Full wwPDB X-ray Structure Validation Report ⓘ

Oct 4, 2023 – 05:55 AM EDT

PDB ID	:	6O3M
Title	:	Unmodified tRNA(Pro) bound to Thermus thermophilus 70S (cognate)
Authors	:	Hoffer, E.D.; Subaramanian, S.; Hong, S.; Maehigashi, T.; Dunham, C.M.
Deposited on	:	2019-02-26
Resolution	:	3.97 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:

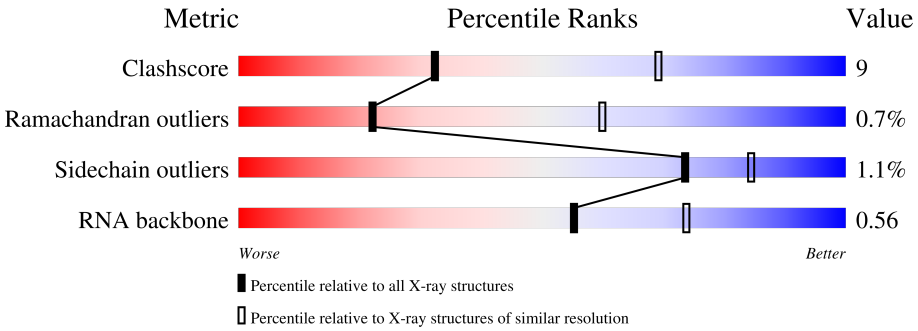
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation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

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 3.97 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	1099 (4.26-3.70)
Ramachandran outliers	138981	1061 (4.26-3.70)
Sidechain outliers	138945	1053 (4.26-3.70)
RNA backbone	3102	1041 (4.84-3.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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	49% 40% 9%
1	XA	1521	48% 40% 9%
2	QB	256	73% 18% 8%
2	XB	256	73% 19% 8%
3	QC	239	59% 26% 14%
3	XC	239	65% 21% 14%

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Mol	Chain	Length	Quality of chain
4	QD	209	
4	XD	209	
5	QE	162	
5	XE	162	
6	QF	101	
6	XF	101	
7	QG	156	
7	XG	156	
8	QH	138	
8	XH	138	
9	QI	128	
9	XI	128	
10	QJ	105	
10	XJ	105	
11	QK	129	
11	XK	129	
12	QL	132	
12	XL	132	
13	QM	126	
13	XM	126	
14	QN	61	
14	XN	61	
15	QO	89	
15	XO	89	
16	QP	88	

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Mol	Chain	Length	Quality of chain
16	XP	88	84% 11% 5%
17	QQ	105	81% 13% 5%
17	XQ	105	74% 20% 5%
18	QR	88	63% 17% 20%
18	XR	88	63% 17% 20%
19	QS	93	65% 25% 11%
19	XS	93	73% 17% 10%
20	QT	106	75% 19% 7%
20	XT	106	72% 22% 7%
21	QU	27	74% 19% 7%
21	XU	27	56% 37% 7%
22	QV	77	52% 35% 13%
22	XV	77	58% 26% 16%
23	QX	19	32% 53% 11% 5%
23	XX	19	37% 58% 5%
24	RA	2915	49% 39% 10%
24	YA	2915	48% 40% 10%
25	RB	122	60% 27% 10%
25	YB	122	61% 25% 12%
26	RD	276	72% 26%
26	YD	276	74% 24%
27	RE	206	68% 30%
27	YE	206	71% 27%
28	RF	210	81% 15%
28	YF	210	82% 14%

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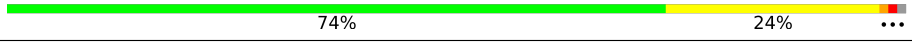
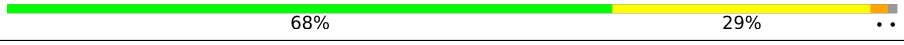
Mol	Chain	Length	Quality of chain
29	RG	182	
29	YG	182	
30	RH	180	
30	YH	180	
31	RI	148	
31	YI	148	
32	RN	140	
32	YN	140	
33	RO	122	
33	YO	122	
34	RP	150	
34	YP	150	
35	RQ	141	
35	YQ	141	
36	RR	118	
36	YR	118	
37	RS	112	
37	YS	112	
38	RT	146	
38	YT	146	
39	RU	118	
39	YU	118	
40	RV	101	
40	YV	101	
41	RW	113	

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Mol	Chain	Length	Quality of chain
41	YW	113	85% 14%
42	RX	96	82% 14%
42	YX	96	81% 15%
43	RY	110	75% 22%
43	YY	110	70% 27%
44	RZ	206	67% 21% 11%
44	YZ	206	69% 18% 11%
45	R0	85	75% 20% 5%
45	Y0	85	65% 22% 13%
46	R1	98	81% 18%
46	Y1	98	78% 17% 5%
47	R2	72	72% 24%
47	Y2	72	74% 22%
48	R3	60	83% 15%
48	Y3	60	73% 20% 5%
49	R4	71	72% 25%
49	Y4	71	58% 37%
50	R5	60	72% 27%
50	Y5	60	75% 22%
51	R6	54	80% 19%
51	Y6	54	67% 31%
52	R7	49	86% 10%
52	Y7	49	82% 16%
53	R8	65	68% 28%
53	Y8	65	72% 23%

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Mol	Chain	Length	Quality of chain
54	R9	37	70% 30%
54	Y9	37	84% 16%

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
56	SF4	XD	301	-	-	X	-

2 Entry composition

There are 57 unique types of molecules in this entry. The entry contains 291782 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	125	Total	C	N	O	0	0	0
			989	627	191	171			
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 217	C 134	N 52	O 31	0	0	0
21	XU	25	Total 217	C 134	N 52	O 31	0	0	0

- Molecule 22 is a RNA chain called P-site ASLPro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total 1647	C 733	N 295	O 542	P 77	0	0	0
22	XV	77	Total 1647	C 733	N 295	O 542	P 77	0	0	0

- Molecule 23 is a RNA chain called mRNA.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	RA	2882	Total 62071	C 27627	N 11611	O 19952	P 2881	0	0	0
24	YA	2883	Total 62091	C 27636	N 11613	O 19960	P 2882	0	0	0

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	RD	272	Total 2115	C 1335	N 420	O 357	S 3	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	YD	272	Total	C	N	O	S	0	0	0
			2115	1335	420	357	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	205	Total	C	N	O	S	0	0	0
			1568	991	300	271	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	174	Total	C	N	O	S	0	0	0
			1336	848	251	236	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	138	Total	C	N	O	S	0	0	0
			1104	712	206	182	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	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	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	111	Total 882	C 556	N 176	O 150	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	92	Total 725	C 471	N 131	O 123	0	0	0

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
45	R0	81	Total 643	C 398	N 137	O 107	S 1	0	0	0
45	Y0	74	Total 593	C 367	N 126	O 99	S 1	0	0	0

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

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

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

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

- 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	69	Total 69	Mg 69	0	0
55	QE	1	Total 1	Mg 1	0	0
55	QH	1	Total 1	Mg 1	0	0
55	QV	1	Total 1	Mg 1	0	0
55	RA	381	Total 381	Mg 381	0	0
55	RB	9	Total 9	Mg 9	0	0
55	RD	1	Total 1	Mg 1	0	0
55	RE	1	Total 1	Mg 1	0	0
55	RQ	1	Total 1	Mg 1	0	0
55	R1	1	Total 1	Mg 1	0	0
55	XA	67	Total 67	Mg 67	0	0
55	XE	1	Total 1	Mg 1	0	0
55	YA	454	Total 454	Mg 454	0	0
55	YB	8	Total 8	Mg 8	0	0

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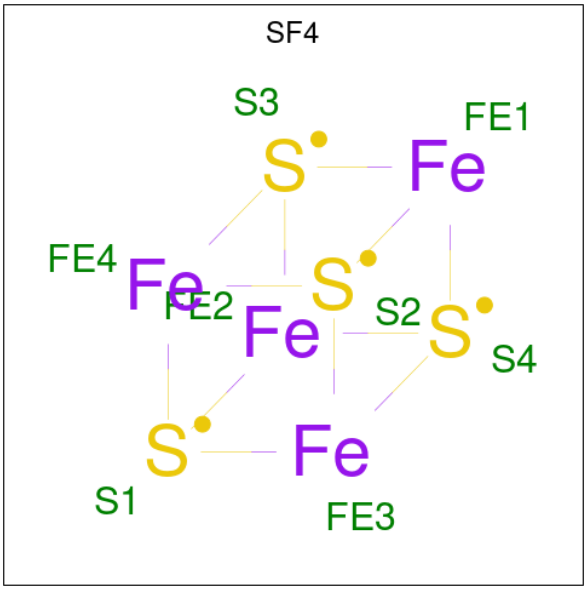
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	YD	2	Total Mg 2 2	0	0
55	YE	1	Total Mg 1 1	0	0
55	YP	1	Total Mg 1 1	0	0
55	YQ	2	Total Mg 2 2	0	0
55	YR	2	Total Mg 2 2	0	0
55	Y0	1	Total Mg 1 1	0	0
55	Y5	1	Total Mg 1 1	0	0
55	Y7	2	Total Mg 2 2	0	0

- 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
57	Y6	1	Total Zn 1 1	0	0
57	Y9	1	Total Zn 1 1	0	0

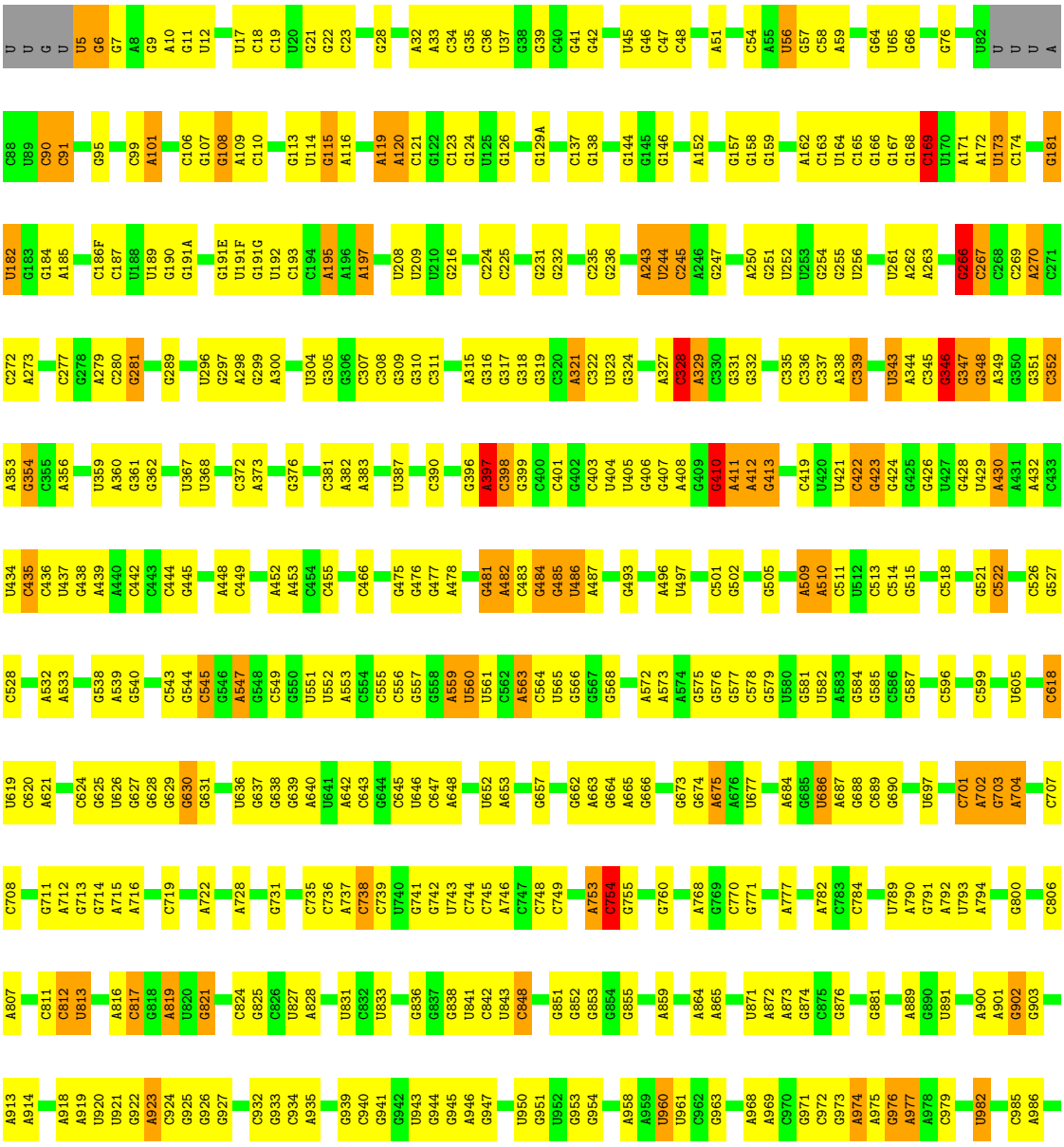
3 Residue-property plots (i)

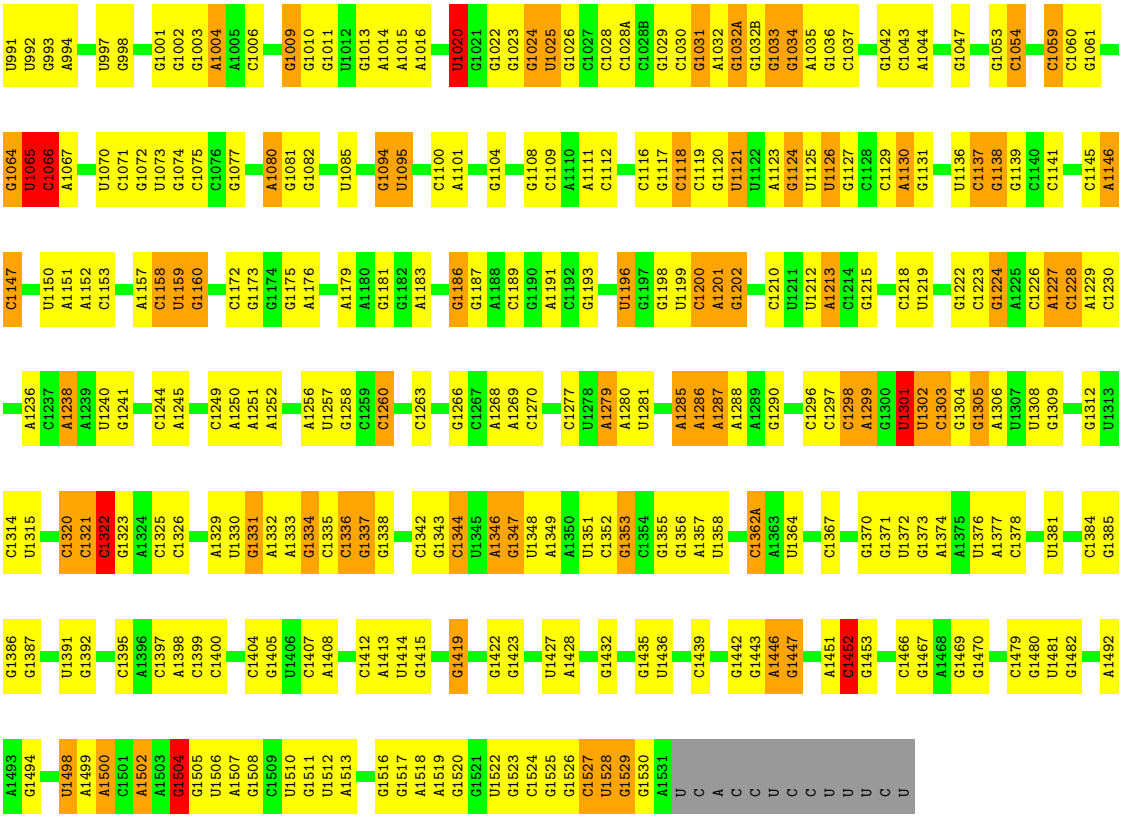
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

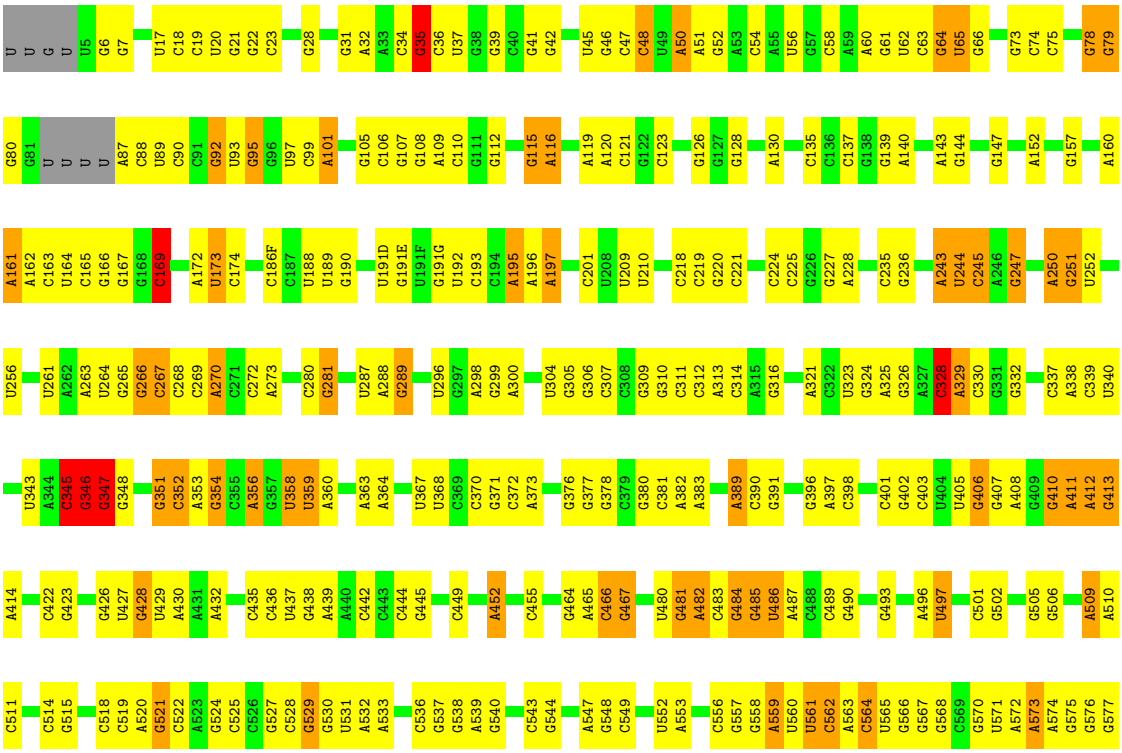
Chain QA:

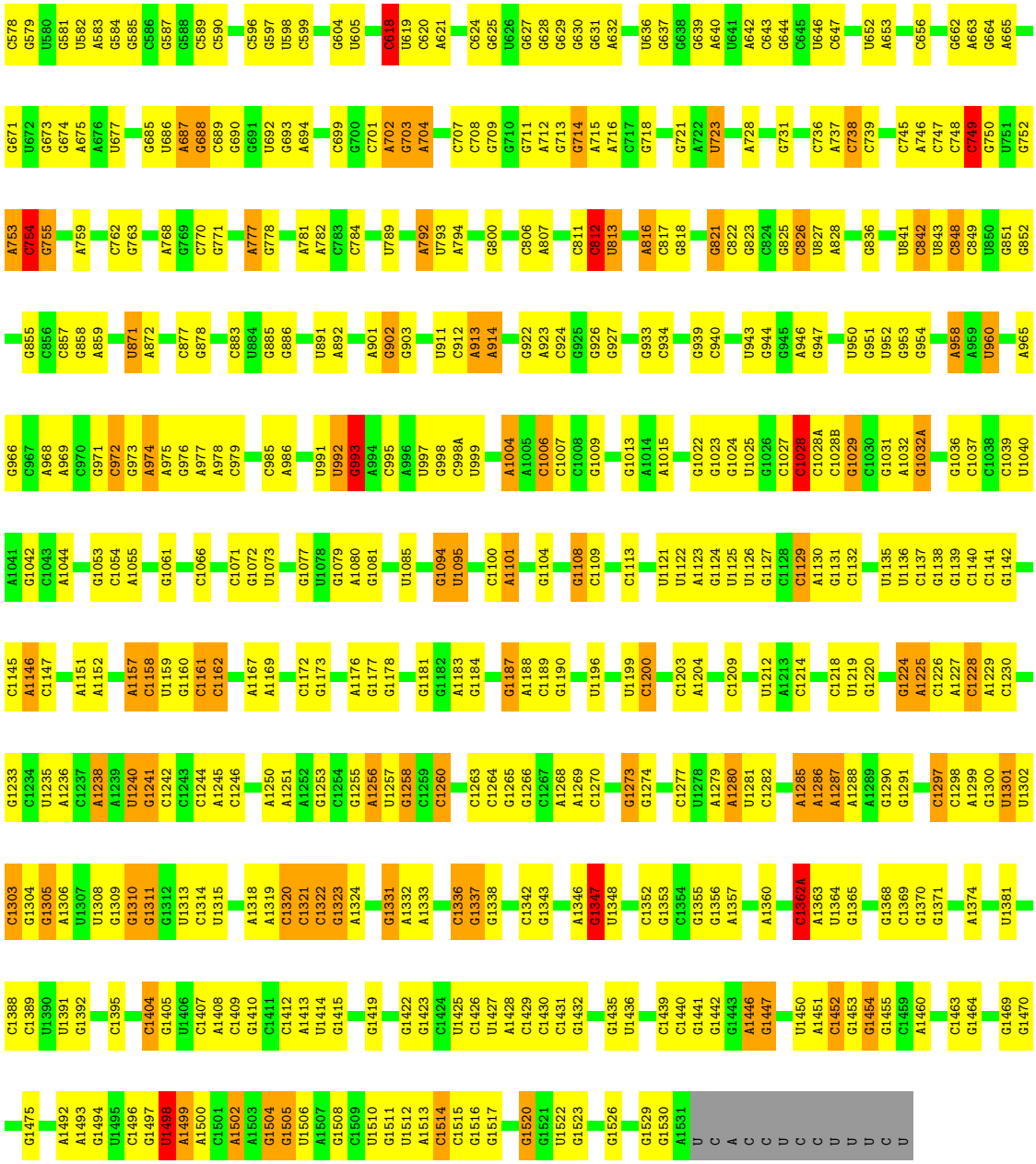




• Molecule 1: 16S rRNA

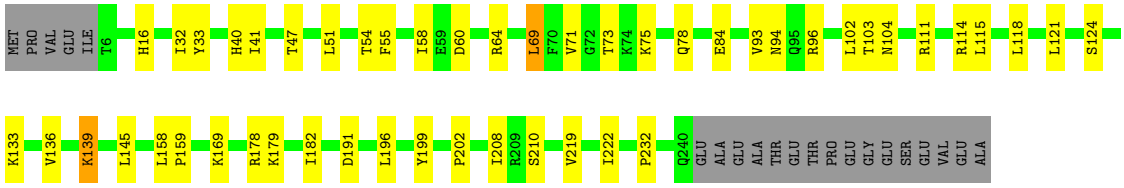
Chain XA:





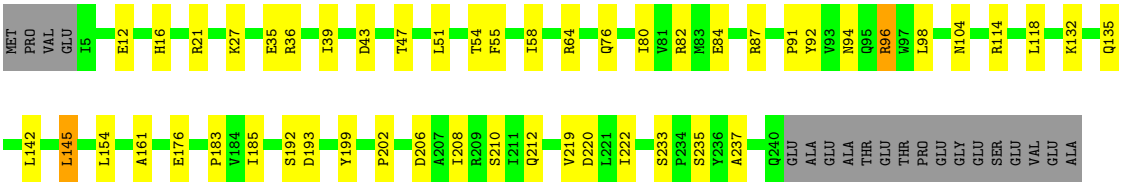
• Molecule 2: 30S ribosomal protein S2

Chain QB:



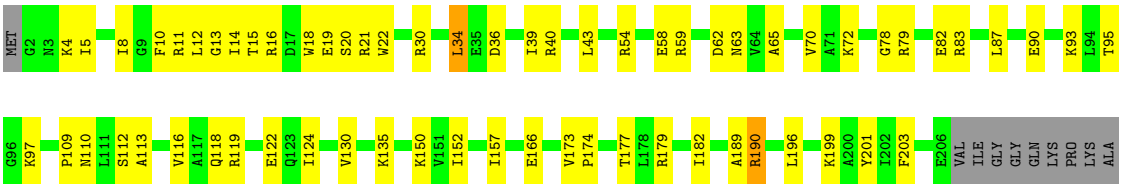
• Molecule 2: 30S ribosomal protein S2

Chain XB:



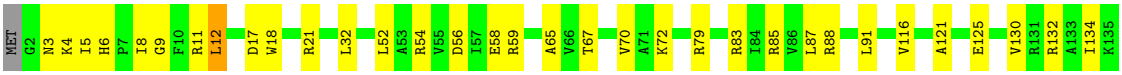
• Molecule 3: 30S ribosomal protein S3

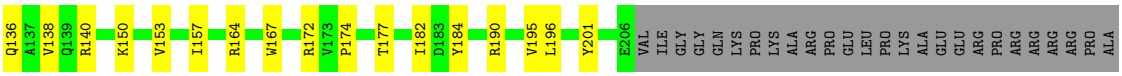
Chain QC:



• Molecule 3: 30S ribosomal protein S3

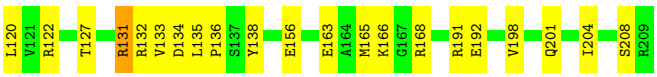
Chain XC:





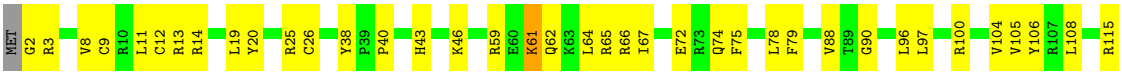
• Molecule 4: 30S ribosomal protein S4

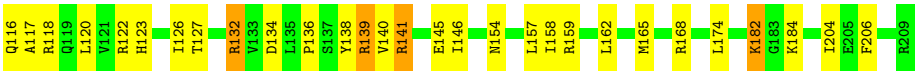
Chain QD:



• Molecule 4: 30S ribosomal protein S4

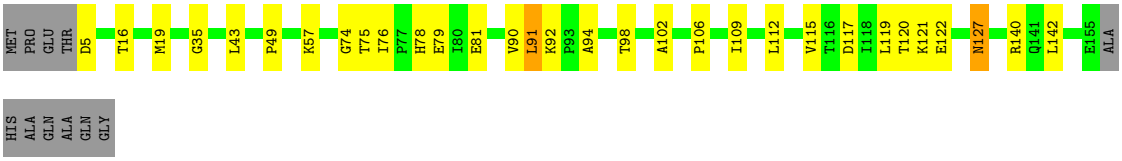
Chain XD:





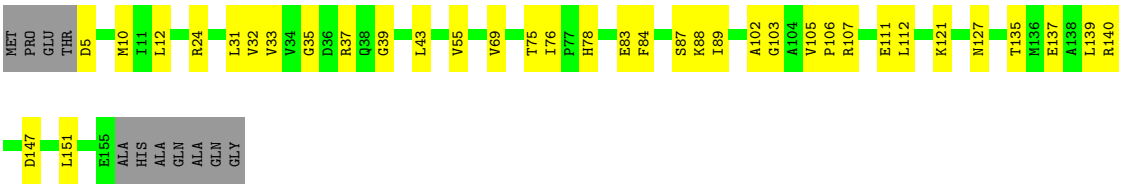
• Molecule 5: 30S ribosomal protein S5

Chain QE:



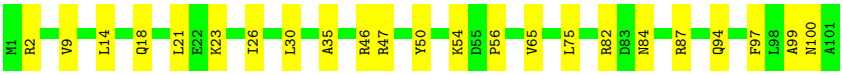
• Molecule 5: 30S ribosomal protein S5

Chain XE:



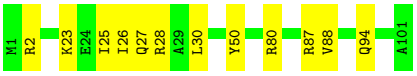
• Molecule 6: 30S ribosomal protein S6

Chain QF:



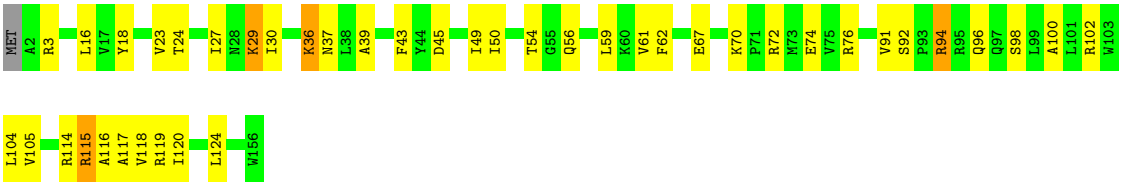
• Molecule 6: 30S ribosomal protein S6

Chain XF:



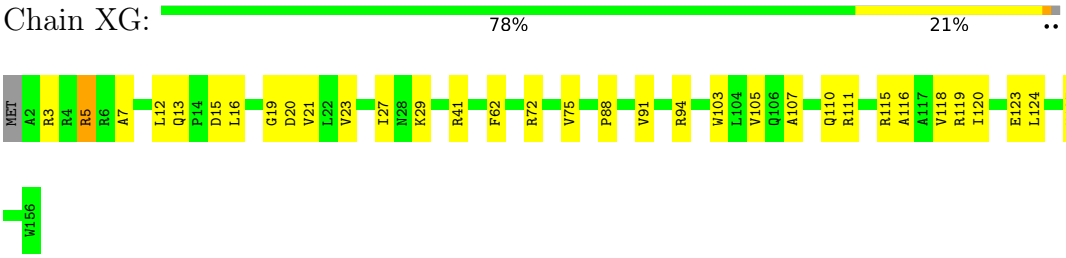
• Molecule 7: 30S ribosomal protein S7

Chain QG:



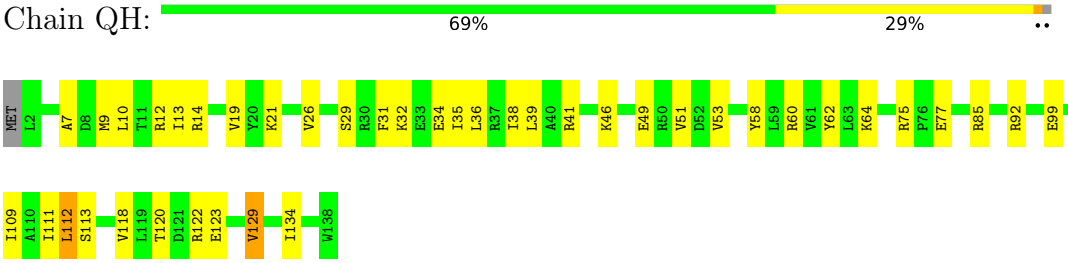
• Molecule 7: 30S ribosomal protein S7

Chain XG:



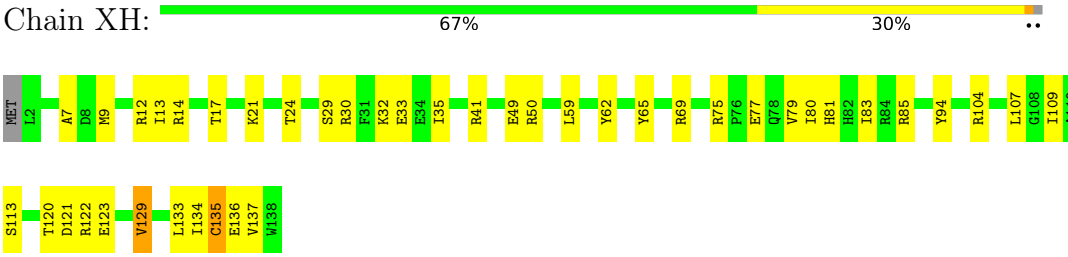
• Molecule 8: 30S ribosomal protein S8

Chain QH:



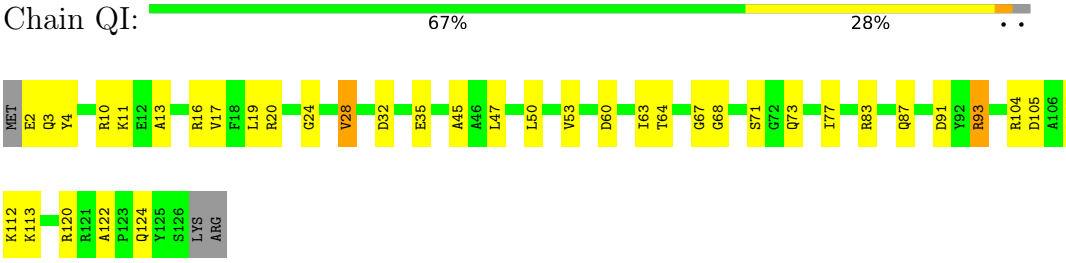
• Molecule 8: 30S ribosomal protein S8

Chain XH:



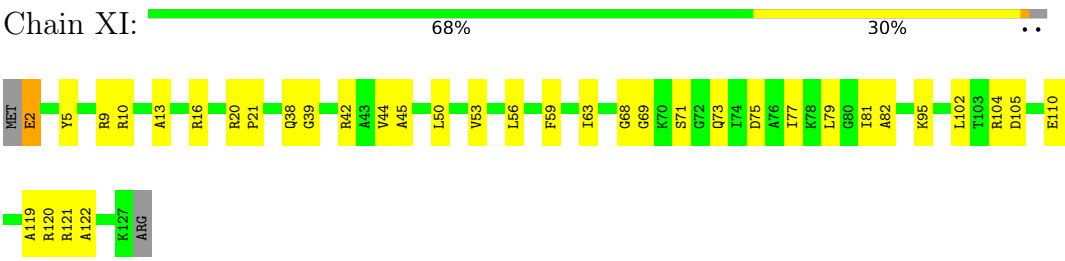
• Molecule 9: 30S ribosomal protein S9

Chain QI:



• Molecule 9: 30S ribosomal protein S9

Chain XI:

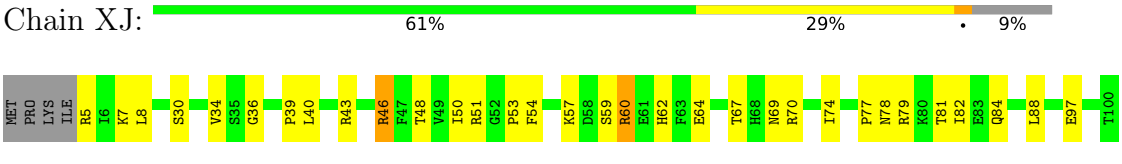


• Molecule 10: 30S ribosomal protein S10

Chain QJ:

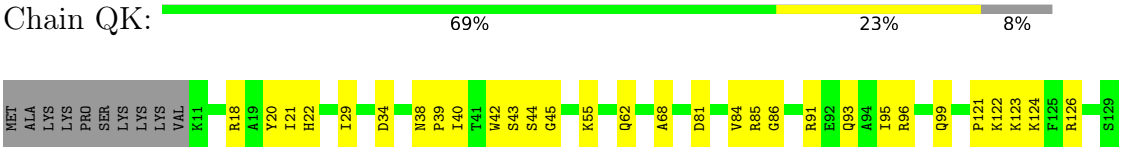
• Molecule 10: 30S ribosomal protein S10

Chain XJ:



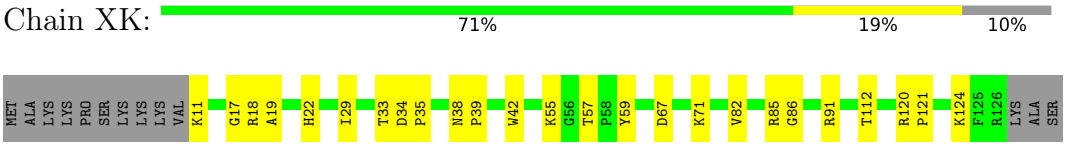
• Molecule 11: 30S ribosomal protein S11

Chain QK:



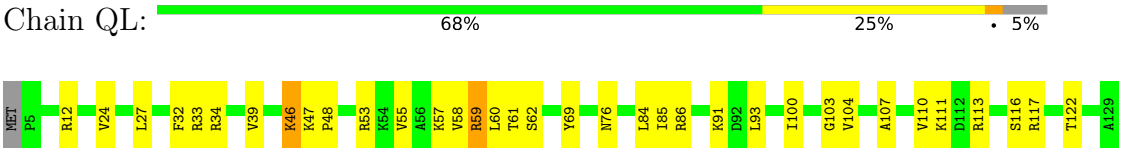
• Molecule 11: 30S ribosomal protein S11

Chain XK:



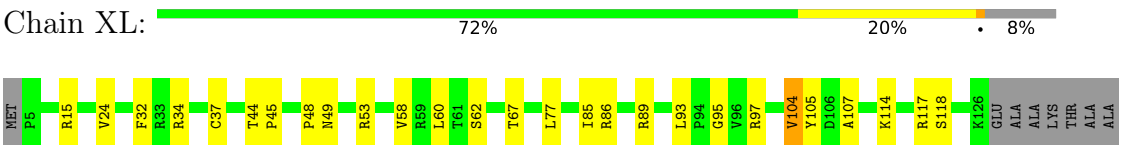
• Molecule 12: 30S ribosomal protein S12

Chain QL:



• Molecule 12: 30S ribosomal protein S12

Chain XL:



• Molecule 13: 30S ribosomal protein S13

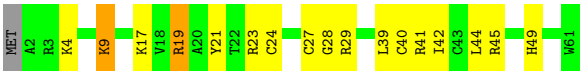
Chain QM:

• Molecule 13: 30S ribosomal protein S13

Chain XM:

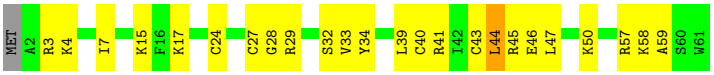
• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:



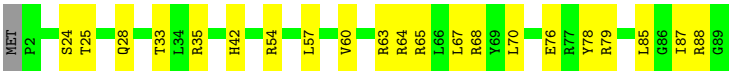
• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:



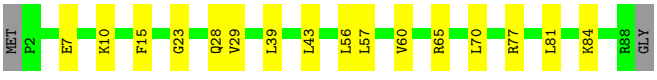
• Molecule 15: 30S ribosomal protein S15

Chain QO:



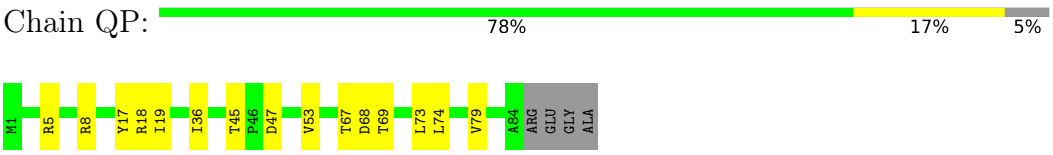
• Molecule 15: 30S ribosomal protein S15

Chain XO:



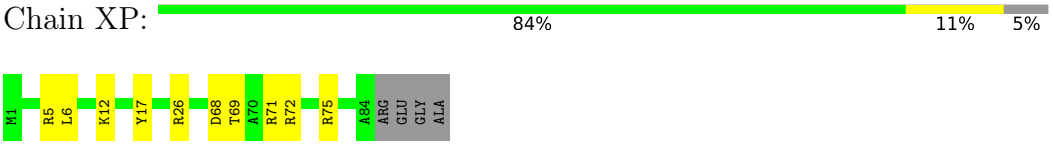
• Molecule 16: 30S ribosomal protein S16

Chain QP:



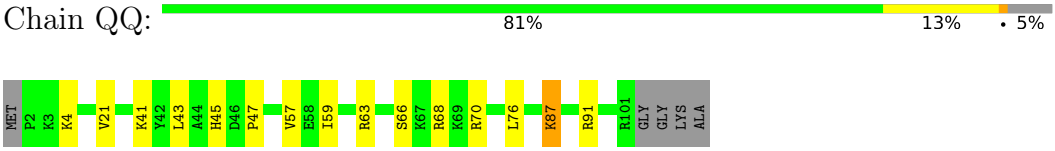
• Molecule 16: 30S ribosomal protein S16

Chain XP:



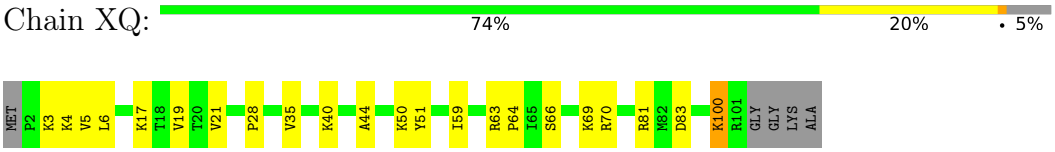
• Molecule 17: 30S ribosomal protein S17

Chain QQ:



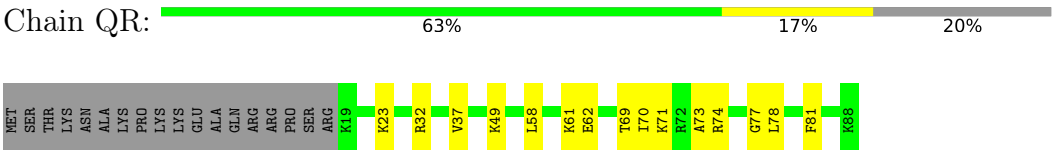
• Molecule 17: 30S ribosomal protein S17

Chain XQ:



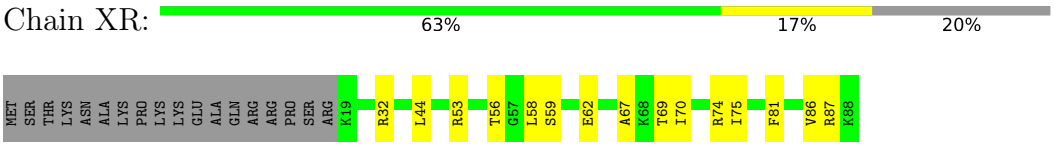
• Molecule 18: 30S ribosomal protein S18

Chain QR:



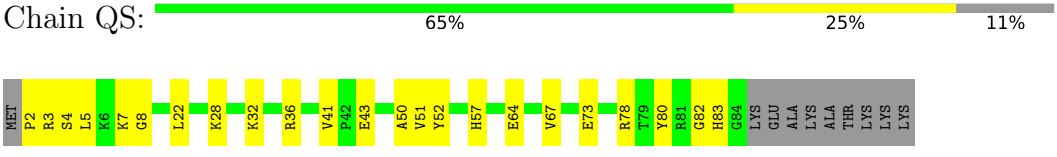
• Molecule 18: 30S ribosomal protein S18

Chain XR:



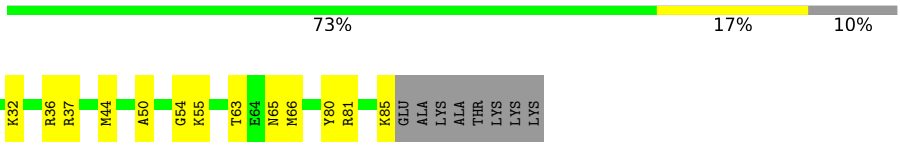
• Molecule 19: 30S ribosomal protein S19

Chain QS:



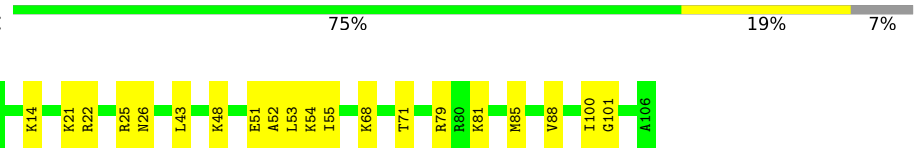
• Molecule 19: 30S ribosomal protein S19

Chain XS:



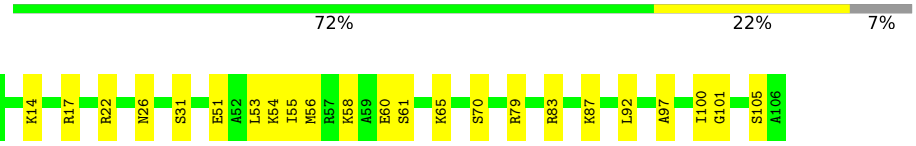
• Molecule 20: 30S ribosomal protein S20

Chain QT:



• Molecule 20: 30S ribosomal protein S20

Chain XT:

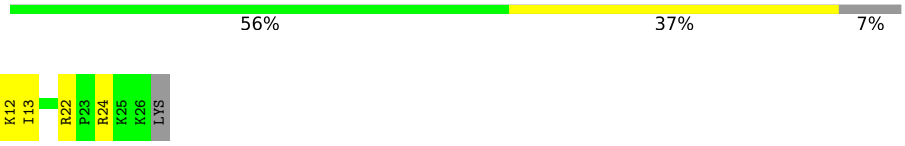


• Molecule 21: 30S ribosomal protein Thx

Chain QU:

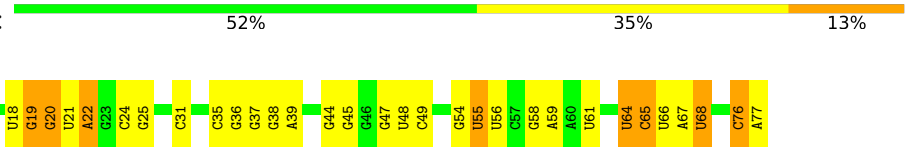
• Molecule 21: 30S ribosomal protein Thx

Chain XU:



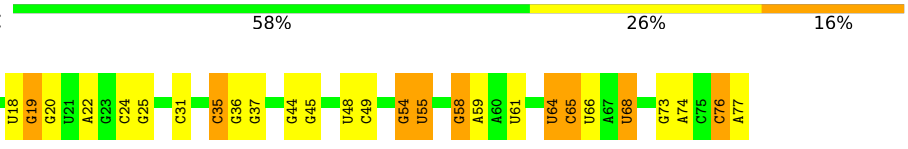
• Molecule 22: P-site ASLPro

Chain QV:



• Molecule 22: P-site ASLPro

Chain XV:



• Molecule 23: mRNA

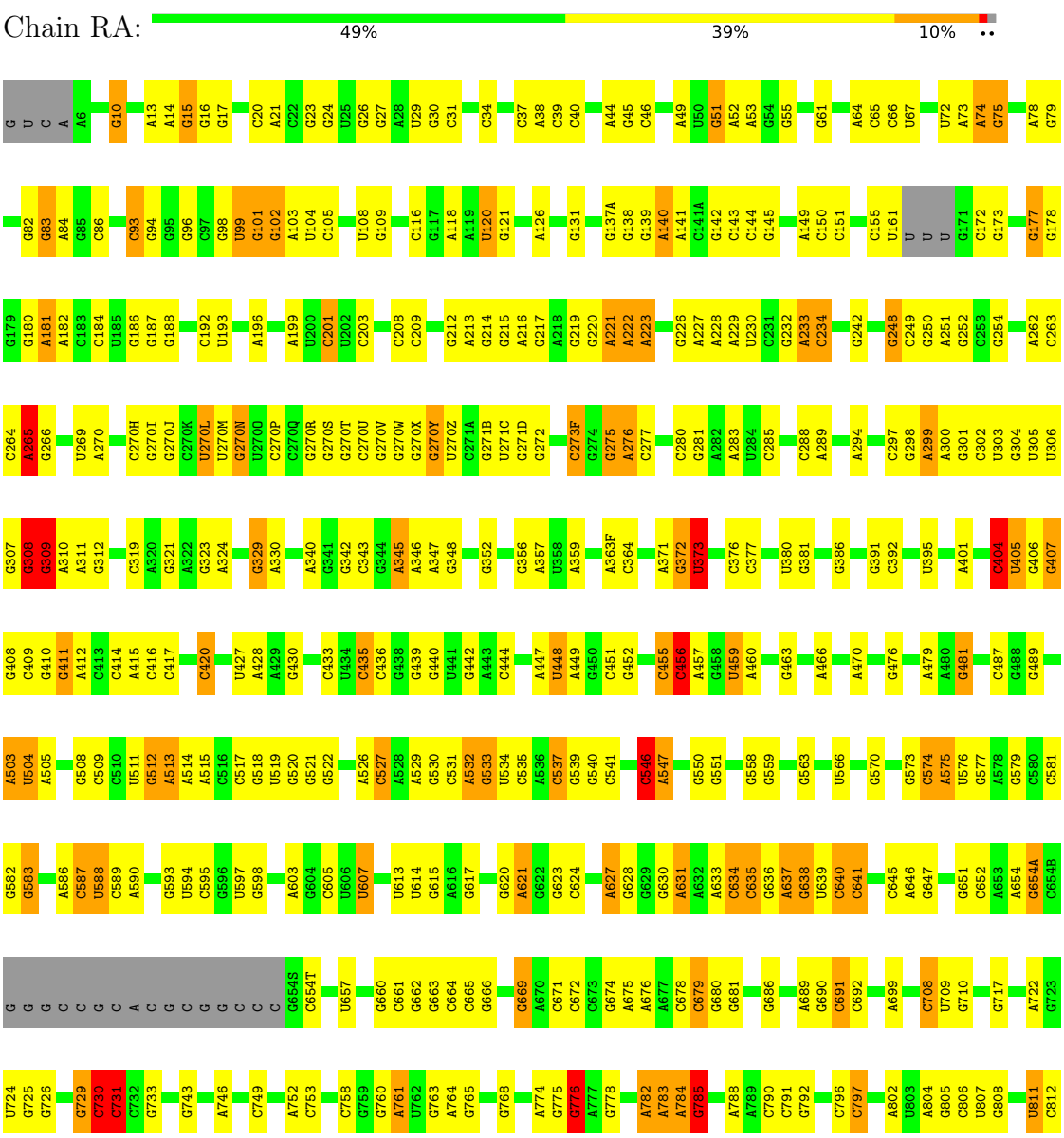
Chain QX:

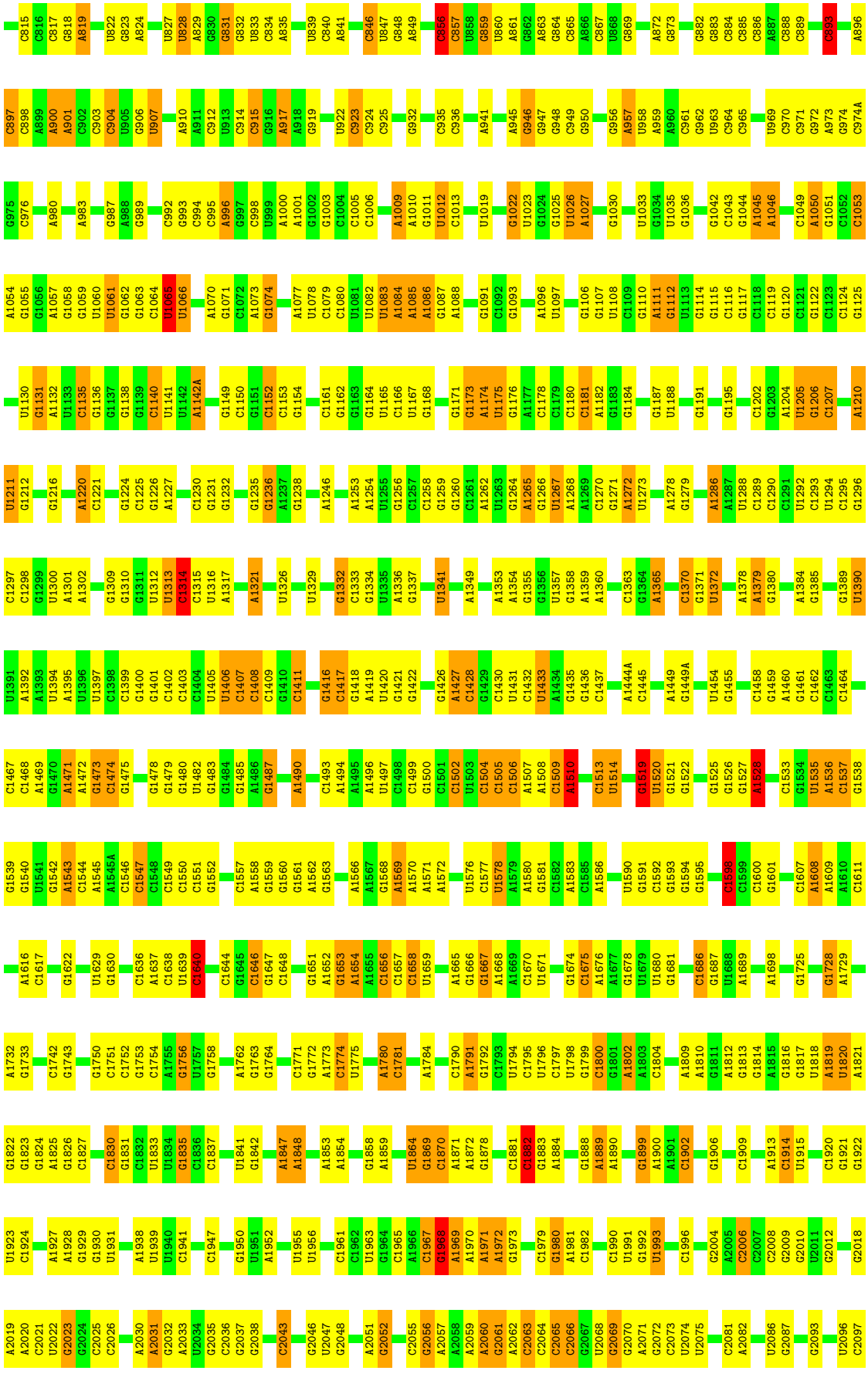
• Molecule 23: mRNA

Chain XX:

• Molecule 24: 23S rRNA

Chain RA:

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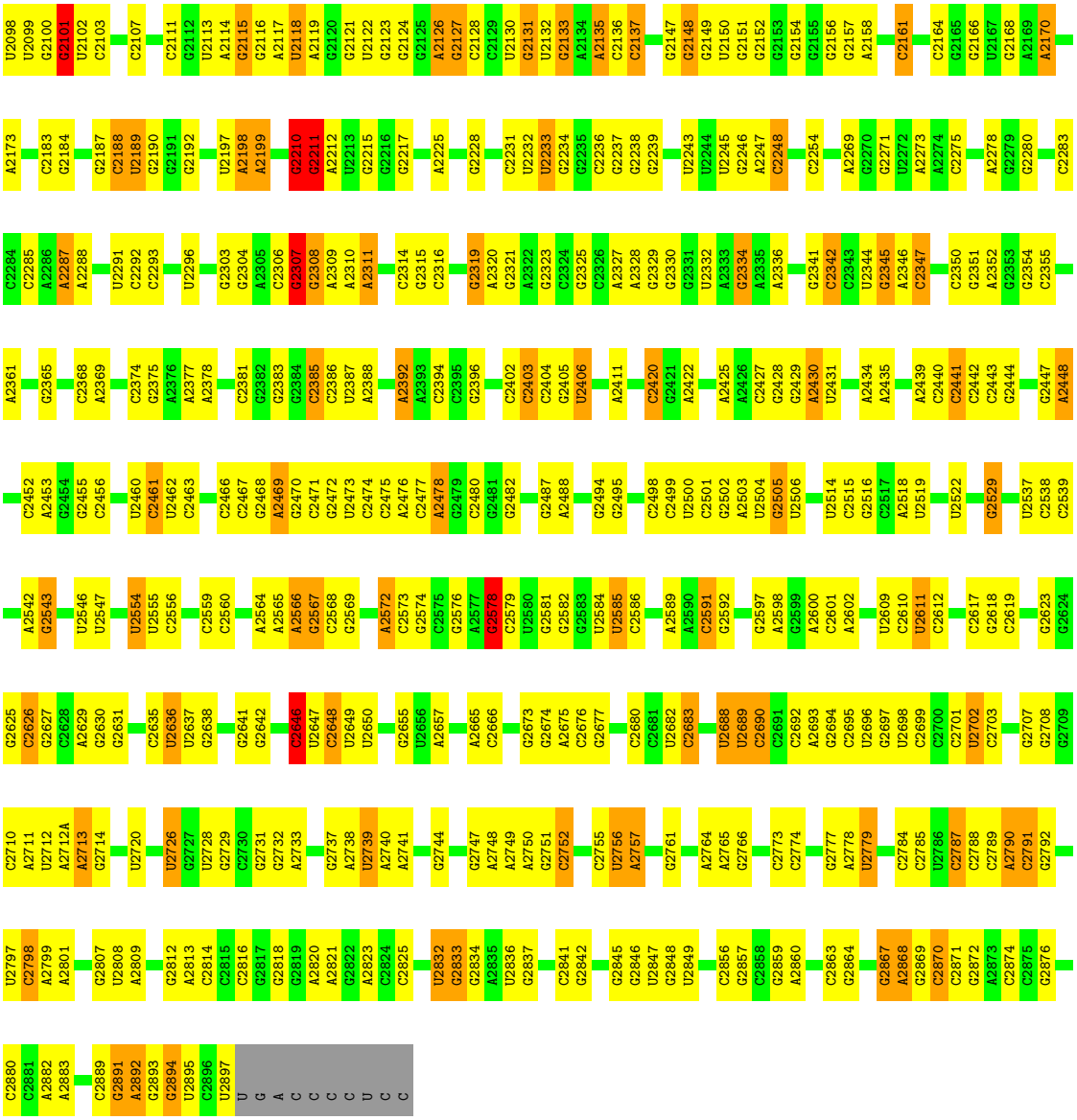
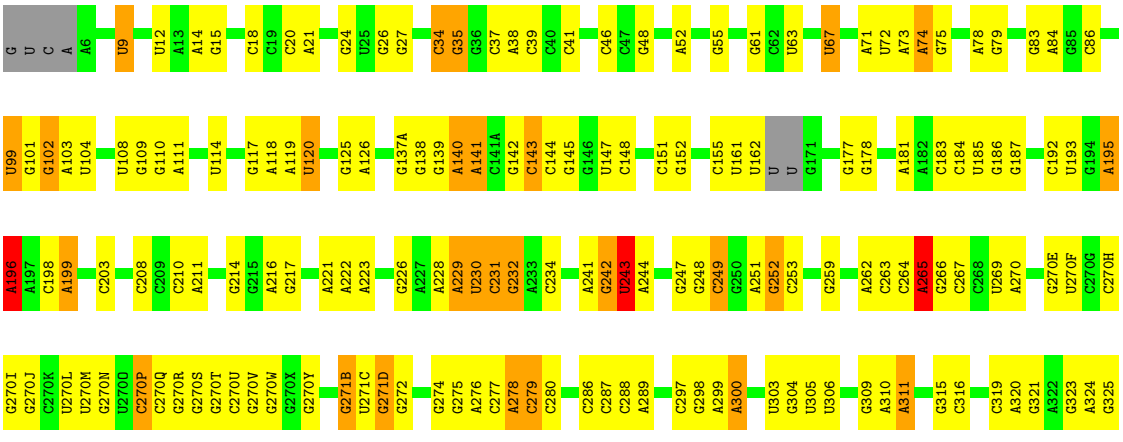
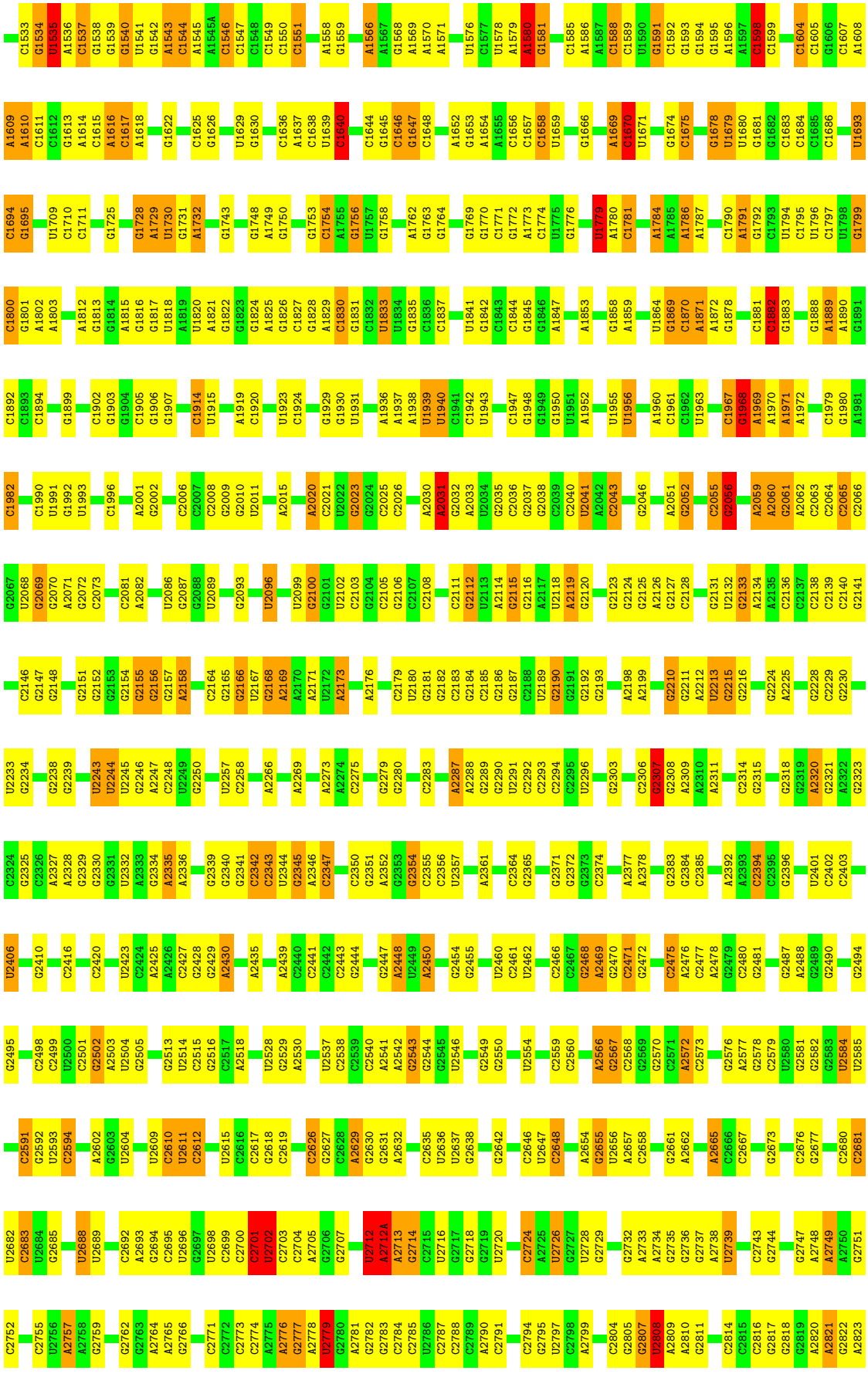


• Molecule 24: 23S rRNA

Chain YA:

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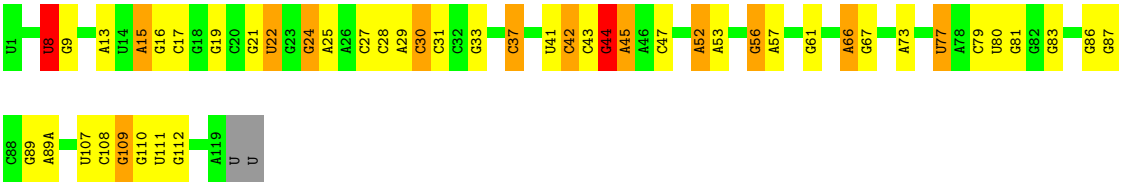
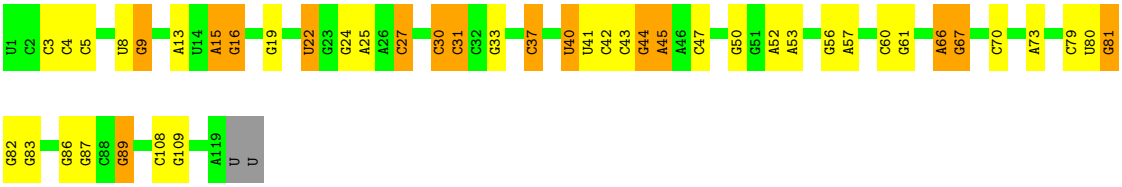
• Molecule 25: 5S rRNA

Chain RB:



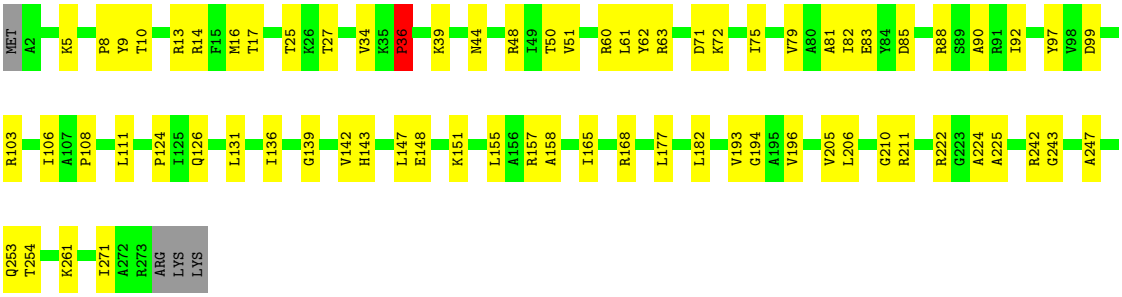
• Molecule 25: 5S rRNA

Chain YB:



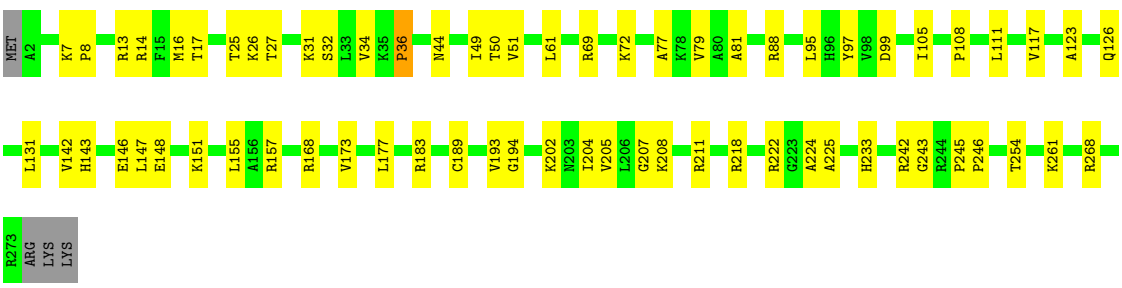
• Molecule 26: 50S ribosomal protein L2

Chain RD:



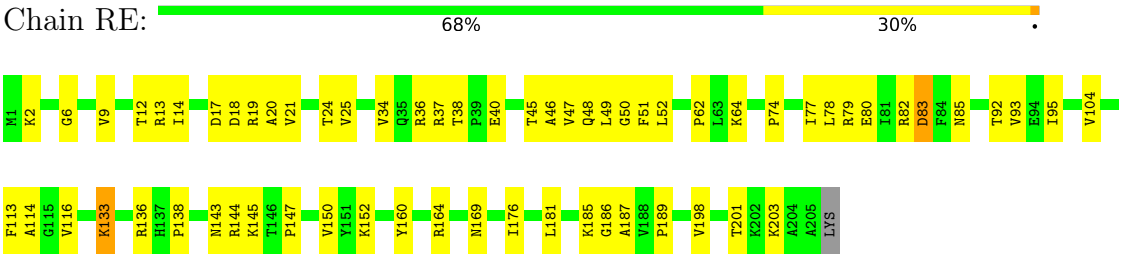
• Molecule 26: 50S ribosomal protein L2

Chain YD:



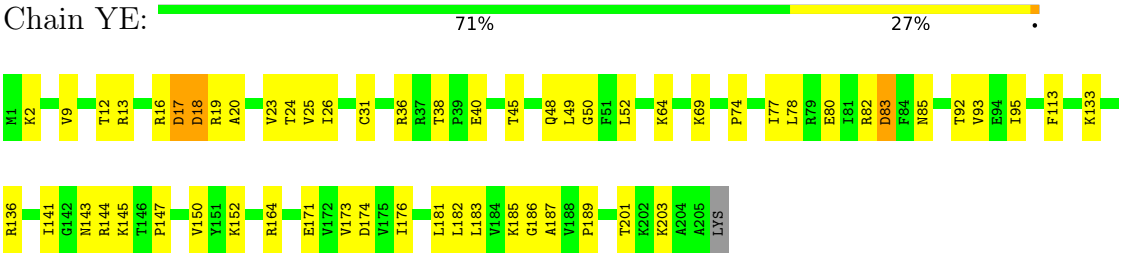
• Molecule 27: 50S ribosomal protein L3

Chain RE:



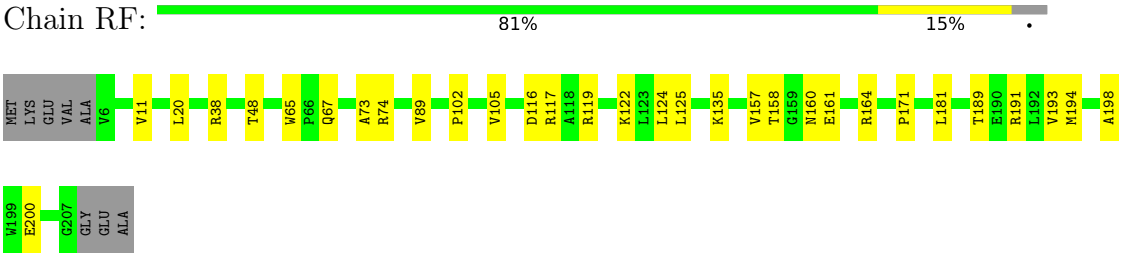
• Molecule 27: 50S ribosomal protein L3

Chain YE:



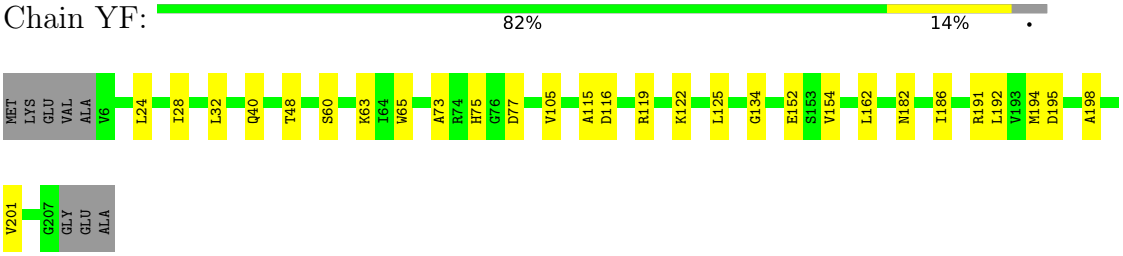
• Molecule 28: 50S ribosomal protein L4

Chain RF:



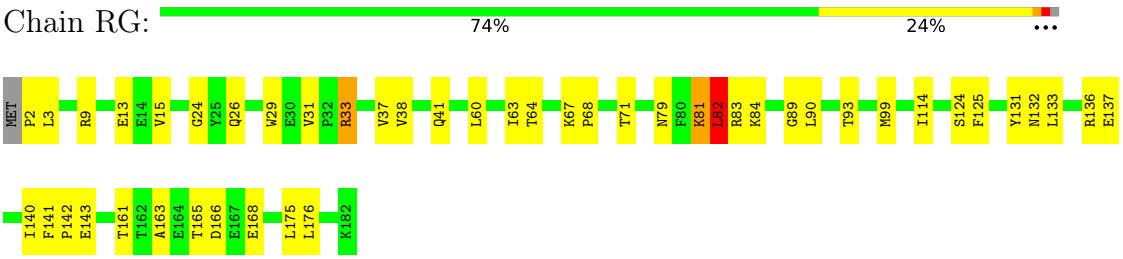
• Molecule 28: 50S ribosomal protein L4

Chain YF:



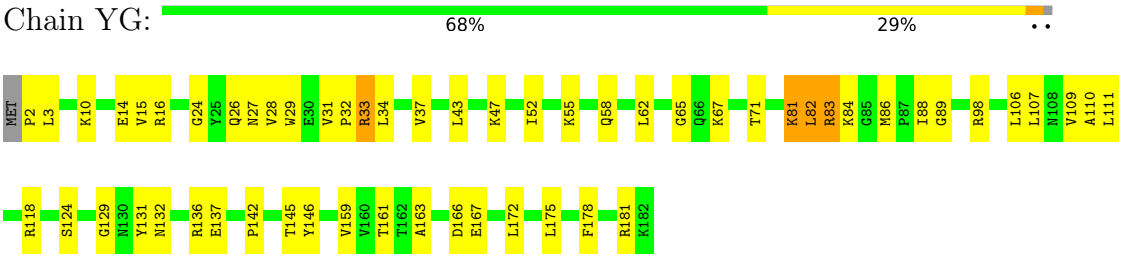
• Molecule 29: 50S ribosomal protein L5

Chain RG:



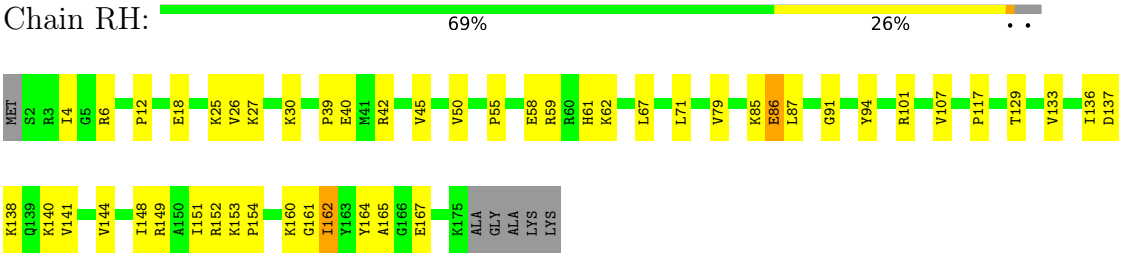
• Molecule 29: 50S ribosomal protein L5

Chain YG:



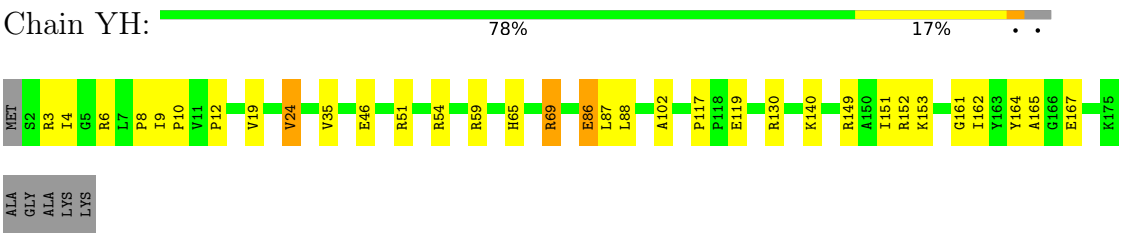
• Molecule 30: 50S ribosomal protein L6

Chain RH:



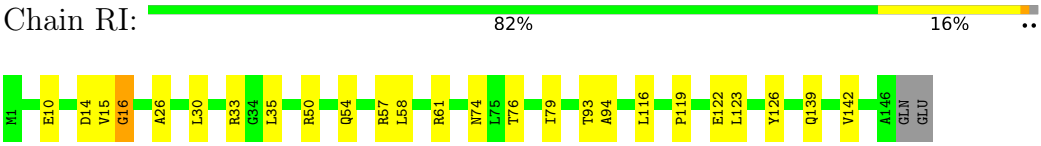
• Molecule 30: 50S ribosomal protein L6

Chain YH:



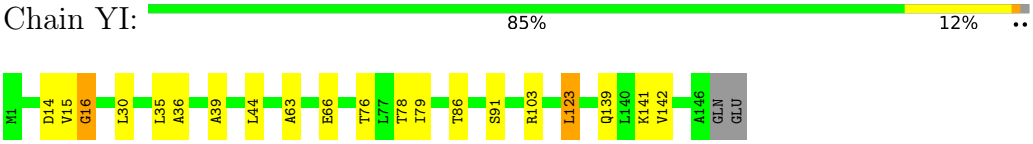
• Molecule 31: 50S ribosomal protein L9

Chain RI:



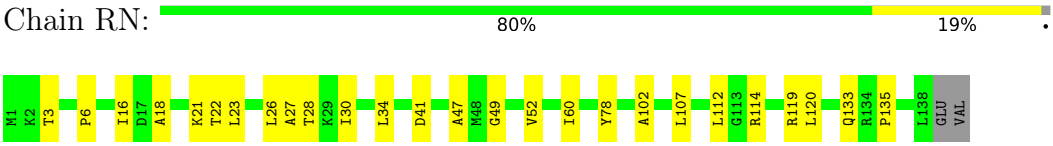
• Molecule 31: 50S ribosomal protein L9

Chain YI:



• Molecule 32: 50S ribosomal protein L13

Chain RN:



• Molecule 32: 50S ribosomal protein L13

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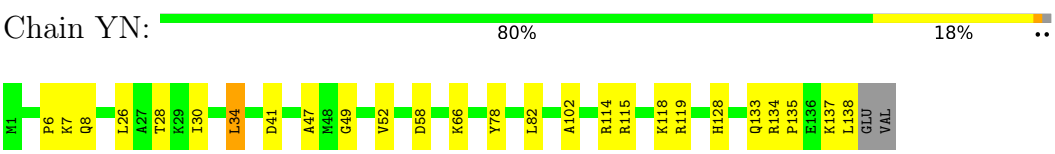
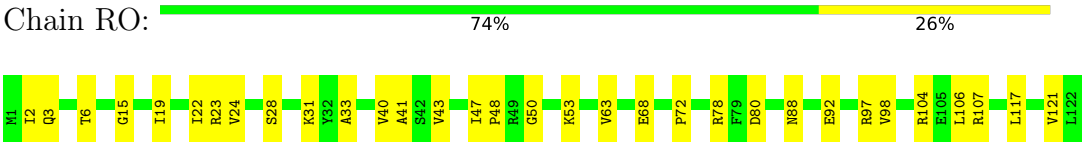


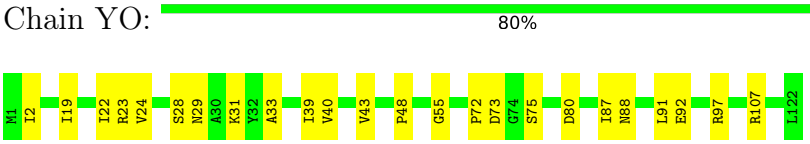
• Molecule 33: 50S ribosomal protein L14

Chain RO:



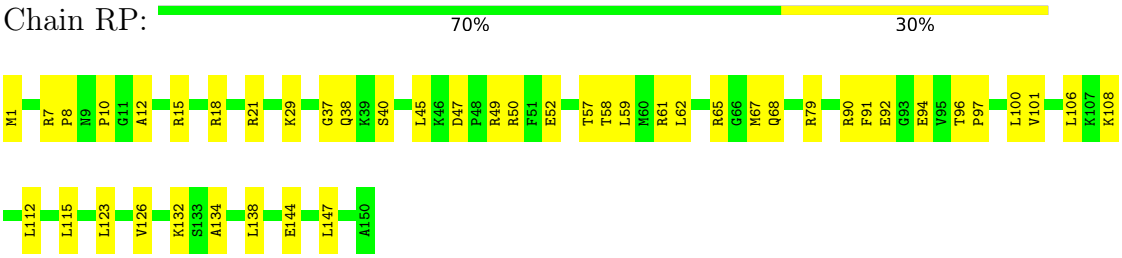
• Molecule 33: 50S ribosomal protein L14

Chain YO:



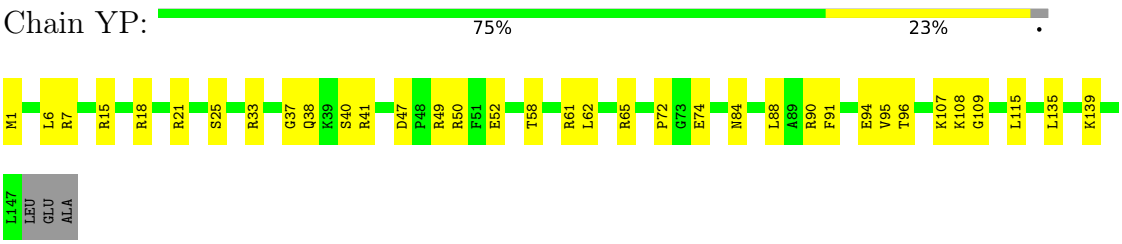
• Molecule 34: 50S ribosomal protein L15

Chain RP:



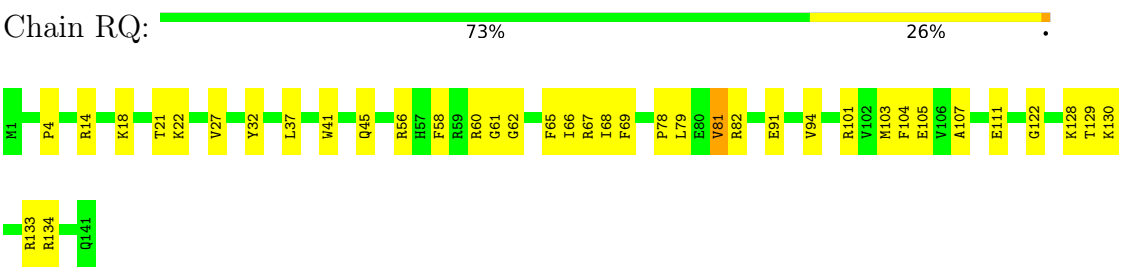
• Molecule 34: 50S ribosomal protein L15

Chain YP:



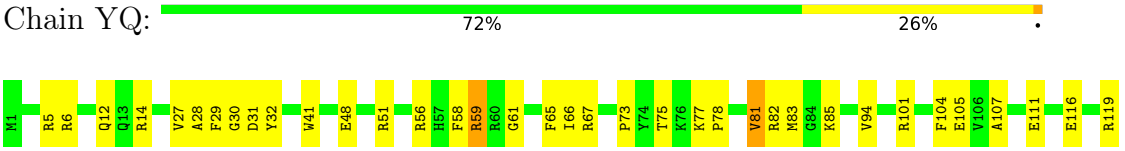
• Molecule 35: 50S ribosomal protein L16

Chain RQ:



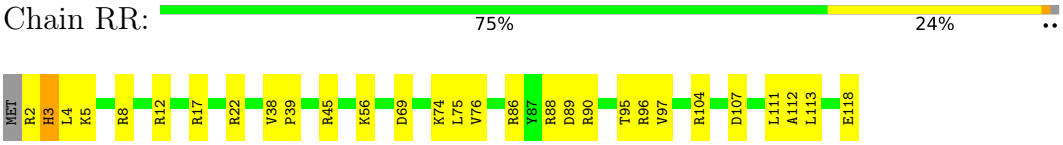
• Molecule 35: 50S ribosomal protein L16

Chain YQ:



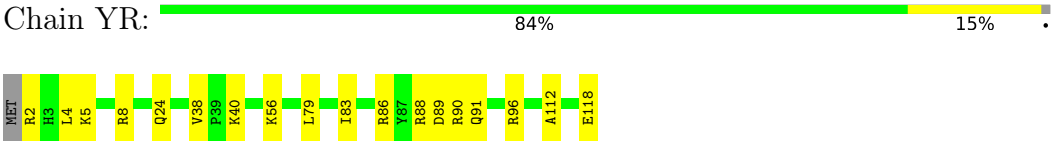
• Molecule 36: 50S ribosomal protein L17

Chain RR:



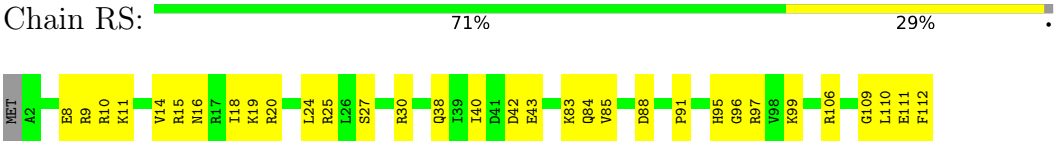
• Molecule 36: 50S ribosomal protein L17

Chain YR:



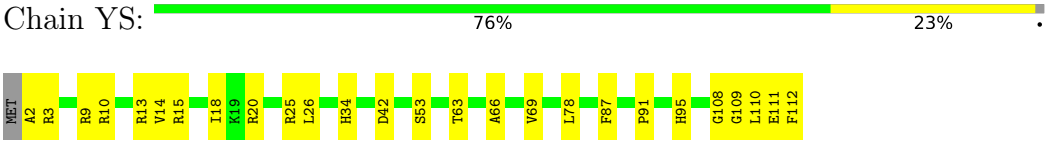
• Molecule 37: 50S ribosomal protein L18

Chain RS:



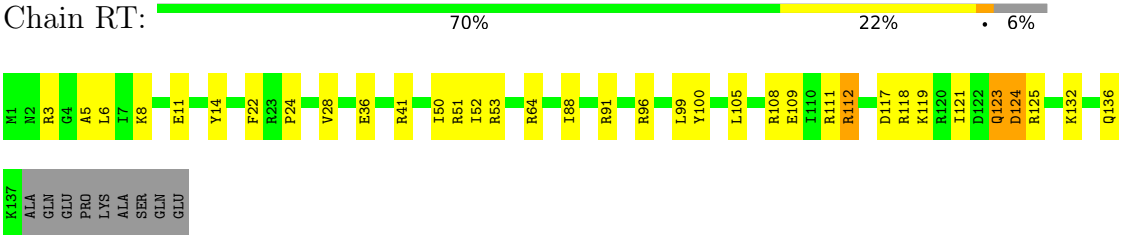
• Molecule 37: 50S ribosomal protein L18

Chain YS:



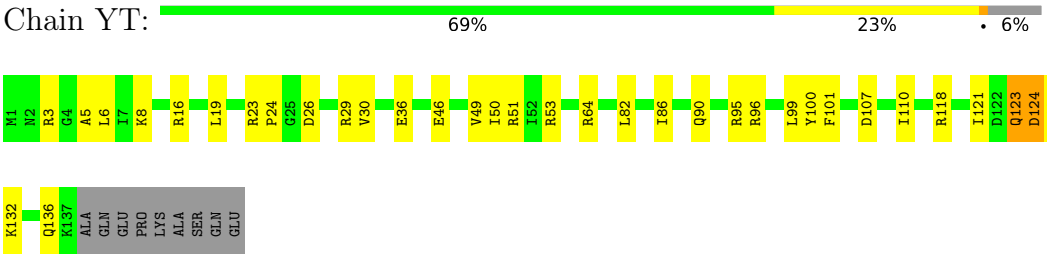
• Molecule 38: 50S ribosomal protein L19

Chain RT:



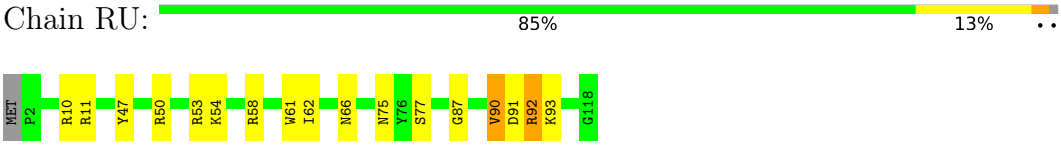
• Molecule 38: 50S ribosomal protein L19

Chain YT:



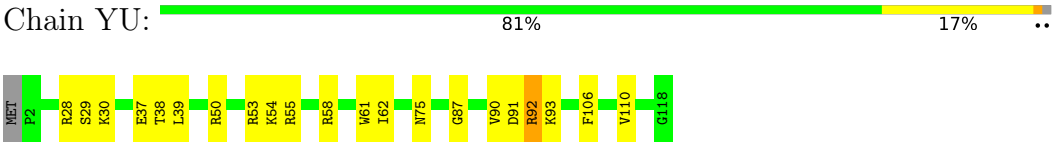
• Molecule 39: 50S ribosomal protein L20

Chain RU:



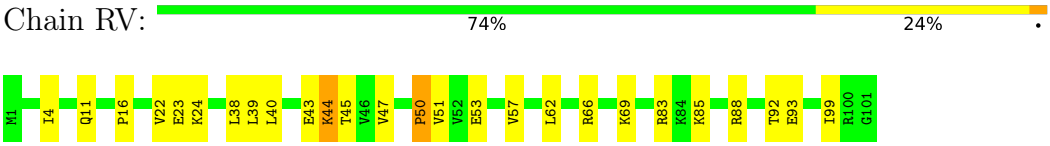
• Molecule 39: 50S ribosomal protein L20

Chain YU:



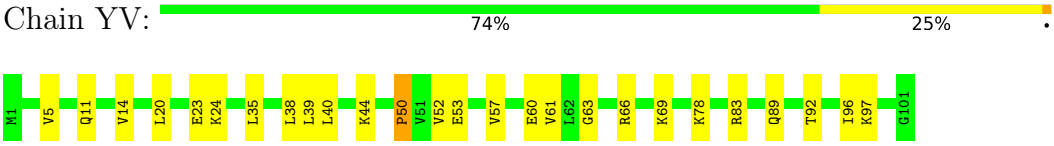
• Molecule 40: 50S ribosomal protein L21

Chain RV:



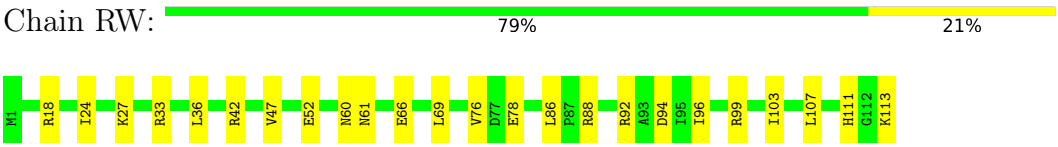
• Molecule 40: 50S ribosomal protein L21

Chain YV:



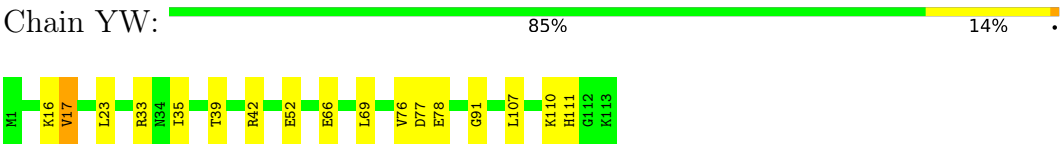
• Molecule 41: 50S ribosomal protein L22

Chain RW:



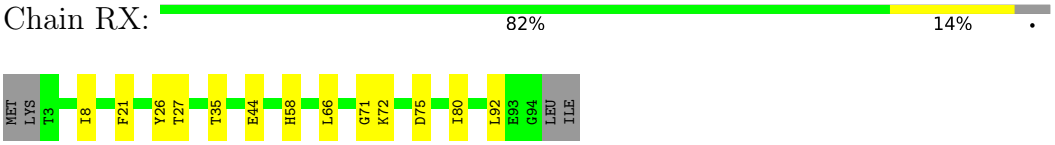
• Molecule 41: 50S ribosomal protein L22

Chain YW:



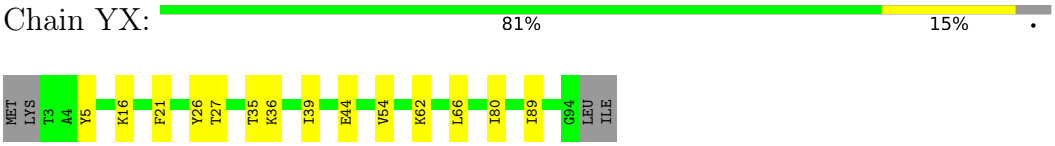
• Molecule 42: 50S ribosomal protein L23

Chain RX:



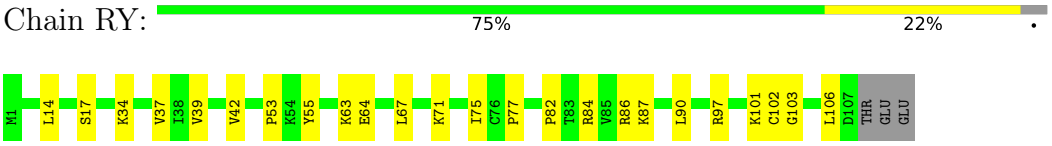
• Molecule 42: 50S ribosomal protein L23

Chain YX:



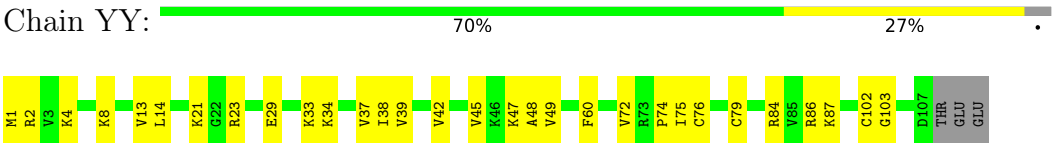
• Molecule 43: 50S ribosomal protein L24

Chain RY:



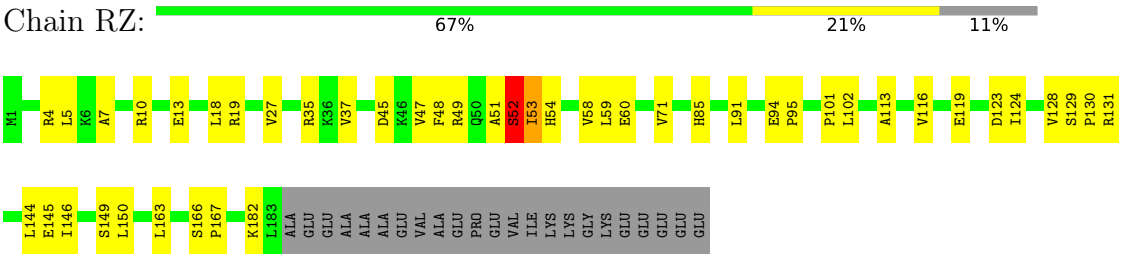
• Molecule 43: 50S ribosomal protein L24

Chain YY:



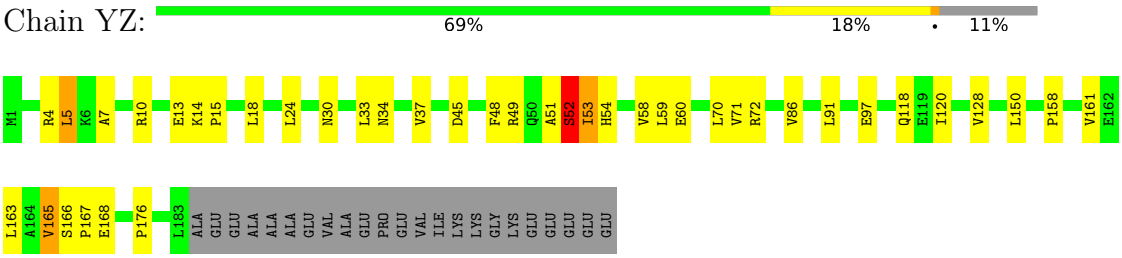
• Molecule 44: 50S ribosomal protein L25

Chain RZ:



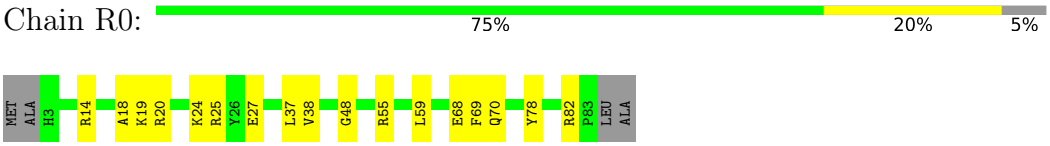
• Molecule 44: 50S ribosomal protein L25

Chain YZ:



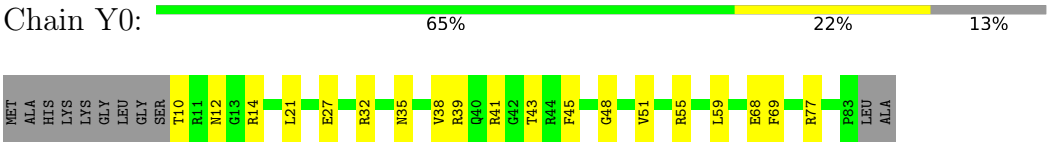
• Molecule 45: 50S ribosomal protein L27

Chain R0:



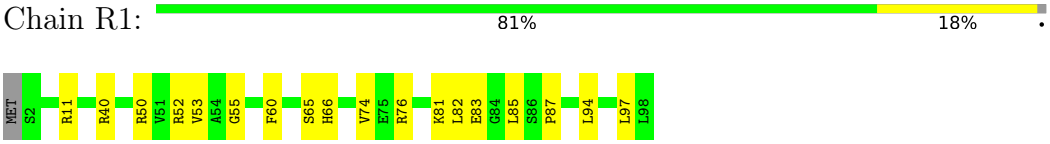
• Molecule 45: 50S ribosomal protein L27

Chain Y0:



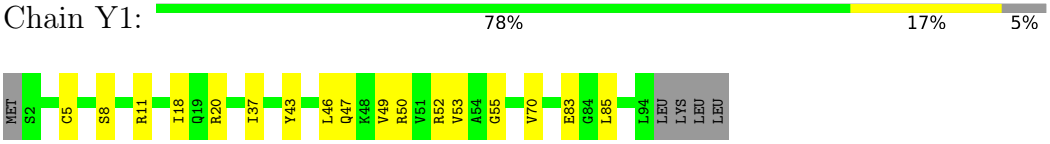
• Molecule 46: 50S ribosomal protein L28

Chain R1:



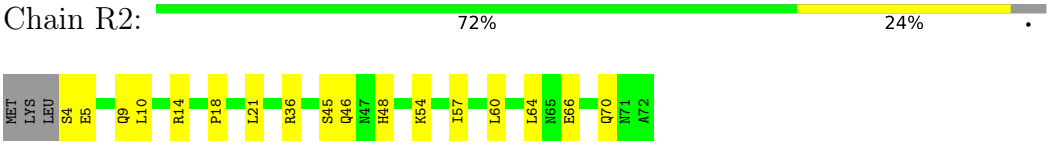
• Molecule 46: 50S ribosomal protein L28

Chain Y1:



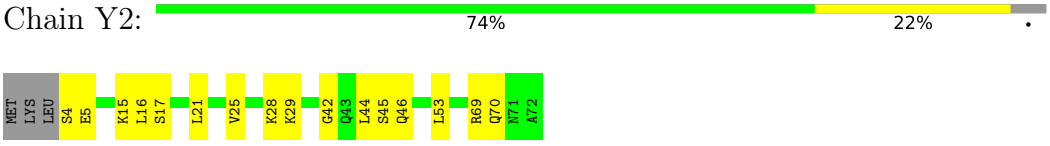
• Molecule 47: 50S ribosomal protein L29

Chain R2:



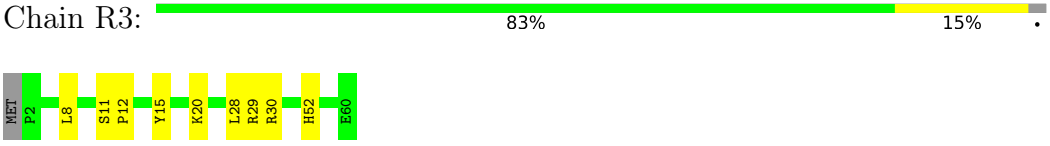
• Molecule 47: 50S ribosomal protein L29

Chain Y2:



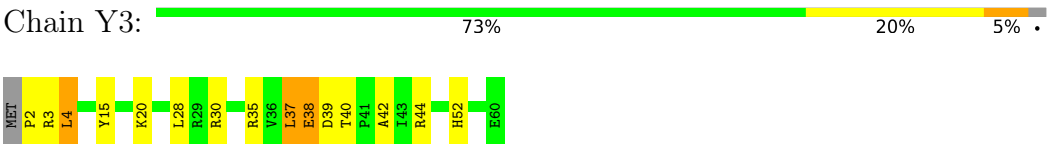
• Molecule 48: 50S ribosomal protein L30

Chain R3:



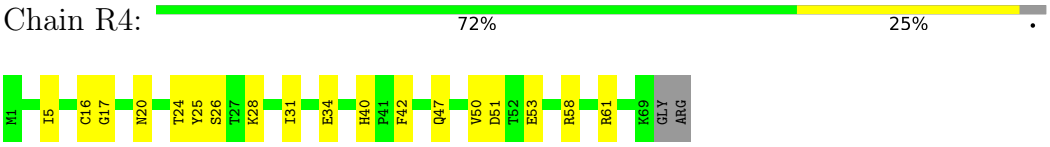
• Molecule 48: 50S ribosomal protein L30

Chain Y3:



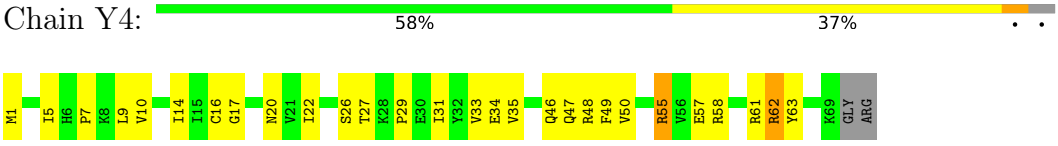
• Molecule 49: 50S ribosomal protein L31

Chain R4:



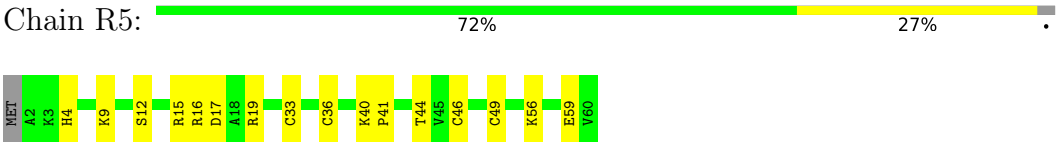
• Molecule 49: 50S ribosomal protein L31

Chain Y4:



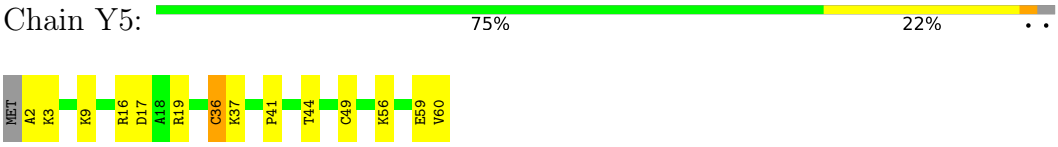
• Molecule 50: 50S ribosomal protein L32

Chain R5:



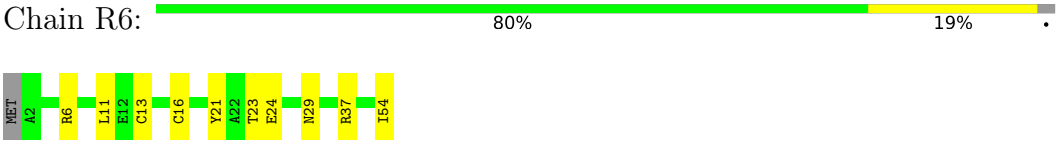
• Molecule 50: 50S ribosomal protein L32

Chain Y5:



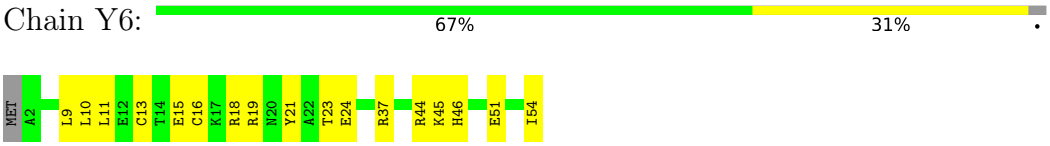
• Molecule 51: 50S ribosomal protein L33

Chain R6:



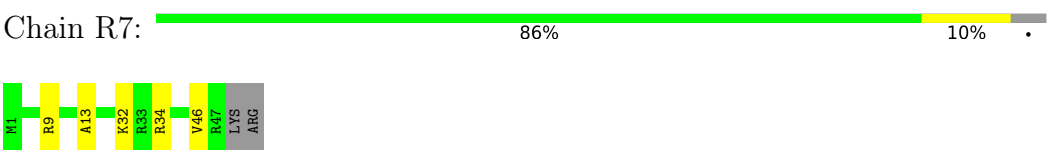
• Molecule 51: 50S ribosomal protein L33

Chain Y6:



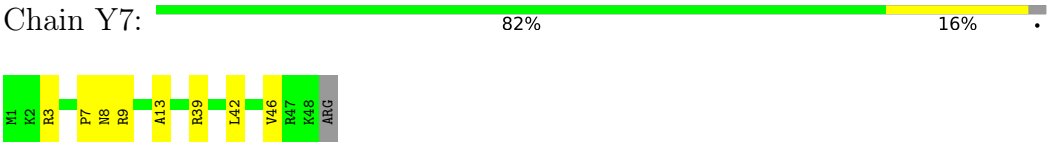
• Molecule 52: 50S ribosomal protein L34

Chain R7:



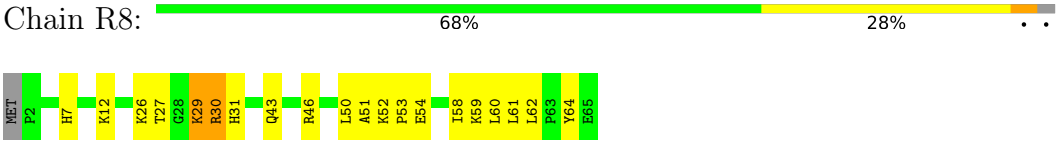
• Molecule 52: 50S ribosomal protein L34

Chain Y7:



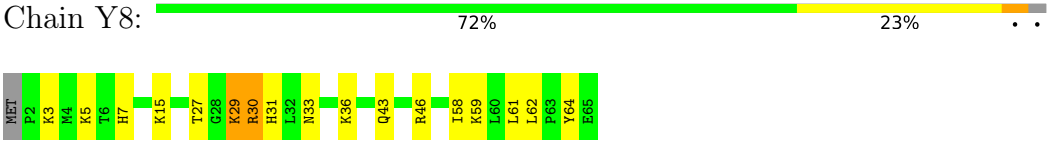
• Molecule 53: 50S ribosomal protein L35

Chain R8:



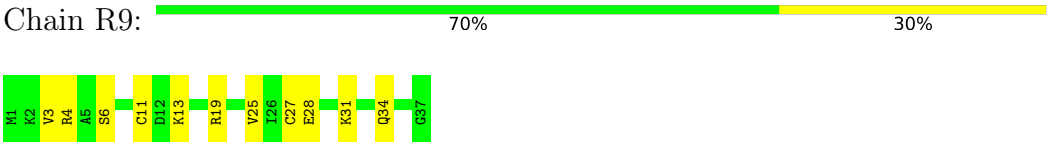
• Molecule 53: 50S ribosomal protein L35

Chain Y8:



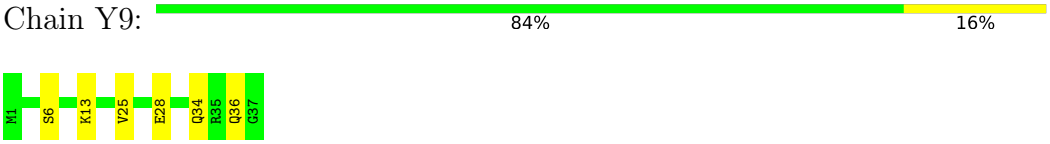
• Molecule 54: 50S ribosomal protein L36

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	209.97Å 450.71Å 619.40Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	49.82 – 3.97	Depositor
% Data completeness (in resolution range)	98.7 (49.82-3.97)	Depositor
R_{merge}	0.33	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.36 (at 4.00Å)	Xtriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.228 , 0.255	Depositor
Wilson B-factor (Å^2)	146.0	Xtriage
Anisotropy	0.246	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.41$, $< L^2 > = 0.24$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	291782	wwPDB-VP
Average B, all atoms (Å^2)	177.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.93% 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, 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	0.59	0/36098	1.09	116/56341 (0.2%)
1	XA	0.59	0/36101	1.09	126/56346 (0.2%)
2	QB	0.44	0/1942	0.69	1/2619 (0.0%)
2	XB	0.46	0/1950	0.68	0/2630
3	QC	0.46	0/1629	0.72	0/2195
3	XC	0.44	0/1629	0.72	0/2195
4	QD	0.47	1/1733 (0.1%)	0.67	0/2318
4	XD	0.53	1/1733 (0.1%)	0.65	0/2318
5	QE	0.46	1/1171 (0.1%)	0.68	1/1576 (0.1%)
5	XE	0.45	0/1171	0.69	0/1576
6	QF	0.46	0/856	0.69	0/1154
6	XF	0.41	0/856	0.66	0/1154
7	QG	0.46	0/1276	0.67	0/1709
7	XG	0.45	0/1276	0.70	0/1709
8	QH	0.45	0/1128	0.64	1/1517 (0.1%)
8	XH	0.41	0/1128	0.63	0/1517
9	QI	0.46	0/1008	0.77	3/1354 (0.2%)
9	XI	0.45	0/1017	0.79	2/1365 (0.1%)
10	QJ	0.45	0/814	0.69	1/1095 (0.1%)
10	XJ	0.46	0/790	0.71	0/1063
11	QK	0.42	0/900	0.59	0/1213
11	XK	0.42	0/879	0.66	0/1187
12	QL	0.44	0/991	0.69	0/1327
12	XL	0.43	0/972	0.70	0/1301
13	QM	0.46	0/965	0.74	0/1292
13	XM	0.49	0/956	0.83	1/1281 (0.1%)
14	QN	0.42	0/501	0.70	1/664 (0.2%)
14	XN	0.51	0/501	0.76	1/664 (0.2%)
15	QO	0.40	0/745	0.56	0/992
15	XO	0.41	0/740	0.62	0/987
16	QP	0.46	0/721	0.63	0/970
16	XP	0.43	0/721	0.70	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QQ	0.38	0/847	0.61	0/1131
17	XQ	0.39	0/847	0.63	0/1131
18	QR	0.40	0/579	0.61	0/768
18	XR	0.44	0/579	0.65	0/768
19	QS	0.39	0/680	0.74	1/915 (0.1%)
19	XS	0.46	0/689	0.75	0/926
20	QT	0.37	0/765	0.61	0/1007
20	XT	0.49	0/765	0.75	0/1007
21	QU	0.41	0/221	0.68	0/288
21	XU	0.40	0/221	0.71	0/288
22	QV	0.47	1/1840 (0.1%)	1.02	6/2866 (0.2%)
22	XV	0.42	1/1840 (0.1%)	1.02	9/2866 (0.3%)
23	QX	0.28	0/470	0.86	1/733 (0.1%)
23	XX	0.33	0/470	0.90	0/733
24	RA	0.76	1/69521 (0.0%)	1.14	353/108529 (0.3%)
24	YA	0.89	3/69543 (0.0%)	1.17	381/108563 (0.4%)
25	RB	0.56	0/2878	1.14	22/4490 (0.5%)
25	YB	0.78	0/2878	1.19	15/4490 (0.3%)
26	RD	0.51	0/2165	0.71	2/2919 (0.1%)
26	YD	0.53	0/2165	0.68	2/2919 (0.1%)
27	RE	0.45	0/1601	0.72	0/2160
27	YE	0.47	0/1601	0.68	0/2160
28	RF	0.49	0/1620	0.64	0/2194
28	YF	0.55	0/1620	0.66	0/2194
29	RG	0.44	0/1499	0.73	0/2016
29	YG	0.46	0/1499	0.73	0/2016
30	RH	0.48	0/1362	0.75	0/1841
30	YH	0.49	0/1362	0.74	0/1841
31	RI	0.43	0/1151	0.76	0/1558
31	YI	0.46	0/1151	0.76	1/1558 (0.1%)
32	RN	0.42	0/1131	0.67	0/1525
32	YN	0.50	0/1131	0.69	0/1525
33	RO	0.52	0/943	0.67	0/1269
33	YO	0.51	0/943	0.67	0/1269
34	RP	0.47	0/1162	0.78	0/1544
34	YP	0.47	0/1139	0.73	0/1514
35	RQ	0.45	0/1143	0.70	0/1527
35	YQ	0.51	0/1143	0.71	0/1527
36	RR	0.45	0/974	0.67	0/1302
36	YR	0.46	0/974	0.67	0/1302
37	RS	0.43	0/892	0.76	0/1187
37	YS	0.44	0/892	0.72	0/1187
38	RT	0.46	0/1155	0.75	2/1542 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YT	0.48	0/1155	0.74	2/1542 (0.1%)
39	RU	0.46	0/982	0.65	0/1306
39	YU	0.55	0/982	0.64	0/1306
40	RV	0.48	0/790	0.72	0/1057
40	YV	0.49	0/790	0.70	0/1057
41	RW	0.50	0/911	0.67	0/1220
41	YW	0.50	0/911	0.64	0/1220
42	RX	0.43	0/739	0.64	1/993 (0.1%)
42	YX	0.50	0/739	0.67	1/993 (0.1%)
43	RY	0.44	0/831	0.60	0/1108
43	YY	0.46	0/831	0.58	0/1108
44	RZ	0.49	0/1493	0.79	0/2026
44	YZ	0.44	0/1493	0.74	2/2026 (0.1%)
45	R0	0.41	0/652	0.61	0/867
45	Y0	0.44	0/601	0.60	0/801
46	R1	0.46	0/770	0.66	0/1022
46	Y1	0.50	0/736	0.69	0/978
47	R2	0.49	0/583	0.68	0/771
47	Y2	0.46	0/583	0.68	0/771
48	R3	0.43	0/474	0.65	0/635
48	Y3	0.49	0/474	0.66	0/635
49	R4	0.44	0/578	0.73	0/776
49	Y4	0.48	0/578	0.76	0/776
50	R5	0.46	0/473	0.62	0/639
50	Y5	0.50	0/473	0.78	1/639 (0.2%)
51	R6	0.40	0/460	0.60	0/613
51	Y6	0.45	0/460	0.62	0/613
52	R7	0.44	0/417	0.65	0/550
52	Y7	0.49	0/426	0.64	0/561
53	R8	0.52	0/525	0.75	0/691
53	Y8	0.59	0/525	0.76	0/691
54	R9	0.37	0/310	0.62	0/407
54	Y9	0.42	0/310	0.59	0/407
All	All	0.68	9/316004 (0.0%)	1.03	1056/472499 (0.2%)

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
4	QD	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
12	XL	0	1
27	YE	0	1
29	RG	0	1
29	YG	0	1
44	RZ	0	1
44	YZ	0	1
All	All	0	7

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	XD	61	LYS	CE-NZ	11.17	1.76	1.49
22	QV	1	C	OP3-P	-10.43	1.48	1.61
22	XV	1	C	OP3-P	-10.41	1.48	1.61
4	QD	13	ARG	CZ-NH1	7.36	1.42	1.33
5	QE	57	LYS	CD-CE	5.31	1.64	1.51
24	RA	248	G	N7-C5	-5.28	1.36	1.39
24	YA	2712(A)	A	N9-C8	-5.24	1.33	1.37
24	YA	2712(A)	A	N7-C5	-5.14	1.36	1.39
24	YA	2868	A	N7-C5	-5.10	1.36	1.39

All (1056) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1774	C	C2-N1-C1'	19.55	140.31	118.80
24	RA	1774	C	C6-N1-C1'	-15.44	102.27	120.80
1	XA	359	U	C2-N1-C1'	13.62	134.05	117.70
24	YA	1158	C	C2-N1-C1'	13.17	133.29	118.80
1	QA	1301	U	N1-C2-O2	12.01	131.21	122.80
24	YA	1313	U	N3-C2-O2	-11.93	113.85	122.20
24	YA	511	U	C2-N1-C1'	11.92	132.01	117.70
24	YA	856	C	C6-N1-C2	-11.75	115.60	120.30
50	Y5	60	VAL	CA-C-O	-11.67	95.59	120.10
25	RB	31	C	N1-C2-O2	11.35	125.71	118.90
24	RA	1774	C	N3-C2-O2	-11.34	113.96	121.90
24	YA	1158	C	C6-N1-C1'	-10.95	107.66	120.80
24	RA	856	C	C6-N1-C2	-10.93	115.93	120.30
24	YA	1535	U	N1-C2-O2	10.68	130.27	122.80
1	XA	359	U	C6-N1-C1'	-10.61	106.35	121.20
1	QA	1301	U	N3-C2-O2	-10.60	114.78	122.20
1	QA	328	C	N1-C2-O2	10.52	125.21	118.90
1	QA	1158	C	N1-C2-O2	10.47	125.18	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2712(A)	A	N7-C8-N9	10.45	119.03	113.80
24	RA	546	C	N1-C2-O2	10.38	125.13	118.90
1	XA	1158	C	N1-C2-O2	10.35	125.11	118.90
24	YA	2868	A	N7-C8-N9	10.35	118.97	113.80
1	XA	328	C	N1-C2-O2	10.32	125.09	118.90
24	RA	1774	C	N1-C2-O2	10.29	125.07	118.90
24	YA	2868	A	C8-N9-C4	-10.17	101.73	105.80
24	YA	1313	U	N1-C2-O2	10.11	129.88	122.80
25	YB	31	C	N1-C2-O2	9.96	124.88	118.90
24	RA	1968	G	C4-N9-C1'	9.87	139.33	126.50
24	YA	1407	C	C6-N1-C2	-9.80	116.38	120.30
1	QA	1158	C	N3-C2-O2	-9.67	115.13	121.90
24	RA	308	G	C8-N9-C1'	9.65	139.55	127.00
24	YA	1535	U	N3-C2-O2	-9.65	115.44	122.20
24	YA	1313	U	C2-N1-C1'	9.65	129.28	117.70
24	RA	1968	G	C8-N9-C1'	-9.57	114.56	127.00
24	YA	120	U	N3-C2-O2	-9.53	115.53	122.20
24	RA	308	G	C4-N9-C1'	-9.50	114.14	126.50
24	YA	511	U	C6-N1-C1'	-9.48	107.93	121.20
24	YA	1956	U	N3-C2-O2	-9.46	115.58	122.20
24	YA	1774	C	N3-C2-O2	-9.34	115.36	121.90
24	YA	860	U	N3-C2-O2	-9.29	115.70	122.20
24	YA	1670	C	C2-N1-C1'	9.20	128.92	118.80
24	RA	1313	U	N3-C2-O2	-9.18	115.78	122.20
1	QA	1158	C	C6-N1-C2	-9.17	116.63	120.30
24	RA	2666	C	N1-C2-O2	9.15	124.39	118.90
24	RA	1640	C	N1-C2-O2	9.08	124.35	118.90
24	RA	120	U	N3-C2-O2	-9.07	115.85	122.20
24	RA	373	U	N3-C2-O2	-8.97	115.92	122.20
24	YA	828	U	C2-N1-C1'	8.93	128.41	117.70
24	YA	1914	C	N1-C2-O2	8.84	124.20	118.90
1	XA	330	C	N1-C2-O2	8.76	124.16	118.90
24	YA	856	C	C5-C6-N1	8.75	125.37	121.00
24	YA	1774	C	N1-C2-O2	8.70	124.12	118.90
24	YA	1968	G	O4'-C1'-N9	8.66	115.12	108.20
24	YA	1968	G	C4-N9-C1'	8.64	137.74	126.50
24	RA	373	U	N1-C2-O2	8.64	128.85	122.80
24	RA	1956	U	N3-C2-O2	-8.57	116.20	122.20
1	XA	979	C	N1-C2-O2	8.51	124.01	118.90
25	YB	31	C	C2-N1-C1'	8.51	128.16	118.80
24	RA	120	U	N1-C2-O2	8.49	128.74	122.80
1	QA	328	C	N3-C2-O2	-8.48	115.96	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	1914	C	N1-C2-O2	8.47	123.98	118.90
1	XA	1158	C	N3-C2-O2	-8.44	115.99	121.90
24	RA	828	U	N1-C2-O2	8.44	128.71	122.80
24	RA	546	C	N3-C2-O2	-8.43	116.00	121.90
25	YB	37	C	N1-C2-O2	8.41	123.95	118.90
1	XA	358	U	N1-C1'-C2'	-8.38	102.79	112.00
24	RA	1931	U	N1-C2-O2	8.36	128.65	122.80
24	RA	828	U	N3-C2-O2	-8.35	116.35	122.20
1	XA	328	C	N3-C2-O2	-8.35	116.06	121.90
24	YA	2814	C	N3-C2-O2	-8.35	116.06	121.90
24	YA	1159	U	C2-N1-C1'	8.34	127.71	117.70
1	QA	1322	C	N1-C2-O2	8.33	123.90	118.90
24	YA	1407	C	C5-C6-N1	8.32	125.16	121.00
24	YA	120	U	N1-C2-O2	8.31	128.61	122.80
24	YA	1968	G	C8-N9-C1'	-8.26	116.26	127.00
25	RB	31	C	N3-C2-O2	-8.26	116.12	121.90
24	YA	1314	C	C6-N1-C2	-8.26	117.00	120.30
24	YA	828	U	N1-C2-O2	8.23	128.56	122.80
24	RA	1407	C	C6-N1-C2	-8.22	117.01	120.30
24	RA	1931	U	N3-C2-O2	-8.21	116.45	122.20
24	YA	2726	U	N3-C2-O2	-8.21	116.45	122.20
24	YA	435	C	N1-C2-O2	8.20	123.82	118.90
24	YA	1407	C	C2-N1-C1'	8.20	127.82	118.80
1	QA	1504	G	C8-N9-C1'	-8.17	116.38	127.00
1	XA	1158	C	C2-N1-C1'	8.16	127.78	118.80
24	RA	1313	U	N1-C2-O2	8.16	128.51	122.80
1	QA	1066	C	N1-C2-O2	8.15	123.79	118.90
1	QA	328	C	C6-N1-C2	-8.12	117.05	120.30
1	QA	328	C	C2-N1-C1'	8.10	127.71	118.80
1	QA	1158	C	C2-N1-C1'	8.10	127.71	118.80
1	QA	1504	G	C4-N9-C1'	8.07	136.99	126.50
25	RB	31	C	C2-N1-C1'	8.00	127.60	118.80
24	RA	1519	G	C8-N9-C1'	-7.99	116.61	127.00
1	XA	1158	C	C6-N1-C2	-7.97	117.11	120.30
24	RA	856	C	C5-C6-N1	7.96	124.98	121.00
1	QA	754	C	C2-N1-C1'	7.93	127.53	118.80
24	RA	1417	C	C5-C6-N1	7.92	124.96	121.00
24	YA	41	C	C6-N1-C2	-7.90	117.14	120.30
24	RA	1314	C	C6-N1-C2	-7.87	117.15	120.30
24	YA	749	C	N1-C2-O2	7.86	123.61	118.90
24	RA	1519	G	C4-N9-C1'	7.84	136.70	126.50
24	RA	537	C	C5-C6-N1	7.82	124.91	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1406	U	C5-C6-N1	7.80	126.60	122.70
1	QA	110	C	N1-C2-O2	7.79	123.57	118.90
24	RA	893	C	N1-C2-O2	7.78	123.57	118.90
1	QA	1322	C	N3-C2-O2	-7.78	116.45	121.90
24	RA	828	U	C2-N1-C1'	7.76	127.02	117.70
24	RA	613	U	N1-C2-O2	7.75	128.23	122.80
24	YA	1956	U	N1-C2-O2	7.75	128.23	122.80
24	YA	860	U	N1-C2-O2	7.74	128.22	122.80
23	QX	21	G	C2'-C3'-O3'	7.72	126.49	109.50
1	XA	747	C	N1-C2-O2	7.69	123.51	118.90
1	XA	186(F)	C	N3-C2-O2	-7.68	116.52	121.90
42	YX	66	LEU	CA-CB-CG	7.66	132.92	115.30
1	QA	1028(A)	C	N1-C2-O2	7.65	123.49	118.90
24	YA	1915	U	N1-C2-O2	7.64	128.15	122.80
1	QA	307	C	N1-C2-O2	7.60	123.46	118.90
24	YA	1658	C	C5-C6-N1	7.60	124.80	121.00
24	RA	1535	U	N1-C2-O2	7.59	128.12	122.80
24	RA	2666	C	N3-C2-O2	-7.59	116.59	121.90
24	YA	828	U	N3-C2-O2	-7.59	116.89	122.20
24	RA	1640	C	C6-N1-C2	-7.58	117.27	120.30
1	QA	1322	C	C6-N1-C2	-7.58	117.27	120.30
24	YA	1506	C	C6-N1-C2	-7.58	117.27	120.30
24	YA	2814	C	N1-C2-O2	7.57	123.44	118.90
1	XA	110	C	N1-C2-O2	7.57	123.44	118.90
1	XA	960	U	N1-C2-O2	7.57	128.09	122.80
24	RA	537	C	C6-N1-C2	-7.54	117.28	120.30
25	YB	37	C	N3-C2-O2	-7.54	116.62	121.90
24	RA	1474	C	C6-N1-C2	-7.52	117.29	120.30
24	YA	2712(A)	A	C8-N9-C4	-7.52	102.79	105.80
24	RA	607	U	N1-C2-O2	7.49	128.04	122.80
24	RA	2063	C	N1-C2-O2	7.49	123.39	118.90
1	XA	747	C	N3-C2-O2	-7.49	116.66	121.90
1	XA	135	C	N3-C2-O2	-7.48	116.66	121.90
24	RA	435	C	N1-C2-O2	7.48	123.39	118.90
1	XA	1260	C	N3-C2-O2	-7.47	116.67	121.90
1	QA	1301	U	C2-N1-C1'	7.46	126.66	117.70
1	XA	135	C	N1-C2-O2	7.46	123.38	118.90
24	RA	867	C	N1-C2-O2	7.44	123.36	118.90
1	XA	979	C	N3-C2-O2	-7.44	116.69	121.90
24	RA	1407	C	C2-N1-C1'	7.43	126.98	118.80
24	YA	1658	C	C6-N1-C2	-7.43	117.33	120.30
24	RA	1005	C	N1-C2-O2	7.43	123.36	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2726	U	N1-C2-O2	7.41	127.98	122.80
24	RA	546	C	C6-N1-C2	-7.40	117.34	120.30
1	XA	1260	C	N1-C2-O2	7.37	123.32	118.90
24	RA	846	C	N3-C2-O2	-7.37	116.74	121.90
24	RA	1968	G	O4'-C1'-N9	7.36	114.09	108.20
24	YA	867	C	N1-C2-O2	7.35	123.31	118.90
1	XA	307	C	N1-C2-O2	7.34	123.31	118.90
24	YA	1686	C	C6-N1-C2	-7.34	117.36	120.30
24	YA	556	G	C6-C5-N7	-7.33	126.00	130.40
24	RA	679	C	C6-N1-C2	-7.32	117.37	120.30
24	RA	613	U	N3-C2-O2	-7.32	117.08	122.20
24	RA	1640	C	N3-C2-O2	-7.32	116.78	121.90
24	YA	2063	C	N1-C2-O2	7.31	123.28	118.90
24	YA	2726	U	N1-C2-O2	7.29	127.90	122.80
24	YA	537	C	C5-C6-N1	7.29	124.64	121.00
1	QA	1260	C	C6-N1-C2	-7.29	117.39	120.30
24	YA	2739	U	N3-C2-O2	-7.28	117.11	122.20
24	RA	2394	C	N1-C2-O2	7.28	123.27	118.90
24	YA	385	C	C6-N1-C2	-7.28	117.39	120.30
14	QN	44	LEU	CA-CB-CG	7.25	131.98	115.30
1	XA	449	C	N1-C2-O2	7.25	123.25	118.90
24	RA	846	C	N1-C2-O2	7.24	123.24	118.90
24	YA	1670	C	C6-N1-C1'	-7.22	112.13	120.80
24	RA	2726	U	N3-C2-O2	-7.22	117.14	122.20
24	YA	1417	C	C5-C6-N1	7.22	124.61	121.00
24	RA	456	C	N1-C2-O2	7.20	123.22	118.90
24	RA	1774	C	C6-N1-C2	-7.20	117.42	120.30
24	RA	1899	G	N3-C4-N9	-7.20	121.68	126.00
24	YA	1411	C	C6-N1-C2	-7.19	117.42	120.30
25	YB	31	C	N3-C2-O2	-7.19	116.86	121.90
24	YA	2701	C	C6-N1-C2	-7.19	117.42	120.30
22	QV	1	C	C6-N1-C2	-7.19	117.42	120.30
24	RA	1097	U	N3-C2-O2	-7.18	117.17	122.20
24	RA	607	U	N3-C2-O2	-7.18	117.17	122.20
22	QV	68	U	N1-C2-O2	7.17	127.82	122.80
24	RA	546	C	C2-N1-C1'	7.16	126.67	118.80
24	RA	1956	U	N1-C2-O2	7.15	127.81	122.80
1	XA	1452	C	N1-C2-O2	7.14	123.18	118.90
1	QA	252	U	N1-C2-O2	7.13	127.79	122.80
24	YA	2065	C	C5-C6-N1	7.12	124.56	121.00
1	QA	328	C	C5-C6-N1	7.12	124.56	121.00
1	QA	1228	C	C6-N1-C2	-7.10	117.46	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2321	G	N3-C4-C5	-7.08	125.06	128.60
1	QA	252	U	N3-C2-O2	-7.08	117.24	122.20
24	YA	753	C	C6-N1-C2	-7.07	117.47	120.30
1	QA	346	G	N3-C4-C5	-7.07	125.07	128.60
1	XA	618	C	C6-N1-C2	-7.06	117.47	120.30
24	YA	2065	C	C6-N1-C2	-7.06	117.47	120.30
24	RA	1097	U	N1-C2-O2	7.06	127.74	122.80
24	RA	1474	C	C5-C6-N1	7.05	124.53	121.00
24	RA	2847	U	N1-C2-O2	7.05	127.73	122.80
38	RT	99	LEU	CA-CB-CG	7.05	131.51	115.30
1	XA	328	C	C6-N1-C2	-7.04	117.48	120.30
24	RA	1882	C	C6-N1-C2	-7.03	117.49	120.30
1	XA	1301	U	N3-C2-O2	-7.03	117.28	122.20
24	YA	435	C	N3-C2-O2	-7.02	116.98	121.90
24	RA	1313	U	C2-N1-C1'	7.01	126.11	117.70
24	YA	2321	G	N3-C4-C5	-7.01	125.09	128.60
24	YA	1950	G	C4-N9-C1'	7.00	135.61	126.50
25	RB	27	C	N1-C2-O2	7.00	123.10	118.90
1	QA	789	U	N3-C2-O2	-7.00	117.30	122.20
1	XA	827	U	N3-C2-O2	-7.00	117.30	122.20
1	XA	1347	G	C4-N9-C1'	-6.99	117.41	126.50
38	YT	99	LEU	CA-CB-CG	6.98	131.36	115.30
24	RA	2752	C	N1-C2-O2	6.98	123.09	118.90
24	RA	2063	C	N3-C2-O2	-6.98	117.02	121.90
24	RA	2559	C	N1-C2-O2	6.97	123.08	118.90
24	YA	2591	C	C6-N1-C2	-6.96	117.51	120.30
1	XA	346	G	N3-C4-N9	6.96	130.18	126.00
24	YA	2394	C	N1-C2-O2	6.96	123.08	118.90
24	RA	1742	C	C6-N1-C2	-6.96	117.52	120.30
25	YB	27	C	N1-C2-O2	6.95	123.07	118.90
24	YA	915	C	C6-N1-C2	-6.94	117.52	120.30
24	YA	1064	C	C6-N1-C2	-6.93	117.53	120.30
24	YA	1534	G	N3-C4-N9	6.92	130.15	126.00
24	RA	2321	G	C8-N9-C4	-6.91	103.64	106.40
24	RA	1514	U	N1-C2-O2	6.90	127.63	122.80
24	RA	1294	U	N3-C2-O2	-6.90	117.37	122.20
24	RA	867	C	N3-C2-O2	-6.89	117.08	121.90
24	RA	1417	C	C6-N1-C2	-6.89	117.55	120.30
1	XA	497	U	N3-C2-O2	-6.88	117.38	122.20
1	XA	449	C	N3-C2-O2	-6.88	117.08	121.90
1	XA	1301	U	N1-C2-O2	6.88	127.62	122.80
24	YA	2712(A)	A	C5-N7-C8	-6.88	100.46	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	67	U	C5-C6-N1	6.88	126.14	122.70
24	YA	265	A	O4'-C1'-N9	6.86	113.69	108.20
1	QA	754	C	N1-C2-O2	6.85	123.01	118.90
24	RA	1882	C	C2-N1-C1'	6.85	126.34	118.80
24	RA	1882	C	C5-C6-N1	6.83	124.41	121.00
24	RA	1514	U	N3-C2-O2	-6.82	117.42	122.20
24	YA	537	C	C6-N1-C2	-6.82	117.57	120.30
24	YA	1506	C	N1-C2-O2	6.79	122.98	118.90
22	XV	1	C	C6-N1-C2	-6.79	117.59	120.30
1	XA	529	G	C5-C6-O6	-6.78	124.53	128.60
22	QV	68	U	N3-C2-O2	-6.78	117.45	122.20
24	RA	2063	C	C6-N1-C2	-6.78	117.59	120.30
24	YA	867	C	N3-C2-O2	-6.78	117.15	121.90
1	XA	1260	C	C6-N1-C2	-6.77	117.59	120.30
24	YA	9	U	N1-C2-O2	6.77	127.54	122.80
24	RA	635	C	C6-N1-C2	-6.75	117.60	120.30
24	RA	1914	C	N3-C2-O2	-6.75	117.18	121.90
1	QA	749	C	N3-C2-O2	-6.74	117.18	121.90
1	XA	1347	G	C8-N9-C1'	6.74	135.76	127.00
1	XA	135	C	C6-N1-C2	-6.73	117.61	120.30
24	RA	1509	C	C2-N1-C1'	6.72	126.19	118.80
24	RA	1535	U	N3-C2-O2	-6.71	117.50	122.20
1	XA	1028	C	C6-N1-C2	-6.71	117.62	120.30
24	RA	234	C	N1-C2-O2	6.69	122.91	118.90
24	YA	2808	U	N3-C2-O2	-6.69	117.52	122.20
24	RA	1135	C	N1-C2-O2	6.68	122.91	118.90
24	YA	2739	U	N1-C2-O2	6.67	127.47	122.80
24	RA	537	C	N1-C2-O2	6.66	122.90	118.90
9	QI	111	ARG	CG-CD-NE	-6.66	97.82	111.80
24	RA	2096	U	N1-C2-O2	6.64	127.45	122.80
25	RB	30	C	C6-N1-C2	-6.64	117.64	120.30
1	XA	1109	C	N1-C2-O2	6.63	122.88	118.90
1	XA	330	C	N3-C2-O2	-6.63	117.26	121.90
24	YA	445	C	C6-N1-C2	-6.63	117.65	120.30
1	XA	754	C	C2-N1-C1'	6.62	126.09	118.80
1	XA	960	U	N3-C2-O2	-6.62	117.56	122.20
24	YA	1005	C	N1-C2-O2	6.62	122.87	118.90
24	YA	2559	C	C6-N1-C2	-6.62	117.65	120.30
1	XA	346	G	N3-C4-C5	-6.62	125.29	128.60
24	YA	1407	C	N1-C2-O2	6.62	122.87	118.90
22	XV	76	C	C6-N1-C2	-6.61	117.65	120.30
24	YA	9	U	N3-C2-O2	-6.61	117.57	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1506	C	C5-C6-N1	6.61	124.31	121.00
24	RA	1835	G	N3-C4-N9	6.61	129.97	126.00
1	QA	1066	C	C2-N1-C1'	6.60	126.06	118.80
1	XA	1109	C	N3-C2-O2	-6.60	117.28	121.90
24	RA	1686	C	C6-N1-C2	-6.59	117.66	120.30
24	YA	41	C	C5-C6-N1	6.59	124.30	121.00
1	QA	1066	C	C5-C6-N1	6.58	124.29	121.00
24	YA	2063	C	N3-C2-O2	-6.58	117.30	121.90
24	YA	1915	U	N3-C2-O2	-6.58	117.60	122.20
25	YB	31	C	C6-N1-C2	-6.58	117.67	120.30
1	XA	328	C	C2-N1-C1'	6.57	126.03	118.80
24	YA	1914	C	N3-C2-O2	-6.57	117.30	121.90
24	YA	1314	C	C5-C6-N1	6.57	124.28	121.00
1	QA	169	C	N1-C2-O2	6.56	122.84	118.90
24	YA	930	U	N1-C2-O2	6.56	127.39	122.80
24	YA	2468	G	C4-N9-C1'	6.56	135.03	126.50
24	YA	12	U	N1-C2-O2	6.56	127.39	122.80
24	RA	1835	G	N3-C4-C5	-6.56	125.32	128.60
24	RA	2096	U	N3-C2-O2	-6.55	117.61	122.20
24	YA	2343	C	N3-C2-O2	-6.55	117.31	121.90
24	RA	373	U	C2-N1-C1'	6.55	125.56	117.70
24	YA	1580	A	C4-N9-C1'	6.54	138.08	126.30
24	YA	243	U	C5-C6-N1	6.54	125.97	122.70
24	RA	373	U	C5-C6-N1	6.53	125.97	122.70
24	YA	1411	C	C5-C6-N1	6.53	124.26	121.00
24	RA	2808	U	N1-C2-O2	6.52	127.37	122.80
24	YA	1534	G	N3-C4-C5	-6.52	125.34	128.60
24	RA	1406	U	N1-C2-O2	6.52	127.36	122.80
24	YA	828	U	C5-C6-N1	6.51	125.96	122.70
25	RB	31	C	C6-N1-C2	-6.51	117.70	120.30
24	YA	2868	A	C5-N7-C8	-6.50	100.65	103.90
24	RA	2210	G	N3-C4-N9	6.50	129.90	126.00
24	RA	2868	A	C8-N9-C4	-6.49	103.20	105.80
24	RA	2847	U	N3-C2-O2	-6.49	117.66	122.20
24	YA	141	A	N7-C8-N9	6.49	117.04	113.80
24	RA	749	C	N1-C2-O2	6.48	122.79	118.90
24	YA	1332	G	C6-C5-N7	-6.48	126.51	130.40
24	YA	373	U	N3-C2-O2	-6.47	117.67	122.20
24	RA	1920	C	C5-C6-N1	6.47	124.23	121.00
24	RA	2666	C	C6-N1-C2	-6.47	117.71	120.30
1	XA	358	U	P-O3'-C3'	6.46	127.45	119.70
24	YA	1644	C	N3-C2-O2	-6.45	117.38	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	2648	C	C5-C6-N1	6.45	124.22	121.00
1	XA	449	C	C6-N1-C2	-6.45	117.72	120.30
24	RA	2720	U	N3-C2-O2	-6.44	117.69	122.20
24	YA	120	U	C2-N1-C1'	6.44	125.43	117.70
24	RA	2210	G	N3-C4-C5	-6.43	125.38	128.60
24	YA	1462	C	N1-C2-O2	6.43	122.76	118.90
1	QA	1158	C	C5-C6-N1	6.43	124.22	121.00
24	YA	1411	C	N1-C2-O2	6.43	122.76	118.90
24	RA	546	C	C5-C6-N1	6.42	124.21	121.00
24	YA	1332	G	C4-N9-C1'	6.42	134.85	126.50
1	QA	1344	C	C6-N1-C2	-6.42	117.73	120.30
24	RA	2188	C	C6-N1-C2	-6.41	117.73	120.30
1	XA	1158	C	C5-C6-N1	6.41	124.21	121.00
1	QA	1109	C	N1-C2-O2	6.41	122.75	118.90
24	YA	269	U	N3-C2-O2	-6.41	117.71	122.20
24	RA	2394	C	N3-C2-O2	-6.40	117.42	121.90
1	QA	1028(A)	C	N3-C2-O2	-6.40	117.42	121.90
24	RA	1506	C	N1-C2-O2	6.39	122.73	118.90
25	RB	37	C	N1-C2-O2	6.39	122.73	118.90
24	YA	2321	G	C8-N9-C4	-6.38	103.85	106.40
24	YA	859	G	P-O3'-C3'	6.38	127.36	119.70
24	RA	2161	C	N1-C2-O2	6.38	122.73	118.90
1	XA	497	U	N1-C2-O2	6.38	127.27	122.80
24	RA	1005	C	N3-C2-O2	-6.38	117.44	121.90
24	RA	1314	C	C5-C6-N1	6.38	124.19	121.00
24	RA	1658	C	C6-N1-C2	-6.37	117.75	120.30
1	QA	1066	C	C6-N1-C2	-6.36	117.75	120.30
24	YA	510	C	C2-N1-C1'	6.36	125.80	118.80
24	YA	1580	A	C8-N9-C1'	-6.36	116.26	127.70
24	YA	2874	C	N1-C2-O2	6.35	122.71	118.90
24	YA	2480	C	N3-C2-O2	-6.35	117.45	121.90
24	YA	537	C	N1-C2-O2	6.33	122.70	118.90
24	YA	1686	C	N1-C2-O2	6.33	122.70	118.90
24	YA	1678	G	N7-C8-N9	6.33	116.26	113.10
24	YA	2096	U	N3-C2-O2	-6.33	117.77	122.20
24	RA	1406	U	N3-C2-O2	-6.32	117.78	122.20
24	YA	1314	C	N1-C2-O2	6.32	122.69	118.90
24	RA	915	C	C6-N1-C2	-6.32	117.77	120.30
1	XA	307	C	N3-C2-O2	-6.32	117.48	121.90
24	YA	2808	U	N1-C2-O2	6.31	127.21	122.80
24	YA	556	G	N3-C4-N9	6.30	129.78	126.00
24	YA	1159	U	C6-N1-C1'	-6.30	112.37	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
25	RB	37	C	N3-C2-O2	-6.30	117.49	121.90
24	YA	1411	C	C2-N1-C1'	6.29	125.72	118.80
24	RA	729	G	C4-N9-C1'	6.29	134.68	126.50
22	QV	76	C	C6-N1-C2	-6.29	117.78	120.30
24	YA	753	C	C5-C6-N1	6.29	124.14	121.00
24	RA	456	C	N3-C2-O2	-6.28	117.50	121.90
14	XN	44	LEU	CA-CB-CG	6.28	129.74	115.30
24	YA	797	C	C6-N1-C2	-6.28	117.79	120.30
24	YA	783	A	C5-N7-C8	-6.26	100.77	103.90
24	YA	1234	U	N3-C2-O2	-6.26	117.82	122.20
24	RA	2808	U	N3-C2-O2	-6.26	117.82	122.20
24	YA	846	C	C2'-C3'-O3'	6.25	123.71	113.70
24	YA	556	G	N7-C8-N9	6.25	116.22	113.10
24	RA	2591	C	C6-N1-C2	-6.25	117.80	120.30
24	RA	1332	G	C6-C5-N7	-6.24	126.66	130.40
24	RA	1640	C	C5-C6-N1	6.24	124.12	121.00
24	RA	2739	U	N3-C2-O2	-6.24	117.84	122.20
24	YA	1640	C	C6-N1-C2	-6.23	117.81	120.30
24	YA	1005	C	C2-N1-C1'	6.23	125.65	118.80
1	QA	749	C	N1-C2-O2	6.23	122.64	118.90
1	XA	749	C	C6-N1-C2	-6.23	117.81	120.30
24	RA	1372	U	N1-C2-O2	6.23	127.16	122.80
24	YA	234	C	N1-C2-O2	6.22	122.63	118.90
24	YA	893	C	N1-C2-O2	6.22	122.63	118.90
1	XA	110	C	N3-C2-O2	-6.22	117.55	121.90
25	YB	30	C	C6-N1-C2	-6.22	117.81	120.30
24	RA	817	C	C6-N1-C2	-6.21	117.81	120.30
24	RA	1644	C	C6-N1-C2	-6.21	117.81	120.30
1	XA	1452	C	N3-C2-O2	-6.21	117.55	121.90
24	RA	2752	C	N3-C2-O2	-6.21	117.55	121.90
1	QA	1301	U	C5-C6-N1	6.21	125.81	122.70
24	RA	1064	C	C6-N1-C2	-6.20	117.82	120.30
24	YA	2688	U	N3-C2-O2	-6.20	117.86	122.20
24	YA	269	U	N1-C2-O2	6.19	127.13	122.80
1	XA	1228	C	C6-N1-C2	-6.19	117.83	120.30
24	RA	1528	A	N7-C8-N9	6.18	116.89	113.80
24	YA	783	A	N7-C8-N9	6.18	116.89	113.80
24	YA	2501	C	C2-N1-C1'	-6.18	112.00	118.80
1	QA	110	C	N3-C2-O2	-6.17	117.58	121.90
24	YA	2210	G	N3-C4-C5	-6.16	125.52	128.60
24	RA	1914	C	C2-N1-C1'	6.16	125.57	118.80
24	YA	2578	G	N1-C6-O6	-6.15	116.21	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	923	C	C5-C6-N1	6.15	124.07	121.00
24	YA	758	C	N3-C2-O2	-6.14	117.60	121.90
24	RA	904	C	N1-C2-O2	6.14	122.58	118.90
1	XA	1140	C	C6-N1-C2	-6.14	117.84	120.30
1	XA	1161	C	N1-C2-O2	6.14	122.59	118.90
24	YA	1013	C	C6-N1-C2	-6.14	117.85	120.30
24	RA	1407	C	C5-C6-N1	6.13	124.07	121.00
24	RA	2559	C	N3-C2-O2	-6.13	117.61	121.90
25	RB	43	C	N1-C2-O2	6.13	122.58	118.90
1	XA	1028(B)	C	C6-N1-C2	-6.12	117.85	120.30
1	QA	346	G	C2-N3-C4	6.12	114.96	111.90
24	RA	1513	C	N1-C2-O2	6.11	122.57	118.90
24	YA	2210	G	N3-C4-N9	6.11	129.67	126.00
38	YT	99	LEU	CB-CG-CD1	-6.11	100.61	111.00
24	RA	893	C	N3-C2-O2	-6.11	117.63	121.90
1	QA	307	C	N3-C2-O2	-6.10	117.63	121.90
24	YA	1644	C	N1-C2-O2	6.10	122.56	118.90
1	XA	252	U	C5-C6-N1	6.10	125.75	122.70
24	RA	1902	C	N1-C2-O2	6.09	122.56	118.90
24	RA	1505	C	N1-C2-O2	6.09	122.56	118.90
24	YA	2307	G	C4-N9-C1'	6.09	134.42	126.50
24	RA	2688	U	N3-C2-O2	-6.09	117.94	122.20
24	RA	640	C	C5-C6-N1	6.09	124.04	121.00
24	YA	1882	C	C6-N1-C2	-6.08	117.87	120.30
24	YA	2041	U	C5-C6-N1	6.08	125.74	122.70
1	QA	1118	C	N1-C2-O2	6.07	122.54	118.90
24	YA	857	C	C6-N1-C2	-6.07	117.87	120.30
1	QA	1279	A	N7-C8-N9	6.07	116.83	113.80
24	RA	976	C	C6-N1-C2	-6.07	117.87	120.30
24	YA	783	A	C8-N9-C4	-6.07	103.37	105.80
24	RA	1833	U	N3-C2-O2	-6.07	117.95	122.20
24	RA	1406	U	C5-C6-N1	6.06	125.73	122.70
24	YA	2584	U	N3-C2-O2	-6.06	117.96	122.20
24	YA	1640	C	N1-C2-O2	6.06	122.54	118.90
24	YA	1430	C	C6-N1-C2	-6.05	117.88	120.30
24	RA	120	U	C2-N1-C1'	6.05	124.96	117.70
24	RA	1658	C	C5-C6-N1	6.04	124.02	121.00
24	RA	2043	C	C5-C6-N1	6.04	124.02	121.00
1	XA	328	C	C5-C6-N1	6.04	124.02	121.00
24	RA	856	C	N1-C2-O2	6.04	122.52	118.90
1	QA	1147	C	N3-C2-O2	-6.04	117.67	121.90
24	YA	141	A	C5-N7-C8	-6.04	100.88	103.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1430	C	C5-C6-N1	6.03	124.02	121.00
24	YA	12	U	N3-C2-O2	-6.03	117.98	122.20
24	RA	2868	A	N7-C8-N9	6.01	116.81	113.80
1	QA	1066	C	N3-C2-O2	-6.01	117.69	121.90
24	YA	1961	C	N3-C2-O2	-6.01	117.69	121.90
24	RA	1407	C	N1-C2-O2	6.01	122.50	118.90
25	RB	27	C	N3-C2-O2	-6.01	117.69	121.90
24	YA	672	C	C6-N1-C2	-6.01	117.90	120.30
24	YA	2210	G	C4-N9-C1'	6.01	134.31	126.50
24	YA	2712	U	N3-C2-O2	-6.01	118.00	122.20
24	YA	1604	C	C6-N1-C2	-6.00	117.90	120.30
1	QA	1395	C	N1-C2-O2	6.00	122.50	118.90
24	YA	856	C	N3-C2-O2	-6.00	117.70	121.90
22	XV	68	U	N1-C2-O2	6.00	127.00	122.80
24	YA	640	C	C6-N1-C2	-6.00	117.90	120.30
24	YA	1675	C	C6-N1-C2	-5.99	117.90	120.30
24	YA	2096	U	N1-C2-O2	5.99	126.99	122.80
22	XV	68	U	N3-C2-O2	-5.99	118.01	122.20
24	RA	1332	G	C4-N9-C1'	5.98	134.28	126.50
24	YA	930	U	N3-C2-O2	-5.97	118.02	122.20
1	QA	1260	C	N3-C2-O2	-5.97	117.72	121.90
24	RA	2420	C	C5-C6-N1	5.97	123.98	121.00
1	XA	826	C	C6-N1-C2	-5.97	117.91	120.30
24	YA	1644	C	C6-N1-C2	-5.97	117.91	120.30
24	YA	1437	C	C6-N1-C2	-5.97	117.91	120.30
1	XA	1028	C	N1-C2-O2	5.96	122.48	118.90
24	RA	1686	C	N1-C2-O2	5.96	122.48	118.90
25	YB	27	C	N3-C2-O2	-5.96	117.73	121.90
24	RA	1437	C	C6-N1-C2	-5.96	117.92	120.30
1	QA	455	C	N1-C2-O2	5.95	122.47	118.90
1	XA	330	C	C6-N1-C2	-5.95	117.92	120.30
24	YA	860	U	C6-N1-C1'	5.94	129.52	121.20
24	YA	1406	U	C6-N1-C2	-5.94	117.44	121.00
24	RA	1644	C	N1-C2-O2	5.94	122.46	118.90
24	YA	1306	C	C5-C6-N1	5.94	123.97	121.00
24	YA	1313	U	C6-N1-C1'	-5.94	112.89	121.20
24	RA	2043	C	C6-N1-C2	-5.93	117.93	120.30
24	RA	2683	C	N1-C2-O2	5.93	122.46	118.90
24	YA	1882	C	C2-N1-C1'	5.93	125.32	118.80
24	YA	749	C	N3-C2-O2	-5.93	117.75	121.90
22	QV	1	C	C5-C6-N1	5.92	123.96	121.00
1	QA	1109	C	N3-C2-O2	-5.92	117.75	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	654(T)	C	N1-C2-O2	5.92	122.45	118.90
24	YA	2559	C	N1-C2-O2	5.92	122.45	118.90
24	RA	537	C	C2-N1-C1'	5.92	125.31	118.80
1	QA	754	C	C6-N1-C1'	-5.91	113.70	120.80
24	RA	265	A	O4'-C1'-N9	5.91	112.93	108.20
24	YA	459	U	N3-C2-O2	-5.91	118.06	122.20
24	YA	2043	C	C6-N1-C2	-5.91	117.94	120.30
24	YA	2155	G	N3-C4-N9	5.90	129.54	126.00
24	RA	1528	A	C8-N9-C4	-5.90	103.44	105.80
24	RA	2473	U	N1-C2-O2	5.90	126.93	122.80
24	YA	856	C	N1-C2-O2	5.90	122.44	118.90
24	RA	2739	U	N1-C2-O2	5.90	126.93	122.80
24	RA	435	C	N3-C2-O2	-5.89	117.77	121.90
1	QA	1147	C	N1-C2-O2	5.89	122.44	118.90
24	RA	2720	U	N1-C2-O2	5.89	126.92	122.80
38	RT	105	LEU	CA-CB-CG	5.89	128.84	115.30
24	YA	234	C	N3-C2-O2	-5.88	117.78	121.90
24	RA	2874	C	N1-C2-O2	5.88	122.43	118.90
1	XA	1140	C	C2-N1-C1'	5.88	125.27	118.80
24	YA	640	C	C5-C6-N1	5.88	123.94	121.00
24	YA	1686	C	C5-C6-N1	5.87	123.94	121.00
24	RA	1065	U	N3-C2-O2	-5.87	118.09	122.20
24	RA	2473	U	N3-C2-O2	-5.87	118.09	122.20
1	QA	1381	U	N1-C2-O2	5.87	126.91	122.80
24	YA	797	C	C5-C6-N1	5.87	123.93	121.00
24	RA	456	C	C6-N1-C2	-5.85	117.96	120.30
1	XA	789	U	N3-C2-O2	-5.85	118.11	122.20
1	QA	90	C	N1-C2-O2	5.85	122.41	118.90
1	XA	827	U	C6-N1-C2	-5.85	117.49	121.00
24	RA	2825	C	C6-N1-C2	-5.84	117.96	120.30
24	YA	192	C	N3-C2-O2	-5.84	117.81	121.90
24	YA	1950	G	C8-N9-C1'	-5.84	119.41	127.00
24	RA	1417	C	N1-C2-O2	5.84	122.40	118.90
1	QA	449	C	N1-C2-O2	5.84	122.40	118.90
24	RA	2726	U	C2-N1-C1'	5.83	124.70	117.70
24	RA	730	C	P-O3'-C3'	5.83	126.69	119.70
1	XA	1395	C	N1-C2-O2	5.83	122.40	118.90
24	YA	1095	A	C2-N3-C4	5.83	113.51	110.60
24	YA	2702	U	C5-C6-N1	5.82	125.61	122.70
25	YB	37	C	C6-N1-C2	-5.82	117.97	120.30
24	RA	776	G	N3-C4-C5	-5.82	125.69	128.60
24	YA	1881	C	C6-N1-C2	-5.82	117.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	273(F)	C	C6-N1-C2	-5.82	117.97	120.30
24	YA	1599	C	C6-N1-C2	-5.82	117.97	120.30
1	XA	169	C	N1-C2-O2	5.81	122.39	118.90
24	YA	2825	C	C6-N1-C2	-5.81	117.97	120.30
25	RB	22	U	N3-C2-O2	-5.81	118.13	122.20
1	QA	1026	G	N3-C4-N9	5.81	129.49	126.00
24	RA	976	C	N1-C2-O2	5.80	122.38	118.90
24	RA	1314	C	N1-C2-O2	5.80	122.38	118.90
24	RA	2210	G	C4-N9-C1'	5.80	134.04	126.50
1	XA	979	C	C6-N1-C2	-5.79	117.98	120.30
24	RA	1686	C	C5-C6-N1	5.79	123.90	121.00
1	XA	455	C	N1-C2-O2	5.79	122.38	118.90
1	QA	449	C	C2-N1-C1'	5.79	125.17	118.80
24	RA	309	G	OP1-P-OP2	-5.79	110.92	119.60
1	XA	749	C	N3-C2-O2	-5.79	117.85	121.90
1	XA	1028	C	N3-C2-O2	-5.79	117.85	121.90
24	YA	1332	G	C8-N9-C1'	-5.78	119.48	127.00
24	YA	1343	G	N3-C4-C5	-5.78	125.71	128.60
24	YA	1407	C	N3-C2-O2	-5.78	117.85	121.90
24	YA	1535	U	C2-N1-C1'	5.78	124.64	117.70
24	YA	2320	A	C2-N3-C4	5.78	113.49	110.60
24	RA	120	U	C6-N1-C2	-5.78	117.53	121.00
1	XA	528	C	N1-C2-O2	5.78	122.37	118.90
25	RB	44	G	C4-N9-C1'	-5.77	119.00	126.50
24	RA	595	C	C5-C6-N1	5.77	123.89	121.00
24	RA	2825	C	N3-C2-O2	-5.77	117.86	121.90
1	QA	754	C	N3-C2-O2	-5.76	117.86	121.90
22	XV	35	C	N1-C2-O2	5.76	122.36	118.90
1	XA	738	C	C5-C6-N1	5.76	123.88	121.00
1	QA	435	C	C5-C6-N1	5.76	123.88	121.00
24	RA	1474	C	N1-C2-O2	5.76	122.35	118.90
24	YA	692	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	1979	C	C6-N1-C2	-5.75	118.00	120.30
24	YA	1533	C	C5-C6-N1	5.75	123.88	121.00
24	RA	856	C	N3-C2-O2	-5.75	117.88	121.90
24	YA	2394	C	N3-C2-O2	-5.75	117.88	121.90
1	QA	697	U	N3-C2-O2	-5.74	118.18	122.20
24	RA	2501	C	C2-N1-C1'	-5.74	112.48	118.80
24	YA	2559	C	N3-C2-O2	-5.74	117.88	121.90
1	XA	618	C	N3-C2-O2	-5.74	117.88	121.90
24	YA	1588	C	C6-N1-C2	-5.74	118.01	120.30
25	RB	22	U	N1-C2-O2	5.73	126.81	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	1020	U	N1-C2-O2	5.73	126.81	122.80
24	YA	1474	C	C6-N1-C2	-5.73	118.01	120.30
24	RA	2556	C	N1-C2-O2	5.73	122.33	118.90
1	QA	697	U	N1-C2-O2	5.72	126.81	122.80
25	RB	31	C	C5-C6-N1	5.72	123.86	121.00
24	RA	595	C	C6-N1-C2	-5.72	118.01	120.30
1	XA	35	G	C6-C5-N7	-5.71	126.97	130.40
24	YA	231	C	C6-N1-C2	-5.71	118.01	120.30
24	RA	1462	C	N3-C2-O2	-5.71	117.90	121.90
24	RA	1899	G	N3-C2-N2	-5.71	115.90	119.90
1	XA	530	G	N3-C4-N9	5.71	129.43	126.00
24	YA	2726	U	C2-N1-C1'	5.71	124.55	117.70
25	YB	31	C	C6-N1-C1'	-5.71	113.95	120.80
1	XA	1362(A)	C	N3-C2-O2	-5.70	117.91	121.90
24	YA	1920	C	C5-C6-N1	5.70	123.85	121.00
1	QA	652	U	N3-C2-O2	-5.70	118.21	122.20
24	RA	1267	U	N3-C2-O2	-5.69	118.22	122.20
1	XA	749	C	N1-C2-O2	5.68	122.31	118.90
24	YA	2712	U	C2-N1-C1'	5.68	124.52	117.70
24	YA	2787	C	C6-N1-C2	-5.68	118.03	120.30
24	YA	1781	C	N1-C2-O2	5.68	122.31	118.90
9	XI	2	GLU	N-CA-C	-5.68	95.66	111.00
1	QA	37	U	N3-C2-O2	-5.68	118.23	122.20
1	QA	1065	U	P-O3'-C3'	5.68	126.51	119.70
24	RA	758	C	N3-C2-O2	-5.68	117.93	121.90
1	XA	1395	C	N3-C2-O2	-5.67	117.93	121.90
24	YA	650	C	C6-N1-C2	-5.67	118.03	120.30
44	YZ	5	LEU	CA-CB-CG	5.67	128.35	115.30
22	XV	35	C	C6-N1-C2	-5.67	118.03	120.30
24	YA	1961	C	N1-C2-O2	5.67	122.30	118.90
24	YA	529	A	C8-N9-C4	-5.67	103.53	105.80
24	YA	1202	C	N1-C2-O2	5.67	122.30	118.90
25	YB	31	C	C5-C6-N1	5.67	123.84	121.00
24	YA	2416	C	C6-N1-C2	-5.67	118.03	120.30
1	QA	1186	G	N3-C4-N9	5.67	129.40	126.00
24	YA	1666	G	N1-C6-O6	-5.67	116.50	119.90
24	YA	2100	G	N3-C4-C5	-5.66	125.77	128.60
24	YA	2889	C	N1-C2-O2	5.66	122.30	118.90
24	RA	1882	C	N1-C2-O2	5.66	122.30	118.90
24	YA	2155	G	N3-C4-C5	-5.66	125.77	128.60
1	QA	346	G	N3-C4-N9	5.66	129.39	126.00
24	RA	2468	G	C4-N9-C1'	5.66	133.85	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2179	C	C6-N1-C2	-5.65	118.04	120.30
24	YA	2342	C	N3-C2-O2	-5.65	117.94	121.90
24	RA	308	G	O4'-C1'-N9	5.65	112.72	108.20
24	YA	120	U	C6-N1-C2	-5.65	117.61	121.00
1	XA	442	C	N1-C2-O2	5.64	122.29	118.90
24	YA	2179	C	N1-C2-O2	5.64	122.29	118.90
25	RB	44	G	C8-N9-C1'	5.64	134.33	127.00
24	YA	1774	C	C6-N1-C2	-5.64	118.04	120.30
24	YA	556	G	C4-C5-N7	5.64	113.06	110.80
24	RA	2248	C	C6-N1-C2	-5.63	118.05	120.30
24	YA	755	C	C6-N1-C2	-5.63	118.05	120.30
24	YA	1462	C	N3-C2-O2	-5.63	117.96	121.90
24	RA	1920	C	C6-N1-C2	-5.62	118.05	120.30
24	RA	2321	G	C4-N9-C1'	5.62	133.81	126.50
24	YA	1332	G	N3-C4-N9	5.62	129.37	126.00
24	RA	1742	C	N1-C2-O2	5.62	122.27	118.90
24	YA	857	C	C5-C6-N1	5.62	123.81	121.00
24	YA	2814	C	C6-N1-C2	-5.62	118.05	120.30
26	YD	34	VAL	C-N-CA	5.62	135.74	121.70
25	RB	43	C	N3-C2-O2	-5.61	117.97	121.90
24	YA	2073	C	C6-N1-C2	-5.60	118.06	120.30
24	RA	867	C	C6-N1-C2	-5.59	118.06	120.30
24	YA	654	A	C2-N3-C4	5.59	113.40	110.60
24	YA	1256	G	N3-C4-C5	-5.59	125.80	128.60
24	RA	234	C	N3-C2-O2	-5.59	117.99	121.90
24	YA	459	U	N1-C2-O2	5.59	126.71	122.80
24	YA	1313	U	C6-N1-C2	-5.59	117.65	121.00
24	YA	2683	C	N1-C2-O2	5.59	122.25	118.90
24	RA	749	C	N3-C2-O2	-5.59	117.99	121.90
1	QA	960	U	N1-C2-O2	5.58	126.71	122.80
24	RA	1544	C	N1-C2-O2	5.58	122.25	118.90
24	RA	1742	C	C5-C6-N1	5.58	123.79	121.00
1	XA	618	C	N1-C2-O2	5.58	122.25	118.90
1	QA	1395	C	N3-C2-O2	-5.58	118.00	121.90
24	RA	1947	C	N1-C2-O2	5.58	122.25	118.90
24	RA	2066	C	N1-C2-O2	5.58	122.25	118.90
25	RB	37	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	1417	C	C6-N1-C2	-5.57	118.07	120.30
24	YA	2667	C	N1-C2-O2	5.57	122.24	118.90
24	YA	2794	C	C6-N1-C2	-5.57	118.07	120.30
24	RA	285	C	N1-C2-O2	5.56	122.24	118.90
24	RA	912	C	C6-N1-C2	-5.56	118.08	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2785	C	C6-N1-C2	-5.56	118.08	120.30
24	RA	1135	C	N3-C2-O2	-5.56	118.01	121.90
24	YA	1157	G	C4-N9-C1'	5.56	133.73	126.50
24	RA	1510	A	C2-N3-C4	5.56	113.38	110.60
24	RA	1644	C	N3-C2-O2	-5.56	118.01	121.90
24	RA	1979	C	C6-N1-C2	-5.56	118.08	120.30
24	YA	1882	C	N1-C2-O2	5.56	122.23	118.90
31	YI	35	LEU	CA-CB-CG	5.56	128.08	115.30
24	RA	1980	G	C4-N9-C1'	5.55	133.72	126.50
24	YA	1257	C	C6-N1-C2	-5.55	118.08	120.30
24	YA	1534	G	C2-N3-C4	5.55	114.68	111.90
2	QB	158	LEU	CA-CB-CG	5.55	128.07	115.30
24	RA	669	G	N3-C4-C5	-5.55	125.82	128.60
24	YA	1882	C	C5-C6-N1	5.55	123.78	121.00
24	YA	2490	G	C4-N9-C1'	5.55	133.72	126.50
24	RA	1549	C	N1-C2-O2	5.55	122.23	118.90
1	XA	186(F)	C	N1-C2-O2	5.54	122.23	118.90
24	YA	1064	C	C5-C6-N1	5.54	123.77	121.00
1	QA	1118	C	N3-C2-O2	-5.54	118.02	121.90
24	YA	2343	C	N1-C2-O2	5.54	122.22	118.90
13	XM	66	LEU	C-N-CA	5.54	135.54	121.70
24	RA	708	C	N1-C2-O2	5.53	122.22	118.90
24	YA	99	U	OP2-P-O3'	5.53	117.37	105.20
24	YA	1267	U	N3-C2-O2	-5.53	118.33	122.20
25	RB	27	C	C6-N1-C2	-5.53	118.09	120.30
1	XA	738	C	C6-N1-C2	-5.53	118.09	120.30
8	QH	112	LEU	CA-CB-CG	5.52	128.01	115.30
24	RA	155	C	N1-C2-O2	5.52	122.21	118.90
24	YA	1077	A	C2-N3-C4	5.52	113.36	110.60
24	RA	1656	C	C6-N1-C2	-5.52	118.09	120.30
1	QA	1020	U	N3-C2-O2	-5.51	118.34	122.20
24	RA	2666	C	C5-C6-N1	5.50	123.75	121.00
22	XV	76	C	C5-C6-N1	5.50	123.75	121.00
24	RA	965	C	C6-N1-C2	-5.50	118.10	120.30
24	RA	1407	C	N3-C2-O2	-5.50	118.05	121.90
24	RA	2006	C	C5-C6-N1	5.50	123.75	121.00
24	YA	848	G	N3-C4-N9	5.50	129.30	126.00
24	YA	2342	C	C6-N1-C2	-5.50	118.10	120.30
1	QA	91	C	N1-C2-O2	5.49	122.20	118.90
24	RA	373	U	C6-N1-C2	-5.49	117.70	121.00
1	XA	1290	G	N3-C4-N9	5.49	129.30	126.00
24	YA	1598	C	C6-N1-C2	-5.49	118.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2244	U	C5-C4-O4	-5.49	122.60	125.90
24	RA	797	C	C6-N1-C2	-5.49	118.10	120.30
24	YA	2031	A	O4'-C1'-N9	5.49	112.59	108.20
24	YA	2089	U	N3-C2-O2	-5.49	118.36	122.20
1	XA	221	C	C6-N1-C2	-5.49	118.10	120.30
1	QA	328	C	P-O3'-C3'	5.49	126.28	119.70
24	RA	2578	G	N1-C6-O6	-5.49	116.61	119.90
1	XA	1404	C	N1-C2-O2	5.47	122.18	118.90
24	YA	1830	C	C5-C6-N1	5.47	123.74	121.00
24	RA	1961	C	N1-C2-O2	5.47	122.18	118.90
24	RA	2874	C	C6-N1-C2	-5.47	118.11	120.30
24	RA	915	C	N1-C2-O2	5.46	122.18	118.90
24	RA	1505	C	C5-C6-N1	5.46	123.73	121.00
24	YA	1370	C	C6-N1-C2	-5.46	118.11	120.30
24	YA	828	U	C6-N1-C1'	-5.46	113.55	121.20
24	YA	1306	C	N1-C2-O2	5.46	122.18	118.90
24	RA	731	C	C2-N1-C1'	5.46	124.80	118.80
1	QA	58	C	C6-N1-C2	-5.46	118.12	120.30
24	RA	1372	U	C2-N3-C4	5.46	130.27	127.00
24	RA	1505	C	C6-N1-C2	-5.46	118.12	120.30
24	YA	944	G	C4-N9-C1'	5.46	133.59	126.50
24	RA	459	U	N3-C2-O2	-5.45	118.38	122.20
24	YA	1905	C	N1-C2-O2	5.45	122.17	118.90
24	RA	1675	C	N1-C2-O2	5.45	122.17	118.90
1	XA	449	C	C2-N1-C1'	5.45	124.80	118.80
24	YA	208	C	C6-N1-C2	-5.45	118.12	120.30
24	RA	2688	U	N1-C2-O2	5.44	126.61	122.80
24	YA	1157	G	C8-N9-C1'	-5.44	119.92	127.00
24	YA	679	C	C6-N1-C2	-5.44	118.12	120.30
24	RA	776	G	N3-C4-N9	5.44	129.26	126.00
24	RA	2248	C	C5-C6-N1	5.44	123.72	121.00
24	YA	1675	C	N1-C2-O2	5.43	122.16	118.90
1	QA	563	A	C4-N9-C1'	5.43	136.08	126.30
1	XA	1404	C	N3-C2-O2	-5.43	118.10	121.90
24	YA	721	C	C6-N1-C2	-5.43	118.13	120.30
24	YA	974(A)	C	N1-C2-O2	5.43	122.16	118.90
24	RA	2006	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	2468	G	C8-N9-C1'	-5.42	119.95	127.00
24	RA	2692	C	N1-C2-O2	5.42	122.15	118.90
1	QA	749	C	C6-N1-C2	-5.42	118.13	120.30
24	RA	2870	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	2648	C	C5-C6-N1	5.42	123.71	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	XA	54	C	N1-C2-O2	5.42	122.15	118.90
24	YA	641	C	C6-N1-C2	-5.42	118.13	120.30
24	YA	1598	C	N3-C2-O2	-5.42	118.11	121.90
1	XA	960	U	C2-N1-C1'	5.41	124.20	117.70
24	RA	828	U	C5-C6-N1	5.41	125.40	122.70
24	YA	1678	G	C8-N9-C4	-5.41	104.24	106.40
24	YA	2128	C	N1-C2-O2	5.40	122.14	118.90
26	RD	34	VAL	C-N-CA	5.40	135.21	121.70
24	RA	1053	C	C6-N1-C2	-5.40	118.14	120.30
24	RA	1533	C	N1-C2-O2	5.40	122.14	118.90
24	RA	2683	C	N3-C2-O2	-5.40	118.12	121.90
24	RA	1506	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	1113	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	1881	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	1514	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	912	C	N1-C2-O2	5.39	122.13	118.90
24	YA	1507	A	C2-N3-C4	5.39	113.29	110.60
24	RA	93	C	C6-N1-C2	-5.39	118.14	120.30
24	RA	420	C	C6-N1-C2	-5.39	118.15	120.30
24	RA	1046	A	C2-N3-C4	5.39	113.29	110.60
1	XA	530	G	N3-C4-C5	-5.39	125.91	128.60
24	RA	1909	C	N1-C2-O2	5.38	122.13	118.90
1	XA	529	G	C4-C5-N7	5.38	112.95	110.80
24	YA	654(T)	C	N3-C2-O2	-5.38	118.14	121.90
24	YA	2342	C	N1-C2-O2	5.38	122.12	118.90
24	YA	384	U	N3-C2-O2	-5.37	118.44	122.20
1	QA	1028(A)	C	C6-N1-C2	-5.37	118.15	120.30
24	RA	1433	U	N1-C2-O2	5.37	126.56	122.80
1	XA	1439	C	C6-N1-C2	-5.37	118.15	120.30
1	QA	1381	U	N3-C2-O2	-5.36	118.44	122.20
1	QA	1263	C	N1-C2-O2	5.36	122.12	118.90
19	QS	8	GLY	N-CA-C	5.36	126.50	113.10
1	XA	330	C	C5-C6-N1	5.36	123.68	121.00
24	YA	1021	A	C8-N9-C4	-5.36	103.66	105.80
24	RA	2307	G	C4-N9-C1'	5.36	133.46	126.50
24	YA	267	C	C6-N1-C2	-5.35	118.16	120.30
24	YA	817	C	C6-N1-C2	-5.35	118.16	120.30
42	RX	66	LEU	CA-CB-CG	5.35	127.61	115.30
24	YA	1598	C	N1-C2-O2	5.35	122.11	118.90
24	RA	2468	G	O4'-C1'-N9	5.34	112.48	108.20
1	XA	328	C	P-O3'-C3'	5.34	126.11	119.70
24	YA	2681	C	P-O3'-C3'	5.34	126.11	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	1779	U	C2-N1-C1'	5.34	124.11	117.70
24	RA	436	C	N3-C2-O2	-5.34	118.16	121.90
1	XA	252	U	C2-N1-C1'	5.34	124.11	117.70
24	YA	1535	U	C5-C6-N1	5.34	125.37	122.70
24	RA	2254	C	N1-C2-O2	5.33	122.10	118.90
24	YA	1290	C	C6-N1-C2	-5.33	118.17	120.30
24	RA	1267	U	N1-C2-O2	5.33	126.53	122.80
24	YA	1474	C	N1-C2-O2	5.33	122.10	118.90
1	QA	449	C	N3-C2-O2	-5.33	118.17	121.90
24	YA	1881	C	C5-C6-N1	5.33	123.66	121.00
1	XA	812	C	P-O3'-C3'	5.32	126.09	119.70
22	XV	1	C	C5-C6-N1	5.32	123.66	121.00
24	RA	730	C	C2'-C3'-O3'	5.31	122.20	113.70
24	YA	1833	U	N3-C2-O2	-5.31	118.48	122.20
24	YA	18	C	C6-N1-C2	-5.31	118.18	120.30
1	QA	1452	C	N1-C2-O2	5.31	122.08	118.90
24	RA	2065	C	C5-C6-N1	5.31	123.65	121.00
24	YA	1544	C	N1-C2-O2	5.31	122.08	118.90
24	RA	2814	C	N3-C2-O2	-5.30	118.19	121.90
1	XA	714	G	C8-N9-C4	-5.30	104.28	106.40
1	XA	1228	C	C5-C6-N1	5.30	123.65	121.00
24	RA	1202	C	N1-C2-O2	5.30	122.08	118.90
24	YA	2771	C	C6-N1-C2	-5.30	118.18	120.30
1	QA	397	A	C2-N3-C4	5.30	113.25	110.60
24	RA	1947	C	C5-C6-N1	5.30	123.65	121.00
24	RA	1947	C	C6-N1-C2	-5.30	118.18	120.30
24	YA	1005	C	C6-N1-C2	-5.30	118.18	120.30
24	RA	2101	G	N7-C8-N9	5.30	115.75	113.10
25	RB	77	U	N3-C2-O2	-5.30	118.49	122.20
1	QA	1260	C	N1-C2-O2	5.30	122.08	118.90
24	YA	2779	U	N1-C2-O2	5.29	126.50	122.80
24	RA	201	C	N3-C2-O2	-5.28	118.20	121.90
24	YA	1669	A	C2-N3-C4	5.28	113.24	110.60
1	QA	1121	U	C5-C6-N1	5.28	125.34	122.70
24	YA	1892	C	C6-N1-C2	-5.28	118.19	120.30
24	YA	2584	U	N1-C2-O2	5.28	126.50	122.80
24	RA	2856	C	C6-N1-C2	-5.28	118.19	120.30
24	YA	672	C	C5-C6-N1	5.28	123.64	121.00
24	RA	1462	C	N1-C2-O2	5.28	122.07	118.90
24	RA	417	C	C5-C6-N1	5.28	123.64	121.00
24	RA	1372	U	N3-C2-O2	-5.28	118.51	122.20
25	YB	22	U	N3-C2-O2	-5.28	118.51	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	487	C	N1-C2-O2	5.27	122.06	118.90
1	XA	1290	G	N3-C4-C5	-5.27	125.96	128.60
24	RA	1370	C	C6-N1-C2	-5.27	118.19	120.30
1	QA	56	U	C5-C4-O4	-5.27	122.74	125.90
24	RA	2556	C	N3-C2-O2	-5.27	118.21	121.90
24	YA	2712	U	N1-C2-O2	5.27	126.49	122.80
24	RA	669	G	N3-C4-N9	5.27	129.16	126.00
1	XA	58	C	C5-C6-N1	5.26	123.63	121.00
24	YA	155	C	N1-C2-O2	5.26	122.06	118.90
24	YA	976	C	C6-N1-C2	-5.26	118.19	120.30
1	QA	528	C	C6-N1-C2	-5.26	118.20	120.30
5	QE	91	LEU	CA-CB-CG	5.26	127.40	115.30
24	RA	2043	C	N1-C2-O2	5.26	122.06	118.90
24	RA	1509	C	C6-N1-C1'	-5.26	114.49	120.80
24	RA	2501	C	C6-N1-C1'	5.26	127.11	120.80
24	YA	1005	C	N3-C2-O2	-5.26	118.22	121.90
1	QA	960	U	N3-C2-O2	-5.25	118.52	122.20
1	XA	792	A	O4'-C1'-N9	5.25	112.40	108.20
24	RA	1510	A	N3-C4-N9	5.25	131.60	127.40
24	YA	1881	C	N1-C2-O2	5.25	122.05	118.90
24	RA	729	G	C8-N9-C1'	-5.25	120.18	127.00
1	QA	652	U	N1-C2-O2	5.24	126.47	122.80
24	RA	1180	C	N1-C2-O2	5.24	122.05	118.90
24	YA	2015	A	N7-C8-N9	5.24	116.42	113.80
1	QA	1228	C	C5-C6-N1	5.24	123.62	121.00
24	RA	269	U	N3-C2-O2	-5.24	118.53	122.20
24	YA	912	C	N1-C2-O2	5.24	122.04	118.90
24	YA	1314	C	N3-C2-O2	-5.24	118.23	121.90
24	RA	1065	U	N1-C2-O2	5.24	126.47	122.80
24	RA	1535	U	C2-N1-C1'	5.24	123.99	117.70
1	QA	1070	U	N3-C2-O2	-5.24	118.53	122.20
24	YA	99	U	P-O3'-C3'	5.24	125.98	119.70
24	YA	580	C	C6-N1-C2	-5.23	118.21	120.30
1	QA	943	U	N3-C2-O2	-5.23	118.54	122.20
24	RA	529	A	C8-N9-C4	-5.23	103.71	105.80
24	YA	1675	C	N3-C2-O2	-5.23	118.24	121.90
24	YA	2688	U	C2-N1-C1'	5.22	123.97	117.70
1	QA	419	C	C6-N1-C2	-5.22	118.21	120.30
9	XI	56	LEU	CA-CB-CG	5.22	127.31	115.30
24	YA	595	C	C5-C6-N1	5.22	123.61	121.00
1	XA	137	C	C6-N1-C2	-5.22	118.21	120.30
24	RA	897	C	N1-C2-O2	5.21	122.03	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	898	C	N1-C2-O2	5.21	122.03	118.90
24	RA	1332	G	C8-N9-C1'	-5.21	120.22	127.00
1	QA	789	U	N1-C2-O2	5.21	126.44	122.80
24	YA	1549	C	N1-C2-O2	5.21	122.03	118.90
1	XA	943	U	N3-C2-O2	-5.21	118.56	122.20
24	YA	2724	C	N3-C2-O2	-5.21	118.26	121.90
24	YA	669	G	N3-C4-C5	-5.21	126.00	128.60
24	YA	2043	C	C2-N1-C1'	5.20	124.52	118.80
24	YA	2591	C	C5-C6-N1	5.20	123.60	121.00
1	XA	1132	C	C6-N1-C2	-5.20	118.22	120.30
1	XA	1347	G	O4'-C1'-N9	5.20	112.36	108.20
24	RA	1915	U	N1-C2-O2	5.20	126.44	122.80
24	YA	417	C	C5-C6-N1	5.20	123.60	121.00
24	YA	1830	C	C6-N1-C2	-5.20	118.22	120.30
24	RA	2460	U	N3-C2-O2	-5.19	118.56	122.20
24	YA	2450	A	N7-C8-N9	5.19	116.40	113.80
24	YA	2683	C	N3-C2-O2	-5.19	118.27	121.90
1	QA	789	U	C2-N1-C1'	5.19	123.93	117.70
1	QA	923	A	N7-C8-N9	5.19	116.39	113.80
24	RA	2073	C	C6-N1-C2	-5.19	118.22	120.30
24	RA	2442	C	C6-N1-C2	-5.19	118.22	120.30
26	RD	131	LEU	CA-CB-CG	5.19	127.23	115.30
1	XA	54	C	N3-C2-O2	-5.19	118.27	121.90
25	RB	8	U	N1-C2-O2	5.18	126.43	122.80
24	YA	372	G	C4-N9-C1'	-5.18	119.76	126.50
1	QA	169	C	N3-C2-O2	-5.18	118.27	121.90
24	RA	1915	U	N3-C2-O2	-5.18	118.57	122.20
24	RA	273(F)	C	C5-C6-N1	5.18	123.59	121.00
22	XV	35	C	N3-C2-O2	-5.18	118.28	121.90
24	YA	1234	U	N1-C2-O2	5.18	126.42	122.80
24	YA	2874	C	N3-C2-O2	-5.18	118.28	121.90
24	YA	2248	C	C6-N1-C2	-5.18	118.23	120.30
24	RA	2403	C	C6-N1-C2	-5.17	118.23	120.30
24	YA	2724	C	N1-C2-O2	5.17	122.00	118.90
24	RA	1675	C	N3-C2-O2	-5.17	118.28	121.90
24	RA	1502	C	N1-C2-O2	5.17	122.00	118.90
24	YA	508	G	N3-C4-C5	-5.17	126.02	128.60
24	RA	1433	U	N3-C2-O2	-5.17	118.58	122.20
24	RA	1971	A	C2-N3-C4	5.17	113.18	110.60
24	YA	923	C	C5-C6-N1	5.17	123.58	121.00
24	YA	1551	C	C6-N1-C2	-5.17	118.23	120.30
24	YA	837	C	C6-N1-C2	-5.17	118.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	932	C	N1-C2-O2	5.16	122.00	118.90
24	RA	2461	C	N1-C2-O2	5.16	122.00	118.90
24	RA	2161	C	N3-C2-O2	-5.16	118.29	121.90
24	RA	2351	G	C8-N9-C4	-5.16	104.34	106.40
24	YA	1640	C	C5-C6-N1	5.16	123.58	121.00
24	RA	436	C	N1-C2-O2	5.15	121.99	118.90
25	RB	31	C	C6-N1-C1'	-5.15	114.62	120.80
24	YA	1513	C	C5-C6-N1	5.15	123.58	121.00
24	YA	2701	C	C5-C6-N1	5.15	123.58	121.00
24	RA	1920	C	N1-C2-O2	5.15	121.99	118.90
24	RA	923	C	C6-N1-C2	-5.15	118.24	120.30
24	YA	2626	C	C6-N1-C2	-5.15	118.24	120.30
24	YA	1604	C	N3-C2-O2	-5.15	118.30	121.90
24	RA	1810	A	C8-N9-C4	-5.14	103.74	105.80
24	YA	503	A	P-O3'-C3'	5.14	125.87	119.70
1	XA	699	C	C6-N1-C2	-5.14	118.24	120.30
24	YA	2752	C	N1-C2-O2	5.14	121.99	118.90
1	XA	347	G	O4'-C1'-N9	5.14	112.31	108.20
24	RA	2626	C	C6-N1-C2	-5.14	118.25	120.30
24	YA	1306	C	C6-N1-C2	-5.14	118.24	120.30
1	QA	620	C	N1-C2-O2	5.14	121.98	118.90
1	QA	1059	C	C6-N1-C2	-5.14	118.25	120.30
24	RA	343	C	C6-N1-C2	-5.14	118.25	120.30
1	QA	1279	A	C8-N9-C4	-5.14	103.75	105.80
22	QV	76	C	C5-C6-N1	5.14	123.57	121.00
1	XA	620	C	N1-C2-O2	5.14	121.98	118.90
24	RA	640	C	C6-N1-C2	-5.13	118.25	120.30
24	YA	2471	C	C6-N1-C2	-5.13	118.25	120.30
1	QA	1498	U	P-O3'-C3'	5.13	125.86	119.70
1	QA	266	G	C5-C6-O6	-5.13	125.52	128.60
24	RA	2626	C	C5-C6-N1	5.13	123.56	121.00
24	YA	537	C	C2-N1-C1'	5.13	124.44	118.80
24	RA	1598	C	N1-C2-O2	5.13	121.98	118.90
24	RA	1775	U	C5-C4-O4	-5.13	122.82	125.90
24	YA	1178	C	C6-N1-C2	-5.13	118.25	120.30
24	RA	308	G	OP2-P-O3'	-5.13	93.92	105.20
24	YA	196	A	O4'-C1'-N9	5.12	112.30	108.20
24	RA	2211	G	C4-N9-C1'	5.12	133.16	126.50
1	XA	1225	A	C2-N3-C4	5.11	113.16	110.60
24	YA	183	C	N3-C2-O2	-5.11	118.32	121.90
24	YA	1591	G	N3-C4-N9	5.11	129.07	126.00
24	RA	2755	C	C6-N1-C2	-5.11	118.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	YA	2015	A	C8-N9-C4	-5.11	103.75	105.80
24	RA	2889	C	N1-C2-O2	5.11	121.97	118.90
1	QA	675	A	N7-C8-N9	5.11	116.35	113.80
24	RA	976	C	N3-C2-O2	-5.11	118.33	121.90
24	YA	1293	C	C6-N1-C2	-5.11	118.26	120.30
24	RA	1314	C	C2-N1-C1'	5.11	124.42	118.80
24	YA	867	C	C6-N1-C2	-5.11	118.26	120.30
24	YA	595	C	C6-N1-C2	-5.10	118.26	120.30
1	QA	1500	A	O4'-C1'-N9	5.10	112.28	108.20
9	QI	53	VAL	CA-CB-CG1	5.10	118.55	110.90
1	XA	1297	C	P-O3'-C3'	5.10	125.82	119.70
24	YA	1776	G	N3-C4-N9	5.10	129.06	126.00
25	YB	70	C	C6-N1-C2	-5.10	118.26	120.30
24	RA	2646	C	C6-N1-C2	-5.10	118.26	120.30
24	YA	231	C	N1-C2-O2	5.10	121.96	118.90
24	YA	2416	C	C5-C6-N1	5.10	123.55	121.00
1	QA	522	C	N1-C2-O2	5.10	121.96	118.90
24	RA	105	C	C6-N1-C2	-5.10	118.26	120.30
24	RA	634	C	C6-N1-C2	-5.10	118.26	120.30
25	RB	77	U	N1-C2-O2	5.10	126.37	122.80
24	YA	143	C	C6-N1-C2	-5.10	118.26	120.30
24	YA	1343	G	N3-C4-N9	5.10	129.06	126.00
1	XA	1498	U	P-O3'-C3'	5.10	125.81	119.70
24	YA	1640	C	N3-C2-O2	-5.09	118.33	121.90
24	YA	2794	C	N1-C2-O2	5.09	121.96	118.90
1	QA	738	C	C5-C6-N1	5.09	123.55	121.00
24	RA	404	C	P-O3'-C3'	5.09	125.81	119.70
24	YA	2658	C	N3-C2-O2	-5.09	118.34	121.90
24	RA	459	U	N1-C2-O2	5.09	126.36	122.80
24	YA	1679	U	N1-C2-O2	5.09	126.36	122.80
24	YA	1894	C	C6-N1-C2	-5.09	118.27	120.30
1	XA	252	U	N1-C2-O2	5.08	126.36	122.80
1	QA	54	C	N1-C2-O2	5.08	121.95	118.90
24	RA	2137	C	N1-C2-O2	5.08	121.95	118.90
24	RA	529	A	C2-N3-C4	5.08	113.14	110.60
24	YA	2720	U	N3-C2-O2	-5.08	118.64	122.20
24	YA	234	C	C6-N1-C2	-5.08	118.27	120.30
25	YB	22	U	N1-C2-O2	5.08	126.36	122.80
24	RA	1207	C	C5-C6-N1	5.08	123.54	121.00
24	RA	2456	C	C6-N1-C2	-5.08	118.27	120.30
24	YA	1526	G	C6-C5-N7	-5.08	127.36	130.40
44	YZ	150	LEU	CA-CB-CG	5.08	126.97	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	169	C	C6-N1-C2	-5.07	118.27	120.30
1	QA	563	A	C8-N9-C1'	-5.07	118.58	127.70
24	YA	2759	G	N3-C4-N9	5.07	129.04	126.00
24	RA	248	G	C6-C5-N7	-5.07	127.36	130.40
24	RA	308	G	OP1-P-O3'	5.07	116.34	105.20
24	YA	67	U	C6-N1-C2	-5.07	117.96	121.00
26	YD	32	SER	C-N-CA	5.07	134.37	121.70
24	RA	1513	C	N3-C2-O2	-5.06	118.36	121.90
24	RA	1598	C	N3-C2-O2	-5.06	118.36	121.90
1	QA	528	C	N1-C2-O2	5.06	121.94	118.90
24	RA	1370	C	N1-C2-O2	5.06	121.94	118.90
24	RA	1902	C	N3-C2-O2	-5.06	118.36	121.90
1	XA	1140	C	C5-C6-N1	5.06	123.53	121.00
24	RA	1686	C	C2-N1-C1'	5.05	124.36	118.80
24	YA	828	U	C6-N1-C2	-5.05	117.97	121.00
24	YA	893	C	N3-C2-O2	-5.05	118.36	121.90
1	QA	1303	C	N1-C2-O2	5.05	121.93	118.90
24	RA	2043	C	C2-N1-C1'	5.05	124.35	118.80
24	YA	271(B)	G	P-O3'-C3'	5.05	125.75	119.70
24	YA	413	C	C6-N1-C2	-5.05	118.28	120.30
24	RA	785	G	C8-N9-C4	-5.04	104.38	106.40
24	RA	2248	C	N1-C2-O2	5.04	121.93	118.90
24	YA	755	C	C5-C6-N1	5.04	123.52	121.00
1	XA	345	C	P-O3'-C3'	5.04	125.75	119.70
1	XA	812	C	OP2-P-O3'	5.04	116.29	105.20
24	YA	2056	G	N3-C4-N9	5.04	129.02	126.00
1	QA	252	U	C2-N1-C1'	5.04	123.75	117.70
24	RA	691	C	C6-N1-C2	-5.04	118.28	120.30
24	RA	1049	C	C6-N1-C2	-5.04	118.28	120.30
1	XA	618	C	C5-C6-N1	5.04	123.52	121.00
9	QI	111	ARG	NE-CZ-NH1	5.03	122.82	120.30
24	RA	2321	G	N7-C8-N9	5.03	115.62	113.10
24	RA	2825	C	N1-C2-O2	5.03	121.92	118.90
1	XA	993	G	N3-C4-N9	5.03	129.02	126.00
24	YA	1830	C	N1-C2-O2	5.03	121.92	118.90
24	RA	1487	G	N3-C4-N9	5.03	129.02	126.00
1	XA	56	U	N3-C4-O4	5.03	122.92	119.40
1	XA	1028	C	C5-C6-N1	5.03	123.51	121.00
24	RA	641	C	C5-C6-N1	5.03	123.51	121.00
24	YA	1135	C	N1-C2-O2	5.03	121.92	118.90
24	YA	1686	C	C2-N1-C1'	5.02	124.33	118.80
1	QA	1439	C	C6-N1-C2	-5.02	118.29	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	RA	828	U	C6-N1-C2	-5.02	117.99	121.00
24	RA	1513	C	C6-N1-C2	-5.02	118.29	120.30
24	YA	114	U	N3-C2-O2	-5.02	118.68	122.20
24	YA	2307	G	C8-N9-C1'	-5.02	120.47	127.00
24	RA	1864	U	N3-C2-O2	-5.02	118.69	122.20
1	QA	1378	C	C6-N1-C2	-5.02	118.29	120.30
24	RA	2233	U	N3-C2-O2	-5.02	118.69	122.20
24	RA	1644	C	C5-C6-N1	5.02	123.51	121.00
24	RA	1899	G	N9-C4-C5	5.02	107.41	105.40
24	YA	856	C	C2-N1-C1'	5.02	124.32	118.80
24	YA	445	C	N3-C2-O2	-5.01	118.39	121.90
24	YA	974(A)	C	C2-N1-C1'	5.01	124.31	118.80
24	YA	634	C	C6-N1-C2	-5.01	118.30	120.30
24	YA	1504	C	N1-C2-O2	5.01	121.91	118.90
24	YA	2460	U	N3-C2-O2	-5.01	118.69	122.20
24	YA	1267	U	N1-C2-O2	5.01	126.31	122.80
1	QA	410	G	OP1-P-O3'	5.01	116.22	105.20
24	RA	2874	C	C2-N1-C1'	5.01	124.31	118.80
24	YA	2720	U	N1-C2-O2	5.01	126.31	122.80
24	RA	1294	U	N1-C2-O2	5.01	126.31	122.80
10	QJ	90	LEU	CA-CB-CG	5.01	126.82	115.30
24	RA	2787	C	N1-C2-O2	5.01	121.90	118.90
1	XA	58	C	N1-C2-O2	5.01	121.90	118.90
24	YA	2594	C	C6-N1-C2	-5.00	118.30	120.30
24	RA	797	C	C5-C6-N1	5.00	123.50	121.00
24	RA	1578	U	N3-C2-O2	-5.00	118.70	122.20
1	XA	754	C	N1-C2-O2	5.00	121.90	118.90
24	RA	1022	G	P-O3'-C3'	5.00	125.70	119.70
24	RA	1830	C	N1-C2-O2	5.00	121.90	118.90
1	XA	754	C	C6-N1-C1'	-5.00	114.80	120.80

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	QD	33	MET	Peptide
29	RG	82	LEU	Peptide
44	RZ	52	SER	Peptide
12	XL	104	VAL	Peptide
27	YE	17	ASP	Peptide
29	YG	82	LEU	Peptide
44	YZ	52	SER	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	16276	508	0
1	XA	32249	0	16279	516	1
2	QB	1907	0	1958	28	0
2	XB	1915	0	1969	33	0
3	QC	1605	0	1668	40	0
3	XC	1605	0	1668	27	1
4	QD	1703	0	1763	39	0
4	XD	1703	0	1763	53	1
5	QE	1155	0	1213	21	0
5	XE	1155	0	1213	24	0
6	QF	843	0	857	17	0
6	XF	843	0	857	9	0
7	QG	1257	0	1296	27	0
7	XG	1257	0	1296	22	0
8	QH	1108	0	1165	29	0
8	XH	1108	0	1165	30	0
9	QI	989	0	1011	29	0
9	XI	998	0	1024	26	0
10	QJ	801	0	849	26	0
10	XJ	777	0	816	27	0
11	QK	885	0	904	24	1
11	XK	864	0	881	17	0
12	QL	975	0	1062	29	0
12	XL	956	0	1046	18	0
13	QM	955	0	1021	38	0
13	XM	946	0	1008	20	0
14	QN	492	0	528	16	0
14	XN	492	0	531	36	0
15	QO	734	0	771	14	0
15	XO	729	0	768	11	0
16	QP	705	0	725	10	0
16	XP	705	0	725	9	0
17	QQ	834	0	904	11	0
17	XQ	834	0	904	18	0
18	QR	574	0	644	14	0
18	XR	574	0	644	12	0
19	QS	665	0	686	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	XS	674	0	699	14	0
20	QT	763	0	861	15	0
20	XT	763	0	861	21	0
21	QU	217	0	234	5	0
21	XU	217	0	234	8	0
22	QV	1647	0	832	20	0
22	XV	1647	0	832	18	0
23	QX	418	0	209	10	0
23	XX	418	0	209	9	0
24	RA	62071	0	31291	830	4
24	YA	62091	0	31297	821	0
25	RB	2573	0	1306	27	0
25	YB	2573	0	1306	26	0
26	RD	2115	0	2195	50	0
26	YD	2115	0	2195	52	0
27	RE	1568	0	1634	53	0
27	YE	1568	0	1634	41	0
28	RF	1585	0	1632	25	0
28	YF	1585	0	1632	21	0
29	RG	1474	0	1535	33	0
29	YG	1474	0	1535	42	0
30	RH	1336	0	1418	33	0
30	YH	1336	0	1418	20	1
31	RI	1136	0	1223	15	0
31	YI	1136	0	1223	10	0
32	RN	1104	0	1180	23	0
32	YN	1104	0	1180	21	0
33	RO	933	0	996	23	0
33	YO	933	0	996	17	0
34	RP	1145	0	1228	35	0
34	YP	1122	0	1206	29	0
35	RQ	1122	0	1179	27	0
35	YQ	1122	0	1179	29	0
36	RR	960	0	1021	20	0
36	YR	960	0	1021	11	0
37	RS	882	0	942	19	0
37	YS	882	0	943	19	0
38	RT	1141	0	1202	26	0
38	YT	1141	0	1202	24	0
39	RU	964	0	1022	19	0
39	YU	964	0	1022	22	0
40	RV	779	0	852	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	YV	779	0	852	16	1
41	RW	900	0	964	16	0
41	YW	900	0	964	10	0
42	RX	725	0	778	9	0
42	YX	725	0	778	10	0
43	RY	818	0	909	16	0
43	YY	818	0	909	18	1
44	RZ	1461	0	1493	32	0
44	YZ	1461	0	1493	24	0
45	R0	643	0	667	12	0
45	Y0	593	0	612	15	0
46	R1	763	0	848	11	0
46	Y1	729	0	802	11	0
47	R2	581	0	629	11	0
47	Y2	581	0	629	9	2
48	R3	469	0	518	6	0
48	Y3	469	0	518	9	0
49	R4	565	0	557	12	0
49	Y4	565	0	557	21	0
50	R5	459	0	476	16	0
50	Y5	459	0	477	13	1
51	R6	453	0	473	9	0
51	Y6	453	0	473	11	0
52	R7	409	0	454	4	0
52	Y7	418	0	467	7	0
53	R8	517	0	582	17	0
53	Y8	517	0	582	19	0
54	R9	307	0	335	9	0
54	Y9	307	0	335	5	0
55	QA	69	0	0	0	0
55	QE	1	0	0	0	0
55	QH	1	0	0	0	0
55	QV	1	0	0	0	0
55	R1	1	0	0	0	0
55	RA	381	0	0	0	0
55	RB	9	0	0	0	0
55	RD	1	0	0	0	0
55	RE	1	0	0	0	0
55	RQ	1	0	0	0	0
55	XA	67	0	0	0	0
55	XE	1	0	0	0	0
55	Y0	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	Y5	1	0	0	0	0
55	Y7	2	0	0	0	0
55	YA	454	0	0	0	0
55	YB	8	0	0	0	0
55	YD	2	0	0	0	0
55	YE	1	0	0	0	0
55	YP	1	0	0	0	0
55	YQ	2	0	0	0	0
55	YR	2	0	0	0	0
56	QD	8	0	0	1	0
56	XD	8	0	0	3	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	291782	0	197805	4186	7

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 9.

All (4186) 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)
14:XN:24:CYS:SG	14:XN:40:CYS:HB2	1.54	1.47
4:XD:61:LYS:NZ	4:XD:61:LYS:CE	1.77	1.47
14:XN:29:ARG:HD2	14:XN:40:CYS:SG	1.67	1.33
14:XN:24:CYS:SG	14:XN:40:CYS:CB	2.36	1.14
14:XN:29:ARG:CD	14:XN:40:CYS:SG	2.36	1.13
24:RA:1657:C:O3'	27:RE:133:LYS:HG2	1.62	0.99
24:RA:1473:G:H5"	24:RA:1473:G:H8	1.29	0.97
24:RA:2135:A:H62	24:RA:2156:G:H21	1.03	0.96
24:YA:1359:A:N6	24:YA:1372:U:H3	1.63	0.96
1:XA:152:A:N6	1:XA:169:C:N3	2.14	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:YY:76:CYS:HB3	43:YY:79:CYS:SG	2.09	0.92
24:YA:1270:C:H5"	24:YA:1271:G:H5'	1.52	0.90
24:YA:2701:C:H3'	24:YA:2702:U:H5"	1.54	0.88
24:YA:2096:U:H3	24:YA:2193:G:H1	0.87	0.87
1:XA:452:A:H62	1:XA:480:U:H3	1.17	0.86
24:RA:1473:G:H5"	24:RA:1473:G:C8	2.11	0.86
10:XJ:50:ILE:H	14:XN:41:ARG:HH12	1.22	0.86
24:RA:2675:A:H5'	33:RO:31:LYS:HE3	1.57	0.85
24:YA:2099:U:H3	24:YA:2190:G:H1	1.17	0.85
24:YA:1359:A:H62	24:YA:1372:U:H3	0.89	0.85
24:RA:1264:G:OP1	50:R5:19:ARG:NH2	2.10	0.84
24:RA:1654:A:OP1	36:RR:2:ARG:HG2	1.78	0.84
51:R6:13:CYS:HB3	51:R6:16:CYS:SG	2.18	0.83
14:XN:57:ARG:HE	14:XN:58:LYS:H	1.25	0.82
24:RA:1270:C:H5"	24:RA:1271:G:H5'	1.59	0.82
16:QP:45:THR:HG22	16:QP:47:ASP:H	1.43	0.82
1:XA:439:A:OP2	1:XA:493:G:N1	2.14	0.81
44:YZ:10:ARG:NH2	44:YZ:37:VAL:O	2.14	0.81
24:RA:2135:A:H62	24:RA:2156:G:N2	1.78	0.81
24:RA:1657:C:O2'	27:RE:133:LYS:HD2	1.80	0.80
24:RA:2135:A:N6	24:RA:2156:G:H21	1.78	0.80
44:YZ:5:LEU:H	44:YZ:59:LEU:HA	1.47	0.80
24:YA:2046:G:H5'	50:Y5:19:ARG:HG3	1.64	0.79
24:YA:2245:U:H5'	24:YA:2246:G:H5'	1.64	0.79
24:RA:307:G:H2'	24:RA:309:G:OP2	1.83	0.79
7:XG:62:PHE:HA	7:XG:124:LEU:HD11	1.65	0.78
1:QA:939:G:H5'	7:QG:102:ARG:HH12	1.49	0.78
44:YZ:52:SER:O	44:YZ:54:HIS:N	2.16	0.78
14:XN:24:CYS:SG	14:XN:40:CYS:CA	2.72	0.78
24:RA:527:C:N4	24:RA:2779:U:OP2	2.15	0.78
26:RD:8:PRO:HB3	26:RD:14:ARG:HB3	1.66	0.78
1:XA:1441:G:H21	1:XA:1460:A:H62	1.30	0.77
24:YA:2371:G:O2'	51:Y6:46:HIS:ND1	2.17	0.77
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.49	0.77
7:XG:111:ARG:HH12	7:XG:123:GLU:N	1.82	0.77
14:XN:29:ARG:HD3	14:XN:40:CYS:SG	2.25	0.77
24:YA:1800:C:OP2	26:YD:183:ARG:NH1	2.16	0.77
24:YA:1859:A:N6	24:YA:1883:G:O2'	2.17	0.77
24:RA:1224:G:N2	24:RA:1227:A:OP2	2.17	0.76
24:RA:2245:U:H5'	24:RA:2246:G:H5'	1.67	0.76
44:RZ:5:LEU:HD21	44:RZ:47:VAL:HG21	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:307:G:O5'	24:RA:307:G:H8	1.68	0.76
1:XA:992:U:H3	1:XA:1044:A:H62	1.34	0.76
24:YA:2125:G:O2'	24:YA:2173:A:N6	2.19	0.75
1:XA:157:G:H1	1:XA:164:U:H3	1.34	0.75
29:YG:67:LYS:HG3	49:Y4:5:ILE:HG12	1.68	0.75
24:YA:1055:G:H1	24:YA:1104:C:H42	1.34	0.74
1:QA:559:A:H4'	1:QA:560:U:H5"	1.68	0.74
1:QA:674:G:H2'	1:QA:675:A:H8	1.53	0.74
22:XV:19:G:O2'	22:XV:58:G:N2	2.20	0.74
24:RA:1817:G:OP1	26:RD:88:ARG:NH2	2.21	0.74
13:XM:99:ARG:HB3	13:XM:101:GLN:HE22	1.51	0.74
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.68	0.74
26:YD:8:PRO:HB3	26:YD:14:ARG:HB3	1.70	0.74
24:YA:2134:A:N6	24:YA:2156:G:O2'	2.21	0.73
24:YA:2584:U:H2'	24:YA:2585:U:H2'	1.70	0.73
24:RA:2406:U:OP1	24:RA:2411:A:N6	2.21	0.73
24:RA:527:C:N3	24:RA:2779:U:H5"	2.03	0.73
1:QA:618:C:H5'	1:QA:619:U:H5"	1.70	0.73
8:QH:29:SER:HB3	8:QH:32:LYS:HE2	1.69	0.73
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.68	0.73
24:YA:1607:C:N4	24:YA:1622:G:OP2	2.21	0.73
24:YA:2581:G:OP2	24:YA:2581:G:N2	2.19	0.73
48:Y3:38:GLU:OE2	48:Y3:38:GLU:N	2.14	0.73
24:RA:1638:C:H5"	24:RA:2710:C:O2'	1.89	0.72
12:XL:60:LEU:HD12	12:XL:62:SER:H	1.54	0.72
24:YA:994:C:OP1	39:YU:53:ARG:NH2	2.23	0.72
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.20	0.72
9:XI:20:ARG:HE	9:XI:21:PRO:HD2	1.54	0.71
24:YA:783:A:H2'	24:YA:784:A:H4'	1.72	0.71
1:XA:410:G:H21	1:XA:432:A:H62	1.37	0.71
24:YA:888:C:H3'	24:YA:889:C:H4'	1.72	0.71
14:QN:27:CYS:SG	14:QN:40:CYS:HB3	2.30	0.71
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.71	0.71
1:XA:1422:G:H5"	33:YO:48:PRO:HB3	1.73	0.71
44:RZ:5:LEU:H	44:RZ:59:LEU:HA	1.54	0.71
1:XA:674:G:H2'	1:XA:675:A:H8	1.55	0.71
24:YA:1817:G:OP1	26:YD:88:ARG:NH2	2.24	0.71
25:RB:80:U:H2'	25:RB:81:G:H21	1.54	0.71
14:XN:27:CYS:SG	14:XN:40:CYS:CB	2.78	0.71
14:XN:29:ARG:HD2	14:XN:40:CYS:HG	1.54	0.71
24:RA:2046:G:H5'	50:R5:19:ARG:HG3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XN:27:CYS:SG	14:XN:40:CYS:HB2	2.31	0.71
24:YA:517:C:OP1	50:Y5:16:ARG:NH2	2.24	0.71
11:QK:93:GLN:OE1	11:QK:96:ARG:NH2	2.24	0.71
24:RA:392:C:H5"	24:RA:409:C:H5"	1.71	0.71
1:QA:339:C:OP2	33:RO:97:ARG:NH1	2.20	0.70
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.21	0.70
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.72	0.70
24:RA:2688:U:OP1	24:RA:2713:A:N6	2.23	0.70
24:RA:994:C:OP1	39:RU:53:ARG:NH2	2.24	0.70
44:RZ:52:SER:O	44:RZ:54:HIS:N	2.20	0.70
25:RB:33:G:H5'	29:RG:2:PRO:HG3	1.73	0.70
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.25	0.70
1:XA:689:C:H3'	1:XA:690:G:H21	1.56	0.70
46:R1:76:ARG:HH11	46:R1:94:LEU:HD23	1.57	0.70
24:YA:1026:U:H4'	24:YA:1027:A:OP1	1.92	0.70
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.24	0.70
24:YA:1670:C:C5'	24:YA:1671:U:OP2	2.40	0.70
1:XA:1318:A:H4'	19:XS:11:VAL:HG21	1.74	0.69
24:YA:67:U:H3	24:YA:74:A:H2	1.39	0.69
24:YA:288:C:H2'	24:YA:289:A:H8	1.57	0.69
24:YA:620:G:H4'	24:YA:621:A:H5"	1.73	0.69
24:RA:140:A:H8	24:RA:1408:C:HO2'	1.41	0.69
24:RA:630:G:N2	24:RA:633:A:OP2	2.25	0.69
25:RB:30:C:H1'	25:RB:57:A:H61	1.56	0.69
1:QA:838:G:H1	1:QA:848:C:H42	1.38	0.69
24:RA:994:C:OP2	39:RU:54:LYS:NZ	2.25	0.69
38:YT:125:ARG:HE	38:YT:129:ARG:HH12	1.39	0.69
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.74	0.69
14:QN:27:CYS:SG	14:QN:40:CYS:CB	2.80	0.69
24:YA:512:G:OP1	24:YA:1234:U:O2'	2.10	0.69
1:QA:782:A:H62	1:QA:800:G:H21	1.40	0.69
24:RA:2115:G:N1	24:RA:2164:C:OP2	2.26	0.69
1:XA:618:C:H5'	1:XA:619:U:H5"	1.73	0.69
24:YA:571:A:H5'	24:YA:2030:A:H62	1.57	0.69
24:YA:1670:C:H5"	24:YA:1671:U:OP2	1.93	0.69
1:XA:1227:A:OP1	19:XS:80:TYR:OH	2.10	0.69
24:YA:1012:U:O2'	24:YA:1013:C:OP2	2.11	0.69
24:YA:1509:C:H3'	24:YA:1510:A:H5"	1.74	0.69
1:XA:1348:U:H4'	9:XI:120:ARG:HD2	1.74	0.69
9:XI:9:ARG:HG3	9:XI:104:ARG:HH21	1.56	0.69
1:XA:677:U:H3	1:XA:713:G:H22	1.41	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:689:C:H3'	1:QA:690:G:H21	1.57	0.69
1:QA:1400:C:O4'	23:QX:21:G:C6	2.46	0.69
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.25	0.69
1:XA:1157:A:N7	1:XA:1178:G:N2	2.40	0.69
3:XC:6:HIS:CE1	3:XC:8:ILE:HB	2.28	0.69
24:YA:996:A:OP2	39:YU:92:ARG:NH2	2.27	0.68
1:QA:1504:G:OP1	1:QA:1507:A:O2'	2.10	0.68
24:RA:993:G:OP1	39:RU:50:ARG:NH2	2.25	0.68
24:YA:1012:U:C2'	24:YA:1013:C:OP2	2.41	0.68
24:YA:1030:G:OP2	35:YQ:128:LYS:NZ	2.26	0.68
24:YA:2154:G:H2'	24:YA:2155:G:H8	1.57	0.68
54:Y9:13:LYS:HD2	54:Y9:28:GLU:H	1.57	0.68
24:RA:1433:U:H3	24:RA:1560:G:H1	1.41	0.68
28:RF:158:THR:O	28:RF:164:ARG:NH1	2.26	0.68
24:RA:309:G:OP2	24:RA:309:G:C8	2.46	0.68
24:RA:141:A:H8	24:RA:1595:G:H21	1.42	0.68
29:RG:29:TRP:O	29:RG:33:ARG:NH1	2.27	0.68
24:YA:1359:A:N7	24:YA:1372:U:O4	2.26	0.68
24:YA:1728:G:N1	24:YA:1730:U:OP2	2.26	0.68
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.27	0.68
1:XA:264:U:O2'	17:XQ:64:PRO:O	2.11	0.68
38:YT:5:ALA:HA	38:YT:8:LYS:HD3	1.74	0.68
1:QA:811:C:O2'	1:QA:901:A:N1	2.27	0.68
4:XD:61:LYS:NZ	4:XD:61:LYS:CD	2.55	0.68
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.41	0.67
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.27	0.67
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.21	0.67
24:YA:1110:G:H4'	30:YH:3:ARG:HE	1.60	0.67
24:YA:2291:U:H3	24:YA:2341:G:H1	1.42	0.67
24:YA:2788:C:O2'	24:YA:2809:A:N3	2.26	0.67
3:XC:18:TRP:O	3:XC:21:ARG:NH2	2.27	0.67
24:RA:2711:A:H5"	24:RA:2712:U:H5"	1.75	0.67
35:RQ:65:PHE:HB2	35:RQ:105:GLU:HB3	1.75	0.67
24:YA:2296:U:OP2	37:YS:9:ARG:NH1	2.28	0.67
24:YA:2821:A:OP2	24:YA:2822:G:OP2	2.11	0.67
1:QA:45:U:H3	1:QA:396:G:H1	1.43	0.67
3:XC:85:ARG:HA	3:XC:88:ARG:HE	1.59	0.67
24:RA:2285:C:OP2	51:R6:6:ARG:NH1	2.28	0.67
1:XA:553:A:H5"	12:XL:24:VAL:HG21	1.76	0.67
1:XA:812:C:H4'	1:XA:813:U:H5'	1.75	0.67
5:XE:75:THR:OG1	5:XE:76:ILE:N	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:593:G:H4'	53:Y8:61:LEU:HD13	1.77	0.67
24:YA:1728:G:H8	24:YA:1732:A:H62	1.43	0.66
34:YP:65:ARG:HE	53:Y8:15:LYS:HB2	1.60	0.66
12:XL:114:LYS:O	12:XL:117:ARG:NH1	2.28	0.66
44:YZ:4:ARG:HB3	44:YZ:60:GLU:HG3	1.78	0.66
46:Y1:83:GLU:HG2	46:Y1:85:LEU:H	1.60	0.66
1:QA:806:C:H2'	1:QA:807:A:H8	1.61	0.66
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.28	0.66
24:RA:27:G:N2	24:RA:513:A:OP2	2.29	0.66
24:RA:676:A:H8	24:RA:2069:G:H21	1.43	0.66
1:QA:1222:G:OP1	19:QS:78:ARG:NH1	2.27	0.66
49:Y4:46:GLN:HG3	49:Y4:48:ARG:HE	1.60	0.66
24:RA:309:G:N3	24:RA:329:G:O2'	2.28	0.66
1:XA:261:U:N3	1:XA:264:U:OP2	2.28	0.66
19:XS:19:VAL:HG21	19:XS:44:MET:HG2	1.78	0.66
24:YA:850:C:N4	24:YA:929:G:N2	2.43	0.66
51:R6:13:CYS:CB	51:R6:16:CYS:SG	2.82	0.66
1:QA:316:G:OP2	1:QA:351:G:O2'	2.13	0.66
5:QE:35:GLY:HA3	5:QE:112:LEU:HB3	1.76	0.66
14:QN:24:CYS:CB	14:QN:27:CYS:SG	2.79	0.66
24:RA:2747:G:H21	24:RA:2757:A:H62	1.42	0.66
33:RO:104:ARG:HH11	33:RO:121:VAL:HG22	1.61	0.66
51:Y6:13:CYS:HB3	51:Y6:16:CYS:SG	2.35	0.66
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.24	0.66
22:QV:19:G:O2'	22:QV:58:G:N2	2.29	0.66
24:RA:2638:G:OP1	27:RE:82:ARG:NH2	2.29	0.66
34:YP:58:THR:O	34:YP:61:ARG:NH2	2.28	0.66
1:QA:553:A:H5"	12:QL:24:VAL:HG11	1.78	0.66
1:QA:677:U:H3	1:QA:713:G:H22	1.40	0.66
1:XA:946:A:O2'	1:XA:1333:A:N3	2.29	0.66
24:YA:141:A:H8	24:YA:1595:G:H21	1.42	0.65
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.79	0.65
24:YA:630:G:OP1	53:Y8:46:ARG:NH1	2.30	0.65
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.62	0.65
1:XA:579:G:H5'	1:XA:728:A:H1'	1.76	0.65
1:XA:662:G:O2'	1:XA:836:G:OP1	2.15	0.65
2:QB:54:THR:HG22	2:QB:199:TYR:HB3	1.77	0.65
14:XN:24:CYS:CB	14:XN:27:CYS:SG	2.85	0.65
51:Y6:10:LEU:HD23	51:Y6:19:ARG:HG2	1.78	0.65
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.44	0.65
3:QC:173:VAL:HG22	3:QC:203:PHE:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:581:G:N1	1:XA:759:A:OP2	2.28	0.65
14:XN:24:CYS:SG	14:XN:40:CYS:N	2.70	0.65
37:YS:20:ARG:NH2	45:Y0:51:VAL:O	2.26	0.65
1:QA:439:A:OP2	1:QA:493:G:N1	2.29	0.65
24:RA:1607:C:N4	24:RA:1622:G:OP2	2.29	0.65
2:XB:54:THR:HG22	2:XB:199:TYR:HB3	1.78	0.65
21:XU:12:LYS:HB3	21:XU:22:ARG:HD3	1.79	0.65
24:RA:26:G:H1'	24:RA:515:A:H61	1.62	0.65
24:RA:2816:C:O2	24:RA:2883:A:O2'	2.14	0.65
1:XA:324:G:H8	1:XA:324:G:O5'	1.80	0.65
1:XA:745:C:H2'	1:XA:746:A:H8	1.61	0.65
8:XH:111:ILE:HG23	8:XH:134:ILE:HB	1.78	0.65
53:Y8:29:LYS:O	53:Y8:31:HIS:N	2.30	0.65
24:RA:987:G:O2'	24:RA:1000:A:N3	2.30	0.65
24:YA:527:C:N4	24:YA:2779:U:OP2	2.31	0.64
24:YA:2010:G:H5"	41:YW:42:ARG:HB2	1.79	0.64
24:YA:2729:G:H1'	27:YE:187:ALA:HB2	1.79	0.64
24:RA:1365:A:O2'	46:R1:11:ARG:NH2	2.30	0.64
1:XA:235:C:H2'	1:XA:236:G:H8	1.63	0.64
24:YA:807:U:O2'	24:YA:2060:A:N1	2.29	0.64
4:XD:9:CYS:SG	4:XD:25:ARG:NH1	2.68	0.64
1:QA:1301:U:O3'	13:QM:21:TYR:OH	2.14	0.64
5:QE:79:GLU:HB3	5:QE:92:LYS:HD3	1.79	0.64
24:RA:2296:U:OP2	37:RS:9:ARG:NH1	2.30	0.64
10:XJ:50:ILE:HA	10:XJ:60:ARG:HG3	1.79	0.64
11:QK:18:ARG:HG2	11:QK:81:ASP:HB2	1.80	0.64
22:QV:4:U:HO2'	22:QV:5:G:H8	1.43	0.64
24:RA:768:G:O2'	24:RA:1379:A:N6	2.30	0.64
24:RA:2882:A:OP1	36:RR:96:ARG:NH1	2.31	0.64
26:RD:124:PRO:HB2	26:RD:126:GLN:HE22	1.63	0.64
43:RY:14:LEU:HB2	43:RY:75:ILE:HD11	1.80	0.64
1:XA:578:C:O2'	1:XA:728:A:N3	2.29	0.64
24:YA:993:G:OP1	39:YU:50:ARG:NH2	2.31	0.64
29:YG:67:LYS:HE3	49:Y4:7:PRO:HD3	1.78	0.64
40:YV:61:VAL:HG12	40:YV:63:GLY:H	1.63	0.64
2:XB:219:VAL:HA	2:XB:222:ILE:HD12	1.80	0.64
1:QA:343:U:O2	1:QA:346:G:N2	2.28	0.64
9:QI:112:LYS:NZ	9:QI:113:LYS:O	2.30	0.64
30:YH:151:ILE:O	30:YH:153:LYS:N	2.30	0.64
1:QA:1116:C:H2'	1:QA:1117:G:H8	1.63	0.64
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:100:ARG:NH2	4:XD:136:PRO:O	2.31	0.64
24:YA:1316:U:H2'	24:YA:1317:A:H8	1.62	0.64
25:YB:30:C:H1'	25:YB:57:A:H61	1.63	0.64
1:QA:1373:G:H5'	7:QG:36:LYS:HG2	1.80	0.64
13:QM:91:ARG:HH21	13:QM:96:LEU:HB3	1.63	0.64
24:RA:308:G:O2'	24:RA:329:G:N2	2.31	0.64
24:RA:998:C:OP2	39:RU:58:ARG:NH1	2.30	0.64
1:XA:521:G:HO2'	1:XA:536:C:HO2'	1.45	0.64
2:XB:118:LEU:HD21	2:XB:142:LEU:HA	1.80	0.64
14:XN:24:CYS:SG	14:XN:33:VAL:HG22	2.38	0.64
24:YA:589:C:H2'	24:YA:590:A:H8	1.62	0.64
24:YA:2328:A:H2'	24:YA:2329:G:C8	2.33	0.64
1:QA:745:C:OP1	1:QA:851:G:O2'	2.16	0.63
1:XA:707:C:OP1	11:XK:85:ARG:NH1	2.31	0.63
20:XT:58:LYS:O	20:XT:61:SER:OG	2.15	0.63
1:QA:514:C:H2'	1:QA:515:G:H8	1.63	0.63
24:RA:67:U:O5'	24:RA:67:U:H6	1.80	0.63
1:XA:380:G:N2	1:XA:383:A:OP2	2.25	0.63
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.30	0.63
51:Y6:13:CYS:CB	51:Y6:16:CYS:SG	2.79	0.63
1:XA:1253:G:H4'	10:XJ:46:ARG:HH12	1.64	0.63
20:XT:14:LYS:HA	20:XT:17:ARG:HD3	1.80	0.63
24:YA:2646:C:OP2	24:YA:2732:G:O2'	2.10	0.63
10:QJ:19:SER:HA	10:QJ:22:LYS:HD2	1.79	0.63
24:RA:587:C:OP2	34:RP:21:ARG:NH1	2.31	0.63
24:RA:776:G:N1	24:RA:2072:G:OP1	2.30	0.63
1:XA:953:G:N7	13:XM:104:ARG:NH2	2.46	0.63
24:YA:270(I):G:H1	24:YA:270(Q):C:H42	1.46	0.63
24:YA:694:U:H3	24:YA:768:G:H1	1.44	0.63
24:YA:2068:U:H3	24:YA:2430:A:H2	1.43	0.63
27:YE:17:ASP:O	27:YE:19:ARG:N	2.32	0.63
26:RD:13:ARG:NH1	26:RD:16:MET:SD	2.71	0.63
34:RP:58:THR:O	34:RP:61:ARG:NH2	2.31	0.63
24:YA:2680:C:H5'	27:YE:189:PRO:HA	1.80	0.63
24:RA:1509:C:H3'	24:RA:1510:A:H5"	1.79	0.63
1:XA:358:U:H2'	1:XA:359:U:C6	2.34	0.63
24:RA:1152:C:H2'	24:RA:1153:C:H6	1.63	0.63
1:XA:1224:G:O2'	1:XA:1322:C:OP2	2.17	0.63
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.32	0.63
24:YA:277:C:C5'	24:YA:278:A:H5'	2.29	0.63
1:QA:1305:G:N2	1:QA:1332:A:OP2	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:41:PRO:HB2	10:QJ:43:ARG:HH22	1.63	0.62
13:QM:25:ILE:HD11	13:QM:66:LEU:HD11	1.79	0.62
24:YA:919:G:N2	24:YA:2269:A:OP2	2.32	0.62
24:RA:883:G:H1	24:RA:893:C:H42	1.47	0.62
24:RA:2228:G:OP1	26:RD:261:LYS:NZ	2.25	0.62
27:RE:17:ASP:O	27:RE:19:ARG:N	2.30	0.62
13:XM:57:ARG:HH22	49:Y4:34:GLU:HB2	1.64	0.62
24:YA:1264:G:OP1	50:Y5:19:ARG:NH2	2.19	0.62
1:XA:714:G:H2'	1:XA:715:A:C8	2.34	0.62
1:XA:715:A:H2'	1:XA:716:A:C8	2.34	0.62
24:YA:270:A:OP2	24:YA:270(Y):G:N1	2.31	0.62
24:YA:2287:A:H62	24:YA:2344:U:H3	1.46	0.62
39:RU:92:ARG:HD2	40:RV:11:GLN:HB2	1.80	0.62
1:XA:1305:G:N2	1:XA:1332:A:OP2	2.32	0.62
1:QA:1224:G:O2'	1:QA:1322:C:OP2	2.18	0.62
8:QH:32:LYS:HA	8:QH:35:ILE:HD12	1.81	0.62
24:RA:1882:C:H3'	24:RA:1883:G:H8	1.65	0.62
24:YA:1980:G:O2'	24:YA:1982:C:OP2	2.15	0.62
10:QJ:40:LEU:HD11	10:QJ:71:LEU:HG	1.80	0.62
24:RA:1083:U:H2'	24:RA:1085:A:H5"	1.81	0.62
35:RQ:81:VAL:O	35:RQ:82:ARG:NE	2.28	0.62
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.64	0.62
27:RE:176:ILE:HB	27:RE:181:LEU:HB2	1.81	0.62
28:RF:117:ARG:NH2	28:RF:189:THR:O	2.33	0.62
4:XD:25:ARG:NH1	56:XD:301:SF4:S2	2.73	0.62
1:QA:581:G:OP1	15:QO:65:ARG:NH1	2.30	0.62
5:QE:43:LEU:HD21	5:QE:109:ILE:HD12	1.80	0.62
24:RA:270(T):G:H5"	46:R1:97:LEU:HD22	1.81	0.62
24:RA:1859:A:N6	24:RA:1883:G:O2'	2.33	0.62
26:RD:143:HIS:ND1	26:RD:194:GLY:O	2.27	0.62
1:XA:1073:U:O2'	2:XB:104:ASN:OD1	2.17	0.62
24:YA:265:A:N6	24:YA:427:U:O2'	2.32	0.62
24:YA:1127:A:N7	24:YA:2488:A:O2'	2.31	0.62
1:QA:714:G:H2'	1:QA:715:A:C8	2.34	0.62
24:RA:517:C:OP1	50:R5:16:ARG:NH2	2.32	0.62
24:RA:2118:U:O2	24:RA:2148:G:O2'	2.17	0.62
1:XA:1522:U:H2'	1:XA:1523:G:H8	1.65	0.62
1:QA:1343:G:H4'	9:QI:122:ALA:HB3	1.81	0.62
24:RA:1652:A:OP1	36:RR:8:ARG:NH1	2.33	0.62
30:RH:153:LYS:HB2	30:RH:162:ILE:HG12	1.80	0.62
24:YA:577:G:O2'	24:YA:1254:A:OP1	2.18	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:579:G:H5'	1:QA:728:A:H1'	1.81	0.61
15:QO:25:THR:HB	15:QO:70:LEU:HD21	1.82	0.61
47:R2:54:LYS:HA	47:R2:57:ILE:HD12	1.82	0.61
1:XA:673:G:H2'	1:XA:674:G:C8	2.35	0.61
9:XI:111:ARG:NH1	9:XI:112:LYS:O	2.33	0.61
24:RA:2199:A:OP1	46:R1:50:ARG:NH2	2.32	0.61
1:XA:1251:A:N3	1:XA:1369:C:O2'	2.32	0.61
2:XB:92:TYR:HE2	2:XB:94:ASN:HD22	1.47	0.61
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.66	0.61
1:XA:191(G):G:O2'	20:XT:101:GLY:O	2.18	0.61
1:QA:543:C:OP2	4:QD:10:ARG:NH1	2.33	0.61
10:QJ:30:SER:O	10:QJ:78:ASN:ND2	2.34	0.61
24:RA:530:G:N1	24:RA:2022:U:OP1	2.33	0.61
24:RA:1969:A:O2'	24:RA:1972:A:N3	2.30	0.61
24:YA:372:G:N2	24:YA:401:A:OP2	2.33	0.61
24:YA:1530:G:O6	24:YA:1542:G:N2	2.32	0.61
25:YB:22:U:H3	25:YB:61:G:H1	1.48	0.61
25:YB:80:U:H2'	25:YB:81:G:H21	1.64	0.61
34:YP:37:GLY:N	34:YP:40:SER:OG	2.33	0.61
44:YZ:53:ILE:HG22	44:YZ:71:VAL:HG13	1.83	0.61
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.66	0.61
24:RA:1521:G:H8	24:RA:1521:G:H5"	1.66	0.61
24:RA:2365:G:O6	53:R8:43:GLN:NE2	2.33	0.61
24:YA:392:C:H5"	24:YA:409:C:H5"	1.82	0.61
24:YA:1026:U:C4'	24:YA:1027:A:OP1	2.48	0.61
24:YA:2224:G:OP1	26:YD:268:ARG:NH1	2.33	0.61
4:QD:25:ARG:NH1	56:QD:301:SF4:S3	2.74	0.61
27:RE:201:THR:HG22	27:RE:203:LYS:H	1.65	0.61
1:XA:363:A:OP1	12:XL:34:ARG:N	2.29	0.61
24:YA:1019:U:H3	24:YA:1142(A):A:H62	1.49	0.61
24:RA:546:C:H3'	24:RA:547:A:H8	1.66	0.61
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.36	0.61
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.16	0.61
22:XV:59:A:O2'	22:XV:61:U:OP2	2.13	0.61
24:RA:1058:G:N2	24:RA:1080:C:O2	2.34	0.61
24:RA:1138:G:O2'	32:RN:102:ALA:O	2.19	0.61
49:R4:58:ARG:HA	49:R4:61:ARG:HH21	1.66	0.61
1:XA:192:U:O2'	20:XT:60:GLU:OE2	2.17	0.61
12:XL:89:ARG:NH2	12:XL:93:LEU:O	2.33	0.61
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.34	0.61
35:YQ:65:PHE:HB2	35:YQ:105:GLU:HB3	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1636:C:H2'	24:RA:1637:A:C8	2.36	0.61
24:RA:2701:C:H3'	24:RA:2702:U:H5"	1.81	0.61
1:QA:266:G:O2'	1:QA:267:C:OP2	2.16	0.61
1:QA:578:C:O2'	1:QA:728:A:N3	2.29	0.61
2:QB:55:PHE:HA	2:QB:58:ILE:HG12	1.83	0.61
24:RA:1011:G:OP1	39:RU:66:ASN:ND2	2.33	0.61
27:RE:78:LEU:HG	27:RE:79:ARG:HD2	1.81	0.61
33:RO:80:ASP:OD2	38:RT:64:ARG:NH2	2.34	0.61
1:XA:152:A:H62	1:XA:169:C:N4	1.99	0.61
7:XG:16:LEU:HD11	9:XI:45:ALA:HB2	1.82	0.61
24:YA:574:C:N3	27:YE:145:LYS:NZ	2.45	0.61
26:YD:146:GLU:HB2	26:YD:189:CYS:HB3	1.83	0.61
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.33	0.60
27:RE:2:LYS:HD3	27:RE:95:ILE:HG22	1.82	0.60
54:R9:25:VAL:HB	54:R9:34:GLN:HB2	1.83	0.60
3:XC:17:ASP:O	3:XC:54:ARG:NH2	2.34	0.60
6:XF:23:LYS:HA	6:XF:26:ILE:HD12	1.83	0.60
22:XV:4:U:HO2'	22:XV:5:G:H8	1.46	0.60
13:QM:22:ILE:HD12	13:QM:22:ILE:N	2.15	0.60
26:RD:27:THR:HG21	26:RD:81:ALA:HB1	1.83	0.60
34:RP:106:LEU:HD21	34:RP:112:LEU:HD13	1.83	0.60
1:XA:1441:G:N2	1:XA:1460:A:H62	1.98	0.60
24:YA:380:U:H2'	24:YA:381:G:H8	1.66	0.60
39:YU:90:VAL:HG22	40:YV:39:LEU:HD23	1.81	0.60
1:XA:272:C:H2'	1:XA:273:A:H8	1.65	0.60
1:XA:736:C:H2'	1:XA:737:A:H8	1.65	0.60
24:YA:1138:G:O2'	32:YN:102:ALA:O	2.19	0.60
24:RA:372:G:N2	24:RA:401:A:OP2	2.34	0.60
24:RA:1288:U:O3'	24:RA:1647:G:N2	2.34	0.60
37:RS:30:ARG:HG2	37:RS:97:ARG:HH21	1.66	0.60
1:XA:736:C:H2'	1:XA:737:A:C8	2.36	0.60
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.31	0.60
19:QS:41:VAL:HG13	19:QS:43:GLU:H	1.64	0.60
24:RA:856:C:O2'	24:RA:857:C:OP1	2.19	0.60
24:RA:2030:A:H4'	24:RA:2031:A:H8	1.67	0.60
24:YA:857:C:OP2	45:Y0:77:ARG:NH2	2.34	0.60
24:YA:1418:G:N1	24:YA:1579:A:OP2	2.29	0.60
30:YH:149:ARG:NH2	30:YH:167:GLU:OE2	2.35	0.60
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.36	0.60
8:QH:112:LEU:HA	8:QH:134:ILE:HG12	1.83	0.60
24:RA:2308:G:H22	24:RA:2311:A:H2	1.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:971:G:N2	1:XA:1363:A:OP2	2.34	0.60
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.67	0.60
24:YA:117:G:OP2	24:YA:119:A:O2'	2.18	0.60
29:YG:98:ARG:NH1	49:Y4:1:MET:SD	2.74	0.60
1:QA:191(G):G:O2'	20:QT:101:GLY:O	2.19	0.60
1:QA:272:C:H2'	1:QA:273:A:H8	1.65	0.60
14:QN:45:ARG:O	14:QN:49:HIS:ND1	2.32	0.60
24:RA:517:C:O2'	41:RW:18:ARG:NH2	2.31	0.60
24:RA:527:C:C4	24:RA:2779:U:H5"	2.36	0.60
24:RA:583:G:OP2	39:RU:10:ARG:NH1	2.33	0.60
50:R5:46:CYS:CB	50:R5:49:CYS:SG	2.89	0.60
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.35	0.60
1:XA:1500:A:H5"	1:XA:1508:G:H5"	1.84	0.60
3:XC:56:ASP:HB3	3:XC:67:THR:HB	1.83	0.60
24:YA:26:G:H1'	24:YA:515:A:H61	1.66	0.60
26:YD:147:LEU:HD12	26:YD:155:LEU:HD11	1.82	0.60
1:QA:123:C:OP1	1:QA:311:C:O2'	2.20	0.60
24:RA:665:C:H2'	24:RA:666:G:H8	1.67	0.60
30:RH:85:LYS:HD3	30:RH:86:GLU:H	1.67	0.60
14:XN:39:LEU:HB2	14:XN:44:LEU:HD23	1.82	0.60
1:QA:1500:A:H5"	1:QA:1508:G:H5"	1.83	0.60
24:RA:1225:C:O2	40:RV:85:LYS:NZ	2.32	0.60
24:RA:2068:U:H3	24:RA:2430:A:H2	1.49	0.60
24:YA:1365:A:O2'	46:Y1:11:ARG:NH2	2.30	0.60
29:YG:29:TRP:O	29:YG:33:ARG:NH1	2.34	0.60
1:QA:673:G:H2'	1:QA:674:G:C8	2.36	0.60
1:QA:1376:U:OP1	7:QG:94:ARG:NH1	2.35	0.60
24:RA:1061:U:OP2	24:RA:1070:A:O2'	2.15	0.60
4:XD:12:CYS:CB	56:XD:301:SF4:S3	2.90	0.60
24:YA:770:G:OP1	52:Y7:8:ASN:ND2	2.32	0.60
1:QA:1312:G:H5'	19:QS:5:LEU:HD11	1.84	0.59
3:QC:182:ILE:HD11	3:QC:201:TYR:HB3	1.83	0.59
24:RA:782:A:O2'	26:RD:225:ALA:O	2.19	0.59
24:RA:860:U:H2'	24:RA:861:A:H8	1.67	0.59
38:RT:28:VAL:HG23	38:RT:88:ILE:HA	1.82	0.59
41:RW:69:LEU:HD23	41:RW:107:LEU:HD13	1.84	0.59
1:XA:28:G:O2'	1:XA:296:U:OP1	2.19	0.59
24:YA:1309:G:HO2'	24:YA:1611:C:HO2'	1.49	0.59
24:YA:1657:C:H4'	27:YE:133:LYS:HB3	1.84	0.59
24:YA:2306:C:H3'	24:YA:2307:G:H5"	1.83	0.59
18:QR:58:LEU:HD23	18:QR:62:GLU:HB3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1030:G:OP2	35:RQ:128:LYS:NZ	2.35	0.59
24:RA:1967:C:H2'	24:RA:1968:G:O4'	2.03	0.59
1:XA:643:C:H2'	1:XA:644:G:H8	1.66	0.59
24:YA:1967:C:H2'	24:YA:1968:G:O4'	2.02	0.59
30:YH:24:VAL:HG23	30:YH:35:VAL:HB	1.83	0.59
48:Y3:38:GLU:H	48:Y3:38:GLU:CD	2.03	0.59
30:RH:18:GLU:HB2	30:RH:25:LYS:HB3	1.84	0.59
45:R0:27:GLU:HG3	45:R0:68:GLU:HA	1.85	0.59
4:XD:12:CYS:HB2	56:XD:301:SF4:S3	2.41	0.59
27:YE:9:VAL:HB	27:YE:25:VAL:HG23	1.84	0.59
37:YS:10:ARG:NH1	37:YS:91:PRO:O	2.35	0.59
1:QA:1304:G:OP1	21:QU:2:GLY:N	2.35	0.59
13:QM:3:ARG:HA	13:QM:9:ILE:HG21	1.83	0.59
24:RA:2328:A:H2'	24:RA:2329:G:C8	2.37	0.59
31:RI:123:LEU:HD12	31:RI:142:VAL:HG23	1.83	0.59
1:XA:119:A:C8	1:XA:288:A:N1	2.70	0.59
1:XA:713:G:H2'	1:XA:714:G:C8	2.36	0.59
1:XA:842:C:O2'	1:XA:848:C:N4	2.35	0.59
42:YX:27:THR:HB	42:YX:80:ILE:HG12	1.83	0.59
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.67	0.59
1:QA:790:A:OP1	22:QV:39:A:O2'	2.19	0.59
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.20	0.59
24:RA:662:G:OP1	34:RP:15:ARG:NH1	2.34	0.59
2:XB:132:LYS:HA	2:XB:135:GLN:HB2	1.84	0.59
16:XP:6:LEU:HD12	16:XP:17:TYR:HB3	1.85	0.59
6:QF:100:ASN:ND2	18:QR:23:LYS:O	2.27	0.59
24:RA:956:G:OP2	35:RQ:14:ARG:NH2	2.35	0.59
24:RA:1363:C:O2'	24:RA:1809:A:N3	2.33	0.59
24:RA:2576:G:O2'	24:RA:2579:C:OP2	2.20	0.59
24:RA:2626:C:H2'	24:RA:2627:G:H8	1.68	0.59
24:YA:526:A:OP1	24:YA:527:C:OP1	2.20	0.59
24:YA:2471:C:H3'	24:YA:2472:G:H8	1.68	0.59
7:QG:117:ALA:HA	7:QG:120:ILE:HD12	1.85	0.59
24:RA:764:A:H5'	26:RD:210:GLY:HA2	1.84	0.59
24:RA:2893:G:H5"	24:RA:2894:G:H5'	1.84	0.59
26:RD:155:LEU:HD23	26:RD:177:LEU:HD11	1.84	0.59
35:RQ:41:TRP:HB3	35:RQ:94:VAL:HG11	1.85	0.59
1:XA:972:C:H4'	10:XJ:57:LYS:HB2	1.84	0.59
24:YA:259:G:HO2'	24:YA:621:A:HO2'	1.46	0.59
24:YA:2123:G:H2'	24:YA:2124:G:H8	1.68	0.59
30:RH:45:VAL:HA	30:RH:50:VAL:HG12	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:R3:8:LEU:HG	48:R3:28:LEU:HD13	1.85	0.59
24:YA:1405:U:H2'	24:YA:1406:U:H6	1.68	0.59
2:QB:32:ILE:HD11	2:QB:40:HIS:HB3	1.85	0.59
24:RA:2635:C:OP1	27:RE:78:LEU:HD13	2.03	0.59
27:YE:2:LYS:HE3	27:YE:95:ILE:HG22	1.84	0.59
37:YS:110:LEU:HD12	37:YS:112:PHE:H	1.68	0.59
1:QA:689:C:OP1	11:QK:44:SER:OG	2.15	0.59
1:QA:827:U:O2	1:QA:874:G:N2	2.36	0.59
1:QA:1321:C:H5"	1:QA:1322:C:H5"	1.85	0.59
6:QF:47:ARG:HH22	6:QF:56:PRO:HB2	1.68	0.59
20:QT:53:LEU:HD23	20:QT:100:ILE:HG23	1.84	0.59
24:RA:577:G:O2'	24:RA:1254:A:OP1	2.21	0.59
24:RA:1754:C:OP1	38:RT:96:ARG:NH1	2.36	0.59
31:RI:14:ASP:O	31:RI:16:GLY:N	2.36	0.59
1:XA:1209:C:O2'	1:XA:1214:C:N4	2.35	0.59
14:XN:27:CYS:SG	14:XN:40:CYS:HB3	2.43	0.59
16:XP:6:LEU:HB3	16:XP:17:TYR:HD1	1.67	0.59
24:YA:840:C:H2'	24:YA:841:A:H8	1.68	0.59
24:YA:1012:U:O2'	24:YA:1013:C:P	2.61	0.59
25:YB:44:G:O2'	25:YB:47:C:N4	2.34	0.59
1:QA:1422:G:H5"	33:RO:48:PRO:HB3	1.84	0.58
4:QD:15:GLU:HG2	4:QD:63:LYS:HD3	1.85	0.58
7:QG:67:GLU:HA	7:QG:70:LYS:HD3	1.84	0.58
13:QM:25:ILE:CD1	13:QM:66:LEU:HD11	2.33	0.58
1:XA:514:C:H2'	1:XA:515:G:H8	1.68	0.58
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.36	0.58
24:YA:987:G:O2'	24:YA:1000:A:N3	2.34	0.58
33:YO:107:ARG:NH1	38:YT:36:GLU:OE2	2.36	0.58
24:RA:1212:G:N2	24:RA:1236:G:O2'	2.33	0.58
24:RA:2323:G:H1	24:RA:2332:U:H3	1.50	0.58
1:XA:486:U:H2'	1:XA:487:A:H8	1.67	0.58
24:YA:483:A:O2'	43:YY:49:VAL:O	2.16	0.58
1:QA:1085:U:OP1	1:QA:1094:G:N2	2.36	0.58
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.68	0.58
24:RA:2119:A:N6	24:RA:2170:A:N7	2.50	0.58
37:RS:10:ARG:NH1	37:RS:91:PRO:O	2.37	0.58
50:R5:36:CYS:HB3	50:R5:49:CYS:HB3	1.85	0.58
24:YA:321:G:O2'	24:YA:340:A:N3	2.36	0.58
24:YA:2314:C:H2'	24:YA:2315:G:H8	1.68	0.58
24:YA:2718:G:O2'	24:YA:2847:U:OP1	2.20	0.58
1:QA:1266:G:N2	1:QA:1269:A:OP2	2.27	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:100:ARG:NH2	4:QD:136:PRO:O	2.36	0.58
24:RA:2008:C:H2'	24:RA:2009:G:H8	1.68	0.58
34:RP:68:GLN:HG2	53:R8:12:LYS:HG2	1.85	0.58
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.17	0.58
6:XF:80:ARG:HE	6:XF:88:VAL:HB	1.69	0.58
1:XA:34:C:H2'	1:XA:35:G:H8	1.69	0.58
1:XA:243:A:H4'	1:XA:244:U:O5'	2.02	0.58
2:XB:80:ILE:HD13	2:XB:212:GLN:HB2	1.86	0.58
1:QA:1502:A:H2	1:QA:1505:G:H1	1.52	0.58
6:QF:14:LEU:HD11	6:QF:18:GLN:HB2	1.84	0.58
1:XA:954:G:H21	1:XA:1227:A:H62	1.50	0.58
1:XA:1147:C:HO2'	9:XI:5:TYR:HH	1.50	0.58
12:XL:37:CYS:HA	12:XL:58:VAL:HA	1.86	0.58
1:QA:189:U:O2	17:QQ:63:ARG:NH2	2.36	0.58
6:QF:23:LYS:HA	6:QF:26:ILE:HD12	1.85	0.58
24:RA:299:A:N3	24:RA:319:C:O2'	2.35	0.58
24:RA:1798:U:O2'	24:RA:1802:A:N3	2.36	0.58
44:RZ:52:SER:O	44:RZ:54:HIS:ND1	2.34	0.58
46:R1:65:SER:HG	46:R1:66:HIS:HD1	1.51	0.58
1:XA:855:G:OP2	1:XA:871:U:N3	2.37	0.58
1:QA:34:C:H2'	1:QA:35:G:H8	1.69	0.58
1:QA:1432:G:OP1	38:RT:108:ARG:N	2.37	0.58
24:RA:2328:A:H2'	24:RA:2329:G:H8	1.68	0.58
24:YA:1062:G:N2	24:YA:1077:A:N1	2.51	0.58
24:YA:1818:U:OP2	26:YD:157:ARG:NE	2.36	0.58
26:YD:143:HIS:ND1	26:YD:194:GLY:O	2.31	0.58
1:QA:7:G:H5'	1:QA:298:A:O4'	2.03	0.58
1:QA:407:G:H5"	4:QD:115:ARG:HD3	1.85	0.58
24:RA:300:A:OP1	43:RY:86:ARG:NH2	2.36	0.58
24:RA:414:C:O2	24:RA:1864:U:O2'	2.22	0.58
53:R8:29:LYS:O	53:R8:31:HIS:N	2.37	0.58
1:XA:1455:G:H5"	20:XT:31:SER:HB2	1.86	0.58
14:XN:57:ARG:HH21	14:XN:58:LYS:HG2	1.69	0.58
24:YA:1902:C:OP1	26:YD:242:ARG:NH1	2.37	0.58
24:YA:2151:G:H2'	24:YA:2152:G:H8	1.69	0.58
24:YA:2213:U:O2	46:Y1:52:ARG:NH2	2.37	0.58
24:YA:2328:A:H2'	24:YA:2329:G:H8	1.69	0.58
24:YA:2642:G:H5'	32:YN:78:TYR:CD2	2.39	0.58
26:YD:148:GLU:HB2	26:YD:151:LYS:HD2	1.86	0.58
27:YE:201:THR:HG22	27:YE:203:LYS:H	1.68	0.58
7:QG:45:ASP:OD2	7:QG:115:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:630:G:OP1	53:R8:46:ARG:NH1	2.37	0.58
24:RA:1272:A:OP2	24:RA:1647:G:OP1	2.21	0.58
8:XH:109:ILE:HD11	8:XH:120:THR:HB	1.85	0.58
24:YA:83:G:H1	24:YA:102:G:HO2'	1.51	0.58
24:YA:2747:G:H21	24:YA:2757:A:H62	1.52	0.58
28:YF:134:GLY:H	28:YF:162:LEU:HD12	1.69	0.58
33:YO:80:ASP:OD2	38:YT:64:ARG:NH2	2.37	0.58
50:Y5:16:ARG:NH1	50:Y5:17:ASP:OD1	2.37	0.58
1:QA:376:G:H5"	16:QP:5:ARG:HB2	1.85	0.57
24:RA:521:G:H2'	24:RA:522:G:H8	1.69	0.57
26:RD:142:VAL:HG23	26:RD:193:VAL:HA	1.86	0.57
38:RT:123:GLN:O	38:RT:125:ARG:N	2.37	0.57
47:R2:10:LEU:HD21	47:R2:14:ARG:HH21	1.69	0.57
24:YA:955:C:OP1	35:YQ:85:LYS:NZ	2.32	0.57
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.21	0.57
1:QA:1080:A:H5'	5:QE:16:THR:HG21	1.85	0.57
13:QM:14:ARG:NH2	13:QM:16:ASP:OD2	2.37	0.57
24:RA:345:A:H2'	24:RA:347:A:H62	1.70	0.57
24:RA:593:G:H4'	53:R8:61:LEU:HD13	1.86	0.57
1:XA:31:G:O2'	1:XA:48:C:N4	2.36	0.57
1:XA:78:G:O2'	1:XA:79:G:OP1	2.20	0.57
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.40	0.57
24:YA:510:C:C2'	24:YA:511:U:H5'	2.34	0.57
24:YA:1109:C:O2'	24:YA:1110:G:OP1	2.21	0.57
24:YA:2705:A:O2'	24:YA:2852:G:OP1	2.16	0.57
27:YE:16:ARG:NH2	27:YE:171:GLU:OE2	2.37	0.57
50:Y5:36:CYS:HB3	50:Y5:49:CYS:HB3	1.85	0.57
50:Y5:41:PRO:O	50:Y5:44:THR:OG1	2.21	0.57
1:QA:738:C:OP1	6:QF:2:ARG:NH1	2.37	0.57
24:RA:65:C:H1'	24:RA:456:C:H42	1.68	0.57
29:RG:114:ILE:HA	29:RG:136:ARG:HH22	1.69	0.57
32:RN:34:LEU:HD12	32:RN:107:LEU:HD11	1.86	0.57
1:XA:1264:C:H2'	1:XA:1265:G:H8	1.69	0.57
6:XF:94:GLN:OE1	18:XR:32:ARG:NH1	2.37	0.57
14:XN:27:CYS:HB3	14:XN:43:CYS:SG	2.43	0.57
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.38	0.57
24:RA:321:G:O2'	24:RA:340:A:N3	2.36	0.57
24:RA:1600:C:H2'	24:RA:1601:G:H8	1.68	0.57
38:RT:132:LYS:O	38:RT:136:GLN:NE2	2.37	0.57
48:R3:15:TYR:O	48:R3:20:LYS:NZ	2.38	0.57
1:XA:1224:G:H21	13:XM:102:ARG:HH22	1.52	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2329:G:H2'	24:YA:2330:G:H8	1.68	0.57
24:RA:1059:G:O6	24:RA:1079:C:N4	2.37	0.57
41:RW:24:ILE:HA	41:RW:27:LYS:HD2	1.85	0.57
2:XB:55:PHE:HA	2:XB:58:ILE:HG12	1.87	0.57
24:YA:193:U:N3	24:YA:203:C:O2	2.38	0.57
48:Y3:15:TYR:O	48:Y3:20:LYS:NZ	2.37	0.57
1:QA:235:C:H2'	1:QA:236:G:H8	1.70	0.57
24:RA:958:U:OP2	35:RQ:14:ARG:NH1	2.37	0.57
24:RA:1043:C:H42	24:RA:1112:G:H1	1.51	0.57
24:YA:604:G:OP2	34:YP:90:ARG:NH1	2.37	0.57
24:YA:662:G:OP1	34:YP:15:ARG:NH1	2.38	0.57
24:YA:814:C:H41	34:YP:25:SER:HA	1.70	0.57
24:YA:2140:C:H2'	24:YA:2141:G:H8	1.67	0.57
24:YA:2626:C:H2'	24:YA:2627:G:H8	1.70	0.57
1:QA:684:A:O2'	11:QK:39:PRO:O	2.20	0.57
3:QC:14:ILE:HG12	3:QC:15:THR:HG23	1.86	0.57
24:RA:627:A:H4'	24:RA:628:G:H5'	1.86	0.57
24:RA:834:C:H2'	24:RA:835:A:H8	1.70	0.57
24:RA:2047:U:H2'	24:RA:2048:G:H8	1.70	0.57
24:RA:2547:U:O2	33:RO:23:ARG:NH2	2.38	0.57
1:XA:565:U:H5"	1:XA:566:G:H2'	1.87	0.57
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.68	0.57
24:YA:277:C:H5"	24:YA:278:A:H5'	1.85	0.57
24:YA:2329:G:H2'	24:YA:2330:G:C8	2.40	0.57
24:YA:2635:C:O2'	27:YE:80:GLU:OE2	2.20	0.57
24:YA:2867:G:O2'	24:YA:2868:A:H8	1.88	0.57
1:QA:770:C:H2'	1:QA:771:G:H8	1.69	0.57
1:QA:1186:G:H2'	9:QI:111:ARG:HH22	1.69	0.57
2:QB:78:GLN:O	2:QB:94:ASN:ND2	2.36	0.57
3:QC:19:GLU:HG2	3:QC:40:ARG:HH21	1.69	0.57
24:RA:1262:A:OP1	41:RW:99:ARG:NH1	2.34	0.57
44:RZ:10:ARG:NH2	44:RZ:37:VAL:O	2.37	0.57
45:R0:25:ARG:HB2	45:R0:37:LEU:HD13	1.86	0.57
1:XA:973:G:H3'	1:XA:974:A:H5"	1.85	0.57
24:YA:1833:U:O2'	24:YA:1969:A:N1	2.34	0.57
28:YF:116:ASP:OD1	28:YF:119:ARG:NH2	2.37	0.57
39:YU:92:ARG:HD2	40:YV:11:GLN:HB2	1.87	0.57
44:YZ:52:SER:O	44:YZ:54:HIS:ND1	2.38	0.57
1:QA:298:A:H8	1:QA:298:A:OP1	1.88	0.57
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.70	0.57
1:QA:1296:C:OP1	13:QM:44:ARG:NH2	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1298:C:OP2	7:QG:114:ARG:NH1	2.38	0.57
1:XA:107:G:OP1	1:XA:325:A:N6	2.38	0.57
1:XA:599:C:O2'	8:XH:129:VAL:O	2.18	0.57
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.70	0.57
24:YA:775:G:H4'	24:YA:776:G:H5'	1.86	0.57
24:YA:782:A:O2'	26:YD:225:ALA:O	2.22	0.57
24:YA:1353:A:OP2	24:YA:1377:G:N1	2.30	0.57
32:YN:34:LEU:O	32:YN:49:GLY:HA3	2.04	0.57
38:YT:29:ARG:HB2	38:YT:46:GLU:HG3	1.87	0.57
1:QA:715:A:H2'	1:QA:716:A:C8	2.39	0.57
3:QC:11:ARG:NH2	3:QC:177:THR:O	2.38	0.57
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.86	0.57
1:XA:522:C:H41	12:XL:53:ARG:HH22	1.51	0.57
24:YA:2495:G:H5"	35:YQ:81:VAL:HG12	1.87	0.57
25:YB:33:G:H5'	29:YG:2:PRO:HG3	1.87	0.57
42:YX:36:LYS:NZ	42:YX:54:VAL:O	2.34	0.57
1:QA:235:C:O2	17:QQ:4:LYS:NZ	2.33	0.56
24:RA:275:G:H3'	24:RA:276:A:H5"	1.87	0.56
26:RD:108:PRO:HA	26:RD:196:VAL:HA	1.86	0.56
1:XA:1321:C:H5"	1:XA:1322:C:H2'	1.86	0.56
2:XB:82:ARG:NH1	2:XB:92:TYR:OH	2.38	0.56
24:YA:144:C:H2'	24:YA:145:G:H8	1.70	0.56
1:QA:1053:G:H5'	1:QA:1054:C:H5'	1.85	0.56
13:QM:108:ARG:HE	13:QM:114:ARG:HD2	1.69	0.56
24:RA:815:C:OP2	40:RV:83:ARG:NH1	2.39	0.56
24:RA:2232:U:OP2	46:R1:40:ARG:NH2	2.37	0.56
25:RB:22:U:H3	25:RB:61:G:H1	1.52	0.56
25:RB:52:A:HO2'	25:RB:53:A:H8	1.53	0.56
27:RE:52:LEU:O	27:RE:74:PRO:HA	2.05	0.56
32:RN:34:LEU:HD11	32:RN:120:LEU:HD12	1.88	0.56
34:RP:47:ASP:OD2	34:RP:50:ARG:NH2	2.38	0.56
1:XA:401:C:O2'	1:XA:621:A:N3	2.37	0.56
24:YA:814:C:H1'	24:YA:1226:G:H21	1.70	0.56
24:YA:1315:C:O2'	24:YA:1392:A:N3	2.35	0.56
24:YA:2030:A:H4'	24:YA:2031:A:H8	1.69	0.56
53:Y8:33:ASN:HA	53:Y8:36:LYS:HD2	1.85	0.56
19:QS:22:LEU:HD21	19:QS:28:LYS:HA	1.87	0.56
24:RA:2848:G:O2'	24:RA:2867:G:N2	2.37	0.56
35:RQ:134:ARG:NH1	44:RZ:119:GLU:OE2	2.38	0.56
44:RZ:4:ARG:HB3	44:RZ:60:GLU:HG3	1.87	0.56
46:R1:52:ARG:NH2	46:R1:55:GLY:O	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:933:G:O6	7:XG:3:ARG:NH2	2.38	0.56
1:XA:992:U:O4	1:XA:1044:A:N7	2.39	0.56
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.37	0.56
3:XC:153:VAL:HB	3:XC:196:LEU:HD21	1.87	0.56
4:XD:61:LYS:NZ	4:XD:61:LYS:HG2	2.21	0.56
9:XI:9:ARG:H	9:XI:79:LEU:HD23	1.69	0.56
10:XJ:51:ARG:O	14:XN:45:ARG:NH1	2.38	0.56
24:YA:447:A:H4'	24:YA:449:A:N7	2.20	0.56
24:YA:467:G:N7	52:Y7:39:ARG:NH2	2.54	0.56
24:YA:1354:A:H3'	24:YA:1355:G:H8	1.71	0.56
24:YA:2023:G:H5'	24:YA:2617:C:H4'	1.87	0.56
9:QI:28:VAL:HG12	9:QI:63:ILE:HB	1.87	0.56
19:QS:3:ARG:HH22	19:QS:7:LYS:HB2	1.70	0.56
24:RA:1171:G:N7	24:RA:1174:A:N6	2.52	0.56
24:RA:2696:U:H2'	24:RA:2697:G:C8	2.41	0.56
24:YA:1592:C:H2'	24:YA:1593:G:H8	1.71	0.56
1:QA:191(F):U:H2'	1:QA:191(G):G:H8	1.70	0.56
1:QA:713:G:H2'	1:QA:714:G:C8	2.41	0.56
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.87	0.56
24:RA:1689:A:H62	24:RA:1698:A:H2	1.53	0.56
1:XA:501:C:H2'	1:XA:502:G:H8	1.71	0.56
7:XG:150:ALA:HB1	11:XK:57:THR:HG21	1.87	0.56
24:YA:297:C:OP1	43:YY:87:LYS:NZ	2.31	0.56
24:YA:589:C:H2'	24:YA:590:A:C8	2.41	0.56
24:YA:1062:G:H1	24:YA:1076:C:H42	1.54	0.56
24:RA:2680:C:H5'	27:RE:189:PRO:HA	1.86	0.56
1:XA:143:A:H2	1:XA:220:G:H1	1.53	0.56
1:XA:414:A:OP2	1:XA:428:G:N2	2.36	0.56
43:YY:29:GLU:HB3	43:YY:38:ILE:HD12	1.86	0.56
1:QA:1230:C:H5'	22:QV:31:C:H5"	1.88	0.56
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.87	0.56
30:RH:40:GLU:HA	30:RH:42:ARG:HH12	1.70	0.56
1:XA:953:G:H5'	1:XA:965:A:H61	1.70	0.56
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.28	0.56
4:XD:182:LYS:HD3	4:XD:184:LYS:HE3	1.88	0.56
24:YA:581:C:H2'	24:YA:582:G:H8	1.71	0.56
24:YA:851:U:H2'	24:YA:852:G:H8	1.71	0.56
1:QA:739:C:O2'	15:QO:42:HIS:ND1	2.37	0.56
24:YA:310:A:O2'	24:YA:311:A:OP2	2.17	0.56
24:YA:1056:G:H4'	24:YA:1086:A:H8	1.70	0.56
24:YA:2701:C:H3'	24:YA:2702:U:C5'	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:44:G:H2'	22:XV:45:G:C8	2.41	0.56
1:QA:376:G:H1	1:QA:387:U:H3	1.53	0.56
1:QA:401:C:O2'	1:QA:621:A:N3	2.36	0.56
24:RA:503:A:H4'	24:RA:504:U:H5'	1.88	0.56
2:XB:87:ARG:NH1	2:XB:220:ASP:OD1	2.36	0.56
14:XN:24:CYS:HB2	14:XN:28:GLY:H	1.71	0.56
28:YF:116:ASP:OD2	34:YP:1:MET:N	2.37	0.56
24:RA:301:G:OP2	43:RY:84:ARG:NH2	2.38	0.56
24:RA:558:G:H2'	24:RA:559:G:H8	1.71	0.56
24:RA:1869:G:H5'	24:RA:1870:C:OP2	2.05	0.56
1:XA:21:G:H2'	1:XA:22:G:C8	2.41	0.56
24:YA:259:G:O2'	24:YA:621:A:O2'	2.20	0.56
24:YA:665:C:H2'	24:YA:666:G:H8	1.70	0.56
1:QA:945:G:N2	1:QA:1334:G:O2'	2.38	0.55
7:QG:29:LYS:HE2	7:QG:105:VAL:HB	1.88	0.55
23:QX:6:C:H2'	23:QX:7:A:H8	1.71	0.55
24:RA:576:U:H2'	24:RA:577:G:C8	2.41	0.55
24:RA:1226:G:OP1	40:RV:69:LYS:NZ	2.33	0.55
24:RA:1853:A:N3	24:RA:2233:U:O2'	2.35	0.55
1:XA:811:C:O2'	1:XA:901:A:N1	2.39	0.55
1:XA:1498:U:OP2	23:XX:16:C:O2'	2.20	0.55
24:YA:2336:A:H61	45:Y0:43:THR:HG21	1.70	0.55
24:YA:2636:U:H3	24:YA:2782:G:H1	1.54	0.55
35:YQ:31:ASP:OD1	35:YQ:134:ARG:NH1	2.39	0.55
38:YT:132:LYS:O	38:YT:136:GLN:NE2	2.39	0.55
1:QA:114:U:H2'	1:QA:115:G:C8	2.41	0.55
1:QA:483:C:OP2	1:QA:484:G:O2'	2.17	0.55
1:QA:1124:G:H1'	10:QJ:38:ILE:HD13	1.88	0.55
24:RA:743:G:O2'	24:RA:1659:U:OP1	2.19	0.55
24:RA:1509:C:H3'	24:RA:1510:A:C5'	2.36	0.55
27:RE:104:VAL:HG22	27:RE:198:VAL:HG12	1.87	0.55
33:RO:107:ARG:NH1	38:RT:36:GLU:OE2	2.37	0.55
44:RZ:27:VAL:HG22	44:RZ:85:HIS:HE1	1.71	0.55
1:XA:662:G:H2'	1:XA:663:A:C8	2.40	0.55
8:XH:33:GLU:OE1	8:XH:50:ARG:NH1	2.38	0.55
1:QA:501:C:H2'	1:QA:502:G:H8	1.70	0.55
1:QA:958:A:N3	1:QA:985:C:O2'	2.33	0.55
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.71	0.55
34:RP:52:GLU:OE2	53:R8:52:LYS:NZ	2.39	0.55
24:YA:24:G:O2'	41:YW:78:GLU:O	2.25	0.55
24:YA:251:A:OP1	53:Y8:7:HIS:NE2	2.37	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YD:155:LEU:HD23	26:YD:177:LEU:HD11	1.87	0.55
1:QA:243:A:H4'	1:QA:244:U:O5'	2.06	0.55
8:QH:41:ARG:NH2	8:QH:123:GLU:OE2	2.40	0.55
24:RA:518:G:O5'	41:RW:18:ARG:NH1	2.39	0.55
24:RA:2010:G:H5"	41:RW:42:ARG:HB2	1.87	0.55
1:XA:152:A:H62	1:XA:169:C:H42	1.53	0.55
1:XA:946:A:H2'	1:XA:947:G:C8	2.41	0.55
1:XA:1310:G:O2'	1:XA:1311:G:OP1	2.23	0.55
7:XG:5:ARG:HD3	7:XG:7:ALA:H	1.70	0.55
24:YA:679:C:H2'	24:YA:680:G:H8	1.71	0.55
24:YA:706:A:OP1	26:YD:7:LYS:NZ	2.29	0.55
24:YA:1639:U:H2'	24:YA:1640:C:H5"	1.89	0.55
36:YR:86:ARG:NH2	36:YR:118:GLU:OXT	2.40	0.55
50:Y5:36:CYS:O	50:Y5:37:LYS:HB3	2.06	0.55
1:QA:946:A:H2'	1:QA:947:G:C8	2.42	0.55
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.32	0.55
1:QA:1104:G:H4'	2:QB:111:ARG:CZ	2.36	0.55
12:QL:60:LEU:HD12	12:QL:62:SER:H	1.71	0.55
13:QM:106:ASN:OD1	13:QM:106:ASN:N	2.37	0.55
24:RA:949:C:H2'	24:RA:950:G:H8	1.72	0.55
24:RA:1359:A:H62	24:RA:1372:U:H3	1.54	0.55
24:RA:1422:G:H1	24:RA:1576:U:H3	1.52	0.55
31:RI:54:GLN:OE1	31:RI:57:ARG:NH2	2.39	0.55
35:RQ:62:GLY:HA2	44:RZ:116:VAL:HG21	1.89	0.55
39:RU:91:ASP:O	39:RU:93:LYS:N	2.39	0.55
50:R5:46:CYS:SG	50:R5:49:CYS:N	2.78	0.55
24:YA:1971:A:OP2	26:YD:242:ARG:NH2	2.34	0.55
24:YA:2052:G:H4'	27:YE:143:ASN:O	2.06	0.55
24:YA:2809:A:H2'	24:YA:2810:A:C8	2.42	0.55
47:Y2:4:SER:OG	47:Y2:5:GLU:N	2.40	0.55
24:RA:1639:U:H2'	24:RA:1640:C:H5"	1.89	0.55
24:RA:2070:G:H2'	24:RA:2071:A:H8	1.72	0.55
9:XI:82:ALA:HB1	9:XI:102:LEU:HD22	1.88	0.55
24:YA:2124:G:H3'	24:YA:2125:G:H8	1.71	0.55
1:QA:581:G:O3'	15:QO:64:ARG:NH2	2.40	0.55
10:QJ:21:GLN:HA	10:QJ:24:VAL:HG12	1.89	0.55
24:RA:1359:A:N6	24:RA:1372:U:H3	2.05	0.55
24:RA:1804:C:N4	24:RA:1814:G:N2	2.55	0.55
24:RA:2030:A:H4'	24:RA:2031:A:C8	2.42	0.55
25:RB:44:G:O2'	25:RB:47:C:N4	2.38	0.55
33:RO:23:ARG:NH2	33:RO:28:SER:O	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:359:U:H3'	1:XA:360:A:H8	1.72	0.55
23:XX:5:A:H2'	23:XX:6:G:H8	1.72	0.55
33:YO:43:VAL:HG23	33:YO:55:GLY:H	1.72	0.55
43:YY:79:CYS:HB3	43:YY:102:CYS:HB3	1.88	0.55
24:RA:182:A:N3	24:RA:433:C:O2'	2.37	0.55
24:RA:442:G:H1'	28:RF:48:THR:HG21	1.89	0.55
24:RA:1019:U:H3	24:RA:1142(A):A:H62	1.55	0.55
24:RA:2375:G:N2	24:RA:2378:A:OP2	2.36	0.55
1:XA:35:G:O2'	12:XL:118:SER:O	2.19	0.55
3:XC:6:HIS:HE1	3:XC:8:ILE:HB	1.72	0.55
7:XG:16:LEU:HD22	9:XI:44:VAL:HG13	1.89	0.55
18:XR:56:THR:HG23	18:XR:58:LEU:H	1.72	0.55
24:YA:431:U:H2'	24:YA:432:A:H8	1.72	0.55
24:YA:807:U:OP2	34:YP:41:ARG:NH1	2.40	0.55
1:XA:587:G:H22	1:XA:754:C:P	2.30	0.55
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.42	0.55
1:QA:45:U:H2'	1:QA:46:G:C8	2.42	0.55
1:QA:742:G:OP2	15:QO:35:ARG:NH2	2.39	0.55
1:QA:985:C:H2'	1:QA:986:A:H8	1.70	0.55
3:QC:5:ILE:HD13	10:QJ:51:ARG:HH21	1.72	0.55
1:XA:410:G:H4'	1:XA:411:A:OP1	2.06	0.55
1:QA:545:C:H5'	4:QD:72:GLU:HG3	1.89	0.54
1:QA:1372:U:H5"	9:QI:71:SER:HB3	1.89	0.54
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.73	0.54
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.88	0.54
24:RA:10:G:O2'	24:RA:2801:A:O2'	2.25	0.54
24:RA:517:C:HO2'	41:RW:18:ARG:HH22	1.52	0.54
24:RA:2696:U:H2'	24:RA:2697:G:H8	1.72	0.54
3:XC:88:ARG:HA	3:XC:91:LEU:HD12	1.90	0.54
26:YD:50:THR:OG1	26:YD:51:VAL:N	2.40	0.54
24:RA:620:G:H4'	24:RA:621:A:H5"	1.89	0.54
29:RG:63:ILE:HG22	29:RG:143:GLU:HB2	1.88	0.54
1:XA:902:G:H2'	1:XA:903:G:H8	1.73	0.54
11:XK:33:THR:HA	11:XK:39:PRO:HA	1.89	0.54
24:YA:676:A:H8	24:YA:2069:G:H21	1.53	0.54
24:YA:994:C:OP2	39:YU:54:LYS:NZ	2.33	0.54
24:YA:1316:U:H2'	24:YA:1317:A:C8	2.42	0.54
38:YT:50:ILE:HD11	38:YT:100:TYR:HA	1.89	0.54
43:YY:102:CYS:SG	43:YY:103:GLY:N	2.80	0.54
24:RA:74:A:H4'	24:RA:75:G:O5'	2.07	0.54
24:RA:1026:U:H4'	24:RA:1027:A:OP1	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1824:G:N3	26:RD:254:THR:OG1	2.40	0.54
4:XD:61:LYS:NZ	4:XD:61:LYS:CG	2.69	0.54
24:YA:1645:G:H5"	24:YA:1646:C:H5'	1.88	0.54
24:RA:2355:C:H4'	45:R0:24:LYS:HG3	1.89	0.54
27:RE:48:GLN:OE1	27:RE:64:LYS:NZ	2.37	0.54
38:RT:51:ARG:NH1	38:RT:100:TYR:OH	2.40	0.54
44:RZ:102:LEU:HD11	44:RZ:124:ILE:HG12	1.90	0.54
1:XA:1304:G:H21	1:XA:1333:A:H62	1.54	0.54
13:XM:3:ARG:HA	13:XM:9:ILE:HG21	1.89	0.54
24:YA:947:G:H2'	24:YA:948:G:H8	1.72	0.54
24:YA:958:U:OP2	35:YQ:14:ARG:NH1	2.41	0.54
32:YN:26:LEU:O	32:YN:30:ILE:HG12	2.08	0.54
33:YO:87:ILE:HD12	33:YO:91:LEU:HA	1.90	0.54
1:QA:1504:G:H4'	1:QA:1505:G:O5'	2.08	0.54
24:RA:566:U:H5"	34:RP:29:LYS:HE3	1.90	0.54
24:RA:589:C:H2'	24:RA:590:A:C8	2.43	0.54
24:RA:2304:G:H5'	29:RG:124:SER:OG	2.08	0.54
24:RA:2876:G:O2'	38:RT:3:ARG:NH1	2.40	0.54
26:RD:147:LEU:HD23	26:RD:148:GLU:HG3	1.89	0.54
50:R5:33:CYS:HB2	50:R5:40:LYS:HD3	1.87	0.54
1:XA:405:U:O4	4:XD:2:GLY:N	2.41	0.54
2:XB:47:THR:HG23	2:XB:202:PRO:HG2	1.89	0.54
4:XD:145:GLU:HG3	4:XD:184:LYS:HE2	1.88	0.54
7:XG:23:VAL:O	7:XG:27:ILE:HG12	2.08	0.54
24:YA:1062:G:H2'	24:YA:1063:G:C8	2.42	0.54
24:YA:1830:C:H2'	24:YA:1831:G:H8	1.72	0.54
35:YQ:81:VAL:O	35:YQ:82:ARG:NE	2.29	0.54
43:YY:1:MET:HG3	43:YY:2:ARG:H	1.72	0.54
1:QA:486:U:H2'	1:QA:487:A:H8	1.72	0.54
1:QA:1287:A:H2'	1:QA:1288:A:C8	2.43	0.54
24:RA:270(N):G:OP1	31:RI:57:ARG:NH1	2.36	0.54
24:RA:2420:C:H5'	51:R6:54:ILE:HD11	1.90	0.54
24:RA:2749:A:OP1	30:RH:4:ILE:HG23	2.08	0.54
34:RP:126:VAL:HG13	34:RP:147:LEU:HD21	1.89	0.54
4:XD:64:LEU:HA	4:XD:67:ILE:HD12	1.89	0.54
9:XI:10:ARG:HD2	9:XI:105:ASP:HB2	1.89	0.54
24:YA:270(E):G:H1	24:YA:270(U):C:H42	1.54	0.54
39:YU:29:SER:OG	39:YU:30:LYS:NZ	2.34	0.54
1:QA:1060:C:H2'	1:QA:1061:G:H8	1.72	0.54
1:QA:1346:A:H5"	9:QI:120:ARG:HH12	1.73	0.54
24:RA:2133:G:H1'	24:RA:2158:A:H61	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RP:47:ASP:OD2	53:R8:59:LYS:NZ	2.41	0.54
44:RZ:145:GLU:HG3	44:RZ:146:ILE:HG12	1.89	0.54
1:XA:1085:U:OP1	1:XA:1094:G:N2	2.41	0.54
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.43	0.54
5:XE:33:VAL:HG23	5:XE:112:LEU:HD22	1.89	0.54
8:XH:21:LYS:HD3	8:XH:24:THR:HG22	1.90	0.54
24:YA:1338:G:N7	42:YX:62:LYS:NZ	2.49	0.54
24:YA:2795:G:N2	24:YA:2799:A:OP2	2.41	0.54
1:QA:1451:A:H5"	1:QA:1452:C:H5'	1.89	0.54
4:QD:12:CYS:HB3	4:QD:33:MET:HE2	1.89	0.54
13:QM:17:VAL:HA	13:QM:20:THR:HG23	1.90	0.54
20:QT:85:MET:HA	20:QT:88:VAL:HG22	1.89	0.54
24:RA:270(S):G:H2'	24:RA:270(T):G:H8	1.72	0.54
24:RA:466:A:OP1	52:R7:34:ARG:NH1	2.40	0.54
24:RA:605:C:O2	24:RA:657:U:O2'	2.26	0.54
24:RA:675:A:N3	24:RA:2443:C:O2'	2.37	0.54
24:RA:1341:U:OP1	24:RA:1397:U:N3	2.36	0.54
24:RA:1818:U:H2'	26:RD:157:ARG:HG2	1.90	0.54
24:RA:2022:U:OP2	50:R5:15:ARG:NH2	2.41	0.54
24:RA:2137:C:H42	24:RA:2154:G:H1	1.56	0.54
30:RH:101:ARG:HE	30:RH:117:PRO:HG2	1.73	0.54
1:XA:718:G:O6	18:XR:74:ARG:NH1	2.40	0.54
24:YA:1022:G:O2'	24:YA:1023:U:OP2	2.22	0.54
24:YA:1105:U:H2'	24:YA:1106:G:H8	1.72	0.54
24:YA:1231:G:H2'	24:YA:1232:G:H8	1.73	0.54
24:YA:1859:A:N6	24:YA:1883:G:HO2'	2.06	0.54
24:YA:2882:A:OP1	36:YR:96:ARG:NH1	2.36	0.54
1:QA:165:C:H2'	1:QA:166:G:H8	1.73	0.54
1:QA:410:G:H4'	1:QA:411:A:OP1	2.07	0.54
1:QA:736:C:H2'	1:QA:737:A:C8	2.43	0.54
1:QA:831:U:H3	1:QA:855:G:H1	1.56	0.54
1:QA:833:U:H3	1:QA:853:G:H1	1.56	0.54
14:QN:21:TYR:OH	14:QN:23:ARG:NH2	2.39	0.54
18:QR:74:ARG:HD3	18:QR:81:PHE:HA	1.90	0.54
24:RA:1085:A:H2'	24:RA:1086:A:C4	2.43	0.54
24:RA:2539:C:H5'	54:R9:3:VAL:HG21	1.89	0.54
5:XE:37:ARG:NH1	5:XE:111:GLU:O	2.41	0.54
24:YA:581:C:H2'	24:YA:582:G:C8	2.43	0.54
24:YA:1062:G:H22	24:YA:1078:U:H1'	1.72	0.54
24:YA:2469:A:H2	24:YA:2481:G:H21	1.56	0.54
1:QA:501:C:H1'	1:QA:549:C:H1'	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.43	0.54
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.42	0.54
24:RA:184:C:O2'	24:RA:217:G:N3	2.41	0.54
32:RN:133:GLN:HG3	32:RN:135:PRO:HD3	1.89	0.54
44:RZ:7:ALA:HB2	44:RZ:59:LEU:HB3	1.90	0.54
1:XA:436:C:H1'	4:XD:157:LEU:HD22	1.89	0.54
1:XA:581:G:OP1	15:XO:65:ARG:NH1	2.37	0.54
24:YA:309:G:N3	24:YA:329:G:O2'	2.41	0.54
24:YA:964:C:O2'	24:YA:2273:A:N3	2.36	0.54
24:YA:1537:C:H2'	24:YA:1538:G:C8	2.42	0.54
1:QA:642:A:N3	8:QH:113:SER:OG	2.40	0.53
6:QF:99:ALA:HB1	18:QR:23:LYS:HE3	1.90	0.53
24:RA:459:U:H2'	24:RA:460:A:H8	1.73	0.53
24:RA:579:G:O2'	24:RA:2019:A:OP1	2.22	0.53
27:RE:50:GLY:HA2	27:RE:77:ILE:HA	1.90	0.53
1:XA:410:G:N2	1:XA:432:A:H62	2.05	0.53
24:YA:2233:U:H2'	24:YA:2234:G:C8	2.43	0.53
35:YQ:66:ILE:HA	35:YQ:104:PHE:HA	1.90	0.53
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.44	0.53
11:QK:22:HIS:HB3	11:QK:29:ILE:HG13	1.90	0.53
13:QM:23:TYR:HE2	13:QM:70:LEU:HB2	1.72	0.53
22:QV:20:G:H5'	22:QV:21:U:H5	1.73	0.53
24:RA:138:G:N2	42:RX:44:GLU:OE1	2.37	0.53
24:RA:307:G:H3'	24:RA:307:G:C8	2.43	0.53
24:RA:848:G:H2'	24:RA:849:A:C8	2.43	0.53
24:RA:861:A:N3	25:RB:79:C:O2'	2.40	0.53
24:RA:1035:U:H2'	24:RA:1036:G:C8	2.43	0.53
24:RA:1972:A:H2'	24:RA:1973:G:H8	1.72	0.53
37:RS:27:SER:HB3	37:RS:38:GLN:HB3	1.88	0.53
50:R5:41:PRO:O	50:R5:44:THR:OG1	2.25	0.53
1:XA:79:G:H1	1:XA:90:C:H42	1.56	0.53
1:XA:376:G:H5"	16:XP:5:ARG:HB2	1.90	0.53
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.44	0.53
4:XD:139:ARG:NH1	4:XD:140:VAL:O	2.41	0.53
24:YA:1006:C:H5'	32:YN:28:THR:HG23	1.91	0.53
24:YA:1996:C:OP1	33:YO:31:LYS:NZ	2.41	0.53
44:YZ:72:ARG:NH2	44:YZ:97:GLU:O	2.30	0.53
1:QA:21:G:H2'	1:QA:22:G:C8	2.43	0.53
1:QA:368:U:OP1	31:YI:91:SER:OG	2.23	0.53
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.72	0.53
44:RZ:128:VAL:HG12	44:RZ:129:SER:H	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:356:A:N3	1:XA:368:U:O2'	2.32	0.53
19:XS:63:THR:H	19:XS:66:MET:HE3	1.74	0.53
24:YA:631:A:OP2	53:Y8:46:ARG:NH2	2.41	0.53
1:QA:137:C:H2'	1:QA:138:G:H8	1.72	0.53
1:QA:410:G:H21	1:QA:432:A:H62	1.54	0.53
24:RA:177:G:H5'	24:RA:178:G:C8	2.43	0.53
24:RA:262:A:N3	24:RA:430:G:O2'	2.33	0.53
24:RA:822:U:H2'	24:RA:823:G:H8	1.72	0.53
24:RA:1012:U:OP1	39:RU:75:ASN:ND2	2.38	0.53
24:RA:1315:C:O2'	24:RA:1392:A:N3	2.35	0.53
24:RA:1542:G:O6	24:RA:1543:A:N6	2.42	0.53
24:RA:2031:A:N3	24:RA:2455:G:O2'	2.37	0.53
38:RT:24:PRO:HG3	38:RT:52:ILE:HG22	1.90	0.53
1:XA:34:C:H2'	1:XA:35:G:C8	2.44	0.53
1:XA:711:G:H2'	1:XA:712:A:H8	1.74	0.53
9:XI:63:ILE:HG21	9:XI:77:ILE:HD12	1.91	0.53
24:YA:2070:G:H2'	24:YA:2071:A:C8	2.44	0.53
24:YA:2638:G:OP1	27:YE:82:ARG:NH2	2.42	0.53
24:YA:2683:C:OP1	38:YT:53:ARG:NH2	2.33	0.53
27:YE:36:ARG:NH1	27:YE:85:ASN:OD1	2.40	0.53
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.41	0.53
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.25	0.53
26:RD:72:LYS:HD2	26:RD:75:ILE:HD12	1.90	0.53
47:R2:4:SER:OG	47:R2:5:GLU:N	2.41	0.53
1:XA:324:G:P	20:XT:22:ARG:HE	2.31	0.53
1:XA:452:A:N6	1:XA:480:U:H3	1.97	0.53
5:XE:103:GLY:O	5:XE:106:PRO:HD2	2.08	0.53
8:XH:29:SER:HB3	8:XH:32:LYS:HD2	1.90	0.53
24:YA:1124:C:O2	54:Y9:36:GLN:NE2	2.41	0.53
1:QA:509:A:H4'	1:QA:510:A:OP1	2.07	0.53
24:RA:783:A:H8	24:RA:784:A:H4'	1.73	0.53
24:RA:2329:G:H2'	24:RA:2330:G:C8	2.44	0.53
33:RO:15:GLY:HA2	33:RO:47:ILE:HG12	1.90	0.53
50:R5:56:LYS:NZ	50:R5:59:GLU:OE1	2.41	0.53
1:XA:624:C:H2'	1:XA:625:G:H8	1.72	0.53
24:YA:300:A:OP1	43:YY:86:ARG:NH2	2.41	0.53
24:YA:947:G:H2'	24:YA:948:G:C8	2.44	0.53
29:YG:161:THR:HG22	29:YG:163:ALA:H	1.74	0.53
1:QA:300:A:O2'	1:QA:564:C:N3	2.41	0.53
1:QA:324:G:N1	1:QA:327:A:OP2	2.41	0.53
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:982:U:O2	1:QA:1222:G:N1	2.40	0.53
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.42	0.53
24:RA:1657:C:C3'	27:RE:133:LYS:HG2	2.38	0.53
24:RA:2081:C:H2'	24:RA:2082:A:H8	1.73	0.53
24:RA:2859:G:H2'	24:RA:2860:A:C8	2.44	0.53
1:XA:266:G:O2'	1:XA:267:C:OP2	2.23	0.53
1:XA:359:U:C6	1:XA:359:U:O5'	2.62	0.53
1:XA:692:U:OP1	11:XK:124:LYS:NZ	2.31	0.53
24:YA:521:G:H2'	24:YA:522:G:H8	1.74	0.53
24:YA:1155:A:O3'	39:YU:55:ARG:NH1	2.41	0.53
24:YA:2528:U:O2'	24:YA:2530:A:OP1	2.21	0.53
37:YS:14:VAL:O	37:YS:18:ILE:HG12	2.09	0.53
1:QA:45:U:H2'	1:QA:46:G:H8	1.73	0.53
1:QA:1227:A:N3	19:QS:83:HIS:ND1	2.57	0.53
24:RA:512:G:H4'	24:RA:513:A:O5'	2.09	0.53
24:RA:919:G:N2	24:RA:2269:A:OP2	2.41	0.53
24:RA:1230:C:H2'	24:RA:1231:G:H8	1.74	0.53
24:RA:1266:G:O2'	24:RA:2012:G:O6	2.22	0.53
24:RA:1360:A:H62	24:RA:1371:G:H21	1.57	0.53
26:RD:136:ILE:O	26:RD:168:ARG:NH2	2.41	0.53
1:XA:189:U:O2	17:XQ:63:ARG:NH2	2.42	0.53
1:XA:1129:C:N4	1:XA:1135:U:O4	2.42	0.53
18:XR:67:ALA:HA	18:XR:70:ILE:HD12	1.91	0.53
24:YA:743:G:O2'	24:YA:1659:U:OP1	2.22	0.53
1:QA:99:C:H2'	1:QA:101:A:C8	2.42	0.53
1:QA:345:C:H3'	38:RT:41:ARG:HH12	1.72	0.53
24:RA:391:G:O2'	24:RA:410:G:OP1	2.25	0.53
24:RA:679:C:H2'	24:RA:680:G:H8	1.73	0.53
24:RA:1061:U:H5"	24:RA:1070:A:H1'	1.90	0.53
24:RA:1485:G:H1	24:RA:1504:C:H42	1.57	0.53
28:RF:124:LEU:HD12	28:RF:191:ARG:HH21	1.73	0.53
29:RG:161:THR:HG22	29:RG:163:ALA:H	1.74	0.53
1:XA:64:G:H5"	1:XA:65:U:OP1	2.09	0.53
24:YA:387:U:OP1	46:Y1:20:ARG:NH1	2.35	0.53
24:YA:603:A:N1	24:YA:625:G:O2'	2.35	0.53
24:YA:840:C:H2'	24:YA:841:A:C8	2.44	0.53
24:YA:1062:G:H2'	24:YA:1063:G:H8	1.74	0.53
24:YA:1802:A:H2'	24:YA:1803:A:C8	2.43	0.53
24:YA:2030:A:H4'	24:YA:2031:A:C8	2.44	0.53
27:YE:18:ASP:HB3	38:YT:82:LEU:HD21	1.91	0.53
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1252:A:H61	1:QA:1285:A:H61	1.55	0.53
24:RA:1403:C:H5"	24:RA:1471:A:H1'	1.91	0.53
24:RA:2006:C:O2'	24:RA:2823:A:N3	2.41	0.53
24:RA:2352:A:N6	24:RA:2365:G:O2'	2.42	0.53
24:RA:2515:C:H2'	24:RA:2516:G:H8	1.74	0.53
34:RP:100:LEU:HB2	34:RP:106:LEU:HG	1.90	0.53
1:XA:263:A:OP2	20:XT:79:ARG:NH1	2.42	0.53
1:XA:407:G:H2'	1:XA:408:A:H8	1.73	0.53
1:XA:688:G:O2'	1:XA:704:A:N1	2.35	0.53
1:XA:1235:U:H5"	21:XU:3:LYS:HD2	1.90	0.53
3:XC:121:ALA:O	3:XC:125:GLU:HG3	2.09	0.53
7:XG:116:ALA:HA	7:XG:119:ARG:HE	1.74	0.53
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.91	0.53
24:YA:252:G:OP2	34:YP:50:ARG:NH1	2.41	0.53
24:YA:442:G:H1'	28:YF:48:THR:HG21	1.91	0.53
1:QA:152:A:H62	1:QA:169:C:H42	1.57	0.52
1:QA:152:A:H62	1:QA:169:C:N4	2.07	0.52
1:QA:181:G:O2'	1:QA:182:U:O5'	2.27	0.52
1:QA:352:C:O2'	1:QA:354:G:OP1	2.20	0.52
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.74	0.52
24:RA:380:U:H2'	24:RA:381:G:H8	1.73	0.52
24:RA:2729:G:H1'	27:RE:187:ALA:HB2	1.89	0.52
29:RG:71:THR:N	29:RG:89:GLY:O	2.41	0.52
1:XA:770:C:H2'	1:XA:771:G:H8	1.74	0.52
8:XH:32:LYS:HA	8:XH:35:ILE:HD12	1.90	0.52
10:XJ:62:HIS:HD1	14:XN:59:ALA:HB3	1.74	0.52
24:YA:439:G:H2'	24:YA:440:G:H8	1.75	0.52
24:YA:881:G:H3'	24:YA:882:G:C8	2.44	0.52
24:YA:949:C:H2'	24:YA:950:G:H8	1.74	0.52
40:YV:60:GLU:OE1	40:YV:97:LYS:NZ	2.42	0.52
3:QC:78:GLY:HA3	3:QC:83:ARG:HB2	1.92	0.52
24:RA:589:C:H2'	24:RA:590:A:H8	1.72	0.52
24:RA:859:G:N2	24:RA:917:A:OP2	2.35	0.52
24:RA:1152:C:H2'	24:RA:1153:C:C6	2.44	0.52
24:RA:1358:G:N1	24:RA:1372:U:OP2	2.35	0.52
35:RQ:27:VAL:HG11	35:RQ:134:ARG:HA	1.90	0.52
39:RU:58:ARG:O	39:RU:62:ILE:HG12	2.09	0.52
44:RZ:123:ASP:OD1	44:RZ:123:ASP:N	2.42	0.52
24:YA:2011:U:OP2	41:YW:16:LYS:NZ	2.36	0.52
43:YY:39:VAL:HG13	43:YY:42:VAL:HB	1.90	0.52
24:RA:1405:U:H2'	24:RA:1406:U:H6	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2630:G:H2'	24:RA:2631:G:H8	1.73	0.52
30:RH:164:TYR:HB2	30:RH:167:GLU:HB2	1.90	0.52
34:RP:49:ARG:HH11	53:R8:58:ILE:HG22	1.73	0.52
38:RT:5:ALA:HA	38:RT:8:LYS:HD3	1.91	0.52
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.32	0.52
14:XN:24:CYS:HB2	14:XN:29:ARG:H	1.75	0.52
24:YA:140:A:H8	24:YA:1408:C:HO2'	1.56	0.52
24:YA:436:C:H2'	24:YA:438:G:H8	1.74	0.52
24:YA:956:G:N2	24:YA:960:A:OP2	2.42	0.52
24:YA:2345:G:H5'	24:YA:2347:C:O4'	2.10	0.52
1:QA:22:G:H2'	1:QA:23:C:C6	2.45	0.52
1:QA:624:C:H2'	1:QA:625:G:H8	1.74	0.52
1:QA:817:C:O2'	1:QA:1527:C:H5'	2.08	0.52
9:QI:24:GLY:N	9:QI:60:ASP:OD1	2.40	0.52
24:RA:964:C:O2'	24:RA:2273:A:N3	2.39	0.52
24:RA:1479:G:OP2	24:RA:1510:A:N6	2.41	0.52
24:RA:2037:G:H2'	24:RA:2038:G:C8	2.45	0.52
24:RA:2392:A:OP2	24:RA:2422:A:N6	2.42	0.52
37:RS:14:VAL:O	37:RS:18:ILE:HG12	2.09	0.52
41:RW:92:ARG:HH21	41:RW:94:ASP:HA	1.73	0.52
1:XA:224:C:H2'	1:XA:225:C:C6	2.44	0.52
4:XD:61:LYS:NZ	4:XD:72:GLU:OE2	2.22	0.52
4:XD:127:THR:HA	4:XD:132:ARG:HA	1.92	0.52
24:YA:414:C:H2'	24:YA:415:A:C8	2.44	0.52
24:YA:863:A:H2'	24:YA:864:G:H8	1.74	0.52
24:YA:1506:C:H2'	24:YA:1507:A:H5"	1.90	0.52
24:YA:1593:G:H2'	24:YA:1594:G:C8	2.45	0.52
24:YA:2032:G:OP2	24:YA:2454:G:O2'	2.26	0.52
24:YA:2700:C:O2'	24:YA:2701:C:H5'	2.09	0.52
30:YH:164:TYR:HB2	30:YH:167:GLU:HB2	1.91	0.52
44:YZ:4:ARG:HH11	44:YZ:60:GLU:HG2	1.75	0.52
44:YZ:166:SER:HB3	44:YZ:168:GLU:N	2.25	0.52
1:QA:946:A:O2'	1:QA:1333:A:N3	2.39	0.52
2:QB:47:THR:O	2:QB:51:LEU:HG	2.09	0.52
5:QE:81:GLU:HG2	5:QE:90:VAL:HG23	1.90	0.52
24:RA:2683:C:OP1	38:RT:53:ARG:NH2	2.36	0.52
36:RR:56:LYS:NZ	36:RR:90:ARG:O	2.43	0.52
20:XT:83:ARG:O	20:XT:87:LYS:HG3	2.10	0.52
24:YA:2181:G:H2'	24:YA:2182:G:C8	2.44	0.52
26:YD:168:ARG:HG2	26:YD:173:VAL:HG12	1.91	0.52
30:YH:4:ILE:HB	30:YH:6:ARG:HH11	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YP:135:LEU:HG	34:YP:139:LYS:HE2	1.92	0.52
35:YQ:75:THR:HG21	35:YQ:85:LYS:HE3	1.91	0.52
1:QA:28:G:O2'	1:QA:296:U:OP1	2.26	0.52
1:QA:1129:C:H5'	1:QA:1130:A:H5'	1.92	0.52
1:QA:1386:G:H2'	1:QA:1387:G:H8	1.75	0.52
4:QD:74:GLN:O	4:QD:78:LEU:HG	2.10	0.52
25:RB:52:A:H2	25:RB:53:A:H62	1.57	0.52
27:RE:45:THR:O	27:RE:83:ASP:N	2.41	0.52
1:XA:45:U:H2'	1:XA:46:G:C8	2.44	0.52
1:XA:573:A:N3	1:XA:883:C:O2'	2.38	0.52
1:XA:701:C:O2	1:XA:703:G:N1	2.43	0.52
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.90	0.52
13:XM:65:LYS:HD3	13:XM:69:GLU:HG3	1.92	0.52
24:YA:1422:G:H1	24:YA:1576:U:H3	1.58	0.52
24:YA:1636:C:H2'	24:YA:1637:A:C8	2.44	0.52
1:QA:119:A:H4'	1:QA:120:A:O5'	2.09	0.52
1:QA:986:A:N3	19:QS:52:TYR:OH	2.35	0.52
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.75	0.52
1:QA:1071:C:H5"	5:QE:49:PRO:HG2	1.92	0.52
1:QA:1159:U:O2'	1:QA:1160:G:N7	2.40	0.52
7:QG:24:THR:HA	7:QG:27:ILE:HG12	1.91	0.52
8:QH:19:VAL:HG13	8:QH:21:LYS:HG3	1.91	0.52
9:QI:104:ARG:NH1	9:QI:105:ASP:O	2.43	0.52
47:R2:45:SER:O	47:R2:46:GLN:NE2	2.43	0.52
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.75	0.52
1:XA:1172:C:H2'	1:XA:1173:G:H8	1.74	0.52
1:XA:1408:A:C6	1:XA:1494:G:C6	2.98	0.52
24:YA:2291:U:H2'	24:YA:2292:C:C6	2.45	0.52
26:YD:25:THR:OG1	26:YD:26:LYS:N	2.42	0.52
30:YH:8:PRO:HG2	30:YH:69:ARG:HE	1.74	0.52
30:YH:153:LYS:HB3	30:YH:161:GLY:HA2	1.92	0.52
44:YZ:163:LEU:HD22	44:YZ:167:PRO:HG3	1.92	0.52
49:Y4:62:ARG:HD3	49:Y4:63:TYR:H	1.75	0.52
1:QA:825:G:O2'	8:QH:12:ARG:NH2	2.40	0.52
1:QA:1036:G:N7	1:QA:1037:C:N4	2.58	0.52
2:QB:219:VAL:HA	2:QB:222:ILE:HD12	1.92	0.52
20:QT:21:LYS:O	20:QT:25:ARG:HG3	2.10	0.52
24:RA:265:A:N6	24:RA:427:U:O2'	2.43	0.52
24:RA:2329:G:H2'	24:RA:2330:G:H8	1.74	0.52
24:RA:2626:C:H2'	24:RA:2627:G:C8	2.45	0.52
29:RG:9:ARG:O	29:RG:13:GLU:HG3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:46:ARG:HA	10:XJ:64:GLU:HA	1.91	0.52
24:YA:2344:U:OP1	51:Y6:37:ARG:HD3	2.10	0.52
24:YA:2401:U:OP1	51:Y6:18:ARG:NH2	2.40	0.52
24:YA:2805:G:H2'	24:YA:2807:G:C8	2.45	0.52
26:YD:27:THR:HG21	26:YD:81:ALA:HB1	1.91	0.52
1:QA:628:G:H2'	1:QA:629:G:C8	2.45	0.52
11:QK:122:LYS:HD3	11:QK:124:LYS:H	1.75	0.52
24:RA:222:A:H62	24:RA:232:G:H21	1.57	0.52
24:RA:411:G:OP2	24:RA:2406:U:O2'	2.17	0.52
24:RA:654(A):G:H1	24:RA:654(T):C:H42	1.56	0.52
24:RA:1035:U:O3'	30:RH:59:ARG:NH1	2.42	0.52
24:RA:1354:A:H3'	24:RA:1355:G:H8	1.75	0.52
24:RA:2443:C:H2'	24:RA:2444:G:C8	2.45	0.52
37:RS:20:ARG:NH1	45:R0:48:GLY:O	2.43	0.52
1:XA:21:G:H2'	1:XA:22:G:H8	1.75	0.52
1:XA:1288:A:O3'	21:XU:10:ARG:NH1	2.43	0.52
1:XA:1299:A:C8	1:XA:1301:U:H1'	2.45	0.52
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.45	0.52
9:XI:53:VAL:HA	9:XI:95:LYS:HE3	1.92	0.52
24:YA:253:C:OP2	53:Y8:5:LYS:NZ	2.32	0.52
24:YA:1491:G:H2'	24:YA:1492:G:H8	1.73	0.52
1:QA:444:C:H2'	1:QA:445:G:H8	1.75	0.52
1:QA:954:G:O6	13:QM:104:ARG:NH1	2.42	0.52
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.45	0.52
2:QB:47:THR:HA	2:QB:202:PRO:HG2	1.92	0.52
4:QD:163:GLU:HA	4:QD:166:LYS:HE3	1.92	0.52
24:RA:818:G:N1	24:RA:1188:U:OP2	2.27	0.52
24:RA:989:G:OP2	48:R3:11:SER:OG	2.15	0.52
27:RE:12:THR:OG1	27:RE:13:ARG:N	2.42	0.52
29:RG:41:GLN:HB3	29:RG:90:LEU:HB2	1.92	0.52
29:RG:67:LYS:HD2	49:R4:5:ILE:HD12	1.91	0.52
1:XA:243:A:H4'	1:XA:244:U:H3'	1.91	0.52
1:XA:452:A:O2'	16:XP:72:ARG:NH1	2.43	0.52
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.45	0.52
5:XE:35:GLY:HA3	5:XE:112:LEU:HB3	1.91	0.52
24:YA:847:U:H5"	24:YA:847:U:H6	1.75	0.52
24:YA:2228:G:OP1	26:YD:261:LYS:NZ	2.28	0.52
24:YA:2632:A:HO2'	24:YA:2811:G:HO2'	1.58	0.52
26:YD:13:ARG:HA	26:YD:16:MET:HB2	1.92	0.52
32:YN:133:GLN:HG2	32:YN:135:PRO:HD3	1.92	0.52
33:YO:2:ILE:HB	33:YO:33:ALA:HB3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:985:C:H2'	1:QA:986:A:C8	2.45	0.51
9:QI:63:ILE:HG21	9:QI:77:ILE:HD12	1.93	0.51
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.76	0.51
17:QQ:21:VAL:HG11	17:QQ:59:ILE:HG13	1.91	0.51
24:RA:219:G:N3	24:RA:234:C:O2'	2.42	0.51
24:RA:581:C:H2'	24:RA:582:G:H8	1.74	0.51
24:RA:1316:U:H2'	24:RA:1317:A:H8	1.75	0.51
24:RA:1399:C:H2'	24:RA:1400:G:H8	1.75	0.51
26:RD:17:THR:O	26:RD:211:ARG:NH1	2.40	0.51
30:RH:138:LYS:HA	30:RH:141:VAL:HG22	1.91	0.51
1:XA:128:G:O2'	17:XQ:3:LYS:NZ	2.44	0.51
1:XA:250:A:H4'	1:XA:251:G:O5'	2.09	0.51
1:XA:642:A:N3	8:XH:113:SER:OG	2.41	0.51
10:XJ:77:PRO:HB2	10:XJ:79:ARG:HH22	1.74	0.51
24:YA:679:C:H2'	24:YA:680:G:C8	2.44	0.51
24:YA:1417:C:H2'	24:YA:1418:G:O4'	2.10	0.51
24:YA:2351:G:HO2'	24:YA:2352:A:H8	1.59	0.51
25:YB:43:C:O3'	29:YG:98:ARG:NH2	2.39	0.51
33:YO:24:VAL:HA	33:YO:39:ILE:HG22	1.92	0.51
1:QA:599:C:O2'	8:QH:129:VAL:O	2.23	0.51
1:QA:946:A:H2'	1:QA:947:G:H8	1.73	0.51
1:QA:1179:A:H5'	9:QI:83:ARG:HH21	1.75	0.51
19:QS:51:VAL:O	19:QS:57:HIS:HA	2.10	0.51
24:RA:220:G:O2'	24:RA:233:A:N3	2.42	0.51
26:RD:17:THR:HB	26:RD:205:VAL:H	1.74	0.51
29:RG:15:VAL:HG13	29:RG:175:LEU:HB2	1.91	0.51
36:RR:86:ARG:NH2	36:RR:118:GLU:OXT	2.43	0.51
1:XA:377:G:H2'	1:XA:378:G:H8	1.75	0.51
1:XA:529:G:O6	12:XL:49:ASN:ND2	2.43	0.51
1:XA:562:C:H1'	12:XL:15:ARG:HD2	1.92	0.51
1:XA:1441:G:H21	1:XA:1460:A:N6	2.05	0.51
15:XO:39:LEU:HD23	15:XO:56:LEU:HB2	1.92	0.51
24:YA:675:A:OP1	28:YF:63:LYS:NZ	2.35	0.51
24:YA:1005:C:O2'	32:YN:28:THR:HG21	2.09	0.51
24:YA:1166:C:H2'	24:YA:1167:U:C6	2.45	0.51
24:YA:2327:A:H2'	24:YA:2328:A:C8	2.46	0.51
24:YA:2352:A:N6	24:YA:2365:G:O2'	2.44	0.51
49:Y4:57:GLU:HG3	49:Y4:61:ARG:HG3	1.92	0.51
1:QA:663:A:H5"	18:QR:61:LYS:HE2	1.92	0.51
1:QA:1013:G:N2	1:QA:1016:A:OP2	2.36	0.51
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.23	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:309:G:OP2	24:RA:309:G:H8	1.93	0.51
24:RA:783:A:H2'	24:RA:784:A:H4'	1.91	0.51
24:RA:1417:C:H2'	24:RA:1418:G:O4'	2.10	0.51
24:RA:2636:U:OP1	27:RE:80:GLU:N	2.32	0.51
24:RA:2867:G:OP2	38:RT:119:LYS:NZ	2.33	0.51
35:RQ:66:ILE:HA	35:RQ:104:PHE:HA	1.91	0.51
40:RV:51:VAL:HG22	40:RV:53:GLU:H	1.75	0.51
44:RZ:91:LEU:HD12	44:RZ:130:PRO:HB3	1.92	0.51
50:R5:16:ARG:NH1	50:R5:17:ASP:OD1	2.43	0.51
1:XA:35:G:H5'	12:XL:104:VAL:CG2	2.41	0.51
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.45	0.51
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.45	0.51
7:XG:20:ASP:HB3	7:XG:23:VAL:HG12	1.92	0.51
24:YA:1224:G:OP2	40:YV:66:ARG:NH1	2.41	0.51
28:YF:65:TRP:NE1	28:YF:73:ALA:O	2.37	0.51
29:YG:142:PRO:HB2	49:Y4:31:ILE:HG21	1.93	0.51
38:YT:3:ARG:HB2	38:YT:6:LEU:HB2	1.92	0.51
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	1.92	0.51
24:RA:1131:G:HO2'	24:RA:1132:A:H8	1.58	0.51
24:RA:1316:U:H2'	24:RA:1317:A:C8	2.46	0.51
24:RA:2387:U:O2'	45:R0:19:LYS:NZ	2.44	0.51
29:RG:136:ARG:HH11	29:RG:137:GLU:HG2	1.76	0.51
40:RV:66:ARG:HH12	40:RV:88:ARG:HD3	1.75	0.51
46:R1:83:GLU:HG2	46:R1:85:LEU:H	1.73	0.51
1:XA:539:A:H2'	1:XA:540:G:C8	2.46	0.51
2:XB:96:ARG:HH11	2:XB:98:LEU:HA	1.75	0.51
24:YA:380:U:H2'	24:YA:381:G:C8	2.45	0.51
24:YA:503:A:H4'	24:YA:504:U:H5'	1.93	0.51
24:YA:1510:A:O2'	24:YA:1512:G:N7	2.40	0.51
24:YA:2096:U:O4	24:YA:2193:G:O6	2.28	0.51
24:YA:2102:U:H2'	24:YA:2103:C:C6	2.46	0.51
27:YE:48:GLN:OE1	27:YE:64:LYS:NZ	2.42	0.51
36:YR:24:GLN:HE22	36:YR:40:LYS:HB3	1.76	0.51
24:RA:949:C:H2'	24:RA:950:G:C8	2.46	0.51
24:RA:2126:A:H4'	24:RA:2127:G:O5'	2.11	0.51
24:RA:2564:A:OP1	24:RA:2648:C:H4'	2.11	0.51
30:RH:39:PRO:O	30:RH:42:ARG:NH2	2.36	0.51
42:RX:27:THR:HB	42:RX:80:ILE:HG12	1.93	0.51
1:XA:73:G:H1	1:XA:97:U:H3	1.58	0.51
20:XT:53:LEU:HA	20:XT:56:MET:HG2	1.93	0.51
24:YA:303:U:H2'	24:YA:304:G:H8	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2108:C:O2	24:YA:2181:G:N2	2.32	0.51
25:YB:15:A:H5'	25:YB:16:G:C8	2.45	0.51
35:YQ:30:GLY:HA2	35:YQ:107:ALA:HB2	1.91	0.51
1:QA:1527:C:H2'	1:QA:1528:U:C6	2.46	0.51
3:QC:10:PHE:HD1	3:QC:11:ARG:HD2	1.75	0.51
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.76	0.51
24:RA:962:G:H2'	24:RA:963:U:C6	2.45	0.51
24:RA:2052:G:H4'	27:RE:143:ASN:O	2.11	0.51
24:RA:2070:G:H2'	24:RA:2071:A:C8	2.46	0.51
34:RP:52:GLU:HB2	34:RP:57:THR:HG22	1.92	0.51
1:XA:123:C:OP1	1:XA:311:C:O2'	2.28	0.51
1:XA:671:G:O2'	6:XF:80:ARG:NH1	2.41	0.51
1:XA:877:C:H2'	1:XA:878:G:H8	1.74	0.51
24:YA:1113:U:H2'	24:YA:1114:G:C8	2.46	0.51
24:YA:1416:G:H2'	24:YA:1417:C:C6	2.46	0.51
24:YA:1464:C:HO2'	24:YA:1528:A:H8	1.57	0.51
24:YA:2345:G:C6	24:YA:2347:C:N4	2.78	0.51
31:YI:39:ALA:HB1	31:YI:44:LEU:HD21	1.92	0.51
35:YQ:27:VAL:HG11	35:YQ:134:ARG:HA	1.92	0.51
22:XV:36:G:H2'	22:XV:37:G:C8	2.46	0.51
1:QA:195:A:H4'	20:QT:68:LYS:HE3	1.91	0.51
1:QA:902:G:H2'	1:QA:903:G:H8	1.76	0.51
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.46	0.51
11:QK:34:ASP:HB3	11:QK:40:ILE:HD11	1.91	0.51
24:RA:947:G:H2'	24:RA:948:G:H8	1.76	0.51
24:RA:1353:A:H2'	24:RA:1354:A:C8	2.46	0.51
24:RA:2122:U:H2'	24:RA:2123:G:C8	2.46	0.51
27:RE:38:THR:OG1	27:RE:40:GLU:OE1	2.29	0.51
32:RN:47:ALA:HB2	32:RN:112:LEU:HD11	1.90	0.51
1:XA:723:U:OP1	23:XX:7:G:O2'	2.28	0.51
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.74	0.51
24:YA:34:C:H41	24:YA:447:A:H61	1.58	0.51
24:YA:627:A:H4'	24:YA:628:G:H5'	1.91	0.51
24:YA:659:C:H2'	24:YA:660:G:H8	1.74	0.51
36:YR:88:ARG:NH2	36:YR:89:ASP:OD1	2.44	0.51
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.46	0.51
2:QB:102:LEU:HD21	2:QB:182:ILE:HG13	1.93	0.51
8:QH:9:MET:O	8:QH:13:ILE:HG12	2.11	0.51
13:QM:117:VAL:HG12	13:QM:118:ALA:H	1.76	0.51
24:RA:2443:C:H2'	24:RA:2444:G:H8	1.76	0.51
24:RA:2676:C:O2	24:RA:2732:G:N2	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RG:124:SER:HB3	29:RG:131:TYR:HE2	1.76	0.51
43:RY:97:ARG:HG3	43:RY:106:LEU:HB2	1.93	0.51
2:XB:21:ARG:HB2	2:XB:39:ILE:HD13	1.93	0.51
4:XD:43:HIS:HA	4:XD:46:LYS:HD3	1.93	0.51
24:YA:1942:C:OP2	24:YA:1943:U:O2'	2.21	0.51
24:YA:2354:G:H4'	45:Y0:35:ASN:HD22	1.76	0.51
25:YB:15:A:H5'	25:YB:16:G:H8	1.76	0.51
29:YG:82:LEU:HD21	29:YG:88:ILE:HD13	1.92	0.51
31:YI:86:THR:HA	31:YI:123:LEU:HB2	1.93	0.51
35:YQ:59:ARG:HD2	35:YQ:59:ARG:H	1.75	0.51
1:QA:448:A:H62	1:QA:486:U:H3	1.58	0.51
1:QA:1032(B):G:N2	1:QA:1033:G:O6	2.43	0.51
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.76	0.51
10:QJ:54:PHE:CD2	10:QJ:55:LYS:HD3	2.46	0.51
22:QV:37:G:H2'	22:QV:38:G:C8	2.46	0.51
24:RA:586:A:H5'	28:RF:89:VAL:HG21	1.93	0.51
36:RR:104:ARG:HG3	36:RR:107:ASP:HB3	1.92	0.51
1:XA:689:C:OP2	11:XK:55:LYS:NZ	2.44	0.51
1:XA:971:G:H5"	1:XA:972:C:H5"	1.91	0.51
1:XA:1028:C:H2'	1:XA:1028(A):C:C6	2.46	0.51
24:YA:576:U:H2'	24:YA:577:G:C8	2.46	0.51
24:YA:2303:G:N3	29:YG:132:ASN:ND2	2.58	0.51
24:YA:2306:C:H2'	24:YA:2307:G:H21	1.74	0.51
49:Y4:26:SER:OG	49:Y4:27:THR:N	2.44	0.51
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.44	0.51
1:QA:701:C:OP1	1:QA:702:A:O2'	2.20	0.51
1:QA:1229:A:P	13:QM:114:ARG:HH21	2.35	0.51
12:QL:58:VAL:HG11	12:QL:85:ILE:HD11	1.92	0.51
12:QL:117:ARG:HB2	12:QL:122:THR:HB	1.92	0.51
15:QO:54:ARG:HA	15:QO:57:LEU:HD12	1.93	0.51
23:QX:6:C:H2'	23:QX:7:A:C8	2.46	0.51
24:RA:221:A:H4'	24:RA:222:A:O5'	2.11	0.51
24:RA:1570:A:H2'	24:RA:1571:A:C8	2.46	0.51
24:RA:2150:U:H2'	24:RA:2151:G:H8	1.76	0.51
35:RQ:37:LEU:HD11	35:RQ:130:LYS:HB2	1.93	0.51
1:XA:558:G:OP2	1:XA:559:A:O2'	2.25	0.51
1:XA:652:U:O4	1:XA:752:G:O2'	2.22	0.51
4:XD:62:GLN:HE22	4:XD:65:ARG:HH21	1.59	0.51
24:YA:1139:G:O2'	24:YA:1143:A:N1	2.39	0.51
24:YA:1265:A:H3'	50:Y5:19:ARG:HH21	1.75	0.51
24:YA:1508:A:O2'	24:YA:1509:C:O4'	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1539:G:H2'	24:YA:1540:G:C8	2.46	0.51
25:YB:37:C:O2	37:YS:95:HIS:NE2	2.41	0.51
1:QA:304:U:H2'	1:QA:305:G:C8	2.47	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.47	0.50
1:QA:522:C:H41	12:QL:53:ARG:HH21	1.57	0.50
24:RA:181:A:H1'	24:RA:435:C:H5'	1.91	0.50
24:RA:530:G:O2'	24:RA:532:A:N7	2.43	0.50
24:RA:662:G:H2'	24:RA:663:G:H8	1.75	0.50
24:RA:1473:G:C8	24:RA:1473:G:C5'	2.90	0.50
24:RA:1950:G:OP2	24:RA:1950:G:N2	2.35	0.50
24:RA:2749:A:H5"	30:RH:4:ILE:HD12	1.93	0.50
1:XA:484:G:H4'	1:XA:485:G:O5'	2.10	0.50
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.93	0.50
24:YA:1161:C:H2'	24:YA:1162:G:H8	1.76	0.50
24:YA:1426:G:OP2	24:YA:1427:A:O2'	2.20	0.50
35:YQ:77:LYS:NZ	35:YQ:83:MET:O	2.42	0.50
38:YT:118:ARG:HA	38:YT:121:ILE:HG22	1.93	0.50
1:QA:657:G:H4'	15:QO:28:GLN:HG2	1.92	0.50
1:QA:701:C:H1'	1:QA:703:G:C6	2.47	0.50
3:QC:116:VAL:HA	3:QC:119:ARG:HG2	1.93	0.50
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.76	0.50
24:RA:270(L):U:H2'	31:RI:50:ARG:HH12	1.76	0.50
24:RA:1827:C:OP2	26:RD:222:ARG:NH1	2.44	0.50
24:RA:2368:C:H2'	24:RA:2369:A:H8	1.75	0.50
24:RA:2441:C:OP2	24:RA:2586:C:O2'	2.27	0.50
29:RG:37:VAL:H	29:RG:99:MET:HE3	1.77	0.50
1:XA:287:U:H2'	1:XA:288:A:C8	2.47	0.50
1:XA:339:C:OP2	33:YO:97:ARG:HD3	2.10	0.50
8:XH:135:CYS:SG	8:XH:136:GLU:N	2.84	0.50
24:YA:270(F):U:H3	24:YA:270(T):G:H1	1.60	0.50
24:YA:922:U:H2'	24:YA:923:C:C6	2.47	0.50
24:YA:1292:U:H2'	24:YA:1293:C:C6	2.47	0.50
25:YB:50:G:OP1	37:YS:63:THR:HG23	2.12	0.50
49:Y4:55:ARG:H	49:Y4:55:ARG:HD2	1.76	0.50
1:QA:973:G:O6	1:QA:974:A:N6	2.44	0.50
4:QD:62:GLN:HE22	4:QD:65:ARG:HH21	1.60	0.50
4:QD:63:LYS:O	4:QD:67:ILE:HG13	2.10	0.50
22:QV:37:G:H2'	22:QV:38:G:H8	1.75	0.50
24:RA:946:G:O6	24:RA:972:G:N2	2.45	0.50
24:RA:1830:C:H2'	24:RA:1831:G:H8	1.76	0.50
43:RY:39:VAL:HG23	43:RY:42:VAL:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:627:G:H2'	1:XA:628:G:H8	1.76	0.50
1:XA:1273:G:H3'	1:XA:1274:G:H8	1.74	0.50
24:YA:1000:A:H2'	24:YA:1001:A:C8	2.46	0.50
24:YA:2103:C:O2	24:YA:2187:G:N2	2.44	0.50
24:YA:2115:G:O5'	24:YA:2166:G:O2'	2.29	0.50
24:YA:2776:A:H4'	24:YA:2777:G:O5'	2.10	0.50
8:QH:32:LYS:O	8:QH:36:LEU:HG	2.12	0.50
11:QK:44:SER:OG	11:QK:45:GLY:N	2.45	0.50
24:RA:83:G:O2'	24:RA:102:G:N2	2.44	0.50
24:RA:679:C:H2'	24:RA:680:G:C8	2.46	0.50
24:RA:1791:A:H3'	24:RA:1792:G:H8	1.75	0.50
24:RA:2285:C:OP1	51:R6:29:ASN:ND2	2.45	0.50
38:RT:50:ILE:HD11	38:RT:100:TYR:HA	1.92	0.50
1:XA:825:G:O2'	8:XH:12:ARG:NH2	2.41	0.50
24:YA:531:C:OP1	24:YA:561:G:N1	2.44	0.50
24:YA:691:C:H2'	24:YA:692:C:H6	1.77	0.50
24:YA:1203:G:H3'	24:YA:1204:A:H5"	1.91	0.50
24:YA:1204:A:O2'	24:YA:1205:U:O5'	2.30	0.50
24:YA:2537:U:H2'	24:YA:2538:C:C6	2.46	0.50
44:YZ:4:ARG:HG2	44:YZ:58:VAL:HB	1.93	0.50
49:Y4:16:CYS:SG	49:Y4:17:GLY:N	2.84	0.50
1:QA:1031:G:H2'	1:QA:1032:A:H8	1.77	0.50
1:QA:1326:C:OP1	21:QU:17:THR:OG1	2.30	0.50
24:RA:242:G:O2'	24:RA:254:G:O6	2.28	0.50
24:RA:1527:G:N2	24:RA:1546:C:N3	2.59	0.50
24:RA:1826:G:OP1	26:RD:224:ALA:N	2.43	0.50
49:R4:16:CYS:HB3	49:R4:20:ASN:HB3	1.93	0.50
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.47	0.50
14:XN:24:CYS:SG	14:XN:29:ARG:HB3	2.52	0.50
24:YA:815:C:OP2	40:YV:83:ARG:NH1	2.44	0.50
24:YA:1570:A:H2'	24:YA:1571:A:C8	2.46	0.50
31:YI:63:ALA:O	31:YI:66:GLU:HG2	2.12	0.50
35:YQ:28:ALA:HB3	35:YQ:67:ARG:HH12	1.75	0.50
39:YU:90:VAL:HG12	39:YU:91:ASP:H	1.76	0.50
44:YZ:13:GLU:HB3	44:YZ:18:LEU:HD21	1.93	0.50
1:QA:166:G:H2'	1:QA:167:G:H8	1.77	0.50
1:QA:359:U:H2'	1:QA:360:A:H8	1.77	0.50
1:QA:736:C:H2'	1:QA:737:A:H8	1.75	0.50
1:QA:922:G:H2'	1:QA:923:A:C8	2.46	0.50
1:QA:933:G:O6	7:QG:3:ARG:NH2	2.45	0.50
24:RA:1728:G:H8	24:RA:1732:A:H62	1.58	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:RG:140:ILE:HG13	29:RG:141:PHE:HD2	1.76	0.50
33:RO:2:ILE:HB	33:RO:33:ALA:HB3	1.94	0.50
14:XN:24:CYS:SG	14:XN:27:CYS:SG	3.09	0.50
24:YA:358:U:H2'	24:YA:359:A:H8	1.75	0.50
24:YA:428:A:H3'	24:YA:429:A:H8	1.76	0.50
24:YA:510:C:H2'	24:YA:511:U:O4'	2.11	0.50
24:YA:847:U:O4	24:YA:933:A:N1	2.44	0.50
24:YA:2591:C:H2'	24:YA:2592:G:H8	1.76	0.50
24:YA:2849:U:O4	38:YT:23:ARG:NH1	2.38	0.50
25:YB:5:C:OP1	25:YB:61:G:O2'	2.29	0.50
27:YE:52:LEU:O	27:YE:74:PRO:HA	2.11	0.50
29:YG:16:ARG:HH21	29:YG:28:VAL:HG12	1.76	0.50
1:QA:514:C:H2'	1:QA:515:G:C8	2.45	0.50
1:QA:1074:G:O2'	2:QB:103:THR:OG1	2.23	0.50
1:QA:1200:C:O2'	1:QA:1201:A:OP2	2.27	0.50
2:QB:136:VAL:HG23	2:QB:139:LYS:HE3	1.94	0.50
24:RA:582:G:H2'	24:RA:583:G:H8	1.76	0.50
30:RH:4:ILE:HB	30:RH:6:ARG:HH11	1.77	0.50
23:XX:1:G:H2'	23:XX:2:G:H8	1.77	0.50
24:YA:271(D):G:H2'	24:YA:272:G:H8	1.77	0.50
24:YA:828:U:H4'	24:YA:831:G:C6	2.46	0.50
24:YA:1035:U:OP1	30:YH:59:ARG:NH1	2.45	0.50
24:YA:1324:G:H1'	24:YA:1616:A:N6	2.26	0.50
1:QA:643:C:H5'	8:QH:31:PHE:CD2	2.46	0.50
3:QC:113:ALA:HA	3:QC:116:VAL:HG22	1.94	0.50
8:QH:111:ILE:HG23	8:QH:134:ILE:HB	1.94	0.50
24:RA:1333:C:H2'	24:RA:1334:G:H8	1.77	0.50
24:RA:1598:C:O3'	42:RX:35:THR:OG1	2.30	0.50
24:RA:2056:G:N2	50:R5:4:HIS:O	2.45	0.50
27:RE:14:ILE:HG13	38:RT:14:TYR:HE2	1.77	0.50
37:RS:110:LEU:HD12	37:RS:112:PHE:H	1.77	0.50
49:R4:51:ASP:HB2	49:R4:53:GLU:HG3	1.94	0.50
1:XA:323:U:OP1	20:XT:26:ASN:ND2	2.45	0.50
1:XA:501:C:H1'	1:XA:549:C:H1'	1.92	0.50
1:XA:589:C:H5"	8:XH:29:SER:HB2	1.94	0.50
1:XA:997:U:H2'	1:XA:998:G:C8	2.46	0.50
1:XA:1318:A:H1'	19:XS:37:ARG:HH21	1.76	0.50
24:YA:288:C:H2'	24:YA:289:A:C8	2.43	0.50
24:YA:1592:C:H2'	24:YA:1593:G:C8	2.45	0.50
24:YA:1889:A:N3	24:YA:2086:U:O2'	2.45	0.50
24:YA:1937:A:N7	24:YA:1939:U:H2'	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1147:C:O2	9:QI:16:ARG:NH1	2.44	0.50
24:RA:226:G:O2'	24:RA:228:A:N6	2.44	0.50
24:RA:251:A:OP1	53:R8:7:HIS:NE2	2.30	0.50
24:RA:1000:A:OP2	24:RA:1154:G:N1	2.24	0.50
24:RA:2183:C:H2'	24:RA:2184:G:C8	2.46	0.50
26:RD:139:GLY:H	26:RD:165:ILE:HG23	1.76	0.50
1:XA:256:U:OP1	17:XQ:17:LYS:NZ	2.45	0.50
1:XA:483:C:OP2	1:XA:484:G:O2'	2.23	0.50
1:XA:737:A:H2'	1:XA:738:C:C6	2.47	0.50
1:XA:1512:U:H2'	1:XA:1513:A:C8	2.47	0.50
24:YA:796:C:H2'	24:YA:797:C:C6	2.47	0.50
24:YA:1230:C:H2'	24:YA:1231:G:C8	2.47	0.50
33:YO:88:ASN:OD1	33:YO:92:GLU:N	2.36	0.50
37:YS:26:LEU:HB3	37:YS:87:PHE:HA	1.93	0.50
4:QD:119:GLN:HA	4:QD:122:ARG:HE	1.76	0.49
11:QK:29:ILE:HG22	11:QK:44:SER:HB2	1.93	0.49
24:RA:1629:U:H2'	24:RA:1630:G:C8	2.47	0.49
28:RF:161:GLU:OE2	28:RF:164:ARG:NH2	2.42	0.49
43:RY:102:CYS:SG	43:RY:103:GLY:N	2.85	0.49
1:XA:112:G:H4'	1:XA:389:A:H4'	1.94	0.49
1:XA:1291:G:O2'	9:XI:38:GLN:OE1	2.30	0.49
10:XJ:43:ARG:O	10:XJ:67:THR:OG1	2.29	0.49
24:YA:819:A:OP2	24:YA:1187:G:N2	2.40	0.49
24:YA:2361:A:O5'	53:Y8:27:THR:OG1	2.30	0.49
24:YA:2849:U:OP2	38:YT:95:ARG:NH1	2.44	0.49
25:YB:40:U:H3	25:YB:43:C:H5"	1.77	0.49
26:YD:148:GLU:OE1	26:YD:151:LYS:NZ	2.44	0.49
32:YN:128:HIS:CE1	32:YN:134:ARG:HD2	2.47	0.49
1:QA:403:C:OP2	4:QD:74:GLN:NE2	2.45	0.49
1:QA:629:G:H2'	1:QA:630:G:C8	2.47	0.49
3:QC:83:ARG:O	3:QC:87:LEU:HG	2.11	0.49
24:RA:308:G:HO2'	24:RA:329:G:N2	2.08	0.49
24:RA:414:C:H2'	24:RA:415:A:H8	1.77	0.49
24:RA:996:A:OP2	39:RU:92:ARG:NH2	2.46	0.49
1:XA:851:G:H2'	1:XA:852:G:H8	1.77	0.49
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.46	0.49
1:XA:1409:C:H2'	1:XA:1410:G:H8	1.77	0.49
7:XG:107:ALA:O	7:XG:110:GLN:NE2	2.45	0.49
24:YA:151:C:H2'	24:YA:152:G:H8	1.77	0.49
24:YA:597:U:H2'	24:YA:598:G:C8	2.46	0.49
24:YA:1598:C:H5'	42:YX:36:LYS:HB2	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2064:C:H2'	24:YA:2065:C:C6	2.47	0.49
42:YX:26:TYR:HE2	42:YX:89:ILE:H	1.60	0.49
44:YZ:7:ALA:HB2	44:YZ:59:LEU:HB3	1.94	0.49
1:QA:269:C:H2'	1:QA:270:A:H8	1.77	0.49
1:QA:1129:C:H42	1:QA:1141:C:H41	1.60	0.49
4:QD:11:LEU:H	4:QD:11:LEU:HD12	1.77	0.49
5:QE:121:LYS:NZ	5:QE:122:GLU:O	2.44	0.49
8:QH:51:VAL:HG21	8:QH:60:ARG:HG3	1.94	0.49
10:QJ:35:SER:HB2	10:QJ:73:ASP:HB2	1.93	0.49
24:RA:192:C:O2'	24:RA:802:A:N3	2.42	0.49
24:RA:730:C:H3'	24:RA:730:C:C6	2.47	0.49
24:RA:863:A:H2'	24:RA:864:G:H8	1.77	0.49
24:RA:1216:G:OP1	39:RU:11:ARG:NH2	2.28	0.49
24:RA:1265:A:H8	24:RA:1265:A:OP1	1.94	0.49
24:RA:1780:A:O2'	24:RA:1781:C:O2	2.24	0.49
24:RA:2056:G:OP2	24:RA:2057:A:OP2	2.30	0.49
36:RR:88:ARG:NH2	36:RR:89:ASP:OD1	2.45	0.49
37:RS:24:LEU:HB2	37:RS:85:VAL:HG13	1.94	0.49
1:XA:99:C:H2'	1:XA:101:A:C8	2.47	0.49
24:YA:1779:U:OP2	24:YA:1784:A:N6	2.39	0.49
24:YA:1827:C:OP2	26:YD:222:ARG:NH1	2.42	0.49
24:YA:2008:C:H2'	24:YA:2009:G:H8	1.76	0.49
25:YB:24:G:H1'	25:YB:27:C:H41	1.78	0.49
29:YG:81:LYS:HD3	29:YG:86:MET:HE1	1.94	0.49
1:QA:662:G:O2'	1:QA:836:G:OP1	2.30	0.49
1:QA:1302:U:O2	13:QM:27:LYS:NZ	2.43	0.49
10:QJ:16:LEU:HD12	10:QJ:94:VAL:HG22	1.95	0.49
24:RA:1771:C:H2'	24:RA:1772:G:C8	2.46	0.49
24:RA:2151:G:H2'	24:RA:2152:G:H8	1.77	0.49
26:RD:148:GLU:OE1	26:RD:151:LYS:NZ	2.40	0.49
27:RE:21:VAL:HG23	27:RE:185:LYS:HE3	1.94	0.49
2:XB:84:GLU:OE2	2:XB:233:SER:OG	2.26	0.49
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.45	0.49
24:YA:780:G:H21	24:YA:783:A:H62	1.60	0.49
24:YA:1399:C:H2'	24:YA:1400:G:H8	1.76	0.49
24:YA:2468:G:O2'	24:YA:2481:G:N2	2.46	0.49
24:RA:447:A:O4'	24:RA:449:A:N6	2.46	0.49
24:RA:631:A:OP2	53:R8:46:ARG:NH2	2.46	0.49
24:RA:1286:A:O2'	24:RA:1288:U:OP2	2.23	0.49
24:RA:1341:U:OP2	24:RA:1394:U:O2'	2.26	0.49
24:RA:2495:G:H5"	35:RQ:81:VAL:HG12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:946:A:H2'	1:XA:947:G:H8	1.78	0.49
2:XB:91:PRO:HG3	2:XB:154:LEU:HB2	1.95	0.49
3:XC:116:VAL:HG13	3:XC:140:ARG:HH21	1.77	0.49
7:XG:41:ARG:HH12	7:XG:115:ARG:HH21	1.60	0.49
8:XH:112:LEU:HG	8:XH:133:LEU:HA	1.94	0.49
10:XJ:30:SER:O	10:XJ:30:SER:OG	2.29	0.49
24:YA:822:U:H2'	24:YA:823:G:H8	1.77	0.49
24:YA:2133:G:O2'	24:YA:2158:A:N1	2.45	0.49
29:YG:31:VAL:O	29:YG:33:ARG:NH1	2.43	0.49
1:QA:636:U:H2'	1:QA:637:G:H8	1.78	0.49
1:QA:1112:C:H1'	3:QC:179:ARG:HH11	1.78	0.49
24:RA:1426:G:OP2	24:RA:1427:A:O2'	2.16	0.49
24:RA:1592:C:H2'	24:RA:1593:G:H8	1.76	0.49
24:RA:1821:A:H2'	24:RA:1822:G:C8	2.48	0.49
24:RA:2102:U:H2'	24:RA:2103:C:H6	1.77	0.49
24:RA:2506:U:H3	24:RA:2584:U:H5	1.59	0.49
30:RH:25:LYS:HZ2	30:RH:27:LYS:H	1.61	0.49
38:RT:3:ARG:HG3	38:RT:6:LEU:HB3	1.93	0.49
44:RZ:144:LEU:HD22	44:RZ:150:LEU:HG	1.94	0.49
1:XA:673:G:O3'	6:XF:87:ARG:NH2	2.46	0.49
1:XA:816:A:OP2	1:XA:1526:G:O2'	2.30	0.49
24:YA:969:U:H2'	24:YA:970:C:C6	2.47	0.49
24:YA:1645:G:H5"	24:YA:1646:C:C5'	2.43	0.49
24:YA:2036:C:H2'	24:YA:2037:G:H8	1.77	0.49
24:YA:2314:C:H2'	24:YA:2315:G:C8	2.47	0.49
24:YA:2737:G:H2'	24:YA:2738:A:C8	2.47	0.49
37:YS:20:ARG:NH1	45:Y0:48:GLY:O	2.45	0.49
1:QA:362:G:OP2	12:QL:34:ARG:NH2	2.46	0.49
1:QA:707:C:H2'	1:QA:708:C:C6	2.47	0.49
1:QA:1392:G:H21	1:QA:1502:A:H8	1.59	0.49
15:QO:76:GLU:OE2	15:QO:79:ARG:NH2	2.45	0.49
24:RA:288:C:H2'	24:RA:289:A:H8	1.77	0.49
24:RA:581:C:H2'	24:RA:582:G:C8	2.47	0.49
24:RA:1657:C:HO2'	27:RE:133:LYS:HD2	1.76	0.49
24:RA:2798:C:H2'	24:RA:2799:A:C8	2.47	0.49
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.76	0.49
23:XX:3:C:H2'	23:XX:4:A:C8	2.48	0.49
24:YA:1059:G:OP2	24:YA:1060:U:H5"	2.12	0.49
24:YA:2183:C:H2'	24:YA:2184:G:H8	1.76	0.49
24:YA:2289:G:H2'	24:YA:2290:G:H8	1.77	0.49
24:YA:2676:C:H2'	24:YA:2677:G:H8	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2702:U:OP1	24:YA:2702:U:H6	1.96	0.49
24:YA:2836:U:H2'	24:YA:2837:G:C8	2.47	0.49
24:YA:2884:U:H2'	24:YA:2885:C:O4'	2.12	0.49
29:YG:129:GLY:HA2	29:YG:166:ASP:HA	1.94	0.49
8:QH:109:ILE:HD11	8:QH:120:THR:HB	1.95	0.49
12:QL:46:LYS:HZ2	12:QL:47:LYS:H	1.59	0.49
24:RA:840:C:H2'	24:RA:841:A:H8	1.76	0.49
24:RA:922:U:H2'	24:RA:923:C:C6	2.47	0.49
24:RA:1006:C:H5'	32:RN:28:THR:HG23	1.95	0.49
24:RA:2689:U:H4'	24:RA:2690:C:O5'	2.13	0.49
43:RY:37:VAL:O	43:RY:67:LEU:N	2.42	0.49
1:XA:407:G:OP1	4:XD:115:ARG:NH1	2.46	0.49
1:XA:1004:A:H1'	1:XA:1036:G:H22	1.77	0.49
4:XD:61:LYS:HD2	4:XD:206:PHE:CE2	2.48	0.49
5:XE:102:ALA:O	5:XE:107:ARG:NH2	2.46	0.49
8:XH:83:ILE:HG22	8:XH:137:VAL:HG22	1.93	0.49
14:XN:3:ARG:HH21	14:XN:4:LYS:HD3	1.76	0.49
24:YA:319:C:H2'	24:YA:320:A:C8	2.48	0.49
24:YA:852:G:H2'	24:YA:853:G:H8	1.78	0.49
24:YA:2627:G:O2'	24:YA:2781:A:N1	2.34	0.49
37:YS:25:ARG:NH1	37:YS:42:ASP:OD2	2.46	0.49
47:Y2:25:VAL:O	47:Y2:29:LYS:HG2	2.12	0.49
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.48	0.49
4:QD:101:LEU:HD12	4:QD:138:TYR:HB3	1.94	0.49
5:QE:76:ILE:HG23	5:QE:142:LEU:HD13	1.95	0.49
12:QL:32:PHE:HB3	12:QL:84:LEU:HD11	1.94	0.49
24:RA:303:U:H2'	24:RA:304:G:H8	1.77	0.49
24:RA:1791:A:H5'	26:RD:206:LEU:HD12	1.94	0.49
24:RA:2291:U:H2'	24:RA:2292:C:C6	2.48	0.49
35:RQ:58:PHE:HD2	35:RQ:61:GLY:HA3	1.78	0.49
39:RU:61:TRP:HB3	39:RU:93:LYS:O	2.12	0.49
42:RX:8:ILE:O	47:R2:36:ARG:NH2	2.46	0.49
44:RZ:53:ILE:HG22	44:RZ:71:VAL:HG13	1.93	0.49
1:XA:345:C:H1'	1:XA:346:G:OP2	2.12	0.49
3:XC:157:ILE:HG22	3:XC:164:ARG:HH21	1.77	0.49
3:XC:182:ILE:HD11	3:XC:201:TYR:HB3	1.93	0.49
9:XI:5:TYR:HE1	9:XI:16:ARG:HB2	1.77	0.49
9:XI:73:GLN:O	9:XI:77:ILE:HG12	2.13	0.49
10:XJ:7:LYS:HB3	10:XJ:97:GLU:HB3	1.94	0.49
17:XQ:28:PRO:HA	17:XQ:35:VAL:HA	1.95	0.49
23:XX:5:A:H2'	23:XX:6:G:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:277:C:H5'	24:YA:278:A:H5'	1.95	0.49
24:YA:532:A:N1	24:YA:2035:G:N2	2.60	0.49
24:YA:689:A:H2'	24:YA:690:G:H8	1.78	0.49
24:YA:1580:A:H5'	24:YA:1581:G:OP2	2.13	0.49
24:YA:1615:C:OP2	24:YA:1617:C:N4	2.33	0.49
24:YA:2294:C:OP2	37:YS:13:ARG:NH2	2.45	0.49
24:YA:2743:C:OP2	24:YA:2755:C:N4	2.46	0.49
26:YD:123:ALA:HB3	26:YD:131:LEU:HG	1.95	0.49
43:YY:48:ALA:HA	43:YY:60:PHE:HD2	1.77	0.49
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.78	0.49
1:QA:1320:C:H42	19:QS:36:ARG:HB2	1.78	0.49
22:QV:44:G:H2'	22:QV:45:G:C8	2.47	0.49
24:RA:86:C:H4'	24:RA:104:U:H1'	1.95	0.49
24:RA:270(I):G:H2'	24:RA:270(J):G:C8	2.48	0.49
24:RA:969:U:H2'	24:RA:970:C:C6	2.48	0.49
24:RA:2584:U:H2'	24:RA:2585:U:H2'	1.95	0.49
1:XA:524:G:H2'	1:XA:525:C:C6	2.48	0.49
1:XA:628:G:H2'	1:XA:629:G:C8	2.48	0.49
1:XA:708:C:H2'	1:XA:709:G:H8	1.78	0.49
1:XA:1225:A:H5"	1:XA:1226:C:OP2	2.13	0.49
4:XD:88:VAL:HG22	4:XD:90:GLY:H	1.77	0.49
13:XM:78:ILE:HD11	13:XM:92:HIS:HB3	1.94	0.49
21:XU:8:THR:HG23	21:XU:11:GLY:H	1.78	0.49
24:YA:259:G:H21	24:YA:621:A:H8	1.60	0.49
24:YA:607:U:H3	24:YA:621:A:H2	1.61	0.49
24:YA:2318:G:H22	37:YS:2:ALA:HA	1.78	0.49
24:YA:2355:C:H1'	45:Y0:39:ARG:HH21	1.78	0.49
49:Y4:34:GLU:HG2	49:Y4:35:VAL:HG12	1.93	0.49
1:QA:41:G:H2'	1:QA:42:G:H8	1.77	0.48
1:QA:662:G:H2'	1:QA:663:A:C8	2.48	0.48
1:QA:924:C:O2'	1:QA:1502:A:N6	2.46	0.48
20:QT:51:GLU:O	20:QT:55:ILE:HG12	2.13	0.48
24:RA:640:C:H2'	24:RA:641:C:C6	2.48	0.48
24:RA:784:A:OP2	24:RA:2589:A:OP1	2.30	0.48
40:RV:57:VAL:HG12	40:RV:99:ILE:HG23	1.94	0.48
1:XA:119:A:C8	1:XA:288:A:C6	3.01	0.48
1:XA:191(G):G:C4	20:XT:105:SER:HB3	2.48	0.48
1:XA:427:U:OP2	1:XA:428:G:O2'	2.29	0.48
24:YA:2619:C:H5"	27:YE:152:LYS:HA	1.95	0.48
24:YA:2735:G:H2'	24:YA:2736:G:H8	1.78	0.48
32:YN:137:LYS:HD3	32:YN:138:LEU:N	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:346:G:H1'	1:QA:347:G:H5'	1.95	0.48
1:QA:1075:C:H5"	2:QB:179:LYS:NZ	2.28	0.48
24:RA:270:A:OP2	24:RA:270(Y):G:N1	2.46	0.48
24:RA:1593:G:H2'	24:RA:1594:G:C8	2.47	0.48
24:RA:2197:U:H1'	24:RA:2198:A:C8	2.48	0.48
24:RA:2469:A:H2'	35:RQ:56:ARG:HE	1.78	0.48
24:RA:2747:G:N2	24:RA:2757:A:H62	2.09	0.48
26:RD:90:ALA:HB3	26:RD:106:ILE:HD11	1.94	0.48
1:XA:41:G:H2'	1:XA:42:G:H8	1.78	0.48
1:XA:309:G:H2'	1:XA:310:G:H8	1.79	0.48
1:XA:693:G:H2'	1:XA:694:A:C8	2.48	0.48
4:XD:158:ILE:O	4:XD:162:LEU:HG	2.13	0.48
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.78	0.48
15:XO:70:LEU:HD21	15:XO:77:ARG:HG3	1.95	0.48
24:YA:1405:U:H2'	24:YA:1406:U:C6	2.47	0.48
24:YA:1438:U:H2'	24:YA:1439:A:H8	1.78	0.48
24:YA:1647:G:H3'	24:YA:1647:G:OP2	2.14	0.48
24:YA:2655:G:N2	24:YA:2665:A:OP2	2.47	0.48
29:YG:136:ARG:HG2	29:YG:137:GLU:H	1.78	0.48
1:QA:164:U:H2'	1:QA:165:C:C6	2.48	0.48
1:QA:539:A:H2'	1:QA:540:G:C8	2.48	0.48
2:QB:71:VAL:HA	2:QB:93:VAL:HB	1.95	0.48
9:QI:73:GLN:O	9:QI:77:ILE:HG12	2.13	0.48
10:QJ:30:SER:HB2	10:QJ:80:LYS:HG3	1.94	0.48
16:QP:67:THR:HG22	16:QP:68:ASP:H	1.78	0.48
24:RA:479:A:HO2'	24:RA:481:G:H8	1.60	0.48
24:RA:2306:C:H3'	24:RA:2307:G:H5"	1.95	0.48
24:RA:2431:U:N3	24:RA:2434:A:OP2	2.32	0.48
24:RA:2581:G:N2	24:RA:2581:G:OP2	2.46	0.48
24:RA:2701:C:H3'	24:RA:2702:U:C5'	2.44	0.48
33:RO:63:VAL:HG12	33:RO:106:LEU:HD21	1.94	0.48
34:RP:90:ARG:HG3	34:RP:91:PHE:HD1	1.79	0.48
38:RT:109:GLU:OE1	38:RT:112:ARG:NH1	2.46	0.48
1:XA:1230:C:H5'	22:XV:31:C:H5"	1.95	0.48
19:XS:3:ARG:HH12	19:XS:11:VAL:HG22	1.77	0.48
24:YA:270(I):G:H2'	24:YA:270(J):G:C8	2.47	0.48
24:YA:511:U:H5"	24:YA:1236:G:OP1	2.13	0.48
24:YA:675:A:N3	24:YA:2443:C:O2'	2.39	0.48
24:YA:918:A:N3	25:YB:80:U:O2'	2.44	0.48
24:YA:1853:A:N3	24:YA:2233:U:O2'	2.41	0.48
24:YA:1869:G:H5'	24:YA:1870:C:OP2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YD:147:LEU:HD21	26:YD:183:ARG:HH22	1.78	0.48
46:Y1:46:LEU:O	46:Y1:47:GLN:NE2	2.47	0.48
1:QA:552:U:H2'	1:QA:553:A:H8	1.78	0.48
1:QA:745:C:H2'	1:QA:746:A:C8	2.48	0.48
1:QA:745:C:H2'	1:QA:746:A:H8	1.78	0.48
1:QA:1043:C:H2'	1:QA:1044:A:H8	1.77	0.48
8:QH:12:ARG:HD2	8:QH:26:VAL:HG22	1.94	0.48
24:RA:995:C:O2	32:RN:3:THR:OG1	2.32	0.48
24:RA:1525:G:H2'	24:RA:1526:G:C8	2.48	0.48
24:RA:2452:C:H2'	24:RA:2453:A:C8	2.48	0.48
24:RA:2737:G:H2'	24:RA:2738:A:C8	2.47	0.48
1:XA:50:A:H1'	1:XA:52:G:C8	2.48	0.48
1:XA:430:A:P	4:XD:8:VAL:H	2.37	0.48
1:XA:590:C:OP1	8:XH:30:ARG:N	2.42	0.48
1:XA:748:C:H1'	1:XA:749:C:H5	1.79	0.48
1:XA:877:C:H2'	1:XA:878:G:C8	2.48	0.48
24:YA:210:C:H2'	24:YA:211:A:H8	1.77	0.48
24:YA:587:C:OP2	34:YP:21:ARG:NH1	2.30	0.48
24:YA:1408:C:H2'	24:YA:1409:C:C6	2.49	0.48
24:YA:1812:A:H2'	24:YA:1813:G:H8	1.79	0.48
24:YA:2001:A:H2'	24:YA:2002:G:C8	2.49	0.48
43:YY:47:LYS:NZ	43:YY:48:ALA:O	2.43	0.48
47:Y2:45:SER:O	47:Y2:46:GLN:NE2	2.46	0.48
1:QA:501:C:H2'	1:QA:502:G:C8	2.48	0.48
1:QA:639:G:H2'	1:QA:640:A:H8	1.77	0.48
1:QA:1047:G:H5"	14:QN:4:LYS:HD2	1.96	0.48
12:QL:110:VAL:O	12:QL:122:THR:OG1	2.28	0.48
22:QV:66:U:H2'	22:QV:67:A:H8	1.79	0.48
24:RA:116:C:O2'	24:RA:126:A:N3	2.42	0.48
24:RA:1411:C:H42	24:RA:1591:G:H1	1.62	0.48
24:RA:2514:U:H2'	24:RA:2515:C:C6	2.48	0.48
24:RA:2698:U:H2'	24:RA:2699:C:C6	2.48	0.48
24:RA:2784:C:O2'	27:RE:37:ARG:NH1	2.46	0.48
24:RA:2787:C:H1'	27:RE:62:PRO:HG3	1.94	0.48
29:RG:142:PRO:HB2	49:R4:31:ILE:HG21	1.95	0.48
37:RS:8:GLU:O	37:RS:11:LYS:HB3	2.14	0.48
1:XA:17:U:H2'	1:XA:18:C:C6	2.49	0.48
1:XA:343:U:O2	1:XA:346:G:N1	2.47	0.48
2:XB:76:GLN:HG2	2:XB:208:ILE:HG13	1.96	0.48
3:XC:83:ARG:O	3:XC:87:LEU:HG	2.14	0.48
24:YA:848:G:H2'	24:YA:849:A:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:956:G:OP2	35:YQ:14:ARG:NH2	2.46	0.48
24:YA:1243:G:H4'	34:YP:7:ARG:HH21	1.78	0.48
24:YA:1939:U:H3'	24:YA:1940:U:H5'	1.94	0.48
24:YA:2037:G:H2'	24:YA:2038:G:C8	2.47	0.48
24:YA:2515:C:H2'	24:YA:2516:G:H8	1.77	0.48
24:YA:2737:G:H2'	24:YA:2738:A:H8	1.79	0.48
28:YF:122:LYS:HB3	28:YF:191:ARG:HG3	1.94	0.48
34:YP:52:GLU:OE2	34:YP:58:THR:OG1	2.28	0.48
35:YQ:41:TRP:HB3	35:YQ:94:VAL:HG21	1.95	0.48
1:QA:563:A:O2'	1:QA:566:G:O3'	2.30	0.48
3:QC:157:ILE:HD13	3:QC:166:GLU:HG2	1.94	0.48
22:QV:59:A:O2'	22:QV:61:U:OP2	2.16	0.48
23:QX:11:A:H2'	23:QX:12:G:C8	2.48	0.48
24:RA:271(D):G:H2'	24:RA:272:G:C8	2.49	0.48
24:RA:271(D):G:H2'	24:RA:272:G:H8	1.78	0.48
24:RA:2627:G:N2	24:RA:2777:G:OP2	2.47	0.48
24:RA:2841:C:H2'	24:RA:2842:G:H8	1.79	0.48
29:RG:3:LEU:HD12	49:R4:25:TYR:HE2	1.79	0.48
1:XA:1244:C:OP2	21:XU:9:ARG:NE	2.47	0.48
24:YA:363(B):G:H2'	24:YA:363(C):G:H8	1.79	0.48
24:YA:578:A:OP1	24:YA:1255:U:O2'	2.28	0.48
24:YA:1754:C:OP1	38:YT:96:ARG:NH1	2.47	0.48
24:YA:2853:C:H2'	24:YA:2854:G:H8	1.78	0.48
26:YD:17:THR:HG22	26:YD:204:ILE:HD12	1.95	0.48
26:YD:72:LYS:HG3	26:YD:97:TYR:CE2	2.48	0.48
27:YE:26:ILE:HB	27:YE:182:LEU:HB3	1.95	0.48
29:YG:107:LEU:HD13	29:YG:111:LEU:HD12	1.96	0.48
30:YH:46:GLU:OE1	30:YH:51:ARG:NH1	2.47	0.48
1:QA:5:U:O2'	1:QA:6:G:O5'	2.32	0.48
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.79	0.48
1:QA:1367:C:H5'	10:QJ:60:ARG:NH1	2.28	0.48
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.78	0.48
5:QE:75:THR:HA	5:QE:115:VAL:HG13	1.95	0.48
7:QG:54:THR:HG22	7:QG:56:GLN:HG2	1.95	0.48
8:QH:36:LEU:HA	8:QH:39:LEU:HD12	1.94	0.48
10:QJ:38:ILE:HD12	10:QJ:39:PRO:HD2	1.96	0.48
24:RA:463:G:N2	24:RA:466:A:OP2	2.32	0.48
24:RA:514:A:N3	24:RA:581:C:O2'	2.39	0.48
24:RA:1295:C:H2'	24:RA:1296:G:H8	1.79	0.48
24:RA:2466:C:OP1	54:R9:4:ARG:HB2	2.14	0.48
25:RB:89:G:H2'	25:RB:89(A):A:C8	2.49	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:RI:26:ALA:HA	31:RI:30:LEU:HB2	1.95	0.48
37:RS:25:ARG:NH1	37:RS:42:ASP:OD2	2.46	0.48
1:XA:1291:G:H4'	9:XI:39:GLY:HA3	1.95	0.48
24:YA:270(R):G:H2'	24:YA:270(S):G:C8	2.48	0.48
24:YA:1403:C:H5"	24:YA:1471:A:H1'	1.96	0.48
24:YA:1939:U:OP1	24:YA:2604:U:O2'	2.32	0.48
24:YA:2341:G:H2'	24:YA:2342:C:C6	2.48	0.48
39:YU:91:ASP:O	39:YU:93:LYS:N	2.47	0.48
54:Y9:25:VAL:HB	54:Y9:34:GLN:HB2	1.95	0.48
1:QA:944:G:N1	1:QA:1338:G:OP2	2.44	0.48
1:QA:1314:C:OP2	19:QS:4:SER:OG	2.20	0.48
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.49	0.48
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.24	0.48
3:QC:11:ARG:O	3:QC:13:GLY:N	2.47	0.48
7:QG:23:VAL:HG13	7:QG:43:PHE:HE2	1.79	0.48
7:QG:27:ILE:HA	7:QG:30:ILE:HG22	1.96	0.48
24:RA:1546:C:H5'	24:RA:1547:C:H5'	1.95	0.48
25:RB:24:G:O6	25:RB:56:G:O2'	2.27	0.48
33:RO:47:ILE:O	33:RO:53:LYS:NZ	2.47	0.48
34:RP:52:GLU:OE2	34:RP:58:THR:OG1	2.32	0.48
37:RS:15:ARG:NE	37:RS:88:ASP:OD1	2.46	0.48
37:RS:109:GLY:O	37:RS:110:LEU:HG	2.14	0.48
3:XC:9:GLY:HA2	3:XC:12:LEU:HG	1.96	0.48
3:XC:172:ARG:HG3	3:XC:174:PRO:HD3	1.94	0.48
7:XG:29:LYS:HG3	7:XG:105:VAL:HG11	1.96	0.48
24:YA:746:A:HO2'	24:YA:2611:U:HO2'	1.56	0.48
24:YA:1794:U:H2'	24:YA:1795:C:H6	1.78	0.48
24:YA:2420:C:H5'	51:Y6:54:ILE:HD11	1.96	0.48
28:YF:63:LYS:NZ	28:YF:75:HIS:O	2.39	0.48
1:QA:977:A:N6	1:QA:1224:G:OP1	2.47	0.48
1:QA:1407:C:H2'	1:QA:1408:A:H8	1.78	0.48
13:QM:37:THR:HG21	13:QM:56:LEU:HA	1.96	0.48
24:RA:1359:A:OP2	24:RA:1371:G:N2	2.43	0.48
24:RA:1416:G:H2'	24:RA:1417:C:C6	2.49	0.48
24:RA:2707:G:H2'	24:RA:2708:G:H8	1.78	0.48
47:R2:10:LEU:HG	47:R2:14:ARG:HE	1.79	0.48
4:XD:96:LEU:HD13	4:XD:139:ARG:HE	1.79	0.48
10:XJ:84:GLN:HA	10:XJ:88:LEU:HD13	1.96	0.48
11:XK:57:THR:HG22	11:XK:59:TYR:H	1.79	0.48
24:YA:270(H):C:H2'	24:YA:270(I):G:C8	2.48	0.48
24:YA:385:C:O2'	24:YA:388:G:N2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1252:G:N2	39:YU:37:GLU:OE2	2.44	0.48
24:YA:1754:C:N3	24:YA:2716:U:O2'	2.46	0.48
24:YA:2071:A:H2'	24:YA:2072:G:H8	1.79	0.48
24:YA:2773:C:OP1	27:YE:164:ARG:NE	2.40	0.48
25:YB:30:C:O2'	25:YB:57:A:N1	2.45	0.48
29:YG:58:GLN:O	29:YG:62:LEU:HG	2.13	0.48
44:YZ:128:VAL:HG23	44:YZ:161:VAL:HG22	1.96	0.48
2:QB:33:TYR:HB3	2:QB:41:ILE:HG13	1.95	0.48
2:QB:169:LYS:NZ	2:QB:191:ASP:OD2	2.46	0.48
24:RA:37:C:H2'	24:RA:38:A:H8	1.79	0.48
24:RA:1590:U:H2'	24:RA:1591:G:C8	2.49	0.48
24:RA:1651:G:H4'	36:RR:39:PRO:HG2	1.95	0.48
24:RA:2642:G:H5'	32:RN:78:TYR:CD2	2.49	0.48
26:RD:25:THR:HG22	26:RD:82:ILE:H	1.78	0.48
30:RH:79:VAL:HG12	30:RH:136:ILE:HD11	1.96	0.48
44:RZ:54:HIS:HB3	44:RZ:101:PRO:HD3	1.95	0.48
1:XA:352:C:O2'	1:XA:354:G:OP1	2.20	0.48
1:XA:656:C:O2	15:XO:28:GLN:NE2	2.45	0.48
14:XN:39:LEU:HD12	14:XN:44:LEU:HB3	1.95	0.48
17:XQ:4:LYS:NZ	17:XQ:5:VAL:O	2.46	0.48
18:XR:74:ARG:HD3	18:XR:81:PHE:HA	1.96	0.48
24:YA:1186:G:H2'	24:YA:1187:G:O4'	2.14	0.48
1:QA:559:A:H4'	1:QA:560:U:H3'	1.96	0.47
1:QA:1024:G:H4'	1:QA:1024:G:OP1	2.14	0.47
13:QM:31:LYS:HD3	13:QM:34:LEU:HD21	1.95	0.47
23:QX:8:A:H2'	23:QX:9:G:C8	2.49	0.47
24:RA:1454:U:O2'	24:RA:1455:G:N7	2.43	0.47
24:RA:1646:C:H5"	24:RA:1647:G:H5"	1.95	0.47
33:RO:88:ASN:OD1	33:RO:92:GLU:N	2.39	0.47
1:XA:324:G:OP1	20:XT:22:ARG:NE	2.46	0.47
1:XA:627:G:H2'	1:XA:628:G:C8	2.49	0.47
6:XF:27:GLN:O	6:XF:30:LEU:HG	2.13	0.47
9:XI:21:PRO:HA	9:XI:59:PHE:HA	1.96	0.47
14:XN:4:LYS:HA	14:XN:7:ILE:HG12	1.96	0.47
24:YA:14:A:H8	24:YA:14:A:O5'	1.97	0.47
24:YA:662:G:H2'	24:YA:663:G:H8	1.79	0.47
24:YA:1310:G:OP2	52:Y7:9:ARG:NE	2.34	0.47
24:YA:2070:G:H2'	24:YA:2071:A:H8	1.77	0.47
24:YA:2693:A:H2'	24:YA:2694:G:H8	1.79	0.47
37:YS:34:HIS:ND1	37:YS:53:SER:OG	2.39	0.47
1:QA:181:G:HO2'	1:QA:182:U:P	2.36	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:263:A:OP1	20:QT:79:ARG:NH1	2.47	0.47
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.78	0.47
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.49	0.47
11:QK:62:GLN:HG3	11:QK:93:GLN:HB3	1.96	0.47
24:RA:37:C:H2'	24:RA:38:A:C8	2.49	0.47
24:RA:2319:G:N1	24:RA:2334:G:OP2	2.41	0.47
26:RD:148:GLU:HB2	26:RD:151:LYS:HD2	1.97	0.47
1:XA:509:A:N3	1:XA:543:C:O2'	2.38	0.47
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.95	0.47
24:YA:251:A:C5	24:YA:252:G:H1'	2.49	0.47
24:YA:1140:C:OP2	32:YN:66:LYS:NZ	2.42	0.47
24:YA:2698:U:H2'	24:YA:2699:C:C6	2.49	0.47
27:YE:23:VAL:HG12	27:YE:173:VAL:HG21	1.95	0.47
27:YE:176:ILE:HB	27:YE:181:LEU:HB2	1.96	0.47
34:YP:47:ASP:OD2	34:YP:50:ARG:NH2	2.47	0.47
42:YX:5:TYR:HD2	47:Y2:29:LYS:HB2	1.79	0.47
50:Y5:49:CYS:O	50:Y5:56:LYS:HE2	2.14	0.47
1:QA:244:U:H4'	1:QA:245:C:O5'	2.14	0.47
1:QA:437:U:H2'	1:QA:438:G:O4'	2.14	0.47
1:QA:1009:G:H1	1:QA:1020:U:H3	1.62	0.47
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.49	0.47
19:QS:64:GLU:OE1	49:R4:58:ARG:NH1	2.47	0.47
24:RA:729:G:OP2	26:RD:13:ARG:HD3	2.15	0.47
24:RA:729:G:O2'	24:RA:763:G:H4'	2.14	0.47
24:RA:1525:G:H2'	24:RA:1526:G:H8	1.80	0.47
24:RA:2832:U:H4'	24:RA:2833:G:H5"	1.97	0.47
25:RB:111:U:H2'	25:RB:112:G:H8	1.79	0.47
28:RF:116:ASP:OD2	34:RP:1:MET:N	2.34	0.47
1:XA:316:G:OP2	1:XA:351:G:O2'	2.23	0.47
1:XA:407:G:H2'	1:XA:408:A:C8	2.49	0.47
2:XB:235:SER:O	2:XB:237:ALA:N	2.45	0.47
5:XE:10:MET:HB3	5:XE:32:VAL:HG12	1.96	0.47
14:XN:24:CYS:HB2	14:XN:27:CYS:SG	2.54	0.47
24:YA:38:A:H2'	24:YA:39:C:C6	2.50	0.47
24:YA:270(V):G:H2'	24:YA:270(W):G:H8	1.80	0.47
24:YA:439:G:H2'	24:YA:440:G:C8	2.49	0.47
24:YA:617:G:OP1	28:YF:40:GLN:NE2	2.47	0.47
24:YA:689:A:H2'	24:YA:690:G:C8	2.50	0.47
24:YA:831:G:O2'	34:YP:38:GLN:OE1	2.32	0.47
24:YA:1882:C:H3'	24:YA:1883:G:H8	1.79	0.47
24:YA:2610:C:H4'	24:YA:2611:U:OP2	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2728:U:H2'	24:YA:2729:G:C8	2.49	0.47
29:YG:65:GLY:HA3	49:Y4:9:LEU:HD21	1.95	0.47
44:YZ:45:ASP:OD1	44:YZ:49:ARG:NE	2.47	0.47
1:QA:481:G:O2'	1:QA:482:A:O5'	2.33	0.47
1:QA:1034:G:H2'	1:QA:1035:A:C8	2.50	0.47
1:QA:1223:C:P	1:QA:1224:G:H2'	2.55	0.47
3:QC:20:SER:OG	3:QC:22:TRP:NE1	2.46	0.47
7:QG:72:ARG:O	7:QG:91:VAL:HG12	2.13	0.47
8:QH:49:GLU:OE2	8:QH:62:TYR:OH	2.27	0.47
11:QK:43:SER:HB3	11:QK:68:ALA:HB2	1.95	0.47
17:QQ:43:LEU:HD21	17:QQ:68:ARG:HH21	1.79	0.47
24:RA:121:G:H4'	24:RA:149:A:H5'	1.96	0.47
24:RA:746:A:O2'	24:RA:2611:U:O2'	2.30	0.47
24:RA:834:C:H2'	24:RA:835:A:C8	2.48	0.47
24:RA:1278:A:H2'	24:RA:1279:G:H8	1.78	0.47
24:RA:1309:G:HO2'	24:RA:1611:C:HO2'	1.62	0.47
24:RA:1686:C:H3'	24:RA:1687:G:H8	1.79	0.47
24:RA:2522:U:H3	24:RA:2543:G:H1	1.62	0.47
28:RF:200:GLU:OE2	28:RF:200:GLU:N	2.43	0.47
29:RG:83:ARG:HD2	29:RG:84:LYS:H	1.79	0.47
1:XA:45:U:H2'	1:XA:46:G:H8	1.80	0.47
1:XA:922:G:H2'	1:XA:923:A:C8	2.50	0.47
4:XD:138:TYR:OH	4:XD:141:ARG:NH2	2.47	0.47
7:XG:75:VAL:HA	7:XG:88:PRO:HA	1.96	0.47
13:XM:91:ARG:HH11	13:XM:96:LEU:HD22	1.79	0.47
24:YA:249:C:H5'	24:YA:2394:C:O2'	2.15	0.47
24:YA:1283:G:N2	24:YA:1286:A:OP2	2.47	0.47
24:YA:2692:C:H2'	24:YA:2693:A:H8	1.79	0.47
27:YE:38:THR:OG1	27:YE:40:GLU:OE1	2.31	0.47
52:Y7:13:ALA:HB2	52:Y7:46:VAL:HG11	1.97	0.47
1:QA:398:C:H2'	1:QA:399:G:H8	1.79	0.47
4:QD:127:THR:HA	4:QD:132:ARG:HA	1.97	0.47
5:QE:98:THR:HB	5:QE:117:ASP:HB3	1.96	0.47
11:QK:21:ILE:HB	11:QK:84:VAL:HG23	1.96	0.47
12:QL:32:PHE:HD2	12:QL:86:ARG:HA	1.80	0.47
24:RA:593:G:H2'	24:RA:594:U:C6	2.50	0.47
24:RA:639:U:H2'	24:RA:640:C:C6	2.50	0.47
24:RA:678:C:H2'	24:RA:679:C:C6	2.49	0.47
24:RA:796:C:H2'	24:RA:797:C:C6	2.49	0.47
24:RA:1427:A:H4'	24:RA:1428:C:O5'	2.14	0.47
24:RA:2246:G:H2'	24:RA:2247:A:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2327:A:H2'	24:RA:2328:A:C8	2.49	0.47
28:RF:102:PRO:HB2	28:RF:105:VAL:HG23	1.96	0.47
28:RF:125:LEU:HA	28:RF:194:MET:O	2.15	0.47
32:RN:26:LEU:O	32:RN:30:ILE:HG13	2.14	0.47
1:XA:501:C:H2'	1:XA:502:G:C8	2.49	0.47
1:XA:950:U:H2'	1:XA:951:G:H8	1.79	0.47
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.77	0.47
2:XB:16:HIS:HD2	2:XB:210:SER:HA	1.80	0.47
3:XC:32:LEU:HD13	3:XC:59:ARG:HD3	1.96	0.47
24:YA:363(D):G:H2'	24:YA:363(E):U:C6	2.49	0.47
24:YA:949:C:H2'	24:YA:950:G:C8	2.50	0.47
24:YA:2514:U:H2'	24:YA:2515:C:C6	2.50	0.47
53:Y8:29:LYS:H	53:Y8:29:LYS:HG2	1.44	0.47
1:QA:171:A:H2'	1:QA:172:A:C8	2.50	0.47
1:QA:323:U:H2'	1:QA:324:G:O4'	2.15	0.47
24:RA:439:G:H2'	24:RA:440:G:C8	2.50	0.47
24:RA:489:G:N2	24:RA:1321:A:OP1	2.48	0.47
24:RA:534:U:H2'	24:RA:535:C:C6	2.50	0.47
24:RA:823:G:H2'	24:RA:824:A:H8	1.79	0.47
24:RA:1509:C:H3'	24:RA:1510:A:H4'	1.96	0.47
27:RE:36:ARG:NH1	27:RE:85:ASN:OD1	2.44	0.47
1:XA:486:U:H2'	1:XA:487:A:C8	2.49	0.47
1:XA:489:C:H2'	1:XA:490:G:H8	1.79	0.47
24:YA:414:C:H2'	24:YA:415:A:H8	1.80	0.47
24:YA:459:U:H2'	24:YA:460:A:H8	1.79	0.47
24:YA:680:G:H2'	24:YA:681:G:C8	2.49	0.47
24:YA:724:U:H2'	24:YA:725:G:O4'	2.14	0.47
24:YA:1149:G:H2'	24:YA:1150:C:C6	2.50	0.47
24:YA:1157:G:C2'	24:YA:1158:C:H5'	2.45	0.47
24:YA:1427:A:H4'	24:YA:1428:C:O5'	2.13	0.47
24:YA:2340:G:H2'	24:YA:2341:G:H8	1.80	0.47
24:YA:2475:C:H42	24:YA:2529:G:H22	1.62	0.47
27:YE:20:ALA:N	33:YO:72:PRO:O	2.41	0.47
31:YI:79:ILE:HB	31:YI:142:VAL:HA	1.94	0.47
38:YT:123:GLN:O	38:YT:125:ARG:N	2.47	0.47
1:QA:426:G:OP1	4:QD:38:TYR:OH	2.25	0.47
1:QA:647:C:H2'	1:QA:648:A:H8	1.79	0.47
13:QM:87:TYR:HB3	19:QS:73:GLU:HG3	1.97	0.47
24:RA:13:A:O2'	24:RA:15:G:N7	2.47	0.47
24:RA:281:G:H21	24:RA:359:A:H62	1.61	0.47
24:RA:699:A:H62	24:RA:733:G:H21	1.62	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:923:C:H2'	24:RA:924:C:C6	2.50	0.47
24:RA:1062:G:H2'	24:RA:1063:G:C8	2.49	0.47
24:RA:1114:G:H2'	24:RA:1115:G:C8	2.50	0.47
24:RA:1116:C:H2'	24:RA:1117:G:H8	1.80	0.47
24:RA:2156:G:O6	24:RA:2157:G:N2	2.43	0.47
24:RA:2500:U:O2'	24:RA:2504:U:OP1	2.27	0.47
24:RA:2749:A:OP2	24:RA:2750:A:O2'	2.24	0.47
24:RA:2836:U:H2'	24:RA:2837:G:C8	2.49	0.47
36:RR:104:ARG:HE	36:RR:111:LEU:HD21	1.80	0.47
46:R1:60:PHE:HE1	46:R1:87:PRO:HG3	1.80	0.47
1:XA:324:G:H5"	20:XT:70:SER:CB	2.45	0.47
1:XA:377:G:H2'	1:XA:378:G:C8	2.50	0.47
1:XA:438:G:H4'	4:XD:123:HIS:CG	2.50	0.47
1:XA:452:A:N6	1:XA:480:U:C2	2.79	0.47
1:XA:685:G:OP1	11:XK:11:LYS:NZ	2.46	0.47
1:XA:891:U:H2'	1:XA:892:A:H8	1.80	0.47
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.80	0.47
17:XQ:19:VAL:O	17:XQ:44:ALA:N	2.40	0.47
24:YA:363:G:H2'	24:YA:363(A):A:H8	1.79	0.47
24:YA:924:C:H2'	24:YA:925:C:C6	2.49	0.47
24:YA:1028:A:H2'	24:YA:1029:A:C8	2.49	0.47
24:YA:1165:U:H2'	24:YA:1166:C:C6	2.49	0.47
24:YA:2040:C:H2'	24:YA:2041:U:C6	2.50	0.47
27:YE:50:GLY:HA2	27:YE:77:ILE:HA	1.97	0.47
31:YI:76:THR:OG1	31:YI:139:GLN:NE2	2.44	0.47
32:YN:7:LYS:HD3	32:YN:8:GLN:H	1.79	0.47
32:YN:58:ASP:OD1	32:YN:58:ASP:N	2.42	0.47
33:YO:28:SER:OG	33:YO:29:ASN:N	2.48	0.47
39:YU:28:ARG:NH1	39:YU:38:THR:OG1	2.44	0.47
1:QA:707:C:H4'	11:QK:20:TYR:CD2	2.50	0.47
1:QA:1250:A:H2	1:QA:1370:G:H1'	1.80	0.47
9:QI:32:ASP:HB3	9:QI:35:GLU:HG2	1.97	0.47
12:QL:32:PHE:CD2	12:QL:86:ARG:HA	2.50	0.47
24:RA:550:G:H2'	24:RA:551:G:H8	1.80	0.47
24:RA:2051:A:H5'	24:RA:2578:G:O4'	2.14	0.47
24:RA:2100:G:H2'	24:RA:2101:G:C8	2.49	0.47
24:RA:2233:U:H2'	24:RA:2234:G:C8	2.50	0.47
24:RA:2591:C:H2'	24:RA:2592:G:C8	2.50	0.47
24:RA:2591:C:H2'	24:RA:2592:G:H8	1.79	0.47
24:RA:2857:G:N2	24:RA:2860:A:OP2	2.38	0.47
1:XA:596:C:OP2	1:XA:597:G:OP2	2.32	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1463:C:H2'	1:XA:1464:G:H8	1.79	0.47
24:YA:264:C:C2'	24:YA:265:A:H5"	2.44	0.47
24:YA:271(D):G:H2'	24:YA:272:G:C8	2.50	0.47
24:YA:358:U:H2'	24:YA:359:A:C8	2.49	0.47
24:YA:2061:G:H5"	24:YA:2503:A:C2	2.50	0.47
24:YA:2099:U:O2	24:YA:2190:G:N2	2.40	0.47
24:YA:2115:G:N2	24:YA:2164:C:OP2	2.47	0.47
26:YD:16:MET:HG3	26:YD:207:GLY:HA3	1.97	0.47
1:QA:1043:C:H2'	1:QA:1044:A:C8	2.50	0.47
1:QA:1238:A:H62	1:QA:1301:U:H3	1.62	0.47
1:QA:1371:G:OP1	9:QI:11:LYS:NZ	2.41	0.47
6:QF:47:ARG:NH2	6:QF:56:PRO:O	2.48	0.47
10:QJ:41:PRO:HG2	10:QJ:43:ARG:HH12	1.80	0.47
24:RA:29:U:H2'	24:RA:30:G:C8	2.48	0.47
24:RA:186:G:H2'	24:RA:187:G:H8	1.79	0.47
24:RA:634:C:H2'	24:RA:635:C:C6	2.49	0.47
24:RA:907:U:O2'	35:RQ:101:ARG:NH2	2.45	0.47
24:RA:2130:U:H2'	24:RA:2131:G:C8	2.49	0.47
38:RT:124:ASP:OD2	38:RT:124:ASP:N	2.48	0.47
47:R2:9:GLN:HE22	47:R2:60:LEU:HD21	1.78	0.47
1:XA:677:U:O2	1:XA:777:A:O2'	2.33	0.47
1:XA:762:C:H2'	1:XA:763:G:H8	1.78	0.47
1:XA:1253:G:H4'	10:XJ:46:ARG:NH1	2.29	0.47
2:XB:145:LEU:HD13	2:XB:145:LEU:HA	1.54	0.47
24:YA:532:A:H4'	24:YA:533:G:C8	2.50	0.47
24:YA:1826:G:OP1	26:YD:224:ALA:N	2.46	0.47
24:YA:2502:G:H5"	24:YA:2503:A:H5"	1.97	0.47
24:YA:2804:C:H2'	24:YA:2805:G:C8	2.50	0.47
24:YA:2853:C:H2'	24:YA:2854:G:C8	2.49	0.47
36:YR:38:VAL:HG12	36:YR:112:ALA:HB2	1.97	0.47
40:YV:23:GLU:OE2	40:YV:89:GLN:NE2	2.40	0.47
40:YV:52:VAL:O	40:YV:53:GLU:HG2	2.15	0.47
1:QA:1066:C:H3'	1:QA:1067:A:C8	2.50	0.47
1:QA:1329:A:N7	21:QU:7:ARG:NH2	2.61	0.47
13:QM:16:ASP:N	13:QM:16:ASP:OD1	2.47	0.47
24:RA:576:U:OP1	24:RA:2503:A:OP1	2.32	0.47
24:RA:674:G:H1'	28:RF:74:ARG:HD3	1.97	0.47
24:RA:1167:U:H2'	24:RA:1168:G:H8	1.79	0.47
25:RB:77:U:P	44:RZ:19:ARG:HH22	2.38	0.47
26:RD:158:ALA:O	26:RD:196:VAL:HG21	2.15	0.47
37:RS:83:LYS:HE2	37:RS:109:GLY:HA3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:287:U:H2'	1:XA:288:A:H8	1.80	0.47
1:XA:552:U:H2'	1:XA:553:A:C8	2.50	0.47
1:XA:745:C:OP1	1:XA:851:G:O2'	2.33	0.47
5:XE:135:THR:O	5:XE:139:LEU:HG	2.15	0.47
24:YA:270(R):G:H2'	24:YA:270(S):G:H8	1.80	0.47
24:YA:305:U:H2'	24:YA:306:U:C6	2.50	0.47
24:YA:441:U:H2'	24:YA:442:G:C8	2.50	0.47
24:YA:634:C:H2'	24:YA:635:C:C6	2.50	0.47
24:YA:2306:C:H2'	24:YA:2307:G:N2	2.30	0.47
24:YA:2749:A:OP1	30:YH:4:ILE:HG23	2.15	0.47
24:YA:2808:U:C2	24:YA:2892:A:N6	2.83	0.47
45:Y0:27:GLU:HG3	45:Y0:68:GLU:HA	1.96	0.47
1:QA:318:G:H2'	1:QA:319:G:H8	1.79	0.46
1:QA:782:A:H62	1:QA:800:G:N2	2.10	0.46
1:QA:790:A:H2'	1:QA:791:G:C8	2.49	0.46
1:QA:1325:C:H4'	21:QU:17:THR:HG21	1.97	0.46
3:QC:62:ASP:O	3:QC:97:LYS:HB3	2.15	0.46
4:QD:64:LEU:HD12	4:QD:198:VAL:HG11	1.97	0.46
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.80	0.46
24:RA:84:A:OP2	43:RY:97:ARG:NH2	2.48	0.46
24:RA:575:A:OP2	24:RA:2499:C:O2'	2.27	0.46
24:RA:822:U:H2'	24:RA:823:G:C8	2.50	0.46
24:RA:1050:A:H2'	24:RA:1051:G:O4'	2.15	0.46
24:RA:1141:U:H1'	24:RA:1142(A):A:C6	2.50	0.46
24:RA:1666:G:N3	33:RO:3:GLN:NE2	2.63	0.46
24:RA:2025:C:H2'	24:RA:2026:C:C6	2.49	0.46
24:RA:2102:U:H2'	24:RA:2103:C:C6	2.50	0.46
24:RA:2291:U:O2'	24:RA:2374:C:O2	2.33	0.46
26:RD:247:ALA:HA	26:RD:253:GLN:HA	1.96	0.46
43:RY:77:PRO:HD3	43:RY:106:LEU:HD13	1.97	0.46
1:XA:1279:A:O2'	1:XA:1282:C:N4	2.49	0.46
2:XB:12:GLU:N	2:XB:12:GLU:OE2	2.48	0.46
4:XD:105:VAL:HG23	4:XD:117:ALA:HB1	1.97	0.46
6:XF:25:ILE:O	6:XF:28:ARG:HG3	2.15	0.46
24:YA:86:C:H4'	24:YA:104:U:H1'	1.97	0.46
24:YA:1136:G:H2'	24:YA:1137:G:C8	2.50	0.46
24:YA:1824:G:N3	26:YD:254:THR:OG1	2.47	0.46
25:YB:31:C:O2'	25:YB:53:A:N1	2.43	0.46
29:YG:109:VAL:HG13	49:Y4:33:VAL:HG21	1.98	0.46
1:QA:737:A:H2'	1:QA:738:C:C6	2.49	0.46
1:QA:1111:A:N1	3:QC:177:THR:HG22	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:46:LYS:HG3	12:QL:48:PRO:HD3	1.97	0.46
24:RA:44:A:H2'	24:RA:45:G:C8	2.50	0.46
24:RA:1539:G:H2'	24:RA:1540:G:H8	1.81	0.46
24:RA:2023:G:H5'	24:RA:2617:C:H4'	1.97	0.46
24:RA:2245:U:C5'	24:RA:2246:G:H5'	2.42	0.46
24:RA:2461:C:H2'	24:RA:2462:U:C6	2.50	0.46
24:RA:2471:C:H3'	24:RA:2472:G:H8	1.80	0.46
24:RA:2870:C:H2'	24:RA:2871:C:O4'	2.15	0.46
1:XA:280:C:H3'	1:XA:281:G:H5'	1.97	0.46
1:XA:851:G:H2'	1:XA:852:G:C8	2.50	0.46
13:XM:13:LYS:HB3	13:XM:44:ARG:HH21	1.80	0.46
24:YA:363(B):G:H2'	24:YA:363(C):G:C8	2.51	0.46
24:YA:1055:G:O2'	24:YA:1085:A:N1	2.39	0.46
24:YA:2443:C:H2'	24:YA:2444:G:H8	1.79	0.46
24:YA:2816:C:H2'	24:YA:2817:G:H8	1.80	0.46
1:QA:664:G:H22	1:QA:741:G:H1	1.62	0.46
24:RA:226:G:H2'	24:RA:227:A:C8	2.51	0.46
24:RA:232:G:OP2	24:RA:232:G:H8	1.99	0.46
24:RA:1084:A:H5"	24:RA:1085:A:C8	2.50	0.46
24:RA:2361:A:O5'	53:R8:27:THR:OG1	2.33	0.46
33:RO:98:VAL:HG12	33:RO:117:LEU:HB3	1.97	0.46
1:XA:92:G:H2'	1:XA:93:U:C2	2.50	0.46
1:XA:188:U:H2'	1:XA:189:U:H5"	1.98	0.46
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.79	0.46
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.50	0.46
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.97	0.46
5:XE:105:VAL:HG13	5:XE:106:PRO:HD3	1.96	0.46
5:XE:137:GLU:OE1	5:XE:140:ARG:NH1	2.48	0.46
10:XJ:79:ARG:HE	10:XJ:82:ILE:HD12	1.80	0.46
11:XK:17:GLY:HA2	11:XK:35:PRO:HD3	1.97	0.46
24:YA:857:C:OP1	45:Y0:69:PHE:HD2	1.99	0.46
24:YA:2199:A:OP1	46:Y1:50:ARG:NH2	2.48	0.46
26:YD:44:ASN:HB3	26:YD:49:ILE:HA	1.97	0.46
28:YF:77:ASP:OD1	28:YF:77:ASP:N	2.46	0.46
1:QA:711:G:H2'	1:QA:712:A:H8	1.79	0.46
24:RA:65:C:H2'	24:RA:66:C:H6	1.80	0.46
24:RA:414:C:H2'	24:RA:415:A:C8	2.50	0.46
24:RA:1654:A:P	36:RR:2:ARG:HG2	2.56	0.46
24:RA:1657:C:O3'	27:RE:133:LYS:CG	2.48	0.46
24:RA:2572:A:H2'	27:RE:144:ARG:HD3	1.97	0.46
24:RA:2693:A:H2'	24:RA:2694:G:H8	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RD:72:LYS:HG3	26:RD:97:TYR:CE2	2.51	0.46
29:RG:31:VAL:O	29:RG:33:ARG:NH1	2.40	0.46
1:XA:22:G:H2'	1:XA:23:C:C6	2.51	0.46
1:XA:753:A:H4'	1:XA:754:C:O5'	2.14	0.46
24:YA:767:U:H2'	24:YA:768:G:H8	1.81	0.46
24:YA:1353:A:H2'	24:YA:1354:A:C8	2.50	0.46
24:YA:2612:C:OP2	50:Y5:2:ALA:N	2.48	0.46
27:YE:49:LEU:HA	27:YE:49:LEU:HD12	1.71	0.46
36:YR:56:LYS:HE3	36:YR:88:ARG:HA	1.98	0.46
40:YV:38:LEU:HD11	40:YV:57:VAL:HG12	1.97	0.46
1:QA:328:C:H4'	1:QA:329:A:H5'	1.97	0.46
1:QA:703:G:H4'	1:QA:704:A:O5'	2.14	0.46
1:QA:735:C:H5'	18:QR:71:LYS:HE3	1.98	0.46
2:QB:178:ARG:HA	2:QB:178:ARG:HD3	1.69	0.46
13:QM:92:HIS:CE1	13:QM:98:VAL:HG21	2.50	0.46
24:RA:511:U:H4'	24:RA:1235:G:H4'	1.97	0.46
24:RA:526:A:OP1	24:RA:527:C:OP1	2.33	0.46
24:RA:638:G:H2'	24:RA:639:U:C6	2.50	0.46
24:RA:1539:G:H2'	24:RA:1540:G:C8	2.51	0.46
24:RA:2246:G:H2'	24:RA:2247:A:C8	2.51	0.46
40:RV:38:LEU:HD21	40:RV:57:VAL:HG13	1.96	0.46
1:XA:712:A:H2'	1:XA:713:G:C8	2.50	0.46
1:XA:1101:A:N6	2:XB:176:GLU:OE2	2.48	0.46
8:XH:9:MET:O	8:XH:13:ILE:HG12	2.15	0.46
24:YA:809:G:H2'	24:YA:810:U:C6	2.50	0.46
24:YA:1012:U:H2'	24:YA:1013:C:OP2	2.14	0.46
24:YA:2461:C:H2'	24:YA:2462:U:C6	2.50	0.46
40:YV:24:LYS:HA	40:YV:92:THR:HG23	1.96	0.46
1:QA:973:G:H3'	1:QA:974:A:H5"	1.96	0.46
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.50	0.46
1:QA:1287:A:H2'	1:QA:1288:A:H8	1.80	0.46
3:QC:59:ARG:NH1	3:QC:62:ASP:H	2.12	0.46
10:QJ:13:HIS:HA	10:QJ:16:LEU:HB2	1.98	0.46
24:RA:23:G:OP1	24:RA:504:U:N3	2.40	0.46
24:RA:380:U:H2'	24:RA:381:G:C8	2.50	0.46
24:RA:514:A:H2'	24:RA:515:A:C8	2.51	0.46
24:RA:1297:C:H2'	24:RA:1298:C:H6	1.81	0.46
24:RA:2086:U:H2'	24:RA:2087:G:C8	2.51	0.46
24:RA:2341:G:H2'	24:RA:2342:C:C6	2.50	0.46
45:R0:18:ALA:O	45:R0:20:ARG:NH1	2.44	0.46
1:XA:79:G:H2'	1:XA:80:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:755:G:OP2	15:XO:65:ARG:HD2	2.15	0.46
1:XA:1055:A:H62	1:XA:1200:C:H42	1.63	0.46
11:XK:86:GLY:N	11:XK:112:THR:OG1	2.46	0.46
24:YA:195:A:H5"	24:YA:196:A:O5'	2.16	0.46
24:YA:1333:C:H2'	24:YA:1334:G:H8	1.81	0.46
29:YG:81:LYS:O	29:YG:82:LEU:HB2	2.15	0.46
51:Y6:11:LEU:HB2	51:Y6:21:TYR:HB2	1.98	0.46
22:XV:54:G:O2'	22:XV:55:U:O5'	2.30	0.46
1:QA:348:G:H2'	1:QA:349:A:H8	1.80	0.46
1:QA:539:A:H2'	1:QA:540:G:H8	1.81	0.46
1:QA:1479:C:H2'	1:QA:1480:G:C8	2.51	0.46
2:QB:73:THR:O	2:QB:78:GLN:NE2	2.44	0.46
24:RA:1173:G:N2	24:RA:1175:U:O4	2.47	0.46
24:RA:1590:U:H2'	24:RA:1591:G:H8	1.80	0.46
31:RI:74:ASN:OD1	31:RI:74:ASN:N	2.47	0.46
47:R2:18:PRO:HA	47:R2:21:LEU:HB2	1.98	0.46
49:R4:40:HIS:CE1	49:R4:42:PHE:HB3	2.50	0.46
1:XA:36:C:H2'	1:XA:37:U:O4'	2.15	0.46
1:XA:312:C:H2'	1:XA:313:A:C8	2.51	0.46
1:XA:464:G:C6	1:XA:466:C:H5'	2.50	0.46
2:XB:192:SER:OG	2:XB:193:ASP:N	2.49	0.46
12:XL:89:ARG:HD2	12:XL:97:ARG:HA	1.97	0.46
15:XO:7:GLU:HA	15:XO:10:LYS:HD3	1.98	0.46
24:YA:1499:C:H2'	24:YA:1500:G:H8	1.81	0.46
24:YA:2086:U:H2'	24:YA:2087:G:C8	2.50	0.46
28:YF:32:LEU:HD11	28:YF:105:VAL:HG13	1.97	0.46
47:Y2:28:LYS:HD2	47:Y2:53:LEU:HD11	1.98	0.46
1:QA:224:C:H2'	1:QA:225:C:C6	2.51	0.46
24:RA:64:A:O3'	42:RX:71:GLY:HA3	2.16	0.46
24:RA:1326:U:HO2'	24:RA:2010:G:HO2'	1.63	0.46
24:RA:1819:A:H4'	24:RA:1820:U:O5'	2.16	0.46
24:RA:2365:G:OP1	45:R0:55:ARG:HD2	2.16	0.46
24:RA:2630:G:H2'	24:RA:2631:G:C8	2.50	0.46
39:RU:90:VAL:HG13	40:RV:39:LEU:HD22	1.97	0.46
1:XA:173:U:H5"	1:XA:197:A:O4'	2.15	0.46
1:XA:359:U:H5	1:XA:359:U:OP2	1.99	0.46
1:XA:711:G:H2'	1:XA:712:A:C8	2.51	0.46
20:XT:53:LEU:HD21	20:XT:100:ILE:HB	1.98	0.46
24:YA:834:C:H2'	24:YA:835:A:H8	1.80	0.46
24:YA:1220:A:H5'	24:YA:1221:C:OP2	2.16	0.46
24:YA:1332:G:N2	24:YA:1610:A:N7	2.56	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2406:U:C2	34:YP:72:PRO:HB2	2.51	0.46
24:YA:2476:A:H2'	24:YA:2477:C:C6	2.51	0.46
24:YA:2618:G:H21	27:YE:150:VAL:HG21	1.80	0.46
29:YG:15:VAL:HG13	29:YG:175:LEU:HB2	1.98	0.46
1:QA:1285:A:H1'	1:QA:1286:A:OP2	2.16	0.46
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.51	0.46
22:QV:2:G:H2'	22:QV:3:G:C8	2.51	0.46
24:RA:84:A:N1	24:RA:98:G:O2'	2.38	0.46
24:RA:1045:A:O4'	24:RA:1111:A:N6	2.49	0.46
24:RA:2788:C:O2'	24:RA:2809:A:N3	2.47	0.46
28:RF:124:LEU:HB3	28:RF:193:VAL:HG23	1.98	0.46
29:RG:24:GLY:O	29:RG:26:GLN:NE2	2.49	0.46
31:RI:116:LEU:HD21	31:RI:119:PRO:HA	1.98	0.46
1:XA:244:U:H4'	1:XA:245:C:C5'	2.46	0.46
1:XA:1100:C:H3'	2:XB:96:ARG:HH21	1.81	0.46
1:XA:1233:G:O2'	1:XA:1365:G:OP1	2.32	0.46
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.51	0.46
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.50	0.46
1:XA:1440:C:H2'	1:XA:1441:G:O4'	2.16	0.46
24:YA:270(J):G:H1	24:YA:270(P):C:H42	1.62	0.46
24:YA:363(C):G:H2'	24:YA:363(D):G:H8	1.81	0.46
24:YA:729:G:P	26:YD:13:ARG:HD3	2.55	0.46
24:YA:1191:G:OP1	34:YP:18:ARG:NH2	2.49	0.46
24:YA:1825:A:H4'	26:YD:233:HIS:HE1	1.81	0.46
35:YQ:58:PHE:HD2	35:YQ:61:GLY:HA3	1.80	0.46
45:Y0:38:VAL:HB	45:Y0:59:LEU:HB2	1.98	0.46
1:QA:106:C:H2'	1:QA:107:G:H8	1.80	0.46
1:QA:475:G:H2'	1:QA:476:G:H8	1.80	0.46
1:QA:638:G:H2'	1:QA:639:G:H8	1.80	0.46
9:QI:10:ARG:O	9:QI:13:ALA:HB3	2.17	0.46
12:QL:103:GLY:N	12:QL:107:ALA:O	2.50	0.46
14:QN:29:ARG:HH22	14:QN:42:ILE:H	1.63	0.46
24:RA:639:U:H2'	24:RA:640:C:H6	1.81	0.46
24:RA:971:C:H2'	24:RA:972:G:O4'	2.16	0.46
24:RA:2625:G:H2'	24:RA:2626:C:C6	2.51	0.46
27:RE:36:ARG:HG3	27:RE:47:VAL:HG12	1.98	0.46
1:XA:119:A:H4'	1:XA:120:A:C8	2.51	0.46
1:XA:556:C:H2'	1:XA:557:G:H8	1.81	0.46
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.51	0.46
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.81	0.46
5:XE:78:HIS:HB2	8:XH:104:ARG:HB3	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:570:G:H2'	24:YA:2030:A:C5	2.51	0.46
24:YA:597:U:H2'	24:YA:598:G:H8	1.80	0.46
24:YA:1359:A:N6	24:YA:1372:U:N3	2.37	0.46
24:YA:2572:A:H2'	27:YE:144:ARG:HD3	1.98	0.46
36:YR:79:LEU:HD12	36:YR:83:ILE:HB	1.98	0.46
46:Y1:18:ILE:HG12	46:Y1:37:ILE:HG12	1.98	0.46
49:Y4:16:CYS:HB3	49:Y4:20:ASN:HB3	1.97	0.46
24:RA:223:A:O2'	24:RA:420:C:O2	2.34	0.45
24:RA:1435:G:H2'	24:RA:1436:G:C8	2.51	0.45
30:RH:91:GLY:HA3	30:RH:94:TYR:CD2	2.51	0.45
30:RH:137:ASP:HB3	30:RH:140:LYS:HB3	1.98	0.45
1:XA:997:U:H2'	1:XA:998:G:H8	1.79	0.45
1:XA:1203:C:H2'	1:XA:1204:A:H8	1.81	0.45
1:XA:1240:U:OP1	7:XG:119:ARG:NH2	2.49	0.45
8:XH:41:ARG:NH2	8:XH:123:GLU:OE2	2.48	0.45
24:YA:126:A:H61	52:Y7:42:LEU:HD12	1.81	0.45
24:YA:619:G:H3'	24:YA:620:G:H21	1.80	0.45
24:YA:963:U:H1'	24:YA:2250:G:O6	2.16	0.45
24:YA:1178:C:H2'	24:YA:1179:C:C6	2.51	0.45
27:YE:45:THR:O	27:YE:83:ASP:N	2.46	0.45
35:YQ:48:GLU:OE2	35:YQ:51:ARG:NH2	2.36	0.45
41:YW:69:LEU:HD23	41:YW:107:LEU:HD13	1.97	0.45
44:YZ:52:SER:O	44:YZ:52:SER:OG	2.29	0.45
22:XV:24:C:H2'	22:XV:25:G:C8	2.51	0.45
1:QA:10:A:H2'	1:QA:11:G:H8	1.82	0.45
1:QA:397:A:N7	1:QA:547:A:O2'	2.48	0.45
1:QA:711:G:OP2	6:QF:54:LYS:NZ	2.48	0.45
1:QA:921:U:O2'	5:QE:19:MET:O	2.29	0.45
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.50	0.45
11:QK:91:ARG:O	11:QK:95:ILE:HG13	2.16	0.45
24:RA:570:G:H2'	24:RA:2030:A:C5	2.51	0.45
24:RA:840:C:H2'	24:RA:841:A:C8	2.51	0.45
24:RA:1246:A:OP1	34:RP:15:ARG:NH2	2.44	0.45
24:RA:1519:G:H3'	24:RA:1520:U:H6	1.80	0.45
24:RA:1676:A:C2	24:RA:1993:U:H5'	2.52	0.45
24:RA:1791:A:H4'	26:RD:206:LEU:HB2	1.98	0.45
24:RA:1990:C:H2'	24:RA:1991:U:C6	2.51	0.45
25:RB:37:C:O2	37:RS:95:HIS:NE2	2.49	0.45
40:RV:4:ILE:HG22	40:RV:39:LEU:HD13	1.97	0.45
53:R8:54:GLU:O	53:R8:58:ILE:HG13	2.16	0.45
1:XA:164:U:H2'	1:XA:165:C:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1189:C:H5”	3:XC:5:ILE:HG21	1.99	0.45
1:XA:1228:C:OP1	13:XM:115:LYS:HG2	2.16	0.45
4:XD:104:VAL:O	4:XD:108:LEU:HG	2.16	0.45
9:XI:111:ARG:HH12	9:XI:113:LYS:HA	1.81	0.45
24:YA:593:G:H2’	24:YA:594:U:C6	2.51	0.45
24:YA:855:G:H1	24:YA:922:U:H3	1.64	0.45
24:YA:1580:A:H5”	24:YA:1581:G:C8	2.51	0.45
24:YA:2124:G:H3’	24:YA:2125:G:C8	2.50	0.45
1:QA:22:G:OP1	1:QA:561:U:H1’	2.16	0.45
1:QA:382:A:H2’	1:QA:383:A:C8	2.52	0.45
1:QA:477:G:H2’	1:QA:478:A:H8	1.80	0.45
1:QA:486:U:H2’	1:QA:487:A:C8	2.52	0.45
1:QA:1400:C:O4’	23:QX:21:G:O6	2.34	0.45
7:QG:100:ALA:O	7:QG:104:LEU:HG	2.15	0.45
10:QJ:92:THR:OG1	10:QJ:93:GLY:N	2.48	0.45
24:RA:222:A:H62	24:RA:232:G:N2	2.14	0.45
24:RA:558:G:OP1	32:RN:112:LEU:N	2.50	0.45
24:RA:1464:C:O2’	24:RA:1528:A:H8	1.99	0.45
24:RA:2567:G:H2’	24:RA:2568:C:C6	2.51	0.45
25:RB:16:G:H2’	25:RB:17:C:H6	1.82	0.45
35:RQ:4:PRO:HG3	35:RQ:69:PHE:HE2	1.82	0.45
1:XA:139:G:H2’	1:XA:140:A:H8	1.80	0.45
1:XA:738:C:OP1	6:XF:2:ARG:NH1	2.46	0.45
1:XA:885:G:H2’	1:XA:886:G:H8	1.81	0.45
4:XD:20:TYR:CD1	4:XD:106:TYR:OH	2.65	0.45
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.98	0.45
24:YA:242:G:H1’	24:YA:243:U:OP2	2.17	0.45
24:YA:304:G:H2’	24:YA:305:U:C6	2.51	0.45
24:YA:755:C:H2’	24:YA:756:C:C6	2.51	0.45
24:YA:760:G:H2’	24:YA:761:A:O4’	2.16	0.45
24:YA:1678:G:H2’	24:YA:1679:U:H6	1.82	0.45
1:QA:711:G:H2’	1:QA:712:A:C8	2.52	0.45
1:QA:1172:C:H2’	1:QA:1173:G:C8	2.50	0.45
1:QA:1298:C:H4’	1:QA:1299:A:C4	2.52	0.45
9:QI:47:LEU:HB2	9:QI:50:LEU:HD12	1.99	0.45
24:RA:83:G:H1	24:RA:102:G:HO2’	1.61	0.45
24:RA:250:G:H2’	24:RA:251:A:C8	2.51	0.45
24:RA:1490:A:O2’	26:RD:99:ASP:OD1	2.34	0.45
24:RA:1825:A:H2’	24:RA:1826:G:C8	2.51	0.45
28:RF:158:THR:HG23	28:RF:160:ASN:H	1.81	0.45
52:R7:13:ALA:HB2	52:R7:46:VAL:HG21	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:115:G:C6	1:XA:313:A:C6	3.04	0.45
1:XA:444:C:H2'	1:XA:445:G:C8	2.52	0.45
1:XA:1167:A:H2'	1:XA:1169:A:C8	2.52	0.45
1:XA:1313:U:H2'	1:XA:1314:C:C6	2.51	0.45
1:XA:1425:U:H3	1:XA:1475:G:H1	1.64	0.45
3:XC:134:ILE:O	3:XC:138:VAL:HG23	2.16	0.45
24:YA:503:A:H4'	24:YA:504:U:C5'	2.46	0.45
24:YA:820:A:H2'	24:YA:821:A:C8	2.52	0.45
24:YA:1490:A:O2'	26:YD:99:ASP:OD1	2.35	0.45
24:YA:1652:A:OP1	36:YR:8:ARG:NH1	2.45	0.45
24:YA:2845:G:H2'	24:YA:2846:G:C8	2.52	0.45
37:YS:78:LEU:HD11	37:YS:108:GLY:HA3	1.98	0.45
37:YS:109:GLY:O	37:YS:110:LEU:HG	2.17	0.45
22:XV:36:G:H2'	22:XV:37:G:H8	1.81	0.45
1:QA:56:U:H2'	1:QA:57:G:H8	1.81	0.45
1:QA:59:A:H3'	1:QA:331:G:H22	1.81	0.45
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.51	0.45
1:QA:1060:C:H2'	1:QA:1061:G:C8	2.51	0.45
4:QD:98:GLU:HA	4:QD:103:ASN:HD22	1.82	0.45
6:QF:97:PHE:HB2	18:QR:32:ARG:HE	1.81	0.45
24:RA:784:A:O2'	24:RA:785:G:H5"	2.15	0.45
24:RA:1267:U:H2'	24:RA:1268:A:H8	1.81	0.45
24:RA:1302:A:H5'	24:RA:1608:A:OP2	2.16	0.45
24:RA:2021:C:OP1	50:R5:12:SER:OG	2.26	0.45
24:RA:2306:C:H2'	24:RA:2307:G:N2	2.31	0.45
24:RA:2657:A:O2'	30:RH:160:LYS:NZ	2.48	0.45
29:RG:63:ILE:HG13	29:RG:64:THR:HG23	1.97	0.45
34:RP:115:LEU:HA	34:RP:134:ALA:HB2	1.99	0.45
53:R8:62:LEU:HA	53:R8:64:TYR:HD2	1.81	0.45
1:XA:489:C:H5"	4:XD:132:ARG:HH22	1.81	0.45
1:XA:519:C:H2'	1:XA:520:A:C8	2.52	0.45
1:XA:950:U:H2'	1:XA:951:G:C8	2.51	0.45
4:XD:3:ARG:HD3	4:XD:118:ARG:HH21	1.80	0.45
24:YA:231:C:H3'	24:YA:232:G:C8	2.51	0.45
24:YA:746:A:O2'	24:YA:2611:U:O2'	2.25	0.45
24:YA:1297:C:H2'	24:YA:1298:C:H6	1.81	0.45
24:YA:1336:A:H2'	24:YA:1337:G:C8	2.52	0.45
24:YA:1609:A:N1	24:YA:1616:A:C6	2.84	0.45
24:YA:2377:A:H2'	24:YA:2378:A:C8	2.51	0.45
24:YA:2546:U:H4'	24:YA:2566:A:H2	1.81	0.45
34:YP:49:ARG:HH11	53:Y8:58:ILE:HG22	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:Y3:40:THR:HG22	48:Y3:42:ALA:H	1.82	0.45
1:QA:299:G:H2'	1:QA:300:A:C8	2.52	0.45
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.17	0.45
12:QL:91:LYS:HD3	12:QL:91:LYS:HA	1.78	0.45
13:QM:39:ILE:HG21	13:QM:56:LEU:HD21	1.99	0.45
22:QV:24:C:H2'	22:QV:25:G:C8	2.52	0.45
24:RA:597:U:H2'	24:RA:598:G:C8	2.51	0.45
24:RA:1259:G:H2'	24:RA:1260:G:H8	1.81	0.45
24:RA:1292:U:H2'	24:RA:1293:C:C6	2.52	0.45
24:RA:1542:G:H5"	24:RA:1543:A:OP2	2.17	0.45
24:RA:2537:U:H2'	24:RA:2538:C:C6	2.51	0.45
34:RP:92:GLU:HA	34:RP:123:LEU:HD11	1.98	0.45
1:XA:74:C:H2'	1:XA:75:C:C6	2.51	0.45
1:XA:272:C:H2'	1:XA:273:A:C8	2.48	0.45
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.52	0.45
3:XC:190:ARG:H	3:XC:195:VAL:HG13	1.82	0.45
4:XD:74:GLN:O	4:XD:78:LEU:HG	2.16	0.45
11:XK:18:ARG:HG3	11:XK:35:PRO:HA	1.98	0.45
24:YA:186:G:H2'	24:YA:187:G:H8	1.81	0.45
24:YA:270(U):C:H2'	24:YA:270(V):G:H8	1.82	0.45
24:YA:852:G:H2'	24:YA:853:G:C8	2.52	0.45
24:YA:2591:C:H2'	24:YA:2592:G:C8	2.51	0.45
47:Y2:45:SER:OG	47:Y2:46:GLN:N	2.49	0.45
1:QA:7:G:C6	1:QA:298:A:C2	3.05	0.45
1:QA:186(F):C:H2'	1:QA:187:C:O4'	2.16	0.45
1:QA:924:C:H2'	1:QA:925:G:C8	2.52	0.45
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.34	0.45
1:QA:1066:C:H3'	1:QA:1067:A:H8	1.82	0.45
1:QA:1320:C:O2	19:QS:36:ARG:NH2	2.50	0.45
1:QA:1469:G:H2'	1:QA:1470:G:H8	1.82	0.45
2:QB:69:LEU:HD23	2:QB:159:PRO:HB3	1.98	0.45
4:QD:49:ARG:HD3	4:QD:50:ARG:H	1.81	0.45
9:QI:67:GLY:O	9:QI:73:GLN:NE2	2.50	0.45
24:RA:1065:U:O2	24:RA:1074:G:N1	2.50	0.45
24:RA:1085:A:O2'	24:RA:1086:A:OP1	2.28	0.45
24:RA:1231:G:H2'	24:RA:1232:G:H8	1.81	0.45
24:RA:2064:C:H2'	24:RA:2065:C:C6	2.51	0.45
24:RA:2183:C:H2'	24:RA:2184:G:H8	1.81	0.45
24:RA:2845:G:H2'	24:RA:2846:G:H8	1.82	0.45
25:RB:28:C:H2'	25:RB:29:A:C8	2.52	0.45
25:RB:44:G:H1'	25:RB:47:C:H42	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RN:6:PRO:HG3	32:RN:41:ASP:HB2	1.98	0.45
32:RN:27:ALA:HA	32:RN:30:ILE:HD12	1.98	0.45
35:RQ:111:GLU:OE1	35:RQ:133:ARG:NH2	2.50	0.45
49:R4:26:SER:OG	49:R4:28:LYS:O	2.34	0.45
1:XA:227:G:H2'	1:XA:228:A:C8	2.51	0.45
1:XA:686:U:H2'	1:XA:687:A:C8	2.52	0.45
1:XA:782:A:H62	1:XA:800:G:H21	1.65	0.45
1:XA:1256:A:H4'	1:XA:1258:G:C4	2.52	0.45
1:XA:1305:G:O2'	1:XA:1332:A:N6	2.50	0.45
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.52	0.45
9:XI:42:ARG:NH1	9:XI:71:SER:OG	2.49	0.45
24:YA:861:A:N3	25:YB:79:C:O2'	2.50	0.45
24:YA:1063:G:H2'	24:YA:1064:C:O4'	2.17	0.45
24:YA:1226:G:OP1	40:YV:69:LYS:NZ	2.45	0.45
24:YA:2059:A:H5'	24:YA:2060:A:OP2	2.17	0.45
24:YA:2215:G:H2'	24:YA:2216:G:H8	1.81	0.45
25:YB:66:A:O2'	25:YB:67:G:O5'	2.32	0.45
26:YD:108:PRO:HB3	26:YD:143:HIS:CE1	2.52	0.45
28:YF:195:ASP:OD1	28:YF:195:ASP:N	2.46	0.45
29:YG:10:LYS:NZ	29:YG:14:GLU:OE1	2.44	0.45
53:Y8:62:LEU:HA	53:Y8:64:TYR:HD1	1.81	0.45
1:QA:113:G:H2'	1:QA:114:U:C6	2.52	0.45
1:QA:184:G:H2'	1:QA:185:A:H8	1.82	0.45
1:QA:918:A:H2'	1:QA:919:A:C8	2.52	0.45
1:QA:1290:G:H4'	7:QG:37:ASN:HD21	1.82	0.45
7:QG:16:LEU:HD21	9:QI:45:ALA:N	2.31	0.45
8:QH:75:ARG:H	8:QH:75:ARG:HG2	1.66	0.45
24:RA:372:G:O2'	24:RA:373:U:O5'	2.32	0.45
24:RA:1206:G:H2'	24:RA:1207:C:C6	2.52	0.45
24:RA:1210:A:H4'	24:RA:1211:U:O5'	2.16	0.45
24:RA:1592:C:H2'	24:RA:1593:G:C8	2.51	0.45
24:RA:1637:A:H2'	24:RA:1638:C:C6	2.52	0.45
24:RA:1667:G:O2'	24:RA:1991:U:O4	2.34	0.45
25:RB:30:C:O2'	25:RB:57:A:N1	2.50	0.45
27:RE:143:ASN:HB2	27:RE:147:PRO:HD2	1.99	0.45
36:RR:74:LYS:O	36:RR:75:LEU:HB3	2.16	0.45
44:RZ:13:GLU:HB3	44:RZ:18:LEU:HD21	1.99	0.45
1:XA:1273:G:H3'	1:XA:1274:G:C8	2.52	0.45
21:XU:10:ARG:HA	21:XU:13:ILE:HG12	1.99	0.45
24:YA:1769:G:H2'	24:YA:1770:G:H8	1.82	0.45
24:YA:2513:G:H2'	24:YA:2514:U:C6	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:639:G:H2'	1:QA:640:A:C8	2.52	0.45
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.45
1:QA:1145:C:H4'	1:QA:1146:A:C8	2.52	0.45
1:QA:1349:A:H62	1:QA:1373:G:H21	1.63	0.45
3:QC:189:ALA:HB3	3:QC:196:LEU:HB2	1.99	0.45
13:QM:74:VAL:O	13:QM:78:ILE:HG12	2.16	0.45
24:RA:300:A:P	43:RY:84:ARG:HH22	2.39	0.45
24:RA:1152:C:H4'	39:RU:77:SER:HA	1.98	0.45
24:RA:1336:A:H2'	24:RA:1337:G:C8	2.52	0.45
24:RA:1569:A:H2'	24:RA:1570:A:C8	2.51	0.45
24:RA:1841:U:H2'	24:RA:1842:G:H8	1.82	0.45
24:RA:2310:A:N6	29:RG:79:ASN:OD1	2.49	0.45
24:RA:2647:U:H2'	24:RA:2648:C:C6	2.52	0.45
30:RH:151:ILE:O	30:RH:153:LYS:N	2.50	0.45
44:RZ:94:GLU:HG3	44:RZ:95:PRO:HD3	1.99	0.45
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.52	0.45
1:XA:1315:U:O2'	1:XA:1360:A:N3	2.44	0.45
4:XD:116:GLN:O	4:XD:120:LEU:HG	2.17	0.45
5:XE:5:ASP:N	5:XE:5:ASP:OD1	2.50	0.45
7:XG:116:ALA:O	7:XG:120:ILE:HG12	2.16	0.45
18:XR:59:SER:N	18:XR:62:GLU:OE2	2.41	0.45
24:YA:519:U:H2'	24:YA:520:G:H8	1.81	0.45
24:YA:703:U:H3	24:YA:728:G:H1	1.65	0.45
24:YA:870:A:OP1	35:YQ:6:ARG:NH2	2.46	0.45
24:YA:1201:C:H2'	24:YA:1202:C:H6	1.80	0.45
24:YA:2036:C:H2'	24:YA:2037:G:C8	2.51	0.45
24:YA:2051:A:H4'	27:YE:141:ILE:HG12	1.98	0.45
24:YA:2466:C:H5"	54:Y9:6:SER:HB3	1.99	0.45
26:YD:17:THR:HB	26:YD:205:VAL:H	1.81	0.45
29:YG:167:GLU:OE2	29:YG:167:GLU:N	2.48	0.45
1:QA:12:U:H4'	1:QA:526:C:H4'	1.99	0.45
1:QA:123:C:H2'	1:QA:124:G:H8	1.82	0.45
1:QA:281:G:H8	1:QA:281:G:OP2	2.00	0.45
1:QA:297:G:H4'	1:QA:557:G:H4'	1.99	0.45
1:QA:444:C:H2'	1:QA:445:G:C8	2.52	0.45
1:QA:743:U:H2'	1:QA:744:C:C6	2.52	0.45
1:QA:1481:U:H2'	1:QA:1482:G:C8	2.51	0.45
8:QH:10:LEU:HD21	8:QH:85:ARG:HB2	1.99	0.45
24:RA:29:U:H2'	24:RA:30:G:H8	1.81	0.45
24:RA:212:G:H2'	24:RA:213:A:C8	2.51	0.45
24:RA:680:G:H2'	24:RA:681:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1310:G:OP2	52:R7:9:ARG:NE	2.33	0.45
24:RA:1430:C:H2'	24:RA:1431:U:C6	2.52	0.45
24:RA:2867:G:O2'	24:RA:2868:A:H8	2.00	0.45
29:RG:165:THR:HG23	29:RG:168:GLU:H	1.81	0.45
31:RI:14:ASP:C	31:RI:16:GLY:H	2.21	0.45
31:RI:58:LEU:HA	31:RI:61:ARG:HE	1.80	0.45
32:RN:34:LEU:O	32:RN:49:GLY:HA3	2.17	0.45
36:RR:45:ARG:HH21	36:RR:97:VAL:HG21	1.81	0.45
40:RV:43:GLU:HG3	40:RV:44:LYS:H	1.82	0.45
44:RZ:163:LEU:HD22	44:RZ:167:PRO:HG3	1.98	0.45
1:XA:1510:U:H2'	1:XA:1511:G:H8	1.82	0.45
10:XJ:69:ASN:O	10:XJ:70:ARG:NE	2.49	0.45
24:YA:48:G:N2	24:YA:177:G:OP2	2.50	0.45
24:YA:262:A:N3	24:YA:430:G:O2'	2.34	0.45
24:YA:270(U):C:H2'	24:YA:270(V):G:C8	2.52	0.45
24:YA:436:C:H2'	24:YA:438:G:C8	2.51	0.45
24:YA:729:G:C5	26:YD:208:LYS:HB2	2.52	0.45
24:YA:1359:A:N6	24:YA:1372:U:C2	2.85	0.45
24:YA:2629:A:O2'	24:YA:2630:G:H5"	2.17	0.45
27:YE:92:THR:OG1	27:YE:93:VAL:N	2.49	0.45
29:YG:3:LEU:HD12	29:YG:3:LEU:HA	1.83	0.45
29:YG:118:ARG:HG3	29:YG:181:ARG:HD3	1.98	0.45
30:YH:88:LEU:HA	30:YH:130:ARG:HA	1.99	0.45
45:Y0:10:THR:HG22	45:Y0:12:ASN:H	1.82	0.45
1:QA:434:U:H2'	1:QA:435:C:C6	2.52	0.44
1:QA:1227:A:H5"	13:QM:111:LYS:NZ	2.32	0.44
4:QD:9:CYS:SG	4:QD:25:ARG:NH1	2.83	0.44
9:QI:64:THR:O	9:QI:64:THR:OG1	2.34	0.44
13:QM:47:ASP:OD1	13:QM:47:ASP:N	2.47	0.44
24:RA:660:G:H21	34:RP:12:ALA:HA	1.81	0.44
24:RA:872:A:H2'	24:RA:873:G:C8	2.52	0.44
24:RA:1107:G:H2'	24:RA:1108:U:H6	1.82	0.44
24:RA:1927:A:H2'	24:RA:1928:A:C8	2.52	0.44
24:RA:2647:U:H2'	24:RA:2648:C:H6	1.82	0.44
29:RG:125:PHE:HD2	29:RG:166:ASP:HB2	1.81	0.44
30:RH:85:LYS:HB3	30:RH:133:VAL:HB	1.98	0.44
34:RP:37:GLY:N	34:RP:40:SER:OG	2.50	0.44
37:RS:42:ASP:O	37:RS:43:GLU:HG2	2.17	0.44
44:RZ:4:ARG:HA	44:RZ:59:LEU:H	1.83	0.44
1:XA:97:U:H2'	1:XA:99:C:C6	2.52	0.44
1:XA:704:A:OP2	1:XA:704:A:H8	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1268:A:H2'	1:XA:1269:A:C8	2.52	0.44
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.16	0.44
4:XD:122:ARG:HD3	4:XD:136:PRO:HD3	2.00	0.44
13:XM:3:ARG:O	13:XM:57:ARG:NH1	2.50	0.44
24:YA:198:C:O2'	24:YA:199:A:H5'	2.17	0.44
24:YA:1113:U:H2'	24:YA:1114:G:H8	1.82	0.44
24:YA:1292:U:H2'	24:YA:1293:C:H6	1.82	0.44
24:YA:1923:U:H2'	24:YA:1924:C:C6	2.52	0.44
25:YB:3:C:H2'	25:YB:4:C:C6	2.52	0.44
25:YB:9:G:OP1	37:YS:15:ARG:NH1	2.36	0.44
25:YB:87:G:H22	25:YB:89:G:H3'	1.81	0.44
26:YD:254:THR:OG1	26:YD:254:THR:O	2.35	0.44
27:YE:69:LYS:HA	27:YE:69:LYS:HD3	1.76	0.44
38:YT:30:VAL:HG23	38:YT:86:ILE:HB	1.98	0.44
41:YW:35:ILE:O	41:YW:39:THR:OG1	2.33	0.44
43:YY:14:LEU:HB2	43:YY:75:ILE:HD11	1.98	0.44
1:QA:555:C:H2'	1:QA:556:C:C6	2.52	0.44
1:QA:851:G:H2'	1:QA:852:G:H8	1.80	0.44
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.52	0.44
1:QA:1419:G:H1	1:QA:1481:U:H3	1.63	0.44
3:QC:95:THR:HG22	3:QC:97:LYS:H	1.82	0.44
4:QD:131:ARG:NH1	4:QD:132:ARG:O	2.50	0.44
9:QI:17:VAL:HG22	9:QI:63:ILE:HD12	1.99	0.44
24:RA:39:C:H2'	24:RA:40:C:C6	2.52	0.44
24:RA:574:C:O2	27:RE:145:LYS:NZ	2.50	0.44
24:RA:724:U:H2'	24:RA:725:G:O4'	2.17	0.44
24:RA:872:A:H2'	24:RA:873:G:H8	1.82	0.44
24:RA:900:A:H3'	24:RA:901:A:H8	1.82	0.44
24:RA:1408:C:H2'	24:RA:1409:C:C6	2.52	0.44
24:RA:1899:G:O2'	24:RA:1900:A:H5"	2.17	0.44
24:RA:2121:G:H2'	24:RA:2122:U:C6	2.53	0.44
24:RA:2674:G:H2'	24:RA:2675:A:C8	2.53	0.44
24:RA:2857:G:N2	24:RA:2859:G:H3'	2.32	0.44
28:RF:11:VAL:HG21	28:RF:20:LEU:HD23	1.99	0.44
35:RQ:60:ARG:HH22	44:RZ:113:ALA:HB3	1.81	0.44
37:RS:16:ASN:OD1	37:RS:19:LYS:NZ	2.50	0.44
24:YA:841:A:H2'	24:YA:842:G:H8	1.83	0.44
24:YA:923:C:H2'	24:YA:924:C:C6	2.53	0.44
24:YA:1341:U:OP1	24:YA:1397:U:N3	2.35	0.44
24:YA:2246:G:H2'	24:YA:2247:A:C8	2.52	0.44
24:YA:2577:A:O4'	50:Y5:3:LYS:HB2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2836:U:H2'	24:YA:2837:G:H8	1.82	0.44
34:YP:84:ASN:HA	34:YP:115:LEU:O	2.18	0.44
1:QA:328:C:H1'	1:QA:329:A:OP2	2.17	0.44
1:QA:1004:A:P	1:QA:1025:U:H3	2.40	0.44
4:QD:68:TYR:CD2	4:QD:97:LEU:HD12	2.53	0.44
11:QK:96:ARG:HA	11:QK:99:GLN:HE21	1.82	0.44
24:RA:635:C:H2'	24:RA:636:G:O4'	2.17	0.44
24:RA:661:C:H5"	34:RP:15:ARG:NH2	2.31	0.44
24:RA:678:C:H2'	24:RA:679:C:H6	1.81	0.44
24:RA:923:C:H2'	24:RA:924:C:H6	1.82	0.44
24:RA:948:G:H2'	24:RA:949:C:H6	1.82	0.44
24:RA:1389:G:H2'	24:RA:1390:U:C6	2.52	0.44
24:RA:2487:G:H2'	24:RA:2488:A:C8	2.52	0.44
54:R9:27:CYS:SG	54:R9:28:GLU:N	2.91	0.44
1:XA:109:A:C6	1:XA:326:G:C6	3.05	0.44
1:XA:312:C:H2'	1:XA:313:A:H8	1.82	0.44
1:XA:505:G:H2'	1:XA:506:G:C8	2.52	0.44
1:XA:985:C:H2'	1:XA:986:A:H8	1.82	0.44
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.52	0.44
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.53	0.44
2:XB:43:ASP:O	2:XB:47:THR:OG1	2.33	0.44
24:YA:970:C:H2'	24:YA:971:C:C6	2.53	0.44
24:YA:1625:C:H2'	24:YA:1626:G:O4'	2.18	0.44
24:YA:1657:C:H2'	24:YA:1658:C:H6	1.82	0.44
24:YA:1657:C:H2'	24:YA:1658:C:C6	2.52	0.44
24:YA:1889:A:H2'	24:YA:1890:A:C8	2.51	0.44
24:YA:2364:C:H2'	24:YA:2365:G:O4'	2.17	0.44
45:Y0:38:VAL:HG21	45:Y0:45:PHE:HD2	1.83	0.44
22:XV:1:C:H2'	22:XV:2:G:H8	1.81	0.44
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.53	0.44
1:QA:1400:C:C4'	23:QX:21:G:C6	3.00	0.44
1:QA:1516:G:H2'	1:QA:1518:A:OP2	2.17	0.44
10:QJ:51:ARG:O	14:QN:45:ARG:NH1	2.50	0.44
13:QM:18:ALA:HA	13:QM:21:TYR:HD2	1.83	0.44
15:QO:67:LEU:HD12	15:QO:78:TYR:CE1	2.53	0.44
24:RA:20:C:H2'	24:RA:21:A:H8	1.82	0.44
24:RA:956:G:H2'	24:RA:957:A:H2'	1.99	0.44
24:RA:1140:C:OP1	32:RN:23:LEU:HB3	2.17	0.44
24:RA:1181:C:H2'	24:RA:1182:A:C8	2.52	0.44
24:RA:1205:U:C4	28:RF:171:PRO:HA	2.53	0.44
24:RA:1812:A:H2'	24:RA:1813:G:H8	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2564:A:H2'	24:RA:2565:A:C8	2.52	0.44
30:RH:67:LEU:O	30:RH:71:LEU:HG	2.18	0.44
36:RR:38:VAL:HG22	36:RR:112:ALA:HB2	1.98	0.44
40:RV:44:LYS:HB3	40:RV:45:THR:H	1.52	0.44
42:RX:21:PHE:HA	42:RX:26:TYR:HE1	1.80	0.44
1:XA:107:G:H3'	1:XA:108:G:H21	1.82	0.44
1:XA:161:A:H2'	1:XA:162:A:C8	2.53	0.44
1:XA:812:C:H1'	1:XA:813:U:OP2	2.18	0.44
1:XA:1238:A:H62	1:XA:1301:U:H3	1.65	0.44
5:XE:89:ILE:HD12	5:XE:121:LYS:O	2.18	0.44
5:XE:103:GLY:C	5:XE:106:PRO:HD2	2.38	0.44
24:YA:177:G:H3'	24:YA:178:G:H8	1.81	0.44
24:YA:247:G:H4'	24:YA:386:G:C5	2.52	0.44
24:YA:659:C:H2'	24:YA:660:G:C8	2.53	0.44
24:YA:956:G:OP2	35:YQ:85:LYS:NZ	2.50	0.44
24:YA:1332:G:H8	24:YA:1332:G:H2'	1.59	0.44
24:YA:2025:C:H2'	24:YA:2026:C:C6	2.52	0.44
31:YI:30:LEU:HB3	31:YI:36:ALA:HB3	1.98	0.44
32:YN:34:LEU:HA	32:YN:34:LEU:HD13	1.77	0.44
38:YT:16:ARG:HH21	38:YT:19:LEU:HD21	1.83	0.44
39:YU:50:ARG:O	39:YU:54:LYS:NZ	2.51	0.44
1:QA:243:A:H4'	1:QA:244:U:H3'	2.00	0.44
1:QA:626:U:P	16:QP:18:ARG:HH21	2.40	0.44
1:QA:707:C:H4'	11:QK:20:TYR:HD2	1.82	0.44
1:QA:719:C:H1'	18:QR:49:LYS:HG2	1.99	0.44
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.51	0.44
14:QN:39:LEU:HD23	14:QN:39:LEU:HA	1.89	0.44
18:QR:32:ARG:HA	18:QR:69:THR:HG21	1.99	0.44
24:RA:16:G:H2'	24:RA:17:G:H8	1.82	0.44
24:RA:832:G:H2'	24:RA:833:U:C6	2.53	0.44
24:RA:2020:A:N7	50:R5:9:LYS:NZ	2.66	0.44
24:RA:2292:C:H2'	24:RA:2293:C:C6	2.52	0.44
24:RA:2306:C:OP2	24:RA:2307:G:H2'	2.18	0.44
24:RA:2546:U:H5"	24:RA:2547:U:H5'	1.99	0.44
24:RA:2554:U:H2'	24:RA:2555:U:C6	2.53	0.44
24:RA:2791:C:H4'	24:RA:2792:G:H5'	2.00	0.44
26:RD:108:PRO:HB3	26:RD:143:HIS:CE1	2.53	0.44
33:RO:24:VAL:HG12	33:RO:33:ALA:HB2	1.99	0.44
36:RR:74:LYS:HD2	36:RR:74:LYS:HA	1.77	0.44
1:XA:116:A:C8	1:XA:116:A:OP2	2.70	0.44
1:XA:288:A:H2'	1:XA:289:G:H4'	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:381:C:H2'	1:XA:382:A:O4'	2.17	0.44
1:XA:390:C:H2'	1:XA:391:G:C8	2.53	0.44
1:XA:768:A:H4'	1:XA:1523:G:N2	2.32	0.44
1:XA:966:G:C2	22:XV:35:C:H5'	2.52	0.44
24:YA:330:A:H2	24:YA:1210:A:O2'	2.01	0.44
24:YA:507:A:H5"	24:YA:508:G:H5'	2.00	0.44
24:YA:608:A:H2'	24:YA:609:A:C8	2.52	0.44
24:YA:1394:U:O2	42:YX:16:LYS:NZ	2.50	0.44
34:YP:62:LEU:HD12	53:Y8:30:ARG:HE	1.82	0.44
53:Y8:7:HIS:HB3	53:Y8:59:LYS:HG2	1.98	0.44
1:QA:34:C:H2'	1:QA:35:G:C8	2.51	0.44
1:QA:422:C:H4'	1:QA:423:G:C4	2.52	0.44
1:QA:690:G:H22	11:QK:55:LYS:HZ1	1.66	0.44
1:QA:1002:G:H2'	1:QA:1003:G:C8	2.53	0.44
1:QA:1304:G:N2	1:QA:1334:G:O6	2.50	0.44
1:QA:1512:U:H2'	1:QA:1513:A:H8	1.83	0.44
3:QC:174:PRO:O	3:QC:177:THR:OG1	2.35	0.44
6:QF:35:ALA:HB1	6:QF:65:VAL:HG21	2.00	0.44
9:QI:2:GLU:HG2	9:QI:20:ARG:CZ	2.47	0.44
20:QT:48:LYS:HD2	20:QT:51:GLU:HB2	2.00	0.44
23:QX:8:A:H2'	23:QX:9:G:H8	1.80	0.44
24:RA:144:C:H2'	24:RA:145:G:C8	2.52	0.44
24:RA:270(U):C:H2'	24:RA:270(V):G:H8	1.82	0.44
24:RA:806:C:O2	24:RA:2444:G:O2'	2.33	0.44
24:RA:1000:A:H2'	24:RA:1001:A:C8	2.52	0.44
24:RA:1149:G:H2'	24:RA:1150:C:C6	2.53	0.44
24:RA:1478:G:H1'	24:RA:1557:C:O2'	2.18	0.44
24:RA:1496:A:H8	24:RA:1577:C:HO2'	1.66	0.44
24:RA:1657:C:O2'	27:RE:133:LYS:CD	2.59	0.44
24:RA:1794:U:H2'	24:RA:1795:C:C6	2.53	0.44
24:RA:1796:U:H2'	24:RA:1797:C:C6	2.52	0.44
24:RA:1800:C:C2	24:RA:1802:A:C8	3.05	0.44
26:RD:79:VAL:HG21	26:RD:111:LEU:HD21	2.00	0.44
31:RI:79:ILE:HB	31:RI:142:VAL:HA	1.98	0.44
32:RN:30:ILE:O	32:RN:34:LEU:HG	2.18	0.44
36:RR:74:LYS:C	36:RR:76:VAL:H	2.21	0.44
1:XA:944:G:N1	1:XA:1338:G:OP2	2.33	0.44
1:XA:1285:A:H1'	1:XA:1286:A:OP2	2.17	0.44
8:XH:79:VAL:HG13	8:XH:80:ILE:HD12	1.99	0.44
24:YA:144:C:H2'	24:YA:145:G:C8	2.52	0.44
24:YA:300:A:OP2	43:YY:84:ARG:NH2	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:816:C:O2'	24:YA:932:G:O6	2.36	0.44
24:YA:1259:G:H2'	24:YA:1260:G:C8	2.52	0.44
24:YA:2804:C:H2'	24:YA:2805:G:H8	1.82	0.44
27:YE:31:CYS:HB3	27:YE:49:LEU:HG	1.99	0.44
29:YG:86:MET:HE2	29:YG:86:MET:HB3	1.75	0.44
51:Y6:23:THR:OG1	51:Y6:24:GLU:N	2.50	0.44
1:QA:997:U:H2'	1:QA:998:G:C8	2.53	0.44
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.51	0.44
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.52	0.44
2:QB:75:LYS:HE3	2:QB:75:LYS:HB3	1.84	0.44
4:QD:85:LYS:HD3	4:QD:86:LYS:H	1.83	0.44
4:QD:208:SER:O	4:QD:208:SER:OG	2.35	0.44
5:QE:140:ARG:NH1	8:QH:77:GLU:OE1	2.51	0.44
6:QF:18:GLN:HA	6:QF:21:LEU:HB2	1.98	0.44
12:QL:84:LEU:O	12:QL:100:ILE:HD12	2.18	0.44
24:RA:49:A:H61	24:RA:177:G:H2'	1.83	0.44
24:RA:172:C:H2'	24:RA:173:G:C8	2.53	0.44
24:RA:193:U:N3	24:RA:203:C:O2	2.51	0.44
24:RA:250:G:OP2	34:RP:59:LEU:HD11	2.17	0.44
24:RA:1259:G:H2'	24:RA:1260:G:C8	2.52	0.44
24:RA:1571:A:H2'	24:RA:1572:A:C8	2.53	0.44
24:RA:1639:U:C2'	24:RA:1640:C:H5"	2.48	0.44
24:RA:2187:G:H2'	24:RA:2188:C:C6	2.52	0.44
24:RA:2756:U:OP2	54:R9:19:ARG:NE	2.50	0.44
26:RD:25:THR:O	26:RD:27:THR:N	2.50	0.44
1:XA:464:G:N1	1:XA:467:G:OP2	2.40	0.44
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.52	0.44
1:XA:1422:G:H2'	1:XA:1423:G:H8	1.82	0.44
4:XD:154:ASN:OD1	4:XD:154:ASN:N	2.44	0.44
5:XE:84:PHE:O	5:XE:87:SER:OG	2.35	0.44
23:XX:16:C:C5	23:XX:16:C:OP2	2.70	0.44
23:XX:16:C:O5'	23:XX:16:C:C6	2.70	0.44
24:YA:433:C:H2'	24:YA:434:U:C6	2.52	0.44
24:YA:639:U:H2'	24:YA:640:C:H6	1.82	0.44
24:YA:829:A:N7	24:YA:2247:A:O2'	2.46	0.44
24:YA:1012:U:OP1	39:YU:75:ASN:ND2	2.42	0.44
24:YA:1375:C:H2'	24:YA:1376:C:H6	1.83	0.44
24:YA:1754:C:P	38:YT:96:ARG:HH12	2.41	0.44
24:YA:2151:G:H2'	24:YA:2152:G:C8	2.50	0.44
24:YA:2335:A:O2'	24:YA:2336:A:H2'	2.18	0.44
24:YA:2712:U:OP1	24:YA:2714:G:H4'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YI:123:LEU:HD23	31:YI:142:VAL:HG13	2.00	0.44
35:YQ:12:GLN:HB2	35:YQ:73:PRO:HD2	2.00	0.44
1:QA:277:C:OP2	17:QQ:41:LYS:NZ	2.51	0.44
1:QA:406:G:H2'	1:QA:407:G:H8	1.83	0.44
1:QA:436:C:H2'	1:QA:437:U:C6	2.53	0.44
1:QA:738:C:H2'	1:QA:739:C:C6	2.53	0.44
1:QA:864:A:H2'	1:QA:865:A:C8	2.53	0.44
1:QA:1054:C:O2	1:QA:1196:U:N3	2.51	0.44
1:QA:1198:G:H2'	1:QA:1199:U:C6	2.53	0.44
7:QG:50:ILE:HG21	7:QG:61:VAL:HG11	2.00	0.44
14:QN:24:CYS:HB3	14:QN:27:CYS:SG	2.56	0.44
24:RA:831:G:O2'	34:RP:38:GLN:OE1	2.35	0.44
24:RA:1821:A:H2'	24:RA:1822:G:H8	1.83	0.44
24:RA:2773:C:H2'	24:RA:2774:C:H6	1.83	0.44
35:RQ:45:GLN:NE2	35:RQ:91:GLU:O	2.51	0.44
37:RS:83:LYS:HD3	37:RS:84:GLN:HG3	1.99	0.44
41:RW:88:ARG:NH1	41:RW:94:ASP:OD1	2.50	0.44
51:R6:11:LEU:HB2	51:R6:21:TYR:HB2	2.00	0.44
1:XA:265:G:H4'	17:XQ:66:SER:HA	2.00	0.44
1:XA:401:C:H2'	1:XA:402:G:C8	2.53	0.44
1:XA:822:C:H2'	1:XA:823:G:H8	1.83	0.44
7:XG:72:ARG:O	7:XG:91:VAL:HG22	2.17	0.44
24:YA:428:A:H3'	24:YA:429:A:C8	2.53	0.44
24:YA:639:U:H2'	24:YA:640:C:C6	2.52	0.44
24:YA:742:G:H2'	24:YA:743:G:H8	1.83	0.44
24:YA:1542:G:H5"	24:YA:1543:A:OP2	2.18	0.44
24:YA:1568:G:H5"	26:YD:61:LEU:HD23	2.00	0.44
24:YA:1636:C:H2'	24:YA:1637:A:H8	1.82	0.44
24:YA:1694:C:H1'	24:YA:1695:G:OP2	2.18	0.44
24:YA:2692:C:H2'	24:YA:2693:A:C8	2.52	0.44
27:YE:24:THR:OG1	27:YE:186:GLY:HA2	2.18	0.44
29:YG:24:GLY:O	29:YG:26:GLN:NE2	2.50	0.44
32:YN:30:ILE:HG23	32:YN:52:VAL:HG11	2.00	0.44
33:YO:23:ARG:NH2	33:YO:28:SER:O	2.50	0.44
43:YY:33:LYS:HG3	43:YY:34:LYS:HD2	1.99	0.44
45:Y0:32:ARG:N	45:Y0:35:ASN:OD1	2.49	0.44
1:QA:337:C:H2'	1:QA:338:A:C8	2.53	0.44
1:QA:360:A:H2'	1:QA:361:G:C8	2.52	0.44
3:QC:189:ALA:O	3:QC:190:ARG:HD3	2.18	0.44
5:QE:78:HIS:HB3	8:QH:107:LEU:HD12	1.99	0.44
5:QE:121:LYS:HZ3	5:QE:122:GLU:H	1.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.51	0.44
10:QJ:39:PRO:HA	10:QJ:70:ARG:HD3	2.00	0.44
14:QN:27:CYS:SG	14:QN:28:GLY:N	2.91	0.44
24:RA:307:G:C8	24:RA:307:G:C3'	3.00	0.44
24:RA:631:A:H5'	34:RP:65:ARG:HD3	2.00	0.44
24:RA:778:G:H5'	26:RD:48:ARG:HE	1.83	0.44
24:RA:864:G:H2'	24:RA:865:C:C6	2.53	0.44
24:RA:906:G:O2'	35:RQ:67:ARG:NH2	2.51	0.44
24:RA:1431:U:H2'	24:RA:1432:C:C6	2.53	0.44
24:RA:1467:C:H5	24:RA:1546:C:H2'	1.82	0.44
24:RA:2236:C:H2'	24:RA:2237:G:O4'	2.18	0.44
24:RA:2646:C:OP2	24:RA:2732:G:O2'	2.28	0.44
26:RD:85:ASP:OD2	26:RD:88:ARG:NH1	2.41	0.44
35:RQ:68:ILE:HD13	35:RQ:103:MET:HG2	2.00	0.44
40:RV:40:LEU:HD11	40:RV:47:VAL:HG12	1.99	0.44
1:XA:191(D):U:H2'	1:XA:191(E):G:C8	2.52	0.44
1:XA:299:G:H2'	1:XA:300:A:C8	2.53	0.44
1:XA:825:G:H2'	1:XA:826:C:C6	2.53	0.44
1:XA:952:U:H2'	1:XA:953:G:C8	2.53	0.44
1:XA:1502:A:H2'	1:XA:1504:G:N7	2.33	0.44
4:XD:13:ARG:HB2	4:XD:40:PRO:HD3	2.00	0.44
14:XN:46:GLU:HG3	14:XN:47:LEU:HD22	1.99	0.44
24:YA:71:A:N3	24:YA:73:A:N6	2.66	0.44
24:YA:922:U:H2'	24:YA:923:C:H6	1.83	0.44
24:YA:2549:G:H2'	24:YA:2550:G:H8	1.83	0.44
28:YF:125:LEU:HA	28:YF:194:MET:O	2.17	0.44
31:YI:14:ASP:O	31:YI:16:GLY:N	2.43	0.44
35:YQ:111:GLU:OE1	35:YQ:133:ARG:NH2	2.51	0.44
43:YY:37:VAL:HG11	43:YY:72:VAL:HG11	2.00	0.44
50:Y5:36:CYS:CB	50:Y5:49:CYS:HB3	2.48	0.44
1:QA:106:C:H2'	1:QA:107:G:C8	2.53	0.43
1:QA:484:G:H4'	1:QA:485:G:O5'	2.17	0.43
1:QA:575:G:O2'	1:QA:821:G:H5'	2.18	0.43
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.33	0.43
1:QA:1249:C:O2'	9:QI:68:GLY:O	2.29	0.43
1:QA:1320:C:H2'	1:QA:1321:C:C6	2.53	0.43
1:QA:1329:A:H5"	13:QM:26:GLY:H	1.83	0.43
1:QA:1342:C:H1'	9:QI:124:GLN:HE22	1.83	0.43
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.18	0.43
1:QA:1510:U:H3	1:QA:1525:G:H1	1.65	0.43
1:QA:1516:G:N1	1:QA:1519:A:OP2	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:121:PRO:O	11:QK:126:ARG:NH1	2.42	0.43
13:QM:22:ILE:N	13:QM:22:ILE:CD1	2.79	0.43
15:QO:33:THR:HG21	15:QO:85:LEU:HD12	1.99	0.43
24:RA:823:G:H2'	24:RA:824:A:C8	2.53	0.43
24:RA:1009:A:OP2	24:RA:1010:A:OP2	2.36	0.43
24:RA:1458:C:H4'	24:RA:1459:G:O4'	2.18	0.43
24:RA:1521:G:H5"	24:RA:1521:G:C8	2.49	0.43
24:RA:2676:C:H2'	24:RA:2677:G:H8	1.83	0.43
24:RA:2740:A:H2'	24:RA:2741:A:C8	2.52	0.43
1:XA:952:U:H2'	1:XA:953:G:H8	1.83	0.43
3:XC:58:GLU:HB2	3:XC:65:ALA:HB3	1.99	0.43
5:XE:12:LEU:HB3	5:XE:31:LEU:HB3	1.98	0.43
13:XM:105:THR:OG1	13:XM:106:ASN:N	2.42	0.43
14:XN:27:CYS:SG	14:XN:28:GLY:N	2.91	0.43
17:XQ:21:VAL:HG11	17:XQ:59:ILE:HG21	1.99	0.43
17:XQ:81:ARG:HA	17:XQ:81:ARG:HD3	1.72	0.43
18:XR:53:ARG:HA	18:XR:56:THR:HG22	2.00	0.43
19:XS:81:ARG:HA	19:XS:81:ARG:HD2	1.75	0.43
24:YA:52:A:OP2	24:YA:117:G:N1	2.49	0.43
24:YA:303:U:H2'	24:YA:304:G:C8	2.53	0.43
24:YA:1265:A:H8	24:YA:1265:A:OP1	2.01	0.43
24:YA:1267:U:H2'	24:YA:1268:A:H8	1.83	0.43
24:YA:2630:G:H2'	24:YA:2631:G:H8	1.82	0.43
25:YB:60:C:H2'	25:YB:61:G:H8	1.83	0.43
39:YU:87:GLY:O	40:YV:50:PRO:HD3	2.18	0.43
1:QA:538:G:H2'	1:QA:539:A:H8	1.83	0.43
1:QA:582:U:H5"	15:QO:68:ARG:HH22	1.83	0.43
1:QA:851:G:H2'	1:QA:852:G:C8	2.53	0.43
4:QD:20:TYR:HD2	4:QD:26:CYS:HB3	1.83	0.43
8:QH:7:ALA:HB2	8:QH:85:ARG:HD3	2.00	0.43
9:QI:4:TYR:HB2	9:QI:19:LEU:HB2	2.00	0.43
17:QQ:57:VAL:HG12	17:QQ:76:LEU:HA	2.01	0.43
24:RA:2731:G:OP1	27:RE:169:ASN:ND2	2.45	0.43
34:RP:97:PRO:HD3	34:RP:126:VAL:O	2.18	0.43
39:RU:50:ARG:O	39:RU:54:LYS:NZ	2.47	0.43
54:R9:11:CYS:HB2	54:R9:13:LYS:HD2	1.99	0.43
1:XA:298:A:H2'	1:XA:299:G:C8	2.53	0.43
1:XA:346:G:H1'	1:XA:347:G:H5'	2.01	0.43
1:XA:552:U:H2'	1:XA:553:A:H8	1.83	0.43
1:XA:806:C:H2'	1:XA:807:A:H8	1.82	0.43
1:XA:1022:G:H2'	1:XA:1023:G:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1425:U:H2'	1:XA:1426:C:H6	1.83	0.43
12:XL:32:PHE:HE1	12:XL:86:ARG:HG3	1.84	0.43
24:YA:34:C:H5'	24:YA:35:G:OP2	2.18	0.43
24:YA:640:C:H2'	24:YA:641:C:C6	2.53	0.43
24:YA:870:A:H2'	24:YA:871:U:O4'	2.18	0.43
24:YA:1062:G:H1	24:YA:1076:C:N4	2.16	0.43
24:YA:1161:C:H2'	24:YA:1162:G:C8	2.53	0.43
24:YA:1336:A:H2'	24:YA:1337:G:H8	1.82	0.43
24:YA:2138:C:H2'	24:YA:2139:C:C6	2.53	0.43
24:YA:2292:C:H2'	24:YA:2293:C:C6	2.52	0.43
29:YG:71:THR:N	29:YG:89:GLY:O	2.51	0.43
1:QA:269:C:H2'	1:QA:270:A:C8	2.52	0.43
1:QA:396:G:O2'	1:QA:398:C:OP1	2.26	0.43
1:QA:551:U:H2'	1:QA:552:U:C6	2.53	0.43
1:QA:923:A:O2'	1:QA:1399:C:OP2	2.31	0.43
1:QA:950:U:H2'	1:QA:951:G:C8	2.53	0.43
1:QA:1443:G:C6	38:RT:118:ARG:HB2	2.53	0.43
3:QC:39:ILE:O	3:QC:43:LEU:HG	2.18	0.43
6:QF:82:ARG:HG3	6:QF:84:ASN:H	1.83	0.43
8:QH:46:LYS:N	8:QH:64:LYS:HG3	2.33	0.43
14:QN:29:ARG:HH12	14:QN:41:ARG:H	1.66	0.43
15:QO:60:VAL:HA	15:QO:63:ARG:HG2	2.00	0.43
17:QQ:87:LYS:HE3	17:QQ:87:LYS:HB3	1.88	0.43
22:QV:22:A:H61	22:QV:47:G:H2'	1.82	0.43
24:RA:345:A:O2'	24:RA:347:A:N7	2.35	0.43
24:RA:2368:C:H2'	24:RA:2369:A:C8	2.51	0.43
32:RN:21:LYS:HB2	32:RN:26:LEU:HD12	2.00	0.43
33:RO:22:ILE:HB	33:RO:40:VAL:HG13	1.99	0.43
36:RR:3:HIS:O	36:RR:5:LYS:N	2.50	0.43
39:RU:87:GLY:O	40:RV:50:PRO:HD3	2.19	0.43
46:R1:53:VAL:HG13	46:R1:74:VAL:HG23	1.99	0.43
1:XA:992:U:O2'	1:XA:993:G:OP2	2.26	0.43
24:YA:244:A:O2'	34:YP:74:GLU:N	2.47	0.43
24:YA:297:C:H2'	24:YA:298:G:O4'	2.18	0.43
24:YA:468:G:H5"	28:YF:60:SER:HB2	2.00	0.43
24:YA:547:A:H2'	24:YA:548:A:C8	2.53	0.43
24:YA:881:G:H3'	24:YA:882:G:H8	1.83	0.43
24:YA:1193:G:H2'	24:YA:1194:A:C8	2.53	0.43
24:YA:1267:U:H2'	24:YA:1268:A:C8	2.53	0.43
24:YA:1400:G:H2'	24:YA:1401:G:C8	2.53	0.43
24:YA:1550:C:H2'	24:YA:1551:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2115:G:N2	24:YA:2165:G:N7	2.67	0.43
24:YA:2688:U:OP1	24:YA:2713:A:N6	2.51	0.43
29:YG:34:LEU:HD12	29:YG:172:LEU:HD21	2.00	0.43
29:YG:145:THR:O	29:YG:146:TYR:HB3	2.18	0.43
30:YH:102:ALA:HA	30:YH:117:PRO:HD3	2.01	0.43
1:QA:1202:G:C5	14:QN:42:ILE:HD13	2.52	0.43
7:QG:18:TYR:CG	7:QG:59:LEU:HD21	2.54	0.43
9:QI:91:ASP:OD2	9:QI:93:ARG:NH2	2.51	0.43
24:RA:270(H):C:H2'	24:RA:270(I):G:C8	2.54	0.43
24:RA:570:G:H2'	24:RA:2030:A:C6	2.53	0.43
24:RA:1796:U:H2'	24:RA:1797:C:H6	1.83	0.43
24:RA:1817:G:OP2	26:RD:157:ARG:NH2	2.51	0.43
24:RA:1941:C:N4	24:RA:1965:C:O4'	2.52	0.43
24:RA:2476:A:H2'	24:RA:2477:C:C6	2.53	0.43
44:RZ:149:SER:OG	44:RZ:150:LEU:N	2.50	0.43
44:RZ:182:LYS:O	44:RZ:182:LYS:NZ	2.42	0.43
1:XA:266:G:H5'	1:XA:268:C:H5	1.82	0.43
1:XA:339:C:H2'	1:XA:340:U:C6	2.54	0.43
1:XA:1013:G:N2	1:XA:1015:A:H3'	2.34	0.43
1:XA:1407:C:H2'	1:XA:1408:A:H8	1.83	0.43
2:XB:35:GLU:OE1	2:XB:36:ARG:N	2.51	0.43
4:XD:20:TYR:CD1	4:XD:20:TYR:O	2.71	0.43
4:XD:75:PHE:HE1	4:XD:97:LEU:HD21	1.83	0.43
4:XD:165:MET:HA	4:XD:168:ARG:HD3	2.00	0.43
15:XO:29:VAL:HG21	15:XO:81:LEU:HD21	2.00	0.43
24:YA:1429:G:H2'	24:YA:1430:C:C6	2.52	0.43
24:YA:1680:U:H2'	24:YA:1681:G:O4'	2.18	0.43
24:YA:1825:A:H2'	24:YA:1826:G:H8	1.83	0.43
24:YA:2340:G:H2'	24:YA:2341:G:C8	2.54	0.43
24:YA:2377:A:H4'	37:YS:111:GLU:O	2.18	0.43
26:YD:142:VAL:HG13	26:YD:193:VAL:HA	2.00	0.43
28:YF:40:GLN:HE22	28:YF:182:ASN:HB2	1.83	0.43
48:Y3:2:PRO:HG2	48:Y3:39:ASP:HB3	1.99	0.43
22:XV:1:C:H2'	22:XV:2:G:C8	2.54	0.43
1:QA:191(E):G:H2'	1:QA:191(F):U:C6	2.54	0.43
1:QA:327:A:O2'	1:QA:328:C:O4'	2.32	0.43
1:QA:628:G:H2'	1:QA:629:G:H8	1.82	0.43
1:QA:824:C:H2'	1:QA:825:G:H8	1.84	0.43
24:RA:476:G:N1	24:RA:479:A:OP2	2.51	0.43
24:RA:819:A:OP2	24:RA:1187:G:N2	2.48	0.43
24:RA:1357:U:H2'	24:RA:1358:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1478:G:H2'	24:RA:1479:G:H8	1.83	0.43
24:RA:2566:A:H4'	24:RA:2567:G:O5'	2.17	0.43
24:RA:2728:U:H2'	24:RA:2729:G:C8	2.53	0.43
41:RW:33:ARG:NE	41:RW:52:GLU:OE2	2.52	0.43
44:RZ:45:ASP:OD1	44:RZ:49:ARG:NE	2.51	0.43
1:XA:304:U:H2'	1:XA:305:G:C8	2.54	0.43
1:XA:514:C:H2'	1:XA:515:G:C8	2.50	0.43
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.36	0.43
1:XA:703:G:H4'	1:XA:704:A:O5'	2.19	0.43
1:XA:1190:G:H3'	3:XC:3:ASN:ND2	2.34	0.43
1:XA:1502:A:H2	1:XA:1505:G:H1	1.66	0.43
8:XH:14:ARG:HB2	8:XH:83:ILE:HD11	2.00	0.43
13:XM:97:PRO:HG3	13:XM:110:ARG:HB3	2.00	0.43
24:YA:24:G:H1'	41:YW:77:ASP:HB3	2.00	0.43
24:YA:394:A:H2'	24:YA:395:U:O4'	2.18	0.43
24:YA:870:A:P	35:YQ:6:ARG:HH21	2.41	0.43
24:YA:1546:C:H5'	24:YA:1547:C:H5'	2.00	0.43
24:YA:2543:G:H2'	24:YA:2544:G:C8	2.54	0.43
24:YA:2777:G:OP2	24:YA:2781:A:O2'	2.36	0.43
25:YB:3:C:H2'	25:YB:4:C:H6	1.83	0.43
34:YP:90:ARG:HG3	34:YP:91:PHE:CD1	2.54	0.43
53:Y8:29:LYS:HB2	53:Y8:33:ASN:HD21	1.84	0.43
1:QA:277:C:H5'	17:QQ:68:ARG:HH22	1.84	0.43
1:QA:412:A:H4'	1:QA:413:G:O5'	2.18	0.43
7:QG:45:ASP:O	7:QG:49:ILE:HG12	2.19	0.43
7:QG:74:GLU:O	7:QG:76:ARG:NH1	2.51	0.43
8:QH:99:GLU:OE2	8:QH:99:GLU:N	2.51	0.43
24:RA:144:C:H2'	24:RA:145:G:H8	1.83	0.43
24:RA:186:G:H2'	24:RA:187:G:C8	2.54	0.43
24:RA:730:C:H2'	24:RA:731:C:H6	1.84	0.43
24:RA:807:U:H2'	24:RA:808:G:H8	1.83	0.43
24:RA:1035:U:H2'	24:RA:1036:G:H8	1.83	0.43
24:RA:1124:C:H2'	24:RA:1125:G:O4'	2.18	0.43
24:RA:1853:A:H2'	24:RA:1854:A:H8	1.84	0.43
24:RA:2018:G:H2'	24:RA:2019:A:C8	2.53	0.43
24:RA:2271:G:OP1	45:R0:18:ALA:HB1	2.18	0.43
24:RA:2784:C:H2'	24:RA:2785:C:H6	1.84	0.43
33:RO:68:GLU:HG3	33:RO:78:ARG:HD3	2.01	0.43
36:RR:12:ARG:O	36:RR:17:ARG:NH2	2.52	0.43
1:XA:115:G:C6	1:XA:313:A:N1	2.86	0.43
1:XA:401:C:H2'	1:XA:402:G:H8	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:407:G:H5”	4:XD:115:ARG:HB3	2.01	0.43
1:XA:939:G:H2’	1:XA:940:C:C6	2.53	0.43
5:XE:39:GLY:HA2	5:XE:69:VAL:HB	2.00	0.43
8:XH:21:LYS:O	8:XH:65:TYR:OH	2.25	0.43
10:XJ:78:ASN:HB2	10:XJ:81:THR:HG23	2.01	0.43
24:YA:264:C:H2’	24:YA:265:A:H5”	2.00	0.43
24:YA:519:U:H2’	24:YA:520:G:C8	2.54	0.43
24:YA:839:U:H2’	24:YA:840:C:C6	2.54	0.43
24:YA:1035:U:H2’	24:YA:1036:G:C8	2.54	0.43
24:YA:1796:U:H2’	24:YA:1797:C:H6	1.82	0.43
24:YA:2356:C:H2’	24:YA:2357:U:O4’	2.19	0.43
24:YA:2443:C:H2’	24:YA:2444:G:C8	2.52	0.43
39:YU:62:ILE:HD11	39:YU:93:LYS:HD3	2.01	0.43
41:YW:110:LYS:HG3	41:YW:111:HIS:CD2	2.54	0.43
44:YZ:14:LYS:HA	44:YZ:15:PRO:HD3	1.86	0.43
44:YZ:158:PRO:HD2	44:YZ:161:VAL:HB	2.00	0.43
1:QA:345:C:H3’	38:RT:41:ARG:NH1	2.32	0.43
1:QA:745:C:H5”	1:QA:851:G:H1’	2.00	0.43
3:QC:18:TRP:O	3:QC:54:ARG:NH2	2.50	0.43
15:QO:24:SER:OG	15:QO:25:THR:N	2.50	0.43
22:QV:36:G:H2’	22:QV:37:G:C8	2.53	0.43
24:RA:263:C:H2’	24:RA:264:C:O4’	2.18	0.43
24:RA:1230:C:H2’	24:RA:1231:G:C8	2.53	0.43
24:RA:1536:A:H5”	24:RA:1537:C:C6	2.54	0.43
24:RA:2148:G:H2’	24:RA:2149:G:H8	1.84	0.43
24:RA:2344:U:OP1	51:R6:37:ARG:HD3	2.19	0.43
24:RA:2648:C:H2’	24:RA:2649:U:C6	2.53	0.43
25:RB:15:A:H5’	25:RB:16:G:C8	2.53	0.43
27:RE:24:THR:OG1	27:RE:186:GLY:HA2	2.19	0.43
32:RN:18:ALA:HA	32:RN:26:LEU:HD11	2.01	0.43
35:RQ:18:LYS:HE3	35:RQ:18:LYS:HB3	1.91	0.43
35:RQ:21:THR:HB	35:RQ:22:LYS:H	1.62	0.43
36:RR:45:ARG:HA	36:RR:95:THR:HG21	1.99	0.43
1:XA:87:A:H2’	1:XA:88:C:C6	2.52	0.43
1:XA:244:U:H4’	1:XA:245:C:O5’	2.19	0.43
1:XA:505:G:H2’	1:XA:506:G:H8	1.84	0.43
1:XA:674:G:H2’	1:XA:675:A:C8	2.43	0.43
1:XA:750:G:N3	15:XO:23:GLY:HA3	2.34	0.43
1:XA:1079:G:H2’	1:XA:1080:A:C8	2.54	0.43
4:XD:11:LEU:HD13	4:XD:66:ARG:HG2	2.00	0.43
8:XH:85:ARG:HA	8:XH:135:CYS:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:20:C:H2'	24:YA:21:A:H8	1.82	0.43
24:YA:184:C:O2'	24:YA:217:G:N3	2.49	0.43
24:YA:1062:G:N2	24:YA:1078:U:H1'	2.32	0.43
24:YA:1246:A:OP1	34:YP:15:ARG:NH2	2.40	0.43
24:YA:1278:A:H2'	24:YA:1279:G:H8	1.84	0.43
25:YB:86:G:H2'	25:YB:87:G:H8	1.82	0.43
1:QA:19:C:OP1	5:QE:127:ASN:HB2	2.18	0.43
1:QA:298:A:OP1	1:QA:298:A:C8	2.70	0.43
1:QA:1244:C:H2'	1:QA:1245:A:C8	2.54	0.43
2:QB:121:LEU:O	2:QB:124:SER:OG	2.37	0.43
4:QD:165:MET:HA	4:QD:168:ARG:HD3	2.00	0.43
12:QL:32:PHE:HE2	12:QL:86:ARG:HG3	1.82	0.43
13:QM:3:ARG:HG3	49:R4:34:GLU:HB3	2.01	0.43
24:RA:675:A:C8	24:RA:804:A:C6	3.06	0.43
24:RA:1638:C:C5'	24:RA:2710:C:O2'	2.63	0.43
24:RA:1657:C:O2'	27:RE:133:LYS:HG2	2.19	0.43
24:RA:1751:C:H2'	24:RA:1752:C:C6	2.54	0.43
24:RA:2635:C:H5"	27:RE:78:LEU:HA	1.99	0.43
24:RA:2868:A:H2'	24:RA:2869:G:C8	2.54	0.43
26:RD:9:TYR:CD2	26:RD:10:THR:HG23	2.53	0.43
32:RN:30:ILE:HG23	32:RN:52:VAL:HG11	2.01	0.43
1:XA:119:A:N7	1:XA:288:A:C6	2.87	0.43
1:XA:269:C:H2'	1:XA:270:A:C8	2.53	0.43
1:XA:345:C:H4'	1:XA:346:G:O5'	2.18	0.43
1:XA:413:G:OP2	1:XA:413:G:H8	2.02	0.43
1:XA:582:U:H2'	1:XA:583:A:C8	2.53	0.43
1:XA:639:G:H2'	1:XA:640:A:H8	1.83	0.43
10:XJ:8:LEU:HB2	10:XJ:70:ARG:HB2	2.00	0.43
10:XJ:53:PRO:HG2	10:XJ:54:PHE:CE2	2.53	0.43
13:XM:82:MET:HG2	13:XM:93:ARG:HG2	2.00	0.43
24:YA:37:C:H2'	24:YA:38:A:H8	1.84	0.43
24:YA:680:G:H2'	24:YA:681:G:H8	1.84	0.43
24:YA:1505:C:H2'	24:YA:1506:C:C6	2.53	0.43
26:YD:245:PRO:HA	26:YD:246:PRO:HD3	1.86	0.43
38:YT:24:PRO:HA	38:YT:49:VAL:HG13	2.01	0.43
48:Y3:37:LEU:HD13	48:Y3:37:LEU:HA	1.77	0.43
1:QA:318:G:H2'	1:QA:319:G:C8	2.54	0.43
1:QA:430:A:P	4:QD:8:VAL:H	2.42	0.43
1:QA:708:C:OP1	11:QK:85:ARG:NH2	2.43	0.43
1:QA:1481:U:H2'	1:QA:1482:G:H8	1.83	0.43
3:QC:59:ARG:HA	3:QC:63:ASN:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:109:PRO:O	3:QC:112:SER:OG	2.31	0.43
10:QJ:40:LEU:HD13	10:QJ:69:ASN:HB3	2.01	0.43
16:QP:74:LEU:HD12	16:QP:79:VAL:HG21	2.01	0.43
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.52	0.43
24:RA:839:U:H1'	24:RA:1191:G:H1'	2.01	0.43
24:RA:992:C:OP1	39:RU:47:TYR:OH	2.28	0.43
24:RA:1666:G:O2'	33:RO:6:THR:OG1	2.28	0.43
24:RA:1790:C:H5"	24:RA:1791:A:OP1	2.18	0.43
24:RA:2314:C:H5'	29:RG:38:VAL:HG11	2.01	0.43
24:RA:2478:A:H5'	54:R9:31:LYS:HG2	2.00	0.43
26:RD:44:ASN:HB2	26:RD:48:ARG:O	2.18	0.43
36:RR:97:VAL:HA	36:RR:113:LEU:O	2.19	0.43
40:RV:22:VAL:HG22	40:RV:23:GLU:H	1.84	0.43
44:RZ:48:PHE:HA	44:RZ:51:ALA:HB3	2.00	0.43
1:XA:636:U:H2'	1:XA:637:G:H8	1.83	0.43
1:XA:701:C:OP1	1:XA:702:A:O2'	2.23	0.43
1:XA:1022:G:H2'	1:XA:1023:G:C8	2.53	0.43
1:XA:1250:A:H2	1:XA:1370:G:H1'	1.84	0.43
4:XD:14:ARG:HD2	4:XD:40:PRO:HD2	2.00	0.43
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.18	0.43
8:XH:77:GLU:OE2	8:XH:81:HIS:NE2	2.47	0.43
16:XP:12:LYS:HB3	16:XP:12:LYS:HE3	1.90	0.43
16:XP:68:ASP:OD1	16:XP:69:THR:N	2.52	0.43
24:YA:20:C:H2'	24:YA:21:A:C8	2.54	0.43
24:YA:325:G:H2'	24:YA:326:G:H8	1.84	0.43
24:YA:1435:G:H2'	24:YA:1436:G:C8	2.54	0.43
34:YP:88:LEU:HD12	34:YP:95:VAL:HG21	2.00	0.43
39:YU:106:PHE:O	39:YU:110:VAL:HG23	2.19	0.43
45:Y0:21:LEU:HD11	45:Y0:41:ARG:HE	1.83	0.43
1:QA:1095:U:P	1:QA:1108:G:H1	2.41	0.43
1:QA:1224:G:H1	1:QA:1362(A):C:H42	1.66	0.43
1:QA:1516:G:N2	1:QA:1519:A:OP2	2.50	0.43
19:QS:32:LYS:HD3	19:QS:50:ALA:HB3	2.00	0.43
24:RA:305:U:H2'	24:RA:306:U:C6	2.54	0.43
24:RA:674:G:O2'	28:RF:67:GLN:NE2	2.46	0.43
24:RA:1771:C:H2'	24:RA:1772:G:H8	1.84	0.43
25:RB:83:G:H4'	48:R3:52:HIS:CG	2.54	0.43
35:RQ:32:TYR:CE1	35:RQ:133:ARG:HG3	2.54	0.43
38:RT:117:ASP:O	38:RT:121:ILE:HG12	2.19	0.43
1:XA:45:U:H3	1:XA:396:G:H1	1.66	0.43
1:XA:126:G:OP1	1:XA:605:U:O2'	2.27	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:857:C:H2'	1:XA:858:G:O4'	2.19	0.43
1:XA:1287:A:C2	1:XA:1353:G:H1'	2.53	0.43
15:XO:15:PHE:CE1	15:XO:84:LYS:HD3	2.54	0.43
24:YA:1164:G:H2'	24:YA:1165:U:C6	2.54	0.43
24:YA:1400:G:H2'	24:YA:1401:G:H8	1.83	0.43
24:YA:2701:C:C3'	24:YA:2702:U:H5"	2.39	0.43
49:Y4:10:VAL:HG21	49:Y4:29:PRO:HG3	2.01	0.43
49:Y4:14:ILE:HB	49:Y4:22:ILE:HB	2.00	0.43
22:XV:64:U:H2'	22:XV:65:C:C6	2.54	0.43
1:QA:410:G:N2	1:QA:432:A:H62	2.17	0.42
1:QA:768:A:H5'	1:QA:1524:C:H1'	2.00	0.42
1:QA:1126:U:H5	1:QA:1127:G:C4	2.37	0.42
1:QA:1400:C:N3	22:QV:35:C:O2	2.53	0.42
3:QC:79:ARG:NH2	3:QC:82:GLU:HG2	2.34	0.42
24:RA:303:U:H2'	24:RA:304:G:C8	2.53	0.42
24:RA:307:G:N2	24:RA:310:A:OP2	2.52	0.42
24:RA:637:A:H4'	24:RA:638:G:O5'	2.19	0.42
24:RA:689:A:H2'	24:RA:690:G:H8	1.84	0.42
24:RA:924:C:H2'	24:RA:925:C:C6	2.54	0.42
24:RA:1210:A:H5'	24:RA:1211:U:H2'	2.01	0.42
24:RA:1411:C:N4	24:RA:1591:G:H1	2.15	0.42
24:RA:1657:C:H2'	24:RA:1658:C:H6	1.84	0.42
24:RA:2637:U:H5"	27:RE:82:ARG:NH1	2.34	0.42
24:RA:2812:G:H2'	24:RA:2813:A:H8	1.83	0.42
40:RV:16:PRO:HD3	40:RV:99:ILE:HD11	2.01	0.42
40:RV:62:LEU:HB3	40:RV:93:GLU:HG2	2.00	0.42
47:R2:14:ARG:NH1	47:R2:66:GLU:OE1	2.51	0.42
49:R4:24:THR:OG1	49:R4:25:TYR:N	2.52	0.42
1:XA:19:C:H2'	1:XA:20:U:C6	2.54	0.42
1:XA:22:G:H4'	1:XA:885:G:C8	2.54	0.42
1:XA:489:C:H2'	1:XA:490:G:C8	2.53	0.42
12:XL:67:THR:OG1	12:XL:95:GLY:O	2.34	0.42
13:XM:70:LEU:HA	13:XM:73:GLU:HG2	2.00	0.42
24:YA:1595:G:H2'	24:YA:1596:A:C8	2.53	0.42
24:YA:1844:C:H2'	24:YA:1845:G:H8	1.84	0.42
24:YA:2065:C:H2'	24:YA:2066:C:H6	1.83	0.42
24:YA:2470:G:OP1	35:YQ:56:ARG:NH2	2.52	0.42
29:YG:32:PRO:HB3	29:YG:163:ALA:HB2	2.01	0.42
29:YG:52:ILE:HD12	29:YG:55:LYS:HB3	2.01	0.42
30:YH:54:ARG:HD3	30:YH:65:HIS:HD1	1.82	0.42
36:YR:2:ARG:HB3	36:YR:5:LYS:HE3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YU:39:LEU:HD23	39:YU:39:LEU:HA	1.89	0.42
1:QA:41:G:H2'	1:QA:42:G:C8	2.52	0.42
1:QA:315:A:H5"	1:QA:317:G:OP2	2.19	0.42
1:QA:452:A:H2'	1:QA:453:A:H8	1.83	0.42
1:QA:876:G:O5'	8:QH:14:ARG:NH1	2.52	0.42
1:QA:1071:C:H2'	1:QA:1072:G:C8	2.52	0.42
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.18	0.42
12:QL:111:LYS:H	12:QL:111:LYS:HG2	1.68	0.42
13:QM:56:LEU:O	13:QM:60:VAL:HG22	2.20	0.42
22:QV:20:G:H5'	22:QV:21:U:C5	2.54	0.42
24:RA:356:G:H2'	24:RA:357:A:C8	2.55	0.42
24:RA:1297:C:H2'	24:RA:1298:C:C6	2.54	0.42
24:RA:1401:G:H2'	24:RA:1402:C:C6	2.54	0.42
24:RA:2404:C:H1'	34:RP:67:MET:HE1	2.01	0.42
28:RF:65:TRP:NE1	28:RF:73:ALA:O	2.48	0.42
31:RI:33:ARG:HB2	31:RI:35:LEU:HD22	2.01	0.42
31:RI:122:GLU:OE1	31:RI:126:TYR:OH	2.37	0.42
44:RZ:145:GLU:HG3	44:RZ:146:ILE:H	1.83	0.42
48:R3:12:PRO:HB2	48:R3:20:LYS:HG2	2.01	0.42
1:XA:17:U:H2'	1:XA:18:C:H6	1.83	0.42
1:XA:328:C:H1'	1:XA:329:A:OP2	2.19	0.42
1:XA:337:C:H2'	1:XA:338:A:C8	2.54	0.42
1:XA:411:A:H62	1:XA:413:G:H21	1.67	0.42
1:XA:560:U:H4'	1:XA:561:U:H5"	2.01	0.42
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.43	0.42
7:XG:115:ARG:HB2	7:XG:118:VAL:HG12	2.01	0.42
24:YA:138:G:H22	42:YX:44:GLU:CD	2.23	0.42
24:YA:242:G:H4'	24:YA:243:U:O5'	2.19	0.42
24:YA:278:A:O2'	24:YA:279:C:O4'	2.33	0.42
24:YA:338:G:OP1	43:YY:4:LYS:NZ	2.52	0.42
24:YA:863:A:H2'	24:YA:864:G:C8	2.54	0.42
24:YA:1309:G:H4'	52:Y7:7:PRO:HB2	2.01	0.42
24:YA:1430:C:H2'	24:YA:1431:U:C6	2.54	0.42
24:YA:1693:U:O2	26:YD:14:ARG:NH1	2.53	0.42
24:YA:1771:C:O2'	24:YA:1786:A:O4'	2.35	0.42
24:YA:1790:C:H5"	24:YA:1791:A:OP1	2.18	0.42
24:YA:2185:C:H2'	24:YA:2186:G:H8	1.83	0.42
26:YD:31:LYS:HD3	26:YD:31:LYS:HA	1.85	0.42
27:YE:143:ASN:HB2	27:YE:147:PRO:HD2	2.00	0.42
28:YF:198:ALA:HA	28:YF:201:VAL:HG12	2.02	0.42
44:YZ:30:ASN:OD1	44:YZ:33:LEU:N	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:Y2:16:LEU:HD22	47:Y2:21:LEU:HD13	2.01	0.42
48:Y3:4:LEU:HD12	48:Y3:39:ASP:HB2	2.01	0.42
1:QA:806:C:H2'	1:QA:807:A:C8	2.48	0.42
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.53	0.42
24:RA:532:A:H4'	24:RA:533:G:C8	2.54	0.42
24:RA:689:A:H2'	24:RA:690:G:C8	2.55	0.42
24:RA:1165:U:H2'	24:RA:1166:C:H6	1.84	0.42
24:RA:1332:G:H8	24:RA:1332:G:H2'	1.65	0.42
24:RA:1468:C:H2'	24:RA:1469:A:C8	2.53	0.42
24:RA:2123:G:H2'	24:RA:2124:G:H8	1.83	0.42
24:RA:2133:G:H1'	24:RA:2158:A:N6	2.34	0.42
24:RA:2695:C:H2'	24:RA:2696:U:C6	2.55	0.42
25:RB:8:U:H3	25:RB:112:G:H1	1.66	0.42
26:RD:50:THR:OG1	26:RD:51:VAL:N	2.51	0.42
1:XA:166:G:H2'	1:XA:167:G:H8	1.84	0.42
1:XA:347:G:O2'	1:XA:348:G:H5"	2.19	0.42
1:XA:575:G:O2'	1:XA:821:G:H5'	2.19	0.42
8:XH:59:LEU:HD13	8:XH:59:LEU:HA	1.81	0.42
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	2.01	0.42
24:YA:521:G:H2'	24:YA:522:G:C8	2.53	0.42
24:YA:875:G:H2'	24:YA:876:C:C6	2.54	0.42
24:YA:882:G:H2'	24:YA:883:G:C8	2.54	0.42
24:YA:1670:C:H5'	24:YA:1671:U:OP2	2.19	0.42
24:YA:2119:A:H61	24:YA:2168:G:N2	2.18	0.42
29:YG:37:VAL:HG13	29:YG:159:VAL:HG12	2.00	0.42
29:YG:47:LYS:HB3	29:YG:81:LYS:HD2	2.02	0.42
33:YO:73:ASP:OD1	33:YO:75:SER:OG	2.32	0.42
35:YQ:32:TYR:CE1	35:YQ:133:ARG:HG3	2.54	0.42
44:YZ:70:LEU:HB2	44:YZ:91:LEU:HD21	2.01	0.42
1:QA:165:C:H2'	1:QA:166:G:C8	2.51	0.42
1:QA:192:U:H2'	1:QA:193:C:H6	1.83	0.42
1:QA:255:G:H2'	1:QA:256:U:C6	2.54	0.42
1:QA:645:C:H2'	1:QA:646:U:C6	2.55	0.42
1:QA:686:U:H1'	11:QK:42:TRP:NE1	2.34	0.42
1:QA:1286:A:H2'	1:QA:1287:A:H4'	2.01	0.42
8:QH:34:GLU:HB3	8:QH:118:VAL:HG11	2.02	0.42
24:RA:96:G:H4'	47:R2:48:HIS:CD2	2.54	0.42
24:RA:270(V):G:H2'	24:RA:270(W):G:H8	1.84	0.42
24:RA:1499:C:H2'	24:RA:1500:G:H8	1.83	0.42
24:RA:2573:C:OP1	24:RA:2574:G:OP1	2.37	0.42
35:RQ:67:ARG:O	35:RQ:101:ARG:NH2	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RY:82:PRO:O	43:RY:101:LYS:NZ	2.50	0.42
1:XA:62:U:H3	1:XA:105:G:H1	1.67	0.42
1:XA:598:U:H4'	8:XH:94:TYR:CG	2.53	0.42
1:XA:1244:C:H2'	1:XA:1245:A:H8	1.84	0.42
4:XD:20:TYR:HA	4:XD:26:CYS:SG	2.59	0.42
5:XE:78:HIS:HB3	8:XH:107:LEU:HD22	2.00	0.42
18:XR:44:LEU:HD12	18:XR:44:LEU:HA	1.93	0.42
19:XS:65:ASN:O	49:Y4:58:ARG:HD2	2.19	0.42
24:YA:263:C:H2'	24:YA:264:C:O4'	2.20	0.42
24:YA:448:U:C4	24:YA:583:G:H1'	2.54	0.42
24:YA:562:U:H6	24:YA:562:U:H2'	1.64	0.42
24:YA:1182:A:H2'	24:YA:1183:G:C8	2.55	0.42
24:YA:1348:G:H2'	24:YA:1349:A:H5"	2.01	0.42
24:YA:1637:A:H2'	24:YA:1638:C:C6	2.54	0.42
24:YA:2081:C:H2'	24:YA:2082:A:H8	1.84	0.42
24:YA:2635:C:OP1	27:YE:78:LEU:HD13	2.20	0.42
24:YA:2852:G:H2'	24:YA:2853:C:C6	2.54	0.42
30:YH:153:LYS:HB2	30:YH:162:ILE:HD12	2.00	0.42
32:YN:47:ALA:O	32:YN:119:ARG:NH1	2.52	0.42
33:YO:19:ILE:HG22	33:YO:43:VAL:HG12	2.01	0.42
39:YU:90:VAL:HG11	40:YV:40:LEU:HG	2.02	0.42
53:Y8:61:LEU:HA	53:Y8:61:LEU:HD23	1.75	0.42
2:QB:60:ASP:HB3	2:QB:64:ARG:HH12	1.85	0.42
24:RA:180:G:OP1	52:R7:32:LYS:HG3	2.20	0.42
24:RA:519:U:H2'	24:RA:520:G:C8	2.55	0.42
24:RA:764:A:O2'	24:RA:765:G:H5'	2.20	0.42
24:RA:863:A:H2'	24:RA:864:G:C8	2.55	0.42
24:RA:922:U:H2'	24:RA:923:C:H6	1.84	0.42
24:RA:1161:C:H2'	24:RA:1162:G:C8	2.53	0.42
24:RA:1336:A:H2'	24:RA:1337:G:H8	1.84	0.42
24:RA:2597:G:H2'	24:RA:2598:A:C8	2.54	0.42
25:RB:44:G:H5"	25:RB:45:A:OP1	2.18	0.42
27:RE:46:ALA:HB1	27:RE:80:GLU:HB3	2.02	0.42
28:RF:157:VAL:HG11	28:RF:181:LEU:HD21	2.02	0.42
41:RW:76:VAL:HG22	41:RW:103:ILE:HA	2.02	0.42
1:XA:41:G:H2'	1:XA:42:G:C8	2.54	0.42
1:XA:78:G:H3'	1:XA:79:G:C8	2.54	0.42
1:XA:583:A:H2'	1:XA:584:G:O4'	2.20	0.42
1:XA:707:C:H2'	1:XA:708:C:C6	2.54	0.42
1:XA:848:C:H2'	1:XA:849:C:H6	1.84	0.42
1:XA:1172:C:H2'	1:XA:1173:G:C8	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1305:G:OP1	21:XU:2:GLY:HA2	2.18	0.42
8:XH:121:ASP:OD1	8:XH:122:ARG:N	2.50	0.42
24:YA:414:C:O2	24:YA:1864:U:O2'	2.36	0.42
24:YA:1508:A:O2'	24:YA:1509:C:O5'	2.37	0.42
26:YD:95:LEU:HD23	26:YD:95:LEU:HA	1.88	0.42
1:QA:753:A:H4'	1:QA:754:C:O5'	2.18	0.42
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.55	0.42
14:QN:9:LYS:O	14:QN:19:ARG:NH2	2.52	0.42
23:QX:19:C:H6	23:QX:19:C:O5'	2.02	0.42
24:RA:24:G:O2'	41:RW:78:GLU:O	2.34	0.42
24:RA:709:U:H2'	24:RA:710:G:C8	2.53	0.42
24:RA:1405:U:H2'	24:RA:1406:U:C6	2.52	0.42
24:RA:1923:U:H2'	24:RA:1924:C:C6	2.55	0.42
24:RA:2327:A:N7	24:RA:2388:A:N6	2.68	0.42
24:RA:2404:C:H2'	24:RA:2405:G:O4'	2.19	0.42
24:RA:2790:A:H2'	24:RA:2791:C:H5"	2.02	0.42
30:RH:144:VAL:O	30:RH:148:ILE:HD12	2.20	0.42
30:RH:153:LYS:HB3	30:RH:161:GLY:HA2	2.00	0.42
38:RT:8:LYS:HA	38:RT:11:GLU:OE2	2.19	0.42
38:RT:123:GLN:HB3	38:RT:124:ASP:H	1.50	0.42
44:RZ:4:ARG:HG2	44:RZ:58:VAL:HB	2.00	0.42
1:XA:191(D):U:H2'	1:XA:191(E):G:H8	1.84	0.42
1:XA:192:U:H2'	1:XA:193:C:C6	2.54	0.42
1:XA:281:G:OP2	1:XA:281:G:H8	2.03	0.42
1:XA:300:A:O2'	1:XA:564:C:N3	2.43	0.42
3:XC:3:ASN:HB3	3:XC:4:LYS:HD2	2.01	0.42
4:XD:79:PHE:HZ	4:XD:204:ILE:HG13	1.85	0.42
5:XE:32:VAL:HG11	5:XE:55:VAL:HG23	2.02	0.42
11:XK:19:ALA:O	11:XK:82:VAL:HA	2.20	0.42
15:XO:57:LEU:HA	15:XO:60:VAL:HG12	2.01	0.42
18:XR:86:VAL:HG12	18:XR:87:ARG:HG2	2.02	0.42
20:XT:51:GLU:HA	20:XT:54:LYS:HG2	2.00	0.42
24:YA:1818:U:H2'	26:YD:157:ARG:HG2	2.02	0.42
24:YA:2112:G:O6	24:YA:2169:A:N6	2.53	0.42
24:YA:2676:C:H2'	24:YA:2677:G:C8	2.54	0.42
32:YN:6:PRO:HG3	32:YN:41:ASP:HB2	2.01	0.42
41:YW:17:VAL:HG13	41:YW:76:VAL:HG21	2.01	0.42
1:QA:126:G:OP1	1:QA:605:U:O2'	2.21	0.42
1:QA:164:U:H2'	1:QA:165:C:H6	1.84	0.42
1:QA:308:C:H2'	1:QA:309:G:C8	2.55	0.42
1:QA:812:C:H6	1:QA:812:C:H2'	1.71	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:979:C:OP1	1:QA:1223:C:N4	2.52	0.42
1:QA:1064:G:OP2	1:QA:1385:G:O2'	2.25	0.42
1:QA:1189:C:H5"	3:QC:5:ILE:HG21	2.02	0.42
1:QA:1322:C:H6	1:QA:1322:C:OP1	2.02	0.42
1:QA:1524:C:H2'	1:QA:1525:G:C8	2.55	0.42
2:QB:178:ARG:NH2	2:QB:196:LEU:O	2.52	0.42
10:QJ:13:HIS:HB3	10:QJ:68:HIS:ND1	2.34	0.42
10:QJ:41:PRO:O	10:QJ:43:ARG:NH1	2.53	0.42
12:QL:76:ASN:OD1	12:QL:76:ASN:N	2.52	0.42
16:QP:67:THR:HG22	16:QP:68:ASP:N	2.34	0.42
22:QV:2:G:H2'	22:QV:3:G:H8	1.85	0.42
24:RA:857:C:OP1	45:R0:69:PHE:HD2	2.02	0.42
24:RA:1258:C:H2'	24:RA:1259:G:C8	2.55	0.42
24:RA:1752:C:H2'	24:RA:1753:G:C8	2.54	0.42
24:RA:2081:C:H2'	24:RA:2082:A:C8	2.54	0.42
24:RA:2448:A:OP2	24:RA:2499:C:OP2	2.37	0.42
24:RA:2462:U:H2'	24:RA:2463:C:C6	2.55	0.42
24:RA:2514:U:H2'	24:RA:2515:C:H6	1.85	0.42
1:XA:328:C:H4'	1:XA:329:A:O5'	2.20	0.42
1:XA:784:C:H4'	24:YA:1837:C:OP1	2.20	0.42
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.55	0.42
1:XA:1513:A:H2'	1:XA:1514:C:H6	1.85	0.42
2:XB:185:ILE:HA	2:XB:199:TYR:O	2.19	0.42
7:XG:103:TRP:CD2	7:XG:137:LYS:HD3	2.54	0.42
11:XK:67:ASP:O	11:XK:71:LYS:HG2	2.20	0.42
11:XK:86:GLY:O	11:XK:91:ARG:NH1	2.50	0.42
13:XM:10:PRO:HG3	13:XM:22:ILE:HD11	2.00	0.42
16:XP:26:ARG:HA	16:XP:26:ARG:HD3	1.94	0.42
23:XX:1:G:H2'	23:XX:2:G:C8	2.53	0.42
24:YA:630:G:N2	24:YA:633:A:OP2	2.26	0.42
24:YA:813:U:H2'	24:YA:814:C:C6	2.55	0.42
24:YA:1454:U:O2'	24:YA:1455:G:N7	2.41	0.42
24:YA:2384:G:OP2	45:Y0:55:ARG:NH2	2.52	0.42
26:YD:79:VAL:HG21	26:YD:111:LEU:HD11	2.01	0.42
27:YE:174:ASP:HB3	27:YE:183:LEU:HD12	2.01	0.42
32:YN:114:ARG:H	32:YN:114:ARG:HG2	1.63	0.42
1:QA:35:G:H2'	1:QA:36:C:C6	2.55	0.42
1:QA:784:C:H4'	24:RA:1837:C:OP1	2.20	0.42
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.54	0.42
24:RA:30:G:H2'	24:RA:31:C:C6	2.55	0.42
24:RA:935:C:H2'	24:RA:936:C:H6	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:947:G:H2'	24:RA:948:G:C8	2.55	0.42
24:RA:1166:C:H2'	24:RA:1167:U:C6	2.55	0.42
24:RA:1191:G:P	34:RP:18:ARG:HH22	2.42	0.42
24:RA:1667:G:H8	24:RA:1667:G:OP2	2.03	0.42
24:RA:2385:C:H2'	24:RA:2386:C:C6	2.55	0.42
24:RA:2503:A:O2'	24:RA:2505:G:OP2	2.28	0.42
26:RD:71:ASP:HB2	26:RD:103:ARG:HH12	1.84	0.42
30:RH:154:PRO:HG3	30:RH:162:ILE:HG13	2.01	0.42
32:RN:16:ILE:HG21	32:RN:26:LEU:HD21	2.00	0.42
34:RP:94:GLU:O	34:RP:96:THR:HG23	2.19	0.42
38:RT:111:ARG:O	38:RT:112:ARG:HB3	2.20	0.42
1:XA:62:U:H2'	1:XA:63:C:C6	2.54	0.42
1:XA:565:U:OP2	1:XA:566:G:O2'	2.19	0.42
1:XA:1145:C:H4'	1:XA:1146:A:H5'	2.01	0.42
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.40	0.42
24:YA:210:C:H2'	24:YA:211:A:C8	2.55	0.42
24:YA:637:A:H4'	24:YA:638:G:O5'	2.19	0.42
24:YA:1057:A:N6	24:YA:1087:G:OP2	2.52	0.42
24:YA:1258:C:H2'	24:YA:1259:G:C8	2.55	0.42
24:YA:1593:G:H2'	24:YA:1594:G:H8	1.84	0.42
24:YA:1794:U:H2'	24:YA:1795:C:C6	2.55	0.42
24:YA:2576:G:O2'	24:YA:2579:C:OP2	2.31	0.42
24:YA:2593:U:H2'	24:YA:2594:C:C6	2.55	0.42
24:YA:2657:A:H1'	24:YA:2665:A:N6	2.35	0.42
24:YA:2880:C:O3'	36:YR:90:ARG:NH1	2.52	0.42
28:YF:186:ILE:HG23	28:YF:192:LEU:HD12	2.02	0.42
29:YG:166:ASP:OD1	29:YG:166:ASP:N	2.53	0.42
33:YO:22:ILE:HB	33:YO:40:VAL:HG23	2.01	0.42
35:YQ:29:PHE:N	35:YQ:105:GLU:OE2	2.34	0.42
1:QA:335:C:H2'	1:QA:336:C:H6	1.85	0.42
1:QA:963:G:H21	10:QJ:55:LYS:HE2	1.85	0.42
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.55	0.42
12:QL:59:ARG:NH1	12:QL:60:LEU:O	2.53	0.42
14:QN:29:ARG:HH22	14:QN:41:ARG:HG2	1.85	0.42
19:QS:80:TYR:HD2	19:QS:82:GLY:H	1.68	0.42
21:QU:25:LYS:HE2	21:QU:25:LYS:HB2	1.82	0.42
22:QV:55:U:H2'	22:QV:56:U:C6	2.54	0.42
24:RA:51:G:OP2	24:RA:51:G:H8	2.03	0.42
24:RA:78:A:H2'	24:RA:79:G:C8	2.55	0.42
24:RA:270(R):G:H2'	24:RA:270(S):G:C8	2.55	0.42
24:RA:582:G:H2'	24:RA:583:G:C8	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:660:G:H4'	28:RF:38:ARG:NH1	2.35	0.42
24:RA:671:C:H2'	24:RA:672:C:C6	2.55	0.42
24:RA:760:G:H2'	24:RA:761:A:O4'	2.19	0.42
24:RA:2097:C:H2'	24:RA:2098:U:C6	2.55	0.42
30:RH:149:ARG:NH2	30:RH:167:GLU:OE2	2.48	0.42
32:RN:23:LEU:HD13	32:RN:60:ILE:HD12	2.02	0.42
1:XA:218:C:H2'	1:XA:219:C:C6	2.55	0.42
1:XA:261:U:H3	1:XA:263:A:H3'	1.85	0.42
1:XA:358:U:C6	1:XA:358:U:C3'	3.03	0.42
1:XA:359:U:H5"	1:XA:360:A:OP2	2.20	0.42
1:XA:382:A:H2'	1:XA:383:A:H8	1.84	0.42
1:XA:563:A:H2'	1:XA:567:G:C8	2.55	0.42
1:XA:781:A:H4'	1:XA:1522:U:O2'	2.20	0.42
11:XK:22:HIS:HB3	11:XK:29:ILE:HG23	2.00	0.42
12:XL:77:LEU:HD21	12:XL:107:ALA:HB2	2.00	0.42
17:XQ:6:LEU:HD13	17:XQ:6:LEU:HA	1.87	0.42
24:YA:315:G:H2'	24:YA:316:C:C6	2.55	0.42
24:YA:896:A:O2'	44:YZ:176:PRO:HG3	2.20	0.42
24:YA:1438:U:H2'	24:YA:1439:A:C8	2.54	0.42
24:YA:1841:U:H2'	24:YA:1842:G:H8	1.84	0.42
26:YD:25:THR:O	26:YD:27:THR:N	2.51	0.42
38:YT:124:ASP:OD1	38:YT:124:ASP:N	2.49	0.42
1:QA:407:G:H2'	1:QA:408:A:H8	1.83	0.42
1:QA:920:U:H2'	1:QA:921:U:C6	2.55	0.42
1:QA:1268:A:H1'	1:QA:1326:C:O2'	2.20	0.42
12:QL:69:TYR:O	12:QL:100:ILE:HG22	2.20	0.42
20:QT:43:LEU:HB3	20:QT:52:ALA:HB2	2.01	0.42
22:QV:65:C:H2'	22:QV:66:U:C6	2.54	0.42
24:RA:20:C:H2'	24:RA:21:A:C8	2.55	0.42
24:RA:347:A:H2'	24:RA:348:G:H8	1.85	0.42
24:RA:1568:G:H5"	26:RD:61:LEU:HG	2.01	0.42
24:RA:1756:G:H4'	24:RA:1758:G:O4'	2.20	0.42
26:RD:39:LYS:HE2	26:RD:60:ARG:HB2	2.02	0.42
27:RE:9:VAL:HB	27:RE:25:VAL:HG23	2.01	0.42
1:XA:358:U:C6	1:XA:358:U:H3'	2.55	0.42
1:XA:537:G:H2'	1:XA:538:G:H8	1.85	0.42
1:XA:584:G:H2'	1:XA:585:G:H8	1.85	0.42
1:XA:1121:U:H2'	1:XA:1122:U:C6	2.55	0.42
1:XA:1352:C:H2'	1:XA:1353:G:C8	2.55	0.42
1:XA:1496:C:H2'	1:XA:1497:G:C8	2.54	0.42
5:XE:83:GLU:HG2	5:XE:88:LYS:HG3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:17:VAL:O	13:XM:20:THR:OG1	2.22	0.42
24:YA:111:A:H4'	47:Y2:69:ARG:NH2	2.34	0.42
24:YA:466:A:N3	24:YA:683:C:H1'	2.35	0.42
24:YA:572:A:OP2	40:YV:78:LYS:NZ	2.49	0.42
24:YA:580:C:H2'	24:YA:581:C:C6	2.55	0.42
24:YA:841:A:H2'	24:YA:842:G:C8	2.55	0.42
24:YA:1756:G:H4'	24:YA:1758:G:O4'	2.19	0.42
24:YA:1771:C:H2'	24:YA:1772:G:C8	2.55	0.42
24:YA:1796:U:H2'	24:YA:1797:C:C6	2.55	0.42
24:YA:2020:A:N7	50:Y5:9:LYS:NZ	2.63	0.42
24:YA:2487:G:H2'	24:YA:2488:A:C8	2.55	0.42
38:YT:26:ASP:HB2	38:YT:90:GLN:O	2.20	0.42
22:XV:35:C:H2'	22:XV:36:G:C8	2.55	0.42
1:QA:647:C:H2'	1:QA:648:A:C8	2.54	0.41
1:QA:881:G:P	12:QL:12:ARG:HH22	2.43	0.41
1:QA:1244:C:H2'	1:QA:1245:A:H8	1.84	0.41
1:QA:1391:U:H2'	1:QA:1392:G:H8	1.85	0.41
1:QA:1500:A:OP1	1:QA:1505:G:OP1	2.38	0.41
3:QC:36:ASP:HA	3:QC:39:ILE:HD12	2.01	0.41
3:QC:118:GLN:O	3:QC:122:GLU:HG3	2.20	0.41
18:QR:73:ALA:HB1	18:QR:78:LEU:HD12	2.02	0.41
24:RA:108:U:H2'	24:RA:109:G:C8	2.55	0.41
24:RA:1467:C:C5	24:RA:1546:C:H2'	2.55	0.41
24:RA:1812:A:H2'	24:RA:1813:G:C8	2.55	0.41
24:RA:2467:C:OP1	54:R9:6:SER:OG	2.33	0.41
27:RE:49:LEU:HD13	27:RE:49:LEU:HA	1.90	0.41
30:RH:25:LYS:HZ2	30:RH:26:VAL:H	1.66	0.41
32:RN:47:ALA:O	32:RN:119:ARG:NH1	2.53	0.41
33:RO:19:ILE:HG22	33:RO:43:VAL:HA	2.01	0.41
42:RX:72:LYS:NZ	42:RX:75:ASP:OD1	2.39	0.41
1:XA:18:C:H5"	5:XE:127:ASN:HD21	1.84	0.41
1:XA:97:U:H2'	1:XA:99:C:H6	1.85	0.41
1:XA:269:C:H2'	1:XA:270:A:H8	1.85	0.41
1:XA:412:A:H4'	1:XA:413:G:O5'	2.19	0.41
1:XA:570:G:H2'	1:XA:571:U:C6	2.55	0.41
1:XA:587:G:N2	1:XA:754:C:OP2	2.53	0.41
1:XA:1161:C:O2'	1:XA:1162:C:H5'	2.20	0.41
1:XA:1220:G:N2	19:XS:54:GLY:O	2.52	0.41
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.18	0.41
2:XB:76:GLN:HE22	2:XB:206:ASP:HB3	1.84	0.41
3:XC:132:ARG:O	3:XC:136:GLN:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:12:LEU:HD12	7:XG:13:GLN:H	1.84	0.41
24:YA:265:A:H61	24:YA:427:U:HO2'	1.68	0.41
24:YA:1609:A:C6	24:YA:1616:A:C5	3.07	0.41
24:YA:1613:G:O2'	52:Y7:3:ARG:NE	2.53	0.41
24:YA:2735:G:H2'	24:YA:2736:G:C8	2.55	0.41
34:YP:33:ARG:HD3	34:YP:40:SER:HA	2.02	0.41
22:XV:19:G:H8	22:XV:19:G:OP1	2.03	0.41
1:QA:231:G:H2'	1:QA:232:G:H8	1.84	0.41
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.44	0.41
6:QF:50:TYR:CE1	18:QR:77:GLY:HA2	2.55	0.41
8:QH:53:VAL:HB	8:QH:58:TYR:HD1	1.85	0.41
12:QL:39:VAL:HG12	12:QL:57:LYS:HB3	2.02	0.41
22:QV:64:U:H2'	22:QV:65:C:C6	2.56	0.41
24:RA:38:A:H2'	24:RA:39:C:C6	2.54	0.41
24:RA:78:A:H2'	24:RA:79:G:H8	1.84	0.41
24:RA:663:G:H2'	24:RA:664:C:C6	2.55	0.41
24:RA:1114:G:H2'	24:RA:1115:G:H8	1.85	0.41
24:RA:1164:G:H2'	24:RA:1165:U:C6	2.55	0.41
24:RA:1173:G:H4'	24:RA:1174:A:N7	2.34	0.41
24:RA:1314:C:OP1	24:RA:1332:G:OP1	2.38	0.41
24:RA:1658:C:H2'	24:RA:1659:U:C6	2.55	0.41
24:RA:1902:C:OP1	26:RD:242:ARG:NH1	2.53	0.41
24:RA:2529:G:O6	54:R9:31:LYS:NZ	2.53	0.41
28:RF:67:GLN:HG3	28:RF:67:GLN:O	2.20	0.41
28:RF:122:LYS:HB3	28:RF:191:ARG:HA	2.00	0.41
29:RG:124:SER:OG	29:RG:124:SER:O	2.30	0.41
30:RH:58:GLU:OE1	30:RH:59:ARG:NH1	2.53	0.41
33:RO:50:GLY:H	33:RO:53:LYS:HZ3	1.66	0.41
45:R0:38:VAL:HB	45:R0:59:LEU:HB2	2.02	0.41
47:R2:21:LEU:HB3	47:R2:64:LEU:HD12	2.02	0.41
1:XA:339:C:H2'	1:XA:340:U:H6	1.85	0.41
1:XA:1141:C:H2'	1:XA:1142:G:C8	2.50	0.41
1:XA:1253:G:H4'	10:XJ:46:ARG:HH22	1.85	0.41
1:XA:1429:C:H2'	1:XA:1430:C:C6	2.55	0.41
24:YA:108:U:H2'	24:YA:109:G:H8	1.85	0.41
24:YA:1268:A:OP1	24:YA:2006:C:OP1	2.37	0.41
24:YA:1355:G:H2'	24:YA:1356:G:H8	1.85	0.41
24:YA:1604:C:H2'	24:YA:1605:C:H6	1.84	0.41
24:YA:1888:G:OP2	24:YA:1888:G:N2	2.53	0.41
24:YA:2365:G:O6	53:Y8:43:GLN:NE2	2.53	0.41
24:YA:2566:A:H4'	24:YA:2567:G:O5'	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2712:U:O2'	24:YA:2712(A):A:OP1	2.38	0.41
27:YE:12:THR:OG1	27:YE:13:ARG:N	2.53	0.41
34:YP:49:ARG:HG3	53:Y8:59:LYS:NZ	2.35	0.41
39:YU:58:ARG:O	39:YU:62:ILE:HG12	2.20	0.41
1:QA:10:A:H2'	1:QA:11:G:C8	2.55	0.41
1:QA:627:G:H2'	1:QA:628:G:H8	1.86	0.41
1:QA:812:C:H1'	1:QA:813:U:OP2	2.20	0.41
1:QA:940:C:H2'	1:QA:941:G:C8	2.55	0.41
1:QA:950:U:H2'	1:QA:951:G:H8	1.85	0.41
7:QG:30:ILE:HG23	7:QG:39:ALA:HB1	2.02	0.41
24:RA:302:C:H2'	24:RA:303:U:C6	2.55	0.41
24:RA:532:A:N1	24:RA:2035:G:N2	2.68	0.41
24:RA:903:C:H2'	24:RA:904:C:H6	1.86	0.41
24:RA:1289:C:H2'	24:RA:1290:C:C6	2.54	0.41
24:RA:1794:U:H2'	24:RA:1795:C:H6	1.84	0.41
24:RA:2036:C:H2'	24:RA:2037:G:H8	1.85	0.41
24:RA:2619:C:H5"	27:RE:152:LYS:HA	2.01	0.41
25:RB:109:G:H2'	25:RB:110:G:H8	1.85	0.41
30:RH:86:GLU:HB3	30:RH:165:ALA:H	1.85	0.41
1:XA:408:A:OP2	4:XD:115:ARG:NH2	2.53	0.41
1:XA:663:A:H2'	1:XA:664:G:C8	2.55	0.41
1:XA:762:C:H2'	1:XA:763:G:C8	2.54	0.41
1:XA:913:A:H1'	1:XA:914:A:OP2	2.19	0.41
1:XA:1245:A:H2'	1:XA:1246:C:C6	2.55	0.41
1:XA:1336:C:H1'	1:XA:1337:G:C2	2.55	0.41
17:XQ:81:ARG:NH1	17:XQ:83:ASP:OD2	2.53	0.41
18:XR:58:LEU:HD12	18:XR:62:GLU:HB3	2.01	0.41
24:YA:279:C:H2'	24:YA:280:C:H6	1.85	0.41
24:YA:1065:U:H1'	24:YA:1074:G:H22	1.85	0.41
24:YA:1535:U:N3	24:YA:1537:C:H1'	2.35	0.41
24:YA:1728:G:H3'	24:YA:1729:A:C5'	2.50	0.41
24:YA:1748:G:H2'	24:YA:1749:A:H8	1.86	0.41
24:YA:1791:A:H3'	24:YA:1792:G:H8	1.86	0.41
24:YA:2342:C:O2'	24:YA:2374:C:H5"	2.20	0.41
24:YA:2540:C:H2'	24:YA:2541:A:O4'	2.20	0.41
24:YA:2783:G:H2'	24:YA:2784:C:C6	2.56	0.41
31:YI:78:THR:HG22	31:YI:141:LYS:HE2	2.01	0.41
1:QA:33:A:H2'	1:QA:34:C:C6	2.55	0.41
1:QA:108:G:H5"	1:QA:109:A:H5"	2.03	0.41
1:QA:137:C:H2'	1:QA:138:G:C8	2.54	0.41
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.35	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1152:A:H2'	1:QA:1153:C:C6	2.55	0.41
1:QA:1330:U:OP2	1:QA:1330:U:H6	2.03	0.41
3:QC:124:ILE:HD12	3:QC:130:VAL:HG12	2.03	0.41
12:QL:33:ARG:NH2	12:QL:61:THR:OG1	2.54	0.41
19:QS:32:LYS:HB3	19:QS:57:HIS:CE1	2.56	0.41
24:RA:208:C:H2'	24:RA:209:C:H6	1.85	0.41
24:RA:680:G:H2'	24:RA:681:G:H8	1.85	0.41
24:RA:1220:A:H5'	24:RA:1221:C:OP2	2.20	0.41
24:RA:1550:C:H2'	24:RA:1551:C:H6	1.84	0.41
24:RA:2133:G:N7	24:RA:2157:G:N1	2.68	0.41
24:RA:2210:G:H5'	24:RA:2211:G:C5	2.55	0.41
24:RA:2773:C:OP1	27:RE:164:ARG:NE	2.52	0.41
24:RA:2823:A:OP1	27:RE:113:PHE:HB2	2.21	0.41
25:RB:16:G:H2'	25:RB:17:C:C6	2.55	0.41
28:RF:122:LYS:HB3	28:RF:191:ARG:HG3	2.02	0.41
29:RG:81:LYS:O	29:RG:82:LEU:HB2	2.20	0.41
36:RR:22:ARG:HG2	36:RR:69:ASP:HB3	2.03	0.41
41:RW:86:LEU:HD12	41:RW:96:ILE:HD11	2.02	0.41
41:RW:111:HIS:HD2	41:RW:113:LYS:H	1.68	0.41
1:XA:604:G:H2'	1:XA:605:U:C6	2.55	0.41
1:XA:911:U:H2'	1:XA:912:C:C6	2.55	0.41
12:XL:44:THR:HA	12:XL:45:PRO:HD3	1.81	0.41
17:XQ:69:LYS:HD2	17:XQ:69:LYS:HA	1.81	0.41
20:XT:92:LEU:HD13	20:XT:92:LEU:HA	1.83	0.41
21:XU:12:LYS:HG2	21:XU:22:ARG:HB3	2.02	0.41
24:YA:142:G:H2'	24:YA:143:C:C6	2.56	0.41
24:YA:229:A:OP1	24:YA:229:A:H4'	2.15	0.41
24:YA:440:G:H2'	24:YA:441:U:C6	2.55	0.41
24:YA:463:G:N2	24:YA:466:A:OP2	2.51	0.41
24:YA:524:U:H2'	24:YA:525:U:C6	2.55	0.41
24:YA:1791:A:N6	24:YA:1828:G:O2'	2.46	0.41
24:YA:1799:G:H5"	24:YA:1800:C:C5	2.55	0.41
24:YA:1812:A:H2'	24:YA:1813:G:C8	2.54	0.41
24:YA:2567:G:H2'	24:YA:2568:C:C6	2.55	0.41
24:YA:2685:G:P	38:YT:51:ARG:HH22	2.43	0.41
24:YA:2703:C:H2'	24:YA:2704:C:H6	1.85	0.41
26:YD:69:ARG:HD2	26:YD:105:ILE:HD13	2.02	0.41
36:YR:91:GLN:OE1	36:YR:91:GLN:N	2.53	0.41
47:Y2:42:GLY:O	47:Y2:44:LEU:N	2.45	0.41
49:Y4:46:GLN:C	49:Y4:48:ARG:H	2.24	0.41
1:QA:407:G:H2'	1:QA:408:A:C8	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:513:C:H2'	1:QA:514:C:C6	2.55	0.41
1:QA:1100:C:OP2	2:QB:96:ARG:HD3	2.20	0.41
4:QD:68:TYR:HD2	4:QD:97:LEU:HD12	1.86	0.41
12:QL:93:LEU:HD13	12:QL:93:LEU:HA	1.85	0.41
23:QX:15:A:H4'	23:QX:16:A:OP2	2.19	0.41
24:RA:321:G:OP2	28:RF:135:LYS:HD3	2.21	0.41
24:RA:1400:G:H2'	24:RA:1401:G:H8	1.85	0.41
24:RA:1551:C:H2'	24:RA:1552:G:O4'	2.20	0.41
24:RA:1656:C:H2'	24:RA:1657:C:H6	1.85	0.41
24:RA:2060:A:H4'	24:RA:2061:G:OP2	2.21	0.41
24:RA:2649:U:H2'	24:RA:2650:U:C6	2.56	0.41
29:RG:15:VAL:HG11	29:RG:176:LEU:HD22	2.02	0.41
45:R0:68:GLU:OE2	45:R0:82:ARG:NH1	2.53	0.41
53:R8:50:LEU:HD12	53:R8:51:ALA:H	1.84	0.41
1:XA:325:A:OP2	20:XT:70:SER:OG	2.18	0.41
1:XA:370:C:H2'	1:XA:371:G:C8	2.56	0.41
1:XA:437:U:H2'	1:XA:438:G:O4'	2.21	0.41
1:XA:481:G:O2'	1:XA:482:A:C8	2.72	0.41
1:XA:485:G:HO2'	1:XA:486:U:P	2.44	0.41
14:XN:32:SER:HB3	14:XN:41:ARG:HD2	2.02	0.41
14:XN:34:TYR:HD1	14:XN:44:LEU:HD21	1.86	0.41
24:YA:286:C:H2'	24:YA:287:C:H6	1.86	0.41
24:YA:465:G:H21	24:YA:684:G:H1'	1.84	0.41
24:YA:546:C:H5"	24:YA:547:A:N7	2.36	0.41
24:YA:774:A:H2	24:YA:787:U:HO2'	1.65	0.41
24:YA:1539:G:H2'	24:YA:1540:G:H8	1.84	0.41
24:YA:1588:C:H2'	24:YA:1589:C:C6	2.55	0.41
24:YA:1821:A:H2'	24:YA:1822:G:C8	2.55	0.41
24:YA:2065:C:H2'	24:YA:2066:C:C6	2.55	0.41
24:YA:2448:A:OP2	24:YA:2499:C:P	2.79	0.41
24:YA:2514:U:H2'	24:YA:2515:C:H6	1.85	0.41
24:YA:2611:U:P	24:YA:2611:U:H3'	2.61	0.41
24:YA:2773:C:H2'	24:YA:2774:C:H6	1.85	0.41
26:YD:77:ALA:HB3	26:YD:117:VAL:HG13	2.02	0.41
29:YG:27:ASN:OD1	29:YG:28:VAL:N	2.53	0.41
37:YS:66:ALA:HA	37:YS:69:VAL:HG12	2.02	0.41
40:YV:14:VAL:HB	40:YV:96:ILE:HG13	2.01	0.41
4:QD:116:GLN:O	4:QD:120:LEU:HG	2.21	0.41
4:QD:191:ARG:HD2	4:QD:192:GLU:N	2.35	0.41
16:QP:69:THR:O	16:QP:73:LEU:HD23	2.21	0.41
24:RA:407:G:H2'	24:RA:408:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:690:G:H2'	24:RA:691:C:C6	2.56	0.41
24:RA:1065:U:H5"	24:RA:1066:U:C6	2.55	0.41
24:RA:1561:G:H2'	24:RA:1562:A:C8	2.55	0.41
27:RE:144:ARG:HB3	27:RE:145:LYS:H	1.77	0.41
29:RG:176:LEU:HD13	29:RG:176:LEU:HA	1.89	0.41
31:RI:93:THR:OG1	31:RI:94:ALA:N	2.53	0.41
41:RW:36:LEU:HD13	41:RW:47:VAL:HG23	2.02	0.41
1:XA:7:G:H5'	1:XA:298:A:O4'	2.20	0.41
1:XA:1454:G:H2'	1:XA:1455:G:H8	1.86	0.41
10:XJ:39:PRO:HA	10:XJ:70:ARG:NE	2.36	0.41
10:XJ:48:THR:HG23	10:XJ:62:HIS:HB3	2.03	0.41
10:XJ:79:ARG:HA	10:XJ:82:ILE:HB	2.02	0.41
15:XO:43:LEU:HD11	24:YA:715:G:H22	1.85	0.41
24:YA:514:A:H2'	24:YA:515:A:C8	2.55	0.41
24:YA:907:U:O2'	35:YQ:101:ARG:NH2	2.51	0.41
24:YA:1291:C:H2'	24:YA:1292:U:C6	2.55	0.41
24:YA:1825:A:H2'	24:YA:1826:G:C8	2.56	0.41
24:YA:2318:G:N2	37:YS:3:ARG:HE	2.18	0.41
24:YA:2514:U:H3	24:YA:2570:G:H1	1.66	0.41
30:YH:119:GLU:O	30:YH:140:LYS:NZ	2.39	0.41
34:YP:6:LEU:HD13	34:YP:6:LEU:HA	1.91	0.41
46:Y1:53:VAL:C	46:Y1:55:GLY:H	2.23	0.41
1:QA:404:U:H5"	4:QD:122:ARG:HH11	1.86	0.41
1:QA:584:G:H2'	1:QA:585:G:H8	1.85	0.41
1:QA:587:G:OP1	8:QH:92:ARG:NH2	2.48	0.41
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.56	0.41
1:QA:1336:C:O2'	1:QA:1337:G:O5'	2.37	0.41
1:QA:1351:U:H3	1:QA:1371:G:H1	1.68	0.41
3:QC:150:LYS:HB2	3:QC:201:TYR:HB2	2.03	0.41
7:QG:62:PHE:HA	7:QG:124:LEU:HD12	2.03	0.41
7:QG:115:ARG:HB3	7:QG:118:VAL:HG22	2.02	0.41
13:QM:23:TYR:HD2	13:QM:67:GLU:HA	1.86	0.41
20:QT:54:LYS:NZ	20:QT:100:ILE:HG21	2.36	0.41
24:RA:309:G:H8	24:RA:309:G:P	2.44	0.41
24:RA:407:G:H2'	24:RA:408:G:H8	1.86	0.41
24:RA:415:A:H2'	24:RA:416:C:H6	1.85	0.41
24:RA:448:U:C4	24:RA:583:G:H1'	2.56	0.41
24:RA:623:G:H2'	24:RA:624:C:C6	2.55	0.41
24:RA:807:U:O2'	24:RA:2060:A:N1	2.44	0.41
24:RA:1562:A:H2'	24:RA:1563:G:C8	2.56	0.41
24:RA:1600:C:OP1	42:RX:58:HIS:NE2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1653:G:H1'	24:RA:1654:A:OP2	2.21	0.41
24:RA:2347:C:HO2'	51:R6:21:TYR:HH	1.59	0.41
24:RA:2648:C:H2'	24:RA:2649:U:H6	1.86	0.41
30:RH:4:ILE:HB	30:RH:6:ARG:NH1	2.35	0.41
30:RH:30:LYS:HA	30:RH:30:LYS:HD2	1.80	0.41
1:XA:93:U:H2'	1:XA:95:G:O4'	2.20	0.41
1:XA:1229:A:O2'	22:XV:31:C:OP1	2.37	0.41
1:XA:1408:A:C6	1:XA:1494:G:N1	2.89	0.41
8:XH:69:ARG:NH2	8:XH:75:ARG:O	2.54	0.41
10:XJ:34:VAL:HG12	10:XJ:74:ILE:HG12	2.02	0.41
10:XJ:62:HIS:ND1	14:XN:59:ALA:HB3	2.34	0.41
12:XL:85:ILE:HD12	12:XL:85:ILE:HA	1.98	0.41
24:YA:78:A:H2'	24:YA:79:G:H8	1.85	0.41
24:YA:147:U:H2'	24:YA:148:C:C6	2.56	0.41
24:YA:740:U:H2'	24:YA:741:G:H8	1.86	0.41
24:YA:742:G:H2'	24:YA:743:G:C8	2.55	0.41
24:YA:962:G:H2'	24:YA:963:U:C6	2.56	0.41
24:YA:1131:G:H4'	32:YN:82:LEU:HD12	2.01	0.41
24:YA:1614:A:C6	41:YW:91:GLY:HA2	2.56	0.41
24:YA:1754:C:H5'	38:YT:101:PHE:CZ	2.56	0.41
24:YA:2105:C:H2'	24:YA:2106:G:C8	2.55	0.41
25:YB:83:G:H4'	48:Y3:52:HIS:CG	2.55	0.41
28:YF:24:LEU:HD23	28:YF:115:ALA:HA	2.02	0.41
34:YP:94:GLU:O	34:YP:96:THR:HG23	2.21	0.41
35:YQ:116:GLU:OE2	35:YQ:119:ARG:NH2	2.38	0.41
44:YZ:118:GLN:HG2	44:YZ:120:ILE:HD13	2.02	0.41
1:QA:272:C:H2'	1:QA:273:A:C8	2.50	0.41
1:QA:309:G:H2'	1:QA:310:G:H8	1.86	0.41
1:QA:343:U:O2	1:QA:347:G:C6	2.74	0.41
1:QA:674:G:H2'	1:QA:675:A:C8	2.43	0.41
1:QA:1059:C:H2'	1:QA:1060:C:C6	2.55	0.41
1:QA:1129:C:H4'	1:QA:1130:A:H8	1.85	0.41
1:QA:1191:A:H5"	3:QC:4:LYS:HE3	2.03	0.41
1:QA:1384:C:H2'	1:QA:1385:G:H8	1.85	0.41
6:QF:46:ARG:HH21	18:QR:37:VAL:HG11	1.85	0.41
8:QH:38:ILE:HG21	8:QH:111:ILE:HD13	2.03	0.41
9:QI:3:GLN:HG3	9:QI:20:ARG:HD3	2.02	0.41
9:QI:4:TYR:CE1	9:QI:87:GLN:HG3	2.55	0.41
13:QM:17:VAL:HA	13:QM:20:THR:CG2	2.51	0.41
18:QR:70:ILE:O	18:QR:74:ARG:HB2	2.20	0.41
24:RA:935:C:H2'	24:RA:936:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1278:A:H2'	24:RA:1279:G:C8	2.55	0.41
24:RA:1656:C:P	27:RE:136:ARG:HE	2.43	0.41
24:RA:1952:A:N3	24:RA:2560:C:O2'	2.40	0.41
24:RA:2037:G:H2'	24:RA:2038:G:H8	1.85	0.41
24:RA:2065:C:H2'	24:RA:2066:C:H6	1.86	0.41
24:RA:2314:C:H2'	24:RA:2315:G:C8	2.56	0.41
24:RA:2728:U:H2'	24:RA:2729:G:H8	1.85	0.41
24:RA:2863:C:H2'	24:RA:2864:G:H8	1.86	0.41
24:RA:2891:G:H5'	24:RA:2892:A:OP1	2.21	0.41
24:RA:2892:A:H2'	24:RA:2893:G:O4'	2.20	0.41
27:RE:34:VAL:HG21	27:RE:77:ILE:HD11	2.01	0.41
28:RF:198:ALA:N	28:RF:200:GLU:OE2	2.53	0.41
29:RG:133:LEU:HD23	29:RG:133:LEU:HA	1.93	0.41
34:RP:138:LEU:HD21	34:RP:144:GLU:HB3	2.03	0.41
1:XA:195:A:H2'	1:XA:196:A:C4	2.55	0.41
1:XA:247:G:OP2	17:XQ:100:LYS:HG3	2.21	0.41
1:XA:1095:U:P	1:XA:1108:G:H1	2.43	0.41
1:XA:1280:A:P	10:XJ:40:LEU:HD21	2.61	0.41
1:XA:1409:C:H2'	1:XA:1410:G:C8	2.54	0.41
2:XB:161:ALA:HA	2:XB:183:PRO:O	2.21	0.41
8:XH:49:GLU:HG2	8:XH:62:TYR:HE2	1.86	0.41
9:XI:10:ARG:NH1	9:XI:75:ASP:OD1	2.54	0.41
11:XK:120:ARG:HA	11:XK:121:PRO:HD3	1.88	0.41
14:XN:47:LEU:HD13	14:XN:50:LYS:HD3	2.02	0.41
20:XT:61:SER:O	20:XT:65:LYS:HG3	2.21	0.41
24:YA:84:A:OP2	43:YY:8:LYS:NZ	2.48	0.41
24:YA:108:U:H2'	24:YA:109:G:C8	2.55	0.41
24:YA:278:A:H2'	24:YA:279:C:C6	2.56	0.41
24:YA:1111:A:OP1	30:YH:3:ARG:NH2	2.53	0.41
24:YA:1252:G:H1	39:YU:37:GLU:HG3	1.85	0.41
24:YA:1293:C:H2'	24:YA:1294:U:C6	2.56	0.41
24:YA:1423:G:H2'	24:YA:1424:G:H8	1.85	0.41
24:YA:2229:C:H2'	24:YA:2230:G:H8	1.85	0.41
46:Y1:5:CYS:HG	46:Y1:8:SER:HG	1.67	0.41
1:QA:17:U:H2'	1:QA:18:C:H6	1.86	0.41
1:QA:279:A:OP1	1:QA:280:C:O2'	2.23	0.41
1:QA:404:U:H2'	1:QA:405:U:H6	1.86	0.41
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.54	0.41
1:QA:924:C:H2'	1:QA:925:G:H8	1.85	0.41
1:QA:954:G:H21	1:QA:1227:A:H62	1.67	0.41
1:QA:1277:C:O2'	1:QA:1279:A:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:115:LEU:HD13	2:QB:145:LEU:HG	2.02	0.41
4:QD:98:GLU:HA	4:QD:103:ASN:ND2	2.35	0.41
5:QE:94:ALA:HB2	5:QE:119:LEU:HG	2.03	0.41
7:QG:92:SER:O	7:QG:96:GLN:HG3	2.21	0.41
13:QM:51:ALA:HA	13:QM:54:VAL:HG12	2.03	0.41
16:QP:53:VAL:HG13	16:QP:79:VAL:HG22	2.02	0.41
20:QT:54:LYS:HZ1	20:QT:100:ILE:HG21	1.85	0.41
24:RA:52:A:H2'	24:RA:53:A:C8	2.56	0.41
24:RA:99:U:H4'	24:RA:101:G:O5'	2.19	0.41
24:RA:270(Y):G:H2'	24:RA:270(Z):U:C6	2.56	0.41
24:RA:297:C:OP1	43:RY:87:LYS:HE3	2.20	0.41
24:RA:811:U:H2'	34:RP:21:ARG:O	2.21	0.41
24:RA:1568:G:OP2	26:RD:63:ARG:NH2	2.48	0.41
24:RA:1680:U:H2'	24:RA:1681:G:O4'	2.20	0.41
24:RA:1889:A:H2'	24:RA:1890:A:C8	2.56	0.41
24:RA:2020:A:H5'	50:R5:12:SER:HB3	2.02	0.41
24:RA:2342:C:O2'	24:RA:2374:C:H5"	2.20	0.41
24:RA:2345:G:O2'	24:RA:2381:C:O2	2.32	0.41
24:RA:2600:A:H2'	24:RA:2601:C:C6	2.56	0.41
24:RA:2618:G:H21	27:RE:150:VAL:HG21	1.85	0.41
24:RA:2676:C:H2'	24:RA:2677:G:C8	2.56	0.41
24:RA:2747:G:H21	24:RA:2757:A:N6	2.13	0.41
24:RA:2841:C:H2'	24:RA:2842:G:C8	2.56	0.41
25:RB:28:C:H2'	25:RB:29:A:H8	1.86	0.41
26:RD:83:GLU:HB2	26:RD:92:ILE:HD11	2.03	0.41
27:RE:92:THR:OG1	27:RE:93:VAL:N	2.53	0.41
28:RF:116:ASP:OD1	28:RF:119:ARG:NH2	2.54	0.41
29:RG:60:LEU:HD22	29:RG:68:PRO:HB3	2.03	0.41
30:RH:62:LYS:HB3	30:RH:62:LYS:HE2	1.91	0.41
34:RP:101:VAL:HB	34:RP:106:LEU:HB2	2.03	0.41
39:RU:91:ASP:C	39:RU:93:LYS:H	2.24	0.41
43:RY:17:SER:OG	43:RY:71:LYS:NZ	2.41	0.41
43:RY:63:LYS:HD3	43:RY:64:GLU:N	2.36	0.41
51:R6:23:THR:OG1	51:R6:24:GLU:N	2.54	0.41
1:XA:536:C:H2'	1:XA:537:G:H8	1.85	0.41
1:XA:582:U:H2'	1:XA:583:A:H8	1.85	0.41
1:XA:646:U:H2'	1:XA:647:C:C6	2.56	0.41
1:XA:923:A:H2'	1:XA:924:C:C6	2.56	0.41
1:XA:986:A:H4'	19:XS:55:LYS:NZ	2.36	0.41
1:XA:1029:G:O2'	1:XA:1032(A):G:N2	2.38	0.41
1:XA:1187:G:H5'	1:XA:1188:A:OP2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.56	0.41
1:XA:1515:C:H2'	1:XA:1516:G:C8	2.56	0.41
2:XB:27:LYS:HD2	2:XB:27:LYS:HA	1.83	0.41
2:XB:47:THR:O	2:XB:51:LEU:HG	2.19	0.41
2:XB:114:ARG:HA	2:XB:114:ARG:HD2	1.83	0.41
4:XD:108:LEU:HD23	4:XD:174:LEU:HD13	2.02	0.41
4:XD:126:ILE:HG22	4:XD:146:ILE:HD11	2.03	0.41
12:XL:62:SER:O	12:XL:62:SER:OG	2.34	0.41
17:XQ:19:VAL:HG23	17:XQ:44:ALA:HB3	2.02	0.41
17:XQ:50:LYS:HE3	17:XQ:51:TYR:CZ	2.55	0.41
24:YA:110:G:H2'	24:YA:111:A:H8	1.86	0.41
24:YA:137(A):G:H2'	24:YA:139:G:N7	2.36	0.41
24:YA:265:A:N6	24:YA:427:U:HO2'	2.19	0.41
24:YA:447:A:C4'	24:YA:449:A:N7	2.83	0.41
24:YA:642:G:H21	24:YA:646:A:H2	1.67	0.41
24:YA:669:G:H2'	24:YA:669:G:N3	2.36	0.41
24:YA:729:G:OP2	26:YD:13:ARG:HD3	2.21	0.41
24:YA:781:A:OP1	26:YD:218:ARG:NH2	2.54	0.41
24:YA:936:C:H2'	24:YA:937:U:C6	2.56	0.41
24:YA:1079:C:H2'	24:YA:1080:C:C6	2.55	0.41
24:YA:1167:U:H2'	24:YA:1168:G:H8	1.86	0.41
24:YA:1709:U:H2'	24:YA:1710:C:C6	2.56	0.41
24:YA:1710:C:H2'	24:YA:1711:C:H6	1.86	0.41
24:YA:1790:C:H2'	24:YA:1791:A:C5	2.56	0.41
24:YA:1820:U:C2	26:YD:202:LYS:HB2	2.56	0.41
24:YA:1871:A:H8	24:YA:1871:A:OP2	2.04	0.41
24:YA:2291:U:O2'	24:YA:2374:C:O2	2.39	0.41
24:YA:2695:C:H2'	24:YA:2696:U:C6	2.56	0.41
24:YA:2712:U:H6	24:YA:2712:U:H2'	1.65	0.41
24:YA:2788:C:H4'	24:YA:2809:A:O2'	2.21	0.41
29:YG:43:LEU:HD13	29:YG:43:LEU:HA	1.91	0.41
30:YH:86:GLU:HB3	30:YH:165:ALA:H	1.86	0.41
33:YO:88:ASN:HD21	33:YO:92:GLU:HB2	1.86	0.41
44:YZ:24:LEU:HD21	44:YZ:86:VAL:HG13	2.03	0.41
49:Y4:49:PHE:H	49:Y4:49:PHE:HD2	1.68	0.41
1:QA:17:U:H2'	1:QA:18:C:C6	2.56	0.41
1:QA:163:C:H2'	1:QA:164:U:H6	1.86	0.41
1:QA:192:U:H2'	1:QA:193:C:C6	2.56	0.41
1:QA:1150:U:O4	1:QA:1151:A:N6	2.54	0.41
1:QA:1342:C:H1'	9:QI:124:GLN:NE2	2.36	0.41
1:QA:1347:G:O6	9:QI:10:ARG:NH2	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.55	0.41
4:QD:119:GLN:HA	4:QD:122:ARG:HG2	2.02	0.41
5:QE:91:LEU:HD13	5:QE:120:THR:HG22	2.02	0.41
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	2.02	0.41
13:QM:66:LEU:HD13	13:QM:66:LEU:HA	1.72	0.41
17:QQ:45:HIS:CD2	17:QQ:47:PRO:HG3	2.56	0.41
24:RA:93:C:H2'	24:RA:94:G:O4'	2.21	0.41
24:RA:280:C:H2'	24:RA:281:G:O4'	2.21	0.41
24:RA:1106:G:H2'	24:RA:1107:G:C8	2.56	0.41
24:RA:1184:G:OP1	48:R3:29:ARG:NH1	2.54	0.41
24:RA:1657:C:H2'	24:RA:1658:C:C6	2.55	0.41
27:RE:20:ALA:N	33:RO:72:PRO:O	2.48	0.41
30:RH:107:VAL:HG21	30:RH:151:ILE:HG21	2.02	0.41
33:RO:22:ILE:HG13	33:RO:41:ALA:HA	2.02	0.41
35:RQ:122:GLY:HA2	35:RQ:129:THR:HG21	2.03	0.41
43:RY:53:PRO:C	43:RY:55:TYR:H	2.24	0.41
44:RZ:35:ARG:HD3	44:RZ:35:ARG:HA	1.86	0.41
44:RZ:131:ARG:HD2	44:RZ:131:ARG:H	1.85	0.41
45:R0:70:GLN:O	45:R0:78:TYR:N	2.51	0.41
46:R1:82:LEU:HD23	46:R1:82:LEU:HA	1.97	0.41
1:XA:363:A:H2'	1:XA:364:A:C8	2.56	0.41
1:XA:406:G:H2'	1:XA:407:G:H8	1.84	0.41
1:XA:738:C:H2'	1:XA:739:C:C6	2.56	0.41
1:XA:958:A:C6	19:XS:55:LYS:HB2	2.55	0.41
1:XA:1061:G:OP1	10:XJ:59:SER:OG	2.37	0.41
1:XA:1145:C:H4'	1:XA:1146:A:H8	1.86	0.41
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.86	0.41
3:XC:184:TYR:HD2	3:XC:201:TYR:HE2	1.69	0.41
24:YA:1566:A:OP2	26:YD:211:ARG:NH2	2.47	0.41
24:YA:1728:G:H3'	24:YA:1729:A:H5"	2.02	0.41
24:YA:2734:A:H5'	24:YA:2735:G:OP2	2.20	0.41
24:YA:2823:A:OP1	27:YE:113:PHE:HB2	2.21	0.41
25:YB:44:G:H5"	25:YB:45:A:OP1	2.21	0.41
29:YG:107:LEU:HD21	29:YG:178:PHE:CE1	2.56	0.41
30:YH:19:VAL:HA	30:YH:24:VAL:HG12	2.04	0.41
32:YN:30:ILE:HG22	32:YN:34:LEU:HD23	2.02	0.41
42:YX:35:THR:O	42:YX:39:ILE:HG13	2.21	0.41
46:Y1:49:VAL:HG11	46:Y1:70:VAL:HG11	2.02	0.41
51:Y6:44:ARG:O	51:Y6:45:LYS:HD3	2.21	0.41
1:QA:167:G:H2'	1:QA:168:G:H8	1.86	0.40
1:QA:321:A:H2'	1:QA:322:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1059:C:H2'	1:QA:1060:C:H6	1.86	0.40
1:QA:1314:C:N4	19:QS:2:PRO:O	2.54	0.40
1:QA:1414:U:H2'	1:QA:1415:G:C8	2.54	0.40
2:QB:16:HIS:HD2	2:QB:210:SER:HA	1.85	0.40
6:QF:94:GLN:OE1	18:QR:32:ARG:NH1	2.49	0.40
12:QL:27:LEU:HD12	12:QL:27:LEU:HA	1.82	0.40
12:QL:104:VAL:HG12	12:QL:107:ALA:HB3	2.04	0.40
20:QT:81:LYS:O	20:QT:85:MET:HG2	2.20	0.40
24:RA:142:G:H2'	24:RA:143:C:H6	1.86	0.40
24:RA:270(W):G:H2'	24:RA:270(X):G:C8	2.56	0.40
24:RA:455:C:O2'	24:RA:456:C:H5'	2.21	0.40
24:RA:519:U:H2'	24:RA:520:G:H8	1.86	0.40
25:RB:42:C:O2	29:RG:93:THR:N	2.45	0.40
25:RB:86:G:H2'	25:RB:87:G:H8	1.86	0.40
30:RH:55:PRO:HG2	30:RH:61:HIS:CE1	2.56	0.40
35:RQ:62:GLY:HA3	35:RQ:107:ALA:O	2.21	0.40
37:RS:25:ARG:HB3	37:RS:40:ILE:HG23	2.02	0.40
40:RV:24:LYS:HA	40:RV:92:THR:HG23	2.02	0.40
42:RX:21:PHE:HE1	42:RX:92:LEU:HB3	1.86	0.40
49:R4:16:CYS:SG	49:R4:17:GLY:N	2.95	0.40
1:XA:105:G:H2'	1:XA:106:C:C6	2.56	0.40
1:XA:438:G:H4'	4:XD:123:HIS:CD2	2.56	0.40
1:XA:1310:G:HO2'	1:XA:1311:G:P	2.44	0.40
5:XE:147:ASP:O	5:XE:151:LEU:HD23	2.21	0.40
14:XN:43:CYS:C	14:XN:45:ARG:H	2.25	0.40
24:YA:286:C:H2'	24:YA:287:C:C6	2.56	0.40
24:YA:327:G:H2'	24:YA:328:U:C6	2.55	0.40
24:YA:1411:C:H3'	24:YA:1412:A:H8	1.86	0.40
24:YA:1444:G:H2'	24:YA:1445:C:C5	2.56	0.40
24:YA:2323:G:H1	24:YA:2332:U:H3	1.68	0.40
24:YA:2339:G:H2'	24:YA:2340:G:C8	2.57	0.40
24:YA:2647:U:H2'	24:YA:2648:C:C6	2.56	0.40
24:YA:2863:C:H2'	24:YA:2864:G:C8	2.56	0.40
27:YE:185:LYS:HA	27:YE:185:LYS:HD2	1.84	0.40
28:YF:152:GLU:N	28:YF:152:GLU:OE2	2.54	0.40
32:YN:114:ARG:O	32:YN:115:ARG:HB3	2.21	0.40
39:YU:61:TRP:HB3	39:YU:93:LYS:O	2.21	0.40
40:YV:5:VAL:HB	40:YV:35:LEU:HD11	2.03	0.40
41:YW:33:ARG:NH2	41:YW:52:GLU:OE1	2.50	0.40
1:QA:381:C:H2'	1:QA:382:A:O4'	2.20	0.40
1:QA:819:A:N7	1:QA:1529:G:N1	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:939:G:H2'	1:QA:940:C:C6	2.55	0.40
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.86	0.40
2:QB:114:ARG:O	2:QB:118:LEU:HG	2.22	0.40
4:QD:156:GLU:OE1	4:QD:156:GLU:N	2.45	0.40
16:QP:19:ILE:O	16:QP:36:ILE:HG22	2.21	0.40
24:RA:270(U):C:H2'	24:RA:270(V):G:C8	2.56	0.40
24:RA:587:C:H4'	24:RA:588:U:O5'	2.20	0.40
24:RA:634:C:H2'	24:RA:635:C:H6	1.86	0.40
24:RA:1847:A:H5'	24:RA:1848:A:OP2	2.21	0.40
24:RA:1921:G:H2'	24:RA:1922:G:H8	1.86	0.40
26:RD:182:LEU:HB2	26:RD:271:ILE:HB	2.03	0.40
32:RN:112:LEU:HD12	32:RN:112:LEU:HA	1.93	0.40
34:RP:7:ARG:HA	34:RP:8:PRO:HD2	1.94	0.40
34:RP:62:LEU:HD12	53:R8:30:ARG:HE	1.86	0.40
41:RW:60:ASN:O	41:RW:61:ASN:ND2	2.53	0.40
53:R8:50:LEU:C	53:R8:52:LYS:H	2.25	0.40
1:XA:19:C:H2'	1:XA:20:U:H6	1.86	0.40
1:XA:777:A:H2'	1:XA:778:G:C8	2.56	0.40
1:XA:998(A):C:H2'	1:XA:999:U:C6	2.56	0.40
1:XA:1036:G:H5'	1:XA:1037:C:OP2	2.20	0.40
1:XA:1412:C:H2'	1:XA:1413:A:H8	1.86	0.40
9:XI:50:LEU:HD11	9:XI:81:ILE:HG21	2.02	0.40
16:XP:6:LEU:HD13	16:XP:6:LEU:HA	1.96	0.40
17:XQ:40:LYS:HB2	17:XQ:40:LYS:HE2	1.88	0.40
19:XS:85:LYS:HA	19:XS:85:LYS:HD2	1.90	0.40
24:YA:730:C:H2'	24:YA:731:C:H6	1.86	0.40
24:YA:1683:C:H2'	24:YA:1684:C:H6	1.86	0.40
28:YF:28:ILE:HD13	28:YF:116:ASP:HB2	2.03	0.40
29:YG:55:LYS:O	29:YG:58:GLN:HG3	2.21	0.40
32:YN:118:LYS:HA	32:YN:118:LYS:HD2	1.78	0.40
43:YY:13:VAL:HG12	43:YY:74:PRO:HA	2.02	0.40
1:QA:279:A:OP2	17:QQ:91:ARG:NH2	2.54	0.40
1:QA:324:G:P	20:QT:22:ARG:HE	2.45	0.40
1:QA:1268:A:H2'	1:QA:1269:A:C8	2.56	0.40
1:QA:1422:G:H2'	1:QA:1423:G:H8	1.87	0.40
16:QP:8:ARG:HA	16:QP:17:TYR:HD1	1.86	0.40
24:RA:150:C:H2'	24:RA:151:C:H6	1.87	0.40
24:RA:1295:C:H2'	24:RA:1296:G:C8	2.57	0.40
24:RA:2188:C:H2'	24:RA:2189:U:O4'	2.21	0.40
31:RI:76:THR:OG1	31:RI:139:GLN:NE2	2.49	0.40
1:XA:323:U:O2'	20:XT:22:ARG:HD3	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1255:G:O2'	1:XA:1258:G:N3	2.37	0.40
1:XA:1303:C:H2'	1:XA:1304:G:O4'	2.21	0.40
1:XA:1320:C:O2	19:XS:36:ARG:NH2	2.54	0.40
1:XA:1342:C:H2'	1:XA:1343:G:H8	1.84	0.40
6:XF:50:TYR:OH	18:XR:75:ILE:O	2.40	0.40
13:XM:65:LYS:HB3	49:Y4:50:VAL:HG21	2.02	0.40
24:YA:27:G:N2	24:YA:513:A:OP2	2.54	0.40
24:YA:186:G:H2'	24:YA:187:G:C8	2.56	0.40
24:YA:864:G:H2'	24:YA:865:C:C6	2.57	0.40
24:YA:1203:G:H1'	24:YA:1242:A:N6	2.36	0.40
24:YA:1345:C:H2'	24:YA:1346:G:H8	1.87	0.40
24:YA:1604:C:O2'	24:YA:1610:A:N1	2.46	0.40
24:YA:1907:G:O6	24:YA:1924:C:N4	2.55	0.40
24:YA:1947:C:H2'	24:YA:1948:G:H8	1.85	0.40
24:YA:1952:A:N3	24:YA:2560:C:O2'	2.43	0.40
24:YA:1990:C:H2'	24:YA:1991:U:C6	2.56	0.40
24:YA:2243:U:H2'	24:YA:2244:U:C6	2.56	0.40
24:YA:2354:G:H4'	45:Y0:35:ASN:ND2	2.36	0.40
24:YA:2626:C:H2'	24:YA:2627:G:C8	2.51	0.40
24:YA:2637:U:H5"	27:YE:82:ARG:NH1	2.35	0.40
24:YA:2661:G:H2'	24:YA:2662:A:C8	2.56	0.40
24:YA:2698:U:H2'	24:YA:2699:C:H6	1.87	0.40
44:YZ:48:PHE:HA	44:YZ:51:ALA:HB3	2.02	0.40
48:Y3:28:LEU:HD22	48:Y3:35:ARG:HD3	2.02	0.40
54:Y9:6:SER:O	54:Y9:6:SER:OG	2.32	0.40
22:XV:4:U:O2'	22:XV:5:G:H8	2.04	0.40
1:QA:173:U:H5"	1:QA:197:A:O4'	2.21	0.40
1:QA:448:A:OP2	1:QA:485:G:N2	2.25	0.40
1:QA:538:G:H2'	1:QA:539:A:C8	2.56	0.40
1:QA:1298:C:H4'	1:QA:1299:A:C5	2.57	0.40
1:QA:1346:A:H1'	1:QA:1347:G:OP2	2.22	0.40
3:QC:8:ILE:HD12	3:QC:16:ARG:NH1	2.36	0.40
3:QC:30:ARG:O	3:QC:34:LEU:HD12	2.21	0.40
3:QC:152:ILE:HG12	3:QC:199:LYS:HB3	2.03	0.40
5:QE:121:LYS:HA	5:QE:121:LYS:HD2	1.83	0.40
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	2.04	0.40
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	2.02	0.40
24:RA:137(A):G:O6	24:RA:139:G:O2'	2.34	0.40
24:RA:376:C:H2'	24:RA:377:C:C6	2.56	0.40
24:RA:691:C:H2'	24:RA:692:C:H6	1.86	0.40
24:RA:829:A:N7	24:RA:2248:C:H5'	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1823:G:H2'	24:RA:1824:G:H8	1.86	0.40
24:RA:2287:A:H62	24:RA:2344:U:H3	1.70	0.40
24:RA:2315:G:H2'	24:RA:2316:C:C6	2.55	0.40
24:RA:2377:A:H2'	24:RA:2378:A:C8	2.55	0.40
27:RE:114:ALA:HB3	27:RE:160:TYR:HB3	2.02	0.40
27:RE:116:VAL:HG11	27:RE:138:PRO:HD3	2.03	0.40
32:RN:114:ARG:H	32:RN:114:ARG:HG2	1.66	0.40
34:RP:79:ARG:HA	34:RP:79:ARG:HD3	1.95	0.40
37:RS:96:GLY:H	37:RS:99:LYS:HE3	1.87	0.40
53:R8:26:LYS:HA	53:R8:26:LYS:HD2	1.89	0.40
1:XA:79:G:H2'	1:XA:80:G:H8	1.85	0.40
1:XA:165:C:H2'	1:XA:166:G:C8	2.56	0.40
1:XA:636:U:H2'	1:XA:637:G:C8	2.56	0.40
1:XA:822:C:H2'	1:XA:823:G:C8	2.56	0.40
1:XA:1322:C:O2'	1:XA:1323:G:OP2	2.38	0.40
5:XE:43:LEU:HA	5:XE:43:LEU:HD12	1.81	0.40
14:XN:15:LYS:HD3	14:XN:15:LYS:HA	1.89	0.40
16:XP:71:ARG:HH12	16:XP:75:ARG:CZ	2.34	0.40
20:XT:51:GLU:O	20:XT:55:ILE:HG12	2.21	0.40
24:YA:184:C:H2'	24:YA:185:U:C6	2.56	0.40
24:YA:230:U:H2'	24:YA:231:C:H6	1.86	0.40
24:YA:1541:U:H2'	24:YA:1542:G:O4'	2.22	0.40
24:YA:1629:U:H2'	24:YA:1630:G:H8	1.86	0.40
24:YA:1658:C:H2'	24:YA:1659:U:C6	2.57	0.40
24:YA:2257:U:H2'	24:YA:2258:C:C6	2.56	0.40
28:YF:152:GLU:O	28:YF:154:VAL:HG23	2.21	0.40
30:YH:9:ILE:HA	30:YH:10:PRO:HD3	1.89	0.40
1:QA:224:C:H2'	1:QA:225:C:H6	1.86	0.40
1:QA:900:A:H2'	1:QA:901:A:C8	2.56	0.40
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.38	0.40
1:QA:1137:C:O2'	1:QA:1138:G:H5"	2.21	0.40
1:QA:1308:U:H2'	1:QA:1309:G:C8	2.57	0.40
3:QC:90:GLU:O	3:QC:93:LYS:NZ	2.52	0.40
4:QD:201:GLN:HA	4:QD:204:ILE:HD12	2.03	0.40
5:QE:5:ASP:OD1	5:QE:5:ASP:N	2.55	0.40
13:QM:52:GLU:O	13:QM:56:LEU:HB2	2.22	0.40
24:RA:404:C:H1'	24:RA:405:U:OP2	2.21	0.40
24:RA:479:A:OP1	43:RY:34:LYS:NZ	2.42	0.40
24:RA:1119:C:H2'	24:RA:1120:G:H8	1.86	0.40
24:RA:1165:U:H2'	24:RA:1166:C:C6	2.56	0.40
24:RA:1670:C:H2'	24:RA:1671:U:O4'	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2019:A:N7	50:R5:9:LYS:NZ	2.61	0.40
24:RA:2074:U:H2'	24:RA:2075:U:C6	2.57	0.40
24:RA:2231:C:H2'	24:RA:2232:U:O4'	2.21	0.40
24:RA:2303:G:O2'	29:RG:132:ASN:HB2	2.20	0.40
25:RB:66:A:H61	25:RB:107:U:H2'	1.86	0.40
26:RD:36:PRO:HA	26:RD:62:TYR:O	2.22	0.40
27:RE:6:GLY:HA2	27:RE:51:PHE:CZ	2.57	0.40
38:RT:22:PHE:HA	38:RT:91:ARG:HH12	1.86	0.40
1:XA:338:A:H2'	1:XA:339:C:C6	2.57	0.40
1:XA:993:G:H2'	1:XA:995:C:H41	1.85	0.40
1:XA:1006:C:H2'	1:XA:1007:C:C6	2.57	0.40
1:XA:1304:G:N2	1:XA:1333:A:H62	2.19	0.40
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.20	0.40
7:XG:20:ASP:OD1	7:XG:21:VAL:N	2.54	0.40
13:XM:40:ASN:HA	13:XM:41:PRO:HD3	1.96	0.40
13:XM:76:ALA:O	13:XM:80:ARG:HG2	2.22	0.40
24:YA:610:C:H2'	24:YA:611:C:H6	1.85	0.40
24:YA:658:C:H2'	24:YA:659:C:C6	2.56	0.40
24:YA:664:C:H2'	24:YA:665:C:H6	1.87	0.40
24:YA:667:U:H2'	24:YA:668:G:O4'	2.21	0.40
24:YA:1165:U:H2'	24:YA:1166:C:H6	1.87	0.40
24:YA:1656:C:P	27:YE:136:ARG:HE	2.44	0.40
24:YA:2031:A:N3	24:YA:2455:G:O2'	2.51	0.40
24:YA:2055:C:H4'	24:YA:2056:G:H5"	2.04	0.40
24:YA:2230:G:O2'	46:Y1:43:TYR:O	2.27	0.40
29:YG:83:ARG:HG3	29:YG:84:LYS:H	1.85	0.40
29:YG:106:LEU:HA	29:YG:110:ALA:HB3	2.03	0.40
29:YG:124:SER:HB2	29:YG:131:TYR:CE1	2.57	0.40
34:YP:107:LYS:O	34:YP:109:GLY:N	2.55	0.40
35:YQ:5:ARG:HE	35:YQ:6:ARG:H	1.68	0.40
38:YT:107:ASP:O	38:YT:110:ILE:HG12	2.21	0.40
42:YX:21:PHE:HA	42:YX:26:TYR:HE1	1.86	0.40
51:Y6:9:LEU:HD13	51:Y6:51:GLU:HB2	2.04	0.40
53:Y8:3:LYS:H	53:Y8:3:LYS:HG3	1.68	0.40
22:XV:73:G:H2'	22:XV:74:A:C8	2.56	0.40

All (7) 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)
40:YV:53:GLU:CB	50:Y5:59:GLU:OE1[4_445]	1.95	0.25

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:99:GLN:OE1	3:XC:79:ARG:CD[4_555]	2.01	0.19
24:RA:2137:C:OP1	1:XA:999:U:O2'[4_555]	2.05	0.15
30:YH:46:GLU:OE2	43:YY:23:ARG:NH1[4_445]	2.08	0.12
24:RA:306:U:O3'	47:Y2:17:SER:OG[3_555]	2.12	0.08
24:RA:307:G:O3'	47:Y2:15:LYS:NZ[3_555]	2.13	0.07
24:RA:2217:G:OP1	4:XD:159:ARG:NH2[4_555]	2.14	0.06

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%)	204 (88%)	27 (12%)	2 (1%)	17	54
2	XB	234/256 (91%)	207 (88%)	27 (12%)	0	100	100
3	QC	203/239 (85%)	189 (93%)	13 (6%)	1 (0%)	29	66
3	XC	203/239 (85%)	184 (91%)	18 (9%)	1 (0%)	29	66
4	QD	206/209 (99%)	188 (91%)	18 (9%)	0	100	100
4	XD	206/209 (99%)	191 (93%)	15 (7%)	0	100	100
5	QE	149/162 (92%)	139 (93%)	9 (6%)	1 (1%)	22	60
5	XE	149/162 (92%)	138 (93%)	11 (7%)	0	100	100
6	QF	99/101 (98%)	95 (96%)	4 (4%)	0	100	100
6	XF	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
7	QG	153/156 (98%)	145 (95%)	8 (5%)	0	100	100
7	XG	153/156 (98%)	148 (97%)	5 (3%)	0	100	100
8	QH	135/138 (98%)	126 (93%)	9 (7%)	0	100	100
8	XH	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
9	QI	123/128 (96%)	113 (92%)	9 (7%)	1 (1%)	19	57
9	XI	124/128 (97%)	116 (94%)	8 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	QJ	97/105 (92%)	93 (96%)	4 (4%)	0	100	100
10	XJ	94/105 (90%)	83 (88%)	11 (12%)	0	100	100
11	QK	117/129 (91%)	111 (95%)	6 (5%)	0	100	100
11	XK	114/129 (88%)	110 (96%)	4 (4%)	0	100	100
12	QL	123/132 (93%)	111 (90%)	11 (9%)	1 (1%)	19	57
12	XL	120/132 (91%)	104 (87%)	15 (12%)	1 (1%)	19	57
13	QM	118/126 (94%)	102 (86%)	15 (13%)	1 (1%)	19	57
13	XM	117/126 (93%)	99 (85%)	17 (14%)	1 (1%)	17	54
14	QN	58/61 (95%)	51 (88%)	6 (10%)	1 (2%)	9	42
14	XN	58/61 (95%)	52 (90%)	5 (9%)	1 (2%)	9	42
15	QO	86/89 (97%)	82 (95%)	4 (5%)	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%)	81 (99%)	1 (1%)	0	100	100
17	QQ	98/105 (93%)	93 (95%)	5 (5%)	0	100	100
17	XQ	98/105 (93%)	95 (97%)	3 (3%)	0	100	100
18	QR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
18	XR	68/88 (77%)	62 (91%)	6 (9%)	0	100	100
19	QS	81/93 (87%)	73 (90%)	8 (10%)	0	100	100
19	XS	82/93 (88%)	68 (83%)	14 (17%)	0	100	100
20	QT	97/106 (92%)	91 (94%)	6 (6%)	0	100	100
20	XT	97/106 (92%)	90 (93%)	6 (6%)	1 (1%)	15	52
21	QU	23/27 (85%)	20 (87%)	3 (13%)	0	100	100
21	XU	23/27 (85%)	23 (100%)	0	0	100	100
26	RD	270/276 (98%)	245 (91%)	23 (8%)	2 (1%)	22	60
26	YD	270/276 (98%)	248 (92%)	20 (7%)	2 (1%)	22	60
27	RE	203/206 (98%)	170 (84%)	31 (15%)	2 (1%)	15	52
27	YE	203/206 (98%)	166 (82%)	35 (17%)	2 (1%)	15	52
28	RF	200/210 (95%)	189 (94%)	11 (6%)	0	100	100
28	YF	200/210 (95%)	189 (94%)	11 (6%)	0	100	100
29	RG	179/182 (98%)	148 (83%)	29 (16%)	2 (1%)	14	50

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
29	YG	179/182 (98%)	150 (84%)	27 (15%)	2 (1%)	14 50
30	RH	172/180 (96%)	147 (86%)	20 (12%)	5 (3%)	4 32
30	YH	172/180 (96%)	150 (87%)	18 (10%)	4 (2%)	6 37
31	RI	144/148 (97%)	121 (84%)	20 (14%)	3 (2%)	7 38
31	YI	144/148 (97%)	120 (83%)	21 (15%)	3 (2%)	7 38
32	RN	136/140 (97%)	120 (88%)	15 (11%)	1 (1%)	22 60
32	YN	136/140 (97%)	119 (88%)	17 (12%)	0	100 100
33	RO	120/122 (98%)	112 (93%)	8 (7%)	0	100 100
33	YO	120/122 (98%)	112 (93%)	8 (7%)	0	100 100
34	RP	148/150 (99%)	120 (81%)	26 (18%)	2 (1%)	11 45
34	YP	145/150 (97%)	119 (82%)	25 (17%)	1 (1%)	22 60
35	RQ	139/141 (99%)	119 (86%)	19 (14%)	1 (1%)	22 60
35	YQ	139/141 (99%)	117 (84%)	21 (15%)	1 (1%)	22 60
36	RR	115/118 (98%)	108 (94%)	5 (4%)	2 (2%)	9 42
36	YR	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17 54
37	RS	109/112 (97%)	93 (85%)	15 (14%)	1 (1%)	17 54
37	YS	109/112 (97%)	92 (84%)	17 (16%)	0	100 100
38	RT	135/146 (92%)	118 (87%)	15 (11%)	2 (2%)	10 45
38	YT	135/146 (92%)	114 (84%)	19 (14%)	2 (2%)	10 45
39	RU	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17 54
39	YU	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	17 54
40	RV	99/101 (98%)	87 (88%)	11 (11%)	1 (1%)	15 52
40	YV	99/101 (98%)	86 (87%)	12 (12%)	1 (1%)	15 52
41	RW	111/113 (98%)	105 (95%)	5 (4%)	1 (1%)	17 54
41	YW	111/113 (98%)	101 (91%)	9 (8%)	1 (1%)	17 54
42	RX	90/96 (94%)	89 (99%)	1 (1%)	0	100 100
42	YX	90/96 (94%)	88 (98%)	2 (2%)	0	100 100
43	RY	105/110 (96%)	101 (96%)	4 (4%)	0	100 100
43	YY	105/110 (96%)	99 (94%)	6 (6%)	0	100 100
44	RZ	181/206 (88%)	146 (81%)	32 (18%)	3 (2%)	9 42
44	YZ	181/206 (88%)	149 (82%)	29 (16%)	3 (2%)	9 42

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
45	R0	79/85 (93%)	74 (94%)	5 (6%)	0	100 100
45	Y0	72/85 (85%)	69 (96%)	3 (4%)	0	100 100
46	R1	95/98 (97%)	86 (90%)	9 (10%)	0	100 100
46	Y1	91/98 (93%)	83 (91%)	8 (9%)	0	100 100
47	R2	67/72 (93%)	63 (94%)	3 (4%)	1 (2%)	10 45
47	Y2	67/72 (93%)	63 (94%)	3 (4%)	1 (2%)	10 45
48	R3	57/60 (95%)	55 (96%)	2 (4%)	0	100 100
48	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100 100
49	R4	67/71 (94%)	53 (79%)	13 (19%)	1 (2%)	10 45
49	Y4	67/71 (94%)	53 (79%)	13 (19%)	1 (2%)	10 45
50	R5	57/60 (95%)	53 (93%)	4 (7%)	0	100 100
50	Y5	57/60 (95%)	52 (91%)	5 (9%)	0	100 100
51	R6	51/54 (94%)	51 (100%)	0	0	100 100
51	Y6	51/54 (94%)	47 (92%)	4 (8%)	0	100 100
52	R7	45/49 (92%)	45 (100%)	0	0	100 100
52	Y7	46/49 (94%)	45 (98%)	1 (2%)	0	100 100
53	R8	62/65 (95%)	48 (77%)	11 (18%)	3 (5%)	2 23
53	Y8	62/65 (95%)	47 (76%)	13 (21%)	2 (3%)	4 31
54	R9	35/37 (95%)	35 (100%)	0	0	100 100
54	Y9	35/37 (95%)	33 (94%)	2 (6%)	0	100 100
All	All	11449/12128 (94%)	10319 (90%)	1055 (9%)	75 (1%)	22 60

All (75) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
27	RE	18	ASP
31	RI	15	VAL
38	RT	124	ASP
44	RZ	53	ILE
53	R8	30	ARG
27	YE	18	ASP
30	YH	86	GLU
30	YH	152	ARG
31	YI	15	VAL
38	YT	123	GLN

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Mol	Chain	Res	Type
38	YT	124	ASP
44	YZ	53	ILE
53	Y8	30	ARG
3	QC	12	LEU
14	QN	17	LYS
26	RD	243	GLY
34	RP	108	LYS
36	RR	3	HIS
38	RT	123	GLN
53	R8	29	LYS
12	XL	105	TYR
14	XN	17	LYS
34	YP	108	LYS
53	Y8	29	LYS
12	QL	46	LYS
27	RE	83	ASP
30	RH	86	GLU
30	RH	87	LEU
30	RH	152	ARG
31	RI	10	GLU
32	RN	22	THR
36	RR	4	LEU
37	RS	111	GLU
40	RV	44	LYS
41	RW	66	GLU
49	R4	47	GLN
26	YD	243	GLY
27	YE	83	ASP
29	YG	81	LYS
39	YU	92	ARG
41	YW	66	GLU
49	Y4	47	GLN
9	QI	107	ARG
13	QM	14	ARG
29	RG	81	LYS
39	RU	92	ARG
44	RZ	52	SER
47	R2	70	GLN
29	YG	83	ARG
30	YH	87	LEU
35	YQ	78	PRO
47	Y2	70	GLN

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Mol	Chain	Res	Type
29	RG	82	LEU
30	RH	12	PRO
35	RQ	78	PRO
3	XC	12	LEU
13	XM	13	LYS
30	YH	12	PRO
31	YI	123	LEU
36	YR	4	LEU
40	YV	44	LYS
44	YZ	52	SER
30	RH	129	THR
26	YD	36	PRO
53	R8	53	PRO
26	RD	36	PRO
5	QE	74	GLY
34	RP	10	PRO
44	RZ	166	SER
2	QB	208	ILE
31	RI	16	GLY
31	YI	16	GLY
44	YZ	165	VAL
2	QB	232	PRO
20	XT	97	ALA

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%)	200 (98%)	3 (2%)	65 79
2	XB	204/220 (93%)	201 (98%)	3 (2%)	65 79
3	QC	159/188 (85%)	154 (97%)	5 (3%)	40 63
3	XC	159/188 (85%)	157 (99%)	2 (1%)	69 81
4	QD	180/181 (99%)	176 (98%)	4 (2%)	52 71
4	XD	180/181 (99%)	175 (97%)	5 (3%)	43 65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	QE	116/123 (94%)	115 (99%)	1 (1%)	78 87
5	XE	116/123 (94%)	115 (99%)	1 (1%)	78 87
6	QF	90/90 (100%)	90 (100%)	0	100 100
6	XF	90/90 (100%)	90 (100%)	0	100 100
7	QG	126/127 (99%)	122 (97%)	4 (3%)	39 62
7	XG	126/127 (99%)	124 (98%)	2 (2%)	62 79
8	QH	118/119 (99%)	116 (98%)	2 (2%)	60 78
8	XH	118/119 (99%)	116 (98%)	2 (2%)	60 78
9	QI	96/99 (97%)	94 (98%)	2 (2%)	53 72
9	XI	97/99 (98%)	95 (98%)	2 (2%)	53 72
10	QJ	89/92 (97%)	88 (99%)	1 (1%)	73 84
10	XJ	86/92 (94%)	83 (96%)	3 (4%)	36 61
11	QK	90/99 (91%)	89 (99%)	1 (1%)	73 84
11	XK	88/99 (89%)	88 (100%)	0	100 100
12	QL	104/109 (95%)	103 (99%)	1 (1%)	76 85
12	XL	103/109 (94%)	102 (99%)	1 (1%)	76 85
13	QM	96/101 (95%)	93 (97%)	3 (3%)	40 63
13	XM	95/101 (94%)	92 (97%)	3 (3%)	39 62
14	QN	49/50 (98%)	47 (96%)	2 (4%)	30 57
14	XN	49/50 (98%)	49 (100%)	0	100 100
15	QO	79/80 (99%)	79 (100%)	0	100 100
15	XO	79/80 (99%)	79 (100%)	0	100 100
16	QP	72/74 (97%)	72 (100%)	0	100 100
16	XP	72/74 (97%)	72 (100%)	0	100 100
17	QQ	95/97 (98%)	94 (99%)	1 (1%)	73 84
17	XQ	95/97 (98%)	94 (99%)	1 (1%)	73 84
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%)	71 (99%)	1 (1%)	67 80
19	XS	73/80 (91%)	73 (100%)	0	100 100
20	QT	76/82 (93%)	75 (99%)	1 (1%)	69 81

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
20	XT	76/82 (93%)	76 (100%)	0	100	100
21	QU	20/22 (91%)	19 (95%)	1 (5%)	24	52
21	XU	20/22 (91%)	19 (95%)	1 (5%)	24	52
26	RD	214/218 (98%)	212 (99%)	2 (1%)	78	87
26	YD	214/218 (98%)	212 (99%)	2 (1%)	78	87
27	RE	165/166 (99%)	164 (99%)	1 (1%)	86	91
27	YE	165/166 (99%)	165 (100%)	0	100	100
28	RF	161/166 (97%)	161 (100%)	0	100	100
28	YF	161/166 (97%)	161 (100%)	0	100	100
29	RG	155/156 (99%)	154 (99%)	1 (1%)	86	91
29	YG	155/156 (99%)	154 (99%)	1 (1%)	86	91
30	RH	145/148 (98%)	144 (99%)	1 (1%)	84	90
30	YH	145/148 (98%)	143 (99%)	2 (1%)	67	80
31	RI	122/124 (98%)	122 (100%)	0	100	100
31	YI	122/124 (98%)	121 (99%)	1 (1%)	81	88
32	RN	117/119 (98%)	117 (100%)	0	100	100
32	YN	117/119 (98%)	116 (99%)	1 (1%)	78	87
33	RO	100/100 (100%)	100 (100%)	0	100	100
33	YO	100/100 (100%)	100 (100%)	0	100	100
34	RP	116/116 (100%)	114 (98%)	2 (2%)	60	78
34	YP	114/116 (98%)	114 (100%)	0	100	100
35	RQ	111/111 (100%)	109 (98%)	2 (2%)	59	77
35	YQ	111/111 (100%)	109 (98%)	2 (2%)	59	77
36	RR	100/101 (99%)	100 (100%)	0	100	100
36	YR	100/101 (99%)	100 (100%)	0	100	100
37	RS	87/88 (99%)	86 (99%)	1 (1%)	73	84
37	YS	87/88 (99%)	87 (100%)	0	100	100
38	RT	120/127 (94%)	119 (99%)	1 (1%)	81	88
38	YT	120/127 (94%)	120 (100%)	0	100	100
39	RU	93/94 (99%)	92 (99%)	1 (1%)	73	84
39	YU	93/94 (99%)	93 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
40	RV	82/82 (100%)	81 (99%)	1 (1%)	71 83
40	YV	82/82 (100%)	80 (98%)	2 (2%)	49 69
41	RW	92/92 (100%)	92 (100%)	0	100 100
41	YW	92/92 (100%)	90 (98%)	2 (2%)	52 71
42	RX	74/78 (95%)	74 (100%)	0	100 100
42	YX	74/78 (95%)	74 (100%)	0	100 100
43	RY	88/91 (97%)	87 (99%)	1 (1%)	73 84
43	YY	88/91 (97%)	86 (98%)	2 (2%)	50 70
44	RZ	162/179 (90%)	162 (100%)	0	100 100
44	YZ	162/179 (90%)	160 (99%)	2 (1%)	71 83
45	R0	65/67 (97%)	64 (98%)	1 (2%)	65 79
45	Y0	60/67 (90%)	59 (98%)	1 (2%)	60 78
46	R1	82/83 (99%)	81 (99%)	1 (1%)	71 83
46	Y1	78/83 (94%)	78 (100%)	0	100 100
47	R2	64/67 (96%)	64 (100%)	0	100 100
47	Y2	64/67 (96%)	64 (100%)	0	100 100
48	R3	51/52 (98%)	50 (98%)	1 (2%)	55 73
48	Y3	51/52 (98%)	45 (88%)	6 (12%)	5 24
49	R4	62/63 (98%)	61 (98%)	1 (2%)	62 79
49	Y4	62/63 (98%)	60 (97%)	2 (3%)	39 62
50	R5	51/52 (98%)	51 (100%)	0	100 100
50	Y5	51/52 (98%)	50 (98%)	1 (2%)	55 73
51	R6	51/52 (98%)	51 (100%)	0	100 100
51	Y6	51/52 (98%)	50 (98%)	1 (2%)	55 73
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 75
53	Y8	54/55 (98%)	54 (100%)	0	100 100
54	R9	34/34 (100%)	34 (100%)	0	100 100
54	Y9	34/34 (100%)	34 (100%)	0	100 100
All	All	9684/10066 (96%)	9578 (99%)	106 (1%)	73 84

All (106) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	69	LEU
2	QB	133	LYS
2	QB	139	LYS
3	QC	21	ARG
3	QC	34	LEU
3	QC	110	ASN
3	QC	135	LYS
3	QC	190	ARG
4	QD	40	PRO
4	QD	46	LYS
4	QD	61	LYS
4	QD	131	ARG
5	QE	127	ASN
7	QG	29	LYS
7	QG	36	LYS
7	QG	94	ARG
7	QG	115	ARG
8	QH	122	ARG
8	QH	129	VAL
9	QI	28	VAL
9	QI	93	ARG
10	QJ	46	ARG
11	QK	123	LYS
12	QL	59	ARG
13	QM	20	THR
13	QM	66	LEU
13	QM	77	ASN
14	QN	9	LYS
14	QN	19	ARG
17	QQ	87	LYS
19	QS	67	VAL
20	QT	14	LYS
21	QU	10	ARG
26	RD	5	LYS
26	RD	36	PRO
27	RE	133	LYS
29	RG	33	ARG
30	RH	162	ILE
34	RP	45	LEU
34	RP	132	LYS
35	RQ	79	LEU
35	RQ	81	VAL

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Mol	Chain	Res	Type
37	RS	106	ARG
38	RT	112	ARG
39	RU	90	VAL
40	RV	50	PRO
43	RY	90	LEU
45	R0	14	ARG
46	R1	81	LYS
48	R3	30	ARG
49	R4	50	VAL
53	R8	60	LEU
2	XB	64	ARG
2	XB	96	ARG
2	XB	145	LEU
3	XC	52	LEU
3	XC	130	VAL
4	XD	19	LEU
4	XD	132	ARG
4	XD	139	ARG
4	XD	141	ARG
4	XD	182	LYS
5	XE	24	ARG
7	XG	5	ARG
7	XG	94	ARG
8	XH	129	VAL
8	XH	135	CYS
9	XI	2	GLU
9	XI	110	GLU
10	XJ	5	ARG
10	XJ	46	ARG
10	XJ	60	ARG
12	XL	48	PRO
13	XM	31	LYS
13	XM	99	ARG
13	XM	102	ARG
17	XQ	100	LYS
21	XU	24	ARG
26	YD	36	PRO
26	YD	126	GLN
29	YG	33	ARG
30	YH	24	VAL
30	YH	69	ARG
31	YI	103	ARG

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Mol	Chain	Res	Type
32	YN	34	LEU
35	YQ	59	ARG
35	YQ	81	VAL
40	YV	20	LEU
40	YV	50	PRO
41	YW	17	VAL
41	YW	23	LEU
43	YY	21	LYS
43	YY	45	VAL
44	YZ	34	ASN
44	YZ	165	VAL
45	Y0	14	ARG
48	Y3	3	ARG
48	Y3	4	LEU
48	Y3	30	ARG
48	Y3	37	LEU
48	Y3	38	GLU
48	Y3	44	ARG
49	Y4	55	ARG
49	Y4	62	ARG
50	Y5	36	CYS
51	Y6	15	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
3	QC	98	ASN
3	QC	123	GLN
3	QC	170	GLN
9	QI	124	GLN
10	QJ	68	HIS
11	QK	99	GLN
47	R2	9	GLN
2	XB	16	HIS
2	XB	95	GLN
6	XF	7	ASN
6	XF	32	ASN
13	XM	101	GLN
26	YD	115	GLN
26	YD	126	GLN
27	YE	66	HIS
28	YF	40	GLN

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Mol	Chain	Res	Type
29	YG	40	ASN
39	YU	94	ASN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1499/1521 (98%)	271 (18%)	37 (2%)
1	XA	1498/1521 (98%)	254 (16%)	30 (2%)
22	QV	76/77 (98%)	15 (19%)	1 (1%)
22	XV	76/77 (98%)	17 (22%)	1 (1%)
23	QX	18/19 (94%)	5 (27%)	2 (11%)
23	XX	18/19 (94%)	5 (27%)	1 (5%)
24	RA	2879/2915 (98%)	571 (19%)	41 (1%)
24	YA	2880/2915 (98%)	576 (20%)	42 (1%)
25	RB	119/122 (97%)	18 (15%)	1 (0%)
25	YB	119/122 (97%)	21 (17%)	1 (0%)
All	All	9182/9308 (98%)	1753 (19%)	157 (1%)

All (1753) 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	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	76	G
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(A)	G

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Mol	Chain	Res	Type
1	QA	144	G
1	QA	146	G
1	QA	157	G
1	QA	158	G
1	QA	159	G
1	QA	162	A
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	182	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	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A
1	QA	251	G
1	QA	254	G
1	QA	262	A
1	QA	267	C
1	QA	270	A
1	QA	281	G
1	QA	289	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	339	C
1	QA	343	U
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	348	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A

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Mol	Chain	Res	Type
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	428	G
1	QA	429	U
1	QA	430	A
1	QA	442	C
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	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	560	U
1	QA	565	U
1	QA	568	G
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G

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Mol	Chain	Res	Type
1	QA	596	C
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	653	A
1	QA	665	A
1	QA	666	G
1	QA	686	U
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
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	777	A
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	889	A
1	QA	891	U
1	QA	902	G
1	QA	914	A
1	QA	926	G
1	QA	927	G

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Mol	Chain	Res	Type
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	982	U
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U
1	QA	1028	C
1	QA	1029	G
1	QA	1030	C
1	QA	1031	G
1	QA	1032(A)	G
1	QA	1033	G
1	QA	1034	G
1	QA	1042	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1080	A
1	QA	1081	G
1	QA	1082	G
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A

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Mol	Chain	Res	Type
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1181	G
1	QA	1183	A
1	QA	1187	G
1	QA	1193	G
1	QA	1196	U
1	QA	1201	A
1	QA	1202	G
1	QA	1212	U
1	QA	1213	A
1	QA	1215	G
1	QA	1224	G
1	QA	1226	C
1	QA	1227	A
1	QA	1228	C
1	QA	1236	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1286	A
1	QA	1287	A
1	QA	1297	C

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Mol	Chain	Res	Type
1	QA	1298	C
1	QA	1299	A
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	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	1353	G
1	QA	1362(A)	C
1	QA	1364	U
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	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	1527	C
1	QA	1528	U
1	QA	1529	G
1	QA	1530	G
22	QV	4	U

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Mol	Chain	Res	Type
22	QV	5	G
22	QV	8	U
22	QV	18	U
22	QV	19	G
22	QV	20	G
22	QV	22	A
22	QV	48	U
22	QV	49	C
22	QV	55	U
22	QV	64	U
22	QV	65	C
22	QV	68	U
22	QV	76	C
22	QV	77	A
23	QX	10	G
23	QX	14	U
23	QX	16	A
23	QX	21	G
23	QX	22	G
24	RA	10	G
24	RA	14	A
24	RA	15	G
24	RA	34	C
24	RA	46	C
24	RA	51	G
24	RA	55	G
24	RA	61	G
24	RA	72	U
24	RA	73	A
24	RA	74	A
24	RA	75	G
24	RA	82	G
24	RA	83	G
24	RA	101	G
24	RA	102	G
24	RA	103	A
24	RA	118	A
24	RA	120	U
24	RA	131	G
24	RA	140	A
24	RA	161	U
24	RA	177	G

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Mol	Chain	Res	Type
24	RA	181	A
24	RA	188	G
24	RA	196	A
24	RA	199	A
24	RA	201	C
24	RA	214	G
24	RA	215	G
24	RA	216	A
24	RA	221	A
24	RA	222	A
24	RA	223	A
24	RA	229	A
24	RA	230	U
24	RA	233	A
24	RA	248	G
24	RA	249	C
24	RA	252	G
24	RA	265	A
24	RA	266	G
24	RA	270(L)	U
24	RA	270(M)	U
24	RA	270(N)	G
24	RA	270(P)	C
24	RA	270(Y)	G
24	RA	271(C)	U
24	RA	273(F)	C
24	RA	275	G
24	RA	276	A
24	RA	277	C
24	RA	283	A
24	RA	294	A
24	RA	298	G
24	RA	299	A
24	RA	308	G
24	RA	309	G
24	RA	311	A
24	RA	312	G
24	RA	323	G
24	RA	324	A
24	RA	329	G
24	RA	330	A
24	RA	342	G

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Mol	Chain	Res	Type
24	RA	346	A
24	RA	352	G
24	RA	363(F)	A
24	RA	364	C
24	RA	371	A
24	RA	372	G
24	RA	373	U
24	RA	386	G
24	RA	395	U
24	RA	405	U
24	RA	406	G
24	RA	407	G
24	RA	411	G
24	RA	412	A
24	RA	428	A
24	RA	444	C
24	RA	448	U
24	RA	451	C
24	RA	452	G
24	RA	455	C
24	RA	456	C
24	RA	457	A
24	RA	470	A
24	RA	481	G
24	RA	504	U
24	RA	505	A
24	RA	509	C
24	RA	513	A
24	RA	527	C
24	RA	531	C
24	RA	532	A
24	RA	533	G
24	RA	537	C
24	RA	539	G
24	RA	540	G
24	RA	541	C
24	RA	546	C
24	RA	547	A
24	RA	563	G
24	RA	573	G
24	RA	574	C
24	RA	575	A

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Mol	Chain	Res	Type
24	RA	583	G
24	RA	588	U
24	RA	603	A
24	RA	607	U
24	RA	614	U
24	RA	615	G
24	RA	617	G
24	RA	621	A
24	RA	627	A
24	RA	631	A
24	RA	637	A
24	RA	638	G
24	RA	645	C
24	RA	646	A
24	RA	647	G
24	RA	651	G
24	RA	652	C
24	RA	654	A
24	RA	654(A)	G
24	RA	669	G
24	RA	686	G
24	RA	708	C
24	RA	717	G
24	RA	722	A
24	RA	726	G
24	RA	730	C
24	RA	731	C
24	RA	753	C
24	RA	761	A
24	RA	775	G
24	RA	776	G
24	RA	782	A
24	RA	783	A
24	RA	784	A
24	RA	785	G
24	RA	788	A
24	RA	790	C
24	RA	791	C
24	RA	792	G
24	RA	805	G
24	RA	811	U
24	RA	812	C

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Mol	Chain	Res	Type
24	RA	819	A
24	RA	827	U
24	RA	828	U
24	RA	831	G
24	RA	847	U
24	RA	856	C
24	RA	857	C
24	RA	859	G
24	RA	869	G
24	RA	882	G
24	RA	884	C
24	RA	885	C
24	RA	886	C
24	RA	888	C
24	RA	889	C
24	RA	893	C
24	RA	896	A
24	RA	897	C
24	RA	900	A
24	RA	901	A
24	RA	907	U
24	RA	910	A
24	RA	914	C
24	RA	915	C
24	RA	917	A
24	RA	932	G
24	RA	941	A
24	RA	945	A
24	RA	946	G
24	RA	957	A
24	RA	959	A
24	RA	961	C
24	RA	973	A
24	RA	974	G
24	RA	974(A)	C
24	RA	980	A
24	RA	983	A
24	RA	996	A
24	RA	1003	G
24	RA	1009	A
24	RA	1012	U
24	RA	1013	C

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Mol	Chain	Res	Type
24	RA	1022	G
24	RA	1023	U
24	RA	1025	G
24	RA	1026	U
24	RA	1027	A
24	RA	1033	U
24	RA	1042	G
24	RA	1044	G
24	RA	1045	A
24	RA	1046	A
24	RA	1050	A
24	RA	1053	C
24	RA	1054	A
24	RA	1055	G
24	RA	1057	A
24	RA	1060	U
24	RA	1061	U
24	RA	1065	U
24	RA	1066	U
24	RA	1071	G
24	RA	1073	A
24	RA	1074	G
24	RA	1077	A
24	RA	1078	U
24	RA	1082	U
24	RA	1083	U
24	RA	1084	A
24	RA	1085	A
24	RA	1086	A
24	RA	1087	G
24	RA	1088	A
24	RA	1091	G
24	RA	1093	G
24	RA	1096	A
24	RA	1110	G
24	RA	1111	A
24	RA	1112	G
24	RA	1122	G
24	RA	1130	U
24	RA	1131	G
24	RA	1135	C
24	RA	1136	G

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Mol	Chain	Res	Type
24	RA	1140	C
24	RA	1142(A)	A
24	RA	1152	C
24	RA	1173	G
24	RA	1174	A
24	RA	1175	U
24	RA	1176	G
24	RA	1178	C
24	RA	1181	C
24	RA	1195	G
24	RA	1204	A
24	RA	1205	U
24	RA	1206	G
24	RA	1210	A
24	RA	1211	U
24	RA	1220	A
24	RA	1236	G
24	RA	1238	G
24	RA	1253	A
24	RA	1256	G
24	RA	1265	A
24	RA	1272	A
24	RA	1273	U
24	RA	1286	A
24	RA	1300	U
24	RA	1301	A
24	RA	1312	U
24	RA	1313	U
24	RA	1314	C
24	RA	1321	A
24	RA	1329	U
24	RA	1341	U
24	RA	1349	A
24	RA	1365	A
24	RA	1370	C
24	RA	1378	A
24	RA	1379	A
24	RA	1380	G
24	RA	1384	A
24	RA	1385	G
24	RA	1390	U
24	RA	1395	A

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Mol	Chain	Res	Type
24	RA	1407	C
24	RA	1408	C
24	RA	1411	C
24	RA	1416	G
24	RA	1419	A
24	RA	1420	U
24	RA	1421	G
24	RA	1428	C
24	RA	1444(A)	A
24	RA	1445	C
24	RA	1449	A
24	RA	1449(A)	G
24	RA	1460	A
24	RA	1461	G
24	RA	1471	A
24	RA	1472	A
24	RA	1473	G
24	RA	1474	C
24	RA	1475	G
24	RA	1480	G
24	RA	1482	U
24	RA	1483	G
24	RA	1487	G
24	RA	1490	A
24	RA	1493	C
24	RA	1494	A
24	RA	1497	U
24	RA	1502	C
24	RA	1504	C
24	RA	1505	C
24	RA	1506	C
24	RA	1507	A
24	RA	1508	A
24	RA	1510	A
24	RA	1513	C
24	RA	1514	U
24	RA	1519	G
24	RA	1520	U
24	RA	1522	G
24	RA	1528	A
24	RA	1535	U
24	RA	1536	A

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Mol	Chain	Res	Type
24	RA	1537	C
24	RA	1538	G
24	RA	1543	A
24	RA	1545	A
24	RA	1547	C
24	RA	1558	A
24	RA	1559	G
24	RA	1566	A
24	RA	1569	A
24	RA	1578	U
24	RA	1580	A
24	RA	1581	G
24	RA	1583	A
24	RA	1586	A
24	RA	1598	C
24	RA	1608	A
24	RA	1609	A
24	RA	1616	A
24	RA	1617	C
24	RA	1640	C
24	RA	1646	C
24	RA	1648	C
24	RA	1654	A
24	RA	1665	A
24	RA	1667	G
24	RA	1668	A
24	RA	1674	G
24	RA	1675	C
24	RA	1678	G
24	RA	1725	G
24	RA	1728	G
24	RA	1729	A
24	RA	1733	G
24	RA	1743	G
24	RA	1750	G
24	RA	1756	G
24	RA	1762	A
24	RA	1763	G
24	RA	1764	G
24	RA	1773	A
24	RA	1774	C
24	RA	1780	A

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Mol	Chain	Res	Type
24	RA	1781	C
24	RA	1784	A
24	RA	1791	A
24	RA	1799	G
24	RA	1800	C
24	RA	1802	A
24	RA	1816	G
24	RA	1820	U
24	RA	1835	G
24	RA	1847	A
24	RA	1848	A
24	RA	1858	G
24	RA	1869	G
24	RA	1870	C
24	RA	1871	A
24	RA	1872	A
24	RA	1878	G
24	RA	1882	C
24	RA	1884	A
24	RA	1888	G
24	RA	1889	A
24	RA	1906	G
24	RA	1913	A
24	RA	1914	C
24	RA	1929	G
24	RA	1930	G
24	RA	1938	A
24	RA	1939	U
24	RA	1955	U
24	RA	1963	U
24	RA	1967	C
24	RA	1968	G
24	RA	1969	A
24	RA	1970	A
24	RA	1971	A
24	RA	1972	A
24	RA	1981	A
24	RA	1982	C
24	RA	1992	G
24	RA	1993	U
24	RA	1996	C
24	RA	2004	G

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Mol	Chain	Res	Type
24	RA	2023	G
24	RA	2031	A
24	RA	2032	G
24	RA	2033	A
24	RA	2043	C
24	RA	2052	G
24	RA	2055	C
24	RA	2056	G
24	RA	2059	A
24	RA	2060	A
24	RA	2061	G
24	RA	2062	A
24	RA	2063	C
24	RA	2069	G
24	RA	2093	G
24	RA	2099	U
24	RA	2101	G
24	RA	2107	C
24	RA	2111	C
24	RA	2113	U
24	RA	2114	A
24	RA	2115	G
24	RA	2116	G
24	RA	2117	A
24	RA	2118	U
24	RA	2126	A
24	RA	2127	G
24	RA	2128	C
24	RA	2131	G
24	RA	2132	U
24	RA	2133	G
24	RA	2135	A
24	RA	2136	C
24	RA	2147	G
24	RA	2148	G
24	RA	2161	C
24	RA	2166	G
24	RA	2168	G
24	RA	2170	A
24	RA	2173	A
24	RA	2189	U
24	RA	2190	G

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Mol	Chain	Res	Type
24	RA	2192	G
24	RA	2198	A
24	RA	2199	A
24	RA	2210	G
24	RA	2211	G
24	RA	2212	A
24	RA	2215	G
24	RA	2225	A
24	RA	2238	G
24	RA	2239	G
24	RA	2243	U
24	RA	2275	C
24	RA	2278	A
24	RA	2280	G
24	RA	2283	C
24	RA	2287	A
24	RA	2288	A
24	RA	2307	G
24	RA	2308	G
24	RA	2309	A
24	RA	2311	A
24	RA	2319	G
24	RA	2320	A
24	RA	2325	G
24	RA	2334	G
24	RA	2336	A
24	RA	2342	C
24	RA	2345	G
24	RA	2346	A
24	RA	2347	C
24	RA	2350	C
24	RA	2354	G
24	RA	2383	G
24	RA	2385	C
24	RA	2392	A
24	RA	2396	G
24	RA	2402	C
24	RA	2403	C
24	RA	2406	U
24	RA	2425	A
24	RA	2427	C
24	RA	2428	G

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Mol	Chain	Res	Type
24	RA	2429	G
24	RA	2430	A
24	RA	2435	A
24	RA	2439	A
24	RA	2440	C
24	RA	2441	C
24	RA	2447	G
24	RA	2448	A
24	RA	2469	A
24	RA	2470	G
24	RA	2474	C
24	RA	2475	C
24	RA	2478	A
24	RA	2480	C
24	RA	2482	G
24	RA	2494	G
24	RA	2498	C
24	RA	2502	G
24	RA	2505	G
24	RA	2518	A
24	RA	2519	U
24	RA	2529	G
24	RA	2542	A
24	RA	2543	G
24	RA	2554	U
24	RA	2566	A
24	RA	2567	G
24	RA	2569	G
24	RA	2572	A
24	RA	2578	G
24	RA	2582	G
24	RA	2585	U
24	RA	2602	A
24	RA	2609	U
24	RA	2611	U
24	RA	2612	C
24	RA	2623	G
24	RA	2629	A
24	RA	2636	U
24	RA	2641	G
24	RA	2646	C
24	RA	2655	G

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Mol	Chain	Res	Type
24	RA	2665	A
24	RA	2673	G
24	RA	2682	U
24	RA	2689	U
24	RA	2690	C
24	RA	2702	U
24	RA	2703	C
24	RA	2712(A)	A
24	RA	2713	A
24	RA	2714	G
24	RA	2726	U
24	RA	2733	A
24	RA	2739	U
24	RA	2744	G
24	RA	2748	A
24	RA	2751	G
24	RA	2752	C
24	RA	2757	A
24	RA	2761	G
24	RA	2764	A
24	RA	2765	A
24	RA	2766	G
24	RA	2778	A
24	RA	2779	U
24	RA	2789	C
24	RA	2790	A
24	RA	2791	C
24	RA	2797	U
24	RA	2798	C
24	RA	2807	G
24	RA	2818	G
24	RA	2820	A
24	RA	2821	A
24	RA	2833	G
24	RA	2834	G
24	RA	2849	U
24	RA	2867	G
24	RA	2872	G
24	RA	2880	C
24	RA	2891	G
24	RA	2892	A
24	RA	2894	G

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Mol	Chain	Res	Type
24	RA	2895	U
24	RA	2897	U
25	RB	8	U
25	RB	9	G
25	RB	13	A
25	RB	15	A
25	RB	19	G
25	RB	21	G
25	RB	24	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	108	C
25	RB	109	G
1	XA	6	G
1	XA	32	A
1	XA	35	G
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	89	U
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	115	G
1	XA	116	A
1	XA	121	C
1	XA	130	A
1	XA	144	G

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Mol	Chain	Res	Type
1	XA	147	G
1	XA	160	A
1	XA	161	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	195	A
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	210	U
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	267	C
1	XA	270	A
1	XA	281	G
1	XA	289	G
1	XA	306	G
1	XA	314	C
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
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	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

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Mol	Chain	Res	Type
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	428	G
1	XA	429	U
1	XA	435	C
1	XA	452	A
1	XA	465	A
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
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	547	A
1	XA	548	G
1	XA	559	A
1	XA	561	U
1	XA	562	C
1	XA	564	C
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	574	A
1	XA	576	G
1	XA	577	G
1	XA	618	C
1	XA	630	G
1	XA	631	G
1	XA	632	A

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Mol	Chain	Res	Type
1	XA	653	A
1	XA	665	A
1	XA	688	G
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	723	U
1	XA	731	G
1	XA	749	C
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	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	871	U
1	XA	872	A
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	958	A
1	XA	960	U
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G

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Mol	Chain	Res	Type
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	1004	A
1	XA	1006	C
1	XA	1009	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1031	G
1	XA	1032	A
1	XA	1032(A)	G
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C
1	XA	1066	C
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1104	G
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	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G

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Mol	Chain	Res	Type
1	XA	1162	C
1	XA	1176	A
1	XA	1177	G
1	XA	1181	G
1	XA	1183	A
1	XA	1184	G
1	XA	1187	G
1	XA	1196	U
1	XA	1199	U
1	XA	1200	C
1	XA	1212	U
1	XA	1224	G
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	1280	A
1	XA	1281	U
1	XA	1286	A
1	XA	1287	A
1	XA	1298	C
1	XA	1300	G
1	XA	1302	U
1	XA	1303	C
1	XA	1305	G
1	XA	1310	G
1	XA	1311	G
1	XA	1319	A
1	XA	1320	C
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G
1	XA	1346	A

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Mol	Chain	Res	Type
1	XA	1347	G
1	XA	1362(A)	C
1	XA	1364	U
1	XA	1381	U
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	1492	A
1	XA	1493	A
1	XA	1499	A
1	XA	1502	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1517	G
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
23	XX	7	G
23	XX	11	U
23	XX	12	A
23	XX	13	A
23	XX	14	A
24	YA	9	U
24	YA	15	G
24	YA	34	C
24	YA	35	G
24	YA	46	C
24	YA	55	G
24	YA	61	G
24	YA	63	U
24	YA	72	U
24	YA	74	A
24	YA	75	G
24	YA	101	G
24	YA	102	G
24	YA	103	A
24	YA	118	A

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Mol	Chain	Res	Type
24	YA	120	U
24	YA	125	G
24	YA	140	A
24	YA	161	U
24	YA	162	U
24	YA	181	A
24	YA	196	A
24	YA	199	A
24	YA	214	G
24	YA	216	A
24	YA	221	A
24	YA	222	A
24	YA	223	A
24	YA	226	G
24	YA	228	A
24	YA	229	A
24	YA	230	U
24	YA	232	G
24	YA	241	A
24	YA	242	G
24	YA	243	U
24	YA	248	G
24	YA	249	C
24	YA	252	G
24	YA	265	A
24	YA	266	G
24	YA	270(L)	U
24	YA	270(M)	U
24	YA	270(N)	G
24	YA	270(P)	C
24	YA	271(C)	U
24	YA	271(D)	G
24	YA	274	G
24	YA	275	G
24	YA	276	A
24	YA	278	A
24	YA	279	C
24	YA	299	A
24	YA	300	A
24	YA	311	A
24	YA	323	G
24	YA	324	A

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Mol	Chain	Res	Type
24	YA	329	G
24	YA	330	A
24	YA	332	A
24	YA	352	G
24	YA	363	G
24	YA	363(E)	U
24	YA	364	C
24	YA	371	A
24	YA	372	G
24	YA	386	G
24	YA	387	U
24	YA	395	U
24	YA	405	U
24	YA	406	G
24	YA	411	G
24	YA	412	A
24	YA	428	A
24	YA	443	A
24	YA	444	C
24	YA	448	U
24	YA	451	C
24	YA	457	A
24	YA	458	G
24	YA	467	G
24	YA	470	A
24	YA	481	G
24	YA	504	U
24	YA	505	A
24	YA	509	C
24	YA	511	U
24	YA	518	G
24	YA	527	C
24	YA	529	A
24	YA	530	G
24	YA	531	C
24	YA	532	A
24	YA	533	G
24	YA	537	C
24	YA	539	G
24	YA	540	G
24	YA	546	C
24	YA	547	A

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Mol	Chain	Res	Type
24	YA	563	G
24	YA	566	U
24	YA	568	U
24	YA	571	A
24	YA	573	G
24	YA	575	A
24	YA	600	G
24	YA	603	A
24	YA	607	U
24	YA	614	U
24	YA	617	G
24	YA	621	A
24	YA	627	A
24	YA	637	A
24	YA	638	G
24	YA	645	C
24	YA	646	A
24	YA	647	G
24	YA	651	G
24	YA	654	A
24	YA	654(A)	G
24	YA	668	G
24	YA	669	G
24	YA	686	G
24	YA	717	G
24	YA	722	A
24	YA	726	G
24	YA	730	C
24	YA	753	C
24	YA	764	A
24	YA	765	G
24	YA	782	A
24	YA	784	A
24	YA	785	G
24	YA	789	A
24	YA	790	C
24	YA	791	C
24	YA	792	G
24	YA	805	G
24	YA	812	C
24	YA	819	A
24	YA	827	U

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Mol	Chain	Res	Type
24	YA	828	U
24	YA	831	G
24	YA	847	U
24	YA	856	C
24	YA	857	C
24	YA	859	G
24	YA	860	U
24	YA	866	A
24	YA	880	G
24	YA	881	G
24	YA	882	G
24	YA	884	C
24	YA	885	C
24	YA	886	C
24	YA	888	C
24	YA	889	C
24	YA	896	A
24	YA	897	C
24	YA	900	A
24	YA	907	U
24	YA	910	A
24	YA	915	C
24	YA	917	A
24	YA	941	A
24	YA	945	A
24	YA	946	G
24	YA	953	A
24	YA	957	A
24	YA	959	A
24	YA	961	C
24	YA	973	A
24	YA	974	G
24	YA	974(A)	C
24	YA	975	G
24	YA	980	A
24	YA	983	A
24	YA	996	A
24	YA	1005	C
24	YA	1009	A
24	YA	1010	A
24	YA	1011	G
24	YA	1012	U

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Mol	Chain	Res	Type
24	YA	1013	C
24	YA	1022	G
24	YA	1023	U
24	YA	1026	U
24	YA	1027	A
24	YA	1033	U
24	YA	1046	A
24	YA	1047	G
24	YA	1050	A
24	YA	1054	A
24	YA	1059	G
24	YA	1060	U
24	YA	1061	U
24	YA	1062	G
24	YA	1065	U
24	YA	1067	A
24	YA	1068	G
24	YA	1070	A
24	YA	1071	G
24	YA	1073	A
24	YA	1077	A
24	YA	1078	U
24	YA	1082	U
24	YA	1083	U
24	YA	1084	A
24	YA	1085	A
24	YA	1086	A
24	YA	1088	A
24	YA	1089	G
24	YA	1093	G
24	YA	1096	A
24	YA	1097	U
24	YA	1103	A
24	YA	1104	C
24	YA	1110	G
24	YA	1111	A
24	YA	1122	G
24	YA	1126	A
24	YA	1130	U
24	YA	1135	C
24	YA	1136	G
24	YA	1139	G

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Mol	Chain	Res	Type
24	YA	1142	U
24	YA	1142(A)	A
24	YA	1151	G
24	YA	1169	G
24	YA	1173	G
24	YA	1174	A
24	YA	1175	U
24	YA	1176	G
24	YA	1179	C
24	YA	1180	C
24	YA	1204	A
24	YA	1205	U
24	YA	1211	U
24	YA	1220	A
24	YA	1221	C
24	YA	1236	G
24	YA	1238	G
24	YA	1244	G
24	YA	1248	G
24	YA	1250	G
24	YA	1253	A
24	YA	1256	G
24	YA	1265	A
24	YA	1271	G
24	YA	1272	A
24	YA	1273	U
24	YA	1300	U
24	YA	1301	A
24	YA	1325	G
24	YA	1329	U
24	YA	1349	A
24	YA	1352	U
24	YA	1355	G
24	YA	1365	A
24	YA	1368	G
24	YA	1370	C
24	YA	1378	A
24	YA	1379	A
24	YA	1384	A
24	YA	1385	G
24	YA	1392	A
24	YA	1395	A

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Mol	Chain	Res	Type
24	YA	1407	C
24	YA	1411	C
24	YA	1412	A
24	YA	1416	G
24	YA	1419	A
24	YA	1420	U
24	YA	1421	G
24	YA	1428	C
24	YA	1444(A)	A
24	YA	1445	C
24	YA	1449	A
24	YA	1449(A)	G
24	YA	1455	G
24	YA	1459	G
24	YA	1460	A
24	YA	1461	G
24	YA	1467	C
24	YA	1471	A
24	YA	1478	G
24	YA	1482	U
24	YA	1483	G
24	YA	1487	G
24	YA	1490	A
24	YA	1493	C
24	YA	1494	A
24	YA	1496	A
24	YA	1497	U
24	YA	1507	A
24	YA	1508	A
24	YA	1509	C
24	YA	1510	A
24	YA	1511	A
24	YA	1515	C
24	YA	1517	G
24	YA	1520	U
24	YA	1522	G
24	YA	1534	G
24	YA	1535	U
24	YA	1536	A
24	YA	1537	C
24	YA	1540	G
24	YA	1543	A

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Mol	Chain	Res	Type
24	YA	1544	C
24	YA	1545	A
24	YA	1546	C
24	YA	1558	A
24	YA	1559	G
24	YA	1566	A
24	YA	1569	A
24	YA	1578	U
24	YA	1580	A
24	YA	1581	G
24	YA	1585	C
24	YA	1586	A
24	YA	1591	G
24	YA	1598	C
24	YA	1608	A
24	YA	1609	A
24	YA	1610	A
24	YA	1616	A
24	YA	1617	C
24	YA	1618	A
24	YA	1640	C
24	YA	1646	C
24	YA	1647	G
24	YA	1648	C
24	YA	1654	A
24	YA	1669	A
24	YA	1670	C
24	YA	1674	G
24	YA	1675	C
24	YA	1693	U
24	YA	1695	G
24	YA	1725	G
24	YA	1728	G
24	YA	1729	A
24	YA	1730	U
24	YA	1731	G
24	YA	1732	A
24	YA	1743	G
24	YA	1750	G
24	YA	1753	G
24	YA	1754	C
24	YA	1756	G

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Mol	Chain	Res	Type
24	YA	1762	A
24	YA	1763	G
24	YA	1764	G
24	YA	1773	A
24	YA	1779	U
24	YA	1780	A
24	YA	1781	C
24	YA	1784	A
24	YA	1787	A
24	YA	1791	A
24	YA	1799	G
24	YA	1800	C
24	YA	1801	G
24	YA	1815	A
24	YA	1816	G
24	YA	1829	A
24	YA	1835	G
24	YA	1847	A
24	YA	1858	G
24	YA	1869	G
24	YA	1870	C
24	YA	1871	A
24	YA	1872	A
24	YA	1878	G
24	YA	1882	C
24	YA	1889	A
24	YA	1899	G
24	YA	1903	G
24	YA	1906	G
24	YA	1914	C
24	YA	1919	A
24	YA	1929	G
24	YA	1930	G
24	YA	1931	U
24	YA	1936	A
24	YA	1938	A
24	YA	1939	U
24	YA	1940	U
24	YA	1955	U
24	YA	1956	U
24	YA	1960	A
24	YA	1963	U

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Mol	Chain	Res	Type
24	YA	1967	C
24	YA	1968	G
24	YA	1969	A
24	YA	1970	A
24	YA	1971	A
24	YA	1972	A
24	YA	1982	C
24	YA	1992	G
24	YA	1993	U
24	YA	2020	A
24	YA	2021	C
24	YA	2023	G
24	YA	2031	A
24	YA	2033	A
24	YA	2043	C
24	YA	2052	G
24	YA	2055	C
24	YA	2056	G
24	YA	2059	A
24	YA	2060	A
24	YA	2061	G
24	YA	2062	A
24	YA	2069	G
24	YA	2093	G
24	YA	2100	G
24	YA	2111	C
24	YA	2112	G
24	YA	2114	A
24	YA	2115	G
24	YA	2116	G
24	YA	2118	U
24	YA	2119	A
24	YA	2120	G
24	YA	2126	A
24	YA	2127	G
24	YA	2131	G
24	YA	2132	U
24	YA	2133	G
24	YA	2136	C
24	YA	2146	C
24	YA	2147	G
24	YA	2148	G

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Mol	Chain	Res	Type
24	YA	2156	G
24	YA	2157	G
24	YA	2158	A
24	YA	2166	G
24	YA	2167	U
24	YA	2168	G
24	YA	2169	A
24	YA	2171	A
24	YA	2173	A
24	YA	2176	A
24	YA	2180	U
24	YA	2189	U
24	YA	2190	G
24	YA	2192	G
24	YA	2198	A
24	YA	2210	G
24	YA	2211	G
24	YA	2212	A
24	YA	2213	U
24	YA	2215	G
24	YA	2225	A
24	YA	2238	G
24	YA	2239	G
24	YA	2243	U
24	YA	2266	A
24	YA	2275	C
24	YA	2279	G
24	YA	2280	G
24	YA	2283	C
24	YA	2287	A
24	YA	2288	A
24	YA	2307	G
24	YA	2308	G
24	YA	2309	A
24	YA	2311	A
24	YA	2320	A
24	YA	2325	G
24	YA	2334	G
24	YA	2335	A
24	YA	2343	C
24	YA	2345	G
24	YA	2346	A

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Mol	Chain	Res	Type
24	YA	2347	C
24	YA	2350	C
24	YA	2354	G
24	YA	2372	G
24	YA	2383	G
24	YA	2385	C
24	YA	2392	A
24	YA	2396	G
24	YA	2402	C
24	YA	2403	C
24	YA	2406	U
24	YA	2410	G
24	YA	2423	U
24	YA	2425	A
24	YA	2427	C
24	YA	2428	G
24	YA	2429	G
24	YA	2430	A
24	YA	2435	A
24	YA	2439	A
24	YA	2441	C
24	YA	2447	G
24	YA	2448	A
24	YA	2450	A
24	YA	2469	A
24	YA	2475	C
24	YA	2478	A
24	YA	2494	G
24	YA	2498	C
24	YA	2502	G
24	YA	2504	U
24	YA	2505	G
24	YA	2518	A
24	YA	2542	A
24	YA	2543	G
24	YA	2554	U
24	YA	2566	A
24	YA	2567	G
24	YA	2572	A
24	YA	2573	C
24	YA	2582	G
24	YA	2602	A

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Mol	Chain	Res	Type
24	YA	2609	U
24	YA	2611	U
24	YA	2612	C
24	YA	2615	U
24	YA	2629	A
24	YA	2654	A
24	YA	2655	G
24	YA	2656	U
24	YA	2665	A
24	YA	2673	G
24	YA	2682	U
24	YA	2689	U
24	YA	2701	C
24	YA	2702	U
24	YA	2707	G
24	YA	2712	U
24	YA	2712(A)	A
24	YA	2713	A
24	YA	2714	G
24	YA	2724	C
24	YA	2726	U
24	YA	2733	A
24	YA	2739	U
24	YA	2744	G
24	YA	2748	A
24	YA	2749	A
24	YA	2751	G
24	YA	2757	A
24	YA	2762	G
24	YA	2764	A
24	YA	2765	A
24	YA	2766	G
24	YA	2777	G
24	YA	2778	A
24	YA	2779	U
24	YA	2790	A
24	YA	2791	C
24	YA	2797	U
24	YA	2807	G
24	YA	2808	U
24	YA	2818	G
24	YA	2820	A

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Mol	Chain	Res	Type
24	YA	2821	A
24	YA	2833	G
24	YA	2834	G
24	YA	2835	A
24	YA	2836	U
24	YA	2845	G
24	YA	2847	U
24	YA	2867	G
24	YA	2868	A
24	YA	2872	G
24	YA	2879	C
24	YA	2891	G
24	YA	2892	A
24	YA	2893	G
24	YA	2894	G
25	YB	8	U
25	YB	9	G
25	YB	13	A
25	YB	15	A
25	YB	16	G
25	YB	19	G
25	YB	25	A
25	YB	40	U
25	YB	41	U
25	YB	42	C
25	YB	44	G
25	YB	45	A
25	YB	52	A
25	YB	56	G
25	YB	67	G
25	YB	73	A
25	YB	81	G
25	YB	82	G
25	YB	89	G
25	YB	108	C
25	YB	109	G
22	XV	4	U
22	XV	5	G
22	XV	8	U
22	XV	18	U
22	XV	19	G
22	XV	20	G

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Mol	Chain	Res	Type
22	XV	22	A
22	XV	48	U
22	XV	49	C
22	XV	55	U
22	XV	58	G
22	XV	64	U
22	XV	65	C
22	XV	66	U
22	XV	68	U
22	XV	76	C
22	XV	77	A

All (157) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
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
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

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Mol	Chain	Res	Type
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	1498	U
1	QA	1528	U
22	QV	54	G
23	QX	15	A
23	QX	21	G
24	RA	74	A
24	RA	99	U
24	RA	221	A
24	RA	222	A
24	RA	229	A
24	RA	271(B)	G
24	RA	345	A
24	RA	372	G
24	RA	404	C
24	RA	503	A
24	RA	508	G
24	RA	512	G
24	RA	587	C
24	RA	637	A
24	RA	730	C
24	RA	752	A
24	RA	774	A
24	RA	846	C
24	RA	856	C
24	RA	1022	G
24	RA	1026	U
24	RA	1045	A
24	RA	1085	A
24	RA	1210	A
24	RA	1312	U
24	RA	1427	A
24	RA	1473	G
24	RA	1558	A
24	RA	1653	G

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Mol	Chain	Res	Type
24	RA	1819	A
24	RA	1980	G
24	RA	1992	G
24	RA	2060	A
24	RA	2126	A
24	RA	2439	A
24	RA	2566	A
24	RA	2582	G
24	RA	2610	C
24	RA	2689	U
24	RA	2756	U
24	RA	2832	U
25	RB	66	A
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	410	G
1	XA	412	A
1	XA	481	G
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	1285	A
1	XA	1297	C
1	XA	1310	G
1	XA	1336	C
1	XA	1446	A

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Mol	Chain	Res	Type
1	XA	1498	U
23	XX	12	A
24	YA	99	U
24	YA	195	A
24	YA	221	A
24	YA	229	A
24	YA	242	G
24	YA	271(B)	G
24	YA	278	A
24	YA	404	C
24	YA	503	A
24	YA	530	G
24	YA	637	A
24	YA	752	A
24	YA	846	C
24	YA	856	C
24	YA	859	G
24	YA	974(A)	C
24	YA	1012	U
24	YA	1022	G
24	YA	1026	U
24	YA	1085	A
24	YA	1109	C
24	YA	1178	C
24	YA	1204	A
24	YA	1210	A
24	YA	1427	A
24	YA	1460	A
24	YA	1508	A
24	YA	1558	A
24	YA	1653	G
24	YA	1694	C
24	YA	1786	A
24	YA	1799	G
24	YA	1930	G
24	YA	1955	U
24	YA	1992	G
24	YA	2566	A
24	YA	2610	C
24	YA	2681	C
24	YA	2712	U
24	YA	2776	A

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Mol	Chain	Res	Type
24	YA	2832	U
24	YA	2867	G
25	YB	66	A
22	XV	54	G

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 1022 ligands modelled in this entry, 1020 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	$\#\|Z\| > 2$
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.

2 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	QD	301	SF4	1	0
56	XD	301	SF4	3	0

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.