



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 4, 2023 – 03:04 PM EDT

PDB ID : 6OXA
Title : Dimeric E.coli YoeB bound to Thermus thermophilus 70S pre-cleavage (AAU)
Authors : Pavelich, I.J.; Hoffer, E.D.; Maehigashi, T.; Dunham, C.M.
Deposited on : 2019-05-13
Resolution : 3.25 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

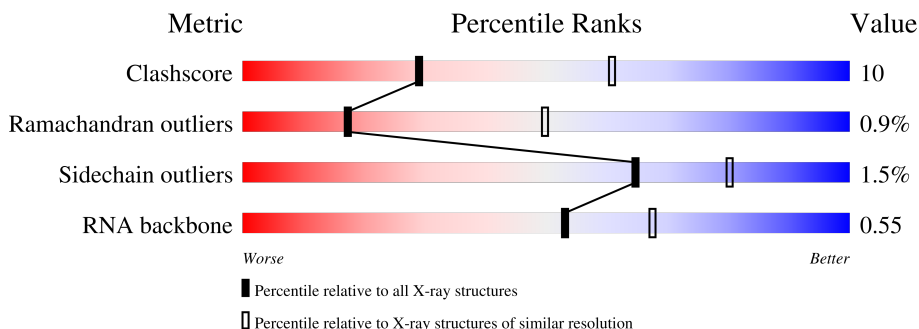
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.25 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	1251 (3.30-3.22)
Ramachandran outliers	138981	1229 (3.30-3.22)
Sidechain outliers	138945	1228 (3.30-3.22)
RNA backbone	3102	1072 (3.62-2.90)

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

Note EDS failed to run properly.

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

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Mol	Chain	Length	Quality of chain
4	QD	209	81% 18%
4	XD	209	79% 20%
5	QE	162	83% 10% 7%
5	XE	162	81% 12% 7%
6	QF	101	88% 12%
6	XF	101	81% 18% .
7	QG	156	90% 10% .
7	XG	156	88% 12% .
8	QH	138	81% 17% ..
8	XH	138	80% 20% .
9	QI	128	74% 25% .
9	XI	128	78% 20% ..
10	QJ	105	79% 15% 6%
10	XJ	105	65% 27% 9%
11	QK	129	80% 12% 8%
11	XK	129	77% 13% 10%
12	QM	126	71% 21% . 5%
12	XM	126	79% 15% 6%
13	QN	61	74% 25% .
13	XN	61	87% 11% .
14	QO	89	89% 10% .
14	XO	89	84% 13% .
15	QP	88	88% 8% 5%
15	XP	88	88% 7% . 5%
16	QQ	105	83% 12% 5%

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Mol	Chain	Length	Quality of chain
16	XQ	105	84% 11% 5%
17	QR	88	73% 7% 20%
17	XR	88	74% 6% 20%
18	QS	93	65% 24% 11%
18	XS	93	40% 40% 9% 11%
19	QT	106	85% 8% 7%
19	XT	106	74% 20% 7%
20	QU	27	78% 15% 7%
20	XU	27	81% 11% 7%
21	QV	77	75% 18% 6%
21	QW	77	47% 40% 13%
21	XV	77	73% 23% ..
21	XW	77	47% 39% 14%
22	QX	22	23% 36% 23% 9% 9%
22	XX	22	36% 27% 18% 9% 9%
23	QY	84	46% 52% .
23	QZ	84	56% 38% 6%
23	XY	84	56% 44%
23	XZ	84	48% 51% .
24	R0	85	76% 16% 5%
24	Y0	85	84% 12% ..
25	R2	72	76% 18% ..
25	Y2	72	83% 12% .
26	R3	60	92% 7% .
26	Y3	60	88% 10% .

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Mol	Chain	Length	Quality of chain
27	R4	71	66% 24% 6% ..
27	Y4	71	73% 24% .
28	R5	60	82% 17% .
28	Y5	60	78% 18% ..
29	R6	54	67% 31% .
29	Y6	54	87% 11% .
30	R7	49	88% 8% .
30	Y7	49	84% 14% .
31	R9	37	81% 19%
31	Y9	37	76% 24%
32	RA	2915	57% 31% 10% ..
32	YA	2915	56% 32% 9% ..
33	RB	124	56% 32% 6% ..
33	YB	124	60% 28% 8% .
34	RD	276	77% 18% ..
34	YD	276	57% 40% ..
35	RE	206	71% 24% ..
35	YE	206	44% 51% ..
36	RG	182	74% 25% ..
36	YG	182	81% 18% ..
37	RH	180	79% 15% ...
37	YH	180	37% 54% ...
38	RI	148	70% 27% ..
38	YI	148	89% 9% ..
39	RN	140	84% 14% ..







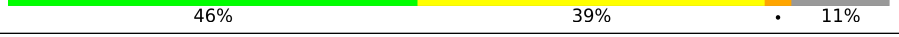



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Mol	Chain	Length	Quality of chain
39	YN	140	86% 12% ..
40	RO	122	85% 15%
40	YO	122	83% 17%
41	RP	150	76% 20% .
41	YP	150	43% 48% 8% .
42	RQ	141	80% 19% .
42	YQ	141	40% 55% 5%
43	RR	118	87% 11% ..
43	YR	118	90% 9% .
44	RS	112	84% 15% .
44	YS	112	76% 21% ...
45	RT	146	71% 22% . 6%
45	YT	146	70% 23% . 6%
46	RU	118	83% 15% ..
46	YU	118	86% 12% ..
47	RV	101	86% 13% .
47	YV	101	49% 50% .
48	RW	113	80% 20%
48	YW	113	86% 14%
49	RX	96	82% 14% .
49	YX	96	83% 12% .
50	RY	110	83% 15% .
50	YY	110	78% 18% ..
51	QL	132	67% 25% .. 5%
51	XL	132	78% 13% . 8%

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Mol	Chain	Length	Quality of chain
52	R1	98	 57% 38% . .
52	Y1	98	 82% 12% . 5%
53	R8	65	 57% 42% .
53	Y8	65	 77% 15% 5% . .
54	RF	210	 61% 33% . .
54	YF	210	 81% 14% .
55	RZ	206	 46% 39% . 11%
55	YZ	206	 58% 30% . 11%
56	ZA	3	 33% 67%
56	ZB	3	 67% 33%

2 Entry composition [i](#)

There are 59 unique types of molecules in this entry. The entry contains 298432 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a RNA chain called 16S rRNA.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 12 is a protein called 30S ribosomal protein S13.

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

- Molecule 13 is a protein called 30S ribosomal protein S14 type Z.

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

- Molecule 14 is a protein called 30S ribosomal protein S15.

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

- Molecule 15 is a protein called 30S ribosomal protein S16.

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

- Molecule 16 is a protein called 30S ribosomal protein S17.

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

- Molecule 17 is a protein called 30S ribosomal protein S18.

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

- Molecule 18 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
18	XS	83	Total	C	N	O	S	0	0	0
			656	418	123	113	2			

- Molecule 19 is a protein called 30S ribosomal protein S20.

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

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

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

- Molecule 21 is a RNA chain called P-site tRNA-fMet.

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

- Molecule 22 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QX	20	Total	C	N	O	P	0	0	0
			435	198	87	131	19			
22	XX	20	Total	C	N	O	P	0	0	0
			435	198	87	131	19			

- Molecule 23 is a protein called Addiction module toxin, Txe/YoeB family.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	R0	81	Total	C	N	O	S	0	0	0
			643	398	137	107	1			
24	Y0	82	Total	C	N	O	S	0	0	0
			648	401	138	108	1			

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 31 is a protein called 50S ribosomal protein L36.

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

- Molecule 32 is a RNA chain called 23S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
32	RA	2891	Total 62266	C 27713	N 11649	O 20014	P 2890	0	0	0
32	YA	2875	Total 61921	C 27560	N 11583	O 19904	P 2874	0	0	0

- Molecule 33 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	P			
33	RB	120	Total 2576	C 1146	N 476	O 834	P 120	0	0	0
33	YB	120	Total 2576	C 1146	N 476	O 834	P 120	0	0	0

- Molecule 34 is a protein called 50S ribosomal protein L2.

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

- Molecule 35 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
35	RE	205	Total 1568	C 991	N 300	O 271	S 6	0	0	0
35	YE	204	Total 1559	C 985	N 298	O 270	S 6	0	0	0

- Molecule 36 is a protein called 50S ribosomal protein L5.

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

- Molecule 37 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	RH	174	Total	C	N	O	S	0	0	0
			1336	848	251	236	1			
37	YH	174	Total	C	N	O	S	0	0	0
			1330	845	248	236	1			

- Molecule 38 is a protein called 50S ribosomal protein L9.

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

- Molecule 39 is a protein called 50S ribosomal protein L13.

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

- Molecule 40 is a protein called 50S ribosomal protein L14.

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

- Molecule 41 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
41	RP	150	Total	C	N	O	S	0	0	0
			1145	712	232	198	3			

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

- Molecule 42 is a protein called 50S ribosomal protein L16.

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

- Molecule 43 is a protein called 50S ribosomal protein L17.

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

- Molecule 44 is a protein called 50S ribosomal protein L18.

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

- Molecule 45 is a protein called 50S ribosomal protein L19.

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

- Molecule 46 is a protein called 50S ribosomal protein L20.

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

- Molecule 47 is a protein called 50S ribosomal protein L21.

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

- Molecule 48 is a protein called 50S ribosomal protein L22.

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

- Molecule 49 is a protein called 50S ribosomal protein L23.

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

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

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

- Molecule 51 is a protein called 30S ribosomal protein S12.

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

- Molecule 52 is a protein called 50S ribosomal protein L28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	Y1	93	Total	C	N	O	S	0	0	0
			729	457	145	126	1			
52	R1	94	Total	C	N	O	S	0	0	0
			737	463	146	127	1			

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

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

- Molecule 54 is a protein called 50S ribosomal protein L4.

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

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

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

- Molecule 56 is a RNA chain called CCPuro.

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

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	94	Total	Mg	0	0
			94	94		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QD	2	Total 2	Mg 2	0	0
57	QE	1	Total 1	Mg 1	0	0
57	QF	1	Total 1	Mg 1	0	0
57	QV	3	Total 3	Mg 3	0	0
57	QX	1	Total 1	Mg 1	0	0
57	R0	1	Total 1	Mg 1	0	0
57	RA	302	Total 302	Mg 302	0	0
57	RB	3	Total 3	Mg 3	0	0
57	RD	1	Total 1	Mg 1	0	0
57	RE	1	Total 1	Mg 1	0	0
57	RN	1	Total 1	Mg 1	0	0
57	RO	1	Total 1	Mg 1	0	0
57	RP	2	Total 2	Mg 2	0	0
57	RQ	2	Total 2	Mg 2	0	0
57	RR	2	Total 2	Mg 2	0	0
57	RY	1	Total 1	Mg 1	0	0
57	XA	116	Total 116	Mg 116	0	0
57	XD	1	Total 1	Mg 1	0	0
57	XE	1	Total 1	Mg 1	0	0
57	XF	1	Total 1	Mg 1	0	0
57	XL	1	Total 1	Mg 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	XM	1	Total 1	Mg 1	0	0
57	XV	3	Total 3	Mg 3	0	0
57	Y0	2	Total 2	Mg 2	0	0
57	Y3	1	Total 1	Mg 1	0	0
57	Y9	1	Total 1	Mg 1	0	0
57	YA	326	Total 326	Mg 326	0	0
57	YB	5	Total 5	Mg 5	0	0
57	YF	1	Total 1	Mg 1	0	0
57	YG	1	Total 1	Mg 1	0	0
57	YO	1	Total 1	Mg 1	0	0
57	YD	5	Total 5	Mg 5	0	0
57	YQ	3	Total 3	Mg 3	0	0
57	YV	1	Total 1	Mg 1	0	0
57	YE	5	Total 5	Mg 5	0	0
57	R8	1	Total 1	Mg 1	0	0

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



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

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
59	QN	1	Total	Zn	0	0
			1	1		
59	R4	1	Total	Zn	0	0
			1	1		
59	R5	1	Total	Zn	0	0
			1	1		
59	R6	1	Total	Zn	0	0
			1	1		
59	R9	1	Total	Zn	0	0
			1	1		
59	XN	1	Total	Zn	0	0
			1	1		
59	Y4	1	Total	Zn	0	0
			1	1		
59	Y6	1	Total	Zn	0	0
			1	1		

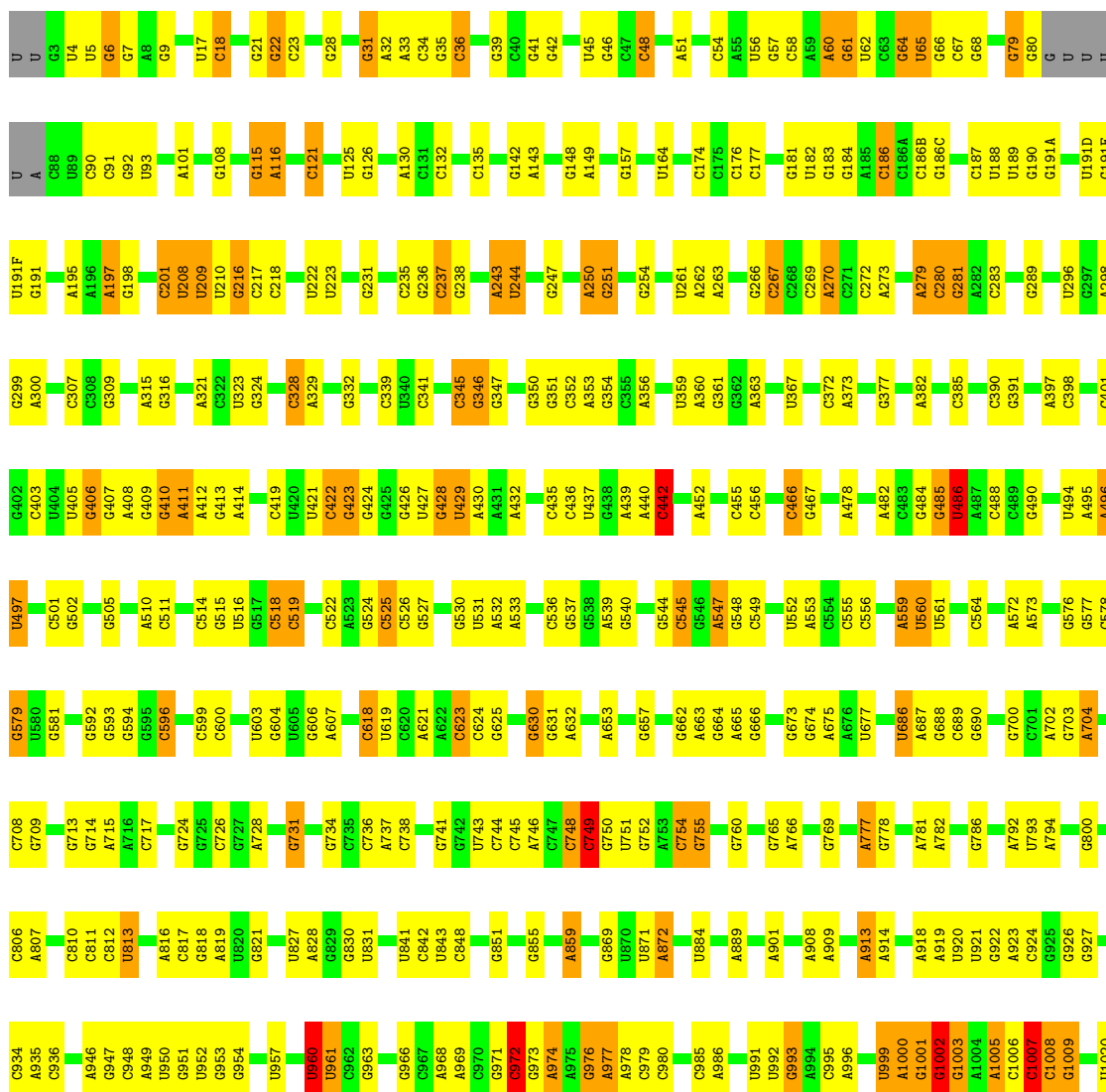
3 Residue-property plots i

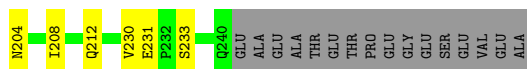
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded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

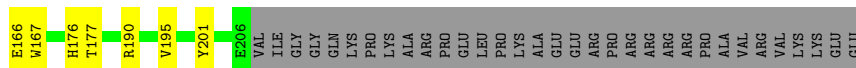
- Molecule 1: 16S rRNA

Chain QA:  56% 33% 9% ..

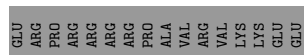
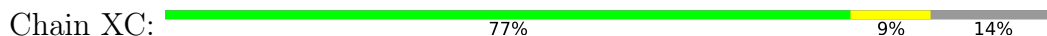




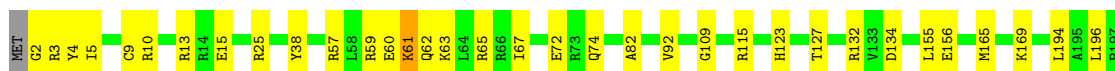
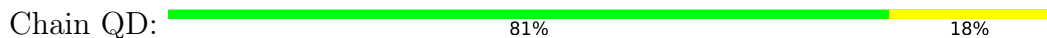
- Molecule 3: 30S ribosomal protein S3



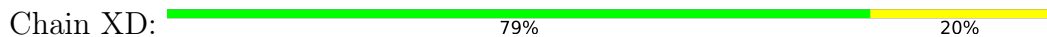
- Molecule 3: 30S ribosomal protein S3



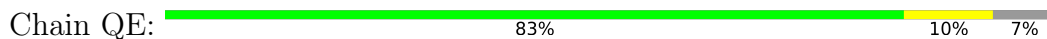
- Molecule 4: 30S ribosomal protein S4




- Molecule 4: 30S ribosomal protein S4



- Molecule 5: 30S ribosomal protein S5




- Molecule 5: 30S ribosomal protein S5

Chain XE:  81% 12% 7%




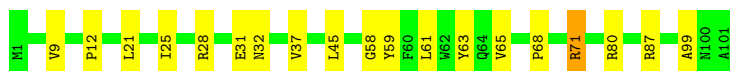
- Molecule 6: 30S ribosomal protein S6

Chain QF:  88% 12%



- Molecule 6: 30S ribosomal protein S6

Chain XF:  81% 18%




- Molecule 7: 30S ribosomal protein S7

Chain QG:  90% 10%




- Molecule 7: 30S ribosomal protein S7

Chain XG:  88% 12%




- Molecule 8: 30S ribosomal protein S8

Chain QH:  81% 17%




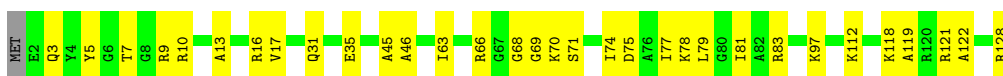
- Molecule 8: 30S ribosomal protein S8

Chain XH:  80% 20%




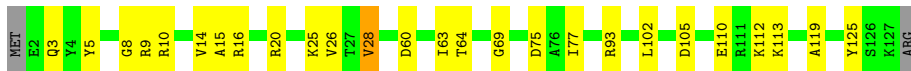
- Molecule 9: 30S ribosomal protein S9

Chain QI:  74% 25%




- Molecule 9: 30S ribosomal protein S9

Chain XI:  78% 20%



- Molecule 10: 30S ribosomal protein S10

Chain QJ:  79% 15% 6%




- Molecule 10: 30S ribosomal protein S10

Chain XJ:  65% 27% 9%




- Molecule 11: 30S ribosomal protein S11

Chain QK:  80% 12% 8%




- Molecule 11: 30S ribosomal protein S11

Chain XK:  77% 13% 10%




- Molecule 12: 30S ribosomal protein S13

Chain QM:  71% 21% 5%




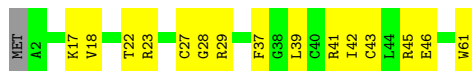
- Molecule 12: 30S ribosomal protein S13

Chain XM:  79% 15% 6%




- Molecule 13: 30S ribosomal protein S14 type Z

Chain QN:  74% 25% .



- Molecule 13: 30S ribosomal protein S14 type Z

Chain XN:  87% 11% .




- Molecule 14: 30S ribosomal protein S15

Chain QO:  89% 10% .




- Molecule 14: 30S ribosomal protein S15

Chain XO:  84% 13% .



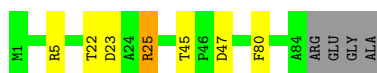
- Molecule 15: 30S ribosomal protein S16

Chain QP:  88% 8% 5%




- Molecule 15: 30S ribosomal protein S16

Chain XP:  88% 7% 5%




- Molecule 16: 30S ribosomal protein S17

Chain QQ:  83% 12% 5%




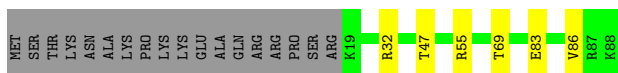
- Molecule 16: 30S ribosomal protein S17

Chain XQ:  84% 11% 5%




- Molecule 17: 30S ribosomal protein S18

Chain QR:  73% 7% 20%



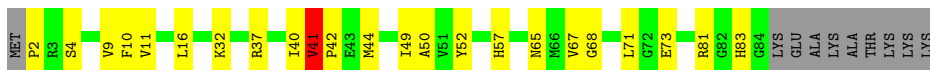
- Molecule 17: 30S ribosomal protein S18

Chain XR:  74% 6% 20%



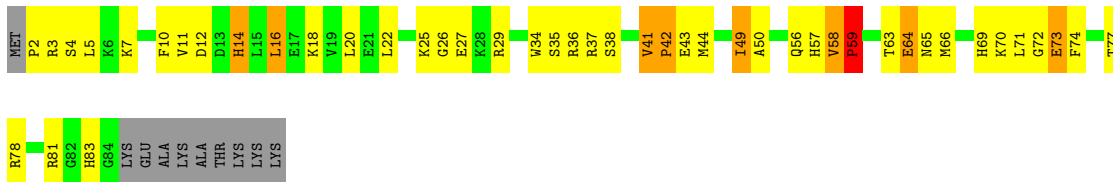
- Molecule 18: 30S ribosomal protein S19

Chain QS:  65% 24% 11%




- Molecule 18: 30S ribosomal protein S19

Chain XS:  40% 40% 9% 11%



- Molecule 19: 30S ribosomal protein S20

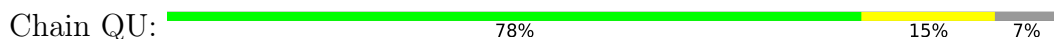
Chain QT:  85% 8% 7%



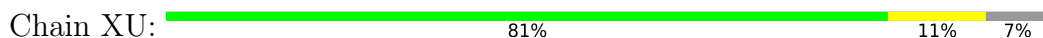
- Molecule 19: 30S ribosomal protein S20



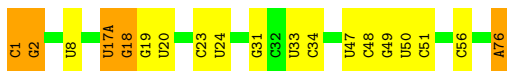
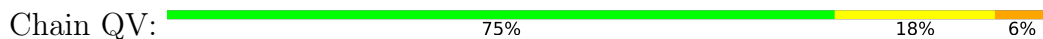
- Molecule 20: 30S ribosomal protein Thx



- Molecule 20: 30S ribosomal protein Thx



- Molecule 21: P-site tRNA-fMet



- Molecule 21: P-site tRNA-fMet



- Molecule 21: P-site tRNA-fMet

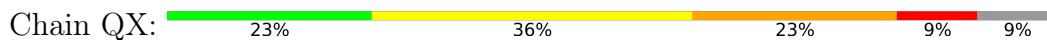


- Molecule 21: P-site tRNA-fMet

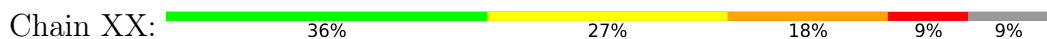




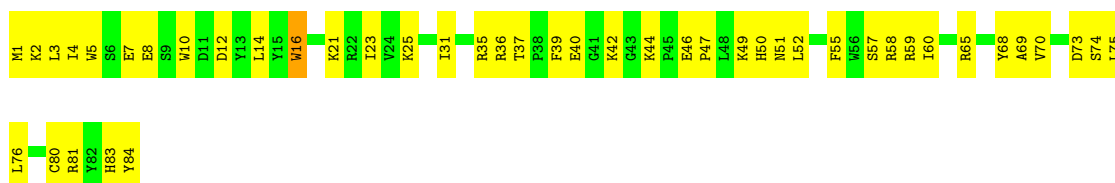
- Molecule 22: mRNA



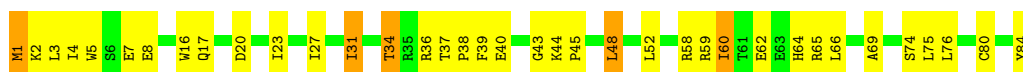
- Molecule 22: mRNA



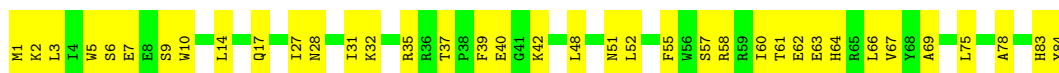
- Molecule 23: Addiction module toxin, Txe/YoeB family



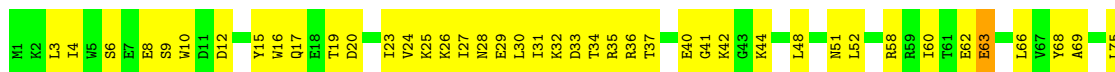
- Molecule 23: Addiction module toxin, Txe/YoeB family



- Molecule 23: Addiction module toxin, Txe/YoeB family

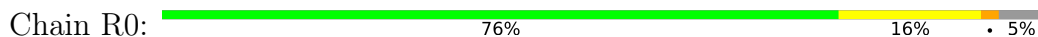


- Molecule 23: Addiction module toxin, Txe/YoeB family

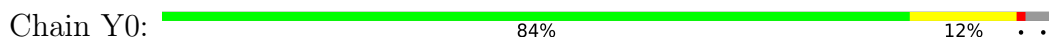




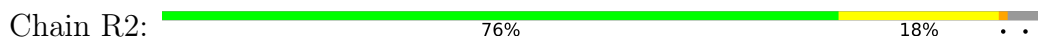
- Molecule 24: 50S ribosomal protein L27



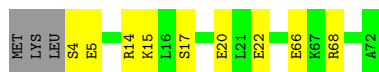
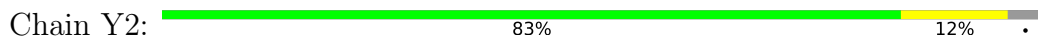
- Molecule 24: 50S ribosomal protein L27



- Molecule 25: 50S ribosomal protein L29



- Molecule 25: 50S ribosomal protein L29



- Molecule 26: 50S ribosomal protein L30

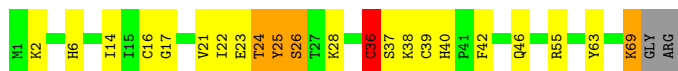


- Molecule 26: 50S ribosomal protein L30

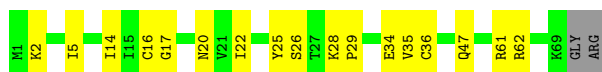


- Molecule 27: 50S ribosomal protein L31

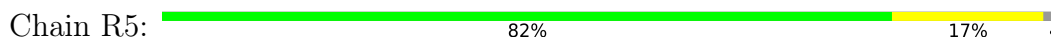




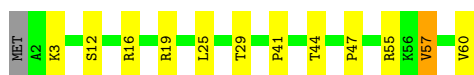
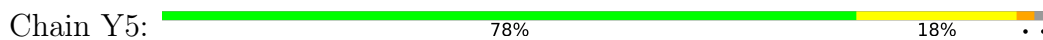
- Molecule 27: 50S ribosomal protein L31



- Molecule 28: 50S ribosomal protein L32



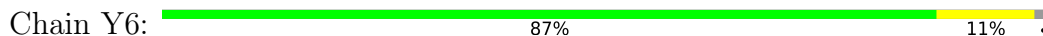
- Molecule 28: 50S ribosomal protein L32



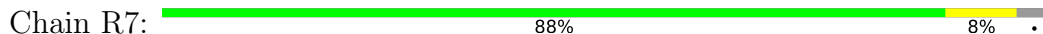
- Molecule 29: 50S ribosomal protein L33



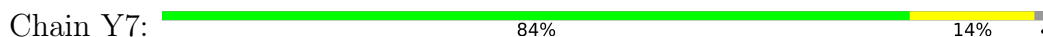
- Molecule 29: 50S ribosomal protein L33



- Molecule 30: 50S ribosomal protein L34

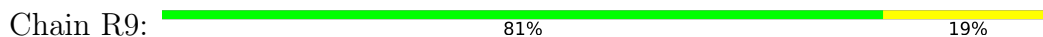


- Molecule 30: 50S ribosomal protein L34

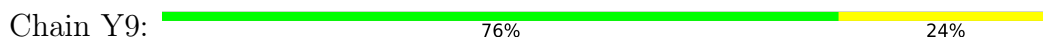




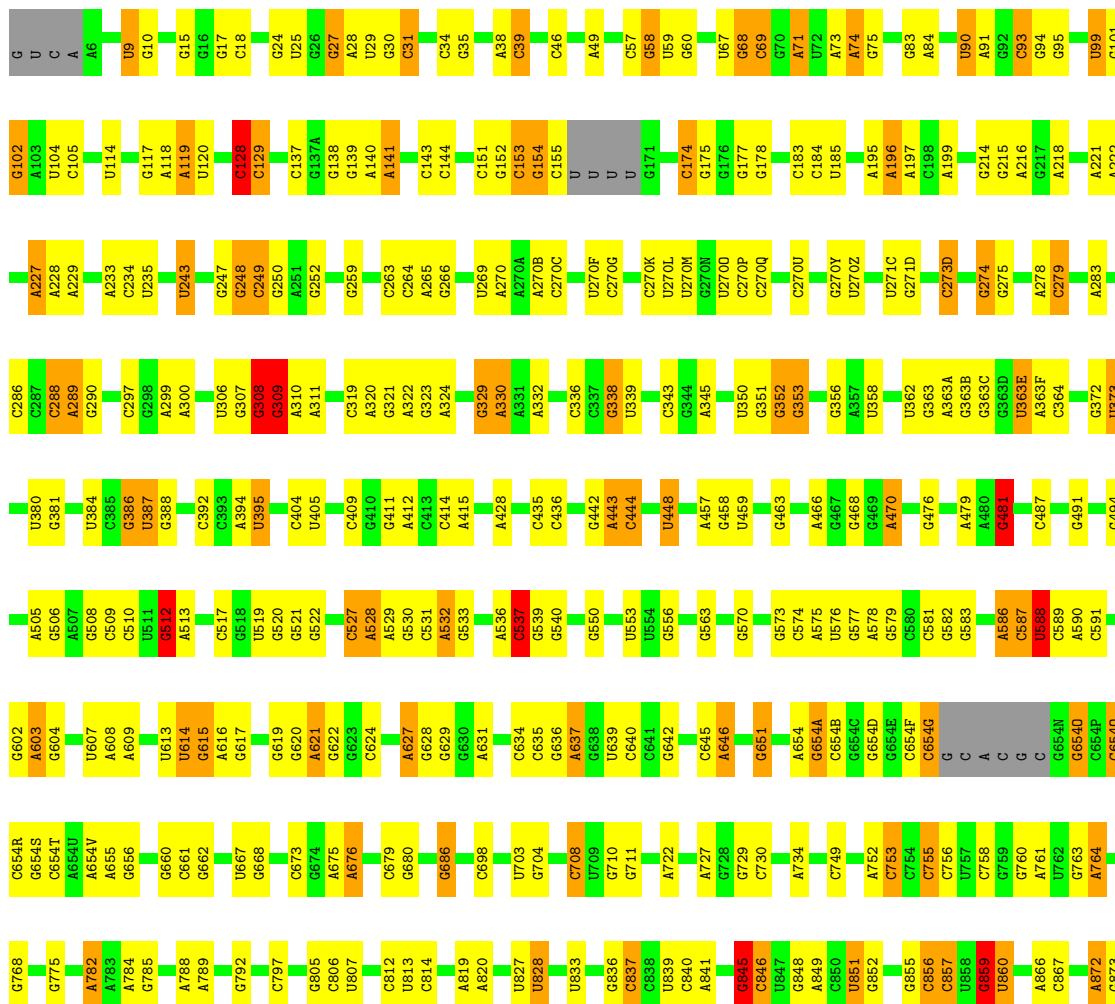
- Molecule 31: 50S ribosomal protein L36



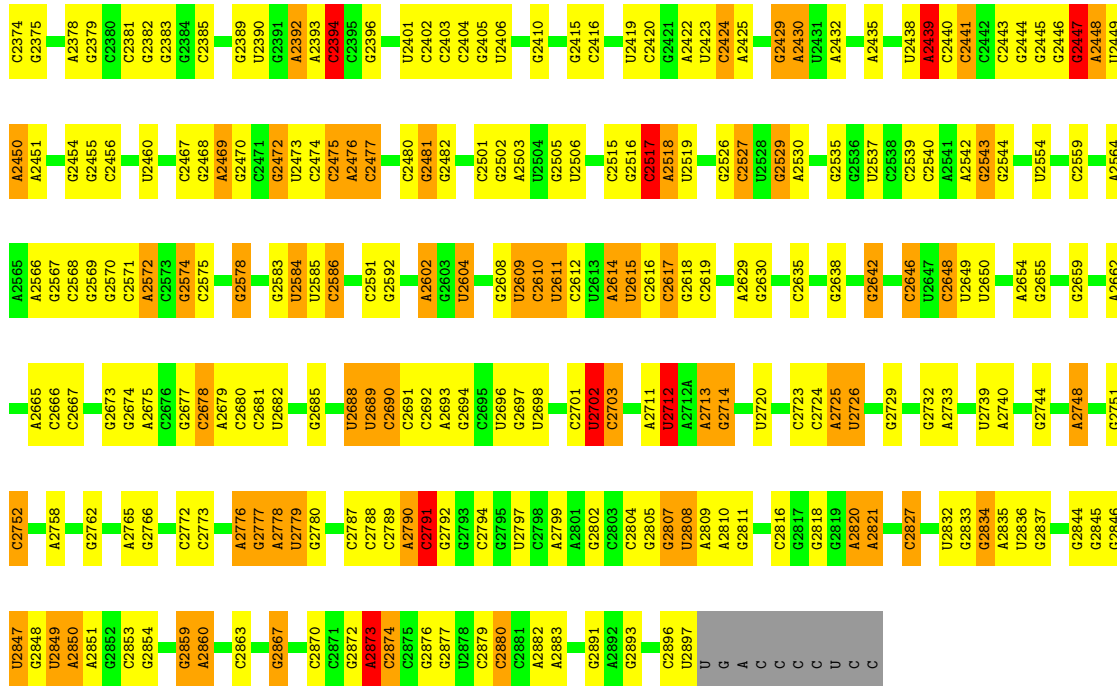
- Molecule 31: 50S ribosomal protein L36



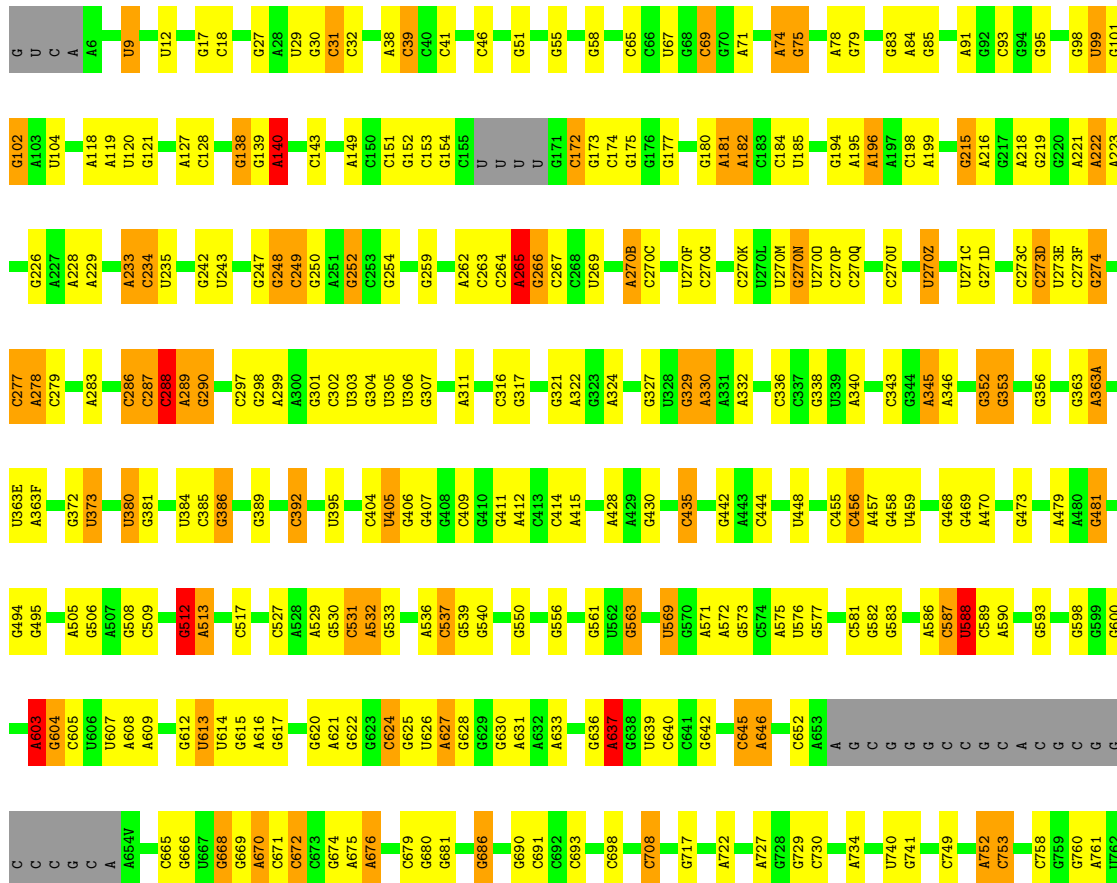
- Molecule 32: 23S rRNA



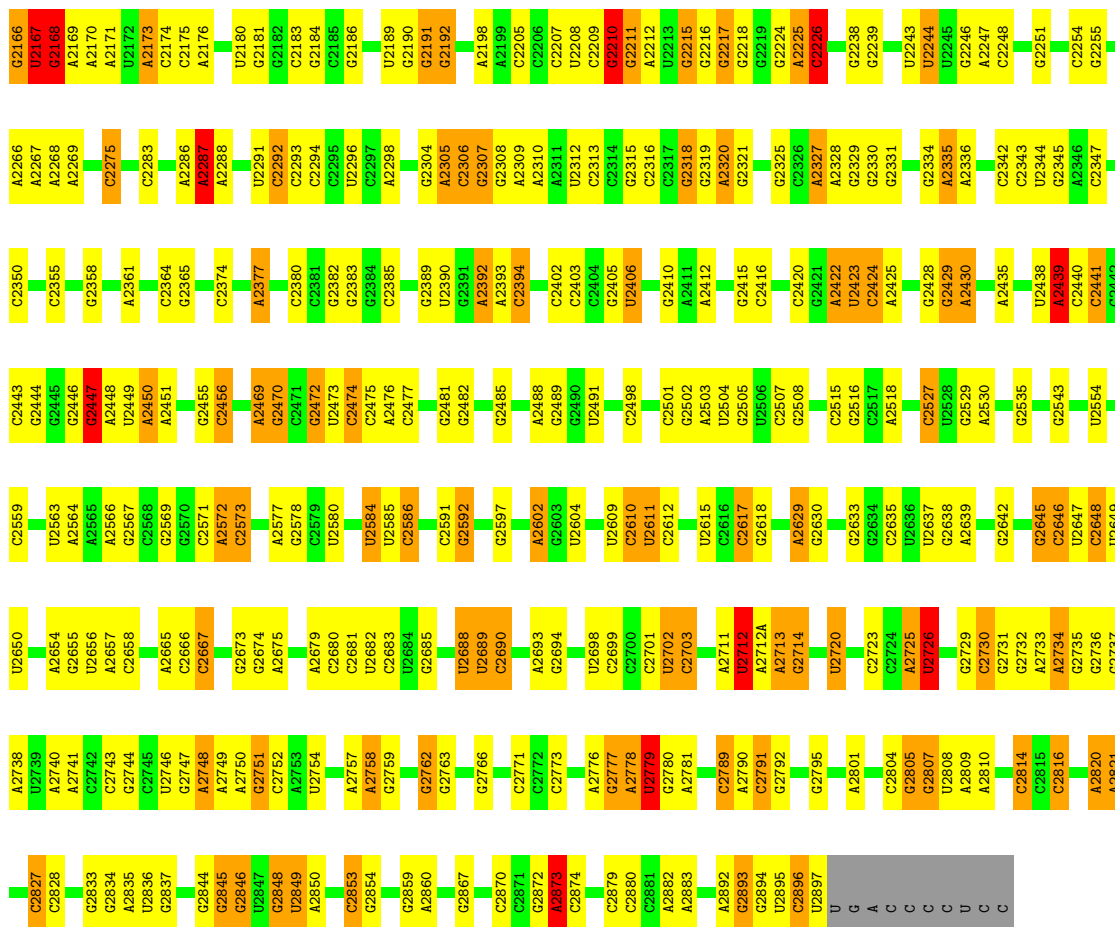
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C2284	G2182	G2110	G2024	A1912	G1801	G1687	A1586	G1487	A1392	G1271	G1176	U1061	C970	G875
C2285	C2183	C2111	C2025	A1913	A1802	G1688	A1587	G1488	A1393	U1273	A1177	U1061	C971	C876
A2286	C2184	C2112	C2026	C1914	A1803	U1688	U1588	U1489	U1394	A1070	C1178	A1070	G972	U877
A2287	G2185	U2113	G2027	U1689	A1812	U1689	C1589	A1490	A1395	G1071	C1179	G1071	G973	A878
U2291	G2186	A2114	A2030	C1920	G1813	U1692	G1592	C1493	U1396	G1281	C1180	C1072	G974	G879
C2292	G2187	G2115	A2031	G1929	G1816	C1694	G1593	C1499	C1403	A1286	G1183	A1073	C975	G880
C2293	G2188	A2117	G2032	G1930	G1817	C1604	G1594	C1499	C1404	A1287	G1184	A1073	C976	G881
C2294	U2189	A2118	A2033	U1931	U1818	C1605	G1595	C1502	U1405	U1288	G1185	C1079	C977	G882
C2295	U2190	A2119	G2034	G1697	U1819	C1606	G1598	C1505	U1406	A1086	G1186	A1086	G987	C885
U2296	G2191	G2120	G2037	A1698	U1820	C1607	C1599	C1505	C1407	U1294	G1187	A1086	G988	C886
G2297	G2192	U1936	C2039	A1937	U1820	U1700	C1599	C1505	C1408	U1300	G1191	A1088	G989	C887
A2298	U2197	A1938	C2040	A1938	G1824	A1701	U1602	C1509	C1409	A1301	G1191	A1088	G990	C888
G2304	A2198	U1939	U2041	U1939	C1827	G1725	A1603	A1509	A1409	A1302	G1195	A1089	G991	C889
A2305	A2199	U1940	A2042	U1940	G1828	G1725	C1604	A1514	G1416	G1303	G1195	A1095	C992	A890
C2306	C2205	G2128	C2043	C1941	A1829	G1728	C1606	U1515	C1417	C1304	G1197	A1096	C993	G892
G2307	G2206	C2129	C2043	C1942	C1830	U1729	C1607	C1515	C1418	A1308	C1202	A1096	C994	C894
G2308	U2208	U2130	G2046	C1947	C1830	A1730	C1608	U1520	G1418	G1309	C1203	U1101	C995	U895
C2309	C2209	G2131	U2047	G1948	G1835	G1731	A1609	G1521	U1419	G1310	G1203	A1102	A996	A896
A2310	G2210	U2132	G2048	G1949	A1835	A1732	A1610	G1522	U1420	G1311	G1204	A1103	C997	G897
A2311	G2211	G2133	G2048	G1949	A1835	A1732	A1610	G1522	G1421	G1311	A1103	A1103	C997	G897
U2312	G2212	A2134	G1950	G1950	C1838	G1733	A1616	U1524	A1427	U1312	U1205	C1104	C999	C893
C2313	U2213	G2140	G2052	G1955	G1839	G1735	A1616	G1524	A1428	U1314	G1206	U1105	A1000	A900
G2316	G2214	C2140	C2053	U1955	A1847	C1735	U1629	G1525	C1428	C1314	G1206	U1106	A1001	A901
C2317	G2215	G2141	A2054	U1956	A1847	C1735	U1629	G1526	G1429	C1315	A1210	G1106	G1002	G906
G2318	G2216	C2142	C2055	C1957	G1851	G1743	G1630	G1527	G1429	U1316	G1211	A1111	G1003	U905
A2319	A2225	C2143	G2056	C1958	A1851	G1754	G1635	G1527	U1431	A1317	G1212	A1111	C1004	U907
A2320	C2226	U2144	A2059	U1963	A1853	A1755	G1636	A1637	C1437	G1318	G1222	G1122	C1005	U907
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G2325	U2233	G2146	A2060	U1964	G1858	G1756	G1637	U1638	A1444A	U1329	A1220	U1130	A1010	A910
C2316	G2234	C2147	G2061	C1967	G1858	A1762	U1640	U1638	A1444A	U1329	A1220	U1130	A1011	G911
A2328	G2235	G2148	A2062	C1967	G1858	A1762	U1640	A1536	A1449	G1332	G1225	C1136	U1012	A917
C2329	C2236	C2149	C2063	A1970	G1870	G1764	C1640	A1537	A1449	G1332	G1225	C1136	U1013	A918
G2334	G2237	U2150	C2064	A1971	A1871	G1765	G1643	G1542	G1449A	G1339	C1230	G1139	U1014	G919
G2338	G2238	G2154	C2065	A1972	A1872	G1766	C1644	A1543	A1453	U1340	G1231	G1140	G1015	U922
G2339	G2239	G2155	C2066	A1972	A1878	U1766	C1644	C1544	U1454	U1341	G1232	C1140	G1016	C923
U2243	U2244	G2156	G2067	C1979	G1879	G1769	C1648	A1545	G1455	G1343	G1233	U1142	G1017	G923
U2244	U2245	U2157	U2068	C1980	C1880	A1773	G1649	A1547	A1460	U1352	G1235	A1143	G1022	G928
G2246	A2247	A2158	C2069	A1981	C1881	C1774	G1650	C1550	G1461	A1353	G1236	A1142A	U1023	G929
C2248	C2248	G2161	U2075	C1982	G1883	U1775	A1652	C1550	G1464	A1354	G1245	G1151	G1024	G832
C2254	C2254	G2165	C2081	U1991	A1884	U1779	A1654	A1554	C1464	A1354	G1245	G1151	U1026	A933
G2350	G2254	G2166	A2082	U1993	G1888	A1780	A1655	A1554	C1467	A1359	G1250	C1153	A1027	G934
G2351	A2247	U2167	U2086	U1996	A1889	C1781	C1656	A1559	A1471	G1364	A1253	A1155	A1032	A941
A2352	C2280	G2168	U2086	C1996	A1890	C1782	C1657	G1560	A1471	G1365	A1254	A1156	U1033	A945
A2353	U2092	G2169	G2002	G2002	G1889	A1784	G1686	G1560	C1474	U1159	U1255	C1158	G1034	G946
A2266	G2093	A2170	C2006	C2006	A1900	A1785	G1687	A1566	G1475	G1368	G1256	U1159	G1044	G956
A2267	G2093	A2171	C2006	C2006	A1901	A1786	G1687	A1567	C1476	A1379	A1262	U1165	A1045	G957
A2268	U2099	U2172	G2010	G2010	A1902	A1787	A1669	G1568	G1477	G1380	A1263	C1166	A1046	A957
G2270	U2102	C2174	G1906	G1906	G1903	C1788	A1674	A1569	G1478	U1263	G1264	C1166	A1047	U958
G2271	C2103	G2175	A2019	A2019	G1906	C1790	G1674	A1571	A1479	A1384	A1265	C1166	A1048	A959
A2276	G2104	A2176	A2020	A2020	U1679	A1791	U1679	A1572	G1480	G1385	G1266	G1170	C1049	A960
C2277	C2104	C2177	U2021	U2021	U1680	A1792	U1680	A1582	U1483	G1386	U1267	G1171	G1056	C951
G2373	C2108	C2178	U2022	U2022	G1681	G1792	G1681	U1578	G1483	A1174	U1267	A1174	A1057	C965



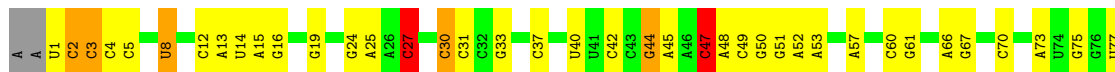
• Molecule 32: 23S rRNA



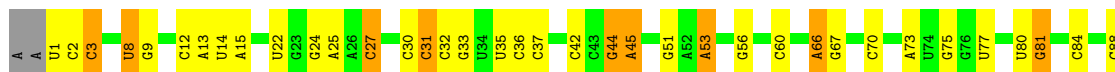
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U1019	C1022	U1023	G1024	G1025	U1026	A1027	A1032	G1033	U1034	U1035	G1042	C1043	G1044	A1045	G1046	G1047	A1048	C1049	G1051	C1052	A1054	G1055	C1056	A1057	G1058	U1060	U1061	C1064	A1070	G1072	A1073	G1074	C1075	C1076	C1079	C1080	G1085	A1086	G1087	A1088	G1089	C1092	A1095	A1096	U1012	G1099																																																																																																																										
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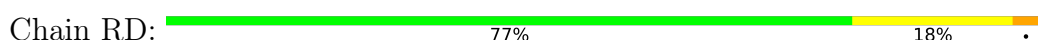
• Molecule 33: 5S rRNA

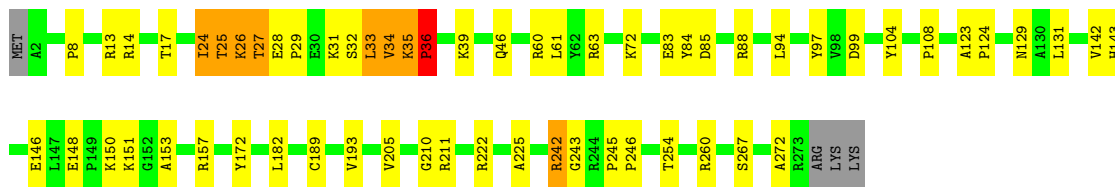


• Molecule 33: 5S rRNA

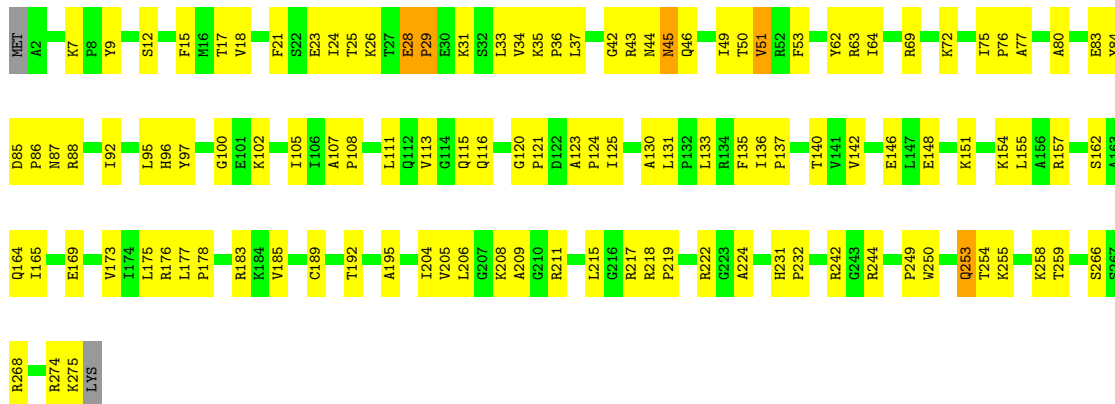


• Molecule 34: 50S ribosomal protein L2

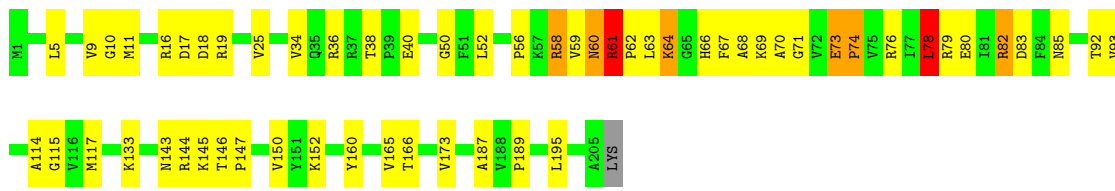




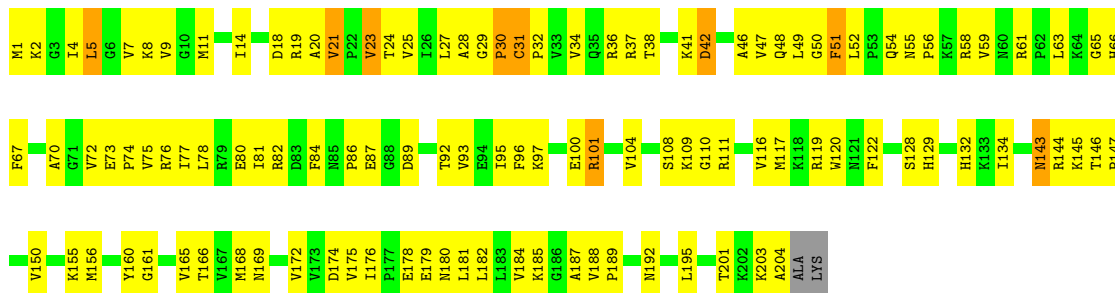
• Molecule 34: 50S ribosomal protein L2



• Molecule 35: 50S ribosomal protein L3



• Molecule 35: 50S ribosomal protein L3



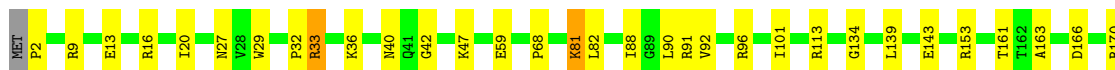
• Molecule 36: 50S ribosomal protein L5





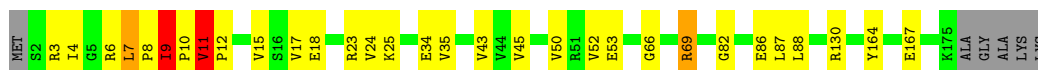
- Molecule 36: 50S ribosomal protein L5

Chain YG: 81% 18% ..



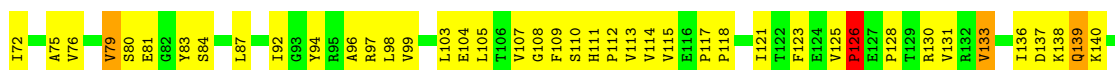
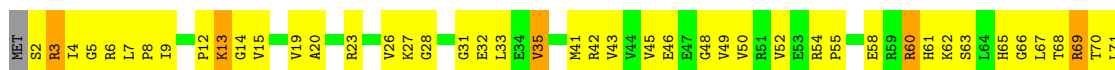
- Molecule 37: 50S ribosomal protein L6

Chain RH: 79% 15% ..



- Molecule 37: 50S ribosomal protein L6

Chain YH: 37% 54% ..



- Molecule 38: 50S ribosomal protein L9

Chain RI: 70% 27% ..



- Molecule 38: 50S ribosomal protein L9

Chain YI: 89% 9% ..



- Molecule 39: 50S ribosomal protein L13

Chain RN: 84% 14% ..



- Molecule 39: 50S ribosomal protein L13

Chain YN: 86% 12% ..



- Molecule 40: 50S ribosomal protein L14

Chain RO: 85% 15%



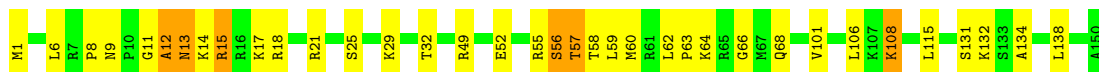
- Molecule 40: 50S ribosomal protein L14

Chain YO: 83% 17%



- Molecule 41: 50S ribosomal protein L15

Chain RP: 76% 20%




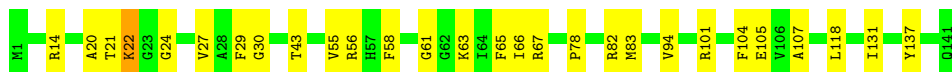
- Molecule 41: 50S ribosomal protein L15

Chain YP: 43% 48% 8%



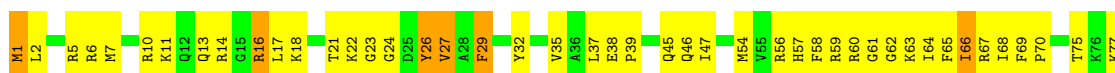
- Molecule 42: 50S ribosomal protein L16

Chain RQ:  80% 19%




- Molecule 42: 50S ribosomal protein L16

Chain YQ:  40% 55% 5%



- Molecule 43: 50S ribosomal protein L17

Chain RR:  87% 11%




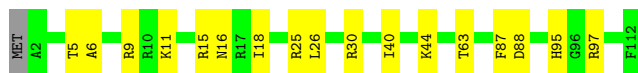
- Molecule 43: 50S ribosomal protein L17

Chain YR:  90% 9%




- Molecule 44: 50S ribosomal protein L18

Chain RS:  84% 15%



- Molecule 44: 50S ribosomal protein L18

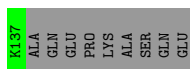
Chain YS:  76% 21%



- Molecule 45: 50S ribosomal protein L19

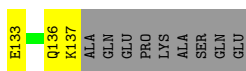
Chain RT:  71% 22% 6%





- Molecule 45: 50S ribosomal protein L19

Chain YT: 70% 23% 6%



- Molecule 46: 50S ribosomal protein L20

Chain RU: 83% 15% ..



- Molecule 46: 50S ribosomal protein L20

Chain YU: 86% 12% ..



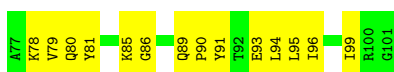
- Molecule 47: 50S ribosomal protein L21

Chain RV: 86% 13% .



- Molecule 47: 50S ribosomal protein L21

Chain YV: 49% 50% .

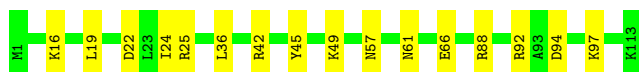
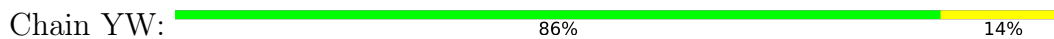


- Molecule 48: 50S ribosomal protein L22

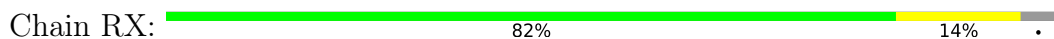
Chain RW: 80% 20%



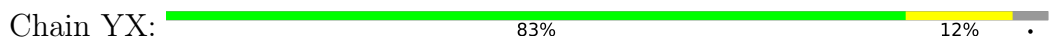
- Molecule 48: 50S ribosomal protein L22



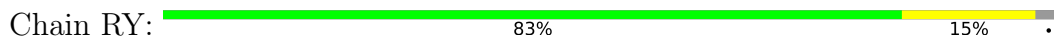
- Molecule 49: 50S ribosomal protein L23



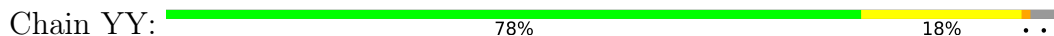
- Molecule 49: 50S ribosomal protein L23



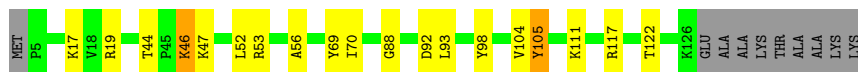
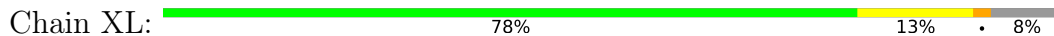
- Molecule 50: 50S ribosomal protein L24



- Molecule 50: 50S ribosomal protein L24

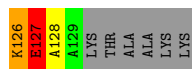
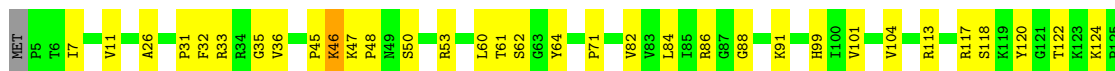


- Molecule 51: 30S ribosomal protein S12



- Molecule 51: 30S ribosomal protein S12





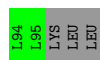
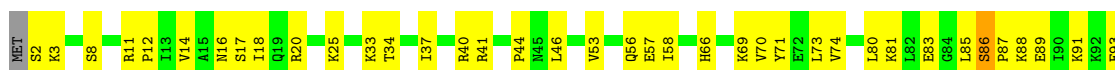
- Molecule 52: 50S ribosomal protein L28

Chain Y1: 82% 12% 5%



- Molecule 52: 50S ribosomal protein L28

Chain R1: 57% 38% ..



- Molecule 53: 50S ribosomal protein L35

Chain Y8: 77% 15% 5% ..



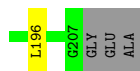
- Molecule 53: 50S ribosomal protein L35

Chain R8: 57% 42% .



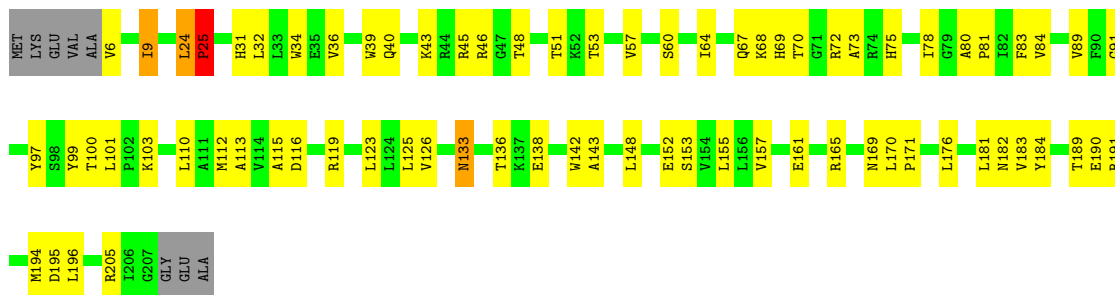
- Molecule 54: 50S ribosomal protein L4

Chain YF: 81% 14% .

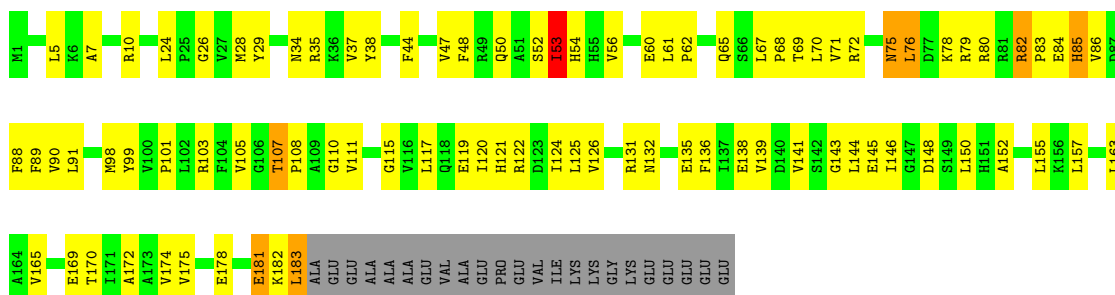


- Molecule 54: 50S ribosomal protein L4

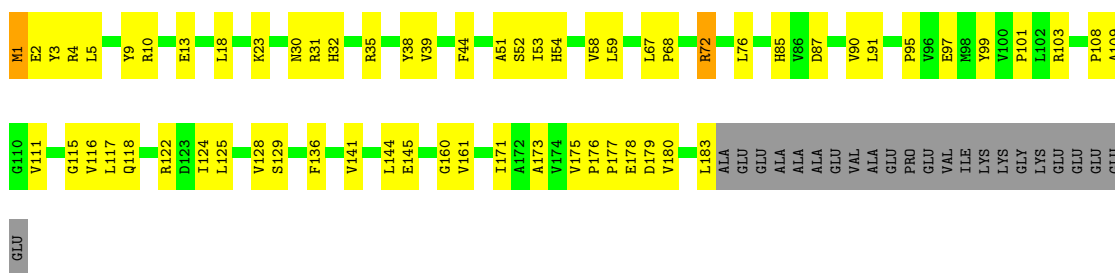
Chain RF: 61% 33% ..



• Molecule 55: 50S ribosomal protein L25



• Molecule 55: 50S ribosomal protein L25



• Molecule 56: CCPuro



• Molecule 56: CCPuro



4 Data and refinement statistics

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	212.79Å 453.08Å 608.93Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	146.59 – 3.25	Depositor
% Data completeness (in resolution range)	93.4 (146.59-3.25)	Depositor
R_{merge}	0.23	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.56 (at 3.19Å)	Xtrriage
Refinement program	PHENIX 1.15.2_3472	Depositor
R, R_{free}	0.229 , 0.256	Depositor
Wilson B-factor (Å ²)	60.8	Xtrriage
Anisotropy	0.347	Xtrriage
L-test for twinning ²	$\langle L \rangle = 0.43$, $\langle L^2 \rangle = 0.25$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	298432	wwPDB-VP
Average B, all atoms (Å ²)	88.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.35% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: A2M, ZN, MG, OMU, PPU, SF4

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	0.44	0/36324	1.10	168/56690 (0.3%)
1	XA	0.46	2/36254 (0.0%)	1.08	154/56581 (0.3%)
2	QB	0.72	3/1942 (0.2%)	0.75	1/2619 (0.0%)
2	XB	0.37	0/1950	0.61	0/2630
3	QC	0.32	0/1629	0.56	0/2195
3	XC	0.31	0/1629	0.55	0/2195
4	QD	0.34	0/1733	0.57	0/2318
4	XD	0.35	0/1733	0.56	0/2318
5	QE	0.30	0/1171	0.55	0/1576
5	XE	0.33	0/1171	0.58	0/1576
6	QF	0.34	0/856	0.56	0/1154
6	XF	0.30	0/856	0.56	0/1154
7	QG	0.31	0/1276	0.52	0/1709
7	XG	0.34	0/1276	0.52	0/1709
8	QH	0.54	2/1128 (0.2%)	0.62	1/1517 (0.1%)
8	XH	0.34	0/1128	0.54	0/1517
9	QI	0.37	0/1029	0.68	0/1379
9	XI	0.36	0/1017	0.64	0/1365
10	QJ	0.33	0/814	0.59	0/1095
10	XJ	0.36	0/790	0.64	0/1063
11	QK	0.31	0/900	0.55	0/1213
11	XK	0.32	0/879	0.56	0/1187
12	QM	0.39	0/965	0.69	0/1292
12	XM	0.34	0/956	0.68	0/1281
13	QN	0.38	0/501	0.64	0/664
13	XN	0.35	0/501	0.61	0/664
14	QO	0.29	0/745	0.52	0/992
14	XO	0.30	0/740	0.50	0/987
15	QP	0.31	0/721	0.57	0/970
15	XP	0.32	0/721	0.58	0/970
16	QQ	0.30	0/847	0.53	0/1131
16	XQ	0.32	0/847	0.57	1/1131 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QR	0.29	0/579	0.58	0/768
17	XR	0.31	0/579	0.56	0/768
18	QS	0.37	0/680	0.65	0/915
18	XS	1.02	4/671 (0.6%)	0.84	2/904 (0.2%)
19	QT	0.30	0/765	0.58	0/1007
19	XT	0.31	0/765	0.59	0/1007
20	QU	0.25	0/221	0.56	0/288
20	XU	0.28	0/221	0.66	0/288
21	QV	0.38	0/1832	1.02	2/2855 (0.1%)
21	QW	0.31	0/1832	1.07	8/2855 (0.3%)
21	XV	0.40	0/1832	1.05	5/2855 (0.2%)
21	XW	0.33	0/1832	1.10	6/2855 (0.2%)
22	QX	0.41	0/414	0.89	0/645
22	XX	0.35	0/414	0.91	0/645
23	QY	0.60	0/743	0.67	0/1002
23	QZ	0.60	0/743	0.69	0/1002
23	XY	0.59	0/743	0.72	0/1002
23	XZ	0.60	0/743	0.60	0/1002
24	R0	0.36	0/652	0.68	1/867 (0.1%)
24	Y0	0.40	0/657	0.66	2/874 (0.2%)
25	R2	0.31	0/583	0.61	0/771
25	Y2	0.36	0/583	0.64	0/771
26	R3	0.31	0/474	0.54	0/635
26	Y3	0.33	0/474	0.56	0/635
27	R4	0.54	1/578 (0.2%)	1.01	5/776 (0.6%)
27	Y4	0.36	0/578	0.71	0/776
28	R5	0.34	0/473	0.55	0/639
28	Y5	0.38	0/473	0.56	0/639
29	R6	0.30	0/460	0.55	0/613
29	Y6	0.30	0/460	0.53	0/613
30	R7	0.30	0/417	0.53	0/550
30	Y7	0.30	0/426	0.53	0/561
31	R9	0.32	0/310	0.55	0/407
31	Y9	0.27	0/310	0.54	0/407
32	RA	0.51	2/69739 (0.0%)	1.15	477/108870 (0.4%)
32	YA	0.52	1/69353 (0.0%)	1.13	428/108267 (0.4%)
33	RB	0.46	0/2881	1.16	18/4494 (0.4%)
33	YB	0.51	1/2881 (0.0%)	1.16	23/4494 (0.5%)
34	RD	0.40	1/2165 (0.0%)	0.74	6/2919 (0.2%)
34	YD	0.67	2/2185 (0.1%)	0.81	2/2944 (0.1%)
35	RE	0.40	0/1601	0.78	3/2160 (0.1%)
35	YE	0.64	1/1592 (0.1%)	0.83	1/2149 (0.0%)
36	RG	0.37	0/1499	0.66	0/2016

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
36	YG	0.33	0/1499	0.65	0/2016
37	RH	0.46	1/1362 (0.1%)	0.74	2/1841 (0.1%)
37	YH	0.64	0/1356	0.80	1/1834 (0.1%)
38	RI	0.55	1/1151 (0.1%)	0.91	6/1558 (0.4%)
38	YI	0.33	0/1151	0.69	1/1558 (0.1%)
39	RN	0.33	0/1131	0.67	2/1525 (0.1%)
39	YN	0.32	0/1131	0.66	2/1525 (0.1%)
40	RO	0.34	0/943	0.56	0/1269
40	YO	0.34	0/943	0.57	0/1269
41	RP	0.39	0/1162	0.80	1/1544 (0.1%)
41	YP	0.61	0/1152	0.71	0/1533
42	RQ	0.37	0/1143	0.67	0/1527
42	YQ	0.61	0/1143	0.75	0/1527
43	RR	0.32	0/974	0.62	1/1302 (0.1%)
43	YR	0.30	0/974	0.61	0/1302
44	RS	0.36	0/892	0.69	0/1187
44	YS	0.35	0/892	0.73	2/1187 (0.2%)
45	RT	0.32	0/1155	0.67	0/1542
45	YT	0.35	0/1155	0.71	2/1542 (0.1%)
46	RU	0.36	0/982	0.56	0/1306
46	YU	0.34	0/982	0.58	0/1306
47	RV	0.39	0/790	0.74	0/1057
47	YV	0.62	0/790	0.87	1/1057 (0.1%)
48	RW	0.31	0/911	0.56	0/1220
48	YW	0.33	0/911	0.56	0/1220
49	RX	0.34	0/739	0.54	0/993
49	YX	0.33	0/739	0.55	0/993
50	RY	0.38	0/831	0.62	1/1108 (0.1%)
50	YY	0.33	0/831	0.56	0/1108
51	QL	0.29	0/991	0.55	0/1327
51	XL	0.35	0/972	0.64	1/1301 (0.1%)
52	R1	0.39	0/744	0.55	0/989
52	Y1	0.42	0/736	0.59	0/978
53	R8	0.52	0/525	0.58	0/691
53	Y8	0.42	0/525	0.92	4/691 (0.6%)
54	RF	0.48	2/1620 (0.1%)	0.54	1/2194 (0.0%)
54	YF	0.39	0/1620	0.60	0/2194
55	RZ	0.53	2/1493 (0.1%)	0.65	0/2026
55	YZ	0.36	0/1493	0.52	0/2026
56	ZA	1.50	1/40 (2.5%)	0.89	0/60
56	ZB	0.27	0/40	0.53	0/60
All	All	0.47	27/323056 (0.0%)	1.01	1342/482845 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	QB	0	1
24	Y0	0	1
32	YA	0	1
37	YH	0	1
41	RP	0	1
51	QL	0	1
53	R8	0	1
All	All	0	7

All (27) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	YD	29	PRO	N-CA	13.69	1.70	1.47
18	XS	42	PRO	N-CA	13.61	1.70	1.47
18	XS	59	PRO	N-CA	13.52	1.70	1.47
54	RF	25	PRO	N-CA	13.16	1.69	1.47
38	RI	142	VAL	N-CA	-13.01	1.20	1.46
8	QH	74	PRO	N-CA	12.71	1.68	1.47
2	QB	201	ILE	C-N	9.06	1.51	1.34
2	QB	182	ILE	C-N	8.76	1.50	1.34
55	RZ	107	THR	C-N	8.56	1.50	1.34
35	YE	21	VAL	C-N	8.54	1.50	1.34
55	RZ	82	ARG	C-N	8.54	1.50	1.34
2	QB	158	LEU	C-N	8.46	1.50	1.34
37	RH	11	VAL	C-N	8.46	1.50	1.34
33	YB	115	G	O3'-P	-7.64	1.51	1.61
56	ZA	74	C	O3'-P	-7.40	1.52	1.61
1	XA	191(E)	G	C1'-N9	-7.09	1.36	1.46
32	RA	2053	G	C8-N7	7.02	1.35	1.30
1	XA	1038	C	O3'-P	6.93	1.69	1.61
54	RF	24	LEU	C-N	6.53	1.46	1.34
18	XS	58	VAL	C-N	6.01	1.45	1.34
34	YD	28	GLU	C-N	5.97	1.45	1.34
18	XS	41	VAL	C-N	5.96	1.45	1.34
32	YA	2287	A	N9-C4	-5.81	1.34	1.37
27	R4	36	CYS	CB-SG	-5.71	1.72	1.81
8	QH	73	ASP	C-N	5.68	1.45	1.34
34	RD	35	LYS	C-N	5.66	1.45	1.34
32	RA	2053	G	N7-C5	5.54	1.42	1.39

All (1342) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	309	G	O5'-P-OP2	-24.58	81.20	110.70
32	RA	2614	A	C6-N1-C2	-16.89	108.46	118.60
32	RA	2053	G	C5-N7-C8	-16.23	96.18	104.30
32	RA	308	G	OP2-P-O3'	-14.86	72.52	105.20
32	RA	2053	G	C4-C5-N7	14.51	116.61	110.80
32	RA	309	G	C4-N9-C1'	-14.05	108.23	126.50
32	RA	309	G	C8-N9-C1'	13.99	145.18	127.00
38	RI	142	VAL	CB-CA-C	-13.36	86.03	111.40
38	RI	142	VAL	N-CA-C	12.80	145.56	111.00
1	QA	1158	C	N1-C2-O2	12.57	126.44	118.90
1	QA	1301	U	N1-C2-O2	12.49	131.54	122.80
34	RD	27	THR	C-N-CA	12.43	152.77	121.70
32	RA	2614	A	C5-C6-N1	12.36	123.88	117.70
1	XA	1038	C	P-O3'-C3'	12.09	134.21	119.70
32	YA	884	C	C5-C6-N1	11.59	126.80	121.00
1	QA	1147	C	N1-C2-O2	11.53	125.82	118.90
32	RA	2052	G	C4-C5-N7	11.45	115.38	110.80
1	QA	1322	C	N1-C2-O2	11.17	125.60	118.90
33	YB	31	C	N1-C2-O2	11.12	125.57	118.90
1	QA	1301	U	N3-C2-O2	-11.00	114.50	122.20
32	YA	1914	C	N1-C2-O2	10.56	125.24	118.90
32	RA	2052	G	C5-N7-C8	-10.54	99.03	104.30
33	RB	31	C	N1-C2-O2	10.54	125.22	118.90
1	XA	1158	C	N1-C2-O2	10.33	125.10	118.90
1	QA	1158	C	N3-C2-O2	-10.18	114.77	121.90
32	RA	2614	A	N1-C2-N3	10.18	134.39	129.30
32	RA	2474	C	N1-C2-O2	10.17	125.00	118.90
1	XA	961	U	N3-C2-O2	-10.16	115.09	122.20
1	QA	1066	C	N1-C2-O2	10.12	124.97	118.90
1	QA	1128	C	C5-C6-N1	10.03	126.01	121.00
32	YA	884	C	C6-N1-C2	-9.89	116.34	120.30
1	QA	328	C	N1-C2-O2	9.88	124.83	118.90
1	QA	1158	C	C2-N1-C1'	9.87	129.66	118.80
1	QA	1128	C	C6-N1-C2	-9.86	116.36	120.30
1	XA	1086	U	N1-C2-O2	9.82	129.68	122.80
32	YA	2666	C	N1-C2-O2	9.75	124.75	118.90
32	YA	856	C	C6-N1-C2	-9.63	116.45	120.30
32	YA	2051	A	C2-N3-C4	-9.59	105.80	110.60
32	RA	856	C	C6-N1-C2	-9.57	116.47	120.30
32	RA	2053	G	N7-C8-N9	9.56	117.88	113.10
1	QA	1147	C	N3-C2-O2	-9.55	115.22	121.90
21	QW	13	C	N1-C2-O2	9.54	124.62	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	1914	C	N1-C2-O2	9.52	124.61	118.90
32	YA	624	C	C6-N1-C2	-9.32	116.57	120.30
32	RA	1313	U	N1-C2-O2	9.31	129.32	122.80
32	YA	1313	U	N1-C2-O2	9.22	129.26	122.80
32	RA	308	G	OP1-P-O3'	9.16	125.34	105.20
33	RB	31	C	C2-N1-C1'	9.12	128.83	118.80
32	YA	652	C	N1-C2-O2	9.12	124.37	118.90
33	RB	31	C	C6-N1-C2	-9.11	116.66	120.30
32	RA	828	U	C2-N1-C1'	9.08	128.59	117.70
1	QA	999	U	N1-C2-O2	9.06	129.15	122.80
1	QA	1158	C	C6-N1-C2	-9.04	116.68	120.30
32	YA	2394	C	N1-C2-O2	9.04	124.32	118.90
32	YA	1162	G	C8-N9-C1'	-9.01	115.29	127.00
1	QA	1322	C	N3-C2-O2	-9.00	115.60	121.90
32	RA	2873	A	N7-C8-N9	8.95	118.27	113.80
1	XA	328	C	N1-C2-O2	8.94	124.26	118.90
32	RA	2474	C	N3-C2-O2	-8.91	115.66	121.90
32	RA	856	C	C5-C6-N1	8.89	125.45	121.00
32	YA	1914	C	N3-C2-O2	-8.88	115.68	121.90
32	RA	1544	C	N1-C2-O2	8.88	124.22	118.90
32	YA	527	C	N1-C2-O2	8.78	124.17	118.90
32	YA	1313	U	N3-C2-O2	-8.76	116.07	122.20
1	XA	1086	U	N3-C2-O2	-8.72	116.09	122.20
33	RB	47	C	N1-C2-O2	8.64	124.08	118.90
1	XA	1301	U	N1-C2-O2	8.62	128.84	122.80
32	RA	537	C	C5-C6-N1	8.62	125.31	121.00
32	YA	269	U	N3-C2-O2	-8.60	116.18	122.20
1	QA	999	U	N3-C2-O2	-8.56	116.20	122.20
1	XA	330	C	N1-C2-O2	8.53	124.02	118.90
32	RA	859	G	C8-N9-C1'	-8.53	115.92	127.00
33	YB	31	C	N3-C2-O2	-8.51	115.94	121.90
32	YA	856	C	C5-C6-N1	8.50	125.25	121.00
32	RA	1313	U	N3-C2-O2	-8.46	116.28	122.20
32	RA	269	U	N3-C2-O2	-8.45	116.28	122.20
33	YB	31	C	C6-N1-C2	-8.45	116.92	120.30
32	YA	1162	G	C4-N9-C1'	8.44	137.47	126.50
1	QA	1260	C	N3-C2-O2	-8.43	116.00	121.90
32	RA	2666	C	N1-C2-O2	8.42	123.95	118.90
44	YS	110	LEU	CA-CB-CG	8.42	134.66	115.30
32	YA	624	C	C5-C6-N1	8.38	125.19	121.00
32	YA	269	U	N1-C2-O2	8.33	128.63	122.80
21	QW	13	C	N3-C2-O2	-8.30	116.09	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	1658	C	C5-C6-N1	8.27	125.13	121.00
32	RA	859	G	C4-N9-C1'	8.26	137.24	126.50
1	XA	1301	U	C2-N1-C1'	8.26	127.61	117.70
1	XA	1149	C	N1-C2-O2	8.25	123.85	118.90
32	RA	1956	U	N3-C2-O2	-8.25	116.42	122.20
32	YA	270(Q)	C	N1-C2-O2	8.22	123.83	118.90
1	XA	1158	C	N3-C2-O2	-8.20	116.16	121.90
32	RA	2792	G	N3-C4-N9	8.18	130.91	126.00
1	XA	307	C	N1-C2-O2	8.17	123.80	118.90
1	QA	135	C	C6-N1-C2	-8.16	117.03	120.30
1	QA	307	C	N1-C2-O2	8.15	123.79	118.90
32	RA	884	C	C5-C6-N1	8.13	125.06	121.00
1	QA	1260	C	N1-C2-O2	8.12	123.77	118.90
32	RA	613	U	N3-C2-O2	-8.11	116.52	122.20
32	YA	2666	C	N3-C2-O2	-8.09	116.24	121.90
32	YA	2394	C	N3-C2-O2	-8.08	116.24	121.90
18	XS	59	PRO	CA-N-CD	-8.07	100.20	111.50
1	QA	237	C	N3-C4-C5	-8.07	118.67	121.90
32	RA	1640	C	N1-C2-O2	8.07	123.74	118.90
1	XA	1301	U	N3-C2-O2	-8.05	116.56	122.20
32	RA	69	C	C2-N1-C1'	8.04	127.64	118.80
1	XA	1158	C	C2-N1-C1'	8.01	127.61	118.80
1	XA	1031	G	N3-C4-C5	-8.01	124.59	128.60
32	YA	2726	U	N3-C2-O2	-8.01	116.59	122.20
32	RA	2477	C	N1-C2-O2	7.99	123.69	118.90
33	RB	51	G	N1-C6-O6	-7.98	115.11	119.90
32	RA	69	C	C5-C6-N1	7.98	124.99	121.00
32	YA	69	C	N1-C2-O2	7.97	123.68	118.90
32	YA	2873	A	N7-C8-N9	7.96	117.78	113.80
1	QA	1301	U	C2-N1-C1'	7.94	127.23	117.70
32	RA	2873	A	C8-N9-C4	-7.94	102.62	105.80
32	RA	613	U	N1-C2-O2	7.93	128.35	122.80
1	QA	328	C	C2-N1-C1'	7.92	127.52	118.80
32	YA	2584	U	C2-N1-C1'	7.92	127.21	117.70
32	RA	143	C	C5-C6-N1	7.91	124.96	121.00
32	YA	2051	A	N1-C2-N3	7.91	133.26	129.30
50	RY	55	TYR	N-CA-CB	7.91	124.84	110.60
32	RA	1313	U	C2-N1-C1'	7.90	127.18	117.70
1	QA	961	U	N3-C2-O2	-7.89	116.68	122.20
32	RA	753	C	C5-C6-N1	7.89	124.94	121.00
32	YA	286	C	C2-N1-C1'	7.88	127.47	118.80
1	QA	1301	U	C5-C6-N1	7.88	126.64	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	2226	C	N1-C2-O2	7.87	123.62	118.90
32	YA	2791	C	C6-N1-C1'	7.85	130.22	120.80
33	RB	31	C	C5-C6-N1	7.84	124.92	121.00
32	YA	2584	U	N3-C2-O2	-7.82	116.73	122.20
53	Y8	61	LEU	CA-CB-CG	7.81	133.26	115.30
1	QA	328	C	N3-C2-O2	-7.81	116.43	121.90
1	XA	1145	C	N1-C2-O2	7.80	123.58	118.90
1	XA	1158	C	C6-N1-C2	-7.78	117.19	120.30
32	YA	2161	C	N1-C2-O2	7.76	123.56	118.90
32	RA	749	C	N1-C2-O2	7.76	123.56	118.90
1	XA	328	C	C6-N1-C2	-7.76	117.20	120.30
33	RB	31	C	N3-C2-O2	-7.76	116.47	121.90
1	XA	1031	G	N3-C4-N9	7.72	130.63	126.00
1	QA	1086	U	N1-C2-O2	7.71	128.19	122.80
34	YD	29	PRO	CA-N-CD	-7.71	100.71	111.50
32	YA	435	C	N1-C2-O2	7.71	123.52	118.90
32	RA	1914	C	N3-C2-O2	-7.70	116.51	121.90
21	QW	13	C	C6-N1-C2	-7.69	117.22	120.30
32	YA	277	C	N1-C2-O2	7.68	123.51	118.90
32	YA	753	C	C5-C6-N1	7.68	124.84	121.00
1	XA	1128	C	C6-N1-C2	-7.68	117.23	120.30
21	XW	2	G	N3-C4-N9	7.67	130.60	126.00
32	YA	2573	C	O5'-P-OP1	7.67	119.91	110.70
1	QA	1066	C	N3-C2-O2	-7.67	116.53	121.90
32	YA	708	C	N1-C2-O2	7.66	123.50	118.90
32	YA	1588	C	C5-C6-N1	7.65	124.83	121.00
32	RA	269	U	N1-C2-O2	7.65	128.16	122.80
32	YA	2210	G	N3-C4-C5	-7.65	124.78	128.60
1	XA	1007	C	C5-C6-N1	7.64	124.82	121.00
32	YA	2394	C	C6-N1-C2	-7.62	117.25	120.30
32	RA	69	C	C6-N1-C2	-7.61	117.25	120.30
32	YA	1920	C	C5-C6-N1	7.61	124.81	121.00
32	RA	1914	C	C2-N1-C1'	7.61	127.17	118.80
32	YA	652	C	N3-C2-O2	-7.61	116.58	121.90
24	Y0	8	GLY	CA-C-N	-7.58	100.53	117.20
32	RA	143	C	C6-N1-C2	-7.58	117.27	120.30
32	RA	2584	U	C2-N1-C1'	7.56	126.78	117.70
32	RA	1920	C	C5-C6-N1	7.56	124.78	121.00
1	QA	1260	C	C6-N1-C2	-7.55	117.28	120.30
32	RA	2617	C	N1-C2-O2	7.54	123.42	118.90
1	QA	328	C	C6-N1-C2	-7.53	117.29	120.30
32	YA	1963	U	N1-C2-O2	7.52	128.06	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	1407	C	C6-N1-C2	-7.50	117.30	120.30
33	YB	27	C	N1-C2-O2	7.48	123.39	118.90
32	RA	2702	U	N3-C2-O2	-7.46	116.98	122.20
32	YA	1170	G	N3-C4-N9	7.46	130.47	126.00
32	RA	2827	C	C5-C6-N1	7.44	124.72	121.00
32	RA	309	G	O5'-P-OP1	7.42	119.61	110.70
32	RA	2053	G	C5-C6-N1	7.42	115.21	111.50
32	RA	527	C	N1-C2-O2	7.42	123.35	118.90
1	XA	328	C	C2-N1-C1'	7.41	126.95	118.80
1	XA	328	C	N3-C2-O2	-7.41	116.71	121.90
32	RA	93	C	C5-C6-N1	7.41	124.70	121.00
32	YA	2168	G	N3-C4-N9	7.40	130.44	126.00
32	YA	12	U	N3-C2-O2	-7.39	117.02	122.20
32	RA	2099	U	N1-C2-O2	7.39	127.97	122.80
32	RA	2294	C	C6-N1-C2	-7.39	117.34	120.30
1	XA	1149	C	N3-C2-O2	-7.37	116.74	121.90
8	QH	74	PRO	CA-N-CD	-7.36	101.20	111.50
32	RA	2226	C	N1-C2-O2	7.36	123.32	118.90
32	RA	1407	C	C2-N1-C1'	7.36	126.89	118.80
32	RA	2559	C	N1-C2-O2	7.33	123.30	118.90
32	RA	2346	A	O4'-C1'-N9	7.33	114.06	108.20
32	YA	1956	U	N3-C2-O2	-7.32	117.07	122.20
32	RA	2584	U	N3-C2-O2	-7.32	117.08	122.20
32	YA	1407	C	C2-N1-C1'	7.32	126.85	118.80
32	YA	143	C	C5-C6-N1	7.31	124.66	121.00
32	YA	994	C	C2-N1-C1'	7.31	126.84	118.80
32	RA	93	C	C6-N1-C2	-7.29	117.38	120.30
32	YA	2294	C	C6-N1-C2	-7.27	117.39	120.30
32	YA	2808	U	N3-C2-O2	-7.26	117.12	122.20
1	QA	1066	C	C2-N1-C1'	7.25	126.77	118.80
32	YA	2873	A	C8-N9-C4	-7.24	102.90	105.80
32	RA	1956	U	N1-C2-O2	7.24	127.87	122.80
32	YA	1159	U	N3-C2-O2	-7.24	117.13	122.20
18	XS	42	PRO	CA-N-CD	-7.24	101.37	111.50
1	XA	442	C	C6-N1-C2	-7.22	117.41	120.30
32	YA	373	U	N3-C2-O2	-7.22	117.15	122.20
32	RA	2791	C	C6-N1-C1'	7.21	129.46	120.80
32	RA	2099	U	N3-C2-O2	-7.20	117.16	122.20
1	QA	960	U	N1-C2-O2	7.20	127.84	122.80
32	RA	69	C	N1-C2-O2	7.20	123.22	118.90
32	YA	1640	C	N1-C2-O2	7.19	123.22	118.90
32	RA	2460	U	N1-C2-O2	7.19	127.83	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	1159	U	N1-C2-O2	7.18	127.82	122.80
32	YA	1881	C	C6-N1-C2	-7.17	117.43	120.30
1	QA	717	C	N1-C2-O2	7.16	123.20	118.90
32	RA	884	C	C6-N1-C2	-7.14	117.44	120.30
32	YA	270(Q)	C	N3-C2-O2	-7.14	116.90	121.90
1	QA	486	U	N1-C2-O2	7.14	127.80	122.80
1	QA	1086	U	N3-C2-O2	-7.13	117.20	122.20
32	YA	758	C	C6-N1-C2	-7.13	117.45	120.30
32	YA	1881	C	C5-C6-N1	7.12	124.56	121.00
32	YA	2210	G	N3-C4-N9	7.12	130.27	126.00
32	RA	2474	C	C6-N1-C2	-7.11	117.45	120.30
27	R4	6	HIS	N-CA-C	7.10	130.18	111.00
32	YA	1162	G	O4'-C1'-N9	7.10	113.88	108.20
32	YA	1430	C	C5-C6-N1	7.09	124.55	121.00
32	RA	881	G	N3-C4-N9	7.09	130.25	126.00
1	QA	960	U	N3-C2-O2	-7.08	117.24	122.20
32	RA	435	C	N1-C2-O2	7.08	123.15	118.90
32	YA	2827	C	C5-C6-N1	7.08	124.54	121.00
33	YB	31	C	C2-N1-C1'	7.07	126.57	118.80
32	RA	2052	G	C6-C5-N7	-7.06	126.16	130.40
32	RA	2688	U	N3-C2-O2	-7.06	117.26	122.20
32	YA	265	A	O4'-C1'-N9	7.04	113.84	108.20
32	YA	527	C	N3-C2-O2	-7.04	116.97	121.90
32	RA	2051	A	C2-N3-C4	-7.04	107.08	110.60
32	YA	2143	C	N3-C2-O2	-7.03	116.98	121.90
1	XA	18	C	C5-C6-N1	7.03	124.51	121.00
1	QA	1028(B)	C	C6-N1-C2	-7.03	117.49	120.30
32	RA	1407	C	C6-N1-C2	-7.02	117.49	120.30
32	YA	143	C	C6-N1-C2	-7.02	117.49	120.30
32	YA	753	C	C6-N1-C2	-7.01	117.50	120.30
33	YB	31	C	C5-C6-N1	7.00	124.50	121.00
32	RA	2666	C	N3-C2-O2	-7.00	117.00	121.90
32	RA	758	C	N1-C2-O2	6.99	123.09	118.90
1	QA	1158	C	C5-C6-N1	6.98	124.49	121.00
32	YA	2143	C	N1-C2-O2	6.97	123.08	118.90
32	RA	2827	C	C2-N1-C1'	6.97	126.47	118.80
32	YA	2559	C	N1-C2-O2	6.97	123.08	118.90
32	RA	2791	C	N1-C2-N3	6.97	124.08	119.20
32	YA	12	U	N1-C2-O2	6.97	127.68	122.80
32	RA	828	U	N1-C2-O2	6.95	127.66	122.80
32	YA	273(D)	C	C6-N1-C2	-6.94	117.52	120.30
32	RA	2053	G	C8-N9-C1'	6.93	136.01	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	270(U)	C	N1-C2-O2	6.93	123.06	118.90
32	RA	1588	C	N1-C2-O2	6.93	123.06	118.90
32	YA	277	C	C6-N1-C2	-6.92	117.53	120.30
32	RA	2752	C	N1-C2-O2	6.92	123.05	118.90
32	YA	2808	U	N1-C2-O2	6.92	127.64	122.80
32	RA	1781	C	N1-C2-O2	6.91	123.05	118.90
32	RA	2614	A	N3-C4-C5	-6.91	121.97	126.80
32	YA	708	C	C5-C6-N1	6.91	124.45	121.00
32	YA	2043	C	C5-C6-N1	6.90	124.45	121.00
32	YA	273(D)	C	C5-C6-N1	6.90	124.45	121.00
1	QA	1039	C	C6-N1-C2	-6.89	117.54	120.30
33	YB	36	C	N1-C2-O2	6.89	123.04	118.90
32	RA	2460	U	N3-C2-O2	-6.89	117.38	122.20
1	XA	442	C	C5-C6-N1	6.89	124.44	121.00
27	R4	22	ILE	C-N-CA	6.88	138.90	121.70
1	QA	1066	C	C6-N1-C2	-6.88	117.55	120.30
1	XA	4	U	N3-C2-O2	-6.88	117.39	122.20
32	YA	1588	C	C6-N1-C2	-6.87	117.55	120.30
1	XA	307	C	N3-C2-O2	-6.86	117.10	121.90
32	RA	1528	A	N7-C8-N9	6.86	117.23	113.80
32	RA	2335	A	O4'-C1'-N9	6.85	113.68	108.20
32	RA	537	C	C6-N1-C2	-6.85	117.56	120.30
1	XA	18	C	C6-N1-C2	-6.84	117.56	120.30
32	YA	234	C	N1-C2-O2	6.84	123.00	118.90
1	XA	209	U	N1-C2-O2	6.83	127.58	122.80
32	YA	1774	C	C6-N1-C2	-6.83	117.57	120.30
32	RA	279	C	C5-C6-N1	6.81	124.41	121.00
32	YA	2527	C	C5-C6-N1	6.81	124.41	121.00
32	RA	2559	C	C6-N1-C2	-6.81	117.58	120.30
32	YA	2720	U	N1-C2-O2	6.80	127.56	122.80
32	RA	2211	G	N3-C4-N9	6.80	130.08	126.00
32	YA	1588	C	N1-C2-O2	6.80	122.98	118.90
32	YA	2416	C	C5-C6-N1	6.80	124.40	121.00
21	QW	34	C	C6-N1-C2	-6.80	117.58	120.30
32	RA	1774	C	C6-N1-C2	-6.80	117.58	120.30
32	RA	2559	C	C5-C6-N1	6.80	124.40	121.00
32	YA	2791	C	C2-N1-C1'	-6.79	111.33	118.80
32	YA	1658	C	C6-N1-C2	-6.79	117.58	120.30
32	RA	2053	G	C5-C6-O6	-6.78	124.53	128.60
32	RA	856	C	N1-C2-O2	6.77	122.96	118.90
32	RA	2712	U	C2-N1-C1'	6.77	125.83	117.70
33	RB	27	C	N1-C2-O2	6.76	122.96	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	435	C	N3-C2-O2	-6.76	117.17	121.90
1	QA	186	C	N1-C2-O2	6.76	122.95	118.90
32	YA	856	C	N1-C2-O2	6.75	122.95	118.90
33	RB	30	C	C6-N1-C2	-6.75	117.60	120.30
32	YA	1963	U	N3-C2-O2	-6.75	117.48	122.20
1	XA	1128	C	C5-C6-N1	6.73	124.37	121.00
32	RA	1544	C	N3-C2-O2	-6.72	117.19	121.90
32	YA	1294	U	N1-C2-O2	6.72	127.50	122.80
35	RE	67	PHE	C-N-CA	6.71	138.47	121.70
32	YA	2294	C	C5-C6-N1	6.71	124.35	121.00
32	RA	2467	C	C6-N1-C2	-6.70	117.62	120.30
32	RA	753	C	C6-N1-C2	-6.70	117.62	120.30
32	YA	652	C	C6-N1-C2	-6.69	117.62	120.30
32	RA	1407	C	N1-C2-O2	6.69	122.91	118.90
1	QA	186	C	C6-N1-C2	-6.69	117.63	120.30
32	RA	1640	C	N3-C2-O2	-6.68	117.22	121.90
32	YA	1407	C	C5-C6-N1	6.68	124.34	121.00
1	QA	486	U	N3-C2-O2	-6.67	117.53	122.20
1	XA	848	C	C5-C6-N1	6.67	124.34	121.00
32	RA	2808	U	N3-C2-O2	-6.67	117.53	122.20
32	RA	2827	C	C6-N1-C2	-6.66	117.63	120.30
32	RA	1342	A	O4'-C1'-N9	6.66	113.53	108.20
32	YA	2712	U	C2-N1-C1'	6.66	125.69	117.70
32	RA	2726	U	C2-N1-C1'	6.66	125.69	117.70
32	RA	2053	G	C4-C5-C6	-6.66	114.81	118.80
32	YA	556	G	N7-C8-N9	6.65	116.43	113.10
1	QA	419	C	C6-N1-C2	-6.65	117.64	120.30
32	YA	1882	C	C6-N1-C2	-6.65	117.64	120.30
32	YA	2043	C	C6-N1-C2	-6.65	117.64	120.30
32	RA	2210	G	N3-C4-C5	-6.64	125.28	128.60
32	RA	2726	U	N3-C2-O2	-6.63	117.56	122.20
1	XA	4	U	N1-C2-O2	6.62	127.44	122.80
32	YA	1437	C	C6-N1-C2	-6.62	117.65	120.30
32	RA	2043	C	C5-C6-N1	6.61	124.31	121.00
32	RA	2477	C	N3-C2-O2	-6.61	117.27	121.90
32	YA	277	C	C2-N1-C1'	6.61	126.06	118.80
1	QA	1066	C	C5-C6-N1	6.60	124.30	121.00
33	RB	77	U	N1-C2-O2	6.60	127.42	122.80
32	YA	2161	C	N3-C2-O2	-6.60	117.28	121.90
1	XA	404	U	N3-C2-O2	-6.59	117.59	122.20
32	YA	1934	C	C6-N1-C2	-6.59	117.66	120.30
32	RA	279	C	C6-N1-C2	-6.59	117.67	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	708	C	N1-C2-O2	6.58	122.85	118.90
32	YA	613	U	N3-C2-O2	-6.58	117.59	122.20
32	YA	2559	C	C6-N1-C2	-6.57	117.67	120.30
32	RA	1899	G	N3-C2-N2	6.57	124.50	119.90
32	RA	1882	C	C6-N1-C2	-6.57	117.67	120.30
32	RA	1528	A	C8-N9-C4	-6.57	103.17	105.80
32	YA	2827	C	N1-C2-O2	6.57	122.84	118.90
1	QA	1109	C	N1-C2-O2	6.56	122.84	118.90
1	QA	1298	C	N1-C2-O2	6.56	122.84	118.90
32	YA	1956	U	N1-C2-O2	6.56	127.39	122.80
32	YA	1314	C	C6-N1-C2	-6.56	117.67	120.30
1	QA	307	C	N3-C2-O2	-6.56	117.31	121.90
32	YA	2688	U	C2-N1-C1'	6.56	125.57	117.70
34	RD	32	SER	C-N-CA	6.55	138.08	121.70
1	XA	1502	A	N7-C8-N9	6.55	117.08	113.80
32	YA	2666	C	C6-N1-C2	-6.54	117.68	120.30
32	RA	1170	G	N3-C4-N9	6.54	129.92	126.00
53	Y8	61	LEU	CB-CG-CD1	-6.54	99.89	111.00
1	QA	1028	C	N1-C2-O2	6.53	122.82	118.90
32	YA	2827	C	C6-N1-C2	-6.52	117.69	120.30
1	QA	536	C	N1-C2-O2	6.52	122.81	118.90
32	RA	105	C	N1-C2-O2	6.51	122.81	118.90
32	YA	2063	C	N1-C2-O2	6.51	122.81	118.90
32	YA	758	C	N1-C2-O2	6.50	122.80	118.90
32	YA	1294	U	N3-C2-O2	-6.50	117.65	122.20
32	YA	2827	C	C2-N1-C1'	6.50	125.95	118.80
32	RA	837	C	C6-N1-C2	-6.50	117.70	120.30
32	YA	613	U	N1-C2-O2	6.50	127.35	122.80
32	YA	862	G	N3-C4-N9	6.50	129.90	126.00
32	RA	1899	G	N3-C4-N9	6.49	129.90	126.00
32	YA	1920	C	C6-N1-C2	-6.49	117.70	120.30
32	YA	373	U	N1-C2-O2	6.49	127.34	122.80
32	RA	2052	G	C8-N9-C1'	6.49	135.44	127.00
32	YA	2226	C	N3-C2-O2	-6.48	117.36	121.90
32	RA	1644	C	C6-N1-C2	-6.47	117.71	120.30
32	RA	1979	C	N1-C2-O2	6.47	122.78	118.90
32	YA	613	U	C2-N1-C1'	6.47	125.47	117.70
32	YA	2572	A	P-O3'-C3'	6.47	127.47	119.70
32	RA	234	C	N1-C2-O2	6.47	122.78	118.90
32	RA	1774	C	N1-C2-O2	6.47	122.78	118.90
32	YA	1313	U	C2-N1-C1'	6.47	125.46	117.70
32	YA	2063	C	N3-C2-O2	-6.47	117.37	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
33	RB	77	U	N3-C2-O2	-6.46	117.67	122.20
32	RA	1314	C	C2-N1-C1'	6.45	125.90	118.80
32	YA	2335	A	O4'-C1'-N9	6.45	113.36	108.20
32	YA	2527	C	C6-N1-C2	-6.45	117.72	120.30
32	YA	1407	C	N1-C2-O2	6.45	122.77	118.90
32	RA	1882	C	C5-C6-N1	6.45	124.22	121.00
32	RA	1920	C	C6-N1-C2	-6.45	117.72	120.30
32	YA	1314	C	C2-N1-C1'	6.44	125.88	118.80
32	YA	2168	G	N3-C4-C5	-6.43	125.39	128.60
32	RA	2211	G	N3-C4-C5	-6.43	125.39	128.60
32	RA	1679	U	N3-C2-O2	-6.43	117.70	122.20
32	RA	1544	C	C2-N1-C1'	6.42	125.87	118.80
1	XA	1145	C	N3-C2-O2	-6.42	117.40	121.90
32	RA	2210	G	N3-C4-N9	6.42	129.85	126.00
1	QA	58	C	C6-N1-C2	-6.42	117.73	120.30
1	XA	1158	C	C5-C6-N1	6.41	124.21	121.00
1	XA	91	C	N3-C2-O2	-6.41	117.41	121.90
32	YA	1417	C	C5-C6-N1	6.41	124.20	121.00
33	RB	51	G	C5-C6-O6	6.40	132.44	128.60
32	YA	2791	C	N1-C2-N3	6.40	123.68	119.20
1	QA	237	C	C6-N1-C2	-6.40	117.74	120.30
32	RA	1640	C	C6-N1-C2	-6.40	117.74	120.30
32	RA	758	C	N3-C2-O2	-6.39	117.43	121.90
1	XA	1007	C	C2-N1-C1'	6.39	125.83	118.80
1	QA	328	C	C5-C6-N1	6.38	124.19	121.00
32	RA	1180	C	C2-N1-C1'	6.38	125.82	118.80
1	QA	186	C	C2-N1-C1'	6.38	125.82	118.80
1	QA	186	C	C5-C6-N1	6.37	124.19	121.00
32	RA	309	G	O4'-C1'-N9	6.36	113.29	108.20
1	XA	330	C	N3-C2-O2	-6.36	117.45	121.90
1	XA	1086	U	C5-C6-N1	6.36	125.88	122.70
32	RA	860	U	N1-C2-O2	6.35	127.25	122.80
32	RA	1267	U	N3-C2-O2	-6.35	117.75	122.20
32	YA	994	C	C6-N1-C1'	-6.35	113.18	120.80
34	RD	24	ILE	C-N-CA	6.35	137.58	121.70
35	RE	63	LEU	N-CA-C	-6.35	93.86	111.00
32	RA	2063	C	N1-C2-O2	6.34	122.70	118.90
32	RA	1588	C	C5-C6-N1	6.33	124.17	121.00
32	RA	2847	U	N1-C2-O2	6.33	127.23	122.80
32	YA	1406	U	N1-C2-O2	6.33	127.23	122.80
32	RA	105	C	C5-C6-N1	6.32	124.16	121.00
21	QV	56	C	N1-C2-O2	6.32	122.69	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	991	U	N1-C2-O2	6.32	127.22	122.80
32	YA	527	C	C2-N1-C1'	6.31	125.74	118.80
32	YA	1188	U	N1-C2-O2	6.31	127.22	122.80
32	YA	2174	C	N1-C2-O2	6.31	122.69	118.90
32	YA	1640	C	C6-N1-C2	-6.30	117.78	120.30
32	YA	708	C	C6-N1-C2	-6.30	117.78	120.30
1	QA	1502	A	N7-C8-N9	6.30	116.95	113.80
1	XA	1007	C	N1-C2-O2	6.30	122.68	118.90
32	YA	270(Q)	C	C6-N1-C2	-6.30	117.78	120.30
32	RA	435	C	N3-C2-O2	-6.29	117.50	121.90
32	YA	1947	C	C5-C6-N1	6.29	124.14	121.00
1	XA	973	G	C4-N9-C1'	-6.28	118.33	126.50
32	YA	1675	C	N1-C2-O2	6.28	122.67	118.90
32	RA	2394	C	C6-N1-C2	-6.28	117.79	120.30
32	YA	1774	C	N1-C2-O2	6.28	122.67	118.90
32	RA	2226	C	N3-C2-O2	-6.27	117.51	121.90
32	YA	2217	G	N9-C1'-C2'	-6.27	105.10	112.00
32	RA	9	U	N1-C2-O2	6.27	127.19	122.80
32	RA	1180	C	N1-C2-O2	6.27	122.66	118.90
32	RA	2827	C	N1-C2-O2	6.26	122.66	118.90
32	RA	758	C	C6-N1-C2	-6.26	117.80	120.30
32	RA	828	U	N3-C2-O2	-6.25	117.82	122.20
1	XA	4	U	C5-C6-N1	6.25	125.83	122.70
32	RA	2527	C	C5-C6-N1	6.25	124.13	121.00
32	RA	1233	C	C6-N1-C2	-6.25	117.80	120.30
32	RA	2604	U	N1-C2-O2	6.25	127.17	122.80
32	YA	758	C	N3-C2-O2	-6.25	117.53	121.90
1	XA	58	C	C6-N1-C2	-6.25	117.80	120.30
1	XA	1126	U	C5-C6-N1	6.24	125.82	122.70
1	QA	442	C	N1-C2-O2	6.24	122.64	118.90
32	RA	2128	C	N1-C2-O2	6.24	122.64	118.90
32	RA	2205	C	C6-N1-C2	-6.24	117.81	120.30
1	XA	754	C	C2-N1-C1'	6.24	125.66	118.80
33	YB	35	U	N1-C2-O2	6.24	127.16	122.80
32	RA	2666	C	C6-N1-C2	-6.23	117.81	120.30
32	RA	2752	C	N3-C2-O2	-6.23	117.54	121.90
33	YB	27	C	C5-C6-N1	6.23	124.12	121.00
32	RA	309	G	OP1-P-OP2	-6.23	110.26	119.60
32	RA	1950	G	C4-N9-C1'	6.23	134.59	126.50
32	YA	153	C	N1-C2-O2	6.23	122.64	118.90
32	YA	537	C	C5-C6-N1	6.23	124.11	121.00
32	RA	2343	C	N1-C2-O2	6.23	122.64	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	749	C	N3-C2-O2	-6.22	117.54	121.90
32	YA	1075	C	C5-C6-N1	6.22	124.11	121.00
32	RA	2394	C	N1-C2-O2	6.22	122.63	118.90
32	YA	2226	C	C6-N1-C2	-6.22	117.81	120.30
1	XA	328	C	C5-C6-N1	6.22	124.11	121.00
32	YA	708	C	C2-N1-C1'	6.22	125.64	118.80
32	YA	2688	U	N3-C2-O2	-6.22	117.85	122.20
32	YA	2128	C	N1-C2-O2	6.21	122.63	118.90
32	RA	860	U	N3-C2-O2	-6.21	117.85	122.20
32	YA	2726	U	N1-C2-O2	6.21	127.14	122.80
32	YA	1314	C	C5-C6-N1	6.21	124.10	121.00
32	YA	277	C	N3-C2-O2	-6.20	117.56	121.90
32	YA	1881	C	C2-N1-C1'	6.20	125.62	118.80
32	RA	1588	C	C6-N1-C2	-6.20	117.82	120.30
32	RA	2808	U	N1-C2-O2	6.20	127.14	122.80
1	XA	419	C	C6-N1-C2	-6.20	117.82	120.30
32	RA	527	C	N3-C2-O2	-6.19	117.57	121.90
32	RA	1437	C	C6-N1-C2	-6.19	117.82	120.30
1	XA	991	U	N3-C2-O2	-6.19	117.87	122.20
33	RB	47	C	N3-C2-O2	-6.19	117.57	121.90
1	QA	1322	C	C2-N1-C1'	6.18	125.60	118.80
32	RA	384	U	N1-C2-O2	6.18	127.13	122.80
32	RA	1779	U	C2-N1-C1'	6.18	125.11	117.70
32	RA	2294	C	C5-C6-N1	6.18	124.09	121.00
1	XA	1407	C	C6-N1-C2	-6.18	117.83	120.30
21	XW	2	G	N3-C4-C5	-6.18	125.51	128.60
32	YA	1406	U	C5-C6-N1	6.18	125.79	122.70
33	YB	30	C	C6-N1-C2	-6.18	117.83	120.30
32	RA	1588	C	C2-N1-C1'	6.17	125.59	118.80
35	RE	67	PHE	N-CA-C	-6.17	94.33	111.00
32	YA	2065	C	C5-C6-N1	6.17	124.09	121.00
32	RA	2166	G	C4-N9-C1'	6.17	134.52	126.50
32	YA	1914	C	C6-N1-C2	-6.16	117.83	120.30
32	RA	2052	G	N7-C8-N9	6.16	116.18	113.10
27	R4	40	HIS	N-CA-C	6.16	127.62	111.00
1	XA	1028(B)	C	C6-N1-C2	-6.15	117.84	120.30
1	XA	1038	C	N3-C2-O2	-6.15	117.59	121.90
32	YA	1882	C	C5-C6-N1	6.15	124.08	121.00
32	RA	1159	U	N3-C2-O2	-6.15	117.89	122.20
54	RF	25	PRO	CA-N-CD	-6.15	102.89	111.50
1	QA	1395	C	N1-C2-O2	6.15	122.59	118.90
32	YA	1437	C	C5-C6-N1	6.14	124.07	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	2394	C	C5-C6-N1	6.14	124.07	121.00
32	RA	2043	C	C6-N1-C2	-6.14	117.84	120.30
32	YA	2559	C	C5-C6-N1	6.14	124.07	121.00
32	RA	1881	C	C6-N1-C2	-6.13	117.85	120.30
33	RB	31	C	C2-N3-C4	6.13	122.97	119.90
1	QA	36	C	C5-C6-N1	6.13	124.06	121.00
1	XA	1406	U	N3-C2-O2	-6.13	117.91	122.20
32	YA	2041	U	N1-C2-O2	6.13	127.09	122.80
33	YB	36	C	N3-C2-O2	-6.13	117.61	121.90
39	YN	114	ARG	N-CA-C	-6.12	94.46	111.00
32	RA	270(U)	C	C6-N1-C2	-6.12	117.85	120.30
32	RA	2292	C	C5-C6-N1	6.12	124.06	121.00
32	RA	1417	C	C5-C6-N1	6.12	124.06	121.00
1	XA	749	C	C6-N1-C2	-6.12	117.85	120.30
1	QA	442	C	C6-N1-C2	-6.12	117.85	120.30
32	RA	2791	C	C6-N1-C2	-6.11	117.86	120.30
32	YA	32	C	N1-C2-O2	6.11	122.57	118.90
32	YA	637	A	C4-N9-C1'	-6.11	115.30	126.30
32	YA	1788	C	C6-N1-C2	-6.11	117.86	120.30
1	XA	801	U	N1-C2-O2	6.10	127.07	122.80
1	QA	1109	C	N3-C2-O2	-6.10	117.63	121.90
21	QW	13	C	C5-C6-N1	6.09	124.05	121.00
32	RA	2702	U	N1-C2-O2	6.09	127.07	122.80
32	YA	1934	C	C5-C6-N1	6.09	124.05	121.00
32	YA	529	A	C8-N9-C4	-6.09	103.36	105.80
1	XA	1007	C	C6-N1-C2	-6.09	117.86	120.30
32	RA	2166	G	C8-N9-C1'	-6.09	119.08	127.00
32	RA	2712	U	N1-C2-O2	6.08	127.06	122.80
32	YA	273(D)	C	C2-N1-C1'	6.08	125.49	118.80
1	XA	209	U	C2-N1-C1'	6.08	125.00	117.70
32	RA	1180	C	C5-C6-N1	6.08	124.04	121.00
1	XA	91	C	N1-C2-O2	6.08	122.55	118.90
32	RA	828	U	C5-C6-N1	6.07	125.73	122.70
32	YA	2051	A	N9-C4-C5	-6.07	103.37	105.80
32	RA	1180	C	C6-N1-C2	-6.06	117.88	120.30
32	RA	1430	C	C5-C6-N1	6.06	124.03	121.00
32	YA	860	U	N1-C2-O2	6.06	127.04	122.80
32	YA	1881	C	N1-C2-O2	6.05	122.53	118.90
32	YA	2474	C	N1-C2-O2	6.05	122.53	118.90
44	YS	109	GLY	C-N-CA	6.05	136.82	121.70
32	YA	153	C	C5-C6-N1	6.05	124.02	121.00
1	QA	419	C	C5-C6-N1	6.05	124.02	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	169	C	N1-C2-O2	6.05	122.53	118.90
32	YA	624	C	C2-N1-C1'	6.05	125.45	118.80
32	YA	624	C	N1-C2-O2	6.05	122.53	118.90
32	YA	286	C	N1-C2-O2	6.04	122.53	118.90
32	RA	828	U	C6-N1-C1'	-6.04	112.74	121.20
1	QA	1002	G	N7-C8-N9	6.04	116.12	113.10
1	QA	36	C	C6-N1-C2	-6.04	117.89	120.30
1	XA	1132	C	N1-C2-O2	6.04	122.52	118.90
21	XV	20	U	N3-C2-O2	-6.04	117.97	122.20
32	YA	234	C	N3-C2-O2	-6.03	117.68	121.90
1	QA	1007	C	C2-N1-C1'	6.02	125.42	118.80
32	RA	1979	C	C6-N1-C2	-6.02	117.89	120.30
32	RA	2063	C	C6-N1-C2	-6.02	117.89	120.30
32	RA	2063	C	N3-C2-O2	-6.02	117.68	121.90
39	RN	114	ARG	N-CA-C	-6.02	94.74	111.00
32	YA	1267	U	N3-C2-O2	-6.02	117.98	122.20
32	YA	459	U	N1-C2-O2	6.02	127.01	122.80
33	YB	35	U	N3-C2-O2	-6.02	117.99	122.20
32	YA	31	C	C5-C6-N1	6.01	124.01	121.00
33	YB	31	C	C2-N3-C4	6.01	122.91	119.90
32	RA	1930	G	P-O3'-C3'	6.01	126.91	119.70
32	YA	2321	G	N3-C4-C5	-6.01	125.59	128.60
32	RA	1005	C	C6-N1-C2	-6.01	117.90	120.30
32	YA	2041	U	C5-C6-N1	6.01	125.70	122.70
24	R0	48	GLY	N-CA-C	6.00	128.11	113.10
32	YA	1430	C	C6-N1-C2	-6.00	117.90	120.30
47	YV	52	VAL	N-CA-C	-6.00	94.79	111.00
32	YA	637	A	C8-N9-C1'	6.00	138.50	127.70
32	RA	2248	C	N1-C2-O2	6.00	122.50	118.90
1	XA	404	U	N1-C2-O2	6.00	127.00	122.80
32	YA	39	C	C5-C6-N1	5.99	124.00	121.00
32	YA	2585	U	N1-C2-O2	5.99	126.99	122.80
32	YA	1963	U	C2-N1-C1'	5.99	124.88	117.70
1	QA	1158	C	C6-N1-C1'	-5.98	113.62	120.80
1	QA	961	U	N1-C2-N3	5.98	118.49	114.90
32	RA	270(U)	C	N3-C2-O2	-5.98	117.72	121.90
32	RA	1267	U	N1-C2-O2	5.98	126.98	122.80
32	YA	243	U	N1-C2-O2	5.98	126.98	122.80
32	YA	1788	C	C5-C6-N1	5.98	123.99	121.00
1	QA	623	C	N1-C2-O2	5.97	122.48	118.90
32	RA	227	A	P-O3'-C3'	5.97	126.87	119.70
32	RA	384	U	N3-C2-O2	-5.97	118.02	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	2759	G	N3-C4-N9	5.97	129.58	126.00
32	RA	2575	C	C6-N1-C2	-5.97	117.91	120.30
32	RA	907	U	N3-C2-O2	-5.97	118.02	122.20
1	QA	596	C	N1-C2-O2	5.96	122.48	118.90
1	QA	1298	C	C2-N1-C1'	5.96	125.36	118.80
1	QA	1322	C	C6-N1-C2	-5.96	117.91	120.30
1	QA	749	C	C6-N1-C2	-5.96	117.92	120.30
1	XA	1031	G	C2-N3-C4	5.96	114.88	111.90
32	RA	1735	C	N1-C2-O2	5.95	122.47	118.90
32	RA	881	G	N3-C4-C5	-5.95	125.62	128.60
32	RA	2066	C	N1-C2-O2	5.95	122.47	118.90
32	YA	1499	C	C6-N1-C2	-5.95	117.92	120.30
32	YA	277	C	C5-C6-N1	5.95	123.97	121.00
32	RA	1881	C	C5-C6-N1	5.95	123.97	121.00
21	QW	34	C	C5-C6-N1	5.94	123.97	121.00
32	RA	867	C	N1-C2-O2	5.94	122.47	118.90
32	YA	384	U	N3-C2-O2	-5.94	118.04	122.20
32	YA	69	C	C6-N1-C2	-5.94	117.93	120.30
1	QA	135	C	N3-C2-O2	-5.93	117.75	121.90
32	RA	1950	G	O4'-C1'-N9	5.93	112.94	108.20
32	YA	269	U	C2-N1-C1'	5.93	124.81	117.70
24	Y0	8	GLY	C-N-CA	-5.92	106.89	121.70
32	YA	2656	U	N1-C2-O2	5.92	126.95	122.80
32	RA	1598	C	N1-C2-O2	5.92	122.45	118.90
32	YA	2456	C	C5-C6-N1	5.92	123.96	121.00
32	YA	1514	U	N1-C2-O2	5.92	126.94	122.80
32	YA	1914	C	C2-N1-C1'	5.92	125.31	118.80
32	RA	1304	C	C6-N1-C2	-5.92	117.93	120.30
32	RA	1314	C	C5-C6-N1	5.91	123.96	121.00
1	XA	186	C	C6-N1-C2	-5.91	117.94	120.30
32	YA	2792	G	N3-C4-N9	5.91	129.55	126.00
1	XA	1502	A	C8-N9-C4	-5.91	103.44	105.80
1	QA	1031	G	N3-C4-C5	-5.90	125.65	128.60
32	RA	273(D)	C	C6-N1-C2	-5.90	117.94	120.30
32	RA	2527	C	C6-N1-C2	-5.90	117.94	120.30
32	RA	1437	C	C5-C6-N1	5.90	123.95	121.00
32	RA	2041	U	N1-C2-O2	5.90	126.93	122.80
32	RA	2065	C	C5-C6-N1	5.90	123.95	121.00
34	RD	33	LEU	CA-CB-CG	5.90	128.87	115.30
32	YA	288	C	C2-N1-C1'	5.90	125.29	118.80
21	XV	64	G	C4-N9-C1'	5.89	134.16	126.50
32	RA	1774	C	N3-C2-O2	-5.89	117.78	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	2688	U	C2-N1-C1'	5.89	124.76	117.70
1	XA	442	C	N1-C2-O2	5.88	122.43	118.90
32	YA	9	U	C5-C6-N1	5.88	125.64	122.70
32	RA	2667	C	N1-C2-O2	5.88	122.43	118.90
32	YA	69	C	C5-C6-N1	5.87	123.94	121.00
32	YA	384	U	N1-C2-O2	5.87	126.91	122.80
32	YA	974	G	C4-N9-C1'	-5.87	118.87	126.50
32	RA	459	U	N1-C2-O2	5.87	126.91	122.80
32	RA	1505	C	C5-C6-N1	5.87	123.93	121.00
32	YA	2063	C	C6-N1-C2	-5.87	117.95	120.30
32	YA	343	C	C6-N1-C2	-5.86	117.95	120.30
1	XA	1406	U	N1-C2-O2	5.86	126.90	122.80
1	QA	341	C	C6-N1-C2	-5.86	117.96	120.30
21	XV	20	U	N1-C2-O2	5.86	126.90	122.80
1	XA	1383	C	N1-C2-O2	5.85	122.41	118.90
1	XA	1395	C	N1-C2-O2	5.85	122.41	118.90
1	XA	209	U	N3-C2-O2	-5.85	118.11	122.20
34	RD	36	PRO	CA-N-CD	-5.85	103.31	111.50
1	XA	801	U	N3-C2-O2	-5.84	118.11	122.20
32	YA	1640	C	C5-C6-N1	5.84	123.92	121.00
33	YB	27	C	C6-N1-C2	-5.84	117.96	120.30
1	QA	79	G	N3-C4-C5	-5.84	125.68	128.60
32	RA	2847	U	N3-C2-O2	-5.84	118.11	122.20
33	YB	44	G	C4-N9-C1'	-5.83	118.91	126.50
32	RA	528	A	C8-N9-C4	-5.83	103.47	105.80
32	RA	588	U	C5-C6-N1	5.83	125.61	122.70
32	RA	2585	U	N1-C2-O2	5.83	126.88	122.80
32	RA	2312	U	C5-C6-N1	5.83	125.61	122.70
32	RA	373	U	N3-C2-O2	-5.82	118.12	122.20
32	YA	104	U	N3-C2-O2	-5.82	118.13	122.20
1	XA	169	C	C6-N1-C2	-5.82	117.97	120.30
21	QW	68	C	C5-C6-N1	5.81	123.91	121.00
32	RA	960	A	C5-C6-N6	-5.81	119.05	123.70
1	XA	961	U	N1-C2-N3	5.81	118.39	114.90
32	YA	1774	C	C5-C6-N1	5.81	123.90	121.00
32	RA	2616	C	C5-C6-N1	5.80	123.90	121.00
32	RA	1300	U	P-O3'-C3'	5.80	126.66	119.70
1	XA	186	C	C5-C6-N1	5.80	123.90	121.00
1	QA	1031	G	N3-C4-N9	5.80	129.48	126.00
32	RA	2723	C	C6-N1-C2	-5.80	117.98	120.30
32	YA	2254	C	C6-N1-C2	-5.80	117.98	120.30
1	QA	1406	U	N1-C2-O2	5.79	126.86	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	105	C	C6-N1-C2	-5.79	117.98	120.30
32	YA	1202	C	N1-C2-O2	5.79	122.38	118.90
32	RA	676	A	N7-C8-N9	5.79	116.69	113.80
32	YA	1141	U	P-O3'-C3'	5.79	126.65	119.70
32	RA	2615	U	C5-C6-N1	5.79	125.59	122.70
32	YA	2287	A	C4-N9-C1'	-5.79	115.89	126.30
32	YA	1947	C	C6-N1-C2	-5.78	117.99	120.30
1	XA	1439	C	N1-C2-O2	5.78	122.37	118.90
32	RA	2792	G	N3-C4-C5	-5.78	125.71	128.60
32	YA	881	G	N3-C4-N9	5.78	129.47	126.00
32	RA	1102	C	N1-C2-O2	5.78	122.37	118.90
32	RA	363(E)	U	N1-C2-O2	5.78	126.84	122.80
32	RA	1406	U	N1-C2-O2	5.77	126.84	122.80
32	YA	104	U	N1-C2-O2	5.77	126.84	122.80
32	RA	2604	U	N3-C2-O2	-5.77	118.16	122.20
32	YA	1233	C	C6-N1-C2	-5.77	117.99	120.30
45	YT	105	LEU	CA-CB-CG	5.77	128.57	115.30
32	RA	2403	C	C6-N1-C2	-5.77	117.99	120.30
1	QA	486	U	C5-C6-N1	5.76	125.58	122.70
32	RA	1499	C	C6-N1-C2	-5.76	118.00	120.30
32	RA	269	U	C6-N1-C2	-5.76	117.55	121.00
1	XA	31	G	C4-N9-C1'	5.76	133.98	126.50
1	XA	4	U	C6-N1-C2	-5.75	117.55	121.00
1	XA	1301	U	C5-C6-N1	5.75	125.58	122.70
32	RA	708	C	C6-N1-C2	-5.75	118.00	120.30
32	RA	1304	C	C5-C6-N1	5.75	123.88	121.00
32	RA	1499	C	C5-C6-N1	5.75	123.88	121.00
32	RA	708	C	C5-C6-N1	5.75	123.87	121.00
32	YA	2723	C	C6-N1-C2	-5.75	118.00	120.30
1	QA	754	C	C2-N1-C1'	5.75	125.12	118.80
1	XA	1325	C	C6-N1-C2	-5.75	118.00	120.30
1	XA	1362(A)	C	N3-C2-O2	-5.74	117.88	121.90
32	RA	1314	C	N1-C2-O2	5.74	122.34	118.90
1	XA	1059	C	C6-N1-C2	-5.74	118.00	120.30
32	YA	588	U	C5-C6-N1	5.74	125.57	122.70
32	YA	1644	C	C6-N1-C2	-5.73	118.01	120.30
43	RR	75	LEU	CA-CB-CG	5.73	128.48	115.30
1	QA	54	C	N1-C2-O2	5.73	122.34	118.90
32	YA	974(A)	C	N1-C2-O2	5.72	122.33	118.90
1	QA	91	C	C6-N1-C2	-5.72	118.01	120.30
32	RA	154	G	N3-C4-N9	5.72	129.43	126.00
32	RA	2064	C	C6-N1-C2	-5.72	118.01	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	2254	C	N1-C2-O2	5.71	122.33	118.90
32	RA	2517	C	C2-N1-C1'	5.71	125.08	118.80
1	XA	596	C	C6-N1-C2	-5.71	118.02	120.30
1	QA	536	C	C6-N1-C2	-5.71	118.02	120.30
32	RA	1385	G	C8-N9-C1'	5.71	134.43	127.00
32	YA	41	C	C5-C6-N1	5.71	123.86	121.00
32	RA	373	U	N1-C2-O2	5.71	126.80	122.80
32	RA	1170	G	N3-C4-C5	-5.70	125.75	128.60
32	YA	1549	C	N1-C2-O2	5.70	122.32	118.90
1	XA	405	U	N1-C2-O2	5.70	126.79	122.80
1	QA	749	C	N3-C2-O2	-5.69	117.91	121.90
1	QA	999	U	C5-C6-N1	5.69	125.55	122.70
32	RA	857	C	N1-C2-O2	5.69	122.31	118.90
1	XA	848	C	C6-N1-C2	-5.69	118.02	120.30
32	YA	69	C	N3-C2-O2	-5.69	117.92	121.90
32	YA	2244	U	N3-C4-O4	5.69	123.38	119.40
1	QA	1059	C	C6-N1-C2	-5.69	118.02	120.30
32	RA	1474	C	N1-C2-O2	5.69	122.31	118.90
32	RA	114	U	C5-C6-N1	5.69	125.54	122.70
32	RA	1022	G	P-O3'-C3'	5.69	126.53	119.70
32	RA	1385	G	C4-N9-C1'	-5.69	119.11	126.50
32	RA	2053	G	N1-C2-N3	-5.69	120.49	123.90
33	YB	44	G	C8-N9-C1'	5.69	134.39	127.00
32	YA	1679	U	N3-C2-O2	-5.68	118.22	122.20
32	RA	1407	C	C5-C6-N1	5.68	123.84	121.00
32	YA	2065	C	C6-N1-C2	-5.68	118.03	120.30
32	RA	308	G	O3'-P-O5'	5.68	114.78	104.00
32	YA	174	C	N1-C2-O2	5.68	122.31	118.90
32	RA	2205	C	C5-C6-N1	5.67	123.84	121.00
39	YN	114	ARG	C-N-CA	5.67	135.88	121.70
32	YA	286	C	C6-N1-C1'	-5.67	114.00	120.80
32	RA	274	G	C8-N9-C4	-5.67	104.13	106.40
32	RA	1686	C	C6-N1-C2	-5.67	118.03	120.30
21	XV	64	G	C8-N9-C1'	-5.67	119.63	127.00
32	YA	459	U	N3-C2-O2	-5.67	118.23	122.20
32	YA	2292	C	C5-C6-N1	5.67	123.83	121.00
32	RA	1314	C	C6-N1-C2	-5.66	118.03	120.30
32	RA	1899	G	C6-C5-N7	-5.66	127.00	130.40
32	YA	288	C	C6-N1-C2	-5.66	118.03	120.30
1	XA	442	C	C2-N1-C1'	5.66	125.03	118.80
32	YA	2226	C	C5-C6-N1	5.66	123.83	121.00
1	QA	174	C	C5-C6-N1	5.66	123.83	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	2646	C	N1-C2-O2	5.66	122.30	118.90
32	YA	2527	C	N1-C2-O2	5.66	122.29	118.90
32	YA	1406	U	N3-C2-O2	-5.65	118.24	122.20
32	RA	1971	A	C2-N3-C4	5.65	113.42	110.60
32	RA	2791	C	C5-C4-N4	5.65	124.16	120.20
32	RA	2053	G	C4-N9-C1'	-5.65	119.16	126.50
1	QA	435	C	C5-C6-N1	5.65	123.82	121.00
1	QA	1100	C	O4'-C1'-N1	5.65	112.72	108.20
32	YA	2287	A	N3-C4-N9	-5.65	122.88	127.40
32	RA	1735	C	C6-N1-C2	-5.64	118.04	120.30
32	YA	1076	C	C5-C6-N1	5.64	123.82	121.00
32	YA	2167	U	N3-C2-O2	-5.64	118.25	122.20
33	RB	88	C	N1-C2-O2	5.64	122.28	118.90
1	QA	1406	U	N3-C2-O2	-5.64	118.25	122.20
1	XA	596	C	N1-C2-O2	5.64	122.28	118.90
21	QV	56	C	N3-C2-O2	-5.63	117.96	121.90
32	RA	1499	C	N1-C2-O2	5.63	122.28	118.90
32	RA	1679	U	N1-C2-O2	5.63	126.74	122.80
38	RI	142	VAL	N-CA-CB	5.63	123.89	111.50
32	YA	860	U	N3-C2-O2	-5.63	118.26	122.20
32	RA	2791	C	C2-N1-C1'	-5.63	112.61	118.80
1	XA	330	C	C6-N1-C2	-5.63	118.05	120.30
32	YA	672	C	C5-C6-N1	5.63	123.81	121.00
1	QA	972	C	C6-N1-C2	-5.63	118.05	120.30
1	QA	1263	C	N1-C2-O2	5.62	122.27	118.90
32	RA	527	C	C2-N1-C1'	5.62	124.98	118.80
1	QA	1065	U	P-O3'-C3'	5.62	126.44	119.70
37	RH	53	GLU	C-N-CA	5.62	135.75	121.70
32	YA	2343	C	N1-C2-O2	5.62	122.27	118.90
32	YA	1882	C	C2-N1-C1'	5.61	124.97	118.80
1	QA	1003	G	N3-C4-N9	5.61	129.37	126.00
32	RA	2051	A	N9-C4-C5	-5.61	103.56	105.80
32	YA	529	A	C2-N3-C4	5.61	113.41	110.60
32	RA	1644	C	N1-C2-O2	5.61	122.27	118.90
32	YA	2501	C	C2-N1-C1'	-5.61	112.63	118.80
1	XA	91	C	C6-N1-C2	-5.61	118.06	120.30
32	RA	2052	G	C5-C6-O6	-5.60	125.24	128.60
32	YA	1402	C	C6-N1-C2	-5.60	118.06	120.30
33	YB	51	G	N1-C6-O6	-5.60	116.54	119.90
32	RA	894	C	C6-N1-C2	-5.60	118.06	120.30
32	RA	1610	A	N7-C8-N9	5.60	116.60	113.80
32	YA	1022	G	P-O3'-C3'	5.60	126.42	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	1686	C	N1-C2-O2	5.59	122.26	118.90
32	RA	1835	G	N3-C4-C5	-5.59	125.80	128.60
32	RA	153	C	N1-C2-O2	5.59	122.25	118.90
1	QA	187	C	N1-C2-O2	5.59	122.25	118.90
32	YA	556	G	C6-C5-N7	-5.59	127.05	130.40
1	QA	993	G	C6-C5-N7	-5.59	127.05	130.40
32	YA	783	A	C8-N9-C4	-5.59	103.56	105.80
32	RA	2896	C	N1-C2-O2	5.58	122.25	118.90
32	RA	1544	C	C6-N1-C2	-5.58	118.07	120.30
32	RA	2575	C	C5-C6-N1	5.58	123.79	121.00
1	XA	1346	A	P-O3'-C3'	5.58	126.40	119.70
32	YA	1437	C	N1-C2-O2	5.58	122.25	118.90
33	YB	77	U	N1-C2-O2	5.58	126.70	122.80
32	YA	1267	U	C2-N1-C1'	5.58	124.39	117.70
32	YA	2617	C	C5-C6-N1	5.58	123.79	121.00
1	QA	993	G	N3-C4-N9	5.57	129.34	126.00
32	YA	1233	C	N1-C2-O2	5.57	122.24	118.90
32	YA	1267	U	N1-C2-O2	5.57	126.70	122.80
32	RA	837	C	C5-C6-N1	5.57	123.78	121.00
32	YA	1233	C	C5-C6-N1	5.57	123.78	121.00
32	RA	2617	C	C5-C6-N1	5.57	123.78	121.00
32	YA	2474	C	N3-C2-O2	-5.57	118.00	121.90
1	QA	328	C	P-O3'-C3'	5.57	126.38	119.70
32	RA	1735	C	C5-C6-N1	5.57	123.78	121.00
32	YA	2210	G	C2-N3-C4	5.56	114.68	111.90
32	RA	1781	C	N3-C2-O2	-5.56	118.01	121.90
33	RB	79	C	C6-N1-C2	-5.56	118.08	120.30
1	XA	36	C	C5-C6-N1	5.56	123.78	121.00
32	RA	537	C	N1-C2-O2	5.56	122.23	118.90
1	QA	1535	C	C2-N1-C1'	5.55	124.91	118.80
33	YB	27	C	N3-C2-O2	-5.55	118.01	121.90
32	YA	884	C	N3-C4-N4	5.55	121.89	118.00
1	XA	197	A	P-O3'-C3'	5.55	126.36	119.70
1	XA	1439	C	C6-N1-C2	-5.55	118.08	120.30
1	QA	18	C	C5-C6-N1	5.54	123.77	121.00
1	QA	596	C	C6-N1-C2	-5.54	118.08	120.30
1	XA	137	C	N1-C2-O2	5.54	122.22	118.90
1	QA	442	C	C5-C6-N1	5.54	123.77	121.00
32	RA	1474	C	C6-N1-C2	-5.54	118.08	120.30
32	YA	267	C	C6-N1-C2	-5.54	118.09	120.30
32	YA	537	C	C6-N1-C2	-5.54	118.09	120.30
1	XA	1109	C	N1-C2-O2	5.53	122.22	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	18	C	C6-N1-C2	-5.53	118.09	120.30
32	YA	385	C	C6-N1-C2	-5.53	118.09	120.30
32	YA	2287	A	C4-C5-C6	-5.53	114.23	117.00
1	QA	623	C	C5-C6-N1	5.53	123.77	121.00
1	QA	1028(A)	C	C6-N1-C2	-5.53	118.09	120.30
32	YA	243	U	C5-C6-N1	5.53	125.46	122.70
32	RA	1882	C	N1-C2-O2	5.53	122.22	118.90
32	YA	603	A	P-O3'-C3'	5.52	126.33	119.70
32	YA	2712	U	N1-C2-O2	5.52	126.66	122.80
32	RA	974(A)	C	N1-C2-O2	5.52	122.21	118.90
32	RA	2292	C	C6-N1-C2	-5.52	118.09	120.30
32	YA	529	A	N7-C8-N9	5.52	116.56	113.80
38	YI	10	GLU	C-N-CA	5.52	135.49	121.70
32	RA	279	C	N1-C2-O2	5.51	122.21	118.90
32	RA	1352	U	N3-C2-O2	-5.51	118.34	122.20
32	RA	1909	C	N1-C2-O2	5.51	122.21	118.90
32	YA	2244	U	C5-C4-O4	-5.51	122.59	125.90
32	RA	1599	C	C6-N1-C2	-5.51	118.10	120.30
1	QA	54	C	C6-N1-C2	-5.50	118.10	120.30
32	RA	845	G	OP1-P-O3'	5.50	117.31	105.20
1	XA	365	U	C2-N1-C1'	5.50	124.31	117.70
1	QA	536	C	N3-C2-O2	-5.50	118.05	121.90
32	YA	2254	C	C5-C6-N1	5.50	123.75	121.00
32	RA	1233	C	C5-C6-N1	5.50	123.75	121.00
32	RA	2688	U	N1-C2-O2	5.50	126.65	122.80
32	YA	2167	U	N1-C2-O2	5.50	126.65	122.80
32	YA	1314	C	N1-C2-O2	5.50	122.20	118.90
32	YA	2617	C	N1-C2-O2	5.50	122.20	118.90
32	YA	1644	C	N1-C2-O2	5.49	122.19	118.90
32	RA	1899	G	N3-C4-C5	-5.49	125.86	128.60
32	YA	2720	U	N3-C2-O2	-5.49	118.36	122.20
32	YA	140	A	N7-C8-N9	5.49	116.54	113.80
32	YA	153	C	C6-N1-C2	-5.49	118.11	120.30
32	RA	9	U	C5-C6-N1	5.48	125.44	122.70
32	RA	1294	U	N3-C2-O2	-5.48	118.36	122.20
32	RA	2447	G	P-O3'-C3'	5.48	126.27	119.70
32	RA	806	C	C6-N1-C2	-5.48	118.11	120.30
32	RA	1880	C	C5-C6-N1	5.47	123.74	121.00
32	YA	1656	C	C5-C6-N1	5.47	123.74	121.00
1	QA	1002	G	C6-C5-N7	-5.47	127.12	130.40
1	QA	435	C	C6-N1-C2	-5.47	118.11	120.30
32	YA	1979	C	N1-C2-O2	5.47	122.18	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	1385	G	N3-C4-N9	-5.47	122.72	126.00
1	XA	503	C	C6-N1-C2	-5.47	118.11	120.30
33	YB	77	U	N3-C2-O2	-5.47	118.37	122.20
32	RA	243	U	N1-C2-O2	5.47	126.63	122.80
32	YA	1437	C	C2-N1-C1'	5.47	124.81	118.80
1	XA	435	C	C5-C6-N1	5.47	123.73	121.00
1	QA	1301	U	C6-N1-C2	-5.46	117.72	121.00
32	RA	556	G	C6-C5-N7	-5.46	127.12	130.40
32	RA	1644	C	N3-C2-O2	-5.46	118.07	121.90
1	XA	31	G	C8-N9-C1'	-5.46	119.90	127.00
1	QA	341	C	N1-C2-O2	5.46	122.18	118.90
27	R4	6	HIS	N-CA-CB	-5.46	100.77	110.60
32	RA	1882	C	C2-N1-C1'	5.46	124.81	118.80
32	YA	2320	A	C2-N3-C4	5.46	113.33	110.60
1	QA	58	C	C5-C6-N1	5.46	123.73	121.00
32	RA	2794	C	C6-N1-C2	-5.46	118.12	120.30
1	XA	328	C	P-O3'-C3'	5.46	126.25	119.70
32	YA	435	C	C6-N1-C2	-5.46	118.12	120.30
32	RA	1835	G	N3-C4-N9	5.45	129.27	126.00
1	QA	1109	C	C6-N1-C2	-5.45	118.12	120.30
1	QA	993	G	C4-N9-C1'	5.45	133.59	126.50
32	RA	31	C	C5-C6-N1	5.45	123.72	121.00
32	YA	1075	C	C6-N1-C2	-5.45	118.12	120.30
32	YA	1735	C	C5-C6-N1	5.45	123.72	121.00
32	RA	2394	C	N3-C2-O2	-5.44	118.09	121.90
32	YA	1640	C	N3-C2-O2	-5.44	118.09	121.90
32	YA	862	G	C6-C5-N7	-5.44	127.13	130.40
32	RA	2648	C	C5-C6-N1	5.44	123.72	121.00
32	RA	308	G	O4'-C1'-N9	5.44	112.55	108.20
32	RA	1979	C	N3-C2-O2	-5.44	118.09	121.90
32	RA	1880	C	C6-N1-C2	-5.43	118.13	120.30
32	YA	288	C	C5-C6-N1	5.43	123.72	121.00
32	YA	2099	U	N1-C2-O2	5.43	126.60	122.80
27	R4	39	CYS	C-N-CA	5.43	135.27	121.70
32	RA	2143	C	N1-C2-O2	5.43	122.16	118.90
1	QA	1038	C	N3-C2-O2	-5.43	118.10	121.90
1	QA	1362(A)	C	N3-C2-O2	-5.42	118.10	121.90
32	RA	2026	C	C5-C6-N1	5.42	123.71	121.00
32	RA	1669	A	C2-N3-C4	5.42	113.31	110.60
39	RN	114	ARG	C-N-CA	5.42	135.26	121.70
32	YA	1170	G	N3-C4-C5	-5.42	125.89	128.60
32	RA	273(D)	C	N1-C2-O2	5.42	122.15	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	2772	C	C5-C6-N1	5.42	123.71	121.00
32	RA	2847	U	C5-C6-N1	5.42	125.41	122.70
32	RA	1166	C	C5-C6-N1	5.42	123.71	121.00
32	RA	273(D)	C	C2-N1-C1'	5.41	124.75	118.80
1	XA	405	U	N3-C2-O2	-5.41	118.41	122.20
1	QA	135	C	N1-C2-O2	5.41	122.15	118.90
32	YA	1909	C	C5-C6-N1	5.41	123.70	121.00
32	YA	2667	C	N1-C2-O2	5.41	122.15	118.90
32	RA	174	C	N1-C2-O2	5.41	122.14	118.90
32	RA	214	G	C8-N9-C1'	5.41	134.03	127.00
32	RA	1407	C	N3-C2-O2	-5.41	118.12	121.90
1	XA	435	C	C6-N1-C2	-5.40	118.14	120.30
1	QA	486	U	C2-N1-C1'	5.40	124.18	117.70
32	RA	851	U	N3-C2-O2	-5.40	118.42	122.20
21	XW	67	C	N1-C2-O2	5.40	122.14	118.90
32	YA	1514	U	N3-C2-O2	-5.39	118.42	122.20
32	RA	2870	C	C6-N1-C2	-5.39	118.14	120.30
1	XA	632	A	N7-C8-N9	5.39	116.50	113.80
32	RA	1474	C	C5-C6-N1	5.39	123.69	121.00
32	RA	2416	C	C5-C6-N1	5.38	123.69	121.00
1	XA	252	U	C5-C6-N1	5.38	125.39	122.70
32	YA	758	C	C5-C6-N1	5.38	123.69	121.00
1	QA	197	A	P-O3'-C3'	5.38	126.15	119.70
32	RA	907	U	N1-C2-O2	5.38	126.56	122.80
32	RA	1475	G	N3-C4-N9	5.38	129.23	126.00
32	RA	1762	A	C2-N3-C4	5.38	113.29	110.60
32	YA	2254	C	N1-C2-O2	5.38	122.13	118.90
1	QA	1502	A	C8-N9-C4	-5.37	103.65	105.80
32	YA	1804	C	C5-C6-N1	5.37	123.69	121.00
32	YA	2321	G	C8-N9-C4	-5.37	104.25	106.40
1	XA	749	C	N1-C2-O2	5.37	122.12	118.90
32	YA	1462	C	N1-C2-O2	5.37	122.12	118.90
32	YA	1735	C	N1-C2-O2	5.37	122.12	118.90
1	QA	1132	C	N1-C2-O2	5.37	122.12	118.90
1	XA	252	U	C2-N1-C1'	5.37	124.14	117.70
1	QA	1200	C	C3'-C2'-C1'	5.37	105.80	101.50
32	YA	41	C	N1-C2-O2	5.37	122.12	118.90
32	RA	1914	C	C6-N1-C2	-5.37	118.15	120.30
32	RA	1502	C	C6-N1-C2	-5.37	118.15	120.30
32	YA	2814	C	N1-C2-O2	5.37	122.12	118.90
32	RA	183	C	N1-C2-O2	5.36	122.12	118.90
32	RA	270(Q)	C	C6-N1-C2	-5.36	118.16	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	2772	C	C6-N1-C2	-5.36	118.16	120.30
32	YA	2527	C	C2-N1-C1'	5.36	124.70	118.80
1	XA	1054	C	P-O3'-C3'	5.36	126.13	119.70
32	YA	2318	G	C4-N9-C1'	5.36	133.47	126.50
32	YA	1385	G	N9-C4-C5	5.36	107.54	105.40
32	RA	1992	G	P-O3'-C3'	5.35	126.12	119.70
32	YA	1774	C	N3-C2-O2	-5.35	118.15	121.90
32	YA	243	U	N3-C2-O2	-5.35	118.45	122.20
32	RA	234	C	N3-C2-O2	-5.35	118.16	121.90
1	XA	307	C	C6-N1-C2	-5.34	118.16	120.30
1	XA	1038	C	N1-C2-O2	5.34	122.11	118.90
1	XA	1157	A	C4-N9-C1'	5.34	135.92	126.30
32	YA	2073	C	C6-N1-C2	-5.34	118.16	120.30
21	XW	25	C	N1-C2-O2	5.34	122.11	118.90
32	RA	436	C	N1-C2-O2	5.34	122.10	118.90
32	RA	2460	U	C5-C6-N1	5.34	125.37	122.70
32	RA	894	C	N3-C2-O2	-5.34	118.16	121.90
1	XA	419	C	C5-C6-N1	5.34	123.67	121.00
32	YA	2439	A	P-O3'-C3'	5.34	126.10	119.70
32	RA	2394	C	C5-C6-N1	5.33	123.67	121.00
1	QA	1395	C	C6-N1-C2	-5.33	118.17	120.30
32	YA	2726	U	C6-N1-C2	-5.33	117.80	121.00
1	XA	75	C	C6-N1-C2	-5.33	118.17	120.30
53	Y8	61	LEU	CB-CG-CD2	5.33	120.06	111.00
33	RB	31	C	C6-N1-C1'	-5.33	114.40	120.80
32	RA	128	C	C6-N1-C2	-5.33	118.17	120.30
32	YA	2648	C	C5-C6-N1	5.33	123.66	121.00
32	RA	624	C	C6-N1-C2	-5.33	118.17	120.30
1	XA	961	U	N1-C2-O2	5.32	126.53	122.80
32	YA	1180	C	C5-C6-N1	5.32	123.66	121.00
32	YA	1979	C	C6-N1-C2	-5.32	118.17	120.30
32	YA	2006	C	C6-N1-C2	-5.32	118.17	120.30
32	YA	2791	C	C5-C4-N4	5.32	123.93	120.20
45	YT	99	LEU	CA-CB-CG	5.32	127.54	115.30
1	QA	235	C	C6-N1-C2	-5.32	118.17	120.30
32	YA	9	U	N1-C2-O2	5.32	126.52	122.80
32	YA	2501	C	C6-N1-C1'	5.32	127.18	120.80
32	RA	1514	U	N3-C2-O2	-5.32	118.48	122.20
32	YA	269	U	C6-N1-C2	-5.31	117.81	121.00
32	YA	2477	C	N1-C2-O2	5.31	122.09	118.90
32	RA	2726	U	C6-N1-C2	-5.31	117.81	121.00
32	RA	459	U	N3-C2-O2	-5.31	118.48	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	965	C	C5-C6-N1	5.31	123.65	121.00
32	RA	2065	C	C6-N1-C2	-5.31	118.18	120.30
32	YA	1656	C	C6-N1-C2	-5.31	118.18	120.30
32	RA	1544	C	C5-C6-N1	5.30	123.65	121.00
32	RA	2584	U	N1-C2-O2	5.30	126.51	122.80
33	YB	70	C	C6-N1-C2	-5.30	118.18	120.30
32	RA	196	A	O4'-C1'-N9	5.30	112.44	108.20
32	RA	2128	C	C6-N1-C2	-5.30	118.18	120.30
32	YA	2604	U	C5-C6-N1	5.30	125.35	122.70
32	RA	2739	U	N3-C2-O2	-5.30	118.49	122.20
32	YA	1588	C	C2-N1-C1'	5.30	124.63	118.80
32	RA	273(D)	C	C5-C6-N1	5.30	123.65	121.00
32	YA	273(D)	C	N1-C2-O2	5.30	122.08	118.90
32	YA	1528	A	N7-C8-N9	5.29	116.45	113.80
32	RA	859	G	P-O3'-C3'	5.29	126.05	119.70
32	RA	1774	C	C5-C6-N1	5.29	123.65	121.00
1	XA	1306	A	N7-C8-N9	5.29	116.45	113.80
1	QA	121	C	C2-N3-C4	-5.29	117.25	119.90
32	RA	603	A	P-O3'-C3'	5.29	126.05	119.70
32	YA	1076	C	C6-N1-C2	-5.29	118.19	120.30
1	QA	810	C	C6-N1-C2	-5.29	118.19	120.30
32	RA	1558	A	P-O3'-C3'	5.29	126.04	119.70
1	XA	187	C	C6-N1-C2	-5.29	118.19	120.30
1	XA	1086	U	C2-N1-C1'	5.29	124.04	117.70
1	XA	1348	U	C2-N1-C1'	5.29	124.04	117.70
32	YA	1074	G	C8-N9-C4	-5.28	104.29	106.40
32	RA	881	G	C6-C5-N7	-5.28	127.23	130.40
32	RA	2189	U	N3-C2-O2	-5.28	118.50	122.20
1	QA	79	G	N3-C4-N9	5.28	129.17	126.00
38	RI	10	GLU	C-N-CA	5.28	134.90	121.70
32	YA	923	C	C5-C6-N1	5.28	123.64	121.00
1	QA	497	U	N1-C2-O2	5.28	126.50	122.80
1	XA	1407	C	N3-C2-O2	-5.28	118.21	121.90
32	YA	1675	C	N3-C2-O2	-5.28	118.21	121.90
1	QA	525	C	C5-C6-N1	5.28	123.64	121.00
1	XA	1109	C	N3-C2-O2	-5.28	118.21	121.90
1	XA	1182	G	N3-C4-N9	-5.27	122.84	126.00
32	RA	2501	C	C2-N1-C1'	-5.27	113.00	118.80
32	RA	2702	U	C6-N1-C2	-5.27	117.84	121.00
32	RA	2467	C	N1-C2-N3	5.27	122.89	119.20
32	YA	2896	C	N1-C2-O2	5.27	122.06	118.90
32	YA	831	G	C3'-C2'-O2'	5.27	128.58	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	YA	1558	A	P-O3'-C3'	5.27	126.02	119.70
32	YA	894	C	C6-N1-C2	-5.26	118.19	120.30
32	YA	1188	U	N3-C2-O2	-5.26	118.51	122.20
1	QA	749	C	N1-C2-O2	5.26	122.06	118.90
32	YA	198	C	C5-C6-N1	5.26	123.63	121.00
33	RB	27	C	N3-C2-O2	-5.26	118.22	121.90
32	RA	104	U	N3-C2-O2	-5.26	118.52	122.20
32	RA	288	C	C6-N1-C2	-5.26	118.20	120.30
32	RA	1157	G	N3-C4-N9	5.26	129.15	126.00
32	YA	974	G	N3-C4-N9	-5.26	122.85	126.00
32	YA	2456	C	C6-N1-C2	-5.26	118.20	120.30
1	QA	183	G	N3-C4-N9	5.25	129.15	126.00
32	YA	894	C	C2-N1-C1'	5.25	124.58	118.80
32	RA	286	C	N1-C2-O2	5.25	122.05	118.90
32	YA	974	G	C8-N9-C1'	5.25	133.82	127.00
1	QA	135	C	C5-C6-N1	5.25	123.62	121.00
32	RA	2439	A	P-O3'-C3'	5.25	126.00	119.70
32	YA	884	C	C2-N3-C4	5.25	122.52	119.90
32	YA	2712	U	C6-N1-C1'	-5.25	113.85	121.20
32	RA	2051	A	N1-C2-N3	5.25	131.92	129.30
1	QA	623	C	C6-N1-C2	-5.24	118.20	120.30
1	QA	1228	C	C6-N1-C2	-5.24	118.20	120.30
1	XA	1086	U	C6-N1-C2	-5.24	117.86	121.00
32	RA	288	C	C2-N1-C1'	5.24	124.56	118.80
32	YA	1332	G	C4-N9-C1'	5.24	133.31	126.50
32	YA	1332	G	N7-C8-N9	5.24	115.72	113.10
32	RA	2143	C	N3-C2-O2	-5.24	118.23	121.90
16	XQ	13	ASP	CB-CG-OD1	5.24	123.01	118.30
32	YA	2099	U	N3-C2-O2	-5.24	118.53	122.20
32	YA	2870	C	C6-N1-C2	-5.24	118.21	120.30
32	YA	676	A	N7-C8-N9	5.23	116.42	113.80
32	RA	1011	G	C8-N9-C1'	5.23	133.80	127.00
32	YA	32	C	C2-N1-C1'	5.23	124.55	118.80
32	YA	392	C	C5-C6-N1	5.23	123.61	121.00
38	RI	9	LEU	CA-CB-CG	5.23	127.32	115.30
32	YA	1102	C	N1-C2-O2	5.23	122.04	118.90
32	RA	894	C	N1-C2-O2	5.22	122.03	118.90
32	RA	9	U	N3-C2-O2	-5.22	118.54	122.20
1	XA	1228	C	N1-C2-O2	5.22	122.03	118.90
51	XL	46	LYS	C-N-CA	5.22	134.76	121.70
32	YA	1669	A	C2-N3-C4	5.22	113.21	110.60
32	RA	481	G	O4'-C1'-N9	5.22	112.38	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	738	C	C5-C6-N1	5.22	123.61	121.00
32	YA	2585	U	C2-N1-C1'	5.22	123.96	117.70
1	XA	1161	C	N1-C2-O2	5.22	122.03	118.90
33	YB	8	U	N1-C2-O2	5.22	126.45	122.80
1	XA	330	C	C5-C6-N1	5.21	123.61	121.00
32	RA	867	C	N3-C2-O2	-5.21	118.25	121.90
1	QA	1535	C	C5-C6-N1	5.21	123.60	121.00
32	RA	387	U	P-O3'-C3'	5.21	125.95	119.70
1	QA	341	C	C5-C6-N1	5.20	123.60	121.00
32	RA	1406	U	N3-C2-O2	-5.20	118.56	122.20
32	RA	2501	C	C6-N1-C1'	5.20	127.04	120.80
32	RA	2646	C	C5-C6-N1	5.20	123.60	121.00
32	RA	1394	U	C6-N1-C1'	5.20	128.48	121.20
32	RA	214	G	C4-N9-C1'	-5.20	119.74	126.50
41	RP	56	SER	C-N-CA	5.20	134.70	121.70
32	RA	2006	C	C6-N1-C2	-5.20	118.22	120.30
32	YA	930	U	N3-C2-O2	-5.20	118.56	122.20
1	QA	1345	U	C2-N1-C1'	-5.20	111.47	117.70
32	RA	1881	C	N1-C2-O2	5.20	122.02	118.90
32	YA	1766	U	N3-C2-O2	-5.20	118.56	122.20
1	QA	1535	C	N1-C2-O2	5.19	122.02	118.90
32	RA	1533	C	N1-C2-O2	5.19	122.02	118.90
1	QA	913	A	P-O3'-C3'	5.19	125.93	119.70
32	RA	797	C	C5-C6-N1	5.19	123.60	121.00
32	RA	1437	C	C2-N1-C1'	5.19	124.51	118.80
32	YA	1934	C	N1-C2-O2	5.19	122.02	118.90
32	YA	2896	C	N3-C2-O2	-5.19	118.27	121.90
32	RA	2874	C	N1-C2-O2	5.19	122.01	118.90
1	QA	1100	C	C2-N1-C1'	-5.19	113.10	118.80
32	YA	563	G	N3-C4-C5	-5.18	126.01	128.60
32	YA	998	C	C6-N1-C2	-5.18	118.23	120.30
32	YA	2805	G	C5-C6-O6	5.18	131.71	128.60
32	YA	1882	C	N1-C2-O2	5.18	122.01	118.90
2	QB	19	HIS	CB-CA-C	5.18	120.76	110.40
32	RA	528	A	N7-C8-N9	5.18	116.39	113.80
32	RA	867	C	C6-N1-C2	-5.18	118.23	120.30
32	YA	1640	C	C2-N1-C1'	5.18	124.50	118.80
1	QA	1007	C	N1-C2-O2	5.17	122.00	118.90
32	YA	2816	C	C6-N1-C2	-5.17	118.23	120.30
32	RA	2480	C	N1-C2-O2	5.17	122.00	118.90
32	YA	1947	C	N1-C2-O2	5.17	122.00	118.90
1	QA	1325	C	C6-N1-C2	-5.17	118.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
32	RA	1313	U	C6-N1-C1'	-5.17	113.97	121.20
32	YA	797	C	C5-C6-N1	5.17	123.58	121.00
32	YA	1385	G	C6-C5-N7	5.17	133.50	130.40
32	RA	1488	G	C4-N9-C1'	5.17	133.21	126.50
1	QA	936	C	N1-C2-O2	5.16	122.00	118.90
32	RA	2791	C	N3-C2-O2	-5.16	118.28	121.90
1	XA	1303	C	N1-C2-O2	5.16	122.00	118.90
32	YA	1385	G	N3-C4-N9	-5.16	122.90	126.00
32	YA	2853	C	C6-N1-C2	-5.16	118.23	120.30
32	RA	2343	C	C6-N1-C2	-5.16	118.23	120.30
32	YA	41	C	C6-N1-C2	-5.16	118.23	120.30
32	YA	1742	C	C6-N1-C2	-5.16	118.23	120.30
1	QA	560	U	C3'-C2'-C1'	5.16	105.63	101.50
32	RA	857	C	C2-N1-C1'	5.16	124.48	118.80
32	RA	1502	C	C5-C6-N1	5.16	123.58	121.00
1	XA	1381	U	N3-C2-O2	-5.16	118.59	122.20
32	YA	1950	G	C4-N9-C1'	5.16	133.21	126.50
32	YA	2217	G	C4'-C3'-O3'	5.16	123.32	113.00
32	YA	2592	G	C6-C5-N7	-5.16	127.31	130.40
32	YA	2447	G	P-O3'-C3'	5.16	125.89	119.70
32	RA	1559	G	P-O3'-C3'	5.15	125.88	119.70
32	RA	2873	A	C5-N7-C8	-5.15	101.32	103.90
1	QA	488	C	C6-N1-C2	-5.15	118.24	120.30
1	QA	1346	A	P-O3'-C3'	5.15	125.88	119.70
32	RA	153	C	C6-N1-C2	-5.15	118.24	120.30
32	RA	1830	C	N1-C2-O2	5.15	121.99	118.90
32	RA	2791	C	N3-C4-N4	-5.15	114.39	118.00
32	YA	783	A	N7-C8-N9	5.15	116.38	113.80
1	XA	4	U	C2-N1-C1'	5.15	123.88	117.70
1	XA	792	A	P-O3'-C3'	5.15	125.88	119.70
32	RA	269	U	C2-N1-C1'	5.15	123.88	117.70
32	RA	1640	C	C5-C6-N1	5.15	123.57	121.00
1	QA	283	C	N1-C2-O2	5.15	121.99	118.90
1	QA	1128	C	C2-N3-C4	5.15	122.47	119.90
32	RA	2108	C	C6-N1-C2	-5.15	118.24	120.30
32	RA	288	C	C5-C6-N1	5.14	123.57	121.00
32	RA	2254	C	N3-C2-O2	-5.14	118.30	121.90
32	RA	2794	C	C5-C6-N1	5.14	123.57	121.00
32	RA	1514	U	N1-C2-O2	5.14	126.40	122.80
32	YA	2096	U	N3-C2-O2	-5.14	118.60	122.20
32	YA	2159	G	N3-C4-N9	-5.14	122.92	126.00
1	QA	545	C	C6-N1-C2	-5.13	118.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1290	G	N3-C4-C5	-5.13	126.03	128.60
32	YA	1909	C	C6-N1-C2	-5.13	118.25	120.30
1	QA	1100	C	C6-N1-C1'	5.13	126.96	120.80
21	XW	75	C	C6-N1-C2	-5.13	118.25	120.30
32	YA	1505	C	C5-C6-N1	5.13	123.56	121.00
32	YA	1804	C	C6-N1-C2	-5.13	118.25	120.30
32	RA	39	C	C5-C6-N1	5.12	123.56	121.00
32	RA	90	U	N3-C2-O2	-5.12	118.61	122.20
32	RA	243	U	N3-C2-O2	-5.12	118.61	122.20
32	RA	2726	U	N1-C2-O2	5.12	126.39	122.80
32	RA	758	C	C5-C6-N1	5.12	123.56	121.00
32	YA	270(U)	C	N1-C2-O2	5.12	121.97	118.90
32	RA	512	G	C4-N9-C1'	-5.12	119.84	126.50
32	YA	343	C	C5-C6-N1	5.12	123.56	121.00
32	RA	2174	C	N1-C2-O2	5.12	121.97	118.90
32	RA	2678	C	C5-C6-N1	5.12	123.56	121.00
1	XA	75	C	C5-C6-N1	5.12	123.56	121.00
32	YA	270(Z)	U	C2-N1-C1'	-5.12	111.56	117.70
32	RA	1914	C	C6-N1-C1'	-5.12	114.66	120.80
1	XA	1301	U	C6-N1-C1'	-5.12	114.04	121.20
32	YA	1950	G	O4'-C1'-N9	5.12	112.29	108.20
32	RA	2456	C	C6-N1-C2	-5.12	118.25	120.30
32	YA	269	U	C5-C6-N1	5.12	125.26	122.70
32	RA	1159	U	N1-C2-O2	5.11	126.38	122.80
32	RA	2467	C	C6-N1-C1'	5.11	126.94	120.80
1	XA	37	U	N3-C2-O2	-5.11	118.62	122.20
32	YA	867	C	N1-C2-O2	5.11	121.97	118.90
1	XA	1190	G	P-O3'-C3'	5.11	125.83	119.70
32	YA	2874	C	C6-N1-C2	-5.11	118.26	120.30
37	YH	126	PRO	N-CA-C	-5.11	98.81	112.10
1	XA	1498	U	P-O3'-C3'	5.11	125.83	119.70
32	RA	2703	C	N1-C2-O2	5.11	121.96	118.90
1	XA	1407	C	N1-C2-O2	5.11	121.96	118.90
32	RA	624	C	C5-C6-N1	5.10	123.55	121.00
32	RA	1899	G	N1-C2-N2	-5.10	111.61	116.20
32	YA	2205	C	C6-N1-C2	-5.10	118.26	120.30
32	RA	93	C	N1-C2-O2	5.10	121.96	118.90
32	RA	1686	C	C5-C6-N1	5.10	123.55	121.00
32	RA	1775	U	C5-C4-O4	-5.10	122.84	125.90
1	QA	174	C	C6-N1-C2	-5.10	118.26	120.30
32	YA	512	G	P-O3'-C3'	5.10	125.82	119.70
1	QA	1028(B)	C	C5-C6-N1	5.10	123.55	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	XV	32	C	N1-C2-O2	5.10	121.96	118.90
32	YA	1170	G	C6-C5-N7	-5.10	127.34	130.40
32	RA	487	C	N1-C2-O2	5.10	121.96	118.90
1	XA	848	C	N1-C2-O2	5.09	121.96	118.90
1	QA	496	A	C2-N3-C4	5.09	113.15	110.60
32	RA	2189	U	N1-C2-O2	5.09	126.36	122.80
32	RA	2260	C	C6-N1-C2	-5.09	118.26	120.30
1	XA	186	C	N1-C2-O2	5.09	121.95	118.90
32	RA	2712	U	N3-C2-O2	-5.09	118.64	122.20
34	RD	35	LYS	CB-CG-CD	5.09	124.83	111.60
1	XA	341	C	C6-N1-C2	-5.09	118.26	120.30
32	YA	1781	C	C2-N1-C1'	5.09	124.40	118.80
32	YA	2205	C	C5-C6-N1	5.09	123.55	121.00
32	RA	1950	G	C8-N9-C1'	-5.09	120.39	127.00
32	YA	1958	C	C5-C6-N1	5.08	123.54	121.00
32	RA	529	A	C8-N9-C4	-5.08	103.77	105.80
32	RA	2244	U	N3-C4-O4	5.08	122.96	119.40
32	YA	2814	C	N3-C2-O2	-5.08	118.34	121.90
1	XA	1535	C	C5-C6-N1	5.08	123.54	121.00
1	XA	749	C	C5-C6-N1	5.08	123.54	121.00
1	QA	1514	C	C5-C6-N1	5.08	123.54	121.00
32	YA	2139	C	C6-N1-C2	-5.08	118.27	120.30
32	YA	2584	U	N1-C2-O2	5.08	126.35	122.80
32	YA	2103	C	C5-C6-N1	5.08	123.54	121.00
1	QA	191(F)	U	N3-C2-O2	-5.07	118.65	122.20
1	QA	1157	A	C4-N9-C1'	5.07	135.43	126.30
32	RA	965	C	C6-N1-C2	-5.07	118.27	120.30
32	RA	1179	C	N1-C2-O2	5.07	121.94	118.90
32	YA	2318	G	O4'-C1'-N9	5.07	112.26	108.20
32	YA	2416	C	C6-N1-C2	-5.07	118.27	120.30
32	RA	1404	C	C6-N1-C2	-5.07	118.27	120.30
32	RA	2568	C	C6-N1-C2	-5.07	118.27	120.30
32	YA	1264	G	C8-N9-C4	-5.07	104.37	106.40
1	QA	1028	C	N3-C2-O2	-5.07	118.35	121.90
32	RA	2307	G	O4'-C1'-N9	5.07	112.25	108.20
32	RA	343	C	C6-N1-C2	-5.07	118.27	120.30
32	RA	1385	G	C6-C5-N7	5.07	133.44	130.40
32	RA	537	C	C2-N1-C1'	5.07	124.37	118.80
32	YA	1092	C	C6-N1-C2	-5.07	118.27	120.30
32	YA	1294	U	C5-C6-N1	5.07	125.23	122.70
1	QA	1528	U	P-O3'-C3'	5.06	125.78	119.70
1	XA	810	C	C6-N1-C2	-5.06	118.28	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	QA	1262	C	C5-C6-N1	5.06	123.53	121.00
38	RI	131	LYS	C-N-CD	-5.06	109.47	120.60
1	XA	1395	C	N3-C2-O2	-5.06	118.36	121.90
1	XA	818	G	P-O3'-C3'	5.06	125.77	119.70
32	RA	1947	C	C6-N1-C2	-5.06	118.28	120.30
32	YA	930	U	N1-C2-O2	5.06	126.34	122.80
32	YA	1575	C	C6-N1-C2	-5.06	118.28	120.30
32	YA	2779	U	O4'-C1'-N1	5.06	112.25	108.20
32	RA	2804	C	N1-C2-O2	5.06	121.93	118.90
32	YA	288	C	N1-C2-O2	5.06	121.93	118.90
1	XA	1147	C	N1-C2-O2	5.05	121.93	118.90
32	YA	665	C	C6-N1-C2	-5.05	118.28	120.30
32	YA	878	A	O5'-P-OP1	5.05	116.77	110.70
32	YA	2143	C	C6-N1-C2	-5.05	118.28	120.30
1	QA	547	A	P-O3'-C3'	5.05	125.76	119.70
21	QW	68	C	C6-N1-C2	-5.05	118.28	120.30
32	RA	104	U	N1-C2-O2	5.05	126.33	122.80
32	RA	105	C	C2-N1-C1'	5.05	124.36	118.80
37	RH	82	GLY	N-CA-C	5.05	125.73	113.10
32	YA	2096	U	N1-C2-O2	5.05	126.34	122.80
32	RA	2208	U	N1-C2-O2	5.05	126.33	122.80
21	XW	68	C	N1-C2-O2	5.05	121.93	118.90
32	RA	934	G	N3-C4-N9	5.05	129.03	126.00
32	RA	1788	C	C5-C6-N1	5.05	123.52	121.00
32	RA	2792	G	N9-C4-C5	-5.05	103.38	105.40
1	XA	1006	C	C5-C6-N1	5.05	123.52	121.00
32	YA	2720	U	C2-N3-C4	5.05	130.03	127.00
34	YD	21	PHE	CB-CA-C	-5.04	100.31	110.40
32	RA	1766	U	N3-C2-O2	-5.04	118.67	122.20
32	YA	2287	A	C8-N9-C1'	5.04	136.78	127.70
32	YA	2559	C	N3-C2-O2	-5.04	118.37	121.90
32	YA	2712	U	O4'-C1'-N1	5.04	112.23	108.20
32	YA	883	G	P-O3'-C3'	5.04	125.75	119.70
32	RA	1786	A	C4-N9-C1'	5.04	135.37	126.30
32	YA	851	U	N3-C2-O2	-5.04	118.67	122.20
32	RA	613	U	C2-N1-C1'	5.04	123.75	117.70
32	RA	755	C	C6-N1-C2	-5.04	118.28	120.30
32	YA	2064	C	C6-N1-C2	-5.04	118.28	120.30
32	YA	2420	C	C5-C6-N1	5.04	123.52	121.00
32	RA	1698	A	O4'-C1'-N9	5.04	112.23	108.20
1	QA	1395	C	N3-C2-O2	-5.04	118.38	121.90
32	RA	708	C	C2-N1-C1'	5.04	124.34	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	137	C	C6-N1-C2	-5.04	118.29	120.30
1	XA	1065	U	P-O3'-C3'	5.04	125.74	119.70
32	YA	1385	G	C8-N9-C1'	5.04	133.55	127.00
32	YA	2658	C	N1-C2-O2	5.04	121.92	118.90
32	YA	234	C	C6-N1-C2	-5.03	118.29	120.30
1	XA	1383	C	N3-C2-O2	-5.03	118.38	121.90
32	YA	265	A	N1-C6-N6	-5.03	115.58	118.60
32	RA	143	C	N1-C2-O2	5.03	121.92	118.90
1	XA	924	C	C6-N1-C2	-5.02	118.29	120.30
33	YB	60	C	C6-N1-C2	-5.02	118.29	120.30
1	QA	1002	G	N3-C4-N9	5.02	129.01	126.00
32	RA	960	A	N1-C6-N6	5.02	121.61	118.60
1	XA	1031	G	C4-N9-C1'	5.02	133.03	126.50
32	YA	2287	A	N3-C4-C5	5.02	130.32	126.80
32	RA	2896	C	C6-N1-C2	-5.02	118.29	120.30
32	YA	856	C	N3-C2-O2	-5.02	118.39	121.90
32	YA	1786	A	C4-N9-C1'	5.02	135.33	126.30
32	YA	1992	G	P-O3'-C3'	5.02	125.72	119.70
1	QA	1007	C	C5-C6-N1	5.01	123.51	121.00
1	QA	1128	C	N3-C4-C5	-5.01	119.89	121.90
32	RA	2128	C	C5-C6-N1	5.01	123.51	121.00
32	RA	2712	U	C6-N1-C1'	-5.01	114.18	121.20
1	QA	307	C	C6-N1-C2	-5.01	118.30	120.30
32	RA	2474	C	C2-N1-C1'	5.01	124.31	118.80
32	RA	90	U	P-O3'-C3'	5.01	125.71	119.70
1	XA	1263	C	N1-C2-O2	5.01	121.91	118.90
32	YA	69	C	C2-N1-C1'	5.01	124.31	118.80
32	RA	1011	G	C4-N9-C1'	-5.01	119.99	126.50
32	RA	2052	G	N1-C6-O6	5.01	122.91	119.90
53	Y8	62	LEU	CA-CB-CG	-5.01	103.78	115.30
32	YA	797	C	C6-N1-C2	-5.01	118.30	120.30
32	RA	2667	C	N3-C2-O2	-5.01	118.39	121.90
32	YA	2584	U	C6-N1-C2	-5.01	118.00	121.00
1	QA	497	U	N3-C2-O2	-5.01	118.69	122.20
32	YA	2174	C	N3-C2-O2	-5.01	118.39	121.90
32	YA	2730	C	N1-C2-O2	5.01	121.90	118.90
1	XA	1439	C	C5-C6-N1	5.00	123.50	121.00
1	XA	186(F)	C	C6-N1-C2	-5.00	118.30	120.30
35	YE	51	PHE	O-C-N	5.00	130.71	122.70
1	QA	1300	G	C4-N9-C1'	-5.00	120.00	126.50

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	QB	12	GLU	Mainchain
51	QL	46	LYS	Peptide
53	R8	51	ALA	Peptide
41	RP	11	GLY	Mainchain
24	Y0	8	GLY	Mainchain
32	YA	1162	G	Sidechain
37	YH	13	LYS	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32452	0	16381	373	0
1	XA	32389	0	16350	345	0
2	QB	1907	0	1958	287	0
2	XB	1915	0	1969	18	0
3	QC	1605	0	1668	24	0
3	XC	1605	0	1668	13	0
4	QD	1703	0	1763	29	0
4	XD	1703	0	1763	37	0
5	QE	1155	0	1213	8	0
5	XE	1155	0	1213	10	0
6	QF	843	0	857	6	0
6	XF	843	0	857	12	0
7	QG	1257	0	1296	9	0
7	XG	1257	0	1296	13	0
8	QH	1108	0	1165	16	0
8	XH	1108	0	1165	16	0
9	QI	1010	0	1037	24	0
9	XI	998	0	1024	20	0
10	QJ	801	0	849	13	0
10	XJ	777	0	816	21	0
11	QK	885	0	904	11	0
11	XK	864	0	881	11	0
12	QM	955	0	1021	22	0
12	XM	946	0	1008	15	0
13	QN	492	0	529	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
13	XN	492	0	529	4	0
14	QO	734	0	771	8	0
14	XO	729	0	768	7	0
15	QP	705	0	725	4	0
15	XP	705	0	725	5	0
16	QQ	834	0	904	10	0
16	XQ	834	0	904	7	0
17	QR	574	0	644	4	0
17	XR	574	0	644	4	0
18	QS	665	0	686	44	0
18	XS	656	0	666	73	0
19	QT	763	0	861	6	0
19	XT	763	0	861	18	0
20	QU	217	0	234	4	0
20	XU	217	0	234	1	0
21	QV	1640	0	837	11	0
21	QW	1640	0	837	28	0
21	XV	1640	0	837	15	0
21	XW	1640	0	837	22	0
22	QX	435	0	225	19	0
22	XX	435	0	225	12	0
23	QY	723	0	713	91	0
23	QZ	723	0	713	104	0
23	XY	723	0	713	59	0
23	XZ	723	0	713	81	0
24	R0	643	0	667	9	0
24	Y0	648	0	672	15	0
25	R2	581	0	629	11	0
25	Y2	581	0	629	5	0
26	R3	469	0	518	2	0
26	Y3	469	0	518	5	0
27	R4	565	0	559	15	0
27	Y4	565	0	557	10	0
28	R5	459	0	476	9	0
28	Y5	459	0	480	11	0
29	R6	453	0	473	17	0
29	Y6	453	0	473	4	0
30	R7	409	0	454	4	0
30	Y7	418	0	467	6	0
31	R9	307	0	335	5	0
31	Y9	307	0	335	8	0
32	RA	62266	0	31390	616	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
32	YA	61921	0	31212	693	0
33	RB	2576	0	1305	32	0
33	YB	2576	0	1305	22	0
34	RD	2115	0	2194	46	0
34	YD	2135	0	2220	165	0
35	RE	1568	0	1634	50	0
35	YE	1559	0	1618	225	0
36	RG	1474	0	1535	28	0
36	YG	1474	0	1535	22	0
37	RH	1336	0	1418	38	0
37	YH	1330	0	1407	191	0
38	RI	1136	0	1223	23	0
38	YI	1136	0	1223	7	0
39	RN	1104	0	1180	12	0
39	YN	1104	0	1180	10	0
40	RO	933	0	996	17	0
40	YO	933	0	996	14	0
41	RP	1145	0	1228	75	0
41	YP	1135	0	1212	193	0
42	RQ	1122	0	1179	29	0
42	YQ	1122	0	1179	172	0
43	RR	960	0	1021	12	0
43	YR	960	0	1021	8	0
44	RS	882	0	943	13	0
44	YS	882	0	943	17	0
45	RT	1141	0	1202	23	0
45	YT	1141	0	1202	41	0
46	RU	964	0	1022	22	0
46	YU	964	0	1021	30	0
47	RV	779	0	852	9	0
47	YV	779	0	852	88	0
48	RW	900	0	964	14	0
48	YW	900	0	964	11	0
49	RX	725	0	778	9	0
49	YX	725	0	778	8	0
50	RY	818	0	913	13	0
50	YY	818	0	913	16	0
51	QL	975	0	1062	40	0
51	XL	956	0	1046	15	0
52	R1	737	0	813	36	0
52	Y1	729	0	802	7	0
53	R8	517	0	582	65	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	Y8	517	0	582	31	0
54	RF	1585	0	1632	82	0
54	YF	1585	0	1632	24	0
55	RZ	1461	0	1493	107	0
55	YZ	1461	0	1493	106	0
56	ZA	74	0	51	15	0
56	ZB	74	0	51	14	0
57	QA	94	0	0	0	0
57	QD	2	0	0	0	0
57	QE	1	0	0	0	0
57	QF	1	0	0	0	0
57	QV	3	0	0	0	0
57	QX	1	0	0	0	0
57	R0	1	0	0	0	0
57	R8	1	0	0	0	0
57	RA	302	0	0	0	0
57	RB	3	0	0	0	0
57	RD	1	0	0	0	0
57	RE	1	0	0	0	0
57	RN	1	0	0	0	0
57	RO	1	0	0	0	0
57	RP	2	0	0	0	0
57	RQ	2	0	0	0	0
57	RR	2	0	0	0	0
57	RY	1	0	0	0	0
57	XA	116	0	0	0	0
57	XD	1	0	0	0	0
57	XE	1	0	0	0	0
57	XF	1	0	0	0	0
57	XL	1	0	0	0	0
57	XM	1	0	0	0	0
57	XV	3	0	0	0	0
57	Y0	2	0	0	0	0
57	Y3	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YA	326	0	0	0	0
57	YB	5	0	0	0	0
57	YD	5	0	0	0	0
57	YE	5	0	0	0	0
57	YF	1	0	0	0	0
57	YG	1	0	0	0	0
57	YO	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	YQ	3	0	0	0	0
57	YV	1	0	0	0	0
58	QD	8	0	0	0	0
58	XD	8	0	0	0	0
59	QN	1	0	0	0	0
59	R4	1	0	0	0	0
59	R5	1	0	0	0	0
59	R6	1	0	0	0	0
59	R9	1	0	0	0	0
59	XN	1	0	0	0	0
59	Y4	1	0	0	0	0
59	Y6	1	0	0	0	0
All	All	298432	0	202696	4712	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 10.

All (4712) 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)
42:YQ:64:ILE:CD1	55:YZ:178:GLU:HG3	1.19	1.65
37:YH:123:PHE:CE1	37:YH:133:VAL:HG12	1.26	1.62
37:YH:5:GLY:HA3	37:YH:65:HIS:CE1	1.22	1.59
41:YP:100:LEU:CD1	41:YP:112:LEU:HD11	1.37	1.55
54:RF:9:ILE:HD11	54:RF:125:LEU:CD1	1.39	1.51
23:QY:44:LYS:CD	51:QL:50:SER:HB2	1.35	1.50
8:QH:74:PRO:N	8:QH:74:PRO:CA	1.68	1.47
41:YP:138:LEU:CD2	41:YP:145:PRO:HB3	1.43	1.44
18:XS:59:PRO:N	18:XS:59:PRO:CA	1.70	1.44
23:QZ:44:LYS:NZ	23:QZ:59:ARG:HD3	1.30	1.42
54:RF:25:PRO:N	54:RF:25:PRO:CA	1.69	1.41
37:YH:5:GLY:CA	37:YH:65:HIS:HE1	1.34	1.40
32:YA:2572:A:C8	35:YE:144:ARG:HD3	1.54	1.39
41:YP:100:LEU:HD12	41:YP:112:LEU:CD1	1.48	1.39
34:YD:29:PRO:N	34:YD:29:PRO:CA	1.70	1.38
2:QB:60:ASP:HB3	2:QB:64:ARG:NH1	1.40	1.36
37:YH:5:GLY:CA	37:YH:65:HIS:CE1	2.05	1.36
23:XZ:4:ILE:HD12	23:XZ:76:LEU:CD2	1.56	1.34
18:QS:41:VAL:CG1	18:QS:67:VAL:HA	1.58	1.33
23:QY:44:LYS:HD3	51:QL:50:SER:CB	1.60	1.31
42:YQ:64:ILE:CD1	55:YZ:178:GLU:CG	2.07	1.30

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:XS:42:PRO:N	18:XS:42:PRO:CA	1.70	1.30
34:YD:123:ALA:CB	34:YD:131:LEU:HD11	1.61	1.30
32:YA:2682:U:C6	35:YE:11:MET:HE2	1.67	1.29
33:RB:75:G:H21	55:RZ:85:HIS:CE1	1.53	1.26
37:YH:123:PHE:CE1	37:YH:133:VAL:CG1	2.17	1.25
32:YA:1162:G:H1'	47:YV:23:GLU:OE2	1.31	1.25
37:YH:153:LYS:CG	37:YH:154:PRO:HD2	1.67	1.25
32:YA:2682:U:C6	35:YE:11:MET:CE	2.20	1.24
32:YA:2572:A:C8	35:YE:144:ARG:CD	2.19	1.23
42:YQ:60:ARG:CA	55:YZ:179:ASP:HA	1.69	1.22
23:QZ:44:LYS:HZ1	23:QZ:59:ARG:CD	1.55	1.19
23:QZ:44:LYS:NZ	23:QZ:59:ARG:CD	2.06	1.19
41:YP:127:ALA:C	41:YP:148:LEU:CB	2.11	1.19
2:QB:222:ILE:O	2:QB:226:ARG:HG2	1.39	1.19
42:YQ:60:ARG:HA	55:YZ:179:ASP:HA	1.24	1.18
2:QB:15:VAL:CG2	2:QB:209:ARG:NH2	2.07	1.17
42:YQ:79:LEU:O	42:YQ:80:GLU:HG2	1.45	1.17
55:RZ:144:LEU:HD21	55:RZ:150:LEU:HG	1.23	1.16
37:YH:5:GLY:HA3	37:YH:65:HIS:ND1	1.57	1.16
41:YP:19:VAL:CG2	41:YP:31:ALA:HB1	1.75	1.16
37:YH:123:PHE:HE1	37:YH:133:VAL:CG1	1.55	1.16
2:QB:8:LYS:HB3	2:QB:11:LEU:CD1	1.76	1.15
41:YP:138:LEU:HD23	41:YP:145:PRO:HB3	1.16	1.15
56:ZA:75:C:H6	56:ZA:75:C:H5''	1.10	1.15
42:YQ:59:ARG:O	42:YQ:60:ARG:HG2	1.47	1.15
2:QB:136:VAL:HA	2:QB:139:LYS:CD	1.77	1.14
18:XS:41:VAL:HG22	18:XS:42:PRO:HD2	1.23	1.14
23:QY:5:TRP:HB2	23:QZ:3:LEU:HB2	1.15	1.14
22:XX:19:A2M:H2	23:XY:51:ASN:ND2	1.61	1.14
42:YQ:64:ILE:HD13	55:YZ:178:GLU:HG3	1.19	1.14
18:XS:12:ASP:OD1	18:XS:37:ARG:HD2	1.44	1.14
23:QY:3:LEU:HD11	23:QY:35:ARG:HH21	1.03	1.13
32:RA:306:U:H2'	32:RA:307:G:C8	1.82	1.13
18:QS:41:VAL:HG11	18:QS:67:VAL:HG13	1.29	1.13
34:YD:123:ALA:HB3	34:YD:131:LEU:CD1	1.78	1.12
18:QS:41:VAL:HB	18:QS:42:PRO:HD3	1.21	1.12
1:QA:1099:G:C5'	2:QB:96:ARG:HH22	1.61	1.12
2:QB:91:PRO:CG	2:QB:154:LEU:HB2	1.78	1.12
37:YH:107:VAL:HG12	37:YH:152:ARG:CD	1.80	1.12
2:QB:91:PRO:HG3	2:QB:154:LEU:CB	1.80	1.12
32:YA:2682:U:C5	35:YE:11:MET:CE	2.32	1.11

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YH:153:LYS:HG2	37:YH:154:PRO:HD2	1.31	1.11
47:YV:5:VAL:HG11	47:YV:57:VAL:HG21	1.32	1.11
23:QZ:44:LYS:HE2	23:QZ:59:ARG:HG2	1.12	1.11
41:RP:64:LYS:HB2	53:R8:25:MET:HG3	1.12	1.11
42:YQ:78:PRO:HG2	42:YQ:81:VAL:HG21	1.33	1.11
2:QB:71:VAL:HG21	2:QB:97:TRP:HZ3	1.04	1.11
2:QB:71:VAL:HG21	2:QB:97:TRP:CZ3	1.84	1.10
37:YH:118:PRO:HG2	37:YH:121:ILE:HG13	1.32	1.10
35:YE:47:VAL:HG23	35:YE:49:LEU:CD1	1.80	1.10
23:QY:44:LYS:CD	51:QL:50:SER:CB	2.23	1.10
35:YE:28:ALA:HB3	35:YE:180:ASN:HB3	1.17	1.10
1:QA:1099:G:C5'	2:QB:96:ARG:NH2	2.13	1.10
18:QS:41:VAL:HG23	18:QS:42:PRO:HD2	1.18	1.09
23:XY:17:GLN:NE2	23:XZ:28:ASN:HD21	1.47	1.09
37:YH:7:LEU:HD23	37:YH:8:PRO:HD2	1.28	1.09
32:YA:2749:A:H4'	37:YH:62:LYS:HB3	1.20	1.09
41:YP:127:ALA:C	41:YP:148:LEU:HB2	1.69	1.09
2:QB:156:LYS:HE2	2:QB:156:LYS:HA	1.34	1.09
1:QA:1099:G:H5'	2:QB:96:ARG:HH22	1.13	1.09
2:QB:136:VAL:HA	2:QB:139:LYS:HD2	1.25	1.08
53:Y8:12:LYS:HB3	41:YP:68:GLN:NE2	1.69	1.08
34:YD:76:PRO:HB2	34:YD:116:GLN:HE21	0.97	1.08
42:YQ:64:ILE:HD12	55:YZ:178:GLU:CG	1.77	1.08
1:QA:1099:G:H5'	2:QB:96:ARG:NH2	1.67	1.08
32:RA:2584:U:H5'	56:ZB:76:PPU:H103	1.34	1.08
41:YP:9:ASN:ND2	41:YP:12:ALA:HB2	1.67	1.07
41:YP:19:VAL:HG21	41:YP:31:ALA:HB1	1.36	1.07
2:QB:87:ARG:NH1	2:QB:233:SER:CB	2.17	1.07
37:YH:153:LYS:CG	37:YH:154:PRO:CD	2.31	1.07
54:RF:9:ILE:HD11	54:RF:125:LEU:CG	1.83	1.07
41:YP:127:ALA:O	41:YP:148:LEU:CB	2.03	1.07
34:YD:96:HIS:NE2	34:YD:102:LYS:HE2	1.67	1.07
35:YE:37:ARG:HA	35:YE:42:ASP:OD2	1.53	1.07
42:YQ:60:ARG:HB2	55:YZ:179:ASP:OD1	1.51	1.07
2:QB:8:LYS:CB	2:QB:11:LEU:HD13	1.83	1.07
2:QB:80:ILE:H	2:QB:80:ILE:HD12	1.20	1.07
2:QB:136:VAL:O	2:QB:139:LYS:HG3	1.54	1.07
35:RE:61:ARG:H	35:RE:62:PRO:HD2	1.08	1.07
2:QB:115:LEU:HB2	2:QB:145:LEU:HD21	1.34	1.06
34:YD:96:HIS:HE2	34:YD:102:LYS:HE2	1.16	1.06
32:YA:1812:A:H1'	34:YD:45:ASN:ND2	1.70	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:2731:G:H5''	35:YE:203:LYS:HE2	1.37	1.06
34:YD:76:PRO:CB	34:YD:116:GLN:HE21	1.67	1.06
23:QZ:44:LYS:HE2	23:QZ:59:ARG:CG	1.85	1.06
23:XZ:4:ILE:HD12	23:XZ:76:LEU:HD23	1.35	1.06
35:YE:48:GLN:HE21	35:YE:78:LEU:HD13	1.14	1.06
23:XZ:4:ILE:HD12	23:XZ:76:LEU:HD21	1.35	1.06
35:YE:1:MET:HA	35:YE:1:MET:HE3	1.33	1.06
54:RF:9:ILE:CD1	54:RF:125:LEU:CD1	2.34	1.06
41:RP:64:LYS:HZ1	53:R8:29:LYS:HG2	1.18	1.05
23:XZ:30:LEU:CD1	23:XZ:60:ILE:HG12	1.86	1.05
41:YP:138:LEU:HD21	41:YP:145:PRO:HB3	1.33	1.05
2:QB:87:ARG:HH11	2:QB:233:SER:CB	1.70	1.05
23:QZ:44:LYS:CE	23:QZ:59:ARG:HD3	1.87	1.05
32:YA:1812:A:H1'	34:YD:45:ASN:HD21	1.13	1.05
41:YP:127:ALA:C	41:YP:148:LEU:HB3	1.75	1.05
54:RF:9:ILE:CD1	54:RF:125:LEU:HD11	1.87	1.05
2:QB:172:ILE:HD12	2:QB:172:ILE:H	1.20	1.04
37:YH:153:LYS:HG3	37:YH:154:PRO:HD2	1.37	1.04
35:YE:47:VAL:CG2	35:YE:49:LEU:HD11	1.86	1.04
41:RP:64:LYS:HZ3	53:R8:29:LYS:HD2	1.21	1.04
2:QB:158:LEU:HD12	2:QB:158:LEU:H	1.17	1.04
18:QS:41:VAL:HB	18:QS:42:PRO:CD	1.87	1.03
32:YA:2208:U:H1'	34:YD:151:LYS:HE2	1.37	1.03
24:Y0:5:LYS:HD3	42:YQ:80:GLU:HG3	1.37	1.03
32:YA:811:U:H2'	41:YP:21:ARG:O	1.58	1.03
42:YQ:60:ARG:N	55:YZ:180:VAL:HG23	1.74	1.03
2:QB:118:LEU:HD21	2:QB:142:LEU:HB2	1.40	1.03
32:YA:2682:U:C5	35:YE:11:MET:HE1	1.92	1.03
34:YD:155:LEU:HD23	34:YD:177:LEU:CD2	1.89	1.03
41:YP:75:ILE:H	41:YP:75:ILE:HD12	1.20	1.02
32:YA:2255:G:N2	42:YQ:85:LYS:NZ	2.07	1.02
42:YQ:60:ARG:HA	55:YZ:179:ASP:CA	1.88	1.02
35:YE:51:PHE:HB3	35:YE:77:ILE:HD11	1.36	1.02
2:QB:15:VAL:HG21	2:QB:209:ARG:NH2	1.72	1.02
46:YU:92:ARG:HB3	47:YV:11:GLN:OE1	1.58	1.02
37:YH:107:VAL:HG12	37:YH:152:ARG:HD2	1.40	1.02
32:YA:2255:G:H22	42:YQ:85:LYS:NZ	1.57	1.01
41:YP:138:LEU:CD2	41:YP:145:PRO:CB	2.37	1.01
32:RA:574:C:N3	35:RE:145:LYS:NZ	2.08	1.01
12:XM:86:CYS:SG	18:XS:73:GLU:OE2	2.19	1.01
32:YA:2682:U:C5	35:YE:11:MET:HE2	1.95	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:15:VAL:HG22	2:QB:209:ARG:NH2	1.74	1.01
2:QB:21:ARG:HB3	2:QB:39:ILE:HD13	1.42	1.01
23:XY:17:GLN:NE2	23:XZ:28:ASN:ND2	2.09	1.00
37:YH:152:ARG:O	37:YH:162:ILE:HD13	1.62	1.00
1:XA:1014:A:H4'	18:XS:14:HIS:ND1	1.76	1.00
23:XY:67:VAL:HG23	23:XY:78:ALA:HB3	1.40	1.00
42:YQ:131:ILE:HD12	42:YQ:131:ILE:H	1.25	1.00
23:XY:17:GLN:HE22	23:XZ:28:ASN:ND2	1.60	1.00
2:QB:87:ARG:NH1	2:QB:233:SER:HB2	1.75	0.99
23:XZ:37:THR:HG21	23:XZ:40:GLU:HB2	1.44	0.99
53:Y8:12:LYS:CB	41:YP:68:GLN:NE2	2.25	0.99
35:RE:146:THR:HB	35:RE:147:PRO:HD3	1.40	0.99
54:RF:9:ILE:CD1	54:RF:125:LEU:HG	1.93	0.99
37:YH:94:TYR:HE1	37:YH:107:VAL:C	1.64	0.98
2:QB:60:ASP:O	2:QB:64:ARG:HD2	1.62	0.98
23:XZ:69:ALA:HB3	23:XZ:76:LEU:HB2	1.43	0.98
45:YT:133:GLU:HA	45:YT:137:LYS:HE2	1.43	0.98
1:XA:1318:A:H5''	18:XS:3:ARG:HH22	1.22	0.98
37:YH:5:GLY:C	37:YH:65:HIS:HE1	1.66	0.98
37:YH:153:LYS:HG3	37:YH:154:PRO:CD	1.89	0.98
32:RA:2112:G:H21	32:RA:2169:A:N6	1.61	0.98
33:RB:75:G:H21	55:RZ:85:HIS:HE1	1.00	0.98
32:YA:636:G:N7	41:YP:113:LYS:NZ	2.10	0.98
18:QS:41:VAL:HG11	18:QS:67:VAL:CG1	1.94	0.97
41:YP:128:HIS:ND1	41:YP:148:LEU:HD23	1.79	0.97
23:XZ:27:ILE:O	23:XZ:31:ILE:HG13	1.65	0.97
35:YE:174:ASP:OD1	35:YE:175:VAL:N	1.98	0.97
18:QS:41:VAL:HG13	18:QS:67:VAL:HA	1.45	0.97
41:YP:128:HIS:N	41:YP:148:LEU:HB3	1.78	0.97
18:QS:41:VAL:CG2	18:QS:42:PRO:HD2	1.95	0.97
23:XZ:30:LEU:HD12	23:XZ:60:ILE:HG12	1.46	0.97
47:YV:49:THR:O	47:YV:49:THR:HG23	1.65	0.97
23:XZ:51:ASN:OD1	23:XZ:52:LEU:HG	1.65	0.97
32:YA:2530:A:N7	37:YH:172:LYS:NZ	2.13	0.96
2:QB:136:VAL:HA	2:QB:139:LYS:CG	1.95	0.96
23:QY:10:TRP:CD2	23:QZ:3:LEU:CD1	2.49	0.96
41:RP:64:LYS:HZ1	53:R8:29:LYS:CG	1.77	0.96
35:YE:47:VAL:HG23	35:YE:49:LEU:HD11	0.97	0.96
2:QB:71:VAL:HG22	2:QB:93:VAL:HG12	1.47	0.96
2:QB:15:VAL:HG22	2:QB:209:ARG:HH21	1.29	0.96
32:RA:1464:C:HO2'	32:RA:1528:A:H8	1.05	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YE:101:ARG:HG2	35:YE:169:ASN:OD1	1.65	0.95
2:QB:71:VAL:HB	2:QB:164:VAL:HG12	1.48	0.95
32:YA:252:G:OP2	41:YP:50:ARG:NH2	2.00	0.95
54:RF:9:ILE:HD11	54:RF:125:LEU:HD11	0.97	0.95
2:QB:194:PRO:HB3	2:QB:200:ILE:HD12	1.47	0.95
42:YQ:64:ILE:HD13	55:YZ:178:GLU:CG	1.85	0.95
32:RA:306:U:H2'	32:RA:307:G:H8	1.18	0.94
42:YQ:59:ARG:O	42:YQ:60:ARG:CG	2.14	0.94
55:RZ:48:PHE:HE1	55:RZ:71:VAL:HG21	1.33	0.94
56:ZA:75:C:H5''	56:ZA:75:C:C6	2.02	0.94
1:QA:1099:G:H5''	2:QB:96:ARG:NH2	1.83	0.94
2:QB:60:ASP:HB3	2:QB:64:ARG:HH11	1.17	0.94
34:YD:26:LYS:HE2	34:YD:28:GLU:O	1.68	0.94
34:YD:26:LYS:HD3	34:YD:83:GLU:OE2	1.68	0.94
35:YE:28:ALA:HB3	35:YE:180:ASN:CB	1.97	0.94
47:YV:39:LEU:HD23	47:YV:40:LEU:N	1.82	0.94
32:YA:1817:G:OP1	34:YD:88:ARG:NH2	2.01	0.94
32:YA:2255:G:N2	42:YQ:85:LYS:HZ1	1.64	0.94
18:QS:41:VAL:CB	18:QS:42:PRO:CD	2.44	0.93
53:R8:57:ARG:HB3	53:R8:57:ARG:NH1	1.83	0.93
18:QS:41:VAL:CG1	18:QS:67:VAL:CA	2.45	0.93
54:RF:9:ILE:CD1	54:RF:125:LEU:CG	2.45	0.93
45:YT:133:GLU:CA	45:YT:137:LYS:HE2	1.98	0.93
32:RA:2701:C:H3'	32:RA:2702:U:H5''	1.51	0.93
32:YA:1798:U:H5	34:YD:274:ARG:NH1	1.67	0.93
42:YQ:66:ILE:H	42:YQ:66:ILE:HD12	1.33	0.93
41:RP:9:ASN:OD1	54:RF:31:HIS:CE1	2.22	0.93
1:XA:992:U:C2	1:XA:1043:C:N4	2.36	0.93
23:QZ:3:LEU:HD21	23:QZ:31:ILE:HD11	1.49	0.93
41:RP:49:ARG:O	53:R8:57:ARG:NE	2.02	0.93
37:YH:107:VAL:HG12	37:YH:152:ARG:HD3	1.51	0.93
32:YA:1162:G:C1'	47:YV:23:GLU:OE2	2.16	0.93
37:YH:94:TYR:HE1	37:YH:108:GLY:N	1.67	0.93
23:QZ:60:ILE:HD12	23:QZ:60:ILE:H	1.34	0.92
53:R8:57:ARG:HB3	53:R8:57:ARG:HH11	1.34	0.92
35:YE:28:ALA:N	35:YE:180:ASN:O	2.02	0.92
23:QZ:16:TRP:HZ3	23:QZ:27:ILE:HD11	1.34	0.92
32:YA:905:U:O2	42:YQ:29:PHE:HZ	1.51	0.92
34:YD:242:ARG:H	34:YD:242:ARG:HD2	1.35	0.92
34:YD:76:PRO:HB2	34:YD:116:GLN:NE2	1.83	0.92
37:YH:123:PHE:CD1	37:YH:133:VAL:HG12	2.05	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Y8:15:LYS:HB2	41:YP:65:ARG:NH2	1.85	0.92
2:QB:71:VAL:HG22	2:QB:93:VAL:CG1	1.99	0.91
23:XY:1:MET:CE	23:XY:35:ARG:HA	2.00	0.91
23:QY:3:LEU:HD11	23:QY:35:ARG:NH2	1.84	0.91
37:YH:118:PRO:HG2	37:YH:121:ILE:CG1	2.00	0.91
23:XZ:37:THR:CG2	23:XZ:40:GLU:O	2.17	0.91
32:YA:1812:A:C1'	34:YD:45:ASN:HD21	1.82	0.91
2:QB:95:GLN:HA	2:QB:95:GLN:HE21	1.32	0.91
41:YP:98:GLU:O	41:YP:101:VAL:HG12	1.70	0.91
18:QS:41:VAL:CB	18:QS:42:PRO:HD3	1.99	0.91
34:YD:155:LEU:HD23	34:YD:177:LEU:HD22	1.50	0.91
42:YQ:60:ARG:HB2	55:YZ:179:ASP:CG	1.90	0.91
54:RF:9:ILE:HD12	54:RF:125:LEU:HG	1.49	0.91
23:XY:17:GLN:HE22	23:XZ:28:ASN:HD21	0.93	0.91
42:YQ:60:ARG:C	55:YZ:178:GLU:O	2.10	0.91
37:RH:23:ARG:HE	37:RH:25:LYS:NZ	1.68	0.91
23:XZ:4:ILE:CD1	23:XZ:76:LEU:CD2	2.47	0.91
32:YA:906:G:O2'	42:YQ:67:ARG:NH2	2.04	0.90
32:YA:1812:A:C1'	34:YD:45:ASN:ND2	2.34	0.90
34:YD:111:LEU:HD12	34:YD:115:GLN:NE2	1.85	0.90
35:YE:7:VAL:HG13	35:YE:51:PHE:CZ	2.05	0.90
54:YF:187:VAL:HG12	41:YP:3:LEU:CD1	2.00	0.90
52:R1:86:SER:N	52:R1:87:PRO:HD3	1.84	0.90
46:YU:92:ARG:HG2	47:YV:11:GLN:OE1	1.71	0.90
41:YP:92:GLU:OE1	41:YP:121:LYS:NZ	2.03	0.90
18:QS:41:VAL:HG23	18:QS:42:PRO:CD	2.01	0.90
32:RA:2053:G:O6	32:RA:2614:A:H2	1.53	0.90
33:RB:75:G:N2	55:RZ:85:HIS:CE1	2.37	0.90
37:YH:152:ARG:O	37:YH:162:ILE:CD1	2.17	0.90
32:YA:637:A:C8	41:YP:117:GLU:OE2	2.25	0.90
2:QB:219:VAL:O	2:QB:222:ILE:CG1	2.19	0.90
1:XA:1014:A:H4'	18:XS:14:HIS:CE1	2.07	0.90
32:RA:586:A:H5'	54:RF:89:VAL:HG11	1.53	0.89
18:QS:41:VAL:HG11	18:QS:67:VAL:HA	1.54	0.89
45:YT:133:GLU:HB2	45:YT:137:LYS:CE	2.02	0.89
42:YQ:60:ARG:CB	55:YZ:180:VAL:H	1.86	0.89
41:YP:9:ASN:HD21	41:YP:12:ALA:HB2	1.36	0.89
41:YP:19:VAL:HG23	41:YP:31:ALA:HB1	1.50	0.89
18:XS:41:VAL:HG22	18:XS:42:PRO:CD	2.01	0.89
23:QY:3:LEU:CD1	23:QY:35:ARG:HH21	1.84	0.89
51:QL:126:LYS:C	51:QL:128:ALA:H	1.74	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:71:VAL:HG13	2:QB:93:VAL:CG1	2.01	0.89
2:QB:91:PRO:HG2	2:QB:155:LEU:CB	2.02	0.89
41:YP:128:HIS:CA	41:YP:148:LEU:HB3	2.03	0.89
1:XA:339:C:OP2	40:YO:97:ARG:NH1	2.04	0.89
32:YA:1901:A:OP2	34:YD:255:LYS:NZ	2.05	0.89
41:YP:127:ALA:O	41:YP:148:LEU:HB2	1.69	0.89
34:YD:123:ALA:HB3	34:YD:131:LEU:HD11	0.89	0.89
32:YA:910:A:C5	42:YQ:13:GLN:HG3	2.08	0.89
32:YA:1425:G:OP2	34:YD:31:LYS:NZ	2.05	0.89
23:XZ:37:THR:CG2	23:XZ:40:GLU:HB2	2.02	0.88
42:YQ:64:ILE:HD12	55:YZ:178:GLU:HG3	0.90	0.88
37:YH:5:GLY:HA2	37:YH:69:ARG:HG3	1.55	0.88
37:YH:153:LYS:HG2	37:YH:154:PRO:CD	1.98	0.88
35:YE:2:LYS:HB2	35:YE:95:ILE:HD12	1.55	0.88
37:YH:7:LEU:HD23	37:YH:8:PRO:CD	2.03	0.88
47:YV:21:ARG:HD3	47:YV:91:TYR:CE1	2.07	0.88
32:YA:2777:G:H5''	32:YA:2778:A:H5'	1.54	0.88
46:YU:92:ARG:CB	47:YV:11:GLN:OE1	2.21	0.88
35:YE:203:LYS:O	35:YE:204:ALA:O	1.90	0.88
23:QY:1:MET:N	23:QZ:7:GLU:CG	2.37	0.88
34:YD:120:GLY:O	34:YD:131:LEU:HG	1.72	0.88
37:YH:4:ILE:HG22	37:YH:69:ARG:HD2	1.56	0.88
46:YU:92:ARG:CG	47:YV:11:GLN:OE1	2.20	0.88
23:XZ:37:THR:HG21	23:XZ:40:GLU:CB	2.04	0.88
32:YA:2681:C:OP2	35:YE:109:LYS:NZ	2.06	0.88
23:QY:10:TRP:O	23:QY:14:LEU:HG	1.74	0.88
41:RP:64:LYS:HZ3	53:R8:29:LYS:CD	1.86	0.88
37:YH:169:VAL:O	37:YH:169:VAL:HG23	1.70	0.88
2:QB:21:ARG:HB3	2:QB:39:ILE:CD1	2.03	0.87
2:QB:23:ARG:HB2	2:QB:23:ARG:HH11	1.38	0.87
41:RP:64:LYS:CG	53:R8:30:ARG:HH21	1.87	0.87
23:XY:35:ARG:HH12	23:XZ:10:TRP:HD1	1.20	0.87
32:RA:2571:C:H5'	32:RA:2572:A:H5''	1.56	0.87
42:YQ:60:ARG:CB	55:YZ:179:ASP:OD1	2.22	0.87
35:YE:178:GLU:OE1	35:YE:178:GLU:N	2.08	0.87
2:QB:15:VAL:HG21	2:QB:209:ARG:CZ	2.03	0.87
35:RE:61:ARG:H	35:RE:62:PRO:CD	1.87	0.87
47:YV:34:GLU:N	47:YV:34:GLU:OE1	2.08	0.87
37:YH:60:ARG:HH11	37:YH:60:ARG:HG3	1.36	0.87
37:YH:94:TYR:CE1	37:YH:107:VAL:C	2.48	0.87
2:QB:71:VAL:CG2	2:QB:97:TRP:HZ3	1.86	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RP:64:LYS:NZ	53:R8:29:LYS:HG2	1.90	0.87
23:XY:62:GLU:OE1	23:XY:62:GLU:N	2.08	0.87
53:Y8:12:LYS:CA	41:YP:68:GLN:HE22	1.87	0.87
32:YA:2406:U:C4	41:YP:72:PRO:HG2	2.09	0.87
42:YQ:79:LEU:C	42:YQ:80:GLU:HG2	1.95	0.87
42:YQ:108:GLY:HA3	55:YZ:116:VAL:HG11	1.57	0.87
42:YQ:60:ARG:C	55:YZ:179:ASP:HA	1.94	0.87
32:YA:2757:A:N1	37:YH:67:LEU:HD12	1.89	0.87
41:YP:138:LEU:HD21	41:YP:145:PRO:CB	2.03	0.87
35:YE:1:MET:HA	35:YE:1:MET:CE	2.05	0.87
35:YE:101:ARG:NH1	35:YE:169:ASN:O	2.07	0.87
18:XS:10:PHE:HE2	18:XS:37:ARG:HD3	1.39	0.87
23:QY:8:GLU:OE1	23:QY:8:GLU:N	2.08	0.86
32:RA:2777:G:H5''	32:RA:2778:A:H5'	1.55	0.86
41:RP:64:LYS:NZ	53:R8:29:LYS:CG	2.39	0.86
32:YA:2141:G:H1	32:YA:2150:U:H3	1.22	0.86
32:YA:862:G:OP1	42:YQ:18:LYS:NZ	2.09	0.86
32:YA:864:G:N7	42:YQ:22:LYS:NZ	2.22	0.86
22:XX:19:A2M:C2	23:XY:51:ASN:ND2	2.38	0.86
41:YP:138:LEU:HD23	41:YP:145:PRO:CB	2.04	0.86
55:RZ:70:LEU:HD13	55:RZ:91:LEU:CD2	2.05	0.86
32:YA:1243:G:O2'	41:YP:7:ARG:NH2	2.07	0.86
23:QZ:20:ASP:CG	23:QZ:23:ILE:HG12	1.96	0.86
33:RB:75:G:N2	55:RZ:85:HIS:HE1	1.73	0.86
42:YQ:141:GLN:OE1	42:YQ:141:GLN:N	2.08	0.86
33:YB:90:C:OP2	42:YQ:16:ARG:NH1	2.09	0.86
18:QS:41:VAL:CG2	18:QS:42:PRO:CD	2.53	0.86
37:RH:23:ARG:HD2	37:RH:34:GLU:OE2	1.74	0.86
41:RP:58:THR:HG21	53:R8:54:GLU:OE1	1.76	0.86
52:R1:83:GLU:OE1	52:R1:83:GLU:N	2.08	0.86
41:RP:15:ARG:O	41:RP:15:ARG:HD3	1.76	0.86
42:YQ:108:GLY:HA3	55:YZ:116:VAL:CG1	2.05	0.86
55:RZ:48:PHE:CE1	55:RZ:71:VAL:HG21	2.11	0.85
2:QB:21:ARG:CB	2:QB:39:ILE:HD13	2.06	0.85
32:RA:2469:A:O2'	42:RQ:56:ARG:HD3	1.76	0.85
32:YA:637:A:H8	41:YP:117:GLU:OE2	1.58	0.85
35:YE:48:GLN:NE2	35:YE:78:LEU:HD13	1.90	0.85
23:QZ:44:LYS:CE	23:QZ:59:ARG:CD	2.53	0.85
23:XZ:37:THR:HG22	23:XZ:40:GLU:H	1.39	0.85
53:Y8:59:LYS:HG2	41:YP:49:ARG:HH11	1.41	0.85
37:YH:149:ARG:HD2	37:YH:164:TYR:CZ	2.12	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:Y8:12:LYS:HA	41:YP:68:GLN:HE22	1.39	0.85
32:YA:2485:G:H5''	42:YQ:46:GLN:HE21	1.39	0.85
32:YA:2255:G:H22	42:YQ:85:LYS:HZ2	1.18	0.85
42:YQ:24:GLY:O	42:YQ:102:VAL:HG12	1.75	0.85
2:QB:115:LEU:HB2	2:QB:145:LEU:CD2	2.06	0.85
32:RA:2245:U:H5'	32:RA:2246:G:H5'	1.58	0.85
23:XZ:63:GLU:OE1	23:XZ:63:GLU:N	2.08	0.85
34:YD:274:ARG:O	34:YD:275:LYS:HB2	1.75	0.85
35:RE:61:ARG:N	35:RE:62:PRO:HD2	1.92	0.85
32:YA:196:A:OP2	41:YP:46:LYS:NZ	2.10	0.84
18:XS:10:PHE:CE2	18:XS:37:ARG:HD3	2.11	0.84
55:RZ:69:THR:HG22	55:RZ:90:VAL:HA	1.59	0.84
34:YD:96:HIS:CD2	34:YD:102:LYS:HE2	2.12	0.84
42:YQ:136:ALA:HA	42:YQ:139:GLU:CD	1.96	0.84
37:YH:12:PRO:O	37:YH:15:VAL:HG12	1.77	0.84
41:YP:45:LEU:H	41:YP:45:LEU:HD12	1.41	0.84
42:YQ:60:ARG:HA	55:YZ:180:VAL:N	1.91	0.84
35:YE:104:VAL:HG11	35:YE:188:VAL:HG21	1.59	0.84
52:R1:70:VAL:O	52:R1:74:VAL:HG23	1.78	0.84
23:QY:1:MET:H2	23:QZ:7:GLU:HG3	1.41	0.84
37:YH:5:GLY:HA2	37:YH:69:ARG:CG	2.06	0.84
55:RZ:144:LEU:HD21	55:RZ:150:LEU:CG	2.07	0.84
37:RH:23:ARG:HE	37:RH:25:LYS:HZ1	1.20	0.84
55:RZ:107:THR:HB	55:RZ:111:VAL:HG11	1.56	0.84
1:QA:218:C:H5'	1:QA:466:C:H42	1.43	0.84
2:QB:61:LEU:CD1	2:QB:66:GLY:HA3	2.08	0.84
41:YP:19:VAL:HG23	41:YP:31:ALA:CB	2.07	0.84
41:YP:99:LEU:HD12	41:YP:99:LEU:O	1.76	0.84
35:YE:47:VAL:HG13	35:YE:84:PHE:O	1.78	0.84
1:QA:957:U:H3'	23:QZ:36:ARG:HH12	1.41	0.83
2:QB:219:VAL:O	2:QB:222:ILE:HG13	1.78	0.83
34:YD:29:PRO:HB2	34:YD:34:VAL:HG11	1.58	0.83
32:YA:1798:U:C5	34:YD:274:ARG:NH1	2.45	0.83
41:YP:52:GLU:OE1	41:YP:58:THR:HG23	1.78	0.83
42:YQ:79:LEU:O	42:YQ:80:GLU:CG	2.25	0.83
32:YA:2749:A:H4'	37:YH:62:LYS:CB	2.05	0.83
41:YP:128:HIS:HA	41:YP:148:LEU:HB3	1.59	0.83
22:XX:20:A2M:HM'2	22:XX:21:OMU:P	2.18	0.83
1:XA:992:U:N3	1:XA:1043:C:N4	2.25	0.83
22:XX:20:A2M:HM'2	22:XX:21:OMU:OP2	1.79	0.83
53:Y8:12:LYS:HB3	41:YP:68:GLN:HE21	1.43	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:660:G:H21	41:RP:12:ALA:HA	1.43	0.83
32:YA:2731:G:C5'	35:YE:203:LYS:HE2	2.07	0.83
32:YA:2682:U:H6	35:YE:11:MET:HE2	1.42	0.83
32:RA:2787:C:O3'	35:RE:61:ARG:NH1	2.12	0.82
1:XA:1318:A:H5''	18:XS:3:ARG:NH2	1.94	0.82
42:YQ:61:GLY:HA2	55:YZ:177:PRO:HB2	1.61	0.82
32:RA:662:G:H5''	41:RP:17:LYS:HG2	1.60	0.82
1:XA:1318:A:OP1	18:XS:7:LYS:NZ	2.12	0.82
35:YE:5:LEU:HD23	35:YE:77:ILE:CD1	2.10	0.82
2:QB:8:LYS:HB3	2:QB:11:LEU:HD13	0.88	0.82
32:RA:2051:A:H2	32:RA:2052:G:O6	1.62	0.82
41:YP:71:VAL:HG13	41:YP:72:PRO:HD3	1.61	0.82
37:YH:31:GLY:O	37:YH:79:VAL:HG11	1.78	0.82
42:YQ:141:GLN:HE22	55:YZ:76:LEU:HD13	1.43	0.82
53:Y8:27:THR:CG2	41:YP:62:LEU:HD23	2.10	0.81
23:QY:44:LYS:HD2	51:QL:50:SER:HB2	1.61	0.81
24:Y0:5:LYS:HD3	42:YQ:80:GLU:CG	2.11	0.81
32:YA:286:C:H2'	32:YA:287:C:H5'	1.63	0.81
32:YA:1187:G:H5''	47:YV:81:TYR:CE1	2.13	0.81
42:YQ:24:GLY:HA3	42:YQ:101:ARG:NH1	1.96	0.81
55:YZ:52:SER:HB3	55:YZ:54:HIS:CD2	2.15	0.81
2:QB:165:VAL:HG23	2:QB:211:ILE:CD1	2.09	0.81
32:YA:827:U:H5'	32:YA:828:U:H5'	1.63	0.81
23:QY:10:TRP:CG	23:QZ:3:LEU:CD1	2.63	0.81
23:QZ:3:LEU:C	23:QZ:4:ILE:HD12	2.01	0.81
2:QB:51:LEU:HD23	2:QB:201:ILE:HG21	1.61	0.81
1:XA:1320:C:O2	18:XS:36:ARG:NH2	2.14	0.81
34:YD:37:LEU:HD22	34:YD:87:ASN:ND2	1.94	0.81
47:YV:89:GLN:HE21	47:YV:89:GLN:HA	1.45	0.81
55:RZ:10:ARG:HD3	55:RZ:38:TYR:HB3	1.62	0.81
55:RZ:98:MET:O	55:RZ:125:LEU:HD12	1.81	0.81
41:YP:19:VAL:CG2	41:YP:31:ALA:CB	2.59	0.81
34:YD:142:VAL:HG23	34:YD:192:THR:O	1.81	0.81
2:QB:91:PRO:HG2	2:QB:155:LEU:HB2	1.62	0.80
33:RB:3:C:H6	33:RB:3:C:H5''	1.46	0.80
41:RP:64:LYS:NZ	53:R8:29:LYS:HD2	1.95	0.80
32:YA:806:C:O2	32:YA:2444:G:O2'	1.98	0.80
32:YA:811:U:C2'	41:YP:21:ARG:O	2.29	0.80
54:YF:187:VAL:CG1	41:YP:3:LEU:HD12	2.11	0.80
46:YU:87:GLY:O	47:YV:49:THR:HA	1.80	0.80
32:RA:2882:A:OP1	43:RR:96:ARG:NH1	2.13	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YE:34:VAL:HG12	35:YE:66:HIS:CE1	2.17	0.80
23:QY:44:LYS:CG	51:QL:50:SER:HB2	2.12	0.80
41:YP:127:ALA:O	41:YP:148:LEU:N	2.14	0.80
42:YQ:64:ILE:CD1	55:YZ:178:GLU:CB	2.59	0.80
35:YE:23:VAL:HG12	35:YE:184:VAL:C	2.00	0.80
2:QB:77:ALA:CB	2:QB:211:ILE:HD13	2.12	0.80
24:Y0:7:LEU:HB3	42:YQ:85:LYS:HG3	1.64	0.80
37:YH:9:ILE:HB	37:YH:50:VAL:HG13	1.64	0.80
23:QZ:44:LYS:HZ1	23:QZ:59:ARG:HD3	0.71	0.80
23:XY:1:MET:HE1	23:XY:35:ARG:HA	1.63	0.80
34:YD:76:PRO:CB	34:YD:116:GLN:NE2	2.43	0.80
1:QA:830:G:O3'	2:QB:22:LYS:NZ	2.15	0.80
32:YA:2572:A:C8	35:YE:144:ARG:CG	2.64	0.79
35:YE:51:PHE:H	35:YE:75:VAL:CG1	1.95	0.79
23:QY:7:GLU:HG3	23:QY:8:GLU:CD	2.01	0.79
32:RA:676:A:H8	32:RA:2069:G:H21	1.30	0.79
32:RA:2053:G:O6	32:RA:2614:A:C2	2.34	0.79
23:XY:83:HIS:O	23:XY:84:TYR:OXT	2.00	0.79
2:QB:219:VAL:O	2:QB:222:ILE:HG12	1.83	0.79
32:RA:306:U:C2'	32:RA:307:G:C8	2.65	0.79
34:YD:155:LEU:HD23	34:YD:177:LEU:HD21	1.63	0.79
35:YE:8:LYS:NZ	35:YE:192:ASN:OD1	2.14	0.79
23:QZ:16:TRP:CZ3	23:QZ:27:ILE:HD11	2.18	0.79
37:YH:4:ILE:O	37:YH:69:ARG:HG3	1.82	0.79
35:YE:101:ARG:HG3	35:YE:101:ARG:HH11	1.48	0.79
34:YD:25:THR:HG21	34:YD:113:VAL:HG21	1.65	0.79
32:RA:308:G:H2'	32:RA:329:G:N2	1.98	0.79
45:YT:133:GLU:CB	45:YT:137:LYS:CE	2.59	0.79
35:YE:34:VAL:HG12	35:YE:66:HIS:HE1	1.48	0.79
35:YE:51:PHE:H	35:YE:75:VAL:HG11	1.48	0.79
34:YD:215:LEU:HD12	34:YD:217:ARG:HH21	1.48	0.78
42:YQ:141:GLN:NE2	55:YZ:76:LEU:HD13	1.97	0.78
47:YV:52:VAL:HG11	47:YV:55:ALA:HB3	1.65	0.78
32:RA:306:U:C2'	32:RA:307:G:H8	1.96	0.78
21:XV:76:A:H2	24:Y0:2:ALA:HA	1.48	0.78
23:QY:10:TRP:CG	23:QZ:3:LEU:HD11	2.18	0.78
31:R9:29:ASN:HD21	31:R9:32:HIS:CE1	2.01	0.78
23:XY:42:LYS:O	23:XY:58:ARG:NH1	2.16	0.78
32:YA:955:C:OP1	42:YQ:87:LYS:NZ	2.16	0.78
32:RA:2583:G:N3	56:ZB:76:PPU:H2	1.98	0.78
2:QB:60:ASP:CB	2:QB:64:ARG:NH1	2.36	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YQ:60:ARG:O	55:YZ:179:ASP:HA	1.83	0.78
2:QB:158:LEU:H	2:QB:158:LEU:CD1	1.95	0.78
29:R6:8:LYS:NZ	53:R8:34:TRP:CZ3	2.51	0.78
23:XZ:37:THR:HB	23:XZ:40:GLU:O	1.84	0.78
54:YF:187:VAL:CG1	41:YP:3:LEU:CD1	2.62	0.78
37:YH:9:ILE:HB	37:YH:50:VAL:O	1.82	0.78
32:RA:448:U:H1'	54:RF:84:VAL:HG21	1.64	0.78
42:YQ:116:GLU:O	42:YQ:120:ILE:HG13	1.84	0.78
55:YZ:30:ASN:HB2	55:YZ:90:VAL:HG13	1.66	0.78
56:ZA:75:C:H6	56:ZA:75:C:C5'	1.93	0.78
55:RZ:7:ALA:HB3	55:RZ:61:LEU:HB3	1.65	0.78
32:RA:2112:G:H21	32:RA:2169:A:H61	1.29	0.77
37:YH:31:GLY:O	37:YH:79:VAL:CG1	2.32	0.77
2:QB:23:ARG:HH11	2:QB:23:ARG:CB	1.96	0.77
21:XV:76:A:C2	24:Y0:2:ALA:HA	2.20	0.77
2:QB:219:VAL:HA	2:QB:222:ILE:CD1	2.14	0.77
35:YE:31:CYS:HB3	35:YE:50:GLY:O	1.85	0.77
41:RP:64:LYS:HG2	53:R8:30:ARG:HH21	1.48	0.77
2:QB:10:LEU:O	2:QB:10:LEU:HD23	1.85	0.77
2:QB:115:LEU:HD13	2:QB:145:LEU:HD23	1.66	0.77
18:QS:41:VAL:HG11	18:QS:67:VAL:CA	2.10	0.77
56:ZA:76:PPU:N7	56:ZA:76:PPU:H102	1.99	0.77
2:QB:51:LEU:HD23	2:QB:201:ILE:CG2	2.14	0.77
1:XA:1313:U:O4	18:XS:2:PRO:CD	2.33	0.77
41:YP:91:PHE:HD1	41:YP:95:VAL:HG22	1.49	0.77
18:XS:22:LEU:O	18:XS:26:GLY:HA3	1.83	0.77
18:QS:9:VAL:CG2	27:R4:63:TYR:HD1	1.97	0.77
32:RA:2834:G:OP1	35:RE:58:ARG:NH1	2.17	0.77
37:RH:3:ARG:HH21	37:RH:8:PRO:HG3	1.50	0.77
41:RP:64:LYS:HB2	53:R8:25:MET:CG	2.05	0.77
47:YV:28:GLU:HG2	47:YV:29:PRO:HD2	1.64	0.77
55:YZ:109:ALA:HB3	55:YZ:145:GLU:HG2	1.67	0.77
22:QX:12:A:H3'	22:QX:13:A:H5''	1.67	0.77
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.18	0.77
32:YA:883:G:O2'	32:YA:884:C:O5'	2.03	0.77
32:YA:2451:A:C6	56:ZA:76:PPU:HE2	2.20	0.77
32:YA:2638:G:P	35:YE:82:ARG:HH12	2.07	0.77
41:YP:128:HIS:CE1	41:YP:148:LEU:CD2	2.68	0.77
2:QB:7:VAL:HA	2:QB:217:ARG:HH12	1.49	0.77
2:QB:71:VAL:HG13	2:QB:93:VAL:HG13	1.66	0.77
23:XZ:51:ASN:OD1	23:XZ:52:LEU:N	2.17	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YP:128:HIS:ND1	41:YP:148:LEU:CD2	2.48	0.77
2:QB:60:ASP:HB3	2:QB:64:ARG:HH12	1.46	0.77
1:XA:1314:C:OP2	18:XS:4:SER:OG	2.02	0.77
28:Y5:55:ARG:NH1	28:Y5:57:VAL:HG13	2.00	0.77
32:YA:676:A:H8	32:YA:2069:G:H21	1.34	0.77
54:YF:187:VAL:HG11	41:YP:3:LEU:HD12	1.67	0.77
2:QB:85:ALA:HB1	2:QB:92:TYR:HB3	1.66	0.76
32:YA:974:G:O2'	32:YA:975:G:N7	2.17	0.76
54:YF:187:VAL:HG12	41:YP:3:LEU:HD13	1.64	0.76
35:YE:24:THR:HG21	35:YE:188:VAL:HG12	1.65	0.76
32:YA:1567:A:OP2	34:YD:84:TYR:OH	2.03	0.76
42:YQ:60:ARG:HB3	55:YZ:180:VAL:H	1.50	0.76
2:QB:21:ARG:HB2	2:QB:38:GLY:O	1.86	0.76
1:XA:973:G:H3'	1:XA:974:A:H5''	1.66	0.76
37:YH:5:GLY:CA	37:YH:69:ARG:HG3	2.16	0.76
23:QZ:44:LYS:HZ3	23:QZ:59:ARG:NE	1.83	0.76
45:YT:11:GLU:OE2	35:YE:181:LEU:HD13	1.84	0.76
18:QS:40:ILE:O	18:QS:40:ILE:HD12	1.86	0.76
41:RP:64:LYS:CB	53:R8:25:MET:HG3	2.06	0.76
32:YA:910:A:N7	42:YQ:13:GLN:HG3	2.00	0.76
45:YT:133:GLU:HA	45:YT:137:LYS:CE	2.14	0.76
42:YQ:116:GLU:OE1	42:YQ:119:ARG:HD3	1.86	0.76
2:QB:136:VAL:CA	2:QB:139:LYS:CG	2.64	0.76
23:QY:51:ASN:C	23:QY:52:LEU:HD12	2.06	0.76
32:RA:2584:U:C5'	56:ZB:76:PPU:H103	2.15	0.76
1:XA:1086:U:H3	1:XA:1099:G:H22	1.31	0.76
41:YP:57:THR:O	41:YP:61:ARG:HG3	1.83	0.76
51:QL:126:LYS:O	51:QL:128:ALA:N	2.19	0.76
23:QY:42:LYS:O	23:QY:58:ARG:NH1	2.17	0.76
23:XZ:17:GLN:HA	23:XZ:24:VAL:HG21	1.66	0.76
42:YQ:60:ARG:HA	55:YZ:179:ASP:C	2.05	0.76
2:QB:87:ARG:HH11	2:QB:233:SER:HB2	1.37	0.75
2:QB:135:GLN:O	2:QB:139:LYS:HG2	1.85	0.75
32:YA:2275:C:O2	42:YQ:85:LYS:NZ	2.15	0.75
41:YP:114:ILE:HD11	41:YP:127:ALA:HB2	1.68	0.75
47:YV:99:ILE:O	47:YV:99:ILE:HD12	1.84	0.75
1:QA:1221:G:OP1	1:QA:1321:C:N4	2.19	0.75
2:QB:165:VAL:CG2	2:QB:211:ILE:HD12	2.15	0.75
18:QS:41:VAL:HG12	18:QS:67:VAL:HA	1.66	0.75
32:RA:660:G:N2	41:RP:12:ALA:HA	2.00	0.75
37:YH:162:ILE:N	37:YH:162:ILE:HD12	2.01	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YE:4:ILE:HG22	35:YE:96:PHE:HE2	1.51	0.75
2:QB:91:PRO:HG2	2:QB:155:LEU:HB3	1.66	0.75
23:QZ:44:LYS:HZ3	23:QZ:59:ARG:HE	1.30	0.75
37:RH:23:ARG:NE	37:RH:25:LYS:NZ	2.35	0.75
53:Y8:59:LYS:HG2	41:YP:49:ARG:NH1	2.01	0.75
37:YH:3:ARG:HB2	37:YH:3:ARG:NH2	2.01	0.75
34:YD:46:GLN:HA	34:YD:46:GLN:HE21	1.52	0.75
35:YE:7:VAL:HG13	35:YE:51:PHE:HZ	1.48	0.75
55:RZ:70:LEU:HD13	55:RZ:91:LEU:HD21	1.67	0.75
37:YH:111:HIS:ND1	37:YH:112:PRO:O	2.19	0.75
46:YU:92:ARG:NH1	47:YV:11:GLN:H	1.84	0.75
45:YT:136:GLN:O	45:YT:137:LYS:HG3	1.85	0.74
1:QA:1494:G:OP1	23:QY:49:LYS:NZ	2.19	0.74
2:QB:41:ILE:O	2:QB:41:ILE:HD12	1.87	0.74
2:QB:165:VAL:HG23	2:QB:211:ILE:HD12	1.68	0.74
2:QB:219:VAL:HA	2:QB:222:ILE:HD11	1.68	0.74
32:YA:2572:A:N9	35:YE:144:ARG:HD3	2.00	0.74
34:YD:111:LEU:CD1	34:YD:115:GLN:NE2	2.50	0.74
18:XS:22:LEU:O	18:XS:26:GLY:CA	2.34	0.74
41:YP:128:HIS:CE1	41:YP:148:LEU:HD21	2.22	0.74
32:RA:306:U:C6	32:RA:307:G:N7	2.55	0.74
32:YA:1728:G:N7	32:YA:1731:G:N2	2.35	0.74
41:YP:114:ILE:HD11	41:YP:127:ALA:CB	2.17	0.74
35:YE:4:ILE:CG2	35:YE:96:PHE:HE2	2.00	0.74
32:RA:974:G:O2'	32:RA:975:G:N7	2.21	0.74
32:RA:2059:A:O2'	54:RF:69:HIS:ND1	2.20	0.74
23:XZ:42:LYS:O	23:XZ:58:ARG:NH1	2.21	0.74
2:QB:136:VAL:CA	2:QB:139:LYS:HD2	2.13	0.74
32:RA:309:G:H8	32:RA:309:G:OP1	1.70	0.74
22:XX:19:A2M:H2	23:XY:51:ASN:HD22	1.49	0.74
32:YA:905:U:O2	42:YQ:29:PHE:CZ	2.40	0.74
32:RA:2811:G:N2	32:RA:2891:G:H1'	2.03	0.74
32:YA:2162:G:O2'	32:YA:2173:A:OP2	2.05	0.74
32:RA:536:A:H4'	46:RU:57:PHE:HZ	1.53	0.74
45:YT:133:GLU:CB	45:YT:137:LYS:HE2	2.17	0.74
2:QB:71:VAL:HG13	2:QB:93:VAL:HG11	1.68	0.74
33:RB:30:C:H1'	33:RB:57:A:H61	1.53	0.73
23:XZ:23:ILE:O	23:XZ:27:ILE:HG13	1.88	0.73
41:YP:75:ILE:H	41:YP:75:ILE:CD1	2.00	0.73
37:YH:118:PRO:CG	37:YH:121:ILE:HG13	2.16	0.73
35:YE:54:GLN:HE21	35:YE:54:GLN:HA	1.51	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YP:9:ASN:HD22	41:YP:12:ALA:HB2	1.53	0.73
2:QB:102:LEU:HB3	2:QB:180:LEU:HD12	1.69	0.73
23:XZ:68:TYR:HB2	23:XZ:75:LEU:HD11	1.70	0.73
53:Y8:12:LYS:CA	41:YP:68:GLN:NE2	2.51	0.73
2:QB:9:GLU:HB3	2:QB:48:MET:SD	2.28	0.73
32:RA:2432:A:C6	52:R1:33:LYS:HB3	2.23	0.73
32:YA:666:G:H4'	41:YP:47:ASP:OD2	1.87	0.73
52:R1:86:SER:N	52:R1:87:PRO:CD	2.50	0.73
56:ZA:76:PPU:O	56:ZA:76:PPU:H5''	1.88	0.73
2:QB:95:GLN:HA	2:QB:95:GLN:NE2	2.03	0.73
2:QB:170:GLU:O	2:QB:174:VAL:HG23	1.89	0.73
23:QY:44:LYS:HD2	51:QL:50:SER:CB	2.15	0.73
32:RA:1102:C:H2'	32:RA:1103:A:H8	1.54	0.73
34:YD:17:THR:HB	34:YD:205:VAL:H	1.54	0.73
2:QB:185:ILE:HA	2:QB:199:TYR:O	1.88	0.73
32:RA:1980:G:O2'	32:RA:1982:C:OP2	2.05	0.73
34:YD:231:HIS:ND1	34:YD:232:PRO:HD2	2.04	0.73
37:YH:109:PHE:CE1	37:YH:152:ARG:NH1	2.56	0.73
35:YE:51:PHE:N	35:YE:75:VAL:HG11	2.03	0.73
32:RA:330:A:H2	32:RA:1210:A:HO2'	1.37	0.73
1:XA:1322:C:OP1	18:XS:78:ARG:NH2	2.21	0.73
55:RZ:98:MET:O	55:RZ:125:LEU:HA	1.89	0.73
55:RZ:181:GLU:HB2	55:RZ:183:LEU:HD22	1.71	0.73
23:QZ:2:LYS:HG3	23:QZ:4:ILE:HD11	1.71	0.73
47:YV:89:GLN:HA	47:YV:89:GLN:NE2	2.01	0.73
41:YP:127:ALA:CA	41:YP:148:LEU:HB2	2.18	0.73
2:QB:23:ARG:HB2	2:QB:23:ARG:NH1	2.04	0.72
41:RP:68:GLN:HG2	53:R8:12:LYS:HD2	1.69	0.72
52:Y1:87:PRO:HA	52:Y1:90:ILE:HG22	1.71	0.72
32:YA:587:C:O2	41:YP:33:ARG:NH2	2.22	0.72
18:XS:41:VAL:CG2	18:XS:42:PRO:HD2	2.11	0.72
54:RF:64:ILE:HD11	54:RF:75:HIS:HB2	1.71	0.72
2:QB:238:LEU:O	2:QB:238:LEU:HD23	1.88	0.72
32:RA:2031:A:O2'	32:RA:2454:G:N2	2.22	0.72
35:YE:47:VAL:HG11	35:YE:86:PRO:HD2	1.71	0.72
1:QA:1086:U:H3	1:QA:1099:G:H22	1.36	0.72
23:QY:10:TRP:CD2	23:QZ:3:LEU:HD13	2.24	0.72
23:QZ:52:LEU:HD12	23:QZ:52:LEU:N	2.04	0.72
23:XY:3:LEU:CD2	23:XY:5:TRP:HE1	2.02	0.72
42:YQ:131:ILE:HD12	42:YQ:131:ILE:N	2.03	0.72
37:YH:123:PHE:HZ	37:YH:144:VAL:HG11	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1224:G:O2'	18:XS:78:ARG:NH2	2.23	0.72
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.71	0.72
23:XZ:30:LEU:HD11	23:XZ:60:ILE:HA	1.71	0.72
32:YA:1243:G:O3'	41:YP:7:ARG:NH2	2.22	0.72
2:QB:165:VAL:CG2	2:QB:211:ILE:CD1	2.67	0.72
29:R6:8:LYS:NZ	53:R8:34:TRP:CH2	2.57	0.72
23:XZ:69:ALA:N	23:XZ:76:LEU:O	2.21	0.72
41:RP:49:ARG:HA	53:R8:57:ARG:CG	2.18	0.72
1:XA:559:A:H4'	1:XA:560:U:H3'	1.69	0.72
23:XY:1:MET:HE2	23:XY:35:ARG:HA	1.70	0.72
41:YP:75:ILE:HD12	41:YP:75:ILE:N	2.01	0.72
41:YP:121:LYS:HG3	41:YP:122:PRO:HD2	1.70	0.72
1:QA:957:U:O5'	23:QZ:36:ARG:NH1	2.23	0.72
23:QY:1:MET:H2	23:QZ:7:GLU:CG	2.00	0.72
32:RA:259:G:H21	32:RA:621:A:H8	1.36	0.72
42:YQ:75:THR:HG23	42:YQ:88:GLY:O	1.90	0.72
35:YE:73:GLU:HG2	35:YE:74:PRO:HD2	1.71	0.72
18:XS:12:ASP:OD1	18:XS:37:ARG:CD	2.32	0.72
32:RA:2401:U:H3	32:RA:2415:G:H1	1.36	0.72
47:YV:35:LEU:HD12	47:YV:35:LEU:N	2.05	0.72
2:QB:136:VAL:CA	2:QB:139:LYS:HG2	2.19	0.72
1:QA:1492:A:C2	22:QX:22:C:N3	2.57	0.71
2:QB:172:ILE:H	2:QB:172:ILE:CD1	1.98	0.71
4:XD:154:ASN:O	4:XD:159:ARG:HG3	1.89	0.71
21:XV:76:A:O3'	32:YA:2602:A:N6	2.23	0.71
46:YU:109:LEU:HD21	47:YV:47:VAL:HG11	1.72	0.71
37:YH:136:ILE:N	37:YH:136:ILE:HD12	2.05	0.71
34:YD:169:GLU:HG3	34:YD:169:GLU:O	1.89	0.71
35:YE:7:VAL:HG13	35:YE:51:PHE:CE2	2.25	0.71
2:QB:87:ARG:NH1	2:QB:233:SER:HB3	2.05	0.71
23:QZ:8:GLU:OE1	23:QZ:8:GLU:N	2.18	0.71
1:QA:1128:C:H4'	9:QI:16:ARG:HH22	1.53	0.71
2:QB:9:GLU:OE1	2:QB:9:GLU:N	2.23	0.71
34:YD:18:VAL:CG2	34:YD:211:ARG:HH22	2.03	0.71
37:RH:69:ARG:HG2	37:RH:69:ARG:HH11	1.55	0.71
32:YA:2572:A:H8	35:YE:144:ARG:HD3	1.48	0.71
47:YV:80:GLN:HA	47:YV:80:GLN:OE1	1.91	0.71
51:QL:126:LYS:C	51:QL:128:ALA:N	2.42	0.71
2:QB:71:VAL:HG11	2:QB:97:TRP:CE3	2.25	0.71
37:RH:69:ARG:HG2	37:RH:69:ARG:NH1	2.05	0.71
37:YH:4:ILE:C	37:YH:69:ARG:HG3	2.10	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:RZ:70:LEU:CD1	55:RZ:91:LEU:CD2	2.68	0.71
1:QA:1318:A:H4'	18:QS:11:VAL:HG11	1.71	0.71
23:QZ:44:LYS:NZ	23:QZ:59:ARG:NE	2.36	0.71
32:RA:2051:A:C2	32:RA:2052:G:O6	2.44	0.71
35:YE:73:GLU:OE1	35:YE:74:PRO:O	2.07	0.71
1:QA:664:G:H22	1:QA:741:G:H1	1.38	0.71
32:YA:2635:C:O2'	35:YE:80:GLU:OE2	2.08	0.71
41:YP:127:ALA:HA	41:YP:148:LEU:HD22	1.73	0.71
47:YV:21:ARG:HD3	47:YV:91:TYR:CD1	2.25	0.71
23:QY:10:TRP:CD1	23:QY:14:LEU:HD11	2.25	0.71
41:RP:64:LYS:NZ	53:R8:29:LYS:CD	2.49	0.71
42:YQ:60:ARG:CA	55:YZ:180:VAL:H	2.03	0.71
55:RZ:76:LEU:HD12	55:RZ:76:LEU:O	1.91	0.71
55:YZ:85:HIS:CE1	55:YZ:87:ASP:OD1	2.43	0.71
2:QB:158:LEU:HD12	2:QB:158:LEU:N	2.01	0.71
32:RA:587:C:OP2	41:RP:21:ARG:NH1	2.24	0.71
32:YA:277:C:H3'	32:YA:278:A:H8	1.54	0.71
37:YH:133:VAL:HG21	37:YH:145:ALA:HB2	1.73	0.71
34:RD:39:LYS:HE2	34:RD:60:ARG:HB2	1.73	0.70
32:YA:811:U:OP2	41:YP:29:LYS:N	2.21	0.70
32:YA:2701:C:H3'	32:YA:2702:U:H5''	1.72	0.70
34:YD:18:VAL:HG22	34:YD:211:ARG:HH22	1.56	0.70
42:YQ:64:ILE:HD12	42:YQ:64:ILE:N	2.04	0.70
1:QA:579:G:H5'	1:QA:728:A:H1'	1.74	0.70
18:QS:81:ARG:NH2	23:QZ:36:ARG:CD	2.54	0.70
32:YA:2572:A:N7	35:YE:144:ARG:HG2	2.06	0.70
45:YT:133:GLU:HB2	45:YT:137:LYS:HE2	1.73	0.70
34:YD:37:LEU:HD22	34:YD:87:ASN:HD21	1.54	0.70
23:QZ:44:LYS:HE2	23:QZ:59:ARG:CD	2.18	0.70
34:RD:36:PRO:HD3	34:RD:63:ARG:HA	1.72	0.70
37:RH:7:LEU:N	37:RH:8:PRO:CD	2.54	0.70
38:RI:27:ARG:HD3	52:R1:71:TYR:OH	1.91	0.70
42:YQ:63:LYS:NZ	55:YZ:175:VAL:HG11	2.06	0.70
35:YE:47:VAL:O	35:YE:49:LEU:CD1	2.39	0.70
55:RZ:141:VAL:HG12	55:RZ:143:GLY:H	1.57	0.70
55:RZ:157:LEU:HD11	55:RZ:163:LEU:HG	1.73	0.70
2:QB:115:LEU:CB	2:QB:145:LEU:HD21	2.17	0.70
23:QY:7:GLU:HG3	23:QY:8:GLU:OE1	1.91	0.70
32:RA:993:G:OP1	46:RU:50:ARG:NH2	2.23	0.70
55:RZ:124:ILE:HD11	55:RZ:165:VAL:HG21	1.73	0.70
2:QB:77:ALA:CB	2:QB:211:ILE:CD1	2.69	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:R3:29:ARG:NH1	32:RA:1184:G:OP1	2.25	0.70
55:YZ:54:HIS:HB3	55:YZ:101:PRO:HD3	1.73	0.70
32:RA:996:A:OP2	46:RU:92:ARG:NH1	2.25	0.70
24:Y0:55:ARG:NH1	32:YA:2364:C:OP1	2.25	0.70
42:YQ:66:ILE:HD12	42:YQ:66:ILE:N	2.05	0.70
18:QS:81:ARG:NH2	23:QZ:36:ARG:HD2	2.07	0.70
34:YD:96:HIS:HE2	34:YD:102:LYS:CE	2.01	0.70
42:YQ:24:GLY:HA3	42:YQ:101:ARG:HH12	1.55	0.70
55:YZ:72:ARG:HG2	55:YZ:72:ARG:HH11	1.57	0.70
42:YQ:78:PRO:HG2	42:YQ:81:VAL:CG2	2.19	0.70
55:YZ:72:ARG:HG2	55:YZ:72:ARG:NH1	2.06	0.70
23:QZ:4:ILE:HD12	23:QZ:4:ILE:N	2.07	0.70
37:YH:103:LEU:HG	37:YH:105:LEU:HD11	1.73	0.70
23:QZ:59:ARG:O	23:QZ:59:ARG:HG3	1.90	0.70
32:RA:321:G:C4	54:RF:165:ARG:NH2	2.53	0.70
2:QB:136:VAL:O	2:QB:139:LYS:CG	2.38	0.69
2:QB:166:ASP:OD1	2:QB:167:PRO:HD2	1.91	0.69
37:YH:67:LEU:HD23	37:YH:71:LEU:HD23	1.74	0.69
35:YE:178:GLU:H	35:YE:178:GLU:CD	1.95	0.69
1:XA:358:U:C6	1:XA:358:U:H5''	2.27	0.69
1:XA:1313:U:O4	18:XS:2:PRO:HD3	1.91	0.69
32:YA:1080:C:N4	32:YA:1088:A:OP1	2.25	0.69
34:YD:80:ALA:HB2	34:YD:96:HIS:ND1	2.07	0.69
34:YD:142:VAL:CG2	34:YD:192:THR:O	2.40	0.69
2:QB:80:ILE:H	2:QB:80:ILE:CD1	1.97	0.69
2:QB:136:VAL:HA	2:QB:139:LYS:HG2	1.72	0.69
23:QY:44:LYS:HD3	51:QL:50:SER:HB2	0.72	0.69
23:XZ:62:GLU:OE2	23:XZ:62:GLU:N	2.19	0.69
41:YP:121:LYS:CG	41:YP:122:PRO:HD2	2.22	0.69
55:RZ:53:ILE:HD11	55:RZ:72:ARG:HA	1.74	0.69
32:RA:2032:G:O2'	35:RE:145:LYS:HE2	1.92	0.69
32:YA:642:G:N2	32:YA:645:C:OP2	2.23	0.69
34:YD:64:ILE:HD12	34:YD:64:ILE:O	1.92	0.69
2:QB:172:ILE:HD12	2:QB:172:ILE:N	2.01	0.69
2:QB:209:ARG:CZ	2:QB:209:ARG:HB3	2.21	0.69
1:XA:191(E):G:C6	1:XA:191(F):U:O4	2.45	0.69
1:XA:1040:U:H6	1:XA:1040:U:H5''	1.58	0.69
1:XA:1502:A:H2	1:XA:1505:G:H1	1.41	0.69
32:YA:1667:G:O2'	32:YA:1669:A:N6	2.25	0.69
37:YH:27:LYS:HG2	37:YH:32:GLU:HG2	1.73	0.69
35:YE:109:LYS:O	35:YE:111:ARG:NH1	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:67:U:H3	32:RA:74:A:H2	1.41	0.69
32:RA:727:A:OP1	32:RA:1431:U:O2'	2.10	0.69
32:RA:2306:C:H5'	32:RA:2307:G:H5''	1.74	0.69
23:QZ:43:GLY:O	23:QZ:58:ARG:HA	1.93	0.69
1:XA:422:C:O2'	1:XA:423:G:N2	2.24	0.69
23:XZ:27:ILE:HG12	23:XZ:60:ILE:HD13	1.75	0.69
23:XZ:60:ILE:HD11	23:XZ:66:LEU:HD12	1.74	0.69
41:YP:45:LEU:HD12	41:YP:45:LEU:N	2.07	0.69
37:YH:149:ARG:HD2	37:YH:164:TYR:CE2	2.27	0.69
1:QA:437:U:HO2'	4:QD:123:HIS:HD1	1.33	0.69
2:QB:155:LEU:HD11	2:QB:159:PRO:HA	1.74	0.69
37:RH:17:VAL:HG21	37:RH:45:VAL:HG21	1.74	0.69
1:XA:544:G:OP1	4:XD:59:ARG:NH2	2.25	0.69
53:Y8:15:LYS:HB2	41:YP:65:ARG:HH22	1.56	0.69
32:YA:2275:C:C2	42:YQ:85:LYS:NZ	2.61	0.69
34:YD:35:LYS:HZ2	34:YD:62:TYR:HD2	1.41	0.69
34:YD:96:HIS:CD2	34:YD:102:LYS:HG2	2.27	0.69
37:YH:105:LEU:HB2	37:YH:113:VAL:CG1	2.23	0.69
18:XS:43:GLU:OE1	18:XS:43:GLU:N	2.25	0.69
51:QL:60:LEU:HD12	51:QL:62:SER:H	1.56	0.69
51:QL:117:ARG:HB2	51:QL:122:THR:HB	1.74	0.69
2:QB:7:VAL:HA	2:QB:217:ARG:NH1	2.07	0.69
23:XZ:37:THR:CB	23:XZ:40:GLU:O	2.41	0.69
32:YA:2305:A:H5''	36:YG:134:GLY:HA3	1.74	0.69
37:YH:4:ILE:HG22	37:YH:69:ARG:CD	2.22	0.69
37:YH:5:GLY:C	37:YH:65:HIS:CE1	2.54	0.69
2:QB:11:LEU:HD12	2:QB:11:LEU:N	2.08	0.69
2:QB:95:GLN:HE21	2:QB:95:GLN:CA	2.02	0.69
32:RA:2393:A:H4'	41:RP:62:LEU:H	1.56	0.69
41:RP:64:LYS:HG3	53:R8:30:ARG:HH21	1.55	0.69
41:YP:86:LYS:HB3	41:YP:118:GLY:HA3	1.74	0.69
35:YE:9:VAL:HB	35:YE:25:VAL:HG23	1.75	0.69
21:XV:76:A:H2	24:Y0:2:ALA:CA	2.06	0.68
23:XZ:62:GLU:H	23:XZ:62:GLU:CD	1.97	0.68
41:YP:79:ARG:HB2	41:YP:110:TYR:HD1	1.58	0.68
55:RZ:53:ILE:HD11	55:RZ:72:ARG:HD2	1.75	0.68
1:QA:971:G:N2	1:QA:1363:A:OP2	2.26	0.68
2:QB:34:ALA:O	2:QB:41:ILE:HG13	1.92	0.68
23:XZ:4:ILE:CD1	23:XZ:76:LEU:HD21	2.20	0.68
55:RZ:119:GLU:OE1	55:RZ:119:GLU:N	2.24	0.68
1:QA:191:G:O2'	19:QT:101:GLY:O	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:654(D):G:H1	32:RA:654(Q):C:H42	1.41	0.68
32:RA:996:A:H4'	46:RU:92:ARG:HD2	1.75	0.68
32:RA:1365:A:O2'	52:R1:11:ARG:NH2	2.24	0.68
32:RA:2701:C:H3'	32:RA:2702:U:C5'	2.21	0.68
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.57	0.68
23:XY:28:ASN:O	23:XY:32:LYS:HG2	1.94	0.68
23:XZ:33:ASP:OD2	23:XZ:42:LYS:HG3	1.93	0.68
37:YH:105:LEU:HD12	37:YH:105:LEU:N	2.08	0.68
18:QS:41:VAL:HG11	18:QS:67:VAL:CB	2.22	0.68
21:QW:71:C:O2'	32:RA:1851:U:O2'	2.11	0.68
23:QZ:60:ILE:HD12	23:QZ:64:HIS:O	1.93	0.68
32:RA:1490:A:O2'	34:RD:99:ASP:OD1	2.12	0.68
41:RP:60:MET:HA	53:R8:13:ARG:CZ	2.23	0.68
29:Y6:13:CYS:HB3	29:Y6:16:CYS:SG	2.32	0.68
32:YA:620:G:H4'	32:YA:621:A:H5''	1.76	0.68
33:YB:119:A:H5''	33:YB:119:A:H8	1.58	0.68
47:YV:5:VAL:HG11	47:YV:57:VAL:CG2	2.18	0.68
35:YE:111:ARG:HD3	35:YE:160:TYR:CE2	2.28	0.68
23:QZ:44:LYS:CE	23:QZ:59:ARG:CG	2.68	0.68
23:XY:61:THR:HG22	23:XY:63:GLU:H	1.57	0.68
23:XZ:4:ILE:CD1	23:XZ:76:LEU:HD23	2.19	0.68
32:YA:286:C:C2'	32:YA:287:C:H5'	2.24	0.68
32:YA:1980:G:O2'	32:YA:1982:C:OP2	2.11	0.68
42:YQ:118:LEU:HD12	42:YQ:131:ILE:HG23	1.76	0.68
55:YZ:13:GLU:OE1	55:YZ:13:GLU:N	2.26	0.68
2:QB:77:ALA:HB1	2:QB:211:ILE:HD13	1.75	0.68
32:YA:1247:A:OP1	54:YF:95:ARG:NH2	2.27	0.68
37:RH:164:TYR:HB2	37:RH:167:GLU:HB2	1.76	0.68
34:YD:165:ILE:HG12	34:YD:175:LEU:HD21	1.76	0.68
55:YZ:128:VAL:HB	55:YZ:161:VAL:HG23	1.76	0.68
23:XZ:6:SER:N	23:XZ:9:SER:OG	2.25	0.68
37:YH:94:TYR:CE1	37:YH:108:GLY:N	2.58	0.68
2:QB:80:ILE:HD12	2:QB:80:ILE:N	2.01	0.67
32:RA:1300:U:H4'	32:RA:1301:A:H5'	1.74	0.67
34:RD:33:LEU:HD12	34:RD:34:VAL:HG23	1.75	0.67
37:RH:7:LEU:H	37:RH:8:PRO:HD3	1.58	0.67
50:RY:83:THR:OG1	50:RY:100:ALA:HB3	1.93	0.67
24:Y0:39:ARG:HH21	32:YA:2355:C:H1'	1.59	0.67
41:YP:33:ARG:HG2	41:YP:40:SER:HA	1.77	0.67
2:QB:54:THR:HG21	2:QB:201:ILE:HG12	1.75	0.67
32:RA:117:G:OP2	32:RA:119:A:O2'	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:2882:A:OP1	43:YR:96:ARG:NH1	2.27	0.67
41:YP:127:ALA:O	41:YP:148:LEU:HB3	1.81	0.67
42:YQ:54:MET:HE3	42:YQ:118:LEU:HD23	1.75	0.67
35:YE:97:LYS:O	35:YE:100:GLU:HB2	1.93	0.67
32:RA:2119:A:N6	32:RA:2170:A:N7	2.43	0.67
37:RH:23:ARG:CD	37:RH:25:LYS:HZ3	2.08	0.67
41:RP:62:LEU:HD23	53:R8:27:THR:HG22	1.76	0.67
1:XA:4:U:O2	8:XH:105:ARG:NH2	2.27	0.67
53:Y8:15:LYS:CB	41:YP:65:ARG:NH2	2.57	0.67
42:YQ:137:TYR:HB3	55:YZ:76:LEU:HD21	1.77	0.67
37:YH:46:GLU:HG2	37:YH:49:VAL:O	1.93	0.67
54:RF:45:ARG:HD2	54:RF:97:TYR:CD2	2.30	0.67
55:YZ:85:HIS:HE1	55:YZ:87:ASP:OD1	1.76	0.67
2:QB:154:LEU:N	2:QB:154:LEU:HD23	2.09	0.67
2:QB:232:PRO:O	2:QB:233:SER:HB3	1.94	0.67
32:RA:306:U:C4	32:RA:307:G:C6	2.83	0.67
32:RA:309:G:H5'	32:RA:329:G:C6	2.30	0.67
32:RA:321:G:C5	54:RF:165:ARG:NH2	2.61	0.67
32:RA:1568:G:H5''	34:RD:61:LEU:HD23	1.76	0.67
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.76	0.67
53:Y8:61:LEU:HD12	32:YA:593:G:H4'	1.76	0.67
41:YP:91:PHE:CD1	41:YP:95:VAL:HG22	2.29	0.67
2:QB:209:ARG:HG2	2:QB:209:ARG:HH11	1.60	0.67
5:QE:107:ARG:O	5:QE:111:GLU:HB2	1.93	0.67
23:QY:3:LEU:CD1	23:QY:35:ARG:NH2	2.50	0.67
23:QY:5:TRP:CD1	23:QZ:5:TRP:CD1	2.82	0.67
23:QZ:66:LEU:HD23	23:QZ:66:LEU:C	2.15	0.67
42:RQ:55:VAL:HG22	55:RZ:178:GLU:HG2	1.76	0.67
12:XM:87:TYR:HB3	18:XS:73:GLU:HG3	1.77	0.67
23:XZ:66:LEU:HD23	23:XZ:66:LEU:C	2.15	0.67
2:QB:55:PHE:HA	2:QB:58:ILE:HD12	1.75	0.67
23:QZ:60:ILE:HD12	23:QZ:60:ILE:N	2.07	0.67
33:RB:104:A:OP1	55:RZ:72:ARG:NH2	2.28	0.67
32:YA:727:A:OP1	32:YA:1431:U:O2'	2.13	0.67
32:YA:2720:U:H3	32:YA:2873:A:H2	1.43	0.67
42:YQ:60:ARG:CA	55:YZ:180:VAL:N	2.58	0.67
37:YH:154:PRO:HB3	37:YH:163:TYR:CE1	2.30	0.67
47:YV:38:LEU:HD12	47:YV:38:LEU:N	2.10	0.67
1:QA:339:C:OP2	40:RO:97:ARG:NH1	2.28	0.67
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.76	0.67
1:XA:1001:G:C8	1:XA:1001:G:H3'	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1313:U:O4	18:XS:2:PRO:HD2	1.93	0.67
23:XZ:37:THR:HG22	23:XZ:40:GLU:N	2.10	0.67
32:YA:775:G:N2	32:YA:793:A:O2'	2.27	0.67
41:YP:149:GLU:HA	41:YP:149:GLU:OE1	1.92	0.67
42:YQ:139:GLU:HG2	55:YZ:122:ARG:HD3	1.76	0.67
2:QB:84:GLU:OE1	2:QB:219:VAL:HG11	1.95	0.67
37:RH:18:GLU:HB2	37:RH:25:LYS:O	1.95	0.67
1:XA:618:C:H5'	1:XA:619:U:H5''	1.76	0.67
1:XA:1311:G:OP1	27:Y4:61:ARG:NH2	2.26	0.67
1:QA:673:G:H2'	1:QA:674:G:C8	2.30	0.67
2:QB:33:TYR:HB2	2:QB:43:ASP:HB2	1.77	0.67
34:RD:8:PRO:HB3	34:RD:14:ARG:HB3	1.77	0.67
50:RY:57:GLN:OE1	50:RY:57:GLN:HA	1.94	0.67
32:YA:2358:G:H22	41:YP:55:ARG:HH22	1.40	0.67
47:YV:95:LEU:HD23	47:YV:96:ILE:O	1.94	0.67
2:QB:85:ALA:CB	2:QB:92:TYR:HB3	2.25	0.66
22:QX:13:A:O2'	22:QX:15:A:OP2	2.13	0.66
32:YA:2730:C:O2'	35:YE:168:MET:O	2.13	0.66
46:YU:109:LEU:CD2	47:YV:47:VAL:HG11	2.25	0.66
1:QA:537:G:H5''	51:QL:113:ARG:HH12	1.60	0.66
23:QY:52:LEU:HD12	23:QY:52:LEU:N	2.11	0.66
34:YD:46:GLN:HA	34:YD:46:GLN:NE2	2.10	0.66
40:RO:104:ARG:HH21	45:RT:34:VAL:HG11	1.59	0.66
1:XA:998(A):C:O5'	1:XA:998(A):C:H6	1.78	0.66
1:XA:1159:U:O2'	1:XA:1160:G:N7	2.28	0.66
37:YH:107:VAL:CG1	37:YH:152:ARG:CD	2.68	0.66
54:RF:25:PRO:HD2	54:RF:115:ALA:HB2	1.77	0.66
55:YZ:10:ARG:HB3	55:YZ:38:TYR:HD2	1.60	0.66
2:XB:54:THR:HG22	2:XB:199:TYR:HB3	1.76	0.66
42:YQ:116:GLU:OE1	42:YQ:116:GLU:HA	1.95	0.66
37:YH:103:LEU:HG	37:YH:105:LEU:CD1	2.26	0.66
37:YH:153:LYS:HG3	37:YH:154:PRO:HD3	1.73	0.66
52:R1:80:LEU:C	52:R1:80:LEU:HD12	2.14	0.66
52:R1:87:PRO:O	52:R1:91:LYS:N	2.24	0.66
46:YU:90:VAL:HG11	47:YV:39:LEU:HB2	1.76	0.66
34:YD:154:LYS:HB2	34:YD:155:LEU:HD12	1.78	0.66
37:YH:3:ARG:HH21	37:YH:3:ARG:CG	2.08	0.66
54:RF:143:ALA:HB1	54:RF:148:LEU:HB2	1.77	0.66
18:QS:9:VAL:HG21	27:R4:63:TYR:HD1	1.58	0.66
34:YD:183:ARG:NH1	34:YD:266:SER:OG	2.28	0.66
47:YV:40:LEU:HD23	47:YV:40:LEU:C	2.16	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YE:50:GLY:HA2	35:YE:78:LEU:HD23	1.76	0.66
35:YE:101:ARG:HH11	35:YE:101:ARG:CG	2.08	0.66
2:QB:72:GLY:HA2	2:QB:165:VAL:HG12	1.78	0.66
2:QB:118:LEU:CD2	2:QB:142:LEU:HB2	2.19	0.66
23:QZ:3:LEU:CD2	23:QZ:31:ILE:HD11	2.25	0.66
1:XA:937:A:C2	1:XA:1379:G:O6	2.48	0.66
55:YZ:13:GLU:HB3	55:YZ:18:LEU:HD21	1.78	0.66
32:RA:768:G:O2'	32:RA:1379:A:N6	2.28	0.66
1:QA:960:U:O2	1:QA:960:U:H2'	1.96	0.66
5:QE:110:LEU:HD13	5:QE:118:ILE:HD13	1.77	0.66
32:RA:2618:G:H21	35:RE:150:VAL:HG21	1.61	0.66
23:XZ:20:ASP:OD1	23:XZ:23:ILE:HG12	1.95	0.66
33:YB:33:G:H5'	36:YG:2:PRO:HG3	1.77	0.66
42:YQ:64:ILE:HD11	55:YZ:178:GLU:CB	2.25	0.66
37:YH:107:VAL:O	37:YH:152:ARG:HD2	1.96	0.66
2:QB:47:THR:HA	2:QB:202:PRO:HG2	1.76	0.66
4:QD:60:GLU:HG2	4:QD:202:LEU:HB2	1.77	0.66
37:YH:123:PHE:HZ	37:YH:144:VAL:CG1	2.08	0.66
35:YE:54:GLN:HB2	35:YE:76:ARG:CG	2.25	0.66
32:RA:2729:G:H1'	35:RE:187:ALA:HB2	1.78	0.65
41:YP:68:GLN:HA	41:YP:68:GLN:OE1	1.95	0.65
37:YH:94:TYR:CD1	37:YH:107:VAL:HA	2.30	0.65
37:YH:105:LEU:HB2	37:YH:113:VAL:HG12	1.77	0.65
52:R1:85:LEU:C	52:R1:87:PRO:HD3	2.15	0.65
55:RZ:10:ARG:HB3	55:RZ:38:TYR:HD2	1.62	0.65
2:QB:21:ARG:HD3	2:QB:39:ILE:HD11	1.78	0.65
32:YA:831:G:H2'	32:YA:831:G:OP2	1.96	0.65
37:YH:3:ARG:HH21	37:YH:3:ARG:HG2	1.60	0.65
35:YE:23:VAL:HG12	35:YE:184:VAL:O	1.95	0.65
35:YE:28:ALA:CB	35:YE:180:ASN:HB3	2.10	0.65
18:XS:41:VAL:HG12	18:XS:44:MET:HG3	1.77	0.65
2:QB:209:ARG:HB3	2:QB:209:ARG:NH1	2.11	0.65
23:XY:35:ARG:NH1	23:XZ:10:TRP:HD1	1.94	0.65
53:Y8:27:THR:HG22	41:YP:62:LEU:HD23	1.77	0.65
29:R6:23:THR:HG21	32:RA:2286:A:H61	1.61	0.65
32:RA:654(A):G:H8	32:RA:654(A):G:OP2	1.79	0.65
32:YA:2358:G:N2	41:YP:55:ARG:HH22	1.95	0.65
41:YP:84:ASN:CG	41:YP:117:GLU:HB2	2.17	0.65
42:YQ:59:ARG:C	55:YZ:180:VAL:HG23	2.16	0.65
55:YZ:52:SER:HB3	55:YZ:54:HIS:HD2	1.61	0.65
2:QB:84:GLU:OE1	2:QB:216:SER:HA	1.96	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2438:U:O3'	32:RA:2439:A:H3'	1.97	0.65
32:YA:2429:G:O6	41:YP:61:ARG:NH2	2.29	0.65
55:RZ:70:LEU:CD1	55:RZ:91:LEU:HD22	2.27	0.65
1:QA:674:G:H2'	1:QA:675:A:H8	1.62	0.65
21:QW:28:C:H42	21:QW:42:G:H1	1.42	0.65
41:RP:9:ASN:OD1	54:RF:31:HIS:ND1	2.29	0.65
1:XA:1130:A:O2'	9:XI:3:GLN:NE2	2.29	0.65
32:YA:1019:U:OP1	32:YA:1035:U:O2'	2.13	0.65
32:YA:1837:C:O2	32:YA:1927:A:H2	1.79	0.65
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.61	0.65
2:QB:77:ALA:HB2	2:QB:211:ILE:CD1	2.26	0.65
37:RH:3:ARG:NH2	37:RH:8:PRO:HG3	2.11	0.65
37:RH:9:ILE:C	37:RH:9:ILE:HD12	2.15	0.65
1:XA:1014:A:C4'	18:XS:14:HIS:ND1	2.57	0.65
32:YA:587:C:C2	41:YP:33:ARG:NH2	2.64	0.65
33:YB:80:U:H2'	33:YB:81:G:H21	1.60	0.65
35:YE:19:ARG:NH1	35:YE:19:ARG:HB3	2.11	0.65
55:RZ:53:ILE:HG13	55:RZ:71:VAL:O	1.96	0.65
55:RZ:183:LEU:C	55:RZ:183:LEU:HD23	2.17	0.65
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.45	0.65
32:YA:1042:G:H1	32:YA:1113:U:H3	1.45	0.65
35:YE:37:ARG:CA	35:YE:42:ASP:OD2	2.41	0.65
35:YE:81:ILE:HD12	35:YE:81:ILE:N	2.11	0.65
2:QB:209:ARG:HH11	2:QB:209:ARG:CG	2.10	0.64
32:RA:616:A:H4'	54:RF:182:ASN:ND2	2.12	0.64
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.29	0.64
32:YA:631:A:H1'	41:YP:66:GLY:HA2	1.80	0.64
32:YA:2033:A:O2'	32:YA:2035:G:OP2	2.14	0.64
32:YA:2731:G:H5''	35:YE:203:LYS:CE	2.22	0.64
32:YA:2795:G:H21	32:YA:2801:A:H62	1.43	0.64
42:YQ:58:PHE:CZ	42:YQ:106:VAL:HG21	2.32	0.64
18:XS:81:ARG:O	18:XS:81:ARG:HG3	1.96	0.64
51:QL:36:VAL:HG22	51:QL:82:VAL:HG12	1.79	0.64
21:QV:76:A:N6	32:RA:2450:A:O2'	2.30	0.64
32:RA:536:A:H4'	46:RU:57:PHE:CZ	2.33	0.64
35:RE:143:ASN:HD22	35:RE:147:PRO:HG2	1.62	0.64
45:YT:133:GLU:HB2	45:YT:137:LYS:HE3	1.79	0.64
46:YU:87:GLY:O	47:YV:49:THR:CA	2.45	0.64
47:YV:52:VAL:CG1	47:YV:55:ALA:HB3	2.26	0.64
32:YA:587:C:N3	41:YP:33:ARG:NH2	2.42	0.64
32:YA:2572:A:C8	35:YE:144:ARG:NE	2.64	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:422:C:O2'	1:QA:423:G:N2	2.30	0.64
32:RA:1667:G:O2'	32:RA:1669:A:N6	2.31	0.64
42:RQ:66:ILE:HA	42:RQ:104:PHE:HA	1.78	0.64
1:XA:790:A:OP1	21:XV:38:A:O2'	2.15	0.64
21:XW:71:C:O2'	32:YA:1851:U:O2'	2.08	0.64
32:YA:586:A:H5'	54:YF:89:VAL:HG21	1.79	0.64
41:YP:138:LEU:HD21	41:YP:145:PRO:CA	2.27	0.64
34:YD:155:LEU:HD12	34:YD:155:LEU:N	2.12	0.64
37:YH:167:GLU:OE1	37:YH:167:GLU:HA	1.97	0.64
47:YV:16:PRO:HA	47:YV:96:ILE:HG22	1.79	0.64
55:RZ:98:MET:C	55:RZ:125:LEU:HD12	2.16	0.64
1:QA:831:U:P	2:QB:22:LYS:NZ	2.71	0.64
23:QY:10:TRP:CD2	23:QZ:3:LEU:HD11	2.30	0.64
35:RE:10:GLY:HA3	45:RT:8:LYS:HE2	1.80	0.64
32:YA:1105:U:H2'	32:YA:1106:G:H8	1.62	0.64
34:YD:53:PHE:CD1	34:YD:219:PRO:O	2.50	0.64
37:YH:60:ARG:HH11	37:YH:60:ARG:CG	2.09	0.64
37:YH:136:ILE:HD12	37:YH:136:ILE:H	1.61	0.64
18:XS:49:ILE:HD13	18:XS:71:LEU:HD23	1.80	0.64
52:R1:88:LYS:O	52:R1:93:GLU:HG2	1.98	0.64
2:QB:69:LEU:CD2	2:QB:71:VAL:HG23	2.27	0.64
2:QB:80:ILE:HG22	2:QB:215:LEU:HD12	1.79	0.64
32:RA:2816:C:O2	32:RA:2883:A:O2'	2.15	0.64
23:XZ:3:LEU:HD12	23:XZ:3:LEU:N	2.11	0.64
42:YQ:23:GLY:O	42:YQ:101:ARG:NH1	2.30	0.64
47:YV:40:LEU:HD23	47:YV:41:GLY:N	2.12	0.64
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.31	0.64
18:QS:50:ALA:HB1	18:QS:57:HIS:HB3	1.79	0.64
32:RA:308:G:H3'	32:RA:309:G:C8	2.33	0.64
35:RE:146:THR:HB	35:RE:147:PRO:CD	2.20	0.64
32:YA:287:C:O2'	32:YA:288:C:O5'	2.15	0.64
2:QB:61:LEU:HD12	2:QB:66:GLY:HA3	1.80	0.64
2:QB:71:VAL:CG2	2:QB:97:TRP:CZ3	2.71	0.64
2:QB:168:THR:HG21	2:QB:191:ASP:OD1	1.98	0.64
2:QB:178:ARG:HH22	8:QH:74:PRO:HB3	1.61	0.64
23:QY:44:LYS:HD3	51:QL:50:SER:CA	2.27	0.64
23:QZ:20:ASP:CB	23:QZ:23:ILE:HG12	2.28	0.64
32:RA:27:G:N2	32:RA:513:A:OP2	2.30	0.64
1:XA:358:U:H6	1:XA:358:U:C5'	2.10	0.64
1:XA:818:G:O2'	1:XA:820:U:OP2	2.12	0.64
23:XY:3:LEU:HD21	23:XY:5:TRP:NE1	2.13	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:Y1:87:PRO:HA	52:Y1:90:ILE:CG2	2.27	0.64
32:YA:571:A:H5'	32:YA:2030:A:H62	1.63	0.64
32:YA:1798:U:H5	34:YD:274:ARG:HH12	1.45	0.64
35:YE:32:PRO:HA	35:YE:89:ASP:O	1.98	0.64
2:QB:220:ASP:O	2:QB:223:ILE:CG1	2.45	0.64
34:YD:164:GLN:OE1	34:YD:176:ARG:NH2	2.23	0.64
35:YE:172:VAL:HG13	35:YE:182:LEU:HD11	1.80	0.64
55:YZ:10:ARG:HD3	55:YZ:38:TYR:HB3	1.80	0.64
12:QM:58:GLU:O	12:QM:62:ASN:HB2	1.99	0.63
23:QY:21:LYS:HE3	23:QY:25:LYS:HE3	1.79	0.63
34:RD:31:LYS:HB3	34:RD:35:LYS:HG3	1.79	0.63
42:YQ:140:ALA:HB2	55:YZ:53:ILE:HD11	1.79	0.63
18:XS:66:MET:HB2	18:XS:74:PHE:CZ	2.32	0.63
1:XA:356:A:N3	1:XA:368:U:O2'	2.29	0.63
1:XA:1128:C:H1'	1:XA:1146:A:H61	1.63	0.63
41:YP:9:ASN:ND2	41:YP:9:ASN:O	2.31	0.63
41:YP:52:GLU:OE1	41:YP:58:THR:CG2	2.45	0.63
37:YH:4:ILE:O	37:YH:69:ARG:NE	2.31	0.63
37:YH:103:LEU:HB3	37:YH:115:VAL:HG12	1.79	0.63
2:QB:71:VAL:HG22	2:QB:93:VAL:HG11	1.81	0.63
2:QB:163:PHE:HA	2:QB:185:ILE:O	1.99	0.63
32:RA:1827:C:OP2	34:RD:222:ARG:NH1	2.31	0.63
45:RT:36:GLU:HG3	45:RT:41:ARG:HE	1.63	0.63
51:XL:53:ARG:NH1	51:XL:92:ASP:OD2	2.32	0.63
35:YE:111:ARG:CD	35:YE:160:TYR:CE2	2.81	0.63
55:YZ:53:ILE:H	55:YZ:53:ILE:HD12	1.63	0.63
35:YE:46:ALA:HB2	35:YE:82:ARG:HA	1.79	0.63
4:QD:169:LYS:HB2	6:XF:21:LEU:HD21	1.81	0.63
32:RA:1270:C:H5''	32:RA:1271:G:H5'	1.80	0.63
35:RE:17:ASP:O	35:RE:19:ARG:N	2.32	0.63
35:RE:60:ASN:HB2	35:RE:62:PRO:HD2	1.79	0.63
42:YQ:38:GLU:HB2	42:YQ:127:ILE:HB	1.80	0.63
37:RH:23:ARG:HD2	37:RH:25:LYS:HZ3	1.64	0.63
1:XA:971:G:N2	1:XA:1363:A:OP2	2.31	0.63
32:YA:2306:C:H5'	32:YA:2307:G:H5''	1.80	0.63
1:QA:1101:A:N6	2:QB:176:GLU:OE2	2.32	0.63
27:R4:36:CYS:SG	27:R4:37:SER:N	2.72	0.63
32:RA:1024:G:H3'	32:RA:1025:G:H5''	1.79	0.63
32:RA:1342:A:H2	32:RA:1602:U:H3	1.46	0.63
41:RP:49:ARG:HA	53:R8:57:ARG:HG2	1.79	0.63
23:QY:55:PHE:CD1	23:QY:69:ALA:HB2	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:154:ASN:HA	4:XD:159:ARG:HE	1.63	0.63
55:RZ:144:LEU:HD11	55:RZ:150:LEU:HD11	1.79	0.63
55:RZ:182:LYS:HG2	55:RZ:182:LYS:O	1.99	0.63
2:QB:11:LEU:HD12	2:QB:11:LEU:H	1.63	0.63
2:QB:77:ALA:HB1	2:QB:211:ILE:CD1	2.29	0.63
32:YA:414:C:O2	32:YA:1864:U:O2'	2.17	0.63
32:YA:996:A:H1'	47:YV:9:GLY:O	1.99	0.63
32:YA:1139:G:O2'	32:YA:1143:A:N6	2.31	0.63
48:YW:88:ARG:HB2	48:YW:92:ARG:HB2	1.81	0.63
41:YP:98:GLU:O	41:YP:101:VAL:CG1	2.44	0.63
35:YE:54:GLN:NE2	35:YE:76:ARG:HG2	2.14	0.63
35:YE:122:PHE:HZ	35:YE:155:LYS:HB2	1.64	0.63
1:QA:1028(B):C:H3'	1:QA:1029:G:H4'	1.81	0.62
32:RA:443:A:H2'	54:RF:45:ARG:HH12	1.64	0.62
32:RA:608:A:OP1	54:RF:100:THR:HG21	1.99	0.62
45:RT:66:VAL:HA	45:RT:71:GLY:HA2	1.81	0.62
10:XJ:38:ILE:HB	10:XJ:71:LEU:HB3	1.81	0.62
32:YA:389:G:H1	41:YP:71:VAL:HG12	1.64	0.62
55:RZ:144:LEU:HD11	55:RZ:150:LEU:CD1	2.29	0.62
51:QL:127:GLU:OE1	51:QL:127:GLU:HA	1.98	0.62
1:QA:924:C:O2'	1:QA:1502:A:N6	2.31	0.62
2:QB:142:LEU:HD23	2:QB:142:LEU:C	2.20	0.62
23:QY:7:GLU:CG	23:QY:8:GLU:OE1	2.47	0.62
32:RA:2788:C:O2'	32:RA:2809:A:N3	2.31	0.62
1:XA:31:G:O2'	1:XA:48:C:N4	2.32	0.62
3:XC:14:ILE:HG22	3:XC:15:THR:HG23	1.81	0.62
32:YA:987:G:O2'	32:YA:1000:A:N3	2.31	0.62
32:YA:2296:U:OP2	44:YS:9:ARG:NH1	2.31	0.62
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.28	0.62
32:RA:2517:C:O2'	32:RA:2518:A:H3'	1.99	0.62
38:RI:123:LEU:HD22	38:RI:143:SER:HB2	1.81	0.62
23:XY:67:VAL:CG2	23:XY:78:ALA:HB3	2.23	0.62
32:YA:345:A:O2'	32:YA:346:A:N7	2.31	0.62
32:YA:2208:U:C1'	34:YD:151:LYS:HE2	2.23	0.62
52:R1:18:ILE:HG12	52:R1:37:ILE:HG12	1.81	0.62
1:QA:855:G:OP2	1:QA:871:U:N3	2.28	0.62
2:QB:213:LEU:HD23	2:QB:213:LEU:C	2.19	0.62
32:RA:1817:G:OP1	34:RD:88:ARG:NH2	2.33	0.62
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.34	0.62
32:YA:993:G:OP1	46:YU:50:ARG:NH2	2.31	0.62
55:RZ:61:LEU:HB2	55:RZ:62:PRO:HD2	1.81	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:RZ:80:ARG:HD2	55:RZ:82:ARG:HD2	1.82	0.62
55:YZ:180:VAL:O	55:YZ:183:LEU:HG	1.99	0.62
1:QA:957:U:H3'	23:QZ:36:ARG:NH1	2.12	0.62
29:R6:13:CYS:HB3	29:R6:16:CYS:SG	2.39	0.62
1:XA:578:C:O2'	1:XA:728:A:N3	2.30	0.62
1:XA:674:G:H2'	1:XA:675:A:H8	1.65	0.62
1:XA:1040:U:H6	1:XA:1040:U:C5'	2.12	0.62
1:XA:1313:U:OP1	18:XS:5:LEU:HB2	2.00	0.62
33:YB:119:A:H5''	33:YB:119:A:C8	2.34	0.62
42:YQ:75:THR:HG23	42:YQ:88:GLY:C	2.20	0.62
32:YA:956:G:H5''	42:YQ:77:LYS:HD2	1.80	0.62
34:YD:24:ILE:CD1	34:YD:84:TYR:HB2	2.28	0.62
1:QA:1224:G:O2'	1:QA:1322:C:OP1	2.18	0.62
32:YA:252:G:P	41:YP:50:ARG:HH22	2.22	0.62
41:YP:117:GLU:OE1	41:YP:117:GLU:HA	1.98	0.62
52:R1:58:ILE:HD11	52:R1:86:SER:HB2	1.81	0.62
23:XY:39:PHE:HZ	32:YA:1914:C:H5''	1.65	0.62
32:YA:598:G:O2'	41:YP:9:ASN:OD1	2.16	0.62
47:YV:72:VAL:HG13	47:YV:85:LYS:HB3	1.81	0.62
35:YE:96:PHE:HA	35:YE:100:GLU:OE1	2.00	0.62
35:YE:175:VAL:C	35:YE:176:ILE:HD13	2.20	0.62
18:XS:64:GLU:OE1	18:XS:64:GLU:N	2.22	0.62
21:QV:76:A:O3'	32:RA:2602:A:N6	2.33	0.62
1:XA:1292:U:OP2	7:XG:41:ARG:NH1	2.33	0.62
10:XJ:51:ARG:HB2	10:XJ:60:ARG:HA	1.81	0.62
34:YD:37:LEU:CD2	34:YD:87:ASN:ND2	2.63	0.62
35:YE:175:VAL:O	35:YE:176:ILE:HD13	2.00	0.62
55:RZ:70:LEU:CD1	55:RZ:91:LEU:HD21	2.29	0.62
2:QB:91:PRO:HG3	2:QB:154:LEU:HB2	0.85	0.62
18:QS:81:ARG:HH22	23:QZ:36:ARG:CD	2.12	0.62
23:QY:1:MET:N	23:QZ:7:GLU:HG2	2.14	0.62
37:RH:23:ARG:CD	37:RH:34:GLU:OE2	2.46	0.62
41:RP:49:ARG:CA	53:R8:57:ARG:HG2	2.30	0.62
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.18	0.62
1:XA:1306:A:N6	1:XA:1331:G:O2'	2.33	0.62
32:YA:2023:G:OP2	32:YA:2617:C:H4'	1.99	0.62
41:YP:90:ARG:HG3	41:YP:91:PHE:HD2	1.65	0.62
35:YE:2:LYS:HG3	35:YE:96:PHE:CE1	2.35	0.62
32:RA:2432:A:C8	52:R1:33:LYS:NZ	2.65	0.61
32:YA:906:G:HO2'	42:YQ:67:ARG:NH2	1.96	0.61
18:XS:12:ASP:OD2	18:XS:35:SER:CB	2.48	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:YZ:99:TYR:CE1	55:YZ:125:LEU:HB2	2.34	0.61
2:QB:71:VAL:CG2	2:QB:93:VAL:CG1	2.77	0.61
23:QY:39:PHE:CZ	23:QY:70:VAL:HG21	2.35	0.61
21:XV:64:G:H4'	42:YQ:10:ARG:HH22	1.65	0.61
32:YA:273(E):U:H3	32:YA:363(A):A:H61	1.49	0.61
32:YA:1812:A:H2'	32:YA:1813:G:H8	1.64	0.61
32:YA:1816:G:N7	34:YD:35:LYS:NZ	2.44	0.61
35:YE:119:ARG:NH1	35:YE:156:MET:O	2.32	0.61
1:QA:977:A:N6	1:QA:1224:G:OP1	2.31	0.61
2:QB:142:LEU:HD23	2:QB:142:LEU:O	1.99	0.61
18:QS:9:VAL:HG21	27:R4:63:TYR:CD1	2.35	0.61
23:QY:10:TRP:CE3	23:QZ:3:LEU:HD13	2.36	0.61
32:RA:1899:G:H21	32:RA:1902:C:N4	1.97	0.61
35:RE:146:THR:CB	35:RE:147:PRO:HD3	2.22	0.61
28:Y5:55:ARG:NH1	28:Y5:57:VAL:CG1	2.63	0.61
34:YD:215:LEU:CD1	34:YD:217:ARG:HH21	2.13	0.61
42:YQ:60:ARG:CB	55:YZ:179:ASP:HA	2.30	0.61
47:YV:5:VAL:CG1	47:YV:57:VAL:HG21	2.18	0.61
55:RZ:78:LYS:CD	55:RZ:78:LYS:H	2.13	0.61
23:QZ:4:ILE:HG21	23:QZ:76:LEU:CD2	2.30	0.61
32:RA:2720:U:H3	32:RA:2873:A:H2	1.49	0.61
32:YA:1568:G:P	34:YD:63:ARG:HH22	2.23	0.61
23:QY:1:MET:O	23:QY:2:LYS:HB2	2.00	0.61
32:RA:958:U:OP2	42:RQ:14:ARG:NH1	2.33	0.61
1:XA:677:U:H3	1:XA:713:G:H22	1.48	0.61
1:XA:714:G:H2'	1:XA:715:A:C8	2.35	0.61
1:XA:1039:C:H2'	1:XA:1040:U:H5''	1.82	0.61
32:YA:956:G:OP2	42:YQ:14:ARG:NH2	2.33	0.61
35:YE:101:ARG:CG	35:YE:169:ASN:OD1	2.45	0.61
55:RZ:70:LEU:HD13	55:RZ:91:LEU:CD1	2.31	0.61
55:RZ:152:ALA:N	55:RZ:169:GLU:O	2.33	0.61
2:QB:215:LEU:O	2:QB:219:VAL:HG12	1.99	0.61
41:YP:102:ARG:O	41:YP:103:ALA:HB3	2.01	0.61
35:YE:51:PHE:HB3	35:YE:77:ILE:CD1	2.23	0.61
1:XA:946:A:H2'	1:XA:947:G:C8	2.34	0.61
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.81	0.61
1:XA:1422:G:H5'	40:YO:48:PRO:HB3	1.82	0.61
23:XZ:44:LYS:HD2	23:XZ:44:LYS:N	2.16	0.61
1:QA:1001:G:H2'	1:QA:1002:G:C8	2.36	0.61
1:QA:1033:G:O2'	1:QA:1034:G:OP1	2.16	0.61
1:QA:1252:A:H61	1:QA:1285:A:H61	1.47	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.36	0.61
23:QZ:4:ILE:CG2	23:QZ:76:LEU:HD23	2.31	0.61
53:Y8:12:LYS:HG2	41:YP:68:GLN:CD	2.21	0.61
32:YA:906:G:O5'	42:YQ:26:TYR:OH	2.17	0.61
35:YE:54:GLN:HA	35:YE:54:GLN:NE2	2.15	0.61
18:XS:41:VAL:CG2	18:XS:42:PRO:CD	2.77	0.61
55:RZ:138:GLU:HG3	55:RZ:138:GLU:O	2.01	0.61
2:QB:194:PRO:HB3	2:QB:200:ILE:CD1	2.26	0.61
9:QI:112:LYS:HA	9:QI:119:ALA:HB2	1.82	0.61
38:RI:92:VAL:O	38:RI:92:VAL:HG12	2.01	0.61
3:XC:58:GLU:HB2	3:XC:65:ALA:HB3	1.83	0.61
23:XZ:37:THR:HG22	23:XZ:40:GLU:O	2.00	0.61
32:YA:2472:G:H5'	32:YA:2473:U:H5''	1.82	0.61
35:YE:111:ARG:CD	35:YE:160:TYR:CD2	2.83	0.61
1:XA:1217:C:H5''	13:YN:9:LYS:HD2	1.82	0.61
32:YA:2657:A:O3'	37:YH:160:LYS:NZ	2.34	0.61
55:RZ:75:ASN:O	55:RZ:84:GLU:N	2.34	0.61
2:QB:219:VAL:HG23	2:QB:222:ILE:HD11	1.83	0.60
32:RA:530:G:O2'	32:RA:532:A:N7	2.34	0.60
37:RH:69:ARG:HH11	37:RH:69:ARG:C	2.04	0.60
23:XY:32:LYS:NZ	23:XY:35:ARG:HH11	1.99	0.60
32:YA:907:U:OP1	42:YQ:24:GLY:N	2.33	0.60
32:YA:2438:U:O3'	32:YA:2439:A:H3'	2.01	0.60
41:YP:81:GLN:OE1	41:YP:106:LEU:HG	2.00	0.60
34:YD:146:GLU:O	34:YD:189:CYS:HB3	2.00	0.60
47:YV:95:LEU:HD23	47:YV:95:LEU:C	2.21	0.60
55:RZ:56:VAL:HG22	55:RZ:70:LEU:HD11	1.82	0.60
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.65	0.60
23:XY:3:LEU:HD21	23:XY:5:TRP:HE1	1.65	0.60
32:YA:389:G:N1	41:YP:71:VAL:HG12	2.16	0.60
35:YE:51:PHE:N	35:YE:75:VAL:CG1	2.63	0.60
35:YE:51:PHE:O	35:YE:77:ILE:HG13	2.00	0.60
1:QA:427:U:OP1	4:QD:13:ARG:NH2	2.34	0.60
23:XZ:37:THR:HG21	23:XZ:40:GLU:O	1.98	0.60
32:YA:27:G:N2	32:YA:513:A:OP2	2.34	0.60
34:YD:35:LYS:HB2	34:YD:36:PRO:HD2	1.83	0.60
35:YE:7:VAL:CG1	35:YE:51:PHE:CE2	2.84	0.60
55:RZ:126:VAL:HG12	55:RZ:163:LEU:HD23	1.83	0.60
51:QL:26:ALA:HA	51:QL:64:TYR:HD2	1.66	0.60
11:QK:18:ARG:HG2	11:QK:81:ASP:HB2	1.81	0.60
32:RA:651:G:OP2	53:R8:21:LYS:NZ	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:956:G:O2'	42:RQ:82:ARG:NH2	2.33	0.60
32:YA:626:U:O4	41:YP:81:GLN:NE2	2.34	0.60
32:YA:1681:G:O2'	32:YA:1762:A:O2'	2.17	0.60
32:YA:2638:G:HO2'	32:YA:2639:A:H8	1.50	0.60
41:YP:100:LEU:HD12	41:YP:112:LEU:HD11	0.64	0.60
35:YE:70:ALA:HB3	35:YE:72:VAL:HG12	1.84	0.60
56:ZB:76:PPU:H93	56:ZB:76:PPU:N7	2.15	0.60
1:XA:448:A:OP2	1:XA:485:G:N2	2.34	0.60
32:YA:531:C:OP1	32:YA:561:G:N1	2.34	0.60
32:YA:1243:G:C2'	41:YP:7:ARG:HH22	2.14	0.60
32:YA:2572:A:N7	35:YE:145:LYS:HB2	2.17	0.60
34:YD:12:SER:HB3	34:YD:208:LYS:HB3	1.83	0.60
34:YD:133:LEU:HD12	34:YD:185:VAL:HG12	1.83	0.60
1:QA:954:G:H21	1:QA:1227:A:H62	1.48	0.60
25:R2:47:ASN:O	25:R2:48:HIS:ND1	2.34	0.60
32:RA:877:U:H2'	32:RA:878:A:H5''	1.84	0.60
32:RA:2112:G:N2	32:RA:2169:A:H61	1.98	0.60
50:RY:99:CYS:HB3	50:RY:103:GLY:H	1.66	0.60
32:YA:1675:C:O2	35:YE:128:SER:OG	2.20	0.60
52:R1:81:LYS:HG2	52:R1:81:LYS:O	2.01	0.60
1:QA:745:C:OP1	1:QA:851:G:O2'	2.19	0.60
1:QA:1060:C:H5'	13:QN:45:ARG:HH12	1.67	0.60
32:RA:243:U:OP2	53:R8:8:LYS:NZ	2.25	0.60
32:RA:655:A:H4'	32:RA:656:G:H5'	1.84	0.60
37:YH:107:VAL:HG12	37:YH:107:VAL:O	2.02	0.60
35:YE:172:VAL:CG1	35:YE:182:LEU:HD11	2.30	0.60
55:RZ:101:PRO:HG2	55:RZ:135:GLU:O	2.01	0.60
23:QY:1:MET:H1	23:QZ:7:GLU:CD	2.04	0.60
23:QZ:60:ILE:CD1	23:QZ:64:HIS:O	2.48	0.60
33:RB:33:G:H5'	36:RG:2:PRO:HG3	1.83	0.60
23:XY:1:MET:HE3	23:XY:35:ARG:HG2	1.84	0.60
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.33	0.60
32:RA:323:G:H2'	54:RF:169:ASN:OD1	2.02	0.60
1:XA:543:C:OP2	4:XD:10:ARG:NH1	2.34	0.60
10:XJ:6:ILE:HD12	10:XJ:98:ILE:HG22	1.83	0.60
32:YA:2748:A:H8	37:YH:63:SER:HA	1.66	0.60
37:YH:97:ARG:O	37:YH:103:LEU:HD12	2.01	0.60
23:QZ:20:ASP:HB3	23:QZ:23:ILE:HG12	1.84	0.60
53:Y8:15:LYS:HB2	41:YP:65:ARG:HH21	1.66	0.60
32:RA:10:G:N2	32:RA:2802:G:OP1	2.34	0.59
37:RH:69:ARG:HH11	37:RH:69:ARG:CG	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:RQ:65:PHE:HB2	42:RQ:105:GLU:HB3	1.83	0.59
3:XC:19:GLU:HG2	3:XC:54:ARG:HE	1.66	0.59
11:XK:83:ILE:HG12	11:XK:109:VAL:HB	1.83	0.59
15:XP:45:THR:HG22	15:XP:47:ASP:H	1.67	0.59
23:XY:17:GLN:NE2	23:XZ:24:VAL:HG12	2.16	0.59
50:YY:90:LEU:HB2	50:YY:92:ASN:OD1	2.02	0.59
25:R2:10:LEU:HD21	25:R2:14:ARG:HH21	1.67	0.59
40:RO:104:ARG:NH2	45:RT:43:GLN:OE1	2.35	0.59
50:RY:83:THR:OG1	50:RY:84:ARG:N	2.35	0.59
1:XA:1157:A:O2'	1:XA:1158:C:O5'	2.18	0.59
28:Y5:19:ARG:HG3	32:YA:2046:G:H5'	1.83	0.59
30:Y7:9:ARG:NE	32:YA:1310:G:OP2	2.33	0.59
32:YA:636:G:C8	41:YP:113:LYS:NZ	2.68	0.59
32:YA:1899:G:H2'	32:YA:1899:G:N3	2.17	0.59
40:YO:104:ARG:NH2	45:YT:43:GLN:OE1	2.36	0.59
45:YT:127:ALA:O	45:YT:131:ALA:CB	2.51	0.59
37:YH:107:VAL:CG1	37:YH:152:ARG:HD2	2.25	0.59
35:YE:49:LEU:N	35:YE:49:LEU:HD12	2.17	0.59
31:R9:30:PRO:HB2	32:RA:2527:C:H5'	1.85	0.59
41:RP:49:ARG:O	53:R8:57:ARG:HG2	2.02	0.59
41:RP:59:LEU:HD21	53:R8:10:ALA:HB2	1.83	0.59
1:XA:6:G:H4'	1:XA:298:A:H4'	1.83	0.59
1:XA:358:U:C6	1:XA:358:U:C5'	2.86	0.59
43:YR:86:ARG:NH2	43:YR:118:GLU:OXT	2.34	0.59
34:YD:111:LEU:CD1	34:YD:115:GLN:HE21	2.15	0.59
35:YE:54:GLN:HE21	35:YE:76:ARG:CG	2.15	0.59
55:RZ:78:LYS:N	55:RZ:78:LYS:HD2	2.16	0.59
55:YZ:72:ARG:HH11	55:YZ:72:ARG:CG	2.14	0.59
37:RH:23:ARG:NE	37:RH:25:LYS:HZ1	1.94	0.59
1:XA:1125:U:O4	10:XJ:5:ARG:NH1	2.35	0.59
35:YE:37:ARG:CD	35:YE:42:ASP:OD2	2.51	0.59
35:YE:201:THR:HG22	35:YE:203:LYS:H	1.68	0.59
1:XA:579:G:H5'	1:XA:728:A:H1'	1.82	0.59
1:XA:1001:G:C8	1:XA:1001:G:C3'	2.86	0.59
1:XA:1363:A:H4'	1:XA:1364:U:H5''	1.84	0.59
27:Y4:16:CYS:SG	27:Y4:17:GLY:N	2.76	0.59
2:QB:18:GLY:HA2	2:QB:40:HIS:O	2.01	0.59
2:QB:165:VAL:HG23	2:QB:211:ILE:HD11	1.84	0.59
23:QY:10:TRP:CD1	23:QZ:3:LEU:HD11	2.37	0.59
47:YV:23:GLU:OE1	47:YV:23:GLU:HA	2.02	0.59
23:QY:1:MET:O	23:QY:73:ASP:O	2.21	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:308:G:H2'	32:RA:308:G:N3	2.16	0.59
32:RA:442:G:H1'	54:RF:48:THR:HG21	1.85	0.59
33:RB:80:U:H2'	33:RB:81:G:H21	1.67	0.59
42:RQ:30:GLY:H	42:RQ:105:GLU:CD	2.06	0.59
19:XT:89:ARG:HD2	19:XT:104:LEU:HD21	1.85	0.59
23:XZ:26:LYS:O	23:XZ:30:LEU:HG	2.03	0.59
50:YY:102:CYS:SG	50:YY:103:GLY:N	2.76	0.59
23:QY:5:TRP:HD1	23:QZ:5:TRP:CD1	2.21	0.59
32:RA:2328:A:H2'	32:RA:2329:G:C8	2.38	0.59
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.67	0.59
11:XK:18:ARG:HB3	11:XK:33:THR:HG23	1.84	0.59
37:YH:111:HIS:HB2	37:YH:112:PRO:HD2	1.85	0.59
37:YH:115:VAL:HG21	37:YH:148:ILE:HG12	1.85	0.59
23:QZ:60:ILE:CD1	23:QZ:64:HIS:C	2.71	0.59
32:RA:308:G:C2'	32:RA:329:G:N2	2.65	0.59
32:RA:521:G:H2'	32:RA:522:G:H8	1.68	0.59
32:RA:2468:G:H3'	32:RA:2476:A:H2	1.68	0.59
37:RH:69:ARG:NH1	37:RH:69:ARG:O	2.36	0.59
53:Y8:15:LYS:CB	41:YP:65:ARG:HH22	2.14	0.59
32:YA:352:G:O2'	32:YA:353:G:OP1	2.19	0.59
32:YA:481:G:O2'	32:YA:506:G:N2	2.35	0.59
39:YN:15:LEU:HD22	39:YN:134:ARG:HB2	1.84	0.59
41:YP:71:VAL:HG13	41:YP:72:PRO:CD	2.31	0.59
55:YZ:103:ARG:HG2	55:YZ:136:PHE:HB2	1.85	0.59
21:QW:51:C:H42	21:QW:63:G:H1	1.51	0.59
32:RA:2343:C:HO2'	32:RA:2373:G:HO2'	1.43	0.59
40:RO:2:ILE:HB	40:RO:33:ALA:HB3	1.83	0.59
55:RZ:117:LEU:HA	55:RZ:174:VAL:HG12	1.84	0.59
32:RA:306:U:C5	32:RA:307:G:C6	2.91	0.58
32:RA:1639:U:H2'	32:RA:1640:C:H5''	1.84	0.58
24:Y0:77:ARG:NH2	32:YA:857:C:OP2	2.35	0.58
53:Y8:58:ILE:HG23	41:YP:49:ARG:HD2	1.85	0.58
32:YA:811:U:C3'	41:YP:21:ARG:O	2.50	0.58
32:YA:953:A:O2'	32:YA:954:G:H5'	2.03	0.58
32:YA:2572:A:C8	35:YE:144:ARG:HG2	2.36	0.58
41:YP:97:PRO:HA	41:YP:112:LEU:HD12	1.85	0.58
34:YD:24:ILE:HD11	34:YD:84:TYR:HB2	1.84	0.58
35:YE:111:ARG:HD2	35:YE:160:TYR:CD2	2.38	0.58
1:XA:126:G:OP1	1:XA:605:U:O2'	2.17	0.58
1:XA:991:U:O4	1:XA:1212:U:O2'	2.13	0.58
12:XM:87:TYR:H	18:XS:73:GLU:HG2	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:2114:A:N1	32:YA:2170:A:N6	2.51	0.58
41:YP:71:VAL:CG1	41:YP:72:PRO:HD3	2.29	0.58
34:YD:96:HIS:HD2	34:YD:102:LYS:HG2	1.66	0.58
35:YE:5:LEU:HD23	35:YE:77:ILE:HD11	1.85	0.58
1:QA:413:G:N2	1:QA:429:U:OP2	2.37	0.58
2:QB:10:LEU:HD23	2:QB:10:LEU:C	2.24	0.58
2:QB:115:LEU:CD1	2:QB:145:LEU:HD23	2.33	0.58
32:RA:1754:C:OP1	45:RT:96:ARG:NH1	2.36	0.58
32:RA:2051:A:N3	32:RA:2052:G:N7	2.52	0.58
32:RA:2313:C:H5''	36:RG:91:ARG:HD3	1.85	0.58
32:RA:2751:G:OP1	32:RA:2751:G:N2	2.32	0.58
32:YA:698:C:O2'	32:YA:734:A:N6	2.35	0.58
32:YA:996:A:H4'	46:YU:92:ARG:HD2	1.84	0.58
50:YY:91:GLU:OE1	50:YY:91:GLU:HA	2.04	0.58
37:YH:143:GLN:NE2	37:YH:147:ASN:OD1	2.36	0.58
2:QB:60:ASP:O	2:QB:64:ARG:CD	2.46	0.58
32:RA:859:G:N2	32:RA:917:A:OP2	2.32	0.58
32:RA:2310:A:N6	36:RG:79:ASN:OD1	2.37	0.58
34:RD:260:ARG:HH12	34:RD:267:SER:HG	1.51	0.58
32:YA:2642:G:H5'	39:YN:78:TYR:CD2	2.37	0.58
1:QA:279:A:OP2	16:QQ:95:TYR:OH	2.14	0.58
5:QE:50:GLU:HG3	5:QE:52:PRO:HD2	1.84	0.58
18:QS:41:VAL:CG1	18:QS:67:VAL:HG13	2.20	0.58
32:RA:2147:G:H2'	32:RA:2148:G:C8	2.38	0.58
41:YP:99:LEU:HD12	41:YP:99:LEU:C	2.24	0.58
42:YQ:60:ARG:O	55:YZ:179:ASP:CA	2.50	0.58
35:YE:104:VAL:CG1	35:YE:188:VAL:HG21	2.31	0.58
55:RZ:120:ILE:H	55:RZ:172:ALA:HA	1.68	0.58
49:RX:21:PHE:HE1	49:RX:92:LEU:HB3	1.68	0.58
37:YH:43:VAL:HA	37:YH:52:VAL:HG12	1.86	0.58
2:QB:11:LEU:CD1	2:QB:11:LEU:H	2.16	0.58
2:QB:220:ASP:O	2:QB:223:ILE:HG13	2.03	0.58
27:R4:23:GLU:O	27:R4:25:TYR:N	2.36	0.58
32:RA:1812:A:H4'	34:RD:46:GLN:HE22	1.68	0.58
32:RA:1882:C:H3'	32:RA:1883:G:H8	1.67	0.58
1:XA:1440:C:O2'	1:XA:1442:G:N2	2.37	0.58
8:XH:17:THR:O	8:XH:78:GLN:NE2	2.37	0.58
32:YA:352:G:HO2'	32:YA:353:G:P	2.26	0.58
32:YA:642:G:H21	32:YA:646:A:H2	1.52	0.58
2:QB:71:VAL:CG1	2:QB:93:VAL:CG1	2.79	0.58
2:QB:238:LEU:HD23	2:QB:238:LEU:C	2.23	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:84:A:N6	32:RA:102:G:O2'	2.35	0.58
2:XB:42:ILE:HD11	2:XB:202:PRO:HB2	1.85	0.58
35:YE:4:ILE:HG22	35:YE:96:PHE:CE2	2.36	0.58
1:QA:7:G:H5'	1:QA:298:A:O4'	2.03	0.58
2:QB:69:LEU:HD22	2:QB:71:VAL:HG23	1.85	0.58
32:RA:270(B):A:H5'	32:RA:270(C):C:OP2	2.04	0.58
32:RA:2642:G:H5'	39:RN:78:TYR:CD2	2.37	0.58
32:RA:2659:G:N2	32:RA:2662:A:OP2	2.37	0.58
22:XX:20:A2M:HM'2	22:XX:20:A2M:O3'	2.02	0.58
32:YA:2610:C:H4'	32:YA:2611:U:OP2	2.02	0.58
41:YP:90:ARG:HG3	41:YP:91:PHE:CD2	2.38	0.58
35:YE:37:ARG:HD3	35:YE:42:ASP:OD2	2.02	0.58
35:YE:104:VAL:HG11	35:YE:188:VAL:CG2	2.34	0.58
23:QY:8:GLU:CD	23:QY:8:GLU:H	2.04	0.58
21:XW:71:C:H2'	21:XW:72:A:C8	2.39	0.58
31:Y9:33:LYS:NZ	32:YA:2743:C:OP1	2.37	0.58
45:YT:133:GLU:CB	45:YT:137:LYS:NZ	2.67	0.58
41:YP:79:ARG:HB2	41:YP:110:TYR:CD1	2.39	0.58
34:YD:108:PRO:HD2	34:YD:111:LEU:CD2	2.34	0.58
55:YZ:1:MET:CG	55:YZ:2:GLU:N	2.65	0.58
1:QA:618:C:H5'	1:QA:619:U:H5''	1.86	0.57
1:QA:971:G:H5''	1:QA:972:C:H5''	1.86	0.57
32:RA:2130:U:O2	32:RA:2133:G:O2'	2.22	0.57
37:RH:23:ARG:NE	37:RH:25:LYS:HZ3	2.02	0.57
1:XA:1182:G:H4'	1:XA:1183:A:H5'	1.84	0.57
21:XW:76:A:O2'	32:YA:2394:C:N3	2.35	0.57
32:YA:953:A:C2'	32:YA:954:G:H5'	2.34	0.57
34:YD:123:ALA:O	34:YD:131:LEU:HD21	2.03	0.57
1:QA:677:U:O2	1:QA:777:A:O2'	2.20	0.57
29:R6:10:LEU:HD13	29:R6:19:ARG:HG2	1.87	0.57
32:RA:1353:A:H2'	32:RA:1354:A:C8	2.39	0.57
9:XI:10:ARG:NH1	9:XI:75:ASP:OD2	2.37	0.57
45:YT:136:GLN:O	45:YT:137:LYS:CG	2.51	0.57
41:YP:39:LYS:HG3	41:YP:39:LYS:O	2.03	0.57
34:YD:242:ARG:HD2	34:YD:242:ARG:N	2.14	0.57
37:YH:92:ILE:HD12	37:YH:92:ILE:N	2.18	0.57
2:QB:213:LEU:HD23	2:QB:213:LEU:O	2.03	0.57
2:QB:220:ASP:O	2:QB:223:ILE:HG12	2.04	0.57
6:QF:20:ALA:HA	6:QF:23:LYS:HE2	1.86	0.57
18:QS:81:ARG:HH22	23:QZ:36:ARG:HD2	1.64	0.57
23:QY:5:TRP:HB2	23:QZ:3:LEU:CB	2.10	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:845:G:H4'	32:RA:846:C:OP1	2.04	0.57
41:RP:6:LEU:HB3	54:RF:34:TRP:HD1	1.69	0.57
10:XJ:10:GLY:HA3	10:XJ:16:LEU:HD21	1.86	0.57
21:XW:21:A:H61	21:XW:46:G:H2'	1.68	0.57
35:YE:73:GLU:OE2	35:YE:74:PRO:HG2	2.03	0.57
32:RA:2209:C:O2'	32:RA:2211:G:N2	2.37	0.57
23:XY:39:PHE:CZ	32:YA:1914:C:H5''	2.39	0.57
32:YA:321:G:O2'	32:YA:340:A:N3	2.37	0.57
32:YA:2392:A:H2	32:YA:2424:C:H42	1.52	0.57
41:YP:100:LEU:CD1	41:YP:112:LEU:CD1	2.33	0.57
37:YH:50:VAL:HG13	37:YH:50:VAL:O	2.04	0.57
37:YH:107:VAL:O	37:YH:152:ARG:CD	2.52	0.57
37:YH:118:PRO:O	37:YH:121:ILE:HB	2.03	0.57
37:YH:154:PRO:HB3	37:YH:163:TYR:CZ	2.39	0.57
47:YV:57:VAL:HG23	47:YV:57:VAL:O	2.05	0.57
2:QB:61:LEU:HD11	2:QB:66:GLY:HA3	1.84	0.57
32:RA:994:C:OP1	46:RU:53:ARG:NH2	2.37	0.57
32:RA:1666:G:N3	40:RO:3:GLN:NE2	2.51	0.57
23:XY:6:SER:N	23:XY:9:SER:OG	2.37	0.57
32:YA:259:G:H21	32:YA:621:A:H8	1.51	0.57
32:YA:495:G:N3	48:YW:61:ASN:ND2	2.52	0.57
32:YA:2286:A:H4'	32:YA:2287:A:O4'	2.03	0.57
32:YA:2679:A:H5'	35:YE:165:VAL:HG11	1.86	0.57
37:YH:152:ARG:O	37:YH:162:ILE:HD12	2.04	0.57
32:RA:2451:A:C2	56:ZB:76:PPU:HD2	2.39	0.57
33:RB:3:C:H5''	33:RB:3:C:C6	2.36	0.57
1:XA:1166:G:N2	1:XA:1170:A:OP2	2.32	0.57
23:XZ:6:SER:HG	23:XZ:9:SER:CB	2.16	0.57
55:RZ:53:ILE:CD1	55:RZ:72:ARG:HA	2.33	0.57
55:YZ:179:ASP:OD1	55:YZ:180:VAL:N	2.38	0.57
1:QA:971:G:C5	1:QA:1365:G:H5'	2.39	0.57
9:QI:128:ARG:NH2	21:QV:33:U:OP2	2.37	0.57
23:QZ:16:TRP:CZ3	23:QZ:80:CYS:O	2.58	0.57
23:QZ:60:ILE:HD13	23:QZ:64:HIS:HB2	1.86	0.57
30:R7:7:PRO:HB2	32:RA:1309:G:H4'	1.85	0.57
32:RA:960:A:H61	42:RQ:82:ARG:HH12	1.53	0.57
32:RA:2688:U:OP1	32:RA:2713:A:N6	2.38	0.57
21:XW:2:G:H2'	21:XW:3:C:O4'	2.05	0.57
23:XY:3:LEU:CD2	23:XY:5:TRP:NE1	2.66	0.57
30:Y7:24:THR:HG23	30:Y7:27:GLY:H	1.69	0.57
40:YO:87:ILE:HD12	40:YO:91:LEU:HA	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YP:71:VAL:N	41:YP:72:PRO:HD2	2.19	0.57
54:RF:6:VAL:O	54:RF:6:VAL:HG22	2.04	0.57
56:ZB:75:C:O5'	56:ZB:75:C:H6	1.88	0.57
1:QA:581:G:O3'	14:QO:64:ARG:NH2	2.38	0.57
1:XA:1250:A:N3	1:XA:1370:G:O2'	2.37	0.57
1:XA:1499:A:H1'	1:XA:1520:G:H5'	1.85	0.57
23:XY:51:ASN:O	23:XY:52:LEU:HD23	2.05	0.57
32:YA:273(F):C:H3'	32:YA:274:G:H5''	1.87	0.57
32:YA:277:C:H3'	32:YA:278:A:C8	2.39	0.57
32:YA:994:C:OP1	46:YU:53:ARG:NH2	2.38	0.57
41:YP:128:HIS:N	41:YP:148:LEU:CB	2.51	0.57
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.37	0.57
32:RA:1202:C:O2'	54:RF:184:TYR:OH	2.21	0.57
32:RA:1991:U:H2'	32:RA:1992:G:H5''	1.86	0.57
41:RP:60:MET:HA	53:R8:13:ARG:NH1	2.20	0.57
32:YA:1363:C:O2'	32:YA:1809:A:N3	2.33	0.57
32:YA:2208:U:H1'	34:YD:151:LYS:CE	2.25	0.57
32:YA:2328:A:H2'	32:YA:2329:G:C8	2.40	0.57
54:YF:116:ASP:OD1	54:YF:119:ARG:NH2	2.37	0.57
34:YD:133:LEU:HD13	34:YD:175:LEU:HD11	1.87	0.57
2:QB:20:GLU:HB3	2:QB:23:ARG:HG3	1.87	0.57
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.38	0.57
32:RA:896:A:N3	55:RZ:146:ILE:HD13	2.20	0.57
32:RA:2134:A:N6	32:RA:2157:G:O2'	2.38	0.57
41:RP:52:GLU:HG3	41:RP:57:THR:HA	1.86	0.57
1:XA:976:G:N2	1:XA:1362(A):C:OP2	2.29	0.57
10:XJ:45:ARG:HB3	10:XJ:65:LEU:HB3	1.85	0.57
32:YA:859:G:N2	32:YA:917:A:OP2	2.38	0.57
34:YD:165:ILE:HA	34:YD:175:LEU:HD23	1.87	0.57
34:YD:222:ARG:HH12	34:YD:224:ALA:HB3	1.70	0.57
54:RF:70:THR:HG23	54:RF:72:ARG:H	1.69	0.57
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.40	0.56
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.87	0.56
4:QD:60:GLU:OE2	4:QD:199:ASN:N	2.36	0.56
32:RA:481:G:O2'	32:RA:506:G:N2	2.38	0.56
32:YA:2377:A:H4'	44:YS:111:GLU:HB3	1.86	0.56
37:YH:126:PRO:HD2	37:YH:130:ARG:O	2.05	0.56
47:YV:25:LEU:HD12	47:YV:94:LEU:HD11	1.86	0.56
35:YE:111:ARG:HD3	35:YE:160:TYR:CD2	2.39	0.56
1:QA:1314:C:N4	18:QS:2:PRO:O	2.38	0.56
1:QA:1422:G:O3'	40:RO:49:ARG:NH1	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:413:G:N2	1:XA:429:U:OP2	2.38	0.56
1:XA:1182:G:O2'	1:XA:1183:A:OP2	2.22	0.56
4:XD:62:GLN:HE22	4:XD:65:ARG:HH21	1.53	0.56
1:QA:1005:A:O2'	1:QA:1037:C:O2	2.20	0.56
2:QB:67:THR:HG22	2:QB:155:LEU:HD22	1.86	0.56
2:QB:71:VAL:HG11	2:QB:97:TRP:HE3	1.67	0.56
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.38	0.56
32:RA:807:U:O2'	32:RA:2060:A:N1	2.35	0.56
32:RA:1139:G:O2'	32:RA:1143:A:N6	2.36	0.56
32:RA:1902:C:OP1	34:RD:242:ARG:NH2	2.32	0.56
32:RA:2296:U:OP2	44:RS:9:ARG:NH1	2.38	0.56
1:XA:1255:G:OP1	10:XJ:45:ARG:NH2	2.38	0.56
5:XE:75:THR:OG1	5:XE:76:ILE:N	2.38	0.56
27:Y4:25:TYR:HB2	36:YG:101:ILE:HD13	1.87	0.56
32:YA:877:U:O2'	32:YA:878:A:OP1	2.22	0.56
32:YA:1842:G:O2'	34:YD:253:GLN:OE1	2.20	0.56
32:YA:2304:G:H22	32:YA:2312:U:H3	1.53	0.56
34:YD:29:PRO:HB3	34:YD:63:ARG:HE	1.70	0.56
34:YD:232:PRO:HB3	34:YD:244:ARG:NH2	2.21	0.56
3:QC:150:LYS:HE3	3:QC:167:TRP:HE1	1.70	0.56
23:QZ:62:GLU:O	23:QZ:65:ARG:NH1	2.18	0.56
1:XA:31:G:HO2'	1:XA:48:C:N4	2.04	0.56
1:XA:191(E):G:C6	1:XA:191(F):U:C4	2.94	0.56
21:XV:64:G:H4'	42:YQ:10:ARG:NH2	2.20	0.56
32:YA:287:C:C2'	32:YA:288:C:O5'	2.54	0.56
41:YP:29:LYS:HG2	41:YP:30:THR:H	1.70	0.56
35:YE:2:LYS:HA	35:YE:84:PHE:CE1	2.40	0.56
52:R1:56:GLN:OE1	52:R1:56:GLN:N	2.38	0.56
55:YZ:23:LYS:HE2	55:YZ:38:TYR:HE1	1.71	0.56
23:QY:36:ARG:HB3	23:QY:36:ARG:NH1	2.21	0.56
32:RA:2335:A:O2'	32:RA:2336:A:H2'	2.05	0.56
1:XA:518:C:H5''	1:XA:519:C:C6	2.40	0.56
34:YD:69:ARG:HE	34:YD:130:ALA:HB2	1.71	0.56
37:YH:19:VAL:HG11	37:YH:45:VAL:HG13	1.86	0.56
37:YH:80:SER:OG	37:YH:81:GLU:N	2.38	0.56
35:YE:47:VAL:O	35:YE:49:LEU:HD13	2.06	0.56
26:R3:10:LYS:HB3	26:R3:53:LEU:HD23	1.88	0.56
1:XA:262:A:H5''	19:XT:76:ALA:HB2	1.87	0.56
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.87	0.56
1:XA:925:G:H1	1:XA:1391:U:H3	1.53	0.56
7:XG:94:ARG:NH1	7:XG:98:SER:OG	2.39	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:XO:17:ARG:NH1	14:XO:26:GLU:OE2	2.38	0.56
23:XZ:34:THR:HG22	23:XZ:58:ARG:NE	2.20	0.56
32:YA:2010:G:H5''	48:YV:42:ARG:HB2	1.86	0.56
47:YV:18:LEU:HD23	47:YV:18:LEU:C	2.25	0.56
35:YE:46:ALA:CB	35:YE:82:ARG:HA	2.35	0.56
1:QA:1266:G:N2	1:QA:1269:A:OP2	2.39	0.56
32:RA:2867:G:OP2	45:RT:119:LYS:NZ	2.29	0.56
20:XU:6:ARG:HH21	20:XU:15:ARG:HE	1.52	0.56
37:YH:125:VAL:HG13	37:YH:130:ARG:O	2.06	0.56
35:YE:54:GLN:HB2	35:YE:76:ARG:HG2	1.86	0.56
18:XS:25:LYS:HG3	18:XS:25:LYS:O	2.06	0.56
1:QA:1031:G:H21	1:QA:1032:A:H1'	1.69	0.56
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.41	0.56
23:XY:32:LYS:HZ1	23:XY:35:ARG:HH11	1.51	0.56
28:Y5:55:ARG:HH12	28:Y5:57:VAL:CG1	2.19	0.56
32:YA:1270:C:H5''	32:YA:1271:G:H5'	1.86	0.56
32:YA:2115:G:OP1	32:YA:2167:U:N3	2.35	0.56
41:YP:121:LYS:CE	41:YP:123:LEU:HD11	2.36	0.56
42:YQ:64:ILE:HD11	55:YZ:178:GLU:HB2	1.88	0.56
47:YV:52:VAL:CG1	47:YV:52:VAL:O	2.53	0.56
2:QB:165:VAL:CG2	2:QB:211:ILE:HD11	2.36	0.56
23:QZ:69:ALA:HB3	23:QZ:76:LEU:HB2	1.88	0.56
32:RA:2844:G:H3'	32:RA:2845:G:H8	1.71	0.56
38:RI:79:ILE:HB	38:RI:142:VAL:HG11	1.86	0.56
41:RP:134:ALA:O	41:RP:138:LEU:HB2	2.06	0.56
32:YA:2572:A:N7	35:YE:144:ARG:CD	2.64	0.56
55:RZ:50:GLN:OE1	55:RZ:50:GLN:N	2.38	0.56
55:YZ:4:ARG:HG2	55:YZ:58:VAL:HB	1.88	0.56
1:QA:261:U:OP2	19:QT:79:ARG:NH2	2.39	0.56
2:QB:118:LEU:HD21	2:QB:142:LEU:CB	2.27	0.56
32:RA:512:G:OP1	32:RA:1234:U:O2'	2.21	0.56
36:RG:29:TRP:O	36:RG:33:ARG:NH1	2.39	0.56
23:XY:35:ARG:NH1	23:XZ:10:TRP:CD1	2.72	0.56
32:YA:219:G:N3	32:YA:234:C:O2'	2.35	0.56
32:YA:996:A:OP2	46:YU:92:ARG:NH1	2.39	0.56
32:YA:1243:G:C3'	41:YP:7:ARG:HH22	2.19	0.56
41:YP:100:LEU:O	41:YP:105:LEU:HB2	2.05	0.56
55:RZ:78:LYS:H	55:RZ:78:LYS:HD2	1.69	0.56
1:QA:422:C:HO2'	1:QA:423:G:N2	2.03	0.55
32:RA:24:G:O2'	48:RW:78:GLU:O	2.24	0.55
32:RA:581:C:H2'	32:RA:582:G:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:250:A:H4'	1:XA:251:G:O5'	2.06	0.55
23:XY:37:THR:OG1	23:XY:40:GLU:O	2.23	0.55
32:YA:2508:G:H1	32:YA:2580:U:H3	1.54	0.55
50:YY:83:THR:OG1	50:YY:84:ARG:N	2.40	0.55
41:YP:29:LYS:HG2	41:YP:30:THR:N	2.21	0.55
34:YD:64:ILE:HD12	34:YD:64:ILE:C	2.26	0.55
1:QA:1350:A:N7	9:QI:118:LYS:NZ	2.54	0.55
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.38	0.55
9:QI:46:ALA:HA	9:QI:78:LYS:HB2	1.88	0.55
11:QK:109:VAL:HG12	17:QR:86:VAL:HA	1.88	0.55
28:R5:19:ARG:HG3	32:RA:2046:G:H5'	1.88	0.55
32:RA:448:U:H1'	54:RF:84:VAL:CG2	2.36	0.55
42:RQ:67:ARG:O	42:RQ:101:ARG:NH2	2.39	0.55
45:RT:28:VAL:HG23	45:RT:88:ILE:HA	1.89	0.55
51:XL:44:THR:HG21	23:XY:40:GLU:HB3	1.89	0.55
18:XS:14:HIS:O	18:XS:18:LYS:HG3	2.05	0.55
1:QA:56:U:H2'	1:QA:57:G:H8	1.71	0.55
1:QA:708:C:H2'	1:QA:709:G:H8	1.71	0.55
3:QC:157:ILE:HD13	3:QC:166:GLU:HG2	1.88	0.55
21:QW:48:C:H5''	21:QW:49:G:H5''	1.89	0.55
29:R6:8:LYS:NZ	53:R8:34:TRP:CE3	2.67	0.55
32:RA:1838:C:H4'	32:RA:1839:G:H8	1.71	0.55
41:RP:49:ARG:HH12	53:R8:4:MET:CE	2.18	0.55
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.87	0.55
53:R8:33:ASN:HA	53:R8:36:LYS:HD2	1.89	0.55
1:QA:1499:A:H1'	1:QA:1520:G:H5'	1.88	0.55
2:QB:69:LEU:CD2	2:QB:71:VAL:CG2	2.83	0.55
23:QY:10:TRP:CG	23:QZ:3:LEU:HD12	2.41	0.55
32:RA:307:G:N2	32:RA:310:A:OP2	2.38	0.55
32:RA:1681:G:O2'	32:RA:1762:A:O2'	2.21	0.55
23:XY:7:GLU:HA	23:XZ:35:ARG:HH22	1.71	0.55
32:YA:637:A:H2'	41:YP:117:GLU:OE2	2.07	0.55
32:YA:829:A:N7	32:YA:2248:C:H5'	2.21	0.55
32:YA:1842:G:C4	32:YA:1901:A:C2	2.94	0.55
46:YU:95:LEU:HD13	47:YV:4:ILE:HD13	1.88	0.55
34:YD:80:ALA:CB	34:YD:96:HIS:ND1	2.68	0.55
42:YQ:54:MET:CE	42:YQ:118:LEU:HD23	2.36	0.55
35:YE:143:ASN:HD22	35:YE:143:ASN:N	2.05	0.55
1:QA:578:C:O2'	1:QA:728:A:N3	2.35	0.55
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.89	0.55
24:R0:11:ARG:O	24:R0:14:ARG:NH2	2.39	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:18:C:O2'	32:RA:553:U:OP1	2.23	0.55
32:RA:2134:A:OP2	32:RA:2157:G:N2	2.30	0.55
38:RI:24:GLY:O	38:RI:28:ASN:HB2	2.06	0.55
45:RT:16:ARG:HH21	45:RT:19:LEU:HD21	1.70	0.55
32:YA:569:U:O2'	32:YA:983:A:N1	2.39	0.55
32:YA:1798:U:H5	34:YD:274:ARG:CZ	2.20	0.55
41:YP:57:THR:OG1	41:YP:60:MET:HG2	2.07	0.55
37:YH:136:ILE:H	37:YH:136:ILE:CD1	2.19	0.55
21:QW:63:G:H2'	21:QW:64:G:C8	2.41	0.55
29:R6:16:CYS:HB3	29:R6:43:CYS:SG	2.47	0.55
35:RE:56:PRO:HD2	35:RE:58:ARG:HE	1.69	0.55
1:XA:811:C:O2'	1:XA:901:A:N1	2.40	0.55
43:YR:28:LEU:HD23	43:YR:48:VAL:HG21	1.88	0.55
42:YQ:136:ALA:HA	42:YQ:139:GLU:OE2	2.05	0.55
37:YH:4:ILE:HG21	37:YH:70:THR:HG23	1.87	0.55
47:YV:79:VAL:O	47:YV:79:VAL:HG22	2.07	0.55
1:XA:108:G:H5'	1:XA:109:A:H5''	1.89	0.55
53:Y8:62:LEU:HD13	32:YA:242:G:H5''	1.89	0.55
35:YE:50:GLY:CA	35:YE:75:VAL:HG11	2.36	0.55
53:R8:22:VAL:HG13	53:R8:50:LEU:HB2	1.89	0.55
1:QA:755:G:OP2	14:QO:65:ARG:HD2	2.07	0.55
32:RA:539:G:H2'	32:RA:540:G:H8	1.71	0.55
33:RB:37:C:O2	44:RS:95:HIS:NE2	2.37	0.55
2:XB:69:LEU:HB3	2:XB:162:ILE:HG22	1.88	0.55
9:XI:3:GLN:OE1	9:XI:20:ARG:NH2	2.40	0.55
23:XZ:37:THR:CG2	23:XZ:40:GLU:CB	2.76	0.55
28:Y5:25:LEU:HG	48:YW:19:LEU:HD23	1.88	0.55
32:YA:1607:C:N4	32:YA:1622:G:OP2	2.35	0.55
32:YA:2667:C:N3	37:YH:110:SER:OG	2.32	0.55
1:QA:426:G:OP1	4:QD:38:TYR:OH	2.22	0.55
1:QA:1005:A:H2	1:QA:1025:U:H1'	1.72	0.55
2:QB:156:LYS:HE2	2:QB:156:LYS:CA	2.24	0.55
32:RA:309:G:H5''	50:RY:18:GLY:HA2	1.89	0.55
37:RH:18:GLU:HA	37:RH:18:GLU:OE2	2.07	0.55
42:RQ:20:ALA:CB	55:RZ:79:ARG:NH2	2.70	0.55
1:XA:181:G:O2'	1:XA:182:U:O5'	2.19	0.55
32:YA:1846:G:H5'	32:YA:1847:A:OP2	2.07	0.55
42:YQ:58:PHE:HE1	42:YQ:117:ALA:HB2	1.71	0.55
42:YQ:114:ALA:O	42:YQ:118:LEU:HG	2.06	0.55
35:YE:50:GLY:HA2	35:YE:78:LEU:CD2	2.37	0.55
1:QA:831:U:P	2:QB:22:LYS:HZ3	2.28	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1128:C:H1'	1:QA:1146:A:H61	1.72	0.55
2:QB:165:VAL:HG21	2:QB:211:ILE:HD12	1.89	0.55
18:QS:41:VAL:CG2	18:QS:42:PRO:HD3	2.31	0.55
32:RA:2591:C:H2'	32:RA:2592:G:C8	2.41	0.55
34:RD:25:THR:OG1	34:RD:26:LYS:N	2.40	0.55
22:XX:19:A2M:C2	23:XY:51:ASN:CG	2.75	0.55
29:Y6:10:LEU:HG	29:Y6:54:ILE:HD12	1.87	0.55
33:YB:45:A:OP2	36:YG:96:ARG:NH2	2.40	0.55
37:YH:94:TYR:CE1	37:YH:107:VAL:HA	2.42	0.55
35:YE:97:LYS:N	35:YE:100:GLU:OE1	2.35	0.55
18:XS:64:GLU:H	18:XS:64:GLU:CD	2.10	0.55
55:YZ:108:PRO:HG3	55:YZ:141:VAL:HB	1.89	0.55
32:RA:1652:A:OP1	43:RR:8:ARG:NH1	2.40	0.54
1:XA:316:G:OP1	1:XA:351:G:O2'	2.20	0.54
1:XA:890:G:O2'	1:XA:906:G:O6	2.25	0.54
1:XA:1178:G:H5''	9:XI:93:ARG:HH22	1.71	0.54
25:Y2:22:GLU:OE2	25:Y2:68:ARG:NH2	2.40	0.54
32:YA:807:U:O2'	32:YA:2060:A:N1	2.39	0.54
32:YA:2255:G:C2	42:YQ:85:LYS:NZ	2.59	0.54
33:YB:1:U:O2	33:YB:1:U:H2'	2.06	0.54
35:YE:2:LYS:HA	35:YE:84:PHE:CD1	2.42	0.54
54:RF:9:ILE:HD12	54:RF:123:LEU:CD2	2.37	0.54
53:R8:57:ARG:HH11	53:R8:57:ARG:CB	2.13	0.54
9:QI:17:VAL:HG12	9:QI:63:ILE:HD12	1.88	0.54
32:RA:309:G:H5''	50:RY:18:GLY:C	2.28	0.54
32:RA:848:G:H2'	32:RA:849:A:C8	2.42	0.54
32:RA:1210:A:H5''	32:RA:1211:U:H3'	1.90	0.54
41:RP:49:ARG:NH1	53:R8:4:MET:CE	2.70	0.54
1:XA:254:G:O2'	16:XQ:16:GLN:O	2.26	0.54
1:XA:1119:C:OP2	9:XI:9:ARG:NH2	2.36	0.54
32:YA:603:A:N6	32:YA:625:G:O2'	2.41	0.54
32:YA:955:C:H5'	42:YQ:87:LYS:NZ	2.22	0.54
32:YA:2867:G:OP2	45:YT:119:LYS:NZ	2.28	0.54
37:YH:45:VAL:HG23	37:YH:45:VAL:O	2.07	0.54
35:YE:23:VAL:HA	35:YE:184:VAL:O	2.06	0.54
35:YE:179:GLU:OE1	35:YE:179:GLU:HA	2.06	0.54
1:QA:689:C:OP2	11:QK:55:LYS:NZ	2.37	0.54
8:QH:9:MET:HG3	8:QH:26:VAL:HG11	1.90	0.54
23:QY:7:GLU:CG	23:QY:8:GLU:CD	2.75	0.54
31:R9:6:SER:O	31:R9:6:SER:OG	2.24	0.54
32:RA:642:G:H21	32:RA:646:A:H2	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:1386:C:OP2	32:RA:1396:U:N3	2.40	0.54
32:RA:1939:U:OP1	32:RA:2604:U:O2'	2.21	0.54
37:RH:3:ARG:HH21	37:RH:8:PRO:CG	2.20	0.54
1:XA:967:C:H4'	9:XI:125:TYR:HE1	1.72	0.54
32:YA:196:A:H62	32:YA:831:G:H21	1.55	0.54
32:YA:2148:G:H2'	32:YA:2149:G:H8	1.72	0.54
41:YP:132:LYS:O	41:YP:136:GLU:HG3	2.08	0.54
34:YD:28:GLU:OE1	34:YD:29:PRO:HD2	2.07	0.54
1:QA:501:C:H2'	1:QA:502:G:H8	1.72	0.54
1:QA:545:C:OP1	4:QD:61:LYS:NZ	2.41	0.54
1:QA:624:C:H2'	1:QA:625:G:H8	1.71	0.54
1:QA:1127:G:H2'	1:QA:1128:C:C6	2.43	0.54
32:RA:17:G:H4'	46:RU:25:TRP:HE1	1.73	0.54
32:RA:1403:C:H5''	32:RA:1471:A:H1'	1.89	0.54
32:RA:2312:U:O2	36:RG:40:ASN:ND2	2.40	0.54
43:RR:86:ARG:NH2	43:RR:118:GLU:OXT	2.40	0.54
1:XA:99:C:H2'	1:XA:101:A:C8	2.42	0.54
32:YA:1386:C:OP2	32:YA:1396:U:N3	2.35	0.54
32:YA:1675:C:N3	35:YE:128:SER:OG	2.37	0.54
32:YA:2255:G:N2	42:YQ:85:LYS:CE	2.69	0.54
41:YP:113:LYS:HA	41:YP:129:ALA:O	2.07	0.54
34:YD:148:GLU:HB2	34:YD:151:LYS:HG3	1.88	0.54
37:YH:19:VAL:HG13	37:YH:45:VAL:CG1	2.37	0.54
37:YH:157:TYR:CE1	37:YH:172:LYS:HG3	2.42	0.54
35:YE:7:VAL:CG1	35:YE:51:PHE:CZ	2.87	0.54
55:RZ:105:VAL:HG12	55:RZ:105:VAL:O	2.08	0.54
51:QL:32:PHE:HE1	51:QL:86:ARG:HG3	1.72	0.54
1:QA:377:G:OP1	15:QP:3:LYS:HD2	2.07	0.54
1:QA:976:G:O5'	1:QA:1358:U:O2'	2.24	0.54
2:QB:33:TYR:HD2	2:QB:41:ILE:HD11	1.73	0.54
3:QC:19:GLU:HG2	3:QC:54:ARG:HE	1.71	0.54
5:QE:75:THR:OG1	5:QE:76:ILE:N	2.37	0.54
23:QZ:43:GLY:HA3	23:QZ:58:ARG:HB3	1.89	0.54
32:RA:2198:A:OP1	38:RI:33:ARG:NH2	2.40	0.54
32:RA:2859:G:H2'	32:RA:2860:A:C8	2.43	0.54
45:RT:49:VAL:HG12	45:RT:63:VAL:HG22	1.88	0.54
32:YA:321:G:OP2	54:YF:135:LYS:HD3	2.08	0.54
32:YA:2529:G:H5''	32:YA:2530:A:H5''	1.89	0.54
46:YU:90:VAL:HG22	47:YV:38:LEU:HB3	1.89	0.54
42:YQ:119:ARG:HG3	42:YQ:120:ILE:N	2.22	0.54
52:R1:20:ARG:HG2	52:R1:34:THR:HA	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:RF:195:ASP:OD1	54:RF:196:LEU:N	2.41	0.54
55:RZ:75:ASN:N	55:RZ:75:ASN:OD1	2.41	0.54
21:QW:62:C:H2'	21:QW:63:G:H8	1.73	0.54
32:RA:2873:A:H8	43:RR:6:SER:H	1.54	0.54
4:XD:154:ASN:HB3	4:XD:159:ARG:NH2	2.22	0.54
32:YA:2210:G:H3'	32:YA:2211:G:C8	2.42	0.54
32:YA:2749:A:C4'	37:YH:62:LYS:HB3	2.15	0.54
33:YB:2:C:H2'	33:YB:3:C:C6	2.43	0.54
41:YP:127:ALA:O	41:YP:148:LEU:CA	2.56	0.54
35:YE:54:GLN:HB2	35:YE:76:ARG:HG3	1.88	0.54
35:YE:143:ASN:HD22	35:YE:143:ASN:H	1.56	0.54
2:QB:136:VAL:C	2:QB:139:LYS:HG3	2.27	0.54
9:QI:63:ILE:HG21	9:QI:77:ILE:HD12	1.89	0.54
32:RA:840:C:H2'	32:RA:841:A:H8	1.73	0.54
32:RA:1782:C:H1'	32:RA:2609:U:H5''	1.89	0.54
35:RE:59:VAL:HG13	35:RE:59:VAL:O	2.07	0.54
44:RS:18:ILE:HG13	44:RS:88:ASP:HA	1.90	0.54
32:YA:781:A:OP1	34:YD:218:ARG:NH2	2.41	0.54
42:YQ:66:ILE:O	42:YQ:66:ILE:CD1	2.55	0.54
42:YQ:104:PHE:HE2	42:YQ:125:LEU:HD11	1.73	0.54
35:YE:19:ARG:HH11	35:YE:19:ARG:CB	2.21	0.54
55:RZ:121:HIS:HE1	55:RZ:169:GLU:OE1	1.91	0.54
1:QA:501:C:H1'	1:QA:549:C:H1'	1.88	0.54
2:QB:77:ALA:HA	2:QB:80:ILE:HD13	1.89	0.54
2:QB:219:VAL:HA	2:QB:222:ILE:CG1	2.37	0.54
4:QD:4:TYR:OH	4:QD:10:ARG:NH2	2.41	0.54
27:R4:14:ILE:HG23	27:R4:21:VAL:HG13	1.89	0.54
32:RA:323:G:C8	54:RF:171:PRO:HG3	2.43	0.54
32:RA:589:C:H2'	32:RA:590:A:C8	2.43	0.54
1:XA:186(A):C:OP1	19:XT:82:SER:OG	2.17	0.54
36:YG:113:ARG:NH2	36:YG:139:LEU:O	2.40	0.54
45:YT:7:ILE:CG2	35:YE:181:LEU:HD21	2.37	0.54
46:YU:109:LEU:HD21	47:YV:47:VAL:CG1	2.36	0.54
34:YD:63:ARG:NH1	34:YD:86:PRO:HD2	2.23	0.54
34:YD:274:ARG:O	34:YD:275:LYS:CB	2.52	0.54
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.40	0.54
32:RA:833:U:O2	41:RP:55:ARG:NH1	2.39	0.54
14:XO:7:GLU:OE2	14:XO:38:ARG:NH2	2.41	0.54
24:Y0:27:GLU:HG3	24:Y0:68:GLU:HA	1.89	0.54
32:YA:2635:C:H5''	35:YE:78:LEU:O	2.08	0.54
45:YT:133:GLU:HB3	45:YT:137:LYS:NZ	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YP:106:LEU:CD1	41:YP:112:LEU:HG	2.38	0.54
37:YH:67:LEU:CD2	37:YH:71:LEU:HD23	2.38	0.54
37:YH:107:VAL:CG1	37:YH:152:ARG:HD3	2.31	0.54
55:RZ:99:TYR:CE2	55:RZ:125:LEU:HD13	2.43	0.54
51:QL:26:ALA:HA	51:QL:64:TYR:CD2	2.43	0.54
1:QA:403:C:OP2	4:QD:74:GLN:NE2	2.35	0.54
1:QA:522:C:H41	51:QL:53:ARG:HH22	1.56	0.54
1:QA:1300:G:O2'	1:QA:1301:U:O5'	2.25	0.54
1:QA:1364:U:O2'	1:QA:1365:G:OP1	2.22	0.54
10:QJ:81:THR:O	10:QJ:85:LEU:HB2	2.07	0.54
23:QY:51:ASN:CG	23:QY:52:LEU:HD12	2.27	0.54
32:RA:679:C:H2'	32:RA:680:G:H8	1.72	0.54
32:RA:918:A:N3	33:RB:80:U:O2'	2.40	0.54
46:RU:58:ARG:HH11	46:RU:93:LYS:HE2	1.72	0.54
1:XA:1040:U:H5''	1:XA:1040:U:C6	2.40	0.54
14:XO:70:LEU:HD11	14:XO:77:ARG:HD2	1.90	0.54
29:Y6:13:CYS:CB	29:Y6:16:CYS:SG	2.92	0.54
42:YQ:60:ARG:O	55:YZ:178:GLU:O	2.24	0.54
42:YQ:63:LYS:HA	55:YZ:178:GLU:HG2	1.90	0.54
18:XS:16:LEU:HD22	18:XS:20:LEU:HG	1.89	0.54
54:RF:155:LEU:HB2	54:RF:189:THR:HG21	1.89	0.54
23:QY:83:HIS:O	23:QY:84:TYR:OXT	2.26	0.53
32:RA:2112:G:N2	32:RA:2169:A:C6	2.76	0.53
32:RA:2675:A:H61	32:RA:2732:G:H1	1.56	0.53
34:RD:182:LEU:H	34:RD:272:ALA:HB3	1.73	0.53
28:Y5:16:ARG:NH2	32:YA:517:C:OP1	2.38	0.53
32:YA:2335:A:O2'	32:YA:2336:A:O5'	2.26	0.53
48:YW:92:ARG:NH2	48:YW:94:ASP:OD1	2.41	0.53
42:YQ:108:GLY:HA3	55:YZ:116:VAL:CB	2.38	0.53
37:YH:97:ARG:HD3	37:YH:99:VAL:CG2	2.38	0.53
55:RZ:24:LEU:HD21	55:RZ:86:VAL:HG12	1.90	0.53
28:R5:16:ARG:NH2	32:RA:517:C:OP1	2.39	0.53
32:RA:782:A:O2'	34:RD:225:ALA:O	2.26	0.53
1:XA:405:U:O4	4:XD:2:GLY:N	2.41	0.53
32:YA:811:U:H3'	41:YP:21:ARG:O	2.07	0.53
32:YA:848:G:H2'	32:YA:849:A:C8	2.43	0.53
32:YA:1024:G:H3'	32:YA:1025:G:H5''	1.89	0.53
32:YA:1769:G:O2'	32:YA:1958:C:OP1	2.24	0.53
41:YP:128:HIS:N	41:YP:148:LEU:HD23	2.23	0.53
34:YD:218:ARG:HB3	34:YD:219:PRO:CD	2.38	0.53
42:YQ:35:VAL:HG21	42:YQ:130:LYS:HE3	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:R1:85:LEU:C	52:R1:87:PRO:CD	2.76	0.53
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.44	0.53
1:QA:1494:G:P	23:QY:49:LYS:NZ	2.81	0.53
10:QJ:54:PHE:HD2	10:QJ:55:LYS:HD3	1.73	0.53
23:QY:3:LEU:HD21	23:QY:31:ILE:HG21	1.89	0.53
30:R7:28:ARG:NH2	32:RA:1368:G:OP1	2.41	0.53
32:RA:928:G:H5'	32:RA:929:G:OP2	2.08	0.53
32:RA:2571:C:N4	32:RA:2574:G:C8	2.76	0.53
32:RA:2820:A:O2'	32:RA:2821:A:OP1	2.23	0.53
44:RS:26:LEU:HB3	44:RS:87:PHE:HA	1.90	0.53
32:YA:1779:U:OP2	32:YA:1784:A:N6	2.38	0.53
41:YP:130:PHE:CG	41:YP:135:LEU:HD23	2.43	0.53
42:YQ:131:ILE:H	42:YQ:131:ILE:CD1	2.05	0.53
37:YH:107:VAL:HG11	37:YH:152:ARG:HB3	1.89	0.53
47:YV:35:LEU:HB2	47:YV:57:VAL:CG2	2.38	0.53
1:QA:963:G:H21	10:QJ:55:LYS:HG2	1.73	0.53
1:QA:1031:G:N2	1:QA:1032:A:N3	2.57	0.53
1:QA:1422:G:H5''	40:RO:48:PRO:HB3	1.90	0.53
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.73	0.53
2:QB:87:ARG:HH12	2:QB:233:SER:HB3	1.73	0.53
25:R2:36:ARG:NH2	49:RX:8:ILE:O	2.41	0.53
32:RA:579:G:O2'	32:RA:2019:A:OP1	2.25	0.53
32:RA:627:A:H4'	32:RA:628:G:H5'	1.90	0.53
23:XY:48:LEU:HD21	23:XY:57:SER:HB3	1.91	0.53
32:YA:512:G:HO2'	32:YA:513:A:P	2.30	0.53
32:YA:1818:U:O2'	34:YD:154:LYS:O	2.20	0.53
32:YA:2306:C:N4	36:YG:42:GLY:O	2.35	0.53
33:YB:37:C:O2	44:YS:95:HIS:NE2	2.40	0.53
36:YG:82:LEU:HD11	36:YG:88:ILE:HG21	1.89	0.53
39:YN:6:PRO:HG3	39:YN:41:ASP:HB2	1.89	0.53
34:YD:162:SER:HB3	34:YD:195:ALA:CB	2.38	0.53
2:QB:136:VAL:C	2:QB:139:LYS:CG	2.76	0.53
3:QC:157:ILE:HD12	3:QC:164:ARG:HB2	1.91	0.53
1:XA:186(B):C:H2'	1:XA:186(C):G:C8	2.43	0.53
1:XA:972:C:O2'	10:XJ:55:LYS:O	2.27	0.53
10:XJ:13:HIS:HA	10:XJ:16:LEU:HB2	1.90	0.53
32:YA:1212:G:O2'	32:YA:1237:A:N6	2.41	0.53
41:YP:100:LEU:HD13	41:YP:112:LEU:HD11	1.70	0.53
34:YD:72:LYS:HD3	34:YD:75:ILE:HD12	1.90	0.53
42:YQ:65:PHE:HB2	42:YQ:105:GLU:HB2	1.90	0.53
35:YE:56:PRO:O	35:YE:58:ARG:N	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:RF:136:THR:HG23	54:RF:170:LEU:HD11	1.91	0.53
1:QA:33:A:N3	51:QL:32:PHE:HE2	2.07	0.53
1:QA:405:U:O4	4:QD:2:GLY:N	2.42	0.53
3:QC:11:ARG:NH2	3:QC:177:THR:O	2.41	0.53
23:QZ:1:MET:HE1	23:QZ:75:LEU:HD21	1.90	0.53
27:R4:2:LYS:HD3	33:RB:40:U:H5	1.73	0.53
28:R5:36:CYS:SG	28:R5:49:CYS:HB3	2.49	0.53
32:RA:2109:U:H2'	32:RA:2110:G:C8	2.44	0.53
32:RA:2788:C:P	35:RE:61:ARG:HH12	2.30	0.53
37:RH:23:ARG:CD	37:RH:25:LYS:NZ	2.71	0.53
41:RP:64:LYS:HG2	53:R8:30:ARG:NH2	2.19	0.53
12:XM:14:ARG:NH2	12:XM:16:ASP:OD2	2.41	0.53
32:YA:1255:U:H5''	32:YA:1256:G:H5''	1.90	0.53
32:YA:2059:A:H5'	32:YA:2060:A:OP2	2.08	0.53
32:YA:2246:G:H2'	32:YA:2247:A:H8	1.73	0.53
32:YA:2711:A:H5''	32:YA:2712:U:H5'	1.89	0.53
46:YU:92:ARG:HB3	47:YV:11:GLN:CD	2.25	0.53
37:YH:33:LEU:C	37:YH:33:LEU:HD23	2.29	0.53
37:YH:98:LEU:HD12	37:YH:98:LEU:O	2.07	0.53
54:RF:25:PRO:N	54:RF:25:PRO:C	2.57	0.53
1:QA:243:A:H4'	1:QA:244:U:O5'	2.08	0.53
1:QA:414:A:OP2	1:QA:428:G:N2	2.38	0.53
1:QA:1119:C:OP2	9:QL:9:ARG:NH2	2.42	0.53
2:QB:45:GLN:O	2:QB:49:GLU:HG3	2.09	0.53
2:QB:88:ALA:HB2	2:QB:219:VAL:HG23	1.91	0.53
2:QB:219:VAL:HA	2:QB:222:ILE:HG12	1.90	0.53
4:QD:62:GLN:HE22	4:QD:65:ARG:HH21	1.57	0.53
23:QY:39:PHE:CE1	23:QY:70:VAL:HG21	2.43	0.53
1:XA:664:G:H22	1:XA:741:G:H1	1.57	0.53
4:XD:175:SER:HB3	4:XD:184:LYS:HB2	1.89	0.53
32:YA:589:C:H2'	32:YA:590:A:H8	1.72	0.53
32:YA:1462:C:H4'	32:YA:2703:C:H5'	1.90	0.53
54:YF:154:VAL:HG12	54:YF:191:ARG:HB3	1.89	0.53
41:YP:95:VAL:HG12	41:YP:125:VAL:HG23	1.91	0.53
47:YV:1:MET:HE2	47:YV:1:MET:HA	1.89	0.53
18:QS:9:VAL:CG2	27:R4:63:TYR:CD1	2.87	0.53
32:RA:1689:A:H62	32:RA:1698:A:H2	1.56	0.53
32:RA:2805:G:H2'	32:RA:2807:G:C8	2.44	0.53
1:XA:673:G:H2'	1:XA:674:G:C8	2.43	0.53
1:XA:924:C:O2'	1:XA:1502:A:N6	2.39	0.53
4:XD:15:GLU:OE2	4:XD:59:ARG:NH1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YH:103:LEU:HD13	37:YH:125:VAL:HG21	1.89	0.53
1:QA:811:C:O2'	1:QA:901:A:N1	2.41	0.53
1:QA:1251:A:N3	1:QA:1369:C:O2'	2.37	0.53
2:QB:71:VAL:HA	2:QB:93:VAL:CG1	2.38	0.53
21:QV:17(A):U:O2'	21:QV:18:G:OP1	2.26	0.53
32:RA:1779:U:OP2	32:RA:1784:A:N6	2.39	0.53
1:XA:34:C:H2'	1:XA:35:G:H8	1.74	0.53
1:XA:191(G):G:O2'	19:XT:101:GLY:O	2.24	0.53
32:YA:1056:G:H4'	32:YA:1086:A:H1'	1.91	0.53
32:YA:1427:A:H4'	32:YA:1428:C:O5'	2.08	0.53
32:YA:2207:C:H2'	32:YA:2208:U:H6	1.74	0.53
33:YB:90:C:OP1	42:YQ:17:LEU:N	2.40	0.53
49:YX:55:ASN:HB2	49:YX:80:ILE:HG23	1.91	0.53
42:YQ:136:ALA:O	42:YQ:139:GLU:HB2	2.09	0.53
35:YE:134:ILE:C	35:YE:134:ILE:HD12	2.30	0.53
18:XS:12:ASP:OD2	18:XS:35:SER:HB3	2.08	0.53
1:QA:946:A:H2'	1:QA:947:G:C8	2.44	0.53
1:QA:1541:U:OP1	17:QR:55:ARG:NH2	2.30	0.53
2:QB:84:GLU:HG3	2:QB:215:LEU:HB3	1.91	0.53
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.91	0.53
32:RA:589:C:H2'	32:RA:590:A:H8	1.72	0.53
32:RA:1824:G:N3	34:RD:254:THR:OG1	2.41	0.53
45:RT:27:THR:HG22	45:RT:48:ILE:HG12	1.90	0.53
23:XY:62:GLU:H	23:XY:62:GLU:CD	2.03	0.53
32:YA:336:C:O2'	50:YY:35:TYR:OH	2.27	0.53
32:YA:845:G:H21	32:YA:933:A:H61	1.55	0.53
50:YY:92:ASN:OD1	50:YY:92:ASN:N	2.37	0.53
34:YD:26:LYS:HB3	34:YD:83:GLU:HG2	1.91	0.53
42:YQ:29:PHE:O	42:YQ:65:PHE:CE2	2.62	0.53
54:RF:176:LEU:HD21	54:RF:181:LEU:HA	1.90	0.53
1:QA:217:C:O2'	1:QA:466:C:N4	2.41	0.52
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.73	0.52
7:QG:35:LYS:HB3	7:QG:38:LEU:HD13	1.90	0.52
25:R2:28:LYS:HD2	25:R2:53:LEU:HD11	1.91	0.52
32:RA:698:C:O2'	32:RA:734:A:N6	2.40	0.52
32:RA:2010:G:H5''	48:RW:42:ARG:HB2	1.92	0.52
32:YA:1678:G:N2	32:YA:1990:C:O2	2.42	0.52
39:YN:22:THR:OG1	39:YN:23:LEU:N	2.42	0.52
37:YH:133:VAL:HG21	37:YH:145:ALA:CB	2.38	0.52
54:RF:113:ALA:HB2	54:RF:183:VAL:HG23	1.91	0.52
55:RZ:103:ARG:CZ	55:RZ:136:PHE:HE1	2.22	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1372:U:H5''	9:QI:71:SER:HB3	1.91	0.52
2:QB:21:ARG:HD3	2:QB:39:ILE:CD1	2.39	0.52
8:QH:74:PRO:N	8:QH:74:PRO:C	2.56	0.52
23:QY:4:ILE:HA	23:QZ:3:LEU:O	2.09	0.52
32:RA:29:U:H5''	46:RU:7:GLY:HA2	1.90	0.52
32:RA:614:U:H5''	32:RA:615:G:OP1	2.09	0.52
1:XA:1268:A:N3	1:XA:1326:C:O2'	2.39	0.52
49:YX:53:LYS:NZ	49:YX:55:ASN:OD1	2.43	0.52
2:QB:69:LEU:HD23	2:QB:69:LEU:C	2.30	0.52
2:QB:220:ASP:HA	2:QB:223:ILE:HD11	1.91	0.52
4:QD:57:ARG:HB3	4:QD:206:PHE:HB2	1.92	0.52
23:QY:10:TRP:CE3	23:QZ:3:LEU:CD1	2.92	0.52
23:QY:51:ASN:CG	23:QY:52:LEU:CD1	2.77	0.52
25:R2:22:GLU:OE2	25:R2:68:ARG:NH2	2.43	0.52
1:XA:1157:A:HO2'	1:XA:1158:C:P	2.32	0.52
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.44	0.52
8:XH:34:GLU:OE1	8:XH:37:ARG:NH2	2.43	0.52
12:XM:91:ARG:HB2	12:XM:98:VAL:HG12	1.91	0.52
13:YN:26:ARG:HD3	13:YN:43:CYS:HB3	1.91	0.52
32:YA:67:U:H3	32:YA:74:A:H2	1.56	0.52
32:YA:286:C:C3'	32:YA:287:C:H5'	2.40	0.52
32:YA:327:G:N2	50:YY:70:SER:OG	2.42	0.52
32:YA:734:A:O2'	32:YA:1635:G:H5'	2.08	0.52
32:YA:1728:G:N7	32:YA:1731:G:C2	2.77	0.52
32:YA:2103:C:H2'	32:YA:2104:G:H8	1.74	0.52
36:YG:170:ARG:NH2	36:YG:182:LYS:O	2.42	0.52
45:YT:16:ARG:HH21	45:YT:19:LEU:HD21	1.74	0.52
37:YH:157:TYR:OH	37:YH:172:LYS:HE3	2.09	0.52
47:YV:76:LYS:HB3	47:YV:79:VAL:HG11	1.91	0.52
2:QB:60:ASP:CB	2:QB:64:ARG:HH11	2.06	0.52
35:RE:66:HIS:HB3	35:RE:68:ALA:HB2	1.90	0.52
1:XA:5:U:H5''	1:XA:6:G:C5	2.44	0.52
1:XA:501:C:OP1	51:XL:117:ARG:NH2	2.39	0.52
19:XT:42:GLN:NE2	19:XT:45:GLN:OE1	2.43	0.52
23:XY:52:LEU:HB3	23:XY:55:PHE:HB2	1.92	0.52
32:YA:263:C:H2'	32:YA:264:C:O4'	2.09	0.52
32:YA:536:A:H4'	46:YU:57:PHE:HZ	1.73	0.52
32:YA:871:U:H5'	42:YQ:5:ARG:NH2	2.24	0.52
32:YA:2335:A:O2'	32:YA:2336:A:H2'	2.08	0.52
37:YH:7:LEU:CD2	37:YH:8:PRO:HD2	2.20	0.52
35:YE:67:PHE:CE1	35:YE:78:LEU:HD11	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:765:G:N2	1:QA:813:U:OP2	2.43	0.52
1:QA:1130:A:O2'	9:QI:3:GLN:OE1	2.28	0.52
2:QB:93:VAL:HG13	2:QB:93:VAL:O	2.10	0.52
32:RA:578:A:OP1	32:RA:1255:U:O2'	2.17	0.52
10:XJ:48:THR:HG23	10:XJ:62:HIS:HB3	1.90	0.52
32:YA:1830:C:H2'	32:YA:1831:G:H8	1.73	0.52
37:YH:5:GLY:N	37:YH:69:ARG:HG3	2.25	0.52
37:YH:146:ALA:HA	37:YH:164:TYR:OH	2.09	0.52
35:YE:5:LEU:N	35:YE:5:LEU:CD1	2.73	0.52
1:QA:250:A:H4'	1:QA:251:G:O5'	2.08	0.52
1:QA:689:C:H3'	1:QA:690:G:H21	1.74	0.52
11:QK:32:ILE:HG23	11:QK:40:ILE:HB	1.91	0.52
29:R6:37:ARG:HA	29:R6:48:VAL:HA	1.92	0.52
42:RQ:24:GLY:H	42:RQ:101:ARG:HD2	1.74	0.52
1:XA:45:U:H2'	1:XA:46:G:C8	2.45	0.52
1:XA:501:C:H2'	1:XA:502:G:C8	2.45	0.52
1:XA:624:C:H2'	1:XA:625:G:H8	1.74	0.52
34:YD:18:VAL:HG22	34:YD:211:ARG:NH2	2.24	0.52
34:YD:33:LEU:HD22	34:YD:64:ILE:HD11	1.91	0.52
34:YD:95:LEU:HD11	34:YD:105:ILE:HD13	1.90	0.52
35:YE:73:GLU:CG	35:YE:74:PRO:HD2	2.39	0.52
1:QA:1182:G:H4'	1:QA:1183:A:H5'	1.91	0.52
34:RD:85:ASP:OD2	34:RD:88:ARG:NH1	2.41	0.52
35:RE:38:THR:OG1	35:RE:40:GLU:OE1	2.28	0.52
1:XA:715:A:H2'	1:XA:716:A:C8	2.44	0.52
1:XA:1127:G:H2'	1:XA:1128:C:C6	2.45	0.52
21:XW:18:G:O6	21:XW:56:C:N4	2.43	0.52
32:YA:181:A:H1'	32:YA:435:C:H5'	1.92	0.52
32:YA:550:G:O2'	32:YA:1220:A:N3	2.38	0.52
32:YA:1802:A:H2'	32:YA:1803:A:C8	2.45	0.52
32:YA:2123:G:H2'	32:YA:2124:G:C8	2.44	0.52
35:YE:55:ASN:HB3	35:YE:58:ARG:CZ	2.39	0.52
55:RZ:110:GLY:O	55:RZ:115:GLY:N	2.40	0.52
1:QA:34:C:H2'	1:QA:35:G:H8	1.74	0.52
1:QA:754:C:P	14:QO:72:ARG:HH22	2.33	0.52
2:QB:11:LEU:CD1	2:QB:11:LEU:N	2.73	0.52
2:QB:115:LEU:CB	2:QB:145:LEU:CD2	2.81	0.52
2:QB:156:LYS:HA	2:QB:156:LYS:CE	2.15	0.52
2:QB:209:ARG:NH1	2:QB:209:ARG:CB	2.73	0.52
25:R2:47:ASN:HD21	32:RA:94:G:H21	1.58	0.52
32:RA:2183:C:H2'	32:RA:2184:G:H8	1.74	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RD:146:GLU:HB2	34:RD:189:CYS:HB3	1.92	0.52
1:XA:662:G:H2'	1:XA:663:A:C8	2.45	0.52
32:YA:2393:A:O2'	41:YP:60:MET:O	2.25	0.52
40:YO:2:ILE:HB	40:YO:33:ALA:HB3	1.91	0.52
1:QA:1256:A:OP2	3:QC:26:LYS:NZ	2.27	0.52
2:QB:28:PHE:CE1	2:QB:189:ASP:O	2.62	0.52
23:QY:60:ILE:HD12	23:QY:80:CYS:O	2.09	0.52
32:RA:527:C:N4	32:RA:2779:U:OP2	2.43	0.52
37:RH:23:ARG:HD2	37:RH:25:LYS:NZ	2.24	0.52
41:RP:1:MET:HG3	54:RF:116:ASP:OD2	2.10	0.52
41:RP:63:PRO:HB3	53:R8:13:ARG:HG3	1.92	0.52
1:XA:191(E):G:H2'	1:XA:191(F):U:C6	2.45	0.52
1:XA:279:A:OP2	16:XQ:95:TYR:OH	2.20	0.52
1:XA:401:C:O2'	1:XA:621:A:N3	2.38	0.52
1:XA:1014:A:C8	18:XS:34:TRP:CZ3	2.98	0.52
1:XA:1101:A:N6	2:XB:176:GLU:OE2	2.43	0.52
4:XD:154:ASN:HA	4:XD:159:ARG:NE	2.25	0.52
32:YA:2451:A:N1	56:ZA:76:PPU:HE2	2.24	0.52
34:YD:259:THR:O	34:YD:259:THR:OG1	2.28	0.52
42:YQ:60:ARG:CB	55:YZ:180:VAL:N	2.67	0.52
37:YH:3:ARG:NH2	37:YH:3:ARG:CB	2.73	0.52
2:QB:118:LEU:HD12	2:QB:118:LEU:O	2.10	0.52
8:XH:79:VAL:HG13	8:XH:80:ILE:HG13	1.92	0.52
21:XW:50:U:H3	21:XW:64:G:H1	1.56	0.52
32:YA:2255:G:N1	42:YQ:85:LYS:NZ	2.58	0.52
34:YD:222:ARG:NH1	34:YD:224:ALA:HB3	2.25	0.52
18:XS:59:PRO:N	18:XS:59:PRO:C	2.58	0.52
1:QA:552:U:H2'	1:QA:553:A:H8	1.75	0.51
2:QB:219:VAL:C	2:QB:222:ILE:HG12	2.30	0.51
32:RA:306:U:C5	32:RA:307:G:O6	2.64	0.51
32:RA:1571:A:H2'	32:RA:1572:A:C8	2.45	0.51
34:RD:17:THR:HB	34:RD:205:VAL:H	1.74	0.51
1:XA:1224:G:HO2'	18:XS:78:ARG:NH2	2.08	0.51
32:YA:74:A:H4'	32:YA:75:G:O5'	2.10	0.51
32:YA:604:G:P	41:YP:90:ARG:HH12	2.32	0.51
32:YA:2789:C:O2'	32:YA:2893:G:N2	2.41	0.51
49:YX:72:LYS:NZ	49:YX:75:ASP:OD1	2.43	0.51
37:YH:153:LYS:HG2	37:YH:154:PRO:N	2.23	0.51
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.93	0.51
2:QB:28:PHE:O	2:QB:32:ILE:HG13	2.10	0.51
2:QB:71:VAL:CG1	2:QB:93:VAL:HG11	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.92	0.51
32:RA:1070:A:H5'	32:RA:1071:G:H5''	1.91	0.51
32:RA:1478:G:H2'	32:RA:1479:G:H8	1.75	0.51
36:RG:16:ARG:NH2	36:RG:28:VAL:O	2.39	0.51
38:RI:93:THR:OG1	38:RI:94:ALA:N	2.43	0.51
41:RP:68:GLN:CG	53:R8:12:LYS:CD	2.88	0.51
45:RT:51:ARG:HG2	45:RT:98:LYS:HE3	1.93	0.51
11:XK:33:THR:OG1	11:XK:34:ASP:N	2.44	0.51
12:XM:3:ARG:HD3	12:XM:7:VAL:HA	1.91	0.51
16:XQ:66:SER:O	16:XQ:70:ARG:NH1	2.43	0.51
23:XZ:30:LEU:HD13	23:XZ:60:ILE:HG12	1.87	0.51
32:YA:1826:G:O2'	34:YD:242:ARG:NH2	2.42	0.51
47:YV:35:LEU:N	47:YV:35:LEU:CD1	2.73	0.51
54:RF:133:ASN:N	54:RF:133:ASN:OD1	2.43	0.51
55:YZ:9:TYR:HE1	55:YZ:35:ARG:HG2	1.74	0.51
2:QB:74:LYS:HB2	2:QB:77:ALA:HB3	1.93	0.51
23:QZ:2:LYS:HE2	23:QZ:74:SER:HB3	1.92	0.51
32:RA:68:G:N2	32:RA:74:A:OP2	2.44	0.51
32:RA:458:G:N2	32:RA:470:A:OP2	2.35	0.51
32:RA:1802:A:H2'	32:RA:1803:A:C8	2.45	0.51
35:RE:76:ARG:HB3	35:RE:195:LEU:HD22	1.92	0.51
32:YA:668:G:H2'	32:YA:670:A:H62	1.76	0.51
32:YA:1353:A:H2'	32:YA:1354:A:C8	2.46	0.51
32:YA:2287:A:H62	32:YA:2344:U:H3	1.57	0.51
32:YA:2848:G:O2'	32:YA:2849:U:O5'	2.28	0.51
41:YP:79:ARG:CB	41:YP:110:TYR:HD1	2.23	0.51
34:YD:45:ASN:ND2	34:YD:45:ASN:H	2.06	0.51
34:YD:88:ARG:HH11	34:YD:88:ARG:HG3	1.75	0.51
21:QW:56:C:H2'	21:QW:57:A:H8	1.75	0.51
23:QY:52:LEU:N	23:QY:52:LEU:CD1	2.73	0.51
23:QZ:4:ILE:N	23:QZ:4:ILE:CD1	2.73	0.51
32:RA:2130:U:H3	32:RA:2158:A:H1'	1.75	0.51
32:RA:2304:G:H1	32:RA:2312:U:H3	1.58	0.51
1:XA:1104:G:O5'	2:XB:111:ARG:HD2	2.11	0.51
1:XA:1129:C:H4'	1:XA:1130:A:H5'	1.92	0.51
26:Y3:29:ARG:NH1	32:YA:1184:G:OP1	2.41	0.51
31:Y9:27:CYS:SG	31:Y9:28:GLU:N	2.84	0.51
32:YA:589:C:H2'	32:YA:590:A:C8	2.46	0.51
32:YA:820:A:H4'	32:YA:836:G:N2	2.26	0.51
32:YA:1997:G:H5'	35:YE:117:MET:CE	2.40	0.51
32:YA:2191:G:O2'	32:YA:2192:G:OP1	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:2291:U:OP1	32:YA:2380:C:O2'	2.28	0.51
32:YA:2572:A:C5	35:YE:144:ARG:NE	2.70	0.51
38:YI:100:ALA:O	38:YI:104:GLN:CB	2.59	0.51
45:YT:127:ALA:O	45:YT:131:ALA:HB3	2.10	0.51
41:YP:114:ILE:HG13	41:YP:130:PHE:CE1	2.46	0.51
42:YQ:60:ARG:N	55:YZ:180:VAL:CG2	2.61	0.51
35:YE:19:ARG:NH1	35:YE:19:ARG:CB	2.73	0.51
1:QA:592:G:H2'	1:QA:593:G:H8	1.75	0.51
23:QY:1:MET:O	23:QY:1:MET:HG2	2.11	0.51
32:RA:2246:G:H2'	32:RA:2247:A:C8	2.46	0.51
32:RA:2635:C:OP1	35:RE:79:ARG:NH2	2.44	0.51
33:RB:8:U:O3'	44:RS:25:ARG:NH2	2.42	0.51
34:RD:24:ILE:HD11	34:RD:84:TYR:HB2	1.93	0.51
39:RN:30:ILE:HG23	39:RN:52:VAL:HG11	1.91	0.51
1:XA:261:U:OP2	19:XT:79:ARG:NH2	2.43	0.51
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.46	0.51
23:XZ:15:TYR:CZ	23:XZ:19:THR:HG21	2.46	0.51
32:YA:84:A:N1	32:YA:98:G:O2'	2.35	0.51
32:YA:896:A:H1'	55:YZ:176:PRO:HG3	1.92	0.51
32:YA:1171:G:O2'	32:YA:1173:G:O5'	2.26	0.51
32:YA:2183:C:H2'	32:YA:2184:G:H8	1.74	0.51
41:YP:1:MET:HG2	41:YP:1:MET:O	2.11	0.51
41:YP:95:VAL:CG1	41:YP:125:VAL:HG23	2.40	0.51
34:YD:77:ALA:HB2	34:YD:97:TYR:CD1	2.46	0.51
37:YH:55:PRO:HG2	37:YH:61:HIS:HD2	1.74	0.51
37:YH:105:LEU:N	37:YH:105:LEU:CD1	2.73	0.51
55:YZ:111:VAL:HA	55:YZ:115:GLY:O	2.11	0.51
51:QL:47:LYS:HB3	51:QL:48:PRO:HD3	1.92	0.51
2:QB:7:VAL:HG23	2:QB:217:ARG:NH1	2.26	0.51
9:QI:10:ARG:NH1	9:QI:75:ASP:OD1	2.44	0.51
32:RA:476:G:N1	32:RA:479:A:OP2	2.40	0.51
32:RA:2032:G:H1'	35:RE:145:LYS:CE	2.41	0.51
12:XM:98:VAL:HG23	12:XM:99:ARG:HD2	1.92	0.51
32:YA:1187:G:H5''	47:YV:81:TYR:HE1	1.73	0.51
41:YP:22:GLY:O	41:YP:28:GLY:HA3	2.11	0.51
47:YV:57:VAL:CG2	47:YV:57:VAL:O	2.57	0.51
35:YE:54:GLN:NE2	35:YE:76:ARG:CG	2.72	0.51
35:YE:104:VAL:CG1	35:YE:188:VAL:CG2	2.88	0.51
52:R1:53:VAL:O	52:R1:53:VAL:HG12	2.11	0.51
1:QA:1001:G:H2'	1:QA:1002:G:H8	1.75	0.51
4:QD:15:GLU:OE2	4:QD:59:ARG:NH1	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:QW:71:C:H2'	21:QW:72:A:C8	2.46	0.51
29:R6:7:ILE:HD13	29:R6:27:LYS:HD3	1.93	0.51
32:RA:1427:A:H4'	32:RA:1428:C:O5'	2.08	0.51
32:RA:2679:A:H5'	35:RE:165:VAL:HG11	1.92	0.51
49:RX:27:THR:HG22	49:RX:80:ILE:HB	1.93	0.51
49:RX:55:ASN:HB2	49:RX:80:ILE:HG23	1.93	0.51
1:XA:938:A:H8	1:XA:938:A:O5'	1.94	0.51
1:XA:999:U:H2'	1:XA:1000:A:C8	2.45	0.51
1:XA:1003:G:H3'	1:XA:1004:A:H8	1.76	0.51
10:XJ:44:VAL:HG22	10:XJ:66:ARG:HG2	1.92	0.51
52:Y1:83:GLU:HG2	52:Y1:85:LEU:H	1.75	0.51
30:Y7:37:LYS:NZ	32:YA:468:G:OP2	2.41	0.51
32:YA:458:G:O2'	32:YA:469:G:O6	2.28	0.51
32:YA:2809:A:H2'	32:YA:2810:A:C8	2.45	0.51
33:YB:75:G:H21	55:YZ:85:HIS:CE1	2.28	0.51
33:YB:116:G:H3'	33:YB:116:G:C8	2.46	0.51
33:YB:116:G:O5'	33:YB:116:G:H8	1.94	0.51
34:YD:42:GLY:CA	34:YD:51:VAL:HG13	2.40	0.51
42:YQ:63:LYS:HZ1	55:YZ:175:VAL:HG11	1.75	0.51
35:YE:101:ARG:C	35:YE:201:THR:HG1	2.11	0.51
18:XS:63:THR:OG1	18:XS:65:ASN:OD1	2.28	0.51
1:QA:522:C:H41	51:QL:53:ARG:NH2	2.09	0.51
1:QA:1108:G:H5'	3:QC:176:HIS:CD2	2.45	0.51
2:QB:67:THR:HG21	2:QB:155:LEU:HD13	1.93	0.51
23:QY:1:MET:O	23:QY:74:SER:HA	2.11	0.51
32:RA:1388:G:HO2'	32:RA:1525:G:HO2'	1.59	0.51
36:RG:37:VAL:HG13	36:RG:159:VAL:HG12	1.92	0.51
41:RP:101:VAL:HG21	41:RP:108:LYS:HG3	1.93	0.51
30:Y7:11:LYS:HE2	32:YA:686:G:H5''	1.92	0.51
32:YA:2364:C:H2'	32:YA:2365:G:O4'	2.10	0.51
37:YH:3:ARG:HB2	37:YH:3:ARG:CZ	2.41	0.51
37:YH:41:MET:HE3	37:YH:42:ARG:H	1.76	0.51
37:YH:136:ILE:N	37:YH:136:ILE:CD1	2.73	0.51
47:YV:39:LEU:HD23	47:YV:39:LEU:C	2.31	0.51
35:YE:81:ILE:N	35:YE:81:ILE:CD1	2.73	0.51
54:RF:75:HIS:HB3	54:RF:83:PHE:HZ	1.75	0.51
1:QA:1137:C:H4'	1:QA:1138:G:O5'	2.11	0.51
3:QC:14:ILE:HG22	3:QC:15:THR:HG23	1.93	0.51
5:QE:81:GLU:HG2	5:QE:90:VAL:HG22	1.92	0.51
23:QY:36:ARG:NH1	23:QY:36:ARG:CB	2.74	0.51
32:RA:2696:U:H2'	32:RA:2697:G:C8	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2848:G:O2'	32:RA:2867:G:N2	2.44	0.51
32:RA:2853:C:H2'	32:RA:2854:G:H8	1.75	0.51
44:RS:11:LYS:O	44:RS:15:ARG:HB2	2.10	0.51
1:XA:192:U:O3'	19:XT:57:ARG:HD2	2.11	0.51
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.93	0.51
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.93	0.51
23:XY:3:LEU:HD23	23:XY:5:TRP:HE1	1.75	0.51
32:YA:127:A:H5''	32:YA:128:C:C6	2.46	0.51
32:YA:530:G:O2'	32:YA:532:A:N7	2.43	0.51
41:YP:121:LYS:HD3	41:YP:123:LEU:CD1	2.41	0.51
42:YQ:58:PHE:CE1	42:YQ:117:ALA:CB	2.94	0.51
42:YQ:102:VAL:O	42:YQ:102:VAL:HG13	2.10	0.51
42:YQ:132:VAL:CG1	42:YQ:133:ARG:N	2.73	0.51
55:RZ:61:LEU:HG	55:RZ:65:GLN:O	2.09	0.51
55:RZ:76:LEU:HB3	55:RZ:83:PRO:HA	1.93	0.51
51:QL:71:PRO:HB2	51:QL:120:TYR:HE1	1.76	0.51
1:QA:490:G:OP2	4:QD:132:ARG:NH2	2.43	0.51
1:QA:1192:C:OP2	3:QC:4:LYS:NZ	2.35	0.51
2:QB:8:LYS:CB	2:QB:11:LEU:CD1	2.64	0.51
10:QJ:59:SER:O	10:QJ:59:SER:OG	2.28	0.51
23:QY:5:TRP:CD1	23:QZ:5:TRP:NE1	2.79	0.51
32:RA:521:G:H2'	32:RA:522:G:C8	2.46	0.51
38:RI:38:LEU:HG	38:RI:40:THR:HG23	1.93	0.51
42:RQ:43:THR:HG22	42:RQ:94:VAL:HG12	1.93	0.51
43:RR:104:ARG:HG3	43:RR:107:ASP:HB3	1.93	0.51
1:XA:501:C:H2'	1:XA:502:G:H8	1.76	0.51
1:XA:1522:U:H2'	1:XA:1523:G:H8	1.76	0.51
17:XR:70:ILE:O	17:XR:74:ARG:HB2	2.11	0.51
23:XY:1:MET:CE	23:XY:35:ARG:HG2	2.41	0.51
32:YA:2571:C:O2'	35:YE:146:THR:O	2.20	0.51
34:YD:155:LEU:N	34:YD:155:LEU:CD1	2.73	0.51
42:YQ:125:LEU:HD12	42:YQ:129:THR:HG21	1.93	0.51
35:YE:48:GLN:C	35:YE:49:LEU:HD12	2.30	0.51
1:QA:401:C:O2'	1:QA:621:A:N3	2.36	0.50
1:QA:1314:C:OP2	18:QS:4:SER:OG	2.29	0.50
2:QB:194:PRO:CB	2:QB:200:ILE:HD12	2.32	0.50
28:R5:4:HIS:O	32:RA:2056:G:N2	2.44	0.50
48:RW:24:ILE:HD13	48:RW:36:LEU:HD11	1.93	0.50
32:YA:2327:A:H2'	32:YA:2328:A:C8	2.46	0.50
35:YE:144:ARG:HG2	35:YE:145:LYS:N	2.26	0.50
2:QB:163:PHE:HD1	2:QB:185:ILE:HG23	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:QZ:20:ASP:OD2	23:QZ:23:ILE:HD11	2.11	0.50
32:RA:2880:C:O3'	43:RR:90:ARG:NH1	2.45	0.50
1:XA:1001:G:H3'	1:XA:1001:G:H8	1.73	0.50
1:XA:1032(A):G:H2'	1:XA:1032(B):G:H8	1.76	0.50
32:YA:270(B):A:H5'	32:YA:270(C):C:OP2	2.10	0.50
42:YQ:62:GLY:O	55:YZ:178:GLU:N	2.31	0.50
1:QA:677:U:H3	1:QA:713:G:H22	1.59	0.50
1:QA:1128:C:O2'	1:QA:1129:C:OP1	2.28	0.50
3:QC:124:ILE:HD12	3:QC:130:VAL:HG22	1.94	0.50
18:QS:49:ILE:HD11	18:QS:71:LEU:HD21	1.93	0.50
32:RA:1142(A):A:O2'	32:RA:1143:A:H2'	2.11	0.50
32:RA:1542:G:O6	32:RA:1543:A:N6	2.44	0.50
32:RA:2081:C:H2'	32:RA:2082:A:H8	1.76	0.50
41:RP:8:PRO:HD3	54:RF:34:TRP:NE1	2.26	0.50
46:RU:90:VAL:HG22	47:RV:39:LEU:HD23	1.93	0.50
1:XA:17:U:H2'	1:XA:18:C:C6	2.46	0.50
1:XA:1025:U:H2'	1:XA:1026:G:C8	2.46	0.50
9:XI:110:GLU:OE2	9:XI:113:LYS:NZ	2.45	0.50
23:XZ:32:LYS:HG2	23:XZ:36:ARG:HE	1.76	0.50
26:Y3:15:TYR:O	26:Y3:20:LYS:NZ	2.44	0.50
32:YA:1657:C:H2'	32:YA:1658:C:C6	2.46	0.50
32:YA:2577:A:H5''	32:YA:2578:G:H5'	1.94	0.50
47:YV:28:GLU:OE1	47:YV:29:PRO:O	2.29	0.50
35:YE:61:ARG:O	35:YE:65:GLY:N	2.37	0.50
18:XS:22:LEU:HA	18:XS:26:GLY:HA2	1.94	0.50
1:QA:545:C:H5'	4:QD:72:GLU:HG3	1.93	0.50
1:QA:971:G:H22	1:QA:1363:A:H5'	1.77	0.50
2:QB:75:LYS:HA	2:QB:78:GLN:OE1	2.10	0.50
2:QB:102:LEU:HD12	2:QB:102:LEU:N	2.27	0.50
32:RA:299:A:N3	32:RA:319:C:O2'	2.40	0.50
32:RA:309:G:H5''	50:RY:18:GLY:CA	2.41	0.50
32:RA:309:G:H4'	32:RA:329:G:C5	2.46	0.50
36:RG:114:ILE:HD11	36:RG:140:ILE:HD13	1.93	0.50
41:RP:68:GLN:HG2	53:R8:12:LYS:CD	2.39	0.50
1:XA:191(E):G:N1	1:XA:191(F):U:C4	2.80	0.50
3:XC:20:SER:HB2	3:XC:40:ARG:HH22	1.77	0.50
32:YA:1454:U:O2'	32:YA:1455:G:N7	2.41	0.50
32:YA:2777:G:OP2	32:YA:2781:A:O2'	2.24	0.50
54:YF:122:LYS:HB3	54:YF:191:ARG:HG3	1.92	0.50
43:YR:45:ARG:HH21	43:YR:97:VAL:HG21	1.76	0.50
42:YQ:68:ILE:HG23	42:YQ:103:MET:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YH:4:ILE:HG21	37:YH:70:THR:CG2	2.41	0.50
1:QA:421:U:O2	3:QC:127:ARG:NH1	2.45	0.50
1:QA:923:A:O2'	1:QA:1399:C:OP2	2.24	0.50
23:QZ:1:MET:HE3	23:QZ:75:LEU:HD11	1.94	0.50
39:RN:16:ILE:HG21	39:RN:26:LEU:HD11	1.92	0.50
1:XA:599:C:O2'	8:XH:129:VAL:O	2.28	0.50
32:YA:608:A:H2'	32:YA:609:A:C8	2.47	0.50
32:YA:1000:A:H3'	32:YA:1001:A:H8	1.76	0.50
32:YA:1818:U:O4	34:YD:154:LYS:HD2	2.12	0.50
42:YQ:58:PHE:CE1	42:YQ:117:ALA:HB2	2.46	0.50
42:YQ:118:LEU:HD12	42:YQ:131:ILE:CG2	2.42	0.50
1:QA:514:C:H2'	1:QA:515:G:H8	1.76	0.50
2:QB:74:LYS:HD3	2:QB:165:VAL:HG21	1.93	0.50
16:QQ:83:ASP:N	16:QQ:83:ASP:OD1	2.45	0.50
21:QW:20:U:H3'	21:QW:21:A:H5''	1.94	0.50
21:QW:50:U:H3	21:QW:64:G:H1	1.59	0.50
23:QZ:4:ILE:HB	23:QZ:76:LEU:HD23	1.94	0.50
32:RA:306:U:C5	32:RA:307:G:C5	2.99	0.50
32:RA:616:A:H4'	54:RF:182:ASN:HD22	1.76	0.50
32:RA:2328:A:H2'	32:RA:2329:G:H8	1.76	0.50
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.59	0.50
44:YS:67:ARG:O	44:YS:71:ARG:HG3	2.12	0.50
46:YU:92:ARG:NH2	47:YV:11:GLN:O	2.45	0.50
41:YP:128:HIS:CG	41:YP:148:LEU:HD23	2.46	0.50
55:YZ:117:LEU:HD21	55:YZ:141:VAL:HG11	1.94	0.50
53:R8:57:ARG:O	53:R8:61:LEU:HD12	2.12	0.50
32:RA:1889:A:N3	32:RA:2086:U:O2'	2.44	0.50
32:RA:2375:G:N2	32:RA:2378:A:OP2	2.42	0.50
34:RD:35:LYS:HE3	34:RD:35:LYS:HA	1.94	0.50
36:RG:139:LEU:HD11	36:RG:149:VAL:HG11	1.94	0.50
6:XF:68:PRO:HG3	6:XF:71:ARG:HH21	1.76	0.50
10:XJ:64:GLU:OE2	10:XJ:66:ARG:NE	2.43	0.50
21:XW:17:C:OP2	21:XW:60:U:O2'	2.22	0.50
32:YA:2074:U:H2'	32:YA:2075:U:C6	2.47	0.50
44:YS:84:GLN:HA	44:YS:109:GLY:HA2	1.93	0.50
41:YP:19:VAL:HB	41:YP:27:HIS:O	2.11	0.50
37:YH:28:GLY:HA3	37:YH:79:VAL:HB	1.94	0.50
37:YH:60:ARG:CG	37:YH:60:ARG:NH1	2.72	0.50
35:YE:122:PHE:CZ	35:YE:155:LYS:HB2	2.45	0.50
1:QA:157:G:H1	1:QA:164:U:H3	1.60	0.50
1:QA:501:C:H2'	1:QA:502:G:C8	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:662:G:H2'	1:QA:663:A:C8	2.47	0.50
2:QB:220:ASP:HA	2:QB:223:ILE:HG12	1.93	0.50
6:QF:37:VAL:HA	6:QF:65:VAL:HG12	1.94	0.50
21:QW:30:G:H2'	21:QW:31:G:H8	1.76	0.50
32:RA:309:G:N3	32:RA:329:G:O2'	2.43	0.50
32:RA:2472:G:H5'	32:RA:2473:U:H5''	1.94	0.50
32:RA:2583:G:N3	56:ZB:76:PPU:C2	2.72	0.50
1:XA:243:A:H4'	1:XA:244:U:O5'	2.11	0.50
4:XD:88:VAL:HG13	5:XE:97:GLY:HA3	1.94	0.50
32:YA:631:A:N3	32:YA:2415:G:O2'	2.38	0.50
32:YA:1652:A:OP1	43:YR:8:ARG:NH1	2.40	0.50
38:YI:4:ILE:HG12	38:YI:18:VAL:HG22	1.94	0.50
35:YE:36:ARG:NH2	35:YE:86:PRO:O	2.28	0.50
2:QB:232:PRO:O	2:QB:233:SER:CB	2.59	0.50
32:RA:971:C:O2'	32:RA:983:A:N3	2.37	0.50
32:RA:1265:A:H8	32:RA:1265:A:OP1	1.93	0.50
32:RA:2186:G:H2'	32:RA:2187:G:H8	1.76	0.50
41:RP:68:GLN:CG	53:R8:12:LYS:HD2	2.38	0.50
4:XD:18:LYS:NZ	4:XD:31:CYS:SG	2.73	0.50
32:YA:2030:A:H4'	32:YA:2031:A:H8	1.77	0.50
32:YA:2485:G:H5''	42:YQ:46:GLN:NE2	2.20	0.50
32:YA:2572:A:N7	35:YE:144:ARG:NE	2.59	0.50
37:YH:104:GLU:C	37:YH:105:LEU:HD12	2.31	0.50
35:YE:54:GLN:NE2	35:YE:54:GLN:CA	2.75	0.50
54:RF:110:LEU:HD11	54:RF:181:LEU:HG	1.93	0.50
1:QA:1177:G:H2'	1:QA:1178:G:C4	2.46	0.49
1:QA:1493:A:O2'	22:QX:20:A2M:H8	2.12	0.49
2:QB:231:GLU:HB2	2:QB:232:PRO:HD2	1.94	0.49
25:R2:17:SER:OG	25:R2:20:GLU:OE1	2.29	0.49
32:RA:1800:C:H42	32:RA:1817:G:H22	1.60	0.49
32:RA:2291:U:O2'	32:RA:2374:C:O2	2.29	0.49
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.46	0.49
11:XK:87:THR:HA	11:XK:91:ARG:HD2	1.94	0.49
23:XY:37:THR:OG1	23:XY:37:THR:O	2.30	0.49
32:YA:140:A:H8	32:YA:1408:C:HO2'	1.59	0.49
32:YA:2422:A:H4'	32:YA:2423:U:OP1	2.10	0.49
42:YQ:136:ALA:HA	42:YQ:139:GLU:CG	2.40	0.49
35:YE:77:ILE:HG21	35:YE:195:LEU:CD1	2.41	0.49
55:RZ:5:LEU:HG	55:RZ:47:VAL:HG11	1.94	0.49
55:RZ:78:LYS:CD	55:RZ:78:LYS:N	2.73	0.49
55:RZ:181:GLU:CD	55:RZ:181:GLU:H	2.14	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1226:C:OP2	12:QM:103:THR:HG21	2.12	0.49
1:QA:1248:A:OP2	20:QU:26:LYS:NZ	2.43	0.49
10:QJ:54:PHE:CD2	10:QJ:55:LYS:HD3	2.47	0.49
32:RA:39:C:O2	54:RF:46:ARG:NH2	2.44	0.49
32:RA:840:C:H2'	32:RA:841:A:C8	2.47	0.49
32:RA:872:A:H4'	42:RQ:66:ILE:HD11	1.94	0.49
32:RA:887:A:H2'	32:RA:888:C:H5'	1.93	0.49
32:RA:1332:G:N2	32:RA:1609:A:H2'	2.27	0.49
34:RD:142:VAL:HG23	34:RD:193:VAL:HA	1.94	0.49
1:XA:657:G:H4'	14:XO:28:GLN:HG2	1.94	0.49
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.39	0.49
4:XD:65:ARG:NH1	4:XD:70:ILE:O	2.45	0.49
7:XG:27:ILE:HA	7:XG:30:ILE:HD12	1.93	0.49
32:YA:39:C:O2	54:YF:46:ARG:NH2	2.45	0.49
32:YA:807:U:OP2	41:YP:41:ARG:NH2	2.37	0.49
32:YA:1675:C:C2	35:YE:128:SER:OG	2.65	0.49
40:YO:97:ARG:H	40:YO:117:LEU:HD22	1.76	0.49
34:YD:7:LYS:O	34:YD:9:TYR:CD2	2.65	0.49
37:YH:123:PHE:CZ	37:YH:144:VAL:HG11	2.42	0.49
35:YE:101:ARG:O	35:YE:201:THR:OG1	2.21	0.49
55:RZ:53:ILE:HG13	55:RZ:71:VAL:C	2.32	0.49
1:QA:267:C:OP2	16:QQ:67:LYS:HD2	2.12	0.49
1:QA:1068:G:OP2	1:QA:1068:G:H8	1.95	0.49
23:QZ:60:ILE:H	23:QZ:60:ILE:CD1	1.99	0.49
32:RA:619:G:O6	54:RF:103:LYS:NZ	2.42	0.49
32:RA:2564:A:OP1	32:RA:2648:C:H4'	2.12	0.49
46:RU:50:ARG:O	46:RU:54:LYS:NZ	2.45	0.49
1:XA:992:U:C4	1:XA:1043:C:N4	2.79	0.49
1:XA:1068:G:H8	1:XA:1068:G:OP2	1.94	0.49
4:XD:109:GLY:HA3	4:XD:165:MET:HG3	1.94	0.49
51:XL:117:ARG:HB3	51:XL:122:THR:HB	1.92	0.49
23:XZ:27:ILE:HG22	23:XZ:31:ILE:HD11	1.94	0.49
32:YA:2729:G:H5''	35:YE:185:LYS:NZ	2.27	0.49
37:YH:19:VAL:CG1	37:YH:45:VAL:HG13	2.42	0.49
37:YH:103:LEU:CG	37:YH:105:LEU:HD11	2.42	0.49
35:YE:30:PRO:HG3	35:YE:92:THR:HG22	1.94	0.49
55:YZ:1:MET:HG2	55:YZ:2:GLU:N	2.27	0.49
1:QA:957:U:OP2	23:QZ:36:ARG:NE	2.46	0.49
1:QA:1289:A:OP1	20:QU:9:ARG:NH2	2.40	0.49
2:QB:7:VAL:HG11	2:QB:51:LEU:HD13	1.93	0.49
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:R5:25:LEU:HG	48:RW:19:LEU:HD23	1.93	0.49
32:RA:1900:A:H1'	32:RA:1970:A:H2'	1.93	0.49
32:RA:2362:G:OP1	53:R8:44:LYS:NZ	2.36	0.49
33:RB:48:A:OP2	44:RS:30:ARG:NH2	2.45	0.49
35:RE:9:VAL:HB	35:RE:25:VAL:HG23	1.93	0.49
37:RH:9:ILE:HB	37:RH:69:ARG:HG2	1.92	0.49
42:RQ:58:PHE:HD2	42:RQ:61:GLY:HA3	1.78	0.49
1:XA:960:U:H4'	1:XA:961:U:O5'	2.13	0.49
1:XA:1033:G:O2'	1:XA:1034:G:OP1	2.27	0.49
2:XB:61:LEU:HG	2:XB:66:GLY:HA3	1.94	0.49
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.78	0.49
51:XL:88:GLY:H	51:XL:98:TYR:HA	1.78	0.49
23:XY:61:THR:HG23	23:XY:62:GLU:OE1	2.11	0.49
32:YA:265:A:O2'	32:YA:266:G:H4'	2.13	0.49
32:YA:729:G:O2'	32:YA:763:G:H4'	2.13	0.49
32:YA:1168:G:H2'	32:YA:1169:G:C8	2.47	0.49
32:YA:2246:G:H2'	32:YA:2247:A:C8	2.47	0.49
33:YB:119:A:OP1	33:YB:119:A:H4'	2.12	0.49
54:YF:143:ALA:HB1	54:YF:148:LEU:HB2	1.94	0.49
42:YQ:75:THR:CG2	42:YQ:88:GLY:O	2.57	0.49
55:YZ:72:ARG:NH2	55:YZ:97:GLU:O	2.44	0.49
29:R6:53:LYS:H	29:R6:53:LYS:HD2	1.78	0.49
32:RA:1000:A:H2'	32:RA:1001:A:C8	2.46	0.49
32:RA:2148:G:H2'	32:RA:2149:G:H8	1.77	0.49
32:RA:2197:U:O2'	32:RA:2198:A:H5''	2.12	0.49
32:RA:2286:A:H4'	32:RA:2287:A:O4'	2.12	0.49
32:RA:2540:C:O2'	32:RA:2740:A:N3	2.32	0.49
32:RA:2583:G:H21	56:ZB:76:PPU:C2	2.22	0.49
32:RA:2851:A:O2'	43:RR:64:ARG:NH2	2.46	0.49
1:XA:701:C:OP1	1:XA:702:A:O2'	2.22	0.49
1:XA:985:C:H2'	1:XA:986:A:C8	2.48	0.49
6:XF:9:VAL:HB	6:XF:87:ARG:HB2	1.94	0.49
32:YA:600:G:N2	32:YA:605:C:O3'	2.46	0.49
44:YS:26:LEU:HB3	44:YS:87:PHE:HA	1.95	0.49
44:YS:106:ARG:O	44:YS:110:LEU:HD13	2.12	0.49
42:YQ:27:VAL:H	42:YQ:138:ASP:HB2	1.77	0.49
37:YH:58:GLU:HB3	37:YH:61:HIS:ND1	2.28	0.49
35:YE:49:LEU:CD1	35:YE:49:LEU:N	2.76	0.49
1:QA:630:G:H3'	1:QA:631:G:H8	1.78	0.49
32:RA:248:G:H5'	32:RA:250:G:N7	2.27	0.49
32:RA:1930:G:H1'	32:RA:1931:U:OP2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2304:G:H22	32:RA:2312:U:H3	1.59	0.49
1:XA:824:C:H2'	1:XA:825:G:H8	1.77	0.49
23:XY:2:LYS:HD2	23:XZ:4:ILE:CG2	2.43	0.49
53:Y8:12:LYS:NZ	32:YA:249:C:O2	2.41	0.49
32:YA:1142:U:H5''	32:YA:1142(A):A:C8	2.47	0.49
32:YA:2844:G:H3'	32:YA:2845:G:H8	1.77	0.49
50:YY:8:LYS:HD3	50:YY:97:ARG:HH21	1.77	0.49
37:YH:48:GLY:O	37:YH:49:VAL:HG23	2.13	0.49
37:YH:159:GLU:HG3	37:YH:171:LEU:HD11	1.93	0.49
35:YE:54:GLN:NE2	35:YE:76:ARG:HD2	2.28	0.49
1:QA:41:G:H2'	1:QA:42:G:H8	1.78	0.49
1:QA:713:G:H2'	1:QA:714:G:C8	2.47	0.49
1:QA:985:C:H2'	1:QA:986:A:H8	1.77	0.49
2:QB:27:LYS:HD3	2:QB:195:ASP:OD2	2.12	0.49
23:QZ:20:ASP:CG	23:QZ:23:ILE:CG1	2.75	0.49
23:QZ:37:THR:HB	23:QZ:40:GLU:HB2	1.95	0.49
32:RA:463:G:N2	32:RA:466:A:OP2	2.44	0.49
32:RA:837:C:N3	32:RA:941:A:N6	2.60	0.49
32:RA:873:G:O3'	42:RQ:63:LYS:NZ	2.41	0.49
32:RA:1105:U:H2'	32:RA:1106:G:C8	2.48	0.49
32:RA:1311:G:O2'	32:RA:1313:U:O4	2.31	0.49
32:RA:1688:U:O2	32:RA:1700:A:H5'	2.12	0.49
33:RB:24:G:H1'	33:RB:27:C:H41	1.77	0.49
48:RW:57:ASN:O	48:RW:61:ASN:HB2	2.13	0.49
1:XA:45:U:H2'	1:XA:46:G:H8	1.78	0.49
32:YA:877:U:H2'	32:YA:878:A:H5''	1.95	0.49
32:YA:969:U:H2'	32:YA:970:C:C6	2.47	0.49
32:YA:2682:U:C4	35:YE:11:MET:HE1	2.43	0.49
32:YA:2701:C:H3'	32:YA:2702:U:C5'	2.40	0.49
32:YA:2873:A:H8	43:YR:6:SER:H	1.60	0.49
36:YG:40:ASN:ND2	36:YG:90:LEU:O	2.45	0.49
44:YS:40:ILE:HG13	44:YS:47:THR:HG23	1.94	0.49
55:RZ:139:VAL:HG23	55:RZ:139:VAL:O	2.12	0.49
2:QB:92:TYR:C	2:QB:92:TYR:CD1	2.86	0.49
23:QY:3:LEU:HD21	23:QY:31:ILE:CG2	2.43	0.49
32:RA:2591:C:H2'	32:RA:2592:G:H8	1.78	0.49
41:RP:62:LEU:HD23	53:R8:27:THR:CG2	2.40	0.49
45:RT:39:ARG:HH22	45:RT:41:ARG:HD3	1.76	0.49
1:XA:376:G:H5''	15:XP:5:ARG:HB2	1.94	0.49
7:XG:116:ALA:HA	7:XG:119:ARG:HE	1.78	0.49
23:XZ:25:LYS:O	23:XZ:29:GLU:HG3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YD:42:GLY:HA2	34:YD:51:VAL:HG13	1.95	0.49
34:YD:44:ASN:HB3	34:YD:50:THR:HG21	1.95	0.49
37:YH:139:GLN:HG3	37:YH:140:LYS:N	2.27	0.49
1:QA:406:G:H5'	4:QD:5:ILE:HD13	1.94	0.49
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.94	0.49
3:QC:90:GLU:HA	3:QC:93:LYS:HG3	1.94	0.49
8:QH:12:ARG:HD2	8:QH:26:VAL:HG12	1.95	0.49
23:QY:83:HIS:CE1	23:QY:84:TYR:CD2	3.00	0.49
24:R0:27:GLU:HG3	24:R0:68:GLU:HA	1.95	0.49
32:RA:197:A:H62	32:RA:2430:A:H2'	1.78	0.49
32:RA:363(B):G:H2'	32:RA:363(C):G:C8	2.48	0.49
32:RA:662:G:OP1	41:RP:15:ARG:NH2	2.45	0.49
32:RA:1057:A:H2'	32:RA:1058:G:H8	1.78	0.49
32:RA:2776:A:H4'	32:RA:2777:G:O5'	2.13	0.49
1:XA:859:A:OP2	1:XA:869:G:N2	2.43	0.49
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.78	0.49
24:Y0:7:LEU:HG	42:YQ:81:VAL:HG13	1.93	0.49
26:Y3:10:LYS:HB3	26:Y3:53:LEU:HD23	1.94	0.49
32:YA:1657:C:H2'	32:YA:1658:C:H6	1.76	0.49
41:YP:121:LYS:HG2	41:YP:123:LEU:HG	1.95	0.49
34:YD:85:ASP:OD1	34:YD:86:PRO:HD2	2.13	0.49
42:YQ:11:LYS:HE2	42:YQ:88:GLY:O	2.12	0.49
42:YQ:118:LEU:CD1	42:YQ:131:ILE:HG23	2.43	0.49
37:YH:60:ARG:HG3	37:YH:60:ARG:NH1	2.16	0.49
35:YE:134:ILE:HD12	35:YE:134:ILE:O	2.13	0.49
35:YE:143:ASN:N	35:YE:143:ASN:ND2	2.60	0.49
54:RF:64:ILE:HG21	54:RF:78:ILE:HD11	1.94	0.49
54:RF:126:VAL:HG11	54:RF:142:TRP:HZ2	1.77	0.49
51:QL:33:ARG:NH2	51:QL:61:THR:OG1	2.46	0.49
1:QA:309:G:O2'	1:QA:607:A:N1	2.45	0.49
1:QA:738:C:H5''	6:QF:69:GLU:HB2	1.93	0.49
1:QA:781:A:O2'	1:QA:1522:U:O2	2.31	0.49
1:QA:953:G:N7	12:QM:104:ARG:NH2	2.61	0.49
32:RA:380:U:H2'	32:RA:381:G:H8	1.77	0.49
32:RA:414:C:H2'	32:RA:415:A:C8	2.48	0.49
39:RN:73:THR:HB	39:RN:82:LEU:HD11	1.94	0.49
1:XA:1064:G:H1'	1:XA:1066:C:C6	2.48	0.49
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.47	0.49
23:XY:27:ILE:O	23:XY:31:ILE:HG13	2.13	0.49
32:YA:582:G:H2'	32:YA:583:G:H8	1.77	0.49
40:YO:80:ASP:OD2	45:YT:64:ARG:NH2	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YD:165:ILE:HG23	34:YD:173:VAL:CG1	2.43	0.49
47:YV:93:GLU:O	47:YV:94:LEU:HD23	2.13	0.49
35:YE:67:PHE:O	35:YE:70:ALA:O	2.30	0.49
35:YE:176:ILE:HB	35:YE:181:LEU:HB2	1.95	0.49
54:RF:72:ARG:HG2	54:RF:73:ALA:H	1.77	0.49
1:QA:973:G:H3'	1:QA:974:A:H5''	1.94	0.48
18:QS:68:GLY:H	27:R4:55:ARG:HD3	1.78	0.48
33:RB:14:U:OP2	33:RB:70:C:O2'	2.31	0.48
23:XZ:60:ILE:HG13	23:XZ:66:LEU:HB2	1.95	0.48
25:Y2:17:SER:OG	25:Y2:20:GLU:OE1	2.30	0.48
53:Y8:12:LYS:CG	41:YP:68:GLN:NE2	2.76	0.48
31:Y9:13:LYS:HE2	31:Y9:28:GLU:HG3	1.95	0.48
55:RZ:29:TYR:HB3	55:RZ:34:ASN:CG	2.33	0.48
1:QA:17:U:H2'	1:QA:18:C:C6	2.47	0.48
1:QA:957:U:OP2	23:QZ:36:ARG:CZ	2.61	0.48
1:QA:974:A:P	13:QN:29:ARG:HH21	2.35	0.48
1:QA:1535:C:N4	22:QX:9:G:O6	2.46	0.48
2:QB:101:MET:HA	2:QB:108:ILE:HD12	1.95	0.48
3:QC:70:VAL:HG12	3:QC:72:LYS:H	1.78	0.48
15:QP:18:ARG:HA	15:QP:38:TYR:HA	1.95	0.48
32:RA:960:A:H61	42:RQ:82:ARG:NH1	2.10	0.48
32:RA:1171:G:O2'	32:RA:1173:G:O5'	2.25	0.48
32:RA:1486:A:H2'	32:RA:1487:G:H8	1.77	0.48
32:RA:2853:C:H2'	32:RA:2854:G:C8	2.48	0.48
33:RB:1:U:H2'	33:RB:2:C:C6	2.48	0.48
35:RE:34:VAL:HG21	35:RE:78:LEU:HD22	1.95	0.48
45:RT:92:GLY:O	45:RT:120:ARG:NH2	2.46	0.48
1:XA:4:U:H1'	8:XH:102:ARG:HH12	1.79	0.48
1:XA:64:G:N2	1:XA:68:G:O6	2.39	0.48
1:XA:407:G:H2'	1:XA:408:A:H8	1.78	0.48
1:XA:1137:C:H4'	1:XA:1138:G:O5'	2.12	0.48
3:XC:157:ILE:HD13	3:XC:166:GLU:HG2	1.95	0.48
9:XI:9:ARG:HG2	9:XI:14:VAL:HG12	1.95	0.48
53:Y8:46:ARG:NH2	32:YA:631:A:OP1	2.46	0.48
32:YA:1812:A:O4'	34:YD:45:ASN:ND2	2.46	0.48
42:YQ:6:ARG:HG2	42:YQ:7:MET:N	2.28	0.48
37:YH:3:ARG:HB3	37:YH:6:ARG:HB3	1.95	0.48
37:YH:169:VAL:O	37:YH:169:VAL:CG2	2.43	0.48
35:YE:28:ALA:HB3	35:YE:180:ASN:CA	2.42	0.48
35:YE:54:GLN:HE21	35:YE:54:GLN:CA	2.16	0.48
56:ZA:76:PPU:H8	56:ZA:76:PPU:O5'	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.48	0.48
2:QB:25:ASN:OD1	2:QB:26:PRO:HD2	2.13	0.48
2:QB:82:ARG:O	2:QB:86:GLU:HB2	2.13	0.48
4:QD:109:GLY:HA3	4:QD:165:MET:HG2	1.95	0.48
32:RA:128:C:H2'	32:RA:129:C:C6	2.48	0.48
39:RN:63:THR:OG1	39:RN:64:GLY:N	2.47	0.48
45:RT:31:SER:OG	45:RT:85:LYS:NZ	2.45	0.48
23:XZ:8:GLU:H	23:XZ:8:GLU:CD	2.17	0.48
25:Y2:14:ARG:NH1	25:Y2:66:GLU:OE1	2.46	0.48
32:YA:1426:G:OP2	32:YA:1427:A:O2'	2.24	0.48
32:YA:2100:G:H1	32:YA:2189:U:H3	1.60	0.48
34:YD:123:ALA:HB3	34:YD:131:LEU:CG	2.41	0.48
53:R8:29:LYS:O	53:R8:33:ASN:ND2	2.37	0.48
1:QA:35:G:H2'	1:QA:36:C:C6	2.48	0.48
1:QA:186(B):C:H2'	1:QA:186(C):G:H8	1.78	0.48
1:QA:427:U:OP2	1:QA:428:G:O2'	2.25	0.48
1:QA:1033:G:HO2'	1:QA:1034:G:P	2.37	0.48
1:QA:1340:A:HO2'	21:QV:31:G:HO2'	1.61	0.48
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.94	0.48
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.78	0.48
12:QM:59:TYR:O	12:QM:63:THR:OG1	2.29	0.48
22:QX:12:A:H3'	22:QX:13:A:C5'	2.40	0.48
28:R5:19:ARG:NH2	32:RA:1264:G:OP1	2.30	0.48
32:RA:667:U:O2	53:R8:2:PRO:HD2	2.13	0.48
32:RA:1728:G:H8	32:RA:1732:A:H62	1.62	0.48
32:RA:2291:U:H2'	32:RA:2292:C:C6	2.48	0.48
34:RD:124:PRO:O	34:RD:129:ASN:ND2	2.46	0.48
38:RI:30:LEU:HB3	38:RI:36:ALA:HB3	1.95	0.48
1:XA:148:G:H2'	1:XA:149:A:C8	2.48	0.48
1:XA:757:U:H2'	1:XA:758:G:O4'	2.13	0.48
1:XA:835:U:OP1	17:XR:64:ARG:NH2	2.43	0.48
1:XA:1492:A:C4	51:XL:47:LYS:HE3	2.48	0.48
30:Y7:7:PRO:HB2	32:YA:1309:G:H4'	1.96	0.48
32:YA:536:A:H4'	46:YU:57:PHE:CZ	2.47	0.48
32:YA:2094:G:H5'	38:YI:25:TYR:CD1	2.48	0.48
32:YA:2469:A:N3	32:YA:2469:A:O4'	2.46	0.48
36:YG:47:LYS:HD3	36:YG:81:LYS:HB2	1.95	0.48
34:YD:242:ARG:H	34:YD:242:ARG:CD	2.15	0.48
35:YE:7:VAL:CG1	35:YE:51:PHE:HE2	2.26	0.48
55:RZ:108:PRO:O	55:RZ:111:VAL:HG12	2.13	0.48
1:QA:1202:G:O4'	13:QN:29:ARG:NH1	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:134:GLU:HA	2:QB:137:ARG:HB3	1.96	0.48
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.45	0.48
23:QZ:48:LEU:HG	23:QZ:52:LEU:HB2	1.95	0.48
32:RA:581:C:H2'	32:RA:582:G:C8	2.48	0.48
32:RA:2506:U:O4'	56:ZB:76:PPU:HD1	2.14	0.48
32:RA:2809:A:H2'	32:RA:2810:A:C8	2.49	0.48
33:RB:44:G:O2'	33:RB:47:C:N4	2.45	0.48
1:XA:54:C:N4	1:XA:353:A:OP2	2.44	0.48
1:XA:1256:A:H5'	1:XA:1257:U:OP1	2.12	0.48
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.48	0.48
32:YA:247:G:H4'	32:YA:386:G:C5	2.49	0.48
32:YA:2681:C:P	35:YE:109:LYS:NZ	2.86	0.48
33:YB:105:G:H5''	55:YZ:31:ARG:HD3	1.95	0.48
34:YD:133:LEU:HD12	34:YD:185:VAL:CG1	2.43	0.48
1:QA:952:U:H2'	1:QA:953:G:H8	1.78	0.48
1:QA:985:C:H2'	1:QA:986:A:C8	2.49	0.48
1:QA:1001:G:H4'	1:QA:1001:G:OP1	2.13	0.48
1:QA:1008:C:H3'	1:QA:1009:G:H5''	1.96	0.48
1:QA:1510:U:H2'	1:QA:1511:G:H8	1.79	0.48
2:QB:155:LEU:HD11	2:QB:159:PRO:CA	2.42	0.48
2:QB:231:GLU:HB2	2:QB:232:PRO:CD	2.43	0.48
9:QI:10:ARG:HD3	9:QI:75:ASP:HB3	1.96	0.48
23:QY:16:TRP:CE2	23:QY:23:ILE:HG21	2.49	0.48
32:RA:851:U:H2'	32:RA:852:G:H8	1.78	0.48
32:RA:1032:A:H2	32:RA:1122:G:H22	1.62	0.48
32:RA:1316:U:H2'	32:RA:1317:A:H8	1.78	0.48
32:RA:1800:C:H42	32:RA:1817:G:N2	2.11	0.48
32:RA:2144:U:O2'	32:RA:2145:C:O5'	2.25	0.48
51:XL:46:LYS:HG2	51:XL:47:LYS:H	1.78	0.48
21:XW:1:C:H2'	21:XW:2:G:H8	1.77	0.48
24:Y0:8:GLY:O	42:YQ:85:LYS:HE3	2.13	0.48
32:YA:1025:G:H8	32:YA:1025:G:OP1	1.95	0.48
32:YA:1140:C:OP1	39:YN:23:LEU:HB3	2.14	0.48
44:YS:31:SER:HG	44:YS:34:HIS:H	1.61	0.48
41:YP:127:ALA:N	41:YP:148:LEU:HB2	2.29	0.48
42:YQ:112:GLU:OE1	42:YQ:112:GLU:HA	2.14	0.48
37:YH:71:LEU:HD12	37:YH:72:ILE:HG23	1.95	0.48
37:YH:94:TYR:CE1	37:YH:107:VAL:CA	2.97	0.48
47:YV:49:THR:O	47:YV:49:THR:CG2	2.32	0.48
55:YZ:1:MET:O	55:YZ:3:TYR:CD2	2.67	0.48
1:QA:28:G:O2'	1:QA:296:U:OP1	2.25	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:45:U:H2'	1:QA:46:G:C8	2.47	0.48
32:RA:141:A:H8	32:RA:1595:G:H21	1.62	0.48
32:RA:247:G:H4'	32:RA:386:G:C5	2.49	0.48
32:RA:608:A:H2'	32:RA:609:A:C8	2.48	0.48
32:RA:1171:G:O2'	32:RA:1173:G:O4'	2.32	0.48
32:RA:1789:A:OP1	34:RD:222:ARG:HG3	2.13	0.48
23:XY:69:ALA:O	23:XY:75:LEU:HD12	2.14	0.48
52:Y1:69:LYS:O	52:Y1:73:LEU:HG	2.12	0.48
32:YA:392:C:H5''	32:YA:409:C:H5''	1.94	0.48
32:YA:1250:G:OP2	41:YP:21:ARG:NE	2.46	0.48
32:YA:1791:A:OP2	32:YA:1791:A:H8	1.96	0.48
32:YA:2820:A:O2'	32:YA:2821:A:OP1	2.25	0.48
32:YA:2853:C:H2'	32:YA:2854:G:H8	1.79	0.48
46:YU:91:ASP:HA	46:YU:95:LEU:HB2	1.95	0.48
34:YD:206:LEU:HG	34:YD:211:ARG:HD2	1.94	0.48
37:YH:83:TYR:CZ	37:YH:138:LYS:HB2	2.49	0.48
37:YH:137:ASP:OD1	37:YH:138:LYS:N	2.46	0.48
37:YH:157:TYR:CE1	37:YH:172:LYS:HE3	2.49	0.48
1:QA:920:U:H2'	1:QA:921:U:C6	2.48	0.48
9:QI:31:GLN:HE21	9:QI:35:GLU:HG2	1.79	0.48
10:QJ:50:ILE:HD13	13:QN:41:ARG:HH11	1.78	0.48
21:QV:19:G:N2	36:RG:78:SER:OG	2.45	0.48
23:QY:37:THR:OG1	23:QY:40:GLU:O	2.31	0.48
32:RA:574:C:C2	35:RE:145:LYS:NZ	2.73	0.48
32:RA:1657:C:H4'	35:RE:133:LYS:HB3	1.95	0.48
32:RA:1783:A:H5'	32:RA:2608:G:H4'	1.95	0.48
32:RA:2181:G:H2'	32:RA:2182:G:H8	1.78	0.48
32:RA:2712:U:OP1	32:RA:2714:G:H4'	2.13	0.48
36:RG:144:ILE:HG22	36:RG:146:TYR:H	1.79	0.48
1:XA:1000:A:N3	1:XA:1000:A:H2'	2.27	0.48
21:XW:23:C:H2'	21:XW:24:U:H6	1.78	0.48
52:Y1:10:LYS:NZ	52:Y1:65:SER:OG	2.46	0.48
32:YA:612:G:O2'	32:YA:616:A:N1	2.35	0.48
39:YN:133:GLN:HG2	39:YN:135:PRO:HD3	1.96	0.48
47:YV:61:VAL:HA	47:YV:94:LEU:HD23	1.95	0.48
35:YE:144:ARG:HG2	35:YE:145:LYS:H	1.77	0.48
1:QA:216:G:H2'	1:QA:217:C:C6	2.49	0.48
2:QB:121:LEU:HD21	2:QB:130:ARG:NH2	2.29	0.48
16:QQ:66:SER:O	16:QQ:70:ARG:NH1	2.47	0.48
23:QY:10:TRP:HB2	23:QZ:3:LEU:HD12	1.94	0.48
32:RA:309:G:P	32:RA:309:G:O4'	2.72	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RD:148:GLU:HB2	34:RD:151:LYS:HD2	1.95	0.48
35:RE:16:ARG:NH1	35:RE:173:VAL:O	2.46	0.48
38:RI:100:ALA:O	38:RI:104:GLN:HB3	2.13	0.48
1:XA:186(C):G:H2'	1:XA:186(D):C:H6	1.77	0.48
1:XA:713:G:H2'	1:XA:714:G:C8	2.48	0.48
1:XA:728:A:H2'	1:XA:729:A:H8	1.79	0.48
1:XA:992:U:O2'	1:XA:993:G:OP2	2.30	0.48
1:XA:1129:C:H5'	1:XA:1130:A:OP1	2.14	0.48
1:XA:1504:G:OP1	1:XA:1507:A:H4'	2.14	0.48
2:XB:84:GLU:OE2	2:XB:233:SER:OG	2.28	0.48
4:XD:166:LYS:HG3	4:XD:178:VAL:HG11	1.96	0.48
23:XY:6:SER:HG	23:XY:9:SER:CB	2.26	0.48
52:Y1:17:SER:HB2	52:Y1:40:ARG:HD2	1.95	0.48
32:YA:637:A:H8	41:YP:117:GLU:CD	2.15	0.48
32:YA:2591:C:H2'	32:YA:2592:G:H8	1.79	0.48
54:YF:60:SER:OG	54:YF:61:GLY:N	2.46	0.48
37:YH:31:GLY:O	37:YH:79:VAL:HG12	2.10	0.48
37:YH:55:PRO:HG2	37:YH:61:HIS:CD2	2.49	0.48
37:YH:103:LEU:HB3	37:YH:115:VAL:CG1	2.44	0.48
37:YH:157:TYR:CZ	37:YH:172:LYS:HE3	2.49	0.48
1:QA:272:C:H2'	1:QA:273:A:H8	1.77	0.48
10:QJ:30:SER:O	10:QJ:30:SER:OG	2.31	0.48
21:QW:36:U:H2'	21:QW:37:A:C8	2.49	0.48
21:QW:41:C:H2'	21:QW:42:G:C8	2.49	0.48
23:QY:1:MET:N	23:QZ:7:GLU:CD	2.64	0.48
23:QY:4:ILE:HB	23:QY:76:LEU:HA	1.96	0.48
32:RA:442:G:N3	54:RF:48:THR:HG21	2.28	0.48
32:RA:629:G:N3	32:RA:639:U:O2'	2.46	0.48
32:RA:1543:A:H2'	32:RA:1544:C:H5''	1.96	0.48
32:RA:1940:U:O2	32:RA:1942:C:N4	2.47	0.48
32:RA:2211:G:H3'	32:RA:2212:A:C2	2.49	0.48
34:RD:35:LYS:HB3	34:RD:36:PRO:HD2	1.94	0.48
1:XA:130:A:N6	1:XA:233:C:O2	2.47	0.48
4:XD:13:ARG:HH21	4:XD:40:PRO:HB3	1.79	0.48
27:Y4:26:SER:OG	36:YG:143:GLU:OE2	2.30	0.48
32:YA:2102:U:H2'	32:YA:2103:C:C6	2.49	0.48
32:YA:2470:G:H5'	42:YQ:56:ARG:NH2	2.29	0.48
41:YP:97:PRO:HG3	41:YP:148:LEU:HD22	1.96	0.48
35:YE:110:GLY:HA2	35:YE:161:GLY:HA3	1.96	0.48
52:R1:85:LEU:CD2	52:R1:85:LEU:N	2.77	0.48
1:QA:208:U:O2'	1:QA:209:U:OP1	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:363:A:C6	51:QL:31:PRO:HD2	2.49	0.47
2:QB:71:VAL:CG2	2:QB:93:VAL:HG12	2.31	0.47
29:R6:24:GLU:OE2	32:RA:2285:C:N4	2.38	0.47
32:RA:956:G:OP2	42:RQ:14:ARG:NH2	2.47	0.47
32:RA:1858:G:O2'	32:RA:1884:A:N6	2.47	0.47
32:RA:2059:A:H5'	32:RA:2060:A:OP2	2.14	0.47
32:RA:2211:G:H2'	32:RA:2211:G:N3	2.29	0.47
32:RA:2334:G:N2	44:RS:16:ASN:OD1	2.41	0.47
37:RH:9:ILE:HG23	37:RH:9:ILE:O	2.13	0.47
41:RP:60:MET:C	53:R8:13:ARG:NH1	2.67	0.47
44:RS:5:THR:OG1	44:RS:6:ALA:N	2.46	0.47
1:XA:1033:G:H2'	1:XA:1034:G:C8	2.49	0.47
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.49	0.47
2:XB:17:PHE:HA	2:XB:204:ASN:HD22	1.78	0.47
32:YA:1102:C:H2'	32:YA:1103:A:H8	1.79	0.47
32:YA:2293:C:O2'	44:YS:93:LYS:NZ	2.47	0.47
32:YA:2298:A:H62	32:YA:2318:G:H8	1.62	0.47
32:YA:2731:G:H4'	35:YE:203:LYS:HE2	1.96	0.47
38:YI:100:ALA:O	38:YI:104:GLN:HB2	2.14	0.47
42:YQ:57:HIS:NE2	42:YQ:116:GLU:HG3	2.29	0.47
37:YH:162:ILE:HD12	37:YH:162:ILE:H	1.78	0.47
1:QA:6:G:H4'	1:QA:298:A:H4'	1.95	0.47
1:QA:280:C:N3	16:QQ:39:SER:OG	2.41	0.47
1:QA:1000:A:H3'	1:QA:1001:G:H5''	1.96	0.47
8:QH:7:ALA:HB2	8:QH:85:ARG:HD3	1.95	0.47
18:QS:41:VAL:HG12	18:QS:67:VAL:HG22	1.96	0.47
23:QZ:4:ILE:HG21	23:QZ:76:LEU:HD23	1.96	0.47
23:QZ:66:LEU:HD23	23:QZ:66:LEU:O	2.13	0.47
32:RA:289:A:H5'	32:RA:290:G:OP2	2.13	0.47
32:RA:755:C:H2'	32:RA:756:C:C6	2.49	0.47
32:RA:905:U:O2	42:RQ:29:PHE:HZ	1.97	0.47
32:RA:1649:G:O2'	43:RR:107:ASP:OD1	2.15	0.47
32:RA:1792:G:H5'	34:RD:205:VAL:HG13	1.96	0.47
32:RA:2102:U:H2'	32:RA:2103:C:C6	2.49	0.47
33:RB:48:A:H2'	33:RB:49:C:C6	2.49	0.47
42:RQ:27:VAL:CG1	42:RQ:30:GLY:O	2.62	0.47
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.49	0.47
2:XB:80:ILE:HD13	2:XB:212:GLN:HB2	1.96	0.47
4:XD:100:ARG:NH2	4:XD:136:PRO:O	2.46	0.47
21:XV:76:A:N6	32:YA:2450:A:O2'	2.47	0.47
32:YA:297:C:H2'	32:YA:298:G:O4'	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:1131:G:HO2'	32:YA:1132:A:H8	1.61	0.47
32:YA:2217:G:H21	34:YD:151:LYS:HE3	1.79	0.47
32:YA:2816:C:O2	32:YA:2883:A:O2'	2.25	0.47
54:YF:36:VAL:HG23	54:YF:183:VAL:HG21	1.96	0.47
44:YS:5:THR:OG1	44:YS:6:ALA:N	2.47	0.47
41:YP:126:VAL:HG12	41:YP:148:LEU:HD13	1.96	0.47
18:XS:12:ASP:HB3	18:XS:14:HIS:NE2	2.28	0.47
18:XS:14:HIS:H	18:XS:14:HIS:CD2	2.32	0.47
21:QW:14:A:H8	21:QW:14:A:OP1	1.97	0.47
23:QZ:16:TRP:HZ3	23:QZ:27:ILE:CD1	2.17	0.47
32:RA:1636:C:H2'	32:RA:1637:A:C8	2.50	0.47
32:RA:2061:G:H5''	32:RA:2503:A:C2	2.48	0.47
32:RA:2811:G:H22	32:RA:2891:G:H1'	1.78	0.47
1:XA:269:C:H2'	1:XA:270:A:C8	2.48	0.47
1:XA:1040:U:C6	1:XA:1040:U:C3'	2.97	0.47
1:XA:1298:C:H4'	1:XA:1299:A:C4	2.49	0.47
23:XY:27:ILE:HG12	23:XY:60:ILE:HD13	1.96	0.47
32:YA:414:C:H2'	32:YA:415:A:H8	1.78	0.47
41:YP:121:LYS:HE2	41:YP:123:LEU:HD11	1.96	0.47
34:YD:254:THR:O	34:YD:254:THR:OG1	2.30	0.47
52:R1:16:ASN:HB3	52:R1:37:ILE:HG23	1.95	0.47
1:QA:359:U:H2'	1:QA:360:A:H8	1.80	0.47
1:QA:1099:G:H5'	2:QB:96:ARG:CZ	2.42	0.47
1:QA:1351:U:H3	1:QA:1371:G:H1	1.60	0.47
2:QB:220:ASP:HA	2:QB:223:ILE:CD1	2.44	0.47
3:QC:134:ILE:HG23	3:QC:151:VAL:HB	1.94	0.47
12:QM:11:ARG:O	12:QM:13:LYS:N	2.46	0.47
24:R0:7:LEU:HD13	42:RQ:83:MET:HG2	1.95	0.47
32:RA:128:C:O2'	32:RA:129:C:OP1	2.30	0.47
32:RA:177:G:H3'	32:RA:178:G:H8	1.79	0.47
32:RA:919:G:N2	32:RA:2269:A:OP2	2.42	0.47
32:RA:2393:A:OP1	41:RP:62:LEU:HD21	2.14	0.47
32:RA:2836:U:H2'	32:RA:2837:G:C8	2.50	0.47
19:XT:54:LYS:HZ1	19:XT:100:ILE:HG12	1.79	0.47
32:YA:679:C:H2'	32:YA:680:G:H8	1.79	0.47
32:YA:1636:C:H2'	32:YA:1637:A:C8	2.49	0.47
38:YI:30:LEU:HB3	38:YI:36:ALA:HB3	1.96	0.47
41:YP:18:ARG:NH2	41:YP:21:ARG:HE	2.13	0.47
37:YH:162:ILE:CD1	37:YH:162:ILE:N	2.73	0.47
47:YV:33:VAL:HG12	47:YV:34:GLU:N	2.30	0.47
1:QA:409:G:OP1	4:QD:25:ARG:N	2.43	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1104:G:H4'	2:QB:111:ARG:HD3	1.96	0.47
4:QD:194:LEU:HG	4:QD:196:LEU:HG	1.97	0.47
32:RA:660:G:H21	41:RP:12:ALA:CA	2.19	0.47
32:RA:679:C:H2'	32:RA:680:G:C8	2.49	0.47
42:RQ:30:GLY:HA2	42:RQ:107:ALA:HB2	1.96	0.47
48:RW:88:ARG:HB2	48:RW:92:ARG:HB2	1.97	0.47
8:XH:7:ALA:HB2	8:XH:85:ARG:HD3	1.96	0.47
53:Y8:10:ALA:HB2	41:YP:59:LEU:HD21	1.95	0.47
32:YA:17:G:H4'	46:YU:25:TRP:HE1	1.77	0.47
32:YA:242:G:O2'	32:YA:254:G:O6	2.30	0.47
32:YA:2740:A:H2'	32:YA:2741:A:C8	2.50	0.47
45:YT:102:ILE:HA	45:YT:105:LEU:HD23	1.95	0.47
37:YH:114:VAL:O	37:YH:114:VAL:HG13	2.15	0.47
18:XS:42:PRO:N	18:XS:42:PRO:C	2.61	0.47
1:QA:359:U:H2'	1:QA:360:A:C8	2.50	0.47
1:QA:436:C:H2'	1:QA:437:U:C6	2.50	0.47
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.49	0.47
2:QB:168:THR:HG22	2:QB:192:SER:HB2	1.97	0.47
23:QZ:4:ILE:CG2	23:QZ:76:LEU:CD2	2.92	0.47
23:QZ:60:ILE:HD13	23:QZ:64:HIS:CB	2.44	0.47
32:RA:306:U:C4	32:RA:307:G:C5	3.02	0.47
32:RA:2584:U:H4'	56:ZB:76:PPU:H92	1.96	0.47
39:RN:22:THR:OG1	39:RN:23:LEU:N	2.45	0.47
1:XA:728:A:H2'	1:XA:729:A:C8	2.49	0.47
9:XI:5:TYR:HE1	9:XI:16:ARG:HB2	1.79	0.47
32:YA:1049:C:N4	32:YA:2751:G:O6	2.48	0.47
32:YA:1113:U:H2'	32:YA:1114:G:H8	1.80	0.47
32:YA:2125:G:O5'	32:YA:2125:G:H8	1.98	0.47
41:YP:88:LEU:CD2	41:YP:100:LEU:HD21	2.44	0.47
47:YV:52:VAL:O	47:YV:52:VAL:HG13	2.14	0.47
18:XS:49:ILE:CD1	18:XS:71:LEU:HD23	2.42	0.47
54:RF:126:VAL:HG11	54:RF:142:TRP:CZ2	2.49	0.47
55:RZ:10:ARG:HG3	55:RZ:10:ARG:O	2.14	0.47
1:QA:64:G:OP1	1:QA:382:A:N6	2.41	0.47
1:QA:1310:G:OP2	12:QM:88:ARG:NH2	2.48	0.47
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.49	0.47
1:QA:1347:G:HO2'	1:QA:1348:U:P	2.37	0.47
2:QB:28:PHE:CD2	2:QB:190:THR:HA	2.49	0.47
2:QB:57:PHE:CD1	2:QB:199:TYR:CE2	3.03	0.47
9:QI:9:ARG:H	9:QI:79:LEU:HD23	1.80	0.47
10:QJ:38:ILE:HD11	10:QJ:71:LEU:HD22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:78:ASN:O	10:QJ:81:THR:OG1	2.30	0.47
12:QM:86:CYS:SG	12:QM:87:TYR:N	2.88	0.47
21:QW:6:G:H2'	21:QW:7:G:C8	2.49	0.47
22:QX:19:A2M:N7	23:QY:50:HIS:NE2	2.62	0.47
32:RA:270(B):A:H5''	32:RA:270(C):C:H5	1.79	0.47
32:RA:362:U:H5'	32:RA:363:G:OP2	2.14	0.47
32:RA:414:C:H2'	32:RA:415:A:H8	1.79	0.47
32:RA:577:G:O2'	32:RA:1254:A:OP1	2.33	0.47
32:RA:582:G:H2'	32:RA:583:G:H8	1.80	0.47
32:RA:2246:G:H2'	32:RA:2247:A:H8	1.79	0.47
32:RA:2610:C:H4'	32:RA:2611:U:OP2	2.15	0.47
40:RO:19:ILE:HG22	40:RO:43:VAL:HA	1.95	0.47
42:RQ:118:LEU:HD12	42:RQ:131:ILE:HG23	1.97	0.47
46:RU:6:THR:OG1	46:RU:7:GLY:N	2.48	0.47
1:XA:56:U:H2'	1:XA:57:G:C8	2.49	0.47
1:XA:998:G:H2'	1:XA:998(A):C:C6	2.49	0.47
1:XA:1322:C:P	18:XS:78:ARG:HH22	2.37	0.47
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.50	0.47
2:XB:47:THR:HA	2:XB:202:PRO:HG2	1.97	0.47
22:XX:12:A:H3'	22:XX:13:A:H5''	1.96	0.47
23:XZ:15:TYR:CE1	23:XZ:19:THR:HG21	2.50	0.47
32:YA:38:A:H2'	32:YA:39:C:C6	2.49	0.47
32:YA:138:G:N2	49:YX:44:GLU:OE1	2.48	0.47
32:YA:414:C:H2'	32:YA:415:A:C8	2.50	0.47
32:YA:532:A:N1	32:YA:2035:G:N2	2.63	0.47
32:YA:587:C:H4'	32:YA:588:U:O5'	2.14	0.47
32:YA:782:A:H5'	32:YA:783:A:C2	2.49	0.47
32:YA:839:U:H3	32:YA:939:G:H1	1.62	0.47
32:YA:1177:A:HO2'	32:YA:1178:C:H5	1.63	0.47
32:YA:1399:C:P	49:YX:25:LYS:HZ1	2.38	0.47
32:YA:2446:G:N2	32:YA:2449:U:O2	2.42	0.47
32:YA:2489:G:N2	32:YA:2491:U:O4	2.41	0.47
32:YA:2591:C:H2'	32:YA:2592:G:C8	2.49	0.47
32:YA:2618:G:H21	35:YE:150:VAL:HG21	1.79	0.47
32:YA:2638:G:OP1	35:YE:82:ARG:NH2	2.37	0.47
32:YA:2725:A:O2'	32:YA:2726:U:O5'	2.27	0.47
36:YG:59:GLU:OE1	36:YG:153:ARG:NH2	2.47	0.47
45:YT:62:THR:HG22	45:YT:75:ILE:HG12	1.96	0.47
50:YY:28:LYS:N	50:YY:38:ILE:O	2.46	0.47
34:YD:37:LEU:CD2	34:YD:87:ASN:HD21	2.24	0.47
34:YD:43:ARG:NH2	34:YD:49:ILE:HD11	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:YV:25:LEU:CD1	47:YV:94:LEU:HD11	2.44	0.47
47:YV:99:ILE:HD12	47:YV:99:ILE:C	2.34	0.47
52:R1:44:PRO:HG2	52:R1:46:LEU:HD13	1.96	0.47
55:RZ:145:GLU:HG2	55:RZ:148:ASP:OD2	2.14	0.47
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.80	0.47
2:QB:21:ARG:HG3	2:QB:21:ARG:O	2.15	0.47
2:QB:56:ARG:O	2:QB:59:GLU:HG2	2.14	0.47
2:QB:74:LYS:HD3	2:QB:165:VAL:CG2	2.45	0.47
32:RA:468:G:H5''	54:RF:60:SER:HB3	1.97	0.47
32:RA:536:A:H2'	32:RA:537:C:C6	2.50	0.47
32:RA:587:C:H4'	32:RA:588:U:O5'	2.13	0.47
32:RA:675:A:N3	32:RA:2443:C:O2'	2.43	0.47
32:RA:686:G:H21	32:RA:788:A:H61	1.62	0.47
32:RA:1230:C:H2'	32:RA:1231:G:H8	1.80	0.47
32:RA:1754:C:P	45:RT:96:ARG:HH12	2.38	0.47
32:RA:1790:C:H5''	32:RA:1791:A:OP1	2.14	0.47
32:RA:2392:A:H2	32:RA:2424:C:H42	1.63	0.47
32:RA:2681:C:H5'	35:RE:11:MET:SD	2.55	0.47
2:XB:230:VAL:HG23	2:XB:231:GLU:HG2	1.97	0.47
32:YA:675:A:N3	32:YA:2443:C:O2'	2.40	0.47
32:YA:1085:A:HO2'	32:YA:1086:A:P	2.38	0.47
32:YA:2633:G:O2'	35:YE:63:LEU:HD11	2.15	0.47
41:YP:19:VAL:HG23	41:YP:31:ALA:HB2	1.96	0.47
41:YP:79:ARG:CB	41:YP:110:TYR:CD1	2.98	0.47
41:YP:124:LYS:O	41:YP:124:LYS:HG3	2.15	0.47
54:RF:32:LEU:O	54:RF:36:VAL:HG23	2.14	0.47
1:QA:31:G:O2'	1:QA:48:C:N4	2.47	0.47
1:QA:406:G:H2'	1:QA:407:G:H8	1.79	0.47
1:QA:537:G:H5''	51:QL:113:ARG:NH1	2.29	0.47
1:QA:1127:G:H22	1:QA:1145:C:H1'	1.80	0.47
2:QB:78:GLN:O	2:QB:81:VAL:CG2	2.63	0.47
4:QD:127:THR:HA	4:QD:132:ARG:HA	1.97	0.47
13:QN:23:ARG:NH1	13:QN:28:GLY:O	2.47	0.47
23:QY:44:LYS:HD2	51:QL:50:SER:OG	2.14	0.47
23:QZ:2:LYS:CE	23:QZ:74:SER:HB3	2.45	0.47
29:R6:6:ARG:NH1	32:RA:2285:C:OP2	2.47	0.47
32:RA:443:A:C2	54:RF:45:ARG:NH2	2.83	0.47
32:RA:2680:C:H5'	35:RE:189:PRO:HA	1.97	0.47
32:RA:2820:A:HO2'	32:RA:2821:A:P	2.36	0.47
35:RE:19:ARG:HG2	40:RO:72:PRO:HB2	1.97	0.47
42:RQ:20:ALA:HB2	55:RZ:79:ARG:NH2	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:RU:92:ARG:NH2	47:RV:11:GLN:O	2.48	0.47
47:RV:43:GLU:HG3	47:RV:44:LYS:H	1.80	0.47
48:RW:86:LEU:HD22	48:RW:96:ILE:HD11	1.97	0.47
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.80	0.47
4:XD:10:ARG:HG3	4:XD:40:PRO:HG3	1.97	0.47
32:YA:539:G:H2'	32:YA:540:G:H8	1.80	0.47
32:YA:1405:U:H2'	32:YA:1406:U:H6	1.79	0.47
41:YP:91:PHE:CE1	41:YP:99:LEU:HG	2.50	0.47
37:YH:5:GLY:HA2	37:YH:69:ARG:CB	2.44	0.47
37:YH:149:ARG:CD	37:YH:164:TYR:CE2	2.96	0.47
1:QA:115:G:H4'	1:QA:116:A:O5'	2.15	0.47
2:QB:149:LEU:HD22	2:QB:152:PHE:HB3	1.97	0.47
29:R6:8:LYS:NZ	53:R8:34:TRP:CZ2	2.77	0.47
30:R7:9:ARG:NE	32:RA:1310:G:OP2	2.42	0.47
32:RA:1139:G:H21	32:RA:1143:A:H8	1.61	0.47
32:RA:2103:C:H2'	32:RA:2104:G:H8	1.79	0.47
47:RV:24:LYS:HA	47:RV:92:THR:HG23	1.96	0.47
1:XA:382:A:H2'	1:XA:383:A:C8	2.50	0.47
23:XZ:44:LYS:HA	23:XZ:44:LYS:HE3	1.97	0.47
32:YA:2134:A:OP2	32:YA:2157:G:N2	2.47	0.47
32:YA:2748:A:O2'	37:YH:66:GLY:HA3	2.15	0.47
34:YD:63:ARG:NH1	34:YD:86:PRO:CD	2.78	0.47
37:YH:19:VAL:CG1	37:YH:45:VAL:CG1	2.92	0.47
47:YV:39:LEU:HD23	47:YV:40:LEU:H	1.72	0.47
1:QA:269:C:H2'	1:QA:270:A:H8	1.80	0.46
1:QA:603:U:H2'	1:QA:604:G:H8	1.80	0.46
2:QB:35:GLU:HG3	2:QB:35:GLU:O	2.15	0.46
11:QK:127:LYS:HG3	22:QX:10:G:H5'	1.97	0.46
14:QO:39:LEU:HD11	14:QO:52:SER:HB3	1.97	0.46
21:QW:69:C:H2'	21:QW:70:G:C8	2.50	0.46
32:RA:71:A:H5''	32:RA:73:A:C8	2.50	0.46
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.48	0.46
1:XA:1497:G:H1'	1:XA:1518:A:H2	1.80	0.46
9:XI:8:GLY:O	9:XI:15:ALA:N	2.47	0.46
32:YA:2447:G:O6	32:YA:2504:U:O4	2.33	0.46
36:YG:29:TRP:O	36:YG:33:ARG:NH1	2.48	0.46
44:YS:18:ILE:HG13	44:YS:88:ASP:HA	1.96	0.46
41:YP:91:PHE:HE1	41:YP:99:LEU:HG	1.80	0.46
37:YH:67:LEU:HD23	37:YH:67:LEU:O	2.15	0.46
37:YH:114:VAL:O	37:YH:114:VAL:CG1	2.63	0.46
52:R1:8:SER:HB3	52:R1:66:HIS:CG	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:YZ:118:GLN:HB3	55:YZ:173:ALA:HB3	1.97	0.46
1:QA:922:G:H2'	1:QA:923:A:C8	2.51	0.46
2:QB:69:LEU:HB3	2:QB:162:ILE:CD1	2.45	0.46
2:QB:78:GLN:O	2:QB:81:VAL:HG23	2.15	0.46
13:QN:37:PHE:HB3	13:QN:39:LEU:HD12	1.96	0.46
32:RA:2429:G:N7	41:RP:56:SER:OG	2.48	0.46
36:RG:107:LEU:HD23	36:RG:111:LEU:HD12	1.98	0.46
1:XA:56:U:H2'	1:XA:57:G:H8	1.78	0.46
1:XA:272:C:H2'	1:XA:273:A:H8	1.80	0.46
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.13	0.46
32:YA:172:C:H2'	32:YA:173:G:C8	2.50	0.46
32:YA:329:G:OP2	50:YY:71:LYS:HD2	2.15	0.46
32:YA:1316:U:H2'	32:YA:1317:A:H8	1.78	0.46
32:YA:2563:U:H4'	40:YO:28:SER:HA	1.98	0.46
32:YA:2751:G:O4'	37:YH:2:SER:HB2	2.15	0.46
39:YN:16:ILE:HG21	39:YN:26:LEU:HD11	1.98	0.46
42:YQ:66:ILE:N	42:YQ:66:ILE:CD1	2.73	0.46
37:YH:54:ARG:HH21	37:YH:62:LYS:HG2	1.80	0.46
37:YH:84:SER:HA	37:YH:133:VAL:O	2.14	0.46
47:YV:61:VAL:HA	47:YV:94:LEU:CD2	2.45	0.46
47:YV:70:ILE:HG23	47:YV:70:ILE:O	2.15	0.46
1:QA:806:C:H2'	1:QA:807:A:H8	1.80	0.46
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.50	0.46
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.50	0.46
1:QA:1432:G:OP1	45:RT:108:ARG:N	2.49	0.46
32:RA:1416:G:H2'	32:RA:1417:C:C6	2.50	0.46
32:RA:2052:G:C6	32:RA:2053:G:N7	2.84	0.46
32:RA:2432:A:C4	52:R1:33:LYS:HG3	2.50	0.46
32:RA:2526:G:H1	32:RA:2537:U:H3	1.63	0.46
34:RD:36:PRO:HB3	34:RD:61:LEU:HB3	1.97	0.46
35:RE:36:ARG:NH1	35:RE:85:ASN:OD1	2.48	0.46
38:RI:64:GLU:OE1	38:RI:67:ARG:NH2	2.48	0.46
38:RI:72:LEU:HD21	38:RI:138:ILE:HD12	1.96	0.46
1:XA:194:C:P	19:XT:61:SER:HG	2.38	0.46
6:XF:12:PRO:HD3	6:XF:58:GLY:HA2	1.97	0.46
23:XZ:44:LYS:HD2	23:XZ:44:LYS:H	1.80	0.46
24:Y0:8:GLY:O	42:YQ:85:LYS:CE	2.63	0.46
32:YA:572:A:H61	32:YA:2029:G:H21	1.63	0.46
32:YA:812:C:H5''	32:YA:1250:G:O2'	2.15	0.46
32:YA:971:C:H2'	32:YA:972:G:O4'	2.15	0.46
32:YA:1073:A:H2'	32:YA:1074:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:1085:A:O2'	32:YA:1086:A:OP1	2.28	0.46
41:YP:120:ALA:HB2	41:YP:137:LYS:HB3	1.98	0.46
34:YD:85:ASP:HB2	34:YD:92:ILE:HD13	1.97	0.46
34:YD:108:PRO:HD2	34:YD:111:LEU:HD22	1.96	0.46
34:YD:215:LEU:CD1	34:YD:217:ARG:NH2	2.78	0.46
34:YD:218:ARG:HB3	34:YD:219:PRO:HD2	1.96	0.46
37:YH:20:ALA:HB3	37:YH:23:ARG:O	2.16	0.46
35:YE:38:THR:OG1	35:YE:41:LYS:HB3	2.14	0.46
35:YE:169:ASN:HB2	35:YE:203:LYS:HD2	1.97	0.46
51:QL:35:GLY:HA2	51:QL:60:LEU:HA	1.97	0.46
2:QB:71:VAL:CB	2:QB:93:VAL:CG1	2.94	0.46
2:QB:155:LEU:HD21	2:QB:159:PRO:HB3	1.96	0.46
21:QW:67:C:H2'	21:QW:68:C:C6	2.51	0.46
32:RA:443:A:H5''	32:RA:444:C:OP1	2.15	0.46
32:RA:2267:A:H5''	32:RA:2268:A:H5'	1.97	0.46
37:RH:24:VAL:HG22	37:RH:35:VAL:HB	1.97	0.46
1:XA:755:G:OP2	14:XO:65:ARG:HD2	2.16	0.46
9:XI:28:VAL:HG12	9:XI:63:ILE:HB	1.97	0.46
21:XW:66:C:H2'	21:XW:67:C:H6	1.81	0.46
23:XZ:3:LEU:N	23:XZ:3:LEU:CD1	2.78	0.46
23:XZ:12:ASP:HB3	23:XZ:81:ARG:HB3	1.97	0.46
31:Y9:2:LYS:HA	31:Y9:2:LYS:HD2	1.76	0.46
36:YG:68:PRO:HB3	36:YG:92:VAL:HB	1.97	0.46
45:YT:133:GLU:CA	45:YT:137:LYS:CE	2.76	0.46
35:YE:42:ASP:OD1	35:YE:42:ASP:N	2.46	0.46
56:ZA:75:C:C4	56:ZA:76:PPU:H103	2.51	0.46
1:QA:269:C:H2'	1:QA:270:A:C8	2.49	0.46
1:QA:599:C:O2'	8:QH:129:VAL:O	2.27	0.46
1:QA:748:C:H4'	1:QA:749:C:O5'	2.15	0.46
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.47	0.46
3:QC:150:LYS:HB3	3:QC:201:TYR:HB2	1.97	0.46
6:QF:15:ASP:OD1	6:QF:15:ASP:N	2.49	0.46
23:QZ:20:ASP:HB3	23:QZ:23:ILE:CG1	2.45	0.46
28:R5:16:ARG:NH1	28:R5:17:ASP:OD1	2.49	0.46
32:RA:1286:A:H2'	32:RA:1288:U:OP2	2.16	0.46
39:RN:54:VAL:HB	39:RN:122:VAL:HG22	1.96	0.46
6:XF:61:LEU:HD23	6:XF:63:TYR:HE2	1.79	0.46
28:Y5:3:LYS:HD3	32:YA:2611:U:O4	2.15	0.46
32:YA:286:C:H2'	32:YA:287:C:C5'	2.40	0.46
32:YA:2629:A:N6	32:YA:2895:U:O2	2.49	0.46
32:YA:2645:G:H4'	32:YA:2732:G:O2'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YQ:66:ILE:O	42:YQ:66:ILE:HD13	2.16	0.46
35:YE:168:MET:SD	35:YE:203:LYS:NZ	2.89	0.46
54:RF:39:TRP:O	54:RF:43:LYS:HB2	2.14	0.46
54:RF:126:VAL:HG21	54:RF:142:TRP:HH2	1.78	0.46
56:ZA:75:C:C5	56:ZA:76:PPU:H103	2.50	0.46
1:QA:708:C:H2'	1:QA:709:G:C8	2.50	0.46
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.80	0.46
1:QA:1316:G:N2	1:QA:1319:A:OP2	2.42	0.46
9:QL:5:TYR:HE1	9:QL:16:ARG:HB3	1.79	0.46
12:QM:83:ASP:H	12:QM:93:ARG:NH2	2.13	0.46
21:QV:8:U:H1'	21:QV:48:C:H1'	1.97	0.46
32:RA:29:U:H2'	32:RA:30:G:C8	2.50	0.46
32:RA:760:G:H2'	32:RA:761:A:O4'	2.16	0.46
32:RA:1598:C:O3'	49:RX:35:THR:OG1	2.34	0.46
35:RE:68:ALA:O	35:RE:70:ALA:N	2.43	0.46
40:RO:64:ARG:HB2	40:RO:83:ALA:HB3	1.98	0.46
47:RV:40:LEU:HD11	47:RV:47:VAL:HG12	1.98	0.46
1:XA:1279:A:OP1	10:XJ:9:ARG:NH1	2.49	0.46
2:XB:9:GLU:O	2:XB:13:ALA:N	2.41	0.46
2:XB:118:LEU:HD11	2:XB:138:LEU:HD12	1.96	0.46
15:XP:22:THR:OG1	15:XP:23:ASP:N	2.49	0.46
26:Y3:29:ARG:HH12	32:YA:1184:G:P	2.38	0.46
28:Y5:29:THR:OG1	32:YA:2814:C:O2'	2.21	0.46
32:YA:1385:G:O2'	32:YA:1386:C:O5'	2.32	0.46
32:YA:2011:U:OP2	48:YW:16:LYS:NZ	2.40	0.46
32:YA:2805:G:H2'	32:YA:2807:G:C8	2.50	0.46
42:YQ:63:LYS:HZ2	55:YZ:175:VAL:HG11	1.78	0.46
37:YH:13:LYS:HA	37:YH:14:GLY:HA2	1.66	0.46
47:YV:76:LYS:O	47:YV:79:VAL:HG12	2.16	0.46
35:YE:101:ARG:C	35:YE:201:THR:OG1	2.54	0.46
55:YZ:39:VAL:CG2	55:YZ:44:PHE:HB2	2.45	0.46
1:QA:782:A:H62	1:QA:800:G:H21	1.63	0.46
2:QB:112:VAL:HG22	2:QB:149:LEU:HD13	1.97	0.46
15:QP:22:THR:OG1	15:QP:23:ASP:N	2.47	0.46
21:QW:67:C:H2'	21:QW:68:C:H6	1.80	0.46
32:RA:1262:A:OP2	48:RW:97:LYS:NZ	2.49	0.46
33:RB:57:A:O4'	36:RG:27:ASN:ND2	2.47	0.46
36:RG:77:ILE:HG22	36:RG:79:ASN:H	1.81	0.46
37:RH:9:ILE:HB	37:RH:69:ARG:CG	2.45	0.46
37:RH:43:VAL:HG22	37:RH:52:VAL:HG12	1.98	0.46
40:RO:77:ILE:HB	45:RT:74:ARG:HH11	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1354:C:H2'	1:XA:1355:G:H8	1.81	0.46
32:YA:922:U:H2'	32:YA:923:C:C6	2.51	0.46
32:YA:1354:A:H2'	32:YA:1355:G:O4'	2.15	0.46
40:YO:19:ILE:HG22	40:YO:43:VAL:HA	1.98	0.46
48:YW:24:ILE:HD13	48:YW:36:LEU:HD11	1.98	0.46
47:YV:27:ALA:O	47:YV:64:HIS:HE1	1.98	0.46
47:YV:33:VAL:CG1	47:YV:34:GLU:N	2.79	0.46
47:YV:99:ILE:O	47:YV:99:ILE:CD1	2.60	0.46
55:RZ:70:LEU:HD13	55:RZ:91:LEU:HD11	1.98	0.46
1:QA:254:G:O2'	16:QQ:16:GLN:O	2.33	0.46
1:QA:624:C:H2'	1:QA:625:G:C8	2.48	0.46
1:QA:1423:G:OP1	40:RO:49:ARG:NH2	2.49	0.46
2:QB:60:ASP:C	2:QB:64:ARG:HD2	2.34	0.46
2:QB:167:PRO:HG3	2:QB:188:ALA:HB2	1.96	0.46
21:QV:23:C:H2'	21:QV:24:U:C6	2.51	0.46
32:RA:299:A:N1	32:RA:322:A:O2'	2.44	0.46
32:RA:1609:A:H1'	32:RA:1616:A:O4'	2.15	0.46
32:RA:2037:G:H2'	32:RA:2038:G:C8	2.51	0.46
33:RB:2:C:H2'	33:RB:3:C:H5''	1.97	0.46
33:RB:3:C:H6	33:RB:3:C:C5'	2.23	0.46
41:RP:15:ARG:HD3	41:RP:15:ARG:C	2.27	0.46
42:RQ:55:VAL:CG2	55:RZ:178:GLU:HG2	2.44	0.46
1:XA:545:C:H5'	4:XD:72:GLU:HG3	1.97	0.46
1:XA:778:G:H21	11:XK:120:ARG:HG3	1.80	0.46
4:XD:189:PRO:HB2	4:XD:194:LEU:HD11	1.97	0.46
12:XM:59:TYR:O	12:XM:63:THR:OG1	2.26	0.46
21:XW:16:C:H4'	21:XW:60:U:H4'	1.98	0.46
23:XZ:37:THR:CG2	23:XZ:40:GLU:CA	2.93	0.46
28:Y5:41:PRO:O	28:Y5:44:THR:OG1	2.31	0.46
32:YA:1286:A:H2'	32:YA:1288:U:OP2	2.16	0.46
32:YA:1571:A:H2'	32:YA:1572:A:C8	2.51	0.46
32:YA:2685:G:P	45:YT:51:ARG:HH22	2.39	0.46
32:YA:2698:U:H2'	32:YA:2699:C:C6	2.51	0.46
37:YH:103:LEU:HD13	37:YH:125:VAL:CG2	2.45	0.46
47:YV:1:MET:HA	47:YV:1:MET:CE	2.45	0.46
18:XS:37:ARG:HG3	18:XS:38:SER:N	2.31	0.46
55:RZ:139:VAL:HG21	55:RZ:155:LEU:HD23	1.98	0.46
55:YZ:5:LEU:HB3	55:YZ:59:LEU:HD23	1.97	0.46
1:QA:390:C:H2'	1:QA:391:G:C8	2.51	0.46
1:QA:1100:C:O2'	1:QA:1102:A:OP1	2.33	0.46
1:QA:1494:G:H5'	23:QY:47:PRO:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:219:VAL:CA	2:QB:222:ILE:HG12	2.46	0.46
2:QB:220:ASP:HA	2:QB:223:ILE:CG1	2.46	0.46
27:R4:37:SER:OG	27:R4:38:LYS:N	2.49	0.46
32:RA:875:G:H4'	55:RZ:170:THR:HG21	1.98	0.46
1:XA:191(E):G:C2	1:XA:191(F):U:N3	2.84	0.46
17:XR:44:LEU:HD21	17:XR:74:ARG:HH21	1.81	0.46
23:XZ:60:ILE:CD1	23:XZ:66:LEU:HB2	2.46	0.46
31:Y9:22:ARG:NH2	32:YA:2741:A:OP1	2.32	0.46
32:YA:151:C:H2'	32:YA:152:G:H8	1.81	0.46
32:YA:303:U:H2'	32:YA:304:G:H8	1.81	0.46
32:YA:1790:C:H5''	32:YA:1791:A:OP1	2.16	0.46
40:YO:68:GLU:HG3	40:YO:78:ARG:HD3	1.98	0.46
42:YQ:108:GLY:HA3	55:YZ:116:VAL:HB	1.98	0.46
35:YE:48:GLN:NE2	35:YE:78:LEU:CD1	2.72	0.46
55:RZ:67:LEU:O	55:RZ:69:THR:HG23	2.16	0.46
55:YZ:68:PRO:O	55:YZ:91:LEU:HD13	2.15	0.46
1:QA:552:U:H2'	1:QA:553:A:C8	2.51	0.46
1:QA:979:C:H42	13:QN:18:VAL:HG12	1.81	0.46
3:QC:47:LEU:HD11	3:QC:87:LEU:HD21	1.98	0.46
7:QG:143:ARG:NH1	21:QW:41:C:O3'	2.48	0.46
23:QZ:40:GLU:O	23:QZ:58:ARG:NH2	2.49	0.46
32:RA:320:A:C5	54:RF:136:THR:HG21	2.51	0.46
32:RA:2130:U:O4	32:RA:2158:A:O2'	2.24	0.46
1:XA:973:G:C1'	10:XJ:55:LYS:HD2	2.46	0.46
13:XN:29:ARG:HD3	13:XN:40:CYS:HB2	1.97	0.46
19:XT:74:LYS:HA	19:XT:74:LYS:HD3	1.73	0.46
32:YA:627:A:H62	41:YP:117:GLU:HG2	1.81	0.46
32:YA:1188:U:H4'	47:YV:79:VAL:HG23	1.97	0.46
32:YA:1600:C:OP1	49:YX:58:HIS:NE2	2.38	0.46
35:YE:7:VAL:HG22	35:YE:27:LEU:HB3	1.97	0.46
35:YE:93:VAL:HG22	35:YE:93:VAL:O	2.16	0.46
1:QA:406:G:H2'	1:QA:407:G:C8	2.50	0.45
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.52	0.45
18:QS:67:VAL:HB	27:R4:55:ARG:HD3	1.99	0.45
21:QW:62:C:H2'	21:QW:63:G:C8	2.51	0.45
22:QX:21:OMU:OP2	23:QY:65:ARG:NH2	2.44	0.45
32:RA:703:U:H2'	32:RA:704:G:O4'	2.17	0.45
32:RA:1364:G:H5''	52:R1:2:SER:HA	1.97	0.45
32:RA:2047:U:H2'	32:RA:2048:G:H8	1.80	0.45
32:RA:2141:G:N2	32:RA:2150:U:O2	2.45	0.45
35:RE:114:ALA:HB3	35:RE:160:TYR:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RP:15:ARG:HA	41:RP:15:ARG:HE	1.81	0.45
1:XA:745:C:OP1	1:XA:851:G:O2'	2.33	0.45
32:YA:603:A:O3'	41:YP:90:ARG:NH1	2.50	0.45
34:YD:142:VAL:HG23	34:YD:192:THR:C	2.37	0.45
34:YD:253:GLN:HE21	34:YD:253:GLN:HB3	1.54	0.45
47:YV:6:LYS:O	47:YV:7:THR:HG23	2.16	0.45
1:QA:1337:G:H5''	1:QA:1338:G:OP1	2.17	0.45
1:QA:1504:G:OP1	1:QA:1507:A:H4'	2.17	0.45
2:QB:16:HIS:CG	2:QB:16:HIS:O	2.70	0.45
21:QW:56:C:H2'	21:QW:57:A:C8	2.51	0.45
23:QZ:3:LEU:HD21	23:QZ:31:ILE:CD1	2.35	0.45
32:RA:2103:C:H2'	32:RA:2104:G:C8	2.51	0.45
32:RA:2236:C:H2'	32:RA:2237:G:O4'	2.16	0.45
36:RG:106:LEU:HA	36:RG:110:ALA:HB3	1.98	0.45
1:XA:265:G:H5'	16:XQ:64:PRO:O	2.15	0.45
14:XO:79:ARG:HA	14:XO:82:ILE:HG12	1.98	0.45
32:YA:442:G:H1'	54:YF:48:THR:HG21	1.98	0.45
32:YA:997:G:OP1	46:YU:93:LYS:HB2	2.16	0.45
32:YA:1425:G:P	34:YD:31:LYS:HZ1	2.28	0.45
32:YA:1500:G:O2'	34:YD:100:GLY:O	2.26	0.45
32:YA:2159:G:H2'	32:YA:2160:G:C8	2.52	0.45
32:YA:2183:C:H2'	32:YA:2184:G:C8	2.51	0.45
48:YW:22:ASP:OD1	48:YW:25:ARG:NH1	2.45	0.45
42:YQ:132:VAL:HG12	42:YQ:133:ARG:N	2.31	0.45
35:YE:101:ARG:NH1	35:YE:101:ARG:CG	2.72	0.45
18:XS:12:ASP:HB3	18:XS:14:HIS:CE1	2.52	0.45
51:QL:45:PRO:HB3	51:QL:53:ARG:NH1	2.32	0.45
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.50	0.45
1:QA:1427:U:H2'	1:QA:1428:A:H8	1.81	0.45
8:QH:17:THR:O	8:QH:78:GLN:NE2	2.42	0.45
32:RA:729:G:O2'	32:RA:763:G:H4'	2.15	0.45
32:RA:874:G:O2'	55:RZ:120:ILE:HD11	2.16	0.45
32:RA:1056:G:H4'	32:RA:1086:A:H1'	1.98	0.45
32:RA:1543:A:H1'	32:RA:1545:A:O4'	2.17	0.45
37:RH:7:LEU:H	37:RH:8:PRO:CD	2.18	0.45
41:RP:49:ARG:HA	53:R8:57:ARG:HG3	1.95	0.45
1:XA:7:G:H5'	1:XA:298:A:O4'	2.16	0.45
1:XA:452:A:O2'	1:XA:453:A:O4'	2.31	0.45
1:XA:674:G:H2'	1:XA:675:A:C8	2.48	0.45
1:XA:701:C:O2'	1:XA:702:A:OP2	2.26	0.45
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XM:87:TYR:CB	18:XS:73:GLU:HG3	2.45	0.45
19:XT:53:LEU:HD12	19:XT:100:ILE:HG23	1.97	0.45
32:YA:2103:C:H2'	32:YA:2104:G:C8	2.51	0.45
32:YA:2225:A:H4'	32:YA:2226:C:O5'	2.15	0.45
32:YA:2683:C:OP1	45:YT:53:ARG:NH2	2.49	0.45
32:YA:2712:U:OP1	32:YA:2714:G:H4'	2.16	0.45
36:YG:9:ARG:O	36:YG:13:GLU:HG2	2.16	0.45
50:YY:30:VAL:HG22	50:YY:37:VAL:HG12	1.97	0.45
18:XS:16:LEU:CD2	18:XS:20:LEU:HG	2.46	0.45
54:RF:40:GLN:NE2	54:RF:182:ASN:HB2	2.32	0.45
8:QH:110:ALA:HB3	8:QH:121:ASP:HB3	1.98	0.45
23:QY:60:ILE:CD1	23:QY:80:CYS:O	2.64	0.45
32:RA:969:U:H2'	32:RA:970:C:C6	2.52	0.45
37:RH:88:LEU:HA	37:RH:130:ARG:HA	1.99	0.45
42:RQ:20:ALA:HB3	55:RZ:79:ARG:NH2	2.31	0.45
1:XA:985:C:H2'	1:XA:986:A:H8	1.80	0.45
1:XA:1124:G:O2'	1:XA:1125:U:O5'	2.32	0.45
9:XI:10:ARG:HE	9:XI:105:ASP:HB2	1.82	0.45
23:XY:10:TRP:NE1	23:XY:14:LEU:HD11	2.31	0.45
32:YA:286:C:C2'	32:YA:287:C:C5'	2.94	0.45
32:YA:781:A:P	34:YD:218:ARG:HH22	2.40	0.45
32:YA:1342:A:H2	32:YA:1602:U:H3	1.64	0.45
32:YA:1762:A:H4'	32:YA:1763:G:OP2	2.15	0.45
32:YA:2037:G:H2'	32:YA:2038:G:C8	2.52	0.45
32:YA:2584:U:H5'	56:ZA:76:PPU:H93	1.97	0.45
32:YA:2682:U:C6	35:YE:11:MET:HE1	2.21	0.45
32:YA:2731:G:C4'	35:YE:203:LYS:HE2	2.45	0.45
37:YH:157:TYR:HE1	37:YH:172:LYS:HG3	1.77	0.45
54:RF:64:ILE:H	54:RF:64:ILE:HG13	1.45	0.45
55:RZ:54:HIS:HB3	55:RZ:101:PRO:HD3	1.97	0.45
1:QA:56:U:H2'	1:QA:57:G:C8	2.50	0.45
1:QA:218:C:H5'	1:QA:466:C:N4	2.22	0.45
1:QA:957:U:C3'	23:QZ:36:ARG:HH12	2.21	0.45
1:QA:971:G:H2'	1:QA:1365:G:H4'	1.97	0.45
1:QA:1167:A:H2'	1:QA:1169:A:C8	2.52	0.45
2:QB:80:ILE:CG2	2:QB:215:LEU:HD12	2.45	0.45
32:RA:309:G:OP1	32:RA:309:G:C8	2.61	0.45
32:RA:1812:A:H2'	32:RA:1813:G:H8	1.81	0.45
32:RA:2347:C:H2'	32:RA:2348:U:C6	2.52	0.45
1:XA:1034:G:H2'	1:XA:1035:A:C8	2.51	0.45
31:Y9:15:LYS:HA	31:Y9:15:LYS:HD3	1.74	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:222:A:N1	32:YA:233:A:H5''	2.31	0.45
32:YA:631:A:C1'	41:YP:66:GLY:HA2	2.45	0.45
32:YA:818:G:N1	32:YA:1188:U:OP2	2.42	0.45
32:YA:1405:U:H2'	32:YA:1406:U:C6	2.51	0.45
33:YB:116:G:C8	33:YB:116:G:C3'	3.00	0.45
41:YP:96:THR:HB	41:YP:98:GLU:OE1	2.16	0.45
37:YH:139:GLN:CD	37:YH:139:GLN:C	2.75	0.45
47:YV:16:PRO:HA	47:YV:96:ILE:CG2	2.43	0.45
55:RZ:132:ASN:OD1	55:RZ:132:ASN:O	2.35	0.45
55:YZ:108:PRO:HB3	55:YZ:144:LEU:HB2	1.97	0.45
7:QG:69:VAL:HG21	7:QG:104:LEU:HD21	1.99	0.45
23:QY:68:TYR:HD1	23:QY:75:LEU:HD11	1.82	0.45
32:RA:38:A:H2'	32:RA:39:C:C6	2.51	0.45
32:RA:2364:C:H2'	32:RA:2365:G:O4'	2.16	0.45
32:RA:2404:C:H2'	32:RA:2405:G:O4'	2.17	0.45
38:RI:116:LEU:HD11	38:RI:120:ILE:HG23	1.97	0.45
28:Y5:47:PRO:O	28:Y5:60:VAL:HG11	2.16	0.45
32:YA:1385:G:HO2'	32:YA:1386:C:P	2.39	0.45
32:YA:1816:G:O6	34:YD:35:LYS:HE2	2.17	0.45
54:YF:182:ASN:N	54:YF:182:ASN:OD1	2.50	0.45
37:YH:3:ARG:NH2	37:YH:3:ARG:CG	2.72	0.45
54:RF:53:THR:O	54:RF:57:VAL:HG23	2.17	0.45
1:QA:986:A:N3	18:QS:52:TYR:OH	2.40	0.45
8:QH:19:VAL:HG13	8:QH:21:LYS:HG3	1.98	0.45
24:R0:18:ALA:HB1	32:RA:2271:G:OP1	2.15	0.45
31:R9:3:VAL:HG21	32:RA:2539:C:H4'	1.98	0.45
32:RA:1174:A:H62	32:RA:1177:A:H4'	1.82	0.45
32:RA:1638:C:O2	32:RA:2698:U:O2'	2.31	0.45
32:RA:1694:C:H4'	32:RA:1695:G:O5'	2.16	0.45
32:RA:2031:A:N3	32:RA:2455:G:O2'	2.37	0.45
32:RA:2432:A:C6	52:R1:33:LYS:CB	2.97	0.45
32:RA:2685:G:H1'	32:RA:2726:U:H5	1.82	0.45
34:RD:123:ALA:HB3	34:RD:131:LEU:HG	1.98	0.45
1:XA:41:G:H2'	1:XA:42:G:C8	2.51	0.45
1:XA:1119:C:H2'	1:XA:1120:G:H8	1.81	0.45
1:XA:1157:A:H61	1:XA:1178:G:H21	1.65	0.45
12:XM:87:TYR:H	18:XS:73:GLU:CG	2.30	0.45
21:XW:24:U:H2'	21:XW:25:C:C6	2.52	0.45
23:XY:61:THR:HB	23:XY:64:HIS:HB2	1.98	0.45
53:Y8:29:LYS:O	53:Y8:31:HIS:N	2.42	0.45
32:YA:2068:U:H3	32:YA:2430:A:H2	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YQ:1:MET:HE3	42:YQ:45:GLN:HG3	1.98	0.45
42:YQ:60:ARG:O	55:YZ:178:GLU:C	2.55	0.45
1:QA:345:C:O2'	1:QA:346:G:N3	2.47	0.45
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.52	0.45
2:QB:71:VAL:CG1	2:QB:97:TRP:HE3	2.27	0.45
23:QZ:84:TYR:OXT	23:QZ:84:TYR:CD1	2.70	0.45
32:RA:491:G:O6	48:RW:49:LYS:NZ	2.42	0.45
32:RA:820:A:H4'	32:RA:836:G:N2	2.31	0.45
32:RA:1079:C:N4	32:RA:1088:A:OP1	2.50	0.45
1:XA:560:U:H4'	1:XA:561:U:O5'	2.16	0.45
1:XA:1376:U:P	7:XG:94:ARG:HH12	2.40	0.45
3:XC:152:ILE:HG12	3:XC:167:TRP:HD1	1.80	0.45
9:XI:25:LYS:N	9:XI:60:ASP:OD1	2.50	0.45
21:XW:68:C:H2'	21:XW:69:C:C6	2.52	0.45
22:XX:5:A:H2'	22:XX:6:G:C8	2.52	0.45
32:YA:380:U:H2'	32:YA:381:G:H8	1.81	0.45
32:YA:627:A:H4'	32:YA:628:G:H5'	1.98	0.45
32:YA:1882:C:H5'	32:YA:1883:G:OP2	2.16	0.45
32:YA:2168:G:N1	32:YA:2170:A:OP2	2.49	0.45
42:YQ:61:GLY:N	55:YZ:178:GLU:O	2.49	0.45
35:YE:108:SER:HB3	35:YE:165:VAL:HG21	1.98	0.45
52:R1:89:GLU:O	52:R1:93:GLU:HB2	2.17	0.45
55:RZ:34:ASN:OD1	55:RZ:35:ARG:N	2.49	0.45
55:RZ:108:PRO:HB3	55:RZ:144:LEU:HB2	1.99	0.45
55:RZ:121:HIS:CE1	55:RZ:169:GLU:OE1	2.69	0.45
55:YZ:99:TYR:HA	55:YZ:124:ILE:O	2.17	0.45
1:QA:485:G:HO2'	1:QA:486:U:P	2.40	0.45
2:QB:69:LEU:HD23	2:QB:70:PHE:N	2.32	0.45
19:QT:71:THR:HG22	19:QT:72:LEU:HG	1.99	0.45
21:QW:22:G:H2'	21:QW:23:C:C6	2.52	0.45
23:QY:36:ARG:CB	23:QY:36:ARG:HH11	2.28	0.45
32:RA:336:C:O2'	50:RY:35:TYR:OH	2.35	0.45
32:RA:1156:A:OP1	46:RU:55:ARG:NH1	2.40	0.45
32:RA:2130:U:O3'	32:RA:2131:G:H4'	2.17	0.45
32:RA:2396:G:H4'	52:R1:25:LYS:HG3	1.99	0.45
32:RA:2515:C:H2'	32:RA:2516:G:H8	1.82	0.45
32:RA:2635:C:O2'	35:RE:80:GLU:OE2	2.30	0.45
48:RW:22:ASP:OD1	48:RW:25:ARG:NH1	2.49	0.45
1:XA:191(E):G:C2	1:XA:191(F):U:C4	3.05	0.45
1:XA:216:G:H2'	1:XA:217:C:C6	2.52	0.45
1:XA:269:C:H2'	1:XA:270:A:H8	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:410:G:H2'	1:XA:429:U:C5	2.52	0.45
1:XA:1172:C:H2'	1:XA:1173:G:H8	1.81	0.45
4:XD:154:ASN:CB	4:XD:159:ARG:NH2	2.80	0.45
11:XK:52:GLY:H	11:XK:55:LYS:HE2	1.82	0.45
32:YA:218:A:C2	32:YA:235:U:H4'	2.52	0.45
32:YA:637:A:C2'	41:YP:117:GLU:OE2	2.64	0.45
32:YA:1000:A:H3'	32:YA:1001:A:C8	2.51	0.45
32:YA:1230:C:H2'	32:YA:1231:G:C8	2.52	0.45
32:YA:1592:C:H2'	32:YA:1593:G:H8	1.82	0.45
32:YA:2121:G:H2'	32:YA:2122:U:C6	2.52	0.45
54:YF:117:ARG:HD3	54:YF:117:ARG:HA	1.85	0.45
37:YH:118:PRO:HD2	37:YH:121:ILE:HG21	1.99	0.45
35:YE:24:THR:HG21	35:YE:188:VAL:CG1	2.43	0.45
55:YZ:72:ARG:HD3	55:YZ:72:ARG:HA	1.57	0.45
55:YZ:111:VAL:HG22	55:YZ:115:GLY:O	2.17	0.45
55:YZ:128:VAL:HG23	55:YZ:160:GLY:O	2.17	0.45
51:QL:101:VAL:HG13	51:QL:104:VAL:HG11	1.99	0.45
1:QA:64:G:H5''	1:QA:65:U:OP1	2.17	0.45
1:QA:539:A:H2'	1:QA:540:G:C8	2.52	0.45
1:QA:1443:G:N2	32:RA:2863:C:O3'	2.49	0.45
2:QB:160:ASP:O	2:QB:183:PRO:HD2	2.17	0.45
29:R6:8:LYS:NZ	53:R8:34:TRP:CD2	2.85	0.45
32:RA:1165:U:H2'	32:RA:1166:C:C6	2.52	0.45
32:RA:2773:C:OP1	35:RE:166:THR:OG1	2.33	0.45
32:RA:2779:U:H6	32:RA:2779:U:H2'	1.68	0.45
33:RB:50:G:OP1	44:RS:63:THR:HG23	2.17	0.45
34:RD:148:GLU:OE1	34:RD:151:LYS:NZ	2.40	0.45
41:RP:49:ARG:NH1	53:R8:4:MET:HE1	2.31	0.45
1:XA:35:G:H2'	1:XA:36:C:C6	2.51	0.45
1:XA:1027:C:H2'	1:XA:1028:C:C6	2.52	0.45
1:XA:1124:G:HO2'	1:XA:1125:U:P	2.40	0.45
32:YA:627:A:N6	41:YP:117:GLU:HG2	2.32	0.45
32:YA:740:U:H2'	32:YA:741:G:C8	2.52	0.45
32:YA:908:C:OP1	42:YQ:22:LYS:HB3	2.17	0.45
32:YA:1070:A:H5'	32:YA:1071:G:H5''	1.98	0.45
32:YA:1230:C:H2'	32:YA:1231:G:H8	1.82	0.45
32:YA:1464:C:HO2'	32:YA:1528:A:H8	1.61	0.45
32:YA:1639:U:H2'	32:YA:1640:C:H5''	1.98	0.45
32:YA:2306:C:C5'	32:YA:2307:G:H5''	2.46	0.45
32:YA:2845:G:H2'	32:YA:2846:G:C8	2.52	0.45
36:YG:161:THR:HG22	36:YG:163:ALA:H	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YS:18:ILE:HG21	44:YS:88:ASP:HA	1.99	0.45
45:YT:66:VAL:HA	45:YT:71:GLY:HA2	1.99	0.45
34:YD:154:LYS:HB2	34:YD:155:LEU:CD1	2.47	0.45
34:YD:231:HIS:CE1	34:YD:232:PRO:HD2	2.51	0.45
42:YQ:60:ARG:HB3	55:YZ:179:ASP:OD1	2.15	0.45
54:RF:157:VAL:O	54:RF:194:MET:HA	2.17	0.45
55:RZ:28:MET:HA	55:RZ:88:PHE:O	2.17	0.45
1:QA:148:G:H2'	1:QA:149:A:C8	2.52	0.44
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.98	0.44
32:RA:59:U:H3	32:RA:68:G:H1	1.66	0.44
32:RA:151:C:H2'	32:RA:152:G:H8	1.82	0.44
32:RA:639:U:H2'	32:RA:640:C:C6	2.52	0.44
32:RA:877:U:O2'	32:RA:878:A:OP1	2.29	0.44
37:RH:11:VAL:O	37:RH:11:VAL:HG23	2.17	0.44
44:RS:25:ARG:HB3	44:RS:40:ILE:HG23	2.00	0.44
1:XA:689:C:H3'	1:XA:690:G:H21	1.83	0.44
1:XA:922:G:H2'	1:XA:923:A:C8	2.52	0.44
1:XA:1014:A:C5'	18:XS:14:HIS:ND1	2.80	0.44
1:XA:1316:G:N2	1:XA:1319:A:OP2	2.47	0.44
6:XF:45:LEU:HD12	6:XF:59:TYR:HD1	1.82	0.44
31:Y9:30:PRO:HB2	32:YA:2527:C:H5'	1.98	0.44
32:YA:289:A:H3'	32:YA:290:G:H8	1.83	0.44
32:YA:2001:A:H2'	32:YA:2002:G:C8	2.52	0.44
35:YE:21:VAL:HG23	35:YE:21:VAL:O	2.17	0.44
35:YE:101:ARG:NH1	35:YE:169:ASN:OD1	2.50	0.44
18:XS:27:GLU:HG3	18:XS:29:ARG:CZ	2.47	0.44
1:QA:45:U:H2'	1:QA:46:G:H8	1.82	0.44
1:QA:518:C:H5''	1:QA:519:C:C6	2.52	0.44
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.52	0.44
1:QA:1505:G:O2'	22:QX:12:A:N7	2.49	0.44
2:QB:10:LEU:C	2:QB:10:LEU:CD2	2.86	0.44
32:RA:673:C:H5''	54:RF:81:PRO:HD2	2.00	0.44
32:RA:2183:C:H2'	32:RA:2184:G:C8	2.51	0.44
32:RA:2243:U:H2'	32:RA:2244:U:C6	2.52	0.44
32:RA:2845:G:H2'	32:RA:2846:G:H8	1.81	0.44
23:XY:60:ILE:HD11	23:XY:66:LEU:HB2	1.99	0.44
28:Y5:12:SER:OG	32:YA:2021:C:OP1	2.27	0.44
32:YA:84:A:OP2	50:YY:8:LYS:HD2	2.17	0.44
32:YA:299:A:N1	32:YA:322:A:O2'	2.46	0.44
32:YA:301:G:HO2'	32:YA:302:C:H6	1.64	0.44
32:YA:581:C:H2'	32:YA:582:G:C8	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:1818:U:H2'	34:YD:157:ARG:CG	2.46	0.44
33:YB:24:G:H1'	33:YB:27:C:N4	2.33	0.44
41:YP:121:LYS:HG2	41:YP:122:PRO:HD2	1.98	0.44
35:YE:28:ALA:CB	35:YE:180:ASN:O	2.65	0.44
56:ZA:76:PPU:N7	56:ZA:76:PPU:C10	2.72	0.44
1:QA:559:A:OP1	5:QE:126:ARG:NH2	2.49	0.44
1:QA:831:U:P	2:QB:22:LYS:HZ1	2.40	0.44
1:QA:1219:U:H2'	1:QA:1220:G:C8	2.53	0.44
1:QA:1256:A:H5'	1:QA:1257:U:OP1	2.17	0.44
2:QB:71:VAL:HA	2:QB:93:VAL:HG12	1.98	0.44
23:QY:10:TRP:CH2	23:QZ:5:TRP:HZ2	2.36	0.44
23:QZ:80:CYS:O	23:QZ:80:CYS:SG	2.75	0.44
25:R2:47:ASN:N	25:R2:47:ASN:OD1	2.50	0.44
32:RA:330:A:H2	32:RA:1210:A:O2'	1.96	0.44
32:RA:1085:A:O2'	32:RA:1086:A:OP1	2.31	0.44
32:RA:2023:G:OP2	32:RA:2617:C:H4'	2.16	0.44
32:RA:2197:U:H2'	32:RA:2224:G:H1	1.82	0.44
32:RA:2351:G:HO2'	32:RA:2352:A:H8	1.62	0.44
35:RE:117:MET:O	35:RE:117:MET:HG2	2.17	0.44
1:XA:628:G:H2'	1:XA:629:G:C8	2.52	0.44
1:XA:1176:A:H2'	1:XA:1177:G:H5'	1.98	0.44
1:XA:1318:A:H4'	18:XS:10:PHE:CD2	2.53	0.44
5:XE:107:ARG:O	5:XE:111:GLU:HB2	2.18	0.44
19:XT:26:ASN:HA	19:XT:29:LYS:HG2	1.99	0.44
21:XW:43:A:H2'	21:XW:44:A:C8	2.52	0.44
32:YA:2291:U:H2'	32:YA:2292:C:C6	2.52	0.44
54:YF:63:LYS:NZ	54:YF:75:HIS:O	2.39	0.44
40:YO:22:ILE:HD11	40:YO:42:SER:HB2	2.00	0.44
42:YQ:60:ARG:CA	55:YZ:180:VAL:HG23	2.45	0.44
37:YH:67:LEU:HD23	37:YH:67:LEU:C	2.38	0.44
55:RZ:103:ARG:HG2	55:RZ:136:PHE:HD1	1.83	0.44
1:QA:22:G:H2'	1:QA:23:C:C6	2.53	0.44
1:QA:1225:A:OP1	12:QM:102:ARG:HD3	2.17	0.44
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.82	0.44
1:QA:1502:A:H2	1:QA:1505:G:H1	1.65	0.44
2:QB:21:ARG:HB3	2:QB:39:ILE:HD12	1.94	0.44
2:QB:209:ARG:NH1	2:QB:209:ARG:CG	2.72	0.44
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.82	0.44
21:QW:60:U:H4'	21:QW:61:C:OP1	2.17	0.44
22:QX:21:OMU:OP2	23:QY:65:ARG:NE	2.47	0.44
32:RA:2529:G:H5'	32:RA:2530:A:O5'	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RG:15:VAL:HG21	36:RG:176:LEU:HD22	1.99	0.44
36:RG:17:PRO:HA	36:RG:20:ILE:HD12	1.98	0.44
38:RI:125:GLU:HG3	38:RI:141:LYS:HD2	1.99	0.44
39:RN:23:LEU:HD13	39:RN:60:ILE:HD12	1.99	0.44
41:RP:29:LYS:HB3	41:RP:29:LYS:HE3	1.78	0.44
48:RW:9:TYR:H	48:RW:102:HIS:CE1	2.35	0.44
1:XA:524:G:H2'	1:XA:525:C:C6	2.52	0.44
1:XA:701:C:O2	1:XA:703:G:N1	2.51	0.44
1:XA:703:G:H4'	1:XA:704:A:O5'	2.17	0.44
1:XA:1059:C:O2'	10:XJ:53:PRO:HD3	2.17	0.44
1:XA:1137:C:H1'	1:XA:1138:G:OP2	2.18	0.44
32:YA:1796:U:H2'	32:YA:1797:C:C6	2.52	0.44
32:YA:2064:C:H2'	32:YA:2065:C:C6	2.52	0.44
32:YA:2086:U:H2'	32:YA:2087:G:C8	2.52	0.44
32:YA:2215:G:H2'	32:YA:2216:G:H8	1.82	0.44
32:YA:2637:U:H5''	35:YE:82:ARG:NH1	2.32	0.44
49:YX:54:VAL:HG22	49:YX:81:VAL:HG23	1.98	0.44
37:YH:105:LEU:O	37:YH:113:VAL:HG12	2.17	0.44
55:RZ:29:TYR:O	55:RZ:29:TYR:CD1	2.70	0.44
55:RZ:38:TYR:O	55:RZ:38:TYR:CD1	2.70	0.44
1:QA:736:C:H2'	1:QA:737:A:C8	2.53	0.44
1:QA:1028:C:H2'	1:QA:1028(A):C:C6	2.52	0.44
21:QV:1:C:O2'	21:QV:2:G:OP2	2.29	0.44
23:QY:1:MET:O	23:QY:1:MET:CG	2.66	0.44
23:QY:36:ARG:HB3	23:QY:36:ARG:CZ	2.47	0.44
23:QZ:66:LEU:C	23:QZ:66:LEU:CD2	2.85	0.44
32:RA:814:C:H41	41:RP:25:SER:HA	1.82	0.44
32:RA:1380:G:O2'	32:RA:1569:A:N6	2.51	0.44
32:RA:1869:G:H5'	32:RA:1870:C:OP2	2.18	0.44
32:RA:2312:U:OP2	36:RG:74:LYS:HE2	2.17	0.44
32:RA:2677:G:H2'	32:RA:2678:C:C6	2.52	0.44
39:RN:26:LEU:O	39:RN:30:ILE:HG12	2.17	0.44
40:RO:78:ARG:NE	45:RT:73:GLU:OE1	2.51	0.44
1:XA:186(C):G:H2'	1:XA:186(D):C:C6	2.51	0.44
6:XF:37:VAL:HA	6:XF:65:VAL:HG12	1.99	0.44
8:XH:4:ASP:HB2	8:XH:89:PRO:HG3	1.99	0.44
51:XL:104:VAL:HG12	51:XL:105:TYR:H	1.81	0.44
23:XY:63:GLU:O	23:XY:83:HIS:HB2	2.17	0.44
32:YA:287:C:H2'	32:YA:288:C:H6	1.82	0.44
32:YA:845:G:H8	32:YA:845:G:OP2	2.01	0.44
32:YA:859:G:HO2'	32:YA:916:G:H1	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:883:G:O2'	32:YA:884:C:P	2.76	0.44
32:YA:1265:A:H8	32:YA:1265:A:OP1	2.01	0.44
32:YA:1797:C:O2'	34:YD:259:THR:CG2	2.66	0.44
32:YA:1813:G:H1'	34:YD:50:THR:OG1	2.18	0.44
32:YA:2469:A:C2'	42:YQ:56:ARG:HH21	2.30	0.44
32:YA:2638:G:OP2	35:YE:82:ARG:NH1	2.44	0.44
32:YA:2693:A:H2'	32:YA:2694:G:H8	1.82	0.44
44:YS:27:SER:HA	44:YS:88:ASP:HB3	1.99	0.44
34:YD:37:LEU:HD13	34:YD:62:TYR:HB2	1.99	0.44
55:YZ:95:PRO:HA	55:YZ:129:SER:HA	1.99	0.44
53:R8:46:ARG:HH12	53:R8:47:LYS:HE2	1.82	0.44
1:QA:518:C:H4'	1:QA:519:C:O5'	2.17	0.44
1:QA:1126:U:N3	1:QA:1281:U:O4'	2.51	0.44
1:QA:1318:A:O2'	18:QS:37:ARG:HD3	2.18	0.44
1:QA:1494:G:P	23:QY:49:LYS:HZ3	2.41	0.44
32:RA:1210:A:H5'	32:RA:1212:G:O4'	2.18	0.44
32:RA:1523:U:H2'	32:RA:1524:G:C8	2.53	0.44
32:RA:1682:G:OP1	32:RA:1699:G:N1	2.50	0.44
32:RA:1992:G:N2	32:RA:1996:C:O2'	2.49	0.44
32:RA:2446:G:H2'	32:RA:2447:G:H5''	2.00	0.44
32:RA:2451:A:N3	56:ZB:76:PPU:HD2	2.33	0.44
34:RD:39:LYS:HE3	34:RD:39:LYS:HB3	1.82	0.44
35:RE:68:ALA:HB1	35:RE:71:GLY:HA2	1.99	0.44
41:RP:15:ARG:HA	41:RP:15:ARG:NE	2.32	0.44
46:RU:90:VAL:HG11	47:RV:40:LEU:HD13	2.00	0.44
49:RX:87:GLN:O	49:RX:88:LYS:HD3	2.17	0.44
1:XA:45:U:OP1	1:XA:307:C:O2'	2.28	0.44
32:YA:774:A:O2'	32:YA:775:G:O5'	2.35	0.44
32:YA:1528:A:OP2	32:YA:1542:G:N1	2.51	0.44
54:YF:65:TRP:NE1	54:YF:73:ALA:O	2.46	0.44
48:YW:57:ASN:O	48:YW:61:ASN:HB2	2.18	0.44
41:YP:113:LYS:HG3	41:YP:129:ALA:HB3	1.98	0.44
47:YV:29:PRO:HB3	47:YV:63:GLY:HA2	2.00	0.44
47:YV:40:LEU:C	47:YV:40:LEU:CD2	2.86	0.44
35:YE:119:ARG:NH1	35:YE:120:TRP:HE1	2.16	0.44
54:RF:39:TRP:CD1	54:RF:101:LEU:HB2	2.52	0.44
54:RF:51:THR:OG1	54:RF:91:GLY:HA3	2.16	0.44
54:RF:126:VAL:HG21	54:RF:142:TRP:CH2	2.53	0.44
55:YZ:38:TYR:CD1	55:YZ:38:TYR:O	2.70	0.44
1:QA:407:G:OP1	4:QD:115:ARG:NH1	2.51	0.44
1:QA:1040:U:H2'	1:QA:1041:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.83	0.44
2:QB:28:PHE:O	2:QB:28:PHE:CD2	2.70	0.44
32:RA:922:U:H2'	32:RA:923:C:C6	2.52	0.44
32:RA:1153:C:H2'	32:RA:1154:G:O4'	2.18	0.44
32:RA:2305:A:H5''	36:RG:134:GLY:HA3	1.99	0.44
32:RA:2335:A:HO2'	32:RA:2336:A:H2'	1.81	0.44
41:RP:101:VAL:HB	41:RP:106:LEU:HB3	1.98	0.44
41:RP:131:SER:OG	41:RP:132:LYS:N	2.51	0.44
45:RT:120:ARG:HA	45:RT:123:GLN:HB2	1.99	0.44
1:XA:1432:G:OP1	45:YT:108:ARG:HB2	2.18	0.44
4:XD:152:SER:HB2	4:XD:155:LEU:HD11	1.99	0.44
5:XE:50:GLU:HB3	5:XE:53:LEU:HD13	2.00	0.44
21:XW:14:A:N7	21:XW:22:G:N2	2.64	0.44
32:YA:581:C:H2'	32:YA:582:G:H8	1.82	0.44
32:YA:2680:C:OP2	35:YE:111:ARG:NH2	2.50	0.44
45:YT:126:ALA:O	45:YT:130:ALA:HB3	2.18	0.44
34:YD:123:ALA:HA	34:YD:124:PRO:HD3	1.91	0.44
42:YQ:58:PHE:CE2	42:YQ:106:VAL:CG2	3.00	0.44
42:YQ:58:PHE:CE2	42:YQ:106:VAL:HG21	2.52	0.44
35:YE:54:GLN:NE2	35:YE:58:ARG:HH21	2.16	0.44
55:RZ:181:GLU:HB2	55:RZ:183:LEU:CD2	2.43	0.44
1:QA:262:A:H2'	1:QA:263:A:C8	2.53	0.44
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.83	0.44
1:QA:1187:G:O2'	13:QN:61:TRP:OXT	2.26	0.44
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.18	0.44
18:QS:41:VAL:CG1	18:QS:67:VAL:CB	2.92	0.44
23:QZ:52:LEU:N	23:QZ:52:LEU:CD1	2.76	0.44
32:RA:1629:U:H2'	32:RA:1630:G:C8	2.53	0.44
32:RA:2051:A:H5'	32:RA:2578:G:O4'	2.18	0.44
32:RA:2444:G:OP1	54:RF:68:LYS:HD3	2.17	0.44
36:RG:73:ALA:HB2	36:RG:82:LEU:HD11	2.00	0.44
36:RG:170:ARG:NH2	36:RG:182:LYS:O	2.39	0.44
38:RI:144:VAL:HG13	38:RI:145:VAL:HG22	1.99	0.44
49:RX:72:LYS:NZ	49:RX:75:ASP:OD1	2.51	0.44
1:XA:406:G:H21	4:XD:119:GLN:HE22	1.65	0.44
10:XJ:24:VAL:HG13	10:XJ:34:VAL:HG21	1.99	0.44
27:Y4:34:GLU:HG2	27:Y4:35:VAL:HG23	2.00	0.44
32:YA:307:G:H21	32:YA:330:A:H62	1.65	0.44
32:YA:779:U:OP1	34:YD:49:ILE:HG13	2.18	0.44
32:YA:1791:A:H3'	32:YA:1792:G:H8	1.83	0.44
32:YA:2746:U:H4'	37:YH:139:GLN:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:YB:56:G:H5'	36:YG:27:ASN:HD21	1.83	0.44
45:YT:19:LEU:HD22	45:YT:86:ILE:HG22	1.99	0.44
41:YP:106:LEU:HD13	41:YP:112:LEU:HG	2.00	0.44
34:YD:18:VAL:HG23	34:YD:211:ARG:HH22	1.81	0.44
37:YH:19:VAL:CG1	37:YH:43:VAL:CG2	2.95	0.44
37:YH:96:ALA:HB1	37:YH:103:LEU:HD11	1.99	0.44
37:YH:107:VAL:HG11	37:YH:152:ARG:CB	2.47	0.44
55:YZ:9:TYR:CE1	55:YZ:35:ARG:HG2	2.52	0.44
1:QA:60:A:H4'	1:QA:61:G:O5'	2.18	0.44
1:QA:526:C:OP2	51:QL:91:LYS:HE2	2.18	0.44
1:QA:948:C:H2'	1:QA:949:A:H8	1.83	0.44
1:QA:1354:C:H2'	1:QA:1355:G:H8	1.83	0.44
1:QA:1371:G:O3'	9:QI:69:GLY:HA3	2.17	0.44
2:QB:80:ILE:HG21	2:QB:212:GLN:HA	2.00	0.44
4:QD:82:ALA:HB1	4:QD:92:VAL:HG13	1.98	0.44
23:QZ:16:TRP:CE2	23:QZ:23:ILE:HG21	2.53	0.44
32:RA:813:U:H2'	32:RA:814:C:C6	2.53	0.44
32:RA:813:U:H2'	32:RA:814:C:H6	1.81	0.44
32:RA:2092:U:H4'	32:RA:2093:G:O5'	2.18	0.44
32:RA:2401:U:O4	32:RA:2415:G:O6	2.36	0.44
33:RB:104:A:H4'	55:RZ:89:PHE:CE1	2.52	0.44
36:RG:161:THR:HG22	36:RG:163:ALA:H	1.83	0.44
37:RH:9:ILE:HG21	37:RH:52:VAL:HG22	2.00	0.44
41:RP:49:ARG:HH12	53:R8:4:MET:HE2	1.82	0.44
1:XA:359:U:H2'	1:XA:360:A:C8	2.52	0.44
1:XA:1247:U:H3	1:XA:1290:G:H1	1.66	0.44
32:YA:576:U:H2'	32:YA:577:G:C8	2.53	0.44
32:YA:2451:A:N3	56:ZA:76:PPU:HD2	2.33	0.44
45:YT:7:ILE:HG21	35:YE:181:LEU:HD21	2.00	0.44
45:YT:82:LEU:CD2	35:YE:18:ASP:OD1	2.66	0.44
37:YH:103:LEU:CD1	37:YH:125:VAL:HG21	2.48	0.44
54:RF:9:ILE:O	54:RF:9:ILE:HG13	2.16	0.44
55:RZ:98:MET:N	55:RZ:125:LEU:HD12	2.33	0.44
1:QA:751:U:H2'	1:QA:752:G:O4'	2.18	0.43
1:QA:995:C:H2'	1:QA:996:A:H8	1.82	0.43
13:QN:27:CYS:HB3	13:QN:43:CYS:SG	2.58	0.43
32:RA:184:C:H2'	32:RA:185:U:C6	2.53	0.43
32:RA:635:C:O2'	32:RA:639:U:OP1	2.35	0.43
32:RA:2115:G:N7	32:RA:2117:A:H5''	2.33	0.43
32:RA:2144:U:H4'	32:RA:2145:C:OP1	2.16	0.43
1:XA:335:C:H2'	1:XA:336:C:H6	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.53	0.43
7:XG:116:ALA:O	7:XG:120:ILE:HG12	2.18	0.43
9:XI:63:ILE:HG21	9:XI:77:ILE:HG12	2.00	0.43
32:YA:297:C:OP1	50:YY:87:LYS:NZ	2.43	0.43
32:YA:826:U:OP1	32:YA:2428:G:H3'	2.17	0.43
32:YA:1027:A:C2	32:YA:2488:A:H5'	2.53	0.43
32:YA:1845:G:OP1	34:YD:258:LYS:NZ	2.43	0.43
32:YA:2144:U:H4'	32:YA:2145:C:OP1	2.17	0.43
32:YA:2758:A:C5	37:YH:67:LEU:HD11	2.53	0.43
45:YT:136:GLN:C	45:YT:137:LYS:HG3	2.37	0.43
37:YH:92:ILE:N	37:YH:92:ILE:CD1	2.81	0.43
1:QA:176:C:H2'	1:QA:177:C:H6	1.83	0.43
1:QA:299:G:H2'	1:QA:300:A:C8	2.53	0.43
1:QA:1055:A:N7	1:QA:1200:C:N4	2.65	0.43
1:QA:1128:C:H4'	9:QI:16:ARG:NH2	2.28	0.43
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.29	0.43
2:QB:156:LYS:CA	2:QB:156:LYS:CE	2.91	0.43
4:QD:63:LYS:HE3	4:QD:198:VAL:HG12	1.99	0.43
7:QG:23:VAL:O	7:QG:27:ILE:HG13	2.19	0.43
32:RA:300:A:OP1	50:RY:86:ARG:NH2	2.51	0.43
32:RA:590:A:H2'	32:RA:591:C:C6	2.54	0.43
32:RA:1266:G:O6	48:RW:13:SER:OG	2.30	0.43
33:RB:60:C:H2'	33:RB:61:G:H8	1.83	0.43
41:RP:14:LYS:HG3	41:RP:14:LYS:O	2.17	0.43
46:RU:91:ASP:HA	46:RU:95:LEU:HB2	1.99	0.43
1:XA:440:A:H3'	1:XA:442:C:H6	1.82	0.43
1:XA:707:C:H4'	11:XK:20:TYR:CD2	2.53	0.43
1:XA:998(A):C:H2'	1:XA:999:U:C5	2.53	0.43
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.35	0.43
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.83	0.43
4:XD:9:CYS:O	4:XD:13:ARG:HB2	2.17	0.43
6:XF:28:ARG:NH1	6:XF:31:GLU:OE1	2.51	0.43
7:XG:91:VAL:HG23	7:XG:96:GLN:HG3	2.00	0.43
21:XW:1:C:H2'	21:XW:2:G:C8	2.51	0.43
22:XX:5:A:H2'	22:XX:6:G:H8	1.82	0.43
32:YA:270(N):G:OP1	38:YI:57:ARG:NH1	2.51	0.43
32:YA:859:G:O2'	32:YA:860:U:P	2.75	0.43
32:YA:1113:U:H2'	32:YA:1114:G:C8	2.53	0.43
32:YA:1316:U:H2'	32:YA:1317:A:C8	2.53	0.43
32:YA:1403:C:H5''	32:YA:1471:A:H1'	1.99	0.43
32:YA:2734:A:H5'	32:YA:2735:G:OP2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:YB:66:A:H61	33:YB:107:U:H2'	1.83	0.43
42:YQ:58:PHE:HE1	42:YQ:117:ALA:CB	2.31	0.43
47:YV:37:VAL:CG2	47:YV:57:VAL:HG13	2.48	0.43
18:XS:27:GLU:HG3	18:XS:29:ARG:NH1	2.33	0.43
55:YZ:23:LYS:HE2	55:YZ:38:TYR:CE1	2.52	0.43
1:QA:436:C:H2'	1:QA:437:U:H6	1.84	0.43
2:QB:126:GLU:HA	2:QB:126:GLU:OE1	2.18	0.43
8:QH:91:ARG:HB2	51:QL:7:ILE:HG13	2.00	0.43
12:QM:66:LEU:HB3	12:QM:67:GLU:H	1.53	0.43
32:RA:306:U:C5	32:RA:307:G:N7	2.85	0.43
32:RA:1486:A:H2'	32:RA:1487:G:C8	2.53	0.43
35:RE:68:ALA:C	35:RE:70:ALA:H	2.22	0.43
50:RY:28:LYS:N	50:RY:38:ILE:O	2.51	0.43
1:XA:464:G:C6	1:XA:466:C:H5'	2.54	0.43
1:XA:1391:U:H2'	1:XA:1392:G:H8	1.80	0.43
1:XA:1512:U:H2'	1:XA:1513:A:H8	1.82	0.43
1:XA:1512:U:H2'	1:XA:1513:A:C8	2.53	0.43
25:Y2:15:LYS:HD3	25:Y2:15:LYS:HA	1.85	0.43
53:Y8:30:ARG:HH21	41:YP:63:PRO:HB2	1.83	0.43
32:YA:690:G:H2'	32:YA:691:C:C6	2.53	0.43
32:YA:2150:U:H2'	32:YA:2151:G:C8	2.53	0.43
32:YA:2208:U:H2'	32:YA:2209:C:C6	2.52	0.43
32:YA:2572:A:C2'	35:YE:144:ARG:HD3	2.48	0.43
32:YA:2689:U:H4'	32:YA:2690:C:O5'	2.17	0.43
39:YN:63:THR:OG1	39:YN:64:GLY:N	2.51	0.43
52:R1:17:SER:HB2	52:R1:40:ARG:HD2	2.00	0.43
1:QA:524:G:H2'	1:QA:525:C:C6	2.53	0.43
1:QA:1074:G:C4'	2:QB:104:ASN:HB2	2.48	0.43
1:QA:1290:G:H5'	7:QG:38:LEU:HD11	1.99	0.43
1:QA:1347:G:O2'	1:QA:1348:U:P	2.76	0.43
2:QB:102:LEU:N	2:QB:102:LEU:CD1	2.81	0.43
6:QF:36:ARG:NH2	6:QF:66:GLU:OE1	2.48	0.43
12:QM:87:TYR:HB2	18:QS:73:GLU:HA	2.00	0.43
27:R4:16:CYS:SG	27:R4:17:GLY:N	2.92	0.43
29:R6:54:ILE:HD11	32:RA:2420:C:H5'	2.00	0.43
32:RA:1057:A:H2'	32:RA:1058:G:C8	2.53	0.43
32:RA:1568:G:P	34:RD:63:ARG:HH22	2.42	0.43
32:RA:2219:G:OP1	34:RD:172:TYR:OH	2.30	0.43
32:RA:2318:G:OP2	32:RA:2318:G:N2	2.51	0.43
34:RD:153:ALA:O	34:RD:157:ARG:NH1	2.51	0.43
35:RE:52:LEU:O	35:RE:74:PRO:HA	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RP:49:ARG:HH12	53:R8:4:MET:HE1	1.83	0.43
1:XA:1229:A:O2'	21:XV:30:G:OP1	2.33	0.43
1:XA:1343:G:H2'	1:XA:1344:C:H6	1.82	0.43
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.83	0.43
51:XL:111:LYS:HD3	51:XL:111:LYS:HA	1.77	0.43
53:Y8:15:LYS:N	41:YP:65:ARG:HH22	2.16	0.43
32:YA:65:C:O2'	32:YA:456:C:N3	2.36	0.43
32:YA:196:A:H5''	41:YP:46:LYS:HZ3	1.83	0.43
32:YA:639:U:H2'	32:YA:640:C:C6	2.54	0.43
32:YA:1022:G:O2'	32:YA:1023:U:OP2	2.31	0.43
32:YA:1518:C:H2'	32:YA:1519:G:H8	1.82	0.43
32:YA:2515:C:H2'	32:YA:2516:G:H8	1.84	0.43
52:R1:85:LEU:N	52:R1:85:LEU:HD22	2.32	0.43
54:RF:39:TRP:HD1	54:RF:99:TYR:CE1	2.36	0.43
54:RF:133:ASN:O	54:RF:138:GLU:OE1	2.36	0.43
55:RZ:10:ARG:HE	55:RZ:26:GLY:H	1.67	0.43
55:RZ:68:PRO:O	55:RZ:91:LEU:HB2	2.18	0.43
1:QA:41:G:H2'	1:QA:42:G:C8	2.53	0.43
1:QA:606:G:H21	1:QA:632:A:H2	1.67	0.43
1:QA:908:A:H2'	1:QA:909:A:C8	2.52	0.43
1:QA:1305:G:OP1	20:QU:2:GLY:N	2.51	0.43
2:QB:188:ALA:O	2:QB:203:GLY:O	2.37	0.43
23:QZ:34:THR:O	23:QZ:37:THR:C	2.56	0.43
23:QZ:44:LYS:O	23:QZ:45:PRO:C	2.56	0.43
32:RA:2212:A:H1'	32:RA:2215:G:C5	2.53	0.43
32:RA:2432:A:C5	52:R1:33:LYS:HG3	2.54	0.43
34:RD:72:LYS:HG3	34:RD:97:TYR:HE2	1.83	0.43
38:RI:81:VAL:HG12	38:RI:143:SER:CB	2.48	0.43
1:XA:1040:U:C6	1:XA:1040:U:C4'	3.01	0.43
1:XA:1239:A:O2'	7:XG:114:ARG:O	2.31	0.43
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.18	0.43
8:XH:9:MET:HG3	8:XH:26:VAL:HG11	1.99	0.43
32:YA:839:U:H1'	32:YA:1191:G:H1'	2.00	0.43
32:YA:1587:A:H2'	32:YA:1588:C:C6	2.53	0.43
32:YA:2030:A:H4'	32:YA:2031:A:C8	2.53	0.43
32:YA:2287:A:O2'	32:YA:2288:A:O5'	2.33	0.43
32:YA:2572:A:H2'	35:YE:144:ARG:HD3	2.00	0.43
32:YA:2649:U:H2'	32:YA:2650:U:C6	2.54	0.43
32:YA:2688:U:OP1	32:YA:2713:A:N6	2.50	0.43
46:YU:105:VAL:HG21	47:YV:39:LEU:HD21	2.00	0.43
55:RZ:122:ARG:HD3	55:RZ:122:ARG:HA	1.66	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:142:LEU:C	2:QB:142:LEU:CD2	2.85	0.43
18:QS:10:PHE:HE2	18:QS:16:LEU:HD13	1.83	0.43
32:RA:1316:U:H2'	32:RA:1317:A:C8	2.53	0.43
32:RA:1488:G:H5'	32:RA:1489:U:OP2	2.19	0.43
38:RI:100:ALA:O	38:RI:104:GLN:CB	2.66	0.43
40:RO:107:ARG:NH1	45:RT:36:GLU:OE1	2.51	0.43
1:XA:135:C:H2'	1:XA:136:C:H5'	2.00	0.43
7:XG:15:ASP:HB3	7:XG:19:GLY:H	1.83	0.43
51:XL:53:ARG:HG3	51:XL:93:LEU:HD21	2.01	0.43
16:XQ:86:GLU:O	16:XQ:90:ILE:HG12	2.19	0.43
32:YA:99:U:H1'	32:YA:102:G:C2	2.54	0.43
32:YA:248:G:H5'	32:YA:250:G:N7	2.32	0.43
32:YA:404:C:H4'	32:YA:405:U:H5''	1.99	0.43
32:YA:949:C:H2'	32:YA:950:G:H8	1.83	0.43
32:YA:1057:A:H2'	32:YA:1058:G:C8	2.53	0.43
32:YA:2255:G:H1	42:YQ:85:LYS:NZ	2.17	0.43
32:YA:2291:U:O2'	32:YA:2374:C:O2	2.37	0.43
45:YT:133:GLU:HA	45:YT:137:LYS:NZ	2.33	0.43
41:YP:71:VAL:CG1	41:YP:72:PRO:CD	2.92	0.43
35:YE:4:ILE:HG13	35:YE:31:CYS:SG	2.58	0.43
1:QA:126:G:C6	1:QA:236:G:O6	2.71	0.43
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.54	0.43
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.84	0.43
21:QW:30:G:H2'	21:QW:31:G:C8	2.52	0.43
32:RA:710:G:H2'	32:RA:711:G:H8	1.83	0.43
32:RA:1339:G:H5''	49:RX:16:LYS:HD3	2.00	0.43
42:RQ:21:THR:HB	42:RQ:22:LYS:H	1.70	0.43
1:XA:41:G:H2'	1:XA:42:G:H8	1.83	0.43
1:XA:407:G:H2'	1:XA:408:A:C8	2.53	0.43
10:XJ:87:THR:OG1	10:XJ:88:LEU:N	2.52	0.43
23:XY:35:ARG:NH2	23:XZ:10:TRP:CD1	2.86	0.43
23:XZ:48:LEU:HD13	23:XZ:52:LEU:HB3	2.00	0.43
53:Y8:29:LYS:HB2	53:Y8:33:ASN:HD21	1.83	0.43
32:YA:1226:G:OP1	47:YV:86:GLY:HA3	2.19	0.43
32:YA:1430:C:H2'	32:YA:1431:U:C6	2.54	0.43
32:YA:1796:U:H2'	32:YA:1797:C:H6	1.83	0.43
32:YA:1814:G:OP2	32:YA:1815:A:O2'	2.28	0.43
32:YA:2180:U:H2'	32:YA:2181:G:C8	2.53	0.43
32:YA:2873:A:H8	43:YR:6:SER:N	2.16	0.43
50:YY:47:LYS:NZ	50:YY:48:ALA:O	2.46	0.43
41:YP:97:PRO:HG3	41:YP:148:LEU:CD2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YQ:57:HIS:NE2	42:YQ:116:GLU:CG	2.81	0.43
37:YH:7:LEU:HB3	37:YH:69:ARG:HH21	1.83	0.43
18:XS:27:GLU:HG3	18:XS:29:ARG:HD3	2.01	0.43
55:RZ:76:LEU:HA	55:RZ:83:PRO:HA	2.00	0.43
55:RZ:155:LEU:HD12	55:RZ:163:LEU:HD11	2.01	0.43
1:QA:859:A:OP2	1:QA:869:G:N1	2.42	0.43
1:QA:908:A:H2'	1:QA:909:A:H8	1.82	0.43
1:QA:966:G:C2	21:QV:34:C:H5'	2.54	0.43
1:QA:1300:G:HO2'	1:QA:1301:U:P	2.41	0.43
2:QB:69:LEU:HB3	2:QB:162:ILE:HD13	2.01	0.43
2:QB:108:ILE:O	2:QB:111:ARG:HB2	2.19	0.43
10:QJ:40:LEU:HB2	10:QJ:69:ASN:HB2	2.01	0.43
12:QM:108:ARG:HH21	12:QM:114:ARG:HD3	1.84	0.43
18:QS:32:LYS:HD2	18:QS:50:ALA:HB3	2.01	0.43
23:QY:10:TRP:CH2	23:QZ:5:TRP:CZ2	3.07	0.43
28:R5:41:PRO:O	28:R5:44:THR:OG1	2.34	0.43
32:RA:336:C:H4'	50:RY:6:HIS:CE1	2.53	0.43
32:RA:602:G:C2	32:RA:654(V):A:N6	2.87	0.43
32:RA:764:A:H5'	34:RD:210:GLY:HA2	2.00	0.43
32:RA:855:G:H1	32:RA:922:U:H3	1.65	0.43
32:RA:1151:G:H5''	46:RU:81:HIS:CE1	2.54	0.43
32:RA:1224:G:H5'	32:RA:1225:C:OP2	2.18	0.43
32:RA:1681:G:OP2	32:RA:1681:G:H8	2.01	0.43
32:RA:2025:C:H2'	32:RA:2026:C:C6	2.54	0.43
32:RA:2129:C:H3'	32:RA:2130:U:C5'	2.49	0.43
36:RG:33:ARG:H	36:RG:162:THR:HG22	1.84	0.43
49:RX:25:LYS:HB3	49:RX:80:ILE:HD11	2.00	0.43
1:XA:1028(B):C:H3'	1:XA:1029:G:H4'	2.01	0.43
1:XA:1331:G:OP2	12:XM:23:TYR:HD1	2.02	0.43
3:XC:20:SER:OG	3:XC:22:TRP:NE1	2.51	0.43
4:XD:94:LEU:HD23	4:XD:94:LEU:HA	1.92	0.43
11:XK:86:GLY:H	11:XK:112:THR:HG23	1.83	0.43
32:YA:1032:A:H2	32:YA:1122:G:H22	1.67	0.43
32:YA:1496:A:H8	32:YA:1577:C:HO2'	1.67	0.43
32:YA:2191:G:HO2'	32:YA:2192:G:P	2.39	0.43
32:YA:2451:A:C4	56:ZA:76:PPU:HD2	2.54	0.43
36:YG:32:PRO:HB2	36:YG:172:LEU:HD22	2.00	0.43
45:YT:133:GLU:HA	45:YT:137:LYS:HZ3	1.82	0.43
34:YD:7:LYS:O	34:YD:9:TYR:N	2.42	0.43
42:YQ:84:GLY:O	42:YQ:85:LYS:HB2	2.19	0.43
47:YV:27:ALA:O	47:YV:64:HIS:CE1	2.71	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:YE:77:ILE:HD12	35:YE:77:ILE:O	2.18	0.43
18:XS:49:ILE:HD13	18:XS:71:LEU:CD2	2.48	0.43
52:R1:14:VAL:HG22	52:R1:41:ARG:HD2	2.01	0.43
52:R1:69:LYS:O	52:R1:73:LEU:HG	2.18	0.43
1:QA:1065:U:O5'	1:QA:1190:G:N2	2.51	0.43
1:QA:1145:C:H4'	1:QA:1146:A:C8	2.53	0.43
9:QI:77:ILE:O	9:QI:81:ILE:HG12	2.18	0.43
13:QN:42:ILE:O	13:QN:46:GLU:HG3	2.18	0.43
19:QT:29:LYS:O	19:QT:33:ILE:HG12	2.19	0.43
32:RA:997:G:OP1	46:RU:93:LYS:HB2	2.19	0.43
32:RA:1655:A:H4'	35:RE:115:GLY:H	1.84	0.43
32:RA:1769:G:O2'	32:RA:1958:C:OP1	2.28	0.43
41:RP:18:ARG:HH21	41:RP:32:THR:HG21	1.84	0.43
1:XA:1033:G:H2'	1:XA:1034:G:H8	1.83	0.43
1:XA:1101:A:H4'	1:XA:1102:A:O5'	2.19	0.43
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.52	0.43
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.84	0.43
32:YA:532:A:OP1	32:YA:561:G:N2	2.50	0.43
32:YA:571:A:O2'	47:YV:78:LYS:HE2	2.18	0.43
32:YA:900:A:H2'	32:YA:900:A:N3	2.33	0.43
32:YA:1168:G:H2'	32:YA:1169:G:H8	1.84	0.43
32:YA:1352:U:O2'	32:YA:1570:A:N3	2.49	0.43
32:YA:2064:C:H2'	32:YA:2065:C:H6	1.84	0.43
32:YA:2128:C:H2'	32:YA:2129:C:C6	2.53	0.43
32:YA:2572:A:N7	35:YE:144:ARG:CG	2.72	0.43
32:YA:2748:A:C8	37:YH:63:SER:HA	2.51	0.43
1:QA:323:U:H2'	1:QA:324:G:O4'	2.19	0.43
1:QA:754:C:OP1	14:QO:72:ARG:NH2	2.50	0.43
2:QB:16:HIS:ND1	2:QB:16:HIS:C	2.72	0.43
2:QB:71:VAL:CG2	2:QB:93:VAL:HG11	2.46	0.43
9:QI:97:LYS:HE3	9:QI:97:LYS:HB3	1.80	0.43
12:QM:11:ARG:HA	12:QM:11:ARG:HD3	1.84	0.43
32:RA:839:U:H1'	32:RA:1191:G:H1'	2.01	0.43
32:RA:959:A:H62	42:RQ:82:ARG:HH21	1.65	0.43
32:RA:987:G:O2'	32:RA:1000:A:N3	2.43	0.43
32:RA:2154:G:H2'	32:RA:2155:G:H8	1.84	0.43
32:RA:2790:A:C2'	32:RA:2791:C:H5'	2.49	0.43
21:XV:23:C:H2'	21:XV:24:U:C6	2.54	0.43
21:XW:36:U:H2'	21:XW:37:A:H8	1.84	0.43
32:YA:918:A:N3	33:YB:80:U:O2'	2.44	0.43
32:YA:1075:C:H2'	32:YA:1076:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:YA:1262:A:OP2	48:YW:97:LYS:NZ	2.48	0.43
32:YA:2148:G:H2'	32:YA:2149:G:C8	2.51	0.43
32:YA:2217:G:H2'	32:YA:2218:G:H8	1.84	0.43
42:YQ:17:LEU:HB3	42:YQ:39:PRO:HB3	2.01	0.43
37:YH:146:ALA:O	37:YH:149:ARG:HB3	2.19	0.43
35:YE:87:GLU:OE1	35:YE:87:GLU:N	2.44	0.43
35:YE:188:VAL:HG23	35:YE:189:PRO:HD2	2.00	0.43
1:QA:125:U:H2'	1:QA:126:G:C8	2.53	0.42
2:QB:80:ILE:HG12	2:QB:212:GLN:HG3	2.01	0.42
2:QB:219:VAL:CA	2:QB:222:ILE:HD11	2.46	0.42
4:QD:61:LYS:HE3	4:QD:61:LYS:HB3	1.84	0.42
11:QK:34:ASP:OD1	11:QK:38:ASN:N	2.51	0.42
22:QX:21:OMU:H5''	23:QY:59:ARG:NH2	2.34	0.42
32:RA:380:U:H5'	52:R1:18:ILE:HD12	2.00	0.42
32:RA:734:A:O2'	32:RA:1635:G:H5'	2.19	0.42
32:RA:1245:G:OP1	41:RP:13:ASN:ND2	2.51	0.42
32:RA:1303:G:H5''	32:RA:1643:G:H1'	2.00	0.42
32:RA:2306:C:N4	36:RG:42:GLY:O	2.52	0.42
32:RA:2583:G:O2'	56:ZB:76:PPU:H102	2.19	0.42
35:RE:64:LYS:O	35:RE:66:HIS:N	2.48	0.42
46:RU:91:ASP:O	46:RU:95:LEU:N	2.52	0.42
1:XA:299:G:H2'	1:XA:300:A:C8	2.54	0.42
1:XA:403:C:H2'	1:XA:404:U:H6	1.84	0.42
1:XA:563:A:H2'	1:XA:567:G:C8	2.54	0.42
1:XA:1178:G:OP2	9:XI:93:ARG:NH2	2.52	0.42
4:XD:50:ARG:HD2	4:XD:51:PRO:HD2	2.01	0.42
32:YA:305:U:H2'	32:YA:306:U:C6	2.54	0.42
32:YA:671:C:H2'	32:YA:672:C:C6	2.53	0.42
32:YA:693:C:O2'	32:YA:1353:A:N3	2.48	0.42
32:YA:1557:C:OP2	32:YA:1558:A:O2'	2.23	0.42
32:YA:2147:G:H2'	32:YA:2148:G:C8	2.54	0.42
32:YA:2315:G:OP1	36:YG:36:LYS:NZ	2.33	0.42
32:YA:2441:C:OP2	32:YA:2586:C:O2'	2.37	0.42
32:YA:2836:U:H2'	32:YA:2837:G:C8	2.54	0.42
39:YN:26:LEU:O	39:YN:30:ILE:HG13	2.19	0.42
35:YE:56:PRO:C	35:YE:58:ARG:N	2.72	0.42
35:YE:84:PHE:CE2	35:YE:86:PRO:HD3	2.54	0.42
35:YE:132:HIS:O	35:YE:134:ILE:HG23	2.19	0.42
55:RZ:124:ILE:HD12	55:RZ:124:ILE:HA	1.90	0.42
2:QB:21:ARG:CB	2:QB:39:ILE:CD1	2.82	0.42
2:QB:74:LYS:NZ	2:QB:206:ASP:HA	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:213:LEU:C	2:QB:213:LEU:CD2	2.85	0.42
14:QO:87:ILE:HG22	14:QO:88:ARG:H	1.84	0.42
24:R0:36:ILE:HA	24:R0:60:PHE:HA	2.01	0.42
29:R6:8:LYS:NZ	53:R8:34:TRP:CE2	2.88	0.42
32:RA:30:G:H2'	32:RA:31:C:C6	2.54	0.42
32:RA:519:U:H2'	32:RA:520:G:H8	1.84	0.42
32:RA:1181:C:H2'	32:RA:1182:A:C8	2.54	0.42
32:RA:2068:U:H3	32:RA:2430:A:H2	1.67	0.42
32:RA:2176:A:H2'	32:RA:2177:C:C6	2.54	0.42
1:XA:937:A:C2	1:XA:1379:G:C6	3.06	0.42
1:XA:1392:G:N2	1:XA:1502:A:H8	2.16	0.42
4:XD:184:LYS:HE3	4:XD:184:LYS:HB3	1.73	0.42
32:YA:389:G:C6	41:YP:71:VAL:HG12	2.53	0.42
32:YA:919:G:N2	32:YA:2269:A:OP2	2.53	0.42
32:YA:1054:A:H2'	32:YA:1055:G:C8	2.54	0.42
32:YA:1153:C:H2'	32:YA:1154:G:O4'	2.19	0.42
32:YA:2804:C:H2'	32:YA:2805:G:O4'	2.19	0.42
41:YP:84:ASN:OD1	41:YP:117:GLU:HB2	2.18	0.42
18:XS:50:ALA:HB1	18:XS:57:HIS:HB3	2.01	0.42
1:QA:1100:C:OP2	1:QA:1100:C:H6	2.03	0.42
22:QX:19:A2M:H4'	22:QX:20:A2M:N3	2.33	0.42
24:R0:19:LYS:HD3	24:R0:19:LYS:HA	1.85	0.42
32:RA:675:A:H4'	54:RF:67:GLN:OE1	2.18	0.42
32:RA:1637:A:H4'	32:RA:2711:A:O2'	2.19	0.42
32:RA:1800:C:N4	32:RA:1817:G:H22	2.16	0.42
32:RA:2030:A:H4'	32:RA:2031:A:C8	2.54	0.42
32:RA:2111:C:C2	32:RA:2118:U:H1'	2.54	0.42
35:RE:92:THR:OG1	35:RE:93:VAL:N	2.53	0.42
1:XA:1221:G:OP1	1:XA:1321:C:N4	2.36	0.42
1:XA:1438:G:OP1	19:XT:34:LYS:HD3	2.19	0.42
6:XF:61:LEU:HD23	6:XF:63:TYR:CE2	2.54	0.42
12:XM:52:GLU:HG2	12:XM:55:ARG:HH21	1.84	0.42
32:YA:151:C:H2'	32:YA:152:G:C8	2.53	0.42
32:YA:1311:G:O2'	32:YA:1313:U:O4	2.31	0.42
54:RF:80:ALA:HB3	54:RF:83:PHE:CD2	2.54	0.42
1:QA:714:G:H2'	1:QA:715:A:C8	2.54	0.42
1:QA:1511:G:H2'	1:QA:1512:U:O4'	2.19	0.42
2:QB:135:GLN:C	2:QB:139:LYS:HG2	2.39	0.42
19:QT:26:ASN:HB2	19:QT:71:THR:HG23	2.02	0.42
32:RA:350:U:H2'	32:RA:351:G:O4'	2.20	0.42
32:RA:932:G:H4'	32:RA:933:A:O5'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2074:U:H2'	32:RA:2075:U:C6	2.54	0.42
32:RA:2171:A:O2'	32:RA:2172:U:O4'	2.35	0.42
32:RA:2748:A:O2'	37:RH:66:GLY:HA3	2.19	0.42
33:RB:24:G:H1'	33:RB:27:C:N4	2.34	0.42
34:RD:27:THR:HG21	34:RD:83:GLU:HG2	2.00	0.42
47:RV:45:THR:O	47:RV:45:THR:OG1	2.34	0.42
1:XA:1348:U:H3	1:XA:1374:A:H2	1.66	0.42
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.54	0.42
3:XC:43:LEU:O	3:XC:47:LEU:HB2	2.18	0.42
12:XM:66:LEU:HB3	12:XM:67:GLU:H	1.64	0.42
23:XZ:37:THR:HG21	23:XZ:40:GLU:CA	2.48	0.42
53:Y8:29:LYS:HG3	53:Y8:30:ARG:H	1.84	0.42
32:YA:582:G:H2'	32:YA:583:G:C8	2.55	0.42
32:YA:1794:U:H2'	32:YA:1795:C:H6	1.83	0.42
34:YD:136:ILE:HG22	34:YD:140:THR:OG1	2.19	0.42
42:YQ:60:ARG:CA	55:YZ:179:ASP:CA	2.57	0.42
55:RZ:10:ARG:HG2	55:RZ:37:VAL:C	2.40	0.42
32:RA:651:G:OP2	53:R8:21:LYS:CE	2.67	0.42
32:RA:1571:A:H2'	32:RA:1572:A:H8	1.84	0.42
36:RG:63:ILE:HG22	36:RG:143:GLU:HB2	2.01	0.42
40:RO:8:LEU:HB2	40:RO:19:ILE:HG13	2.01	0.42
1:XA:950:U:OP2	12:XM:102:ARG:HD2	2.20	0.42
32:YA:180:G:N2	32:YA:215:G:O6	2.53	0.42
32:YA:953:A:H2'	32:YA:954:G:H5'	2.00	0.42
32:YA:1578:U:C2'	32:YA:1579:A:H5'	2.50	0.42
32:YA:1818:U:H2'	34:YD:157:ARG:HG2	2.02	0.42
32:YA:2680:C:H1'	35:YE:187:ALA:CB	2.50	0.42
32:YA:2680:C:H1'	35:YE:187:ALA:HB1	2.00	0.42
54:YF:70:THR:HG23	54:YF:72:ARG:H	1.85	0.42
40:YO:102:VAL:HG23	40:YO:121:VAL:HG13	2.00	0.42
41:YP:121:LYS:HD3	41:YP:123:LEU:HD11	2.01	0.42
34:YD:155:LEU:CD2	34:YD:177:LEU:HD21	2.41	0.42
42:YQ:32:TYR:OH	42:YQ:111:GLU:HB2	2.20	0.42
47:YV:34:GLU:C	47:YV:35:LEU:HD12	2.39	0.42
54:RF:161:GLU:HG2	54:RF:165:ARG:HD2	2.02	0.42
51:QL:88:GLY:O	51:QL:99:HIS:ND1	2.50	0.42
1:QA:17:U:H2'	1:QA:18:C:H6	1.84	0.42
1:QA:954:G:O6	12:QM:104:ARG:NH1	2.52	0.42
1:QA:1007:C:H3'	1:QA:1008:C:H5''	2.02	0.42
1:QA:1296:C:H5'	12:QM:14:ARG:HD2	2.01	0.42
32:RA:309:G:C8	32:RA:309:G:P	3.13	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:1101:U:H2'	32:RA:1102:C:H6	1.84	0.42
32:RA:1889:A:H2'	32:RA:1890:A:C8	2.54	0.42
32:RA:2419:U:OP1	53:R8:41:ILE:CD1	2.68	0.42
32:RA:2441:C:OP2	32:RA:2586:C:O2'	2.37	0.42
38:RI:83:ALA:HA	38:RI:89:TYR:CD2	2.55	0.42
38:RI:93:THR:HG23	38:RI:96:ASP:H	1.85	0.42
40:RO:104:ARG:HH11	40:RO:121:VAL:HG12	1.84	0.42
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.37	0.42
1:XA:781:A:O2'	1:XA:1522:U:O2	2.36	0.42
4:XD:57:ARG:HB3	4:XD:206:PHE:HB2	2.01	0.42
51:XL:17:LYS:HD3	51:XL:17:LYS:HA	1.84	0.42
19:XT:29:LYS:O	19:XT:33:ILE:HG12	2.19	0.42
32:YA:1790:C:O2'	34:YD:209:ALA:HB2	2.19	0.42
32:YA:2455:G:H2'	32:YA:2456:C:C6	2.54	0.42
32:YA:2853:C:H2'	32:YA:2854:G:C8	2.54	0.42
40:YO:73:ASP:HA	35:YE:20:ALA:H	1.85	0.42
37:YH:35:VAL:HG21	37:YH:71:LEU:HD13	2.01	0.42
35:YE:80:GLU:C	35:YE:81:ILE:HD12	2.40	0.42
55:RZ:29:TYR:HA	55:RZ:34:ASN:HA	2.00	0.42
55:RZ:48:PHE:CE1	55:RZ:52:SER:HA	2.54	0.42
56:ZB:74:C:H2'	56:ZB:75:C:H5'	2.02	0.42
1:QA:360:A:H2'	1:QA:361:G:C8	2.55	0.42
1:QA:827:U:H3	1:QA:872:A:H62	1.67	0.42
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.54	0.42
2:QB:8:LYS:HD2	2:QB:8:LYS:HA	1.88	0.42
2:QB:71:VAL:CG1	2:QB:97:TRP:CE3	3.00	0.42
2:QB:79:ASP:OD1	2:QB:79:ASP:N	2.52	0.42
27:R4:28:LYS:HB3	27:R4:28:LYS:HE2	1.89	0.42
32:RA:392:C:H5''	32:RA:409:C:H5''	2.02	0.42
32:RA:710:G:H2'	32:RA:711:G:C8	2.54	0.42
34:RD:108:PRO:HB3	34:RD:143:HIS:CE1	2.53	0.42
47:RV:62:LEU:HB2	47:RV:93:GLU:HB3	2.01	0.42
1:XA:908:A:H2'	1:XA:909:A:C8	2.55	0.42
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.54	0.42
1:XA:1273:G:H3'	1:XA:1274:G:H8	1.85	0.42
32:YA:184:C:H2'	32:YA:185:U:C6	2.55	0.42
32:YA:1275:A:N1	32:YA:1295:C:O2'	2.50	0.42
49:YX:34:ALA:O	49:YX:77:LYS:NZ	2.41	0.42
34:YD:88:ARG:HG3	34:YD:88:ARG:NH1	2.33	0.42
34:YD:204:ILE:O	34:YD:204:ILE:HG13	2.20	0.42
42:YQ:37:LEU:HB2	42:YQ:128:LYS:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YH:75:ALA:O	37:YH:79:VAL:HG22	2.19	0.42
47:YV:35:LEU:HB2	47:YV:57:VAL:HG22	2.02	0.42
55:RZ:44:PHE:CD2	55:RZ:44:PHE:C	2.92	0.42
51:QL:46:LYS:HG2	51:QL:47:LYS:H	1.84	0.42
4:QD:9:CYS:O	4:QD:13:ARG:HB2	2.19	0.42
23:QY:36:ARG:HH11	23:QY:36:ARG:HB2	1.85	0.42
32:RA:1230:C:H2'	32:RA:1231:G:C8	2.55	0.42
32:RA:1550:C:H5'	32:RA:1733:G:N2	2.35	0.42
32:RA:1605:C:H2'	32:RA:1606:G:O4'	2.20	0.42
32:RA:1935:G:H1'	32:RA:1964:G:N2	2.35	0.42
32:RA:2447:G:H4'	32:RA:2448:A:O5'	2.20	0.42
32:RA:2649:U:H2'	32:RA:2650:U:C6	2.54	0.42
32:RA:2873:A:H8	43:RR:6:SER:N	2.17	0.42
37:RH:4:ILE:HB	37:RH:6:ARG:HD3	2.01	0.42
41:RP:52:GLU:OE2	41:RP:55:ARG:NH2	2.53	0.42
1:XA:110:C:O2'	15:XP:25:ARG:O	2.36	0.42
1:XA:186(F):C:H2'	1:XA:187:C:O4'	2.20	0.42
1:XA:1108:G:H5'	3:XC:176:HIS:CD2	2.55	0.42
1:XA:1313:U:P	18:XS:5:LEU:HB2	2.60	0.42
1:XA:1320:C:H5'	18:XS:70:LYS:HG3	2.01	0.42
51:XL:56:ALA:HB2	51:XL:70:ILE:HD11	2.02	0.42
21:XV:50:U:H2'	21:XV:51:C:C6	2.55	0.42
23:XZ:66:LEU:C	23:XZ:66:LEU:CD2	2.85	0.42
32:YA:303:U:H2'	32:YA:304:G:C8	2.55	0.42
32:YA:338:G:OP1	50:YY:4:LYS:NZ	2.52	0.42
32:YA:811:U:H5''	41:YP:23:PRO:HD3	2.02	0.42
32:YA:1042:G:H2'	32:YA:1043:C:C6	2.55	0.42
32:YA:1411:C:H2'	32:YA:1412:A:H8	1.85	0.42
32:YA:2062:A:N7	32:YA:2503:A:N6	2.57	0.42
32:YA:2405:G:O2'	32:YA:2412:A:N6	2.53	0.42
32:YA:2820:A:HO2'	32:YA:2821:A:P	2.42	0.42
33:YB:31:C:H2'	33:YB:53:A:H61	1.84	0.42
44:YS:11:LYS:O	44:YS:15:ARG:HB2	2.20	0.42
35:YE:188:VAL:CG2	35:YE:189:PRO:HD2	2.48	0.42
1:QA:67:C:H2'	1:QA:68:G:C8	2.55	0.42
1:QA:410:G:H21	1:QA:432:A:H62	1.68	0.42
1:QA:1177:G:H2'	1:QA:1178:G:N3	2.35	0.42
1:QA:1266:G:H2'	1:QA:1268:A:OP2	2.20	0.42
2:QB:71:VAL:HA	2:QB:93:VAL:HG13	2.02	0.42
3:QC:120:VAL:O	3:QC:124:ILE:HG12	2.20	0.42
4:QD:3:ARG:HH22	4:QD:115:ARG:HH11	1.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.53	0.42
12:QM:49:THR:HG22	12:QM:51:ALA:H	1.84	0.42
16:QQ:74:LEU:HD12	16:QQ:74:LEU:HA	1.92	0.42
17:QR:32:ARG:HA	17:QR:69:THR:HG21	2.02	0.42
18:QS:81:ARG:NH2	23:QZ:36:ARG:HD3	2.32	0.42
32:RA:99:U:H1'	32:RA:102:G:C2	2.54	0.42
32:RA:1566:A:OP1	34:RD:211:ARG:NE	2.52	0.42
32:RA:2039:C:OP1	39:RN:109:LYS:NZ	2.53	0.42
34:RD:13:ARG:HA	34:RD:13:ARG:HD2	1.88	0.42
36:RG:38:VAL:HG22	36:RG:93:THR:HG23	2.02	0.42
38:RI:88:ILE:HD12	38:RI:121:LYS:HA	2.01	0.42
44:RS:44:LYS:HE3	44:RS:44:LYS:HB2	1.88	0.42
1:XA:1003:G:H2'	1:XA:1004:A:O4'	2.20	0.42
2:XB:28:PHE:HD1	2:XB:194:PRO:HD3	1.85	0.42
8:XH:56:LYS:HA	8:XH:56:LYS:HD3	1.93	0.42
27:Y4:20:ASN:ND2	27:Y4:36:CYS:SG	2.93	0.42
31:Y9:9:ARG:HE	31:Y9:9:ARG:HB3	1.59	0.42
32:YA:536:A:OP1	46:YU:53:ARG:NH1	2.53	0.42
32:YA:1518:C:H2'	32:YA:1519:G:C8	2.55	0.42
32:YA:1629:U:H2'	32:YA:1630:G:C8	2.54	0.42
32:YA:2735:G:H2'	32:YA:2736:G:H8	1.84	0.42
32:YA:2762:G:H5'	32:YA:2763:G:OP2	2.19	0.42
32:YA:2849:U:OP1	45:YT:95:ARG:NH1	2.53	0.42
42:YQ:115:MET:HG2	42:YQ:131:ILE:HG21	2.01	0.42
54:RF:24:LEU:HD23	54:RF:115:ALA:HA	2.02	0.42
54:RF:153:SER:HB2	54:RF:190:GLU:H	1.83	0.42
1:QA:148:G:H2'	1:QA:149:A:H8	1.84	0.42
1:QA:657:G:H4'	14:QO:28:GLN:HG2	2.02	0.42
1:QA:831:U:C5'	2:QB:22:LYS:HZ1	2.32	0.42
1:QA:1492:A:C2	22:QX:22:C:C4	3.07	0.42
2:QB:24:TRP:O	2:QB:24:TRP:CG	2.72	0.42
2:QB:139:LYS:O	2:QB:143:GLU:HG3	2.20	0.42
3:QC:9:GLY:HA2	3:QC:12:LEU:HG	2.02	0.42
8:QH:51:VAL:HG21	8:QH:60:ARG:HG3	2.01	0.42
12:QM:91:ARG:HB2	12:QM:98:VAL:HG12	2.02	0.42
32:RA:1105:U:H2'	32:RA:1106:G:H8	1.83	0.42
32:RA:1405:U:H2'	32:RA:1406:U:H6	1.84	0.42
32:RA:1523:U:H2'	32:RA:1524:G:H8	1.85	0.42
32:RA:2168:G:H21	32:RA:2169:A:H2	1.68	0.42
32:RA:2776:A:H3'	32:RA:2776:A:OP1	2.20	0.42
33:RB:5:C:OP1	33:RB:61:G:O2'	2.30	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RE:73:GLU:HA	35:RE:74:PRO:HD2	1.64	0.42
37:RH:23:ARG:HE	37:RH:25:LYS:HZ3	1.56	0.42
44:RS:30:ARG:HD2	44:RS:97:ARG:HD3	2.01	0.42
46:RU:84:LYS:HD3	46:RU:84:LYS:HA	1.83	0.42
1:XA:359:U:H2'	1:XA:360:A:H8	1.84	0.42
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.55	0.42
1:XA:1300:G:O2'	1:XA:1301:U:P	2.78	0.42
1:XA:1346:A:H1'	1:XA:1347:G:OP2	2.20	0.42
5:XE:143:ARG:NE	8:XH:77:GLU:OE2	2.48	0.42
23:XZ:44:LYS:N	23:XZ:44:LYS:CD	2.83	0.42
26:Y3:15:TYR:OH	33:YB:84:C:OP1	2.33	0.42
29:Y6:11:LEU:HB2	29:Y6:21:TYR:HB2	2.02	0.42
53:Y8:12:LYS:HG2	41:YP:68:GLN:NE2	2.35	0.42
32:YA:30:G:H2'	32:YA:31:C:C6	2.55	0.42
32:YA:1022:G:N2	32:YA:1023:U:O4	2.50	0.42
32:YA:1075:C:H2'	32:YA:1076:C:C6	2.55	0.42
32:YA:1488:G:H5'	32:YA:1489:U:OP2	2.19	0.42
32:YA:1797:C:O2'	34:YD:259:THR:HG22	2.20	0.42
32:YA:2224:G:OP1	34:YD:268:ARG:NH1	2.53	0.42
32:YA:2329:G:H2'	32:YA:2330:G:H8	1.84	0.42
32:YA:2648:C:H2'	32:YA:2649:U:C6	2.55	0.42
32:YA:2747:G:H21	32:YA:2757:A:H62	1.68	0.42
36:YG:166:ASP:OD1	36:YG:166:ASP:N	2.53	0.42
38:YI:80:PRO:HB2	38:YI:146:ALA:HB2	2.01	0.42
37:YH:26:VAL:HG21	37:YH:75:ALA:CB	2.49	0.42
35:YE:14:ILE:HG22	35:YE:21:VAL:HG23	2.02	0.42
35:YE:55:ASN:HB3	35:YE:58:ARG:NH2	2.35	0.42
35:YE:146:THR:HA	35:YE:147:PRO:C	2.40	0.42
55:YZ:124:ILE:HD11	55:YZ:171:ILE:HD12	2.02	0.42
1:QA:237:C:H2'	1:QA:238:G:C8	2.54	0.41
1:QA:666:G:H5'	1:QA:726:C:H1'	2.01	0.41
1:QA:743:U:H2'	1:QA:744:C:C6	2.55	0.41
2:QB:187:LEU:HD12	2:QB:201:ILE:O	2.19	0.41
12:QM:12:ASN:HB3	12:QM:46:LYS:HE3	2.02	0.41
17:QR:47:THR:O	17:QR:83:GLU:N	2.53	0.41
23:QZ:4:ILE:CB	23:QZ:76:LEU:HD23	2.50	0.41
32:RA:218:A:C2	32:RA:235:U:H4'	2.55	0.41
32:RA:1558:A:H1'	32:RA:1559:G:OP2	2.20	0.41
32:RA:1651:G:H5'	43:RR:39:PRO:HG2	2.02	0.41
32:RA:2689:U:H4'	32:RA:2690:C:O5'	2.20	0.41
32:RA:2693:A:H2'	32:RA:2694:G:H8	1.83	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:743:U:H2'	1:XA:744:C:C6	2.54	0.41
1:XA:920:U:H2'	1:XA:921:U:C6	2.55	0.41
1:XA:973:G:H1'	10:XJ:55:LYS:HD2	2.02	0.41
9:XI:16:ARG:NH1	9:XI:64:THR:OG1	2.52	0.41
21:XW:3:C:H2'	21:XW:4:G:H8	1.84	0.41
27:Y4:14:ILE:HB	27:Y4:22:ILE:HB	2.01	0.41
32:YA:85:G:OP2	50:YY:9:LYS:HB2	2.20	0.41
32:YA:270(F):U:H2'	32:YA:270(G):C:C6	2.55	0.41
32:YA:2267:A:H5''	32:YA:2268:A:H5'	2.01	0.41
45:YT:7:ILE:O	45:YT:11:GLU:OE1	2.38	0.41
34:YD:133:LEU:CD1	34:YD:185:VAL:CG1	2.98	0.41
35:YE:128:SER:OG	35:YE:129:HIS:N	2.53	0.41
18:XS:11:VAL:HG11	18:XS:16:LEU:HB2	2.02	0.41
18:XS:58:VAL:HA	18:XS:59:PRO:HD2	1.86	0.41
51:QL:117:ARG:HH21	51:QL:124:LYS:HD3	1.85	0.41
1:QA:745:C:H2'	1:QA:746:A:C8	2.54	0.41
1:QA:972:C:H4'	10:QJ:57:LYS:HB2	2.02	0.41
12:QM:84:ILE:HD13	18:QS:65:ASN:HD21	1.85	0.41
16:QQ:28:PRO:HA	16:QQ:35:VAL:HA	2.02	0.41
22:QX:19:A2M:H2	23:QY:51:ASN:ND2	2.35	0.41
32:RA:394:A:H2'	32:RA:395:U:O4'	2.20	0.41
32:RA:576:U:H2'	32:RA:577:G:C8	2.55	0.41
32:RA:654(G):C:N4	32:RA:654(O):G:O6	2.53	0.41
32:RA:2208:U:O2'	34:RD:150:LYS:O	2.37	0.41
32:RA:2572:A:H8	32:RA:2572:A:OP2	2.03	0.41
36:RG:19:LEU:HD23	36:RG:19:LEU:HA	1.92	0.41
46:RU:75:ASN:HB2	46:RU:78:THR:HG23	2.01	0.41
1:XA:186(A):C:O2'	19:XT:89:ARG:HD3	2.20	0.41
1:XA:194:C:OP1	19:XT:61:SER:OG	2.38	0.41
1:XA:768:A:N3	1:XA:1512:U:O2'	2.50	0.41
6:XF:99:ALA:HB2	17:XR:31:LEU:HD22	2.02	0.41
16:XQ:28:PRO:HA	16:XQ:35:VAL:HA	2.01	0.41
16:XQ:45:HIS:CD2	16:XQ:47:PRO:HG3	2.56	0.41
32:YA:749:C:H5'	32:YA:1271:G:H1'	2.02	0.41
32:YA:781:A:P	34:YD:218:ARG:NH2	2.93	0.41
32:YA:1681:G:H8	32:YA:1681:G:OP2	2.03	0.41
32:YA:2329:G:H2'	32:YA:2330:G:C8	2.55	0.41
44:YS:30:ARG:HD2	44:YS:97:ARG:HD3	2.01	0.41
45:YT:7:ILE:HG23	35:YE:181:LEU:HD11	2.02	0.41
45:YT:82:LEU:HD21	35:YE:18:ASP:OD1	2.20	0.41
41:YP:127:ALA:HA	41:YP:148:LEU:CD2	2.47	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YD:162:SER:HB3	34:YD:195:ALA:HB1	2.01	0.41
52:R1:3:LYS:O	52:R1:12:PRO:HD3	2.19	0.41
54:RF:152:GLU:OE1	54:RF:191:ARG:HD2	2.20	0.41
55:YZ:3:TYR:CE2	55:YZ:51:ALA:HB2	2.55	0.41
1:QA:603:U:H2'	1:QA:604:G:C8	2.55	0.41
1:QA:674:G:H2'	1:QA:675:A:C8	2.49	0.41
11:QK:33:THR:OG1	11:QK:34:ASP:N	2.53	0.41
21:QV:50:U:H2'	21:QV:51:C:C6	2.54	0.41
23:QZ:38:PRO:HG2	23:QZ:39:PHE:CD2	2.55	0.41
32:RA:570:G:H2'	32:RA:2030:A:C5	2.55	0.41
32:RA:845:G:H8	32:RA:845:G:OP2	2.02	0.41
32:RA:1264:G:H3'	32:RA:1265:A:H5''	2.01	0.41
32:RA:2022:U:O2'	32:RA:2617:C:H5'	2.21	0.41
32:RA:2415:G:O3'	41:RP:66:GLY:HA3	2.20	0.41
32:RA:2475:C:H2'	32:RA:2477:C:OP1	2.21	0.41
32:RA:2619:C:H5''	35:RE:152:LYS:HA	2.02	0.41
1:XA:177:C:H2'	1:XA:178:C:H6	1.85	0.41
2:XB:97:TRP:HZ2	2:XB:102:LEU:HD23	1.86	0.41
4:XD:74:GLN:OE1	4:XD:100:ARG:NH1	2.52	0.41
32:YA:851:U:H2'	32:YA:852:G:H8	1.86	0.41
32:YA:1174:A:H62	32:YA:1177:A:H4'	1.84	0.41
32:YA:1358:G:O2'	32:YA:1359:A:H5''	2.19	0.41
32:YA:2074:U:HO2'	32:YA:2597:G:HO2'	1.62	0.41
32:YA:2243:U:H2'	32:YA:2244:U:C6	2.55	0.41
37:YH:96:ALA:O	37:YH:128:PRO:HB3	2.20	0.41
37:YH:97:ARG:HD3	37:YH:99:VAL:HG22	2.01	0.41
54:RF:25:PRO:HG2	54:RF:112:MET:HA	2.01	0.41
55:YZ:58:VAL:HA	55:YZ:67:LEU:O	2.20	0.41
1:QA:407:G:H2'	1:QA:408:A:H8	1.85	0.41
1:QA:918:A:H2'	1:QA:919:A:C8	2.55	0.41
2:QB:115:LEU:HD13	2:QB:145:LEU:CD2	2.44	0.41
3:QC:190:ARG:HA	3:QC:195:VAL:HG22	2.01	0.41
16:QQ:53:LEU:HD12	16:QQ:85:VAL:HG11	2.02	0.41
32:RA:29:U:H2'	32:RA:30:G:H8	1.84	0.41
32:RA:380:U:H2'	32:RA:381:G:C8	2.54	0.41
32:RA:527:C:H4'	32:RA:528:A:O4'	2.21	0.41
32:RA:550:G:O2'	32:RA:1220:A:N3	2.42	0.41
32:RA:1003:G:O2'	32:RA:1010:A:N1	2.49	0.41
32:RA:1788:C:OP1	34:RD:222:ARG:NH2	2.53	0.41
32:RA:2191:G:O2'	32:RA:2192:G:OP1	2.34	0.41
32:RA:2469:A:H2	32:RA:2481:G:H21	1.67	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2692:C:H2'	32:RA:2693:A:H8	1.86	0.41
33:RB:44:G:H1'	33:RB:47:C:H42	1.85	0.41
38:RI:86:THR:HG22	38:RI:122:GLU:HG3	2.03	0.41
41:RP:115:LEU:HA	41:RP:134:ALA:HB2	2.02	0.41
48:RW:71:VAL:HA	48:RW:107:LEU:HD23	2.02	0.41
1:XA:34:C:H2'	1:XA:35:G:C8	2.55	0.41
1:XA:436:C:H2'	1:XA:437:U:C6	2.55	0.41
1:XA:877:C:OP1	8:XH:88:LYS:HE3	2.21	0.41
1:XA:973:G:O4'	10:XJ:55:LYS:HD2	2.19	0.41
23:XZ:16:TRP:HA	23:XZ:16:TRP:CE3	2.54	0.41
23:XZ:17:GLN:HA	23:XZ:24:VAL:CG2	2.42	0.41
27:Y4:2:LYS:HB3	27:Y4:5:ILE:HG12	2.02	0.41
30:Y7:5:TRP:HD1	32:YA:1612:C:O3'	2.04	0.41
32:YA:29:U:H2'	32:YA:30:G:C8	2.54	0.41
32:YA:226:G:H21	32:YA:228:A:H62	1.68	0.41
32:YA:380:U:H2'	32:YA:381:G:C8	2.55	0.41
32:YA:630:G:N2	32:YA:633:A:OP2	2.45	0.41
32:YA:955:C:H5'	42:YQ:87:LYS:HZ1	1.85	0.41
32:YA:1141:U:O2'	32:YA:1142:U:OP2	2.25	0.41
32:YA:2155:G:H2'	32:YA:2156:G:O4'	2.20	0.41
32:YA:2674:G:H2'	32:YA:2675:A:C8	2.56	0.41
32:YA:2712:U:O2'	32:YA:2712(A):A:C8	2.72	0.41
32:YA:2773:C:OP1	35:YE:166:THR:OG1	2.39	0.41
39:YN:10:GLU:HA	39:YN:11:PRO:HD3	1.95	0.41
48:YW:45:TYR:CZ	48:YW:49:LYS:HD2	2.55	0.41
34:YD:107:ALA:HA	34:YD:108:PRO:HD3	1.81	0.41
42:YQ:39:PRO:HD3	42:YQ:99:PRO:HG3	2.02	0.41
37:YH:19:VAL:O	37:YH:19:VAL:HG23	2.20	0.41
54:RF:110:LEU:HD22	54:RF:205:ARG:HH11	1.85	0.41
54:RF:116:ASP:O	54:RF:119:ARG:HB3	2.20	0.41
55:YZ:111:VAL:HG21	55:YZ:117:LEU:HB2	2.02	0.41
1:QA:455:C:H2'	1:QA:456:C:H6	1.86	0.41
1:QA:731:G:OP1	1:QA:766:A:H1'	2.19	0.41
1:QA:1032:A:N6	32:YA:2167:U:H4'	2.35	0.41
1:QA:1236:A:OP1	20:QU:3:LYS:HG3	2.20	0.41
1:QA:1359:C:OP1	13:QN:22:THR:OG1	2.24	0.41
2:QB:74:LYS:HB3	2:QB:74:LYS:HE2	1.80	0.41
3:QC:95:THR:HG22	3:QC:97:LYS:H	1.84	0.41
21:QW:16:C:H5''	21:QW:60:U:H1'	2.02	0.41
22:QX:9:G:HO2'	22:QX:10:G:H8	1.66	0.41
27:R4:69:LYS:HG3	27:R4:69:LYS:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:263:C:H2'	32:RA:264:C:O4'	2.21	0.41
32:RA:631:A:N3	32:RA:2415:G:O2'	2.42	0.41
32:RA:635:C:H2'	32:RA:636:G:O4'	2.21	0.41
32:RA:755:C:H2'	32:RA:756:C:H6	1.85	0.41
32:RA:1186:G:H2'	32:RA:1187:G:O4'	2.20	0.41
32:RA:1231:G:H2'	32:RA:1232:G:H8	1.85	0.41
33:RB:79:C:H2'	33:RB:80:U:O4'	2.20	0.41
34:RD:25:THR:O	34:RD:27:THR:N	2.53	0.41
41:RP:62:LEU:CD2	53:R8:27:THR:HG22	2.49	0.41
1:XA:97:U:H2'	1:XA:99:C:C6	2.56	0.41
1:XA:444:C:H2'	1:XA:445:G:H8	1.86	0.41
1:XA:555:C:H2'	1:XA:556:C:C6	2.55	0.41
1:XA:748:C:H1'	1:XA:749:C:OP2	2.20	0.41
1:XA:974:A:OP2	13:XN:41:ARG:NH1	2.53	0.41
2:XB:51:LEU:HD23	2:XB:51:LEU:HA	1.93	0.41
7:XG:45:ASP:O	7:XG:49:ILE:HG12	2.20	0.41
25:Y2:4:SER:OG	25:Y2:5:GLU:N	2.54	0.41
32:YA:1024:G:C3'	32:YA:1025:G:H5''	2.51	0.41
32:YA:2313:C:H5''	36:YG:91:ARG:HD3	2.03	0.41
45:YT:106:SER:HA	45:YT:110:ILE:HD11	2.03	0.41
46:YU:109:LEU:HD23	47:YV:47:VAL:HG11	2.01	0.41
41:YP:9:ASN:ND2	41:YP:9:ASN:C	2.73	0.41
41:YP:57:THR:OG1	41:YP:60:MET:CG	2.68	0.41
34:YD:249:PRO:HD2	34:YD:250:TRP:CE3	2.56	0.41
42:YQ:26:TYR:HB2	42:YQ:138:ASP:HB2	2.03	0.41
42:YQ:69:PHE:HA	42:YQ:70:PRO:HD3	1.93	0.41
37:YH:68:THR:O	37:YH:71:LEU:HG	2.20	0.41
35:YE:56:PRO:O	35:YE:59:VAL:N	2.24	0.41
1:QA:201:C:H4'	1:QA:208:U:OP1	2.21	0.41
1:QA:222:U:H2'	1:QA:223:U:C6	2.56	0.41
1:QA:947:G:O3'	12:QM:109:THR:OG1	2.37	0.41
1:QA:1376:U:H2'	1:QA:1377:A:H8	1.86	0.41
1:QA:1497:G:H1'	1:QA:1518:A:H2	1.84	0.41
2:QB:141:GLU:O	2:QB:144:ARG:HG3	2.21	0.41
24:R0:24:LYS:HA	24:R0:24:LYS:HD3	1.88	0.41
28:R5:52:TYR:OH	32:RA:2883:A:OP1	2.31	0.41
32:RA:25:U:H5'	48:RW:79:GLY:HA2	2.02	0.41
32:RA:57:C:H2'	32:RA:58:G:O4'	2.20	0.41
32:RA:270:A:OP2	32:RA:270(Y):G:N2	2.53	0.41
32:RA:338:G:OP1	50:RY:4:LYS:NZ	2.51	0.41
32:RA:639:U:H2'	32:RA:640:C:H6	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:1417:C:H2'	32:RA:1418:G:O4'	2.20	0.41
32:RA:1791:A:H3'	32:RA:1792:G:H8	1.85	0.41
32:RA:2674:G:H2'	32:RA:2675:A:H8	1.85	0.41
34:RD:94:LEU:HD13	34:RD:104:TYR:HE1	1.86	0.41
38:RI:12:LEU:HD23	38:RI:12:LEU:HA	1.91	0.41
40:RO:24:VAL:HG13	40:RO:33:ALA:HB2	2.02	0.41
1:XA:751:U:H2'	1:XA:752:G:O4'	2.20	0.41
1:XA:953:G:H2'	1:XA:954:G:O4'	2.20	0.41
24:Y0:4:LYS:HD2	42:YQ:82:ARG:NH1	2.36	0.41
32:YA:2645:G:H3'	32:YA:2646:C:C5'	2.51	0.41
32:YA:2779:U:H1'	32:YA:2781:A:C5	2.56	0.41
54:YF:196:LEU:HD13	54:YF:196:LEU:HA	1.96	0.41
36:YG:16:ARG:O	36:YG:20:ILE:HG12	2.20	0.41
37:YH:5:GLY:HA2	37:YH:69:ARG:HB2	2.01	0.41
47:YV:12:TYR:O	47:YV:14:VAL:HG13	2.20	0.41
18:XS:72:GLY:O	18:XS:74:PHE:N	2.53	0.41
54:RF:24:LEU:HB3	54:RF:115:ALA:HB2	2.02	0.41
1:QA:1323:G:H2'	1:QA:1324:A:C8	2.56	0.41
2:QB:167:PRO:HG2	2:QB:192:SER:CB	2.51	0.41
23:QY:69:ALA:O	23:QY:75:LEU:HD12	2.21	0.41
27:R4:24:THR:O	27:R4:26:SER:N	2.53	0.41
32:RA:1204:A:H1'	32:RA:1206:G:C8	2.56	0.41
45:RT:62:THR:HG22	45:RT:75:ILE:HG12	2.02	0.41
1:XA:1084:G:H5'	1:XA:1102:A:OP2	2.20	0.41
1:XA:1376:U:OP1	7:XG:94:ARG:NH1	2.37	0.41
3:XC:130:VAL:HG21	3:XC:157:ILE:HG23	2.03	0.41
5:XE:81:GLU:HG2	5:XE:90:VAL:HG12	2.03	0.41
6:XF:21:LEU:O	6:XF:25:ILE:HG13	2.20	0.41
9:XI:10:ARG:HD3	9:XI:75:ASP:HB3	2.02	0.41
21:XV:71:C:H2'	21:XV:72:A:H8	1.85	0.41
22:XX:7:G:H2'	22:XX:8:A:O4'	2.19	0.41
23:XY:17:GLN:NE2	23:XZ:24:VAL:CG1	2.81	0.41
27:Y4:28:LYS:HA	27:Y4:29:PRO:HD3	1.96	0.41
32:YA:289:A:H5'	32:YA:290:G:OP2	2.21	0.41
32:YA:603:A:H1'	32:YA:604:G:OP2	2.21	0.41
32:YA:752:A:H8	32:YA:752:A:H2'	1.75	0.41
32:YA:1329:U:H5''	32:YA:1330:C:H5	1.86	0.41
34:YD:125:ILE:O	34:YD:125:ILE:HG22	2.20	0.41
34:YD:232:PRO:HB3	34:YD:244:ARG:CZ	2.50	0.41
35:YE:54:GLN:HE21	35:YE:76:ARG:HG2	1.78	0.41
1:QA:21:G:H2'	1:QA:22:G:C8	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:62:U:OP1	1:QA:385:C:O2'	2.38	0.41
1:QA:440:A:H3'	1:QA:442:C:H6	1.86	0.41
1:QA:1128:C:OP1	9:QI:66:ARG:NH2	2.54	0.41
19:QT:38:LYS:NZ	19:QT:42:GLN:OE1	2.51	0.41
21:QW:50:U:H2'	21:QW:51:C:C6	2.56	0.41
23:QY:16:TRP:HH2	23:QY:81:ARG:HA	1.85	0.41
24:R0:48:GLY:O	24:R0:80:HIS:ND1	2.54	0.41
32:RA:539:G:H2'	32:RA:540:G:C8	2.52	0.41
32:RA:1270:C:C5'	32:RA:1271:G:H5'	2.51	0.41
32:RA:2211:G:H3'	32:RA:2212:A:N3	2.35	0.41
32:RA:2389:G:H5''	32:RA:2390:U:O4'	2.21	0.41
32:RA:2724:C:H2'	32:RA:2725:A:C8	2.56	0.41
35:RE:50:GLY:HA3	35:RE:74:PRO:HG3	2.02	0.41
36:RG:120:LEU:HB2	36:RG:180:PHE:HD1	1.86	0.41
41:RP:59:LEU:HD13	53:R8:58:ILE:HD13	2.01	0.41
1:XA:464:G:N2	1:XA:467:G:N7	2.69	0.41
1:XA:1033:G:HO2'	1:XA:1034:G:P	2.40	0.41
1:XA:1241:G:H2'	1:XA:1242:C:H6	1.86	0.41
4:XD:57:ARG:NH2	4:XD:205:GLU:OE2	2.47	0.41
12:XM:3:ARG:HA	12:XM:9:ILE:HG22	2.02	0.41
23:XZ:41:GLY:HA3	23:XZ:58:ARG:HH22	1.85	0.41
27:Y4:62:ARG:H	27:Y4:62:ARG:HG2	1.69	0.41
32:YA:262:A:N3	32:YA:430:G:O2'	2.43	0.41
32:YA:970:C:H2'	32:YA:971:C:C6	2.55	0.41
32:YA:1315:C:O2'	32:YA:1392:A:N3	2.47	0.41
32:YA:2318:G:H22	44:YS:2:ALA:HA	1.85	0.41
32:YA:2331:G:O2'	32:YA:2336:A:N1	2.41	0.41
43:YR:99:LYS:HE2	43:YR:99:LYS:HB2	1.95	0.41
41:YP:130:PHE:CB	41:YP:135:LEU:HD23	2.51	0.41
42:YQ:1:MET:O	42:YQ:1:MET:SD	2.79	0.41
35:YE:23:VAL:HG13	35:YE:185:LYS:HA	2.03	0.41
56:ZB:76:PPU:N7	56:ZB:76:PPU:C9	2.84	0.41
1:QA:186(B):C:H2'	1:QA:186(C):G:C8	2.55	0.41
1:QA:345:C:O2'	1:QA:346:G:H5''	2.21	0.41
1:QA:778:G:O2'	11:QK:120:ARG:O	2.35	0.41
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.56	0.41
1:QA:1437:C:H2'	1:QA:1438:G:H8	1.86	0.41
1:QA:1492:A:H2'	23:QY:46:GLU:OE2	2.21	0.41
2:QB:140:HIS:O	2:QB:144:ARG:HG2	2.20	0.41
2:QB:155:LEU:HD21	2:QB:159:PRO:HG3	2.03	0.41
4:QD:67:ILE:HD13	4:QD:196:LEU:HD22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:104:ARG:HH11	8:QH:138:TRP:HB2	1.86	0.41
23:QY:7:GLU:HG2	23:QY:8:GLU:OE1	2.20	0.41
23:QZ:66:LEU:O	23:QZ:66:LEU:CD2	2.69	0.41
29:R6:11:LEU:HB2	29:R6:21:TYR:HB2	2.01	0.41
32:RA:177:G:OP2	32:RA:177:G:N2	2.40	0.41
32:RA:249:C:O2	53:R8:12:LYS:NZ	2.51	0.41
32:RA:297:C:OP1	50:RY:87:LYS:NZ	2.46	0.41
32:RA:352:G:O2'	32:RA:353:G:OP1	2.34	0.41
32:RA:582:G:H2'	32:RA:583:G:C8	2.56	0.41
32:RA:637:A:OP2	41:RP:115:LEU:HB2	2.21	0.41
32:RA:661:C:H2'	32:RA:662:G:C8	2.56	0.41
32:RA:704:G:H1'	32:RA:727:A:N6	2.36	0.41
32:RA:1818:U:H2'	34:RD:157:ARG:HG2	2.02	0.41
32:RA:2849:U:O2'	32:RA:2850:A:P	2.79	0.41
33:RB:4:C:H2'	33:RB:5:C:C6	2.56	0.41
35:RE:5:LEU:HD21	35:RE:79:ARG:HB2	2.01	0.41
1:XA:958:A:N3	1:XA:985:C:O2'	2.42	0.41
1:XA:983:A:H5''	1:XA:984:C:OP2	2.20	0.41
1:XA:1172:C:H2'	1:XA:1173:G:C8	2.55	0.41
4:XD:108:LEU:HD21	4:XD:183:GLY:HA3	2.03	0.41
9:XI:25:LYS:HD3	9:XI:26:VAL:H	1.85	0.41
19:XT:48:LYS:HG3	19:XT:51:GLU:HG2	2.03	0.41
21:XV:19:G:H3'	21:XV:20:U:H5	1.85	0.41
21:XV:76:A:H2	24:Y0:2:ALA:CB	2.34	0.41
23:XY:61:THR:CG2	23:XY:62:GLU:N	2.83	0.41
23:XZ:48:LEU:CD1	23:XZ:52:LEU:HB3	2.51	0.41
52:Y1:86:SER:O	52:Y1:90:ILE:HG22	2.20	0.41
53:Y8:3:LYS:HB2	53:Y8:3:LYS:HE3	1.83	0.41
32:YA:194:G:H2'	32:YA:195:A:O4'	2.21	0.41
32:YA:536:A:H2'	32:YA:537:C:C6	2.56	0.41
32:YA:1628:G:H2'	32:YA:1629:U:C6	2.56	0.41
32:YA:1799:G:O6	34:YD:178:PRO:HD2	2.20	0.41
32:YA:1902:C:OP1	34:YD:242:ARG:HD3	2.21	0.41
32:YA:2175:C:H2'	32:YA:2176:A:H8	1.86	0.41
41:YP:100:LEU:HD23	41:YP:100:LEU:HA	1.88	0.41
34:YD:15:PHE:O	34:YD:205:VAL:CG1	2.69	0.41
42:YQ:2:LEU:HD13	42:YQ:47:ILE:CG2	2.51	0.41
42:YQ:16:ARG:HH11	42:YQ:16:ARG:HG3	1.84	0.41
42:YQ:64:ILE:HD13	55:YZ:178:GLU:CD	2.39	0.41
37:YH:125:VAL:HG13	37:YH:131:VAL:HG22	2.02	0.41
37:YH:139:GLN:OE1	37:YH:139:GLN:O	2.39	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:YV:22:VAL:HG12	47:YV:23:GLU:N	2.36	0.41
47:YV:66:ARG:HA	47:YV:90:PRO:HA	2.03	0.41
55:RZ:119:GLU:HB2	55:RZ:122:ARG:HE	1.86	0.41
55:RZ:141:VAL:HG12	55:RZ:143:GLY:N	2.32	0.41
1:QA:279:A:H5''	1:QA:281:G:O4'	2.21	0.41
1:QA:599:C:H2'	1:QA:600:C:H6	1.86	0.41
1:QA:750:G:N3	14:QO:23:GLY:HA3	2.36	0.41
1:QA:950:U:H2'	1:QA:951:G:C8	2.56	0.41
1:QA:1064:G:O2'	1:QA:1065:U:O5'	2.29	0.41
1:QA:1130:A:N6	1:QA:1144:G:H21	2.19	0.41
1:QA:1149:C:H2'	1:QA:1150:U:C6	2.56	0.41
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.56	0.41
1:QA:1346:A:H1'	1:QA:1347:G:OP2	2.21	0.41
2:QB:51:LEU:CD2	2:QB:201:ILE:CG2	2.93	0.41
2:QB:68:ILE:O	2:QB:90:MET:HB3	2.21	0.41
2:QB:69:LEU:HD22	2:QB:71:VAL:CG2	2.48	0.41
8:QH:97:VAL:HG21	8:QH:128:GLY:HA2	2.01	0.41
9:QI:7:THR:H	9:QI:83:ARG:HD2	1.86	0.41
9:QI:70:LYS:O	9:QI:74:ILE:HG13	2.20	0.41
12:QM:108:ARG:HE	12:QM:114:ARG:HD3	1.84	0.41
32:RA:249:C:P	32:RA:2394:C:HO2'	2.44	0.41
32:RA:1205:U:C4	54:RF:171:PRO:HA	2.56	0.41
32:RA:1273:U:O2	32:RA:2002:G:O2'	2.36	0.41
32:RA:2543:G:H2'	32:RA:2544:G:C8	2.56	0.41
38:RI:31:LEU:HD21	38:RI:38:LEU:HD22	2.02	0.41
41:RP:49:ARG:O	53:R8:57:ARG:CD	2.67	0.41
41:RP:60:MET:CA	53:R8:13:ARG:NH1	2.84	0.41
45:RT:3:ARG:O	45:RT:7:ILE:HG12	2.21	0.41
1:XA:468:A:H5''	15:XP:80:PHE:HB3	2.02	0.41
1:XA:522:C:OP2	51:XL:69:TYR:OH	2.33	0.41
1:XA:553:A:H2'	1:XA:554:C:C6	2.55	0.41
1:XA:592:G:H2'	1:XA:593:G:H8	1.86	0.41
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.52	0.41
1:XA:1006:C:O2'	1:XA:1007:C:OP1	2.30	0.41
5:XE:154:GLY:HA2	8:XH:64:LYS:HD3	2.02	0.41
32:YA:121:G:H4'	32:YA:149:A:H5'	2.03	0.41
32:YA:512:G:O2'	32:YA:513:A:OP2	2.36	0.41
32:YA:604:G:OP1	41:YP:90:ARG:NH2	2.41	0.41
32:YA:760:G:H2'	32:YA:761:A:O4'	2.20	0.41
32:YA:1165:U:H2'	32:YA:1166:C:C6	2.55	0.41
32:YA:2564:A:OP1	32:YA:2648:C:H4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:YU:61:TRP:HB3	46:YU:93:LYS:O	2.20	0.41
42:YQ:47:ILE:HD12	42:YQ:70:PRO:HG3	2.03	0.41
18:XS:69:HIS:HB2	18:XS:74:PHE:CE2	2.56	0.41
18:XS:72:GLY:C	18:XS:74:PHE:N	2.75	0.41
1:QA:108:G:OP2	1:QA:108:G:N2	2.53	0.40
1:QA:132:C:H5'	1:QA:262:A:O2'	2.21	0.40
1:QA:736:C:H2'	1:QA:737:A:H8	1.86	0.40
1:QA:1099:G:H5''	2:QB:96:ARG:HH21	1.75	0.40
1:QA:1264:C:H2'	1:QA:1265:G:H8	1.86	0.40
2:QB:67:THR:CG2	2:QB:155:LEU:HD22	2.50	0.40
3:QC:131:ARG:NH1	3:QC:167:TRP:O	2.48	0.40
21:QW:55:U:H2'	21:QW:56:C:H3'	2.03	0.40
32:RA:2648:C:H2'	32:RA:2649:U:C6	2.56	0.40
34:RD:245:PRO:HA	34:RD:246:PRO:HD3	1.93	0.40
39:RN:34:LEU:HD23	39:RN:34:LEU:HA	1.94	0.40
1:XA:1344:C:H1'	1:XA:1349:A:H4'	2.03	0.40
1:XA:1398:A:H5'	1:XA:1401:G:H4'	2.02	0.40
5:XE:105:VAL:HG11	5:XE:128:PRO:HB3	2.03	0.40
19:XT:51:GLU:HA	19:XT:54:LYS:HG2	2.01	0.40
21:XV:65:C:H2'	21:XV:66:C:H6	1.86	0.40
21:XW:16:C:H5''	21:XW:17:C:OP2	2.21	0.40
23:XZ:30:LEU:CD1	23:XZ:60:ILE:HA	2.45	0.40
32:YA:78:A:H2'	32:YA:79:G:H8	1.86	0.40
32:YA:181:A:H3'	32:YA:182:A:H8	1.86	0.40
32:YA:583:G:OP2	46:YU:10:ARG:NH1	2.42	0.40
32:YA:1171:G:O2'	32:YA:1173:G:O4'	2.37	0.40
32:YA:1697:G:OP2	32:YA:1698:A:O2'	2.20	0.40
52:R1:80:LEU:HD12	52:R1:80:LEU:O	2.20	0.40
55:YZ:30:ASN:C	55:YZ:32:HIS:N	2.73	0.40
55:YZ:108:PRO:HD2	55:YZ:111:VAL:HB	2.03	0.40
1:QA:35:G:N2	51:QL:118:SER:OG	2.53	0.40
1:QA:142:G:H2'	1:QA:143:A:C8	2.57	0.40
1:QA:1064:G:HO2'	1:QA:1065:U:P	2.43	0.40
1:QA:1126:U:H4'	1:QA:1127:G:N7	2.36	0.40
1:QA:1280:A:H5'	1:QA:1281:U:OP2	2.21	0.40
2:QB:20:GLU:HG3	2:QB:23:ARG:NE	2.36	0.40
2:QB:80:ILE:O	2:QB:84:GLU:HG2	2.21	0.40
23:QY:10:TRP:NE1	23:QY:14:LEU:HD11	2.37	0.40
32:RA:1311:G:H21	32:RA:1603:A:H62	1.69	0.40
32:RA:2038:G:H2'	32:RA:2039:C:O4'	2.21	0.40
32:RA:2161:C:H2'	32:RA:2162:G:H8	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:2197:U:H6	32:RA:2197:U:O5'	2.04	0.40
32:RA:2298:A:H62	32:RA:2318:G:H8	1.68	0.40
32:RA:2446:G:N2	32:RA:2449:U:O2	2.54	0.40
42:RQ:63:LYS:HD2	55:RZ:175:VAL:HG21	2.03	0.40
47:RV:62:LEU:HD11	47:RV:95:LEU:HB2	2.04	0.40
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.56	0.40
11:XK:91:ARG:O	11:XK:95:ILE:HG12	2.21	0.40
51:XL:52:LEU:HD23	51:XL:52:LEU:HA	1.94	0.40
22:XX:19:A2M:C2	23:XY:51:ASN:CB	3.00	0.40
23:XY:48:LEU:HD12	23:XY:52:LEU:HD12	2.03	0.40
32:YA:455:C:N3	32:YA:473:G:H5'	2.36	0.40
32:YA:841:A:H2'	32:YA:842:G:H8	1.86	0.40
32:YA:1266:G:O2'	32:YA:2012:G:O6	2.25	0.40
32:YA:1423:G:H2'	32:YA:1424:G:H8	1.86	0.40
32:YA:1637:A:H4'	32:YA:2711:A:O2'	2.21	0.40
32:YA:1641:A:H2'	32:YA:1642:G:O4'	2.21	0.40
32:YA:1932:A:H2'	32:YA:1933:G:O4'	2.21	0.40
40:YO:25:LEU:HB2	40:YO:38:VAL:HG13	2.02	0.40
45:YT:120:ARG:HA	45:YT:123:GLN:HB2	2.02	0.40
37:YH:46:GLU:OE2	37:YH:49:VAL:CG1	2.69	0.40
35:YE:116:VAL:HG22	35:YE:122:PHE:CG	2.56	0.40
18:XS:12:ASP:OD2	18:XS:35:SER:HB2	2.20	0.40
1:QA:516:U:O2'	1:QA:519:C:N3	2.49	0.40
1:QA:1125:U:O4	10:QJ:5:ARG:NH1	2.55	0.40
12:QM:99:ARG:HB2	12:QM:101:GLN:HE22	1.85	0.40
15:QP:69:THR:O	15:QP:72:ARG:HG2	2.21	0.40
22:QX:22:C:O2	22:QX:22:C:O2'	2.24	0.40
23:QY:57:SER:HG	23:QY:84:TYR:HE1	1.69	0.40
24:R0:5:LYS:HE2	24:R0:5:LYS:HB3	1.87	0.40
25:R2:47:ASN:ND2	32:RA:94:G:H21	2.18	0.40
32:RA:309:G:H8	32:RA:309:G:P	2.44	0.40
32:RA:443:A:H2'	54:RF:45:ARG:NH1	2.35	0.40
33:RB:1:U:H2'	33:RB:2:C:H6	1.86	0.40
43:RR:56:LYS:NZ	43:RR:90:ARG:O	2.54	0.40
43:RR:75:LEU:HA	43:RR:78:LYS:HB3	2.02	0.40
46:RU:61:TRP:HB3	46:RU:93:LYS:O	2.20	0.40
1:XA:17:U:H2'	1:XA:18:C:H6	1.86	0.40
1:XA:186(A):C:H2'	1:XA:186(B):C:C6	2.56	0.40
1:XA:429:U:O2'	4:XD:22:LYS:NZ	2.55	0.40
1:XA:430:A:OP2	4:XD:8:VAL:HG12	2.22	0.40
1:XA:768:A:H4'	1:XA:1523:G:N2	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1198:G:H2'	1:XA:1199:U:C6	2.57	0.40
6:XF:28:ARG:NH2	6:XF:32:ASN:OD1	2.54	0.40
8:XH:21:LYS:O	8:XH:65:TYR:OH	2.29	0.40
11:XK:124:LYS:H	11:XK:124:LYS:HG2	1.74	0.40
51:XL:19:ARG:HE	51:XL:19:ARG:HB3	1.61	0.40
14:XO:29:VAL:O	14:XO:33:THR:OG1	2.35	0.40
21:XW:9:G:O2'	21:XW:10:G:N7	2.54	0.40
23:XY:61:THR:HG22	23:XY:62:GLU:N	2.36	0.40
53:Y8:27:THR:HG1	32:YA:2361:A:P	2.45	0.40
32:YA:679:C:H2'	32:YA:680:G:C8	2.57	0.40
32:YA:680:G:H2'	32:YA:681:G:C8	2.56	0.40
32:YA:852:G:H2'	32:YA:853:G:H8	1.86	0.40
32:YA:1794:U:H2'	32:YA:1795:C:C6	2.56	0.40
32:YA:1918:A:O2'	32:YA:1920:C:N4	2.54	0.40
54:YF:167:ALA:HA	54:YF:170:LEU:HD13	2.04	0.40
46:YU:98:LEU:HD13	46:YU:105:VAL:HG13	2.04	0.40
34:YD:108:PRO:HD2	34:YD:111:LEU:HD23	2.01	0.40
34:YD:121:PRO:HB3	34:YD:135:PHE:CE2	2.57	0.40
34:YD:206:LEU:HA	34:YD:211:ARG:HD2	2.03	0.40
42:YQ:39:PRO:HG3	42:YQ:99:PRO:HD3	2.04	0.40
37:YH:3:ARG:HH21	37:YH:3:ARG:CB	2.34	0.40
47:YV:38:LEU:N	47:YV:38:LEU:CD1	2.80	0.40
35:YE:9:VAL:HB	35:YE:25:VAL:CG2	2.47	0.40
35:YE:84:PHE:CD2	35:YE:86:PRO:HD3	2.56	0.40
55:RZ:7:ALA:N	55:RZ:60:GLU:O	2.51	0.40
55:YZ:52:SER:OG	55:YZ:53:ILE:HD12	2.21	0.40
51:QL:84:LEU:HD23	51:QL:101:VAL:HG11	2.04	0.40
53:R8:33:ASN:OD1	53:R8:36:LYS:NZ	2.34	0.40
53:R8:37:SER:OG	53:R8:40:GLU:N	2.43	0.40
1:QA:411:A:H62	1:QA:413:G:H21	1.69	0.40
1:QA:428:G:H4'	1:QA:429:U:O5'	2.21	0.40
1:QA:555:C:H2'	1:QA:556:C:C6	2.57	0.40
1:QA:1145:C:H5''	1:QA:1146:A:OP1	2.22	0.40
1:QA:1403:C:N4	22:QX:18:G:OP1	2.53	0.40
2:QB:86:GLU:HA	2:QB:86:GLU:OE1	2.22	0.40
7:QG:111:ARG:NH1	7:QG:126:ASP:OD2	2.52	0.40
23:QY:12:ASP:HB3	23:QY:81:ARG:HB2	2.02	0.40
25:R2:21:LEU:HD23	25:R2:21:LEU:HA	1.89	0.40
30:R7:11:LYS:HE2	32:RA:686:G:OP1	2.22	0.40
32:RA:93:C:H3'	32:RA:94:G:H8	1.86	0.40
32:RA:667:U:H2'	32:RA:668:G:O4'	2.20	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:RA:1408:C:H2'	32:RA:1409:C:C6	2.56	0.40
32:RA:2638:G:OP1	35:RE:82:ARG:NH2	2.55	0.40
39:RN:53:VAL:HG11	39:RN:128:HIS:CE1	2.57	0.40
1:XA:583:A:N6	1:XA:758:G:O2'	2.55	0.40
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.21	0.40
7:XG:24:THR:HA	7:XG:27:ILE:HD12	2.02	0.40
21:XW:23:C:H2'	21:XW:24:U:C6	2.55	0.40
32:YA:29:U:H2'	32:YA:30:G:H8	1.87	0.40
32:YA:674:G:H1'	54:YF:74:ARG:HD3	2.04	0.40
32:YA:1005:C:H2'	32:YA:1006:C:C6	2.56	0.40
32:YA:2165:G:H2'	32:YA:2166:G:C2	2.56	0.40
34:YD:136:ILE:HA	34:YD:137:PRO:HD3	1.96	0.40
37:YH:87:LEU:HD21	37:YH:164:TYR:CD1	2.56	0.40
35:YE:111:ARG:HD3	35:YE:160:TYR:HE2	1.83	0.40
18:XS:50:ALA:HA	18:XS:58:VAL:O	2.21	0.40
18:XS:64:GLU:N	18:XS:64:GLU:CD	2.73	0.40
54:RF:113:ALA:CB	54:RF:183:VAL:HG23	2.51	0.40
1:QA:35:G:N3	51:QL:118:SER:OG	2.52	0.40
1:QA:700:G:H4'	1:QA:704:A:H1'	2.02	0.40
1:QA:737:A:H2'	1:QA:738:C:C6	2.57	0.40
1:QA:1286:A:H8	1:QA:1287:A:H4'	1.85	0.40
2:QB:158:LEU:HA	2:QB:159:PRO:HD3	1.76	0.40
16:QQ:36:ILE:HG21	51:QL:11:VAL:HG11	2.02	0.40
21:QW:41:C:H2'	21:QW:42:G:H8	1.86	0.40
22:QX:5:A:H2'	22:QX:6:G:C8	2.57	0.40
25:R2:29:LYS:HE3	25:R2:57:ILE:HG21	2.03	0.40
31:R9:24:TYR:CE1	31:R9:35:ARG:HG3	2.57	0.40
32:RA:270(F):U:H2'	32:RA:270(G):C:C6	2.56	0.40
32:RA:1212:G:H2'	32:RA:1236:G:H22	1.86	0.40
32:RA:1385:G:O2'	32:RA:1386:C:O5'	2.37	0.40
32:RA:2233:U:H2'	32:RA:2234:G:C8	2.56	0.40
32:RA:2345:G:N3	32:RA:2381:C:H2'	2.36	0.40
42:RQ:137:TYR:CD1	55:RZ:48:PHE:CE2	3.10	0.40
1:XA:67:C:H2'	1:XA:68:G:C8	2.56	0.40
1:XA:580:U:H2'	1:XA:581:G:O4'	2.22	0.40
1:XA:627:G:H2'	1:XA:628:G:H8	1.87	0.40
1:XA:909:A:N3	1:XA:1413:A:O2'	2.40	0.40
1:XA:976:G:OP2	1:XA:1358:U:O2'	2.34	0.40
1:XA:1120:G:H2'	1:XA:1121:U:C6	2.57	0.40
1:XA:1330:U:H3'	1:XA:1331:G:O4'	2.22	0.40
1:XA:1376:U:P	7:XG:94:ARG:HH22	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:127:ASN:O	5:XE:131:ILE:HG12	2.21	0.40
10:XJ:34:VAL:HG12	10:XJ:74:ILE:HG22	2.04	0.40
23:XY:14:LEU:HD22	23:XZ:28:ASN:ND2	2.37	0.40
23:XZ:20:ASP:CG	23:XZ:23:ILE:HG12	2.41	0.40
23:XZ:48:LEU:HB3	23:XZ:52:LEU:HB2	2.03	0.40
32:YA:828:U:H3'	32:YA:828:U:O2	2.21	0.40
32:YA:862:G:P	42:YQ:18:LYS:NZ	2.93	0.40
32:YA:1434:A:H61	32:YA:1558:A:N6	2.19	0.40
32:YA:1754:C:OP1	45:YT:96:ARG:NH1	2.55	0.40
32:YA:2389:G:H5''	32:YA:2390:U:O4'	2.21	0.40
32:YA:2469:A:H2'	42:YQ:56:ARG:HH21	1.86	0.40
32:YA:2507:C:O2'	56:ZA:75:C:O2	2.31	0.40
32:YA:2647:U:H2'	32:YA:2648:C:C6	2.56	0.40
32:YA:2737:G:H2'	32:YA:2738:A:C8	2.56	0.40
41:YP:121:LYS:CD	41:YP:123:LEU:HD11	2.51	0.40
42:YQ:68:ILE:HG21	42:YQ:103:MET:HG2	2.03	0.40
55:YZ:124:ILE:HD13	55:YZ:124:ILE:HA	1.89	0.40

There are no symmetry-related clashes.

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%)	212 (91%)	18 (8%)	3 (1%)	12	41
2	XB	234/256 (91%)	208 (89%)	25 (11%)	1 (0%)	34	67
3	QC	203/239 (85%)	190 (94%)	13 (6%)	0	100	100
3	XC	203/239 (85%)	193 (95%)	10 (5%)	0	100	100
4	QD	206/209 (99%)	191 (93%)	13 (6%)	2 (1%)	15	47
4	XD	206/209 (99%)	191 (93%)	13 (6%)	2 (1%)	15	47
5	QE	149/162 (92%)	139 (93%)	9 (6%)	1 (1%)	22	56

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
5	XE	149/162 (92%)	140 (94%)	8 (5%)	1 (1%)	22	56
6	QF	99/101 (98%)	99 (100%)	0	0	100	100
6	XF	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
7	QG	153/156 (98%)	148 (97%)	5 (3%)	0	100	100
7	XG	153/156 (98%)	143 (94%)	10 (6%)	0	100	100
8	QH	135/138 (98%)	130 (96%)	5 (4%)	0	100	100
8	XH	135/138 (98%)	130 (96%)	5 (4%)	0	100	100
9	QI	125/128 (98%)	114 (91%)	10 (8%)	1 (1%)	19	52
9	XI	124/128 (97%)	114 (92%)	10 (8%)	0	100	100
10	QJ	97/105 (92%)	88 (91%)	9 (9%)	0	100	100
10	XJ	94/105 (90%)	85 (90%)	8 (8%)	1 (1%)	14	46
11	QK	117/129 (91%)	109 (93%)	8 (7%)	0	100	100
11	XK	114/129 (88%)	104 (91%)	10 (9%)	0	100	100
12	QM	118/126 (94%)	101 (86%)	13 (11%)	4 (3%)	3	22
12	XM	117/126 (93%)	99 (85%)	17 (14%)	1 (1%)	17	50
13	QN	58/61 (95%)	52 (90%)	5 (9%)	1 (2%)	9	36
13	XN	58/61 (95%)	53 (91%)	4 (7%)	1 (2%)	9	36
14	QO	86/89 (97%)	82 (95%)	4 (5%)	0	100	100
14	XO	85/89 (96%)	83 (98%)	2 (2%)	0	100	100
15	QP	82/88 (93%)	77 (94%)	5 (6%)	0	100	100
15	XP	82/88 (93%)	80 (98%)	2 (2%)	0	100	100
16	QQ	98/105 (93%)	92 (94%)	6 (6%)	0	100	100
16	XQ	98/105 (93%)	94 (96%)	4 (4%)	0	100	100
17	QR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
17	XR	68/88 (77%)	66 (97%)	2 (3%)	0	100	100
18	QS	81/93 (87%)	68 (84%)	12 (15%)	1 (1%)	13	43
18	XS	81/93 (87%)	73 (90%)	6 (7%)	2 (2%)	5	28
19	QT	97/106 (92%)	87 (90%)	10 (10%)	0	100	100
19	XT	97/106 (92%)	88 (91%)	9 (9%)	0	100	100
20	QU	23/27 (85%)	23 (100%)	0	0	100	100
20	XU	23/27 (85%)	23 (100%)	0	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	QY	82/84 (98%)	78 (95%)	4 (5%)	0	100	100
23	QZ	82/84 (98%)	76 (93%)	6 (7%)	0	100	100
23	XY	82/84 (98%)	78 (95%)	4 (5%)	0	100	100
23	XZ	82/84 (98%)	79 (96%)	3 (4%)	0	100	100
24	R0	79/85 (93%)	73 (92%)	4 (5%)	2 (2%)	5	28
24	Y0	80/85 (94%)	77 (96%)	3 (4%)	0	100	100
25	R2	67/72 (93%)	61 (91%)	5 (8%)	1 (2%)	10	39
25	Y2	67/72 (93%)	64 (96%)	3 (4%)	0	100	100
26	R3	57/60 (95%)	53 (93%)	4 (7%)	0	100	100
26	Y3	57/60 (95%)	53 (93%)	4 (7%)	0	100	100
27	R4	67/71 (94%)	46 (69%)	17 (25%)	4 (6%)	1	10
27	Y4	67/71 (94%)	53 (79%)	13 (19%)	1 (2%)	10	39
28	R5	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
28	Y5	57/60 (95%)	54 (95%)	3 (5%)	0	100	100
29	R6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
29	Y6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
30	R7	45/49 (92%)	45 (100%)	0	0	100	100
30	Y7	46/49 (94%)	46 (100%)	0	0	100	100
31	R9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
31	Y9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
34	RD	270/276 (98%)	237 (88%)	26 (10%)	7 (3%)	5	27
34	YD	272/276 (99%)	261 (96%)	11 (4%)	0	100	100
35	RE	203/206 (98%)	159 (78%)	34 (17%)	10 (5%)	2	14
35	YE	202/206 (98%)	190 (94%)	9 (4%)	3 (2%)	10	39
36	RG	179/182 (98%)	153 (86%)	24 (13%)	2 (1%)	14	46
36	YG	179/182 (98%)	149 (83%)	29 (16%)	1 (1%)	25	59
37	RH	172/180 (96%)	145 (84%)	20 (12%)	7 (4%)	3	17
37	YH	172/180 (96%)	163 (95%)	7 (4%)	2 (1%)	13	43
38	RI	144/148 (97%)	115 (80%)	24 (17%)	5 (4%)	3	21
38	YI	144/148 (97%)	119 (83%)	21 (15%)	4 (3%)	5	25
39	RN	136/140 (97%)	115 (85%)	18 (13%)	3 (2%)	6	31

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	YN	136/140 (97%)	119 (88%)	15 (11%)	2 (2%)	10	39
40	RO	120/122 (98%)	112 (93%)	8 (7%)	0	100	100
40	YO	120/122 (98%)	113 (94%)	7 (6%)	0	100	100
41	RP	148/150 (99%)	112 (76%)	32 (22%)	4 (3%)	5	26
41	YP	147/150 (98%)	137 (93%)	8 (5%)	2 (1%)	11	40
42	RQ	139/141 (99%)	115 (83%)	22 (16%)	2 (1%)	11	40
42	YQ	139/141 (99%)	134 (96%)	4 (3%)	1 (1%)	22	56
43	RR	115/118 (98%)	106 (92%)	8 (7%)	1 (1%)	17	50
43	YR	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17	50
44	RS	109/112 (97%)	91 (84%)	18 (16%)	0	100	100
44	YS	109/112 (97%)	91 (84%)	17 (16%)	1 (1%)	17	50
45	RT	135/146 (92%)	118 (87%)	15 (11%)	2 (2%)	10	39
45	YT	135/146 (92%)	114 (84%)	19 (14%)	2 (2%)	10	39
46	RU	115/118 (98%)	108 (94%)	6 (5%)	1 (1%)	17	50
46	YU	115/118 (98%)	107 (93%)	7 (6%)	1 (1%)	17	50
47	RV	99/101 (98%)	82 (83%)	16 (16%)	1 (1%)	15	47
47	YV	99/101 (98%)	98 (99%)	1 (1%)	0	100	100
48	RW	111/113 (98%)	105 (95%)	5 (4%)	1 (1%)	17	50
48	YW	111/113 (98%)	102 (92%)	8 (7%)	1 (1%)	17	50
49	RX	90/96 (94%)	87 (97%)	3 (3%)	0	100	100
49	YX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
50	RY	105/110 (96%)	99 (94%)	6 (6%)	0	100	100
50	YY	105/110 (96%)	100 (95%)	5 (5%)	0	100	100
51	QL	123/132 (93%)	109 (89%)	13 (11%)	1 (1%)	19	52
51	XL	120/132 (91%)	100 (83%)	19 (16%)	1 (1%)	19	52
52	R1	92/98 (94%)	86 (94%)	4 (4%)	2 (2%)	6	31
52	Y1	91/98 (93%)	81 (89%)	10 (11%)	0	100	100
53	R8	62/65 (95%)	55 (89%)	7 (11%)	0	100	100
53	Y8	62/65 (95%)	47 (76%)	12 (19%)	3 (5%)	2	14
54	RF	200/210 (95%)	196 (98%)	3 (2%)	1 (0%)	29	62
54	YF	200/210 (95%)	185 (92%)	13 (6%)	2 (1%)	15	47

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
55	RZ	181/206 (88%)	171 (94%)	9 (5%)	1 (1%)	25	59
55	YZ	181/206 (88%)	175 (97%)	6 (3%)	0	100	100
All	All	11786/12464 (95%)	10743 (91%)	935 (8%)	108 (1%)	17	50

All (108) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	QM	12	ASN
18	QS	41	VAL
27	R4	24	THR
27	R4	25	TYR
34	RD	25	THR
34	RD	28	GLU
35	RE	18	ASP
35	RE	61	ARG
35	RE	69	LYS
41	RP	108	LYS
45	RT	124	ASP
46	RU	92	ARG
53	Y8	29	LYS
53	Y8	30	ARG
53	Y8	61	LEU
44	YS	110	LEU
45	YT	124	ASP
46	YU	92	ARG
41	YP	39	LYS
37	YH	126	PRO
55	RZ	53	ILE
9	QI	45	ALA
13	QN	17	LYS
37	RH	87	LEU
39	RN	22	THR
41	RP	12	ALA
41	RP	57	THR
42	RQ	78	PRO
45	RT	123	GLN
10	XJ	54	PHE
13	XN	17	LYS
38	YI	10	GLU
38	YI	15	VAL
39	YN	22	THR

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Mol	Chain	Res	Type
45	YT	123	GLN
42	YQ	27	VAL
54	RF	25	PRO
51	QL	127	GLU
4	QD	155	LEU
12	QM	15	VAL
24	R0	47	PRO
27	R4	26	SER
34	RD	26	LYS
35	RE	60	ASN
36	RG	117	PHE
37	RH	86	GLU
38	RI	11	ASN
38	RI	15	VAL
39	RN	96	GLU
42	RQ	22	LYS
43	RR	4	LEU
4	XD	155	LEU
4	XD	156	GLU
27	Y4	47	GLN
36	YG	81	LYS
38	YI	11	ASN
43	YR	4	LEU
18	XS	73	GLU
2	QB	233	SER
25	R2	47	ASN
35	RE	78	LEU
35	RE	83	ASP
36	RG	81	LYS
37	RH	10	PRO
37	RH	15	VAL
38	RI	145	VAL
2	XB	208	ILE
12	XM	12	ASN
54	YF	67	GLN
35	YE	30	PRO
35	YE	52	LEU
52	R1	57	GLU
2	QB	207	ALA
4	QD	156	GLU
12	QM	14	ARG
12	QM	67	GLU

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Mol	Chain	Res	Type
24	R0	49	LYS
27	R4	42	PHE
35	RE	64	LYS
35	RE	73	GLU
35	RE	82	ARG
37	RH	11	VAL
37	RH	12	PRO
38	RI	10	GLU
41	RP	13	ASN
48	RW	66	GLU
54	YF	129	PHE
48	YW	66	GLU
41	YP	145	PRO
18	XS	59	PRO
5	QE	74	GLY
34	RD	34	VAL
35	RE	74	PRO
5	XE	74	GLY
51	XL	105	TYR
39	YN	96	GLU
38	RI	16	GLY
47	RV	50	PRO
38	YI	16	GLY
34	RD	243	GLY
37	RH	9	ILE
52	R1	86	SER
2	QB	230	VAL
34	RD	29	PRO
39	RN	36	GLY
34	RD	36	PRO
37	YH	117	PRO
35	YE	29	GLY

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%)	180 (89%)	23 (11%)	6	22
2	XB	204/220 (93%)	202 (99%)	2 (1%)	76	85
3	QC	159/188 (85%)	159 (100%)	0	100	100
3	XC	159/188 (85%)	159 (100%)	0	100	100
4	QD	180/181 (99%)	179 (99%)	1 (1%)	86	91
4	XD	180/181 (99%)	180 (100%)	0	100	100
5	QE	116/123 (94%)	115 (99%)	1 (1%)	78	87
5	XE	116/123 (94%)	114 (98%)	2 (2%)	60	78
6	QF	90/90 (100%)	88 (98%)	2 (2%)	52	74
6	XF	90/90 (100%)	88 (98%)	2 (2%)	52	74
7	QG	126/127 (99%)	125 (99%)	1 (1%)	81	89
7	XG	126/127 (99%)	124 (98%)	2 (2%)	62	79
8	QH	118/119 (99%)	117 (99%)	1 (1%)	81	89
8	XH	118/119 (99%)	116 (98%)	2 (2%)	60	78
9	QI	98/99 (99%)	98 (100%)	0	100	100
9	XI	97/99 (98%)	95 (98%)	2 (2%)	53	75
10	QJ	89/92 (97%)	89 (100%)	0	100	100
10	XJ	86/92 (94%)	85 (99%)	1 (1%)	71	83
11	QK	90/99 (91%)	90 (100%)	0	100	100
11	XK	88/99 (89%)	87 (99%)	1 (1%)	73	84
12	QM	96/101 (95%)	96 (100%)	0	100	100
12	XM	95/101 (94%)	95 (100%)	0	100	100
13	QN	49/50 (98%)	49 (100%)	0	100	100
13	XN	49/50 (98%)	49 (100%)	0	100	100
14	QO	79/80 (99%)	79 (100%)	0	100	100
14	XO	79/80 (99%)	79 (100%)	0	100	100
15	QP	72/74 (97%)	72 (100%)	0	100	100
15	XP	72/74 (97%)	71 (99%)	1 (1%)	67	81
16	QQ	95/97 (98%)	95 (100%)	0	100	100
16	XQ	95/97 (98%)	95 (100%)	0	100	100
17	QR	61/77 (79%)	61 (100%)	0	100	100
17	XR	61/77 (79%)	61 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	QS	72/80 (90%)	69 (96%)	3 (4%)	30	59
18	XS	69/80 (86%)	62 (90%)	7 (10%)	7	27
19	QT	76/82 (93%)	76 (100%)	0	100	100
19	XT	76/82 (93%)	75 (99%)	1 (1%)	69	82
20	QU	20/22 (91%)	20 (100%)	0	100	100
20	XU	20/22 (91%)	19 (95%)	1 (5%)	24	55
23	QY	78/78 (100%)	77 (99%)	1 (1%)	69	82
23	QZ	78/78 (100%)	72 (92%)	6 (8%)	13	38
23	XY	78/78 (100%)	78 (100%)	0	100	100
23	XZ	78/78 (100%)	77 (99%)	1 (1%)	69	82
24	R0	65/67 (97%)	63 (97%)	2 (3%)	40	67
24	Y0	65/67 (97%)	64 (98%)	1 (2%)	65	80
25	R2	64/67 (96%)	64 (100%)	0	100	100
25	Y2	64/67 (96%)	64 (100%)	0	100	100
26	R3	51/52 (98%)	50 (98%)	1 (2%)	55	76
26	Y3	51/52 (98%)	50 (98%)	1 (2%)	55	76
27	R4	62/63 (98%)	59 (95%)	3 (5%)	25	56
27	Y4	62/63 (98%)	62 (100%)	0	100	100
28	R5	51/52 (98%)	51 (100%)	0	100	100
28	Y5	51/52 (98%)	50 (98%)	1 (2%)	55	76
29	R6	51/52 (98%)	51 (100%)	0	100	100
29	Y6	51/52 (98%)	51 (100%)	0	100	100
30	R7	40/42 (95%)	40 (100%)	0	100	100
30	Y7	41/42 (98%)	41 (100%)	0	100	100
31	R9	34/34 (100%)	34 (100%)	0	100	100
31	Y9	34/34 (100%)	34 (100%)	0	100	100
34	RD	214/218 (98%)	213 (100%)	1 (0%)	88	93
34	YD	216/218 (99%)	212 (98%)	4 (2%)	57	76
35	RE	165/166 (99%)	161 (98%)	4 (2%)	49	72
35	YE	164/166 (99%)	158 (96%)	6 (4%)	34	62
36	RG	155/156 (99%)	153 (99%)	2 (1%)	69	82

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
36	YG	155/156 (99%)	154 (99%)	1 (1%)	86	91
37	RH	145/148 (98%)	140 (97%)	5 (3%)	37	64
37	YH	144/148 (97%)	136 (94%)	8 (6%)	21	52
38	RI	122/124 (98%)	122 (100%)	0	100	100
38	YI	122/124 (98%)	122 (100%)	0	100	100
39	RN	117/119 (98%)	117 (100%)	0	100	100
39	YN	117/119 (98%)	117 (100%)	0	100	100
40	RO	100/100 (100%)	100 (100%)	0	100	100
40	YO	100/100 (100%)	100 (100%)	0	100	100
41	RP	116/116 (100%)	115 (99%)	1 (1%)	78	87
41	YP	115/116 (99%)	104 (90%)	11 (10%)	8	29
42	RQ	111/111 (100%)	111 (100%)	0	100	100
42	YQ	111/111 (100%)	104 (94%)	7 (6%)	18	47
43	RR	100/101 (99%)	100 (100%)	0	100	100
43	YR	100/101 (99%)	100 (100%)	0	100	100
44	RS	87/88 (99%)	87 (100%)	0	100	100
44	YS	87/88 (99%)	87 (100%)	0	100	100
45	RT	120/127 (94%)	120 (100%)	0	100	100
45	YT	120/127 (94%)	118 (98%)	2 (2%)	60	78
46	RU	93/94 (99%)	93 (100%)	0	100	100
46	YU	93/94 (99%)	93 (100%)	0	100	100
47	RV	82/82 (100%)	80 (98%)	2 (2%)	49	72
47	YV	82/82 (100%)	81 (99%)	1 (1%)	71	83
48	RW	92/92 (100%)	91 (99%)	1 (1%)	73	84
48	YW	92/92 (100%)	92 (100%)	0	100	100
49	RX	74/78 (95%)	74 (100%)	0	100	100
49	YX	74/78 (95%)	74 (100%)	0	100	100
50	RY	88/91 (97%)	87 (99%)	1 (1%)	73	84
50	YY	88/91 (97%)	87 (99%)	1 (1%)	73	84
51	QL	104/109 (95%)	102 (98%)	2 (2%)	57	76
51	XL	103/109 (94%)	103 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
52	R1	79/83 (95%)	79 (100%)	0	100	100
52	Y1	78/83 (94%)	75 (96%)	3 (4%)	33	62
53	R8	54/55 (98%)	54 (100%)	0	100	100
53	Y8	54/55 (98%)	54 (100%)	0	100	100
54	RF	161/166 (97%)	159 (99%)	2 (1%)	71	83
54	YF	161/166 (97%)	160 (99%)	1 (1%)	86	91
55	RZ	162/179 (90%)	155 (96%)	7 (4%)	29	59
55	YZ	162/179 (90%)	160 (99%)	2 (1%)	71	83
All	All	9997/10378 (96%)	9849 (98%)	148 (2%)	65	80

All (148) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	15	VAL
2	QB	16	HIS
2	QB	17	PHE
2	QB	19	HIS
2	QB	20	GLU
2	QB	23	ARG
2	QB	55	PHE
2	QB	60	ASP
2	QB	79	ASP
2	QB	95	GLN
2	QB	134	GLU
2	QB	144	ARG
2	QB	154	LEU
2	QB	156	LYS
2	QB	158	LEU
2	QB	168	THR
2	QB	172	ILE
2	QB	197	VAL
2	QB	200	ILE
2	QB	201	ILE
2	QB	205	ASP
2	QB	209	ARG
2	QB	221	LEU
4	QD	61	LYS
5	QE	24	ARG
6	QF	71	ARG

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Mol	Chain	Res	Type
6	QF	80	ARG
7	QG	72	ARG
8	QH	91	ARG
18	QS	41	VAL
18	QS	44	MET
18	QS	83	HIS
23	QY	16	TRP
23	QZ	1	MET
23	QZ	17	GLN
23	QZ	31	ILE
23	QZ	34	THR
23	QZ	48	LEU
23	QZ	60	ILE
24	R0	7	LEU
24	R0	35	ASN
26	R3	30	ARG
27	R4	36	CYS
27	R4	46	GLN
27	R4	69	LYS
34	RD	242	ARG
35	RE	58	ARG
35	RE	61	ARG
35	RE	78	LEU
35	RE	144	ARG
36	RG	33	ARG
36	RG	118	ARG
37	RH	7	LEU
37	RH	9	ILE
37	RH	11	VAL
37	RH	50	VAL
37	RH	69	ARG
41	RP	15	ARG
47	RV	37	VAL
47	RV	40	LEU
48	RW	113	LYS
50	RY	51	VAL
2	XB	64	ARG
2	XB	190	THR
5	XE	24	ARG
5	XE	73	ASN
6	XF	71	ARG
6	XF	80	ARG

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Mol	Chain	Res	Type
7	XG	89	MET
7	XG	156	TRP
8	XH	98	LYS
8	XH	103	VAL
9	XI	28	VAL
9	XI	102	LEU
10	XJ	79	ARG
11	XK	12	ARG
15	XP	25	ARG
19	XT	72	LEU
20	XU	26	LYS
23	XZ	63	GLU
24	Y0	14	ARG
52	Y1	75	GLU
52	Y1	78	LYS
52	Y1	90	ILE
26	Y3	30	ARG
28	Y5	57	VAL
54	YF	65	TRP
36	YG	33	ARG
45	YT	58	ASN
45	YT	112	ARG
50	YY	92	ASN
41	YP	2	LYS
41	YP	9	ASN
41	YP	45	LEU
41	YP	46	LYS
41	YP	47	ASP
41	YP	52	GLU
41	YP	75	ILE
41	YP	99	LEU
41	YP	112	LEU
41	YP	124	LYS
41	YP	149	GLU
34	YD	23	GLU
34	YD	45	ASN
34	YD	51	VAL
34	YD	253	GLN
42	YQ	1	MET
42	YQ	16	ARG
42	YQ	21	THR
42	YQ	26	TYR

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Mol	Chain	Res	Type
42	YQ	29	PHE
42	YQ	66	ILE
42	YQ	131	ILE
37	YH	3	ARG
37	YH	35	VAL
37	YH	60	ARG
37	YH	69	ARG
37	YH	76	VAL
37	YH	79	VAL
37	YH	133	VAL
37	YH	139	GLN
47	YV	72	VAL
35	YE	5	LEU
35	YE	23	VAL
35	YE	31	CYS
35	YE	42	ASP
35	YE	101	ARG
35	YE	143	ASN
18	XS	14	HIS
18	XS	16	LEU
18	XS	49	ILE
18	XS	56	GLN
18	XS	64	GLU
18	XS	77	THR
18	XS	83	HIS
54	RF	9	ILE
54	RF	133	ASN
55	RZ	53	ILE
55	RZ	75	ASN
55	RZ	76	LEU
55	RZ	85	HIS
55	RZ	131	ARG
55	RZ	181	GLU
55	RZ	183	LEU
55	YZ	1	MET
55	YZ	72	ARG
51	QL	126	LYS
51	QL	127	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (30) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	204	ASN
4	QD	42	GLN
4	QD	161	ASN
9	QI	31	GLN
23	QY	17	GLN
23	QZ	17	GLN
34	RD	46	GLN
35	RE	143	ASN
40	RO	3	GLN
23	XY	17	GLN
23	XY	51	ASN
45	YT	58	ASN
41	YP	68	GLN
34	YD	45	ASN
34	YD	46	GLN
34	YD	87	ASN
34	YD	115	GLN
34	YD	116	GLN
34	YD	253	GLN
37	YH	65	HIS
47	YV	64	HIS
47	YV	89	GLN
35	YE	48	GLN
35	YE	54	GLN
35	YE	66	HIS
35	YE	129	HIS
55	YZ	30	ASN
55	YZ	34	ASN
55	YZ	54	HIS
55	YZ	85	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1508/1521 (99%)	308 (20%)	50 (3%)
1	XA	1505/1521 (98%)	301 (20%)	48 (3%)
21	QV	77/77 (100%)	7 (9%)	2 (2%)
21	QW	76/77 (98%)	14 (18%)	1 (1%)
21	XV	77/77 (100%)	7 (9%)	1 (1%)
21	XW	76/77 (98%)	15 (19%)	1 (1%)
22	QX	19/22 (86%)	9 (47%)	1 (5%)
22	XX	19/22 (86%)	7 (36%)	2 (10%)

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Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
32	RA	2888/2915 (99%)	598 (20%)	47 (1%)
32	YA	2872/2915 (98%)	580 (20%)	42 (1%)
33	RB	119/124 (95%)	26 (21%)	1 (0%)
33	YB	119/124 (95%)	21 (17%)	1 (0%)
56	ZA	1/3 (33%)	1 (100%)	0
56	ZB	1/3 (33%)	0	0
All	All	9357/9478 (98%)	1894 (20%)	197 (2%)

All (1894) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	4	U
1	QA	5	U
1	QA	6	G
1	QA	9	G
1	QA	22	G
1	QA	32	A
1	QA	39	G
1	QA	48	C
1	QA	51	A
1	QA	61	G
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	79	G
1	QA	80	G
1	QA	90	C
1	QA	92	G
1	QA	93	U
1	QA	101	A
1	QA	116	A
1	QA	121	C
1	QA	130	A
1	QA	182	U
1	QA	184	G
1	QA	186	C
1	QA	188	U
1	QA	189	U
1	QA	190	G
1	QA	191(A)	G
1	QA	191(D)	U
1	QA	191(E)	G

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Mol	Chain	Res	Type
1	QA	195	A
1	QA	197	A
1	QA	198	G
1	QA	201	C
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	231	G
1	QA	244	U
1	QA	247	G
1	QA	251	G
1	QA	266	G
1	QA	267	C
1	QA	270	A
1	QA	280	C
1	QA	281	G
1	QA	289	G
1	QA	315	A
1	QA	316	G
1	QA	321	A
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	345	C
1	QA	346	G
1	QA	347	G
1	QA	350	G
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	373	A
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	422	C

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Mol	Chain	Res	Type
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	430	A
1	QA	439	A
1	QA	442	C
1	QA	452	A
1	QA	466	C
1	QA	467	G
1	QA	478	A
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	494	U
1	QA	495	A
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	519	C
1	QA	527	G
1	QA	530	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	547	A
1	QA	548	G
1	QA	559	A
1	QA	561	U
1	QA	564	C
1	QA	572	A
1	QA	573	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	594	G
1	QA	596	C
1	QA	618	C
1	QA	623	C
1	QA	630	G

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Mol	Chain	Res	Type
1	QA	653	A
1	QA	665	A
1	QA	686	U
1	QA	688	G
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	724	G
1	QA	731	G
1	QA	734	G
1	QA	749	C
1	QA	755	G
1	QA	760	G
1	QA	777	A
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	813	U
1	QA	816	A
1	QA	817	C
1	QA	818	G
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	872	A
1	QA	884	U
1	QA	889	A
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	968	A
1	QA	969	A

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Mol	Chain	Res	Type
1	QA	972	C
1	QA	974	A
1	QA	976	G
1	QA	977	A
1	QA	978	A
1	QA	980	C
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	999	U
1	QA	1000	A
1	QA	1001	G
1	QA	1002	G
1	QA	1003	G
1	QA	1005	A
1	QA	1006	C
1	QA	1007	C
1	QA	1008	C
1	QA	1009	G
1	QA	1020	U
1	QA	1021	G
1	QA	1024	G
1	QA	1025	U
1	QA	1026	G
1	QA	1029	G
1	QA	1030	C
1	QA	1031	G
1	QA	1032	A
1	QA	1032(A)	G
1	QA	1033	G
1	QA	1034	G
1	QA	1036	G
1	QA	1039	C
1	QA	1046	A
1	QA	1053	G
1	QA	1054	C
1	QA	1055	A
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1067	A
1	QA	1068	G

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Mol	Chain	Res	Type
1	QA	1081	G
1	QA	1094	G
1	QA	1095	U
1	QA	1100	C
1	QA	1101	A
1	QA	1117	G
1	QA	1118	C
1	QA	1124	G
1	QA	1125	U
1	QA	1129	C
1	QA	1130	A
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1140	C
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1176	A
1	QA	1177	G
1	QA	1178	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1196	U
1	QA	1197	G
1	QA	1200	C
1	QA	1201	A
1	QA	1211	U
1	QA	1212	U
1	QA	1213	A
1	QA	1224	G
1	QA	1225	A
1	QA	1227	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A

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Mol	Chain	Res	Type
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1270	C
1	QA	1273	G
1	QA	1278	U
1	QA	1280	A
1	QA	1285	A
1	QA	1286	A
1	QA	1287	A
1	QA	1288	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1300	G
1	QA	1301	U
1	QA	1303	C
1	QA	1305	G
1	QA	1318	A
1	QA	1319	A
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1334	G
1	QA	1335	C
1	QA	1338	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1353	G
1	QA	1362(A)	C
1	QA	1364	U
1	QA	1365	G
1	QA	1368	G
1	QA	1397	C
1	QA	1398	A
1	QA	1406	U
1	QA	1419	G
1	QA	1442	G
1	QA	1443	G
1	QA	1446	A

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Mol	Chain	Res	Type
1	QA	1450	U
1	QA	1451	A
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1487	G
1	QA	1493	A
1	QA	1494	G
1	QA	1499	A
1	QA	1504	G
1	QA	1505	G
1	QA	1506	U
1	QA	1507	A
1	QA	1517	G
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
1	QA	1532	U
1	QA	1533	C
1	QA	1534	A
1	QA	1536	C
1	QA	1537	U
1	QA	1538	C
1	QA	1540	U
1	QA	1541	U
21	QV	2	G
21	QV	17(A)	U
21	QV	18	G
21	QV	20	U
21	QV	47	U
21	QV	49	G
21	QV	76	A
21	QW	2	G
21	QW	8	U
21	QW	14	A
21	QW	17	C
21	QW	17(A)	U
21	QW	18	G
21	QW	20	U
21	QW	21	A
21	QW	22	G
21	QW	47	U

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Mol	Chain	Res	Type
21	QW	48	C
21	QW	55	U
21	QW	56	C
21	QW	61	C
22	QX	4	A
22	QX	8	A
22	QX	9	G
22	QX	11	U
22	QX	12	A
22	QX	13	A
22	QX	19	A2M
22	QX	21	OMU
22	QX	22	C
32	RA	9	U
32	RA	15	G
32	RA	28	A
32	RA	34	C
32	RA	35	G
32	RA	46	C
32	RA	49	A
32	RA	58	G
32	RA	60	G
32	RA	68	G
32	RA	69	C
32	RA	71	A
32	RA	74	A
32	RA	75	G
32	RA	83	G
32	RA	91	A
32	RA	95	G
32	RA	99	U
32	RA	101	G
32	RA	102	G
32	RA	118	A
32	RA	120	U
32	RA	129	C
32	RA	137	C
32	RA	138	G
32	RA	139	G
32	RA	140	A
32	RA	141	A
32	RA	144	C

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Mol	Chain	Res	Type
32	RA	153	C
32	RA	154	G
32	RA	155	C
32	RA	174	C
32	RA	175	G
32	RA	196	A
32	RA	199	A
32	RA	215	G
32	RA	216	A
32	RA	221	A
32	RA	222	A
32	RA	228	A
32	RA	229	A
32	RA	233	A
32	RA	248	G
32	RA	249	C
32	RA	252	G
32	RA	265	A
32	RA	266	G
32	RA	270(K)	C
32	RA	270(L)	U
32	RA	270(M)	U
32	RA	270(O)	U
32	RA	270(P)	C
32	RA	270(Z)	U
32	RA	271(C)	U
32	RA	271(D)	G
32	RA	273(D)	C
32	RA	274	G
32	RA	275	G
32	RA	278	A
32	RA	279	C
32	RA	283	A
32	RA	288	C
32	RA	289	A
32	RA	308	G
32	RA	309	G
32	RA	311	A
32	RA	324	A
32	RA	329	G
32	RA	330	A
32	RA	332	A

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Mol	Chain	Res	Type
32	RA	338	G
32	RA	339	U
32	RA	345	A
32	RA	352	G
32	RA	353	G
32	RA	356	G
32	RA	358	U
32	RA	363(A)	A
32	RA	363(E)	U
32	RA	363(F)	A
32	RA	364	C
32	RA	372	G
32	RA	373	U
32	RA	386	G
32	RA	388	G
32	RA	395	U
32	RA	405	U
32	RA	411	G
32	RA	412	A
32	RA	428	A
32	RA	443	A
32	RA	444	C
32	RA	448	U
32	RA	457	A
32	RA	470	A
32	RA	481	G
32	RA	494	G
32	RA	505	A
32	RA	508	G
32	RA	509	C
32	RA	510	C
32	RA	512	G
32	RA	531	C
32	RA	532	A
32	RA	533	G
32	RA	537	C
32	RA	563	G
32	RA	573	G
32	RA	575	A
32	RA	586	A
32	RA	588	U
32	RA	603	A

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Mol	Chain	Res	Type
32	RA	604	G
32	RA	607	U
32	RA	614	U
32	RA	615	G
32	RA	617	G
32	RA	620	G
32	RA	621	A
32	RA	622	G
32	RA	627	A
32	RA	634	C
32	RA	637	A
32	RA	645	C
32	RA	646	A
32	RA	651	G
32	RA	654	A
32	RA	654(A)	G
32	RA	654(B)	C
32	RA	654(F)	C
32	RA	654(G)	C
32	RA	654(O)	G
32	RA	654(Q)	C
32	RA	654(R)	C
32	RA	654(S)	G
32	RA	654(T)	C
32	RA	686	G
32	RA	708	C
32	RA	722	A
32	RA	730	C
32	RA	753	C
32	RA	764	A
32	RA	775	G
32	RA	782	A
32	RA	784	A
32	RA	785	G
32	RA	789	A
32	RA	792	G
32	RA	805	G
32	RA	812	C
32	RA	819	A
32	RA	827	U
32	RA	828	U
32	RA	846	C

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Mol	Chain	Res	Type
32	RA	856	C
32	RA	857	C
32	RA	859	G
32	RA	860	U
32	RA	866	A
32	RA	872	A
32	RA	878	A
32	RA	879	G
32	RA	881	G
32	RA	882	G
32	RA	883	G
32	RA	884	C
32	RA	886	C
32	RA	888	C
32	RA	889	C
32	RA	890	A
32	RA	892	G
32	RA	894	C
32	RA	895	U
32	RA	896	A
32	RA	897	C
32	RA	900	A
32	RA	901	A
32	RA	906	G
32	RA	910	A
32	RA	917	A
32	RA	919	G
32	RA	928	G
32	RA	932	G
32	RA	941	A
32	RA	945	A
32	RA	946	G
32	RA	961	C
32	RA	973	A
32	RA	974	G
32	RA	983	A
32	RA	989	G
32	RA	990	A
32	RA	991	C
32	RA	996	A
32	RA	1005	C
32	RA	1012	U

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Mol	Chain	Res	Type
32	RA	1013	C
32	RA	1015	G
32	RA	1017	G
32	RA	1022	G
32	RA	1023	U
32	RA	1025	G
32	RA	1026	U
32	RA	1027	A
32	RA	1033	U
32	RA	1034	G
32	RA	1044	G
32	RA	1045	A
32	RA	1046	A
32	RA	1047	G
32	RA	1049	C
32	RA	1061	U
32	RA	1070	A
32	RA	1071	G
32	RA	1073	A
32	RA	1086	A
32	RA	1087	G
32	RA	1088	A
32	RA	1089	G
32	RA	1095	A
32	RA	1096	A
32	RA	1105	U
32	RA	1111	A
32	RA	1122	G
32	RA	1130	U
32	RA	1135	C
32	RA	1136	G
32	RA	1139	G
32	RA	1141	U
32	RA	1143	A
32	RA	1155	A
32	RA	1156	A
32	RA	1170	G
32	RA	1171	G
32	RA	1173	G
32	RA	1174	A
32	RA	1175	U
32	RA	1176	G

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Mol	Chain	Res	Type
32	RA	1177	A
32	RA	1178	C
32	RA	1180	C
32	RA	1195	G
32	RA	1197	G
32	RA	1203	G
32	RA	1204	A
32	RA	1205	U
32	RA	1211	U
32	RA	1212	G
32	RA	1220	A
32	RA	1221	C
32	RA	1236	G
32	RA	1250	G
32	RA	1253	A
32	RA	1255	U
32	RA	1256	G
32	RA	1265	A
32	RA	1271	G
32	RA	1272	A
32	RA	1281	G
32	RA	1286	A
32	RA	1287	A
32	RA	1300	U
32	RA	1301	A
32	RA	1303	G
32	RA	1308	A
32	RA	1311	G
32	RA	1312	U
32	RA	1314	C
32	RA	1319	G
32	RA	1329	U
32	RA	1341	U
32	RA	1342	A
32	RA	1343	G
32	RA	1352	U
32	RA	1359	A
32	RA	1365	A
32	RA	1368	G
32	RA	1379	A
32	RA	1380	G
32	RA	1384	A

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Mol	Chain	Res	Type
32	RA	1385	G
32	RA	1392	A
32	RA	1395	A
32	RA	1405	U
32	RA	1406	U
32	RA	1407	C
32	RA	1408	C
32	RA	1415	U
32	RA	1416	G
32	RA	1419	A
32	RA	1420	U
32	RA	1421	G
32	RA	1428	C
32	RA	1437	C
32	RA	1444(A)	A
32	RA	1449	A
32	RA	1449(A)	G
32	RA	1453	A
32	RA	1454	U
32	RA	1455	G
32	RA	1460	A
32	RA	1461	G
32	RA	1467	C
32	RA	1471	A
32	RA	1475	G
32	RA	1476	C
32	RA	1482	U
32	RA	1483	G
32	RA	1488	G
32	RA	1490	A
32	RA	1493	C
32	RA	1505	C
32	RA	1509	C
32	RA	1510	A
32	RA	1515	C
32	RA	1520	U
32	RA	1522	G
32	RA	1523	U
32	RA	1526	G
32	RA	1535	U
32	RA	1536	A
32	RA	1537	C

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Mol	Chain	Res	Type
32	RA	1543	A
32	RA	1544	C
32	RA	1545	A
32	RA	1547	C
32	RA	1554	A
32	RA	1558	A
32	RA	1559	G
32	RA	1560	G
32	RA	1566	A
32	RA	1569	A
32	RA	1578	U
32	RA	1585	C
32	RA	1586	A
32	RA	1588	C
32	RA	1592	C
32	RA	1594	G
32	RA	1598	C
32	RA	1608	A
32	RA	1616	A
32	RA	1640	C
32	RA	1648	C
32	RA	1654	A
32	RA	1667	G
32	RA	1668	A
32	RA	1674	G
32	RA	1695	G
32	RA	1696	G
32	RA	1698	A
32	RA	1699	G
32	RA	1700	A
32	RA	1701	A
32	RA	1725	G
32	RA	1728	G
32	RA	1729	A
32	RA	1730	U
32	RA	1731	G
32	RA	1743	G
32	RA	1756	G
32	RA	1762	A
32	RA	1763	G
32	RA	1764	G
32	RA	1769	G

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Mol	Chain	Res	Type
32	RA	1773	A
32	RA	1780	A
32	RA	1791	A
32	RA	1800	C
32	RA	1801	G
32	RA	1816	G
32	RA	1820	U
32	RA	1828	G
32	RA	1829	A
32	RA	1835	G
32	RA	1847	A
32	RA	1853	A
32	RA	1858	G
32	RA	1869	G
32	RA	1872	A
32	RA	1878	G
32	RA	1880	C
32	RA	1881	C
32	RA	1882	C
32	RA	1888	G
32	RA	1889	A
32	RA	1901	A
32	RA	1903	G
32	RA	1906	G
32	RA	1910	G
32	RA	1912	A
32	RA	1914	C
32	RA	1929	G
32	RA	1930	G
32	RA	1931	U
32	RA	1936	A
32	RA	1938	A
32	RA	1948	G
32	RA	1949	G
32	RA	1955	U
32	RA	1963	U
32	RA	1967	C
32	RA	1970	A
32	RA	1971	A
32	RA	1972	A
32	RA	1982	C
32	RA	1992	G

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Mol	Chain	Res	Type
32	RA	1993	U
32	RA	2021	C
32	RA	2022	U
32	RA	2023	G
32	RA	2026	C
32	RA	2027	G
32	RA	2031	A
32	RA	2032	G
32	RA	2033	A
32	RA	2043	C
32	RA	2052	G
32	RA	2053	G
32	RA	2055	C
32	RA	2056	G
32	RA	2059	A
32	RA	2060	A
32	RA	2061	G
32	RA	2062	A
32	RA	2069	G
32	RA	2092	U
32	RA	2093	G
32	RA	2108	C
32	RA	2111	C
32	RA	2112	G
32	RA	2113	U
32	RA	2114	A
32	RA	2116	G
32	RA	2117	A
32	RA	2119	A
32	RA	2120	G
32	RA	2124	G
32	RA	2126	A
32	RA	2128	C
32	RA	2130	U
32	RA	2131	G
32	RA	2132	U
32	RA	2140	C
32	RA	2145	C
32	RA	2147	G
32	RA	2148	G
32	RA	2161	C
32	RA	2165	G

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Mol	Chain	Res	Type
32	RA	2167	U
32	RA	2168	G
32	RA	2169	A
32	RA	2171	A
32	RA	2173	A
32	RA	2178	C
32	RA	2190	G
32	RA	2192	G
32	RA	2198	A
32	RA	2210	G
32	RA	2211	G
32	RA	2212	A
32	RA	2213	U
32	RA	2215	G
32	RA	2225	A
32	RA	2226	C
32	RA	2238	G
32	RA	2239	G
32	RA	2243	U
32	RA	2246	G
32	RA	2266	A
32	RA	2275	C
32	RA	2283	C
32	RA	2287	A
32	RA	2305	A
32	RA	2306	C
32	RA	2307	G
32	RA	2308	G
32	RA	2309	A
32	RA	2310	A
32	RA	2312	U
32	RA	2316	C
32	RA	2319	G
32	RA	2320	A
32	RA	2325	G
32	RA	2334	G
32	RA	2347	C
32	RA	2350	C
32	RA	2354	G
32	RA	2379	G
32	RA	2382	G
32	RA	2383	G

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Mol	Chain	Res	Type
32	RA	2385	C
32	RA	2392	A
32	RA	2394	C
32	RA	2402	C
32	RA	2406	U
32	RA	2410	G
32	RA	2423	U
32	RA	2424	C
32	RA	2425	A
32	RA	2429	G
32	RA	2430	A
32	RA	2435	A
32	RA	2439	A
32	RA	2440	C
32	RA	2441	C
32	RA	2445	G
32	RA	2448	A
32	RA	2450	A
32	RA	2469	A
32	RA	2470	G
32	RA	2472	G
32	RA	2475	C
32	RA	2476	A
32	RA	2482	G
32	RA	2502	G
32	RA	2505	G
32	RA	2517	C
32	RA	2518	A
32	RA	2519	U
32	RA	2529	G
32	RA	2535	G
32	RA	2542	A
32	RA	2543	G
32	RA	2554	U
32	RA	2566	A
32	RA	2567	G
32	RA	2569	G
32	RA	2570	G
32	RA	2572	A
32	RA	2574	G
32	RA	2578	G
32	RA	2586	C

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Mol	Chain	Res	Type
32	RA	2602	A
32	RA	2609	U
32	RA	2610	C
32	RA	2611	U
32	RA	2612	C
32	RA	2615	U
32	RA	2629	A
32	RA	2630	G
32	RA	2642	G
32	RA	2646	C
32	RA	2654	A
32	RA	2655	G
32	RA	2665	A
32	RA	2673	G
32	RA	2682	U
32	RA	2689	U
32	RA	2690	C
32	RA	2691	C
32	RA	2702	U
32	RA	2703	C
32	RA	2712	U
32	RA	2713	A
32	RA	2714	G
32	RA	2725	A
32	RA	2733	A
32	RA	2744	G
32	RA	2748	A
32	RA	2752	C
32	RA	2758	A
32	RA	2762	G
32	RA	2765	A
32	RA	2766	G
32	RA	2777	G
32	RA	2778	A
32	RA	2779	U
32	RA	2780	G
32	RA	2789	C
32	RA	2790	A
32	RA	2791	C
32	RA	2797	U
32	RA	2799	A
32	RA	2807	G

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Mol	Chain	Res	Type
32	RA	2808	U
32	RA	2818	G
32	RA	2820	A
32	RA	2821	A
32	RA	2827	C
32	RA	2832	U
32	RA	2833	G
32	RA	2834	G
32	RA	2835	A
32	RA	2847	U
32	RA	2849	U
32	RA	2850	A
32	RA	2860	A
32	RA	2867	G
32	RA	2872	G
32	RA	2873	A
32	RA	2874	C
32	RA	2876	G
32	RA	2877	G
32	RA	2879	C
32	RA	2880	C
32	RA	2893	G
32	RA	2897	U
33	RB	2	C
33	RB	3	C
33	RB	8	U
33	RB	12	C
33	RB	13	A
33	RB	15	A
33	RB	16	G
33	RB	19	G
33	RB	25	A
33	RB	27	C
33	RB	42	C
33	RB	44	G
33	RB	45	A
33	RB	47	C
33	RB	52	A
33	RB	53	A
33	RB	67	G
33	RB	73	A
33	RB	81	G

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Mol	Chain	Res	Type
33	RB	88	C
33	RB	89	G
33	RB	92	G
33	RB	101	A
33	RB	108	C
33	RB	109	G
33	RB	118	G
1	XA	4	U
1	XA	5	U
1	XA	6	G
1	XA	7	G
1	XA	9	G
1	XA	22	G
1	XA	32	A
1	XA	39	G
1	XA	48	C
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	64	G
1	XA	65	U
1	XA	66	G
1	XA	75	C
1	XA	76	G
1	XA	78	G
1	XA	79	G
1	XA	91	C
1	XA	93	U
1	XA	101	A
1	XA	116	A
1	XA	120	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	151	A
1	XA	163	C
1	XA	169	C
1	XA	182	U
1	XA	185	A
1	XA	186	C
1	XA	188	U
1	XA	189	U

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Mol	Chain	Res	Type
1	XA	190	G
1	XA	191(A)	G
1	XA	191(D)	U
1	XA	195	A
1	XA	197	A
1	XA	198	G
1	XA	201	C
1	XA	208	U
1	XA	209	U
1	XA	210	U
1	XA	216	G
1	XA	231	G
1	XA	244	U
1	XA	247	G
1	XA	251	G
1	XA	266	G
1	XA	267	C
1	XA	268	C
1	XA	270	A
1	XA	280	C
1	XA	281	G
1	XA	289	G
1	XA	316	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	350	G
1	XA	351	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	358	U
1	XA	359	U
1	XA	367	U
1	XA	368	U
1	XA	372	C
1	XA	373	A

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Mol	Chain	Res	Type
1	XA	384	G
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	422	C
1	XA	423	G
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	439	A
1	XA	442	C
1	XA	466	C
1	XA	467	G
1	XA	482	A
1	XA	485	G
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	511	C
1	XA	518	C
1	XA	521	G
1	XA	527	G
1	XA	530	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	545	C
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	560	U
1	XA	561	U
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	596	C
1	XA	630	G

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Mol	Chain	Res	Type
1	XA	653	A
1	XA	665	A
1	XA	686	U
1	XA	688	G
1	XA	701	C
1	XA	702	A
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	723	U
1	XA	724	G
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	755	G
1	XA	760	G
1	XA	773	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	801	U
1	XA	812	C
1	XA	813	U
1	XA	817	C
1	XA	818	G
1	XA	819	A
1	XA	820	U
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	870	U
1	XA	874	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	960	U

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Mol	Chain	Res	Type
1	XA	961	U
1	XA	968	A
1	XA	969	A
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	980	C
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	999	U
1	XA	1000	A
1	XA	1001	G
1	XA	1005	A
1	XA	1006	C
1	XA	1007	C
1	XA	1008	C
1	XA	1009	G
1	XA	1020	U
1	XA	1024	G
1	XA	1026	G
1	XA	1029	G
1	XA	1031	G
1	XA	1032	A
1	XA	1032(A)	G
1	XA	1033	G
1	XA	1034	G
1	XA	1036	G
1	XA	1038	C
1	XA	1039	C
1	XA	1040	U
1	XA	1042	G
1	XA	1054	C
1	XA	1055	A
1	XA	1064	G
1	XA	1065	U
1	XA	1066	C
1	XA	1068	G
1	XA	1081	G

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Mol	Chain	Res	Type
1	XA	1082	G
1	XA	1086	U
1	XA	1094	G
1	XA	1101	A
1	XA	1118	C
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1140	C
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
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	1191	A
1	XA	1196	U
1	XA	1198	G
1	XA	1212	U
1	XA	1224	G
1	XA	1225	A
1	XA	1226	C
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	1270	C
1	XA	1273	G

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Mol	Chain	Res	Type
1	XA	1278	U
1	XA	1280	A
1	XA	1281	U
1	XA	1287	A
1	XA	1290	G
1	XA	1297	C
1	XA	1301	U
1	XA	1303	C
1	XA	1305	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	1346	A
1	XA	1347	G
1	XA	1353	G
1	XA	1362(A)	C
1	XA	1363	A
1	XA	1364	U
1	XA	1370	G
1	XA	1397	C
1	XA	1398	A
1	XA	1419	G
1	XA	1422	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1450	U
1	XA	1451	A
1	XA	1452	C
1	XA	1453	G
1	XA	1487	G
1	XA	1491	G
1	XA	1492	A
1	XA	1493	A
1	XA	1494	G
1	XA	1499	A
1	XA	1503	A
1	XA	1504	G
1	XA	1505	G

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Mol	Chain	Res	Type
1	XA	1506	U
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
1	XA	1531	A
1	XA	1532	U
1	XA	1533	C
1	XA	1534	A
1	XA	1535	C
1	XA	1537	U
1	XA	1540	U
1	XA	1541	U
21	XV	2	G
21	XV	18	G
21	XV	20	U
21	XV	46	G
21	XV	47	U
21	XV	49	G
21	XV	76	A
21	XW	8	U
21	XW	13	C
21	XW	14	A
21	XW	15	G
21	XW	18	G
21	XW	20	U
21	XW	21	A
21	XW	22	G
21	XW	46	G
21	XW	47	U
21	XW	48	C
21	XW	55	U
21	XW	57	A
21	XW	61	C
21	XW	72	A
22	XX	5	A
22	XX	11	U
22	XX	12	A
22	XX	13	A
22	XX	14	A
22	XX	19	A2M

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Mol	Chain	Res	Type
22	XX	21	OMU
32	YA	9	U
32	YA	46	C
32	YA	51	G
32	YA	55	G
32	YA	58	G
32	YA	69	C
32	YA	71	A
32	YA	74	A
32	YA	75	G
32	YA	83	G
32	YA	91	A
32	YA	93	C
32	YA	95	G
32	YA	99	U
32	YA	101	G
32	YA	102	G
32	YA	118	A
32	YA	120	U
32	YA	138	G
32	YA	139	G
32	YA	140	A
32	YA	154	G
32	YA	172	C
32	YA	175	G
32	YA	177	G
32	YA	181	A
32	YA	182	A
32	YA	196	A
32	YA	199	A
32	YA	215	G
32	YA	216	A
32	YA	221	A
32	YA	222	A
32	YA	223	A
32	YA	229	A
32	YA	233	A
32	YA	248	G
32	YA	249	C
32	YA	252	G
32	YA	265	A
32	YA	266	G

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Mol	Chain	Res	Type
32	YA	270(B)	A
32	YA	270(K)	C
32	YA	270(M)	U
32	YA	270(N)	G
32	YA	270(O)	U
32	YA	270(P)	C
32	YA	270(Z)	U
32	YA	271(C)	U
32	YA	271(D)	G
32	YA	273(C)	C
32	YA	273(D)	C
32	YA	274	G
32	YA	278	A
32	YA	279	C
32	YA	283	A
32	YA	287	C
32	YA	288	C
32	YA	289	A
32	YA	290	G
32	YA	311	A
32	YA	316	C
32	YA	317	G
32	YA	324	A
32	YA	329	G
32	YA	330	A
32	YA	332	A
32	YA	345	A
32	YA	352	G
32	YA	353	G
32	YA	356	G
32	YA	363	G
32	YA	363(A)	A
32	YA	363(E)	U
32	YA	363(F)	A
32	YA	372	G
32	YA	373	U
32	YA	380	U
32	YA	386	G
32	YA	395	U
32	YA	405	U
32	YA	406	G
32	YA	407	G

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Mol	Chain	Res	Type
32	YA	411	G
32	YA	412	A
32	YA	428	A
32	YA	444	C
32	YA	448	U
32	YA	456	C
32	YA	457	A
32	YA	470	A
32	YA	479	A
32	YA	481	G
32	YA	494	G
32	YA	505	A
32	YA	508	G
32	YA	509	C
32	YA	512	G
32	YA	513	A
32	YA	531	C
32	YA	532	A
32	YA	533	G
32	YA	563	G
32	YA	569	U
32	YA	573	G
32	YA	575	A
32	YA	588	U
32	YA	603	A
32	YA	604	G
32	YA	607	U
32	YA	613	U
32	YA	614	U
32	YA	615	G
32	YA	617	G
32	YA	622	G
32	YA	624	C
32	YA	627	A
32	YA	637	A
32	YA	645	C
32	YA	646	A
32	YA	668	G
32	YA	669	G
32	YA	670	A
32	YA	686	G
32	YA	708	C

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Mol	Chain	Res	Type
32	YA	717	G
32	YA	722	A
32	YA	730	C
32	YA	752	A
32	YA	753	C
32	YA	764	A
32	YA	765	G
32	YA	775	G
32	YA	776	G
32	YA	782	A
32	YA	784	A
32	YA	785	G
32	YA	789	A
32	YA	790	C
32	YA	791	C
32	YA	792	G
32	YA	793	A
32	YA	805	G
32	YA	811	U
32	YA	812	C
32	YA	819	A
32	YA	827	U
32	YA	828	U
32	YA	831	G
32	YA	832	G
32	YA	846	C
32	YA	848	G
32	YA	856	C
32	YA	857	C
32	YA	860	U
32	YA	862	G
32	YA	866	A
32	YA	869	G
32	YA	878	A
32	YA	879	G
32	YA	881	G
32	YA	882	G
32	YA	883	G
32	YA	884	C
32	YA	886	C
32	YA	889	C
32	YA	890	A

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Mol	Chain	Res	Type
32	YA	894	C
32	YA	896	A
32	YA	897	C
32	YA	904	C
32	YA	906	G
32	YA	907	U
32	YA	910	A
32	YA	914	C
32	YA	917	A
32	YA	919	G
32	YA	928	G
32	YA	932	G
32	YA	938	G
32	YA	941	A
32	YA	945	A
32	YA	946	G
32	YA	953	A
32	YA	957	A
32	YA	959	A
32	YA	961	C
32	YA	968	G
32	YA	974	G
32	YA	980	A
32	YA	983	A
32	YA	989	G
32	YA	990	A
32	YA	991	C
32	YA	996	A
32	YA	1000	A
32	YA	1005	C
32	YA	1012	U
32	YA	1013	C
32	YA	1022	G
32	YA	1023	U
32	YA	1025	G
32	YA	1026	U
32	YA	1027	A
32	YA	1033	U
32	YA	1044	G
32	YA	1045	A
32	YA	1046	A
32	YA	1047	G

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Mol	Chain	Res	Type
32	YA	1049	C
32	YA	1051	G
32	YA	1053	C
32	YA	1060	U
32	YA	1061	U
32	YA	1064	C
32	YA	1070	A
32	YA	1071	G
32	YA	1073	A
32	YA	1079	C
32	YA	1086	A
32	YA	1087	G
32	YA	1088	A
32	YA	1089	G
32	YA	1095	A
32	YA	1096	A
32	YA	1099	G
32	YA	1105	U
32	YA	1122	G
32	YA	1126	A
32	YA	1128	A
32	YA	1135	C
32	YA	1136	G
32	YA	1139	G
32	YA	1142	U
32	YA	1171	G
32	YA	1173	G
32	YA	1174	A
32	YA	1175	U
32	YA	1177	A
32	YA	1178	C
32	YA	1180	C
32	YA	1195	G
32	YA	1204	A
32	YA	1205	U
32	YA	1210	A
32	YA	1212	G
32	YA	1220	A
32	YA	1236	G
32	YA	1247	A
32	YA	1248	G
32	YA	1253	A

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Mol	Chain	Res	Type
32	YA	1255	U
32	YA	1256	G
32	YA	1262	A
32	YA	1265	A
32	YA	1272	A
32	YA	1281	G
32	YA	1286	A
32	YA	1287	A
32	YA	1300	U
32	YA	1301	A
32	YA	1308	A
32	YA	1314	C
32	YA	1319	G
32	YA	1324	G
32	YA	1325	G
32	YA	1329	U
32	YA	1352	U
32	YA	1359	A
32	YA	1360	A
32	YA	1368	G
32	YA	1378	A
32	YA	1380	G
32	YA	1384	A
32	YA	1385	G
32	YA	1391	U
32	YA	1407	C
32	YA	1408	C
32	YA	1415	U
32	YA	1416	G
32	YA	1419	A
32	YA	1420	U
32	YA	1421	G
32	YA	1428	C
32	YA	1434	A
32	YA	1436	G
32	YA	1437	C
32	YA	1444(A)	A
32	YA	1449	A
32	YA	1449(A)	G
32	YA	1455	G
32	YA	1458	C
32	YA	1459	G

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Mol	Chain	Res	Type
32	YA	1460	A
32	YA	1461	G
32	YA	1467	C
32	YA	1471	A
32	YA	1475	G
32	YA	1478	G
32	YA	1482	U
32	YA	1483	G
32	YA	1485	G
32	YA	1488	G
32	YA	1490	A
32	YA	1493	C
32	YA	1508	A
32	YA	1509	C
32	YA	1510	A
32	YA	1514	U
32	YA	1515	C
32	YA	1519	G
32	YA	1521	G
32	YA	1522	G
32	YA	1526	G
32	YA	1534	G
32	YA	1535	U
32	YA	1536	A
32	YA	1537	C
32	YA	1538	G
32	YA	1540	G
32	YA	1543	A
32	YA	1545	A
32	YA	1547	C
32	YA	1554	A
32	YA	1558	A
32	YA	1559	G
32	YA	1566	A
32	YA	1569	A
32	YA	1578	U
32	YA	1579	A
32	YA	1581	G
32	YA	1585	C
32	YA	1586	A
32	YA	1598	C
32	YA	1608	A

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Mol	Chain	Res	Type
32	YA	1616	A
32	YA	1618	A
32	YA	1640	C
32	YA	1648	C
32	YA	1654	A
32	YA	1667	G
32	YA	1668	A
32	YA	1674	G
32	YA	1675	C
32	YA	1695	G
32	YA	1696	G
32	YA	1700	A
32	YA	1703	G
32	YA	1725	G
32	YA	1729	A
32	YA	1731	G
32	YA	1734	C
32	YA	1743	G
32	YA	1754	C
32	YA	1756	G
32	YA	1758	G
32	YA	1762	A
32	YA	1763	G
32	YA	1764	G
32	YA	1773	A
32	YA	1780	A
32	YA	1782	C
32	YA	1791	A
32	YA	1800	C
32	YA	1801	G
32	YA	1802	A
32	YA	1816	G
32	YA	1820	U
32	YA	1829	A
32	YA	1835	G
32	YA	1847	A
32	YA	1858	G
32	YA	1869	G
32	YA	1870	C
32	YA	1872	A
32	YA	1878	G
32	YA	1881	C

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Mol	Chain	Res	Type
32	YA	1882	C
32	YA	1888	G
32	YA	1889	A
32	YA	1900	A
32	YA	1905	C
32	YA	1906	G
32	YA	1912	A
32	YA	1913	A
32	YA	1914	C
32	YA	1916	A
32	YA	1929	G
32	YA	1930	G
32	YA	1936	A
32	YA	1938	A
32	YA	1948	G
32	YA	1955	U
32	YA	1963	U
32	YA	1964	G
32	YA	1966	A
32	YA	1967	C
32	YA	1970	A
32	YA	1971	A
32	YA	1972	A
32	YA	1980	G
32	YA	1982	C
32	YA	1993	U
32	YA	2020	A
32	YA	2021	C
32	YA	2023	G
32	YA	2026	C
32	YA	2027	G
32	YA	2031	A
32	YA	2032	G
32	YA	2033	A
32	YA	2043	C
32	YA	2055	C
32	YA	2056	G
32	YA	2059	A
32	YA	2060	A
32	YA	2061	G
32	YA	2062	A
32	YA	2069	G

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Mol	Chain	Res	Type
32	YA	2111	C
32	YA	2112	G
32	YA	2113	U
32	YA	2114	A
32	YA	2116	G
32	YA	2117	A
32	YA	2120	G
32	YA	2123	G
32	YA	2126	A
32	YA	2127	G
32	YA	2128	C
32	YA	2130	U
32	YA	2131	G
32	YA	2132	U
32	YA	2134	A
32	YA	2137	C
32	YA	2140	C
32	YA	2145	C
32	YA	2161	C
32	YA	2165	G
32	YA	2166	G
32	YA	2167	U
32	YA	2168	G
32	YA	2169	A
32	YA	2171	A
32	YA	2173	A
32	YA	2186	G
32	YA	2190	G
32	YA	2191	G
32	YA	2192	G
32	YA	2198	A
32	YA	2210	G
32	YA	2212	A
32	YA	2215	G
32	YA	2225	A
32	YA	2226	C
32	YA	2238	G
32	YA	2239	G
32	YA	2251	G
32	YA	2266	A
32	YA	2275	C
32	YA	2283	C

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Mol	Chain	Res	Type
32	YA	2287	A
32	YA	2305	A
32	YA	2306	C
32	YA	2307	G
32	YA	2308	G
32	YA	2309	A
32	YA	2310	A
32	YA	2316	C
32	YA	2319	G
32	YA	2320	A
32	YA	2325	G
32	YA	2327	A
32	YA	2334	G
32	YA	2342	C
32	YA	2345	G
32	YA	2347	C
32	YA	2350	C
32	YA	2377	A
32	YA	2382	G
32	YA	2383	G
32	YA	2385	C
32	YA	2392	A
32	YA	2402	C
32	YA	2403	C
32	YA	2406	U
32	YA	2410	G
32	YA	2423	U
32	YA	2424	C
32	YA	2425	A
32	YA	2429	G
32	YA	2430	A
32	YA	2435	A
32	YA	2439	A
32	YA	2440	C
32	YA	2441	C
32	YA	2448	A
32	YA	2450	A
32	YA	2469	A
32	YA	2470	G
32	YA	2472	G
32	YA	2474	C
32	YA	2475	C

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Mol	Chain	Res	Type
32	YA	2476	A
32	YA	2482	G
32	YA	2498	C
32	YA	2502	G
32	YA	2505	G
32	YA	2518	A
32	YA	2535	G
32	YA	2543	G
32	YA	2554	U
32	YA	2566	A
32	YA	2567	G
32	YA	2569	G
32	YA	2573	C
32	YA	2586	C
32	YA	2602	A
32	YA	2609	U
32	YA	2611	U
32	YA	2612	C
32	YA	2615	U
32	YA	2629	A
32	YA	2630	G
32	YA	2645	G
32	YA	2646	C
32	YA	2654	A
32	YA	2655	G
32	YA	2665	A
32	YA	2673	G
32	YA	2689	U
32	YA	2690	C
32	YA	2702	U
32	YA	2703	C
32	YA	2712	U
32	YA	2713	A
32	YA	2714	G
32	YA	2725	A
32	YA	2726	U
32	YA	2733	A
32	YA	2734	A
32	YA	2744	G
32	YA	2748	A
32	YA	2750	A
32	YA	2751	G

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Mol	Chain	Res	Type
32	YA	2752	C
32	YA	2754	U
32	YA	2758	A
32	YA	2762	G
32	YA	2766	G
32	YA	2771	C
32	YA	2777	G
32	YA	2778	A
32	YA	2779	U
32	YA	2780	G
32	YA	2789	C
32	YA	2790	A
32	YA	2791	C
32	YA	2807	G
32	YA	2820	A
32	YA	2821	A
32	YA	2827	C
32	YA	2828	C
32	YA	2833	G
32	YA	2834	G
32	YA	2835	A
32	YA	2845	G
32	YA	2846	G
32	YA	2849	U
32	YA	2850	A
32	YA	2860	A
32	YA	2872	G
32	YA	2873	A
32	YA	2879	C
32	YA	2880	C
32	YA	2892	A
32	YA	2893	G
32	YA	2894	G
32	YA	2896	C
32	YA	2897	U
33	YB	3	C
33	YB	8	U
33	YB	9	G
33	YB	12	C
33	YB	13	A
33	YB	14	U
33	YB	15	A

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Mol	Chain	Res	Type
33	YB	22	U
33	YB	25	A
33	YB	32	C
33	YB	42	C
33	YB	44	G
33	YB	45	A
33	YB	53	A
33	YB	67	G
33	YB	73	A
33	YB	81	G
33	YB	88	C
33	YB	109	G
33	YB	118	G
33	YB	119	A
56	ZA	75	C

All (197) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	5	U
1	QA	31	G
1	QA	60	A
1	QA	64	G
1	QA	115	G
1	QA	181	G
1	QA	197	A
1	QA	201	C
1	QA	208	U
1	QA	243	A
1	QA	250	A
1	QA	279	A
1	QA	328	C
1	QA	352	C
1	QA	410	G
1	QA	428	G
1	QA	429	U
1	QA	484	G
1	QA	485	G
1	QA	496	A
1	QA	518	C
1	QA	547	A
1	QA	560	U

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Mol	Chain	Res	Type
1	QA	687	A
1	QA	748	C
1	QA	792	A
1	QA	812	C
1	QA	841	U
1	QA	913	A
1	QA	960	U
1	QA	992	U
1	QA	999	U
1	QA	1006	C
1	QA	1033	G
1	QA	1038	C
1	QA	1064	G
1	QA	1065	U
1	QA	1067	A
1	QA	1128	C
1	QA	1137	C
1	QA	1139	G
1	QA	1182	G
1	QA	1200	C
1	QA	1224	G
1	QA	1300	G
1	QA	1346	A
1	QA	1347	G
1	QA	1498	U
1	QA	1528	U
1	QA	1532	U
21	QV	1	C
21	QV	17(A)	U
21	QW	60	U
22	QX	11	U
32	RA	27	G
32	RA	90	U
32	RA	119	A
32	RA	128	C
32	RA	195	A
32	RA	227	A
32	RA	352	G
32	RA	372	G
32	RA	387	U
32	RA	404	C
32	RA	587	C

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Mol	Chain	Res	Type
32	RA	603	A
32	RA	752	A
32	RA	845	G
32	RA	856	C
32	RA	859	G
32	RA	877	U
32	RA	1022	G
32	RA	1085	A
32	RA	1171	G
32	RA	1204	A
32	RA	1300	U
32	RA	1341	U
32	RA	1342	A
32	RA	1427	A
32	RA	1558	A
32	RA	1559	G
32	RA	1653	G
32	RA	1694	C
32	RA	1819	A
32	RA	1930	G
32	RA	1992	G
32	RA	2092	U
32	RA	2144	U
32	RA	2191	G
32	RA	2211	G
32	RA	2311	A
32	RA	2422	A
32	RA	2439	A
32	RA	2447	G
32	RA	2481	G
32	RA	2518	A
32	RA	2610	C
32	RA	2689	U
32	RA	2776	A
32	RA	2849	U
32	RA	2859	G
33	RB	66	A
1	XA	5	U
1	XA	31	G
1	XA	60	A
1	XA	92	G
1	XA	115	G

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Mol	Chain	Res	Type
1	XA	181	G
1	XA	197	A
1	XA	201	C
1	XA	243	A
1	XA	250	A
1	XA	279	A
1	XA	315	A
1	XA	328	C
1	XA	358	U
1	XA	410	G
1	XA	428	G
1	XA	429	U
1	XA	547	A
1	XA	560	U
1	XA	687	A
1	XA	703	G
1	XA	748	C
1	XA	792	A
1	XA	812	C
1	XA	818	G
1	XA	913	A
1	XA	960	U
1	XA	992	U
1	XA	1004	A
1	XA	1006	C
1	XA	1033	G
1	XA	1038	C
1	XA	1054	C
1	XA	1065	U
1	XA	1067	A
1	XA	1124	G
1	XA	1125	U
1	XA	1137	C
1	XA	1139	G
1	XA	1157	A
1	XA	1182	G
1	XA	1190	G
1	XA	1211	U
1	XA	1300	G
1	XA	1319	A
1	XA	1346	A
1	XA	1498	U

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Mol	Chain	Res	Type
1	XA	1532	U
21	XV	1	C
21	XW	60	U
22	XX	10	G
22	XX	12	A
32	YA	74	A
32	YA	119	A
32	YA	352	G
32	YA	372	G
32	YA	512	G
32	YA	587	C
32	YA	603	A
32	YA	752	A
32	YA	774	A
32	YA	811	U
32	YA	856	C
32	YA	859	G
32	YA	877	U
32	YA	883	G
32	YA	1022	G
32	YA	1085	A
32	YA	1141	U
32	YA	1171	G
32	YA	1379	A
32	YA	1427	A
32	YA	1558	A
32	YA	1653	G
32	YA	1694	C
32	YA	1762	A
32	YA	1801	G
32	YA	1819	A
32	YA	1992	G
32	YA	2144	U
32	YA	2166	G
32	YA	2191	G
32	YA	2211	G
32	YA	2225	A
32	YA	2422	A
32	YA	2439	A
32	YA	2447	G
32	YA	2481	G
32	YA	2610	C

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Mol	Chain	Res	Type
32	YA	2689	U
32	YA	2776	A
32	YA	2848	G
32	YA	2849	U
32	YA	2859	G
33	YB	66	A

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

8 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
56	PPU	ZB	76	56,32	32,40,41	0.82	1 (3%)	33,57,60	1.47	6 (18%)
22	OMU	XX	21	1,22	19,22,23	1.20	2 (10%)	26,31,34	1.70	5 (19%)
22	A2M	XX	20	22	18,25,26	0.97	1 (5%)	18,36,39	1.23	2 (11%)
22	A2M	XX	19	22	18,25,26	0.96	1 (5%)	18,36,39	1.31	2 (11%)
56	PPU	ZA	76	56,32	32,40,41	1.30	5 (15%)	33,57,60	1.49	6 (18%)
22	A2M	QX	20	22	18,25,26	1.09	1 (5%)	18,36,39	1.17	2 (11%)
22	A2M	QX	19	22	18,25,26	1.04	1 (5%)	18,36,39	1.29	2 (11%)
22	OMU	QX	21	1,22	19,22,23	1.78	4 (21%)	26,31,34	2.07	9 (34%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	PPU	ZB	76	56,32	-	6/21/43/44	0/4/4/4
22	OMU	XX	21	1,22	-	2/9/27/28	0/2/2/2
22	A2M	XX	20	22	-	2/5/27/28	0/3/3/3
22	A2M	XX	19	22	-	2/5/27/28	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
56	PPU	ZA	76	56,32	-	5/21/43/44	0/4/4/4
22	A2M	QX	20	22	-	2/5/27/28	0/3/3/3
22	A2M	QX	19	22	-	0/5/27/28	0/3/3/3
22	OMU	QX	21	1,22	-	2/9/27/28	0/2/2/2

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	QX	21	OMU	C4-N3	-3.84	1.31	1.38
22	QX	21	OMU	C2-N3	-3.44	1.31	1.38
22	QX	21	OMU	C6-N1	-2.94	1.30	1.38
22	QX	20	A2M	C5-C4	2.58	1.47	1.40
22	QX	21	OMU	C5-C4	-2.57	1.37	1.43
22	QX	19	A2M	C5-C4	2.55	1.47	1.40
22	XX	21	OMU	C4-N3	-2.51	1.34	1.38
56	ZA	76	PPU	C2'-C1'	-2.40	1.50	1.53
56	ZA	76	PPU	C4-N3	-2.32	1.32	1.35
22	XX	20	A2M	C5-C4	2.27	1.46	1.40
56	ZA	76	PPU	O-C	-2.25	1.18	1.23
22	XX	19	A2M	C5-C4	2.24	1.46	1.40
56	ZB	76	PPU	C5-C4	2.22	1.46	1.40
56	ZA	76	PPU	C2'-C3'	-2.18	1.50	1.53
22	XX	21	OMU	C2-N3	-2.12	1.34	1.38
56	ZA	76	PPU	C3'-N3'	-2.00	1.42	1.45

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	QX	21	OMU	C4-N3-C2	-4.88	120.15	126.58
22	QX	21	OMU	N3-C2-N1	4.65	121.07	114.89
22	XX	21	OMU	C4-N3-C2	-4.54	120.59	126.58
22	XX	21	OMU	N3-C2-N1	4.23	120.51	114.89
56	ZA	76	PPU	N1-C6-N6	4.20	121.48	117.06
56	ZA	76	PPU	C10-N6-C6	-3.55	108.77	119.51
22	XX	21	OMU	C5-C4-N3	3.51	120.08	114.84
56	ZB	76	PPU	N1-C6-N6	3.50	120.74	117.06
22	XX	19	A2M	N3-C2-N1	-3.50	123.21	128.68
22	QX	21	OMU	O2-C2-N1	-3.48	118.16	122.79
56	ZB	76	PPU	C10-N6-C6	-3.44	109.10	119.51
56	ZB	76	PPU	C9-N6-C6	-3.32	109.45	119.51
22	QX	21	OMU	C5-C4-N3	3.30	119.77	114.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	ZA	76	PPU	N3-C2-N1	-3.21	123.67	128.68
56	ZB	76	PPU	N3-C2-N1	-3.15	123.75	128.68
22	XX	20	A2M	N3-C2-N1	-3.12	123.80	128.68
22	QX	21	OMU	O3'-C3'-C4'	-2.93	102.57	111.05
22	XX	21	OMU	O4-C4-C5	-2.90	120.06	125.16
22	QX	19	A2M	C4-C5-N7	-2.90	106.38	109.40
56	ZB	76	PPU	C4-C5-N7	-2.73	106.56	109.40
56	ZA	76	PPU	C3'-N3'-C	-2.67	119.18	123.21
22	QX	20	A2M	C4-C5-N7	-2.66	106.62	109.40
22	QX	21	OMU	O4'-C1'-C2'	-2.64	101.94	106.57
56	ZA	76	PPU	C9-N6-C6	-2.63	111.55	119.51
22	QX	19	A2M	N3-C2-N1	-2.61	124.60	128.68
22	QX	20	A2M	N3-C2-N1	-2.60	124.62	128.68
22	XX	20	A2M	C4-C5-N7	-2.55	106.74	109.40
22	QX	21	OMU	O4-C4-C5	-2.46	120.84	125.16
22	QX	21	OMU	C2'-C1'-N1	-2.45	109.47	114.22
22	XX	19	A2M	C4-C5-N7	-2.44	106.86	109.40
56	ZA	76	PPU	CA-C-N3'	2.21	119.22	116.15
22	QX	21	OMU	C5-C6-N1	-2.10	118.29	121.81
56	ZB	76	PPU	C10-N6-C9	-2.07	109.44	116.12
22	XX	21	OMU	O2-C2-N1	-2.06	120.05	122.79

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
22	XX	21	OMU	C3'-C4'-C5'-O5'
22	XX	21	OMU	O4'-C4'-C5'-O5'
56	ZA	76	PPU	C4'-C3'-N3'-C
56	ZA	76	PPU	C5-C6-N6-C10
56	ZB	76	PPU	C5-C6-N6-C9
56	ZB	76	PPU	C5-C6-N6-C10
22	QX	21	OMU	C3'-C4'-C5'-O5'
22	QX	21	OMU	O4'-C4'-C5'-O5'
56	ZB	76	PPU	N1-C6-N6-C10
56	ZB	76	PPU	CE2-CZ-OC-CM
56	ZB	76	PPU	CE1-CZ-OC-CM
56	ZA	76	PPU	O4'-C4'-C5'-O5'
22	XX	20	A2M	O4'-C4'-C5'-O5'
22	QX	20	A2M	O4'-C4'-C5'-O5'
56	ZB	76	PPU	N-CA-CB-CG
22	XX	19	A2M	O4'-C4'-C5'-O5'

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Mol	Chain	Res	Type	Atoms
56	ZA	76	PPU	C2'-C3'-N3'-C
56	ZA	76	PPU	C3'-C4'-C5'-O5'
22	XX	20	A2M	C3'-C4'-C5'-O5'
22	XX	19	A2M	C3'-C4'-C5'-O5'
22	QX	20	A2M	C3'-C4'-C5'-O5'

There are no ring outliers.

8 monomers are involved in 38 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	ZB	76	PPU	12	0
22	XX	21	OMU	2	0
22	XX	20	A2M	3	0
22	XX	19	A2M	5	0
56	ZA	76	PPU	11	0
22	QX	20	A2M	2	0
22	QX	19	A2M	3	0
22	QX	21	OMU	3	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 906 ligands modelled in this entry, 904 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	$\# Z > 2$
58	SF4	XD	301	4	0,12,12	-	-	-		
58	SF4	QD	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
58	SF4	XD	301	4	-	-	0/6/5/5
58	SF4	QD	301	4	-	-	0/6/5/5

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

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

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

6.3 Carbohydrates

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

6.4 Ligands

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

6.5 Other polymers

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