



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 5, 2023 – 03:39 PM EDT

PDB ID : 6OTR
Title : Dimeric E.coli YoeB bound to Thermus thermophilus 70S post-cleavage (AAU)
Authors : Pavelich, I.P.; Hoffer, E.D.; Maehigashi, T.; Dunham, C.M.
Deposited on : 2019-05-03
Resolution : 3.12 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : **FAILED**
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35.1

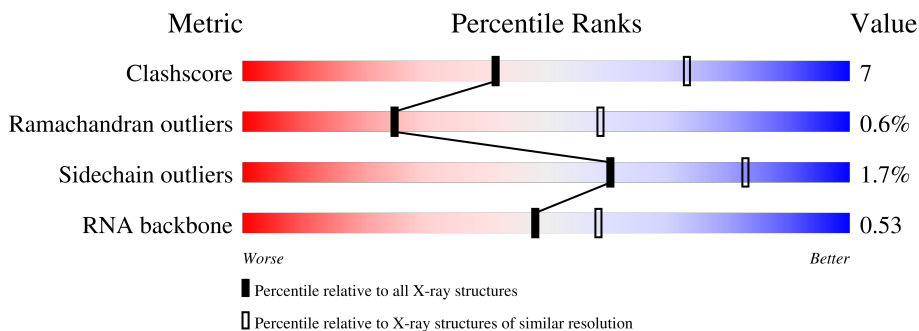
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.12 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))
Clashscore	141614	1389 (3.14-3.10)
Ramachandran outliers	138981	1337 (3.14-3.10)
Sidechain outliers	138945	1337 (3.14-3.10)
RNA backbone	3102	1134 (3.44-2.80)











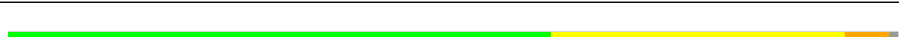


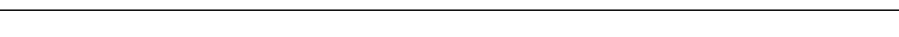
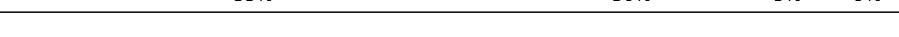
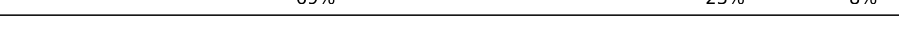



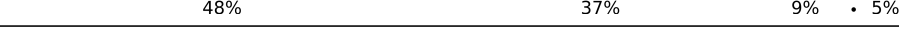





The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively.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

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1521	
1	XA	1521	
2	QB	256	
2	XB	256	
3	QC	239	
3	XC	239	









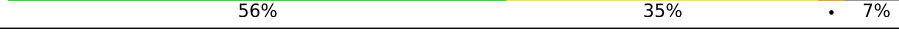

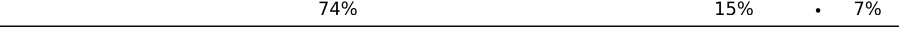
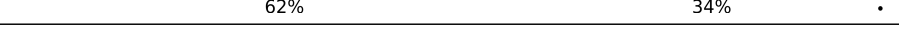

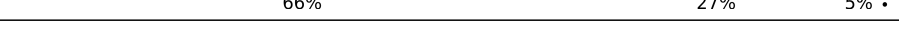

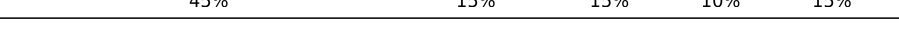
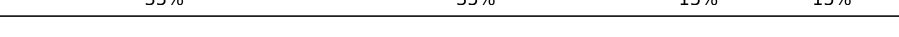

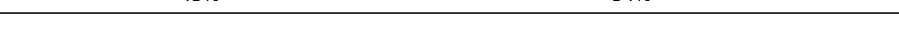






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Mol	Chain	Length	Quality of chain
4	QD	209	 77% 22%
4	XD	209	 73% 25%
5	QE	162	 68% 23% 7%
5	XE	162	 77% 17% 7%
6	QF	101	 87% 12%
6	XF	101	 79% 21%
7	QG	156	 70% 27%
7	XG	156	 74% 22%
8	QH	138	 68% 29%
8	XH	138	 80% 20%
9	QI	128	 61% 33% 5%
9	XI	128	 69% 27%
10	QJ	105	 47% 39% 9% 6%
10	XJ	105	 55% 30% 5% 9%
11	QK	129	 69% 23% 8%
11	XK	129	 71% 19% 10%
12	QL	132	 75% 18% 5%
12	XL	132	 65% 20% 6% 8%
13	QM	126	 48% 37% 9% 5%
13	XM	126	 60% 33% 6%
14	QN	61	 82% 13%
14	XN	61	 72% 26%
15	QO	89	 83% 16%
15	XO	89	 74% 19%
16	QP	88	 82% 14% 5%









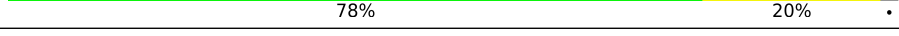

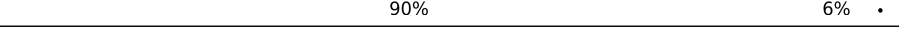
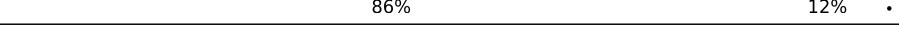

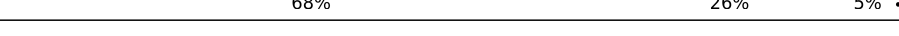


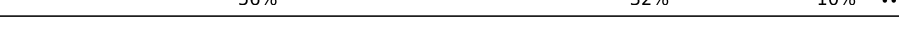

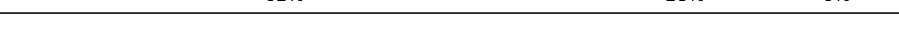






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Mol	Chain	Length	Quality of chain
16	XP	88	 75% 20% 5%
17	QQ	105	 78% 17% 5%
17	XQ	105	 73% 22% 5%
18	QR	88	 68% 10% 20%
18	XR	88	 60% 18% 20%
19	QS	93	 55% 30% 11%
19	XS	93	 70% 18% 11%
20	QT	106	 83% 9% 7%
20	XT	106	 56% 35% 7%
21	QU	27	 63% 30% 7%
21	XU	27	 74% 15% 7%
22	QV	77	 62% 34% 4%
22	QW	77	 43% 44% 12%
22	XV	77	 66% 27% 5%
22	XW	77	 45% 43% 9%
23	QX	20	 45% 15% 15% 10% 15%
23	XX	20	 35% 35% 15% 15%
24	QY	84	 73% 26% 1%
24	QZ	84	 43% 54% 3%
24	XY	84	 67% 32% 1%
24	XZ	84	 64% 30% 6%
25	R0	85	 66% 27% 5%
25	Y0	85	 74% 21% 5%
26	R1	98	 65% 32% 3%
26	Y1	98	 83% 16% 1%


























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Mol	Chain	Length	Quality of chain
27	R2	72	 76% 15% . .
27	Y2	72	 64% 25% 6% . .
28	R3	60	 70% 28% .
28	Y3	60	 82% 17% .
29	R4	71	 51% 34% 11% . .
29	Y4	71	 59% 30% 7% . .
30	R5	60	 75% 22% . .
30	Y5	60	 88% 8% . .
31	R6	54	 78% 20% .
31	Y6	54	 83% 15% .
32	R7	49	 90% 6% .
32	Y7	49	 86% 12% .
33	R8	65	 72% 25% . .
33	Y8	65	 68% 26% 5% .
34	R9	37	 51% 35% 11% .
34	Y9	37	 70% 30%
35	RA	2915	 56% 32% 10% . .
35	YA	2915	 57% 30% 10% . .
36	RB	124	 62% 28% 6% . .
36	YB	124	 65% 24% 8% . .
37	RD	276	 70% 26% . .
37	YD	276	 86% 13% .
38	RE	206	 68% 27% .
38	YE	206	 71% 26% . .
39	RF	210	 77% 19% . .






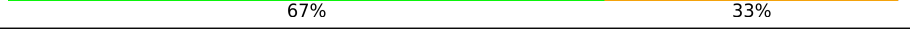
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Mol	Chain	Length	Quality of chain
39	YF	210	 76% 19% ..
40	RG	182	 56% 40% ..
40	YG	182	 66% 29% ..
41	RH	180	 51% 35% 9% ..
41	YH	180	 73% 20% ...
42	RI	148	 53% 36% 6% ..
42	YI	148	 68% 25% 5% ..
43	RN	140	 73% 24% ..
43	YN	140	 79% 20% .
44	RO	122	 79% 20% .
44	YO	122	 82% 18%
45	RP	150	 79% 18% ..
45	YP	150	 84% 14% .
46	RQ	141	 74% 24% ..
46	YQ	141	 80% 20%
47	RR	118	 83% 15% ..
47	YR	118	 74% 25% ..
48	RS	112	 66% 30% ..
48	YS	112	 74% 25% .
49	RT	146	 64% 26% .. 6%
49	YT	146	 61% 31% . 6%
50	RU	118	 89% 9% ..
50	YU	118	 72% 25% ...
51	RV	101	 73% 26% .
51	YV	101	 56% 41% .

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Mol	Chain	Length	Quality of chain
52	RW	113	 88% 12% .
52	YW	113	 89% 11%
53	RX	96	 79% 16% . .
53	YX	96	 88% 8% .
54	RY	110	 75% 21% . . .
54	YY	110	 78% 18% . .
55	RZ	206	 59% 25% . 11%
55	YZ	206	 55% 28% 5% 11%
56	ZA	3	 67% 33%
56	ZB	3	 67% 33%

2 Entry composition

There are 60 unique types of molecules in this entry. The entry contains 298517 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 16S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
1	QA	1510	Total 32452	C 14444	N 6009	O 10489	P 1510	0	0	0
1	XA	1507	Total 32389	C 14416	N 5999	O 10467	P 1507	0	0	0

- Molecule 2 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	QB	235	Total 1907	C 1217	N 342	O 343	S 5	0	0	0
2	XB	236	Total 1915	C 1223	N 343	O 344	S 5	0	0	0

- Molecule 3 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	QC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0
3	XC	205	Total 1605	C 1011	N 313	O 280	S 1	0	0	0

- Molecule 4 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	QD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0
4	XD	208	Total 1703	C 1066	N 339	O 291	S 7	0	0	0

- Molecule 5 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	QE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			
5	XE	151	Total	C	N	O	S	0	0	0
			1155	729	218	204	4			

- Molecule 6 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	QF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			
6	XF	101	Total	C	N	O	S	0	0	0
			843	531	155	154	3			

- Molecule 7 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	QG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			
7	XG	155	Total	C	N	O	S	0	0	0
			1257	781	252	218	6			

- Molecule 8 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			
8	XH	137	Total	C	N	O	S	0	0	0
			1108	700	214	192	2			

- Molecule 9 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
9	QI	127	Total	C	N	O	0	0	0
			1010	639	197	174			
9	XI	126	Total	C	N	O	0	0	0
			998	633	193	172			

- Molecule 10 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	QJ	99	Total	C	N	O	S	0	0	0
			801	504	157	139	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	XJ	96	Total	C	N	O	S	0	0	0
			777	487	153	136	1			

- Molecule 11 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	QK	119	Total	C	N	O	S	0	0	0
			885	549	168	165	3			
11	XK	116	Total	C	N	O	S	0	0	0
			864	537	164	160	3			

- Molecule 12 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	QL	125	Total	C	N	O	S	0	0	0
			975	614	196	164	1			
12	XL	122	Total	C	N	O	S	0	0	0
			956	603	193	159	1			

- Molecule 13 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	120	Total	C	N	O	S	0	0	0
			955	591	197	165	2			
13	XM	119	Total	C	N	O	S	0	0	0
			946	585	195	164	2			

- Molecule 14 is a protein called 30S ribosomal protein S14 type Z.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	QN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			
14	XN	60	Total	C	N	O	S	0	0	0
			492	312	104	72	4			

- Molecule 15 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	87	Total	C	N	O	S	0	0	0
			729	457	146	124	2			

- Molecule 16 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	QP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			
16	XP	84	Total	C	N	O	S	0	0	0
			705	446	140	118	1			

- Molecule 17 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	QQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			
17	XQ	100	Total	C	N	O	S	0	0	0
			834	534	155	143	2			

- Molecule 18 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
18	QR	70	Total	C	N	O	0	0	0
			574	367	112	95			
18	XR	70	Total	C	N	O	0	0	0
			574	367	112	95			

- Molecule 19 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
19	XS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			

- Molecule 20 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	QT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			
20	XT	99	Total	C	N	O	S	0	0	0
			763	470	162	129	2			

- Molecule 21 is a protein called 30S ribosomal protein Thx.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
21	QU	25	Total	C	N	O	0	0	0
			217	134	52	31			
21	XU	25	Total	C	N	O	0	0	0
			217	134	52	31			

- Molecule 22 is a RNA chain called tRNA-fMet.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	QW	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	XV	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			
22	XW	77	Total	C	N	O	P	0	0	0
			1640	732	297	535	76			

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	17	Total	C	N	O	P	0	0	0
			370	167	77	110	16			
23	XX	17	Total	C	N	O	P	0	0	0
			370	167	77	110	16			

- Molecule 24 is a protein called Addiction module toxin, Txe/YoeB family.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	QY	84	Total	C	N	O	S	0	0	0
			723	464	126	131	2			
24	QZ	84	Total	C	N	O	S	0	0	0
			723	464	126	131	2			
24	XY	84	Total	C	N	O	S	0	0	0
			723	464	126	131	2			
24	XZ	84	Total	C	N	O	S	0	0	0
			723	464	126	131	2			

- Molecule 25 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	R0	81	Total	C	N	O	S	0	0	0
			643	398	137	107	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

- Molecule 26 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
26	Y1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			

- Molecule 27 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
27	Y2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			

- Molecule 28 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
28	R3	59	Total	C	N	O	0	0	0
			469	298	90	81			
28	Y3	59	Total	C	N	O	0	0	0
			469	298	90	81			

- Molecule 29 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	R4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			
29	Y4	69	Total	C	N	O	S	0	0	0
			565	356	103	101	5			

- Molecule 30 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	R5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			
30	Y5	59	Total	C	N	O	S	0	0	0
			459	288	90	76	5			

- Molecule 31 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	R6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			
31	Y6	53	Total	C	N	O	S	0	0	0
			453	281	91	77	4			

- Molecule 32 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	R7	47	Total	C	N	O	S	0	0	0
			409	251	102	54	2			
32	Y7	48	Total	C	N	O	S	0	0	0
			418	257	104	55	2			

- Molecule 33 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	R8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			
33	Y8	64	Total	C	N	O	S	0	0	0
			517	331	102	82	2			

- Molecule 34 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	R9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			
34	Y9	37	Total	C	N	O	S	0	0	0
			307	188	68	47	4			

- Molecule 35 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	RA	2891	Total	C	N	O	P	0	0	0
			62266	27713	11649	20014	2890			
35	YA	2878	Total	C	N	O	P	0	0	0
			61981	27587	11589	19928	2877			

- Molecule 36 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	RB	122	Total	C	N	O	P	0	0	0
			2617	1166	486	844	121			
36	YB	122	Total	C	N	O	P	0	0	0
			2617	1166	486	844	121			

- Molecule 37 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	3			
37	YD	274	Total	C	N	O	S	0	0	0
			2135	1347	426	359	3			

- Molecule 38 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
38	RE	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	6			
38	YE	204	Total	C	N	O	S	0	0	0
			1563	988	299	270	6			

- Molecule 39 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
39	RF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			
39	YF	202	Total	C	N	O	S	0	0	0
			1585	1011	297	275	2			

- Molecule 40 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			
40	YG	181	Total	C	N	O	S	0	0	0
			1474	942	268	260	4			

- Molecule 41 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RH	174	Total	C	N	O	S	0	0	0
			1336	848	251	236	1			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
41	YH	174	1336	848	251	236	1	0	0	0

- Molecule 42 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
42	RI	145	1131	723	200	207	1	0	0	0
42	YI	146	1136	726	201	208	1	0	0	0

- Molecule 43 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
43	RN	138	1104	712	206	182	4	0	0	0
43	YN	138	1104	712	206	182	4	0	0	0

- Molecule 44 is a protein called 50S ribosomal protein L14.

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

- Molecule 45 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
45	RP	150	1145	712	232	198	3	0	0	0
45	YP	147	1122	698	229	192	3	0	0	0

- Molecule 46 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	RQ	139	1107	707	209	184	7	0	0	0
46	YQ	141	1122	715	212	188	7	0	0	0

- Molecule 47 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
47	RR	117	960	599	202	159	0	0	0
47	YR	117	960	599	202	159	0	0	0

- Molecule 48 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
48	RS	111	882	556	176	150	0	0	0
48	YS	111	882	556	176	150	0	0	0

- Molecule 49 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
49	RT	137	1141	710	234	196	1	0	0	0
49	YT	137	1141	710	234	196	1	0	0	0

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
50	RU	117	964	610	202	151	1	0	0	0
50	YU	117	964	610	202	151	1	0	0	0

- Molecule 51 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
51	RV	101	779	501	142	135	1	0	0	0
51	YV	101	779	501	142	135	1	0	0	0

- Molecule 52 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	RW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			
52	YW	113	Total	C	N	O	S	0	0	0
			900	566	177	155	2			

- Molecule 53 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	RX	92	Total	C	N	O	S	0	0	0
			725	471	131	123				
53	YX	92	Total	C	N	O	S	0	0	0
			725	471	131	123				

- Molecule 54 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
54	RY	107	Total	C	N	O	S	0	0	0
			818	525	155	132	6			
54	YY	107	Total	C	N	O	S	0	0	0
			818	525	155	132	6			

- Molecule 55 is a protein called 50S ribosomal protein L25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	RZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			
55	YZ	183	Total	C	N	O	S	0	0	0
			1461	933	260	265	3			

- Molecule 56 is a RNA chain called CCPuro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	ZA	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	ZB	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	87	Total	Mg	0	0
			87	87		

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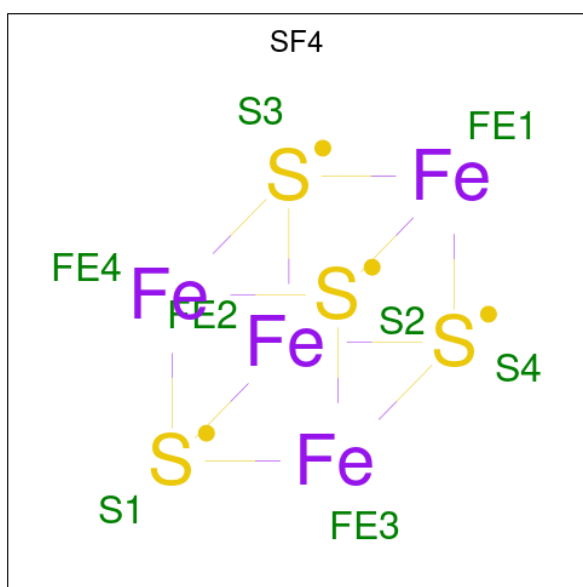
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QE	1	Total 1	Mg 1	0	0
57	QV	3	Total 3	Mg 3	0	0
57	R0	2	Total 2	Mg 2	0	0
57	R5	1	Total 1	Mg 1	0	0
57	RA	305	Total 305	Mg 305	0	0
57	RB	3	Total 3	Mg 3	0	0
57	RD	1	Total 1	Mg 1	0	0
57	RE	2	Total 2	Mg 2	0	0
57	RN	1	Total 1	Mg 1	0	0
57	RO	1	Total 1	Mg 1	0	0
57	RP	1	Total 1	Mg 1	0	0
57	RQ	1	Total 1	Mg 1	0	0
57	RR	1	Total 1	Mg 1	0	0
57	XA	106	Total 106	Mg 106	0	0
57	XD	1	Total 1	Mg 1	0	0
57	XE	1	Total 1	Mg 1	0	0
57	XF	1	Total 1	Mg 1	0	0
57	XL	1	Total 1	Mg 1	0	0
57	XV	4	Total 4	Mg 4	0	0
57	Y5	1	Total 1	Mg 1	0	0
57	Y9	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	YA	329	Total 329	Mg 329	0	0
57	YB	6	Total 6	Mg 6	0	0
57	YD	2	Total 2	Mg 2	0	0
57	YE	4	Total 4	Mg 4	0	0
57	YG	1	Total 1	Mg 1	0	0
57	YO	1	Total 1	Mg 1	0	0
57	YP	1	Total 1	Mg 1	0	0
57	YQ	1	Total 1	Mg 1	0	0
57	YR	1	Total 1	Mg 1	0	0
57	YS	1	Total 1	Mg 1	0	0
57	YV	1	Total 1	Mg 1	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄).

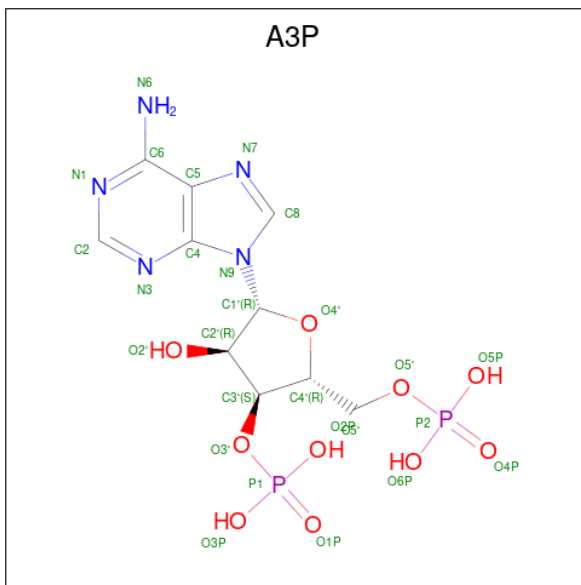


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
58	QD	1	Total	Fe	S	0	0
			8	4	4		
58	XD	1	Total	Fe	S	0	0
			8	4	4		

- Molecule 59 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	QN	1	Total	Zn	0	0
			1	1		
59	R6	1	Total	Zn	0	0
			1	1		
59	R9	1	Total	Zn	0	0
			1	1		
59	XN	1	Total	Zn	0	0
			1	1		
59	Y6	1	Total	Zn	0	0
			1	1		

- Molecule 60 is ADENOSINE-3'-5'-DIPHOSPHATE (three-letter code: A3P) (formula: C₁₀H₁₅N₅O₁₀P₂).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
60	QX	1	Total	C	N	O	P	0	0
			26	10	5	9	2		
60	XX	1	Total	C	N	O	P	0	0
			26	10	5	9	2		

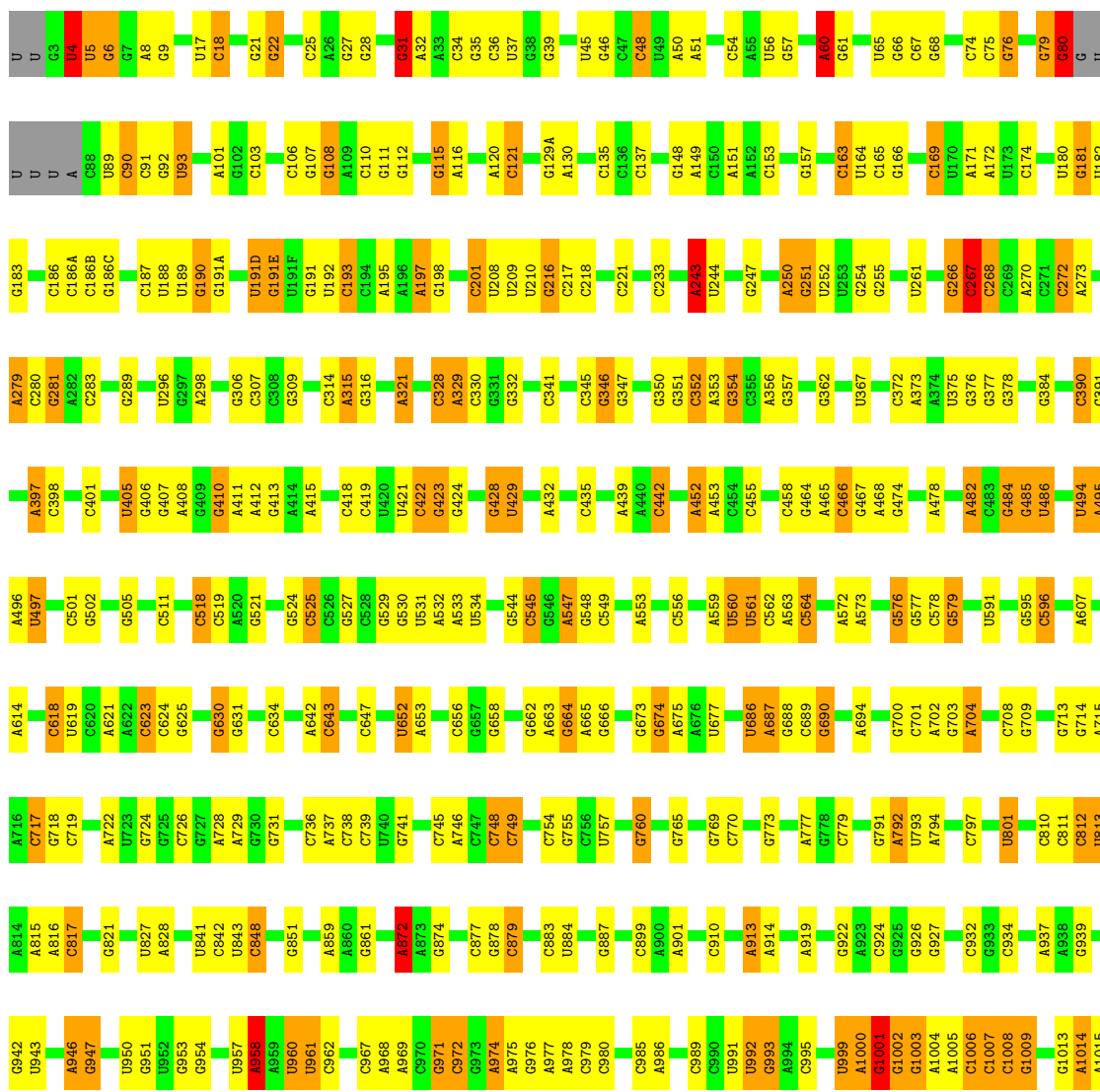
3 Residue-property plots [i](#)

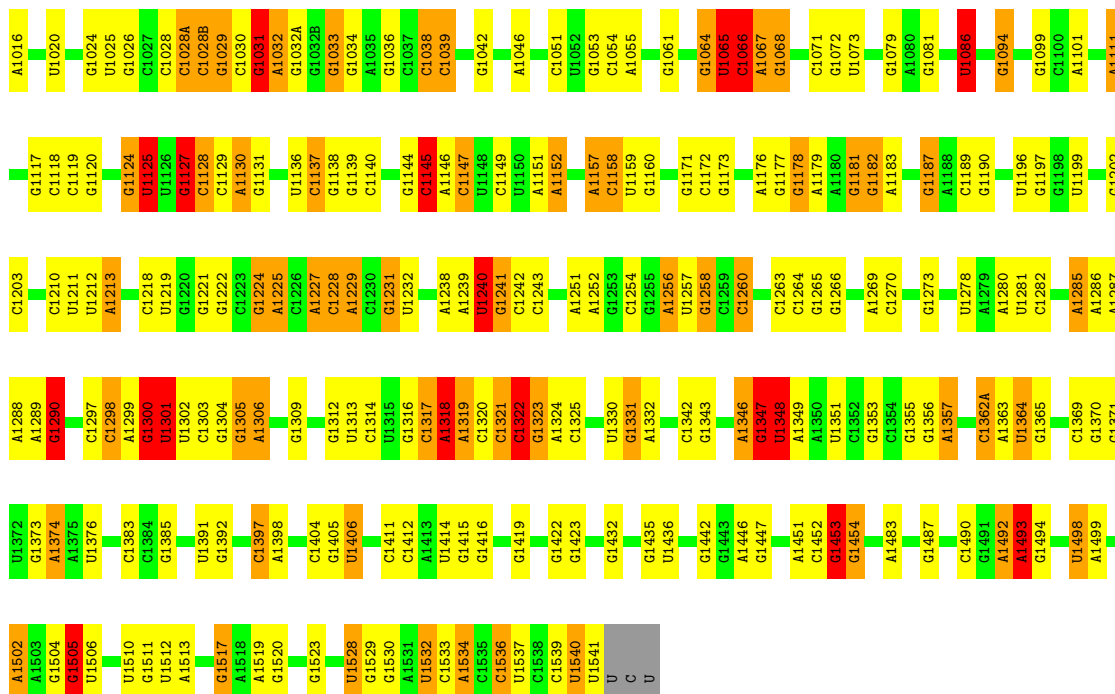
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

Note EDS failed to run properly.

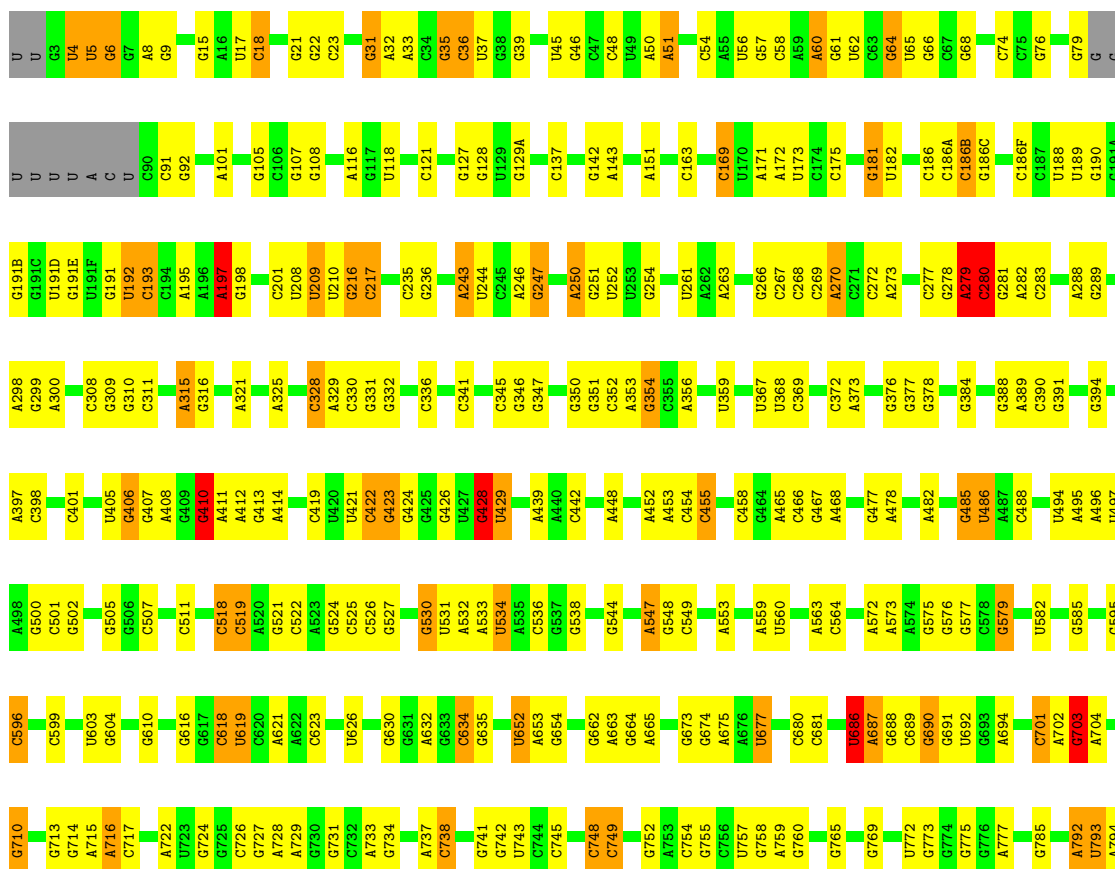
- Molecule 1: 16S rRNA

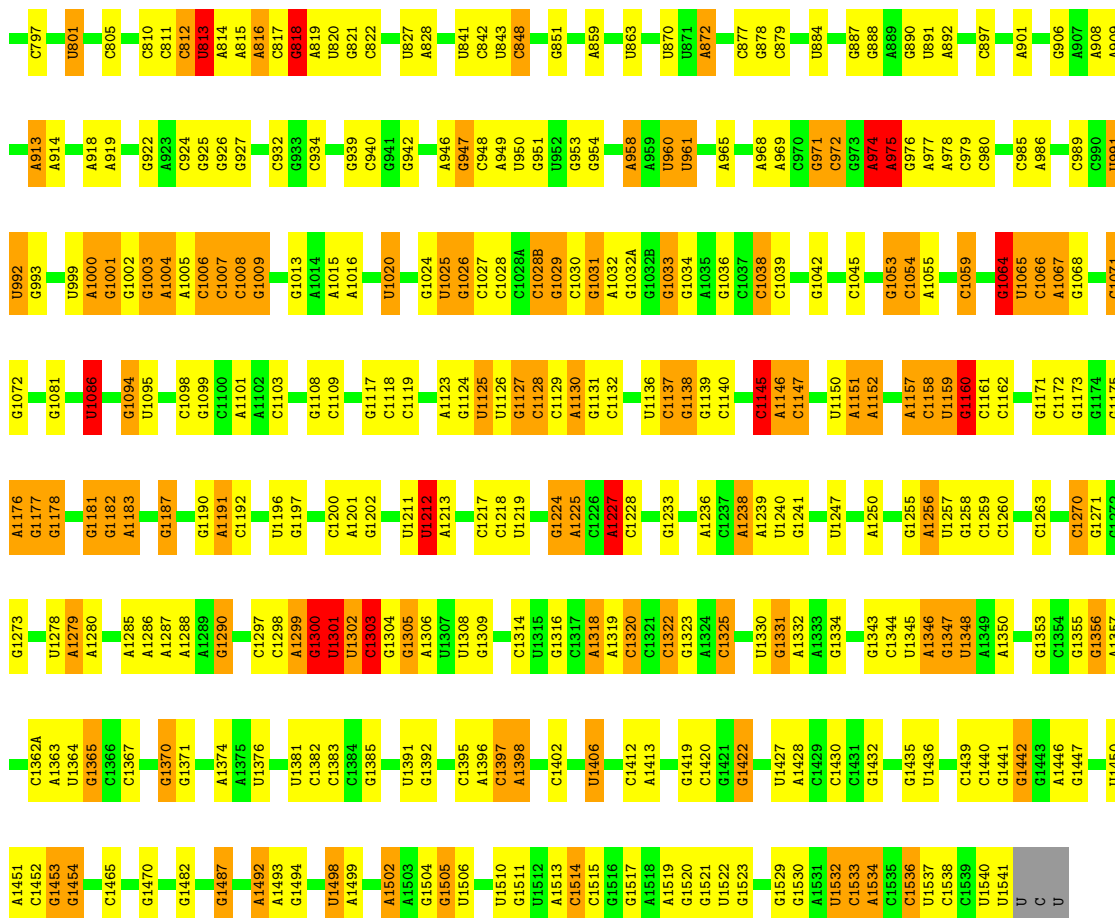
Chain QA:  57% 29% 11% ..



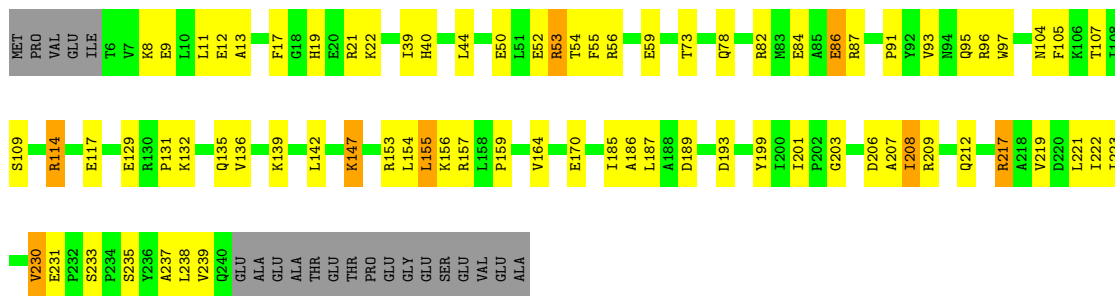


• Molecule 1: 16S rRNA

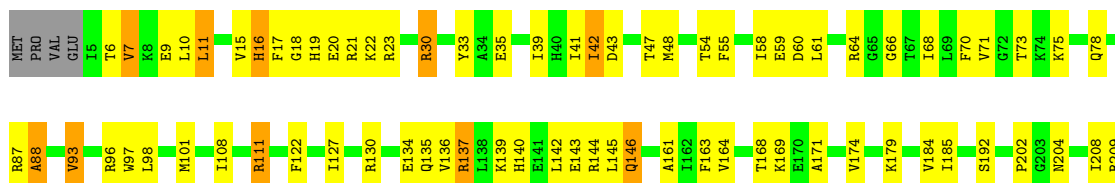




• Molecule 2: 30S ribosomal protein S2

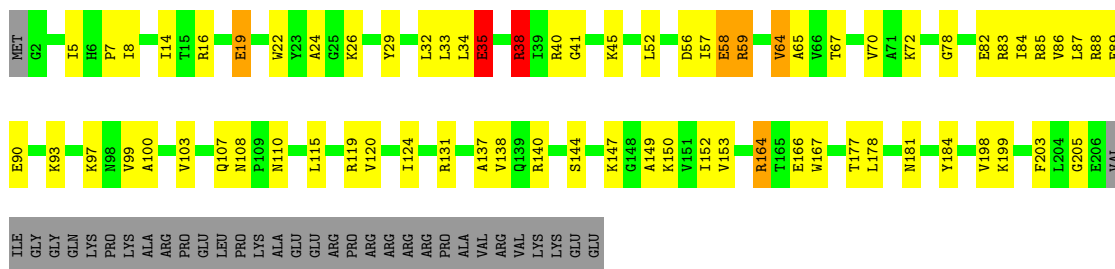


• Molecule 2: 30S ribosomal protein S2

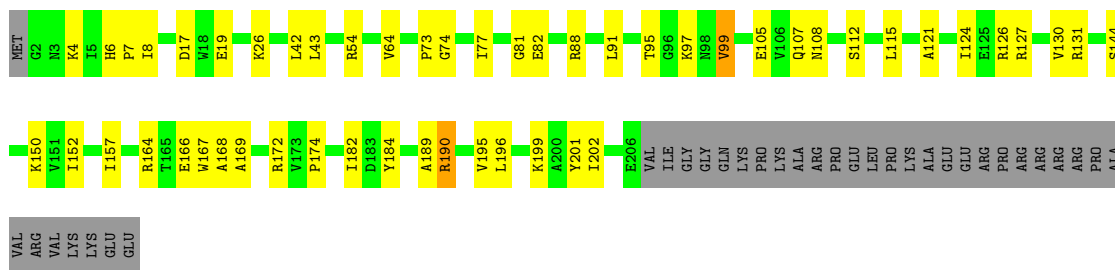




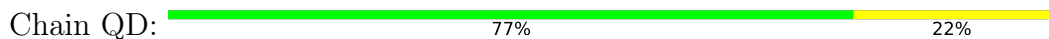
• Molecule 3: 30S ribosomal protein S3



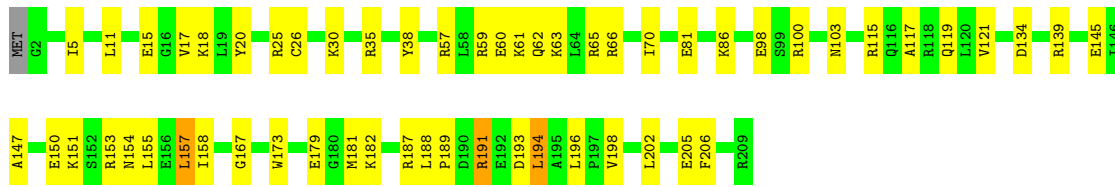
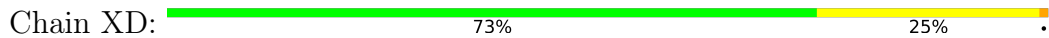
• Molecule 3: 30S ribosomal protein S3



• Molecule 4: 30S ribosomal protein S4

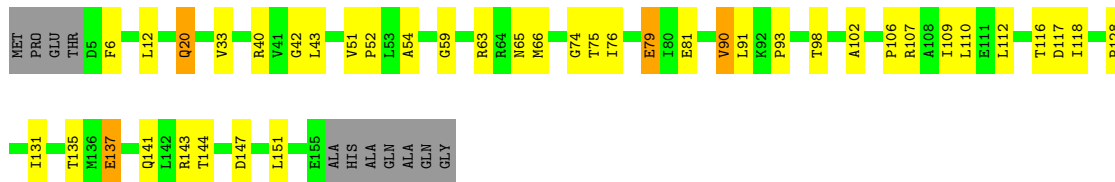


• Molecule 4: 30S ribosomal protein S4




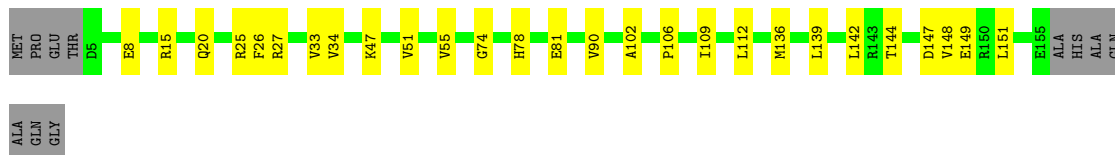
• Molecule 5: 30S ribosomal protein S5

Chain QE:  68% 23% 7%




• Molecule 5: 30S ribosomal protein S5

Chain XE:  77% 17% 7%




• Molecule 6: 30S ribosomal protein S6

Chain QF:  87% 12%



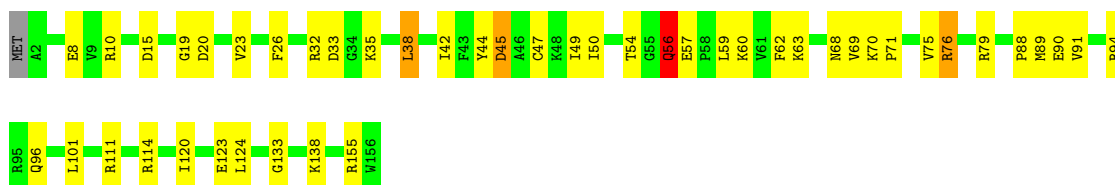
• Molecule 6: 30S ribosomal protein S6

Chain XF:  79% 21%




• Molecule 7: 30S ribosomal protein S7

Chain QG:  70% 27%



• Molecule 7: 30S ribosomal protein S7

Chain XG:  74% 22%





- Molecule 8: 30S ribosomal protein S8

Chain QH: 68% 29% ..



- Molecule 8: 30S ribosomal protein S8

Chain XH: 80% 20% .



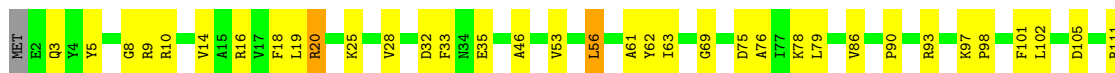
- Molecule 9: 30S ribosomal protein S9

Chain QI: 61% 33% 5% .



- Molecule 9: 30S ribosomal protein S9

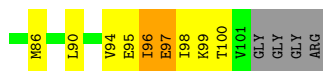
Chain XI: 69% 27% ..



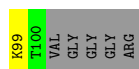
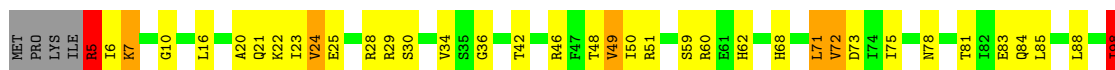
- Molecule 10: 30S ribosomal protein S10

Chain QJ: 47% 39% 9% 6%





- Molecule 10: 30S ribosomal protein S10



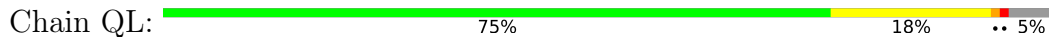
- Molecule 11: 30S ribosomal protein S11



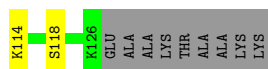
- Molecule 11: 30S ribosomal protein S11



- Molecule 12: 30S ribosomal protein S12

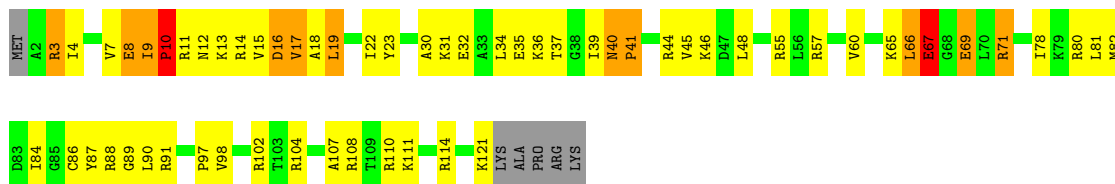


- Molecule 12: 30S ribosomal protein S12



- Molecule 13: 30S ribosomal protein S13

Chain QM:  48% 37% 9% 5%




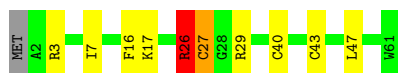
• Molecule 13: 30S ribosomal protein S13

Chain XM:  60% 33% 6%



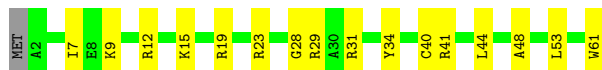
• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:  82% 13% . . .




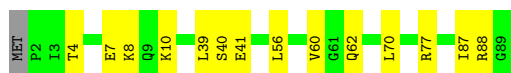
• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:  72% 26% .



• Molecule 15: 30S ribosomal protein S15

Chain QO:  83% 16% .




• Molecule 15: 30S ribosomal protein S15

Chain XO:  74% 19% . .

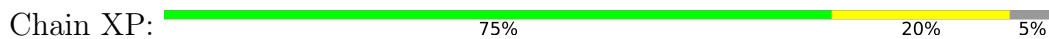


• Molecule 16: 30S ribosomal protein S16

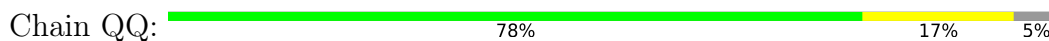
Chain QP:  82% 14% 5%



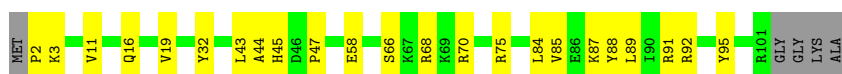
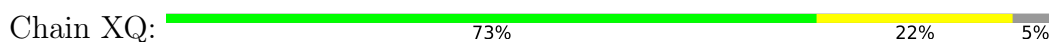
- Molecule 16: 30S ribosomal protein S16



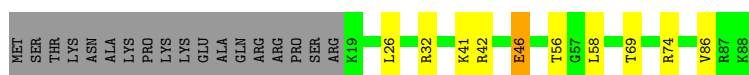
- Molecule 17: 30S ribosomal protein S17



- Molecule 17: 30S ribosomal protein S17



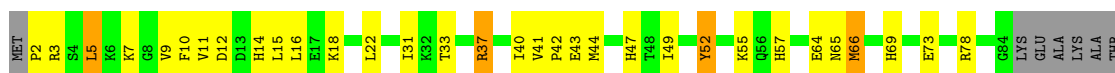
- Molecule 18: 30S ribosomal protein S18



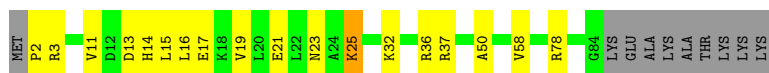
- Molecule 18: 30S ribosomal protein S18



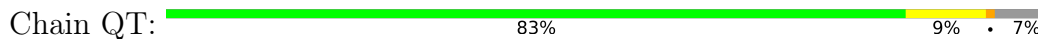
- Molecule 19: 30S ribosomal protein S19



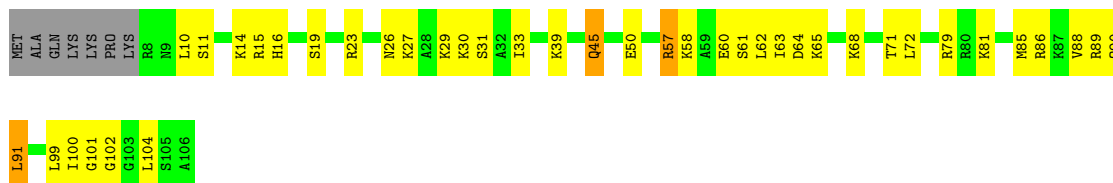
- Molecule 19: 30S ribosomal protein S19



• Molecule 20: 30S ribosomal protein S20



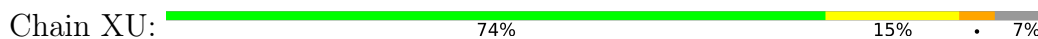
• Molecule 20: 30S ribosomal protein S20



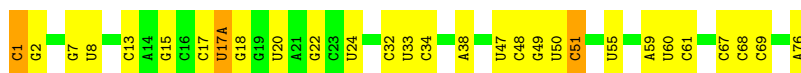
• Molecule 21: 30S ribosomal protein Thx



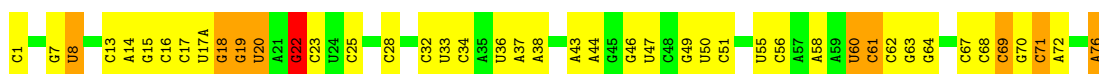
• Molecule 21: 30S ribosomal protein Thx



• Molecule 22: tRNA-fMet

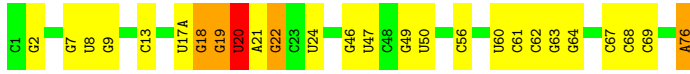


• Molecule 22: tRNA-fMet



- Molecule 22: tRNA-fMet

Chain XV:  66% 27% 5%



- Molecule 22: tRNA-fMet

Chain XW:  45% 43% 9%

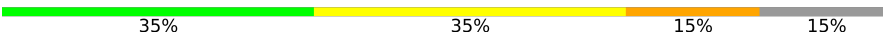


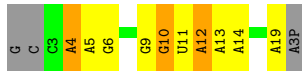
- Molecule 23: mRNA

Chain QX:  45% 15% 15% 10% 15%




- Molecule 23: mRNA

Chain XX:  35% 35% 15% 15%



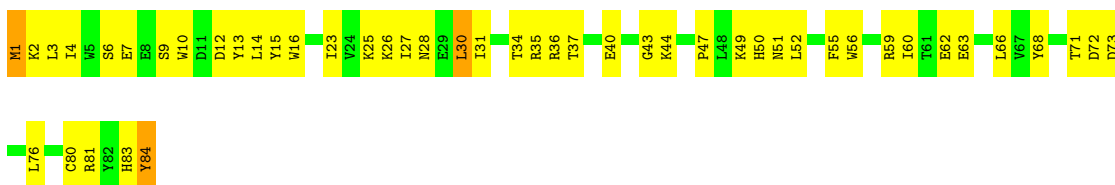
- Molecule 24: Addiction module toxin, Txe/YoeB family

Chain QY:  73% 26%



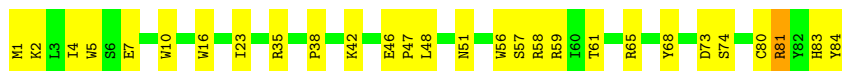
- Molecule 24: Addiction module toxin, Txe/YoeB family

Chain QZ:  43% 54%

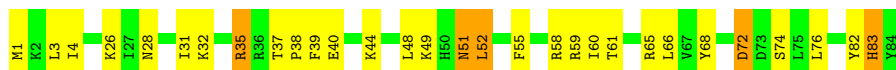


- Molecule 24: Addiction module toxin, Txe/YoeB family

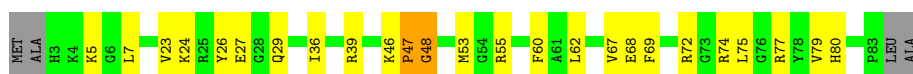
Chain XY:  67% 32%



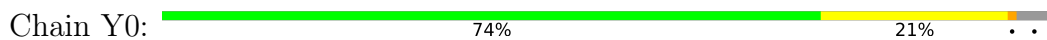
- Molecule 24: Addiction module toxin, Txe/YoeB family



- Molecule 25: 50S ribosomal protein L27



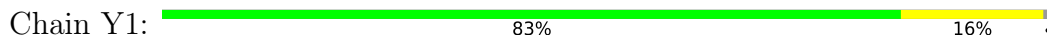
- Molecule 25: 50S ribosomal protein L27



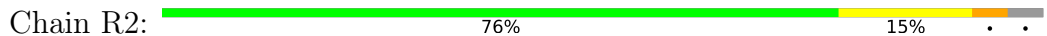
- Molecule 26: 50S ribosomal protein L28



- Molecule 26: 50S ribosomal protein L28



- Molecule 27: 50S ribosomal protein L29



- Molecule 27: 50S ribosomal protein L29

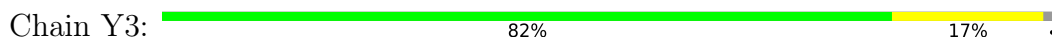




- Molecule 28: 50S ribosomal protein L30



- Molecule 28: 50S ribosomal protein L30



- Molecule 29: 50S ribosomal protein L31



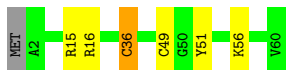
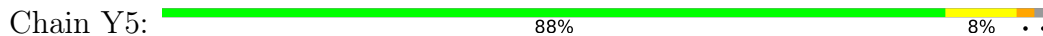
- Molecule 29: 50S ribosomal protein L31



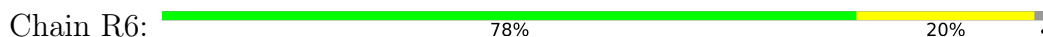
- Molecule 30: 50S ribosomal protein L32



- Molecule 30: 50S ribosomal protein L32

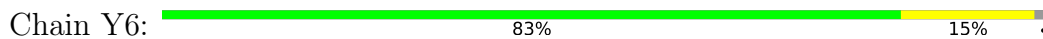


- Molecule 31: 50S ribosomal protein L33





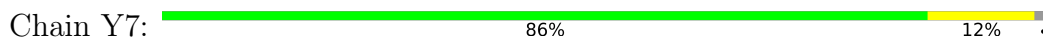
- Molecule 31: 50S ribosomal protein L33



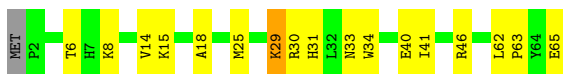
- Molecule 32: 50S ribosomal protein L34



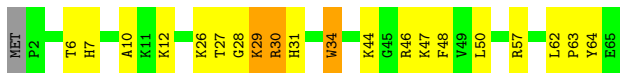
- Molecule 32: 50S ribosomal protein L34



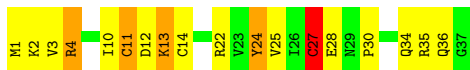
- Molecule 33: 50S ribosomal protein L35



- Molecule 33: 50S ribosomal protein L35



- Molecule 34: 50S ribosomal protein L36



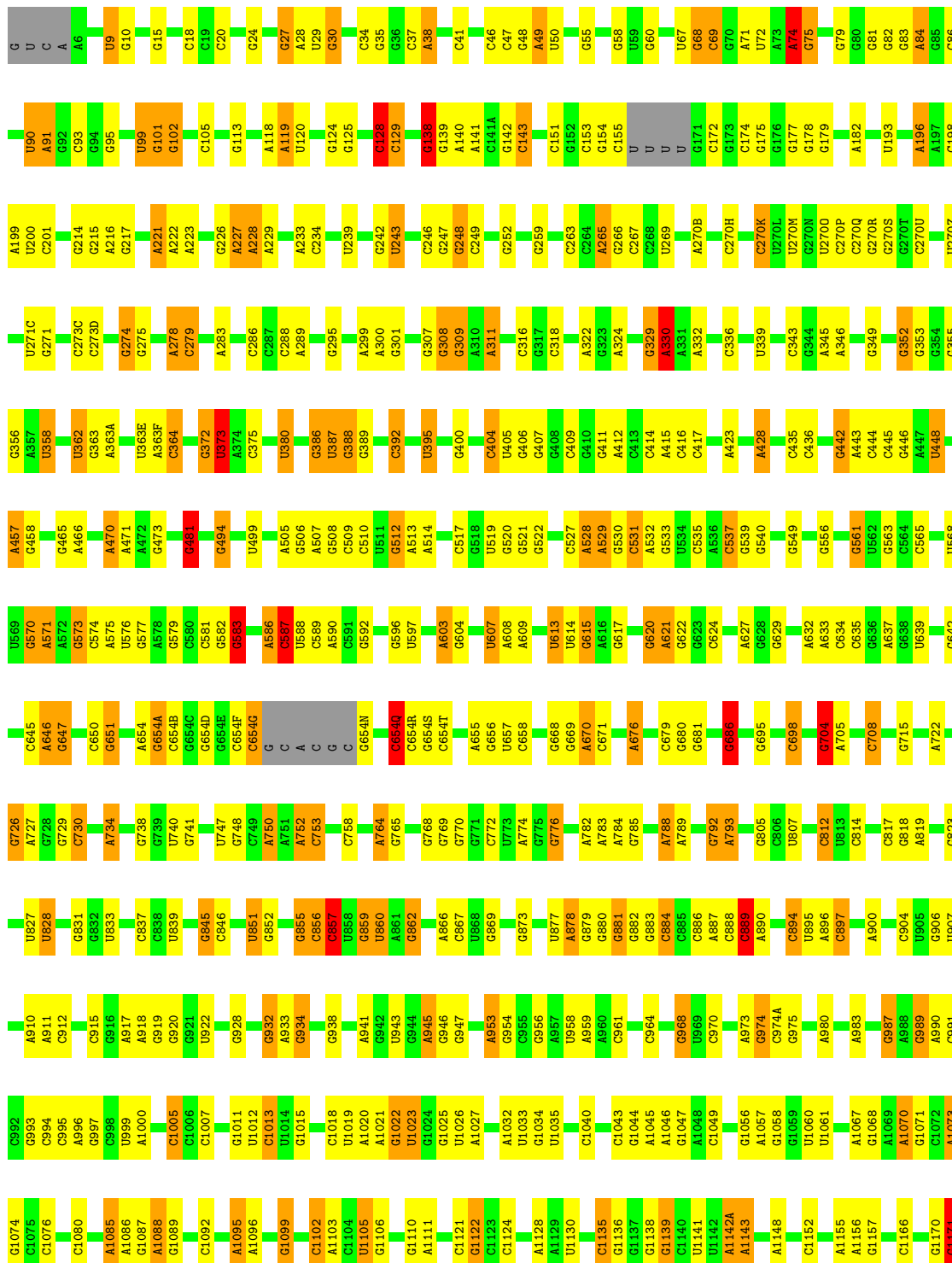
- Molecule 34: 50S ribosomal protein L36

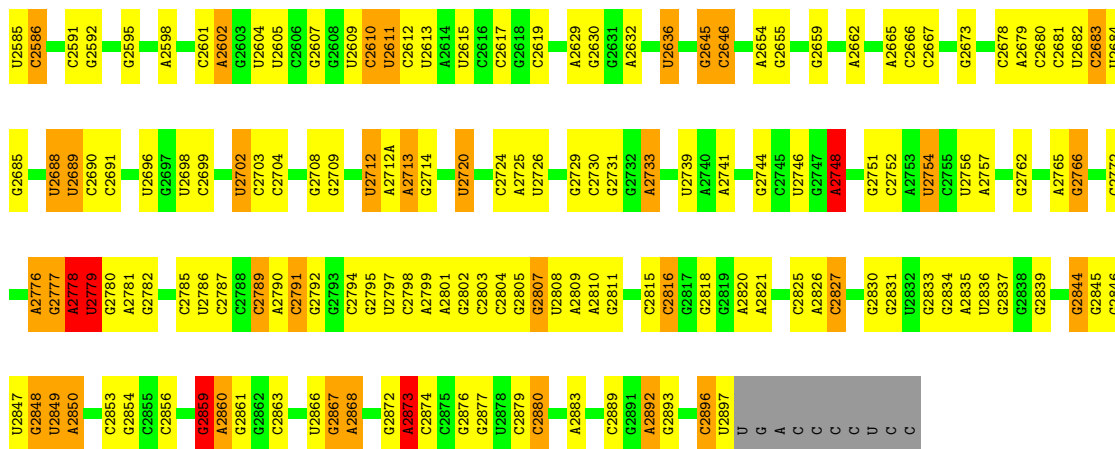




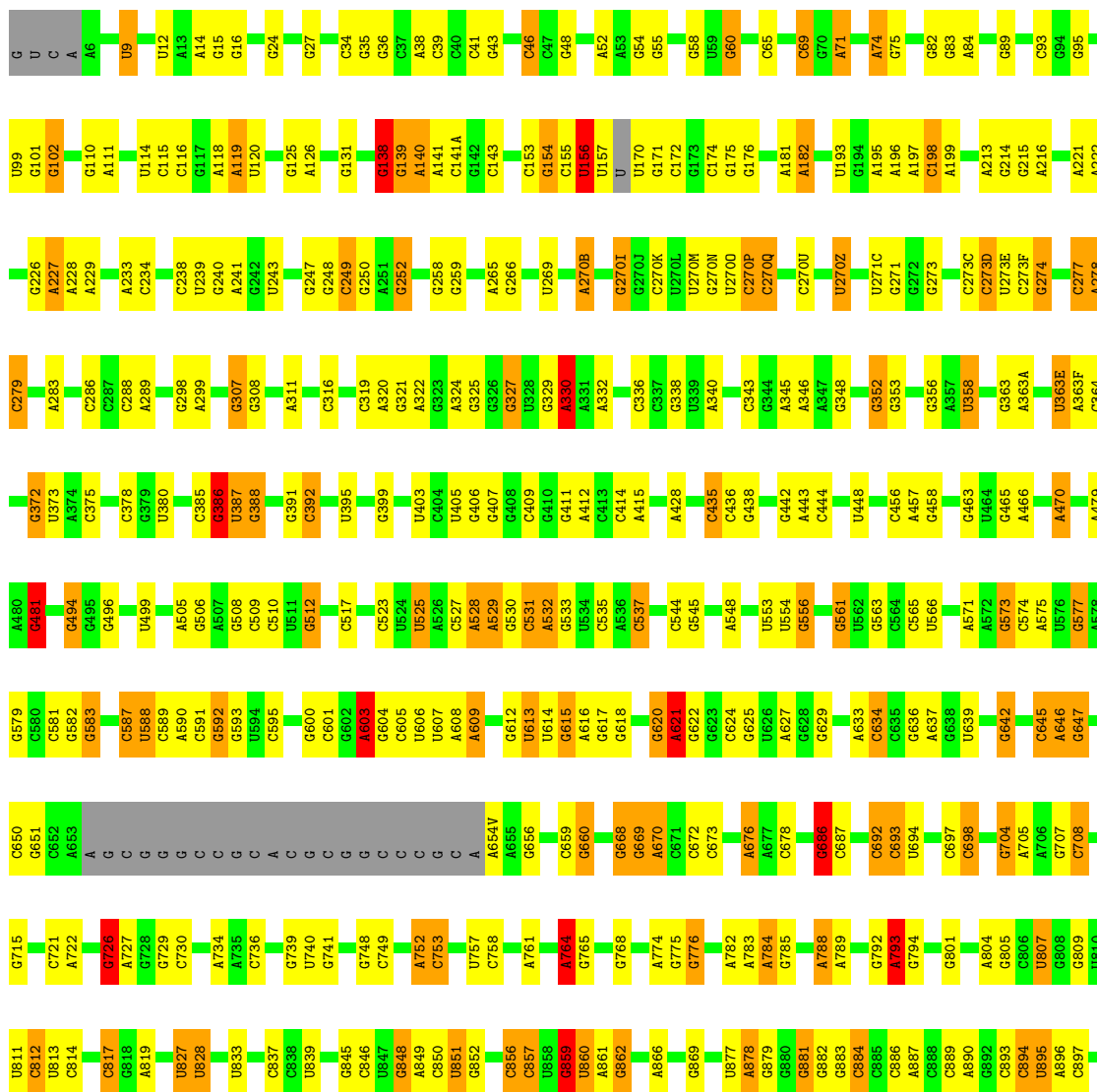
• Molecule 35: 23S rRNA

Chain RA: 56% 32% 10% ..

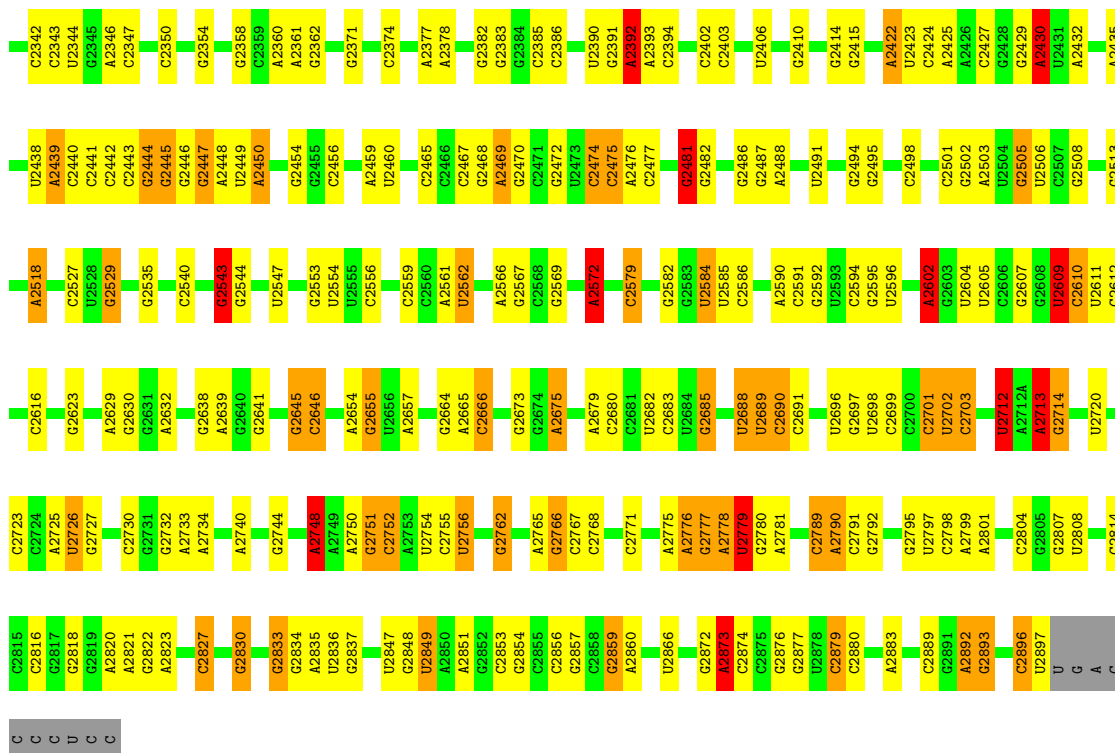




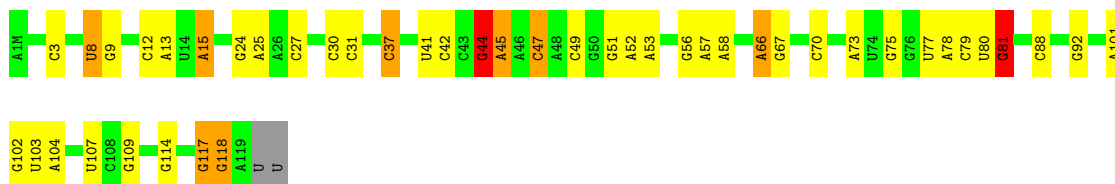
• Molecule 35: 23S rRNA



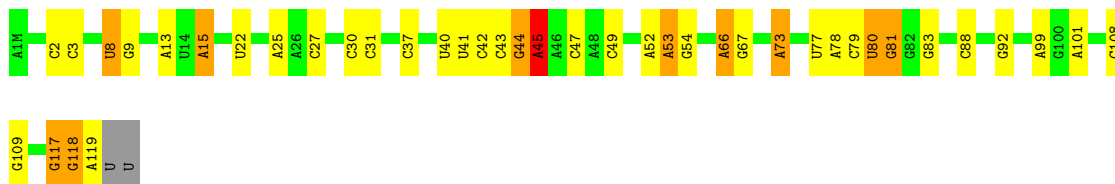
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C2146	C2061	A1847	A1755	C1636	U1535	A1449	U1341	U1255	U1560	G1071	A984	G907
G2147	A2062	G1858	G1756	C1637	A1536	G1449A	A1342	G1256	U1165	A1072	G987	C908
G2148	G1858	U1757	U1757	C1638	C1537	C1450	C1345	C1257	U1166	G1073	A988	A909
G2149	U1864	U1869	A1762	C1639	G1538	C1451	C1346	C1258	U1167	G1074	A989	A910
U2257	G1869	G1869	G1763	C1640	U1540	A1453	U1352	C1261	U1170	G1075	A990	A911
C2258	A1872	G1872	G1764	C1648	U1941	U1454	U1359	U1262	G1170	C1076	C991	C912
A2259	A1977	A1977	G1769	C1684	G1542	C1455	A1360	U1263	G1171	C1079	C992	C915
G2260	A1978	G1878	G1772	A1652	A1543	C1458	A1361	U1264	G1172	C1080	G993	G916
A2261	C1979	C1879	G1773	A1653	A1544	G1459	G1364	U1265	A1174	G1081	C994	A917
A2262	G1980	C1880	A1774	A1654	A1545	G1460	G1365	U1266	U1175	A1085	C995	A918
U2263	A1981	C1881	C1774	A1655	C1547	G1461	A1366	U1267	G1176	A1086	G997	A919
G2264	C1982	C1882	U1775	C1656	C1548	C1467	A1367	G1271	A1177	G1087	C998	G919
A2265	G1989	C1886	G1776	C1657	C1549	C1467	A1368	U1272	C1178	A1088	U999	U922
G2266	C1990	G1887	U1779	C1658	A1554	A1471	C1376	U1273	C1179	G1089	A1000	C923
A2267	U1991	C1888	A1780	G1687	A1555	A1472	G1377	U1274	C1180	C1092	C1004	G928
G2268	G1992	A1889	A1781	A1688	A1558	C1474	A1378	G1281	G1184	C1093	C1005	G929
A2269	U1993	A1896	C1782	A1689	G1559	G1475	A1379	G1282	C1185	A1095	U1011	U930
G2270	C1996	G1899	A1783	G1674	G1560	C1476	G1380	U1286	G1186	A1096	G1012	G931
A2271	C1999	A1900	A1784	C1675	A1561	A1477	A1381	A1287	G1190	C1102	C1013	G932
G2272	U2006	G1906	A1785	C1676	A1562	G1478	A1382	U1288	G1191	C1103	A933	G934
A2273	C2006	G1906	A1787	A1677	G1563	U1482	A1385	U1294	U1105	U1105	U1019	G934
G2274	G2010	C1909	C1790	G1678	A1569	G1483	U1391	U1299	A1194	G1106	A1020	G938
A2275	U2011	A1913	A1791	G1681	A1570	G1484	C1403	C1297	G1195	G1110	A1021	G939
G2276	A2019	C1914	G1794	G1682	A1571	G1485	U1405	G1298	C1200	G1111	G1022	G940
U2277	A2020	U1915	C1795	G1683	A1572	G1486	U1406	C1299	G1211	A1112	U1023	A941
G2278	C2021	G1920	C1795	A1688	G1573	U1489	C1407	U1300	G1212	G1113	G1024	G944
A2279	G2022	C1929	G1799	U1689	C1574	A1490	C1408	A1301	A1210	U1114	G1025	A945
G2280	U2022	G1930	G1800	C1694	U1578	C1493	C1409	G1303	G1122	A1027	U1026	G946
A2281	G2027	G1930	G1801	G1695	A1585	C1496	U1406	C1306	C1125	U1033	G1034	A953
G2282	U2028	A1936	C1806	G1696	A1586	U1497	C1407	A1307	G1129	G1035	U1035	G954
A2283	G2029	A1937	A1815	G1699	A1587	C1498	U1415	A1308	A1128	A1041	C1041	G956
G2284	A2030	A1938	G1816	A1700	C1588	C1499	G1416	G1309	A1129	G1042	G1042	G957
A2285	A2031	U1939	G1817	A1701	A1589	C1502	C1417	G1311	U1130	G1043	G1043	A958
G2286	G2032	U1940	U1818	G1702	U1602	C1503	G1418	U1312	G1135	G1044	G1044	U968
A2287	U2034	G1945	A1819	G1703	A1603	C1506	U1419	G1313	G1136	A1045	A1045	C961
G2288	G2035	G1945	U1820	G1725	C1604	A1507	U1420	C1314	G1227	A1046	A1046	C965
A2289	C2036	U1946	G1823	G1726	C1607	A1508	G1421	U1316	G1139	G1047	G1047	C965
G2290	G2037	C1947	G1827	A1728	A1608	A1509	A1427	A1317	C1140	A1048	A1048	G968
A2291	G2038	G1948	G1828	U1729	A1609	A1510	C1428	G1318	U1141	C1049	C1049	U969
G2292	U2041	G1950	A1828	U1730	A1810	U1516	G1429	G1319	U1142	U1142	A1142A	C970
A2293	A2042	G1955	A1829	G1731	C1611	U1516	C1430	G1324	A1143	A1143	C1053	G971
G2294	C2043	U1956	C1830	C1734	A1616	G1521	U1433	C1327	A1148	A1148	G1066	G972
A2295	G2052	G1959	U1834	C1735	C1617	G1522	A1434	G1328	G1236	A1149	A1057	A973
G2296	C2055	A1960	G1835	G1741	A1518	U1523	G1435	U1329	G1244	G1150	G1058	G974
A2297	G2056	C1961	C1836	C1742	U1621	G1526	G1436	G1332	G1245	C1151	G1059	C974A
G2298	A2057	G1838	G1837	G1743	U1622	G1527	C1437	G1332	A1246	C1152	U1060	G975
A2299	U2058	A1963	C1839	G1750	G1627	A1528	U1439	G1338	A1247	C1153	U1061	G979
G2300	A2059	G1964	G1839	G1750	G1628	A1528	A1439	G1339	A1253	A1156	C1064	A980



• Molecule 36: 5S rRNA

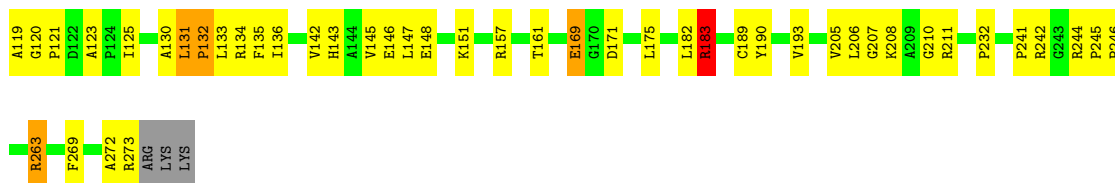


• Molecule 36: 5S rRNA

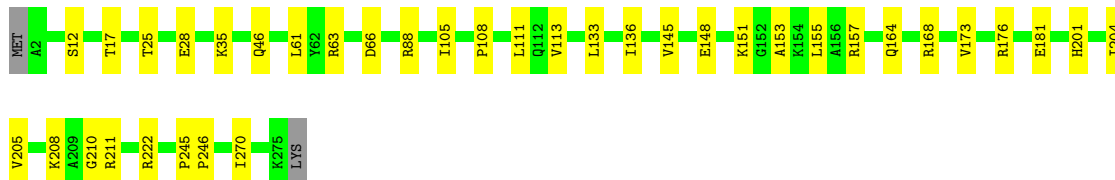
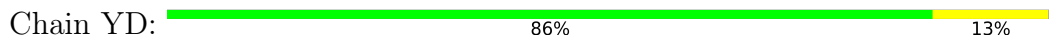


• Molecule 37: 50S ribosomal protein L2





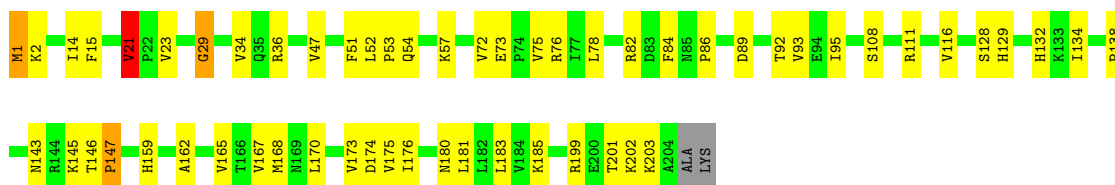
• Molecule 37: 50S ribosomal protein L2



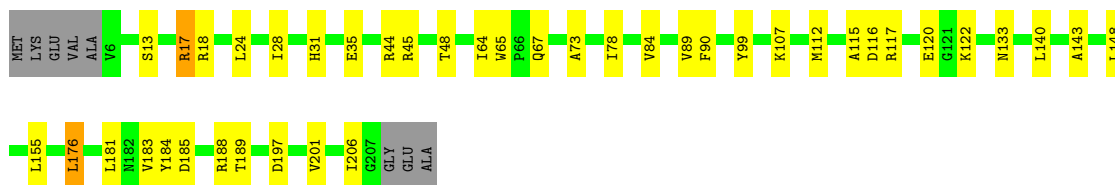
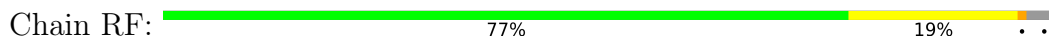
• Molecule 38: 50S ribosomal protein L3



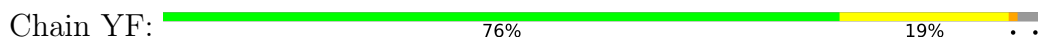
• Molecule 38: 50S ribosomal protein L3

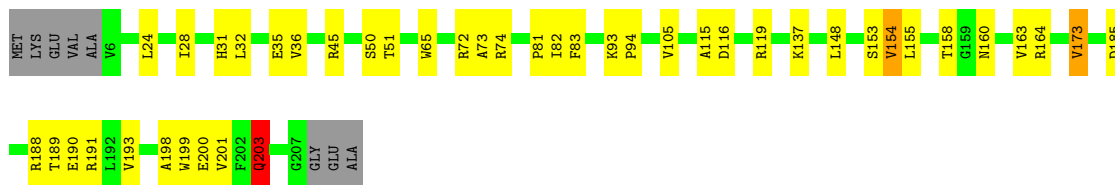


• Molecule 39: 50S ribosomal protein L4



• Molecule 39: 50S ribosomal protein L4

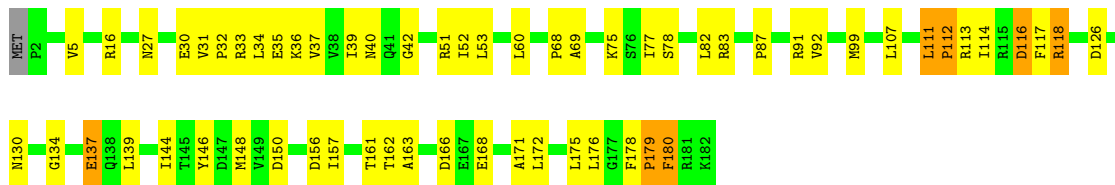




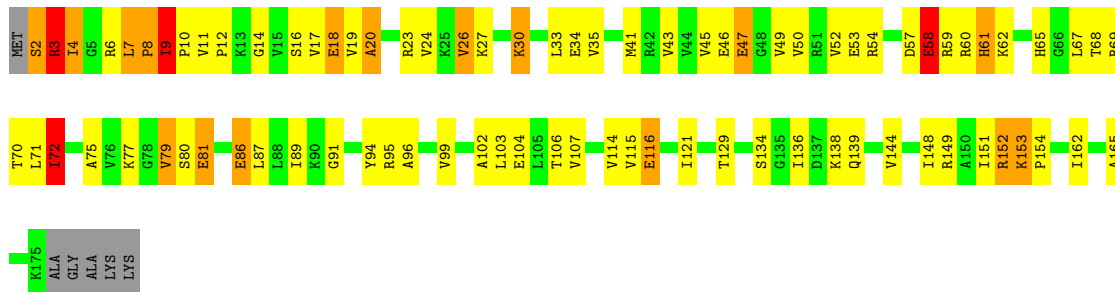
• Molecule 40: 50S ribosomal protein L5



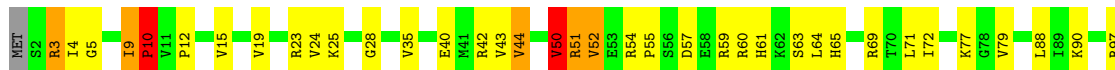
• Molecule 40: 50S ribosomal protein L5



• Molecule 41: 50S ribosomal protein L6



• Molecule 41: 50S ribosomal protein L6





- Molecule 42: 50S ribosomal protein L9



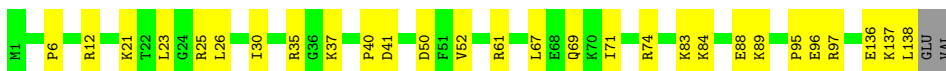
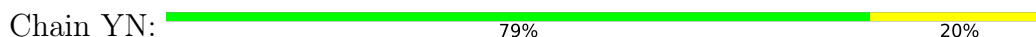
- Molecule 42: 50S ribosomal protein L9



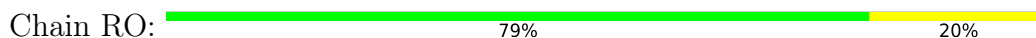
- Molecule 43: 50S ribosomal protein L13



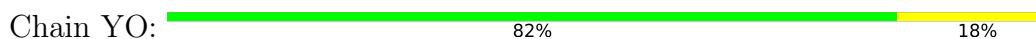
- Molecule 43: 50S ribosomal protein L13



- Molecule 44: 50S ribosomal protein L14

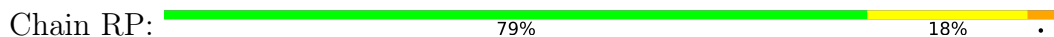


- Molecule 44: 50S ribosomal protein L14

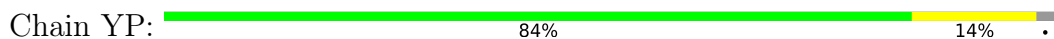




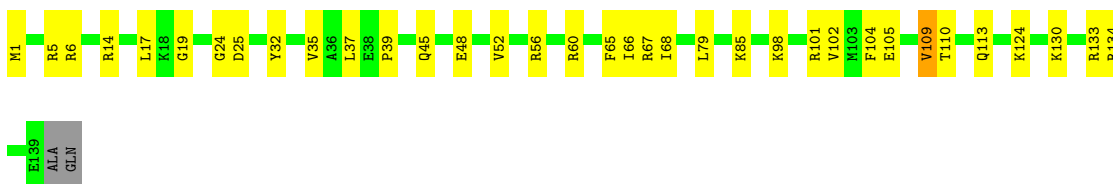
- Molecule 45: 50S ribosomal protein L15



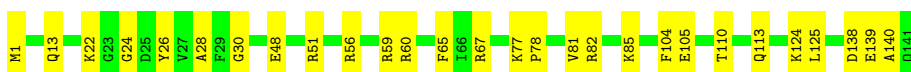
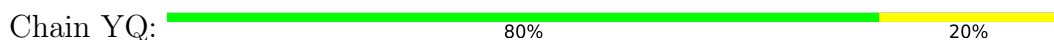
- Molecule 45: 50S ribosomal protein L15



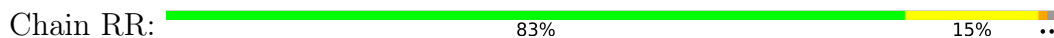
- Molecule 46: 50S ribosomal protein L16



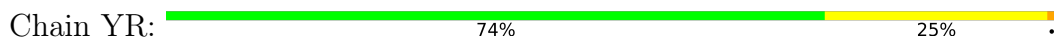
- Molecule 46: 50S ribosomal protein L16



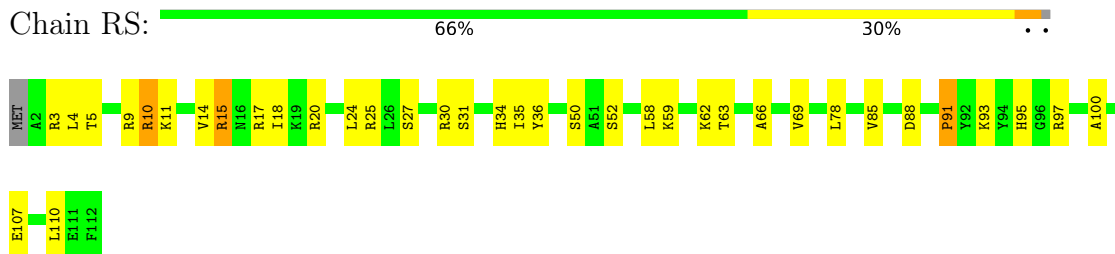
- Molecule 47: 50S ribosomal protein L17



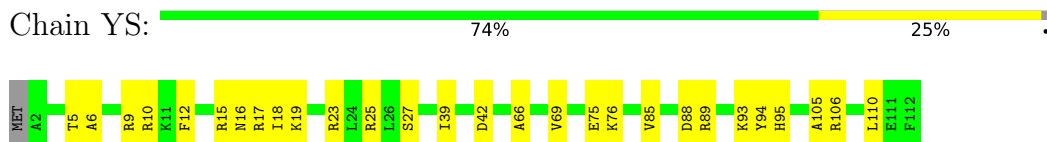
- Molecule 47: 50S ribosomal protein L17



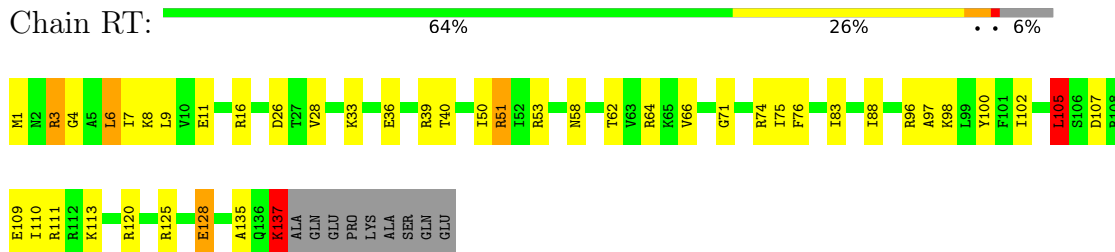
- Molecule 48: 50S ribosomal protein L18



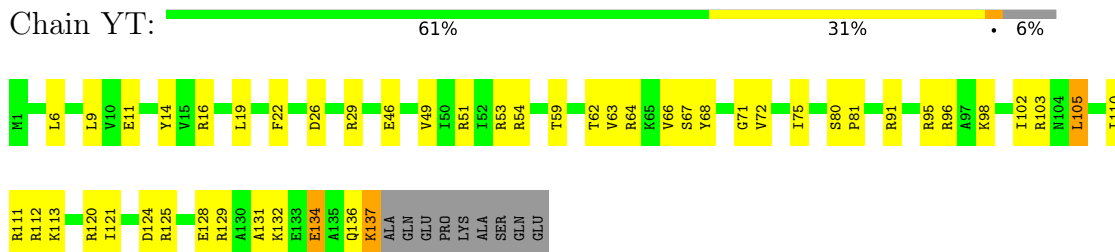
- Molecule 48: 50S ribosomal protein L18



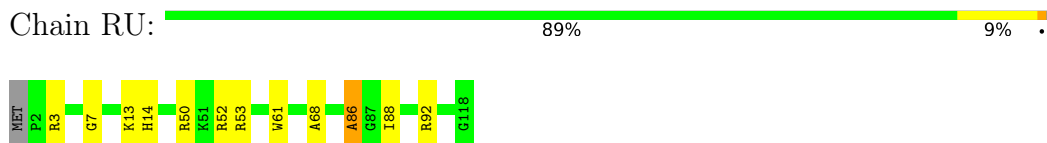
- Molecule 49: 50S ribosomal protein L19



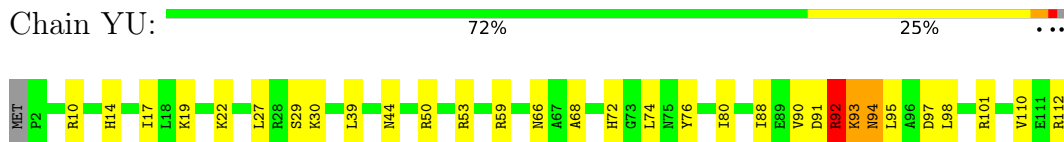
- Molecule 49: 50S ribosomal protein L19



- Molecule 50: 50S ribosomal protein L20



- Molecule 50: 50S ribosomal protein L20

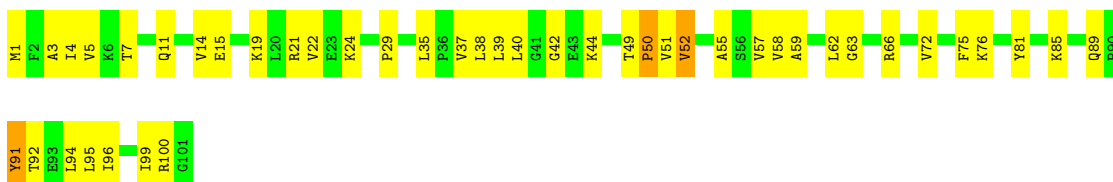


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- Molecule 51: 50S ribosomal protein L21

Chain RV:  73% 26%

- Molecule 51: 50S ribosomal protein L21

Chain YV:  56% 41%


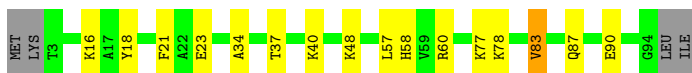
- Molecule 52: 50S ribosomal protein L22

Chain RW:  88% 12%


- Molecule 52: 50S ribosomal protein L22

Chain YW:  89% 11%


- Molecule 53: 50S ribosomal protein L23

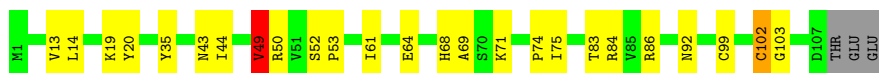
Chain RX:  79% 16%

- Molecule 53: 50S ribosomal protein L23


Chain YX:  88% 8%

- Molecule 54: 50S ribosomal protein L24

Chain RY:  75% 21% ...



• Molecule 54: 50S ribosomal protein L24

Chain YY:  78% 18% ..



• Molecule 55: 50S ribosomal protein L25

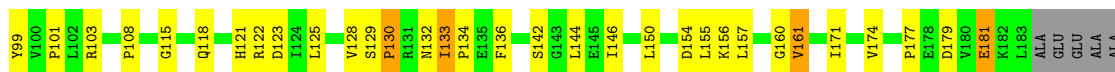
Chain RZ:  59% 25% • 11%



GLU

• Molecule 55: 50S ribosomal protein L25

Chain YZ:  55% 28% 5% 11%



ALA
GLU
VAL
ALA
GLU
PRO
VAL
LLE
LYS
LYS
GLY
GLU
GLU
GLU
GLU

• Molecule 56: CCPuro

Chain ZA:  67% 33%



• Molecule 56: CCPuro

Chain ZB:  67% 33%



4 Data and refinement statistics

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	213.36Å 451.70Å 607.63Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	146.15 – 3.12	Depositor
% Data completeness (in resolution range)	98.6 (146.15-3.12)	Depositor
R_{merge}	0.21	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.66 (at 3.13Å)	Xtriage
Refinement program	PHENIX 1.15_3459	Depositor
R, R_{free}	0.232 , 0.257	Depositor
Wilson B-factor (Å ²)	62.4	Xtriage
Anisotropy	0.211	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	298517	wwPDB-VP
Average B, all atoms (Å ²)	80.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.44% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, PPU, SF4, A3P, MG

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	QA	0.52	1/36324 (0.0%)	1.39	420/56690 (0.7%)
1	XA	0.52	1/36254 (0.0%)	1.39	416/56581 (0.7%)
2	QB	0.68	1/1942 (0.1%)	1.02	9/2619 (0.3%)
2	XB	0.75	4/1950 (0.2%)	1.01	10/2630 (0.4%)
3	QC	1.04	8/1629 (0.5%)	1.01	9/2195 (0.4%)
3	XC	0.60	1/1629 (0.1%)	0.87	6/2195 (0.3%)
4	QD	0.58	1/1733 (0.1%)	0.81	5/2318 (0.2%)
4	XD	0.62	1/1733 (0.1%)	0.84	4/2318 (0.2%)
5	QE	0.66	3/1171 (0.3%)	0.80	3/1576 (0.2%)
5	XE	0.51	0/1171	0.78	1/1576 (0.1%)
6	QF	0.52	0/856	0.73	1/1154 (0.1%)
6	XF	0.57	0/856	0.76	1/1154 (0.1%)
7	QG	0.62	1/1276 (0.1%)	0.93	4/1709 (0.2%)
7	XG	0.55	0/1276	0.88	6/1709 (0.4%)
8	QH	0.61	1/1128 (0.1%)	0.79	3/1517 (0.2%)
8	XH	0.55	0/1128	0.74	0/1517
9	QI	0.88	5/1029 (0.5%)	1.05	3/1379 (0.2%)
9	XI	0.73	2/1017 (0.2%)	1.01	6/1365 (0.4%)
10	QJ	0.82	0/814	1.24	11/1095 (1.0%)
10	XJ	0.82	5/790 (0.6%)	1.01	5/1063 (0.5%)
11	QK	0.83	4/900 (0.4%)	0.88	3/1213 (0.2%)
11	XK	0.51	1/879 (0.1%)	0.76	2/1187 (0.2%)
12	QL	0.59	1/991 (0.1%)	0.83	1/1327 (0.1%)
12	XL	0.65	1/972 (0.1%)	0.93	5/1301 (0.4%)
13	QM	1.62	19/965 (2.0%)	1.53	18/1292 (1.4%)
13	XM	0.55	0/956	0.93	2/1281 (0.2%)
14	QN	0.71	2/501 (0.4%)	0.95	1/664 (0.2%)
14	XN	0.65	0/501	0.93	1/664 (0.2%)
15	QO	0.58	0/745	0.78	1/992 (0.1%)
15	XO	0.71	1/740 (0.1%)	1.06	6/987 (0.6%)
16	QP	0.45	0/721	0.80	3/970 (0.3%)
16	XP	0.58	1/721 (0.1%)	0.74	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.48	0/847	0.75	0/1131
17	XQ	0.52	0/847	0.73	1/1131 (0.1%)
18	QR	0.62	1/579 (0.2%)	0.88	2/768 (0.3%)
18	XR	0.55	0/579	0.93	1/768 (0.1%)
19	QS	0.86	3/680 (0.4%)	1.02	1/915 (0.1%)
19	XS	0.54	0/680	0.91	1/915 (0.1%)
20	QT	0.58	1/765 (0.1%)	0.86	1/1007 (0.1%)
20	XT	0.80	3/765 (0.4%)	1.14	4/1007 (0.4%)
21	QU	0.61	0/221	0.89	0/288
21	XU	0.66	0/221	1.01	1/288 (0.3%)
22	QV	0.55	0/1832	1.43	23/2855 (0.8%)
22	QW	0.45	0/1832	1.41	26/2855 (0.9%)
22	XV	0.54	0/1832	1.36	10/2855 (0.4%)
22	XW	0.48	0/1832	1.38	24/2855 (0.8%)
23	QX	0.51	0/417	1.27	4/650 (0.6%)
23	XX	0.51	0/417	1.31	2/650 (0.3%)
24	QY	0.60	1/743 (0.1%)	0.86	1/1002 (0.1%)
24	QZ	0.64	0/743	1.02	2/1002 (0.2%)
24	XY	0.64	0/743	0.84	0/1002
24	XZ	0.36	0/743	0.57	0/1002
25	R0	0.51	0/652	0.82	1/867 (0.1%)
25	Y0	0.45	0/657	0.67	1/874 (0.1%)
26	R1	0.66	1/770 (0.1%)	1.01	4/1022 (0.4%)
26	Y1	0.60	0/770	0.84	1/1022 (0.1%)
27	R2	0.63	1/583 (0.2%)	0.84	3/771 (0.4%)
27	Y2	0.74	2/583 (0.3%)	1.09	4/771 (0.5%)
28	R3	0.56	0/474	0.78	1/635 (0.2%)
28	Y3	0.53	0/474	0.96	3/635 (0.5%)
29	R4	1.46	6/578 (1.0%)	1.20	7/776 (0.9%)
29	Y4	0.74	1/578 (0.2%)	1.19	5/776 (0.6%)
30	R5	0.59	2/473 (0.4%)	0.67	1/639 (0.2%)
30	Y5	0.67	1/473 (0.2%)	0.73	0/639
31	R6	0.62	0/460	0.67	0/613
31	Y6	0.96	1/460 (0.2%)	1.05	3/613 (0.5%)
32	R7	0.49	0/417	0.75	0/550
32	Y7	0.45	0/426	0.65	0/561
33	R8	0.63	1/525 (0.2%)	1.01	5/691 (0.7%)
33	Y8	0.92	3/525 (0.6%)	0.87	0/691
34	R9	0.95	3/310 (1.0%)	1.56	6/407 (1.5%)
34	Y9	0.47	0/310	0.75	0/407
35	RA	0.58	10/69739 (0.0%)	1.49	1148/108870 (1.1%)
35	YA	0.60	18/69419 (0.0%)	1.50	1151/108369 (1.1%)
36	RB	0.55	0/2928	1.50	43/4568 (0.9%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
36	YB	0.54	0/2928	1.49	44/4568 (1.0%)
37	RD	0.71	7/2165 (0.3%)	0.84	5/2919 (0.2%)
37	YD	0.56	2/2185 (0.1%)	0.73	0/2944
38	RE	0.66	5/1601 (0.3%)	0.88	3/2160 (0.1%)
38	YE	0.63	1/1596 (0.1%)	0.78	1/2153 (0.0%)
39	RF	0.60	1/1620 (0.1%)	0.80	6/2194 (0.3%)
39	YF	0.61	3/1620 (0.2%)	0.79	1/2194 (0.0%)
40	RG	0.75	5/1499 (0.3%)	1.05	6/2016 (0.3%)
40	YG	0.94	7/1499 (0.5%)	1.02	8/2016 (0.4%)
41	RH	1.16	10/1362 (0.7%)	1.23	17/1841 (0.9%)
41	YH	0.88	4/1362 (0.3%)	1.00	4/1841 (0.2%)
42	RI	1.21	14/1146 (1.2%)	1.13	8/1551 (0.5%)
42	YI	0.75	2/1151 (0.2%)	1.01	5/1558 (0.3%)
43	RN	0.59	0/1131	0.88	3/1525 (0.2%)
43	YN	0.57	0/1131	0.78	0/1525
44	RO	0.70	3/943 (0.3%)	0.88	4/1269 (0.3%)
44	YO	0.62	1/943 (0.1%)	0.80	1/1269 (0.1%)
45	RP	0.73	2/1162 (0.2%)	1.02	5/1544 (0.3%)
45	YP	0.53	0/1139	0.78	1/1514 (0.1%)
46	RQ	0.69	3/1128 (0.3%)	0.89	1/1508 (0.1%)
46	YQ	0.54	0/1143	0.78	1/1527 (0.1%)
47	RR	0.59	1/974 (0.1%)	0.76	0/1302
47	YR	0.53	0/974	0.81	1/1302 (0.1%)
48	RS	0.77	1/892 (0.1%)	1.10	7/1187 (0.6%)
48	YS	0.56	1/892 (0.1%)	0.86	2/1187 (0.2%)
49	RT	0.94	5/1155 (0.4%)	1.17	9/1542 (0.6%)
49	YT	0.71	3/1155 (0.3%)	0.89	1/1542 (0.1%)
50	RU	0.58	0/982	0.68	2/1306 (0.2%)
50	YU	0.66	2/982 (0.2%)	0.84	2/1306 (0.2%)
51	RV	0.63	0/790	0.83	1/1057 (0.1%)
51	YV	0.61	0/790	0.88	4/1057 (0.4%)
52	RW	0.55	1/911 (0.1%)	0.73	0/1220
52	YW	0.54	0/911	0.70	0/1220
53	RX	0.61	1/739 (0.1%)	0.70	1/993 (0.1%)
53	YX	0.59	0/739	0.70	1/993 (0.1%)
54	RY	0.71	3/831 (0.4%)	0.74	1/1108 (0.1%)
54	YY	0.61	1/831 (0.1%)	0.89	4/1108 (0.4%)
55	RZ	0.78	7/1493 (0.5%)	0.99	6/2026 (0.3%)
55	YZ	0.99	10/1493 (0.7%)	0.99	8/2026 (0.4%)
56	ZA	0.41	0/40	1.24	0/60
56	ZB	0.45	0/40	1.35	0/60
All	All	0.61	230/323268 (0.1%)	1.33	3631/483159 (0.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	QB	0	4
2	XB	0	2
3	QC	0	2
3	XC	0	1
4	XD	0	1
7	XG	0	1
10	QJ	0	1
10	XJ	0	2
12	XL	0	3
13	QM	0	2
14	QN	0	1
18	QR	0	1
18	XR	0	2
19	XS	0	1
27	Y2	0	3
28	R3	0	1
29	R4	0	1
29	Y4	0	3
34	R9	0	1
37	RD	0	1
38	RE	0	2
38	YE	0	1
40	YG	0	1
41	RH	0	3
41	YH	0	2
42	RI	0	3
42	YI	0	2
43	RN	0	1
45	RP	0	2
46	RQ	0	1
48	RS	0	1
49	RT	0	1
50	YU	0	1
55	RZ	0	1
All	All	0	56

All (230) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
29	R4	34	GLU	CB-CG	-22.72	1.08	1.52
13	QM	71	ARG	CZ-NH1	18.52	1.57	1.33
41	RH	18	GLU	CG-CD	-18.50	1.24	1.51
40	YG	112	PRO	N-CD	15.77	1.70	1.47
49	RT	3	ARG	CA-CB	15.24	1.87	1.53
3	QC	35	GLU	CD-OE2	15.15	1.42	1.25
13	QM	67	GLU	CA-CB	-14.55	1.22	1.53
41	RH	8	PRO	N-CA	13.84	1.70	1.47
13	QM	41	PRO	N-CA	13.75	1.70	1.47
42	RI	8	PRO	N-CA	13.73	1.70	1.47
48	RS	91	PRO	N-CD	-13.58	1.28	1.47
13	QM	10	PRO	N-CA	13.53	1.70	1.47
29	R4	41	PRO	N-CA	13.40	1.70	1.47
3	QC	38	ARG	NE-CZ	-13.34	1.15	1.33
41	YH	10	PRO	N-CA	13.32	1.69	1.47
29	R4	34	GLU	CG-CD	-13.30	1.32	1.51
42	RI	25	TYR	CB-CG	-13.14	1.31	1.51
40	YG	179	PRO	N-CA	13.14	1.69	1.47
55	YZ	14	LYS	CB-CG	12.96	1.87	1.52
31	Y6	14	THR	CB-CG2	-12.84	1.09	1.52
3	QC	38	ARG	CZ-NH1	12.58	1.49	1.33
3	QC	64	VAL	CB-CG2	-12.17	1.27	1.52
3	QC	38	ARG	CZ-NH2	12.17	1.48	1.33
13	QM	71	ARG	NE-CZ	12.15	1.48	1.33
55	YZ	15	PRO	N-CD	12.02	1.64	1.47
3	QC	35	GLU	CB-CG	11.94	1.74	1.52
13	QM	67	GLU	CB-CG	11.83	1.74	1.52
37	RD	169	GLU	CG-CD	-11.72	1.34	1.51
49	RT	3	ARG	CD-NE	11.36	1.65	1.46
41	RH	30	LYS	CE-NZ	-11.34	1.20	1.49
41	YH	52	VAL	CB-CG1	-11.02	1.29	1.52
41	RH	81	GLU	CG-CD	-10.85	1.35	1.51
11	QK	20	TYR	CE1-CZ	-10.40	1.25	1.38
13	QM	71	ARG	CZ-NH2	-10.38	1.19	1.33
2	XB	137	ARG	CG-CD	10.35	1.77	1.51
5	QE	90	VAL	CB-CG1	10.31	1.74	1.52
41	RH	80	SER	CA-CB	10.05	1.68	1.52
12	XL	48	PRO	N-CD	-9.97	1.33	1.47
13	QM	3	ARG	CZ-NH2	9.91	1.46	1.33
35	RA	330	A	N9-C4	-9.84	1.31	1.37
55	YZ	14	LYS	CA-CB	9.82	1.75	1.53
19	QS	52	TYR	CE2-CZ	-9.73	1.25	1.38
42	RI	23	PRO	C-N	9.71	1.50	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	RT	3	ARG	CG-CD	9.71	1.76	1.51
13	QM	67	GLU	CD-OE2	-9.66	1.15	1.25
13	QM	67	GLU	CD-OE1	9.60	1.36	1.25
2	XB	137	ARG	CB-CG	9.55	1.78	1.52
9	QI	21	PRO	N-CD	-9.55	1.34	1.47
42	RI	25	TYR	CD2-CE2	-9.55	1.25	1.39
29	R4	34	GLU	CD-OE2	-9.42	1.15	1.25
45	RP	8	PRO	N-CD	-9.38	1.34	1.47
38	YE	21	VAL	CB-CG2	-9.19	1.33	1.52
33	Y8	34	TRP	CZ3-CH2	9.17	1.54	1.40
44	RO	9	GLU	CB-CG	-9.12	1.34	1.52
10	XJ	24	VAL	CB-CG1	-9.02	1.33	1.52
40	YG	111	LEU	C-N	8.97	1.51	1.34
55	YZ	94	GLU	C-N	8.96	1.51	1.34
42	RI	110	ASP	C-N	8.74	1.50	1.34
55	YZ	133	ILE	C-N	8.72	1.50	1.34
42	RI	27	ARG	CG-CD	8.71	1.73	1.51
29	Y4	40	HIS	C-N	8.71	1.50	1.34
54	YY	99	CYS	CB-SG	-8.65	1.67	1.82
55	RZ	161	VAL	CB-CG2	-8.54	1.34	1.52
46	RQ	109	VAL	CB-CG1	-8.51	1.34	1.52
9	QI	105	ASP	CB-CG	-8.48	1.33	1.51
37	RD	131	LEU	C-N	8.47	1.50	1.34
16	XP	20	VAL	CB-CG2	-8.39	1.35	1.52
49	YT	134	GLU	CB-CG	8.36	1.68	1.52
55	YZ	14	LYS	CD-CE	8.35	1.72	1.51
11	QK	20	TYR	CD1-CE1	-8.27	1.26	1.39
40	YG	83	ARG	CG-CD	8.24	1.72	1.51
40	YG	5	VAL	CB-CG1	-8.20	1.35	1.52
55	RZ	161	VAL	CB-CG1	-8.07	1.35	1.52
19	QS	52	TYR	CG-CD2	-8.03	1.28	1.39
55	YZ	130	PRO	N-CD	-8.01	1.36	1.47
40	RG	113	ARG	CD-NE	7.88	1.59	1.46
13	QM	67	GLU	C-O	7.75	1.38	1.23
10	XJ	72	VAL	CB-CG1	-7.74	1.36	1.52
33	Y8	34	TRP	CG-CD1	7.63	1.47	1.36
30	Y5	36	CYS	CB-SG	-7.62	1.69	1.82
42	RI	25	TYR	CD1-CE1	-7.61	1.27	1.39
8	QH	34	GLU	CB-CG	7.60	1.66	1.52
18	QR	46	GLU	CB-CG	7.60	1.66	1.52
9	QI	98	PRO	N-CD	-7.55	1.37	1.47
42	YI	142	VAL	CB-CG2	-7.50	1.37	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	YA	1913	A	C6-N6	-7.47	1.27	1.33
35	RA	676	A	N9-C4	-7.39	1.33	1.37
20	XT	57	ARG	CG-CD	-7.37	1.33	1.51
35	YA	2346	A	N9-C4	-7.37	1.33	1.37
35	RA	945	A	N9-C4	-7.31	1.33	1.37
13	QM	71	ARG	CD-NE	-7.29	1.34	1.46
39	YF	173	VAL	CB-CG2	-7.29	1.37	1.52
13	QM	3	ARG	CG-CD	7.25	1.70	1.51
35	YA	1913	A	C5-C4	-7.20	1.33	1.38
5	QE	79	GLU	CG-CD	-7.19	1.41	1.51
50	YU	92	ARG	CG-CD	-7.16	1.34	1.51
46	RQ	48	GLU	CD-OE2	-7.08	1.17	1.25
7	QG	71	PRO	N-CD	-7.07	1.38	1.47
5	QE	137	GLU	CB-CG	7.05	1.65	1.52
55	RZ	8	TYR	CG-CD1	-7.04	1.29	1.39
53	RX	83	VAL	CB-CG2	-7.03	1.38	1.52
42	RI	27	ARG	NE-CZ	6.99	1.42	1.33
9	XI	90	PRO	N-CD	-6.95	1.38	1.47
41	RH	81	GLU	CB-CG	6.93	1.65	1.52
40	RG	48	GLU	CB-CG	6.92	1.65	1.52
42	RI	27	ARG	CZ-NH1	-6.92	1.24	1.33
3	QC	35	GLU	CG-CD	6.91	1.62	1.51
15	XO	76	GLU	CB-CG	6.87	1.65	1.52
46	RQ	48	GLU	CD-OE1	-6.87	1.18	1.25
34	R9	11	CYS	CB-SG	-6.84	1.70	1.82
11	QK	20	TYR	CZ-OH	-6.83	1.26	1.37
35	RA	74	A	N9-C4	-6.69	1.33	1.37
35	YA	2287	A	N9-C4	-6.65	1.33	1.37
35	RA	1143	A	N9-C4	-6.62	1.33	1.37
49	YT	134	GLU	CG-CD	6.62	1.61	1.51
49	YT	137	LYS	CD-CE	-6.55	1.34	1.51
42	RI	24	GLY	N-CA	-6.54	1.36	1.46
41	YH	44	VAL	CB-CG1	-6.53	1.39	1.52
9	XI	98	PRO	N-CD	-6.52	1.38	1.47
37	RD	28	GLU	CB-CG	6.50	1.64	1.52
54	RY	99	CYS	CB-SG	-6.50	1.71	1.82
39	RF	183	VAL	CB-CG1	-6.47	1.39	1.52
24	QY	47	PRO	N-CD	-6.46	1.38	1.47
2	XB	219	VAL	CB-CG1	-6.45	1.39	1.52
3	QC	64	VAL	CB-CG1	-6.42	1.39	1.52
38	RE	104	VAL	CB-CG1	-6.41	1.39	1.52
27	R2	12	GLU	CB-CG	6.36	1.64	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	QI	17	VAL	CB-CG2	-6.30	1.39	1.52
26	R1	86	SER	C-N	6.27	1.46	1.34
40	RG	113	ARG	CZ-NH1	6.25	1.41	1.33
35	YA	2518	A	N9-C4	-6.25	1.34	1.37
2	QB	129	GLU	CB-CG	6.19	1.64	1.52
34	R9	4	ARG	CZ-NH1	-6.19	1.25	1.33
35	YA	783	A	N9-C4	-6.19	1.34	1.37
14	QN	43	CYS	CB-SG	-6.16	1.71	1.82
35	YA	2430	A	N9-C4	-6.14	1.34	1.37
13	QM	3	ARG	CD-NE	-6.13	1.36	1.46
40	RG	113	ARG	CG-CD	6.12	1.67	1.51
42	RI	27	ARG	CB-CG	6.12	1.69	1.52
55	YZ	161	VAL	CB-CG2	-6.11	1.40	1.52
19	QS	66	MET	CA-CB	6.08	1.67	1.53
12	QL	48	PRO	N-CD	-6.08	1.39	1.47
55	RZ	8	TYR	CE1-CZ	-6.08	1.30	1.38
13	QM	9	ILE	C-N	6.04	1.45	1.34
35	RA	2430	A	N9-C4	-6.04	1.34	1.37
41	RH	7	LEU	C-N	6.03	1.45	1.34
13	QM	8	GLU	CB-CG	-6.02	1.40	1.52
37	RD	132	PRO	N-CD	5.96	1.56	1.47
14	QN	27	CYS	CB-SG	-5.95	1.72	1.81
29	R4	40	HIS	C-N	5.94	1.45	1.34
41	YH	9	ILE	C-N	5.94	1.45	1.34
42	RI	7	GLU	C-N	5.93	1.45	1.34
55	RZ	95	PRO	N-CD	5.92	1.56	1.47
37	RD	171	ASP	CB-CG	-5.91	1.39	1.51
13	QM	40	ASN	C-N	5.88	1.45	1.34
39	YF	154	VAL	CB-CG2	-5.87	1.40	1.52
10	XJ	5	ARG	CG-CD	-5.86	1.37	1.51
44	YO	10	VAL	CB-CG2	-5.86	1.40	1.52
35	YA	1786	A	N9-C4	-5.82	1.34	1.37
49	RT	1	MET	SD-CE	-5.79	1.45	1.77
42	YI	103	ARG	CB-CG	5.77	1.68	1.52
40	RG	48	GLU	CG-CD	5.76	1.60	1.51
37	RD	169	GLU	CD-OE2	-5.76	1.19	1.25
4	QD	73	ARG	CG-CD	5.75	1.66	1.51
41	RH	116	GLU	CB-CG	5.72	1.63	1.52
35	YA	74	A	N9-C4	-5.71	1.34	1.37
35	YA	330	A	N9-C4	-5.71	1.34	1.37
35	YA	2392	A	N7-C5	-5.71	1.35	1.39
35	YA	1786	A	C5-C6	-5.70	1.35	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	RA	528	A	N9-C4	-5.68	1.34	1.37
13	QM	60	VAL	CB-CG1	-5.67	1.41	1.52
33	Y8	34	TRP	CE2-CZ2	5.66	1.49	1.39
39	YF	200	GLU	CB-CG	5.66	1.62	1.52
41	RH	58	GLU	CB-CG	5.64	1.62	1.52
1	XA	974	A	C6-N1	-5.64	1.31	1.35
35	YA	783	A	C5-C6	-5.63	1.35	1.41
27	Y2	69	ARG	CZ-NH1	-5.63	1.25	1.33
20	QT	91	LEU	CG-CD2	-5.62	1.31	1.51
35	RA	783	A	N9-C4	-5.60	1.34	1.37
44	RO	108	GLU	CB-CG	5.60	1.62	1.52
35	RA	586	A	N9-C4	-5.56	1.34	1.37
40	YG	178	PHE	C-N	5.55	1.44	1.34
35	YA	1913	A	C5-C6	-5.51	1.36	1.41
13	QM	90	LEU	CG-CD2	-5.48	1.31	1.51
47	RR	43	GLU	CB-CG	5.47	1.62	1.52
35	YA	74	A	N7-C5	-5.45	1.35	1.39
55	RZ	6	LYS	CE-NZ	-5.43	1.35	1.49
11	QK	47	VAL	CB-CG2	-5.43	1.41	1.52
11	XK	12	ARG	CG-CD	5.42	1.65	1.51
20	XT	57	ARG	CB-CG	-5.42	1.38	1.52
37	YD	28	GLU	CB-CG	5.41	1.62	1.52
27	Y2	69	ARG	NE-CZ	5.41	1.40	1.33
37	RD	169	GLU	CB-CG	-5.40	1.41	1.52
55	RZ	169	GLU	CB-CG	5.40	1.62	1.52
38	RE	98	PRO	N-CD	5.38	1.55	1.47
10	XJ	49	VAL	CB-CG2	-5.38	1.41	1.52
41	RH	26	VAL	CB-CG1	-5.38	1.41	1.52
2	XB	93	VAL	CB-CG2	-5.38	1.41	1.52
52	RW	78	GLU	CB-CG	5.35	1.62	1.52
40	YG	83	ARG	CB-CG	5.35	1.67	1.52
1	QA	872	A	N9-C4	-5.34	1.34	1.37
48	YS	75	GLU	CB-CG	5.32	1.62	1.52
30	R5	48	GLU	CB-CG	5.32	1.62	1.52
35	YA	71	A	N9-C4	-5.29	1.34	1.37
54	RY	49	VAL	CB-CG2	-5.29	1.41	1.52
30	R5	49	CYS	CB-SG	-5.27	1.73	1.81
54	RY	102	CYS	CB-SG	-5.26	1.73	1.81
42	RI	23	PRO	CA-C	5.25	1.63	1.52
29	R4	36	CYS	CB-SG	-5.24	1.73	1.81
34	R9	27	CYS	CB-SG	-5.21	1.73	1.81
4	XD	179	GLU	CD-OE1	-5.18	1.20	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	YA	783	A	N7-C5	-5.17	1.36	1.39
50	YU	112	ARG	CG-CD	-5.16	1.39	1.51
35	YA	74	A	C5-C6	-5.15	1.36	1.41
38	RE	27	LEU	CG-CD1	-5.13	1.32	1.51
37	YD	28	GLU	CG-CD	5.13	1.59	1.51
45	RP	95	VAL	CB-CG2	-5.12	1.42	1.52
42	RI	118	LYS	CB-CG	5.12	1.66	1.52
44	RO	107	ARG	CG-CD	5.11	1.64	1.51
35	RA	945	A	C5-C6	-5.09	1.36	1.41
33	R8	14	VAL	CB-CG1	-5.08	1.42	1.52
10	XJ	83	GLU	CB-CG	5.07	1.61	1.52
9	QI	107	ARG	CD-NE	5.06	1.55	1.46
20	XT	45	GLN	CB-CG	5.06	1.66	1.52
38	RE	58	ARG	CA-C	5.05	1.66	1.52
49	RT	3	ARG	N-CA	5.04	1.56	1.46
55	YZ	181	GLU	CB-CG	5.04	1.61	1.52
55	YZ	58	VAL	CB-CG1	-5.01	1.42	1.52
3	XC	99	VAL	CB-CG2	-5.00	1.42	1.52
38	RE	74	PRO	N-CD	-5.00	1.40	1.47

All (3631) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1913	A	C5-C6-N6	-21.10	106.82	123.70
13	QM	90	LEU	CB-CG-CD2	-20.03	76.94	111.00
35	RA	309	G	O5'-P-OP1	-19.70	87.06	110.70
49	RT	3	ARG	CA-CB-CG	17.17	151.18	113.40
3	QC	38	ARG	NE-CZ-NH2	-15.93	112.34	120.30
35	YA	783	A	N1-C6-N6	15.73	128.04	118.60
35	YA	1913	A	C5-C6-N1	15.38	125.39	117.70
35	YA	1913	A	N1-C6-N6	15.30	127.78	118.60
34	R9	4	ARG	CD-NE-CZ	15.20	144.88	123.60
49	RT	1	MET	CG-SD-CE	-14.60	76.83	100.20
1	XA	974	A	N1-C6-N6	-14.39	109.97	118.60
35	RA	1513	C	N3-C2-O2	-14.21	111.96	121.90
35	YA	74	A	N1-C6-N6	14.19	127.11	118.60
1	QA	1158	C	N1-C2-O2	13.87	127.22	118.90
35	YA	1786	A	N1-C6-N6	13.40	126.64	118.60
35	RA	2873	A	N7-C8-N9	13.21	120.40	113.80
35	YA	1913	A	N9-C4-C5	-13.18	100.53	105.80
35	YA	2392	A	N1-C6-N6	13.10	126.46	118.60
35	RA	1513	C	N1-C2-O2	13.04	126.72	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2584	U	N3-C2-O2	-13.02	113.09	122.20
35	YA	907	U	OP1-P-O3'	-12.75	77.15	105.20
31	Y6	28	ARG	CG-CD-NE	-12.71	85.12	111.80
2	QB	155	LEU	CA-CB-CG	12.68	144.45	115.30
35	YA	1332	G	N7-C8-N9	12.52	119.36	113.10
35	YA	955	C	C5-C6-N1	12.50	127.25	121.00
13	QM	3	ARG	CD-NE-CZ	12.32	140.85	123.60
1	QA	90	C	N1-C2-O2	12.32	126.29	118.90
36	RB	117	G	C4-C5-N7	12.23	115.69	110.80
35	YA	1913	A	C8-N9-C4	12.19	110.68	105.80
35	YA	2430	A	C2-N3-C4	-12.09	104.56	110.60
35	RA	676	A	N1-C6-N6	12.07	125.84	118.60
13	QM	3	ARG	CG-CD-NE	11.93	136.86	111.80
28	Y3	35	ARG	CG-CD-NE	-11.92	86.77	111.80
35	YA	530	G	N9-C4-C5	-11.86	100.66	105.40
35	YA	955	C	C6-N1-C2	-11.86	115.56	120.30
36	RB	117	G	C5-C6-O6	-11.72	121.57	128.60
35	YA	1786	A	C5-N7-C8	-11.71	98.05	103.90
36	RB	31	C	C2-N1-C1'	11.67	131.64	118.80
35	RA	2602	A	N1-C6-N6	11.64	125.58	118.60
35	YA	1616	A	N1-C6-N6	11.58	125.55	118.60
35	YA	265	A	O4'-C1'-N9	11.57	117.46	108.20
35	RA	1786	A	C5-N7-C8	-11.54	98.13	103.90
35	RA	676	A	C5-N7-C8	-11.46	98.17	103.90
35	YA	613	U	C2-N1-C1'	11.42	131.40	117.70
1	QA	1158	C	N3-C2-O2	-11.36	113.94	121.90
1	QA	90	C	C6-N1-C2	-11.34	115.77	120.30
35	RA	1021	A	N7-C8-N9	11.33	119.46	113.80
36	RB	117	G	N9-C4-C5	-11.20	100.92	105.40
1	XA	328	C	N1-C2-O2	11.17	125.60	118.90
35	YA	783	A	C5-N7-C8	-11.12	98.34	103.90
35	RA	2688	U	N3-C2-O2	-11.06	114.46	122.20
35	YA	530	G	N1-C6-O6	11.05	126.53	119.90
3	QC	35	GLU	OE1-CD-OE2	-11.05	110.04	123.30
27	Y2	69	ARG	NE-CZ-NH2	-11.03	114.79	120.30
35	YA	2346	A	N1-C6-N6	10.91	125.15	118.60
35	YA	783	A	N7-C8-N9	10.83	119.22	113.80
35	RA	856	C	C6-N1-C2	-10.81	115.97	120.30
13	QM	90	LEU	CB-CG-CD1	10.80	129.36	111.00
35	RA	2312	U	C5-C6-N1	10.78	128.09	122.70
35	RA	676	A	N7-C8-N9	10.74	119.17	113.80
1	QA	1322	C	N1-C2-O2	10.72	125.33	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	754	C	C2-N1-C1'	10.70	130.57	118.80
35	YA	783	A	C8-N9-C4	-10.70	101.52	105.80
1	XA	359	U	C5-C6-N1	10.66	128.03	122.70
35	YA	828	U	N3-C2-O2	-10.65	114.75	122.20
35	YA	2688	U	N3-C2-O2	-10.65	114.75	122.20
35	YA	1786	A	C4-C5-N7	10.64	116.02	110.70
35	YA	74	A	C5-N7-C8	-10.63	98.59	103.90
40	RG	173	LEU	CA-CB-CG	10.63	139.74	115.30
35	RA	527	C	N3-C2-O2	-10.60	114.48	121.90
1	XA	975	A	N1-C6-N6	10.56	124.93	118.60
35	RA	613	U	N3-C2-O2	-10.55	114.81	122.20
35	RA	837	C	C6-N1-C2	-10.50	116.10	120.30
1	QA	1125	U	C4-C5-C6	10.46	125.97	119.70
36	RB	31	C	N1-C2-O2	10.45	125.17	118.90
35	RA	856	C	C5-C6-N1	10.43	126.21	121.00
14	XN	12	ARG	CG-CD-NE	-10.41	89.94	111.80
35	YA	878	A	O5'-P-OP1	10.41	123.19	110.70
35	YA	621	A	C5-N7-C8	-10.40	98.70	103.90
1	QA	268	C	C6-N1-C2	-10.40	116.14	120.30
35	YA	2403	C	C6-N1-C2	-10.38	116.15	120.30
35	YA	74	A	N7-C8-N9	10.37	118.99	113.80
35	RA	530	G	N1-C6-O6	10.37	126.12	119.90
35	YA	2508	G	N1-C6-O6	10.33	126.10	119.90
35	YA	621	A	N7-C8-N9	10.32	118.96	113.80
35	YA	909	A	O5'-P-OP2	-10.31	96.42	105.70
1	QA	1028	C	C2-N1-C1'	10.28	130.11	118.80
35	RA	1407	C	C6-N1-C2	-10.27	116.19	120.30
35	RA	708	C	C6-N1-C2	-10.26	116.19	120.30
35	YA	1913	A	C4-C5-N7	10.25	115.83	110.70
35	RA	1786	A	N7-C8-N9	10.24	118.92	113.80
1	QA	79	G	C2-N3-C4	10.21	117.00	111.90
1	QA	1158	C	C2-N1-C1'	10.19	130.01	118.80
35	YA	828	U	C5-C4-O4	10.18	132.01	125.90
1	QA	1523	G	O5'-P-OP1	-10.17	96.54	105.70
1	XA	4	U	C2-N1-C1'	10.17	129.91	117.70
34	R9	1	MET	CG-SD-CE	10.17	116.47	100.20
35	YA	1342	A	C2-N3-C4	-10.11	105.55	110.60
35	RA	528	A	C2-N3-C4	-10.10	105.55	110.60
35	YA	139	G	N1-C6-O6	-10.10	113.84	119.90
36	YB	31	C	C2-N1-C1'	10.09	129.90	118.80
1	XA	1158	C	C2-N1-C1'	10.09	129.90	118.80
1	QA	328	C	C2-N1-C1'	10.08	129.89	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2474	C	C2-N1-C1'	10.08	129.89	118.80
35	YA	2584	U	N3-C2-O2	-10.07	115.15	122.20
35	RA	74	A	C2-N3-C4	-10.05	105.58	110.60
35	RA	837	C	C5-C6-N1	10.05	126.02	121.00
35	RA	330	A	C2-N3-C4	-10.03	105.59	110.60
40	RG	106	LEU	CA-CB-CG	10.01	138.33	115.30
42	RI	27	ARG	CD-NE-CZ	9.99	137.59	123.60
35	RA	1407	C	C2-N1-C1'	9.95	129.74	118.80
35	YA	624	C	C6-N1-C2	-9.93	116.33	120.30
13	QM	66	LEU	N-CA-C	-9.92	84.21	111.00
35	RA	2474	C	C6-N1-C2	-9.91	116.34	120.30
35	RA	676	A	C2-N3-C4	-9.90	105.65	110.60
35	YA	74	A	C8-N9-C4	-9.90	101.84	105.80
35	RA	878	A	O5'-P-OP1	9.89	122.57	110.70
35	YA	530	G	C5-C6-O6	-9.88	122.67	128.60
35	YA	692	C	C6-N1-C2	-9.88	116.35	120.30
1	QA	79	G	N1-C6-O6	-9.87	113.98	119.90
35	RA	945	A	N1-C6-N6	9.86	124.52	118.60
1	QA	1301	U	C2-N1-C1'	9.86	129.53	117.70
35	YA	856	C	C6-N1-C2	-9.83	116.37	120.30
29	R4	34	GLU	CG-CD-OE2	-9.82	98.66	118.30
35	RA	1786	A	C4-C5-N7	9.81	115.61	110.70
35	RA	783	A	C5-N7-C8	-9.78	99.01	103.90
48	RS	20	ARG	CG-CD-NE	-9.78	91.27	111.80
35	RA	1021	A	C5-N7-C8	-9.76	99.02	103.90
35	RA	2873	A	C5-N7-C8	-9.75	99.02	103.90
35	RA	1313	U	C2-N1-C1'	9.72	129.36	117.70
1	XA	1502	A	N7-C8-N9	9.71	118.66	113.80
35	RA	530	G	C5-C6-O6	-9.71	122.77	128.60
35	RA	1021	A	C8-N9-C4	-9.68	101.93	105.80
35	YA	140	A	N7-C8-N9	9.68	118.64	113.80
1	QA	1301	U	C5-C6-N1	9.67	127.53	122.70
35	RA	1143	A	C2-N3-C4	-9.65	105.78	110.60
34	R9	4	ARG	NE-CZ-NH1	-9.65	115.48	120.30
35	RA	1616	A	C5-N7-C8	-9.64	99.08	103.90
1	QA	328	C	N1-C2-O2	9.63	124.68	118.90
35	YA	52	A	N1-C6-N6	9.63	124.38	118.60
35	YA	1332	G	C5-N7-C8	-9.62	99.49	104.30
1	XA	36	C	C6-N1-C2	-9.61	116.46	120.30
15	XO	88	ARG	CG-CD-NE	-9.59	91.66	111.80
35	YA	621	A	N1-C6-N6	9.57	124.34	118.60
35	YA	1332	G	C8-N9-C4	-9.57	102.57	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	RB	117	G	N1-C6-O6	9.55	125.63	119.90
35	YA	1698	A	N1-C6-N6	9.51	124.31	118.60
35	RA	774	A	C2-N3-C4	-9.49	105.85	110.60
15	XO	88	ARG	NE-CZ-NH2	-9.46	115.57	120.30
35	YA	71	A	N1-C6-N6	9.45	124.27	118.60
1	XA	1145	C	N1-C2-O2	9.42	124.55	118.90
35	YA	1407	C	C6-N1-C2	-9.39	116.54	120.30
1	XA	974	A	C5-C6-N1	9.38	122.39	117.70
35	YA	2430	A	N1-C6-N6	9.34	124.20	118.60
35	YA	1913	A	C6-N1-C2	-9.34	113.00	118.60
35	RA	2094	G	C6-N1-C2	-9.33	119.50	125.10
35	RA	783	A	N1-C6-N6	9.33	124.20	118.60
1	QA	1147	C	N1-C2-O2	9.32	124.49	118.90
34	R9	10	ILE	C-N-CA	9.32	145.00	121.70
5	QE	81	GLU	OE1-CD-OE2	-9.30	112.14	123.30
35	YA	1678	G	C5-N7-C8	-9.29	99.65	104.30
35	YA	758	C	C6-N1-C2	-9.28	116.59	120.30
35	YA	1678	G	C4-C5-N7	9.28	114.51	110.80
35	YA	1313	U	C2-N1-C1'	9.27	128.82	117.70
35	RA	1513	C	N3-C4-N4	9.25	124.47	118.00
1	XA	1502	A	C5-N7-C8	-9.23	99.29	103.90
14	QN	26	ARG	CG-CD-NE	9.22	131.16	111.80
1	QA	90	C	N3-C2-O2	-9.17	115.48	121.90
35	YA	2584	U	C2-N1-C1'	9.14	128.67	117.70
35	YA	1881	C	C5-C6-N1	9.13	125.57	121.00
1	QA	999	U	C2-N1-C1'	9.13	128.65	117.70
1	XA	1301	U	C2-N1-C1'	9.12	128.65	117.70
36	YB	31	C	N1-C2-O2	9.12	124.37	118.90
40	YG	112	PRO	CA-N-CD	-9.12	98.74	111.50
35	YA	527	C	C6-N1-C2	-9.09	116.66	120.30
35	RA	1616	A	N7-C8-N9	9.09	118.34	113.80
35	YA	1210	A	N1-C6-N6	9.06	124.04	118.60
36	YB	27	C	C6-N1-C2	-9.06	116.68	120.30
35	YA	530	G	C4-C5-N7	9.05	114.42	110.80
1	QA	1066	C	C2-N1-C1'	9.04	128.75	118.80
20	XT	10	LEU	CA-CB-CG	9.04	136.09	115.30
1	QA	1028(B)	C	C6-N1-C2	-9.01	116.70	120.30
35	RA	2602	A	C4-C5-N7	8.99	115.19	110.70
35	RA	270(U)	C	N1-C2-O2	8.98	124.29	118.90
35	RA	1180	C	C6-N1-C2	-8.98	116.71	120.30
35	RA	1544	C	C2-N1-C1'	8.96	128.66	118.80
35	YA	1407	C	C2-N1-C1'	8.95	128.65	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1786	A	N7-C8-N9	8.91	118.25	113.80
35	RA	1678	G	C8-N9-C4	-8.85	102.86	106.40
35	YA	2748	A	N7-C8-N9	8.85	118.22	113.80
35	YA	2688	U	C5-C4-O4	8.84	131.20	125.90
35	YA	527	C	N3-C2-O2	-8.83	115.72	121.90
1	QA	1301	U	N1-C2-O2	8.83	128.98	122.80
1	XA	328	C	C2-N1-C1'	8.83	128.51	118.80
35	YA	2392	A	N7-C8-N9	8.82	118.21	113.80
35	YA	2579	C	C6-N1-C2	-8.81	116.78	120.30
35	RA	527	C	N1-C2-O2	8.80	124.18	118.90
35	RA	2873	A	C8-N9-C4	-8.80	102.28	105.80
35	YA	624	C	C5-C6-N1	8.79	125.39	121.00
35	YA	783	A	C5-C6-N6	-8.78	116.67	123.70
35	RA	2688	U	C5-C4-O4	8.78	131.17	125.90
35	YA	1332	G	C6-C5-N7	-8.78	125.13	130.40
1	QA	591	U	O5'-P-OP1	-8.78	97.80	105.70
35	RA	1152	C	C6-N1-C2	-8.78	116.79	120.30
35	RA	1513	C	C6-N1-C2	-8.78	116.79	120.30
35	RA	783	A	N7-C8-N9	8.77	118.18	113.80
35	YA	1968	G	C5-C6-O6	-8.76	123.34	128.60
35	YA	74	A	C2-N3-C4	-8.75	106.22	110.60
1	QA	1066	C	N1-C2-O2	8.75	124.15	118.90
27	Y2	14	ARG	CG-CD-NE	8.74	130.16	111.80
35	YA	140	A	C8-N9-C4	-8.74	102.30	105.80
18	QR	46	GLU	CB-CA-C	-8.73	92.94	110.40
35	YA	2346	A	C5-N7-C8	-8.72	99.54	103.90
3	XC	126	ARG	CG-CD-NE	8.72	130.11	111.80
1	QA	1066	C	C5-C6-N1	8.72	125.36	121.00
36	YB	47	C	N1-C2-O2	8.72	124.13	118.90
35	YA	621	A	C8-N9-C4	-8.72	102.31	105.80
1	XA	980	C	C2-N1-C1'	8.71	128.38	118.80
1	XA	1086	U	N1-C2-O2	8.71	128.89	122.80
35	YA	1950	G	N7-C8-N9	8.71	117.45	113.10
35	RA	1930	G	P-O3'-C3'	8.70	130.15	119.70
1	QA	999	U	OP1-P-O3'	8.70	124.34	105.20
35	YA	1180	C	C2-N1-C1'	8.70	128.37	118.80
35	RA	676	A	C5-C6-N1	-8.69	113.35	117.70
29	Y4	61	ARG	CG-CD-NE	8.69	130.05	111.80
29	R4	41	PRO	CA-N-CD	-8.67	99.36	111.50
1	XA	23	C	C6-N1-C2	-8.67	116.83	120.30
35	RA	2477	C	N1-C2-O2	8.64	124.08	118.90
1	XA	58	C	C6-N1-C2	-8.64	116.84	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2827	C	C2-N1-C1'	8.62	128.28	118.80
35	YA	2873	A	N7-C8-N9	8.61	118.11	113.80
35	RA	2477	C	C2-N1-C1'	8.60	128.26	118.80
35	YA	2505	G	C5-C6-O6	8.60	133.76	128.60
35	RA	330	A	N3-C4-C5	8.59	132.81	126.80
35	YA	2430	A	C5-C6-N1	-8.59	113.41	117.70
11	XK	12	ARG	CG-CD-NE	8.58	129.83	111.80
35	RA	2094	G	N3-C2-N2	-8.58	113.89	119.90
35	RA	1881	C	C6-N1-C2	-8.58	116.87	120.30
35	YA	2456	C	C6-N1-C2	-8.58	116.87	120.30
22	QW	13	C	C2-N1-C1'	8.56	128.22	118.80
35	RA	2205	C	C6-N1-C2	-8.56	116.88	120.30
35	RA	2559	C	C6-N1-C2	-8.56	116.88	120.30
35	YA	2392	A	C6-C5-N7	-8.55	126.31	132.30
1	QA	754	C	C2-N1-C1'	8.54	128.19	118.80
35	YA	708	C	C2-N1-C1'	8.53	128.18	118.80
1	QA	1347	G	C8-N9-C1'	-8.52	115.92	127.00
35	RA	69	C	C2-N1-C1'	8.52	128.17	118.80
35	YA	774	A	C2-N3-C4	-8.52	106.34	110.60
1	XA	971	G	C8-N9-C4	8.51	109.80	106.40
35	RA	2287	A	C8-N9-C4	8.50	109.20	105.80
35	YA	530	G	C8-N9-C4	8.49	109.80	106.40
35	YA	2712	U	O4'-C1'-N1	8.49	114.99	108.20
36	RB	3	C	N1-C2-O2	8.48	123.99	118.90
35	RA	74	A	N1-C6-N6	8.47	123.68	118.60
35	YA	1332	G	C4-C5-N7	8.47	114.19	110.80
35	RA	2602	A	C5-N7-C8	-8.46	99.67	103.90
35	RA	2826	A	N1-C6-N6	8.46	123.68	118.60
35	RA	613	U	N1-C2-O2	8.46	128.72	122.80
35	YA	140	A	C5-N7-C8	-8.46	99.67	103.90
1	QA	90	C	N3-C4-N4	8.46	123.92	118.00
35	RA	2584	U	N1-C2-N3	8.46	119.97	114.90
35	RA	330	A	C5-N7-C8	-8.45	99.68	103.90
35	RA	1143	A	N1-C6-N6	8.43	123.66	118.60
35	YA	828	U	N1-C2-O2	8.43	128.70	122.80
35	YA	2602	A	C5-N7-C8	-8.43	99.69	103.90
35	RA	2474	C	N1-C2-O2	8.42	123.95	118.90
36	RB	27	C	N1-C2-O2	8.41	123.95	118.90
35	YA	527	C	C2-N1-C1'	8.41	128.05	118.80
35	YA	1956	U	N3-C2-O2	-8.41	116.31	122.20
1	QA	328	C	C5-C6-N1	8.40	125.20	121.00
1	XA	1502	A	N1-C6-N6	8.39	123.63	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	603	A	N1-C6-N6	8.39	123.63	118.60
35	RA	2726	U	C2-N1-C1'	8.38	127.76	117.70
35	YA	1616	A	C5-N7-C8	-8.38	99.71	103.90
1	QA	739	C	C6-N1-C2	-8.38	116.95	120.30
35	YA	1311	G	C8-N9-C1'	-8.38	116.11	127.00
35	RA	1480	G	C5-C6-O6	8.37	133.62	128.60
1	QA	664	G	N1-C6-O6	-8.37	114.88	119.90
4	QD	73	ARG	CG-CD-NE	8.37	129.37	111.80
35	YA	895	U	C2-N1-C1'	8.37	127.74	117.70
35	YA	2167	U	C2-N1-C1'	8.37	127.74	117.70
35	YA	1950	G	C8-N9-C4	-8.36	103.06	106.40
35	RA	309	G	C8-N9-C1'	8.34	137.85	127.00
35	RA	1204	A	O4'-C1'-N9	8.34	114.87	108.20
1	QA	1347	G	C4-N9-C1'	8.34	137.34	126.50
1	QA	1240	U	C5-C6-N1	-8.33	118.53	122.70
35	RA	2726	U	C5-C4-O4	8.33	130.90	125.90
35	RA	47	C	C6-N1-C2	-8.32	116.97	120.30
35	RA	1774	C	N1-C2-O2	8.31	123.89	118.90
1	QA	90	C	C2-N3-C4	8.31	124.05	119.90
35	RA	708	C	C2-N1-C1'	8.30	127.94	118.80
35	RA	2724	C	N3-C4-C5	-8.30	118.58	121.90
1	XA	848	C	C5-C6-N1	8.29	125.15	121.00
35	YA	1004	C	C6-N1-C2	-8.29	116.98	120.30
35	YA	243	U	C5-C6-N1	8.29	126.84	122.70
2	XB	137	ARG	CG-CD-NE	8.28	129.19	111.80
35	RA	2392	A	N1-C6-N6	8.28	123.57	118.60
35	RA	828	U	N3-C2-O2	-8.27	116.41	122.20
35	YA	2873	A	C8-N9-C4	-8.26	102.50	105.80
42	YI	33	ARG	CG-CD-NE	8.26	129.14	111.80
35	RA	2094	G	C5-C6-O6	-8.25	123.65	128.60
1	QA	283	C	C6-N1-C2	-8.24	117.00	120.30
1	XA	1007	C	C5-C6-N1	8.24	125.12	121.00
1	QA	1454	G	O5'-P-OP1	-8.23	98.29	105.70
1	XA	738	C	C5-C6-N1	8.23	125.12	121.00
1	QA	90	C	N3-C4-C5	-8.23	118.61	121.90
22	QW	13	C	C6-N1-C2	-8.23	117.01	120.30
1	XA	999	U	C2-N1-C1'	8.23	127.58	117.70
35	RA	828	U	C5-C4-O4	8.23	130.84	125.90
35	YA	1311	G	C4-N9-C1'	8.23	137.20	126.50
35	RA	2602	A	C6-C5-N7	-8.22	126.54	132.30
35	RA	856	C	C2-N1-C1'	8.22	127.84	118.80
1	XA	1439	C	C6-N1-C2	-8.22	117.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	RD	183	ARG	CG-CD-NE	8.21	129.05	111.80
35	RA	2243	U	N3-C2-O2	-8.21	116.45	122.20
2	XB	111	ARG	CG-CD-NE	8.21	129.04	111.80
22	QV	17(A)	U	N1-C1'-C2'	-8.21	102.97	112.00
35	RA	2161	C	C2-N1-C1'	8.20	127.82	118.80
35	RA	69	C	N1-C2-O2	8.20	123.82	118.90
35	RA	74	A	C5-C6-N1	-8.20	113.60	117.70
35	RA	1241	A	N1-C6-N6	8.20	123.52	118.60
35	RA	613	U	C2-N1-C1'	8.19	127.53	117.70
1	XA	1240	U	C5-C4-O4	-8.19	120.99	125.90
1	XA	186(F)	C	C6-N1-C2	-8.19	117.03	120.30
35	YA	1700	A	C8-N9-C4	8.18	109.07	105.80
35	YA	139	G	C5-C6-O6	8.17	133.50	128.60
1	QA	1301	U	N3-C2-O2	-8.17	116.48	122.20
1	QA	1322	C	N3-C2-O2	-8.17	116.18	121.90
35	YA	1332	G	C4-N9-C1'	8.17	137.12	126.50
35	YA	1882	C	C6-N1-C2	-8.16	117.04	120.30
35	RA	1480	G	N1-C6-O6	-8.16	115.00	119.90
35	YA	69	C	C2-N1-C1'	8.15	127.77	118.80
35	RA	1950	G	N7-C8-N9	8.15	117.17	113.10
35	RA	1881	C	C2-N1-C1'	8.14	127.76	118.80
2	XB	88	ALA	N-CA-CB	8.13	121.49	110.10
1	QA	1028	C	C6-N1-C1'	-8.13	111.04	120.80
35	RA	845	G	C4-C5-N7	8.12	114.05	110.80
35	YA	1150	C	C6-N1-C2	-8.12	117.05	120.30
48	RS	10	ARG	CG-CD-NE	8.12	128.84	111.80
35	YA	1379	A	N1-C6-N6	8.12	123.47	118.60
41	YH	71	LEU	CA-CB-CG	8.11	133.96	115.30
36	RB	31	C	C6-N1-C1'	-8.11	111.07	120.80
35	YA	111	A	C8-N9-C4	8.10	109.04	105.80
35	RA	867	C	N1-C2-O2	8.10	123.76	118.90
35	YA	1306	C	C6-N1-C2	-8.09	117.06	120.30
35	YA	141(A)	C	C6-N1-C2	-8.08	117.07	120.30
1	QA	1502	A	C5-N7-C8	-8.07	99.87	103.90
35	RA	1899	G	N3-C4-C5	-8.06	124.57	128.60
35	RA	1686	C	C6-N1-C2	-8.06	117.08	120.30
35	YA	1528	A	N7-C8-N9	8.06	117.83	113.80
35	YA	907	U	N1-C2-O2	8.05	128.44	122.80
35	RA	143	C	C6-N1-C2	-8.04	117.08	120.30
35	RA	2346	A	O4'-C1'-N9	8.03	114.62	108.20
1	QA	390	C	C6-N1-C2	-8.03	117.09	120.30
35	RA	970	C	C6-N1-C2	-8.03	117.09	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1031	G	N3-C4-C5	-8.03	124.59	128.60
35	YA	1233	C	C5-C6-N1	8.02	125.01	121.00
35	YA	530	G	C6-C5-N7	-8.02	125.59	130.40
35	RA	2474	C	N3-C2-O2	-8.02	116.29	121.90
50	RU	52	ARG	CG-CD-NE	-8.02	94.97	111.80
1	XA	359	U	C6-N1-C2	-8.01	116.19	121.00
36	YB	3	C	C6-N1-C2	-8.01	117.10	120.30
35	YA	1588	C	C2-N1-C1'	8.01	127.61	118.80
35	YA	812	C	C6-N1-C2	-8.00	117.10	120.30
1	XA	410	G	C8-N9-C4	-7.99	103.20	106.40
35	RA	2029	G	C8-N9-C4	7.98	109.59	106.40
36	RB	31	C	N3-C2-O2	-7.97	116.32	121.90
1	QA	1240	U	C4-C5-C6	7.96	124.48	119.70
35	RA	828	U	N1-C2-O2	7.96	128.38	122.80
23	QX	11	U	P-O3'-C3'	7.96	129.25	119.70
1	XA	1406	U	N3-C2-O2	-7.96	116.63	122.20
35	YA	69	C	N1-C2-O2	7.96	123.67	118.90
35	RA	227	A	P-O3'-C3'	7.95	129.24	119.70
1	XA	1059	C	C6-N1-C2	-7.95	117.12	120.30
36	RB	31	C	C6-N1-C2	-7.95	117.12	120.30
1	XA	1465	C	C6-N1-C2	-7.94	117.12	120.30
35	YA	1786	A	C6-C5-N7	-7.93	126.75	132.30
1	XA	1240	U	N3-C2-O2	7.92	127.74	122.20
35	RA	1864	U	N3-C2-O2	-7.91	116.66	122.20
35	RA	265	A	N1-C6-N6	7.91	123.34	118.60
2	QB	238	LEU	CA-CB-CG	7.90	133.47	115.30
35	RA	471	A	C8-N9-C4	-7.90	102.64	105.80
1	XA	1145	C	N3-C2-O2	-7.90	116.37	121.90
35	RA	2602	A	N7-C8-N9	7.90	117.75	113.80
35	YA	2287	A	C8-N9-C4	7.90	108.96	105.80
35	RA	2726	U	N3-C2-O2	-7.88	116.69	122.20
41	YH	10	PRO	CA-N-CD	-7.88	100.47	111.50
1	XA	754	C	C6-N1-C2	-7.88	117.15	120.30
35	YA	1656	C	C6-N1-C2	-7.87	117.15	120.30
1	QA	1031	G	C4-N9-C1'	7.87	136.73	126.50
35	RA	530	G	N9-C4-C5	-7.87	102.25	105.40
35	RA	1963	U	C2-N1-C1'	7.87	127.14	117.70
35	RA	2772	C	C6-N1-C2	-7.86	117.16	120.30
35	RA	1502	C	C6-N1-C2	-7.86	117.16	120.30
35	YA	138	G	C8-N9-C4	-7.86	103.26	106.40
1	XA	108	G	C8-N9-C4	-7.86	103.26	106.40
35	YA	352	G	C2-N3-C4	7.86	115.83	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1024	G	C6-C5-N7	-7.86	125.69	130.40
35	YA	89	G	C8-N9-C4	-7.85	103.26	106.40
35	RA	884	C	C5-C6-N1	7.85	124.92	121.00
15	XO	13	GLN	CB-CA-C	-7.85	94.70	110.40
35	YA	2211	G	OP2-P-O3'	7.85	122.47	105.20
1	QA	1263	C	C2-N1-C1'	7.84	127.43	118.80
35	RA	2210	G	C4-N9-C1'	7.84	136.70	126.50
35	RA	2335	A	O4'-C1'-N9	7.84	114.47	108.20
35	RA	309	G	C4-N9-C1'	-7.84	116.31	126.50
41	RH	8	PRO	CA-N-CD	-7.83	100.54	111.50
35	YA	139	G	N9-C4-C5	7.83	108.53	105.40
35	RA	2459	A	N9-C4-C5	-7.82	102.67	105.80
35	YA	273(D)	C	C2-N1-C1'	7.82	127.40	118.80
35	YA	1342	A	N1-C6-N6	7.82	123.29	118.60
1	XA	442	C	C2-N1-C1'	7.82	127.40	118.80
35	YA	111	A	N9-C4-C5	-7.82	102.67	105.80
35	YA	2508	G	C5-C6-O6	-7.81	123.91	128.60
35	YA	12	U	C2-N1-C1'	7.81	127.07	117.70
35	RA	172	C	C2-N1-C1'	7.81	127.39	118.80
35	RA	1417	C	C5-C6-N1	7.80	124.90	121.00
35	RA	75	G	C8-N9-C4	-7.80	103.28	106.40
35	YA	1276	A	C8-N9-C4	-7.80	102.68	105.80
1	XA	1108	G	C4-C5-N7	-7.79	107.68	110.80
36	RB	47	C	N1-C2-O2	7.79	123.57	118.90
1	QA	181	G	P-O3'-C3'	7.79	129.04	119.70
35	YA	1621	U	C5-C4-O4	-7.79	121.23	125.90
36	YB	27	C	C2-N1-C1'	7.79	127.36	118.80
1	XA	1109	C	C6-N1-C2	-7.78	117.19	120.30
35	YA	2392	A	C5-N7-C8	-7.78	100.01	103.90
36	RB	3	C	C5-C6-N1	7.78	124.89	121.00
1	QA	1128	C	C6-N1-C2	-7.77	117.19	120.30
35	RA	676	A	C8-N9-C4	-7.77	102.69	105.80
42	RI	8	PRO	CA-N-CD	-7.77	100.62	111.50
35	RA	2403	C	C6-N1-C2	-7.77	117.19	120.30
35	YA	2477	C	C2-N1-C1'	7.77	127.35	118.80
1	QA	191(D)	U	C2-N1-C1'	7.76	127.01	117.70
35	RA	1882	C	C2-N1-C1'	7.76	127.33	118.80
35	RA	748	G	C8-N9-C4	7.76	109.50	106.40
35	YA	1881	C	C2-N3-C4	7.76	123.78	119.90
35	RA	387	U	P-O3'-C3'	7.75	129.00	119.70
35	RA	1407	C	C5-C6-N1	7.75	124.88	121.00
1	QA	797	C	C6-N1-C2	-7.75	117.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	2827	C	C2-N1-C1'	7.75	127.32	118.80
1	XA	1240	U	C6-N1-C2	7.74	125.65	121.00
35	YA	2139	C	C2-N1-C1'	7.74	127.32	118.80
35	YA	676	A	C5-N7-C8	-7.74	100.03	103.90
35	YA	1881	C	C2-N1-C1'	7.74	127.31	118.80
35	YA	1313	U	N3-C2-O2	-7.73	116.79	122.20
35	RA	1243	G	C8-N9-C4	7.73	109.49	106.40
7	XG	95	ARG	CG-CD-NE	7.72	128.01	111.80
55	YZ	60	GLU	CA-CB-CG	7.72	130.38	113.40
1	XA	687	A	N1-C6-N6	-7.72	113.97	118.60
1	QA	186	C	C6-N1-C2	-7.71	117.21	120.30
35	RA	989	G	N3-C2-N2	-7.71	114.50	119.90
35	YA	2602	A	N7-C8-N9	7.71	117.66	113.80
13	QM	10	PRO	CA-N-CD	-7.71	100.71	111.50
35	RA	2896	C	C2-N1-C1'	7.71	127.28	118.80
35	YA	2287	A	N3-C4-C5	7.71	132.19	126.80
35	YA	708	C	C6-N1-C2	-7.71	117.22	120.30
35	YA	2602	A	C4-C5-N7	7.70	114.55	110.70
1	QA	486	U	C2-N1-C1'	7.70	126.94	117.70
22	QW	20	U	O4'-C1'-N1	7.69	114.36	108.20
35	YA	932	G	N1-C6-O6	-7.69	115.28	119.90
35	RA	93	C	C6-N1-C2	-7.69	117.22	120.30
35	RA	1241	A	C2-N3-C4	-7.69	106.76	110.60
35	YA	828	U	C2-N1-C1'	7.69	126.93	117.70
1	QA	1038	C	P-O3'-C3'	7.69	128.93	119.70
35	RA	2342	C	C6-N1-C2	-7.68	117.23	120.30
35	RA	279	C	C5-C6-N1	7.68	124.84	121.00
35	YA	2210	G	C4-N9-C1'	7.68	136.48	126.50
1	XA	137	C	C6-N1-C2	-7.68	117.23	120.30
22	QW	16	C	O5'-P-OP1	-7.68	98.79	105.70
35	YA	1482	U	C2-N1-C1'	7.67	126.91	117.70
35	RA	654(Q)	C	N1-C2-O2	7.67	123.50	118.90
1	XA	1301	U	C6-N1-C1'	-7.66	110.47	121.20
33	R8	46	ARG	CG-CD-NE	-7.66	95.71	111.80
35	YA	69	C	C6-N1-C2	-7.66	117.24	120.30
35	RA	530	G	C4-C5-N7	7.65	113.86	110.80
35	RA	1616	A	N1-C6-N6	7.65	123.19	118.60
15	XO	35	ARG	CG-CD-NE	-7.65	95.74	111.80
1	XA	1158	C	N1-C2-O2	7.64	123.49	118.90
35	RA	1698	A	N7-C8-N9	7.63	117.62	113.80
35	YA	1786	A	C5-C6-N6	-7.63	117.59	123.70
35	RA	774	A	C5-C6-N1	-7.63	113.88	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	828	U	C2-N1-C1'	7.63	126.86	117.70
35	RA	2092	U	P-O3'-C3'	7.63	128.86	119.70
1	QA	1260	C	C6-N1-C2	-7.63	117.25	120.30
35	YA	859	G	C8-N9-C4	7.63	109.45	106.40
35	RA	1300	U	P-O3'-C3'	7.62	128.85	119.70
1	XA	1086	U	N3-C2-O2	-7.62	116.86	122.20
44	RO	107	ARG	CG-CD-NE	7.62	127.80	111.80
35	RA	2508	G	N1-C6-O6	7.62	124.47	119.90
35	YA	1678	G	N7-C8-N9	7.62	116.91	113.10
1	QA	328	C	C6-N1-C2	-7.61	117.25	120.30
35	RA	2343	C	N1-C2-O2	7.61	123.47	118.90
1	XA	961	U	N3-C2-O2	-7.61	116.87	122.20
35	YA	2392	A	C5-C6-N1	-7.60	113.90	117.70
35	RA	1262	A	C2-N3-C4	7.60	114.40	110.60
35	YA	2585	U	N3-C2-O2	-7.60	116.88	122.20
35	RA	734	A	N1-C6-N6	7.60	123.16	118.60
35	YA	1963	U	N1-C2-O2	7.60	128.12	122.80
41	RH	2	SER	C-N-CA	7.60	140.69	121.70
1	QA	1128	C	C5-C6-N1	7.59	124.80	121.00
35	YA	624	C	C2-N1-C1'	7.59	127.15	118.80
35	RA	1956	U	N3-C2-O2	-7.59	116.89	122.20
35	RA	2211	G	OP2-P-O3'	7.59	121.89	105.20
35	YA	2074	U	N3-C2-O2	-7.59	116.89	122.20
35	RA	1678	G	N7-C8-N9	7.58	116.89	113.10
35	YA	1616	A	C4-C5-N7	7.58	114.49	110.70
22	XV	69	C	C6-N1-C2	-7.58	117.27	120.30
35	YA	603	A	N7-C8-N9	7.58	117.59	113.80
35	RA	1698	A	C5-N7-C8	-7.57	100.11	103.90
35	YA	1963	U	C2-N1-C1'	7.57	126.78	117.70
35	RA	1786	A	N1-C6-N6	7.57	123.14	118.60
1	XA	15	G	C8-N9-C4	-7.56	103.38	106.40
35	YA	2287	A	C4-N9-C1'	-7.56	112.69	126.30
35	YA	69	C	N3-C2-O2	-7.56	116.61	121.90
35	RA	1948	G	C8-N9-C4	-7.55	103.38	106.40
1	QA	999	U	N1-C2-O2	7.55	128.08	122.80
35	YA	12	U	N3-C2-O2	-7.55	116.92	122.20
35	RA	2092	U	N1-C2-O2	7.54	128.08	122.80
1	QA	877	C	C6-N1-C2	-7.54	117.28	120.30
35	YA	1947	C	C6-N1-C2	-7.54	117.29	120.30
1	XA	1191	A	O5'-P-OP1	-7.53	98.92	105.70
35	RA	2792	G	N3-C4-N9	7.53	130.52	126.00
35	YA	2518	A	N1-C6-N6	7.53	123.12	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1347	G	P-O3'-C3'	7.52	128.72	119.70
35	RA	2211	G	C4-N9-C1'	7.52	136.27	126.50
35	YA	1968	G	N1-C6-O6	7.52	124.41	119.90
35	YA	1979	C	N1-C2-O2	7.52	123.41	118.90
1	QA	197	A	P-O3'-C3'	7.51	128.72	119.70
1	QA	1124	G	P-O3'-C3'	7.51	128.71	119.70
35	RA	2211	G	P-O3'-C3'	7.51	128.71	119.70
2	XB	30	ARG	CG-CD-NE	7.51	127.57	111.80
35	YA	1629	U	N3-C2-O2	-7.51	116.94	122.20
48	RS	15	ARG	CG-CD-NE	-7.50	96.04	111.80
1	XA	972	C	C6-N1-C2	-7.50	117.30	120.30
35	YA	1170	G	N3-C4-N9	7.50	130.50	126.00
1	XA	972	C	N3-C4-C5	-7.50	118.90	121.90
12	XL	59	ARG	CG-CD-NE	7.50	127.55	111.80
35	YA	1602	U	C5-C4-O4	7.50	130.40	125.90
35	YA	1735	C	C2-N1-C1'	7.49	127.04	118.80
1	QA	957	U	C5-C6-N1	7.49	126.44	122.70
9	QI	48	GLU	CB-CA-C	7.49	125.38	110.40
35	RA	1950	G	N1-C6-O6	7.49	124.39	119.90
35	YA	1882	C	C2-N1-C1'	7.48	127.03	118.80
1	XA	818	G	P-O3'-C3'	7.47	128.67	119.70
10	QJ	29	ARG	CG-CD-NE	7.47	127.48	111.80
35	RA	143	C	C2-N1-C1'	7.46	127.01	118.80
35	RA	1241	A	C5-C6-N1	-7.46	113.97	117.70
35	RA	2229	C	C6-N1-C2	-7.46	117.32	120.30
35	YA	2318	G	N7-C8-N9	7.46	116.83	113.10
35	RA	2863	C	C6-N1-C2	-7.46	117.32	120.30
35	YA	527	C	N1-C2-O2	7.46	123.37	118.90
35	RA	945	A	C5-N7-C8	-7.45	100.17	103.90
35	RA	90	U	P-O3'-C3'	7.45	128.64	119.70
35	YA	1913	A	N3-C4-N9	7.45	133.36	127.40
35	RA	2094	G	C5-C6-N1	7.45	115.22	111.50
35	RA	2889	C	C6-N1-C2	-7.45	117.32	120.30
35	RA	1899	G	N3-C4-N9	7.44	130.47	126.00
35	YA	621	A	C4-C5-N7	7.44	114.42	110.70
35	YA	1888	G	C2-N3-C4	7.44	115.62	111.90
35	RA	527	C	C5-C4-N4	7.44	125.41	120.20
35	YA	672	C	N3-C4-C5	-7.44	118.92	121.90
35	RA	774	A	C8-N9-C4	-7.43	102.83	105.80
35	RA	953	A	N1-C6-N6	7.43	123.06	118.60
35	YA	1774	C	N1-C2-O2	7.42	123.36	118.90
1	QA	90	C	C5-C6-N1	7.42	124.71	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	570	G	C4-C5-N7	-7.42	107.83	110.80
13	QM	41	PRO	CA-N-CD	-7.42	101.11	111.50
1	XA	192	U	N1-C2-O2	7.42	128.00	122.80
35	RA	1251	C	C6-N1-C2	7.41	123.27	120.30
1	QA	1502	A	N7-C8-N9	7.41	117.50	113.80
35	RA	404	C	P-O3'-C3'	7.40	128.58	119.70
35	RA	859	G	P-O3'-C3'	7.40	128.58	119.70
35	RA	1544	C	N1-C2-O2	7.39	123.34	118.90
1	XA	328	C	N3-C2-O2	-7.39	116.73	121.90
35	YA	330	A	C5-N7-C8	-7.39	100.21	103.90
35	YA	1781	C	C6-N1-C1'	-7.38	111.94	120.80
1	QA	1517	G	C5-C6-O6	-7.38	124.17	128.60
35	YA	908	C	OP1-P-OP2	7.37	130.65	119.60
1	XA	1502	A	C8-N9-C4	-7.37	102.85	105.80
35	RA	286	C	C2-N1-C1'	7.36	126.90	118.80
35	YA	156	U	C5-C6-N1	7.36	126.38	122.70
48	RS	20	ARG	CB-CA-C	-7.36	95.68	110.40
35	RA	1385	G	C4-N9-C1'	-7.36	116.94	126.50
35	RA	1882	C	C6-N1-C2	-7.35	117.36	120.30
36	YB	118	G	N1-C6-O6	7.35	124.31	119.90
18	XR	53	ARG	CG-CD-NE	7.35	127.23	111.80
33	R8	40	GLU	N-CA-CB	-7.34	97.38	110.60
35	RA	1313	U	N3-C2-O2	-7.34	117.06	122.20
1	XA	197	A	P-O3'-C3'	7.34	128.51	119.70
35	YA	573	G	C5-C6-O6	-7.34	124.20	128.60
35	YA	1604	C	C6-N1-C2	-7.34	117.36	120.30
20	XT	57	ARG	CB-CG-CD	-7.33	92.53	111.60
35	RA	1528	A	N7-C8-N9	7.33	117.47	113.80
35	RA	2584	U	C6-N1-C2	-7.33	116.60	121.00
35	YA	1698	A	C2-N3-C4	-7.33	106.93	110.60
1	XA	1007	C	C2-N1-C1'	7.33	126.86	118.80
35	RA	1971	A	C2-N3-C4	7.33	114.26	110.60
9	XI	25	LYS	CD-CE-NZ	7.32	128.54	111.70
15	XO	13	GLN	CA-CB-CG	7.32	129.51	113.40
35	RA	143	C	C5-C6-N1	7.32	124.66	121.00
35	YA	270(Z)	U	C5-C6-N1	-7.32	119.04	122.70
35	YA	279	C	C2-N1-C1'	7.32	126.85	118.80
35	RA	676	A	C4-C5-N7	7.31	114.36	110.70
35	RA	845	G	N1-C6-O6	7.31	124.28	119.90
35	YA	1899	G	N3-C4-C5	-7.30	124.95	128.60
35	YA	2346	A	C2-N3-C4	-7.30	106.95	110.60
35	RA	2242	G	C8-N9-C4	7.30	109.32	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	RB	3	C	C2-N1-C1'	7.30	126.83	118.80
35	RA	1735	C	C6-N1-C2	-7.29	117.38	120.30
35	RA	2041	U	N1-C2-O2	7.29	127.90	122.80
35	YA	1180	C	C6-N1-C2	-7.29	117.39	120.30
35	YA	1881	C	C6-N1-C2	-7.29	117.39	120.30
35	YA	2830	G	C8-N9-C4	-7.28	103.49	106.40
1	QA	108	G	C4-N9-C1'	7.28	135.96	126.50
35	RA	2312	U	C6-N1-C2	-7.28	116.63	121.00
35	RA	2712	U	C2-N1-C1'	7.27	126.43	117.70
1	XA	1054	C	P-O3'-C3'	7.27	128.43	119.70
35	YA	1490	A	C8-N9-C4	7.26	108.71	105.80
36	YB	80	U	N3-C2-O2	-7.26	117.12	122.20
35	YA	676	A	N7-C8-N9	7.26	117.43	113.80
35	YA	2346	A	C4-C5-N7	7.26	114.33	110.70
35	YA	2286	A	N7-C8-N9	7.25	117.43	113.80
1	QA	1301	U	C6-N1-C2	-7.25	116.65	121.00
35	YA	71	A	C5-N7-C8	-7.25	100.28	103.90
35	YA	1982	C	N1-C2-O2	7.25	123.25	118.90
1	QA	1298	C	C5-C4-N4	-7.24	115.13	120.20
1	XA	325	A	O5'-P-OP2	-7.24	99.18	105.70
50	YU	112	ARG	CG-CD-NE	7.24	127.01	111.80
1	QA	1528	U	P-O3'-C3'	7.23	128.38	119.70
35	YA	1528	A	C8-N9-C4	-7.23	102.91	105.80
35	RA	2666	C	N1-C2-O2	7.23	123.24	118.90
35	RA	246	C	C6-N1-C2	-7.23	117.41	120.30
35	RA	2205	C	C5-C6-N1	7.22	124.61	121.00
35	YA	270(U)	C	N1-C2-O2	7.22	123.23	118.90
35	YA	2430	A	N7-C8-N9	7.22	117.41	113.80
1	QA	79	G	N3-C4-C5	-7.22	124.99	128.60
13	QM	67	GLU	CA-C-O	-7.22	104.93	120.10
35	RA	1947	C	N1-C2-O2	7.22	123.23	118.90
1	XA	980	C	C6-N1-C2	-7.22	117.41	120.30
40	RG	79	ASN	C-N-CA	7.22	139.74	121.70
35	YA	2572	A	N7-C8-N9	-7.21	110.19	113.80
1	XA	1108	G	C5-C6-O6	7.21	132.93	128.60
1	QA	1127	G	C4-N9-C1'	7.21	135.87	126.50
35	YA	1288	U	N3-C2-O2	-7.21	117.15	122.20
35	RA	995	C	N1-C2-O2	-7.21	114.58	118.90
35	YA	2712	U	C2-N1-C1'	7.20	126.34	117.70
22	QW	13	C	N1-C2-O2	7.20	123.22	118.90
35	RA	1196	C	C6-N1-C2	-7.20	117.42	120.30
22	QV	69	C	C6-N1-C2	-7.20	117.42	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	QL	117	ARG	CG-CD-NE	-7.20	96.69	111.80
35	RA	1523	U	C5-C6-N1	7.20	126.30	122.70
35	YA	139	G	C4-C5-N7	-7.19	107.92	110.80
35	RA	2043	C	C6-N1-C2	-7.19	117.42	120.30
35	YA	1332	G	N1-C2-N2	-7.19	109.73	116.20
35	YA	1558	A	P-O3'-C3'	7.19	128.32	119.70
35	YA	774	A	C5-C6-N1	-7.18	114.11	117.70
1	XA	186	C	C2-N1-C1'	7.18	126.70	118.80
1	XA	1158	C	C6-N1-C1'	-7.18	112.19	120.80
35	YA	1621	U	N3-C4-O4	7.18	124.42	119.40
35	YA	1950	G	C5-N7-C8	-7.18	100.71	104.30
35	YA	556	G	N7-C8-N9	7.17	116.69	113.10
35	RA	1669	A	C2-N3-C4	7.17	114.18	110.60
35	RA	279	C	C6-N1-C2	-7.17	117.43	120.30
35	RA	2868	A	N7-C8-N9	7.17	117.38	113.80
35	YA	783	A	C4-C5-N7	7.17	114.28	110.70
35	YA	1697	G	N1-C6-O6	7.17	124.20	119.90
49	RT	3	ARG	NE-CZ-NH2	-7.16	116.72	120.30
1	XA	710	G	O5'-P-OP1	7.16	119.30	110.70
1	XA	975	A	C5-N7-C8	-7.16	100.32	103.90
35	RA	1950	G	C8-N9-C4	-7.16	103.53	106.40
35	RA	603	A	P-O3'-C3'	7.16	128.29	119.70
35	YA	510	C	N1-C2-O2	7.16	123.19	118.90
22	QW	34	C	C2-N1-C1'	7.16	126.67	118.80
7	XG	79	ARG	CG-CD-NE	7.16	126.83	111.80
35	YA	907	U	OP2-P-O3'	-7.15	89.46	105.20
3	XC	190	ARG	CG-CD-NE	-7.15	96.78	111.80
35	RA	2168	G	C4-N9-C1'	7.15	135.79	126.50
35	YA	2666	C	N1-C2-O2	7.14	123.19	118.90
1	XA	1128	C	C5-C6-N1	7.14	124.57	121.00
35	YA	2392	A	C2-N3-C4	-7.14	107.03	110.60
35	RA	897	C	C6-N1-C2	-7.14	117.44	120.30
1	QA	1158	C	C6-N1-C1'	-7.14	112.23	120.80
35	RA	352	G	C8-N9-C1'	-7.14	117.72	127.00
6	QF	28	ARG	CG-CD-NE	7.13	126.78	111.80
35	RA	269	U	C2-N1-C1'	7.13	126.26	117.70
35	YA	358	U	C2-N1-C1'	7.13	126.26	117.70
35	RA	2873	A	C4-N9-C1'	7.12	139.12	126.30
1	XA	726	C	C6-N1-C2	-7.12	117.45	120.30
36	YB	31	C	C6-N1-C2	-7.12	117.45	120.30
35	RA	1198	U	N3-C2-O2	-7.12	117.22	122.20
1	QA	1502	A	C4-C5-N7	7.12	114.26	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2318	G	N1-C6-O6	7.12	124.17	119.90
35	YA	613	U	C6-N1-C1'	-7.12	111.24	121.20
35	RA	1313	U	N1-C2-O2	7.12	127.78	122.80
35	RA	1644	C	N1-C2-O2	7.12	123.17	118.90
1	XA	18	C	C5-C6-N1	7.12	124.56	121.00
1	XA	181	G	P-O3'-C3'	7.11	128.23	119.70
1	XA	1031	G	N3-C4-N9	7.11	130.27	126.00
1	XA	754	C	C6-N1-C1'	-7.11	112.27	120.80
35	YA	676	A	C2-N3-C4	-7.11	107.05	110.60
35	YA	273(C)	C	C2-N1-C1'	7.11	126.61	118.80
35	YA	1417	C	C5-C6-N1	7.11	124.55	121.00
1	QA	328	C	P-O3'-C3'	7.10	128.22	119.70
7	QG	10	ARG	CG-CD-NE	-7.10	96.88	111.80
35	RA	1314	C	C2-N1-C1'	7.10	126.61	118.80
35	YA	807	U	N3-C4-O4	7.10	124.37	119.40
35	RA	1786	A	C6-C5-N7	-7.10	127.33	132.30
35	YA	2602	A	N1-C6-N6	7.10	122.86	118.60
35	YA	172	C	C6-N1-C2	-7.10	117.46	120.30
35	YA	12	U	N1-C2-O2	7.09	127.76	122.80
35	YA	2211	G	P-O3'-C3'	7.09	128.21	119.70
35	RA	234	C	N1-C2-O2	7.09	123.15	118.90
35	YA	1940	U	C5-C4-O4	-7.09	121.65	125.90
1	XA	848	C	C6-N1-C2	-7.08	117.47	120.30
35	YA	2168	G	N3-C4-C5	-7.08	125.06	128.60
35	RA	352	G	C4-N9-C1'	7.08	135.71	126.50
35	YA	140	A	N1-C6-N6	7.08	122.85	118.60
35	RA	2501	C	C2-N1-C1'	-7.08	111.02	118.80
35	RA	2779	U	N3-C2-O2	-7.08	117.25	122.20
35	RA	1332	G	N7-C8-N9	7.07	116.64	113.10
1	QA	1001	G	O5'-P-OP1	7.07	119.18	110.70
35	RA	2584	U	C4-C5-C6	7.07	123.94	119.70
1	XA	999	U	N3-C2-O2	-7.07	117.25	122.20
35	YA	2699	C	C6-N1-C2	-7.07	117.47	120.30
38	RE	154	LYS	CD-CE-NZ	-7.06	95.46	111.70
1	XA	974	A	C2-N3-C4	7.06	114.13	110.60
22	XV	24	U	N3-C2-O2	-7.06	117.26	122.20
2	QB	147	LYS	CB-CA-C	-7.06	96.29	110.40
36	YB	2	C	N3-C2-O2	-7.05	116.97	121.90
34	R9	11	CYS	CA-CB-SG	-7.05	101.32	114.00
35	YA	277	C	N1-C2-O2	7.04	123.13	118.90
35	RA	2861	G	C4-C5-N7	7.04	113.62	110.80
1	XA	822	C	C6-N1-C2	-7.04	117.48	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1616	A	C6-C5-N7	-7.04	127.37	132.30
35	RA	750	A	N1-C6-N6	-7.04	114.38	118.60
35	YA	277	C	C6-N1-C2	-7.04	117.48	120.30
36	YB	3	C	C5-C6-N1	7.04	124.52	121.00
35	RA	2791	C	C6-N1-C1'	7.04	129.25	120.80
1	XA	1160	G	C8-N9-C1'	-7.04	117.85	127.00
1	XA	1346	A	P-O3'-C3'	7.04	128.15	119.70
45	RP	65	ARG	CG-CD-NE	-7.04	97.02	111.80
35	YA	907	U	N3-C2-O2	-7.04	117.27	122.20
36	RB	3	C	C5-C4-N4	-7.03	115.28	120.20
35	YA	2422	A	P-O3'-C3'	7.03	128.13	119.70
1	XA	1067	A	P-O3'-C3'	7.03	128.13	119.70
1	XA	1356	G	N3-C4-N9	7.03	130.22	126.00
35	RA	1533	C	C5-C6-N1	7.03	124.51	121.00
35	YA	1171	G	P-O3'-C3'	7.03	128.13	119.70
35	YA	1407	C	C5-C6-N1	7.02	124.51	121.00
35	YA	1521	G	C8-N9-C4	-7.02	103.59	106.40
35	YA	1920	C	C5-C6-N1	7.02	124.51	121.00
35	RA	565	C	N1-C2-O2	7.02	123.11	118.90
35	RA	1616	A	C8-N9-C4	-7.02	102.99	105.80
35	YA	1406	U	N1-C2-O2	7.02	127.71	122.80
35	YA	2585	U	N3-C4-O4	-7.02	114.49	119.40
35	RA	1022	G	P-O3'-C3'	7.02	128.12	119.70
35	RA	124	G	C8-N9-C4	-7.01	103.59	106.40
1	QA	1260	C	N3-C2-O2	-7.01	116.99	121.90
35	RA	974(A)	C	N3-C2-O2	-7.01	116.99	121.90
35	RA	1558	A	P-O3'-C3'	7.01	128.11	119.70
35	YA	2210	G	C2-N3-C4	7.01	115.40	111.90
35	YA	603	A	P-O3'-C3'	7.01	128.11	119.70
1	QA	999	U	N3-C2-O2	-7.00	117.30	122.20
35	RA	783	A	C8-N9-C4	-7.00	103.00	105.80
35	YA	1835	G	C8-N9-C4	-7.00	103.60	106.40
40	YG	112	PRO	N-CA-CB	7.00	111.70	103.30
1	XA	468	A	C8-N9-C4	7.00	108.60	105.80
1	XA	1065	U	P-O3'-C3'	7.00	128.10	119.70
1	QA	1254	C	C6-N1-C2	-7.00	117.50	120.30
35	RA	2666	C	N3-C2-O2	-7.00	117.00	121.90
1	XA	4	U	C6-N1-C1'	-7.00	111.41	121.20
40	YG	179	PRO	CA-N-CD	-7.00	101.71	111.50
35	YA	2748	A	C8-N9-C4	-7.00	103.00	105.80
1	XA	1160	G	C4-N9-C1'	6.99	135.59	126.50
35	YA	1653	G	P-O3'-C3'	6.99	128.09	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	YV	91	TYR	CA-CB-CG	6.99	126.68	113.40
1	XA	1381	U	N1-C2-O2	6.99	127.69	122.80
3	QC	82	GLU	CB-CA-C	-6.99	96.43	110.40
35	RA	1152	C	N3-C4-C5	-6.99	119.11	121.90
35	YA	537	C	C2-N1-C1'	6.99	126.48	118.80
35	YA	1698	A	C5-C6-N1	-6.99	114.21	117.70
1	QA	169	C	N1-C2-O2	6.98	123.09	118.90
10	QJ	79	ARG	CB-CG-CD	6.98	129.75	111.60
1	XA	1128	C	C6-N1-C2	-6.98	117.51	120.30
1	XA	1325	C	C6-N1-C2	-6.98	117.51	120.30
1	QA	525	C	C5-C6-N1	6.98	124.49	121.00
35	RA	2508	G	C5-C6-O6	-6.98	124.42	128.60
35	YA	753	C	C6-N1-C2	-6.97	117.51	120.30
35	YA	860	U	C5-C6-N1	6.97	126.19	122.70
35	RA	1899	G	C4-N9-C1'	6.97	135.56	126.50
35	RA	1385	G	C4-C5-N7	-6.97	108.01	110.80
35	YA	2286	A	C8-N9-C4	-6.97	103.01	105.80
1	QA	1523	G	N1-C6-O6	-6.97	115.72	119.90
1	XA	330	C	N1-C2-O2	6.97	123.08	118.90
1	XA	1532	U	P-O3'-C3'	6.97	128.06	119.70
22	XV	13	C	C5-C6-N1	6.96	124.48	121.00
35	RA	867	C	N3-C2-O2	-6.96	117.03	121.90
35	RA	2866	U	N1-C2-O2	-6.96	117.93	122.80
35	YA	2118	U	C5-C6-N1	6.96	126.18	122.70
1	QA	1065	U	P-O3'-C3'	6.96	128.05	119.70
36	RB	117	G	C6-C5-N7	-6.96	126.22	130.40
1	XA	1000	A	N7-C8-N9	6.96	117.28	113.80
33	R8	40	GLU	CA-CB-CG	6.95	128.70	113.40
35	RA	1686	C	C2-N1-C1'	6.95	126.45	118.80
35	RA	1774	C	N3-C2-O2	-6.95	117.03	121.90
35	YA	1076	C	C5-C6-N1	6.95	124.48	121.00
1	QA	419	C	C2-N1-C1'	6.95	126.44	118.80
1	QA	992	U	P-O3'-C3'	6.95	128.04	119.70
35	RA	263	C	C6-N1-C2	-6.95	117.52	120.30
1	QA	1007	C	C2-N1-C1'	6.95	126.44	118.80
1	QA	115	G	P-O3'-C3'	6.94	128.03	119.70
35	RA	1171	G	P-O3'-C3'	6.94	128.03	119.70
35	YA	52	A	C5-C6-N6	-6.94	118.15	123.70
35	RA	2803	C	C6-N1-C2	-6.93	117.53	120.30
1	XA	1502	A	C4-C5-N7	6.93	114.17	110.70
55	YZ	15	PRO	CA-N-CD	-6.93	101.80	111.50
35	YA	93	C	C6-N1-C2	-6.93	117.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	817	C	C6-N1-C2	-6.93	117.53	120.30
35	YA	930	U	N3-C2-O2	-6.93	117.35	122.20
45	RP	7	ARG	CD-NE-CZ	6.93	133.30	123.60
29	Y4	44	THR	N-CA-C	6.93	129.71	111.00
35	RA	1751	C	C6-N1-C2	-6.92	117.53	120.30
1	QA	484	G	P-O3'-C3'	6.92	128.00	119.70
35	RA	2712	U	N1-C2-O2	6.92	127.64	122.80
35	YA	1407	C	N1-C2-O2	6.92	123.05	118.90
35	YA	603	A	C5-N7-C8	-6.91	100.44	103.90
35	RA	2210	G	C8-N9-C1'	-6.91	118.02	127.00
1	XA	971	G	N7-C8-N9	-6.91	109.65	113.10
1	XA	1137	C	P-O3'-C3'	6.91	127.99	119.70
13	XM	93	ARG	CA-CB-CG	6.91	128.60	113.40
35	YA	9	U	C5-C6-N1	6.91	126.15	122.70
22	XW	61	C	C6-N1-C2	-6.91	117.54	120.30
9	QI	48	GLU	N-CA-CB	-6.90	98.18	110.60
35	YA	1332	G	N3-C2-N2	6.89	124.72	119.90
36	YB	49	C	C6-N1-C2	-6.88	117.55	120.30
1	XA	974	A	O4'-C1'-N9	6.88	113.70	108.20
35	YA	93	C	C2-N1-C1'	6.88	126.37	118.80
35	YA	837	C	C5-C6-N1	6.88	124.44	121.00
35	YA	2143	C	N1-C2-O2	6.88	123.03	118.90
1	QA	186(A)	C	C6-N1-C2	-6.88	117.55	120.30
35	YA	1742	C	C6-N1-C2	-6.88	117.55	120.30
1	QA	268	C	N3-C4-C5	-6.87	119.15	121.90
35	YA	1179	C	N1-C2-O2	6.87	123.02	118.90
35	YA	1913	A	N7-C8-N9	-6.87	110.37	113.80
35	RA	2849	U	P-O3'-C3'	6.87	127.94	119.70
35	YA	277	C	C5-C6-N1	6.87	124.43	121.00
35	RA	1505	C	C5-C6-N1	6.87	124.43	121.00
35	RA	2607	G	N3-C2-N2	6.87	124.71	119.90
35	YA	2430	A	C5-N7-C8	-6.87	100.47	103.90
35	YA	2505	G	N1-C6-O6	-6.87	115.78	119.90
35	YA	708	C	N1-C2-O2	6.86	123.02	118.90
35	RA	265	A	C5-N7-C8	-6.86	100.47	103.90
35	YA	141	A	C5-N7-C8	-6.86	100.47	103.90
35	YA	1342	A	C5-C6-N1	-6.86	114.27	117.70
35	YA	2226	C	N3-C4-N4	6.86	122.80	118.00
35	RA	1143	A	C5-N7-C8	-6.86	100.47	103.90
1	XA	328	C	P-O3'-C3'	6.86	127.93	119.70
1	QA	1145	C	C5-C6-N1	6.85	124.43	121.00
35	RA	1313	U	C6-N1-C1'	-6.85	111.61	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	YB	3	C	N1-C2-O2	6.85	123.01	118.90
1	XA	1038	C	P-O3'-C3'	6.85	127.92	119.70
35	YA	2144	U	P-O3'-C3'	6.85	127.92	119.70
35	YA	2666	C	N3-C2-O2	-6.85	117.11	121.90
36	YB	31	C	C6-N1-C1'	-6.85	112.58	120.80
35	RA	2403	C	N3-C4-C5	-6.85	119.16	121.90
48	RS	20	ARG	N-CA-CB	6.85	122.92	110.60
35	YA	1022	G	P-O3'-C3'	6.85	127.92	119.70
35	YA	2559	C	C6-N1-C2	-6.84	117.56	120.30
35	RA	894	C	N1-C2-O2	6.84	123.00	118.90
1	XA	108	G	N7-C8-N9	6.84	116.52	113.10
35	YA	758	C	N3-C2-O2	-6.83	117.12	121.90
35	YA	1496	A	N1-C6-N6	6.83	122.70	118.60
35	RA	38	A	C5-C6-N1	6.83	121.11	117.70
35	RA	1827	C	C6-N1-C2	-6.83	117.57	120.30
1	QA	1028(A)	C	C6-N1-C2	-6.83	117.57	120.30
35	YA	48	G	C4-C5-N7	-6.83	108.07	110.80
35	RA	1830	C	N1-C2-O2	6.83	123.00	118.90
35	YA	2713	A	N1-C6-N6	6.83	122.69	118.60
1	QA	1003	G	C4-N9-C1'	6.82	135.37	126.50
1	QA	1067	A	P-O3'-C3'	6.82	127.89	119.70
35	RA	20	C	C6-N1-C2	-6.82	117.57	120.30
35	RA	1248	G	C5-C6-O6	-6.82	124.51	128.60
1	XA	992	U	P-O3'-C3'	6.81	127.88	119.70
35	YA	286	C	C2-N1-C1'	6.81	126.30	118.80
35	YA	1267	U	N3-C2-O2	-6.81	117.43	122.20
36	YB	43	C	N3-C2-O2	-6.81	117.13	121.90
1	QA	1298	C	N1-C2-O2	6.81	122.98	118.90
1	XA	999	U	N1-C2-O2	6.81	127.57	122.80
22	XV	67	C	C6-N1-C2	-6.81	117.58	120.30
35	YA	2527	C	C2-N1-C1'	6.81	126.29	118.80
35	YA	48	G	C5-C6-O6	6.80	132.68	128.60
35	YA	528	A	C2-N3-C4	-6.80	107.20	110.60
35	RA	330	A	C4-C5-N7	6.80	114.10	110.70
1	XA	536	C	C6-N1-C2	-6.80	117.58	120.30
35	YA	1505	C	C6-N1-C2	-6.80	117.58	120.30
35	YA	2666	C	C6-N1-C2	-6.80	117.58	120.30
35	RA	859	G	C4-N9-C1'	-6.80	117.66	126.50
12	XL	53	ARG	CG-CD-NE	6.80	126.08	111.80
35	YA	74	A	C5-C6-N6	-6.80	118.26	123.70
35	YA	1774	C	N3-C2-O2	-6.80	117.14	121.90
35	YA	2321	G	C8-N9-C4	-6.80	103.68	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	2475	C	C2-N1-C1'	-6.80	111.32	118.80
10	XJ	71	LEU	CA-CB-CG	6.79	130.93	115.30
35	RA	1644	C	N3-C2-O2	-6.79	117.14	121.90
1	XA	654	G	C8-N9-C4	-6.79	103.68	106.40
9	XI	56	LEU	CA-CB-CG	6.79	130.92	115.30
35	YA	2572	A	N1-C6-N6	-6.79	114.52	118.60
35	YA	783	A	C2-N3-C4	-6.79	107.20	110.60
1	QA	193	C	C5-C6-N1	6.79	124.39	121.00
1	XA	405	U	N1-C2-O2	6.79	127.55	122.80
35	YA	269	U	C2-N1-C1'	6.79	125.84	117.70
35	YA	1516	U	C6-N1-C2	-6.79	116.93	121.00
35	RA	1528	A	N1-C6-N6	6.78	122.67	118.60
35	YA	2712	U	C6-N1-C1'	-6.78	111.70	121.20
35	RA	339	U	N3-C2-O2	-6.78	117.45	122.20
1	QA	1039	C	C5-C6-N1	6.78	124.39	121.00
1	QA	979	C	C6-N1-C2	-6.77	117.59	120.30
1	QA	946	A	N9-C4-C5	-6.77	103.09	105.80
35	YA	1616	A	C2-N3-C4	-6.77	107.22	110.60
35	RA	445	C	C6-N1-C2	-6.77	117.59	120.30
35	RA	2545	G	C8-N9-C4	-6.76	103.69	106.40
1	XA	1158	C	N3-C2-O2	-6.76	117.17	121.90
35	YA	958	U	C6-N1-C2	-6.76	116.94	121.00
35	RA	2391	G	N1-C6-O6	-6.76	115.84	119.90
35	RA	2772	C	C5-C6-N1	6.76	124.38	121.00
35	RA	2896	C	C5-C6-N1	6.76	124.38	121.00
1	XA	74	C	C2-N1-C1'	6.76	126.24	118.80
35	YA	71	A	C2-N3-C4	-6.76	107.22	110.60
35	RA	1407	C	N3-C4-C5	-6.76	119.20	121.90
35	RA	2380	C	C6-N1-C2	-6.75	117.60	120.30
1	XA	816	A	C8-N9-C4	-6.75	103.10	105.80
7	XG	67	GLU	N-CA-CB	6.75	122.75	110.60
35	YA	2584	U	N1-C2-N3	6.75	118.95	114.90
35	RA	1300	U	OP2-P-O3'	6.75	120.04	105.20
36	YB	31	C	N3-C2-O2	-6.75	117.18	121.90
35	RA	2294	C	C2-N1-C1'	6.74	126.22	118.80
9	QI	55	ALA	CB-CA-C	6.74	120.21	110.10
35	YA	2318	G	C5-N7-C8	-6.74	100.93	104.30
35	RA	1698	A	C2-N3-C4	-6.74	107.23	110.60
35	YA	1024	G	N3-C4-N9	6.74	130.04	126.00
35	YA	2311	A	OP1-P-O3'	6.74	120.02	105.20
1	QA	79	G	C5-C6-N1	6.73	114.87	111.50
35	RA	507	A	N1-C6-N6	6.73	122.64	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1616	A	N7-C8-N9	6.73	117.17	113.80
35	YA	2752	C	N1-C2-O2	6.73	122.94	118.90
35	YA	1607	C	N3-C2-O2	6.73	126.61	121.90
22	QV	51	C	C6-N1-C2	-6.73	117.61	120.30
22	XW	60	U	C2-N1-C1'	6.73	125.77	117.70
35	YA	837	C	N1-C2-O2	6.73	122.94	118.90
37	RD	112	GLN	CA-CB-CG	6.72	128.19	113.40
39	YF	203	GLN	CA-CB-CG	6.72	128.19	113.40
13	QM	66	LEU	C-N-CA	6.72	138.50	121.70
1	XA	687	A	P-O3'-C3'	6.72	127.76	119.70
22	QV	1	C	P-O3'-C3'	6.72	127.76	119.70
35	YA	479	A	N1-C6-N6	-6.72	114.57	118.60
35	YA	708	C	C5-C6-N1	6.72	124.36	121.00
35	RA	1658	C	C5-C6-N1	6.71	124.36	121.00
1	XA	60	A	P-O3'-C3'	6.71	127.75	119.70
35	YA	573	G	N1-C6-O6	6.71	123.93	119.90
41	YH	50	VAL	CB-CA-C	6.71	124.15	111.40
35	RA	1505	C	C6-N1-C2	-6.71	117.62	120.30
35	YA	2174	C	N1-C2-O2	6.71	122.92	118.90
22	QW	13	C	N3-C2-O2	-6.71	117.21	121.90
35	YA	2244	U	N3-C4-O4	6.70	124.09	119.40
35	YA	1899	G	N3-C4-N9	6.70	130.02	126.00
1	QA	328	C	C6-N1-C1'	-6.70	112.76	120.80
35	RA	2571	C	C6-N1-C2	-6.70	117.62	120.30
35	RA	1085	A	P-O3'-C3'	6.70	127.74	119.70
1	XA	419	C	C5-C6-N1	6.70	124.35	121.00
35	YA	139	G	C8-N9-C4	-6.70	103.72	106.40
35	RA	1598	C	N1-C2-O2	6.69	122.92	118.90
35	RA	1011	G	C4-N9-C1'	-6.69	117.80	126.50
51	RV	43	GLU	CB-CA-C	6.69	123.79	110.40
1	XA	1006	C	N1-C2-O2	6.69	122.92	118.90
35	RA	279	C	C2-N1-C1'	6.69	126.16	118.80
35	RA	2226	C	N1-C2-O2	6.69	122.91	118.90
1	XA	1031	G	C4-N9-C1'	6.68	135.19	126.50
35	YA	74	A	C4-C5-N7	6.68	114.04	110.70
35	RA	1234	U	N3-C2-O2	-6.68	117.52	122.20
35	RA	499	U	N3-C2-O2	-6.68	117.52	122.20
35	YA	1735	C	C5-C6-N1	6.68	124.34	121.00
35	YA	288	C	C5-C6-N1	6.68	124.34	121.00
35	RA	2481	G	P-O3'-C3'	6.67	127.71	119.70
35	RA	2816	C	C6-N1-C2	-6.67	117.63	120.30
1	XA	1298	C	N1-C2-O2	6.67	122.90	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	754	C	N1-C2-O2	6.67	122.90	118.90
35	RA	75	G	N9-C4-C5	6.67	108.07	105.40
35	YA	2244	U	C5-C6-N1	6.67	126.03	122.70
35	RA	2787	C	C6-N1-C2	-6.67	117.63	120.30
1	QA	1517	G	N1-C6-O6	6.67	123.90	119.90
1	QA	779	C	N3-C4-C5	6.66	124.56	121.90
22	QW	34	C	C6-N1-C2	-6.66	117.63	120.30
35	YA	736	C	C5-C6-N1	6.66	124.33	121.00
35	YA	2128	C	C2-N1-C1'	6.66	126.13	118.80
1	QA	1260	C	N1-C2-O2	6.66	122.89	118.90
35	RA	1013	C	C6-N1-C2	-6.66	117.64	120.30
35	RA	1616	A	C4-C5-N7	6.66	114.03	110.70
39	RF	17	ARG	CG-CD-NE	6.66	125.78	111.80
22	QW	61	C	O5'-P-OP2	-6.65	99.71	105.70
35	YA	330	A	C2-N3-C4	-6.65	107.27	110.60
35	YA	1800	C	C6-N1-C2	6.65	122.96	120.30
35	RA	774	A	N7-C8-N9	6.65	117.13	113.80
35	RA	2602	A	N9-C4-C5	-6.65	103.14	105.80
1	XA	442	C	C5-C6-N1	6.65	124.33	121.00
35	YA	1159	U	C5-C6-N1	6.65	126.03	122.70
1	QA	307	C	N1-C2-O2	6.65	122.89	118.90
1	QA	442	C	C2-N1-C1'	6.64	126.11	118.80
48	RS	110	LEU	CA-CB-CG	6.64	130.58	115.30
44	RO	107	ARG	CD-NE-CZ	6.64	132.90	123.60
1	QA	1014	A	C4-N9-C1'	6.64	138.25	126.30
1	QA	687	A	P-O3'-C3'	6.64	127.66	119.70
22	QW	13	C	C5-C6-N1	6.64	124.32	121.00
35	RA	758	C	C6-N1-C2	-6.64	117.64	120.30
35	YA	2092	U	C5-C4-O4	6.63	129.88	125.90
35	RA	2059	A	N1-C6-N6	-6.63	114.62	118.60
35	RA	91	A	N1-C6-N6	6.63	122.58	118.60
35	RA	2572	A	C8-N9-C4	6.63	108.45	105.80
35	YA	174	C	C2-N1-C1'	6.63	126.09	118.80
35	YA	1979	C	N3-C2-O2	-6.63	117.26	121.90
35	YA	1992	G	P-O3'-C3'	6.63	127.66	119.70
35	YA	2143	C	N3-C2-O2	-6.63	117.26	121.90
35	RA	436	C	C6-N1-C2	-6.63	117.65	120.30
35	YA	1776	G	C2-N3-C4	6.62	115.21	111.90
35	YA	36	G	N3-C4-C5	-6.62	125.29	128.60
35	RA	1102	C	C2-N1-C1'	6.62	126.08	118.80
35	YA	807	U	C6-N1-C2	-6.62	117.03	121.00
2	QB	230	VAL	C-N-CA	6.62	138.24	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	1961	C	N3-C4-C5	6.62	124.55	121.90
1	QA	1502	A	C6-C5-N7	-6.61	127.67	132.30
35	RA	1342	A	C2-N3-C4	-6.61	107.30	110.60
35	RA	1881	C	C5-C6-N1	6.61	124.30	121.00
35	YA	138	G	N7-C8-N9	6.61	116.40	113.10
35	RA	2559	C	C5-C6-N1	6.60	124.30	121.00
35	YA	1687	G	N1-C6-O6	-6.60	115.94	119.90
35	RA	1950	G	C4-N9-C1'	6.60	135.08	126.50
1	QA	169	C	C2-N1-C1'	6.60	126.06	118.80
35	RA	74	A	N3-C4-C5	6.59	131.42	126.80
35	RA	2490	G	C4-C5-N7	6.59	113.44	110.80
35	RA	1965	C	C5-C4-N4	-6.59	115.58	120.20
35	YA	316	C	C6-N1-C2	-6.59	117.66	120.30
35	YA	2666	C	C2-N1-C1'	6.59	126.05	118.80
4	XD	157	LEU	N-CA-C	6.59	128.79	111.00
35	YA	176	G	C8-N9-C4	6.59	109.04	106.40
35	YA	2501	C	C5-C6-N1	-6.59	117.71	121.00
35	RA	105	C	C6-N1-C2	-6.58	117.67	120.30
35	YA	438	G	C8-N9-C4	6.58	109.03	106.40
1	QA	989	C	C6-N1-C2	-6.58	117.67	120.30
1	QA	1125	U	N3-C4-O4	6.58	124.01	119.40
1	XA	209	U	N1-C2-O2	6.58	127.41	122.80
35	RA	2585	U	C2-N1-C1'	6.58	125.59	117.70
1	QA	1528	U	C2-N1-C1'	6.58	125.59	117.70
35	RA	193	U	N3-C2-O2	-6.58	117.60	122.20
41	RH	3	ARG	N-CA-C	-6.58	93.25	111.00
1	XA	169	C	N1-C2-O2	6.58	122.84	118.90
41	RH	18	GLU	N-CA-CB	-6.57	98.77	110.60
35	RA	2392	A	N7-C8-N9	6.57	117.09	113.80
1	XA	1126	U	C5-C6-N1	6.57	125.98	122.70
35	YA	273(D)	C	C5-C6-N1	6.57	124.28	121.00
35	YA	288	C	C2-N1-C1'	6.57	126.03	118.80
35	RA	2604	U	N1-C2-O2	6.57	127.40	122.80
35	RA	2026	C	C5-C6-N1	6.57	124.28	121.00
35	YA	2830	G	N7-C8-N9	6.57	116.38	113.10
1	QA	1321	C	C6-N1-C2	6.56	122.93	120.30
35	YA	1306	C	N3-C4-C5	-6.56	119.27	121.90
35	YA	2508	G	C6-C5-N7	-6.56	126.46	130.40
1	QA	1325	C	C2-N1-C1'	6.56	126.02	118.80
35	RA	1513	C	N3-C4-C5	-6.56	119.28	121.90
35	RA	2497	A	N1-C6-N6	6.56	122.53	118.60
1	XA	530	G	N3-C4-N9	6.56	129.94	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	894	C	C6-N1-C2	-6.56	117.68	120.30
35	YA	286	C	N1-C2-O2	6.56	122.83	118.90
1	XA	975	A	C4-C5-N7	6.56	113.98	110.70
1	QA	547	A	P-O3'-C3'	6.55	127.56	119.70
35	YA	74	A	C6-C5-N7	-6.55	127.71	132.30
1	QA	1007	C	C5-C6-N1	6.55	124.28	121.00
35	RA	945	A	C4-C5-N7	6.55	113.97	110.70
35	YA	2688	U	N1-C2-N3	6.55	118.83	114.90
35	YA	2226	C	C6-N1-C2	-6.55	117.68	120.30
1	QA	974	A	O4'-C1'-N9	6.54	113.44	108.20
35	RA	417	C	C6-N1-C2	-6.54	117.68	120.30
35	YA	2077	A	N9-C4-C5	-6.54	103.18	105.80
35	YA	2874	C	C2-N1-C1'	6.54	126.00	118.80
1	QA	1014	A	C8-N9-C1'	-6.54	115.92	127.70
35	RA	308	G	C8-N9-C4	6.54	109.02	106.40
42	RI	4	ILE	CB-CA-C	-6.54	98.52	111.60
35	YA	1961	C	C6-N1-C2	6.54	122.92	120.30
1	QA	1003	G	C8-N9-C1'	-6.54	118.50	127.00
1	XA	748	C	P-O3'-C3'	6.54	127.54	119.70
36	YB	15	A	OP1-P-O3'	6.54	119.58	105.20
35	YA	141	A	N1-C6-N6	6.53	122.52	118.60
35	YA	1914	C	C6-N1-C2	-6.53	117.69	120.30
1	QA	748	C	P-O3'-C3'	6.53	127.54	119.70
35	RA	2610	C	P-O3'-C3'	6.53	127.54	119.70
35	RA	242	G	C8-N9-C4	6.53	109.01	106.40
35	RA	1950	G	C5-N7-C8	-6.53	101.03	104.30
35	RA	1514	U	C2-N1-C1'	6.53	125.53	117.70
36	RB	51	G	N1-C6-O6	-6.52	115.99	119.90
36	RB	118	G	C4-N9-C1'	6.52	134.98	126.50
1	QA	115	G	N3-C4-C5	-6.52	125.34	128.60
35	RA	774	A	N1-C2-N3	6.52	132.56	129.30
35	RA	817	C	C6-N1-C2	-6.51	117.69	120.30
35	RA	2095	C	C6-N1-C2	-6.51	117.69	120.30
35	YA	2585	U	C5-C4-O4	6.51	129.81	125.90
1	QA	1066	C	C6-N1-C1'	-6.51	112.99	120.80
35	RA	2118	U	C2-N1-C1'	6.51	125.51	117.70
35	RA	2447	G	P-O3'-C3'	6.51	127.51	119.70
35	RA	2477	C	C6-N1-C1'	-6.51	112.99	120.80
35	YA	2210	G	C8-N9-C1'	-6.51	118.53	127.00
35	RA	2242	G	N9-C4-C5	-6.51	102.80	105.40
35	YA	512	G	P-O3'-C3'	6.51	127.51	119.70
22	QW	1	C	C6-N1-C2	-6.51	117.70	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1956	U	N1-C2-O2	6.51	127.36	122.80
35	RA	1920	C	C5-C6-N1	6.50	124.25	121.00
35	RA	2128	C	C5-C6-N1	6.50	124.25	121.00
35	RA	2459	A	C8-N9-C4	6.50	108.40	105.80
35	RA	2861	G	N9-C4-C5	-6.50	102.80	105.40
35	RA	1320	C	N1-C2-O2	6.50	122.80	118.90
1	QA	328	C	N3-C2-O2	-6.50	117.35	121.90
35	RA	1725	G	C4-N9-C1'	6.50	134.95	126.50
1	XA	36	C	C5-C6-N1	6.50	124.25	121.00
1	QA	419	C	C5-C6-N1	6.50	124.25	121.00
1	XA	5	U	P-O3'-C3'	6.50	127.49	119.70
35	RA	1544	C	C6-N1-C1'	-6.49	113.01	120.80
35	RA	2585	U	N1-C2-O2	6.49	127.34	122.80
1	XA	1502	A	C6-C5-N7	-6.49	127.75	132.30
22	XW	71	C	C6-N1-C2	-6.49	117.70	120.30
35	YA	1314	C	N1-C2-O2	6.49	122.80	118.90
35	YA	2318	G	N1-C6-O6	6.49	123.80	119.90
1	QA	754	C	C6-N1-C1'	-6.49	113.01	120.80
35	YA	93	C	C5-C6-N1	6.49	124.25	121.00
35	RA	1196	C	N3-C4-C5	-6.49	119.30	121.90
36	RB	31	C	C5-C6-N1	6.49	124.24	121.00
1	XA	812	C	P-O3'-C3'	6.49	127.49	119.70
35	YA	1678	G	N1-C6-O6	6.49	123.79	119.90
35	RA	2827	C	C5-C6-N1	6.49	124.24	121.00
35	RA	2287	A	N9-C4-C5	-6.48	103.21	105.80
35	RA	1021	A	C2-N3-C4	-6.48	107.36	110.60
5	XE	136	MET	CA-CB-CG	-6.48	102.28	113.30
35	RA	1294	U	N3-C2-O2	-6.48	117.67	122.20
35	RA	2605	U	C5-C4-O4	6.48	129.79	125.90
40	RG	113	ARG	NE-CZ-NH2	6.48	123.54	120.30
22	XV	68	C	C6-N1-C2	-6.48	117.71	120.30
35	YA	141	A	N7-C8-N9	6.48	117.04	113.80
1	QA	36	C	C6-N1-C2	-6.48	117.71	120.30
35	RA	1283	G	N1-C6-O6	-6.48	116.01	119.90
36	YB	80	U	N1-C2-O2	6.48	127.33	122.80
35	YA	270(Q)	C	N1-C2-O2	6.48	122.79	118.90
16	QP	32	TYR	CA-CB-CG	6.47	125.70	113.40
35	RA	1533	C	N1-C2-O2	6.47	122.78	118.90
1	XA	1381	U	C2-N1-C1'	6.47	125.47	117.70
1	QA	1228	C	C6-N1-C2	-6.47	117.71	120.30
35	RA	274	G	C8-N9-C4	-6.47	103.81	106.40
41	YH	23	ARG	CG-CD-NE	6.47	125.39	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1899	G	C2-N3-C4	6.47	115.13	111.90
35	YA	2032	G	N1-C6-O6	6.47	123.78	119.90
1	QA	792	A	P-O3'-C3'	6.47	127.46	119.70
35	YA	535	C	C6-N1-C2	-6.47	117.71	120.30
1	XA	1157	A	P-O3'-C3'	6.46	127.46	119.70
35	RA	1698	A	C5-C6-N1	-6.46	114.47	117.70
35	YA	1258	C	C5-C6-N1	6.46	124.23	121.00
1	XA	328	C	C6-N1-C1'	-6.46	113.05	120.80
35	RA	1021	A	C4-C5-N7	6.46	113.93	110.70
35	RA	1021	A	N1-C6-N6	6.46	122.47	118.60
35	RA	845	G	C6-C5-N7	-6.45	126.53	130.40
1	XA	913	A	P-O3'-C3'	6.45	127.44	119.70
23	QX	9	G	C8-N9-C4	6.45	108.98	106.40
35	RA	527	C	N3-C4-N4	-6.45	113.49	118.00
35	RA	1979	C	N3-C2-O2	-6.45	117.39	121.90
35	YA	1950	G	C4-C5-N7	6.45	113.38	110.80
35	RA	1899	G	C6-C5-N7	-6.45	126.53	130.40
1	XA	792	A	P-O3'-C3'	6.45	127.44	119.70
35	YA	1437	C	C6-N1-C2	-6.44	117.72	120.30
35	YA	1996	C	C6-N1-C2	6.44	122.88	120.30
1	QA	634	C	C6-N1-C2	-6.44	117.72	120.30
35	YA	2639	A	N7-C8-N9	6.44	117.02	113.80
35	YA	2726	U	N1-C2-O2	6.44	127.31	122.80
35	YA	537	C	C6-N1-C2	-6.44	117.72	120.30
1	QA	419	C	C6-N1-C2	-6.43	117.73	120.30
35	YA	1314	C	C2-N1-C1'	6.43	125.88	118.80
1	QA	193	C	C6-N1-C2	-6.43	117.73	120.30
35	RA	2346	A	N1-C6-N6	6.43	122.46	118.60
35	YA	2594	C	N3-C4-C5	6.43	124.47	121.90
24	QZ	63	GLU	N-CA-CB	6.43	122.17	110.60
35	YA	274	G	C8-N9-C1'	6.43	135.35	127.00
1	QA	1033	G	P-O3'-C3'	6.42	127.41	119.70
35	RA	193	U	N1-C2-O2	6.42	127.30	122.80
35	RA	119	A	P-O3'-C3'	6.42	127.41	119.70
35	RA	2699	C	C6-N1-C2	-6.42	117.73	120.30
35	YA	2392	A	C8-N9-C4	-6.42	103.23	105.80
35	YA	2851	A	N1-C6-N6	6.42	122.45	118.60
1	QA	1498	U	P-O3'-C3'	6.42	127.40	119.70
36	RB	79	C	C6-N1-C2	-6.42	117.73	120.30
35	RA	2827	C	C6-N1-C2	-6.42	117.73	120.30
35	RA	2889	C	C2-N1-C1'	6.42	125.86	118.80
1	XA	4	U	N1-C2-O2	6.42	127.29	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	YB	66	A	P-O3'-C3'	6.42	127.40	119.70
40	YG	146	TYR	CA-CB-CG	6.42	125.59	113.40
35	RA	217	G	C5-C6-N1	6.41	114.71	111.50
35	YA	1940	U	N3-C4-O4	6.41	123.89	119.40
35	YA	1963	U	C5-C6-N1	6.41	125.90	122.70
1	QA	1147	C	N3-C2-O2	-6.41	117.42	121.90
16	QP	54	GLU	CA-CB-CG	6.41	127.49	113.40
35	RA	1725	G	C8-N9-C1'	-6.41	118.67	127.00
35	YA	2178	C	C2-N1-C1'	6.41	125.84	118.80
1	QA	428	G	P-O3'-C3'	6.40	127.38	119.70
35	RA	947	G	C4-C5-N7	-6.40	108.24	110.80
35	RA	2244	U	N3-C4-O4	6.40	123.88	119.40
1	QA	1066	C	C2-N3-C4	6.40	123.10	119.90
1	QA	1158	C	C6-N1-C2	-6.40	117.74	120.30
35	RA	2766	G	C4-N9-C1'	6.40	134.82	126.50
35	RA	1640	C	N1-C2-O2	6.40	122.74	118.90
35	YA	1200	C	C6-N1-C2	-6.40	117.74	120.30
35	YA	2562	U	N3-C2-O2	-6.40	117.72	122.20
35	YA	2607	G	N1-C2-N2	-6.40	110.44	116.20
35	RA	527	C	C2-N1-C1'	6.39	125.83	118.80
35	RA	603	A	N7-C8-N9	6.39	117.00	113.80
36	RB	27	C	N3-C2-O2	-6.39	117.42	121.90
1	XA	252	U	C5-C6-N1	6.39	125.90	122.70
35	RA	529	A	C8-N9-C4	-6.39	103.24	105.80
35	RA	1588	C	N1-C2-O2	6.39	122.73	118.90
1	XA	1538	C	C6-N1-C2	-6.39	117.74	120.30
35	YA	856	C	C2-N1-C1'	6.39	125.83	118.80
35	RA	828	U	N3-C4-O4	-6.39	114.93	119.40
35	RA	1533	C	C6-N1-C2	-6.39	117.75	120.30
10	XJ	83	GLU	CB-CA-C	-6.39	97.62	110.40
42	YI	115	ALA	N-CA-CB	6.39	119.05	110.10
35	YA	1234	U	N3-C2-O2	-6.39	117.73	122.20
1	XA	4	U	C5-C6-N1	6.39	125.89	122.70
1	XA	186	C	C6-N1-C2	-6.39	117.75	120.30
35	YA	2137	C	C6-N1-C2	-6.38	117.75	120.30
35	RA	1934	C	C2-N1-C1'	6.38	125.82	118.80
22	XV	13	C	C6-N1-C2	-6.38	117.75	120.30
27	Y2	15	LYS	CA-CB-CG	6.38	127.44	113.40
1	QA	186	C	C2-N1-C1'	6.38	125.81	118.80
35	RA	1306	C	C5-C6-N1	6.38	124.19	121.00
35	RA	2128	C	C2-N1-C1'	6.38	125.82	118.80
35	RA	2794	C	C5-C6-N1	6.38	124.19	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1945	G	C8-N9-C4	-6.38	103.85	106.40
1	QA	79	G	N3-C2-N2	-6.38	115.44	119.90
1	QA	1346	A	P-O3'-C3'	6.38	127.35	119.70
35	RA	2798	C	C6-N1-C2	-6.38	117.75	120.30
35	YA	529	A	C8-N9-C4	-6.38	103.25	105.80
35	YA	298	G	N1-C6-O6	6.37	123.72	119.90
35	YA	1394	U	C5-C6-N1	6.37	125.89	122.70
35	RA	2318	G	C5-C6-O6	-6.37	124.78	128.60
35	YA	2559	C	N1-C2-O2	6.37	122.72	118.90
35	RA	624	C	C6-N1-C2	-6.37	117.75	120.30
35	RA	1668	A	N1-C6-N6	-6.37	114.78	118.60
1	XA	547	A	P-O3'-C3'	6.37	127.34	119.70
35	YA	642	G	C8-N9-C4	-6.37	103.85	106.40
1	QA	960	U	C2-N1-C1'	6.37	125.34	117.70
35	RA	18	C	C6-N1-C2	-6.37	117.75	120.30
35	RA	2392	A	C8-N9-C4	-6.37	103.25	105.80
35	RA	270(Q)	C	N1-C2-O2	6.36	122.72	118.90
1	QA	812	C	P-O3'-C3'	6.36	127.33	119.70
35	YA	1757	U	C5-C6-N1	-6.36	119.52	122.70
1	XA	247	G	C8-N9-C4	-6.36	103.86	106.40
35	YA	2169	A	C4-N9-C1'	6.36	137.74	126.30
35	RA	1950	G	C6-C5-N7	-6.35	126.59	130.40
1	XA	1007	C	P-O3'-C3'	6.35	127.32	119.70
35	YA	2808	U	N1-C2-O2	6.35	127.25	122.80
1	QA	739	C	N3-C4-C5	-6.35	119.36	121.90
35	RA	1385	G	N3-C4-N9	-6.35	122.19	126.00
35	YA	2559	C	C2-N1-C1'	6.35	125.79	118.80
35	RA	2439	A	P-O3'-C3'	6.35	127.32	119.70
1	XA	91	C	N3-C2-O2	-6.35	117.45	121.90
35	YA	1835	G	N3-C4-C5	-6.35	125.42	128.60
35	YA	2232	U	C5-C4-O4	6.35	129.71	125.90
1	QA	999	U	C6-N1-C1'	-6.35	112.31	121.20
35	RA	1385	G	C8-N9-C1'	6.35	135.25	127.00
35	RA	1965	C	N3-C4-N4	6.35	122.44	118.00
35	YA	2572	A	C8-N9-C4	6.35	108.34	105.80
35	RA	494	G	N3-C4-C5	-6.35	125.43	128.60
35	RA	128	C	C6-N1-C2	-6.34	117.76	120.30
35	YA	1496	A	N7-C8-N9	6.34	116.97	113.80
35	YA	2342	C	C6-N1-C2	-6.34	117.76	120.30
35	YA	2232	U	C6-N1-C2	-6.34	117.19	121.00
35	YA	1598	C	N1-C2-O2	6.34	122.70	118.90
35	YA	2859	G	C8-N9-C4	-6.34	103.86	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1203	C	C6-N1-C2	-6.34	117.77	120.30
35	RA	708	C	C5-C6-N1	6.34	124.17	121.00
35	YA	1143	A	C2-N3-C4	-6.34	107.43	110.60
1	XA	534	U	O5'-P-OP2	-6.33	100.00	105.70
1	QA	5	U	P-O3'-C3'	6.33	127.30	119.70
8	QH	42	GLU	N-CA-CB	-6.33	99.20	110.60
39	RF	99	TYR	CA-CB-CG	6.33	125.43	113.40
1	XA	283	C	N1-C2-O2	6.33	122.70	118.90
1	XA	1515	C	C6-N1-C2	-6.33	117.77	120.30
1	QA	1028	C	N1-C2-O2	6.33	122.70	118.90
35	RA	513	A	N1-C6-N6	6.33	122.40	118.60
35	RA	1406	U	N1-C2-O2	6.33	127.23	122.80
35	RA	2086	U	O5'-P-OP2	-6.33	100.00	105.70
1	XA	1108	G	N9-C4-C5	6.33	107.93	105.40
13	QM	3	ARG	NE-CZ-NH2	-6.32	117.14	120.30
35	YA	2392	A	C4-C5-N7	6.32	113.86	110.70
35	YA	2006	C	C5-C6-N1	6.32	124.16	121.00
1	QA	1031	G	C8-N9-C1'	-6.32	118.78	127.00
35	YA	363(E)	U	N1-C2-O2	6.32	127.22	122.80
35	RA	227	A	C8-N9-C4	-6.32	103.27	105.80
35	RA	1528	A	C5-N7-C8	-6.32	100.74	103.90
35	YA	884	C	C5-C6-N1	6.32	124.16	121.00
1	XA	1033	G	P-O3'-C3'	6.32	127.28	119.70
35	YA	2447	G	P-O3'-C3'	6.32	127.28	119.70
35	RA	2490	G	N7-C8-N9	6.31	116.26	113.10
35	YA	676	A	N1-C6-N6	6.31	122.39	118.60
1	QA	268	C	C5-C6-N1	6.31	124.16	121.00
36	RB	117	G	C8-N9-C4	6.31	108.92	106.40
1	XA	455	C	C6-N1-C2	-6.31	117.78	120.30
1	QA	1079	G	C5-C6-O6	6.31	132.38	128.60
1	QA	442	C	C5-C6-N1	6.30	124.15	121.00
35	YA	1075	C	C5-C6-N1	6.30	124.15	121.00
35	YA	1406	U	N3-C2-O2	-6.30	117.79	122.20
35	RA	2847	U	C5-C6-N1	6.30	125.85	122.70
42	RI	144	VAL	C-N-CA	6.30	137.45	121.70
35	YA	2043	C	C6-N1-C2	-6.30	117.78	120.30
1	QA	1086	U	C2-N1-C1'	6.30	125.26	117.70
35	RA	2504	U	C5-C6-N1	6.30	125.85	122.70
38	RE	199	ARG	CG-CD-NE	-6.30	98.58	111.80
49	RT	3	ARG	CD-NE-CZ	6.30	132.42	123.60
1	XA	585	G	C8-N9-C4	-6.30	103.88	106.40
1	XA	91	C	N1-C2-O2	6.29	122.68	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1735	C	N1-C2-O2	6.29	122.68	118.90
35	RA	845	G	C5-N7-C8	-6.29	101.15	104.30
44	RO	107	ARG	CA-CB-CG	6.29	127.25	113.40
1	XA	1498	U	P-O3'-C3'	6.29	127.25	119.70
1	QA	135	C	C6-N1-C2	-6.29	117.78	120.30
35	YA	634	C	C6-N1-C2	-6.29	117.78	120.30
35	YA	2503	A	C2-N3-C4	6.29	113.75	110.60
22	QW	67	C	C6-N1-C2	-6.29	117.78	120.30
35	YA	972	G	N1-C6-O6	-6.29	116.13	119.90
35	YA	783	A	C6-C5-N7	-6.29	127.90	132.30
35	YA	828	U	N3-C4-O4	-6.29	115.00	119.40
35	RA	748	G	N7-C8-N9	-6.28	109.96	113.10
35	YA	269	U	N1-C2-O2	6.28	127.20	122.80
35	YA	2287	A	C4-C5-C6	-6.28	113.86	117.00
1	QA	485	G	P-O3'-C3'	6.28	127.24	119.70
1	XA	186	C	C5-C6-N1	6.28	124.14	121.00
35	YA	2585	U	N1-C2-O2	6.28	127.20	122.80
35	YA	2827	C	N1-C2-O2	6.28	122.67	118.90
35	RA	2474	C	C6-N1-C1'	-6.28	113.27	120.80
35	YA	2168	G	N3-C4-N9	6.28	129.77	126.00
35	RA	1204	A	C2-N3-C4	-6.28	107.46	110.60
35	YA	1781	C	C2-N1-C1'	6.28	125.70	118.80
35	YA	74	A	P-O3'-C3'	6.28	127.23	119.70
26	R1	97	LEU	C-N-CA	6.27	137.38	121.70
35	RA	2831	G	C8-N9-C4	-6.27	103.89	106.40
23	XX	4	A	C8-N9-C4	-6.27	103.29	105.80
35	YA	2163	C	C6-N1-C2	-6.27	117.79	120.30
35	YA	955	C	C2-N3-C4	6.27	123.04	119.90
1	QA	614	A	C8-N9-C4	-6.27	103.29	105.80
35	RA	1956	U	N1-C2-O2	6.27	127.19	122.80
35	RA	2128	C	N1-C2-O2	6.27	122.66	118.90
36	RB	102	G	N1-C6-O6	-6.27	116.14	119.90
35	RA	242	G	C4-N9-C1'	-6.27	118.35	126.50
35	YA	2442	C	C6-N1-C2	-6.27	117.79	120.30
35	RA	2211	G	C8-N9-C1'	-6.27	118.86	127.00
1	XA	137	C	C2-N1-C1'	6.26	125.69	118.80
1	QA	749	C	C6-N1-C2	-6.26	117.80	120.30
35	RA	2029	G	N9-C4-C5	-6.26	102.89	105.40
35	YA	2403	C	N3-C4-C5	-6.26	119.39	121.90
36	YB	31	C	C5-C6-N1	6.26	124.13	121.00
35	RA	2712	U	C6-N1-C1'	-6.26	112.44	121.20
35	YA	2655	G	O4'-C1'-N9	6.26	113.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1532	U	P-O3'-C3'	6.26	127.21	119.70
35	RA	75	G	N3-C4-C5	-6.26	125.47	128.60
35	RA	1157	G	N9-C4-C5	-6.26	102.90	105.40
35	RA	49	A	P-O3'-C3'	6.25	127.21	119.70
35	RA	860	U	C5-C6-N1	6.25	125.83	122.70
35	YA	2856	C	C6-N1-C2	-6.25	117.80	120.30
35	RA	772	C	C5-C6-N1	6.25	124.13	121.00
1	QA	435	C	C5-C6-N1	6.25	124.13	121.00
36	RB	3	C	C4-C5-C6	-6.25	114.27	117.40
35	RA	2666	C	C2-N1-C1'	6.25	125.67	118.80
1	XA	1147	C	C6-N1-C1'	-6.25	113.30	120.80
1	QA	1031	G	N3-C4-C5	-6.25	125.47	128.60
35	RA	933	A	N7-C8-N9	6.25	116.92	113.80
35	RA	2477	C	N3-C2-O2	-6.25	117.53	121.90
35	RA	2559	C	N1-C2-O2	6.25	122.65	118.90
35	YA	965	C	C6-N1-C2	-6.24	117.80	120.30
2	QB	142	LEU	CA-CB-CG	6.24	129.66	115.30
35	RA	1407	C	N1-C2-O2	6.24	122.64	118.90
35	RA	2666	C	C6-N1-C2	-6.24	117.80	120.30
1	QA	106	C	C6-N1-C2	-6.24	117.80	120.30
1	QA	817	C	C6-N1-C2	6.24	122.80	120.30
35	YA	2572	A	C5-N7-C8	6.24	107.02	103.90
35	RA	1157	G	C6-C5-N7	-6.24	126.66	130.40
35	RA	1334	G	C8-N9-C4	-6.24	103.91	106.40
35	RA	2733	A	C8-N9-C1'	-6.24	116.47	127.70
35	RA	2815	C	C6-N1-C2	-6.24	117.81	120.30
35	YA	2318	G	C4-C5-N7	6.24	113.30	110.80
35	RA	2712	U	O4'-C1'-N1	6.24	113.19	108.20
35	RA	2792	G	N3-C4-C5	-6.24	125.48	128.60
35	YA	2584	U	C4-C5-C6	6.24	123.44	119.70
35	YA	2257	U	C6-N1-C2	6.23	124.74	121.00
35	RA	2294	C	C6-N1-C2	-6.23	117.81	120.30
35	RA	2688	U	N1-C2-N3	6.23	118.64	114.90
35	RA	676	A	C6-C5-N7	-6.23	127.94	132.30
35	RA	856	C	C2-N3-C4	6.23	123.01	119.90
1	XA	677	U	N3-C2-O2	-6.23	117.84	122.20
35	YA	16	G	C8-N9-C4	-6.23	103.91	106.40
35	YA	2178	C	C6-N1-C2	-6.23	117.81	120.30
1	QA	960	U	P-O3'-C3'	6.23	127.17	119.70
49	RT	3	ARG	N-CA-CB	6.23	121.81	110.60
35	YA	969	U	O5'-P-OP1	-6.23	100.10	105.70
35	YA	2590	A	C8-N9-C4	6.23	108.29	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	105	C	C2-N1-C1'	6.22	125.65	118.80
35	RA	270(U)	C	N3-C2-O2	-6.22	117.54	121.90
35	RA	1365	A	N9-C4-C5	-6.22	103.31	105.80
1	XA	1439	C	C5-C6-N1	6.22	124.11	121.00
22	XW	32	C	C6-N1-C2	-6.22	117.81	120.30
35	RA	615	G	C6-C5-N7	6.22	134.13	130.40
22	QV	15	G	C5-C6-O6	6.21	132.33	128.60
35	RA	193	U	C2-N1-C1'	6.21	125.16	117.70
35	YA	1152	C	C6-N1-C2	-6.21	117.81	120.30
29	R4	34	GLU	CG-CD-OE1	6.21	130.72	118.30
41	RH	18	GLU	CB-CA-C	6.21	122.82	110.40
35	YA	603	A	C6-C5-N7	-6.21	127.95	132.30
35	RA	934	G	N3-C4-C5	-6.21	125.50	128.60
35	RA	1179	C	C2-N1-C1'	6.21	125.63	118.80
1	QA	560	U	N1-C1'-C2'	-6.21	105.17	112.00
35	RA	1243	G	N9-C4-C5	-6.21	102.92	105.40
35	YA	250	G	N3-C2-N2	6.21	124.25	119.90
35	RA	1931	U	C5-C6-N1	6.21	125.80	122.70
35	RA	2559	C	C2-N1-C1'	6.21	125.63	118.80
35	YA	1474	C	C2-N1-C1'	6.21	125.63	118.80
35	RA	1199	U	C5-C4-O4	-6.21	122.18	125.90
1	XA	1157	A	C4-N9-C1'	6.21	137.47	126.30
35	RA	1314	C	N1-C2-O2	6.20	122.62	118.90
41	RH	116	GLU	CB-CA-C	6.20	122.81	110.40
1	XA	1356	G	C4-C5-N7	6.20	113.28	110.80
1	XA	1432	G	N1-C6-O6	6.20	123.62	119.90
35	YA	119	A	P-O3'-C3'	6.20	127.14	119.70
35	YA	41	C	C5-C6-N1	6.20	124.10	121.00
35	RA	288	C	C2-N1-C1'	6.20	125.62	118.80
35	RA	933	A	C5-N7-C8	-6.20	100.80	103.90
1	QA	1128	C	C2-N1-C1'	6.20	125.62	118.80
35	YA	1262	A	C2-N3-C4	6.20	113.70	110.60
42	YI	104	GLN	N-CA-CB	-6.20	99.44	110.60
1	XA	999	U	C6-N1-C2	-6.20	117.28	121.00
35	RA	881	G	N3-C4-N9	6.20	129.72	126.00
1	QA	79	G	C6-N1-C2	-6.19	121.38	125.10
35	RA	2307	G	O4'-C1'-N9	6.19	113.15	108.20
35	YA	494	G	N3-C4-C5	-6.19	125.50	128.60
35	YA	1816	G	C2-N3-C4	6.19	115.00	111.90
35	YA	279	C	C6-N1-C2	-6.19	117.82	120.30
1	QA	60	A	P-O3'-C3'	6.19	127.13	119.70
35	RA	1574	C	C6-N1-C2	-6.19	117.83	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	2584	U	C6-N1-C2	-6.19	117.29	121.00
1	XA	754	C	N1-C2-O2	6.18	122.61	118.90
1	XA	1031	G	C2-N3-C4	6.18	114.99	111.90
1	XA	1279	A	N7-C8-N9	6.18	116.89	113.80
1	QA	1306	A	N7-C8-N9	6.18	116.89	113.80
3	QC	35	GLU	CA-CB-CG	6.18	127.00	113.40
35	RA	783	A	C4-C5-N7	6.18	113.79	110.70
35	RA	881	G	C4-N9-C1'	6.18	134.54	126.50
1	XA	1240	U	N1-C2-N3	-6.18	111.19	114.90
35	RA	769	G	C2-N3-C4	6.18	114.99	111.90
1	QA	1254	C	C5-C6-N1	6.18	124.09	121.00
35	RA	2791	C	C2-N1-C1'	-6.18	112.00	118.80
35	RA	239	U	N1-C2-O2	6.18	127.12	122.80
35	RA	512	G	P-O3'-C3'	6.18	127.11	119.70
35	RA	1210	A	C5-N7-C8	-6.18	100.81	103.90
35	RA	2094	G	C2-N3-C4	6.18	114.99	111.90
36	RB	15	A	OP1-P-O3'	6.18	118.79	105.20
39	RF	176	LEU	CA-CB-CG	6.17	129.50	115.30
35	YA	804	A	N1-C6-N6	-6.17	114.90	118.60
35	RA	2791	C	N1-C2-N3	6.17	123.52	119.20
35	YA	1233	C	N1-C2-O2	6.17	122.60	118.90
3	QC	35	GLU	CG-CD-OE1	-6.17	105.96	118.30
36	RB	3	C	C6-N1-C1'	-6.17	113.39	120.80
35	YA	352	G	C8-N9-C1'	-6.17	118.98	127.00
35	YA	1754	C	C6-N1-C2	6.17	122.77	120.30
35	YA	2430	A	N1-C2-N3	6.17	132.38	129.30
1	QA	754	C	C5-C6-N1	6.17	124.08	121.00
35	RA	1157	G	C4-C5-N7	6.17	113.27	110.80
35	YA	1776	G	N3-C4-N9	6.17	129.70	126.00
35	YA	1640	C	N1-C2-O2	6.17	122.60	118.90
35	YA	2595	G	C5-C6-N1	6.17	114.58	111.50
8	QH	85	ARG	CG-CD-NE	6.17	124.75	111.80
1	QA	1127	G	C8-N9-C1'	-6.16	118.99	127.00
35	RA	528	A	C5-C6-N1	-6.16	114.62	117.70
1	XA	961	U	N1-C2-N3	6.16	118.60	114.90
35	YA	953	A	N1-C6-N6	6.16	122.30	118.60
35	RA	2794	C	C2-N1-C1'	6.16	125.58	118.80
35	RA	2859	G	C8-N9-C4	-6.16	103.94	106.40
35	RA	650	C	C6-N1-C2	-6.16	117.84	120.30
35	RA	2685	G	N9-C4-C5	6.16	107.86	105.40
35	YA	794	G	N3-C4-C5	-6.16	125.52	128.60
1	QA	958	A	C8-N9-C4	6.16	108.26	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	1499	C	C2-N1-C1'	6.16	125.57	118.80
35	YA	1319	G	C6-C5-N7	-6.16	126.70	130.40
1	QA	561	U	O4'-C1'-N1	6.16	113.13	108.20
1	XA	979	C	C2-N1-C1'	6.16	125.57	118.80
3	XC	126	ARG	CA-CB-CG	6.16	126.94	113.40
35	YA	74	A	C5-C6-N1	-6.15	114.62	117.70
35	YA	330	A	N7-C8-N9	6.15	116.88	113.80
35	YA	811	U	C5-C6-N1	-6.15	119.62	122.70
1	QA	913	A	P-O3'-C3'	6.15	127.08	119.70
1	QA	1348	U	C2-N1-C1'	-6.15	110.32	117.70
35	RA	1406	U	C2-N1-C1'	6.15	125.08	117.70
35	RA	2726	U	C6-N1-C2	-6.15	117.31	121.00
35	YA	556	G	C6-C5-N7	-6.15	126.71	130.40
1	QA	328	C	C2-N3-C4	6.15	122.97	119.90
1	XA	328	C	C5-C6-N1	6.15	124.07	121.00
35	RA	1102	C	C6-N1-C2	-6.15	117.84	120.30
35	YA	954	G	C4-N9-C1'	6.15	134.49	126.50
35	YA	1950	G	N1-C6-O6	6.15	123.59	119.90
35	RA	1152	C	C2-N1-C1'	6.14	125.56	118.80
35	YA	2689	U	N3-C4-O4	-6.14	115.10	119.40
35	RA	2873	A	N1-C2-N3	6.14	132.37	129.30
35	YA	2503	A	N1-C2-N3	-6.14	126.23	129.30
1	QA	1490	C	C6-N1-C2	-6.14	117.84	120.30
35	YA	43	G	C8-N9-C4	6.14	108.86	106.40
22	QW	71	C	C6-N1-C2	-6.14	117.84	120.30
35	RA	549	G	N3-C4-C5	-6.14	125.53	128.60
35	YA	698	C	C6-N1-C2	6.14	122.75	120.30
1	QA	1031	G	O5'-P-OP1	-6.14	100.18	105.70
35	RA	1698	A	N1-C6-N6	6.14	122.28	118.60
35	RA	2825	C	C6-N1-C2	-6.14	117.84	120.30
1	XA	186	C	N1-C2-O2	6.14	122.58	118.90
1	XA	975	A	N7-C8-N9	6.14	116.87	113.80
35	YA	1064	C	C6-N1-C2	-6.14	117.85	120.30
35	RA	473	G	C8-N9-C4	6.13	108.85	106.40
35	RA	2416	C	C6-N1-C2	-6.13	117.85	120.30
1	XA	428	G	P-O3'-C3'	6.13	127.06	119.70
1	XA	919	A	N1-C6-N6	-6.13	114.92	118.60
35	YA	2287	A	C2-N3-C4	-6.13	107.53	110.60
22	QW	32	C	C6-N1-C2	-6.13	117.85	120.30
35	YA	1152	C	C5-C6-N1	6.13	124.06	121.00
36	YB	27	C	C5-C6-N1	6.13	124.06	121.00
35	YA	2501	C	C2-N1-C1'	-6.12	112.06	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	RB	117	G	N3-C4-N9	6.12	129.67	126.00
35	YA	1609	A	O4'-C1'-N9	6.12	113.10	108.20
35	YA	2688	U	C2-N1-C1'	6.12	125.05	117.70
54	YY	40	GLU	CA-CB-CG	6.12	126.87	113.40
35	YA	213	A	C5-C6-N1	6.12	120.76	117.70
35	YA	2112	G	O4'-C1'-N9	6.12	113.10	108.20
49	RT	105	LEU	CA-CB-CG	6.12	129.37	115.30
1	XA	137	C	C5-C6-N1	6.12	124.06	121.00
35	RA	1781	C	N3-C2-O2	-6.12	117.62	121.90
35	RA	2311	A	OP1-P-O3'	6.12	118.65	105.20
35	YA	52	A	C4-C5-N7	6.12	113.76	110.70
35	RA	647	G	N3-C4-C5	-6.11	125.54	128.60
35	RA	695	G	C5-C6-N1	-6.11	108.44	111.50
35	RA	1204	A	C5-C6-N1	-6.11	114.64	117.70
1	QA	306	G	N1-C6-O6	6.11	123.57	119.90
35	RA	2391	G	C5-C6-O6	6.11	132.27	128.60
1	XA	1064	G	O4'-C1'-N9	6.11	113.09	108.20
35	RA	884	C	C6-N1-C2	-6.11	117.86	120.30
35	RA	1649	G	N3-C4-C5	-6.11	125.55	128.60
35	RA	1781	C	C2-N1-C1'	6.11	125.52	118.80
35	RA	2092	U	C6-N1-C1'	-6.11	112.64	121.20
35	YA	1313	U	C6-N1-C1'	-6.11	112.65	121.20
35	RA	1404	C	C6-N1-C2	-6.11	117.86	120.30
35	YA	2077	A	C8-N9-C4	6.11	108.24	105.80
35	YA	2609	U	C6-N1-C2	6.11	124.66	121.00
1	QA	115	G	C2-N3-C4	6.11	114.95	111.90
35	RA	2062	A	N1-C2-N3	-6.11	126.25	129.30
35	YA	114	U	C2-N1-C1'	6.10	125.03	117.70
1	XA	596	C	N1-C2-O2	6.10	122.56	118.90
1	XA	1006	C	C5-C6-N1	6.10	124.05	121.00
35	YA	2594	C	C6-N1-C2	6.10	122.74	120.30
34	R9	13	LYS	CA-CB-CG	6.10	126.82	113.40
1	XA	1147	C	C2-N1-C1'	6.10	125.51	118.80
35	RA	99	U	N1-C2-O2	6.10	127.07	122.80
35	RA	1899	G	C4-C5-C6	6.10	122.46	118.80
35	RA	2321	G	C4-N9-C1'	6.10	134.43	126.50
51	YV	44	LYS	N-CA-CB	-6.10	99.62	110.60
35	YA	2137	C	C2-N1-C1'	6.10	125.50	118.80
35	RA	1385	G	C6-C5-N7	6.09	134.06	130.40
35	YA	2178	C	C5-C6-N1	6.09	124.05	121.00
35	YA	2456	C	C5-C6-N1	6.09	124.05	121.00
35	RA	79	G	C8-N9-C4	-6.09	103.96	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	676	A	N3-C4-C5	6.09	131.06	126.80
35	YA	1728	G	N3-C4-C5	-6.09	125.56	128.60
1	QA	1447	G	N3-C4-N9	6.09	129.65	126.00
35	YA	2321	G	C4-N9-C1'	6.09	134.42	126.50
35	RA	1370	C	C5-C6-N1	6.09	124.04	121.00
1	XA	458	C	C6-N1-C2	-6.09	117.87	120.30
22	XW	75	C	C6-N1-C2	-6.09	117.86	120.30
1	QA	560	U	P-O3'-C3'	6.08	127.00	119.70
1	XA	980	C	N1-C2-O2	6.08	122.55	118.90
35	YA	2688	U	C4-C5-C6	6.08	123.35	119.70
1	XA	410	G	P-O3'-C3'	6.08	127.00	119.70
35	YA	153	C	N1-C2-O2	6.08	122.55	118.90
42	YI	141	LYS	CB-CA-C	-6.08	98.24	110.40
35	YA	234	C	C6-N1-C2	-6.08	117.87	120.30
36	RB	8	U	C6-N1-C2	-6.08	117.35	121.00
35	RA	647	G	C8-N9-C4	-6.08	103.97	106.40
35	YA	642	G	N9-C4-C5	6.08	107.83	105.40
35	YA	2041	U	N1-C2-O2	6.08	127.05	122.80
1	QA	1009	G	O5'-P-OP1	6.07	117.99	110.70
35	RA	1417	C	C6-N1-C2	-6.07	117.87	120.30
1	QA	704	A	C8-N9-C4	-6.07	103.37	105.80
35	RA	9	U	C2-N1-C1'	6.07	124.98	117.70
35	RA	2847	U	N1-C2-O2	6.07	127.05	122.80
35	YA	1776	G	N3-C4-C5	-6.07	125.56	128.60
1	QA	486	U	N3-C2-O2	-6.07	117.95	122.20
1	QA	1094	G	N9-C1'-C2'	-6.07	105.33	112.00
35	YA	2286	A	C5-N7-C8	-6.07	100.87	103.90
35	RA	945	A	N3-C4-C5	6.07	131.05	126.80
1	XA	975	A	C6-C5-N7	-6.07	128.06	132.30
35	YA	613	U	C6-N1-C2	-6.07	117.36	121.00
35	YA	1306	C	C2-N3-C4	6.07	122.93	119.90
35	YA	2477	C	C6-N1-C1'	-6.07	113.52	120.80
35	YA	2814	C	C6-N1-C2	-6.06	117.88	120.30
35	RA	74	A	N3-C4-N9	-6.06	122.55	127.40
35	YA	1000	A	C8-N9-C4	-6.06	103.38	105.80
1	QA	1502	A	N1-C6-N6	6.06	122.24	118.60
22	QV	17	C	C6-N1-C1'	6.06	128.07	120.80
35	RA	9	U	C5-C6-N1	6.06	125.73	122.70
35	YA	1488	G	C8-N9-C4	-6.06	103.98	106.40
35	YA	2689	U	C5-C6-N1	-6.06	119.67	122.70
35	YA	1915	U	N3-C2-O2	-6.06	117.96	122.20
35	YA	859	G	P-O3'-C3'	6.05	126.97	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	1640	C	C6-N1-C2	-6.05	117.88	120.30
35	RA	2144	U	OP1-P-O3'	6.05	118.51	105.20
4	XD	191	ARG	CG-CD-NE	6.05	124.50	111.80
35	RA	2476	A	C8-N9-C4	-6.05	103.38	105.80
35	YA	895	U	C6-N1-C1'	-6.05	112.73	121.20
35	RA	770	G	C8-N9-C4	-6.05	103.98	106.40
35	RA	1864	U	C6-N1-C2	-6.05	117.37	121.00
35	RA	2688	U	C4-C5-C6	6.04	123.33	119.70
19	XS	14	HIS	N-CA-C	-6.04	94.68	111.00
13	QM	71	ARG	CG-CD-NE	-6.04	99.11	111.80
35	RA	1790	C	C6-N1-C2	6.04	122.72	120.30
1	XA	191(E)	G	N1-C6-O6	-6.04	116.27	119.90
1	XA	749	C	C6-N1-C2	-6.04	117.88	120.30
35	RA	933	A	N1-C6-N6	6.04	122.22	118.60
35	YA	672	C	C6-N1-C2	-6.04	117.88	120.30
35	YA	2422	A	OP1-P-O3'	6.04	118.49	105.20
1	QA	1145	C	C2-N1-C1'	6.04	125.44	118.80
41	RH	86	GLU	CB-CA-C	-6.04	98.32	110.40
1	XA	1356	G	N9-C4-C5	-6.04	102.98	105.40
35	YA	2561	A	C2-N3-C4	6.04	113.62	110.60
35	YA	2360	A	N1-C6-N6	-6.04	114.98	118.60
35	RA	2311	A	P-O3'-C3'	6.04	126.94	119.70
35	YA	2073	C	C6-N1-C2	-6.04	117.89	120.30
1	QA	397	A	C8-N9-C4	-6.03	103.39	105.80
1	QA	656	C	C6-N1-C2	-6.03	117.89	120.30
35	RA	93	C	C5-C6-N1	6.03	124.02	121.00
35	RA	494	G	N3-C4-N9	6.03	129.62	126.00
35	RA	1180	C	C2-N1-C1'	6.03	125.43	118.80
35	YA	1313	U	N1-C2-O2	6.03	127.02	122.80
35	RA	445	C	N3-C4-C5	-6.03	119.49	121.90
35	YA	2316	C	C6-N1-C2	-6.03	117.89	120.30
35	RA	1523	U	C6-N1-C2	-6.03	117.38	121.00
55	RZ	82	ARG	CA-CB-CG	6.03	126.66	113.40
1	XA	54	C	C6-N1-C2	-6.03	117.89	120.30
1	XA	252	U	C2-N1-C1'	6.03	124.93	117.70
35	RA	738	G	N3-C4-N9	6.02	129.61	126.00
35	RA	1950	G	O4'-C1'-N9	6.02	113.02	108.20
1	XA	1158	C	C6-N1-C2	-6.02	117.89	120.30
35	YA	2776	A	P-O3'-C3'	6.02	126.93	119.70
35	RA	615	G	C4-N9-C1'	-6.02	118.67	126.50
1	XA	315	A	OP2-P-O3'	6.02	118.45	105.20
1	XA	960	U	P-O3'-C3'	6.02	126.93	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	91	C	C5-C6-N1	6.02	124.01	121.00
35	RA	1499	C	N1-C2-O2	6.02	122.51	118.90
35	YA	1521	G	N3-C4-C5	-6.02	125.59	128.60
35	RA	995	C	N3-C2-O2	6.02	126.11	121.90
35	RA	2244	U	C6-N1-C2	-6.02	117.39	121.00
35	YA	1588	C	C6-N1-C1'	-6.02	113.58	120.80
35	YA	1656	C	C5-C6-N1	6.02	124.01	121.00
35	YA	1698	A	C5-N7-C8	-6.02	100.89	103.90
1	XA	1227	A	N1-C6-N6	6.02	122.21	118.60
35	YA	692	C	P-O3'-C3'	6.02	126.92	119.70
35	YA	2444	G	C5-C6-O6	6.02	132.21	128.60
35	RA	1210	A	N1-C6-N6	6.02	122.21	118.60
35	YA	2604	U	C5-C6-N1	6.02	125.71	122.70
35	RA	912	C	C2-N1-C1'	6.01	125.42	118.80
35	RA	2161	C	C5-C6-N1	6.01	124.01	121.00
35	YA	1407	C	N3-C2-O2	-6.01	117.69	121.90
1	XA	64	G	C8-N9-C4	6.01	108.81	106.40
1	QA	250	A	P-O3'-C3'	6.01	126.91	119.70
35	RA	603	A	C8-N9-C4	-6.01	103.39	105.80
1	XA	1356	G	C6-C5-N7	-6.01	126.79	130.40
35	RA	69	C	C6-N1-C1'	-6.01	113.59	120.80
35	RA	1346	G	C8-N9-C4	6.01	108.80	106.40
35	RA	2032	G	C4-N9-C1'	-6.01	118.69	126.50
35	YA	775	G	N9-C4-C5	6.01	107.80	105.40
35	YA	1338	G	C8-N9-C4	-6.01	104.00	106.40
35	RA	855	G	C4-C5-N7	-6.01	108.40	110.80
1	XA	1334	G	C8-N9-C4	-6.00	104.00	106.40
1	XA	743	U	N1-C2-O2	6.00	127.00	122.80
2	XB	111	ARG	N-CA-CB	-6.00	99.79	110.60
35	YA	2889	C	C2-N1-C1'	6.00	125.40	118.80
35	RA	2794	C	C6-N1-C2	-6.00	117.90	120.30
35	YA	2346	A	N3-C4-C5	6.00	131.00	126.80
1	QA	958	A	O5'-P-OP2	-6.00	100.30	105.70
35	RA	30	G	C8-N9-C4	-6.00	104.00	106.40
35	RA	686	G	C4-C5-N7	6.00	113.20	110.80
35	YA	2210	G	N3-C4-N9	6.00	129.60	126.00
54	YY	40	GLU	CB-CA-C	-6.00	98.41	110.40
35	RA	435	C	N1-C2-O2	6.00	122.50	118.90
35	RA	1694	C	P-O3'-C3'	6.00	126.90	119.70
35	RA	2779	U	C5-C6-N1	-6.00	119.70	122.70
1	XA	1000	A	P-O3'-C3'	6.00	126.90	119.70
35	YA	110	G	C8-N9-C4	6.00	108.80	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	279	A	P-O3'-C3'	6.00	126.89	119.70
35	RA	2465	C	C6-N1-C2	-6.00	117.90	120.30
1	XA	1162	C	C6-N1-C2	-6.00	117.90	120.30
35	YA	1261	C	C6-N1-C2	5.99	122.70	120.30
35	YA	286	C	C6-N1-C1'	-5.99	113.61	120.80
35	YA	860	U	C6-N1-C2	-5.99	117.41	121.00
35	YA	2798	C	C6-N1-C2	-5.99	117.90	120.30
35	YA	2896	C	C6-N1-C2	-5.99	117.90	120.30
35	RA	1879	C	C6-N1-C2	-5.99	117.90	120.30
35	RA	349	G	C2-N3-C4	5.99	114.89	111.90
35	YA	1437	C	C2-N1-C1'	5.99	125.39	118.80
35	YA	2371	G	C8-N9-C4	-5.99	104.00	106.40
35	RA	2342	C	C5-C6-N1	5.99	123.99	121.00
1	XA	1138	G	C8-N9-C1'	-5.99	119.22	127.00
1	QA	174	C	C6-N1-C2	-5.99	117.91	120.30
35	RA	1640	C	C5-C6-N1	5.99	123.99	121.00
35	YA	2501	C	C2-N3-C4	-5.99	116.91	119.90
4	QD	192	GLU	CA-CB-CG	5.98	126.56	113.40
1	XA	186(B)	C	C6-N1-C2	-5.98	117.91	120.30
35	YA	1342	A	N1-C2-N3	5.98	132.29	129.30
40	YG	180	PHE	CB-CG-CD1	5.98	124.98	120.80
1	QA	153	C	C6-N1-C2	-5.97	117.91	120.30
35	RA	248	G	N1-C6-O6	5.97	123.48	119.90
35	YA	1881	C	N1-C2-O2	5.97	122.48	118.90
20	QT	91	LEU	CB-CG-CD2	-5.97	100.85	111.00
35	RA	530	G	C6-C5-N7	-5.97	126.82	130.40
35	RA	615	G	C2-N3-C4	5.97	114.88	111.90
36	RB	44	G	C4-N9-C1'	-5.97	118.74	126.50
1	QA	1300	G	P-O3'-C3'	5.97	126.86	119.70
35	RA	2696	U	N3-C2-O2	-5.96	118.03	122.20
36	RB	102	G	C5-C6-O6	5.96	132.18	128.60
1	XA	341	C	C6-N1-C2	-5.96	117.92	120.30
1	XA	1138	G	C4-N9-C1'	5.96	134.25	126.50
35	YA	1586	A	N7-C8-N9	5.96	116.78	113.80
35	YA	2322	A	N1-C6-N6	5.96	122.18	118.60
1	QA	556	C	C6-N1-C2	-5.96	117.92	120.30
35	YA	1135	C	C4-C5-C6	-5.96	114.42	117.40
35	YA	2032	G	C5-C6-O6	-5.96	125.02	128.60
35	YA	2168	G	C4-N9-C1'	5.96	134.25	126.50
35	RA	729	G	C8-N9-C4	-5.96	104.02	106.40
41	RH	18	GLU	CB-CG-CD	-5.96	98.11	114.20
1	XA	1263	C	N1-C2-O2	5.96	122.47	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1694	C	P-O3'-C3'	5.96	126.85	119.70
35	RA	2272	U	C6-N1-C2	5.96	124.57	121.00
35	RA	2448	A	N1-C6-N6	5.96	122.17	118.60
1	XA	575	G	N7-C8-N9	-5.96	110.12	113.10
1	QA	31	G	P-O3'-C3'	5.96	126.85	119.70
1	XA	1028	C	C6-N1-C1'	5.96	127.95	120.80
1	XA	419	C	C2-N1-C1'	5.95	125.35	118.80
35	YA	1261	C	N3-C4-C5	5.95	124.28	121.90
35	RA	845	G	P-O3'-C3'	5.95	126.84	119.70
35	YA	352	G	P-O3'-C3'	5.95	126.84	119.70
35	YA	288	C	N1-C2-O2	5.95	122.47	118.90
26	R1	82	LEU	C-N-CA	5.95	136.57	121.70
35	YA	1299	G	C5-C6-O6	-5.95	125.03	128.60
35	YA	2605	U	N3-C2-O2	-5.95	118.04	122.20
35	RA	2130	U	O4'-C1'-N1	5.95	112.96	108.20
35	YA	174	C	N1-C2-O2	5.95	122.47	118.90
22	QW	68	C	C2-N1-C1'	5.94	125.34	118.80
35	YA	2028	U	C4-C5-C6	5.94	123.27	119.70
1	XA	250	A	P-O3'-C3'	5.94	126.83	119.70
35	YA	403	U	N1-C2-O2	5.94	126.96	122.80
35	RA	1021	A	C6-C5-N7	-5.94	128.14	132.30
35	RA	2128	C	C6-N1-C2	-5.94	117.92	120.30
35	RA	814	C	N3-C4-C5	-5.94	119.53	121.90
35	RA	265	A	N7-C8-N9	5.94	116.77	113.80
35	RA	1950	G	C4-C5-N7	5.93	113.17	110.80
35	YA	1233	C	C2-N3-C4	5.93	122.87	119.90
35	YA	2062	A	C2-N3-C4	5.93	113.57	110.60
1	XA	410	G	OP1-P-O3'	5.93	118.25	105.20
1	XA	1502	A	C5-C6-N6	-5.93	118.95	123.70
35	YA	739	G	C8-N9-C4	-5.93	104.03	106.40
35	YA	2346	A	C5-C6-N1	-5.93	114.73	117.70
29	R4	67	TYR	CA-CB-CG	5.93	124.67	113.40
35	RA	818	G	N3-C4-N9	5.93	129.56	126.00
35	RA	1427	A	P-O3'-C3'	5.93	126.82	119.70
35	YA	1676	A	C8-N9-C4	-5.93	103.43	105.80
35	RA	1658	C	C6-N1-C2	-5.93	117.93	120.30
1	XA	897	C	C6-N1-C2	-5.93	117.93	120.30
35	YA	2128	C	N1-C2-O2	5.93	122.46	118.90
35	RA	1588	C	C2-N1-C1'	5.93	125.32	118.80
35	RA	2605	U	N3-C2-O2	-5.93	118.05	122.20
1	XA	31	G	P-O3'-C3'	5.93	126.81	119.70
22	QW	69	C	C6-N1-C2	-5.93	117.93	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	596	C	C2-N1-C1'	5.92	125.32	118.80
35	RA	894	C	N3-C2-O2	-5.92	117.75	121.90
35	RA	2238	G	C8-N9-C4	-5.92	104.03	106.40
35	RA	1364	G	C6-C5-N7	-5.92	126.85	130.40
35	RA	2542	A	N1-C6-N6	5.92	122.15	118.60
35	YA	1899	G	C5-C6-O6	-5.92	125.05	128.60
23	QX	10	G	O5'-P-OP1	-5.92	100.37	105.70
35	RA	1180	C	C5-C6-N1	5.92	123.96	121.00
35	RA	1948	G	N3-C4-C5	-5.92	125.64	128.60
35	RA	2212	A	O5'-P-OP1	-5.92	100.37	105.70
1	XA	848	C	C2-N1-C1'	5.92	125.31	118.80
35	YA	2518	A	C5-N7-C8	-5.92	100.94	103.90
35	YA	2723	C	N3-C4-C5	-5.92	119.53	121.90
35	RA	708	C	N1-C2-O2	5.92	122.45	118.90
35	RA	1248	G	C8-N9-C4	5.92	108.77	106.40
1	QA	1028(B)	C	C5-C6-N1	5.92	123.96	121.00
35	RA	954	G	N1-C6-O6	-5.92	116.35	119.90
35	RA	2831	G	N9-C4-C5	5.92	107.77	105.40
1	XA	341	C	C5-C6-N1	5.92	123.96	121.00
1	XA	872	A	C2-N3-C4	-5.92	107.64	110.60
1	QA	674	G	C8-N9-C4	-5.92	104.03	106.40
35	RA	654(Q)	C	C5-C6-N1	5.92	123.96	121.00
35	RA	2584	U	N1-C2-O2	5.92	126.94	122.80
35	YA	352	G	C4-N9-C1'	5.92	134.19	126.50
1	XA	1053	G	C8-N9-C4	5.92	108.77	106.40
35	YA	1838	C	N1-C2-O2	-5.92	115.35	118.90
35	YA	621	A	C5-C6-N1	-5.91	114.74	117.70
1	QA	267	C	C5-C6-N1	5.91	123.95	121.00
35	RA	1781	C	N1-C2-O2	5.91	122.45	118.90
35	YA	1830	C	N1-C2-O2	5.91	122.45	118.90
1	QA	1412	C	C6-N1-C2	-5.91	117.94	120.30
35	RA	1475	G	N3-C4-N9	5.91	129.54	126.00
35	YA	1687	G	C5-C6-O6	5.91	132.14	128.60
35	RA	2043	C	C2-N1-C1'	5.91	125.30	118.80
29	R4	22	ILE	C-N-CA	5.90	136.45	121.70
22	XW	61	C	O5'-P-OP2	-5.90	100.39	105.70
35	YA	1203	G	C5-C6-O6	5.90	132.14	128.60
1	QA	1313	U	O5'-P-OP2	-5.90	100.39	105.70
22	XW	22	G	O4'-C1'-N9	5.90	112.92	108.20
35	YA	481	G	O4'-C1'-N9	5.90	112.92	108.20
35	YA	1075	C	C6-N1-C2	-5.90	117.94	120.30
1	QA	1317	C	C2-N1-C1'	5.89	125.28	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1297	C	C6-N1-C2	-5.89	117.94	120.30
35	RA	510	C	N1-C2-O2	5.89	122.44	118.90
35	RA	1776	G	N3-C4-N9	5.89	129.53	126.00
35	RA	2168	G	C8-N9-C1'	-5.89	119.34	127.00
35	RA	2551	C	C6-N1-C2	-5.89	117.94	120.30
35	YA	634	C	C5-C6-N1	5.89	123.95	121.00
35	YA	2167	U	N1-C2-O2	5.89	126.92	122.80
35	YA	911	A	N1-C6-N6	5.89	122.14	118.60
1	QA	1423	G	N3-C4-C5	-5.89	125.66	128.60
1	XA	455	C	N3-C2-O2	-5.89	117.78	121.90
35	YA	1675	C	N3-C2-O2	-5.89	117.78	121.90
35	YA	678	C	C6-N1-C2	-5.88	117.95	120.30
35	RA	1502	C	C5-C6-N1	5.88	123.94	121.00
1	XA	419	C	C6-N1-C2	-5.88	117.95	120.30
1	QA	1086	U	C5-C6-N1	5.88	125.64	122.70
1	QA	1086	U	C6-N1-C2	-5.88	117.47	121.00
35	RA	1191	G	C8-N9-C4	5.88	108.75	106.40
35	YA	1499	C	C2-N1-C1'	5.88	125.27	118.80
35	RA	1437	C	C2-N1-C1'	5.88	125.27	118.80
35	RA	1735	C	C2-N1-C1'	5.88	125.27	118.80
1	XA	1007	C	N1-C2-O2	5.88	122.43	118.90
1	XA	1381	U	C5-C4-O4	5.88	129.43	125.90
35	RA	2211	G	N3-C4-N9	5.88	129.53	126.00
1	XA	442	C	N1-C2-O2	5.88	122.42	118.90
1	QA	1493	A	C8-N9-C4	-5.87	103.45	105.80
35	RA	1786	A	N9-C4-C5	-5.87	103.45	105.80
1	XA	690	G	N7-C8-N9	5.87	116.04	113.10
35	YA	52	A	N9-C4-C5	-5.87	103.45	105.80
35	YA	2712	U	N1-C2-O2	5.87	126.91	122.80
35	RA	1964	G	C8-N9-C4	5.87	108.75	106.40
1	XA	971	G	N3-C4-C5	5.87	131.53	128.60
35	YA	775	G	C8-N9-C4	-5.87	104.05	106.40
1	XA	1053	G	C5-C6-O6	-5.87	125.08	128.60
35	RA	1544	C	C5-C6-N1	5.87	123.93	121.00
35	RA	1888	G	C2-N3-C4	5.87	114.83	111.90
15	XO	77	ARG	CD-NE-CZ	5.87	131.81	123.60
35	YA	1475	G	C4-N9-C1'	5.87	134.12	126.50
35	YA	1427	A	P-O3'-C3'	5.86	126.74	119.70
35	RA	2874	C	C2-N1-C1'	5.86	125.25	118.80
35	RA	1005	C	C6-N1-C2	-5.86	117.96	120.30
35	RA	2126	A	C2-N3-C4	5.86	113.53	110.60
35	RA	2099	U	N3-C2-O2	-5.86	118.10	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2377	A	OP1-P-O3'	5.86	118.09	105.20
35	YA	2513	G	C4-C5-N7	5.86	113.14	110.80
35	RA	2161	C	C6-N1-C2	-5.86	117.96	120.30
35	RA	2733	A	C4-N9-C1'	5.86	136.84	126.30
40	RG	173	LEU	CB-CA-C	5.86	121.33	110.20
1	XA	193	C	C5-C6-N1	5.86	123.93	121.00
35	YA	565	C	C5-C4-N4	-5.85	116.10	120.20
35	YA	1992	G	C8-N9-C4	-5.85	104.06	106.40
35	RA	2196	C	C6-N1-C2	-5.85	117.96	120.30
35	RA	2688	U	N1-C2-O2	5.85	126.90	122.80
35	RA	2873	A	C2-N3-C4	-5.85	107.67	110.60
35	YA	2527	C	C5-C6-N1	5.85	123.93	121.00
35	RA	79	G	N9-C4-C5	5.85	107.74	105.40
43	RN	12	ARG	CG-CD-NE	5.85	124.08	111.80
1	XA	209	U	C2-N1-C1'	5.85	124.72	117.70
35	YA	12	U	C6-N1-C1'	-5.85	113.01	121.20
35	RA	873	G	C2-N3-C4	5.85	114.82	111.90
35	YA	1342	A	C5-N7-C8	-5.85	100.98	103.90
35	YA	2602	A	C5-C6-N6	-5.85	119.02	123.70
35	RA	851	U	N3-C2-O2	-5.84	118.11	122.20
1	XA	455	C	N1-C2-O2	5.84	122.41	118.90
2	XB	135	GLN	CB-CA-C	-5.84	98.71	110.40
35	YA	143	C	C5-C6-N1	5.84	123.92	121.00
35	YA	613	U	O4'-C1'-N1	5.84	112.88	108.20
35	YA	930	U	N1-C2-O2	5.84	126.89	122.80
35	YA	2210	G	N3-C4-C5	-5.84	125.68	128.60
1	QA	1423	G	C8-N9-C4	-5.84	104.06	106.40
1	QA	120	A	N1-C6-N6	5.84	122.10	118.60
33	R8	40	GLU	CB-CA-C	5.84	122.08	110.40
2	XB	137	ARG	CA-CB-CG	5.84	126.25	113.40
35	YA	621	A	C6-N1-C2	5.84	122.10	118.60
35	YA	997	G	C8-N9-C4	-5.84	104.06	106.40
35	YA	512	G	OP2-P-O3'	5.83	118.04	105.20
1	XA	1151	A	O4'-C1'-N9	5.83	112.87	108.20
45	RP	8	PRO	CA-N-CD	5.83	119.86	111.70
35	RA	2080	G	C2-N3-C4	5.83	114.81	111.90
1	QA	1007	C	OP1-P-O3'	5.83	118.02	105.20
35	RA	2573	C	N1-C2-O2	5.83	122.39	118.90
1	XA	410	G	N9-C4-C5	5.83	107.73	105.40
4	XD	145	GLU	CA-CB-CG	5.83	126.22	113.40
35	YA	894	C	C5-C6-N1	5.83	123.91	121.00
35	YA	1020	A	N1-C2-N3	-5.83	126.39	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	82	G	C5-C6-O6	5.82	132.09	128.60
1	QA	1222	G	C5-C6-N1	-5.82	108.59	111.50
35	RA	2605	U	N3-C4-O4	-5.82	115.33	119.40
1	XA	1263	C	C2-N1-C1'	5.82	125.20	118.80
35	YA	435	C	N1-C2-O2	5.82	122.39	118.90
22	QV	17(A)	U	P-O3'-C3'	5.82	126.68	119.70
22	XW	65	C	C6-N1-C2	-5.82	117.97	120.30
1	QA	183	G	N3-C4-N9	5.82	129.49	126.00
1	QA	346	G	C4-N9-C1'	5.82	134.06	126.50
1	XA	818	G	C8-N9-C1'	-5.82	119.44	127.00
1	XA	1228	C	C6-N1-C2	-5.82	117.97	120.30
35	RA	2896	C	C6-N1-C2	-5.81	117.97	120.30
35	RA	2427	C	C6-N1-C2	5.81	122.62	120.30
35	YA	1695	G	N9-C4-C5	-5.81	103.08	105.40
1	XA	1128	C	C2-N1-C1'	5.81	125.19	118.80
1	QA	458	C	C6-N1-C2	-5.81	117.98	120.30
35	RA	752	A	P-O3'-C3'	5.81	126.67	119.70
35	RA	1443	G	N3-C4-C5	-5.81	125.70	128.60
35	RA	2393	A	C8-N9-C4	-5.81	103.48	105.80
3	XC	127	ARG	N-CA-C	5.81	126.68	111.00
1	QA	960	U	N1-C2-O2	5.81	126.86	122.80
35	RA	172	C	C5-C6-N1	5.80	123.90	121.00
35	YA	234	C	N3-C2-O2	-5.80	117.84	121.90
35	YA	729	G	N3-C2-N2	-5.80	115.84	119.90
35	YA	1256	G	C4-N9-C1'	5.80	134.05	126.50
35	YA	1258	C	C6-N1-C2	-5.80	117.98	120.30
35	RA	265	A	O4'-C1'-N9	5.80	112.84	108.20
35	RA	769	G	C5-C6-N1	5.80	114.40	111.50
1	QA	1432	G	N1-C6-O6	5.80	123.38	119.90
35	RA	1241	A	C6-C5-N7	-5.80	128.24	132.30
35	YA	1882	C	C5-C6-N1	5.80	123.90	121.00
35	RA	1930	G	OP2-P-O3'	5.80	117.96	105.20
35	RA	2868	A	C8-N9-C4	-5.80	103.48	105.80
1	QA	1066	C	C6-N1-C2	-5.79	117.98	120.30
35	RA	1011	G	C6-C5-N7	5.79	133.88	130.40
35	RA	2371	G	C5-C6-O6	5.79	132.08	128.60
35	RA	686	G	C5-C6-O6	-5.79	125.12	128.60
42	RI	25	TYR	N-CA-CB	-5.79	100.17	110.60
35	YA	1021	A	C2-N3-C4	-5.79	107.70	110.60
35	RA	1475	G	N3-C4-C5	-5.79	125.70	128.60
35	RA	2447	G	N1-C6-O6	5.79	123.38	119.90
35	YA	343	C	C2-N1-C1'	5.79	125.17	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	860	U	C2-N1-C1'	5.79	124.65	117.70
48	YS	23	ARG	N-CA-CB	-5.79	100.18	110.60
1	XA	1279	A	C8-N9-C4	-5.79	103.48	105.80
12	XL	48	PRO	CA-N-CD	5.79	119.81	111.70
35	YA	2316	C	C2-N1-C1'	5.79	125.17	118.80
1	QA	197	A	N1-C6-N6	5.79	122.07	118.60
35	RA	128	C	P-O3'-C3'	5.79	126.65	119.70
36	YB	22	U	N3-C2-O2	-5.79	118.15	122.20
1	QA	1373	G	N1-C6-O6	-5.79	116.43	119.90
1	XA	389	A	C8-N9-C4	-5.79	103.48	105.80
35	YA	2253	G	N9-C4-C5	-5.79	103.08	105.40
10	QJ	74	ILE	C-N-CA	5.79	136.16	121.70
35	RA	311	A	N1-C6-N6	5.79	122.07	118.60
35	RA	528	A	N1-C2-N3	5.79	132.19	129.30
35	YA	240	G	N9-C4-C5	5.79	107.71	105.40
35	YA	2307	G	O4'-C1'-N9	5.78	112.83	108.20
22	QV	1	C	C2'-C3'-O3'	5.78	122.95	113.70
35	RA	1248	G	N9-C4-C5	-5.78	103.09	105.40
35	RA	494	G	C6-C5-N7	-5.78	126.93	130.40
35	RA	2394	C	C2-N1-C1'	5.78	125.16	118.80
1	XA	1300	G	P-O3'-C3'	5.78	126.63	119.70
1	QA	455	C	C5-C6-N1	5.78	123.89	121.00
1	QA	1532	U	OP2-P-O3'	5.78	117.91	105.20
35	RA	860	U	N3-C4-O4	5.78	123.44	119.40
35	RA	1121	C	C6-N1-C2	-5.78	117.99	120.30
35	YA	274	G	C4-N9-C1'	-5.78	118.99	126.50
1	XA	971	G	C4-N9-C1'	-5.77	118.99	126.50
35	RA	2326	C	C6-N1-C2	-5.77	117.99	120.30
35	YA	141	A	C2-N3-C4	-5.77	107.71	110.60
22	QV	34	C	N1-C2-O2	5.77	122.36	118.90
1	QA	75	C	C6-N1-C2	-5.77	117.99	120.30
1	QA	108	G	C8-N9-C1'	-5.77	119.50	127.00
35	RA	1152	C	C5-C6-N1	5.77	123.89	121.00
1	XA	980	C	C6-N1-C1'	-5.77	113.88	120.80
35	YA	2321	G	N3-C4-C5	-5.77	125.72	128.60
35	YA	2748	A	C5-N7-C8	-5.77	101.02	103.90
1	QA	1411	C	C6-N1-C2	-5.77	117.99	120.30
35	RA	676	A	C6-N1-C2	5.77	122.06	118.60
1	QA	435	C	C2-N1-C1'	5.77	125.14	118.80
35	RA	686	G	N3-C2-N2	5.77	123.94	119.90
2	XB	111	ARG	CB-CA-C	5.77	121.93	110.40
35	RA	1407	C	C2-N3-C4	5.76	122.78	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	388	G	N1-C6-O6	-5.76	116.44	119.90
9	XI	20	ARG	CA-CB-CG	-5.76	100.72	113.40
27	R2	15	LYS	N-CA-CB	5.76	120.97	110.60
35	YA	1930	G	N1-C6-O6	5.76	123.36	119.90
1	QA	243	A	P-O3'-C3'	5.76	126.61	119.70
36	YB	30	C	C6-N1-C2	-5.76	118.00	120.30
35	RA	1005	C	C2-N1-C1'	5.76	125.14	118.80
35	RA	1102	C	C5-C6-N1	5.76	123.88	121.00
1	XA	596	C	C6-N1-C2	-5.76	118.00	120.30
1	XA	1532	U	OP2-P-O3'	5.76	117.87	105.20
35	YA	115	C	C6-N1-C2	-5.76	118.00	120.30
36	YB	99	A	C8-N9-C4	-5.76	103.50	105.80
35	RA	2161	C	C6-N1-C1'	-5.76	113.89	120.80
35	YA	1004	C	N3-C4-C5	-5.76	119.60	121.90
35	YA	1786	A	C4-N9-C1'	5.76	136.66	126.30
1	QA	779	C	N1-C2-O2	5.76	122.35	118.90
1	QA	1536	C	C6-N1-C2	-5.76	118.00	120.30
1	QA	943	U	N3-C2-O2	-5.75	118.17	122.20
1	XA	442	C	C6-N1-C2	-5.75	118.00	120.30
1	XA	785	G	C8-N9-C4	5.75	108.70	106.40
35	YA	672	C	C2-N3-C4	5.75	122.78	119.90
35	YA	1786	A	N9-C4-C5	-5.75	103.50	105.80
35	YA	2579	C	N3-C4-C5	-5.75	119.60	121.90
1	QA	1008	C	C5-C6-N1	5.75	123.88	121.00
1	XA	1533	C	C6-N1-C2	-5.75	118.00	120.30
35	RA	1559	G	P-O3'-C3'	5.75	126.60	119.70
35	YA	1021	A	C5-N7-C8	-5.75	101.03	103.90
35	YA	1233	C	C2-N1-C1'	5.75	125.12	118.80
35	YA	388	G	O4'-C1'-N9	5.75	112.80	108.20
1	QA	971	G	C4-N9-C1'	-5.75	119.03	126.50
35	RA	570	G	N9-C4-C5	5.75	107.70	105.40
35	RA	758	C	N3-C2-O2	-5.75	117.88	121.90
35	YA	2169	A	C8-N9-C1'	-5.75	117.36	127.70
35	RA	473	G	N9-C4-C5	-5.74	103.10	105.40
35	RA	911	A	C8-N9-C4	-5.74	103.50	105.80
35	RA	1502	C	C2-N1-C1'	5.74	125.12	118.80
1	XA	947	G	N7-C8-N9	5.74	115.97	113.10
35	YA	2028	U	N3-C4-O4	5.74	123.42	119.40
35	YA	270(U)	C	C2-N1-C1'	5.74	125.11	118.80
35	YA	556	G	N1-C6-O6	5.74	123.34	119.90
35	YA	2827	C	C5-C6-N1	5.74	123.87	121.00
1	QA	251	G	N1-C6-O6	5.74	123.34	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	179	G	C8-N9-C4	-5.74	104.10	106.40
35	RA	1774	C	C6-N1-C2	-5.74	118.00	120.30
35	YA	2287	A	C8-N9-C1'	5.74	138.03	127.70
1	XA	1470	G	C8-N9-C4	5.74	108.69	106.40
1	QA	664	G	C5-C6-O6	5.74	132.04	128.60
35	RA	174	C	C6-N1-C2	-5.74	118.01	120.30
35	RA	265	A	C4-C5-N7	5.74	113.57	110.70
35	RA	1011	G	C8-N9-C1'	5.74	134.46	127.00
35	RA	1437	C	C6-N1-C2	-5.74	118.01	120.30
35	YA	812	C	N3-C4-C5	-5.74	119.61	121.90
36	YB	101	A	N1-C6-N6	-5.74	115.16	118.60
35	RA	2776	A	P-O3'-C3'	5.73	126.58	119.70
35	RA	1669	A	C5-C6-N1	5.73	120.57	117.70
1	XA	279	A	P-O3'-C3'	5.73	126.58	119.70
35	RA	234	C	N3-C2-O2	-5.73	117.89	121.90
22	QV	68	C	C2-N1-C1'	5.73	125.10	118.80
35	RA	2284	C	C6-N1-C2	-5.73	118.01	120.30
1	XA	175	C	C6-N1-C2	-5.73	118.01	120.30
35	YA	1314	C	C5-C6-N1	5.73	123.86	121.00
1	QA	972	C	C6-N1-C2	-5.72	118.01	120.30
35	RA	1022	G	N1-C6-O6	-5.72	116.47	119.90
35	RA	1631	A	N1-C6-N6	5.72	122.03	118.60
35	RA	2490	G	C5-N7-C8	-5.72	101.44	104.30
42	RI	77	LEU	CA-CB-CG	5.72	128.47	115.30
41	RH	61	HIS	CB-CA-C	-5.72	98.95	110.40
35	YA	859	G	C2-N3-C4	-5.72	109.04	111.90
1	QA	1086	U	N3-C2-O2	-5.72	118.20	122.20
35	RA	1970	A	C8-N9-C4	-5.72	103.51	105.80
35	YA	2099	U	C2-N1-C1'	5.72	124.56	117.70
35	YA	893	C	C6-N1-C2	-5.72	118.01	120.30
35	RA	1430	C	C5-C6-N1	5.72	123.86	121.00
2	XB	18	GLY	N-CA-C	5.72	127.39	113.10
35	YA	2167	U	C6-N1-C1'	-5.72	113.20	121.20
1	QA	1301	U	C6-N1-C1'	-5.71	113.20	121.20
1	XA	1160	G	O4'-C1'-N9	-5.71	103.63	108.20
35	RA	2827	C	C6-N1-C1'	-5.71	113.94	120.80
35	RA	2844	G	C6-C5-N7	-5.71	126.97	130.40
35	YA	1627	G	N1-C6-O6	5.71	123.33	119.90
35	RA	330	A	N1-C6-N6	5.71	122.03	118.60
1	QA	1231	G	N1-C6-O6	-5.71	116.47	119.90
35	YA	687	C	N3-C2-O2	-5.71	117.90	121.90
35	YA	859	G	N3-C4-C5	5.71	131.45	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	336	C	C6-N1-C2	-5.71	118.02	120.30
35	YA	761	A	N1-C6-N6	5.71	122.02	118.60
41	RH	2	SER	CB-CA-C	5.71	120.94	110.10
35	RA	2584	U	C5-C4-O4	5.70	129.32	125.90
1	XA	686	U	C5-C6-N1	-5.70	119.85	122.70
22	XV	20	U	C2-N1-C1'	5.70	124.55	117.70
35	YA	859	G	C5-C6-N1	-5.70	108.65	111.50
35	YA	2607	G	N3-C2-N2	5.70	123.89	119.90
35	RA	141	A	N7-C8-N9	5.70	116.65	113.80
35	RA	1936	A	N1-C6-N6	5.70	122.02	118.60
40	YG	78	SER	N-CA-CB	5.70	119.05	110.50
1	QA	4	U	C2-N3-C4	5.70	130.42	127.00
35	RA	2474	C	C5-C6-N1	5.70	123.85	121.00
35	YA	955	C	N3-C4-N4	5.70	121.99	118.00
1	QA	1298	C	N3-C4-C5	5.69	124.18	121.90
35	YA	851	U	N3-C2-O2	-5.69	118.21	122.20
1	QA	1357	A	N7-C8-N9	5.69	116.65	113.80
35	RA	343	C	C2-N1-C1'	5.69	125.06	118.80
1	QA	848	C	C6-N1-C2	-5.69	118.02	120.30
35	RA	2318	G	C4-C5-N7	5.69	113.08	110.80
35	YA	2278	A	O4'-C1'-N9	5.69	112.75	108.20
35	YA	2108	C	C6-N1-C2	-5.69	118.03	120.30
35	RA	1979	C	N1-C2-O2	5.69	122.31	118.90
35	YA	198	C	C6-N1-C2	-5.69	118.03	120.30
35	YA	1076	C	C2-N1-C1'	5.69	125.06	118.80
1	QA	812	C	N1-C2-O2	5.69	122.31	118.90
35	RA	1407	C	C6-N1-C1'	-5.69	113.98	120.80
36	RB	66	A	P-O3'-C3'	5.69	126.52	119.70
1	XA	91	C	C6-N1-C2	-5.69	118.03	120.30
1	XA	1160	G	N3-C4-N9	5.68	129.41	126.00
35	YA	686	G	N9-C4-C5	-5.68	103.13	105.40
35	YA	862	G	N3-C4-C5	-5.68	125.76	128.60
35	RA	881	G	C8-N9-C1'	-5.68	119.61	127.00
35	RA	1345	C	C6-N1-C2	-5.68	118.03	120.30
39	RF	44	ARG	CG-CD-NE	5.68	123.73	111.80
22	XV	18	G	C4-N9-C1'	-5.68	119.11	126.50
35	YA	2559	C	C5-C6-N1	5.68	123.84	121.00
35	RA	2827	C	N1-C2-O2	5.68	122.31	118.90
35	YA	2444	G	C5-C6-N1	-5.68	108.66	111.50
1	XA	1028(B)	C	C6-N1-C2	-5.68	118.03	120.30
1	QA	1149	C	C6-N1-C2	-5.68	118.03	120.30
35	RA	86	C	C6-N1-C2	-5.68	118.03	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2607	G	N1-C2-N2	-5.68	111.09	116.20
35	RA	41	C	N1-C2-O2	5.68	122.31	118.90
35	RA	932	G	C5-C6-O6	5.68	132.00	128.60
35	RA	1364	G	N1-C6-O6	5.68	123.31	119.90
35	YA	71	A	C4-C5-N7	5.68	113.54	110.70
35	YA	601	C	C6-N1-C2	-5.68	118.03	120.30
1	QA	674	G	N7-C8-N9	5.67	115.94	113.10
1	XA	331	G	C4-C5-N7	5.67	113.07	110.80
35	YA	1559	G	P-O3'-C3'	5.67	126.51	119.70
35	YA	1786	A	N9-C1'-C2'	5.67	121.38	114.00
1	QA	1362(A)	C	N3-C2-O2	-5.67	117.93	121.90
35	RA	613	U	C6-N1-C1'	-5.67	113.26	121.20
35	YA	603	A	C4-C5-N7	5.67	113.54	110.70
35	RA	1289	C	C5-C6-N1	5.67	123.83	121.00
1	XA	727	G	C4-C5-N7	-5.67	108.53	110.80
1	XA	818	G	C4-N9-C1'	5.67	133.87	126.50
4	XD	145	GLU	CB-CA-C	-5.67	99.06	110.40
35	YA	804	A	C8-N9-C4	5.67	108.07	105.80
35	YA	1505	C	C5-C6-N1	5.67	123.83	121.00
1	XA	58	C	C5-C6-N1	5.67	123.83	121.00
1	XA	428	G	N1-C6-O6	-5.67	116.50	119.90
35	YA	273(D)	C	N1-C2-O2	5.67	122.30	118.90
1	XA	793	U	C5-C6-N1	-5.66	119.87	122.70
35	YA	1496	A	C5-N7-C8	-5.66	101.07	103.90
35	YA	1772	G	N3-C4-N9	5.66	129.40	126.00
35	YA	2701	C	C6-N1-C2	-5.66	118.03	120.30
35	RA	223	A	N1-C6-N6	-5.66	115.20	118.60
35	RA	528	A	N3-C4-N9	-5.66	122.87	127.40
1	XA	1441	G	N1-C6-O6	5.66	123.30	119.90
35	YA	2019	A	N1-C6-N6	5.66	122.00	118.60
35	RA	1142(A)	A	N1-C6-N6	5.66	122.00	118.60
36	RB	102	G	C4-C5-N7	-5.66	108.53	110.80
35	YA	2191	G	P-O3'-C3'	5.66	126.49	119.70
27	R2	15	LYS	CD-CE-NZ	5.66	124.71	111.70
35	RA	1642	G	C8-N9-C4	-5.66	104.14	106.40
35	RA	1695	G	N1-C6-O6	5.66	123.30	119.90
35	YA	974(A)	C	N3-C2-O2	-5.66	117.94	121.90
35	YA	2602	A	C4-N9-C1'	5.66	136.48	126.30
35	RA	2481	G	OP2-P-O3'	5.66	117.64	105.20
1	XA	1325	C	C2-N1-C1'	5.66	125.02	118.80
35	YA	633	A	N1-C6-N6	5.66	121.99	118.60
35	RA	2430	A	N9-C4-C5	-5.65	103.54	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	YP	35	HIS	N-CA-C	5.65	126.27	111.00
46	YQ	59	ARG	CA-CB-CG	5.65	125.84	113.40
55	YZ	10	ARG	CG-CD-NE	-5.65	99.93	111.80
1	QA	1263	C	C6-N1-C1'	-5.65	114.02	120.80
35	RA	201	C	C6-N1-C2	-5.65	118.04	120.30
35	YA	1178	C	N1-C2-O2	5.65	122.29	118.90
35	YA	2208	U	N3-C2-O2	-5.65	118.25	122.20
39	RF	99	TYR	CB-CA-C	5.65	121.70	110.40
35	YA	2857	G	C8-N9-C4	-5.65	104.14	106.40
1	QA	1453	G	C4-C5-N7	5.65	113.06	110.80
35	RA	708	C	N3-C2-O2	-5.65	117.95	121.90
35	RA	1365	A	N1-C6-N6	5.65	121.99	118.60
35	YA	243	U	N1-C2-O2	5.65	126.75	122.80
35	YA	529	A	C2-N3-C4	5.65	113.42	110.60
35	YA	1204	A	O4'-C1'-N9	5.65	112.72	108.20
35	RA	343	C	C6-N1-C2	-5.65	118.04	120.30
1	QA	115	G	C5-C6-N1	5.64	114.32	111.50
1	QA	1006	C	C6-N1-C2	-5.64	118.04	120.30
10	QJ	100	THR	C-N-CA	5.64	135.81	121.70
35	RA	105	C	C5-C6-N1	5.64	123.82	121.00
35	RA	1241	A	C5-N7-C8	-5.64	101.08	103.90
1	XA	341	C	C2-N1-C1'	5.64	125.01	118.80
35	YA	2392	A	C4-C5-C6	5.64	119.82	117.00
35	RA	1397	U	C5-C4-O4	5.64	129.28	125.90
35	RA	1513	C	C5-C4-N4	-5.64	116.25	120.20
1	XA	575	G	C4-C5-N7	-5.64	108.54	110.80
35	YA	2032	G	N9-C1'-C2'	-5.64	105.79	112.00
45	RP	7	ARG	CG-CD-NE	5.64	123.65	111.80
35	YA	817	C	N3-C4-C5	-5.64	119.64	121.90
1	QA	877	C	C5-C6-N1	5.64	123.82	121.00
35	RA	286	C	N1-C2-O2	5.64	122.28	118.90
35	YA	213	A	C2-N3-C4	5.64	113.42	110.60
35	YA	1653	G	OP2-P-O3'	5.64	117.61	105.20
35	RA	1544	C	C2-N3-C4	5.64	122.72	119.90
35	YA	375	C	C6-N1-C2	-5.64	118.05	120.30
1	XA	619	U	C2-N1-C1'	-5.63	110.94	117.70
36	YB	53	A	C8-N9-C4	-5.63	103.55	105.80
1	XA	243	A	P-O3'-C3'	5.63	126.46	119.70
35	YA	352	G	N3-C4-N9	5.63	129.38	126.00
1	XA	518	C	P-O3'-C3'	5.63	126.46	119.70
1	QA	283	C	C5-C6-N1	5.63	123.81	121.00
1	QA	1187	G	N3-C4-C5	-5.63	125.78	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	980	C	N3-C2-O2	-5.63	117.96	121.90
1	QA	191(D)	U	C6-N1-C1'	-5.63	113.32	121.20
22	QV	15	G	N1-C6-O6	-5.63	116.52	119.90
35	RA	75	G	N1-C6-O6	-5.63	116.52	119.90
35	RA	1828	G	N3-C2-N2	5.63	123.84	119.90
36	RB	107	U	C6-N1-C2	-5.63	117.62	121.00
1	XA	1190	G	OP2-P-O3'	5.63	117.58	105.20
35	YA	2639	A	C5-N7-C8	-5.63	101.09	103.90
35	RA	812	C	C6-N1-C2	-5.63	118.05	120.30
35	YA	1379	A	C5-N7-C8	-5.63	101.09	103.90
1	QA	1086	U	N1-C2-O2	5.62	126.74	122.80
22	QV	34	C	C5-C6-N1	5.62	123.81	121.00
36	YB	118	G	C6-C5-N7	-5.62	127.03	130.40
13	QM	3	ARG	N-CA-CB	5.62	120.72	110.60
35	RA	1293	C	C6-N1-C2	-5.62	118.05	120.30
35	YA	647	G	N3-C4-N9	5.62	129.37	126.00
35	YA	1394	U	C6-N1-C2	-5.62	117.63	121.00
35	YA	2655	G	C4-N9-C1'	-5.62	119.19	126.50
49	RT	51	ARG	CG-CD-NE	5.62	123.60	111.80
1	XA	690	G	O4'-C1'-N9	5.62	112.70	108.20
35	YA	794	G	N3-C4-N9	5.62	129.37	126.00
35	YA	2318	G	C6-C5-N7	-5.62	127.03	130.40
35	RA	828	U	C6-N1-C1'	-5.62	113.33	121.20
35	RA	1273	U	N3-C2-O2	-5.62	118.27	122.20
35	YA	270(Q)	C	N3-C2-O2	-5.62	117.97	121.90
35	YA	1267	U	C2-N1-C1'	5.62	124.44	117.70
1	QA	1001	G	O5'-P-OP2	-5.62	100.64	105.70
35	RA	2346	A	C2-N3-C4	-5.62	107.79	110.60
55	RZ	169	GLU	CA-CB-CG	5.62	125.76	113.40
35	YA	1700	A	N7-C8-N9	-5.62	110.99	113.80
35	RA	887	A	N7-C8-N9	5.62	116.61	113.80
1	XA	632	A	N7-C8-N9	5.62	116.61	113.80
1	XA	872	A	N1-C6-N6	5.62	121.97	118.60
4	QD	193	ASP	N-CA-CB	5.61	120.70	110.60
35	RA	2041	U	N3-C2-O2	-5.61	118.27	122.20
35	YA	14	A	N1-C6-N6	5.61	121.97	118.60
29	Y4	56	VAL	C-N-CA	5.61	135.73	121.70
35	RA	2065	C	C5-C6-N1	5.61	123.81	121.00
1	XA	15	G	N7-C8-N9	5.61	115.90	113.10
35	RA	2584	U	C2-N1-C1'	5.61	124.43	117.70
35	RA	2685	G	C4-C5-N7	-5.61	108.56	110.80
35	YA	1602	U	N3-C4-C5	-5.61	111.24	114.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	845	G	C5-C6-O6	-5.61	125.24	128.60
1	XA	1161	C	C2-N1-C1'	5.61	124.97	118.80
35	YA	1203	G	N1-C6-O6	-5.61	116.54	119.90
35	RA	2032	G	C8-N9-C1'	5.60	134.29	127.00
35	YA	1616	A	C5-C6-N6	-5.60	119.22	123.70
35	YA	2346	A	C6-N1-C2	5.60	121.96	118.60
1	QA	390	C	C5-C6-N1	5.60	123.80	121.00
1	QA	797	C	C5-C6-N1	5.60	123.80	121.00
35	YA	692	C	N3-C2-O2	-5.60	117.98	121.90
35	RA	27	G	C5-C6-O6	-5.60	125.24	128.60
35	RA	352	G	N3-C4-N9	5.60	129.36	126.00
35	RA	2211	G	N3-C4-C5	-5.60	125.80	128.60
1	XA	681	C	C6-N1-C2	-5.60	118.06	120.30
35	YA	752	A	P-O3'-C3'	5.60	126.42	119.70
2	QB	96	ARG	CD-NE-CZ	5.60	131.44	123.60
22	QV	17	C	C2-N1-C1'	-5.60	112.64	118.80
36	RB	77	U	N1-C2-O2	5.60	126.72	122.80
35	RA	1233	C	C5-C6-N1	5.60	123.80	121.00
35	YA	1638	C	N3-C4-C5	-5.60	119.66	121.90
35	RA	1678	G	C5-N7-C8	-5.59	101.50	104.30
35	RA	2571	C	C5-C6-N1	5.59	123.80	121.00
1	XA	1381	U	N3-C2-O2	-5.59	118.28	122.20
1	QA	1447	G	C6-C5-N7	-5.59	127.05	130.40
35	RA	1187	G	N1-C6-O6	5.59	123.25	119.90
35	RA	2473	U	N1-C2-O2	5.59	126.71	122.80
1	XA	814	A	C8-N9-C4	5.59	108.04	105.80
35	YA	2723	C	C6-N1-C2	-5.59	118.06	120.30
35	YA	603	A	C8-N9-C4	-5.59	103.56	105.80
35	YA	721	C	N1-C2-O2	5.59	122.25	118.90
35	YA	1543	A	N1-C6-N6	-5.59	115.25	118.60
35	YA	2144	U	OP1-P-O3'	5.59	117.50	105.20
1	QA	596	C	C6-N1-C2	-5.59	118.06	120.30
24	QZ	63	GLU	N-CA-C	-5.59	95.92	111.00
35	RA	358	U	N3-C2-O2	-5.59	118.29	122.20
35	RA	1762	A	C4-N9-C1'	5.58	136.35	126.30
1	QA	943	U	N1-C2-O2	5.58	126.71	122.80
35	RA	695	G	N1-C6-O6	5.58	123.25	119.90
35	RA	989	G	C4-C5-N7	-5.58	108.57	110.80
35	RA	2808	U	N1-C2-O2	5.58	126.71	122.80
35	YA	1179	C	C2-N1-C1'	5.58	124.94	118.80
35	RA	2392	A	C6-C5-N7	-5.58	128.39	132.30
35	YA	1257	C	C6-N1-C2	-5.58	118.07	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2006	C	N1-C2-O2	5.58	122.25	118.90
1	XA	979	C	N1-C2-O2	5.58	122.25	118.90
35	YA	1836	C	N1-C2-O2	5.58	122.25	118.90
35	RA	1930	G	N3-C2-N2	5.58	123.80	119.90
35	YA	2253	G	N1-C6-O6	5.58	123.25	119.90
35	RA	772	C	C6-N1-C2	-5.58	118.07	120.30
35	RA	1833	U	N3-C2-O2	-5.58	118.30	122.20
1	XA	681	C	C5-C6-N1	5.58	123.79	121.00
35	YA	2360	A	C5-C6-N6	5.57	128.16	123.70
35	RA	2602	A	C4-N9-C1'	5.57	136.33	126.30
35	YA	2879	C	N3-C4-N4	5.57	121.90	118.00
36	RB	70	C	C6-N1-C2	-5.57	118.07	120.30
1	XA	108	G	C2-N3-C4	5.57	114.69	111.90
1	QA	545	C	C6-N1-C2	-5.57	118.07	120.30
35	RA	74	A	O4'-C1'-N9	-5.57	103.75	108.20
35	RA	528	A	N3-C4-C5	5.57	130.70	126.80
35	RA	1914	C	C6-N1-C2	-5.57	118.07	120.30
35	RA	2350	C	N1-C2-O2	5.57	122.24	118.90
35	YA	958	U	N3-C4-C5	-5.57	111.26	114.60
36	YB	3	C	C2-N3-C4	5.57	122.68	119.90
35	YA	979	G	N1-C6-O6	5.56	123.24	119.90
1	QA	1137	C	P-O3'-C3'	5.56	126.38	119.70
35	RA	1326	U	N3-C2-O2	-5.56	118.31	122.20
35	RA	2602	A	C5-C6-N6	-5.56	119.25	123.70
35	RA	2689	U	C5-C4-O4	5.56	129.24	125.90
1	XA	884	U	C5-C4-O4	-5.56	122.56	125.90
7	XG	95	ARG	NE-CZ-NH2	-5.56	117.52	120.30
35	YA	859	G	N7-C8-N9	-5.56	110.32	113.10
35	YA	2454	G	N7-C8-N9	-5.56	110.32	113.10
35	RA	2394	C	C6-N1-C2	-5.56	118.08	120.30
35	YA	954	G	C8-N9-C1'	-5.56	119.77	127.00
35	YA	1498	C	C2-N1-C1'	5.56	124.92	118.80
1	QA	455	C	C6-N1-C2	-5.56	118.08	120.30
1	QA	1227	A	N1-C6-N6	5.56	121.94	118.60
35	RA	2232	U	C5-C4-O4	5.56	129.24	125.90
1	XA	277	C	C6-N1-C2	-5.56	118.08	120.30
35	RA	845	G	N9-C4-C5	-5.56	103.18	105.40
1	XA	354	G	C8-N9-C4	-5.56	104.18	106.40
35	YA	2253	G	C5-C6-O6	-5.55	125.27	128.60
35	YA	2318	G	C8-N9-C4	-5.55	104.18	106.40
4	QD	192	GLU	CB-CA-C	-5.55	99.29	110.40
35	RA	537	C	N1-C2-O2	5.55	122.23	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	1882	C	C5-C6-N1	5.55	123.78	121.00
1	XA	816	A	N9-C4-C5	5.55	108.02	105.80
1	QA	201	C	C6-N1-C2	-5.55	118.08	120.30
35	RA	2490	G	C4-N9-C1'	5.55	133.72	126.50
35	YA	2827	C	C6-N1-C2	-5.55	118.08	120.30
35	YA	801	G	N1-C6-O6	-5.55	116.57	119.90
1	QA	791	G	N1-C6-O6	5.55	123.23	119.90
35	RA	358	U	N1-C2-O2	5.55	126.68	122.80
35	RA	428	A	C6-C5-N7	-5.55	128.42	132.30
35	RA	1332	G	C8-N9-C4	-5.55	104.18	106.40
35	RA	1394	U	C6-N1-C1'	5.55	128.97	121.20
35	RA	2873	A	C6-C5-N7	-5.55	128.42	132.30
35	YA	2255	G	C8-N9-C4	5.55	108.62	106.40
1	QA	1383	C	N1-C2-O2	5.54	122.23	118.90
35	RA	989	G	N9-C4-C5	5.54	107.62	105.40
35	RA	1143	A	N3-C4-C5	5.54	130.68	126.80
35	YA	1186	G	N1-C6-O6	5.54	123.23	119.90
22	QW	28	C	C6-N1-C2	-5.54	118.08	120.30
35	RA	2688	U	C6-N1-C2	-5.54	117.67	121.00
35	YA	48	G	N9-C4-C5	5.54	107.62	105.40
35	YA	89	G	N9-C4-C5	5.54	107.62	105.40
35	YA	2089	U	N3-C4-O4	5.54	123.28	119.40
1	QA	80	G	N7-C8-N9	5.54	115.87	113.10
35	RA	1308	A	C8-N9-C4	5.54	108.02	105.80
35	RA	1619	G	C4-C5-N7	5.54	113.02	110.80
36	RB	118	G	C8-N9-C1'	-5.54	119.80	127.00
1	XA	863	U	N3-C2-O2	-5.54	118.32	122.20
35	YA	525	U	N3-C2-O2	-5.54	118.32	122.20
35	YA	2238	G	N3-C4-C5	-5.54	125.83	128.60
36	YB	54	G	N3-C2-N2	-5.54	116.02	119.90
1	QA	1202	G	N1-C6-O6	-5.54	116.58	119.90
35	YA	1474	C	C6-N1-C2	-5.54	118.08	120.30
35	RA	288	C	C5-C6-N1	5.54	123.77	121.00
35	RA	945	A	C2-N3-C4	-5.54	107.83	110.60
35	YA	46	C	C6-N1-C2	-5.54	118.08	120.30
35	YA	2253	G	C8-N9-C4	5.54	108.61	106.40
35	RA	1099	G	C8-N9-C4	-5.54	104.19	106.40
35	RA	270(Q)	C	N3-C2-O2	-5.53	118.03	121.90
35	RA	2504	U	C6-N1-C2	-5.53	117.68	121.00
35	RA	2751	G	C8-N9-C1'	-5.53	119.81	127.00
35	YA	1774	C	C2-N1-C1'	5.53	124.89	118.80
35	YA	2294	C	C2-N1-C1'	5.53	124.89	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	999	U	P-O3'-C3'	5.53	126.34	119.70
35	RA	1598	C	N3-C2-O2	-5.53	118.03	121.90
1	XA	507	C	C6-N1-C2	-5.53	118.09	120.30
35	YA	1256	G	C8-N9-C1'	-5.53	119.81	127.00
35	YA	1806	C	C6-N1-C2	-5.53	118.09	120.30
35	RA	1210	A	C2-N3-C4	-5.53	107.84	110.60
35	YA	2430	A	N3-C4-C5	5.53	130.67	126.80
35	YA	2679	A	N9-C4-C5	-5.53	103.59	105.80
35	RA	1965	C	N1-C2-O2	-5.53	115.58	118.90
35	RA	2318	G	C6-C5-N7	-5.53	127.08	130.40
1	XA	716	A	C8-N9-C4	-5.53	103.59	105.80
35	YA	139	G	N3-C4-C5	-5.53	125.84	128.60
35	YA	1281	G	C6-C5-N7	-5.53	127.08	130.40
35	YA	1936	A	C4-C5-N7	5.53	113.46	110.70
36	YB	73	A	N1-C6-N6	-5.53	115.28	118.60
35	YA	561	G	N3-C2-N2	5.52	123.77	119.90
35	YA	1678	G	C6-C5-N7	-5.52	127.09	130.40
35	RA	330	A	N3-C4-N9	-5.52	122.98	127.40
1	XA	754	C	N3-C2-O2	-5.52	118.03	121.90
22	XW	60	U	C6-N1-C1'	-5.52	113.47	121.20
35	YA	171	G	N1-C6-O6	5.52	123.21	119.90
35	YA	615	G	C4-C5-N7	-5.52	108.59	110.80
35	YA	912	C	N1-C2-O2	5.52	122.21	118.90
35	YA	1152	C	C2-N1-C1'	5.52	124.88	118.80
55	YZ	155	LEU	CA-CB-CG	5.52	128.00	115.30
1	QA	717	C	N1-C2-O2	5.52	122.21	118.90
35	RA	1023	U	N3-C2-O2	-5.52	118.34	122.20
36	YB	3	C	C2-N1-C1'	5.52	124.87	118.80
35	RA	2646	C	C5-C6-N1	5.52	123.76	121.00
35	YA	990	A	C5-N7-C8	-5.52	101.14	103.90
35	YA	2775	A	N1-C6-N6	5.52	121.91	118.60
35	RA	153	C	O5'-P-OP1	-5.52	100.73	105.70
35	RA	528	A	C5-N7-C8	-5.52	101.14	103.90
36	RB	75	G	N3-C4-C5	-5.52	125.84	128.60
35	YA	1121	C	C6-N1-C2	-5.52	118.09	120.30
35	RA	2063	C	C2-N1-C1'	5.52	124.87	118.80
1	QA	919	A	N1-C6-N6	-5.51	115.29	118.60
35	RA	2585	U	C6-N1-C1'	-5.51	113.48	121.20
1	XA	37	U	N3-C2-O2	-5.51	118.34	122.20
1	XA	280	C	C6-N1-C2	5.51	122.50	120.30
35	RA	90	U	C5-C4-O4	5.51	129.21	125.90
1	QA	1282	C	C5-C6-N1	5.51	123.76	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	9	U	N1-C2-O2	5.51	126.66	122.80
35	RA	1342	A	N1-C6-N6	5.51	121.91	118.60
1	QA	452	A	O4'-C1'-N9	5.51	112.61	108.20
35	RA	2678	C	C6-N1-C2	-5.51	118.10	120.30
1	XA	805	C	N1-C2-O2	5.51	122.20	118.90
22	QV	17(A)	U	C3'-C2'-C1'	5.50	105.90	101.50
55	RZ	62	PRO	C-N-CA	5.50	135.46	121.70
35	YA	1607	C	N3-C4-N4	5.50	121.85	118.00
10	QJ	79	ARG	CB-CA-C	5.50	121.40	110.40
35	RA	1880	C	C5-C6-N1	5.50	123.75	121.00
35	RA	2688	U	C2-N1-C1'	5.50	124.30	117.70
1	XA	1381	U	C2-N3-C4	5.50	130.30	127.00
35	YA	1881	C	N3-C4-N4	5.50	121.85	118.00
35	RA	1670	C	C6-N1-C2	-5.50	118.10	120.30
35	YA	2553	G	N3-C4-C5	-5.50	125.85	128.60
1	QA	1001	G	OP1-P-OP2	-5.50	111.35	119.60
35	RA	1899	G	C8-N9-C1'	-5.50	119.85	127.00
35	RA	2689	U	P-O3'-C3'	5.50	126.30	119.70
15	QO	41	GLU	CA-CB-CG	5.50	125.49	113.40
35	RA	587	C	P-O3'-C3'	5.50	126.30	119.70
35	RA	1370	C	C2-N1-C1'	5.50	124.85	118.80
35	YA	1640	C	C2-N1-C1'	5.50	124.84	118.80
35	YA	2432	A	N1-C6-N6	5.50	121.90	118.60
1	QA	54	C	C6-N1-C2	-5.49	118.10	120.30
35	RA	513	A	C5-C6-N6	-5.49	119.31	123.70
35	RA	592	G	N1-C6-O6	-5.49	116.60	119.90
1	XA	1398	A	C8-N9-C4	-5.49	103.60	105.80
20	XT	72	LEU	CA-CB-CG	5.49	127.94	115.30
35	YA	930	U	C5-C4-O4	5.49	129.20	125.90
35	YA	1217	C	C5-C6-N1	5.49	123.75	121.00
55	YZ	38	TYR	CA-CB-CG	5.49	123.84	113.40
1	XA	1031	G	C8-N9-C1'	-5.49	119.86	127.00
35	RA	2766	G	C8-N9-C1'	-5.49	119.86	127.00
1	XA	1157	A	OP2-P-O3'	5.49	117.28	105.20
35	YA	143	C	N1-C2-O2	5.49	122.19	118.90
35	YA	1012	U	N3-C4-O4	-5.49	115.56	119.40
35	RA	269	U	C5-C6-N1	5.49	125.44	122.70
35	RA	730	C	C6-N1-C2	-5.49	118.11	120.30
35	RA	1241	A	O4'-C1'-N9	5.49	112.59	108.20
35	YA	140	A	C4-C5-N7	5.49	113.44	110.70
35	YA	1815	A	N9-C4-C5	-5.49	103.61	105.80
35	YA	2244	U	C5-C4-O4	-5.49	122.61	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	971	G	C2-N3-C4	-5.49	109.16	111.90
35	YA	1379	A	C4-C5-N7	5.49	113.44	110.70
35	RA	1378	A	N1-C6-N6	-5.49	115.31	118.60
1	XA	1147	C	N1-C2-O2	5.49	122.19	118.90
35	YA	2239	G	N9-C4-C5	-5.49	103.21	105.40
35	RA	1839	G	C2-N3-C4	5.48	114.64	111.90
1	XA	92	G	C4-N9-C1'	5.48	133.63	126.50
1	QA	190	G	P-O3'-C3'	5.48	126.28	119.70
35	YA	827	U	C5-C6-N1	-5.48	119.96	122.70
1	QA	135	C	N1-C2-O2	5.48	122.19	118.90
35	RA	193	U	C6-N1-C2	-5.48	117.71	121.00
35	RA	1076	C	C6-N1-C2	-5.48	118.11	120.30
36	RB	8	U	C5-C6-N1	5.48	125.44	122.70
35	YA	1769	G	N3-C2-N2	-5.48	116.06	119.90
1	QA	221	C	C6-N1-C2	-5.48	118.11	120.30
7	QG	76	ARG	CG-CD-NE	-5.48	100.29	111.80
35	RA	356	G	C4-N9-C1'	5.48	133.62	126.50
1	QA	1031	G	N3-C4-N9	5.48	129.29	126.00
35	RA	1614	A	N1-C6-N6	5.48	121.89	118.60
35	RA	1828	G	N1-C2-N2	-5.48	111.27	116.20
55	RZ	38	TYR	CA-CB-CG	5.48	123.81	113.40
1	QA	455	C	C2-N1-C1'	5.48	124.82	118.80
35	YA	2167	U	C5-C6-N1	5.48	125.44	122.70
2	QB	86	GLU	CB-CA-C	5.47	121.35	110.40
35	RA	1400	G	C8-N9-C4	-5.47	104.21	106.40
1	XA	1157	A	C8-N9-C1'	-5.47	117.85	127.70
35	RA	2601	C	N3-C4-C5	5.47	124.09	121.90
1	XA	772	U	N3-C2-O2	-5.47	118.37	122.20
1	XA	960	U	N3-C2-O2	-5.47	118.37	122.20
35	YA	588	U	C5-C4-O4	-5.47	122.62	125.90
35	YA	2808	U	C5-C6-N1	5.47	125.44	122.70
35	RA	889	C	C2-N1-C1'	5.47	124.81	118.80
2	XB	16	HIS	CB-CA-C	-5.47	99.47	110.40
35	YA	71	A	N7-C8-N9	5.47	116.53	113.80
35	RA	1735	C	C5-C6-N1	5.46	123.73	121.00
35	RA	2803	C	C5-C6-N1	5.46	123.73	121.00
1	XA	680	C	C6-N1-C2	-5.46	118.11	120.30
35	YA	240	G	C4-C5-N7	-5.46	108.61	110.80
35	YA	2168	G	C8-N9-C4	-5.46	104.22	106.40
35	RA	738	G	N3-C4-C5	-5.46	125.87	128.60
35	YA	270(Z)	U	N3-C2-O2	-5.46	118.38	122.20
35	YA	1180	C	C6-N1-C1'	-5.46	114.25	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	369	C	C6-N1-C2	-5.46	118.12	120.30
1	XA	754	C	C5-C6-N1	5.46	123.73	121.00
1	XA	989	C	C6-N1-C2	-5.46	118.12	120.30
55	YZ	8	TYR	CA-CB-CG	5.46	123.77	113.40
35	RA	239	U	N3-C2-O2	-5.46	118.38	122.20
35	RA	527	C	C6-N1-C2	-5.46	118.12	120.30
35	YA	1112	G	N1-C6-O6	-5.46	116.63	119.90
3	QC	35	GLU	CG-CD-OE2	-5.45	107.39	118.30
35	RA	404	C	OP2-P-O3'	5.45	117.20	105.20
35	RA	817	C	N3-C4-C5	-5.45	119.72	121.90
35	YA	198	C	C5-C6-N1	5.45	123.73	121.00
1	QA	418	C	N3-C4-C5	-5.45	119.72	121.90
22	QW	25	C	C6-N1-C2	-5.45	118.12	120.30
10	XJ	7	LYS	N-CA-CB	-5.45	100.79	110.60
35	YA	606	U	N3-C2-O2	-5.45	118.38	122.20
1	QA	1317	C	C6-N1-C1'	-5.45	114.26	120.80
35	YA	618	G	C8-N9-C4	-5.45	104.22	106.40
35	YA	669	G	C4-N9-C1'	5.45	133.59	126.50
35	YA	1167	U	C2-N1-C1'	5.45	124.24	117.70
35	YA	528	A	N1-C6-N6	5.45	121.87	118.60
35	YA	530	G	N3-C4-N9	5.45	129.27	126.00
36	YB	44	G	C4-N9-C1'	-5.45	119.42	126.50
1	QA	54	C	C5-C6-N1	5.45	123.72	121.00
1	XA	1453	G	C4-N9-C1'	5.45	133.58	126.50
35	YA	2610	C	P-O3'-C3'	5.45	126.23	119.70
22	XV	62	C	C6-N1-C2	-5.44	118.12	120.30
35	YA	270(P)	C	C5-C6-N1	5.44	123.72	121.00
28	Y3	35	ARG	CD-NE-CZ	5.44	131.22	123.60
35	YA	2037	G	C8-N9-C4	-5.44	104.22	106.40
35	YA	2609	U	C5-C6-N1	-5.44	119.98	122.70
1	QA	90	C	C2-N1-C1'	5.44	124.78	118.80
1	QA	497	U	N1-C2-O2	5.44	126.61	122.80
35	RA	1642	G	N7-C8-N9	5.44	115.82	113.10
35	YA	1080	C	C5-C6-N1	5.44	123.72	121.00
1	XA	1201	A	C8-N9-C4	5.44	107.98	105.80
35	YA	2124	G	C4-N9-C1'	5.44	133.57	126.50
35	RA	2509	G	C6-C5-N7	-5.44	127.14	130.40
35	YA	1588	C	C5-C6-N1	5.44	123.72	121.00
35	YA	1159	U	N1-C2-O2	5.44	126.61	122.80
1	QA	960	U	C5-C6-N1	5.43	125.42	122.70
35	RA	1314	C	C6-N1-C1'	-5.43	114.28	120.80
35	YA	2756	U	N3-C4-O4	5.43	123.20	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	512	G	OP2-P-O3'	5.43	117.15	105.20
35	RA	2451	A	C8-N9-C4	-5.43	103.63	105.80
35	YA	243	U	C2-N3-C4	5.43	130.26	127.00
1	QA	186	C	N1-C2-O2	5.43	122.16	118.90
35	YA	1786	A	C2-N3-C4	-5.43	107.89	110.60
1	QA	701	C	N1-C2-O2	5.43	122.16	118.90
22	XW	68	C	N1-C2-O2	5.43	122.16	118.90
35	YA	1950	G	C6-C5-N7	-5.43	127.14	130.40
1	XA	1038	C	N3-C2-O2	-5.43	118.10	121.90
35	YA	2527	C	N1-C2-O2	5.43	122.16	118.90
35	RA	141	A	N1-C6-N6	5.43	121.86	118.60
35	RA	151	C	N1-C2-O2	5.43	122.16	118.90
35	RA	897	C	C5-C6-N1	5.43	123.71	121.00
35	RA	1880	C	N1-C2-O2	5.43	122.16	118.90
35	RA	2798	C	C5-C6-N1	5.43	123.71	121.00
31	Y6	28	ARG	CB-CG-CD	5.43	125.71	111.60
35	YA	595	C	C6-N1-C2	-5.43	118.13	120.30
35	YA	1327	C	C6-N1-C2	-5.43	118.13	120.30
35	YA	1417	C	C2-N1-C1'	5.43	124.77	118.80
35	RA	758	C	C2-N1-C1'	5.42	124.77	118.80
35	RA	2243	U	N1-C2-O2	5.42	126.60	122.80
35	RA	2346	A	N7-C8-N9	5.42	116.51	113.80
35	YA	621	A	C6-C5-N7	-5.42	128.50	132.30
35	YA	1920	C	N1-C2-O2	5.42	122.15	118.90
35	RA	349	G	N3-C4-C5	-5.42	125.89	128.60
1	XA	1332	A	C8-N9-C4	-5.42	103.63	105.80
35	YA	676	A	C8-N9-C4	-5.42	103.63	105.80
35	YA	944	G	C8-N9-C1'	-5.42	119.95	127.00
35	YA	2286	A	N1-C6-N6	5.42	121.85	118.60
35	RA	1265	A	N1-C6-N6	5.42	121.85	118.60
35	RA	2724	C	C6-N1-C2	-5.42	118.13	120.30
35	YA	60	G	C8-N9-C4	5.42	108.57	106.40
1	QA	1321	C	N3-C4-C5	5.42	124.07	121.90
35	RA	1135	C	N1-C2-O2	5.42	122.15	118.90
35	RA	1480	G	N1-C2-N2	5.42	121.08	116.20
35	RA	2518	A	N1-C6-N6	5.42	121.85	118.60
1	XA	616	G	C8-N9-C4	-5.42	104.23	106.40
35	YA	1950	G	C4-N9-C1'	5.42	133.54	126.50
35	YA	2092	U	N3-C2-O2	-5.42	118.41	122.20
35	YA	2646	C	C6-N1-C2	-5.42	118.13	120.30
1	XA	530	G	N3-C4-C5	-5.42	125.89	128.60
35	RA	1437	C	C5-C6-N1	5.42	123.71	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	845	G	N9-C4-C5	-5.42	103.23	105.40
1	QA	560	U	C3'-C2'-C1'	5.41	105.83	101.50
7	QG	56	GLN	CB-CA-C	5.41	121.23	110.40
35	RA	172	C	C6-N1-C1'	-5.41	114.30	120.80
36	YB	45	A	N9-C4-C5	-5.41	103.64	105.80
35	RA	1891	G	N3-C4-C5	-5.41	125.89	128.60
41	RH	77	LYS	CD-CE-NZ	5.41	124.15	111.70
35	YA	1319	G	N1-C6-O6	5.41	123.15	119.90
35	YA	2226	C	C5-C6-N1	5.41	123.71	121.00
22	QW	8	U	O4'-C1'-N1	5.41	112.53	108.20
35	RA	1805	U	C6-N1-C2	-5.41	117.75	121.00
35	YA	496	G	C4-C5-N7	5.41	112.96	110.80
35	YA	2311	A	P-O3'-C3'	5.41	126.19	119.70
1	QA	415	A	C8-N9-C4	-5.41	103.64	105.80
1	QA	1364	U	N1-C2-O2	5.41	126.59	122.80
35	YA	463	G	C5-C6-O6	5.41	131.85	128.60
35	YA	2346	A	N7-C8-N9	5.41	116.50	113.80
35	RA	1288	U	O5'-P-OP2	-5.41	100.83	105.70
41	RH	19	VAL	C-N-CA	5.41	135.22	121.70
35	YA	82	G	C4-C5-N7	-5.41	108.64	110.80
35	YA	955	C	C2-N1-C1'	5.41	124.75	118.80
1	QA	130	A	C8-N9-C4	5.41	107.96	105.80
10	QJ	43	ARG	CA-CB-CG	-5.41	101.51	113.40
35	RA	364	C	C6-N1-C2	-5.41	118.14	120.30
35	RA	428	A	N1-C6-N6	5.41	121.84	118.60
35	RA	1474	C	C2-N1-C1'	5.41	124.75	118.80
35	YA	1488	G	N3-C4-C5	-5.41	125.90	128.60
1	QA	1149	C	C5-C6-N1	5.40	123.70	121.00
35	RA	1233	C	N1-C2-O2	5.40	122.14	118.90
35	RA	2346	A	C5-C6-N1	-5.40	115.00	117.70
43	RN	12	ARG	CB-CG-CD	5.40	125.65	111.60
35	YA	974	G	C8-N9-C4	5.40	108.56	106.40
35	RA	1170	G	C4-N9-C1'	5.40	133.52	126.50
35	RA	1800	C	C6-N1-C2	5.40	122.46	120.30
35	YA	1839	G	C4-N9-C1'	5.40	133.52	126.50
35	RA	1529	A	N1-C2-N3	5.40	132.00	129.30
1	QA	1157	A	OP2-P-O3'	5.40	117.07	105.20
26	R1	77	ALA	CB-CA-C	5.40	118.20	110.10
35	RA	270(K)	C	C2-N1-C1'	5.40	124.74	118.80
35	RA	2461	C	C2-N1-C1'	5.40	124.74	118.80
1	XA	805	C	N3-C4-C5	5.40	124.06	121.90
1	XA	1161	C	C6-N1-C2	-5.40	118.14	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	1092	C	C6-N1-C2	-5.40	118.14	120.30
35	RA	2232	U	N3-C2-O2	-5.40	118.42	122.20
35	YA	273(D)	C	C6-N1-C2	-5.40	118.14	120.30
35	RA	1797	C	C5-C6-N1	5.39	123.70	121.00
35	RA	2144	U	P-O3'-C3'	5.39	126.17	119.70
42	RI	115	ALA	N-CA-CB	5.39	117.65	110.10
1	XA	727	G	C5-C6-O6	5.39	131.84	128.60
35	YA	2415	G	N1-C6-O6	5.39	123.14	119.90
22	QV	51	C	C5-C6-N1	5.39	123.70	121.00
35	RA	1455	G	C8-N9-C4	-5.39	104.24	106.40
38	RE	57	LYS	N-CA-C	5.39	125.56	111.00
35	YA	953	A	C5-C6-N6	-5.39	119.39	123.70
35	RA	823	G	N9-C4-C5	-5.39	103.24	105.40
35	RA	1698	A	C4-C5-N7	5.39	113.40	110.70
35	YA	1180	C	C5-C6-N1	5.39	123.69	121.00
35	RA	859	G	C8-N9-C1'	5.39	134.01	127.00
35	RA	1528	A	C4-C5-N7	5.39	113.39	110.70
35	RA	1888	G	N3-C4-C5	-5.39	125.91	128.60
35	YA	131	G	N3-C4-C5	-5.39	125.91	128.60
35	YA	358	U	C6-N1-C1'	-5.39	113.65	121.20
35	RA	837	C	N1-C2-O2	5.39	122.13	118.90
1	XA	186(A)	C	N1-C2-O2	5.39	122.13	118.90
3	XC	126	ARG	CD-NE-CZ	5.39	131.14	123.60
7	XG	22	LEU	CA-CB-CG	5.39	127.69	115.30
35	YA	1574	C	C6-N1-C2	-5.39	118.15	120.30
35	YA	2318	G	O4'-C1'-N9	5.39	112.51	108.20
55	YZ	130	PRO	CA-N-CD	5.39	119.24	111.70
35	RA	2261	C	C6-N1-C2	-5.38	118.15	120.30
35	YA	944	G	C4-N9-C1'	5.38	133.50	126.50
35	YA	1989	G	C5-C6-O6	-5.38	125.37	128.60
1	QA	1125	U	N3-C4-C5	-5.38	111.37	114.60
7	XG	95	ARG	CD-NE-CZ	5.38	131.14	123.60
1	XA	331	G	N1-C6-O6	5.38	123.13	119.90
35	YA	378	C	C6-N1-C2	-5.38	118.15	120.30
35	YA	1342	A	O4'-C1'-N9	5.38	112.50	108.20
35	YA	2139	C	C6-N1-C1'	-5.38	114.34	120.80
35	YA	2513	G	N9-C4-C5	-5.38	103.25	105.40
35	RA	2294	C	C5-C6-N1	5.38	123.69	121.00
1	XA	932	C	C2-N1-C1'	5.38	124.72	118.80
35	YA	974	G	N7-C8-N9	-5.38	110.41	113.10
35	YA	2474	C	N1-C2-O2	5.38	122.12	118.90
1	QA	883	C	C6-N1-C2	-5.38	118.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1045	C	C2-N1-C1'	5.38	124.71	118.80
1	QA	1007	C	P-O3'-C3'	5.37	126.15	119.70
22	QV	59	A	N7-C8-N9	5.37	116.49	113.80
42	YI	10	GLU	C-N-CA	5.37	135.13	121.70
35	RA	1248	G	C5-C6-N1	5.37	114.19	111.50
35	RA	1304	C	C2-N1-C1'	5.37	124.71	118.80
35	YA	556	G	C5-N7-C8	-5.37	101.61	104.30
35	YA	2604	U	C2-N1-C1'	5.37	124.15	117.70
1	QA	314	C	C6-N1-C2	-5.37	118.15	120.30
35	RA	2469	A	N1-C6-N6	5.37	121.82	118.60
35	RA	2896	C	N1-C2-O2	5.37	122.12	118.90
35	YA	1246	A	C8-N9-C4	5.37	107.95	105.80
35	YA	2454	G	C2-N3-C4	5.37	114.58	111.90
51	YV	15	GLU	CA-CB-CG	-5.37	101.58	113.40
1	QA	121	C	C6-N1-C2	5.37	122.45	120.30
35	RA	20	C	N3-C4-C5	-5.37	119.75	121.90
1	XA	1538	C	N3-C2-O2	-5.37	118.14	121.90
35	YA	1338	G	N3-C4-C5	-5.37	125.92	128.60
35	RA	38	A	C2-N3-C4	5.37	113.28	110.60
35	RA	1404	C	C2-N1-C1'	5.37	124.70	118.80
1	QA	812	C	C6-N1-C2	-5.37	118.15	120.30
29	R4	43	TYR	CB-CA-C	5.37	121.13	110.40
1	QA	494	U	C5-C6-N1	5.36	125.38	122.70
35	RA	968	G	N3-C4-N9	5.36	129.22	126.00
49	YT	105	LEU	CA-CB-CG	5.36	127.64	115.30
35	RA	945	A	C6-N1-C2	5.36	121.82	118.60
35	RA	2685	G	N3-C2-N2	-5.36	116.15	119.90
35	YA	1376	C	C2-N3-C4	-5.36	117.22	119.90
1	QA	1232	U	C5-C4-O4	-5.36	122.68	125.90
35	RA	193	U	C5-C6-N1	5.36	125.38	122.70
35	RA	2518	A	C5-N7-C8	-5.36	101.22	103.90
35	RA	2751	G	C4-N9-C1'	5.36	133.47	126.50
3	XC	126	ARG	CB-CG-CD	5.36	125.54	111.60
22	XW	3	C	C6-N1-C2	-5.36	118.16	120.30
29	Y4	45	GLY	C-N-CA	5.36	135.10	121.70
35	YA	928	G	C4-N9-C1'	5.36	133.47	126.50
35	YA	950	G	C8-N9-C4	5.36	108.54	106.40
35	YA	1430	C	N1-C2-O2	5.36	122.12	118.90
35	RA	214	G	O4'-C1'-N9	5.36	112.49	108.20
36	RB	3	C	N3-C4-N4	5.36	121.75	118.00
35	YA	850	C	C6-N1-C2	-5.36	118.16	120.30
1	XA	500	G	N9-C4-C5	-5.36	103.26	105.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	634	C	N3-C4-N4	5.36	121.75	118.00
35	YA	809	G	C8-N9-C4	-5.36	104.26	106.40
35	YA	1286	A	O4'-C1'-N9	5.36	112.49	108.20
35	YA	2247	A	C4-C5-N7	5.36	113.38	110.70
35	YA	2752	C	N3-C2-O2	-5.36	118.15	121.90
1	QA	980	C	N1-C2-O2	5.36	122.11	118.90
44	RO	107	ARG	NE-CZ-NH1	5.36	122.98	120.30
1	XA	797	C	C6-N1-C2	-5.36	118.16	120.30
35	YA	1000	A	N7-C8-N9	5.36	116.48	113.80
35	YA	1092	C	C6-N1-C2	-5.36	118.16	120.30
35	YA	1130	U	C6-N1-C2	-5.36	117.79	121.00
35	RA	471	A	N7-C8-N9	5.35	116.48	113.80
35	RA	1138	G	N9-C4-C5	5.35	107.54	105.40
35	RA	1698	A	C8-N9-C4	-5.35	103.66	105.80
42	RI	38	LEU	CA-CB-CG	5.35	127.61	115.30
35	YA	2675	A	N7-C8-N9	5.35	116.48	113.80
35	RA	596	G	N1-C6-O6	-5.35	116.69	119.90
35	RA	1880	C	C2-N3-C4	5.35	122.58	119.90
35	YA	1110	G	N3-C4-N9	-5.35	122.79	126.00
22	QV	38	A	C8-N9-C4	5.35	107.94	105.80
1	QA	1111	A	C6-N1-C2	5.35	121.81	118.60
35	RA	373	U	O4'-C1'-N1	5.35	112.48	108.20
35	RA	436	C	C2-N1-C1'	5.35	124.68	118.80
35	RA	1864	U	N1-C2-O2	5.35	126.55	122.80
35	YA	1294	U	C5-C6-N1	5.35	125.38	122.70
35	YA	2543	G	N1-C6-O6	-5.35	116.69	119.90
35	YA	1474	C	N1-C2-O2	5.35	122.11	118.90
35	YA	2851	A	C5-C6-N6	-5.35	119.42	123.70
48	YS	23	ARG	CG-CD-NE	5.35	123.03	111.80
35	YA	356	G	N3-C4-C5	-5.34	125.93	128.60
5	QE	137	GLU	CA-CB-CG	5.34	125.16	113.40
1	XA	1465	C	N3-C4-C5	-5.34	119.76	121.90
36	YB	108	C	C6-N1-C2	5.34	122.44	120.30
35	RA	2748	A	N7-C8-N9	5.34	116.47	113.80
1	XA	1538	C	N1-C2-O2	5.34	122.11	118.90
35	YA	845	G	N1-C2-N3	-5.34	120.69	123.90
35	YA	1345	C	C5-C6-N1	5.34	123.67	121.00
35	RA	933	A	C4-C5-N7	5.34	113.37	110.70
12	XL	92	ASP	CB-CG-OD1	5.34	123.11	118.30
35	YA	678	C	C5-C6-N1	5.34	123.67	121.00
35	YA	1153	C	C6-N1-C2	-5.34	118.17	120.30
35	YA	1502	C	C6-N1-C2	-5.34	118.17	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	859	G	O4'-C1'-N9	5.34	112.47	108.20
35	RA	974(A)	C	C6-N1-C2	-5.34	118.17	120.30
35	RA	1467	C	C2-N1-C1'	5.34	124.67	118.80
1	XA	91	C	C5-C6-N1	5.34	123.67	121.00
1	XA	690	G	C4-N9-C1'	5.34	133.44	126.50
20	XT	91	LEU	CB-CG-CD2	-5.34	101.93	111.00
35	YA	2766	G	N3-C4-N9	5.34	129.20	126.00
35	RA	288	C	N1-C2-O2	5.33	122.10	118.90
1	XA	1259	C	C6-N1-C2	-5.33	118.17	120.30
22	XW	28	C	C6-N1-C2	-5.33	118.17	120.30
1	QA	1202	G	C5-C6-O6	5.33	131.80	128.60
35	RA	2497	A	C5-C6-N6	-5.33	119.43	123.70
35	YA	736	C	C4-C5-C6	-5.33	114.73	117.40
1	QA	1225	A	C4-N9-C1'	5.33	135.90	126.30
35	RA	2319	G	N3-C4-N9	5.33	129.20	126.00
36	RB	81	G	C8-N9-C4	-5.33	104.27	106.40
1	XA	619	U	C6-N1-C1'	5.33	128.66	121.20
35	YA	881	G	C4-N9-C1'	5.33	133.43	126.50
35	YA	2174	C	N3-C2-O2	-5.33	118.17	121.90
35	YA	2561	A	C5-C6-N1	5.33	120.37	117.70
1	QA	614	A	N7-C8-N9	5.33	116.47	113.80
1	XA	1303	C	N1-C2-O2	5.33	122.10	118.90
35	YA	1170	G	N3-C4-C5	-5.33	125.94	128.60
35	YA	1306	C	C5-C6-N1	5.33	123.67	121.00
35	RA	69	C	C6-N1-C2	-5.33	118.17	120.30
35	RA	1166	C	C5-C6-N1	5.33	123.66	121.00
35	YA	1909	C	C2-N1-C1'	5.33	124.66	118.80
35	YA	1963	U	C6-N1-C1'	-5.33	113.74	121.20
1	QA	962	C	C6-N1-C2	-5.33	118.17	120.30
35	RA	1307	A	C8-N9-C4	5.33	107.93	105.80
35	RA	1979	C	C6-N1-C2	-5.33	118.17	120.30
35	YA	544	C	C6-N1-C2	-5.33	118.17	120.30
35	YA	697	C	C5-C4-N4	-5.33	116.47	120.20
1	XA	1225	A	C4-N9-C1'	5.33	135.89	126.30
35	YA	707	G	N3-C4-C5	-5.33	125.94	128.60
35	RA	2059	A	C5-C6-N6	5.32	127.96	123.70
35	YA	213	A	N1-C2-N3	-5.32	126.64	129.30
35	YA	2139	C	C6-N1-C2	-5.32	118.17	120.30
22	XW	11	A	C8-N9-C1'	-5.32	118.12	127.70
1	XA	801	U	N3-C2-O2	-5.32	118.48	122.20
35	RA	243	U	C5-C6-N1	5.32	125.36	122.70
1	XA	690	G	C8-N9-C4	-5.32	104.27	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	154	G	C4-N9-C1'	5.32	133.41	126.50
35	YA	1433	U	N1-C2-O2	5.32	126.52	122.80
1	QA	1397	C	C2-N1-C1'	-5.32	112.95	118.80
35	RA	2164	C	C6-N1-C2	-5.32	118.17	120.30
35	RA	2702	U	N1-C2-O2	5.32	126.52	122.80
35	YA	1488	G	C4-N9-C1'	5.32	133.41	126.50
35	RA	695	G	C4-C5-C6	5.31	121.99	118.80
25	Y0	75	LEU	CA-CB-CG	5.31	127.52	115.30
35	YA	894	C	N1-C2-O2	5.31	122.09	118.90
35	YA	1467	C	C6-N1-C2	-5.31	118.18	120.30
35	YA	2790	A	O4'-C1'-N9	-5.31	103.95	108.20
1	QA	201	C	P-O3'-C3'	5.31	126.07	119.70
22	QW	13	C	C6-N1-C1'	-5.31	114.43	120.80
35	RA	286	C	C6-N1-C1'	-5.31	114.43	120.80
35	RA	615	G	C8-N9-C1'	5.31	133.90	127.00
23	XX	12	A	P-O3'-C3'	5.31	126.07	119.70
55	YZ	60	GLU	CB-CA-C	-5.31	99.78	110.40
1	QA	174	C	C5-C6-N1	5.31	123.65	121.00
1	QA	1453	G	C6-N1-C2	5.31	128.28	125.10
35	RA	2306	C	N1-C2-O2	5.31	122.08	118.90
1	XA	1071	C	O5'-P-OP1	-5.31	100.92	105.70
35	YA	1433	U	N3-C2-O2	-5.31	118.49	122.20
1	QA	1282	C	C6-N1-C2	-5.30	118.18	120.30
29	R4	54	GLY	N-CA-C	5.30	126.36	113.10
35	RA	1963	U	C6-N1-C2	-5.30	117.82	121.00
21	XU	7	ARG	N-CA-CB	-5.30	101.05	110.60
1	XA	519	C	C6-N1-C2	5.30	122.42	120.30
35	YA	1640	C	C5-C6-N1	5.30	123.65	121.00
47	YR	86	ARG	CG-CD-NE	-5.30	100.66	111.80
35	RA	654(A)	G	O4'-C1'-N9	5.30	112.44	108.20
35	RA	881	G	C6-C5-N7	-5.30	127.22	130.40
35	RA	1241	A	C4-C5-N7	5.30	113.35	110.70
35	RA	1771	C	C6-N1-C2	-5.30	118.18	120.30
35	YA	273(D)	C	C6-N1-C1'	-5.30	114.44	120.80
35	YA	392	C	N1-C2-O2	5.30	122.08	118.90
35	YA	1011	G	C6-C5-N7	5.30	133.58	130.40
35	RA	823	G	C8-N9-C4	5.30	108.52	106.40
35	RA	2607	G	N1-C6-O6	-5.30	116.72	119.90
1	XA	217	C	C6-N1-C2	-5.30	118.18	120.30
35	YA	1734	C	C6-N1-C2	-5.30	118.18	120.30
35	YA	1827	C	N3-C2-O2	-5.30	118.19	121.90
35	RA	2708	G	C8-N9-C4	5.30	108.52	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	311	C	C6-N1-C2	-5.30	118.18	120.30
35	YA	609	A	C2-N3-C4	5.30	113.25	110.60
35	YA	1846	G	OP2-P-O3'	5.30	116.85	105.20
1	QA	135	C	C5-C6-N1	5.29	123.65	121.00
1	QA	749	C	C5-C6-N1	5.29	123.65	121.00
35	RA	2611	U	N3-C2-O2	5.29	125.91	122.20
35	YA	1881	C	N3-C4-C5	-5.29	119.78	121.90
28	R3	39	ASP	C-N-CA	5.29	134.93	121.70
35	RA	1507	A	C8-N9-C4	-5.29	103.68	105.80
35	YA	1398	C	C2-N1-C1'	5.29	124.62	118.80
35	YA	2343	C	C2-N1-C1'	5.29	124.62	118.80
25	R0	48	GLY	N-CA-C	5.29	126.32	113.10
35	RA	2451	A	N9-C4-C5	5.29	107.92	105.80
35	YA	1834	U	C5-C4-O4	-5.29	122.73	125.90
35	YA	154	G	C8-N9-C1'	-5.29	120.12	127.00
35	RA	2739	U	C6-N1-C2	-5.29	117.83	121.00
35	YA	2590	A	N9-C4-C5	-5.29	103.69	105.80
22	QV	32	C	N1-C2-O2	5.29	122.07	118.90
35	RA	1488	G	C8-N9-C4	-5.29	104.28	106.40
35	RA	2164	C	C5-C6-N1	5.29	123.64	121.00
35	RA	2787	C	C5-C6-N1	5.29	123.64	121.00
9	XI	19	LEU	C-N-CA	5.29	134.91	121.70
9	XI	33	PHE	CB-CA-C	5.29	120.97	110.40
35	YA	757	U	N3-C2-O2	-5.29	118.50	122.20
35	YA	1675	C	N1-C2-O2	5.29	122.07	118.90
35	YA	2714	G	C4-C5-N7	-5.29	108.69	110.80
1	QA	1228	C	C5-C6-N1	5.28	123.64	121.00
35	RA	1157	G	N1-C6-O6	5.28	123.07	119.90
1	XA	1439	C	C2-N1-C1'	5.28	124.61	118.80
35	YA	1267	U	N1-C2-O2	5.28	126.50	122.80
1	QA	722	A	C8-N9-C4	-5.28	103.69	105.80
1	QA	1357	A	C8-N9-C4	-5.28	103.69	105.80
35	RA	671	C	N3-C4-C5	-5.28	119.79	121.90
35	YA	591	C	C6-N1-C2	-5.28	118.19	120.30
35	YA	1992	G	OP2-P-O3'	5.28	116.82	105.20
35	RA	1640	C	C2-N1-C1'	5.28	124.61	118.80
31	Y6	14	THR	OG1-CB-CG2	-5.28	97.86	110.00
35	YA	1588	C	N1-C2-O2	5.28	122.07	118.90
35	YA	1819	A	P-O3'-C3'	5.28	126.03	119.70
1	QA	1290	G	C6-C5-N7	-5.28	127.23	130.40
35	RA	84	A	C8-N9-C4	5.28	107.91	105.80
35	RA	273(C)	C	C2-N1-C1'	5.28	124.61	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	880	G	C8-N9-C4	-5.28	104.29	106.40
35	RA	1233	C	C2-N1-C1'	5.28	124.61	118.80
35	RA	2055	C	N1-C2-O2	5.28	122.07	118.90
35	YA	1385	G	N1-C6-O6	-5.28	116.73	119.90
35	YA	1549	C	C2-N1-C1'	5.28	124.61	118.80
35	YA	1735	C	C6-N1-C1'	-5.28	114.47	120.80
35	RA	2559	C	N3-C4-C5	-5.28	119.79	121.90
35	RA	2712(A)	A	N7-C8-N9	5.28	116.44	113.80
1	XA	51	A	C8-N9-C4	5.28	107.91	105.80
1	XA	759	A	C8-N9-C4	5.28	107.91	105.80
35	YA	93	C	C2-N3-C4	5.28	122.54	119.90
35	YA	141	A	C4-C5-N7	5.28	113.34	110.70
35	YA	930	U	C2-N1-C1'	5.28	124.03	117.70
40	YG	35	GLU	N-CA-CB	-5.28	101.11	110.60
35	YA	1950	G	O4'-C1'-N9	5.27	112.42	108.20
35	RA	953	A	C5-C6-N6	-5.27	119.48	123.70
1	XA	1217	C	O5'-P-OP1	5.27	117.03	110.70
35	YA	2579	C	C5-C6-N1	5.27	123.64	121.00
35	RA	2343	C	C4-C5-C6	-5.27	114.76	117.40
1	QA	442	C	N1-C2-O2	5.27	122.06	118.90
1	QA	482	A	N7-C8-N9	5.27	116.43	113.80
35	RA	650	C	C5-C6-N1	5.27	123.64	121.00
35	RA	953	A	N9-C4-C5	-5.27	103.69	105.80
35	RA	974(A)	C	C2-N1-C1'	5.27	124.59	118.80
35	RA	2347	C	C6-N1-C1'	-5.27	114.48	120.80
1	XA	1132	C	N1-C2-O2	5.27	122.06	118.90
35	YA	9	U	C6-N1-C2	-5.27	117.84	121.00
35	YA	1909	C	C6-N1-C2	-5.27	118.19	120.30
35	YA	2306	C	C2-N3-C4	5.27	122.53	119.90
1	QA	1406	U	N3-C2-O2	-5.27	118.51	122.20
35	YA	1080	C	C6-N1-C2	-5.27	118.19	120.30
35	YA	1959	G	C8-N9-C4	-5.27	104.29	106.40
35	YA	2292	C	C6-N1-C2	-5.27	118.19	120.30
1	QA	518	C	P-O3'-C3'	5.27	126.02	119.70
35	RA	1528	A	C6-C5-N7	-5.27	128.61	132.30
35	RA	748	G	C4-N9-C1'	-5.26	119.66	126.50
35	YA	512	G	N9-C4-C5	5.26	107.51	105.40
35	YA	1076	C	C6-N1-C2	-5.26	118.19	120.30
36	YB	8	U	N3-C2-O2	-5.26	118.52	122.20
35	RA	845	G	OP1-P-O3'	5.26	116.78	105.20
49	RT	137	LYS	CG-CD-CE	5.26	127.69	111.90
1	QA	187	C	C6-N1-C2	-5.26	118.20	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	939	G	C8-N9-C4	5.26	108.50	106.40
35	RA	395	U	N1-C2-O2	5.26	126.48	122.80
35	RA	537	C	C6-N1-C2	-5.26	118.19	120.30
1	XA	108	G	C4-N9-C1'	5.26	133.34	126.50
35	YA	932	G	C5-C6-O6	5.26	131.76	128.60
35	YA	1125	G	C2-N3-C4	-5.26	109.27	111.90
35	YA	1701	A	N1-C6-N6	-5.26	115.44	118.60
1	QA	266	G	C8-N9-C1'	-5.26	120.16	127.00
35	RA	2342	C	C2-N1-C1'	5.26	124.59	118.80
35	YA	577	G	C6-C5-N7	-5.26	127.24	130.40
1	QA	93	U	C6-N1-C2	-5.26	117.84	121.00
1	QA	1523	G	C5-C6-N1	5.26	114.13	111.50
35	RA	2431	U	C6-N1-C2	-5.26	117.84	121.00
36	RB	37	C	N1-C2-O2	5.26	122.06	118.90
35	YA	587	C	P-O3'-C3'	5.26	126.01	119.70
1	QA	980	C	C6-N1-C2	-5.26	118.20	120.30
35	RA	568	U	C6-N1-C2	-5.26	117.85	121.00
35	RA	774	A	N3-C4-N9	-5.26	123.19	127.40
1	XA	331	G	C5-C6-O6	-5.26	125.45	128.60
1	XA	1187	G	C4-N9-C1'	5.25	133.33	126.50
1	XA	1482	G	C2-N3-C4	-5.25	109.27	111.90
35	RA	528	A	N1-C6-N6	5.25	121.75	118.60
1	XA	1007	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	1094	G	C2-N3-C4	5.25	114.53	111.90
35	YA	1977	A	N1-C6-N6	5.25	121.75	118.60
35	YA	2390	U	N3-C4-O4	5.25	123.08	119.40
1	QA	243	A	N1-C6-N6	-5.25	115.45	118.60
1	QA	1066	C	C4-C5-C6	-5.25	114.77	117.40
8	QH	42	GLU	CB-CA-C	5.25	120.90	110.40
35	RA	792	G	N7-C8-N9	5.25	115.72	113.10
35	RA	2501	C	N3-C4-N4	-5.25	114.32	118.00
22	XW	61	C	C5-C6-N1	5.25	123.62	121.00
35	YA	2232	U	N3-C4-C5	-5.25	111.45	114.60
22	QW	34	C	C5-C6-N1	5.25	123.62	121.00
35	RA	1562	A	C2-N3-C4	5.25	113.22	110.60
35	YA	176	G	N7-C8-N9	-5.25	110.47	113.10
35	YA	273(F)	C	C6-N1-C2	-5.25	118.20	120.30
35	YA	2362	G	C2-N3-C4	5.25	114.53	111.90
10	QJ	80	LYS	CA-CB-CG	5.25	124.94	113.40
35	RA	1786	A	C4-N9-C1'	5.25	135.75	126.30
1	XA	485	G	N3-C4-N9	-5.25	122.85	126.00
35	RA	2636	U	C2-N1-C1'	5.25	123.99	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	71	A	C6-C5-N7	-5.25	128.63	132.30
35	YA	2105	C	C5-C6-N1	5.25	123.62	121.00
35	RA	2093	G	N3-C2-N2	-5.24	116.23	119.90
35	RA	2163	C	C6-N1-C2	-5.24	118.20	120.30
35	YA	1125	G	C5-C6-N1	-5.24	108.88	111.50
35	RA	1955	U	N3-C2-O2	-5.24	118.53	122.20
35	YA	660	G	C5-C6-O6	5.24	131.75	128.60
35	RA	753	C	C6-N1-C2	-5.24	118.20	120.30
1	XA	1007	C	OP1-P-O3'	5.24	116.73	105.20
35	YA	270(I)	G	C8-N9-C4	-5.24	104.30	106.40
35	YA	348	G	C8-N9-C4	-5.24	104.30	106.40
35	YA	928	G	N3-C4-C5	-5.24	125.98	128.60
35	YA	2632	A	C8-N9-C4	-5.24	103.70	105.80
35	YA	1041	C	C6-N1-C2	-5.24	118.20	120.30
35	YA	2247	A	N9-C4-C5	-5.24	103.70	105.80
35	YA	2616	C	N3-C4-C5	-5.24	119.80	121.90
35	RA	2702	U	N3-C2-O2	-5.24	118.54	122.20
1	XA	1000	A	C6-C5-N7	-5.24	128.63	132.30
35	YA	2028	U	N3-C4-C5	-5.24	111.46	114.60
1	QA	690	G	C4-N9-C1'	5.23	133.30	126.50
35	YA	391	G	N1-C6-O6	5.23	123.04	119.90
35	YA	804	A	C5-C6-N6	5.23	127.89	123.70
1	QA	529	G	N3-C2-N2	5.23	123.56	119.90
1	QA	643	C	C5-C6-N1	5.23	123.62	121.00
1	QA	1000	A	P-O3'-C3'	5.23	125.98	119.70
35	RA	1314	C	C5-C6-N1	5.23	123.62	121.00
35	YA	352	G	N3-C4-C5	-5.23	125.98	128.60
1	QA	1203	C	C2-N1-C1'	5.23	124.55	118.80
27	R2	44	LEU	CA-CB-CG	5.23	127.33	115.30
35	RA	1095	A	C4-N9-C1'	5.23	135.72	126.30
35	RA	2444	G	C8-N9-C4	5.23	108.49	106.40
1	XA	563	A	N9-C4-C5	-5.23	103.71	105.80
35	YA	2168	G	N7-C8-N9	5.23	115.72	113.10
50	RU	86	ALA	N-CA-CB	5.23	117.42	110.10
35	YA	2896	C	C5-C6-N1	5.23	123.61	121.00
35	RA	583	G	N3-C4-C5	-5.23	125.99	128.60
35	RA	1499	C	C6-N1-C1'	-5.23	114.53	120.80
35	RA	2036	C	C6-N1-C2	-5.23	118.21	120.30
35	YA	2320	A	C8-N9-C4	-5.23	103.71	105.80
35	YA	2775	A	C5-C6-N6	-5.23	119.52	123.70
1	XA	703	G	OP2-P-O3'	5.23	116.70	105.20
35	YA	2596	U	C5-C4-O4	-5.23	122.76	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	YY	40	GLU	N-CA-CB	5.23	120.01	110.60
1	QA	137	C	C6-N1-C2	-5.22	118.21	120.30
1	QA	486	U	N1-C2-O2	5.22	126.46	122.80
35	RA	380	U	C6-N1-C2	-5.22	117.86	121.00
35	RA	2191	G	P-O3'-C3'	5.22	125.97	119.70
37	RD	169	GLU	CA-CB-CG	-5.22	101.91	113.40
1	QA	1199	U	C5-C4-O4	5.22	129.03	125.90
1	XA	486	U	C5-C4-O4	-5.22	122.77	125.90
1	XA	1038	C	N1-C2-O2	5.22	122.03	118.90
10	XJ	5	ARG	CB-CG-CD	-5.22	98.02	111.60
22	XW	61	C	C2-N1-C1'	5.22	124.54	118.80
54	RY	53	PRO	C-N-CA	5.22	134.75	121.70
35	YA	273(C)	C	C6-N1-C1'	-5.22	114.53	120.80
35	YA	2041	U	N3-C2-O2	-5.22	118.55	122.20
1	QA	37	U	N1-C2-N3	5.22	118.03	114.90
35	RA	113	G	C8-N9-C1'	5.22	133.79	127.00
35	RA	1170	G	C6-C5-N7	-5.22	127.27	130.40
22	XW	11	A	C4-N9-C1'	5.22	135.70	126.30
36	RB	44	G	C8-N9-C1'	5.22	133.78	127.00
35	YA	748	G	C2-N3-C4	5.22	114.51	111.90
1	QA	169	C	C6-N1-C1'	-5.22	114.54	120.80
1	QA	330	C	C6-N1-C2	-5.22	118.21	120.30
1	QA	883	C	N3-C4-C5	-5.22	119.81	121.90
35	RA	82	G	C8-N9-C4	-5.22	104.31	106.40
35	RA	2287	A	N1-C6-N6	5.22	121.73	118.60
13	XM	5	ALA	N-CA-CB	-5.22	102.80	110.10
35	YA	41	C	C2-N3-C4	5.22	122.51	119.90
35	YA	856	C	P-O3'-C3'	5.22	125.96	119.70
35	RA	1370	C	C6-N1-C2	-5.21	118.21	120.30
35	YA	669	G	C8-N9-C1'	-5.21	120.22	127.00
1	QA	1187	G	C4-N9-C1'	5.21	133.28	126.50
24	QY	47	PRO	CA-N-CD	5.21	119.00	111.70
1	XA	485	G	OP2-P-O3'	5.21	116.67	105.20
35	YA	2584	U	C6-N1-C1'	-5.21	113.90	121.20
35	YA	2889	C	C6-N1-C2	-5.21	118.22	120.30
1	XA	738	C	C6-N1-C2	-5.21	118.22	120.30
35	YA	307	G	C8-N9-C4	-5.21	104.31	106.40
35	RA	373	U	N1-C2-O2	5.21	126.45	122.80
35	YA	537	C	C5-C6-N1	5.21	123.61	121.00
1	QA	93	U	C5-C6-N1	5.21	125.30	122.70
1	QA	879	C	C6-N1-C2	-5.21	118.22	120.30
22	QV	24	U	N3-C2-O2	-5.21	118.55	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	1430	C	C6-N1-C2	-5.21	118.22	120.30
1	XA	1492	A	O5'-P-OP1	5.21	116.95	110.70
35	YA	386	G	C5-C6-O6	5.21	131.72	128.60
35	RA	1170	G	N7-C8-N9	5.21	115.70	113.10
35	RA	1318	C	C2-N1-C1'	5.21	124.53	118.80
35	YA	1999	C	C6-N1-C2	-5.21	118.22	120.30
35	YA	2167	U	N3-C2-O2	-5.21	118.56	122.20
35	RA	2619	C	C6-N1-C2	-5.21	118.22	120.30
35	RA	1803	A	C8-N9-C4	-5.20	103.72	105.80
41	RH	72	ILE	N-CA-CB	5.20	122.77	110.80
35	YA	327	G	C6-C5-N7	-5.20	127.28	130.40
35	YA	676	A	O4'-C1'-N9	5.20	112.36	108.20
35	YA	2061	G	C8-N9-C4	-5.20	104.32	106.40
35	RA	84	A	N9-C4-C5	-5.20	103.72	105.80
1	XA	442	C	C6-N1-C1'	-5.20	114.56	120.80
1	XA	980	C	C5-C6-N1	5.20	123.60	121.00
1	XA	999	U	C5-C6-N1	5.20	125.30	122.70
35	YA	2444	G	N9-C4-C5	5.20	107.48	105.40
1	QA	482	A	C8-N9-C4	-5.20	103.72	105.80
35	RA	597	U	C5-C4-O4	5.20	129.02	125.90
35	RA	1839	G	C5-C6-O6	-5.20	125.48	128.60
35	RA	2856	C	C5-C6-N1	5.20	123.60	121.00
45	RP	26	GLY	N-CA-C	-5.20	100.11	113.10
35	RA	316	C	C6-N1-C2	-5.20	118.22	120.30
35	RA	392	C	C2-N1-C1'	5.20	124.52	118.80
1	XA	888	G	C8-N9-C4	-5.20	104.32	106.40
35	YA	621	A	C2-N3-C4	-5.20	108.00	110.60
35	YA	1669	A	C4-N9-C1'	5.20	135.65	126.30
35	YA	1945	G	N7-C8-N9	5.20	115.70	113.10
35	YA	2057	A	N1-C6-N6	-5.20	115.48	118.60
35	YA	2762	G	C8-N9-C4	-5.20	104.32	106.40
35	RA	1475	G	C6-C5-N7	-5.19	127.28	130.40
1	XA	1420	C	C5-C6-N1	5.19	123.60	121.00
35	YA	1735	C	N3-C4-N4	5.19	121.64	118.00
35	YA	2266	A	N1-C6-N6	-5.19	115.48	118.60
35	RA	670	A	C8-N9-C4	-5.19	103.72	105.80
35	RA	698	C	C6-N1-C2	5.19	122.38	120.30
35	RA	1329	U	C5-C4-O4	-5.19	122.78	125.90
35	RA	1488	G	N3-C4-C5	-5.19	126.00	128.60
35	RA	2099	U	N1-C2-O2	5.19	126.43	122.80
35	RA	2253	G	N9-C4-C5	-5.19	103.32	105.40
35	RA	2321	G	C8-N9-C1'	-5.19	120.25	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2689	U	N3-C4-O4	-5.19	115.77	119.40
35	RA	2712(A)	A	C5-N7-C8	-5.19	101.30	103.90
1	XA	186(F)	C	C6-N1-C1'	5.19	127.03	120.80
1	XA	1212	U	O5'-P-OP1	-5.19	101.03	105.70
35	YA	636	G	N1-C6-O6	5.19	123.02	119.90
35	YA	1024	G	N3-C4-C5	-5.19	126.00	128.60
1	QA	652	U	N3-C2-O2	-5.19	118.57	122.20
1	QA	690	G	O4'-C1'-N9	5.19	112.35	108.20
22	QV	67	C	C6-N1-C2	-5.19	118.22	120.30
35	RA	2259	G	C6-C5-N7	-5.19	127.28	130.40
41	RH	20	ALA	N-CA-CB	-5.19	102.83	110.10
48	RS	20	ARG	CD-NE-CZ	5.19	130.87	123.60
1	XA	1514	C	C5-C6-N1	5.19	123.59	121.00
35	YA	269	U	C5-C6-N1	5.19	125.30	122.70
1	QA	1007	C	C6-N1-C2	-5.19	118.22	120.30
35	RA	2779	U	O4'-C1'-N1	5.19	112.35	108.20
36	YB	22	U	C6-N1-C2	-5.19	117.89	121.00
44	YO	49	ARG	CD-NE-CZ	5.19	130.86	123.60
35	RA	1776	G	N3-C4-C5	-5.19	126.01	128.60
35	RA	2046	G	C6-C5-N7	-5.19	127.29	130.40
35	RA	2678	C	C5-C6-N1	5.19	123.59	121.00
1	XA	1001	G	O5'-P-OP1	5.19	116.92	110.70
17	XQ	75	ARG	N-CA-CB	-5.19	101.26	110.60
35	YA	156	U	C2-N3-C4	5.19	130.11	127.00
35	YA	2604	U	N3-C4-O4	5.19	123.03	119.40
36	YB	53	A	N7-C8-N9	5.19	116.39	113.80
35	YA	325	G	C8-N9-C4	5.19	108.47	106.40
36	YB	77	U	C2-N1-C1'	5.19	123.92	117.70
1	QA	341	C	C2-N1-C1'	5.18	124.50	118.80
33	R8	46	ARG	CB-CA-C	-5.18	100.03	110.40
35	YA	2159	G	N3-C4-N9	-5.18	122.89	126.00
35	YA	2827	C	C6-N1-C1'	-5.18	114.58	120.80
1	QA	1008	C	C2-N1-C1'	5.18	124.50	118.80
35	RA	537	C	C2-N1-C1'	5.18	124.50	118.80
35	RA	1443	G	C8-N9-C4	-5.18	104.33	106.40
35	RA	2874	C	N1-C2-O2	5.18	122.01	118.90
36	RB	37	C	N3-C2-O2	-5.18	118.27	121.90
1	XA	626	U	C5-C6-N1	5.18	125.29	122.70
35	YA	528	A	C5-C6-N1	-5.18	115.11	117.70
35	YA	764	A	N1-C6-N6	-5.18	115.49	118.60
35	YA	708	C	C6-N1-C1'	-5.18	114.58	120.80
1	QA	180	U	N1-C2-O2	5.18	126.43	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	883	C	C2-N1-C1'	5.18	124.50	118.80
35	RA	1708	C	C6-N1-C2	-5.18	118.23	120.30
1	XA	309	G	C8-N9-C4	-5.18	104.33	106.40
36	YB	27	C	N3-C2-O2	-5.18	118.27	121.90
5	QE	79	GLU	CG-CD-OE2	-5.18	107.95	118.30
1	XA	191(B)	G	N1-C6-O6	-5.18	116.79	119.90
1	XA	872	A	C5-N7-C8	-5.18	101.31	103.90
35	YA	140	A	C6-C5-N7	-5.18	128.68	132.30
35	YA	241	A	C8-N9-C4	-5.18	103.73	105.80
35	YA	2804	C	C6-N1-C2	-5.18	118.23	120.30
35	YA	2814	C	C2-N1-C1'	5.18	124.50	118.80
35	RA	1397	U	N1-C2-O2	-5.17	119.18	122.80
35	YA	1947	C	N3-C2-O2	-5.17	118.28	121.90
35	YA	2623	G	N3-C4-N9	5.17	129.10	126.00
1	QA	1517	G	C4-C5-N7	5.17	112.87	110.80
35	RA	2527	C	C2-N1-C1'	5.17	124.49	118.80
35	YA	527	C	C5-C4-N4	5.17	123.82	120.20
1	QA	1079	G	N1-C6-O6	-5.17	116.80	119.90
1	QA	1318	A	C8-N9-C4	5.17	107.87	105.80
35	YA	214	G	C4-C5-N7	-5.17	108.73	110.80
51	YV	52	VAL	N-CA-C	-5.17	97.04	111.00
16	QP	32	TYR	CB-CA-C	5.17	120.74	110.40
26	R1	82	LEU	CA-CB-CG	5.17	127.19	115.30
35	RA	2471	C	N1-C2-O2	5.17	122.00	118.90
1	XA	526	C	N1-C2-O2	5.17	122.00	118.90
1	XA	1447	G	C4-N9-C1'	5.17	133.22	126.50
35	YA	1332	G	C8-N9-C1'	-5.17	120.28	127.00
35	YA	1950	G	C5-C6-O6	-5.17	125.50	128.60
35	RA	2419	U	C6-N1-C2	-5.17	117.90	121.00
1	XA	1453	G	C8-N9-C1'	-5.17	120.28	127.00
35	YA	1886	C	C6-N1-C2	-5.17	118.23	120.30
35	YA	2527	C	C6-N1-C2	-5.17	118.23	120.30
40	YG	126	ASP	N-CA-CB	-5.17	101.30	110.60
1	QA	1453	G	N1-C2-N3	-5.17	120.80	123.90
2	QB	53	ARG	CD-NE-CZ	5.17	130.83	123.60
35	RA	987	G	N9-C4-C5	5.16	107.47	105.40
35	RA	2896	C	C6-N1-C1'	-5.16	114.61	120.80
1	XA	979	C	N3-C2-O2	-5.16	118.29	121.90
35	RA	1170	G	C8-N9-C4	-5.16	104.33	106.40
35	YA	1823	G	C5-C6-O6	5.16	131.70	128.60
35	YA	2430	A	C6-C5-N7	-5.16	128.69	132.30
35	YA	2444	G	C4-C5-N7	-5.16	108.73	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	856	C	C2'-C3'-O3'	5.16	121.96	113.70
12	XL	28	LYS	CA-CB-CG	5.16	124.75	113.40
1	QA	272	C	C6-N1-C2	-5.16	118.24	120.30
22	QW	22	G	O4'-C1'-N9	5.16	112.33	108.20
22	QW	68	C	C5-C6-N1	5.16	123.58	121.00
35	RA	1018	C	C6-N1-C2	-5.16	118.24	120.30
41	RH	4	ILE	N-CA-CB	-5.16	98.93	110.80
1	XA	54	C	C2-N1-C1'	5.16	124.47	118.80
35	YA	811	U	C6-N1-C2	5.16	124.09	121.00
35	YA	1823	G	C4-C5-N7	-5.16	108.74	110.80
1	QA	27	G	C8-N9-C4	-5.16	104.34	106.40
35	RA	2756	U	OP1-P-O3'	5.16	116.55	105.20
1	QA	267	C	C6-N1-C2	-5.16	118.24	120.30
1	QA	1260	C	C2-N1-C1'	5.16	124.47	118.80
35	RA	274	G	N7-C8-N9	5.16	115.68	113.10
35	YA	2212	A	N1-C6-N6	5.16	121.69	118.60
35	RA	537	C	C5-C6-N1	5.15	123.58	121.00
1	XA	1536	C	N1-C2-O2	5.15	121.99	118.90
22	XW	5	G	N3-C4-N9	5.15	129.09	126.00
35	YA	2232	U	N1-C2-N3	5.15	117.99	114.90
35	RA	355	G	N3-C4-C5	-5.15	126.02	128.60
37	RD	13	ARG	CG-CD-NE	5.15	122.62	111.80
22	XW	69	C	N1-C2-O2	5.15	121.99	118.90
1	QA	1254	C	N3-C4-C5	-5.15	119.84	121.90
13	QM	55	ARG	CG-CD-NE	-5.15	100.98	111.80
35	RA	198	C	C6-N1-C2	-5.15	118.24	120.30
35	RA	894	C	C2-N1-C1'	5.15	124.47	118.80
35	RA	1819	A	P-O3'-C3'	5.15	125.88	119.70
35	RA	2610	C	C6-N1-C2	5.15	122.36	120.30
35	RA	2645	G	C4-N9-C1'	5.15	133.20	126.50
1	XA	918	A	C8-N9-C4	-5.15	103.74	105.80
1	XA	974	A	C6-C5-N7	5.15	135.91	132.30
35	YA	197	A	C5-C6-N6	-5.15	119.58	123.70
1	QA	252	U	C2-N1-C1'	5.15	123.88	117.70
1	XA	775	G	N1-C6-O6	5.15	122.99	119.90
35	YA	2342	C	C2-N1-C1'	5.15	124.46	118.80
35	YA	2685	G	C4-C5-N7	-5.15	108.74	110.80
3	QC	107	GLN	C-N-CA	5.15	134.57	121.70
35	RA	1909	C	C2-N1-C1'	5.15	124.46	118.80
35	YA	1011	G	C4-N9-C1'	-5.15	119.81	126.50
35	YA	1638	C	C6-N1-C2	-5.15	118.24	120.30
11	QK	70	LYS	CA-CB-CG	5.15	124.72	113.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
23	QX	11	U	C2-N1-C1'	5.15	123.88	117.70
35	RA	1446	C	C6-N1-C2	-5.15	118.24	120.30
1	XA	394	G	C5-C6-O6	5.15	131.69	128.60
10	QJ	79	ARG	CA-CB-CG	-5.14	102.08	113.40
35	RA	654(Q)	C	C6-N1-C2	-5.14	118.24	120.30
35	RA	1210	A	N7-C8-N9	5.14	116.37	113.80
1	XA	722	A	N1-C6-N6	5.14	121.69	118.60
35	YA	1499	C	N1-C2-O2	5.14	121.99	118.90
35	YA	1920	C	C6-N1-C2	-5.14	118.24	120.30
35	YA	2342	C	C5-C6-N1	5.14	123.57	121.00
1	QA	801	U	N3-C2-O2	-5.14	118.60	122.20
11	QK	20	TYR	CG-CD2-CE2	-5.14	117.19	121.30
35	RA	2443	C	N3-C2-O2	-5.14	118.30	121.90
1	XA	1028	C	C2-N1-C1'	-5.14	113.14	118.80
35	YA	1566	A	N1-C6-N6	5.14	121.69	118.60
35	YA	686	G	C4-C5-N7	5.14	112.86	110.80
1	QA	486	U	C6-N1-C2	-5.14	117.92	121.00
1	QA	1373	G	C5-C6-O6	5.14	131.68	128.60
3	QC	82	GLU	CA-CB-CG	5.14	124.71	113.40
35	RA	1542	G	N1-C6-O6	-5.14	116.82	119.90
53	RX	48	LYS	CA-CB-CG	5.14	124.71	113.40
1	XA	21	G	C8-N9-C4	5.14	108.45	106.40
35	YA	1769	G	C8-N9-C4	-5.14	104.34	106.40
35	YA	1817	G	C2-N3-C4	5.14	114.47	111.90
50	YU	92	ARG	O-C-N	-5.14	114.48	122.70
1	QA	999	U	C5-C6-N1	5.14	125.27	122.70
1	QA	1229	A	O5'-P-OP2	-5.14	101.08	105.70
1	QA	1374	A	N1-C2-N3	5.14	131.87	129.30
22	QV	13	C	C5-C6-N1	5.14	123.57	121.00
35	RA	1253	A	C5-C6-N6	-5.14	119.59	123.70
35	RA	1528	A	C8-N9-C4	-5.14	103.75	105.80
35	YA	881	G	N3-C4-N9	5.14	129.08	126.00
35	YA	2177	C	C6-N1-C2	-5.14	118.25	120.30
35	YA	2454	G	C8-N9-C4	5.14	108.45	106.40
1	QA	1540	U	N1-C2-O2	5.13	126.39	122.80
4	QD	14	ARG	CD-NE-CZ	-5.13	116.41	123.60
35	RA	1043	C	C6-N1-C2	-5.13	118.25	120.30
35	RA	1779	U	C2-N1-C1'	5.13	123.86	117.70
35	RA	2094	G	N3-C4-C5	-5.13	126.03	128.60
1	XA	8	A	C8-N9-C4	5.13	107.85	105.80
35	YA	848	G	N3-C4-C5	-5.13	126.03	128.60
35	YA	1085	A	P-O3'-C3'	5.13	125.86	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	YB	78	A	C5-C6-N1	5.13	120.27	117.70
35	RA	2613	U	C5-C4-O4	5.13	128.98	125.90
1	XA	654	G	N9-C4-C5	5.13	107.45	105.40
22	XW	36	U	C6-N1-C2	-5.13	117.92	121.00
35	YA	788	A	N9-C4-C5	-5.13	103.75	105.80
35	YA	1102	C	C6-N1-C2	-5.13	118.25	120.30
35	YA	1496	A	C8-N9-C4	-5.13	103.75	105.80
35	RA	267	C	N1-C2-O2	5.13	121.98	118.90
35	RA	859	G	N7-C8-N9	-5.13	110.53	113.10
49	RT	6	LEU	CA-CB-CG	5.13	127.10	115.30
1	XA	610	G	C8-N9-C4	-5.13	104.35	106.40
35	RA	1143	A	N1-C2-N3	5.13	131.86	129.30
35	RA	2430	A	C8-N9-C4	5.13	107.85	105.80
35	YA	1012	U	C5-C6-N1	-5.13	120.14	122.70
35	YA	1835	G	N9-C4-C5	5.13	107.45	105.40
35	RA	69	C	C5-C6-N1	5.13	123.56	121.00
35	RA	388	G	N1-C6-O6	5.13	122.98	119.90
35	RA	1138	G	N3-C2-N2	-5.13	116.31	119.90
35	RA	1762	A	C8-N9-C1'	-5.13	118.47	127.70
35	RA	1776	G	C8-N9-C1'	-5.13	120.33	127.00
1	XA	330	C	C2-N1-C1'	5.13	124.44	118.80
35	YA	2312	U	O5'-P-OP1	-5.13	101.08	105.70
35	YA	2320	A	N7-C8-N9	5.13	116.36	113.80
1	QA	91	C	C6-N1-C2	-5.12	118.25	120.30
1	QA	36	C	C5-C6-N1	5.12	123.56	121.00
1	XA	354	G	N7-C8-N9	5.12	115.66	113.10
35	YA	647	G	C5-C6-N1	5.12	114.06	111.50
35	YA	650	C	C5-C6-N1	5.12	123.56	121.00
35	YA	2481	G	P-O3'-C3'	5.12	125.85	119.70
1	QA	442	C	C6-N1-C2	-5.12	118.25	120.30
1	QA	947	G	N1-C6-O6	5.12	122.97	119.90
35	RA	1614	A	N7-C8-N9	5.12	116.36	113.80
35	RA	2791	C	C5-C4-N4	5.12	123.78	120.20
35	YA	561	G	N1-C2-N2	-5.12	111.59	116.20
1	XA	486	U	N1-C2-O2	5.12	126.38	122.80
1	QA	1240	U	C2-N3-C4	-5.12	123.93	127.00
35	RA	141	A	C5-N7-C8	-5.12	101.34	103.90
1	XA	186(F)	C	N3-C4-C5	-5.12	119.85	121.90
11	XK	12	ARG	CA-CB-CG	5.12	124.66	113.40
35	YA	193	U	N3-C4-O4	5.12	122.98	119.40
35	YA	1404	C	N1-C2-O2	5.12	121.97	118.90
35	YA	1882	C	N3-C4-C5	-5.12	119.85	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	2569	G	C6-C5-N7	-5.12	127.33	130.40
35	YA	2755	C	C5-C6-N1	5.12	123.56	121.00
1	XA	488	C	C5-C6-N1	5.12	123.56	121.00
1	XA	793	U	N3-C2-O2	-5.12	118.62	122.20
35	YA	1834	U	N3-C4-O4	5.12	122.98	119.40
35	RA	943	U	N3-C4-O4	5.11	122.98	119.40
1	XA	92	G	C8-N9-C1'	-5.11	120.35	127.00
35	YA	1276	A	N7-C8-N9	5.11	116.36	113.80
35	RA	1505	C	C2-N1-C1'	5.11	124.42	118.80
35	RA	1964	G	N7-C8-N9	-5.11	110.54	113.10
35	RA	2804	C	C2-N1-C1'	5.11	124.42	118.80
35	YA	74	A	N3-C4-N9	-5.11	123.31	127.40
1	QA	525	C	N3-C4-N4	5.11	121.58	118.00
35	RA	2667	C	C6-N1-C2	-5.11	118.26	120.30
35	RA	2826	A	C6-C5-N7	-5.11	128.72	132.30
35	YA	1640	C	C2-N3-C4	5.11	122.46	119.90
35	YA	2391	G	C5-C6-O6	5.11	131.67	128.60
1	XA	35	G	N3-C4-C5	-5.11	126.05	128.60
1	QA	405	U	C2-N1-C1'	5.11	123.83	117.70
35	RA	837	C	C2-N1-C1'	5.11	124.42	118.80
35	RA	2250	G	C8-N9-C4	-5.11	104.36	106.40
35	RA	2602	A	C6-N1-C2	5.11	121.67	118.60
35	RA	2896	C	C2-N3-C4	5.11	122.45	119.90
1	XA	813	U	C5-C4-O4	-5.11	122.83	125.90
1	XA	974	A	C4-C5-C6	-5.11	114.45	117.00
1	XA	1521	G	N3-C4-N9	5.11	129.06	126.00
35	YA	1578	U	N3-C2-O2	-5.11	118.62	122.20
35	YA	1607	C	C5-C4-N4	-5.11	116.62	120.20
35	RA	2501	C	C6-N1-C1'	5.11	126.93	120.80
35	RA	2720	U	C5-C4-O4	5.11	128.96	125.90
35	RA	2861	G	C6-C5-N7	-5.11	127.34	130.40
1	XA	677	U	N1-C2-O2	5.11	126.37	122.80
35	YA	141	A	C5-C6-N1	-5.11	115.15	117.70
35	YA	1698	A	N7-C8-N9	5.11	116.35	113.80
1	XA	1301	U	O4'-C1'-N1	5.10	112.28	108.20
35	YA	1528	A	C5-N7-C8	-5.10	101.35	103.90
35	RA	2720	U	N1-C2-O2	5.10	126.37	122.80
39	RF	18	ARG	CG-CD-NE	-5.10	101.08	111.80
6	XF	28	ARG	CB-CG-CD	-5.10	98.33	111.60
22	XW	39	C	N1-C2-O2	5.10	121.96	118.90
35	YA	968	G	N3-C4-N9	5.10	129.06	126.00
36	YB	117	G	N1-C6-O6	-5.10	116.84	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	196	A	O4'-C1'-N9	5.10	112.28	108.20
1	XA	793	U	C5-C4-O4	5.10	128.96	125.90
1	QA	1182	G	OP2-P-O3'	5.10	116.41	105.20
35	RA	2062	A	N1-C6-N6	-5.10	115.54	118.60
35	RA	2604	U	C2-N1-C1'	5.10	123.82	117.70
35	YA	143	C	C2-N1-C1'	5.10	124.41	118.80
35	YA	2688	U	N1-C2-O2	5.10	126.37	122.80
1	QA	435	C	C2-N3-C4	5.10	122.45	119.90
1	QA	932	C	C6-N1-C2	-5.10	118.26	120.30
35	RA	1786	A	N9-C1'-C2'	5.10	120.62	114.00
35	RA	2615	U	N1-C2-O2	5.10	126.37	122.80
22	XV	22	G	C8-N9-C4	-5.10	104.36	106.40
1	QA	191(E)	G	C4-C5-N7	5.09	112.84	110.80
19	QS	5	LEU	CA-CB-CG	5.09	127.02	115.30
35	RA	2108	C	C2-N1-C1'	5.09	124.40	118.80
40	RG	139	LEU	CA-CB-CG	-5.09	103.58	115.30
35	YA	1478	G	C8-N9-C4	-5.09	104.36	106.40
35	YA	2056	G	N3-C4-N9	5.09	129.06	126.00
1	XA	1395	C	N1-C2-O2	5.09	121.96	118.90
1	QA	1067	A	C2-N3-C4	5.09	113.14	110.60
22	QW	68	C	C6-N1-C2	-5.09	118.26	120.30
35	RA	676	A	N3-C4-N9	-5.09	123.33	127.40
35	RA	704	G	C5-C6-O6	-5.09	125.55	128.60
35	RA	2559	C	C2-N3-C4	5.09	122.45	119.90
1	XA	863	U	C5-C4-O4	5.09	128.96	125.90
35	YA	2459	A	C8-N9-C4	5.09	107.84	105.80
35	YA	2734	A	N1-C6-N6	5.09	121.65	118.60
36	YB	47	C	N3-C2-O2	-5.09	118.33	121.90
53	YX	24	GLY	N-CA-C	-5.09	100.37	113.10
35	RA	375	C	C6-N1-C2	-5.09	118.26	120.30
35	RA	1040	C	C6-N1-C2	-5.09	118.27	120.30
55	RZ	161	VAL	CB-CA-C	5.09	121.07	111.40
26	Y1	80	LEU	C-N-CA	5.09	134.42	121.70
35	YA	182	A	C8-N9-C4	-5.09	103.76	105.80
35	YA	1264	G	C8-N9-C4	-5.09	104.36	106.40
35	YA	2112	G	C8-N9-C1'	5.09	133.62	127.00
35	YA	2873	A	N1-C2-N3	5.09	131.84	129.30
36	YB	118	G	N3-C2-N2	-5.09	116.34	119.90
1	QA	1127	G	N3-C4-C5	-5.09	126.06	128.60
35	RA	1824	G	N9-C4-C5	-5.09	103.36	105.40
35	RA	2318	G	C4-N9-C1'	5.09	133.12	126.50
22	QW	22	G	C8-N9-C1'	5.09	133.61	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	RA	654(Q)	C	C2-N1-C1'	5.09	124.39	118.80
35	RA	887	A	C8-N9-C4	-5.09	103.77	105.80
35	RA	904	C	C2-N1-C1'	5.09	124.39	118.80
1	XA	74	C	C6-N1-C1'	-5.09	114.70	120.80
1	XA	1008	C	C5-C6-N1	5.09	123.54	121.00
35	YA	139	G	C6-C5-N7	5.09	133.45	130.40
35	YA	556	G	C8-N9-C4	-5.09	104.36	106.40
35	YA	1678	G	N3-C4-C5	5.09	131.14	128.60
35	YA	1775	U	C5-C4-O4	-5.09	122.85	125.90
35	YA	1896	G	C8-N9-C4	-5.09	104.37	106.40
1	QA	1008	C	C6-N1-C2	-5.08	118.27	120.30
1	QA	1492	A	O5'-P-OP1	5.08	116.80	110.70
35	RA	2863	C	C2-N1-C1'	5.08	124.39	118.80
22	XW	12	G	C8-N9-C4	-5.08	104.37	106.40
35	YA	171	G	N9-C4-C5	-5.08	103.37	105.40
35	YA	707	G	C4-N9-C1'	5.08	133.11	126.50
35	YA	1365	A	C8-N9-C4	5.08	107.83	105.80
1	QA	1539	C	C6-N1-C2	-5.08	118.27	120.30
10	QJ	54	PHE	N-CA-CB	5.08	119.75	110.60
35	RA	74	A	C5-N7-C8	-5.08	101.36	103.90
35	RA	179	G	N3-C2-N2	-5.08	116.34	119.90
35	RA	889	C	C6-N1-C2	-5.08	118.27	120.30
1	XA	33	A	C8-N9-C4	-5.08	103.77	105.80
35	YA	385	C	C6-N1-C2	-5.08	118.27	120.30
35	YA	1915	U	N1-C2-O2	5.08	126.36	122.80
35	YA	2294	C	C6-N1-C2	-5.08	118.27	120.30
35	RA	2062	A	C2-N3-C4	5.08	113.14	110.60
1	XA	1001	G	OP1-P-OP2	-5.08	111.98	119.60
1	XA	1150	U	C5-C6-N1	5.08	125.24	122.70
1	QA	623	C	N1-C2-O2	5.08	121.95	118.90
1	QA	971	G	C4-C5-N7	-5.08	108.77	110.80
1	QA	1007	C	N1-C2-O2	5.08	121.95	118.90
35	RA	1406	U	C5-C6-N1	5.08	125.24	122.70
35	RA	2092	U	N1-C2-N3	-5.08	111.85	114.90
35	YA	620	G	C8-N9-C4	-5.08	104.37	106.40
35	RA	2347	C	C2-N1-C1'	5.08	124.39	118.80
35	YA	273	G	C2-N3-C4	5.08	114.44	111.90
1	QA	18	C	C5-C6-N1	5.08	123.54	121.00
22	QV	34	C	C2-N3-C4	5.08	122.44	119.90
30	R5	48	GLU	CB-CA-C	-5.08	100.25	110.40
35	RA	2189	U	N1-C2-O2	5.08	126.35	122.80
35	YA	774	A	N1-C6-N6	5.08	121.64	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	1299	G	C4-C5-N7	5.08	112.83	110.80
35	YA	2392	A	C5-C6-N6	-5.08	119.64	123.70
22	QV	59	A	C8-N9-C4	-5.07	103.77	105.80
35	RA	248	G	C5-C6-O6	-5.07	125.56	128.60
35	RA	1327	C	N1-C2-O2	5.07	121.94	118.90
41	RH	153	LYS	N-CA-C	5.07	124.70	111.00
43	RN	127	ASP	C-N-CA	-5.07	109.02	121.70
35	YA	1143	A	C5-N7-C8	-5.07	101.36	103.90
54	YY	50	ARG	CG-CD-NE	5.07	122.46	111.80
35	RA	2490	G	N1-C6-O6	5.07	122.94	119.90
27	Y2	69	ARG	CB-CA-C	-5.07	100.26	110.40
35	YA	2069	G	N3-C2-N2	-5.07	116.35	119.90
35	RA	987	G	C8-N9-C4	-5.07	104.37	106.40
1	XA	315	A	P-O3'-C3'	5.07	125.78	119.70
1	XA	1007	C	C2-N3-C4	5.07	122.44	119.90
35	YA	928	G	C8-N9-C4	-5.07	104.37	106.40
35	YA	1482	U	C6-N1-C1'	-5.07	114.10	121.20
35	YA	1930	G	C8-N9-C4	5.07	108.43	106.40
35	RA	198	C	N3-C4-C5	-5.07	119.87	121.90
35	RA	2726	U	N1-C2-N3	5.07	117.94	114.90
1	XA	596	C	N3-C2-O2	-5.07	118.35	121.90
1	QA	79	G	N1-C2-N2	5.07	120.76	116.20
1	QA	1051	C	C6-N1-C2	-5.07	118.27	120.30
35	RA	1342	A	C5-C6-N1	-5.07	115.17	117.70
35	RA	1774	C	C5-C6-N1	5.07	123.53	121.00
35	YA	2142	C	C6-N1-C2	-5.07	118.27	120.30
35	YA	2506	U	C5-C6-N1	-5.07	120.17	122.70
1	QA	556	C	C5-C6-N1	5.07	123.53	121.00
1	QA	971	G	C8-N9-C1'	5.07	133.59	127.00
1	QA	1157	A	P-O3'-C3'	5.07	125.78	119.70
13	QM	67	GLU	C-N-CA	-5.07	111.66	122.30
35	RA	1551	C	C6-N1-C2	-5.07	118.27	120.30
35	RA	2602	A	C5-C6-N1	-5.07	115.17	117.70
36	YB	31	C	C2-N3-C4	5.07	122.43	119.90
35	YA	2474	C	C6-N1-C2	-5.06	118.27	120.30
1	QA	37	U	C6-N1-C2	-5.06	117.96	121.00
1	QA	961	U	O5'-P-OP1	-5.06	101.14	105.70
13	QM	3	ARG	CB-CA-C	-5.06	100.27	110.40
35	RA	1846	G	O4'-C1'-N9	5.06	112.25	108.20
35	RA	2473	U	N3-C2-O2	-5.06	118.66	122.20
35	RA	2873	A	C8-N9-C1'	-5.06	118.59	127.70
55	RZ	41	LEU	CA-CB-CG	5.06	126.94	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1306	A	C5-N7-C8	-5.06	101.37	103.90
10	QJ	75	ILE	N-CA-C	5.06	124.67	111.00
35	RA	1980	G	N3-C4-C5	-5.06	126.07	128.60
35	RA	2720	U	C2-N3-C4	5.06	130.04	127.00
35	YA	812	C	C5-C6-N1	5.06	123.53	121.00
1	QA	108	G	N7-C8-N9	5.06	115.63	113.10
35	RA	153	C	C6-N1-C2	-5.06	118.28	120.30
35	RA	856	C	N3-C4-C5	-5.06	119.88	121.90
35	RA	1338	G	N3-C4-C5	-5.06	126.07	128.60
35	RA	2311	A	C2-N3-C4	5.06	113.13	110.60
35	RA	2683	C	C2-N1-C1'	5.06	124.37	118.80
1	QA	563	A	C4-N9-C1'	5.06	135.40	126.30
1	QA	810	C	C2-N1-C1'	5.06	124.36	118.80
22	QW	71	C	C5-C6-N1	5.06	123.53	121.00
35	RA	416	C	C5-C6-N1	5.06	123.53	121.00
35	RA	457	A	C8-N9-C4	-5.06	103.78	105.80
35	RA	1406	U	C6-N1-C1'	-5.06	114.12	121.20
35	RA	1824	G	C4-C5-N7	5.06	112.82	110.80
35	RA	1881	C	C2-N3-C4	5.06	122.43	119.90
1	XA	1402	C	C6-N1-C2	-5.06	118.28	120.30
1	XA	1027	C	C2-N1-C1'	5.06	124.36	118.80
35	YA	9	U	C2-N1-C1'	5.06	123.77	117.70
1	QA	1006	C	C5-C6-N1	5.05	123.53	121.00
11	QK	107	SER	N-CA-CB	5.05	118.08	110.50
13	QM	3	ARG	CA-CB-CG	5.05	124.52	113.40
35	RA	530	G	C8-N9-C4	5.05	108.42	106.40
35	RA	1267	U	C2-N1-C1'	5.05	123.76	117.70
1	XA	308	C	C6-N1-C2	-5.05	118.28	120.30
35	YA	2559	C	N3-C2-O2	-5.05	118.36	121.90
35	RA	2118	U	C6-N1-C1'	-5.05	114.12	121.20
29	Y4	61	ARG	CB-CA-C	5.05	120.51	110.40
35	YA	592	G	N3-C4-C5	-5.05	126.07	128.60
1	QA	1127	G	N3-C4-N9	5.05	129.03	126.00
35	RA	138	G	C2-N3-C4	5.05	114.43	111.90
35	RA	1326	U	N1-C2-O2	5.05	126.34	122.80
35	RA	2092	U	C6-N1-C2	5.05	124.03	121.00
35	RA	2550	G	N1-C6-O6	5.05	122.93	119.90
35	YA	1509	C	C6-N1-C2	-5.05	118.28	120.30
35	YA	1658	C	C5-C6-N1	5.05	123.53	121.00
1	QA	1068	G	N7-C8-N9	5.05	115.62	113.10
35	RA	1395	A	O4'-C1'-N9	5.05	112.24	108.20
37	RD	263	ARG	CG-CD-NE	-5.05	101.19	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	XW	3	C	C5-C6-N1	5.05	123.53	121.00
35	YA	915	C	C6-N1-C2	-5.05	118.28	120.30
35	YA	1880	C	C2-N1-C1'	5.05	124.35	118.80
35	RA	2553	G	N1-C2-N2	-5.05	111.66	116.20
35	RA	2571	C	C2-N1-C1'	5.05	124.35	118.80
1	XA	283	C	N3-C2-O2	-5.05	118.37	121.90
35	YA	1439	A	N1-C6-N6	5.05	121.63	118.60
35	RA	1407	C	N3-C2-O2	-5.05	118.37	121.90
35	RA	2099	U	C2-N1-C1'	5.05	123.76	117.70
1	XA	634	C	C6-N1-C2	-5.05	118.28	120.30
35	YA	2556	C	N1-C2-O2	5.05	121.93	118.90
35	YA	238	C	C6-N1-C2	-5.04	118.28	120.30
35	RA	1544	C	C6-N1-C2	-5.04	118.28	120.30
35	RA	1805	U	N1-C2-N3	5.04	117.93	114.90
35	RA	2089	U	C5-C6-N1	5.04	125.22	122.70
10	QJ	21	GLN	C-N-CA	-5.04	109.10	121.70
13	QM	19	LEU	CB-CG-CD1	-5.04	102.43	111.00
1	XA	960	U	N1-C2-O2	5.04	126.33	122.80
1	XA	1348	U	N1-C2-O2	5.04	126.33	122.80
35	YA	141	A	C6-C5-N7	-5.04	128.77	132.30
35	YA	239	U	N3-C2-O2	-5.04	118.67	122.20
35	RA	172	C	C6-N1-C2	-5.04	118.28	120.30
41	RH	116	GLU	CA-CB-CG	5.04	124.49	113.40
35	YA	2137	C	C5-C6-N1	5.04	123.52	121.00
1	QA	74	C	C6-N1-C2	-5.04	118.28	120.30
35	RA	1266	G	C8-N9-C4	5.04	108.42	106.40
35	RA	2545	G	N3-C4-C5	-5.04	126.08	128.60
35	YA	1913	A	C2-N3-C4	5.04	113.12	110.60
35	YA	2762	G	N3-C4-C5	-5.04	126.08	128.60
35	RA	101	G	OP1-P-O3'	5.04	116.28	105.20
35	RA	1152	C	C2-N3-C4	5.04	122.42	119.90
35	RA	2063	C	N3-C2-O2	-5.04	118.37	121.90
1	XA	31	G	C4-N9-C1'	5.04	133.05	126.50
9	XI	53	VAL	C-N-CA	5.04	134.29	121.70
35	YA	2529	G	C4-N9-C1'	5.04	133.05	126.50
35	RA	2508	G	C6-C5-N7	-5.04	127.38	130.40
35	YA	1784	A	N1-C6-N6	-5.04	115.58	118.60
35	YA	2688	U	N3-C4-O4	-5.04	115.88	119.40
35	RA	2448	A	C8-N9-C4	5.03	107.81	105.80
35	RA	2861	G	C5-C6-O6	-5.03	125.58	128.60
22	XW	43	A	C6-N1-C2	-5.03	115.58	118.60
35	YA	1088	A	N7-C8-N9	5.03	116.32	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
35	YA	2501	C	N3-C4-C5	5.03	123.91	121.90
35	YA	270(B)	A	C8-N9-C4	-5.03	103.79	105.80
35	RA	561	G	C8-N9-C1'	5.03	133.54	127.00
1	XA	810	C	N1-C2-O2	5.03	121.92	118.90
22	XW	39	C	C6-N1-C2	-5.03	118.29	120.30
2	QB	207	ALA	C-N-CA	5.03	134.27	121.70
35	RA	729	G	N3-C2-N2	-5.03	116.38	119.90
1	XA	209	U	N3-C2-O2	-5.03	118.68	122.20
1	XA	468	A	N9-C4-C5	-5.03	103.79	105.80
1	XA	500	G	N3-C4-N9	5.03	129.02	126.00
35	YA	436	C	C6-N1-C2	-5.03	118.29	120.30
35	YA	656	G	C8-N9-C4	5.03	108.41	106.40
35	YA	1376	C	N3-C4-C5	5.03	123.91	121.90
35	RA	248	G	C4-C5-N7	5.03	112.81	110.80
35	RA	1909	C	C6-N1-C2	-5.03	118.29	120.30
35	RA	68	G	N3-C4-C5	-5.02	126.09	128.60
35	RA	308	G	N9-C4-C5	-5.02	103.39	105.40
35	YA	654(V)	A	N1-C6-N6	-5.02	115.59	118.60
35	YA	726	G	C8-N9-C4	5.02	108.41	106.40
35	RA	86	C	C2-N1-C1'	5.02	124.32	118.80
10	XJ	7	LYS	CB-CA-C	5.02	120.44	110.40
28	Y3	35	ARG	N-CA-CB	-5.02	101.56	110.60
35	YA	156	U	C2-N1-C1'	5.02	123.73	117.70
35	YA	258	G	C4-C5-N7	-5.02	108.79	110.80
35	YA	1652	A	C5-N7-C8	-5.02	101.39	103.90
3	QC	164	ARG	CG-CD-NE	5.02	122.34	111.80
35	YA	1024	G	N7-C8-N9	5.02	115.61	113.10
1	QA	330	C	C5-C6-N1	5.02	123.51	121.00
35	RA	857	C	C6-N1-C2	-5.02	118.29	120.30
35	RA	1143	A	C4-C5-N7	5.02	113.21	110.70
35	RA	1909	C	C5-C6-N1	5.02	123.51	121.00
1	XA	1000	A	C5-N7-C8	-5.02	101.39	103.90
35	YA	277	C	C2-N3-C4	5.02	122.41	119.90
35	YA	1655	A	N9-C4-C5	-5.02	103.79	105.80
38	YE	72	VAL	C-N-CA	-5.02	109.15	121.70
35	RA	920	G	C8-N9-C4	5.02	108.41	106.40
35	RA	2778	A	C8-N9-C4	5.02	107.81	105.80
35	RA	2839	G	N1-C6-O6	5.02	122.91	119.90
35	RA	2859	G	P-O3'-C3'	5.02	125.72	119.70
1	XA	1344	C	C5-C6-N1	5.02	123.51	121.00
35	YA	1190	G	C8-N9-C4	-5.02	104.39	106.40
35	YA	1762	A	N7-C8-N9	5.02	116.31	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	233	C	C6-N1-C2	-5.02	118.29	120.30
1	QA	812	C	N3-C2-O2	-5.02	118.39	121.90
1	QA	1505	G	N3-C4-N9	-5.02	122.99	126.00
35	RA	355	G	N3-C4-N9	5.02	129.01	126.00
35	RA	1764	G	N9-C4-C5	5.01	107.41	105.40
46	RQ	25	ASP	CB-CG-OD1	5.01	122.81	118.30
35	YA	856	C	N3-C2-O2	-5.01	118.39	121.90
1	QA	108	G	C8-N9-C4	-5.01	104.39	106.40
7	QG	38	LEU	CA-CB-CG	5.01	126.83	115.30
35	YA	265	A	C4-C5-N7	5.01	113.20	110.70
35	YA	2508	G	N3-C2-N2	-5.01	116.39	119.90
18	QR	26	LEU	CA-CB-CG	5.01	126.82	115.30
35	RA	248	G	C6-C5-N7	-5.01	127.39	130.40
35	RA	270(U)	C	C6-N1-C2	-5.01	118.30	120.30
1	XA	1502	A	C4-N9-C1'	5.01	135.32	126.30
35	YA	784	A	C5-C6-N6	5.01	127.71	123.70
35	YA	793	A	C8-N9-C1'	5.01	136.72	127.70
35	YA	2027	G	N3-C4-C5	-5.01	126.09	128.60
35	RA	217	G	N1-C6-O6	-5.01	116.89	119.90
35	RA	481	G	O4'-C1'-N9	5.01	112.21	108.20
35	YA	1787	A	N1-C6-N6	-5.01	115.59	118.60
1	QA	1290	G	C8-N9-C4	-5.01	104.40	106.40
13	QM	69	GLU	CB-CA-C	5.01	120.41	110.40
35	RA	535	C	C6-N1-C2	-5.01	118.30	120.30
35	YA	1377	G	C2-N3-C4	-5.01	109.40	111.90
35	YA	2163	C	C5-C6-N1	5.01	123.50	121.00
35	RA	2604	U	N3-C2-O2	-5.00	118.70	122.20
1	XA	1200	C	N1-C2-O2	5.00	121.90	118.90
35	YA	193	U	C2-N1-C1'	5.00	123.71	117.70
35	YA	1043	C	C6-N1-C2	-5.00	118.30	120.30
35	YA	2779	U	O4'-C1'-N1	5.00	112.20	108.20
35	RA	945	A	C5-C6-N6	-5.00	119.70	123.70
35	RA	2704	C	N1-C2-O2	5.00	121.90	118.90
1	XA	877	C	C6-N1-C2	-5.00	118.30	120.30
35	YA	2808	U	N3-C2-O2	-5.00	118.70	122.20
1	QA	163	C	C6-N1-C2	-5.00	118.30	120.30
1	QA	647	C	C6-N1-C2	-5.00	118.30	120.30
1	QA	1416	G	C5-C6-N1	5.00	114.00	111.50
35	RA	587	C	C6-N1-C2	-5.00	118.30	120.30
35	RA	2441	C	N1-C2-O2	5.00	121.90	118.90
35	YA	399	G	C5-C6-N1	5.00	114.00	111.50
35	YA	1407	C	C6-N1-C1'	-5.00	114.80	120.80

There are no chirality outliers.

All (56) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	QB	114	ARG	Peptide
2	QB	131	PRO	Peptide
2	QB	153	ARG	Peptide
2	QB	217	ARG	Sidechain
3	QC	35	GLU	Sidechain
3	QC	38	ARG	Sidechain
10	QJ	35	SER	Peptide
13	QM	66	LEU	Peptide
13	QM	67	GLU	Mainchain
14	QN	26	ARG	Sidechain
18	QR	46	GLU	Sidechain
28	R3	3	ARG	Mainchain
29	R4	34	GLU	Sidechain
34	R9	4	ARG	Sidechain
37	RD	183	ARG	Sidechain
38	RE	146	THR	Peptide
38	RE	17	ASP	Peptide
41	RH	3	ARG	Mainchain
41	RH	58	GLU	Peptide
41	RH	79	VAL	Peptide
42	RI	116	LEU	Peptide
42	RI	13	GLY	Mainchain
42	RI	27	ARG	Sidechain
43	RN	126	PRO	Mainchain
45	RP	147	LEU	Peptide
45	RP	7	ARG	Sidechain
46	RQ	5	ARG	Sidechain
48	RS	10	ARG	Sidechain
49	RT	110	ILE	Peptide
55	RZ	161	VAL	Mainchain
2	XB	30	ARG	Sidechain
2	XB	42	ILE	Peptide
3	XC	107	GLN	Peptide
4	XD	167	GLY	Peptide
7	XG	95	ARG	Sidechain
10	XJ	29	ARG	Peptide
10	XJ	98	ILE	Peptide
12	XL	104	VAL	Peptide
12	XL	53	ARG	Sidechain
12	XL	59	ARG	Sidechain

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Mol	Chain	Res	Type	Group
18	XR	53	ARG	Sidechain
18	XR	54	ARG	Sidechain
19	XS	23	ASN	Peptide
27	Y2	14	ARG	Sidechain
27	Y2	70	GLN	Peptide
27	Y2	71	ASN	Peptide
29	Y4	39	CYS	Mainchain
29	Y4	55	ARG	Peptide
29	Y4	61	ARG	Sidechain
38	YE	146	THR	Peptide
40	YG	180	PHE	Sidechain
41	YH	51	ARG	Mainchain,Peptide
42	YI	100	ALA	Mainchain
42	YI	33	ARG	Sidechain
50	YU	92	ARG	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	QA	32452	0	16383	225	0
1	XA	32389	0	16350	231	0
2	QB	1907	0	1958	58	0
2	XB	1915	0	1969	82	0
3	QC	1605	0	1668	46	0
3	XC	1605	0	1668	30	0
4	QD	1703	0	1766	30	0
4	XD	1703	0	1767	43	0
5	QE	1155	0	1213	28	0
5	XE	1155	0	1213	18	0
6	QF	843	0	857	7	0
6	XF	843	0	857	16	0
7	QG	1257	0	1296	42	0
7	XG	1257	0	1296	25	0
8	QH	1108	0	1165	31	0
8	XH	1108	0	1165	18	0
9	QI	1010	0	1037	49	0
9	XI	998	0	1024	29	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
10	QJ	801	0	849	72	0
10	XJ	777	0	816	29	0
11	QK	885	0	904	18	0
11	XK	864	0	881	14	0
12	QL	975	0	1062	24	0
12	XL	956	0	1046	32	0
13	QM	955	0	1021	78	0
13	XM	946	0	1007	43	0
14	QN	492	0	530	5	0
14	XN	492	0	529	16	0
15	QO	734	0	771	6	0
15	XO	729	0	768	16	0
16	QP	705	0	725	11	0
16	XP	705	0	725	12	0
17	QQ	834	0	904	12	0
17	XQ	834	0	904	16	0
18	QR	574	0	644	6	0
18	XR	574	0	644	7	0
19	QS	665	0	686	47	0
19	XS	665	0	686	18	0
20	QT	763	0	861	10	0
20	XT	763	0	861	30	0
21	QU	217	0	234	6	0
21	XU	217	0	234	7	0
22	QV	1640	0	837	2	0
22	QW	1640	0	837	19	0
22	XV	1640	0	837	7	0
22	XW	1640	0	837	8	0
23	QX	370	0	186	3	0
23	XX	370	0	186	5	0
24	QY	723	0	713	37	0
24	QZ	723	0	713	81	0
24	XY	723	0	713	21	0
24	XZ	723	0	713	55	0
25	R0	643	0	667	23	0
25	Y0	648	0	672	14	0
26	R1	763	0	848	23	0
26	Y1	763	0	848	10	0
27	R2	581	0	629	8	0
27	Y2	581	0	629	18	0
28	R3	469	0	518	8	0
28	Y3	469	0	518	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
29	R4	565	0	561	32	0
29	Y4	565	0	557	25	0
30	R5	459	0	480	8	0
30	Y5	459	0	480	3	0
31	R6	453	0	475	11	0
31	Y6	453	0	474	4	0
32	R7	409	0	454	5	0
32	Y7	418	0	467	5	0
33	R8	517	0	582	12	0
33	Y8	517	0	582	20	0
34	R9	307	0	336	15	0
34	Y9	307	0	336	7	0
35	RA	62266	0	31389	339	0
35	YA	61981	0	31240	292	0
36	RB	2617	0	1328	15	0
36	YB	2617	0	1328	6	0
37	RD	2115	0	2195	69	0
37	YD	2135	0	2221	25	0
38	RE	1568	0	1634	50	0
38	YE	1563	0	1629	41	0
39	RF	1585	0	1632	25	0
39	YF	1585	0	1631	35	0
40	RG	1474	0	1535	82	0
40	YG	1474	0	1535	44	0
41	RH	1336	0	1418	121	0
41	YH	1336	0	1418	29	0
42	RI	1131	0	1218	76	0
42	YI	1136	0	1223	44	0
43	RN	1104	0	1180	23	0
43	YN	1104	0	1180	21	0
44	RO	933	0	996	18	0
44	YO	933	0	996	21	0
45	RP	1145	0	1228	23	0
45	YP	1122	0	1206	15	0
46	RQ	1107	0	1166	26	0
46	YQ	1122	0	1179	21	0
47	RR	960	0	1021	15	0
47	YR	960	0	1020	19	0
48	RS	882	0	943	38	0
48	YS	882	0	943	17	0
49	RT	1141	0	1202	34	0
49	YT	1141	0	1202	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
50	RU	964	0	1022	10	0
50	YU	964	0	1022	37	0
51	RV	779	0	852	20	0
51	YV	779	0	852	50	0
52	RW	900	0	964	10	0
52	YW	900	0	964	17	0
53	RX	725	0	778	13	0
53	YX	725	0	778	7	0
54	RY	818	0	913	14	0
54	YY	818	0	913	12	0
55	RZ	1461	0	1493	44	0
55	YZ	1461	0	1493	58	0
56	ZA	74	0	51	0	0
56	ZB	74	0	51	1	0
57	QA	87	0	0	0	0
57	QE	1	0	0	0	0
57	QV	3	0	0	0	0
57	R0	2	0	0	0	0
57	R5	1	0	0	0	0
57	RA	305	0	0	0	0
57	RB	3	0	0	0	0
57	RD	1	0	0	0	0
57	RE	2	0	0	0	0
57	RN	1	0	0	0	0
57	RO	1	0	0	0	0
57	RP	1	0	0	0	0
57	RQ	1	0	0	0	0
57	RR	1	0	0	0	0
57	XA	106	0	0	0	0
57	XD	1	0	0	0	0
57	XE	1	0	0	0	0
57	XF	1	0	0	0	0
57	XL	1	0	0	0	0
57	XV	4	0	0	0	0
57	Y5	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YA	329	0	0	0	0
57	YB	6	0	0	0	0
57	YD	2	0	0	0	0
57	YE	4	0	0	0	0
57	YG	1	0	0	0	0
57	YO	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	YP	1	0	0	0	0
57	YQ	1	0	0	0	0
57	YR	1	0	0	0	0
57	YS	1	0	0	0	0
57	YV	1	0	0	0	0
58	QD	8	0	0	0	0
58	XD	8	0	0	0	0
59	QN	1	0	0	0	0
59	R6	1	0	0	0	0
59	R9	1	0	0	0	0
59	XN	1	0	0	0	0
59	Y6	1	0	0	0	0
60	QX	26	0	11	5	0
60	XX	26	0	11	2	0
All	All	298517	0	202833	3434	0

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 7.

All (3434) 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)
5:QE:90:VAL:CB	5:QE:90:VAL:CG1	1.74	1.63
2:XB:137:ARG:CG	2:XB:137:ARG:CD	1.77	1.62
13:QM:67:GLU:CG	13:QM:67:GLU:CB	1.74	1.62
49:RT:3:ARG:CG	49:RT:3:ARG:CD	1.76	1.62
55:YZ:14:LYS:CA	55:YZ:14:LYS:CB	1.75	1.62
2:XB:137:ARG:CG	2:XB:137:ARG:CB	1.78	1.61
3:QC:35:GLU:CB	3:QC:35:GLU:CG	1.74	1.61
24:XZ:48:LEU:CB	24:XZ:52:LEU:HG	1.25	1.57
19:QS:41:VAL:CG1	19:QS:42:PRO:HD2	1.34	1.56
49:RT:3:ARG:CA	49:RT:3:ARG:CB	1.87	1.52
10:QJ:6:ILE:CD1	10:QJ:98:ILE:HA	1.41	1.51
55:YZ:14:LYS:CB	55:YZ:14:LYS:CG	1.87	1.49
13:QM:41:PRO:N	13:QM:41:PRO:CA	1.70	1.49
24:XZ:48:LEU:HB3	24:XZ:52:LEU:CG	1.41	1.48
42:RI:8:PRO:N	42:RI:8:PRO:CA	1.70	1.47
41:RH:8:PRO:CG	41:RH:69:ARG:HD3	1.44	1.46
19:QS:41:VAL:HG12	19:QS:42:PRO:CD	1.47	1.42
41:RH:8:PRO:N	41:RH:8:PRO:CA	1.70	1.41
40:YG:112:PRO:CD	40:YG:112:PRO:N	1.69	1.38

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YH:10:PRO:N	41:YH:10:PRO:CA	1.69	1.35
42:YI:92:VAL:HB	42:YI:120:ILE:CG2	1.55	1.35
12:XL:47:LYS:CG	12:XL:48:PRO:HD2	1.53	1.35
40:YG:179:PRO:N	40:YG:179:PRO:CA	1.69	1.33
29:R4:41:PRO:N	29:R4:41:PRO:CA	1.70	1.32
13:QM:10:PRO:N	13:QM:10:PRO:CA	1.70	1.29
19:QS:41:VAL:CG1	19:QS:42:PRO:CD	2.06	1.29
10:QJ:8:LEU:CD1	10:QJ:96:ILE:HA	1.61	1.28
44:YO:68:GLU:OE1	44:YO:78:ARG:HD3	1.28	1.28
10:QJ:8:LEU:HD11	10:QJ:96:ILE:CG2	1.64	1.27
51:RV:49:THR:OG1	51:RV:50:PRO:HD3	1.14	1.26
37:RD:6:PHE:CE1	37:RD:13:ARG:NH2	2.02	1.26
60:XX:101:A3P:C1'	60:XX:101:A3P:O4'	1.67	1.25
2:XB:87:ARG:NH1	2:XB:233:SER:HB2	1.51	1.25
51:YV:49:THR:OG1	51:YV:50:PRO:HD3	1.26	1.25
9:QI:19:LEU:HG	9:QI:59:PHE:CE1	1.74	1.22
12:XL:47:LYS:CB	12:XL:48:PRO:HD2	1.72	1.19
7:XG:68:ASN:O	7:XG:138:LYS:HE2	1.43	1.19
24:XZ:48:LEU:CB	24:XZ:52:LEU:CG	2.09	1.18
60:QX:101:A3P:C1'	60:QX:101:A3P:O4'	1.66	1.17
41:RH:8:PRO:HG3	41:RH:69:ARG:CD	1.73	1.17
41:RH:10:PRO:HG3	41:RH:49:VAL:HA	1.21	1.17
9:QI:50:LEU:HD23	9:QI:53:VAL:HG11	1.26	1.16
41:RH:8:PRO:CG	41:RH:69:ARG:CD	2.24	1.16
51:RV:49:THR:OG1	51:RV:50:PRO:CD	1.93	1.16
38:RE:73:GLU:HG2	38:RE:74:PRO:CD	1.74	1.16
41:RH:8:PRO:HG3	41:RH:69:ARG:HD3	1.24	1.15
42:YI:92:VAL:HB	42:YI:120:ILE:HG22	1.20	1.15
51:YV:52:VAL:CG2	51:YV:55:ALA:HB3	1.76	1.15
19:QS:55:LYS:NZ	24:QZ:36:ARG:HH22	1.45	1.15
10:QJ:8:LEU:CD1	10:QJ:96:ILE:HG22	1.76	1.14
2:XB:87:ARG:HH12	2:XB:233:SER:CB	1.60	1.13
24:XZ:48:LEU:O	24:XZ:52:LEU:HB2	1.48	1.13
2:XB:87:ARG:NH1	2:XB:233:SER:CB	2.11	1.13
41:RH:35:VAL:HG11	41:RH:71:LEU:HD13	1.13	1.12
10:QJ:8:LEU:HD11	10:QJ:96:ILE:HG22	1.15	1.12
10:QJ:6:ILE:HD12	10:QJ:98:ILE:HA	1.18	1.11
38:RE:103:ASP:OD2	38:RE:201:THR:HA	1.47	1.11
33:Y8:26:LYS:HG2	33:Y8:48:PHE:HD2	1.13	1.10
10:QJ:6:ILE:HD11	10:QJ:98:ILE:HA	1.17	1.09
24:QZ:43:GLY:HA2	24:QZ:59:ARG:NE	1.65	1.09

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:8:PRO:HG2	41:RH:69:ARG:HD3	1.27	1.09
12:XL:18:VAL:HG11	12:XL:20:LYS:HE3	1.31	1.09
10:QJ:6:ILE:HD12	10:QJ:97:GLU:O	1.48	1.09
10:QJ:8:LEU:HD11	10:QJ:96:ILE:CB	1.81	1.09
24:XZ:48:LEU:HB3	24:XZ:52:LEU:CD2	1.82	1.09
37:RD:76:PRO:CA	37:RD:118:VAL:HG23	1.84	1.08
10:QJ:8:LEU:HD11	10:QJ:96:ILE:CA	1.84	1.08
10:QJ:8:LEU:HD12	10:QJ:96:ILE:HA	1.31	1.08
12:XL:47:LYS:HG3	12:XL:48:PRO:HD2	1.08	1.08
13:QM:8:GLU:C	13:QM:10:PRO:HD2	1.74	1.07
41:RH:7:LEU:O	41:RH:7:LEU:HD23	1.52	1.07
10:QJ:6:ILE:HG23	10:QJ:97:GLU:O	1.52	1.07
10:QJ:8:LEU:HD11	10:QJ:96:ILE:HA	1.33	1.07
38:RE:73:GLU:CG	38:RE:74:PRO:CD	2.31	1.07
37:RD:76:PRO:HA	37:RD:118:VAL:HG23	1.08	1.06
41:RH:54:ARG:HD2	41:RH:61:HIS:CB	1.85	1.06
52:YW:11:ARG:NH2	52:YW:98:LYS:HB3	1.70	1.06
38:RE:73:GLU:HG2	38:RE:74:PRO:HD2	1.09	1.05
13:QM:13:LYS:HG3	13:QM:17:VAL:HG21	1.36	1.05
24:QZ:43:GLY:CA	24:QZ:59:ARG:HG2	1.86	1.05
10:QJ:6:ILE:CD1	10:QJ:98:ILE:CA	2.35	1.04
42:YI:92:VAL:CB	42:YI:120:ILE:CG2	2.36	1.03
50:YU:92:ARG:HD2	51:YV:11:GLN:CD	1.76	1.03
24:XZ:48:LEU:HB2	24:XZ:52:LEU:HG	1.40	1.02
41:RH:46:GLU:HB3	41:RH:49:VAL:HB	1.40	1.02
12:XL:47:LYS:CB	12:XL:48:PRO:CD	2.36	1.02
26:R1:78:LYS:NZ	35:RA:270(R):G:H21	1.58	1.02
38:RE:57:LYS:HG2	38:RE:57:LYS:O	1.54	1.02
2:XB:6:THR:HG22	2:XB:7:VAL:H	1.25	1.02
52:YW:11:ARG:NH2	52:YW:98:LYS:HD3	1.74	1.02
41:RH:35:VAL:HG11	41:RH:71:LEU:CD1	1.90	1.01
38:RE:73:GLU:CG	38:RE:74:PRO:HD2	1.91	1.01
2:XB:87:ARG:HH12	2:XB:233:SER:HB2	1.02	1.01
24:QZ:10:TRP:CD1	24:QZ:14:LEU:HD13	1.96	1.00
35:RA:2112:G:H21	35:RA:2169:A:N6	1.57	1.00
50:YU:92:ARG:CD	51:YV:11:GLN:HB2	1.91	1.00
10:QJ:8:LEU:HD21	10:QJ:96:ILE:HG22	1.44	0.99
44:YO:78:ARG:NH2	49:YT:103:ARG:NH2	2.10	0.99
37:YD:181:GLU:OE2	37:YD:270:ILE:CG2	2.10	0.99
42:YI:92:VAL:HB	42:YI:120:ILE:HG21	1.42	0.99
21:XU:6:ARG:NH1	21:XU:15:ARG:HH21	1.61	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RA:2757:A:N1	41:RH:67:LEU:HD22	1.79	0.98
42:RI:133:HIS:HB3	42:RI:134:PRO:HD3	1.45	0.98
7:QG:68:ASN:O	7:QG:138:LYS:HE2	1.60	0.98
44:YO:78:ARG:HH21	49:YT:103:ARG:NH2	1.61	0.97
33:Y8:26:LYS:HG2	33:Y8:48:PHE:CD2	1.98	0.97
19:XS:11:VAL:HB	19:XS:13:ASP:OD1	1.63	0.97
24:XZ:52:LEU:H	24:XZ:52:LEU:HD22	1.24	0.97
19:QS:55:LYS:NZ	24:QZ:36:ARG:NH2	2.12	0.97
24:QZ:43:GLY:C	24:QZ:59:ARG:HG2	1.83	0.97
1:XA:1302:U:C5	13:XM:17:VAL:HG11	2.00	0.96
51:RV:37:VAL:O	51:RV:51:VAL:CG2	2.13	0.96
24:XZ:48:LEU:CG	24:XZ:52:LEU:HG	1.94	0.96
51:YV:49:THR:OG1	51:YV:50:PRO:CD	2.12	0.96
37:YD:181:GLU:OE2	37:YD:270:ILE:HG23	1.66	0.96
13:XM:3:ARG:HD2	29:Y4:34:GLU:HG3	1.44	0.96
19:QS:55:LYS:HZ2	24:QZ:36:ARG:NH2	1.61	0.96
24:QZ:12:ASP:HB2	24:QZ:80:CYS:SG	2.05	0.96
51:RV:49:THR:HG1	51:RV:50:PRO:HD3	1.18	0.95
12:XL:47:LYS:HB2	12:XL:48:PRO:CD	1.96	0.95
13:XM:53:VAL:HG12	13:XM:57:ARG:HH12	1.30	0.95
44:YO:78:ARG:HH21	49:YT:103:ARG:HH21	1.13	0.95
12:XL:47:LYS:HG3	12:XL:48:PRO:CD	1.96	0.95
10:QJ:8:LEU:CD2	10:QJ:96:ILE:HG22	1.96	0.95
41:RH:10:PRO:HB3	41:RH:50:VAL:HG22	1.46	0.95
7:QG:69:VAL:C	7:QG:138:LYS:HD3	1.86	0.95
51:YV:52:VAL:HG21	51:YV:55:ALA:HB3	1.43	0.95
24:QZ:43:GLY:HA2	24:QZ:59:ARG:HE	1.24	0.95
10:QJ:6:ILE:CD1	10:QJ:97:GLU:O	2.15	0.95
24:XZ:48:LEU:HD13	24:XZ:52:LEU:CD1	1.97	0.95
55:YZ:129:SER:OG	55:YZ:130:PRO:CD	2.16	0.94
9:QI:19:LEU:HG	9:QI:59:PHE:HE1	1.31	0.94
19:QS:41:VAL:HG13	19:QS:42:PRO:CD	1.96	0.94
26:R1:78:LYS:NZ	35:RA:270(R):G:N2	2.16	0.94
13:QM:13:LYS:HG3	13:QM:17:VAL:CG2	1.98	0.94
9:QI:50:LEU:HA	9:QI:53:VAL:HG12	1.49	0.93
41:RH:54:ARG:HD2	41:RH:61:HIS:HB2	1.48	0.93
33:R8:15:LYS:HG3	45:RP:65:ARG:HH11	1.32	0.93
12:QL:33:ARG:HD2	12:QL:60:LEU:HD13	1.50	0.93
10:QJ:8:LEU:CD1	10:QJ:96:ILE:CA	2.44	0.93
50:YU:92:ARG:HD3	50:YU:95:LEU:HD12	1.48	0.93
13:QM:13:LYS:O	13:QM:17:VAL:CG1	2.17	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YG:77:ILE:HB	40:YG:82:LEU:HD12	1.51	0.92
40:RG:145:THR:O	40:RG:146:TYR:CD2	2.22	0.92
7:XG:69:VAL:O	7:XG:138:LYS:HD3	1.70	0.92
55:YZ:129:SER:OG	55:YZ:130:PRO:HD2	1.69	0.92
26:R1:78:LYS:HZ3	35:RA:270(R):G:H21	1.14	0.92
38:RE:73:GLU:HG3	38:RE:74:PRO:HD3	1.50	0.92
42:RI:113:ARG:HG2	42:RI:113:ARG:HH11	1.32	0.92
9:XI:16:ARG:NH1	9:XI:18:PHE:HZ	1.66	0.92
21:XU:6:ARG:HH11	21:XU:15:ARG:HH21	1.02	0.91
38:RE:73:GLU:CG	38:RE:74:PRO:HD3	1.99	0.91
13:QM:9:ILE:N	13:QM:10:PRO:HD2	1.80	0.91
24:XZ:1:MET:HB2	24:XZ:35:ARG:CG	2.01	0.91
4:XD:150:GLU:HA	4:XD:153:ARG:HB2	1.53	0.91
44:YO:68:GLU:OE1	44:YO:78:ARG:CD	2.18	0.91
41:RH:86:GLU:O	41:RH:86:GLU:HG2	1.69	0.90
13:QM:13:LYS:O	13:QM:17:VAL:HG13	1.69	0.90
51:YV:66:ARG:C	51:YV:91:TYR:HE2	1.73	0.90
26:R1:78:LYS:HZ3	35:RA:270(R):G:N2	1.69	0.90
55:RZ:52:SER:O	55:RZ:53:ILE:HG13	1.69	0.90
50:YU:92:ARG:HD2	51:YV:11:GLN:OE1	1.72	0.90
10:QJ:6:ILE:HD12	10:QJ:98:ILE:CA	2.00	0.89
37:RD:123:ALA:HB3	37:RD:131:LEU:HD11	1.52	0.89
9:QI:21:PRO:HA	9:QI:59:PHE:HB3	1.54	0.89
24:QY:5:TRP:CZ2	24:QZ:10:TRP:CH2	2.61	0.89
10:XJ:6:ILE:HD11	10:XJ:98:ILE:HG12	1.54	0.89
10:QJ:7:LYS:HA	10:QJ:71:LEU:HA	1.52	0.88
20:QT:45:GLN:HA	20:QT:91:LEU:HD21	1.56	0.88
12:XL:18:VAL:CG1	12:XL:20:LYS:HE3	2.02	0.88
41:RH:54:ARG:HD2	41:RH:61:HIS:HB3	1.56	0.88
39:YF:28:ILE:HG12	39:YF:119:ARG:HH22	1.37	0.88
10:QJ:22:LYS:HE2	10:QJ:90:LEU:HD22	1.54	0.88
38:RE:57:LYS:O	38:RE:57:LYS:CG	2.16	0.88
42:RI:9:LEU:HD11	42:RI:12:LEU:HB2	1.55	0.88
24:QZ:1:MET:HB2	24:QZ:73:ASP:C	1.94	0.87
33:R8:15:LYS:HG3	45:RP:65:ARG:NH1	1.88	0.87
7:QG:69:VAL:HA	7:QG:138:LYS:HD3	1.55	0.87
41:RH:8:PRO:HG3	41:RH:69:ARG:HD2	1.55	0.87
24:QZ:10:TRP:NE1	24:QZ:14:LEU:CD1	2.37	0.87
24:QZ:43:GLY:HA2	24:QZ:59:ARG:CG	2.04	0.87
10:QJ:8:LEU:HD21	10:QJ:96:ILE:CG2	2.04	0.87
39:YF:65:TRP:CH2	39:YF:72:ARG:HD2	2.10	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YI:117:GLU:O	42:YI:118:LYS:HG2	1.75	0.87
7:QG:69:VAL:O	7:QG:138:LYS:HD3	1.74	0.87
37:RD:6:PHE:CD1	37:RD:13:ARG:NH2	2.41	0.87
13:QM:67:GLU:CG	13:QM:67:GLU:CA	2.51	0.86
42:RI:109:ILE:HG23	42:RI:130:TYR:OH	1.75	0.86
40:YG:114:ILE:HB	40:YG:117:PHE:HB2	1.57	0.86
42:YI:92:VAL:CB	42:YI:120:ILE:HG22	2.01	0.86
29:R4:40:HIS:N	29:R4:41:PRO:HD3	1.89	0.86
9:QI:50:LEU:HD23	9:QI:53:VAL:CG1	2.04	0.86
19:QS:64:GLU:HG2	29:R4:56:VAL:HG23	1.58	0.86
48:RS:62:LYS:HD2	48:RS:97:ARG:NH1	1.90	0.86
24:QZ:1:MET:HB2	24:QZ:73:ASP:O	1.75	0.86
40:RG:9:ARG:HH11	40:RG:9:ARG:HG3	1.38	0.86
4:XD:153:ARG:HD3	4:XD:181:MET:CE	2.06	0.86
12:QL:33:ARG:HD3	12:QL:61:THR:HB	1.55	0.86
24:QZ:44:LYS:HD3	24:QZ:59:ARG:HD3	1.56	0.85
24:QZ:43:GLY:HA2	24:QZ:59:ARG:CD	2.06	0.85
10:QJ:6:ILE:HD11	10:QJ:98:ILE:CA	2.00	0.85
10:QJ:8:LEU:CG	10:QJ:96:ILE:HG22	2.05	0.85
7:QG:69:VAL:CA	7:QG:138:LYS:HD3	2.05	0.85
51:RV:52:VAL:HG21	51:RV:55:ALA:HB3	1.58	0.85
51:YV:52:VAL:HG23	51:YV:55:ALA:HB3	1.57	0.85
24:XZ:1:MET:HB2	24:XZ:35:ARG:HG2	1.58	0.85
51:RV:37:VAL:O	51:RV:51:VAL:HG22	1.74	0.84
50:YU:92:ARG:HD2	51:YV:11:GLN:HB2	1.58	0.84
41:RH:6:ARG:CD	41:RH:54:ARG:HH12	1.89	0.84
44:RO:104:ARG:O	44:RO:107:ARG:HB3	1.77	0.84
52:YW:11:ARG:HH21	52:YW:98:LYS:HD3	1.40	0.84
9:QI:21:PRO:HA	9:QI:59:PHE:CB	2.07	0.84
24:QZ:1:MET:CG	24:QZ:2:LYS:H	1.91	0.84
19:QS:41:VAL:HG13	19:QS:42:PRO:HD3	1.57	0.84
24:QZ:12:ASP:CB	24:QZ:80:CYS:SG	2.66	0.84
12:XL:49:ASN:ND2	12:XL:92:ASP:OD2	2.11	0.83
2:QB:95:GLN:CG	2:QB:147:LYS:HE3	2.08	0.83
24:QZ:15:TYR:CE2	24:QZ:81:ARG:NH2	2.46	0.83
9:XI:16:ARG:NH1	9:XI:18:PHE:CZ	2.46	0.83
10:QJ:21:GLN:HA	10:QJ:24:VAL:HG13	1.59	0.83
24:QZ:43:GLY:CA	24:QZ:59:ARG:CG	2.55	0.83
8:QH:87:SER:HB2	8:QH:93:VAL:H	1.42	0.83
41:RH:10:PRO:CG	41:RH:49:VAL:HA	2.07	0.83
24:QY:44:LYS:NZ	24:QY:59:ARG:NH1	2.26	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:XY:83:HIS:O	24:XY:84:TYR:CD1	2.32	0.83
24:XZ:48:LEU:HB2	24:XZ:52:LEU:CB	2.09	0.83
24:QY:48:LEU:HD13	24:QY:52:LEU:CD2	2.09	0.82
1:XA:1299:A:C6	1:XA:1301:U:N3	2.46	0.82
24:XZ:48:LEU:HB3	24:XZ:52:LEU:HG	0.83	0.82
24:QY:44:LYS:HZ2	24:QY:59:ARG:NH1	1.78	0.82
41:RH:10:PRO:HG3	41:RH:49:VAL:CA	2.08	0.82
35:YA:2748:A:H8	41:YH:63:SER:HB3	1.44	0.82
2:QB:95:GLN:HG2	2:QB:147:LYS:HE3	1.60	0.82
51:RV:37:VAL:O	51:RV:51:VAL:HG23	1.78	0.82
35:RA:2112:G:H21	35:RA:2169:A:H61	1.24	0.82
44:RO:36:GLY:HA3	44:RO:109:LYS:HD3	1.61	0.82
29:R4:52:THR:O	29:R4:52:THR:HG22	1.80	0.81
42:RI:123:LEU:HD21	42:RI:144:VAL:HG11	1.61	0.81
49:RT:3:ARG:CB	49:RT:3:ARG:HA	2.08	0.81
2:XB:87:ARG:NH1	2:XB:233:SER:OG	2.14	0.81
55:YZ:128:VAL:HG21	55:YZ:161:VAL:HG12	1.62	0.81
35:RA:676:A:H8	35:RA:2069:G:H21	1.28	0.81
7:XG:89:MET:HG2	7:XG:155:ARG:HG2	1.60	0.81
1:XA:1238:A:N7	1:XA:1301:U:O4	2.12	0.81
12:XL:47:LYS:HB2	12:XL:48:PRO:HD3	1.62	0.81
52:YW:11:ARG:NH2	52:YW:98:LYS:CD	2.43	0.80
8:XH:109:ILE:HD11	8:XH:120:THR:HB	1.64	0.80
52:YW:11:ARG:NH2	52:YW:98:LYS:CB	2.45	0.80
10:QJ:6:ILE:HD12	10:QJ:97:GLU:C	2.01	0.80
20:XT:99:LEU:HG	20:XT:100:ILE:HG12	1.63	0.80
24:QY:5:TRP:HZ2	24:QZ:10:TRP:CH2	1.99	0.80
39:YF:154:VAL:HG12	39:YF:191:ARG:HB3	1.62	0.80
43:RN:3:THR:HG21	50:RU:61:TRP:HE1	1.47	0.80
9:QI:50:LEU:CD2	9:QI:53:VAL:HG11	2.09	0.80
10:QJ:6:ILE:CD1	10:QJ:99:LYS:H	1.95	0.80
2:XB:6:THR:CG2	2:XB:7:VAL:H	1.93	0.80
24:QZ:10:TRP:NE1	24:QZ:14:LEU:HD13	1.94	0.80
55:YZ:103:ARG:HG2	55:YZ:136:PHE:HB2	1.62	0.80
7:XG:68:ASN:O	7:XG:138:LYS:CE	2.29	0.79
13:XM:53:VAL:HG12	13:XM:57:ARG:NH1	1.97	0.79
25:R0:27:GLU:HG3	25:R0:68:GLU:HA	1.65	0.79
55:YZ:103:ARG:HG3	55:YZ:136:PHE:CD2	2.17	0.79
19:XS:17:GLU:O	19:XS:21:GLU:HB2	1.83	0.79
1:QA:1422:G:H5"	44:RO:48:PRO:HB3	1.65	0.78
60:QX:101:A3P:O2P	24:QY:59:ARG:NH1	2.15	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RN:74:ARG:HH21	43:RN:85:ILE:HD11	1.49	0.78
52:RW:14:PRO:HG2	52:RW:78:GLU:OE1	1.84	0.78
40:YG:139:LEU:O	40:YG:139:LEU:HD13	1.82	0.78
4:XD:20:TYR:HD2	4:XD:26:CYS:HB3	1.49	0.78
49:YT:131:ALA:O	49:YT:136:GLN:NE2	2.17	0.78
40:RG:138:GLN:HG3	40:RG:139:LEU:HD12	1.65	0.78
24:QY:44:LYS:HD2	24:QY:59:ARG:HH11	1.48	0.78
55:RZ:54:HIS:HB3	55:RZ:101:PRO:HD3	1.66	0.78
13:QM:84:ILE:HG23	13:QM:86:CYS:H	1.47	0.78
24:QZ:43:GLY:HA2	24:QZ:59:ARG:HG2	1.62	0.78
24:QZ:1:MET:CG	24:QZ:2:LYS:N	2.44	0.78
37:RD:76:PRO:HA	37:RD:118:VAL:CG2	2.02	0.78
49:YT:128:GLU:O	49:YT:132:LYS:HB2	1.84	0.78
21:XU:6:ARG:HD3	21:XU:15:ARG:HE	1.48	0.77
55:YZ:103:ARG:CG	55:YZ:136:PHE:HB2	2.13	0.77
1:QA:80:G:N1	1:QA:89:U:O2	2.18	0.77
10:QJ:7:LYS:HB3	10:QJ:71:LEU:HD12	1.67	0.77
19:QS:40:ILE:HA	19:QS:44:MET:SD	2.24	0.77
24:XZ:48:LEU:HD13	24:XZ:52:LEU:HD11	1.66	0.77
8:QH:46:LYS:HG3	8:QH:64:LYS:CG	2.13	0.77
19:QS:55:LYS:CE	24:QZ:36:ARG:HH22	1.97	0.77
24:XZ:48:LEU:CD1	24:XZ:52:LEU:HG	2.14	0.77
10:QJ:6:ILE:HD11	10:QJ:99:LYS:H	1.49	0.77
42:RI:24:GLY:HA2	42:RI:27:ARG:HG2	1.65	0.77
1:XA:1299:A:C6	1:XA:1301:U:C2	2.73	0.77
2:XB:15:VAL:O	2:XB:17:PHE:CD2	2.38	0.77
7:QG:68:ASN:C	7:QG:138:LYS:HE2	2.05	0.77
19:XS:32:LYS:HG2	19:XS:50:ALA:HB3	1.66	0.77
33:R8:15:LYS:CG	45:RP:65:ARG:NH1	2.48	0.76
35:RA:1857:G:H21	35:RA:1885:A:H62	1.33	0.76
19:XS:11:VAL:CB	19:XS:13:ASP:OD1	2.34	0.76
51:YV:49:THR:HG1	51:YV:50:PRO:HD3	1.50	0.76
38:YE:14:ILE:HG13	38:YE:21:VAL:HG23	1.65	0.76
19:QS:55:LYS:HZ2	24:QZ:36:ARG:HH22	1.11	0.76
24:QZ:10:TRP:HE1	24:QZ:14:LEU:HD11	1.51	0.76
35:RA:2086:U:OP2	37:RD:263:ARG:NH1	2.19	0.76
4:XD:153:ARG:HD3	4:XD:181:MET:HE2	1.67	0.76
24:XY:38:PRO:O	24:XY:68:TYR:OH	2.04	0.76
50:YU:92:ARG:HD2	51:YV:11:GLN:CG	2.15	0.76
46:YQ:139:GLU:OE2	55:YZ:122:ARG:HG2	1.85	0.76
55:YZ:10:ARG:HD3	55:YZ:38:TYR:HB3	1.66	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RA:2720:U:H3	35:RA:2873:A:H2	1.31	0.76
35:RA:2873:A:H8	47:RR:6:SER:H	1.33	0.76
1:QA:1330:U:H4'	13:QM:23:TYR:HD1	1.51	0.75
25:Y0:27:GLU:HG3	25:Y0:68:GLU:HA	1.68	0.75
41:RH:46:GLU:N	41:RH:49:VAL:O	2.19	0.75
7:XG:69:VAL:C	7:XG:138:LYS:HD3	2.06	0.75
10:XJ:30:SER:HB2	10:XJ:81:THR:HG21	1.68	0.75
1:QA:1534:A:N6	23:QX:10:G:C6	2.54	0.75
2:QB:87:ARG:HH21	2:QB:233:SER:HB3	1.51	0.75
41:RH:54:ARG:CZ	41:RH:62:LYS:HG2	2.17	0.75
48:RS:11:LYS:HE2	48:RS:91:PRO:HG3	1.67	0.75
1:XA:1178:G:H5''	9:XI:93:ARG:HH22	1.52	0.75
2:QB:209:ARG:NH1	2:QB:212:GLN:OE1	2.19	0.75
26:R1:50:ARG:NH1	26:R1:57:GLU:OE2	2.18	0.75
1:XA:1147:C:HO2'	9:XI:5:TYR:HH	1.34	0.74
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.20	0.74
40:RG:9:ARG:HG3	40:RG:9:ARG:NH1	1.97	0.74
43:RN:61:ARG:HG3	43:RN:61:ARG:O	1.87	0.74
12:QL:117:ARG:HB2	12:QL:122:THR:HB	1.69	0.74
10:XJ:49:VAL:HG23	14:XN:41:ARG:HB2	1.68	0.74
39:RF:120:GLU:HG3	39:RF:122:LYS:HG2	1.68	0.74
24:XZ:48:LEU:CB	24:XZ:52:LEU:CB	2.64	0.74
37:RD:123:ALA:O	37:RD:131:LEU:HD21	1.88	0.74
41:RH:71:LEU:C	41:RH:71:LEU:HD12	2.07	0.74
35:YA:1728:G:N7	35:YA:1731:G:N2	2.34	0.74
24:QY:44:LYS:HZ2	24:QY:59:ARG:HH11	1.33	0.74
24:XZ:1:MET:CB	24:XZ:35:ARG:CG	2.66	0.74
24:XZ:1:MET:CB	24:XZ:35:ARG:HG2	2.17	0.74
35:YA:2141:G:H1	35:YA:2150:U:H3	0.79	0.74
52:YW:11:ARG:CZ	52:YW:98:LYS:HB3	2.17	0.74
50:YU:92:ARG:HD2	51:YV:11:GLN:CB	2.18	0.73
35:YA:676:A:H8	35:YA:2069:G:H21	1.35	0.73
48:RS:63:THR:HA	48:RS:97:ARG:HB3	1.71	0.73
24:XZ:1:MET:HB2	24:XZ:35:ARG:HD3	1.69	0.73
24:XZ:52:LEU:HD22	24:XZ:52:LEU:N	2.01	0.73
8:QH:46:LYS:HG3	8:QH:64:LYS:HG3	1.69	0.73
15:QO:40:SER:HB2	35:RA:715:G:H21	1.53	0.73
24:QZ:9:SER:OG	24:QZ:10:TRP:N	2.21	0.73
24:QZ:36:ARG:HG3	24:QZ:37:THR:HG23	1.68	0.73
42:YI:92:VAL:CG2	42:YI:120:ILE:CG2	2.65	0.73
24:QZ:1:MET:HG2	24:QZ:2:LYS:N	2.01	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:R9:22:ARG:HH12	35:RA:2741:A:H5''	1.53	0.73
37:RD:147:LEU:HD11	37:RD:183:ARG:CZ	2.19	0.73
2:XB:15:VAL:O	2:XB:17:PHE:HD2	1.72	0.73
9:XI:16:ARG:HH12	9:XI:18:PHE:HZ	1.32	0.73
37:YD:181:GLU:OE2	37:YD:270:ILE:HG21	1.87	0.73
24:XZ:48:LEU:HB2	24:XZ:52:LEU:CG	2.04	0.73
1:QA:664:G:H22	1:QA:741:G:H1	1.37	0.73
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.71	0.73
42:RI:123:LEU:HD21	42:RI:144:VAL:CG1	2.18	0.73
46:RQ:24:GLY:H	46:RQ:101:ARG:HH11	1.33	0.73
55:RZ:128:VAL:HG23	55:RZ:161:VAL:HG12	1.69	0.73
19:XS:11:VAL:HG12	19:XS:13:ASP:H	1.53	0.73
24:XZ:52:LEU:CD2	24:XZ:52:LEU:H	2.01	0.73
24:QZ:83:HIS:O	24:QZ:84:TYR:OXT	2.06	0.73
24:XZ:37:THR:OG1	24:XZ:40:GLU:O	2.05	0.73
39:YF:65:TRP:CZ2	39:YF:72:ARG:HD2	2.23	0.73
19:XS:11:VAL:HG11	19:XS:16:LEU:HB2	1.71	0.73
24:XZ:1:MET:HB2	24:XZ:35:ARG:CD	2.19	0.73
25:R0:36:ILE:CD1	25:R0:39:ARG:HH21	2.01	0.72
25:R0:36:ILE:HD13	25:R0:39:ARG:HH21	1.52	0.72
42:RI:3:VAL:HG23	42:RI:38:LEU:HA	1.71	0.72
40:YG:16:ARG:HH21	40:YG:31:VAL:HG11	1.54	0.72
29:Y4:58:ARG:HG3	29:Y4:59:PHE:HD1	1.53	0.72
39:YF:65:TRP:CH2	39:YF:72:ARG:CD	2.72	0.72
55:YZ:23:LYS:HD3	55:YZ:40:ASP:HA	1.71	0.72
50:YU:19:LYS:HA	50:YU:22:LYS:HE2	1.70	0.72
35:YA:2833:G:C2	38:YE:57:LYS:HE2	2.25	0.72
51:YV:66:ARG:C	51:YV:91:TYR:CE2	2.60	0.72
7:QG:91:VAL:HG12	7:QG:96:GLN:HG3	1.72	0.72
42:RI:72:LEU:HD21	42:RI:101:LEU:HD21	1.70	0.72
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.23	0.72
29:R4:28:LYS:NZ	29:R4:30:GLU:O	2.23	0.72
42:RI:77:LEU:HD22	42:RI:101:LEU:HD13	1.72	0.72
42:RI:125:GLU:HA	42:RI:141:LYS:HG3	1.72	0.72
35:RA:2245:U:H5'	35:RA:2246:G:H5'	1.72	0.71
24:XZ:52:LEU:HB3	24:XZ:55:PHE:HB2	1.73	0.71
33:Y8:26:LYS:HA	33:Y8:48:PHE:HE2	1.54	0.71
3:QC:57:ILE:HG23	3:QC:64:VAL:HG11	1.72	0.71
4:XD:188:LEU:HD12	4:XD:189:PRO:HD2	1.72	0.71
40:YG:107:LEU:HA	40:YG:111:LEU:HD12	1.71	0.71
41:RH:52:VAL:HB	41:RH:69:ARG:NH2	2.05	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:XU:6:ARG:HH11	21:XU:15:ARG:NH2	1.84	0.71
50:YU:92:ARG:HD3	51:YV:11:GLN:HB2	1.71	0.71
2:XB:6:THR:HG22	2:XB:7:VAL:N	2.04	0.71
35:YA:2114:A:N1	35:YA:2170:A:N6	2.38	0.71
39:YF:116:ASP:OD1	39:YF:119:ARG:NH2	2.20	0.71
21:QU:4:GLY:HA2	21:QU:15:ARG:HH22	1.56	0.71
55:RZ:53:ILE:HG22	55:RZ:71:VAL:O	1.91	0.71
13:QM:23:TYR:CE2	13:QM:71:ARG:HG2	2.26	0.71
42:RI:79:ILE:CD1	42:RI:140:LEU:HD21	2.20	0.71
4:XD:62:GLN:HE22	4:XD:65:ARG:HH21	1.39	0.71
16:XP:69:THR:HA	16:XP:72:ARG:HG2	1.73	0.71
51:YV:7:THR:HG23	51:YV:22:VAL:HG21	1.73	0.71
9:XI:78:LYS:HZ1	9:XI:101:PHE:HD1	1.36	0.70
24:QZ:44:LYS:CD	24:QZ:59:ARG:HD3	2.21	0.70
40:RG:135:LEU:HD21	40:RG:140:ILE:HD11	1.73	0.70
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.57	0.70
1:QA:1309:G:OP1	13:QM:88:ARG:NH1	2.24	0.70
48:RS:30:ARG:HG2	48:RS:97:ARG:HH21	1.56	0.70
1:XA:1502:A:H2	1:XA:1505:G:H1	1.39	0.70
42:RI:123:LEU:CD2	42:RI:144:VAL:CG1	2.68	0.70
47:RR:65:LEU:HA	47:RR:68:ARG:HH11	1.55	0.70
5:XE:144:THR:HG1	5:XE:147:ASP:H	1.38	0.70
42:RI:113:ARG:HG2	42:RI:113:ARG:NH1	2.06	0.70
1:XA:1071:C:OP1	5:XE:27:ARG:NH2	2.24	0.70
50:YU:92:ARG:HD3	50:YU:95:LEU:CD1	2.22	0.70
2:QB:91:PRO:HG2	2:QB:155:LEU:HB2	1.72	0.70
10:QJ:5:ARG:NH1	10:QJ:73:ASP:OD2	2.23	0.70
25:R0:60:PHE:HE1	25:R0:62:LEU:HD23	1.55	0.70
40:RG:39:ILE:HB	40:RG:92:VAL:HG12	1.73	0.70
24:QY:48:LEU:HD13	24:QY:52:LEU:HD23	1.72	0.70
41:RH:8:PRO:CD	41:RH:69:ARG:CD	2.70	0.70
55:RZ:6:LYS:HZ1	55:RZ:62:PRO:HD3	1.56	0.70
35:YA:1342:A:H2	35:YA:1602:U:H3	1.37	0.70
40:RG:66:GLN:OE1	40:RG:98:ARG:NH1	2.25	0.70
4:XD:187:ARG:NH2	4:XD:193:ASP:OD2	2.25	0.70
12:XL:27:LEU:HD23	12:XL:62:SER:HB3	1.72	0.70
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.74	0.70
24:QY:5:TRP:NE1	24:QZ:10:TRP:CZ3	2.60	0.70
35:RA:2401:U:H3	35:RA:2415:G:H1	1.39	0.70
1:XA:1348:U:H3	1:XA:1374:A:H2	1.38	0.70
35:RA:259:G:H21	35:RA:621:A:H8	1.37	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YF:51:THR:O	39:YF:93:LYS:NZ	2.24	0.69
9:QI:50:LEU:HA	9:QI:53:VAL:CG1	2.22	0.69
22:XW:50:U:H3	22:XW:64:G:H1	1.39	0.69
4:QD:153:ARG:HD3	4:QD:181:MET:SD	2.33	0.69
6:QF:2:ARG:HD3	6:QF:92:LYS:HE2	1.75	0.69
33:R8:25:MET:HG3	45:RP:64:LYS:HB3	1.74	0.69
42:RI:123:LEU:CD2	42:RI:144:VAL:HG11	2.22	0.69
4:QD:169:LYS:HB2	6:XF:21:LEU:HD21	1.73	0.69
41:RH:26:VAL:HG12	41:RH:33:LEU:H	1.56	0.69
42:RI:9:LEU:HG	42:RI:11:ASN:H	1.58	0.69
2:XB:71:VAL:HB	2:XB:164:VAL:HG12	1.75	0.69
19:XS:11:VAL:CG1	19:XS:13:ASP:OD1	2.41	0.69
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.58	0.69
35:RA:67:U:H3	35:RA:74:A:H2	1.39	0.69
35:RA:2777:G:H5''	35:RA:2778:A:H5'	1.73	0.69
35:YA:2777:G:H5''	35:YA:2778:A:H5'	1.74	0.69
55:YZ:129:SER:OG	55:YZ:130:PRO:HD3	1.93	0.69
38:RE:7:VAL:HG23	38:RE:51:PHE:HE2	1.58	0.69
46:RQ:24:GLY:N	46:RQ:101:ARG:HH11	1.90	0.69
1:XA:1086:U:H3	1:XA:1099:G:H22	1.38	0.69
18:XR:87:ARG:HG2	18:XR:87:ARG:O	1.93	0.69
24:QZ:10:TRP:NE1	24:QZ:14:LEU:HD11	2.04	0.69
24:QZ:43:GLY:CA	24:QZ:59:ARG:HE	2.02	0.69
45:RP:95:VAL:HB	45:RP:125:VAL:HG23	1.75	0.69
46:RQ:17:LEU:HD23	46:RQ:39:PRO:HB2	1.74	0.69
36:YB:80:U:H2'	36:YB:81:G:H21	1.56	0.69
40:YG:161:THR:HG22	40:YG:163:ALA:H	1.58	0.69
55:YZ:43:GLU:HA	55:YZ:46:LYS:HE2	1.72	0.69
19:QS:3:ARG:HH21	19:QS:9:VAL:HB	1.57	0.69
55:YZ:99:TYR:HB3	55:YZ:123:ASP:OD2	1.93	0.69
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.26	0.69
37:RD:8:PRO:HB3	37:RD:14:ARG:HB3	1.74	0.69
41:RH:9:ILE:HG13	41:RH:10:PRO:HD2	1.75	0.69
10:QJ:50:ILE:HG13	10:QJ:60:ARG:HH12	1.57	0.68
24:QZ:26:LYS:NZ	24:QZ:60:ILE:O	2.25	0.68
1:XA:1299:A:C5	1:XA:1301:U:C2	2.82	0.68
4:XD:157:LEU:HD23	4:XD:158:ILE:HG23	1.75	0.68
4:XD:191:ARG:HG2	4:XD:191:ARG:O	1.92	0.68
29:Y4:58:ARG:HG3	29:Y4:59:PHE:N	2.08	0.68
35:YA:2720:U:H3	35:YA:2873:A:H2	1.42	0.68
42:YI:92:VAL:CG2	42:YI:120:ILE:HG23	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:7:LEU:N	41:RH:8:PRO:CD	2.56	0.68
48:RS:30:ARG:HG2	48:RS:97:ARG:NH2	2.07	0.68
35:YA:252:G:OP2	45:YP:50:ARG:NH2	2.27	0.68
50:YU:92:ARG:CD	50:YU:95:LEU:HD12	2.20	0.68
35:RA:888:C:H4'	35:RA:889:C:H5	1.58	0.68
41:RH:7:LEU:O	41:RH:7:LEU:CD2	2.36	0.68
35:YA:1339:G:H5''	53:YX:16:LYS:HD2	1.74	0.68
47:YR:83:ILE:HG23	47:YR:86:ARG:HH21	1.57	0.68
42:RI:130:TYR:HB3	42:RI:136:VAL:HG13	1.74	0.68
38:YE:36:ARG:NH2	38:YE:86:PRO:O	2.21	0.68
37:RD:76:PRO:CA	37:RD:118:VAL:CG2	2.65	0.68
13:XM:3:ARG:NH2	40:YG:113:ARG:HH21	1.91	0.68
29:R4:36:CYS:O	29:R4:41:PRO:HG2	1.94	0.68
35:RA:2512:C:O2'	38:RE:154:LYS:NZ	2.24	0.68
8:XH:113:SER:HB2	8:XH:134:ILE:HD11	1.75	0.68
13:XM:5:ALA:HB2	13:XM:22:ILE:HD13	1.76	0.68
13:QM:97:PRO:HA	13:QM:110:ARG:HD3	1.76	0.68
35:RA:2292:C:OP1	48:RS:17:ARG:NH2	2.26	0.68
2:XB:168:THR:HG23	2:XB:192:SER:HB3	1.76	0.68
1:QA:971:G:N2	1:QA:1363:A:OP2	2.26	0.68
24:QY:5:TRP:CZ2	24:QZ:10:TRP:HH2	2.10	0.68
35:RA:2112:G:N2	35:RA:2169:A:H61	1.91	0.68
40:RG:106:LEU:HD13	40:RG:111:LEU:HD11	1.76	0.68
40:RG:111:LEU:HB3	40:RG:117:PHE:CE1	2.29	0.68
33:Y8:6:THR:HG22	33:Y8:63:PRO:HD2	1.76	0.68
44:YO:78:ARG:NH2	49:YT:103:ARG:HH22	1.91	0.68
52:YW:11:ARG:HH21	52:YW:98:LYS:CD	2.03	0.68
3:QC:131:ARG:NH1	3:QC:166:GLU:OE1	2.27	0.68
10:QJ:6:ILE:HD11	10:QJ:99:LYS:N	2.08	0.68
30:R5:19:ARG:NH2	35:RA:1264:G:OP1	2.25	0.68
1:XA:974:A:N3	14:XN:31:ARG:NH1	2.42	0.68
51:YV:52:VAL:HG21	51:YV:55:ALA:CB	2.20	0.68
2:QB:209:ARG:HH21	2:QB:239:VAL:HG22	1.59	0.67
26:R1:75:GLU:HB3	26:R1:76:ARG:HD2	1.75	0.67
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.26	0.67
55:YZ:103:ARG:HG3	55:YZ:136:PHE:HD2	1.56	0.67
9:QI:50:LEU:HD21	9:QI:85:LEU:HD21	1.75	0.67
13:QM:13:LYS:O	13:QM:17:VAL:HG11	1.94	0.67
15:QO:70:LEU:HD21	15:QO:77:ARG:HG3	1.76	0.67
38:RE:50:GLY:HA2	38:RE:78:LEU:HA	1.76	0.67
41:RH:8:PRO:CD	41:RH:69:ARG:HD3	2.24	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:8:PRO:HD2	41:RH:69:ARG:NE	2.09	0.67
24:XZ:49:LYS:O	24:XZ:52:LEU:HD23	1.94	0.67
1:QA:1330:U:H4'	13:QM:23:TYR:CD1	2.29	0.67
10:QJ:42:THR:HG22	10:QJ:68:HIS:HA	1.76	0.67
31:R6:37:ARG:HA	31:R6:48:VAL:HA	1.74	0.67
42:RI:133:HIS:HB3	42:RI:134:PRO:CD	2.23	0.67
4:XD:150:GLU:HG2	4:XD:153:ARG:NH2	2.08	0.67
15:XO:54:ARG:O	15:XO:58:MET:HG3	1.94	0.67
1:QA:1224:G:O2'	19:QS:78:ARG:NH2	2.27	0.67
40:RG:32:PRO:HB2	40:RG:172:LEU:HD13	1.74	0.67
17:XQ:88:TYR:OH	17:XQ:92:ARG:NH2	2.27	0.67
49:YT:29:ARG:HG3	49:YT:46:GLU:HB2	1.77	0.67
7:QG:68:ASN:O	7:QG:138:LYS:CE	2.38	0.67
24:QZ:44:LYS:CE	24:QZ:59:ARG:HD3	2.24	0.67
41:RH:6:ARG:CD	41:RH:54:ARG:NH1	2.57	0.67
2:XB:217:ARG:HH11	2:XB:217:ARG:HG3	1.60	0.67
15:XO:40:SER:HB2	35:YA:715:G:H21	1.59	0.67
37:RD:121:PRO:HB3	37:RD:135:PHE:CE2	2.29	0.67
40:RG:111:LEU:O	40:RG:117:PHE:CD1	2.47	0.67
45:RP:126:VAL:HG12	45:RP:145:PRO:HD2	1.74	0.67
13:XM:3:ARG:HD2	29:Y4:34:GLU:CG	2.24	0.67
5:QE:79:GLU:O	5:QE:79:GLU:HG2	1.94	0.67
35:RA:2031:A:O2'	35:RA:2454:G:N2	2.27	0.67
24:XZ:59:ARG:HG2	24:XZ:65:ARG:CZ	2.25	0.67
35:YA:1165:U:H3	35:YA:1184:G:H1	1.43	0.67
41:YH:35:VAL:HG21	41:YH:72:ILE:HG12	1.77	0.67
51:YV:52:VAL:CG2	51:YV:55:ALA:CB	2.66	0.67
13:QM:14:ARG:HE	13:QM:16:ASP:CG	1.98	0.67
2:XB:111:ARG:HD2	2:XB:145:LEU:HD21	1.75	0.67
31:Y6:33:LYS:HB3	31:Y6:51:GLU:HG2	1.77	0.67
1:QA:1318:A:H4'	19:QS:11:VAL:HG21	1.75	0.67
35:RA:1817:G:OP1	37:RD:88:ARG:NH2	2.27	0.67
40:RG:161:THR:HG22	40:RG:163:ALA:H	1.59	0.67
49:YT:129:ARG:HG3	49:YT:132:LYS:HE3	1.77	0.67
9:QI:19:LEU:HG	9:QI:59:PHE:CD1	2.29	0.67
41:RH:10:PRO:HB2	41:RH:12:PRO:HD3	1.76	0.67
2:XB:87:ARG:CZ	2:XB:233:SER:HB2	2.23	0.67
9:XI:8:GLY:HA2	9:XI:79:LEU:HD23	1.77	0.67
13:XM:23:TYR:HD2	13:XM:67:GLU:HA	1.60	0.67
35:RA:704:G:O2'	35:RA:726:G:N2	2.28	0.66
27:Y2:70:GLN:HB2	27:Y2:71:ASN:HB2	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:33:ARG:HD2	12:QL:60:LEU:CD1	2.24	0.66
17:QQ:48:GLU:HB2	17:QQ:50:LYS:HB2	1.78	0.66
35:RA:458:G:N2	35:RA:470:A:OP2	2.27	0.66
35:RA:2571:C:H5'	35:RA:2572:A:H5''	1.76	0.66
38:RE:141:ILE:HA	38:RE:154:LYS:HE2	1.77	0.66
42:RI:69:LYS:HA	42:RI:136:VAL:HG21	1.76	0.66
24:XZ:48:LEU:CD1	24:XZ:52:LEU:CD1	2.73	0.66
24:QZ:28:ASN:HA	24:QZ:31:ILE:HG12	1.77	0.66
40:RG:111:LEU:O	40:RG:117:PHE:CE1	2.48	0.66
11:XK:54:ARG:HH12	22:XW:39:C:H4'	1.61	0.66
42:YI:91:SER:OG	42:YI:119:PRO:HB3	1.95	0.66
51:YV:66:ARG:O	51:YV:91:TYR:HE2	1.79	0.66
1:QA:1502:A:H2	1:QA:1505:G:H1	1.42	0.66
3:QC:19:GLU:HB3	3:QC:40:ARG:HH22	1.61	0.66
24:QZ:15:TYR:HE2	24:QZ:81:ARG:HH21	1.39	0.66
1:XA:553:A:H5''	12:XL:24:VAL:HG21	1.77	0.66
37:YD:168:ARG:HG2	37:YD:173:VAL:HG13	1.76	0.66
1:QA:218:C:H5'	1:QA:466:C:H42	1.58	0.66
35:RA:2111:C:OP1	35:RA:2145:C:N4	2.29	0.66
40:YG:33:ARG:H	40:YG:162:THR:HB	1.61	0.66
3:QC:34:LEU:HD22	3:QC:38:ARG:HH21	1.60	0.66
13:QM:23:TYR:HE2	13:QM:71:ARG:CG	2.09	0.66
13:QM:23:TYR:HE2	13:QM:71:ARG:HG2	1.60	0.66
41:RH:68:THR:O	41:RH:71:LEU:HG	1.96	0.66
1:XA:677:U:H3	1:XA:713:G:H22	1.44	0.66
35:RA:654(D):G:H1	35:RA:654(Q):C:H42	1.44	0.66
55:RZ:52:SER:O	55:RZ:52:SER:OG	2.06	0.66
35:YA:2701:C:H3'	35:YA:2702:U:H5''	1.76	0.66
35:YA:2849:U:OP1	49:YT:95:ARG:NH1	2.29	0.66
1:QA:1317:C:OP2	14:QN:17:LYS:NZ	2.29	0.66
35:RA:68:G:H21	35:RA:74:A:H5'	1.59	0.66
41:RH:23:ARG:HD2	41:RH:34:GLU:HB2	1.77	0.66
27:Y2:61:LEU:O	27:Y2:65:ASN:HB2	1.96	0.66
29:Y4:58:ARG:HG3	29:Y4:59:PHE:H	1.59	0.66
35:YA:2358:G:H1	45:YP:55:ARG:HH12	1.44	0.66
35:RA:2304:G:H22	35:RA:2312:U:H3	1.42	0.65
3:QC:29:TYR:HA	3:QC:32:LEU:HD12	1.78	0.65
3:QC:137:ALA:HA	3:QC:140:ARG:HH11	1.61	0.65
37:RD:6:PHE:HE1	37:RD:13:ARG:NH2	1.84	0.65
42:RI:125:GLU:OE1	42:RI:125:GLU:N	2.28	0.65
55:RZ:6:LYS:NZ	55:RZ:62:PRO:HD3	2.11	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:142:LEU:O	2:XB:146:GLN:HB2	1.96	0.65
35:YA:2768:C:O2'	43:YN:89:LYS:NZ	2.29	0.65
42:YI:100:ALA:O	42:YI:104:GLN:CB	2.45	0.65
38:RE:47:VAL:O	38:RE:80:GLU:HA	1.96	0.65
42:RI:130:TYR:HB3	42:RI:136:VAL:CG1	2.27	0.65
3:XC:108:ASN:ND2	3:XC:144:SER:OG	2.29	0.65
8:XH:100:ILE:HD12	8:XH:112:LEU:HD21	1.78	0.65
51:YV:38:LEU:HD12	51:YV:38:LEU:N	2.12	0.65
10:QJ:9:ARG:HG2	10:QJ:69:ASN:OD1	1.96	0.65
13:QM:86:CYS:SG	13:QM:87:TYR:N	2.70	0.65
35:RA:2468:G:N2	35:RA:2482:G:OP2	2.30	0.65
36:RB:30:C:H1'	36:RB:57:A:H61	1.60	0.65
55:YZ:48:PHE:HE1	55:YZ:71:VAL:HG11	1.61	0.65
1:QA:677:U:H3	1:QA:713:G:H22	1.43	0.65
7:QG:69:VAL:HA	7:QG:138:LYS:CD	2.27	0.65
19:QS:3:ARG:NH1	19:QS:5:LEU:HB3	2.11	0.65
22:QW:58:A:H2	22:QW:60:U:H2'	1.62	0.65
41:RH:17:VAL:HG11	41:RH:50:VAL:HG11	1.78	0.65
37:RD:147:LEU:HD21	37:RD:183:ARG:HH22	1.61	0.65
35:YA:443:A:C5	39:YF:45:ARG:HD2	2.32	0.65
12:QL:47:LYS:CB	12:QL:48:PRO:HD3	2.28	0.64
1:XA:191:G:O2'	20:XT:101:GLY:O	2.14	0.64
1:QA:1221:G:OP1	1:QA:1321:C:N4	2.31	0.64
42:RI:69:LYS:HG2	42:RI:136:VAL:HG23	1.79	0.64
1:XA:1302:U:C6	13:XM:17:VAL:HG11	2.32	0.64
41:YH:24:VAL:HB	41:YH:35:VAL:HG23	1.79	0.64
8:QH:46:LYS:HG3	8:QH:64:LYS:HG2	1.79	0.64
1:XA:1299:A:N6	1:XA:1301:U:H3	1.94	0.64
3:XC:189:ALA:HB3	3:XC:196:LEU:H	1.63	0.64
37:RD:183:ARG:HG3	37:RD:269:PHE:O	1.97	0.64
52:YW:11:ARG:HH22	52:YW:98:LYS:HD3	1.63	0.64
34:R9:11:CYS:SG	34:R9:14:CYS:N	2.59	0.64
35:RA:635:C:H41	45:RP:79:ARG:HH12	1.43	0.64
24:QZ:62:GLU:O	24:QZ:62:GLU:HG2	1.97	0.64
41:RH:46:GLU:HG3	41:RH:47:GLU:N	2.12	0.64
4:XD:98:GLU:HA	4:XD:103:ASN:HD22	1.62	0.64
5:QE:90:VAL:CG1	5:QE:90:VAL:CA	2.74	0.64
13:QM:10:PRO:HB2	13:QM:18:ALA:HB1	1.79	0.64
9:XI:5:TYR:HE1	9:XI:16:ARG:HB2	1.61	0.64
51:YV:51:VAL:O	51:YV:51:VAL:HG23	1.97	0.64
35:RA:833:U:O2	45:RP:55:ARG:NH1	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:54:ARG:NH2	41:RH:57:ASP:OD1	2.30	0.64
27:Y2:21:LEU:HD13	27:Y2:64:LEU:HA	1.79	0.64
33:Y8:26:LYS:HA	33:Y8:48:PHE:CE2	2.32	0.64
41:YH:12:PRO:O	41:YH:15:VAL:HG12	1.97	0.64
55:YZ:97:GLU:HB3	55:YZ:125:LEU:HD11	1.79	0.64
40:RG:27:ASN:OD1	40:RG:28:VAL:N	2.31	0.64
41:RH:6:ARG:NE	41:RH:54:ARG:HH12	1.95	0.64
24:QZ:1:MET:HG3	24:QZ:2:LYS:H	1.63	0.64
35:RA:2112:G:N2	35:RA:2169:A:N6	2.39	0.64
51:RV:95:LEU:HD13	51:RV:97:LYS:HE3	1.80	0.64
35:YA:2833:G:N1	38:YE:57:LYS:HE2	2.12	0.64
1:QA:157:G:H1	1:QA:164:U:H3	1.46	0.63
13:QM:67:GLU:CB	13:QM:67:GLU:CD	2.64	0.63
12:XL:41:ARG:HH21	12:XL:43:VAL:HG12	1.63	0.63
3:QC:56:ASP:HB2	3:QC:67:THR:HB	1.80	0.63
9:QI:112:LYS:HA	9:QI:119:ALA:HB2	1.80	0.63
13:QM:14:ARG:O	13:QM:17:VAL:HG13	1.98	0.63
35:YA:2849:U:O2'	35:YA:2866:U:O2	2.16	0.63
1:XA:1178:G:OP2	9:XI:93:ARG:NH2	2.31	0.63
20:XT:100:ILE:HG22	20:XT:102:GLY:H	1.64	0.63
35:YA:2680:C:OP2	38:YE:111:ARG:NH2	2.30	0.63
42:YI:100:ALA:O	42:YI:104:GLN:HB2	1.97	0.63
42:YI:123:LEU:HB2	42:YI:142:VAL:HG23	1.80	0.63
50:YU:92:ARG:O	50:YU:94:ASN:N	2.26	0.63
2:QB:105:PHE:O	2:QB:109:SER:OG	2.15	0.63
35:RA:1339:G:H5''	53:RX:16:LYS:HD2	1.80	0.63
42:RI:62:LYS:HG3	42:RI:133:HIS:ND1	2.14	0.63
27:Y2:69:ARG:HG3	27:Y2:70:GLN:HG3	1.80	0.63
1:QA:405:U:O4	4:QD:2:GLY:N	2.32	0.63
1:QA:910:C:H5''	12:QL:97:ARG:HH22	1.63	0.63
30:R5:16:ARG:NH1	30:R5:17:ASP:OD1	2.32	0.63
40:RG:15:VAL:HG13	40:RG:175:LEU:HB2	1.79	0.63
43:RN:16:ILE:HG21	43:RN:26:LEU:HD11	1.80	0.63
55:RZ:25:PRO:HB2	55:RZ:85:HIS:HD2	1.63	0.63
22:QW:71:C:HO2'	35:RA:1851:U:HO2'	1.43	0.63
41:RH:35:VAL:CG1	41:RH:71:LEU:HD13	2.08	0.63
55:RZ:6:LYS:HZ2	55:RZ:8:TYR:HD1	1.45	0.63
18:QR:56:THR:HB	18:QR:58:LEU:HD12	1.81	0.63
35:RA:2119:A:N6	35:RA:2170:A:N7	2.47	0.63
37:RD:75:ILE:C	37:RD:118:VAL:CG2	2.66	0.63
55:RZ:6:LYS:NZ	55:RZ:7:ALA:O	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XR:51:LEU:HD13	18:XR:55:ARG:HE	1.64	0.63
26:Y1:86:SER:OG	26:Y1:89:GLU:OE1	2.16	0.63
24:QY:44:LYS:CD	24:QY:59:ARG:HH11	2.12	0.63
24:XZ:48:LEU:HB3	24:XZ:52:LEU:HD23	1.78	0.63
27:Y2:29:LYS:HD3	27:Y2:57:ILE:HD13	1.81	0.63
39:YF:160:ASN:HB3	39:YF:163:VAL:HG22	1.80	0.63
1:QA:1086:U:H3	1:QA:1099:G:H22	1.46	0.63
24:QY:5:TRP:NE1	24:QZ:10:TRP:HZ3	1.96	0.63
24:XY:4:ILE:HA	24:XZ:3:LEU:O	1.98	0.63
26:R1:78:LYS:HZ1	35:RA:270(R):G:N2	1.92	0.62
43:YN:6:PRO:HG3	43:YN:41:ASP:HB2	1.82	0.62
13:QM:23:TYR:CE2	13:QM:71:ARG:CG	2.82	0.62
13:QM:23:TYR:HB3	13:QM:71:ARG:HH21	1.63	0.62
38:YE:57:LYS:O	38:YE:57:LYS:HG3	1.97	0.62
38:YE:54:GLN:HB2	38:YE:76:ARG:HG3	1.81	0.62
1:QA:468:A:H5''	16:QP:75:ARG:HH12	1.62	0.62
13:QM:12:ASN:HB2	13:QM:46:LYS:HE2	1.81	0.62
38:RE:141:ILE:HA	38:RE:154:LYS:CE	2.28	0.62
39:RF:13:SER:O	39:RF:17:ARG:NH1	2.31	0.62
46:RQ:65:PHE:HB2	46:RQ:105:GLU:HB3	1.82	0.62
9:QI:26:VAL:HG12	9:QI:61:ALA:HB3	1.80	0.62
10:QJ:6:ILE:CG2	10:QJ:97:GLU:O	2.40	0.62
35:RA:2091:U:OP1	42:RI:27:ARG:NH1	2.32	0.62
54:RY:13:VAL:HG12	54:RY:74:PRO:HA	1.81	0.62
35:YA:768:G:O2'	35:YA:1379:A:N6	2.33	0.62
41:YH:3:ARG:HH12	41:YH:65:HIS:CE1	2.17	0.62
55:YZ:128:VAL:HG23	55:YZ:160:GLY:O	1.99	0.62
7:QG:69:VAL:C	7:QG:138:LYS:CD	2.66	0.62
2:XB:19:HIS:HB2	2:XB:204:ASN:HD21	1.63	0.62
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.81	0.62
9:XI:20:ARG:NH2	9:XI:62:TYR:HB2	2.15	0.62
14:XN:7:ILE:HG22	14:XN:23:ARG:HD3	1.80	0.62
24:XY:83:HIS:O	24:XY:84:TYR:CG	2.53	0.62
2:QB:95:GLN:HG2	2:QB:147:LYS:CE	2.29	0.62
41:YH:9:ILE:HD11	41:YH:69:ARG:HG2	1.82	0.62
24:QY:48:LEU:HD13	24:QY:52:LEU:HD22	1.79	0.62
35:RA:1342:A:H2	35:RA:1602:U:H3	1.47	0.62
37:RD:123:ALA:HB3	37:RD:131:LEU:CD1	2.29	0.62
47:RR:97:VAL:HG22	47:RR:114:VAL:HG12	1.82	0.62
4:XD:153:ARG:HD2	4:XD:181:MET:SD	2.39	0.62
1:QA:1252:A:H61	1:QA:1285:A:H61	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:230:VAL:HG12	2:QB:231:GLU:H	1.64	0.62
55:RZ:8:TYR:O	55:RZ:38:TYR:N	2.32	0.62
35:YA:2306:C:H5'	35:YA:2307:G:H5''	1.82	0.62
35:YA:2795:G:H21	35:YA:2801:A:H62	1.45	0.62
40:RG:118:ARG:O	40:RG:181:ARG:HG2	2.00	0.61
55:RZ:105:VAL:H	55:RZ:140:ASP:HB2	1.65	0.61
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.82	0.61
24:XZ:49:LYS:O	24:XZ:52:LEU:CD2	2.47	0.61
25:Y0:23:VAL:HG13	25:Y0:38:VAL:HG12	1.82	0.61
32:R7:7:PRO:HB2	35:RA:1309:G:H4'	1.83	0.61
40:RG:139:LEU:HD11	40:RG:149:VAL:HG11	1.82	0.61
42:RI:81:VAL:HG21	42:RI:88:ILE:CD1	2.29	0.61
1:QA:1240:U:C4	7:QG:32:ARG:HD2	2.35	0.61
24:QZ:72:ASP:OD1	24:QZ:73:ASP:N	2.31	0.61
35:RA:1816:G:O6	37:RD:35:LYS:NZ	2.28	0.61
25:Y0:7:LEU:HB3	46:YQ:85:LYS:HG3	1.83	0.61
37:YD:12:SER:HB3	37:YD:208:LYS:HB3	1.82	0.61
47:YR:78:LYS:HE3	47:YR:83:ILE:HD11	1.82	0.61
1:QA:1031:G:N2	1:QA:1032:A:N3	2.49	0.61
41:RH:149:ARG:HG2	41:RH:149:ARG:O	2.00	0.61
42:RI:79:ILE:HD13	42:RI:140:LEU:HD21	1.81	0.61
1:QA:924:C:O2'	1:QA:1502:A:N6	2.34	0.61
35:RA:768:G:O2'	35:RA:1379:A:N6	2.33	0.61
35:RA:1490:A:O2'	37:RD:99:ASP:OD1	2.17	0.61
35:RA:2392:A:H2	35:RA:2424:C:H42	1.48	0.61
42:RI:4:ILE:HG23	42:RI:18:VAL:HA	1.82	0.61
42:RI:21:VAL:HG21	42:RI:26:ALA:HB2	1.82	0.61
2:XB:6:THR:CG2	2:XB:7:VAL:HG13	2.30	0.61
1:QA:673:G:H5''	6:QF:87:ARG:NH1	2.16	0.61
11:QK:78:GLN:O	11:QK:103:LEU:HA	1.99	0.61
35:RA:138:G:O6	53:RX:40:LYS:NZ	2.34	0.61
41:RH:149:ARG:HH21	41:RH:154:PRO:CB	2.14	0.61
49:RT:36:GLU:O	49:RT:36:GLU:CD	2.39	0.61
24:XZ:51:ASN:OD1	24:XZ:51:ASN:N	2.32	0.61
55:YZ:128:VAL:HG22	55:YZ:132:ASN:HB3	1.81	0.61
1:QA:674:G:H2'	1:QA:675:A:H8	1.65	0.61
12:QL:28:LYS:HD3	12:QL:62:SER:HB2	1.82	0.61
18:QR:41:LYS:HD3	18:QR:42:ARG:HG3	1.81	0.61
41:RH:54:ARG:CD	41:RH:61:HIS:CB	2.73	0.61
41:RH:115:VAL:HG11	41:RH:148:ILE:HG22	1.82	0.61
3:XC:43:LEU:HD21	3:XC:91:LEU:HD11	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:37:ARG:O	8:XH:41:ARG:HB2	2.01	0.61
4:QD:177:ASP:HB3	4:QD:182:LYS:HG3	1.83	0.61
35:RA:993:G:OP1	50:RU:50:ARG:NH2	2.33	0.61
1:XA:1159:U:O2'	1:XA:1160:G:N7	2.33	0.61
1:XA:1350:A:O2'	7:XG:33:ASP:OD1	2.18	0.61
4:XD:153:ARG:CD	4:XD:181:MET:SD	2.89	0.61
1:QA:217:C:O2'	1:QA:466:C:N4	2.33	0.61
24:QY:64:HIS:HA	24:QY:82:TYR:O	2.00	0.61
43:RN:115:ARG:HA	43:RN:118:LYS:HD2	1.83	0.61
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.48	0.61
4:XD:194:LEU:HD12	4:XD:196:LEU:HG	1.82	0.61
16:XP:57:ARG:HH21	16:XP:79:VAL:HA	1.66	0.61
29:Y4:58:ARG:NH2	29:Y4:59:PHE:HE1	1.98	0.61
42:YI:123:LEU:N	42:YI:123:LEU:HD23	2.16	0.61
49:YT:124:ASP:OD1	49:YT:125:ARG:N	2.33	0.61
55:YZ:181:GLU:OE1	55:YZ:181:GLU:N	2.33	0.61
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.83	0.61
24:QY:50:HIS:O	24:QY:51:ASN:OD1	2.18	0.61
37:RD:17:THR:HB	37:RD:205:VAL:H	1.66	0.61
37:RD:147:LEU:HD11	37:RD:183:ARG:NH1	2.16	0.61
41:YH:19:VAL:HG23	41:YH:24:VAL:HG22	1.81	0.61
1:QA:1422:G:H4'	44:RO:49:ARG:HH22	1.65	0.60
17:QQ:66:SER:OG	17:QQ:67:LYS:O	2.18	0.60
24:QY:48:LEU:CD1	24:QY:52:LEU:HD23	2.30	0.60
35:RA:642:G:H21	35:RA:646:A:H2	1.47	0.60
42:YI:123:LEU:HA	42:YI:142:VAL:HG21	1.82	0.60
8:QH:25:ASP:HB3	8:QH:58:TYR:HD2	1.66	0.60
29:R4:34:GLU:N	29:R4:34:GLU:OE1	2.34	0.60
35:RA:1110:G:H4'	41:RH:3:ARG:HE	1.66	0.60
35:RA:1689:A:H62	35:RA:1698:A:H2	1.49	0.60
35:YA:987:G:O2'	35:YA:1000:A:N3	2.31	0.60
9:QI:29:ASN:OD1	9:QI:64:THR:OG1	2.19	0.60
13:QM:81:LEU:O	13:QM:89:GLY:HA3	2.01	0.60
35:RA:629:G:N3	35:RA:639:U:O2'	2.34	0.60
37:RD:182:LEU:H	37:RD:272:ALA:HB3	1.66	0.60
41:RH:6:ARG:HD2	41:RH:54:ARG:NH1	2.15	0.60
35:YA:994:C:OP1	50:YU:53:ARG:NH2	2.33	0.60
55:YZ:69:THR:HG22	55:YZ:90:VAL:HG22	1.82	0.60
4:QD:30:LYS:HG2	4:QD:35:ARG:HH21	1.67	0.60
13:QM:16:ASP:OD1	13:QM:16:ASP:N	2.33	0.60
13:QM:35:GLU:OE2	13:QM:39:ILE:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:273(E):U:H3	35:YA:363(A):A:H61	1.48	0.60
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.20	0.60
13:QM:3:ARG:HH12	40:RG:113:ARG:HH21	1.49	0.60
19:QS:64:GLU:CG	29:R4:56:VAL:HG23	2.31	0.60
1:XA:413:G:N2	1:XA:429:U:OP2	2.34	0.60
16:XP:32:TYR:HE2	16:XP:35:LYS:HB2	1.66	0.60
24:XZ:48:LEU:C	24:XZ:52:LEU:HB2	2.21	0.60
1:QA:1266:G:N2	1:QA:1269:A:OP2	2.35	0.60
41:RH:46:GLU:HG3	41:RH:47:GLU:H	1.65	0.60
42:RI:58:LEU:O	42:RI:62:LYS:HB2	2.01	0.60
12:XL:62:SER:HB2	12:XL:64:TYR:CD2	2.35	0.60
43:YN:21:LYS:HE2	43:YN:26:LEU:HD22	1.83	0.60
13:QM:9:ILE:N	13:QM:10:PRO:CD	2.60	0.60
41:RH:50:VAL:HG23	41:RH:50:VAL:O	2.01	0.60
41:RH:79:VAL:HA	41:RH:136:ILE:HD11	1.84	0.60
1:XA:971:G:N2	1:XA:1363:A:OP2	2.33	0.60
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.83	0.60
10:XJ:42:THR:HG22	10:XJ:68:HIS:HA	1.84	0.60
13:XM:45:VAL:O	13:XM:48:LEU:HD22	2.02	0.60
41:YH:19:VAL:HG21	41:YH:43:VAL:HG11	1.82	0.60
1:QA:76:G:H1	1:QA:93:U:H3	1.50	0.60
13:QM:31:LYS:HA	13:QM:34:LEU:HB2	1.83	0.60
35:RA:2298:A:H62	35:RA:2318:G:H8	1.50	0.60
48:RS:97:ARG:HA	48:RS:100:ALA:HB3	1.84	0.60
2:XB:7:VAL:HB	2:XB:11:LEU:HD12	1.84	0.60
1:QA:362:G:H5''	12:QL:61:THR:HG21	1.82	0.60
1:XA:414:A:OP2	1:XA:428:G:N2	2.32	0.60
52:YW:11:ARG:NH2	52:YW:98:LYS:CG	2.65	0.60
54:YY:99:CYS:SG	54:YY:106:LEU:HD11	2.42	0.60
1:QA:410:G:H21	1:QA:432:A:H62	1.50	0.59
1:QA:468:A:OP1	16:QP:75:ARG:NH2	2.35	0.59
35:RA:586:A:H5'	39:RF:89:VAL:HG11	1.82	0.59
37:RD:147:LEU:HD21	37:RD:183:ARG:NH2	2.17	0.59
40:RG:138:GLN:CG	40:RG:139:LEU:HD12	2.31	0.59
1:XA:765:G:N2	1:XA:813:U:OP2	2.35	0.59
20:XT:26:ASN:HA	20:XT:29:LYS:HG2	1.83	0.59
2:QB:8:LYS:HD3	2:QB:9:GLU:H	1.68	0.59
7:QG:20:ASP:HB3	7:QG:23:VAL:HG12	1.82	0.59
10:QJ:78:ASN:OD1	10:QJ:80:LYS:HB2	2.03	0.59
38:RE:77:ILE:HG21	38:RE:195:LEU:HD22	1.84	0.59
40:RG:48:GLU:O	40:RG:48:GLU:CD	2.40	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:54:ARG:CD	41:RH:61:HIS:HB3	2.29	0.59
12:XL:62:SER:HB2	12:XL:64:TYR:HD2	1.67	0.59
35:YA:2068:U:H3	35:YA:2430:A:H2	1.50	0.59
41:YH:44:VAL:H	41:YH:52:VAL:HG22	1.67	0.59
28:R3:40:THR:HG22	28:R3:42:ALA:H	1.67	0.59
36:RB:49:C:OP2	48:RS:30:ARG:NH1	2.35	0.59
1:XA:1422:G:H5'	44:YO:48:PRO:HB3	1.83	0.59
29:R4:36:CYS:HB2	29:R4:39:CYS:SG	2.42	0.59
45:RP:19:VAL:HG23	45:RP:27:HIS:HB3	1.84	0.59
26:Y1:89:GLU:HA	26:Y1:92:LYS:HB2	1.83	0.59
35:YA:1779:U:OP2	35:YA:1784:A:N6	2.33	0.59
35:YA:2298:A:H62	35:YA:2318:G:H8	1.49	0.59
19:QS:31:ILE:HB	19:QS:49:ILE:HA	1.83	0.59
44:YO:120:GLU:OE1	49:YT:67:SER:OG	2.18	0.59
3:QC:150:LYS:HE3	3:QC:167:TRP:HE1	1.67	0.59
34:R9:11:CYS:HB2	34:R9:13:LYS:HE2	1.84	0.59
38:RE:23:VAL:HG12	38:RE:185:LYS:HA	1.85	0.59
38:RE:36:ARG:HH12	38:RE:88:GLY:HA2	1.66	0.59
35:YA:704:G:O2'	35:YA:726:G:N2	2.32	0.59
22:QW:51:C:H42	22:QW:63:G:H1	1.49	0.59
24:QY:44:LYS:CE	24:QY:59:ARG:NH1	2.66	0.59
25:R0:26:TYR:HE2	35:RA:857:C:H1'	1.67	0.59
29:R4:6:HIS:HE2	40:RG:67:LYS:H	1.51	0.59
48:RS:11:LYS:HE2	48:RS:91:PRO:CG	2.32	0.59
2:XB:127:ILE:HD12	2:XB:130:ARG:HB2	1.85	0.59
10:XJ:98:ILE:O	10:XJ:99:LYS:HD3	2.03	0.59
35:RA:2010:G:H5''	52:RW:42:ARG:HB2	1.85	0.59
35:RA:2816:C:O2	35:RA:2883:A:O2'	2.19	0.59
40:RG:37:VAL:HG23	40:RG:159:VAL:HG12	1.85	0.59
41:RH:24:VAL:HG11	41:RH:72:ILE:HD12	1.85	0.59
35:YA:1019:U:H3	35:YA:1142(A):A:H62	1.50	0.59
42:YI:92:VAL:HG23	42:YI:120:ILE:HG23	1.85	0.59
36:RB:80:U:H2'	36:RB:81:G:H21	1.67	0.59
39:RF:116:ASP:OD2	45:RP:1:MET:N	2.32	0.59
42:RI:127:VAL:HG13	42:RI:127:VAL:O	2.03	0.59
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.36	0.59
1:XA:728:A:N6	15:XO:54:ARG:HD3	2.18	0.59
1:XA:1009:G:H1	1:XA:1020:U:H3	1.51	0.59
3:XC:131:ARG:HH12	3:XC:168:ALA:HB2	1.68	0.59
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.35	0.58
10:QJ:38:ILE:HD11	10:QJ:71:LEU:HB3	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:76:ASN:HD21	12:QL:108:ALA:H	1.47	0.58
35:RA:1300:U:H4'	35:RA:1301:A:H5'	1.85	0.58
7:XG:49:ILE:HD13	7:XG:118:VAL:HG12	1.84	0.58
24:XY:2:LYS:HB2	24:XY:74:SER:HB3	1.84	0.58
1:QA:1316:G:N2	1:QA:1319:A:OP2	2.36	0.58
2:QB:135:GLN:OE1	2:QB:135:GLN:N	2.36	0.58
7:QG:56:GLN:OE1	7:QG:57:GLU:N	2.35	0.58
36:RB:45:A:OP2	40:RG:96:ARG:NH2	2.35	0.58
37:RD:75:ILE:C	37:RD:118:VAL:HG22	2.24	0.58
37:RD:76:PRO:N	37:RD:118:VAL:CG2	2.66	0.58
41:RH:86:GLU:O	41:RH:86:GLU:CG	2.50	0.58
55:RZ:11:GLU:OE2	55:RZ:35:ARG:NH2	2.36	0.58
2:XB:223:ILE:HA	2:XB:226:ARG:HG2	1.83	0.58
28:Y3:39:ASP:OD1	28:Y3:44:ARG:NH2	2.36	0.58
55:YZ:6:LYS:HG3	55:YZ:8:TYR:HE2	1.68	0.58
55:YZ:94:GLU:HG2	55:YZ:95:PRO:HD2	1.86	0.58
3:QC:153:VAL:HG22	3:QC:198:VAL:HG22	1.84	0.58
1:XA:710:G:H5''	6:XF:54:LYS:HE2	1.85	0.58
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.36	0.58
20:XT:11:SER:HB3	20:XT:14:LYS:HE2	1.85	0.58
33:Y8:29:LYS:O	33:Y8:31:HIS:N	2.30	0.58
34:Y9:6:SER:OG	34:Y9:6:SER:O	2.20	0.58
35:YA:458:G:N2	35:YA:470:A:OP2	2.28	0.58
19:QS:52:TYR:HD2	19:QS:57:HIS:CG	2.21	0.58
33:R8:8:LYS:NZ	35:RA:243:U:OP2	2.31	0.58
35:RA:2306:C:H5'	35:RA:2307:G:H5''	1.84	0.58
35:RA:2848:G:O2'	35:RA:2867:G:N2	2.36	0.58
20:XT:85:MET:HA	20:XT:88:VAL:HG22	1.86	0.58
24:XZ:59:ARG:HG2	24:XZ:65:ARG:NE	2.18	0.58
38:YE:167:VAL:HG22	38:YE:170:LEU:HD11	1.86	0.58
39:YF:199:TRP:O	39:YF:203:GLN:HB2	2.04	0.58
3:QC:164:ARG:NH1	3:QC:166:GLU:OE2	2.37	0.58
10:QJ:6:ILE:CD1	10:QJ:99:LYS:N	2.63	0.58
33:R8:18:ALA:HB3	35:RA:651:G:H5'	1.86	0.58
35:RA:726:G:HO2'	35:RA:727:A:H8	1.51	0.58
2:XB:213:LEU:C	2:XB:213:LEU:HD23	2.23	0.58
22:XW:21:A:H61	22:XW:46:G:H2'	1.69	0.58
50:YU:92:ARG:CD	51:YV:11:GLN:OE1	2.50	0.58
2:QB:95:GLN:CB	2:QB:147:LYS:HE3	2.34	0.58
3:QC:108:ASN:ND2	3:QC:144:SER:OG	2.36	0.58
38:RE:141:ILE:CA	38:RE:154:LYS:HE2	2.34	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:69:VAL:O	7:QG:138:LYS:CD	2.48	0.58
29:R4:13:ARG:N	29:R4:24:THR:OG1	2.29	0.58
2:XB:163:PHE:HA	2:XB:185:ILE:O	2.04	0.58
4:XD:30:LYS:HA	4:XD:35:ARG:HE	1.67	0.58
35:YA:138:G:N2	53:YX:44:GLU:OE1	2.33	0.58
35:YA:1689:A:H62	35:YA:1698:A:H2	1.52	0.58
35:RA:1980:G:O2'	35:RA:1982:C:OP2	2.21	0.58
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.36	0.58
7:XG:138:LYS:O	7:XG:142:GLU:HG3	2.04	0.58
17:XQ:11:VAL:HG12	17:XQ:85:VAL:HG12	1.85	0.58
40:YG:39:ILE:HG12	40:YG:157:ILE:HD12	1.86	0.58
5:QE:143:ARG:NE	8:QH:77:GLU:OE2	2.37	0.58
13:QM:44:ARG:O	13:QM:48:LEU:HD21	2.04	0.58
7:XG:71:PRO:HB3	7:XG:138:LYS:HG3	1.85	0.58
35:YA:1980:G:O2'	35:YA:1982:C:OP2	2.22	0.58
35:YA:2816:C:O2	35:YA:2883:A:O2'	2.21	0.58
9:XI:18:PHE:O	9:XI:61:ALA:HA	2.04	0.57
55:YZ:9:TYR:HE2	55:YZ:61:LEU:HD23	1.67	0.57
30:R5:3:LYS:HE3	35:RA:2577:A:H5'	1.87	0.57
34:R9:11:CYS:HB2	34:R9:13:LYS:H	1.69	0.57
35:RA:2680:C:H5'	38:RE:189:PRO:HA	1.85	0.57
41:RH:54:ARG:CD	41:RH:61:HIS:HB2	2.30	0.57
48:RS:24:LEU:HB2	48:RS:85:VAL:HG12	1.86	0.57
1:XA:618:C:H5'	1:XA:619:U:H5''	1.85	0.57
2:XB:19:HIS:O	2:XB:39:ILE:HD13	2.04	0.57
10:XJ:25:GLU:HA	10:XJ:28:ARG:HG2	1.85	0.57
22:XV:76:A:O3'	35:YA:2602:A:N6	2.38	0.57
22:XW:16:C:H4'	22:XW:60:U:H4'	1.86	0.57
24:XZ:59:ARG:HA	24:XZ:65:ARG:HD3	1.85	0.57
35:YA:2299:G:OP1	40:YG:75:LYS:NZ	2.37	0.57
12:QL:47:LYS:HB3	12:QL:48:PRO:HD3	1.86	0.57
13:QM:3:ARG:HA	13:QM:7:VAL:O	2.04	0.57
35:RA:1266:G:O5'	52:RW:15:ARG:NH2	2.36	0.57
1:XA:925:G:H1	1:XA:1391:U:H3	1.50	0.57
2:XB:54:THR:HG22	2:XB:58:ILE:HD11	1.87	0.57
26:Y1:50:ARG:HG2	26:Y1:59:THR:HG23	1.85	0.57
28:Y3:29:ARG:NH2	35:YA:932:G:OP2	2.36	0.57
40:YG:77:ILE:HB	40:YG:82:LEU:CD1	2.30	0.57
21:QU:12:LYS:HB2	21:QU:22:ARG:HD3	1.84	0.57
24:QY:44:LYS:HD2	24:QY:59:ARG:NH1	2.15	0.57
48:RS:78:LEU:HD11	48:RS:107:GLU:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:33:VAL:HG13	5:XE:112:LEU:HD12	1.85	0.57
24:XZ:48:LEU:CD1	24:XZ:52:LEU:CG	2.83	0.57
38:YE:143:ASN:HB2	38:YE:147:PRO:HD2	1.87	0.57
39:RF:185:ASP:OD1	39:RF:188:ARG:NH1	2.36	0.57
51:RV:39:LEU:HD12	51:RV:47:VAL:HG22	1.85	0.57
2:XB:217:ARG:HH11	2:XB:217:ARG:CG	2.13	0.57
29:Y4:58:ARG:CG	29:Y4:59:PHE:H	2.18	0.57
41:YH:5:GLY:HA2	41:YH:69:ARG:HG3	1.85	0.57
24:QY:17:GLN:HG2	24:QY:24:VAL:HG11	1.87	0.57
40:RG:17:PRO:HA	40:RG:20:ILE:HD12	1.87	0.57
2:XB:87:ARG:NH2	2:XB:220:ASP:OD2	2.37	0.57
20:XT:65:LYS:HA	20:XT:68:LYS:HG3	1.85	0.57
32:Y7:11:LYS:HE2	35:YA:686:G:H5''	1.85	0.57
45:YP:94:GLU:HG3	45:YP:124:LYS:HB3	1.87	0.57
2:QB:21:ARG:HB3	2:QB:39:ILE:HD13	1.86	0.57
24:XY:7:GLU:OE2	24:XZ:35:ARG:HD3	2.05	0.57
51:YV:58:VAL:HG13	51:YV:100:ARG:HH12	1.70	0.57
1:QA:1351:U:H3	1:QA:1371:G:H1	1.52	0.57
24:QZ:60:ILE:HD11	24:QZ:66:LEU:HD13	1.87	0.57
35:RA:918:A:N3	36:RB:80:U:O2'	2.36	0.57
55:RZ:45:ASP:O	55:RZ:49:ARG:HG3	2.04	0.57
41:YH:28:GLY:HA3	41:YH:79:VAL:HB	1.85	0.57
40:RG:113:ARG:HH12	40:RG:142:PRO:HA	1.68	0.57
41:RH:24:VAL:HG21	41:RH:72:ILE:CD1	2.34	0.57
48:YS:105:ALA:HB1	48:YS:110:LEU:HD23	1.87	0.57
1:QA:413:G:N2	1:QA:429:U:OP2	2.37	0.57
1:QA:1224:G:O2'	1:QA:1322:C:OP1	2.22	0.57
7:QG:69:VAL:HA	7:QG:138:LYS:CE	2.35	0.57
13:QM:102:ARG:HH21	13:QM:104:ARG:HD2	1.70	0.57
35:RA:10:G:N2	35:RA:2802:G:OP1	2.38	0.57
37:YD:17:THR:HB	37:YD:205:VAL:H	1.69	0.57
40:YG:118:ARG:HD2	40:YG:118:ARG:O	2.05	0.57
45:YP:65:ARG:O	45:YP:68:GLN:NE2	2.38	0.57
50:YU:92:ARG:CD	51:YV:11:GLN:CB	2.75	0.57
13:QM:65:LYS:HB2	13:QM:69:GLU:HG3	1.86	0.56
14:QN:26:ARG:HH21	14:QN:47:LEU:HD21	1.70	0.56
35:RA:84:A:N6	35:RA:102:G:O2'	2.38	0.56
41:RH:58:GLU:HB2	41:RH:61:HIS:CG	2.40	0.56
1:XA:1534:A:N1	23:XX:10:G:C6	2.72	0.56
2:XB:16:HIS:O	2:XB:17:PHE:CD2	2.58	0.56
35:RA:300:A:OP1	54:RY:86:ARG:NH2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RE:181:LEU:HD11	49:RT:7:ILE:HD12	1.87	0.56
40:RG:11:TYR:HA	40:RG:15:VAL:HG23	1.87	0.56
1:XA:673:G:H2'	1:XA:674:G:C8	2.40	0.56
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.52	0.56
1:QA:1231:G:O3'	9:QI:126:SER:OG	2.22	0.56
16:QP:17:TYR:HE1	16:QP:41:PRO:HG3	1.71	0.56
35:RA:2141:G:H1	35:RA:2150:U:H3	1.53	0.56
42:RI:109:ILE:HG23	42:RI:130:TYR:CZ	2.40	0.56
55:RZ:33:LEU:HD12	55:RZ:34:ASN:H	1.70	0.56
11:XK:41:THR:HG21	11:XK:71:LYS:HB3	1.86	0.56
29:Y4:14:ILE:HB	29:Y4:22:ILE:HB	1.88	0.56
41:YH:61:HIS:HD2	41:YH:64:LEU:HD12	1.71	0.56
42:RI:72:LEU:HD11	42:RI:101:LEU:HD11	1.88	0.56
25:Y0:46:LYS:HG2	25:Y0:47:PRO:HD2	1.87	0.56
30:Y5:16:ARG:NH2	35:YA:517:C:OP1	2.37	0.56
35:YA:2467:C:O2	46:YQ:124:LYS:NZ	2.38	0.56
4:QD:85:LYS:HG2	4:QD:92:VAL:HG11	1.88	0.56
41:RH:8:PRO:HD2	41:RH:69:ARG:CZ	2.35	0.56
35:YA:996:A:OP2	50:YU:92:ARG:NH2	2.27	0.56
35:YA:1266:G:O5'	52:YW:15:ARG:NH2	2.38	0.56
24:QY:44:LYS:NZ	24:QY:59:ARG:HH12	2.03	0.56
42:RI:113:ARG:HG3	42:RI:113:ARG:O	2.06	0.56
5:XE:15:ARG:HD2	5:XE:26:PHE:CG	2.41	0.56
10:XJ:6:ILE:O	10:XJ:71:LEU:HA	2.06	0.56
24:XZ:48:LEU:HD13	24:XZ:52:LEU:CG	2.35	0.56
35:YA:336:C:O2'	54:YY:35:TYR:OH	2.23	0.56
46:YQ:48:GLU:HG3	46:YQ:51:ARG:HE	1.70	0.56
5:QE:42:GLY:HA3	5:QE:66:MET:HG2	1.86	0.56
8:QH:51:VAL:HG11	8:QH:60:ARG:HH21	1.70	0.56
12:QL:53:ARG:HG3	12:QL:93:LEU:HD21	1.88	0.56
15:QO:7:GLU:HA	15:QO:10:LYS:HG2	1.86	0.56
25:R0:60:PHE:HE1	25:R0:62:LEU:CD2	2.19	0.56
38:RE:61:ARG:N	38:RE:62:PRO:HD2	2.21	0.56
42:RI:136:VAL:HG13	42:RI:136:VAL:O	2.04	0.56
38:YE:23:VAL:HG12	38:YE:185:LYS:HA	1.86	0.56
51:YV:37:VAL:HG11	51:YV:40:LEU:HG	1.88	0.56
1:QA:1178:G:N2	1:QA:1181:G:N7	2.54	0.56
41:RH:17:VAL:HG23	41:RH:45:VAL:HG11	1.88	0.56
43:RN:95:PRO:O	43:RN:97:ARG:N	2.39	0.56
48:RS:66:ALA:CB	48:RS:97:ARG:HB2	2.36	0.56
55:RZ:6:LYS:HG3	55:RZ:8:TYR:HE1	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:91:ARG:NE	17:XQ:32:TYR:O	2.36	0.56
13:XM:102:ARG:HE	13:XM:105:THR:HG22	1.71	0.56
25:Y0:77:ARG:NH2	35:YA:857:C:OP2	2.38	0.56
35:YA:2305:A:H5''	40:YG:134:GLY:HA3	1.88	0.56
39:YF:198:ALA:HA	39:YF:201:VAL:HG22	1.87	0.56
8:QH:9:MET:HG3	8:QH:26:VAL:HG21	1.88	0.56
10:QJ:6:ILE:HD12	10:QJ:98:ILE:N	2.20	0.56
29:R4:31:ILE:HD12	40:RG:142:PRO:HB2	1.88	0.56
35:RA:1649:G:O2'	47:RR:107:ASP:OD1	2.21	0.56
41:RH:70:THR:HG23	41:RH:70:THR:O	2.05	0.56
54:RY:44:ILE:HG12	54:RY:64:GLU:HG2	1.87	0.56
1:XA:1302:U:O4	13:XM:14:ARG:NH1	2.39	0.56
35:YA:993:G:OP1	50:YU:50:ARG:NH2	2.36	0.56
35:YA:2572:A:H62	38:YE:145:LYS:HE2	1.71	0.56
40:YG:32:PRO:HB2	40:YG:172:LEU:HD12	1.87	0.56
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.71	0.56
10:QJ:76:ASN:ND2	10:QJ:78:ASN:HD22	2.04	0.56
41:RH:68:THR:HA	41:RH:71:LEU:HD21	1.87	0.56
24:XZ:48:LEU:HB2	24:XZ:52:LEU:HB3	1.88	0.56
26:Y1:3:LYS:NZ	35:YA:1364:G:OP1	2.32	0.56
35:RA:1728:G:H8	35:RA:1732:A:H62	1.54	0.55
35:RA:2393:A:H4'	45:RP:62:LEU:H	1.70	0.55
38:RE:17:ASP:O	38:RE:19:ARG:N	2.38	0.55
1:XA:1256:A:OP2	3:XC:26:LYS:NZ	2.38	0.55
3:XC:74:GLY:HA2	3:XC:77:ILE:HG12	1.87	0.55
14:XN:23:ARG:NH1	14:XN:28:GLY:O	2.38	0.55
32:Y7:24:THR:HG23	32:Y7:27:GLY:H	1.70	0.55
35:YA:2495:G:H5''	46:YQ:82:ARG:HG2	1.88	0.55
1:QA:1014:A:H4'	19:QS:14:HIS:CE1	2.41	0.55
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.39	0.55
35:RA:2130:U:O2	35:RA:2133:G:O2'	2.24	0.55
37:RD:85:ASP:OD2	37:RD:88:ARG:NH1	2.40	0.55
26:Y1:53:VAL:HG21	26:Y1:94:LEU:HD11	1.88	0.55
35:YA:443:A:C6	39:YF:45:ARG:HD2	2.41	0.55
35:YA:668:G:H2'	35:YA:670:A:H62	1.71	0.55
35:YA:906:G:O2'	46:YQ:67:ARG:NH2	2.36	0.55
42:YI:92:VAL:CB	42:YI:120:ILE:HG21	2.19	0.55
7:QG:123:GLU:OE2	7:QG:133:GLY:N	2.36	0.55
40:RG:145:THR:O	40:RG:146:TYR:CG	2.60	0.55
41:RH:68:THR:HA	41:RH:71:LEU:CD2	2.36	0.55
46:RQ:134:ARG:HH12	55:RZ:122:ARG:CZ	2.19	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:RV:34:GLU:HG2	51:RV:56:SER:HB3	1.88	0.55
2:XB:209:ARG:NH2	2:XB:238:LEU:O	2.39	0.55
35:YA:1678:G:N2	35:YA:1990:C:O2	2.40	0.55
41:YH:88:LEU:HD12	41:YH:88:LEU:O	2.06	0.55
55:YZ:57:ILE:O	55:YZ:69:THR:OG1	2.22	0.55
5:QE:43:LEU:O	5:QE:65:ASN:ND2	2.40	0.55
25:R0:23:VAL:HG21	35:RA:857:C:H4'	1.89	0.55
25:R0:55:ARG:NH2	35:RA:2364:C:OP1	2.38	0.55
35:RA:307:G:H21	35:RA:330:A:H62	1.54	0.55
35:RA:2795:G:H21	35:RA:2801:A:H62	1.55	0.55
24:XY:1:MET:HE2	24:XY:35:ARG:HA	1.88	0.55
24:XZ:59:ARG:CZ	24:XZ:65:ARG:NH2	2.70	0.55
51:YV:29:PRO:HB3	51:YV:63:GLY:HA2	1.88	0.55
1:QA:967:C:H4'	9:QI:125:TYR:HE1	1.72	0.55
9:QI:42:ARG:NH1	9:QI:71:SER:OG	2.40	0.55
13:XM:49:THR:HG22	13:XM:51:ALA:H	1.70	0.55
14:XN:34:TYR:CE2	14:XN:44:LEU:CD1	2.90	0.55
33:Y8:12:LYS:NZ	35:YA:249:C:O2	2.36	0.55
44:YO:80:ASP:OD2	49:YT:64:ARG:NH2	2.39	0.55
11:QK:127:LYS:HG2	23:QX:9:G:H3'	1.89	0.55
35:RA:577:G:O2'	35:RA:1254:A:OP1	2.23	0.55
55:RZ:58:VAL:HA	55:RZ:68:PRO:HA	1.87	0.55
1:XA:582:U:OP2	1:XA:758:G:N1	2.26	0.55
2:XB:9:GLU:HB3	2:XB:48:MET:CE	2.36	0.55
20:XT:60:GLU:HB2	20:XT:81:LYS:HD2	1.89	0.55
51:YV:62:LEU:HD21	51:YV:95:LEU:HB2	1.89	0.55
55:YZ:13:GLU:HB3	55:YZ:18:LEU:HD21	1.87	0.55
1:QA:673:G:H2'	1:QA:674:G:C8	2.41	0.55
2:QB:22:LYS:HD3	2:QB:40:HIS:NE2	2.21	0.55
2:QB:136:VAL:HG23	2:QB:139:LYS:HB2	1.89	0.55
10:QJ:6:ILE:HD13	10:QJ:99:LYS:H	1.72	0.55
44:RO:80:ASP:OD2	49:RT:64:ARG:NH2	2.40	0.55
1:XA:280:C:N4	17:XQ:91:ARG:HH12	2.05	0.55
12:XL:53:ARG:NH1	12:XL:92:ASP:OD1	2.40	0.55
15:XO:7:GLU:HA	15:XO:10:LYS:HD2	1.89	0.55
33:Y8:57:ARG:NE	45:YP:48:PRO:O	2.38	0.55
37:YD:153:ALA:O	37:YD:157:ARG:NH2	2.36	0.55
43:YN:21:LYS:HD3	43:YN:138:LEU:CD2	2.36	0.55
1:QA:1065:U:O5'	1:QA:1190:G:N2	2.40	0.55
2:QB:209:ARG:NH2	2:QB:239:VAL:HG22	2.21	0.55
3:QC:88:ARG:HB3	3:QC:99:VAL:HG11	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:82:ALA:HA	9:QI:85:LEU:HD12	1.89	0.55
40:RG:138:GLN:HB3	40:RG:153:ARG:O	2.07	0.55
1:XA:1247:U:H3	1:XA:1290:G:H1	1.54	0.55
55:YZ:103:ARG:HG3	55:YZ:136:PHE:HB2	1.88	0.55
12:QL:60:LEU:HD12	12:QL:62:SER:H	1.72	0.55
35:RA:994:C:OP1	50:RU:53:ARG:NH1	2.40	0.55
35:RA:1667:G:O2'	35:RA:1669:A:N6	2.39	0.55
40:RG:15:VAL:HG13	40:RG:175:LEU:CB	2.36	0.55
55:RZ:24:LEU:HB2	55:RZ:41:LEU:HB3	1.88	0.55
5:XE:139:LEU:HA	5:XE:142:LEU:HD12	1.89	0.55
2:QB:93:VAL:HG21	2:QB:97:TRP:HD1	1.71	0.55
13:QM:10:PRO:N	13:QM:10:PRO:C	2.55	0.55
28:R3:7:LYS:HE3	28:R3:32:GLN:HA	1.88	0.55
35:RA:607:U:H3	35:RA:621:A:H2	1.54	0.55
48:RS:30:ARG:CG	48:RS:97:ARG:HH21	2.20	0.55
55:RZ:67:LEU:HD12	55:RZ:90:VAL:HG21	1.87	0.55
1:XA:946:A:H2'	1:XA:947:G:C8	2.41	0.55
1:XA:1238:A:C8	1:XA:1301:U:O4	2.59	0.55
11:XK:24:SER:HG	11:XK:27:ASN:H	1.54	0.55
1:QA:186(B):C:H2'	1:QA:186(C):G:H8	1.72	0.54
1:QA:474:G:OP2	16:QP:75:ARG:NH1	2.32	0.54
41:RH:52:VAL:O	41:RH:69:ARG:NH2	2.40	0.54
42:RI:14:ASP:O	42:RI:16:GLY:N	2.36	0.54
54:RY:102:CYS:SG	54:RY:103:GLY:N	2.80	0.54
9:XI:46:ALA:HA	9:XI:78:LYS:HB3	1.87	0.54
42:YI:91:SER:OG	42:YI:119:PRO:CB	2.56	0.54
42:RI:123:LEU:HD23	42:RI:144:VAL:CG1	2.37	0.54
48:RS:11:LYS:HG3	48:RS:91:PRO:HD3	1.89	0.54
1:XA:455:C:H42	1:XA:477:G:H1	1.55	0.54
24:XY:4:ILE:HD11	24:XY:74:SER:HB2	1.88	0.54
35:YA:338:G:OP1	54:YY:4:LYS:NZ	2.39	0.54
51:YV:1:MET:HA	51:YV:42:GLY:HA3	1.89	0.54
1:QA:689:C:H3'	1:QA:690:G:H21	1.71	0.54
19:QS:10:PHE:HE1	19:QS:16:LEU:HD13	1.70	0.54
35:RA:2100:G:H1	35:RA:2189:U:H3	1.54	0.54
44:RO:22:ILE:HD11	44:RO:42:SER:HB2	1.90	0.54
46:RQ:109:VAL:HG12	46:RQ:113:GLN:HG3	1.89	0.54
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.89	0.54
1:QA:1312:G:H5'	19:QS:5:LEU:HD21	1.89	0.54
9:QI:27:THR:O	9:QI:27:THR:OG1	2.23	0.54
13:QM:40:ASN:OD1	13:QM:41:PRO:HD2	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R0:24:LYS:HG3	35:RA:2355:C:H4'	1.88	0.54
27:R2:22:GLU:HG2	27:R2:64:LEU:HD11	1.89	0.54
41:RH:14:GLY:O	41:RH:16:SER:OG	2.26	0.54
45:RP:96:THR:HA	45:RP:126:VAL:HG22	1.88	0.54
4:XD:17:VAL:HG21	4:XD:63:LYS:HD2	1.89	0.54
38:YE:53:PRO:HA	38:YE:75:VAL:HG12	1.90	0.54
52:YW:4:LYS:HE2	52:YW:6:ILE:HD11	1.89	0.54
4:QD:65:ARG:HD3	4:QD:72:GLU:OE1	2.08	0.54
11:QK:62:GLN:HB3	11:QK:93:GLN:HG2	1.89	0.54
13:QM:31:LYS:O	13:QM:34:LEU:N	2.40	0.54
30:R5:48:GLU:HA	30:R5:60:VAL:HG11	1.89	0.54
35:RA:956:G:OP2	46:RQ:14:ARG:NH2	2.40	0.54
35:RA:1139:G:H21	35:RA:1143:A:H8	1.56	0.54
35:RA:2135:A:H62	35:RA:2156:G:H21	1.55	0.54
35:RA:2306:C:N4	40:RG:42:GLY:O	2.40	0.54
1:XA:279:A:OP2	17:XQ:95:TYR:OH	2.25	0.54
1:XA:1239:A:O2'	7:XG:114:ARG:O	2.22	0.54
1:XA:1299:A:N6	1:XA:1301:U:N3	2.52	0.54
4:XD:98:GLU:OE1	4:XD:103:ASN:ND2	2.41	0.54
6:XF:46:ARG:HD3	6:XF:60:PHE:CD2	2.42	0.54
55:YZ:133:ILE:HD12	55:YZ:133:ILE:O	2.06	0.54
3:QC:14:ILE:HD11	3:QC:178:LEU:HD22	1.89	0.54
17:QQ:17:LYS:NZ	17:QQ:47:PRO:O	2.39	0.54
35:RA:481:G:O2'	35:RA:506:G:N2	2.41	0.54
51:RV:62:LEU:HD11	51:RV:95:LEU:HG	1.89	0.54
35:YA:2141:G:O6	35:YA:2150:U:O4	2.24	0.54
49:YT:129:ARG:HG3	49:YT:132:LYS:CE	2.36	0.54
53:YX:53:LYS:NZ	53:YX:55:ASN:OD1	2.40	0.54
1:QA:861:G:HO2'	1:QA:874:G:HO2'	1.56	0.54
8:QH:87:SER:O	8:QH:87:SER:OG	2.22	0.54
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.73	0.54
35:RA:24:G:O2'	52:RW:78:GLU:O	2.23	0.54
11:XK:62:GLN:HB3	11:XK:93:GLN:HG3	1.90	0.54
34:Y9:19:ARG:HG2	35:YA:2756:U:H5''	1.88	0.54
55:YZ:157:LEU:HG	55:YZ:161:VAL:HG23	1.88	0.54
3:QC:35:GLU:CB	3:QC:35:GLU:CD	2.72	0.54
24:QZ:34:THR:CG2	24:QZ:68:TYR:CE1	2.91	0.54
29:R4:42:PHE:O	29:R4:42:PHE:HD1	1.91	0.54
35:RA:372:G:HO2'	35:RA:400:G:H1	1.53	0.54
35:RA:1693:U:O2	37:RD:14:ARG:NH1	2.40	0.54
37:RD:121:PRO:HB3	37:RD:135:PHE:HE2	1.69	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:RF:143:ALA:HB1	39:RF:148:LEU:HB2	1.89	0.54
42:RI:62:LYS:HG3	42:RI:133:HIS:CE1	2.43	0.54
4:XD:20:TYR:CD2	4:XD:26:CYS:HB3	2.37	0.54
24:XY:7:GLU:OE2	24:XZ:35:ARG:CD	2.55	0.54
35:YA:321:G:O2'	35:YA:340:A:N3	2.41	0.54
35:YA:2141:G:N2	35:YA:2150:U:O2	2.34	0.54
41:YH:54:ARG:HB3	41:YH:65:HIS:ND1	2.22	0.54
47:YR:22:ARG:O	47:YR:26:LYS:HG2	2.07	0.54
7:QG:89:MET:SD	7:QG:155:ARG:HB2	2.48	0.54
9:QI:105:ASP:CG	9:QI:107:ARG:HE	2.11	0.54
24:QZ:26:LYS:O	24:QZ:30:LEU:HD12	2.08	0.54
24:QZ:44:LYS:HE2	24:QZ:59:ARG:HD3	1.89	0.54
35:RA:1286:A:O2'	35:RA:1288:U:OP2	2.23	0.54
35:RA:1857:G:N2	35:RA:1885:A:H62	2.03	0.54
44:RO:112:MET:HA	44:RO:115:VAL:HG22	1.89	0.54
1:XA:254:G:O2'	17:XQ:16:GLN:O	2.24	0.54
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.43	0.54
35:YA:1011:G:OP2	50:YU:66:ASN:ND2	2.40	0.54
38:YE:36:ARG:NH2	38:YE:89:ASP:OD2	2.38	0.54
2:QB:209:ARG:HH22	2:QB:237:ALA:N	2.05	0.54
7:QG:60:LYS:HE3	7:QG:63:LYS:HD2	1.89	0.54
13:QM:65:LYS:NZ	29:R4:52:THR:OG1	2.40	0.54
35:RA:2853:C:H2'	35:RA:2854:G:H8	1.72	0.54
42:RI:81:VAL:HG21	42:RI:88:ILE:HD11	1.90	0.54
49:RT:50:ILE:HD11	49:RT:100:TYR:HA	1.88	0.54
55:RZ:152:ALA:HB3	55:RZ:167:PRO:HA	1.89	0.54
2:XB:101:MET:HA	2:XB:108:ILE:HG13	1.90	0.54
35:YA:2445:G:OP1	39:YF:74:ARG:NH1	2.39	0.54
25:R0:74:ARG:NH2	36:RB:12:C:N3	2.56	0.53
35:YA:583:G:OP2	50:YU:10:ARG:NH1	2.39	0.53
35:YA:2291:U:O2'	35:YA:2374:C:O2	2.25	0.53
41:YH:10:PRO:N	41:YH:10:PRO:C	2.57	0.53
1:QA:254:G:O2'	17:QQ:16:GLN:O	2.25	0.53
1:QA:878:G:H5'	8:QH:89:PRO:HG2	1.90	0.53
2:QB:73:THR:OG1	2:QB:170:GLU:OE1	2.21	0.53
19:QS:44:MET:O	19:QS:47:HIS:ND1	2.32	0.53
26:R1:51:VAL:HG11	26:R1:74:VAL:HG21	1.90	0.53
37:RD:146:GLU:HB2	37:RD:189:CYS:HB3	1.90	0.53
41:RH:149:ARG:HH21	41:RH:154:PRO:HB2	1.73	0.53
27:Y2:40:SER:OG	27:Y2:41:ILE:N	2.40	0.53
35:YA:1035:U:OP1	41:YH:59:ARG:NE	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:1667:G:O2'	35:YA:1669:A:N6	2.41	0.53
38:YE:14:ILE:CD1	38:YE:173:VAL:HG11	2.38	0.53
41:YH:54:ARG:HH21	41:YH:57:ASP:HA	1.72	0.53
9:QI:128:ARG:NH2	22:QV:33:U:OP2	2.39	0.53
12:QL:47:LYS:CB	12:QL:48:PRO:CD	2.85	0.53
25:R0:48:GLY:O	25:R0:80:HIS:ND1	2.42	0.53
35:RA:958:U:OP2	46:RQ:14:ARG:NH1	2.41	0.53
35:RA:1105:U:H2'	35:RA:1106:G:H8	1.73	0.53
43:RN:22:THR:HG23	43:RN:62:VAL:HG23	1.89	0.53
1:XA:728:A:N6	15:XO:54:ARG:CD	2.71	0.53
3:XC:164:ARG:NH1	3:XC:166:GLU:OE2	2.42	0.53
55:YZ:67:LEU:HD22	55:YZ:90:VAL:HG11	1.90	0.53
10:QJ:54:PHE:CD2	10:QJ:55:LYS:HB3	2.43	0.53
13:QM:45:VAL:HA	13:QM:48:LEU:HG	1.89	0.53
35:RA:1080:C:N4	35:RA:1088:A:OP1	2.41	0.53
40:RG:117:PHE:HD2	40:RG:117:PHE:O	1.92	0.53
1:XA:599:C:O2'	8:XH:129:VAL:O	2.24	0.53
2:XB:6:THR:CG2	2:XB:7:VAL:N	2.67	0.53
20:XT:19:SER:O	20:XT:23:ARG:HB2	2.09	0.53
20:XT:50:GLU:HB2	20:XT:99:LEU:HD11	1.89	0.53
35:YA:1817:G:OP1	37:YD:88:ARG:NH1	2.40	0.53
3:QC:65:ALA:HA	3:QC:100:ALA:HB3	1.88	0.53
32:R7:47:ARG:HH12	53:RX:60:ARG:HH12	1.57	0.53
35:RA:807:U:O2'	35:RA:2060:A:N1	2.39	0.53
35:RA:1111:A:O2'	41:RH:2:SER:O	2.25	0.53
35:RA:2209:C:O2'	35:RA:2211:G:N2	2.42	0.53
40:RG:49:ASP:HB3	40:RG:52:ILE:HG22	1.91	0.53
41:RH:61:HIS:O	41:RH:65:HIS:HB2	2.09	0.53
48:RS:14:VAL:O	48:RS:18:ILE:HG12	2.08	0.53
33:Y8:64:TYR:HH	35:YA:592:G:HO2'	1.55	0.53
35:YA:993:G:N3	51:YV:89:GLN:NE2	2.55	0.53
35:YA:2296:U:OP2	48:YS:9:ARG:NH1	2.41	0.53
54:YY:14:LEU:HB2	54:YY:75:ILE:HD11	1.91	0.53
40:RG:16:ARG:O	40:RG:20:ILE:HG13	2.09	0.53
46:RQ:35:VAL:HG22	46:RQ:102:VAL:HA	1.90	0.53
2:XB:19:HIS:HB2	2:XB:204:ASN:ND2	2.23	0.53
3:XC:42:LEU:HD23	3:XC:43:LEU:HD23	1.90	0.53
7:XG:26:PHE:O	7:XG:30:ILE:HG12	2.08	0.53
9:QI:19:LEU:CG	9:QI:59:PHE:HE1	2.11	0.53
19:QS:52:TYR:CD2	19:QS:57:HIS:CG	2.97	0.53
24:QY:44:LYS:NZ	24:QY:59:ARG:HH11	1.94	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RD:77:ALA:HA	37:RD:97:TYR:HA	1.89	0.53
1:XA:714:G:H2'	1:XA:715:A:C8	2.44	0.53
12:XL:46:LYS:HG2	12:XL:47:LYS:N	2.24	0.53
39:YF:148:LEU:HD11	39:YF:193:VAL:HG21	1.91	0.53
48:YS:89:ARG:HH22	48:YS:93:LYS:HA	1.74	0.53
50:YU:90:VAL:HG12	50:YU:91:ASP:H	1.74	0.53
50:YU:91:ASP:O	50:YU:95:LEU:N	2.42	0.53
55:YZ:144:LEU:HD11	55:YZ:150:LEU:HD23	1.91	0.53
1:QA:993:G:H2'	1:QA:995:C:H41	1.74	0.53
2:QB:84:GLU:HB3	2:QB:219:VAL:HG11	1.90	0.53
2:QB:164:VAL:O	2:QB:186:ALA:HA	2.08	0.53
13:QM:8:GLU:C	13:QM:10:PRO:CD	2.64	0.53
35:RA:1568:G:OP2	37:RD:63:ARG:NH2	2.42	0.53
43:RN:54:VAL:HB	43:RN:122:VAL:HG22	1.90	0.53
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.25	0.53
2:XB:9:GLU:HB3	2:XB:48:MET:HE1	1.90	0.53
19:XS:11:VAL:HG12	19:XS:13:ASP:N	2.21	0.53
35:YA:2162:G:O2'	35:YA:2173:A:OP2	2.23	0.53
39:YF:185:ASP:OD1	39:YF:188:ARG:NH1	2.42	0.53
41:YH:4:ILE:HG22	41:YH:69:ARG:HD2	1.90	0.53
41:YH:101:ARG:NH2	41:YH:116:GLU:OE1	2.42	0.53
54:YY:83:THR:HG21	54:YY:99:CYS:SG	2.49	0.53
1:QA:700:G:H4'	1:QA:704:A:H1'	1.89	0.53
4:QD:32:ALA:HA	4:QD:35:ARG:HB2	1.90	0.53
35:RA:2484:G:H1'	46:RQ:124:LYS:HD2	1.91	0.53
41:RH:91:GLY:HA3	41:RH:94:TYR:HB2	1.90	0.53
50:RU:86:ALA:HB3	50:RU:88:ILE:HD12	1.90	0.53
2:XB:6:THR:HG22	2:XB:7:VAL:HG13	1.91	0.53
2:XB:60:ASP:CG	2:XB:64:ARG:HH12	2.11	0.53
9:XI:86:VAL:HG21	9:XI:102:LEU:HD11	1.91	0.53
22:XV:63:G:OP1	25:Y0:11:ARG:NH2	2.41	0.53
35:YA:226:G:H21	35:YA:228:A:H62	1.57	0.53
39:YF:50:SER:HB2	39:YF:94:PRO:HD3	1.90	0.53
55:YZ:146:ILE:HA	55:YZ:174:VAL:HG13	1.90	0.53
1:QA:1221:G:H5''	1:QA:1321:C:H42	1.74	0.53
35:RA:1681:G:O2'	35:RA:1762:A:O2'	2.27	0.53
35:RA:2012:G:OP1	52:RW:11:ARG:NH2	2.42	0.53
37:RD:132:PRO:HG3	37:RD:190:TYR:CE1	2.44	0.53
42:RI:126:TYR:O	42:RI:140:LEU:O	2.25	0.53
1:XA:1534:A:C6	23:XX:10:G:O6	2.62	0.53
13:QM:87:TYR:H	19:QS:73:GLU:HB3	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:QZ:12:ASP:HB3	24:QZ:80:CYS:SG	2.47	0.52
35:RA:2572:A:OP1	35:RA:2574:G:O2'	2.26	0.52
42:RI:9:LEU:H	42:RI:9:LEU:CD2	2.22	0.52
1:XA:56:U:H2'	1:XA:57:G:H8	1.72	0.52
9:XI:9:ARG:HG2	9:XI:14:VAL:HG12	1.91	0.52
35:YA:1254:A:H5''	35:YA:1255:U:H5'	1.90	0.52
5:QE:93:PRO:HG2	8:QH:105:ARG:HE	1.74	0.52
17:QQ:66:SER:OG	17:QQ:69:LYS:HB3	2.09	0.52
22:QW:50:U:H3	22:QW:64:G:H1	1.56	0.52
29:R4:6:HIS:CD2	40:RG:66:GLN:HA	2.44	0.52
35:RA:974:G:O2'	35:RA:975:G:N7	2.32	0.52
35:RA:2328:A:H2'	35:RA:2329:G:C8	2.44	0.52
48:RS:66:ALA:HB2	48:RS:97:ARG:HB2	1.91	0.52
1:XA:954:G:H21	1:XA:1227:A:H62	1.55	0.52
1:XA:1098:C:OP2	2:XB:144:ARG:NH1	2.42	0.52
1:XA:1224:G:O2'	19:XS:78:ARG:NH2	2.43	0.52
10:XJ:51:ARG:H	10:XJ:60:ARG:HA	1.74	0.52
13:XM:53:VAL:CG1	13:XM:57:ARG:HH12	2.13	0.52
35:YA:1105:U:H2'	35:YA:1106:G:H8	1.75	0.52
35:YA:2287:A:H62	35:YA:2344:U:H3	1.57	0.52
38:YE:34:VAL:HG11	38:YE:78:LEU:HD21	1.91	0.52
1:QA:578:C:O2'	1:QA:728:A:N3	2.39	0.52
9:QI:46:ALA:HA	9:QI:78:LYS:HB2	1.90	0.52
10:QJ:7:LYS:HB3	10:QJ:71:LEU:CD1	2.37	0.52
35:RA:221:A:N1	35:RA:265:A:O2'	2.41	0.52
35:RA:581:C:H2'	35:RA:582:G:H8	1.74	0.52
35:RA:698:C:O2'	35:RA:734:A:N6	2.41	0.52
52:RW:24:ILE:HG22	52:RW:35:ILE:HD11	1.92	0.52
53:RX:57:LEU:HD11	53:RX:78:LYS:HD2	1.90	0.52
1:XA:127:G:O2'	17:XQ:2:PRO:O	2.27	0.52
49:YT:51:ARG:HG2	49:YT:98:LYS:HE2	1.90	0.52
50:YU:97:ASP:OD2	50:YU:101:ARG:NH1	2.42	0.52
1:QA:1111:A:N1	3:QC:177:THR:HG22	2.25	0.52
4:QD:152:SER:HA	4:QD:155:LEU:HD23	1.92	0.52
35:RA:442:G:H1'	39:RF:48:THR:HG21	1.92	0.52
35:RA:2100:G:O6	35:RA:2189:U:O4	2.27	0.52
35:RA:2688:U:OP1	35:RA:2713:A:N6	2.42	0.52
37:RD:75:ILE:O	37:RD:118:VAL:HG22	2.09	0.52
41:RH:6:ARG:HB2	41:RH:65:HIS:CD2	2.44	0.52
41:RH:43:VAL:HG23	41:RH:43:VAL:O	2.09	0.52
42:RI:73:GLU:O	42:RI:73:GLU:HG2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:RQ:52:VAL:O	46:RQ:56:ARG:HG2	2.10	0.52
49:RT:6:LEU:HA	49:RT:9:LEU:HB2	1.91	0.52
49:RT:105:LEU:HD12	49:RT:109:GLU:HG3	1.91	0.52
1:XA:1003:G:H3'	1:XA:1004:A:H8	1.73	0.52
2:XB:75:LYS:HA	2:XB:78:GLN:HG3	1.91	0.52
20:XT:58:LYS:HA	20:XT:61:SER:OG	2.10	0.52
24:XZ:28:ASN:HB3	24:XZ:32:LYS:HE3	1.91	0.52
46:YQ:140:ALA:HA	55:YZ:53:ILE:HD11	1.91	0.52
5:QE:110:LEU:HD13	5:QE:118:ILE:HG21	1.90	0.52
27:R2:65:ASN:ND2	35:RA:72:U:O4	2.43	0.52
39:RF:89:VAL:HG13	39:RF:90:PHE:H	1.75	0.52
40:RG:111:LEU:HB3	40:RG:117:PHE:CZ	2.44	0.52
43:RN:103:VAL:HG21	43:RN:120:LEU:HD22	1.92	0.52
54:RY:68:HIS:HB3	54:RY:71:LYS:HG3	1.92	0.52
55:RZ:74:VAL:HG22	55:RZ:86:VAL:HG12	1.92	0.52
2:XB:215:LEU:O	2:XB:219:VAL:HG12	2.09	0.52
17:XQ:43:LEU:HD13	17:XQ:68:ARG:CZ	2.39	0.52
29:Y4:58:ARG:CZ	29:Y4:59:PHE:HE1	2.21	0.52
38:YE:15:PHE:H	49:YT:14:TYR:HE1	1.57	0.52
35:RA:1528:A:OP2	35:RA:1542:G:N1	2.42	0.52
37:RD:4:LYS:HE2	37:RD:18:VAL:HG13	1.90	0.52
37:RD:133:LEU:HD23	37:RD:136:ILE:HD12	1.90	0.52
49:RT:62:THR:HG22	49:RT:75:ILE:HG12	1.91	0.52
55:RZ:41:LEU:HA	55:RZ:44:PHE:HB3	1.92	0.52
29:Y4:14:ILE:HD13	29:Y4:31:ILE:HB	1.90	0.52
20:QT:76:ALA:HB1	20:QT:80:ARG:HH12	1.74	0.52
33:R8:29:LYS:O	33:R8:31:HIS:N	2.41	0.52
35:RA:1818:U:H2'	37:RD:157:ARG:HG2	1.91	0.52
47:RR:79:LEU:HA	47:RR:83:ILE:HD12	1.91	0.52
51:RV:14:VAL:HB	51:RV:96:ILE:HD13	1.91	0.52
1:XA:1182:G:H4'	1:XA:1183:A:H5'	1.91	0.52
2:XB:223:ILE:HD12	2:XB:226:ARG:HB2	1.91	0.52
9:XI:5:TYR:CE1	9:XI:16:ARG:HB2	2.42	0.52
38:YE:47:VAL:HG11	38:YE:86:PRO:HD2	1.92	0.52
55:YZ:53:ILE:H	55:YZ:53:ILE:HD12	1.73	0.52
2:QB:54:THR:HG21	2:QB:201:ILE:HG13	1.92	0.52
10:QJ:6:ILE:O	10:QJ:72:VAL:HG22	2.10	0.52
19:QS:55:LYS:HZ1	24:QZ:36:ARG:NH2	2.02	0.52
35:RA:2291:U:O2'	35:RA:2374:C:O2	2.28	0.52
35:RA:2526:G:H1	35:RA:2537:U:H3	1.58	0.52
40:RG:9:ARG:HH11	40:RG:9:ARG:CG	2.14	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RG:109:VAL:HG12	40:RG:113:ARG:HD2	1.92	0.52
49:RT:3:ARG:CA	49:RT:3:ARG:HB2	2.23	0.52
1:XA:1325:C:H4'	21:XU:17:THR:HG21	1.92	0.52
35:YA:807:U:O2'	35:YA:2060:A:N1	2.42	0.52
35:YA:1021:A:H61	35:YA:1142(A):A:H61	1.58	0.52
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.92	0.52
1:QA:1072:G:H21	2:QB:107:THR:HG21	1.74	0.52
8:QH:109:ILE:HD11	8:QH:120:THR:HB	1.90	0.52
29:R4:39:CYS:C	29:R4:41:PRO:HD3	2.30	0.52
41:RH:104:GLU:HG2	41:RH:114:VAL:HG12	1.92	0.52
38:YE:116:VAL:HG21	38:YE:138:PRO:HB3	1.92	0.52
46:YQ:104:PHE:HE2	46:YQ:125:LEU:HD11	1.75	0.52
4:QD:92:VAL:HG12	4:QD:96:LEU:HD11	1.92	0.52
8:QH:46:LYS:CG	8:QH:64:LYS:HG2	2.39	0.52
4:XD:15:GLU:OE2	4:XD:59:ARG:NH1	2.43	0.52
27:Y2:38:GLN:HB3	27:Y2:44:LEU:HB3	1.92	0.52
44:YO:1:MET:HB2	44:YO:32:TYR:HB3	1.92	0.52
46:YQ:60:ARG:HD3	55:YZ:179:ASP:OD1	2.10	0.52
35:RA:620:G:H5''	35:RA:620:G:N3	2.25	0.51
35:RA:2112:G:N2	35:RA:2169:A:C6	2.76	0.51
37:RD:96:HIS:CD2	37:RD:102:LYS:HE2	2.45	0.51
48:RS:27:SER:HA	48:RS:88:ASP:HB3	1.91	0.51
51:RV:59:ALA:HB1	51:RV:94:LEU:HB3	1.92	0.51
26:Y1:20:ARG:NH1	35:YA:387:U:OP2	2.41	0.51
35:YA:1341:U:OP2	35:YA:1394:U:O2'	2.25	0.51
3:QC:120:VAL:O	3:QC:124:ILE:HG13	2.10	0.51
19:QS:18:LYS:HE2	19:QS:22:LEU:HD21	1.92	0.51
4:XD:153:ARG:HD3	4:XD:181:MET:SD	2.49	0.51
8:XH:19:VAL:HG13	8:XH:21:LYS:HG3	1.92	0.51
10:XJ:5:ARG:NH1	10:XJ:71:LEU:HD11	2.25	0.51
18:XR:70:ILE:O	18:XR:74:ARG:HB2	2.10	0.51
23:XX:5:A:H2'	23:XX:6:G:H8	1.75	0.51
35:YA:1638:C:O2	35:YA:2698:U:O2'	2.28	0.51
22:QW:76:A:O2'	35:RA:2394:C:N3	2.43	0.51
37:RD:69:ARG:HH22	37:RD:117:VAL:HG22	1.75	0.51
39:RF:31:HIS:NE2	39:RF:35:GLU:OE1	2.44	0.51
40:RG:15:VAL:HG21	40:RG:176:LEU:HG	1.93	0.51
41:RH:87:LEU:HD22	41:RH:162:ILE:HG22	1.92	0.51
3:XC:64:VAL:HB	3:XC:99:VAL:HG22	1.92	0.51
3:XC:182:ILE:HA	3:XC:202:ILE:O	2.10	0.51
22:XW:14:A:N7	22:XW:22:G:N2	2.58	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y1:73:LEU:HD21	26:Y1:98:LEU:HG	1.93	0.51
51:YV:58:VAL:HG13	51:YV:100:ARG:NH1	2.25	0.51
42:RI:9:LEU:N	42:RI:9:LEU:HD23	2.26	0.51
49:RT:102:ILE:HA	49:RT:105:LEU:HD23	1.93	0.51
55:RZ:70:LEU:HB2	55:RZ:91:LEU:HD21	1.92	0.51
35:YA:414:C:O2	35:YA:1864:U:O2'	2.27	0.51
35:YA:1028:A:N3	35:YA:2486:G:O2'	2.43	0.51
39:YF:65:TRP:CZ2	39:YF:72:ARG:CD	2.92	0.51
2:QB:13:ALA:C	2:QB:17:PHE:HE2	2.14	0.51
2:QB:19:HIS:CE1	2:QB:206:ASP:HB2	2.46	0.51
13:QM:97:PRO:CA	13:QM:110:ARG:HD3	2.38	0.51
34:R9:27:CYS:SG	34:R9:28:GLU:N	2.83	0.51
35:RA:2684:U:O2'	44:RO:68:GLU:OE2	2.27	0.51
39:RF:28:ILE:HG23	39:RF:112:MET:HB3	1.92	0.51
40:RG:107:LEU:HA	40:RG:111:LEU:HD12	1.92	0.51
49:RT:33:LYS:HE3	49:RT:40:THR:HG21	1.92	0.51
11:XK:18:ARG:HG2	11:XK:81:ASP:HB2	1.93	0.51
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.91	0.51
35:YA:2683:C:OP1	49:YT:53:ARG:NH2	2.43	0.51
1:QA:401:C:O2'	1:QA:621:A:N3	2.39	0.51
8:QH:100:ILE:O	8:QH:125:ARG:NH2	2.43	0.51
24:QZ:36:ARG:HG3	24:QZ:37:THR:N	2.26	0.51
46:RQ:37:LEU:HD11	46:RQ:130:LYS:HB2	1.91	0.51
1:XA:1125:U:O4	10:XJ:5:ARG:NH2	2.43	0.51
5:XE:148:VAL:HG12	5:XE:149:GLU:HG3	1.91	0.51
6:XF:21:LEU:O	6:XF:25:ILE:HG13	2.11	0.51
21:XU:6:ARG:HD3	21:XU:15:ARG:NE	2.20	0.51
35:YA:2547:U:O2	44:YO:23:ARG:NH2	2.43	0.51
46:YQ:65:PHE:HB2	46:YQ:105:GLU:HB2	1.93	0.51
55:YZ:89:PHE:CE2	55:YZ:96:VAL:HG21	2.46	0.51
1:QA:422:C:O2'	1:QA:423:G:N2	2.44	0.51
13:QM:88:ARG:HB2	13:QM:98:VAL:HG13	1.91	0.51
25:R0:27:GLU:HA	25:R0:67:VAL:HG12	1.93	0.51
25:R0:60:PHE:CE2	35:RA:2365:G:H4'	2.46	0.51
29:R4:52:THR:O	29:R4:52:THR:CG2	2.52	0.51
35:RA:1067:A:N6	35:RA:1068:G:O6	2.44	0.51
1:XA:410:G:H3'	4:XD:25:ARG:HH12	1.76	0.51
1:XA:1314:C:N4	19:XS:2:PRO:O	2.43	0.51
2:XB:16:HIS:CD2	2:XB:210:SER:HB2	2.45	0.51
35:YA:1080:C:N4	35:YA:1088:A:OP1	2.43	0.51
39:YF:28:ILE:HG12	39:YF:119:ARG:NH2	2.18	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:YV:52:VAL:HG23	51:YV:55:ALA:CB	2.34	0.51
10:QJ:55:LYS:O	10:QJ:55:LYS:HG3	2.11	0.51
43:RN:16:ILE:HB	43:RN:54:VAL:HG22	1.91	0.51
1:XA:1413:A:H2	1:XA:1487:G:H22	1.58	0.51
13:XM:4:ILE:HD11	13:XM:53:VAL:HG13	1.91	0.51
13:XM:90:LEU:HA	13:XM:93:ARG:HB3	1.93	0.51
32:Y7:7:PRO:HB2	35:YA:1309:G:H4'	1.92	0.51
35:YA:2690:C:OP1	47:YR:17:ARG:NH1	2.44	0.51
40:YG:31:VAL:O	40:YG:33:ARG:NH1	2.43	0.51
49:YT:16:ARG:HE	49:YT:19:LEU:HD11	1.75	0.51
1:QA:618:C:H5'	1:QA:619:U:H5''	1.93	0.51
1:QA:1179:A:H4'	9:QI:103:THR:HA	1.92	0.51
24:QY:5:TRP:CE2	24:QZ:10:TRP:CZ3	2.98	0.51
37:RD:10:THR:OG1	37:RD:13:ARG:HG2	2.10	0.51
24:XY:5:TRP:HB3	24:XY:10:TRP:HB2	1.93	0.51
28:Y3:6:VAL:HA	28:Y3:56:VAL:HG12	1.93	0.51
35:YA:156:U:H3	35:YA:170:U:H3	1.59	0.51
35:YA:2789:C:O2'	35:YA:2893:G:N2	2.42	0.51
42:YI:109:ILE:HG23	42:YI:130:TYR:CE1	2.46	0.51
48:YS:25:ARG:NH2	48:YS:42:ASP:OD1	2.44	0.51
1:QA:56:U:H2'	1:QA:57:G:H8	1.75	0.51
35:RA:414:C:O2	35:RA:1864:U:O2'	2.27	0.51
35:RA:888:C:H4'	35:RA:889:C:C5	2.43	0.51
41:RH:95:ARG:H	41:RH:106:THR:HG1	1.58	0.51
42:RI:133:HIS:CB	42:RI:134:PRO:HD3	2.31	0.51
55:RZ:125:LEU:HG	55:RZ:164:ALA:HB3	1.92	0.51
2:XB:6:THR:HG23	2:XB:217:ARG:HD2	1.93	0.51
10:XJ:34:VAL:HG12	10:XJ:75:ILE:H	1.76	0.51
35:YA:2540:C:O2'	35:YA:2740:A:N3	2.38	0.51
1:QA:642:A:N3	8:QH:113:SER:OG	2.44	0.50
2:QB:114:ARG:HD3	2:QB:117:GLU:OE1	2.10	0.50
13:QM:14:ARG:NE	13:QM:16:ASP:OD2	2.33	0.50
49:RT:125:ARG:NH2	49:RT:128:GLU:HG3	2.25	0.50
35:YA:1799:G:H8	37:YD:181:GLU:OE1	1.94	0.50
46:YQ:78:PRO:HG2	46:YQ:81:VAL:HG21	1.92	0.50
1:QA:662:G:H2'	1:QA:663:A:C8	2.45	0.50
10:QJ:8:LEU:CD1	10:QJ:96:ILE:CG2	2.50	0.50
25:R0:47:PRO:HG3	25:R0:53:MET:HB2	1.93	0.50
35:RA:776:G:N7	35:RA:793:A:O2'	2.44	0.50
35:RA:1340:U:OP1	53:RX:16:LYS:NZ	2.43	0.50
40:RG:111:LEU:HB3	40:RG:117:PHE:HE1	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:975:A:N1	10:XJ:48:THR:OG1	2.44	0.50
1:XA:1305:G:OP1	21:XU:2:GLY:N	2.44	0.50
2:XB:88:ALA:HB2	2:XB:219:VAL:HG23	1.91	0.50
4:XD:150:GLU:HG2	4:XD:153:ARG:CZ	2.41	0.50
24:XZ:26:LYS:NZ	24:XZ:60:ILE:O	2.31	0.50
24:XZ:44:LYS:NZ	24:XZ:59:ARG:HE	2.10	0.50
26:Y1:50:ARG:NH1	26:Y1:57:GLU:OE2	2.44	0.50
35:YA:2771:C:H5'	38:YE:202:LYS:HZ2	1.76	0.50
51:YV:35:LEU:HB2	51:YV:57:VAL:HG13	1.93	0.50
1:QA:985:C:H2'	1:QA:986:A:C8	2.46	0.50
5:QE:90:VAL:CG1	5:QE:90:VAL:CG2	2.82	0.50
7:QG:91:VAL:CG1	7:QG:96:GLN:HG3	2.40	0.50
24:QZ:23:ILE:O	24:QZ:27:ILE:HG12	2.11	0.50
24:QZ:47:PRO:HB3	24:QZ:56:TRP:CE2	2.47	0.50
44:RO:111:PHE:HB3	44:RO:114:ILE:HD13	1.94	0.50
1:XA:674:G:H2'	1:XA:675:A:H8	1.75	0.50
4:XD:11:LEU:HD13	4:XD:66:ARG:HD3	1.92	0.50
5:XE:81:GLU:HG2	5:XE:90:VAL:HG22	1.93	0.50
6:XF:5:GLU:HG3	6:XF:93:SER:HB2	1.93	0.50
12:XL:38:THR:HG23	12:XL:39:VAL:HG23	1.93	0.50
35:YA:698:C:O2'	35:YA:734:A:N6	2.44	0.50
35:YA:1020:A:N6	35:YA:1141:U:O2'	2.44	0.50
49:YT:128:GLU:O	49:YT:132:LYS:CB	2.58	0.50
52:YW:65:LEU:HD12	52:YW:68:ARG:HH21	1.77	0.50
13:QM:8:GLU:O	13:QM:10:PRO:HD2	2.08	0.50
49:RT:51:ARG:HG3	49:RT:98:LYS:HG2	1.91	0.50
1:XA:1128:C:H1'	1:XA:1146:A:H61	1.77	0.50
13:XM:23:TYR:CD2	13:XM:67:GLU:HA	2.45	0.50
29:Y4:47:GLN:HG2	29:Y4:49:PHE:HB3	1.94	0.50
35:YA:2638:G:OP2	38:YE:82:ARG:NH1	2.40	0.50
6:QF:94:GLN:HB3	18:QR:32:ARG:HD3	1.93	0.50
24:QZ:71:THR:OG1	24:QZ:72:ASP:N	2.43	0.50
41:RH:18:GLU:HG3	41:RH:27:LYS:NZ	2.26	0.50
1:QA:191:G:O2'	20:QT:101:GLY:O	2.26	0.50
3:QC:41:GLY:O	3:QC:45:LYS:HG2	2.11	0.50
24:QZ:49:LYS:O	24:QZ:51:ASN:N	2.41	0.50
34:R9:3:VAL:HG21	35:RA:2539:C:H4'	1.94	0.50
35:RA:81:G:HO2'	35:RA:295:G:HO2'	1.56	0.50
1:XA:922:G:H4'	5:XE:20:GLN:HA	1.94	0.50
4:XD:70:ILE:HG21	4:XD:100:ARG:NH1	2.27	0.50
13:XM:13:LYS:HA	13:XM:44:ARG:HH11	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:XT:100:ILE:HG22	20:XT:102:GLY:N	2.25	0.50
31:Y6:25:LYS:HD2	31:Y6:34:LEU:HD13	1.92	0.50
35:YA:531:C:OP1	35:YA:561:G:N1	2.44	0.50
35:YA:2304:G:H22	35:YA:2312:U:H3	1.59	0.50
1:QA:501:C:H2'	1:QA:502:G:H8	1.77	0.50
7:QG:15:ASP:HB3	7:QG:19:GLY:H	1.77	0.50
8:QH:113:SER:HB2	8:QH:134:ILE:HD11	1.92	0.50
26:R1:91:LYS:HD2	26:R1:92:LYS:HG2	1.93	0.50
28:R3:15:TYR:O	28:R3:20:LYS:NZ	2.44	0.50
48:RS:63:THR:HA	48:RS:97:ARG:CB	2.40	0.50
1:XA:728:A:C6	15:XO:54:ARG:CD	2.94	0.50
1:XA:978:A:H61	1:XA:1316:G:H1'	1.77	0.50
13:XM:78:ILE:O	13:XM:82:MET:HG3	2.12	0.50
30:Y5:36:CYS:SG	30:Y5:49:CYS:HB3	2.51	0.50
33:Y8:48:PHE:CE1	33:Y8:50:LEU:HD22	2.46	0.50
40:YG:166:ASP:OD1	40:YG:166:ASP:N	2.44	0.50
1:QA:708:C:H2'	1:QA:709:G:H8	1.76	0.50
1:QA:770:C:O2'	1:QA:899:C:N3	2.41	0.50
1:QA:1028(B):C:H3'	1:QA:1029:G:H4'	1.93	0.50
35:RA:2148:G:H2'	35:RA:2149:G:H8	1.77	0.50
35:RA:2859:G:H2'	35:RA:2860:A:C8	2.47	0.50
41:RH:45:VAL:HG22	41:RH:50:VAL:HG12	1.93	0.50
41:RH:52:VAL:HB	41:RH:69:ARG:CZ	2.42	0.50
1:XA:235:C:H2'	1:XA:236:G:H8	1.76	0.50
1:XA:1119:C:OP2	9:XI:9:ARG:NH2	2.44	0.50
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.27	0.50
25:Y0:23:VAL:HG21	35:YA:857:C:H4'	1.94	0.50
35:YA:566:U:H5''	45:YP:29:LYS:HE3	1.94	0.50
35:YA:2011:U:OP1	52:YW:42:ARG:NH1	2.43	0.50
39:YF:32:LEU:HD11	39:YF:105:VAL:HG13	1.93	0.50
3:QC:152:ILE:HD11	3:QC:199:LYS:HD2	1.93	0.50
60:QX:101:A3P:O2P	24:QY:44:LYS:NZ	2.44	0.50
28:R3:26:LEU:O	28:R3:35:ARG:HD3	2.12	0.50
41:RH:96:ALA:HB1	41:RH:103:LEU:HD21	1.93	0.50
49:RT:36:GLU:CD	49:RT:39:ARG:HH21	2.15	0.50
52:RW:22:ASP:OD1	52:RW:25:ARG:NH1	2.38	0.50
1:XA:376:G:H5''	16:XP:5:ARG:HB2	1.94	0.50
1:XA:662:G:H2'	1:XA:663:A:C8	2.47	0.50
1:XA:827:U:H3	1:XA:872:A:H62	1.59	0.50
49:YT:11:GLU:OE2	49:YT:11:GLU:N	2.43	0.50
19:QS:41:VAL:HG12	19:QS:42:PRO:HD2	0.56	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:52:VAL:HG12	41:RH:65:HIS:CD2	2.46	0.49
42:RI:126:TYR:HB2	42:RI:140:LEU:O	2.12	0.49
1:XA:1534:A:N1	23:XX:10:G:O6	2.44	0.49
2:XB:140:HIS:HA	2:XB:143:GLU:HG3	1.94	0.49
12:XL:90:VAL:HB	12:XL:93:LEU:HB2	1.93	0.49
35:YA:2675:A:H61	35:YA:2732:G:H1	1.60	0.49
38:YE:176:ILE:HB	38:YE:181:LEU:HB2	1.93	0.49
44:YO:68:GLU:HG3	44:YO:78:ARG:HG3	1.93	0.49
1:QA:946:A:H2'	1:QA:947:G:C8	2.46	0.49
5:QE:102:ALA:O	5:QE:107:ARG:NH2	2.43	0.49
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.94	0.49
33:R8:6:THR:HG22	33:R8:63:PRO:HD2	1.94	0.49
35:RA:589:C:H2'	35:RA:590:A:C8	2.46	0.49
48:RS:31:SER:O	48:RS:97:ARG:NH2	2.42	0.49
52:RW:10:VAL:HG13	52:RW:101:SER:HB3	1.94	0.49
2:XB:6:THR:HG23	2:XB:7:VAL:HG13	1.94	0.49
4:XD:153:ARG:CD	4:XD:181:MET:HE2	2.38	0.49
14:XN:34:TYR:CE2	14:XN:44:LEU:HD13	2.47	0.49
24:XY:73:ASP:OD1	24:XY:73:ASP:N	2.44	0.49
38:YE:14:ILE:HD11	38:YE:173:VAL:HG11	1.94	0.49
55:YZ:115:GLY:HA2	55:YZ:177:PRO:HD3	1.94	0.49
6:QF:76:ALA:HB1	6:QF:80:ARG:HH21	1.77	0.49
8:QH:102:ARG:HH22	8:QH:105:ARG:NH1	2.11	0.49
11:QK:51:LYS:HA	11:QK:55:LYS:HD3	1.94	0.49
26:R1:90:ILE:HG13	26:R1:94:LEU:HD11	1.93	0.49
35:RA:278:A:H61	35:RA:362:U:H3	1.60	0.49
35:RA:1032:A:H2	35:RA:1122:G:H22	1.59	0.49
1:XA:1376:U:P	7:XG:94:ARG:HH12	2.36	0.49
2:XB:174:VAL:HG12	2:XB:184:VAL:HG11	1.93	0.49
6:XF:6:VAL:HB	6:XF:63:TYR:HB2	1.94	0.49
35:YA:1342:A:OP1	53:YX:36:LYS:NZ	2.45	0.49
42:YI:7:GLU:HA	42:YI:15:VAL:HG22	1.93	0.49
42:YI:123:LEU:N	42:YI:123:LEU:CD2	2.76	0.49
51:YV:59:ALA:HB2	51:YV:96:ILE:HD13	1.92	0.49
3:QC:59:ARG:HG3	3:QC:64:VAL:CG2	2.43	0.49
30:R5:16:ARG:NH2	35:RA:517:C:OP1	2.40	0.49
35:RA:573:G:N1	35:RA:2031:A:OP2	2.31	0.49
35:RA:839:U:H1'	35:RA:1191:G:H1'	1.95	0.49
43:RN:42:TRP:CD1	43:RN:48:MET:HE1	2.47	0.49
1:XA:664:G:H22	1:XA:741:G:H1	1.59	0.49
35:YA:270(I):G:H1	35:YA:270(Q):C:H42	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:481:G:O2'	35:YA:506:G:N2	2.44	0.49
35:YA:1992:G:N2	35:YA:1996:C:O2'	2.45	0.49
44:YO:87:ILE:HD12	44:YO:91:LEU:HA	1.95	0.49
1:QA:967:C:H4'	9:QI:125:TYR:CE1	2.46	0.49
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.45	0.49
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.47	0.49
2:QB:136:VAL:HA	2:QB:139:LYS:HB2	1.94	0.49
3:QC:138:VAL:HG13	3:QC:149:ALA:HB3	1.95	0.49
19:QS:40:ILE:HG21	19:QS:66:MET:O	2.13	0.49
24:QY:5:TRP:CZ2	24:QZ:10:TRP:CZ3	3.00	0.49
24:QY:59:ARG:HA	24:QY:65:ARG:HD3	1.94	0.49
35:RA:446:G:OP1	50:RU:3:ARG:NH1	2.44	0.49
37:RD:72:LYS:NZ	37:RD:99:ASP:OD2	2.40	0.49
38:RE:50:GLY:CA	38:RE:78:LEU:HA	2.40	0.49
41:RH:7:LEU:N	41:RH:8:PRO:HD2	2.27	0.49
1:XA:1219:U:OP1	14:XN:19:ARG:NH2	2.44	0.49
3:XC:130:VAL:HG11	3:XC:157:ILE:HG23	1.94	0.49
9:XI:75:ASP:HA	9:XI:78:LYS:HG2	1.95	0.49
35:YA:247:G:H4'	35:YA:386:G:C5	2.48	0.49
35:YA:642:G:N2	35:YA:645:C:OP2	2.45	0.49
35:YA:1791:A:N6	35:YA:1828:G:O2'	2.45	0.49
37:YD:133:LEU:HD23	37:YD:136:ILE:HD12	1.93	0.49
52:YW:11:ARG:HH22	52:YW:98:LYS:CG	2.25	0.49
1:QA:67:C:H2'	1:QA:68:G:C8	2.47	0.49
1:QA:309:G:O2'	1:QA:607:A:N1	2.44	0.49
1:QA:958:A:C5	19:QS:55:LYS:HB2	2.48	0.49
19:QS:10:PHE:HE2	19:QS:12:ASP:HB3	1.78	0.49
19:QS:15:LEU:HD22	19:QS:33:THR:HG21	1.94	0.49
29:R4:5:ILE:HG23	29:R4:6:HIS:ND1	2.28	0.49
35:RA:465:G:H2'	35:RA:466:A:C8	2.48	0.49
35:RA:2147:G:H2'	35:RA:2148:G:C8	2.48	0.49
37:RD:132:PRO:HB2	37:RD:134:ARG:HG2	1.94	0.49
37:RD:169:GLU:HG3	37:RD:169:GLU:O	2.13	0.49
46:RQ:110:THR:HG22	46:RQ:113:GLN:HG2	1.95	0.49
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.32	0.49
7:XG:97:GLN:HG2	7:XG:101:LEU:HD13	1.95	0.49
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	1.94	0.49
39:YF:65:TRP:CH2	39:YF:72:ARG:HD3	2.48	0.49
6:QF:28:ARG:O	6:QF:32:ASN:ND2	2.44	0.49
24:QZ:1:MET:CE	24:QZ:35:ARG:HG3	2.43	0.49
35:RA:1102:C:H2'	35:RA:1103:A:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:RT:28:VAL:HG23	49:RT:88:ILE:HA	1.95	0.49
1:XA:6:G:H4'	1:XA:298:A:H4'	1.94	0.49
14:YN:34:TYR:CD2	14:YN:44:LEU:HD12	2.47	0.49
35:YA:1042:G:H1	35:YA:1113:U:H3	1.59	0.49
36:YB:37:C:O2	48:YS:95:HIS:NE2	2.40	0.49
42:YI:93:THR:OG1	42:YI:96:ASP:N	2.41	0.49
10:QJ:9:ARG:O	10:QJ:94:VAL:HG13	2.13	0.49
35:RA:686:G:N2	35:RA:788:A:H61	2.11	0.49
35:RA:2296:U:OP2	48:RS:9:ARG:NH1	2.46	0.49
38:RE:109:LYS:O	38:RE:111:ARG:NH1	2.44	0.49
41:RH:24:VAL:HG21	41:RH:72:ILE:HD11	1.94	0.49
2:XB:21:ARG:O	2:XB:23:ARG:N	2.44	0.49
4:XD:191:ARG:O	4:XD:191:ARG:CG	2.60	0.49
7:XG:67:GLU:HA	7:XG:70:LYS:HD3	1.94	0.49
1:QA:255:G:H4'	17:QQ:17:LYS:HD3	1.94	0.49
11:QK:84:VAL:HG21	11:QK:95:ILE:HD11	1.95	0.49
14:QN:26:ARG:HE	14:QN:47:LEU:HD11	1.77	0.49
31:R6:11:LEU:HB2	31:R6:21:TYR:HB2	1.95	0.49
41:RH:4:ILE:C	41:RH:6:ARG:H	2.15	0.49
1:XA:261:U:OP2	20:XT:79:ARG:NH1	2.43	0.49
1:XA:1013:G:N2	1:XA:1016:A:OP2	2.45	0.49
4:XD:117:ALA:O	4:XD:121:VAL:HG23	2.12	0.49
13:XM:68:GLY:HA3	40:YG:116:ASP:OD1	2.13	0.49
35:YA:1210:A:H5'	35:YA:1211:U:H2'	1.93	0.49
22:QW:63:G:H2'	22:QW:64:G:C8	2.48	0.49
24:QZ:10:TRP:O	24:QZ:14:LEU:N	2.43	0.49
25:R0:72:ARG:HB3	25:R0:75:LEU:HB2	1.95	0.49
35:RA:1019:U:OP1	35:RA:1035:U:O2'	2.30	0.49
47:RR:96:ARG:NH1	47:RR:117:VAL:HA	2.28	0.49
1:XA:263:A:OP2	20:XT:79:ARG:NH2	2.46	0.49
1:XA:406:G:H21	4:XD:119:GLN:HE22	1.60	0.49
24:XY:48:LEU:HD11	24:XY:57:SER:HB3	1.95	0.49
26:Y1:69:LYS:HD3	26:Y1:98:LEU:HD21	1.95	0.49
35:YA:1827:C:OP2	37:YD:222:ARG:NH1	2.45	0.49
44:YO:19:ILE:HG22	44:YO:43:VAL:HA	1.95	0.49
48:YS:66:ALA:HA	48:YS:69:VAL:HG12	1.94	0.49
2:QB:82:ARG:O	2:QB:86:GLU:HB2	2.11	0.48
5:QE:137:GLU:O	5:QE:141:GLN:HG3	2.13	0.48
21:QU:3:LYS:O	21:QU:15:ARG:NH1	2.41	0.48
29:R4:50:VAL:HG12	29:R4:52:THR:H	1.77	0.48
48:RS:36:TYR:CD1	48:RS:52:SER:HB2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:192:U:H2'	1:XA:193:C:C6	2.48	0.48
1:XA:689:C:H3'	1:XA:690:G:H21	1.77	0.48
1:XA:745:C:OP1	1:XA:851:G:O2'	2.31	0.48
1:XA:1202:G:O4'	14:YN:29:ARG:NH1	2.46	0.48
2:XB:68:ILE:HD12	2:XB:161:ALA:HB3	1.94	0.48
35:YA:1142(A):A:H4'	43:YN:25:ARG:HH22	1.76	0.48
40:YG:137:GLU:HG3	40:YG:137:GLU:O	2.12	0.48
44:YO:8:LEU:HD13	44:YO:82:ASN:HB3	1.95	0.48
3:QC:58:GLU:H	3:QC:64:VAL:HG13	1.77	0.48
3:QC:86:VAL:O	3:QC:89:GLU:HB3	2.13	0.48
4:QD:11:LEU:HB3	4:QD:66:ARG:HD3	1.94	0.48
5:QE:116:THR:OG1	5:QE:117:ASP:N	2.44	0.48
24:QZ:25:LYS:HD2	24:QZ:25:LYS:HA	1.63	0.48
31:R6:5:VAL:HA	31:R6:27:LYS:HD2	1.95	0.48
35:RA:1309:G:HO2'	35:RA:1611:C:HO2'	1.60	0.48
35:RA:2315:G:OP1	40:RG:36:LYS:NZ	2.42	0.48
40:RG:131:TYR:HE1	40:RG:133:LEU:HB3	1.78	0.48
40:RG:135:LEU:HD21	40:RG:140:ILE:CD1	2.41	0.48
48:RS:11:LYS:HE2	48:RS:91:PRO:HD3	1.95	0.48
51:RV:58:VAL:HG22	51:RV:98:GLU:HG2	1.95	0.48
1:XA:1064:G:H1'	1:XA:1066:C:C6	2.48	0.48
1:XA:1147:C:O2'	9:XI:5:TYR:OH	2.14	0.48
26:Y1:69:LYS:NZ	35:YA:372:G:OP2	2.36	0.48
39:YF:31:HIS:NE2	39:YF:35:GLU:OE1	2.46	0.48
41:YH:90:LYS:HD3	41:YH:159:GLU:HG2	1.95	0.48
24:QZ:3:LEU:HD11	24:QZ:31:ILE:HG21	1.96	0.48
35:RA:579:G:O2'	35:RA:2019:A:OP1	2.30	0.48
35:RA:2853:C:H2'	35:RA:2854:G:C8	2.48	0.48
38:RE:9:VAL:HB	38:RE:25:VAL:HG23	1.95	0.48
40:RG:11:TYR:HA	40:RG:15:VAL:CG2	2.43	0.48
41:RH:46:GLU:CB	41:RH:49:VAL:HB	2.29	0.48
45:RP:7:ARG:HA	45:RP:8:PRO:HD2	1.63	0.48
1:XA:579:G:H5'	1:XA:728:A:H1'	1.95	0.48
2:XB:16:HIS:O	2:XB:17:PHE:CG	2.66	0.48
2:XB:20:GLU:O	2:XB:39:ILE:HG23	2.13	0.48
2:XB:111:ARG:HG3	2:XB:145:LEU:HD22	1.95	0.48
17:XQ:45:HIS:CD2	17:XQ:47:PRO:HG3	2.48	0.48
20:XT:29:LYS:HD2	20:XT:71:THR:HG21	1.95	0.48
28:Y3:43:ILE:O	28:Y3:47:VAL:HG23	2.13	0.48
33:Y8:63:PRO:HB2	35:YA:593:G:H4'	1.95	0.48
35:YA:1528:A:OP2	35:YA:1542:G:N1	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YI:100:ALA:O	42:YI:104:GLN:HB3	2.13	0.48
1:QA:375:U:O2	16:QP:28:ARG:NH1	2.46	0.48
9:QI:21:PRO:HA	9:QI:59:PHE:HB2	1.91	0.48
10:QJ:7:LYS:HB2	10:QJ:70:ARG:O	2.14	0.48
13:QM:13:LYS:CG	13:QM:17:VAL:CG2	2.81	0.48
29:R4:13:ARG:HG3	29:R4:30:GLU:HG2	1.94	0.48
29:R4:42:PHE:C	29:R4:42:PHE:CD1	2.85	0.48
31:R6:24:GLU:OE2	35:RA:2285:C:N4	2.44	0.48
35:RA:1571:A:H2'	35:RA:1572:A:C8	2.49	0.48
36:RB:44:G:H1'	36:RB:47:C:H42	1.78	0.48
41:RH:71:LEU:HD12	41:RH:72:ILE:N	2.27	0.48
48:RS:31:SER:HG	48:RS:34:HIS:H	1.59	0.48
9:XI:28:VAL:HG12	9:XI:63:ILE:HB	1.96	0.48
12:XL:35:GLY:HA3	12:XL:60:LEU:HD23	1.96	0.48
16:XP:43:LYS:HG2	16:XP:48:TRP:CD2	2.48	0.48
35:YA:2177:C:H2'	35:YA:2178:C:H6	1.78	0.48
40:YG:40:ASN:HB3	40:YG:156:ASP:HB2	1.95	0.48
40:YG:60:LEU:HD11	40:YG:92:VAL:HG11	1.95	0.48
50:YU:27:LEU:HD13	50:YU:30:LYS:HB2	1.94	0.48
1:QA:1031:G:H21	1:QA:1032:A:H1'	1.79	0.48
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.48	0.48
1:QA:1330:U:H3'	1:QA:1331:G:O4'	2.13	0.48
4:QD:154:ASN:ND2	4:QD:154:ASN:O	2.46	0.48
5:QE:90:VAL:CG1	5:QE:90:VAL:HB	2.18	0.48
35:RA:1542:G:O6	35:RA:1543:A:N6	2.46	0.48
38:RE:73:GLU:HG3	38:RE:74:PRO:CD	2.16	0.48
40:RG:5:VAL:HG23	40:RG:8:LYS:HB3	1.96	0.48
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.49	0.48
2:XB:217:ARG:CG	2:XB:217:ARG:NH1	2.74	0.48
10:XJ:48:THR:OG1	10:XJ:48:THR:O	2.29	0.48
39:YF:24:LEU:HD23	39:YF:115:ALA:HA	1.95	0.48
7:QG:79:ARG:NH2	22:QW:33:U:O3'	2.44	0.48
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.95	0.48
29:R4:1:MET:HG2	40:RG:98:ARG:NH2	2.29	0.48
35:RA:514:A:N3	35:RA:581:C:O2'	2.40	0.48
35:RA:2850:A:N7	35:RA:2868:A:O2'	2.40	0.48
41:RH:86:GLU:HG3	41:RH:165:ALA:H	1.78	0.48
45:RP:101:VAL:HG11	45:RP:108:LYS:HG2	1.94	0.48
46:RQ:1:MET:SD	46:RQ:45:GLN:HG3	2.53	0.48
47:RR:96:ARG:HH12	47:RR:117:VAL:HA	1.79	0.48
48:RS:30:ARG:CG	48:RS:97:ARG:NH2	2.75	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:46:LYS:HG2	12:XL:47:LYS:H	1.78	0.48
24:XZ:58:ARG:O	24:XZ:66:LEU:N	2.43	0.48
29:Y4:34:GLU:OE2	40:YG:113:ARG:NE	2.47	0.48
35:YA:764:A:H5'	37:YD:210:GLY:HA2	1.94	0.48
35:YA:2306:C:N4	40:YG:42:GLY:O	2.39	0.48
39:YF:154:VAL:HG23	39:YF:173:VAL:HG12	1.95	0.48
47:YR:33:ARG:HD3	47:YR:113:LEU:HD11	1.95	0.48
51:YV:21:ARG:NE	51:YV:91:TYR:CE1	2.82	0.48
1:QA:6:G:H4'	1:QA:298:A:H4'	1.96	0.48
9:QI:20:ARG:O	9:QI:59:PHE:HB2	2.13	0.48
31:R6:3:SER:OG	31:R6:4:GLU:N	2.45	0.48
35:RA:1285:G:N2	35:RA:1328:G:H5''	2.29	0.48
6:XF:37:VAL:HA	6:XF:65:VAL:HG12	1.96	0.48
29:Y4:58:ARG:CG	29:Y4:59:PHE:HD1	2.23	0.48
35:YA:84:A:N6	35:YA:102:G:O2'	2.46	0.48
35:YA:909:A:OP2	46:YQ:22:LYS:NZ	2.34	0.48
38:YE:93:VAL:HG22	38:YE:175:VAL:HG13	1.96	0.48
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.94	0.48
13:QM:19:LEU:HD23	13:QM:19:LEU:H	1.78	0.48
19:QS:55:LYS:HE3	24:QZ:36:ARG:HH22	1.76	0.48
35:RA:764:A:H5'	37:RD:210:GLY:HA2	1.96	0.48
40:RG:6:ALA:O	40:RG:10:LYS:N	2.40	0.48
46:RQ:66:ILE:HA	46:RQ:104:PHE:HA	1.95	0.48
54:RY:83:THR:OG1	54:RY:84:ARG:N	2.46	0.48
1:XA:538:G:H5''	12:XL:114:LYS:HB2	1.95	0.48
35:YA:2666:C:O2	41:YH:152:ARG:NH2	2.47	0.48
47:YR:24:GLN:HG2	47:YR:44:LEU:HD22	1.95	0.48
1:QA:321:A:N6	1:QA:329:A:OP2	2.47	0.48
1:QA:1349:A:OP1	9:QI:120:ARG:HB2	2.14	0.48
8:QH:14:ARG:NH2	8:QH:83:ILE:O	2.46	0.48
9:QI:53:VAL:HG22	9:QI:53:VAL:O	2.14	0.48
32:R7:47:ARG:HH22	53:RX:60:ARG:NH2	2.11	0.48
35:RA:1171:G:O2'	35:RA:1173:G:O4'	2.30	0.48
35:RA:2729:G:H1'	38:RE:187:ALA:HB2	1.95	0.48
35:RA:2789:C:H1'	35:RA:2892:A:H2	1.79	0.48
46:RQ:19:GLY:H	46:RQ:98:LYS:NZ	2.11	0.48
51:RV:34:GLU:HG3	51:RV:58:VAL:HG12	1.95	0.48
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.46	0.48
2:XB:142:LEU:HD22	2:XB:146:GLN:NE2	2.28	0.48
24:XZ:48:LEU:CD1	24:XZ:52:LEU:HD12	2.43	0.48
38:YE:92:THR:OG1	38:YE:93:VAL:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YN:21:LYS:HD3	43:YN:138:LEU:HD23	1.94	0.48
55:YZ:23:LYS:HE3	55:YZ:40:ASP:HB2	1.96	0.48
3:QC:152:ILE:HG12	3:QC:199:LYS:HB2	1.95	0.48
17:QQ:45:HIS:CD2	17:QQ:47:PRO:HG3	2.49	0.48
19:QS:3:ARG:NH2	19:QS:9:VAL:HB	2.28	0.48
44:RO:93:PRO:HD3	44:RO:114:ILE:HD11	1.96	0.48
55:RZ:69:THR:HG21	55:RZ:88:PHE:HB3	1.95	0.48
1:XA:985:C:H2'	1:XA:986:A:C8	2.49	0.48
2:XB:73:THR:HB	2:XB:169:LYS:HE3	1.96	0.48
5:XE:144:THR:OG1	5:XE:147:ASP:N	2.30	0.48
35:YA:181:A:H1'	35:YA:435:C:H5'	1.96	0.48
35:YA:2096:U:H3	35:YA:2193:G:H1	1.62	0.48
40:YG:130:ASN:OD1	40:YG:161:THR:N	2.47	0.48
41:YH:42:ARG:O	41:YH:52:VAL:HG11	2.14	0.48
42:YI:24:GLY:O	42:YI:28:ASN:HB2	2.14	0.48
1:QA:745:C:OP1	1:QA:851:G:O2'	2.28	0.47
1:QA:1494:G:H5'	24:QY:47:PRO:HG2	1.96	0.47
7:QG:70:LYS:HB2	7:QG:96:GLN:HB3	1.95	0.47
9:QI:10:ARG:HG2	9:QI:75:ASP:HB2	1.95	0.47
34:R9:11:CYS:HB2	34:R9:13:LYS:HB2	1.96	0.47
35:RA:29:U:H5''	50:RU:7:GLY:HA2	1.96	0.47
40:RG:37:VAL:HG12	40:RG:99:MET:HG3	1.95	0.47
49:RT:107:ASP:OD1	49:RT:109:GLU:HG2	2.13	0.47
54:RY:49:VAL:HG21	54:RY:61:ILE:HG13	1.96	0.47
55:RZ:9:TYR:HA	55:RZ:37:VAL:HG12	1.95	0.47
1:XA:811:C:O2'	1:XA:901:A:N1	2.47	0.47
3:XC:91:LEU:O	3:XC:95:THR:HG22	2.14	0.47
22:XW:1:C:H2'	22:XW:2:G:H8	1.79	0.47
36:YB:40:U:H1'	36:YB:45:A:H61	1.78	0.47
40:YG:51:ARG:HG3	40:YG:52:ILE:HG13	1.96	0.47
43:YN:26:LEU:HG	43:YN:30:ILE:HD11	1.95	0.47
49:YT:62:THR:HG22	49:YT:75:ILE:HG23	1.96	0.47
1:QA:8:A:N6	4:QD:205:GLU:O	2.47	0.47
12:QL:84:LEU:HD23	12:QL:101:VAL:HG11	1.96	0.47
22:QW:50:U:H3	22:QW:64:G:H22	1.62	0.47
35:RA:392:C:H5''	35:RA:409:C:H5''	1.97	0.47
35:RA:2683:C:OP1	49:RT:53:ARG:NH2	2.47	0.47
42:RI:122:GLU:OE2	42:RI:122:GLU:HA	2.14	0.47
55:RZ:6:LYS:HG3	55:RZ:8:TYR:CE1	2.48	0.47
1:XA:890:G:O2'	1:XA:906:G:O6	2.24	0.47
29:Y4:58:ARG:CG	29:Y4:59:PHE:N	2.70	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:1342:A:H5''	53:YX:55:ASN:HD22	1.79	0.47
35:YA:1754:C:OP1	49:YT:96:ARG:NH1	2.48	0.47
39:YF:72:ARG:HG2	39:YF:73:ALA:H	1.78	0.47
42:YI:102:SER:HA	42:YI:107:VAL:O	2.13	0.47
51:YV:1:MET:HG3	51:YV:99:ILE:HD11	1.96	0.47
51:YV:51:VAL:O	51:YV:51:VAL:CG2	2.61	0.47
2:QB:73:THR:O	2:QB:78:GLN:NE2	2.39	0.47
7:QG:38:LEU:O	7:QG:42:ILE:HG13	2.14	0.47
12:QL:114:LYS:O	12:QL:117:ARG:NH1	2.47	0.47
27:R2:65:ASN:O	27:R2:69:ARG:HD2	2.15	0.47
35:RA:1057:A:H2'	35:RA:1058:G:H8	1.79	0.47
35:RA:2786:U:O2'	38:RE:62:PRO:O	2.28	0.47
2:XB:16:HIS:C	2:XB:17:PHE:CD2	2.87	0.47
2:XB:55:PHE:HD1	2:XB:58:ILE:HD12	1.78	0.47
4:XD:202:LEU:HA	4:XD:205:GLU:HG2	1.95	0.47
35:YA:299:A:N3	35:YA:319:C:O2'	2.40	0.47
1:QA:107:G:O6	20:QT:15:ARG:HD3	2.15	0.47
1:QA:1013:G:N2	1:QA:1016:A:OP2	2.46	0.47
3:QC:181:ASN:HB3	3:QC:205:GLY:H	1.79	0.47
34:R9:11:CYS:SG	34:R9:12:ASP:N	2.86	0.47
35:RA:581:C:H2'	35:RA:582:G:C8	2.49	0.47
36:RB:44:G:O2'	36:RB:47:C:N4	2.46	0.47
37:RD:12:SER:HB2	37:RD:208:LYS:HB3	1.95	0.47
37:RD:142:VAL:HG23	37:RD:193:VAL:HA	1.94	0.47
49:RT:4:GLY:O	49:RT:8:LYS:NZ	2.48	0.47
18:XR:59:SER:OG	18:XR:60:ALA:N	2.48	0.47
50:YU:29:SER:OG	50:YU:30:LYS:NZ	2.42	0.47
2:QB:52:GLU:HG3	2:QB:56:ARG:NH1	2.30	0.47
2:QB:55:PHE:O	2:QB:59:GLU:HG2	2.14	0.47
11:QK:50:TYR:CE2	11:QK:54:ARG:NH1	2.83	0.47
25:R0:29:GLN:NE2	35:RA:922:U:O2'	2.47	0.47
35:RA:2416:C:H5''	45:RP:64:LYS:HE2	1.95	0.47
35:RA:2845:G:H2'	35:RA:2846:G:H8	1.80	0.47
37:RD:145:VAL:HG11	37:RD:175:LEU:HD11	1.96	0.47
41:RH:4:ILE:HG23	41:RH:6:ARG:HG2	1.97	0.47
45:RP:107:LYS:HB2	45:RP:110:TYR:CD2	2.50	0.47
1:XA:818:G:O2'	1:XA:820:U:OP2	2.23	0.47
8:XH:85:ARG:HD3	8:XH:88:LYS:HG2	1.96	0.47
11:XK:83:ILE:HG23	11:XK:109:VAL:HG13	1.97	0.47
35:YA:24:G:O2'	52:YW:78:GLU:O	2.30	0.47
35:YA:974:G:O2'	35:YA:975:G:N7	2.35	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:2392:A:C8	45:YP:61:ARG:HG2	2.49	0.47
40:YG:163:ALA:HB1	40:YG:168:GLU:HG3	1.95	0.47
51:YV:19:LYS:HA	51:YV:94:LEU:O	2.15	0.47
54:YY:34:LYS:HD3	54:YY:34:LYS:HA	1.68	0.47
54:YY:68:HIS:HB3	54:YY:71:LYS:HG3	1.97	0.47
1:QA:272:C:H2'	1:QA:273:A:H8	1.78	0.47
1:QA:464:G:N1	1:QA:467:G:OP2	2.46	0.47
1:QA:1014:A:H3'	1:QA:1015:A:C8	2.50	0.47
1:QA:1061:G:OP1	10:QJ:59:SER:OG	2.32	0.47
19:QS:65:ASN:OD1	19:QS:66:MET:HG2	2.14	0.47
36:RB:37:C:O2	48:RS:95:HIS:NE2	2.48	0.47
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.50	0.47
25:Y0:70:GLN:OE1	25:Y0:80:HIS:NE2	2.48	0.47
35:YA:579:G:O2'	35:YA:2019:A:OP1	2.30	0.47
35:YA:2006:C:O2'	35:YA:2823:A:N3	2.47	0.47
35:YA:2175:C:H2'	35:YA:2176:A:H8	1.79	0.47
35:YA:2822:G:OP1	38:YE:159:HIS:NE2	2.48	0.47
47:YR:36:THR:HG22	47:YR:37:THR:H	1.80	0.47
10:QJ:8:LEU:HG	10:QJ:94:VAL:HG12	1.97	0.47
16:QP:71:ARG:HH11	16:QP:75:ARG:HE	1.61	0.47
29:R4:42:PHE:HD1	29:R4:42:PHE:C	2.17	0.47
35:RA:1791:A:N6	35:RA:1828:G:O2'	2.44	0.47
40:RG:135:LEU:CD2	40:RG:140:ILE:HD11	2.42	0.47
41:RH:6:ARG:O	41:RH:69:ARG:NH2	2.48	0.47
41:RH:53:GLU:HA	41:RH:65:HIS:CE1	2.49	0.47
45:RP:100:LEU:O	45:RP:105:LEU:N	2.38	0.47
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.97	0.47
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.29	0.47
5:XE:78:HIS:CE1	5:XE:142:LEU:HD23	2.50	0.47
6:XF:46:ARG:HD3	6:XF:60:PHE:HD2	1.78	0.47
8:XH:6:ILE:HB	8:XH:85:ARG:HH12	1.80	0.47
10:XJ:10:GLY:HA3	10:XJ:16:LEU:HD11	1.97	0.47
10:XJ:20:ALA:HA	10:XJ:23:ILE:HD12	1.97	0.47
11:XK:124:LYS:HD2	11:XK:125:PHE:CE1	2.50	0.47
13:XM:3:ARG:HA	13:XM:8:GLU:HA	1.96	0.47
13:XM:58:GLU:O	13:XM:62:ASN:HB2	2.13	0.47
13:XM:81:LEU:O	13:XM:89:GLY:HA3	2.15	0.47
13:XM:86:CYS:SG	13:XM:87:TYR:N	2.87	0.47
20:XT:27:LYS:O	20:XT:31:SER:OG	2.30	0.47
20:XT:89:ARG:HD2	20:XT:104:LEU:HD21	1.96	0.47
22:XV:76:A:OP1	35:YA:2439:A:N6	2.46	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y5:51:TYR:CE2	30:Y5:56:LYS:HD3	2.49	0.47
33:Y8:7:HIS:CD2	45:YP:50:ARG:HD3	2.50	0.47
35:YA:851:U:H2'	35:YA:852:G:H8	1.80	0.47
35:YA:1019:U:OP1	35:YA:1035:U:O2'	2.23	0.47
35:YA:1049:C:N4	35:YA:2751:G:O6	2.48	0.47
35:YA:1139:G:O2'	35:YA:1143:A:N6	2.45	0.47
35:YA:2010:G:H5''	52:YW:42:ARG:HB2	1.96	0.47
35:YA:2123:G:H2'	35:YA:2124:G:C8	2.49	0.47
35:YA:2712:U:H2'	35:YA:2713:A:H5'	1.96	0.47
40:YG:37:VAL:HG23	40:YG:99:MET:HE3	1.97	0.47
40:YG:144:ILE:HG23	40:YG:148:MET:HE3	1.96	0.47
1:QA:1240:U:H4'	7:QG:38:LEU:HD21	1.97	0.47
7:QG:75:VAL:HA	7:QG:88:PRO:HA	1.97	0.47
13:QM:16:ASP:OD1	13:QM:41:PRO:O	2.33	0.47
13:QM:108:ARG:CZ	13:QM:114:ARG:HG3	2.45	0.47
35:RA:531:C:OP1	35:RA:561:G:N1	2.47	0.47
35:RA:1385:G:O2'	35:RA:1386:C:O4'	2.33	0.47
40:RG:117:PHE:C	40:RG:119:GLY:H	2.18	0.47
42:RI:88:ILE:HG22	42:RI:90:GLY:O	2.14	0.47
43:RN:24:GLY:O	43:RN:28:THR:HG23	2.14	0.47
45:RP:65:ARG:O	45:RP:68:GLN:NE2	2.48	0.47
45:RP:81:GLN:HB3	45:RP:106:LEU:HD12	1.96	0.47
1:XA:652:U:O4	1:XA:752:G:O2'	2.25	0.47
7:XG:97:GLN:CG	7:XG:101:LEU:HD13	2.45	0.47
1:QA:405:U:H5''	1:QA:495:A:H2	1.80	0.47
2:QB:87:ARG:NH1	2:QB:219:VAL:HG13	2.29	0.47
13:QM:23:TYR:CE2	13:QM:71:ARG:HG3	2.50	0.47
48:RS:66:ALA:HA	48:RS:69:VAL:HG12	1.97	0.47
49:RT:66:VAL:HA	49:RT:71:GLY:HA2	1.97	0.47
1:XA:1016:A:OP1	14:YN:15:LYS:NZ	2.43	0.47
3:XC:82:GLU:OE2	3:XC:82:GLU:N	2.43	0.47
24:XZ:58:ARG:NE	24:XZ:68:TYR:OH	2.48	0.47
35:YA:392:C:H5''	35:YA:409:C:H5''	1.96	0.47
39:YF:155:LEU:HB2	39:YF:189:THR:HG21	1.95	0.47
43:YN:95:PRO:O	43:YN:97:ARG:N	2.44	0.47
47:YR:79:LEU:HA	47:YR:83:ILE:HD12	1.97	0.47
1:QA:501:C:H2'	1:QA:502:G:C8	2.50	0.47
5:QE:51:VAL:HG13	5:QE:52:PRO:HD3	1.96	0.47
35:RA:301:G:OP2	54:RY:84:ARG:NH2	2.48	0.47
35:RA:1678:G:N2	35:RA:1989:G:H22	2.13	0.47
39:RF:117:ARG:HD3	39:RF:120:GLU:OE2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:45:U:H2'	1:XA:46:G:C8	2.50	0.47
1:XA:1343:G:H1'	9:XI:121:ARG:HE	1.80	0.47
1:XA:1494:G:H5'	24:XY:47:PRO:HG2	1.96	0.47
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.79	0.47
13:XM:14:ARG:H	13:XM:44:ARG:HD3	1.79	0.47
24:XZ:3:LEU:HD11	24:XZ:31:ILE:HG21	1.97	0.47
35:YA:954:G:H5'	46:YQ:13:GLN:HB3	1.96	0.47
35:YA:1806:C:O2	37:YD:46:GLN:NE2	2.48	0.47
35:YA:2212:A:H1'	35:YA:2215:G:C5	2.50	0.47
55:YZ:108:PRO:HA	55:YZ:142:SER:HA	1.97	0.47
1:QA:186(B):C:H2'	1:QA:186(C):G:C8	2.50	0.46
1:QA:674:G:H2'	1:QA:675:A:C8	2.48	0.46
3:QC:24:ALA:HB3	3:QC:32:LEU:HD11	1.97	0.46
8:QH:34:GLU:OE1	8:QH:37:ARG:NH2	2.48	0.46
31:R6:23:THR:OG1	31:R6:24:GLU:N	2.47	0.46
35:RA:1296:G:OP1	35:RA:2709:G:O2'	2.31	0.46
41:RH:17:VAL:HG23	41:RH:45:VAL:CG1	2.45	0.46
1:XA:246:A:N1	1:XA:278:G:O2'	2.43	0.46
1:XA:692:U:O2'	1:XA:694:A:N7	2.43	0.46
20:XT:99:LEU:HD23	20:XT:99:LEU:H	1.80	0.46
35:YA:1434:A:H61	35:YA:1558:A:H62	1.61	0.46
1:QA:243:A:N6	1:QA:281:G:O2'	2.47	0.46
1:QA:1453:G:H2'	20:QT:39:LYS:HE2	1.96	0.46
2:QB:212:GLN:HG3	2:QB:235:SER:HB3	1.97	0.46
4:QD:57:ARG:HB3	4:QD:206:PHE:HB2	1.98	0.46
9:QI:5:TYR:HA	9:QI:17:VAL:O	2.15	0.46
35:RA:27:G:HO2'	35:RA:28:A:H8	1.62	0.46
35:RA:1600:C:OP1	53:RX:58:HIS:NE2	2.40	0.46
35:RA:2112:G:H22	35:RA:2170:A:H61	1.63	0.46
38:RE:20:ALA:N	44:RO:72:PRO:O	2.45	0.46
41:RH:107:VAL:HG21	41:RH:151:ILE:HG21	1.97	0.46
1:XA:674:G:H2'	1:XA:675:A:C8	2.50	0.46
1:XA:991:U:O4	1:XA:1212:U:O2'	2.28	0.46
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.61	0.46
20:XT:23:ARG:NH1	20:XT:27:LYS:HE2	2.31	0.46
22:XV:19:G:H3'	22:XV:20:U:H5	1.80	0.46
35:YA:629:G:N3	35:YA:639:U:O2'	2.48	0.46
38:YE:29:GLY:H	38:YE:180:ASN:HB3	1.80	0.46
55:YZ:6:LYS:HG3	55:YZ:8:TYR:CE2	2.49	0.46
1:QA:45:U:H2'	1:QA:46:G:C8	2.50	0.46
1:QA:545:C:H5'	4:QD:72:GLU:HG2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.79	0.46
7:QG:45:ASP:O	7:QG:49:ILE:HG13	2.15	0.46
35:RA:571:A:H5'	35:RA:2030:A:H62	1.80	0.46
35:RA:686:G:H21	35:RA:788:A:H61	1.63	0.46
41:RH:8:PRO:HD2	41:RH:69:ARG:CD	2.42	0.46
41:RH:99:VAL:HB	41:RH:102:ALA:HB3	1.97	0.46
44:RO:105:GLU:N	44:RO:105:GLU:OE2	2.46	0.46
46:RQ:24:GLY:N	46:RQ:101:ARG:NH1	2.60	0.46
46:RQ:67:ARG:HE	46:RQ:102:VAL:HB	1.80	0.46
1:XA:1255:G:H5''	3:XC:26:LYS:HZ2	1.80	0.46
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.50	0.46
2:XB:35:GLU:OE2	2:XB:39:ILE:N	2.49	0.46
2:XB:61:LEU:HG	2:XB:66:GLY:HA3	1.97	0.46
12:XL:39:VAL:HB	12:XL:57:LYS:HD3	1.97	0.46
27:Y2:38:GLN:NE2	27:Y2:44:LEU:HD23	2.31	0.46
32:Y7:5:TRP:NE1	32:Y7:7:PRO:HG3	2.31	0.46
35:YA:299:A:N1	35:YA:322:A:O2'	2.39	0.46
35:YA:2584:U:H5'	56:ZB:3:PPU:H103	1.98	0.46
41:YH:40:GLU:OE2	41:YH:60:ARG:NH2	2.48	0.46
1:QA:861:G:O2'	1:QA:874:G:O2'	2.30	0.46
2:QB:8:LYS:H	2:QB:11:LEU:HD12	1.80	0.46
7:QG:47:CYS:HA	7:QG:50:ILE:HG22	1.96	0.46
7:QG:91:VAL:O	7:QG:96:GLN:NE2	2.49	0.46
16:QP:43:LYS:HG2	16:QP:48:TRP:CD2	2.50	0.46
29:R4:25:TYR:CZ	40:RG:3:LEU:HD21	2.50	0.46
29:R4:40:HIS:NE2	29:R4:45:GLY:HA3	2.30	0.46
35:RA:24:G:H5''	52:RW:8:ARG:HH22	1.80	0.46
35:RA:608:A:H2'	35:RA:609:A:C8	2.50	0.46
35:RA:2731:G:OP1	38:RE:169:ASN:ND2	2.48	0.46
36:RB:104:A:OP1	55:RZ:72:ARG:NH2	2.48	0.46
39:RF:107:LYS:HE3	39:RF:206:ILE:HA	1.97	0.46
48:RS:93:LYS:HD3	48:RS:95:HIS:HB2	1.98	0.46
1:XA:56:U:H2'	1:XA:57:G:C8	2.50	0.46
1:XA:1270:C:H2'	1:XA:1271:G:C8	2.50	0.46
2:XB:54:THR:O	2:XB:58:ILE:HG13	2.14	0.46
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.96	0.46
24:XZ:49:LYS:HA	24:XZ:49:LYS:HD2	1.67	0.46
29:Y4:57:GLU:HA	29:Y4:60:GLN:HB2	1.97	0.46
32:Y7:24:THR:O	32:Y7:28:ARG:HG3	2.16	0.46
35:YA:2258:C:O2'	35:YA:2427:C:OP2	2.28	0.46
49:YT:6:LEU:HA	49:YT:9:LEU:HB2	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1318:A:H1'	19:QS:37:ARG:HH21	1.81	0.46
12:QL:59:ARG:HA	12:QL:65:GLU:HA	1.97	0.46
13:QM:19:LEU:HD11	13:QM:30:ALA:HA	1.98	0.46
35:RA:247:G:H4'	35:RA:386:G:C5	2.51	0.46
35:RA:270(H):C:H42	35:RA:270(R):G:H1	1.63	0.46
42:RI:97:ILE:HG12	42:RI:140:LEU:HD11	1.97	0.46
2:XB:59:GLU:HB3	2:XB:221:LEU:HD21	1.97	0.46
3:XC:19:GLU:OE1	3:XC:54:ARG:HG3	2.15	0.46
6:XF:87:ARG:NH1	18:XR:75:ILE:O	2.49	0.46
13:XM:49:THR:HG22	13:XM:51:ALA:N	2.30	0.46
35:YA:918:A:N3	36:YB:80:U:O2'	2.45	0.46
35:YA:1782:C:H1'	35:YA:2609:U:H5''	1.97	0.46
43:YN:12:ARG:HB3	43:YN:50:ASP:OD2	2.15	0.46
1:QA:1189:C:OP1	10:QJ:51:ARG:NH2	2.43	0.46
1:QA:1323:G:H2'	1:QA:1324:A:C8	2.51	0.46
2:QB:13:ALA:HA	2:QB:17:PHE:CE2	2.50	0.46
33:R8:62:LEU:HB3	33:R8:65:GLU:HB2	1.98	0.46
35:RA:300:A:O2'	35:RA:318:C:O2	2.31	0.46
35:RA:632:A:H2'	35:RA:633:A:C8	2.50	0.46
35:RA:1105:U:H2'	35:RA:1106:G:C8	2.51	0.46
35:RA:2098:U:H3	35:RA:2191:G:H1	1.63	0.46
40:RG:73:ALA:HB2	40:RG:88:ILE:HD11	1.97	0.46
40:RG:103:LEU:O	40:RG:106:LEU:HB3	2.15	0.46
42:RI:8:PRO:N	42:RI:8:PRO:C	2.62	0.46
51:RV:68:LYS:H	51:RV:68:LYS:HD2	1.79	0.46
1:XA:192:U:H2'	1:XA:193:C:H6	1.81	0.46
7:XG:113:GLU:HB2	7:XG:119:ARG:HG2	1.98	0.46
35:YA:227:A:OP1	45:YP:76:LYS:NZ	2.27	0.46
35:YA:776:G:N7	35:YA:793:A:O2'	2.49	0.46
44:YO:70:LYS:HB2	44:YO:70:LYS:HE2	1.70	0.46
47:YR:56:LYS:NZ	47:YR:90:ARG:O	2.48	0.46
1:QA:738:C:H5''	6:QF:69:GLU:HB2	1.96	0.46
2:QB:154:LEU:O	2:QB:155:LEU:HB3	2.15	0.46
7:QG:69:VAL:CA	7:QG:138:LYS:CD	2.87	0.46
37:RD:133:LEU:HD11	37:RD:145:VAL:HG13	1.98	0.46
40:RG:7:LEU:HD23	40:RG:100:TRP:HE3	1.80	0.46
44:RO:2:ILE:HB	44:RO:33:ALA:HB3	1.97	0.46
1:XA:924:C:O2'	1:XA:1502:A:N6	2.49	0.46
1:XA:1279:A:H5''	10:XJ:7:LYS:HE3	1.97	0.46
7:XG:111:ARG:HD2	7:XG:123:GLU:HB2	1.98	0.46
9:XI:10:ARG:HD3	9:XI:75:ASP:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	1.98	0.46
35:YA:2315:G:OP1	40:YG:36:LYS:NZ	2.37	0.46
35:YA:2638:G:P	38:YE:82:ARG:HH12	2.39	0.46
1:QA:630:G:H3'	1:QA:631:G:H8	1.81	0.46
1:QA:937:A:O2'	7:QG:76:ARG:NH2	2.49	0.46
4:QD:96:LEU:HB3	4:QD:139:ARG:HH12	1.81	0.46
7:QG:90:GLU:H	7:QG:90:GLU:CD	2.17	0.46
9:QI:113:LYS:H	9:QI:119:ALA:HA	1.81	0.46
24:QY:44:LYS:CE	24:QY:59:ARG:HH11	2.25	0.46
35:RA:1139:G:O2'	35:RA:1143:A:N6	2.49	0.46
37:RD:4:LYS:HB2	37:RD:18:VAL:HG13	1.98	0.46
3:XC:189:ALA:CB	3:XC:196:LEU:H	2.27	0.46
6:XF:61:LEU:HD23	6:XF:63:TYR:HE2	1.80	0.46
13:XM:51:ALA:O	13:XM:55:ARG:HG3	2.15	0.46
27:Y2:41:ILE:HG13	27:Y2:43:GLN:HG3	1.97	0.46
35:YA:277:C:H3'	35:YA:278:A:H8	1.81	0.46
35:YA:2148:G:H2'	35:YA:2149:G:H8	1.81	0.46
44:YO:34:THR:HG22	44:YO:35:VAL:H	1.80	0.46
1:QA:985:C:H2'	1:QA:986:A:H8	1.81	0.46
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.51	0.46
7:QG:120:ILE:O	7:QG:124:LEU:HD12	2.16	0.46
27:R2:25:VAL:O	27:R2:29:LYS:HG2	2.16	0.46
35:RA:2314:C:H5'	40:RG:38:VAL:HG11	1.96	0.46
41:RH:59:ARG:HA	41:RH:62:LYS:HE2	1.98	0.46
43:RN:12:ARG:HG2	43:RN:13:TRP:N	2.31	0.46
1:XA:958:A:N3	1:XA:985:C:O2'	2.40	0.46
1:XA:1330:U:H4'	13:XM:23:TYR:CD1	2.50	0.46
15:XO:36:ILE:HD13	15:XO:60:VAL:HG12	1.98	0.46
25:Y0:14:ARG:NH2	35:YA:2279:G:N7	2.58	0.46
35:YA:1194:A:N7	45:YP:15:ARG:NH1	2.63	0.46
35:YA:2688:U:OP1	35:YA:2713:A:N6	2.48	0.46
38:YE:132:HIS:O	38:YE:134:ILE:HG12	2.16	0.46
39:YF:32:LEU:O	39:YF:36:VAL:HG23	2.15	0.46
41:YH:127:GLU:HG2	41:YH:128:PRO:HD2	1.97	0.46
43:YN:40:PRO:HB3	50:YU:68:ALA:HB2	1.98	0.46
55:YZ:14:LYS:CB	55:YZ:14:LYS:C	2.77	0.46
34:R9:25:VAL:HG22	34:R9:34:GLN:HB2	1.98	0.46
35:RA:2275:C:H1'	46:RQ:85:LYS:HA	1.98	0.46
42:RI:113:ARG:NH1	42:RI:113:ARG:CG	2.73	0.46
49:RT:11:GLU:OE1	49:RT:11:GLU:N	2.41	0.46
1:XA:62:U:H3	1:XA:105:G:H1	1.63	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:908:A:H2'	1:XA:909:A:C8	2.51	0.46
1:XA:1392:G:N2	1:XA:1502:A:H8	2.14	0.46
7:XG:59:LEU:O	7:XG:63:LYS:HG3	2.16	0.46
20:XT:45:GLN:N	20:XT:91:LEU:HD21	2.31	0.46
3:QC:52:LEU:HA	3:QC:70:VAL:HG22	1.97	0.45
9:QI:71:SER:HA	9:QI:74:ILE:HG22	1.98	0.45
11:QK:34:ASP:HB2	11:QK:35:PRO:CD	2.46	0.45
24:QY:16:TRP:NE1	24:QY:80:CYS:O	2.37	0.45
24:QZ:44:LYS:NZ	24:QZ:59:ARG:NH1	2.64	0.45
24:QZ:62:GLU:O	24:QZ:62:GLU:CG	2.65	0.45
35:RA:1550:C:H5'	35:RA:1733:G:H22	1.81	0.45
39:RF:64:ILE:HD11	39:RF:78:ILE:HG23	1.97	0.45
39:RF:155:LEU:HB2	39:RF:189:THR:HG21	1.98	0.45
42:RI:109:ILE:CG2	42:RI:130:TYR:CZ	3.00	0.45
1:XA:501:C:H2'	1:XA:502:G:H8	1.81	0.45
2:XB:21:ARG:HD2	2:XB:22:LYS:HB3	1.98	0.45
35:YA:839:U:H1'	35:YA:1191:G:H1'	1.97	0.45
35:YA:2148:G:H2'	35:YA:2149:G:C8	2.51	0.45
1:QA:148:G:H2'	1:QA:149:A:C8	2.50	0.45
1:QA:171:A:H2'	1:QA:172:A:C8	2.51	0.45
1:QA:713:G:H2'	1:QA:714:G:C8	2.52	0.45
1:QA:1001:G:H2'	1:QA:1002:G:C8	2.50	0.45
13:QM:14:ARG:O	13:QM:16:ASP:N	2.49	0.45
24:QZ:34:THR:HG21	24:QZ:68:TYR:CE1	2.52	0.45
31:R6:37:ARG:HB2	31:R6:48:VAL:HG12	1.98	0.45
35:RA:2502:G:H5''	35:RA:2503:A:H5''	1.98	0.45
42:RI:114:LEU:O	42:RI:114:LEU:HD23	2.15	0.45
53:RX:90:GLU:OE1	53:RX:90:GLU:N	2.47	0.45
1:XA:107:G:O6	20:XT:15:ARG:NH1	2.44	0.45
1:XA:118:U:H3'	1:XA:288:A:H61	1.81	0.45
1:XA:269:C:H2'	1:XA:270:A:C8	2.50	0.45
1:XA:413:G:O2'	1:XA:428:G:N2	2.49	0.45
1:XA:737:A:H2'	1:XA:738:C:C6	2.51	0.45
1:XA:948:C:H2'	1:XA:949:A:H8	1.81	0.45
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.97	0.45
13:XM:84:ILE:HG23	13:XM:86:CYS:H	1.80	0.45
8:QH:54:ASP:HB2	8:QH:56:LYS:NZ	2.31	0.45
24:QZ:27:ILE:HG23	24:QZ:66:LEU:HD21	1.98	0.45
29:R4:15:ILE:HD11	29:R4:32:TYR:HD2	1.81	0.45
35:RA:373:U:H1'	35:RA:423:A:N3	2.32	0.45
35:RA:519:U:H2'	35:RA:520:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RD:73:VAL:HA	37:RD:119:ALA:O	2.17	0.45
38:RE:77:ILE:HG21	38:RE:195:LEU:CD2	2.45	0.45
41:RH:30:LYS:HB2	41:RH:30:LYS:HE2	1.68	0.45
41:RH:45:VAL:O	41:RH:45:VAL:HG12	2.16	0.45
54:RY:14:LEU:HB2	54:RY:75:ILE:HD11	1.98	0.45
1:XA:1103:C:OP1	2:XB:96:ARG:NH2	2.49	0.45
9:XI:32:ASP:N	9:XI:35:GLU:OE1	2.27	0.45
9:XI:114:TYR:CE2	10:XJ:59:SER:HA	2.52	0.45
15:XO:3:ILE:HD12	15:XO:8:LYS:HD2	1.99	0.45
16:XP:71:ARG:HH11	16:XP:75:ARG:HH21	1.63	0.45
35:YA:693:C:H2'	35:YA:694:U:C6	2.52	0.45
35:YA:2159:G:H2'	35:YA:2160:G:C8	2.52	0.45
35:YA:2702:U:O2	35:YA:2703:C:N4	2.50	0.45
43:YN:83:LYS:HA	43:YN:83:LYS:HD2	1.70	0.45
43:RN:118:LYS:O	43:RN:121:LYS:NZ	2.49	0.45
55:RZ:152:ALA:N	55:RZ:169:GLU:O	2.48	0.45
1:XA:501:C:H2'	1:XA:502:G:C8	2.52	0.45
1:XA:1172:C:H2'	1:XA:1173:G:H8	1.82	0.45
1:XA:1318:A:C5'	19:XS:3:ARG:HH12	2.29	0.45
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.51	0.45
2:XB:70:PHE:HD1	2:XB:163:PHE:HB3	1.81	0.45
11:XK:20:TYR:HB2	11:XK:31:THR:HG23	1.97	0.45
19:XS:25:LYS:HA	19:XS:25:LYS:HD2	1.70	0.45
35:YA:859:G:HO2'	35:YA:916:G:H1	1.61	0.45
35:YA:2393:A:O2'	45:YP:60:MET:O	2.30	0.45
35:YA:2446:G:N2	35:YA:2449:U:O2	2.47	0.45
42:YI:140:LEU:HD12	42:YI:141:LYS:N	2.32	0.45
45:YP:138:LEU:HD23	45:YP:145:PRO:HB3	1.96	0.45
1:QA:1300:G:O2'	1:QA:1301:U:O5'	2.33	0.45
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.52	0.45
2:QB:155:LEU:HD22	2:QB:157:ARG:O	2.17	0.45
2:QB:193:ASP:OD2	2:QB:193:ASP:N	2.48	0.45
3:QC:85:ARG:O	3:QC:89:GLU:N	2.50	0.45
5:QE:144:THR:OG1	5:QE:147:ASP:OD1	2.32	0.45
19:QS:43:GLU:O	19:QS:47:HIS:CE1	2.70	0.45
60:QX:101:A3P:N6	24:QY:49:LYS:O	2.49	0.45
35:RA:48:G:N1	35:RA:177:G:OP2	2.41	0.45
35:RA:2023:G:OP2	35:RA:2617:C:H4'	2.17	0.45
35:RA:2183:C:H2'	35:RA:2184:G:H8	1.81	0.45
41:RH:72:ILE:O	41:RH:75:ALA:HB3	2.16	0.45
1:XA:634:C:H2'	1:XA:635:G:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:878:G:H5'	8:XH:89:PRO:HG2	1.97	0.45
1:XA:1233:G:O2'	1:XA:1365:G:OP1	2.35	0.45
13:XM:14:ARG:HH21	13:XM:42:ALA:HA	1.81	0.45
13:XM:23:TYR:CE2	13:XM:71:ARG:HG3	2.51	0.45
24:XY:42:LYS:O	24:XY:58:ARG:NH1	2.49	0.45
35:YA:589:C:H2'	35:YA:590:A:C8	2.52	0.45
35:YA:833:U:O2	45:YP:55:ARG:NH2	2.50	0.45
44:YO:119:PRO:HB2	49:YT:68:TYR:CZ	2.50	0.45
51:YV:4:ILE:HD12	51:YV:39:LEU:HD22	1.99	0.45
54:YY:30:VAL:HG22	54:YY:37:VAL:HG12	1.98	0.45
11:QK:50:TYR:CD2	11:QK:54:ARG:NH1	2.85	0.45
11:QK:109:VAL:HG12	18:QR:86:VAL:HA	1.97	0.45
13:QM:23:TYR:HE2	13:QM:71:ARG:HG3	1.82	0.45
19:QS:3:ARG:HH12	19:QS:5:LEU:HB3	1.82	0.45
26:R1:69:LYS:O	26:R1:73:LEU:HG	2.17	0.45
35:RA:851:U:H2'	35:RA:852:G:H8	1.81	0.45
41:RH:7:LEU:N	41:RH:8:PRO:HD3	2.30	0.45
55:RZ:41:LEU:O	55:RZ:45:ASP:N	2.45	0.45
1:XA:142:G:H2'	1:XA:143:A:H8	1.81	0.45
1:XA:448:A:H62	1:XA:486:U:H3	1.64	0.45
1:XA:715:A:H2'	1:XA:716:A:C8	2.51	0.45
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.81	0.45
24:XY:16:TRP:CZ2	24:XY:81:ARG:HG3	2.52	0.45
35:YA:1113:U:H2'	35:YA:1114:G:H8	1.81	0.45
35:YA:2291:U:H2'	35:YA:2292:C:C6	2.51	0.45
37:YD:145:VAL:HB	37:YD:155:LEU:HB2	1.99	0.45
42:YI:66:GLU:OE1	42:YI:67:ARG:HG2	2.17	0.45
42:YI:130:TYR:HB3	42:YI:136:VAL:HG13	1.97	0.45
1:QA:757:U:O2'	1:QA:879:C:O2	2.34	0.45
1:QA:1151:A:H1'	10:QJ:39:PRO:HB2	1.98	0.45
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.34	0.45
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.82	0.45
4:QD:63:LYS:HE3	4:QD:198:VAL:HG22	1.99	0.45
13:QM:13:LYS:HG3	13:QM:17:VAL:HG22	1.94	0.45
13:QM:14:ARG:O	13:QM:17:VAL:CG1	2.64	0.45
28:R3:55:ARG:HA	28:R3:55:ARG:HE	1.82	0.45
1:XA:950:U:H2'	1:XA:951:G:C8	2.52	0.45
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.17	0.45
24:XZ:61:THR:O	24:XZ:65:ARG:NH1	2.50	0.45
33:Y8:30:ARG:NH1	35:YA:2394:C:OP1	2.50	0.45
35:YA:320:A:H4'	35:YA:322:A:N7	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:532:A:N1	35:YA:2035:G:N2	2.64	0.45
38:YE:29:GLY:HA3	38:YE:51:PHE:HE1	1.82	0.45
40:YG:179:PRO:N	40:YG:179:PRO:C	2.61	0.45
48:YS:25:ARG:HG3	48:YS:88:ASP:HB2	1.98	0.45
51:YV:5:VAL:HG11	51:YV:35:LEU:HD13	1.98	0.45
1:QA:31:G:O2'	1:QA:48:C:N4	2.49	0.45
1:QA:1228:C:P	13:QM:108:ARG:HH12	2.40	0.45
4:QD:62:GLN:HE22	4:QD:65:ARG:HH21	1.64	0.45
10:QJ:7:LYS:HB3	10:QJ:71:LEU:CG	2.46	0.45
26:R1:78:LYS:HE2	35:RA:270(S):G:H1'	1.99	0.45
34:R9:22:ARG:HD2	34:R9:35:ARG:NH1	2.32	0.45
35:RA:30:G:O2'	35:RA:1214:A:N3	2.47	0.45
35:RA:587:C:OP2	45:RP:21:ARG:NH1	2.26	0.45
38:RE:64:LYS:O	38:RE:68:ALA:N	2.48	0.45
41:RH:89:ILE:O	41:RH:129:THR:OG1	2.35	0.45
1:XA:728:A:N7	15:XO:54:ARG:NH1	2.65	0.45
3:XC:81:GLY:N	3:XC:82:GLU:OE2	2.49	0.45
4:XD:173:TRP:HB3	4:XD:187:ARG:HH21	1.80	0.45
35:YA:414:C:H2'	35:YA:415:A:C8	2.52	0.45
35:YA:2392:A:H2	35:YA:2424:C:H42	1.64	0.45
48:YS:39:ILE:HD12	48:YS:85:VAL:HG11	1.99	0.45
5:QE:147:ASP:O	5:QE:151:LEU:HG	2.16	0.45
8:QH:95:VAL:HB	8:QH:99:GLU:HG3	1.99	0.45
15:QO:56:LEU:O	15:QO:60:VAL:HG23	2.17	0.45
19:QS:66:MET:HA	19:QS:69:HIS:HD2	1.81	0.45
26:R1:82:LEU:HB3	26:R1:83:GLU:H	1.54	0.45
35:RA:2746:U:H5''	41:RH:138:LYS:HD2	1.99	0.45
42:RI:12:LEU:HD22	42:RI:19:VAL:HB	1.99	0.45
1:XA:454:C:H5'	16:XP:71:ARG:HH22	1.82	0.45
9:XI:10:ARG:HH11	9:XI:105:ASP:HB2	1.81	0.45
24:XY:56:TRP:HB2	24:XY:68:TYR:CE1	2.51	0.45
35:YA:1571:A:H2'	35:YA:1572:A:C8	2.52	0.45
38:YE:57:LYS:O	38:YE:57:LYS:CG	2.63	0.45
39:YF:65:TRP:CZ3	39:YF:72:ARG:HD2	2.51	0.45
47:YR:38:VAL:HG13	47:YR:39:PRO:HD3	1.98	0.45
54:YY:13:VAL:HG12	54:YY:74:PRO:HA	1.98	0.45
55:YZ:128:VAL:CG2	55:YZ:161:VAL:HG12	2.39	0.45
1:QA:352:C:O2'	1:QA:354:G:OP1	2.30	0.45
2:QB:219:VAL:O	2:QB:222:ILE:HG13	2.17	0.45
3:QC:84:ILE:O	3:QC:88:ARG:HG3	2.16	0.45
9:QI:17:VAL:HG21	9:QI:80:GLY:O	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:78:ILE:O	13:QM:82:MET:HG3	2.17	0.45
27:R2:28:LYS:HD3	27:R2:53:LEU:HD11	1.99	0.45
35:RA:414:C:H2'	35:RA:415:A:C8	2.52	0.45
35:RA:2103:C:H2'	35:RA:2104:G:H8	1.82	0.45
37:RD:148:GLU:HB2	37:RD:151:LYS:HD2	1.99	0.45
40:RG:61:ALA:HB2	40:RG:67:LYS:HA	1.99	0.45
48:RS:11:LYS:CE	48:RS:91:PRO:HG3	2.43	0.45
49:RT:74:ARG:HG2	49:RT:76:PHE:CZ	2.52	0.45
1:XA:1382:C:H2'	1:XA:1383:C:H6	1.82	0.45
1:XA:1440:C:O2'	1:XA:1442:G:N2	2.50	0.45
6:XF:70:ASP:OD1	6:XF:70:ASP:N	2.47	0.45
8:XH:14:ARG:NH2	8:XH:83:ILE:O	2.47	0.45
8:XH:110:ALA:HB3	8:XH:121:ASP:HB3	1.97	0.45
9:XI:8:GLY:HA3	9:XI:76:ALA:O	2.17	0.45
10:XJ:34:VAL:HB	10:XJ:73:ASP:O	2.16	0.45
27:Y2:38:GLN:NE2	27:Y2:41:ILE:HD11	2.31	0.45
29:Y4:28:LYS:HB2	29:Y4:31:ILE:HD11	1.99	0.45
35:YA:116:C:O2'	35:YA:126:A:N3	2.44	0.45
35:YA:2245:U:H5''	35:YA:2246:G:H5'	1.99	0.45
35:YA:2727:G:O2'	44:YO:70:LYS:NZ	2.50	0.45
40:YG:150:ASP:OD1	40:YG:150:ASP:N	2.36	0.45
1:QA:17:U:H2'	1:QA:18:C:C6	2.52	0.44
1:QA:946:A:H2'	1:QA:947:G:H8	1.82	0.44
2:QB:50:GLU:O	2:QB:54:THR:HG23	2.17	0.44
2:QB:233:SER:O	2:QB:233:SER:OG	2.35	0.44
22:QW:19:G:H2'	35:RA:2112:G:H1'	1.99	0.44
24:QZ:44:LYS:NZ	24:QZ:59:ARG:HH11	2.16	0.44
33:R8:33:ASN:HB3	33:R8:41:ILE:HD11	1.99	0.44
35:RA:2441:C:OP2	35:RA:2586:C:O2'	2.30	0.44
39:RF:197:ASP:O	39:RF:201:VAL:HG23	2.18	0.44
40:RG:139:LEU:HD21	40:RG:146:TYR:HA	1.98	0.44
41:RH:18:GLU:HG3	41:RH:27:LYS:HZ2	1.82	0.44
49:RT:3:ARG:CA	49:RT:3:ARG:HB3	2.23	0.44
49:RT:96:ARG:HG2	49:RT:97:ALA:N	2.31	0.44
1:XA:1320:C:O2	19:XS:36:ARG:NH2	2.51	0.44
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.52	0.44
13:XM:3:ARG:HH21	40:YG:113:ARG:HH21	1.62	0.44
22:XV:50:U:H3	22:XV:64:G:H1	1.65	0.44
25:Y0:27:GLU:HB2	25:Y0:69:PHE:HD2	1.82	0.44
35:YA:2108:C:OP1	35:YA:2150:U:O2'	2.35	0.44
35:YA:2657:A:H62	35:YA:2664:G:H21	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:2730:C:O2'	38:YE:168:MET:O	2.32	0.44
42:YI:120:ILE:HG23	42:YI:120:ILE:O	2.17	0.44
1:QA:4:U:H3	8:QH:102:ARG:NH1	2.14	0.44
3:QC:87:LEU:HD13	3:QC:87:LEU:HA	1.88	0.44
3:QC:110:ASN:OD1	3:QC:140:ARG:NH2	2.50	0.44
4:QD:92:VAL:O	4:QD:96:LEU:HD12	2.17	0.44
27:R2:25:VAL:HG23	27:R2:57:ILE:HG23	2.00	0.44
28:R3:44:ARG:HA	28:R3:47:VAL:HG22	2.00	0.44
35:RA:997:G:H5''	50:RU:92:ARG:NH1	2.33	0.44
35:RA:1388:G:O2'	35:RA:1525:G:O2'	2.29	0.44
35:RA:2103:C:H2'	35:RA:2104:G:C8	2.53	0.44
36:RB:114:G:HO2'	48:RS:50:SER:HG	1.59	0.44
41:RH:58:GLU:HB2	41:RH:61:HIS:H	1.82	0.44
46:RQ:68:ILE:HG22	46:RQ:101:ARG:HE	1.83	0.44
54:RY:19:LYS:HE3	54:RY:20:TYR:CZ	2.52	0.44
2:XB:21:ARG:HE	2:XB:21:ARG:HB3	1.47	0.44
2:XB:98:LEU:O	2:XB:101:MET:HG3	2.16	0.44
2:XB:136:VAL:HG13	2:XB:139:LYS:HB3	1.99	0.44
31:Y6:8:LYS:HD3	33:Y8:34:TRP:CE2	2.52	0.44
37:YD:66:ASP:HB3	37:YD:105:ILE:HG22	1.99	0.44
1:QA:56:U:H2'	1:QA:57:G:C8	2.51	0.44
1:QA:377:G:OP1	16:QP:5:ARG:NH1	2.45	0.44
1:QA:1064:G:OP2	1:QA:1385:G:O2'	2.29	0.44
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.52	0.44
35:RA:2880:C:O3'	47:RR:90:ARG:NH1	2.50	0.44
40:RG:7:LEU:HA	40:RG:10:LYS:HB3	1.99	0.44
42:RI:9:LEU:CD2	42:RI:9:LEU:N	2.80	0.44
48:RS:30:ARG:HD2	48:RS:97:ARG:HE	1.82	0.44
49:RT:7:ILE:HA	49:RT:7:ILE:HD13	1.75	0.44
1:XA:1270:C:H2'	1:XA:1271:G:H8	1.82	0.44
4:XD:153:ARG:CD	4:XD:181:MET:CE	2.87	0.44
8:XH:91:ARG:HD2	12:XL:7:ILE:HG13	1.99	0.44
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.50	0.44
15:XO:15:PHE:HD2	15:XO:30:ALA:HB2	1.82	0.44
16:XP:74:LEU:HB3	16:XP:79:VAL:HG11	1.98	0.44
18:XR:34:TYR:CD2	18:XR:35:ARG:HG3	2.53	0.44
22:XW:65:C:H2'	22:XW:66:C:C6	2.52	0.44
27:Y2:37:PHE:HE2	53:YX:47:PHE:HZ	1.64	0.44
31:Y6:8:LYS:HD3	33:Y8:34:TRP:CD2	2.53	0.44
35:YA:336:C:H4'	54:YY:6:HIS:CE1	2.53	0.44
35:YA:523:C:O2	35:YA:553:U:O2'	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:577:G:O2'	35:YA:1254:A:OP1	2.33	0.44
49:YT:111:ARG:C	49:YT:113:LYS:H	2.21	0.44
1:QA:811:C:O2'	1:QA:901:A:N1	2.45	0.44
1:QA:1256:A:OP2	3:QC:26:LYS:NZ	2.32	0.44
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.53	0.44
2:QB:53:ARG:HG2	2:QB:56:ARG:NH2	2.32	0.44
8:QH:13:ILE:O	8:QH:17:THR:HG23	2.18	0.44
26:R1:92:LYS:HD3	26:R1:95:LEU:HD12	1.99	0.44
35:RA:1202:C:O2'	39:RF:184:TYR:OH	2.34	0.44
35:RA:1210:A:H5''	35:RA:1211:U:H3'	1.99	0.44
35:RA:2659:G:N2	35:RA:2662:A:OP2	2.46	0.44
36:RB:114:G:O2'	48:RS:50:SER:OG	2.21	0.44
42:RI:80:PRO:HA	42:RI:143:SER:O	2.18	0.44
1:XA:310:G:H4'	16:XP:31:LYS:HD2	1.99	0.44
4:XD:151:LYS:HE2	4:XD:151:LYS:H	1.82	0.44
9:XI:93:ARG:HH21	9:XI:97:LYS:HD3	1.82	0.44
22:XV:21:A:H61	22:XV:46:G:H2'	1.83	0.44
22:XW:43:A:H2'	22:XW:44:A:C8	2.53	0.44
27:Y2:15:LYS:N	27:Y2:67:LYS:HZ1	2.16	0.44
35:YA:859:G:N2	35:YA:917:A:OP2	2.48	0.44
35:YA:1171:G:O2'	35:YA:1173:G:O4'	2.33	0.44
35:YA:1418:G:OP1	35:YA:1588:C:O2'	2.34	0.44
35:YA:2328:A:H2'	35:YA:2329:G:C8	2.52	0.44
35:YA:2579:C:H4'	38:YE:134:ILE:HG13	1.99	0.44
37:YD:25:THR:HG21	37:YD:113:VAL:HG21	1.98	0.44
39:YF:153:SER:HB2	39:YF:190:GLU:H	1.83	0.44
48:YS:76:LYS:HB2	48:YS:76:LYS:HE2	1.75	0.44
55:YZ:133:ILE:HA	55:YZ:134:PRO:HD3	1.80	0.44
1:QA:1229:A:P	13:QM:114:ARG:HD3	2.57	0.44
9:QI:9:ARG:HB2	9:QI:104:ARG:NE	2.33	0.44
11:QK:34:ASP:HB3	11:QK:40:ILE:HD11	1.99	0.44
12:QL:76:ASN:OD1	12:QL:76:ASN:N	2.47	0.44
22:QW:18:G:H4'	22:QW:60:U:C2	2.53	0.44
24:QY:14:LEU:HD21	24:QZ:28:ASN:HD22	1.83	0.44
35:RA:309:G:N3	35:RA:329:G:O2'	2.44	0.44
35:RA:539:G:H2'	35:RA:540:G:H8	1.82	0.44
35:RA:704:G:H1'	35:RA:727:A:N6	2.32	0.44
35:RA:959:A:N3	35:RA:2457:U:O2'	2.43	0.44
35:RA:2681:C:OP2	38:RE:109:LYS:NZ	2.44	0.44
43:RN:6:PRO:HG3	43:RN:41:ASP:HB2	2.00	0.44
47:RR:96:ARG:O	47:RR:114:VAL:HA	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:RZ:151:HIS:HA	55:RZ:170:THR:HA	2.00	0.44
3:XC:152:ILE:HG12	3:XC:167:TRP:HD1	1.81	0.44
8:XH:119:LEU:HD23	8:XH:124:ALA:HA	2.00	0.44
35:YA:582:G:H2'	35:YA:583:G:H8	1.82	0.44
35:YA:583:G:H5''	50:YU:10:ARG:HH12	1.83	0.44
35:YA:919:G:N2	35:YA:2269:A:OP2	2.51	0.44
47:YR:28:LEU:HD23	47:YR:48:VAL:HG11	1.99	0.44
49:YT:128:GLU:O	49:YT:132:LYS:N	2.51	0.44
1:QA:553:A:H5''	12:QL:24:VAL:HG21	1.98	0.44
1:QA:1348:U:H4'	9:QI:120:ARG:NE	2.32	0.44
7:QG:44:TYR:HE2	9:QI:41:VAL:HG11	1.82	0.44
10:QJ:82:ILE:O	10:QJ:86:MET:HB2	2.17	0.44
13:QM:44:ARG:O	13:QM:48:LEU:CD2	2.66	0.44
35:RA:443:A:N7	39:RF:45:ARG:HG3	2.32	0.44
35:RA:2748:A:H2	35:RA:2754:U:H3	1.65	0.44
41:RH:6:ARG:HH11	41:RH:6:ARG:HG3	1.82	0.44
42:RI:120:ILE:HD13	42:RI:120:ILE:HG21	1.70	0.44
1:XA:269:C:H2'	1:XA:270:A:H8	1.83	0.44
1:XA:1064:G:OP2	1:XA:1385:G:O2'	2.27	0.44
1:XA:1177:G:N2	1:XA:1181:G:O6	2.51	0.44
2:XB:16:HIS:HD2	2:XB:204:ASN:H	1.66	0.44
6:XF:50:TYR:OH	6:XF:87:ARG:NH1	2.47	0.44
12:XL:51:ALA:HB3	12:XL:53:ARG:HE	1.82	0.44
20:XT:60:GLU:HA	20:XT:63:ILE:HD12	2.00	0.44
29:Y4:48:ARG:HB3	29:Y4:51:ASP:HB3	2.00	0.44
35:YA:600:G:N2	35:YA:605:C:O3'	2.51	0.44
35:YA:1022:G:OP2	43:YN:69:GLN:NE2	2.43	0.44
35:YA:1568:G:OP2	37:YD:63:ARG:NH2	2.47	0.44
42:YI:117:GLU:O	42:YI:117:GLU:HG3	2.17	0.44
49:YT:102:ILE:HA	49:YT:105:LEU:HD23	1.99	0.44
51:YV:72:VAL:HG23	51:YV:85:LYS:HB3	2.00	0.44
52:YW:36:LEU:HD13	52:YW:47:VAL:HG23	2.00	0.44
4:QD:88:VAL:O	4:QD:92:VAL:HG23	2.17	0.44
5:QE:59:GLY:O	5:QE:63:ARG:HG3	2.18	0.44
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.36	0.44
7:QG:79:ARG:HG3	7:QG:79:ARG:O	2.18	0.44
8:QH:86:ILE:HD11	8:QH:136:GLU:HG2	2.00	0.44
24:QY:4:ILE:HB	24:QY:76:LEU:HG	2.00	0.44
26:R1:11:ARG:NH2	35:RA:1365:A:O2'	2.49	0.44
35:RA:521:G:H2'	35:RA:522:G:H8	1.83	0.44
41:RH:86:GLU:OE1	41:RH:86:GLU:N	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RH:102:ALA:HB2	41:RH:116:GLU:OE1	2.18	0.44
42:RI:92:VAL:O	42:RI:120:ILE:HG22	2.18	0.44
55:RZ:27:VAL:HG12	55:RZ:85:HIS:HE1	1.83	0.44
1:XA:407:G:H2'	1:XA:408:A:H8	1.82	0.44
1:XA:1025:U:H2'	1:XA:1026:G:C8	2.52	0.44
7:XG:57:GLU:OE1	7:XG:60:LYS:NZ	2.47	0.44
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	1.99	0.44
29:Y4:43:TYR:CE1	40:YG:179:PRO:HG3	2.53	0.44
35:YA:2037:G:H2'	35:YA:2038:G:C8	2.53	0.44
35:YA:2836:U:H2'	35:YA:2837:G:C8	2.53	0.44
47:YR:38:VAL:HG22	47:YR:42:LYS:HE2	2.00	0.44
47:YR:41:ALA:HB1	47:YR:97:VAL:HG21	1.99	0.44
50:YU:50:ARG:HH12	51:YV:72:VAL:HG12	1.82	0.44
50:YU:92:ARG:CG	50:YU:95:LEU:HD12	2.48	0.44
1:QA:1072:G:N2	2:QB:107:THR:HG21	2.33	0.44
3:QC:78:GLY:HA3	3:QC:83:ARG:HB3	1.99	0.44
5:QE:33:VAL:HG13	5:QE:112:LEU:HD12	1.99	0.44
8:QH:20:TYR:CE1	8:QH:76:PRO:HG2	2.52	0.44
26:R1:60:PHE:HB3	26:R1:62:VAL:HG23	1.99	0.44
35:RA:389:G:N1	45:RP:71:VAL:HG12	2.32	0.44
35:RA:2125:G:H21	35:RA:2173:A:H62	1.65	0.44
35:RA:2591:C:H2'	35:RA:2592:G:C8	2.52	0.44
41:RH:71:LEU:CD1	41:RH:71:LEU:C	2.78	0.44
43:RN:40:PRO:HB3	50:RU:68:ALA:HB2	1.99	0.44
47:RR:65:LEU:HD23	47:RR:68:ARG:NH1	2.33	0.44
48:RS:11:LYS:HE2	48:RS:91:PRO:CD	2.47	0.44
55:RZ:115:GLY:HA2	55:RZ:177:PRO:HD3	2.00	0.44
1:XA:17:U:H2'	1:XA:18:C:C6	2.53	0.44
5:XE:20:GLN:OE1	5:XE:25:ARG:CZ	2.66	0.44
10:XJ:50:ILE:HA	10:XJ:60:ARG:HB2	1.99	0.44
33:Y8:10:ALA:HB3	33:Y8:62:LEU:HD21	1.98	0.44
33:Y8:46:ARG:HG3	33:Y8:47:LYS:O	2.18	0.44
34:Y9:25:VAL:HB	34:Y9:34:GLN:HB2	2.00	0.44
35:YA:581:C:H2'	35:YA:582:G:C8	2.53	0.44
35:YA:2645:G:N2	35:YA:2767:C:OP2	2.50	0.44
40:YG:60:LEU:HD12	40:YG:68:PRO:HG3	2.00	0.44
55:YZ:58:VAL:HG23	55:YZ:67:LEU:C	2.38	0.44
1:QA:579:G:H5'	1:QA:728:A:H1'	1.99	0.44
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.52	0.44
2:QB:155:LEU:HD21	2:QB:159:PRO:HD3	2.00	0.44
11:QK:59:TYR:O	11:QK:62:GLN:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:QZ:37:THR:OG1	24:QZ:40:GLU:O	2.34	0.44
24:QZ:83:HIS:C	24:QZ:84:TYR:OXT	2.56	0.44
26:R1:40:ARG:HH12	26:R1:42:GLN:HE21	1.64	0.44
35:RA:582:G:H2'	35:RA:583:G:C8	2.53	0.44
40:RG:124:SER:HB2	40:RG:131:TYR:CE2	2.53	0.44
42:RI:67:ARG:O	42:RI:71:ILE:HG12	2.18	0.44
44:RO:47:ILE:HD12	44:RO:48:PRO:O	2.18	0.44
48:RS:4:LEU:O	48:RS:9:ARG:NH2	2.51	0.44
54:RY:35:TYR:CE2	54:RY:69:ALA:HB3	2.52	0.44
2:XB:171:ALA:HA	2:XB:174:VAL:HG22	1.99	0.44
5:XE:51:VAL:O	5:XE:55:VAL:HG23	2.18	0.44
7:XG:49:ILE:HA	7:XG:52:GLU:HG2	1.99	0.44
10:XJ:21:GLN:OE1	10:XJ:22:LYS:HG2	2.18	0.44
10:XJ:46:ARG:HD3	14:YN:61:TRP:CH2	2.53	0.44
20:XT:58:LYS:O	20:XT:62:LEU:HD12	2.18	0.44
37:YD:17:THR:O	37:YD:211:ARG:NH2	2.42	0.44
38:YE:108:SER:HG	38:YE:162:ALA:N	2.16	0.44
40:YG:139:LEU:HD13	40:YG:139:LEU:C	2.38	0.44
42:YI:120:ILE:HD11	42:YI:126:TYR:CD2	2.53	0.44
49:YT:66:VAL:HA	49:YT:71:GLY:HA2	1.98	0.44
55:YZ:6:LYS:CD	55:YZ:60:GLU:HB2	2.48	0.44
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.47	0.43
7:QG:59:LEU:O	7:QG:62:PHE:HB3	2.18	0.43
17:QQ:13:ASP:OD2	17:QQ:14:LYS:NZ	2.50	0.43
35:RA:226:G:H21	35:RA:228:A:H62	1.64	0.43
35:RA:987:G:O2'	35:RA:1000:A:N3	2.42	0.43
35:RA:1332:G:H21	35:RA:1610:A:H8	1.66	0.43
35:RA:1638:C:O2	35:RA:2698:U:O2'	2.36	0.43
35:RA:2134:A:N6	35:RA:2157:G:O2'	2.51	0.43
39:RF:65:TRP:NE1	39:RF:73:ALA:O	2.41	0.43
40:RG:16:ARG:O	40:RG:20:ILE:CD1	2.66	0.43
42:RI:59:ALA:O	42:RI:62:LYS:HB3	2.18	0.43
48:RS:62:LYS:HD2	48:RS:97:ARG:HH11	1.72	0.43
3:XC:150:LYS:HG3	3:XC:169:ALA:HB2	1.99	0.43
12:XL:104:VAL:HG12	12:XL:105:TYR:H	1.83	0.43
13:XM:3:ARG:HG2	13:XM:3:ARG:O	2.18	0.43
24:XY:61:THR:O	24:XY:65:ARG:NH1	2.50	0.43
35:YA:2487:G:H2'	35:YA:2488:A:H8	1.81	0.43
35:YA:2713:A:OP1	47:YR:14:SER:OG	2.24	0.43
40:YG:68:PRO:HB3	40:YG:92:VAL:HB	2.00	0.43
40:YG:172:LEU:HD23	40:YG:176:LEU:HD13	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YP:45:LEU:HD12	45:YP:46:LYS:O	2.18	0.43
1:QA:736:C:H2'	1:QA:737:A:C8	2.53	0.43
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.83	0.43
1:QA:1264:C:H2'	1:QA:1265:G:H8	1.84	0.43
8:QH:87:SER:OG	8:QH:132:GLU:OE2	2.35	0.43
12:QL:117:ARG:NH2	12:QL:124:LYS:HD2	2.34	0.43
24:QY:59:ARG:HB2	24:QY:65:ARG:NH1	2.32	0.43
24:QZ:30:LEU:O	24:QZ:34:THR:OG1	2.27	0.43
35:RA:2148:G:H2'	35:RA:2149:G:C8	2.53	0.43
35:RA:2873:A:H8	47:RR:6:SER:N	2.07	0.43
37:RD:96:HIS:HD2	37:RD:102:LYS:HE2	1.82	0.43
38:RE:144:ARG:HB3	38:RE:145:LYS:H	1.51	0.43
41:RH:41:MET:HE2	41:RH:52:VAL:HG13	2.00	0.43
42:RI:12:LEU:HB3	42:RI:19:VAL:HG11	2.00	0.43
51:RV:34:GLU:OE2	51:RV:100:ARG:NH2	2.51	0.43
55:RZ:91:LEU:HD11	55:RZ:96:VAL:HG21	2.00	0.43
55:RZ:183:LEU:HD23	55:RZ:183:LEU:H	1.83	0.43
9:XI:111:ARG:HG2	9:XI:112:LYS:O	2.17	0.43
10:XJ:48:THR:HG22	10:XJ:62:HIS:HB3	2.00	0.43
13:XM:50:GLU:O	13:XM:54:VAL:HG23	2.18	0.43
13:XM:84:ILE:HD12	13:XM:84:ILE:HA	1.67	0.43
23:XX:4:A:H2'	23:XX:5:A:O4'	2.18	0.43
35:YA:38:A:H2'	35:YA:39:C:C6	2.53	0.43
35:YA:1056:G:H4'	35:YA:1086:A:H1'	1.99	0.43
35:YA:1991:U:H2'	35:YA:1992:G:H5''	1.99	0.43
37:YD:245:PRO:HA	37:YD:246:PRO:HD3	1.89	0.43
48:YS:27:SER:HA	48:YS:88:ASP:HB3	2.00	0.43
55:YZ:128:VAL:CG2	55:YZ:132:ASN:HB3	2.49	0.43
4:QD:94:LEU:HD11	4:QD:200:GLU:HG2	2.00	0.43
5:QE:79:GLU:HB2	5:QE:91:LEU:O	2.18	0.43
5:QE:131:ILE:O	5:QE:135:THR:HG23	2.17	0.43
30:R5:4:HIS:O	35:RA:2056:G:N2	2.51	0.43
37:RD:182:LEU:HD12	37:RD:272:ALA:HB2	2.00	0.43
40:RG:106:LEU:HA	40:RG:110:ALA:HB3	2.00	0.43
43:RN:95:PRO:C	43:RN:97:ARG:H	2.21	0.43
46:RQ:79:LEU:HD23	46:RQ:79:LEU:HA	1.73	0.43
49:RT:16:ARG:NH1	49:RT:83:ILE:O	2.35	0.43
1:XA:501:C:H1'	1:XA:549:C:H1'	2.01	0.43
6:XF:22:GLU:OE1	6:XF:84:ASN:HB2	2.18	0.43
14:XN:29:ARG:HD3	14:XN:40:CYS:HB2	2.00	0.43
33:Y8:28:GLY:HA3	33:Y8:44:LYS:HD3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:581:C:H2'	35:YA:582:G:H8	1.83	0.43
35:YA:1728:G:N7	35:YA:1731:G:C2	2.85	0.43
48:YS:10:ARG:HE	48:YS:10:ARG:HB3	1.54	0.43
55:YZ:54:HIS:CD2	55:YZ:101:PRO:HG3	2.53	0.43
1:QA:714:G:H2'	1:QA:715:A:C8	2.54	0.43
1:QA:1483:A:H1'	35:RA:1948:G:H1'	2.00	0.43
3:QC:59:ARG:HG3	3:QC:64:VAL:HG23	2.01	0.43
4:QD:61:LYS:HE3	4:QD:61:LYS:HB3	1.85	0.43
13:QM:84:ILE:HD11	19:QS:66:MET:HB3	2.01	0.43
25:R0:77:ARG:NH2	35:RA:857:C:OP2	2.51	0.43
35:RA:855:G:H1	35:RA:922:U:H3	1.64	0.43
38:RE:128:SER:OG	38:RE:129:HIS:N	2.50	0.43
40:RG:83:ARG:O	40:RG:86:MET:HG2	2.18	0.43
43:RN:23:LEU:HD13	43:RN:60:ILE:HD12	2.00	0.43
55:RZ:9:TYR:HE2	55:RZ:35:ARG:HE	1.66	0.43
28:Y3:49:LYS:NZ	35:YA:851:U:OP1	2.42	0.43
33:Y8:27:THR:OG1	35:YA:2361:A:O5'	2.36	0.43
35:YA:2243:U:H2'	35:YA:2244:U:C6	2.53	0.43
35:YA:2685:G:OP2	49:YT:51:ARG:NH2	2.51	0.43
43:YN:30:ILE:HG23	43:YN:52:VAL:HG11	2.01	0.43
48:YS:5:THR:OG1	48:YS:6:ALA:N	2.51	0.43
49:YT:49:VAL:HG22	49:YT:63:VAL:HG22	2.00	0.43
1:QA:216:G:H2'	1:QA:217:C:C6	2.54	0.43
1:QA:658:G:OP1	15:QO:8:LYS:NZ	2.47	0.43
1:QA:1127:G:H2'	1:QA:1128:C:C6	2.54	0.43
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.53	0.43
2:QB:208:ILE:H	2:QB:208:ILE:HD12	1.82	0.43
3:QC:119:ARG:HA	3:QC:119:ARG:HD2	1.76	0.43
10:QJ:25:GLU:HB3	10:QJ:29:ARG:CZ	2.48	0.43
13:QM:107:ALA:HB3	13:QM:111:LYS:HD3	2.00	0.43
26:R1:78:LYS:CE	35:RA:270(R):G:H21	2.28	0.43
31:R6:24:GLU:HB3	33:R8:34:TRP:CZ3	2.53	0.43
35:RA:299:A:N1	35:RA:322:A:O2'	2.45	0.43
37:RD:131:LEU:HD12	37:RD:131:LEU:N	2.33	0.43
1:XA:1300:G:O2'	1:XA:1303:C:N4	2.52	0.43
7:XG:73:MET:HG2	7:XG:90:GLU:HA	1.99	0.43
19:XS:37:ARG:H	19:XS:37:ARG:HG2	1.62	0.43
24:XY:16:TRP:CE2	24:XY:23:ILE:HG21	2.53	0.43
29:Y4:16:CYS:HB3	29:Y4:20:ASN:HB3	2.00	0.43
35:YA:2086:U:H2'	35:YA:2087:G:C8	2.54	0.43
42:YI:66:GLU:OE2	42:YI:67:ARG:NH1	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:YV:24:LYS:HA	51:YV:92:THR:OG1	2.18	0.43
1:QA:390:C:H2'	1:QA:391:G:C8	2.53	0.43
1:QA:1290:G:OP1	7:QG:35:LYS:NZ	2.52	0.43
10:QJ:6:ILE:HD11	10:QJ:98:ILE:C	2.38	0.43
13:QM:4:ILE:CD1	13:QM:57:ARG:HA	2.49	0.43
24:QZ:6:SER:OG	24:QZ:7:GLU:N	2.52	0.43
35:RA:200:U:O2	35:RA:386:G:N2	2.52	0.43
35:RA:1073:A:H2'	35:RA:1074:G:H8	1.84	0.43
35:RA:1353:A:H2'	35:RA:1354:A:C8	2.54	0.43
37:RD:16:MET:HG3	37:RD:207:GLY:HA3	1.99	0.43
1:XA:192:U:O2'	20:XT:57:ARG:HG3	2.18	0.43
1:XA:452:A:O2'	1:XA:453:A:O4'	2.34	0.43
2:XB:9:GLU:HG3	2:XB:10:LEU:N	2.33	0.43
13:XM:89:GLY:O	13:XM:93:ARG:HB3	2.18	0.43
13:XM:93:ARG:NH1	35:YA:887:A:OP1	2.51	0.43
16:XP:49:LEU:HD11	16:XP:73:LEU:HD22	2.01	0.43
35:YA:1794:U:H2'	35:YA:1795:C:C6	2.54	0.43
42:YI:9:LEU:HD11	42:YI:35:LEU:HD13	2.01	0.43
43:YN:67:LEU:O	43:YN:88:GLU:HG3	2.19	0.43
1:QA:25:C:H5'	1:QA:524:G:H1'	2.01	0.43
1:QA:80:G:C2	1:QA:89:U:O2	2.71	0.43
1:QA:694:A:HO2'	22:QW:38:A:HO2'	1.54	0.43
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.42	0.43
22:QW:43:A:H2'	22:QW:44:A:C8	2.53	0.43
35:RA:747:U:H5'	52:RW:90:ARG:HH21	1.84	0.43
35:RA:1819:A:H5''	37:RD:161:THR:HG21	2.00	0.43
35:RA:2086:U:H2'	35:RA:2087:G:C8	2.53	0.43
35:RA:2469:A:H2	35:RA:2481:G:H21	1.66	0.43
35:RA:2844:G:H3'	35:RA:2845:G:H8	1.83	0.43
41:RH:52:VAL:HG12	41:RH:65:HIS:NE2	2.34	0.43
41:RH:151:ILE:HG22	41:RH:153:LYS:HG2	2.01	0.43
42:RI:125:GLU:HG3	42:RI:141:LYS:CD	2.49	0.43
1:XA:272:C:H2'	1:XA:273:A:H8	1.84	0.43
6:XF:69:GLU:H	6:XF:69:GLU:CD	2.21	0.43
24:XZ:38:PRO:HB2	24:XZ:39:PHE:CD1	2.53	0.43
34:Y9:11:CYS:HB3	34:Y9:14:CYS:H	1.82	0.43
47:YR:97:VAL:HA	47:YR:113:LEU:O	2.19	0.43
1:QA:28:G:O2'	1:QA:296:U:OP1	2.30	0.43
1:QA:576:G:N2	1:QA:760:G:OP2	2.51	0.43
1:QA:765:G:N2	1:QA:813:U:OP2	2.46	0.43
1:QA:1130:A:N6	1:QA:1144:G:H21	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:156:LYS:HB2	2:QB:156:LYS:HE2	1.86	0.43
22:QW:43:A:H2'	22:QW:44:A:H8	1.84	0.43
28:R3:8:LEU:HG	28:R3:28:LEU:HD23	2.00	0.43
29:R4:55:ARG:CD	29:R4:59:PHE:CD1	3.02	0.43
37:RD:125:ILE:O	37:RD:125:ILE:HG22	2.19	0.43
37:RD:206:LEU:O	37:RD:211:ARG:HD3	2.18	0.43
38:RE:13:ARG:HE	49:RT:58:ASN:HB2	1.83	0.43
41:RH:87:LEU:HD23	41:RH:87:LEU:HA	1.74	0.43
41:RH:121:ILE:HG13	41:RH:134:SER:O	2.18	0.43
48:RS:35:ILE:HD13	48:RS:66:ALA:HB2	2.01	0.43
1:XA:454:C:H5'	16:XP:71:ARG:NH2	2.33	0.43
1:XA:701:C:O2	1:XA:703:G:N1	2.51	0.43
3:XC:73:PRO:HG3	3:XC:105:GLU:HB3	2.00	0.43
4:XD:63:LYS:HE3	4:XD:198:VAL:HG12	2.00	0.43
12:XL:93:LEU:HA	12:XL:94:PRO:HD3	1.87	0.43
20:XT:19:SER:O	20:XT:23:ARG:CB	2.66	0.43
51:YV:3:ALA:HB3	51:YV:14:VAL:HG22	2.01	0.43
55:YZ:121:HIS:HB2	55:YZ:171:ILE:HA	2.00	0.43
1:QA:958:A:OP1	24:QZ:36:ARG:NH1	2.52	0.43
4:QD:22:LYS:HE3	4:QD:25:ARG:HG2	2.01	0.43
10:QJ:16:LEU:HD22	10:QJ:70:ARG:HG2	2.01	0.43
11:QK:85:ARG:HG2	11:QK:111:ASP:O	2.19	0.43
22:QW:22:G:H2'	22:QW:23:C:C6	2.54	0.43
24:QY:36:ARG:HG3	24:QY:37:THR:HG23	2.00	0.43
24:QZ:52:LEU:HB3	24:QZ:55:PHE:HB2	2.01	0.43
29:R4:16:CYS:HB2	29:R4:36:CYS:SG	2.58	0.43
29:R4:60:GLN:HB2	29:R4:61:ARG:HD3	2.00	0.43
34:R9:30:PRO:HB2	35:RA:2527:C:H5'	2.00	0.43
35:RA:1434:A:H61	35:RA:1558:A:N6	2.17	0.43
35:RA:1971:A:C8	37:RD:241:PRO:HB3	2.53	0.43
40:RG:117:PHE:O	40:RG:117:PHE:CD2	2.70	0.43
42:RI:9:LEU:HD23	42:RI:10:GLU:H	1.83	0.43
46:RQ:32:TYR:CE2	46:RQ:133:ARG:HG3	2.54	0.43
47:RR:65:LEU:HA	47:RR:68:ARG:NH1	2.29	0.43
51:RV:59:ALA:HA	51:RV:95:LEU:O	2.19	0.43
1:XA:401:C:O2'	1:XA:621:A:N3	2.40	0.43
1:XA:953:G:H5'	1:XA:965:A:H61	1.83	0.43
12:XL:71:PRO:O	12:XL:102:ARG:NH1	2.51	0.43
35:YA:2030:A:H4'	35:YA:2031:A:C8	2.54	0.43
42:YI:117:GLU:O	42:YI:118:LYS:CG	2.57	0.43
46:YQ:138:ASP:CG	55:YZ:81:ARG:HH12	2.23	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:YZ:14:LYS:CB	55:YZ:14:LYS:N	2.65	0.43
1:QA:452:A:O2'	1:QA:453:A:O4'	2.34	0.43
1:QA:666:G:H5'	1:QA:726:C:H1'	2.01	0.43
1:QA:1371:G:OP2	9:QI:11:LYS:NZ	2.52	0.43
30:R5:20:ARG:HA	30:R5:23:HIS:ND1	2.34	0.43
32:R7:47:ARG:HH22	53:RX:60:ARG:CZ	2.32	0.43
1:XA:173:U:O2	1:XA:197:A:N6	2.52	0.43
1:XA:1224:G:HO2'	19:XS:78:ARG:NH2	2.17	0.43
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.83	0.43
2:XB:16:HIS:HB3	2:XB:17:PHE:H	1.17	0.43
3:XC:121:ALA:O	3:XC:124:ILE:HG13	2.19	0.43
4:XD:147:ALA:HA	4:XD:182:LYS:HA	2.01	0.43
42:YI:107:VAL:H	42:YI:107:VAL:HG22	1.62	0.43
50:YU:76:TYR:O	50:YU:80:ILE:HG12	2.18	0.43
51:YV:21:ARG:NE	51:YV:91:TYR:HE1	2.16	0.43
11:QK:33:THR:HG22	11:QK:39:PRO:HA	2.00	0.42
23:QX:12:A:H2'	23:QX:13:A:C8	2.54	0.42
24:QZ:4:ILE:HB	24:QZ:76:LEU:HA	2.01	0.42
32:R7:37:LYS:HG2	35:RA:458:G:C8	2.54	0.42
35:RA:654(G):C:N3	35:RA:654(N):G:N1	2.62	0.42
35:RA:1570:A:H2'	35:RA:1571:A:C8	2.53	0.42
35:RA:1995:U:O2	44:RO:3:GLN:NE2	2.51	0.42
38:RE:114:ALA:HB3	38:RE:160:TYR:HB3	2.01	0.42
39:RF:89:VAL:H	39:RF:89:VAL:HG12	1.61	0.42
39:RF:176:LEU:HD21	39:RF:181:LEU:HA	2.00	0.42
40:RG:138:GLN:OE1	40:RG:153:ARG:HB2	2.18	0.42
41:RH:10:PRO:CB	41:RH:12:PRO:HD3	2.46	0.42
49:RT:111:ARG:O	49:RT:113:LYS:N	2.52	0.42
1:XA:171:A:H2'	1:XA:172:A:C8	2.54	0.42
2:XB:233:SER:HA	2:XB:234:PRO:HD2	1.92	0.42
3:XC:112:SER:HB3	3:XC:115:LEU:HD12	2.00	0.42
4:XD:5:ILE:HA	4:XD:115:ARG:HH22	1.84	0.42
35:YA:259:G:H21	35:YA:621:A:H8	1.67	0.42
35:YA:2847:U:OP1	49:YT:98:LYS:NZ	2.46	0.42
40:YG:34:LEU:HG	40:YG:99:MET:HE1	2.01	0.42
1:QA:377:G:H2'	1:QA:378:G:C8	2.54	0.42
2:QB:219:VAL:O	2:QB:223:ILE:HG13	2.19	0.42
9:QI:73:GLN:O	9:QI:77:ILE:HG12	2.19	0.42
13:QM:121:LYS:HD3	13:QM:121:LYS:HA	1.91	0.42
35:RA:1252:G:OP2	50:RU:14:HIS:NE2	2.52	0.42
35:RA:2595:G:N2	35:RA:2598:A:OP2	2.45	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RA:2679:A:H4'	38:RE:165:VAL:HG11	2.00	0.42
35:RA:2785:C:O2'	38:RE:66:HIS:HD2	2.02	0.42
36:RB:103:U:O2'	55:RZ:29:TYR:OH	2.27	0.42
1:XA:728:A:C8	15:XO:54:ARG:NH1	2.87	0.42
1:XA:1028(B):C:H3'	1:XA:1029:G:H4'	2.01	0.42
1:XA:1322:C:OP1	19:XS:78:ARG:NH2	2.33	0.42
2:XB:93:VAL:HG21	2:XB:97:TRP:HD1	1.84	0.42
4:XD:57:ARG:HB3	4:XD:206:PHE:HB2	2.00	0.42
20:XT:30:LYS:HA	20:XT:33:ILE:HD12	2.00	0.42
35:YA:372:G:O2'	35:YA:373:U:OP2	2.37	0.42
35:YA:2591:C:H2'	35:YA:2592:G:C8	2.54	0.42
42:YI:135:GLU:HG2	42:YI:136:VAL:N	2.34	0.42
47:YR:65:LEU:HA	47:YR:68:ARG:HD2	2.01	0.42
50:YU:93:LYS:H	50:YU:93:LYS:HD2	1.84	0.42
2:QB:12:GLU:O	2:QB:17:PHE:HD2	2.02	0.42
6:QF:23:LYS:HE2	6:QF:61:LEU:HD21	2.00	0.42
17:QQ:83:ASP:OD1	17:QQ:83:ASP:N	2.52	0.42
18:QR:32:ARG:HA	18:QR:69:THR:HG21	2.01	0.42
24:QZ:10:TRP:HE1	24:QZ:14:LEU:CD1	2.09	0.42
30:R5:40:LYS:HZ2	30:R5:46:CYS:HB2	1.83	0.42
35:RA:177:G:H3'	35:RA:178:G:H8	1.84	0.42
35:RA:655:A:H4'	35:RA:656:G:H5'	2.01	0.42
35:RA:750:A:OP1	35:RA:1615:C:N4	2.51	0.42
35:RA:1188:U:H4'	51:RV:79:VAL:HG22	2.01	0.42
37:RD:25:THR:HG21	37:RD:113:VAL:HG21	2.01	0.42
37:RD:132:PRO:HB2	37:RD:134:ARG:CG	2.49	0.42
38:RE:104:VAL:HG11	38:RE:188:VAL:HG23	2.01	0.42
1:XA:1192:C:O2	5:XE:25:ARG:NH2	2.52	0.42
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.41	0.42
1:XA:1299:A:C5	1:XA:1301:U:O2	2.72	0.42
10:XJ:24:VAL:CG1	10:XJ:72:VAL:HG11	2.49	0.42
27:Y2:14:ARG:O	27:Y2:15:LYS:HB3	2.20	0.42
27:Y2:16:LEU:HD23	27:Y2:21:LEU:HG	2.01	0.42
35:YA:1309:G:O2'	35:YA:1611:C:O2'	2.31	0.42
35:YA:1434:A:H61	35:YA:1558:A:N6	2.17	0.42
35:YA:2292:C:OP1	48:YS:17:ARG:NH2	2.52	0.42
35:YA:2377:A:H2'	35:YA:2378:A:C8	2.53	0.42
43:YN:95:PRO:C	43:YN:97:ARG:H	2.23	0.42
1:QA:103:C:OP2	20:QT:14:LYS:NZ	2.50	0.42
1:QA:1239:A:O2'	7:QG:114:ARG:O	2.28	0.42
1:QA:1305:G:N2	1:QA:1331:G:H2'	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:90:GLU:OE1	3:QC:93:LYS:HD2	2.18	0.42
9:QI:114:TYR:HE2	10:QJ:59:SER:HA	1.85	0.42
22:QW:62:C:H2'	22:QW:63:G:H8	1.84	0.42
35:RA:521:G:H2'	35:RA:522:G:C8	2.55	0.42
35:RA:1020:A:N6	35:RA:1141:U:O2'	2.52	0.42
37:RD:232:PRO:HB3	37:RD:244:ARG:NH1	2.34	0.42
38:RE:48:GLN:HB3	38:RE:78:LEU:HD11	2.01	0.42
53:RX:34:ALA:O	53:RX:77:LYS:NZ	2.41	0.42
1:XA:280:C:H41	17:XQ:91:ARG:HH12	1.67	0.42
1:XA:1522:U:H2'	1:XA:1523:G:H8	1.84	0.42
24:XZ:4:ILE:HB	24:XZ:76:LEU:HA	1.99	0.42
24:XZ:82:TYR:HB3	24:XZ:83:HIS:H	1.71	0.42
35:YA:1790:C:H2'	35:YA:1791:A:C5	2.54	0.42
35:YA:2779:U:H1'	35:YA:2781:A:C5	2.54	0.42
37:YD:201:HIS:O	37:YD:204:ILE:HG12	2.19	0.42
39:YF:158:THR:O	39:YF:164:ARG:NH1	2.52	0.42
42:YI:68:LEU:HD21	42:YI:109:ILE:HD11	2.00	0.42
1:QA:501:C:H1'	1:QA:549:C:H1'	2.00	0.42
1:QA:562:C:O2'	12:QL:16:GLU:O	2.32	0.42
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.55	0.42
4:QD:84:LYS:HA	4:QD:84:LYS:HD2	1.78	0.42
14:QN:29:ARG:HD3	14:QN:40:CYS:HB2	2.01	0.42
35:RA:657:U:H2'	35:RA:658:C:C6	2.54	0.42
35:RA:2305:A:H5''	40:RG:134:GLY:HA3	2.02	0.42
38:RE:75:VAL:HG23	38:RE:77:ILE:O	2.19	0.42
1:XA:142:G:H2'	1:XA:143:A:C8	2.54	0.42
1:XA:422:C:HO2'	1:XA:423:G:N2	2.18	0.42
2:XB:17:PHE:CD1	2:XB:17:PHE:O	2.73	0.42
3:XC:190:ARG:H	3:XC:195:VAL:HG23	1.84	0.42
22:XV:76:A:N6	35:YA:2450:A:O2'	2.53	0.42
29:Y4:41:PRO:HA	29:Y4:44:THR:HG21	2.02	0.42
35:YA:642:G:H21	35:YA:646:A:H2	1.67	0.42
35:YA:1403:C:H5''	35:YA:1471:A:H1'	2.02	0.42
35:YA:1636:C:H2'	35:YA:1637:A:C8	2.54	0.42
35:YA:2183:C:H2'	35:YA:2184:G:C8	2.55	0.42
35:YA:2469:A:O2'	46:YQ:56:ARG:HD3	2.19	0.42
48:YS:12:PHE:O	48:YS:16:ASN:ND2	2.52	0.42
49:YT:22:PHE:HA	49:YT:91:ARG:HH12	1.85	0.42
51:YV:76:LYS:HB2	51:YV:81:TYR:HB3	2.00	0.42
55:YZ:8:TYR:HD1	55:YZ:38:TYR:CZ	2.38	0.42
1:QA:954:G:H21	1:QA:1227:A:H62	1.66	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:111:ARG:HD2	7:QG:123:GLU:OE1	2.20	0.42
24:QZ:10:TRP:HA	24:QZ:13:TYR:HB3	2.01	0.42
35:RA:964:C:O2'	35:RA:2273:A:N3	2.41	0.42
35:RA:2777:G:OP2	35:RA:2781:A:O2'	2.31	0.42
35:RA:2809:A:H2'	35:RA:2810:A:C8	2.55	0.42
40:RG:7:LEU:O	40:RG:11:TYR:N	2.45	0.42
48:RS:3:ARG:HG2	48:RS:4:LEU:HD13	2.01	0.42
1:XA:1127:G:H2'	1:XA:1128:C:C6	2.55	0.42
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.53	0.42
2:XB:222:ILE:O	2:XB:226:ARG:HG2	2.20	0.42
3:XC:172:ARG:HG2	3:XC:174:PRO:HD3	2.02	0.42
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.84	0.42
25:Y0:72:ARG:HB3	25:Y0:75:LEU:HB2	2.01	0.42
35:YA:673:C:H5''	39:YF:81:PRO:HD2	2.00	0.42
35:YA:1435:G:N2	35:YA:1477:A:O2'	2.50	0.42
35:YA:2469:A:H2	35:YA:2481:G:H21	1.66	0.42
35:YA:2641:G:P	43:YN:74:ARG:HH21	2.41	0.42
38:YE:54:GLN:HE21	38:YE:54:GLN:HA	1.85	0.42
42:YI:72:LEU:HD11	42:YI:101:LEU:HD21	2.01	0.42
50:YU:44:ASN:HD21	51:YV:75:PHE:HB3	1.85	0.42
55:YZ:128:VAL:CG1	55:YZ:133:ILE:HG22	2.49	0.42
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.53	0.42
1:QA:377:G:H2'	1:QA:378:G:H8	1.84	0.42
1:QA:737:A:H2'	1:QA:738:C:C6	2.55	0.42
8:QH:12:ARG:NH1	8:QH:27:PRO:HD3	2.35	0.42
13:QM:31:LYS:O	13:QM:32:GLU:C	2.57	0.42
19:QS:10:PHE:CE2	19:QS:12:ASP:HB3	2.55	0.42
35:RA:448:U:H1'	39:RF:84:VAL:HG21	2.02	0.42
35:RA:2037:G:H2'	35:RA:2038:G:C8	2.55	0.42
35:RA:2291:U:H2'	35:RA:2292:C:C6	2.55	0.42
35:RA:2805:G:H2'	35:RA:2807:G:C8	2.55	0.42
38:RE:111:ARG:HB2	38:RE:160:TYR:O	2.20	0.42
39:RF:17:ARG:N	39:RF:17:ARG:HD3	2.35	0.42
42:RI:58:LEU:O	42:RI:62:LYS:CB	2.66	0.42
46:RQ:60:ARG:HA	55:RZ:177:PRO:HB2	2.02	0.42
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.18	0.42
1:XA:757:U:O2'	1:XA:879:C:O2	2.38	0.42
1:XA:1299:A:N1	1:XA:1301:U:C4	2.88	0.42
13:XM:102:ARG:HE	13:XM:105:THR:CG2	2.33	0.42
14:XN:34:TYR:CD2	14:XN:44:LEU:CD1	3.03	0.42
24:XY:51:ASN:OD1	24:XY:51:ASN:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:XZ:48:LEU:HD13	24:XZ:52:LEU:HD12	1.90	0.42
35:YA:608:A:H2'	35:YA:609:A:C8	2.54	0.42
35:YA:749:C:H5'	35:YA:1271:G:H1'	2.01	0.42
35:YA:1057:A:H2'	35:YA:1058:G:C8	2.54	0.42
35:YA:2789:C:H1'	35:YA:2892:A:H2	1.85	0.42
40:YG:27:ASN:HB3	40:YG:30:GLU:HG3	2.00	0.42
42:YI:4:ILE:HG12	42:YI:18:VAL:HG22	2.01	0.42
49:YT:54:ARG:HA	49:YT:59:THR:HG23	2.00	0.42
55:YZ:95:PRO:HA	55:YZ:129:SER:HA	2.02	0.42
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.84	0.42
1:QA:1304:G:N1	1:QA:1332:A:OP2	2.53	0.42
10:QJ:8:LEU:HD12	10:QJ:8:LEU:HA	1.80	0.42
25:R0:26:TYR:CE2	35:RA:857:C:H1'	2.52	0.42
26:R1:53:VAL:HB	26:R1:58:ILE:HD12	2.02	0.42
35:RA:589:C:H2'	35:RA:590:A:H8	1.85	0.42
35:RA:1889:A:N3	35:RA:2086:U:O2'	2.53	0.42
35:RA:2546:U:H5''	35:RA:2547:U:H5'	2.02	0.42
37:RD:130:ALA:C	37:RD:131:LEU:HD12	2.39	0.42
55:RZ:29:TYR:HE2	55:RZ:87:ASP:HB3	1.84	0.42
1:XA:713:G:H2'	1:XA:714:G:C8	2.55	0.42
1:XA:985:C:H2'	1:XA:986:A:H8	1.83	0.42
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.55	0.42
1:XA:1392:G:H21	1:XA:1502:A:H8	1.68	0.42
3:XC:7:PRO:HG2	3:XC:184:TYR:HB2	2.00	0.42
7:XG:22:LEU:HD21	7:XG:66:VAL:HG21	2.02	0.42
20:XT:86:ARG:O	20:XT:90:GLN:HG2	2.19	0.42
35:YA:817:C:H4'	35:YA:932:G:C5	2.55	0.42
35:YA:1224:G:N2	35:YA:1227:A:OP2	2.48	0.42
38:YE:201:THR:HG22	38:YE:203:LYS:H	1.85	0.42
49:YT:91:ARG:HB2	49:YT:121:ILE:HD11	2.02	0.42
1:QA:112:G:H22	1:QA:315:A:H2	1.66	0.42
1:QA:624:C:H2'	1:QA:625:G:H8	1.85	0.42
1:QA:1125:U:P	1:QA:1145:C:H42	2.43	0.42
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.85	0.42
1:QA:1241:G:H2'	1:QA:1242:C:H6	1.84	0.42
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.85	0.42
2:QB:189:ASP:HB3	2:QB:203:GLY:O	2.20	0.42
3:QC:22:TRP:CZ3	3:QC:32:LEU:HD13	2.55	0.42
4:QD:200:GLU:O	4:QD:204:ILE:HG12	2.19	0.42
5:QE:33:VAL:HG21	5:QE:109:ILE:HG12	2.02	0.42
13:QM:11:ARG:HA	13:QM:45:VAL:CG1	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:34:LEU:O	13:QM:37:THR:OG1	2.38	0.42
19:QS:65:ASN:OD1	19:QS:65:ASN:N	2.48	0.42
35:RA:576:U:H2'	35:RA:577:G:C8	2.55	0.42
35:RA:1007:C:H5''	43:RN:35:ARG:NH1	2.35	0.42
35:RA:1007:C:H5''	43:RN:35:ARG:HH11	1.83	0.42
35:RA:1394:U:H4'	35:RA:1603:A:H4'	2.01	0.42
35:RA:2543:G:H2'	35:RA:2544:G:C8	2.55	0.42
35:RA:2632:A:O2'	35:RA:2811:G:O2'	2.30	0.42
40:RG:139:LEU:HA	40:RG:144:ILE:CD1	2.50	0.42
41:RH:144:VAL:O	41:RH:148:ILE:HG23	2.20	0.42
42:RI:75:LEU:HD12	42:RI:75:LEU:HA	1.86	0.42
49:RT:96:ARG:CG	49:RT:97:ALA:N	2.82	0.42
1:XA:891:U:H2'	1:XA:892:A:H8	1.84	0.42
5:XE:33:VAL:HG21	5:XE:109:ILE:HG12	2.02	0.42
19:XS:50:ALA:HA	19:XS:58:VAL:O	2.20	0.42
35:YA:2115:G:OP1	35:YA:2167:U:N3	2.35	0.42
39:YF:72:ARG:HG2	39:YF:73:ALA:N	2.35	0.42
48:YS:94:TYR:OH	48:YS:106:ARG:NH2	2.52	0.42
55:YZ:5:LEU:O	55:YZ:59:LEU:HA	2.20	0.42
55:YZ:133:ILE:HD12	55:YZ:133:ILE:C	2.41	0.42
1:QA:950:U:H2'	1:QA:951:G:C8	2.54	0.42
5:QE:98:THR:N	5:QE:117:ASP:OD2	2.52	0.42
10:QJ:24:VAL:HG23	10:QJ:25:GLU:HG3	2.01	0.42
13:QM:23:TYR:HB3	13:QM:71:ARG:NH2	2.34	0.42
35:RA:336:C:O2'	54:RY:35:TYR:OH	2.38	0.42
40:RG:32:PRO:HB3	40:RG:163:ALA:HB2	2.01	0.42
41:RH:11:VAL:N	41:RH:12:PRO:HD3	2.35	0.42
48:RS:25:ARG:HG3	48:RS:88:ASP:HB2	2.02	0.42
1:XA:216:G:H2'	1:XA:217:C:C6	2.55	0.42
1:XA:422:C:O2'	1:XA:423:G:N2	2.52	0.42
1:XA:728:A:H2'	1:XA:729:A:C8	2.55	0.42
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.85	0.42
2:XB:42:ILE:HG22	2:XB:43:ASP:C	2.40	0.42
2:XB:179:LYS:HA	8:XH:72:PRO:HG3	2.00	0.42
10:XJ:85:LEU:HD23	10:XJ:85:LEU:HA	1.91	0.42
27:Y2:16:LEU:H	27:Y2:67:LYS:HZ1	1.66	0.42
27:Y2:58:ALA:O	27:Y2:62:THR:HG23	2.19	0.42
35:YA:612:G:O2'	35:YA:616:A:N1	2.48	0.42
35:YA:1230:C:H2'	35:YA:1231:G:C8	2.55	0.42
40:YG:69:ALA:HB3	40:YG:91:ARG:HH12	1.85	0.42
42:YI:40:THR:O	42:YI:44:LEU:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YN:61:ARG:HH11	43:YN:61:ARG:CG	2.33	0.42
47:YR:63:ARG:HH11	47:YR:76:VAL:HG23	1.85	0.42
48:YS:15:ARG:HG2	48:YS:19:LYS:HE3	2.00	0.42
1:QA:950:U:H2'	1:QA:951:G:H8	1.85	0.41
10:QJ:22:LYS:NZ	10:QJ:90:LEU:HB2	2.35	0.41
11:QK:34:ASP:HB2	11:QK:35:PRO:HD2	2.02	0.41
24:QZ:44:LYS:HD3	24:QZ:59:ARG:CD	2.38	0.41
25:R0:5:LYS:HA	25:R0:5:LYS:HD3	1.65	0.41
35:RA:1636:C:H2'	35:RA:1637:A:C8	2.55	0.41
35:RA:2375:G:N2	35:RA:2377:A:H3'	2.34	0.41
35:RA:2636:U:OP1	38:RE:79:ARG:HG3	2.19	0.41
40:RG:171:ALA:O	40:RG:175:LEU:HG	2.20	0.41
42:RI:125:GLU:N	42:RI:125:GLU:CD	2.73	0.41
46:RQ:66:ILE:H	46:RQ:66:ILE:HG13	1.49	0.41
49:RT:111:ARG:C	49:RT:113:LYS:H	2.23	0.41
1:XA:35:G:H2'	1:XA:36:C:C6	2.55	0.41
13:XM:14:ARG:HB2	13:XM:17:VAL:HG22	2.01	0.41
15:XO:5:LYS:HG2	15:XO:9:GLN:HG2	2.02	0.41
29:Y4:58:ARG:CZ	29:Y4:59:PHE:CE1	3.02	0.41
35:YA:813:U:H2'	35:YA:814:C:H6	1.85	0.41
35:YA:1316:U:H2'	35:YA:1317:A:C8	2.55	0.41
38:YE:1:MET:HG3	38:YE:84:PHE:HA	2.02	0.41
47:YR:8:ARG:HD3	47:YR:10:LEU:HD21	2.02	0.41
51:YV:5:VAL:HG13	51:YV:35:LEU:HB3	2.01	0.41
1:QA:34:C:H2'	1:QA:35:G:H8	1.84	0.41
1:QA:376:G:H5''	16:QP:5:ARG:HD2	2.02	0.41
1:QA:524:G:H2'	1:QA:525:C:C6	2.55	0.41
1:QA:643:C:H4'	8:QH:31:PHE:CE1	2.54	0.41
20:QT:76:ALA:HB1	20:QT:80:ARG:NH1	2.35	0.41
25:R0:69:PHE:CE2	25:R0:79:VAL:HG22	2.54	0.41
27:R2:12:GLU:OE1	27:R2:15:LYS:HD2	2.21	0.41
27:R2:63:VAL:HA	27:R2:66:GLU:HG2	2.02	0.41
35:RA:2141:G:N2	35:RA:2150:U:O2	2.44	0.41
35:RA:2343:C:O2'	35:RA:2373:G:O2'	2.24	0.41
36:RB:24:G:O6	36:RB:56:G:O2'	2.37	0.41
37:RD:123:ALA:CB	37:RD:131:LEU:HD11	2.35	0.41
40:RG:78:SER:O	40:RG:78:SER:OG	2.36	0.41
42:RI:136:VAL:CG1	42:RI:136:VAL:O	2.68	0.41
49:RT:26:ASP:OD2	49:RT:120:ARG:NH2	2.49	0.41
1:XA:1300:G:O2'	1:XA:1301:U:O5'	2.32	0.41
3:XC:6:HIS:CE1	3:XC:8:ILE:HG12	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:49:VAL:HG21	14:YN:41:ARG:O	2.20	0.41
35:YA:195:A:H61	35:YA:198:C:H3'	1.85	0.41
35:YA:307:G:H21	35:YA:330:A:H62	1.68	0.41
35:YA:659:C:H2'	35:YA:660:G:H8	1.85	0.41
35:YA:2052:G:H4'	38:YE:143:ASN:O	2.20	0.41
35:YA:2175:C:H2'	35:YA:2176:A:C8	2.55	0.41
39:YF:137:LYS:HA	39:YF:137:LYS:HD2	1.86	0.41
40:YG:171:ALA:O	40:YG:175:LEU:HG	2.20	0.41
45:YP:19:VAL:HG12	45:YP:27:HIS:HB3	2.02	0.41
46:YQ:110:THR:HG23	46:YQ:113:GLN:H	1.85	0.41
50:YU:72:HIS:ND1	50:YU:110:VAL:HG11	2.34	0.41
1:QA:377:G:OP1	16:QP:3:LYS:HD3	2.19	0.41
1:QA:827:U:H3	1:QA:872:A:H62	1.67	0.41
1:QA:1493:A:C6	60:QX:101:A3P:H4'	2.55	0.41
2:QB:187:LEU:HD12	2:QB:201:ILE:O	2.20	0.41
3:QC:97:LYS:HA	3:QC:97:LYS:HD3	1.75	0.41
9:QI:48:GLU:OE2	9:QI:51:ARG:HD3	2.20	0.41
10:QJ:78:ASN:ND2	10:QJ:80:LYS:HD3	2.35	0.41
19:QS:43:GLU:O	19:QS:47:HIS:HE1	2.04	0.41
25:R0:7:LEU:HD11	46:RQ:85:LYS:HE2	2.02	0.41
35:RA:519:U:H2'	35:RA:520:G:C8	2.54	0.41
35:RA:1837:C:O2'	35:RA:1927:A:N3	2.43	0.41
35:RA:2757:A:N1	41:RH:67:LEU:CD2	2.66	0.41
38:RE:47:VAL:HG13	38:RE:49:LEU:HD11	2.01	0.41
42:RI:13:GLY:HA3	42:RI:17:GLN:HB3	2.01	0.41
42:RI:57:ARG:O	42:RI:61:ARG:HG2	2.19	0.41
48:RS:58:LEU:HD12	48:RS:59:LYS:H	1.85	0.41
1:XA:1236:A:H4'	1:XA:1304:G:H4'	2.01	0.41
1:QA:1256:A:H1'	1:QA:1258:G:C6	2.56	0.41
3:QC:7:PRO:HG2	3:QC:184:TYR:HB2	2.02	0.41
8:QH:11:THR:HG23	8:QH:14:ARG:HH12	1.84	0.41
9:QI:9:ARG:HB2	9:QI:104:ARG:HE	1.84	0.41
13:QM:81:LEU:HD23	13:QM:81:LEU:HA	1.78	0.41
14:QN:3:ARG:O	14:QN:7:ILE:HG23	2.20	0.41
22:QW:69:C:H2'	22:QW:70:G:C8	2.56	0.41
25:R0:46:LYS:HZ2	25:R0:46:LYS:HB3	1.85	0.41
35:RA:443:A:C8	39:RF:45:ARG:HG3	2.55	0.41
35:RA:680:G:H2'	35:RA:681:G:C8	2.55	0.41
35:RA:740:U:H2'	35:RA:741:G:C8	2.55	0.41
35:RA:1273:U:O2'	35:RA:1275:A:OP1	2.28	0.41
40:RG:8:LYS:HE3	40:RG:12:TYR:HE2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RG:19:LEU:HD11	40:RG:172:LEU:HD12	2.02	0.41
41:RH:4:ILE:HG21	41:RH:6:ARG:NE	2.35	0.41
42:RI:5:LEU:HD13	42:RI:9:LEU:HD22	2.02	0.41
51:RV:18:LEU:HB3	51:RV:96:ILE:HD12	2.02	0.41
54:RY:50:ARG:NH1	54:RY:52:SER:OG	2.53	0.41
7:XG:79:ARG:HA	7:XG:83:ALA:O	2.20	0.41
13:XM:47:ASP:OD1	13:XM:47:ASP:N	2.54	0.41
25:Y0:32:ARG:H	25:Y0:35:ASN:ND2	2.17	0.41
29:Y4:44:THR:HB	29:Y4:47:GLN:HB2	2.01	0.41
35:YA:545:G:N2	35:YA:548:A:OP2	2.46	0.41
35:YA:1816:G:O6	37:YD:35:LYS:NZ	2.53	0.41
35:YA:2438:U:O2'	35:YA:2440:C:OP1	2.33	0.41
37:YD:148:GLU:HB2	37:YD:151:LYS:HD2	2.03	0.41
38:YE:2:LYS:HB3	38:YE:95:ILE:HD12	2.03	0.41
41:YH:77:LYS:HD3	41:YH:77:LYS:HA	1.80	0.41
42:YI:33:ARG:HA	42:YI:33:ARG:HD2	1.89	0.41
43:YN:26:LEU:O	43:YN:30:ILE:HG13	2.21	0.41
46:YQ:30:GLY:N	46:YQ:105:GLU:OE2	2.54	0.41
51:YV:5:VAL:CG1	51:YV:35:LEU:HB3	2.51	0.41
1:QA:1347:G:H8	1:QA:1347:G:H2'	1.52	0.41
4:QD:191:ARG:NH1	4:QD:194:LEU:O	2.54	0.41
13:QM:36:LYS:HA	13:QM:36:LYS:HD2	1.93	0.41
13:QM:80:ARG:NH2	29:R4:55:ARG:CZ	2.83	0.41
22:QW:36:U:H2'	22:QW:37:A:C8	2.56	0.41
22:QW:71:C:H2'	22:QW:72:A:C8	2.56	0.41
31:R6:21:TYR:OH	35:RA:2347:C:O2'	2.37	0.41
35:RA:1056:G:H21	35:RA:1103:A:H62	1.68	0.41
35:RA:1657:C:H2'	35:RA:1658:C:H6	1.85	0.41
35:RA:2310:A:N6	40:RG:79:ASN:OD1	2.52	0.41
37:RD:42:GLY:HA2	37:RD:51:VAL:HG12	2.03	0.41
41:RH:58:GLU:HB3	41:RH:60:ARG:N	2.35	0.41
42:RI:5:LEU:H	42:RI:5:LEU:HG	1.60	0.41
42:RI:68:LEU:HD23	42:RI:72:LEU:HB2	2.03	0.41
42:RI:123:LEU:HD23	42:RI:144:VAL:HG13	2.00	0.41
43:RN:21:LYS:NZ	43:RN:138:LEU:C	2.73	0.41
55:RZ:163:LEU:HD23	55:RZ:163:LEU:HA	1.95	0.41
1:XA:235:C:H2'	1:XA:236:G:C8	2.56	0.41
15:XO:53:HIS:O	15:XO:56:LEU:HB3	2.20	0.41
28:Y3:52:HIS:CG	36:YB:83:G:H4'	2.56	0.41
29:Y4:13:ARG:HB3	29:Y4:29:PRO:O	2.20	0.41
35:YA:1681:G:O2'	35:YA:1762:A:O2'	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:2116:G:H22	35:YA:2164:C:H41	1.68	0.41
35:YA:2183:C:H2'	35:YA:2184:G:H8	1.85	0.41
43:YN:35:ARG:HG2	43:YN:37:LYS:HG3	2.03	0.41
50:YU:88:ILE:HG13	51:YV:49:THR:HA	2.02	0.41
1:QA:21:G:H2'	1:QA:22:G:C8	2.56	0.41
1:QA:564:C:P	12:QL:15:ARG:HH21	2.43	0.41
1:QA:1028(A):C:H2'	1:QA:1028(B):C:C6	2.54	0.41
1:QA:1251:A:N3	1:QA:1369:C:O2'	2.42	0.41
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.55	0.41
1:QA:1348:U:N3	1:QA:1374:A:H2	2.18	0.41
2:QB:217:ARG:HH11	2:QB:217:ARG:HG3	1.86	0.41
22:QW:22:G:H2'	22:QW:23:C:H6	1.85	0.41
35:RA:2125:G:N2	35:RA:2173:A:H62	2.18	0.41
35:RA:2212:A:H1'	35:RA:2215:G:C5	2.55	0.41
35:RA:2489:G:N2	35:RA:2491:U:O4	2.45	0.41
35:RA:2636:U:H3	35:RA:2782:G:H1	1.67	0.41
35:RA:2730:C:O2'	38:RE:168:MET:O	2.34	0.41
39:RF:140:LEU:HD23	39:RF:140:LEU:HA	1.80	0.41
43:RN:23:LEU:HD13	43:RN:60:ILE:CD1	2.50	0.41
53:RX:83:VAL:HG22	53:RX:87:GLN:HB2	2.02	0.41
1:XA:299:G:H2'	1:XA:300:A:C8	2.56	0.41
1:XA:728:A:C6	15:XO:54:ARG:HD3	2.53	0.41
1:XA:971:G:C6	1:XA:1365:G:H5'	2.55	0.41
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.53	0.41
20:XT:57:ARG:HD3	20:XT:102:GLY:O	2.20	0.41
29:Y4:51:ASP:HB3	29:Y4:52:THR:H	1.72	0.41
35:YA:861:A:N3	36:YB:79:C:O2'	2.53	0.41
35:YA:2111:C:OP1	35:YA:2145:C:N4	2.36	0.41
37:YD:108:PRO:HD2	37:YD:111:LEU:HD22	2.02	0.41
50:YU:17:ILE:HG23	50:YU:39:LEU:HD12	2.03	0.41
1:QA:60:A:OP1	1:QA:111:G:N2	2.54	0.41
1:QA:357:G:O2'	42:YI:89:TYR:O	2.38	0.41
1:QA:1316:G:N7	19:QS:7:LYS:NZ	2.68	0.41
9:QI:28:VAL:HG12	9:QI:63:ILE:HB	2.03	0.41
10:QJ:21:GLN:O	10:QJ:24:VAL:HG22	2.21	0.41
11:QK:122:LYS:O	11:QK:126:ARG:HG2	2.20	0.41
25:R0:24:LYS:HA	25:R0:24:LYS:HD2	1.82	0.41
26:R1:50:ARG:HG2	26:R1:59:THR:HG23	2.03	0.41
26:R1:62:VAL:HG12	26:R1:63:ALA:O	2.21	0.41
34:R9:24:TYR:CE1	34:R9:35:ARG:CD	3.04	0.41
35:RA:1057:A:H2'	35:RA:1058:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RA:2111:C:C2	35:RA:2118:U:H1'	2.55	0.41
35:RA:2415:G:H4'	45:RP:67:MET:H	1.85	0.41
35:RA:2438:U:O3'	35:RA:2439:A:H3'	2.20	0.41
37:RD:106:ILE:HD11	37:RD:143:HIS:HD2	1.86	0.41
38:RE:97:LYS:HG2	38:RE:100:GLU:OE1	2.20	0.41
39:RF:24:LEU:HB3	39:RF:115:ALA:HB2	2.02	0.41
40:RG:11:TYR:CE2	40:RG:16:ARG:HD2	2.56	0.41
40:RG:71:THR:N	40:RG:89:GLY:O	2.48	0.41
41:RH:58:GLU:N	41:RH:61:HIS:ND1	2.66	0.41
47:RR:38:VAL:HG12	47:RR:112:ALA:HB2	2.01	0.41
54:RY:20:TYR:HE1	54:RY:43:ASN:HA	1.86	0.41
55:RZ:99:TYR:HE1	55:RZ:125:LEU:HB2	1.85	0.41
1:XA:524:G:H2'	1:XA:525:C:C6	2.55	0.41
4:XD:61:LYS:HE2	4:XD:206:PHE:CE2	2.56	0.41
6:XF:22:GLU:OE2	6:XF:82:ARG:NE	2.52	0.41
17:XQ:84:LEU:O	17:XQ:87:LYS:HG2	2.20	0.41
35:YA:603:A:N6	35:YA:625:G:O2'	2.53	0.41
35:YA:969:U:H2'	35:YA:970:C:C6	2.56	0.41
39:YF:158:THR:HG21	39:YF:163:VAL:HG23	2.02	0.41
40:YG:53:LEU:HD21	40:YG:87:PRO:HB2	2.01	0.41
42:YI:117:GLU:O	42:YI:117:GLU:CG	2.69	0.41
55:YZ:11:GLU:O	55:YZ:36:LYS:NZ	2.54	0.41
1:QA:407:G:H2'	1:QA:408:A:H8	1.86	0.41
1:QA:745:C:H2'	1:QA:746:A:C8	2.55	0.41
1:QA:1314:C:N4	19:QS:2:PRO:O	2.53	0.41
24:QY:3:LEU:HD11	24:QY:31:ILE:HG21	2.03	0.41
34:R9:2:LYS:HG3	34:R9:3:VAL:HG23	2.03	0.41
35:RA:128:C:H2'	35:RA:129:C:C6	2.55	0.41
38:RE:29:GLY:HA2	38:RE:180:ASN:HB3	2.03	0.41
40:RG:7:LEU:HD12	40:RG:10:LYS:HD3	2.03	0.41
1:XA:1059:C:OP2	3:XC:199:LYS:NZ	2.53	0.41
1:XA:1218:C:OP2	14:XN:9:LYS:NZ	2.54	0.41
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.56	0.41
1:XA:1454:G:OP1	20:XT:39:LYS:NZ	2.35	0.41
7:XG:20:ASP:HB3	7:XG:23:VAL:HG12	2.01	0.41
10:XJ:78:ASN:OD1	10:XJ:78:ASN:N	2.54	0.41
12:XL:32:PHE:HB3	12:XL:84:LEU:HD11	2.03	0.41
17:XQ:19:VAL:HG23	17:XQ:44:ALA:HB3	2.03	0.41
19:XS:15:LEU:O	19:XS:19:VAL:HG23	2.21	0.41
35:YA:499:U:H5'	54:YY:46:LYS:HE3	2.02	0.41
35:YA:848:G:H2'	35:YA:849:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:1230:C:H2'	35:YA:1231:G:H8	1.84	0.41
35:YA:2853:C:H2'	35:YA:2854:G:H8	1.86	0.41
1:QA:267:C:OP2	17:QQ:67:LYS:HD2	2.20	0.41
1:QA:1125:U:C5	10:QJ:5:ARG:NH2	2.89	0.41
1:QA:1189:C:H5''	3:QC:5:ILE:HD13	2.02	0.41
1:QA:1243:C:H5''	21:QU:8:THR:HG21	2.02	0.41
1:QA:1289:A:OP1	21:QU:9:ARG:NH2	2.53	0.41
2:QB:59:GLU:HB3	2:QB:221:LEU:HD22	2.03	0.41
3:QC:8:ILE:HG23	3:QC:16:ARG:HE	1.85	0.41
3:QC:131:ARG:NH2	3:QC:167:TRP:O	2.53	0.41
13:QM:8:GLU:O	13:QM:10:PRO:CD	2.67	0.41
35:RA:448:U:C4	35:RA:583:G:H1'	2.55	0.41
35:RA:862:G:O2'	36:RB:78:A:N3	2.50	0.41
35:RA:1278:A:H2'	35:RA:1279:G:C8	2.56	0.41
35:RA:1316:U:H2'	35:RA:1317:A:H8	1.86	0.41
35:RA:2305:A:H1'	40:RG:136:ARG:HG2	2.02	0.41
35:RA:2779:U:H1'	35:RA:2781:A:C5	2.56	0.41
35:RA:2779:U:H6	35:RA:2779:U:H2'	1.63	0.41
38:RE:201:THR:HG22	38:RE:203:LYS:H	1.85	0.41
40:RG:117:PHE:C	40:RG:119:GLY:N	2.74	0.41
41:RH:54:ARG:HB2	41:RH:61:HIS:HB3	2.03	0.41
42:RI:78:THR:HA	42:RI:141:LYS:O	2.21	0.41
42:RI:123:LEU:HD12	42:RI:123:LEU:N	2.35	0.41
44:RO:24:VAL:HG13	44:RO:33:ALA:HB2	2.03	0.41
53:RX:18:TYR:HA	53:RX:21:PHE:CD2	2.56	0.41
55:RZ:23:LYS:HB3	55:RZ:38:TYR:HD2	1.85	0.41
1:XA:64:G:N2	1:XA:68:G:O6	2.48	0.41
1:XA:1129:C:H4'	1:XA:1130:A:H5'	2.03	0.41
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.56	0.41
2:XB:15:VAL:O	2:XB:17:PHE:CE2	2.73	0.41
3:XC:95:THR:OG1	3:XC:97:LYS:HB2	2.20	0.41
4:XD:60:GLU:HG2	4:XD:63:LYS:HE2	2.03	0.41
4:XD:86:LYS:HD2	4:XD:86:LYS:HA	1.75	0.41
5:XE:20:GLN:OE1	5:XE:25:ARG:NE	2.54	0.41
6:XF:50:TYR:HE2	6:XF:87:ARG:HH22	1.69	0.41
11:XK:52:GLY:H	11:XK:55:LYS:HE2	1.86	0.41
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.86	0.41
17:XQ:89:LEU:HA	17:XQ:92:ARG:HG2	2.03	0.41
35:YA:65:C:O2'	35:YA:456:C:N3	2.44	0.41
35:YA:465:G:H2'	35:YA:466:A:C8	2.55	0.41
35:YA:740:U:H2'	35:YA:741:G:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:922:U:H2'	35:YA:923:C:C6	2.56	0.41
35:YA:2443:C:H2'	35:YA:2444:G:C8	2.56	0.41
35:YA:2748:A:C8	41:YH:63:SER:HB3	2.36	0.41
35:YA:2771:C:H5''	38:YE:202:LYS:NZ	2.35	0.41
35:YA:2853:C:H2'	35:YA:2854:G:C8	2.56	0.41
43:YN:136:GLU:O	43:YN:137:LYS:HD2	2.21	0.41
49:YT:80:SER:HA	49:YT:81:PRO:HD3	1.91	0.41
1:QA:110:C:O2'	16:QP:25:ARG:O	2.35	0.41
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.56	0.41
4:QD:100:ARG:O	4:QD:104:VAL:HG23	2.21	0.41
5:QE:12:LEU:HD22	5:QE:128:PRO:HB2	2.03	0.41
9:QI:17:VAL:HG12	9:QI:63:ILE:HG12	2.02	0.41
12:QL:8:ASN:O	12:QL:12:ARG:HG3	2.21	0.41
17:QQ:85:VAL:O	17:QQ:89:LEU:HG	2.21	0.41
19:QS:52:TYR:OH	19:QS:55:LYS:O	2.39	0.41
28:R3:10:LYS:HB3	28:R3:53:LEU:HD23	2.03	0.41
29:R4:38:LYS:HD3	29:R4:38:LYS:HA	1.93	0.41
31:R6:4:GLU:O	31:R6:27:LYS:NZ	2.36	0.41
35:RA:570:G:H2'	35:RA:2030:A:C5	2.55	0.41
35:RA:2836:U:H2'	35:RA:2837:G:C8	2.56	0.41
41:RH:58:GLU:CB	41:RH:61:HIS:H	2.34	0.41
49:RT:135:ALA:HA	49:RT:137:LYS:HD2	2.02	0.41
1:XA:377:G:H2'	1:XA:378:G:C8	2.56	0.41
1:XA:1396:A:H4'	1:XA:1397:C:H5''	2.03	0.41
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.56	0.41
8:XH:51:VAL:HG21	8:XH:60:ARG:HG3	2.03	0.41
13:XM:15:VAL:O	13:XM:18:ALA:HB3	2.21	0.41
25:Y0:7:LEU:HD21	46:YQ:81:VAL:HG13	2.03	0.41
37:YD:164:GLN:OE1	37:YD:176:ARG:NH2	2.46	0.41
39:YF:82:ILE:HG13	39:YF:83:PHE:HD1	1.85	0.41
44:YO:120:GLU:HG2	44:YO:122:LEU:HG	2.03	0.41
47:YR:42:LYS:HA	47:YR:45:ARG:HD3	2.03	0.41
49:YT:102:ILE:HB	49:YT:110:ILE:HD12	2.02	0.41
1:QA:165:C:H2'	1:QA:166:G:H8	1.85	0.40
7:QG:50:ILE:O	7:QG:54:THR:HG22	2.21	0.40
8:QH:46:LYS:CG	8:QH:64:LYS:CG	2.93	0.40
9:QI:19:LEU:HD12	9:QI:19:LEU:HA	1.92	0.40
10:QJ:6:ILE:HD13	10:QJ:97:GLU:O	2.14	0.40
11:QK:122:LYS:HE2	11:QK:122:LYS:HB3	1.92	0.40
13:QM:11:ARG:O	13:QM:12:ASN:OD1	2.39	0.40
26:R1:12:PRO:HB3	26:R1:43:TYR:HD1	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RA:679:C:H2'	35:RA:680:G:H8	1.86	0.40
41:RH:4:ILE:CG2	41:RH:6:ARG:HG2	2.51	0.40
42:RI:138:ILE:O	42:RI:138:ILE:HG23	2.21	0.40
43:RN:5:VAL:HA	43:RN:6:PRO:HD3	1.94	0.40
20:XT:16:HIS:O	20:XT:19:SER:OG	2.19	0.40
60:XX:101:A3P:O2'	24:XY:46:GLU:OE2	2.39	0.40
24:XY:59:ARG:HG3	24:XY:65:ARG:NH1	2.37	0.40
29:Y4:58:ARG:HG3	29:Y4:59:PHE:CD1	2.44	0.40
34:Y9:11:CYS:SG	34:Y9:13:LYS:HB2	2.61	0.40
35:YA:2074:U:H2'	35:YA:2075:U:C6	2.56	0.40
50:YU:74:LEU:HD11	50:YU:114:LYS:HG2	2.03	0.40
1:QA:192:U:H2'	1:QA:193:C:C6	2.56	0.40
1:QA:719:C:N3	18:QR:74:ARG:NH2	2.69	0.40
2:QB:105:PHE:HZ	2:QB:156:LYS:HA	1.86	0.40
3:QC:115:LEU:HD23	3:QC:115:LEU:HA	1.95	0.40
7:QG:26:PHE:HA	7:QG:101:LEU:HD23	2.03	0.40
10:QJ:7:LYS:HB3	10:QJ:71:LEU:CB	2.51	0.40
13:QM:22:ILE:HD11	13:QM:67:GLU:HB3	2.02	0.40
26:R1:33:LYS:HD2	35:RA:2432:A:C8	2.56	0.40
35:RA:37:C:H2'	35:RA:38:A:C8	2.56	0.40
35:RA:726:G:O2'	35:RA:727:A:H8	2.04	0.40
35:RA:1228:G:OP1	50:RU:13:LYS:NZ	2.46	0.40
35:RA:1536:A:H62	35:RA:1538:G:H1'	1.86	0.40
35:RA:2845:G:H2'	35:RA:2846:G:C8	2.56	0.40
37:RD:245:PRO:HA	37:RD:246:PRO:HD3	1.92	0.40
40:RG:129:GLY:O	40:RG:161:THR:HB	2.20	0.40
41:RH:4:ILE:H	41:RH:4:ILE:HG22	1.52	0.40
41:RH:152:ARG:HA	41:RH:152:ARG:HD3	1.95	0.40
44:RO:76:ALA:HB3	49:RT:75:ILE:HD12	2.02	0.40
46:RQ:66:ILE:HD12	46:RQ:67:ARG:N	2.36	0.40
47:RR:9:LYS:HB2	47:RR:17:ARG:NH1	2.36	0.40
47:RR:18:LEU:HD21	47:RR:22:ARG:CZ	2.52	0.40
1:XA:186(B):C:H2'	1:XA:186(C):G:H8	1.85	0.40
1:XA:691:G:H2'	1:XA:692:U:C6	2.57	0.40
1:XA:1191:A:OP1	3:XC:4:LYS:HE3	2.21	0.40
10:XJ:84:GLN:O	10:XJ:88:LEU:HB2	2.20	0.40
14:XN:48:ALA:HB2	14:XN:53:LEU:HD12	2.03	0.40
17:XQ:43:LEU:HD13	17:XQ:68:ARG:NH1	2.37	0.40
35:YA:1070:A:H5'	35:YA:1071:G:H5''	2.02	0.40
35:YA:2212:A:H4'	35:YA:2213:U:H5	1.86	0.40
35:YA:2696:U:H2'	35:YA:2697:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YD:61:LEU:O	37:YD:63:ARG:NH1	2.54	0.40
38:YE:128:SER:OG	38:YE:129:HIS:N	2.53	0.40
38:YE:174:ASP:HB3	38:YE:183:LEU:HD22	2.02	0.40
48:YS:18:ILE:HG21	48:YS:88:ASP:HA	2.03	0.40
53:YX:66:LEU:HD12	53:YX:66:LEU:HA	1.99	0.40
55:YZ:54:HIS:HB3	55:YZ:101:PRO:HD3	2.03	0.40
2:QB:132:LYS:HG2	2:QB:135:GLN:NE2	2.36	0.40
3:QC:147:LYS:HE3	3:QC:203:PHE:CE2	2.56	0.40
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	2.02	0.40
5:QE:51:VAL:HA	5:QE:54:ALA:HB3	2.03	0.40
9:QI:19:LEU:CG	9:QI:59:PHE:CE1	2.69	0.40
10:QJ:79:ARG:CZ	10:QJ:82:ILE:HG13	2.51	0.40
19:QS:10:PHE:CE1	19:QS:16:LEU:HD22	2.56	0.40
20:QT:58:LYS:HB2	20:QT:58:LYS:HE3	1.81	0.40
20:QT:99:LEU:HD23	20:QT:99:LEU:HA	1.93	0.40
22:QV:50:U:H2'	22:QV:51:C:C6	2.56	0.40
24:QY:5:TRP:HB2	24:QZ:3:LEU:HB2	2.04	0.40
29:R4:46:GLN:OE1	29:R4:46:GLN:HA	2.21	0.40
34:R9:36:GLN:NE2	35:RA:1124:C:O2	2.54	0.40
35:RA:142:G:H2'	35:RA:143:C:H6	1.86	0.40
35:RA:831:G:N2	45:RP:53:GLY:O	2.53	0.40
35:RA:1070:A:H5'	35:RA:1071:G:H5''	2.03	0.40
37:RD:75:ILE:O	37:RD:118:VAL:CG2	2.69	0.40
37:RD:120:GLY:O	37:RD:131:LEU:HG	2.20	0.40
41:RH:46:GLU:CG	41:RH:47:GLU:H	2.33	0.40
1:XA:390:C:H2'	1:XA:391:G:C8	2.57	0.40
2:XB:134:GLU:OE1	2:XB:137:ARG:HD3	2.22	0.40
4:XD:81:GLU:CD	4:XD:139:ARG:HH12	2.25	0.40
5:XE:8:GLU:HG3	5:XE:34:VAL:HG12	2.03	0.40
25:Y0:56:ASP:HA	35:YA:2386:C:H4'	2.03	0.40
27:Y2:7:ARG:NH2	35:YA:102:G:OP1	2.55	0.40
33:Y8:48:PHE:HE1	33:Y8:50:LEU:HD22	1.85	0.40
34:Y9:18:ARG:HD2	34:Y9:23:VAL:HG22	2.04	0.40
43:YN:71:ILE:HG21	43:YN:84:LYS:HB3	2.03	0.40
44:YO:79:PHE:HD1	49:YT:72:VAL:HG22	1.87	0.40
54:YY:46:LYS:HG3	54:YY:60:PHE:HB3	2.04	0.40
55:YZ:54:HIS:CG	55:YZ:101:PRO:HG3	2.56	0.40
1:QA:407:G:H2'	1:QA:408:A:C8	2.55	0.40
1:QA:1316:G:N2	1:QA:1318:A:H3'	2.36	0.40
9:QI:9:ARG:CB	9:QI:104:ARG:HE	2.34	0.40
10:QJ:7:LYS:HB3	10:QJ:71:LEU:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:47:LYS:HB2	12:QL:48:PRO:CD	2.51	0.40
13:QM:91:ARG:HA	13:QM:91:ARG:HD2	1.88	0.40
24:QY:14:LEU:HD11	24:QZ:28:ASN:HD22	1.85	0.40
24:QZ:16:TRP:CD2	24:QZ:23:ILE:HG21	2.57	0.40
31:R6:24:GLU:HB3	33:R8:34:TRP:HZ3	1.86	0.40
34:R9:24:TYR:CZ	34:R9:35:ARG:HD3	2.56	0.40
35:RA:1289:C:H2'	35:RA:1290:C:H6	1.87	0.40
35:RA:1598:C:H5'	53:RX:37:THR:HG23	2.04	0.40
35:RA:1791:A:H3'	35:RA:1792:G:H8	1.85	0.40
40:RG:109:VAL:HG12	40:RG:113:ARG:CD	2.52	0.40
40:RG:131:TYR:CE1	40:RG:133:LEU:HB3	2.57	0.40
44:RO:108:GLU:HG3	44:RO:108:GLU:O	2.21	0.40
1:XA:35:G:N3	12:XL:118:SER:OG	2.46	0.40
1:XA:603:U:H2'	1:XA:604:G:C8	2.56	0.40
1:XA:1367:C:O2'	10:XJ:48:THR:HG21	2.20	0.40
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.57	0.40
5:XE:151:LEU:HD21	8:XH:77:GLU:HG2	2.04	0.40
35:YA:582:G:H2'	35:YA:583:G:C8	2.56	0.40
35:YA:582:G:OP1	50:YU:14:HIS:ND1	2.54	0.40
35:YA:2543:G:H2'	35:YA:2544:G:C8	2.56	0.40
39:YF:154:VAL:CG2	39:YF:173:VAL:HG12	2.52	0.40
41:YH:25:LYS:HB2	41:YH:25:LYS:HE2	1.67	0.40
42:YI:86:THR:H	42:YI:123:LEU:HD21	1.87	0.40
1:QA:728:A:H2'	1:QA:729:A:C8	2.56	0.40
2:QB:17:PHE:HB2	2:QB:44:LEU:HD11	2.03	0.40
2:QB:19:HIS:ND1	2:QB:206:ASP:HB2	2.36	0.40
4:QD:157:LEU:O	4:QD:161:ASN:OD1	2.39	0.40
5:QE:6:PHE:HZ	5:QE:40:ARG:HH21	1.69	0.40
10:QJ:30:SER:C	10:QJ:80:LYS:HE3	2.42	0.40
10:QJ:33:GLN:O	10:QJ:75:ILE:CG1	2.70	0.40
12:QL:93:LEU:HA	12:QL:94:PRO:HD3	1.91	0.40
21:QU:11:GLY:O	21:QU:15:ARG:HG2	2.21	0.40
42:RI:122:GLU:OE2	42:RI:122:GLU:CA	2.70	0.40
55:RZ:5:LEU:HD12	55:RZ:5:LEU:HA	1.87	0.40
1:XA:939:G:H2'	1:XA:940:C:C6	2.56	0.40
1:XA:1347:G:H22	1:XA:1374:A:P	2.45	0.40
2:XB:11:LEU:HD23	2:XB:11:LEU:HA	1.87	0.40
13:XM:90:LEU:O	13:XM:94:ARG:HG2	2.22	0.40
24:XZ:1:MET:CB	24:XZ:35:ARG:HG3	2.50	0.40
27:Y2:16:LEU:H	27:Y2:67:LYS:NZ	2.19	0.40
34:Y9:18:ARG:NH1	34:Y9:21:GLY:O	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YA:554:U:HO2'	35:YA:556:G:H8	1.63	0.40
35:YA:813:U:H2'	35:YA:814:C:C6	2.55	0.40
35:YA:839:U:H3	35:YA:939:G:H1	1.69	0.40
35:YA:907:U:OP1	46:YQ:24:GLY:N	2.55	0.40
35:YA:956:G:H5''	46:YQ:77:LYS:HD2	2.03	0.40
40:YG:111:LEU:O	40:YG:114:ILE:HD12	2.22	0.40
41:YH:44:VAL:CG1	41:YH:50:VAL:HG13	2.51	0.40
42:YI:97:ILE:O	42:YI:101:LEU:HB2	2.22	0.40
46:YQ:26:TYR:O	46:YQ:67:ARG:NH1	2.52	0.40
49:YT:26:ASP:OD2	49:YT:120:ARG:NH2	2.54	0.40
50:YU:92:ARG:HG2	50:YU:95:LEU:HD12	2.03	0.40
51:YV:52:VAL:CG2	51:YV:52:VAL:O	2.70	0.40

There are no symmetry-related clashes.

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	
2	QB	233/256 (91%)	205 (88%)	27 (12%)	1 (0%)	34	68
2	XB	234/256 (91%)	204 (87%)	29 (12%)	1 (0%)	34	68
3	QC	203/239 (85%)	188 (93%)	15 (7%)	0	100	100
3	XC	203/239 (85%)	191 (94%)	12 (6%)	0	100	100
4	QD	206/209 (99%)	200 (97%)	6 (3%)	0	100	100
4	XD	206/209 (99%)	197 (96%)	8 (4%)	1 (0%)	29	63
5	QE	149/162 (92%)	143 (96%)	5 (3%)	1 (1%)	22	56
5	XE	149/162 (92%)	143 (96%)	5 (3%)	1 (1%)	22	56
6	QF	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
6	XF	99/101 (98%)	99 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	QG	153/156 (98%)	145 (95%)	7 (5%)	1 (1%)	22	56
7	XG	153/156 (98%)	148 (97%)	5 (3%)	0	100	100
8	QH	135/138 (98%)	130 (96%)	5 (4%)	0	100	100
8	XH	135/138 (98%)	130 (96%)	5 (4%)	0	100	100
9	QI	125/128 (98%)	108 (86%)	17 (14%)	0	100	100
9	XI	124/128 (97%)	111 (90%)	13 (10%)	0	100	100
10	QJ	97/105 (92%)	86 (89%)	10 (10%)	1 (1%)	15	48
10	XJ	94/105 (90%)	88 (94%)	6 (6%)	0	100	100
11	QK	117/129 (91%)	107 (92%)	10 (8%)	0	100	100
11	XK	114/129 (88%)	107 (94%)	7 (6%)	0	100	100
12	QL	123/132 (93%)	110 (89%)	12 (10%)	1 (1%)	19	53
12	XL	120/132 (91%)	108 (90%)	10 (8%)	2 (2%)	9	35
13	QM	118/126 (94%)	99 (84%)	17 (14%)	2 (2%)	9	35
13	XM	117/126 (93%)	100 (86%)	16 (14%)	1 (1%)	17	51
14	QN	58/61 (95%)	55 (95%)	2 (3%)	1 (2%)	9	35
14	XN	58/61 (95%)	54 (93%)	4 (7%)	0	100	100
15	QO	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
15	XO	85/89 (96%)	83 (98%)	2 (2%)	0	100	100
16	QP	82/88 (93%)	79 (96%)	3 (4%)	0	100	100
16	XP	82/88 (93%)	79 (96%)	3 (4%)	0	100	100
17	QQ	98/105 (93%)	93 (95%)	5 (5%)	0	100	100
17	XQ	98/105 (93%)	95 (97%)	3 (3%)	0	100	100
18	QR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
18	XR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
19	QS	81/93 (87%)	71 (88%)	10 (12%)	0	100	100
19	XS	81/93 (87%)	77 (95%)	3 (4%)	1 (1%)	13	43
20	QT	97/106 (92%)	92 (95%)	5 (5%)	0	100	100
20	XT	97/106 (92%)	89 (92%)	8 (8%)	0	100	100
21	QU	23/27 (85%)	23 (100%)	0	0	100	100
21	XU	23/27 (85%)	23 (100%)	0	0	100	100
24	QY	82/84 (98%)	71 (87%)	11 (13%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
24	QZ	82/84 (98%)	74 (90%)	7 (8%)	1 (1%)	13	43
24	XY	82/84 (98%)	76 (93%)	6 (7%)	0	100	100
24	XZ	82/84 (98%)	71 (87%)	10 (12%)	1 (1%)	13	43
25	R0	79/85 (93%)	71 (90%)	7 (9%)	1 (1%)	12	41
25	Y0	80/85 (94%)	77 (96%)	3 (4%)	0	100	100
26	R1	95/98 (97%)	84 (88%)	11 (12%)	0	100	100
26	Y1	95/98 (97%)	89 (94%)	5 (5%)	1 (1%)	14	45
27	R2	67/72 (93%)	60 (90%)	7 (10%)	0	100	100
27	Y2	67/72 (93%)	65 (97%)	2 (3%)	0	100	100
28	R3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
28	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
29	R4	67/71 (94%)	46 (69%)	18 (27%)	3 (4%)	2	14
29	Y4	67/71 (94%)	49 (73%)	13 (19%)	5 (8%)	1	5
30	R5	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
30	Y5	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
31	R6	51/54 (94%)	50 (98%)	1 (2%)	0	100	100
31	Y6	51/54 (94%)	51 (100%)	0	0	100	100
32	R7	45/49 (92%)	45 (100%)	0	0	100	100
32	Y7	46/49 (94%)	46 (100%)	0	0	100	100
33	R8	62/65 (95%)	58 (94%)	2 (3%)	2 (3%)	4	21
33	Y8	62/65 (95%)	57 (92%)	3 (5%)	2 (3%)	4	21
34	R9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
34	Y9	35/37 (95%)	33 (94%)	2 (6%)	0	100	100
37	RD	270/276 (98%)	256 (95%)	14 (5%)	0	100	100
37	YD	272/276 (99%)	262 (96%)	10 (4%)	0	100	100
38	RE	203/206 (98%)	177 (87%)	22 (11%)	4 (2%)	7	30
38	YE	202/206 (98%)	191 (95%)	8 (4%)	3 (2%)	10	38
39	RF	200/210 (95%)	194 (97%)	6 (3%)	0	100	100
39	YF	200/210 (95%)	188 (94%)	12 (6%)	0	100	100
40	RG	179/182 (98%)	161 (90%)	16 (9%)	2 (1%)	14	45
40	YG	179/182 (98%)	153 (86%)	25 (14%)	1 (1%)	25	59

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	RH	172/180 (96%)	137 (80%)	30 (17%)	5 (3%)	4	23
41	YH	172/180 (96%)	160 (93%)	9 (5%)	3 (2%)	9	35
42	RI	143/148 (97%)	121 (85%)	17 (12%)	5 (4%)	3	19
42	YI	144/148 (97%)	126 (88%)	15 (10%)	3 (2%)	7	29
43	RN	136/140 (97%)	123 (90%)	11 (8%)	2 (2%)	10	38
43	YN	136/140 (97%)	125 (92%)	10 (7%)	1 (1%)	22	56
44	RO	120/122 (98%)	115 (96%)	5 (4%)	0	100	100
44	YO	120/122 (98%)	115 (96%)	5 (4%)	0	100	100
45	RP	148/150 (99%)	129 (87%)	15 (10%)	4 (3%)	5	24
45	YP	145/150 (97%)	138 (95%)	7 (5%)	0	100	100
46	RQ	137/141 (97%)	122 (89%)	14 (10%)	1 (1%)	22	56
46	YQ	139/141 (99%)	132 (95%)	6 (4%)	1 (1%)	22	56
47	RR	115/118 (98%)	105 (91%)	9 (8%)	1 (1%)	17	51
47	YR	115/118 (98%)	108 (94%)	7 (6%)	0	100	100
48	RS	109/112 (97%)	87 (80%)	21 (19%)	1 (1%)	17	51
48	YS	109/112 (97%)	94 (86%)	15 (14%)	0	100	100
49	RT	135/146 (92%)	120 (89%)	15 (11%)	0	100	100
49	YT	135/146 (92%)	122 (90%)	13 (10%)	0	100	100
50	RU	115/118 (98%)	113 (98%)	2 (2%)	0	100	100
50	YU	115/118 (98%)	111 (96%)	3 (3%)	1 (1%)	17	51
51	RV	99/101 (98%)	88 (89%)	10 (10%)	1 (1%)	15	48
51	YV	99/101 (98%)	96 (97%)	2 (2%)	1 (1%)	15	48
52	RW	111/113 (98%)	105 (95%)	6 (5%)	0	100	100
52	YW	111/113 (98%)	106 (96%)	5 (4%)	0	100	100
53	RX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
53	YX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
54	RY	105/110 (96%)	99 (94%)	6 (6%)	0	100	100
54	YY	105/110 (96%)	101 (96%)	4 (4%)	0	100	100
55	RZ	181/206 (88%)	168 (93%)	12 (7%)	1 (1%)	25	59
55	YZ	181/206 (88%)	176 (97%)	5 (3%)	0	100	100
All	All	11788/12464 (95%)	10894 (92%)	822 (7%)	72 (1%)	25	59

All (72) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
13	QM	15	VAL
29	R4	25	TYR
38	RE	18	ASP
42	RI	15	VAL
42	RI	133	HIS
43	RN	126	PRO
12	XL	47	LYS
24	XZ	72	ASP
29	Y4	44	THR
29	Y4	56	VAL
29	Y4	57	GLU
33	Y8	29	LYS
33	Y8	30	ARG
40	YG	137	GLU
50	YU	93	LYS
12	QL	48	PRO
33	R8	29	LYS
45	RP	27	HIS
13	XM	15	VAL
51	YV	50	PRO
25	R0	47	PRO
29	R4	24	THR
33	R8	30	ARG
41	RH	20	ALA
48	RS	5	THR
26	Y1	83	GLU
46	YQ	28	ALA
7	QG	8	GLU
13	QM	10	PRO
24	QZ	50	HIS
38	RE	83	ASP
38	RE	147	PRO
40	RG	118	ARG
41	RH	47	GLU
41	RH	81	GLU
43	RN	96	GLU
45	RP	7	ARG
45	RP	56	SER
45	RP	57	THR
47	RR	4	LEU
2	XB	208	ILE
29	Y4	41	PRO

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Mol	Chain	Res	Type
29	Y4	47	GLN
38	YE	147	PRO
41	YH	51	ARG
2	QB	208	ILE
5	QE	74	GLY
14	QN	16	PHE
38	RE	82	ARG
40	RG	81	LYS
41	RH	152	ARG
46	RQ	6	ARG
4	XD	155	LEU
5	XE	74	GLY
12	XL	27	LEU
19	XS	25	LYS
38	YE	52	LEU
43	YN	96	GLU
10	QJ	32	ALA
42	RI	13	GLY
42	YI	10	GLU
41	RH	9	ILE
55	RZ	95	PRO
42	RI	8	PRO
51	RV	50	PRO
41	YH	10	PRO
42	YI	118	LYS
29	R4	11	PRO
42	RI	134	PRO
38	YE	29	GLY
41	YH	55	PRO
42	YI	144	VAL

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
2	QB	203/220 (92%)	203 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	XB	204/220 (93%)	197 (97%)	7 (3%)	37	68
3	QC	159/188 (85%)	154 (97%)	5 (3%)	40	69
3	XC	159/188 (85%)	157 (99%)	2 (1%)	69	86
4	QD	180/181 (99%)	178 (99%)	2 (1%)	73	88
4	XD	180/181 (99%)	177 (98%)	3 (2%)	60	83
5	QE	116/123 (94%)	115 (99%)	1 (1%)	78	91
5	XE	116/123 (94%)	115 (99%)	1 (1%)	78	91
6	QF	90/90 (100%)	88 (98%)	2 (2%)	52	77
6	XF	90/90 (100%)	89 (99%)	1 (1%)	73	88
7	QG	126/127 (99%)	123 (98%)	3 (2%)	49	75
7	XG	126/127 (99%)	124 (98%)	2 (2%)	62	84
8	QH	118/119 (99%)	115 (98%)	3 (2%)	47	75
8	XH	118/119 (99%)	117 (99%)	1 (1%)	81	92
9	QI	98/99 (99%)	95 (97%)	3 (3%)	40	69
9	XI	97/99 (98%)	95 (98%)	2 (2%)	53	78
10	QJ	89/92 (97%)	85 (96%)	4 (4%)	27	59
10	XJ	86/92 (94%)	84 (98%)	2 (2%)	50	76
11	QK	90/99 (91%)	89 (99%)	1 (1%)	73	88
11	XK	88/99 (89%)	86 (98%)	2 (2%)	50	76
12	QL	104/109 (95%)	104 (100%)	0	100	100
12	XL	103/109 (94%)	100 (97%)	3 (3%)	42	71
13	QM	96/101 (95%)	94 (98%)	2 (2%)	53	78
13	XM	95/101 (94%)	93 (98%)	2 (2%)	53	78
14	QN	49/50 (98%)	48 (98%)	1 (2%)	55	79
14	XN	49/50 (98%)	49 (100%)	0	100	100
15	QO	79/80 (99%)	76 (96%)	3 (4%)	33	65
15	XO	79/80 (99%)	77 (98%)	2 (2%)	47	75
16	QP	72/74 (97%)	72 (100%)	0	100	100
16	XP	72/74 (97%)	72 (100%)	0	100	100
17	QQ	95/97 (98%)	92 (97%)	3 (3%)	39	69
17	XQ	95/97 (98%)	94 (99%)	1 (1%)	73	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	QR	61/77 (79%)	61 (100%)	0	100	100
18	XR	61/77 (79%)	58 (95%)	3 (5%)	25	57
19	QS	72/80 (90%)	71 (99%)	1 (1%)	67	85
19	XS	72/80 (90%)	72 (100%)	0	100	100
20	QT	76/82 (93%)	76 (100%)	0	100	100
20	XT	76/82 (93%)	75 (99%)	1 (1%)	69	86
21	QU	20/22 (91%)	20 (100%)	0	100	100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	56
24	QY	78/78 (100%)	78 (100%)	0	100	100
24	QZ	78/78 (100%)	75 (96%)	3 (4%)	33	65
24	XY	78/78 (100%)	76 (97%)	2 (3%)	46	74
24	XZ	78/78 (100%)	72 (92%)	6 (8%)	13	40
25	R0	65/67 (97%)	65 (100%)	0	100	100
25	Y0	65/67 (97%)	64 (98%)	1 (2%)	65	85
26	R1	82/83 (99%)	79 (96%)	3 (4%)	34	66
26	Y1	82/83 (99%)	81 (99%)	1 (1%)	71	87
27	R2	64/67 (96%)	63 (98%)	1 (2%)	62	84
27	Y2	64/67 (96%)	63 (98%)	1 (2%)	62	84
28	R3	51/52 (98%)	51 (100%)	0	100	100
28	Y3	51/52 (98%)	51 (100%)	0	100	100
29	R4	62/63 (98%)	59 (95%)	3 (5%)	25	57
29	Y4	62/63 (98%)	62 (100%)	0	100	100
30	R5	51/52 (98%)	49 (96%)	2 (4%)	32	64
30	Y5	51/52 (98%)	50 (98%)	1 (2%)	55	79
31	R6	51/52 (98%)	50 (98%)	1 (2%)	55	79
31	Y6	51/52 (98%)	50 (98%)	1 (2%)	55	79
32	R7	40/42 (95%)	40 (100%)	0	100	100
32	Y7	41/42 (98%)	41 (100%)	0	100	100
33	R8	54/55 (98%)	54 (100%)	0	100	100
33	Y8	54/55 (98%)	54 (100%)	0	100	100
34	R9	34/34 (100%)	32 (94%)	2 (6%)	19	50

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	Y9	34/34 (100%)	33 (97%)	1 (3%)	42	71
37	RD	214/218 (98%)	209 (98%)	5 (2%)	50	76
37	YD	216/218 (99%)	216 (100%)	0	100	100
38	RE	165/166 (99%)	162 (98%)	3 (2%)	59	82
38	YE	165/166 (99%)	160 (97%)	5 (3%)	41	70
39	RF	161/166 (97%)	159 (99%)	2 (1%)	71	87
39	YF	161/166 (97%)	160 (99%)	1 (1%)	86	93
40	RG	155/156 (99%)	152 (98%)	3 (2%)	57	80
40	YG	155/156 (99%)	153 (99%)	2 (1%)	69	86
41	RH	145/148 (98%)	142 (98%)	3 (2%)	53	78
41	YH	145/148 (98%)	142 (98%)	3 (2%)	53	78
42	RI	122/124 (98%)	118 (97%)	4 (3%)	38	68
42	YI	122/124 (98%)	118 (97%)	4 (3%)	38	68
43	RN	117/119 (98%)	116 (99%)	1 (1%)	78	91
43	YN	117/119 (98%)	116 (99%)	1 (1%)	78	91
44	RO	100/100 (100%)	99 (99%)	1 (1%)	76	89
44	YO	100/100 (100%)	100 (100%)	0	100	100
45	RP	116/116 (100%)	116 (100%)	0	100	100
45	YP	114/116 (98%)	112 (98%)	2 (2%)	59	82
46	RQ	110/111 (99%)	110 (100%)	0	100	100
46	YQ	111/111 (100%)	110 (99%)	1 (1%)	78	91
47	RR	100/101 (99%)	99 (99%)	1 (1%)	76	89
47	YR	100/101 (99%)	100 (100%)	0	100	100
48	RS	87/88 (99%)	86 (99%)	1 (1%)	73	88
48	YS	87/88 (99%)	87 (100%)	0	100	100
49	RT	120/127 (94%)	117 (98%)	3 (2%)	47	75
49	YT	120/127 (94%)	117 (98%)	3 (2%)	47	75
50	RU	93/94 (99%)	93 (100%)	0	100	100
50	YU	93/94 (99%)	90 (97%)	3 (3%)	39	69
51	RV	82/82 (100%)	79 (96%)	3 (4%)	34	66
51	YV	82/82 (100%)	82 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	RW	92/92 (100%)	91 (99%)	1 (1%)	73	88
52	YW	92/92 (100%)	91 (99%)	1 (1%)	73	88
53	RX	74/78 (95%)	73 (99%)	1 (1%)	67	85
53	YX	74/78 (95%)	74 (100%)	0	100	100
54	RY	88/91 (97%)	86 (98%)	2 (2%)	50	76
54	YY	88/91 (97%)	86 (98%)	2 (2%)	50	76
55	RZ	162/179 (90%)	158 (98%)	4 (2%)	47	75
55	YZ	162/179 (90%)	156 (96%)	6 (4%)	34	66
All	All	10007/10378 (96%)	9836 (98%)	171 (2%)	60	83

All (171) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	QC	19	GLU
3	QC	33	LEU
3	QC	58	GLU
3	QC	59	ARG
3	QC	103	VAL
4	QD	61	LYS
4	QD	152	SER
5	QE	20	GLN
6	QF	24	GLU
6	QF	74	ASP
7	QG	33	ASP
7	QG	45	ASP
7	QG	56	GLN
8	QH	31	PHE
8	QH	87	SER
8	QH	127	LEU
9	QI	9	ARG
9	QI	20	ARG
9	QI	102	LEU
10	QJ	8	LEU
10	QJ	95	GLU
10	QJ	96	ILE
10	QJ	97	GLU
11	QK	43	SER
13	QM	16	ASP
13	QM	17	VAL

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Mol	Chain	Res	Type
14	QN	27	CYS
15	QO	4	THR
15	QO	39	LEU
15	QO	62	GLN
17	QQ	24	GLU
17	QQ	86	GLU
17	QQ	92	ARG
19	QS	37	ARG
24	QZ	1	MET
24	QZ	30	LEU
24	QZ	84	TYR
26	R1	56	GLN
26	R1	87	PRO
26	R1	91	LYS
27	R2	69	ARG
29	R4	16	CYS
29	R4	42	PHE
29	R4	61	ARG
30	R5	21	SER
30	R5	36	CYS
31	R6	28	ARG
34	R9	24	TYR
34	R9	27	CYS
37	RD	111	LEU
37	RD	116	GLN
37	RD	118	VAL
37	RD	242	ARG
37	RD	273	ARG
38	RE	61	ARG
38	RE	77	ILE
38	RE	79	ARG
39	RF	67	GLN
39	RF	133	ASN
40	RG	14	GLU
40	RG	117	PHE
40	RG	128	ARG
41	RH	9	ILE
41	RH	72	ILE
41	RH	139	GLN
42	RI	4	ILE
42	RI	9	LEU
42	RI	69	LYS

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Mol	Chain	Res	Type
42	RI	113	ARG
43	RN	29	LYS
44	RO	53	LYS
47	RR	18	LEU
48	RS	15	ARG
49	RT	105	LEU
49	RT	128	GLU
49	RT	137	LYS
51	RV	19	LYS
51	RV	44	LYS
51	RV	82	ARG
52	RW	113	LYS
53	RX	23	GLU
54	RY	49	VAL
54	RY	92	ASN
55	RZ	20	ARG
55	RZ	54	HIS
55	RZ	76	LEU
55	RZ	87	ASP
2	XB	7	VAL
2	XB	11	LEU
2	XB	33	TYR
2	XB	41	ILE
2	XB	122	PHE
2	XB	146	GLN
2	XB	235	SER
3	XC	17	ASP
3	XC	88	ARG
4	XD	18	LYS
4	XD	154	ASN
4	XD	194	LEU
5	XE	47	LYS
6	XF	83	ASP
7	XG	113	GLU
7	XG	143	ARG
8	XH	25	ASP
9	XI	56	LEU
9	XI	114	TYR
10	XJ	5	ARG
10	XJ	98	ILE
11	XK	11	LYS
11	XK	124	LYS

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Mol	Chain	Res	Type
12	XL	19	ARG
12	XL	24	VAL
12	XL	62	SER
13	XM	9	ILE
13	XM	12	ASN
15	XO	13	GLN
15	XO	88	ARG
17	XQ	58	GLU
18	XR	66	LEU
18	XR	68	LYS
18	XR	84	LYS
20	XT	64	ASP
21	XU	7	ARG
24	XY	80	CYS
24	XY	81	ARG
24	XZ	35	ARG
24	XZ	51	ASN
24	XZ	52	LEU
24	XZ	72	ASP
24	XZ	74	SER
24	XZ	83	HIS
25	Y0	43	THR
26	Y1	5	CYS
27	Y2	45	SER
30	Y5	15	ARG
31	Y6	5	VAL
34	Y9	35	ARG
38	YE	1	MET
38	YE	21	VAL
38	YE	73	GLU
38	YE	165	VAL
38	YE	199	ARG
39	YF	203	GLN
40	YG	116	ASP
40	YG	118	ARG
41	YH	3	ARG
41	YH	50	VAL
41	YH	97	ARG
42	YI	7	GLU
42	YI	71	ILE
42	YI	77	LEU
42	YI	101	LEU

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Mol	Chain	Res	Type
43	YN	23	LEU
45	YP	5	ASP
45	YP	52	GLU
46	YQ	1	MET
49	YT	112	ARG
49	YT	134	GLU
49	YT	137	LYS
50	YU	59	ARG
50	YU	94	ASN
50	YU	98	LEU
52	YW	28	SER
54	YY	2	ARG
54	YY	102	CYS
55	YZ	29	TYR
55	YZ	34	ASN
55	YZ	82	ARG
55	YZ	118	GLN
55	YZ	154	ASP
55	YZ	156	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
3	QC	108	ASN
10	QJ	76	ASN
37	RD	96	HIS
27	Y2	38	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1508/1521 (99%)	311 (20%)	52 (3%)
1	XA	1505/1521 (98%)	303 (20%)	50 (3%)
22	QV	77/77 (100%)	12 (15%)	4 (5%)
22	QW	76/77 (98%)	18 (23%)	1 (1%)
22	XV	76/77 (98%)	13 (17%)	3 (3%)
22	XW	76/77 (98%)	21 (27%)	1 (1%)
23	QX	16/20 (80%)	8 (50%)	2 (12%)
23	XX	16/20 (80%)	7 (43%)	1 (6%)
35	RA	2888/2915 (99%)	606 (20%)	49 (1%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
35	YA	2875/2915 (98%)	593 (20%)	46 (1%)
36	RB	121/124 (97%)	21 (17%)	1 (0%)
36	YB	121/124 (97%)	20 (16%)	1 (0%)
56	ZA	1/3 (33%)	0	0
56	ZB	1/3 (33%)	0	0
All	All	9357/9474 (98%)	1933 (20%)	211 (2%)

All (1933) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	4	U
1	QA	5	U
1	QA	6	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	61	G
1	QA	65	U
1	QA	66	G
1	QA	76	G
1	QA	79	G
1	QA	80	G
1	QA	90	C
1	QA	92	G
1	QA	101	A
1	QA	108	G
1	QA	116	A
1	QA	121	C
1	QA	129(A)	G
1	QA	151	A
1	QA	163	C
1	QA	169	C
1	QA	181	G
1	QA	182	U
1	QA	188	U
1	QA	189	U
1	QA	190	G
1	QA	191(A)	G

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Mol	Chain	Res	Type
1	QA	191(D)	U
1	QA	191(E)	G
1	QA	195	A
1	QA	197	A
1	QA	198	G
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	247	G
1	QA	251	G
1	QA	266	G
1	QA	267	C
1	QA	268	C
1	QA	270	A
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	315	A
1	QA	316	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	345	C
1	QA	346	G
1	QA	347	G
1	QA	350	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	384	G
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A

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Mol	Chain	Res	Type
1	QA	412	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	439	A
1	QA	442	C
1	QA	465	A
1	QA	466	C
1	QA	478	A
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	494	U
1	QA	495	A
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	511	C
1	QA	518	C
1	QA	519	C
1	QA	521	G
1	QA	527	G
1	QA	530	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	534	U
1	QA	547	A
1	QA	548	G
1	QA	559	A
1	QA	560	U
1	QA	561	U
1	QA	564	C
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	596	C
1	QA	618	C

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Mol	Chain	Res	Type
1	QA	623	C
1	QA	630	G
1	QA	652	U
1	QA	653	A
1	QA	665	A
1	QA	686	U
1	QA	688	G
1	QA	702	A
1	QA	703	G
1	QA	717	C
1	QA	718	G
1	QA	724	G
1	QA	731	G
1	QA	749	C
1	QA	755	G
1	QA	760	G
1	QA	773	G
1	QA	777	A
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	801	U
1	QA	813	U
1	QA	815	A
1	QA	816	A
1	QA	817	C
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	842	C
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	872	A
1	QA	884	U
1	QA	887	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	942	G
1	QA	958	A

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Mol	Chain	Res	Type
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	1000	A
1	QA	1001	G
1	QA	1002	G
1	QA	1003	G
1	QA	1004	A
1	QA	1005	A
1	QA	1006	C
1	QA	1007	C
1	QA	1008	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1029	G
1	QA	1030	C
1	QA	1031	G
1	QA	1032	A
1	QA	1032(A)	G
1	QA	1033	G
1	QA	1034	G
1	QA	1036	G
1	QA	1038	C
1	QA	1039	C
1	QA	1042	G
1	QA	1046	A
1	QA	1053	G
1	QA	1054	C
1	QA	1055	A

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Mol	Chain	Res	Type
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1068	G
1	QA	1081	G
1	QA	1086	U
1	QA	1094	G
1	QA	1101	A
1	QA	1117	G
1	QA	1118	C
1	QA	1124	G
1	QA	1125	U
1	QA	1127	G
1	QA	1129	C
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1145	C
1	QA	1146	A
1	QA	1147	C
1	QA	1152	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1171	G
1	QA	1176	A
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1183	A
1	QA	1187	G
1	QA	1196	U
1	QA	1197	G
1	QA	1211	U
1	QA	1212	U
1	QA	1213	A
1	QA	1224	G

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Mol	Chain	Res	Type
1	QA	1225	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1273	G
1	QA	1278	U
1	QA	1280	A
1	QA	1281	U
1	QA	1285	A
1	QA	1286	A
1	QA	1287	A
1	QA	1288	A
1	QA	1290	G
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1318	A
1	QA	1319	A
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1364	U
1	QA	1365	G
1	QA	1370	G
1	QA	1397	C
1	QA	1398	A

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Mol	Chain	Res	Type
1	QA	1406	U
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1451	A
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1487	G
1	QA	1492	A
1	QA	1493	A
1	QA	1499	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
1	QA	1532	U
1	QA	1533	C
1	QA	1534	A
1	QA	1536	C
1	QA	1537	U
1	QA	1540	U
1	QA	1541	U
22	QV	2	G
22	QV	7	G
22	QV	8	U
22	QV	18	G
22	QV	20	U
22	QV	22	G
22	QV	47	U
22	QV	48	C
22	QV	49	G
22	QV	55	U
22	QV	61	C
22	QV	76	A
22	QW	7	G
22	QW	8	U
22	QW	14	A

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Mol	Chain	Res	Type
22	QW	15	G
22	QW	17	C
22	QW	17(A)	U
22	QW	18	G
22	QW	19	G
22	QW	20	U
22	QW	22	G
22	QW	46	G
22	QW	47	U
22	QW	49	G
22	QW	55	U
22	QW	56	C
22	QW	60	U
22	QW	61	C
22	QW	76	A
23	QX	5	A
23	QX	9	G
23	QX	10	G
23	QX	11	U
23	QX	12	A
23	QX	13	A
23	QX	14	A
23	QX	19	A
35	RA	9	U
35	RA	15	G
35	RA	34	C
35	RA	35	G
35	RA	46	C
35	RA	50	U
35	RA	55	G
35	RA	58	G
35	RA	60	G
35	RA	69	C
35	RA	71	A
35	RA	74	A
35	RA	75	G
35	RA	83	G
35	RA	91	A
35	RA	95	G
35	RA	99	U
35	RA	101	G
35	RA	102	G

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Mol	Chain	Res	Type
35	RA	118	A
35	RA	119	A
35	RA	120	U
35	RA	125	G
35	RA	129	C
35	RA	138	G
35	RA	139	G
35	RA	140	A
35	RA	154	G
35	RA	155	C
35	RA	175	G
35	RA	182	A
35	RA	196	A
35	RA	199	A
35	RA	215	G
35	RA	216	A
35	RA	221	A
35	RA	222	A
35	RA	228	A
35	RA	229	A
35	RA	233	A
35	RA	248	G
35	RA	249	C
35	RA	252	G
35	RA	266	G
35	RA	270(B)	A
35	RA	270(K)	C
35	RA	270(M)	U
35	RA	270(O)	U
35	RA	270(P)	C
35	RA	270(Z)	U
35	RA	271(C)	U
35	RA	271	G
35	RA	273(D)	C
35	RA	274	G
35	RA	275	G
35	RA	278	A
35	RA	279	C
35	RA	283	A
35	RA	289	A
35	RA	308	G
35	RA	311	A

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Mol	Chain	Res	Type
35	RA	324	A
35	RA	329	G
35	RA	330	A
35	RA	332	A
35	RA	345	A
35	RA	346	A
35	RA	352	G
35	RA	353	G
35	RA	358	U
35	RA	362	U
35	RA	363	G
35	RA	363(A)	A
35	RA	363(E)	U
35	RA	363(F)	A
35	RA	364	C
35	RA	372	G
35	RA	373	U
35	RA	380	U
35	RA	386	G
35	RA	388	G
35	RA	395	U
35	RA	405	U
35	RA	406	G
35	RA	407	G
35	RA	411	G
35	RA	412	A
35	RA	428	A
35	RA	442	G
35	RA	444	C
35	RA	448	U
35	RA	457	A
35	RA	470	A
35	RA	481	G
35	RA	494	G
35	RA	505	A
35	RA	508	G
35	RA	509	C
35	RA	512	G
35	RA	528	A
35	RA	529	A
35	RA	531	C
35	RA	532	A

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Mol	Chain	Res	Type
35	RA	533	G
35	RA	537	C
35	RA	556	G
35	RA	563	G
35	RA	571	A
35	RA	573	G
35	RA	574	C
35	RA	575	A
35	RA	583	G
35	RA	588	U
35	RA	603	A
35	RA	604	G
35	RA	607	U
35	RA	613	U
35	RA	614	U
35	RA	615	G
35	RA	617	G
35	RA	620	G
35	RA	621	A
35	RA	622	G
35	RA	627	A
35	RA	634	C
35	RA	637	A
35	RA	645	C
35	RA	646	A
35	RA	647	G
35	RA	651	G
35	RA	654	A
35	RA	654(A)	G
35	RA	654(B)	C
35	RA	654(F)	C
35	RA	654(G)	C
35	RA	654(Q)	C
35	RA	654(R)	C
35	RA	654(S)	G
35	RA	654(T)	C
35	RA	668	G
35	RA	669	G
35	RA	670	A
35	RA	686	G
35	RA	704	G
35	RA	705	A

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Mol	Chain	Res	Type
35	RA	708	C
35	RA	722	A
35	RA	726	G
35	RA	730	C
35	RA	753	C
35	RA	764	A
35	RA	765	G
35	RA	776	G
35	RA	782	A
35	RA	784	A
35	RA	785	G
35	RA	788	A
35	RA	789	A
35	RA	792	G
35	RA	793	A
35	RA	805	G
35	RA	812	C
35	RA	819	A
35	RA	827	U
35	RA	828	U
35	RA	846	C
35	RA	856	C
35	RA	857	C
35	RA	859	G
35	RA	860	U
35	RA	862	G
35	RA	866	A
35	RA	869	G
35	RA	878	A
35	RA	879	G
35	RA	881	G
35	RA	882	G
35	RA	883	G
35	RA	884	C
35	RA	886	C
35	RA	889	C
35	RA	890	A
35	RA	894	C
35	RA	895	U
35	RA	896	A
35	RA	897	C
35	RA	900	A

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Mol	Chain	Res	Type
35	RA	906	G
35	RA	907	U
35	RA	910	A
35	RA	915	C
35	RA	917	A
35	RA	919	G
35	RA	928	G
35	RA	932	G
35	RA	934	G
35	RA	938	G
35	RA	941	A
35	RA	945	A
35	RA	946	G
35	RA	953	A
35	RA	961	C
35	RA	968	G
35	RA	973	A
35	RA	974	G
35	RA	980	A
35	RA	983	A
35	RA	989	G
35	RA	990	A
35	RA	991	C
35	RA	996	A
35	RA	999	U
35	RA	1005	C
35	RA	1012	U
35	RA	1013	C
35	RA	1015	G
35	RA	1022	G
35	RA	1023	U
35	RA	1025	G
35	RA	1026	U
35	RA	1027	A
35	RA	1033	U
35	RA	1034	G
35	RA	1044	G
35	RA	1045	A
35	RA	1046	A
35	RA	1047	G
35	RA	1049	C
35	RA	1060	U

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Mol	Chain	Res	Type
35	RA	1061	U
35	RA	1070	A
35	RA	1073	A
35	RA	1086	A
35	RA	1087	G
35	RA	1088	A
35	RA	1089	G
35	RA	1095	A
35	RA	1096	A
35	RA	1099	G
35	RA	1105	U
35	RA	1122	G
35	RA	1128	A
35	RA	1130	U
35	RA	1135	C
35	RA	1136	G
35	RA	1139	G
35	RA	1142(A)	A
35	RA	1148	A
35	RA	1155	A
35	RA	1156	A
35	RA	1171	G
35	RA	1173	G
35	RA	1174	A
35	RA	1175	U
35	RA	1176	G
35	RA	1177	A
35	RA	1178	C
35	RA	1180	C
35	RA	1195	G
35	RA	1204	A
35	RA	1205	U
35	RA	1220	A
35	RA	1236	G
35	RA	1244	G
35	RA	1253	A
35	RA	1254	A
35	RA	1255	U
35	RA	1256	G
35	RA	1262	A
35	RA	1265	A
35	RA	1271	G

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Mol	Chain	Res	Type
35	RA	1272	A
35	RA	1281	G
35	RA	1287	A
35	RA	1300	U
35	RA	1301	A
35	RA	1303	G
35	RA	1308	A
35	RA	1311	G
35	RA	1312	U
35	RA	1314	C
35	RA	1319	G
35	RA	1329	U
35	RA	1341	U
35	RA	1352	U
35	RA	1359	A
35	RA	1360	A
35	RA	1367	A
35	RA	1368	G
35	RA	1379	A
35	RA	1380	G
35	RA	1384	A
35	RA	1391	U
35	RA	1395	A
35	RA	1407	C
35	RA	1415	U
35	RA	1416	G
35	RA	1419	A
35	RA	1420	U
35	RA	1421	G
35	RA	1428	C
35	RA	1434	A
35	RA	1437	C
35	RA	1444(A)	A
35	RA	1449	A
35	RA	1449(A)	G
35	RA	1451	C
35	RA	1453	A
35	RA	1454	U
35	RA	1455	G
35	RA	1458	C
35	RA	1460	A
35	RA	1461	G

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Mol	Chain	Res	Type
35	RA	1467	C
35	RA	1471	A
35	RA	1475	G
35	RA	1478	G
35	RA	1482	U
35	RA	1483	G
35	RA	1485	G
35	RA	1488	G
35	RA	1490	A
35	RA	1493	C
35	RA	1505	C
35	RA	1506	C
35	RA	1509	C
35	RA	1510	A
35	RA	1523	U
35	RA	1526	G
35	RA	1533	C
35	RA	1535	U
35	RA	1536	A
35	RA	1537	C
35	RA	1540	G
35	RA	1543	A
35	RA	1544	C
35	RA	1545	A
35	RA	1547	C
35	RA	1554	A
35	RA	1558	A
35	RA	1559	G
35	RA	1560	G
35	RA	1566	A
35	RA	1569	A
35	RA	1578	U
35	RA	1585	C
35	RA	1586	A
35	RA	1598	C
35	RA	1608	A
35	RA	1618	A
35	RA	1640	C
35	RA	1648	C
35	RA	1652	A
35	RA	1654	A
35	RA	1667	G

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Mol	Chain	Res	Type
35	RA	1668	A
35	RA	1674	G
35	RA	1695	G
35	RA	1696	G
35	RA	1700	A
35	RA	1703	G
35	RA	1725	G
35	RA	1728	G
35	RA	1729	A
35	RA	1730	U
35	RA	1731	G
35	RA	1735	C
35	RA	1743	G
35	RA	1750	G
35	RA	1754	C
35	RA	1756	G
35	RA	1762	A
35	RA	1763	G
35	RA	1764	G
35	RA	1773	A
35	RA	1780	A
35	RA	1791	A
35	RA	1800	C
35	RA	1801	G
35	RA	1816	G
35	RA	1820	U
35	RA	1828	G
35	RA	1829	A
35	RA	1835	G
35	RA	1847	A
35	RA	1854	A
35	RA	1858	G
35	RA	1869	G
35	RA	1872	A
35	RA	1878	G
35	RA	1881	C
35	RA	1882	C
35	RA	1888	G
35	RA	1889	A
35	RA	1900	A
35	RA	1901	A
35	RA	1906	G

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Mol	Chain	Res	Type
35	RA	1913	A
35	RA	1924	C
35	RA	1929	G
35	RA	1930	G
35	RA	1931	U
35	RA	1936	A
35	RA	1938	A
35	RA	1948	G
35	RA	1955	U
35	RA	1963	U
35	RA	1964	G
35	RA	1967	C
35	RA	1970	A
35	RA	1971	A
35	RA	1972	A
35	RA	1980	G
35	RA	1982	C
35	RA	1992	G
35	RA	1993	U
35	RA	2020	A
35	RA	2021	C
35	RA	2022	U
35	RA	2023	G
35	RA	2027	G
35	RA	2031	A
35	RA	2032	G
35	RA	2033	A
35	RA	2043	C
35	RA	2052	G
35	RA	2055	C
35	RA	2056	G
35	RA	2059	A
35	RA	2060	A
35	RA	2061	G
35	RA	2062	A
35	RA	2069	G
35	RA	2093	G
35	RA	2095	C
35	RA	2111	C
35	RA	2112	G
35	RA	2113	U
35	RA	2114	A

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Mol	Chain	Res	Type
35	RA	2116	G
35	RA	2117	A
35	RA	2120	G
35	RA	2123	G
35	RA	2128	C
35	RA	2130	U
35	RA	2131	G
35	RA	2132	U
35	RA	2134	A
35	RA	2145	C
35	RA	2147	G
35	RA	2148	G
35	RA	2161	C
35	RA	2165	G
35	RA	2166	G
35	RA	2167	U
35	RA	2168	G
35	RA	2169	A
35	RA	2171	A
35	RA	2173	A
35	RA	2178	C
35	RA	2190	G
35	RA	2191	G
35	RA	2192	G
35	RA	2198	A
35	RA	2210	G
35	RA	2211	G
35	RA	2212	A
35	RA	2213	U
35	RA	2215	G
35	RA	2225	A
35	RA	2226	C
35	RA	2238	G
35	RA	2239	G
35	RA	2243	U
35	RA	2266	A
35	RA	2275	C
35	RA	2279	G
35	RA	2283	C
35	RA	2305	A
35	RA	2306	C
35	RA	2307	G

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Mol	Chain	Res	Type
35	RA	2308	G
35	RA	2309	A
35	RA	2312	U
35	RA	2319	G
35	RA	2320	A
35	RA	2321	G
35	RA	2325	G
35	RA	2334	G
35	RA	2336	A
35	RA	2345	G
35	RA	2346	A
35	RA	2347	C
35	RA	2350	C
35	RA	2354	G
35	RA	2382	G
35	RA	2383	G
35	RA	2385	C
35	RA	2392	A
35	RA	2402	C
35	RA	2406	U
35	RA	2410	G
35	RA	2411	A
35	RA	2422	A
35	RA	2423	U
35	RA	2425	A
35	RA	2429	G
35	RA	2430	A
35	RA	2435	A
35	RA	2439	A
35	RA	2440	C
35	RA	2441	C
35	RA	2445	G
35	RA	2448	A
35	RA	2450	A
35	RA	2460	U
35	RA	2465	C
35	RA	2469	A
35	RA	2470	G
35	RA	2474	C
35	RA	2475	C
35	RA	2476	A
35	RA	2481	G

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Mol	Chain	Res	Type
35	RA	2482	G
35	RA	2491	U
35	RA	2494	G
35	RA	2498	C
35	RA	2502	G
35	RA	2505	G
35	RA	2518	A
35	RA	2529	G
35	RA	2535	G
35	RA	2540	C
35	RA	2542	A
35	RA	2543	G
35	RA	2554	U
35	RA	2566	A
35	RA	2567	G
35	RA	2569	G
35	RA	2572	A
35	RA	2582	G
35	RA	2586	C
35	RA	2602	A
35	RA	2609	U
35	RA	2610	C
35	RA	2611	U
35	RA	2612	C
35	RA	2629	A
35	RA	2630	G
35	RA	2645	G
35	RA	2646	C
35	RA	2654	A
35	RA	2655	G
35	RA	2665	A
35	RA	2673	G
35	RA	2682	U
35	RA	2689	U
35	RA	2690	C
35	RA	2691	C
35	RA	2702	U
35	RA	2703	C
35	RA	2712	U
35	RA	2713	A
35	RA	2714	G
35	RA	2725	A

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Mol	Chain	Res	Type
35	RA	2733	A
35	RA	2744	G
35	RA	2748	A
35	RA	2752	C
35	RA	2754	U
35	RA	2762	G
35	RA	2765	A
35	RA	2766	G
35	RA	2777	G
35	RA	2778	A
35	RA	2779	U
35	RA	2780	G
35	RA	2789	C
35	RA	2790	A
35	RA	2791	C
35	RA	2797	U
35	RA	2799	A
35	RA	2807	G
35	RA	2818	G
35	RA	2820	A
35	RA	2821	A
35	RA	2827	C
35	RA	2830	G
35	RA	2833	G
35	RA	2834	G
35	RA	2835	A
35	RA	2848	G
35	RA	2849	U
35	RA	2850	A
35	RA	2860	A
35	RA	2867	G
35	RA	2872	G
35	RA	2873	A
35	RA	2876	G
35	RA	2877	G
35	RA	2879	C
35	RA	2880	C
35	RA	2892	A
35	RA	2893	G
35	RA	2896	C
35	RA	2897	U
36	RB	8	U

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Mol	Chain	Res	Type
36	RB	9	G
36	RB	13	A
36	RB	15	A
36	RB	25	A
36	RB	41	U
36	RB	42	C
36	RB	44	G
36	RB	45	A
36	RB	52	A
36	RB	53	A
36	RB	58	A
36	RB	67	G
36	RB	73	A
36	RB	81	G
36	RB	88	C
36	RB	92	G
36	RB	101	A
36	RB	109	G
36	RB	117	G
36	RB	118	G
1	XA	4	U
1	XA	5	U
1	XA	6	G
1	XA	9	G
1	XA	22	G
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	76	G
1	XA	79	G
1	XA	101	A
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	151	A
1	XA	163	C
1	XA	169	C

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Mol	Chain	Res	Type
1	XA	182	U
1	XA	188	U
1	XA	189	U
1	XA	190	G
1	XA	191(D)	U
1	XA	195	A
1	XA	197	A
1	XA	198	G
1	XA	208	U
1	XA	209	U
1	XA	210	U
1	XA	216	G
1	XA	244	U
1	XA	247	G
1	XA	251	G
1	XA	266	G
1	XA	267	C
1	XA	268	C
1	XA	270	A
1	XA	279	A
1	XA	280	C
1	XA	281	G
1	XA	282	A
1	XA	289	G
1	XA	315	A
1	XA	316	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	350	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	368	U
1	XA	372	C

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Mol	Chain	Res	Type
1	XA	373	A
1	XA	384	G
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	439	A
1	XA	465	A
1	XA	466	C
1	XA	467	G
1	XA	478	A
1	XA	482	A
1	XA	485	G
1	XA	494	U
1	XA	495	A
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	511	C
1	XA	518	C
1	XA	519	C
1	XA	521	G
1	XA	527	G
1	XA	530	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	534	U
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G

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Mol	Chain	Res	Type
1	XA	596	C
1	XA	618	C
1	XA	623	C
1	XA	630	G
1	XA	652	U
1	XA	653	A
1	XA	665	A
1	XA	686	U
1	XA	688	G
1	XA	701	C
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	724	G
1	XA	731	G
1	XA	733	A
1	XA	734	G
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	773	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	801	U
1	XA	813	U
1	XA	815	A
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	870	U
1	XA	887	G
1	XA	913	A

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Mol	Chain	Res	Type
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	942	G
1	XA	958	A
1	XA	960	U
1	XA	961	U
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1000	A
1	XA	1001	G
1	XA	1002	G
1	XA	1003	G
1	XA	1005	A
1	XA	1006	C
1	XA	1007	C
1	XA	1008	C
1	XA	1009	G
1	XA	1020	U
1	XA	1024	G
1	XA	1025	U
1	XA	1026	G
1	XA	1029	G
1	XA	1030	C
1	XA	1031	G
1	XA	1032	A
1	XA	1032(A)	G
1	XA	1033	G
1	XA	1034	G
1	XA	1036	G
1	XA	1038	C
1	XA	1039	C
1	XA	1042	G

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Mol	Chain	Res	Type
1	XA	1053	G
1	XA	1054	C
1	XA	1055	A
1	XA	1064	G
1	XA	1065	U
1	XA	1066	C
1	XA	1068	G
1	XA	1081	G
1	XA	1086	U
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1117	G
1	XA	1118	C
1	XA	1124	G
1	XA	1125	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1140	C
1	XA	1145	C
1	XA	1146	A
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1171	G
1	XA	1176	A
1	XA	1177	G
1	XA	1178	G
1	XA	1181	G
1	XA	1183	A
1	XA	1187	G
1	XA	1196	U
1	XA	1197	G
1	XA	1211	U
1	XA	1212	U

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Mol	Chain	Res	Type
1	XA	1213	A
1	XA	1224	G
1	XA	1225	A
1	XA	1227	A
1	XA	1238	A
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1260	C
1	XA	1270	C
1	XA	1273	G
1	XA	1278	U
1	XA	1280	A
1	XA	1285	A
1	XA	1286	A
1	XA	1287	A
1	XA	1288	A
1	XA	1290	G
1	XA	1297	C
1	XA	1299	A
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1318	A
1	XA	1319	A
1	XA	1320	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1345	U
1	XA	1346	A
1	XA	1347	G
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1365	G
1	XA	1370	G
1	XA	1397	C
1	XA	1398	A

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Mol	Chain	Res	Type
1	XA	1406	U
1	XA	1419	G
1	XA	1422	G
1	XA	1442	G
1	XA	1446	A
1	XA	1450	U
1	XA	1451	A
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1487	G
1	XA	1492	A
1	XA	1493	A
1	XA	1499	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
1	XA	1532	U
1	XA	1533	C
1	XA	1534	A
1	XA	1536	C
1	XA	1537	U
1	XA	1540	U
1	XA	1541	U
22	XV	2	G
22	XV	7	G
22	XV	8	U
22	XV	9	G
22	XV	18	G
22	XV	19	G
22	XV	20	U
22	XV	22	G
22	XV	47	U
22	XV	49	G
22	XV	56	C
22	XV	61	C
22	XV	76	A

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Mol	Chain	Res	Type
22	XW	2	G
22	XW	6	G
22	XW	8	U
22	XW	9	G
22	XW	13	C
22	XW	14	A
22	XW	15	G
22	XW	17	C
22	XW	17(A)	U
22	XW	18	G
22	XW	20	U
22	XW	22	G
22	XW	46	G
22	XW	47	U
22	XW	48	C
22	XW	49	G
22	XW	55	U
22	XW	56	C
22	XW	60	U
22	XW	61	C
22	XW	76	A
23	XX	9	G
23	XX	10	G
23	XX	11	U
23	XX	12	A
23	XX	13	A
23	XX	14	A
23	XX	19	A
35	YA	9	U
35	YA	15	G
35	YA	27	G
35	YA	34	C
35	YA	35	G
35	YA	46	C
35	YA	54	G
35	YA	55	G
35	YA	58	G
35	YA	60	G
35	YA	69	C
35	YA	71	A
35	YA	74	A
35	YA	75	G

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Mol	Chain	Res	Type
35	YA	83	G
35	YA	95	G
35	YA	99	U
35	YA	101	G
35	YA	102	G
35	YA	118	A
35	YA	119	A
35	YA	120	U
35	YA	125	G
35	YA	138	G
35	YA	139	G
35	YA	140	A
35	YA	154	G
35	YA	155	C
35	YA	156	U
35	YA	157	U
35	YA	175	G
35	YA	182	A
35	YA	196	A
35	YA	199	A
35	YA	215	G
35	YA	216	A
35	YA	221	A
35	YA	222	A
35	YA	227	A
35	YA	229	A
35	YA	233	A
35	YA	248	G
35	YA	249	C
35	YA	252	G
35	YA	266	G
35	YA	270(B)	A
35	YA	270(K)	C
35	YA	270(M)	U
35	YA	270(N)	G
35	YA	270(O)	U
35	YA	270(P)	C
35	YA	270(Z)	U
35	YA	271(C)	U
35	YA	271	G
35	YA	273(D)	C
35	YA	274	G

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Mol	Chain	Res	Type
35	YA	278	A
35	YA	279	C
35	YA	283	A
35	YA	289	A
35	YA	308	G
35	YA	311	A
35	YA	324	A
35	YA	327	G
35	YA	329	G
35	YA	330	A
35	YA	332	A
35	YA	345	A
35	YA	346	A
35	YA	352	G
35	YA	353	G
35	YA	358	U
35	YA	363	G
35	YA	363(E)	U
35	YA	363(F)	A
35	YA	364	C
35	YA	372	G
35	YA	380	U
35	YA	386	G
35	YA	388	G
35	YA	395	U
35	YA	405	U
35	YA	406	G
35	YA	407	G
35	YA	411	G
35	YA	412	A
35	YA	428	A
35	YA	442	G
35	YA	444	C
35	YA	448	U
35	YA	457	A
35	YA	470	A
35	YA	481	G
35	YA	494	G
35	YA	505	A
35	YA	508	G
35	YA	509	C
35	YA	512	G

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Mol	Chain	Res	Type
35	YA	525	U
35	YA	528	A
35	YA	529	A
35	YA	531	C
35	YA	532	A
35	YA	533	G
35	YA	537	C
35	YA	563	G
35	YA	571	A
35	YA	573	G
35	YA	574	C
35	YA	575	A
35	YA	583	G
35	YA	588	U
35	YA	603	A
35	YA	604	G
35	YA	607	U
35	YA	613	U
35	YA	614	U
35	YA	615	G
35	YA	617	G
35	YA	620	G
35	YA	621	A
35	YA	622	G
35	YA	627	A
35	YA	634	C
35	YA	637	A
35	YA	645	C
35	YA	646	A
35	YA	647	G
35	YA	651	G
35	YA	668	G
35	YA	669	G
35	YA	670	A
35	YA	686	G
35	YA	693	C
35	YA	705	A
35	YA	708	C
35	YA	722	A
35	YA	726	G
35	YA	727	A
35	YA	730	C

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Mol	Chain	Res	Type
35	YA	753	C
35	YA	764	A
35	YA	765	G
35	YA	776	G
35	YA	782	A
35	YA	784	A
35	YA	785	G
35	YA	788	A
35	YA	789	A
35	YA	792	G
35	YA	793	A
35	YA	805	G
35	YA	812	C
35	YA	819	A
35	YA	827	U
35	YA	828	U
35	YA	846	C
35	YA	856	C
35	YA	857	C
35	YA	859	G
35	YA	860	U
35	YA	862	G
35	YA	866	A
35	YA	869	G
35	YA	878	A
35	YA	879	G
35	YA	881	G
35	YA	882	G
35	YA	883	G
35	YA	884	C
35	YA	886	C
35	YA	889	C
35	YA	890	A
35	YA	894	C
35	YA	895	U
35	YA	896	A
35	YA	897	C
35	YA	906	G
35	YA	907	U
35	YA	910	A
35	YA	915	C
35	YA	917	A

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Mol	Chain	Res	Type
35	YA	919	G
35	YA	928	G
35	YA	932	G
35	YA	934	G
35	YA	938	G
35	YA	941	A
35	YA	945	A
35	YA	946	G
35	YA	953	A
35	YA	955	C
35	YA	961	C
35	YA	968	G
35	YA	973	A
35	YA	974	G
35	YA	980	A
35	YA	983	A
35	YA	989	G
35	YA	990	A
35	YA	991	C
35	YA	996	A
35	YA	997	G
35	YA	999	U
35	YA	1005	C
35	YA	1012	U
35	YA	1013	C
35	YA	1022	G
35	YA	1023	U
35	YA	1025	G
35	YA	1026	U
35	YA	1027	A
35	YA	1033	U
35	YA	1034	G
35	YA	1044	G
35	YA	1045	A
35	YA	1046	A
35	YA	1047	G
35	YA	1049	C
35	YA	1053	C
35	YA	1060	U
35	YA	1061	U
35	YA	1064	C
35	YA	1070	A

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Mol	Chain	Res	Type
35	YA	1073	A
35	YA	1079	C
35	YA	1086	A
35	YA	1087	G
35	YA	1088	A
35	YA	1089	G
35	YA	1095	A
35	YA	1096	A
35	YA	1105	U
35	YA	1122	G
35	YA	1128	A
35	YA	1130	U
35	YA	1135	C
35	YA	1136	G
35	YA	1139	G
35	YA	1142	U
35	YA	1142(A)	A
35	YA	1148	A
35	YA	1156	A
35	YA	1171	G
35	YA	1173	G
35	YA	1174	A
35	YA	1175	U
35	YA	1177	A
35	YA	1178	C
35	YA	1180	C
35	YA	1195	G
35	YA	1204	A
35	YA	1205	U
35	YA	1210	A
35	YA	1212	G
35	YA	1220	A
35	YA	1236	G
35	YA	1244	G
35	YA	1247	A
35	YA	1253	A
35	YA	1254	A
35	YA	1255	U
35	YA	1256	G
35	YA	1262	A
35	YA	1265	A
35	YA	1271	G

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Mol	Chain	Res	Type
35	YA	1272	A
35	YA	1281	G
35	YA	1300	U
35	YA	1301	A
35	YA	1303	G
35	YA	1308	A
35	YA	1314	C
35	YA	1319	G
35	YA	1324	G
35	YA	1329	U
35	YA	1352	U
35	YA	1359	A
35	YA	1360	A
35	YA	1367	A
35	YA	1368	G
35	YA	1379	A
35	YA	1380	G
35	YA	1384	A
35	YA	1385	G
35	YA	1391	U
35	YA	1395	A
35	YA	1407	C
35	YA	1415	U
35	YA	1416	G
35	YA	1419	A
35	YA	1420	U
35	YA	1421	G
35	YA	1428	C
35	YA	1434	A
35	YA	1437	C
35	YA	1444(A)	A
35	YA	1449	A
35	YA	1449(A)	G
35	YA	1451	C
35	YA	1453	A
35	YA	1455	G
35	YA	1458	C
35	YA	1460	A
35	YA	1461	G
35	YA	1467	C
35	YA	1471	A
35	YA	1475	G

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Mol	Chain	Res	Type
35	YA	1478	G
35	YA	1482	U
35	YA	1483	G
35	YA	1485	G
35	YA	1488	G
35	YA	1490	A
35	YA	1493	C
35	YA	1505	C
35	YA	1506	C
35	YA	1508	A
35	YA	1509	C
35	YA	1510	A
35	YA	1523	U
35	YA	1526	G
35	YA	1534	G
35	YA	1535	U
35	YA	1536	A
35	YA	1537	C
35	YA	1538	G
35	YA	1540	G
35	YA	1543	A
35	YA	1544	C
35	YA	1545	A
35	YA	1547	C
35	YA	1549	C
35	YA	1554	A
35	YA	1558	A
35	YA	1559	G
35	YA	1560	G
35	YA	1566	A
35	YA	1569	A
35	YA	1578	U
35	YA	1585	C
35	YA	1586	A
35	YA	1598	C
35	YA	1608	A
35	YA	1618	A
35	YA	1640	C
35	YA	1648	C
35	YA	1652	A
35	YA	1654	A
35	YA	1667	G

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Mol	Chain	Res	Type
35	YA	1668	A
35	YA	1674	G
35	YA	1695	G
35	YA	1696	G
35	YA	1700	A
35	YA	1703	G
35	YA	1725	G
35	YA	1728	G
35	YA	1729	A
35	YA	1731	G
35	YA	1735	C
35	YA	1743	G
35	YA	1750	G
35	YA	1754	C
35	YA	1756	G
35	YA	1762	A
35	YA	1763	G
35	YA	1764	G
35	YA	1773	A
35	YA	1774	C
35	YA	1780	A
35	YA	1791	A
35	YA	1800	C
35	YA	1801	G
35	YA	1816	G
35	YA	1820	U
35	YA	1828	G
35	YA	1829	A
35	YA	1835	G
35	YA	1847	A
35	YA	1858	G
35	YA	1869	G
35	YA	1872	A
35	YA	1878	G
35	YA	1881	C
35	YA	1882	C
35	YA	1888	G
35	YA	1889	A
35	YA	1900	A
35	YA	1906	G
35	YA	1913	A
35	YA	1929	G

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Mol	Chain	Res	Type
35	YA	1930	G
35	YA	1936	A
35	YA	1938	A
35	YA	1948	G
35	YA	1955	U
35	YA	1963	U
35	YA	1964	G
35	YA	1967	C
35	YA	1970	A
35	YA	1971	A
35	YA	1972	A
35	YA	1980	G
35	YA	1982	C
35	YA	1992	G
35	YA	1993	U
35	YA	2020	A
35	YA	2021	C
35	YA	2023	G
35	YA	2027	G
35	YA	2031	A
35	YA	2032	G
35	YA	2033	A
35	YA	2043	C
35	YA	2055	C
35	YA	2056	G
35	YA	2059	A
35	YA	2060	A
35	YA	2061	G
35	YA	2062	A
35	YA	2069	G
35	YA	2111	C
35	YA	2112	G
35	YA	2113	U
35	YA	2114	A
35	YA	2116	G
35	YA	2117	A
35	YA	2120	G
35	YA	2123	G
35	YA	2124	G
35	YA	2126	A
35	YA	2127	G
35	YA	2128	C

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Mol	Chain	Res	Type
35	YA	2130	U
35	YA	2131	G
35	YA	2132	U
35	YA	2134	A
35	YA	2145	C
35	YA	2146	C
35	YA	2147	G
35	YA	2148	G
35	YA	2161	C
35	YA	2167	U
35	YA	2168	G
35	YA	2169	A
35	YA	2170	A
35	YA	2171	A
35	YA	2173	A
35	YA	2186	G
35	YA	2190	G
35	YA	2191	G
35	YA	2192	G
35	YA	2198	A
35	YA	2210	G
35	YA	2211	G
35	YA	2212	A
35	YA	2213	U
35	YA	2215	G
35	YA	2225	A
35	YA	2226	C
35	YA	2238	G
35	YA	2239	G
35	YA	2266	A
35	YA	2275	C
35	YA	2279	G
35	YA	2283	C
35	YA	2305	A
35	YA	2306	C
35	YA	2307	G
35	YA	2308	G
35	YA	2309	A
35	YA	2310	A
35	YA	2312	U
35	YA	2320	A
35	YA	2321	G

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Mol	Chain	Res	Type
35	YA	2325	G
35	YA	2334	G
35	YA	2335	A
35	YA	2336	A
35	YA	2347	C
35	YA	2350	C
35	YA	2354	G
35	YA	2382	G
35	YA	2383	G
35	YA	2385	C
35	YA	2392	A
35	YA	2402	C
35	YA	2406	U
35	YA	2410	G
35	YA	2414	G
35	YA	2423	U
35	YA	2425	A
35	YA	2429	G
35	YA	2430	A
35	YA	2435	A
35	YA	2439	A
35	YA	2441	C
35	YA	2445	G
35	YA	2448	A
35	YA	2450	A
35	YA	2460	U
35	YA	2465	C
35	YA	2468	G
35	YA	2469	A
35	YA	2470	G
35	YA	2472	G
35	YA	2474	C
35	YA	2475	C
35	YA	2476	A
35	YA	2482	G
35	YA	2491	U
35	YA	2494	G
35	YA	2498	C
35	YA	2502	G
35	YA	2505	G
35	YA	2518	A
35	YA	2529	G

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Mol	Chain	Res	Type
35	YA	2535	G
35	YA	2543	G
35	YA	2554	U
35	YA	2562	U
35	YA	2566	A
35	YA	2567	G
35	YA	2569	G
35	YA	2572	A
35	YA	2582	G
35	YA	2586	C
35	YA	2602	A
35	YA	2609	U
35	YA	2611	U
35	YA	2612	C
35	YA	2629	A
35	YA	2630	G
35	YA	2645	G
35	YA	2646	C
35	YA	2654	A
35	YA	2655	G
35	YA	2665	A
35	YA	2673	G
35	YA	2682	U
35	YA	2689	U
35	YA	2690	C
35	YA	2691	C
35	YA	2702	U
35	YA	2703	C
35	YA	2712	U
35	YA	2713	A
35	YA	2714	G
35	YA	2725	A
35	YA	2726	U
35	YA	2733	A
35	YA	2744	G
35	YA	2748	A
35	YA	2750	A
35	YA	2751	G
35	YA	2752	C
35	YA	2754	U
35	YA	2762	G
35	YA	2765	A

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Mol	Chain	Res	Type
35	YA	2766	G
35	YA	2777	G
35	YA	2778	A
35	YA	2779	U
35	YA	2780	G
35	YA	2789	C
35	YA	2790	A
35	YA	2791	C
35	YA	2792	G
35	YA	2797	U
35	YA	2799	A
35	YA	2807	G
35	YA	2818	G
35	YA	2820	A
35	YA	2821	A
35	YA	2827	C
35	YA	2830	G
35	YA	2833	G
35	YA	2834	G
35	YA	2835	A
35	YA	2848	G
35	YA	2849	U
35	YA	2860	A
35	YA	2872	G
35	YA	2873	A
35	YA	2876	G
35	YA	2877	G
35	YA	2879	C
35	YA	2880	C
35	YA	2892	A
35	YA	2893	G
35	YA	2896	C
35	YA	2897	U
36	YB	8	U
36	YB	9	G
36	YB	13	A
36	YB	15	A
36	YB	25	A
36	YB	41	U
36	YB	42	C
36	YB	44	G
36	YB	45	A

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Mol	Chain	Res	Type
36	YB	52	A
36	YB	53	A
36	YB	67	G
36	YB	73	A
36	YB	81	G
36	YB	88	C
36	YB	92	G
36	YB	109	G
36	YB	117	G
36	YB	118	G
36	YB	119	A

All (211) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	31	G
1	QA	60	A
1	QA	115	G
1	QA	181	G
1	QA	190	G
1	QA	197	A
1	QA	201	C
1	QA	208	U
1	QA	243	A
1	QA	250	A
1	QA	279	A
1	QA	281	G
1	QA	315	A
1	QA	328	C
1	QA	410	G
1	QA	428	G
1	QA	484	G
1	QA	485	G
1	QA	518	C
1	QA	547	A
1	QA	560	U
1	QA	595	G
1	QA	687	A
1	QA	717	C
1	QA	748	C
1	QA	792	A

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Mol	Chain	Res	Type
1	QA	812	C
1	QA	913	A
1	QA	960	U
1	QA	976	G
1	QA	992	U
1	QA	999	U
1	QA	1033	G
1	QA	1038	C
1	QA	1053	G
1	QA	1065	U
1	QA	1067	A
1	QA	1124	G
1	QA	1137	C
1	QA	1139	G
1	QA	1182	G
1	QA	1224	G
1	QA	1285	A
1	QA	1300	G
1	QA	1322	C
1	QA	1346	A
1	QA	1347	G
1	QA	1364	U
1	QA	1498	U
1	QA	1528	U
1	QA	1532	U
22	QV	1	C
22	QV	7	G
22	QV	17(A)	U
22	QV	60	U
22	QW	60	U
23	QX	9	G
23	QX	11	U
35	RA	49	A
35	RA	90	U
35	RA	119	A
35	RA	128	C
35	RA	227	A
35	RA	345	A
35	RA	372	G
35	RA	387	U
35	RA	404	C
35	RA	587	C

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Mol	Chain	Res	Type
35	RA	603	A
35	RA	704	G
35	RA	752	A
35	RA	845	G
35	RA	856	C
35	RA	859	G
35	RA	877	U
35	RA	1022	G
35	RA	1085	A
35	RA	1171	G
35	RA	1204	A
35	RA	1286	A
35	RA	1300	U
35	RA	1311	G
35	RA	1379	A
35	RA	1427	A
35	RA	1451	C
35	RA	1558	A
35	RA	1559	G
35	RA	1694	C
35	RA	1819	A
35	RA	1900	A
35	RA	1930	G
35	RA	2092	U
35	RA	2144	U
35	RA	2191	G
35	RA	2211	G
35	RA	2311	A
35	RA	2346	A
35	RA	2439	A
35	RA	2447	G
35	RA	2481	G
35	RA	2610	C
35	RA	2689	U
35	RA	2725	A
35	RA	2776	A
35	RA	2848	G
35	RA	2849	U
35	RA	2859	G
36	RB	66	A
1	XA	5	U
1	XA	31	G

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Mol	Chain	Res	Type
1	XA	60	A
1	XA	181	G
1	XA	197	A
1	XA	201	C
1	XA	243	A
1	XA	250	A
1	XA	279	A
1	XA	281	G
1	XA	315	A
1	XA	328	C
1	XA	410	G
1	XA	421	U
1	XA	428	G
1	XA	518	C
1	XA	547	A
1	XA	560	U
1	XA	595	G
1	XA	687	A
1	XA	703	G
1	XA	717	C
1	XA	733	A
1	XA	748	C
1	XA	792	A
1	XA	812	C
1	XA	818	G
1	XA	913	A
1	XA	960	U
1	XA	992	U
1	XA	1004	A
1	XA	1033	G
1	XA	1038	C
1	XA	1053	G
1	XA	1054	C
1	XA	1065	U
1	XA	1067	A
1	XA	1094	G
1	XA	1124	G
1	XA	1137	C
1	XA	1139	G
1	XA	1177	G
1	XA	1182	G
1	XA	1285	A

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Mol	Chain	Res	Type
1	XA	1300	G
1	XA	1345	U
1	XA	1346	A
1	XA	1364	U
1	XA	1498	U
1	XA	1532	U
22	XV	7	G
22	XV	17(A)	U
22	XV	60	U
22	XW	60	U
23	XX	9	G
35	YA	74	A
35	YA	119	A
35	YA	345	A
35	YA	352	G
35	YA	372	G
35	YA	387	U
35	YA	587	C
35	YA	603	A
35	YA	692	C
35	YA	704	G
35	YA	726	G
35	YA	752	A
35	YA	856	C
35	YA	859	G
35	YA	877	U
35	YA	1022	G
35	YA	1085	A
35	YA	1171	G
35	YA	1379	A
35	YA	1427	A
35	YA	1451	C
35	YA	1558	A
35	YA	1559	G
35	YA	1653	G
35	YA	1694	C
35	YA	1819	A
35	YA	1900	A
35	YA	1992	G
35	YA	2032	G
35	YA	2144	U
35	YA	2166	G

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Mol	Chain	Res	Type
35	YA	2191	G
35	YA	2211	G
35	YA	2311	A
35	YA	2320	A
35	YA	2335	A
35	YA	2422	A
35	YA	2447	G
35	YA	2468	G
35	YA	2481	G
35	YA	2610	C
35	YA	2689	U
35	YA	2725	A
35	YA	2776	A
35	YA	2848	G
35	YA	2859	G
36	YB	66	A

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

2 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	PPU	ZA	3	35,56	32,40,41	0.91	2 (6%)	33,57,60	1.51	6 (18%)
56	PPU	ZB	3	35,56	32,40,41	0.89	2 (6%)	33,57,60	1.44	5 (15%)

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	PPU	ZA	3	35,56	-	4/21/43/44	0/4/4/4
56	PPU	ZB	3	35,56	-	3/21/43/44	0/4/4/4

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	ZA	3	PPU	C5-C4	2.76	1.48	1.40
56	ZB	3	PPU	C5-C4	2.73	1.48	1.40
56	ZA	3	PPU	C6-N1	2.18	1.36	1.33
56	ZB	3	PPU	C6-N1	2.02	1.36	1.33

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	ZB	3	PPU	C4-C5-N7	-3.49	105.76	109.40
56	ZA	3	PPU	C4-C5-N7	-3.46	105.79	109.40
56	ZA	3	PPU	C3'-N3'-C	-3.34	118.18	123.21
56	ZA	3	PPU	N3-C2-N1	-3.25	123.60	128.68
56	ZB	3	PPU	N3-C2-N1	-3.24	123.61	128.68
56	ZA	3	PPU	N1-C6-N6	3.17	120.39	117.06
56	ZB	3	PPU	C10-N6-C6	-3.14	110.02	119.51
56	ZB	3	PPU	C10-N6-C9	-3.11	106.11	116.12
56	ZA	3	PPU	C10-N6-C6	-3.09	110.15	119.51
56	ZA	3	PPU	C10-N6-C9	-2.80	107.10	116.12
56	ZB	3	PPU	N1-C6-N6	2.78	119.98	117.06

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
56	ZB	3	PPU	CE1-CZ-OC-CM
56	ZB	3	PPU	CE2-CZ-OC-CM
56	ZA	3	PPU	CE2-CZ-OC-CM
56	ZA	3	PPU	CE1-CZ-OC-CM
56	ZA	3	PPU	C5-C6-N6-C9
56	ZB	3	PPU	C5-C6-N6-C9
56	ZA	3	PPU	O4'-C4'-C5'-O5'

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	ZB	3	PPU	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 883 ligands modelled in this entry, 879 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
58	SF4	XD	301	4	0,12,12	-	-	-		
58	SF4	QD	301	4	0,12,12	-	-	-		
60	A3P	XX	101	23	23,28,29	5.26	7 (30%)	23,42,45	1.59	4 (17%)
60	A3P	QX	101	23	23,28,29	5.17	7 (30%)	23,42,45	1.46	3 (13%)

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
58	SF4	XD	301	4	-	-	0/6/5/5
58	SF4	QD	301	4	-	-	0/6/5/5
60	A3P	XX	101	23	-	0/8/30/31	0/3/3/3
60	A3P	QX	101	23	-	2/8/30/31	0/3/3/3

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	XX	101	A3P	O4'-C1'	18.58	1.67	1.41
60	QX	101	A3P	O4'-C1'	18.11	1.66	1.41
60	XX	101	A3P	C2'-C1'	-13.95	1.32	1.53
60	QX	101	A3P	C2'-C1'	-13.75	1.32	1.53
60	QX	101	A3P	O4'-C4'	-6.31	1.30	1.45
60	XX	101	A3P	O4'-C4'	-6.11	1.31	1.45
60	XX	101	A3P	P1-O3'	4.11	1.67	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
60	QX	101	A3P	P1-O3'	3.89	1.66	1.59
60	QX	101	A3P	O3'-C3'	-3.53	1.31	1.44
60	XX	101	A3P	O3'-C3'	-3.39	1.31	1.44
60	QX	101	A3P	C6-N6	3.23	1.45	1.34
60	XX	101	A3P	C6-N6	3.17	1.45	1.34
60	XX	101	A3P	C3'-C4'	2.13	1.58	1.52
60	QX	101	A3P	C2'-C3'	2.09	1.57	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
60	XX	101	A3P	N3-C2-N1	-4.92	120.99	128.68
60	QX	101	A3P	N3-C2-N1	-4.77	121.22	128.68
60	XX	101	A3P	C3'-C2'-C1'	3.31	107.22	99.89
60	QX	101	A3P	C4-C5-N7	-3.24	106.02	109.40
60	XX	101	A3P	C4-C5-N7	-2.87	106.40	109.40
60	QX	101	A3P	C3'-C2'-C1'	2.86	106.23	99.89
60	XX	101	A3P	C2'-C3'-C4'	2.44	107.54	103.22

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
60	QX	101	A3P	C3'-C4'-C5'-O5'
60	QX	101	A3P	O4'-C4'-C5'-O5'

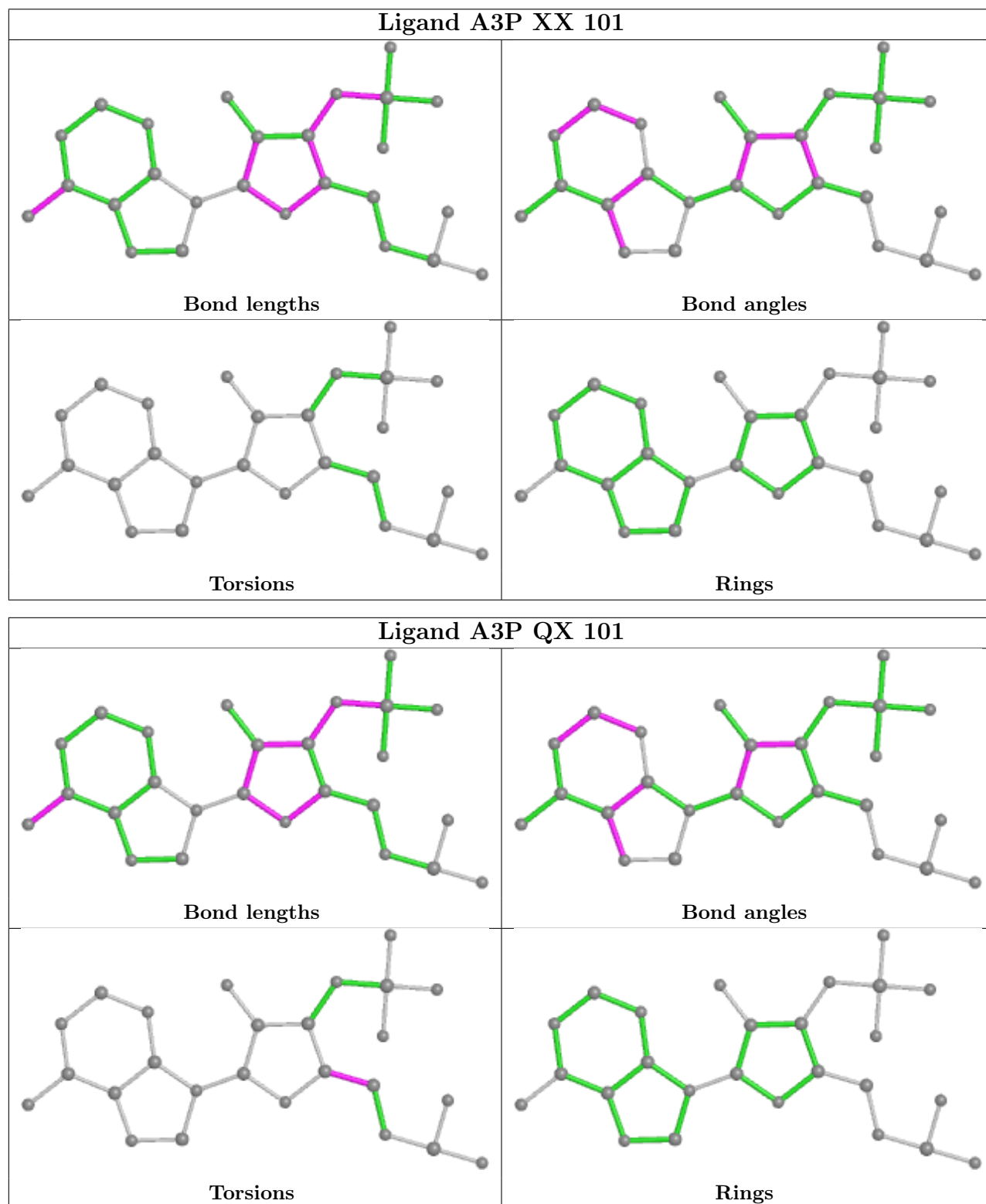
There are no ring outliers.

2 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
60	XX	101	A3P	2	0
60	QX	101	A3P	5	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

EDS failed to run properly - this section is therefore empty.

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

EDS failed to run properly - this section is therefore empty.

6.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

6.4 Ligands

EDS failed to run properly - this section is therefore empty.

6.5 Other polymers

EDS failed to run properly - this section is therefore empty.