	BM	110	ARG
47	BN	3	ARG
47	BN	7	ILE
47	BN	8	GLU
47	BN	22	THR
47	BN	24	CYS
47	BN	26	ARG
47	BN	33	VAL
47	BN	41	ARG
47	BN	44	LEU
47	BN	49	HIS
47	BN	57	ARG

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Mol	Chain	Res	Type
48	BO	3	ILE
48	BO	26	GLU
48	BO	34	LEU
48	BO	39	LEU
48	BO	40	SER
48	BO	66	LEU
48	BO	68	ARG
48	BO	76	GLU
49	BP	1	MET
49	BP	4	ILE
49	BP	8	ARG
49	BP	9	PHE
49	BP	14	ASN
49	BP	19	ILE
49	BP	22	THR
49	BP	27	LYS
49	BP	38	TYR
49	BP	45	THR
49	BP	49	LEU
49	BP	60	LEU
49	BP	62	VAL
49	BP	69	THR
49	BP	72	ARG
50	BQ	5	VAL
50	BQ	6	LEU
50	BQ	9	VAL
50	BQ	36	ILE
50	BQ	40	LYS
50	BQ	50	LYS
50	BQ	60	ILE
50	BQ	68	ARG
50	BQ	69	LYS
50	BQ	72	ARG
50	BQ	78	GLU
50	BQ	92	ARG
51	BR	29	PHE
51	BR	31	LEU
51	BR	35	ARG
51	BR	36	ASN
51	BR	37	VAL
51	BR	46	GLU
51	BR	53	ARG

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Mol	Chain	Res	Type
51	BR	58	LEU
51	BR	69	THR
51	BR	82	THR
52	BS	3	ARG
52	BS	7	LYS
52	BS	28	LYS
52	BS	38	SER
52	BS	43	GLU
52	BS	58	VAL
52	BS	62	ILE
52	BS	65	ASN
52	BS	78	ARG
52	BS	81	ARG
52	BS	85	LYS
53	BT	8	ARG
53	BT	10	LEU
53	BT	13	LEU
53	BT	21	LYS
53	BT	22	ARG
53	BT	23	ARG
53	BT	24	LEU
53	BT	36	LEU
53	BT	45	GLN
53	BT	53	LEU
53	BT	58	LYS
53	BT	62	LEU
53	BT	64	ASP
53	BT	74	LYS
53	BT	84	LEU
53	BT	93	GLU
53	BT	100	ILE
54	BU	7	ARG
57	BZ	-61	LEU
57	BZ	-60	GLU
57	BZ	-58	LEU
57	BZ	-52	VAL
57	BZ	-45	LYS
57	BZ	-29	LEU
57	BZ	-27	THR
57	BZ	-16	ILE
57	BZ	-13	GLN
57	BZ	-10	ARG

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Mol	Chain	Res	Type
57	BZ	-9	LEU
57	BZ	-6	ARG
57	BZ	0	ARG
57	BZ	4	ILE
57	BZ	10	LYS
57	BZ	12	LEU
57	BZ	13	ARG
57	BZ	14	ASN
57	BZ	15	ILE
57	BZ	17	ILE
57	BZ	21	ILE
57	BZ	30	GLU
57	BZ	33	LEU
57	BZ	35	TYR
57	BZ	71	THR
57	BZ	75	LYS
57	BZ	78	ARG
57	BZ	81	ILE
57	BZ	84	THR
57	BZ	91	THR
57	BZ	92	ILE
57	BZ	98	MET
57	BZ	102	ASP
57	BZ	105	ILE
57	BZ	107	VAL
57	BZ	112	GLN
57	BZ	123	ARG
57	BZ	130	VAL
57	BZ	132	ARG
57	BZ	146	LEU
57	BZ	152	THR
57	BZ	160	ARG
57	BZ	164	MET
57	BZ	166	LEU
57	BZ	170	ARG
57	BZ	172	ASP
57	BZ	174	PHE
57	BZ	178	ILE
57	BZ	186	TYR
57	BZ	196	ILE
57	BZ	197	ARG
57	BZ	198	GLU

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Mol	Chain	Res	Type
57	BZ	203	GLU
57	BZ	206	LEU
57	BZ	207	ASP
57	BZ	216	LEU
57	BZ	231	TYR
57	BZ	236	GLU
57	BZ	240	GLU
57	BZ	253	LEU
57	BZ	264	LEU
57	BZ	282	SER
57	BZ	284	LEU
57	BZ	295	GLU
57	BZ	312	LEU
57	BZ	315	LYS
57	BZ	321	TYR
57	BZ	324	ARG
57	BZ	328	ILE
57	BZ	329	ARG
57	BZ	345	THR
57	BZ	348	ARG
57	BZ	352	VAL
57	BZ	354	ARG
57	BZ	355	LEU
57	BZ	358	MET
57	BZ	363	ARG
57	BZ	367	GLU
57	BZ	374	LEU
57	BZ	377	VAL
57	BZ	385	THR
57	BZ	389	LEU
57	BZ	399	LEU
57	BZ	404	VAL
57	BZ	409	ILE
57	BZ	414	GLU
57	BZ	422	GLU
57	BZ	431	LEU
57	BZ	438	PHE
57	BZ	440	VAL
57	BZ	464	ASP
57	BZ	468	ARG
57	BZ	471	LYS
57	BZ	473	ASP

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Mol	Chain	Res	Type
57	BZ	475	ASN
57	BZ	481	VAL
57	BZ	484	ARG
57	BZ	485	GLU
57	BZ	488	THR
57	BZ	491	VAL
57	BZ	501	THR
57	BZ	504	ARG
57	BZ	506	GLN
57	BZ	510	VAL
57	BZ	512	ILE
57	BZ	515	GLU
57	BZ	536	LYS
57	BZ	561	VAL
57	BZ	572	TYR
57	BZ	592	GLU
57	BZ	600	VAL
57	BZ	603	GLU
57	BZ	615	GLU
57	BZ	623	ASP
57	BZ	630	GLN
57	BZ	634	MET
57	BZ	641	GLN
57	BZ	642	VAL
57	BZ	647	VAL
57	BZ	651	GLU
57	BZ	659	LEU
57	BZ	660	ARG
57	BZ	670	VAL
57	BZ	671	MET
57	BZ	686	LYS
57	BZ	687	LEU
57	BZ	688	ILE
3	CC	28	ARG
3	CC	32	GLU
3	CC	48	LEU
3	CC	50	ILE
3	CC	53	ARG
3	CC	54	ARG
3	CC	203	GLU
3	CC	208	THR
4	CD	7	LYS

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Mol	Chain	Res	Type
4	CD	12	SER
4	CD	13	ARG
4	CD	26	LYS
4	CD	27	THR
4	CD	30	GLU
4	CD	32	SER
4	CD	54	ARG
4	CD	61	LEU
4	CD	73	VAL
4	CD	87	ASN
4	CD	88	ARG
4	CD	89	SER
4	CD	94	LEU
4	CD	103	ARG
4	CD	106	ILE
4	CD	109	ASP
4	CD	111	LEU
4	CD	113	VAL
4	CD	134	ARG
4	CD	154	LYS
4	CD	155	LEU
4	CD	157	ARG
4	CD	171	ASP
4	CD	190	TYR
4	CD	208	LYS
4	CD	211	ARG
4	CD	212	SER
4	CD	217	ARG
4	CD	221	VAL
4	CD	229	VAL
4	CD	242	ARG
4	CD	259	THR
4	CD	260	ARG
4	CD	264	LYS
4	CD	265	PRO
4	CD	274	ARG
4	CD	276	LYS
5	CE	2	LYS
5	CE	9	VAL
5	CE	21	VAL
5	CE	24	THR
5	CE	34	VAL

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Mol	Chain	Res	Type
5	CE	36	ARG
5	CE	40	GLU
5	CE	42	ASP
5	CE	49	LEU
5	CE	52	LEU
5	CE	58	ARG
5	CE	75	VAL
5	CE	78	LEU
5	CE	82	ARG
5	CE	92	THR
5	CE	93	VAL
5	CE	94	GLU
5	CE	111	ARG
5	CE	116	VAL
5	CE	119	ARG
5	CE	144	ARG
5	CE	154	LYS
5	CE	170	LEU
5	CE	175	VAL
5	CE	181	LEU
5	CE	195	LEU
5	CE	202	LYS
6	CF	7	TYR
6	CF	12	LEU
6	CF	18	ARG
6	CF	19	GLU
6	CF	20	LEU
6	CF	24	LEU
6	CF	28	ILE
6	CF	33	LEU
6	CF	50	SER
6	CF	52	LYS
6	CF	57	VAL
6	CF	60	SER
6	CF	62	ARG
6	CF	70	THR
6	CF	74	ARG
6	CF	77	ASP
6	CF	82	ILE
6	CF	88	VAL
6	CF	106	ARG
6	CF	135	LYS

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Mol	Chain	Res	Type
6	CF	137	LYS
6	CF	140	LEU
6	CF	158	THR
6	CF	162	LEU
6	CF	165	ARG
6	CF	169	ASN
6	CF	171	PRO
6	CF	176	LEU
6	CF	179	GLU
6	CF	182	ASN
6	CF	183	VAL
6	CF	192	LEU
6	CF	200	GLU
7	CG	4	ASP
7	CG	9	ARG
7	CG	16	ARG
7	CG	21	ARG
7	CG	31	VAL
7	CG	33	ARG
7	CG	60	LEU
7	CG	77	ILE
7	CG	79	ASN
7	CG	91	ARG
7	CG	98	ARG
7	CG	106	LEU
7	CG	111	LEU
7	CG	115	ARG
7	CG	123	ASN
7	CG	126	ASP
7	CG	128	ARG
7	CG	130	ASN
7	CG	133	LEU
7	CG	136	ARG
7	CG	140	ILE
7	CG	146	TYR
7	CG	150	ASP
7	CG	152	LEU
7	CG	153	ARG
7	CG	162	THR
7	CG	165	THR
7	CG	170	ARG
8	CH	3	ARG

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Mol	Chain	Res	Type
8	CH	7	LEU
8	CH	15	VAL
8	CH	19	VAL
8	CH	25	LYS
8	CH	33	LEU
8	CH	43	VAL
8	CH	44	VAL
8	CH	45	VAL
8	CH	49	VAL
8	CH	50	VAL
8	CH	52	VAL
8	CH	57	ASP
8	CH	59	ARG
8	CH	69	ARG
8	CH	70	THR
8	CH	81	GLU
8	CH	84	SER
8	CH	95	ARG
8	CH	98	LEU
8	CH	116	GLU
8	CH	122	THR
8	CH	129	THR
8	CH	134	SER
8	CH	139	GLN
8	CH	172	LYS
10	CL	76	TYR
10	CL	86	LYS
10	CL	93	ARG
10	CL	98	ARG
10	CL	99	ILE
10	CL	102	GLU
10	CL	105	LEU
10	CL	110	GLN
10	CL	114	ASP
10	CL	115	LEU
10	CL	117	THR
10	CL	121	GLU
10	CL	126	MET
10	CL	127	ILE
10	CL	138	VAL
11	CN	5	VAL
11	CN	9	VAL

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Mol	Chain	Res	Type
11	CN	10	GLU
11	CN	14	VAL
11	CN	15	LEU
11	CN	19	GLU
11	CN	21	LYS
11	CN	25	ARG
11	CN	26	LEU
11	CN	28	THR
11	CN	32	THR
11	CN	34	LEU
11	CN	37	LYS
11	CN	38	HIS
11	CN	46	VAL
11	CN	48	MET
11	CN	58	ASP
11	CN	59	LYS
11	CN	60	ILE
11	CN	61	ARG
11	CN	62	VAL
11	CN	63	THR
11	CN	65	LYS
11	CN	73	THR
11	CN	87	LEU
11	CN	89	LYS
11	CN	97	ARG
11	CN	99	LEU
11	CN	120	LEU
11	CN	133	GLN
11	CN	134	ARG
11	CN	138	LEU
11	CN	140	VAL
12	CO	8	LEU
12	CO	10	VAL
12	CO	18	LYS
12	CO	23	ARG
12	CO	28	SER
12	CO	52	VAL
12	CO	53	LYS
12	CO	58	VAL
12	CO	69	ILE
12	CO	78	ARG
12	CO	87	ILE

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Mol	Chain	Res	Type
12	CO	89	ASN
12	CO	94	ARG
12	CO	108	GLU
13	CP	1	MET
13	CP	2	LYS
13	CP	3	LEU
13	CP	21	ARG
13	CP	45	LEU
13	CP	55	ARG
13	CP	58	THR
13	CP	65	ARG
13	CP	74	GLU
13	CP	75	ILE
13	CP	86	LYS
13	CP	95	VAL
13	CP	99	LEU
13	CP	100	LEU
13	CP	106	LEU
13	CP	117	GLU
13	CP	125	VAL
13	CP	133	SER
13	CP	135	LEU
13	CP	148	LEU
14	CQ	3	MET
14	CQ	5	ARG
14	CQ	7	MET
14	CQ	8	LYS
14	CQ	10	ARG
14	CQ	11	LYS
14	CQ	16	ARG
14	CQ	21	THR
14	CQ	29	PHE
14	CQ	37	LEU
14	CQ	38	GLU
14	CQ	45	GLN
14	CQ	48	GLU
14	CQ	56	ARG
14	CQ	59	ARG
14	CQ	60	ARG
14	CQ	63	LYS
14	CQ	75	THR
14	CQ	81	VAL

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Mol	Chain	Res	Type
14	CQ	89	ASN
14	CQ	106	VAL
14	CQ	109	VAL
14	CQ	110	THR
14	CQ	115	MET
14	CQ	126	PRO
14	CQ	128	LYS
14	CQ	133	ARG
14	CQ	138	ASP
15	CR	1	MET
15	CR	6	SER
15	CR	8	ARG
15	CR	18	LEU
15	CR	29	LEU
15	CR	44	LEU
15	CR	54	LEU
15	CR	56	LYS
15	CR	60	LEU
15	CR	68	ARG
15	CR	79	LEU
15	CR	100	LEU
15	CR	111	LEU
15	CR	117	VAL
16	CS	3	ARG
16	CS	4	LEU
16	CS	20	ARG
16	CS	21	THR
16	CS	24	LEU
16	CS	25	ARG
16	CS	32	LEU
16	CS	40	ILE
16	CS	46	VAL
16	CS	50	SER
16	CS	56	LEU
16	CS	64	GLU
16	CS	67	ARG
16	CS	69	VAL
16	CS	75	GLU
16	CS	89	ARG
16	CS	95	HIS
17	CT	8	LYS
17	CT	15	VAL

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Mol	Chain	Res	Type
17	CT	18	ASP
17	CT	38	ASN
17	CT	49	VAL
17	CT	64	ARG
17	CT	65	LYS
17	CT	74	ARG
17	CT	85	LYS
17	CT	89	VAL
17	CT	95	ARG
17	CT	96	ARG
17	CT	115	ARG
17	CT	118	ARG
17	CT	124	ASP
18	CU	31	SER
18	CU	52	ARG
18	CU	59	ARG
18	CU	74	LEU
18	CU	77	SER
18	CU	79	PHE
18	CU	90	VAL
18	CU	92	ARG
18	CU	93	LYS
18	CU	95	LEU
18	CU	100	VAL
18	CU	104	GLN
19	CV	1	MET
19	CV	5	VAL
19	CV	14	VAL
19	CV	18	LEU
19	CV	32	THR
19	CV	35	LEU
19	CV	49	THR
19	CV	52	VAL
19	CV	61	VAL
19	CV	62	LEU
19	CV	64	HIS
19	CV	72	VAL
19	CV	73	SER
19	CV	79	VAL
19	CV	100	ARG
20	CW	2	GLU
20	CW	4	LYS

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Mol	Chain	Res	Type
20	CW	11	ARG
20	CW	12	ILE
20	CW	14	PRO
20	CW	17	VAL
20	CW	19	LEU
20	CW	23	LEU
20	CW	27	LYS
20	CW	45	TYR
20	CW	51	LEU
20	CW	61	ASN
20	CW	66	GLU
20	CW	70	TYR
20	CW	107	LEU
21	CX	43	VAL
21	CX	45	THR
21	CX	49	VAL
21	CX	52	VAL
21	CX	54	VAL
21	CX	57	LEU
21	CX	76	ARG
21	CX	87	GLN
21	CX	88	LYS
21	CX	89	ILE
21	CX	92	LEU
22	CY	2	ARG
22	CY	3	VAL
22	CY	6	HIS
22	CY	8	LYS
22	CY	12	THR
22	CY	23	ARG
22	CY	24	VAL
22	CY	35	TYR
22	CY	37	VAL
22	CY	43	ASN
22	CY	44	ILE
22	CY	45	VAL
22	CY	46	LYS
22	CY	64	GLU
22	CY	67	LEU
22	CY	70	SER
22	CY	90	LEU
22	CY	91	GLU

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Mol	Chain	Res	Type
22	CY	92	ASN
23	CZ	5	LEU
23	CZ	14	LYS
23	CZ	18	LEU
23	CZ	19	ARG
23	CZ	28	MET
23	CZ	33	LEU
23	CZ	41	LEU
23	CZ	42	VAL
23	CZ	70	LEU
23	CZ	73	GLN
23	CZ	74	VAL
23	CZ	80	ARG
23	CZ	86	VAL
23	CZ	89	PHE
23	CZ	91	LEU
23	CZ	93	ASP
23	CZ	94	GLU
23	CZ	96	VAL
23	CZ	98	MET
23	CZ	111	VAL
23	CZ	121	HIS
23	CZ	126	VAL
23	CZ	138	GLU
23	CZ	139	VAL
23	CZ	142	SER
23	CZ	150	LEU
23	CZ	156	LYS
23	CZ	163	LEU
23	CZ	165	VAL
23	CZ	170	THR
23	CZ	175	VAL
24	C0	11	ARG
24	C0	14	ARG
24	C0	20	ARG
24	C0	43	THR
24	C0	44	ARG
24	C0	49	LYS
24	C0	55	ARG
24	C0	71	ASP
24	C0	72	ARG
24	C0	74	ARG

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Mol	Chain	Res	Type
24	C0	82	ARG
25	C1	4	VAL
25	C1	11	ARG
25	C1	21	ARG
25	C1	27	GLU
25	C1	30	VAL
25	C1	33	LYS
25	C1	37	ILE
25	C1	38	SER
25	C1	40	ARG
25	C1	59	THR
25	C1	69	LYS
25	C1	72	GLU
25	C1	73	LEU
25	C1	80	LEU
26	C2	9	GLN
26	C2	12	GLU
26	C2	19	VAL
26	C2	32	LEU
26	C2	38	GLN
26	C2	40	SER
26	C2	45	SER
26	C2	49	LYS
26	C2	51	ARG
26	C2	53	LEU
26	C2	60	LEU
26	C2	65	ASN
26	C2	67	LYS
26	C2	70	GLN
27	C3	3	ARG
27	C3	5	LYS
27	C3	6	VAL
27	C3	8	LEU
27	C3	11	SER
27	C3	18	ASP
27	C3	24	LYS
27	C3	31	LEU
27	C3	33	GLN
27	C3	34	GLU
27	C3	40	THR
27	C3	44	ARG
28	C4	1	MET

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Mol	Chain	Res	Type
28	C4	5	ILE
28	C4	14	ILE
28	C4	18	CYS
28	C4	32	TYR
28	C4	39	CYS
28	C4	50	VAL
28	C4	53	GLU
28	C4	58	ARG
28	C4	59	PHE
28	C4	61	ARG
28	C4	63	TYR
28	C4	67	TYR
28	C4	68	ARG
29	C5	6	VAL
29	C5	15	ARG
29	C5	16	ARG
29	C5	26	THR
29	C5	29	THR
29	C5	40	LYS
29	C5	57	VAL
29	C5	58	LEU
30	C6	5	VAL
30	C6	6	ARG
30	C6	7	ILE
30	C6	14	THR
30	C6	23	THR
30	C6	40	CYS
30	C6	50	ARG
31	C7	4	THR
31	C7	9	ARG
31	C7	24	THR
31	C7	29	LYS
31	C7	32	LYS
31	C7	41	ARG
32	C8	14	VAL
32	C8	26	LYS
32	C8	29	LYS
32	C8	30	ARG
32	C8	32	LEU
32	C8	34	TRP
33	C9	4	ARG
33	C9	7	VAL

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Mol	Chain	Res	Type
33	C9	13	LYS
33	C9	26	ILE
35	DB	7	VAL
35	DB	11	LEU
35	DB	23	ARG
35	DB	24	TRP
35	DB	27	LYS
35	DB	44	LEU
35	DB	47	THR
35	DB	51	LEU
35	DB	58	ILE
35	DB	69	LEU
35	DB	76	GLN
35	DB	87	ARG
35	DB	90	MET
35	DB	94	ASN
35	DB	96	ARG
35	DB	97	TRP
35	DB	115	LEU
35	DB	118	LEU
35	DB	119	GLU
35	DB	128	GLU
35	DB	140	HIS
35	DB	147	LYS
35	DB	148	TYR
35	DB	154	LEU
35	DB	155	LEU
35	DB	157	ARG
35	DB	160	ASP
35	DB	163	PHE
35	DB	179	LYS
35	DB	185	ILE
35	DB	187	LEU
35	DB	189	ASP
35	DB	198	ASP
35	DB	215	LEU
35	DB	217	ARG
35	DB	223	ILE
35	DB	224	GLN
35	DB	229	VAL
35	DB	230	VAL
36	DC	3	ASN

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Mol	Chain	Res	Type
36	DC	12	LEU
36	DC	15	THR
36	DC	16	ARG
36	DC	21	ARG
36	DC	47	LEU
36	DC	52	LEU
36	DC	54	ARG
36	DC	57	ILE
36	DC	67	THR
36	DC	70	VAL
36	DC	82	GLU
36	DC	85	ARG
36	DC	104	GLN
36	DC	108	ASN
36	DC	111	LEU
36	DC	124	ILE
36	DC	128	PHE
36	DC	131	ARG
36	DC	143	GLU
36	DC	152	ILE
36	DC	153	VAL
36	DC	166	GLU
36	DC	175	LEU
36	DC	186	PHE
36	DC	191	THR
36	DC	192	THR
36	DC	196	LEU
37	DD	11	LEU
37	DD	12	CYS
37	DD	13	ARG
37	DD	22	LYS
37	DD	31	CYS
37	DD	35	ARG
37	DD	53	ASP
37	DD	58	LEU
37	DD	61	LYS
37	DD	73	ARG
37	DD	76	ARG
37	DD	78	LEU
37	DD	96	LEU
37	DD	97	LEU
37	DD	102	ASP

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Mol	Chain	Res	Type
37	DD	104	VAL
37	DD	106	TYR
37	DD	107	ARG
37	DD	115	ARG
37	DD	118	ARG
37	DD	127	THR
37	DD	135	LEU
37	DD	141	ARG
37	DD	150	GLU
37	DD	156	GLU
37	DD	163	GLU
37	DD	169	LYS
37	DD	170	VAL
37	DD	187	ARG
37	DD	194	LEU
37	DD	208	SER
38	DE	5	ASP
38	DE	12	LEU
38	DE	16	THR
38	DE	20	GLN
38	DE	24	ARG
38	DE	34	VAL
38	DE	37	ARG
38	DE	41	VAL
38	DE	43	LEU
38	DE	47	LYS
38	DE	53	LEU
38	DE	55	VAL
38	DE	57	LYS
38	DE	60	TYR
38	DE	63	ARG
38	DE	64	ARG
38	DE	68	GLU
38	DE	75	THR
38	DE	78	HIS
38	DE	79	GLU
38	DE	87	SER
38	DE	91	LEU
38	DE	100	VAL
38	DE	107	ARG
38	DE	118	ILE
38	DE	120	THR

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Mol	Chain	Res	Type
38	DE	125	SER
38	DE	126	ARG
38	DE	129	ILE
38	DE	144	THR
38	DE	147	ASP
38	DE	149	GLU
39	DF	13	ASN
39	DF	28	ARG
39	DF	30	LEU
39	DF	37	VAL
39	DF	48	LEU
39	DF	63	TYR
39	DF	69	GLU
39	DF	70	ASP
39	DF	74	ASP
39	DF	80	ARG
39	DF	86	ARG
39	DF	87	ARG
40	DG	4	ARG
40	DG	12	LEU
40	DG	16	LEU
40	DG	21	VAL
40	DG	32	ARG
40	DG	45	ASP
40	DG	52	GLU
40	DG	93	PRO
40	DG	95	ARG
40	DG	97	GLN
40	DG	98	SER
40	DG	106	GLN
40	DG	114	ARG
40	DG	115	ARG
40	DG	139	GLU
40	DG	153	HIS
41	DH	3	THR
41	DH	18	ARG
41	DH	21	LYS
41	DH	25	ASP
41	DH	26	VAL
41	DH	34	GLU
41	DH	39	LEU
41	DH	41	ARG

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Mol	Chain	Res	Type
41	DH	50	ARG
41	DH	52	ASP
41	DH	60	ARG
41	DH	63	LEU
41	DH	78	GLN
41	DH	79	VAL
41	DH	84	ARG
41	DH	85	ARG
41	DH	91	ARG
41	DH	95	VAL
41	DH	97	VAL
41	DH	98	LYS
41	DH	107	LEU
41	DH	111	ILE
41	DH	114	THR
41	DH	119	LEU
41	DH	122	ARG
41	DH	125	ARG
41	DH	127	LEU
41	DH	137	VAL
42	DI	23	ASN
42	DI	31	GLN
42	DI	38	GLN
42	DI	54	ASP
42	DI	64	THR
42	DI	65	VAL
42	DI	74	ILE
42	DI	81	ILE
42	DI	83	ARG
42	DI	89	ASN
42	DI	102	LEU
42	DI	104	ARG
42	DI	108	VAL
42	DI	114	TYR
42	DI	124	GLN
42	DI	128	ARG
43	DJ	29	ARG
43	DJ	34	VAL
43	DJ	45	ARG
43	DJ	46	ARG
43	DJ	59	SER
43	DJ	67	THR

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Mol	Chain	Res	Type
43	DJ	68	HIS
43	DJ	72	VAL
43	DJ	85	LEU
43	DJ	95	GLU
43	DJ	96	ILE
44	DK	14	VAL
44	DK	16	SER
44	DK	18	ARG
44	DK	24	SER
44	DK	26	ASN
44	DK	30	VAL
44	DK	32	ILE
44	DK	33	THR
44	DK	48	ILE
44	DK	54	ARG
44	DK	80	VAL
44	DK	81	ASP
44	DK	87	THR
44	DK	96	ARG
44	DK	98	LEU
44	DK	107	SER
44	DK	109	VAL
44	DK	114	VAL
44	DK	126	ARG
45	DL	7	ILE
45	DL	8	ASN
45	DL	18	VAL
45	DL	27	LEU
45	DL	44	THR
45	DL	46	LYS
45	DL	47	LYS
45	DL	52	LEU
45	DL	53	ARG
45	DL	57	LYS
45	DL	60	LEU
45	DL	65	GLU
45	DL	78	GLN
45	DL	81	SER
45	DL	83	VAL
45	DL	84	LEU
45	DL	85	ILE
45	DL	92	ASP

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Mol	Chain	Res	Type
45	DL	97	ARG
45	DL	104	VAL
45	DL	114	LYS
45	DL	118	SER
45	DL	122	THR
46	DM	8	GLU
46	DM	29	ARG
46	DM	32	GLU
46	DM	40	ASN
46	DM	66	LEU
46	DM	70	LEU
46	DM	73	GLU
46	DM	80	ARG
46	DM	92	HIS
46	DM	98	VAL
46	DM	106	ASN
46	DM	110	ARG
46	DM	115	LYS
47	DN	15	LYS
47	DN	22	THR
47	DN	33	VAL
47	DN	41	ARG
47	DN	43	CYS
47	DN	44	LEU
47	DN	61	TRP
48	DO	4	THR
48	DO	5	LYS
48	DO	10	LYS
48	DO	22	THR
48	DO	26	GLU
48	DO	39	LEU
48	DO	48	LYS
48	DO	54	ARG
48	DO	64	ARG
48	DO	65	ARG
48	DO	67	LEU
48	DO	68	ARG
49	DP	2	VAL
49	DP	4	ILE
49	DP	6	LEU
49	DP	8	ARG
49	DP	20	VAL

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Mol	Chain	Res	Type
49	DP	21	VAL
49	DP	22	THR
49	DP	25	ARG
49	DP	27	LYS
49	DP	49	LEU
49	DP	54	GLU
49	DP	55	ARG
49	DP	60	LEU
49	DP	62	VAL
49	DP	67	THR
49	DP	71	ARG
49	DP	74	LEU
50	DQ	6	LEU
50	DQ	7	THR
50	DQ	13	ASP
50	DQ	14	LYS
50	DQ	19	VAL
50	DQ	49	GLU
50	DQ	52	LYS
50	DQ	57	VAL
50	DQ	59	ILE
50	DQ	69	LYS
50	DQ	72	ARG
50	DQ	74	LEU
50	DQ	79	SER
50	DQ	89	LEU
51	DR	21	LYS
51	DR	26	LEU
51	DR	32	ARG
51	DR	37	VAL
51	DR	41	LYS
51	DR	42	ARG
51	DR	87	ARG
52	DS	3	ARG
52	DS	15	LEU
52	DS	27	GLU
52	DS	33	THR
52	DS	36	ARG
52	DS	38	SER
52	DS	64	GLU
52	DS	65	ASN
52	DS	66	MET

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Mol	Chain	Res	Type
52	DS	78	ARG
52	DS	81	ARG
52	DS	83	HIS
53	DT	9	ASN
53	DT	13	LEU
53	DT	24	LEU
53	DT	36	LEU
53	DT	43	LEU
53	DT	51	GLU
53	DT	56	MET
53	DT	57	ARG
53	DT	62	LEU
53	DT	65	LYS
53	DT	71	THR
53	DT	93	GLU
54	DU	10	ARG
54	DU	15	ARG
57	DZ	-66	MET
57	DZ	-65	LYS
57	DZ	-64	VAL
57	DZ	-58	LEU
57	DZ	-48	VAL
57	DZ	-47	ASP
57	DZ	-29	LEU
57	DZ	-20	LEU
57	DZ	-19	GLU
57	DZ	-6	ARG
57	DZ	-5	LYS
57	DZ	0	ARG
57	DZ	1	LEU
57	DZ	9	LEU
57	DZ	15	ILE
57	DZ	21	ILE
57	DZ	31	ARG
57	DZ	33	LEU
57	DZ	69	VAL
57	DZ	70	THR
57	DZ	79	ILE
57	DZ	81	ILE
57	DZ	91	THR
57	DZ	92	ILE
57	DZ	93	GLU

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Mol	Chain	Res	Type
57	DZ	96	ARG
57	DZ	105	ILE
57	DZ	110	SER
57	DZ	111	SER
57	DZ	114	VAL
57	DZ	120	THR
57	DZ	121	VAL
57	DZ	129	LYS
57	DZ	130	VAL
57	DZ	132	ARG
57	DZ	146	LEU
57	DZ	152	THR
57	DZ	153	MET
57	DZ	160	ARG
57	DZ	163	VAL
57	DZ	182	ARG
57	DZ	196	ILE
57	DZ	197	ARG
57	DZ	198	GLU
57	DZ	213	HIS
57	DZ	217	VAL
57	DZ	225	GLU
57	DZ	236	GLU
57	DZ	240	GLU
57	DZ	247	ARG
57	DZ	255	ILE
57	DZ	264	LEU
57	DZ	284	LEU
57	DZ	285	ASP
57	DZ	292	THR
57	DZ	301	ILE
57	DZ	312	LEU
57	DZ	328	ILE
57	DZ	332	SER
57	DZ	337	SER
57	DZ	354	ARG
57	DZ	355	LEU
57	DZ	356	LEU
57	DZ	363	ARG
57	DZ	377	VAL
57	DZ	384	ILE
57	DZ	385	THR

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Mol	Chain	Res	Type
57	DZ	392	GLU
57	DZ	396	ARG
57	DZ	404	VAL
57	DZ	422	GLU
57	DZ	428	LEU
57	DZ	462	ILE
57	DZ	471	LYS
57	DZ	473	ASP
57	DZ	485	GLU
57	DZ	509	HIS
57	DZ	512	ILE
57	DZ	519	ARG
57	DZ	527	ASN
57	DZ	534	ILE
57	DZ	536	LYS
57	DZ	537	GLU
57	DZ	556	ILE
57	DZ	558	PHE
57	DZ	568	TYR
57	DZ	624	LEU
57	DZ	630	GLN
57	DZ	631	ILE
57	DZ	649	LEU
57	DZ	651	GLU
57	DZ	659	LEU
57	DZ	666	ARG
57	DZ	670	VAL
57	DZ	675	HIS
57	DZ	678	GLU
57	DZ	679	VAL
57	DZ	681	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (172) such sidechains are listed below:

Mol	Chain	Res	Type
3	AC	67	HIS
3	AC	189	ASN
3	AC	200	HIS
4	AD	87	ASN
4	AD	253	GLN
5	AE	85	ASN
6	AF	69	HIS

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Mol	Chain	Res	Type
6	AF	169	ASN
7	AG	40	ASN
11	AN	131	GLN
12	AO	5	GLN
15	AR	71	GLN
17	AT	43	GLN
18	AU	81	HIS
20	AW	60	ASN
21	AX	31	HIS
22	AY	6	HIS
22	AY	92	ASN
23	AZ	50	GLN
23	AZ	55	HIS
23	AZ	73	GLN
24	A0	29	GLN
24	A0	35	ASN
26	A2	9	GLN
28	A4	46	GLN
28	A4	60	GLN
33	A9	36	GLN
35	BB	40	HIS
35	BB	45	GLN
36	BC	6	HIS
36	BC	37	GLN
36	BC	118	GLN
36	BC	136	GLN
36	BC	181	ASN
37	BD	45	GLN
37	BD	123	HIS
37	BD	201	GLN
38	BE	56	GLN
38	BE	141	GLN
39	BF	32	ASN
39	BF	73	ASN
40	BG	13	GLN
40	BG	28	ASN
40	BG	51	GLN
40	BG	64	GLN
40	BG	153	HIS
42	BI	23	ASN
42	BI	34	ASN
42	BI	58	HIS

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Mol	Chain	Res	Type
42	BI	73	GLN
42	BI	124	GLN
43	BJ	56	HIS
43	BJ	62	HIS
44	BK	99	GLN
44	BK	104	GLN
44	BK	116	HIS
45	BL	78	GLN
47	BN	49	HIS
48	BO	28	GLN
48	BO	62	GLN
50	BQ	16	GLN
50	BQ	26	GLN
52	BS	65	ASN
52	BS	69	HIS
52	BS	83	HIS
53	BT	26	ASN
53	BT	45	GLN
53	BT	75	ASN
57	BZ	-50	GLN
57	BZ	-13	GLN
57	BZ	77	HIS
57	BZ	154	GLN
57	BZ	165	GLN
57	BZ	213	HIS
57	BZ	421	GLN
57	BZ	475	ASN
57	BZ	509	HIS
57	BZ	573	HIS
57	BZ	641	GLN
3	CC	4	HIS
3	CC	67	HIS
3	CC	189	ASN
3	CC	200	HIS
4	CD	96	HIS
4	CD	126	GLN
4	CD	253	GLN
6	CF	69	HIS
6	CF	203	GLN
7	CG	66	GLN
7	CG	123	ASN
7	CG	132	ASN

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Mol	Chain	Res	Type
8	CH	74	ASN
8	CH	143	GLN
8	CH	147	ASN
10	CL	116	ASN
12	CO	89	ASN
13	CP	38	GLN
13	CP	128	HIS
14	CQ	57	HIS
14	CQ	123	HIS
15	CR	13	HIS
15	CR	31	HIS
15	CR	71	GLN
16	CS	95	HIS
17	CT	58	ASN
17	CT	123	GLN
18	CU	104	GLN
20	CW	60	ASN
20	CW	61	ASN
21	CX	41	ASN
22	CY	43	ASN
22	CY	92	ASN
23	CZ	32	HIS
23	CZ	34	ASN
23	CZ	65	GLN
24	C0	70	GLN
26	C2	38	GLN
32	C8	35	GLN
33	C9	36	GLN
35	DB	40	HIS
35	DB	45	GLN
35	DB	76	GLN
35	DB	94	ASN
35	DB	135	GLN
36	DC	28	GLN
36	DC	104	GLN
36	DC	110	ASN
37	DD	45	GLN
37	DD	77	ASN
37	DD	129	ASN
37	DD	160	GLN
38	DE	72	GLN
38	DE	130	ASN

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Mol	Chain	Res	Type
38	DE	141	GLN
39	DF	27	GLN
39	DF	100	ASN
40	DG	109	ASN
40	DG	110	GLN
40	DG	148	ASN
41	DH	78	GLN
42	DI	23	ASN
42	DI	31	GLN
42	DI	73	GLN
42	DI	89	ASN
42	DI	117	HIS
43	DJ	13	HIS
43	DJ	62	HIS
43	DJ	68	HIS
43	DJ	84	GLN
44	DK	22	HIS
44	DK	93	GLN
44	DK	99	GLN
44	DK	104	GLN
45	DL	49	ASN
45	DL	75	HIS
45	DL	99	HIS
46	DM	77	ASN
46	DM	101	GLN
48	DO	28	GLN
49	DP	16	HIS
50	DQ	45	HIS
51	DR	63	GLN
52	DS	47	HIS
57	DZ	-50	GLN
57	DZ	-24	ASN
57	DZ	77	HIS
57	DZ	165	GLN
57	DZ	266	ASN
57	DZ	421	GLN
57	DZ	500	GLN
57	DZ	595	GLN
57	DZ	641	GLN

### 5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	AA	2865/2915 (98%)	526 (18%)	51 (1%)
1	CA	2860/2915 (98%)	611 (21%)	39 (1%)
2	AB	119/121 (98%)	15 (12%)	0
2	CB	119/121 (98%)	27 (22%)	0
34	BA	1491/1521 (98%)	331 (22%)	20 (1%)
34	DA	1498/1521 (98%)	350 (23%)	22 (1%)
55	BV	6/18 (33%)	2 (33%)	0
55	DV	5/18 (27%)	1 (20%)	0
56	BW	74/76 (97%)	16 (21%)	1 (1%)
56	BY	71/76 (93%)	23 (32%)	2 (2%)
56	DW	74/76 (97%)	23 (31%)	2 (2%)
56	DY	69/76 (90%)	21 (30%)	1 (1%)
All	All	9251/9454 (97%)	1946 (21%)	138 (1%)

All (1946) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	AA	12	U
1	AA	13	A
1	AA	15	G
1	AA	34	C
1	AA	45	C
1	AA	63	A
1	AA	70	A
1	AA	73	A
1	AA	74	G
1	AA	86	C
1	AA	94	G
1	AA	116	A
1	AA	117	A
1	AA	118	U
1	AA	119	G
1	AA	120	G
1	AA	123	G
1	AA	138	G
1	AA	166	G
1	AA	170	A
1	AA	171	A
1	AA	177	G
1	AA	185	A
1	AA	186	A
1	AA	188	A
1	AA	189	U

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Mol	Chain	Res	Type
1	AA	190	C
1	AA	194	G
1	AA	204	G
1	AA	205	A
1	AA	211	A
1	AA	214	A
1	AA	217	A
1	AA	218	A
1	AA	219	U
1	AA	222	A
1	AA	237	G
1	AA	239	G
1	AA	253	C
1	AA	255	G
1	AA	258	U
1	AA	269	G
1	AA	271	U
1	AA	272	U
1	AA	273	G
1	AA	274	U
1	AA	275	C
1	AA	276	C
1	AA	279	G
1	AA	289	G
1	AA	299	G
1	AA	303	C
1	AA	304	C
1	AA	311	C
1	AA	318	A
1	AA	330	U
1	AA	334	A
1	AA	335	A
1	AA	349	G
1	AA	353	G
1	AA	354	A
1	AA	366	G
1	AA	370	A
1	AA	376	G
1	AA	387	G
1	AA	389	G
1	AA	397	G
1	AA	398	A

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Mol	Chain	Res	Type
1	AA	407	U
1	AA	413	G
1	AA	416	G
1	AA	423	G
1	AA	432	U
1	AA	434	G
1	AA	438	G
1	AA	448	U
1	AA	454	U
1	AA	455	A
1	AA	469	A
1	AA	470	C
1	AA	474	U
1	AA	482	C
1	AA	483	A
1	AA	496	A
1	AA	497	A
1	AA	506	A
1	AA	507	G
1	AA	514	G
1	AA	515	G
1	AA	519	G
1	AA	529	U
1	AA	530	A
1	AA	534	C
1	AA	536	U
1	AA	547	G
1	AA	553	A
1	AA	555	G
1	AA	556	C
1	AA	557	A
1	AA	558	G
1	AA	573	G
1	AA	586	G
1	AA	596	G
1	AA	598	A
1	AA	609	A
1	AA	615	G
1	AA	626	A
1	AA	627	G
1	AA	630	U
1	AA	637	U

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Mol	Chain	Res	Type
1	AA	639	G
1	AA	641	G
1	AA	642	G
1	AA	657	A
1	AA	662	A
1	AA	670	C
1	AA	671	A
1	AA	672	G
1	AA	702	A
1	AA	703	G
1	AA	716	G
1	AA	717	A
1	AA	724	A
1	AA	733	G
1	AA	734	C
1	AA	762	G
1	AA	764	G
1	AA	772	G
1	AA	777	C
1	AA	787	U
1	AA	809	U
1	AA	811	A
1	AA	818	G
1	AA	821	A
1	AA	822	G
1	AA	823	G
1	AA	829	A
1	AA	831	A
1	AA	832	G
1	AA	839	G
1	AA	852	G
1	AA	858	U
1	AA	859	C
1	AA	874	U
1	AA	875	U
1	AA	883	G
1	AA	891	C
1	AA	903	C
1	AA	906	G
1	AA	913	A
1	AA	927	G
1	AA	932	C

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Mol	Chain	Res	Type
1	AA	933	C
1	AA	934	A
1	AA	935	C
1	AA	936	C
1	AA	937	A
1	AA	938	G
1	AA	939	C
1	AA	942	A
1	AA	953	U
1	AA	956	A
1	AA	957	A
1	AA	977	G
1	AA	986	A
1	AA	990	A
1	AA	991	G
1	AA	992	G
1	AA	998	A
1	AA	1002	A
1	AA	1003	U
1	AA	1004	A
1	AA	1006	C
1	AA	1012	C
1	AA	1019	G
1	AA	1020	C
1	AA	1029	A
1	AA	1036	A
1	AA	1042	A
1	AA	1051	C
1	AA	1058	U
1	AA	1059	C
1	AA	1068	G
1	AA	1071	G
1	AA	1072	U
1	AA	1079	U
1	AA	1080	G
1	AA	1081	U
1	AA	1084	C
1	AA	1087	C
1	AA	1090	G
1	AA	1092	A
1	AA	1093	G
1	AA	1095	C

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Mol	Chain	Res	Type
1	AA	1096	A
1	AA	1099	C
1	AA	1100	A
1	AA	1101	G
1	AA	1102	G
1	AA	1106	U
1	AA	1107	U
1	AA	1108	G
1	AA	1110	C
1	AA	1116	A
1	AA	1118	C
1	AA	1119	A
1	AA	1122	C
1	AA	1125	C
1	AA	1126	C
1	AA	1128	U
1	AA	1129	U
1	AA	1133	G
1	AA	1134	A
1	AA	1142	A
1	AA	1152	G
1	AA	1153	G
1	AA	1154	U
1	AA	1155	C
1	AA	1156	G
1	AA	1158	G
1	AA	1176	U
1	AA	1178	A
1	AA	1180	C
1	AA	1181	G
1	AA	1184	G
1	AA	1186	U
1	AA	1195	G
1	AA	1196	C
1	AA	1217	G
1	AA	1218	G
1	AA	1219	A
1	AA	1220	U
1	AA	1221	G
1	AA	1222	A
1	AA	1237	G
1	AA	1255	A

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Mol	Chain	Res	Type
1	AA	1256	U
1	AA	1265	A
1	AA	1270	C
1	AA	1275	G
1	AA	1287	A
1	AA	1290	G
1	AA	1296	G
1	AA	1299	A
1	AA	1302	G
1	AA	1317	G
1	AA	1318	A
1	AA	1328	U
1	AA	1346	U
1	AA	1347	A
1	AA	1349	G
1	AA	1352	C
1	AA	1359	U
1	AA	1398	U
1	AA	1402	G
1	AA	1403	U
1	AA	1405	A
1	AA	1406	A
1	AA	1411	A
1	AA	1430	A
1	AA	1431	G
1	AA	1462	G
1	AA	1463	C
1	AA	1467	G
1	AA	1474	C
1	AA	1483	C
1	AA	1491	A
1	AA	1496	A
1	AA	1497	G
1	AA	1500	A
1	AA	1502	G
1	AA	1503	G
1	AA	1506	G
1	AA	1508	G
1	AA	1514	C
1	AA	1518	A
1	AA	1520	G
1	AA	1526	G

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Mol	Chain	Res	Type
1	AA	1529	G
1	AA	1532	A
1	AA	1539	C
1	AA	1540	A
1	AA	1554	A
1	AA	1555	C
1	AA	1556	A
1	AA	1569	U
1	AA	1585	G
1	AA	1587	U
1	AA	1589	A
1	AA	1590	C
1	AA	1605	A
1	AA	1607	G
1	AA	1613	A
1	AA	1616	A
1	AA	1625	U
1	AA	1627	A
1	AA	1628	G
1	AA	1629	C
1	AA	1631	C
1	AA	1632	A
1	AA	1654	A
1	AA	1655	A
1	AA	1656	A
1	AA	1668	G
1	AA	1695	C
1	AA	1700	G
1	AA	1701	A
1	AA	1711	A
1	AA	1721	G
1	AA	1746	G
1	AA	1747	A
1	AA	1748	A
1	AA	1750	G
1	AA	1752	G
1	AA	1767	A
1	AA	1769	G
1	AA	1779	G
1	AA	1787	G
1	AA	1789	G
1	AA	1793	A

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Mol	Chain	Res	Type
1	AA	1794	G
1	AA	1795	G
1	AA	1804	A
1	AA	1811	A
1	AA	1813	C
1	AA	1822	A
1	AA	1824	C
1	AA	1831	C
1	AA	1832	G
1	AA	1833	A
1	AA	1843	A
1	AA	1847	G
1	AA	1870	G
1	AA	1878	A
1	AA	1879	A
1	AA	1880	G
1	AA	1887	G
1	AA	1892	G
1	AA	1900	G
1	AA	1911	A
1	AA	1922	A
1	AA	1928	G
1	AA	1935	A
1	AA	1936	C
1	AA	1937	U
1	AA	1941	A
1	AA	1951	G
1	AA	1952	G
1	AA	1953	U
1	AA	1954	A
1	AA	1959	A
1	AA	1960	A
1	AA	1963	C
1	AA	1977	U
1	AA	1985	U
1	AA	1989	C
1	AA	1992	A
1	AA	1993	A
1	AA	1994	A
1	AA	2003	A
1	AA	2014	G
1	AA	2015	U

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Mol	Chain	Res	Type
1	AA	2018	C
1	AA	2019	G
1	AA	2027	A
1	AA	2045	G
1	AA	2053	A
1	AA	2054	G
1	AA	2055	A
1	AA	2065	C
1	AA	2073	A
1	AA	2077	C
1	AA	2078	G
1	AA	2082	A
1	AA	2083	G
1	AA	2084	A
1	AA	2091	G
1	AA	2119	C
1	AA	2130	C
1	AA	2132	G
1	AA	2133	C
1	AA	2135	U
1	AA	2139	A
1	AA	2141	A
1	AA	2149	G
1	AA	2153	G
1	AA	2155	G
1	AA	2156	A
1	AA	2157	A
1	AA	2158	C
1	AA	2162	C
1	AA	2164	C
1	AA	2169	G
1	AA	2178	G
1	AA	2179	G
1	AA	2180	A
1	AA	2181	G
1	AA	2186	C
1	AA	2187	G
1	AA	2188	G
1	AA	2189	U
1	AA	2190	G
1	AA	2191	A
1	AA	2194	U

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Mol	Chain	Res	Type
1	AA	2195	A
1	AA	2196	C
1	AA	2197	C
1	AA	2200	C
1	AA	2204	G
1	AA	2206	G
1	AA	2207	C
1	AA	2210	C
1	AA	2211	U
1	AA	2213	G
1	AA	2214	G
1	AA	2217	C
1	AA	2220	A
1	AA	2227	G
1	AA	2228	G
1	AA	2229	A
1	AA	2237	A
1	AA	2238	C
1	AA	2250	G
1	AA	2251	G
1	AA	2252	C
1	AA	2270	C
1	AA	2280	A
1	AA	2281	A
1	AA	2287	C
1	AA	2295	C
1	AA	2299	A
1	AA	2307	C
1	AA	2317	A
1	AA	2319	G
1	AA	2320	G
1	AA	2332	A
1	AA	2333	G
1	AA	2337	G
1	AA	2338	C
1	AA	2346	G
1	AA	2347	A
1	AA	2348	A
1	AA	2355	C
1	AA	2358	A
1	AA	2359	C
1	AA	2362	C

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Mol	Chain	Res	Type
1	AA	2366	G
1	AA	2395	G
1	AA	2397	C
1	AA	2418	U
1	AA	2422	G
1	AA	2436	C
1	AA	2437	A
1	AA	2441	G
1	AA	2442	A
1	AA	2443	U
1	AA	2447	A
1	AA	2451	A
1	AA	2453	C
1	AA	2460	A
1	AA	2461	U
1	AA	2481	A
1	AA	2482	G
1	AA	2488	A
1	AA	2490	A
1	AA	2491	G
1	AA	2514	G
1	AA	2517	G
1	AA	2518	U
1	AA	2530	A
1	AA	2532	C
1	AA	2541	G
1	AA	2561	G
1	AA	2566	U
1	AA	2578	A
1	AA	2579	G
1	AA	2581	G
1	AA	2585	C
1	AA	2586	G
1	AA	2594	G
1	AA	2597	U
1	AA	2614	A
1	AA	2616	U
1	AA	2621	U
1	AA	2623	U
1	AA	2624	C
1	AA	2642	G
1	AA	2669	A

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Mol	Chain	Res	Type
1	AA	2674	A
1	AA	2675	G
1	AA	2679	C
1	AA	2681	G
1	AA	2683	A
1	AA	2694	U
1	AA	2701	U
1	AA	2702	C
1	AA	2715	C
1	AA	2725	A
1	AA	2726	A
1	AA	2727	G
1	AA	2739	U
1	AA	2746	A
1	AA	2770	A
1	AA	2771	A
1	AA	2774	G
1	AA	2777	A
1	AA	2778	A
1	AA	2779	G
1	AA	2780	C
1	AA	2791	A
1	AA	2796	G
1	AA	2803	A
1	AA	2813	G
1	AA	2818	U
1	AA	2821	G
1	AA	2828	G
1	AA	2830	A
1	AA	2831	A
1	AA	2839	C
1	AA	2845	A
1	AA	2882	G
1	AA	2883	A
1	AA	2892	A
1	AA	2902	G
1	AA	2903	G
1	AA	2906	U
2	AB	2	C
2	AB	13	A
2	AB	15	A
2	AB	29	A

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Mol	Chain	Res	Type
2	AB	44	G
2	AB	45	A
2	AB	50	G
2	AB	56	G
2	AB	67	G
2	AB	73	A
2	AB	75	G
2	AB	90	A
2	AB	95	C
2	AB	110	G
2	AB	111	G
34	BA	5	U
34	BA	9	G
34	BA	22	G
34	BA	26	A
34	BA	32	A
34	BA	33	A
34	BA	39	G
34	BA	47	C
34	BA	48	C
34	BA	50	A
34	BA	51	A
34	BA	58	C
34	BA	61	G
34	BA	64	G
34	BA	70	G
34	BA	71	C
34	BA	73	G
34	BA	77	G
34	BA	78	G
34	BA	79	G
34	BA	92	C
34	BA	96	U
34	BA	97	G
34	BA	98	G
34	BA	120	A
34	BA	121	C
34	BA	129	U
34	BA	131	C
34	BA	139	G
34	BA	144	G
34	BA	151	A

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Mol	Chain	Res	Type
34	BA	158	G
34	BA	161	A
34	BA	163	C
34	BA	173	U
34	BA	174	C
34	BA	182	U
34	BA	189(E)	U
34	BA	189(G)	G
34	BA	189(H)	G
34	BA	195	A
34	BA	197	A
34	BA	202	U
34	BA	203	U
34	BA	204	U
34	BA	216	G
34	BA	217	C
34	BA	222	U
34	BA	246	A
34	BA	247	G
34	BA	251	G
34	BA	252	U
34	BA	262	A
34	BA	266	G
34	BA	267	C
34	BA	286	G
34	BA	289	G
34	BA	306	G
34	BA	321	A
34	BA	328	C
34	BA	329	A
34	BA	332	G
34	BA	341	C
34	BA	342	C
34	BA	346	G
34	BA	347	G
34	BA	351	G
34	BA	352	C
34	BA	353	A
34	BA	354	G
34	BA	367	U
34	BA	372	C
34	BA	373	A

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Mol	Chain	Res	Type
34	BA	384	G
34	BA	397	A
34	BA	398	C
34	BA	399	G
34	BA	403	C
34	BA	404	U
34	BA	406	G
34	BA	412	A
34	BA	413	G
34	BA	422	C
34	BA	424	G
34	BA	427	U
34	BA	429	U
34	BA	438	G
34	BA	439	A
34	BA	442	C
34	BA	452	A
34	BA	453	A
34	BA	456	C
34	BA	470	C
34	BA	482	A
34	BA	483	C
34	BA	484	G
34	BA	485	G
34	BA	487	A
34	BA	496	A
34	BA	498	U
34	BA	500	G
34	BA	505	G
34	BA	506	G
34	BA	509	A
34	BA	510	A
34	BA	511	C
34	BA	518	C
34	BA	521	G
34	BA	526	C
34	BA	527	G
34	BA	532	A
34	BA	533	A
34	BA	547	A
34	BA	559	A
34	BA	561	U

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Mol	Chain	Res	Type
34	BA	562	C
34	BA	572	A
34	BA	573	A
34	BA	576	G
34	BA	577	G
34	BA	592	G
34	BA	616	G
34	BA	618	C
34	BA	630	G
34	BA	631	G
34	BA	633	G
34	BA	634	C
34	BA	641	U
34	BA	653	A
34	BA	661	G
34	BA	665	A
34	BA	670	G
34	BA	675	A
34	BA	687	A
34	BA	688	G
34	BA	693	G
34	BA	694	A
34	BA	699	C
34	BA	723	U
34	BA	731	G
34	BA	748	C
34	BA	749	C
34	BA	755	G
34	BA	760	G
34	BA	765	G
34	BA	766	A
34	BA	770	C
34	BA	775	G
34	BA	777	A
34	BA	787	A
34	BA	792	A
34	BA	793	U
34	BA	794	A
34	BA	802	A
34	BA	806	C
34	BA	815	A
34	BA	817	C

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Mol	Chain	Res	Type
34	BA	818	G
34	BA	819	A
34	BA	821	G
34	BA	827	U
34	BA	828	A
34	BA	829	G
34	BA	832	C
34	BA	833	U
34	BA	840	C
34	BA	841	U
34	BA	848	C
34	BA	850	U
34	BA	851	G
34	BA	859	A
34	BA	860	A
34	BA	870	U
34	BA	872	A
34	BA	876	G
34	BA	889	A
34	BA	891	U
34	BA	902	G
34	BA	908	A
34	BA	914	A
34	BA	922	G
34	BA	926	G
34	BA	927	G
34	BA	929	G
34	BA	934	C
34	BA	960	U
34	BA	961	U
34	BA	968	A
34	BA	969	A
34	BA	971	G
34	BA	972	C
34	BA	974	A
34	BA	975	A
34	BA	976	G
34	BA	977	A
34	BA	978	A
34	BA	979	C
34	BA	982	U
34	BA	984	C

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Mol	Chain	Res	Type
34	BA	992	U
34	BA	993	G
34	BA	996	A
34	BA	997	U
34	BA	998	G
34	BA	1003	G
34	BA	1004	A
34	BA	1005	A
34	BA	1011	G
34	BA	1016	A
34	BA	1024	G
34	BA	1025	U
34	BA	1026	G
34	BA	1027	C
34	BA	1028	C
34	BA	1029	C
34	BA	1030	C
34	BA	1030(A)	G
34	BA	1030(C)	G
34	BA	1036	G
34	BA	1042	G
34	BA	1043	C
34	BA	1045	C
34	BA	1053	G
34	BA	1054	C
34	BA	1055	A
34	BA	1065	U
34	BA	1066	C
34	BA	1068	G
34	BA	1081	G
34	BA	1091	U
34	BA	1092	A
34	BA	1094	G
34	BA	1095	U
34	BA	1096	C
34	BA	1101	A
34	BA	1112	C
34	BA	1123	A
34	BA	1124	G
34	BA	1125	U
34	BA	1127	G
34	BA	1134	G

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
34	BA	1136	U
34	BA	1137	C
34	BA	1139	G
34	BA	1140	C
34	BA	1141	C
34	BA	1145	C
34	BA	1146	A
34	BA	1150	U
34	BA	1152	A
34	BA	1157	A
34	BA	1159	U
34	BA	1161	C
34	BA	1166	G
34	BA	1169	A
34	BA	1183	A
34	BA	1184	G
34	BA	1187	G
34	BA	1189	C
34	BA	1190	G
34	BA	1191	A
34	BA	1196	U
34	BA	1197	G
34	BA	1200	C
34	BA	1201	A
34	BA	1202	G
34	BA	1212	U
34	BA	1213	A
34	BA	1214	C
34	BA	1215	G
34	BA	1226	C
34	BA	1227	A
34	BA	1236	A
34	BA	1238	A
34	BA	1240	U
34	BA	1253	G
34	BA	1256	A
34	BA	1257	U
34	BA	1258	G
34	BA	1260	C
34	BA	1262	C
34	BA	1267	C
34	BA	1270	C

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Mol	Chain	Res	Type
34	BA	1273	G
34	BA	1278	U
34	BA	1279	A
34	BA	1280	A
34	BA	1284	C
34	BA	1286	A
34	BA	1287	A
34	BA	1299	A
34	BA	1300	G
34	BA	1301	U
34	BA	1302	U
34	BA	1312	G
34	BA	1317	C
34	BA	1322	C
34	BA	1338	G
34	BA	1340	A
34	BA	1346	A
34	BA	1347	G
34	BA	1353	G
34	BA	1359	C
34	BA	1360	A
34	BA	1363	C
34	BA	1364	U
34	BA	1368	G
34	BA	1370	G
34	BA	1378	C
34	BA	1397	C
34	BA	1400	C
34	BA	1401	G
34	BA	1419	G
34	BA	1422	G
34	BA	1442	G
34	BA	1442(A)	G
34	BA	1446	U
34	BA	1447	A
34	BA	1452	C
34	BA	1487	G
34	BA	1497	G
34	BA	1502	A
34	BA	1503	A
34	BA	1504	G
34	BA	1506	U

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Mol	Chain	Res	Type
34	BA	1517	G
34	BA	1519	A
34	BA	1520	G
34	BA	1529	G
34	BA	1530	G
34	BA	1531	A
55	BV	13	A
55	BV	17	U
56	BW	17	C
56	BW	18	G
56	BW	20	U
56	BW	22	G
56	BW	28	G
56	BW	31	A
56	BW	42	C
56	BW	43	C
56	BW	45	U
56	BW	46	7MG
56	BW	47	U
56	BW	48	C
56	BW	49	C
56	BW	66	U
56	BW	74	C
56	BW	76	A
56	BY	5	G
56	BY	6	G
56	BY	9	A
56	BY	13	C
56	BY	14	A
56	BY	20	U
56	BY	21	A
56	BY	23	A
56	BY	26	A
56	BY	34	G
56	BY	36	A
56	BY	41	C
56	BY	42	C
56	BY	44	G
56	BY	45	U
56	BY	46	7MG
56	BY	47	U
56	BY	48	C

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Mol	Chain	Res	Type
56	BY	49	C
56	BY	57	G
56	BY	59	U
56	BY	60	U
56	BY	68	C
1	CA	12	U
1	CA	13	A
1	CA	14	A
1	CA	15	G
1	CA	23	G
1	CA	34	C
1	CA	45	C
1	CA	61	G
1	CA	70	G
1	CA	71	A
1	CA	74	A
1	CA	75	G
1	CA	79	G
1	CA	83	G
1	CA	84	A
1	CA	87	C
1	CA	88	G
1	CA	90	U
1	CA	95	G
1	CA	105	C
1	CA	118	A
1	CA	119	A
1	CA	120	U
1	CA	121	G
1	CA	125	G
1	CA	140	G
1	CA	141	A
1	CA	153	C
1	CA	154(A)	C
1	CA	157	U
1	CA	181	A
1	CA	182	A
1	CA	186	G
1	CA	196	A
1	CA	197	A
1	CA	199	A
1	CA	200	U

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Mol	Chain	Res	Type
1	CA	205	G
1	CA	214	G
1	CA	215	G
1	CA	216	A
1	CA	221	A
1	CA	222	A
1	CA	225	A
1	CA	226	G
1	CA	228	A
1	CA	229	A
1	CA	230	U
1	CA	233	A
1	CA	239	U
1	CA	248	G
1	CA	265	A
1	CA	271(I)	G
1	CA	271(K)	U
1	CA	271(L)	U
1	CA	271(M)	G
1	CA	271(N)	U
1	CA	271(O)	C
1	CA	271(P)	C
1	CA	271(Q)	G
1	CA	272(A)	U
1	CA	272(B)	G
1	CA	272(G)	C
1	CA	272(H)	C
1	CA	277	C
1	CA	278	A
1	CA	283	A
1	CA	289	A
1	CA	294	A
1	CA	307	G
1	CA	310	A
1	CA	311	A
1	CA	325	G
1	CA	327	G
1	CA	329	G
1	CA	330	A
1	CA	333	G
1	CA	338	G
1	CA	342	G

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Mol	Chain	Res	Type
1	CA	345	A
1	CA	350	U
1	CA	352	G
1	CA	353	G
1	CA	354	G
1	CA	362	U
1	CA	363	G
1	CA	363(B)	G
1	CA	363(C)	G
1	CA	370	G
1	CA	373	U
1	CA	386	G
1	CA	396	G
1	CA	399	G
1	CA	407	G
1	CA	411	G
1	CA	412	A
1	CA	422	A
1	CA	423	A
1	CA	428	A
1	CA	436	C
1	CA	443	A
1	CA	444	C
1	CA	454	A
1	CA	455	C
1	CA	456	C
1	CA	457	A
1	CA	462	C
1	CA	463	G
1	CA	470	A
1	CA	479	A
1	CA	481	G
1	CA	484	C
1	CA	504	U
1	CA	505	A
1	CA	508	G
1	CA	509	C
1	CA	528	A
1	CA	529	A
1	CA	530	G
1	CA	531	C
1	CA	532	A

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Mol	Chain	Res	Type
1	CA	533	G
1	CA	545	G
1	CA	551	G
1	CA	563	G
1	CA	573	G
1	CA	575	A
1	CA	586	A
1	CA	588	U
1	CA	599	G
1	CA	603	A
1	CA	604	G
1	CA	607	U
1	CA	614(B)	G
1	CA	614(C)	A
1	CA	615	G
1	CA	627	A
1	CA	634	C
1	CA	637	A
1	CA	641	C
1	CA	642	G
1	CA	645	C
1	CA	646	A
1	CA	647	G
1	CA	651	G
1	CA	652(A)	A
1	CA	652(B)	A
1	CA	652(C)	G
1	CA	652(U)	G
1	CA	669	G
1	CA	686	G
1	CA	706	A
1	CA	715	G
1	CA	726	G
1	CA	730	C
1	CA	738	G
1	CA	740	U
1	CA	746	A
1	CA	747	U
1	CA	749	C
1	CA	751	A
1	CA	765	G
1	CA	774	A

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Mol	Chain	Res	Type
1	CA	775	G
1	CA	776	G
1	CA	782	A
1	CA	784	A
1	CA	785	G
1	CA	792	G
1	CA	794	G
1	CA	805	G
1	CA	812	C
1	CA	816	C
1	CA	819	A
1	CA	827	U
1	CA	828	U
1	CA	843	G
1	CA	847	U
1	CA	854	G
1	CA	857	C
1	CA	859	G
1	CA	866	A
1	CA	878	A
1	CA	879	G
1	CA	880	G
1	CA	884	C
1	CA	886	C
1	CA	887	A
1	CA	889	C
1	CA	890	A
1	CA	893	C
1	CA	896	A
1	CA	897	C
1	CA	907	U
1	CA	910	A
1	CA	911	A
1	CA	915	C
1	CA	917	A
1	CA	932	G
1	CA	938	G
1	CA	941	A
1	CA	945	A
1	CA	946	G
1	CA	958	U
1	CA	959	A

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Mol	Chain	Res	Type
1	CA	961	C
1	CA	967	C
1	CA	970	C
1	CA	974	G
1	CA	975	C
1	CA	983	A
1	CA	990	A
1	CA	996	A
1	CA	1003	G
1	CA	1005	C
1	CA	1012	U
1	CA	1013	C
1	CA	1015	G
1	CA	1020	A
1	CA	1022	G
1	CA	1026	U
1	CA	1027	A
1	CA	1033	U
1	CA	1038	C
1	CA	1039	G
1	CA	1045	A
1	CA	1046	A
1	CA	1047	G
1	CA	1048	A
1	CA	1053	C
1	CA	1054	A
1	CA	1055	G
1	CA	1058	G
1	CA	1059	G
1	CA	1060	U
1	CA	1061	U
1	CA	1062	G
1	CA	1063	G
1	CA	1064	C
1	CA	1070	A
1	CA	1073	A
1	CA	1075	C
1	CA	1076	C
1	CA	1082	U
1	CA	1083	U
1	CA	1088	A
1	CA	1090	U

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Mol	Chain	Res	Type
1	CA	1100	C
1	CA	1101	U
1	CA	1108	U
1	CA	1109	C
1	CA	1110	G
1	CA	1111	A
1	CA	1112	G
1	CA	1113	U
1	CA	1119	C
1	CA	1126	A
1	CA	1128	A
1	CA	1129	A
1	CA	1130	U
1	CA	1132	A
1	CA	1133	U
1	CA	1135	C
1	CA	1136	G
1	CA	1139	G
1	CA	1151	G
1	CA	1171	G
1	CA	1189	A
1	CA	1204	A
1	CA	1220	A
1	CA	1221	C
1	CA	1241	A
1	CA	1246	A
1	CA	1248	G
1	CA	1250	G
1	CA	1253	A
1	CA	1256	G
1	CA	1262	A
1	CA	1271	G
1	CA	1272	A
1	CA	1273	U
1	CA	1300	U
1	CA	1301	A
1	CA	1303	G
1	CA	1314	C
1	CA	1318	C
1	CA	1321	A
1	CA	1329	U
1	CA	1338	G

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Mol	Chain	Res	Type
1	CA	1342	A
1	CA	1352	U
1	CA	1359	A
1	CA	1360	A
1	CA	1365	A
1	CA	1368	G
1	CA	1370	C
1	CA	1373	A
1	CA	1374	G
1	CA	1380	G
1	CA	1384	A
1	CA	1385	G
1	CA	1386	C
1	CA	1388	G
1	CA	1392	A
1	CA	1406	U
1	CA	1416	G
1	CA	1417	C
1	CA	1421	G
1	CA	1427	A
1	CA	1428	C
1	CA	1437	C
1	CA	1445	A
1	CA	1445(A)	C
1	CA	1446	C
1	CA	1449	A
1	CA	1450	G
1	CA	1455	G
1	CA	1459	G
1	CA	1467	C
1	CA	1471	A
1	CA	1473	G
1	CA	1476	C
1	CA	1482	G
1	CA	1490	A
1	CA	1493	C
1	CA	1494	A
1	CA	1495	A
1	CA	1496	A
1	CA	1497	U
1	CA	1499	C
1	CA	1509	C

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Mol	Chain	Res	Type
1	CA	1509(A)	A
1	CA	1523	U
1	CA	1532	C
1	CA	1533	G
1	CA	1542	A
1	CA	1543	C
1	CA	1547	C
1	CA	1558	A
1	CA	1560	G
1	CA	1566	A
1	CA	1569	A
1	CA	1578	U
1	CA	1580	A
1	CA	1582	C
1	CA	1586	A
1	CA	1588	C
1	CA	1593	G
1	CA	1608	A
1	CA	1609	A
1	CA	1610	A
1	CA	1622	G
1	CA	1640	C
1	CA	1644	C
1	CA	1647	G
1	CA	1648	C
1	CA	1654	A
1	CA	1658	C
1	CA	1659	U
1	CA	1674	G
1	CA	1675	C
1	CA	1696	G
1	CA	1700	A
1	CA	1701	A
1	CA	1703	G
1	CA	1721	G
1	CA	1722	A
1	CA	1739	U
1	CA	1756	G
1	CA	1757	U
1	CA	1758	G
1	CA	1760	A
1	CA	1762	A

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Mol	Chain	Res	Type
1	CA	1763	G
1	CA	1764	G
1	CA	1773	A
1	CA	1780	A
1	CA	1786	A
1	CA	1791	A
1	CA	1800	C
1	CA	1801	G
1	CA	1808	U
1	CA	1816	G
1	CA	1829	A
1	CA	1832	C
1	CA	1833	U
1	CA	1835	G
1	CA	1839	G
1	CA	1847	A
1	CA	1848	A
1	CA	1858	G
1	CA	1861	G
1	CA	1866	C
1	CA	1876	A
1	CA	1877	A
1	CA	1878	G
1	CA	1889	A
1	CA	1900	A
1	CA	1906	G
1	CA	1913	A
1	CA	1914	C
1	CA	1919	A
1	CA	1929	G
1	CA	1930	G
1	CA	1934	C
1	CA	1936	A
1	CA	1938	A
1	CA	1952	A
1	CA	1955	U
1	CA	1957	C
1	CA	1963	U
1	CA	1966	A
1	CA	1967	C
1	CA	1970	A
1	CA	1971	A

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Mol	Chain	Res	Type
1	CA	1972	A
1	CA	1992	G
1	CA	1993	U
1	CA	1997	G
1	CA	2006	C
1	CA	2020	A
1	CA	2023	G
1	CA	2031	A
1	CA	2032	G
1	CA	2033	A
1	CA	2038	G
1	CA	2041	U
1	CA	2043	C
1	CA	2046	G
1	CA	2055	C
1	CA	2056	G
1	CA	2060	A
1	CA	2061	G
1	CA	2062	A
1	CA	2066	C
1	CA	2069	G
1	CA	2095	C
1	CA	2102	U
1	CA	2106	G
1	CA	2111	C
1	CA	2113	U
1	CA	2115	G
1	CA	2122	U
1	CA	2125	G
1	CA	2126	A
1	CA	2127	G
1	CA	2129	C
1	CA	2130	U
1	CA	2131	G
1	CA	2132	U
1	CA	2133	G
1	CA	2134	A
1	CA	2136	C
1	CA	2137	C
1	CA	2139	C
1	CA	2142	C
1	CA	2144	U

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Mol	Chain	Res	Type
1	CA	2146	C
1	CA	2148	G
1	CA	2150	U
1	CA	2156	G
1	CA	2158	A
1	CA	2162	G
1	CA	2164	C
1	CA	2165	G
1	CA	2167	U
1	CA	2168	G
1	CA	2169	A
1	CA	2172	U
1	CA	2174	C
1	CA	2178	C
1	CA	2180	U
1	CA	2181	G
1	CA	2183	C
1	CA	2188	C
1	CA	2189	U
1	CA	2192	G
1	CA	2194	G
1	CA	2200	C
1	CA	2206	G
1	CA	2207	G
1	CA	2208	A
1	CA	2218	U
1	CA	2225	A
1	CA	2259	G
1	CA	2268	A
1	CA	2269	A
1	CA	2273	A
1	CA	2275	C
1	CA	2278	A
1	CA	2280	G
1	CA	2283	C
1	CA	2287	A
1	CA	2289	G
1	CA	2302	G
1	CA	2305	A
1	CA	2315	G
1	CA	2319	G
1	CA	2320	A

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Mol	Chain	Res	Type
1	CA	2325	G
1	CA	2327	A
1	CA	2333	A
1	CA	2334	G
1	CA	2335	A
1	CA	2336	A
1	CA	2343	C
1	CA	2347	C
1	CA	2348	U
1	CA	2350	C
1	CA	2354	G
1	CA	2366	A
1	CA	2376	A
1	CA	2383	G
1	CA	2384	G
1	CA	2385	C
1	CA	2406	U
1	CA	2410	G
1	CA	2414	G
1	CA	2418	A
1	CA	2422	A
1	CA	2425	A
1	CA	2428	G
1	CA	2429	G
1	CA	2430	A
1	CA	2435	A
1	CA	2439	A
1	CA	2441	C
1	CA	2448	A
1	CA	2458	G
1	CA	2465	C
1	CA	2474	C
1	CA	2476	A
1	CA	2477	C
1	CA	2478	A
1	CA	2487	G
1	CA	2494	G
1	CA	2502	G
1	CA	2505	G
1	CA	2508	G
1	CA	2518	A
1	CA	2525	G

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Mol	Chain	Res	Type
1	CA	2529	G
1	CA	2553	G
1	CA	2554	U
1	CA	2555	U
1	CA	2562	U
1	CA	2564	A
1	CA	2566	A
1	CA	2567	G
1	CA	2572	A
1	CA	2573	C
1	CA	2581	G
1	CA	2582	G
1	CA	2585	U
1	CA	2602	A
1	CA	2603	G
1	CA	2609	U
1	CA	2611	U
1	CA	2612	C
1	CA	2615	U
1	CA	2621	A
1	CA	2622	C
1	CA	2630	G
1	CA	2632	A
1	CA	2636	U
1	CA	2645	G
1	CA	2654	A
1	CA	2660	A
1	CA	2663	G
1	CA	2689	U
1	CA	2690	C
1	CA	2702	U
1	CA	2703	C
1	CA	2712	U
1	CA	2712(A)	A
1	CA	2713	A
1	CA	2714	G
1	CA	2721	A
1	CA	2726	U
1	CA	2727	G
1	CA	2733	A
1	CA	2744	G
1	CA	2748	A

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Mol	Chain	Res	Type
1	CA	2757	A
1	CA	2758	A
1	CA	2761	G
1	CA	2765	A
1	CA	2766	G
1	CA	2767	C
1	CA	2778	A
1	CA	2780	G
1	CA	2789	C
1	CA	2793	G
1	CA	2802	G
1	CA	2805	G
1	CA	2818	G
1	CA	2820	A
1	CA	2821	A
1	CA	2823	A
1	CA	2833	G
1	CA	2835	A
1	CA	2839	G
1	CA	2849	U
1	CA	2861	G
1	CA	2872	G
1	CA	2873	A
1	CA	2880	C
1	CA	2892	A
1	CA	2894	G
1	CA	2896	C
1	CA	2897	U
2	CB	2	C
2	CB	7	G
2	CB	13	A
2	CB	15	A
2	CB	22	U
2	CB	24	G
2	CB	25	A
2	CB	28	C
2	CB	30	C
2	CB	33	G
2	CB	35	U
2	CB	42	C
2	CB	44	G
2	CB	45	A

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Mol	Chain	Res	Type
2	CB	52	A
2	CB	56	G
2	CB	59	A
2	CB	73	A
2	CB	74	U
2	CB	85	G
2	CB	88	C
2	CB	91	C
2	CB	103	G
2	CB	105	A
2	CB	106	G
2	CB	108	U
2	CB	110	G
34	DA	5	U
34	DA	9	G
34	DA	13	U
34	DA	14	U
34	DA	15	G
34	DA	22	G
34	DA	26	A
34	DA	30	U
34	DA	32	A
34	DA	39	G
34	DA	41	G
34	DA	44	G
34	DA	47	C
34	DA	48	C
34	DA	50	A
34	DA	51	A
34	DA	59	A
34	DA	60	A
34	DA	61	G
34	DA	65	U
34	DA	66	G
34	DA	79	G
34	DA	89	C
34	DA	97	G
34	DA	100	C
34	DA	101	A
34	DA	116	A
34	DA	121	C
34	DA	129(A)	G

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Mol	Chain	Res	Type
34	DA	131	C
34	DA	143	A
34	DA	144	G
34	DA	147	G
34	DA	163	C
34	DA	176	C
34	DA	182	U
34	DA	189(G)	G
34	DA	189(H)	G
34	DA	195	A
34	DA	197	A
34	DA	202	U
34	DA	203	U
34	DA	204	U
34	DA	216	G
34	DA	221	C
34	DA	231	G
34	DA	240	C
34	DA	245	C
34	DA	247	G
34	DA	251	G
34	DA	258	G
34	DA	262	A
34	DA	266	G
34	DA	267	C
34	DA	269	C
34	DA	275	G
34	DA	279	A
34	DA	281	G
34	DA	289	G
34	DA	301	G
34	DA	320	C
34	DA	321	A
34	DA	328	C
34	DA	330	C
34	DA	331	G
34	DA	332	G
34	DA	344	A
34	DA	346	G
34	DA	352	C
34	DA	353	A
34	DA	354	G

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Mol	Chain	Res	Type
34	DA	367	U
34	DA	372	C
34	DA	373	A
34	DA	378	G
34	DA	384	G
34	DA	388	G
34	DA	389	A
34	DA	390	C
34	DA	392	G
34	DA	398	C
34	DA	406	G
34	DA	412	A
34	DA	413	G
34	DA	426	G
34	DA	429	U
34	DA	430	A
34	DA	439	A
34	DA	442	C
34	DA	452	A
34	DA	461	A
34	DA	484	G
34	DA	485	G
34	DA	496	A
34	DA	498	U
34	DA	499	A
34	DA	505	G
34	DA	509	A
34	DA	510	A
34	DA	511	C
34	DA	518	C
34	DA	521	G
34	DA	527	G
34	DA	531	U
34	DA	532	A
34	DA	533	A
34	DA	547	A
34	DA	559	A
34	DA	561	U
34	DA	570	G
34	DA	572	A
34	DA	573	A
34	DA	576	G

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Mol	Chain	Res	Type
34	DA	577	G
34	DA	595	G
34	DA	596	C
34	DA	597	G
34	DA	601	C
34	DA	610	G
34	DA	612	C
34	DA	619	U
34	DA	620	C
34	DA	621	A
34	DA	630	G
34	DA	653	A
34	DA	665	A
34	DA	673	G
34	DA	687	A
34	DA	688	G
34	DA	693	G
34	DA	695	A
34	DA	701	C
34	DA	703	G
34	DA	723	U
34	DA	724	G
34	DA	728	A
34	DA	731	G
34	DA	747	C
34	DA	753	A
34	DA	755	G
34	DA	770	C
34	DA	773	G
34	DA	774	G
34	DA	790	A
34	DA	792	A
34	DA	793	U
34	DA	794	A
34	DA	802	A
34	DA	806	C
34	DA	810	C
34	DA	817	C
34	DA	818	G
34	DA	821	G
34	DA	826	C
34	DA	828	A

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Mol	Chain	Res	Type
34	DA	829	G
34	DA	833	U
34	DA	834	C
34	DA	836	G
34	DA	839	U
34	DA	840	C
34	DA	841	U
34	DA	848	C
34	DA	851	G
34	DA	854	G
34	DA	859	A
34	DA	874	G
34	DA	875	C
34	DA	876	G
34	DA	891	U
34	DA	902	G
34	DA	912	C
34	DA	914	A
34	DA	915	A
34	DA	916	G
34	DA	919	A
34	DA	922	G
34	DA	926	G
34	DA	927	G
34	DA	934	C
34	DA	939	G
34	DA	941	G
34	DA	960	U
34	DA	961	U
34	DA	967	C
34	DA	968	A
34	DA	969	A
34	DA	970	C
34	DA	971	G
34	DA	974	A
34	DA	975	A
34	DA	976	G
34	DA	977	A
34	DA	982	U
34	DA	984	C
34	DA	988	G
34	DA	989	C

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Mol	Chain	Res	Type
34	DA	992	U
34	DA	993	G
34	DA	1002	G
34	DA	1003	G
34	DA	1005	A
34	DA	1006	C
34	DA	1013	G
34	DA	1022	G
34	DA	1023	G
34	DA	1025	U
34	DA	1026	G
34	DA	1028	C
34	DA	1030	C
34	DA	1030(A)	G
34	DA	1030(B)	C
34	DA	1032	G
34	DA	1037	C
34	DA	1041	A
34	DA	1046	A
34	DA	1047	G
34	DA	1050	G
34	DA	1052	U
34	DA	1055	A
34	DA	1056	U
34	DA	1063	C
34	DA	1065	U
34	DA	1066	C
34	DA	1071	C
34	DA	1078	U
34	DA	1079	G
34	DA	1081	G
34	DA	1086	U
34	DA	1089	G
34	DA	1094	G
34	DA	1095	U
34	DA	1100	C
34	DA	1101	A
34	DA	1108	G
34	DA	1113	C
34	DA	1121	U
34	DA	1122	U
34	DA	1124	G

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Mol	Chain	Res	Type
34	DA	1125	U
34	DA	1127	G
34	DA	1129	C
34	DA	1130	A
34	DA	1136	U
34	DA	1137	C
34	DA	1138	G
34	DA	1139	G
34	DA	1142	G
34	DA	1146	A
34	DA	1147	C
34	DA	1152	A
34	DA	1154	G
34	DA	1156	G
34	DA	1159	U
34	DA	1161	C
34	DA	1166	G
34	DA	1182	G
34	DA	1183	A
34	DA	1184	G
34	DA	1190	G
34	DA	1195	C
34	DA	1196	U
34	DA	1198	G
34	DA	1202	G
34	DA	1203	C
34	DA	1208	C
34	DA	1211	U
34	DA	1212	U
34	DA	1220	G
34	DA	1224	G
34	DA	1227	A
34	DA	1229	A
34	DA	1238	A
34	DA	1240	U
34	DA	1241	G
34	DA	1246	C
34	DA	1248	A
34	DA	1252	A
34	DA	1253	G
34	DA	1254	C
34	DA	1256	A

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Mol	Chain	Res	Type
34	DA	1257	U
34	DA	1258	G
34	DA	1261	A
34	DA	1269	A
34	DA	1270	C
34	DA	1274	G
34	DA	1279	A
34	DA	1280	A
34	DA	1281	U
34	DA	1282	C
34	DA	1285	A
34	DA	1286	A
34	DA	1287	A
34	DA	1299	A
34	DA	1301	U
34	DA	1302	U
34	DA	1303	C
34	DA	1305	G
34	DA	1311	G
34	DA	1319	A
34	DA	1320	C
34	DA	1322	C
34	DA	1325	C
34	DA	1340	A
34	DA	1344	C
34	DA	1347	G
34	DA	1353	G
34	DA	1358	U
34	DA	1359	C
34	DA	1360	A
34	DA	1363	C
34	DA	1363(A)	A
34	DA	1364	U
34	DA	1368	G
34	DA	1370	G
34	DA	1378	C
34	DA	1381	U
34	DA	1389	C
34	DA	1393	U
34	DA	1397	C
34	DA	1398	A
34	DA	1399	C

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Mol	Chain	Res	Type
34	DA	1401	G
34	DA	1419	G
34	DA	1440	C
34	DA	1442	G
34	DA	1442(A)	G
34	DA	1442(B)	A
34	DA	1445	C
34	DA	1446	U
34	DA	1452	C
34	DA	1456	G
34	DA	1482	G
34	DA	1487	G
34	DA	1497	G
34	DA	1498	U
34	DA	1499	A
34	DA	1502	A
34	DA	1503	A
34	DA	1504	G
34	DA	1506	U
34	DA	1507	A
34	DA	1517	G
34	DA	1519	A
34	DA	1520	G
34	DA	1529	G
34	DA	1530	G
34	DA	1531	A
34	DA	1532	U
55	DV	14	A
56	DW	6	G
56	DW	8	4SU
56	DW	16	U
56	DW	17	C
56	DW	18	G
56	DW	20	U
56	DW	35	A
56	DW	36	A
56	DW	39	PSU
56	DW	41	C
56	DW	43	C
56	DW	44	G
56	DW	46	7MG
56	DW	47	U

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Mol	Chain	Res	Type
56	DW	48	C
56	DW	49	C
56	DW	53	G
56	DW	55	PSU
56	DW	59	U
56	DW	61	C
56	DW	64	A
56	DW	69	G
56	DW	76	A
56	DY	9	A
56	DY	13	C
56	DY	14	A
56	DY	19	G
56	DY	26	A
56	DY	33	U
56	DY	34	G
56	DY	39	PSU
56	DY	45	U
56	DY	46	7MG
56	DY	47	U
56	DY	48	C
56	DY	49	C
56	DY	52	G
56	DY	54	5MU
56	DY	55	PSU
56	DY	57	G
56	DY	58	A
56	DY	59	U
56	DY	65	G
56	DY	70	G

All (138) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	AA	184	A
1	AA	185	A
1	AA	188	A
1	AA	204	G
1	AA	238	C
1	AA	271	U
1	AA	302	A
1	AA	334	A

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Mol	Chain	Res	Type
1	AA	376	G
1	AA	645	G
1	AA	716	G
1	AA	793	A
1	AA	821	A
1	AA	1019	G
1	AA	1035	G
1	AA	1098	C
1	AA	1154	U
1	AA	1188	A
1	AA	1219	A
1	AA	1220	U
1	AA	1221	G
1	AA	1255	A
1	AA	1286	U
1	AA	1425	A
1	AA	1466	U
1	AA	1654	A
1	AA	1655	A
1	AA	1700	G
1	AA	1745	A
1	AA	1793	A
1	AA	1936	C
1	AA	2014	G
1	AA	2084	A
1	AA	2209	G
1	AA	2227	G
1	AA	2287	C
1	AA	2323	A
1	AA	2347	A
1	AA	2358	A
1	AA	2418	U
1	AA	2442	A
1	AA	2451	A
1	AA	2459	G
1	AA	2460	A
1	AA	2593	G
1	AA	2623	U
1	AA	2701	U
1	AA	2739	U
1	AA	2769	U
1	AA	2883	A

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Mol	Chain	Res	Type
1	AA	2902	G
34	BA	109	A
34	BA	119	A
34	BA	266	G
34	BA	328	C
34	BA	509	A
34	BA	560	U
34	BA	687	A
34	BA	748	C
34	BA	793	U
34	BA	839	U
34	BA	913	A
34	BA	991	U
34	BA	1065	U
34	BA	1067	A
34	BA	1165	C
34	BA	1190	G
34	BA	1201	A
34	BA	1285	A
34	BA	1442	G
34	BA	1530	G
56	BW	45	U
56	BY	19	G
56	BY	58	A
1	CA	195	A
1	CA	196	A
1	CA	199	A
1	CA	249	C
1	CA	277	C
1	CA	310	A
1	CA	503	A
1	CA	573	G
1	CA	645	C
1	CA	669	G
1	CA	685	A
1	CA	746	A
1	CA	774	A
1	CA	856	C
1	CA	945	A
1	CA	974	G
1	CA	1026	U
1	CA	1057	A

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Mol	Chain	Res	Type
1	CA	1107	G
1	CA	1142(A)	A
1	CA	1240	U
1	CA	1300	U
1	CA	1396	U
1	CA	1420	U
1	CA	1427	A
1	CA	1451	C
1	CA	1608	A
1	CA	1695	G
1	CA	1913	A
1	CA	1992	G
1	CA	1997	G
1	CA	2406	U
1	CA	2422	A
1	CA	2439	A
1	CA	2611	U
1	CA	2689	U
1	CA	2726	U
1	CA	2756	U
1	CA	2873	A
34	DA	60	A
34	DA	65	U
34	DA	115	G
34	DA	204	U
34	DA	266	G
34	DA	274	A
34	DA	428	G
34	DA	429	U
34	DA	509	A
34	DA	560	U
34	DA	687	A
34	DA	793	U
34	DA	840	C
34	DA	913	A
34	DA	991	U
34	DA	992	U
34	DA	1064	G
34	DA	1065	U
34	DA	1183	A
34	DA	1201	A
34	DA	1279	A

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Mol	Chain	Res	Type
34	DA	1442	G
56	DW	40	C
56	DW	46	7MG
56	DY	46	7MG

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

42 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
56	MIA	BW	37	56	24,31,32	2.37	5 (20%)	22,44,47	2.29	7 (31%)
56	PSU	DW	39	56	18,21,22	1.35	2 (11%)	21,30,33	2.08	4 (19%)
56	5MU	DW	54	56	19,22,23	1.49	4 (21%)	27,32,35	2.07	7 (25%)
58	MVA	DX	5	58	6,7,8	1.06	0	6,8,10	1.57	1 (16%)
58	004	DX	3	58	9,10,11	1.53	1 (11%)	9,12,14	1.28	1 (11%)
56	7MG	BW	46	56	23,26,27	1.29	4 (17%)	27,39,42	2.77	7 (25%)
56	PSU	BW	32	56	18,21,22	1.34	3 (16%)	21,30,33	1.83	5 (23%)
58	2R3	DX	8	58	12,14,15	0.60	0	16,18,20	1.77	5 (31%)
58	MVA	DX	9	58	6,7,8	1.14	1 (16%)	6,8,10	1.58	1 (16%)
58	2R1	BX	6	58	10,10,11	2.35	3 (30%)	8,13,15	3.80	3 (37%)
56	4SU	DY	8	56	18,21,22	1.84	4 (22%)	25,30,33	2.35	6 (24%)
56	MIA	DY	37	56	17,24,32	0.93	1 (5%)	16,35,47	1.32	2 (12%)
56	PSU	BW	55	56	18,21,22	1.37	1 (5%)	21,30,33	1.95	3 (14%)
56	PSU	DW	55	56	18,21,22	1.40	2 (11%)	21,30,33	2.01	5 (23%)
56	7MG	DW	46	56	23,26,27	1.30	3 (13%)	27,39,42	2.71	7 (25%)
58	2QZ	DX	1	58	7,8,9	0.55	0	7,10,12	4.52	3 (42%)
58	2R3	BX	8	58	12,14,15	0.70	0	16,18,20	2.13	9 (56%)
56	5MU	BY	54	56	19,22,23	1.53	5 (26%)	27,32,35	2.21	8 (29%)
56	7MG	DY	46	56	23,26,27	1.24	3 (13%)	27,39,42	2.76	7 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
56	PSU	DY	32	56	18,21,22	1.36	2 (11%)	21,30,33	1.95	4 (19%)
56	PSU	DY	55	56	18,21,22	1.42	2 (11%)	21,30,33	2.01	3 (14%)
56	PSU	DY	39	56	18,21,22	1.43	2 (11%)	21,30,33	1.97	3 (14%)
58	2QY	DX	10	58	12,13,14	1.66	1 (8%)	14,16,18	3.67	6 (42%)
56	PSU	BY	55	56	18,21,22	1.39	2 (11%)	21,30,33	1.98	3 (14%)
58	004	BX	3	58	9,10,11	1.39	1 (11%)	9,12,14	1.32	1 (11%)
56	5MU	BW	54	56	19,22,23	1.44	4 (21%)	27,32,35	1.98	7 (25%)
56	PSU	BY	39	56	18,21,22	1.39	2 (11%)	21,30,33	1.93	3 (14%)
58	2QZ	BX	1	58	7,8,9	0.67	0	7,10,12	4.73	4 (57%)
56	MIA	DW	37	56	24,31,32	2.18	4 (16%)	22,44,47	2.17	6 (27%)
58	MVA	BX	5	58	6,7,8	0.52	0	6,8,10	1.39	1 (16%)
56	5MU	DY	54	56	19,22,23	1.44	6 (31%)	27,32,35	2.07	5 (18%)
58	2R1	DX	6	58	10,10,11	1.65	2 (20%)	8,13,15	2.10	3 (37%)
56	PSU	BY	32	56	18,21,22	1.40	2 (11%)	21,30,33	1.94	3 (14%)
56	4SU	BY	8	56	18,21,22	1.75	4 (22%)	25,30,33	2.14	6 (24%)
56	MIA	BY	37	56	17,24,32	1.02	1 (5%)	16,35,47	1.37	2 (12%)
56	PSU	DW	32	56	18,21,22	1.43	3 (16%)	21,30,33	2.14	4 (19%)
58	MVA	BX	9	58	6,7,8	0.77	0	6,8,10	1.50	1 (16%)
56	PSU	BW	39	56	18,21,22	1.37	2 (11%)	21,30,33	2.02	5 (23%)
56	7MG	BY	46	56	23,26,27	1.30	3 (13%)	27,39,42	2.71	7 (25%)
58	2QY	BX	10	58	12,13,14	1.73	2 (16%)	14,16,18	4.12	6 (42%)
56	4SU	DW	8	56	18,21,22	1.83	5 (27%)	25,30,33	2.31	4 (16%)
56	4SU	BW	8	56	18,21,22	1.49	3 (16%)	25,30,33	2.18	5 (20%)

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
56	MIA	BW	37	56	-	5/11/33/34	0/3/3/3
56	PSU	DW	39	56	-	1/7/25/26	0/2/2/2
56	5MU	DW	54	56	-	0/7/25/26	0/2/2/2
58	MVA	DX	5	58	-	4/6/8/10	-
58	004	DX	3	58	-	0/4/6/8	0/1/1/1
56	7MG	BW	46	56	-	1/7/37/38	0/3/3/3
56	PSU	BW	32	56	-	4/7/25/26	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
58	2R3	DX	8	58	-	6/11/12/14	0/1/1/1
58	MVA	DX	9	58	-	4/6/8/10	-
58	2R1	BX	6	58	-	0/2/14/16	0/1/1/1
56	4SU	DY	8	56	-	1/7/25/26	0/2/2/2
56	MIA	DY	37	56	-	3/3/25/34	0/3/3/3
56	PSU	BW	55	56	-	2/7/25/26	0/2/2/2
56	PSU	DW	55	56	-	2/7/25/26	0/2/2/2
56	7MG	DW	46	56	-	4/7/37/38	0/3/3/3
58	2QZ	DX	1	58	-	1/8/10/12	-
58	2R3	BX	8	58	-	6/11/12/14	0/1/1/1
56	5MU	BY	54	56	-	2/7/25/26	0/2/2/2
56	7MG	DY	46	56	-	3/7/37/38	0/3/3/3
56	PSU	DY	32	56	-	0/7/25/26	0/2/2/2
56	PSU	DY	55	56	-	3/7/25/26	0/2/2/2
56	PSU	DY	39	56	-	2/7/25/26	0/2/2/2
58	2QY	DX	10	58	-	3/5/8/10	0/1/1/1
56	PSU	BY	55	56	-	2/7/25/26	0/2/2/2
58	004	BX	3	58	-	0/4/6/8	0/1/1/1
56	5MU	BW	54	56	-	1/7/25/26	0/2/2/2
56	PSU	BY	39	56	-	0/7/25/26	0/2/2/2
58	2QZ	BX	1	58	-	1/8/10/12	-
56	MIA	DW	37	56	-	7/11/33/34	0/3/3/3
58	MVA	BX	5	58	-	4/6/8/10	-
56	5MU	DY	54	56	-	2/7/25/26	0/2/2/2
58	2R1	DX	6	58	-	2/2/14/16	0/1/1/1
56	PSU	BY	32	56	-	0/7/25/26	0/2/2/2
56	4SU	BY	8	56	-	1/7/25/26	0/2/2/2
56	MIA	BY	37	56	-	2/3/25/34	0/3/3/3
56	PSU	DW	32	56	-	2/7/25/26	0/2/2/2
58	MVA	BX	9	58	-	2/6/8/10	-
56	PSU	BW	39	56	-	0/7/25/26	0/2/2/2
56	7MG	BY	46	56	-	4/7/37/38	0/3/3/3
58	2QY	BX	10	58	-	3/5/8/10	0/1/1/1
56	4SU	DW	8	56	-	0/7/25/26	0/2/2/2
56	4SU	BW	8	56	-	0/7/25/26	0/2/2/2

All (95) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	BW	37	MIA	C13-C14	7.51	1.54	1.32
56	DW	37	MIA	C13-C14	7.11	1.53	1.32
56	BW	37	MIA	C2-S10	-7.10	1.69	1.75
56	DW	37	MIA	C2-S10	-5.65	1.71	1.75
58	DX	10	2QY	C-CA	5.23	1.52	1.43
56	DW	8	4SU	C4-S4	-5.09	1.59	1.68
58	BX	10	2QY	C-CA	4.91	1.51	1.43
56	DY	8	4SU	C4-S4	-4.84	1.60	1.68
56	BY	8	4SU	C4-S4	-4.51	1.60	1.68
58	BX	6	2R1	OD1-CG1	4.39	1.55	1.42
56	DW	32	PSU	C6-C5	4.30	1.40	1.35
56	BW	8	4SU	C4-S4	-4.13	1.61	1.68
56	BW	55	PSU	C6-C5	4.01	1.39	1.35
56	DY	32	PSU	C6-C5	4.00	1.39	1.35
56	DW	55	PSU	C6-C5	3.97	1.39	1.35
56	DY	39	PSU	C6-C5	3.91	1.39	1.35
56	BY	32	PSU	C6-C5	3.89	1.39	1.35
56	BY	39	PSU	C6-C5	3.88	1.39	1.35
56	BW	39	PSU	C6-C5	3.86	1.39	1.35
58	DX	3	004	CA-C	3.84	1.57	1.51
58	BX	6	2R1	CA-N	3.80	1.45	1.36
58	DX	6	2R1	CA-N	3.76	1.45	1.36
56	BY	55	PSU	C6-C5	3.73	1.39	1.35
58	BX	3	004	CB-CA	-3.52	1.49	1.52
56	DW	46	7MG	C4-N9	-3.39	1.33	1.37
56	BY	54	5MU	C2-N1	3.32	1.43	1.38
56	BY	46	7MG	C5-C4	3.29	1.47	1.37
56	DW	39	PSU	C6-C5	3.28	1.38	1.35
56	DY	46	7MG	C5-C4	3.28	1.47	1.37
56	DY	55	PSU	C6-C5	3.26	1.38	1.35
56	DY	8	4SU	C4-N3	-3.17	1.34	1.37
56	DW	46	7MG	C5-C4	3.12	1.47	1.37
56	BW	32	PSU	C6-C5	3.10	1.38	1.35
58	BX	6	2R1	C-CA	3.10	1.50	1.45
56	DW	37	MIA	C6-C5	3.07	1.49	1.44
56	DW	8	4SU	C4-N3	-3.05	1.34	1.37
56	BW	8	4SU	C5-C4	-3.05	1.38	1.42
56	BW	46	7MG	C5-C4	3.01	1.46	1.37
56	BY	54	5MU	C6-C5	2.99	1.39	1.34
56	DW	54	5MU	C2-N1	2.98	1.43	1.38
56	DW	54	5MU	C4-C5	2.96	1.49	1.44
56	BY	8	4SU	C4-N3	-2.94	1.34	1.37
56	BW	54	5MU	C4-C5	2.92	1.49	1.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	BW	32	PSU	C4-N3	-2.83	1.33	1.38
56	BW	54	5MU	C6-C5	2.82	1.39	1.34
56	DY	8	4SU	C2-N1	2.81	1.42	1.38
56	BY	37	MIA	C2-N3	2.80	1.36	1.32
56	BW	46	7MG	C4-N9	-2.79	1.34	1.37
56	DW	54	5MU	C6-C5	2.75	1.39	1.34
56	BY	8	4SU	C5-C4	-2.74	1.39	1.42
56	BY	46	7MG	C4-N9	-2.73	1.34	1.37
56	DY	55	PSU	C4-N3	-2.72	1.33	1.38
56	BY	54	5MU	C4-N3	-2.71	1.33	1.38
56	DY	54	5MU	C2-N1	2.68	1.42	1.38
56	DY	8	4SU	C5-C4	-2.68	1.39	1.42
58	DX	6	2R1	C-CA	2.68	1.49	1.45
56	DY	37	MIA	C2-N3	2.66	1.36	1.32
56	DW	8	4SU	C5-C4	-2.65	1.39	1.42
56	DY	54	5MU	C6-C5	2.65	1.38	1.34
58	DX	9	MVA	CB-CA	2.63	1.58	1.54
56	BW	39	PSU	C4-N3	-2.61	1.34	1.38
56	DY	54	5MU	C4-N3	-2.60	1.34	1.38
56	BW	37	MIA	C6-C5	2.58	1.48	1.44
56	BY	8	4SU	C2-N1	2.56	1.42	1.38
56	BW	32	PSU	C2-N3	-2.54	1.33	1.37
56	DW	46	7MG	C6-N1	-2.50	1.34	1.38
56	BY	32	PSU	C4-N3	-2.47	1.34	1.38
56	BY	55	PSU	C4-N3	-2.42	1.34	1.38
56	DW	39	PSU	C4-N3	-2.40	1.34	1.38
56	DW	8	4SU	C2-N1	2.37	1.42	1.38
56	BW	54	5MU	C4-N3	-2.34	1.34	1.38
56	BY	54	5MU	C4-C5	2.33	1.48	1.44
56	BY	39	PSU	C4-N3	-2.33	1.34	1.38
56	BW	37	MIA	C6-N1	2.33	1.36	1.33
56	DY	54	5MU	C6-N1	-2.31	1.34	1.38
56	DW	54	5MU	C4-N3	-2.31	1.34	1.38
56	DY	54	5MU	C4-C5	2.30	1.48	1.44
56	BW	54	5MU	C6-N1	-2.27	1.34	1.38
56	DW	55	PSU	C4-N3	-2.26	1.34	1.38
56	BW	46	7MG	C5-N7	-2.23	1.32	1.35
56	DW	32	PSU	C4-N3	-2.23	1.34	1.38
56	DY	46	7MG	C6-N1	-2.21	1.34	1.38
56	DW	32	PSU	C4-C5	2.20	1.50	1.44
56	BW	46	7MG	C6-N1	-2.16	1.34	1.38
56	BY	46	7MG	C6-N1	-2.16	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	DY	32	PSU	C4-N3	-2.14	1.34	1.38
56	DY	46	7MG	C4-N9	-2.14	1.35	1.37
56	DW	8	4SU	C2-N3	-2.13	1.34	1.38
56	DY	54	5MU	C2-N3	-2.11	1.34	1.38
56	BW	37	MIA	C2-N1	2.10	1.37	1.34
56	DY	39	PSU	C4-N3	-2.08	1.35	1.38
56	BY	54	5MU	C6-N1	-2.08	1.34	1.38
56	BW	8	4SU	C2-N3	-2.03	1.34	1.38
56	DW	37	MIA	C6-N1	2.02	1.35	1.33
58	BX	10	2QY	CE1-CD1	-2.00	1.35	1.38

All (183) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	BX	1	2QZ	OG1-CB-CG2	11.46	143.95	109.68
58	DX	1	2QZ	OG1-CB-CG2	11.15	143.03	109.68
58	BX	10	2QY	CN-N-CA	-11.03	107.25	123.98
56	BW	46	7MG	N9-C4-N3	9.66	139.62	125.46
56	DY	46	7MG	N9-C4-N3	9.62	139.55	125.46
58	BX	6	2R1	OD2-CG2-CB	-9.56	94.26	111.99
56	BY	46	7MG	N9-C4-N3	9.20	138.95	125.46
56	DW	46	7MG	N9-C4-N3	9.08	138.76	125.46
58	DX	10	2QY	O-C-CA	-8.01	115.35	125.39
58	BX	10	2QY	CB-CA-N	7.27	133.46	121.98
58	DX	10	2QY	CB-CA-N	6.69	132.54	121.98
56	DW	8	4SU	C4-N3-C2	-6.53	121.05	127.31
56	DY	8	4SU	C4-N3-C2	-6.39	121.19	127.31
56	BW	37	MIA	C12-C13-C14	-6.39	115.54	127.01
56	DW	37	MIA	C12-C13-C14	-6.33	115.65	127.01
56	DW	32	PSU	N1-C2-N3	6.29	121.80	115.17
56	DW	8	4SU	C5-C4-N3	6.28	120.59	114.75
56	BW	39	PSU	N1-C2-N3	6.25	121.76	115.17
56	BY	55	PSU	N1-C2-N3	6.16	121.67	115.17
56	DW	55	PSU	N1-C2-N3	6.11	121.61	115.17
56	DY	39	PSU	N1-C2-N3	6.09	121.59	115.17
56	DY	55	PSU	N1-C2-N3	6.04	121.54	115.17
56	BY	32	PSU	N1-C2-N3	6.01	121.51	115.17
58	DX	10	2QY	CG-CB-CA	-5.93	121.97	130.72
56	DW	46	7MG	N9-C8-N7	-5.90	95.02	103.37
56	BY	39	PSU	N1-C2-N3	5.89	121.38	115.17
56	DW	39	PSU	N1-C2-N3	5.87	121.36	115.17
56	BW	46	7MG	N9-C8-N7	-5.87	95.06	103.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	BY	8	4SU	C4-N3-C2	-5.85	121.71	127.31
56	DY	32	PSU	N1-C2-N3	5.78	121.26	115.17
56	BW	55	PSU	N1-C2-N3	5.75	121.23	115.17
56	BW	8	4SU	C4-N3-C2	-5.74	121.82	127.31
56	BW	37	MIA	C11-S10-C2	-5.73	97.95	102.25
56	DY	46	7MG	C5-C4-N3	-5.70	117.43	128.13
58	DX	10	2QY	CN-N-CA	-5.60	115.49	123.98
56	BY	46	7MG	C5-C4-N3	-5.58	117.66	128.13
56	BW	46	7MG	C5-C4-N3	-5.51	117.78	128.13
56	BW	8	4SU	C5-C4-N3	5.46	119.83	114.75
56	BY	54	5MU	N3-C2-N1	5.43	121.95	114.89
56	BW	8	4SU	C5-C4-S4	-5.35	118.20	124.31
56	DY	8	4SU	C5-C4-N3	5.35	119.72	114.75
56	BY	46	7MG	N9-C8-N7	-5.33	95.83	103.37
56	DW	46	7MG	C5-C4-N3	-5.15	118.47	128.13
56	DW	54	5MU	C4-N3-C2	-5.01	120.77	127.34
56	BY	54	5MU	C4-N3-C2	-4.99	120.80	127.34
56	DY	54	5MU	C4-N3-C2	-4.95	120.85	127.34
56	BW	54	5MU	N3-C2-N1	4.93	121.31	114.89
56	DY	46	7MG	N9-C8-N7	-4.91	96.42	103.37
56	DY	54	5MU	N3-C2-N1	4.80	121.14	114.89
56	DW	54	5MU	N3-C2-N1	4.76	121.08	114.89
56	DY	8	4SU	C5-C4-S4	-4.72	118.92	124.31
56	DW	39	PSU	O2-C2-N1	-4.67	117.97	122.79
56	BY	46	7MG	C2-N3-C4	4.63	120.28	112.30
56	BW	32	PSU	N1-C2-N3	4.63	120.05	115.17
56	DY	46	7MG	C2-N3-C4	4.54	120.11	112.30
56	BY	8	4SU	C5-C4-N3	4.44	118.88	114.75
56	DW	8	4SU	C5-C4-S4	-4.42	119.25	124.31
56	BY	8	4SU	N3-C2-N1	4.38	120.59	114.89
56	DW	54	5MU	C5-C4-N3	4.35	119.10	115.32
56	DY	39	PSU	O2-C2-N1	-4.32	118.33	122.79
56	DW	46	7MG	C2-N3-C4	4.26	119.64	112.30
56	BW	54	5MU	C5M-C5-C4	4.25	123.32	118.78
56	DW	32	PSU	O2-C2-N1	-4.25	118.40	122.79
56	DY	54	5MU	C5-C4-N3	4.25	119.01	115.32
56	DW	55	PSU	C4-N3-C2	-4.23	120.55	126.37
56	BY	54	5MU	O4-C4-C5	-4.21	120.10	124.92
58	BX	10	2QY	O-C-CA	-4.19	120.13	125.39
56	DY	8	4SU	N3-C2-N1	4.15	120.29	114.89
56	BW	46	7MG	C2-N3-C4	4.13	119.42	112.30
56	DY	55	PSU	C4-N3-C2	-4.11	120.70	126.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	BW	55	PSU	O2-C2-N1	-4.10	118.56	122.79
56	BW	32	PSU	C4-N3-C2	-4.04	120.81	126.37
56	BY	54	5MU	C5-C4-N3	4.02	118.82	115.32
58	DX	6	2R1	OD2-CG2-CB	-4.00	104.56	111.99
56	BY	37	MIA	N3-C2-N1	-3.99	123.25	128.67
56	DY	54	5MU	O4-C4-C5	-3.96	120.38	124.92
56	DW	32	PSU	C4-N3-C2	-3.96	120.91	126.37
56	BW	54	5MU	C4-N3-C2	-3.93	122.19	127.34
56	BY	32	PSU	C4-N3-C2	-3.90	121.00	126.37
56	DY	37	MIA	N3-C2-N1	-3.90	123.38	128.67
56	DW	8	4SU	N3-C2-N1	3.88	119.94	114.89
56	BW	39	PSU	C4-N3-C2	-3.83	121.09	126.37
56	BY	55	PSU	C4-N3-C2	-3.81	121.12	126.37
56	DY	32	PSU	C4-N3-C2	-3.78	121.16	126.37
56	DY	55	PSU	O2-C2-N1	-3.78	118.89	122.79
56	BY	39	PSU	C4-N3-C2	-3.72	121.25	126.37
58	BX	10	2QY	CD1-CG-CD2	3.71	123.15	117.65
56	DW	39	PSU	C4-N3-C2	-3.69	121.29	126.37
56	BW	55	PSU	C4-N3-C2	-3.69	121.29	126.37
56	BY	8	4SU	C5-C4-S4	-3.66	120.12	124.31
58	BX	10	2QY	CG-CB-CA	-3.66	125.32	130.72
56	BY	55	PSU	O2-C2-N1	-3.64	119.04	122.79
56	BW	54	5MU	O2-C2-N1	-3.63	118.08	122.80
56	DW	37	MIA	C15-C14-C13	-3.62	111.80	122.66
58	BX	8	2R3	CO-OH-CZ	-3.59	109.79	117.50
56	DY	32	PSU	O2-C2-N1	-3.59	119.09	122.79
56	BY	39	PSU	O2-C2-N1	-3.55	119.13	122.79
56	DY	54	5MU	C5-C6-N1	-3.54	119.47	123.31
56	DY	8	4SU	C1'-N1-C2	3.51	123.90	117.59
58	BX	6	2R1	O-C-CA	-3.50	118.97	125.53
56	BY	8	4SU	C1'-N1-C2	3.49	123.85	117.59
58	DX	5	MVA	CB-CA-N	3.48	115.70	111.17
56	DW	37	MIA	C16-C14-C13	-3.41	112.42	122.66
56	DW	54	5MU	O4-C4-C5	-3.39	121.04	124.92
56	DW	54	5MU	C5-C6-N1	-3.38	119.64	123.31
56	DY	39	PSU	C4-N3-C2	-3.38	121.72	126.37
56	BW	37	MIA	C16-C14-C13	-3.26	112.87	122.66
56	BW	54	5MU	C5M-C5-C6	-3.26	118.44	122.85
56	DW	32	PSU	C6-C5-C4	-3.21	116.01	118.17
56	BW	39	PSU	O2-C2-N1	-3.20	119.48	122.79
58	BX	1	2QZ	OG1-CB-CA	-3.19	98.29	109.32
58	BX	8	2R3	CD1-CG-CB	3.18	125.50	120.71

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
58	BX	10	2QY	CE2-CD2-CG	-3.13	117.18	121.22
56	BW	37	MIA	C15-C14-C13	-3.10	113.35	122.66
56	DW	37	MIA	C4-C5-N7	-3.01	106.15	109.34
56	BY	32	PSU	O2-C2-N1	-2.98	119.71	122.79
58	DX	8	2R3	CG-CB-CA	-2.97	107.68	111.58
56	BY	46	7MG	C5-C6-N1	2.95	116.13	110.94
56	DW	46	7MG	C5-C6-N1	2.95	116.12	110.94
58	BX	8	2R3	OB-CB-CG	2.94	117.59	111.20
58	DX	8	2R3	CO-OH-CZ	-2.93	111.22	117.50
56	BY	54	5MU	C1'-N1-C2	2.92	122.84	117.59
56	BW	46	7MG	C5-C4-N9	-2.92	102.59	106.33
58	BX	8	2R3	CE2-CD2-CG	2.92	124.09	121.18
56	BY	54	5MU	C5-C6-N1	-2.90	120.16	123.31
56	BY	37	MIA	C4-C5-N7	-2.90	106.28	109.34
56	DW	55	PSU	C5-C6-N1	-2.88	118.14	122.14
58	BX	8	2R3	CD2-CG-CB	-2.88	116.37	120.71
58	DX	6	2R1	O-C-CA	-2.84	120.21	125.53
56	BW	8	4SU	N3-C2-N1	2.82	118.56	114.89
56	DY	46	7MG	C5-C6-N1	2.80	115.87	110.94
56	DW	46	7MG	C5-C4-N9	-2.78	102.77	106.33
56	DW	37	MIA	N3-C2-N1	-2.77	121.96	127.03
58	DX	9	MVA	CB-CA-C	2.75	116.50	112.96
56	DY	37	MIA	C4-C5-N7	-2.74	106.44	109.34
58	BX	5	MVA	CB-CA-C	2.74	116.48	112.96
56	DW	37	MIA	C2-N1-C6	2.73	122.28	117.42
58	BX	1	2QZ	CN1-N-CA	-2.72	107.54	114.25
56	BW	32	PSU	C5-C6-N1	-2.71	118.37	122.14
56	DW	55	PSU	O2-C2-N1	-2.71	120.00	122.79
56	BY	54	5MU	O2-C2-N3	-2.68	116.54	121.49
56	DW	54	5MU	C5M-C5-C4	2.67	121.64	118.78
56	DY	46	7MG	C5-C4-N9	-2.59	103.02	106.33
56	BW	8	4SU	O2-C2-N1	-2.56	119.46	122.80
56	BW	37	MIA	C4-C5-N7	-2.56	106.63	109.34
58	DX	8	2R3	OB-CB-CA	2.55	113.08	107.49
56	BY	8	4SU	C6-N1-C2	-2.54	117.91	121.00
58	DX	1	2QZ	CN2-N-CN1	-2.54	103.03	110.49
56	BW	46	7MG	C5-C6-N1	2.51	115.36	110.94
56	DW	39	PSU	O2'-C2'-C1'	-2.48	105.32	111.21
58	BX	8	2R3	CE1-CD1-CG	-2.47	118.72	121.18
56	BW	54	5MU	C5-C4-N3	2.46	117.46	115.32
56	BW	32	PSU	C6-C5-C4	-2.46	116.52	118.17
56	DY	32	PSU	C6-C5-C4	-2.45	116.52	118.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	BW	39	PSU	C6-C5-C4	-2.41	116.55	118.17
56	BW	46	7MG	O6-C6-C5	-2.40	121.74	127.62
56	BW	32	PSU	O2-C2-N3	-2.39	117.62	121.86
58	BX	8	2R3	OB-CB-CA	2.34	112.63	107.49
58	DX	3	004	CD2-CE-CD1	-2.34	116.67	119.87
58	BX	1	2QZ	CN2-N-CA	-2.33	108.52	114.25
56	BW	54	5MU	O4-C4-C5	-2.33	122.26	124.92
56	BY	46	7MG	O6-C6-C5	-2.31	121.95	127.62
56	BY	46	7MG	C5-C4-N9	-2.30	103.38	106.33
56	DW	54	5MU	C5M-C5-C6	-2.29	119.75	122.85
58	DX	1	2QZ	OG1-CB-CA	-2.28	101.44	109.32
56	DW	46	7MG	O6-C6-C5	-2.27	122.04	127.62
58	DX	10	2QY	CD1-CE1-CZ	2.27	122.28	119.88
56	BW	37	MIA	C2-N1-C6	2.21	121.34	117.42
56	BW	39	PSU	C6-N1-C2	-2.17	120.68	122.69
58	BX	6	2R1	CG1-CB-CA	2.16	125.14	119.74
58	DX	8	2R3	CD2-CG-CB	-2.14	117.49	120.71
56	BW	37	MIA	N3-C2-N1	-2.13	123.13	127.03
56	DY	46	7MG	O6-C6-C5	-2.11	122.44	127.62
58	DX	8	2R3	CD1-CG-CB	2.09	123.86	120.71
58	BX	3	004	CD2-CG2-CB	-2.08	118.16	120.65
58	DX	10	2QY	CE1-CD1-CG	-2.07	118.55	121.22
58	BX	8	2R3	CD1-CE1-CZ	2.07	122.09	119.73
56	BY	54	5MU	C6-N1-C2	-2.06	119.25	121.30
56	DW	55	PSU	O4'-C1'-C2'	2.03	107.96	105.15
58	BX	9	MVA	CG1-CB-CA	2.02	114.26	111.18
56	DY	8	4SU	C6-N1-C2	-2.02	118.54	121.00
58	BX	8	2R3	CD2-CE2-CZ	-2.01	117.43	119.73
58	DX	6	2R1	C-CA-N	2.01	120.75	116.15

There are no chirality outliers.

All (90) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	BW	32	PSU	C2'-C1'-C5-C4
56	BW	32	PSU	O4'-C1'-C5-C4
56	BW	32	PSU	O4'-C1'-C5-C6
56	BW	37	MIA	N6-C12-C13-C14
56	BW	37	MIA	C12-C13-C14-C15
56	BW	37	MIA	C12-C13-C14-C16
56	BY	46	7MG	C4'-C5'-O5'-P
56	DW	32	PSU	O4'-C1'-C5-C4

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Mol	Chain	Res	Type	Atoms
56	DW	32	PSU	O4'-C1'-C5-C6
56	DW	37	MIA	N1-C2-S10-C11
56	DW	37	MIA	N3-C2-S10-C11
56	DW	37	MIA	N6-C12-C13-C14
56	DW	37	MIA	C12-C13-C14-C15
56	DW	37	MIA	C12-C13-C14-C16
56	DY	39	PSU	O4'-C4'-C5'-O5'
56	DY	46	7MG	O4'-C4'-C5'-O5'
56	DY	54	5MU	O4'-C4'-C5'-O5'
58	BX	1	2QZ	N-CA-CB-OG1
58	DX	1	2QZ	N-CA-CB-OG1
58	BX	5	MVA	CB-CA-N-CN
58	BX	5	MVA	C-CA-CB-CG1
58	BX	5	MVA	C-CA-CB-CG2
58	DX	5	MVA	N-CA-CB-CG1
58	DX	5	MVA	N-CA-CB-CG2
58	DX	5	MVA	C-CA-CB-CG1
58	DX	5	MVA	C-CA-CB-CG2
58	DX	6	2R1	CA-CB-CG2-OD2
58	BX	8	2R3	N-CA-CB-OB
58	BX	8	2R3	N-CA-CB-CG
58	BX	8	2R3	C-CA-CB-OB
58	BX	8	2R3	C-CA-CB-CG
58	DX	8	2R3	N-CA-CB-OB
58	DX	8	2R3	N-CA-CB-CG
58	DX	8	2R3	C-CA-CB-OB
58	DX	8	2R3	C-CA-CB-CG
58	BX	9	MVA	CB-CA-N-CN
58	DX	9	MVA	N-CA-CB-CG1
58	DX	9	MVA	N-CA-CB-CG2
58	DX	9	MVA	C-CA-CB-CG2
58	BX	10	2QY	O-C-CA-CB
58	DX	10	2QY	O-C-CA-CB
58	BX	8	2R3	CE2-CZ-OH-CO
58	BX	8	2R3	CE1-CZ-OH-CO
56	DW	37	MIA	C3'-C4'-C5'-O5'
56	DY	37	MIA	C3'-C4'-C5'-O5'
56	DY	39	PSU	C3'-C4'-C5'-O5'
56	DY	54	5MU	C3'-C4'-C5'-O5'
56	BY	37	MIA	C3'-C4'-C5'-O5'
56	BY	54	5MU	C3'-C4'-C5'-O5'
56	DW	37	MIA	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
56	DY	37	MIA	O4'-C4'-C5'-O5'
56	DY	46	7MG	C3'-C4'-C5'-O5'
58	DX	10	2QY	CA-CB-CG-CD1
58	DX	10	2QY	CA-CB-CG-CD2
56	BY	46	7MG	C3'-C4'-C5'-O5'
56	BY	54	5MU	O4'-C4'-C5'-O5'
56	DW	46	7MG	O4'-C4'-C5'-O5'
56	BY	37	MIA	O4'-C4'-C5'-O5'
56	DW	46	7MG	C3'-C4'-C5'-O5'
56	DY	55	PSU	O4'-C4'-C5'-O5'
56	BY	46	7MG	C2'-C1'-N9-C8
58	BX	10	2QY	CA-CB-CG-CD1
58	BX	10	2QY	CA-CB-CG-CD2
56	DW	46	7MG	C2'-C1'-N9-C8
58	DX	6	2R1	CG1-CB-CG2-OD2
58	DX	8	2R3	CE2-CZ-OH-CO
58	DX	8	2R3	CE1-CZ-OH-CO
56	DW	39	PSU	C4'-C5'-O5'-P
56	BW	55	PSU	O4'-C1'-C5-C4
56	BY	55	PSU	O4'-C1'-C5-C4
56	DW	55	PSU	O4'-C1'-C5-C4
58	BX	9	MVA	O-C-CA-CB
58	DX	9	MVA	CB-CA-N-CN
56	BW	37	MIA	N1-C2-S10-C11
56	BW	37	MIA	N3-C2-S10-C11
56	DY	37	MIA	C4'-C5'-O5'-P
56	BY	46	7MG	O4'-C1'-N9-C8
56	BW	55	PSU	O4'-C1'-C5-C6
56	BY	55	PSU	O4'-C1'-C5-C6
56	DW	55	PSU	O4'-C1'-C5-C6
56	DY	55	PSU	O4'-C1'-C5-C6
56	DW	46	7MG	O4'-C1'-N9-C8
56	DY	55	PSU	C2'-C1'-C5-C6
58	BX	5	MVA	N-CA-CB-CG1
56	BW	32	PSU	C3'-C4'-C5'-O5'
56	BW	54	5MU	C3'-C4'-C5'-O5'
56	BY	8	4SU	C2'-C1'-N1-C2
56	DY	8	4SU	C2'-C1'-N1-C2
56	BW	46	7MG	C2'-C1'-N9-C8
56	DY	46	7MG	C2'-C1'-N9-C8

There are no ring outliers.



23 monomers are involved in 47 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	BW	37	MIA	2	0
56	DW	39	PSU	6	0
56	DW	54	5MU	1	0
58	DX	5	MVA	2	0
58	DX	3	004	1	0
56	BW	32	PSU	1	0
58	DX	8	2R3	2	0
58	DX	9	MVA	4	0
58	BX	6	2R1	5	0
56	DW	55	PSU	1	0
58	DX	1	2QZ	2	0
58	BX	8	2R3	2	0
56	DY	46	7MG	2	0
56	DY	55	PSU	2	0
58	DX	10	2QY	9	0
58	BX	3	004	4	0
56	DW	37	MIA	2	0
58	BX	5	MVA	2	0
58	DX	6	2R1	2	0
56	BY	8	4SU	1	0
58	BX	9	MVA	2	0
58	BX	10	2QY	1	0
56	DW	8	4SU	1	0

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 2056 ligands modelled in this entry, 2052 are monoatomic - leaving 4 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
61	SF4	BD	501	-	0,12,12	-	-	-		
61	SF4	DD	501	37	0,12,12	-	-	-		
62	GDP	BZ	702	59	25,30,30	0.95	0	30,47,47	1.33	4 (13%)
62	GDP	DZ	703	59	25,30,30	1.04	0	30,47,47	1.01	1 (3%)

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
62	GDP	BZ	702	59	-	3/12/32/32	0/3/3/3
61	SF4	BD	501	-	-	-	0/6/5/5
61	SF4	DD	501	37	-	-	0/6/5/5
62	GDP	DZ	703	59	-	1/12/32/32	0/3/3/3

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
62	BZ	702	GDP	C8-N7-C5	3.34	108.23	102.55
62	BZ	702	GDP	C4'-O4'-C1'	-2.78	107.38	109.92
62	BZ	702	GDP	O3B-PB-O2B	2.24	116.22	107.80
62	BZ	702	GDP	O3'-C3'-C2'	-2.07	105.17	111.82
62	DZ	703	GDP	C8-N7-C5	2.07	106.07	102.55

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
62	BZ	702	GDP	C5'-O5'-PA-O3A
62	BZ	702	GDP	C5'-O5'-PA-O1A
62	BZ	702	GDP	C5'-O5'-PA-O2A
62	DZ	703	GDP	C5'-O5'-PA-O1A

There are no ring outliers.

4 monomers are involved in 15 short contacts:

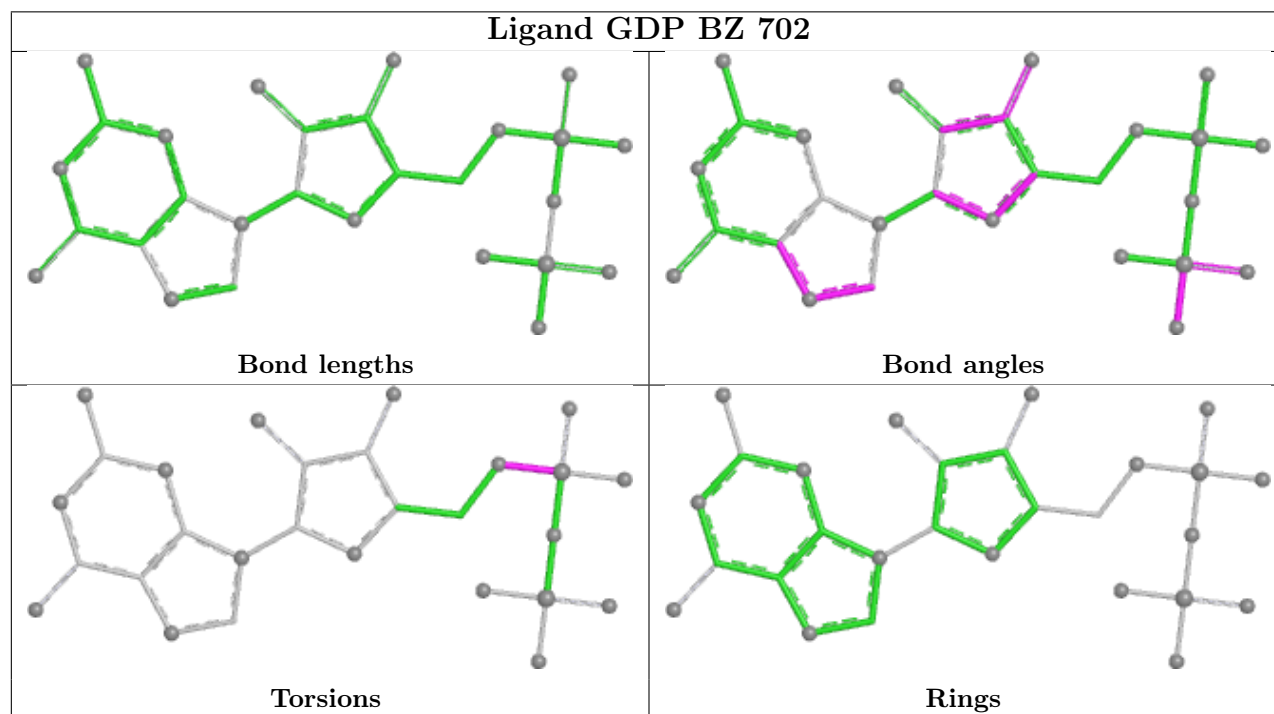
Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	BD	501	SF4	1	0

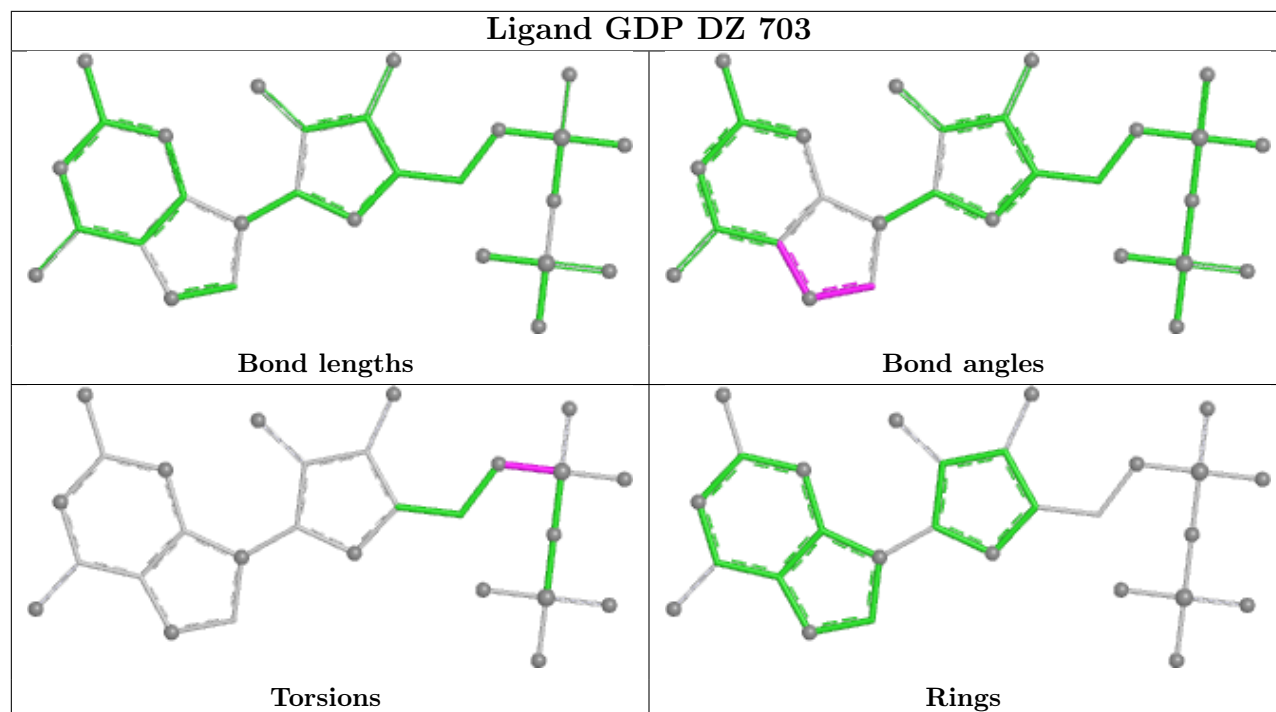
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
61	DD	501	SF4	2	0
62	BZ	702	GDP	5	0
62	DZ	703	GDP	7	0

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





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

## 6 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<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	AA	2872/2915 (98%)	-0.80	45 (1%) 70 63	13, 31, 166, 310	0
1	CA	2868/2915 (98%)	-0.28	74 (2%) 57 49	23, 54, 175, 327	0
2	AB	120/121 (99%)	-0.67	1 (0%) 82 77	23, 46, 65, 111	0
2	CB	120/121 (99%)	0.64	6 (5%) 35 28	54, 103, 145, 177	0
3	AC	137/228 (60%)	2.58	88 (64%) 0 0	89, 187, 231, 259	0
3	CC	137/228 (60%)	2.74	91 (66%) 0 0	142, 205, 249, 270	0
4	AD	275/276 (99%)	-0.75	4 (1%) 71 64	8, 30, 56, 122	0
4	CD	275/276 (99%)	-0.40	4 (1%) 71 64	13, 43, 76, 133	0
5	AE	204/206 (99%)	-0.80	0 100 100	7, 30, 60, 99	0
5	CE	204/206 (99%)	-0.38	0 100 100	15, 51, 85, 143	0
6	AF	203/210 (96%)	-0.76	0 100 100	5, 31, 75, 140	0
6	CF	203/210 (96%)	-0.01	3 (1%) 71 64	20, 66, 122, 158	0
7	AG	181/182 (99%)	-0.01	1 (0%) 85 81	33, 66, 114, 178	0
7	CG	181/182 (99%)	1.08	21 (11%) 11 9	73, 124, 181, 208	0
8	AH	174/180 (96%)	-0.46	2 (1%) 77 71	21, 45, 72, 198	0
8	CH	174/180 (96%)	0.59	10 (5%) 30 24	51, 90, 139, 171	0
9	AK	130/173 (75%)	1.47	33 (25%) 2 2	65, 130, 195, 217	0
9	CK	130/173 (75%)	1.87	49 (37%) 1 1	84, 161, 205, 230	0
10	AL	66/147 (44%)	1.80	20 (30%) 1 1	109, 180, 227, 243	0
10	CL	66/147 (44%)	2.40	36 (54%) 0 0	104, 180, 226, 260	0
11	AN	140/140 (100%)	-0.84	1 (0%) 84 79	11, 27, 54, 96	0
11	CN	140/140 (100%)	-0.11	1 (0%) 84 79	35, 58, 92, 142	0
12	AO	122/122 (100%)	-0.82	0 100 100	16, 35, 64, 91	0
12	CO	122/122 (100%)	-0.43	0 100 100	28, 48, 80, 94	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
13	AP	149/150 (99%)	-0.65	0 100 100	8, 37, 77, 126	0
13	CP	149/150 (99%)	0.23	4 (2%) 56 47	26, 73, 123, 155	0
14	AQ	141/141 (100%)	-0.74	0 100 100	9, 31, 53, 97	0
14	CQ	141/141 (100%)	0.09	2 (1%) 73 66	18, 62, 94, 145	0
15	AR	118/118 (100%)	-0.93	0 100 100	13, 27, 51, 75	0
15	CR	118/118 (100%)	-0.38	0 100 100	25, 49, 73, 106	0
16	AS	110/112 (98%)	-0.40	1 (0%) 81 75	24, 46, 74, 86	0
16	CS	110/112 (98%)	1.25	18 (16%) 5 5	59, 95, 139, 166	0
17	AT	131/146 (89%)	-0.40	4 (3%) 51 43	20, 39, 93, 218	0
17	CT	131/146 (89%)	-0.08	3 (2%) 61 52	35, 56, 103, 151	0
18	AU	116/118 (98%)	-1.04	0 100 100	7, 22, 38, 87	0
18	CU	116/118 (98%)	-0.05	0 100 100	31, 55, 88, 107	0
19	AV	101/101 (100%)	-1.05	0 100 100	10, 27, 56, 76	0
19	CV	101/101 (100%)	-0.10	1 (0%) 79 73	28, 68, 101, 162	0
20	AW	112/113 (99%)	-0.93	0 100 100	10, 23, 47, 145	0
20	CW	112/113 (99%)	-0.34	0 100 100	26, 44, 74, 159	0
21	AX	95/96 (98%)	-0.61	1 (1%) 77 71	12, 33, 63, 107	0
21	CX	95/96 (98%)	0.23	6 (6%) 27 21	36, 62, 97, 173	0
22	AY	107/110 (97%)	-0.44	2 (1%) 66 58	18, 42, 88, 117	0
22	CY	107/110 (97%)	0.50	7 (6%) 26 20	48, 80, 124, 170	0
23	AZ	185/206 (89%)	-0.21	3 (1%) 70 63	27, 55, 94, 136	0
23	CZ	185/206 (89%)	0.68	8 (4%) 40 32	52, 97, 144, 173	0
24	A0	77/85 (90%)	-0.73	0 100 100	9, 31, 53, 82	0
24	C0	77/85 (90%)	0.52	7 (9%) 16 12	27, 67, 104, 127	0
25	A1	97/98 (98%)	-0.55	1 (1%) 79 73	15, 38, 79, 97	0
25	C1	97/98 (98%)	0.03	3 (3%) 51 43	30, 55, 94, 139	0
26	A2	70/72 (97%)	-0.31	2 (2%) 54 45	14, 43, 63, 135	0
26	C2	70/72 (97%)	0.51	3 (4%) 40 32	47, 78, 109, 151	0
27	A3	59/60 (98%)	-0.78	1 (1%) 69 61	10, 26, 50, 110	0
27	C3	59/60 (98%)	0.16	2 (3%) 48 40	31, 62, 102, 162	0
28	A4	69/71 (97%)	0.64	5 (7%) 23 17	47, 101, 187, 216	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
28	C4	69/71 (97%)	1.14	11 (15%) 6 5	86, 158, 194, 226	0
29	A5	59/60 (98%)	-0.95	0 100 100	11, 22, 48, 66	0
29	C5	59/60 (98%)	-0.44	0 100 100	16, 46, 81, 120	0
30	A6	53/54 (98%)	-0.64	0 100 100	17, 35, 61, 75	0
30	C6	53/54 (98%)	0.07	0 100 100	40, 62, 85, 101	0
31	A7	48/49 (97%)	-0.68	2 (4%) 41 33	11, 20, 52, 99	0
31	C7	48/49 (97%)	-0.17	4 (8%) 19 14	23, 35, 95, 120	0
32	A8	64/65 (98%)	-0.88	0 100 100	13, 26, 39, 61	0
32	C8	64/65 (98%)	-0.09	1 (1%) 70 63	26, 53, 71, 93	0
33	A9	37/37 (100%)	-0.57	1 (2%) 56 47	19, 32, 61, 65	0
33	C9	37/37 (100%)	0.25	1 (2%) 56 47	43, 61, 90, 101	0
34	BA	1495/1521 (98%)	0.27	24 (1%) 70 63	23, 81, 179, 326	0
34	DA	1501/1521 (98%)	0.52	77 (5%) 34 27	39, 93, 206, 304	0
35	BB	231/256 (90%)	0.75	19 (8%) 19 14	52, 103, 165, 193	0
35	DB	231/256 (90%)	1.21	39 (16%) 5 5	66, 134, 196, 226	0
36	BC	206/239 (86%)	0.90	22 (10%) 12 10	72, 113, 168, 187	0
36	DC	206/239 (86%)	1.35	47 (22%) 2 3	88, 150, 194, 221	0
37	BD	208/209 (99%)	1.00	30 (14%) 7 6	53, 90, 140, 180	0
37	DD	208/209 (99%)	0.82	24 (11%) 11 9	52, 87, 132, 197	0
38	BE	148/162 (91%)	0.19	2 (1%) 73 66	36, 71, 108, 150	0
38	DE	148/162 (91%)	0.66	12 (8%) 19 15	42, 88, 131, 177	0
39	BF	100/101 (99%)	0.30	1 (1%) 79 73	42, 80, 123, 144	0
39	DF	100/101 (99%)	0.42	2 (2%) 64 56	48, 90, 133, 146	0
40	BG	155/156 (99%)	0.66	15 (9%) 15 11	65, 100, 155, 193	0
40	DG	155/156 (99%)	0.98	20 (12%) 9 7	79, 130, 177, 212	0
41	BH	137/138 (99%)	0.44	4 (2%) 54 45	44, 72, 105, 119	0
41	DH	137/138 (99%)	0.71	8 (5%) 30 23	51, 90, 124, 159	0
42	BI	127/128 (99%)	1.46	37 (29%) 1 2	58, 114, 168, 190	0
42	DI	127/128 (99%)	1.92	49 (38%) 1 1	78, 153, 189, 243	0
43	BJ	97/105 (92%)	1.55	29 (29%) 1 1	74, 121, 172, 194	0
43	DJ	96/105 (91%)	1.84	41 (42%) 1 1	75, 158, 198, 215	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
44	BK	114/129 (88%)	0.11	1 (0%) 81 75	29, 73, 115, 125	0
44	DK	114/129 (88%)	0.53	8 (7%) 24 18	59, 92, 138, 168	0
45	BL	122/132 (92%)	0.10	5 (4%) 42 34	26, 60, 88, 110	0
45	DL	122/132 (92%)	0.42	5 (4%) 42 34	40, 70, 99, 142	0
46	BM	117/126 (92%)	0.79	12 (10%) 13 10	62, 107, 151, 187	0
46	DM	116/126 (92%)	1.52	30 (25%) 2 2	64, 154, 201, 235	0
47	BN	60/61 (98%)	1.44	14 (23%) 2 3	59, 109, 151, 171	0
47	DN	60/61 (98%)	2.16	33 (55%) 0 0	94, 141, 190, 208	0
48	BO	88/89 (98%)	0.21	5 (5%) 30 24	34, 68, 106, 139	0
48	DO	88/89 (98%)	0.44	2 (2%) 61 52	49, 81, 115, 139	0
49	BP	82/88 (93%)	0.81	9 (10%) 12 9	45, 80, 125, 150	0
49	DP	82/88 (93%)	0.61	3 (3%) 45 37	48, 76, 108, 120	0
50	BQ	99/105 (94%)	0.20	5 (5%) 34 27	43, 71, 103, 118	0
50	DQ	99/105 (94%)	0.66	11 (11%) 12 9	46, 79, 116, 148	0
51	BR	68/88 (77%)	0.12	1 (1%) 71 64	44, 71, 115, 135	0
51	DR	68/88 (77%)	0.40	1 (1%) 71 64	57, 89, 127, 146	0
52	BS	84/93 (90%)	1.51	23 (27%) 2 2	64, 126, 168, 222	0
52	DS	83/93 (89%)	1.89	33 (39%) 1 1	98, 162, 210, 220	0
53	BT	96/106 (90%)	0.69	9 (9%) 15 12	49, 84, 117, 159	0
53	DT	96/106 (90%)	0.63	8 (8%) 19 14	47, 81, 126, 145	0
54	BU	23/27 (85%)	1.82	10 (43%) 1 1	59, 99, 112, 154	0
54	DU	23/27 (85%)	2.32	11 (47%) 0 1	78, 132, 157, 179	0
55	BV	7/18 (38%)	1.56	4 (57%) 0 0	60, 68, 174, 188	0
55	DV	6/18 (33%)	2.06	3 (50%) 0 1	87, 94, 180, 202	0
56	BW	69/76 (90%)	-0.10	3 (4%) 40 32	37, 69, 117, 208	0
56	BY	67/76 (88%)	1.20	13 (19%) 4 4	74, 230, 278, 300	0
56	DW	69/76 (90%)	0.34	0 100 100	46, 106, 150, 254	0
56	DY	66/76 (86%)	1.43	16 (24%) 2 2	141, 280, 312, 332	0
57	BZ	728/758 (96%)	0.57	54 (7%) 22 17	37, 96, 187, 244	0
57	DZ	730/758 (96%)	0.76	76 (10%) 13 10	27, 112, 210, 259	0
58	BX	3/10 (30%)	0.56	0 100 100	81, 81, 81, 82	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
58	DX	3/10 (30%)	0.98	1 (33%) 1 1	78, 78, 80, 81	0
All	All	22705/23918 (94%)	0.14	1505 (6%) 26 19	5, 69, 187, 332	0

All (1505) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
42	DI	106	ALA	11.2
25	C1	2	SER	10.4
3	CC	213	VAL	7.5
36	BC	2	GLY	7.3
10	CL	127	ILE	7.3
9	AK	50	ARG	6.6
3	AC	190	ILE	6.5
31	C7	48	LYS	6.4
8	AH	174	GLY	6.4
46	DM	100	GLY	6.3
45	DL	18	VAL	6.3
52	DS	71	LEU	6.3
3	CC	194	ILE	6.3
37	BD	153	ARG	6.1
37	DD	2	GLY	6.1
10	CL	123	ALA	6.1
10	CL	136	VAL	6.1
49	BP	68	ASP	5.9
9	CK	54	ALA	5.9
3	AC	210	LEU	5.8
3	CC	197	LEU	5.8
3	CC	215	VAL	5.8
47	DN	22	THR	5.7
3	CC	12	LEU	5.7
43	DJ	47	PHE	5.7
56	DY	76	A	5.7
46	DM	101	GLN	5.7
3	CC	15	VAL	5.6
38	BE	85	GLY	5.6
3	CC	190	ILE	5.6
46	DM	98	VAL	5.6
42	DI	105	ASP	5.5
42	BI	106	ALA	5.4
47	BN	20	ALA	5.4
3	AC	12	LEU	5.4
10	CL	115	LEU	5.4

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Mol	Chain	Res	Type	RSRZ
54	DU	15	ARG	5.3
3	CC	186	LEU	5.3
3	AC	164	PHE	5.2
10	CL	138	VAL	5.2
3	AC	215	VAL	5.1
3	CC	30	VAL	5.1
36	DC	160	ALA	5.1
3	AC	69	LEU	5.1
3	AC	175	PRO	5.1
9	AK	54	ALA	5.1
10	CL	78	ILE	5.1
38	DE	22	GLY	5.1
35	DB	165	VAL	5.1
3	AC	57	GLN	5.0
52	BS	78	ARG	5.0
10	AL	78	ILE	5.0
3	AC	52	PRO	5.0
3	AC	200	HIS	4.9
3	CC	221	PRO	4.9
17	AT	131	ALA	4.9
52	DS	12	ASP	4.9
3	AC	162	ILE	4.9
26	A2	70	GLN	4.9
1	AA	2139	A	4.8
56	DY	34	G	4.8
37	DD	23	GLY	4.8
38	DE	85	GLY	4.8
35	DB	97	TRP	4.8
9	CK	86	PRO	4.8
37	BD	156	GLU	4.8
3	CC	26	ALA	4.8
46	BM	102	ARG	4.8
9	CK	96	PHE	4.8
36	DC	162	GLN	4.8
9	CK	53	VAL	4.7
3	CC	179	ALA	4.7
42	DI	27	THR	4.7
43	BJ	72	VAL	4.7
57	BZ	502	GLY	4.7
47	BN	17	LYS	4.7
1	CA	1087	G	4.7
3	CC	210	LEU	4.7

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Mol	Chain	Res	Type	RSRZ
47	DN	17	LYS	4.6
3	AC	194	ILE	4.6
16	CS	7	TYR	4.6
55	DV	13	A	4.6
1	CA	1536	C	4.6
54	DU	14	TRP	4.6
3	CC	20	VAL	4.6
57	BZ	428	LEU	4.6
3	AC	171	ALA	4.5
1	AA	2137	G	4.5
3	AC	179	ALA	4.5
9	AK	47	ASN	4.5
54	BU	16	GLY	4.5
3	CC	223	VAL	4.4
40	DG	37	ASN	4.4
47	DN	13	THR	4.4
57	BZ	419	ALA	4.4
52	BS	71	LEU	4.4
4	CD	262	ARG	4.4
52	DS	40	ILE	4.4
3	CC	44	VAL	4.4
46	DM	90	LEU	4.4
42	BI	10	ARG	4.4
52	BS	2	PRO	4.4
43	DJ	53	PRO	4.4
16	CS	32	LEU	4.3
52	DS	76	PRO	4.3
38	DE	104	ALA	4.3
3	CC	14	LYS	4.3
42	BI	14	VAL	4.3
54	DU	16	GLY	4.3
1	CA	1533	G	4.3
9	AK	130	THR	4.3
35	DB	187	LEU	4.3
47	BN	13	THR	4.3
36	BC	158	GLY	4.3
42	DI	115	GLY	4.3
9	AK	99	SER	4.2
3	AC	197	LEU	4.2
3	CC	29	LEU	4.2
10	AL	107	ILE	4.2
36	DC	76	VAL	4.2

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Mol	Chain	Res	Type	RSRZ
3	AC	30	VAL	4.2
3	CC	175	PRO	4.2
9	AK	51	LEU	4.2
57	DZ	498	ILE	4.2
42	BI	109	VAL	4.2
42	DI	110	GLU	4.1
10	AL	138	VAL	4.1
36	DC	168	ALA	4.1
7	CG	76	SER	4.1
42	BI	12	GLU	4.1
34	DA	1117	G	4.1
3	CC	227	PRO	4.1
42	BI	126	SER	4.1
9	CK	24	PHE	4.1
3	CC	8	TYR	4.1
9	AK	85	ASP	4.1
52	BS	13	ASP	4.1
43	DJ	39	PRO	4.1
3	AC	49	GLY	4.1
3	CC	23	ILE	4.1
3	CC	42	VAL	4.1
34	DA	1363	C	4.1
54	DU	6	ARG	4.0
34	DA	1202	G	4.0
52	BS	56	GLN	4.0
57	BZ	498	ILE	4.0
42	BI	35	GLU	4.0
16	CS	31	SER	4.0
16	CS	98	VAL	4.0
3	AC	159	ALA	4.0
3	CC	11	LEU	4.0
1	AA	2188	G	4.0
43	DJ	54	PHE	4.0
9	CK	78	SER	4.0
36	BC	160	ALA	4.0
57	DZ	655	TYR	4.0
3	CC	50	ILE	4.0
4	CD	275	LYS	3.9
42	DI	103	THR	3.9
42	DI	117	HIS	3.9
47	DN	21	TYR	3.9
37	BD	162	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
57	DZ	683	VAL	3.9
1	AA	2143	G	3.9
42	DI	15	ALA	3.9
57	DZ	429	ALA	3.9
40	BG	16	LEU	3.9
3	AC	55	SER	3.9
47	DN	34	TYR	3.9
36	DC	152	ILE	3.9
10	CL	111	LYS	3.9
1	CA	272(A)	U	3.9
37	DD	149	ALA	3.9
47	BN	2	ALA	3.9
3	AC	186	LEU	3.9
43	BJ	40	LEU	3.9
25	A1	2	SER	3.9
46	DM	99	ARG	3.9
3	AC	209	PHE	3.9
54	DU	4	GLY	3.9
57	BZ	404	VAL	3.9
1	CA	2117	A	3.9
3	AC	174	ALA	3.9
17	AT	130	ALA	3.9
37	BD	149	ALA	3.9
43	DJ	37	PRO	3.9
57	BZ	472	VAL	3.8
37	BD	157	LEU	3.8
40	DG	7	ALA	3.8
3	CC	225	ILE	3.8
45	DL	126	LYS	3.8
42	BI	67	GLY	3.8
3	AC	176	VAL	3.8
36	DC	120	VAL	3.8
3	CC	33	LEU	3.8
10	CL	84	LEU	3.8
52	BS	12	ASP	3.8
43	BJ	62	HIS	3.8
1	AA	2135	U	3.8
1	CA	2174	C	3.8
53	DT	74	LYS	3.8
57	DZ	487	ILE	3.8
3	CC	193	PHE	3.8
47	DN	2	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
57	DZ	593	ALA	3.8
52	BS	74	PHE	3.8
34	DA	1224	G	3.8
52	DS	9	VAL	3.8
37	DD	154	ASN	3.8
3	CC	52	PRO	3.8
52	DS	13	ASP	3.8
4	CD	276	LYS	3.7
54	BU	15	ARG	3.7
3	AC	33	LEU	3.7
52	DS	38	SER	3.7
9	AK	79	ALA	3.7
36	DC	182	ILE	3.7
44	DK	117	ASN	3.7
10	CL	118	THR	3.7
34	BA	630	G	3.7
35	DB	163	PHE	3.7
34	DA	1532	U	3.7
43	DJ	72	VAL	3.7
37	BD	49	ARG	3.7
3	CC	196	ALA	3.7
57	DZ	656	ALA	3.7
8	AH	2	SER	3.7
57	BZ	415	PRO	3.7
10	AL	135	GLY	3.7
47	DN	25	VAL	3.7
53	DT	25	ARG	3.7
43	DJ	61	GLU	3.7
57	DZ	614	GLU	3.7
53	BT	11	SER	3.7
9	CK	56	ASN	3.7
37	DD	161	ASN	3.7
53	BT	9	ASN	3.7
7	CG	34	LEU	3.7
37	BD	21	LEU	3.7
3	CC	37	LYS	3.7
45	BL	126	LYS	3.7
1	CA	1171	G	3.7
34	DA	1257	U	3.7
43	BJ	37	PRO	3.6
47	BN	14	PRO	3.6
10	AL	111	LYS	3.6

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Mol	Chain	Res	Type	RSRZ
37	DD	30	LYS	3.6
56	DY	74	C	3.6
1	AA	2138	G	3.6
3	AC	37	LYS	3.6
46	DM	64	TRP	3.6
35	DB	136	VAL	3.6
34	DA	1320	C	3.6
35	DB	131	PRO	3.6
37	BD	166	LYS	3.6
57	DZ	517	LEU	3.6
3	AC	208	THR	3.6
57	DZ	417	THR	3.6
3	CC	204	GLY	3.6
9	AK	53	VAL	3.6
35	DB	101	MET	3.6
46	DM	88	ARG	3.6
49	BP	82	GLN	3.6
52	BS	80	TYR	3.6
42	DI	49	PRO	3.6
22	AY	1	MET	3.6
41	DH	3	THR	3.6
36	DC	189	ALA	3.6
22	CY	1	MET	3.5
21	CX	68	ARG	3.5
57	DZ	488	THR	3.5
9	AK	42	GLN	3.5
57	DZ	85	PRO	3.5
57	DZ	22	ASP	3.5
36	DC	87	LEU	3.5
34	DA	1190	G	3.5
3	AC	59	VAL	3.5
40	DG	17	VAL	3.5
57	BZ	501	THR	3.5
37	DD	5	ILE	3.5
37	BD	154	ASN	3.5
4	AD	276	LYS	3.5
42	DI	112	LYS	3.5
43	DJ	65	LEU	3.5
10	CL	114	ASP	3.5
16	CS	3	ARG	3.5
36	DC	158	GLY	3.5
52	DS	11	VAL	3.5

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Mol	Chain	Res	Type	RSRZ
1	CA	2115	G	3.5
56	BY	34	G	3.5
9	CK	30	GLN	3.5
3	AC	166	ASN	3.5
3	AC	178	LYS	3.5
3	AC	206	LYS	3.5
3	CC	27	ALA	3.5
36	DC	154	SER	3.5
42	DI	11	LYS	3.5
3	AC	17	PRO	3.5
42	DI	123	PRO	3.5
10	CL	77	LEU	3.5
3	AC	167	ASP	3.5
46	BM	87	TYR	3.5
3	CC	59	VAL	3.5
10	CL	92	GLY	3.5
57	BZ	481	VAL	3.5
49	BP	19	ILE	3.5
1	CA	2118	U	3.5
1	CA	2147	G	3.5
3	CC	164	PHE	3.5
56	DY	1	G	3.5
16	CS	36	TYR	3.5
46	DM	102	ARG	3.5
52	DS	37	ARG	3.5
57	BZ	430	ARG	3.5
43	BJ	38	ILE	3.4
31	A7	48	LYS	3.4
3	CC	205	ALA	3.4
10	CL	108	ALA	3.4
57	BZ	653	PHE	3.4
57	BZ	422	GLU	3.4
16	CS	49	VAL	3.4
52	DS	49	ILE	3.4
52	BS	76	PRO	3.4
3	AC	53	ARG	3.4
42	DI	126	SER	3.4
47	DN	31	ARG	3.4
37	BD	179	GLU	3.4
3	AC	172	ILE	3.4
47	DN	38	GLY	3.4
1	CA	2125	G	3.4

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Mol	Chain	Res	Type	RSRZ
34	DA	1116	C	3.4
9	AK	30	GLN	3.4
1	CA	1083	U	3.4
35	DB	21	ARG	3.4
52	BS	29	ARG	3.4
3	AC	23	ILE	3.4
40	BG	21	VAL	3.4
43	DJ	6	ILE	3.4
3	AC	71	LYS	3.4
7	CG	53	LEU	3.4
35	DB	196	LEU	3.4
3	CC	35	THR	3.4
9	AK	126	ALA	3.4
1	AA	2134	G	3.4
57	BZ	630	GLN	3.4
7	CG	157	ILE	3.4
10	AL	136	VAL	3.4
10	CL	126	MET	3.3
57	BZ	437	THR	3.3
9	CK	95	GLN	3.3
34	BA	1363	C	3.3
3	CC	162	ILE	3.3
10	AL	99	ILE	3.3
22	CY	4	LYS	3.3
43	BJ	69	ASN	3.3
53	DT	9	ASN	3.3
36	DC	12	LEU	3.3
36	DC	133	ALA	3.3
41	DH	4	ASP	3.3
34	DA	1092	A	3.3
9	CK	50	ARG	3.3
24	C0	44	ARG	3.3
40	BG	4	ARG	3.3
42	BI	66	ARG	3.3
52	DS	69	HIS	3.3
9	CK	89	ALA	3.3
36	DC	199	LYS	3.3
57	DZ	402	ILE	3.3
10	CL	96	VAL	3.3
35	DB	7	VAL	3.3
3	CC	203	GLU	3.3
52	BS	15	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
1	AA	2167	C	3.3
1	AA	2201	C	3.3
3	CC	7	ARG	3.3
9	AK	49	ALA	3.3
10	CL	81	ALA	3.3
17	CT	130	ALA	3.3
1	CA	2319	G	3.3
4	AD	275	LYS	3.3
22	CY	107	ASP	3.3
40	BG	80	VAL	3.3
9	CK	112	LEU	3.3
40	BG	26	PHE	3.2
47	DN	29	ARG	3.2
52	DS	75	ALA	3.2
52	DS	78	ARG	3.2
43	BJ	4	ILE	3.2
57	DZ	621	ILE	3.2
46	BM	98	VAL	3.2
43	DJ	8	LEU	3.2
35	DB	99	GLY	3.2
46	BM	100	GLY	3.2
34	DA	1236	A	3.2
9	CK	82	PHE	3.2
52	DS	10	PHE	3.2
9	CK	43	ALA	3.2
46	DM	5	ALA	3.2
36	DC	68	VAL	3.2
36	DC	155	GLY	3.2
42	BI	2	GLU	3.2
1	CA	2112	G	3.2
3	CC	54	ARG	3.2
3	AC	205	ALA	3.2
9	AK	124	ALA	3.2
10	AL	127	ILE	3.2
3	AC	44	VAL	3.2
36	DC	198	VAL	3.2
3	AC	217	THR	3.2
9	CK	85	ASP	3.2
52	BS	68	GLY	3.2
34	BA	1320	C	3.2
43	DJ	63	PHE	3.2
3	CC	21	TYR	3.2

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Mol	Chain	Res	Type	RSRZ
42	DI	36	TYR	3.2
45	DL	69	TYR	3.2
46	DM	78	ILE	3.2
46	DM	87	TYR	3.2
55	DV	14	A	3.2
57	DZ	601	ILE	3.2
52	DS	67	VAL	3.2
46	BM	90	LEU	3.2
57	DZ	641	GLN	3.2
41	BH	24	THR	3.2
43	DJ	99	LYS	3.2
57	DZ	223	PHE	3.2
3	CC	163	GLU	3.2
16	CS	17	ARG	3.2
1	CA	2128	C	3.2
1	CA	2129	C	3.2
34	DA	1030(B)	C	3.2
34	DA	1149	C	3.2
9	CK	34	ALA	3.1
35	DB	161	ALA	3.1
44	DK	75	TYR	3.1
3	AC	11	LEU	3.1
42	BI	47	LEU	3.1
3	AC	204	GLY	3.1
37	BD	23	GLY	3.1
16	CS	97	ARG	3.1
57	BZ	436	PRO	3.1
40	BG	83	ALA	3.1
3	AC	225	ILE	3.1
43	DJ	23	ILE	3.1
57	DZ	617	MET	3.1
34	DA	1322	C	3.1
3	CC	57	GLN	3.1
43	DJ	10	GLY	3.1
52	BS	33	THR	3.1
9	CK	55	LYS	3.1
47	BN	11	LYS	3.1
42	DI	10	ARG	3.1
3	CC	199	ALA	3.1
17	CT	131	ALA	3.1
42	BI	53	VAL	3.1
46	DM	60	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
34	DA	1066	C	3.1
36	BC	4	LYS	3.1
3	AC	193	PHE	3.1
43	DJ	19	SER	3.1
1	AA	572	A	3.1
56	DY	73	A	3.1
3	AC	227	PRO	3.1
35	DB	201	ILE	3.1
9	CK	40	LEU	3.1
53	DT	14	LYS	3.1
6	CF	208	GLY	3.1
3	CC	218	THR	3.1
34	BA	1030(B)	C	3.1
42	BI	64	THR	3.1
8	CH	2	SER	3.1
1	CA	2113	U	3.1
1	CA	1086	A	3.1
3	AC	192	ALA	3.1
34	DA	1286	A	3.1
42	DI	43	ALA	3.1
43	BJ	73	ASP	3.1
55	BV	13	A	3.1
9	CK	51	LEU	3.0
36	DC	207	VAL	3.0
9	AK	83	TYR	3.0
54	DU	18	TYR	3.0
3	CC	211	ARG	3.0
9	AK	106	GLN	3.0
43	BJ	45	ARG	3.0
45	BL	89	ARG	3.0
46	DM	106	ASN	3.0
46	DM	103	THR	3.0
52	DS	33	THR	3.0
3	AC	221	PRO	3.0
1	CA	34	C	3.0
1	CA	1026	U	3.0
47	DN	10	ALA	3.0
45	BL	18	VAL	3.0
17	AT	108	ARG	3.0
42	DI	114	TYR	3.0
36	DC	10	PHE	3.0
36	DC	8	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
57	DZ	584	ILE	3.0
42	DI	2	GLU	3.0
46	DM	19	LEU	3.0
1	AA	2187	G	3.0
56	DY	19	G	3.0
46	DM	92	HIS	3.0
52	DS	14	HIS	3.0
43	DJ	46	ARG	3.0
35	BB	66	GLY	3.0
43	BJ	54	PHE	3.0
47	DN	7	ILE	3.0
37	BD	147	ALA	3.0
1	AA	271	U	3.0
3	AC	20	VAL	3.0
28	C4	56	VAL	3.0
42	BI	17	VAL	3.0
10	AL	114	ASP	3.0
1	AA	299	G	3.0
35	DB	40	HIS	3.0
34	DA	980	C	3.0
16	CS	29	PHE	3.0
43	BJ	47	PHE	3.0
10	CL	76	TYR	3.0
42	DI	125	TYR	3.0
7	CG	32	PRO	3.0
52	DS	31	ILE	3.0
42	DI	64	THR	3.0
17	CT	128	GLU	3.0
23	AZ	135	GLU	3.0
3	AC	54	ARG	2.9
3	CC	53	ARG	2.9
44	DK	36	ASP	2.9
47	DN	49	HIS	2.9
52	DS	36	ARG	2.9
3	CC	38	PHE	2.9
1	AA	34	C	2.9
1	CA	2146	C	2.9
34	DA	1195	C	2.9
53	BT	18	GLN	2.9
10	CL	113	PRO	2.9
34	DA	630	G	2.9
36	BC	184	TYR	2.9

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Mol	Chain	Res	Type	RSRZ
54	BU	18	TYR	2.9
57	DZ	631	ILE	2.9
1	CA	229	A	2.9
34	DA	965	A	2.9
9	CK	57	THR	2.9
35	BB	133	LYS	2.9
36	DC	153	VAL	2.9
58	DX	2	VAL	2.9
10	AL	75	SER	2.9
10	CL	105	LEU	2.9
42	BI	81	ILE	2.9
21	CX	33	LYS	2.9
45	BL	114	LYS	2.9
47	BN	50	LYS	2.9
9	CK	49	ALA	2.9
42	BI	46	ALA	2.9
42	DI	46	ALA	2.9
42	DI	61	ALA	2.9
52	DS	39	THR	2.9
34	DA	1363(A)	A	2.9
35	DB	164	VAL	2.9
47	DN	41	ARG	2.9
52	BS	4	SER	2.9
38	DE	45	PHE	2.9
3	AC	202	PRO	2.9
3	CC	182	PRO	2.9
43	DJ	98	ILE	2.9
57	DZ	39	ILE	2.9
9	AK	35	LYS	2.9
43	BJ	55	LYS	2.9
3	AC	199	ALA	2.9
9	CK	39	ALA	2.9
57	BZ	412	ALA	2.9
57	BZ	429	ALA	2.9
3	CC	63	VAL	2.9
35	DB	134	GLU	2.9
42	DI	17	VAL	2.9
42	DI	108	VAL	2.9
57	DZ	635	GLU	2.9
1	CA	2108	C	2.9
1	CA	2111	C	2.9
43	BJ	5	ARG	2.9

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Mol	Chain	Res	Type	RSRZ
55	DV	15	A	2.9
56	BY	35	A	2.9
9	CK	52	PHE	2.9
9	CK	99	SER	2.9
1	CA	271(K)	U	2.9
7	CG	172	LEU	2.9
43	BJ	71	LEU	2.9
45	DL	47	LYS	2.9
47	DN	14	PRO	2.9
36	BC	193	TYR	2.9
57	DZ	432	ALA	2.9
3	CC	217	THR	2.9
35	DB	112	VAL	2.9
57	BZ	91	THR	2.9
37	DD	139	ARG	2.9
3	CC	166	ASN	2.9
3	CC	209	PHE	2.8
42	DI	37	PHE	2.8
35	DB	214	ILE	2.8
36	DC	157	ILE	2.8
43	DJ	71	LEU	2.8
34	DA	933	G	2.8
3	CC	46	ALA	2.8
46	BM	107	ALA	2.8
10	CL	117	THR	2.8
28	A4	30	GLU	2.8
3	AC	38	PHE	2.8
35	BB	70	PHE	2.8
10	AL	120	LEU	2.8
36	DC	43	LEU	2.8
47	DN	47	LEU	2.8
50	DQ	98	LEU	2.8
57	BZ	402	ILE	2.8
37	DD	51	PRO	2.8
1	CA	652(B)	A	2.8
57	DZ	425	SER	2.8
57	DZ	89	ASP	2.8
34	DA	1150	U	2.8
43	DJ	32	ALA	2.8
10	AL	96	VAL	2.8
36	DC	103	VAL	2.8
3	AC	214	TYR	2.8

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Mol	Chain	Res	Type	RSRZ
21	CX	69	TYR	2.8
40	DG	5	ARG	2.8
56	BW	44	G	2.8
3	AC	201	LYS	2.8
16	CS	11	LYS	2.8
9	CK	28	ASN	2.8
36	DC	159	GLY	2.8
46	DM	95	GLY	2.8
57	DZ	82	ILE	2.8
1	AA	2141	A	2.8
56	DY	36	A	2.8
3	CC	51	ASP	2.8
3	CC	167	ASP	2.8
9	AK	87	VAL	2.8
43	DJ	34	VAL	2.8
50	DQ	35	VAL	2.8
57	BZ	435	ASP	2.8
43	DJ	66	ARG	2.8
50	DQ	91	ARG	2.8
57	DZ	114	VAL	2.8
9	CK	84	GLU	2.8
42	DI	113	LYS	2.8
9	CK	58	LEU	2.8
35	DB	115	LEU	2.8
47	BN	6	LEU	2.8
52	DS	30	LEU	2.8
37	DD	124	GLY	2.8
57	DZ	268	GLY	2.8
3	CC	17	PRO	2.8
48	BO	2	PRO	2.8
57	DZ	634	MET	2.8
9	CK	109	SER	2.8
9	CK	7	VAL	2.8
23	CZ	164	ALA	2.8
25	C1	26	ARG	2.8
36	DC	129	ALA	2.8
40	DG	2	ALA	2.8
47	DN	19	ARG	2.8
50	DQ	77	VAL	2.8
52	DS	60	VAL	2.8
57	DZ	608	VAL	2.8
57	DZ	628	ARG	2.8

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Mol	Chain	Res	Type	RSRZ
1	AA	218	A	2.8
1	AA	12	U	2.8
37	BD	163	GLU	2.8
43	DJ	22	LYS	2.8
57	BZ	223	PHE	2.8
3	CC	69	LEU	2.8
35	BB	127	ILE	2.8
9	AK	48	GLY	2.8
44	DK	49	GLY	2.8
46	BM	24	GLY	2.8
1	CA	2148	G	2.7
56	BY	18	G	2.7
3	AC	165	ARG	2.7
37	BD	3	ARG	2.7
42	DI	109	VAL	2.7
42	DI	122	ALA	2.7
51	BR	20	ALA	2.7
3	CC	56	ASP	2.7
35	BB	22	LYS	2.7
7	CG	54	GLU	2.7
42	BI	62	TYR	2.7
44	DK	25	TYR	2.7
1	CA	2169	A	2.7
34	DA	1531	A	2.7
35	BB	67	THR	2.7
35	DB	221	LEU	2.7
3	AC	173	HIS	2.7
9	CK	116	ILE	2.7
3	CC	207	GLY	2.7
36	DC	13	GLY	2.7
36	BC	11	ARG	2.7
10	CL	124	ALA	2.7
42	DI	26	VAL	2.7
9	AK	78	SER	2.7
1	AA	2153	G	2.7
1	CA	1074	G	2.7
1	CA	2116	G	2.7
34	BA	1036	G	2.7
34	DA	1185	G	2.7
35	DB	102	LEU	2.7
38	DE	31	LEU	2.7
28	A4	57	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
3	AC	218	THR	2.7
3	CC	62	THR	2.7
35	DB	222	ILE	2.7
42	DI	7	THR	2.7
56	DY	33	U	2.7
35	BB	131	PRO	2.7
52	DS	2	PRO	2.7
57	DZ	502	GLY	2.7
38	DE	10	MET	2.7
4	AD	262	ARG	2.7
9	AK	6	ASN	2.7
37	BD	73	ARG	2.7
41	BH	122	ARG	2.7
37	DD	117	ALA	2.7
16	CS	58	LEU	2.7
42	DI	102	LEU	2.7
10	AL	133	SER	2.7
37	BD	152	SER	2.7
3	AC	198	GLU	2.7
35	DB	170	GLU	2.7
36	DC	5	ILE	2.7
40	BG	27	ILE	2.7
57	BZ	433	GLU	2.7
37	BD	180	GLY	2.7
41	BH	5	PRO	2.7
37	BD	118	ARG	2.7
43	DJ	43	ARG	2.7
35	BB	97	TRP	2.7
3	AC	196	ALA	2.7
9	CK	97	ALA	2.7
50	BQ	100	LYS	2.7
53	BT	10	LEU	2.7
36	DC	128	PHE	2.7
35	BB	214	ILE	2.7
3	CC	55	SER	2.7
28	C4	65	ASP	2.7
1	AA	2189	U	2.7
14	CQ	59	ARG	2.6
9	AK	39	ALA	2.6
34	DA	1036	G	2.6
40	DG	156	TRP	2.6
54	BU	14	TRP	2.6

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Mol	Chain	Res	Type	RSRZ
42	DI	73	GLN	2.6
37	BD	155	LEU	2.6
40	DG	16	LEU	2.6
47	DN	39	LEU	2.6
7	CG	178	PHE	2.6
10	CL	112	MET	2.6
38	DE	81	GLU	2.6
37	DD	152	SER	2.6
41	DH	23	SER	2.6
43	DJ	68	HIS	2.6
3	AC	61	GLY	2.6
37	BD	2	GLY	2.6
43	BJ	42	THR	2.6
57	DZ	84	THR	2.6
16	AS	3	ARG	2.6
52	BS	32	LYS	2.6
36	BC	207	VAL	2.6
39	DF	90	VAL	2.6
46	DM	7	VAL	2.6
57	DZ	514	VAL	2.6
3	CC	159	ALA	2.6
9	AK	88	ALA	2.6
7	CG	19	LEU	2.6
49	BP	6	LEU	2.6
9	CK	47	ASN	2.6
1	AA	1878	A	2.6
3	AC	50	ILE	2.6
55	BV	12	A	2.6
34	BA	1190	G	2.6
54	BU	11	GLY	2.6
54	DU	23	PRO	2.6
9	CK	37	THR	2.6
57	DZ	16	GLY	2.6
3	AC	223	VAL	2.6
40	DG	118	VAL	2.6
42	BI	65	VAL	2.6
57	BZ	647	VAL	2.6
3	CC	174	ALA	2.6
46	DM	33	ALA	2.6
36	DC	77	ILE	2.6
57	DZ	653	PHE	2.6
1	AA	2136	A	2.6

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Mol	Chain	Res	Type	RSRZ
9	CK	65	GLU	2.6
3	CC	6	LYS	2.6
3	CC	224	ARG	2.6
36	BC	190	ARG	2.6
46	DM	85	GLY	2.6
48	DO	68	ARG	2.6
57	BZ	471	LYS	2.6
3	AC	62	THR	2.6
28	C4	67	TYR	2.6
40	BG	77	SER	2.6
40	DG	18	TYR	2.6
43	DJ	100	THR	2.6
49	BP	38	TYR	2.6
50	BQ	99	SER	2.6
2	CB	28	C	2.6
34	DA	1234	C	2.6
42	BI	105	ASP	2.6
42	BI	41	VAL	2.6
57	BZ	88	VAL	2.6
1	CA	1082	U	2.6
28	C4	49	PHE	2.6
47	BN	16	PHE	2.6
57	BZ	90	PHE	2.6
3	AC	219	MET	2.6
9	AK	129	PRO	2.6
35	BB	12	GLU	2.6
47	DN	46	GLU	2.6
50	DQ	87	LYS	2.6
6	CF	207	GLY	2.6
1	CA	2173	A	2.6
34	DA	1183	A	2.6
3	CC	208	THR	2.6
22	CY	83	THR	2.6
28	A4	52	THR	2.6
28	C4	66	SER	2.6
57	BZ	425	SER	2.6
10	CL	122	ALA	2.5
28	C4	9	LEU	2.6
40	BG	7	ALA	2.5
40	BG	38	LEU	2.6
42	BI	43	ALA	2.5
57	BZ	567	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
1	CA	1104	C	2.5
1	CA	2124	G	2.5
1	CA	2833	G	2.5
34	BA	631	G	2.5
34	DA	1397	C	2.5
56	BY	1	G	2.5
36	DC	134	ILE	2.5
53	BT	14	LYS	2.5
33	A9	28	GLU	2.5
40	DG	32	ARG	2.5
54	BU	23	PRO	2.5
54	DU	24	ARG	2.5
57	BZ	379	GLY	2.5
7	CG	12	TYR	2.5
38	DE	120	THR	2.5
43	DJ	49	VAL	2.5
57	BZ	94	VAL	2.5
57	DZ	647	VAL	2.5
1	CA	900	A	2.5
50	DQ	13	ASP	2.5
16	CS	35	ILE	2.5
43	DJ	96	ILE	2.5
57	BZ	413	ILE	2.5
34	DA	1113	C	2.5
56	DY	75	C	2.5
1	AA	2190	G	2.5
2	AB	1	U	2.5
34	DA	971	G	2.5
34	DA	1033	G	2.5
35	DB	179	LYS	2.5
7	CG	118	ARG	2.5
42	DI	42	ARG	2.5
47	DN	57	ARG	2.5
3	CC	4	HIS	2.5
57	DZ	599	PRO	2.5
10	AL	85	GLU	2.5
10	CL	116	ASN	2.5
50	DQ	24	GLU	2.5
52	DS	53	ASN	2.5
10	AL	77	LEU	2.5
47	DN	44	LEU	2.5
51	DR	78	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
4	AD	2	ALA	2.5
43	DJ	50	ILE	2.5
57	BZ	178	ILE	2.5
3	CC	19	LYS	2.5
9	CK	98	LYS	2.5
3	CC	165	ARG	2.5
26	C2	51	ARG	2.5
27	C3	2	PRO	2.5
37	DD	29	PRO	2.5
1	AA	2196	C	2.5
10	CL	135	GLY	2.5
1	CA	2166	G	2.5
7	CG	133	LEU	2.5
34	DA	973	G	2.5
34	DA	1032	G	2.5
35	DB	93	VAL	2.5
42	DI	96	LEU	2.5
47	DN	18	VAL	2.5
57	DZ	424	LEU	2.5
43	BJ	100	THR	2.5
3	CC	10	ALA	2.5
3	CC	192	ALA	2.5
40	DG	40	ALA	2.5
47	DN	20	ALA	2.5
57	BZ	528	ALA	2.5
3	CC	168	LYS	2.5
53	BT	70	SER	2.5
54	DU	3	LYS	2.5
46	BM	101	GLN	2.5
1	CA	2114	A	2.5
21	AX	68	ARG	2.5
3	AC	182	PRO	2.5
46	BM	113	PRO	2.5
1	CA	2150	U	2.5
8	CH	142	GLY	2.5
9	CK	110	GLY	2.5
40	DG	82	GLY	2.5
23	AZ	2	GLU	2.5
27	A3	60	GLU	2.5
47	BN	8	GLU	2.5
56	BY	33	U	2.5
3	CC	65	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
9	CK	125	LEU	2.5
10	AL	115	LEU	2.5
42	BI	19	LEU	2.5
3	CC	176	VAL	2.5
47	BN	25	VAL	2.5
1	CA	2789	C	2.5
34	DA	1384	C	2.5
35	DB	48	MET	2.5
50	DQ	44	ALA	2.5
57	BZ	449	THR	2.5
57	DZ	657	THR	2.5
1	AA	2228	G	2.4
9	CK	102	LYS	2.4
34	DA	1491	G	2.4
57	BZ	25	LYS	2.4
3	AC	56	ASP	2.4
10	CL	130	SER	2.4
43	DJ	73	ASP	2.4
52	DS	4	SER	2.4
9	CK	60	ARG	2.4
3	CC	183	PRO	2.4
9	CK	33	PRO	2.4
36	DC	73	PRO	2.4
1	AA	2803	A	2.4
1	CA	1067	A	2.4
57	DZ	618	GLY	2.4
3	CC	25	GLU	2.4
13	CP	99	LEU	2.4
42	DI	56	LEU	2.4
35	DB	229	VAL	2.4
40	DG	83	ALA	2.4
3	CC	216	THR	2.4
44	DK	125	PHE	2.4
54	BU	21	TYR	2.4
56	BY	74	C	2.4
44	DK	126	ARG	2.4
1	AA	2163	G	2.4
1	CA	1106	G	2.4
1	CA	2110	G	2.4
1	CA	2120	G	2.4
2	CB	24	G	2.4
3	CC	66	PRO	2.4

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Mol	Chain	Res	Type	RSRZ
7	CG	2	PRO	2.4
8	CH	36	PRO	2.4
16	CS	56	LEU	2.4
46	BM	96	LEU	2.4
46	DM	56	LEU	2.4
48	BO	57	LEU	2.4
3	AC	42	VAL	2.4
3	AC	213	VAL	2.4
9	AK	7	VAL	2.4
37	DD	156	GLU	2.4
1	CA	2119	A	2.4
34	DA	653	A	2.4
34	DA	975	A	2.4
34	DA	994	A	2.4
1	CA	2132	U	2.4
2	CB	1	U	2.4
40	BG	70	LYS	2.4
42	BI	45	ALA	2.4
46	DM	13	LYS	2.4
47	DN	15	LYS	2.4
53	DT	27	LYS	2.4
57	BZ	220	ALA	2.4
40	DG	43	PHE	2.4
49	DP	9	PHE	2.4
3	AC	41	THR	2.4
28	C4	27	THR	2.4
40	DG	24	THR	2.4
54	BU	8	THR	2.4
57	DZ	486	THR	2.4
57	BZ	205	TYR	2.4
57	DZ	212	TYR	2.4
37	DD	47	ARG	2.4
38	DE	24	ARG	2.4
42	DI	120	ARG	2.4
53	BT	8	ARG	2.4
36	DC	7	PRO	2.4
36	DC	42	LEU	2.4
36	DC	167	TRP	2.4
37	BD	11	LEU	2.4
46	DM	66	LEU	2.4
3	AC	170	GLY	2.4
53	BT	60	GLU	2.4

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Mol	Chain	Res	Type	RSRZ
57	DZ	198	GLU	2.4
1	CA	2106	G	2.4
1	CA	2133	G	2.4
34	BA	1002	G	2.4
14	CQ	22	LYS	2.4
1	CA	2602	A	2.4
34	BA	532	A	2.4
47	DN	36	PHE	2.4
55	BV	15	A	2.4
57	BZ	470	PHE	2.4
57	BZ	523	PHE	2.4
57	DZ	639	ASN	2.4
57	DZ	501	THR	2.4
31	A7	47	ARG	2.4
9	CK	115	GLN	2.4
43	BJ	77	PRO	2.4
43	DJ	41	PRO	2.4
36	DC	196	LEU	2.4
21	CX	1	MET	2.4
3	AC	4	HIS	2.4
3	CC	222	SER	2.4
37	BD	113	SER	2.4
43	BJ	52	GLY	2.4
50	DQ	99	SER	2.4
57	BZ	594	VAL	2.4
7	CG	52	ILE	2.4
54	BU	3	LYS	2.4
9	AK	11	ALA	2.4
23	CZ	136	PHE	2.4
35	DB	152	PHE	2.4
46	DM	30	ALA	2.4
9	AK	28	ASN	2.4
26	A2	69	ARG	2.4
1	CA	1913	A	2.4
34	DA	1220	G	2.4
34	DA	1356	G	2.4
48	BO	88	ARG	2.4
52	DS	79	THR	2.4
56	DY	35	A	2.4
10	CL	134	MET	2.3
37	BD	183	GLY	2.3
11	AN	9	VAL	2.3

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Mol	Chain	Res	Type	RSRZ
37	DD	83	SER	2.3
47	DN	11	LYS	2.3
54	DU	5	ASP	2.3
57	DZ	594	VAL	2.3
36	DC	206	GLU	2.3
46	BM	32	GLU	2.3
47	DN	42	ILE	2.3
1	CA	1049	C	2.3
34	DA	1321	C	2.3
56	BW	17	C	2.3
10	CL	131	ALA	2.3
43	BJ	32	ALA	2.3
43	DJ	26	ALA	2.3
22	AY	92	ASN	2.3
57	DZ	-56	ASN	2.3
1	CA	1420	U	2.3
36	BC	43	LEU	2.3
44	BK	25	TYR	2.3
1	CA	11	G	2.3
1	CA	2121	G	2.3
1	CA	2156	G	2.3
1	CA	2318	G	2.3
34	DA	1047	G	2.3
43	BJ	33	GLN	2.3
56	BY	70	G	2.3
56	DY	71	G	2.3
36	DC	171	GLY	2.3
50	DQ	37	LYS	2.3
3	AC	15	VAL	2.3
9	CK	27	VAL	2.3
11	CN	140	VAL	2.3
43	BJ	74	ILE	2.3
24	C0	68	GLU	2.3
27	C3	60	GLU	2.3
9	AK	97	ALA	2.3
35	DB	122	PHE	2.3
35	DB	218	ALA	2.3
8	CH	6	ARG	2.3
16	CS	10	ARG	2.3
36	DC	11	ARG	2.3
53	DT	8	ARG	2.3
34	DA	1054	C	2.3

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Mol	Chain	Res	Type	RSRZ
52	BS	48	THR	2.3
10	AL	126	MET	2.3
13	CP	105	LEU	2.3
41	DH	63	LEU	2.3
1	CA	1078	U	2.3
9	CK	77	PRO	2.3
47	BN	21	TYR	2.3
3	AC	168	LYS	2.3
3	CC	71	LYS	2.3
7	CG	84	LYS	2.3
13	CP	76	LYS	2.3
57	DZ	677	GLN	2.3
10	AL	89	HIS	2.3
34	DA	935	A	2.3
36	BC	76	VAL	2.3
42	BI	115	GLY	2.3
47	BN	18	VAL	2.3
49	DP	2	VAL	2.3
43	BJ	98	ILE	2.3
1	CA	2123	G	2.3
1	CA	2162	G	2.3
9	AK	84	GLU	2.3
34	BA	1003	G	2.3
34	DA	941	G	2.3
34	DA	963	G	2.3
57	BZ	438	PHE	2.3
57	DZ	93	GLU	2.3
9	CK	11	ALA	2.3
10	CL	88	ALA	2.3
16	CS	23	ARG	2.3
42	BI	121	ARG	2.3
57	DZ	91	THR	2.3
3	CC	202	PRO	2.3
9	AK	77	PRO	2.3
42	DI	21	PRO	2.3
43	BJ	76	ASN	2.3
3	AC	8	TYR	2.3
56	BW	45	U	2.3
56	BY	20	U	2.3
4	CD	238	GLY	2.3
35	DB	71	VAL	2.3
36	DC	69	HIS	2.3

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Mol	Chain	Res	Type	RSRZ
37	DD	148	VAL	2.3
42	BI	117	HIS	2.3
52	BS	72	GLY	2.3
52	DS	68	GLY	2.3
57	BZ	86	GLY	2.3
43	BJ	50	ILE	2.3
43	BJ	96	ILE	2.3
34	BA	1447	A	2.3
35	DB	129	GLU	2.3
42	DI	18	PHE	2.3
47	DN	16	PHE	2.3
56	BY	36	A	2.3
57	DZ	433	GLU	2.3
37	DD	153	ARG	2.3
39	DF	71	ARG	2.3
53	BT	17	ARG	2.3
57	DZ	644	ARG	2.3
35	DB	195	ASP	2.3
43	BJ	35	SER	2.3
43	DJ	58	ASP	2.3
1	AA	2184	G	2.3
1	AA	2204	G	2.3
34	BA	1124	G	2.3
34	BA	1224	G	2.3
34	DA	1124	G	2.3
36	DC	178	LEU	2.3
56	BY	19	G	2.3
56	DY	70	G	2.3
36	BC	192	THR	2.3
41	DH	24	THR	2.3
57	DZ	444	PRO	2.3
1	AA	2130	C	2.2
8	CH	107	VAL	2.2
1	CA	1081	U	2.2
1	CA	2145	C	2.2
10	CL	89	HIS	2.2
16	CS	85	VAL	2.2
37	DD	198	VAL	2.2
40	DG	110	GLN	2.2
42	BI	39	GLY	2.2
45	BL	64	TYR	2.2
35	DB	140	HIS	2.2

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Mol	Chain	Res	Type	RSRZ
46	DM	4	ILE	2.2
50	DQ	36	ILE	2.2
57	DZ	530	VAL	2.2
22	CY	69	ALA	2.2
31	C7	47	ARG	2.2
42	BI	120	ARG	2.2
43	DJ	70	ARG	2.2
47	BN	3	ARG	2.2
47	DN	12	ARG	2.2
57	DZ	-19	GLU	2.2
57	DZ	645	ALA	2.2
3	AC	222	SER	2.2
24	C0	75	LEU	2.2
37	BD	174	LEU	2.2
57	BZ	216	LEU	2.2
57	BZ	598	ASP	2.2
52	DS	42	PRO	2.2
57	DZ	636	PRO	2.2
34	BA	220	G	2.2
36	BC	8	ILE	2.2
37	BD	77	ASN	2.2
40	BG	81	GLY	2.2
43	DJ	74	ILE	2.2
49	DP	65	GLN	2.2
56	DY	18	G	2.2
57	DZ	426	GLN	2.2
34	BA	1257	U	2.2
1	AA	2200	C	2.2
1	CA	2161	C	2.2
1	CA	2179	C	2.2
2	CB	27	C	2.2
8	CH	59	ARG	2.2
24	C0	74	ARG	2.2
46	DM	91	ARG	2.2
49	BP	80	PHE	2.2
34	BA	1243	C	2.2
34	BA	1317	C	2.2
9	CK	79	ALA	2.2
40	BG	156	TRP	2.2
40	DG	73	MET	2.2
10	CL	120	LEU	2.2
35	DB	138	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
35	BB	160	ASP	2.2
34	DA	1285	A	2.2
37	DD	91	SER	2.2
42	BI	123	PRO	2.2
35	DB	162	ILE	2.2
43	DJ	38	ILE	2.2
46	DM	22	ILE	2.2
42	DI	30	GLY	2.2
42	DI	68	GLY	2.2
57	BZ	372	GLY	2.2
57	DZ	408	VAL	2.2
3	AC	58	ASN	2.2
23	CZ	9	TYR	2.2
38	DE	130	ASN	2.2
42	DI	62	TYR	2.2
8	CH	3	ARG	2.2
35	BB	152	PHE	2.2
47	DN	35	ARG	2.2
52	DS	3	ARG	2.2
1	AA	2843	G	2.2
1	CA	2159	G	2.2
10	CL	82	ALA	2.2
9	CK	127	GLU	2.2
10	CL	137	GLU	2.2
28	C4	57	GLU	2.2
34	DA	1310	G	2.2
34	DA	1361	G	2.2
42	DI	12	GLU	2.2
56	BY	5	G	2.2
25	C1	98	LEU	2.2
34	BA	1029	C	2.2
26	C2	52	ASP	2.2
36	BC	7	PRO	2.2
36	DC	17	ASP	2.2
3	AC	64	SER	2.2
8	CH	49	VAL	2.2
9	AK	107	VAL	2.2
28	C4	44	THR	2.2
31	C7	46	VAL	2.2
33	C9	17	ILE	2.2
34	BA	59	A	2.2
34	DA	1360	A	2.2

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Mol	Chain	Res	Type	RSRZ
3	CC	5	GLY	2.2
3	CC	160	GLY	2.2
23	AZ	160	GLY	2.2
41	DH	71	GLY	2.2
3	CC	214	TYR	2.2
36	BC	172	ARG	2.2
38	BE	107	ARG	2.2
42	BI	114	TYR	2.2
42	BI	128	ARG	2.2
44	DK	50	TYR	2.2
45	DL	89	ARG	2.2
49	BP	5	ARG	2.2
52	BS	61	TYR	2.2
37	BD	181	MET	2.2
9	AK	89	ALA	2.2
3	AC	65	LEU	2.2
1	AA	432	U	2.2
3	AC	163	GLU	2.2
9	AK	45	LYS	2.2
28	C4	30	GLU	2.2
36	BC	204	LEU	2.2
37	DD	78	LEU	2.2
50	BQ	24	GLU	2.2
10	AL	101	TRP	2.2
10	CL	101	TRP	2.2
1	AA	2147	G	2.2
1	CA	2155	G	2.2
34	BA	1030(C)	G	2.2
34	DA	1221	G	2.2
56	DY	15	G	2.2
57	BZ	599	PRO	2.2
34	DA	940	C	2.2
34	DA	1223	C	2.2
48	BO	3	ILE	2.2
40	DG	21	VAL	2.2
42	DI	86	VAL	2.2
57	DZ	561	VAL	2.2
3	AC	160	GLY	2.1
3	AC	220	GLY	2.1
43	BJ	36	GLY	2.1
1	AA	2191	A	2.1
1	CA	1084	A	2.1

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Mol	Chain	Res	Type	RSRZ
7	CG	26	GLN	2.1
28	A4	58	ARG	2.1
36	DC	186	PHE	2.1
37	DD	115	ARG	2.1
38	DE	18	ARG	2.1
7	CG	90	LEU	2.1
23	CZ	5	LEU	2.1
31	C7	45	ALA	2.1
48	DO	66	LEU	2.1
52	DS	22	LEU	2.1
3	AC	43	GLU	2.1
1	CA	958	U	2.1
2	CB	55	U	2.1
40	DG	42	ILE	2.1
35	BB	7	VAL	2.1
41	DH	79	VAL	2.1
42	DI	65	VAL	2.1
43	DJ	94	VAL	2.1
57	BZ	530	VAL	2.1
57	DZ	619	ASP	2.1
23	CZ	153	SER	2.1
36	DC	194	GLY	2.1
43	DJ	48	THR	2.1
46	DM	6	GLY	2.1
52	BS	38	SER	2.1
1	AA	670	C	2.1
1	CA	1047	G	2.1
1	CA	1537	G	2.1
3	AC	216	THR	2.1
7	CG	161	THR	2.1
10	CL	79	ARG	2.1
34	DA	89	C	2.1
34	DA	934	C	2.1
34	DA	945	G	2.1
34	DA	1048	G	2.1
34	DA	1061	G	2.1
34	DA	1139	G	2.1
34	DA	1353	G	2.1
34	DA	1354	C	2.1
40	BG	153	HIS	2.1
43	DJ	56	HIS	2.1
42	BI	101	PHE	2.1

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Mol	Chain	Res	Type	RSRZ
3	CC	187	ALA	2.1
7	AG	50	ALA	2.1
9	CK	29	TYR	2.1
36	BC	189	ALA	2.1
36	DC	184	TYR	2.1
43	BJ	8	LEU	2.1
49	BP	12	LYS	2.1
52	BS	30	LEU	2.1
53	DT	21	LYS	2.1
9	CK	126	ALA	2.1
23	CZ	184	ALA	2.1
57	DZ	419	ALA	2.1
37	DD	15	GLU	2.1
46	DM	73	GLU	2.1
57	BZ	95	GLU	2.1
28	C4	18	CYS	2.1
10	AL	113	PRO	2.1
34	BA	1065	U	2.1
42	DI	77	ILE	2.1
52	BS	9	VAL	2.1
6	CF	131	GLY	2.1
9	CK	72	ASP	2.1
17	AT	115	ARG	2.1
48	BO	89	GLY	2.1
52	DS	44	MET	2.1
52	DS	74	PHE	2.1
19	CV	85	LYS	2.1
39	BF	54	LYS	2.1
35	DB	149	LEU	2.1
53	DT	10	LEU	2.1
1	AA	935	C	2.1
7	CG	50	ALA	2.1
49	BP	64	ALA	2.1
56	BY	40	C	2.1
37	BD	20	TYR	2.1
1	AA	1221	G	2.1
1	AA	2123	G	2.1
1	AA	2142	G	2.1
1	AA	2176	G	2.1
1	CA	652(C)	G	2.1
1	CA	1091	G	2.1
34	BA	1001(A)	G	2.1

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Mol	Chain	Res	Type	RSRZ
34	BA	1032	G	2.1
3	CC	226	ASN	2.1
32	C8	56	GLU	2.1
50	BQ	49	GLU	2.1
2	CB	58	A	2.1
34	DA	1030(D)	A	2.1
34	DA	1349	A	2.1
3	AC	66	PRO	2.1
57	DZ	590	ILE	2.1
41	DH	97	VAL	2.1
57	BZ	440	VAL	2.1
57	DZ	542	VAL	2.1
3	CC	177	GLY	2.1
13	CP	116	GLY	2.1
22	CY	5	MET	2.1
24	C0	72	ARG	2.1
35	BB	36	ARG	2.1
43	BJ	31	GLY	2.1
21	CX	2	LYS	2.1
23	CZ	44	PHE	2.1
42	BI	78	LYS	2.1
35	BB	11	LEU	2.1
35	BB	61	LEU	2.1
42	BI	40	LEU	2.1
43	DJ	40	LEU	2.1
50	BQ	98	LEU	2.1
57	DZ	192	LEU	2.1
1	AA	2183	C	2.1
1	CA	2105	C	2.1
34	DA	1112	C	2.1
37	BD	15	GLU	2.1
41	BH	15	ASN	2.1
56	BY	4	C	2.1
35	DB	234	PRO	2.1
42	BI	98	PRO	2.1
43	DJ	75	ILE	2.1
1	CA	2157	G	2.1
34	DA	1002	G	2.1
34	DA	1365	G	2.1
34	DA	1447	A	2.1
56	DY	38	A	2.1
35	BB	136	VAL	2.1

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Mol	Chain	Res	Type	RSRZ
37	BD	9	CYS	2.1
34	DA	1219	U	2.1
34	DA	1345	U	2.1
35	BB	137	ARG	2.1
36	BC	88	ARG	2.1
38	DE	25	ARG	2.1
40	BG	89	MET	2.1
40	DG	149	ARG	2.1
46	BM	80	ARG	2.1
54	BU	22	ARG	2.1
57	DZ	160	ARG	2.1
42	DI	72	GLY	2.1
54	DU	11	GLY	2.1
3	AC	181	PHE	2.1
3	CC	200	HIS	2.1
57	BZ	672	PHE	2.1
22	CY	57	GLN	2.0
36	DC	177	THR	2.0
52	DS	48	THR	2.0
57	DZ	566	THR	2.0
35	DB	210	SER	2.0
42	DI	45	ALA	2.0
23	CZ	185	GLU	2.0
36	DC	161	GLU	2.0
8	CH	89	ILE	2.0
36	BC	39	ILE	2.0
57	BZ	92	ILE	2.0
57	DZ	405	PRO	2.0
52	BS	53	ASN	2.0
1	AA	155	C	2.0
7	CG	29	TRP	2.0
34	BA	1007	C	2.0
35	BB	90	MET	2.0
21	CX	65	ARG	2.0
36	BC	130	VAL	2.0
56	DY	56	C	2.0
57	DZ	74	TRP	2.0
42	DI	83	ARG	2.0
57	DZ	322	VAL	2.0
24	C0	49	LYS	2.0
47	DN	4	LYS	2.0
1	AA	934	A	2.0

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Mol	Chain	Res	Type	RSRZ
36	BC	155	GLY	2.0
42	BI	33	PHE	2.0
43	DJ	36	GLY	2.0
55	BV	14	A	2.0
57	BZ	242	LEU	2.0
57	BZ	525	PHE	2.0
57	DZ	629	GLY	2.0
34	DA	1364	U	2.0
1	AA	2146	G	2.0
1	CA	2151	G	2.0
34	DA	1241	G	2.0
34	DA	1258	G	2.0
34	DA	1323	G	2.0
34	DA	1343	G	2.0
36	BC	176	HIS	2.0
47	DN	53	LEU	2.0
24	C0	43	THR	2.0
3	AC	46	ALA	2.0
57	DZ	630	GLN	2.0
3	AC	51	ASP	2.0
47	DN	32	SER	2.0
26	C2	11	GLU	2.0
46	DM	9	ILE	2.0
57	BZ	631	ILE	2.0
57	DZ	105	ILE	2.0
57	DZ	461	ILE	2.0
8	CH	74	ASN	2.0
3	AC	161	ARG	2.0
10	CL	104	VAL	2.0
37	BD	112	VAL	2.0
37	DD	209	ARG	2.0
42	DI	28	VAL	2.0
3	AC	177	GLY	2.0
3	CC	70	GLY	2.0
7	CG	62	LEU	2.0
28	A4	49	PHE	2.0
42	BI	102	LEU	2.0
52	BS	22	LEU	2.0
1	AA	1631	C	2.0
16	CS	95	HIS	2.0
34	DA	840	C	2.0

## 6.2 Non-standard residues in protein, DNA, RNA chains

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
56	PSU	DY	39	20/21	0.37	0.15	291,291,291,291	0
56	5MU	DY	54	21/22	0.38	0.15	303,303,303,303	0
56	PSU	BY	32	20/21	0.45	0.14	226,226,226,226	0
56	PSU	DY	32	20/21	0.51	0.19	275,275,275,275	0
56	7MG	BY	46	24/25	0.55	0.13	276,276,276,276	0
56	PSU	BY	55	20/21	0.57	0.13	243,243,243,243	0
56	PSU	BY	39	20/21	0.61	0.15	197,197,197,197	0
56	PSU	DY	55	20/21	0.61	0.16	252,252,252,252	0
56	MIA	DY	37	22/30	0.62	0.19	271,271,271,271	0
56	5MU	BY	54	21/22	0.64	0.14	246,246,246,246	0
56	MIA	BY	37	22/30	0.70	0.15	186,186,186,186	0
58	MVA	BX	5	8/9	0.72	0.17	82,82,82,82	0
56	4SU	BY	8	20/21	0.74	0.09	239,239,239,239	0
58	2R1	DX	6	10/11	0.76	0.12	81,81,81,81	0
56	4SU	DY	8	20/21	0.78	0.09	277,277,277,277	0
56	7MG	DW	46	24/25	0.78	0.13	124,124,124,124	0
58	2R1	BX	6	10/11	0.79	0.14	82,82,82,82	1
56	7MG	DY	46	24/25	0.79	0.12	266,266,266,266	0
56	5MU	DW	54	21/22	0.81	0.11	95,95,95,95	1
58	004	DX	3	10/11	0.82	0.13	81,81,81,81	0
56	PSU	DW	32	20/21	0.82	0.15	126,126,126,126	0
56	PSU	DW	55	20/21	0.84	0.09	92,92,92,92	0
56	PSU	DW	39	20/21	0.84	0.15	112,112,112,112	1
58	MVA	BX	9	8/9	0.85	0.16	82,82,82,82	0
56	7MG	BW	46	24/25	0.86	0.12	76,76,76,76	3
58	004	BX	3	10/11	0.87	0.12	82,82,82,82	0
56	PSU	BW	55	20/21	0.88	0.08	79,79,79,79	0
56	4SU	DW	8	20/21	0.88	0.09	103,103,103,103	0
58	2QY	BX	10	13/14	0.88	0.12	82,82,82,82	0
58	2QY	DX	10	13/14	0.88	0.10	81,81,81,81	0
58	2R3	BX	8	14/15	0.89	0.10	82,82,82,82	0
58	MVA	DX	5	8/9	0.89	0.11	81,81,81,81	0
56	5MU	BW	54	21/22	0.89	0.09	80,80,80,80	0
56	MIA	DW	37	29/30	0.89	0.14	109,109,109,109	0
56	MIA	BW	37	29/30	0.91	0.11	79,79,79,79	0
58	MVA	DX	9	8/9	0.91	0.10	81,81,81,81	0
58	2QZ	BX	1	9/10	0.91	0.12	82,82,82,82	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
56	PSU	BW	32	20/21	0.91	0.10	73,73,73,73	1
58	2QZ	DX	1	9/10	0.93	0.13	81,81,81,81	0
56	4SU	BW	8	20/21	0.94	0.07	60,60,60,60	1
58	2R3	DX	8	14/15	0.94	0.09	81,81,81,81	0
56	PSU	BW	39	20/21	0.95	0.09	65,65,65,65	0

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1776	1/1	0.21	0.20	97,97,97,97	0
59	MG	DA	1718	1/1	0.24	0.21	101,101,101,101	0
59	MG	CB	3013	1/1	0.32	0.16	100,100,100,100	0
59	MG	BA	1790	1/1	0.43	0.17	96,96,96,96	0
59	MG	DA	1754	1/1	0.50	0.28	120,120,120,120	0
59	MG	DA	1757	1/1	0.52	0.27	111,111,111,111	0
59	MG	AA	3056	1/1	0.53	0.48	96,96,96,96	0
59	MG	CA	3363	1/1	0.54	0.14	88,88,88,88	0
59	MG	BA	1616	1/1	0.55	0.22	122,122,122,122	0
59	MG	AA	3277	1/1	0.55	0.25	99,99,99,99	0
59	MG	BA	1691	1/1	0.56	0.26	86,86,86,86	0
59	MG	CA	3624	1/1	0.56	0.24	118,118,118,118	0
59	MG	BB	3001	1/1	0.56	0.26	91,91,91,91	0
59	MG	CA	3620	1/1	0.59	0.25	96,96,96,96	0
59	MG	CA	3488	1/1	0.59	0.28	88,88,88,88	0
59	MG	AA	3773	1/1	0.61	0.62	35,35,35,35	1
59	MG	AA	3296	1/1	0.61	0.20	67,67,67,67	0
59	MG	AA	3418	1/1	0.62	0.13	74,74,74,74	0
59	MG	DA	1609	1/1	0.63	0.13	89,89,89,89	0
59	MG	BA	1786	1/1	0.63	0.16	82,82,82,82	0
59	MG	BL	201	1/1	0.65	0.13	84,84,84,84	0
59	MG	CA	3289	1/1	0.65	0.15	65,65,65,65	0
59	MG	CA	3304	1/1	0.65	0.14	67,67,67,67	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3717	1/1	0.66	0.52	68,68,68,68	0
59	MG	CA	3545	1/1	0.66	0.21	86,86,86,86	0
59	MG	BA	1707	1/1	0.66	0.14	72,72,72,72	0
59	MG	AA	3464	1/1	0.67	0.19	66,66,66,66	0
59	MG	DA	1710	1/1	0.67	0.11	104,104,104,104	0
59	MG	AA	3643	1/1	0.67	0.23	84,84,84,84	0
59	MG	AA	3347	1/1	0.67	0.13	88,88,88,88	0
59	MG	CA	3096	1/1	0.67	0.38	125,125,125,125	0
59	MG	BA	1660	1/1	0.68	0.25	82,82,82,82	0
59	MG	CA	3485	1/1	0.68	0.10	85,85,85,85	0
59	MG	CA	3546	1/1	0.68	0.14	88,88,88,88	0
59	MG	CA	3560	1/1	0.68	0.24	79,79,79,79	0
59	MG	DA	1611	1/1	0.69	0.41	89,89,89,89	0
59	MG	AA	3040	1/1	0.69	0.23	113,113,113,113	0
59	MG	BA	1673	1/1	0.69	0.15	80,80,80,80	0
59	MG	DA	1738	1/1	0.69	0.13	95,95,95,95	0
59	MG	DA	1749	1/1	0.69	0.13	77,77,77,77	0
59	MG	AA	3747	1/1	0.69	0.17	85,85,85,85	0
59	MG	CA	3579	1/1	0.69	0.15	65,65,65,65	0
59	MG	CQ	202	1/1	0.70	0.28	74,74,74,74	0
59	MG	BA	1741	1/1	0.70	0.10	88,88,88,88	0
59	MG	AA	3242	1/1	0.70	0.22	85,85,85,85	0
59	MG	DA	1631	1/1	0.70	0.11	74,74,74,74	0
59	MG	CA	3444	1/1	0.70	0.10	67,67,67,67	0
59	MG	CA	3460	1/1	0.71	0.33	104,104,104,104	0
59	MG	AA	3629	1/1	0.71	0.19	77,77,77,77	0
59	MG	CA	3350	1/1	0.72	0.14	82,82,82,82	0
59	MG	CA	3237	1/1	0.72	0.17	94,94,94,94	0
59	MG	AA	3617	1/1	0.72	0.11	77,77,77,77	0
59	MG	CA	3127	1/1	0.72	0.23	94,94,94,94	0
59	MG	CA	3557	1/1	0.72	0.20	76,76,76,76	0
59	MG	CA	3066	1/1	0.73	0.16	69,69,69,69	0
59	MG	BA	1675	1/1	0.73	0.20	100,100,100,100	0
59	MG	CA	3535	1/1	0.73	0.22	77,77,77,77	0
59	MG	BA	1812	1/1	0.73	0.19	79,79,79,79	0
59	MG	CA	3149	1/1	0.73	0.26	100,100,100,100	0
59	MG	CA	3172	1/1	0.73	0.25	81,81,81,81	0
59	MG	CA	3055	1/1	0.73	0.16	77,77,77,77	0
59	MG	AA	3780	1/1	0.74	0.12	72,72,72,72	0
59	MG	AA	3619	1/1	0.74	0.12	47,47,47,47	0
59	MG	CA	3244	1/1	0.74	0.26	89,89,89,89	0
59	MG	CA	3139	1/1	0.74	0.22	126,126,126,126	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
59	MG	DA	1756	1/1	0.74	0.22	86,86,86,86	0
59	MG	CA	3089	1/1	0.74	0.25	87,87,87,87	0
59	MG	DA	1769	1/1	0.74	0.22	74,74,74,74	0
59	MG	CA	3100	1/1	0.75	0.29	81,81,81,81	0
59	MG	AA	3219	1/1	0.75	0.18	61,61,61,61	0
59	MG	AA	3781	1/1	0.75	0.17	72,72,72,72	0
59	MG	AA	3480	1/1	0.75	0.22	88,88,88,88	0
59	MG	BA	1657	1/1	0.75	0.26	78,78,78,78	0
59	MG	AA	3678	1/1	0.75	0.16	77,77,77,77	0
59	MG	DT	3001	1/1	0.75	0.24	60,60,60,60	0
59	MG	DA	1663	1/1	0.76	0.23	91,91,91,91	0
59	MG	DA	1668	1/1	0.76	0.33	65,65,65,65	0
59	MG	BA	1775	1/1	0.76	0.18	90,90,90,90	0
59	MG	CA	3093	1/1	0.76	0.41	75,75,75,75	0
59	MG	CA	3646	1/1	0.76	0.16	91,91,91,91	0
59	MG	AA	3269	1/1	0.76	0.23	63,63,63,63	0
59	MG	A0	101	1/1	0.76	0.13	69,69,69,69	0
59	MG	CA	3108	1/1	0.76	0.22	78,78,78,78	0
59	MG	CA	3240	1/1	0.76	0.27	71,71,71,71	0
59	MG	CA	3125	1/1	0.76	0.39	78,78,78,78	0
59	MG	DA	1655	1/1	0.76	0.24	83,83,83,83	0
59	MG	CA	3583	1/1	0.77	0.14	80,80,80,80	0
59	MG	CA	3586	1/1	0.77	0.31	93,93,93,93	0
59	MG	CA	3587	1/1	0.77	0.10	70,70,70,70	0
59	MG	AA	3481	1/1	0.77	0.19	78,78,78,78	0
59	MG	AA	3016	1/1	0.77	0.21	64,64,64,64	0
59	MG	DA	1727	1/1	0.77	0.09	61,61,61,61	0
59	MG	DA	1732	1/1	0.77	0.12	85,85,85,85	0
59	MG	CA	3032	1/1	0.77	0.30	100,100,100,100	0
59	MG	DA	1740	1/1	0.77	0.17	68,68,68,68	0
59	MG	CA	3235	1/1	0.77	0.17	78,78,78,78	0
59	MG	BA	1697	1/1	0.77	0.34	99,99,99,99	0
59	MG	AA	3232	1/1	0.77	0.20	58,58,58,58	0
59	MG	CA	3566	1/1	0.77	0.17	30,30,30,30	1
59	MG	AA	3275	1/1	0.77	0.39	89,89,89,89	0
59	MG	DA	1635	1/1	0.77	0.22	75,75,75,75	0
59	MG	DW	503	1/1	0.77	0.19	85,85,85,85	0
59	MG	CA	3608	1/1	0.78	0.25	50,50,50,50	1
59	MG	CA	3007	1/1	0.78	0.26	92,92,92,92	0
59	MG	CA	3467	1/1	0.78	0.33	77,77,77,77	0
59	MG	BA	1758	1/1	0.78	0.26	76,76,76,76	0
59	MG	AA	3122	1/1	0.78	0.34	99,99,99,99	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3376	1/1	0.78	0.12	78,78,78,78	0
59	MG	CQ	204	1/1	0.78	0.16	74,74,74,74	0
59	MG	CA	3395	1/1	0.78	0.26	50,50,50,50	0
59	MG	CA	3236	1/1	0.78	0.36	81,81,81,81	0
59	MG	DA	1708	1/1	0.79	0.20	77,77,77,77	0
59	MG	BA	1719	1/1	0.79	0.15	62,62,62,62	0
59	MG	DA	1715	1/1	0.79	0.19	79,79,79,79	0
59	MG	CA	3506	1/1	0.79	0.12	63,63,63,63	0
59	MG	AA	3093	1/1	0.79	0.68	92,92,92,92	0
59	MG	BA	1670	1/1	0.79	0.13	69,69,69,69	0
59	MG	CA	3323	1/1	0.79	0.20	87,87,87,87	0
59	MG	CA	3044	1/1	0.79	0.21	89,89,89,89	0
59	MG	AA	3583	1/1	0.79	0.13	63,63,63,63	0
59	MG	CA	3155	1/1	0.79	0.28	112,112,112,112	0
59	MG	BA	1625	1/1	0.79	0.20	86,86,86,86	0
59	MG	BA	1628	1/1	0.79	0.21	87,87,87,87	0
59	MG	DA	1762	1/1	0.79	0.20	61,61,61,61	0
59	MG	BA	1694	1/1	0.79	0.31	83,83,83,83	0
59	MG	BA	1634	1/1	0.79	0.27	64,64,64,64	0
59	MG	AA	3267	1/1	0.79	0.12	53,53,53,53	0
59	MG	BA	1800	1/1	0.80	0.18	77,77,77,77	0
59	MG	CA	3638	1/1	0.80	0.28	76,76,76,76	0
59	MG	AA	3642	1/1	0.80	0.18	71,71,71,71	0
59	MG	DA	1724	1/1	0.80	0.16	70,70,70,70	0
59	MG	AA	3708	1/1	0.80	0.30	61,61,61,61	0
59	MG	AA	3202	1/1	0.80	0.17	61,61,61,61	0
59	MG	CA	3124	1/1	0.80	0.23	65,65,65,65	0
59	MG	DA	1604	1/1	0.80	0.20	80,80,80,80	0
59	MG	CA	3565	1/1	0.80	0.12	95,95,95,95	0
59	MG	CA	3465	1/1	0.80	0.27	70,70,70,70	0
59	MG	CA	3184	1/1	0.80	0.27	77,77,77,77	0
59	MG	CA	3186	1/1	0.80	0.20	77,77,77,77	0
59	MG	AA	3660	1/1	0.80	0.16	61,61,61,61	0
59	MG	CA	3492	1/1	0.80	0.15	59,59,59,59	0
59	MG	CA	3494	1/1	0.80	0.14	97,97,97,97	0
59	MG	CA	3357	1/1	0.80	0.14	66,66,66,66	0
59	MG	BA	1767	1/1	0.81	0.11	96,96,96,96	0
59	MG	CA	3518	1/1	0.81	0.12	65,65,65,65	0
59	MG	BA	1662	1/1	0.81	0.28	70,70,70,70	0
59	MG	CA	3246	1/1	0.81	0.27	57,57,57,57	0
59	MG	AA	3323	1/1	0.81	0.10	64,64,64,64	0
59	MG	CA	3295	1/1	0.81	0.19	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1671	1/1	0.81	0.35	101,101,101,101	0
59	MG	AA	3157	1/1	0.81	0.22	91,91,91,91	0
59	MG	DA	1704	1/1	0.81	0.11	49,49,49,49	0
59	MG	AA	3622	1/1	0.81	0.18	60,60,60,60	0
59	MG	AA	3108	1/1	0.81	0.43	101,101,101,101	0
59	MG	BA	1693	1/1	0.81	0.19	76,76,76,76	0
59	MG	AA	3571	1/1	0.81	0.20	94,94,94,94	0
59	MG	BS	101	1/1	0.81	0.11	79,79,79,79	0
59	MG	CA	3605	1/1	0.81	0.22	70,70,70,70	0
59	MG	AA	3441	1/1	0.81	0.19	58,58,58,58	0
59	MG	DA	1733	1/1	0.81	0.19	92,92,92,92	0
59	MG	CA	3164	1/1	0.81	0.23	64,64,64,64	0
59	MG	CA	3622	1/1	0.81	0.15	50,50,50,50	0
59	MG	DA	1746	1/1	0.81	0.13	81,81,81,81	0
59	MG	BA	1648	1/1	0.81	0.09	74,74,74,74	0
59	MG	AA	3776	1/1	0.81	0.11	69,69,69,69	0
59	MG	CA	3643	1/1	0.81	0.10	79,79,79,79	0
59	MG	BA	1659	1/1	0.81	0.21	67,67,67,67	0
59	MG	CB	3001	1/1	0.81	0.16	72,72,72,72	0
59	MG	CA	3065	1/1	0.81	0.24	56,56,56,56	0
59	MG	AA	3644	1/1	0.81	0.22	56,56,56,56	0
59	MG	CA	3067	1/1	0.81	0.16	63,63,63,63	0
59	MG	CA	3530	1/1	0.82	0.24	71,71,71,71	0
59	MG	CA	3111	1/1	0.82	0.23	79,79,79,79	0
59	MG	CA	3539	1/1	0.82	0.16	90,90,90,90	0
59	MG	CA	3204	1/1	0.82	0.11	54,54,54,54	0
59	MG	CA	3222	1/1	0.82	0.17	57,57,57,57	0
59	MG	CA	3379	1/1	0.82	0.11	83,83,83,83	0
59	MG	CA	3389	1/1	0.82	0.17	59,59,59,59	0
59	MG	DA	1662	1/1	0.82	0.24	75,75,75,75	0
59	MG	AA	3206	1/1	0.82	0.25	106,106,106,106	0
59	MG	CA	3408	1/1	0.82	0.12	58,58,58,58	0
59	MG	DA	1674	1/1	0.82	0.21	77,77,77,77	0
59	MG	CA	3420	1/1	0.82	0.20	69,69,69,69	0
59	MG	CA	3581	1/1	0.82	0.13	38,38,38,38	0
59	MG	CA	3433	1/1	0.82	0.12	82,82,82,82	0
59	MG	AA	3625	1/1	0.82	0.19	51,51,51,51	0
59	MG	CA	3456	1/1	0.82	0.13	54,54,54,54	0
59	MG	CA	3594	1/1	0.82	0.08	73,73,73,73	0
59	MG	BA	1782	1/1	0.82	0.12	47,47,47,47	0
59	MG	CA	3129	1/1	0.82	0.15	64,64,64,64	0
59	MG	CA	3612	1/1	0.82	0.29	83,83,83,83	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	DA	1737	1/1	0.82	0.15	69,69,69,69	0
59	MG	CA	3619	1/1	0.82	0.17	40,40,40,40	0
59	MG	CA	3078	1/1	0.82	0.23	57,57,57,57	0
59	MG	CA	3146	1/1	0.82	0.32	82,82,82,82	0
59	MG	BA	1612	1/1	0.82	0.18	92,92,92,92	0
59	MG	DA	1753	1/1	0.82	0.31	79,79,79,79	0
59	MG	BA	1748	1/1	0.82	0.09	63,63,63,63	0
59	MG	DA	1755	1/1	0.82	0.32	88,88,88,88	0
59	MG	AA	3719	1/1	0.82	0.18	59,59,59,59	0
59	MG	CA	3502	1/1	0.82	0.28	90,90,90,90	0
59	MG	CA	3050	1/1	0.82	0.22	75,75,75,75	0
59	MG	CA	3510	1/1	0.82	0.17	95,95,95,95	0
59	MG	CQ	201	1/1	0.82	0.19	72,72,72,72	0
59	MG	AA	3737	1/1	0.82	0.10	54,54,54,54	0
59	MG	DA	1629	1/1	0.83	0.20	59,59,59,59	0
59	MG	AA	3611	1/1	0.83	0.15	47,47,47,47	0
59	MG	CA	3428	1/1	0.83	0.14	58,58,58,58	0
59	MG	DA	1639	1/1	0.83	0.14	69,69,69,69	0
59	MG	BA	1610	1/1	0.83	0.15	78,78,78,78	0
59	MG	AA	3198	1/1	0.83	0.20	63,63,63,63	0
59	MG	AA	3212	1/1	0.83	0.24	81,81,81,81	0
59	MG	CA	3117	1/1	0.83	0.21	67,67,67,67	0
59	MG	BA	1755	1/1	0.83	0.10	86,86,86,86	0
59	MG	DA	1675	1/1	0.83	0.51	70,70,70,70	0
59	MG	DA	1676	1/1	0.83	0.15	74,74,74,74	0
59	MG	AA	3653	1/1	0.83	0.11	60,60,60,60	0
59	MG	CA	3126	1/1	0.83	0.15	62,62,62,62	0
59	MG	CA	3035	1/1	0.83	0.38	69,69,69,69	0
59	MG	AA	3367	1/1	0.83	0.14	60,60,60,60	0
59	MG	CA	3135	1/1	0.83	0.24	59,59,59,59	0
59	MG	DA	1722	1/1	0.83	0.11	77,77,77,77	0
59	MG	CA	3501	1/1	0.83	0.21	74,74,74,74	0
59	MG	CA	3314	1/1	0.83	0.12	57,57,57,57	0
59	MG	BA	1772	1/1	0.83	0.11	66,66,66,66	0
59	MG	CA	3507	1/1	0.83	0.18	83,83,83,83	0
59	MG	BA	1679	1/1	0.83	0.21	59,59,59,59	0
59	MG	CA	3644	1/1	0.83	0.20	66,66,66,66	0
59	MG	AA	3266	1/1	0.83	0.50	90,90,90,90	0
59	MG	AA	3128	1/1	0.83	0.34	89,89,89,89	0
59	MG	CA	3157	1/1	0.83	0.21	81,81,81,81	0
59	MG	CA	3538	1/1	0.83	0.14	72,72,72,72	0
59	MG	AA	3715	1/1	0.83	0.23	33,33,33,33	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1695	1/1	0.83	0.10	83,83,83,83	0
59	MG	AB	3017	1/1	0.83	0.11	59,59,59,59	0
59	MG	BA	1811	1/1	0.83	0.13	77,77,77,77	0
59	MG	DA	1610	1/1	0.83	0.23	71,71,71,71	0
59	MG	CA	3411	1/1	0.83	0.15	57,57,57,57	0
59	MG	DA	1618	1/1	0.83	0.29	91,91,91,91	0
59	MG	DA	1626	1/1	0.83	0.16	71,71,71,71	0
59	MG	DA	1638	1/1	0.84	0.15	80,80,80,80	0
59	MG	CA	3216	1/1	0.84	0.21	79,79,79,79	0
59	MG	DA	1644	1/1	0.84	0.16	94,94,94,94	0
59	MG	DA	1652	1/1	0.84	0.15	80,80,80,80	0
59	MG	AA	3141	1/1	0.84	0.09	68,68,68,68	0
59	MG	CA	3591	1/1	0.84	0.10	60,60,60,60	0
59	MG	AA	3018	1/1	0.84	0.61	67,67,67,67	0
59	MG	CA	3598	1/1	0.84	0.09	65,65,65,65	0
59	MG	AA	3235	1/1	0.84	0.27	93,93,93,93	0
59	MG	BA	1792	1/1	0.84	0.18	80,80,80,80	0
59	MG	CA	3610	1/1	0.84	0.12	69,69,69,69	0
59	MG	DA	1677	1/1	0.84	0.15	78,78,78,78	0
59	MG	CA	3239	1/1	0.84	0.12	69,69,69,69	0
59	MG	BA	1619	1/1	0.84	0.12	59,59,59,59	0
59	MG	AA	3542	1/1	0.84	0.14	58,58,58,58	0
59	MG	AA	3274	1/1	0.84	0.15	75,75,75,75	0
59	MG	AA	3754	1/1	0.84	0.17	64,64,64,64	0
59	MG	BA	1638	1/1	0.84	0.18	66,66,66,66	0
59	MG	BA	1644	1/1	0.84	0.16	74,74,74,74	0
59	MG	BA	1721	1/1	0.84	0.10	66,66,66,66	0
59	MG	BA	1727	1/1	0.84	0.13	77,77,77,77	0
59	MG	BA	1733	1/1	0.84	0.21	78,78,78,78	0
59	MG	DA	1736	1/1	0.84	0.09	78,78,78,78	0
59	MG	AA	3756	1/1	0.84	0.10	49,49,49,49	0
59	MG	AA	3758	1/1	0.84	0.25	43,43,43,43	1
59	MG	AA	3582	1/1	0.84	0.23	76,76,76,76	0
59	MG	CA	3378	1/1	0.84	0.17	97,97,97,97	0
59	MG	DA	1748	1/1	0.84	0.13	70,70,70,70	0
59	MG	AA	3138	1/1	0.84	0.09	38,38,38,38	0
59	MG	AA	3425	1/1	0.84	0.17	77,77,77,77	0
59	MG	AA	3246	1/1	0.84	0.12	52,52,52,52	0
59	MG	CA	3398	1/1	0.84	0.14	67,67,67,67	0
59	MG	CA	3070	1/1	0.84	0.13	60,60,60,60	0
59	MG	DA	1623	1/1	0.84	0.14	72,72,72,72	0
59	MG	AA	3706	1/1	0.84	0.24	41,41,41,41	1

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3193	1/1	0.84	0.17	89,89,89,89	0
59	MG	CA	3203	1/1	0.84	0.11	73,73,73,73	0
59	MG	AA	3453	1/1	0.84	0.15	39,39,39,39	0
59	MG	AA	3740	1/1	0.85	0.17	61,61,61,61	0
59	MG	CA	3511	1/1	0.85	0.10	81,81,81,81	0
59	MG	DA	1622	1/1	0.85	0.15	60,60,60,60	0
59	MG	CA	3516	1/1	0.85	0.17	79,79,79,79	0
59	MG	CA	3076	1/1	0.85	0.25	64,64,64,64	0
59	MG	BA	1764	1/1	0.85	0.10	71,71,71,71	0
59	MG	AB	3021	1/1	0.85	0.22	65,65,65,65	0
59	MG	AD	301	1/1	0.85	0.19	57,57,57,57	0
59	MG	AD	308	1/1	0.85	0.14	65,65,65,65	0
59	MG	CA	3542	1/1	0.85	0.15	87,87,87,87	0
59	MG	DA	1640	1/1	0.85	0.27	77,77,77,77	0
59	MG	AE	305	1/1	0.85	0.19	48,48,48,48	0
59	MG	DA	1649	1/1	0.85	0.27	69,69,69,69	0
59	MG	CA	3107	1/1	0.85	0.20	77,77,77,77	0
59	MG	BA	1778	1/1	0.85	0.10	54,54,54,54	0
59	MG	DA	1659	1/1	0.85	0.27	78,78,78,78	0
59	MG	CA	3341	1/1	0.85	0.12	73,73,73,73	0
59	MG	BA	1780	1/1	0.85	0.11	60,60,60,60	0
59	MG	AZ	302	1/1	0.85	0.12	55,55,55,55	0
59	MG	AA	3630	1/1	0.85	0.35	72,72,72,72	0
59	MG	A2	3001	1/1	0.85	0.13	53,53,53,53	0
59	MG	BA	1601	1/1	0.85	0.14	95,95,95,95	0
59	MG	BA	1797	1/1	0.85	0.15	59,59,59,59	0
59	MG	AA	3700	1/1	0.85	0.12	70,70,70,70	0
59	MG	CA	3392	1/1	0.85	0.11	43,43,43,43	0
59	MG	DA	1709	1/1	0.85	0.13	70,70,70,70	0
59	MG	AA	3755	1/1	0.85	0.31	78,78,78,78	0
59	MG	AA	3314	1/1	0.85	0.14	57,57,57,57	0
59	MG	AA	3181	1/1	0.85	0.26	79,79,79,79	0
59	MG	BA	1699	1/1	0.85	0.07	72,72,72,72	0
59	MG	BA	1704	1/1	0.85	0.20	71,71,71,71	0
59	MG	CA	3001	1/1	0.85	0.18	64,64,64,64	0
59	MG	DA	1730	1/1	0.85	0.17	71,71,71,71	0
59	MG	CA	3614	1/1	0.85	0.12	62,62,62,62	0
59	MG	CA	3432	1/1	0.85	0.17	32,32,32,32	0
59	MG	AA	3769	1/1	0.85	0.15	63,63,63,63	0
59	MG	AA	3516	1/1	0.85	0.17	65,65,65,65	0
59	MG	BA	1631	1/1	0.85	0.13	71,71,71,71	0
59	MG	CA	3041	1/1	0.85	0.25	61,61,61,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3651	1/1	0.85	0.17	77,77,77,77	0
59	MG	CA	3202	1/1	0.85	0.24	73,73,73,73	0
59	MG	CA	3470	1/1	0.85	0.18	74,74,74,74	0
59	MG	DA	1750	1/1	0.85	0.15	67,67,67,67	0
59	MG	CA	3047	1/1	0.85	0.19	84,84,84,84	0
59	MG	AA	3607	1/1	0.85	0.14	60,60,60,60	1
59	MG	CE	301	1/1	0.85	0.17	53,53,53,53	0
59	MG	AA	3427	1/1	0.85	0.07	61,61,61,61	0
59	MG	BA	1744	1/1	0.85	0.14	57,57,57,57	0
59	MG	CA	3226	1/1	0.85	0.24	52,52,52,52	0
59	MG	AA	3787	1/1	0.85	0.14	82,82,82,82	0
59	MG	DJ	5001	1/1	0.85	0.10	82,82,82,82	0
59	MG	AA	3796	1/1	0.85	0.19	78,78,78,78	0
59	MG	CA	3069	1/1	0.85	0.45	81,81,81,81	0
59	MG	CA	3134	1/1	0.86	0.17	71,71,71,71	0
59	MG	AA	3680	1/1	0.86	0.21	79,79,79,79	0
59	MG	CA	3038	1/1	0.86	0.31	97,97,97,97	0
59	MG	DA	1632	1/1	0.86	0.20	57,57,57,57	0
59	MG	DA	1634	1/1	0.86	0.23	66,66,66,66	0
59	MG	CA	3367	1/1	0.86	0.14	63,63,63,63	0
59	MG	CA	3555	1/1	0.86	0.08	71,71,71,71	0
59	MG	AA	3694	1/1	0.86	0.08	53,53,53,53	0
59	MG	CA	3148	1/1	0.86	0.26	62,62,62,62	0
59	MG	DA	1643	1/1	0.86	0.18	79,79,79,79	0
59	MG	CA	3042	1/1	0.86	0.28	65,65,65,65	0
59	MG	CA	3388	1/1	0.86	0.11	90,90,90,90	0
59	MG	CA	3154	1/1	0.86	0.20	64,64,64,64	0
59	MG	AA	3536	1/1	0.86	0.18	66,66,66,66	0
59	MG	BA	1614	1/1	0.86	0.19	72,72,72,72	0
59	MG	BA	1687	1/1	0.86	0.23	52,52,52,52	0
59	MG	AA	3170	1/1	0.86	0.16	54,54,54,54	0
59	MG	AA	3315	1/1	0.86	0.23	65,65,65,65	0
59	MG	AA	3133	1/1	0.86	0.20	50,50,50,50	0
59	MG	BA	1781	1/1	0.86	0.09	63,63,63,63	0
59	MG	AA	3344	1/1	0.86	0.13	22,22,22,22	0
59	MG	CA	3606	1/1	0.86	0.30	73,73,73,73	0
59	MG	DA	1678	1/1	0.86	0.21	66,66,66,66	0
59	MG	DA	1690	1/1	0.86	0.19	73,73,73,73	0
59	MG	DA	1692	1/1	0.86	0.12	53,53,53,53	0
59	MG	DA	1694	1/1	0.86	0.13	106,106,106,106	0
59	MG	DA	1698	1/1	0.86	0.20	97,97,97,97	0
59	MG	BA	1783	1/1	0.86	0.15	57,57,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3586	1/1	0.86	0.19	74,74,74,74	0
59	MG	CA	3212	1/1	0.86	0.29	84,84,84,84	0
59	MG	BA	1788	1/1	0.86	0.37	79,79,79,79	0
59	MG	DA	1713	1/1	0.86	0.09	49,49,49,49	0
59	MG	CA	3083	1/1	0.86	0.21	61,61,61,61	0
59	MG	CA	3223	1/1	0.86	0.09	59,59,59,59	0
59	MG	AA	3189	1/1	0.86	0.20	62,62,62,62	0
59	MG	CA	3481	1/1	0.86	0.12	64,64,64,64	0
59	MG	CA	3626	1/1	0.86	0.16	61,61,61,61	0
59	MG	CA	3633	1/1	0.86	0.12	68,68,68,68	0
59	MG	CA	3634	1/1	0.86	0.13	82,82,82,82	0
59	MG	AA	3195	1/1	0.86	0.26	69,69,69,69	0
59	MG	BA	1795	1/1	0.86	0.07	59,59,59,59	0
59	MG	AA	3614	1/1	0.86	0.14	50,50,50,50	1
59	MG	CA	3104	1/1	0.86	0.18	80,80,80,80	0
59	MG	CA	3647	1/1	0.86	0.10	85,85,85,85	0
59	MG	CA	3649	1/1	0.86	0.18	51,51,51,51	0
59	MG	CA	3499	1/1	0.86	0.19	62,62,62,62	0
59	MG	BA	1718	1/1	0.86	0.07	63,63,63,63	0
59	MG	BA	1646	1/1	0.86	0.25	66,66,66,66	0
59	MG	AA	3409	1/1	0.86	0.14	60,60,60,60	0
59	MG	CA	3273	1/1	0.86	0.13	58,58,58,58	0
59	MG	CA	3508	1/1	0.86	0.11	52,52,52,52	0
59	MG	AF	307	1/1	0.86	0.21	76,76,76,76	0
59	MG	AG	202	1/1	0.86	0.08	54,54,54,54	0
59	MG	AA	3675	1/1	0.86	0.12	64,64,64,64	0
59	MG	CA	3307	1/1	0.86	0.13	60,60,60,60	0
59	MG	DE	201	1/1	0.86	0.17	84,84,84,84	0
59	MG	AA	3676	1/1	0.86	0.10	26,26,26,26	0
59	MG	DK	5001	1/1	0.86	0.11	76,76,76,76	0
59	MG	BA	1665	1/1	0.86	0.21	73,73,73,73	0
59	MG	AA	3068	1/1	0.86	0.33	73,73,73,73	0
59	MG	AA	3495	1/1	0.87	0.17	35,35,35,35	0
59	MG	CA	3230	1/1	0.87	0.25	49,49,49,49	0
59	MG	CA	3233	1/1	0.87	0.13	59,59,59,59	0
59	MG	DA	1614	1/1	0.87	0.09	65,65,65,65	0
59	MG	CA	3504	1/1	0.87	0.13	79,79,79,79	0
59	MG	BA	1664	1/1	0.87	0.11	56,56,56,56	0
59	MG	CA	3080	1/1	0.87	0.16	75,75,75,75	0
59	MG	DA	1624	1/1	0.87	0.07	82,82,82,82	0
59	MG	AA	3096	1/1	0.87	0.18	59,59,59,59	0
59	MG	CA	3238	1/1	0.87	0.18	69,69,69,69	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1669	1/1	0.87	0.21	66,66,66,66	0
59	MG	AA	3357	1/1	0.87	0.14	55,55,55,55	0
59	MG	AA	3098	1/1	0.87	0.27	51,51,51,51	0
59	MG	AA	3213	1/1	0.87	0.33	76,76,76,76	0
59	MG	CA	3532	1/1	0.87	0.15	49,49,49,49	0
59	MG	CA	3534	1/1	0.87	0.08	73,73,73,73	0
59	MG	AA	3186	1/1	0.87	0.13	48,48,48,48	0
59	MG	DA	1641	1/1	0.87	0.10	74,74,74,74	0
59	MG	CA	3288	1/1	0.87	0.14	49,49,49,49	0
59	MG	BA	1676	1/1	0.87	0.25	61,61,61,61	0
59	MG	CA	3294	1/1	0.87	0.07	72,72,72,72	0
59	MG	AA	3055	1/1	0.87	0.26	65,65,65,65	0
59	MG	CA	3298	1/1	0.87	0.23	57,57,57,57	0
59	MG	AA	3659	1/1	0.87	0.16	73,73,73,73	0
59	MG	CA	3112	1/1	0.87	0.21	69,69,69,69	0
59	MG	CA	3115	1/1	0.87	0.29	67,67,67,67	0
59	MG	A7	104	1/1	0.87	0.09	55,55,55,55	0
59	MG	CA	3333	1/1	0.87	0.17	68,68,68,68	0
59	MG	CA	3573	1/1	0.87	0.12	65,65,65,65	0
59	MG	CA	3340	1/1	0.87	0.17	66,66,66,66	0
59	MG	AA	3288	1/1	0.87	0.14	39,39,39,39	0
59	MG	BA	1602	1/1	0.87	0.20	79,79,79,79	0
59	MG	AA	3435	1/1	0.87	0.11	52,52,52,52	0
59	MG	AA	3761	1/1	0.87	0.43	92,92,92,92	0
59	MG	AA	3608	1/1	0.87	0.13	60,60,60,60	0
59	MG	CA	3133	1/1	0.87	0.14	85,85,85,85	0
59	MG	CA	3595	1/1	0.87	0.14	70,70,70,70	0
59	MG	CA	3596	1/1	0.87	0.11	51,51,51,51	0
59	MG	AA	3771	1/1	0.87	0.18	60,60,60,60	0
59	MG	CA	3603	1/1	0.87	0.16	49,49,49,49	0
59	MG	AA	3677	1/1	0.87	0.22	69,69,69,69	0
59	MG	BA	1714	1/1	0.87	0.21	74,74,74,74	0
59	MG	DA	1717	1/1	0.87	0.20	95,95,95,95	0
59	MG	BA	1623	1/1	0.87	0.17	67,67,67,67	0
59	MG	CA	3022	1/1	0.87	0.30	69,69,69,69	0
59	MG	AA	3194	1/1	0.87	0.21	82,82,82,82	0
59	MG	CA	3034	1/1	0.87	0.27	77,77,77,77	0
59	MG	AA	3241	1/1	0.87	0.18	65,65,65,65	0
59	MG	BA	1724	1/1	0.87	0.12	67,67,67,67	0
59	MG	CA	3621	1/1	0.87	0.12	61,61,61,61	0
59	MG	CA	3414	1/1	0.87	0.14	34,34,34,34	1
59	MG	AA	3063	1/1	0.87	0.15	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3165	1/1	0.87	0.20	57,57,57,57	0
59	MG	DA	1739	1/1	0.87	0.14	73,73,73,73	0
59	MG	AA	3124	1/1	0.87	0.30	62,62,62,62	0
59	MG	DA	1742	1/1	0.87	0.11	72,72,72,72	0
59	MG	CA	3180	1/1	0.87	0.20	62,62,62,62	0
59	MG	CA	3442	1/1	0.87	0.31	74,74,74,74	0
59	MG	AA	3792	1/1	0.87	0.09	48,48,48,48	0
59	MG	AA	3169	1/1	0.87	0.19	35,35,35,35	0
59	MG	CA	3190	1/1	0.87	0.16	66,66,66,66	0
59	MG	AA	3814	1/1	0.87	0.26	72,72,72,72	0
59	MG	AA	3817	1/1	0.87	0.10	75,75,75,75	0
59	MG	CA	3057	1/1	0.87	0.19	60,60,60,60	0
59	MG	CA	3480	1/1	0.87	0.12	50,50,50,50	0
59	MG	AA	3493	1/1	0.87	0.09	77,77,77,77	0
59	MG	CE	305	1/1	0.87	0.06	58,58,58,58	0
59	MG	BA	1658	1/1	0.87	0.32	66,66,66,66	0
59	MG	AB	3020	1/1	0.87	0.16	62,62,62,62	0
59	MG	AA	3711	1/1	0.87	0.27	43,43,43,43	1
59	MG	BA	1774	1/1	0.87	0.14	50,50,50,50	0
59	MG	DA	1605	1/1	0.87	0.15	105,105,105,105	0
59	MG	DZ	701	1/1	0.87	0.11	72,72,72,72	0
59	MG	CA	3219	1/1	0.88	0.15	42,42,42,42	0
59	MG	BA	1713	1/1	0.88	0.24	68,68,68,68	0
59	MG	BA	1656	1/1	0.88	0.20	75,75,75,75	0
59	MG	CA	3225	1/1	0.88	0.17	64,64,64,64	0
59	MG	BA	1803	1/1	0.88	0.11	64,64,64,64	0
59	MG	BA	1810	1/1	0.88	0.09	82,82,82,82	0
59	MG	DA	1654	1/1	0.88	0.27	63,63,63,63	0
59	MG	BA	1716	1/1	0.88	0.15	86,86,86,86	0
59	MG	AA	3281	1/1	0.88	0.25	75,75,75,75	0
59	MG	AA	3705	1/1	0.88	0.24	53,53,53,53	1
59	MG	BE	3001	1/1	0.88	0.08	78,78,78,78	0
59	MG	DA	1665	1/1	0.88	0.12	63,63,63,63	0
59	MG	AA	3775	1/1	0.88	0.28	25,25,25,25	1
59	MG	AA	3365	1/1	0.88	0.20	77,77,77,77	0
59	MG	CA	3474	1/1	0.88	0.15	59,59,59,59	0
59	MG	AA	3601	1/1	0.88	0.10	61,61,61,61	0
59	MG	BA	1663	1/1	0.88	0.14	43,43,43,43	0
59	MG	BA	1739	1/1	0.88	0.11	62,62,62,62	0
59	MG	DA	1679	1/1	0.88	0.12	70,70,70,70	0
59	MG	DA	1683	1/1	0.88	0.13	58,58,58,58	0
59	MG	CA	3254	1/1	0.88	0.15	85,85,85,85	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3256	1/1	0.88	0.20	65,65,65,65	0
59	MG	CA	3023	1/1	0.88	0.14	68,68,68,68	0
59	MG	CA	3278	1/1	0.88	0.09	58,58,58,58	0
59	MG	CA	3628	1/1	0.88	0.10	54,54,54,54	0
59	MG	CA	3500	1/1	0.88	0.14	75,75,75,75	0
59	MG	CA	3284	1/1	0.88	0.19	75,75,75,75	0
59	MG	AA	3603	1/1	0.88	0.24	76,76,76,76	0
59	MG	AA	3712	1/1	0.88	0.28	70,70,70,70	0
59	MG	AA	3649	1/1	0.88	0.15	62,62,62,62	0
59	MG	CA	3037	1/1	0.88	0.33	57,57,57,57	0
59	MG	AA	3010	1/1	0.88	0.18	46,46,46,46	0
59	MG	CA	3509	1/1	0.88	0.09	83,83,83,83	0
59	MG	CA	3656	1/1	0.88	0.23	63,63,63,63	0
59	MG	AA	3800	1/1	0.88	0.10	35,35,35,35	0
59	MG	CB	3005	1/1	0.88	0.19	63,63,63,63	0
59	MG	CB	3011	1/1	0.88	0.21	56,56,56,56	0
59	MG	AA	3486	1/1	0.88	0.13	67,67,67,67	0
59	MG	CA	3043	1/1	0.88	0.19	61,61,61,61	0
59	MG	AA	3027	1/1	0.88	0.38	75,75,75,75	0
59	MG	AA	3158	1/1	0.88	0.23	68,68,68,68	0
59	MG	AA	3273	1/1	0.88	0.09	90,90,90,90	0
59	MG	BA	1682	1/1	0.88	0.32	70,70,70,70	0
59	MG	BA	1683	1/1	0.88	0.23	71,71,71,71	0
59	MG	DA	1743	1/1	0.88	0.11	59,59,59,59	0
59	MG	CA	3171	1/1	0.88	0.18	56,56,56,56	0
59	MG	BA	1630	1/1	0.88	0.17	61,61,61,61	0
59	MG	AA	3118	1/1	0.88	0.25	76,76,76,76	0
59	MG	BA	1633	1/1	0.88	0.26	63,63,63,63	0
59	MG	AA	3337	1/1	0.88	0.12	75,75,75,75	0
59	MG	CA	3553	1/1	0.88	0.14	90,90,90,90	0
59	MG	AA	3066	1/1	0.88	0.14	51,51,51,51	0
59	MG	CA	3075	1/1	0.88	0.16	90,90,90,90	0
59	MG	AA	3627	1/1	0.88	0.11	76,76,76,76	0
59	MG	CA	3563	1/1	0.88	0.13	75,75,75,75	0
59	MG	BA	1698	1/1	0.88	0.18	63,63,63,63	0
59	MG	DA	1771	1/1	0.88	0.09	60,60,60,60	0
59	MG	BA	1645	1/1	0.88	0.12	74,74,74,74	0
59	MG	DE	202	1/1	0.88	0.09	100,100,100,100	0
59	MG	AA	3215	1/1	0.88	0.20	59,59,59,59	0
59	MG	CA	3577	1/1	0.88	0.10	51,51,51,51	1
59	MG	CA	3406	1/1	0.88	0.10	77,77,77,77	0
59	MG	AA	3699	1/1	0.88	0.17	71,71,71,71	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3217	1/1	0.88	0.18	62,62,62,62	0
59	MG	CA	3270	1/1	0.89	0.20	76,76,76,76	0
59	MG	DA	1608	1/1	0.89	0.10	57,57,57,57	0
59	MG	CA	3020	1/1	0.89	0.12	47,47,47,47	0
59	MG	AA	3251	1/1	0.89	0.21	56,56,56,56	0
59	MG	AA	3339	1/1	0.89	0.13	49,49,49,49	0
59	MG	CA	3515	1/1	0.89	0.07	54,54,54,54	0
59	MG	CA	3030	1/1	0.89	0.20	59,59,59,59	0
59	MG	CA	3517	1/1	0.89	0.11	62,62,62,62	0
59	MG	BA	1672	1/1	0.89	0.24	65,65,65,65	0
59	MG	CA	3524	1/1	0.89	0.09	52,52,52,52	0
59	MG	CA	3529	1/1	0.89	0.08	68,68,68,68	0
59	MG	CA	3291	1/1	0.89	0.17	48,48,48,48	0
59	MG	BA	1756	1/1	0.89	0.07	85,85,85,85	0
59	MG	BA	1615	1/1	0.89	0.08	62,62,62,62	0
59	MG	DA	1633	1/1	0.89	0.22	55,55,55,55	0
59	MG	CA	3296	1/1	0.89	0.08	79,79,79,79	0
59	MG	CA	3536	1/1	0.89	0.13	84,84,84,84	0
59	MG	CA	3537	1/1	0.89	0.17	59,59,59,59	0
59	MG	AA	3664	1/1	0.89	0.14	62,62,62,62	0
59	MG	AA	3736	1/1	0.89	0.10	59,59,59,59	0
59	MG	CA	3040	1/1	0.89	0.30	79,79,79,79	0
59	MG	AA	3530	1/1	0.89	0.14	20,20,20,20	1
59	MG	AA	3278	1/1	0.89	0.17	60,60,60,60	0
59	MG	AA	3819	1/1	0.89	0.15	35,35,35,35	1
59	MG	CA	3335	1/1	0.89	0.19	66,66,66,66	0
59	MG	AA	3041	1/1	0.89	0.12	37,37,37,37	0
59	MG	CA	3559	1/1	0.89	0.10	75,75,75,75	0
59	MG	BA	1689	1/1	0.89	0.37	71,71,71,71	0
59	MG	CA	3344	1/1	0.89	0.06	68,68,68,68	0
59	MG	AA	3565	1/1	0.89	0.12	44,44,44,44	0
59	MG	AA	3450	1/1	0.89	0.08	58,58,58,58	0
59	MG	AA	3692	1/1	0.89	0.11	36,36,36,36	1
59	MG	DA	1669	1/1	0.89	0.13	65,65,65,65	0
59	MG	CA	3576	1/1	0.89	0.08	71,71,71,71	0
59	MG	AA	3051	1/1	0.89	0.31	48,48,48,48	0
59	MG	AA	3698	1/1	0.89	0.07	41,41,41,41	0
59	MG	AA	3767	1/1	0.89	0.20	67,67,67,67	0
59	MG	CA	3189	1/1	0.89	0.14	50,50,50,50	0
59	MG	BA	1789	1/1	0.89	0.14	72,72,72,72	0
59	MG	AA	3209	1/1	0.89	0.17	62,62,62,62	0
59	MG	CA	3589	1/1	0.89	0.14	71,71,71,71	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3194	1/1	0.89	0.11	52,52,52,52	0
59	MG	CA	3200	1/1	0.89	0.12	51,51,51,51	0
59	MG	DA	1695	1/1	0.89	0.15	63,63,63,63	0
59	MG	CA	3072	1/1	0.89	0.12	66,66,66,66	0
59	MG	AA	3466	1/1	0.89	0.20	76,76,76,76	0
59	MG	AA	3139	1/1	0.89	0.17	60,60,60,60	0
59	MG	CA	3205	1/1	0.89	0.12	81,81,81,81	0
59	MG	CA	3207	1/1	0.89	0.22	75,75,75,75	0
59	MG	CA	3208	1/1	0.89	0.19	74,74,74,74	0
59	MG	AA	3140	1/1	0.89	0.23	62,62,62,62	0
59	MG	A6	103	1/1	0.89	0.27	72,72,72,72	0
59	MG	CA	3081	1/1	0.89	0.15	63,63,63,63	0
59	MG	CA	3441	1/1	0.89	0.17	56,56,56,56	0
59	MG	AA	3604	1/1	0.89	0.18	81,81,81,81	0
59	MG	BA	1805	1/1	0.89	0.13	71,71,71,71	0
59	MG	CA	3454	1/1	0.89	0.08	81,81,81,81	0
59	MG	BA	1808	1/1	0.89	0.10	54,54,54,54	0
59	MG	CA	3224	1/1	0.89	0.22	59,59,59,59	0
59	MG	BA	1717	1/1	0.89	0.13	78,78,78,78	0
59	MG	CA	3098	1/1	0.89	0.11	70,70,70,70	0
59	MG	AA	3415	1/1	0.89	0.19	62,62,62,62	0
59	MG	CA	3101	1/1	0.89	0.22	84,84,84,84	0
59	MG	CA	3477	1/1	0.89	0.14	69,69,69,69	0
59	MG	CA	3478	1/1	0.89	0.13	65,65,65,65	0
59	MG	AA	3017	1/1	0.89	0.11	61,61,61,61	0
59	MG	CA	3645	1/1	0.89	0.10	69,69,69,69	0
59	MG	BA	1603	1/1	0.89	0.20	61,61,61,61	0
59	MG	BA	1609	1/1	0.89	0.08	62,62,62,62	0
59	MG	CA	3486	1/1	0.89	0.13	81,81,81,81	0
59	MG	DA	1752	1/1	0.89	0.20	52,52,52,52	0
59	MG	AA	3786	1/1	0.89	0.09	53,53,53,53	0
59	MG	CA	3490	1/1	0.89	0.09	50,50,50,50	0
59	MG	CB	3003	1/1	0.89	0.09	65,65,65,65	0
59	MG	BN	503	1/1	0.89	0.07	62,62,62,62	0
59	MG	CA	3114	1/1	0.89	0.26	66,66,66,66	0
59	MG	DA	1761	1/1	0.89	0.12	72,72,72,72	0
59	MG	CB	3012	1/1	0.89	0.15	62,62,62,62	0
59	MG	DA	1767	1/1	0.89	0.09	74,74,74,74	0
59	MG	CA	3241	1/1	0.89	0.19	72,72,72,72	0
59	MG	DA	1770	1/1	0.89	0.09	63,63,63,63	0
59	MG	BA	1666	1/1	0.89	0.19	61,61,61,61	0
59	MG	CA	3116	1/1	0.89	0.21	52,52,52,52	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CF	301	1/1	0.89	0.19	61,61,61,61	0
59	MG	CA	3249	1/1	0.89	0.09	61,61,61,61	0
59	MG	BA	1667	1/1	0.89	0.17	74,74,74,74	0
59	MG	CQ	203	1/1	0.89	0.15	54,54,54,54	0
59	MG	BA	1611	1/1	0.89	0.08	31,31,31,31	0
59	MG	CA	3268	1/1	0.89	0.20	52,52,52,52	0
59	MG	CA	3140	1/1	0.90	0.26	63,63,63,63	0
59	MG	CA	3520	1/1	0.90	0.11	73,73,73,73	0
59	MG	DA	1606	1/1	0.90	0.06	85,85,85,85	0
59	MG	CA	3521	1/1	0.90	0.17	74,74,74,74	0
59	MG	CA	3141	1/1	0.90	0.22	68,68,68,68	0
59	MG	CA	3526	1/1	0.90	0.14	58,58,58,58	0
59	MG	CA	3145	1/1	0.90	0.09	76,76,76,76	0
59	MG	AA	3556	1/1	0.90	0.13	66,66,66,66	0
59	MG	AA	3356	1/1	0.90	0.14	80,80,80,80	0
59	MG	AF	308	1/1	0.90	0.13	57,57,57,57	0
59	MG	AA	3765	1/1	0.90	0.15	60,60,60,60	0
59	MG	AR	202	1/1	0.90	0.08	28,28,28,28	0
59	MG	AA	3626	1/1	0.90	0.12	35,35,35,35	0
59	MG	CA	3159	1/1	0.90	0.17	69,69,69,69	0
59	MG	BA	1754	1/1	0.90	0.14	49,49,49,49	0
59	MG	CA	3540	1/1	0.90	0.08	54,54,54,54	0
59	MG	AA	3180	1/1	0.90	0.22	69,69,69,69	0
59	MG	AA	3628	1/1	0.90	0.13	70,70,70,70	0
59	MG	CA	3343	1/1	0.90	0.08	32,32,32,32	0
59	MG	CA	3548	1/1	0.90	0.08	90,90,90,90	0
59	MG	A6	101	1/1	0.90	0.16	60,60,60,60	0
59	MG	CA	3176	1/1	0.90	0.26	60,60,60,60	0
59	MG	CA	3354	1/1	0.90	0.12	49,49,49,49	0
59	MG	CA	3558	1/1	0.90	0.09	64,64,64,64	0
59	MG	AA	3772	1/1	0.90	0.27	61,61,61,61	1
59	MG	DA	1646	1/1	0.90	0.08	57,57,57,57	0
59	MG	A7	103	1/1	0.90	0.17	55,55,55,55	0
59	MG	BA	1668	1/1	0.90	0.09	69,69,69,69	0
59	MG	CA	3061	1/1	0.90	0.15	68,68,68,68	0
59	MG	AA	3143	1/1	0.90	0.10	48,48,48,48	0
59	MG	DA	1658	1/1	0.90	0.23	51,51,51,51	0
59	MG	CA	3571	1/1	0.90	0.08	45,45,45,45	0
59	MG	DA	1660	1/1	0.90	0.07	80,80,80,80	0
59	MG	DA	1661	1/1	0.90	0.13	66,66,66,66	0
59	MG	AA	3070	1/1	0.90	0.35	81,81,81,81	0
59	MG	AA	3632	1/1	0.90	0.13	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3196	1/1	0.90	0.34	68,68,68,68	0
59	MG	CA	3199	1/1	0.90	0.16	55,55,55,55	0
59	MG	AA	3640	1/1	0.90	0.12	68,68,68,68	0
59	MG	DA	1672	1/1	0.90	0.10	77,77,77,77	0
59	MG	BA	1779	1/1	0.90	0.12	85,85,85,85	0
59	MG	CA	3585	1/1	0.90	0.11	36,36,36,36	1
59	MG	AA	3253	1/1	0.90	0.13	64,64,64,64	0
59	MG	AA	3061	1/1	0.90	0.18	59,59,59,59	0
59	MG	AA	3161	1/1	0.90	0.07	43,43,43,43	0
59	MG	AA	3646	1/1	0.90	0.14	53,53,53,53	0
59	MG	AA	3218	1/1	0.90	0.17	67,67,67,67	0
59	MG	CA	3210	1/1	0.90	0.19	62,62,62,62	0
59	MG	AA	3166	1/1	0.90	0.18	40,40,40,40	0
59	MG	AA	3802	1/1	0.90	0.14	86,86,86,86	0
59	MG	AA	3109	1/1	0.90	0.13	56,56,56,56	0
59	MG	CA	3604	1/1	0.90	0.07	62,62,62,62	0
59	MG	BA	1620	1/1	0.90	0.09	52,52,52,52	0
59	MG	CA	3221	1/1	0.90	0.19	65,65,65,65	0
59	MG	CA	3451	1/1	0.90	0.14	62,62,62,62	0
59	MG	AA	3816	1/1	0.90	0.26	66,66,66,66	0
59	MG	CA	3455	1/1	0.90	0.22	49,49,49,49	0
59	MG	AA	3610	1/1	0.90	0.17	59,59,59,59	0
59	MG	CA	3615	1/1	0.90	0.12	28,28,28,28	0
59	MG	AA	3739	1/1	0.90	0.09	38,38,38,38	0
59	MG	DA	1721	1/1	0.90	0.07	80,80,80,80	0
59	MG	BA	1696	1/1	0.90	0.10	98,98,98,98	0
59	MG	AB	3003	1/1	0.90	0.16	60,60,60,60	0
59	MG	CA	3229	1/1	0.90	0.12	53,53,53,53	0
59	MG	AB	3004	1/1	0.90	0.25	69,69,69,69	0
59	MG	AA	3035	1/1	0.90	0.09	48,48,48,48	0
59	MG	AA	3541	1/1	0.90	0.10	74,74,74,74	0
59	MG	BA	1706	1/1	0.90	0.10	63,63,63,63	0
59	MG	CA	3113	1/1	0.90	0.16	38,38,38,38	0
59	MG	CA	3636	1/1	0.90	0.10	64,64,64,64	0
59	MG	AA	3615	1/1	0.90	0.17	43,43,43,43	0
59	MG	BA	1708	1/1	0.90	0.08	64,64,64,64	0
59	MG	BA	1711	1/1	0.90	0.10	61,61,61,61	0
59	MG	BA	1640	1/1	0.90	0.18	52,52,52,52	0
59	MG	CA	3242	1/1	0.90	0.24	82,82,82,82	0
59	MG	CA	3118	1/1	0.90	0.14	65,65,65,65	0
59	MG	CA	3119	1/1	0.90	0.32	55,55,55,55	0
59	MG	CA	3654	1/1	0.90	0.20	90,90,90,90	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	DA	1751	1/1	0.90	0.12	64,64,64,64	0
59	MG	CA	3247	1/1	0.90	0.16	39,39,39,39	0
59	MG	CA	3660	1/1	0.90	0.22	60,60,60,60	0
59	MG	CA	3120	1/1	0.90	0.17	42,42,42,42	0
59	MG	CB	3002	1/1	0.90	0.08	63,63,63,63	0
59	MG	BA	1643	1/1	0.90	0.18	66,66,66,66	0
59	MG	AA	3203	1/1	0.90	0.07	59,59,59,59	0
59	MG	CA	3257	1/1	0.90	0.11	35,35,35,35	0
59	MG	CA	3264	1/1	0.90	0.16	60,60,60,60	0
59	MG	DA	1765	1/1	0.90	0.07	64,64,64,64	0
59	MG	CA	3003	1/1	0.90	0.23	62,62,62,62	0
59	MG	AD	302	1/1	0.90	0.27	85,85,85,85	0
59	MG	AA	3551	1/1	0.90	0.09	39,39,39,39	0
59	MG	AE	302	1/1	0.90	0.11	57,57,57,57	0
59	MG	CG	3001	1/1	0.90	0.08	65,65,65,65	0
59	MG	CN	5001	1/1	0.90	0.09	65,65,65,65	0
59	MG	CA	3514	1/1	0.90	0.23	64,64,64,64	0
59	MG	BA	1654	1/1	0.90	0.14	76,76,76,76	0
59	MG	BA	1655	1/1	0.90	0.07	59,59,59,59	0
59	MG	DW	502	1/1	0.90	0.08	58,58,58,58	0
59	MG	BA	1726	1/1	0.90	0.10	46,46,46,46	0
59	MG	DA	1601	1/1	0.90	0.16	74,74,74,74	0
60	ZN	C4	501	1/1	0.90	0.07	194,194,194,194	0
59	MG	AA	3783	1/1	0.91	0.26	53,53,53,53	1
59	MG	AA	3184	1/1	0.91	0.16	75,75,75,75	0
59	MG	AA	3160	1/1	0.91	0.08	30,30,30,30	0
59	MG	AA	3101	1/1	0.91	0.43	68,68,68,68	0
59	MG	BW	502	1/1	0.91	0.13	59,59,59,59	0
59	MG	BA	1700	1/1	0.91	0.22	52,52,52,52	0
59	MG	BA	1703	1/1	0.91	0.18	51,51,51,51	0
59	MG	AA	3794	1/1	0.91	0.19	60,60,60,60	0
59	MG	CA	3150	1/1	0.91	0.15	57,57,57,57	0
59	MG	AA	3165	1/1	0.91	0.14	52,52,52,52	0
59	MG	AA	3440	1/1	0.91	0.10	63,63,63,63	0
59	MG	AA	3635	1/1	0.91	0.07	49,49,49,49	0
59	MG	CA	3024	1/1	0.91	0.19	100,100,100,100	0
59	MG	CA	3348	1/1	0.91	0.14	44,44,44,44	0
59	MG	BA	1624	1/1	0.91	0.10	58,58,58,58	0
59	MG	AA	3803	1/1	0.91	0.15	45,45,45,45	0
59	MG	DA	1637	1/1	0.91	0.18	68,68,68,68	0
59	MG	AA	3810	1/1	0.91	0.23	67,67,67,67	0
59	MG	AA	3102	1/1	0.91	0.24	47,47,47,47	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3366	1/1	0.91	0.15	49,49,49,49	0
59	MG	AA	3447	1/1	0.91	0.11	56,56,56,56	0
59	MG	DA	1642	1/1	0.91	0.10	62,62,62,62	0
59	MG	CA	3368	1/1	0.91	0.12	44,44,44,44	0
59	MG	AA	3716	1/1	0.91	0.15	66,66,66,66	0
59	MG	CA	3182	1/1	0.91	0.17	38,38,38,38	0
59	MG	CA	3572	1/1	0.91	0.19	70,70,70,70	0
59	MG	AA	3224	1/1	0.91	0.20	56,56,56,56	0
59	MG	CA	3380	1/1	0.91	0.15	59,59,59,59	0
59	MG	BA	1635	1/1	0.91	0.34	65,65,65,65	0
59	MG	DA	1656	1/1	0.91	0.14	63,63,63,63	0
59	MG	AA	3451	1/1	0.91	0.14	57,57,57,57	0
59	MG	AA	3722	1/1	0.91	0.12	37,37,37,37	0
59	MG	AA	3724	1/1	0.91	0.11	47,47,47,47	0
59	MG	CA	3046	1/1	0.91	0.15	68,68,68,68	0
59	MG	AA	3135	1/1	0.91	0.14	55,55,55,55	0
59	MG	AA	3153	1/1	0.91	0.17	59,59,59,59	0
59	MG	AA	3240	1/1	0.91	0.15	69,69,69,69	0
59	MG	DA	1667	1/1	0.91	0.08	66,66,66,66	0
59	MG	CA	3412	1/1	0.91	0.13	59,59,59,59	0
59	MG	CA	3593	1/1	0.91	0.21	61,61,61,61	0
59	MG	AA	3652	1/1	0.91	0.10	53,53,53,53	0
59	MG	CA	3059	1/1	0.91	0.13	58,58,58,58	0
59	MG	AD	307	1/1	0.91	0.21	86,86,86,86	0
59	MG	CA	3431	1/1	0.91	0.13	75,75,75,75	0
59	MG	BA	1749	1/1	0.91	0.12	61,61,61,61	0
59	MG	AA	3742	1/1	0.91	0.16	68,68,68,68	0
59	MG	CA	3435	1/1	0.91	0.07	55,55,55,55	0
59	MG	CA	3436	1/1	0.91	0.14	64,64,64,64	0
59	MG	AA	3467	1/1	0.91	0.14	49,49,49,49	0
59	MG	AA	3657	1/1	0.91	0.10	63,63,63,63	0
59	MG	AF	302	1/1	0.91	0.14	47,47,47,47	0
59	MG	BA	1759	1/1	0.91	0.17	63,63,63,63	0
59	MG	BA	1763	1/1	0.91	0.12	76,76,76,76	0
59	MG	DA	1700	1/1	0.91	0.13	61,61,61,61	0
59	MG	DA	1703	1/1	0.91	0.10	89,89,89,89	0
59	MG	CA	3616	1/1	0.91	0.23	74,74,74,74	0
59	MG	DA	1705	1/1	0.91	0.10	68,68,68,68	0
59	MG	AA	3468	1/1	0.91	0.07	55,55,55,55	0
59	MG	AA	3174	1/1	0.91	0.22	59,59,59,59	0
59	MG	BA	1661	1/1	0.91	0.25	63,63,63,63	0
59	MG	AA	3363	1/1	0.91	0.10	82,82,82,82	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AN	3003	1/1	0.91	0.07	55,55,55,55	0
59	MG	AP	204	1/1	0.91	0.08	59,59,59,59	0
59	MG	CA	3092	1/1	0.91	0.37	79,79,79,79	0
59	MG	CA	3630	1/1	0.91	0.10	65,65,65,65	0
59	MG	CA	3228	1/1	0.91	0.28	59,59,59,59	0
59	MG	AQ	203	1/1	0.91	0.10	32,32,32,32	0
59	MG	CA	3635	1/1	0.91	0.10	48,48,48,48	0
59	MG	DA	1728	1/1	0.91	0.10	71,71,71,71	0
59	MG	CA	3095	1/1	0.91	0.15	58,58,58,58	0
59	MG	AA	3485	1/1	0.91	0.07	48,48,48,48	0
59	MG	CA	3483	1/1	0.91	0.15	64,64,64,64	0
59	MG	AX	3001	1/1	0.91	0.12	52,52,52,52	0
59	MG	AY	502	1/1	0.91	0.19	60,60,60,60	0
59	MG	AA	3763	1/1	0.91	0.10	47,47,47,47	0
59	MG	AA	3106	1/1	0.91	0.09	33,33,33,33	0
59	MG	CA	3106	1/1	0.91	0.18	66,66,66,66	0
59	MG	A0	105	1/1	0.91	0.06	30,30,30,30	0
59	MG	CA	3495	1/1	0.91	0.14	70,70,70,70	0
59	MG	AA	3012	1/1	0.91	0.15	49,49,49,49	0
59	MG	CA	3663	1/1	0.91	0.12	64,64,64,64	0
59	MG	AA	3289	1/1	0.91	0.12	53,53,53,53	0
59	MG	AA	3496	1/1	0.91	0.18	31,31,31,31	0
59	MG	CA	3245	1/1	0.91	0.25	62,62,62,62	0
59	MG	BA	1791	1/1	0.91	0.11	72,72,72,72	0
59	MG	CB	3007	1/1	0.91	0.16	52,52,52,52	0
59	MG	AA	3683	1/1	0.91	0.12	62,62,62,62	0
59	MG	BA	1678	1/1	0.91	0.13	54,54,54,54	0
59	MG	AA	3687	1/1	0.91	0.20	52,52,52,52	0
59	MG	CD	302	1/1	0.91	0.21	56,56,56,56	0
59	MG	DA	1758	1/1	0.91	0.15	75,75,75,75	0
59	MG	DA	1759	1/1	0.91	0.08	53,53,53,53	0
59	MG	AA	3508	1/1	0.91	0.15	43,43,43,43	0
59	MG	BA	1802	1/1	0.91	0.17	76,76,76,76	0
59	MG	AA	3693	1/1	0.91	0.17	69,69,69,69	0
59	MG	AA	3414	1/1	0.91	0.06	37,37,37,37	0
59	MG	BA	1604	1/1	0.91	0.16	63,63,63,63	0
59	MG	CP	201	1/1	0.91	0.09	62,62,62,62	1
59	MG	BA	1605	1/1	0.91	0.13	73,73,73,73	0
59	MG	BA	1606	1/1	0.91	0.22	126,126,126,126	0
59	MG	AA	3290	1/1	0.91	0.09	64,64,64,64	0
59	MG	BA	1814	1/1	0.91	0.10	69,69,69,69	0
59	MG	CA	3130	1/1	0.91	0.07	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	DA	1602	1/1	0.91	0.08	45,45,45,45	0
59	MG	AA	3782	1/1	0.91	0.09	44,44,44,44	0
59	MG	CA	3293	1/1	0.91	0.12	60,60,60,60	0
59	MG	BD	502	1/1	0.91	0.24	64,64,64,64	0
59	MG	DA	1607	1/1	0.91	0.08	86,86,86,86	0
59	MG	CA	3086	1/1	0.92	0.38	85,85,85,85	0
59	MG	CA	3087	1/1	0.92	0.36	68,68,68,68	0
59	MG	CA	3503	1/1	0.92	0.19	52,52,52,52	0
59	MG	CA	3088	1/1	0.92	0.18	67,67,67,67	0
59	MG	CX	5001	1/1	0.92	0.11	65,65,65,65	0
59	MG	BA	1771	1/1	0.92	0.11	65,65,65,65	0
59	MG	AP	203	1/1	0.92	0.09	44,44,44,44	0
59	MG	CA	3243	1/1	0.92	0.12	58,58,58,58	0
59	MG	AA	3280	1/1	0.92	0.12	53,53,53,53	0
59	MG	CA	3094	1/1	0.92	0.13	59,59,59,59	0
59	MG	AA	3175	1/1	0.92	0.26	63,63,63,63	0
59	MG	AR	201	1/1	0.92	0.14	63,63,63,63	0
59	MG	AA	3695	1/1	0.92	0.10	67,67,67,67	0
59	MG	AW	3002	1/1	0.92	0.12	47,47,47,47	0
59	MG	AA	3371	1/1	0.92	0.09	53,53,53,53	0
59	MG	AA	3375	1/1	0.92	0.17	48,48,48,48	0
59	MG	AA	3378	1/1	0.92	0.19	56,56,56,56	0
59	MG	DA	1619	1/1	0.92	0.17	59,59,59,59	0
59	MG	AA	3701	1/1	0.92	0.14	81,81,81,81	0
59	MG	A0	102	1/1	0.92	0.07	56,56,56,56	0
59	MG	AA	3283	1/1	0.92	0.25	43,43,43,43	0
59	MG	DA	1625	1/1	0.92	0.09	50,50,50,50	0
59	MG	CA	3274	1/1	0.92	0.14	52,52,52,52	0
59	MG	DA	1627	1/1	0.92	0.05	77,77,77,77	0
59	MG	CA	3276	1/1	0.92	0.08	44,44,44,44	0
59	MG	AA	3785	1/1	0.92	0.10	61,61,61,61	0
59	MG	CA	3280	1/1	0.92	0.07	48,48,48,48	0
59	MG	AA	3285	1/1	0.92	0.22	51,51,51,51	0
59	MG	CA	3287	1/1	0.92	0.13	45,45,45,45	0
59	MG	AA	3286	1/1	0.92	0.29	40,40,40,40	0
59	MG	DA	1636	1/1	0.92	0.24	62,62,62,62	0
59	MG	AA	3019	1/1	0.92	0.16	70,70,70,70	0
59	MG	BA	1793	1/1	0.92	0.09	65,65,65,65	0
59	MG	AA	3249	1/1	0.92	0.17	59,59,59,59	0
59	MG	BA	1796	1/1	0.92	0.16	57,57,57,57	0
59	MG	AA	3636	1/1	0.92	0.13	86,86,86,86	0
59	MG	BA	1798	1/1	0.92	0.11	73,73,73,73	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3547	1/1	0.92	0.12	69,69,69,69	0
59	MG	AA	3544	1/1	0.92	0.09	26,26,26,26	0
59	MG	DA	1645	1/1	0.92	0.07	58,58,58,58	0
59	MG	CA	3551	1/1	0.92	0.09	63,63,63,63	0
59	MG	BA	1801	1/1	0.92	0.07	65,65,65,65	0
59	MG	AA	3550	1/1	0.92	0.10	38,38,38,38	0
59	MG	AA	3718	1/1	0.92	0.14	42,42,42,42	0
59	MG	CA	3128	1/1	0.92	0.18	50,50,50,50	0
59	MG	CA	3325	1/1	0.92	0.08	38,38,38,38	0
59	MG	BA	1684	1/1	0.92	0.18	61,61,61,61	0
59	MG	AA	3804	1/1	0.92	0.07	50,50,50,50	0
59	MG	AA	3250	1/1	0.92	0.15	123,123,123,123	0
59	MG	BA	1607	1/1	0.92	0.08	64,64,64,64	0
59	MG	BA	1608	1/1	0.92	0.25	57,57,57,57	0
59	MG	AA	3293	1/1	0.92	0.07	27,27,27,27	0
59	MG	AA	3208	1/1	0.92	0.29	54,54,54,54	0
59	MG	DA	1666	1/1	0.92	0.19	53,53,53,53	0
59	MG	CA	3575	1/1	0.92	0.09	71,71,71,71	0
59	MG	AA	3313	1/1	0.92	0.13	39,39,39,39	0
59	MG	CA	3352	1/1	0.92	0.10	79,79,79,79	0
59	MG	DA	1670	1/1	0.92	0.10	49,49,49,49	0
59	MG	DA	1671	1/1	0.92	0.21	56,56,56,56	0
59	MG	AA	3818	1/1	0.92	0.12	61,61,61,61	0
59	MG	AA	3577	1/1	0.92	0.07	42,42,42,42	0
59	MG	CA	3147	1/1	0.92	0.13	55,55,55,55	0
59	MG	BL	202	1/1	0.92	0.10	54,54,54,54	0
59	MG	AB	3002	1/1	0.92	0.13	52,52,52,52	0
59	MG	AA	3252	1/1	0.92	0.09	44,44,44,44	0
59	MG	BA	1617	1/1	0.92	0.12	118,118,118,118	0
59	MG	BW	503	1/1	0.92	0.21	60,60,60,60	0
59	MG	DA	1684	1/1	0.92	0.12	69,69,69,69	0
59	MG	DA	1688	1/1	0.92	0.13	51,51,51,51	0
59	MG	AA	3448	1/1	0.92	0.07	62,62,62,62	0
59	MG	AB	3006	1/1	0.92	0.11	57,57,57,57	0
59	MG	AB	3009	1/1	0.92	0.07	50,50,50,50	0
59	MG	CA	3015	1/1	0.92	0.15	51,51,51,51	0
59	MG	AA	3225	1/1	0.92	0.18	73,73,73,73	0
59	MG	CA	3600	1/1	0.92	0.13	86,86,86,86	0
59	MG	DA	1701	1/1	0.92	0.14	68,68,68,68	0
59	MG	CA	3394	1/1	0.92	0.17	69,69,69,69	0
59	MG	AB	3018	1/1	0.92	0.09	69,69,69,69	0
59	MG	BA	1627	1/1	0.92	0.07	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	DA	1706	1/1	0.92	0.14	66,66,66,66	0
59	MG	AA	3596	1/1	0.92	0.12	65,65,65,65	0
59	MG	AA	3752	1/1	0.92	0.10	42,42,42,42	0
59	MG	CA	3031	1/1	0.92	0.20	68,68,68,68	0
59	MG	AA	3229	1/1	0.92	0.27	67,67,67,67	0
59	MG	CA	3413	1/1	0.92	0.10	39,39,39,39	0
59	MG	CA	3033	1/1	0.92	0.22	55,55,55,55	0
59	MG	CA	3419	1/1	0.92	0.08	59,59,59,59	0
59	MG	BA	1632	1/1	0.92	0.09	48,48,48,48	0
59	MG	CA	3421	1/1	0.92	0.15	57,57,57,57	0
59	MG	AA	3231	1/1	0.92	0.15	64,64,64,64	0
59	MG	DA	1725	1/1	0.92	0.12	58,58,58,58	0
59	MG	CA	3430	1/1	0.92	0.19	41,41,41,41	0
59	MG	BA	1720	1/1	0.92	0.09	61,61,61,61	0
59	MG	AD	303	1/1	0.92	0.25	58,58,58,58	0
59	MG	CA	3198	1/1	0.92	0.11	34,34,34,34	0
59	MG	AD	305	1/1	0.92	0.11	50,50,50,50	0
59	MG	CA	3631	1/1	0.92	0.10	65,65,65,65	0
59	MG	AA	3150	1/1	0.92	0.20	45,45,45,45	0
59	MG	BA	1639	1/1	0.92	0.23	61,61,61,61	0
59	MG	BA	1729	1/1	0.92	0.11	53,53,53,53	0
59	MG	BA	1730	1/1	0.92	0.11	53,53,53,53	0
59	MG	DA	1741	1/1	0.92	0.21	67,67,67,67	0
59	MG	CA	3637	1/1	0.92	0.39	61,61,61,61	0
59	MG	CA	3447	1/1	0.92	0.13	73,73,73,73	0
59	MG	CA	3639	1/1	0.92	0.23	61,61,61,61	0
59	MG	BA	1732	1/1	0.92	0.07	70,70,70,70	0
59	MG	AA	3057	1/1	0.92	0.11	46,46,46,46	0
59	MG	BA	1737	1/1	0.92	0.24	79,79,79,79	0
59	MG	CA	3051	1/1	0.92	0.23	57,57,57,57	0
59	MG	AE	301	1/1	0.92	0.10	69,69,69,69	0
59	MG	CA	3213	1/1	0.92	0.19	51,51,51,51	0
59	MG	CA	3652	1/1	0.92	0.07	23,23,23,23	0
59	MG	AA	3237	1/1	0.92	0.17	76,76,76,76	0
59	MG	AA	3238	1/1	0.92	0.17	76,76,76,76	0
59	MG	BA	1747	1/1	0.92	0.09	65,65,65,65	0
59	MG	CA	3662	1/1	0.92	0.14	33,33,33,33	0
59	MG	AA	3474	1/1	0.92	0.06	18,18,18,18	1
59	MG	BA	1647	1/1	0.92	0.26	57,57,57,57	0
59	MG	BA	1752	1/1	0.92	0.16	59,59,59,59	0
59	MG	DA	1763	1/1	0.92	0.10	76,76,76,76	0
59	MG	AF	304	1/1	0.92	0.18	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1651	1/1	0.92	0.16	55,55,55,55	0
59	MG	CA	3484	1/1	0.92	0.11	78,78,78,78	0
59	MG	CB	3008	1/1	0.92	0.14	66,66,66,66	0
59	MG	BA	1652	1/1	0.92	0.09	59,59,59,59	0
59	MG	AA	3199	1/1	0.92	0.14	41,41,41,41	0
59	MG	AA	3768	1/1	0.92	0.07	58,58,58,58	0
59	MG	CA	3077	1/1	0.92	0.12	42,42,42,42	0
59	MG	CA	3231	1/1	0.92	0.23	60,60,60,60	0
59	MG	CA	3493	1/1	0.92	0.17	65,65,65,65	0
59	MG	BA	1762	1/1	0.92	0.08	74,74,74,74	0
59	MG	AA	3361	1/1	0.92	0.16	53,53,53,53	0
59	MG	AN	3001	1/1	0.92	0.13	58,58,58,58	0
59	MG	DZ	702	1/1	0.92	0.13	57,57,57,57	0
59	MG	AA	3065	1/1	0.92	0.22	62,62,62,62	0
59	MG	BK	201	1/1	0.93	0.10	44,44,44,44	0
59	MG	AB	3008	1/1	0.93	0.17	52,52,52,52	0
59	MG	BA	1712	1/1	0.93	0.34	57,57,57,57	0
59	MG	AA	3492	1/1	0.93	0.08	26,26,26,26	0
59	MG	AA	3374	1/1	0.93	0.14	49,49,49,49	0
59	MG	AA	3080	1/1	0.93	0.32	61,61,61,61	0
59	MG	AA	3086	1/1	0.93	0.12	55,55,55,55	0
59	MG	DA	1616	1/1	0.93	0.19	51,51,51,51	0
59	MG	BZ	701	1/1	0.93	0.11	49,49,49,49	0
59	MG	AA	3499	1/1	0.93	0.07	48,48,48,48	0
59	MG	DA	1620	1/1	0.93	0.17	57,57,57,57	0
59	MG	CA	3310	1/1	0.93	0.09	47,47,47,47	0
59	MG	CA	3313	1/1	0.93	0.18	38,38,38,38	0
59	MG	CA	3137	1/1	0.93	0.15	69,69,69,69	0
59	MG	CA	3319	1/1	0.93	0.08	65,65,65,65	0
59	MG	CA	3543	1/1	0.93	0.09	71,71,71,71	0
59	MG	AB	3023	1/1	0.93	0.19	54,54,54,54	0
59	MG	CA	3005	1/1	0.93	0.12	48,48,48,48	0
59	MG	CA	3331	1/1	0.93	0.12	52,52,52,52	0
59	MG	AA	3088	1/1	0.93	0.14	39,39,39,39	0
59	MG	CA	3549	1/1	0.93	0.11	70,70,70,70	0
59	MG	CA	3011	1/1	0.93	0.15	63,63,63,63	0
59	MG	CA	3336	1/1	0.93	0.10	64,64,64,64	0
59	MG	CA	3554	1/1	0.93	0.08	66,66,66,66	0
59	MG	AA	3732	1/1	0.93	0.15	70,70,70,70	0
59	MG	CA	3016	1/1	0.93	0.17	52,52,52,52	0
59	MG	AA	3633	1/1	0.93	0.12	48,48,48,48	0
59	MG	BA	1725	1/1	0.93	0.07	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	BA	1637	1/1	0.93	0.23	72,72,72,72	0
59	MG	AA	3258	1/1	0.93	0.16	68,68,68,68	0
59	MG	CA	3026	1/1	0.93	0.12	32,32,32,32	1
59	MG	CA	3028	1/1	0.93	0.20	51,51,51,51	0
59	MG	CA	3569	1/1	0.93	0.09	41,41,41,41	0
59	MG	AA	3520	1/1	0.93	0.08	17,17,17,17	0
59	MG	DA	1647	1/1	0.93	0.15	51,51,51,51	0
59	MG	AA	3298	1/1	0.93	0.09	58,58,58,58	0
59	MG	DA	1650	1/1	0.93	0.16	50,50,50,50	0
59	MG	BA	1641	1/1	0.93	0.12	54,54,54,54	0
59	MG	CA	3166	1/1	0.93	0.16	27,27,27,27	0
59	MG	BA	1642	1/1	0.93	0.11	60,60,60,60	0
59	MG	CA	3373	1/1	0.93	0.18	58,58,58,58	0
59	MG	CA	3375	1/1	0.93	0.16	68,68,68,68	0
59	MG	AD	309	1/1	0.93	0.10	56,56,56,56	0
59	MG	AA	3641	1/1	0.93	0.10	51,51,51,51	0
59	MG	CA	3177	1/1	0.93	0.12	29,29,29,29	0
59	MG	CA	3178	1/1	0.93	0.10	54,54,54,54	0
59	MG	AA	3746	1/1	0.93	0.14	73,73,73,73	0
59	MG	DA	1664	1/1	0.93	0.05	66,66,66,66	0
59	MG	BA	1742	1/1	0.93	0.09	48,48,48,48	0
59	MG	CA	3590	1/1	0.93	0.11	59,59,59,59	0
59	MG	CA	3390	1/1	0.93	0.06	80,80,80,80	0
59	MG	AA	3300	1/1	0.93	0.09	22,22,22,22	0
59	MG	BA	1745	1/1	0.93	0.05	46,46,46,46	0
59	MG	CA	3188	1/1	0.93	0.14	94,94,94,94	0
59	MG	AA	3751	1/1	0.93	0.24	61,61,61,61	0
59	MG	CA	3402	1/1	0.93	0.10	66,66,66,66	0
59	MG	AA	3420	1/1	0.93	0.07	25,25,25,25	1
59	MG	CA	3602	1/1	0.93	0.09	84,84,84,84	0
59	MG	AA	3307	1/1	0.93	0.17	61,61,61,61	0
59	MG	AA	3026	1/1	0.93	0.07	47,47,47,47	0
59	MG	AA	3196	1/1	0.93	0.16	55,55,55,55	0
59	MG	CA	3048	1/1	0.93	0.05	47,47,47,47	0
59	MG	AA	3067	1/1	0.93	0.21	61,61,61,61	0
59	MG	CA	3609	1/1	0.93	0.10	52,52,52,52	0
59	MG	AA	3555	1/1	0.93	0.07	45,45,45,45	0
59	MG	DA	1689	1/1	0.93	0.08	56,56,56,56	0
59	MG	CA	3201	1/1	0.93	0.21	45,45,45,45	0
59	MG	CA	3054	1/1	0.93	0.15	36,36,36,36	0
59	MG	CA	3426	1/1	0.93	0.15	38,38,38,38	0
59	MG	AA	3322	1/1	0.93	0.14	61,61,61,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3655	1/1	0.93	0.12	55,55,55,55	0
59	MG	DA	1699	1/1	0.93	0.11	74,74,74,74	0
59	MG	AQ	201	1/1	0.93	0.12	48,48,48,48	0
59	MG	AA	3558	1/1	0.93	0.07	48,48,48,48	0
59	MG	CA	3062	1/1	0.93	0.13	38,38,38,38	0
59	MG	CA	3623	1/1	0.93	0.09	64,64,64,64	0
59	MG	CA	3209	1/1	0.93	0.14	73,73,73,73	0
59	MG	AA	3563	1/1	0.93	0.12	34,34,34,34	0
59	MG	DA	1707	1/1	0.93	0.11	61,61,61,61	0
59	MG	AA	3446	1/1	0.93	0.17	59,59,59,59	0
59	MG	AV	201	1/1	0.93	0.13	38,38,38,38	0
59	MG	CA	3068	1/1	0.93	0.31	66,66,66,66	0
59	MG	AA	3050	1/1	0.93	0.14	28,28,28,28	0
59	MG	DA	1714	1/1	0.93	0.08	68,68,68,68	0
59	MG	AA	3329	1/1	0.93	0.07	40,40,40,40	1
59	MG	AA	3234	1/1	0.93	0.19	36,36,36,36	0
59	MG	CA	3073	1/1	0.93	0.10	49,49,49,49	0
59	MG	DA	1719	1/1	0.93	0.18	61,61,61,61	0
59	MG	AZ	301	1/1	0.93	0.14	86,86,86,86	0
59	MG	AA	3148	1/1	0.93	0.24	29,29,29,29	1
59	MG	AA	3127	1/1	0.93	0.15	57,57,57,57	0
59	MG	CA	3642	1/1	0.93	0.21	52,52,52,52	0
59	MG	DA	1726	1/1	0.93	0.14	60,60,60,60	0
59	MG	AA	3593	1/1	0.93	0.20	15,15,15,15	1
59	MG	AA	3682	1/1	0.93	0.09	31,31,31,31	0
59	MG	CA	3472	1/1	0.93	0.23	62,62,62,62	0
59	MG	AA	3455	1/1	0.93	0.14	32,32,32,32	1
59	MG	AA	3684	1/1	0.93	0.13	51,51,51,51	0
59	MG	DA	1734	1/1	0.93	0.05	65,65,65,65	0
59	MG	DA	1735	1/1	0.93	0.07	73,73,73,73	0
59	MG	AA	3461	1/1	0.93	0.12	62,62,62,62	0
59	MG	AA	3688	1/1	0.93	0.10	25,25,25,25	0
59	MG	AA	3346	1/1	0.93	0.18	59,59,59,59	0
59	MG	AA	3791	1/1	0.93	0.14	51,51,51,51	0
59	MG	CA	3659	1/1	0.93	0.07	55,55,55,55	0
59	MG	AA	3177	1/1	0.93	0.15	59,59,59,59	0
59	MG	AA	3606	1/1	0.93	0.09	34,34,34,34	0
59	MG	AA	3179	1/1	0.93	0.16	45,45,45,45	1
59	MG	BA	1794	1/1	0.93	0.06	38,38,38,38	0
59	MG	AA	3028	1/1	0.93	0.10	39,39,39,39	0
59	MG	AA	3471	1/1	0.93	0.08	56,56,56,56	0
59	MG	CB	3004	1/1	0.93	0.10	55,55,55,55	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3473	1/1	0.93	0.07	53,53,53,53	0
59	MG	AA	3282	1/1	0.93	0.13	33,33,33,33	0
59	MG	AA	3703	1/1	0.93	0.15	56,56,56,56	0
59	MG	AA	3704	1/1	0.93	0.09	49,49,49,49	0
59	MG	AA	3210	1/1	0.93	0.18	59,59,59,59	1
59	MG	AA	3079	1/1	0.93	0.08	27,27,27,27	0
59	MG	CD	301	1/1	0.93	0.13	43,43,43,43	0
59	MG	CA	3253	1/1	0.93	0.10	70,70,70,70	0
59	MG	CA	3110	1/1	0.93	0.12	56,56,56,56	0
59	MG	CE	304	1/1	0.93	0.16	75,75,75,75	0
59	MG	BA	1613	1/1	0.93	0.06	76,76,76,76	0
59	MG	BA	1807	1/1	0.93	0.12	61,61,61,61	0
59	MG	AA	3618	1/1	0.93	0.10	72,72,72,72	0
59	MG	AA	3710	1/1	0.93	0.21	29,29,29,29	1
59	MG	AB	3001	1/1	0.93	0.16	74,74,74,74	0
59	MG	AA	3134	1/1	0.93	0.13	62,62,62,62	0
59	MG	BA	1705	1/1	0.93	0.14	53,53,53,53	0
59	MG	BA	1815	1/1	0.93	0.18	53,53,53,53	0
59	MG	AA	3185	1/1	0.93	0.17	76,76,76,76	0
59	MG	CV	201	1/1	0.93	0.18	117,117,117,117	0
59	MG	AA	3714	1/1	0.93	0.14	70,70,70,70	0
59	MG	C5	101	1/1	0.93	0.21	66,66,66,66	0
59	MG	CA	3121	1/1	0.93	0.07	49,49,49,49	0
59	MG	CA	3285	1/1	0.93	0.09	63,63,63,63	0
59	MG	DA	1603	1/1	0.93	0.08	72,72,72,72	0
59	MG	CA	3122	1/1	0.93	0.15	58,58,58,58	0
59	MG	AA	3490	1/1	0.93	0.12	27,27,27,27	0
62	GDP	DZ	703	28/28	0.93	0.08	66,66,66,66	1
59	MG	AA	3226	1/1	0.94	0.11	46,46,46,46	0
59	MG	CA	3550	1/1	0.94	0.07	62,62,62,62	1
59	MG	CA	3360	1/1	0.94	0.09	38,38,38,38	0
59	MG	AA	3002	1/1	0.94	0.13	57,57,57,57	0
59	MG	CA	3365	1/1	0.94	0.07	55,55,55,55	0
59	MG	CA	3183	1/1	0.94	0.08	49,49,49,49	0
59	MG	CA	3556	1/1	0.94	0.13	62,62,62,62	0
59	MG	AA	3325	1/1	0.94	0.11	70,70,70,70	0
59	MG	CA	3185	1/1	0.94	0.12	48,48,48,48	0
59	MG	DA	1630	1/1	0.94	0.28	62,62,62,62	0
59	MG	CA	3370	1/1	0.94	0.07	41,41,41,41	0
59	MG	AA	3443	1/1	0.94	0.09	33,33,33,33	0
59	MG	CA	3561	1/1	0.94	0.08	41,41,41,41	1
59	MG	AA	3444	1/1	0.94	0.12	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3445	1/1	0.94	0.07	23,23,23,23	0
59	MG	AA	3743	1/1	0.94	0.16	67,67,67,67	0
59	MG	AD	311	1/1	0.94	0.13	37,37,37,37	0
59	MG	AA	3645	1/1	0.94	0.11	58,58,58,58	0
59	MG	AA	3142	1/1	0.94	0.14	64,64,64,64	0
59	MG	CA	3056	1/1	0.94	0.08	63,63,63,63	0
59	MG	AE	304	1/1	0.94	0.08	52,52,52,52	0
59	MG	CA	3391	1/1	0.94	0.12	51,51,51,51	0
59	MG	AA	3748	1/1	0.94	0.08	45,45,45,45	0
59	MG	AA	3162	1/1	0.94	0.21	67,67,67,67	0
59	MG	AA	3204	1/1	0.94	0.14	54,54,54,54	0
59	MG	CA	3582	1/1	0.94	0.08	99,99,99,99	0
59	MG	CA	3396	1/1	0.94	0.06	39,39,39,39	0
59	MG	AA	3753	1/1	0.94	0.08	30,30,30,30	0
59	MG	CA	3399	1/1	0.94	0.07	57,57,57,57	0
59	MG	DA	1651	1/1	0.94	0.10	63,63,63,63	0
59	MG	AA	3559	1/1	0.94	0.09	46,46,46,46	0
59	MG	AG	201	1/1	0.94	0.07	38,38,38,38	0
59	MG	BA	1770	1/1	0.94	0.06	54,54,54,54	0
59	MG	CA	3409	1/1	0.94	0.14	42,42,42,42	0
59	MG	AA	3562	1/1	0.94	0.08	56,56,56,56	0
59	MG	AA	3205	1/1	0.94	0.10	42,42,42,42	0
59	MG	AA	3025	1/1	0.94	0.12	68,68,68,68	0
59	MG	AA	3760	1/1	0.94	0.14	55,55,55,55	0
59	MG	CA	3417	1/1	0.94	0.10	56,56,56,56	0
59	MG	CA	3599	1/1	0.94	0.07	70,70,70,70	0
59	MG	AA	3207	1/1	0.94	0.14	60,60,60,60	0
59	MG	AA	3575	1/1	0.94	0.09	35,35,35,35	0
59	MG	AA	3352	1/1	0.94	0.17	47,47,47,47	0
59	MG	AA	3667	1/1	0.94	0.12	41,41,41,41	0
59	MG	AA	3669	1/1	0.94	0.10	81,81,81,81	0
59	MG	AA	3670	1/1	0.94	0.08	54,54,54,54	0
59	MG	AV	206	1/1	0.94	0.09	33,33,33,33	0
59	MG	AW	3001	1/1	0.94	0.22	54,54,54,54	0
59	MG	AA	3456	1/1	0.94	0.09	56,56,56,56	0
59	MG	CA	3611	1/1	0.94	0.10	59,59,59,59	0
59	MG	CA	3434	1/1	0.94	0.09	32,32,32,32	0
59	MG	AA	3145	1/1	0.94	0.11	44,44,44,44	0
59	MG	AA	3584	1/1	0.94	0.06	17,17,17,17	0
59	MG	AA	3046	1/1	0.94	0.11	35,35,35,35	0
59	MG	AA	3187	1/1	0.94	0.28	56,56,56,56	0
59	MG	AA	3594	1/1	0.94	0.10	56,56,56,56	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3232	1/1	0.94	0.21	54,54,54,54	0
59	MG	DA	1685	1/1	0.94	0.07	46,46,46,46	0
59	MG	AA	3362	1/1	0.94	0.07	46,46,46,46	0
59	MG	AA	3599	1/1	0.94	0.07	59,59,59,59	0
59	MG	AA	3686	1/1	0.94	0.13	61,61,61,61	0
59	MG	CA	3625	1/1	0.94	0.13	64,64,64,64	0
59	MG	CA	3099	1/1	0.94	0.19	58,58,58,58	0
59	MG	BA	1681	1/1	0.94	0.06	53,53,53,53	0
59	MG	CA	3464	1/1	0.94	0.08	36,36,36,36	0
59	MG	A5	502	1/1	0.94	0.11	51,51,51,51	0
59	MG	CA	3632	1/1	0.94	0.10	74,74,74,74	0
59	MG	AA	3244	1/1	0.94	0.20	52,52,52,52	0
59	MG	CA	3469	1/1	0.94	0.14	61,61,61,61	0
59	MG	AA	3602	1/1	0.94	0.11	51,51,51,51	0
59	MG	BA	1685	1/1	0.94	0.08	50,50,50,50	0
59	MG	A7	102	1/1	0.94	0.12	37,37,37,37	0
59	MG	BA	1688	1/1	0.94	0.19	61,61,61,61	0
59	MG	AA	3287	1/1	0.94	0.22	43,43,43,43	0
59	MG	AA	3211	1/1	0.94	0.11	56,56,56,56	0
59	MG	BA	1692	1/1	0.94	0.19	55,55,55,55	0
59	MG	AA	3370	1/1	0.94	0.08	47,47,47,47	0
59	MG	CA	3251	1/1	0.94	0.13	82,82,82,82	0
59	MG	AA	3479	1/1	0.94	0.07	55,55,55,55	0
59	MG	BA	1813	1/1	0.94	0.10	55,55,55,55	0
59	MG	CA	3487	1/1	0.94	0.16	60,60,60,60	0
59	MG	CA	3651	1/1	0.94	0.29	76,76,76,76	0
59	MG	AA	3099	1/1	0.94	0.16	53,53,53,53	0
59	MG	AA	3609	1/1	0.94	0.07	58,58,58,58	0
59	MG	AA	3193	1/1	0.94	0.21	40,40,40,40	0
59	MG	CA	3658	1/1	0.94	0.17	64,64,64,64	0
59	MG	AA	3073	1/1	0.94	0.06	31,31,31,31	0
59	MG	CA	3269	1/1	0.94	0.18	81,81,81,81	0
59	MG	AA	3090	1/1	0.94	0.12	53,53,53,53	0
59	MG	CA	3498	1/1	0.94	0.07	49,49,49,49	0
59	MG	AA	3805	1/1	0.94	0.12	58,58,58,58	0
59	MG	AA	3808	1/1	0.94	0.13	72,72,72,72	0
59	MG	AA	3381	1/1	0.94	0.06	16,16,16,16	0
59	MG	AA	3813	1/1	0.94	0.07	29,29,29,29	1
59	MG	AA	3616	1/1	0.94	0.09	57,57,57,57	0
59	MG	CA	3281	1/1	0.94	0.07	21,21,21,21	0
59	MG	AA	3385	1/1	0.94	0.09	49,49,49,49	0
59	MG	CB	3010	1/1	0.94	0.09	51,51,51,51	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3400	1/1	0.94	0.07	13,13,13,13	0
59	MG	BA	1710	1/1	0.94	0.09	81,81,81,81	0
59	MG	AA	3709	1/1	0.94	0.21	23,23,23,23	1
59	MG	AA	3104	1/1	0.94	0.13	54,54,54,54	0
59	MG	AA	3256	1/1	0.94	0.10	49,49,49,49	0
59	MG	CA	3513	1/1	0.94	0.10	70,70,70,70	0
59	MG	BA	1618	1/1	0.94	0.16	52,52,52,52	0
59	MG	AA	3497	1/1	0.94	0.10	44,44,44,44	0
59	MG	CA	3012	1/1	0.94	0.10	65,65,65,65	0
59	MG	AA	3220	1/1	0.94	0.08	62,62,62,62	0
59	MG	CA	3142	1/1	0.94	0.17	61,61,61,61	0
59	MG	BA	1621	1/1	0.94	0.06	51,51,51,51	0
59	MG	BA	1622	1/1	0.94	0.17	65,65,65,65	0
59	MG	AA	3501	1/1	0.94	0.07	49,49,49,49	0
59	MG	AA	3264	1/1	0.94	0.23	51,51,51,51	0
59	MG	CA	3527	1/1	0.94	0.16	76,76,76,76	0
59	MG	CR	201	1/1	0.94	0.07	34,34,34,34	0
59	MG	CU	201	1/1	0.94	0.14	74,74,74,74	0
59	MG	CA	3528	1/1	0.94	0.08	38,38,38,38	0
59	MG	BA	1722	1/1	0.94	0.15	51,51,51,51	0
59	MG	AA	3197	1/1	0.94	0.08	45,45,45,45	0
59	MG	DA	1766	1/1	0.94	0.07	74,74,74,74	0
59	MG	CA	3153	1/1	0.94	0.20	73,73,73,73	0
59	MG	DA	1768	1/1	0.94	0.06	59,59,59,59	0
59	MG	AA	3178	1/1	0.94	0.19	48,48,48,48	0
59	MG	AB	3013	1/1	0.94	0.09	53,53,53,53	0
59	MG	BA	1629	1/1	0.94	0.12	61,61,61,61	0
59	MG	AB	3014	1/1	0.94	0.09	56,56,56,56	0
59	MG	CA	3161	1/1	0.94	0.17	57,57,57,57	0
59	MG	AA	3521	1/1	0.94	0.08	19,19,19,19	0
59	MG	BA	1731	1/1	0.94	0.10	45,45,45,45	0
59	MG	AA	3321	1/1	0.94	0.11	61,61,61,61	0
59	MG	CA	3036	1/1	0.94	0.16	32,32,32,32	0
59	MG	AA	3535	1/1	0.94	0.06	48,48,48,48	0
59	MG	AA	3730	1/1	0.94	0.09	75,75,75,75	0
59	MG	DA	1615	1/1	0.94	0.07	58,58,58,58	0
59	MG	BA	1738	1/1	0.94	0.05	66,66,66,66	0
59	MG	AA	3731	1/1	0.94	0.10	51,51,51,51	0
59	MG	AA	3762	1/1	0.95	0.07	23,23,23,23	0
59	MG	AA	3144	1/1	0.95	0.14	50,50,50,50	0
59	MG	CB	3006	1/1	0.95	0.08	71,71,71,71	0
59	MG	CA	3197	1/1	0.95	0.13	45,45,45,45	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3082	1/1	0.95	0.17	60,60,60,60	0
59	MG	CA	3448	1/1	0.95	0.09	37,37,37,37	0
59	MG	AA	3373	1/1	0.95	0.10	48,48,48,48	0
59	MG	AA	3114	1/1	0.95	0.09	26,26,26,26	0
59	MG	AA	3230	1/1	0.95	0.15	69,69,69,69	0
59	MG	AA	3377	1/1	0.95	0.07	20,20,20,20	0
59	MG	AA	3650	1/1	0.95	0.09	49,49,49,49	0
59	MG	CA	3462	1/1	0.95	0.10	63,63,63,63	0
59	MG	CE	302	1/1	0.95	0.06	64,64,64,64	0
59	MG	AA	3532	1/1	0.95	0.12	20,20,20,20	0
59	MG	AA	3116	1/1	0.95	0.24	35,35,35,35	0
59	MG	AA	3188	1/1	0.95	0.15	31,31,31,31	0
59	MG	CF	304	1/1	0.95	0.08	65,65,65,65	0
59	MG	CA	3468	1/1	0.95	0.05	53,53,53,53	0
59	MG	CA	3039	1/1	0.95	0.22	37,37,37,37	0
59	MG	AA	3233	1/1	0.95	0.15	46,46,46,46	0
59	MG	AA	3656	1/1	0.95	0.18	80,80,80,80	0
59	MG	AA	3389	1/1	0.95	0.07	25,25,25,25	0
59	MG	AA	3658	1/1	0.95	0.08	42,42,42,42	0
59	MG	CA	3215	1/1	0.95	0.13	54,54,54,54	0
59	MG	AA	3049	1/1	0.95	0.12	35,35,35,35	0
59	MG	AA	3547	1/1	0.95	0.13	60,60,60,60	0
59	MG	AA	3549	1/1	0.95	0.05	66,66,66,66	0
59	MG	AA	3788	1/1	0.95	0.15	61,61,61,61	0
59	MG	C3	3001	1/1	0.95	0.09	72,72,72,72	0
59	MG	AA	3789	1/1	0.95	0.10	44,44,44,44	0
59	MG	AA	3790	1/1	0.95	0.23	57,57,57,57	0
59	MG	AA	3403	1/1	0.95	0.09	42,42,42,42	0
59	MG	AA	3405	1/1	0.95	0.15	44,44,44,44	0
59	MG	CA	3489	1/1	0.95	0.09	39,39,39,39	0
59	MG	BA	1734	1/1	0.95	0.09	61,61,61,61	0
59	MG	CA	3227	1/1	0.95	0.15	41,41,41,41	0
59	MG	BA	1736	1/1	0.95	0.10	67,67,67,67	0
59	MG	CA	3058	1/1	0.95	0.19	67,67,67,67	0
59	MG	AA	3155	1/1	0.95	0.18	93,93,93,93	0
59	MG	CA	3060	1/1	0.95	0.29	72,72,72,72	0
59	MG	AA	3671	1/1	0.95	0.11	19,19,19,19	0
59	MG	DA	1612	1/1	0.95	0.10	57,57,57,57	0
59	MG	DA	1613	1/1	0.95	0.22	48,48,48,48	0
59	MG	AA	3798	1/1	0.95	0.09	25,25,25,25	0
59	MG	CA	3063	1/1	0.95	0.09	34,34,34,34	0
59	MG	AA	3673	1/1	0.95	0.07	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	DA	1617	1/1	0.95	0.14	64,64,64,64	0
59	MG	AA	3674	1/1	0.95	0.10	30,30,30,30	0
59	MG	AA	3119	1/1	0.95	0.10	47,47,47,47	0
59	MG	AA	3120	1/1	0.95	0.11	33,33,33,33	0
59	MG	AA	3294	1/1	0.95	0.09	37,37,37,37	0
59	MG	AA	3807	1/1	0.95	0.16	77,77,77,77	0
59	MG	AA	3033	1/1	0.95	0.13	55,55,55,55	0
59	MG	AA	3809	1/1	0.95	0.17	57,57,57,57	0
59	MG	CA	3074	1/1	0.95	0.06	49,49,49,49	0
59	MG	AA	3001	1/1	0.95	0.09	25,25,25,25	0
59	MG	AA	3299	1/1	0.95	0.19	47,47,47,47	0
59	MG	AA	3570	1/1	0.95	0.06	14,14,14,14	0
59	MG	AA	3431	1/1	0.95	0.10	25,25,25,25	0
59	MG	CA	3079	1/1	0.95	0.07	41,41,41,41	0
59	MG	CA	3252	1/1	0.95	0.16	62,62,62,62	0
59	MG	CA	3519	1/1	0.95	0.14	48,48,48,48	0
59	MG	AA	3685	1/1	0.95	0.08	72,72,72,72	0
59	MG	AA	3573	1/1	0.95	0.07	12,12,12,12	0
59	MG	AA	3432	1/1	0.95	0.15	42,42,42,42	0
59	MG	CA	3084	1/1	0.95	0.10	56,56,56,56	0
59	MG	CA	3258	1/1	0.95	0.25	51,51,51,51	0
59	MG	CA	3259	1/1	0.95	0.12	80,80,80,80	0
59	MG	AA	3006	1/1	0.95	0.09	52,52,52,52	0
59	MG	CA	3265	1/1	0.95	0.14	61,61,61,61	0
59	MG	CA	3531	1/1	0.95	0.06	47,47,47,47	0
59	MG	BA	1766	1/1	0.95	0.08	62,62,62,62	0
59	MG	AA	3579	1/1	0.95	0.11	54,54,54,54	0
59	MG	AA	3580	1/1	0.95	0.16	54,54,54,54	0
59	MG	CA	3090	1/1	0.95	0.15	77,77,77,77	0
59	MG	AA	3302	1/1	0.95	0.09	51,51,51,51	0
59	MG	AB	3005	1/1	0.95	0.16	44,44,44,44	0
59	MG	CA	3277	1/1	0.95	0.16	55,55,55,55	0
59	MG	AA	3306	1/1	0.95	0.12	52,52,52,52	0
59	MG	CA	3541	1/1	0.95	0.12	63,63,63,63	0
59	MG	CA	3279	1/1	0.95	0.07	26,26,26,26	0
59	MG	AA	3163	1/1	0.95	0.14	72,72,72,72	0
59	MG	CA	3544	1/1	0.95	0.11	60,60,60,60	0
59	MG	AA	3309	1/1	0.95	0.15	46,46,46,46	0
59	MG	CA	3097	1/1	0.95	0.17	66,66,66,66	0
59	MG	AA	3588	1/1	0.95	0.09	47,47,47,47	0
59	MG	AA	3164	1/1	0.95	0.20	71,71,71,71	0
59	MG	AB	3015	1/1	0.95	0.07	28,28,28,28	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AB	3016	1/1	0.95	0.07	34,34,34,34	0
59	MG	CA	3290	1/1	0.95	0.15	34,34,34,34	0
59	MG	CA	3102	1/1	0.95	0.14	62,62,62,62	0
59	MG	AA	3094	1/1	0.95	0.25	80,80,80,80	0
59	MG	CA	3105	1/1	0.95	0.08	39,39,39,39	0
59	MG	AA	3014	1/1	0.95	0.12	31,31,31,31	0
59	MG	BA	1784	1/1	0.95	0.08	68,68,68,68	0
59	MG	BA	1785	1/1	0.95	0.08	62,62,62,62	0
59	MG	CA	3299	1/1	0.95	0.08	64,64,64,64	0
59	MG	AB	3019	1/1	0.95	0.13	70,70,70,70	0
59	MG	AA	3319	1/1	0.95	0.11	58,58,58,58	0
59	MG	AA	3449	1/1	0.95	0.11	50,50,50,50	0
59	MG	AA	3167	1/1	0.95	0.07	45,45,45,45	0
59	MG	AA	3044	1/1	0.95	0.19	52,52,52,52	0
59	MG	AA	3059	1/1	0.95	0.20	40,40,40,40	0
59	MG	DA	1681	1/1	0.95	0.20	70,70,70,70	0
59	MG	CA	3322	1/1	0.95	0.14	40,40,40,40	0
59	MG	AA	3605	1/1	0.95	0.17	45,45,45,45	0
59	MG	AA	3454	1/1	0.95	0.12	61,61,61,61	0
59	MG	DA	1686	1/1	0.95	0.16	56,56,56,56	0
59	MG	DA	1687	1/1	0.95	0.25	56,56,56,56	0
59	MG	AD	306	1/1	0.95	0.21	41,41,41,41	0
59	MG	CA	3332	1/1	0.95	0.09	29,29,29,29	0
59	MG	AA	3171	1/1	0.95	0.14	54,54,54,54	0
59	MG	CA	3334	1/1	0.95	0.12	47,47,47,47	0
59	MG	AA	3136	1/1	0.95	0.15	63,63,63,63	0
59	MG	AA	3458	1/1	0.95	0.09	40,40,40,40	0
59	MG	CA	3338	1/1	0.95	0.10	64,64,64,64	0
59	MG	BA	1799	1/1	0.95	0.11	64,64,64,64	0
59	MG	AA	3331	1/1	0.95	0.07	15,15,15,15	0
59	MG	AA	3261	1/1	0.95	0.11	25,25,25,25	0
59	MG	DA	1702	1/1	0.95	0.09	63,63,63,63	0
59	MG	AA	3613	1/1	0.95	0.07	48,48,48,48	0
59	MG	CA	3347	1/1	0.95	0.07	45,45,45,45	0
59	MG	AA	3263	1/1	0.95	0.17	24,24,24,24	1
59	MG	AA	3723	1/1	0.95	0.07	49,49,49,49	0
59	MG	CA	3351	1/1	0.95	0.08	46,46,46,46	0
59	MG	BA	1806	1/1	0.95	0.12	55,55,55,55	0
59	MG	AA	3342	1/1	0.95	0.13	51,51,51,51	0
59	MG	CA	3597	1/1	0.95	0.10	58,58,58,58	0
59	MG	CA	3131	1/1	0.95	0.11	26,26,26,26	0
59	MG	CA	3358	1/1	0.95	0.13	36,36,36,36	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AF	303	1/1	0.95	0.15	39,39,39,39	0
59	MG	DA	1716	1/1	0.95	0.05	57,57,57,57	0
59	MG	CA	3601	1/1	0.95	0.06	57,57,57,57	0
59	MG	CA	3362	1/1	0.95	0.08	43,43,43,43	0
59	MG	AA	3077	1/1	0.95	0.19	43,43,43,43	0
59	MG	DA	1720	1/1	0.95	0.10	60,60,60,60	0
59	MG	AA	3176	1/1	0.95	0.16	70,70,70,70	0
59	MG	AA	3472	1/1	0.95	0.09	42,42,42,42	0
59	MG	DA	1723	1/1	0.95	0.06	53,53,53,53	0
59	MG	CA	3138	1/1	0.95	0.08	86,86,86,86	0
59	MG	CA	3607	1/1	0.95	0.08	64,64,64,64	0
59	MG	AA	3733	1/1	0.95	0.08	49,49,49,49	0
59	MG	AA	3078	1/1	0.95	0.26	70,70,70,70	0
59	MG	CA	3371	1/1	0.95	0.12	52,52,52,52	0
59	MG	DA	1729	1/1	0.95	0.14	49,49,49,49	0
59	MG	AA	3620	1/1	0.95	0.05	22,22,22,22	0
59	MG	AA	3349	1/1	0.95	0.08	47,47,47,47	0
59	MG	AO	5001	1/1	0.95	0.06	34,34,34,34	0
59	MG	AA	3623	1/1	0.95	0.06	28,28,28,28	0
59	MG	BF	3001	1/1	0.95	0.07	49,49,49,49	0
59	MG	AA	3624	1/1	0.95	0.07	42,42,42,42	0
59	MG	CA	3381	1/1	0.95	0.07	50,50,50,50	0
59	MG	CA	3384	1/1	0.95	0.12	55,55,55,55	0
59	MG	CA	3385	1/1	0.95	0.27	61,61,61,61	0
59	MG	AA	3350	1/1	0.95	0.06	36,36,36,36	0
59	MG	AQ	202	1/1	0.95	0.15	35,35,35,35	0
59	MG	CA	3152	1/1	0.95	0.14	64,64,64,64	0
59	MG	BN	502	1/1	0.95	0.09	87,87,87,87	0
59	MG	DA	1745	1/1	0.95	0.20	50,50,50,50	0
59	MG	AA	3744	1/1	0.95	0.08	34,34,34,34	0
59	MG	AA	3060	1/1	0.95	0.13	20,20,20,20	0
59	MG	BW	501	1/1	0.95	0.21	47,47,47,47	0
59	MG	AA	3355	1/1	0.95	0.12	57,57,57,57	0
59	MG	AA	3270	1/1	0.95	0.23	55,55,55,55	0
59	MG	CA	3162	1/1	0.95	0.23	31,31,31,31	0
59	MG	CA	3400	1/1	0.95	0.11	57,57,57,57	0
59	MG	AA	3750	1/1	0.95	0.17	51,51,51,51	0
59	MG	AA	3105	1/1	0.95	0.14	52,52,52,52	0
59	MG	CA	3002	1/1	0.95	0.16	28,28,28,28	0
59	MG	CA	3167	1/1	0.95	0.07	50,50,50,50	0
59	MG	AA	3015	1/1	0.95	0.27	57,57,57,57	0
59	MG	CA	3004	1/1	0.95	0.15	49,49,49,49	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3081	1/1	0.95	0.12	56,56,56,56	0
59	MG	AA	3276	1/1	0.95	0.12	67,67,67,67	0
59	MG	CA	3008	1/1	0.95	0.11	46,46,46,46	0
59	MG	CA	3418	1/1	0.95	0.12	34,34,34,34	0
59	MG	CA	3648	1/1	0.95	0.17	52,52,52,52	0
59	MG	CA	3010	1/1	0.95	0.07	43,43,43,43	0
59	MG	AA	3182	1/1	0.95	0.17	46,46,46,46	0
59	MG	AA	3366	1/1	0.95	0.06	35,35,35,35	1
59	MG	CA	3013	1/1	0.95	0.09	42,42,42,42	0
59	MG	CA	3655	1/1	0.95	0.21	52,52,52,52	0
59	MG	BA	1701	1/1	0.95	0.08	54,54,54,54	0
59	MG	CA	3657	1/1	0.95	0.16	41,41,41,41	0
59	MG	BA	1702	1/1	0.95	0.14	46,46,46,46	0
59	MG	CA	3187	1/1	0.95	0.11	37,37,37,37	0
59	MG	AA	3638	1/1	0.95	0.12	71,71,71,71	0
59	MG	AA	3183	1/1	0.95	0.10	58,58,58,58	0
59	MG	A0	103	1/1	0.95	0.07	70,70,70,70	0
59	MG	CA	3664	1/1	0.95	0.10	48,48,48,48	0
59	MG	CA	3191	1/1	0.95	0.16	46,46,46,46	0
59	MG	AA	3368	1/1	0.95	0.14	49,49,49,49	0
62	GDP	BZ	702	28/28	0.95	0.07	57,57,57,57	0
59	MG	CA	3440	1/1	0.95	0.17	49,49,49,49	0
59	MG	AA	3034	1/1	0.96	0.14	49,49,49,49	0
59	MG	AA	3058	1/1	0.96	0.04	22,22,22,22	0
59	MG	AA	3672	1/1	0.96	0.06	48,48,48,48	0
59	MG	AA	3091	1/1	0.96	0.32	47,47,47,47	1
59	MG	AA	3779	1/1	0.96	0.05	22,22,22,22	0
59	MG	BA	1690	1/1	0.96	0.17	71,71,71,71	0
59	MG	C1	101	1/1	0.96	0.10	57,57,57,57	0
59	MG	AA	3460	1/1	0.96	0.07	27,27,27,27	0
59	MG	CA	3505	1/1	0.96	0.05	67,67,67,67	0
59	MG	C7	101	1/1	0.96	0.11	56,56,56,56	0
59	MG	C8	5001	1/1	0.96	0.11	37,37,37,37	0
59	MG	AA	3201	1/1	0.96	0.11	53,53,53,53	0
59	MG	AA	3168	1/1	0.96	0.07	47,47,47,47	0
59	MG	AA	3587	1/1	0.96	0.12	28,28,28,28	0
59	MG	CA	3286	1/1	0.96	0.08	58,58,58,58	0
59	MG	AA	3111	1/1	0.96	0.06	24,24,24,24	0
59	MG	A0	104	1/1	0.96	0.13	51,51,51,51	0
59	MG	AA	3590	1/1	0.96	0.09	60,60,60,60	0
59	MG	AA	3291	1/1	0.96	0.07	45,45,45,45	0
59	MG	AA	3112	1/1	0.96	0.16	61,61,61,61	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3113	1/1	0.96	0.11	45,45,45,45	0
59	MG	AA	3372	1/1	0.96	0.11	37,37,37,37	0
59	MG	AA	3247	1/1	0.96	0.20	55,55,55,55	0
59	MG	CA	3132	1/1	0.96	0.07	48,48,48,48	0
59	MG	AA	3172	1/1	0.96	0.15	47,47,47,47	0
59	MG	AA	3092	1/1	0.96	0.18	39,39,39,39	0
59	MG	CA	3522	1/1	0.96	0.10	54,54,54,54	0
59	MG	A8	5001	1/1	0.96	0.06	30,30,30,30	0
59	MG	CA	3305	1/1	0.96	0.11	48,48,48,48	0
59	MG	AA	3689	1/1	0.96	0.05	35,35,35,35	0
59	MG	AA	3797	1/1	0.96	0.08	52,52,52,52	0
59	MG	DA	1621	1/1	0.96	0.06	42,42,42,42	0
59	MG	CA	3312	1/1	0.96	0.09	38,38,38,38	0
59	MG	AA	3690	1/1	0.96	0.11	50,50,50,50	0
59	MG	AA	3799	1/1	0.96	0.10	42,42,42,42	0
59	MG	CA	3315	1/1	0.96	0.09	47,47,47,47	0
59	MG	CA	3316	1/1	0.96	0.08	43,43,43,43	0
59	MG	CA	3317	1/1	0.96	0.06	49,49,49,49	0
59	MG	AA	3030	1/1	0.96	0.19	24,24,24,24	1
59	MG	AA	3047	1/1	0.96	0.04	29,29,29,29	0
59	MG	CA	3144	1/1	0.96	0.14	40,40,40,40	0
59	MG	CA	3009	1/1	0.96	0.05	27,27,27,27	0
59	MG	CA	3326	1/1	0.96	0.08	28,28,28,28	0
59	MG	CA	3330	1/1	0.96	0.08	36,36,36,36	0
59	MG	AA	3483	1/1	0.96	0.07	46,46,46,46	0
59	MG	AA	3095	1/1	0.96	0.12	75,75,75,75	0
59	MG	BA	1715	1/1	0.96	0.08	60,60,60,60	0
59	MG	AA	3696	1/1	0.96	0.08	66,66,66,66	0
59	MG	CA	3014	1/1	0.96	0.10	50,50,50,50	0
59	MG	AA	3697	1/1	0.96	0.08	40,40,40,40	0
59	MG	AA	3254	1/1	0.96	0.14	52,52,52,52	0
59	MG	CA	3018	1/1	0.96	0.06	41,41,41,41	0
59	MG	AA	3488	1/1	0.96	0.06	36,36,36,36	0
59	MG	CA	3021	1/1	0.96	0.15	69,69,69,69	0
59	MG	CA	3158	1/1	0.96	0.17	54,54,54,54	0
59	MG	CA	3345	1/1	0.96	0.07	46,46,46,46	0
59	MG	AA	3386	1/1	0.96	0.09	45,45,45,45	0
59	MG	CA	3160	1/1	0.96	0.17	57,57,57,57	0
59	MG	AA	3036	1/1	0.96	0.08	25,25,25,25	0
59	MG	AA	3390	1/1	0.96	0.06	23,23,23,23	0
59	MG	CA	3025	1/1	0.96	0.16	59,59,59,59	0
59	MG	BA	1723	1/1	0.96	0.06	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3391	1/1	0.96	0.07	19,19,19,19	0
59	MG	CA	3029	1/1	0.96	0.11	56,56,56,56	0
59	MG	CA	3564	1/1	0.96	0.14	80,80,80,80	0
59	MG	CA	3168	1/1	0.96	0.21	58,58,58,58	0
59	MG	AA	3395	1/1	0.96	0.07	54,54,54,54	0
59	MG	AA	3398	1/1	0.96	0.13	31,31,31,31	0
59	MG	CA	3173	1/1	0.96	0.21	61,61,61,61	0
59	MG	CA	3174	1/1	0.96	0.28	50,50,50,50	0
59	MG	AA	3257	1/1	0.96	0.19	54,54,54,54	0
59	MG	AA	3820	1/1	0.96	0.06	25,25,25,25	0
59	MG	AA	3500	1/1	0.96	0.11	59,59,59,59	0
59	MG	CA	3179	1/1	0.96	0.15	60,60,60,60	0
59	MG	AA	3149	1/1	0.96	0.08	51,51,51,51	0
59	MG	CA	3374	1/1	0.96	0.09	60,60,60,60	0
59	MG	AA	3503	1/1	0.96	0.05	54,54,54,54	0
59	MG	AA	3621	1/1	0.96	0.04	17,17,17,17	0
59	MG	CA	3377	1/1	0.96	0.07	52,52,52,52	0
59	MG	DA	1673	1/1	0.96	0.06	82,82,82,82	0
59	MG	AA	3713	1/1	0.96	0.21	27,27,27,27	0
59	MG	BA	1626	1/1	0.96	0.12	41,41,41,41	0
59	MG	AA	3507	1/1	0.96	0.07	50,50,50,50	0
59	MG	AA	3121	1/1	0.96	0.09	53,53,53,53	0
59	MG	AA	3152	1/1	0.96	0.11	10,10,10,10	0
59	MG	CA	3592	1/1	0.96	0.09	64,64,64,64	0
59	MG	DA	1680	1/1	0.96	0.10	56,56,56,56	0
59	MG	AB	3012	1/1	0.96	0.06	23,23,23,23	1
59	MG	DA	1682	1/1	0.96	0.17	52,52,52,52	0
59	MG	CA	3387	1/1	0.96	0.06	50,50,50,50	0
59	MG	AA	3216	1/1	0.96	0.25	38,38,38,38	0
59	MG	CA	3045	1/1	0.96	0.21	60,60,60,60	0
59	MG	CA	3192	1/1	0.96	0.04	45,45,45,45	0
59	MG	BA	1743	1/1	0.96	0.04	41,41,41,41	0
59	MG	AA	3217	1/1	0.96	0.18	29,29,29,29	1
59	MG	AA	3524	1/1	0.96	0.07	41,41,41,41	0
59	MG	CA	3049	1/1	0.96	0.19	46,46,46,46	0
59	MG	AA	3529	1/1	0.96	0.13	30,30,30,30	0
59	MG	AA	3417	1/1	0.96	0.06	25,25,25,25	0
59	MG	BA	1636	1/1	0.96	0.21	57,57,57,57	0
59	MG	DA	1696	1/1	0.96	0.12	53,53,53,53	0
59	MG	BA	1751	1/1	0.96	0.08	48,48,48,48	0
59	MG	AA	3039	1/1	0.96	0.20	34,34,34,34	1
59	MG	CA	3403	1/1	0.96	0.06	70,70,70,70	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3404	1/1	0.96	0.08	65,65,65,65	0
59	MG	CA	3405	1/1	0.96	0.08	55,55,55,55	0
59	MG	AA	3725	1/1	0.96	0.06	13,13,13,13	0
59	MG	AA	3729	1/1	0.96	0.10	41,41,41,41	0
59	MG	AA	3268	1/1	0.96	0.11	66,66,66,66	0
59	MG	CA	3613	1/1	0.96	0.11	57,57,57,57	0
59	MG	CA	3410	1/1	0.96	0.08	25,25,25,25	0
59	MG	CA	3206	1/1	0.96	0.16	44,44,44,44	0
59	MG	AB	3022	1/1	0.96	0.11	61,61,61,61	0
59	MG	AA	3424	1/1	0.96	0.08	14,14,14,14	0
59	MG	DA	1711	1/1	0.96	0.14	60,60,60,60	0
59	MG	BA	1761	1/1	0.96	0.10	62,62,62,62	0
59	MG	CA	3416	1/1	0.96	0.07	44,44,44,44	0
59	MG	AA	3634	1/1	0.96	0.17	76,76,76,76	0
59	MG	AA	3154	1/1	0.96	0.09	57,57,57,57	0
59	MG	AA	3123	1/1	0.96	0.12	54,54,54,54	0
59	MG	AA	3637	1/1	0.96	0.18	17,17,17,17	1
59	MG	AA	3334	1/1	0.96	0.09	63,63,63,63	0
59	MG	CA	3422	1/1	0.96	0.10	43,43,43,43	0
59	MG	BA	1768	1/1	0.96	0.08	64,64,64,64	0
59	MG	CA	3218	1/1	0.96	0.27	40,40,40,40	0
59	MG	CA	3429	1/1	0.96	0.07	59,59,59,59	0
59	MG	AA	3546	1/1	0.96	0.07	60,60,60,60	0
59	MG	CA	3071	1/1	0.96	0.08	45,45,45,45	0
59	MG	BA	1649	1/1	0.96	0.11	35,35,35,35	0
59	MG	BA	1650	1/1	0.96	0.10	55,55,55,55	0
59	MG	BA	1773	1/1	0.96	0.07	40,40,40,40	0
59	MG	AA	3271	1/1	0.96	0.15	34,34,34,34	0
59	MG	AA	3338	1/1	0.96	0.07	28,28,28,28	0
59	MG	CA	3640	1/1	0.96	0.10	43,43,43,43	0
59	MG	BA	1653	1/1	0.96	0.13	56,56,56,56	0
59	MG	AA	3272	1/1	0.96	0.06	55,55,55,55	0
59	MG	AD	312	1/1	0.96	0.18	78,78,78,78	0
59	MG	AA	3156	1/1	0.96	0.17	49,49,49,49	0
59	MG	CA	3445	1/1	0.96	0.07	22,22,22,22	0
59	MG	CA	3446	1/1	0.96	0.05	33,33,33,33	0
59	MG	AA	3442	1/1	0.96	0.09	23,23,23,23	0
59	MG	AA	3064	1/1	0.96	0.05	32,32,32,32	0
59	MG	CA	3450	1/1	0.96	0.05	54,54,54,54	0
59	MG	AA	3648	1/1	0.96	0.07	41,41,41,41	0
59	MG	CA	3234	1/1	0.96	0.18	50,50,50,50	0
59	MG	AA	3031	1/1	0.96	0.14	63,63,63,63	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3228	1/1	0.96	0.08	32,32,32,32	0
59	MG	DA	1747	1/1	0.96	0.07	48,48,48,48	0
59	MG	AA	3348	1/1	0.96	0.05	53,53,53,53	0
59	MG	CA	3461	1/1	0.96	0.09	34,34,34,34	0
59	MG	BA	1787	1/1	0.96	0.13	55,55,55,55	0
59	MG	AA	3159	1/1	0.96	0.16	55,55,55,55	0
59	MG	CA	3091	1/1	0.96	0.16	69,69,69,69	0
59	MG	AA	3564	1/1	0.96	0.06	44,44,44,44	0
59	MG	AA	3654	1/1	0.96	0.05	67,67,67,67	0
59	MG	AA	3005	1/1	0.96	0.13	64,64,64,64	0
59	MG	AA	3566	1/1	0.96	0.06	56,56,56,56	0
59	MG	AA	3567	1/1	0.96	0.07	26,26,26,26	0
59	MG	CA	3473	1/1	0.96	0.10	51,51,51,51	0
59	MG	AA	3129	1/1	0.96	0.08	34,34,34,34	1
59	MG	DA	1760	1/1	0.96	0.07	61,61,61,61	0
59	MG	AP	201	1/1	0.96	0.20	72,72,72,72	0
59	MG	AA	3131	1/1	0.96	0.12	63,63,63,63	0
59	MG	CA	3479	1/1	0.96	0.08	50,50,50,50	0
59	MG	AA	3764	1/1	0.96	0.07	73,73,73,73	0
59	MG	AA	3083	1/1	0.96	0.14	61,61,61,61	0
59	MG	BA	1674	1/1	0.96	0.20	48,48,48,48	0
59	MG	CA	3103	1/1	0.96	0.17	53,53,53,53	0
59	MG	AA	3766	1/1	0.96	0.10	54,54,54,54	0
59	MG	AA	3042	1/1	0.96	0.09	32,32,32,32	0
59	MG	CD	303	1/1	0.96	0.08	70,70,70,70	0
59	MG	DD	502	1/1	0.96	0.18	50,50,50,50	0
59	MG	BA	1677	1/1	0.96	0.09	28,28,28,28	0
59	MG	AA	3576	1/1	0.96	0.08	52,52,52,52	0
59	MG	CA	3260	1/1	0.96	0.07	35,35,35,35	0
59	MG	AA	3668	1/1	0.96	0.10	54,54,54,54	0
59	MG	CA	3491	1/1	0.96	0.04	44,44,44,44	0
59	MG	DW	501	1/1	0.96	0.14	44,44,44,44	0
59	MG	CF	303	1/1	0.96	0.11	51,51,51,51	0
59	MG	CA	3109	1/1	0.96	0.07	35,35,35,35	0
59	MG	AU	201	1/1	0.96	0.11	46,46,46,46	0
59	MG	AA	3359	1/1	0.96	0.06	31,31,31,31	0
60	ZN	A4	501	1/1	0.96	0.04	117,117,117,117	0
59	MG	AV	203	1/1	0.96	0.08	47,47,47,47	0
59	MG	CA	3496	1/1	0.96	0.10	56,56,56,56	0
59	MG	CA	3497	1/1	0.96	0.07	45,45,45,45	0
59	MG	AA	3511	1/1	0.97	0.06	14,14,14,14	0
59	MG	CA	3181	1/1	0.97	0.14	40,40,40,40	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3349	1/1	0.97	0.07	23,23,23,23	0
59	MG	AA	3514	1/1	0.97	0.07	42,42,42,42	0
59	MG	AA	3089	1/1	0.97	0.10	49,49,49,49	0
59	MG	AA	3422	1/1	0.97	0.09	23,23,23,23	0
59	MG	CA	3533	1/1	0.97	0.08	45,45,45,45	0
59	MG	CA	3353	1/1	0.97	0.06	45,45,45,45	0
59	MG	AB	3010	1/1	0.97	0.04	62,62,62,62	0
59	MG	CA	3355	1/1	0.97	0.08	35,35,35,35	0
59	MG	AA	3146	1/1	0.97	0.05	29,29,29,29	0
59	MG	AA	3071	1/1	0.97	0.14	40,40,40,40	0
59	MG	CA	3359	1/1	0.97	0.04	33,33,33,33	0
59	MG	AA	3527	1/1	0.97	0.06	27,27,27,27	0
59	MG	CA	3053	1/1	0.97	0.14	32,32,32,32	0
59	MG	AA	3720	1/1	0.97	0.08	55,55,55,55	0
59	MG	CA	3364	1/1	0.97	0.04	22,22,22,22	0
59	MG	BA	1757	1/1	0.97	0.12	43,43,43,43	0
59	MG	AA	3721	1/1	0.97	0.12	40,40,40,40	0
59	MG	AA	3221	1/1	0.97	0.05	30,30,30,30	0
59	MG	AA	3430	1/1	0.97	0.05	39,39,39,39	0
59	MG	CA	3195	1/1	0.97	0.18	47,47,47,47	0
59	MG	AA	3222	1/1	0.97	0.06	4,4,4,4	0
59	MG	AA	3533	1/1	0.97	0.09	22,22,22,22	0
59	MG	AA	3726	1/1	0.97	0.06	12,12,12,12	0
59	MG	DA	1628	1/1	0.97	0.04	39,39,39,39	0
59	MG	CA	3552	1/1	0.97	0.09	30,30,30,30	0
59	MG	BA	1765	1/1	0.97	0.12	54,54,54,54	0
59	MG	AA	3728	1/1	0.97	0.12	29,29,29,29	0
59	MG	CA	3064	1/1	0.97	0.07	48,48,48,48	0
59	MG	AA	3255	1/1	0.97	0.09	38,38,38,38	0
59	MG	AA	3631	1/1	0.97	0.13	46,46,46,46	0
59	MG	AA	3433	1/1	0.97	0.10	37,37,37,37	0
59	MG	AA	3539	1/1	0.97	0.11	34,34,34,34	0
59	MG	AD	304	1/1	0.97	0.06	17,17,17,17	0
59	MG	AA	3434	1/1	0.97	0.07	17,17,17,17	0
59	MG	CA	3386	1/1	0.97	0.09	50,50,50,50	0
59	MG	AA	3735	1/1	0.97	0.05	25,25,25,25	0
59	MG	AA	3351	1/1	0.97	0.08	29,29,29,29	0
59	MG	AA	3126	1/1	0.97	0.14	79,79,79,79	0
59	MG	CA	3567	1/1	0.97	0.05	26,26,26,26	0
59	MG	AA	3545	1/1	0.97	0.09	43,43,43,43	0
59	MG	AA	3292	1/1	0.97	0.07	24,24,24,24	0
59	MG	AA	3741	1/1	0.97	0.05	21,21,21,21	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3107	1/1	0.97	0.06	49,49,49,49	0
59	MG	AA	3009	1/1	0.97	0.04	22,22,22,22	0
59	MG	AA	3358	1/1	0.97	0.04	45,45,45,45	0
59	MG	AA	3745	1/1	0.97	0.10	68,68,68,68	0
59	MG	CA	3220	1/1	0.97	0.05	59,59,59,59	0
59	MG	DA	1653	1/1	0.97	0.19	55,55,55,55	0
59	MG	CA	3580	1/1	0.97	0.09	76,76,76,76	0
59	MG	AF	301	1/1	0.97	0.11	38,38,38,38	0
59	MG	CA	3082	1/1	0.97	0.14	76,76,76,76	0
59	MG	AA	3259	1/1	0.97	0.12	41,41,41,41	1
59	MG	AA	3552	1/1	0.97	0.10	63,63,63,63	0
59	MG	AA	3553	1/1	0.97	0.04	43,43,43,43	0
59	MG	AA	3749	1/1	0.97	0.08	73,73,73,73	0
59	MG	CA	3407	1/1	0.97	0.08	36,36,36,36	0
59	MG	AA	3554	1/1	0.97	0.09	40,40,40,40	0
59	MG	AA	3360	1/1	0.97	0.09	22,22,22,22	0
59	MG	AA	3297	1/1	0.97	0.09	27,27,27,27	0
59	MG	AH	201	1/1	0.97	0.18	64,64,64,64	0
59	MG	AA	3557	1/1	0.97	0.08	37,37,37,37	0
59	MG	AA	3227	1/1	0.97	0.04	22,22,22,22	0
59	MG	AA	3075	1/1	0.97	0.10	49,49,49,49	0
59	MG	CA	3415	1/1	0.97	0.10	34,34,34,34	0
59	MG	AA	3110	1/1	0.97	0.14	52,52,52,52	0
59	MG	AA	3265	1/1	0.97	0.13	43,43,43,43	0
59	MG	AA	3452	1/1	0.97	0.04	14,14,14,14	0
59	MG	AA	3305	1/1	0.97	0.06	25,25,25,25	0
59	MG	AA	3132	1/1	0.97	0.08	41,41,41,41	0
59	MG	BA	1680	1/1	0.97	0.10	40,40,40,40	0
59	MG	AA	3369	1/1	0.97	0.05	47,47,47,47	0
59	MG	CA	3424	1/1	0.97	0.09	66,66,66,66	0
59	MG	CA	3425	1/1	0.97	0.07	50,50,50,50	0
59	MG	BA	1804	1/1	0.97	0.06	45,45,45,45	0
59	MG	CA	3427	1/1	0.97	0.11	37,37,37,37	0
59	MG	AA	3062	1/1	0.97	0.11	47,47,47,47	0
59	MG	AA	3021	1/1	0.97	0.08	33,33,33,33	0
59	MG	AA	3661	1/1	0.97	0.09	41,41,41,41	1
59	MG	AU	203	1/1	0.97	0.11	25,25,25,25	0
59	MG	BA	1809	1/1	0.97	0.09	61,61,61,61	0
59	MG	BA	1686	1/1	0.97	0.12	36,36,36,36	0
59	MG	CA	3248	1/1	0.97	0.10	53,53,53,53	0
59	MG	AA	3662	1/1	0.97	0.05	60,60,60,60	0
59	MG	CA	3250	1/1	0.97	0.06	38,38,38,38	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3437	1/1	0.97	0.08	64,64,64,64	0
59	MG	DA	1693	1/1	0.97	0.06	67,67,67,67	0
59	MG	AA	3572	1/1	0.97	0.10	17,17,17,17	0
59	MG	AA	3665	1/1	0.97	0.17	40,40,40,40	0
59	MG	AA	3666	1/1	0.97	0.14	41,41,41,41	0
59	MG	DA	1697	1/1	0.97	0.04	48,48,48,48	0
59	MG	AA	3459	1/1	0.97	0.11	53,53,53,53	0
59	MG	AW	3003	1/1	0.97	0.06	28,28,28,28	0
59	MG	AA	3310	1/1	0.97	0.08	56,56,56,56	0
59	MG	CA	3627	1/1	0.97	0.09	60,60,60,60	0
59	MG	AA	3043	1/1	0.97	0.16	45,45,45,45	0
59	MG	CA	3629	1/1	0.97	0.05	55,55,55,55	0
59	MG	AA	3462	1/1	0.97	0.04	54,54,54,54	0
59	MG	AA	3777	1/1	0.97	0.06	41,41,41,41	0
59	MG	CA	3263	1/1	0.97	0.07	64,64,64,64	0
59	MG	CA	3453	1/1	0.97	0.06	35,35,35,35	0
59	MG	AA	3578	1/1	0.97	0.06	28,28,28,28	0
59	MG	AA	3023	1/1	0.97	0.17	53,53,53,53	0
59	MG	BM	201	1/1	0.97	0.04	62,62,62,62	0
59	MG	CA	3457	1/1	0.97	0.09	43,43,43,43	0
59	MG	DA	1712	1/1	0.97	0.13	53,53,53,53	0
59	MG	CA	3458	1/1	0.97	0.05	54,54,54,54	0
59	MG	AA	3137	1/1	0.97	0.28	53,53,53,53	0
59	MG	AA	3376	1/1	0.97	0.11	35,35,35,35	0
59	MG	CA	3641	1/1	0.97	0.04	46,46,46,46	0
59	MG	AA	3316	1/1	0.97	0.10	36,36,36,36	0
59	MG	CA	3463	1/1	0.97	0.10	56,56,56,56	0
59	MG	BT	3001	1/1	0.97	0.05	46,46,46,46	0
59	MG	CA	3275	1/1	0.97	0.07	61,61,61,61	0
59	MG	AA	3470	1/1	0.97	0.05	39,39,39,39	0
59	MG	AA	3585	1/1	0.97	0.08	35,35,35,35	0
59	MG	AA	3318	1/1	0.97	0.09	23,23,23,23	0
59	MG	AA	3380	1/1	0.97	0.04	18,18,18,18	0
59	MG	AA	3236	1/1	0.97	0.10	57,57,57,57	0
59	MG	AA	3384	1/1	0.97	0.06	22,22,22,22	0
59	MG	AA	3592	1/1	0.97	0.05	26,26,26,26	0
59	MG	CA	3475	1/1	0.97	0.18	50,50,50,50	0
59	MG	CA	3476	1/1	0.97	0.05	38,38,38,38	0
59	MG	BA	1709	1/1	0.97	0.15	50,50,50,50	0
59	MG	DA	1731	1/1	0.97	0.08	49,49,49,49	0
59	MG	AA	3115	1/1	0.97	0.09	44,44,44,44	0
59	MG	A9	502	1/1	0.97	0.13	41,41,41,41	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3045	1/1	0.97	0.12	55,55,55,55	0
59	MG	AA	3795	1/1	0.97	0.13	22,22,22,22	0
59	MG	AA	3595	1/1	0.97	0.07	42,42,42,42	0
59	MG	AA	3387	1/1	0.97	0.05	29,29,29,29	0
59	MG	AA	3598	1/1	0.97	0.12	51,51,51,51	0
59	MG	CA	3143	1/1	0.97	0.20	41,41,41,41	0
59	MG	AA	3029	1/1	0.97	0.10	28,28,28,28	0
59	MG	AA	3691	1/1	0.97	0.06	62,62,62,62	0
59	MG	CA	3297	1/1	0.97	0.10	36,36,36,36	0
59	MG	AA	3600	1/1	0.97	0.07	25,25,25,25	0
59	MG	DA	1744	1/1	0.97	0.07	66,66,66,66	0
59	MG	AA	3100	1/1	0.97	0.10	29,29,29,29	0
59	MG	CA	3300	1/1	0.97	0.05	47,47,47,47	0
59	MG	CB	3009	1/1	0.97	0.12	67,67,67,67	0
59	MG	CA	3301	1/1	0.97	0.07	60,60,60,60	0
59	MG	CA	3017	1/1	0.97	0.06	30,30,30,30	0
59	MG	AA	3024	1/1	0.97	0.12	48,48,48,48	0
59	MG	CA	3306	1/1	0.97	0.04	24,24,24,24	0
59	MG	AA	3394	1/1	0.97	0.07	39,39,39,39	0
59	MG	AA	3806	1/1	0.97	0.13	42,42,42,42	0
59	MG	AA	3330	1/1	0.97	0.05	66,66,66,66	0
59	MG	CD	304	1/1	0.97	0.13	28,28,28,28	0
59	MG	AA	3069	1/1	0.97	0.03	28,28,28,28	0
59	MG	AA	3245	1/1	0.97	0.07	11,11,11,11	0
59	MG	CE	303	1/1	0.97	0.20	51,51,51,51	0
59	MG	CA	3156	1/1	0.97	0.14	52,52,52,52	0
59	MG	AA	3336	1/1	0.97	0.08	51,51,51,51	0
59	MG	BA	1728	1/1	0.97	0.12	47,47,47,47	0
59	MG	CF	302	1/1	0.97	0.22	69,69,69,69	0
59	MG	CA	3027	1/1	0.97	0.04	31,31,31,31	0
59	MG	DA	1764	1/1	0.97	0.05	71,71,71,71	0
59	MG	AA	3811	1/1	0.97	0.08	56,56,56,56	0
59	MG	AA	3812	1/1	0.97	0.06	41,41,41,41	0
59	MG	AA	3004	1/1	0.97	0.09	21,21,21,21	0
59	MG	CO	5001	1/1	0.97	0.08	50,50,50,50	0
59	MG	AA	3408	1/1	0.97	0.11	41,41,41,41	0
59	MG	CA	3328	1/1	0.97	0.05	35,35,35,35	0
59	MG	AA	3815	1/1	0.97	0.08	30,30,30,30	0
59	MG	AA	3498	1/1	0.97	0.13	47,47,47,47	0
59	MG	BA	1735	1/1	0.97	0.13	41,41,41,41	0
59	MG	AA	3190	1/1	0.97	0.04	24,24,24,24	0
59	MG	DF	3001	1/1	0.97	0.11	54,54,54,54	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3612	1/1	0.97	0.05	68,68,68,68	0
59	MG	AA	3413	1/1	0.97	0.07	25,25,25,25	0
59	MG	CW	201	1/1	0.97	0.13	46,46,46,46	0
59	MG	AA	3191	1/1	0.97	0.03	16,16,16,16	0
59	MG	C0	101	1/1	0.97	0.11	59,59,59,59	0
59	MG	BA	1740	1/1	0.97	0.10	50,50,50,50	0
59	MG	CA	3175	1/1	0.97	0.10	31,31,31,31	0
59	MG	AA	3340	1/1	0.97	0.05	3,3,3,3	0
59	MG	AA	3341	1/1	0.97	0.06	25,25,25,25	0
60	ZN	BN	501	1/1	0.97	0.04	132,132,132,132	0
59	MG	CA	3523	1/1	0.97	0.10	37,37,37,37	0
61	SF4	DD	501	8/8	0.97	0.05	82,82,82,82	1
59	MG	AA	3284	1/1	0.97	0.21	60,60,60,60	0
59	MG	AA	3509	1/1	0.97	0.08	40,40,40,40	0
59	MG	CA	3452	1/1	0.98	0.05	36,36,36,36	0
59	MG	AA	3008	1/1	0.98	0.06	26,26,26,26	0
59	MG	AA	3548	1/1	0.98	0.04	7,7,7,7	0
59	MG	A7	101	1/1	0.98	0.08	47,47,47,47	0
59	MG	CA	3308	1/1	0.98	0.04	39,39,39,39	0
59	MG	CA	3309	1/1	0.98	0.10	22,22,22,22	0
59	MG	AA	3311	1/1	0.98	0.07	2,2,2,2	0
59	MG	CA	3459	1/1	0.98	0.04	28,28,28,28	0
59	MG	AA	3353	1/1	0.98	0.07	39,39,39,39	0
59	MG	AA	3399	1/1	0.98	0.03	16,16,16,16	0
59	MG	DA	1648	1/1	0.98	0.10	40,40,40,40	0
59	MG	AA	3354	1/1	0.98	0.04	27,27,27,27	0
59	MG	AA	3402	1/1	0.98	0.04	27,27,27,27	0
59	MG	AA	3048	1/1	0.98	0.04	28,28,28,28	0
59	MG	AA	3404	1/1	0.98	0.09	27,27,27,27	0
59	MG	CA	3466	1/1	0.98	0.21	56,56,56,56	0
59	MG	CA	3318	1/1	0.98	0.05	24,24,24,24	0
59	MG	AA	3032	1/1	0.98	0.12	59,59,59,59	0
59	MG	CA	3320	1/1	0.98	0.07	36,36,36,36	0
59	MG	DA	1657	1/1	0.98	0.05	23,23,23,23	0
59	MG	AA	3469	1/1	0.98	0.03	32,32,32,32	0
59	MG	CA	3617	1/1	0.98	0.07	41,41,41,41	0
59	MG	CA	3618	1/1	0.98	0.17	40,40,40,40	0
59	MG	CA	3471	1/1	0.98	0.10	33,33,33,33	0
59	MG	AA	3406	1/1	0.98	0.04	20,20,20,20	0
59	MG	CA	3324	1/1	0.98	0.06	26,26,26,26	0
59	MG	AA	3639	1/1	0.98	0.07	18,18,18,18	0
59	MG	AA	3262	1/1	0.98	0.03	15,15,15,15	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3327	1/1	0.98	0.05	38,38,38,38	0
59	MG	AA	3560	1/1	0.98	0.05	29,29,29,29	0
59	MG	CA	3085	1/1	0.98	0.07	25,25,25,25	0
59	MG	AA	3561	1/1	0.98	0.07	21,21,21,21	0
59	MG	AA	3037	1/1	0.98	0.04	4,4,4,4	0
59	MG	AA	3410	1/1	0.98	0.10	57,57,57,57	0
59	MG	CA	3482	1/1	0.98	0.10	61,61,61,61	0
59	MG	AA	3411	1/1	0.98	0.04	12,12,12,12	0
59	MG	AA	3475	1/1	0.98	0.08	45,45,45,45	0
59	MG	AB	3007	1/1	0.98	0.04	39,39,39,39	0
59	MG	CA	3337	1/1	0.98	0.05	20,20,20,20	0
59	MG	AA	3734	1/1	0.98	0.09	26,26,26,26	0
59	MG	AA	3647	1/1	0.98	0.04	43,43,43,43	0
59	MG	AA	3412	1/1	0.98	0.10	39,39,39,39	0
59	MG	AB	3011	1/1	0.98	0.05	29,29,29,29	0
59	MG	AA	3317	1/1	0.98	0.07	24,24,24,24	0
59	MG	AA	3568	1/1	0.98	0.04	15,15,15,15	0
59	MG	AA	3097	1/1	0.98	0.10	22,22,22,22	0
59	MG	AA	3200	1/1	0.98	0.15	30,30,30,30	0
59	MG	AA	3484	1/1	0.98	0.08	53,53,53,53	0
59	MG	CA	3214	1/1	0.98	0.07	22,22,22,22	0
59	MG	AA	3084	1/1	0.98	0.07	23,23,23,23	0
59	MG	AA	3574	1/1	0.98	0.05	12,12,12,12	0
59	MG	AA	3243	1/1	0.98	0.10	43,43,43,43	0
59	MG	AA	3364	1/1	0.98	0.08	23,23,23,23	0
59	MG	AA	3421	1/1	0.98	0.07	28,28,28,28	0
59	MG	AA	3491	1/1	0.98	0.04	46,46,46,46	0
59	MG	AA	3130	1/1	0.98	0.08	34,34,34,34	0
59	MG	CA	3653	1/1	0.98	0.06	32,32,32,32	0
59	MG	AA	3423	1/1	0.98	0.10	16,16,16,16	0
59	MG	AA	3581	1/1	0.98	0.07	52,52,52,52	0
59	MG	CA	3361	1/1	0.98	0.14	43,43,43,43	0
59	MG	AA	3494	1/1	0.98	0.06	34,34,34,34	0
59	MG	AA	3223	1/1	0.98	0.04	15,15,15,15	0
59	MG	CA	3006	1/1	0.98	0.03	22,22,22,22	0
59	MG	AA	3326	1/1	0.98	0.05	36,36,36,36	1
59	MG	CA	3661	1/1	0.98	0.09	27,27,27,27	0
59	MG	AA	3426	1/1	0.98	0.07	20,20,20,20	0
59	MG	CA	3512	1/1	0.98	0.07	53,53,53,53	0
59	MG	AA	3327	1/1	0.98	0.04	31,31,31,31	0
59	MG	AA	3757	1/1	0.98	0.03	14,14,14,14	0
59	MG	CA	3369	1/1	0.98	0.07	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3429	1/1	0.98	0.09	31,31,31,31	0
59	MG	AD	310	1/1	0.98	0.07	46,46,46,46	0
59	MG	AA	3759	1/1	0.98	0.05	57,57,57,57	0
59	MG	AA	3147	1/1	0.98	0.22	40,40,40,40	1
59	MG	AA	3589	1/1	0.98	0.04	55,55,55,55	0
59	MG	AA	3085	1/1	0.98	0.11	46,46,46,46	0
59	MG	CA	3123	1/1	0.98	0.04	29,29,29,29	0
59	MG	AA	3591	1/1	0.98	0.11	52,52,52,52	0
59	MG	AA	3502	1/1	0.98	0.04	29,29,29,29	1
59	MG	CA	3525	1/1	0.98	0.10	23,23,23,23	0
59	MG	CA	3019	1/1	0.98	0.03	22,22,22,22	0
59	MG	AA	3295	1/1	0.98	0.07	57,57,57,57	0
59	MG	AA	3333	1/1	0.98	0.06	11,11,11,11	0
59	MG	AA	3038	1/1	0.98	0.17	29,29,29,29	1
59	MG	AA	3087	1/1	0.98	0.15	55,55,55,55	0
59	MG	BA	1750	1/1	0.98	0.05	55,55,55,55	0
59	MG	AA	3597	1/1	0.98	0.04	33,33,33,33	0
59	MG	AA	3770	1/1	0.98	0.08	43,43,43,43	0
59	MG	BA	1753	1/1	0.98	0.06	48,48,48,48	0
59	MG	AA	3681	1/1	0.98	0.04	42,42,42,42	0
59	MG	CA	3136	1/1	0.98	0.04	63,63,63,63	0
59	MG	AA	3510	1/1	0.98	0.05	17,17,17,17	0
59	MG	AA	3437	1/1	0.98	0.05	17,17,17,17	0
59	MG	AA	3774	1/1	0.98	0.22	25,25,25,25	1
59	MG	CA	3397	1/1	0.98	0.08	57,57,57,57	0
59	MG	AN	3002	1/1	0.98	0.09	69,69,69,69	0
59	MG	CA	3255	1/1	0.98	0.09	28,28,28,28	0
59	MG	AA	3512	1/1	0.98	0.05	38,38,38,38	0
59	MG	BA	1760	1/1	0.98	0.07	53,53,53,53	0
59	MG	AA	3439	1/1	0.98	0.08	37,37,37,37	0
59	MG	AA	3515	1/1	0.98	0.07	12,12,12,12	0
59	MG	AP	202	1/1	0.98	0.21	21,21,21,21	1
59	MG	CA	3261	1/1	0.98	0.07	47,47,47,47	0
59	MG	AA	3778	1/1	0.98	0.04	43,43,43,43	0
59	MG	AA	3117	1/1	0.98	0.22	25,25,25,25	1
59	MG	CV	202	1/1	0.98	0.09	38,38,38,38	0
59	MG	AA	3052	1/1	0.98	0.07	11,11,11,11	0
59	MG	CA	3267	1/1	0.98	0.04	38,38,38,38	0
59	MG	AA	3053	1/1	0.98	0.12	19,19,19,19	0
59	MG	AA	3522	1/1	0.98	0.06	30,30,30,30	0
59	MG	AA	3523	1/1	0.98	0.03	13,13,13,13	0
59	MG	CA	3271	1/1	0.98	0.07	48,48,48,48	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	CA	3272	1/1	0.98	0.14	49,49,49,49	0
59	MG	AA	3301	1/1	0.98	0.05	39,39,39,39	0
59	MG	AA	3525	1/1	0.98	0.07	35,35,35,35	0
59	MG	AU	202	1/1	0.98	0.06	31,31,31,31	0
59	MG	AA	3379	1/1	0.98	0.11	23,23,23,23	0
59	MG	CA	3562	1/1	0.98	0.04	29,29,29,29	0
59	MG	AA	3528	1/1	0.98	0.06	19,19,19,19	0
59	MG	AV	202	1/1	0.98	0.08	38,38,38,38	0
59	MG	BA	1777	1/1	0.98	0.13	71,71,71,71	0
59	MG	AA	3054	1/1	0.98	0.06	21,21,21,21	0
59	MG	CA	3052	1/1	0.98	0.10	44,44,44,44	0
59	MG	CA	3568	1/1	0.98	0.04	39,39,39,39	0
59	MG	CA	3283	1/1	0.98	0.03	31,31,31,31	0
59	MG	CA	3570	1/1	0.98	0.04	36,36,36,36	0
59	MG	AV	204	1/1	0.98	0.09	45,45,45,45	0
59	MG	AA	3303	1/1	0.98	0.06	24,24,24,24	0
59	MG	AA	3531	1/1	0.98	0.06	24,24,24,24	0
59	MG	AA	3382	1/1	0.98	0.05	37,37,37,37	0
59	MG	AA	3383	1/1	0.98	0.05	20,20,20,20	0
59	MG	AA	3534	1/1	0.98	0.10	14,14,14,14	0
59	MG	CA	3169	1/1	0.98	0.10	34,34,34,34	0
59	MG	CA	3170	1/1	0.98	0.04	32,32,32,32	0
59	MG	CA	3292	1/1	0.98	0.03	12,12,12,12	0
59	MG	AA	3702	1/1	0.98	0.10	14,14,14,14	0
59	MG	AA	3343	1/1	0.98	0.06	46,46,46,46	0
59	MG	CA	3584	1/1	0.98	0.05	32,32,32,32	0
59	MG	CA	3439	1/1	0.98	0.08	32,32,32,32	0
59	MG	AA	3304	1/1	0.98	0.07	47,47,47,47	0
59	MG	AA	3173	1/1	0.98	0.07	46,46,46,46	0
59	MG	CA	3588	1/1	0.98	0.04	32,32,32,32	0
59	MG	AA	3279	1/1	0.98	0.09	34,34,34,34	0
59	MG	AA	3007	1/1	0.98	0.03	12,12,12,12	0
59	MG	AA	3543	1/1	0.98	0.06	32,32,32,32	0
59	MG	AA	3308	1/1	0.98	0.09	18,18,18,18	0
59	MG	AA	3013	1/1	0.98	0.05	28,28,28,28	0
59	MG	CA	3302	1/1	0.98	0.07	37,37,37,37	0
60	ZN	DN	501	1/1	0.98	0.04	117,117,117,117	0
61	SF4	BD	501	8/8	0.98	0.04	78,78,78,78	0
59	MG	CA	3449	1/1	0.98	0.04	55,55,55,55	0
59	MG	CA	3303	1/1	0.98	0.10	43,43,43,43	0
59	MG	AA	3392	1/1	0.98	0.07	17,17,17,17	0
59	MG	AA	3312	1/1	0.99	0.02	23,23,23,23	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3393	1/1	0.99	0.07	23,23,23,23	0
59	MG	CA	3393	1/1	0.99	0.05	68,68,68,68	0
59	MG	AA	3727	1/1	0.99	0.03	23,23,23,23	0
59	MG	AA	3074	1/1	0.99	0.06	14,14,14,14	0
59	MG	AA	3332	1/1	0.99	0.04	17,17,17,17	0
59	MG	AA	3487	1/1	0.99	0.03	49,49,49,49	0
59	MG	AA	3784	1/1	0.99	0.07	59,59,59,59	0
59	MG	CA	3650	1/1	0.99	0.08	14,14,14,14	0
59	MG	AA	3679	1/1	0.99	0.04	36,36,36,36	0
59	MG	CA	3321	1/1	0.99	0.06	28,28,28,28	0
59	MG	CA	3401	1/1	0.99	0.04	28,28,28,28	0
59	MG	AA	3003	1/1	0.99	0.02	8,8,8,8	0
59	MG	BA	1769	1/1	0.99	0.05	58,58,58,58	0
59	MG	AA	3489	1/1	0.99	0.04	15,15,15,15	0
59	MG	AA	3022	1/1	0.99	0.02	5,5,5,5	0
59	MG	AA	3192	1/1	0.99	0.05	30,30,30,30	0
59	MG	AA	3537	1/1	0.99	0.10	20,20,20,20	0
59	MG	CA	3574	1/1	0.99	0.04	37,37,37,37	0
59	MG	AA	3538	1/1	0.99	0.05	15,15,15,15	0
59	MG	CA	3329	1/1	0.99	0.04	21,21,21,21	0
59	MG	AA	3738	1/1	0.99	0.07	24,24,24,24	0
59	MG	CA	3578	1/1	0.99	0.05	38,38,38,38	0
59	MG	AA	3793	1/1	0.99	0.07	7,7,7,7	0
59	MG	AA	3401	1/1	0.99	0.04	21,21,21,21	0
59	MG	CA	3262	1/1	0.99	0.03	11,11,11,11	0
59	MG	AA	3540	1/1	0.99	0.03	36,36,36,36	0
59	MG	AA	3428	1/1	0.99	0.04	18,18,18,18	0
59	MG	AA	3457	1/1	0.99	0.05	30,30,30,30	0
59	MG	CA	3266	1/1	0.99	0.07	36,36,36,36	0
59	MG	AA	3260	1/1	0.99	0.06	21,21,21,21	0
59	MG	CA	3339	1/1	0.99	0.04	24,24,24,24	0
59	MG	AA	3011	1/1	0.99	0.04	16,16,16,16	0
59	MG	AA	3248	1/1	0.99	0.08	22,22,22,22	0
59	MG	CA	3342	1/1	0.99	0.03	33,33,33,33	0
59	MG	CA	3423	1/1	0.99	0.10	46,46,46,46	0
59	MG	AA	3320	1/1	0.99	0.09	37,37,37,37	0
59	MG	AE	303	1/1	0.99	0.09	19,19,19,19	0
59	MG	AA	3214	1/1	0.99	0.22	58,58,58,58	1
59	MG	CA	3346	1/1	0.99	0.06	30,30,30,30	0
59	MG	AA	3463	1/1	0.99	0.02	15,15,15,15	0
59	MG	AA	3407	1/1	0.99	0.04	10,10,10,10	0
59	MG	AA	3465	1/1	0.99	0.06	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
59	MG	AA	3103	1/1	0.99	0.02	5,5,5,5	0
59	MG	AA	3504	1/1	0.99	0.03	29,29,29,29	0
59	MG	CA	3211	1/1	0.99	0.04	29,29,29,29	0
59	MG	AF	305	1/1	0.99	0.08	19,19,19,19	0
59	MG	AF	306	1/1	0.99	0.06	36,36,36,36	0
59	MG	AA	3505	1/1	0.99	0.04	30,30,30,30	0
59	MG	CA	3356	1/1	0.99	0.07	44,44,44,44	0
59	MG	CA	3438	1/1	0.99	0.04	24,24,24,24	0
59	MG	CA	3282	1/1	0.99	0.05	36,36,36,36	0
59	MG	AA	3506	1/1	0.99	0.03	48,48,48,48	0
59	MG	CA	3151	1/1	0.99	0.03	38,38,38,38	0
59	MG	AA	3436	1/1	0.99	0.03	12,12,12,12	0
59	MG	CA	3443	1/1	0.99	0.04	28,28,28,28	0
59	MG	AA	3125	1/1	0.99	0.06	22,22,22,22	1
59	MG	AA	3438	1/1	0.99	0.06	17,17,17,17	0
59	MG	AA	3324	1/1	0.99	0.02	15,15,15,15	0
59	MG	AA	3345	1/1	0.99	0.07	6,6,6,6	0
59	MG	AA	3707	1/1	0.99	0.04	59,59,59,59	0
59	MG	AA	3239	1/1	0.99	0.14	25,25,25,25	1
59	MG	AA	3513	1/1	0.99	0.04	41,41,41,41	0
59	MG	AA	3072	1/1	0.99	0.03	19,19,19,19	0
59	MG	AA	3388	1/1	0.99	0.02	28,28,28,28	0
59	MG	AA	3821	1/1	0.99	0.09	82,82,82,82	0
59	MG	CA	3163	1/1	0.99	0.13	30,30,30,30	0
59	MG	CA	3372	1/1	0.99	0.08	35,35,35,35	0
59	MG	AA	3151	1/1	0.99	0.08	62,62,62,62	0
59	MG	BA	1746	1/1	0.99	0.04	33,33,33,33	0
59	MG	AA	3517	1/1	0.99	0.03	23,23,23,23	0
59	MG	AA	3663	1/1	0.99	0.05	11,11,11,11	0
59	MG	AA	3518	1/1	0.99	0.04	14,14,14,14	0
59	MG	DA	1691	1/1	0.99	0.06	63,63,63,63	0
59	MG	AA	3519	1/1	0.99	0.12	27,27,27,27	0
59	MG	AA	3476	1/1	0.99	0.03	28,28,28,28	0
59	MG	AA	3477	1/1	0.99	0.03	14,14,14,14	0
59	MG	AA	3478	1/1	0.99	0.04	33,33,33,33	0
59	MG	CA	3382	1/1	0.99	0.06	38,38,38,38	0
59	MG	CA	3383	1/1	0.99	0.04	30,30,30,30	0
59	MG	AA	3328	1/1	0.99	0.06	42,42,42,42	0
60	ZN	CY	501	1/1	0.99	0.03	101,101,101,101	0
59	MG	AA	3020	1/1	0.99	0.04	11,11,11,11	0
60	ZN	C5	102	1/1	0.99	0.04	66,66,66,66	0
60	ZN	C6	501	1/1	0.99	0.03	66,66,66,66	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
60	ZN	C9	501	1/1	0.99	0.03	75,75,75,75	0
59	MG	AA	3419	1/1	0.99	0.06	20,20,20,20	0
59	MG	AA	3526	1/1	0.99	0.11	19,19,19,19	0
59	MG	AV	205	1/1	0.99	0.04	42,42,42,42	0
59	MG	CA	3311	1/1	0.99	0.05	50,50,50,50	0
59	MG	AA	3482	1/1	0.99	0.03	41,41,41,41	0
59	MG	AA	3397	1/1	1.00	0.05	13,13,13,13	0
59	MG	AA	3569	1/1	1.00	0.04	17,17,17,17	0
59	MG	AA	3076	1/1	1.00	0.03	0,0,0,0	0
59	MG	AA	3335	1/1	1.00	0.08	15,15,15,15	0
59	MG	AA	3416	1/1	1.00	0.03	14,14,14,14	0
59	MG	AA	3801	1/1	1.00	0.05	27,27,27,27	0
60	ZN	AY	501	1/1	1.00	0.01	61,61,61,61	0
59	MG	AA	3396	1/1	1.00	0.07	16,16,16,16	0
60	ZN	A5	501	1/1	1.00	0.01	30,30,30,30	0
60	ZN	A6	102	1/1	1.00	0.03	40,40,40,40	0
60	ZN	A9	501	1/1	1.00	0.02	42,42,42,42	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.