Full wwPDB X-ray Structure Validation Report ⓘ

Jun 12, 2024 – 08:52 AM EDT

PDB ID	:	6NUO
Title	:	Modified tRNA(Pro) bound to Thermus thermophilus 70S (cognate)
Authors	:	Hoffer, E.D.; Subaramanian, S.; Hong, S.; Maehigashi, T.; Dunham, C.M.
Deposited on	:	2019-02-01
Resolution	:	3.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

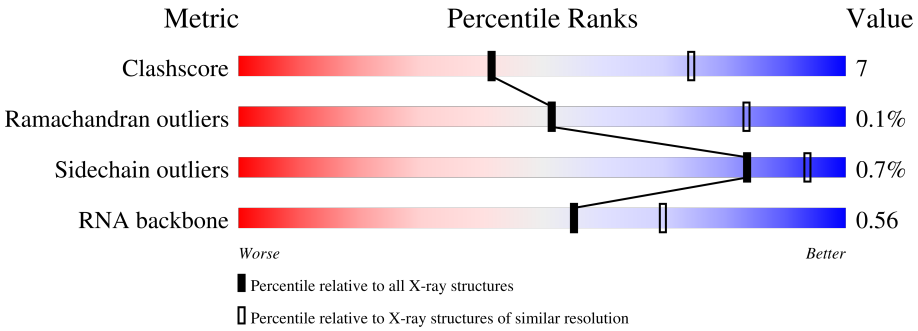
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.20 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	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RNA backbone	3102	1010 (3.50-2.90)

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

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1521	48% 40% 10%
1	XA	1521	49% 38% 10%
2	QB	256	64% 25% 8%
2	XB	256	65% 25% 8%
3	QC	239	63% 21% 14%
3	XC	239	67% 18% 14%

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Mol	Chain	Length	Quality of chain
4	QD	209	77% 22%
4	XD	209	66% 30%
5	QE	162	67% 25% 7%
5	XE	162	76% 17% 7%
6	QF	101	74% 25%
6	XF	101	80% 18%
7	QG	156	79% 19%
7	XG	156	72% 25%
8	QH	138	78% 22%
8	XH	138	76% 22%
9	QI	128	68% 27%
9	XI	128	60% 32% 6%
10	QJ	105	56% 34% 6%
10	XJ	105	68% 21% 9%
11	QK	129	64% 25% 8%
11	XK	129	71% 18% 10%
12	QL	132	78% 15% 5%
12	XL	132	67% 20% 5% 8%
13	QM	126	63% 28% 5%
13	XM	126	53% 37% 6%
14	QN	61	51% 43% 5%
14	XN	61	75% 18% 5%
15	QO	89	88% 10%
15	XO	89	82% 16%
16	QP	88	68% 26% 5%

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Mol	Chain	Length	Quality of chain
16	XP	88	68% 25% • 5%
17	QQ	105	61% 32% • 5%
17	XQ	105	79% 15% • 5%
18	QR	88	61% 18% 20%
18	XR	88	61% 17% • 20%
19	QS	93	66% 22% • 11%
19	XS	93	61% 26% • 10%
20	QT	106	70% 22% • 7%
20	XT	106	60% 31% • 7%
21	QU	27	78% 15% 7%
21	XU	27	56% 33% • 7%
22	QV	77	38% 47% 13% •
22	XV	77	45% 43% 9% •
23	QX	19	26% 68% 5%
23	XX	19	26% 58% 11% 5%
24	RA	2915	51% 35% 11% • •
24	YA	2915	50% 35% 11% • •
25	RB	122	65% 24% 9% • •
25	YB	122	51% 32% 13% • •
26	RD	276	78% 21% •
26	YD	276	84% 14% ••
27	RE	206	77% 23%
27	YE	206	78% 20% ••
28	RF	210	74% 22% •
28	YF	210	73% 23% •

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Mol	Chain	Length	Quality of chain
29	RG	182	67% 29%
29	YG	182	65% 32%
30	RH	180	62% 32%
30	YH	180	82% 14%
31	RI	148	71% 25%
31	YI	148	74% 22%
32	RN	140	85% 13%
32	YN	140	79% 19%
33	RO	122	75% 23%
33	YO	122	80% 19%
34	RP	150	78% 19%
34	YP	150	74% 24%
35	RQ	141	62% 35%
35	YQ	141	86% 14%
36	RR	118	75% 23%
36	YR	118	82% 15%
37	RS	112	71% 25%
37	YS	112	79% 20%
38	RT	146	65% 25% 6%
38	YT	146	67% 23% 6%
39	RU	118	78% 19%
39	YU	118	82% 14%
40	RV	101	80% 19%
40	YV	101	82% 13% 5%
41	RW	113	81% 19%

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Mol	Chain	Length	Quality of chain
41	YW	113	
42	RX	96	
42	YX	96	
43	RY	110	
43	YY	110	
44	RZ	206	
44	YZ	206	
45	R0	85	
45	Y0	85	
46	R1	98	
46	Y1	98	
47	R2	72	
47	Y2	72	
48	R3	60	
48	Y3	60	
49	R4	71	
49	Y4	71	
50	R5	60	
50	Y5	60	
51	R6	54	
51	Y6	54	
52	R7	49	
52	Y7	49	
53	R8	65	
53	Y8	65	

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Mol	Chain	Length	Quality of chain
54	R9	37	78% 22%
54	Y9	37	70% 30%

2 Entry composition (i)

There are 57 unique types of molecules in this entry. The entry contains 291964 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
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1500	Total	C	N	O	P	0	0	0
			32249	14354	5984	10412	1499			

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

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

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

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

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

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

- 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	84	Total	C	N	O	S	0	0	0
			674	430	126	116	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 P-site tRNA-Pro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1648	734	295	542	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1648	734	295	542	77			

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	19	Total	C	N	O	P	0	0	0
			418	186	86	127	19			
23	XX	19	Total	C	N	O	P	0	0	0
			418	186	86	127	19			

- Molecule 24 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	RA	2881	Total	C	N	O	P	0	0	0
			62051	27618	11609	19944	2880			
24	YA	2883	Total	C	N	O	P	0	0	0
			62091	27636	11613	19960	2882			

- Molecule 25 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	RB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			
25	YB	120	Total	C	N	O	P	0	0	0
			2573	1146	476	832	119			

- Molecule 26 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RD	274	Total	C	N	O	S	0	0	0
			2135	1347	426	359	3			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	YD	274	Total	C	N	O	S	0	0	0
			2135	1347	426	359	3			

- Molecule 27 is a protein called 50S ribosomal protein L3.

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

- Molecule 28 is a protein called 50S ribosomal protein L4.

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

- Molecule 29 is a protein called 50S ribosomal protein L5.

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

- Molecule 30 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	RH	174	Total	C	N	O	S	0	0	0
			1336	848	251	236	1			
30	YH	173	Total	C	N	O	S	0	0	0
			1330	845	250	234	1			

- Molecule 31 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	RI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			
31	YI	146	Total	C	N	O	S	0	0	0
			1136	726	201	208	1			

- Molecule 32 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	RN	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	4			
32	YN	140	Total	C	N	O	S	0	0	0
			1121	722	208	187	4			

- Molecule 33 is a protein called 50S ribosomal protein L14.

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

- Molecule 34 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	RP	149	Total	C	N	O	S	0	0	0
			1139	709	231	196	3			
34	YP	147	Total	C	N	O	S	0	0	0
			1122	698	229	192	3			

- Molecule 35 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	RQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			
35	YQ	141	Total	C	N	O	S	0	0	0
			1122	715	212	188	7			

- Molecule 36 is a protein called 50S ribosomal protein L17.

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

- Molecule 37 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
37	RS	111	Total 882	C 556	N 176	O 150	0	0	0
37	YS	110	Total 877	C 553	N 175	O 149	0	0	0

- Molecule 38 is a protein called 50S ribosomal protein L19.

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

- Molecule 39 is a protein called 50S ribosomal protein L20.

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

- Molecule 40 is a protein called 50S ribosomal protein L21.

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

- Molecule 41 is a protein called 50S ribosomal protein L22.

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

- Molecule 42 is a protein called 50S ribosomal protein L23.

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

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
42	YX	94	Total	C	N	O	S	0	0	0
			742	482	134	125	1			

- Molecule 43 is a protein called 50S ribosomal protein L24.

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

- Molecule 44 is a protein called 50S ribosomal protein L25.

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

- Molecule 45 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	R0	81	Total	C	N	O	S	0	0	0
			643	398	137	107	1			
45	Y0	75	Total	C	N	O	S	0	0	0
			599	370	127	101	1			

- Molecule 46 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	R1	97	Total	C	N	O	S	0	0	0
			763	481	150	131	1			
46	Y1	93	Total	C	N	O	S	0	0	0
			729	457	145	126	1			

- Molecule 47 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
47	R2	69	Total	C	N	O	S	0	0	0
			581	358	118	104	1			
47	Y2	66	Total	C	N	O	S	0	0	0
			558	346	113	98	1			

- Molecule 48 is a protein called 50S ribosomal protein L30.

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

- Molecule 49 is a protein called 50S ribosomal protein L31.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L33.

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

- Molecule 52 is a protein called 50S ribosomal protein L34.

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

- Molecule 53 is a protein called 50S ribosomal protein L35.

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

- Molecule 54 is a protein called 50S ribosomal protein L36.

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

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	QA	64	Total 64	Mg 64	0	0
55	QV	1	Total 1	Mg 1	0	0
55	RA	444	Total 444	Mg 444	0	0
55	RB	7	Total 7	Mg 7	0	0
55	RE	5	Total 5	Mg 5	0	0
55	RF	1	Total 1	Mg 1	0	0
55	RN	1	Total 1	Mg 1	0	0
55	RQ	1	Total 1	Mg 1	0	0
55	RR	1	Total 1	Mg 1	0	0
55	RT	1	Total 1	Mg 1	0	0
55	RX	1	Total 1	Mg 1	0	0
55	R0	2	Total 2	Mg 2	0	0
55	R8	2	Total 2	Mg 2	0	0
55	XA	78	Total 78	Mg 78	0	0

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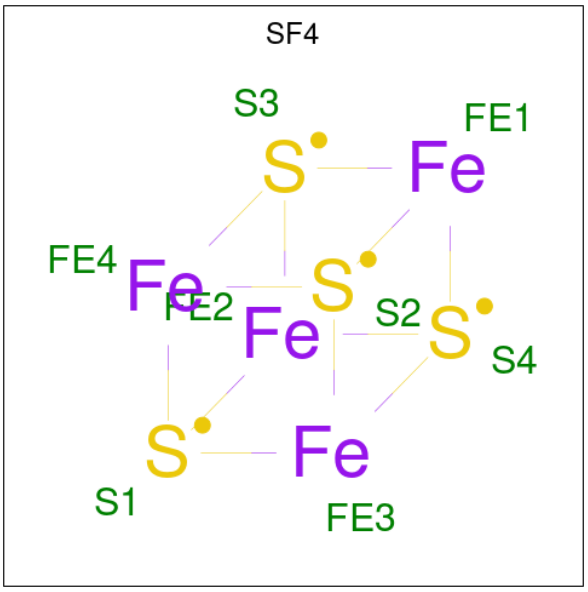
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	XE	1	Total Mg 1 1	0	0
55	XM	2	Total Mg 2 2	0	0
55	XV	1	Total Mg 1 1	0	0
55	YA	510	Total Mg 510 510	0	0
55	YB	7	Total Mg 7 7	0	0
55	YD	2	Total Mg 2 2	0	0
55	YE	5	Total Mg 5 5	0	0
55	YP	3	Total Mg 3 3	0	0
55	YQ	3	Total Mg 3 3	0	0
55	YR	1	Total Mg 1 1	0	0
55	Y0	2	Total Mg 2 2	0	0
55	Y1	2	Total Mg 2 2	0	0
55	Y3	1	Total Mg 1 1	0	0
55	Y5	1	Total Mg 1 1	0	0
55	Y7	1	Total Mg 1 1	0	0
55	Y8	1	Total Mg 1 1	0	0

- Molecule 56 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



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

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

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	QN	1	Total Zn 1 1	0	0
57	RY	1	Total Zn 1 1	0	0
57	R4	1	Total Zn 1 1	0	0
57	R5	1	Total Zn 1 1	0	0
57	R6	1	Total Zn 1 1	0	0
57	R9	1	Total Zn 1 1	0	0
57	XN	1	Total Zn 1 1	0	0
57	YY	1	Total Zn 1 1	0	0
57	Y4	1	Total Zn 1 1	0	0
57	Y5	1	Total Zn 1 1	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	Y6	1	Total Zn 1 1	0	0
57	Y9	1	Total Zn 1 1	0	0

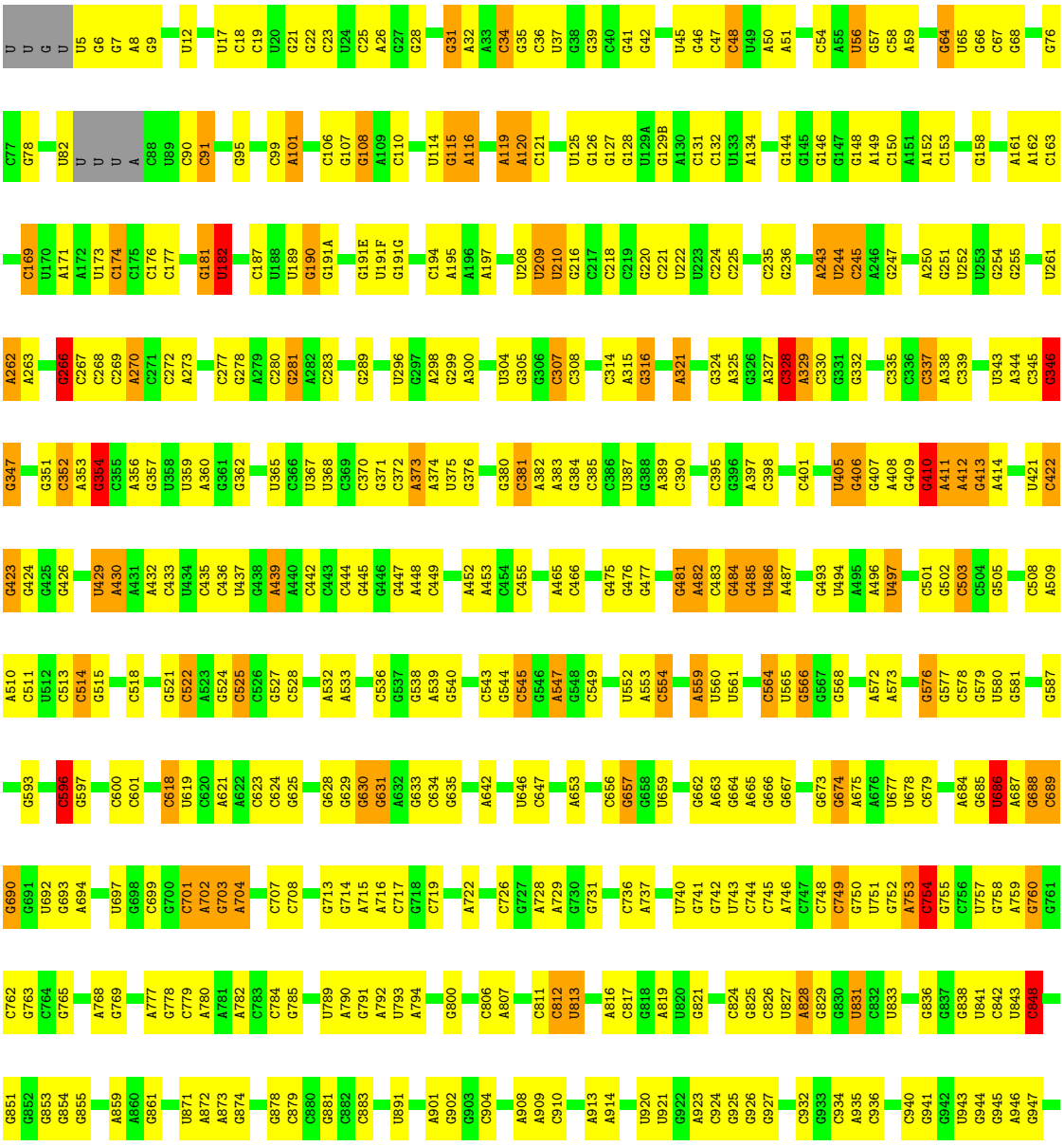
3 Residue-property plots (i)

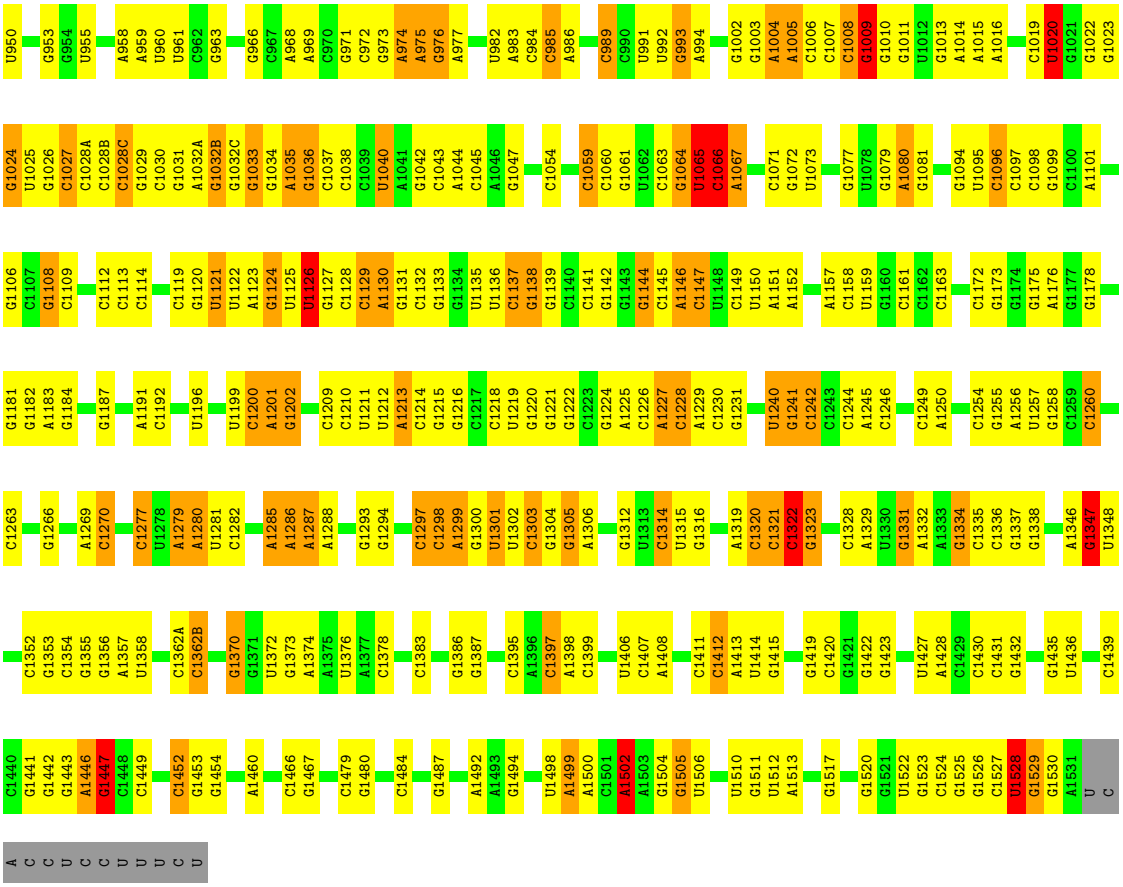
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

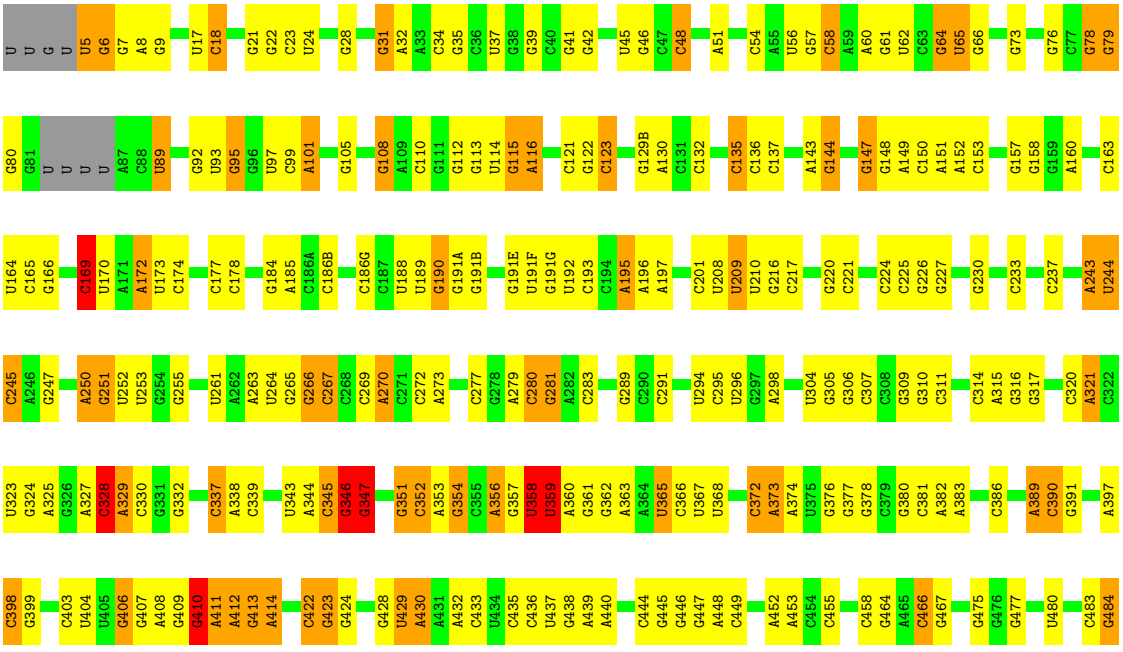
Chain QA:

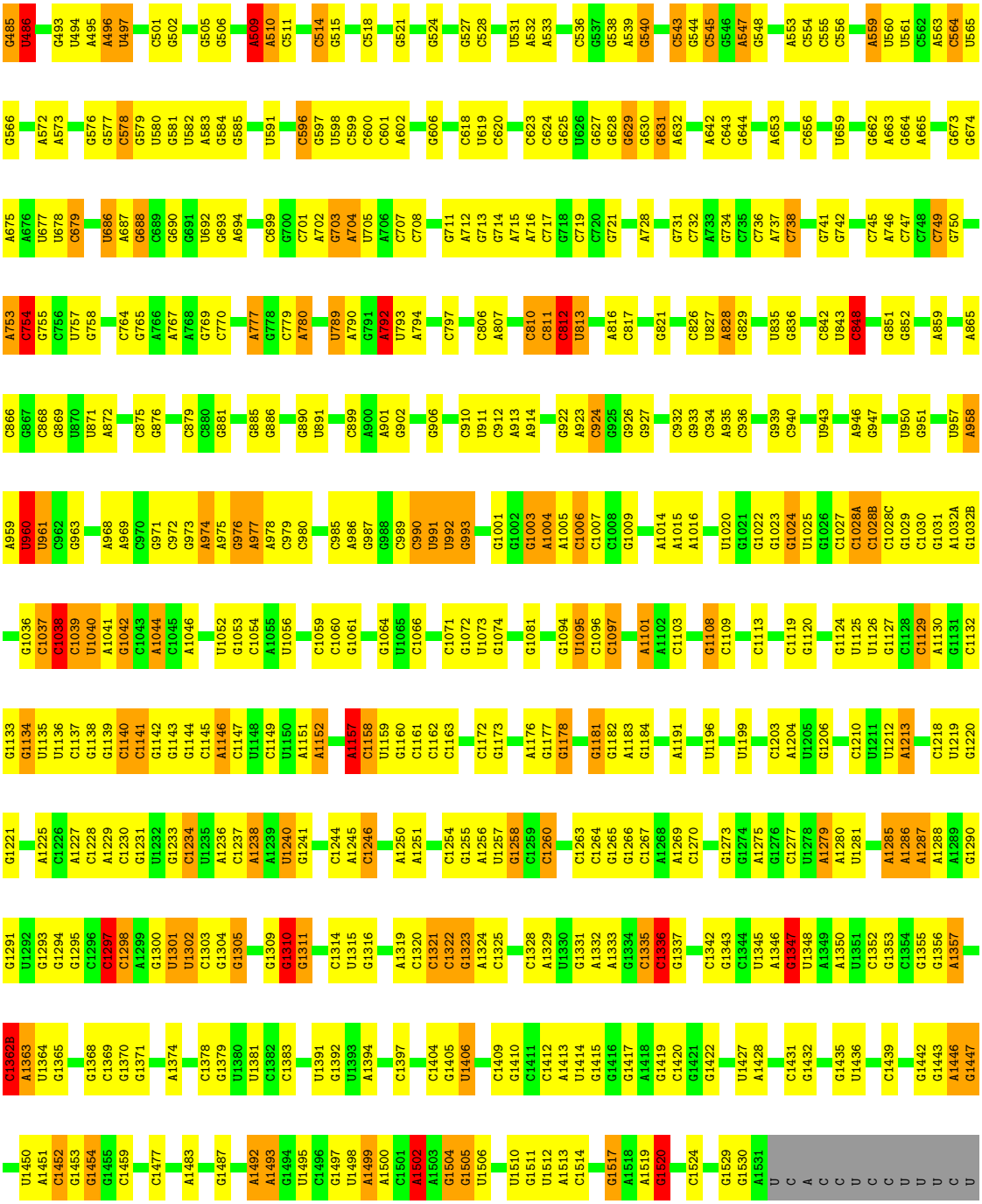




• Molecule 1: 16S rRNA

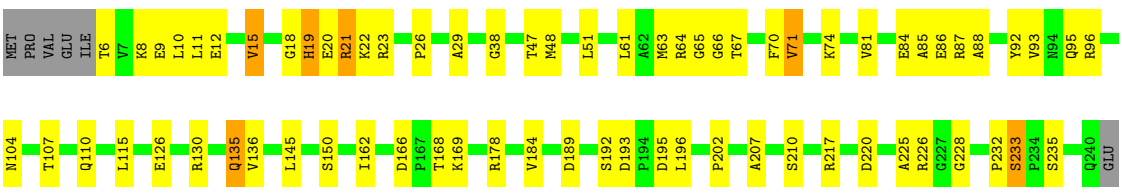
Chain XA:





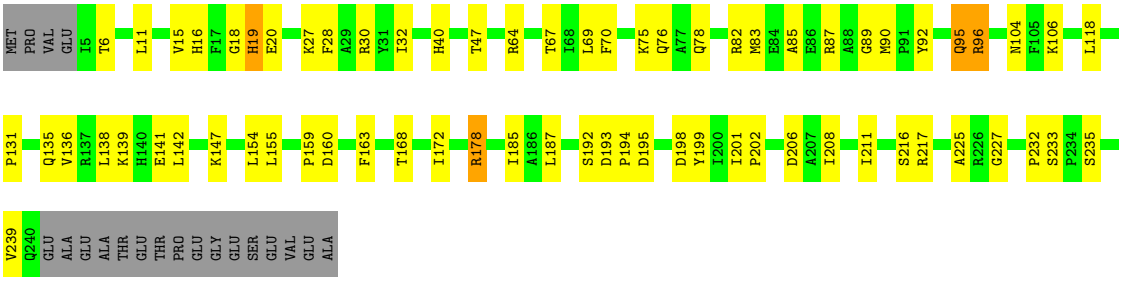
• Molecule 2: 30S ribosomal protein S2

Chain QB:



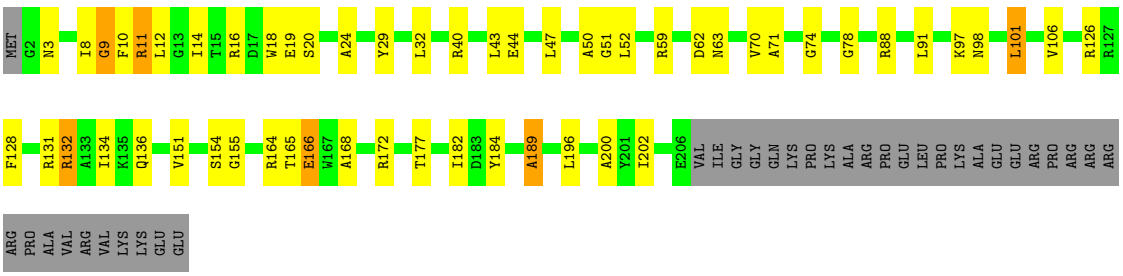
• Molecule 2: 30S ribosomal protein S2

Chain XB:



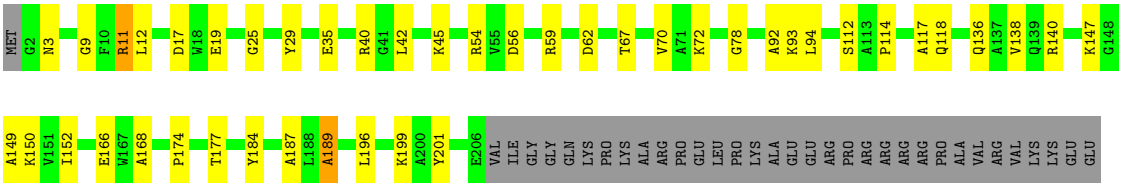
• Molecule 3: 30S ribosomal protein S3

Chain QC:



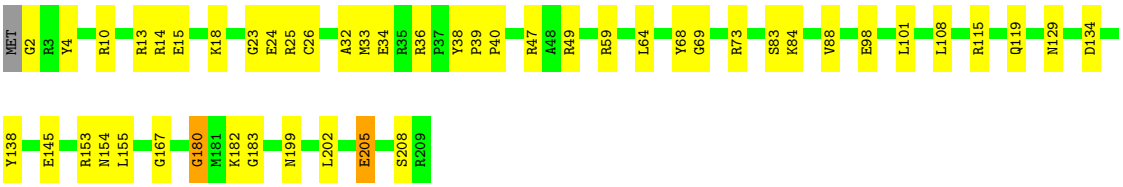
• Molecule 3: 30S ribosomal protein S3

Chain XC:



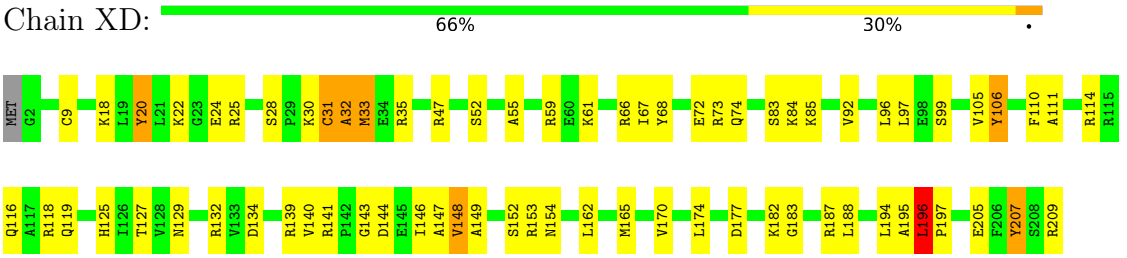
• Molecule 4: 30S ribosomal protein S4

Chain QD:



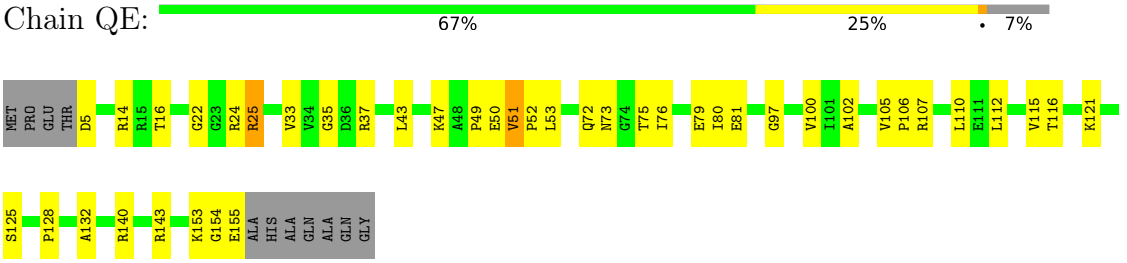
• Molecule 4: 30S ribosomal protein S4

Chain XD:



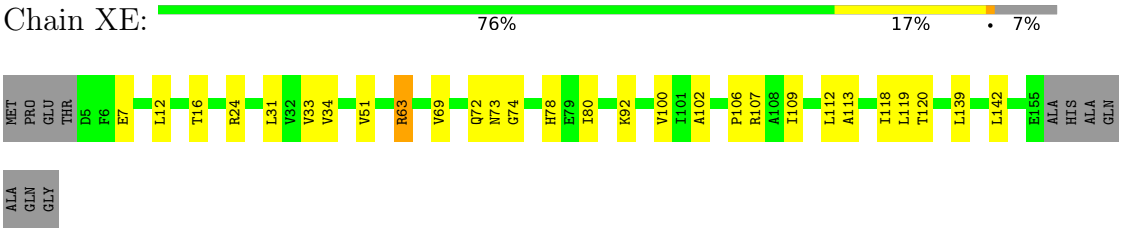
• Molecule 5: 30S ribosomal protein S5

Chain QE:



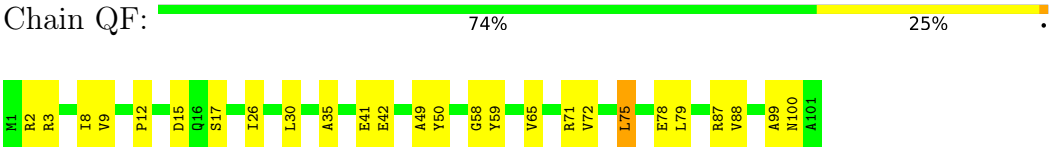
• Molecule 5: 30S ribosomal protein S5

Chain XE:



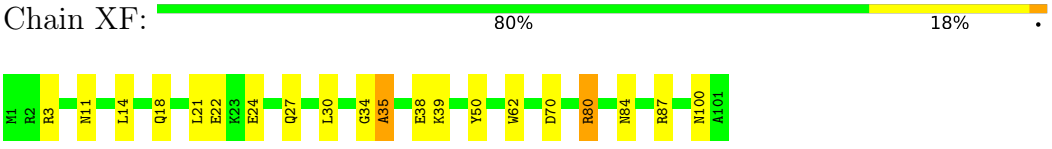
• Molecule 6: 30S ribosomal protein S6

Chain QF:



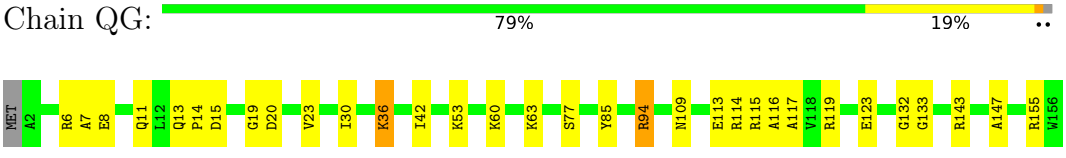
• Molecule 6: 30S ribosomal protein S6

Chain XF:



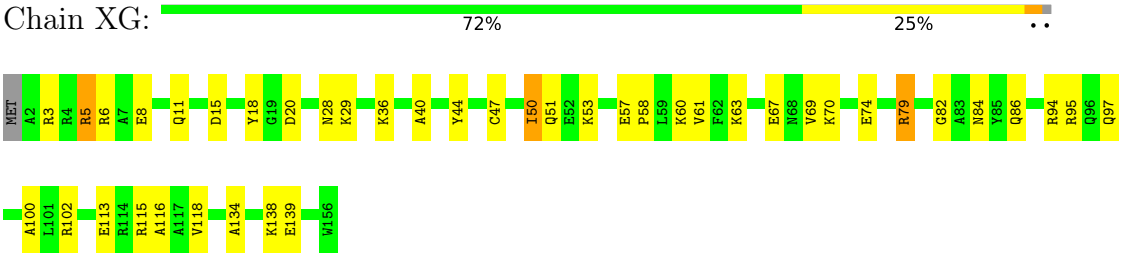
• Molecule 7: 30S ribosomal protein S7

Chain QG:



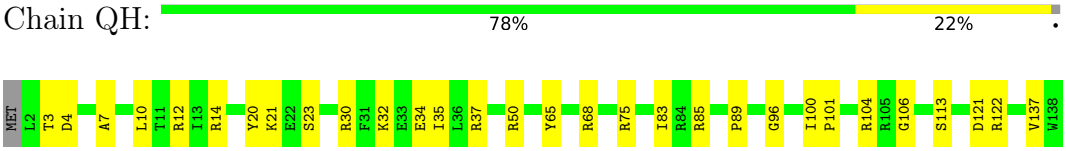
• Molecule 7: 30S ribosomal protein S7

Chain XG:



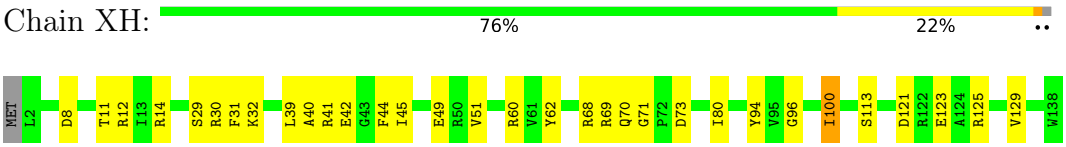
• Molecule 8: 30S ribosomal protein S8

Chain QH:



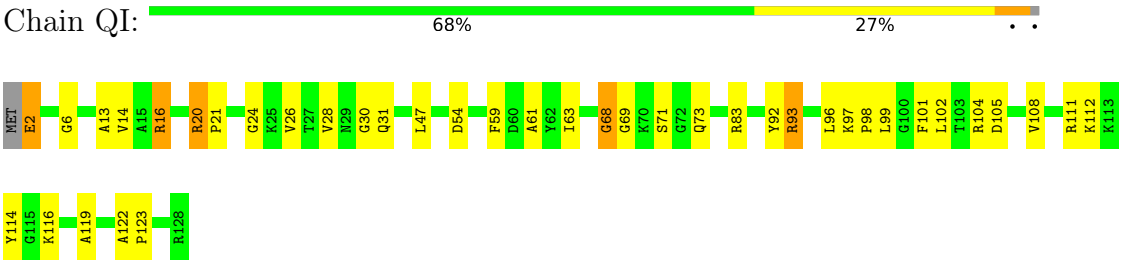
• Molecule 8: 30S ribosomal protein S8

Chain XH:



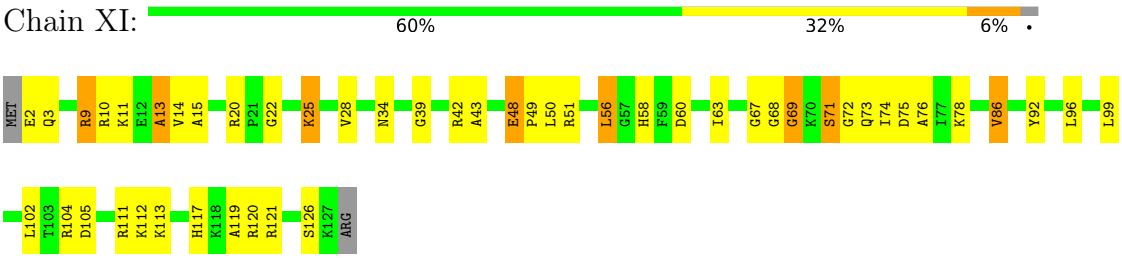
• Molecule 9: 30S ribosomal protein S9

Chain QI:



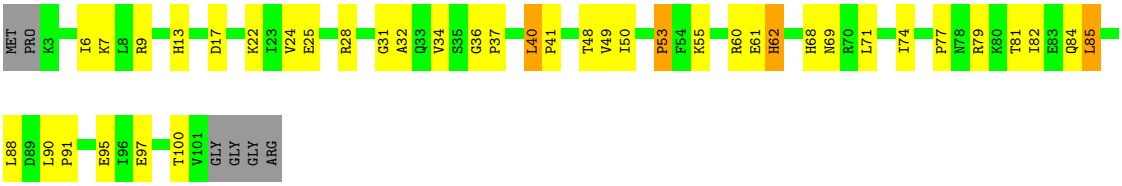
• Molecule 9: 30S ribosomal protein S9

Chain XI:



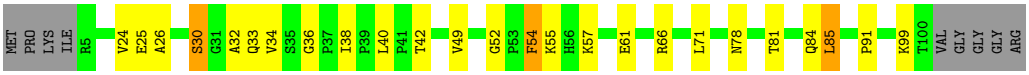
• Molecule 10: 30S ribosomal protein S10

Chain QJ:



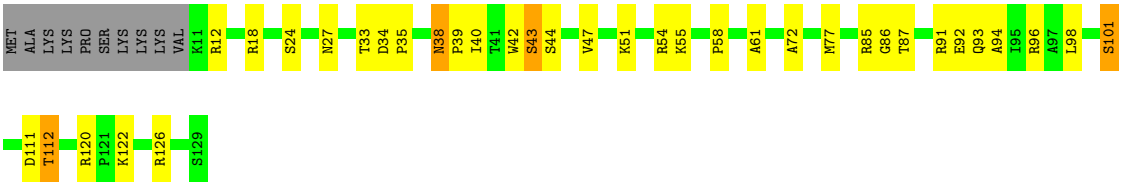
• Molecule 10: 30S ribosomal protein S10

Chain XJ:



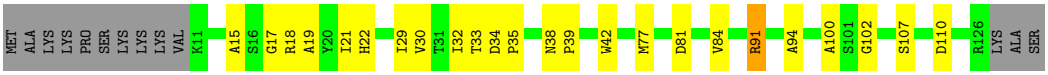
• Molecule 11: 30S ribosomal protein S11

Chain QK:



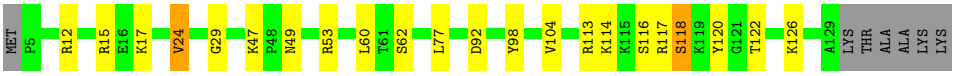
• Molecule 11: 30S ribosomal protein S11

Chain XK:



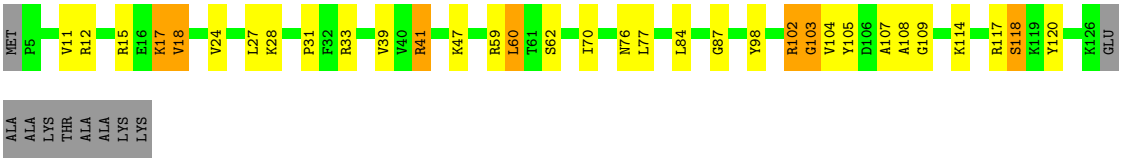
• Molecule 12: 30S ribosomal protein S12

Chain QL:



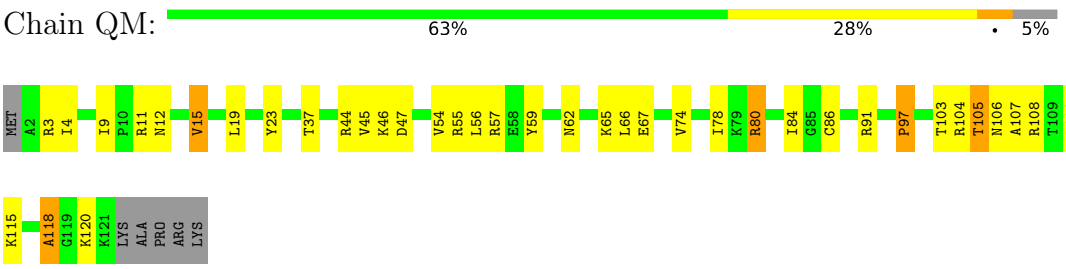
• Molecule 12: 30S ribosomal protein S12

Chain XL:



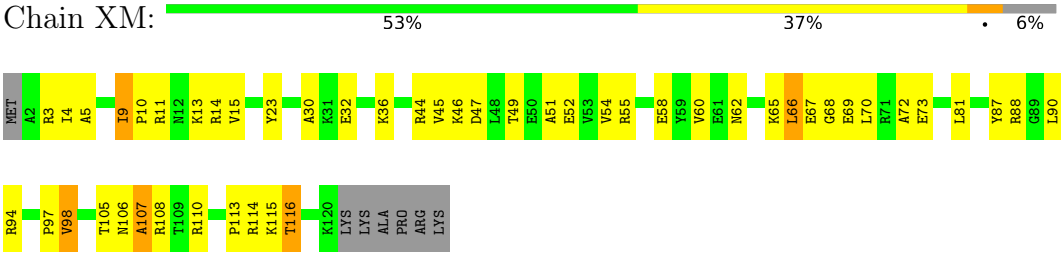
• Molecule 13: 30S ribosomal protein S13

Chain QM:



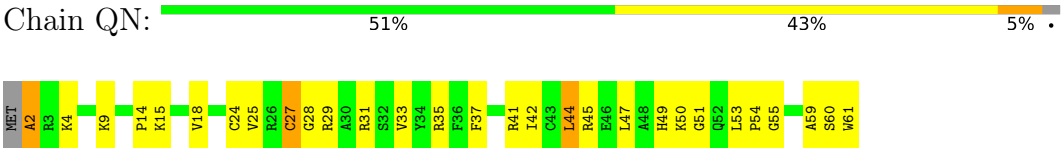
• Molecule 13: 30S ribosomal protein S13

Chain XM:



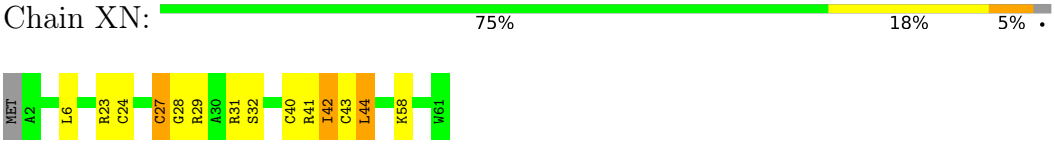
• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:



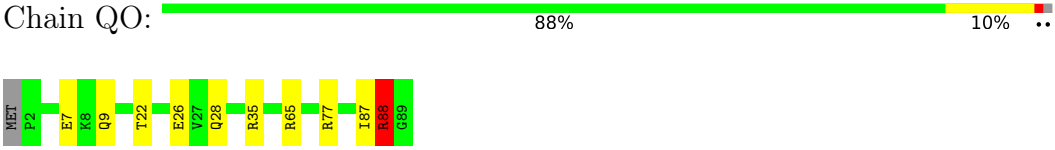
• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:



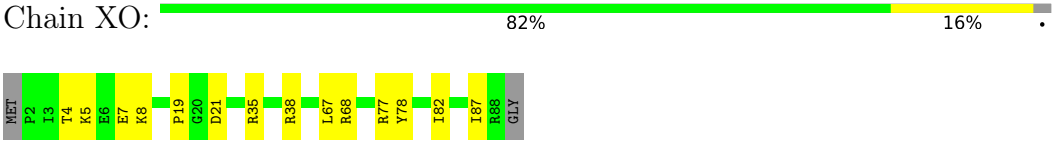
• Molecule 15: 30S ribosomal protein S15

Chain QO:



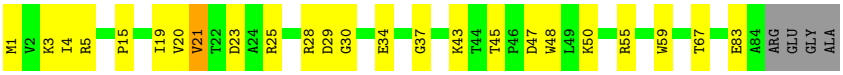
• Molecule 15: 30S ribosomal protein S15

Chain XO:



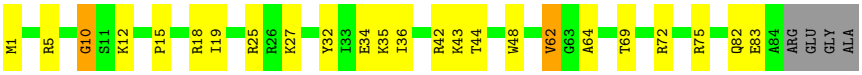
• Molecule 16: 30S ribosomal protein S16

Chain QP:



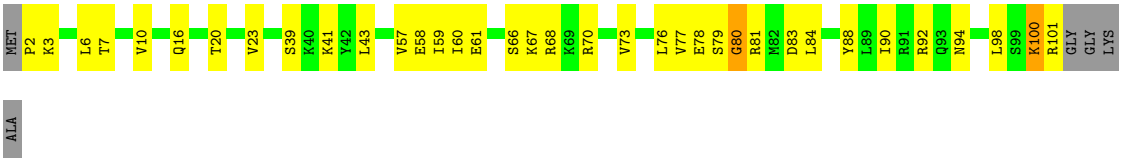
• Molecule 16: 30S ribosomal protein S16

Chain XP:



• Molecule 17: 30S ribosomal protein S17

Chain QQ:

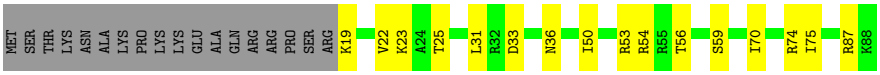


• Molecule 17: 30S ribosomal protein S17

Chain XQ:

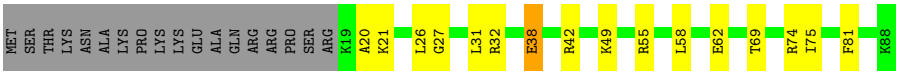
• Molecule 18: 30S ribosomal protein S18

Chain QR:



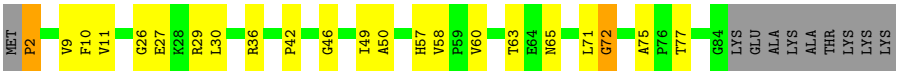
• Molecule 18: 30S ribosomal protein S18

Chain XR:



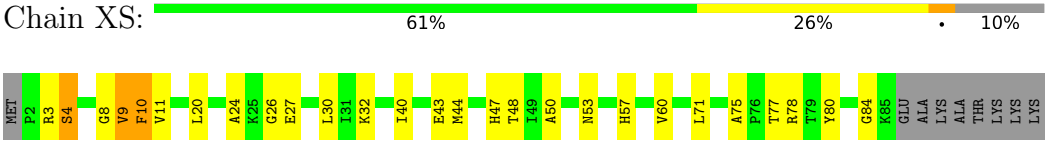
• Molecule 19: 30S ribosomal protein S19

Chain QS:



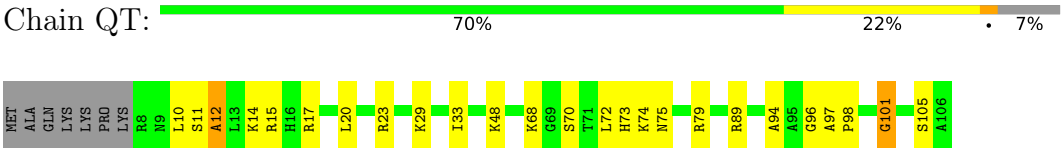
• Molecule 19: 30S ribosomal protein S19

Chain XS:



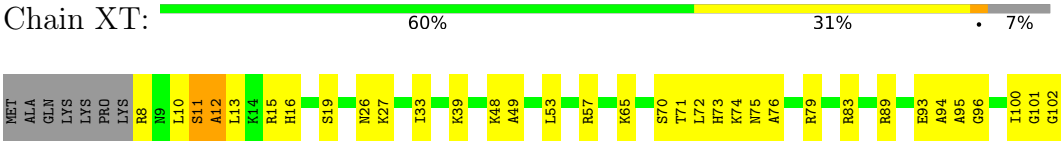
• Molecule 20: 30S ribosomal protein S20

Chain QT:



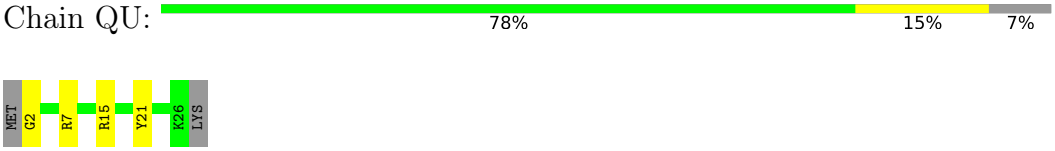
• Molecule 20: 30S ribosomal protein S20

Chain XT:



• Molecule 21: 30S ribosomal protein Thx

Chain QU:

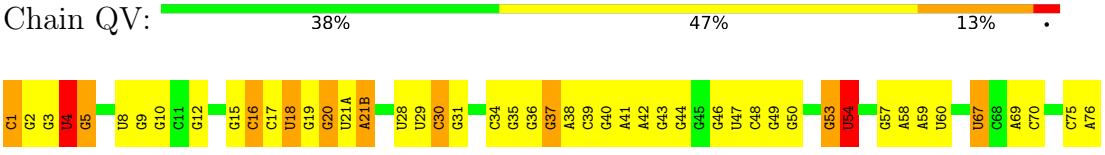


• Molecule 21: 30S ribosomal protein Thx

Chain XU:

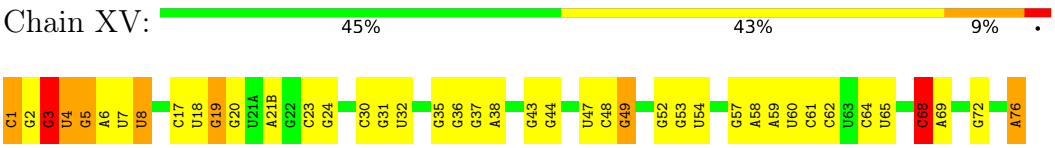
• Molecule 22: P-site tRNA-Pro

Chain QV:



• Molecule 22: P-site tRNA-Pro

Chain XV:



• Molecule 23: mRNA

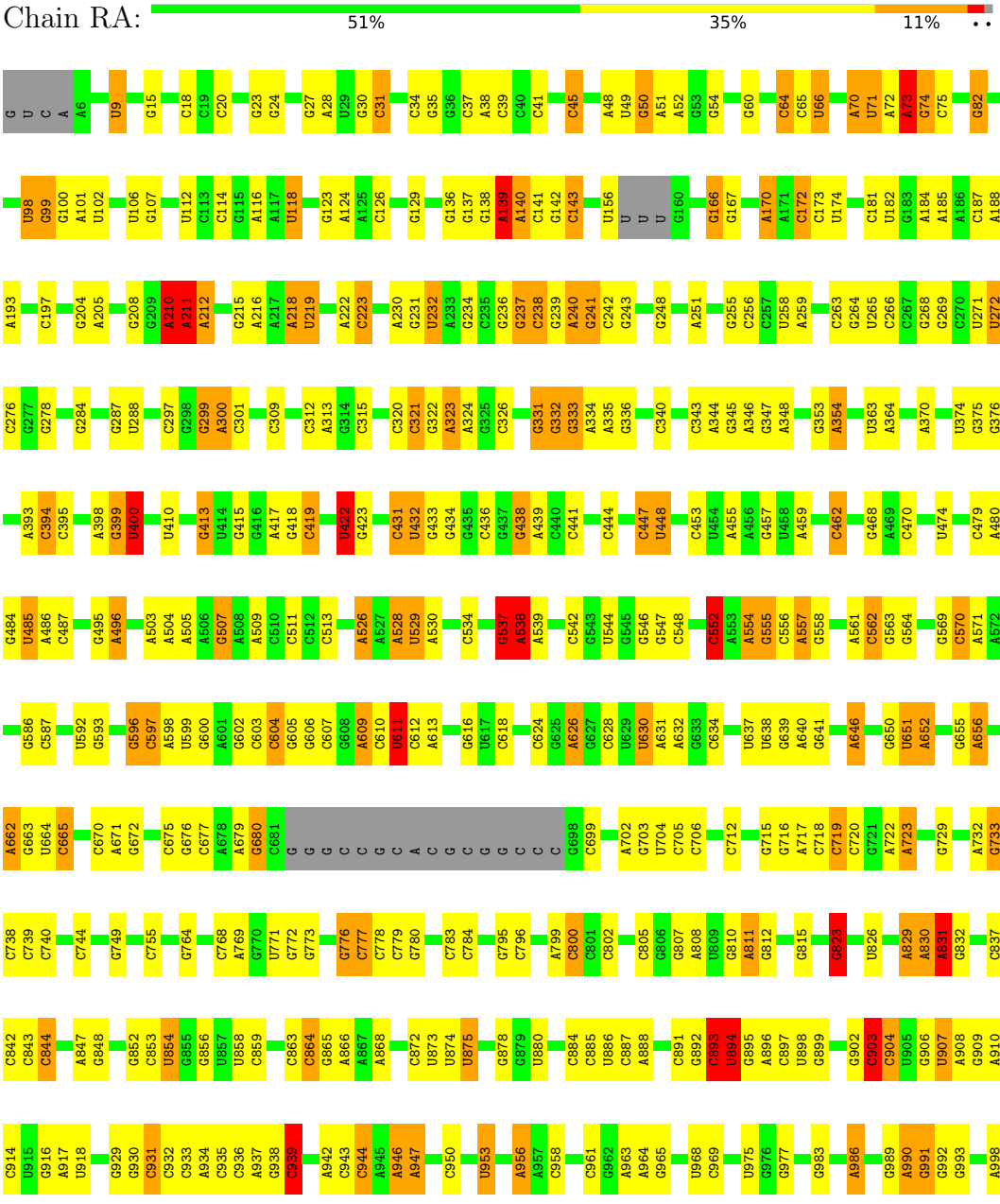
Chain QX:

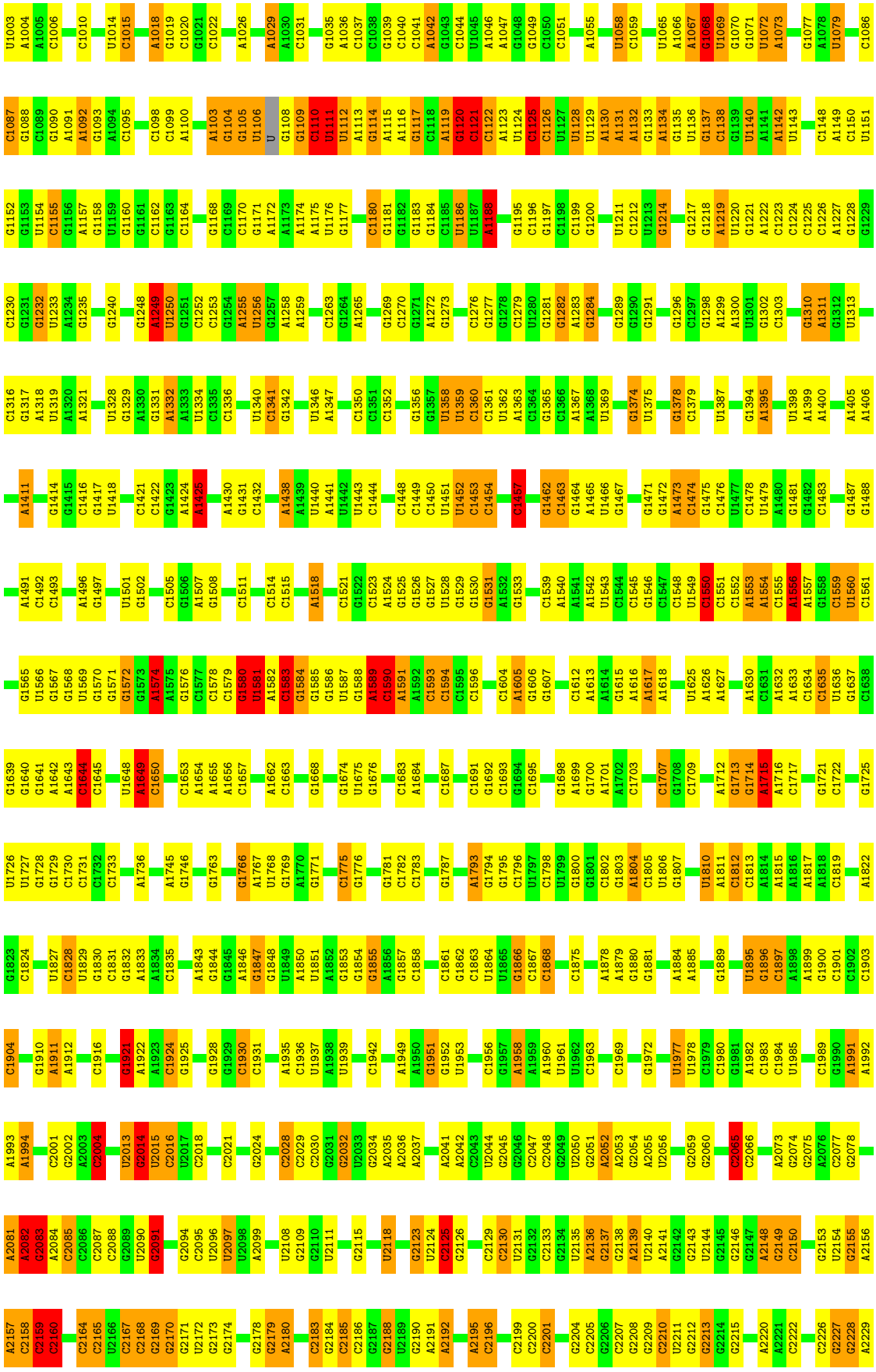
• Molecule 23: mRNA

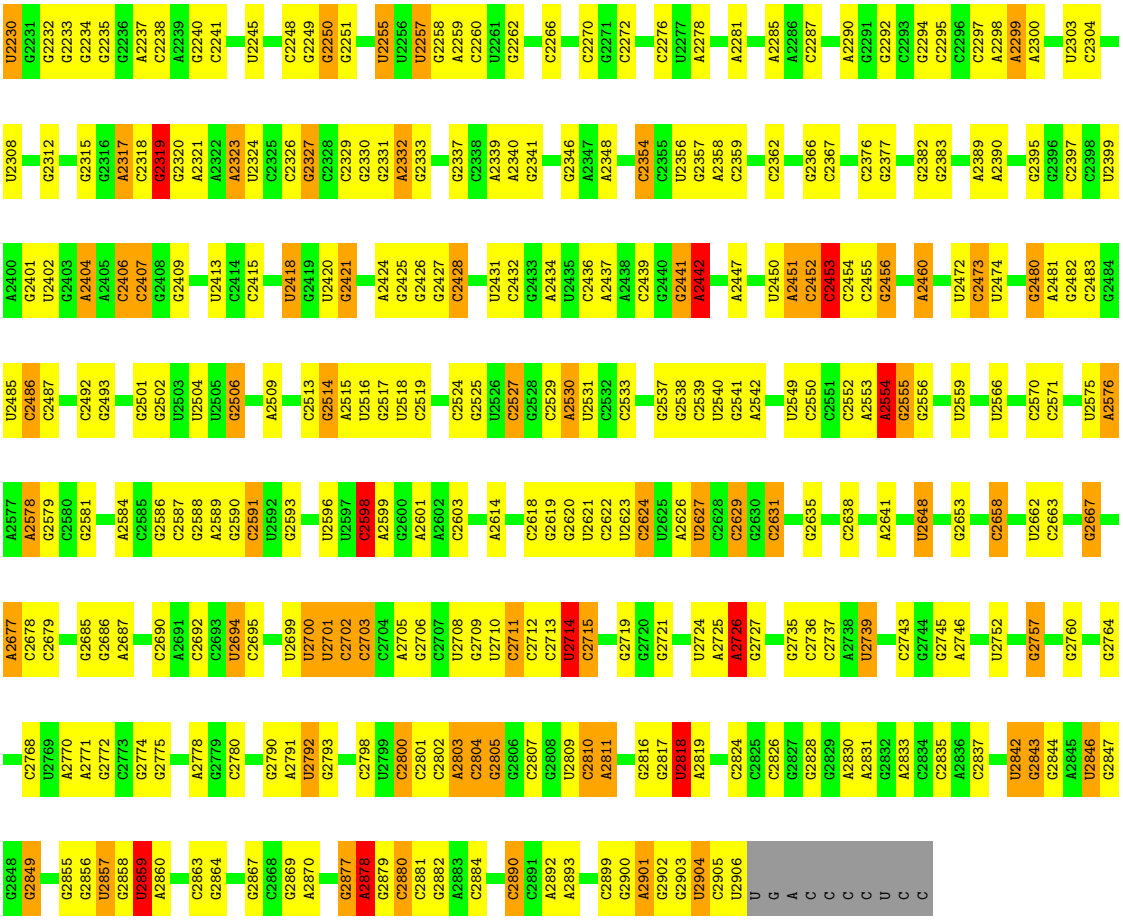
Chain XX:

• Molecule 24: 23S rRNA

Chain RA:

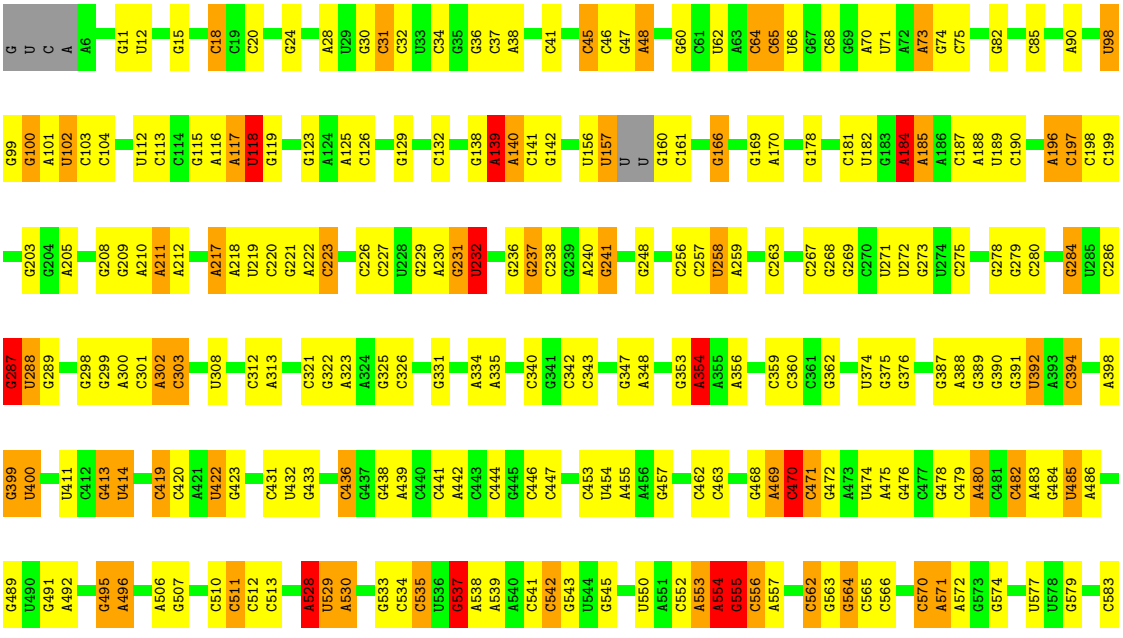


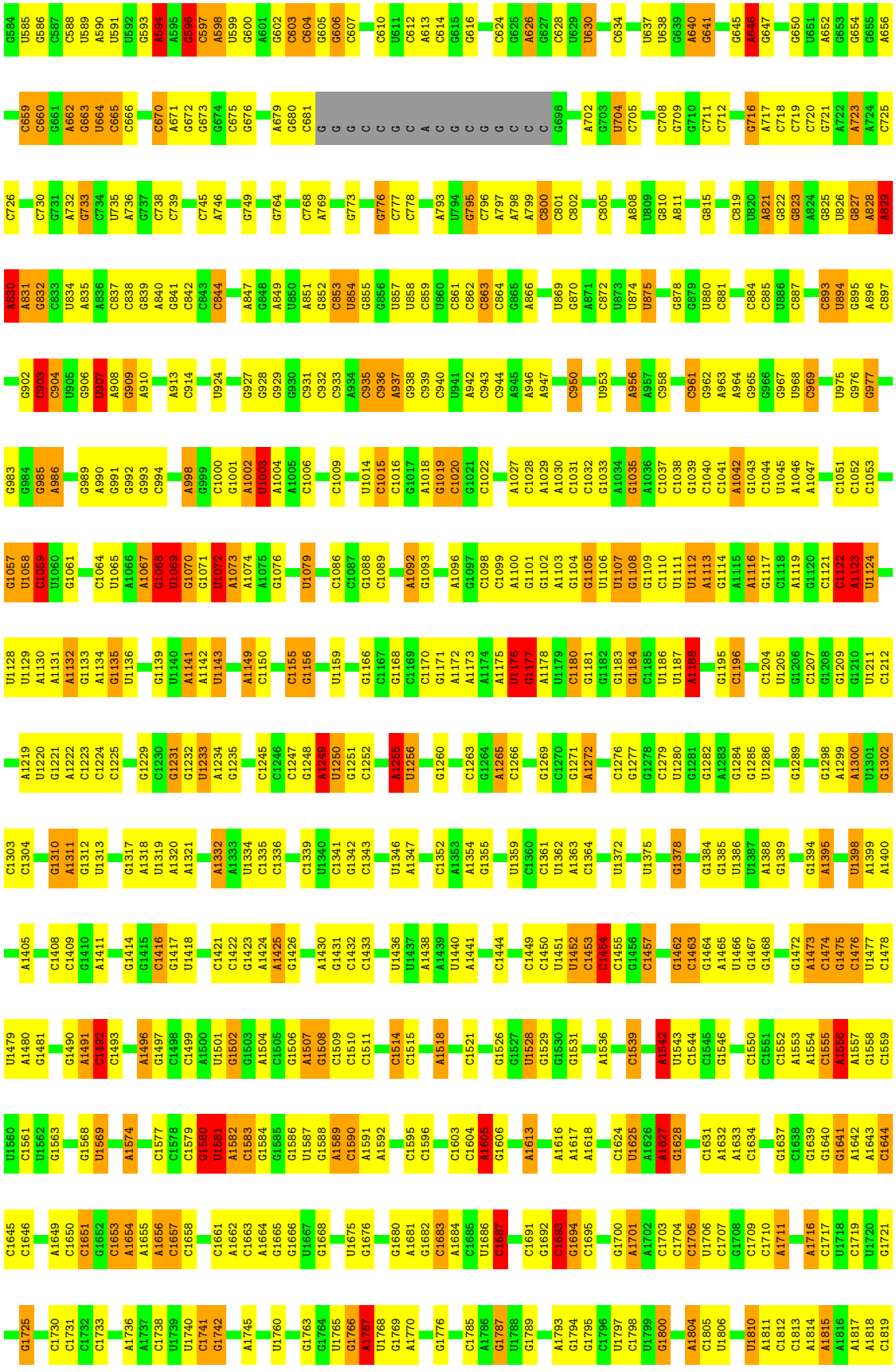


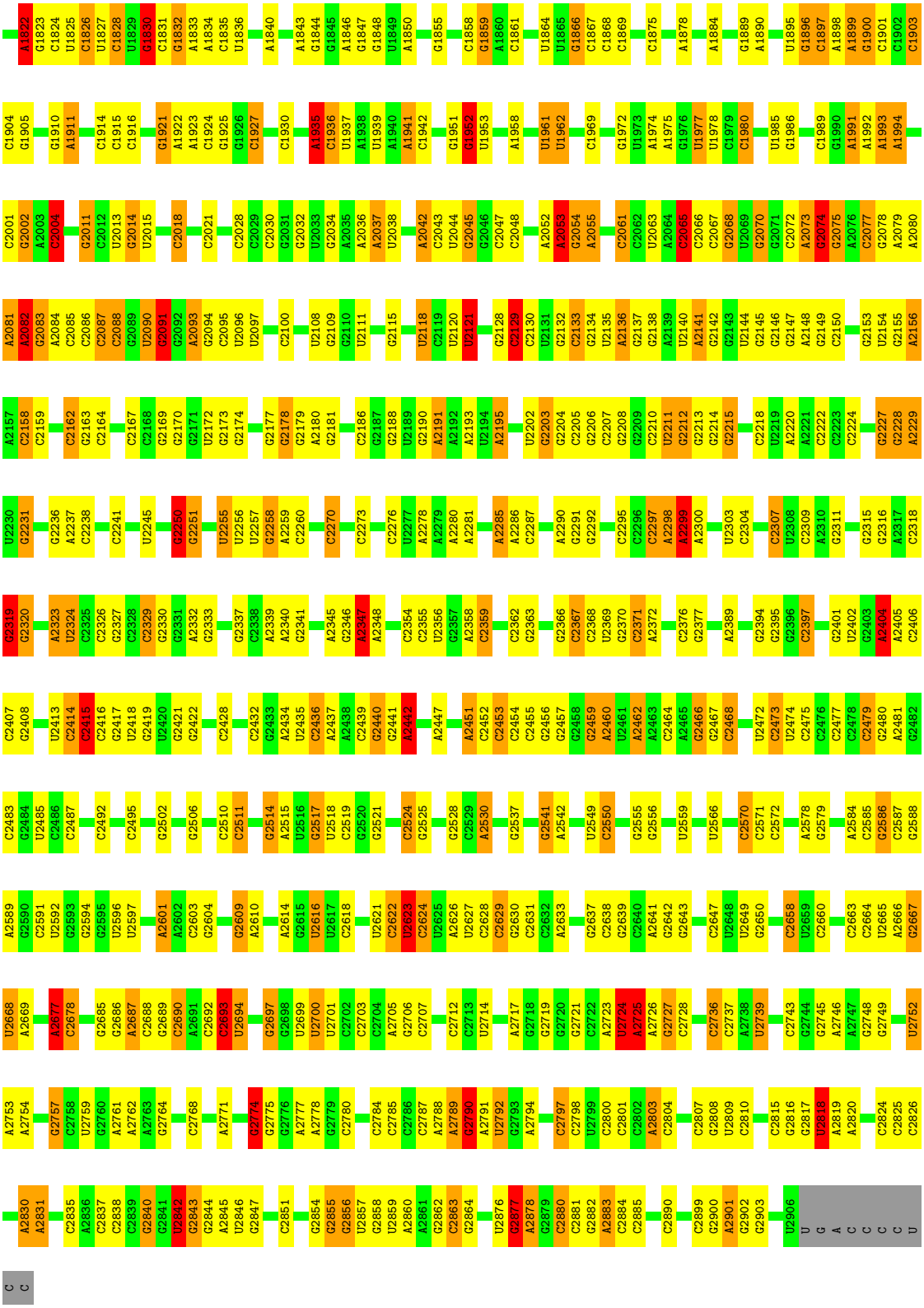


• Molecule 24: 23S rRNA

Chain YA:

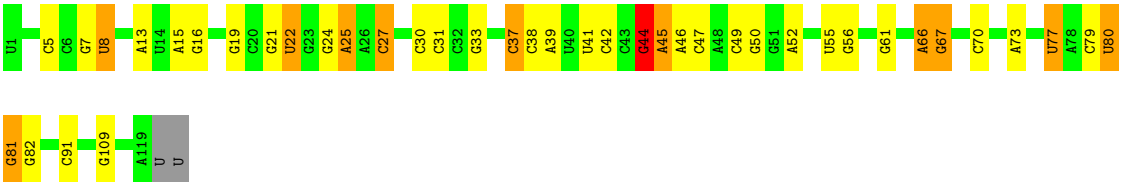






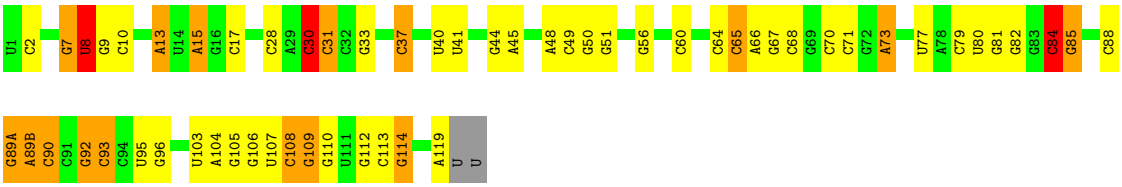
• Molecule 25: 5S rRNA

Chain RB:



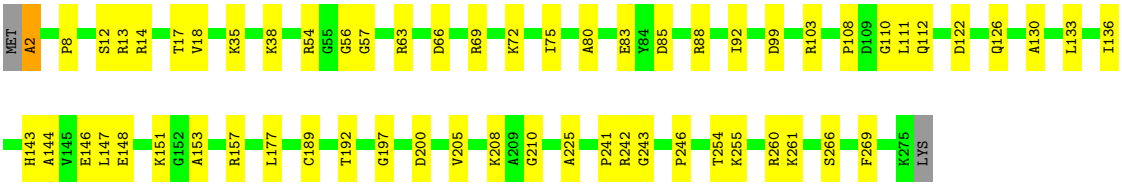
• Molecule 25: 5S rRNA

Chain YB:



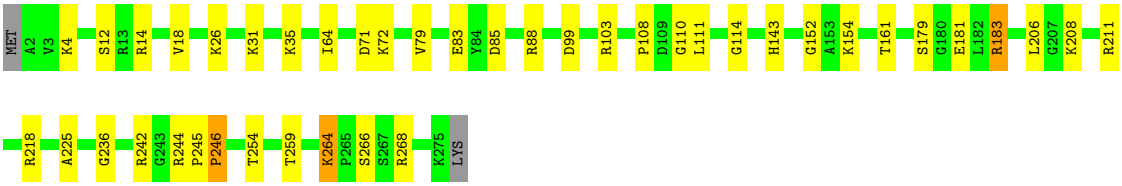
• Molecule 26: 50S ribosomal protein L2

Chain RD:



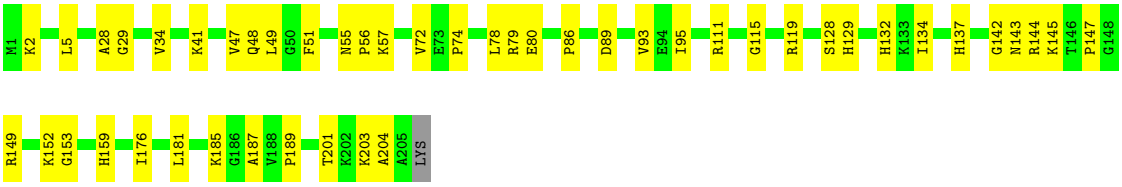
• Molecule 26: 50S ribosomal protein L2

Chain YD:



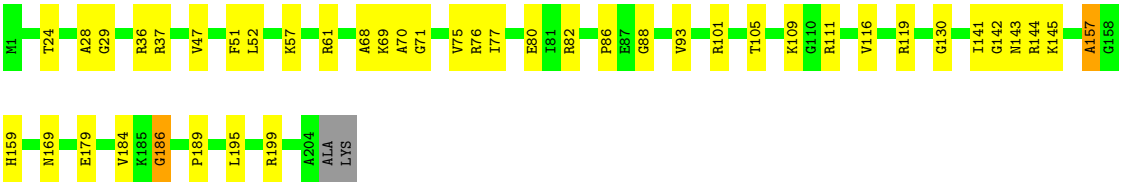
• Molecule 27: 50S ribosomal protein L3

Chain RE:



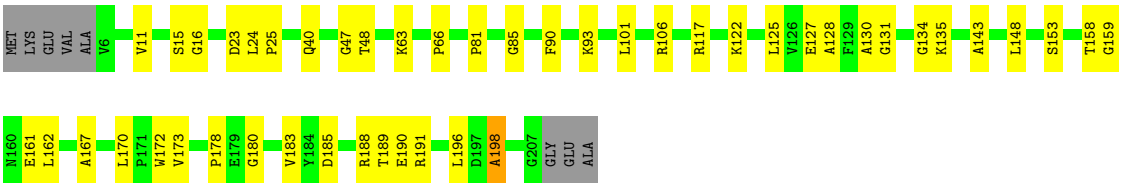
• Molecule 27: 50S ribosomal protein L3

Chain YE:



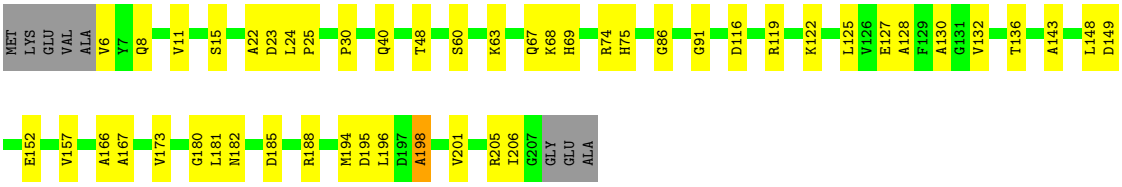
• Molecule 28: 50S ribosomal protein L4

Chain RF:



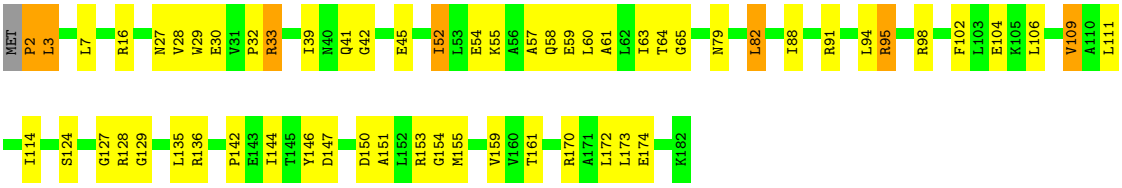
• Molecule 28: 50S ribosomal protein L4

Chain YF:



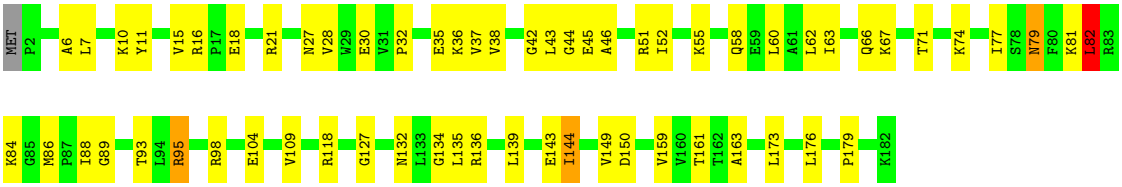
• Molecule 29: 50S ribosomal protein L5

Chain RG:



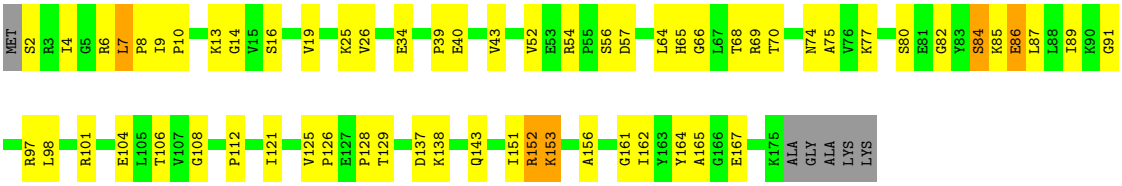
• Molecule 29: 50S ribosomal protein L5

Chain YG:



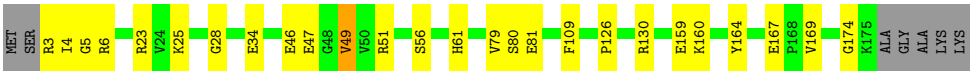
• Molecule 30: 50S ribosomal protein L6

Chain RH:



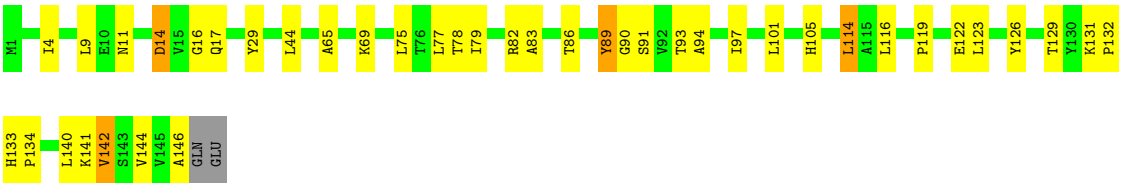
• Molecule 30: 50S ribosomal protein L6

Chain YH:



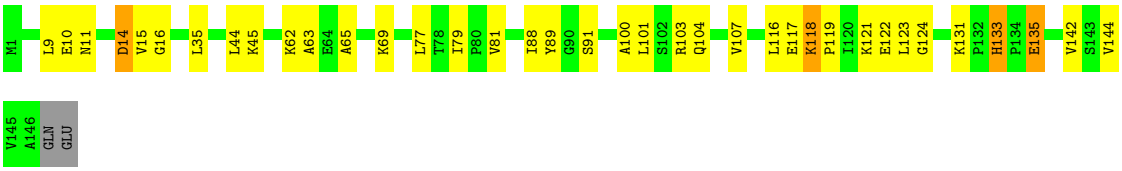
• Molecule 31: 50S ribosomal protein L9

Chain RI:



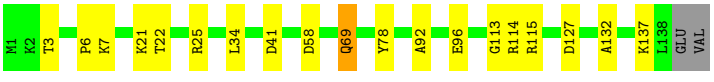
• Molecule 31: 50S ribosomal protein L9

Chain YI:



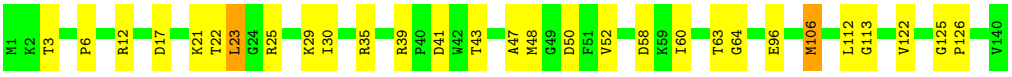
• Molecule 32: 50S ribosomal protein L13

Chain RN:



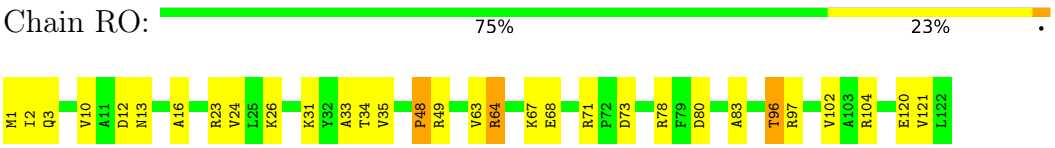
• Molecule 32: 50S ribosomal protein L13

Chain YN:



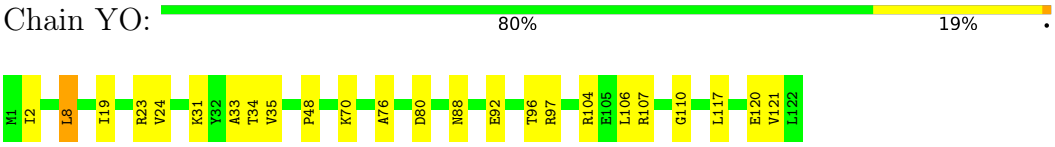
• Molecule 33: 50S ribosomal protein L14

Chain RO:



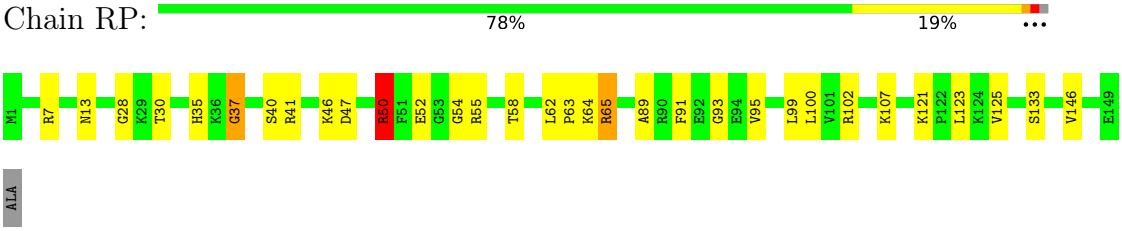
• Molecule 33: 50S ribosomal protein L14

Chain YO:



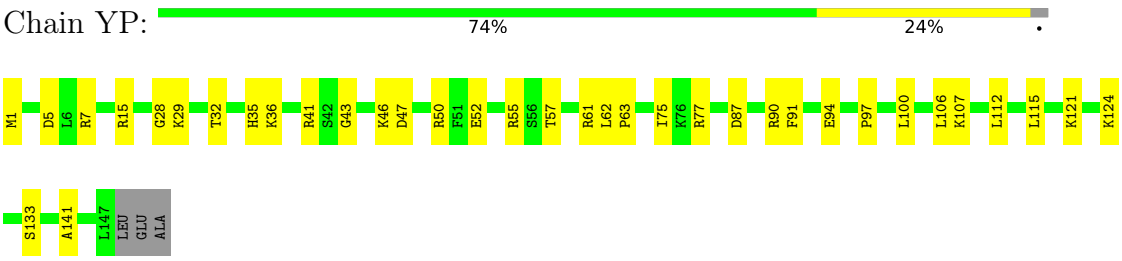
• Molecule 34: 50S ribosomal protein L15

Chain RP:



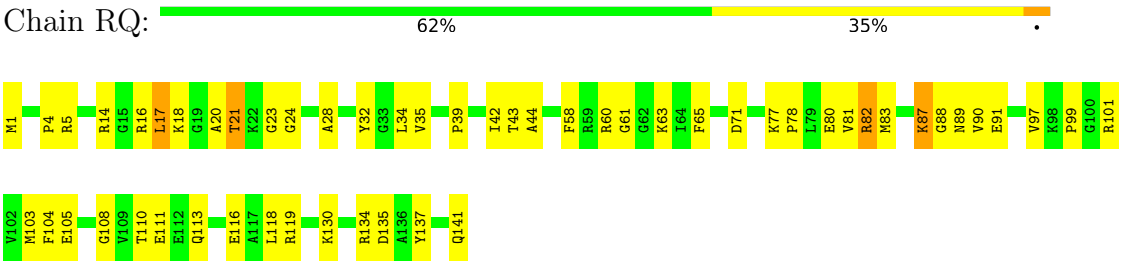
• Molecule 34: 50S ribosomal protein L15

Chain YP:



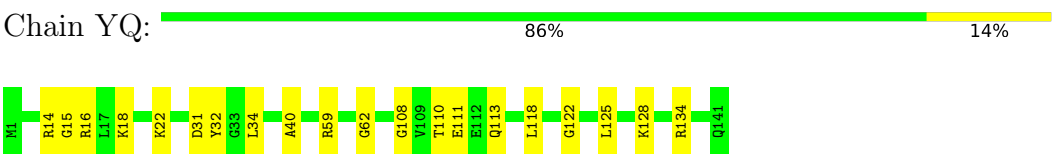
• Molecule 35: 50S ribosomal protein L16

Chain RQ:



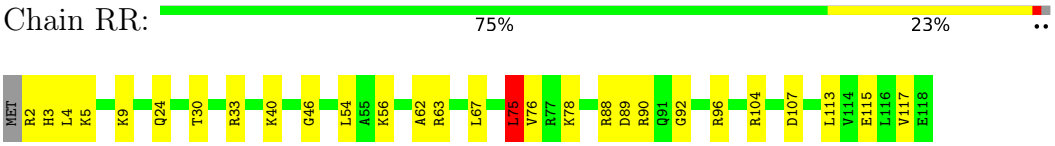
• Molecule 35: 50S ribosomal protein L16

Chain YQ:



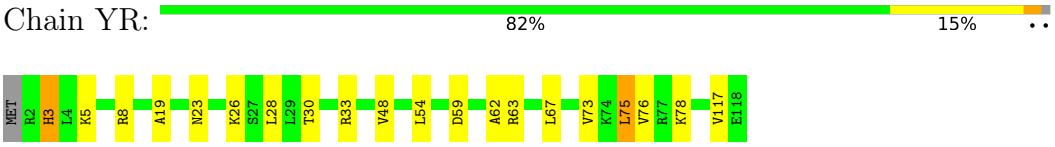
• Molecule 36: 50S ribosomal protein L17

Chain RR:



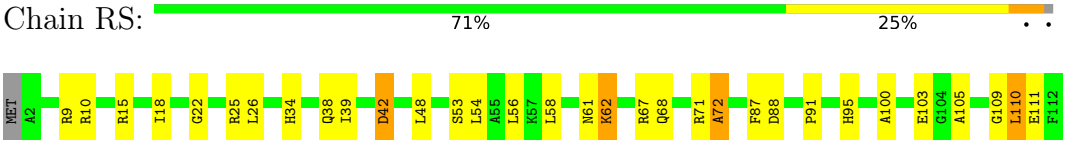
• Molecule 36: 50S ribosomal protein L17

Chain YR:



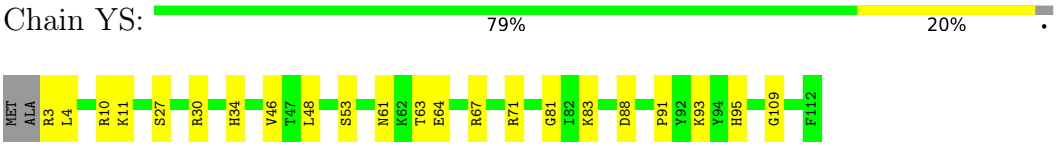
• Molecule 37: 50S ribosomal protein L18

Chain RS:



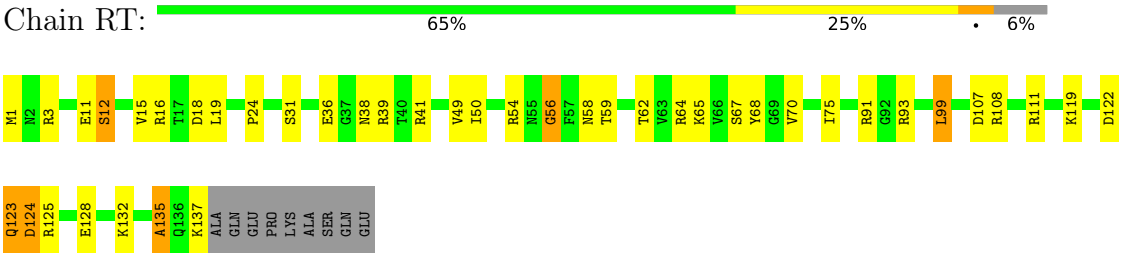
• Molecule 37: 50S ribosomal protein L18

Chain YS:



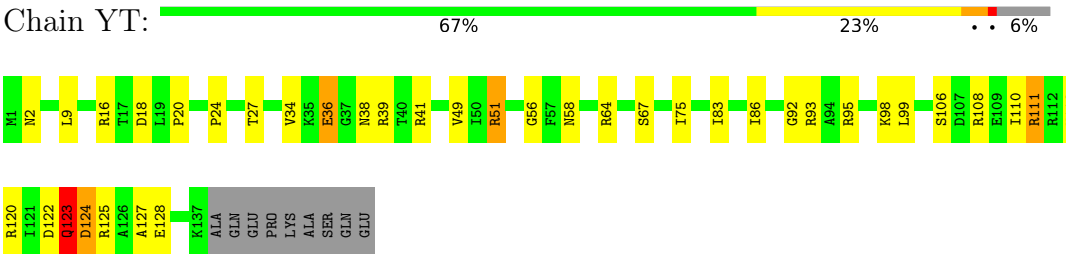
• Molecule 38: 50S ribosomal protein L19

Chain RT:



• Molecule 38: 50S ribosomal protein L19

Chain YT:



• Molecule 39: 50S ribosomal protein L20

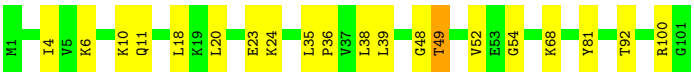
Chain RU:

• Molecule 39: 50S ribosomal protein L20

Chain YU:

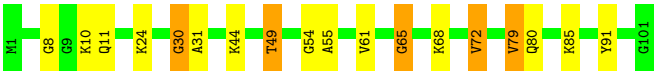
• Molecule 40: 50S ribosomal protein L21

Chain RV:



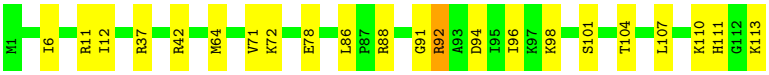
• Molecule 40: 50S ribosomal protein L21

Chain YV:



• Molecule 41: 50S ribosomal protein L22

Chain RW:

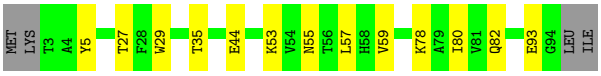


• Molecule 41: 50S ribosomal protein L22

Chain YW:

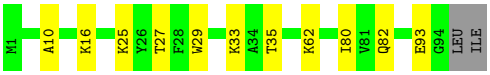
• Molecule 42: 50S ribosomal protein L23

Chain RX:



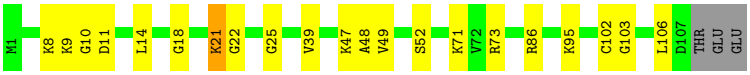
• Molecule 42: 50S ribosomal protein L23

Chain YX:



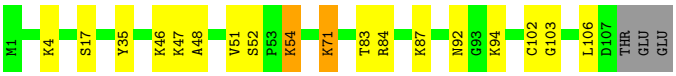
• Molecule 43: 50S ribosomal protein L24

Chain RY:



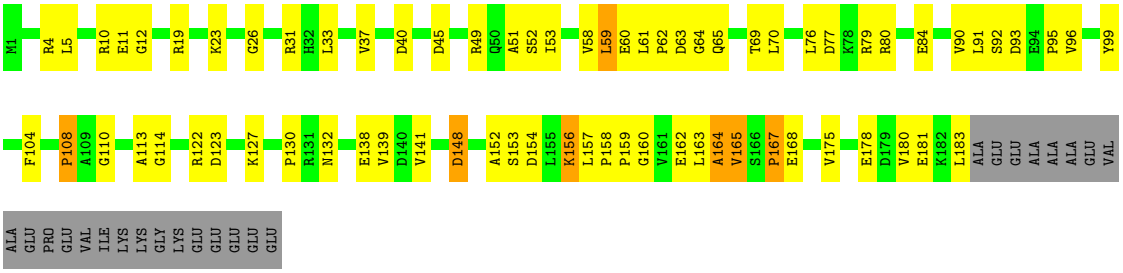
• Molecule 43: 50S ribosomal protein L24

Chain YY:



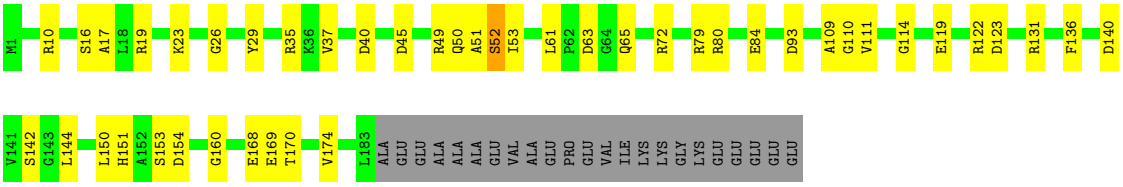
• Molecule 44: 50S ribosomal protein L25

Chain RZ:



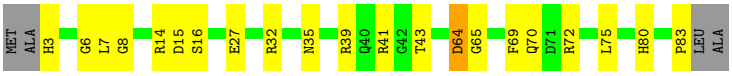
• Molecule 44: 50S ribosomal protein L25

Chain YZ:



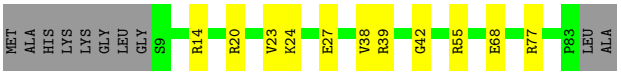
• Molecule 45: 50S ribosomal protein L27

Chain R0:



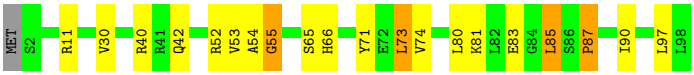
• Molecule 45: 50S ribosomal protein L27

Chain Y0:



• Molecule 46: 50S ribosomal protein L28

Chain R1:



• Molecule 46: 50S ribosomal protein L28

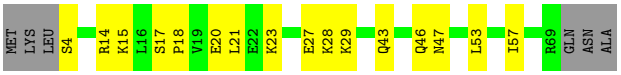
Chain Y1:

• Molecule 47: 50S ribosomal protein L29

Chain R2:

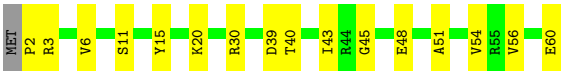
• Molecule 47: 50S ribosomal protein L29

Chain Y2:



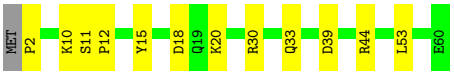
• Molecule 48: 50S ribosomal protein L30

Chain R3:



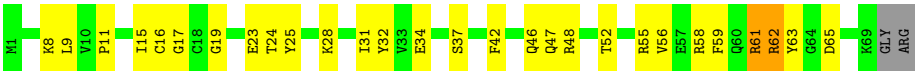
• Molecule 48: 50S ribosomal protein L30

Chain Y3:



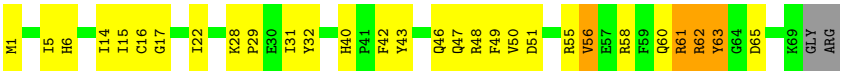
• Molecule 49: 50S ribosomal protein L31

Chain R4:



• Molecule 49: 50S ribosomal protein L31

Chain Y4:

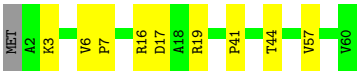


• Molecule 50: 50S ribosomal protein L32

Chain R5:

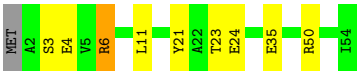
• Molecule 50: 50S ribosomal protein L32

Chain Y5:



• Molecule 51: 50S ribosomal protein L33

Chain R6:



• Molecule 51: 50S ribosomal protein L33

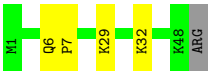
Chain Y6:

• Molecule 52: 50S ribosomal protein L34

Chain R7:

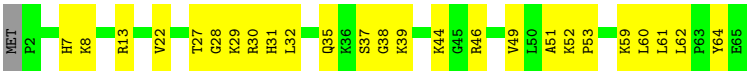
• Molecule 52: 50S ribosomal protein L34

Chain Y7:



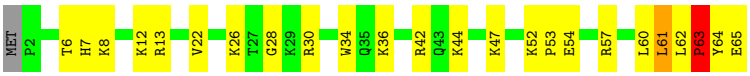
• Molecule 53: 50S ribosomal protein L35

Chain R8:



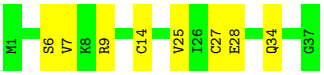
• Molecule 53: 50S ribosomal protein L35

Chain Y8:



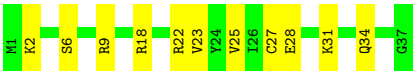
• Molecule 54: 50S ribosomal protein L36

Chain R9:



• Molecule 54: 50S ribosomal protein L36

Chain Y9:



4 Data and refinement statistics (i)

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	210.17Å 451.47Å 620.21Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	152.46 – 3.20	Depositor
% Data completeness (in resolution range)	99.1 (152.46-3.20)	Depositor
R_{merge}	0.26	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.69 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.224 , 0.256	Depositor
Wilson B-factor (Å^2)	71.2	Xtriage
Anisotropy	0.167	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.42$, $< L^2 > = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	291964	wwPDB-VP
Average B, all atoms (Å^2)	103.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.60% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, SF4, 1MG, 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	0.96	1/36098 (0.0%)	1.22	232/56341 (0.4%)
1	XA	0.95	3/36101 (0.0%)	1.23	252/56346 (0.4%)
2	QB	0.42	0/1942	0.63	0/2619
2	XB	0.42	0/1950	0.57	0/2630
3	QC	0.38	0/1629	0.62	1/2195 (0.0%)
3	XC	0.37	0/1629	0.58	0/2195
4	QD	0.52	0/1733	0.58	0/2318
4	XD	0.54	1/1733 (0.1%)	0.64	0/2318
5	QE	0.45	0/1171	0.62	0/1576
5	XE	0.49	0/1171	0.57	0/1576
6	QF	0.45	0/856	0.59	0/1154
6	XF	0.55	0/856	0.54	0/1154
7	QG	0.37	0/1276	0.55	0/1709
7	XG	0.37	0/1276	0.54	0/1709
8	QH	0.51	0/1128	0.61	0/1517
8	XH	0.54	0/1128	0.62	0/1517
9	QI	0.34	0/1029	0.64	1/1379 (0.1%)
9	XI	0.39	0/1017	0.64	0/1365
10	QJ	0.36	0/814	0.62	0/1095
10	XJ	0.34	0/790	0.60	0/1063
11	QK	0.47	0/900	0.61	0/1213
11	XK	0.49	0/879	0.54	0/1187
12	QL	0.62	0/991	0.61	0/1327
12	XL	0.57	0/972	0.64	1/1301 (0.1%)
13	QM	0.37	0/965	0.64	0/1292
13	XM	0.33	0/956	0.65	0/1281
14	QN	0.43	0/501	0.70	1/664 (0.2%)
14	XN	0.44	0/501	0.63	1/664 (0.2%)
15	QO	0.46	0/745	0.59	0/992
15	XO	0.49	0/740	0.52	0/987
16	QP	0.55	0/721	0.60	0/970
16	XP	0.46	0/721	0.60	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QQ	0.54	0/847	0.60	0/1131
17	XQ	0.55	0/847	0.58	0/1131
18	QR	0.46	0/579	0.64	0/768
18	XR	0.49	0/579	0.60	0/768
19	QS	0.36	0/680	0.66	0/915
19	XS	0.35	0/689	0.65	0/926
20	QT	0.43	0/765	0.57	0/1007
20	XT	0.36	0/765	0.58	0/1007
21	QU	0.39	0/221	0.88	1/288 (0.3%)
21	XU	0.34	0/221	0.58	0/288
22	QV	0.62	1/1814 (0.1%)	1.10	6/2825 (0.2%)
22	XV	0.57	1/1814 (0.1%)	1.21	8/2825 (0.3%)
23	QX	0.46	0/470	1.00	1/733 (0.1%)
23	XX	0.52	0/470	1.22	6/733 (0.8%)
24	RA	1.32	53/69498 (0.1%)	1.31	773/108491 (0.7%)
24	YA	1.59	262/69543 (0.4%)	1.39	981/108563 (0.9%)
25	RB	0.92	0/2878	1.24	26/4490 (0.6%)
25	YB	1.86	31/2878 (1.1%)	6.09	81/4490 (1.8%)
26	RD	0.75	1/2185 (0.0%)	0.62	0/2944
26	YD	0.87	1/2185 (0.0%)	0.67	0/2944
27	RE	0.71	0/1601	0.61	0/2160
27	YE	0.83	1/1596 (0.1%)	0.66	0/2153
28	RF	0.68	0/1620	0.61	0/2194
28	YF	0.85	0/1620	0.63	0/2194
29	RG	0.41	0/1499	0.64	0/2016
29	YG	0.51	0/1499	0.63	1/2016 (0.0%)
30	RH	0.48	0/1362	0.65	1/1841 (0.1%)
30	YH	0.72	0/1356	0.59	0/1833
31	RI	0.44	0/1151	0.69	1/1558 (0.1%)
31	YI	0.50	0/1151	0.70	1/1558 (0.1%)
32	RN	0.60	0/1131	0.59	0/1525
32	YN	0.82	1/1148 (0.1%)	0.67	0/1547
33	RO	0.73	0/943	0.61	0/1269
33	YO	0.82	1/943 (0.1%)	0.66	1/1269 (0.1%)
34	RP	0.61	0/1156	0.62	0/1537
34	YP	0.74	0/1139	0.64	0/1514
35	RQ	0.60	0/1143	0.63	0/1527
35	YQ	0.82	0/1143	0.59	0/1527
36	RR	0.67	0/974	0.64	1/1302 (0.1%)
36	YR	0.77	0/974	0.72	0/1302
37	RS	0.49	0/892	0.73	1/1187 (0.1%)
37	YS	0.68	0/887	0.58	0/1180
38	RT	0.62	0/1155	0.66	1/1542 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YT	0.70	0/1155	0.67	1/1542 (0.1%)
39	RU	0.68	0/982	0.61	0/1306
39	YU	0.93	0/982	0.62	0/1306
40	RV	0.62	0/790	0.61	0/1057
40	YV	0.86	0/790	0.67	0/1057
41	RW	0.69	0/911	0.61	0/1220
41	YW	0.89	0/911	0.64	0/1220
42	RX	0.67	0/739	0.61	0/993
42	YX	0.83	0/756	0.57	0/1014
43	RY	0.60	0/831	0.58	0/1108
43	YY	0.74	0/831	0.60	0/1108
44	RZ	0.48	0/1493	0.71	2/2026 (0.1%)
44	YZ	0.63	0/1493	0.57	0/2026
45	R0	0.60	0/652	0.60	0/867
45	Y0	0.84	0/607	0.63	0/809
46	R1	0.67	0/770	0.65	0/1022
46	Y1	0.78	0/736	0.65	0/978
47	R2	0.47	0/583	0.52	0/771
47	Y2	0.65	0/560	0.61	0/741
48	R3	0.62	1/474 (0.2%)	0.61	0/635
48	Y3	0.73	0/474	0.67	0/635
49	R4	0.39	0/578	0.64	0/776
49	Y4	0.41	0/578	0.68	0/776
50	R5	0.71	0/473	0.58	0/639
50	Y5	0.91	1/473 (0.2%)	0.65	1/639 (0.2%)
51	R6	0.62	0/460	0.65	1/613 (0.2%)
51	Y6	0.75	0/460	0.65	1/613 (0.2%)
52	R7	0.74	0/417	0.57	0/550
52	Y7	0.91	0/426	0.61	0/561
53	R8	0.68	0/525	0.71	0/691
53	Y8	0.77	0/525	0.76	1/691 (0.1%)
54	R9	0.62	0/310	0.53	0/407
54	Y9	0.84	0/310	0.55	0/407
All	All	1.14	360/315985 (0.1%)	1.30	2387/472446 (0.5%)

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
1	XA	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
2	QB	0	22
2	XB	0	15
3	QC	0	15
3	XC	0	9
4	QD	0	12
4	XD	0	15
5	QE	0	7
5	XE	0	6
6	QF	0	5
6	XF	0	3
7	QG	0	9
7	XG	0	10
8	QH	0	3
8	XH	0	5
9	QI	0	15
9	XI	0	16
10	QJ	0	12
10	XJ	0	8
11	QK	0	5
11	XK	0	4
12	QL	0	8
12	XL	0	11
13	QM	0	13
13	XM	0	18
14	QN	0	6
14	XN	0	2
15	QO	0	1
15	XO	0	2
16	QP	0	5
16	XP	0	10
17	QQ	0	3
17	XQ	0	1
18	QR	0	5
18	XR	0	6
19	QS	0	13
19	XS	0	14
20	QT	0	10
20	XT	0	12
21	XU	0	4
24	YA	0	2
26	RD	0	13
26	YD	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
27	RE	0	7
27	YE	0	10
28	RF	0	12
28	YF	0	15
29	RG	0	17
29	YG	0	20
30	RH	0	23
30	YH	0	1
31	RI	0	17
31	YI	0	21
32	RN	0	10
32	YN	0	7
33	RO	0	2
33	YO	0	1
34	RP	0	8
34	YP	0	5
35	RQ	0	18
35	YQ	0	6
36	RR	0	4
36	YR	0	5
37	RS	0	11
37	YS	0	1
38	RT	0	15
38	YT	0	11
39	RU	0	5
39	YU	0	5
40	RV	0	6
40	YV	0	7
41	RW	0	5
41	YW	0	5
42	RX	0	2
42	YX	0	1
43	RY	0	7
43	YY	0	5
44	RZ	0	38
44	YZ	0	10
45	R0	0	2
45	Y0	0	1
46	R1	0	10
46	Y1	0	7
47	R2	0	5
47	Y2	0	6

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Mol	Chain	#Chirality outliers	#Planarity outliers
48	R3	0	1
48	Y3	0	2
49	R4	0	15
49	Y4	0	11
50	R5	0	1
52	R7	0	1
53	R8	0	11
53	Y8	0	6
All	All	0	781

All (360) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YB	112	G	N9-C4	30.70	1.62	1.38
25	YB	114	G	N9-C4	28.24	1.60	1.38
25	YB	112	G	N9-C8	-27.57	1.18	1.37
25	YB	114	G	N9-C8	-26.21	1.19	1.37
25	YB	112	G	C8-N7	14.77	1.39	1.30
25	YB	112	G	N3-C4	14.68	1.45	1.35
25	YB	114	G	C8-N7	14.13	1.39	1.30
24	RA	1649	A	C5'-C4'	13.69	1.67	1.51
25	YB	114	G	N3-C4	13.38	1.44	1.35
25	YB	114	G	N7-C5	-10.72	1.32	1.39
22	XV	1	C	OP3-P	-10.59	1.48	1.61
22	QV	1	C	OP3-P	-10.44	1.48	1.61
25	YB	96	G	N3-C4	-9.85	1.28	1.35
25	YB	112	G	N7-C5	-9.33	1.33	1.39
25	YB	92	G	N3-C4	-9.17	1.29	1.35
26	YD	264	LYS	C-N	9.02	1.51	1.34
4	XD	196	LEU	C-N	8.92	1.51	1.34
24	YA	1067	A	N9-C4	-8.68	1.32	1.37
1	QA	1528	U	C5'-C4'	8.54	1.61	1.51
25	YB	92	G	C2-N3	-8.47	1.25	1.32
25	YB	104	A	N9-C4	-8.37	1.32	1.37
24	YA	1642	A	N9-C4	-8.06	1.33	1.37
24	YA	2725	A	N9-C8	-8.05	1.31	1.37
24	YA	723	A	N9-C4	-7.96	1.33	1.37
24	RA	1649	A	C1'-N9	7.83	1.60	1.48
24	YA	830	A	N9-C4	-7.78	1.33	1.37
24	YA	1188	A	N9-C4	-7.72	1.33	1.37
25	YB	112	G	C5-C4	-7.69	1.32	1.38
24	YA	2083	G	N7-C5	-7.67	1.34	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	YB	114	G	C5-C4	-7.57	1.33	1.38
24	RA	1649	A	O4'-C1'	7.50	1.51	1.41
24	YA	733	G	C6-N1	-7.39	1.34	1.39
24	YA	553	A	N9-C4	-7.32	1.33	1.37
25	YB	96	G	C2-N3	-7.28	1.26	1.32
24	YA	1814	A	N9-C4	-7.27	1.33	1.37
24	YA	138	G	N3-C4	-7.23	1.30	1.35
24	YA	2083	G	N9-C8	-7.20	1.32	1.37
24	RA	1817	A	N7-C5	-7.16	1.34	1.39
1	XA	358	U	C4'-C3'	7.14	1.61	1.53
25	YB	96	G	C2-N2	-7.09	1.27	1.34
24	YA	354	A	N9-C4	-7.06	1.33	1.37
24	YA	70	A	N9-C4	-7.02	1.33	1.37
24	RA	1188	A	N9-C4	-6.98	1.33	1.37
25	YB	73	A	N7-C5	-6.98	1.35	1.39
24	YA	1817	A	N7-C5	-6.84	1.35	1.39
24	RA	1921	G	N9-C4	-6.80	1.32	1.38
24	YA	2073	A	N9-C4	-6.65	1.33	1.37
24	YA	140	A	N7-C5	-6.63	1.35	1.39
24	RA	1067	A	N9-C4	-6.63	1.33	1.37
25	YB	81	G	C5-C6	-6.61	1.35	1.42
24	YA	723	A	N3-C4	-6.61	1.30	1.34
24	YA	2037	A	N7-C5	-6.58	1.35	1.39
24	YA	125	A	N9-C4	-6.58	1.33	1.37
24	YA	1177	G	N7-C5	-6.54	1.35	1.39
24	YA	1188	A	N3-C4	-6.53	1.30	1.34
24	YA	718	C	N1-C6	-6.52	1.33	1.37
24	YA	590	A	N9-C4	-6.47	1.33	1.37
24	YA	646	A	N9-C4	-6.45	1.33	1.37
25	YB	96	G	N9-C4	-6.43	1.32	1.38
24	YA	776	G	C2-N3	-6.43	1.27	1.32
24	RA	1649	A	C4'-O4'	6.42	1.53	1.45
24	YA	48	A	N7-C5	-6.40	1.35	1.39
24	YA	1067	A	N3-C4	-6.38	1.31	1.34
24	YA	1617	A	N9-C4	-6.37	1.34	1.37
25	YB	112	G	N1-C2	-6.37	1.32	1.37
24	YA	1665	G	N7-C5	-6.36	1.35	1.39
25	YB	85	G	C2-N3	-6.33	1.27	1.32
24	YA	1378	G	C6-N1	-6.26	1.35	1.39
24	YA	738	C	N1-C6	-6.25	1.33	1.37
24	YA	2462	A	N7-C5	-6.25	1.35	1.39
24	YA	829	A	N9-C4	-6.24	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	YA	553	A	N7-C5	-6.23	1.35	1.39
24	YA	1027	A	N9-C4	-6.23	1.34	1.37
24	YA	800	C	C4-C5	-6.19	1.38	1.43
24	YA	1463	C	N1-C6	-6.18	1.33	1.37
24	YA	610	C	N1-C6	-6.16	1.33	1.37
24	YA	606	G	N7-C5	-6.16	1.35	1.39
24	RA	2726	A	N9-C4	-6.16	1.34	1.37
24	RA	1921	G	N3-C4	-6.15	1.31	1.35
24	YA	2464	C	N1-C6	-6.10	1.33	1.37
24	YA	73	A	N7-C5	-6.09	1.35	1.39
24	YA	1378	G	N7-C5	-6.07	1.35	1.39
24	YA	1643	A	N9-C4	-6.07	1.34	1.37
25	YB	114	G	C6-N1	-6.06	1.35	1.39
24	RA	1310	G	N7-C5	-6.05	1.35	1.39
24	YA	1067	A	N7-C5	-6.03	1.35	1.39
24	YA	2530	A	N9-C4	-6.02	1.34	1.37
24	YA	829	A	N7-C5	-6.00	1.35	1.39
24	RA	1378	G	N7-C5	-6.00	1.35	1.39
24	YA	2299	A	N9-C4	-5.99	1.34	1.37
24	YA	579	G	N7-C5	-5.98	1.35	1.39
24	YA	2618	C	N1-C6	-5.97	1.33	1.37
24	YA	745	C	N1-C6	-5.96	1.33	1.37
24	YA	593	G	N7-C5	-5.95	1.35	1.39
25	YB	92	G	N9-C4	-5.95	1.33	1.38
24	YA	553	A	N3-C4	-5.94	1.31	1.34
24	YA	733	G	N1-C2	-5.93	1.33	1.37
24	YA	723	A	N7-C5	-5.89	1.35	1.39
24	YA	112	U	C4-C5	-5.89	1.38	1.43
24	YA	849	A	N7-C5	-5.87	1.35	1.39
24	YA	2018	C	N1-C6	-5.86	1.33	1.37
24	YA	538	A	N7-C5	-5.86	1.35	1.39
24	YA	821	A	N9-C4	-5.86	1.34	1.37
24	YA	830	A	N7-C5	-5.83	1.35	1.39
24	YA	2415	C	C4-C5	-5.83	1.38	1.43
24	YA	2633	A	C5-C4	-5.82	1.34	1.38
24	YA	2093	A	N9-C4	-5.82	1.34	1.37
24	YA	2068	G	N7-C5	-5.81	1.35	1.39
24	YA	2468	C	N1-C6	-5.80	1.33	1.37
24	RA	2554	A	N9-C4	-5.80	1.34	1.37
24	YA	2100	C	N1-C6	-5.80	1.33	1.37
24	YA	73	A	N3-C4	-5.79	1.31	1.34
25	YB	114	G	N1-C2	-5.78	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	Y5	6	VAL	CB-CG1	-5.77	1.40	1.52
24	YA	187	C	C4-C5	-5.76	1.38	1.43
24	YA	479	C	N1-C6	-5.74	1.33	1.37
24	YA	2072	C	N1-C6	-5.73	1.33	1.37
24	YA	1173	A	N9-C4	-5.71	1.34	1.37
24	YA	18	C	N1-C6	-5.71	1.33	1.37
24	YA	835	A	N9-C4	-5.71	1.34	1.37
24	YA	607	C	C4-C5	-5.70	1.38	1.43
24	RA	776	G	C2-N3	-5.70	1.28	1.32
24	RA	2530	A	N9-C4	-5.70	1.34	1.37
24	RA	1617	A	N9-C4	-5.68	1.34	1.37
24	YA	2455	C	N1-C6	-5.68	1.33	1.37
24	RA	831	A	N9-C4	-5.67	1.34	1.37
24	YA	1422	C	N1-C6	-5.66	1.33	1.37
24	YA	2074	G	N1-C2	-5.66	1.33	1.37
24	YA	2004	C	C4-C5	-5.66	1.38	1.43
24	YA	733	G	C5-C4	-5.65	1.34	1.38
24	YA	1618	A	N9-C4	-5.65	1.34	1.37
27	YE	184	VAL	CB-CG1	-5.65	1.41	1.52
24	YA	1835	C	C4-C5	-5.64	1.38	1.43
24	YA	596	G	C2-N3	-5.63	1.28	1.32
24	YA	2725	A	N7-C5	-5.63	1.35	1.39
24	YA	853	C	C4-C5	-5.62	1.38	1.43
24	YA	603	C	C4-C5	-5.62	1.38	1.43
24	YA	1027	A	N7-C5	-5.61	1.35	1.39
24	YA	2601	A	N9-C4	-5.60	1.34	1.37
24	YA	2550	C	N1-C6	-5.60	1.33	1.37
24	YA	2462	A	C6-N1	-5.59	1.31	1.35
1	XA	1502	A	N7-C5	-5.59	1.35	1.39
24	YA	32	C	N1-C6	-5.59	1.33	1.37
1	XA	358	U	O4'-C1'	-5.58	1.34	1.41
24	YA	1975	A	N9-C4	-5.58	1.34	1.37
24	YA	855	G	N7-C5	-5.56	1.35	1.39
24	RA	1921	G	C2-N3	-5.56	1.28	1.32
24	YA	1922	A	N7-C5	-5.56	1.35	1.39
24	YA	73	A	N9-C4	-5.55	1.34	1.37
24	YA	1822	A	N9-C4	-5.55	1.34	1.37
24	YA	827	G	N9-C8	-5.55	1.33	1.37
24	YA	2629	C	N1-C6	-5.55	1.33	1.37
24	YA	2468	C	C4-C5	-5.54	1.38	1.43
24	YA	841	G	N7-C5	-5.54	1.35	1.39
25	YB	85	G	N3-C4	-5.54	1.31	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	YA	1070	G	N7-C5	-5.52	1.35	1.39
24	YA	2298	A	N7-C5	-5.51	1.35	1.39
24	YA	2830	A	N7-C5	-5.51	1.35	1.39
24	YA	1725	G	N7-C5	-5.50	1.35	1.39
24	YA	1454	C	N1-C6	-5.50	1.33	1.37
24	YA	2700	U	N3-C4	-5.49	1.33	1.38
24	YA	828	A	N9-C4	-5.49	1.34	1.37
24	RA	2083	G	N9-C8	-5.49	1.34	1.37
24	RA	2004	C	C4-C5	-5.49	1.38	1.43
24	YA	1814	A	N3-C4	-5.49	1.31	1.34
24	YA	1020	C	N3-C4	-5.48	1.30	1.33
24	RA	783	C	C4-C5	-5.48	1.38	1.43
24	YA	2609	G	N7-C5	-5.48	1.35	1.39
24	YA	2618	C	C4-C5	-5.47	1.38	1.43
24	YA	1719	C	N1-C6	-5.46	1.33	1.37
24	YA	2066	C	C4-C5	-5.46	1.38	1.43
24	YA	196	A	C5-C4	-5.46	1.34	1.38
24	YA	847	A	N9-C4	-5.46	1.34	1.37
24	YA	1819	C	C4-C5	-5.46	1.38	1.43
24	YA	2442	A	N7-C5	-5.46	1.35	1.39
24	YA	825	G	N7-C5	-5.46	1.35	1.39
24	RA	1715	A	N3-C4	-5.46	1.31	1.34
24	YA	1804	A	C5-C4	-5.45	1.34	1.38
24	YA	2028	C	N1-C6	-5.45	1.33	1.37
24	YA	2737	C	N3-C4	-5.44	1.30	1.33
24	YA	1015	C	N1-C6	-5.44	1.33	1.37
24	YA	2087	C	N1-C6	-5.44	1.33	1.37
24	YA	736	A	N7-C5	-5.42	1.35	1.39
24	YA	2466	G	N7-C5	-5.42	1.35	1.39
24	RA	187	C	C4-C5	-5.42	1.38	1.43
24	RA	1855	G	N7-C5	-5.42	1.36	1.39
24	RA	1067	A	N3-C4	-5.41	1.31	1.34
24	YA	730	C	C4-C5	-5.41	1.38	1.43
24	YA	2737	C	N1-C6	-5.41	1.33	1.37
24	YA	596	G	C8-N7	-5.41	1.27	1.30
24	YA	1002	A	C5-C6	-5.40	1.36	1.41
24	YA	597	C	N1-C6	-5.40	1.33	1.37
24	YA	1828	C	N1-C6	-5.40	1.33	1.37
24	RA	723	A	N7-C5	-5.39	1.36	1.39
24	YA	2452	C	N1-C6	-5.38	1.33	1.37
24	RA	70	A	N9-C4	-5.38	1.34	1.37
24	RA	2285	A	N9-C4	-5.37	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	YA	138	G	N7-C5	-5.36	1.36	1.39
24	YA	2082	A	N7-C5	-5.36	1.36	1.39
24	YA	2419	G	N7-C5	-5.36	1.36	1.39
24	YA	596	G	N7-C5	-5.35	1.36	1.39
24	YA	2345	A	C5-C4	-5.35	1.35	1.38
24	RA	1835	C	C4-C5	-5.35	1.38	1.43
24	YA	354	A	N3-C4	-5.35	1.31	1.34
24	YA	1475	G	N7-C5	-5.34	1.36	1.39
24	RA	609	A	N9-C4	-5.34	1.34	1.37
24	YA	140	A	N9-C4	-5.32	1.34	1.37
24	YA	730	C	N3-C4	-5.32	1.30	1.33
25	YB	81	G	N1-C2	-5.32	1.33	1.37
25	YB	81	G	C8-N7	-5.32	1.27	1.30
24	RA	1804	A	N7-C5	-5.32	1.36	1.39
24	YA	1817	A	N3-C4	-5.31	1.31	1.34
24	YA	1814	A	N7-C5	-5.31	1.36	1.39
25	YB	96	G	N7-C5	-5.30	1.36	1.39
32	YN	106	MET	C-N	-5.30	1.21	1.34
24	YA	989	G	N7-C5	-5.30	1.36	1.39
24	YA	2586	G	N7-C5	-5.30	1.36	1.39
24	RA	2037	A	N7-C5	-5.29	1.36	1.39
24	YA	733	G	N7-C5	-5.29	1.36	1.39
24	YA	552	C	N1-C6	-5.29	1.33	1.37
24	YA	535	C	C4-C5	-5.29	1.38	1.43
24	YA	1710	C	N1-C6	-5.28	1.33	1.37
24	YA	2697	G	N9-C4	-5.28	1.33	1.38
24	YA	733	G	C6-O6	-5.28	1.19	1.24
24	YA	190	C	C4-C5	-5.28	1.38	1.43
24	YA	1654	A	N7-C5	-5.28	1.36	1.39
24	YA	139	A	N7-C5	-5.27	1.36	1.39
24	YA	1646	C	N1-C6	-5.27	1.33	1.37
24	YA	2831	A	N7-C5	-5.27	1.36	1.39
24	YA	495	G	C6-N1	-5.27	1.35	1.39
24	YA	2042	A	N7-C5	-5.27	1.36	1.39
24	YA	832	G	C5-C4	-5.27	1.34	1.38
24	YA	117	A	N9-C4	-5.27	1.34	1.37
24	RA	2052	A	N9-C4	-5.26	1.34	1.37
24	YA	596	G	C5-C4	-5.26	1.34	1.38
24	RA	552	C	N1-C6	-5.26	1.33	1.37
24	YA	2002	G	C5-C4	-5.26	1.34	1.38
24	YA	211	A	C5'-C4'	5.26	1.57	1.51
24	YA	2459	G	N9-C8	-5.26	1.34	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	YA	2359	C	N1-C6	-5.25	1.33	1.37
24	RA	1188	A	N3-C4	-5.25	1.31	1.34
24	YA	2394	G	N7-C5	-5.25	1.36	1.39
24	YA	594	A	C5-C4	-5.25	1.35	1.38
24	YA	2790	G	N7-C5	-5.25	1.36	1.39
24	RA	2032	G	N7-C5	-5.25	1.36	1.39
24	YA	1310	G	N7-C5	-5.25	1.36	1.39
33	YO	70	LYS	C-N	-5.25	1.22	1.34
24	YA	2521	G	N7-C5	-5.24	1.36	1.39
24	YA	2054	G	N9-C4	-5.24	1.33	1.38
24	YA	829	A	C5-C4	-5.24	1.35	1.38
24	YA	2065	C	C4-C5	-5.24	1.38	1.43
24	YA	2083	G	C8-N7	-5.24	1.27	1.30
24	RA	73	A	N7-C5	-5.23	1.36	1.39
24	RA	1828	C	N1-C6	-5.23	1.34	1.37
24	YA	140	A	C5-C6	-5.23	1.36	1.41
24	YA	197	C	C4-C5	-5.23	1.38	1.43
24	YA	732	A	C5-C4	-5.23	1.35	1.38
24	YA	2633	A	N7-C5	-5.23	1.36	1.39
24	YA	2594	G	N7-C5	-5.22	1.36	1.39
24	YA	198	C	C4-C5	-5.22	1.38	1.43
24	YA	2371	C	N3-C4	-5.22	1.30	1.33
24	YA	795	G	N7-C5	-5.22	1.36	1.39
24	YA	2460	A	N7-C5	-5.22	1.36	1.39
24	YA	2028	C	C4-C5	-5.21	1.38	1.43
25	YB	7	G	N7-C5	-5.21	1.36	1.39
26	RD	255	LYS	CA-CB	-5.21	1.42	1.53
24	YA	1255	A	N7-C5	-5.21	1.36	1.39
24	YA	1272	A	N9-C4	-5.21	1.34	1.37
24	YA	1016	C	C4-C5	-5.21	1.38	1.43
24	YA	2075	G	N9-C8	-5.21	1.34	1.37
24	YA	2421	G	N7-C5	-5.20	1.36	1.39
24	YA	20	C	C4-C5	-5.20	1.38	1.43
24	YA	113	C	N1-C6	-5.20	1.34	1.37
24	YA	1231	G	N7-C5	-5.20	1.36	1.39
24	YA	2633	A	N9-C4	-5.19	1.34	1.37
24	RA	830	A	N7-C5	-5.19	1.36	1.39
24	YA	2028	C	N3-C4	-5.18	1.30	1.33
24	YA	2079	A	C5-C4	-5.18	1.35	1.38
24	YA	68	C	N3-C4	-5.18	1.30	1.33
24	YA	596	G	N9-C8	-5.18	1.34	1.37
24	YA	444	C	C4-C5	-5.17	1.38	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	YA	2285	A	N7-C5	-5.17	1.36	1.39
24	YA	1255	A	C5-C6	-5.17	1.36	1.41
24	RA	2083	G	N7-C5	-5.17	1.36	1.39
24	RA	830	A	N9-C4	-5.17	1.34	1.37
24	YA	579	G	N9-C8	-5.17	1.34	1.37
24	RA	2036	A	N9-C4	-5.16	1.34	1.37
24	YA	1332	A	N9-C4	-5.16	1.34	1.37
24	YA	178	G	C6-N1	-5.16	1.35	1.39
24	YA	825	G	N9-C8	-5.16	1.34	1.37
24	YA	2347	A	C5-C4	-5.16	1.35	1.38
24	YA	2070	G	N7-C5	-5.15	1.36	1.39
24	YA	801	C	C4-C5	-5.15	1.38	1.43
24	YA	2631	C	N1-C6	-5.15	1.34	1.37
24	YA	480	A	N7-C5	-5.14	1.36	1.39
24	YA	732	A	N3-C4	-5.14	1.31	1.34
24	YA	1574	A	N7-C5	-5.14	1.36	1.39
24	YA	2511	C	C4-C5	-5.13	1.38	1.43
24	YA	1313	U	C4-C5	-5.13	1.39	1.43
24	YA	2697	G	N3-C4	-5.12	1.31	1.35
24	YA	226	C	C4-C5	-5.12	1.38	1.43
24	YA	640	A	N9-C4	-5.12	1.34	1.37
24	YA	119	G	N7-C5	-5.12	1.36	1.39
24	YA	237	G	N7-C5	-5.12	1.36	1.39
24	YA	1666	G	N9-C8	-5.12	1.34	1.37
24	YA	2462	A	C5-C6	-5.12	1.36	1.41
24	YA	2055	A	N9-C4	-5.12	1.34	1.37
24	YA	46	C	C4-C5	-5.11	1.38	1.43
24	YA	126	C	C4-C5	-5.10	1.38	1.43
24	YA	811	A	C5-C4	-5.10	1.35	1.38
24	YA	1234	A	N7-C5	-5.10	1.36	1.39
24	YA	1170	C	N1-C6	-5.10	1.34	1.37
24	YA	2297	C	N1-C6	-5.10	1.34	1.37
24	RA	479	C	N1-C6	-5.09	1.34	1.37
24	YA	2070	G	N9-C8	-5.09	1.34	1.37
24	RA	28	A	N7-C5	-5.09	1.36	1.39
24	YA	1706	U	C2-N3	-5.09	1.34	1.37
24	RA	1336	C	N1-C6	-5.08	1.34	1.37
24	RA	2460	A	N9-C4	-5.07	1.34	1.37
48	R3	39	ASP	C-N	-5.07	1.22	1.34
24	YA	1644	C	C4-C5	-5.07	1.38	1.43
24	RA	237	G	N7-C5	-5.07	1.36	1.39
24	YA	1645	C	C4-C5	-5.07	1.38	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	RA	2593	G	C6-N1	-5.06	1.36	1.39
24	YA	604	C	C4-C5	-5.06	1.39	1.43
24	RA	2042	A	N7-C5	-5.06	1.36	1.39
24	YA	797	A	N7-C5	-5.06	1.36	1.39
24	YA	1354	A	N7-C5	-5.06	1.36	1.39
24	YA	842	C	N3-C4	-5.05	1.30	1.33
24	YA	2077	C	C4-C5	-5.05	1.39	1.43
24	RA	31	C	N1-C6	-5.05	1.34	1.37
24	YA	184	A	N9-C4	-5.05	1.34	1.37
24	YA	1657	C	N1-C6	-5.05	1.34	1.37
24	YA	2067	C	C4-C5	-5.05	1.39	1.43
24	YA	2080	A	N7-C5	-5.05	1.36	1.39
24	YA	2389	A	N9-C4	-5.05	1.34	1.37
24	YA	2530	A	N7-C5	-5.05	1.36	1.39
24	YA	2794	A	N9-C4	-5.05	1.34	1.37
24	RA	2509	A	N9-C4	-5.04	1.34	1.37
24	YA	1141	A	N9-C4	5.04	1.40	1.37
24	YA	2297	C	C4-C5	-5.04	1.39	1.43
24	YA	475	A	C5-C4	-5.04	1.35	1.38
24	YA	709	G	N9-C8	-5.04	1.34	1.37
24	RA	609	A	N3-C4	-5.04	1.31	1.34
24	YA	1320	A	N7-C5	-5.04	1.36	1.39
24	YA	2728	C	N1-C6	-5.03	1.34	1.37
24	YA	1388	A	C5-C4	-5.03	1.35	1.38
24	YA	2083	G	C5-C4	-5.03	1.34	1.38
24	YA	2091	G	C6-N1	-5.03	1.36	1.39
24	YA	1423	G	N7-C5	-5.03	1.36	1.39
24	YA	1661	C	N1-C6	-5.03	1.34	1.37
24	YA	545	G	C5-C4	-5.03	1.34	1.38
24	YA	2757	G	N7-C5	-5.02	1.36	1.39
24	YA	2270	C	N1-C6	-5.02	1.34	1.37
24	RA	596	G	N7-C5	-5.02	1.36	1.39
24	YA	1247	C	N1-C6	-5.02	1.34	1.37
24	YA	1658	C	C4-C5	-5.01	1.39	1.43
24	YA	556	C	N1-C6	-5.01	1.34	1.37
24	YA	1300	A	N9-C4	-5.00	1.34	1.37
24	YA	2440	G	C5-C4	-5.00	1.34	1.38

All (2387) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YB	114	G	C4-C5-N7	-176.50	40.20	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YB	112	G	C4-C5-N7	-173.34	41.46	110.80
25	YB	114	G	N7-C8-N9	-148.48	38.86	113.10
25	YB	112	G	N7-C8-N9	-146.23	39.98	113.10
25	YB	112	G	C8-N9-C4	-129.76	54.49	106.40
25	YB	114	G	C8-N9-C4	-123.21	57.12	106.40
25	YB	114	G	C5-N7-C8	70.62	139.61	104.30
25	YB	112	G	C5-N7-C8	62.30	135.45	104.30
25	YB	112	G	C6-C5-N7	47.29	158.77	130.40
25	YB	114	G	C6-C5-N7	45.05	157.43	130.40
25	YB	114	G	N3-C4-N9	32.61	145.57	126.00
25	YB	112	G	N3-C4-N9	31.24	144.75	126.00
25	YB	114	G	N9-C4-C5	-28.68	93.93	105.40
25	YB	114	G	C4-N9-C1'	26.52	160.98	126.50
25	YB	112	G	C4-N9-C1'	23.20	156.66	126.50
25	YB	112	G	N9-C4-C5	-22.50	96.40	105.40
1	QA	1528	U	C2-N1-C1'	22.40	144.58	117.70
25	YB	112	G	N3-C4-C5	-19.61	118.79	128.60
1	QA	1528	U	C6-N1-C1'	-19.51	93.89	121.20
25	YB	92	G	N3-C2-N2	-19.36	106.35	119.90
25	YB	112	G	C8-N9-C1'	-19.05	102.23	127.00
1	XA	359	U	O5'-P-OP1	-18.75	88.19	110.70
25	YB	114	G	C8-N9-C1'	-17.79	103.88	127.00
25	YB	114	G	N3-C4-C5	-16.20	120.50	128.60
24	RA	1649	A	O4'-C1'-N9	15.95	120.96	108.20
1	XA	359	U	C2-N1-C1'	-15.44	99.17	117.70
1	XA	359	U	C6-N1-C1'	14.99	142.19	121.20
25	YB	96	G	N3-C2-N2	-14.75	109.57	119.90
24	YA	903	C	C6-N1-C2	-14.53	114.49	120.30
25	YB	112	G	C5-C6-N1	14.46	118.73	111.50
25	YB	112	G	C2-N3-C4	13.99	118.90	111.90
24	YA	2700	U	N3-C2-O2	-13.88	112.48	122.20
24	RA	903	C	C6-N1-C2	-13.33	114.97	120.30
24	RA	1649	A	C5'-C4'-O4'	13.32	125.09	109.10
25	YB	96	G	C8-N9-C4	-13.06	101.18	106.40
24	YA	2774	G	C8-N9-C1'	-12.99	110.11	127.00
1	XA	359	U	OP1-P-OP2	-12.78	100.43	119.60
24	YA	1378	G	N7-C8-N9	12.68	119.44	113.10
24	YA	1581	U	N1-C2-O2	12.54	131.58	122.80
24	YA	1581	U	N3-C2-O2	-12.54	113.42	122.20
1	QA	1301	U	N1-C2-O2	12.44	131.51	122.80
24	YA	140	A	N7-C8-N9	12.28	119.94	113.80
24	YA	903	C	C5-C6-N1	11.95	126.97	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2774	G	C4-N9-C1'	11.89	141.96	126.50
25	YB	96	G	N9-C4-C5	11.81	110.12	105.40
24	RA	1953	U	N3-C2-O2	-11.77	113.96	122.20
25	YB	85	G	N3-C2-N2	-11.76	111.67	119.90
1	XA	328	C	N1-C2-O2	11.68	125.91	118.90
24	RA	1649	A	C4-N9-C1'	11.66	147.29	126.30
1	QA	1301	U	N3-C2-O2	-11.53	114.13	122.20
1	XA	1158	C	N1-C2-O2	11.43	125.76	118.90
25	YB	96	G	N3-C4-N9	-11.34	119.20	126.00
1	QA	328	C	N1-C2-O2	11.28	125.67	118.90
24	YA	1627	A	C4-N9-C1'	11.25	146.56	126.30
25	YB	92	G	N1-C2-N2	11.21	126.29	116.20
25	YB	81	G	C4-C5-N7	11.11	115.25	110.80
24	YA	2087	C	C6-N1-C2	-11.09	115.87	120.30
24	RA	1649	A	C8-N9-C1'	-11.08	107.76	127.70
1	QA	1066	C	N1-C2-O2	11.02	125.51	118.90
24	RA	903	C	C5-C6-N1	10.86	126.43	121.00
24	RA	1817	A	N7-C8-N9	10.86	119.23	113.80
24	YA	800	C	C6-N1-C2	-10.84	115.97	120.30
24	YA	140	A	C5-N7-C8	-10.83	98.49	103.90
24	YA	907	U	N3-C2-O2	-10.76	114.67	122.20
24	YA	1003	U	C2-N1-C1'	-10.76	104.79	117.70
24	YA	118	U	N3-C2-O2	-10.74	114.68	122.20
24	YA	1627	A	C8-N9-C1'	-10.72	108.41	127.70
1	QA	1027	C	N1-C2-O2	10.71	125.33	118.90
1	XA	328	C	N3-C2-O2	-10.65	114.44	121.90
24	YA	1378	G	C8-N9-C4	-10.61	102.16	106.40
24	RA	1110	C	C6-N1-C2	-10.59	116.06	120.30
24	YA	1003	U	C6-N1-C1'	10.59	136.02	121.20
24	RA	1110	C	C5-C6-N1	10.54	126.27	121.00
24	RA	1138	C	N1-C2-O2	10.38	125.12	118.90
24	RA	875	U	N3-C2-O2	-10.36	114.95	122.20
25	YB	96	G	N1-C2-N3	10.28	130.07	123.90
1	QA	1066	C	C5-C6-N1	10.26	126.13	121.00
24	RA	1936	C	N1-C2-O2	10.26	125.06	118.90
24	RA	1921	G	N3-C4-N9	-10.26	119.84	126.00
24	YA	1725	G	N7-C8-N9	10.25	118.23	113.10
24	RA	1953	U	N1-C2-O2	10.14	129.90	122.80
25	RB	31	C	N1-C2-O2	10.06	124.94	118.90
1	XA	1158	C	N3-C2-O2	-10.06	114.86	121.90
24	RA	2818	U	N1-C2-O2	9.92	129.75	122.80
24	RA	875	U	N1-C2-O2	9.92	129.74	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	359	U	O5'-P-OP2	9.92	122.60	110.70
24	YA	1453	C	C5-C6-N1	9.89	125.94	121.00
24	RA	1282	G	C4-N9-C1'	9.88	139.34	126.50
1	QA	1158	C	N1-C2-O2	9.82	124.79	118.90
24	YA	2087	C	C5-C6-N1	9.79	125.89	121.00
24	RA	118	U	N3-C2-O2	-9.77	115.36	122.20
24	RA	1359	U	N3-C2-O2	-9.77	115.36	122.20
24	YA	2700	U	C5-C4-O4	9.71	131.72	125.90
24	RA	2700	U	N3-C2-O2	-9.68	115.43	122.20
25	YB	92	G	N9-C4-C5	9.67	109.27	105.40
24	YA	1476	C	C5-C6-N1	9.66	125.83	121.00
1	QA	328	C	N3-C2-O2	-9.62	115.17	121.90
24	RA	723	A	N7-C8-N9	9.61	118.60	113.80
24	YA	2825	C	C6-N1-C2	-9.60	116.46	120.30
24	YA	2065	C	C5-C6-N1	9.58	125.79	121.00
24	YA	675	C	C5-C6-N1	9.56	125.78	121.00
24	YA	1817	A	N7-C8-N9	9.51	118.55	113.80
24	YA	1579	C	C5-C6-N1	9.49	125.75	121.00
24	YA	553	A	C8-N9-C4	-9.49	102.00	105.80
24	RA	1310	G	C8-N9-C4	-9.48	102.61	106.40
1	XA	1141	C	N3-C2-O2	-9.47	115.27	121.90
24	YA	1378	G	C5-N7-C8	-9.42	99.59	104.30
24	YA	637	U	N3-C2-O2	-9.42	115.61	122.20
24	RA	1453	C	C6-N1-C2	-9.40	116.54	120.30
24	YA	2792	U	N3-C2-O2	-9.39	115.62	122.20
25	YB	85	G	N1-C2-N2	9.39	124.65	116.20
24	YA	800	C	C5-C6-N1	9.31	125.65	121.00
24	RA	2678	C	N1-C2-O2	9.30	124.48	118.90
24	YA	1453	C	C6-N1-C2	-9.30	116.58	120.30
24	RA	1817	A	C5-N7-C8	-9.28	99.26	103.90
24	YA	603	C	C5-C6-N1	9.27	125.63	121.00
1	QA	525	C	C5-C6-N1	9.24	125.62	121.00
24	RA	118	U	N1-C2-O2	9.23	129.26	122.80
24	YA	1835	C	C5-C6-N1	9.21	125.60	121.00
24	YA	1936	C	N1-C2-O2	9.20	124.42	118.90
24	YA	12	U	N3-C2-O2	-9.19	115.77	122.20
24	YA	2725	A	N7-C8-N9	9.17	118.39	113.80
24	RA	1281	G	C4-N9-C1'	9.17	138.42	126.50
24	YA	1935	A	C4-N9-C1'	9.16	142.80	126.30
1	XA	358	U	P-O3'-C3'	9.16	130.69	119.70
24	RA	1835	C	C5-C6-N1	9.14	125.57	121.00
25	YB	92	G	N3-C4-N9	-9.11	120.53	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	358	U	O4'-C1'-N1	-9.10	100.92	108.20
24	RA	2739	U	N3-C2-O2	-9.09	115.84	122.20
25	YB	81	G	N9-C4-C5	-9.09	101.77	105.40
24	RA	1128	U	N1-C2-O2	9.08	129.16	122.80
24	YA	939	C	N1-C2-O2	9.04	124.32	118.90
24	YA	1452	U	C5-C6-N1	9.02	127.21	122.70
1	QA	307	C	N1-C2-O2	9.02	124.31	118.90
24	YA	197	C	C5-C6-N1	9.01	125.50	121.00
24	YA	660	C	C6-N1-C2	-9.00	116.70	120.30
24	YA	675	C	C6-N1-C2	-9.00	116.70	120.30
24	YA	2739	U	N3-C2-O2	-8.98	115.91	122.20
24	YA	2065	C	C6-N1-C2	-8.97	116.71	120.30
24	YA	1903	C	C6-N1-C2	-8.96	116.72	120.30
24	RA	2230	U	N1-C2-O2	8.96	129.07	122.80
1	QA	1027	C	N3-C2-O2	-8.90	115.67	121.90
24	RA	907	U	N3-C2-O2	-8.90	115.97	122.20
24	RA	1281	G	C8-N9-C1'	-8.90	115.43	127.00
24	RA	1282	G	C8-N9-C1'	-8.88	115.45	127.00
1	XA	358	U	OP2-P-O3'	8.88	124.74	105.20
24	RA	1835	C	C6-N1-C2	-8.88	116.75	120.30
25	YB	30	C	C6-N1-C2	-8.88	116.75	120.30
24	YA	1020	C	N1-C2-O2	8.83	124.20	118.90
24	YA	1935	A	C8-N9-C1'	-8.83	111.81	127.70
24	RA	400	U	N3-C2-O2	-8.82	116.02	122.20
24	YA	1453	C	N1-C2-O2	8.81	124.19	118.90
1	QA	1066	C	C6-N1-C2	-8.78	116.79	120.30
1	XA	307	C	N1-C2-O2	8.77	124.16	118.90
24	YA	2596	U	N3-C2-O2	-8.76	116.07	122.20
24	RA	1921	G	N3-C4-C5	8.74	132.97	128.60
24	YA	875	U	N1-C2-O2	8.73	128.91	122.80
24	YA	140	A	C8-N9-C4	-8.73	102.31	105.80
24	YA	1110	C	C6-N1-C2	-8.73	116.81	120.30
25	YB	114	G	C5-C6-N1	8.72	115.86	111.50
24	YA	118	U	N1-C2-O2	8.71	128.90	122.80
24	RA	796	C	N1-C2-O2	8.70	124.12	118.90
24	RA	1359	U	N1-C2-O2	8.70	128.89	122.80
25	RB	31	C	C2-N1-C1'	8.68	128.35	118.80
24	YA	796	C	N1-C2-O2	8.65	124.09	118.90
24	YA	2792	U	N1-C2-O2	8.65	128.86	122.80
24	YA	1942	C	C5-C6-N1	8.61	125.31	121.00
24	RA	2818	U	N3-C2-O2	-8.60	116.18	122.20
1	XA	1502	A	N7-C8-N9	8.58	118.09	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1453	C	C5-C6-N1	8.57	125.29	121.00
24	YA	258	U	N1-C2-O2	8.56	128.79	122.80
1	QA	1528	U	C5'-C4'-O4'	8.55	119.36	109.10
1	QA	1323	G	N3-C4-N9	8.54	131.12	126.00
24	RA	1095	C	C6-N1-C2	-8.54	116.88	120.30
24	RA	1805	C	N1-C2-O2	8.54	124.03	118.90
24	YA	1476	C	C6-N1-C2	-8.54	116.89	120.30
24	YA	2519	C	C5-C6-N1	8.54	125.27	121.00
24	YA	2468	C	C5-C6-N1	8.53	125.27	121.00
24	RA	1921	G	C2-N3-C4	-8.52	107.64	111.90
24	RA	187	C	C5-C6-N1	8.52	125.26	121.00
24	YA	1903	C	C5-C6-N1	8.51	125.26	121.00
24	YA	444	C	C6-N1-C2	-8.51	116.90	120.30
24	RA	1936	C	N3-C2-O2	-8.50	115.95	121.90
1	QA	328	C	C2-N1-C1'	8.50	128.15	118.80
25	YB	92	G	C8-N9-C4	-8.49	103.00	106.40
24	YA	197	C	C6-N1-C2	-8.48	116.91	120.30
24	RA	1550	C	C5-C6-N1	8.47	125.24	121.00
24	YA	1904	C	C5-C6-N1	8.47	125.24	121.00
1	XA	1158	C	C6-N1-C2	-8.47	116.91	120.30
24	RA	1138	C	C5-C6-N1	8.46	125.23	121.00
24	YA	1067	A	C8-N9-C4	-8.45	102.42	105.80
24	YA	555	G	N1-C6-O6	-8.45	114.83	119.90
24	YA	884	C	C6-N1-C2	-8.44	116.92	120.30
1	QA	1066	C	C2-N1-C1'	8.44	128.08	118.80
24	YA	1980	C	C6-N1-C2	-8.42	116.93	120.30
24	YA	554	A	C4-N9-C1'	8.40	141.43	126.30
24	YA	2700	U	N1-C2-O2	8.40	128.68	122.80
24	YA	1725	G	C8-N9-C4	-8.39	103.04	106.40
1	QA	1263	C	N1-C2-O2	8.38	123.93	118.90
24	YA	462	C	C6-N1-C2	-8.38	116.95	120.30
24	RA	2485	U	N3-C2-O2	-8.37	116.34	122.20
1	XA	328	C	C2-N1-C1'	8.37	128.01	118.80
24	YA	2319	G	C4-N9-C1'	8.37	137.38	126.50
24	YA	187	C	C5-C6-N1	8.34	125.17	121.00
24	YA	659	C	C6-N1-C2	-8.34	116.97	120.30
24	RA	2736	C	C6-N1-C2	-8.33	116.97	120.30
25	YB	68	C	C6-N1-C2	-8.33	116.97	120.30
24	RA	675	C	C6-N1-C2	-8.31	116.97	120.30
24	YA	1463	C	C5-C6-N1	8.30	125.15	121.00
25	YB	96	G	N7-C8-N9	8.30	117.25	113.10
1	QA	328	C	C6-N1-C2	-8.29	116.98	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2230	U	N3-C2-O2	-8.29	116.40	122.20
24	RA	1378	G	C4-N9-C1'	8.29	137.27	126.50
1	QA	1158	C	N3-C2-O2	-8.28	116.10	121.90
24	RA	723	A	C5-N7-C8	-8.29	99.76	103.90
24	RA	400	U	C5-C6-N1	8.28	126.84	122.70
24	YA	1453	C	C2-N1-C1'	8.28	127.91	118.80
24	YA	1942	C	C6-N1-C2	-8.28	116.99	120.30
24	YA	1937	U	N1-C2-O2	8.27	128.59	122.80
24	YA	2428	C	C6-N1-C2	-8.27	116.99	120.30
24	RA	2004	C	C5-C6-N1	8.23	125.11	121.00
1	XA	328	C	C6-N1-C2	-8.22	117.01	120.30
24	YA	1952	G	C8-N9-C1'	8.20	137.66	127.00
24	YA	863	C	C6-N1-C2	-8.20	117.02	120.30
24	YA	1835	C	C6-N1-C2	-8.20	117.02	120.30
24	RA	400	U	N1-C2-O2	8.19	128.54	122.80
25	YB	96	G	C2-N3-C4	-8.17	107.81	111.90
24	YA	12	U	N1-C2-O2	8.17	128.52	122.80
1	XA	110	C	N1-C2-O2	8.17	123.80	118.90
24	RA	1453	C	C2-N1-C1'	8.15	127.77	118.80
24	YA	2468	C	C6-N1-C2	-8.15	117.04	120.30
22	XV	65	U	N1-C2-O2	8.14	128.50	122.80
24	RA	1378	G	N7-C8-N9	8.13	117.17	113.10
24	RA	618	C	C5-C6-N1	8.13	125.07	121.00
24	YA	112	U	C5-C6-N1	8.13	126.77	122.70
24	YA	1936	C	N3-C2-O2	-8.13	116.21	121.90
24	YA	1725	G	C5-N7-C8	-8.12	100.24	104.30
24	RA	1972	G	C4-N9-C1'	8.11	137.05	126.50
24	YA	887	C	C5-C6-N1	8.11	125.05	121.00
24	YA	1590	C	N1-C2-O2	8.11	123.76	118.90
24	YA	2678	C	N1-C2-O2	8.10	123.76	118.90
22	XV	65	U	N3-C2-O2	-8.09	116.54	122.20
24	RA	802	C	C5-C6-N1	8.09	125.05	121.00
1	QA	58	C	C6-N1-C2	-8.08	117.07	120.30
24	RA	1111	U	O4'-C1'-N1	8.07	114.66	108.20
24	RA	2768	C	C5-C6-N1	8.06	125.03	121.00
24	YA	1067	A	C2-N3-C4	-8.06	106.57	110.60
24	YA	1952	G	C4-N9-C1'	-8.05	116.03	126.50
24	RA	197	C	C5-C6-N1	8.03	125.01	121.00
24	YA	2690	C	C5-C6-N1	8.00	125.00	121.00
24	YA	2837	C	C5-C6-N1	8.00	125.00	121.00
24	RA	562	C	C5-C6-N1	8.00	125.00	121.00
24	RA	1817	A	C8-N9-C4	-8.00	102.60	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1904	C	C6-N1-C2	-7.99	117.10	120.30
24	RA	2085	C	C6-N1-C2	-7.97	117.11	120.30
24	YA	562	C	C6-N1-C2	-7.97	117.11	120.30
24	YA	535	C	C5-C6-N1	7.97	124.99	121.00
24	RA	1805	C	C5-C6-N1	7.96	124.98	121.00
24	RA	1904	C	C6-N1-C2	-7.96	117.12	120.30
24	RA	1378	G	C6-C5-N7	-7.95	125.63	130.40
24	YA	875	U	N3-C2-O2	-7.95	116.63	122.20
24	RA	2571	C	C5-C6-N1	7.93	124.96	121.00
24	YA	103	C	C6-N1-C2	-7.92	117.13	120.30
24	YA	1310	G	C8-N9-C4	-7.92	103.23	106.40
24	YA	2571	C	C5-C6-N1	7.92	124.96	121.00
24	RA	1125	C	C6-N1-C2	-7.92	117.13	120.30
24	RA	1098	C	C6-N1-C2	-7.92	117.13	120.30
24	RA	1138	C	C6-N1-C2	-7.92	117.13	120.30
24	RA	1110	C	N1-C2-O2	7.91	123.65	118.90
24	YA	535	C	N1-C2-O2	7.90	123.64	118.90
1	QA	1303	C	N1-C2-O2	7.90	123.64	118.90
24	YA	2877	G	P-O3'-C3'	7.89	129.17	119.70
24	YA	1980	C	C5-C6-N1	7.88	124.94	121.00
25	YB	93	C	N1-C2-O2	7.88	123.63	118.90
38	YT	99	LEU	CA-CB-CG	7.88	133.43	115.30
24	YA	1110	C	C5-C6-N1	7.88	124.94	121.00
24	YA	1020	C	C2-N1-C1'	7.87	127.46	118.80
1	QA	1066	C	N3-C2-O2	-7.87	116.39	121.90
24	YA	2480	G	C4-N9-C1'	7.87	136.72	126.50
1	QA	1322	C	N1-C2-O2	7.86	123.62	118.90
1	QA	1347	G	C8-N9-C1'	-7.86	116.78	127.00
24	RA	2001	C	C6-N1-C2	-7.86	117.16	120.30
24	YA	884	C	N3-C2-O2	-7.85	116.40	121.90
24	RA	1969	C	C5-C6-N1	7.85	124.93	121.00
24	YA	887	C	C6-N1-C2	-7.83	117.17	120.30
24	YA	1579	C	C6-N1-C2	-7.83	117.17	120.30
1	QA	789	U	N3-C2-O2	-7.82	116.73	122.20
24	YA	2724	U	N3-C2-O2	-7.81	116.73	122.20
24	YA	2571	C	C6-N1-C2	-7.80	117.18	120.30
1	XA	789	U	N3-C2-O2	-7.80	116.74	122.20
24	YA	232	U	C5-C6-N1	7.80	126.60	122.70
24	RA	637	U	N1-C2-O2	7.79	128.26	122.80
24	YA	603	C	C6-N1-C2	-7.79	117.18	120.30
24	RA	2678	C	N3-C2-O2	-7.79	116.45	121.90
24	RA	570	C	C5-C6-N1	7.79	124.89	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1978	U	N1-C2-O2	7.78	128.24	122.80
1	XA	1381	U	N3-C2-O2	-7.77	116.76	122.20
24	YA	1817	A	C8-N9-C4	-7.76	102.69	105.80
24	YA	1824	C	C6-N1-C2	-7.76	117.20	120.30
1	QA	283	C	N1-C2-O2	7.76	123.56	118.90
1	QA	307	C	N3-C2-O2	-7.76	116.47	121.90
24	YA	2480	G	O4'-C1'-N9	7.72	114.38	108.20
24	RA	2196	C	C6-N1-C2	-7.72	117.21	120.30
24	YA	1625	U	N3-C2-O2	-7.71	116.80	122.20
24	RA	783	C	C5-C6-N1	7.71	124.85	121.00
24	YA	2678	C	N3-C2-O2	-7.70	116.51	121.90
24	YA	1812	C	N1-C2-O2	7.70	123.52	118.90
24	YA	553	A	C2-N3-C4	-7.70	106.75	110.60
24	RA	1358	U	C5-C6-N1	7.69	126.55	122.70
24	YA	1691	C	C5-C6-N1	7.69	124.84	121.00
24	RA	755	C	C5-C6-N1	7.67	124.84	121.00
24	RA	1903	C	C5-C6-N1	7.66	124.83	121.00
24	YA	139	A	N7-C8-N9	7.66	117.63	113.80
24	YA	554	A	N7-C8-N9	7.65	117.63	113.80
24	YA	723	A	C5-N7-C8	-7.65	100.07	103.90
1	QA	699	C	C6-N1-C2	-7.65	117.24	120.30
24	RA	1937	U	N3-C2-O2	-7.65	116.84	122.20
24	YA	220	C	C6-N1-C2	-7.65	117.24	120.30
24	YA	1099	C	C5-C6-N1	7.65	124.83	121.00
24	YA	907	U	N1-C2-O2	7.64	128.15	122.80
24	YA	2415	C	C6-N1-C2	-7.64	117.24	120.30
24	RA	1560	U	N3-C2-O2	-7.64	116.86	122.20
24	RA	2878	A	N7-C8-N9	7.64	117.62	113.80
1	QA	1347	G	C4-N9-C1'	7.63	136.43	126.50
1	XA	1260	C	N3-C2-O2	-7.63	116.56	121.90
24	RA	1579	C	N1-C2-O2	7.63	123.48	118.90
1	QA	1301	U	C2-N1-C1'	7.63	126.86	117.70
24	RA	1937	U	N1-C2-O2	7.63	128.14	122.80
24	RA	844	C	C5-C6-N1	7.62	124.81	121.00
1	XA	330	C	N1-C2-O2	7.62	123.47	118.90
24	RA	2485	U	N1-C2-O2	7.62	128.13	122.80
24	YA	562	C	C5-C6-N1	7.61	124.81	121.00
24	YA	1914	C	C6-N1-C2	-7.61	117.26	120.30
24	RA	802	C	C6-N1-C2	-7.61	117.26	120.30
24	RA	2255	U	N3-C2-O2	-7.61	116.88	122.20
24	RA	1154	U	N3-C2-O2	-7.60	116.88	122.20
24	YA	2260	C	C6-N1-C2	-7.59	117.26	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1478	C	C5-C6-N1	7.59	124.80	121.00
24	YA	1552	C	C5-C6-N1	7.59	124.80	121.00
24	RA	1138	C	C2-N1-C1'	7.59	127.14	118.80
24	RA	630	U	N3-C2-O2	-7.58	116.89	122.20
24	RA	903	C	N1-C2-O2	7.58	123.45	118.90
1	XA	1502	A	C5-N7-C8	-7.58	100.11	103.90
1	XA	497	U	N3-C2-O2	-7.58	116.90	122.20
24	YA	2028	C	C6-N1-C2	-7.56	117.27	120.30
1	XA	359	U	O4'-C1'-N1	7.55	114.24	108.20
24	YA	579	G	N7-C8-N9	7.55	116.88	113.10
24	YA	1457	C	C5-C6-N1	7.55	124.78	121.00
24	YA	223	C	N1-C2-O2	7.55	123.43	118.90
1	QA	1027	C	C6-N1-C2	-7.54	117.29	120.30
24	RA	2065	C	C6-N1-C2	-7.52	117.29	120.30
24	RA	482	C	C5-C6-N1	7.52	124.76	121.00
24	RA	2571	C	N1-C2-O2	7.52	123.41	118.90
24	YA	884	C	N1-C2-O2	7.52	123.41	118.90
24	YA	1378	G	C6-C5-N7	-7.51	125.89	130.40
24	YA	2851	C	C6-N1-C2	-7.51	117.30	120.30
24	YA	1817	A	C5-N7-C8	-7.49	100.15	103.90
1	XA	1381	U	N1-C2-O2	7.49	128.04	122.80
24	RA	1352	C	C6-N1-C2	-7.48	117.31	120.30
24	YA	1310	G	N7-C8-N9	7.48	116.84	113.10
24	RA	618	C	C6-N1-C2	-7.48	117.31	120.30
24	RA	1279	C	C6-N1-C2	-7.47	117.31	120.30
24	YA	2428	C	C5-C6-N1	7.47	124.74	121.00
1	XA	797	C	C6-N1-C2	-7.47	117.31	120.30
24	RA	637	U	N3-C2-O2	-7.46	116.98	122.20
24	YA	554	A	C8-N9-C4	-7.46	102.82	105.80
24	RA	1805	C	C6-N1-C2	-7.46	117.32	120.30
24	RA	1138	C	N3-C2-O2	-7.45	116.69	121.90
24	RA	1379	C	N1-C2-O2	7.45	123.37	118.90
24	YA	1020	C	N3-C2-O2	-7.45	116.69	121.90
24	RA	1478	C	C5-C6-N1	7.44	124.72	121.00
1	XA	749	C	C6-N1-C2	-7.44	117.32	120.30
1	XA	827	U	C6-N1-C2	-7.44	116.54	121.00
24	RA	1360	C	C5-C6-N1	7.42	124.71	121.00
1	QA	1020	U	N3-C2-O2	-7.42	117.01	122.20
1	QA	1323	G	N3-C4-C5	-7.42	124.89	128.60
24	YA	1725	G	C6-C5-N7	-7.42	125.95	130.40
24	RA	2004	C	C6-N1-C2	-7.41	117.33	120.30
1	XA	135	C	N1-C2-O2	7.41	123.35	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	258	U	N3-C2-O2	-7.41	117.01	122.20
24	YA	2596	U	N1-C2-O2	7.41	127.99	122.80
1	QA	1040	U	N3-C2-O2	-7.41	117.01	122.20
1	QA	1147	C	N3-C2-O2	-7.40	116.72	121.90
24	RA	555	G	O4'-C1'-N9	7.39	114.12	108.20
24	YA	1730	C	C5-C6-N1	7.39	124.70	121.00
1	QA	110	C	N1-C2-O2	7.39	123.33	118.90
1	XA	135	C	C6-N1-C2	-7.39	117.34	120.30
38	RT	99	LEU	CA-CB-CG	7.39	132.29	115.30
24	YA	1826	C	C5-C6-N1	7.39	124.69	121.00
24	RA	1521	C	N1-C2-O2	7.38	123.33	118.90
24	YA	2404	A	N7-C8-N9	7.38	117.49	113.80
24	RA	447	C	C5-C6-N1	7.38	124.69	121.00
24	RA	1360	C	C6-N1-C2	-7.38	117.35	120.30
24	YA	1819	C	C5-C6-N1	7.38	124.69	121.00
1	XA	754	C	C2-N1-C1'	7.37	126.91	118.80
1	XA	110	C	N3-C2-O2	-7.37	116.74	121.90
24	YA	139	A	C5-N7-C8	-7.37	100.22	103.90
24	RA	1310	G	N7-C8-N9	7.36	116.78	113.10
24	YA	660	C	C5-C6-N1	7.35	124.68	121.00
24	YA	1574	A	N7-C8-N9	7.35	117.47	113.80
24	YA	2798	C	C6-N1-C2	-7.34	117.36	120.30
24	YA	723	A	N7-C8-N9	7.34	117.47	113.80
24	RA	482	C	N1-C2-O2	7.34	123.31	118.90
24	YA	1972	G	C4-N9-C1'	7.34	136.04	126.50
1	XA	1024	G	C2-N3-C4	7.34	115.57	111.90
24	RA	1722	C	C6-N1-C2	-7.34	117.36	120.30
1	XA	58	C	N1-C2-O2	7.34	123.30	118.90
24	YA	1738	C	C6-N1-C2	-7.33	117.37	120.30
24	RA	181	C	C6-N1-C2	-7.33	117.37	120.30
1	QA	58	C	C5-C6-N1	7.32	124.66	121.00
24	YA	340	C	C6-N1-C2	-7.31	117.38	120.30
24	RA	1128	U	N3-C2-O2	-7.31	117.08	122.20
24	YA	875	U	C2-N1-C1'	7.30	126.46	117.70
24	YA	1705	C	C5-C6-N1	7.30	124.65	121.00
24	YA	444	C	C5-C6-N1	7.30	124.65	121.00
24	RA	394	C	C6-N1-C2	-7.29	117.38	120.30
24	RA	755	C	N1-C2-O2	7.29	123.27	118.90
24	RA	660	C	C6-N1-C2	-7.28	117.39	120.30
24	YA	2884	C	C6-N1-C2	-7.28	117.39	120.30
24	YA	1596	C	N1-C2-O2	7.28	123.27	118.90
24	RA	1709	C	C6-N1-C2	-7.27	117.39	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1904	C	C5-C6-N1	7.27	124.64	121.00
24	YA	2877	G	C8-N9-C1'	-7.27	117.55	127.00
24	RA	1551	C	N1-C2-O2	7.26	123.26	118.90
24	YA	2324	U	C5-C6-N1	7.26	126.33	122.70
24	YA	553	A	N7-C8-N9	7.26	117.43	113.80
24	RA	447	C	C6-N1-C2	-7.26	117.40	120.30
1	QA	1163	C	C6-N1-C2	-7.26	117.40	120.30
24	RA	2486	C	N1-C2-O2	7.25	123.25	118.90
24	YA	566	C	C6-N1-C2	-7.25	117.40	120.30
24	YA	1457	C	C6-N1-C2	-7.23	117.41	120.30
1	QA	754	C	C2-N1-C1'	7.22	126.75	118.80
24	RA	884	C	C6-N1-C2	-7.22	117.41	120.30
24	RA	958	C	C6-N1-C2	-7.22	117.41	120.30
22	QV	67	U	N3-C2-O2	-7.21	117.15	122.20
1	XA	1147	C	N1-C2-O2	7.21	123.23	118.90
24	YA	1059	C	C6-N1-C2	-7.20	117.42	120.30
24	RA	1359	U	C2-N1-C1'	7.20	126.33	117.70
24	RA	2028	C	C6-N1-C2	-7.19	117.42	120.30
24	RA	1866	G	N3-C4-C5	-7.19	125.00	128.60
24	YA	819	C	C5-C6-N1	7.19	124.60	121.00
24	RA	1560	U	N1-C2-O2	7.19	127.83	122.80
1	QA	1040	U	N1-C2-O2	7.19	127.83	122.80
1	QA	1260	C	C6-N1-C2	-7.19	117.42	120.30
24	RA	141	C	C6-N1-C2	-7.19	117.42	120.30
24	RA	1350	C	C5-C6-N1	7.18	124.59	121.00
24	RA	1154	U	N1-C2-O2	7.18	127.82	122.80
24	RA	1550	C	C6-N1-C2	-7.17	117.43	120.30
24	YA	2255	U	N3-C2-O2	-7.17	117.18	122.20
24	YA	1937	U	N3-C2-O2	-7.16	117.19	122.20
24	RA	2065	C	C5-C6-N1	7.16	124.58	121.00
25	YB	114	G	C2-N3-C4	7.15	115.48	111.90
24	RA	944	C	N1-C2-O2	7.14	123.19	118.90
24	YA	1067	A	N3-C4-N9	-7.14	121.69	127.40
1	QA	1132	C	N1-C2-O2	7.14	123.18	118.90
1	XA	979	C	N3-C2-O2	-7.14	116.90	121.90
24	YA	2668	U	C5-C6-N1	7.13	126.27	122.70
24	RA	1580	G	N3-C4-C5	-7.13	125.03	128.60
24	RA	1978	U	N3-C2-O2	-7.13	117.21	122.20
24	YA	778	C	C5-C6-N1	7.13	124.56	121.00
1	XA	738	C	C6-N1-C2	-7.13	117.45	120.30
24	RA	140	A	C5-N7-C8	-7.12	100.34	103.90
24	RA	1421	C	C6-N1-C2	-7.12	117.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1457	C	N1-C2-O2	7.12	123.17	118.90
24	RA	395	C	C6-N1-C2	-7.12	117.45	120.30
24	YA	1580	G	N3-C4-C5	-7.12	125.04	128.60
24	YA	1581	U	C2-N1-C1'	7.12	126.24	117.70
24	RA	1523	C	C5-C6-N1	7.12	124.56	121.00
24	RA	907	U	N1-C2-O2	7.11	127.78	122.80
24	YA	1542	A	N7-C8-N9	7.11	117.36	113.80
1	XA	1158	C	C2-N1-C1'	7.11	126.62	118.80
24	YA	2818	U	N3-C2-O2	-7.10	117.23	122.20
24	RA	482	C	C6-N1-C2	-7.10	117.46	120.30
24	RA	1645	C	C6-N1-C2	-7.10	117.46	120.30
24	YA	1463	C	C6-N1-C2	-7.10	117.46	120.30
24	YA	1691	C	N1-C2-O2	7.10	123.16	118.90
24	RA	1956	C	C5-C6-N1	7.10	124.55	121.00
24	YA	1444	C	N1-C2-O2	7.10	123.16	118.90
24	RA	630	U	N1-C2-O2	7.09	127.77	122.80
24	YA	2880	C	C6-N1-C2	-7.09	117.46	120.30
24	YA	2011	G	N3-C2-N2	-7.09	114.94	119.90
24	RA	2028	C	N1-C2-O2	7.09	123.16	118.90
1	XA	979	C	N1-C2-O2	7.09	123.16	118.90
24	RA	2857	U	N1-C2-O2	7.09	127.76	122.80
1	QA	449	C	N1-C2-O2	7.08	123.15	118.90
24	RA	1969	C	C6-N1-C2	-7.08	117.47	120.30
24	YA	2528	G	N3-C4-C5	-7.07	125.07	128.60
24	RA	400	U	C6-N1-C2	-7.07	116.76	121.00
24	RA	1121	C	N1-C2-O2	7.07	123.14	118.90
24	YA	2768	C	C5-C6-N1	7.06	124.53	121.00
25	RB	31	C	N3-C2-O2	-7.05	116.96	121.90
24	RA	31	C	C5-C6-N1	7.05	124.53	121.00
24	RA	2185	C	C5-C6-N1	7.05	124.53	121.00
1	QA	346	G	N3-C4-N9	7.05	130.23	126.00
24	YA	778	C	C6-N1-C2	-7.04	117.48	120.30
24	YA	1378	G	C4-N9-C1'	7.04	135.65	126.50
24	RA	1901	C	C6-N1-C2	-7.04	117.48	120.30
24	YA	2502	G	C4-C5-N7	7.04	113.61	110.80
24	YA	2818	U	N1-C2-O2	7.04	127.73	122.80
24	YA	2877	G	C4-N9-C1'	7.04	135.65	126.50
24	RA	2201	C	N1-C2-O2	7.03	123.12	118.90
24	YA	1067	A	C5-N7-C8	-7.03	100.38	103.90
24	YA	1709	C	C6-N1-C2	-7.02	117.49	120.30
1	QA	1378	C	C6-N1-C2	-7.02	117.49	120.30
24	RA	1819	C	C5-C6-N1	7.02	124.51	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	497	U	N1-C2-O2	7.02	127.71	122.80
24	YA	554	A	C8-N9-C1'	-7.02	115.07	127.70
24	YA	41	C	C6-N1-C2	-7.01	117.49	120.30
1	XA	528	C	C6-N1-C2	-7.01	117.50	120.30
24	YA	2222	C	C6-N1-C2	-7.01	117.50	120.30
24	RA	112	U	C5-C6-N1	7.00	126.20	122.70
24	RA	258	U	N3-C2-O2	-7.00	117.30	122.20
1	XA	135	C	N3-C2-O2	-7.00	117.00	121.90
24	YA	1478	C	C6-N1-C2	-7.00	117.50	120.30
24	YA	2479	C	C2-N3-C4	-7.00	116.40	119.90
1	QA	346	G	N3-C4-C5	-6.99	125.10	128.60
1	XA	307	C	N3-C2-O2	-6.98	117.01	121.90
24	YA	1067	A	N7-C8-N9	6.98	117.29	113.80
24	RA	1864	U	N3-C2-O2	-6.98	117.31	122.20
1	XA	283	C	N1-C2-O2	6.98	123.09	118.90
24	YA	1022	C	C6-N1-C2	-6.97	117.51	120.30
24	RA	914	C	N1-C2-O2	6.97	123.08	118.90
24	YA	2519	C	C6-N1-C2	-6.97	117.51	120.30
25	RB	31	C	C6-N1-C2	-6.97	117.51	120.30
25	YB	81	G	C5-N7-C8	-6.97	100.82	104.30
24	RA	555	G	N1-C6-O6	-6.96	115.72	119.90
24	RA	939	C	N1-C2-O2	6.96	123.08	118.90
1	XA	679	C	C5-C6-N1	6.96	124.48	121.00
24	YA	637	U	N1-C2-O2	6.96	127.67	122.80
24	RA	2150	C	N1-C2-O2	6.96	123.08	118.90
24	YA	994	C	C5-C6-N1	6.96	124.48	121.00
1	QA	503	C	C6-N1-C2	-6.96	117.52	120.30
24	YA	2063	U	C5-C6-N1	6.96	126.18	122.70
1	XA	449	C	C2-N1-C1'	6.95	126.45	118.80
1	QA	1279	A	N7-C8-N9	6.95	117.28	113.80
24	RA	1956	C	C6-N1-C2	-6.95	117.52	120.30
24	YA	2222	C	C5-C6-N1	6.95	124.47	121.00
24	RA	1457	C	N1-C2-O2	6.95	123.07	118.90
24	YA	830	A	C5-N7-C8	-6.94	100.43	103.90
24	YA	2319	G	C8-N9-C1'	-6.94	117.97	127.00
22	QV	67	U	N1-C2-O2	6.94	127.66	122.80
24	YA	66	U	C5-C6-N1	6.93	126.17	122.70
24	YA	187	C	C6-N1-C2	-6.93	117.53	120.30
24	RA	2736	C	C5-C6-N1	6.93	124.46	121.00
24	YA	2083	G	N3-C4-N9	6.93	130.16	126.00
24	YA	1978	U	N3-C2-O2	-6.92	117.35	122.20
24	YA	719	C	C6-N1-C2	-6.92	117.53	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	554	C	C6-N1-C2	-6.92	117.53	120.30
24	YA	2066	C	C6-N1-C2	-6.92	117.53	120.30
24	YA	139	A	C8-N9-C4	-6.92	103.03	105.80
24	RA	604	C	C6-N1-C2	-6.91	117.53	120.30
1	XA	410	G	C8-N9-C4	-6.90	103.64	106.40
1	QA	1439	C	C6-N1-C2	-6.90	117.54	120.30
24	RA	2880	C	C6-N1-C2	-6.90	117.54	120.30
24	RA	562	C	C6-N1-C2	-6.89	117.55	120.30
1	XA	1452	C	N1-C2-O2	6.88	123.03	118.90
25	YB	112	G	C6-N1-C2	-6.88	120.97	125.10
24	YA	1703	C	C6-N1-C2	-6.88	117.55	120.30
24	RA	755	C	C6-N1-C2	-6.88	117.55	120.30
1	XA	37	U	N3-C2-O2	-6.88	117.39	122.20
1	QA	266	G	C8-N9-C1'	-6.87	118.06	127.00
24	RA	2857	U	N3-C2-O2	-6.87	117.39	122.20
24	YA	2884	C	C5-C6-N1	6.87	124.44	121.00
24	YA	1707	C	C6-N1-C2	-6.87	117.55	120.30
24	YA	1099	C	N1-C2-O2	6.87	123.02	118.90
24	RA	1904	C	C2-N1-C1'	6.86	126.35	118.80
24	RA	872	C	C6-N1-C2	-6.86	117.56	120.30
24	YA	864	C	C6-N1-C2	-6.86	117.56	120.30
1	XA	738	C	C5-C6-N1	6.86	124.43	121.00
24	YA	1009	C	C6-N1-C2	-6.85	117.56	120.30
24	YA	511	C	C6-N1-C2	-6.85	117.56	120.30
1	QA	525	C	C6-N1-C2	-6.84	117.56	120.30
1	QA	780	A	C8-N9-C4	-6.84	103.06	105.80
24	YA	12	U	C2-N1-C1'	6.84	125.91	117.70
24	YA	1099	C	C6-N1-C2	-6.84	117.56	120.30
24	RA	2739	U	N1-C2-O2	6.84	127.58	122.80
1	QA	1020	U	N1-C2-O2	6.83	127.58	122.80
24	YA	2807	C	N1-C2-O2	6.83	123.00	118.90
24	RA	2596	U	N3-C2-O2	-6.83	117.42	122.20
24	YA	1550	C	C6-N1-C2	-6.83	117.57	120.30
24	RA	140	A	N7-C8-N9	6.83	117.21	113.80
24	YA	2001	C	C6-N1-C2	-6.83	117.57	120.30
24	YA	659	C	C5-C6-N1	6.82	124.41	121.00
24	YA	1204	C	C6-N1-C2	-6.82	117.57	120.30
24	YA	2899	C	C5-C6-N1	6.82	124.41	121.00
24	RA	1360	C	N1-C2-O2	6.82	122.99	118.90
24	RA	1942	C	C5-C6-N1	6.82	124.41	121.00
24	RA	1550	C	N1-C2-O2	6.81	122.99	118.90
1	QA	1362(A)	C	C6-N1-C2	-6.81	117.58	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1580	G	N3-C4-N9	6.81	130.09	126.00
24	YA	2596	U	C2-N1-C1'	6.81	125.87	117.70
24	YA	1812	C	N3-C2-O2	-6.80	117.14	121.90
24	RA	1378	G	C8-N9-C4	-6.80	103.68	106.40
1	QA	554	C	C5-C6-N1	6.80	124.40	121.00
1	QA	1147	C	N1-C2-O2	6.80	122.98	118.90
24	RA	675	C	C5-C6-N1	6.80	124.40	121.00
24	YA	2238	C	N1-C2-O2	6.80	122.98	118.90
1	QA	1163	C	C2-N1-C1'	6.79	126.28	118.80
1	XA	346	G	N3-C4-N9	6.79	130.08	126.00
24	RA	672	G	C6-C5-N7	-6.79	126.33	130.40
24	YA	553	A	N3-C4-N9	-6.79	121.97	127.40
24	YA	103	C	C5-C6-N1	6.79	124.39	121.00
24	YA	739	C	C6-N1-C2	-6.79	117.58	120.30
24	YA	2083	G	N3-C4-C5	-6.79	125.21	128.60
24	RA	1657	C	C6-N1-C2	-6.78	117.59	120.30
24	YA	2004	C	C5-C6-N1	6.78	124.39	121.00
1	QA	266	G	N3-C4-N9	-6.78	121.93	126.00
1	QA	1158	C	C2-N1-C1'	6.78	126.26	118.80
24	RA	1730	C	C5-C6-N1	6.78	124.39	121.00
1	XA	58	C	C6-N1-C2	-6.78	117.59	120.30
24	YA	2629	C	N1-C2-O2	6.78	122.97	118.90
24	YA	1521	C	C6-N1-C2	-6.77	117.59	120.30
1	XA	186(G)	C	N3-C2-O2	-6.77	117.16	121.90
1	QA	1502	A	C4-C5-N7	6.76	114.08	110.70
24	RA	187	C	C6-N1-C2	-6.76	117.59	120.30
24	RA	297	C	C5-C6-N1	6.76	124.38	121.00
24	RA	1155	C	N1-C2-O2	6.76	122.96	118.90
24	RA	1717	C	N1-C2-O2	6.76	122.96	118.90
24	YA	1031	C	C5-C6-N1	6.76	124.38	121.00
24	YA	1453	C	N3-C2-O2	-6.76	117.17	121.90
24	RA	659	C	C6-N1-C2	-6.75	117.60	120.30
24	RA	2319	G	C4-N9-C1'	6.75	135.28	126.50
25	YB	114	G	N3-C2-N2	6.75	124.63	119.90
24	RA	2030	C	C6-N1-C2	-6.75	117.60	120.30
24	RA	1457	C	C6-N1-C2	-6.75	117.60	120.30
24	YA	853	C	C5-C6-N1	6.75	124.37	121.00
1	QA	1452	C	N1-C2-O2	6.75	122.95	118.90
24	YA	2592	U	N3-C2-O2	-6.74	117.48	122.20
24	YA	1542	A	C8-N9-C4	-6.74	103.11	105.80
1	XA	1260	C	C6-N1-C2	-6.74	117.61	120.30
24	RA	2165	C	C5-C6-N1	6.73	124.37	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	181	C	N3-C2-O2	-6.73	117.19	121.90
24	YA	2899	C	C6-N1-C2	-6.73	117.61	120.30
24	YA	1730	C	C6-N1-C2	-6.72	117.61	120.30
1	QA	1038	C	N1-C2-O2	6.72	122.93	118.90
24	RA	2835	C	N3-C2-O2	-6.72	117.19	121.90
24	YA	2066	C	C5-C6-N1	6.72	124.36	121.00
1	XA	1113	C	C6-N1-C2	-6.72	117.61	120.30
24	YA	1864	U	N3-C2-O2	-6.72	117.50	122.20
24	RA	1350	C	C6-N1-C2	-6.71	117.61	120.30
24	RA	800	C	C5-C6-N1	6.71	124.36	121.00
24	YA	1836	U	C6-N1-C2	-6.71	116.97	121.00
1	XA	1028(C)	C	C6-N1-C2	-6.71	117.62	120.30
24	YA	1521	C	N1-C2-O2	6.71	122.92	118.90
25	RB	31	C	C5-C6-N1	6.70	124.35	121.00
24	RA	844	C	C6-N1-C2	-6.70	117.62	120.30
1	XA	58	C	C5-C6-N1	6.70	124.35	121.00
24	RA	723	A	C8-N9-C4	-6.70	103.12	105.80
1	XA	1439	C	C6-N1-C2	-6.70	117.62	120.30
24	YA	1552	C	C6-N1-C2	-6.70	117.62	120.30
1	QA	1113	C	C6-N1-C2	-6.70	117.62	120.30
24	YA	2472	U	N1-C2-O2	6.70	127.49	122.80
24	YA	1378	G	C2-N3-C4	-6.70	108.55	111.90
24	YA	1930	C	C6-N1-C2	-6.69	117.62	120.30
24	YA	1725	G	C4-C5-N7	6.69	113.48	110.80
24	RA	2571	C	C6-N1-C2	-6.69	117.62	120.30
24	RA	297	C	C6-N1-C2	-6.69	117.62	120.30
24	RA	783	C	C6-N1-C2	-6.68	117.63	120.30
1	XA	1362(B)	C	C6-N1-C2	-6.68	117.63	120.30
24	YA	1867	C	C6-N1-C2	-6.68	117.63	120.30
24	YA	1819	C	C6-N1-C2	-6.68	117.63	120.30
24	YA	1271	G	C8-N9-C4	-6.67	103.73	106.40
24	RA	258	U	N1-C2-O2	6.67	127.47	122.80
1	XA	620	C	N1-C2-O2	6.67	122.90	118.90
24	YA	1580	G	C2-N3-C4	6.67	115.24	111.90
24	YA	2061	C	C5-C6-N1	6.67	124.34	121.00
24	RA	1279	C	C5-C6-N1	6.67	124.33	121.00
24	YA	1263	C	C6-N1-C2	-6.67	117.63	120.30
24	RA	1352	C	C5-C6-N1	6.67	124.33	121.00
24	RA	2130	C	C5-C6-N1	6.66	124.33	121.00
1	XA	1037	C	C6-N1-C2	-6.66	117.64	120.30
24	YA	2260	C	N3-C2-O2	-6.66	117.24	121.90
24	RA	1810	U	C2-N1-C1'	6.66	125.69	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	826	C	N3-C2-O2	-6.66	117.24	121.90
24	RA	1579	C	C5-C6-N1	6.66	124.33	121.00
24	YA	2528	G	C2-N3-C4	6.65	115.23	111.90
24	RA	2333	G	N3-C4-C5	-6.65	125.27	128.60
24	RA	1483	C	C6-N1-C2	-6.65	117.64	120.30
24	YA	1972	G	C6-C5-N7	-6.65	126.41	130.40
24	RA	340	C	C6-N1-C2	-6.65	117.64	120.30
24	RA	570	C	N1-C2-O2	6.65	122.89	118.90
24	YA	1263	C	C5-C6-N1	6.64	124.32	121.00
24	YA	1581	U	C6-N1-C2	-6.64	117.01	121.00
1	QA	1314	C	N1-C2-O2	6.64	122.89	118.90
24	YA	2480	G	C8-N9-C1'	-6.64	118.37	127.00
24	YA	730	C	C6-N1-C2	-6.64	117.64	120.30
24	YA	1020	C	C6-N1-C1'	-6.64	112.83	120.80
24	RA	75	C	C6-N1-C2	-6.64	117.64	120.30
24	YA	1590	C	N3-C2-O2	-6.63	117.26	121.90
1	QA	266	G	C4-N9-C1'	6.63	135.12	126.50
24	YA	958	C	C6-N1-C2	-6.63	117.65	120.30
24	YA	1450	C	C6-N1-C2	-6.62	117.65	120.30
24	YA	646	A	C5-N7-C8	-6.62	100.59	103.90
24	RA	1703	C	C6-N1-C2	-6.62	117.65	120.30
24	RA	2780	C	C6-N1-C2	-6.62	117.65	120.30
24	RA	1548	C	C6-N1-C2	-6.61	117.65	120.30
24	RA	1931	C	C6-N1-C2	-6.61	117.66	120.30
24	YA	1819	C	N1-C2-O2	6.61	122.86	118.90
24	YA	512	C	C5-C6-N1	6.61	124.30	121.00
1	QA	110	C	N3-C2-O2	-6.60	117.28	121.90
1	QA	522	C	N1-C2-O2	6.60	122.86	118.90
24	YA	223	C	N3-C2-O2	-6.60	117.28	121.90
1	QA	623	C	C6-N1-C2	-6.60	117.66	120.30
24	RA	885	C	C5-C6-N1	6.60	124.30	121.00
24	RA	603	C	C6-N1-C2	-6.59	117.66	120.30
23	XX	17	C	N1-C2-O2	6.59	122.86	118.90
1	QA	993	G	C5-C6-O6	-6.59	124.64	128.60
24	RA	830	A	N7-C8-N9	6.59	117.10	113.80
24	RA	931	C	C6-N1-C2	-6.59	117.66	120.30
1	QA	1439	C	C5-C6-N1	6.58	124.29	121.00
1	QA	1449	C	C6-N1-C2	-6.58	117.67	120.30
24	YA	1824	C	C5-C6-N1	6.58	124.29	121.00
1	QA	1502	A	C5-N7-C8	-6.58	100.61	103.90
24	RA	570	C	C2-N1-C1'	6.58	126.03	118.80
1	XA	826	C	C6-N1-C2	-6.58	117.67	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2228	G	C4-N9-C1'	6.57	135.04	126.50
24	YA	2518	U	N3-C2-O2	-6.57	117.60	122.20
24	YA	73	A	N7-C8-N9	6.57	117.08	113.80
24	RA	1453	C	N1-C2-O2	6.57	122.84	118.90
1	XA	1260	C	N1-C2-O2	6.57	122.84	118.90
24	YA	1521	C	C5-C6-N1	6.57	124.28	121.00
24	YA	1738	C	C5-C6-N1	6.57	124.28	121.00
24	YA	2700	U	C2-N1-C1'	6.57	125.58	117.70
24	YA	2700	U	N1-C2-N3	6.57	118.84	114.90
1	QA	1163	C	N1-C2-O2	6.56	122.83	118.90
24	RA	1903	C	C6-N1-C2	-6.56	117.68	120.30
24	RA	2715	C	N1-C2-O2	6.55	122.83	118.90
1	XA	705	U	N3-C2-O2	-6.55	117.61	122.20
24	RA	2130	C	C6-N1-C2	-6.54	117.68	120.30
24	RA	2238	C	N1-C2-O2	6.54	122.83	118.90
24	RA	2638	C	C6-N1-C2	-6.54	117.68	120.30
24	RA	1523	C	C6-N1-C2	-6.54	117.69	120.30
1	XA	797	C	C5-C6-N1	6.54	124.27	121.00
24	YA	2724	U	N1-C2-O2	6.53	127.37	122.80
24	YA	735	U	C5-C6-N1	6.53	125.96	122.70
24	RA	723	A	C4-N9-C1'	6.53	138.05	126.30
24	RA	939	C	N3-C2-O2	-6.53	117.33	121.90
24	RA	1010	C	C6-N1-C2	-6.52	117.69	120.30
24	RA	2598	C	N1-C2-O2	6.52	122.81	118.90
24	YA	447	C	N1-C2-O2	6.52	122.81	118.90
24	RA	738	C	C5-C6-N1	6.51	124.25	121.00
25	YB	112	G	N1-C6-O6	-6.51	115.99	119.90
1	XA	891	U	N3-C2-O2	-6.51	117.64	122.20
24	RA	321	C	C6-N1-C2	-6.50	117.70	120.30
24	RA	1450	C	C6-N1-C2	-6.50	117.70	120.30
1	QA	972	C	C6-N1-C2	-6.50	117.70	120.30
24	YA	1916	C	C6-N1-C2	-6.50	117.70	120.30
24	YA	1141	A	C2-N3-C4	6.50	113.85	110.60
1	QA	1430	C	C6-N1-C2	-6.50	117.70	120.30
24	RA	2087	C	C6-N1-C2	-6.49	117.70	120.30
24	YA	1098	C	C6-N1-C2	-6.49	117.70	120.30
24	YA	2890	C	C6-N1-C2	-6.49	117.71	120.30
24	RA	1722	C	N3-C2-O2	-6.48	117.36	121.90
24	YA	68	C	N1-C2-O2	6.48	122.79	118.90
24	YA	41	C	C5-C6-N1	6.48	124.24	121.00
24	RA	2454	C	C6-N1-C2	-6.48	117.71	120.30
24	YA	530	A	N1-C6-N6	-6.47	114.72	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RB	27	C	N1-C2-O2	6.47	122.78	118.90
24	YA	1421	C	C5-C6-N1	6.47	124.24	121.00
24	YA	1936	C	C2-N1-C1'	6.47	125.92	118.80
24	YA	2228	G	N3-C4-N9	6.47	129.88	126.00
1	QA	1263	C	C5-C6-N1	6.47	124.23	121.00
24	RA	796	C	C5-C6-N1	6.47	124.23	121.00
24	RA	665	C	C5-C6-N1	6.47	124.23	121.00
1	QA	36	C	C6-N1-C2	-6.47	117.71	120.30
1	XA	827	U	N1-C2-N3	6.46	118.78	114.90
24	YA	1436	U	N1-C2-O2	6.46	127.32	122.80
24	YA	118	U	C4-C5-C6	6.46	123.58	119.70
24	RA	1691	C	C5-C6-N1	6.46	124.23	121.00
24	RA	1313	U	N3-C2-O2	-6.45	117.68	122.20
24	YA	535	C	C6-N1-C2	-6.45	117.72	120.30
24	YA	2347	A	O4'-C1'-N9	6.45	113.36	108.20
24	YA	1705	C	C6-N1-C2	-6.45	117.72	120.30
24	YA	2309	C	C6-N1-C2	-6.45	117.72	120.30
24	RA	1092	A	C8-N9-C4	-6.44	103.22	105.80
1	QA	1027	C	C2-N1-C1'	6.44	125.89	118.80
1	XA	679	C	C6-N1-C2	-6.44	117.72	120.30
24	YA	511	C	C5-C6-N1	6.44	124.22	121.00
24	YA	862	C	C6-N1-C2	-6.44	117.72	120.30
24	YA	18	C	C6-N1-C2	-6.44	117.72	120.30
24	YA	2700	U	C6-N1-C2	-6.44	117.14	121.00
24	YA	2524	C	C5-C6-N1	6.44	124.22	121.00
24	RA	2222	C	C6-N1-C2	-6.43	117.73	120.30
24	YA	853	C	C6-N1-C2	-6.43	117.73	120.30
24	YA	2260	C	N1-C2-O2	6.43	122.76	118.90
24	YA	2404	A	C5-N7-C8	-6.43	100.68	103.90
24	YA	2792	U	C2-N1-C1'	6.43	125.42	117.70
24	YA	893	C	C6-N1-C2	-6.43	117.73	120.30
24	RA	2519	C	C5-C6-N1	6.43	124.22	121.00
1	XA	1140	C	N1-C2-O2	6.43	122.76	118.90
25	YB	79	C	C6-N1-C2	-6.43	117.73	120.30
24	YA	2623	U	C5-C6-N1	6.43	125.91	122.70
24	RA	1817	A	C4-C5-N7	6.43	113.91	110.70
24	RA	1866	G	N3-C4-N9	6.43	129.86	126.00
1	XA	578	C	C6-N1-C2	-6.42	117.73	120.30
24	RA	1868	C	C6-N1-C2	-6.42	117.73	120.30
24	YA	1123	A	C2-N3-C4	6.42	113.81	110.60
1	QA	1149	C	N1-C2-O2	6.42	122.75	118.90
24	YA	939	C	N3-C2-O2	-6.42	117.41	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RB	37	C	N1-C2-O2	6.41	122.75	118.90
24	YA	802	C	C6-N1-C2	-6.41	117.73	120.30
24	RA	2480	G	C4-N9-C1'	6.41	134.84	126.50
24	YA	841	G	N7-C8-N9	6.41	116.31	113.10
25	YB	93	C	N3-C2-O2	-6.41	117.41	121.90
24	RA	2598	C	C5-C6-N1	6.41	124.20	121.00
24	YA	553	A	C5-N7-C8	-6.41	100.70	103.90
24	YA	138	G	N9-C4-C5	6.40	107.96	105.40
24	RA	875	U	C2-N1-C1'	6.40	125.38	117.70
24	YA	1580	G	N3-C4-N9	6.40	129.84	126.00
1	QA	328	C	C5-C6-N1	6.40	124.20	121.00
1	XA	1502	A	C8-N9-C4	-6.40	103.24	105.80
23	XX	17	C	C6-N1-C2	-6.40	117.74	120.30
24	YA	796	C	C5-C6-N1	6.40	124.20	121.00
24	YA	1364	C	C5-C6-N1	6.40	124.20	121.00
1	XA	346	G	N3-C4-C5	-6.40	125.40	128.60
24	YA	2088	C	C5-C6-N1	6.40	124.20	121.00
24	RA	126	C	C5-C6-N1	6.40	124.20	121.00
1	QA	932	C	N1-C2-O2	6.40	122.74	118.90
24	YA	885	C	C6-N1-C2	-6.39	117.74	120.30
1	QA	56	U	C5-C6-N1	6.39	125.90	122.70
24	RA	242	C	C6-N1-C2	-6.39	117.74	120.30
24	YA	1188	A	N3-C4-C5	6.39	131.27	126.80
24	YA	2453	C	C6-N1-C2	-6.39	117.74	120.30
1	QA	252	U	N3-C2-O2	-6.38	117.73	122.20
25	YB	7	G	C4-C5-N7	6.38	113.35	110.80
25	YB	85	G	N9-C4-C5	6.38	107.95	105.40
24	YA	140	A	C4-C5-N7	6.38	113.89	110.70
24	RA	1805	C	N3-C2-O2	-6.38	117.43	121.90
24	YA	2088	C	N1-C2-O2	6.38	122.73	118.90
24	RA	961	C	C6-N1-C2	-6.38	117.75	120.30
24	RA	1125	C	C5-C6-N1	6.38	124.19	121.00
24	RA	2700	U	N1-C2-O2	6.38	127.26	122.80
24	YA	2479	C	N1-C2-N3	6.38	123.66	119.20
24	YA	394	C	N1-C2-O2	6.38	122.72	118.90
24	RA	2596	U	C2-N1-C1'	6.37	125.35	117.70
23	XX	3	C	C6-N1-C2	-6.37	117.75	120.30
24	YA	2177	G	N3-C4-C5	-6.37	125.42	128.60
51	Y6	6	ARG	NE-CZ-NH1	-6.37	117.11	120.30
1	XA	1420	C	C6-N1-C2	-6.37	117.75	120.30
24	YA	1691	C	C6-N1-C2	-6.37	117.75	120.30
25	RB	30	C	C6-N1-C2	-6.36	117.75	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2785	C	C5-C6-N1	6.36	124.18	121.00
25	YB	60	C	C5-C6-N1	6.36	124.18	121.00
24	YA	854	U	N1-C2-O2	6.36	127.25	122.80
24	RA	2087	C	C5-C6-N1	6.36	124.18	121.00
1	XA	960	U	N1-C2-O2	6.36	127.25	122.80
1	XA	486	U	N3-C2-O2	-6.36	117.75	122.20
24	RA	2210	C	C6-N1-C2	-6.35	117.76	120.30
1	QA	449	C	C2-N1-C1'	6.35	125.78	118.80
24	RA	723	A	O4'-C1'-N9	6.35	113.28	108.20
24	YA	950	C	N1-C2-O2	6.35	122.71	118.90
24	YA	1733	C	C5-C6-N1	6.35	124.17	121.00
24	RA	2587	C	C6-N1-C2	-6.35	117.76	120.30
24	YA	2727	G	C4-C5-N7	6.35	113.34	110.80
25	YB	68	C	C5-C6-N1	6.35	124.17	121.00
24	RA	830	A	C5-N7-C8	-6.34	100.73	103.90
24	RA	1861	C	C6-N1-C2	-6.34	117.76	120.30
23	QX	14	A	C8-N9-C4	-6.33	103.27	105.80
24	YA	2518	U	N1-C2-O2	6.33	127.23	122.80
24	RA	2088	C	N1-C2-O2	6.33	122.70	118.90
24	YA	914	C	N1-C2-O2	6.33	122.70	118.90
24	RA	1972	G	C8-N9-C1'	-6.33	118.77	127.00
24	RA	2257	U	C5-C6-N1	6.33	125.86	122.70
24	YA	634	C	C6-N1-C2	-6.33	117.77	120.30
24	YA	1953	U	N3-C2-O2	-6.33	117.77	122.20
24	RA	1478	C	C6-N1-C2	-6.33	117.77	120.30
24	RA	1095	C	N1-C2-O2	6.32	122.69	118.90
1	XA	330	C	N3-C2-O2	-6.32	117.47	121.90
25	YB	30	C	C5-C6-N1	6.32	124.16	121.00
37	RS	110	LEU	CA-CB-CG	6.32	129.84	115.30
1	XA	381	C	N1-C2-O2	6.32	122.69	118.90
24	RA	45	C	C5-C6-N1	6.32	124.16	121.00
24	YA	1015	C	C5-C6-N1	6.32	124.16	121.00
1	QA	932	C	C6-N1-C2	-6.31	117.77	120.30
24	YA	157	U	N1-C2-O2	6.31	127.22	122.80
24	YA	1969	C	C6-N1-C2	-6.31	117.78	120.30
24	RA	1010	C	C5-C6-N1	6.30	124.15	121.00
24	YA	670	C	N1-C2-O2	6.30	122.68	118.90
24	YA	2628	C	C5-C6-N1	6.30	124.15	121.00
1	QA	346	G	C2-N3-C4	6.30	115.05	111.90
24	RA	1232	G	N7-C8-N9	6.30	116.25	113.10
24	RA	2333	G	C4-N9-C1'	6.30	134.69	126.50
1	XA	221	C	C6-N1-C2	-6.30	117.78	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1969	C	N1-C2-O2	6.30	122.68	118.90
1	XA	1097	C	C6-N1-C2	-6.30	117.78	120.30
24	RA	1806	U	C5-C4-O4	-6.29	122.13	125.90
24	RA	903	C	N3-C2-O2	-6.29	117.50	121.90
24	YA	419	C	C5-C6-N1	6.29	124.14	121.00
24	YA	1032	C	C6-N1-C2	-6.28	117.79	120.30
24	YA	1016	C	C6-N1-C2	-6.28	117.79	120.30
1	QA	514	C	C6-N1-C2	-6.28	117.79	120.30
24	YA	2473	C	N1-C2-O2	6.28	122.67	118.90
24	YA	2739	U	N1-C2-O2	6.28	127.19	122.80
24	RA	2780	C	C5-C6-N1	6.27	124.14	121.00
24	RA	1110	C	C2-N1-C1'	6.26	125.69	118.80
23	XX	17	C	N3-C2-O2	-6.26	117.52	121.90
24	YA	2752	U	N3-C2-O2	-6.26	117.82	122.20
1	XA	1028(C)	C	N3-C2-O2	-6.26	117.52	121.90
24	YA	1378	G	N1-C2-N3	6.26	127.66	123.90
24	RA	2587	C	C5-C6-N1	6.26	124.13	121.00
51	R6	6	ARG	NE-CZ-NH1	-6.26	117.17	120.30
24	YA	2592	U	N1-C2-O2	6.26	127.18	122.80
24	YA	884	C	C5-C6-N1	6.25	124.13	121.00
24	YA	1550	C	C5-C6-N1	6.25	124.13	121.00
24	RA	1921	G	N3-C2-N2	-6.25	115.52	119.90
25	RB	27	C	C6-N1-C2	-6.25	117.80	120.30
24	RA	395	C	C5-C6-N1	6.25	124.12	121.00
1	QA	910	C	C5-C6-N1	6.25	124.12	121.00
24	RA	141	C	C5-C6-N1	6.25	124.12	121.00
24	RA	1775	C	C6-N1-C2	-6.25	117.80	120.30
24	YA	864	C	C5-C6-N1	6.25	124.12	121.00
24	RA	570	C	C6-N1-C2	-6.25	117.80	120.30
1	XA	812	C	P-O3'-C3'	6.25	127.19	119.70
24	YA	975	U	N3-C2-O2	-6.24	117.83	122.20
24	RA	1691	C	C6-N1-C2	-6.24	117.80	120.30
24	RA	197	C	C6-N1-C2	-6.24	117.80	120.30
24	RA	1977	U	C2-N1-C1'	6.24	125.18	117.70
24	YA	2630	G	N3-C4-C5	-6.24	125.48	128.60
24	RA	2095	C	C6-N1-C2	-6.23	117.81	120.30
24	RA	2183	C	N1-C2-O2	6.23	122.64	118.90
24	YA	1022	C	C5-C6-N1	6.23	124.12	121.00
24	RA	1703	C	C5-C6-N1	6.23	124.12	121.00
1	XA	54	C	C6-N1-C2	-6.23	117.81	120.30
24	RA	1340	U	N3-C2-O2	-6.23	117.84	122.20
24	RA	2029	C	C5-C6-N1	6.23	124.11	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	1303	C	N3-C2-O2	-6.22	117.55	121.90
24	YA	1492	C	C6-N1-C2	-6.22	117.81	120.30
24	RA	2596	U	N1-C2-O2	6.22	127.15	122.80
24	YA	2227	G	C4-N9-C1'	6.22	134.58	126.50
1	XA	1157	A	C4-N9-C1'	6.21	137.48	126.30
24	YA	2724	U	C2-N1-C1'	6.21	125.16	117.70
1	QA	1163	C	C5-C6-N1	6.21	124.11	121.00
24	YA	665	C	C5-C6-N1	6.21	124.11	121.00
1	XA	455	C	N1-C2-O2	6.21	122.63	118.90
24	RA	487	C	C6-N1-C2	-6.21	117.82	120.30
22	XV	65	U	C5-C6-N1	6.21	125.80	122.70
24	YA	2001	C	C5-C6-N1	6.21	124.10	121.00
24	YA	2725	A	C5-N7-C8	-6.21	100.80	103.90
1	QA	1397	C	N1-C2-O2	6.21	122.62	118.90
24	RA	2201	C	C6-N1-C2	-6.21	117.82	120.30
24	YA	359	C	C6-N1-C2	-6.20	117.82	120.30
24	RA	1180	C	N1-C2-O2	6.20	122.62	118.90
25	RB	44	G	C4-N9-C1'	-6.20	118.44	126.50
24	YA	256	C	C6-N1-C2	-6.20	117.82	120.30
24	RA	66	U	C5-C6-N1	6.20	125.80	122.70
24	YA	1978	U	N1-C2-O2	6.20	127.14	122.80
24	RA	864	C	C6-N1-C2	-6.20	117.82	120.30
24	YA	392	U	N1-C2-O2	6.19	127.14	122.80
24	RA	223	C	N3-C2-O2	-6.19	117.57	121.90
24	RA	2695	C	C6-N1-C2	-6.19	117.82	120.30
1	XA	18	C	C5-C6-N1	6.19	124.09	121.00
24	YA	1914	C	C5-C6-N1	6.18	124.09	121.00
24	YA	2571	C	N1-C2-O2	6.18	122.61	118.90
1	XA	1109	C	N3-C2-O2	-6.18	117.58	121.90
24	RA	1121	C	C5-C6-N1	6.18	124.09	121.00
24	YA	2837	C	C6-N1-C2	-6.17	117.83	120.30
24	RA	853	C	C6-N1-C2	-6.17	117.83	120.30
24	RA	2695	C	N1-C2-O2	6.17	122.60	118.90
24	YA	1644	C	C5-C6-N1	6.17	124.08	121.00
24	RA	1448	C	C6-N1-C2	-6.17	117.83	120.30
24	RA	1483	C	C5-C6-N1	6.17	124.08	121.00
24	YA	802	C	C5-C6-N1	6.17	124.08	121.00
24	YA	1304	C	C5-C6-N1	6.17	124.08	121.00
25	YB	85	G	C8-N9-C4	-6.17	103.93	106.40
1	QA	1383	C	N1-C2-O2	6.16	122.60	118.90
24	RA	1378	G	C8-N9-C1'	-6.16	118.99	127.00
24	RA	2679	C	C6-N1-C2	-6.16	117.83	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	181	C	N1-C2-O2	6.16	122.60	118.90
24	YA	1805	C	C6-N1-C2	-6.16	117.83	120.30
24	YA	1861	C	N1-C2-O2	6.16	122.60	118.90
24	YA	2690	C	C6-N1-C2	-6.16	117.83	120.30
1	QA	1439	C	N1-C2-O2	6.16	122.60	118.90
1	QA	1505	G	N3-C4-N9	-6.16	122.30	126.00
24	RA	719	C	C6-N1-C2	-6.16	117.84	120.30
1	XA	137	C	C5-C6-N1	6.16	124.08	121.00
24	YA	2483	C	C6-N1-C2	-6.16	117.84	120.30
24	YA	340	C	C5-C6-N1	6.16	124.08	121.00
24	YA	1028	C	C6-N1-C2	-6.16	117.84	120.30
1	XA	555	C	C6-N1-C2	-6.16	117.84	120.30
24	YA	1703	C	C5-C6-N1	6.16	124.08	121.00
24	YA	1733	C	C6-N1-C2	-6.16	117.84	120.30
24	RA	562	C	N1-C2-O2	6.15	122.59	118.90
24	RA	1551	C	C6-N1-C2	-6.15	117.84	120.30
1	XA	1147	C	N3-C2-O2	-6.15	117.59	121.90
1	XA	540	G	N7-C8-N9	6.15	116.18	113.10
1	XA	1109	C	C6-N1-C2	-6.15	117.84	120.30
1	QA	1406	U	N3-C2-O2	-6.15	117.89	122.20
24	RA	1930	C	C6-N1-C2	-6.15	117.84	120.30
24	YA	394	C	C6-N1-C2	-6.15	117.84	120.30
24	YA	914	C	C6-N1-C2	-6.15	117.84	120.30
24	RA	2768	C	C6-N1-C2	-6.15	117.84	120.30
1	XA	365	U	C2-N1-C1'	6.15	125.08	117.70
24	YA	2502	G	C4-N9-C1'	6.15	134.49	126.50
1	XA	433	C	C6-N1-C2	-6.14	117.84	120.30
24	YA	637	U	C2-N1-C1'	6.14	125.07	117.70
24	YA	2077	C	C5-C6-N1	6.14	124.07	121.00
24	RA	2196	C	C5-C6-N1	6.14	124.07	121.00
1	XA	314	C	C6-N1-C2	-6.14	117.84	120.30
24	YA	903	C	N1-C2-O2	6.14	122.58	118.90
24	RA	830	A	C8-N9-C4	-6.14	103.34	105.80
24	RA	2627	U	C5-C6-N1	6.14	125.77	122.70
24	RA	1450	C	N1-C2-O2	6.14	122.58	118.90
24	RA	1725	G	C8-N9-C4	-6.14	103.94	106.40
30	RH	7	LEU	CA-CB-CG	6.14	129.42	115.30
24	RA	1379	C	N3-C2-O2	-6.14	117.61	121.90
24	RA	1858	C	N3-C2-O2	-6.13	117.61	121.90
24	YA	2475	C	C6-N1-C2	-6.13	117.85	120.30
24	YA	1574	A	C8-N9-C4	-6.13	103.35	105.80
24	RA	2527	C	C6-N1-C2	-6.13	117.85	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	960	U	C2-N1-C1'	6.13	125.06	117.70
1	QA	1395	C	C6-N1-C2	-6.13	117.85	120.30
24	RA	447	C	N1-C2-O2	6.13	122.58	118.90
24	RA	1087	C	N1-C2-O2	6.13	122.58	118.90
24	YA	562	C	C2-N1-C1'	6.12	125.54	118.80
24	YA	614	C	C6-N1-C2	-6.12	117.85	120.30
24	RA	2483	C	C6-N1-C2	-6.12	117.85	120.30
24	RA	2629	C	N1-C2-O2	6.12	122.57	118.90
24	RA	2472	U	N1-C2-O2	6.12	127.08	122.80
24	RA	1225	C	N1-C2-O2	6.12	122.57	118.90
24	YA	73	A	C8-N9-C4	-6.12	103.35	105.80
1	XA	1439	C	N1-C2-O2	6.12	122.57	118.90
24	YA	482	C	C6-N1-C2	6.12	122.75	120.30
24	YA	1255	A	C5-N7-C8	-6.12	100.84	103.90
24	RA	31	C	C6-N1-C2	-6.11	117.86	120.30
25	YB	10	C	C6-N1-C2	-6.11	117.86	120.30
24	YA	1252	C	C6-N1-C2	-6.11	117.86	120.30
24	RA	1253	C	C6-N1-C2	-6.11	117.86	120.30
24	RA	415	G	N3-C4-N9	-6.11	122.34	126.00
24	RA	1953	U	C5-C4-O4	6.11	129.56	125.90
24	RA	2884	C	C5-C6-N1	6.10	124.05	121.00
24	YA	263	C	N1-C2-O2	6.10	122.56	118.90
25	YB	112	G	C5-C6-O6	-6.10	124.94	128.60
24	RA	1817	A	C4-N9-C1'	6.10	137.28	126.30
24	YA	308	U	N3-C2-O2	-6.10	117.93	122.20
24	YA	1574	A	C5-N7-C8	-6.10	100.85	103.90
24	RA	2631	C	C6-N1-C2	-6.09	117.86	120.30
25	RB	77	U	C5-C6-N1	6.09	125.75	122.70
24	YA	826	U	N3-C2-O2	-6.09	117.93	122.20
24	YA	2397	C	C5-C6-N1	6.09	124.05	121.00
24	RA	914	C	C6-N1-C2	-6.09	117.86	120.30
25	RB	70	C	C6-N1-C2	-6.09	117.86	120.30
24	YA	46	C	C5-C6-N1	6.09	124.05	121.00
1	QA	1528	U	P-O3'-C3'	6.09	127.00	119.70
24	YA	257	C	C5-C6-N1	6.08	124.04	121.00
24	RA	210	A	C4-N9-C1'	6.08	137.24	126.30
24	RA	634	C	C6-N1-C2	-6.08	117.87	120.30
24	YA	2803	A	C2-N3-C4	6.08	113.64	110.60
1	QA	826	C	N1-C2-O2	6.07	122.54	118.90
24	RA	1098	C	C5-C6-N1	6.07	124.04	121.00
24	RA	2185	C	C6-N1-C2	-6.07	117.87	120.30
24	RA	237	G	C4-C5-N7	6.07	113.23	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1931	C	N1-C2-O2	6.07	122.54	118.90
24	YA	1339	C	C6-N1-C2	-6.07	117.87	120.30
24	RA	1313	U	N1-C2-O2	6.07	127.05	122.80
24	RA	1722	C	N1-C2-O2	6.07	122.54	118.90
24	YA	1249	A	O4'-C1'-N9	6.07	113.06	108.20
24	RA	1942	C	C6-N1-C2	-6.07	117.87	120.30
24	YA	854	U	N3-C2-O2	-6.07	117.95	122.20
24	YA	2053	A	O4'-C1'-N9	6.07	113.05	108.20
1	QA	1113	C	C5-C6-N1	6.06	124.03	121.00
24	RA	1095	C	C5-C6-N1	6.06	124.03	121.00
24	RA	1095	C	N3-C2-O2	-6.06	117.66	121.90
24	RA	1232	G	C8-N9-C4	-6.06	103.97	106.40
24	RA	1341	C	C6-N1-C2	-6.06	117.88	120.30
24	RA	1819	C	C6-N1-C2	-6.06	117.88	120.30
1	XA	1024	G	N3-C4-C5	-6.06	125.57	128.60
24	RA	1463	C	C5-C6-N1	6.05	124.02	121.00
1	QA	528	C	N1-C2-O2	6.05	122.53	118.90
24	RA	1812	C	N1-C2-O2	6.04	122.53	118.90
24	RA	1817	A	C6-C5-N7	-6.04	128.07	132.30
1	XA	54	C	N3-C2-O2	-6.04	117.67	121.90
24	YA	485	U	C5-C6-N1	6.04	125.72	122.70
24	YA	1225	C	C5-C6-N1	6.04	124.02	121.00
24	YA	2228	G	C8-N9-C1'	-6.04	119.14	127.00
24	YA	2415	C	C5-C6-N1	6.04	124.02	121.00
24	RA	777	C	C6-N1-C2	-6.04	117.88	120.30
24	YA	436	C	C5-C6-N1	6.04	124.02	121.00
24	RA	2711	C	C5-C6-N1	6.03	124.02	121.00
1	QA	1242	C	C5-C6-N1	6.03	124.02	121.00
1	XA	54	C	N1-C2-O2	6.03	122.52	118.90
1	QA	91	C	C5-C6-N1	6.03	124.01	121.00
24	RA	939	C	C6-N1-C2	-6.03	117.89	120.30
24	RA	1574	A	N7-C8-N9	6.03	116.81	113.80
1	XA	1347	G	C4-N9-C1'	-6.03	118.67	126.50
24	YA	462	C	N3-C2-O2	-6.03	117.68	121.90
24	RA	2028	C	C5-C6-N1	6.02	124.01	121.00
24	YA	1805	C	N3-C2-O2	-6.02	117.68	121.90
24	YA	2085	C	C6-N1-C2	-6.02	117.89	120.30
24	RA	2570	C	C6-N1-C2	-6.02	117.89	120.30
1	QA	674	G	N7-C8-N9	6.02	116.11	113.10
1	QA	1270	C	C6-N1-C2	-6.02	117.89	120.30
25	YB	104	A	C2-N3-C4	-6.02	107.59	110.60
24	RA	1225	C	C5-C6-N1	6.01	124.01	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	690	G	C4-N9-C1'	6.01	134.32	126.50
24	RA	223	C	N1-C2-O2	6.01	122.51	118.90
24	RA	1120	G	C6-C5-N7	-6.01	126.79	130.40
24	YA	989	G	C4-N9-C1'	6.01	134.31	126.50
24	YA	1099	C	C2-N1-C1'	6.01	125.41	118.80
24	YA	1303	C	C5-C6-N1	6.01	124.00	121.00
24	RA	1589	A	O4'-C1'-N9	6.01	113.00	108.20
24	YA	591	U	C5-C6-N1	6.01	125.70	122.70
24	YA	1188	A	N3-C4-N9	-6.00	122.60	127.40
24	YA	1972	G	C8-N9-C1'	-6.00	119.19	127.00
24	YA	359	C	C5-C6-N1	6.00	124.00	121.00
1	XA	749	C	C5-C6-N1	6.00	124.00	121.00
24	YA	1343	C	C6-N1-C2	-6.00	117.90	120.30
24	YA	1644	C	C6-N1-C2	-6.00	117.90	120.30
24	RA	210	A	C8-N9-C1'	-6.00	116.90	127.70
1	XA	433	C	N3-C2-O2	-6.00	117.70	121.90
24	YA	583	C	C6-N1-C2	-6.00	117.90	120.30
24	YA	1861	C	C5-C6-N1	6.00	124.00	121.00
24	YA	624	C	C6-N1-C2	-6.00	117.90	120.30
24	YA	2800	C	C6-N1-C2	-6.00	117.90	120.30
24	RA	139	A	N7-C8-N9	5.99	116.80	113.80
24	YA	2736	C	C6-N1-C2	-5.99	117.90	120.30
24	RA	1559	C	N1-C2-O2	5.99	122.49	118.90
53	Y8	61	LEU	CA-CB-CG	-5.99	101.53	115.30
1	XA	1234	C	C5-C6-N1	5.99	123.99	121.00
1	QA	514	C	C5-C6-N1	5.99	123.99	121.00
24	RA	400	U	C2-N1-C1'	5.99	124.88	117.70
24	YA	2462	A	N1-C2-N3	-5.99	126.31	129.30
24	YA	2854	G	C8-N9-C4	-5.99	104.01	106.40
24	RA	1521	C	C6-N1-C2	-5.98	117.91	120.30
1	QA	449	C	N3-C2-O2	-5.98	117.71	121.90
24	RA	738	C	C6-N1-C2	-5.98	117.91	120.30
24	RA	1916	C	C6-N1-C2	-5.98	117.91	120.30
24	RA	1457	C	N3-C2-O2	-5.98	117.72	121.90
1	XA	556	C	C6-N1-C2	-5.98	117.91	120.30
24	YA	857	U	C5-C6-N1	5.98	125.69	122.70
24	YA	462	C	N1-C2-O2	5.97	122.48	118.90
24	YA	2354	C	C5-C6-N1	5.97	123.99	121.00
24	RA	990	A	C4-C5-N7	5.97	113.69	110.70
24	RA	2406	C	N1-C2-O2	5.97	122.48	118.90
1	XA	1158	C	C5-C6-N1	5.97	123.99	121.00
24	YA	1398	U	N3-C2-O2	-5.97	118.02	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	YB	71	C	N1-C2-O2	5.97	122.48	118.90
1	QA	1109	C	N1-C2-O2	5.97	122.48	118.90
24	YA	853	C	N1-C2-O2	5.97	122.48	118.90
24	RA	864	C	C5-C6-N1	5.97	123.98	121.00
24	YA	1866	G	N3-C4-C5	-5.97	125.62	128.60
1	XA	347	G	O4'-C1'-N9	5.96	112.97	108.20
24	RA	2196	C	N3-C2-O2	-5.96	117.73	121.90
24	RA	485	U	C5-C6-N1	5.96	125.68	122.70
24	YA	257	C	C6-N1-C2	-5.96	117.92	120.30
24	YA	2121	U	C5-C6-N1	5.96	125.68	122.70
1	QA	266	G	N3-C4-C5	5.96	131.58	128.60
24	YA	1625	U	N1-C2-O2	5.96	126.97	122.80
24	YA	2177	G	N3-C4-N9	5.96	129.57	126.00
25	YB	8	U	C5-C6-N1	5.96	125.68	122.70
1	QA	1263	C	C6-N1-C2	-5.95	117.92	120.30
24	RA	958	C	C5-C6-N1	5.95	123.97	121.00
24	RA	1983	C	N1-C2-O2	5.95	122.47	118.90
1	XA	891	U	N1-C2-O2	5.95	126.96	122.80
24	YA	2028	C	C5-C6-N1	5.95	123.97	121.00
24	RA	1596	C	N1-C2-O2	5.94	122.47	118.90
1	QA	943	U	N3-C2-O2	-5.94	118.04	122.20
24	YA	555	G	C5-C6-O6	5.94	132.16	128.60
24	YA	227	C	C6-N1-C2	-5.94	117.92	120.30
24	YA	453	C	N1-C2-O2	5.94	122.46	118.90
24	YA	2129	C	N1-C2-O2	5.94	122.46	118.90
24	RA	1137	G	C8-N9-C4	-5.94	104.03	106.40
24	RA	1796	C	C6-N1-C2	-5.94	117.93	120.30
1	QA	410	G	C8-N9-C4	-5.93	104.03	106.40
24	RA	143	C	C6-N1-C2	-5.93	117.93	120.30
24	YA	220	C	C5-C6-N1	5.93	123.97	121.00
1	XA	932	C	C6-N1-C2	-5.93	117.93	120.30
24	YA	1641	G	N1-C6-O6	-5.93	116.34	119.90
24	YA	1817	A	C4-N9-C1'	5.93	136.98	126.30
24	YA	826	U	N1-C2-O2	5.93	126.95	122.80
24	YA	1068	G	N9-C4-C5	5.93	107.77	105.40
24	YA	1436	U	N3-C2-O2	-5.93	118.05	122.20
24	YA	2074	G	C4-C5-N7	5.93	113.17	110.80
24	YA	565	C	C6-N1-C2	-5.93	117.93	120.30
24	YA	801	C	C5-C6-N1	5.93	123.97	121.00
1	QA	932	C	C2-N1-C1'	5.93	125.32	118.80
1	XA	1141	C	N1-C2-N3	5.93	123.35	119.20
24	YA	730	C	C5-C6-N1	5.93	123.96	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	955	U	C5-C6-N1	5.92	125.66	122.70
24	YA	893	C	N1-C2-O2	5.92	122.45	118.90
24	YA	1577	C	C6-N1-C2	-5.92	117.93	120.30
24	YA	1444	C	C5-C6-N1	5.92	123.96	121.00
24	YA	2319	G	C6-C5-N7	-5.92	126.85	130.40
24	YA	2784	C	C6-N1-C2	-5.92	117.93	120.30
1	QA	381	C	N1-C2-O2	5.91	122.45	118.90
1	XA	536	C	N1-C2-O2	5.91	122.45	118.90
24	YA	1045	U	N3-C2-O2	-5.91	118.06	122.20
24	YA	1510	C	C6-N1-C2	-5.91	117.94	120.30
24	RA	1824	C	C6-N1-C2	-5.91	117.94	120.30
24	RA	2354	C	C5-C6-N1	5.91	123.95	121.00
1	XA	1439	C	C5-C6-N1	5.90	123.95	121.00
24	YA	447	C	C5-C6-N1	5.90	123.95	121.00
24	RA	1121	C	C6-N1-C2	-5.90	117.94	120.30
1	XA	554	C	C5-C6-N1	5.90	123.95	121.00
1	XA	1310	G	N3-C4-N9	5.90	129.54	126.00
24	YA	646	A	N7-C8-N9	5.90	116.75	113.80
24	YA	12	U	C6-N1-C2	-5.90	117.46	121.00
24	RA	2272	C	C6-N1-C2	-5.90	117.94	120.30
1	XA	486	U	N1-C2-O2	5.90	126.93	122.80
1	QA	337	C	C5-C6-N1	5.89	123.94	121.00
24	RA	2714	U	C2-N1-C1'	-5.89	110.63	117.70
24	YA	454	U	N3-C2-O2	-5.89	118.08	122.20
24	RA	1463	C	C6-N1-C2	-5.88	117.95	120.30
24	RA	1556	A	C2-N3-C4	5.88	113.54	110.60
1	XA	435	C	C5-C6-N1	5.88	123.94	121.00
25	YB	28	C	C6-N1-C2	-5.88	117.95	120.30
24	RA	914	C	N3-C2-O2	-5.88	117.78	121.90
1	QA	1225	A	N7-C8-N9	5.88	116.74	113.80
25	YB	28	C	C5-C6-N1	5.88	123.94	121.00
24	RA	340	C	C5-C6-N1	5.88	123.94	121.00
24	RA	1972	G	O4'-C1'-N9	5.88	112.90	108.20
24	RA	2260	C	C6-N1-C2	-5.88	117.95	120.30
24	RA	2772	G	N3-C4-N9	5.88	129.53	126.00
1	XA	233	C	C6-N1-C2	-5.88	117.95	120.30
24	RA	2835	C	C6-N1-C2	-5.87	117.95	120.30
24	YA	2877	G	OP2-P-O3'	5.87	118.12	105.20
1	XA	827	U	N3-C2-O2	-5.87	118.09	122.20
24	YA	1271	G	N7-C8-N9	5.87	116.04	113.10
1	QA	1279	A	C8-N9-C4	-5.87	103.45	105.80
25	RB	47	C	N1-C2-O2	5.87	122.42	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	725	C	C5-C6-N1	5.87	123.93	121.00
1	XA	528	C	C5-C6-N1	5.87	123.93	121.00
24	YA	2668	U	N3-C4-O4	5.87	123.51	119.40
24	YA	903	C	N3-C2-O2	-5.86	117.80	121.90
24	RA	2196	C	N1-C2-O2	5.86	122.42	118.90
24	RA	744	C	C6-N1-C2	-5.86	117.96	120.30
24	YA	607	C	C5-C6-N1	5.86	123.93	121.00
25	YB	31	C	N1-C2-O2	5.86	122.42	118.90
24	RA	872	C	C5-C6-N1	5.86	123.93	121.00
24	RA	1731	C	C6-N1-C2	-5.86	117.96	120.30
24	YA	267	C	C6-N1-C2	-5.86	117.96	120.30
24	YA	537	G	N1-C6-O6	-5.86	116.39	119.90
24	RA	1120	G	N9-C4-C5	-5.86	103.06	105.40
24	RA	2406	C	N3-C2-O2	-5.86	117.80	121.90
1	XA	623	C	C6-N1-C2	-5.85	117.96	120.30
1	QA	91	C	N1-C2-O2	5.85	122.41	118.90
24	YA	1544	C	N1-C2-O2	5.85	122.41	118.90
24	RA	1448	C	C5-C6-N1	5.85	123.92	121.00
24	YA	2454	C	C6-N1-C2	-5.85	117.96	120.30
1	QA	433	C	C6-N1-C2	-5.85	117.96	120.30
24	YA	1398	U	C6-N1-C2	-5.85	117.49	121.00
24	RA	1551	C	C5-C6-N1	5.84	123.92	121.00
25	RB	37	C	N3-C2-O2	-5.84	117.81	121.90
24	YA	258	U	C5-C6-N1	5.84	125.62	122.70
24	RA	2030	C	C5-C6-N1	5.84	123.92	121.00
1	QA	686	U	N3-C2-O2	-5.84	118.11	122.20
22	QV	4	U	O4'-C1'-N1	5.84	112.87	108.20
24	RA	2472	U	N3-C2-O2	-5.84	118.11	122.20
24	RA	1716	A	C2-N3-C4	5.84	113.52	110.60
24	YA	2095	C	C6-N1-C2	-5.84	117.96	120.30
24	RA	1120	G	C4-C5-N7	5.83	113.13	110.80
1	XA	980	C	N1-C2-O2	5.83	122.40	118.90
24	YA	1687	C	C6-N1-C2	-5.83	117.97	120.30
1	QA	1452	C	N3-C2-O2	-5.83	117.82	121.90
1	XA	137	C	C6-N1-C2	-5.83	117.97	120.30
1	XA	169	C	C6-N1-C2	-5.83	117.97	120.30
24	YA	796	C	N3-C2-O2	-5.83	117.82	121.90
24	YA	1436	U	C5-C6-N1	5.83	125.61	122.70
24	YA	2697	G	N3-C4-N9	-5.83	122.50	126.00
1	XA	528	C	N1-C2-O2	5.83	122.40	118.90
24	YA	31	C	C5-C6-N1	5.83	123.91	121.00
24	YA	1136	U	N1-C2-O2	5.83	126.88	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1186	U	C2-N1-C1'	-5.82	110.71	117.70
25	YB	84	C	C6-N1-C2	-5.82	117.97	120.30
24	YA	178	G	N1-C6-O6	-5.82	116.41	119.90
1	QA	1161	C	N1-C2-O2	5.82	122.39	118.90
1	QA	1502	A	N9-C4-C5	-5.82	103.47	105.80
24	YA	203	G	N1-C6-O6	-5.82	116.41	119.90
24	RA	854	U	N3-C2-O2	-5.82	118.13	122.20
1	XA	792	A	O4'-C1'-N9	5.82	112.85	108.20
1	XA	1310	G	C6-C5-N7	-5.82	126.91	130.40
24	YA	634	C	C5-C6-N1	5.82	123.91	121.00
24	YA	708	C	C5-C6-N1	5.82	123.91	121.00
24	YA	1915	C	C6-N1-C2	-5.82	117.97	120.30
25	RB	27	C	N3-C2-O2	-5.81	117.83	121.90
24	YA	630	U	C2-N3-C4	5.81	130.49	127.00
1	QA	91	C	C6-N1-C2	-5.81	117.97	120.30
24	YA	482	C	N3-C4-C5	5.81	124.22	121.90
1	QA	1132	C	N3-C2-O2	-5.81	117.83	121.90
24	RA	2570	C	C5-C6-N1	5.81	123.90	121.00
24	YA	2780	C	C6-N1-C2	-5.81	117.98	120.30
24	YA	1378	G	C4-C5-N7	5.81	113.12	110.80
24	YA	2404	A	C8-N9-C4	-5.80	103.48	105.80
1	QA	455	C	N1-C2-O2	5.80	122.38	118.90
24	RA	1515	C	C6-N1-C2	-5.80	117.98	120.30
24	RA	1921	G	C8-N9-C1'	5.80	134.54	127.00
24	RA	2878	A	C8-N9-C4	-5.80	103.48	105.80
24	YA	1457	C	C2-N1-C1'	5.80	125.18	118.80
1	XA	1362(B)	C	N3-C2-O2	-5.80	117.84	121.90
24	YA	2111	U	C5-C6-N1	5.80	125.60	122.70
24	RA	2241	C	C6-N1-C2	-5.80	117.98	120.30
24	YA	607	C	N1-C2-O2	5.80	122.38	118.90
1	QA	1260	C	N3-C2-O2	-5.80	117.84	121.90
24	YA	457	G	C8-N9-C4	-5.80	104.08	106.40
24	YA	579	G	C6-C5-N7	-5.80	126.92	130.40
24	RA	1726	U	N3-C2-O2	-5.79	118.14	122.20
24	YA	485	U	C6-N1-C2	-5.79	117.52	121.00
1	QA	1270	C	C5-C6-N1	5.79	123.90	121.00
24	RA	1559	C	C6-N1-C2	-5.79	117.98	120.30
24	YA	1423	G	C8-N9-C4	-5.79	104.08	106.40
24	YA	2256	U	N3-C4-O4	5.79	123.45	119.40
24	YA	2004	C	C6-N1-C2	-5.79	117.98	120.30
24	YA	2678	C	C6-N1-C2	-5.79	117.98	120.30
24	YA	646	A	C2-N3-C4	-5.79	107.70	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1141	A	N3-C4-C5	-5.79	122.75	126.80
24	RA	1691	C	N1-C2-O2	5.79	122.37	118.90
1	XA	1279	A	N7-C8-N9	5.79	116.69	113.80
24	YA	2329	C	N1-C2-O2	5.79	122.37	118.90
1	QA	697	U	N3-C2-O2	-5.78	118.15	122.20
24	YA	666	C	C6-N1-C2	-5.78	117.99	120.30
24	YA	1595	C	C6-N1-C2	-5.78	117.99	120.30
24	RA	1806	U	N3-C4-O4	5.78	123.45	119.40
24	YA	1927	C	C5-C6-N1	5.78	123.89	121.00
24	RA	1425	A	C4-C5-N7	5.78	113.59	110.70
25	RB	44	G	C8-N9-C1'	5.78	134.51	127.00
1	QA	106	C	C6-N1-C2	-5.78	117.99	120.30
24	YA	564	G	C4-N9-C1'	5.78	134.01	126.50
24	YA	975	U	N1-C2-O2	5.78	126.84	122.80
24	YA	1038	C	C6-N1-C2	-5.78	117.99	120.30
24	RA	2638	C	C5-C6-N1	5.78	123.89	121.00
24	YA	419	C	C6-N1-C2	-5.78	117.99	120.30
24	RA	256	C	C6-N1-C2	-5.77	117.99	120.30
24	YA	1031	C	N1-C2-O2	5.77	122.36	118.90
24	YA	528	A	P-O3'-C3'	5.77	126.63	119.70
24	YA	2083	G	C4-C5-C6	5.77	122.26	118.80
24	RA	2603	C	C6-N1-C2	-5.77	117.99	120.30
24	RA	863	C	C6-N1-C2	-5.77	117.99	120.30
24	YA	1683	C	C6-N1-C2	-5.77	117.99	120.30
1	QA	943	U	N1-C2-O2	5.76	126.83	122.80
24	YA	1645	C	C6-N1-C2	-5.76	117.99	120.30
25	YB	92	G	N1-C2-N3	5.76	127.36	123.90
24	RA	1360	C	C2-N1-C1'	5.76	125.14	118.80
24	RA	2354	C	C6-N1-C2	-5.76	118.00	120.30
24	YA	872	C	C5-C6-N1	5.76	123.88	121.00
24	YA	1509	C	N1-C2-O2	5.76	122.36	118.90
24	YA	2273	C	C6-N1-C2	-5.76	118.00	120.30
24	YA	1867	C	C5-C6-N1	5.76	123.88	121.00
24	RA	1936	C	C6-N1-C2	-5.75	118.00	120.30
1	QA	1411	C	C6-N1-C2	-5.75	118.00	120.30
24	RA	1031	C	C5-C6-N1	5.75	123.88	121.00
24	RA	1916	C	N1-C2-O2	5.75	122.35	118.90
1	XA	330	C	C6-N1-C2	-5.75	118.00	120.30
1	XA	1520	G	C4-C5-N7	5.75	113.10	110.80
24	YA	1089	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	2054	G	N3-C4-N9	-5.75	122.55	126.00
24	YA	844	C	C6-N1-C2	-5.75	118.00	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	75	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	217	A	C8-N9-C4	-5.75	103.50	105.80
24	RA	1921	G	C4-N9-C1'	-5.74	119.03	126.50
24	YA	2854	G	N3-C4-C5	-5.74	125.73	128.60
1	QA	1323	G	C6-C5-N7	-5.74	126.95	130.40
24	RA	1022	C	C5-C6-N1	5.74	123.87	121.00
24	RA	2598	C	C6-N1-C2	-5.74	118.00	120.30
24	RA	275	C	N1-C2-O2	5.74	122.34	118.90
24	YA	863	C	C5-C6-N1	5.74	123.87	121.00
24	YA	1002	A	C5-C6-N6	-5.74	119.11	123.70
24	RA	1687	C	N1-C2-O2	5.74	122.34	118.90
24	RA	2222	C	C5-C6-N1	5.74	123.87	121.00
24	YA	2014	G	C2'-C3'-O3'	5.74	122.88	113.70
1	XA	1028(B)	C	N3-C2-O2	-5.74	117.88	121.90
1	QA	904	C	C6-N1-C2	-5.74	118.01	120.30
24	YA	842	C	C6-N1-C2	-5.74	118.00	120.30
24	YA	1514	C	C6-N1-C2	-5.74	118.01	120.30
24	YA	1645	C	C5-C6-N1	5.74	123.87	121.00
24	YA	2631	C	C6-N1-C2	-5.74	118.01	120.30
24	RA	2407	C	C6-N1-C2	-5.73	118.01	120.30
24	YA	2083	G	C6-C5-N7	-5.73	126.96	130.40
24	YA	2324	U	C6-N1-C2	-5.73	117.56	121.00
24	RA	665	C	C6-N1-C2	-5.73	118.01	120.30
24	YA	1972	G	C4-C5-N7	5.73	113.09	110.80
1	XA	1028(A)	C	N3-C2-O2	-5.73	117.89	121.90
24	RA	1493	C	C6-N1-C2	-5.73	118.01	120.30
1	QA	252	U	N1-C2-O2	5.73	126.81	122.80
1	QA	780	A	N7-C8-N9	5.73	116.66	113.80
24	RA	719	C	C5-C6-N1	5.73	123.86	121.00
24	RA	1924	C	N3-C4-N4	-5.72	113.99	118.00
1	XA	656	C	C6-N1-C2	-5.72	118.01	120.30
24	YA	166	G	C4-N9-C1'	5.72	133.94	126.50
24	YA	284	G	C8-N9-C4	-5.72	104.11	106.40
24	RA	256	C	C5-C6-N1	5.72	123.86	121.00
24	RA	805	C	C6-N1-C2	-5.72	118.01	120.30
24	RA	2504	U	N3-C2-O2	-5.72	118.20	122.20
44	RZ	59	LEU	CA-CB-CG	5.72	128.45	115.30
24	YA	1531	G	C4-C5-N7	5.72	113.09	110.80
24	YA	2774	G	N9-C1'-C2'	-5.72	105.71	112.00
1	QA	405	U	N1-C2-O2	5.72	126.80	122.80
24	RA	1972	G	N7-C8-N9	5.72	115.96	113.10
1	QA	1430	C	C5-C6-N1	5.71	123.86	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	232	U	C5-C6-N1	5.71	125.56	122.70
24	RA	2618	C	N1-C2-O2	5.71	122.33	118.90
24	YA	1092	A	C2-N3-C4	5.71	113.46	110.60
1	XA	1452	C	N3-C2-O2	-5.71	117.90	121.90
24	RA	2807	C	N1-C2-O2	5.71	122.33	118.90
24	YA	2329	C	N3-C2-O2	-5.71	117.90	121.90
1	QA	618	C	N1-C2-O2	5.71	122.32	118.90
1	QA	754	C	C6-N1-C1'	-5.70	113.96	120.80
24	RA	897	C	C5-C6-N1	5.70	123.85	121.00
24	RA	1421	C	C5-C6-N1	5.70	123.85	121.00
24	RA	2857	U	C5-C6-N1	5.70	125.55	122.70
24	YA	579	G	C8-N9-C4	-5.70	104.12	106.40
24	YA	830	A	C4-C5-N7	5.70	113.55	110.70
1	XA	1246	C	C6-N1-C2	-5.70	118.02	120.30
24	RA	181	C	C5-C6-N1	5.70	123.85	121.00
24	YA	2091	G	N1-C6-O6	-5.70	116.48	119.90
1	XA	280	C	C6-N1-C2	5.69	122.58	120.30
24	YA	1372	U	N1-C2-O2	5.69	126.78	122.80
1	QA	1109	C	N3-C2-O2	-5.69	117.92	121.90
1	XA	1161	C	N3-C2-O2	-5.69	117.92	121.90
24	RA	1110	C	N3-C4-N4	5.69	121.98	118.00
24	YA	1205	U	N3-C2-O2	-5.69	118.22	122.20
24	RA	729	G	N1-C6-O6	-5.69	116.49	119.90
24	YA	280	C	N1-C2-O2	5.69	122.31	118.90
24	YA	2397	C	C6-N1-C2	-5.69	118.03	120.30
24	RA	2201	C	N3-C2-O2	-5.69	117.92	121.90
24	YA	907	U	C2-N1-C1'	5.69	124.52	117.70
1	QA	37	U	N3-C2-O2	-5.68	118.22	122.20
1	QA	1301	U	C5-C6-N1	5.68	125.54	122.70
24	YA	512	C	C6-N1-C2	-5.68	118.03	120.30
24	RA	778	C	C5-C6-N1	5.68	123.84	121.00
24	RA	2890	C	C6-N1-C2	-5.68	118.03	120.30
25	RB	22	U	N3-C2-O2	-5.68	118.22	122.20
1	XA	543	C	C6-N1-C2	-5.68	118.03	120.30
24	RA	842	C	C6-N1-C2	-5.68	118.03	120.30
24	RA	1579	C	C2-N1-C1'	5.68	125.05	118.80
24	YA	286	C	N1-C2-O2	5.68	122.31	118.90
24	YA	579	G	N3-C4-N9	5.68	129.41	126.00
24	YA	1225	C	C2-N1-C1'	5.68	125.05	118.80
1	QA	497	U	N3-C2-O2	-5.67	118.23	122.20
1	XA	749	C	N1-C2-O2	5.67	122.30	118.90
24	YA	1952	G	O4'-C1'-N9	5.67	112.74	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1002	A	N1-C6-N6	5.67	122.00	118.60
25	YB	107	U	N3-C2-O2	-5.67	118.23	122.20
24	RA	2519	C	C6-N1-C2	-5.67	118.03	120.30
24	YA	1432	C	C6-N1-C2	-5.67	118.03	120.30
24	RA	1931	C	C5-C6-N1	5.67	123.83	121.00
1	XA	754	C	C6-N1-C1'	-5.67	114.00	120.80
1	QA	1383	C	N3-C2-O2	-5.67	117.93	121.90
24	RA	611	U	C5-C6-N1	5.67	125.53	122.70
24	RA	975	U	N3-C2-O2	-5.67	118.23	122.20
24	RA	1552	C	N1-C2-O2	5.67	122.30	118.90
24	YA	1339	C	C5-C6-N1	5.67	123.83	121.00
24	RA	875	U	C6-N1-C2	-5.67	117.60	121.00
1	XA	358	U	C5'-C4'-C3'	5.67	125.06	116.00
1	XA	1397	C	C6-N1-C2	-5.67	118.03	120.30
1	QA	335	C	C6-N1-C2	-5.66	118.03	120.30
24	RA	1583	C	C6-N1-C2	-5.66	118.03	120.30
24	YA	2228	G	C6-C5-N7	-5.66	127.00	130.40
24	YA	2835	C	N3-C2-O2	-5.66	117.94	121.90
33	YO	8	LEU	CA-CB-CG	5.66	128.32	115.30
1	QA	1420	C	C6-N1-C2	-5.66	118.04	120.30
24	RA	1730	C	C6-N1-C2	-5.66	118.04	120.30
24	YA	1002	A	C4-C5-N7	5.66	113.53	110.70
24	RA	1572	G	C6-C5-N7	-5.66	127.00	130.40
24	YA	73	A	C5-N7-C8	-5.66	101.07	103.90
24	RA	1230	C	C6-N1-C2	-5.66	118.04	120.30
24	YA	420	C	C6-N1-C2	-5.65	118.04	120.30
24	YA	1921	G	N1-C2-N2	-5.65	111.11	116.20
1	XA	435	C	N1-C2-O2	5.65	122.29	118.90
24	RA	1521	C	C5-C6-N1	5.65	123.82	121.00
24	RA	2700	U	C2-N1-C1'	5.65	124.48	117.70
25	RB	31	C	C6-N1-C1'	-5.65	114.02	120.80
14	XN	44	LEU	CA-CB-CG	5.65	128.28	115.30
1	QA	1322	C	N3-C2-O2	-5.64	117.95	121.90
24	YA	1176	U	P-O3'-C3'	5.64	126.47	119.70
24	RA	1263	C	C6-N1-C2	-5.64	118.04	120.30
1	XA	620	C	N3-C2-O2	-5.64	117.95	121.90
24	RA	1548	C	N1-C2-O2	5.64	122.28	118.90
24	YA	46	C	N1-C2-O2	5.64	122.28	118.90
24	YA	893	C	N3-C2-O2	-5.64	117.95	121.90
24	YA	1196	C	C6-N1-C2	-5.64	118.05	120.30
24	YA	141	C	C5-C6-N1	5.64	123.82	121.00
24	YA	189	U	N3-C2-O2	-5.63	118.25	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2029	C	C6-N1-C2	-5.63	118.05	120.30
24	YA	939	C	C5-C6-N1	5.63	123.82	121.00
24	YA	2367	C	N1-C2-O2	5.63	122.28	118.90
24	RA	1155	C	N3-C2-O2	-5.63	117.96	121.90
24	RA	1154	U	C6-N1-C2	-5.62	117.62	121.00
1	XA	137	C	N1-C2-O2	5.62	122.28	118.90
1	QA	1027	C	C5-C6-N1	5.62	123.81	121.00
24	RA	555	G	C5-C6-O6	5.62	131.97	128.60
1	XA	186(B)	C	C6-N1-C2	-5.62	118.05	120.30
1	XA	307	C	C6-N1-C2	-5.62	118.05	120.30
24	YA	1341	C	C6-N1-C2	-5.62	118.05	120.30
1	QA	1121	U	C5-C6-N1	5.62	125.51	122.70
24	RA	1924	C	N1-C2-O2	5.62	122.27	118.90
24	YA	132	C	C6-N1-C2	-5.62	118.05	120.30
24	YA	1000	C	C6-N1-C2	-5.62	118.05	120.30
24	YA	354	A	C2-N3-C4	-5.62	107.79	110.60
1	XA	449	C	N3-C2-O2	-5.62	117.97	121.90
24	YA	182	U	N3-C2-O2	-5.62	118.27	122.20
24	RA	1956	C	N1-C2-O2	5.61	122.27	118.90
24	RA	1972	G	C8-N9-C4	-5.61	104.15	106.40
24	RA	2884	C	N1-C2-O2	5.61	122.27	118.90
24	YA	2798	C	C5-C6-N1	5.61	123.81	121.00
1	QA	717	C	C5-C6-N1	5.61	123.81	121.00
1	QA	1378	C	N3-C2-O2	-5.61	117.97	121.90
24	RA	1560	U	C2-N1-C1'	5.61	124.43	117.70
24	YA	2550	C	C6-N1-C2	-5.61	118.06	120.30
1	QA	989	C	N1-C2-O2	5.61	122.27	118.90
24	RA	2859	U	C2-N1-C1'	-5.61	110.97	117.70
25	RB	77	U	N3-C2-O2	-5.61	118.28	122.20
24	RA	1067	A	N3-C4-N9	-5.60	122.92	127.40
24	RA	2453	C	C6-N1-C2	-5.60	118.06	120.30
24	YA	354	A	C5-N7-C8	-5.60	101.10	103.90
24	YA	2851	C	C5-C6-N1	5.60	123.80	121.00
1	XA	1097	C	C5-C6-N1	5.60	123.80	121.00
24	YA	1805	C	N1-C2-O2	5.60	122.26	118.90
24	YA	2587	C	C6-N1-C2	-5.60	118.06	120.30
24	YA	1121	C	N1-C2-O2	5.60	122.26	118.90
24	YA	2095	C	C5-C6-N1	5.60	123.80	121.00
24	YA	2588	G	C4-N9-C1'	5.60	133.78	126.50
1	XA	390	C	C6-N1-C2	-5.60	118.06	120.30
24	RA	1548	C	C2-N1-C1'	5.60	124.96	118.80
24	YA	1279	C	C5-C6-N1	5.60	123.80	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1528	U	C5-C6-N1	5.60	125.50	122.70
24	YA	2570	C	C5-C6-N1	5.60	123.80	121.00
24	YA	454	U	N1-C2-O2	5.60	126.72	122.80
1	XA	848	C	N1-C2-O2	5.59	122.26	118.90
24	YA	885	C	C5-C6-N1	5.59	123.80	121.00
24	YA	1188	A	C2-N3-C4	-5.59	107.80	110.60
24	YA	113	C	C6-N1-C2	-5.59	118.06	120.30
24	YA	2250	G	N3-C4-C5	-5.59	125.80	128.60
24	YA	1836	U	C5-C6-N1	5.59	125.50	122.70
25	YB	104	A	C5-N7-C8	-5.59	101.10	103.90
24	RA	1002	A	C4-C5-N7	5.59	113.49	110.70
24	YA	436	C	N1-C2-O2	5.59	122.25	118.90
24	YA	1141	A	N3-C4-N9	5.59	131.87	127.40
22	XV	65	U	C6-N1-C2	-5.59	117.65	121.00
1	QA	596	C	C6-N1-C2	-5.59	118.07	120.30
24	RA	1154	U	C5-C6-N1	5.59	125.49	122.70
1	QA	697	U	N1-C2-O2	5.58	126.71	122.80
24	RA	706	C	C5-C6-N1	5.58	123.79	121.00
24	RA	187	C	N1-C2-O2	5.58	122.25	118.90
24	YA	1302	G	C4-C5-N7	5.58	113.03	110.80
24	YA	2570	C	C6-N1-C2	-5.58	118.07	120.30
1	XA	1383	C	N1-C2-O2	5.58	122.25	118.90
24	YA	157	U	N3-C2-O2	-5.58	118.30	122.20
24	RA	1452	U	C5-C6-N1	5.58	125.49	122.70
24	RA	2743	C	C6-N1-C2	-5.58	118.07	120.30
24	YA	2752	U	N1-C2-O2	5.58	126.70	122.80
24	RA	1983	C	N3-C2-O2	-5.57	118.00	121.90
24	YA	844	C	C5-C6-N1	5.57	123.79	121.00
24	YA	1861	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	2354	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	1336	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	604	C	C5-C6-N1	5.57	123.78	121.00
24	YA	190	C	C6-N1-C2	-5.57	118.07	120.30
24	RA	2884	C	C6-N1-C2	-5.57	118.07	120.30
1	QA	1412	C	C6-N1-C2	-5.57	118.07	120.30
24	RA	482	C	C2-N1-C1'	5.57	124.92	118.80
24	YA	73	A	C2-N3-C4	-5.57	107.82	110.60
24	YA	2307	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	2807	C	C6-N1-C2	-5.57	118.07	120.30
24	RA	2118	U	N1-C2-O2	5.56	126.69	122.80
24	YA	463	C	C6-N1-C2	-5.56	118.08	120.30
1	XA	191(B)	G	N1-C6-O6	-5.56	116.56	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2028	C	N1-C2-O2	5.56	122.24	118.90
24	YA	1927	C	C6-N1-C2	-5.56	118.08	120.30
25	YB	114	G	N1-C2-N2	-5.56	111.20	116.20
1	XA	1113	C	C5-C6-N1	5.56	123.78	121.00
24	YA	830	A	C2-N3-C4	-5.56	107.82	110.60
24	RA	826	U	C5-C6-N1	5.55	125.48	122.70
24	RA	1162	C	N3-C2-O2	-5.55	118.01	121.90
1	XA	1157	A	C8-N9-C1'	-5.55	117.71	127.70
24	YA	961	C	N1-C2-O2	5.55	122.23	118.90
24	YA	2456	G	N1-C6-O6	-5.55	116.57	119.90
24	RA	190	C	C6-N1-C2	-5.55	118.08	120.30
24	RA	511	C	C6-N1-C2	-5.55	118.08	120.30
24	RA	1707	C	C6-N1-C2	-5.55	118.08	120.30
24	YA	1901	C	C6-N1-C2	-5.55	118.08	120.30
24	RA	1037	C	C6-N1-C2	-5.55	118.08	120.30
24	RA	2904	U	N1-C2-O2	5.55	126.68	122.80
1	XA	1038	C	C5-C6-N1	5.55	123.77	121.00
24	YA	1279	C	C6-N1-C2	-5.54	118.08	120.30
24	YA	2218	C	C5-C6-N1	5.54	123.77	121.00
24	RA	1810	U	C6-N1-C1'	-5.54	113.44	121.20
1	QA	699	C	C5-C6-N1	5.54	123.77	121.00
1	QA	936	C	N1-C2-O2	5.54	122.22	118.90
24	RA	944	C	C5-C6-N1	5.54	123.77	121.00
24	RA	363	U	C5-C6-N1	5.54	125.47	122.70
24	RA	853	C	C5-C6-N1	5.54	123.77	121.00
24	YA	1760	U	N3-C2-O2	-5.54	118.32	122.20
24	RA	777	C	C5-C6-N1	5.54	123.77	121.00
24	YA	2528	G	N3-C4-N9	5.54	129.32	126.00
24	RA	1707	C	N1-C2-O2	5.53	122.22	118.90
24	YA	104	C	C6-N1-C2	-5.53	118.09	120.30
24	RA	1031	C	C6-N1-C2	-5.53	118.09	120.30
1	XA	979	C	C6-N1-C2	-5.53	118.09	120.30
24	RA	1921	G	N1-C2-N3	5.53	127.22	123.90
25	RB	77	U	N1-C2-O2	5.53	126.67	122.80
1	XA	789	U	C2-N1-C1'	5.53	124.33	117.70
1	XA	810	C	C6-N1-C2	-5.52	118.09	120.30
24	YA	65	C	C5-C6-N1	5.52	123.76	121.00
1	QA	985	C	C6-N1-C2	-5.52	118.09	120.30
24	RA	1154	U	C2-N1-C1'	5.52	124.33	117.70
44	RZ	157	LEU	CA-CB-CG	5.52	128.00	115.30
24	YA	1408	C	C6-N1-C2	-5.52	118.09	120.30
24	RA	1722	C	C5-C6-N1	5.52	123.76	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	126	C	C6-N1-C2	-5.52	118.09	120.30
24	RA	1635	C	C6-N1-C2	-5.52	118.09	120.30
24	YA	1067	A	N3-C4-C5	5.52	130.66	126.80
24	YA	1225	C	N1-C2-O2	5.52	122.21	118.90
24	YA	1408	C	C5-C6-N1	5.52	123.76	121.00
24	YA	2790	G	C8-N9-C4	-5.52	104.19	106.40
24	YA	1032	C	C5-C6-N1	5.51	123.76	121.00
24	RA	1867	C	C6-N1-C2	-5.51	118.09	120.30
24	RA	20	C	C6-N1-C2	-5.51	118.09	120.30
24	RA	487	C	C5-C6-N1	5.51	123.76	121.00
24	RA	2678	C	C6-N1-C2	-5.51	118.09	120.30
24	YA	1423	G	N7-C8-N9	5.51	115.86	113.10
31	YI	14	ASP	CB-CG-OD1	5.51	123.26	118.30
24	RA	893	C	N1-C2-O2	5.51	122.21	118.90
24	RA	1725	G	N7-C8-N9	5.51	115.86	113.10
24	YA	1136	U	N3-C2-O2	-5.51	118.34	122.20
24	YA	2736	C	C5-C6-N1	5.51	123.75	121.00
24	RA	2772	G	N9-C4-C5	-5.51	103.20	105.40
24	YA	211	A	C5'-C4'-O4'	5.51	115.71	109.10
24	YA	862	C	C5-C6-N1	5.51	123.75	121.00
24	YA	1904	C	C2-N1-C1'	5.51	124.86	118.80
24	YA	2479	C	N3-C2-O2	-5.51	118.04	121.90
24	RA	172	C	C6-N1-C2	-5.51	118.10	120.30
24	RA	2213	G	N3-C4-N9	5.51	129.30	126.00
1	QA	932	C	C5-C6-N1	5.50	123.75	121.00
24	RA	958	C	N1-C2-O2	5.50	122.20	118.90
24	RA	2695	C	N3-C2-O2	-5.50	118.05	121.90
25	YB	93	C	N3-C4-C5	5.50	124.10	121.90
1	QA	337	C	C6-N1-C2	-5.50	118.10	120.30
1	XA	186(G)	C	N1-C2-O2	5.50	122.20	118.90
24	RA	2539	C	C6-N1-C2	-5.50	118.10	120.30
24	YA	1581	U	C5-C6-N1	5.50	125.45	122.70
24	RA	2513	C	C6-N1-C1'	5.50	127.39	120.80
1	XA	18	C	C6-N1-C2	-5.50	118.10	120.30
22	XV	59	A	C2-N3-C4	5.49	113.35	110.60
24	YA	226	C	C6-N1-C2	-5.49	118.10	120.30
24	RA	139	A	C5-N7-C8	-5.49	101.15	103.90
24	RA	712	C	N3-C2-O2	-5.49	118.06	121.90
24	YA	1450	C	C5-C6-N1	5.49	123.75	121.00
24	YA	2660	C	C5-C6-N1	5.49	123.75	121.00
24	RA	2480	G	O4'-C1'-N9	5.49	112.59	108.20
1	XA	169	C	N1-C2-O2	5.49	122.19	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	723	A	O4'-C1'-N9	5.49	112.59	108.20
24	YA	830	A	N7-C8-N9	5.49	116.54	113.80
24	YA	1304	C	C6-N1-C2	-5.49	118.11	120.30
25	YB	81	G	C6-C5-N7	-5.49	127.11	130.40
24	RA	1232	G	C6-C5-N7	-5.49	127.11	130.40
24	YA	552	C	N1-C2-O2	5.49	122.19	118.90
24	YA	2628	C	C6-N1-C2	-5.49	118.11	120.30
1	QA	689	C	C6-N1-C2	-5.49	118.11	120.30
1	QA	1263	C	C2-N1-C1'	5.49	124.83	118.80
24	RA	2118	U	N3-C2-O2	-5.49	118.36	122.20
24	YA	232	U	C6-N1-C2	-5.48	117.71	121.00
1	XA	1056	U	N3-C2-O2	-5.48	118.36	122.20
24	YA	665	C	C6-N1-C2	-5.48	118.11	120.30
24	YA	1682	G	C6-C5-N7	-5.48	127.11	130.40
24	RA	2752	U	N3-C2-O2	-5.48	118.36	122.20
24	RA	276	C	C6-N1-C2	-5.48	118.11	120.30
1	XA	455	C	C5-C6-N1	5.48	123.74	121.00
24	YA	2502	G	C5-N7-C8	-5.48	101.56	104.30
24	YA	2347	A	C4-N9-C1'	-5.47	116.45	126.30
1	QA	1009	G	N3-C4-N9	5.47	129.28	126.00
22	XV	65	U	C2-N1-C1'	5.47	124.27	117.70
24	YA	2724	U	C6-N1-C2	-5.47	117.72	121.00
1	QA	1020	U	C2-N1-C1'	5.47	124.27	117.70
24	YA	66	U	C2-N3-C4	5.47	130.28	127.00
24	RA	672	G	N3-C4-N9	5.47	129.28	126.00
24	RA	1812	C	N3-C2-O2	-5.47	118.07	121.90
1	QA	91	C	C2-N1-C1'	5.46	124.81	118.80
24	RA	1548	C	C5-C6-N1	5.46	123.73	121.00
24	YA	976	G	C8-N9-C4	-5.46	104.21	106.40
24	YA	2030	C	C6-N1-C2	-5.46	118.11	120.30
24	RA	1551	C	C2-N1-C1'	5.46	124.81	118.80
24	YA	267	C	N1-C2-O2	5.46	122.18	118.90
1	QA	1395	C	C5-C6-N1	5.46	123.73	121.00
24	RA	1916	C	N3-C2-O2	-5.46	118.08	121.90
1	XA	172	A	C8-N9-C4	-5.46	103.62	105.80
24	YA	723	A	C4-N9-C1'	5.46	136.13	126.30
23	XX	7	G	N7-C8-N9	5.46	115.83	113.10
24	YA	1098	C	C5-C6-N1	5.46	123.73	121.00
24	RA	907	U	C4-C5-C6	5.46	122.97	119.70
24	RA	1067	A	C2-N3-C4	-5.46	107.87	110.60
24	YA	31	C	C6-N1-C2	-5.46	118.12	120.30
24	YA	64	C	C6-N1-C2	-5.46	118.12	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1374	G	C4-C5-N7	5.45	112.98	110.80
24	YA	1019	G	O4'-C1'-N9	5.45	112.56	108.20
24	YA	1303	C	C6-N1-C2	-5.45	118.12	120.30
1	XA	433	C	N1-C2-O2	5.45	122.17	118.90
24	YA	723	A	C8-N9-C4	-5.45	103.62	105.80
24	YA	1569	U	C5-C6-N1	5.45	125.43	122.70
1	QA	497	U	N1-C2-O2	5.45	126.61	122.80
24	RA	990	A	C5-N7-C8	-5.45	101.18	103.90
1	QA	328	C	P-O3'-C3'	5.45	126.23	119.70
24	RA	735	U	C5-C6-N1	5.45	125.42	122.70
24	RA	2404	A	N7-C8-N9	5.45	116.52	113.80
1	XA	328	C	P-O3'-C3'	5.45	126.23	119.70
24	YA	1665	G	C4-C5-N7	5.44	112.98	110.80
24	YA	2480	G	C4-C5-N7	5.44	112.98	110.80
1	XA	705	U	C6-N1-C2	-5.44	117.74	121.00
1	XA	1149	C	N1-C2-O2	5.44	122.17	118.90
1	XA	337	C	C5-C6-N1	5.44	123.72	121.00
24	YA	1725	G	C2-N3-C4	-5.44	109.18	111.90
24	RA	2703	C	C6-N1-C2	-5.44	118.12	120.30
24	YA	1642	A	C4-C5-C6	-5.44	114.28	117.00
1	XA	150	C	C6-N1-C2	-5.44	118.13	120.30
24	YA	1452	U	C2-N1-C1'	5.44	124.22	117.70
24	YA	2824	C	C6-N1-C2	-5.44	118.13	120.30
24	RA	309	C	C5-C6-N1	5.43	123.72	121.00
1	QA	883	C	C6-N1-C2	-5.43	118.13	120.30
24	YA	2472	U	C5-C6-N1	5.43	125.42	122.70
22	QV	30	C	N1-C2-O2	5.43	122.16	118.90
24	RA	1453	C	N3-C2-O2	-5.43	118.10	121.90
24	RA	1861	C	N1-C2-O2	5.43	122.16	118.90
24	YA	513	C	C6-N1-C2	-5.43	118.13	120.30
24	YA	1805	C	C5-C6-N1	5.43	123.71	121.00
24	RA	1134	A	C2-N3-C4	5.43	113.31	110.60
24	YA	583	C	C5-C6-N1	5.43	123.71	121.00
24	YA	805	C	C6-N1-C2	-5.43	118.13	120.30
24	YA	1927	C	N1-C2-O2	5.43	122.16	118.90
24	RA	712	C	C6-N1-C2	-5.42	118.13	120.30
24	RA	975	U	N1-C2-O2	5.42	126.60	122.80
24	RA	1559	C	C5-C6-N1	5.42	123.71	121.00
36	RR	75	LEU	CA-CB-CG	5.42	127.78	115.30
24	YA	471	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	2255	U	N1-C2-N3	5.42	118.15	114.90
1	QA	824	C	C6-N1-C2	-5.42	118.13	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1550	C	C2-N1-C1'	5.42	124.76	118.80
24	YA	914	C	C5-C6-N1	5.42	123.71	121.00
1	XA	455	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	1977	U	C2-N1-C1'	5.42	124.20	117.70
24	YA	2857	U	N3-C2-O2	-5.42	118.41	122.20
1	QA	690	G	C4-N9-C1'	5.42	133.54	126.50
24	RA	1378	G	C5-N7-C8	-5.42	101.59	104.30
24	RA	2083	G	N3-C4-N9	5.42	129.25	126.00
24	YA	2004	C	N1-C2-O2	5.42	122.15	118.90
24	RA	989	G	C4-N9-C1'	5.42	133.54	126.50
24	YA	45	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	1252	C	C5-C6-N1	5.42	123.71	121.00
1	XA	980	C	N3-C2-O2	-5.41	118.11	121.90
24	YA	2241	C	C6-N1-C2	-5.41	118.13	120.30
24	YA	607	C	N3-C4-N4	5.41	121.79	118.00
24	YA	541	C	C5-C6-N1	5.41	123.70	121.00
24	RA	2426	G	C4-C5-N7	5.41	112.96	110.80
1	XA	358	U	C2-N1-C1'	-5.41	111.21	117.70
24	YA	2838	C	C6-N1-C2	-5.41	118.14	120.30
24	RA	1450	C	C5-C6-N1	5.41	123.70	121.00
1	QA	1449	C	C5-C6-N1	5.41	123.70	121.00
24	YA	1233	U	C5-C6-N1	5.41	125.40	122.70
24	YA	2054	G	N3-C4-C5	5.41	131.30	128.60
24	YA	2495	C	C5-C6-N1	5.41	123.70	121.00
1	QA	827	U	C6-N1-C2	-5.40	117.76	121.00
24	RA	1450	C	C2-N1-C1'	5.40	124.74	118.80
24	RA	1936	C	C2-N1-C1'	5.40	124.74	118.80
1	XA	747	C	N1-C2-O2	5.40	122.14	118.90
24	YA	1044	C	C5-C6-N1	5.40	123.70	121.00
24	RA	784	C	C5-C6-N1	5.40	123.70	121.00
24	RA	1463	C	N1-C2-O2	5.40	122.14	118.90
24	RA	1542	A	N7-C8-N9	5.40	116.50	113.80
24	YA	1364	C	C4-C5-C6	-5.40	114.70	117.40
24	RA	2330	G	N7-C8-N9	5.40	115.80	113.10
1	QA	1065	U	P-O3'-C3'	5.40	126.18	119.70
24	RA	182	U	N3-C2-O2	-5.40	118.42	122.20
24	RA	2332	A	C2-N3-C4	5.40	113.30	110.60
24	RA	2690	C	C5-C6-N1	5.40	123.70	121.00
24	RA	2878	A	C5-N7-C8	-5.40	101.20	103.90
24	YA	1693	C	N1-C2-O2	5.40	122.14	118.90
24	YA	2061	C	C6-N1-C2	-5.40	118.14	120.30
1	QA	789	U	C2-N1-C1'	5.40	124.18	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	QV	70	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	217	C	N1-C2-O2	5.39	122.14	118.90
1	XA	381	C	N3-C2-O2	-5.39	118.12	121.90
1	XA	717	C	N1-C2-O2	5.39	122.14	118.90
24	YA	470	C	C5-C6-N1	5.39	123.70	121.00
24	YA	739	C	C5-C6-N1	5.39	123.70	121.00
25	YB	28	C	N1-C2-O2	5.39	122.14	118.90
24	RA	2483	C	C5-C6-N1	5.39	123.70	121.00
24	RA	1022	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	2330	G	C8-N9-C4	-5.39	104.25	106.40
1	XA	1028(C)	C	N1-C2-O2	5.39	122.13	118.90
24	YA	400	U	N3-C2-O2	-5.39	118.43	122.20
24	YA	1352	C	C6-N1-C2	-5.39	118.14	120.30
1	QA	308	C	N1-C2-O2	5.39	122.13	118.90
24	YA	542	C	C6-N1-C2	-5.39	118.15	120.30
24	YA	2693	C	P-O3'-C3'	5.39	126.17	119.70
24	RA	1824	C	C5-C6-N1	5.38	123.69	121.00
1	XA	1237	C	N1-C2-O2	5.38	122.13	118.90
24	YA	1069	U	N3-C2-O2	-5.38	118.43	122.20
24	YA	1398	U	C5-C6-N1	5.38	125.39	122.70
24	YA	2333	G	N3-C4-C5	-5.38	125.91	128.60
24	YA	735	U	C5-C4-O4	-5.38	122.67	125.90
24	YA	73	A	N1-C2-N3	5.38	131.99	129.30
24	YA	1245	C	C6-N1-C2	-5.38	118.15	120.30
24	YA	2419	G	C6-C5-N7	-5.38	127.17	130.40
1	XA	910	C	C5-C6-N1	5.38	123.69	121.00
24	YA	1416	C	C6-N1-C2	-5.38	118.15	120.30
24	YA	2472	U	N3-C2-O2	-5.38	118.44	122.20
24	RA	1707	C	N3-C2-O2	-5.38	118.14	121.90
1	XA	792	A	C4-N9-C1'	5.38	135.98	126.30
24	YA	211	A	N1-C6-N6	-5.38	115.37	118.60
24	YA	2739	U	C2-N1-C1'	5.38	124.15	117.70
1	QA	221	C	N1-C2-O2	5.38	122.12	118.90
1	QA	307	C	C6-N1-C2	-5.37	118.15	120.30
1	QA	528	C	C2-N1-C1'	5.37	124.71	118.80
24	RA	2480	G	C8-N9-C1'	-5.37	120.02	127.00
1	XA	1109	C	N1-C2-O2	5.37	122.12	118.90
24	YA	969	C	C5-C6-N1	5.37	123.69	121.00
1	QA	1019	C	C6-N1-C2	-5.37	118.15	120.30
24	RA	309	C	N1-C2-O2	5.37	122.12	118.90
24	RA	562	C	C2-N1-C1'	5.37	124.71	118.80
1	XA	1059	C	C6-N1-C2	-5.37	118.15	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2227	G	N3-C4-N9	5.37	129.22	126.00
24	YA	2415	C	C2-N1-C1'	5.37	124.71	118.80
24	RA	1479	U	N1-C2-O2	5.37	126.56	122.80
24	RA	2266	C	N3-C2-O2	-5.37	118.14	121.90
1	QA	989	C	N3-C2-O2	-5.37	118.14	121.90
1	QA	623	C	C5-C6-N1	5.37	123.68	121.00
24	YA	462	C	C5-C6-N1	5.37	123.68	121.00
24	RA	2266	C	N1-C2-O2	5.36	122.12	118.90
24	RA	2603	C	C5-C6-N1	5.36	123.68	121.00
24	YA	994	C	C6-N1-C2	-5.36	118.16	120.30
1	QA	405	U	N3-C2-O2	-5.36	118.45	122.20
24	RA	1726	U	N1-C2-O2	5.36	126.55	122.80
24	YA	1313	U	C5-C6-N1	5.35	125.38	122.70
24	YA	1731	C	C6-N1-C2	-5.35	118.16	120.30
1	QA	218	C	C6-N1-C2	-5.35	118.16	120.30
21	QU	15	ARG	NE-CZ-NH1	5.35	122.98	120.30
24	RA	2849	G	N3-C4-C5	-5.35	125.92	128.60
24	YA	45	C	C5-C6-N1	5.35	123.68	121.00
24	YA	66	U	N1-C2-O2	5.35	126.55	122.80
24	YA	1577	C	C5-C6-N1	5.35	123.67	121.00
24	RA	1775	C	C5-C6-N1	5.35	123.67	121.00
1	XA	1237	C	C6-N1-C2	-5.35	118.16	120.30
24	YA	1180	C	N1-C2-O2	5.35	122.11	118.90
1	XA	943	U	N3-C2-O2	-5.35	118.46	122.20
24	YA	2224	C	C6-N1-C2	-5.35	118.16	120.30
24	RA	660	C	C5-C6-N1	5.34	123.67	121.00
24	RA	2513	C	C2-N1-C1'	-5.34	112.92	118.80
24	YA	2121	U	N1-C2-O2	5.34	126.54	122.80
24	YA	2407	C	C6-N1-C2	-5.34	118.16	120.30
24	YA	2588	G	C8-N9-C1'	-5.34	120.05	127.00
24	YA	2858	G	O4'-C1'-N9	5.34	112.47	108.20
24	RA	482	C	N3-C2-O2	-5.34	118.16	121.90
24	YA	903	C	C2-N3-C4	5.34	122.57	119.90
24	RA	784	C	C6-N1-C2	-5.34	118.16	120.30
1	XA	509	A	C8-N9-C4	-5.34	103.66	105.80
24	YA	280	C	N3-C2-O2	-5.34	118.16	121.90
24	YA	1550	C	N1-C2-O2	5.34	122.11	118.90
24	YA	2712	C	N1-C2-O2	5.34	122.11	118.90
24	RA	2085	C	C5-C6-N1	5.34	123.67	121.00
14	QN	44	LEU	CA-CB-CG	5.34	127.57	115.30
24	RA	1951	G	C4-N9-C1'	5.34	133.44	126.50
24	YA	1651	C	C6-N1-C2	-5.34	118.17	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1797	U	N3-C2-O2	-5.34	118.47	122.20
24	YA	2591	C	C5-C6-N1	5.34	123.67	121.00
24	RA	1422	C	C5-C6-N1	5.33	123.67	121.00
24	YA	712	C	N1-C2-O2	5.33	122.10	118.90
24	YA	894	U	C4-C5-C6	5.33	122.90	119.70
24	YA	2485	U	N3-C2-O2	-5.33	118.47	122.20
24	RA	950	C	C2-N1-C1'	5.33	124.67	118.80
24	RA	2091	G	C8-N9-C4	-5.33	104.27	106.40
1	XA	390	C	C5-C6-N1	5.33	123.67	121.00
24	YA	1352	C	C5-C6-N1	5.33	123.67	121.00
1	XA	1347	G	C8-N9-C1'	5.33	133.93	127.00
24	YA	796	C	C6-N1-C2	-5.33	118.17	120.30
1	XA	123	C	C6-N1-C2	-5.33	118.17	120.30
1	QA	1263	C	N3-C2-O2	-5.33	118.17	121.90
24	YA	447	C	C6-N1-C2	-5.33	118.17	120.30
24	YA	1579	C	C2-N1-C1'	5.33	124.66	118.80
24	RA	1037	C	C5-C6-N1	5.33	123.66	121.00
24	RA	1521	C	N3-C2-O2	-5.33	118.17	121.90
24	RA	2183	C	N3-C2-O2	-5.33	118.17	121.90
1	XA	540	G	C8-N9-C4	-5.33	104.27	106.40
24	YA	1936	C	C6-N1-C2	-5.33	118.17	120.30
24	YA	1972	G	O4'-C1'-N9	5.33	112.46	108.20
1	XA	449	C	C6-N1-C2	-5.32	118.17	120.30
24	YA	908	A	C8-N9-C4	-5.32	103.67	105.80
24	YA	2807	C	C5-C6-N1	5.32	123.66	121.00
24	YA	924	U	C5-C6-N1	5.32	125.36	122.70
1	QA	690	G	C8-N9-C4	-5.32	104.27	106.40
24	RA	2319	G	C8-N9-C1'	-5.32	120.08	127.00
24	RA	2800	C	N1-C2-O2	5.32	122.09	118.90
24	YA	588	C	N1-C2-O2	5.32	122.09	118.90
24	YA	872	C	C6-N1-C2	-5.32	118.17	120.30
24	YA	2492	C	N1-C2-O2	5.32	122.09	118.90
24	YA	2752	U	C6-N1-C2	-5.32	117.81	121.00
24	RA	2066	C	C6-N1-C2	-5.32	118.17	120.30
24	RA	2413	U	N3-C2-O2	-5.32	118.48	122.20
1	XA	960	U	N3-C2-O2	-5.32	118.48	122.20
24	RA	1365	G	N3-C4-N9	5.32	129.19	126.00
24	RA	2502	G	C4-N9-C1'	5.32	133.41	126.50
24	YA	1207	C	C6-N1-C2	-5.32	118.17	120.30
1	XA	404	U	N3-C2-O2	-5.31	118.48	122.20
24	YA	2694	U	C5-C6-N1	5.31	125.36	122.70
25	RB	91	C	C6-N1-C2	-5.31	118.17	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	705	C	C6-N1-C2	-5.31	118.17	120.30
1	QA	182	U	C5-C6-N1	5.31	125.36	122.70
24	YA	939	C	C2-N1-C1'	5.31	124.64	118.80
24	RA	462	C	N1-C2-O2	5.31	122.08	118.90
24	RA	1904	C	N1-C2-O2	5.31	122.08	118.90
24	YA	226	C	C5-C6-N1	5.31	123.66	121.00
24	YA	1559	C	C5-C6-N1	5.31	123.66	121.00
24	YA	1875	C	C6-N1-C2	-5.31	118.18	120.30
24	RA	2016	C	C6-N1-C2	-5.31	118.18	120.30
24	RA	2899	C	N1-C2-O2	5.31	122.08	118.90
25	RB	31	C	C2-N3-C4	5.31	122.55	119.90
24	RA	2456	G	N1-C6-O6	-5.30	116.72	119.90
24	RA	1214	G	C6-C5-N7	-5.30	127.22	130.40
24	YA	2111	U	C6-N1-C2	-5.30	117.82	121.00
24	RA	893	C	P-O3'-C3'	5.30	126.06	119.70
1	XA	699	C	C6-N1-C2	-5.30	118.18	120.30
24	YA	112	U	N3-C4-O4	5.30	123.11	119.40
24	YA	720	C	N1-C2-O2	5.30	122.08	118.90
1	QA	314	C	C6-N1-C2	-5.30	118.18	120.30
24	YA	2587	C	C5-C6-N1	5.30	123.65	121.00
24	RA	2846	U	N3-C2-O2	-5.30	118.49	122.20
24	YA	2502	G	C8-N9-C1'	-5.30	120.11	127.00
24	RA	894	U	C2-N1-C1'	-5.30	111.34	117.70
1	XA	1397	C	N3-C2-O2	-5.30	118.19	121.90
24	YA	726	C	C5-C6-N1	5.30	123.65	121.00
24	RA	65	C	C5-C6-N1	5.29	123.65	121.00
24	RA	242	C	C5-C6-N1	5.29	123.65	121.00
24	YA	1939	U	N3-C2-O2	-5.29	118.50	122.20
24	YA	2835	C	C6-N1-C2	-5.29	118.18	120.30
24	YA	2863	C	C5-C6-N1	5.29	123.65	121.00
24	RA	587	C	C6-N1-C2	-5.29	118.18	120.30
24	RA	1425	A	C5-N7-C8	-5.29	101.25	103.90
1	XA	186(B)	C	N3-C2-O2	-5.29	118.20	121.90
24	YA	132	C	N3-C2-O2	-5.29	118.20	121.90
24	RA	2428	C	C5-C6-N1	5.29	123.64	121.00
1	XA	435	C	C6-N1-C2	-5.29	118.19	120.30
23	XX	7	G	C8-N9-C4	-5.29	104.28	106.40
24	RA	795	G	O4'-C1'-N9	5.29	112.43	108.20
24	RA	944	C	C6-N1-C2	-5.29	118.19	120.30
24	RA	2230	U	C2-N1-C1'	5.29	124.04	117.70
24	YA	1426	G	N3-C4-N9	5.29	129.17	126.00
24	RA	2298	A	C5-N7-C8	-5.28	101.26	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	394	C	N3-C2-O2	-5.28	118.20	121.90
24	YA	2067	C	C5-C6-N1	5.28	123.64	121.00
1	QA	1502	A	N7-C8-N9	5.28	116.44	113.80
24	YA	819	C	C6-N1-C2	-5.28	118.19	120.30
24	RA	2164	C	C6-N1-C2	-5.28	118.19	120.30
1	XA	1502	A	C4-C5-N7	5.28	113.34	110.70
24	RA	1650	C	C6-N1-C2	-5.28	118.19	120.30
24	RA	823	G	C8-N9-C4	-5.28	104.29	106.40
24	RA	1015	C	C5-C6-N1	5.28	123.64	121.00
24	YA	1068	G	C8-N9-C4	-5.28	104.29	106.40
25	YB	37	C	N1-C2-O2	5.28	122.06	118.90
24	RA	634	C	C5-C6-N1	5.27	123.64	121.00
24	YA	2759	U	C5-C6-N1	5.27	125.34	122.70
24	RA	172	C	N1-C2-O2	5.27	122.06	118.90
24	RA	1067	A	C8-N9-C4	-5.27	103.69	105.80
1	XA	186(B)	C	N1-C2-O2	5.27	122.06	118.90
24	YA	182	U	N1-C2-O2	5.27	126.49	122.80
24	YA	2063	U	C6-N1-C2	-5.27	117.84	121.00
1	QA	1362(A)	C	C5-C6-N1	5.27	123.63	121.00
24	YA	550	U	C6-N1-C2	-5.27	117.84	121.00
24	RA	2846	U	C6-N1-C2	-5.27	117.84	121.00
1	XA	252	U	N3-C2-O2	-5.27	118.51	122.20
24	YA	2319	G	O4'-C1'-N9	5.27	112.41	108.20
24	RA	796	C	N3-C2-O2	-5.27	118.21	121.90
24	YA	1479	U	N3-C2-O2	-5.27	118.51	122.20
24	RA	805	C	N3-C2-O2	-5.26	118.22	121.90
1	XA	1495	U	C5-C6-N1	5.26	125.33	122.70
24	YA	2616	U	N3-C2-O2	-5.26	118.52	122.20
31	RI	114	LEU	CA-CB-CG	5.26	127.41	115.30
24	RA	768	C	C5-C6-N1	5.26	123.63	121.00
24	RA	2407	C	C5-C6-N1	5.26	123.63	121.00
25	YB	92	G	C6-N1-C2	-5.26	121.94	125.10
25	YB	96	G	C6-N1-C2	-5.26	121.94	125.10
24	YA	881	C	C6-N1-C2	-5.26	118.20	120.30
24	YA	1231	G	N7-C8-N9	5.26	115.73	113.10
24	RA	1336	C	N1-C2-O2	5.26	122.06	118.90
24	RA	1551	C	N3-C2-O2	-5.26	118.22	121.90
1	XA	209	U	C5-C6-N1	5.26	125.33	122.70
24	YA	733	G	C5-C6-N1	5.26	114.13	111.50
1	XA	1336	C	C6-N1-C2	-5.26	118.20	120.30
24	YA	749	G	N3-C4-N9	5.26	129.15	126.00
24	YA	1904	C	N1-C2-O2	5.26	122.05	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2677	A	N7-C8-N9	5.26	116.43	113.80
1	QA	1277	C	N1-C2-O2	5.25	122.05	118.90
1	QA	1322	C	C5-C6-N1	5.25	123.63	121.00
24	YA	665	C	N1-C2-O2	5.25	122.05	118.90
24	YA	909	G	N3-C4-C5	-5.25	125.97	128.60
24	YA	1038	C	C5-C6-N1	5.25	123.63	121.00
24	RA	884	C	C5-C6-N1	5.25	123.62	121.00
24	RA	1903	C	C2-N1-C1'	5.25	124.57	118.80
24	RA	2160	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	989	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	1135	U	C5-C6-N1	5.25	125.32	122.70
1	QA	34	C	N1-C2-O2	5.25	122.05	118.90
24	YA	1798	C	C6-N1-C2	-5.25	118.20	120.30
24	YA	2884	C	N1-C2-O2	5.25	122.05	118.90
24	RA	422	U	N3-C2-O2	-5.25	118.53	122.20
24	RA	1270	C	C6-N1-C2	-5.25	118.20	120.30
1	XA	936	C	N1-C2-O2	5.25	122.05	118.90
24	YA	141	C	C6-N1-C2	-5.25	118.20	120.30
24	RA	1978	U	C5-C6-N1	5.24	125.32	122.70
24	YA	1475	G	C6-C5-N7	-5.24	127.25	130.40
24	YA	2066	C	N1-C2-O2	5.24	122.05	118.90
24	YA	2842	U	P-O3'-C3'	5.24	125.99	119.70
24	RA	1798	C	C6-N1-C2	-5.24	118.20	120.30
24	RA	2486	C	N3-C2-O2	-5.24	118.23	121.90
1	XA	346	G	C4-N9-C1'	5.24	133.31	126.50
1	XA	764	C	C6-N1-C2	-5.24	118.20	120.30
1	QA	1502	A	C6-C5-N7	-5.24	128.63	132.30
1	XA	556	C	C5-C6-N1	5.24	123.62	121.00
1	XA	477	G	N3-C4-N9	5.24	129.14	126.00
1	QA	554	C	C6-N1-C2	-5.24	118.21	120.30
24	RA	1303	C	C6-N1-C2	-5.23	118.21	120.30
1	XA	449	C	N1-C2-O2	5.23	122.04	118.90
12	XL	60	LEU	CA-CB-CG	5.23	127.34	115.30
24	YA	1002	A	N9-C4-C5	-5.23	103.71	105.80
24	YA	1868	C	C6-N1-C2	-5.23	118.21	120.30
1	XA	1103	C	C6-N1-C2	-5.23	118.21	120.30
1	XA	1161	C	N1-C2-O2	5.23	122.04	118.90
1	QA	749	C	N3-C2-O2	-5.23	118.24	121.90
24	RA	744	C	C5-C6-N1	5.23	123.61	121.00
24	RA	1110	C	N3-C2-O2	-5.23	118.24	121.90
24	YA	528	A	OP2-P-O3'	5.23	116.71	105.20
24	YA	1255	A	C4-C5-N7	5.23	113.31	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2826	C	C5-C6-N1	5.23	123.62	121.00
1	QA	1260	C	N1-C2-O2	5.23	122.04	118.90
24	RA	1358	U	C6-N1-C2	-5.23	117.86	121.00
1	XA	328	C	C5-C6-N1	5.23	123.61	121.00
24	YA	65	C	C6-N1-C2	-5.23	118.21	120.30
24	YA	1335	C	N1-C2-O2	5.23	122.04	118.90
24	RA	2737	C	C6-N1-C2	-5.23	118.21	120.30
1	XA	1199	U	C6-N1-C2	-5.23	117.86	121.00
24	YA	1510	C	C5-C6-N1	5.23	123.61	121.00
1	QA	222	U	N3-C2-O2	-5.22	118.54	122.20
24	RA	2442	A	C8-N9-C4	-5.22	103.71	105.80
24	YA	471	C	N1-C2-O2	5.22	122.03	118.90
24	RA	2432	C	C5-C6-N1	5.22	123.61	121.00
1	XA	217	C	C5-C6-N1	5.22	123.61	121.00
24	YA	102	U	N3-C2-O2	-5.22	118.54	122.20
24	YA	478	G	C8-N9-C4	-5.22	104.31	106.40
24	YA	1233	U	N1-C2-O2	5.22	126.45	122.80
24	YA	2270	C	C6-N1-C2	-5.22	118.21	120.30
24	RA	1581	U	C2-N1-C1'	5.22	123.96	117.70
1	QA	395	C	N1-C2-O2	5.22	122.03	118.90
24	RA	944	C	N3-C2-O2	-5.22	118.25	121.90
24	RA	1252	C	C5-C6-N1	5.22	123.61	121.00
24	RA	1578	C	C6-N1-C2	-5.22	118.21	120.30
24	RA	854	U	N1-C2-O2	5.21	126.45	122.80
24	RA	2772	G	C4-C5-N7	5.21	112.89	110.80
24	YA	267	C	C5-C6-N1	5.21	123.61	121.00
25	YB	104	A	N3-C4-C5	5.21	130.45	126.80
24	RA	659	C	C5-C6-N1	5.21	123.61	121.00
24	YA	800	C	C2-N3-C4	5.21	122.51	119.90
24	RA	1590	C	N1-C2-O2	5.21	122.03	118.90
24	YA	2707	C	C5-C6-N1	5.21	123.61	121.00
24	RA	45	C	C6-N1-C2	-5.21	118.22	120.30
1	QA	536	C	C6-N1-C2	-5.21	118.22	120.30
24	RA	64	C	N1-C2-O2	5.21	122.03	118.90
24	RA	2097	U	N3-C4-O4	5.21	123.05	119.40
24	RA	2586	G	C6-C5-N7	-5.21	127.28	130.40
24	YA	830	A	N1-C6-N6	5.21	121.72	118.60
1	QA	545	C	C6-N1-C2	-5.21	118.22	120.30
24	YA	98	U	OP2-P-O3'	5.21	116.66	105.20
29	YG	82	LEU	CB-CG-CD1	-5.21	102.15	111.00
24	YA	603	C	C2-N3-C4	5.21	122.50	119.90
24	RA	554	A	N7-C8-N9	5.20	116.40	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	446	C	C5-C6-N1	5.20	123.60	121.00
24	YA	1260	G	C8-N9-C4	-5.20	104.32	106.40
24	RA	795	G	C8-N9-C1'	5.20	133.76	127.00
1	XA	924	C	C6-N1-C2	-5.20	118.22	120.30
24	YA	975	U	C2-N1-C1'	5.20	123.94	117.70
24	YA	1247	C	C6-N1-C2	-5.20	118.22	120.30
1	QA	283	C	N3-C2-O2	-5.20	118.26	121.90
25	RB	80	U	N3-C2-O2	-5.20	118.56	122.20
1	XA	990	C	C6-N1-C2	-5.20	118.22	120.30
24	YA	411	U	N1-C2-O2	5.20	126.44	122.80
24	YA	2227	G	C8-N9-C1'	-5.20	120.24	127.00
1	QA	54	C	C6-N1-C2	-5.20	118.22	120.30
1	QA	1045	C	N1-C2-O2	5.20	122.02	118.90
1	QA	1096	C	N3-C2-O2	-5.20	118.26	121.90
24	YA	2550	C	N1-C2-O2	5.20	122.02	118.90
24	YA	1634	C	C5-C6-N1	5.19	123.60	121.00
1	QA	827	U	N3-C2-O2	-5.19	118.56	122.20
1	QA	1114	C	N1-C2-O2	5.19	122.02	118.90
1	XA	1477	C	C6-N1-C2	-5.19	118.22	120.30
24	YA	654	G	C8-N9-C4	-5.19	104.32	106.40
24	YA	2030	C	C5-C6-N1	5.19	123.60	121.00
24	RA	275	C	N3-C2-O2	-5.19	118.27	121.90
24	YA	343	C	N1-C2-O2	5.19	122.01	118.90
24	RA	1044	C	C5-C6-N1	5.19	123.59	121.00
22	XV	3	G	N3-C4-C5	-5.19	126.01	128.60
24	YA	1711	A	C8-N9-C4	-5.19	103.72	105.80
24	RA	538	A	N7-C8-N9	5.19	116.39	113.80
1	XA	1237	C	N3-C2-O2	-5.19	118.27	121.90
24	YA	187	C	N1-C2-O2	5.19	122.01	118.90
24	YA	1595	C	C5-C6-N1	5.19	123.59	121.00
24	YA	2480	G	N7-C8-N9	5.19	115.69	113.10
24	YA	2511	C	C5-C6-N1	5.19	123.59	121.00
24	RA	1875	C	C6-N1-C2	-5.19	118.22	120.30
25	YB	96	G	C5-N7-C8	-5.18	101.71	104.30
1	QA	1447	G	C6-C5-N7	-5.18	127.29	130.40
24	RA	1644	C	N1-C2-O2	5.18	122.01	118.90
24	RA	2724	U	C2-N1-C1'	5.18	123.92	117.70
9	QI	47	LEU	CA-CB-CG	5.18	127.22	115.30
1	QA	354	G	C4-N9-C1'	5.18	133.23	126.50
24	RA	2028	C	N3-C2-O2	-5.18	118.28	121.90
24	RA	2085	C	N3-C2-O2	-5.18	118.27	121.90
24	YA	604	C	C6-N1-C2	-5.18	118.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	848	C	C5-C6-N1	5.18	123.59	121.00
1	XA	690	G	O4'-C1'-N9	5.18	112.34	108.20
24	RA	1214	G	C4-N9-C1'	5.18	133.23	126.50
24	RA	1521	C	C2-N1-C1'	5.18	124.50	118.80
1	XA	936	C	N3-C2-O2	-5.18	118.28	121.90
24	YA	470	C	C6-N1-C2	-5.18	118.23	120.30
24	YA	670	C	C5-C6-N1	5.18	123.59	121.00
24	YA	2250	G	N3-C4-N9	5.18	129.11	126.00
24	RA	706	C	N1-C2-O2	5.17	122.00	118.90
1	XA	1357	A	N7-C8-N9	5.17	116.39	113.80
24	YA	326	C	C6-N1-C2	-5.17	118.23	120.30
24	RA	1133	G	C8-N9-C1'	5.17	133.72	127.00
1	XA	732	C	C6-N1-C2	-5.17	118.23	120.30
1	XA	1163	C	N1-C2-O2	5.17	122.00	118.90
24	YA	711	C	C6-N1-C2	-5.17	118.23	120.30
24	YA	399	G	C8-N9-C1'	5.17	133.72	127.00
24	YA	562	C	N1-C2-O2	5.17	122.00	118.90
24	YA	2571	C	C2-N1-C1'	5.17	124.48	118.80
24	RA	603	C	C5-C6-N1	5.17	123.58	121.00
24	YA	768	C	C5-C6-N1	5.17	123.58	121.00
24	RA	419	C	C5-C6-N1	5.17	123.58	121.00
24	YA	1923	A	C2-N3-C4	5.17	113.18	110.60
24	RA	548	C	C6-N1-C2	-5.16	118.23	120.30
24	YA	907	U	C6-N1-C2	-5.16	117.90	121.00
24	YA	1453	C	C2-N3-C4	5.16	122.48	119.90
24	RA	2739	U	C2-N1-C1'	5.16	123.89	117.70
24	RA	1963	C	N1-C2-O2	5.16	122.00	118.90
24	YA	1858	C	C6-N1-C2	-5.16	118.24	120.30
24	YA	2355	C	N3-C2-O2	-5.16	118.29	121.90
24	RA	554	A	C8-N9-C4	-5.16	103.74	105.80
24	RA	893	C	N3-C2-O2	-5.16	118.29	121.90
24	YA	2837	C	C4-C5-C6	-5.16	114.82	117.40
1	QA	1246	C	C6-N1-C2	-5.16	118.24	120.30
24	RA	1359	U	C6-N1-C2	-5.16	117.91	121.00
24	YA	139	A	C4-C5-N7	5.16	113.28	110.70
25	YB	103	U	N3-C2-O2	-5.15	118.59	122.20
24	YA	725	C	C6-N1-C2	-5.15	118.24	120.30
24	YA	2442	A	N1-C2-N3	5.15	131.88	129.30
24	YA	2502	G	C6-C5-N7	-5.15	127.31	130.40
24	RA	863	C	C5-C6-N1	5.15	123.58	121.00
24	RA	2088	C	N3-C2-O2	-5.15	118.29	121.90
24	RA	950	C	N1-C2-O2	5.15	121.99	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	566	C	C5-C6-N1	5.15	123.58	121.00
24	YA	1806	U	C6-N1-C2	-5.15	117.91	121.00
24	RA	1138	C	C2-N3-C4	5.15	122.47	119.90
24	YA	1122	C	N1-C2-O2	5.15	121.99	118.90
24	RA	2014	G	P-O3'-C3'	5.15	125.88	119.70
24	RA	2743	C	C5-C6-N1	5.15	123.57	121.00
24	YA	1389	G	C8-N9-C4	-5.15	104.34	106.40
24	YA	1072	U	P-O3'-C3'	5.14	125.87	119.70
24	RA	2111	U	C5-C6-N1	5.14	125.27	122.70
24	YA	2088	C	C6-N1-C2	-5.14	118.24	120.30
1	XA	1406	U	N3-C2-O2	-5.14	118.60	122.20
24	YA	1070	G	N3-C4-N9	5.14	129.09	126.00
1	QA	1126	U	C5-C6-N1	5.14	125.27	122.70
24	RA	826	U	N1-C2-O2	5.14	126.40	122.80
24	YA	1813	C	C5-C6-N1	5.14	123.57	121.00
1	XA	169	C	C5-C6-N1	5.14	123.57	121.00
24	YA	1637	G	C4-C5-N7	5.14	112.86	110.80
50	Y5	6	VAL	CG1-CB-CG2	-5.14	102.68	110.90
24	RA	1128	U	C2-N1-C1'	5.14	123.86	117.70
24	YA	961	C	C6-N1-C2	-5.14	118.25	120.30
24	RA	2837	C	N1-C2-O2	5.13	121.98	118.90
24	YA	2840	G	C8-N9-C4	-5.13	104.35	106.40
1	XA	358	U	C1'-O4'-C4'	-5.13	105.80	109.90
1	XA	812	C	OP2-P-O3'	5.13	116.49	105.20
24	RA	1733	C	N1-C2-O2	5.13	121.98	118.90
24	YA	637	U	C6-N1-C2	-5.13	117.92	121.00
24	YA	950	C	C6-N1-C2	-5.13	118.25	120.30
24	RA	885	C	C6-N1-C2	-5.13	118.25	120.30
1	XA	23	C	C6-N1-C2	-5.13	118.25	120.30
24	YA	1767	A	O4'-C1'-N9	5.13	112.30	108.20
24	YA	2485	U	N1-C2-O2	5.13	126.39	122.80
1	QA	891	U	N1-C2-O2	5.12	126.39	122.80
24	YA	1903	C	C2-N1-C1'	5.12	124.44	118.80
1	QA	1282	C	C6-N1-C2	-5.12	118.25	120.30
24	RA	1155	C	C2-N1-C1'	5.12	124.44	118.80
24	YA	1421	C	N1-C2-O2	5.12	121.97	118.90
24	YA	2688	C	C6-N1-C2	-5.12	118.25	120.30
1	QA	1406	U	N1-C2-O2	5.12	126.39	122.80
24	RA	950	C	C6-N1-C2	-5.12	118.25	120.30
24	YA	2550	C	C5-C6-N1	5.12	123.56	121.00
1	QA	717	C	N1-C2-O2	5.12	121.97	118.90
24	YA	140	A	C6-C5-N7	-5.12	128.72	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	989	G	C8-N9-C1'	-5.12	120.35	127.00
24	YA	2111	U	N3-C2-O2	-5.12	118.62	122.20
24	YA	985	G	C8-N9-C4	-5.12	104.35	106.40
25	YB	10	C	C5-C6-N1	5.12	123.56	121.00
24	RA	444	C	N1-C2-O2	5.11	121.97	118.90
24	RA	1249	A	O4'-C1'-N9	5.11	112.29	108.20
1	XA	528	C	C2-N1-C1'	5.11	124.43	118.80
24	YA	18	C	C5-C6-N1	5.11	123.56	121.00
24	YA	808	A	C5-N7-C8	-5.11	101.34	103.90
24	YA	2369	U	C5-C6-N1	5.11	125.26	122.70
24	RA	118	U	C2-N1-C1'	5.11	123.83	117.70
24	RA	2082	A	P-O3'-C3'	5.11	125.83	119.70
24	YA	1806	U	N3-C4-O4	5.11	122.98	119.40
24	YA	118	U	C2-N1-C1'	5.11	123.83	117.70
1	QA	1059	C	C6-N1-C2	-5.11	118.26	120.30
24	RA	893	C	C6-N1-C2	-5.11	118.26	120.30
24	YA	2088	C	N3-C2-O2	-5.11	118.33	121.90
24	YA	2238	C	N3-C2-O2	-5.11	118.33	121.90
24	YA	2884	C	C2-N1-C1'	5.10	124.42	118.80
24	RA	1120	G	N3-C4-N9	5.10	129.06	126.00
24	RA	2712	C	N1-C2-O2	5.10	121.96	118.90
24	RA	2859	U	O4'-C1'-N1	5.10	112.28	108.20
24	YA	1086	C	N1-C2-O2	5.10	121.96	118.90
24	YA	1452	U	C2-N3-C4	5.10	130.06	127.00
24	YA	1531	G	C6-C5-N7	-5.10	127.34	130.40
1	XA	1246	C	C5-C6-N1	5.10	123.55	121.00
1	XA	1267	C	C6-N1-C2	-5.10	118.26	120.30
1	XA	780	A	C8-N9-C4	-5.10	103.76	105.80
24	YA	672	G	N3-C4-C5	-5.10	126.05	128.60
24	YA	950	C	N3-C2-O2	-5.10	118.33	121.90
24	RA	712	C	N1-C2-O2	5.10	121.96	118.90
1	XA	1505	G	N3-C4-N9	-5.10	122.94	126.00
24	YA	2368	C	C6-N1-C2	-5.10	118.26	120.30
24	RA	2021	C	C5-C6-N1	5.09	123.55	121.00
24	YA	98	U	P-O3'-C3'	5.09	125.81	119.70
24	YA	140	A	C6-N1-C2	5.09	121.66	118.60
24	YA	399	G	C4-N9-C1'	-5.09	119.88	126.50
24	YA	1452	U	C6-N1-C2	-5.09	117.94	121.00
24	YA	2407	C	C5-C6-N1	5.09	123.55	121.00
24	RA	544	U	C5-C6-N1	5.09	125.25	122.70
24	YA	287	G	P-O3'-C3'	5.09	125.81	119.70
24	RA	1977	U	C6-N1-C1'	-5.09	114.07	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	637	U	C2-N1-C1'	5.09	123.81	117.70
24	RA	1070	G	N3-C4-N9	5.09	129.05	126.00
24	RA	2591	C	C5-C6-N1	5.09	123.55	121.00
3	QC	101	LEU	CA-CB-CG	5.09	127.00	115.30
1	XA	563	A	C4-N9-C1'	5.09	135.45	126.30
24	YA	112	U	C6-N1-C2	-5.09	117.95	121.00
24	RA	624	C	C6-N1-C2	-5.08	118.27	120.30
24	RA	1766	G	N3-C4-N9	5.08	129.05	126.00
24	YA	607	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	670	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	1433	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	2800	C	N1-C2-O2	5.08	121.95	118.90
24	RA	723	A	C4-C5-N7	5.08	113.24	110.70
24	YA	887	C	C2-N3-C4	5.08	122.44	119.90
24	YA	2118	U	N1-C2-O2	5.08	126.36	122.80
24	RA	1225	C	C6-N1-C2	-5.08	118.27	120.30
24	RA	2150	C	N3-C2-O2	-5.08	118.34	121.90
24	RA	2648	U	N3-C2-O2	-5.08	118.64	122.20
24	YA	2797	C	C5-C6-N1	5.08	123.54	121.00
24	RA	1186	U	C6-N1-C1'	5.08	128.31	121.20
24	YA	1830	G	C2'-C3'-O3'	5.08	121.82	113.70
24	RA	513	C	C5-C6-N1	5.08	123.54	121.00
24	YA	1556	A	N3-C4-N9	5.08	131.46	127.40
24	RA	1444	C	C6-N1-C2	-5.08	118.27	120.30
24	RA	1596	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	630	U	C6-N1-C2	-5.08	117.95	121.00
24	YA	1810	U	N1-C2-O2	5.08	126.35	122.80
24	YA	1972	G	N7-C8-N9	5.08	115.64	113.10
24	RA	211	A	P-O3'-C3'	5.07	125.79	119.70
24	RA	1133	G	C4-N9-C1'	-5.07	119.91	126.50
24	RA	2483	C	C2-N1-C1'	5.07	124.38	118.80
24	RA	1164	C	C6-N1-C2	-5.07	118.27	120.30
24	RA	1939	U	C5-C6-N1	5.07	125.24	122.70
24	RA	2421	G	N3-C4-N9	5.07	129.04	126.00
24	YA	342	C	C6-N1-C2	-5.07	118.27	120.30
24	YA	1051	C	N1-C2-O2	5.07	121.94	118.90
1	XA	153	C	N1-C2-O2	5.07	121.94	118.90
24	YA	138	G	C4-C5-N7	-5.07	108.77	110.80
24	YA	940	C	N1-C2-O2	5.07	121.94	118.90
24	RA	2004	C	N1-C2-O2	5.07	121.94	118.90
24	YA	542	C	N1-C2-O2	5.07	121.94	118.90
24	RA	309	C	C6-N1-C2	-5.07	118.27	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	755	C	C2-N1-C1'	5.07	124.38	118.80
1	XA	961	U	N3-C2-O2	-5.07	118.65	122.20
1	XA	1381	U	C6-N1-C2	-5.07	117.96	121.00
24	RA	41	C	N1-C2-O2	5.07	121.94	118.90
24	YA	2492	C	C6-N1-C2	-5.07	118.27	120.30
25	YB	84	C	C5-C6-N1	5.07	123.53	121.00
1	XA	910	C	C6-N1-C2	-5.06	118.27	120.30
24	RA	537	G	O4'-C1'-N9	5.06	112.25	108.20
24	RA	2703	C	C5-C6-N1	5.06	123.53	121.00
24	YA	2752	U	C5-C6-N1	5.06	125.23	122.70
22	QV	54	U	C5-C6-N1	5.06	125.23	122.70
24	RA	237	G	C6-C5-N7	-5.06	127.36	130.40
24	YA	392	U	N3-C2-O2	-5.06	118.66	122.20
24	YA	2090	U	C2-N3-C4	5.06	130.04	127.00
1	XA	1037	C	C5-C6-N1	5.06	123.53	121.00
24	YA	1953	U	N1-C2-O2	5.06	126.34	122.80
1	QA	174	C	C6-N1-C2	-5.06	118.28	120.30
24	RA	2554	A	C4-C5-C6	-5.06	114.47	117.00
24	YA	1455	C	C5-C6-N1	5.06	123.53	121.00
24	YA	2768	C	C6-N1-C2	-5.06	118.28	120.30
24	RA	410	U	C2-N1-C1'	-5.06	111.63	117.70
24	YA	1515	C	C6-N1-C2	-5.06	118.28	120.30
24	RA	1379	C	C6-N1-C2	-5.05	118.28	120.30
24	RA	2159	C	C2-N1-C1'	5.05	124.36	118.80
1	XA	291	C	C6-N1-C2	-5.05	118.28	120.30
24	YA	664	U	C5-C6-N1	5.05	125.23	122.70
24	YA	1212	C	N1-C2-O2	5.05	121.93	118.90
22	XV	68	C	C6-N1-C2	-5.05	118.28	120.30
24	YA	2456	G	C5-C6-O6	5.05	131.63	128.60
24	RA	2473	C	N1-C2-O2	5.05	121.93	118.90
24	YA	2863	C	C6-N1-C2	-5.05	118.28	120.30
1	QA	56	U	N3-C4-O4	5.05	122.94	119.40
24	RA	1942	C	N1-C2-O2	5.05	121.93	118.90
24	YA	68	C	C6-N1-C2	-5.05	118.28	120.30
1	QA	1378	C	N1-C2-O2	5.05	121.93	118.90
24	YA	897	C	C5-C6-N1	5.05	123.52	121.00
24	YA	1866	G	N3-C4-N9	5.05	129.03	126.00
24	YA	864	C	N1-C2-O2	5.04	121.93	118.90
24	YA	2061	C	N1-C2-O2	5.04	121.93	118.90
24	YA	2785	C	C6-N1-C2	-5.04	118.28	120.30
1	QA	717	C	C6-N1-C2	-5.04	118.28	120.30
24	RA	315	C	C6-N1-C2	-5.04	118.28	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	108	G	C4-N9-C1'	5.04	133.05	126.50
24	RA	729	G	C5-C6-O6	5.04	131.62	128.60
24	RA	2333	G	C8-N9-C4	-5.04	104.38	106.40
25	RB	47	C	N3-C2-O2	-5.04	118.37	121.90
1	XA	1024	G	N3-C4-N9	5.04	129.03	126.00
24	RA	297	C	N1-C2-O2	5.04	121.92	118.90
1	QA	1301	U	C6-N1-C2	-5.04	117.98	121.00
24	RA	2700	U	C5-C4-O4	5.04	128.92	125.90
24	YA	961	C	N3-C2-O2	-5.04	118.37	121.90
24	RA	1895	U	N3-C2-O2	-5.04	118.67	122.20
25	RB	27	C	C5-C6-N1	5.04	123.52	121.00
24	YA	2311	G	C6-C5-N7	-5.04	127.38	130.40
24	RA	555	G	C8-N9-C1'	5.04	133.54	127.00
24	RA	2714	U	N1-C2-N3	5.04	117.92	114.90
24	RA	2014	G	OP2-P-O3'	5.03	116.27	105.20
24	RA	2516	U	N1-C2-O2	5.03	126.32	122.80
24	YA	1921	G	C6-C5-N7	-5.03	127.38	130.40
24	YA	2250	G	C2-N3-C4	5.03	114.42	111.90
24	RA	2125	C	C4-C5-C6	5.03	119.92	117.40
24	YA	1059	C	C5-C6-N1	5.03	123.52	121.00
1	QA	545	C	N1-C2-O2	5.03	121.92	118.90
24	RA	394	C	C5-C6-N1	5.03	123.52	121.00
24	YA	1378	G	N1-C2-N2	-5.03	111.67	116.20
24	YA	2227	G	N3-C4-C5	-5.03	126.08	128.60
24	YA	2883	A	O4'-C1'-N9	5.03	112.22	108.20
25	YB	7	G	C6-C5-N7	-5.03	127.38	130.40
1	QA	827	U	N1-C2-N3	5.03	117.92	114.90
24	RA	2714	U	C6-N1-C1'	5.03	128.24	121.20
24	YA	471	C	N3-C2-O2	-5.03	118.38	121.90
24	YA	1255	A	N7-C8-N9	5.03	116.31	113.80
24	YA	1416	C	N1-C2-O2	5.03	121.92	118.90
24	RA	768	C	N1-C2-O2	5.03	121.92	118.90
24	RA	2213	G	N3-C4-C5	-5.03	126.09	128.60
1	XA	514	C	C6-N1-C2	-5.03	118.29	120.30
24	YA	1037	C	C6-N1-C2	-5.03	118.29	120.30
1	XA	1362(B)	C	N1-C2-O2	5.02	121.91	118.90
1	QA	381	C	N3-C2-O2	-5.02	118.38	121.90
24	RA	453	C	N1-C2-O2	5.02	121.91	118.90
1	XA	169	C	C2-N3-C4	5.02	122.41	119.90
1	XA	811	C	N3-C2-O2	-5.02	118.39	121.90
24	YA	1450	C	N1-C2-O2	5.02	121.91	118.90
24	YA	1656	A	N7-C8-N9	5.02	116.31	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2432	C	C6-N1-C2	-5.02	118.29	120.30
1	XA	1297	C	P-O3'-C3'	5.02	125.72	119.70
24	YA	1605	A	P-O3'-C3'	5.02	125.72	119.70
24	YA	1658	C	C5-C6-N1	5.02	123.51	121.00
24	YA	98	U	N1-C2-O2	5.02	126.31	122.80
24	YA	2256	U	C5-C4-O4	-5.02	122.89	125.90
24	YA	2743	C	C6-N1-C2	-5.02	118.29	120.30
25	RB	80	U	C6-N1-C2	-5.01	117.99	121.00
24	YA	704	U	N3-C2-O2	-5.01	118.69	122.20
24	YA	795	G	C8-N9-C1'	5.01	133.52	127.00
24	YA	1030	A	C8-N9-C4	-5.01	103.80	105.80
24	RA	2442	A	N7-C8-N9	5.01	116.31	113.80
24	YA	444	C	N1-C2-O2	5.01	121.91	118.90
25	YB	70	C	C6-N1-C2	-5.01	118.30	120.30
24	YA	720	C	N3-C2-O2	-5.01	118.39	121.90
24	RA	1775	C	N1-C2-O2	5.01	121.91	118.90
24	RA	2257	U	C6-N1-C2	-5.01	118.00	121.00
24	RA	2327	G	N3-C4-N9	5.01	129.00	126.00
24	YA	861	C	C5-C6-N1	5.01	123.50	121.00
24	YA	2065	C	N1-C2-O2	5.01	121.91	118.90
24	RA	240	A	C8-N9-C4	-5.01	103.80	105.80
24	RA	739	C	C6-N1-C2	-5.01	118.30	120.30
24	RA	1225	C	N3-C2-O2	-5.01	118.39	121.90
24	YA	805	C	N3-C2-O2	-5.01	118.39	121.90
24	YA	1921	G	N3-C2-N2	5.01	123.41	119.90
1	QA	328	C	C6-N1-C1'	-5.00	114.79	120.80
1	QA	831	U	C6-N1-C2	-5.00	118.00	121.00
24	RA	2807	C	C5-C6-N1	5.00	123.50	121.00
24	YA	646	A	C4-N9-C1'	5.00	135.31	126.30
24	YA	1037	C	C5-C6-N1	5.00	123.50	121.00
24	YA	2011	G	N9-C4-C5	5.00	107.40	105.40
24	YA	2260	C	C5-C6-N1	5.00	123.50	121.00
24	YA	2663	C	C6-N1-C2	-5.00	118.30	120.30
24	RA	1068	G	P-O3'-C3'	5.00	125.70	119.70

There are no chirality outliers.

All (781) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	QB	126	GLU	Peptide
2	QB	135	GLN	Peptide
2	QB	136	VAL	Peptide

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Mol	Chain	Res	Type	Group
2	QB	15	VAL	Peptide
2	QB	18	GLY	Peptide
2	QB	19	HIS	Peptide
2	QB	207	ALA	Peptide
2	QB	21	ARG	Peptide
2	QB	228	GLY	Peptide
2	QB	232	PRO	Peptide
2	QB	233	SER	Peptide
2	QB	235	SER	Peptide
2	QB	38	GLY	Peptide
2	QB	64	ARG	Peptide
2	QB	66	GLY	Peptide
2	QB	67	THR	Peptide
2	QB	71	VAL	Peptide
2	QB	74	LYS	Peptide
2	QB	81	VAL	Peptide
2	QB	86	GLU	Peptide
2	QB	95	GLN	Peptide
2	QB	96	ARG	Peptide
3	QC	11	ARG	Peptide
3	QC	126	ARG	Peptide
3	QC	132	ARG	Peptide
3	QC	14	ILE	Peptide
3	QC	164	ARG	Peptide
3	QC	166	GLU	Peptide
3	QC	168	ALA	Peptide
3	QC	189	ALA	Peptide
3	QC	51	GLY	Peptide
3	QC	59	ARG	Peptide
3	QC	62	ASP	Peptide
3	QC	74	GLY	Peptide
3	QC	78	GLY	Peptide
3	QC	9	GLY	Peptide
3	QC	97	LYS	Peptide
4	QD	153	ARG	Peptide
4	QD	154	ASN	Peptide
4	QD	167	GLY	Peptide
4	QD	180	GLY	Peptide
4	QD	205	GLU	Peptide
4	QD	208	SER	Peptide
4	QD	32	ALA	Peptide
4	QD	33	MET	Peptide

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Mol	Chain	Res	Type	Group
4	QD	69	GLY	Peptide
4	QD	83	SER	Peptide
4	QD	84	LYS	Peptide
4	QD	88	VAL	Peptide
5	QE	116	THR	Peptide
5	QE	154	GLY	Peptide
5	QE	22	GLY	Peptide
5	QE	25	ARG	Peptide
5	QE	72	GLN	Peptide
5	QE	73	ASN	Peptide
5	QE	97	GLY	Peptide
6	QF	41	GLU	Peptide
6	QF	42	GLU	Peptide
6	QF	49	ALA	Peptide
6	QF	75	LEU	Peptide
6	QF	99	ALA	Peptide
7	QG	11	GLN	Peptide
7	QG	113	GLU	Peptide
7	QG	132	GLY	Peptide
7	QG	19	GLY	Peptide
7	QG	30	ILE	Peptide
7	QG	53	LYS	Peptide
7	QG	6	ARG	Peptide
7	QG	7	ALA	Peptide
7	QG	8	GLU	Peptide
8	QH	137	VAL	Peptide
8	QH	23	SER	Peptide
8	QH	96	GLY	Peptide
9	QI	114	TYR	Peptide
9	QI	123	PRO	Peptide
9	QI	14	VAL	Peptide
9	QI	16	ARG	Peptide
9	QI	2	GLU	Peptide
9	QI	20	ARG	Peptide
9	QI	24	GLY	Peptide
9	QI	30	GLY	Peptide
9	QI	54	ASP	Peptide
9	QI	6	GLY	Peptide
9	QI	68	GLY	Peptide
9	QI	69	GLY	Peptide
9	QI	92	TYR	Peptide
9	QI	93	ARG	Peptide

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Mol	Chain	Res	Type	Group
9	QI	99	LEU	Peptide
10	QJ	100	THR	Peptide
10	QJ	25	GLU	Peptide
10	QJ	31	GLY	Peptide
10	QJ	32	ALA	Peptide
10	QJ	40	LEU	Peptide
10	QJ	53	PRO	Peptide
10	QJ	68	HIS	Peptide
10	QJ	69	ASN	Peptide
10	QJ	85	LEU	Peptide
10	QJ	88	LEU	Peptide
10	QJ	90	LEU	Peptide
10	QJ	91	PRO	Peptide
11	QK	101	SER	Peptide
11	QK	112	THR	Peptide
11	QK	126	ARG	Peptide
11	QK	38	ASN	Peptide
11	QK	43	SER	Peptide
12	QL	104	VAL	Peptide
12	QL	118	SER	Peptide
12	QL	120	TYR	Peptide
12	QL	126	LYS	Peptide
12	QL	17	LYS	Peptide
12	QL	24	VAL	Peptide
12	QL	29	GLY	Peptide
12	QL	47	LYS	Peptide
13	QM	105	THR	Peptide
13	QM	11	ARG	Peptide
13	QM	118	ALA	Peptide
13	QM	12	ASN	Peptide
13	QM	120	LYS	Peptide
13	QM	3	ARG	Peptide
13	QM	4	ILE	Peptide
13	QM	59	TYR	Peptide
13	QM	62	ASN	Peptide
13	QM	65	LYS	Peptide
13	QM	66	LEU	Peptide
13	QM	9	ILE	Peptide
13	QM	97	PRO	Peptide
14	QN	14	PRO	Peptide
14	QN	15	LYS	Peptide
14	QN	2	ALA	Peptide

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Mol	Chain	Res	Type	Group
14	QN	42	ILE	Peptide
14	QN	55	GLY	Peptide
14	QN	59	ALA	Peptide
15	QO	88	ARG	Peptide
16	QP	15	PRO	Peptide
16	QP	19	ILE	Peptide
16	QP	29	ASP	Peptide
16	QP	30	GLY	Peptide
16	QP	83	GLU	Peptide
17	QQ	100	LYS	Peptide
17	QQ	43	LEU	Peptide
17	QQ	80	GLY	Peptide
18	QR	19	LYS	Peptide
18	QR	31	LEU	Peptide
18	QR	54	ARG	Peptide
18	QR	56	THR	Peptide
18	QR	87	ARG	Peptide
19	QS	10	PHE	Peptide
19	QS	11	VAL	Peptide
19	QS	2	PRO	Peptide
19	QS	26	GLY	Peptide
19	QS	27	GLU	Peptide
19	QS	29	ARG	Peptide
19	QS	30	LEU	Peptide
19	QS	42	PRO	Peptide
19	QS	46	GLY	Peptide
19	QS	63	THR	Peptide
19	QS	71	LEU	Peptide
19	QS	72	GLY	Peptide
19	QS	9	VAL	Peptide
20	QT	101	GLY	Peptide
20	QT	11	SER	Peptide
20	QT	12	ALA	Peptide
20	QT	48	LYS	Peptide
20	QT	72	LEU	Peptide
20	QT	73	HIS	Peptide
20	QT	94	ALA	Peptide
20	QT	96	GLY	Peptide
20	QT	97	ALA	Peptide
20	QT	98	PRO	Peptide
45	R0	43	THR	Peptide
45	R0	8	GLY	Peptide

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Mol	Chain	Res	Type	Group
46	R1	53	VAL	Peptide
46	R1	54	ALA	Peptide
46	R1	55	GLY	Peptide
46	R1	71	TYR	Peptide
46	R1	73	LEU	Peptide
46	R1	74	VAL	Peptide
46	R1	80	LEU	Peptide
46	R1	85	LEU	Peptide
46	R1	87	PRO	Peptide
46	R1	97	LEU	Peptide
47	R2	13	ALA	Peptide
47	R2	43	GLN	Peptide
47	R2	46	GLN	Peptide
47	R2	70	GLN	Peptide
47	R2	71	ASN	Peptide
48	R3	2	PRO	Peptide
49	R4	11	PRO	Peptide
49	R4	19	GLY	Peptide
49	R4	23	GLU	Peptide
49	R4	34	GLU	Peptide
49	R4	37	SER	Peptide
49	R4	42	PHE	Peptide
49	R4	46	GLN	Peptide
49	R4	47	GLN	Peptide
49	R4	48	ARG	Peptide
49	R4	52	THR	Peptide
49	R4	55	ARG	Peptide
49	R4	61	ARG	Peptide
49	R4	62	ARG	Peptide
49	R4	63	TYR	Peptide
49	R4	65	ASP	Peptide
50	R5	5	PRO	Peptide
52	R7	6	GLN	Peptide
53	R8	27	THR	Peptide
53	R8	28	GLY	Peptide
53	R8	29	LYS	Peptide
53	R8	32	LEU	Peptide
53	R8	35	GLN	Peptide
53	R8	44	LYS	Peptide
53	R8	51	ALA	Peptide
53	R8	52	LYS	Peptide
53	R8	60	LEU	Peptide

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Mol	Chain	Res	Type	Group
53	R8	62	LEU	Peptide
53	R8	64	TYR	Peptide
26	RD	110	GLY	Peptide
26	RD	112	GLN	Peptide
26	RD	12	SER	Peptide
26	RD	122	ASP	Peptide
26	RD	126	GLN	Peptide
26	RD	197	GLY	Peptide
26	RD	2	ALA	Peptide
26	RD	241	PRO	Peptide
26	RD	243	GLY	Peptide
26	RD	246	PRO	Peptide
26	RD	56	GLY	Peptide
26	RD	57	GLY	Peptide
26	RD	80	ALA	Peptide
27	RE	115	GLY	Peptide
27	RE	132	HIS	Peptide
27	RE	142	GLY	Peptide
27	RE	153	GLY	Peptide
27	RE	187	ALA	Peptide
27	RE	204	ALA	Peptide
27	RE	74	PRO	Peptide
28	RF	127	GLU	Peptide
28	RF	128	ALA	Peptide
28	RF	130	ALA	Peptide
28	RF	131	GLY	Peptide
28	RF	135	LYS	Peptide
28	RF	196	LEU	Peptide
28	RF	198	ALA	Peptide
28	RF	24	LEU	Peptide
28	RF	25	PRO	Peptide
28	RF	47	GLY	Peptide
28	RF	66	PRO	Peptide
28	RF	85	GLY	Peptide
29	RG	109	VAL	Peptide
29	RG	127	GLY	Peptide
29	RG	128	ARG	Peptide
29	RG	135	LEU	Peptide
29	RG	136	ARG	Peptide
29	RG	147	ASP	Peptide
29	RG	151	ALA	Peptide
29	RG	159	VAL	Peptide

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Mol	Chain	Res	Type	Group
29	RG	2	PRO	Peptide
29	RG	3	LEU	Peptide
29	RG	39	ILE	Peptide
29	RG	45	GLU	Peptide
29	RG	52	ILE	Peptide
29	RG	54	GLU	Peptide
29	RG	79	ASN	Peptide
29	RG	82	LEU	Peptide
29	RG	95	ARG	Peptide
30	RH	10	PRO	Peptide
30	RH	108	GLY	Peptide
30	RH	126	PRO	Peptide
30	RH	128	PRO	Peptide
30	RH	129	THR	Peptide
30	RH	13	LYS	Peptide
30	RH	14	GLY	Peptide
30	RH	151	ILE	Peptide
30	RH	152	ARG	Peptide
30	RH	153	LYS	Peptide
30	RH	156	ALA	Peptide
30	RH	16	SER	Peptide
30	RH	161	GLY	Peptide
30	RH	19	VAL	Peptide
30	RH	39	PRO	Peptide
30	RH	40	GLU	Peptide
30	RH	66	GLY	Peptide
30	RH	7	LEU	Peptide
30	RH	8	PRO	Peptide
30	RH	82	GLY	Peptide
30	RH	84	SER	Peptide
30	RH	87	LEU	Peptide
30	RH	91	GLY	Peptide
31	RI	11	ASN	Peptide
31	RI	116	LEU	Peptide
31	RI	119	PRO	Peptide
31	RI	123	LEU	Peptide
31	RI	131	LYS	Peptide
31	RI	132	PRO	Peptide
31	RI	133	HIS	Peptide
31	RI	134	PRO	Peptide
31	RI	14	ASP	Peptide
31	RI	142	VAL	Peptide

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Mol	Chain	Res	Type	Group
31	RI	144	VAL	Peptide
31	RI	16	GLY	Peptide
31	RI	29	TYR	Peptide
31	RI	86	THR	Peptide
31	RI	89	TYR	Peptide
31	RI	9	LEU	Peptide
31	RI	90	GLY	Peptide
32	RN	113	GLY	Peptide
32	RN	114	ARG	Peptide
32	RN	127	ASP	Peptide
32	RN	132	ALA	Peptide
32	RN	137	LYS	Peptide
32	RN	21	LYS	Peptide
32	RN	22	THR	Peptide
32	RN	34	LEU	Peptide
32	RN	69	GLN	Peptide
32	RN	92	ALA	Peptide
33	RO	48	PRO	Peptide
33	RO	96	THR	Peptide
34	RP	100	LEU	Peptide
34	RP	146	VAL	Peptide
34	RP	28	GLY	Peptide
34	RP	35	HIS	Peptide
34	RP	37	GLY	Peptide
34	RP	50	ARG	Peptide
34	RP	54	GLY	Peptide
34	RP	65	ARG	Peptide
35	RQ	1	MET	Peptide
35	RQ	103	MET	Peptide
35	RQ	104	PHE	Peptide
35	RQ	108	GLY	Peptide
35	RQ	17	LEU	Peptide
35	RQ	20	ALA	Peptide
35	RQ	21	THR	Peptide
35	RQ	23	GLY	Peptide
35	RQ	24	GLY	Peptide
35	RQ	4	PRO	Peptide
35	RQ	60	ARG	Peptide
35	RQ	61	GLY	Peptide
35	RQ	82	ARG	Peptide
35	RQ	87	LYS	Peptide
35	RQ	88	GLY	Peptide

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Mol	Chain	Res	Type	Group
35	RQ	89	ASN	Peptide
35	RQ	90	VAL	Peptide
35	RQ	91	GLU	Peptide
36	RR	117	VAL	Peptide
36	RR	24	GLN	Peptide
36	RR	75	LEU	Peptide
36	RR	92	GLY	Peptide
37	RS	105	ALA	Peptide
37	RS	109	GLY	Peptide
37	RS	110	LEU	Peptide
37	RS	111	GLU	Peptide
37	RS	22	GLY	Peptide
37	RS	42	ASP	Peptide
37	RS	56	LEU	Peptide
37	RS	58	LEU	Peptide
37	RS	61	ASN	Peptide
37	RS	62	LYS	Peptide
37	RS	72	ALA	Peptide
38	RT	1	MET	Peptide
38	RT	11	GLU	Peptide
38	RT	111	ARG	Peptide
38	RT	12	SER	Peptide
38	RT	122	ASP	Peptide
38	RT	123	GLN	Peptide
38	RT	135	ALA	Peptide
38	RT	3	ARG	Peptide
38	RT	31	SER	Peptide
38	RT	36	GLU	Peptide
38	RT	38	ASN	Peptide
38	RT	56	GLY	Peptide
38	RT	58	ASN	Peptide
38	RT	91	ARG	Peptide
38	RT	93	ARG	Peptide
39	RU	116	ALA	Peptide
39	RU	91	ASP	Peptide
39	RU	92	ARG	Peptide
39	RU	95	LEU	Peptide
39	RU	96	ALA	Peptide
40	RV	100	ARG	Peptide
40	RV	18	LEU	Peptide
40	RV	48	GLY	Peptide
40	RV	49	THR	Peptide

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Mol	Chain	Res	Type	Group
40	RV	52	VAL	Peptide
40	RV	54	GLY	Peptide
41	RW	110	LYS	Peptide
41	RW	64	MET	Peptide
41	RW	72	LYS	Peptide
41	RW	91	GLY	Peptide
41	RW	92	ARG	Peptide
42	RX	27	THR	Peptide
42	RX	93	GLU	Peptide
43	RY	10	GLY	Peptide
43	RY	106	LEU	Peptide
43	RY	25	GLY	Peptide
43	RY	39	VAL	Peptide
43	RY	52	SER	Peptide
43	RY	71	LYS	Peptide
43	RY	9	LYS	Peptide
44	RZ	108	PRO	Peptide
44	RZ	11	GLU	Peptide
44	RZ	110	GLY	Peptide
44	RZ	113	ALA	Peptide
44	RZ	114	GLY	Peptide
44	RZ	12	GLY	Peptide
44	RZ	127	LYS	Peptide
44	RZ	130	PRO	Peptide
44	RZ	148	ASP	Peptide
44	RZ	152	ALA	Peptide
44	RZ	153	SER	Peptide
44	RZ	154	ASP	Peptide
44	RZ	156	LYS	Peptide
44	RZ	158	PRO	Peptide
44	RZ	160	GLY	Peptide
44	RZ	162	GLU	Peptide
44	RZ	164	ALA	Peptide
44	RZ	165	VAL	Peptide
44	RZ	167	PRO	Peptide
44	RZ	168	GLU	Peptide
44	RZ	178	GLU	Peptide
44	RZ	180	VAL	Peptide
44	RZ	4	ARG	Peptide
44	RZ	5	LEU	Peptide
44	RZ	51	ALA	Peptide
44	RZ	52	SER	Peptide

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Mol	Chain	Res	Type	Group
44	RZ	53	ILE	Peptide
44	RZ	58	VAL	Peptide
44	RZ	59	LEU	Peptide
44	RZ	60	GLU	Peptide
44	RZ	62	PRO	Peptide
44	RZ	63	ASP	Peptide
44	RZ	65	GLN	Peptide
44	RZ	70	LEU	Peptide
44	RZ	76	LEU	Peptide
44	RZ	92	SER	Peptide
44	RZ	93	ASP	Peptide
44	RZ	95	PRO	Peptide
1	XA	358	U	Sidechain
2	XB	15	VAL	Peptide
2	XB	160	ASP	Peptide
2	XB	168	THR	Peptide
2	XB	18	GLY	Peptide
2	XB	19	HIS	Peptide
2	XB	225	ALA	Peptide
2	XB	227	GLY	Peptide
2	XB	232	PRO	Peptide
2	XB	233	SER	Peptide
2	XB	235	SER	Peptide
2	XB	239	VAL	Peptide
2	XB	6	THR	Peptide
2	XB	64	ARG	Peptide
2	XB	95	GLN	Peptide
2	XB	96	ARG	Peptide
3	XC	11	ARG	Peptide
3	XC	112	SER	Peptide
3	XC	147	LYS	Peptide
3	XC	166	GLU	Peptide
3	XC	168	ALA	Peptide
3	XC	189	ALA	Peptide
3	XC	62	ASP	Peptide
3	XC	78	GLY	Peptide
3	XC	92	ALA	Peptide
4	XD	141	ARG	Peptide
4	XD	143	GLY	Peptide
4	XD	146	ILE	Peptide
4	XD	148	VAL	Peptide
4	XD	153	ARG	Peptide

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Mol	Chain	Res	Type	Group
4	XD	154	ASN	Peptide
4	XD	170	VAL	Peptide
4	XD	174	LEU	Peptide
4	XD	177	ASP	Peptide
4	XD	183	GLY	Peptide
4	XD	207	TYR	Peptide
4	XD	30	LYS	Mainchain
4	XD	47	ARG	Peptide
4	XD	83	SER	Peptide
4	XD	84	LYS	Peptide
5	XE	112	LEU	Peptide
5	XE	16	THR	Peptide
5	XE	7	GLU	Peptide
5	XE	72	GLN	Peptide
5	XE	73	ASN	Peptide
5	XE	74	GLY	Peptide
6	XF	34	GLY	Peptide
6	XF	35	ALA	Peptide
6	XF	80	ARG	Peptide
7	XG	11	GLN	Peptide
7	XG	113	GLU	Peptide
7	XG	139	GLU	Peptide
7	XG	5	ARG	Peptide
7	XG	57	GLU	Peptide
7	XG	79	ARG	Peptide
7	XG	8	GLU	Peptide
7	XG	82	GLY	Peptide
7	XG	86	GLN	Peptide
7	XG	97	GLN	Peptide
8	XH	100	ILE	Peptide
8	XH	42	GLU	Peptide
8	XH	70	GLN	Peptide
8	XH	71	GLY	Peptide
8	XH	96	GLY	Peptide
9	XI	113	LYS	Peptide
9	XI	126	SER	Peptide
9	XI	13	ALA	Peptide
9	XI	15	ALA	Peptide
9	XI	25	LYS	Peptide
9	XI	34	ASN	Peptide
9	XI	42	ARG	Peptide
9	XI	48	GLU	Peptide

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Mol	Chain	Res	Type	Group
9	XI	49	PRO	Peptide
9	XI	56	LEU	Peptide
9	XI	58	HIS	Peptide
9	XI	69	GLY	Peptide
9	XI	71	SER	Peptide
9	XI	86	VAL	Peptide
9	XI	9	ARG	Peptide
9	XI	99	LEU	Peptide
10	XJ	30	SER	Peptide
10	XJ	32	ALA	Peptide
10	XJ	36	GLY	Peptide
10	XJ	52	GLY	Peptide
10	XJ	54	PHE	Peptide
10	XJ	85	LEU	Peptide
10	XJ	91	PRO	Peptide
10	XJ	99	LYS	Peptide
11	XK	100	ALA	Peptide
11	XK	102	GLY	Peptide
11	XK	91	ARG	Peptide
11	XK	94	ALA	Peptide
12	XL	102	ARG	Peptide
12	XL	103	GLY	Peptide
12	XL	104	VAL	Peptide
12	XL	118	SER	Peptide
12	XL	120	TYR	Peptide
12	XL	17	LYS	Peptide
12	XL	18	VAL	Peptide
12	XL	28	LYS	Peptide
12	XL	41	ARG	Peptide
12	XL	47	LYS	Peptide
12	XL	59	ARG	Peptide
13	XM	10	PRO	Peptide
13	XM	105	THR	Peptide
13	XM	106	ASN	Peptide
13	XM	107	ALA	Peptide
13	XM	11	ARG	Peptide
13	XM	113	PRO	Peptide
13	XM	115	LYS	Peptide
13	XM	116	THR	Peptide
13	XM	30	ALA	Peptide
13	XM	4	ILE	Peptide
13	XM	46	LYS	Peptide

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Mol	Chain	Res	Type	Group
13	XM	5	ALA	Peptide
13	XM	62	ASN	Peptide
13	XM	65	LYS	Peptide
13	XM	66	LEU	Peptide
13	XM	70	LEU	Peptide
13	XM	9	ILE	Peptide
13	XM	98	VAL	Peptide
14	XN	42	ILE	Peptide
14	XN	44	LEU	Peptide
15	XO	19	PRO	Peptide
15	XO	77	ARG	Peptide
16	XP	10	GLY	Peptide
16	XP	12	LYS	Peptide
16	XP	19	ILE	Peptide
16	XP	34	GLU	Peptide
16	XP	36	ILE	Peptide
16	XP	44	THR	Peptide
16	XP	62	VAL	Peptide
16	XP	64	ALA	Peptide
16	XP	82	GLN	Peptide
16	XP	83	GLU	Peptide
17	XQ	66	SER	Peptide
18	XR	20	ALA	Peptide
18	XR	21	LYS	Peptide
18	XR	26	LEU	Peptide
18	XR	31	LEU	Peptide
18	XR	38	GLU	Peptide
18	XR	55	ARG	Peptide
19	XS	10	PHE	Peptide
19	XS	11	VAL	Peptide
19	XS	20	LEU	Peptide
19	XS	24	ALA	Peptide
19	XS	26	GLY	Peptide
19	XS	27	GLU	Peptide
19	XS	30	LEU	Peptide
19	XS	4	SER	Peptide
19	XS	44	MET	Peptide
19	XS	47	HIS	Peptide
19	XS	48	THR	Peptide
19	XS	60	VAL	Peptide
19	XS	84	GLY	Peptide
19	XS	9	VAL	Peptide

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Mol	Chain	Res	Type	Group
20	XT	11	SER	Peptide
20	XT	12	ALA	Peptide
20	XT	33	ILE	Peptide
20	XT	48	LYS	Peptide
20	XT	49	ALA	Peptide
20	XT	71	THR	Peptide
20	XT	72	LEU	Peptide
20	XT	73	HIS	Peptide
20	XT	8	ARG	Peptide
20	XT	94	ALA	Peptide
20	XT	95	ALA	Peptide
20	XT	96	GLY	Peptide
21	XU	14	TRP	Peptide
21	XU	16	GLY	Peptide
21	XU	19	GLY	Peptide
21	XU	21	TYR	Peptide
45	Y0	42	GLY	Peptide
46	Y1	30	VAL	Peptide
46	Y1	53	VAL	Peptide
46	Y1	54	ALA	Peptide
46	Y1	74	VAL	Peptide
46	Y1	80	LEU	Peptide
46	Y1	85	LEU	Peptide
46	Y1	87	PRO	Peptide
47	Y2	14	ARG	Peptide
47	Y2	15	LYS	Peptide
47	Y2	4	SER	Peptide
47	Y2	43	GLN	Peptide
47	Y2	46	GLN	Peptide
47	Y2	47	ASN	Peptide
48	Y3	2	PRO	Peptide
48	Y3	33	GLN	Peptide
49	Y4	46	GLN	Peptide
49	Y4	48	ARG	Peptide
49	Y4	50	VAL	Peptide
49	Y4	51	ASP	Peptide
49	Y4	55	ARG	Peptide
49	Y4	56	VAL	Peptide
49	Y4	60	GLN	Peptide
49	Y4	61	ARG	Peptide
49	Y4	62	ARG	Peptide
49	Y4	63	TYR	Peptide

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Mol	Chain	Res	Type	Group
49	Y4	65	ASP	Peptide
53	Y8	44	LYS	Peptide
53	Y8	52	LYS	Peptide
53	Y8	60	LEU	Peptide
53	Y8	62	LEU	Peptide
53	Y8	63	PRO	Peptide
53	Y8	64	TYR	Peptide
24	YA	1003	U	Sidechain
24	YA	2774	G	Sidechain
26	YD	110	GLY	Peptide
26	YD	236	GLY	Peptide
26	YD	246	PRO	Peptide
27	YE	130	GLY	Peptide
27	YE	142	GLY	Peptide
27	YE	157	ALA	Peptide
27	YE	186	GLY	Peptide
27	YE	29	GLY	Peptide
27	YE	51	PHE	Peptide
27	YE	68	ALA	Peptide
27	YE	69	LYS	Peptide
27	YE	70	ALA	Peptide
27	YE	71	GLY	Peptide
28	YF	127	GLU	Peptide
28	YF	128	ALA	Peptide
28	YF	130	ALA	Peptide
28	YF	132	VAL	Peptide
28	YF	15	SER	Peptide
28	YF	196	LEU	Peptide
28	YF	198	ALA	Peptide
28	YF	206	ILE	Peptide
28	YF	22	ALA	Peptide
28	YF	23	ASP	Peptide
28	YF	25	PRO	Peptide
28	YF	6	VAL	Peptide
28	YF	67	GLN	Peptide
28	YF	86	GLY	Peptide
28	YF	91	GLY	Peptide
29	YG	109	VAL	Peptide
29	YG	118	ARG	Peptide
29	YG	127	GLY	Peptide
29	YG	134	GLY	Peptide
29	YG	135	LEU	Peptide

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Mol	Chain	Res	Type	Group
29	YG	136	ARG	Peptide
29	YG	144	ILE	Peptide
29	YG	149	VAL	Peptide
29	YG	150	ASP	Peptide
29	YG	35	GLU	Peptide
29	YG	43	LEU	Peptide
29	YG	44	GLY	Peptide
29	YG	45	GLU	Peptide
29	YG	46	ALA	Peptide
29	YG	51	ARG	Peptide
29	YG	52	ILE	Peptide
29	YG	58	GLN	Peptide
29	YG	79	ASN	Peptide
29	YG	82	LEU	Peptide
29	YG	95	ARG	Peptide
30	YH	174	GLY	Peptide
31	YI	10	GLU	Peptide
31	YI	103	ARG	Peptide
31	YI	11	ASN	Peptide
31	YI	116	LEU	Peptide
31	YI	119	PRO	Peptide
31	YI	121	LYS	Peptide
31	YI	122	GLU	Peptide
31	YI	123	LEU	Peptide
31	YI	124	GLY	Peptide
31	YI	131	LYS	Peptide
31	YI	133	HIS	Peptide
31	YI	135	GLU	Peptide
31	YI	14	ASP	Peptide
31	YI	142	VAL	Peptide
31	YI	144	VAL	Peptide
31	YI	15	VAL	Peptide
31	YI	16	GLY	Peptide
31	YI	35	LEU	Peptide
31	YI	63	ALA	Peptide
31	YI	79	ILE	Peptide
31	YI	9	LEU	Peptide
32	YN	113	GLY	Peptide
32	YN	125	GLY	Peptide
32	YN	126	PRO	Peptide
32	YN	17	ASP	Peptide
32	YN	21	LYS	Peptide

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Mol	Chain	Res	Type	Group
32	YN	22	THR	Peptide
32	YN	23	LEU	Peptide
33	YO	96	THR	Peptide
34	YP	115	LEU	Peptide
34	YP	141	ALA	Peptide
34	YP	28	GLY	Peptide
34	YP	35	HIS	Peptide
34	YP	43	GLY	Peptide
35	YQ	108	GLY	Peptide
35	YQ	15	GLY	Peptide
35	YQ	22	LYS	Peptide
35	YQ	40	ALA	Peptide
35	YQ	59	ARG	Peptide
35	YQ	62	GLY	Peptide
36	YR	117	VAL	Peptide
36	YR	3	HIS	Peptide
36	YR	73	VAL	Peptide
36	YR	75	LEU	Peptide
36	YR	8	ARG	Peptide
37	YS	109	GLY	Peptide
38	YT	110	ILE	Peptide
38	YT	111	ARG	Peptide
38	YT	122	ASP	Peptide
38	YT	123	GLN	Peptide
38	YT	127	ALA	Peptide
38	YT	27	THR	Peptide
38	YT	36	GLU	Peptide
38	YT	38	ASN	Peptide
38	YT	56	GLY	Peptide
38	YT	58	ASN	Peptide
38	YT	93	ARG	Peptide
39	YU	117	GLN	Peptide
39	YU	90	VAL	Peptide
39	YU	91	ASP	Peptide
39	YU	95	LEU	Peptide
39	YU	96	ALA	Peptide
40	YV	30	GLY	Peptide
40	YV	31	ALA	Peptide
40	YV	44	LYS	Peptide
40	YV	49	THR	Peptide
40	YV	54	GLY	Peptide
40	YV	55	ALA	Peptide

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Mol	Chain	Res	Type	Group
40	YV	65	GLY	Peptide
41	YW	110	LYS	Peptide
41	YW	64	MET	Peptide
41	YW	90	ARG	Peptide
41	YW	91	GLY	Peptide
41	YW	92	ARG	Peptide
42	YX	93	GLU	Peptide
43	YY	106	LEU	Peptide
43	YY	51	VAL	Peptide
43	YY	52	SER	Peptide
43	YY	54	LYS	Peptide
43	YY	71	LYS	Peptide
44	YZ	109	ALA	Peptide
44	YZ	111	VAL	Peptide
44	YZ	114	GLY	Peptide
44	YZ	136	PHE	Peptide
44	YZ	160	GLY	Peptide
44	YZ	168	GLU	Peptide
44	YZ	29	TYR	Peptide
44	YZ	37	VAL	Peptide
44	YZ	50	GLN	Peptide
44	YZ	51	ALA	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16277	448	0
1	XA	32249	0	16278	456	3
2	QB	1907	0	1958	34	0
2	XB	1915	0	1969	35	0
3	QC	1605	0	1668	29	0
3	XC	1605	0	1668	21	0
4	QD	1703	0	1766	27	0
4	XD	1703	0	1764	37	0
5	QE	1155	0	1213	27	0
5	XE	1155	0	1213	12	0
6	QF	843	0	857	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	XF	843	0	857	11	0
7	QG	1257	0	1296	15	0
7	XG	1257	0	1296	22	0
8	QH	1108	0	1165	19	0
8	XH	1108	0	1165	23	0
9	QI	1010	0	1037	19	0
9	XI	998	0	1024	28	0
10	QJ	801	0	849	23	0
10	XJ	777	0	816	15	0
11	QK	885	0	904	28	0
11	XK	864	0	881	13	0
12	QL	975	0	1062	13	0
12	XL	956	0	1046	22	0
13	QM	955	0	1021	21	0
13	XM	946	0	1008	24	0
14	QN	492	0	529	19	0
14	XN	492	0	529	11	0
15	QO	734	0	771	9	0
15	XO	729	0	768	8	0
16	QP	705	0	725	15	0
16	XP	705	0	725	12	0
17	QQ	834	0	904	24	0
17	XQ	834	0	904	15	0
18	QR	574	0	644	7	0
18	XR	574	0	644	7	0
19	QS	665	0	686	8	0
19	XS	674	0	699	10	0
20	QT	763	0	861	13	0
20	XT	763	0	861	22	0
21	QU	217	0	234	4	0
21	XU	217	0	234	4	0
22	QV	1648	0	834	28	0
22	XV	1648	0	834	23	0
23	QX	418	0	209	7	0
23	XX	418	0	209	7	0
24	RA	62051	0	31279	607	3
24	YA	62091	0	31292	530	0
25	RB	2573	0	1306	22	0
25	YB	2573	0	1304	41	0
26	RD	2135	0	2221	35	0
26	YD	2135	0	2221	32	0
27	RE	1568	0	1634	29	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	YE	1563	0	1628	27	0
28	RF	1585	0	1632	23	0
28	YF	1585	0	1632	24	0
29	RG	1474	0	1535	35	0
29	YG	1474	0	1535	30	0
30	RH	1336	0	1418	27	0
30	YH	1330	0	1413	18	0
31	RI	1136	0	1223	13	2
31	YI	1136	0	1223	12	0
32	RN	1104	0	1180	8	0
32	YN	1121	0	1194	15	0
33	RO	933	0	996	25	0
33	YO	933	0	995	17	0
34	RP	1139	0	1223	26	0
34	YP	1122	0	1206	26	0
35	RQ	1122	0	1179	27	0
35	YQ	1122	0	1179	10	0
36	RR	960	0	1021	18	0
36	YR	960	0	1021	11	0
37	RS	882	0	943	17	0
37	YS	877	0	938	15	0
38	RT	1141	0	1202	23	0
38	YT	1141	0	1202	26	0
39	RU	964	0	1022	25	0
39	YU	964	0	1021	19	0
40	RV	779	0	852	14	0
40	YV	779	0	852	12	0
41	RW	900	0	964	11	0
41	YW	900	0	964	11	0
42	RX	725	0	778	7	0
42	YX	742	0	803	8	0
43	RY	818	0	909	11	0
43	YY	818	0	909	13	0
44	RZ	1461	0	1493	26	0
44	YZ	1461	0	1493	22	0
45	R0	643	0	667	12	0
45	Y0	599	0	617	7	0
46	R1	763	0	848	9	0
46	Y1	729	0	801	10	0
47	R2	581	0	629	7	0
47	Y2	558	0	610	5	2
48	R3	469	0	517	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
48	Y3	469	0	518	8	0
49	R4	565	0	558	9	0
49	Y4	565	0	557	13	0
50	R5	459	0	476	7	0
50	Y5	459	0	476	9	0
51	R6	453	0	473	7	0
51	Y6	453	0	473	10	0
52	R7	409	0	454	6	0
52	Y7	418	0	467	3	0
53	R8	517	0	582	12	0
53	Y8	517	0	582	13	0
54	R9	307	0	335	6	0
54	Y9	307	0	335	7	0
55	QA	64	0	0	0	0
55	QV	1	0	0	0	0
55	R0	2	0	0	0	0
55	R8	2	0	0	0	0
55	RA	444	0	0	0	0
55	RB	7	0	0	0	0
55	RE	5	0	0	0	0
55	RF	1	0	0	0	0
55	RN	1	0	0	0	0
55	RQ	1	0	0	0	0
55	RR	1	0	0	0	0
55	RT	1	0	0	0	0
55	RX	1	0	0	0	0
55	XA	78	0	0	0	0
55	XE	1	0	0	0	0
55	XM	2	0	0	0	0
55	XV	1	0	0	0	0
55	Y0	2	0	0	0	0
55	Y1	2	0	0	0	0
55	Y3	1	0	0	0	0
55	Y5	1	0	0	0	0
55	Y7	1	0	0	0	0
55	Y8	1	0	0	0	0
55	YA	510	0	0	0	0
55	YB	7	0	0	0	0
55	YD	2	0	0	0	0
55	YE	5	0	0	0	0
55	YP	3	0	0	0	0
55	YQ	3	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	YR	1	0	0	0	0
56	QD	8	0	0	0	0
56	XD	8	0	0	0	0
57	QN	1	0	0	0	0
57	R4	1	0	0	0	0
57	R5	1	0	0	0	0
57	R6	1	0	0	0	0
57	R9	1	0	0	0	0
57	RY	1	0	0	0	0
57	XN	1	0	0	0	0
57	Y4	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y6	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YY	1	0	0	0	0
All	All	291964	0	197872	3283	5

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 (3283) 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)
24:RA:1712:A:C2'	24:RA:1713:G:H5'	1.74	1.18
43:YY:92:ASN:ND2	43:YY:94:LYS:HG2	1.60	1.15
24:YA:1405:A:N6	24:YA:1418:U:H3	1.48	1.10
24:RA:2818:U:C2	24:RA:2901:A:N6	2.27	1.02
24:RA:2226:C:H1'	24:RA:2232:G:N2	1.74	1.01
43:YY:92:ASN:HD22	43:YY:94:LYS:HG2	1.25	1.01
24:RA:1712:A:H2'	24:RA:1713:G:H5'	1.02	1.00
24:RA:2157:A:H62	24:RA:2178:G:N2	1.59	0.99
1:XA:358:U:H3'	1:XA:359:U:C6	1.97	0.99
24:RA:331:G:H5"	24:RA:331:G:H8	1.27	0.98
24:RA:2157:A:N6	24:RA:2178:G:H21	1.60	0.98
25:YB:109:G:H5"	25:YB:109:G:H8	1.26	0.98
1:QA:1009:G:H1	1:QA:1020:U:H3	1.02	0.98
1:XA:438:G:H21	1:XA:496:A:H62	1.03	0.97
24:RA:1712:A:H2'	24:RA:1713:G:C5'	1.95	0.96
24:RA:2157:A:H62	24:RA:2178:G:H21	0.96	0.96
1:XA:835:U:H3	1:XA:851:G:H1	1.12	0.96
25:RB:22:U:H3	25:RB:61:G:H1	0.98	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:157:G:H1	1:XA:164:U:H3	1.14	0.94
24:YA:2120:U:H3	24:YA:2213:G:H1	1.07	0.94
1:XA:1238:A:H62	1:XA:1301:U:H3	1.15	0.92
1:XA:1052:U:H3	1:XA:1206:G:H1	1.18	0.91
1:XA:452:A:H62	1:XA:480:U:H3	1.08	0.90
1:XA:992:U:H3	1:XA:1044:A:H62	1.15	0.90
24:RA:1712:A:C2'	24:RA:1713:G:C5'	2.51	0.89
43:YY:92:ASN:HD22	43:YY:94:LYS:CG	1.85	0.89
24:RA:2257:U:H5'	24:RA:2258:G:H5'	1.56	0.88
1:XA:152:A:H62	1:XA:169:C:N4	1.71	0.87
43:YY:92:ASN:ND2	43:YY:94:LYS:CG	2.38	0.87
24:YA:2118:U:H3	24:YA:2215:G:H1	0.88	0.87
1:QA:666:G:H1	1:QA:740:U:H3	1.18	0.87
24:RA:334:A:OP1	43:RY:18:GLY:N	2.06	0.86
24:RA:1713:G:N2	24:RA:2016:C:O2	2.08	0.86
1:XA:438:G:N2	1:XA:496:A:H62	1.71	0.86
1:XA:452:A:N6	1:XA:480:U:H3	1.72	0.86
19:QS:50:ALA:HA	19:QS:58:VAL:O	1.75	0.85
24:RA:2118:U:H3	24:RA:2215:G:H1	1.23	0.85
1:XA:358:U:H3'	1:XA:359:U:H6	1.40	0.85
24:YA:2121:U:H3	24:YA:2212:G:H1	1.24	0.85
24:RA:2226:C:H1'	24:RA:2232:G:H22	1.41	0.84
1:QA:565:U:OP2	1:QA:566:G:O2'	1.96	0.84
1:XA:438:G:H21	1:XA:496:A:N6	1.75	0.83
24:RA:354:A:H2	24:RA:1255:A:H2'	1.44	0.83
24:YA:1058:U:O2'	24:YA:1059:C:OP2	1.97	0.82
30:YH:56:SER:HG	30:YH:61:HIS:HD1	1.26	0.82
24:RA:1405:A:H62	24:RA:1418:U:H3	1.28	0.82
24:YA:1310:G:OP1	50:Y5:19:ARG:NH2	2.09	0.81
24:YA:2257:U:H5'	24:YA:2258:G:H5'	1.61	0.81
24:RA:331:G:H5"	24:RA:331:G:C8	2.15	0.80
4:XD:32:ALA:O	4:XD:35:ARG:N	2.15	0.80
25:YB:8:U:H3	25:YB:113:C:H42	1.28	0.80
1:XA:152:A:N6	1:XA:169:C:H42	1.80	0.79
24:RA:2713:C:H3'	24:RA:2714:U:H5"	1.62	0.79
1:XA:1238:A:N6	1:XA:1301:U:H3	1.80	0.79
24:YA:2877:G:O2'	24:YA:2878:A:OP2	1.99	0.79
1:XA:152:A:H62	1:XA:169:C:H42	1.28	0.79
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.16	0.79
24:RA:2074:G:H4'	27:RE:143:ASN:H	1.48	0.79
24:YA:1040:C:OP1	39:YU:53:ARG:NH2	2.16	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1653:C:N4	24:RA:1668:G:OP2	2.15	0.78
24:YA:1653:C:N4	24:YA:1668:G:OP2	2.17	0.78
7:XG:51:GLN:HE22	7:XG:58:PRO:HG3	1.49	0.77
24:YA:542:C:OP1	50:Y5:16:ARG:NH2	2.16	0.77
1:QA:1528:U:O2'	1:QA:1529:G:OP2	2.02	0.77
24:YA:1039:G:OP1	39:YU:50:ARG:NH2	2.17	0.77
24:YA:2032:G:H5"	41:YW:42:ARG:HB2	1.65	0.77
24:YA:2877:G:OP2	38:YT:119:LYS:NZ	2.13	0.77
24:RA:1714:G:N2	24:RA:2015:U:O4	2.17	0.76
24:RA:2801:C:O2'	24:RA:2819:A:N3	2.19	0.76
1:QA:1316:G:N2	1:QA:1319:A:OP2	2.19	0.76
1:XA:950:U:H3	1:XA:1231:G:H1	1.30	0.76
1:XA:372:C:H42	1:XA:389:A:H62	1.32	0.76
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.50	0.76
24:RA:2760:G:H21	24:RA:2770:A:H62	1.33	0.75
25:YB:82:G:H1	25:YB:95:U:H3	1.34	0.75
24:RA:2226:C:O2	24:RA:2232:G:C2	2.40	0.75
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.51	0.75
24:RA:552:C:N4	24:RA:2792:U:OP2	2.20	0.75
24:RA:331:G:H8	24:RA:331:G:C5'	2.00	0.74
1:QA:1441:G:H21	1:QA:1460:A:H62	1.32	0.74
24:RA:823:G:N1	24:RA:2094:G:OP1	2.15	0.74
1:XA:73:G:H1	1:XA:97:U:H3	1.33	0.74
1:QA:593:G:H1	1:QA:646:U:H3	1.33	0.74
1:XA:410:G:H21	1:XA:432:A:H62	1.33	0.74
24:RA:1040:C:OP1	39:RU:53:ARG:NH2	2.21	0.74
24:YA:723:A:H8	24:YA:2091:G:H21	1.33	0.74
1:QA:1216:G:OP1	14:QN:2:ALA:N	2.21	0.74
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.52	0.73
25:RB:80:U:H2'	25:RB:81:G:H21	1.53	0.73
1:XA:151:A:H62	1:XA:170:U:H3	1.36	0.73
32:YN:12:ARG:NH2	32:YN:50:ASP:OD2	2.20	0.73
24:RA:555:G:O2'	24:RA:557:A:N7	2.22	0.73
24:RA:2818:U:N3	24:RA:2901:A:N6	2.37	0.73
24:YA:1627:A:H5"	24:YA:1628:G:N7	2.02	0.73
25:YB:109:G:H5"	25:YB:109:G:C8	2.17	0.73
1:XA:152:A:N6	1:XA:169:C:N4	2.37	0.73
1:XA:358:U:C6	1:XA:358:U:C5'	2.72	0.73
24:RA:680:G:H1	24:RA:699:C:H42	1.37	0.72
24:RA:2849:G:H5'	36:RR:46:GLY:HA2	1.71	0.72
24:YA:1766:G:N1	24:YA:1768:U:OP2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1405:A:N7	24:YA:1418:U:O4	2.22	0.72
24:RA:1810:U:OP2	24:RA:1815:A:N6	2.18	0.72
14:QN:29:ARG:HG3	14:QN:31:ARG:H	1.53	0.71
24:YA:1555:C:H3'	24:YA:1556:A:H5"	1.72	0.71
24:YA:2074:G:H4'	27:YE:143:ASN:H	1.55	0.71
24:RA:2892:A:OP1	36:RR:96:ARG:NH1	2.22	0.71
1:XA:553:A:H5"	12:XL:24:VAL:HG21	1.72	0.71
24:YA:2090:U:H3	24:YA:2442:A:H2	1.37	0.71
1:XA:992:U:H3	1:XA:1044:A:N6	1.88	0.71
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.23	0.71
1:XA:410:G:N2	1:XA:432:A:H62	1.88	0.70
1:QA:31:G:O2'	1:QA:48:C:N4	2.24	0.70
14:QN:27:CYS:SG	14:QN:28:GLY:N	2.64	0.70
24:RA:1848:G:OP1	26:RD:88:ARG:NH2	2.24	0.70
1:QA:674:G:H2'	1:QA:675:A:H8	1.56	0.70
24:RA:2818:U:N3	24:RA:2901:A:C6	2.60	0.70
1:XA:1210:C:O2'	1:XA:1213:A:O2'	2.08	0.70
6:QF:75:LEU:O	6:QF:78:GLU:HB3	1.90	0.70
24:RA:27:G:N2	24:RA:538:A:OP2	2.25	0.70
24:YA:248:G:O2'	24:YA:646:A:O2'	2.09	0.70
24:YA:2692:C:OP2	27:YE:111:ARG:NH2	2.25	0.70
24:YA:553:A:HO2'	24:YA:554:A:C5'	2.04	0.70
1:QA:1133:G:H1	1:QA:1141:C:H42	1.40	0.69
24:YA:301:C:H6	24:YA:301:C:H5"	1.57	0.69
24:YA:1716:A:H2'	24:YA:1716:A:N3	2.06	0.69
1:QA:410:G:H21	1:QA:432:A:H62	1.40	0.69
24:YA:1499:C:O3'	24:YA:1504:A:N6	2.26	0.69
1:QA:1227:A:H5'	13:QM:111:LYS:HD3	1.75	0.69
24:RA:815:G:O2'	24:RA:1425:A:N6	2.25	0.69
24:YA:28:A:N6	24:YA:537:G:O2'	2.25	0.69
1:XA:359:U:H2'	1:XA:360:A:C8	2.28	0.69
22:QV:30:C:H2'	22:QV:31:G:H8	1.57	0.69
1:XA:359:U:H2'	1:XA:360:A:H8	1.57	0.69
23:XX:3:C:H2'	23:XX:4:A:H8	1.57	0.69
24:YA:1132:A:O2'	24:YA:1149:A:N6	2.22	0.69
37:YS:61:ASN:HD22	37:YS:64:GLU:HG3	1.57	0.69
1:QA:1106:G:H5"	3:QC:172:ARG:HG2	1.74	0.69
1:XA:439:A:OP2	1:XA:493:G:N1	2.21	0.69
22:XV:58:A:O2'	22:XV:60:U:OP2	2.10	0.69
1:QA:833:U:H3	1:QA:853:G:H1	1.41	0.69
49:Y4:16:CYS:SG	49:Y4:17:GLY:N	2.66	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:664:G:H22	1:QA:741:G:H1	1.39	0.68
24:YA:301:C:H5'	24:YA:302:A:H5"	1.74	0.68
24:YA:1042:A:OP2	39:YU:92:ARG:NH2	2.26	0.68
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.75	0.68
24:YA:1104:G:H2'	24:YA:1105:G:H8	1.58	0.68
1:QA:376:G:H5"	16:QP:5:ARG:HB2	1.76	0.68
1:XA:358:U:C6	1:XA:358:U:H5"	2.28	0.68
24:RA:238:C:O2'	34:RP:64:LYS:NZ	2.27	0.68
43:RY:18:GLY:O	43:RY:21:LYS:HD3	1.94	0.68
1:QA:1422:G:H5"	33:RO:48:PRO:HB3	1.76	0.68
1:XA:674:G:H2'	1:XA:675:A:H8	1.59	0.68
34:YP:63:PRO:HB2	53:Y8:30:ARG:HH21	1.59	0.68
24:RA:723:A:H8	24:RA:2091:G:H21	1.40	0.68
34:RP:93:GLY:H	34:RP:123:LEU:HD22	1.58	0.68
23:XX:5:A:H2'	23:XX:6:G:H8	1.58	0.68
24:YA:241:G:OP2	34:YP:50:ARG:NH2	2.26	0.68
24:RA:2764:G:N7	30:RH:2:SER:OG	2.26	0.67
26:RD:8:PRO:HB3	26:RD:14:ARG:HB3	1.76	0.67
28:RF:143:ALA:HB1	28:RF:148:LEU:HB2	1.75	0.67
24:YA:935:C:H3'	24:YA:936:C:H4'	1.75	0.67
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.60	0.67
1:XA:76:G:H1	1:XA:93:U:H3	1.42	0.67
1:QA:1224:G:O2'	1:QA:1322:C:OP2	2.13	0.67
13:QM:23:TYR:HB3	13:QM:67:GLU:HG2	1.76	0.67
1:XA:362:G:N2	1:XA:365:U:OP2	2.27	0.67
1:XA:452:A:N6	1:XA:480:U:N3	2.36	0.67
1:QA:316:G:OP2	1:QA:351:G:O2'	2.11	0.67
1:QA:838:G:H1	1:QA:848:C:H42	1.42	0.67
1:QA:1080:A:H5'	5:QE:16:THR:HG21	1.77	0.67
22:QV:30:C:C2	22:QV:31:G:C8	2.83	0.67
1:XA:323:U:OP1	20:XT:26:ASN:ND2	2.26	0.67
1:QA:152:A:H62	1:QA:169:C:N4	1.92	0.67
24:RA:539:A:N3	24:RA:604:C:O2'	2.25	0.67
1:XA:452:A:N7	1:XA:480:U:O4	2.28	0.67
1:QA:262:A:H5'	20:QT:74:LYS:HG3	1.77	0.67
24:RA:1555:C:H3'	24:RA:1556:A:H5"	1.77	0.67
1:XA:359:U:C6	1:XA:359:U:OP2	2.48	0.67
24:RA:2032:G:H5"	41:RW:42:ARG:HB2	1.77	0.66
1:XA:272:C:H2'	1:XA:273:A:H8	1.59	0.66
24:YA:2658:C:OP2	24:YA:2745:G:O2'	2.12	0.66
25:YB:84:C:OP1	48:Y3:15:TYR:OH	2.14	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1058:U:C2'	24:YA:1059:C:OP2	2.42	0.66
39:YU:50:ARG:O	39:YU:54:LYS:NZ	2.27	0.66
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.26	0.66
24:YA:553:A:O2'	24:YA:554:A:O5'	2.13	0.66
1:QA:673:G:H2'	1:QA:674:G:C8	2.31	0.66
1:QA:1321:C:H5"	1:QA:1322:C:H5"	1.76	0.66
24:RA:656:A:OP1	34:RP:65:ARG:NH1	2.28	0.66
24:YA:2842:U:H4'	24:YA:2843:G:H5"	1.78	0.66
24:RA:23:G:OP1	24:RA:529:U:N3	2.25	0.66
24:RA:2002:G:O2'	24:RA:2004:C:OP2	2.14	0.66
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.29	0.66
1:XA:380:G:N2	1:XA:383:A:OP2	2.27	0.66
24:RA:1713:G:H1'	33:RO:3:GLN:HE21	1.59	0.66
24:RA:1531:G:H1	24:RA:1550:C:H42	1.44	0.65
1:XA:618:C:H5'	1:XA:619:U:H5"	1.77	0.65
24:YA:2002:G:O2'	24:YA:2004:C:OP2	2.12	0.65
24:YA:2136:A:H62	24:YA:2191:A:H61	1.44	0.65
1:XA:1305:G:N2	1:XA:1332:A:OP2	2.29	0.65
24:RA:333:G:OP2	24:RA:333:G:H8	1.78	0.65
24:RA:2226:C:C2	24:RA:2232:G:N1	2.64	0.65
24:YA:248:G:H21	24:YA:646:A:H8	1.44	0.65
1:XA:1432:G:OP1	38:YT:108:ARG:N	2.29	0.65
1:QA:1128:C:H1'	1:QA:1146:A:H61	1.62	0.65
24:RA:2404:A:OP2	24:RA:2434:A:N6	2.30	0.65
1:QA:1182:G:H5"	1:QA:1183:A:H5'	1.79	0.65
1:QA:1226:C:OP2	13:QM:103:THR:OG1	2.11	0.65
1:QA:825:G:O2'	8:QH:12:ARG:NH2	2.29	0.65
33:RO:64:ARG:HH12	38:RT:70:VAL:HG21	1.62	0.65
1:XA:1348:U:H4'	9:XI:120:ARG:HD2	1.79	0.65
11:QK:51:LYS:H	11:QK:54:ARG:HE	1.43	0.65
1:XA:372:C:N4	1:XA:389:A:H62	1.94	0.65
1:XA:811:C:O2'	1:XA:901:A:N1	2.30	0.65
14:XN:27:CYS:SG	14:XN:28:GLY:N	2.69	0.65
24:YA:248:G:HO2'	24:YA:646:A:HO2'	1.44	0.65
24:YA:2316:G:H22	24:YA:2324:U:H3	1.45	0.65
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.61	0.64
44:YZ:52:SER:OG	44:YZ:53:ILE:N	2.28	0.64
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.16	0.64
3:QC:182:ILE:HA	3:QC:202:ILE:O	1.97	0.64
24:YA:1890:A:N6	24:YA:1905:G:O2'	2.30	0.64
24:YA:2559:U:O2	33:YO:23:ARG:NH2	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:139:A:H8	24:RA:1454:C:HO2'	1.45	0.64
24:RA:1648:U:O2'	24:RA:1649:A:O5'	2.12	0.64
24:YA:24:G:O2'	41:YW:78:GLU:O	2.16	0.64
24:YA:2820:A:H61	24:YA:2900:G:H2'	1.61	0.64
1:QA:1329:A:N7	21:QU:7:ARG:NH2	2.46	0.64
5:QE:105:VAL:HG21	5:QE:128:PRO:HB3	1.78	0.64
24:RA:1140:U:OP1	24:RA:1142:A:N6	2.30	0.64
44:RZ:10:ARG:NH2	44:RZ:37:VAL:O	2.29	0.64
48:R3:15:TYR:O	48:R3:20:LYS:NZ	2.31	0.64
1:XA:321:A:N6	1:XA:329:A:OP2	2.29	0.64
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.62	0.64
1:QA:1314:C:N4	19:QS:2:PRO:O	2.28	0.64
1:XA:579:G:H5'	1:XA:728:A:H1'	1.77	0.64
24:YA:1440:U:H4'	24:YA:1649:A:H4'	1.79	0.64
24:YA:1556:A:O2'	24:YA:1558:G:N7	2.30	0.64
34:YP:52:GLU:OE1	34:YP:55:ARG:NH1	2.31	0.64
24:RA:542:C:OP1	50:R5:16:ARG:NH2	2.30	0.64
1:XA:339:C:OP2	33:YO:97:ARG:NH1	2.29	0.64
24:YA:2297:C:OP2	51:Y6:6:ARG:NH2	2.30	0.64
1:QA:1129:C:H5"	1:QA:1130:A:H8	1.63	0.64
24:RA:1316:C:H5"	24:RA:1317:G:H5'	1.80	0.64
1:XA:992:U:O4	1:XA:1044:A:N7	2.31	0.64
7:QG:143:ARG:HH12	7:QG:147:ALA:HB2	1.62	0.64
24:RA:2090:U:H3	24:RA:2442:A:H2	1.45	0.64
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.31	0.64
24:YA:1076:G:OP2	35:YQ:128:LYS:NZ	2.27	0.64
24:YA:2315:G:N3	29:YG:132:ASN:ND2	2.46	0.64
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.79	0.64
22:QV:4:U:O2'	22:QV:5:G:O5'	2.14	0.64
34:RP:50:ARG:HD3	53:R8:59:LYS:HE2	1.80	0.64
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.31	0.64
24:RA:1109:G:N2	24:RA:1122:C:O2'	2.32	0.63
37:RS:34:HIS:ND1	37:RS:53:SER:OG	2.31	0.63
1:XA:266:G:O2'	1:XA:267:C:OP2	2.15	0.63
24:YA:2797:C:H1'	27:YE:37:ARG:HH12	1.63	0.63
1:XA:31:G:O2'	1:XA:48:C:N4	2.31	0.63
1:XA:946:A:O2'	1:XA:1333:A:N3	2.28	0.63
1:QA:1266:G:N2	1:QA:1269:A:OP2	2.30	0.63
24:RA:2137:G:N1	24:RA:2186:C:OP2	2.31	0.63
24:RA:2692:C:OP2	27:RE:111:ARG:NH2	2.29	0.63
25:YB:2:C:H42	25:YB:119:A:H61	1.45	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YS:3:ARG:NH1	37:YS:4:LEU:O	2.32	0.63
1:XA:358:U:O2	1:XA:358:U:H2'	1.98	0.63
24:YA:880:U:O2	34:YP:55:ARG:NH2	2.29	0.63
53:Y8:54:GLU:OE2	53:Y8:57:ARG:NH2	2.32	0.63
1:QA:1399:C:C2	1:QA:1502:A:N6	2.66	0.63
35:RQ:17:LEU:HD13	35:RQ:39:PRO:HB2	1.81	0.63
25:YB:109:G:H8	25:YB:109:G:C5'	2.05	0.63
26:YD:85:ASP:OD2	26:YD:88:ARG:NH1	2.32	0.63
28:YF:167:ALA:HB1	28:YF:173:VAL:HG11	1.81	0.63
1:QA:1338:G:N3	22:QV:41:A:O2'	2.31	0.63
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.31	0.63
24:RA:2877:G:OP2	38:RT:119:LYS:NZ	2.20	0.63
1:XA:264:U:O2'	17:XQ:64:PRO:O	2.15	0.63
24:RA:2514:G:H5"	24:RA:2515:A:H5"	1.81	0.63
54:R9:27:CYS:SG	54:R9:28:GLU:N	2.72	0.63
4:XD:134:ASP:OD1	4:XD:134:ASP:N	2.31	0.63
13:XM:88:ARG:HG3	13:XM:98:VAL:HG11	1.81	0.63
36:RR:3:HIS:O	36:RR:5:LYS:N	2.32	0.62
1:XA:578:C:O2'	1:XA:728:A:N3	2.29	0.62
1:XA:714:G:H2'	1:XA:715:A:C8	2.34	0.62
24:YA:998:A:OP2	35:YQ:16:ARG:NH1	2.31	0.62
24:YA:2298:A:OP1	51:Y6:29:ASN:ND2	2.32	0.62
1:QA:579:G:H5'	1:QA:728:A:H1'	1.80	0.62
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.46	0.62
13:QM:118:ALA:HB1	22:QV:28:U:H4'	1.80	0.62
24:RA:354:A:H2	24:RA:1255:A:C2'	2.12	0.62
1:XA:978:A:H61	1:XA:1316:G:H1'	1.63	0.62
1:QA:745:C:OP1	1:QA:851:G:O2'	2.17	0.62
24:RA:2226:C:C2	24:RA:2232:G:C2	2.87	0.62
24:YA:2347:A:O2'	24:YA:2348:A:O5'	2.17	0.62
4:QD:13:ARG:HB3	4:QD:39:PRO:HA	1.81	0.62
24:YA:2667:G:N2	24:YA:2677:A:OP2	2.32	0.62
24:RA:2226:C:C1'	24:RA:2232:G:H22	2.12	0.62
1:XA:539:A:H2'	1:XA:540:G:H8	1.63	0.62
1:XA:745:C:H2'	1:XA:746:A:H8	1.63	0.62
1:XA:1133:G:H2'	1:XA:1134:G:C8	2.34	0.62
1:XA:1342:C:H2'	1:XA:1343:G:H8	1.65	0.62
1:QA:624:C:H2'	1:QA:625:G:H8	1.64	0.62
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.80	0.62
13:XM:81:LEU:HD21	13:XM:88:ARG:HG2	1.81	0.62
2:QB:107:THR:HA	2:QB:110:GLN:HG3	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:673:G:H2'	1:XA:674:G:C8	2.35	0.62
1:QA:581:G:OP1	15:QO:65:ARG:NH1	2.28	0.62
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.32	0.62
24:YA:2097:U:OP2	24:YA:2250:G:O2'	2.14	0.62
39:YU:92:ARG:NH1	40:YV:11:GLN:O	2.32	0.62
1:QA:266:G:H5'	1:QA:268:C:H41	1.65	0.62
1:QA:659:U:OP1	15:QO:9:GLN:NE2	2.32	0.62
24:RA:903:C:O2'	24:RA:904:C:OP1	2.16	0.62
27:RE:201:THR:HG22	27:RE:203:LYS:H	1.65	0.62
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.33	0.62
1:XA:1352:C:OP1	21:XU:3:LYS:NZ	2.33	0.62
24:YA:1993:A:OP2	26:YD:242:ARG:NH2	2.32	0.62
24:YA:2367:C:H1'	45:Y0:39:ARG:HH21	1.63	0.62
31:YI:117:GLU:HG2	31:YI:118:LYS:HG2	1.82	0.62
22:XV:1:C:H2'	22:XV:2:G:H8	1.65	0.62
24:YA:2404:A:H2	24:YA:2436:C:H42	1.48	0.62
30:YH:46:GLU:HB2	30:YH:49:VAL:HG12	1.82	0.62
16:QP:1:MET:SD	16:QP:3:LYS:NZ	2.66	0.61
24:RA:651:U:H5"	24:RA:652:A:H5'	1.82	0.61
24:RA:2123:G:H2'	24:RA:2124:U:C2	2.34	0.61
35:RQ:83:MET:HB2	45:R0:7:LEU:HD23	1.81	0.61
47:R2:4:SER:OG	47:R2:5:GLU:N	2.33	0.61
1:XA:978:A:OP2	1:XA:1362(B):C:N4	2.33	0.61
1:XA:1073:U:O2'	2:XB:104:ASN:OD1	2.15	0.61
1:XA:1238:A:N6	1:XA:1301:U:N3	2.38	0.61
24:YA:2297:C:H5	51:Y6:6:ARG:HH12	1.48	0.61
26:YD:71:ASP:OD2	26:YD:103:ARG:NH2	2.33	0.61
48:Y3:18:ASP:OD1	48:Y3:18:ASP:N	2.33	0.61
11:QK:43:SER:OG	11:QK:44:SER:N	2.34	0.61
17:QQ:41:LYS:NZ	17:QQ:88:TYR:OH	2.33	0.61
24:RA:1042:A:OP2	39:RU:92:ARG:NH2	2.33	0.61
30:RH:70:THR:O	30:RH:74:ASN:ND2	2.33	0.61
9:XI:2:GLU:HG3	9:XI:3:GLN:HG2	1.80	0.61
12:XL:27:LEU:O	12:XL:33:ARG:NH2	2.33	0.61
24:RA:1072:U:H1'	24:RA:1073:A:H5"	1.81	0.61
24:YA:140:A:H8	24:YA:1641:G:H21	1.46	0.61
24:YA:2801:C:OP1	27:YE:61:ARG:NH2	2.34	0.61
33:YO:80:ASP:OD2	38:YT:64:ARG:NH2	2.33	0.61
6:QF:2:ARG:NH1	6:QF:3:ARG:O	2.34	0.61
9:XI:111:ARG:NH1	9:XI:112:LYS:O	2.33	0.61
37:YS:93:LYS:HG2	37:YS:95:HIS:HB2	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1115:A:H2'	24:RA:1119:A:H62	1.65	0.61
24:RA:1310:G:OP1	50:R5:19:ARG:NH2	2.33	0.61
5:XE:100:VAL:O	5:XE:107:ARG:NH2	2.34	0.61
24:YA:312:C:H2'	24:YA:313:A:H8	1.65	0.61
24:YA:1627:A:H5"	24:YA:1628:G:C8	2.36	0.61
46:Y1:87:PRO:HA	46:Y1:90:ILE:HG22	1.83	0.61
1:QA:578:C:O2'	1:QA:728:A:N3	2.28	0.61
19:QS:36:ARG:NH2	19:QS:75:ALA:O	2.34	0.61
22:QV:9:G:O2'	22:QV:10:G:N7	2.34	0.61
24:RA:2240:G:OP1	26:RD:261:LYS:NZ	2.30	0.61
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	1.82	0.61
12:XL:60:LEU:HD12	12:XL:62:SER:H	1.65	0.61
27:YE:116:VAL:HG22	27:YE:157:ALA:HB2	1.82	0.61
1:QA:1297:C:O2	7:QG:114:ARG:NH1	2.34	0.61
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.15	0.61
1:QA:666:G:N2	1:QA:740:U:O2	2.32	0.61
1:QA:1124:G:H3'	1:QA:1145:C:H42	1.66	0.61
8:QH:14:ARG:HE	8:QH:83:ILE:HG23	1.65	0.61
24:RA:1269:G:N2	24:RA:1272:A:OP2	2.30	0.61
24:RA:2318:C:N4	29:RG:42:GLY:O	2.33	0.61
1:XA:243:A:H4'	1:XA:244:U:O5'	2.01	0.61
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.33	0.61
1:QA:831:U:H3	1:QA:855:G:H1	1.49	0.61
3:QC:9:GLY:HA3	14:QN:49:HIS:HA	1.82	0.61
22:QV:36:G:H1	23:QX:16:C:H42	1.49	0.61
24:RA:597:C:O2	27:RE:145:LYS:NZ	2.34	0.60
24:RA:829:A:O2'	26:RD:225:ALA:O	2.19	0.60
1:XA:1305:G:O2'	1:XA:1332:A:N6	2.34	0.60
24:RA:892:G:O2'	24:RA:894:U:O4	2.19	0.60
24:YA:1102:G:HO2'	24:YA:1132:A:H8	1.49	0.60
53:Y8:6:THR:OG1	53:Y8:8:LYS:NZ	2.34	0.60
24:RA:441:C:O2	24:RA:1895:U:O2'	2.19	0.60
38:RT:135:ALA:HA	38:RT:137:LYS:HG2	1.83	0.60
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.31	0.60
1:XA:924:C:O2'	1:XA:1502:A:N6	2.34	0.60
2:XB:82:ARG:NH1	2:XB:92:TYR:OH	2.34	0.60
13:XM:81:LEU:HD11	13:XM:88:ARG:HB3	1.83	0.60
24:YA:139:A:H8	24:YA:1454:C:HO2'	1.48	0.60
24:YA:2860:A:N7	24:YA:2878:A:O2'	2.27	0.60
7:QG:77:SER:HA	7:QG:85:TYR:O	2.02	0.60
16:QP:3:LYS:O	16:QP:21:VAL:HA	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:3:ARG:HG3	13:XM:9:ILE:HD13	1.84	0.60
24:YA:1378:G:N2	24:YA:1655:A:O2'	2.34	0.60
4:QD:4:TYR:OH	4:QD:10:ARG:NH2	2.35	0.60
24:RA:324:A:OP1	43:RY:86:ARG:NH2	2.34	0.60
24:RA:332:G:C8	24:RA:526:A:H1'	2.36	0.60
24:RA:1846:A:OP2	26:RD:54:ARG:NH2	2.34	0.60
28:RF:134:GLY:H	28:RF:162:LEU:HD22	1.67	0.60
30:RH:152:ARG:HG2	30:RH:153:LYS:HD3	1.82	0.60
54:R9:25:VAL:HB	54:R9:34:GLN:HB2	1.82	0.60
1:XA:359:U:P	1:XA:359:U:H3'	2.41	0.60
1:XA:659:U:OP1	15:XO:8:LYS:NZ	2.34	0.60
1:QA:1399:C:N3	1:QA:1502:A:N6	2.49	0.60
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.83	0.60
8:XH:51:VAL:HG21	8:XH:60:ARG:HG3	1.83	0.60
24:YA:1736:A:H62	24:YA:1745:A:H2	1.50	0.60
24:YA:2517:G:N7	50:Y5:3:LYS:NZ	2.48	0.60
1:QA:278:G:N7	17:QQ:92:ARG:NH1	2.50	0.60
24:RA:354:A:C2	24:RA:1255:A:H2'	2.32	0.60
46:R1:83:GLU:HG2	46:R1:85:LEU:H	1.66	0.60
2:XB:76:GLN:NE2	2:XB:206:ASP:OD1	2.34	0.60
24:YA:238:C:O2	53:Y8:12:LYS:NZ	2.28	0.60
24:YA:1991:A:O2'	24:YA:1994:A:N3	2.29	0.60
32:YN:58:ASP:OD1	32:YN:58:ASP:N	2.35	0.60
37:YS:11:LYS:HG3	37:YS:91:PRO:HD3	1.82	0.60
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.67	0.60
1:QA:1528:U:HO2'	1:QA:1529:G:P	2.23	0.60
31:RI:82:ARG:HD3	31:RI:146:ALA:HB3	1.84	0.60
1:XA:539:A:H2'	1:XA:540:G:C8	2.37	0.60
21:XU:6:ARG:HD3	21:XU:15:ARG:HH12	1.66	0.60
54:Y9:27:CYS:SG	54:Y9:28:GLU:N	2.74	0.60
1:QA:1286:A:H2'	1:QA:1287:A:H4'	1.84	0.60
24:RA:1035:G:OP2	48:R3:11:SER:OG	2.16	0.60
29:RG:32:PRO:HB2	29:RG:172:LEU:HD13	1.83	0.60
33:RO:80:ASP:OD2	38:RT:64:ARG:NH2	2.35	0.60
34:RP:52:GLU:OE1	34:RP:55:ARG:NH1	2.34	0.60
1:XA:1238:A:N7	1:XA:1301:U:O4	2.35	0.60
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.34	0.60
1:QA:878:G:H5'	8:QH:89:PRO:HG2	1.84	0.60
2:QB:87:ARG:NH1	2:QB:220:ASP:OD1	2.34	0.60
3:QC:63:ASN:HA	3:QC:98:ASN:HB2	1.84	0.60
24:RA:1072:U:H4'	24:RA:1073:A:OP1	2.02	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RB:37:C:O2	37:RS:95:HIS:NE2	2.35	0.60
52:R7:10:ARG:HE	52:R7:14:LYS:HD2	1.67	0.60
1:XA:279:A:OP1	1:XA:280:C:O2'	2.15	0.60
7:XG:60:LYS:HD3	7:XG:63:LYS:HB3	1.83	0.60
15:XO:82:ILE:HB	15:XO:87:ILE:HB	1.83	0.60
1:QA:244:U:OP2	17:QQ:100:LYS:NZ	2.34	0.59
34:YP:87:ASP:O	34:YP:90:ARG:NH1	2.35	0.59
24:YA:1209:G:OP1	40:YV:24:LYS:NZ	2.30	0.59
24:YA:1269:G:N2	24:YA:1272:A:OP2	2.29	0.59
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.67	0.59
11:QK:51:LYS:HA	11:QK:55:LYS:HE2	1.84	0.59
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.35	0.59
22:QV:20:G:N3	22:QV:57:G:N2	2.51	0.59
24:RA:345:G:O2'	24:RA:364:A:N3	2.35	0.59
1:XA:1454:G:OP1	20:XT:39:LYS:NZ	2.35	0.59
9:XI:3:GLN:OE1	9:XI:20:ARG:NH2	2.34	0.59
1:QA:1047:G:OP1	14:QN:4:LYS:NZ	2.29	0.59
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.18	0.59
5:QE:79:GLU:O	8:QH:104:ARG:NH1	2.34	0.59
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.34	0.59
24:RA:140:A:H8	24:RA:1641:G:H21	1.50	0.59
24:RA:211:A:H3'	24:RA:448:U:H5'	1.84	0.59
24:RA:865:G:N1	24:RA:1233:U:OP2	2.28	0.59
2:XB:208:ILE:HA	2:XB:211:ILE:HD12	1.84	0.59
11:XK:18:ARG:NH2	11:XK:35:PRO:O	2.36	0.59
24:YA:2065:C:OP1	24:YA:2790:G:O2'	2.17	0.59
1:QA:437:U:O2	4:QD:119:GLN:NE2	2.36	0.59
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.38	0.59
18:QR:33:ASP:OD2	18:QR:36:ASN:ND2	2.35	0.59
24:RA:232:U:OP2	53:R8:8:LYS:NZ	2.30	0.59
24:RA:1058:U:OP1	39:RU:75:ASN:ND2	2.35	0.59
24:RA:2518:U:OP2	24:RA:2588:G:N1	2.31	0.59
16:XP:18:ARG:NH1	16:XP:32:TYR:OH	2.35	0.59
24:YA:1001:G:OP2	35:YQ:14:ARG:NH2	2.35	0.59
44:YZ:45:ASP:OD1	44:YZ:49:ARG:NH1	2.36	0.59
51:Y6:3:SER:OG	51:Y6:4:GLU:N	2.35	0.59
22:QV:58:A:O2'	22:QV:60:U:OP2	2.14	0.59
24:RA:2340:A:H2'	24:RA:2341:G:C8	2.37	0.59
26:RD:2:ALA:N	26:RD:200:ASP:OD2	2.36	0.59
1:XA:1459:C:OP1	20:XT:27:LYS:NZ	2.35	0.59
24:YA:388:A:H2'	24:YA:389:G:H8	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1405:A:OP2	24:YA:1417:G:N1	2.30	0.59
1:QA:642:A:N3	8:QH:113:SER:OG	2.34	0.59
24:RA:2297:C:OP2	51:R6:6:ARG:NH2	2.31	0.59
1:XA:1157:A:N7	1:XA:1178:G:N2	2.50	0.59
24:YA:1961:U:OP1	24:YA:2616:U:O2'	2.20	0.59
51:Y6:3:SER:HB3	51:Y6:6:ARG:HB3	1.85	0.59
24:RA:2297:C:H5	51:R6:6:ARG:HH12	1.50	0.59
31:RI:79:ILE:HB	31:RI:142:VAL:HG23	1.84	0.59
48:R3:6:VAL:HG12	48:R3:56:VAL:HG12	1.83	0.59
49:R4:16:CYS:SG	49:R4:17:GLY:N	2.76	0.59
24:YA:616:G:H4'	53:Y8:61:LEU:HD13	1.84	0.59
28:YF:185:ASP:OD1	28:YF:188:ARG:NH1	2.35	0.59
1:QA:346:G:H1'	1:QA:347:G:H5'	1.85	0.59
1:QA:689:C:H3'	1:QA:690:G:H21	1.68	0.59
2:QB:84:GLU:OE1	2:QB:87:ARG:NH2	2.36	0.59
24:RA:238:C:OP2	24:RA:2406:C:O2'	2.20	0.59
24:RA:592:U:O2'	24:RA:1029:A:N1	2.32	0.59
46:R1:65:SER:HG	46:R1:66:HIS:HD1	1.48	0.59
50:R5:16:ARG:NH1	50:R5:17:ASP:OD1	2.35	0.59
2:XB:30:ARG:NH2	2:XB:195:ASP:OD1	2.36	0.59
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.85	0.59
24:YA:2801:C:O2'	24:YA:2819:A:N3	2.35	0.59
1:QA:677:U:O2	1:QA:777:A:O2'	2.21	0.59
24:RA:24:G:O2'	41:RW:78:GLU:O	2.20	0.59
24:RA:1289:G:O2'	34:RP:7:ARG:NH2	2.34	0.59
26:RD:17:THR:HB	26:RD:205:VAL:H	1.68	0.59
1:XA:662:G:O2'	1:XA:836:G:OP1	2.20	0.59
1:XA:701:C:OP1	1:XA:702:A:O2'	2.15	0.59
11:XK:33:THR:HA	11:XK:39:PRO:HA	1.85	0.59
12:XL:114:LYS:O	12:XL:117:ARG:NH1	2.36	0.59
25:YB:93:C:OP1	44:YZ:80:ARG:NH2	2.36	0.59
17:QQ:90:ILE:O	17:QQ:94:ASN:ND2	2.36	0.58
20:XT:100:ILE:HG23	20:XT:102:GLY:H	1.68	0.58
37:YS:81:GLY:O	37:YS:83:LYS:NZ	2.35	0.58
1:QA:811:C:O2'	1:QA:901:A:N1	2.37	0.58
38:YT:20:PRO:HD2	38:YT:86:ILE:HG23	1.83	0.58
24:RA:66:U:H3	24:RA:73:A:H2	1.49	0.58
30:RH:101:ARG:NH2	30:RH:121:ILE:O	2.36	0.58
3:XC:93:LYS:HE2	3:XC:94:LEU:HD23	1.86	0.58
36:YR:75:LEU:HA	36:YR:78:LYS:HB3	1.83	0.58
1:QA:1441:G:N2	1:QA:1460:A:H62	2.01	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:191(G):G:O2'	20:XT:101:GLY:O	2.20	0.58
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.84	0.58
24:YA:2622:C:H4'	24:YA:2623:U:OP2	2.03	0.58
33:YO:107:ARG:NH1	38:YT:36:GLU:OE1	2.37	0.58
1:QA:684:A:O2'	11:QK:39:PRO:O	2.20	0.58
24:RA:1847:G:O6	26:RD:35:LYS:NZ	2.32	0.58
24:RA:2858:G:O2'	24:RA:2877:G:N2	2.37	0.58
30:RH:84:SER:OG	30:RH:85:LYS:N	2.37	0.58
1:XA:28:G:O2'	1:XA:296:U:OP1	2.19	0.58
24:YA:82:G:H1	24:YA:100:G:HO2'	1.49	0.58
38:YT:16:ARG:NH2	38:YT:83:ILE:O	2.36	0.58
38:YT:124:ASP:N	38:YT:124:ASP:OD1	2.36	0.58
1:QA:410:G:N2	1:QA:432:A:H62	2.00	0.58
1:QA:1280:A:H5"	10:QJ:40:LEU:HD23	1.84	0.58
24:RA:1065:U:H3	24:RA:1188:A:H62	1.48	0.58
7:XG:28:ASN:OD1	7:XG:36:LYS:NZ	2.34	0.58
24:YA:2414:C:H1'	24:YA:2415:C:H5	1.67	0.58
24:YA:2639:G:N2	24:YA:2790:G:OP1	2.35	0.58
28:YF:198:ALA:HA	28:YF:201:VAL:HG12	1.84	0.58
1:QA:559:A:H4'	1:QA:560:U:H3'	1.86	0.58
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.37	0.58
24:RA:1109:G:OP1	24:RA:1111:U:O2'	2.18	0.58
24:YA:1155:C:O2'	24:YA:1156:G:OP1	2.19	0.58
24:YA:2132:G:O2'	24:YA:2133:C:O4'	2.20	0.58
25:YB:37:C:O2	37:YS:95:HIS:NE2	2.35	0.58
50:Y5:16:ARG:NH1	50:Y5:17:ASP:OD1	2.35	0.58
36:RR:56:LYS:NZ	36:RR:90:ARG:O	2.37	0.58
1:XA:62:U:H3	1:XA:105:G:H1	1.51	0.58
24:YA:115:G:OP2	24:YA:117:A:O2'	2.20	0.58
18:QR:70:ILE:O	18:QR:74:ARG:HB2	2.04	0.58
24:RA:2367:C:H1'	45:R0:39:ARG:HH21	1.69	0.58
24:RA:2453:C:OP2	24:RA:2598:C:O2'	2.21	0.58
1:XA:664:G:H22	1:XA:741:G:H1	1.51	0.58
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.36	0.58
35:YQ:122:GLY:HA2	35:YQ:125:LEU:HD12	1.86	0.58
1:QA:946:A:H2'	1:QA:947:G:C8	2.39	0.58
24:RA:1481:G:N2	24:RA:1524:A:O2'	2.36	0.58
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.36	0.58
4:XD:209:ARG:NH1	4:XD:209:ARG:O	2.37	0.58
24:YA:2211:U:H2'	24:YA:2212:G:C8	2.39	0.58
1:QA:765:G:N2	1:QA:813:U:OP2	2.30	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.27	0.57
13:XM:49:THR:HG22	13:XM:51:ALA:H	1.69	0.57
24:YA:662:A:OP1	34:YP:133:SER:OG	2.18	0.57
35:YQ:31:ASP:OD1	35:YQ:134:ARG:NH1	2.33	0.57
38:YT:124:ASP:O	38:YT:128:GLU:N	2.36	0.57
1:QA:973:G:O6	1:QA:974:A:N6	2.37	0.57
3:QC:184:TYR:HA	3:QC:200:ALA:O	2.03	0.57
19:QS:36:ARG:NH2	19:QS:72:GLY:O	2.38	0.57
24:RA:208:G:N3	24:RA:223:C:O2'	2.36	0.57
24:RA:241:G:OP2	34:RP:50:ARG:NH2	2.29	0.57
24:RA:2533:C:O2'	24:RA:2576:A:N3	2.34	0.57
44:YZ:119:GLU:OE2	44:YZ:122:ARG:NH1	2.37	0.57
24:RA:2148:A:H4'	24:RA:2149:G:O5'	2.05	0.57
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.85	0.57
24:YA:1176:U:O2'	24:YA:1177:G:O5'	2.19	0.57
24:YA:2318:C:N4	29:YG:42:GLY:O	2.37	0.57
1:QA:128:G:O2'	17:QQ:3:LYS:NZ	2.37	0.57
1:QA:742:G:OP2	15:QO:35:ARG:NH2	2.35	0.57
24:RA:2339:A:H2'	24:RA:2340:A:C8	2.39	0.57
24:RA:2404:A:H2	24:RA:2436:C:H42	1.50	0.57
1:XA:152:A:N6	1:XA:169:C:C4	2.73	0.57
29:YG:74:LYS:O	29:YG:84:LYS:NZ	2.37	0.57
32:YN:25:ARG:O	32:YN:29:LYS:NZ	2.37	0.57
5:QE:153:LYS:HE2	5:QE:155:GLU:HB3	1.86	0.57
24:RA:1132:A:O2'	24:RA:1149:A:N1	2.36	0.57
24:RA:2860:A:N7	24:RA:2878:A:O2'	2.33	0.57
30:RH:106:THR:HG22	30:RH:112:PRO:HB3	1.86	0.57
1:XA:624:C:H4'	16:XP:10:GLY:HA2	1.87	0.57
24:YA:2859:U:OP2	38:YT:95:ARG:NH1	2.38	0.57
44:YZ:19:ARG:NH1	44:YZ:84:GLU:O	2.37	0.57
24:RA:2054:G:H1'	27:RE:145:LYS:HD2	1.86	0.57
24:RA:2798:C:OP1	27:RE:41:LYS:NZ	2.34	0.57
39:RU:90:VAL:HG22	40:RV:38:LEU:HB3	1.86	0.57
1:XA:316:G:OP2	1:XA:351:G:O2'	2.15	0.57
8:XH:11:THR:HG22	8:XH:14:ARG:HH12	1.69	0.57
1:QA:411:A:H62	1:QA:413:G:H21	1.51	0.57
5:QE:153:LYS:HG3	5:QE:155:GLU:H	1.68	0.57
4:XD:114:ARG:O	4:XD:118:ARG:N	2.36	0.57
24:YA:1052:C:O2'	32:YN:106:MET:O	2.23	0.57
24:RA:907:U:H2'	24:RA:908:A:H8	1.70	0.57
24:RA:2270:C:O2'	24:RA:2439:C:OP2	2.22	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:99:C:H2'	1:XA:101:A:C8	2.40	0.57
33:YO:76:ALA:HB3	38:YT:75:ILE:HD12	1.87	0.57
34:YP:62:LEU:O	53:Y8:13:ARG:NH1	2.38	0.57
2:QB:92:TYR:HH	2:QB:150:SER:HG	1.50	0.57
8:QH:7:ALA:HB2	8:QH:85:ARG:HD3	1.86	0.57
24:RA:331:G:H21	24:RA:354:A:H62	1.52	0.57
24:YA:419:C:H5"	24:YA:436:C:H5"	1.86	0.57
24:YA:484:G:N2	24:YA:496:A:OP2	2.25	0.57
24:YA:1627:A:H3'	24:YA:1628:G:H8	1.70	0.57
28:YF:116:ASP:OD1	28:YF:119:ARG:NH2	2.38	0.57
1:QA:1422:G:O3'	33:RO:49:ARG:NH1	2.37	0.57
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.37	0.57
27:RE:176:ILE:HB	27:RE:181:LEU:HB2	1.87	0.57
7:XG:69:VAL:HG13	7:XG:100:ALA:HB1	1.87	0.57
24:YA:2120:U:O4	24:YA:2213:G:O6	2.23	0.57
45:Y0:27:GLU:HG3	45:Y0:68:GLU:HA	1.85	0.57
1:QA:1028(C):C:N4	1:QA:1032(B):G:O6	2.38	0.56
24:RA:210:A:H4'	24:RA:211:A:O5'	2.04	0.56
27:RE:128:SER:OG	27:RE:129:HIS:N	2.37	0.56
9:XI:48:GLU:O	9:XI:51:ARG:N	2.37	0.56
25:YB:48:A:H4'	37:YS:95:HIS:HD2	1.70	0.56
29:YG:67:LYS:HD3	49:Y4:5:ILE:HD12	1.85	0.56
1:QA:132:C:O3'	20:QT:74:LYS:NZ	2.38	0.56
6:QF:100:ASN:ND2	18:QR:23:LYS:O	2.33	0.56
24:RA:484:G:N2	24:RA:496:A:OP2	2.36	0.56
24:RA:1588:G:O6	24:RA:1589:A:N6	2.38	0.56
30:RH:86:GLU:HB3	30:RH:165:ALA:H	1.70	0.56
24:YA:895:G:H2'	24:YA:896:A:C8	2.39	0.56
24:YA:964:A:N3	25:YB:80:U:O2'	2.36	0.56
24:YA:1501:U:O2'	24:YA:1502:G:N7	2.38	0.56
24:YA:2318:C:H3'	24:YA:2319:G:H5"	1.87	0.56
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.69	0.56
2:QB:61:LEU:O	2:QB:65:GLY:N	2.36	0.56
12:QL:49:ASN:ND2	12:QL:92:ASP:OD2	2.38	0.56
13:QM:15:VAL:HG12	13:QM:45:VAL:HB	1.87	0.56
13:QM:47:ASP:N	13:QM:47:ASP:OD1	2.38	0.56
24:RA:1014:U:H2'	24:RA:1015:C:C6	2.41	0.56
24:RA:1291:G:OP1	34:RP:13:ASN:ND2	2.33	0.56
24:RA:2826:C:O2	24:RA:2893:A:O2'	2.23	0.56
24:RA:2901:A:H2'	24:RA:2902:G:O4'	2.06	0.56
27:RE:47:VAL:HG21	27:RE:86:PRO:HD2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RZ:108:PRO:HG3	44:RZ:141:VAL:HG22	1.88	0.56
1:XA:24:U:HO2'	1:XA:524:G:HO2'	1.53	0.56
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.87	0.56
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.36	0.56
23:XX:6:G:H2'	23:XX:7:G:C8	2.40	0.56
24:YA:238:C:OP2	24:YA:2406:C:O2'	2.20	0.56
24:YA:331:G:H21	24:YA:354:A:H62	1.53	0.56
24:YA:1108:G:H2'	24:YA:1109:G:H8	1.69	0.56
24:YA:2479:C:OP1	54:Y9:6:SER:OG	2.20	0.56
1:QA:1386:G:H2'	1:QA:1387:G:H8	1.71	0.56
12:QL:60:LEU:HD12	12:QL:62:SER:H	1.71	0.56
48:R3:40:THR:HB	48:R3:43:ILE:HG12	1.86	0.56
1:XA:243:A:H4'	1:XA:244:U:H3'	1.87	0.56
19:XS:3:ARG:NH1	19:XS:8:GLY:O	2.37	0.56
24:YA:484:G:O2'	24:YA:495:G:O6	2.20	0.56
1:QA:1079:G:O2'	5:QE:14:ARG:NH2	2.38	0.56
1:QA:1147:C:O2	9:QI:16:ARG:NH2	2.39	0.56
17:QQ:7:THR:HG22	17:QQ:58:GLU:HG2	1.87	0.56
1:XA:606:G:H22	1:XA:631:G:H5"	1.71	0.56
2:XB:95:GLN:HA	2:XB:96:ARG:HH21	1.70	0.56
2:XB:135:GLN:HB3	2:XB:139:LYS:HE3	1.87	0.56
3:XC:150:LYS:HD3	3:XC:152:ILE:HD11	1.87	0.56
24:YA:1449:C:H5"	24:YA:1518:A:H1'	1.87	0.56
24:YA:1896:G:H5'	24:YA:1897:C:OP2	2.05	0.56
29:YG:161:THR:HG22	29:YG:163:ALA:H	1.70	0.56
35:YQ:32:TYR:OH	35:YQ:111:GLU:OE1	2.24	0.56
1:QA:714:G:H2'	1:QA:715:A:C8	2.39	0.56
17:QQ:83:ASP:N	17:QQ:83:ASP:OD1	2.38	0.56
35:RQ:134:ARG:HH22	44:RZ:122:ARG:HH21	1.54	0.56
7:XG:5:ARG:HH21	7:XG:6:ARG:HB2	1.69	0.56
24:YA:441:C:O2	24:YA:1895:U:O2'	2.22	0.56
24:YA:1033:G:O2'	24:YA:1046:A:N3	2.36	0.56
24:YA:2052:A:H4'	24:YA:2053:A:H8	1.70	0.56
1:QA:243:A:H4'	1:QA:244:U:O5'	2.04	0.56
1:QA:409:G:OP1	4:QD:24:GLU:N	2.35	0.56
24:RA:137:G:N2	42:RX:44:GLU:OE1	2.35	0.56
24:RA:616:G:H4'	53:R8:61:LEU:HD13	1.87	0.56
24:RA:2559:U:O2	33:RO:23:ARG:NH2	2.38	0.56
1:XA:881:G:OP2	12:XL:12:ARG:NH2	2.39	0.56
24:YA:1604:C:OP2	24:YA:1605:A:O2'	2.19	0.56
24:YA:2203:G:H2'	24:YA:2204:G:C8	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:56:U:H2'	1:QA:57:G:H8	1.70	0.56
1:QA:410:G:H3'	4:QD:25:ARG:HH12	1.70	0.56
1:QA:547:A:OP1	4:QD:73:ARG:NH2	2.39	0.56
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.39	0.56
4:QD:47:ARG:HB3	4:QD:49:ARG:HH21	1.71	0.56
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.87	0.56
24:RA:1087:C:H42	24:RA:1160:G:H1	1.54	0.56
24:RA:2073:A:H5'	24:RA:2590:G:O4'	2.05	0.56
24:RA:2877:G:HO2'	24:RA:2878:A:H8	1.53	0.56
33:RO:71:ARG:HB3	33:RO:73:ASP:OD1	2.05	0.56
13:XM:60:VAL:HG22	13:XM:66:LEU:HD11	1.86	0.56
28:YF:122:LYS:NZ	28:YF:152:GLU:OE2	2.39	0.56
1:QA:359:U:H2'	1:QA:360:A:H8	1.70	0.56
3:QC:88:ARG:HA	3:QC:91:LEU:HD12	1.88	0.56
9:QI:21:PRO:HA	9:QI:59:PHE:HA	1.87	0.56
24:RA:98:U:O4	43:RY:8:LYS:NZ	2.39	0.56
24:RA:1714:G:H8	24:RA:1714:G:OP2	1.88	0.56
24:RA:1736:A:H62	24:RA:1745:A:H2	1.54	0.56
24:RA:2760:G:OP1	30:RH:138:LYS:NZ	2.33	0.56
26:RD:146:GLU:HB2	26:RD:189:CYS:HB3	1.86	0.56
26:RD:153:ALA:O	26:RD:157:ARG:NH1	2.39	0.56
24:YA:904:C:OP2	45:Y0:77:ARG:NH2	2.39	0.56
24:YA:1927:C:H3'	24:YA:1952:G:C8	2.40	0.56
24:YA:2669:A:O2'	30:YH:160:LYS:NZ	2.39	0.56
10:QJ:28:ARG:NH1	10:QJ:34:VAL:O	2.36	0.56
24:RA:1001:G:OP2	35:RQ:14:ARG:NH2	2.39	0.56
24:RA:1068:G:N2	24:RA:1069:U:O4	2.38	0.56
25:RB:27:C:H4'	37:RS:54:LEU:HD11	1.87	0.56
33:RO:68:GLU:HG3	33:RO:78:ARG:HD3	1.88	0.56
38:RT:16:ARG:HH21	38:RT:19:LEU:HD21	1.71	0.56
44:RZ:45:ASP:OD1	44:RZ:49:ARG:NE	2.39	0.56
45:R0:70:GLN:OE1	45:R0:80:HIS:NE2	2.38	0.56
1:XA:359:U:OP2	1:XA:359:U:H3'	2.06	0.56
1:XA:875:C:O2'	8:XH:14:ARG:NH1	2.39	0.56
1:XA:1291:G:H4'	9:XI:39:GLY:HA3	1.89	0.56
2:XB:19:HIS:HB3	2:XB:20:GLU:HG2	1.87	0.56
9:XI:9:ARG:HB3	9:XI:104:ARG:HH21	1.70	0.56
24:YA:537:G:OP1	24:YA:1280:U:O2'	2.13	0.56
26:YD:72:LYS:HG3	26:YD:103:ARG:HH21	1.71	0.56
26:YD:108:PRO:HG2	26:YD:111:LEU:HG	1.88	0.56
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2136:A:C2	24:RA:2139:A:H5"	2.40	0.55
1:XA:148:G:H2'	1:XA:149:A:C8	2.41	0.55
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.39	0.55
1:XA:1316:G:N2	1:XA:1319:A:OP2	2.38	0.55
1:QA:1373:G:H5'	7:QG:36:LYS:HG2	1.88	0.55
24:RA:1117:G:N2	24:RA:1135:G:O6	2.38	0.55
24:RA:1449:C:H5"	24:RA:1518:A:H1'	1.86	0.55
24:RA:2818:U:C2	24:RA:2901:A:C6	2.92	0.55
1:XA:642:A:N3	8:XH:113:SER:OG	2.39	0.55
2:XB:136:VAL:HA	2:XB:139:LYS:HD2	1.88	0.55
45:Y0:20:ARG:O	45:Y0:24:LYS:NZ	2.37	0.55
3:XC:35:GLU:OE1	3:XC:59:ARG:NH2	2.37	0.55
24:YA:1686:U:H2'	24:YA:1687:C:H5"	1.89	0.55
24:YA:1830:G:H8	26:YD:181:GLU:OE1	1.88	0.55
24:RA:2377:G:N7	53:R8:39:LYS:NZ	2.55	0.55
43:RY:47:LYS:NZ	43:RY:48:ALA:O	2.35	0.55
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.89	0.55
24:YA:360:C:HO2'	43:YY:35:TYR:HH	1.52	0.55
24:YA:1289:G:O2'	34:YP:7:ARG:NH2	2.40	0.55
1:QA:1240:U:O4	7:QG:109:ASN:ND2	2.39	0.55
20:QT:89:ARG:NH2	20:QT:105:SER:O	2.38	0.55
38:RT:16:ARG:NH2	38:RT:18:ASP:OD2	2.40	0.55
1:XA:624:C:H2'	1:XA:625:G:H8	1.71	0.55
24:YA:85:C:H4'	24:YA:102:U:H1'	1.87	0.55
24:YA:2034:G:OP1	41:YW:11:ARG:NH2	2.38	0.55
1:QA:346:G:OP1	38:RT:41:ARG:NH1	2.33	0.55
5:QE:81:GLU:OE1	8:QH:104:ARG:NH2	2.38	0.55
1:XA:132:C:O3'	20:XT:74:LYS:NZ	2.39	0.55
1:XA:973:G:H3'	1:XA:974:A:H5"	1.88	0.55
1:XA:1251:A:N3	1:XA:1369:C:O2'	2.32	0.55
2:XB:11:LEU:O	2:XB:16:HIS:ND1	2.39	0.55
24:YA:596:G:N1	24:YA:2053:A:OP2	2.25	0.55
1:QA:439:A:OP2	1:QA:493:G:N1	2.24	0.55
1:QA:1009:G:O6	1:QA:1020:U:O4	2.25	0.55
2:QB:63:MET:HG3	2:QB:225:ALA:HB1	1.88	0.55
24:RA:184:A:OP1	34:RP:46:LYS:NZ	2.31	0.55
24:RA:1132:A:OP1	24:RA:1150:C:O2'	2.23	0.55
33:RO:13:ASN:HD21	33:RO:96:THR:HG1	1.55	0.55
44:RZ:132:ASN:ND2	44:RZ:159:PRO:O	2.39	0.55
47:R2:20:GLU:HA	47:R2:23:LYS:HG3	1.88	0.55
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:32:ILE:HD11	2:XB:40:HIS:HB3	1.89	0.55
24:YA:278:G:H1'	46:Y1:78:LYS:HD3	1.89	0.55
1:QA:150:C:H42	1:QA:171:A:H62	1.54	0.55
1:QA:321:A:N6	1:QA:329:A:OP2	2.38	0.55
1:QA:1316:G:H4'	14:QN:18:VAL:HG11	1.88	0.55
10:QJ:61:GLU:OE2	14:QN:45:ARG:NE	2.40	0.55
24:RA:1003:U:OP2	35:RQ:14:ARG:NH1	2.40	0.55
9:XI:22:GLY:HA3	9:XI:60:ASP:HB2	1.87	0.55
1:QA:782:A:H62	1:QA:800:G:H21	1.54	0.55
24:RA:1039:G:OP1	39:RU:50:ARG:NH2	2.38	0.55
24:YA:2299:A:H62	24:YA:2356:U:H3	1.54	0.55
24:YA:2416:C:O3'	34:YP:77:ARG:NH2	2.40	0.55
42:YX:27:THR:HG23	42:YX:80:ILE:HG13	1.88	0.55
1:QA:359:U:H2'	1:QA:360:A:C8	2.41	0.55
1:QA:1305:G:N2	1:QA:1332:A:OP2	2.38	0.55
2:QB:9:GLU:HA	2:QB:12:GLU:HB2	1.88	0.55
12:QL:114:LYS:O	12:QL:117:ARG:NH1	2.39	0.55
22:QV:34:C:H2'	22:QV:35:G:H8	1.72	0.55
24:RA:251:A:N3	24:RA:457:G:O2'	2.31	0.55
24:RA:1047:A:H62	24:RA:1200:G:H21	1.53	0.55
24:RA:2013:U:H2'	24:RA:2014:G:H5"	1.89	0.55
1:XA:422:C:HO2'	1:XA:423:G:N2	2.05	0.55
1:QA:1328:C:OP1	21:QU:21:TYR:OH	2.22	0.54
1:XA:352:C:O2'	1:XA:354:G:OP1	2.15	0.54
3:XC:17:ASP:O	3:XC:54:ARG:NH2	2.40	0.54
24:YA:2885:C:O2'	38:YT:2:ASN:OD1	2.24	0.54
30:YH:51:ARG:HB3	30:YH:51:ARG:HH11	1.72	0.54
6:QF:3:ARG:HA	6:QF:65:VAL:O	2.08	0.54
8:QH:121:ASP:N	8:QH:121:ASP:OD1	2.37	0.54
20:QT:14:LYS:HA	20:QT:17:ARG:HE	1.72	0.54
30:RH:56:SER:OG	30:RH:57:ASP:N	2.38	0.54
31:RI:78:THR:HG22	31:RI:141:LYS:HE3	1.88	0.54
4:XD:187:ARG:NH1	4:XD:188:LEU:O	2.40	0.54
22:XV:2:G:H2'	22:XV:3:G:H8	1.72	0.54
53:Y8:22:VAL:HB	53:Y8:53:PRO:HB3	1.90	0.54
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.72	0.54
1:QA:1304:G:OP1	21:QU:2:GLY:N	2.39	0.54
2:QB:6:THR:O	2:QB:217:ARG:NH1	2.38	0.54
3:QC:8:ILE:HG23	3:QC:16:ARG:HG2	1.89	0.54
10:QJ:48:THR:HG22	10:QJ:62:HIS:HB3	1.89	0.54
14:QN:24:CYS:SG	14:QN:25:VAL:N	2.79	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RQ:28:ALA:N	35:RQ:105:GLU:OE2	2.39	0.54
1:XA:129(B):G:N2	1:XA:188:U:O2'	2.41	0.54
1:XA:1129:C:N4	1:XA:1134:G:O6	2.40	0.54
1:XA:1406:U:O2	1:XA:1517:G:N2	2.36	0.54
2:QB:20:GLU:OE1	2:QB:23:ARG:NH1	2.40	0.54
29:RG:170:ARG:NH2	29:RG:174:GLU:OE2	2.38	0.54
33:RO:2:ILE:HB	33:RO:33:ALA:HB3	1.89	0.54
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.42	0.54
3:QC:128:PHE:HB3	3:QC:132:ARG:HH21	1.72	0.54
24:RA:606:G:OP2	39:RU:10:ARG:NH1	2.40	0.54
24:RA:655:G:OP1	53:R8:46:ARG:NH1	2.40	0.54
24:RA:1854:G:OP1	26:RD:54:ARG:NH1	2.40	0.54
1:XA:790:A:OP1	22:XV:38:A:O2'	2.24	0.54
1:XA:1336:C:O2	1:XA:1337:G:N1	2.41	0.54
8:XH:49:GLU:OE2	8:XH:62:TYR:OH	2.24	0.54
24:YA:485:U:H2'	24:YA:486:A:H8	1.71	0.54
24:YA:600:G:O2'	24:YA:1300:A:OP1	2.26	0.54
27:YE:105:THR:OG1	27:YE:199:ARG:NH2	2.40	0.54
1:QA:701:C:H1'	1:QA:703:G:C6	2.43	0.54
1:QA:701:C:OP1	1:QA:702:A:O2'	2.20	0.54
24:RA:953:U:HO2'	35:RQ:101:ARG:HH22	1.53	0.54
1:XA:76:G:O6	1:XA:93:U:O4	2.25	0.54
13:XM:93:ARG:HG3	13:XM:94:ARG:HE	1.73	0.54
24:YA:721:G:H1'	28:YF:74:ARG:HD3	1.90	0.54
24:YA:831:A:OP2	24:YA:2601:A:OP1	2.26	0.54
24:YA:1361:C:O2'	24:YA:1438:A:N3	2.39	0.54
1:QA:362:G:N2	1:QA:365:U:OP2	2.40	0.54
17:QQ:66:SER:OG	17:QQ:67:LYS:O	2.25	0.54
24:RA:1884:A:N3	24:RA:2245:U:O2'	2.33	0.54
25:RB:7:G:N3	37:RS:38:GLN:NE2	2.48	0.54
29:RG:60:LEU:HA	29:RG:63:ILE:HG12	1.90	0.54
50:R5:41:PRO:O	50:R5:44:THR:OG1	2.24	0.54
51:R6:3:SER:OG	51:R6:4:GLU:N	2.41	0.54
1:XA:677:U:H3	1:XA:713:G:H22	1.55	0.54
4:XD:99:SER:OG	4:XD:140:VAL:O	2.26	0.54
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.40	0.54
24:YA:209:G:O2'	24:YA:222:A:N3	2.36	0.54
24:YA:489:G:N2	24:YA:492:A:OP2	2.36	0.54
24:YA:2347:A:O2'	24:YA:2348:A:H2'	2.07	0.54
38:YT:64:ARG:NH1	38:YT:106:SER:OG	2.41	0.54
1:QA:1150:U:H4'	10:QJ:41:PRO:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1105:G:OP2	24:RA:1106:U:H3'	2.08	0.54
24:RA:2099:A:OP1	24:RA:2250:G:N2	2.33	0.54
1:XA:129(B):G:H1'	1:XA:190:G:H5"	1.90	0.54
1:XA:324:G:N2	1:XA:327:A:OP2	2.41	0.54
1:XA:957:U:N3	1:XA:960:U:OP2	2.41	0.54
24:YA:626:A:H5"	24:YA:702:A:H61	1.72	0.54
1:XA:8:A:N6	4:XD:205:GLU:O	2.41	0.54
1:XA:143:A:H5"	1:XA:144:G:H5'	1.90	0.54
29:YG:11:TYR:OH	29:YG:32:PRO:O	2.22	0.54
30:YH:23:ARG:NH1	30:YH:34:GLU:OE1	2.36	0.54
24:RA:73:A:H4'	24:RA:74:G:O5'	2.07	0.54
24:RA:334:A:C4	24:RA:336:G:C8	2.96	0.54
24:RA:2575:U:N3	24:RA:2578:A:OP2	2.28	0.54
24:RA:2710:U:H2'	24:RA:2711:C:C6	2.42	0.54
28:RF:185:ASP:HA	28:RF:188:ARG:HD3	1.89	0.54
4:XD:20:TYR:N	4:XD:20:TYR:CD1	2.73	0.54
24:YA:597:C:N3	27:YE:145:LYS:NZ	2.50	0.54
24:YA:1312:G:O2'	24:YA:2034:G:O6	2.19	0.54
1:QA:345:C:OP2	38:RT:39:ARG:NH2	2.42	0.53
1:QA:1026:G:O6	1:QA:1036:G:N2	2.41	0.53
1:QA:1224:G:H1	1:QA:1362(B):C:H42	1.56	0.53
24:RA:873:U:OP1	24:RA:2441:G:OP1	2.27	0.53
24:RA:2159:C:H2'	24:RA:2160:C:C6	2.43	0.53
37:RS:25:ARG:NH1	37:RS:42:ASP:OD2	2.41	0.53
1:XA:148:G:H2'	1:XA:149:A:H8	1.73	0.53
17:XQ:66:SER:OG	17:XQ:67:LYS:O	2.23	0.53
24:YA:815:G:N2	24:YA:1425:A:O2'	2.41	0.53
24:YA:1088:G:H1	24:YA:1159:U:H3	1.55	0.53
25:YB:109:G:C8	25:YB:109:G:C5'	2.85	0.53
54:Y9:25:VAL:HB	54:Y9:34:GLN:HB2	1.91	0.53
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.71	0.53
1:QA:1228:C:OP1	13:QM:115:LYS:N	2.38	0.53
24:RA:1039:G:N2	40:RV:23:GLU:OE2	2.41	0.53
24:RA:1110:C:H3'	24:RA:1111:U:C5'	2.38	0.53
24:RA:2308:U:OP2	37:RS:9:ARG:NH1	2.42	0.53
32:RN:58:ASP:OD1	32:RN:58:ASP:N	2.33	0.53
1:XA:409:G:OP1	4:XD:24:GLU:N	2.41	0.53
1:XA:514:C:H2'	1:XA:515:G:H8	1.72	0.53
1:XA:1502:A:H2	1:XA:1505:G:H1	1.56	0.53
11:XK:17:GLY:HA2	11:XK:35:PRO:HD3	1.89	0.53
13:XM:47:ASP:OD1	13:XM:47:ASP:N	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:236:G:OP2	24:YA:238:C:N4	2.41	0.53
29:YG:38:VAL:HG22	29:YG:93:THR:HG23	1.89	0.53
1:QA:689:C:OP1	11:QK:44:SER:OG	2.27	0.53
5:QE:5:ASP:N	5:QE:5:ASP:OD1	2.40	0.53
5:QE:140:ARG:O	5:QE:143:ARG:NH1	2.40	0.53
9:QI:97:LYS:HG3	9:QI:98:PRO:HD3	1.90	0.53
24:RA:82:G:O2'	24:RA:100:G:N2	2.41	0.53
24:RA:612:C:H2'	24:RA:613:A:C8	2.44	0.53
24:RA:831:A:OP2	24:RA:2601:A:OP1	2.27	0.53
24:RA:1911:A:N3	24:RA:2108:U:O2'	2.40	0.53
31:RI:4:ILE:HD11	31:RI:44:LEU:HD12	1.90	0.53
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.37	0.53
2:XB:85:ALA:O	2:XB:89:GLY:N	2.41	0.53
13:XM:15:VAL:HG12	13:XM:45:VAL:HB	1.89	0.53
24:YA:1501:U:H5'	36:YR:63:ARG:NH2	2.23	0.53
24:YA:1822:A:N6	24:YA:1859:G:O2'	2.40	0.53
46:Y1:85:LEU:HB3	46:Y1:88:LYS:HD2	1.90	0.53
47:Y2:23:LYS:NZ	47:Y2:27:GLU:OE2	2.41	0.53
1:QA:745:C:H5"	1:QA:851:G:H1'	1.90	0.53
7:QG:60:LYS:HA	7:QG:63:LYS:HG2	1.91	0.53
9:QI:2:GLU:HB3	9:QI:20:ARG:HG3	1.89	0.53
24:RA:326:C:OP2	43:RY:73:ARG:NH1	2.34	0.53
39:RU:66:ASN:HD21	39:RU:70:ARG:HH21	1.55	0.53
44:RZ:10:ARG:NH1	44:RZ:26:GLY:O	2.42	0.53
2:XB:69:LEU:O	2:XB:163:PHE:N	2.39	0.53
3:XC:56:ASP:HB2	3:XC:67:THR:HB	1.89	0.53
20:XT:10:LEU:HD23	20:XT:12:ALA:H	1.72	0.53
36:YR:19:ALA:O	36:YR:23:ASN:ND2	2.42	0.53
1:QA:630:G:H2'	1:QA:631:G:H4'	1.89	0.53
20:QT:10:LEU:HG	20:QT:12:ALA:H	1.72	0.53
24:RA:173:C:H2'	24:RA:174:U:H6	1.72	0.53
24:RA:811:A:H5'	26:RD:210:GLY:HA3	1.91	0.53
26:RD:148:GLU:HB2	26:RD:151:LYS:HD2	1.90	0.53
49:R4:59:PHE:O	49:R4:62:ARG:NE	2.41	0.53
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.43	0.53
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.41	0.53
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.90	0.53
17:XQ:88:TYR:OH	17:XQ:92:ARG:NH1	2.41	0.53
18:XR:38:GLU:O	18:XR:42:ARG:NH1	2.41	0.53
20:XT:53:LEU:O	20:XT:57:ARG:NH1	2.42	0.53
20:XT:89:ARG:O	20:XT:93:GLU:N	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1014:U:H2'	24:YA:1015:C:C6	2.44	0.53
24:YA:2073:A:H4'	27:YE:141:ILE:HG12	1.91	0.53
48:Y3:39:ASP:OD2	48:Y3:44:ARG:NH2	2.41	0.53
1:QA:127:G:O2'	17:QQ:2:PRO:O	2.24	0.53
22:QV:16:C:H5'	22:QV:18:U:H5	1.73	0.53
24:RA:2452:C:H5"	24:RA:2599:A:H4'	1.91	0.53
27:RE:147:PRO:HB2	27:RE:149:ARG:HG2	1.90	0.53
36:RR:54:LEU:HB3	36:RR:62:ALA:HB1	1.91	0.53
39:RU:95:LEU:HD13	40:RV:4:ILE:HD12	1.90	0.53
7:XG:50:ILE:HG21	7:XG:61:VAL:HG11	1.90	0.53
10:XJ:61:GLU:OE1	14:XN:58:LYS:NZ	2.37	0.53
24:YA:390:G:H2'	24:YA:391:G:H8	1.73	0.53
24:YA:2147:G:O2'	24:YA:2195:A:N6	2.38	0.53
24:YA:2156:A:O2'	24:YA:2181:G:N2	2.33	0.53
34:YP:47:ASP:OD2	34:YP:50:ARG:NH1	2.36	0.53
1:QA:12:U:H3	1:QA:22:G:H1	1.56	0.53
24:RA:1569:U:H2'	24:RA:1570:G:H8	1.73	0.53
24:RA:1692:G:H5"	24:RA:1693:C:H5'	1.91	0.53
24:RA:2692:C:H5'	27:RE:189:PRO:HA	1.89	0.53
26:RD:66:ASP:OD2	26:RD:103:ARG:NH1	2.40	0.53
37:RS:18:ILE:HG21	37:RS:88:ASP:HA	1.90	0.53
4:XD:196:LEU:HD22	4:XD:197:PRO:HD2	1.89	0.53
24:YA:907:U:H1'	24:YA:2280:A:H5'	1.89	0.53
24:YA:2320:G:H22	24:YA:2323:A:H2	1.56	0.53
1:QA:28:G:O2'	1:QA:296:U:OP1	2.21	0.53
1:QA:1137:C:O2'	1:QA:1138:G:H5"	2.08	0.53
2:QB:70:PHE:O	2:QB:93:VAL:N	2.41	0.53
3:QC:11:ARG:NH2	3:QC:177:THR:O	2.42	0.53
16:QP:21:VAL:HG23	16:QP:34:GLU:H	1.73	0.53
24:RA:1440:U:H4'	24:RA:1649:A:H4'	1.91	0.53
1:XA:250:A:H4'	1:XA:251:G:O5'	2.09	0.53
1:XA:358:U:O2	1:XA:358:U:C2'	2.55	0.53
24:YA:2697:G:P	38:YT:51:ARG:HH22	2.31	0.53
1:QA:401:C:O2'	1:QA:621:A:N3	2.33	0.53
4:QD:15:GLU:OE2	4:QD:59:ARG:NH1	2.42	0.53
8:QH:30:ARG:HH21	8:QH:50:ARG:HH21	1.57	0.53
24:RA:600:G:O2'	24:RA:1300:A:OP1	2.26	0.53
24:RA:2529:C:N3	24:RA:2554:A:N6	2.56	0.53
24:RA:2713:C:H3'	24:RA:2714:U:C5'	2.36	0.53
54:R9:6:SER:O	54:R9:6:SER:OG	2.22	0.53
1:XA:376:G:H5"	16:XP:5:ARG:HB2	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.89	0.53
22:XV:35:G:H2'	22:XV:36:G:C8	2.44	0.53
24:YA:854:U:OP2	34:YP:41:ARG:NH2	2.42	0.53
24:YA:907:U:OP2	24:YA:962:G:N1	2.38	0.53
29:YG:98:ARG:NH1	49:Y4:1:MET:SD	2.81	0.53
53:Y8:26:LYS:HD2	53:Y8:47:LYS:HD3	1.91	0.53
24:RA:2450:U:O3'	24:RA:2451:A:H3'	2.09	0.53
27:RE:2:LYS:HB3	27:RE:95:ILE:HD12	1.91	0.53
1:XA:745:C:OP1	1:XA:851:G:O2'	2.26	0.53
1:XA:757:U:H2'	1:XA:758:G:O4'	2.09	0.53
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.31	0.53
2:XB:83:MET:O	2:XB:87:ARG:N	2.37	0.53
14:XN:24:CYS:HB3	14:XN:29:ARG:H	1.74	0.53
24:YA:823:G:N7	24:YA:840:A:O2'	2.42	0.53
24:YA:1613:A:OP1	26:YD:211:ARG:NH1	2.42	0.53
24:YA:1692:G:H5"	24:YA:1693:C:H5'	1.90	0.53
24:YA:1810:U:OP2	24:YA:1815:A:N6	2.30	0.53
28:RF:167:ALA:HB1	28:RF:173:VAL:HG11	1.92	0.52
41:RW:12:ILE:O	41:RW:101:SER:OG	2.25	0.52
1:XA:135:C:H2'	1:XA:136:C:H5'	1.90	0.52
1:XA:338:A:OP2	33:YO:97:ARG:NH2	2.40	0.52
45:Y0:23:VAL:HG13	45:Y0:38:VAL:HG22	1.90	0.52
47:Y2:28:LYS:HD2	47:Y2:53:LEU:HD11	1.91	0.52
1:QA:946:A:H2'	1:QA:947:G:H8	1.74	0.52
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.91	0.52
15:QO:26:GLU:OE2	15:QO:77:ARG:NH1	2.43	0.52
24:RA:18:C:O2'	24:RA:577:U:OP1	2.25	0.52
24:RA:215:G:H2'	24:RA:216:A:C8	2.45	0.52
24:RA:1511:C:HO2'	24:RA:1574:A:H8	1.56	0.52
24:RA:1857:G:H4'	26:RD:242:ARG:HE	1.74	0.52
24:RA:2455:C:H2'	24:RA:2456:G:H8	1.74	0.52
10:XJ:24:VAL:HG23	10:XJ:34:VAL:HG21	1.91	0.52
10:XJ:33:GLN:NE2	10:XJ:34:VAL:O	2.42	0.52
26:YD:12:SER:HB3	26:YD:208:LYS:HB3	1.91	0.52
46:Y1:17:SER:HB2	46:Y1:40:ARG:HD2	1.90	0.52
1:QA:405:U:O4	4:QD:2:GLY:N	2.43	0.52
8:QH:21:LYS:O	8:QH:65:TYR:OH	2.21	0.52
24:RA:1526:G:OP2	24:RA:1556:A:N6	2.41	0.52
44:RZ:91:LEU:HD22	44:RZ:96:VAL:HG21	1.91	0.52
45:R0:15:ASP:OD1	45:R0:16:SER:N	2.43	0.52
46:R1:52:ARG:NH2	46:R1:55:GLY:O	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:17:U:H2'	1:XA:18:C:C6	2.44	0.52
1:XA:414:A:OP2	1:XA:428:G:N2	2.36	0.52
1:XA:643:C:H2'	1:XA:644:G:H8	1.73	0.52
1:XA:1145:C:H4'	1:XA:1146:A:H8	1.73	0.52
7:XG:134:ALA:O	7:XG:138:LYS:N	2.42	0.52
9:XI:9:ARG:HG2	9:XI:14:VAL:HG12	1.91	0.52
10:XJ:26:ALA:O	10:XJ:30:SER:OG	2.28	0.52
22:XV:76:A:OP1	24:YA:2451:A:N6	2.43	0.52
24:YA:2307:C:OP1	37:YS:10:ARG:NH1	2.42	0.52
24:YA:2693:C:OP2	27:YE:109:LYS:NZ	2.26	0.52
26:YD:206:LEU:HA	26:YD:211:ARG:HE	1.74	0.52
32:YN:43:THR:HG22	39:YU:64:ARG:HH11	1.73	0.52
1:QA:736:C:H2'	1:QA:737:A:C8	2.44	0.52
9:QI:26:VAL:HG12	9:QI:61:ALA:HB3	1.91	0.52
22:QV:47:U:O4	22:QV:49:G:O2'	2.26	0.52
24:RA:218:A:H4'	24:RA:219:U:O5'	2.10	0.52
24:RA:722:A:OP1	28:RF:63:LYS:NZ	2.34	0.52
35:RQ:16:ARG:HB2	35:RQ:18:LYS:HE3	1.91	0.52
1:XA:753:A:H4'	1:XA:754:C:O5'	2.09	0.52
8:XH:41:ARG:NH2	8:XH:123:GLU:OE2	2.42	0.52
24:YA:650:G:O6	34:YP:107:LYS:NZ	2.42	0.52
24:YA:2404:A:OP2	24:YA:2434:A:N6	2.36	0.52
24:YA:2717:A:O2'	24:YA:2862:G:OP1	2.19	0.52
25:YB:40:U:H1'	25:YB:45:A:H61	1.74	0.52
1:QA:447:G:H21	1:QA:487:A:H62	1.56	0.52
1:QA:656:C:O2'	15:QO:28:GLN:OE1	2.21	0.52
1:QA:1064:G:O2'	1:QA:1065:U:O5'	2.27	0.52
1:QA:1254:C:H2'	1:QA:1255:G:H8	1.73	0.52
7:QG:20:ASP:HB3	7:QG:23:VAL:HG23	1.91	0.52
24:RA:332:G:H2'	24:RA:332:G:N3	2.24	0.52
24:RA:2028:C:O2'	24:RA:2833:A:N3	2.42	0.52
1:XA:422:C:O2'	1:XA:423:G:N2	2.43	0.52
1:XA:719:C:H1'	18:XR:49:LYS:HB3	1.92	0.52
1:XA:1310:G:O2'	1:XA:1311:G:OP1	2.26	0.52
22:XV:19:G:O2'	22:XV:57:G:N2	2.26	0.52
24:YA:827:G:H21	24:YA:830:A:H62	1.56	0.52
24:YA:1311:A:H8	24:YA:1311:A:OP1	1.93	0.52
32:YN:47:ALA:HB2	32:YN:112:LEU:HD11	1.92	0.52
33:YO:8:LEU:HB2	33:YO:19:ILE:HG13	1.92	0.52
1:QA:152:A:N6	1:QA:169:C:H42	2.08	0.52
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.44	0.52
11:QK:18:ARG:NH2	11:QK:35:PRO:O	2.42	0.52
17:QQ:10:VAL:HA	17:QQ:20:THR:O	2.09	0.52
22:QV:31:G:H1	22:QV:39:C:H42	1.56	0.52
24:RA:1463:C:H2'	24:RA:1464:G:O4'	2.09	0.52
24:RA:2172:U:H2'	24:RA:2173:G:H8	1.75	0.52
29:RG:16:ARG:NH2	29:RG:28:VAL:O	2.43	0.52
45:R0:64:ASP:OD1	45:R0:64:ASP:N	2.41	0.52
1:XA:201:C:H42	1:XA:216:G:H1	1.57	0.52
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.91	0.52
2:XB:87:ARG:NH2	2:XB:216:SER:O	2.43	0.52
24:YA:2044:U:O2'	24:YA:2629:C:H5'	2.09	0.52
24:YA:2086:C:H2'	24:YA:2087:C:C6	2.45	0.52
25:YB:85:G:H1	25:YB:92:G:H22	1.57	0.52
1:QA:674:G:H2'	1:QA:675:A:C8	2.41	0.52
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.45	0.52
24:RA:1843:A:H2'	24:RA:1844:G:H8	1.74	0.52
1:XA:963:G:H21	10:XJ:55:LYS:HG2	1.75	0.52
24:YA:1921:G:H21	24:YA:1924:C:H41	1.57	0.52
1:QA:501:C:H1'	1:QA:549:C:H1'	1.92	0.52
1:QA:565:U:OP2	1:QA:566:G:C2'	2.58	0.52
1:QA:1036:G:N7	1:QA:1037:C:N4	2.58	0.52
16:QP:37:GLY:HA3	16:QP:50:LYS:O	2.10	0.52
24:RA:417:A:H4'	24:RA:418:G:H5'	1.91	0.52
24:RA:438:G:OP2	24:RA:2418:U:O2'	2.24	0.52
24:RA:2855:G:H2'	24:RA:2856:G:H8	1.75	0.52
31:RI:65:ALA:O	31:RI:69:LYS:N	2.43	0.52
6:XF:70:ASP:N	6:XF:70:ASP:OD1	2.36	0.52
24:YA:1848:G:OP1	26:YD:88:ARG:NH2	2.41	0.52
24:YA:1974:A:N3	24:YA:2572:C:O2'	2.38	0.52
24:YA:2414:C:O2'	24:YA:2415:C:O5'	2.27	0.52
25:YB:13:A:O2'	25:YB:15:A:OP2	2.25	0.52
49:Y4:47:GLN:HG3	49:Y4:49:PHE:HB3	1.92	0.52
1:QA:543:C:OP2	4:QD:10:ARG:NH1	2.43	0.52
1:QA:662:G:H2'	1:QA:663:A:C8	2.45	0.52
24:RA:1079:U:OP1	54:R9:9:ARG:NH2	2.43	0.52
24:RA:1639:G:H2'	24:RA:1640:G:C8	2.45	0.52
1:XA:484:G:H4'	1:XA:485:G:O5'	2.10	0.52
5:XE:78:HIS:HE1	5:XE:80:ILE:HD13	1.75	0.52
8:XH:100:ILE:O	8:XH:125:ARG:NH2	2.42	0.52
24:YA:64:C:O2'	24:YA:482:C:N3	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1581:U:H2'	24:YA:1582:A:C8	2.45	0.52
24:YA:2326:C:H2'	24:YA:2327:G:H8	1.74	0.52
28:YF:63:LYS:NZ	28:YF:75:HIS:O	2.40	0.52
46:Y1:12:PRO:HB3	46:Y1:43:TYR:HD1	1.75	0.52
1:QA:134:A:H61	16:QP:25:ARG:HH12	1.57	0.52
1:QA:152:A:N6	1:QA:169:C:N4	2.57	0.52
1:QA:618:C:H5'	1:QA:619:U:H5"	1.92	0.52
2:QB:19:HIS:HB3	2:QB:20:GLU:HG2	1.92	0.52
36:RR:33:ARG:HG3	36:RR:115:GLU:HB3	1.92	0.52
42:RX:5:TYR:O	47:R2:36:ARG:NH2	2.43	0.52
6:XF:3:ARG:NH1	6:XF:38:GLU:OE2	2.43	0.52
17:XQ:81:ARG:NH2	17:XQ:83:ASP:OD2	2.42	0.52
48:Y3:15:TYR:CE2	48:Y3:53:LEU:HD21	2.45	0.52
1:QA:64:G:OP1	1:QA:382:A:N6	2.40	0.51
25:RB:50:G:OP1	37:RS:62:LYS:N	2.44	0.51
27:RE:29:GLY:HA3	27:RE:51:PHE:HE1	1.74	0.51
29:RG:52:ILE:HG23	29:RG:55:LYS:HB3	1.92	0.51
1:XA:437:U:O3'	4:XD:125:HIS:NE2	2.39	0.51
24:YA:641:G:OP1	28:YF:40:GLN:NE2	2.44	0.51
28:YF:157:VAL:HB	28:YF:194:MET:HB3	1.92	0.51
28:YF:181:LEU:O	28:YF:205:ARG:NH2	2.42	0.51
29:YG:27:ASN:HB3	29:YG:30:GLU:HG3	1.92	0.51
31:YI:65:ALA:O	31:YI:69:LYS:N	2.44	0.51
33:YO:97:ARG:H	33:YO:117:LEU:HD22	1.76	0.51
24:RA:331:G:C8	24:RA:331:G:C5'	2.85	0.51
24:RA:1041:C:O2	32:RN:3:THR:OG1	2.23	0.51
24:RA:2034:G:OP1	41:RW:11:ARG:NH2	2.43	0.51
24:RA:2804:C:H4'	24:RA:2805:G:H5'	1.92	0.51
29:RG:27:ASN:HB3	29:RG:30:GLU:HG3	1.93	0.51
45:R0:72:ARG:HB2	45:R0:75:LEU:HB2	1.92	0.51
1:XA:407:G:H2'	1:XA:408:A:H8	1.74	0.51
1:XA:713:G:H2'	1:XA:714:G:C8	2.45	0.51
1:XA:742:G:OP2	15:XO:35:ARG:NH2	2.42	0.51
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.46	0.51
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.91	0.51
24:YA:673:G:O2'	24:YA:2363:G:OP1	2.21	0.51
24:YA:1526:G:N7	24:YA:1556:A:N6	2.58	0.51
24:YA:2162:C:H2'	24:YA:2163:G:H8	1.75	0.51
1:QA:448:A:H62	1:QA:486:U:H3	1.59	0.51
2:QB:192:SER:OG	2:QB:193:ASP:N	2.38	0.51
17:QQ:77:VAL:HG12	17:QQ:78:GLU:HG2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2877:G:O2'	24:RA:2878:A:H8	1.93	0.51
24:YA:1003:U:OP2	35:YQ:14:ARG:NH1	2.42	0.51
24:YA:1911:A:N3	24:YA:2108:U:O2'	2.44	0.51
24:YA:2118:U:O4	24:YA:2215:G:O6	2.28	0.51
24:YA:2258:G:H2'	24:YA:2259:A:C8	2.45	0.51
24:YA:2376:C:OP1	45:Y0:55:ARG:NH1	2.43	0.51
41:YW:18:ARG:HD2	41:YW:76:VAL:HB	1.91	0.51
1:QA:581:G:N2	1:QA:759:A:OP2	2.37	0.51
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.45	0.51
24:RA:1120:G:C2	24:RA:1121:C:H1'	2.45	0.51
24:RA:2317:A:N6	29:RG:154:GLY:O	2.44	0.51
1:XA:678:U:H2'	1:XA:679:C:C6	2.46	0.51
1:XA:977:A:OP1	14:XN:31:ARG:NH2	2.44	0.51
1:XA:1037:C:H2'	1:XA:1038:C:C6	2.46	0.51
24:YA:828:A:OP1	26:YD:218:ARG:NH2	2.44	0.51
28:YF:185:ASP:HA	28:YF:188:ARG:HD3	1.93	0.51
28:YF:195:ASP:OD1	28:YF:195:ASP:N	2.39	0.51
1:QA:1209:C:O2'	1:QA:1214:C:N4	2.43	0.51
10:QJ:34:VAL:HG13	10:QJ:74:ILE:HG12	1.93	0.51
10:QJ:77:PRO:O	10:QJ:79:ARG:NH1	2.43	0.51
22:QV:30:C:C2	22:QV:31:G:N7	2.79	0.51
22:QV:30:C:N3	22:QV:31:G:N7	2.59	0.51
24:RA:2118:U:O4	24:RA:2215:G:O6	2.28	0.51
35:RQ:135:ASP:HB3	35:RQ:137:TYR:HD2	1.76	0.51
39:RU:87:GLY:HA3	40:RV:49:THR:HG23	1.93	0.51
47:R2:32:LEU:O	47:R2:36:ARG:N	2.43	0.51
3:XC:19:GLU:HB3	3:XC:40:ARG:HH21	1.76	0.51
12:XL:87:GLY:HA2	12:XL:98:TYR:HD1	1.76	0.51
24:YA:2297:C:OP2	51:Y6:26:ASN:ND2	2.43	0.51
25:YB:88:C:H2'	25:YB:89(A):G:C8	2.46	0.51
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.44	0.51
24:RA:98:U:H4'	24:RA:99:G:O5'	2.10	0.51
27:RE:5:LEU:HD12	27:RE:51:PHE:HB2	1.92	0.51
34:RP:52:GLU:OE2	34:RP:58:THR:OG1	2.25	0.51
1:XA:1001:G:N2	1:XA:1040:U:O2	2.43	0.51
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.46	0.51
3:XC:150:LYS:HB3	3:XC:201:TYR:HB2	1.93	0.51
8:XH:69:ARG:NH2	8:XH:73:ASP:O	2.44	0.51
23:XX:5:A:H2'	23:XX:6:G:C8	2.43	0.51
1:QA:1347:G:H3'	9:QI:108:VAL:O	2.11	0.51
2:QB:130:ARG:O	2:QB:135:GLN:NE2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:QF:8:ILE:HD13	6:QF:26:ILE:HD13	1.91	0.51
10:QJ:24:VAL:HG11	10:QJ:37:PRO:HD3	1.93	0.51
22:QV:3:G:O2'	22:QV:4:U:H5'	2.10	0.51
24:RA:1387:U:OP1	24:RA:1443:U:N3	2.31	0.51
29:RG:63:ILE:HG13	29:RG:64:THR:HG23	1.93	0.51
38:RT:128:GLU:O	38:RT:132:LYS:N	2.41	0.51
44:RZ:148:ASP:OD1	44:RZ:148:ASP:N	2.43	0.51
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.46	0.51
1:XA:1348:U:H3	1:XA:1374:A:H2	1.56	0.51
14:XN:40:CYS:SG	14:XN:42:ILE:N	2.79	0.51
24:YA:830:A:H8	24:YA:831:A:H4'	1.76	0.51
24:YA:1176:U:HO2'	24:YA:1177:G:P	2.34	0.51
26:YD:108:PRO:HB3	26:YD:143:HIS:HE1	1.75	0.51
6:QF:71:ARG:O	6:QF:75:LEU:N	2.43	0.51
24:RA:1615:G:P	26:RD:63:ARG:HH12	2.34	0.51
24:RA:2207:C:H2'	24:RA:2208:G:H8	1.75	0.51
1:XA:627:G:H2'	1:XA:628:G:H8	1.76	0.51
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.44	0.51
24:YA:1069:U:OP2	24:YA:1070:G:N7	2.44	0.51
24:YA:1463:C:H2'	24:YA:1464:G:O4'	2.11	0.51
32:YN:6:PRO:HG3	32:YN:41:ASP:HB2	1.93	0.51
1:QA:707:C:H2'	1:QA:708:C:H6	1.76	0.51
24:RA:238:C:HO2'	34:RP:64:LYS:NZ	2.08	0.51
24:RA:332:G:H3'	24:RA:333:G:C8	2.46	0.51
24:RA:2140:U:H3	24:RA:2170:G:H4'	1.76	0.51
1:XA:692:U:O2'	1:XA:694:A:N7	2.35	0.51
1:XA:1060:C:H2'	1:XA:1061:G:H8	1.76	0.51
24:YA:1334:U:O2'	24:YA:1694:G:N2	2.44	0.51
24:YA:2068:G:H5'	50:Y5:19:ARG:HG3	1.92	0.51
24:YA:2318:C:H2'	24:YA:2319:G:H21	1.76	0.51
33:YO:2:ILE:HB	33:YO:33:ALA:HB3	1.92	0.51
1:QA:985:C:H2'	1:QA:986:A:C8	2.46	0.51
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.24	0.51
1:QA:1244:C:H2'	1:QA:1245:A:C8	2.46	0.51
4:QD:199:ASN:HB3	4:QD:202:LEU:HD23	1.93	0.51
24:RA:895:G:H2'	24:RA:896:A:C8	2.45	0.51
24:RA:2399:U:O2'	45:R0:41:ARG:NH2	2.44	0.51
25:RB:38:C:H2'	25:RB:39:A:H8	1.75	0.51
25:RB:39:A:O2'	25:RB:46:A:N1	2.40	0.51
31:RI:94:ALA:HB1	31:RI:114:LEU:HD23	1.93	0.51
41:RW:88:ARG:NH1	41:RW:94:ASP:OD2	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:165:C:H2'	1:XA:166:G:H8	1.76	0.51
1:XA:973:G:H4'	14:XN:41:ARG:HH22	1.75	0.51
1:XA:1052:U:O4	1:XA:1206:G:O6	2.29	0.51
1:XA:1325:C:H4'	21:XU:17:THR:HG21	1.93	0.51
2:XB:67:THR:HG23	2:XB:159:PRO:HA	1.93	0.51
4:XD:111:ALA:HB1	4:XD:116:GLN:HB3	1.93	0.51
9:XI:10:ARG:HG2	9:XI:11:LYS:HB2	1.93	0.51
20:XT:57:ARG:NH1	20:XT:102:GLY:O	2.39	0.51
24:YA:2541:G:H5"	24:YA:2542:A:H5"	1.93	0.51
54:Y9:2:LYS:NZ	54:Y9:31:LYS:O	2.35	0.51
1:QA:503:C:OP2	12:QL:116:SER:OG	2.25	0.50
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.93	0.50
24:RA:1217:G:N7	24:RA:1219:A:N6	2.59	0.50
24:RA:2136:A:C8	24:RA:2190:G:N2	2.79	0.50
24:RA:2136:A:N7	24:RA:2190:G:N2	2.60	0.50
24:RA:2863:C:H2'	24:RA:2864:G:H8	1.76	0.50
39:RU:17:ILE:HG13	39:RU:32:PHE:HE1	1.75	0.50
39:RU:97:ASP:OD1	39:RU:101:ARG:NH1	2.45	0.50
1:XA:701:C:O2	1:XA:703:G:N1	2.44	0.50
24:YA:231:G:H1'	24:YA:232:U:OP2	2.11	0.50
44:YZ:61:LEU:HB2	44:YZ:65:GLN:HB2	1.93	0.50
44:YZ:93:ASP:HB2	44:YZ:131:ARG:HH12	1.76	0.50
1:QA:272:C:H2'	1:QA:273:A:H8	1.75	0.50
1:QA:656:C:O2	15:QO:28:GLN:NE2	2.42	0.50
24:RA:722:A:N3	24:RA:2455:C:O2'	2.38	0.50
24:RA:1103:A:O2'	24:RA:1104:G:OP1	2.25	0.50
24:RA:1186:U:H1'	24:RA:1188:A:C6	2.46	0.50
24:RA:2149:G:OP2	24:RA:2149:G:H8	1.94	0.50
29:RG:16:ARG:HH21	29:RG:28:VAL:HB	1.75	0.50
34:RP:91:PHE:O	34:RP:121:LYS:NZ	2.35	0.50
1:XA:662:G:H2'	1:XA:663:A:C8	2.46	0.50
1:XA:715:A:H2'	1:XA:716:A:C8	2.46	0.50
1:XA:806:C:H2'	1:XA:807:A:H8	1.76	0.50
6:XF:22:GLU:OE2	6:XF:84:ASN:ND2	2.36	0.50
8:XH:8:ASP:OD2	8:XH:12:ARG:NH2	2.44	0.50
13:XM:49:THR:HB	13:XM:52:GLU:HG3	1.92	0.50
22:XV:68:C:H2'	22:XV:69:A:C8	2.46	0.50
24:YA:2678:C:H42	30:YH:109:PHE:HA	1.75	0.50
25:YB:77:U:OP1	44:YZ:19:ARG:NH2	2.43	0.50
44:YZ:140:ASP:OD1	44:YZ:142:SER:OG	2.29	0.50
1:QA:191(G):G:O2'	20:QT:101:GLY:O	2.29	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:254:G:O2'	17:QQ:16:GLN:O	2.29	0.50
1:QA:339:C:OP2	33:RO:97:ARG:NH1	2.44	0.50
24:RA:70:A:H5"	24:RA:71:U:H3'	1.91	0.50
24:RA:419:C:H5"	24:RA:436:C:H5"	1.93	0.50
1:XA:565:U:OP2	1:XA:566:G:O2'	2.27	0.50
11:XK:22:HIS:HB3	11:XK:29:ILE:HG23	1.93	0.50
12:XL:76:ASN:N	12:XL:76:ASN:OD1	2.45	0.50
22:XV:5:G:H2'	22:XV:6:A:C8	2.46	0.50
25:YB:65:C:H2'	25:YB:66:A:H5'	1.93	0.50
29:YG:82:LEU:HD21	29:YG:88:ILE:HG21	1.92	0.50
30:YH:25:LYS:NZ	30:YH:34:GLU:OE2	2.43	0.50
30:YH:164:TYR:HB2	30:YH:167:GLU:HB2	1.92	0.50
49:Y4:58:ARG:HA	49:Y4:61:ARG:HE	1.75	0.50
1:QA:152:A:H62	1:QA:169:C:H42	1.60	0.50
1:QA:524:G:H2'	1:QA:525:C:C6	2.46	0.50
3:QC:71:ALA:HB2	3:QC:106:VAL:HB	1.92	0.50
24:RA:172:C:O2'	24:RA:459:A:N3	2.41	0.50
24:RA:1356:G:OP2	52:R7:9:ARG:NE	2.40	0.50
24:RA:2024:G:OP2	36:RR:9:LYS:NZ	2.41	0.50
26:RD:260:ARG:NH2	26:RD:266:SER:OG	2.39	0.50
35:RQ:34:LEU:HB2	35:RQ:118:LEU:HD22	1.93	0.50
40:RV:24:LYS:HA	40:RV:92:THR:HG23	1.94	0.50
44:RZ:77:ASP:OD2	44:RZ:80:ARG:NE	2.45	0.50
1:XA:227:G:N2	16:XP:62:VAL:O	2.43	0.50
1:XA:505:G:H2'	1:XA:506:G:H8	1.76	0.50
1:XA:842:C:O2'	1:XA:848:C:N4	2.45	0.50
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.47	0.50
16:XP:1:MET:SD	16:XP:1:MET:N	2.78	0.50
24:YA:1725:G:N2	24:YA:2011:G:H22	2.10	0.50
24:YA:2647:C:O2'	27:YE:80:GLU:OE1	2.24	0.50
25:YB:45:A:O4'	29:YG:95:ARG:NH1	2.45	0.50
26:YD:259:THR:OG1	26:YD:259:THR:O	2.28	0.50
40:YV:8:GLY:O	40:YV:10:LYS:NZ	2.43	0.50
44:YZ:153:SER:OG	44:YZ:154:ASP:OD1	2.27	0.50
24:RA:346:A:H5'	24:RA:364:A:H1'	1.92	0.50
24:RA:732:A:OP1	24:RA:733:G:N2	2.44	0.50
24:RA:1018:A:H5'	24:RA:1233:U:H1'	1.93	0.50
24:RA:1554:A:O2'	24:RA:1555:C:O4'	2.29	0.50
24:RA:1855:G:N3	26:RD:254:THR:OG1	2.44	0.50
27:RE:119:ARG:NH1	27:RE:159:HIS:O	2.45	0.50
1:XA:358:U:O5'	1:XA:358:U:H6	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1143:G:H2'	1:XA:1144:G:C8	2.47	0.50
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.94	0.50
14:XN:6:LEU:HB3	14:XN:23:ARG:HH22	1.76	0.50
24:YA:468:G:H1'	28:YF:48:THR:HG21	1.94	0.50
24:YA:2054:G:OP2	24:YA:2466:G:O2'	2.28	0.50
1:QA:119:A:H4'	1:QA:120:A:O5'	2.11	0.50
1:QA:501:C:H2'	1:QA:502:G:C8	2.45	0.50
24:RA:170:A:H1'	24:RA:462:C:H5'	1.94	0.50
24:RA:1255:A:H4'	24:RA:1256:U:O5'	2.12	0.50
24:RA:1473:A:H4'	24:RA:1474:C:O5'	2.10	0.50
24:RA:2631:C:OP1	27:RE:152:LYS:HE2	2.12	0.50
1:XA:41:G:H2'	1:XA:42:G:H8	1.77	0.50
1:XA:545:C:OP1	4:XD:61:LYS:NZ	2.44	0.50
1:XA:559:A:H4'	1:XA:560:U:H3'	1.93	0.50
24:YA:1235:G:H5'	34:YP:32:THR:HA	1.93	0.50
24:YA:2555:G:H2'	24:YA:2556:G:C8	2.47	0.50
24:YA:2789:A:H4'	24:YA:2790:G:O5'	2.10	0.50
24:YA:2819:A:H2'	24:YA:2820:A:C8	2.47	0.50
30:YH:51:ARG:HB3	30:YH:51:ARG:NH1	2.26	0.50
5:QE:33:VAL:HG13	5:QE:112:LEU:HD22	1.92	0.50
13:QM:105:THR:OG1	13:QM:106:ASN:N	2.44	0.50
22:QV:43:G:H2'	22:QV:44:G:C8	2.47	0.50
24:RA:321:C:H2'	24:RA:322:G:O4'	2.12	0.50
24:RA:1571:G:H2'	24:RA:1572:G:C8	2.47	0.50
33:RO:34:THR:OG1	33:RO:35:VAL:N	2.45	0.50
33:RO:120:GLU:OE1	38:RT:67:SER:OG	2.27	0.50
36:RR:30:THR:O	36:RR:78:LYS:NZ	2.42	0.50
49:R4:58:ARG:HA	49:R4:61:ARG:HH21	1.77	0.50
1:XA:812:C:H1'	1:XA:813:U:OP2	2.12	0.50
3:XC:9:GLY:HA2	3:XC:12:LEU:HG	1.93	0.50
4:XD:96:LEU:HD22	4:XD:139:ARG:HH21	1.76	0.50
22:XV:43:G:H2'	22:XV:44:G:C8	2.47	0.50
24:YA:1108:G:H22	24:YA:1124:U:H1'	1.77	0.50
32:YN:63:THR:OG1	32:YN:64:GLY:N	2.44	0.50
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.47	0.50
2:QB:166:ASP:HB3	2:QB:169:LYS:HB3	1.92	0.50
7:QG:115:ARG:HG3	7:QG:117:ALA:H	1.75	0.50
24:RA:299:G:H3'	24:RA:300:A:H5"	1.94	0.50
24:RA:1571:G:H2'	24:RA:1572:G:H8	1.77	0.50
24:RA:2148:A:N6	24:RA:2185:C:O2'	2.42	0.50
33:RO:13:ASN:ND2	33:RO:96:THR:OG1	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:R1:87:PRO:HA	46:R1:90:ILE:HG22	1.93	0.50
24:YA:2158:C:H42	24:YA:2178:G:H21	1.59	0.50
29:YG:66:GLN:OE1	29:YG:98:ARG:NH1	2.44	0.50
41:YW:12:ILE:O	41:YW:101:SER:OG	2.29	0.50
1:QA:514:C:H2'	1:QA:515:G:H8	1.77	0.50
1:QA:634:C:H2'	1:QA:635:G:H8	1.76	0.50
24:RA:1046:A:H2'	24:RA:1047:A:C8	2.47	0.50
38:RT:39:ARG:HH21	38:RT:41:ARG:HD3	1.77	0.50
49:R4:24:THR:OG1	49:R4:25:TYR:N	2.42	0.50
4:XD:162:LEU:HA	4:XD:165:MET:HB2	1.93	0.50
11:XK:15:ALA:HA	11:XK:77:MET:HA	1.93	0.50
24:YA:589:U:H5"	34:YP:29:LYS:HE3	1.93	0.50
24:YA:2846:U:H2'	24:YA:2847:G:C8	2.47	0.50
47:Y2:29:LYS:HE3	47:Y2:57:ILE:HG21	1.94	0.50
6:QF:9:VAL:HA	6:QF:59:TYR:O	2.12	0.49
14:QN:27:CYS:SG	14:QN:29:ARG:N	2.83	0.49
24:RA:236:G:H4'	24:RA:413:G:C5	2.47	0.49
24:RA:1361:C:O2'	24:RA:1438:A:N3	2.37	0.49
24:RA:2155:G:O2'	24:RA:2180:A:N1	2.39	0.49
30:RH:153:LYS:HB2	30:RH:162:ILE:H	1.77	0.49
1:XA:410:G:H21	1:XA:432:A:N6	2.05	0.49
1:XA:736:C:H2'	1:XA:737:A:C8	2.47	0.49
22:XV:2:G:H2'	22:XV:3:G:C8	2.47	0.49
24:YA:815:G:O2'	24:YA:1425:A:N6	2.42	0.49
24:YA:1475:G:H2'	24:YA:1476:C:C6	2.47	0.49
25:YB:89(B):A:H2'	25:YB:90:C:H1'	1.94	0.49
33:YO:104:ARG:HH11	33:YO:121:VAL:HG12	1.75	0.49
43:YY:102:CYS:SG	43:YY:103:GLY:N	2.85	0.49
1:QA:8:A:N6	4:QD:205:GLU:O	2.46	0.49
1:QA:576:G:N2	1:QA:760:G:OP2	2.44	0.49
14:QN:47:LEU:HA	14:QN:50:LYS:HB2	1.94	0.49
24:RA:650:G:O6	34:RP:107:LYS:NZ	2.41	0.49
24:RA:1112:U:O2'	24:RA:1114:G:OP2	2.28	0.49
24:RA:1714:G:O2'	24:RA:2013:U:O4	2.29	0.49
44:RZ:33:LEU:HD11	44:RZ:90:VAL:HG21	1.94	0.49
53:R8:49:VAL:HG23	53:R8:53:PRO:HD3	1.94	0.49
1:XA:1129:C:O2	1:XA:1132:C:N4	2.45	0.49
1:XA:1227:A:OP1	19:XS:80:TYR:OH	2.22	0.49
2:XB:47:THR:HG23	2:XB:202:PRO:HG2	1.93	0.49
1:QA:501:C:H2'	1:QA:502:G:H8	1.76	0.49
24:RA:887:C:H2'	24:RA:888:A:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:992:G:H2'	24:RA:993:G:C8	2.47	0.49
24:RA:1715:A:H62	24:RA:2013:U:H3	1.59	0.49
24:RA:2141:A:N6	24:RA:2192:A:N7	2.58	0.49
39:RU:49:HIS:HA	39:RU:52:ARG:HB3	1.95	0.49
49:R4:28:LYS:HB3	49:R4:31:ILE:HD11	1.94	0.49
1:XA:493:G:N2	1:XA:494:U:O4	2.45	0.49
1:XA:757:U:O2'	1:XA:879:C:O2	2.29	0.49
24:YA:1070:G:OP2	24:YA:1071:G:C2'	2.60	0.49
1:QA:1407:C:H2'	1:QA:1408:A:H8	1.76	0.49
23:QX:19:G:H2'	23:QX:19:G:N3	2.27	0.49
24:RA:210:A:C4	24:RA:255:G:N7	2.81	0.49
24:RA:1604:C:OP2	24:RA:1605:A:O2'	2.24	0.49
24:RA:2340:A:H2'	24:RA:2341:G:H8	1.76	0.49
28:RF:117:ARG:NH2	28:RF:189:THR:O	2.46	0.49
30:RH:25:LYS:NZ	30:RH:34:GLU:OE1	2.46	0.49
36:YR:59:ASP:N	36:YR:59:ASP:OD1	2.37	0.49
39:YU:92:ARG:CZ	40:YV:11:GLN:H	2.25	0.49
1:QA:1298:C:H4'	1:QA:1299:A:C4	2.48	0.49
9:QI:28:VAL:O	9:QI:31:GLN:N	2.46	0.49
24:RA:1617:A:H2'	24:RA:1618:A:C8	2.48	0.49
9:XI:50:LEU:HD23	9:XI:56:LEU:HA	1.94	0.49
24:YA:312:C:H2'	24:YA:313:A:C8	2.45	0.49
24:YA:1068:G:N2	24:YA:1069:U:O4	2.45	0.49
24:YA:1386:U:OP1	42:YX:16:LYS:NZ	2.41	0.49
25:YB:89(B):A:H2'	25:YB:90:C:C1'	2.43	0.49
29:YG:16:ARG:NH2	29:YG:28:VAL:O	2.46	0.49
29:YG:37:VAL:HG13	29:YG:159:VAL:HG12	1.94	0.49
43:YY:17:SER:OG	43:YY:71:LYS:NZ	2.31	0.49
1:QA:483:C:OP2	1:QA:484:G:O2'	2.18	0.49
1:QA:1096:C:H2'	1:QA:1097:C:H6	1.77	0.49
1:QA:1254:C:H2'	1:QA:1255:G:C8	2.47	0.49
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.47	0.49
2:QB:193:ASP:N	2:QB:193:ASP:OD1	2.44	0.49
16:QP:23:ASP:OD2	16:QP:25:ARG:NH2	2.46	0.49
24:RA:1130:A:N7	24:RA:1131:A:O2'	2.42	0.49
24:RA:2303:U:H2'	24:RA:2304:C:C6	2.47	0.49
24:RA:2376:C:H2'	24:RA:2377:G:O4'	2.13	0.49
2:XB:118:LEU:HD23	2:XB:142:LEU:HD23	1.94	0.49
24:YA:2173:G:H2'	24:YA:2174:G:C8	2.48	0.49
24:YA:2251:G:OP1	26:YD:244:ARG:NH1	2.35	0.49
27:YE:24:THR:OG1	27:YE:186:GLY:O	2.25	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YY:47:LYS:NZ	43:YY:48:ALA:O	2.46	0.49
1:QA:7:G:H21	5:QE:121:LYS:HG2	1.78	0.49
1:QA:41:G:H2'	1:QA:42:G:H8	1.77	0.49
1:QA:1297:C:O2'	1:QA:1298:C:OP2	2.28	0.49
24:RA:602:G:O2'	24:RA:2041:A:OP1	2.26	0.49
24:RA:1991:A:O2'	24:RA:1994:A:N3	2.42	0.49
34:RP:47:ASP:OD2	34:RP:50:ARG:NE	2.44	0.49
35:RQ:81:VAL:O	35:RQ:82:ARG:NE	2.33	0.49
1:XA:123:C:OP1	1:XA:311:C:O2'	2.30	0.49
1:XA:1502:A:H2'	1:XA:1504:G:N7	2.28	0.49
2:XB:27:LYS:O	2:XB:30:ARG:NH1	2.45	0.49
3:XC:174:PRO:O	3:XC:177:THR:OG1	2.31	0.49
4:XD:85:LYS:HD2	4:XD:92:VAL:HG11	1.94	0.49
24:YA:1248:G:H3'	24:YA:1249:A:H5"	1.95	0.49
1:QA:1249:C:O2'	9:QI:73:GLN:OE1	2.27	0.49
11:QK:98:LEU:O	11:QK:101:SER:OG	2.26	0.49
1:XA:195:A:H2'	1:XA:196:A:C4	2.48	0.49
2:XB:28:PHE:HD1	2:XB:194:PRO:HD3	1.77	0.49
24:YA:2584:A:OP1	24:YA:2586:G:O2'	2.28	0.49
1:QA:384:G:H2'	1:QA:385:C:C6	2.48	0.49
24:RA:946:A:H3'	24:RA:947:A:H8	1.78	0.49
24:RA:1525:G:H2'	24:RA:1526:G:H8	1.77	0.49
24:RA:2131:U:O4	24:RA:2201:C:N4	2.41	0.49
24:RA:2420:U:H2'	24:RA:2421:G:H8	1.77	0.49
1:XA:407:G:H2'	1:XA:408:A:C8	2.48	0.49
4:XD:106:TYR:C	4:XD:106:TYR:CD2	2.86	0.49
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.43	0.49
24:YA:869:U:H2'	24:YA:870:G:H8	1.78	0.49
24:YA:1041:C:O2	32:YN:3:THR:OG1	2.30	0.49
24:YA:1855:G:N3	26:YD:254:THR:OG1	2.46	0.49
30:YH:3:ARG:HH21	30:YH:5:GLY:H	1.61	0.49
31:YI:81:VAL:HG21	31:YI:88:ILE:HD12	1.94	0.49
38:YT:24:PRO:HA	38:YT:49:VAL:HG13	1.95	0.49
1:QA:224:C:H2'	1:QA:225:C:H6	1.78	0.49
1:QA:280:C:N3	17:QQ:39:SER:OG	2.36	0.49
1:QA:719:C:O2'	18:QR:50:ILE:O	2.26	0.49
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.30	0.49
1:QA:1013:G:N2	1:QA:1016:A:OP2	2.38	0.49
1:QA:1192:C:O2	5:QE:25:ARG:NH2	2.45	0.49
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.47	0.49
3:QC:9:GLY:HA2	3:QC:12:LEU:HG	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:131:ARG:NH1	3:QC:166:GLU:OE2	2.45	0.49
24:RA:626:A:N1	24:RA:650:G:O2'	2.39	0.49
24:RA:2258:G:H2'	24:RA:2259:A:C8	2.48	0.49
1:XA:1371:G:H4'	9:XI:69:GLY:HA3	1.94	0.49
2:XB:131:PRO:O	2:XB:135:GLN:N	2.45	0.49
8:XH:39:LEU:O	8:XH:44:PHE:N	2.37	0.49
24:YA:1511:C:HO2'	24:YA:1574:A:H8	1.56	0.49
24:YA:2285:A:H2'	24:YA:2286:A:C8	2.48	0.49
24:YA:2340:A:H2'	24:YA:2341:G:C8	2.48	0.49
25:YB:108:C:H6	25:YB:108:C:H5"	1.77	0.49
1:QA:148:G:H2'	1:QA:149:A:C8	2.48	0.48
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.42	0.48
24:RA:902:G:H1	24:RA:968:U:H3	1.61	0.48
24:RA:1183:G:H2'	24:RA:1184:G:O4'	2.13	0.48
24:RA:1829:U:O2'	24:RA:1833:A:N3	2.40	0.48
24:RA:2258:G:H2'	24:RA:2259:A:H8	1.78	0.48
24:RA:2455:C:H2'	24:RA:2456:G:C8	2.48	0.48
26:RD:108:PRO:HD2	26:RD:111:LEU:HD13	1.95	0.48
29:RG:82:LEU:HD21	29:RG:88:ILE:HD13	1.95	0.48
1:XA:591:U:OP1	8:XH:30:ARG:NH1	2.46	0.48
16:XP:5:ARG:NH2	16:XP:27:LYS:O	2.46	0.48
24:YA:208:G:N3	24:YA:223:C:O2'	2.42	0.48
24:YA:1249:A:O2'	24:YA:1250:U:O5'	2.30	0.48
47:Y2:17:SER:HB3	47:Y2:20:GLU:HG2	1.94	0.48
1:QA:422:C:O2'	1:QA:423:G:N2	2.46	0.48
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.77	0.48
23:QX:3:C:H2'	23:QX:4:A:H8	1.78	0.48
24:RA:1148:C:H2'	24:RA:1149:A:C8	2.48	0.48
27:RE:89:ASP:OD1	27:RE:89:ASP:N	2.34	0.48
38:RT:65:LYS:HE3	38:RT:67:SER:HB2	1.95	0.48
1:XA:596:C:H2'	1:XA:597:G:H8	1.78	0.48
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.49	0.48
4:XD:25:ARG:O	4:XD:28:SER:HB3	2.12	0.48
4:XD:129:ASN:HD21	4:XD:144:ASP:HB3	1.79	0.48
9:XI:28:VAL:HA	9:XI:63:ILE:HB	1.94	0.48
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.95	0.48
22:XV:32:U:H3	22:XV:38:A:H61	1.61	0.48
24:YA:1716:A:N3	24:YA:1716:A:C2'	2.75	0.48
24:YA:2270:C:O2'	24:YA:2439:C:OP2	2.26	0.48
1:QA:190:G:H8	1:QA:190:G:OP1	1.96	0.48
1:QA:565:U:H5"	1:QA:566:G:H2'	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1576:G:H1	24:RA:1587:U:H3	1.61	0.48
24:RA:2155:G:H1'	24:RA:2180:A:H61	1.78	0.48
28:RF:15:SER:OG	28:RF:16:GLY:N	2.46	0.48
29:RG:124:SER:O	29:RG:124:SER:OG	2.26	0.48
45:R0:27:GLU:HB2	45:R0:69:PHE:HD1	1.77	0.48
1:XA:505:G:H2'	1:XA:506:G:C8	2.48	0.48
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.76	0.48
4:XD:68:TYR:HD2	4:XD:97:LEU:HD22	1.78	0.48
13:XM:107:ALA:H	13:XM:108:ARG:HG2	1.78	0.48
24:YA:236:G:H4'	24:YA:413:G:C5	2.48	0.48
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.41	0.48
8:QH:20:TYR:HE2	8:QH:75:ARG:HD2	1.78	0.48
13:QM:19:LEU:HD21	13:QM:56:LEU:HD21	1.95	0.48
19:QS:49:ILE:HG23	19:QS:60:VAL:HB	1.95	0.48
24:RA:139:A:H8	24:RA:1454:C:O2'	1.95	0.48
24:RA:628:C:O2	24:RA:704:U:O2'	2.32	0.48
24:RA:887:C:H2'	24:RA:888:A:H8	1.77	0.48
24:RA:1713:G:N3	33:RO:3:GLN:NE2	2.61	0.48
37:RS:10:ARG:NH1	37:RS:91:PRO:O	2.42	0.48
44:RZ:181:GLU:HG3	44:RZ:183:LEU:HG	1.95	0.48
1:XA:674:G:H2'	1:XA:675:A:C8	2.45	0.48
1:XA:950:U:H2'	1:XA:951:G:H8	1.79	0.48
9:XI:112:LYS:NZ	9:XI:117:HIS:O	2.37	0.48
18:XR:58:LEU:HB3	18:XR:62:GLU:HB2	1.95	0.48
22:XV:8:U:H5'	22:XV:49:G:H5'	1.94	0.48
24:YA:1787:G:H4'	24:YA:1789:G:O4'	2.14	0.48
27:YE:47:VAL:HG11	27:YE:86:PRO:HD2	1.95	0.48
1:QA:59:A:H5"	1:QA:387:U:H5"	1.94	0.48
1:QA:1130:A:H62	1:QA:1144:G:H21	1.60	0.48
3:QC:3:ASN:OD1	3:QC:3:ASN:N	2.46	0.48
5:QE:80:ILE:HD12	8:QH:104:ARG:HH22	1.77	0.48
13:QM:84:ILE:HG13	13:QM:86:CYS:H	1.78	0.48
23:QX:4:A:H2'	23:QX:5:A:C8	2.49	0.48
27:RE:48:GLN:HA	27:RE:80:GLU:HA	1.94	0.48
36:RR:33:ARG:HD3	36:RR:113:LEU:HD11	1.95	0.48
37:RS:68:GLN:O	37:RS:72:ALA:N	2.38	0.48
43:RY:11:ASP:N	43:RY:11:ASP:OD1	2.45	0.48
1:XA:1512:U:H2'	1:XA:1513:A:C8	2.49	0.48
24:YA:491:G:H2'	24:YA:492:A:C8	2.49	0.48
24:YA:937:A:H2'	24:YA:938:G:H8	1.77	0.48
24:YA:1042:A:H4'	39:YU:92:ARG:NE	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1825:U:H2'	24:YA:1826:C:H6	1.78	0.48
25:YB:50:G:OP1	37:YS:63:THR:OG1	2.24	0.48
31:YI:101:LEU:HG	31:YI:107:VAL:HG13	1.95	0.48
34:YP:1:MET:HG3	34:YP:5:ASP:HB2	1.95	0.48
41:YW:33:ARG:NE	41:YW:52:GLU:OE2	2.44	0.48
1:QA:380:G:N2	1:QA:383:A:OP2	2.37	0.48
1:QA:1226:C:O2'	13:QM:111:LYS:NZ	2.42	0.48
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.13	0.48
7:XG:47:CYS:O	7:XG:51:GLN:NE2	2.47	0.48
24:YA:1171:G:OP2	24:YA:1172:A:O2'	2.25	0.48
24:YA:1451:U:H2'	24:YA:1452:U:H6	1.79	0.48
24:YA:1825:U:H2'	24:YA:1826:C:C6	2.49	0.48
24:YA:1850:A:H5"	26:YD:161:THR:HG21	1.95	0.48
24:YA:2236:G:OP1	26:YD:268:ARG:NH2	2.45	0.48
16:QP:4:ILE:HA	16:QP:20:VAL:O	2.13	0.48
24:RA:30:G:H2'	24:RA:31:C:C6	2.48	0.48
24:RA:248:G:H21	24:RA:646:A:H8	1.62	0.48
24:RA:631:A:H2'	24:RA:632:A:C8	2.49	0.48
24:RA:1911:A:H2'	24:RA:1912:A:C8	2.49	0.48
24:RA:2480:G:O2'	24:RA:2493:G:N2	2.44	0.48
24:RA:2804:C:OP1	24:RA:2902:G:N2	2.46	0.48
30:RH:64:LEU:O	30:RH:68:THR:OG1	2.24	0.48
1:XA:377:G:H2'	1:XA:378:G:H8	1.78	0.48
1:XA:565:U:H5"	1:XA:566:G:H2'	1.96	0.48
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.79	0.48
24:YA:142:G:H4'	42:YX:35:THR:HG21	1.95	0.48
24:YA:2405:A:H5'	34:YP:63:PRO:HB3	1.96	0.48
1:QA:235:C:H2'	1:QA:236:G:H8	1.78	0.48
1:QA:666:G:H5'	1:QA:726:C:H1'	1.95	0.48
1:QA:1032(C):G:N2	1:QA:1033:G:O6	2.47	0.48
18:QR:22:VAL:HA	18:QR:25:THR:HG23	1.96	0.48
24:RA:956:A:N3	24:RA:2276:C:O2'	2.45	0.48
24:RA:2701:U:H5'	24:RA:2726:A:C2	2.49	0.48
24:RA:2708:U:H2'	24:RA:2709:G:C8	2.49	0.48
24:RA:2846:U:H2'	24:RA:2847:G:C8	2.48	0.48
28:RF:161:GLU:HG2	28:RF:162:LEU:HG	1.96	0.48
1:XA:177:C:H2'	1:XA:178:C:H6	1.78	0.48
1:XA:1277:C:H2'	1:XA:1279:A:H8	1.79	0.48
10:XJ:49:VAL:HG23	14:XN:41:ARG:HB2	1.96	0.48
14:XN:40:CYS:SG	14:XN:41:ARG:N	2.87	0.48
24:YA:354:A:H2	24:YA:1255:A:H2'	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:628:C:O2	24:YA:704:U:O2'	2.30	0.48
24:YA:840:A:OP2	24:YA:2093:A:O2'	2.31	0.48
24:YA:1072:U:O2	24:YA:1073:A:H3'	2.14	0.48
24:YA:2413:U:OP1	51:Y6:18:ARG:NH2	2.43	0.48
25:YB:17:C:H42	25:YB:109:G:H21	1.60	0.48
27:YE:144:ARG:HB3	27:YE:145:LYS:H	1.48	0.48
1:QA:713:G:H2'	1:QA:714:G:C8	2.49	0.48
1:QA:715:A:H2'	1:QA:716:A:C8	2.49	0.48
1:QA:806:C:H2'	1:QA:807:A:H8	1.78	0.48
1:QA:1222:G:H5'	19:QS:77:THR:HG21	1.95	0.48
10:QJ:13:HIS:O	10:QJ:17:ASP:HB2	2.14	0.48
24:RA:1332:A:O2'	24:RA:1334:U:OP2	2.19	0.48
24:RA:1590:C:HO2'	24:RA:1591:A:P	2.36	0.48
29:RG:29:TRP:O	29:RG:33:ARG:NH1	2.42	0.48
29:RG:144:ILE:HG22	29:RG:146:TYR:H	1.78	0.48
34:RP:62:LEU:O	53:R8:13:ARG:NH1	2.46	0.48
1:XA:373:A:H2'	1:XA:374:A:H8	1.78	0.48
1:XA:985:C:H2'	1:XA:986:A:H8	1.79	0.48
6:XF:50:TYR:OH	18:XR:75:ILE:O	2.32	0.48
24:YA:1581:U:H3	24:YA:1583:C:H1'	1.79	0.48
24:YA:1884:A:N3	24:YA:2245:U:O2'	2.41	0.48
30:YH:80:SER:OG	30:YH:81:GLU:N	2.47	0.48
2:QB:11:LEU:HD23	2:QB:217:ARG:HH22	1.79	0.48
3:QC:29:TYR:OH	14:QN:54:PRO:O	2.30	0.48
5:QE:51:VAL:HG23	5:QE:52:PRO:HD3	1.95	0.48
24:RA:1457:C:H42	24:RA:1637:G:H1	1.61	0.48
43:RY:102:CYS:SG	43:RY:103:GLY:N	2.87	0.48
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.94	0.48
24:YA:1409:C:O2'	24:YA:1840:A:N3	2.41	0.48
24:YA:2207:C:H2'	24:YA:2208:G:H8	1.79	0.48
24:YA:2840:G:OP1	27:YE:76:ARG:NH2	2.47	0.48
28:YF:143:ALA:HB1	28:YF:148:LEU:HB2	1.96	0.48
41:YW:86:LEU:HD22	41:YW:96:ILE:HD11	1.94	0.48
53:Y8:28:GLY:O	53:Y8:36:LYS:NZ	2.41	0.48
1:QA:539:A:H2'	1:QA:540:G:C8	2.49	0.47
1:QA:985:C:H2'	1:QA:986:A:H8	1.79	0.47
1:QA:1527:C:O2'	1:QA:1528:U:H5'	2.13	0.47
4:QD:14:ARG:HD2	4:QD:40:PRO:HD2	1.96	0.47
24:RA:2262:G:C4	35:RQ:82:ARG:HG3	2.49	0.47
28:RF:185:ASP:OD1	28:RF:188:ARG:NH1	2.45	0.47
31:RI:122:GLU:O	31:RI:126:TYR:OH	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RT:62:THR:HG22	38:RT:75:ILE:HG23	1.96	0.47
44:RZ:163:LEU:HD13	44:RZ:167:PRO:HD3	1.95	0.47
1:XA:309:G:H2'	1:XA:310:G:H8	1.79	0.47
1:XA:398:C:H2'	1:XA:399:G:C8	2.49	0.47
24:YA:1462:G:H2'	24:YA:1463:C:C6	2.49	0.47
24:YA:2327:G:OP1	29:YG:36:LYS:NZ	2.46	0.47
24:YA:2855:G:H2'	24:YA:2856:G:C8	2.49	0.47
38:YT:16:ARG:NH1	38:YT:18:ASP:OD2	2.47	0.47
40:YV:49:THR:O	40:YV:49:THR:OG1	2.31	0.47
1:QA:34:C:H2'	1:QA:35:G:H8	1.79	0.47
1:QA:281:G:H8	1:QA:281:G:OP2	1.97	0.47
1:QA:580:U:H2'	1:QA:581:G:O4'	2.14	0.47
3:QC:47:LEU:HB3	3:QC:50:ALA:HB3	1.95	0.47
17:QQ:3:LYS:HB3	17:QQ:61:GLU:HB3	1.96	0.47
24:RA:1119:A:O2'	24:RA:1120:G:O5'	2.30	0.47
24:RA:1411:A:O2'	46:R1:11:ARG:NH2	2.45	0.47
24:RA:1414:G:OP1	52:R7:28:ARG:NH2	2.45	0.47
24:RA:2065:C:OP1	24:RA:2790:G:O2'	2.22	0.47
24:RA:2172:U:H2'	24:RA:2173:G:C8	2.49	0.47
26:RD:147:LEU:HD23	26:RD:148:GLU:HG3	1.96	0.47
28:RF:153:SER:OG	28:RF:190:GLU:N	2.46	0.47
30:RH:98:LEU:HD23	30:RH:125:VAL:HG23	1.96	0.47
40:RV:6:LYS:HB2	40:RV:38:LEU:HD11	1.96	0.47
1:XA:1422:G:H5"	33:YO:48:PRO:HB3	1.96	0.47
9:XI:72:GLY:O	9:XI:76:ALA:N	2.42	0.47
11:XK:91:ARG:NH2	11:XK:110:ASP:OD1	2.34	0.47
24:YA:2173:G:H2'	24:YA:2174:G:H8	1.79	0.47
1:QA:304:U:H2'	1:QA:305:G:C8	2.50	0.47
22:QV:53:G:O2'	22:QV:54:U:O5'	2.29	0.47
24:RA:2667:G:N2	24:RA:2677:A:OP2	2.47	0.47
30:RH:70:THR:HG22	30:RH:74:ASN:HD21	1.78	0.47
34:RP:37:GLY:O	34:RP:40:SER:OG	2.29	0.47
44:RZ:10:ARG:HH22	44:RZ:26:GLY:H	1.61	0.47
1:XA:22:G:H4'	1:XA:885:G:C8	2.49	0.47
1:XA:483:C:OP2	1:XA:484:G:O2'	2.20	0.47
1:XA:1255:G:O2'	1:XA:1258:G:N3	2.36	0.47
3:XC:118:GLN:HG2	3:XC:187:ALA:HB2	1.96	0.47
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.95	0.47
24:YA:268:G:H2'	24:YA:269:G:C8	2.48	0.47
24:YA:604:C:H2'	24:YA:605:G:C8	2.49	0.47
24:YA:612:C:H2'	24:YA:613:A:C8	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:863:C:O2'	24:YA:977:G:O6	2.30	0.47
24:YA:1581:U:H2'	24:YA:1582:A:N7	2.29	0.47
24:YA:1843:A:H2'	24:YA:1844:G:H8	1.79	0.47
30:YH:159:GLU:HG2	30:YH:169:VAL:HG11	1.96	0.47
33:YO:120:GLU:OE1	38:YT:67:SER:OG	2.26	0.47
37:YS:34:HIS:ND1	37:YS:53:SER:OG	2.45	0.47
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.78	0.47
5:QE:35:GLY:H	5:QE:112:LEU:HD23	1.79	0.47
9:QI:28:VAL:HG12	9:QI:63:ILE:HB	1.94	0.47
14:QN:37:PHE:HD2	14:QN:44:LEU:HD22	1.78	0.47
24:RA:231:G:O2'	24:RA:243:G:O6	2.27	0.47
24:RA:484:G:O2'	24:RA:495:G:O6	2.26	0.47
24:RA:776:G:OP2	26:RD:13:ARG:NH1	2.47	0.47
24:RA:907:U:H2'	24:RA:908:A:C8	2.49	0.47
24:RA:1514:C:H5	24:RA:1593:C:H2'	1.80	0.47
24:RA:1644:C:O3'	42:RX:35:THR:OG1	2.32	0.47
24:RA:2863:C:H2'	24:RA:2864:G:C8	2.49	0.47
38:RT:50:ILE:HG13	38:RT:99:LEU:HD12	1.96	0.47
38:RT:124:ASP:O	38:RT:128:GLU:N	2.47	0.47
52:R7:30:VAL:HG22	52:R7:33:ARG:HH21	1.79	0.47
1:XA:359:U:H6	1:XA:359:U:OP2	1.96	0.47
2:XB:67:THR:HA	2:XB:90:MET:HE1	1.95	0.47
3:XC:25:GLY:O	3:XC:29:TYR:N	2.48	0.47
24:YA:1587:U:H2'	24:YA:1588:G:O4'	2.15	0.47
24:YA:1921:G:H21	24:YA:1924:C:N4	2.13	0.47
24:YA:2687:A:H5'	33:YO:31:LYS:HE3	1.96	0.47
1:QA:975:A:N1	10:QJ:48:THR:OG1	2.46	0.47
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.79	0.47
1:QA:1315:U:H2'	1:QA:1316:G:O4'	2.15	0.47
3:QC:18:TRP:HB3	3:QC:20:SER:H	1.79	0.47
24:RA:320:C:O3'	43:RY:95:LYS:NZ	2.47	0.47
24:RA:2624:C:OP2	50:R5:2:ALA:N	2.48	0.47
24:RA:2705:A:H2'	24:RA:2706:G:H8	1.79	0.47
37:RS:67:ARG:O	37:RS:71:ARG:N	2.44	0.47
1:XA:129(B):G:N2	1:XA:188:U:HO2'	2.12	0.47
1:XA:422:C:H4'	1:XA:423:G:C4	2.49	0.47
1:XA:1178:G:N1	1:XA:1181:G:N7	2.62	0.47
16:XP:69:THR:O	16:XP:69:THR:OG1	2.31	0.47
24:YA:240:A:C5	24:YA:241:G:H1'	2.49	0.47
27:YE:36:ARG:HG2	27:YE:47:VAL:HG12	1.95	0.47
28:YF:149:ASP:N	28:YF:149:ASP:OD1	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:56:U:H2'	1:QA:57:G:C8	2.49	0.47
13:QM:44:ARG:HG3	13:QM:46:LYS:HZ3	1.78	0.47
24:RA:166:G:H3'	24:RA:167:G:H8	1.80	0.47
24:RA:968:U:H2'	24:RA:969:C:C6	2.49	0.47
24:RA:1174:A:N7	24:RA:2501:G:O2'	2.47	0.47
24:RA:1311:A:H61	24:RA:2035:A:H5"	1.78	0.47
24:RA:2044:U:O2'	24:RA:2629:C:H5'	2.15	0.47
29:RG:150:ASP:OD1	29:RG:150:ASP:N	2.39	0.47
36:RR:75:LEU:HA	36:RR:78:LYS:HB3	1.95	0.47
38:RT:24:PRO:HA	38:RT:49:VAL:HG13	1.96	0.47
53:R8:22:VAL:HB	53:R8:53:PRO:HB3	1.96	0.47
1:XA:412:A:H4'	1:XA:413:G:O5'	2.15	0.47
1:XA:991:U:O2'	1:XA:992:U:O5'	2.30	0.47
22:XV:17:C:H5'	22:XV:61:C:OP1	2.15	0.47
24:YA:2129:C:H2'	24:YA:2130:C:O4'	2.15	0.47
25:YB:85:G:H22	25:YB:92:G:H22	1.61	0.47
25:YB:85:G:H22	25:YB:92:G:N2	2.12	0.47
29:YG:7:LEU:N	29:YG:104:GLU:OE2	2.46	0.47
1:QA:299:G:H2'	1:QA:300:A:C8	2.50	0.47
1:QA:375:U:O2	16:QP:28:ARG:NH1	2.48	0.47
1:QA:1133:G:N2	1:QA:1141:C:N3	2.54	0.47
1:QA:1484:C:HO2'	24:RA:1982:A:HO2'	1.63	0.47
2:QB:115:LEU:HD22	2:QB:145:LEU:HB3	1.97	0.47
2:QB:192:SER:OG	2:QB:193:ASP:OD1	2.30	0.47
24:RA:1103:A:HO2'	24:RA:1104:G:P	2.35	0.47
24:RA:1462:G:H2'	24:RA:1463:C:C6	2.49	0.47
24:RA:2156:A:N7	24:RA:2179:G:O2'	2.47	0.47
24:RA:2555:G:H21	24:RA:2658:C:H5"	1.79	0.47
26:RD:108:PRO:HB3	26:RD:143:HIS:CE1	2.50	0.47
29:RG:59:GLU:OE1	29:RG:153:ARG:NH2	2.47	0.47
29:RG:109:VAL:HG11	29:RG:142:PRO:HB3	1.96	0.47
33:RO:64:ARG:HE	33:RO:83:ALA:HB3	1.80	0.47
53:R8:37:SER:OG	53:R8:38:GLY:N	2.48	0.47
1:XA:269:C:H2'	1:XA:270:A:H8	1.79	0.47
1:XA:600:C:H5'	8:XH:129:VAL:O	2.15	0.47
1:XA:971:G:N1	1:XA:1364:U:O2'	2.48	0.47
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.80	0.47
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.50	0.47
24:YA:390:G:H2'	24:YA:391:G:C8	2.49	0.47
24:YA:528:A:H1'	24:YA:529:U:OP2	2.14	0.47
24:YA:602:G:H2'	24:YA:603:C:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:965:G:N2	24:YA:2281:A:OP2	2.43	0.47
24:YA:992:G:H2'	24:YA:993:G:C8	2.49	0.47
24:YA:1399:A:H2'	24:YA:1400:A:C8	2.50	0.47
24:YA:2467:G:H2'	24:YA:2468:C:C6	2.49	0.47
38:YT:123:GLN:O	38:YT:125:ARG:N	2.48	0.47
1:QA:412:A:H4'	1:QA:413:G:O5'	2.15	0.47
3:QC:24:ALA:HB2	3:QC:32:LEU:HD12	1.97	0.47
24:RA:776:G:O2'	24:RA:810:G:H4'	2.15	0.47
24:RA:1321:A:N1	24:RA:1341:C:O2'	2.41	0.47
24:RA:1487:G:H2'	24:RA:1488:G:H8	1.79	0.47
24:RA:1514:C:C5	24:RA:1593:C:H2'	2.50	0.47
24:RA:2124:U:C2	24:RA:2125:C:H5	2.32	0.47
26:RD:85:ASP:OD2	26:RD:88:ARG:NH1	2.45	0.47
42:RX:55:ASN:HB2	42:RX:80:ILE:HG23	1.96	0.47
1:XA:115:G:H4'	1:XA:116:A:O5'	2.15	0.47
1:XA:320:C:H2'	1:XA:321:A:C8	2.50	0.47
1:XA:372:C:H42	1:XA:389:A:N6	2.08	0.47
1:XA:1096:C:H2'	1:XA:1097:C:H6	1.79	0.47
7:XG:15:ASP:H	7:XG:20:ASP:H	1.62	0.47
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.24	0.47
13:XM:23:TYR:HB3	13:XM:67:GLU:HG3	1.97	0.47
17:XQ:83:ASP:OD1	17:XQ:83:ASP:N	2.41	0.47
24:YA:1355:G:HO2'	24:YA:1657:C:HO2'	1.60	0.47
26:YD:4:LYS:HB3	26:YD:18:VAL:HG23	1.97	0.47
1:QA:958:A:H2'	1:QA:959:A:C8	2.50	0.47
6:QF:72:VAL:O	6:QF:75:LEU:HB3	2.15	0.47
9:QI:83:ARG:HG2	9:QI:102:LEU:HG	1.97	0.47
12:QL:77:LEU:HD23	12:QL:77:LEU:HA	1.81	0.47
24:RA:640:A:C4	28:RF:180:GLY:HA3	2.50	0.47
24:RA:2096:U:H2'	24:RA:2097:U:C6	2.50	0.47
1:XA:464:G:C6	1:XA:466:C:H5'	2.50	0.47
1:XA:627:G:H2'	1:XA:628:G:C8	2.49	0.47
1:XA:1006:C:H2'	1:XA:1007:C:C6	2.50	0.47
12:XL:103:GLY:HA2	12:XL:108:ALA:HA	1.97	0.47
33:YO:88:ASN:HD21	33:YO:92:GLU:HB2	1.79	0.47
46:Y1:83:GLU:HG2	46:Y1:85:LEU:H	1.80	0.47
1:QA:1221:G:OP1	1:QA:1321:C:N4	2.41	0.47
1:QA:1432:G:OP1	38:RT:108:ARG:N	2.37	0.47
24:RA:1405:A:H2'	24:RA:1406:A:H5'	1.96	0.47
24:RA:2248:C:H2'	24:RA:2249:G:O4'	2.15	0.47
28:RF:178:PRO:HB3	28:RF:198:ALA:HB1	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:184:G:H2'	1:XA:185:A:H8	1.80	0.47
1:XA:583:A:O2'	17:XQ:91:ARG:NE	2.39	0.47
1:XA:628:G:H2'	1:XA:629:G:C8	2.50	0.47
1:XA:1230:C:H5'	22:XV:30:C:H5"	1.97	0.47
20:XT:75:ASN:N	20:XT:75:ASN:OD1	2.40	0.47
24:YA:746:A:N3	24:YA:1680:G:O2'	2.42	0.47
34:YP:46:LYS:HB3	34:YP:46:LYS:HE3	1.71	0.47
48:Y3:10:LYS:NZ	48:Y3:15:TYR:OH	2.48	0.47
1:QA:768:A:H4'	1:QA:1523:G:N2	2.30	0.46
2:QB:178:ARG:NH2	2:QB:196:LEU:O	2.48	0.46
17:QQ:79:SER:OG	17:QQ:80:GLY:N	2.48	0.46
24:RA:399:G:O2'	24:RA:400:U:O5'	2.33	0.46
24:RA:2687:A:H5'	33:RO:31:LYS:HE2	1.96	0.46
24:RA:2855:G:H2'	24:RA:2856:G:C8	2.50	0.46
46:R1:40:ARG:HH12	46:R1:42:GLN:HE21	1.62	0.46
1:XA:1238:A:N6	1:XA:1301:U:C2	2.82	0.46
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.97	0.46
2:XB:172:ILE:H	2:XB:172:ILE:HG13	1.53	0.46
24:YA:829:A:O2'	26:YD:225:ALA:O	2.30	0.46
24:YA:1362:U:H2'	24:YA:1363:A:C8	2.50	0.46
24:YA:2108:U:H2'	24:YA:2109:G:C8	2.50	0.46
38:YT:51:ARG:HB2	38:YT:98:LYS:HG3	1.97	0.46
1:QA:673:G:H2'	1:QA:674:G:H8	1.78	0.46
1:QA:963:G:H21	10:QJ:55:LYS:HG2	1.81	0.46
24:RA:911:G:H21	24:RA:913:A:N6	2.12	0.46
24:RA:998:A:OP2	35:RQ:16:ARG:HD3	2.16	0.46
24:RA:1451:U:H2'	24:RA:1452:U:H6	1.79	0.46
25:RB:55:U:O3'	29:RG:27:ASN:ND2	2.48	0.46
28:RF:170:LEU:HD22	28:RF:172:TRP:HE1	1.80	0.46
44:RZ:104:PHE:HA	44:RZ:139:VAL:HG13	1.97	0.46
1:XA:21:G:H2'	1:XA:22:G:C8	2.49	0.46
1:XA:45:U:H2'	1:XA:46:G:C8	2.51	0.46
1:XA:328:C:H4'	1:XA:329:A:O5'	2.16	0.46
1:XA:360:A:H2'	1:XA:361:G:C8	2.50	0.46
1:XA:1229:A:O2'	22:XV:30:C:OP1	2.34	0.46
6:XF:24:GLU:HA	6:XF:27:GLN:HG2	1.96	0.46
24:YA:389:G:H2'	24:YA:390:G:H8	1.79	0.46
24:YA:968:U:H2'	24:YA:969:C:C6	2.50	0.46
24:YA:1177:G:HO2'	24:YA:1178:A:H8	1.61	0.46
24:YA:2136:A:N1	24:YA:2141:A:N6	2.63	0.46
24:YA:2863:C:H2'	24:YA:2864:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:436:C:H2'	1:QA:437:U:C6	2.51	0.46
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.98	0.46
1:QA:1066:C:N4	1:QA:1191:A:N6	2.63	0.46
1:QA:1141:C:H2'	1:QA:1142:G:C8	2.51	0.46
24:RA:48:A:H61	24:RA:166:G:H2'	1.80	0.46
24:RA:528:A:H4'	24:RA:529:U:H5'	1.97	0.46
24:RA:561:A:OP1	39:RU:53:ARG:NH1	2.49	0.46
24:RA:2294:G:H4'	24:RA:2401:G:O2'	2.14	0.46
28:RF:11:VAL:HG22	28:RF:125:LEU:HD12	1.97	0.46
33:RO:1:MET:HE3	33:RO:67:LYS:HG2	1.98	0.46
46:R1:73:LEU:HB3	46:R1:90:ILE:HG12	1.96	0.46
48:R3:3:ARG:HD3	48:R3:60:GLU:O	2.14	0.46
1:XA:1038:C:H2'	1:XA:1039:C:C6	2.50	0.46
9:XI:71:SER:HA	9:XI:74:ILE:HG13	1.98	0.46
24:YA:1108:G:H1	24:YA:1122:C:H42	1.63	0.46
24:YA:2156:A:HO2'	24:YA:2181:G:H21	1.58	0.46
26:YD:26:LYS:NZ	26:YD:83:GLU:OE2	2.36	0.46
1:QA:41:G:H2'	1:QA:42:G:C8	2.49	0.46
1:QA:277:C:H5"	17:QQ:68:ARG:HH21	1.81	0.46
1:QA:426:G:OP1	4:QD:36:ARG:NH1	2.44	0.46
1:QA:600:C:H2'	1:QA:601:C:H6	1.81	0.46
1:QA:662:G:O2'	1:QA:836:G:OP1	2.32	0.46
1:QA:1043:C:H2'	1:QA:1044:A:H8	1.80	0.46
1:QA:1077:G:O6	5:QE:47:LYS:NZ	2.48	0.46
12:QL:24:VAL:HG13	12:QL:98:TYR:HE1	1.80	0.46
14:QN:47:LEU:O	14:QN:51:GLY:N	2.49	0.46
16:QP:43:LYS:HG2	16:QP:48:TRP:CD2	2.50	0.46
24:RA:173:C:H2'	24:RA:174:U:C6	2.49	0.46
24:RA:2401:G:H5"	24:RA:2402:U:O4'	2.16	0.46
25:RB:22:U:O4	25:RB:61:G:O6	2.33	0.46
28:RF:122:LYS:HB3	28:RF:191:ARG:HA	1.98	0.46
1:XA:78:G:O2'	1:XA:79:G:OP1	2.27	0.46
1:XA:328:C:H1'	1:XA:329:A:OP2	2.15	0.46
1:XA:509:A:N3	1:XA:543:C:O2'	2.42	0.46
2:XB:192:SER:OG	2:XB:193:ASP:N	2.48	0.46
3:XC:136:GLN:O	3:XC:140:ARG:N	2.35	0.46
13:XM:52:GLU:HG2	13:XM:55:ARG:HH21	1.80	0.46
13:XM:69:GLU:O	13:XM:73:GLU:N	2.41	0.46
20:XT:74:LYS:HD3	20:XT:74:LYS:HA	1.76	0.46
24:YA:199:C:OP2	52:Y7:29:LYS:NZ	2.49	0.46
24:YA:1046:A:H2'	24:YA:1047:A:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2096:U:H2'	24:YA:2097:U:C6	2.51	0.46
31:YI:45:LYS:HD2	31:YI:45:LYS:HA	1.78	0.46
1:QA:522:C:H41	12:QL:53:ARG:HH22	1.64	0.46
1:QA:1187:G:N3	14:QN:60:SER:OG	2.49	0.46
1:QA:1285:A:H1'	1:QA:1286:A:OP2	2.16	0.46
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.35	0.46
3:QC:88:ARG:HH12	3:QC:101:LEU:N	2.13	0.46
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.48	0.46
13:QM:54:VAL:HG23	13:QM:57:ARG:HH21	1.80	0.46
24:RA:1585:G:H2'	24:RA:1586:G:H8	1.81	0.46
24:RA:1880:G:H2'	24:RA:1881:G:H8	1.79	0.46
24:RA:2137:G:OP1	24:RA:2188:G:O2'	2.34	0.46
29:RG:2:PRO:HB2	29:RG:3:LEU:HB2	1.97	0.46
1:XA:325:A:OP2	20:XT:70:SER:OG	2.19	0.46
1:XA:767:A:O2'	1:XA:1524:C:O2	2.31	0.46
1:XA:789:U:H1'	1:XA:792:A:H2	1.80	0.46
1:XA:1264:C:H2'	1:XA:1265:G:H8	1.80	0.46
3:XC:42:LEU:HA	3:XC:45:LYS:HB3	1.96	0.46
4:XD:148:VAL:HG12	4:XD:152:SER:HG	1.79	0.46
9:XI:25:LYS:HB2	9:XI:25:LYS:HE3	1.69	0.46
24:YA:570:C:H3'	24:YA:571:A:C8	2.50	0.46
24:YA:831:A:N6	24:YA:2094:G:O2'	2.48	0.46
29:YG:11:TYR:HA	29:YG:15:VAL:HB	1.97	0.46
1:QA:587:G:N2	1:QA:754:C:OP2	2.48	0.46
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.50	0.46
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.51	0.46
12:QL:117:ARG:HB2	12:QL:122:THR:HB	1.96	0.46
24:RA:312:C:H2'	24:RA:313:A:H8	1.80	0.46
24:RA:656:A:OP2	53:R8:46:ARG:NH2	2.48	0.46
24:RA:1258:A:N3	24:RA:1284:G:O2'	2.46	0.46
24:RA:1585:G:H2'	24:RA:1586:G:C8	2.51	0.46
24:RA:2326:C:H2'	24:RA:2327:G:H8	1.81	0.46
24:RA:2555:G:H2'	24:RA:2556:G:C8	2.50	0.46
34:RP:89:ALA:O	34:RP:121:LYS:NZ	2.47	0.46
37:RS:100:ALA:HA	37:RS:103:GLU:HB2	1.98	0.46
1:XA:437:U:H3	1:XA:495:A:H62	1.62	0.46
1:XA:737:A:H2'	1:XA:738:C:C6	2.51	0.46
4:XD:127:THR:HA	4:XD:132:ARG:HA	1.97	0.46
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.79	0.46
10:XJ:54:PHE:HB3	10:XJ:55:LYS:HD2	1.98	0.46
24:YA:321:C:H2'	24:YA:322:G:O4'	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:510:C:H2'	24:YA:511:C:H6	1.80	0.46
24:YA:902:G:O2'	45:Y0:27:GLU:OE2	2.26	0.46
24:YA:1112:U:H5'	24:YA:1113:A:OP2	2.15	0.46
24:YA:2045:G:H5'	24:YA:2629:C:H4'	1.98	0.46
26:YD:254:THR:OG1	26:YD:254:THR:O	2.34	0.46
40:YV:68:LYS:HD3	40:YV:68:LYS:HA	1.73	0.46
41:YW:10:VAL:HG12	41:YW:12:ILE:HG22	1.97	0.46
41:YW:35:ILE:O	41:YW:39:THR:OG1	2.29	0.46
42:YX:25:LYS:NZ	42:YX:82:GLN:OE1	2.39	0.46
1:QA:35:G:N3	12:QL:118:SER:OG	2.45	0.46
1:QA:560:U:H4'	1:QA:561:U:H5"	1.98	0.46
1:QA:743:U:H2'	1:QA:744:C:C6	2.51	0.46
1:QA:1199:U:O2'	1:QA:1202:G:OP1	2.33	0.46
24:RA:1311:A:H8	24:RA:1311:A:OP1	1.98	0.46
24:RA:1362:U:H2'	24:RA:1363:A:C8	2.51	0.46
24:RA:1530:G:H2'	24:RA:1531:G:H8	1.81	0.46
24:RA:1728:G:HO2'	24:RA:1793:A:HO2'	1.62	0.46
24:RA:2209:G:H2'	24:RA:2210:C:C6	2.51	0.46
28:RF:93:LYS:HA	28:RF:93:LYS:HD3	1.78	0.46
30:RH:4:ILE:HG22	30:RH:6:ARG:HG2	1.96	0.46
32:RN:6:PRO:HG3	32:RN:41:ASP:HB2	1.96	0.46
35:RQ:63:LYS:HD2	44:RZ:175:VAL:HG21	1.97	0.46
1:XA:564:C:OP2	12:XL:15:ARG:NH2	2.27	0.46
1:XA:688:G:O2'	1:XA:704:A:N1	2.37	0.46
1:XA:950:U:H2'	1:XA:951:G:C8	2.51	0.46
1:XA:985:C:H2'	1:XA:986:A:C8	2.51	0.46
10:XJ:84:GLN:HB2	10:XJ:85:LEU:HD12	1.97	0.46
24:YA:998:A:OP1	35:YQ:18:LYS:NZ	2.38	0.46
24:YA:1211:U:H3	24:YA:1229:G:H1	1.63	0.46
24:YA:2549:U:H2'	24:YA:2550:C:C6	2.50	0.46
28:YF:30:PRO:HB3	34:YP:1:MET:HE1	1.98	0.46
31:YI:62:LYS:HE3	31:YI:133:HIS:CE1	2.50	0.46
33:YO:106:LEU:O	33:YO:110:GLY:N	2.47	0.46
44:YZ:123:ASP:OD1	44:YZ:123:ASP:N	2.46	0.46
44:YZ:151:HIS:HA	44:YZ:170:THR:HA	1.96	0.46
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.81	0.46
24:RA:9:U:OP1	32:RN:115:ARG:NH2	2.49	0.46
24:RA:1148:C:H2'	24:RA:1149:A:H8	1.81	0.46
24:RA:2140:U:O2	24:RA:2170:G:O2'	2.31	0.46
24:RA:2165:C:N4	24:RA:2171:G:O6	2.49	0.46
31:RI:129:THR:O	31:RI:129:THR:OG1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RV:68:LYS:HD2	40:RV:68:LYS:HA	1.67	0.46
20:XT:105:SER:O	20:XT:105:SER:OG	2.34	0.46
23:XX:2:G:H2'	23:XX:3:C:C2	2.51	0.46
24:YA:47:G:N1	24:YA:166:G:OP2	2.47	0.46
24:YA:1890:A:N6	24:YA:1905:G:HO2'	2.14	0.46
28:YF:40:GLN:HE22	28:YF:182:ASN:HD22	1.63	0.46
32:YN:30:ILE:HG23	32:YN:52:VAL:HG11	1.97	0.46
46:Y1:86:SER:O	46:Y1:89:GLU:N	2.49	0.46
48:Y3:12:PRO:HA	48:Y3:15:TYR:HD2	1.81	0.46
1:QA:328:C:H4'	1:QA:329:A:H5'	1.98	0.46
1:QA:757:U:O2'	1:QA:879:C:O2	2.34	0.46
6:QF:30:LEU:HB3	6:QF:35:ALA:HB3	1.98	0.46
10:QJ:7:LYS:HB3	10:QJ:97:GLU:HB2	1.96	0.46
10:QJ:84:GLN:HG3	10:QJ:85:LEU:HD12	1.98	0.46
11:QK:85:ARG:HE	11:QK:111:ASP:HB3	1.80	0.46
42:RX:53:LYS:HB3	42:RX:82:GLN:HB3	1.97	0.46
47:R2:37:PHE:O	47:R2:40:SER:OG	2.32	0.46
1:XA:448:A:OP2	1:XA:485:G:N2	2.34	0.46
1:XA:1321:C:H5"	1:XA:1322:C:H2'	1.98	0.46
2:XB:138:LEU:HA	2:XB:141:GLU:HB2	1.98	0.46
9:XI:75:ASP:OD2	9:XI:78:LYS:NZ	2.45	0.46
12:XL:102:ARG:HB3	12:XL:109:GLY:HA2	1.98	0.46
22:XV:23:C:H2'	22:XV:24:G:H8	1.80	0.46
24:YA:2207:C:H2'	24:YA:2208:G:C8	2.51	0.46
24:YA:2371:C:H2'	24:YA:2372:A:O4'	2.15	0.46
25:YB:40:U:N3	25:YB:44:G:OP2	2.29	0.46
39:YU:92:ARG:HD2	40:YV:11:GLN:HB2	1.97	0.46
46:Y1:18:ILE:HG12	46:Y1:37:ILE:HG12	1.97	0.46
1:QA:107:G:N7	20:QT:15:ARG:NH2	2.64	0.46
1:QA:243:A:H4'	1:QA:244:U:H3'	1.98	0.46
1:QA:370:C:H2'	1:QA:371:G:H8	1.80	0.46
1:QA:407:G:H5"	4:QD:115:ARG:HB3	1.98	0.46
1:QA:444:C:H2'	1:QA:445:G:H8	1.81	0.46
1:QA:1305:G:OP1	21:QU:2:GLY:N	2.48	0.46
2:QB:71:VAL:HA	2:QB:93:VAL:HB	1.98	0.46
7:QG:42:ILE:HA	7:QG:115:ARG:HH21	1.81	0.46
11:QK:33:THR:OG1	11:QK:34:ASP:OD1	2.33	0.46
24:RA:344:A:H4'	24:RA:346:A:N7	2.31	0.46
24:RA:911:G:H2'	24:RA:912:C:C6	2.51	0.46
24:RA:2407:C:O2'	46:R1:30:VAL:O	2.33	0.46
24:RA:2760:G:N2	24:RA:2770:A:H62	2.06	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RT:12:SER:HB3	38:RT:15:VAL:HG13	1.97	0.46
1:XA:444:C:H2'	1:XA:445:G:H8	1.80	0.46
1:XA:452:A:H2'	1:XA:453:A:H8	1.80	0.46
1:XA:972:C:H5'	10:XJ:57:LYS:HZ2	1.81	0.46
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.51	0.46
24:YA:1072:U:H1'	24:YA:1073:A:O5'	2.16	0.46
24:YA:1472:G:N7	26:YD:31:LYS:NZ	2.62	0.46
26:YD:152:GLY:O	26:YD:154:LYS:HG2	2.16	0.46
1:QA:493:G:N2	1:QA:494:U:O4	2.49	0.45
1:QA:564:C:OP2	12:QL:15:ARG:NH2	2.36	0.45
1:QA:1127:G:H1	1:QA:1144:G:H1	1.64	0.45
1:QA:1422:G:H2'	1:QA:1423:G:H8	1.81	0.45
10:QJ:22:LYS:HB3	10:QJ:22:LYS:HE2	1.74	0.45
24:RA:123:G:OP1	52:R7:14:LYS:NZ	2.36	0.45
24:RA:1068:G:P	32:RN:69:GLN:HE22	2.39	0.45
29:RG:57:ALA:O	29:RG:61:ALA:N	2.41	0.45
35:RQ:116:GLU:OE2	35:RQ:119:ARG:NH2	2.47	0.45
1:XA:939:G:H2'	1:XA:940:C:C6	2.51	0.45
1:XA:992:U:C2	1:XA:1044:A:N6	2.84	0.45
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.81	0.45
24:YA:1574:A:OP2	24:YA:1588:G:N1	2.49	0.45
1:QA:384:G:H2'	1:QA:385:C:H6	1.81	0.45
1:QA:736:C:H2'	1:QA:737:A:H8	1.81	0.45
1:QA:1071:C:H5"	5:QE:49:PRO:HG2	1.97	0.45
1:QA:1354:C:H2'	1:QA:1355:G:H8	1.81	0.45
2:QB:168:THR:HB	2:QB:192:SER:HB2	1.98	0.45
4:QD:155:LEU:HD23	4:QD:155:LEU:HA	1.78	0.45
7:QG:123:GLU:OE1	7:QG:133:GLY:N	2.44	0.45
14:QN:53:LEU:HD12	14:QN:53:LEU:HA	1.86	0.45
24:RA:106:U:H2'	24:RA:107:G:H8	1.81	0.45
24:RA:854:U:O2'	24:RA:2082:A:N1	2.41	0.45
24:RA:1896:G:H5'	24:RA:1897:C:OP2	2.17	0.45
24:RA:2299:A:N6	24:RA:2356:U:H3	2.13	0.45
24:RA:2326:C:H2'	24:RA:2327:G:C8	2.51	0.45
30:RH:26:VAL:HG21	30:RH:75:ALA:HB1	1.97	0.45
31:RI:77:LEU:HG	31:RI:140:LEU:HB2	1.97	0.45
31:RI:83:ALA:O	31:RI:89:TYR:CE2	2.69	0.45
44:RZ:79:ARG:HB2	44:RZ:80:ARG:HG3	1.98	0.45
1:XA:410:G:H2'	1:XA:429:U:C5	2.51	0.45
1:XA:750:G:O2'	15:XO:21:ASP:OD1	2.34	0.45
2:XB:69:LEU:HD12	2:XB:70:PHE:H	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:147:ALA:HA	4:XD:182:LYS:HA	1.98	0.45
20:XT:16:HIS:O	20:XT:19:SER:OG	2.31	0.45
24:YA:36:G:N3	24:YA:476:G:O2'	2.47	0.45
24:YA:599:U:H2'	24:YA:600:G:C8	2.51	0.45
24:YA:776:G:O2'	24:YA:810:G:H4'	2.17	0.45
24:YA:2432:C:OP1	53:Y8:34:TRP:HB3	2.14	0.45
24:YA:2589:A:O4'	50:Y5:3:LYS:HB2	2.16	0.45
25:YB:85:G:N2	25:YB:92:G:H22	2.14	0.45
29:YG:139:LEU:HD12	29:YG:144:ILE:HG23	1.98	0.45
37:YS:27:SER:HA	37:YS:88:ASP:HB3	1.99	0.45
1:QA:779:C:H5"	11:QK:122:LYS:HD3	1.97	0.45
1:QA:853:G:H2'	1:QA:854:G:H8	1.81	0.45
1:QA:1007:C:H2'	1:QA:1008:C:C6	2.51	0.45
13:QM:80:ARG:NH2	19:QS:65:ASN:O	2.50	0.45
23:QX:5:A:H2'	23:QX:6:G:H8	1.80	0.45
24:RA:230:A:OP1	24:RA:232:U:H1'	2.16	0.45
24:RA:1110:C:H3'	24:RA:1111:U:H5'	1.97	0.45
24:RA:1122:C:H4'	24:RA:1123:A:OP1	2.16	0.45
24:RA:2699:U:H2'	24:RA:2700:U:O4'	2.16	0.45
24:RA:2701:U:H4'	24:RA:2702:C:O5'	2.16	0.45
27:RE:134:ILE:HA	27:RE:137:HIS:CD2	2.51	0.45
33:RO:10:VAL:HG11	33:RO:16:ALA:HB3	1.99	0.45
38:RT:107:ASP:N	38:RT:107:ASP:OD1	2.48	0.45
1:XA:1074:G:O2'	1:XA:1101:A:N1	2.46	0.45
1:XA:1221:G:OP1	1:XA:1321:C:N4	2.33	0.45
24:YA:18:C:O2'	24:YA:577:U:OP1	2.30	0.45
24:YA:1116:A:N6	24:YA:1143:U:O2'	2.49	0.45
24:YA:1359:U:O2	24:YA:1359:U:H3'	2.16	0.45
24:YA:1468:G:H4'	24:YA:1539:C:OP1	2.15	0.45
24:YA:1491:A:H4'	24:YA:1507:A:H2'	1.97	0.45
24:YA:1833:A:H2'	24:YA:1834:A:C8	2.51	0.45
1:QA:382:A:H2'	1:QA:383:A:C8	2.52	0.45
10:QJ:81:THR:OG1	10:QJ:82:ILE:N	2.50	0.45
24:RA:138:G:H22	24:RA:1642:A:H4'	1.82	0.45
24:RA:263:C:H2'	24:RA:264:G:C8	2.52	0.45
24:RA:880:U:O2	34:RP:55:ARG:NH2	2.38	0.45
25:RB:33:G:H5'	29:RG:2:PRO:HG3	1.98	0.45
26:RD:144:ALA:HB3	26:RD:192:THR:HB	1.98	0.45
39:RU:50:ARG:O	39:RU:54:LYS:NZ	2.34	0.45
1:XA:1014:A:H2	1:XA:1219:U:H1'	1.82	0.45
2:XB:216:SER:OG	2:XB:217:ARG:N	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:100:VAL:HA	5:XE:118:ILE:HG22	1.97	0.45
12:XL:11:VAL:HG11	17:XQ:36:ILE:HG21	1.99	0.45
24:YA:662:A:H4'	24:YA:663:G:O5'	2.16	0.45
24:YA:1832:G:H2'	24:YA:1832:G:N3	2.32	0.45
32:YN:96:GLU:HB2	32:YN:122:VAL:HG12	1.99	0.45
49:Y4:15:ILE:HB	49:Y4:32:TYR:HD1	1.80	0.45
1:QA:484:G:H4'	1:QA:485:G:O5'	2.16	0.45
1:QA:749:C:H2'	1:QA:750:G:H8	1.82	0.45
1:QA:1063:C:H2'	1:QA:1064:G:C8	2.51	0.45
1:QA:1201:A:HO2'	1:QA:1202:G:P	2.40	0.45
1:QA:1320:C:H2'	1:QA:1321:C:C6	2.51	0.45
3:QC:155:GLY:HA3	3:QC:196:LEU:HD13	1.99	0.45
9:QI:111:ARG:NH1	14:QN:61:TRP:OXT	2.39	0.45
11:QK:85:ARG:HA	11:QK:112:THR:HG22	1.98	0.45
24:RA:30:G:O2'	24:RA:1259:A:N3	2.41	0.45
24:RA:1712:A:C3'	24:RA:1713:G:H5'	2.42	0.45
30:RH:43:VAL:HG23	30:RH:52:VAL:HG12	1.98	0.45
41:RW:6:ILE:HG12	41:RW:104:THR:HG23	1.98	0.45
1:XA:263:A:OP1	20:XT:79:ARG:HD3	2.17	0.45
24:YA:1683:C:H2'	24:YA:1684:A:H8	1.82	0.45
36:YR:26:LYS:O	36:YR:30:THR:OG1	2.26	0.45
49:Y4:62:ARG:HG3	49:Y4:63:TYR:H	1.81	0.45
1:QA:45:U:OP1	1:QA:307:C:O2'	2.28	0.45
1:QA:181:G:HO2'	1:QA:182:U:P	2.39	0.45
1:QA:269:C:H2'	1:QA:270:A:H8	1.81	0.45
1:QA:356:A:N3	1:QA:368:U:O2'	2.36	0.45
1:QA:703:G:H4'	1:QA:704:A:O5'	2.15	0.45
1:QA:1414:U:H2'	1:QA:1415:G:C8	2.48	0.45
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.52	0.45
2:QB:195:ASP:O	8:QH:68:ARG:NH2	2.40	0.45
24:RA:468:G:H1'	28:RF:48:THR:HG21	1.98	0.45
24:RA:740:C:O2'	24:RA:1399:A:N3	2.44	0.45
24:RA:1342:G:OP1	24:RA:2721:G:O2'	2.14	0.45
24:RA:1921:G:H22	24:RA:1924:C:H41	1.65	0.45
1:XA:1095:U:P	1:XA:1108:G:H1	2.37	0.45
24:YA:1501:U:H5'	36:YR:63:ARG:HH21	1.81	0.45
24:YA:1701:A:N1	24:YA:2070:G:O2'	2.50	0.45
24:YA:1717:C:O5'	24:YA:1717:C:H6	1.99	0.45
24:YA:2603:C:H2'	24:YA:2604:G:C8	2.51	0.45
36:YR:28:LEU:HD23	36:YR:48:VAL:HG21	1.97	0.45
1:QA:21:G:H2'	1:QA:22:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:254:G:H2'	1:QA:255:G:H8	1.82	0.45
1:QA:1446:A:HO2'	1:QA:1447:G:P	2.39	0.45
22:QV:43:G:H2'	22:QV:44:G:H8	1.80	0.45
24:RA:166:G:H5'	24:RA:167:G:C8	2.52	0.45
24:RA:1331:G:N2	24:RA:1374:G:H5"	2.32	0.45
24:RA:2204:G:H2'	24:RA:2205:C:C6	2.52	0.45
24:RA:2409:G:O6	24:RA:2431:U:O2	2.35	0.45
24:YA:506:A:O2'	43:YY:46:LYS:O	2.34	0.45
24:YA:956:A:N3	24:YA:2276:C:O2'	2.39	0.45
24:YA:1079:U:OP1	54:Y9:9:ARG:NH2	2.41	0.45
24:YA:1961:U:H3'	24:YA:1962:U:H5'	1.98	0.45
27:YE:52:LEU:O	27:YE:76:ARG:N	2.48	0.45
33:YO:34:THR:OG1	33:YO:35:VAL:N	2.49	0.45
34:YP:100:LEU:HD12	34:YP:112:LEU:HD11	1.98	0.45
44:YZ:144:LEU:HD11	44:YZ:150:LEU:HD23	1.98	0.45
1:QA:692:U:O2'	1:QA:694:A:N7	2.42	0.45
1:QA:1287:A:H2'	1:QA:1288:A:C8	2.51	0.45
6:QF:50:TYR:OH	18:QR:75:ILE:O	2.35	0.45
24:RA:239:G:H2'	24:RA:240:A:C8	2.51	0.45
24:RA:503:A:H2'	24:RA:504:A:C8	2.52	0.45
24:RA:1921:G:O2'	24:RA:1922:A:H5"	2.16	0.45
24:RA:2075:G:OP1	27:RE:144:ARG:HG2	2.17	0.45
39:RU:15:LYS:HE3	39:RU:15:LYS:HB3	1.77	0.45
1:XA:323:U:H2'	1:XA:324:G:O4'	2.16	0.45
1:XA:1119:C:H2'	1:XA:1120:G:H8	1.82	0.45
1:XA:1297:C:H1'	1:XA:1298:C:OP2	2.16	0.45
1:XA:1346:A:N1	1:XA:1374:A:H5"	2.32	0.45
2:XB:178:ARG:HH22	8:XH:68:ARG:HH22	1.65	0.45
3:XC:138:VAL:HG13	3:XC:149:ALA:HB3	1.99	0.45
4:XD:52:SER:OG	4:XD:55:ALA:N	2.44	0.45
6:XF:100:ASN:ND2	18:XR:27:GLY:O	2.43	0.45
15:XO:7:GLU:OE2	15:XO:38:ARG:NH2	2.40	0.45
21:XU:12:LYS:O	21:XU:16:GLY:N	2.45	0.45
24:YA:2075:G:OP1	27:YE:144:ARG:HG2	2.17	0.45
49:Y4:28:LYS:HA	49:Y4:29:PRO:HD3	1.79	0.45
1:QA:67:C:H2'	1:QA:68:G:C8	2.52	0.45
1:QA:1499:A:OP1	1:QA:1500:A:OP2	2.35	0.45
11:QK:87:THR:HA	11:QK:91:ARG:HD2	1.98	0.45
24:RA:1588:G:H5"	24:RA:1589:A:OP2	2.17	0.45
24:RA:1636:U:H2'	24:RA:1637:G:C8	2.51	0.45
24:RA:2589:A:H2'	24:RA:2626:A:N6	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:RB:44:G:H5"	25:RB:45:A:OP1	2.17	0.45
31:RI:97:ILE:O	31:RI:101:LEU:N	2.42	0.45
35:RQ:32:TYR:CZ	35:RQ:111:GLU:HB3	2.52	0.45
1:XA:377:G:H2'	1:XA:378:G:C8	2.52	0.45
5:XE:69:VAL:HG11	5:XE:113:ALA:HB1	1.99	0.45
24:YA:48:A:N7	24:YA:118:U:H5	2.15	0.45
24:YA:1639:G:H2'	24:YA:1640:G:C8	2.52	0.45
27:YE:57:LYS:HA	27:YE:57:LYS:HD2	1.73	0.45
1:QA:244:U:H4'	1:QA:245:C:O5'	2.17	0.45
18:QR:53:ARG:HH21	18:QR:59:SER:HA	1.82	0.45
24:RA:387:G:H2'	24:RA:388:A:H8	1.81	0.45
24:RA:1580:G:O3'	24:RA:1581:U:H4'	2.17	0.45
1:XA:7:G:H5'	1:XA:298:A:O4'	2.17	0.45
1:XA:851:G:H2'	1:XA:852:G:H8	1.82	0.45
1:XA:881:G:P	12:XL:12:ARG:HH22	2.39	0.45
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.81	0.45
24:YA:1385:G:H5"	42:YX:16:LYS:HD2	1.99	0.45
24:YA:1546:G:N2	26:YD:99:ASP:O	2.44	0.45
39:YU:92:ARG:HD3	39:YU:94:ASN:HB3	1.99	0.45
1:QA:325:A:OP2	20:QT:70:SER:OG	2.23	0.44
3:QC:132:ARG:NH1	3:QC:136:GLN:HG3	2.32	0.44
11:QK:24:SER:HB3	11:QK:27:ASN:H	1.83	0.44
16:QP:1:MET:SD	16:QP:1:MET:N	2.85	0.44
24:RA:986:A:O2'	24:RA:1235:G:O3'	2.35	0.44
24:RA:1553:A:H5'	24:RA:1554:A:OP2	2.16	0.44
24:RA:2428:C:H5"	34:RP:65:ARG:HE	1.82	0.44
36:RR:88:ARG:NH2	36:RR:89:ASP:OD1	2.49	0.44
39:RU:92:ARG:HH12	40:RV:10:LYS:HA	1.82	0.44
42:RX:57:LEU:HG	42:RX:78:LYS:HB2	1.98	0.44
44:RZ:138:GLU:HB3	44:RZ:156:LYS:HE2	1.99	0.44
1:XA:538:G:H2'	1:XA:539:A:H8	1.82	0.44
1:XA:1286:A:H2'	1:XA:1287:A:H4'	1.98	0.44
1:XA:1309:G:P	13:XM:92:HIS:HE2	2.40	0.44
5:XE:34:VAL:HG11	5:XE:63:ARG:HD2	1.98	0.44
12:XL:17:LYS:HD2	12:XL:18:VAL:H	1.82	0.44
24:YA:539:A:N3	24:YA:604:C:O2'	2.39	0.44
24:YA:1231:G:H2'	24:YA:1232:G:O4'	2.18	0.44
24:YA:2514:G:H5"	24:YA:2515:A:H5"	1.99	0.44
24:YA:2649:U:H2'	24:YA:2650:G:O4'	2.17	0.44
25:YB:92:G:H5"	44:YZ:79:ARG:NH2	2.32	0.44
25:YB:105:G:OP1	44:YZ:72:ARG:NH2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:19:C:OP1	5:QE:125:SER:OG	2.27	0.44
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.48	0.44
1:QA:411:A:C5	1:QA:413:G:H1'	2.52	0.44
24:RA:332:G:C8	24:RA:332:G:OP1	2.69	0.44
25:RB:24:G:H5"	25:RB:25:A:OP1	2.17	0.44
30:RH:54:ARG:HD3	30:RH:65:HIS:HD1	1.82	0.44
48:R3:45:GLY:HA2	48:R3:48:GLU:HG2	1.99	0.44
1:XA:56:U:H2'	1:XA:57:G:H8	1.83	0.44
1:XA:444:C:H2'	1:XA:445:G:C8	2.52	0.44
1:XA:828:A:H2'	1:XA:829:G:O4'	2.17	0.44
1:XA:851:G:H2'	1:XA:852:G:C8	2.52	0.44
1:XA:1310:G:HO2'	1:XA:1311:G:P	2.40	0.44
1:XA:1345:U:H5"	9:XI:120:ARG:NH1	2.32	0.44
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.51	0.44
13:XM:97:PRO:HD3	13:XM:110:ARG:HB3	1.98	0.44
24:YA:302:A:H2'	24:YA:303:C:C6	2.52	0.44
24:YA:795:G:OP1	24:YA:2624:C:N4	2.50	0.44
24:YA:1102:G:H5"	24:YA:1103:A:H5'	1.99	0.44
24:YA:2880:C:H2'	24:YA:2881:C:O4'	2.17	0.44
26:YD:35:LYS:HD3	26:YD:64:ILE:HD11	1.99	0.44
36:YR:67:LEU:HD13	36:YR:76:VAL:HG21	1.97	0.44
38:YT:36:GLU:HG3	38:YT:41:ARG:HH21	1.82	0.44
53:Y8:63:PRO:HB2	53:Y8:65:GLU:H	1.82	0.44
1:QA:25:C:H2'	1:QA:26:A:C8	2.52	0.44
1:QA:448:A:N7	1:QA:486:U:O4	2.50	0.44
1:QA:1127:G:H22	1:QA:1144:G:H22	1.64	0.44
1:QA:1277:C:O2'	1:QA:1279:A:H8	2.00	0.44
9:QI:112:LYS:HA	9:QI:119:ALA:HB2	1.99	0.44
11:QK:72:ALA:HB1	11:QK:77:MET:HG2	1.99	0.44
20:QT:29:LYS:O	20:QT:33:ILE:HG12	2.18	0.44
24:RA:51:A:H2'	24:RA:52:A:C8	2.51	0.44
24:RA:323:A:N3	24:RA:343:C:O2'	2.46	0.44
24:RA:1103:A:H2'	24:RA:1104:G:H8	1.83	0.44
24:RA:1130:A:H3'	24:RA:1131:A:H4'	1.99	0.44
24:RA:1235:G:OP1	34:RP:30:THR:OG1	2.29	0.44
24:RA:2164:C:H2'	24:RA:2165:C:C6	2.52	0.44
25:RB:8:U:O2'	37:RS:25:ARG:NH2	2.50	0.44
1:XA:779:C:H2'	1:XA:780:A:O4'	2.17	0.44
1:XA:991:U:HO2'	1:XA:992:U:P	2.41	0.44
6:XF:11:ASN:HB3	6:XF:14:LEU:HG	1.99	0.44
7:XG:74:GLU:OE1	7:XG:95:ARG:NH2	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:96:LEU:HB3	9:XI:102:LEU:HD23	1.98	0.44
10:XJ:24:VAL:HG13	10:XJ:25:GLU:HG2	1.99	0.44
16:XP:18:ARG:HD3	16:XP:35:LYS:HG3	1.99	0.44
20:XT:74:LYS:HB3	20:XT:76:ALA:H	1.82	0.44
24:YA:606:G:OP2	39:YU:10:ARG:NH1	2.50	0.44
24:YA:1064:C:O3'	24:YA:1166:G:N2	2.51	0.44
24:YA:1332:A:H1'	24:YA:1334:U:OP2	2.17	0.44
24:YA:1496:A:OP1	24:YA:1589:A:OP1	2.36	0.44
24:YA:1830:G:N7	26:YD:179:SER:OG	2.49	0.44
24:YA:2303:U:H2'	24:YA:2304:C:C6	2.52	0.44
24:YA:2689:G:H2'	24:YA:2690:C:C6	2.52	0.44
28:YF:136:THR:HG22	28:YF:166:ALA:HA	1.98	0.44
38:YT:111:ARG:H	38:YT:111:ARG:HG2	1.65	0.44
1:QA:944:G:N1	1:QA:1338:G:OP2	2.50	0.44
1:QA:1098:C:H2'	1:QA:1099:G:C8	2.51	0.44
1:QA:1250:A:H2	1:QA:1370:G:H1'	1.82	0.44
24:RA:718:C:H2'	24:RA:719:C:H6	1.82	0.44
24:RA:909:G:H2'	24:RA:910:A:O4'	2.17	0.44
24:RA:1378:G:H8	24:RA:1378:G:H2'	1.65	0.44
24:RA:1675:U:H2'	24:RA:1676:G:C8	2.53	0.44
24:RA:1714:G:OP2	24:RA:1714:G:C8	2.70	0.44
48:R3:51:ALA:HA	48:R3:54:VAL:HG12	1.97	0.44
1:XA:64:G:H5"	1:XA:65:U:OP1	2.17	0.44
18:XR:74:ARG:HD3	18:XR:81:PHE:HA	1.99	0.44
24:YA:388:A:H2'	24:YA:389:G:C8	2.52	0.44
24:YA:1065:U:H3	24:YA:1188:A:H62	1.64	0.44
24:YA:1113:A:H8	24:YA:1113:A:OP1	2.01	0.44
24:YA:2609:G:H2'	24:YA:2610:A:C8	2.52	0.44
24:YA:2753:A:H2'	24:YA:2754:A:C8	2.52	0.44
24:YA:2797:C:H1'	27:YE:37:ARG:NH1	2.31	0.44
1:QA:596:C:OP2	1:QA:597:G:OP2	2.35	0.44
5:QE:37:ARG:HG2	5:QE:112:LEU:HA	2.00	0.44
24:RA:718:C:H2'	24:RA:719:C:C6	2.53	0.44
24:RA:1501:U:H5'	36:RR:63:ARG:HH22	1.83	0.44
24:RA:2184:G:H4'	24:RA:2195:A:OP2	2.17	0.44
25:RB:77:U:OP1	44:RZ:19:ARG:NH2	2.50	0.44
1:XA:304:U:H2'	1:XA:305:G:C8	2.53	0.44
1:XA:343:U:O2	1:XA:346:G:N1	2.51	0.44
1:XA:345:C:OP2	38:YT:39:ARG:NH2	2.50	0.44
1:XA:1003:G:N2	1:XA:1005:A:H5'	2.32	0.44
1:XA:1323:G:H2'	1:XA:1324:A:H8	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:XK:21:ILE:HG23	11:XK:30:VAL:HG12	1.99	0.44
24:YA:716:G:N3	24:YA:716:G:H2'	2.32	0.44
24:YA:1675:U:H2'	24:YA:1676:G:C8	2.53	0.44
24:YA:2145:G:H2'	24:YA:2146:G:H8	1.81	0.44
49:Y4:28:LYS:HD3	49:Y4:31:ILE:HD11	2.00	0.44
1:QA:99:C:H2'	1:QA:101:A:C8	2.52	0.44
1:QA:553:A:H2'	1:QA:554:C:C6	2.52	0.44
1:QA:923:A:O2'	1:QA:1399:C:OP2	2.29	0.44
1:QA:989:C:H1'	1:QA:1016:A:H2	1.83	0.44
5:QE:110:LEU:HD23	5:QE:115:VAL:HG21	2.00	0.44
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.51	0.44
24:RA:212:A:O2'	24:RA:447:C:O2	2.32	0.44
24:RA:593:G:H2'	24:RA:2052:A:C5	2.53	0.44
24:RA:2803:A:H2'	24:RA:2804:C:H5"	1.99	0.44
34:RP:95:VAL:HA	34:RP:99:LEU:HD12	1.98	0.44
51:R6:35:GLU:OE2	51:R6:50:ARG:NH2	2.50	0.44
1:XA:34:C:H2'	1:XA:35:G:H8	1.83	0.44
1:XA:363:A:C6	12:XL:31:PRO:HD2	2.52	0.44
1:XA:485:G:O2'	1:XA:486:U:O5'	2.32	0.44
1:XA:1363:A:H4'	1:XA:1364:U:H2'	1.99	0.44
3:XC:189:ALA:HB3	3:XC:196:LEU:HB2	1.99	0.44
7:XG:15:ASP:OD2	7:XG:18:TYR:N	2.47	0.44
12:XL:77:LEU:HD21	12:XL:107:ALA:HB2	1.99	0.44
24:YA:485:U:H2'	24:YA:486:A:C8	2.52	0.44
35:YQ:110:THR:OG1	35:YQ:113:GLN:N	2.42	0.44
1:QA:422:C:HO2'	1:QA:423:G:N2	2.14	0.44
1:QA:552:U:H2'	1:QA:553:A:H8	1.83	0.44
1:QA:629:G:H2'	1:QA:630:G:C8	2.52	0.44
1:QA:828:A:H2'	1:QA:829:G:O4'	2.18	0.44
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.40	0.44
24:RA:259:A:OP2	24:RA:284:G:N1	2.47	0.44
24:RA:1077:G:O2'	54:R9:7:VAL:O	2.33	0.44
5:XE:139:LEU:HA	5:XE:142:LEU:HD12	1.99	0.44
7:XG:29:LYS:HZ1	7:XG:102:ARG:NH2	2.15	0.44
7:XG:53:LYS:HD3	7:XG:53:LYS:HA	1.81	0.44
9:XI:10:ARG:HE	9:XI:105:ASP:HB2	1.82	0.44
24:YA:37:C:H2'	24:YA:38:A:C8	2.53	0.44
24:YA:645:G:H4'	24:YA:646:A:H5"	1.99	0.44
24:YA:1683:C:H2'	24:YA:1684:A:C8	2.52	0.44
24:YA:1822:A:H4'	26:YD:206:LEU:HB2	1.99	0.44
24:YA:2038:U:O2'	50:Y5:7:PRO:O	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2086:C:H2'	24:YA:2087:C:H6	1.82	0.44
25:YB:89(A):G:H3'	25:YB:89(B):A:C5'	2.47	0.44
37:YS:46:VAL:HG12	37:YS:48:LEU:HD22	2.00	0.44
38:YT:113:LYS:HA	38:YT:113:LYS:HD3	1.76	0.44
1:QA:704:A:H8	1:QA:704:A:OP2	1.99	0.44
1:QA:1079:G:H2'	1:QA:1080:A:C8	2.53	0.44
1:QA:1479:C:H2'	1:QA:1480:G:C8	2.53	0.44
1:QA:1505:G:H2'	23:QX:15:A:OP2	2.17	0.44
16:QP:45:THR:HG23	16:QP:47:ASP:H	1.83	0.44
24:RA:114:C:O2'	24:RA:124:A:N3	2.36	0.44
24:RA:659:C:H2'	24:RA:660:C:C6	2.53	0.44
24:RA:1399:A:H2'	24:RA:1400:A:C8	2.53	0.44
24:RA:2082:A:O2'	24:RA:2083:G:OP1	2.32	0.44
24:RA:2173:G:H2'	24:RA:2174:G:C8	2.53	0.44
24:RA:2591:C:H1'	27:RE:134:ILE:HD13	2.00	0.44
34:RP:99:LEU:HD23	34:RP:102:ARG:HH21	1.82	0.44
35:RQ:43:THR:OG1	35:RQ:44:ALA:N	2.51	0.44
1:XA:7:G:O2'	5:XE:120:THR:O	2.35	0.44
1:XA:31:G:HO2'	1:XA:48:C:N4	2.15	0.44
1:XA:46:G:H2'	1:XA:366:C:H5	1.82	0.44
1:XA:410:G:H4'	1:XA:411:A:OP1	2.18	0.44
3:XC:114:PRO:HA	3:XC:117:ALA:HB3	1.99	0.44
12:XL:84:LEU:HB2	12:XL:105:TYR:CE2	2.52	0.44
13:XM:114:ARG:O	13:XM:116:THR:OG1	2.30	0.44
23:XX:8:A:H2'	23:XX:9:G:C8	2.53	0.44
24:YA:851:A:H2'	24:YA:853:C:C4	2.53	0.44
24:YA:950:C:O2'	44:YZ:169:GLU:OE2	2.36	0.44
24:YA:2299:A:N6	24:YA:2356:U:H3	2.15	0.44
24:YA:2329:C:H2'	24:YA:2330:G:O4'	2.17	0.44
29:YG:77:ILE:HG22	29:YG:79:ASN:H	1.83	0.44
34:YP:94:GLU:HG3	34:YP:124:LYS:HD3	1.99	0.44
1:QA:368:U:OP1	31:YI:91:SER:OG	2.27	0.44
3:QC:44:GLU:HG3	3:QC:52:LEU:HD21	1.99	0.44
24:RA:715:G:H5'	24:RA:716:G:OP2	2.16	0.44
24:RA:930:G:H1	24:RA:939:C:H42	1.66	0.44
24:RA:1199:C:H2'	24:RA:1200:G:O4'	2.18	0.44
24:RA:1712:A:C3'	24:RA:1713:G:C5'	2.94	0.44
24:RA:2818:U:O2	24:RA:2901:A:C6	2.71	0.44
27:RE:78:LEU:HD23	27:RE:78:LEU:HA	1.87	0.44
28:RF:23:ASP:OD1	28:RF:23:ASP:N	2.39	0.44
33:RO:12:ASP:N	33:RO:12:ASP:OD1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RR:33:ARG:NE	36:RR:115:GLU:OE1	2.45	0.44
36:RR:67:LEU:HD13	36:RR:76:VAL:HG21	1.99	0.44
1:XA:281:G:OP2	1:XA:281:G:H8	2.01	0.44
1:XA:514:C:H2'	1:XA:515:G:C8	2.52	0.44
1:XA:1022:G:H2'	1:XA:1023:G:C8	2.53	0.44
1:XA:1036:G:N7	1:XA:1037:C:N4	2.66	0.44
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.53	0.44
19:XS:9:VAL:HG12	19:XS:10:PHE:HB2	2.00	0.44
24:YA:604:C:H2'	24:YA:605:G:H8	1.83	0.44
24:YA:2649:U:H5"	27:YE:82:ARG:NH1	2.33	0.44
24:YA:2859:U:H4'	24:YA:2878:A:C2	2.53	0.44
24:YA:2877:G:HO2'	24:YA:2878:A:P	2.34	0.44
25:YB:89(B):A:H3'	25:YB:89(B):A:C8	2.52	0.44
29:YG:60:LEU:HD12	29:YG:60:LEU:HA	1.85	0.44
29:YG:67:LYS:H	49:Y4:6:HIS:CE1	2.36	0.44
36:YR:54:LEU:HB3	36:YR:62:ALA:HB1	1.99	0.44
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.53	0.43
17:QQ:81:ARG:HH21	17:QQ:84:LEU:HD11	1.83	0.43
24:RA:268:G:H2'	24:RA:269:G:C8	2.53	0.43
24:RA:334:A:N3	24:RA:336:G:C8	2.85	0.43
24:RA:1612:C:H5"	26:RD:18:VAL:HG11	1.99	0.43
24:RA:1729:G:OP2	24:RA:1746:G:N2	2.50	0.43
24:RA:2878:A:H2'	24:RA:2879:G:C8	2.53	0.43
27:RE:28:ALA:HB3	27:RE:93:VAL:HG12	1.99	0.43
30:RH:89:ILE:HG22	30:RH:162:ILE:HG23	1.99	0.43
51:R6:11:LEU:HB2	51:R6:21:TYR:HB2	2.00	0.43
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.83	0.43
2:XB:154:LEU:HB3	2:XB:155:LEU:HD23	2.00	0.43
13:XM:68:GLY:O	13:XM:72:ALA:N	2.48	0.43
24:YA:64:C:H2'	24:YA:65:C:H6	1.83	0.43
24:YA:1394:G:H2'	24:YA:1395:A:H5"	2.00	0.43
24:YA:1480:A:H2'	24:YA:1481:G:C8	2.53	0.43
24:YA:2172:U:H2'	24:YA:2173:G:C8	2.53	0.43
24:YA:2637:G:H2'	24:YA:2638:C:O4'	2.18	0.43
36:YR:3:HIS:O	36:YR:5:LYS:N	2.51	0.43
1:QA:600:C:H2'	1:QA:601:C:C6	2.53	0.43
6:QF:79:LEU:HB3	6:QF:88:VAL:HG21	1.99	0.43
28:RF:101:LEU:O	28:RF:106:ARG:NH2	2.46	0.43
41:RW:111:HIS:CD2	41:RW:113:LYS:H	2.36	0.43
1:XA:189:U:H3	17:XQ:63:ARG:HB2	1.82	0.43
1:XA:398:C:H2'	1:XA:399:G:H8	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:560:U:H4'	1:XA:561:U:H5"	1.99	0.43
1:XA:1233:G:H2'	1:XA:1234:C:C6	2.53	0.43
24:YA:299:G:H22	24:YA:301:C:H41	1.67	0.43
24:YA:1935:A:H8	24:YA:1935:A:H2'	1.37	0.43
24:YA:2163:G:H2'	24:YA:2164:C:C6	2.54	0.43
38:YT:34:VAL:HG12	38:YT:36:GLU:HG2	2.00	0.43
1:QA:153:C:N3	1:QA:169:C:N4	2.65	0.43
1:QA:762:C:H2'	1:QA:763:G:C8	2.53	0.43
1:QA:778:G:O2'	11:QK:120:ARG:O	2.26	0.43
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	2.00	0.43
16:QP:34:GLU:OE1	16:QP:59:TRP:NE1	2.45	0.43
24:RA:106:U:H2'	24:RA:107:G:C8	2.53	0.43
24:RA:1170:C:H2'	24:RA:1171:G:O4'	2.17	0.43
24:RA:2124:U:H2'	24:RA:2125:C:H6	1.83	0.43
24:RA:2842:U:HO2'	24:RA:2843:G:C5'	2.31	0.43
51:R6:23:THR:OG1	51:R6:24:GLU:N	2.51	0.43
1:XA:191(E):G:H2'	1:XA:191(F):U:C6	2.54	0.43
1:XA:315:A:H5"	1:XA:317:G:OP2	2.18	0.43
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.54	0.43
7:XG:79:ARG:NE	7:XG:84:ASN:OD1	2.51	0.43
13:XM:69:GLU:HA	13:XM:72:ALA:HB3	2.00	0.43
24:YA:1704:C:H2'	24:YA:1705:C:H6	1.83	0.43
24:YA:1830:G:O6	26:YD:179:SER:OG	2.35	0.43
24:YA:2081:A:H5'	24:YA:2082:A:OP2	2.18	0.43
24:YA:2642:G:H2'	24:YA:2643:G:H8	1.82	0.43
24:YA:2699:U:H2'	24:YA:2700:U:O4'	2.18	0.43
1:QA:7:G:H5'	1:QA:298:A:O4'	2.18	0.43
1:QA:657:G:N2	15:QO:22:THR:OG1	2.49	0.43
1:QA:1095:U:H2'	1:QA:1096:C:O4'	2.18	0.43
1:QA:1210:C:HO2'	1:QA:1213:A:HO2'	1.63	0.43
24:RA:37:C:H2'	24:RA:38:A:C8	2.53	0.43
24:RA:485:U:H2'	24:RA:486:A:H8	1.83	0.43
24:RA:662:A:OP1	34:RP:133:SER:OG	2.30	0.43
24:RA:1405:A:OP2	24:RA:1417:G:N1	2.47	0.43
26:RD:69:ARG:HD3	26:RD:130:ALA:HB2	2.01	0.43
29:RG:91:ARG:HE	29:RG:91:ARG:HB3	1.58	0.43
1:XA:41:G:H2'	1:XA:42:G:C8	2.53	0.43
1:XA:151:A:N6	1:XA:170:U:H3	2.12	0.43
1:XA:413:G:OP2	1:XA:413:G:H8	2.01	0.43
2:XB:198:ASP:OD1	8:XH:68:ARG:NH1	2.49	0.43
4:XD:59:ARG:HH12	4:XD:66:ARG:HH12	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:196:A:H2'	24:YA:197:C:O4'	2.17	0.43
24:YA:659:C:H2'	24:YA:660:C:C6	2.53	0.43
24:YA:2162:C:H2'	24:YA:2163:G:C8	2.52	0.43
24:YA:2589:A:H2'	24:YA:2626:A:N6	2.34	0.43
29:YG:6:ALA:O	29:YG:10:LYS:N	2.49	0.43
34:YP:97:PRO:HA	34:YP:112:LEU:HD12	2.00	0.43
51:Y6:35:GLU:OE2	51:Y6:50:ARG:NH1	2.43	0.43
1:QA:475:G:H2'	1:QA:476:G:H8	1.83	0.43
1:QA:940:C:H2'	1:QA:941:G:C8	2.52	0.43
1:QA:1219:U:H2'	1:QA:1220:G:C8	2.54	0.43
1:QA:1250:A:N3	1:QA:1370:G:O2'	2.43	0.43
3:QC:154:SER:HB2	3:QC:165:THR:HG22	2.00	0.43
24:RA:49:U:H3'	24:RA:50:G:H5'	1.99	0.43
24:RA:660:C:O2'	24:RA:664:U:OP1	2.37	0.43
24:RA:1047:A:H62	24:RA:1200:G:N2	2.16	0.43
24:RA:1501:U:H5'	36:RR:63:ARG:NH2	2.33	0.43
27:RE:47:VAL:HG12	27:RE:49:LEU:HD12	1.99	0.43
1:XA:253:U:OP1	17:XQ:67:LYS:NZ	2.30	0.43
1:XA:582:U:OP1	15:XO:68:ARG:NH2	2.47	0.43
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.83	0.43
24:YA:236:G:H4'	24:YA:413:G:C6	2.53	0.43
24:YA:389:G:H2'	24:YA:390:G:C8	2.53	0.43
24:YA:664:U:H2'	24:YA:665:C:C6	2.53	0.43
24:YA:1473:A:H4'	24:YA:1474:C:O5'	2.18	0.43
24:YA:1899:A:H5'	24:YA:1900:G:OP2	2.19	0.43
24:YA:2172:U:H2'	24:YA:2173:G:H8	1.83	0.43
24:YA:2229:A:H1'	24:YA:2231:G:C4	2.53	0.43
38:YT:18:ASP:OD1	38:YT:18:ASP:N	2.33	0.43
48:Y3:15:TYR:O	48:Y3:20:LYS:NZ	2.39	0.43
49:Y4:40:HIS:HB3	49:Y4:43:TYR:HB2	2.00	0.43
1:QA:673:G:O3'	6:QF:87:ARG:NH2	2.51	0.43
1:QA:768:A:N3	1:QA:1512:U:O2'	2.51	0.43
1:QA:1035:A:C5	1:QA:1036:G:H1'	2.53	0.43
2:QB:48:MET:HA	2:QB:51:LEU:HD12	2.00	0.43
3:QC:10:PHE:HD2	3:QC:11:ARG:HD2	1.83	0.43
24:RA:505:A:O2'	24:RA:507:G:H5'	2.19	0.43
29:RG:55:LYS:HA	29:RG:58:GLN:HG2	2.01	0.43
38:RT:54:ARG:HA	38:RT:59:THR:HG23	2.00	0.43
39:RU:90:VAL:HG11	40:RV:39:LEU:HB2	1.99	0.43
1:XA:195:A:OP1	20:XT:65:LYS:NZ	2.45	0.43
1:XA:390:C:H2'	1:XA:391:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:411:A:C4	1:XA:413:G:H1'	2.54	0.43
1:XA:1314:C:OP2	19:XS:4:SER:OG	2.30	0.43
1:XA:1492:A:H1'	1:XA:1493:A:H8	1.83	0.43
10:XJ:38:ILE:HG13	10:XJ:71:LEU:HB3	2.01	0.43
12:XL:39:VAL:HG12	12:XL:41:ARG:HG3	2.00	0.43
24:YA:554:A:H8	24:YA:555:G:C6	2.37	0.43
24:YA:1065:U:O2'	24:YA:1067:A:H2	2.02	0.43
24:YA:1183:G:H2'	24:YA:1184:G:O4'	2.19	0.43
24:YA:1233:U:H4'	40:YV:79:VAL:HG22	1.99	0.43
25:YB:13:A:O2'	25:YB:15:A:H5"	2.19	0.43
1:QA:429:U:H1'	1:QA:430:A:H5"	2.00	0.43
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.53	0.43
1:QA:1279:A:OP1	10:QJ:7:LYS:NZ	2.47	0.43
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.53	0.43
24:RA:331:G:N2	24:RA:333:G:H3'	2.33	0.43
24:RA:1211:U:H2'	24:RA:1212:C:C6	2.54	0.43
24:RA:1593:C:H5'	24:RA:1594:C:H5'	2.01	0.43
24:RA:1639:G:H2'	24:RA:1640:G:H8	1.84	0.43
24:RA:1853:G:H5"	26:RD:54:ARG:HH22	1.84	0.43
24:RA:2757:G:N2	30:RH:143:GLN:OE1	2.46	0.43
27:RE:152:LYS:HB3	32:RN:78:TYR:HA	2.01	0.43
1:XA:564:C:C4	17:XQ:31:LEU:HD11	2.53	0.43
1:XA:890:G:O2'	1:XA:906:G:O6	2.32	0.43
24:YA:574:G:O2'	24:YA:1265:A:N3	2.43	0.43
24:YA:2754:A:OP1	54:Y9:22:ARG:NH1	2.51	0.43
30:YH:28:GLY:HA3	30:YH:79:VAL:HB	2.00	0.43
39:YU:54:LYS:H	39:YU:54:LYS:HG3	1.66	0.43
39:YU:98:LEU:O	39:YU:102:GLU:N	2.51	0.43
40:YV:30:GLY:H	40:YV:61:VAL:HG23	1.83	0.43
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.99	0.43
11:QK:86:GLY:H	11:QK:112:THR:HG22	1.84	0.43
17:QQ:59:ILE:HG22	17:QQ:73:VAL:HA	2.01	0.43
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.44	0.43
24:RA:891:C:H2'	24:RA:892:G:O4'	2.17	0.43
24:RA:2125:C:H42	24:RA:2209:G:H1	1.66	0.43
24:RA:2694:U:C6	24:RA:2694:U:H5'	2.53	0.43
28:RF:40:GLN:HE22	28:RF:183:VAL:H	1.65	0.43
29:RG:102:PHE:O	29:RG:106:LEU:N	2.46	0.43
42:RX:29:TRP:HZ3	42:RX:59:VAL:HG11	1.84	0.43
1:XA:201:C:N4	1:XA:216:G:H1	2.17	0.43
1:XA:429:U:H5'	4:XD:9:CYS:SG	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:922:G:H2'	1:XA:923:A:C8	2.54	0.43
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.54	0.43
1:XA:1172:C:H2'	1:XA:1173:G:H8	1.84	0.43
6:XF:18:GLN:HA	6:XF:21:LEU:HD12	1.99	0.43
13:XM:32:GLU:O	13:XM:36:LYS:N	2.38	0.43
24:YA:1542:A:H8	24:YA:1624:C:O2'	2.01	0.43
24:YA:2205:C:H2'	24:YA:2206:G:C8	2.54	0.43
24:YA:2376:C:H2'	24:YA:2377:G:O4'	2.19	0.43
24:YA:2748:G:H2'	24:YA:2749:G:H8	1.83	0.43
36:YR:33:ARG:NH2	50:Y5:57:VAL:O	2.39	0.43
51:Y6:11:LEU:HB2	51:Y6:21:TYR:HB2	2.01	0.43
1:QA:357:G:O2'	31:YI:89:TYR:O	2.30	0.43
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.84	0.43
1:QA:1293:G:H2'	1:QA:1294:G:H8	1.83	0.43
5:QE:121:LYS:HA	5:QE:121:LYS:HD2	1.71	0.43
9:QI:116:LYS:HD3	9:QI:122:ALA:HB2	2.01	0.43
11:QK:92:GLU:O	11:QK:96:ARG:HG3	2.18	0.43
22:QV:1:C:O2'	45:R0:6:GLY:O	2.36	0.43
22:QV:54:U:O4	22:QV:58:A:N7	2.52	0.43
24:RA:138:G:N2	24:RA:1642:A:H4'	2.34	0.43
24:RA:604:C:H2'	24:RA:605:G:C8	2.54	0.43
24:RA:612:C:H2'	24:RA:613:A:H8	1.83	0.43
24:RA:1566:U:H2'	24:RA:1567:G:O4'	2.18	0.43
31:RI:75:LEU:HD12	31:RI:105:HIS:CE1	2.54	0.43
39:RU:66:ASN:ND2	39:RU:70:ARG:HH21	2.16	0.43
46:R1:81:LYS:HE3	46:R1:81:LYS:HB2	1.82	0.43
1:XA:17:U:H2'	1:XA:18:C:H6	1.83	0.43
1:XA:80:G:H1	1:XA:89:U:H3	1.65	0.43
1:XA:346:G:H1'	1:XA:347:G:H5'	2.00	0.43
1:XA:1240:U:OP2	7:XG:116:ALA:N	2.51	0.43
24:YA:169:G:OP1	52:Y7:32:LYS:HG3	2.18	0.43
24:YA:909:G:H2'	24:YA:910:A:O4'	2.18	0.43
24:YA:1897:C:H2'	24:YA:1898:A:O4'	2.18	0.43
34:YP:91:PHE:O	34:YP:121:LYS:NZ	2.40	0.43
1:QA:115:G:H4'	1:QA:116:A:O5'	2.18	0.43
1:QA:476:G:H2'	1:QA:477:G:H8	1.84	0.43
1:QA:757:U:H2'	1:QA:758:G:O4'	2.19	0.43
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.84	0.43
10:QJ:49:VAL:HG23	14:QN:41:ARG:HB2	2.00	0.43
24:RA:605:G:H2'	24:RA:606:G:H8	1.84	0.43
24:RA:1108:G:O2'	24:RA:1109:G:H5'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1712:A:O2'	24:RA:1713:G:H5"	2.19	0.43
24:RA:2082:A:H3'	24:RA:2082:A:OP1	2.18	0.43
24:RA:2168:C:H4'	24:RA:2169:G:C5	2.54	0.43
33:RO:73:ASP:OD1	33:RO:73:ASP:N	2.36	0.43
1:XA:501:C:P	12:XL:117:ARG:HH21	2.42	0.43
1:XA:703:G:H4'	1:XA:704:A:O5'	2.19	0.43
1:XA:911:U:H2'	1:XA:912:C:C6	2.53	0.43
22:XV:3:G:H2'	22:XV:4:U:H5'	1.99	0.43
24:YA:230:A:H4'	24:YA:231:G:OP1	2.19	0.43
24:YA:553:A:HO2'	24:YA:554:A:H5'	1.81	0.43
24:YA:1043:G:OP1	39:YU:93:LYS:HD3	2.19	0.43
24:YA:1869:C:N4	24:YA:1921:G:OP2	2.27	0.43
24:YA:2818:U:C2	24:YA:2901:A:N6	2.87	0.43
25:YB:30:C:H2'	25:YB:31:C:H5'	2.01	0.43
27:YE:119:ARG:NH1	27:YE:159:HIS:O	2.51	0.43
35:YQ:34:LEU:HB2	35:YQ:118:LEU:HD22	2.00	0.43
39:YU:15:LYS:HE3	39:YU:15:LYS:HB3	1.77	0.43
1:QA:352:C:O2'	1:QA:354:G:OP1	2.22	0.42
1:QA:751:U:H2'	1:QA:752:G:O4'	2.19	0.42
4:QD:18:LYS:NZ	4:QD:34:GLU:OE2	2.45	0.42
9:QI:93:ARG:HB2	9:QI:97:LYS:HD3	2.01	0.42
24:RA:702:A:H2'	24:RA:703:G:H5'	2.01	0.42
24:RA:843:C:H2'	24:RA:844:C:C6	2.54	0.42
24:RA:1958:A:OP2	24:RA:1984:C:N4	2.52	0.42
24:RA:2185:C:N4	24:RA:2186:C:H41	2.17	0.42
24:RA:2227:G:H3'	24:RA:2228:G:C8	2.54	0.42
24:RA:2473:C:H2'	24:RA:2474:U:C6	2.54	0.42
25:RB:49:C:H2'	25:RB:50:G:C8	2.54	0.42
25:RB:66:A:HO2'	25:RB:67:G:P	2.42	0.42
25:RB:79:C:H2'	25:RB:80:U:O4'	2.19	0.42
39:RU:92:ARG:HD3	39:RU:95:LEU:HD12	2.01	0.42
49:R4:56:VAL:HG23	49:R4:58:ARG:HG2	2.01	0.42
1:XA:269:C:H2'	1:XA:270:A:C8	2.54	0.42
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.54	0.42
24:YA:331:G:N1	24:YA:334:A:OP2	2.52	0.42
24:YA:571:A:H2'	24:YA:572:A:C8	2.54	0.42
24:YA:1265:A:H5'	24:YA:1266:C:OP2	2.18	0.42
24:YA:2206:G:H2'	24:YA:2207:C:C6	2.54	0.42
24:YA:2787:C:H2'	24:YA:2788:A:O4'	2.19	0.42
33:YO:24:VAL:HG13	33:YO:33:ALA:HB2	2.01	0.42
1:QA:131:C:O2'	1:QA:262:A:N3	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:753:A:H1'	1:QA:754:C:OP2	2.18	0.42
1:QA:861:G:HO2'	1:QA:874:G:HO2'	1.64	0.42
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.54	0.42
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.84	0.42
1:QA:1376:U:OP2	7:QG:94:ARG:NH2	2.52	0.42
1:QA:1524:C:H2'	1:QA:1525:G:C8	2.53	0.42
4:QD:101:LEU:HB2	4:QD:138:TYR:HB3	2.01	0.42
24:RA:1921:G:N2	24:RA:1924:C:H41	2.17	0.42
24:RA:2129:C:H2'	24:RA:2130:C:C6	2.54	0.42
24:RA:2143:G:H2'	24:RA:2144:U:C6	2.54	0.42
29:RG:7:LEU:N	29:RG:104:GLU:OE2	2.36	0.42
34:RP:95:VAL:HG22	34:RP:125:VAL:HA	2.00	0.42
35:RQ:42:ILE:HD12	35:RQ:97:VAL:HG21	2.01	0.42
35:RQ:65:PHE:HB2	35:RQ:105:GLU:HB3	2.00	0.42
1:XA:93:U:H2'	1:XA:95:G:O4'	2.20	0.42
1:XA:946:A:H2'	1:XA:947:G:C8	2.54	0.42
1:XA:1517:G:N3	24:YA:1941:A:O2'	2.40	0.42
24:YA:414:U:P	46:Y1:20:ARG:HH12	2.41	0.42
24:YA:640:A:C4	28:YF:180:GLY:HA3	2.54	0.42
29:YG:179:PRO:HB2	49:Y4:42:PHE:HE2	1.84	0.42
1:QA:114:U:H2'	1:QA:115:G:C8	2.55	0.42
1:QA:513:C:H2'	1:QA:514:C:C6	2.55	0.42
1:QA:628:G:H2'	1:QA:629:G:C8	2.54	0.42
1:QA:1095:U:P	1:QA:1108:G:H1	2.41	0.42
1:QA:1372:U:H5"	9:QI:71:SER:HB3	2.01	0.42
8:QH:34:GLU:OE1	8:QH:37:ARG:NH2	2.53	0.42
13:QM:91:ARG:HD3	13:QM:91:ARG:HA	1.77	0.42
20:QT:20:LEU:HA	20:QT:23:ARG:HG2	2.00	0.42
23:QX:5:A:H2'	23:QX:6:G:C8	2.53	0.42
24:RA:2538:G:H1	24:RA:2549:U:H3	1.67	0.42
25:RB:5:C:OP1	25:RB:61:G:O2'	2.34	0.42
41:RW:37:ARG:NH2	50:R5:48:GLU:OE2	2.52	0.42
43:RY:14:LEU:HD11	43:RY:22:GLY:HA2	2.00	0.42
1:XA:986:A:H2'	1:XA:987:G:C8	2.54	0.42
1:XA:1191:A:OP2	3:XC:3:ASN:ND2	2.52	0.42
1:XA:1219:U:H2'	1:XA:1220:G:C8	2.55	0.42
1:XA:1285:A:H1'	1:XA:1286:A:OP2	2.19	0.42
7:XG:58:PRO:HA	7:XG:61:VAL:HG12	2.02	0.42
13:XM:54:VAL:O	13:XM:58:GLU:N	2.41	0.42
19:XS:43:GLU:N	19:XS:43:GLU:OE2	2.53	0.42
24:YA:1362:U:H2'	24:YA:1363:A:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1822:A:H3'	24:YA:1823:G:H8	1.84	0.42
32:YN:23:LEU:HD13	32:YN:60:ILE:HD13	2.00	0.42
40:YV:24:LYS:HE2	40:YV:24:LYS:HB3	1.88	0.42
1:QA:150:C:N4	1:QA:171:A:H62	2.17	0.42
1:QA:262:A:H2'	1:QA:263:A:C8	2.53	0.42
1:QA:381:C:H2'	1:QA:382:A:O4'	2.20	0.42
1:QA:538:G:H2'	1:QA:539:A:H8	1.84	0.42
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.31	0.42
1:QA:1067:A:N1	1:QA:1108:G:O2'	2.43	0.42
24:RA:85:C:H4'	24:RA:102:U:H1'	2.01	0.42
24:RA:431:C:H1'	24:RA:432:U:OP2	2.20	0.42
24:RA:546:G:H2'	24:RA:547:G:H8	1.85	0.42
24:RA:664:U:H2'	24:RA:665:C:C6	2.53	0.42
24:RA:895:G:H2'	24:RA:896:A:H8	1.82	0.42
24:RA:1188:A:H4'	32:RN:25:ARG:NH2	2.34	0.42
24:RA:1698:G:OP1	36:RR:40:LYS:NZ	2.41	0.42
24:RA:1884:A:H2'	24:RA:1885:A:C8	2.55	0.42
29:RG:129:GLY:O	29:RG:161:THR:OG1	2.37	0.42
30:RH:164:TYR:HB2	30:RH:167:GLU:HB2	2.01	0.42
35:RQ:110:THR:OG1	35:RQ:113:GLN:OE1	2.26	0.42
37:RS:15:ARG:NH1	37:RS:88:ASP:OD2	2.52	0.42
45:R0:32:ARG:H	45:R0:35:ASN:ND2	2.18	0.42
49:R4:8:LYS:HA	49:R4:8:LYS:HD2	1.89	0.42
51:R6:4:GLU:H	51:R6:4:GLU:HG2	1.73	0.42
1:XA:192:U:H2'	1:XA:193:C:C6	2.54	0.42
1:XA:265:G:H2'	1:XA:266:G:H5"	2.00	0.42
1:XA:458:C:N4	1:XA:475:G:O6	2.53	0.42
1:XA:501:C:H2'	1:XA:502:G:H8	1.83	0.42
2:XB:106:LYS:HA	2:XB:106:LYS:HD3	1.86	0.42
7:XG:40:ALA:HB1	7:XG:44:TYR:HE2	1.84	0.42
24:YA:184:A:OP1	34:YP:46:LYS:NZ	2.37	0.42
24:YA:259:A:OP2	24:YA:284:G:N1	2.47	0.42
24:YA:985:G:H2'	24:YA:986:A:O4'	2.19	0.42
24:YA:1405:A:N6	24:YA:1418:U:N3	2.29	0.42
24:YA:1480:A:H61	24:YA:1605:A:H62	1.67	0.42
24:YA:2692:C:H5'	27:YE:189:PRO:HA	2.02	0.42
29:YG:62:LEU:HD12	29:YG:62:LEU:HA	1.89	0.42
43:YY:83:THR:OG1	43:YY:84:ARG:O	2.30	0.42
1:QA:176:C:H2'	1:QA:177:C:H6	1.85	0.42
1:QA:685:G:H2'	1:QA:686:U:C6	2.55	0.42
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:QE:43:LEU:HD11	5:QE:132:ALA:HB1	2.02	0.42
24:RA:847:A:O4'	24:RA:848:G:H3'	2.19	0.42
24:RA:1055:A:N3	24:RA:1199:C:O2'	2.44	0.42
49:R4:15:ILE:HG13	49:R4:32:TYR:HD1	1.84	0.42
1:XA:35:G:N2	12:XL:118:SER:OG	2.46	0.42
1:XA:277:C:H5"	17:XQ:68:ARG:HH21	1.84	0.42
1:XA:382:A:H2'	1:XA:383:A:H8	1.85	0.42
1:XA:707:C:H2'	1:XA:708:C:H6	1.85	0.42
1:XA:1238:A:OP1	1:XA:1335:C:O2'	2.29	0.42
1:XA:1417:G:O2'	1:XA:1483:A:N6	2.53	0.42
12:XL:33:ARG:HD3	12:XL:33:ARG:HA	1.87	0.42
24:YA:139:A:H8	24:YA:1454:C:O2'	2.00	0.42
24:YA:240:A:OP1	53:Y8:7:HIS:NE2	2.52	0.42
24:YA:374:U:H2'	24:YA:375:G:O4'	2.19	0.42
24:YA:1405:A:N6	24:YA:1418:U:C2	2.86	0.42
24:YA:1563:G:H4'	24:YA:1603:C:O2'	2.19	0.42
24:YA:2815:C:H2'	24:YA:2816:G:C8	2.55	0.42
25:YB:7:G:H1	25:YB:114:G:H21	1.67	0.42
1:QA:373:A:H2'	1:QA:374:A:H8	1.84	0.42
10:QJ:40:LEU:HD13	10:QJ:71:LEU:HD13	2.01	0.42
24:RA:1249:A:HO2'	24:RA:1250:U:P	2.42	0.42
24:RA:1531:G:H1	24:RA:1550:C:N4	2.14	0.42
24:RA:2059:G:H2'	24:RA:2060:G:C8	2.54	0.42
24:RA:2081:A:H5'	24:RA:2082:A:OP2	2.19	0.42
24:RA:2524:C:H2'	24:RA:2525:G:O4'	2.19	0.42
24:RA:2859:U:H4'	24:RA:2878:A:C2	2.54	0.42
25:RB:8:U:O5'	37:RS:15:ARG:NH2	2.52	0.42
30:RH:97:ARG:NH2	30:RH:104:GLU:OE2	2.53	0.42
35:RQ:17:LEU:HD23	35:RQ:17:LEU:HA	1.79	0.42
35:RQ:71:ASP:OD1	35:RQ:71:ASP:N	2.44	0.42
1:XA:358:U:C6	1:XA:358:U:C4'	3.02	0.42
1:XA:452:A:N6	1:XA:480:U:C2	2.86	0.42
1:XA:885:G:H2'	1:XA:886:G:H8	1.84	0.42
4:XD:149:ALA:N	4:XD:152:SER:OG	2.52	0.42
9:XI:86:VAL:HG12	9:XI:92:TYR:HB2	2.02	0.42
24:YA:967:G:H4'	24:YA:2281:A:C6	2.55	0.42
24:YA:1298:G:C2	39:YU:33:ARG:HB3	2.55	0.42
24:YA:1627:A:H3'	24:YA:1628:G:C8	2.51	0.42
24:YA:2326:C:H2'	24:YA:2327:G:C8	2.53	0.42
27:YE:179:GLU:HG3	38:YT:9:LEU:HD21	2.01	0.42
44:YZ:35:ARG:HA	44:YZ:35:ARG:HD2	1.86	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:Y9:18:ARG:HG3	54:Y9:23:VAL:HG22	2.01	0.42
1:QA:17:U:H2'	1:QA:18:C:H6	1.84	0.42
1:QA:269:C:H2'	1:QA:270:A:C8	2.55	0.42
1:QA:745:C:H2'	1:QA:746:A:C8	2.55	0.42
1:QA:812:C:H1'	1:QA:813:U:OP2	2.19	0.42
1:QA:920:U:H2'	1:QA:921:U:C6	2.55	0.42
1:QA:1121:U:H2'	1:QA:1122:U:C6	2.55	0.42
11:QK:38:ASN:HA	11:QK:39:PRO:HD3	1.85	0.42
14:QN:9:LYS:HB2	14:QN:9:LYS:HE3	1.84	0.42
24:RA:211:A:O2'	24:RA:212:A:O5'	2.38	0.42
24:RA:265:U:H2'	24:RA:266:C:C6	2.55	0.42
24:RA:779:C:H2'	24:RA:780:G:O4'	2.20	0.42
24:RA:898:U:H2'	24:RA:899:G:H8	1.84	0.42
24:RA:965:G:N2	24:RA:2281:A:OP2	2.51	0.42
24:RA:1066:A:N1	24:RA:1186:U:H2'	2.34	0.42
24:RA:1394:G:H2'	24:RA:1395:A:H5"	2.01	0.42
24:RA:1583:C:H2'	24:RA:1584:G:O4'	2.20	0.42
24:RA:1683:C:H2'	24:RA:1684:A:C8	2.54	0.42
24:RA:1698:G:H2'	24:RA:1699:A:O4'	2.19	0.42
24:RA:2047:C:H2'	24:RA:2048:C:C6	2.54	0.42
24:RA:2173:G:H2'	24:RA:2174:G:H8	1.83	0.42
24:RA:2869:G:H2'	24:RA:2870:A:C8	2.54	0.42
26:RD:72:LYS:NZ	26:RD:99:ASP:OD2	2.36	0.42
39:RU:46:ALA:O	39:RU:50:ARG:HB2	2.20	0.42
44:RZ:61:LEU:O	44:RZ:64:GLY:N	2.52	0.42
1:XA:5:U:O2'	1:XA:6:G:O5'	2.37	0.42
1:XA:501:C:H2'	1:XA:502:G:C8	2.54	0.42
1:XA:1228:C:H2'	1:XA:1229:A:H8	1.85	0.42
1:XA:1245:A:H2'	1:XA:1246:C:H6	1.84	0.42
8:XH:40:ALA:HB2	8:XH:45:ILE:HG13	2.01	0.42
9:XI:43:ALA:HA	9:XI:74:ILE:HD13	2.01	0.42
20:XT:11:SER:HA	20:XT:13:LEU:HD23	2.02	0.42
22:XV:1:C:H2'	22:XV:2:G:C8	2.51	0.42
22:XV:61:C:H2'	22:XV:62:C:C6	2.55	0.42
24:YA:160:G:H2'	24:YA:161:C:C6	2.55	0.42
24:YA:184:A:H5"	24:YA:185:A:O5'	2.20	0.42
24:YA:793:A:HO2'	24:YA:2623:U:HO2'	1.65	0.42
24:YA:2762:A:H5"	30:YH:3:ARG:HH12	1.85	0.42
26:YD:183:ARG:NH2	26:YD:266:SER:HB2	2.35	0.42
50:Y5:41:PRO:O	50:Y5:44:THR:OG1	2.37	0.42
1:QA:328:C:H1'	1:QA:329:A:OP2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:908:A:H2'	1:QA:909:A:H8	1.84	0.42
1:QA:1126:U:H3'	1:QA:1127:G:H8	1.85	0.42
1:QA:1226:C:H2'	13:QM:103:THR:HB	2.01	0.42
2:QB:15:VAL:HG13	2:QB:210:SER:HB2	2.01	0.42
2:QB:26:PRO:O	2:QB:29:ALA:CB	2.67	0.42
4:QD:180:GLY:HA3	4:QD:182:LYS:HG2	2.01	0.42
13:QM:97:PRO:HD3	13:QM:110:ARG:HB3	2.01	0.42
17:QQ:98:LEU:HD23	17:QQ:98:LEU:HA	1.85	0.42
24:RA:656:A:N3	24:RA:2427:G:O2'	2.42	0.42
24:RA:1800:G:O2'	24:RA:1980:C:OP1	2.35	0.42
25:RB:45:A:O4'	29:RG:95:ARG:NH1	2.52	0.42
29:RG:41:GLN:NE2	29:RG:153:ARG:O	2.52	0.42
1:XA:224:C:H2'	1:XA:225:C:C6	2.55	0.42
1:XA:1328:C:H2'	1:XA:1329:A:C8	2.55	0.42
13:XM:91:ARG:HD2	13:XM:91:ARG:HA	1.90	0.42
22:XV:30:C:H2'	22:XV:31:G:H8	1.84	0.42
24:YA:321:C:OP1	43:YY:87:LYS:NZ	2.50	0.42
24:YA:1053:C:H5"	32:YN:35:ARG:NH1	2.34	0.42
24:YA:1057:G:OP1	39:YU:77:SER:N	2.50	0.42
24:YA:2053:A:N3	24:YA:2467:G:O2'	2.41	0.42
31:YI:69:LYS:NZ	31:YI:135:GLU:OE1	2.53	0.42
44:YZ:16:SER:OG	44:YZ:17:ALA:N	2.52	0.42
1:QA:17:U:H2'	1:QA:18:C:C6	2.55	0.42
1:QA:522:C:H41	12:QL:53:ARG:NH2	2.18	0.42
1:QA:881:G:OP2	12:QL:12:ARG:NH2	2.52	0.42
1:QA:909:A:N3	1:QA:1413:A:O2'	2.38	0.42
1:QA:924:C:H2'	1:QA:925:G:H8	1.85	0.42
1:QA:984:C:H2'	1:QA:985:C:C6	2.55	0.42
1:QA:1112:C:H42	3:QC:177:THR:HA	1.84	0.42
3:QC:43:LEU:O	3:QC:47:LEU:N	2.52	0.42
13:QM:37:THR:HA	13:QM:55:ARG:HH21	1.85	0.42
13:QM:74:VAL:O	13:QM:78:ILE:HG12	2.18	0.42
15:QO:7:GLU:H	15:QO:7:GLU:HG2	1.65	0.42
24:RA:509:A:O2'	43:RY:49:VAL:O	2.28	0.42
24:RA:917:A:H2'	24:RA:918:U:O4'	2.20	0.42
24:RA:1177:G:OP2	24:RA:2527:C:H4'	2.20	0.42
24:RA:2867:G:N2	24:RA:2870:A:OP2	2.35	0.42
26:RD:133:LEU:HD23	26:RD:136:ILE:HD12	2.02	0.42
30:RH:64:LEU:HD23	30:RH:64:LEU:HA	1.89	0.42
39:RU:92:ARG:CZ	40:RV:11:GLN:H	2.32	0.42
44:RZ:123:ASP:OD1	44:RZ:123:ASP:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:390:C:H2'	1:XA:391:G:C8	2.55	0.42
1:XA:598:U:H4'	8:XH:94:TYR:CG	2.55	0.42
1:XA:1004:A:H1'	1:XA:1036:G:H22	1.85	0.42
1:XA:1346:A:H1'	1:XA:1348:U:C2	2.55	0.42
8:XH:44:PHE:HB3	8:XH:80:ILE:HD11	2.02	0.42
10:XJ:40:LEU:HD23	10:XJ:40:LEU:HA	1.93	0.42
16:XP:72:ARG:HA	16:XP:75:ARG:HB2	2.00	0.42
24:YA:553:A:C2'	24:YA:554:A:O5'	2.68	0.42
24:YA:1133:G:C4	24:YA:1135:G:H1'	2.54	0.42
24:YA:1766:G:H3'	24:YA:1767:A:C5'	2.50	0.42
1:QA:666:G:H2'	1:QA:667:G:H8	1.84	0.42
1:QA:688:G:H2'	1:QA:689:C:H6	1.85	0.42
24:RA:1636:U:H2'	24:RA:1637:G:H8	1.84	0.42
24:RA:2227:G:H3'	24:RA:2228:G:H8	1.85	0.42
24:RA:2735:G:O2'	36:RR:3:HIS:HB2	2.20	0.42
26:RD:72:LYS:HD3	26:RD:75:ILE:HD12	2.02	0.42
29:RG:27:ASN:N	29:RG:30:GLU:OE1	2.53	0.42
33:RO:120:GLU:HB2	38:RT:68:TYR:HE2	1.85	0.42
44:RZ:31:ARG:H	44:RZ:31:ARG:HG3	1.66	0.42
1:XA:192:U:H2'	1:XA:193:C:H6	1.85	0.42
1:XA:237:C:OP2	17:XQ:40:LYS:NZ	2.50	0.42
1:XA:1254:C:H2'	1:XA:1255:G:C8	2.55	0.42
7:XG:67:GLU:HA	7:XG:70:LYS:HB2	2.02	0.42
9:XI:67:GLY:O	9:XI:73:GLN:NE2	2.45	0.42
24:YA:1476:C:H2'	24:YA:1477:U:C6	2.55	0.42
24:YA:1650:C:H2'	24:YA:1651:C:H6	1.85	0.42
24:YA:1765:U:H2'	24:YA:1766:G:O4'	2.20	0.42
24:YA:2549:U:H2'	24:YA:2550:C:H6	1.84	0.42
29:YG:63:ILE:HG22	29:YG:143:GLU:HB2	2.02	0.42
29:YG:82:LEU:HD23	29:YG:86:MET:HE2	2.02	0.42
30:YH:3:ARG:HG2	30:YH:6:ARG:HD2	2.02	0.42
30:YH:51:ARG:NH1	30:YH:51:ARG:CB	2.83	0.42
32:YN:39:ARG:NH1	32:YN:41:ASP:OD1	2.53	0.42
44:YZ:63:ASP:OD1	44:YZ:63:ASP:N	2.45	0.42
44:YZ:110:GLY:HA3	44:YZ:174:VAL:HG11	2.02	0.42
52:Y7:6:GLN:HA	52:Y7:7:PRO:HD3	1.89	0.42
1:QA:745:C:H2'	1:QA:746:A:H8	1.84	0.41
1:QA:1059:C:O2'	10:QJ:53:PRO:HD3	2.19	0.41
1:QA:1347:G:H8	1:QA:1347:G:H2'	1.58	0.41
3:QC:189:ALA:HB3	3:QC:196:LEU:HB2	2.02	0.41
11:QK:33:THR:OG1	11:QK:34:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:136:G:H2'	24:RA:138:G:N7	2.35	0.41
24:RA:272:U:OP1	24:RA:273:G:N2	2.52	0.41
24:RA:611:U:H1'	28:RF:90:PHE:HB3	2.02	0.41
24:RA:1634:C:H2'	24:RA:1635:C:H6	1.85	0.41
24:RA:2880:C:H2'	24:RA:2881:C:O4'	2.20	0.41
1:XA:294:U:H2'	1:XA:295:C:C6	2.55	0.41
1:XA:770:C:O2'	1:XA:899:C:N3	2.43	0.41
1:XA:1071:C:H2'	1:XA:1072:G:C8	2.55	0.41
1:XA:1293:G:H2'	1:XA:1294:G:C8	2.55	0.41
1:XA:1374:A:O2'	7:XG:28:ASN:HB3	2.20	0.41
4:XD:196:LEU:HA	4:XD:196:LEU:HD23	1.74	0.41
11:XK:19:ALA:HA	11:XK:32:ILE:HA	2.02	0.41
11:XK:81:ASP:OD1	11:XK:107:SER:OG	2.32	0.41
24:YA:1035:G:OP2	48:Y3:11:SER:OG	2.24	0.41
24:YA:1067:A:H62	24:YA:1186:U:H3	1.68	0.41
24:YA:1493:C:HO2'	24:YA:1592:A:HO2'	1.67	0.41
24:YA:1827:U:H2'	24:YA:1828:C:H6	1.85	0.41
24:YA:2457:G:P	28:YF:74:ARG:HH22	2.43	0.41
34:YP:57:THR:O	34:YP:61:ARG:HG3	2.20	0.41
42:YX:33:LYS:HA	42:YX:33:LYS:HD3	1.93	0.41
1:QA:191(E):G:H2'	1:QA:191(F):U:C6	2.56	0.41
1:QA:254:G:OP1	17:QQ:68:ARG:HB3	2.21	0.41
1:QA:376:G:P	16:QP:67:THR:HG21	2.60	0.41
1:QA:1130:A:N6	1:QA:1144:G:H21	2.18	0.41
2:QB:21:ARG:HG2	2:QB:22:LYS:HB3	2.03	0.41
11:QK:61:ALA:HB1	11:QK:94:ALA:HB2	2.02	0.41
24:RA:937:A:H2'	24:RA:938:G:H8	1.84	0.41
24:RA:1464:G:N1	24:RA:1626:A:OP2	2.43	0.41
24:RA:1549:U:H2'	24:RA:1550:C:H6	1.85	0.41
24:RA:1727:U:H2'	24:RA:1728:G:O4'	2.20	0.41
24:RA:2323:A:H1'	29:RG:82:LEU:HD11	2.02	0.41
24:RA:2842:U:O2'	24:RA:2843:G:O5'	2.37	0.41
1:XA:230:G:O2'	16:XP:25:ARG:NH2	2.53	0.41
1:XA:345:C:H1'	1:XA:346:G:OP2	2.19	0.41
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.55	0.41
4:XD:72:GLU:OE2	4:XD:207:TYR:OH	2.24	0.41
4:XD:194:LEU:HD12	4:XD:195:ALA:H	1.84	0.41
24:YA:1122:C:H2'	24:YA:1123:A:H5"	2.02	0.41
24:YA:1342:G:OP1	24:YA:2721:G:O2'	2.20	0.41
24:YA:1766:G:H3'	24:YA:1767:A:H5"	2.02	0.41
28:YF:11:VAL:HG22	28:YF:125:LEU:HB2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YG:173:LEU:HA	29:YG:176:LEU:HB2	2.02	0.41
31:YI:77:LEU:HD13	31:YI:101:LEU:HD13	2.01	0.41
40:YV:65:GLY:HA3	40:YV:91:TYR:CZ	2.55	0.41
1:QA:45:U:H2'	1:QA:46:G:C8	2.56	0.41
1:QA:337:C:H2'	1:QA:338:A:H8	1.86	0.41
1:QA:410:G:H2'	1:QA:429:U:C5	2.54	0.41
1:QA:646:U:H2'	1:QA:647:C:C6	2.54	0.41
1:QA:662:G:H2'	1:QA:663:A:H8	1.85	0.41
1:QA:1032(A):A:H3'	1:QA:1032(B):G:H4'	2.02	0.41
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.20	0.41
10:QJ:6:ILE:HA	10:QJ:97:GLU:O	2.20	0.41
24:RA:607:C:OP2	39:RU:10:ARG:NH2	2.53	0.41
24:RA:864:C:O2'	24:RA:886:U:H5"	2.19	0.41
24:RA:1674:G:H2'	24:RA:1675:U:C6	2.55	0.41
24:RA:1862:G:H2'	24:RA:1863:C:C6	2.54	0.41
24:RA:2708:U:H2'	24:RA:2709:G:H8	1.85	0.41
30:RH:77:LYS:HD2	30:RH:77:LYS:HA	1.86	0.41
35:RQ:35:VAL:HG13	35:RQ:130:LYS:HB3	2.02	0.41
1:XA:337:C:H2'	1:XA:338:A:C8	2.55	0.41
1:XA:356:A:N3	1:XA:368:U:O2'	2.32	0.41
1:XA:1245:A:H2'	1:XA:1246:C:C6	2.56	0.41
1:XA:1368:G:OP1	9:XI:111:ARG:NH1	2.52	0.41
24:YA:240:A:P	53:Y8:7:HIS:HE2	2.43	0.41
24:YA:287:G:H1'	24:YA:288:U:OP2	2.20	0.41
24:YA:1104:G:O2'	24:YA:1105:G:H5'	2.20	0.41
24:YA:1276:C:H2'	24:YA:1277:G:C8	2.56	0.41
24:YA:2524:C:H2'	24:YA:2525:G:O4'	2.20	0.41
29:YG:18:GLU:OE2	29:YG:21:ARG:NH2	2.39	0.41
31:YI:100:ALA:O	31:YI:104:GLN:N	2.53	0.41
34:YP:106:LEU:HD23	34:YP:106:LEU:HA	1.94	0.41
1:QA:337:C:H2'	1:QA:338:A:C8	2.55	0.41
1:QA:1080:A:O5'	5:QE:14:ARG:NH2	2.52	0.41
2:QB:8:LYS:HD3	2:QB:9:GLU:HG3	2.01	0.41
8:QH:100:ILE:HA	8:QH:101:PRO:HD3	1.89	0.41
22:QV:15:G:N2	22:QV:21(B):A:N3	2.69	0.41
24:RA:854:U:OP2	34:RP:41:ARG:NH2	2.53	0.41
24:RA:2824:C:O2'	50:R5:29:THR:OG1	2.18	0.41
29:RG:65:GLY:HA3	49:R4:9:LEU:HD21	2.02	0.41
1:XA:34:C:H2'	1:XA:35:G:C8	2.55	0.41
1:XA:580:U:H2'	1:XA:581:G:O4'	2.21	0.41
1:XA:677:U:O2	1:XA:777:A:O2'	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:745:C:H2'	1:XA:746:A:C8	2.49	0.41
1:XA:990:C:H2'	1:XA:991:U:C2	2.55	0.41
1:XA:1295:G:N2	1:XA:1302:U:O4	2.49	0.41
1:XA:1357:A:H61	1:XA:1365:G:H1	1.69	0.41
8:XH:29:SER:HB3	8:XH:32:LYS:HG3	2.03	0.41
11:XK:38:ASN:HA	11:XK:39:PRO:HD3	1.83	0.41
24:YA:2401:G:H5"	24:YA:2402:U:O4'	2.20	0.41
24:YA:2623:U:OP2	24:YA:2623:U:H6	2.03	0.41
38:YT:92:GLY:O	38:YT:120:ARG:NH2	2.53	0.41
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.55	0.41
2:QB:8:LYS:HG3	2:QB:10:LEU:HB3	2.02	0.41
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.02	0.41
2:QB:85:ALA:O	2:QB:88:ALA:N	2.49	0.41
4:QD:38:TYR:HA	4:QD:39:PRO:HD3	1.85	0.41
10:QJ:9:ARG:HE	10:QJ:95:GLU:HG2	1.85	0.41
11:QK:33:THR:HA	11:QK:40:ILE:HG12	2.02	0.41
24:RA:38:A:H2'	24:RA:39:C:C6	2.55	0.41
24:RA:2382:G:H2'	24:RA:2383:G:O4'	2.19	0.41
24:RA:2549:U:H2'	24:RA:2550:C:C6	2.54	0.41
24:RA:2842:U:H4'	24:RA:2843:G:H5"	2.02	0.41
27:RE:55:ASN:HA	27:RE:56:PRO:HD3	1.94	0.41
33:RO:104:ARG:NH1	33:RO:121:VAL:O	2.53	0.41
34:RP:63:PRO:HB2	53:R8:30:ARG:HH21	1.84	0.41
44:RZ:164:ALA:H	44:RZ:165:VAL:HG23	1.86	0.41
1:XA:157:G:H2'	1:XA:158:G:H8	1.85	0.41
1:XA:255:G:OP1	17:XQ:69:LYS:NZ	2.53	0.41
1:XA:509:A:H2'	1:XA:510:A:C8	2.55	0.41
1:XA:1499:A:OP1	1:XA:1500:A:OP2	2.38	0.41
8:XH:11:THR:HG22	8:XH:14:ARG:NH1	2.34	0.41
12:XL:70:ILE:HG12	12:XL:77:LEU:HD12	2.03	0.41
15:XO:67:LEU:HB3	15:XO:78:TYR:HE1	1.86	0.41
17:XQ:5:VAL:HG22	17:XQ:60:ILE:HD13	2.03	0.41
24:YA:278:G:H2'	24:YA:279:G:H8	1.86	0.41
25:YB:48:A:H2'	25:YB:49:C:C6	2.56	0.41
27:YE:36:ARG:NH2	27:YE:88:GLY:O	2.53	0.41
1:QA:481:G:O2'	1:QA:482:A:O5'	2.39	0.41
6:QF:12:PRO:HB3	6:QF:58:GLY:HA2	2.03	0.41
8:QH:3:THR:OG1	8:QH:4:ASP:N	2.54	0.41
17:QQ:60:ILE:HD12	17:QQ:60:ILE:HA	1.91	0.41
24:RA:776:G:C5	26:RD:208:LYS:HB2	2.56	0.41
24:RA:964:A:N3	25:RB:80:U:O2'	2.44	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1328:U:H2'	24:RA:1329:G:O4'	2.21	0.41
24:RA:2816:G:H2'	24:RA:2817:G:C8	2.55	0.41
27:RE:78:LEU:O	27:RE:79:ARG:NH1	2.45	0.41
38:RT:56:GLY:O	38:RT:59:THR:OG1	2.34	0.41
39:RU:34:LYS:HD3	39:RU:34:LYS:HA	1.80	0.41
54:R9:14:CYS:HA	54:R9:27:CYS:HB2	2.02	0.41
1:XA:378:G:O6	1:XA:386:C:N4	2.53	0.41
1:XA:406:G:N2	4:XD:119:GLN:HE22	2.17	0.41
1:XA:673:G:O3'	6:XF:87:ARG:NH2	2.54	0.41
1:XA:865:A:H2'	1:XA:866:C:C6	2.56	0.41
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.20	0.41
1:XA:1409:C:H2'	1:XA:1410:G:H8	1.86	0.41
8:XH:29:SER:OG	8:XH:31:PHE:N	2.50	0.41
19:XS:40:ILE:HD11	19:XS:71:LEU:HA	2.03	0.41
24:YA:594:A:OP2	24:YA:2052:A:N6	2.53	0.41
24:YA:1109:G:N2	24:YA:1122:C:H1'	2.35	0.41
24:YA:2603:C:H2'	24:YA:2604:G:H8	1.85	0.41
27:YE:77:ILE:HD13	27:YE:195:LEU:HD13	2.02	0.41
29:YG:71:THR:N	29:YG:89:GLY:O	2.53	0.41
47:Y2:18:PRO:HA	47:Y2:21:LEU:HB2	2.03	0.41
49:Y4:14:ILE:HB	49:Y4:22:ILE:HB	2.03	0.41
1:QA:22:G:H2'	1:QA:23:C:H6	1.86	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.55	0.41
22:QV:28:U:H2'	22:QV:29:U:C6	2.56	0.41
24:RA:64:C:H1'	24:RA:482:C:H42	1.85	0.41
24:RA:1125:C:H2'	24:RA:1126:C:O4'	2.21	0.41
24:RA:1195:G:H2'	24:RA:1196:C:C6	2.56	0.41
24:RA:1802:C:H2'	24:RA:1803:G:C8	2.55	0.41
24:RA:2312:G:N1	24:RA:2329:C:N3	2.69	0.41
24:RA:2662:U:H2'	24:RA:2663:C:H6	1.86	0.41
24:RA:2810:C:H2'	24:RA:2811:A:C8	2.55	0.41
26:RD:177:LEU:HD23	26:RD:177:LEU:HA	1.87	0.41
30:RH:137:ASP:OD1	30:RH:138:LYS:N	2.53	0.41
33:RO:63:VAL:HB	33:RO:102:VAL:HG12	2.01	0.41
47:R2:63:VAL:HA	47:R2:66:GLU:HB2	2.02	0.41
1:XA:765:G:N2	1:XA:813:U:OP2	2.54	0.41
1:XA:958:A:H2'	1:XA:959:A:C8	2.56	0.41
5:XE:12:LEU:HB3	5:XE:31:LEU:HB3	2.02	0.41
6:XF:39:LYS:HG3	6:XF:62:TRP:HZ3	1.85	0.41
24:YA:325:G:OP2	43:YY:84:ARG:NH2	2.53	0.41
24:YA:1493:C:O2'	24:YA:1592:A:O2'	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2036:A:H2'	24:YA:2037:A:C8	2.55	0.41
24:YA:2686:G:H2'	24:YA:2687:A:C8	2.56	0.41
25:YB:48:A:P	37:YS:30:ARG:HH12	2.43	0.41
26:YD:14:ARG:HH11	26:YD:14:ARG:HD2	1.74	0.41
42:YX:10:ALA:HB3	42:YX:29:TRP:HB2	2.02	0.41
44:YZ:10:ARG:HH21	44:YZ:26:GLY:H	1.68	0.41
4:QD:23:GLY:N	4:QD:26:CYS:SG	2.91	0.41
24:RA:609:A:N1	24:RA:856:G:O2'	2.41	0.41
24:RA:807:G:H2'	24:RA:808:A:O4'	2.19	0.41
24:RA:1827:U:H2'	24:RA:1828:C:H6	1.86	0.41
24:RA:2050:U:H2'	24:RA:2051:G:C8	2.56	0.41
24:RA:2318:C:H3'	24:RA:2319:G:H5"	2.01	0.41
24:RA:2318:C:OP2	24:RA:2319:G:H2'	2.21	0.41
24:RA:2389:A:H2'	24:RA:2390:A:C8	2.55	0.41
27:RE:185:LYS:HA	27:RE:185:LYS:HD2	1.87	0.41
31:RI:14:ASP:H	31:RI:17:GLN:HB3	1.86	0.41
35:RQ:77:LYS:NZ	35:RQ:80:GLU:OE1	2.41	0.41
1:XA:244:U:H4'	1:XA:245:C:O5'	2.20	0.41
1:XA:294:U:H2'	1:XA:295:C:H6	1.85	0.41
1:XA:406:G:H2'	1:XA:407:G:H8	1.85	0.41
1:XA:711:G:H2'	1:XA:712:A:C8	2.56	0.41
1:XA:868:C:H2'	1:XA:869:G:O4'	2.21	0.41
1:XA:1022:G:H2'	1:XA:1023:G:H8	1.86	0.41
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.86	0.41
5:XE:78:HIS:CE1	5:XE:80:ILE:HD13	2.55	0.41
7:XG:79:ARG:HD3	7:XG:79:ARG:HA	1.86	0.41
16:XP:15:PRO:HD2	16:XP:42:ARG:HD2	2.02	0.41
23:XX:19:G:H8	23:XX:19:G:O5'	2.03	0.41
24:YA:1195:G:H2'	24:YA:1196:C:C6	2.55	0.41
24:YA:2417:G:H5'	34:YP:75:ILE:HD13	2.03	0.41
24:YA:2473:C:H2'	24:YA:2474:U:C6	2.55	0.41
25:YB:89(B):A:H2'	25:YB:90:C:O4'	2.21	0.41
28:YF:68:LYS:HG2	28:YF:69:HIS:CD2	2.56	0.41
30:YH:126:PRO:HG2	30:YH:130:ARG:HH21	1.85	0.41
1:QA:209:U:O2'	1:QA:210:U:H4'	2.21	0.41
1:QA:452:A:H2'	1:QA:453:A:H8	1.85	0.41
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.56	0.41
1:QA:1066:C:H42	1:QA:1191:A:N6	2.19	0.41
1:QA:1358:U:OP1	14:QN:35:ARG:HB2	2.21	0.41
1:QA:1446:A:H4'	38:RT:125:ARG:HH12	1.86	0.41
2:QB:189:ASP:OD1	2:QB:189:ASP:N	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:32:LYS:HA	8:QH:35:ILE:HD12	2.03	0.41
9:QI:96:LEU:O	9:QI:101:PHE:N	2.47	0.41
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.85	0.41
16:QP:55:ARG:HD2	16:QP:55:ARG:HA	1.89	0.41
24:RA:142:G:H2'	24:RA:143:C:C6	2.55	0.41
24:RA:266:C:H42	24:RA:278:G:H1	1.69	0.41
24:RA:323:A:OP2	24:RA:323:A:H8	2.04	0.41
24:RA:537:G:H4'	24:RA:538:A:O5'	2.20	0.41
24:RA:771:U:H2'	24:RA:772:G:O4'	2.21	0.41
24:RA:910:A:H2'	24:RA:911:G:H8	1.85	0.41
24:RA:1119:A:H4'	24:RA:1120:G:OP1	2.21	0.41
24:RA:1248:G:H3'	24:RA:1249:A:H5"	2.02	0.41
24:RA:1276:C:H2'	24:RA:1277:G:C8	2.55	0.41
24:RA:2619:G:H2'	24:RA:2620:G:O4'	2.21	0.41
24:RA:2658:C:OP2	24:RA:2745:G:O2'	2.30	0.41
24:RA:2686:G:H5"	33:RO:26:LYS:HE3	2.03	0.41
24:RA:2694:U:H6	24:RA:2694:U:C5'	2.33	0.41
27:RE:34:VAL:HG12	27:RE:72:VAL:HG11	2.03	0.41
28:RF:158:THR:OG1	28:RF:159:GLY:N	2.54	0.41
29:RG:55:LYS:HD2	29:RG:58:GLN:HG2	2.02	0.41
29:RG:111:LEU:HA	29:RG:114:ILE:HG12	2.02	0.41
29:RG:172:LEU:HD23	29:RG:173:LEU:HD23	2.03	0.41
35:RQ:5:ARG:HD3	35:RQ:5:ARG:HA	1.80	0.41
37:RS:39:ILE:O	37:RS:48:LEU:N	2.47	0.41
1:XA:112:G:H4'	1:XA:389:A:H4'	2.03	0.41
1:XA:358:U:C6	1:XA:358:U:O5'	2.73	0.41
1:XA:584:G:H2'	1:XA:585:G:C8	2.55	0.41
1:XA:599:C:O2'	8:XH:129:VAL:O	2.28	0.41
1:XA:976:G:P	14:XN:32:SER:H	2.44	0.41
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.21	0.41
2:XB:95:GLN:HG3	2:XB:147:LYS:HG3	2.03	0.41
5:XE:92:LYS:N	5:XE:119:LEU:O	2.41	0.41
10:XJ:42:THR:HG21	10:XJ:66:ARG:HD2	2.03	0.41
12:XL:77:LEU:HD23	12:XL:77:LEU:HA	1.78	0.41
16:XP:43:LYS:HG2	16:XP:48:TRP:CE3	2.56	0.41
22:XV:32:U:H3	22:XV:38:A:N6	2.18	0.41
24:YA:30:G:H2'	24:YA:31:C:C6	2.56	0.41
24:YA:598:A:OP2	24:YA:2511:C:O2'	2.31	0.41
24:YA:844:C:OP1	28:YF:60:SER:OG	2.33	0.41
24:YA:1101:G:H1	24:YA:1150:C:H42	1.69	0.41
24:YA:1480:A:H61	24:YA:1605:A:N6	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2021:C:H5”	24:YA:2736:C:O2’	2.21	0.41
24:YA:2047:C:H2’	24:YA:2048:C:C6	2.55	0.41
24:YA:2816:G:H2’	24:YA:2817:G:H8	1.86	0.41
25:YB:89(A):G:C8	25:YB:89(A):G:H3’	2.56	0.41
26:YD:79:VAL:HG23	26:YD:114:GLY:H	1.85	0.41
29:YG:55:LYS:HD2	29:YG:55:LYS:HA	1.87	0.41
40:YV:72:VAL:HG13	40:YV:85:LYS:HB3	2.03	0.41
41:YW:113:LYS:HD2	41:YW:113:LYS:HA	1.93	0.41
44:YZ:23:LYS:NZ	44:YZ:40:ASP:OD1	2.37	0.41
46:Y1:5:CYS:SG	46:Y1:8:SER:OG	2.71	0.41
1:QA:125:U:H2’	1:QA:126:G:C8	2.56	0.41
1:QA:382:A:H2’	1:QA:383:A:H8	1.86	0.41
1:QA:406:G:H21	4:QD:119:GLN:HE22	1.68	0.41
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.68	0.41
1:QA:790:A:H2’	1:QA:791:G:C8	2.56	0.41
1:QA:1060:C:H2’	1:QA:1061:G:H8	1.86	0.41
1:QA:1150:U:H2’	1:QA:1151:A:C8	2.56	0.41
3:QC:50:ALA:HB1	3:QC:70:VAL:HG11	2.03	0.41
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.03	0.41
22:QV:12:G:H5”	24:RA:1930:C:O2’	2.21	0.41
22:QV:35:G:H2’	22:QV:36:G:C8	2.56	0.41
24:RA:374:U:H2’	24:RA:375:G:O4’	2.20	0.41
24:RA:720:C:H5”	28:RF:81:PRO:HD2	2.03	0.41
24:RA:893:C:O2’	24:RA:894:U:OP2	2.31	0.41
24:RA:2424:A:H2’	24:RA:2425:G:O4’	2.21	0.41
24:RA:2705:A:H2’	24:RA:2706:G:C8	2.55	0.41
35:RQ:39:PRO:HB3	35:RQ:99:PRO:HD3	2.03	0.41
37:RS:26:LEU:HB3	37:RS:87:PHE:HA	2.02	0.41
44:RZ:69:THR:HG22	44:RZ:90:VAL:HA	2.03	0.41
1:XA:113:G:H2’	1:XA:114:U:C6	2.56	0.41
1:XA:406:G:H21	4:XD:119:GLN:HE22	1.67	0.41
1:XA:1288:A:N1	1:XA:1371:G:H1’	2.36	0.41
1:XA:1513:A:H2’	1:XA:1514:C:C6	2.56	0.41
2:XB:75:LYS:HA	2:XB:78:GLN:HG3	2.03	0.41
19:XS:53:ASN:HB3	19:XS:75:ALA:HB1	2.03	0.41
24:YA:362:G:OP1	43:YY:4:LYS:NZ	2.44	0.41
24:YA:1490:G:H2’	24:YA:1492:C:C5	2.56	0.41
24:YA:1580:G:H2’	24:YA:1580:G:N3	2.36	0.41
24:YA:2258:G:H2’	24:YA:2259:A:H8	1.83	0.41
24:YA:2705:A:H2’	24:YA:2706:G:H8	1.86	0.41
27:YE:101:ARG:NH1	27:YE:169:ASN:O	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:410:G:H21	1:QA:432:A:N6	2.15	0.40
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.52	0.40
1:QA:1004:A:H2'	1:QA:1005:A:O4'	2.21	0.40
1:QA:1431:C:H2'	1:QA:1432:G:O4'	2.21	0.40
6:QF:15:ASP:OD2	6:QF:17:SER:OG	2.30	0.40
7:QG:13:GLN:HA	7:QG:14:PRO:HD3	1.94	0.40
7:QG:15:ASP:HB2	7:QG:23:VAL:HB	2.04	0.40
17:QQ:57:VAL:HG12	17:QQ:76:LEU:HA	2.02	0.40
22:QV:37:1MG:HN21	22:QV:37:1MG:HM11	1.71	0.40
24:RA:422:U:H2'	24:RA:423:G:C8	2.56	0.40
24:RA:1545:C:H2'	24:RA:1546:G:H8	1.86	0.40
24:RA:1549:U:H2'	24:RA:1550:C:C6	2.56	0.40
24:RA:2167:C:H2'	24:RA:2169:G:H22	1.86	0.40
24:RA:2540:U:H2'	24:RA:2542:A:O5'	2.21	0.40
24:RA:2552:C:H2'	24:RA:2553:A:O4'	2.20	0.40
29:RG:94:LEU:HD22	29:RG:98:ARG:HB3	2.03	0.40
32:RN:7:LYS:HB3	32:RN:7:LYS:HE3	1.94	0.40
41:RW:86:LEU:HD22	41:RW:96:ILE:HD11	2.02	0.40
1:XA:359:U:P	1:XA:359:U:C3'	3.08	0.40
15:XO:4:THR:OG1	15:XO:5:LYS:N	2.54	0.40
19:XS:77:THR:H	19:XS:78:ARG:NH1	2.19	0.40
20:XT:79:ARG:O	20:XT:83:ARG:HG3	2.21	0.40
24:YA:469:A:H5"	24:YA:470:C:OP1	2.21	0.40
24:YA:821:A:H2	24:YA:834:U:O2'	2.03	0.40
24:YA:2087:C:H2'	24:YA:2088:C:H6	1.86	0.40
24:YA:2764:G:H4'	30:YH:4:ILE:HD11	2.03	0.40
26:YD:245:PRO:HA	26:YD:246:PRO:HD3	1.85	0.40
32:YN:39:ARG:HD3	32:YN:48:MET:HE2	2.02	0.40
1:QA:324:G:N2	1:QA:327:A:OP2	2.53	0.40
1:QA:784:C:H4'	24:RA:1868:C:OP1	2.21	0.40
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.54	0.40
2:QB:233:SER:O	2:QB:233:SER:OG	2.31	0.40
4:QD:129:ASN:HA	4:QD:145:GLU:HB3	2.02	0.40
9:QI:20:ARG:HA	9:QI:21:PRO:HD3	1.94	0.40
13:QM:107:ALA:H	13:QM:108:ARG:HH11	1.68	0.40
17:QQ:6:LEU:HD22	17:QQ:23:VAL:HG11	2.03	0.40
24:RA:1067:A:H8	24:RA:1068:G:H5"	1.86	0.40
24:RA:1151:U:H2'	24:RA:1152:G:C8	2.56	0.40
24:RA:1232:G:H5"	40:RV:81:TYR:CE1	2.56	0.40
24:RA:1273:G:OP2	39:RU:16:LYS:NZ	2.38	0.40
24:RA:1298:G:C2	39:RU:33:ARG:HB3	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2235:G:H5”	26:RD:269:PHE:HZ	1.86	0.40
26:RD:83:GLU:HB2	26:RD:92:ILE:HG13	2.03	0.40
40:RV:20:LEU:HD12	40:RV:20:LEU:HA	1.89	0.40
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.52	0.40
1:XA:1287:A:H2’	1:XA:1288:A:C8	2.56	0.40
1:XA:1355:G:H2’	1:XA:1356:G:H8	1.85	0.40
11:XK:21:ILE:HB	11:XK:84:VAL:HG12	2.02	0.40
22:XV:57:G:O2’	22:XV:58:A:H5’	2.20	0.40
24:YA:82:G:O2’	24:YA:100:G:N2	2.53	0.40
24:YA:422:U:H2’	24:YA:423:G:N7	2.37	0.40
24:YA:471:C:H2’	24:YA:472:G:O4’	2.20	0.40
24:YA:1068:G:H1’	24:YA:1069:U:OP2	2.21	0.40
24:YA:1255:A:H4’	24:YA:1256:U:O5’	2.21	0.40
24:YA:1298:G:N3	39:YU:33:ARG:HD2	2.36	0.40
24:YA:1378:G:H21	24:YA:1656:A:H8	1.69	0.40
24:YA:1684:A:H4’	24:YA:2723:A:O2’	2.21	0.40
24:YA:1741:C:H1’	24:YA:1742:G:OP2	2.21	0.40
24:YA:2414:C:O2’	24:YA:2415:C:P	2.79	0.40
27:YE:28:ALA:HB3	27:YE:93:VAL:HG12	2.02	0.40
28:YF:24:LEU:HD23	28:YF:24:LEU:HA	1.83	0.40
5:QE:50:GLU:HB2	5:QE:53:LEU:HD13	2.03	0.40
11:QK:44:SER:HB3	11:QK:47:VAL:HG23	2.03	0.40
22:QV:40:G:H2’	22:QV:41:A:H8	1.86	0.40
24:RA:664:U:H2’	24:RA:665:C:H6	1.87	0.40
24:RA:1369:U:OP1	41:RW:98:LYS:NZ	2.47	0.40
24:RA:2108:U:H2’	24:RA:2109:G:C8	2.56	0.40
24:RA:2303:U:H2’	24:RA:2304:C:H6	1.86	0.40
30:RH:80:SER:O	30:RH:80:SER:OG	2.34	0.40
40:RV:6:LYS:HD2	40:RV:11:GLN:HG2	2.04	0.40
40:RV:35:LEU:HA	40:RV:36:PRO:HD3	1.85	0.40
53:R8:7:HIS:HB3	53:R8:59:LYS:HB3	2.04	0.40
1:XA:108:G:C6	20:XT:15:ARG:HD3	2.56	0.40
1:XA:147:G:H21	1:XA:1451:A:H61	1.70	0.40
1:XA:436:C:H2’	1:XA:437:U:C6	2.56	0.40
1:XA:596:C:H2’	1:XA:597:G:C8	2.57	0.40
1:XA:601:C:H2’	1:XA:602:A:C8	2.57	0.40
1:XA:1350:A:OP1	9:XI:121:ARG:NH1	2.54	0.40
13:XM:87:TYR:HA	13:XM:90:LEU:HG	2.03	0.40
14:XN:27:CYS:HB3	14:XN:43:CYS:SG	2.62	0.40
24:YA:441:C:H2’	24:YA:442:A:C8	2.56	0.40
24:YA:585:U:H6	24:YA:585:U:H2’	1.74	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1107:U:H3'	24:YA:1108:G:C5'	2.51	0.40
24:YA:1249:A:H1'	24:YA:1251:G:C5	2.56	0.40
24:YA:1910:G:OP2	24:YA:1910:G:N2	2.52	0.40
24:YA:2339:A:H2'	24:YA:2340:A:C8	2.56	0.40
24:YA:2664:C:H2'	24:YA:2665:U:O4'	2.21	0.40
24:YA:2724:U:HO2'	24:YA:2725:A:H8	1.63	0.40
25:YB:89(B):A:C8	25:YB:89(B):A:C3'	3.05	0.40
37:YS:10:ARG:HG2	37:YS:91:PRO:HA	2.03	0.40
37:YS:67:ARG:HG2	37:YS:71:ARG:HE	1.86	0.40
51:Y6:18:ARG:HH11	51:Y6:18:ARG:HD2	1.74	0.40
1:QA:194:C:O3'	20:QT:68:LYS:HD2	2.20	0.40
1:QA:444:C:H2'	1:QA:445:G:C8	2.56	0.40
1:QA:728:A:H2'	1:QA:729:A:H8	1.86	0.40
1:QA:1003:G:N2	1:QA:1004:A:O2'	2.55	0.40
1:QA:1230:C:H5'	22:QV:30:C:H5"	2.04	0.40
24:RA:868:A:H2'	24:RA:991:G:H5"	2.03	0.40
24:RA:1227:A:H2'	24:RA:1228:G:C8	2.56	0.40
24:RA:1362:U:H2'	24:RA:1363:A:H8	1.85	0.40
24:RA:1471:G:H2'	24:RA:1472:G:C8	2.57	0.40
24:RA:1712:A:O2'	24:RA:1713:G:C5'	2.69	0.40
24:RA:1782:C:H2'	24:RA:1783:C:C6	2.57	0.40
30:RH:9:ILE:N	30:RH:69:ARG:HH21	2.19	0.40
36:RR:104:ARG:HG3	36:RR:107:ASP:HB3	2.03	0.40
41:RW:71:VAL:HA	41:RW:107:LEU:HD23	2.03	0.40
44:RZ:19:ARG:NH1	44:RZ:84:GLU:O	2.54	0.40
44:RZ:23:LYS:NZ	44:RZ:40:ASP:OD2	2.54	0.40
45:R0:65:GLY:HA3	45:R0:83:PRO:HA	2.04	0.40
47:R2:29:LYS:HE3	47:R2:57:ILE:HG21	2.04	0.40
52:R7:29:LYS:HB3	52:R7:29:LYS:HE2	1.86	0.40
1:XA:446:G:H2'	1:XA:447:G:O4'	2.21	0.40
1:XA:992:U:O2'	1:XA:993:G:OP2	2.34	0.40
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.57	0.40
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.86	0.40
2:XB:187:LEU:HA	2:XB:201:ILE:HB	2.04	0.40
3:XC:184:TYR:HE1	3:XC:199:LYS:HB3	1.87	0.40
24:YA:869:U:H2'	24:YA:870:G:C8	2.57	0.40
24:YA:903:C:HO2'	24:YA:904:C:P	2.44	0.40
24:YA:1074:A:N6	24:YA:1171:G:H2'	2.36	0.40
24:YA:2087:C:H2'	24:YA:2088:C:C6	2.56	0.40
24:YA:2748:G:H2'	24:YA:2749:G:C8	2.57	0.40
25:YB:85:G:H1	25:YB:92:G:N2	2.17	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YI:44:LEU:HD23	31:YI:44:LEU:HA	1.92	0.40
1:QA:678:U:H2'	1:QA:679:C:C6	2.56	0.40
1:QA:782:A:H62	1:QA:800:G:N2	2.19	0.40
1:QA:945:G:N2	1:QA:1334:G:O2'	2.55	0.40
1:QA:950:U:H3	1:QA:1231:G:H1	1.69	0.40
1:QA:1228:C:H2'	1:QA:1229:A:H8	1.86	0.40
1:QA:1322:C:OP1	1:QA:1322:C:H6	2.03	0.40
1:QA:1526:G:O2'	1:QA:1527:C:H5'	2.22	0.40
4:QD:68:TYR:OH	4:QD:98:GLU:OE1	2.37	0.40
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	2.02	0.40
24:RA:552:C:N3	24:RA:2792:U:H5"	2.37	0.40
24:RA:599:U:H2'	24:RA:600:G:C8	2.56	0.40
24:RA:1400:A:OP1	26:RD:38:LYS:NZ	2.45	0.40
24:RA:1475:G:H2'	24:RA:1476:C:C6	2.56	0.40
24:RA:2506:G:OP1	45:R0:3:HIS:N	2.54	0.40
35:RQ:141:GLN:OXT	44:RZ:99:TYR:OH	2.32	0.40
1:XA:225:C:H2'	1:XA:226:G:H8	1.87	0.40
1:XA:429:U:H1'	1:XA:430:A:H5"	2.04	0.40
1:XA:601:C:H2'	1:XA:602:A:H8	1.85	0.40
24:YA:229:G:OP2	24:YA:230:A:O2'	2.25	0.40
24:YA:798:A:H5'	41:YW:90:ARG:HG2	2.04	0.40
24:YA:1285:G:H2'	24:YA:1286:U:O4'	2.21	0.40
24:YA:1384:G:N7	42:YX:62:LYS:NZ	2.56	0.40
24:YA:1507:A:HO2'	24:YA:1508:G:P	2.45	0.40
24:YA:1800:G:O2'	24:YA:1980:C:OP1	2.31	0.40
39:YU:8:VAL:HG23	39:YU:11:ARG:HH21	1.85	0.40

All (5) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RI:91:SER:OG	1:XA:368:U:OP1[4_555]	2.00	0.20
24:RA:331:G:OP2	47:Y2:17:SER:CA[3_555]	2.01	0.19
24:RA:331:G:OP2	47:Y2:17:SER:CB[3_555]	2.10	0.10
31:RI:89:TYR:O	1:XA:357:G:O2'[4_555]	2.10	0.10
24:RA:2158:C:O2'	1:XA:1042:G:O2'[4_555]	2.13	0.07

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	QB	233/256 (91%)	205 (88%)	28 (12%)	0	100	100
2	XB	234/256 (91%)	207 (88%)	27 (12%)	0	100	100
3	QC	203/239 (85%)	186 (92%)	17 (8%)	0	100	100
3	XC	203/239 (85%)	182 (90%)	21 (10%)	0	100	100
4	QD	206/209 (99%)	198 (96%)	8 (4%)	0	100	100
4	XD	206/209 (99%)	191 (93%)	12 (6%)	3 (2%)	10	44
5	QE	149/162 (92%)	140 (94%)	9 (6%)	0	100	100
5	XE	149/162 (92%)	140 (94%)	9 (6%)	0	100	100
6	QF	99/101 (98%)	97 (98%)	2 (2%)	0	100	100
6	XF	99/101 (98%)	97 (98%)	2 (2%)	0	100	100
7	QG	153/156 (98%)	150 (98%)	3 (2%)	0	100	100
7	XG	153/156 (98%)	143 (94%)	10 (6%)	0	100	100
8	QH	135/138 (98%)	131 (97%)	4 (3%)	0	100	100
8	XH	135/138 (98%)	129 (96%)	6 (4%)	0	100	100
9	QI	125/128 (98%)	115 (92%)	10 (8%)	0	100	100
9	XI	124/128 (97%)	107 (86%)	17 (14%)	0	100	100
10	QJ	97/105 (92%)	88 (91%)	9 (9%)	0	100	100
10	XJ	94/105 (90%)	88 (94%)	6 (6%)	0	100	100
11	QK	117/129 (91%)	101 (86%)	16 (14%)	0	100	100
11	XK	114/129 (88%)	102 (90%)	12 (10%)	0	100	100
12	QL	123/132 (93%)	110 (89%)	13 (11%)	0	100	100
12	XL	120/132 (91%)	100 (83%)	20 (17%)	0	100	100
13	QM	118/126 (94%)	102 (86%)	16 (14%)	0	100	100
13	XM	117/126 (93%)	99 (85%)	17 (14%)	1 (1%)	17	56
14	QN	58/61 (95%)	51 (88%)	7 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
14	XN	58/61 (95%)	50 (86%)	8 (14%)	0	100	100
15	QO	86/89 (97%)	83 (96%)	3 (4%)	0	100	100
15	XO	85/89 (96%)	84 (99%)	1 (1%)	0	100	100
16	QP	82/88 (93%)	79 (96%)	3 (4%)	0	100	100
16	XP	82/88 (93%)	74 (90%)	8 (10%)	0	100	100
17	QQ	98/105 (93%)	91 (93%)	7 (7%)	0	100	100
17	XQ	98/105 (93%)	93 (95%)	5 (5%)	0	100	100
18	QR	68/88 (77%)	63 (93%)	5 (7%)	0	100	100
18	XR	68/88 (77%)	65 (96%)	3 (4%)	0	100	100
19	QS	81/93 (87%)	71 (88%)	10 (12%)	0	100	100
19	XS	82/93 (88%)	71 (87%)	11 (13%)	0	100	100
20	QT	97/106 (92%)	90 (93%)	7 (7%)	0	100	100
20	XT	97/106 (92%)	91 (94%)	6 (6%)	0	100	100
21	QU	23/27 (85%)	22 (96%)	1 (4%)	0	100	100
21	XU	23/27 (85%)	23 (100%)	0	0	100	100
26	RD	272/276 (99%)	259 (95%)	13 (5%)	0	100	100
26	YD	272/276 (99%)	253 (93%)	19 (7%)	0	100	100
27	RE	203/206 (98%)	187 (92%)	16 (8%)	0	100	100
27	YE	202/206 (98%)	189 (94%)	13 (6%)	0	100	100
28	RF	200/210 (95%)	186 (93%)	14 (7%)	0	100	100
28	YF	200/210 (95%)	185 (92%)	15 (8%)	0	100	100
29	RG	179/182 (98%)	155 (87%)	24 (13%)	0	100	100
29	YG	179/182 (98%)	151 (84%)	27 (15%)	1 (1%)	25	64
30	RH	172/180 (96%)	142 (83%)	29 (17%)	1 (1%)	25	64
30	YH	171/180 (95%)	163 (95%)	8 (5%)	0	100	100
31	RI	144/148 (97%)	124 (86%)	20 (14%)	0	100	100
31	YI	144/148 (97%)	120 (83%)	24 (17%)	0	100	100
32	RN	136/140 (97%)	119 (88%)	17 (12%)	0	100	100
32	YN	138/140 (99%)	126 (91%)	12 (9%)	0	100	100
33	RO	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
33	YO	120/122 (98%)	114 (95%)	6 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
34	RP	147/150 (98%)	142 (97%)	5 (3%)	0	100	100
34	YP	145/150 (97%)	138 (95%)	6 (4%)	1 (1%)	22	61
35	RQ	139/141 (99%)	116 (84%)	22 (16%)	1 (1%)	22	61
35	YQ	139/141 (99%)	136 (98%)	3 (2%)	0	100	100
36	RR	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	17	56
36	YR	115/118 (98%)	108 (94%)	7 (6%)	0	100	100
37	RS	109/112 (97%)	89 (82%)	20 (18%)	0	100	100
37	YS	108/112 (96%)	105 (97%)	3 (3%)	0	100	100
38	RT	135/146 (92%)	119 (88%)	14 (10%)	2 (2%)	10	44
38	YT	135/146 (92%)	120 (89%)	13 (10%)	2 (2%)	10	44
39	RU	115/118 (98%)	103 (90%)	12 (10%)	0	100	100
39	YU	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17	56
40	RV	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
40	YV	99/101 (98%)	94 (95%)	5 (5%)	0	100	100
41	RW	111/113 (98%)	106 (96%)	5 (4%)	0	100	100
41	YW	111/113 (98%)	104 (94%)	7 (6%)	0	100	100
42	RX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
42	YX	92/96 (96%)	90 (98%)	2 (2%)	0	100	100
43	RY	105/110 (96%)	100 (95%)	5 (5%)	0	100	100
43	YY	105/110 (96%)	97 (92%)	8 (8%)	0	100	100
44	RZ	181/206 (88%)	143 (79%)	38 (21%)	0	100	100
44	YZ	181/206 (88%)	176 (97%)	4 (2%)	1 (1%)	25	64
45	R0	79/85 (93%)	76 (96%)	3 (4%)	0	100	100
45	Y0	73/85 (86%)	70 (96%)	3 (4%)	0	100	100
46	R1	95/98 (97%)	84 (88%)	11 (12%)	0	100	100
46	Y1	91/98 (93%)	84 (92%)	7 (8%)	0	100	100
47	R2	67/72 (93%)	65 (97%)	2 (3%)	0	100	100
47	Y2	64/72 (89%)	61 (95%)	3 (5%)	0	100	100
48	R3	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
48	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
49	R4	67/71 (94%)	54 (81%)	13 (19%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
49	Y4	67/71 (94%)	55 (82%)	12 (18%)	0	100 100
50	R5	57/60 (95%)	54 (95%)	3 (5%)	0	100 100
50	Y5	57/60 (95%)	54 (95%)	3 (5%)	0	100 100
51	R6	51/54 (94%)	51 (100%)	0	0	100 100
51	Y6	51/54 (94%)	50 (98%)	1 (2%)	0	100 100
52	R7	45/49 (92%)	44 (98%)	1 (2%)	0	100 100
52	Y7	46/49 (94%)	45 (98%)	1 (2%)	0	100 100
53	R8	62/65 (95%)	49 (79%)	13 (21%)	0	100 100
53	Y8	62/65 (95%)	53 (86%)	8 (13%)	1 (2%)	9 43
54	R9	35/37 (95%)	35 (100%)	0	0	100 100
54	Y9	35/37 (95%)	34 (97%)	1 (3%)	0	100 100
All	All	11453/12128 (94%)	10502 (92%)	935 (8%)	16 (0%)	51 83

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
36	RR	4	LEU
4	XD	31	CYS
44	YZ	52	SER
38	RT	123	GLN
38	RT	124	ASP
4	XD	32	ALA
38	YT	123	GLN
38	YT	124	ASP
29	YG	81	LYS
34	YP	36	LYS
13	XM	14	ARG
39	YU	93	LYS
35	RQ	78	PRO
4	XD	33	MET
30	RH	86	GLU
53	Y8	63	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	203/220 (92%)	202 (100%)	1 (0%)	88	95
2	XB	204/220 (93%)	203 (100%)	1 (0%)	88	95
3	QC	159/188 (85%)	159 (100%)	0	100	100
3	XC	159/188 (85%)	159 (100%)	0	100	100
4	QD	180/181 (99%)	179 (99%)	1 (1%)	86	94
4	XD	180/181 (99%)	172 (96%)	8 (4%)	28	64
5	QE	116/123 (94%)	114 (98%)	2 (2%)	60	83
5	XE	116/123 (94%)	113 (97%)	3 (3%)	46	76
6	QF	90/90 (100%)	90 (100%)	0	100	100
6	XF	90/90 (100%)	89 (99%)	1 (1%)	73	88
7	QG	126/127 (99%)	123 (98%)	3 (2%)	49	77
7	XG	126/127 (99%)	124 (98%)	2 (2%)	62	84
8	QH	118/119 (99%)	118 (100%)	0	100	100
8	XH	118/119 (99%)	118 (100%)	0	100	100
9	QI	98/99 (99%)	98 (100%)	0	100	100
9	XI	97/99 (98%)	97 (100%)	0	100	100
10	QJ	89/92 (97%)	88 (99%)	1 (1%)	73	88
10	XJ	86/92 (94%)	86 (100%)	0	100	100
11	QK	90/99 (91%)	89 (99%)	1 (1%)	73	88
11	XK	88/99 (89%)	88 (100%)	0	100	100
12	QL	104/109 (95%)	104 (100%)	0	100	100
12	XL	103/109 (94%)	103 (100%)	0	100	100
13	QM	96/101 (95%)	94 (98%)	2 (2%)	53	79
13	XM	95/101 (94%)	95 (100%)	0	100	100
14	QN	49/50 (98%)	47 (96%)	2 (4%)	30	66
14	XN	49/50 (98%)	48 (98%)	1 (2%)	55	80
15	QO	79/80 (99%)	78 (99%)	1 (1%)	69	87
15	XO	79/80 (99%)	79 (100%)	0	100	100
16	QP	72/74 (97%)	71 (99%)	1 (1%)	67	86
16	XP	72/74 (97%)	72 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
17	QQ	95/97 (98%)	94 (99%)	1 (1%)	73 88
17	XQ	95/97 (98%)	95 (100%)	0	100 100
18	QR	61/77 (79%)	61 (100%)	0	100 100
18	XR	61/77 (79%)	61 (100%)	0	100 100
19	QS	72/80 (90%)	72 (100%)	0	100 100
19	XS	73/80 (91%)	73 (100%)	0	100 100
20	QT	76/82 (93%)	76 (100%)	0	100 100
20	XT	76/82 (93%)	76 (100%)	0	100 100
21	QU	20/22 (91%)	20 (100%)	0	100 100
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24 60
26	RD	216/218 (99%)	216 (100%)	0	100 100
26	YD	216/218 (99%)	214 (99%)	2 (1%)	78 91
27	RE	165/166 (99%)	164 (99%)	1 (1%)	86 94
27	YE	165/166 (99%)	164 (99%)	1 (1%)	86 94
28	RF	161/166 (97%)	161 (100%)	0	100 100
28	YF	161/166 (97%)	160 (99%)	1 (1%)	86 94
29	RG	155/156 (99%)	153 (99%)	2 (1%)	69 87
29	YG	155/156 (99%)	155 (100%)	0	100 100
30	RH	145/148 (98%)	145 (100%)	0	100 100
30	YH	144/148 (97%)	142 (99%)	2 (1%)	67 86
31	RI	122/124 (98%)	121 (99%)	1 (1%)	81 93
31	YI	122/124 (98%)	121 (99%)	1 (1%)	81 93
32	RN	117/119 (98%)	116 (99%)	1 (1%)	78 91
32	YN	119/119 (100%)	119 (100%)	0	100 100
33	RO	100/100 (100%)	98 (98%)	2 (2%)	55 80
33	YO	100/100 (100%)	100 (100%)	0	100 100
34	RP	116/116 (100%)	115 (99%)	1 (1%)	78 91
34	YP	114/116 (98%)	113 (99%)	1 (1%)	78 91
35	RQ	111/111 (100%)	108 (97%)	3 (3%)	44 75
35	YQ	111/111 (100%)	111 (100%)	0	100 100
36	RR	100/101 (99%)	99 (99%)	1 (1%)	76 90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	YR	100/101 (99%)	100 (100%)	0	100	100
37	RS	87/88 (99%)	87 (100%)	0	100	100
37	YS	87/88 (99%)	87 (100%)	0	100	100
38	RT	120/127 (94%)	120 (100%)	0	100	100
38	YT	120/127 (94%)	119 (99%)	1 (1%)	81	93
39	RU	93/94 (99%)	92 (99%)	1 (1%)	73	88
39	YU	93/94 (99%)	91 (98%)	2 (2%)	52	79
40	RV	82/82 (100%)	82 (100%)	0	100	100
40	YV	82/82 (100%)	79 (96%)	3 (4%)	34	68
41	RW	92/92 (100%)	91 (99%)	1 (1%)	73	88
41	YW	92/92 (100%)	92 (100%)	0	100	100
42	RX	74/78 (95%)	74 (100%)	0	100	100
42	YX	76/78 (97%)	76 (100%)	0	100	100
43	RY	88/91 (97%)	87 (99%)	1 (1%)	73	88
43	YY	88/91 (97%)	87 (99%)	1 (1%)	73	88
44	RZ	162/179 (90%)	162 (100%)	0	100	100
44	YZ	162/179 (90%)	162 (100%)	0	100	100
45	R0	65/67 (97%)	63 (97%)	2 (3%)	40	72
45	Y0	61/67 (91%)	60 (98%)	1 (2%)	62	84
46	R1	82/83 (99%)	82 (100%)	0	100	100
46	Y1	78/83 (94%)	78 (100%)	0	100	100
47	R2	64/67 (96%)	64 (100%)	0	100	100
47	Y2	62/67 (92%)	62 (100%)	0	100	100
48	R3	51/52 (98%)	50 (98%)	1 (2%)	55	80
48	Y3	51/52 (98%)	50 (98%)	1 (2%)	55	80
49	R4	62/63 (98%)	62 (100%)	0	100	100
49	Y4	62/63 (98%)	61 (98%)	1 (2%)	62	84
50	R5	51/52 (98%)	51 (100%)	0	100	100
50	Y5	51/52 (98%)	51 (100%)	0	100	100
51	R6	51/52 (98%)	51 (100%)	0	100	100
51	Y6	51/52 (98%)	50 (98%)	1 (2%)	55	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
52	R7	40/42 (95%)	40 (100%)	0	100 100
52	Y7	41/42 (98%)	41 (100%)	0	100 100
53	R8	54/55 (98%)	53 (98%)	1 (2%)	57 81
53	Y8	54/55 (98%)	53 (98%)	1 (2%)	57 81
54	R9	34/34 (100%)	34 (100%)	0	100 100
54	Y9	34/34 (100%)	34 (100%)	0	100 100
All	All	9692/10066 (96%)	9620 (99%)	72 (1%)	84 94

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	226	ARG
4	QD	64	LEU
5	QE	24	ARG
5	QE	51	VAL
7	QG	36	LYS
7	QG	94	ARG
7	QG	155	ARG
10	QJ	62	HIS
11	QK	12	ARG
13	QM	15	VAL
13	QM	80	ARG
14	QN	27	CYS
14	QN	33	VAL
15	QO	88	ARG
16	QP	21	VAL
17	QQ	101	ARG
27	RE	57	LYS
29	RG	33	ARG
29	RG	155	MET
31	RI	93	THR
32	RN	96	GLU
33	RO	24	VAL
33	RO	64	ARG
34	RP	50	ARG
35	RQ	21	THR
35	RQ	58	PHE
35	RQ	87	LYS
36	RR	2	ARG
39	RU	91	ASP

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Mol	Chain	Res	Type
41	RW	92	ARG
43	RY	21	LYS
45	R0	14	ARG
45	R0	64	ASP
48	R3	30	ARG
53	R8	31	HIS
2	XB	178	ARG
4	XD	18	LYS
4	XD	20	TYR
4	XD	22	LYS
4	XD	31	CYS
4	XD	33	MET
4	XD	67	ILE
4	XD	106	TYR
4	XD	196	LEU
5	XE	24	ARG
5	XE	51	VAL
5	XE	63	ARG
6	XF	80	ARG
7	XG	50	ILE
7	XG	94	ARG
14	XN	27	CYS
21	XU	8	THR
26	YD	183	ARG
26	YD	264	LYS
27	YE	75	VAL
28	YF	8	GLN
30	YH	47	GLU
30	YH	49	VAL
31	YI	118	LYS
34	YP	15	ARG
38	YT	51	ARG
39	YU	91	ASP
39	YU	117	GLN
40	YV	72	VAL
40	YV	79	VAL
40	YV	80	GLN
43	YY	54	LYS
45	Y0	14	ARG
48	Y3	30	ARG
49	Y4	56	VAL
51	Y6	9	LEU

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Mol	Chain	Res	Type
53	Y8	42	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
4	QD	119	GLN
4	QD	123	HIS
18	QR	36	ASN
19	QS	47	HIS
26	RD	253	GLN
30	RH	74	ASN
33	RO	3	GLN
38	RT	58	ASN
45	R0	35	ASN
53	R8	31	HIS
7	XG	51	GLN
10	XJ	33	GLN
26	YD	201	HIS
27	YE	129	HIS
28	YF	40	GLN
29	YG	132	ASN
43	YY	92	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1521 (98%)	289 (19%)	39 (2%)
1	XA	1499/1521 (98%)	271 (18%)	33 (2%)
22	QV	76/77 (98%)	22 (28%)	1 (1%)
22	XV	76/77 (98%)	18 (23%)	1 (1%)
23	QX	18/19 (94%)	7 (38%)	1 (5%)
23	XX	18/19 (94%)	6 (33%)	0
24	RA	2877/2915 (98%)	591 (20%)	37 (1%)
24	YA	2880/2915 (98%)	551 (19%)	43 (1%)
25	RB	119/122 (97%)	18 (15%)	1 (0%)
25	YB	119/122 (97%)	21 (17%)	1 (0%)
All	All	9181/9308 (98%)	1794 (19%)	157 (1%)

All (1794) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	9	G
1	QA	32	A
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	76	G
1	QA	78	G
1	QA	82	U
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	108	G
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	129(B)	G
1	QA	144	G
1	QA	146	G
1	QA	158	G
1	QA	161	A
1	QA	162	A
1	QA	163	C
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	182	U
1	QA	187	C
1	QA	189	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G

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Mol	Chain	Res	Type
1	QA	220	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A
1	QA	251	G
1	QA	262	A
1	QA	267	C
1	QA	270	A
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	330	C
1	QA	332	G
1	QA	343	U
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	389	A
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U

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Mol	Chain	Res	Type
1	QA	430	A
1	QA	435	C
1	QA	439	A
1	QA	442	C
1	QA	465	A
1	QA	466	C
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	508	C
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	521	G
1	QA	527	G
1	QA	532	A
1	QA	533	A
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	564	C
1	QA	566	G
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	596	C
1	QA	630	G
1	QA	631	G
1	QA	633	G
1	QA	653	A
1	QA	657	G
1	QA	665	A
1	QA	686	U
1	QA	688	G
1	QA	693	G
1	QA	701	C

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Mol	Chain	Res	Type
1	QA	702	A
1	QA	704	A
1	QA	722	A
1	QA	731	G
1	QA	748	C
1	QA	754	C
1	QA	755	G
1	QA	760	G
1	QA	785	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	817	C
1	QA	819	A
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	871	U
1	QA	872	A
1	QA	873	A
1	QA	902	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	966	G
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	982	U

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Mol	Chain	Res	Type
1	QA	983	A
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1004	A
1	QA	1005	A
1	QA	1006	C
1	QA	1008	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1027	C
1	QA	1028(A)	C
1	QA	1028(B)	C
1	QA	1028(C)	C
1	QA	1029	G
1	QA	1030	C
1	QA	1031	G
1	QA	1032(B)	G
1	QA	1033	G
1	QA	1034	G
1	QA	1035	A
1	QA	1036	G
1	QA	1040	U
1	QA	1042	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1067	A
1	QA	1080	A
1	QA	1081	G
1	QA	1094	G
1	QA	1101	A
1	QA	1108	G
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1129	C
1	QA	1130	A

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Mol	Chain	Res	Type
1	QA	1131	G
1	QA	1135	U
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1144	G
1	QA	1146	A
1	QA	1157	A
1	QA	1159	U
1	QA	1178	G
1	QA	1181	G
1	QA	1184	G
1	QA	1196	U
1	QA	1201	A
1	QA	1202	G
1	QA	1211	U
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1227	A
1	QA	1228	C
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	1280	A
1	QA	1281	U
1	QA	1285	A
1	QA	1286	A
1	QA	1287	A
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

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Mol	Chain	Res	Type
1	QA	1312	G
1	QA	1320	C
1	QA	1321	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1362(B)	C
1	QA	1370	G
1	QA	1397	C
1	QA	1398	A
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1487	G
1	QA	1492	A
1	QA	1494	G
1	QA	1499	A
1	QA	1502	A
1	QA	1504	G
1	QA	1506	U
1	QA	1517	G
1	QA	1520	G
1	QA	1528	U
1	QA	1529	G
1	QA	1530	G
22	QV	2	G
22	QV	4	U
22	QV	5	G
22	QV	8	U
22	QV	16	C
22	QV	17	C

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Mol	Chain	Res	Type
22	QV	18	U
22	QV	19	G
22	QV	20	G
22	QV	21(A)	U
22	QV	21(B)	A
22	QV	38	A
22	QV	42	A
22	QV	46	G
22	QV	48	C
22	QV	50	G
22	QV	54	U
22	QV	59	A
22	QV	67	U
22	QV	69	A
22	QV	75	C
22	QV	76	A
23	QX	7	G
23	QX	10	G
23	QX	11	U
23	QX	12	A
23	QX	13	A
23	QX	18	G
23	QX	19	G
24	RA	9	U
24	RA	15	G
24	RA	34	C
24	RA	35	G
24	RA	45	C
24	RA	50	G
24	RA	54	G
24	RA	60	G
24	RA	71	U
24	RA	72	A
24	RA	73	A
24	RA	74	G
24	RA	82	G
24	RA	89	U
24	RA	99	G
24	RA	101	A
24	RA	116	A
24	RA	118	U
24	RA	129	G

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Mol	Chain	Res	Type
24	RA	139	A
24	RA	156	U
24	RA	166	G
24	RA	170	A
24	RA	185	A
24	RA	188	A
24	RA	193	A
24	RA	204	G
24	RA	205	A
24	RA	210	A
24	RA	211	A
24	RA	212	A
24	RA	218	A
24	RA	219	U
24	RA	222	A
24	RA	234	G
24	RA	237	G
24	RA	238	C
24	RA	241	G
24	RA	271	U
24	RA	272	U
24	RA	273	G
24	RA	275	C
24	RA	288	U
24	RA	299	G
24	RA	300	A
24	RA	301	C
24	RA	323	A
24	RA	331	G
24	RA	332	G
24	RA	333	G
24	RA	335	A
24	RA	347	G
24	RA	348	A
24	RA	353	G
24	RA	354	A
24	RA	370	A
24	RA	376	G
24	RA	393	A
24	RA	394	C
24	RA	398	A
24	RA	399	G

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Mol	Chain	Res	Type
24	RA	400	U
24	RA	413	G
24	RA	422	U
24	RA	432	U
24	RA	433	G
24	RA	434	G
24	RA	438	G
24	RA	439	A
24	RA	448	U
24	RA	455	A
24	RA	470	C
24	RA	474	U
24	RA	480	A
24	RA	481	C
24	RA	482	C
24	RA	483	A
24	RA	496	A
24	RA	507	G
24	RA	526	A
24	RA	529	U
24	RA	530	A
24	RA	534	C
24	RA	538	A
24	RA	552	C
24	RA	554	A
24	RA	556	C
24	RA	557	A
24	RA	558	G
24	RA	562	C
24	RA	563	G
24	RA	564	G
24	RA	569	G
24	RA	570	C
24	RA	571	A
24	RA	573	G
24	RA	586	G
24	RA	596	G
24	RA	597	C
24	RA	598	A
24	RA	611	U
24	RA	626	A
24	RA	630	U

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Mol	Chain	Res	Type
24	RA	638	U
24	RA	639	G
24	RA	641	G
24	RA	646	A
24	RA	651	U
24	RA	652	A
24	RA	656	A
24	RA	662	A
24	RA	663	G
24	RA	670	C
24	RA	671	A
24	RA	676	G
24	RA	677	C
24	RA	679	A
24	RA	680	G
24	RA	705	C
24	RA	717	A
24	RA	733	G
24	RA	749	G
24	RA	764	G
24	RA	769	A
24	RA	773	G
24	RA	777	C
24	RA	800	C
24	RA	811	A
24	RA	812	G
24	RA	823	G
24	RA	829	A
24	RA	830	A
24	RA	831	A
24	RA	832	G
24	RA	837	C
24	RA	838	C
24	RA	839	G
24	RA	852	G
24	RA	858	U
24	RA	859	C
24	RA	866	A
24	RA	874	U
24	RA	875	U
24	RA	878	G
24	RA	894	U

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Mol	Chain	Res	Type
24	RA	903	C
24	RA	904	C
24	RA	906	G
24	RA	916	G
24	RA	929	G
24	RA	931	C
24	RA	932	C
24	RA	933	C
24	RA	934	A
24	RA	935	C
24	RA	936	C
24	RA	939	C
24	RA	942	A
24	RA	943	C
24	RA	944	C
24	RA	946	A
24	RA	947	A
24	RA	953	U
24	RA	956	A
24	RA	963	A
24	RA	977	G
24	RA	983	G
24	RA	986	A
24	RA	990	A
24	RA	991	G
24	RA	1002	A
24	RA	1004	A
24	RA	1006	C
24	RA	1018	A
24	RA	1019	G
24	RA	1020	C
24	RA	1026	A
24	RA	1029	A
24	RA	1036	A
24	RA	1042	A
24	RA	1049	G
24	RA	1051	C
24	RA	1058	U
24	RA	1059	C
24	RA	1068	G
24	RA	1069	U
24	RA	1071	G

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Mol	Chain	Res	Type
24	RA	1072	U
24	RA	1073	A
24	RA	1079	U
24	RA	1086	C
24	RA	1088	G
24	RA	1090	G
24	RA	1091	A
24	RA	1092	A
24	RA	1093	G
24	RA	1099	C
24	RA	1100	A
24	RA	1103	A
24	RA	1104	G
24	RA	1105	G
24	RA	1106	U
24	RA	1109	G
24	RA	1110	C
24	RA	1111	U
24	RA	1112	U
24	RA	1113	A
24	RA	1114	G
24	RA	1116	A
24	RA	1117	G
24	RA	1119	A
24	RA	1120	G
24	RA	1121	C
24	RA	1122	C
24	RA	1124	U
24	RA	1125	C
24	RA	1126	C
24	RA	1128	U
24	RA	1129	U
24	RA	1130	A
24	RA	1131	A
24	RA	1132	A
24	RA	1134	A
24	RA	1136	U
24	RA	1137	G
24	RA	1138	C
24	RA	1140	U
24	RA	1142	A
24	RA	1143	U

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Mol	Chain	Res	Type
24	RA	1155	C
24	RA	1157	A
24	RA	1158	G
24	RA	1168	G
24	RA	1172	A
24	RA	1175	A
24	RA	1176	U
24	RA	1180	C
24	RA	1181	G
24	RA	1188	A
24	RA	1197	G
24	RA	1214	G
24	RA	1218	G
24	RA	1219	A
24	RA	1220	U
24	RA	1221	G
24	RA	1222	A
24	RA	1223	C
24	RA	1224	C
24	RA	1226	C
24	RA	1240	G
24	RA	1249	A
24	RA	1250	U
24	RA	1255	A
24	RA	1256	U
24	RA	1265	A
24	RA	1282	G
24	RA	1283	A
24	RA	1284	G
24	RA	1296	G
24	RA	1299	A
24	RA	1302	G
24	RA	1311	A
24	RA	1318	A
24	RA	1319	U
24	RA	1332	A
24	RA	1346	U
24	RA	1347	A
24	RA	1358	U
24	RA	1359	U
24	RA	1360	C
24	RA	1367	A

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Mol	Chain	Res	Type
24	RA	1375	U
24	RA	1395	A
24	RA	1398	U
24	RA	1411	A
24	RA	1416	C
24	RA	1424	A
24	RA	1425	A
24	RA	1430	A
24	RA	1431	G
24	RA	1432	C
24	RA	1438	A
24	RA	1441	A
24	RA	1453	C
24	RA	1454	C
24	RA	1457	C
24	RA	1462	G
24	RA	1465	A
24	RA	1466	U
24	RA	1467	G
24	RA	1474	C
24	RA	1491	A
24	RA	1492	C
24	RA	1496	A
24	RA	1497	G
24	RA	1502	G
24	RA	1505	C
24	RA	1507	A
24	RA	1508	G
24	RA	1518	A
24	RA	1527	G
24	RA	1528	U
24	RA	1529	G
24	RA	1531	G
24	RA	1533	G
24	RA	1539	C
24	RA	1540	A
24	RA	1543	U
24	RA	1550	C
24	RA	1553	A
24	RA	1554	A
24	RA	1556	A
24	RA	1557	A

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Mol	Chain	Res	Type
24	RA	1559	C
24	RA	1560	U
24	RA	1561	C
24	RA	1565	G
24	RA	1568	G
24	RA	1574	A
24	RA	1580	G
24	RA	1581	U
24	RA	1582	A
24	RA	1583	C
24	RA	1584	G
24	RA	1589	A
24	RA	1590	C
24	RA	1591	A
24	RA	1593	C
24	RA	1594	C
24	RA	1605	A
24	RA	1606	G
24	RA	1607	G
24	RA	1613	A
24	RA	1616	A
24	RA	1625	U
24	RA	1627	A
24	RA	1630	A
24	RA	1632	A
24	RA	1633	A
24	RA	1643	A
24	RA	1644	C
24	RA	1649	A
24	RA	1650	C
24	RA	1654	A
24	RA	1655	A
24	RA	1656	A
24	RA	1662	A
24	RA	1663	C
24	RA	1695	C
24	RA	1701	A
24	RA	1707	C
24	RA	1713	G
24	RA	1714	G
24	RA	1715	A
24	RA	1721	G

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Mol	Chain	Res	Type
24	RA	1763	G
24	RA	1766	G
24	RA	1767	A
24	RA	1768	U
24	RA	1769	G
24	RA	1771	G
24	RA	1775	C
24	RA	1776	G
24	RA	1781	G
24	RA	1787	G
24	RA	1793	A
24	RA	1794	G
24	RA	1795	G
24	RA	1804	A
24	RA	1807	G
24	RA	1811	A
24	RA	1812	C
24	RA	1813	C
24	RA	1822	A
24	RA	1830	G
24	RA	1831	C
24	RA	1832	G
24	RA	1847	G
24	RA	1851	U
24	RA	1866	G
24	RA	1878	A
24	RA	1879	A
24	RA	1889	G
24	RA	1896	G
24	RA	1897	C
24	RA	1899	A
24	RA	1900	G
24	RA	1904	C
24	RA	1910	G
24	RA	1911	A
24	RA	1921	G
24	RA	1925	G
24	RA	1928	G
24	RA	1935	A
24	RA	1949	A
24	RA	1951	G
24	RA	1952	G

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Mol	Chain	Res	Type
24	RA	1958	A
24	RA	1960	A
24	RA	1961	U
24	RA	1977	U
24	RA	1985	U
24	RA	1989	C
24	RA	1991	A
24	RA	1992	A
24	RA	1993	A
24	RA	1994	A
24	RA	2004	C
24	RA	2013	U
24	RA	2014	G
24	RA	2015	U
24	RA	2018	C
24	RA	2045	G
24	RA	2053	A
24	RA	2055	A
24	RA	2056	U
24	RA	2065	C
24	RA	2077	C
24	RA	2078	G
24	RA	2081	A
24	RA	2082	A
24	RA	2083	G
24	RA	2084	A
24	RA	2085	C
24	RA	2091	G
24	RA	2115	G
24	RA	2123	G
24	RA	2125	C
24	RA	2126	G
24	RA	2133	C
24	RA	2135	U
24	RA	2136	A
24	RA	2137	G
24	RA	2138	G
24	RA	2139	A
24	RA	2146	G
24	RA	2148	A
24	RA	2149	G
24	RA	2150	C

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Mol	Chain	Res	Type
24	RA	2153	G
24	RA	2154	U
24	RA	2155	G
24	RA	2157	A
24	RA	2158	C
24	RA	2159	C
24	RA	2160	C
24	RA	2167	C
24	RA	2168	C
24	RA	2169	G
24	RA	2170	G
24	RA	2179	G
24	RA	2180	A
24	RA	2183	C
24	RA	2188	G
24	RA	2191	A
24	RA	2192	A
24	RA	2195	A
24	RA	2196	C
24	RA	2199	C
24	RA	2200	C
24	RA	2211	U
24	RA	2212	G
24	RA	2213	G
24	RA	2220	A
24	RA	2227	G
24	RA	2228	G
24	RA	2229	A
24	RA	2230	U
24	RA	2233	G
24	RA	2234	G
24	RA	2237	A
24	RA	2250	G
24	RA	2251	G
24	RA	2255	U
24	RA	2278	A
24	RA	2287	C
24	RA	2290	A
24	RA	2292	G
24	RA	2295	C
24	RA	2299	A
24	RA	2300	A

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Mol	Chain	Res	Type
24	RA	2315	G
24	RA	2317	A
24	RA	2319	G
24	RA	2320	G
24	RA	2321	A
24	RA	2323	A
24	RA	2324	U
24	RA	2331	G
24	RA	2332	A
24	RA	2337	G
24	RA	2346	G
24	RA	2348	A
24	RA	2354	C
24	RA	2357	G
24	RA	2358	A
24	RA	2359	C
24	RA	2362	C
24	RA	2366	G
24	RA	2395	G
24	RA	2397	C
24	RA	2415	C
24	RA	2418	U
24	RA	2437	A
24	RA	2441	G
24	RA	2442	A
24	RA	2447	A
24	RA	2451	A
24	RA	2452	C
24	RA	2453	C
24	RA	2460	A
24	RA	2481	A
24	RA	2482	G
24	RA	2486	C
24	RA	2487	C
24	RA	2492	C
24	RA	2506	G
24	RA	2514	G
24	RA	2517	G
24	RA	2530	A
24	RA	2531	U
24	RA	2537	G
24	RA	2541	G

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Mol	Chain	Res	Type
24	RA	2554	A
24	RA	2555	G
24	RA	2566	U
24	RA	2576	A
24	RA	2578	A
24	RA	2579	G
24	RA	2581	G
24	RA	2584	A
24	RA	2598	C
24	RA	2614	A
24	RA	2621	U
24	RA	2623	U
24	RA	2624	C
24	RA	2627	U
24	RA	2635	G
24	RA	2641	A
24	RA	2648	U
24	RA	2653	G
24	RA	2658	C
24	RA	2667	G
24	RA	2677	A
24	RA	2685	G
24	RA	2694	U
24	RA	2701	U
24	RA	2702	C
24	RA	2703	C
24	RA	2714	U
24	RA	2715	C
24	RA	2719	G
24	RA	2725	A
24	RA	2726	A
24	RA	2727	G
24	RA	2739	U
24	RA	2746	A
24	RA	2757	G
24	RA	2771	A
24	RA	2774	G
24	RA	2775	G
24	RA	2778	A
24	RA	2791	A
24	RA	2792	U
24	RA	2793	G

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Mol	Chain	Res	Type
24	RA	2800	C
24	RA	2802	C
24	RA	2803	A
24	RA	2804	C
24	RA	2805	G
24	RA	2809	U
24	RA	2810	C
24	RA	2811	A
24	RA	2818	U
24	RA	2828	G
24	RA	2830	A
24	RA	2831	A
24	RA	2843	G
24	RA	2844	G
24	RA	2857	U
24	RA	2859	U
24	RA	2877	G
24	RA	2878	A
24	RA	2882	G
24	RA	2890	C
24	RA	2900	G
24	RA	2901	A
24	RA	2903	G
24	RA	2904	U
24	RA	2905	C
24	RA	2906	U
25	RB	8	U
25	RB	13	A
25	RB	15	A
25	RB	16	G
25	RB	19	G
25	RB	21	G
25	RB	25	A
25	RB	41	U
25	RB	42	C
25	RB	44	G
25	RB	45	A
25	RB	52	A
25	RB	56	G
25	RB	67	G
25	RB	73	A
25	RB	81	G

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Mol	Chain	Res	Type
25	RB	82	G
25	RB	109	G
1	XA	6	G
1	XA	9	G
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	51	A
1	XA	58	C
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	79	G
1	XA	89	U
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	108	G
1	XA	116	A
1	XA	121	C
1	XA	122	G
1	XA	130	A
1	XA	144	G
1	XA	147	G
1	XA	160	A
1	XA	163	C
1	XA	169	C
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	190	G
1	XA	191(A)	G
1	XA	195	A
1	XA	197	A
1	XA	208	U
1	XA	209	U
1	XA	210	U
1	XA	220	G
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G

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Mol	Chain	Res	Type
1	XA	267	C
1	XA	270	A
1	XA	281	G
1	XA	289	G
1	XA	306	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	344	A
1	XA	346	G
1	XA	347	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	359	U
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	410	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	440	A
1	XA	466	C
1	XA	467	G
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U

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Mol	Chain	Res	Type
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	521	G
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	545	C
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	596	C
1	XA	629	G
1	XA	630	G
1	XA	631	G
1	XA	632	A
1	XA	653	A
1	XA	665	A
1	XA	686	U
1	XA	688	G
1	XA	693	G
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	753	A
1	XA	754	C
1	XA	755	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	810	C

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Mol	Chain	Res	Type
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	821	G
1	XA	828	A
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	871	U
1	XA	872	A
1	XA	876	G
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	958	A
1	XA	960	U
1	XA	961	U
1	XA	968	A
1	XA	969	A
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	1003	G
1	XA	1004	A
1	XA	1006	C
1	XA	1009	G
1	XA	1020	U
1	XA	1024	G
1	XA	1025	U
1	XA	1028(A)	C
1	XA	1028(B)	C
1	XA	1029	G
1	XA	1030	C
1	XA	1031	G
1	XA	1032(A)	A

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Mol	Chain	Res	Type
1	XA	1032(B)	G
1	XA	1038	C
1	XA	1039	C
1	XA	1040	U
1	XA	1041	A
1	XA	1042	G
1	XA	1044	A
1	XA	1046	A
1	XA	1053	G
1	XA	1054	C
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1108	G
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1129	C
1	XA	1130	A
1	XA	1134	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1140	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	1162	C
1	XA	1176	A
1	XA	1177	G
1	XA	1178	G
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A

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Mol	Chain	Res	Type
1	XA	1184	G
1	XA	1196	U
1	XA	1212	U
1	XA	1213	A
1	XA	1225	A
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1260	C
1	XA	1263	C
1	XA	1270	C
1	XA	1273	G
1	XA	1275	A
1	XA	1280	A
1	XA	1281	U
1	XA	1286	A
1	XA	1287	A
1	XA	1290	G
1	XA	1298	C
1	XA	1300	G
1	XA	1301	U
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1310	G
1	XA	1311	G
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1335	C
1	XA	1336	C
1	XA	1347	G
1	XA	1362(B)	C
1	XA	1363	A
1	XA	1370	G
1	XA	1378	C
1	XA	1379	G

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Mol	Chain	Res	Type
1	XA	1394	A
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
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	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1504	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
22	XV	3	G
22	XV	4	U
22	XV	5	G
22	XV	7	U
22	XV	8	U
22	XV	18	U
22	XV	19	G
22	XV	20	G
22	XV	21(B)	A
22	XV	47	U
22	XV	48	C
22	XV	49	G
22	XV	52	G
22	XV	54	U
22	XV	64	C
22	XV	68	C
22	XV	72	G
22	XV	76	A
23	XX	7	G
23	XX	10	G
23	XX	11	U

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Mol	Chain	Res	Type
23	XX	12	A
23	XX	13	A
23	XX	19	G
24	YA	11	G
24	YA	15	G
24	YA	34	C
24	YA	45	C
24	YA	60	G
24	YA	62	U
24	YA	71	U
24	YA	73	A
24	YA	74	G
24	YA	90	A
24	YA	99	G
24	YA	100	G
24	YA	101	A
24	YA	116	A
24	YA	118	U
24	YA	123	G
24	YA	129	G
24	YA	139	A
24	YA	156	U
24	YA	157	U
24	YA	170	A
24	YA	185	A
24	YA	188	A
24	YA	205	A
24	YA	210	A
24	YA	211	A
24	YA	212	A
24	YA	217	A
24	YA	218	A
24	YA	219	U
24	YA	221	G
24	YA	231	G
24	YA	232	U
24	YA	237	G
24	YA	241	G
24	YA	258	U
24	YA	271	U
24	YA	272	U
24	YA	273	G

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Mol	Chain	Res	Type
24	YA	275	C
24	YA	287	G
24	YA	288	U
24	YA	289	G
24	YA	298	G
24	YA	300	A
24	YA	302	A
24	YA	303	C
24	YA	323	A
24	YA	335	A
24	YA	347	G
24	YA	348	A
24	YA	353	G
24	YA	354	A
24	YA	356	A
24	YA	376	G
24	YA	387	G
24	YA	392	U
24	YA	394	C
24	YA	398	A
24	YA	399	G
24	YA	400	U
24	YA	413	G
24	YA	414	U
24	YA	422	U
24	YA	432	U
24	YA	433	G
24	YA	438	G
24	YA	439	A
24	YA	455	A
24	YA	469	A
24	YA	470	C
24	YA	474	U
24	YA	480	A
24	YA	483	A
24	YA	496	A
24	YA	507	G
24	YA	529	U
24	YA	530	A
24	YA	533	G
24	YA	534	C
24	YA	535	C

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Mol	Chain	Res	Type
24	YA	537	G
24	YA	543	G
24	YA	554	A
24	YA	555	G
24	YA	556	C
24	YA	557	A
24	YA	562	C
24	YA	563	G
24	YA	564	G
24	YA	570	C
24	YA	571	A
24	YA	586	G
24	YA	594	A
24	YA	596	G
24	YA	598	A
24	YA	626	A
24	YA	630	U
24	YA	638	U
24	YA	641	G
24	YA	646	A
24	YA	647	G
24	YA	652	A
24	YA	656	A
24	YA	662	A
24	YA	663	G
24	YA	670	C
24	YA	671	A
24	YA	676	G
24	YA	679	A
24	YA	680	G
24	YA	681	C
24	YA	716	G
24	YA	717	A
24	YA	733	G
24	YA	764	G
24	YA	769	A
24	YA	773	G
24	YA	777	C
24	YA	800	C
24	YA	822	G
24	YA	823	G
24	YA	829	A

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Mol	Chain	Res	Type
24	YA	830	A
24	YA	831	A
24	YA	832	G
24	YA	837	C
24	YA	838	C
24	YA	839	G
24	YA	852	G
24	YA	858	U
24	YA	859	C
24	YA	866	A
24	YA	874	U
24	YA	875	U
24	YA	878	G
24	YA	894	U
24	YA	903	C
24	YA	904	C
24	YA	907	U
24	YA	913	A
24	YA	927	G
24	YA	928	G
24	YA	929	G
24	YA	931	C
24	YA	932	C
24	YA	933	C
24	YA	935	C
24	YA	936	C
24	YA	937	A
24	YA	942	A
24	YA	943	C
24	YA	944	C
24	YA	946	A
24	YA	947	A
24	YA	953	U
24	YA	956	A
24	YA	961	C
24	YA	963	A
24	YA	977	G
24	YA	983	G
24	YA	986	A
24	YA	990	A
24	YA	991	G
24	YA	998	A

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Mol	Chain	Res	Type
24	YA	1002	A
24	YA	1004	A
24	YA	1006	C
24	YA	1018	A
24	YA	1019	G
24	YA	1020	C
24	YA	1029	A
24	YA	1035	G
24	YA	1042	A
24	YA	1057	G
24	YA	1058	U
24	YA	1059	C
24	YA	1061	G
24	YA	1068	G
24	YA	1069	U
24	YA	1072	U
24	YA	1073	A
24	YA	1079	U
24	YA	1092	A
24	YA	1093	G
24	YA	1096	A
24	YA	1100	A
24	YA	1105	G
24	YA	1106	U
24	YA	1107	U
24	YA	1108	G
24	YA	1111	U
24	YA	1112	U
24	YA	1113	A
24	YA	1114	G
24	YA	1116	A
24	YA	1117	G
24	YA	1119	A
24	YA	1122	C
24	YA	1123	A
24	YA	1124	U
24	YA	1128	U
24	YA	1129	U
24	YA	1130	A
24	YA	1131	A
24	YA	1132	A
24	YA	1134	A

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Mol	Chain	Res	Type
24	YA	1135	G
24	YA	1139	G
24	YA	1141	A
24	YA	1142	A
24	YA	1143	U
24	YA	1149	A
24	YA	1156	G
24	YA	1168	G
24	YA	1175	A
24	YA	1177	G
24	YA	1180	C
24	YA	1181	G
24	YA	1184	G
24	YA	1187	U
24	YA	1188	A
24	YA	1219	A
24	YA	1220	U
24	YA	1221	G
24	YA	1222	A
24	YA	1224	C
24	YA	1249	A
24	YA	1250	U
24	YA	1256	U
24	YA	1265	A
24	YA	1282	G
24	YA	1284	G
24	YA	1299	A
24	YA	1302	G
24	YA	1311	A
24	YA	1317	G
24	YA	1318	A
24	YA	1319	U
24	YA	1321	A
24	YA	1346	U
24	YA	1347	A
24	YA	1375	U
24	YA	1395	A
24	YA	1398	U
24	YA	1411	A
24	YA	1414	G
24	YA	1416	C
24	YA	1424	A

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Mol	Chain	Res	Type
24	YA	1425	A
24	YA	1430	A
24	YA	1431	G
24	YA	1441	A
24	YA	1453	C
24	YA	1454	C
24	YA	1457	C
24	YA	1462	G
24	YA	1465	A
24	YA	1466	U
24	YA	1467	G
24	YA	1474	C
24	YA	1491	A
24	YA	1492	C
24	YA	1496	A
24	YA	1497	G
24	YA	1502	G
24	YA	1506	G
24	YA	1507	A
24	YA	1508	G
24	YA	1514	C
24	YA	1518	A
24	YA	1528	U
24	YA	1529	G
24	YA	1536	A
24	YA	1539	C
24	YA	1542	A
24	YA	1543	U
24	YA	1553	A
24	YA	1554	A
24	YA	1555	C
24	YA	1556	A
24	YA	1557	A
24	YA	1561	C
24	YA	1568	G
24	YA	1569	U
24	YA	1580	G
24	YA	1581	U
24	YA	1582	A
24	YA	1583	C
24	YA	1584	G
24	YA	1586	G

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Mol	Chain	Res	Type
24	YA	1589	A
24	YA	1590	C
24	YA	1591	A
24	YA	1605	A
24	YA	1606	G
24	YA	1613	A
24	YA	1616	A
24	YA	1625	U
24	YA	1627	A
24	YA	1628	G
24	YA	1631	C
24	YA	1632	A
24	YA	1633	A
24	YA	1644	C
24	YA	1653	C
24	YA	1654	A
24	YA	1662	A
24	YA	1663	C
24	YA	1664	A
24	YA	1681	A
24	YA	1687	C
24	YA	1693	C
24	YA	1694	G
24	YA	1695	C
24	YA	1701	A
24	YA	1711	A
24	YA	1716	A
24	YA	1721	G
24	YA	1740	U
24	YA	1742	G
24	YA	1763	G
24	YA	1766	G
24	YA	1767	A
24	YA	1769	G
24	YA	1770	A
24	YA	1776	G
24	YA	1785	C
24	YA	1787	G
24	YA	1793	A
24	YA	1794	G
24	YA	1795	G
24	YA	1800	G

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Mol	Chain	Res	Type
24	YA	1804	A
24	YA	1811	A
24	YA	1815	A
24	YA	1818	A
24	YA	1822	A
24	YA	1830	G
24	YA	1831	C
24	YA	1832	G
24	YA	1846	A
24	YA	1847	G
24	YA	1859	G
24	YA	1866	G
24	YA	1878	A
24	YA	1889	G
24	YA	1896	G
24	YA	1897	C
24	YA	1899	A
24	YA	1900	G
24	YA	1903	C
24	YA	1911	A
24	YA	1925	G
24	YA	1936	C
24	YA	1941	A
24	YA	1951	G
24	YA	1952	G
24	YA	1958	A
24	YA	1961	U
24	YA	1962	U
24	YA	1977	U
24	YA	1985	U
24	YA	1986	G
24	YA	1989	C
24	YA	1991	A
24	YA	1992	A
24	YA	1993	A
24	YA	1994	A
24	YA	2004	C
24	YA	2013	U
24	YA	2014	G
24	YA	2015	U
24	YA	2018	C
24	YA	2042	A

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Mol	Chain	Res	Type
24	YA	2043	C
24	YA	2045	G
24	YA	2053	A
24	YA	2055	A
24	YA	2061	C
24	YA	2065	C
24	YA	2074	G
24	YA	2077	C
24	YA	2078	G
24	YA	2081	A
24	YA	2082	A
24	YA	2083	G
24	YA	2084	A
24	YA	2091	G
24	YA	2115	G
24	YA	2121	U
24	YA	2128	G
24	YA	2129	C
24	YA	2133	C
24	YA	2134	G
24	YA	2135	U
24	YA	2136	A
24	YA	2137	G
24	YA	2138	G
24	YA	2140	U
24	YA	2141	A
24	YA	2142	G
24	YA	2144	U
24	YA	2148	A
24	YA	2149	G
24	YA	2150	C
24	YA	2153	G
24	YA	2154	U
24	YA	2155	G
24	YA	2156	A
24	YA	2158	C
24	YA	2159	C
24	YA	2162	C
24	YA	2167	C
24	YA	2169	G
24	YA	2170	G
24	YA	2178	G

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Mol	Chain	Res	Type
24	YA	2179	G
24	YA	2180	A
24	YA	2186	C
24	YA	2188	G
24	YA	2190	G
24	YA	2191	A
24	YA	2193	A
24	YA	2195	A
24	YA	2202	U
24	YA	2203	G
24	YA	2210	C
24	YA	2211	U
24	YA	2212	G
24	YA	2214	G
24	YA	2215	G
24	YA	2220	A
24	YA	2227	G
24	YA	2228	G
24	YA	2229	A
24	YA	2231	G
24	YA	2237	A
24	YA	2250	G
24	YA	2251	G
24	YA	2255	U
24	YA	2258	G
24	YA	2278	A
24	YA	2287	C
24	YA	2290	A
24	YA	2291	G
24	YA	2292	G
24	YA	2295	C
24	YA	2299	A
24	YA	2300	A
24	YA	2319	G
24	YA	2320	G
24	YA	2323	A
24	YA	2332	A
24	YA	2337	G
24	YA	2346	G
24	YA	2347	A
24	YA	2358	A
24	YA	2359	C

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Mol	Chain	Res	Type
24	YA	2362	C
24	YA	2366	G
24	YA	2370	G
24	YA	2395	G
24	YA	2397	C
24	YA	2404	A
24	YA	2408	G
24	YA	2415	C
24	YA	2418	U
24	YA	2422	G
24	YA	2435	U
24	YA	2436	C
24	YA	2437	A
24	YA	2440	G
24	YA	2441	G
24	YA	2442	A
24	YA	2447	A
24	YA	2451	A
24	YA	2453	C
24	YA	2459	G
24	YA	2460	A
24	YA	2462	A
24	YA	2477	C
24	YA	2481	A
24	YA	2487	C
24	YA	2506	G
24	YA	2510	C
24	YA	2514	G
24	YA	2517	G
24	YA	2530	A
24	YA	2537	G
24	YA	2541	G
24	YA	2566	U
24	YA	2570	C
24	YA	2579	G
24	YA	2585	C
24	YA	2597	U
24	YA	2614	A
24	YA	2621	U
24	YA	2623	U
24	YA	2624	C
24	YA	2627	U

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Mol	Chain	Res	Type
24	YA	2641	A
24	YA	2658	C
24	YA	2666	A
24	YA	2667	G
24	YA	2668	U
24	YA	2677	A
24	YA	2685	G
24	YA	2687	A
24	YA	2694	U
24	YA	2701	U
24	YA	2703	C
24	YA	2714	U
24	YA	2719	G
24	YA	2724	U
24	YA	2725	A
24	YA	2726	A
24	YA	2727	G
24	YA	2739	U
24	YA	2746	A
24	YA	2752	U
24	YA	2757	G
24	YA	2761	A
24	YA	2771	A
24	YA	2774	G
24	YA	2775	G
24	YA	2777	A
24	YA	2778	A
24	YA	2790	G
24	YA	2791	A
24	YA	2792	U
24	YA	2803	A
24	YA	2804	C
24	YA	2808	G
24	YA	2809	U
24	YA	2810	C
24	YA	2818	U
24	YA	2830	A
24	YA	2831	A
24	YA	2843	G
24	YA	2844	G
24	YA	2845	A
24	YA	2855	G

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Mol	Chain	Res	Type
24	YA	2856	G
24	YA	2876	U
24	YA	2878	A
24	YA	2882	G
24	YA	2883	A
24	YA	2901	A
24	YA	2902	G
24	YA	2903	G
25	YB	8	U
25	YB	9	G
25	YB	13	A
25	YB	15	A
25	YB	30	C
25	YB	33	G
25	YB	41	U
25	YB	51	G
25	YB	56	G
25	YB	64	C
25	YB	65	C
25	YB	67	G
25	YB	73	A
25	YB	84	C
25	YB	89(A)	G
25	YB	89(B)	A
25	YB	90	C
25	YB	106	G
25	YB	108	C
25	YB	109	G
25	YB	110	G

All (157) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	181	G
1	QA	243	A
1	QA	244	U
1	QA	250	A

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Mol	Chain	Res	Type
1	QA	266	G
1	QA	328	C
1	QA	410	G
1	QA	412	A
1	QA	429	U
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	687	A
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	960	U
1	QA	992	U
1	QA	1064	G
1	QA	1065	U
1	QA	1200	C
1	QA	1201	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1453	G
1	QA	1498	U
1	QA	1528	U
22	QV	53	G
23	QX	12	A
24	RA	73	A
24	RA	98	U
24	RA	210	A
24	RA	211	A
24	RA	218	A
24	RA	287	G
24	RA	399	G
24	RA	431	C
24	RA	528	A
24	RA	537	G

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Mol	Chain	Res	Type
24	RA	610	C
24	RA	662	A
24	RA	799	A
24	RA	893	C
24	RA	903	C
24	RA	1068	G
24	RA	1072	U
24	RA	1099	C
24	RA	1103	A
24	RA	1111	U
24	RA	1119	A
24	RA	1255	A
24	RA	1358	U
24	RA	1473	A
24	RA	1605	A
24	RA	1649	A
24	RA	1700	G
24	RA	1850	A
24	RA	2014	G
24	RA	2082	A
24	RA	2148	A
24	RA	2451	A
24	RA	2578	A
24	RA	2622	C
24	RA	2701	U
24	RA	2842	U
24	RA	2877	G
25	RB	66	A
1	XA	5	U
1	XA	31	G
1	XA	60	A
1	XA	64	G
1	XA	78	G
1	XA	115	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	345	C
1	XA	358	U
1	XA	410	G

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Mol	Chain	Res	Type
1	XA	412	A
1	XA	429	U
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	687	A
1	XA	703	G
1	XA	753	A
1	XA	812	C
1	XA	913	A
1	XA	991	U
1	XA	992	U
1	XA	1027	C
1	XA	1126	U
1	XA	1285	A
1	XA	1297	C
1	XA	1310	G
1	XA	1446	A
1	XA	1498	U
22	XV	53	G
24	YA	98	U
24	YA	184	A
24	YA	210	A
24	YA	218	A
24	YA	231	G
24	YA	287	G
24	YA	302	A
24	YA	399	G
24	YA	431	C
24	YA	528	A
24	YA	533	G
24	YA	662	A
24	YA	799	A
24	YA	893	C
24	YA	903	C
24	YA	906	G
24	YA	1058	U
24	YA	1068	G
24	YA	1072	U
24	YA	1131	A
24	YA	1155	C
24	YA	1176	U

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Mol	Chain	Res	Type
24	YA	1223	C
24	YA	1249	A
24	YA	1255	A
24	YA	1473	A
24	YA	1507	A
24	YA	1554	A
24	YA	1605	A
24	YA	1694	G
24	YA	1700	G
24	YA	1741	C
24	YA	1830	G
24	YA	1935	A
24	YA	2014	G
24	YA	2414	C
24	YA	2578	A
24	YA	2622	C
24	YA	2693	C
24	YA	2724	U
24	YA	2789	A
24	YA	2842	U
24	YA	2877	G
25	YB	109	G

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	$\#\|Z\| > 2$
22	1MG	XV	37	22	18,26,27	0.75	0	19,39,42	1.11	2 (10%)
22	1MG	QV	37	22	18,26,27	0.72	0	19,39,42	1.08	2 (10%)

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
22	1MG	XV	37	22	-	0/3/25/26	0/3/3/3
22	1MG	QV	37	22	-	0/3/25/26	0/3/3/3

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	XV	37	1MG	C8-N7-C5	2.53	107.81	102.99
22	XV	37	1MG	C5-C6-N1	2.38	117.48	113.90
22	QV	37	1MG	C8-N7-C5	2.37	107.50	102.99
22	QV	37	1MG	C5-C6-N1	2.27	117.32	113.90

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	QV	37	1MG	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 1166 ligands modelled in this entry, 1164 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
56	SF4	QD	301	4	0,12,12	-	-	-		
56	SF4	XD	301	4	0,12,12	-	-	-		

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	SF4	QD	301	4	-	-	0/6/5/5
56	SF4	XD	301	4	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

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.