



Full wwPDB X-ray Structure Validation Report ⓘ

Oct 9, 2023 – 10:33 PM EDT

PDB ID : 6BUW
Title : Thermus thermophilus 70S complex containing 16S G299A ram mutation and empty A site.
Authors : Hoffer, E.D.; Maehigashi, T.; Fagan, C.E.; Dunham, C.M.
Deposited on : 2017-12-11
Resolution : 3.50 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : **FAILED**
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

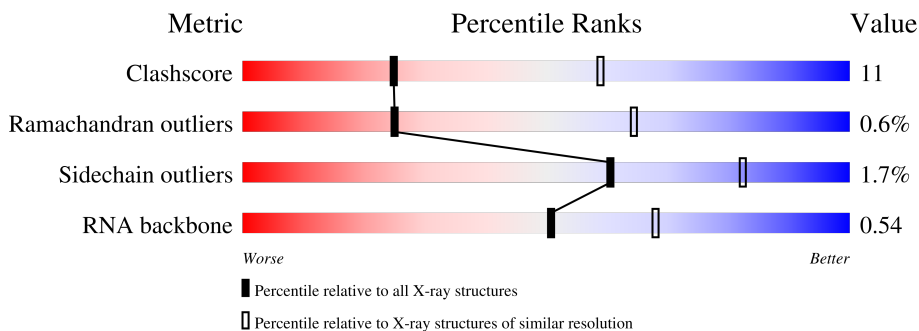
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.50 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	1036 (3.58-3.42)
Ramachandran outliers	138981	1005 (3.58-3.42)
Sidechain outliers	138945	1006 (3.58-3.42)
RNA backbone	3102	1002 (4.00-3.00)











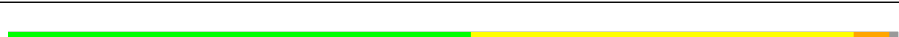


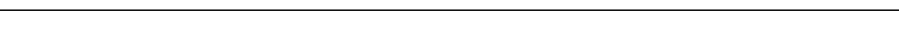
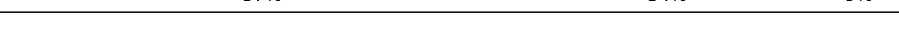
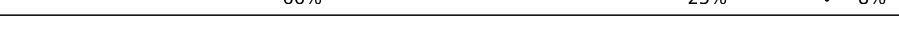



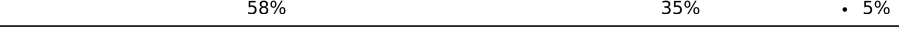





The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively.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

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1508	48% (green) 42% (yellow) 9% (orange) 2% (red) 1% (grey)
1	XA	1508	48% (green) 42% (yellow) 10% (orange) 0% (red) 0% (grey)
2	QB	256	58% (green) 32% (yellow) 8% (orange) 0% (red) 2% (grey)
2	XB	256	61% (green) 30% (yellow) 8% (orange) 0% (red) 1% (grey)
3	QC	239	55% (green) 30% (yellow) 14% (orange) 0% (red) 1% (grey)
3	XC	239	59% (green) 26% (yellow) 14% (orange) 0% (red) 1% (grey)

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Mol	Chain	Length	Quality of chain
4	QD	209	 66% 33% .
4	XD	209	 68% 29% .
5	QE	162	 69% 23% .. 7%
5	XE	162	 70% 23% . 7%
6	QF	101	 78% 21% .
6	XF	101	 66% 32% .
7	QG	156	 78% 21% ..
7	XG	156	 74% 23% ..
8	QH	138	 61% 38% .
8	XH	138	 70% 28% ..
9	QI	128	 52% 43% ..
9	XI	128	 71% 26% ..
10	QJ	105	 53% 40% . 6%
10	XJ	105	 57% 34% 9%
11	QK	129	 66% 25% . 8%
11	XK	129	 64% 26% 10%
12	QL	132	 59% 33% .. 5%
12	XL	132	 65% 26% . 8%
13	QM	126	 58% 35% . 5%
13	XM	126	 57% 37% . 6%
14	QN	61	 51% 46% ..
14	XN	61	 66% 28% 5% .
15	QO	89	 74% 25% .
15	XO	89	 75% 22% .
16	QP	88	 78% 17% 5%

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Mol	Chain	Length	Quality of chain
16	XP	88	67% 26% 5%
17	QQ	105	73% 20% 5%
17	XQ	105	66% 29% 5%
18	QR	88	52% 27% 20%
18	XR	88	56% 22% 20%
19	QS	93	49% 33% 6% 11%
19	XS	93	60% 30% 10%
20	QT	106	63% 27% 7%
20	XT	106	59% 32% 7%
21	QU	27	63% 30% 7%
21	XU	27	67% 22% 7%
22	QV	77	55% 31% 14%
22	XV	77	65% 26% 8%
23	QX	25	16% 28% 52%
23	XX	25	12% 24% 8% 56%
24	RA	2915	51% 39% 8% ..
24	YA	2915	50% 39% 10% ..
25	RB	122	51% 33% 14% ..
25	YB	122	49% 40% 7% ..
26	RD	276	70% 28% .
26	YD	276	68% 30% .
27	RE	206	64% 34% .
27	YE	206	64% 33% .
28	RF	210	64% 31% ..
28	YF	210	66% 30% .









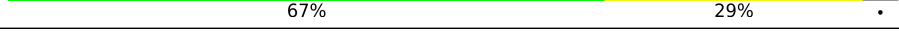

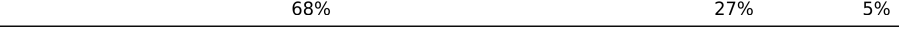
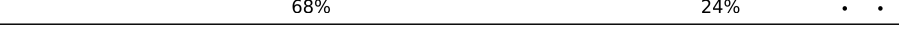

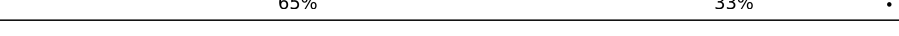


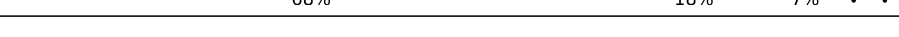

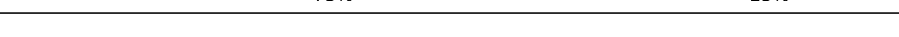






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Mol	Chain	Length	Quality of chain
29	RG	182	60% 37% ...
29	YG	182	65% 34% ..
30	RH	180	58% 35% . .
30	YH	180	63% 33% ...
31	RI	148	66% 28% . .
31	YI	148	56% 39% ...
32	RN	140	79% 20% .
32	YN	140	70% 28% ..
33	RO	122	68% 32%
33	YO	122	79% 21%
34	RP	150	67% 31% .
34	YP	150	60% 37% ...
35	RQ	141	60% 38% .
35	YQ	141	70% 30% .
36	RR	118	62% 36% ..
36	YR	118	66% 31% ..
37	RS	112	66% 32% ..
37	YS	112	68% 29% ..
38	RT	146	64% 28% . 6%
38	YT	146	63% 29% . 6%
39	RU	118	70% 25% . .
39	YU	118	64% 32% . .
40	RV	101	71% 29%
40	YV	101	80% 19% .
41	RW	113	66% 33% .



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Mol	Chain	Length	Quality of chain
41	YW	113	 74% 24% .
42	RX	96	 69% 27% .
42	YX	96	 76% 20% .
43	RY	110	 79% 18% .
43	YY	110	 64% 33% ..
44	RZ	206	 55% 31% . 11%
44	YZ	206	 58% 27% . 11%
45	R0	85	 69% 26% 5%
45	Y0	85	 67% 29% .
46	R1	98	 74% 22% ..
46	Y1	98	 68% 27% 5%
47	R2	72	 68% 24% . .
47	Y2	72	 65% 31% .
48	R3	60	 65% 33% .
48	Y3	60	 67% 32% .
49	R4	71	 58% 30% . 6% .
49	Y4	71	 68% 18% 7% . .
50	R5	60	 73% 22% ..
50	Y5	60	 73% 25% .
51	R6	54	 61% 35% ..
51	Y6	54	 78% 19% ..
52	R7	49	 59% 37% .
52	Y7	49	 69% 29% .
53	R8	65	 55% 37% . . .
53	Y8	65	 63% 34% ..

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Mol	Chain	Length	Quality of chain
54	R9	37	 78% 16% 5%
54	Y9	37	 62% 35% 3%

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

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

2 Entry composition i

There are 57 unique types of molecules in this entry. The entry contains 291948 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	1500	32246	14353	5981	10413	1499	0	0	0
1	XA	1500	32248	14354	5984	10411	1499	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
QA	299	A	G	engineered mutation	GB 55771382
XA	299	A	G	engineered mutation	GB 55771382

- 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	1907	1217	342	343	5	0	0	0
2	XB	236	1915	1223	343	344	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	1605	1011	313	280	1	0	0	0
3	XC	205	1605	1011	313	280	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	1703	1066	339	291	7	0	0	0

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
10	QJ	99	Total 801	C 504	N 157	O 139	S 1	0	0	0
10	XJ	96	Total 777	C 487	N 153	O 136	S 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	Total 885	C 549	N 168	O 165	S 3	0	0	0
11	XK	116	Total 864	C 537	N 164	O 160	S 3	0	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	QS	83	Total	C	N	O	S	0	0	0
			665	424	124	115	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			
22	XV	77	Total	C	N	O	P	0	0	0
			1644	732	297	538	77			

- Molecule 23 is a RNA chain called messenger RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	12	Total	C	N	O	P	0	0	0
			261	117	51	81	12			
23	XX	11	Total	C	N	O	P	0	0	0
			239	107	46	75	11			

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
46	R1	96	755	475	149	130	1	0	0	0
46	Y1	93	729	457	145	126	1	0	0	0

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
52	R7	47	Total	C	N	O	S	0	0	0
			409	251	102	54	2			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
52	Y7	48	Total 418	C 257	N 104	O 55	S 2	0	0	0

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

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

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

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

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	QA	180	Total 180	Mg 180	0	0
55	QC	1	Total 1	Mg 1	0	0
55	QF	1	Total 1	Mg 1	0	0
55	QH	1	Total 1	Mg 1	0	0
55	QL	1	Total 1	Mg 1	0	0
55	QV	6	Total 6	Mg 6	0	0
55	QX	2	Total 2	Mg 2	0	0
55	RA	493	Total 493	Mg 493	0	0
55	RB	10	Total 10	Mg 10	0	0
55	RD	1	Total 1	Mg 1	0	0

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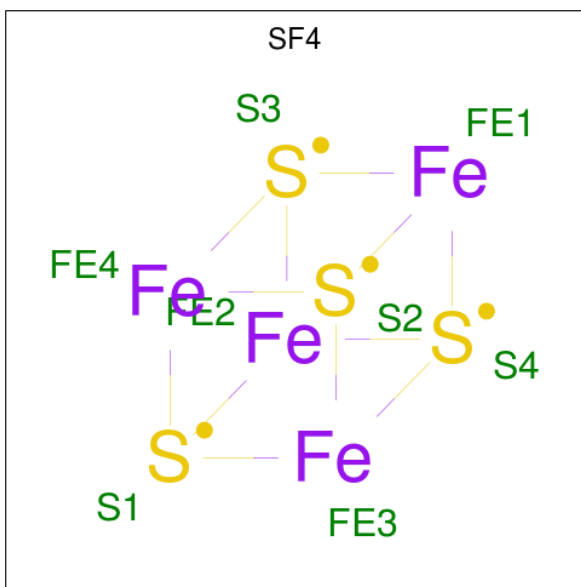
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
55	RE	4	Total Mg 4 4	0	0
55	RF	1	Total Mg 1 1	0	0
55	RI	1	Total Mg 1 1	0	0
55	RN	1	Total Mg 1 1	0	0
55	RO	1	Total Mg 1 1	0	0
55	RP	3	Total Mg 3 3	0	0
55	RQ	2	Total Mg 2 2	0	0
55	RT	1	Total Mg 1 1	0	0
55	RU	1	Total Mg 1 1	0	0
55	RW	1	Total Mg 1 1	0	0
55	RX	1	Total Mg 1 1	0	0
55	RY	1	Total Mg 1 1	0	0
55	R0	2	Total Mg 2 2	0	0
55	R1	2	Total Mg 2 2	0	0
55	R5	1	Total Mg 1 1	0	0
55	XA	171	Total Mg 171 171	0	0
55	XE	2	Total Mg 2 2	0	0
55	XL	1	Total Mg 1 1	0	0
55	XM	1	Total Mg 1 1	0	0
55	XQ	1	Total Mg 1 1	0	0
55	XS	1	Total Mg 1 1	0	0

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
55	XV	8	Total 8	Mg 8	0	0
55	YA	515	Total 515	Mg 515	0	0
55	YB	10	Total 10	Mg 10	0	0
55	YD	2	Total 2	Mg 2	0	0
55	YE	4	Total 4	Mg 4	0	0
55	YO	1	Total 1	Mg 1	0	0
55	YP	3	Total 3	Mg 3	0	0
55	YQ	3	Total 3	Mg 3	0	0
55	YU	1	Total 1	Mg 1	0	0
55	YX	2	Total 2	Mg 2	0	0
55	YY	1	Total 1	Mg 1	0	0
55	Y0	1	Total 1	Mg 1	0	0
55	Y5	1	Total 1	Mg 1	0	0
55	Y7	1	Total 1	Mg 1	0	0
55	Y8	1	Total 1	Mg 1	0	0

- Molecule 56 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄).



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

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

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

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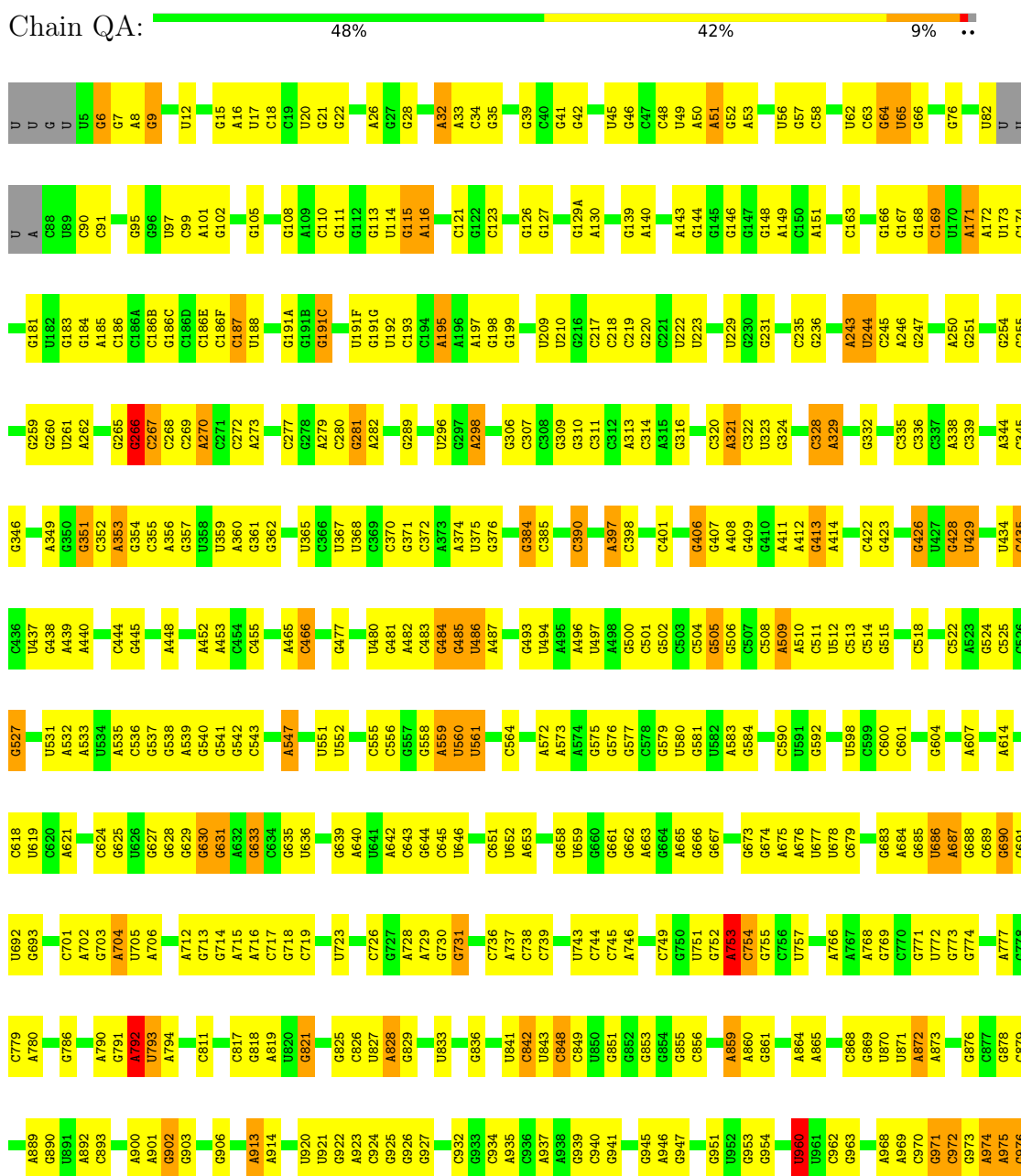
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	Y6	1	Total 1	Zn 1	0	0
57	Y9	1	Total 1	Zn 1	0	0

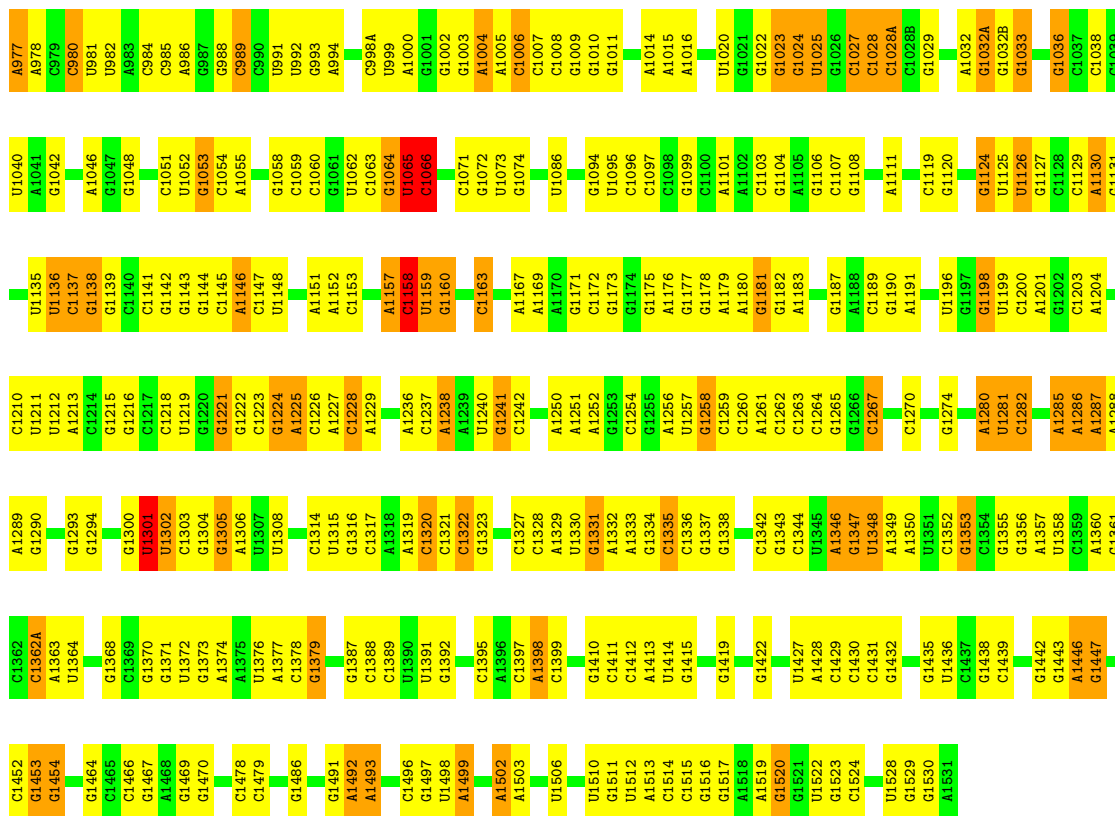
3 Residue-property plots

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

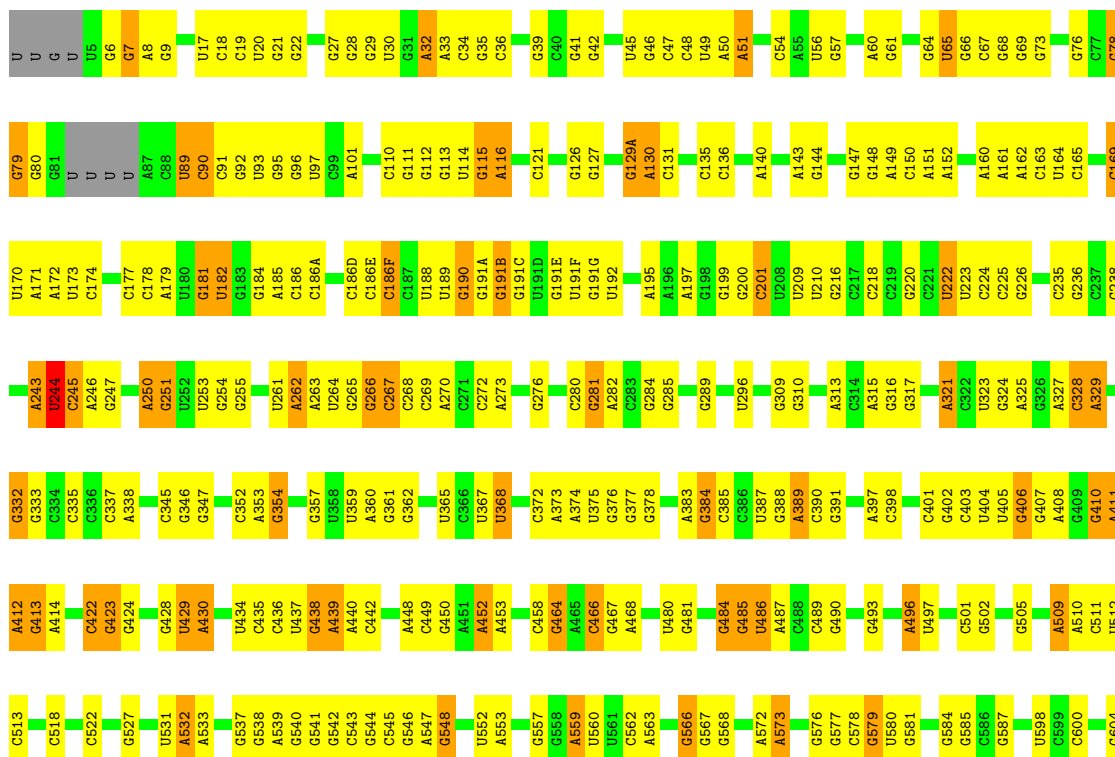
Note EDS failed to run properly.

- Molecule 1: 16S rRNA



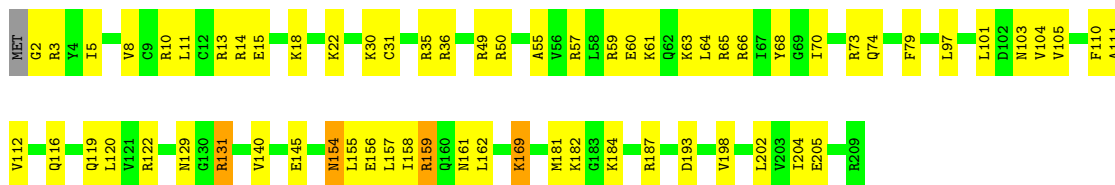


• Molecule 1: 16S rRNA



- Molecule 4: 30S ribosomal protein S4

Chain XD:  68% 29%



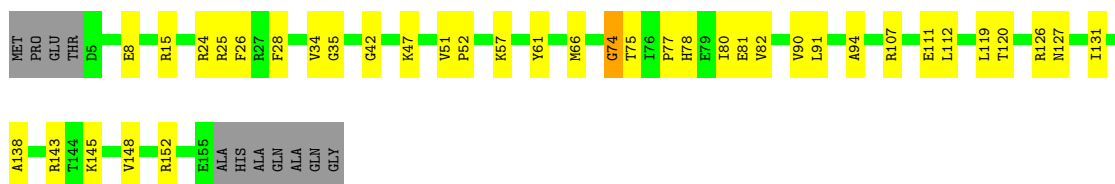
- Molecule 5: 30S ribosomal protein S5

Chain QE:  69% 23% 7%




- Molecule 5: 30S ribosomal protein S5

Chain XE:  70% 23% 7%



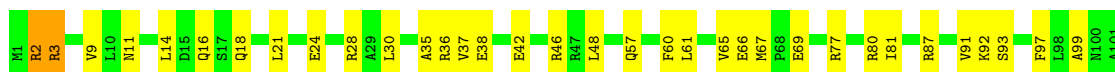
- Molecule 6: 30S ribosomal protein S6

Chain QF:  78% 21%




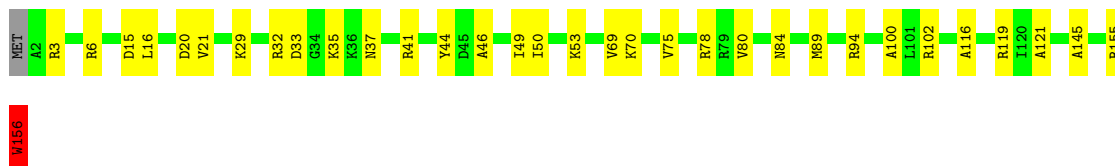
- Molecule 6: 30S ribosomal protein S6

Chain XF:  66% 32%



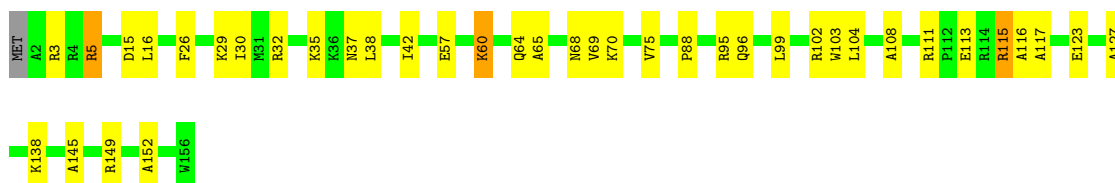
- Molecule 7: 30S ribosomal protein S7

Chain QG:  78% 21%



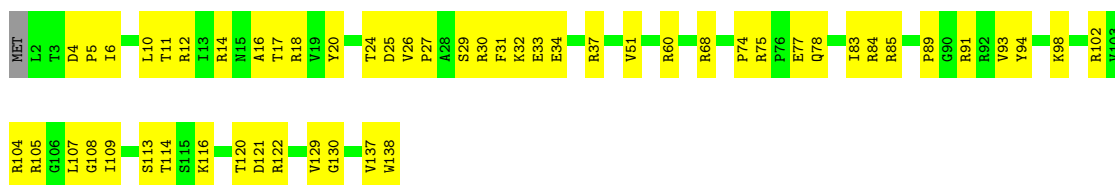
- Molecule 7: 30S ribosomal protein S7

Chain XG: 74% 23% ..



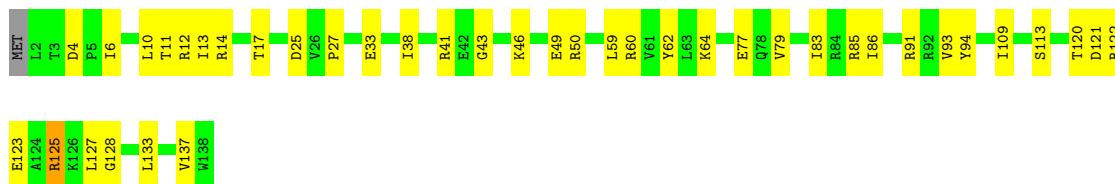
- Molecule 8: 30S ribosomal protein S8

Chain QH: 61% 38% .



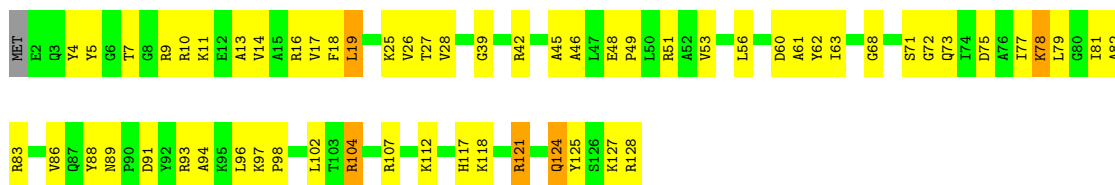
- Molecule 8: 30S ribosomal protein S8

Chain XH: 70% 28% ..



- Molecule 9: 30S ribosomal protein S9

Chain QI: 52% 43% ..



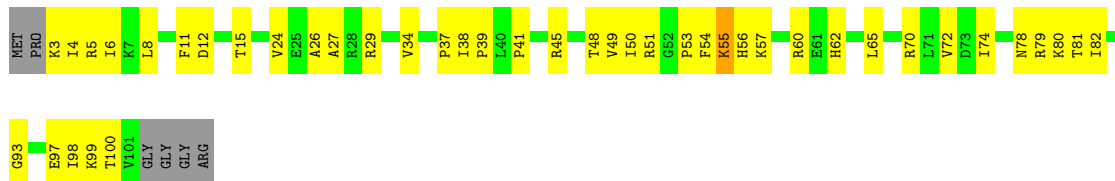
- Molecule 9: 30S ribosomal protein S9

Chain XI: 71% 26% ..



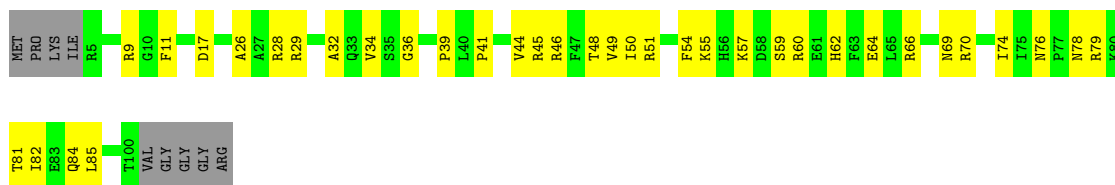
- Molecule 10: 30S ribosomal protein S10

Chain QJ: 53% 40% 6%



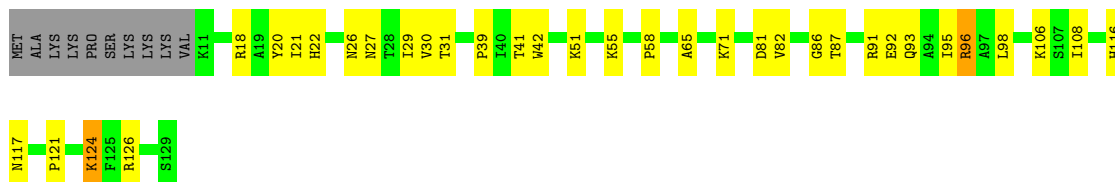
- Molecule 10: 30S ribosomal protein S10

Chain XJ: 57% 34% 9%



- Molecule 11: 30S ribosomal protein S11

Chain QK: 66% 25% 8%



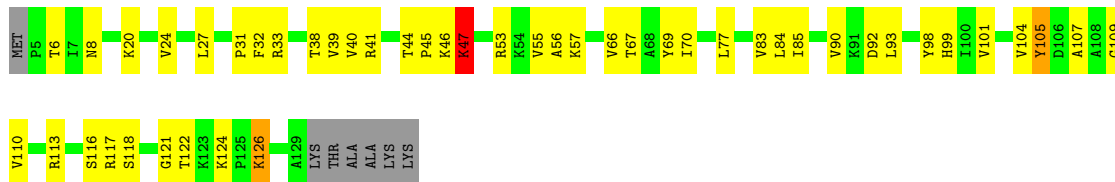
- Molecule 11: 30S ribosomal protein S11

Chain XK: 64% 26% 10%



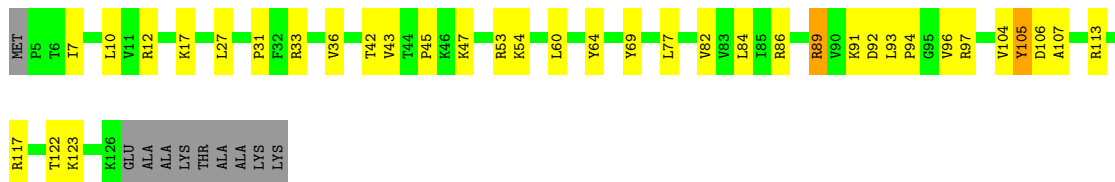
- Molecule 12: 30S ribosomal protein S12

Chain QL:  59% 33% •• 5%



- Molecule 12: 30S ribosomal protein S12

Chain XL:  65% 26% • 8%



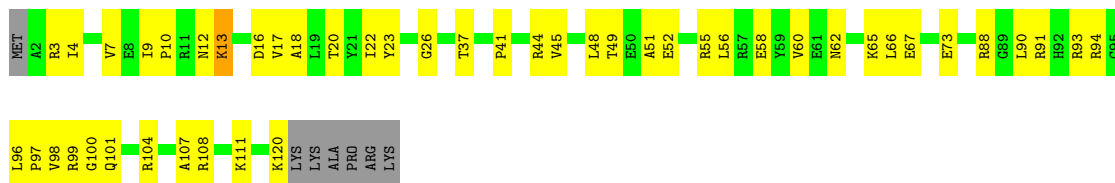
- Molecule 13: 30S ribosomal protein S13

Chain QM:  58% 35% • 5%



- Molecule 13: 30S ribosomal protein S13

Chain XM:  57% 37% • 6%



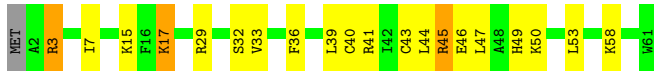
- Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:  51% 46% ••

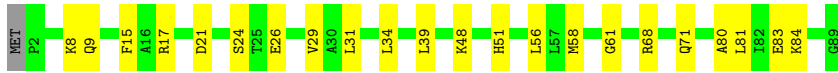
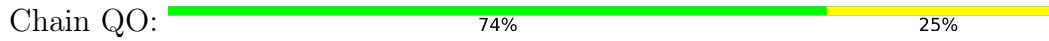


- Molecule 14: 30S ribosomal protein S14 type Z

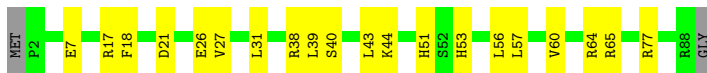
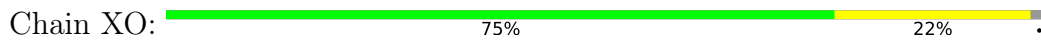
Chain XN:  66% 28% • 5%



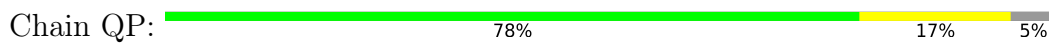
- Molecule 15: 30S ribosomal protein S15



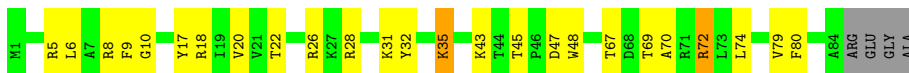
- Molecule 15: 30S ribosomal protein S15



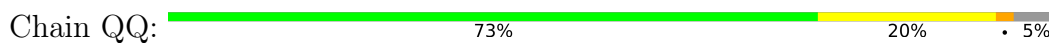
- Molecule 16: 30S ribosomal protein S16



- Molecule 16: 30S ribosomal protein S16



- Molecule 17: 30S ribosomal protein S17



- Molecule 17: 30S ribosomal protein S17

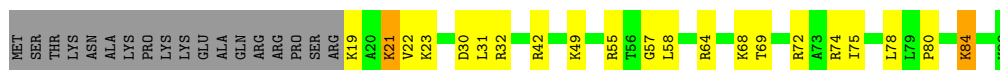


- Molecule 18: 30S ribosomal protein S18

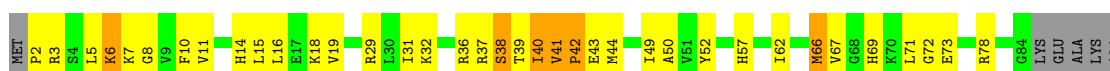




• Molecule 18: 30S ribosomal protein S18



• Molecule 19: 30S ribosomal protein S19



• Molecule 19: 30S ribosomal protein S19



• Molecule 20: 30S ribosomal protein S20



• Molecule 20: 30S ribosomal protein S20



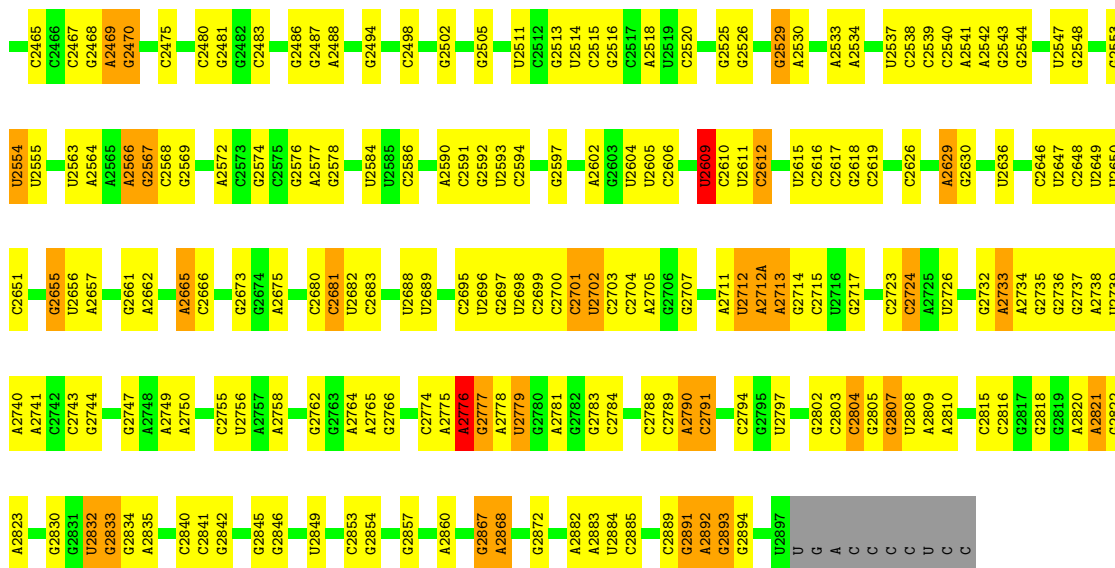
• Molecule 21: 30S ribosomal protein Thx



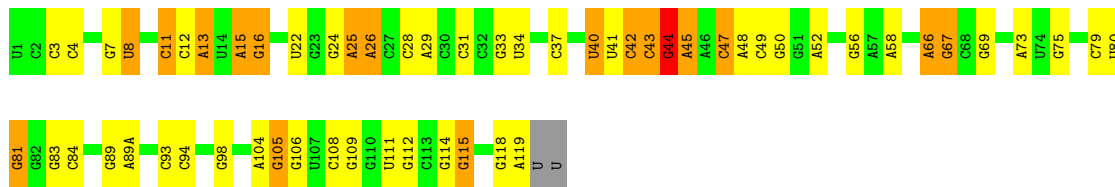
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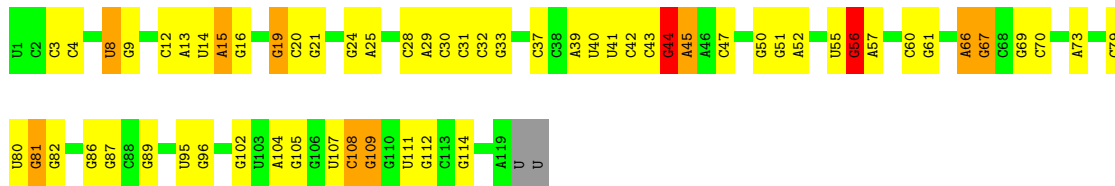
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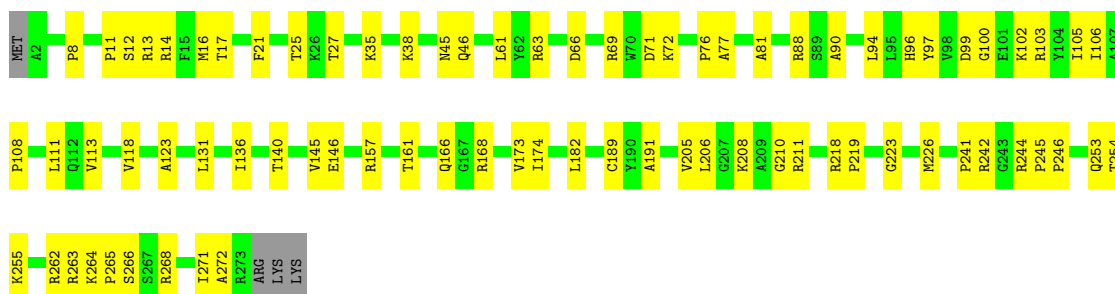
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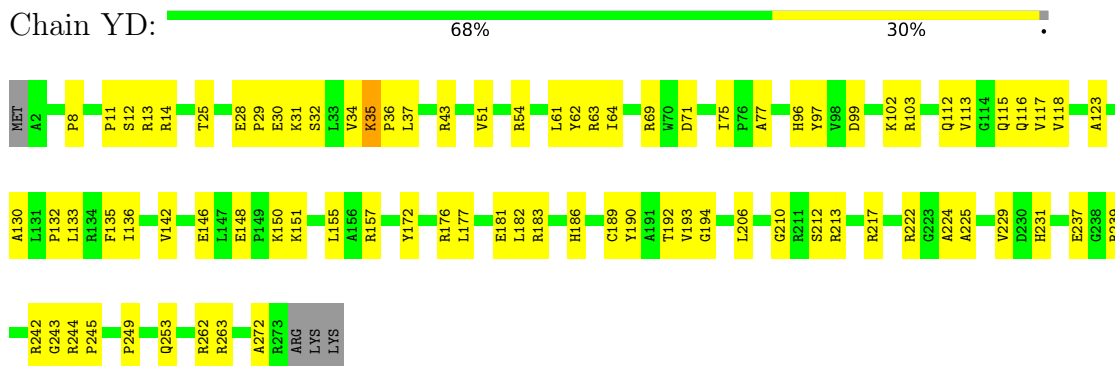
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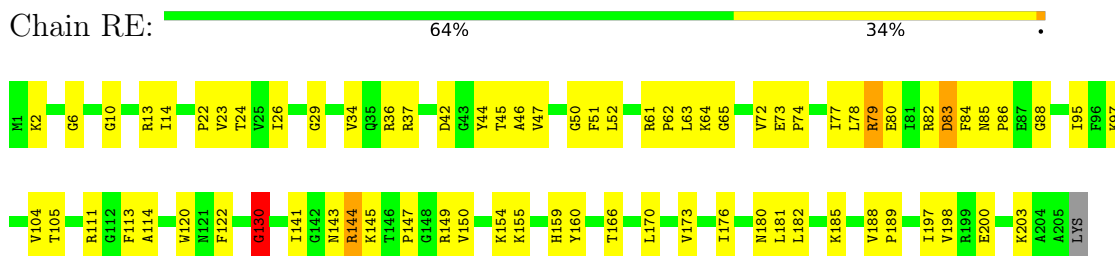
• Molecule 26: 50S ribosomal protein L2



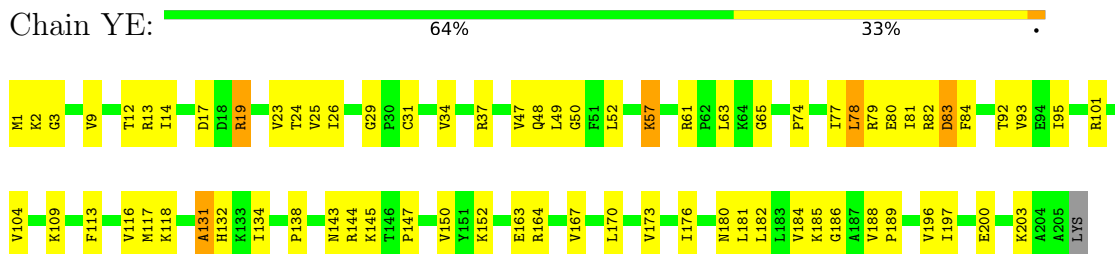
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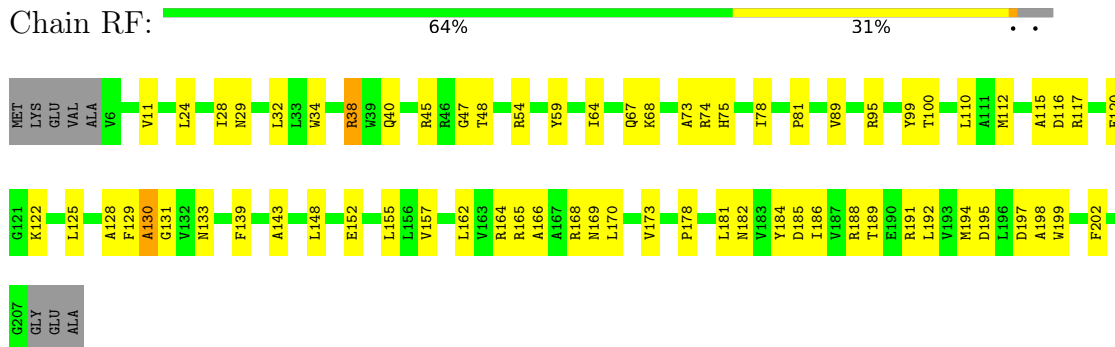
- Molecule 27: 50S ribosomal protein L3



- Molecule 27: 50S ribosomal protein L3



- Molecule 28: 50S ribosomal protein L4

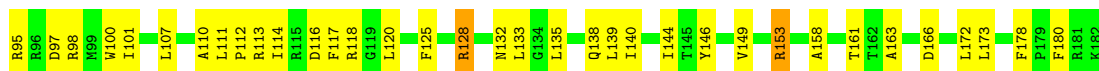
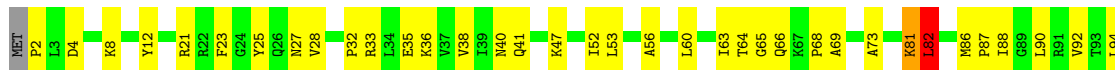


- Molecule 28: 50S ribosomal protein L4

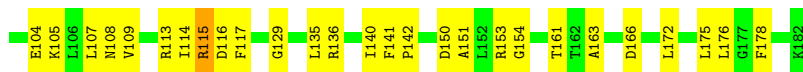




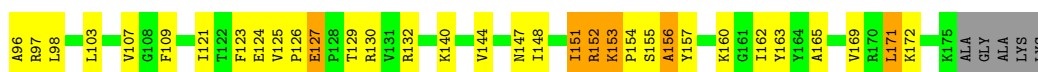
- Molecule 29: 50S ribosomal protein L5



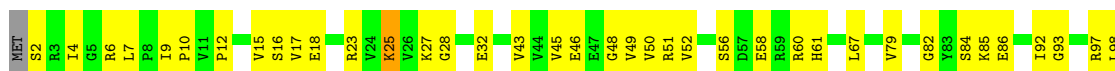
- Molecule 29: 50S ribosomal protein L5



- Molecule 30: 50S ribosomal protein L6

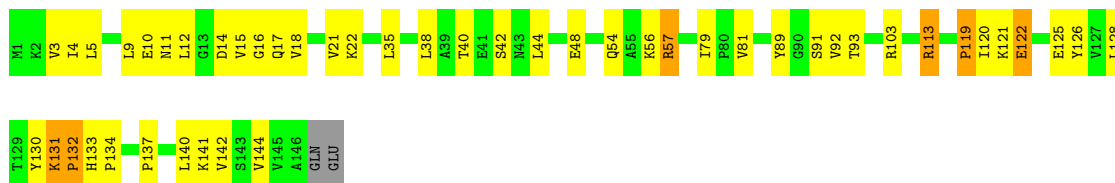


- Molecule 30: 50S ribosomal protein L6



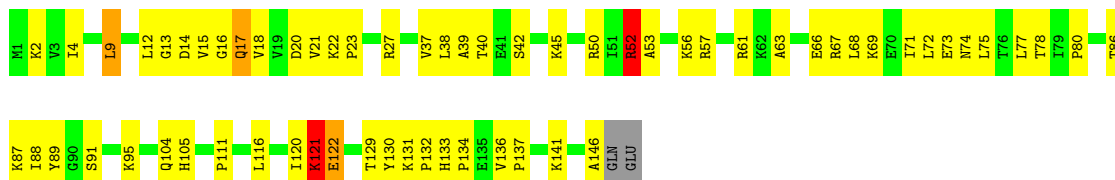
- Molecule 31: 50S ribosomal protein L9





- Molecule 31: 50S ribosomal protein L9

Chain YI: 56% 39%



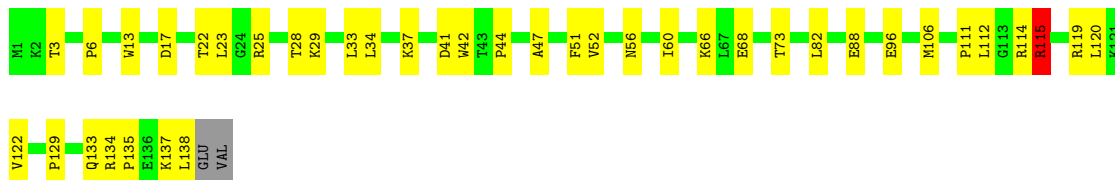
- Molecule 32: 50S ribosomal protein L13

Chain RN: 79% 20%



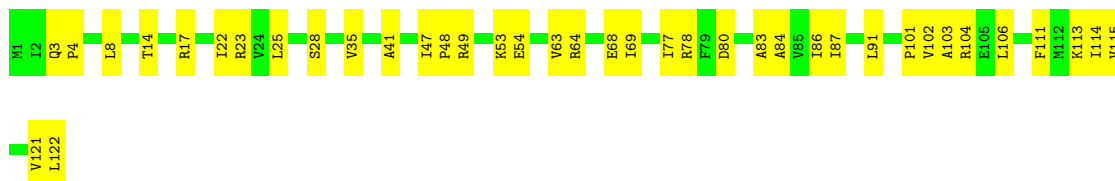
- Molecule 32: 50S ribosomal protein L13

Chain YN: 70% 28%



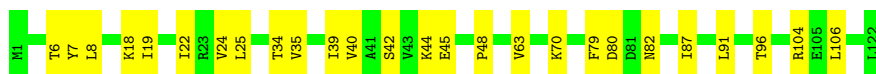
- Molecule 33: 50S ribosomal protein L14

Chain RO: 68% 32%



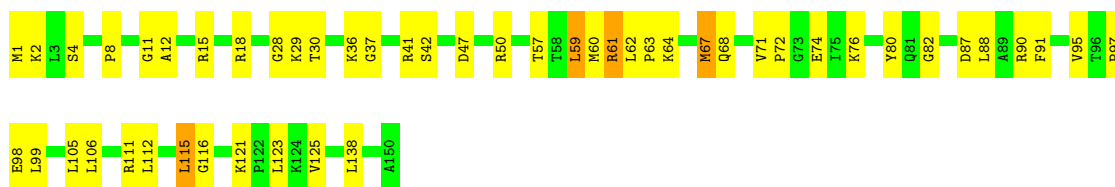
- Molecule 33: 50S ribosomal protein L14

Chain YO: 79% 21%



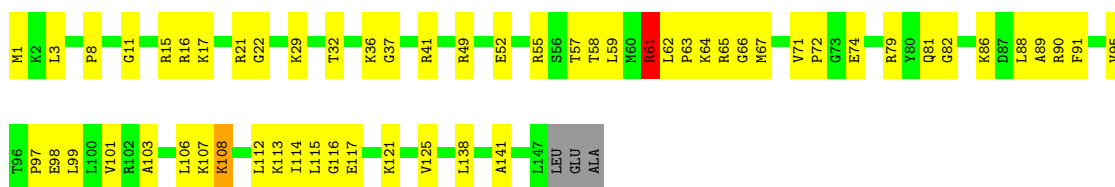
- Molecule 34: 50S ribosomal protein L15

Chain RP:  67% 31%



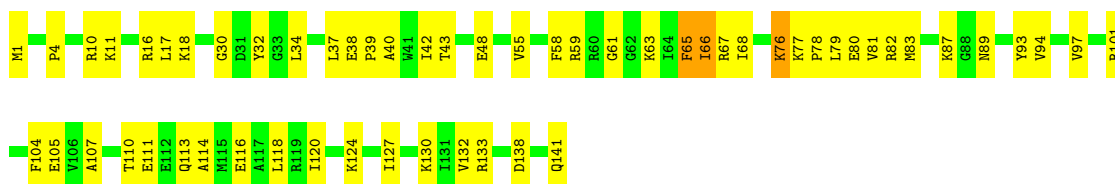
- Molecule 34: 50S ribosomal protein L15

Chain YP:  60% 37%



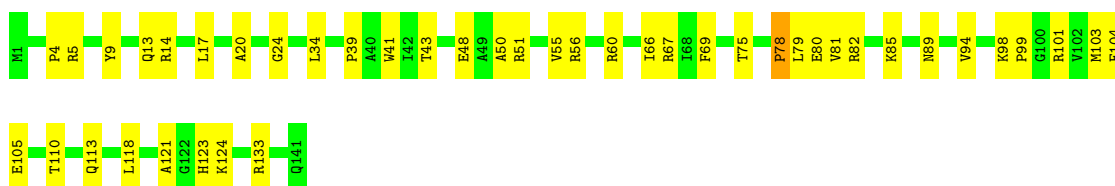
- Molecule 35: 50S ribosomal protein L16

Chain RQ:  60% 38%



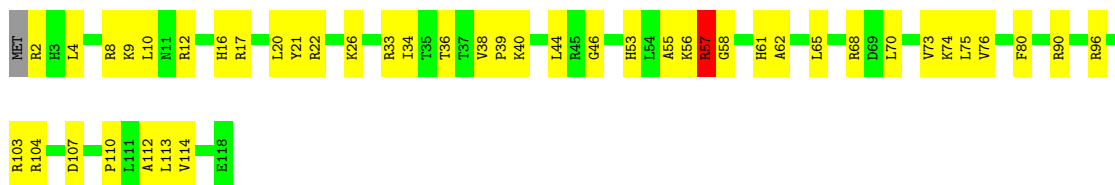
- Molecule 35: 50S ribosomal protein L16

Chain YQ:  70% 30%



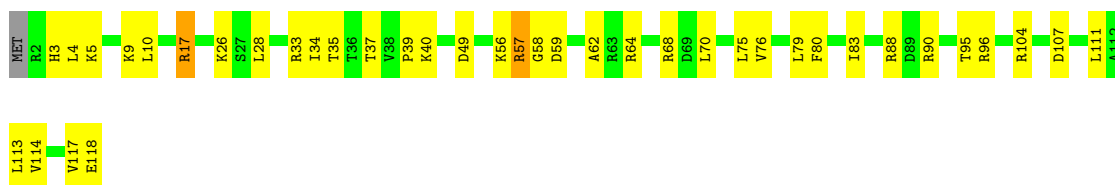
- Molecule 36: 50S ribosomal protein L17

Chain RR:  62% 36%



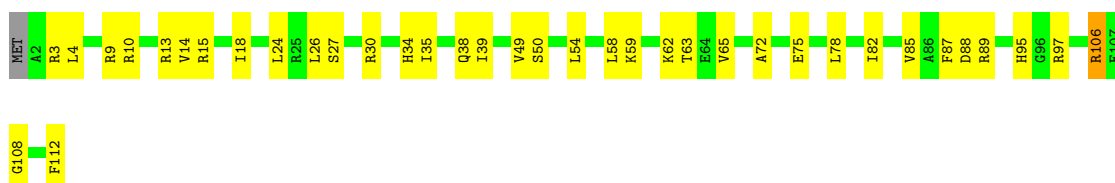
- Molecule 36: 50S ribosomal protein L17

Chain YR:  66% 31% ..



- Molecule 37: 50S ribosomal protein L18

Chain RS:  66% 32% ..



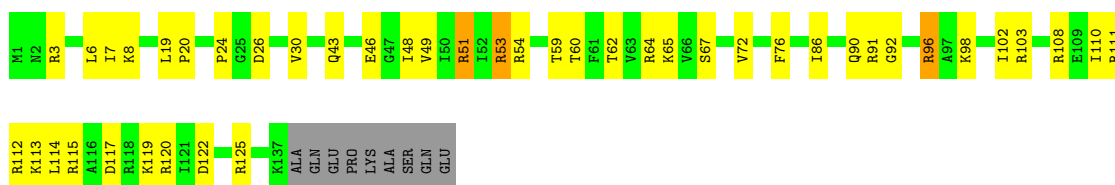
- Molecule 37: 50S ribosomal protein L18

Chain YS:  68% 29% ..



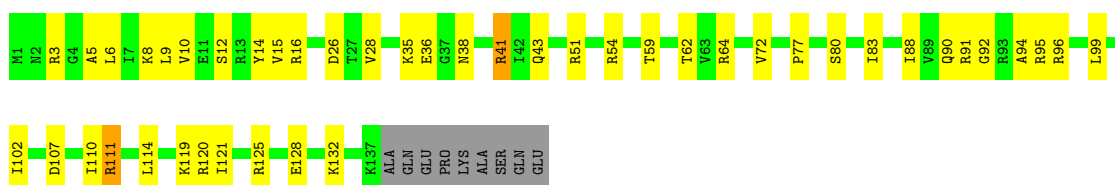
- Molecule 38: 50S ribosomal protein L19

Chain RT:  64% 28% 6% ..

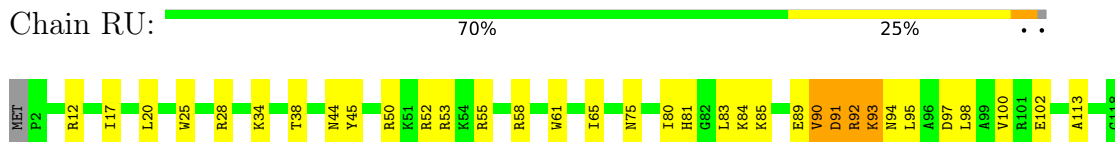


- Molecule 38: 50S ribosomal protein L19

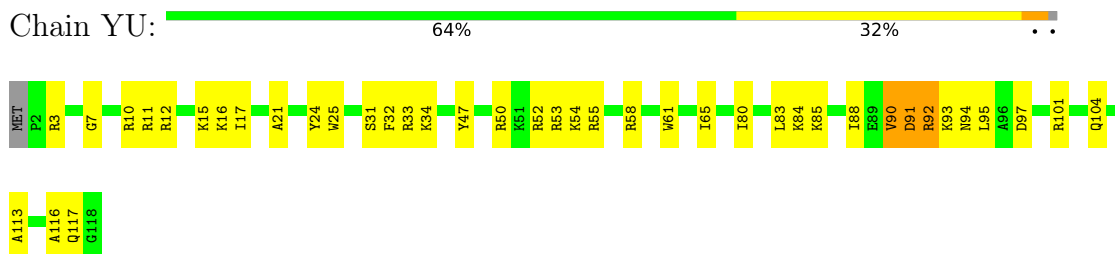
Chain YT:  63% 29% 6% ..



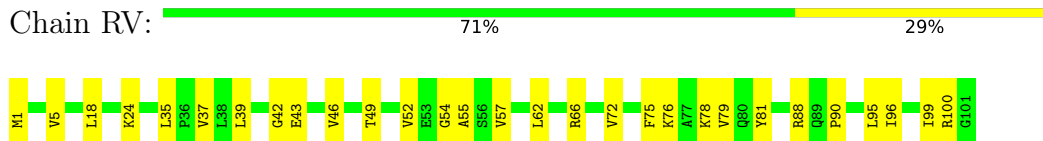
- Molecule 39: 50S ribosomal protein L20



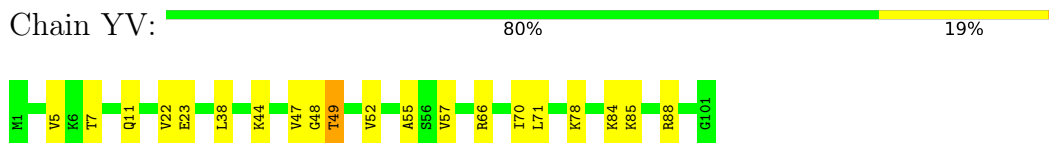
- Molecule 39: 50S ribosomal protein L20



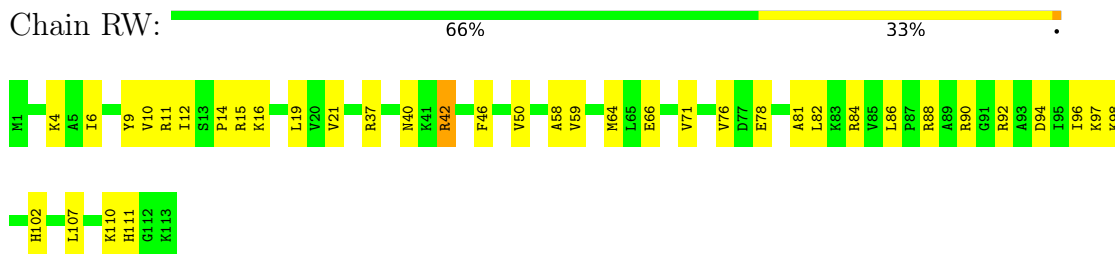
- Molecule 40: 50S ribosomal protein L21



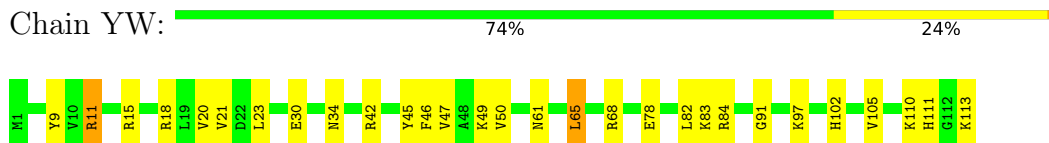
- Molecule 40: 50S ribosomal protein L21



- Molecule 41: 50S ribosomal protein L22



- Molecule 41: 50S ribosomal protein L22

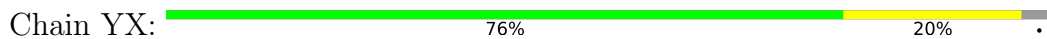


- Molecule 42: 50S ribosomal protein L23

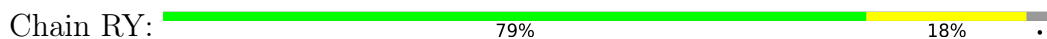




- Molecule 42: 50S ribosomal protein L23



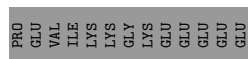
- Molecule 43: 50S ribosomal protein L24



- Molecule 43: 50S ribosomal protein L24



- Molecule 44: 50S ribosomal protein L25



- Molecule 44: 50S ribosomal protein L25



- Molecule 45: 50S ribosomal protein L27

Chain R0:  69% 26% 5%




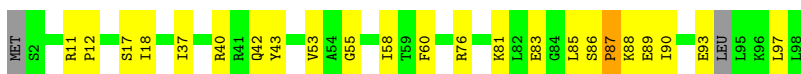
- Molecule 45: 50S ribosomal protein L27

Chain Y0:  67% 29%



- Molecule 46: 50S ribosomal protein L28

Chain R1:  74% 22%



- Molecule 46: 50S ribosomal protein L28

Chain Y1:  68% 27% 5%



- Molecule 47: 50S ribosomal protein L29

Chain R2:  68% 24%



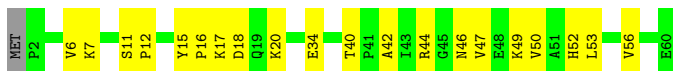
- Molecule 47: 50S ribosomal protein L29

Chain Y2:  65% 31%



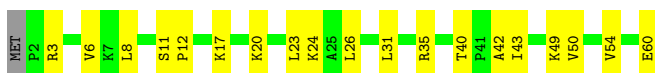
- Molecule 48: 50S ribosomal protein L30

Chain R3:  65% 33%



- Molecule 48: 50S ribosomal protein L30

Chain Y3:  67% 32%



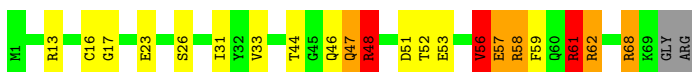
• Molecule 49: 50S ribosomal protein L31

Chain R4:  58% 30% 6%



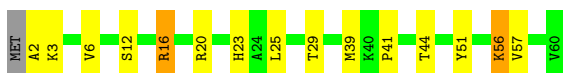
• Molecule 49: 50S ribosomal protein L31

Chain Y4:  68% 18% 7%



• Molecule 50: 50S ribosomal protein L32

Chain R5:  73% 22%



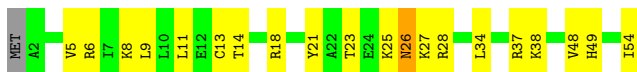
• Molecule 50: 50S ribosomal protein L32

Chain Y5:  73% 25%




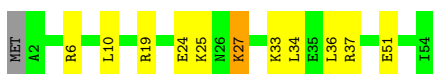
• Molecule 51: 50S ribosomal protein L33

Chain R6:  61% 35%



• Molecule 51: 50S ribosomal protein L33

Chain Y6:  78% 19%



• Molecule 52: 50S ribosomal protein L34

Chain R7:  59% 37%



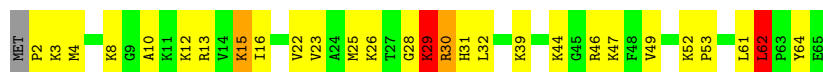
- Molecule 52: 50S ribosomal protein L34

Chain Y7:  69% 29%



- Molecule 53: 50S ribosomal protein L35

Chain R8:  55% 37%




- Molecule 53: 50S ribosomal protein L35

Chain Y8:  63% 34%



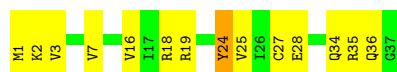
- Molecule 54: 50S ribosomal protein L36

Chain R9:  78% 16% 5%



- Molecule 54: 50S ribosomal protein L36

Chain Y9:  62% 35%



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	210.24Å 449.36Å 618.47Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	121.99 – 3.50	Depositor
% Data completeness (in resolution range)	97.9 (121.99-3.50)	Depositor
R_{merge}	0.17	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.45 (at 3.26Å)	Xtrriage
Refinement program	PHENIX 1.12-2829	Depositor
R, R_{free}	0.207 , 0.250	Depositor
Wilson B-factor (Å ²)	86.9	Xtrriage
Anisotropy	0.138	Xtrriage
L-test for twinning ²	$\langle L \rangle = 0.41$, $\langle L^2 \rangle = 0.23$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	291948	wwPDB-VP
Average B, all atoms (Å ²)	97.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.72% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, MG, 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	0.31	0/36097	0.87	27/56339 (0.0%)
1	XA	0.33	0/36100	0.90	26/56344 (0.0%)
2	QB	0.26	0/1942	0.55	2/2619 (0.1%)
2	XB	0.26	0/1950	0.51	0/2630
3	QC	0.26	0/1629	0.52	0/2195
3	XC	0.26	0/1629	0.51	0/2195
4	QD	0.28	0/1733	0.52	0/2318
4	XD	0.33	1/1733 (0.1%)	0.71	2/2318 (0.1%)
5	QE	0.29	0/1171	0.55	1/1576 (0.1%)
5	XE	0.26	0/1171	0.51	0/1576
6	QF	0.25	0/856	0.51	0/1154
6	XF	0.25	0/856	0.50	0/1154
7	QG	0.27	0/1276	0.50	1/1709 (0.1%)
7	XG	0.25	0/1276	0.47	0/1709
8	QH	0.26	0/1128	0.48	0/1517
8	XH	0.26	0/1128	0.49	0/1517
9	QI	0.31	0/1029	0.59	0/1379
9	XI	0.30	0/1017	0.52	0/1365
10	QJ	0.27	0/814	0.54	0/1095
10	XJ	0.26	0/790	0.53	0/1063
11	QK	0.25	0/900	0.50	0/1213
11	XK	0.25	0/879	0.46	0/1187
12	QL	0.27	0/991	0.53	0/1327
12	XL	0.26	0/972	0.54	0/1301
13	QM	0.25	0/965	0.52	0/1292
13	XM	0.27	0/956	0.55	0/1281
14	QN	0.27	0/501	0.54	0/664
14	XN	0.26	0/501	0.54	0/664
15	QO	0.25	0/745	0.48	0/992
15	XO	0.25	0/740	0.47	0/987
16	QP	0.26	0/721	0.47	0/970
16	XP	0.26	0/721	0.51	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
17	QQ	0.26	0/847	0.48	0/1131
17	XQ	0.25	0/847	0.53	0/1131
18	QR	0.25	0/579	0.49	0/768
18	XR	0.25	0/579	0.51	0/768
19	QS	0.27	0/680	0.64	0/915
19	XS	0.25	0/689	0.56	0/926
20	QT	0.27	0/765	0.57	0/1007
20	XT	0.27	0/765	0.55	0/1007
21	QU	0.23	0/221	0.49	0/288
21	XU	0.38	0/221	0.56	1/288 (0.3%)
22	QV	0.40	1/1836 (0.1%)	0.91	0/2859
22	XV	0.41	1/1836 (0.1%)	0.89	1/2859 (0.0%)
23	QX	0.23	0/293	0.69	0/455
23	XX	0.24	0/268	0.68	0/416
24	RA	0.38	0/69521	0.92	54/108529 (0.0%)
24	YA	0.41	0/69543	0.96	70/108563 (0.1%)
25	RB	0.32	0/2878	0.91	3/4490 (0.1%)
25	YB	0.36	0/2878	0.97	6/4490 (0.1%)
26	RD	0.29	0/2165	0.54	0/2919
26	YD	0.28	0/2165	0.52	0/2919
27	RE	0.28	0/1601	0.59	0/2160
27	YE	0.34	1/1601 (0.1%)	0.60	1/2160 (0.0%)
28	RF	0.29	0/1620	0.50	0/2194
28	YF	0.28	0/1620	0.51	0/2194
29	RG	0.28	0/1499	0.65	1/2016 (0.0%)
29	YG	0.26	0/1499	0.53	0/2016
30	RH	0.27	0/1362	0.58	1/1841 (0.1%)
30	YH	0.29	0/1362	0.55	0/1841
31	RI	0.28	0/1151	0.64	0/1558
31	YI	0.31	0/1151	0.68	2/1558 (0.1%)
32	RN	0.27	0/1131	0.52	0/1525
32	YN	0.27	0/1131	0.53	0/1525
33	RO	0.27	0/943	0.49	0/1269
33	YO	0.26	0/943	0.52	0/1269
34	RP	0.52	1/1162 (0.1%)	0.68	2/1544 (0.1%)
34	YP	0.29	0/1139	0.67	4/1514 (0.3%)
35	RQ	0.28	0/1143	0.59	1/1527 (0.1%)
35	YQ	0.27	0/1143	0.54	0/1527
36	RR	0.28	0/974	0.52	0/1302
36	YR	0.29	0/974	0.56	0/1302
37	RS	0.28	0/892	0.54	0/1187
37	YS	0.28	0/892	0.53	0/1187
38	RT	0.27	0/1155	0.51	0/1542

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
38	YT	0.28	0/1155	0.56	0/1542
39	RU	0.28	0/982	0.52	0/1306
39	YU	0.28	0/982	0.50	0/1306
40	RV	0.27	0/790	0.55	0/1057
40	YV	0.29	0/790	0.60	0/1057
41	RW	0.27	0/911	0.50	0/1220
41	YW	0.26	0/911	0.56	1/1220 (0.1%)
42	RX	0.27	0/739	0.47	0/993
42	YX	0.28	0/739	0.51	0/993
43	RY	0.27	0/831	0.48	0/1108
43	YY	0.29	0/831	0.57	2/1108 (0.2%)
44	RZ	0.28	0/1493	0.65	1/2026 (0.0%)
44	YZ	0.27	0/1493	0.61	1/2026 (0.0%)
45	R0	0.27	0/652	0.47	0/867
45	Y0	0.31	0/657	0.51	0/874
46	R1	0.29	0/761	0.53	0/1008
46	Y1	0.27	0/736	0.52	0/978
47	R2	0.27	0/583	0.51	0/771
47	Y2	0.26	0/583	0.48	0/771
48	R3	0.25	0/474	0.46	0/635
48	Y3	0.25	0/474	0.47	0/635
49	R4	0.28	0/578	0.60	0/776
49	Y4	0.27	0/578	0.60	0/776
50	R5	0.25	0/473	0.45	0/639
50	Y5	0.37	0/473	0.52	0/639
51	R6	0.23	0/460	0.47	0/613
51	Y6	0.43	1/460 (0.2%)	0.63	1/613 (0.2%)
52	R7	0.24	0/417	0.51	0/550
52	Y7	0.25	0/426	0.45	0/561
53	R8	0.30	0/525	0.65	1/691 (0.1%)
53	Y8	0.29	0/525	0.62	0/691
54	R9	0.24	0/310	0.48	0/407
54	Y9	0.26	0/310	0.50	0/407
All	All	0.35	6/315683 (0.0%)	0.84	213/471970 (0.0%)

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	XB	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	QC	0	1
4	QD	0	1
5	QE	0	2
5	XE	0	2
7	QG	0	1
7	XG	0	1
9	QI	0	1
12	QL	0	2
12	XL	0	2
13	QM	0	1
18	QR	0	1
18	XR	0	1
19	QS	0	5
20	QT	0	3
20	XT	0	3
26	YD	0	2
27	RE	0	3
27	YE	0	2
29	RG	0	4
29	YG	0	1
30	RH	0	7
30	YH	0	9
31	RI	0	7
31	YI	0	4
32	RN	0	2
32	YN	0	2
33	YO	0	1
34	RP	0	1
34	YP	0	2
35	RQ	0	3
35	YQ	0	2
36	RR	0	1
38	RT	0	1
38	YT	0	2
39	RU	0	1
39	YU	0	1
40	RV	0	2
40	YV	0	2
44	RZ	0	5
44	YZ	0	4
46	R1	0	1
46	Y1	0	1

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Mol	Chain	#Chirality outliers	#Planarity outliers
47	R2	0	2
47	Y2	0	1
49	R4	0	4
49	Y4	0	3
53	R8	0	3
53	Y8	0	1
54	Y9	0	1
All	All	0	116

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	RP	68	GLN	CG-CD	-11.33	1.25	1.51
22	XV	1	C	OP3-P	-10.64	1.48	1.61
22	QV	1	C	OP3-P	-10.59	1.48	1.61
27	YE	109	LYS	C-N	6.64	1.45	1.33
51	Y6	27	LYS	CD-CE	6.39	1.67	1.51
4	XD	159	ARG	CZ-NH1	-5.66	1.25	1.33

All (213) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	XD	159	ARG	NE-CZ-NH2	-18.27	111.16	120.30
4	XD	159	ARG	NE-CZ-NH1	14.35	127.48	120.30
29	RG	21	ARG	NE-CZ-NH2	10.54	125.57	120.30
1	XA	792	A	O4'-C1'-N9	8.90	115.32	108.20
1	XA	1158	C	C2-N1-C1'	8.42	128.06	118.80
25	YB	31	C	C2-N1-C1'	7.57	127.12	118.80
24	YA	1313	U	C2-N1-C1'	7.52	126.72	117.70
34	YP	61	ARG	CG-CD-NE	7.51	127.57	111.80
1	XA	186(F)	C	N3-C2-O2	-7.37	116.74	121.90
1	QA	1301	U	C2-N1-C1'	7.28	126.44	117.70
31	YI	52	ARG	NE-CZ-NH2	-7.26	116.67	120.30
30	RH	171	LEU	C-N-CA	7.24	139.80	121.70
24	RA	1314	C	C2-N1-C1'	7.21	126.73	118.80
27	YE	78	LEU	CA-CB-CG	7.21	131.88	115.30
1	QA	1301	U	N1-C2-O2	7.18	127.83	122.80
1	XA	1158	C	N1-C2-O2	6.97	123.08	118.90
25	RB	31	C	C2-N1-C1'	6.90	126.39	118.80
1	QA	1198	G	C5-C6-O6	6.88	132.73	128.60
1	XA	789	U	N3-C2-O2	-6.86	117.40	122.20
24	YA	1314	C	C2-N1-C1'	6.83	126.31	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	RA	1899	G	C2-N3-C4	-6.80	108.50	111.90
24	RA	828	U	N3-C2-O2	-6.79	117.44	122.20
24	RA	676	A	N7-C8-N9	6.79	117.20	113.80
53	R8	62	LEU	CA-CB-CG	6.79	130.92	115.30
1	QA	1066	C	C2-N1-C1'	6.79	126.26	118.80
1	XA	368	U	C2-N3-C4	-6.77	122.94	127.00
41	YW	65	LEU	CA-CB-CG	6.76	130.84	115.30
24	RA	1882	C	C2-N1-C1'	6.75	126.23	118.80
24	RA	1313	U	C2-N1-C1'	6.75	125.80	117.70
24	RA	456	C	C2-N1-C1'	6.71	126.18	118.80
24	YA	1385	G	O4'-C1'-N9	6.70	113.56	108.20
24	YA	2138	C	N3-C2-O2	-6.70	117.21	121.90
24	YA	2152	G	C5-C6-O6	6.70	132.62	128.60
1	QA	1301	U	N3-C2-O2	-6.68	117.53	122.20
24	RA	1407	C	C2-N1-C1'	6.67	126.14	118.80
44	RZ	179	ASP	C-N-CA	6.64	138.31	121.70
1	XA	1158	C	N3-C2-O2	-6.63	117.26	121.90
25	YB	31	C	N1-C2-O2	6.60	122.86	118.90
24	YA	537	C	C2-N1-C1'	6.59	126.05	118.80
24	YA	1204	A	O4'-C1'-N9	6.59	113.47	108.20
24	RA	828	U	N1-C2-O2	6.57	127.40	122.80
34	RP	67	MET	CA-CB-CG	6.55	124.43	113.30
24	YA	2152	G	N1-C6-O6	-6.53	115.98	119.90
24	RA	1502	C	C2-N1-C1'	6.49	125.94	118.80
24	YA	774	A	C2-N3-C4	-6.47	107.37	110.60
43	YY	14	LEU	CB-CG-CD1	-6.46	100.02	111.00
1	QA	1158	C	C2-N1-C1'	6.45	125.89	118.80
44	YZ	179	ASP	C-N-CA	6.23	137.28	121.70
24	RA	1474	C	C2-N1-C1'	6.21	125.63	118.80
24	YA	2140	C	N3-C2-O2	-6.19	117.57	121.90
1	QA	1198	G	N1-C6-O6	-6.11	116.23	119.90
1	XA	1158	C	C6-N1-C2	-6.10	117.86	120.30
24	YA	2681	C	P-O3'-C3'	6.09	127.00	119.70
31	YI	121	LYS	CD-CE-NZ	6.08	125.69	111.70
24	YA	2137	C	N1-C2-O2	6.04	122.53	118.90
1	QA	1065	U	P-O3'-C3'	6.04	126.95	119.70
1	QA	792	A	P-O3'-C3'	6.04	126.94	119.70
24	RA	2161	C	N1-C2-O2	6.03	122.52	118.90
24	RA	904	C	C2-N1-C1'	6.02	125.42	118.80
22	XV	20	G	O4'-C1'-N9	-6.00	103.40	108.20
1	XA	449	C	C2-N1-C1'	5.99	125.39	118.80
24	RA	546	C	N1-C2-O2	5.97	122.48	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	2468	G	O4'-C1'-N9	5.97	112.98	108.20
24	RA	1022	G	P-O3'-C3'	5.97	126.86	119.70
24	RA	1204	A	O4'-C1'-N9	5.96	112.97	108.20
1	XA	754	C	C2-N1-C1'	5.96	125.35	118.80
25	YB	44	G	C6-C5-N7	5.96	133.97	130.40
1	QA	1158	C	N1-C2-O2	5.94	122.46	118.90
24	YA	1180	C	C2-N1-C1'	5.93	125.32	118.80
24	YA	1653	G	P-O3'-C3'	5.91	126.79	119.70
2	QB	111	ARG	CG-CD-NE	5.91	124.20	111.80
24	RA	530	G	O4'-C1'-N9	5.89	112.91	108.20
24	YA	2584	U	C2-N1-C1'	5.86	124.73	117.70
24	RA	2688	U	N3-C2-O2	-5.86	118.10	122.20
24	RA	373	U	C2-N1-C1'	5.83	124.70	117.70
1	XA	812	C	P-O3'-C3'	5.81	126.67	119.70
24	YA	265	A	O4'-C1'-N9	5.81	112.85	108.20
24	RA	676	A	C5-N7-C8	-5.80	101.00	103.90
51	Y6	27	LYS	CG-CD-CE	5.78	129.25	111.90
24	YA	2609	U	C2-N1-C1'	-5.78	110.77	117.70
24	YA	2335	A	O4'-C1'-N9	5.77	112.81	108.20
24	RA	1313	U	N3-C2-O2	-5.74	118.18	122.20
1	XA	191(B)	G	C5-C6-O6	5.73	132.04	128.60
24	RA	1931	U	N3-C2-O2	-5.73	118.19	122.20
24	YA	1022	G	P-O3'-C3'	5.72	126.57	119.70
24	RA	2584	U	O4'-C1'-N1	5.71	112.77	108.20
1	XA	191(B)	G	N3-C4-N9	-5.70	122.58	126.00
1	QA	980	C	N1-C2-O2	5.69	122.31	118.90
5	QE	153	LYS	CD-CE-NZ	5.68	124.76	111.70
24	RA	1314	C	C6-N1-C1'	-5.66	114.01	120.80
1	QA	754	C	C2-N1-C1'	5.65	125.02	118.80
24	YA	846	C	P-O3'-C3'	5.65	126.48	119.70
24	RA	846	C	C6-N1-C2	-5.64	118.04	120.30
24	YA	783	A	N1-C6-N6	5.64	121.99	118.60
1	XA	1158	C	C6-N1-C1'	-5.61	114.07	120.80
24	YA	2776	A	P-O3'-C3'	5.59	126.41	119.70
24	YA	1411	C	C2-N1-C1'	5.58	124.94	118.80
24	YA	2031	A	O4'-C1'-N9	5.58	112.67	108.20
1	XA	1362(A)	C	N3-C2-O2	-5.58	118.00	121.90
21	XU	15	ARG	NE-CZ-NH2	5.57	123.09	120.30
34	YP	61	ARG	NE-CZ-NH2	5.57	123.09	120.30
1	QA	1066	C	N1-C2-O2	5.56	122.24	118.90
24	YA	1406	U	C2-N1-C1'	5.56	124.37	117.70
24	RA	2307	G	O4'-C1'-N9	5.55	112.64	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1992	G	P-O3'-C3'	5.54	126.34	119.70
24	RA	1992	G	P-O3'-C3'	5.52	126.33	119.70
1	QA	980	C	N3-C2-O2	-5.52	118.04	121.90
24	RA	404	C	P-O3'-C3'	5.50	126.30	119.70
24	YA	114	U	C2-N1-C1'	5.50	124.30	117.70
24	YA	783	A	C8-N9-C4	-5.50	103.60	105.80
2	QB	111	ARG	CB-CG-CD	-5.50	97.31	111.60
24	YA	1678	G	C6-C5-N7	-5.48	127.11	130.40
25	YB	31	C	C6-N1-C1'	-5.48	114.22	120.80
24	YA	229	A	OP2-P-O3'	5.48	117.25	105.20
1	QA	1395	C	N1-C2-O2	5.48	122.19	118.90
1	QA	1163	C	C2-N1-C1'	5.47	124.82	118.80
24	YA	2779	U	C2-N1-C1'	5.45	124.24	117.70
24	RA	2284	C	P-O3'-C3'	5.45	126.23	119.70
24	YA	621	A	O4'-C1'-N9	5.43	112.54	108.20
1	XA	687	A	P-O3'-C3'	5.42	126.21	119.70
1	QA	960	U	C2-N1-C1'	5.42	124.21	117.70
24	YA	2152	G	N3-C4-N9	-5.42	122.75	126.00
1	XA	328	C	P-O3'-C3'	5.41	126.19	119.70
24	YA	912	C	C2-N1-C1'	5.41	124.75	118.80
24	YA	1694	C	P-O3'-C3'	5.41	126.19	119.70
24	YA	783	A	C5-N7-C8	-5.39	101.21	103.90
1	XA	368	U	C5-C4-O4	-5.39	122.67	125.90
24	YA	1314	C	C6-N1-C1'	-5.36	114.37	120.80
24	RA	846	C	P-O3'-C3'	5.36	126.13	119.70
24	RA	2342	C	C2-N1-C1'	5.36	124.69	118.80
25	YB	44	G	C4-N9-C1'	-5.34	119.56	126.50
24	YA	1930	G	C4-N9-C1'	-5.34	119.56	126.50
1	QA	108	G	O4'-C1'-N9	5.33	112.46	108.20
24	YA	1411	C	C5-C6-N1	5.33	123.67	121.00
24	RA	828	U	C2-N1-C1'	5.33	124.09	117.70
24	YA	1591	G	N3-C4-N9	5.32	129.19	126.00
24	RA	893	C	C2-N1-C1'	5.32	124.65	118.80
24	RA	1598	C	N1-C2-O2	5.31	122.09	118.90
24	RA	637	A	P-O3'-C3'	5.31	126.07	119.70
24	YA	1021	A	C2-N3-C4	-5.30	107.95	110.60
24	RA	265	A	O4'-C1'-N9	5.30	112.44	108.20
34	YP	59	LEU	CA-CB-CG	5.30	127.48	115.30
24	YA	242	G	P-O3'-C3'	5.30	126.06	119.70
24	RA	2439	A	P-O3'-C3'	5.29	126.05	119.70
24	YA	99	U	OP2-P-O3'	5.29	116.83	105.20
7	QG	156	TRP	CA-CB-CG	5.28	123.73	113.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	YA	1591	G	C4-N9-C1'	5.28	133.36	126.50
24	YA	1407	C	C2-N1-C1'	5.27	124.60	118.80
24	RA	2161	C	N3-C2-O2	-5.26	118.22	121.90
24	RA	1899	G	N3-C4-N9	-5.26	122.84	126.00
24	RA	537	C	C2-N1-C1'	5.25	124.58	118.80
24	YA	752	A	P-O3'-C3'	5.25	126.00	119.70
1	QA	115	G	P-O3'-C3'	5.24	125.98	119.70
24	RA	1407	C	C5-C6-N1	5.24	123.62	121.00
24	YA	1053	C	C2-N1-C1'	5.24	124.56	118.80
24	YA	1332	G	C4-N9-C1'	5.23	133.30	126.50
24	RA	2430	A	N1-C2-N3	5.23	131.91	129.30
24	RA	456	C	C6-N1-C1'	-5.23	114.53	120.80
34	YP	61	ARG	NE-CZ-NH1	-5.23	117.69	120.30
1	QA	690	G	O4'-C1'-N9	5.22	112.38	108.20
24	RA	285	C	C2-N1-C1'	5.22	124.54	118.80
25	RB	11	C	N1-C2-O2	5.21	122.03	118.90
1	QA	717	C	N1-C2-O2	5.21	122.03	118.90
24	YA	140	A	C8-N9-C4	-5.21	103.72	105.80
24	YA	1313	U	N1-C2-O2	5.21	126.44	122.80
1	QA	913	A	P-O3'-C3'	5.20	125.94	119.70
24	YA	783	A	N7-C8-N9	5.19	116.40	113.80
24	RA	2501	C	C2-N1-C1'	-5.18	113.10	118.80
1	XA	244	U	P-O3'-C3'	5.18	125.92	119.70
1	QA	108	G	C4-N9-C1'	5.17	133.21	126.50
1	XA	961	U	N1-C2-N3	5.16	118.00	114.90
24	YA	1313	U	N3-C2-O2	-5.16	118.59	122.20
24	RA	1314	C	N1-C2-O2	5.16	121.99	118.90
24	YA	214	G	N1-C6-O6	-5.16	116.81	119.90
24	RA	1914	C	O4'-C1'-N1	5.15	112.32	108.20
1	QA	753	A	P-O3'-C3'	5.15	125.88	119.70
24	YA	748	G	O4'-C1'-N9	5.14	112.31	108.20
24	YA	846	C	C6-N1-C2	-5.14	118.24	120.30
1	QA	266	G	P-O3'-C3'	5.13	125.86	119.70
24	YA	271(B)	G	P-O3'-C3'	5.13	125.86	119.70
24	YA	2343	C	N3-C2-O2	-5.13	118.31	121.90
24	YA	2889	C	C2-N1-C1'	5.13	124.44	118.80
24	RA	533	G	C4-N9-C1'	5.12	133.16	126.50
34	RP	59	LEU	CA-CB-CG	5.12	127.08	115.30
24	RA	1502	C	C6-N1-C1'	-5.12	114.66	120.80
1	XA	1224	G	C8-N9-C1'	5.11	133.64	127.00
25	RB	44	G	C4-N9-C1'	-5.10	119.87	126.50
1	XA	1498	U	P-O3'-C3'	5.10	125.82	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	XA	992	U	P-O3'-C3'	5.09	125.81	119.70
24	YA	621	A	C2-N3-C4	-5.08	108.06	110.60
24	YA	1882	C	C2-N1-C1'	5.08	124.39	118.80
1	XA	1452	C	N1-C2-O2	5.08	121.95	118.90
24	YA	140	A	N7-C8-N9	5.06	116.33	113.80
24	YA	1558	A	P-O3'-C3'	5.06	125.78	119.70
24	RA	676	A	C8-N9-C4	-5.06	103.78	105.80
1	QA	1346	A	P-O3'-C3'	5.05	125.76	119.70
43	YY	14	LEU	CA-CB-CG	-5.05	103.68	115.30
24	YA	1314	C	C5-C6-N1	5.05	123.53	121.00
24	RA	1313	U	N1-C2-O2	5.05	126.33	122.80
1	XA	449	C	O4'-C1'-N1	5.05	112.24	108.20
24	YA	2342	C	N1-C2-O2	5.04	121.93	118.90
35	RQ	76	LYS	C-N-CA	5.04	134.31	121.70
25	YB	56	G	C4-N9-C1'	5.04	133.05	126.50
24	YA	229	A	P-O3'-C3'	5.04	125.74	119.70
1	QA	1066	C	C5-C6-N1	5.03	123.51	121.00
24	RA	1558	A	P-O3'-C3'	5.02	125.73	119.70
24	RA	2307	G	C4-N9-C1'	5.01	133.01	126.50
24	RA	546	C	N3-C2-O2	-5.01	118.39	121.90
1	XA	1224	G	C4-N9-C1'	-5.01	119.99	126.50
24	YA	1529	A	N1-C2-N3	5.01	131.80	129.30
24	YA	1332	G	N7-C8-N9	5.01	115.60	113.10
24	YA	12	U	C2-N1-C1'	5.00	123.70	117.70
24	YA	1313	U	C6-N1-C1'	-5.00	114.20	121.20

There are no chirality outliers.

All (116) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	QC	143	GLU	Peptide
4	QD	33	MET	Peptide
5	QE	10	MET	Peptide
5	QE	25	ARG	Peptide
7	QG	155	ARG	Peptide
9	QI	124	GLN	Sidechain
12	QL	104	VAL	Peptide
12	QL	47	LYS	Peptide
13	QM	117	VAL	Peptide
18	QR	21	LYS	Peptide
19	QS	38	SER	Peptide
19	QS	40	ILE	Peptide

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Mol	Chain	Res	Type	Group
19	QS	41	VAL	Peptide
19	QS	5	LEU	Peptide
19	QS	6	LYS	Peptide
20	QT	73	HIS	Peptide
20	QT	94	ALA	Peptide
20	QT	97	ALA	Peptide
46	R1	87	PRO	Peptide
47	R2	46	GLN	Peptide
47	R2	70	GLN	Peptide
49	R4	46	GLN	Peptide
49	R4	56	VAL	Peptide
49	R4	57	GLU	Peptide
49	R4	61	ARG	Peptide
53	R8	28	GLY	Peptide
53	R8	29	LYS	Peptide
53	R8	62	LEU	Peptide
27	RE	130	GLY	Peptide
27	RE	72	VAL	Peptide
27	RE	79	ARG	Peptide
29	RG	4	ASP	Peptide
29	RG	52	ILE	Peptide
29	RG	81	LYS	Peptide
29	RG	82	LEU	Peptide
30	RH	127	GLU	Peptide
30	RH	151	ILE	Peptide
30	RH	153	LYS	Peptide
30	RH	154	PRO	Peptide
30	RH	156	ALA	Peptide
30	RH	82	GLY	Peptide
30	RH	85	LYS	Peptide
31	RI	10	GLU	Peptide
31	RI	11	ASN	Peptide
31	RI	119	PRO	Peptide
31	RI	130	TYR	Peptide
31	RI	131	LYS	Peptide
31	RI	144	VAL	Peptide
31	RI	17	GLN	Peptide
32	RN	21	LYS	Peptide
32	RN	22	THR	Peptide
34	RP	115	LEU	Peptide
35	RQ	104	PHE	Peptide
35	RQ	65	PHE	Peptide

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Mol	Chain	Res	Type	Group
35	RQ	89	ASN	Peptide
36	RR	57	ARG	Peptide
38	RT	122	ASP	Peptide
39	RU	95	LEU	Peptide
40	RV	43	GLU	Peptide
40	RV	49	THR	Peptide
44	RZ	136	PHE	Peptide
44	RZ	146	ILE	Peptide
44	RZ	179	ASP	Peptide
44	RZ	52	SER	Peptide
44	RZ	62	PRO	Peptide
2	XB	233	SER	Peptide
5	XE	26	PHE	Peptide
5	XE	74	GLY	Peptide
7	XG	5	ARG	Peptide
12	XL	104	VAL	Peptide
12	XL	47	LYS	Peptide
18	XR	21	LYS	Peptide
20	XT	73	HIS	Peptide
20	XT	85	MET	Peptide
20	XT	94	ALA	Peptide
46	Y1	40	ARG	Peptide
47	Y2	46	GLN	Peptide
49	Y4	48	ARG	Peptide
49	Y4	56	VAL	Peptide
49	Y4	61	ARG	Peptide
53	Y8	62	LEU	Peptide
54	Y9	24	TYR	Peptide
26	YD	237	GLU	Peptide
26	YD	35	LYS	Peptide
27	YE	131	ALA	Peptide
27	YE	57	LYS	Peptide
29	YG	116	ASP	Peptide
30	YH	150	ALA	Peptide
30	YH	151	ILE	Peptide
30	YH	152	ARG	Peptide
30	YH	153	LYS	Peptide
30	YH	154	PRO	Peptide
30	YH	156	ALA	Peptide
30	YH	7	LEU	Peptide
30	YH	82	GLY	Peptide
30	YH	85	LYS	Peptide

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Mol	Chain	Res	Type	Group
31	YI	121	LYS	Peptide
31	YI	17	GLN	Peptide
31	YI	86	THR	Peptide
31	YI	9	LEU	Peptide
32	YN	115	ARG	Peptide
32	YN	22	THR	Peptide
33	YO	96	THR	Peptide
34	YP	107	LYS	Peptide
34	YP	115	LEU	Peptide
35	YQ	104	PHE	Peptide
35	YQ	89	ASN	Peptide
38	YT	111	ARG	Peptide
38	YT	5	ALA	Peptide
39	YU	95	LEU	Peptide
40	YV	47	VAL	Peptide
40	YV	49	THR	Peptide
44	YZ	179	ASP	Peptide
44	YZ	52	SER	Peptide
44	YZ	62	PRO	Peptide
44	YZ	93	ASP	Peptide

5.2 Too-close contacts

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	32246	0	16278	582	0
1	XA	32248	0	16279	542	2
2	QB	1907	0	1958	59	0
2	XB	1915	0	1969	56	0
3	QC	1605	0	1668	59	0
3	XC	1605	0	1668	47	0
4	QD	1703	0	1766	63	0
4	XD	1703	0	1767	50	1
5	QE	1155	0	1213	25	0
5	XE	1155	0	1213	22	0
6	QF	843	0	857	15	0
6	XF	843	0	857	28	0
7	QG	1257	0	1296	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	XG	1257	0	1296	27	0
8	QH	1108	0	1165	44	0
8	XH	1108	0	1165	37	0
9	QI	1010	0	1037	57	0
9	XI	998	0	1024	32	0
10	QJ	801	0	849	42	0
10	XJ	777	0	816	38	0
11	QK	885	0	904	26	0
11	XK	864	0	881	28	0
12	QL	975	0	1062	33	0
12	XL	956	0	1046	25	0
13	QM	955	0	1021	43	0
13	XM	946	0	1007	36	0
14	QN	492	0	529	27	0
14	XN	492	0	529	16	0
15	QO	734	0	771	18	0
15	XO	729	0	768	12	0
16	QP	705	0	725	12	0
16	XP	705	0	725	25	0
17	QQ	834	0	904	21	0
17	XQ	834	0	904	25	0
18	QR	574	0	644	16	0
18	XR	574	0	644	19	0
19	QS	665	0	686	40	0
19	XS	674	0	699	24	0
20	QT	763	0	861	23	0
20	XT	763	0	861	25	0
21	QU	217	0	234	7	0
21	XU	217	0	234	6	0
22	QV	1644	0	836	23	0
22	XV	1644	0	836	15	0
23	QX	261	0	130	2	0
23	XX	239	0	119	3	0
24	RA	62071	0	31291	862	2
24	YA	62091	0	31301	958	0
25	RB	2573	0	1306	44	0
25	YB	2573	0	1306	45	0
26	RD	2115	0	2195	56	0
26	YD	2115	0	2195	75	0
27	RE	1568	0	1634	52	0
27	YE	1568	0	1634	65	0
28	RF	1585	0	1632	54	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
28	YF	1585	0	1632	44	0
29	RG	1474	0	1535	58	0
29	YG	1474	0	1535	51	0
30	RH	1336	0	1418	41	0
30	YH	1336	0	1418	38	0
31	RI	1136	0	1223	26	2
31	YI	1136	0	1223	43	0
32	RN	1104	0	1180	17	0
32	YN	1104	0	1180	30	0
33	RO	933	0	996	26	0
33	YO	933	0	996	17	0
34	RP	1145	0	1228	43	0
34	YP	1122	0	1206	56	0
35	RQ	1122	0	1179	51	0
35	YQ	1122	0	1179	32	0
36	RR	960	0	1021	38	0
36	YR	960	0	1021	29	0
37	RS	882	0	943	31	0
37	YS	882	0	943	32	0
38	RT	1141	0	1202	37	0
38	YT	1141	0	1202	41	0
39	RU	964	0	1022	33	0
39	YU	964	0	1022	39	0
40	RV	779	0	852	24	0
40	YV	779	0	852	17	1
41	RW	900	0	964	26	0
41	YW	900	0	964	21	0
42	RX	725	0	778	23	0
42	YX	725	0	778	14	0
43	RY	818	0	911	12	0
43	YY	818	0	912	26	0
44	RZ	1461	0	1493	55	0
44	YZ	1461	0	1493	46	0
45	R0	643	0	667	18	0
45	Y0	648	0	672	23	0
46	R1	755	0	836	16	0
46	Y1	729	0	802	20	0
47	R2	581	0	629	13	0
47	Y2	581	0	629	12	1
48	R3	469	0	518	13	0
48	Y3	469	0	518	14	0
49	R4	565	0	560	31	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
49	Y4	565	0	559	20	0
50	R5	459	0	476	17	0
50	Y5	459	0	478	11	1
51	R6	453	0	475	16	0
51	Y6	453	0	474	11	0
52	R7	409	0	454	14	0
52	Y7	418	0	467	10	0
53	R8	517	0	582	25	0
53	Y8	517	0	582	24	0
54	R9	307	0	336	6	0
54	Y9	307	0	335	13	0
55	QA	180	0	0	0	0
55	QC	1	0	0	0	0
55	QF	1	0	0	0	0
55	QH	1	0	0	0	0
55	QL	1	0	0	0	0
55	QV	6	0	0	0	0
55	QX	2	0	0	0	0
55	R0	2	0	0	0	0
55	R1	2	0	0	0	0
55	R5	1	0	0	0	0
55	RA	493	0	0	0	0
55	RB	10	0	0	0	0
55	RD	1	0	0	0	0
55	RE	4	0	0	0	0
55	RF	1	0	0	0	0
55	RI	1	0	0	0	0
55	RN	1	0	0	0	0
55	RO	1	0	0	0	0
55	RP	3	0	0	0	0
55	RQ	2	0	0	0	0
55	RT	1	0	0	0	0
55	RU	1	0	0	0	0
55	RW	1	0	0	0	0
55	RX	1	0	0	0	0
55	RY	1	0	0	0	0
55	XA	171	0	0	0	0
55	XE	2	0	0	0	0
55	XL	1	0	0	0	0
55	XM	1	0	0	0	0
55	XQ	1	0	0	0	0
55	XS	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
55	XV	8	0	0	0	0
55	Y0	1	0	0	0	0
55	Y5	1	0	0	0	0
55	Y7	1	0	0	0	0
55	Y8	1	0	0	0	0
55	YA	515	0	0	0	0
55	YB	10	0	0	0	0
55	YD	2	0	0	0	0
55	YE	4	0	0	0	0
55	YO	1	0	0	0	0
55	YP	3	0	0	0	0
55	YQ	3	0	0	0	0
55	YU	1	0	0	0	0
55	YX	2	0	0	0	0
55	YY	1	0	0	0	0
56	QD	8	0	0	1	0
56	XD	8	0	0	2	0
57	QN	1	0	0	0	0
57	R4	1	0	0	0	0
57	R5	1	0	0	0	0
57	R6	1	0	0	0	0
57	R9	1	0	0	0	0
57	RY	1	0	0	0	0
57	XN	1	0	0	0	0
57	Y4	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y6	1	0	0	0	0
57	Y9	1	0	0	0	0
57	YY	1	0	0	0	0
All	All	291948	0	197745	5207	5

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

All (5207) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2285:C:OP2	51:R6:6:ARG:NH2	1.85	1.08
24:RA:2068:U:H3	24:RA:2430:A:H2	1.11	0.99
24:RA:676:A:H8	24:RA:2069:G:H21	1.04	0.98
10:QJ:4:ILE:HG22	10:QJ:74:ILE:HG12	1.46	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:686:U:H1'	11:XK:42:TRP:HE1	1.31	0.93
1:QA:481:G:HO2'	1:QA:482:A:H8	1.02	0.93
1:QA:426:G:OP2	4:QD:36:ARG:NH1	2.03	0.92
25:YB:8:U:H3	25:YB:112:G:H1	0.98	0.92
24:YA:1138:G:H21	32:YN:106:MET:HE3	1.35	0.90
24:YA:2470:G:H5'	35:YQ:56:ARG:HH21	1.36	0.90
34:YP:61:ARG:HH21	53:Y8:13:ARG:HD2	1.35	0.90
49:Y4:61:ARG:HH11	49:Y4:62:ARG:HA	1.34	0.90
27:YE:78:LEU:HD23	27:YE:79:ARG:HG2	1.50	0.90
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.54	0.89
49:Y4:57:GLU:HG2	49:Y4:61:ARG:HB3	1.54	0.89
24:YA:2304:G:H22	24:YA:2312:U:H3	1.21	0.88
24:RA:884:C:O2	24:RA:892:G:N2	2.07	0.88
4:QD:30:LYS:HG2	4:QD:35:ARG:HD2	1.57	0.87
24:YA:888:C:H3'	24:YA:889:C:H4'	1.57	0.87
30:RH:18:GLU:HB2	30:RH:25:LYS:HB2	1.57	0.87
24:RA:1899:G:N2	24:RA:1902:C:H41	1.72	0.86
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.39	0.85
25:RB:37:C:O2	37:RS:95:HIS:NE2	2.10	0.85
49:R4:55:ARG:O	49:R4:60:GLN:NE2	2.10	0.85
1:QA:259:G:OP2	20:QT:83:ARG:NH1	2.10	0.84
8:XH:109:ILE:HG23	8:XH:137:VAL:HG13	1.59	0.84
19:QS:19:VAL:HG21	19:QS:44:MET:HG2	1.59	0.84
49:R4:61:ARG:HH11	49:R4:62:ARG:HA	1.42	0.84
24:RA:1568:G:H5''	26:RD:61:LEU:HD23	1.60	0.83
45:R0:10:THR:HG22	45:R0:12:ASN:H	1.42	0.83
10:QJ:29:ARG:NH2	1:XA:1164:G:OP1	2.11	0.83
13:QM:23:TYR:HB3	13:QM:67:GLU:HG3	1.61	0.83
1:XA:1348:U:H3	1:XA:1374:A:H2	1.23	0.83
4:QD:18:LYS:NZ	4:QD:31:CYS:SG	2.52	0.82
24:RA:27:G:N2	24:RA:513:A:OP2	2.11	0.82
24:RA:819:A:OP2	24:RA:1187:G:N2	2.12	0.82
24:YA:270(O):U:H2'	31:YI:52:ARG:HH22	1.43	0.82
24:YA:2245:U:H5'	24:YA:2246:G:H5'	1.60	0.82
13:XM:3:ARG:HG3	13:XM:9:ILE:HG21	1.60	0.82
24:YA:259:G:H21	24:YA:621:A:H8	1.25	0.82
24:YA:996:A:OP2	39:YU:92:ARG:NH2	2.12	0.82
41:RW:4:LYS:HE3	41:RW:6:ILE:HD11	1.60	0.81
1:XA:1127:G:N2	1:XA:1145:C:C2	2.48	0.81
1:QA:1422:G:H5''	33:RO:48:PRO:HB3	1.63	0.81
1:QA:559:A:H4'	1:QA:560:U:H3'	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1485:G:H1	24:RA:1504:C:H42	1.29	0.81
1:QA:501:C:H2'	1:QA:502:G:H8	1.46	0.81
34:YP:61:ARG:NH2	53:Y8:13:ARG:HD2	1.96	0.81
24:RA:2285:C:P	51:R6:6:ARG:HH22	2.05	0.80
24:YA:2701:C:H3'	24:YA:2702:U:H5''	1.60	0.80
24:YA:1800:C:OP2	26:YD:183:ARG:NH1	2.14	0.80
24:YA:1062:G:H1	24:YA:1076:C:H42	1.26	0.80
27:RE:2:LYS:HD2	27:RE:95:ILE:HG23	1.64	0.80
31:RI:4:ILE:HG22	31:RI:18:VAL:HG22	1.64	0.80
24:YA:2296:U:OP2	37:YS:9:ARG:NH2	2.13	0.80
1:XA:1028(A):C:O2	1:XA:1032(B):G:N2	2.15	0.80
26:RD:8:PRO:HB3	26:RD:14:ARG:HB3	1.63	0.80
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.15	0.79
24:RA:2102:U:H3	24:RA:2187:G:H1	1.27	0.79
24:YA:141:A:H8	24:YA:1595:G:H21	1.30	0.79
24:YA:2068:U:H3	24:YA:2430:A:H2	1.29	0.79
24:YA:1649:G:O2'	36:YR:107:ASP:OD1	2.00	0.79
37:YS:10:ARG:NH1	37:YS:91:PRO:O	2.16	0.79
1:QA:932:C:OP2	7:QG:3:ARG:NH1	2.16	0.79
1:XA:1028(A):C:N3	1:XA:1032(B):G:N1	2.31	0.79
1:XA:1291:G:O2'	9:XI:38:GLN:NE2	2.16	0.79
1:QA:1002:G:H1	1:QA:1038:C:H42	1.29	0.79
27:YE:104:VAL:HG11	27:YE:188:VAL:HG12	1.65	0.79
1:QA:951:G:OP2	13:QM:102:ARG:NH2	2.16	0.78
14:QN:4:LYS:HA	14:QN:7:ILE:HG12	1.65	0.78
1:QA:448:A:OP2	1:QA:485:G:N2	2.15	0.78
24:YA:2327:A:H2'	24:YA:2328:A:C8	2.18	0.78
49:Y4:13:ARG:HH12	49:Y4:23:GLU:HG3	1.48	0.78
2:QB:8:LYS:HD3	2:QB:10:LEU:H	1.47	0.78
33:RO:35:VAL:HG11	33:RO:103:ALA:HB3	1.64	0.78
24:YA:2646:C:OP2	24:YA:2732:G:O2'	2.01	0.78
27:YE:144:ARG:HG3	27:YE:145:LYS:H	1.48	0.78
15:QO:29:VAL:HG21	15:QO:81:LEU:HD21	1.66	0.78
44:RZ:166:SER:HB3	44:RZ:168:GLU:H	1.46	0.78
24:YA:958:U:OP2	35:YQ:14:ARG:NH1	2.16	0.78
35:RQ:81:VAL:O	35:RQ:82:ARG:NE	2.17	0.78
1:XA:1446:A:H4'	38:YT:125:ARG:HH22	1.49	0.78
24:RA:593:G:H4'	53:R8:61:LEU:HD12	1.63	0.78
9:XI:111:ARG:NH1	9:XI:112:LYS:O	2.16	0.78
1:QA:1222:G:H5''	19:QS:78:ARG:HH12	1.47	0.78
24:YA:1109:C:O2'	24:YA:1110:G:O4'	2.00	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YG:29:TRP:O	29:YG:33:ARG:NH1	2.17	0.78
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.17	0.78
13:XM:49:THR:HG22	13:XM:51:ALA:H	1.49	0.78
24:RA:2882:A:OP1	36:RR:96:ARG:NH1	2.15	0.77
44:RZ:53:ILE:HG22	44:RZ:71:VAL:HG13	1.64	0.77
24:YA:2783:G:H21	27:YE:37:ARG:HH22	1.32	0.77
45:Y0:10:THR:HG22	45:Y0:12:ASN:H	1.49	0.77
25:RB:40:U:O2	25:RB:45:A:N6	2.17	0.77
25:YB:40:U:O2	25:YB:45:A:N6	2.17	0.77
24:RA:1012:U:OP1	39:RU:75:ASN:ND2	2.18	0.77
9:QI:117:HIS:HB2	9:QI:121:ARG:HE	1.49	0.77
9:QI:125:TYR:HE2	9:QI:127:LYS:HE2	1.49	0.77
27:YE:24:THR:HG23	27:YE:186:GLY:HA2	1.67	0.77
1:XA:719:C:H1'	18:XR:49:LYS:HB2	1.66	0.77
39:RU:90:VAL:O	39:RU:92:ARG:N	2.18	0.77
24:YA:2794:C:O2	24:YA:2802:G:N2	2.18	0.77
1:QA:414:A:OP2	1:QA:428:G:N2	2.17	0.77
24:RA:2483:C:N3	35:RQ:124:LYS:NZ	2.33	0.77
24:YA:249:C:O2	53:Y8:12:LYS:NZ	2.16	0.76
24:YA:1689:A:H62	24:YA:1698:A:H2	1.31	0.76
24:RA:807:U:H2'	24:RA:808:G:H8	1.50	0.76
48:R3:7:LYS:HG2	48:R3:34:GLU:HG3	1.67	0.76
1:QA:714:G:H2'	1:QA:715:A:C8	2.21	0.76
8:QH:102:ARG:HH22	8:QH:105:ARG:HG3	1.50	0.76
24:RA:2844:G:H3'	24:RA:2845:G:H8	1.49	0.76
38:RT:102:ILE:HG23	38:RT:110:ILE:HD12	1.64	0.76
49:Y4:51:ASP:HB2	49:Y4:53:GLU:HG2	1.67	0.76
24:YA:2724:C:OP1	27:YE:118:LYS:NZ	2.18	0.76
1:XA:559:A:OP1	5:XE:126:ARG:NH2	2.17	0.76
1:XA:675:A:H1'	11:XK:116:HIS:CD2	2.21	0.76
29:RG:47:LYS:HB3	29:RG:81:LYS:HD2	1.67	0.76
24:YA:2134:A:N6	24:YA:2156:G:O2'	2.19	0.76
1:QA:1350:A:OP1	9:QI:121:ARG:NH1	2.18	0.76
4:QD:31:CYS:SG	4:QD:32:ALA:N	2.58	0.76
24:RA:2701:C:H3'	24:RA:2702:U:H5''	1.68	0.75
24:YA:1607:C:N4	24:YA:1622:G:OP2	2.19	0.75
41:RW:11:ARG:HH21	41:RW:98:LYS:HD2	1.51	0.75
25:YB:80:U:H2'	25:YB:81:G:H21	1.52	0.75
24:YA:24:G:O2'	41:YW:78:GLU:O	2.04	0.75
24:RA:414:C:O2	24:RA:1864:U:O2'	2.04	0.75
1:XA:410:G:O3'	4:XD:30:LYS:NZ	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:QJ:3:LYS:N	10:QJ:74:ILE:O	2.19	0.75
51:Y6:25:LYS:HZ1	51:Y6:34:LEU:HD11	1.52	0.75
24:YA:676:A:H8	24:YA:2069:G:H21	1.34	0.75
4:QD:11:LEU:HD13	4:QD:66:ARG:HD2	1.68	0.75
31:RI:79:ILE:HD11	31:RI:142:VAL:HG12	1.69	0.75
1:QA:1267:C:H2'	21:QU:20:LYS:HE3	1.69	0.75
10:QJ:4:ILE:HG13	10:QJ:100:THR:HB	1.67	0.75
30:RH:152:ARG:HD2	30:RH:153:LYS:HG3	1.69	0.75
24:YA:1859:A:N6	24:YA:1883:G:O2'	2.20	0.75
44:RZ:166:SER:HB3	44:RZ:168:GLU:N	2.02	0.74
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.52	0.74
54:Y9:25:VAL:HG22	54:Y9:34:GLN:HB3	1.68	0.74
1:QA:1023:G:H3'	1:QA:1024:G:H5''	1.70	0.74
24:RA:2134:A:N7	24:RA:2157:G:O2'	2.21	0.74
26:YD:8:PRO:HB3	26:YD:14:ARG:HG2	1.70	0.74
1:QA:1178:G:OP2	9:QI:93:ARG:NH2	2.21	0.74
19:QS:39:THR:HG22	19:QS:40:ILE:H	1.52	0.74
7:XG:69:VAL:HG21	7:XG:104:LEU:HD21	1.68	0.74
24:RA:1542:G:O6	24:RA:1543:A:N6	2.20	0.74
24:RA:662:G:OP1	34:RP:15:ARG:NH1	2.20	0.74
24:RA:1980:G:O2'	24:RA:1982:C:OP2	2.03	0.74
24:YA:1899:G:H21	24:YA:1902:C:H41	1.35	0.74
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.18	0.74
24:RA:2245:U:H5'	24:RA:2246:G:H5'	1.68	0.74
24:YA:2349:G:N2	24:YA:2368:C:O2	2.18	0.74
24:RA:2392:A:H2	24:RA:2424:C:H42	1.36	0.74
24:YA:2294:C:H5'	37:YS:93:LYS:HE3	1.69	0.74
44:YZ:166:SER:HB2	44:YZ:168:GLU:N	2.03	0.74
29:RG:101:ILE:HD11	49:R4:25:TYR:HB2	1.67	0.73
44:YZ:53:ILE:HG22	44:YZ:71:VAL:HG13	1.68	0.73
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.52	0.73
24:RA:1403:C:H5''	24:RA:1471:A:H1'	1.68	0.73
39:YU:90:VAL:O	39:YU:92:ARG:N	2.20	0.73
24:RA:1359:A:H62	24:RA:1372:U:H3	1.35	0.73
2:XB:115:LEU:HD23	2:XB:153:ARG:HD2	1.69	0.73
24:YA:1155:A:H5''	39:YU:55:ARG:HH11	1.53	0.73
1:XA:1318:A:H4'	19:XS:11:VAL:HG11	1.70	0.73
27:RE:36:ARG:NH2	27:RE:88:GLY:HA2	2.03	0.73
1:XA:838:G:H1	1:XA:848:C:H42	1.36	0.73
31:RI:133:HIS:HB3	31:RI:134:PRO:HD3	1.71	0.73
41:RW:81:ALA:HB3	41:RW:97:LYS:HE2	1.71	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:118:LEU:HD13	2:XB:142:LEU:HA	1.68	0.73
1:QA:501:C:H2'	1:QA:502:G:C8	2.23	0.73
24:RA:2867:G:OP2	38:RT:119:LYS:NZ	2.18	0.73
24:RA:1667:G:O2'	24:RA:1991:U:O4	2.06	0.73
1:XA:1127:G:H1'	1:XA:1147:C:H42	1.53	0.73
5:XE:35:GLY:HA3	5:XE:112:LEU:HB3	1.69	0.73
1:QA:17:U:H2'	1:QA:18:C:C6	2.24	0.72
1:QA:713:G:H2'	1:QA:714:G:C8	2.24	0.72
1:QA:376:G:H5''	16:QP:5:ARG:HD2	1.72	0.72
1:QA:542:G:OP1	4:QD:10:ARG:NH1	2.21	0.72
10:QJ:24:VAL:HG21	10:QJ:37:PRO:HG3	1.71	0.72
12:XL:27:LEU:HD22	12:XL:33:ARG:HH12	1.53	0.72
24:YA:994:C:OP1	39:YU:53:ARG:NH2	2.22	0.72
41:YW:110:LYS:HG3	41:YW:111:HIS:H	1.54	0.72
34:RP:88:LEU:HD11	34:RP:95:VAL:HG11	1.70	0.72
35:RQ:17:LEU:HD13	35:RQ:39:PRO:HB2	1.71	0.72
2:QB:96:ARG:NH1	2:QB:97:TRP:O	2.22	0.72
44:YZ:52:SER:O	44:YZ:54:HIS:N	2.22	0.72
24:RA:2580:U:H4'	27:RE:130:GLY:HA3	1.71	0.72
29:RG:82:LEU:HD21	29:RG:88:ILE:HD13	1.71	0.72
6:XF:11:ASN:HB3	6:XF:14:LEU:HD13	1.70	0.72
6:XF:87:ARG:NH1	18:XR:75:ILE:O	2.22	0.72
24:YA:28:A:N6	24:YA:512:G:O2'	2.22	0.72
2:XB:27:LYS:HG3	2:XB:194:PRO:HD2	1.70	0.72
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.23	0.72
24:YA:270(Q):C:OP1	31:YI:45:LYS:NZ	2.23	0.72
24:YA:2577:A:H5''	24:YA:2578:G:H5'	1.72	0.72
25:RB:48:A:OP2	37:RS:30:ARG:NH2	2.23	0.72
29:RG:41:GLN:HB3	29:RG:90:LEU:HB2	1.71	0.72
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.22	0.72
26:YD:182:LEU:H	26:YD:272:ALA:HB3	1.54	0.72
24:RA:2680:C:H5'	27:RE:189:PRO:HA	1.72	0.72
1:XA:438:G:O2'	1:XA:496:A:N6	2.22	0.72
24:YA:1449:A:C4	24:YA:1529:A:H2	2.08	0.72
19:QS:67:VAL:HB	49:R4:58:ARG:HB3	1.71	0.71
24:RA:2296:U:OP2	37:RS:9:ARG:NH1	2.23	0.71
24:RA:2517:C:N3	24:RA:2542:A:N6	2.37	0.71
39:RU:50:ARG:HH22	40:RV:72:VAL:HG22	1.55	0.71
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.25	0.71
1:QA:790:A:OP1	22:QV:39:A:O2'	2.08	0.71
24:RA:265:A:N6	24:RA:427:U:O2'	2.23	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.19	0.71
1:XA:1095:U:OP1	1:XA:1108:G:N2	2.22	0.71
4:QD:98:GLU:HG2	4:QD:189:PRO:HG3	1.72	0.71
3:QC:134:ILE:HG13	3:QC:151:VAL:HG13	1.72	0.71
52:R7:24:THR:HG23	52:R7:27:GLY:H	1.55	0.71
1:XA:17:U:H2'	1:XA:18:C:C6	2.25	0.71
1:XA:73:G:H1	1:XA:97:U:H3	1.36	0.71
1:QA:974:A:OP2	14:QN:41:ARG:NH2	2.23	0.71
24:RA:2612:C:H5'	50:R5:2:ALA:HB2	1.72	0.71
46:Y1:87:PRO:HA	46:Y1:90:ILE:HG22	1.72	0.71
24:YA:662:G:OP1	34:YP:15:ARG:NH1	2.24	0.71
3:XC:14:ILE:HG12	3:XC:15:THR:HG23	1.73	0.71
24:YA:571:A:H5'	24:YA:2030:A:H62	1.56	0.71
24:YA:2306:C:H3'	24:YA:2307:G:H5''	1.73	0.71
3:QC:76:VAL:HG21	3:QC:103:VAL:HG21	1.73	0.71
14:QN:46:GLU:HG2	14:QN:50:LYS:HE2	1.73	0.71
34:RP:62:LEU:HD12	53:R8:30:ARG:HH21	1.55	0.70
1:XA:191(G):G:O2'	20:XT:101:GLY:O	2.09	0.70
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.71	0.70
43:YY:14:LEU:HD22	43:YY:82:PRO:HG3	1.72	0.70
9:QI:7:THR:HG23	9:QI:83:ARG:HH11	1.55	0.70
29:RG:112:PRO:HG3	49:R4:43:TYR:HE2	1.56	0.70
3:QC:9:GLY:HA2	3:QC:12:LEU:HD13	1.73	0.70
1:QA:1119:C:OP2	9:QI:9:ARG:NH2	2.24	0.70
7:QG:16:LEU:HD22	9:QI:42:ARG:HA	1.73	0.70
1:XA:714:G:H2'	1:XA:715:A:C8	2.27	0.70
36:RR:20:LEU:HD21	36:RR:40:LYS:HE3	1.73	0.70
1:QA:673:G:H2'	1:QA:674:G:C8	2.27	0.70
24:RA:1062:G:H2'	24:RA:1063:G:H8	1.57	0.70
24:YA:270(N):G:N3	31:YI:50:ARG:NH2	2.38	0.70
28:YF:125:LEU:HA	28:YF:194:MET:O	1.91	0.70
47:Y2:22:GLU:OE2	47:Y2:68:ARG:NH2	2.24	0.70
13:QM:94:ARG:HB3	13:QM:96:LEU:HD23	1.73	0.70
24:RA:2438:U:O3'	24:RA:2439:A:H3'	1.92	0.70
26:RD:136:ILE:HG22	26:RD:140:THR:HG21	1.74	0.70
32:RN:3:THR:HG21	39:RU:61:TRP:HE1	1.57	0.70
41:RW:110:LYS:HG3	41:RW:111:HIS:H	1.57	0.70
49:Y4:56:VAL:HG12	49:Y4:57:GLU:H	1.56	0.70
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.27	0.70
1:QA:407:G:O4'	4:QD:119:GLN:NE2	2.25	0.70
30:RH:153:LYS:HA	30:RH:155:SER:HB3	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:15:G:H1	22:XV:49:C:H5	1.39	0.69
44:YZ:52:SER:O	44:YZ:54:HIS:ND1	2.25	0.69
24:YA:997:G:OP1	39:YU:93:LYS:HD3	1.92	0.69
24:YA:2655:G:N2	24:YA:2665:A:OP2	2.25	0.69
11:QK:58:PRO:HB2	11:QK:93:GLN:HG3	1.73	0.69
16:XP:20:VAL:HG23	16:XP:35:LYS:HA	1.74	0.69
1:QA:947:G:O3'	13:QM:109:THR:OG1	2.10	0.69
1:XA:243:A:H4'	1:XA:244:U:H3'	1.75	0.69
27:RE:36:ARG:HH22	27:RE:88:GLY:HA2	1.58	0.69
1:XA:673:G:H2'	1:XA:674:G:C8	2.27	0.69
1:QA:1004:A:O2'	1:QA:1036:G:N2	2.25	0.69
24:RA:2331:G:H4'	45:R0:43:THR:H	1.55	0.69
53:R8:29:LYS:O	53:R8:31:HIS:N	2.25	0.69
24:YA:933:A:OP1	48:Y3:24:LYS:NZ	2.26	0.69
29:YG:18:GLU:OE2	29:YG:21:ARG:NH2	2.24	0.69
31:YI:131:LYS:NZ	31:YI:133:HIS:O	2.23	0.69
44:YZ:4:ARG:NH1	44:YZ:60:GLU:OE2	2.26	0.69
1:QA:409:G:H5'	4:QD:25:ARG:HG3	1.74	0.69
10:QJ:45:ARG:HB3	10:QJ:65:LEU:HB3	1.75	0.69
24:RA:442:G:H1'	28:RF:48:THR:HG21	1.73	0.69
24:RA:581:C:H2'	24:RA:582:G:H8	1.57	0.69
24:RA:1818:U:OP2	26:RD:157:ARG:NH1	2.26	0.69
24:RA:2013:A:O2'	41:RW:94:ASP:OD2	2.10	0.69
27:RE:176:ILE:HD11	27:RE:181:LEU:HD12	1.73	0.69
3:XC:150:LYS:HD2	3:XC:167:TRP:HE1	1.58	0.69
24:YA:1028:A:H2'	24:YA:1029:A:C8	2.27	0.69
28:YF:198:ALA:HA	28:YF:201:VAL:HG12	1.75	0.69
35:YQ:20:ALA:HB1	35:YQ:99:PRO:HD2	1.74	0.69
4:XD:18:LYS:NZ	56:XD:301:SF4:S3	2.65	0.69
24:RA:1142(A):A:H4'	32:RN:25:ARG:HH22	1.56	0.69
3:XC:19:GLU:HG2	3:XC:40:ARG:HH21	1.57	0.69
35:RQ:34:LEU:HB2	35:RQ:118:LEU:HD12	1.75	0.68
24:YA:598:G:H5'	34:YP:11:GLY:HA3	1.75	0.68
24:RA:49:A:H61	24:RA:177:G:H2'	1.59	0.68
24:RA:2262:U:OP1	45:R0:19:LYS:NZ	2.26	0.68
35:RQ:138:ASP:O	35:RQ:141:GLN:NE2	2.25	0.68
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.26	0.68
24:YA:288:C:H2'	24:YA:289:A:H8	1.58	0.68
1:QA:266:G:H5'	1:QA:268:C:H41	1.58	0.68
1:QA:501:C:OP1	12:QL:117:ARG:NH2	2.26	0.68
13:XM:13:LYS:HA	13:XM:44:ARG:HD2	1.75	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:882:G:H22	24:YA:894:C:H42	1.41	0.68
13:QM:107:ALA:HB3	13:QM:111:LYS:HE2	1.74	0.68
17:QQ:92:ARG:HD3	17:QQ:95:TYR:HE2	1.57	0.68
1:XA:1422:G:H5''	33:YO:48:PRO:HB3	1.76	0.68
6:QF:24:GLU:OE1	6:QF:28:ARG:NH1	2.25	0.68
17:QQ:6:LEU:HD22	17:QQ:42:TYR:HE2	1.57	0.68
24:RA:1310:G:OP2	52:R7:9:ARG:NE	2.20	0.68
8:QH:104:ARG:HB3	8:QH:108:GLY:H	1.59	0.68
2:XB:68:ILE:HG22	2:XB:161:ALA:HB3	1.76	0.68
24:YA:1789:A:OP2	26:YD:222:ARG:NH1	2.25	0.68
24:YA:1899:G:H21	24:YA:1902:C:N4	1.91	0.68
29:RG:47:LYS:HE3	29:RG:81:LYS:HG2	1.74	0.68
29:RG:56:ALA:HB2	29:RG:153:ARG:HH21	1.59	0.68
38:RT:20:PRO:HD2	38:RT:86:ILE:HG23	1.76	0.68
1:XA:946:A:H2'	1:XA:947:G:C8	2.28	0.68
8:XH:4:ASP:OD2	8:XH:85:ARG:NH1	2.27	0.68
24:YA:2313:C:O4'	29:YG:40:ASN:ND2	2.27	0.68
18:QR:32:ARG:HD3	18:QR:65:ILE:HG12	1.75	0.67
33:RO:87:ILE:HD12	33:RO:91:LEU:HA	1.76	0.67
1:XA:130:A:OP2	17:XQ:63:ARG:NH1	2.26	0.67
2:XB:163:PHE:HA	2:XB:185:ILE:O	1.93	0.67
24:YA:330:A:HO2'	24:YA:331:A:H8	1.40	0.67
24:YA:1728:G:N1	24:YA:1730:U:OP2	2.27	0.67
24:YA:2293:C:H5''	37:YS:89:ARG:HH22	1.59	0.67
1:QA:218:C:H5'	1:QA:466:C:H42	1.60	0.67
9:QI:94:ALA:HA	9:QI:97:LYS:HE3	1.76	0.67
24:RA:664:C:OP1	34:RP:18:ARG:NH2	2.28	0.67
24:RA:1066:U:HO2'	24:RA:1068:G:H8	1.40	0.67
28:RF:157:VAL:HB	28:RF:194:MET:HG2	1.76	0.67
44:RZ:69:THR:HG22	44:RZ:90:VAL:HG12	1.77	0.67
27:YE:25:VAL:HG22	27:YE:181:LEU:HD12	1.76	0.67
34:YP:97:PRO:O	34:YP:98:GLU:HG3	1.95	0.67
42:RX:60:ARG:HH12	52:R7:47:ARG:HH22	1.38	0.67
13:XM:23:TYR:HB3	13:XM:67:GLU:HA	1.77	0.67
13:XM:90:LEU:HD23	13:XM:93:ARG:HD3	1.76	0.67
24:YA:2246:G:H2'	24:YA:2247:A:H8	1.57	0.67
3:QC:182:ILE:HA	3:QC:202:ILE:O	1.95	0.67
10:QJ:34:VAL:HG23	10:QJ:74:ILE:HA	1.75	0.67
18:QR:23:LYS:NZ	18:QR:62:GLU:OE1	2.28	0.67
24:RA:275:G:H3'	24:RA:276:A:H5''	1.76	0.67
24:YA:1061:U:H5'	24:YA:1070:A:H1'	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:157:ARG:HG3	2:QB:158:LEU:H	1.60	0.67
24:YA:1980:G:O2'	24:YA:1982:C:OP2	2.11	0.67
24:RA:997:G:OP1	39:RU:93:LYS:HD3	1.95	0.67
1:QA:1335:C:OP1	1:QA:1337:G:N2	2.21	0.67
24:RA:2308:G:H22	24:RA:2311:A:H2	1.43	0.67
49:R4:58:ARG:HD3	49:R4:58:ARG:H	1.59	0.67
24:YA:881:G:O6	24:YA:895:U:O2	2.12	0.67
3:QC:191:THR:HG22	3:QC:192:THR:H	1.60	0.67
24:RA:141:A:H8	24:RA:1595:G:H21	1.42	0.67
48:Y3:40:THR:HG22	48:Y3:42:ALA:H	1.60	0.67
1:QA:1124:G:H1'	10:QJ:38:ILE:HD13	1.76	0.67
29:RG:65:GLY:HA3	49:R4:9:LEU:HD21	1.77	0.67
24:YA:774:A:H2	24:YA:787:U:HO2'	1.41	0.67
30:YH:28:GLY:HA3	30:YH:79:VAL:HB	1.77	0.67
1:QA:426:G:OP2	4:QD:38:TYR:OH	2.08	0.66
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.60	0.66
3:QC:152:ILE:HB	3:QC:199:LYS:HB2	1.77	0.66
24:RA:1359:A:N6	24:RA:1372:U:H3	1.93	0.66
24:RA:1525:G:H2'	24:RA:1526:G:H8	1.59	0.66
5:XE:145:LYS:HA	5:XE:148:VAL:HG22	1.77	0.66
24:YA:607:U:H3	24:YA:621:A:H2	1.42	0.66
24:YA:2246:G:H2'	24:YA:2247:A:C8	2.29	0.66
26:YD:28:GLU:HG2	26:YD:29:PRO:HD3	1.78	0.66
26:YD:148:GLU:OE1	26:YD:151:LYS:NZ	2.24	0.66
24:RA:392:C:H5''	24:RA:409:C:H5''	1.76	0.66
28:RF:133:ASN:H	28:RF:162:LEU:HD13	1.60	0.66
36:RR:57:ARG:HE	36:RR:62:ALA:HB2	1.60	0.66
7:XG:108:ALA:HB2	7:XG:123:GLU:HG2	1.77	0.66
24:YA:1210:A:H5''	24:YA:1211:U:H3'	1.76	0.66
24:YA:1405:U:H2'	24:YA:1406:U:H6	1.60	0.66
24:YA:1499:C:H2'	24:YA:1500:G:H8	1.60	0.66
27:YE:50:GLY:HA2	27:YE:77:ILE:HA	1.76	0.66
1:QA:986:A:N3	19:QS:52:TYR:OH	2.27	0.66
1:QA:1141:C:H2'	1:QA:1142:G:H8	1.60	0.66
24:RA:1817:G:OP1	26:RD:88:ARG:NH2	2.29	0.66
1:XA:718:G:O6	18:XR:74:ARG:NH1	2.28	0.66
1:QA:359:U:OP1	31:YI:87:LYS:NZ	2.21	0.66
11:QK:86:GLY:O	11:QK:91:ARG:NH1	2.29	0.66
35:RQ:30:GLY:HA2	35:RQ:107:ALA:HB2	1.78	0.66
46:Y1:3:LYS:HA	46:Y1:61:ARG:HH12	1.61	0.66
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.78	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:848:G:H2'	24:RA:849:A:C8	2.31	0.66
24:RA:1062:G:H2'	24:RA:1063:G:C8	2.31	0.66
24:RA:1292:U:H2'	24:RA:1293:C:C6	2.31	0.66
28:RF:116:ASP:OD2	34:RP:1:MET:N	2.29	0.66
33:RO:14:THR:HG21	33:RO:86:ILE:HD12	1.78	0.66
39:RU:90:VAL:HG22	40:RV:39:LEU:HD23	1.77	0.66
10:XJ:26:ALA:O	10:XJ:84:GLN:NE2	2.28	0.66
10:XJ:78:ASN:O	10:XJ:81:THR:OG1	2.10	0.66
24:YA:2882:A:OP1	36:YR:96:ARG:NH1	2.27	0.66
25:YB:114:G:O2'	37:YS:50:SER:OG	2.14	0.66
1:QA:1065:U:O2'	1:QA:1066:C:OP2	2.12	0.66
1:XA:452:A:H4'	16:XP:72:ARG:HH12	1.61	0.66
1:XA:1027:C:H1'	1:XA:1028:C:H5	1.60	0.66
24:YA:584:C:OP2	39:YU:10:ARG:NH2	2.29	0.66
1:QA:715:A:H2'	1:QA:716:A:C8	2.30	0.66
24:RA:1899:G:H21	24:RA:1902:C:H41	1.41	0.66
44:RZ:3:TYR:HB2	44:RZ:57:ILE:HG22	1.76	0.66
21:XU:6:ARG:HH11	21:XU:15:ARG:HE	1.44	0.66
24:YA:2680:C:H5'	27:YE:189:PRO:HA	1.76	0.66
1:QA:262:A:H5''	20:QT:76:ALA:HB2	1.76	0.66
27:RE:147:PRO:HB2	27:RE:149:ARG:HG2	1.78	0.66
1:XA:186(A):C:O3'	20:XT:89:ARG:NH2	2.29	0.66
1:QA:1327:C:H5''	21:QU:20:LYS:HD2	1.78	0.66
1:XA:56:U:H2'	1:XA:57:G:H8	1.58	0.66
46:Y1:83:GLU:HG3	46:Y1:85:LEU:H	1.59	0.66
1:QA:1238:A:OP1	1:QA:1335:C:O2'	2.12	0.65
24:RA:768:G:O2'	24:RA:1379:A:N6	2.29	0.65
1:XA:405:U:O4	4:XD:2:GLY:N	2.29	0.65
35:YQ:81:VAL:O	35:YQ:82:ARG:NE	2.24	0.65
6:QF:82:ARG:HB2	6:QF:85:VAL:HG12	1.78	0.65
13:QM:13:LYS:HA	13:QM:44:ARG:HD2	1.78	0.65
1:XA:129(A):G:N2	1:XA:188:U:O2'	2.29	0.65
24:YA:265:A:N6	24:YA:427:U:O2'	2.30	0.65
31:YI:57:ARG:HH11	31:YI:61:ARG:HH11	1.43	0.65
9:QI:51:ARG:HE	9:QI:56:LEU:HD22	1.61	0.65
9:QI:128:ARG:NH1	22:QV:36:A:OP2	2.29	0.65
10:QJ:48:THR:HG22	10:QJ:62:HIS:HB3	1.78	0.65
29:RG:114:ILE:HB	29:RG:117:PHE:HB2	1.78	0.65
34:RP:59:LEU:HA	34:RP:61:ARG:HD3	1.78	0.65
51:Y6:25:LYS:NZ	51:Y6:34:LEU:HD11	2.11	0.65
1:QA:129(A):G:N2	1:QA:188:U:O2'	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:111:ARG:N	2:QB:111:ARG:HD3	2.11	0.65
24:RA:1464:C:HO2'	24:RA:1528:A:H8	1.42	0.65
51:R6:37:ARG:HG2	51:R6:48:VAL:HG22	1.77	0.65
20:XT:100:ILE:HG13	20:XT:102:GLY:H	1.61	0.65
24:YA:140:A:H8	24:YA:1408:C:HO2'	1.44	0.65
1:QA:429:U:H2'	4:QD:25:ARG:HH12	1.62	0.65
44:RZ:52:SER:O	44:RZ:54:HIS:N	2.28	0.65
24:YA:2086:U:OP2	26:YD:263:ARG:NH1	2.28	0.65
1:QA:1289:A:OP1	21:QU:9:ARG:NH2	2.29	0.65
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.60	0.65
24:RA:144:C:H2'	24:RA:145:G:H8	1.61	0.65
24:RA:2133:G:N3	24:RA:2158:A:N6	2.44	0.65
24:RA:2287:A:N6	24:RA:2344:U:H3	1.95	0.65
24:YA:1405:U:H2'	24:YA:1406:U:C6	2.32	0.65
24:YA:1667:G:O2'	24:YA:1991:U:O4	2.14	0.65
29:YG:114:ILE:HG23	29:YG:140:ILE:HD12	1.77	0.65
1:QA:129(A):G:N2	1:QA:188:U:HO2'	1.95	0.65
1:QA:407:G:H5''	4:QD:115:ARG:HG3	1.77	0.65
1:QA:860:A:N3	8:QH:18:ARG:NH1	2.45	0.65
24:RA:569:U:O2'	24:RA:983:A:N1	2.30	0.65
24:RA:884:C:N3	24:RA:892:G:N1	2.45	0.65
24:YA:1353:A:H2'	24:YA:1354:A:C8	2.32	0.65
24:YA:1728:G:H8	24:YA:1732:A:H62	1.45	0.65
36:YR:104:ARG:HG3	36:YR:111:LEU:HD11	1.79	0.65
1:QA:939:G:OP1	7:QG:102:ARG:NH2	2.30	0.65
3:QC:22:TRP:CH2	3:QC:32:LEU:HD13	2.32	0.65
19:QS:42:PRO:HG3	19:QS:67:VAL:HG13	1.79	0.65
24:RA:598:G:H5'	34:RP:11:GLY:HA3	1.79	0.65
24:RA:605:C:O2	24:RA:657:U:O2'	2.14	0.65
28:RF:143:ALA:HB1	28:RF:148:LEU:HB2	1.79	0.65
34:RP:97:PRO:O	34:RP:98:GLU:HG3	1.96	0.65
38:RT:65:LYS:NZ	38:RT:67:SER:OG	2.25	0.65
24:YA:1203:G:H3'	24:YA:1204:A:H5''	1.78	0.65
25:YB:104:A:OP1	44:YZ:72:ARG:NH1	2.29	0.65
26:YD:148:GLU:HB2	26:YD:151:LYS:HD2	1.79	0.65
28:YF:11:VAL:HB	28:YF:18:ARG:HG3	1.78	0.65
35:YQ:60:ARG:HH11	44:YZ:177:PRO:HG2	1.60	0.65
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.31	0.65
27:RE:26:ILE:HG23	27:RE:182:LEU:HB3	1.79	0.65
3:XC:47:LEU:HG	3:XC:52:LEU:HB3	1.77	0.65
24:YA:793:A:OP2	24:YA:2071:A:O2'	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1826:G:H4'	26:YD:242:ARG:HE	1.62	0.65
43:YY:86:ARG:HB2	43:YY:98:VAL:HG23	1.78	0.65
1:QA:1356:G:H2'	1:QA:1357:A:H8	1.60	0.65
24:RA:1935:G:H1'	24:RA:1964:G:N2	2.12	0.65
25:RB:104:A:OP1	44:RZ:72:ARG:NH2	2.29	0.65
44:RZ:6:LYS:HE3	44:RZ:40:ASP:HB2	1.80	0.65
24:YA:278:A:H2'	24:YA:279:C:C6	2.32	0.65
29:YG:76:SER:HB2	29:YG:84:LYS:HD2	1.79	0.65
30:YH:43:VAL:HG22	30:YH:52:VAL:HG22	1.79	0.65
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.78	0.64
33:YO:87:ILE:HD12	33:YO:91:LEU:HA	1.77	0.64
36:YR:35:THR:HG22	36:YR:113:LEU:HD23	1.80	0.64
1:QA:684:A:O2'	11:QK:39:PRO:O	2.13	0.64
3:QC:20:SER:HG	3:QC:22:TRP:HE1	1.42	0.64
24:RA:581:C:H2'	24:RA:582:G:C8	2.32	0.64
24:RA:2126:A:H4'	24:RA:2127:G:O5'	1.96	0.64
1:XA:946:A:H2'	1:XA:947:G:H8	1.62	0.64
25:RB:42:C:H5''	29:RG:69:ALA:HB2	1.78	0.64
32:RN:96:GLU:HB2	32:RN:122:VAL:HG12	1.78	0.64
1:XA:422:C:O2'	1:XA:423:G:N2	2.31	0.64
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.33	0.64
6:XF:3:ARG:HD2	6:XF:93:SER:HB2	1.79	0.64
24:YA:309:G:N3	24:YA:329:G:O2'	2.30	0.64
1:QA:269:C:H2'	1:QA:270:A:H8	1.63	0.64
31:RI:120:ILE:HG13	31:RI:121:LYS:H	1.62	0.64
44:RZ:54:HIS:ND1	44:RZ:101:PRO:HG3	2.12	0.64
25:YB:60:C:H2'	25:YB:61:G:H8	1.62	0.64
30:YH:45:VAL:HA	30:YH:50:VAL:HG12	1.80	0.64
33:YO:34:THR:HG22	33:YO:35:VAL:H	1.61	0.64
34:YP:62:LEU:HD23	34:YP:62:LEU:H	1.61	0.64
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.32	0.64
35:RQ:42:ILE:HD12	35:RQ:97:VAL:HG11	1.78	0.64
1:XA:542:G:OP1	4:XD:10:ARG:NH1	2.25	0.64
24:YA:1348:G:H2'	24:YA:1349:A:H5''	1.79	0.64
37:YS:24:LEU:HB2	37:YS:85:VAL:HG12	1.79	0.64
44:YZ:24:LEU:HD23	44:YZ:41:LEU:HD23	1.80	0.64
1:QA:438:G:H4'	4:QD:123:HIS:ND1	2.13	0.64
15:QO:26:GLU:HA	15:QO:29:VAL:HG22	1.79	0.64
18:QR:26:LEU:HD22	18:QR:42:ARG:HH12	1.62	0.64
24:RA:1026:U:H4'	24:RA:1027:A:OP1	1.96	0.64
24:RA:2285:C:H5'	24:RA:2288:A:C6	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:674:G:H2'	1:XA:675:A:H8	1.62	0.64
24:YA:1359:A:H62	24:YA:1372:U:H3	1.46	0.64
41:YW:18:ARG:HA	41:YW:21:VAL:HG22	1.79	0.64
24:RA:1045:A:O4'	24:RA:1111:A:N6	2.30	0.64
1:XA:1230:C:H2'	1:XA:1231:G:H8	1.63	0.64
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.30	0.64
4:XD:15:GLU:OE2	4:XD:59:ARG:NH2	2.31	0.64
20:XT:49:ALA:HB3	20:XT:99:LEU:HD13	1.78	0.64
24:YA:589:C:H2'	24:YA:590:A:H8	1.63	0.64
31:YI:88:ILE:O	31:YI:121:LYS:NZ	2.30	0.64
49:Y4:16:CYS:SG	49:Y4:17:GLY:N	2.70	0.64
4:QD:191:ARG:NH1	4:QD:200:GLU:OE2	2.30	0.64
9:QI:42:ARG:NH1	9:QI:71:SER:OG	2.30	0.64
24:RA:2233:U:H2'	24:RA:2234:G:C8	2.32	0.64
1:XA:1029:G:HO2'	1:XA:1032(A):G:H1	1.46	0.64
24:YA:639:U:H2'	24:YA:640:C:C6	2.32	0.64
24:YA:1341:U:OP2	24:YA:1394:U:O2'	2.09	0.64
36:YR:10:LEU:HD13	36:YR:40:LYS:HG2	1.79	0.64
25:RB:24:G:O2'	25:RB:26:A:N7	2.31	0.64
24:YA:49:A:N7	24:YA:120:U:H5	1.95	0.64
24:YA:1479:G:N7	24:YA:1510:A:N6	2.46	0.64
24:YA:1796:U:H2'	24:YA:1797:C:H6	1.63	0.64
1:QA:407:G:O2'	4:QD:116:GLN:HG2	1.98	0.64
24:RA:1525:G:H2'	24:RA:1526:G:C8	2.32	0.64
24:YA:1796:U:H2'	24:YA:1797:C:C6	2.31	0.64
43:YY:39:VAL:HG23	43:YY:42:VAL:HB	1.79	0.64
12:QL:83:VAL:HG12	12:QL:107:ALA:HB2	1.79	0.63
26:RD:182:LEU:H	26:RD:272:ALA:HB3	1.63	0.63
24:YA:72:U:O4	47:Y2:65:ASN:ND2	2.31	0.63
30:YH:46:GLU:HB2	30:YH:49:VAL:HG23	1.79	0.63
1:QA:985:C:H2'	1:QA:986:A:H8	1.63	0.63
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.33	0.63
8:QH:91:ARG:HH11	8:QH:93:VAL:HG22	1.62	0.63
24:RA:2355:C:H1'	45:R0:39:ARG:HH21	1.63	0.63
46:R1:58:ILE:HD13	46:R1:87:PRO:HD3	1.81	0.63
1:XA:17:U:H2'	1:XA:18:C:H6	1.64	0.63
1:XA:765:G:N2	1:XA:813:U:OP2	2.31	0.63
8:XH:33:GLU:HG2	8:XH:59:LEU:HD21	1.80	0.63
52:Y7:13:ALA:HB2	52:Y7:46:VAL:HG11	1.78	0.63
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.33	0.63
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.33	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:247:G:H4'	24:RA:386:G:C5	2.34	0.63
29:RG:36:LYS:HE2	29:RG:95:ARG:HH22	1.61	0.63
10:XJ:17:ASP:OD1	10:XJ:70:ARG:NH1	2.31	0.63
14:YN:3:ARG:O	14:YN:7:ILE:HG12	1.98	0.63
32:YN:47:ALA:HB2	32:YN:112:LEU:HD11	1.80	0.63
24:RA:309:G:N3	24:RA:329:G:O2'	2.31	0.63
24:RA:2327:A:H2'	24:RA:2328:A:C8	2.32	0.63
24:RA:2347:C:OP1	51:R6:38:LYS:NZ	2.26	0.63
2:XB:16:HIS:HD2	2:XB:210:SER:HA	1.61	0.63
24:YA:442:G:H1'	28:YF:48:THR:HG21	1.81	0.63
26:YD:146:GLU:HB2	26:YD:189:CYS:HB3	1.80	0.63
29:YG:43:LEU:HD12	29:YG:90:LEU:HD23	1.79	0.63
44:YZ:166:SER:HB2	44:YZ:168:GLU:H	1.61	0.63
27:RE:141:ILE:O	27:RE:154:LYS:NZ	2.29	0.63
33:RO:104:ARG:NH2	38:RT:43:GLN:OE1	2.31	0.63
34:RP:62:LEU:HD23	34:RP:62:LEU:H	1.64	0.63
19:XS:10:PHE:HE2	19:XS:16:LEU:HB2	1.64	0.63
35:RQ:65:PHE:O	35:RQ:67:ARG:HG2	1.99	0.63
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.81	0.63
24:RA:307:G:H21	24:RA:330:A:H62	1.45	0.63
28:RF:152:GLU:OE1	28:RF:191:ARG:NE	2.32	0.63
29:RG:64:THR:HG23	29:RG:94:LEU:HD11	1.81	0.63
2:XB:55:PHE:HA	2:XB:58:ILE:HG12	1.81	0.63
24:YA:270(B):A:O2'	24:YA:364:C:O2	2.15	0.63
44:YZ:114:GLY:HA3	44:YZ:177:PRO:HG3	1.79	0.63
3:QC:110:ASN:HD22	3:QC:140:ARG:HG2	1.64	0.63
8:QH:34:GLU:OE1	8:QH:37:ARG:NH2	2.31	0.63
1:XA:715:A:H2'	1:XA:716:A:C8	2.34	0.63
24:YA:1802:A:H2'	24:YA:1803:A:C8	2.33	0.63
1:QA:677:U:H3	1:QA:713:G:H22	1.45	0.63
1:QA:1446:A:H1'	38:RT:125:ARG:HH12	1.64	0.63
24:RA:2843:G:H1	24:RA:2874:C:H42	1.47	0.63
52:R7:13:ALA:HB2	52:R7:46:VAL:HG11	1.81	0.63
1:XA:713:G:H2'	1:XA:714:G:C8	2.33	0.63
1:XA:1023:G:H3'	1:XA:1024:G:H5''	1.81	0.63
1:XA:1125:U:OP2	1:XA:1145:C:N4	2.31	0.63
2:XB:7:VAL:HG22	2:XB:217:ARG:HH11	1.64	0.63
13:XM:12:ASN:O	13:XM:13:LYS:HB2	1.99	0.63
5:QE:68:GLU:HG2	5:QE:70:PRO:HD3	1.81	0.62
35:RQ:138:ASP:HB2	44:RZ:122:ARG:HH22	1.63	0.62
36:RR:58:GLY:HA2	36:RR:80:PHE:HE1	1.64	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XQ:74:LEU:HD12	17:XQ:75:ARG:HB2	1.79	0.62
27:YE:34:VAL:HG11	27:YE:77:ILE:HD11	1.81	0.62
31:YI:14:ASP:O	31:YI:16:GLY:N	2.32	0.62
36:YR:56:LYS:O	36:YR:88:ARG:NH2	2.32	0.62
1:QA:56:U:H2'	1:QA:57:G:H8	1.64	0.62
24:RA:864:G:H21	24:RA:866:A:H61	1.45	0.62
1:XA:642:A:N3	8:XH:113:SER:OG	2.31	0.62
7:XG:99:LEU:HA	7:XG:102:ARG:HG2	1.81	0.62
24:YA:547:A:H2'	24:YA:548:A:C8	2.34	0.62
35:YQ:55:VAL:HG13	44:YZ:178:GLU:HB3	1.79	0.62
14:QN:9:LYS:HG3	14:QN:12:ARG:HE	1.63	0.62
19:QS:41:VAL:O	19:QS:43:GLU:N	2.32	0.62
24:RA:2839:G:H5'	36:RR:46:GLY:HA2	1.79	0.62
2:XB:71:VAL:HB	2:XB:164:VAL:HG12	1.81	0.62
20:XT:74:LYS:H	20:XT:74:LYS:HD3	1.64	0.62
24:YA:414:C:H2'	24:YA:415:A:C8	2.33	0.62
28:YF:63:LYS:NZ	28:YF:75:HIS:O	2.31	0.62
1:QA:923:A:O2'	1:QA:1399:C:OP2	2.15	0.62
3:QC:164:ARG:NH1	3:QC:166:GLU:OE1	2.31	0.62
11:QK:87:THR:HA	11:QK:91:ARG:HD2	1.79	0.62
24:RA:517:C:OP1	50:R5:16:ARG:NH2	2.27	0.62
24:RA:860:U:H2'	24:RA:861:A:H8	1.64	0.62
38:RT:30:VAL:HG21	38:RT:76:PHE:CE2	2.33	0.62
24:YA:820:A:H4'	24:YA:836:G:H22	1.63	0.62
24:YA:1266:G:O2'	24:YA:2012:G:O6	2.16	0.62
24:YA:2483:C:N3	35:YQ:124:LYS:NZ	2.44	0.62
54:Y9:16:VAL:HG12	54:Y9:25:VAL:HG12	1.81	0.62
1:QA:1060:C:H4'	10:QJ:51:ARG:HB3	1.81	0.62
8:QH:11:THR:HG22	8:QH:14:ARG:HH12	1.63	0.62
24:RA:1796:U:H2'	24:RA:1797:C:H6	1.63	0.62
24:RA:1899:G:O2'	24:RA:1900:A:H5''	1.98	0.62
1:XA:1305:G:HO2'	1:XA:1306:A:H8	1.48	0.62
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.64	0.62
38:YT:3:ARG:HE	38:YT:6:LEU:HG	1.65	0.62
9:QI:17:VAL:HG21	9:QI:81:ILE:HD13	1.80	0.62
11:XK:77:MET:HG3	11:XK:103:LEU:HD21	1.82	0.62
17:XQ:67:LYS:HG2	17:XQ:68:ARG:HG3	1.82	0.62
36:YR:3:HIS:O	36:YR:5:LYS:N	2.33	0.62
43:YY:15:VAL:HG21	43:YY:42:VAL:HG11	1.81	0.62
13:QM:3:ARG:HG2	13:QM:9:ILE:HD13	1.80	0.62
15:QO:21:ASP:OD1	15:QO:24:SER:OG	2.17	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RT:30:VAL:HG21	38:RT:76:PHE:HE2	1.63	0.62
1:XA:34:C:H2'	1:XA:35:G:H8	1.64	0.62
10:XJ:28:ARG:HH22	10:XJ:34:VAL:H	1.47	0.62
24:YA:1084:A:N1	24:YA:1085:A:N6	2.48	0.62
24:RA:690:G:H2'	24:RA:691:C:C6	2.35	0.62
24:RA:1638:C:O3'	24:RA:2709:G:N2	2.33	0.62
24:RA:1689:A:H62	24:RA:1698:A:H2	1.48	0.62
24:RA:2845:G:H2'	24:RA:2846:G:H8	1.64	0.62
26:RD:168:ARG:HG2	26:RD:173:VAL:HG22	1.81	0.62
24:YA:2698:U:H2'	24:YA:2699:C:C6	2.33	0.62
1:QA:1252:A:H61	1:QA:1285:A:H61	1.48	0.62
24:RA:2441:C:OP2	24:RA:2586:C:O2'	2.17	0.62
29:RG:114:ILE:HD11	29:RG:135:LEU:HD21	1.80	0.62
24:YA:2816:C:O2	24:YA:2883:A:O2'	2.18	0.62
30:YH:12:PRO:HG3	30:YH:48:GLY:HA2	1.81	0.62
1:QA:272:C:H2'	1:QA:273:A:H8	1.65	0.62
42:RX:12:VAL:HB	42:RX:27:THR:HG23	1.81	0.62
19:XS:55:LYS:HG3	19:XS:56:GLN:HG3	1.82	0.62
37:YS:83:LYS:HG3	37:YS:84:GLN:HG2	1.82	0.62
1:QA:191(F):U:H2'	1:QA:191(G):G:H8	1.65	0.61
1:QA:316:G:OP2	1:QA:351:G:O2'	2.19	0.61
1:QA:359:U:H2'	1:QA:360:A:C8	2.35	0.61
2:QB:22:LYS:HA	2:QB:24:TRP:HD1	1.65	0.61
8:QH:120:THR:HG22	8:QH:121:ASP:H	1.64	0.61
20:QT:60:GLU:HG3	20:QT:81:LYS:HD3	1.81	0.61
20:QT:74:LYS:HD3	20:QT:74:LYS:H	1.64	0.61
24:RA:1796:U:H2'	24:RA:1797:C:C6	2.35	0.61
29:RG:82:LEU:HA	29:RG:86:MET:HG3	1.82	0.61
33:RO:3:GLN:HB2	33:RO:4:PRO:HD2	1.82	0.61
36:RR:73:VAL:HG13	36:RR:74:LYS:HD3	1.81	0.61
26:YD:212:SER:HB3	26:YD:217:ARG:HB2	1.81	0.61
33:YO:24:VAL:HA	33:YO:39:ILE:HG22	1.81	0.61
1:QA:1446:A:O2'	1:QA:1447:G:O5'	2.17	0.61
8:QH:14:ARG:NH2	8:QH:83:ILE:O	2.28	0.61
24:RA:1859:A:N6	24:RA:1883:G:O2'	2.34	0.61
35:RQ:63:LYS:HD2	44:RZ:175:VAL:HG21	1.82	0.61
1:XA:954:G:O6	13:XM:104:ARG:NH1	2.33	0.61
1:XA:1178:G:OP2	9:XI:93:ARG:NH2	2.28	0.61
3:XC:191:THR:HG22	3:XC:192:THR:H	1.65	0.61
24:YA:1310:G:OP2	52:Y7:9:ARG:NE	2.32	0.61
1:QA:876:G:H4'	8:QH:84:ARG:NH1	2.16	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:5:TYR:HE1	9:QI:16:ARG:HG3	1.65	0.61
24:RA:2037:G:H2'	24:RA:2038:G:C8	2.35	0.61
24:RA:2648:C:H2'	24:RA:2649:U:C6	2.36	0.61
1:XA:235:C:H2'	1:XA:236:G:H8	1.65	0.61
1:XA:1112:C:H1'	3:XC:179:ARG:HE	1.65	0.61
4:XD:157:LEU:O	4:XD:161:ASN:ND2	2.34	0.61
24:YA:2291:U:H2'	24:YA:2292:C:C6	2.34	0.61
25:YB:44:G:O2'	25:YB:47:C:N4	2.33	0.61
27:YE:131:ALA:O	27:YE:134:ILE:HG13	2.00	0.61
36:YR:56:LYS:NZ	36:YR:90:ARG:O	2.33	0.61
24:RA:529:A:H8	24:RA:530:G:C6	2.18	0.61
26:RD:146:GLU:HB2	26:RD:189:CYS:HB3	1.82	0.61
11:XK:109:VAL:HG13	18:XR:84:LYS:HD3	1.82	0.61
24:YA:848:G:H2'	24:YA:849:A:C8	2.35	0.61
28:YF:157:VAL:HG13	28:YF:194:MET:HB3	1.81	0.61
51:Y6:34:LEU:HD13	51:Y6:36:LEU:HD13	1.81	0.61
1:QA:590:C:O3'	8:QH:30:ARG:NH1	2.33	0.61
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.36	0.61
24:RA:2844:G:H3'	24:RA:2845:G:C8	2.35	0.61
24:YA:1464:C:HO2'	24:YA:1528:A:H8	1.48	0.61
42:YX:55:ASN:HB2	42:YX:80:ILE:HG23	1.83	0.61
1:QA:674:G:H2'	1:QA:675:A:H8	1.66	0.61
7:QG:49:ILE:HG23	7:QG:53:LYS:HD3	1.82	0.61
53:R8:29:LYS:HG3	53:R8:30:ARG:H	1.64	0.61
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.82	0.61
24:YA:2010:G:H5''	41:YW:42:ARG:HB2	1.81	0.61
24:YA:2216:G:H21	26:YD:150:LYS:HD2	1.66	0.61
51:Y6:25:LYS:HE3	51:Y6:34:LEU:HD21	1.83	0.61
1:QA:21:G:H2'	1:QA:22:G:C8	2.36	0.61
1:XA:1226:C:H5''	13:XM:94:ARG:HH22	1.65	0.61
16:XP:74:LEU:HB3	16:XP:79:VAL:HG11	1.83	0.61
24:YA:2064:C:H2'	24:YA:2065:C:C6	2.36	0.61
1:QA:684:A:H1'	11:QK:39:PRO:HD2	1.81	0.61
8:QH:5:PRO:HB2	8:QH:32:LYS:HE2	1.82	0.61
24:RA:2394:C:OP1	34:RP:63:PRO:HD2	2.01	0.61
26:RD:71:ASP:HB2	26:RD:103:ARG:HH12	1.66	0.61
1:XA:1130:A:O3'	9:XI:20:ARG:NH2	2.33	0.61
2:XB:132:LYS:HA	2:XB:135:GLN:HB2	1.82	0.61
3:XC:95:THR:HG22	3:XC:96:GLY:H	1.66	0.61
24:YA:2537:U:H2'	24:YA:2538:C:C6	2.34	0.61
1:QA:279:A:OP2	17:QQ:95:TYR:OH	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1028:A:H2'	24:RA:1029:A:C8	2.36	0.61
24:RA:2680:C:OP2	27:RE:111:ARG:NH2	2.34	0.61
26:RD:13:ARG:NH1	26:RD:16:MET:SD	2.74	0.61
2:XB:197:VAL:HG21	2:XB:200:ILE:HD13	1.83	0.61
24:YA:1022:G:O6	32:YN:66:LYS:NZ	2.29	0.61
27:YE:79:ARG:HG3	27:YE:197:ILE:HG21	1.81	0.61
27:YE:163:GLU:HG2	27:YE:164:ARG:H	1.66	0.61
34:YP:65:ARG:HE	53:Y8:15:LYS:HB2	1.66	0.61
24:RA:30:G:H2'	24:RA:31:C:C6	2.36	0.61
24:RA:2537:U:H2'	24:RA:2538:C:C6	2.35	0.61
41:RW:59:VAL:HG11	41:RW:66:GLU:HB2	1.83	0.61
9:XI:18:PHE:HB3	9:XI:20:ARG:HH12	1.66	0.61
24:YA:2233:U:H2'	24:YA:2234:G:C8	2.36	0.61
26:YD:35:LYS:HB2	26:YD:63:ARG:HA	1.82	0.61
24:RA:2331:G:O2'	45:R0:43:THR:HG22	2.01	0.60
1:XA:1290:G:H4'	7:XG:35:LYS:HE2	1.83	0.60
1:XA:1397:C:OP2	5:XE:24:ARG:NH2	2.32	0.60
1:QA:745:C:OP1	1:QA:851:G:O2'	2.18	0.60
1:QA:970:C:N4	9:QI:128:ARG:OXT	2.34	0.60
1:QA:1314:C:OP1	19:QS:6:LYS:HE2	2.00	0.60
34:RP:2:LYS:NZ	34:RP:4:SER:OG	2.33	0.60
53:R8:16:ILE:HG12	53:R8:22:VAL:HG12	1.82	0.60
24:YA:1403:C:H5''	24:YA:1471:A:H1'	1.81	0.60
31:YI:4:ILE:HG22	31:YI:18:VAL:HG12	1.83	0.60
24:RA:1405:U:H2'	24:RA:1406:U:H6	1.66	0.60
2:XB:131:PRO:O	2:XB:135:GLN:N	2.33	0.60
4:XD:18:LYS:HD2	56:XD:301:SF4:S4	2.40	0.60
24:YA:1657:C:H2'	24:YA:1658:C:C6	2.36	0.60
24:RA:1483:G:O6	24:RA:1507:A:N6	2.34	0.60
24:RA:2648:C:H2'	24:RA:2649:U:H6	1.66	0.60
35:RQ:68:ILE:HD12	35:RQ:101:ARG:HD3	1.84	0.60
1:XA:45:U:H2'	1:XA:46:G:C8	2.36	0.60
7:QG:29:LYS:HE2	7:QG:102:ARG:HB3	1.84	0.60
24:RA:751:A:H5'	41:RW:90:ARG:HG2	1.82	0.60
24:RA:1026:U:H1'	24:RA:1027:A:H5''	1.82	0.60
24:RA:2086:U:OP2	26:RD:263:ARG:NH1	2.35	0.60
3:XC:19:GLU:O	3:XC:40:ARG:NH2	2.34	0.60
24:YA:2344:U:OP1	51:Y6:37:ARG:NH2	2.33	0.60
38:YT:16:ARG:NH1	38:YT:83:ILE:O	2.34	0.60
1:QA:985:C:H2'	1:QA:986:A:C8	2.37	0.60
16:QP:8:ARG:HB3	16:QP:28:ARG:NH1	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:QU:2:GLY:HA2	21:QU:10:ARG:HH21	1.66	0.60
24:RA:793:A:OP2	24:RA:2071:A:O2'	2.17	0.60
24:RA:903:C:H2'	24:RA:904:C:H6	1.64	0.60
1:XA:126:G:H5'	1:XA:633:G:H22	1.67	0.60
1:XA:1011:G:N2	1:XA:1019:C:O2	2.34	0.60
47:Y2:8:LYS:HA	47:Y2:11:GLU:HG2	1.83	0.60
1:QA:692:U:OP2	11:QK:26:ASN:ND2	2.34	0.60
24:RA:1071:G:N2	24:RA:1090:U:OP2	2.35	0.60
24:RA:1991:U:H2'	24:RA:1992:G:H5''	1.84	0.60
24:RA:2753:A:O2'	54:R9:15:LYS:NZ	2.35	0.60
25:RB:33:G:H5'	29:RG:2:PRO:HD3	1.84	0.60
27:RE:52:LEU:O	27:RE:74:PRO:HA	2.01	0.60
39:RU:92:ARG:C	39:RU:94:ASN:H	2.05	0.60
24:YA:820:A:H4'	24:YA:836:G:N2	2.17	0.60
24:YA:2033:A:O2'	24:YA:2035:G:OP2	2.19	0.60
29:YG:104:GLU:O	29:YG:108:ASN:ND2	2.33	0.60
49:Y4:51:ASP:OD1	49:Y4:52:THR:N	2.34	0.60
1:QA:64:G:H4'	1:QA:65:U:O5'	2.02	0.60
1:QA:411:A:C5	1:QA:413:G:H1'	2.37	0.60
3:QC:97:LYS:HG3	3:QC:98:ASN:H	1.67	0.60
14:QN:27:CYS:SG	14:QN:28:GLY:N	2.75	0.60
35:RQ:81:VAL:HG22	35:RQ:82:ARG:HG2	1.84	0.60
41:RW:86:LEU:HD22	41:RW:96:ILE:HD11	1.84	0.60
1:XA:324:G:N2	1:XA:327:A:OP2	2.32	0.60
1:XA:677:U:H3	1:XA:713:G:H22	1.50	0.60
1:XA:692:U:OP1	11:XK:124:LYS:NZ	2.29	0.60
3:XC:47:LEU:HD12	3:XC:50:ALA:HB3	1.84	0.60
24:YA:1510:A:O2'	24:YA:1512:G:N7	2.35	0.60
24:YA:1937:A:N7	24:YA:1939:U:H2'	2.17	0.60
24:YA:2591:C:H2'	24:YA:2592:G:C8	2.37	0.60
44:YZ:54:HIS:HB3	44:YZ:101:PRO:HD3	1.83	0.60
24:RA:1769:G:O2'	24:RA:1958:C:OP1	2.20	0.60
1:XA:7:G:H2'	5:XE:119:LEU:HD23	1.84	0.60
1:XA:254:G:O2'	17:XQ:16:GLN:O	2.19	0.60
1:XA:920:U:H2'	1:XA:921:U:C6	2.37	0.60
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.37	0.60
2:XB:98:LEU:H	2:XB:101:MET:HE3	1.67	0.60
4:QD:101:LEU:HA	4:QD:104:VAL:HG12	1.83	0.60
24:RA:11:G:N2	24:RA:2628:C:OP1	2.35	0.60
24:RA:2788:C:O2'	24:RA:2809:A:N3	2.34	0.60
26:RD:76:PRO:HB3	26:RD:118:VAL:HG22	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.37	0.60
24:YA:1009:A:OP2	32:YN:37:LYS:NZ	2.35	0.60
51:Y6:34:LEU:N	51:Y6:51:GLU:OE1	2.33	0.60
1:QA:1129:C:H5'	1:QA:1130:A:OP1	2.02	0.59
24:RA:138:G:N2	42:RX:44:GLU:OE1	2.34	0.59
24:RA:2306:C:H3'	24:RA:2307:G:H5''	1.84	0.59
30:RH:98:LEU:HD22	30:RH:125:VAL:HG22	1.84	0.59
40:RV:35:LEU:HD23	40:RV:35:LEU:H	1.66	0.59
24:YA:270(O):U:H2'	31:YI:52:ARG:NH2	2.14	0.59
26:YD:133:LEU:HD23	26:YD:136:ILE:HD12	1.84	0.59
27:YE:2:LYS:HD2	27:YE:95:ILE:HG22	1.83	0.59
28:YF:116:ASP:OD2	34:YP:1:MET:N	2.35	0.59
1:QA:222:U:H2'	1:QA:223:U:C6	2.38	0.59
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.34	0.59
2:QB:32:ILE:HD11	2:QB:190:THR:HG22	1.83	0.59
2:QB:188:ALA:HB3	2:QB:200:ILE:HD11	1.84	0.59
1:XA:1175:G:H2'	1:XA:1176:A:C8	2.37	0.59
24:YA:635:C:O2'	24:YA:639:U:OP1	2.20	0.59
24:YA:1657:C:H2'	24:YA:1658:C:H6	1.68	0.59
1:QA:429:U:C2'	4:QD:25:ARG:HH12	2.15	0.59
1:QA:864:A:H2'	1:QA:865:A:C8	2.37	0.59
11:QK:41:THR:HG21	11:QK:71:LYS:HG3	1.84	0.59
24:RA:1140:C:OP2	32:RN:66:LYS:NZ	2.35	0.59
24:RA:1497:U:H5''	24:RA:1498:C:H5	1.67	0.59
24:RA:1826:G:H4'	26:RD:242:ARG:HH21	1.67	0.59
26:RD:61:LEU:O	26:RD:63:ARG:NH1	2.35	0.59
31:RI:113:ARG:NH2	31:RI:132:PRO:HD3	2.17	0.59
34:RP:87:ASP:HB3	34:RP:105:LEU:HD11	1.83	0.59
38:RT:26:ASP:HB3	38:RT:92:GLY:H	1.67	0.59
17:XQ:45:HIS:CD2	17:XQ:47:PRO:HG3	2.37	0.59
24:YA:698:C:O2'	24:YA:734:A:N6	2.33	0.59
24:YA:2803:C:H2'	24:YA:2804:C:C6	2.36	0.59
24:RA:678:C:H2'	24:RA:679:C:C6	2.38	0.59
24:RA:2784:C:H2'	24:RA:2785:C:C6	2.36	0.59
26:RD:264:LYS:HG3	26:RD:266:SER:H	1.66	0.59
1:XA:272:C:H2'	1:XA:273:A:H8	1.65	0.59
3:XC:70:VAL:HG12	3:XC:72:LYS:H	1.67	0.59
11:XK:91:ARG:NH2	11:XK:110:ASP:OD1	2.28	0.59
24:YA:299:A:N3	24:YA:319:C:O2'	2.32	0.59
24:YA:813:U:H2'	24:YA:814:C:H6	1.67	0.59
24:YA:1142(A):A:H4'	32:YN:25:ARG:HH22	1.68	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2065:C:H1'	24:YA:2449:U:H3	1.66	0.59
28:YF:140:LEU:HD11	28:YF:170:LEU:HD21	1.85	0.59
44:YZ:165:VAL:HG23	44:YZ:166:SER:H	1.67	0.59
1:QA:439:A:OP2	1:QA:493:G:N1	2.30	0.59
30:RH:89:ILE:HG12	30:RH:162:ILE:HG22	1.82	0.59
1:XA:28:G:O2'	1:XA:296:U:OP1	2.19	0.59
1:XA:954:G:H2'	1:XA:955:U:C6	2.37	0.59
24:YA:579:G:H2'	24:YA:580:C:C6	2.38	0.59
30:YH:12:PRO:HD3	30:YH:48:GLY:O	2.02	0.59
1:QA:8:A:N6	4:QD:208:SER:O	2.36	0.59
4:QD:88:VAL:HG13	4:QD:91:SER:HB2	1.85	0.59
8:QH:12:ARG:HD2	8:QH:26:VAL:HG12	1.85	0.59
24:RA:1065:U:O2	24:RA:1073:A:N6	2.25	0.59
24:RA:2529:G:H5''	24:RA:2530:A:H5''	1.84	0.59
32:RN:35:ARG:HG3	32:RN:37:LYS:HG2	1.85	0.59
34:RP:59:LEU:HB2	53:R8:13:ARG:NH1	2.17	0.59
40:RV:24:LYS:HE2	40:RV:90:PRO:HB2	1.84	0.59
11:XK:57:THR:HG22	11:XK:59:TYR:H	1.67	0.59
24:YA:1204:A:H1'	24:YA:1206:G:N7	2.17	0.59
24:YA:2394:C:OP1	34:YP:63:PRO:HD2	2.02	0.59
24:YA:2401:U:H2'	24:YA:2402:C:H5''	1.83	0.59
31:YI:130:TYR:HB3	31:YI:136:VAL:HG13	1.85	0.59
1:QA:217:C:O2'	1:QA:466:C:N4	2.35	0.59
13:QM:14:ARG:H	13:QM:44:ARG:HA	1.68	0.59
24:RA:11:G:H22	24:RA:2628:C:P	2.26	0.59
1:XA:439:A:OP2	1:XA:493:G:N1	2.25	0.59
1:XA:1320:C:H42	19:XS:36:ARG:HG3	1.67	0.59
22:XV:35:C:H2'	22:XV:36:A:C8	2.37	0.59
28:YF:132:VAL:HG12	28:YF:133:ASN:H	1.68	0.59
38:YT:125:ARG:HA	38:YT:128:GLU:HG2	1.85	0.59
14:QN:21:TYR:HE2	14:QN:23:ARG:HH11	1.51	0.59
22:QV:10:G:N2	22:QV:27:G:H1'	2.18	0.59
24:RA:2612:C:O5'	50:R5:2:ALA:N	2.35	0.59
1:XA:933:G:N7	7:XG:3:ARG:NH1	2.51	0.59
27:YE:14:ILE:HG23	38:YT:14:TYR:CE2	2.38	0.59
29:YG:135:LEU:O	29:YG:154:GLY:HA3	2.02	0.59
31:YI:63:ALA:HA	31:YI:66:GLU:HG2	1.84	0.59
24:RA:698:C:O2'	24:RA:734:A:N6	2.36	0.59
29:RG:144:ILE:HG22	29:RG:146:TYR:H	1.68	0.59
2:XB:72:GLY:HA3	2:XB:81:VAL:HG21	1.85	0.59
24:YA:1833:U:O2'	24:YA:1969:A:N1	2.30	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2469:A:H2	24:YA:2481:G:H21	1.50	0.59
43:YY:8:LYS:HE2	43:YY:97:ARG:HH21	1.68	0.59
1:QA:629:G:H2'	1:QA:630:G:C8	2.37	0.59
2:QB:143:GLU:OE2	2:QB:147:LYS:NZ	2.36	0.59
24:RA:582:G:H2'	24:RA:583:G:H8	1.68	0.59
37:RS:26:LEU:HB3	37:RS:87:PHE:HA	1.85	0.59
48:R3:44:ARG:HA	48:R3:47:VAL:HG22	1.85	0.59
1:XA:974:A:OP1	14:YN:29:ARG:NH2	2.35	0.59
4:XD:8:VAL:HA	4:XD:11:LEU:HD13	1.84	0.59
13:XM:17:VAL:O	13:XM:20:THR:OG1	2.17	0.59
19:XS:31:ILE:HD11	19:XS:49:ILE:HD12	1.83	0.59
24:YA:1055:G:H22	24:YA:1104:C:H42	1.51	0.59
24:YA:2213:U:H1'	46:Y1:52:ARG:NH1	2.17	0.59
24:YA:2845:G:H2'	24:YA:2846:G:H8	1.67	0.59
32:YN:23:LEU:HD13	32:YN:60:ILE:HD12	1.83	0.59
24:RA:249:C:O2	53:R8:12:LYS:NZ	2.33	0.58
41:RW:14:PRO:HG2	41:RW:78:GLU:HG2	1.85	0.58
49:R4:16:CYS:SG	49:R4:17:GLY:N	2.75	0.58
24:YA:389:G:H22	34:YP:72:PRO:HD3	1.68	0.58
24:YA:566:U:O4	40:YV:78:LYS:HD3	2.03	0.58
27:YE:26:ILE:HG23	27:YE:182:LEU:HB3	1.84	0.58
1:QA:335:C:H2'	1:QA:336:C:H6	1.68	0.58
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.68	0.58
24:RA:503:A:H4'	24:RA:504:U:H5'	1.86	0.58
24:RA:1287:A:H8	36:RR:104:ARG:HD3	1.68	0.58
1:XA:135:C:H2'	1:XA:136:C:H5'	1.85	0.58
1:XA:689:C:OP1	11:XK:27:ASN:ND2	2.36	0.58
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.37	0.58
4:XD:116:GLN:HE21	4:XD:157:LEU:HD21	1.68	0.58
8:XH:91:ARG:HG3	17:XQ:34:LYS:HB3	1.83	0.58
24:YA:1449:A:C4	24:YA:1529:A:C2	2.91	0.58
24:YA:2695:C:H2'	24:YA:2696:U:C6	2.39	0.58
27:YE:48:GLN:HE21	27:YE:77:ILE:HG12	1.67	0.58
37:YS:26:LEU:HB3	37:YS:87:PHE:HA	1.84	0.58
1:QA:946:A:H2'	1:QA:947:G:C8	2.38	0.58
24:RA:49:A:N7	24:RA:120:U:H5	2.00	0.58
24:RA:177:G:H3'	24:RA:178:G:H8	1.68	0.58
24:RA:2847:U:H3	24:RA:2869:G:H1	1.50	0.58
29:RG:139:LEU:HD21	29:RG:149:VAL:HG21	1.84	0.58
26:YD:132:PRO:HG3	26:YD:190:TYR:HE1	1.66	0.58
3:QC:11:ARG:O	3:QC:13:GLY:N	2.36	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:227:A:H2'	34:RP:76:LYS:HE2	1.85	0.58
24:RA:1204:A:O2'	24:RA:1205:U:O5'	2.22	0.58
24:RA:2006:C:O2'	24:RA:2823:A:N3	2.36	0.58
24:RA:2154:G:H2'	24:RA:2155:G:H8	1.67	0.58
24:RA:2701:C:H3'	24:RA:2702:U:C5'	2.33	0.58
53:R8:61:LEU:HG	53:R8:62:LEU:HD23	1.85	0.58
1:XA:1330:U:H4'	13:XM:23:TYR:CE1	2.39	0.58
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.20	0.58
1:XA:1446:A:C4'	38:YT:125:ARG:HH22	2.17	0.58
13:XM:22:ILE:HG21	13:XM:66:LEU:HD23	1.85	0.58
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.86	0.58
24:YA:581:C:H2'	24:YA:582:G:H8	1.67	0.58
24:YA:2335:A:O2'	24:YA:2336:A:H2'	2.02	0.58
29:YG:142:PRO:HB2	49:Y4:31:ILE:HG21	1.85	0.58
36:YR:79:LEU:HA	36:YR:83:ILE:HB	1.84	0.58
3:QC:131:ARG:NH1	3:QC:166:GLU:OE2	2.35	0.58
13:QM:88:ARG:HH12	19:QS:73:GLU:HG2	1.69	0.58
24:RA:1155:A:H5''	39:RU:55:ARG:HH11	1.69	0.58
24:RA:2020:A:H4'	39:RU:25:TRP:HZ3	1.67	0.58
27:RE:37:ARG:HD3	27:RE:42:ASP:OD2	2.03	0.58
30:RH:46:GLU:OE1	30:RH:51:ARG:NH1	2.37	0.58
44:RZ:165:VAL:HG23	44:RZ:166:SER:H	1.67	0.58
1:XA:143:A:H2	1:XA:220:G:H1	1.51	0.58
24:YA:1062:G:H1	24:YA:1076:C:N4	1.96	0.58
32:YN:29:LYS:O	32:YN:33:LEU:HD13	2.04	0.58
39:YU:92:ARG:C	39:YU:94:ASN:H	2.06	0.58
43:YY:83:THR:HG21	43:YY:99:CYS:SG	2.44	0.58
48:Y3:12:PRO:HB2	48:Y3:20:LYS:HG2	1.84	0.58
37:RS:39:ILE:HD11	37:RS:82:ILE:HD13	1.85	0.58
1:XA:359:U:H2'	1:XA:360:A:C8	2.38	0.58
1:XA:606:G:H22	1:XA:631:G:H5''	1.68	0.58
3:XC:130:VAL:HG11	3:XC:157:ILE:HG23	1.83	0.58
31:YI:14:ASP:C	31:YI:16:GLY:H	2.07	0.58
39:YU:83:LEU:HD12	39:YU:113:ALA:HB2	1.85	0.58
1:QA:662:G:H2'	1:QA:663:A:C8	2.39	0.58
12:QL:39:VAL:HG22	12:QL:57:LYS:HG2	1.85	0.58
24:RA:1060:U:O2'	24:RA:1062:G:H5''	2.03	0.58
35:RQ:55:VAL:HG13	44:RZ:178:GLU:HB3	1.86	0.58
45:R0:27:GLU:HG3	45:R0:68:GLU:HA	1.84	0.58
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.38	0.58
6:XF:18:GLN:HG2	6:XF:21:LEU:HD23	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:50:ILE:HA	10:XJ:60:ARG:HB2	1.85	0.58
24:YA:600:G:O3'	28:YF:108:LYS:NZ	2.33	0.58
24:YA:998:C:OP1	39:YU:84:LYS:NZ	2.30	0.58
24:YA:1869:G:H5'	24:YA:1870:C:OP2	2.03	0.58
24:YA:2788:C:O2'	24:YA:2809:A:N3	2.34	0.58
29:YG:72:ARG:HA	29:YG:87:PRO:HA	1.84	0.58
25:RB:44:G:H1'	25:RB:47:C:N4	2.18	0.58
25:RB:49:C:H2'	25:RB:50:G:C8	2.39	0.58
42:RX:21:PHE:HE1	42:RX:92:LEU:HB3	1.68	0.58
1:XA:269:C:H2'	1:XA:270:A:C8	2.38	0.58
24:YA:998:C:OP2	39:YU:58:ARG:NH1	2.36	0.58
26:YD:172:TYR:HD1	26:YD:186:HIS:HA	1.68	0.58
37:YS:25:ARG:HG2	37:YS:88:ASP:HB2	1.85	0.58
1:QA:975:A:H4'	1:QA:976:G:H5''	1.85	0.58
1:QA:1129:C:H4'	1:QA:1130:A:H5'	1.86	0.58
24:RA:1526:G:H2'	24:RA:1527:G:C8	2.38	0.58
2:XB:87:ARG:HH21	2:XB:219:VAL:HG13	1.68	0.58
24:YA:1593:G:H2'	24:YA:1594:G:C8	2.39	0.58
1:QA:690:G:H22	11:QK:55:LYS:HZ3	1.50	0.58
1:QA:1314:C:N4	19:QS:2:PRO:O	2.37	0.58
1:QA:1399:C:C2	1:QA:1502:A:N6	2.72	0.58
24:RA:2853:C:H2'	24:RA:2854:G:H8	1.68	0.58
27:RE:104:VAL:HG22	27:RE:198:VAL:HG22	1.86	0.58
30:RH:94:TYR:OH	30:RH:160:LYS:NZ	2.32	0.58
51:R6:26:ASN:ND2	51:R6:28:ARG:H	2.02	0.58
54:Y9:24:TYR:CD1	54:Y9:35:ARG:HB3	2.39	0.58
1:QA:509:A:H3'	1:QA:509:A:OP2	2.04	0.57
2:QB:77:ALA:HB2	2:QB:211:ILE:HD13	1.86	0.57
9:QI:11:LYS:NZ	9:QI:107:ARG:O	2.26	0.57
20:QT:74:LYS:O	20:QT:76:ALA:N	2.36	0.57
22:QV:16:C:O2'	22:QV:62:C:OP1	2.22	0.57
24:RA:86:C:H4'	24:RA:104:U:H1'	1.85	0.57
24:RA:590:A:H2'	24:RA:591:C:C6	2.40	0.57
24:RA:1348:G:H2'	24:RA:1349:A:H5''	1.85	0.57
41:RW:82:LEU:HG	41:RW:98:LYS:HB2	1.85	0.57
1:XA:406:G:N3	4:XD:119:GLN:NE2	2.52	0.57
27:YE:17:ASP:O	27:YE:19:ARG:NH1	2.36	0.57
24:RA:755:C:H2'	24:RA:756:C:C6	2.40	0.57
24:RA:2698:U:H2'	24:RA:2699:C:C6	2.39	0.57
1:XA:452:A:H62	1:XA:480:U:H3	1.50	0.57
1:XA:902:G:H2'	1:XA:903:G:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:10:PRO:HB2	13:XM:18:ALA:HB1	1.85	0.57
24:YA:819:A:OP2	24:YA:1187:G:N2	2.18	0.57
24:YA:881:G:H3'	24:YA:882:G:C8	2.38	0.57
29:YG:10:LYS:NZ	29:YG:175:LEU:O	2.37	0.57
5:QE:80:ILE:HD13	8:QH:104:ARG:HH12	1.69	0.57
24:RA:263:C:H2'	24:RA:264:C:O4'	2.04	0.57
24:RA:288:C:H2'	24:RA:289:A:H8	1.68	0.57
30:RH:96:ALA:HB3	30:RH:126:PRO:HG3	1.86	0.57
1:XA:573:A:N3	1:XA:883:C:O2'	2.32	0.57
10:XJ:46:ARG:HA	10:XJ:64:GLU:HA	1.86	0.57
20:XT:45:GLN:HG3	20:XT:91:LEU:HD22	1.86	0.57
24:YA:603:A:O4'	24:YA:655:A:N6	2.37	0.57
1:QA:1106:G:H5''	3:QC:172:ARG:HG2	1.84	0.57
1:QA:1286:A:H2'	1:QA:1287:A:H4'	1.85	0.57
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.69	0.57
13:QM:88:ARG:HG3	13:QM:98:VAL:HG22	1.85	0.57
19:QS:3:ARG:HH21	19:QS:7:LYS:HD3	1.70	0.57
20:QT:10:LEU:HG	20:QT:12:ALA:H	1.69	0.57
24:RA:957:A:H5'	35:RQ:76:LYS:HG2	1.85	0.57
35:YQ:110:THR:HG22	35:YQ:113:GLN:HG2	1.87	0.57
40:YV:71:LEU:HD12	40:YV:84:LYS:HD2	1.86	0.57
24:RA:265:A:N6	24:RA:428:A:C8	2.73	0.57
26:RD:38:LYS:HA	26:RD:61:LEU:HD13	1.86	0.57
29:RG:66:GLN:OE1	29:RG:98:ARG:NH1	2.38	0.57
44:RZ:24:LEU:HD12	44:RZ:41:LEU:HD23	1.86	0.57
1:XA:126:G:H5'	1:XA:633:G:N2	2.20	0.57
1:XA:269:C:H2'	1:XA:270:A:H8	1.69	0.57
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.69	0.57
24:YA:2750:A:OP2	30:YH:6:ARG:NH2	2.37	0.57
1:QA:269:C:H2'	1:QA:270:A:C8	2.40	0.57
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.40	0.57
24:RA:639:U:H2'	24:RA:640:C:C6	2.40	0.57
24:RA:1802:A:H2'	24:RA:1803:A:C8	2.39	0.57
24:RA:2319:G:O6	37:RS:4:LEU:HB2	2.04	0.57
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.87	0.57
20:XT:74:LYS:O	20:XT:76:ALA:N	2.38	0.57
24:YA:81:G:N2	43:YY:1:MET:SD	2.77	0.57
24:YA:1332:G:H21	24:YA:1610:A:H8	1.50	0.57
34:YP:101:VAL:HG21	34:YP:108:LYS:HG3	1.86	0.57
39:YU:92:ARG:HD2	40:YV:11:GLN:HB2	1.86	0.57
41:YW:111:HIS:HB2	41:YW:113:LYS:HG2	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:Y9:3:VAL:HG12	54:Y9:35:ARG:HG3	1.86	0.57
1:QA:1329:A:H5''	13:QM:26:GLY:H	1.70	0.57
9:QI:10:ARG:HG3	9:QI:79:LEU:HD11	1.86	0.57
28:RF:40:GLN:HE22	28:RF:182:ASN:HB2	1.69	0.57
1:XA:1014:A:C2	1:XA:1219:U:H1'	2.40	0.57
13:XM:91:ARG:HB2	13:XM:98:VAL:HG22	1.87	0.57
24:YA:86:C:H4'	24:YA:104:U:H1'	1.86	0.57
24:YA:857:C:H4'	45:Y0:23:VAL:HG21	1.86	0.57
24:YA:1500:G:N2	26:YD:99:ASP:O	2.37	0.57
24:YA:2305:A:H1'	29:YG:136:ARG:HG2	1.86	0.57
32:YN:6:PRO:HG3	32:YN:41:ASP:HB2	1.86	0.57
36:YR:57:ARG:HE	36:YR:62:ALA:HB2	1.69	0.57
1:QA:1124:G:H3'	1:QA:1145:C:N4	2.20	0.57
5:QE:20:GLN:HB2	5:QE:25:ARG:NH1	2.20	0.57
16:QP:18:ARG:HH21	16:QP:35:LYS:HD3	1.70	0.57
24:RA:74:A:H4'	24:RA:75:G:O5'	2.03	0.57
34:RP:91:PHE:CE2	34:RP:95:VAL:HG22	2.40	0.57
38:RT:51:ARG:HB2	38:RT:98:LYS:HE2	1.85	0.57
40:RV:76:LYS:HB2	40:RV:81:TYR:HB3	1.85	0.57
41:RW:19:LEU:HB3	50:R5:25:LEU:HD13	1.87	0.57
1:XA:684:A:O2'	11:XK:39:PRO:O	2.19	0.57
1:XA:1494:G:HO2'	24:YA:1912:A:HO2'	1.50	0.57
3:XC:84:ILE:HG23	3:XC:85:ARG:HD3	1.87	0.57
24:YA:2740:A:H2'	24:YA:2741:A:C8	2.40	0.57
24:YA:2867:G:O2'	24:YA:2868:A:H8	1.87	0.57
27:RE:36:ARG:NH1	27:RE:85:ASN:OD1	2.38	0.57
44:RZ:151:HIS:HB2	44:RZ:170:THR:HA	1.85	0.57
49:R4:56:VAL:HA	49:R4:60:GLN:HB2	1.87	0.57
1:XA:250:A:H4'	1:XA:251:G:O5'	2.03	0.57
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.34	0.57
2:XB:113:HIS:O	2:XB:116:GLU:HG3	2.05	0.57
24:YA:263:C:H2'	24:YA:264:C:O4'	2.04	0.57
24:YA:1939:U:OP1	24:YA:2604:U:O2'	2.23	0.57
1:QA:184:G:H2'	1:QA:185:A:H8	1.70	0.57
1:QA:277:C:OP1	17:QQ:68:ARG:NH2	2.37	0.57
1:QA:1004:A:N1	1:QA:1025:U:H1'	2.20	0.57
1:QA:1338:G:N3	22:QV:42:C:O2'	2.37	0.57
13:QM:97:PRO:HA	13:QM:110:ARG:HD3	1.87	0.57
24:RA:304:G:H2'	24:RA:305:U:C6	2.39	0.57
24:RA:1296:G:OP1	24:RA:2709:G:O2'	2.11	0.57
38:RT:24:PRO:HA	38:RT:49:VAL:HG13	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:10:LEU:HB3	8:XH:83:ILE:HD13	1.86	0.57
13:XM:16:ASP:HB3	13:XM:41:PRO:HB3	1.86	0.57
34:YP:89:ALA:O	34:YP:121:LYS:NZ	2.25	0.57
1:QA:34:C:H2'	1:QA:35:G:H8	1.69	0.56
1:QA:731:G:OP1	1:QA:766:A:H1'	2.04	0.56
1:QA:922:G:H2'	1:QA:923:A:C8	2.40	0.56
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.40	0.56
19:QS:10:PHE:HB2	19:QS:39:THR:HB	1.87	0.56
24:RA:1020:A:N6	24:RA:1141:U:O2'	2.37	0.56
24:RA:1657:C:H2'	24:RA:1658:C:H6	1.70	0.56
35:RQ:58:PHE:HD2	35:RQ:61:GLY:HA3	1.70	0.56
49:R4:61:ARG:NH1	49:R4:62:ARG:O	2.38	0.56
1:XA:1372:U:H5''	9:XI:71:SER:HB2	1.86	0.56
13:XM:107:ALA:HB3	13:XM:111:LYS:HE2	1.86	0.56
24:YA:1528:A:H2'	24:YA:1529:A:C8	2.40	0.56
32:YN:96:GLU:HB2	32:YN:122:VAL:HG12	1.86	0.56
35:YQ:66:ILE:HG13	35:YQ:67:ARG:H	1.70	0.56
1:QA:1412:C:H2'	1:QA:1413:A:H8	1.70	0.56
24:RA:678:C:H2'	24:RA:679:C:H6	1.70	0.56
39:RU:89:GLU:O	39:RU:92:ARG:NH1	2.36	0.56
24:YA:139:G:N2	24:YA:1596:A:H4'	2.19	0.56
24:YA:1359:A:N7	24:YA:1372:U:O4	2.38	0.56
36:YR:37:THR:HG22	36:YR:39:PRO:HD2	1.85	0.56
38:YT:77:PRO:HB2	38:YT:80:SER:HB2	1.88	0.56
1:QA:811:C:O2'	1:QA:901:A:N1	2.39	0.56
1:QA:1004:A:HO2'	1:QA:1036:G:H22	1.51	0.56
1:QA:1015:A:H2'	1:QA:1016:A:C8	2.40	0.56
11:QK:51:LYS:HA	11:QK:55:LYS:HD2	1.86	0.56
22:QV:37:U:H2'	22:QV:38:A:H8	1.71	0.56
24:RA:65:C:H1'	24:RA:456:C:H42	1.70	0.56
35:RQ:43:THR:HG22	35:RQ:94:VAL:HG12	1.87	0.56
47:R2:14:ARG:O	47:R2:15:LYS:HG3	2.05	0.56
49:R4:58:ARG:O	49:R4:61:ARG:HD2	2.04	0.56
1:XA:64:G:H5''	1:XA:65:U:H5'	1.87	0.56
1:XA:335:C:O2'	1:XA:1433:A:N3	2.32	0.56
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.87	0.56
1:XA:708:C:OP1	11:XK:85:ARG:NH2	2.37	0.56
24:YA:127:A:H5''	24:YA:128:C:C6	2.40	0.56
24:YA:1195:G:N7	34:YP:16:ARG:NH1	2.53	0.56
24:YA:1614:A:C6	41:YW:91:GLY:HA2	2.39	0.56
24:YA:2110:G:O2'	24:YA:2111:C:O4'	2.23	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2572:A:C8	27:YE:144:ARG:HG2	2.41	0.56
1:QA:359:U:H2'	1:QA:360:A:H8	1.70	0.56
24:RA:666:G:N2	53:R8:2:PRO:O	2.38	0.56
24:RA:1247:A:OP1	28:RF:95:ARG:NH2	2.34	0.56
24:RA:1570:A:H2'	24:RA:1571:A:C8	2.39	0.56
24:RA:2415:G:H4'	34:RP:67:MET:H	1.70	0.56
39:RU:91:ASP:O	39:RU:93:LYS:N	2.38	0.56
1:XA:544:G:OP1	4:XD:59:ARG:NH1	2.38	0.56
24:YA:857:C:OP1	45:Y0:69:PHE:HD2	1.89	0.56
24:YA:987:G:O2'	24:YA:1000:A:N3	2.34	0.56
24:YA:1888:G:OP2	24:YA:1888:G:N2	2.38	0.56
1:QA:977:A:H8	1:QA:1223:C:C4	2.24	0.56
24:RA:1000:A:H2'	24:RA:1001:A:C8	2.40	0.56
29:RG:32:PRO:HB2	29:RG:172:LEU:HD13	1.86	0.56
33:RO:63:VAL:HB	33:RO:102:VAL:HG23	1.87	0.56
1:XA:1199:U:O2'	1:XA:1202:G:OP1	2.23	0.56
4:XD:145:GLU:HG3	4:XD:184:LYS:HG2	1.88	0.56
24:YA:1434:A:H61	24:YA:1558:A:N6	2.03	0.56
24:YA:2646:C:H2'	24:YA:2647:U:O4'	2.04	0.56
24:YA:2735:G:H2'	24:YA:2736:G:H8	1.71	0.56
43:YY:87:LYS:HD3	43:YY:95:LYS:HD2	1.88	0.56
3:QC:7:PRO:O	3:QC:11:ARG:NH1	2.39	0.56
24:RA:259:G:H21	24:RA:621:A:H8	1.52	0.56
24:RA:2212:A:H1'	24:RA:2215:G:C5	2.41	0.56
31:RI:40:THR:HG23	31:RI:42:SER:H	1.70	0.56
31:RI:93:THR:HG22	31:RI:119:PRO:HB3	1.87	0.56
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.70	0.56
24:YA:414:C:H2'	24:YA:415:A:H8	1.71	0.56
24:YA:1628:G:H2'	24:YA:1629:U:C6	2.40	0.56
24:YA:2128:C:HO2'	24:YA:2173:A:H2	1.53	0.56
24:YA:2511:U:O2'	27:YE:138:PRO:O	2.20	0.56
27:YE:184:VAL:HG12	27:YE:185:LYS:H	1.70	0.56
35:YQ:48:GLU:OE2	35:YQ:51:ARG:NH2	2.35	0.56
39:YU:91:ASP:O	39:YU:93:LYS:N	2.38	0.56
2:QB:93:VAL:HG11	2:QB:97:TRP:HE3	1.70	0.56
12:QL:27:LEU:HD23	12:QL:33:ARG:HH12	1.71	0.56
24:RA:654(B):C:H42	24:RA:654(S):G:H1	1.54	0.56
1:XA:688:G:H2'	1:XA:689:C:H6	1.70	0.56
3:XC:157:ILE:HD12	3:XC:164:ARG:HG3	1.88	0.56
18:XR:23:LYS:HD2	18:XR:58:LEU:HD23	1.87	0.56
24:YA:1049:C:H2'	24:YA:1050:A:H5''	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1068:G:O2'	24:YA:1096:A:N3	2.35	0.56
24:YA:2636:U:H4'	27:YE:80:GLU:OE2	2.06	0.56
33:YO:22:ILE:HD11	33:YO:42:SER:HB3	1.87	0.56
1:QA:32:A:H2'	1:QA:33:A:C8	2.41	0.56
1:QA:1320:C:H4'	13:QM:88:ARG:NH1	2.21	0.56
1:QA:1329:A:N7	21:QU:7:ARG:NH2	2.54	0.56
10:QJ:27:ALA:HB3	10:QJ:34:VAL:HG11	1.87	0.56
24:RA:546:C:H3'	24:RA:547:A:H8	1.70	0.56
1:XA:1243:C:OP2	21:XU:10:ARG:NH2	2.39	0.56
3:XC:108:ASN:ND2	3:XC:144:SER:OG	2.32	0.56
30:YH:9:ILE:HG21	30:YH:49:VAL:HB	1.88	0.56
4:QD:141:ARG:NH1	4:QD:144:ASP:OD1	2.38	0.56
24:RA:922:U:H2'	24:RA:923:C:C6	2.41	0.56
24:RA:969:U:H2'	24:RA:970:C:C6	2.41	0.56
24:RA:2150:U:H2'	24:RA:2151:G:H8	1.71	0.56
31:RI:128:LEU:HD22	31:RI:140:LEU:HD21	1.87	0.56
1:XA:56:U:H2'	1:XA:57:G:C8	2.40	0.56
9:XI:18:PHE:HB3	9:XI:20:ARG:NH1	2.20	0.56
24:YA:1693:U:O2'	24:YA:1695:G:O6	2.18	0.56
1:QA:375:U:OP1	16:QP:69:THR:OG1	2.17	0.56
1:QA:1198:G:N3	10:QJ:54:PHE:HZ	2.04	0.56
24:RA:593:G:H4'	53:R8:61:LEU:CD1	2.35	0.56
1:XA:401:C:H2'	1:XA:402:G:H8	1.71	0.56
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.41	0.56
1:XA:1271:G:H2'	1:XA:1272:G:H5''	1.87	0.56
12:XL:53:ARG:HB3	12:XL:69:TYR:HE1	1.71	0.56
24:YA:813:U:H2'	24:YA:814:C:C6	2.40	0.56
24:YA:2343:C:HO2'	24:YA:2373:G:HO2'	1.54	0.56
1:QA:712:A:H2'	1:QA:713:G:C8	2.40	0.55
24:RA:2341:G:H2'	24:RA:2342:C:C6	2.41	0.55
35:RQ:1:MET:N	35:RQ:48:GLU:HG3	2.20	0.55
42:RX:5:TYR:CE2	47:R2:30:ARG:HB2	2.41	0.55
49:R4:48:ARG:HG2	49:R4:52:THR:HA	1.87	0.55
1:XA:130:A:N3	1:XA:263:A:O2'	2.36	0.55
1:XA:403:C:H4'	4:XD:122:ARG:HH11	1.71	0.55
1:XA:578:C:O2'	1:XA:728:A:N3	2.36	0.55
1:XA:1015:A:H2'	1:XA:1016:A:C8	2.41	0.55
8:XH:38:ILE:HD12	8:XH:41:ARG:HH21	1.70	0.55
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.88	0.55
24:YA:574:C:N3	27:YE:145:LYS:NZ	2.53	0.55
24:YA:2212:A:H1'	24:YA:2215:G:C5	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2354:G:H4'	45:Y0:35:ASN:ND2	2.21	0.55
31:YI:21:VAL:HG22	31:YI:22:LYS:H	1.70	0.55
39:YU:85:LYS:HE3	39:YU:116:ALA:HB1	1.88	0.55
12:QL:90:VAL:HG13	12:QL:93:LEU:HB2	1.88	0.55
22:QV:15:G:H22	22:QV:49:C:H5	1.52	0.55
24:RA:567:A:N6	40:RV:78:LYS:HD2	2.21	0.55
48:R3:40:THR:HG22	48:R3:42:ALA:H	1.71	0.55
13:XM:4:ILE:HD11	13:XM:56:LEU:HD12	1.88	0.55
19:XS:40:ILE:HD13	19:XS:71:LEU:HD21	1.89	0.55
24:YA:34:C:H41	24:YA:447:A:H61	1.53	0.55
24:YA:1105:U:H2'	24:YA:1106:G:H8	1.72	0.55
24:YA:1165:U:H2'	24:YA:1166:C:C6	2.40	0.55
24:YA:1204:A:H1'	24:YA:1206:G:C8	2.41	0.55
24:YA:2176:A:H2'	24:YA:2177:C:C6	2.41	0.55
43:YY:28:LYS:N	43:YY:38:ILE:O	2.39	0.55
44:YZ:10:ARG:HH21	44:YZ:25:PRO:HB3	1.71	0.55
1:QA:1342:C:H4'	9:QI:125:TYR:H	1.70	0.55
24:RA:184:C:O2'	24:RA:217:G:N3	2.39	0.55
24:RA:2022:U:O2'	24:RA:2617:C:H5'	2.05	0.55
27:RE:45:THR:O	27:RE:83:ASP:N	2.36	0.55
53:R8:52:LYS:N	53:R8:53:PRO:HD2	2.22	0.55
1:XA:452:A:O2'	16:XP:72:ARG:NH1	2.39	0.55
24:YA:30:G:H2'	24:YA:31:C:H6	1.71	0.55
24:YA:38:A:H2'	24:YA:39:C:C6	2.41	0.55
24:YA:1263:U:H2'	24:YA:1264:G:C8	2.41	0.55
24:YA:2250:G:C4	35:YQ:82:ARG:HG3	2.41	0.55
12:QL:45:PRO:HB3	12:QL:92:ASP:HB3	1.87	0.55
22:QV:35:C:O2'	22:QV:36:A:OP1	2.22	0.55
29:RG:82:LEU:H	29:RG:86:MET:HE2	1.70	0.55
36:RR:33:ARG:HD3	36:RR:113:LEU:HD11	1.88	0.55
1:XA:64:G:N2	1:XA:68:G:O6	2.31	0.55
1:XA:662:G:H2'	1:XA:663:A:C8	2.41	0.55
24:YA:1508:A:O2'	24:YA:1509:C:O4'	2.20	0.55
24:YA:2424:C:O2	24:YA:2429:G:O2'	2.17	0.55
27:YE:14:ILE:HG23	38:YT:14:TYR:HE2	1.69	0.55
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.42	0.55
18:QR:73:ALA:HB1	18:QR:79:LEU:HD13	1.89	0.55
24:RA:372:G:N2	24:RA:401:A:OP2	2.39	0.55
24:RA:1772:G:N2	24:RA:1774:C:H5'	2.22	0.55
24:RA:2328:A:H2'	24:RA:2329:G:C8	2.41	0.55
27:RE:34:VAL:HG21	27:RE:77:ILE:HD11	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RR:17:ARG:HG2	36:RR:21:TYR:CE2	2.42	0.55
7:XG:64:GLN:HE21	7:XG:68:ASN:HD21	1.54	0.55
24:YA:639:U:H2'	24:YA:640:C:H6	1.70	0.55
24:YA:918:A:N3	25:YB:80:U:O2'	2.36	0.55
24:YA:2076:U:OP2	24:YA:2238:G:N2	2.36	0.55
34:YP:88:LEU:HD11	34:YP:114:ILE:HG12	1.88	0.55
1:QA:827:U:H5	1:QA:872:A:H61	1.54	0.55
5:QE:33:VAL:HG13	5:QE:112:LEU:HD12	1.87	0.55
13:QM:4:ILE:HG23	13:QM:57:ARG:HG2	1.88	0.55
20:QT:78:ALA:HA	20:QT:81:LYS:HZ1	1.71	0.55
24:RA:300:A:OP1	43:RY:86:ARG:NH2	2.40	0.55
24:RA:304:G:H2'	24:RA:305:U:H6	1.72	0.55
28:RF:125:LEU:HA	28:RF:194:MET:O	2.07	0.55
31:RI:125:GLU:HG2	31:RI:141:LYS:HG3	1.88	0.55
1:XA:1320:C:N4	19:XS:36:ARG:HG3	2.22	0.55
24:YA:523:C:O2	24:YA:553:U:O2'	2.25	0.55
26:YD:34:VAL:HG13	26:YD:64:ILE:HG13	1.89	0.55
31:YI:133:HIS:HB3	31:YI:134:PRO:HD3	1.87	0.55
43:YY:99:CYS:SG	43:YY:100:ALA:N	2.80	0.55
49:Y4:68:ARG:H	49:Y4:68:ARG:HD2	1.72	0.55
51:Y6:10:LEU:HD13	51:Y6:19:ARG:HG2	1.88	0.55
24:RA:530:G:O2'	24:RA:532:A:N7	2.40	0.55
24:RA:577:G:O2'	24:RA:1254:A:OP1	2.25	0.55
28:RF:11:VAL:HG22	28:RF:125:LEU:HB2	1.88	0.55
44:RZ:31:ARG:H	44:RZ:31:ARG:HD3	1.70	0.55
1:XA:991:U:O4	1:XA:1212:U:O2'	2.25	0.55
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.42	0.55
2:XB:188:ALA:HB3	2:XB:200:ILE:HD11	1.89	0.55
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.40	0.55
24:YA:528:A:N1	24:YA:2042:A:H2'	2.21	0.55
24:YA:769:G:H5'	24:YA:1379:A:N6	2.22	0.55
24:YA:1528:A:H2'	24:YA:1529:A:H8	1.72	0.55
1:QA:920:U:H2'	1:QA:921:U:C6	2.42	0.55
4:QD:79:PHE:CE1	4:QD:204:ILE:HD13	2.41	0.55
5:QE:32:VAL:HG22	5:QE:58:ALA:HB1	1.89	0.55
24:RA:271(D):G:H2'	24:RA:272:G:H8	1.72	0.55
24:RA:2415:G:H4'	34:RP:67:MET:N	2.22	0.55
24:RA:2784:C:O2'	27:RE:37:ARG:NH1	2.39	0.55
24:RA:2815:C:H4'	50:R5:29:THR:HG21	1.89	0.55
49:R4:46:GLN:O	49:R4:48:ARG:N	2.31	0.55
24:YA:2853:C:H2'	24:YA:2854:G:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YI:80:PRO:HB2	31:YI:146:ALA:HB2	1.89	0.55
34:YP:86:LYS:HE3	34:YP:117:GLU:HG3	1.88	0.55
38:YT:99:LEU:HB3	38:YT:102:ILE:HD13	1.89	0.55
46:Y1:80:LEU:HD12	46:Y1:81:LYS:HG3	1.87	0.55
3:QC:73:PRO:HA	3:QC:76:VAL:HG22	1.89	0.55
24:RA:24:G:O2'	41:RW:78:GLU:O	2.23	0.55
25:RB:111:U:H2'	25:RB:112:G:H8	1.72	0.55
32:RN:13:TRP:O	32:RN:135:PRO:HD2	2.07	0.55
53:R8:29:LYS:HG3	53:R8:30:ARG:N	2.22	0.55
1:XA:1292:U:H2'	1:XA:1293:G:H8	1.71	0.55
2:XB:27:LYS:HD2	2:XB:193:ASP:HB2	1.87	0.55
24:YA:330:A:H2	24:YA:1210:A:O2'	1.90	0.55
24:YA:330:A:O2'	24:YA:331:A:H8	1.89	0.55
24:YA:581:C:H2'	24:YA:582:G:C8	2.42	0.55
24:YA:2790:A:H2'	24:YA:2791:C:H5''	1.88	0.55
38:YT:6:LEU:HD23	38:YT:9:LEU:HD12	1.87	0.55
46:Y1:18:ILE:HG12	46:Y1:37:ILE:HG12	1.89	0.55
46:Y1:44:PRO:HG2	46:Y1:46:LEU:HD13	1.88	0.55
1:QA:9:G:OP1	5:QE:122:GLU:HG2	2.06	0.55
1:QA:539:A:H2'	1:QA:540:G:H8	1.72	0.55
1:QA:1422:G:O3'	33:RO:49:ARG:NH1	2.40	0.55
24:RA:674:G:H1'	28:RF:74:ARG:NH1	2.22	0.55
24:RA:2470:G:O6	24:RA:2481:G:N2	2.40	0.55
25:RB:3:C:H2'	25:RB:4:C:H6	1.72	0.55
32:RN:86:PRO:HG2	32:RN:89:LYS:HE2	1.88	0.55
35:RQ:65:PHE:HB2	35:RQ:105:GLU:HB2	1.88	0.55
1:XA:21:G:H2'	1:XA:22:G:C8	2.42	0.55
4:XD:169:LYS:H	4:XD:169:LYS:HD2	1.71	0.55
31:YI:53:ALA:O	31:YI:56:LYS:HG2	2.06	0.55
1:QA:222:U:H2'	1:QA:223:U:H6	1.72	0.54
1:QA:406:G:H5'	4:QD:5:ILE:HD13	1.88	0.54
1:QA:976:G:H5'	1:QA:1358:U:O2'	2.08	0.54
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.72	0.54
4:QD:156:GLU:O	4:QD:159:ARG:HG2	2.06	0.54
24:RA:638:G:H2'	24:RA:639:U:C6	2.42	0.54
24:RA:2010:G:H5''	41:RW:42:ARG:HB2	1.89	0.54
24:RA:2154:G:H2'	24:RA:2155:G:C8	2.41	0.54
1:XA:892:A:H2'	1:XA:893:C:C6	2.41	0.54
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.42	0.54
8:XH:86:ILE:HG21	8:XH:133:LEU:HD23	1.88	0.54
24:YA:1292:U:H2'	24:YA:1293:C:C6	2.42	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YG:80:PHE:O	29:YG:82:LEU:HB2	2.07	0.54
38:YT:91:ARG:HD2	38:YT:120:ARG:NH1	2.22	0.54
1:QA:1391:U:H2'	1:QA:1392:G:C8	2.41	0.54
2:QB:69:LEU:HB3	2:QB:162:ILE:HG22	1.89	0.54
3:QC:70:VAL:HG11	3:QC:76:VAL:HG11	1.89	0.54
4:QD:60:GLU:O	4:QD:63:LYS:HG2	2.08	0.54
24:RA:620:G:H4'	24:RA:621:A:H5''	1.89	0.54
24:RA:860:U:C5	24:RA:917:A:H2	2.25	0.54
24:RA:2784:C:H2'	24:RA:2785:C:H6	1.71	0.54
27:RE:78:LEU:HG	27:RE:79:ARG:HG2	1.89	0.54
29:RG:63:ILE:HG21	29:RG:138:GLN:HE22	1.72	0.54
32:RN:23:LEU:HD23	32:RN:60:ILE:HG21	1.88	0.54
35:RQ:83:MET:HG2	45:R0:7:LEU:HD23	1.88	0.54
44:RZ:19:ARG:HH12	44:RZ:84:GLU:HB2	1.71	0.54
1:XA:736:C:H2'	1:XA:737:A:C8	2.42	0.54
2:XB:76:GLN:NE2	2:XB:206:ASP:OD1	2.35	0.54
3:XC:164:ARG:NH2	3:XC:166:GLU:OE2	2.37	0.54
8:XH:25:ASP:OD1	8:XH:60:ARG:HG2	2.08	0.54
11:XK:86:GLY:O	11:XK:91:ARG:NH1	2.40	0.54
24:YA:1069:A:H2'	24:YA:1073:A:N7	2.23	0.54
24:YA:1972:A:H2'	24:YA:1973:G:H8	1.72	0.54
24:YA:2151:G:H2'	24:YA:2152:G:C8	2.42	0.54
27:YE:52:LEU:O	27:YE:74:PRO:HA	2.07	0.54
2:QB:9:GLU:HG2	2:QB:48:MET:HG3	1.88	0.54
14:QN:17:LYS:HD3	14:QN:17:LYS:H	1.73	0.54
24:RA:796:C:H2'	24:RA:797:C:C6	2.43	0.54
24:RA:807:U:H2'	24:RA:808:G:C8	2.37	0.54
24:RA:1056:G:H5''	24:RA:1057:A:H5'	1.90	0.54
24:RA:1287:A:N7	36:RR:107:ASP:HB2	2.23	0.54
24:RA:2030:A:H4'	24:RA:2031:A:H8	1.71	0.54
24:RA:2133:G:H1'	24:RA:2158:A:H61	1.73	0.54
27:RE:63:LEU:HD12	27:RE:65:GLY:H	1.72	0.54
1:XA:32:A:H2'	1:XA:33:A:C8	2.41	0.54
1:XA:115:G:H4'	1:XA:116:A:O5'	2.07	0.54
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.42	0.54
6:XF:60:PHE:HE2	18:XR:78:LEU:HD21	1.72	0.54
24:YA:1268:A:H2'	24:YA:1269:A:O4'	2.08	0.54
24:YA:2099:U:O4	24:YA:2190:G:O6	2.25	0.54
24:YA:2783:G:H2'	24:YA:2784:C:C6	2.43	0.54
24:RA:1431:U:H2'	24:RA:1432:C:C6	2.43	0.54
24:RA:1728:G:N1	24:RA:1730:U:OP2	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RD:108:PRO:HD2	26:RD:111:LEU:HD22	1.90	0.54
36:RR:22:ARG:O	36:RR:26:LYS:HG2	2.06	0.54
1:XA:993:G:O2'	1:XA:994:A:N7	2.40	0.54
24:YA:30:G:H2'	24:YA:31:C:C6	2.41	0.54
34:YP:61:ARG:HH11	53:Y8:56:GLU:CD	2.11	0.54
45:Y0:69:PHE:HE1	45:Y0:79:VAL:HG13	1.72	0.54
47:Y2:16:LEU:O	47:Y2:67:LYS:NZ	2.41	0.54
48:Y3:3:ARG:NH2	48:Y3:60:GLU:O	2.35	0.54
1:QA:1510:U:H2'	1:QA:1511:G:H8	1.72	0.54
30:RH:8:PRO:O	30:RH:69:ARG:NH1	2.40	0.54
49:R4:53:GLU:HB2	49:R4:56:VAL:HG22	1.90	0.54
1:XA:428:G:OP2	4:XD:10:ARG:HD2	2.07	0.54
1:XA:1149:C:H2'	1:XA:1150:U:C6	2.42	0.54
24:YA:993:G:H4'	40:YV:70:ILE:HD11	1.88	0.54
24:YA:2019:A:O2'	39:YU:34:LYS:NZ	2.40	0.54
24:YA:2023:G:H5'	24:YA:2617:C:H4'	1.90	0.54
24:YA:2025:C:H2'	24:YA:2026:C:C6	2.43	0.54
39:YU:92:ARG:CD	40:YV:11:GLN:HB2	2.38	0.54
43:YY:9:LYS:HG3	43:YY:29:GLU:HA	1.89	0.54
1:QA:1321:C:H4'	13:QM:87:TYR:CZ	2.42	0.54
1:QA:1464:G:OP2	38:RT:112:ARG:NH2	2.36	0.54
22:QV:21:U:H5'	22:QV:22:A:OP2	2.07	0.54
24:RA:2804:C:N4	24:RA:2805:G:O6	2.41	0.54
24:RA:2867:G:O2'	24:RA:2868:A:H8	1.90	0.54
30:RH:121:ILE:HD11	30:RH:140:LYS:HB3	1.90	0.54
40:RV:62:LEU:HD11	40:RV:95:LEU:HB2	1.90	0.54
1:XA:1118:C:H1'	1:XA:1179:A:C5	2.43	0.54
1:XA:1486:G:H2'	1:XA:1487:G:O4'	2.08	0.54
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.42	0.54
24:YA:620:G:H4'	24:YA:621:A:H5''	1.88	0.54
24:YA:1678:G:N2	24:YA:1989:G:H22	2.05	0.54
33:YO:25:LEU:HD11	33:YO:40:VAL:HG23	1.89	0.54
36:YR:58:GLY:HA2	36:YR:80:PHE:HE1	1.73	0.54
38:YT:12:SER:HB3	38:YT:15:VAL:HG13	1.90	0.54
1:QA:579:G:H5'	1:QA:728:A:H1'	1.89	0.54
1:QA:1004:A:C2	1:QA:1025:U:H1'	2.43	0.54
24:RA:1405:U:H2'	24:RA:1406:U:C6	2.43	0.54
24:RA:2140:C:H2'	24:RA:2141:G:H8	1.71	0.54
1:XA:251:G:N2	1:XA:253:U:O4	2.41	0.54
1:XA:486:U:H2'	1:XA:487:A:H8	1.73	0.54
1:XA:1028(A):C:N4	1:XA:1032(B):G:O6	2.41	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:784:A:C5	26:YD:229:VAL:HG21	2.43	0.54
24:YA:1695:G:N7	26:YD:14:ARG:NH2	2.56	0.54
24:YA:2334:G:H5'	37:YS:9:ARG:HG3	1.90	0.54
44:YZ:31:ARG:NH1	44:YZ:94:GLU:OE1	2.40	0.54
1:QA:539:A:H2'	1:QA:540:G:C8	2.43	0.54
2:QB:168:THR:HG23	2:QB:192:SER:HB2	1.89	0.54
20:QT:30:LYS:HG3	20:QT:34:LYS:HE3	1.88	0.54
22:QV:9:G:O2'	22:QV:10:G:N7	2.41	0.54
24:RA:923:C:H2'	24:RA:924:C:H6	1.72	0.54
24:RA:2845:G:H2'	24:RA:2846:G:C8	2.43	0.54
30:RH:9:ILE:HD11	30:RH:49:VAL:HB	1.89	0.54
1:XA:22:G:H4'	1:XA:885:G:C8	2.42	0.54
1:XA:464:G:H21	1:XA:468:A:H62	1.54	0.54
1:XA:1070:U:O5'	5:XE:25:ARG:NH2	2.41	0.54
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.73	0.54
6:XF:99:ALA:HB1	18:XR:23:LYS:HE2	1.89	0.54
24:YA:259:G:N2	24:YA:621:A:H8	2.02	0.54
24:YA:589:C:H2'	24:YA:590:A:C8	2.41	0.54
36:YR:59:ASP:HB2	36:YR:62:ALA:H	1.72	0.54
1:QA:988:G:H2'	1:QA:989:C:O4'	2.07	0.54
1:QA:1141:C:H2'	1:QA:1142:G:C8	2.42	0.54
19:QS:36:ARG:HA	19:QS:71:LEU:HD23	1.89	0.54
24:RA:184:C:H2'	24:RA:185:U:H6	1.73	0.54
24:RA:479:A:N3	24:RA:481:G:H5''	2.23	0.54
24:RA:840:C:H2'	24:RA:841:A:H8	1.73	0.54
26:RD:25:THR:HG21	26:RD:113:VAL:HG21	1.90	0.54
30:RH:11:VAL:HG12	30:RH:13:LYS:HG2	1.90	0.54
35:RQ:65:PHE:HB2	35:RQ:105:GLU:CB	2.37	0.54
35:RQ:66:ILE:H	35:RQ:66:ILE:HD12	1.72	0.54
1:XA:1211:U:H4'	1:XA:1213:A:H1'	1.89	0.54
9:XI:114:TYR:HE2	10:XJ:59:SER:HA	1.73	0.54
24:YA:1992:G:N2	24:YA:1996:C:O2'	2.41	0.54
25:YB:37:C:HO2'	37:YS:95:HIS:CE1	2.24	0.54
43:YY:14:LEU:O	43:YY:72:VAL:HA	2.08	0.54
1:QA:619:U:N3	4:QD:134:ASP:OD1	2.39	0.54
24:RA:1657:C:H2'	24:RA:1658:C:C6	2.43	0.54
35:RQ:81:VAL:HG12	45:R0:7:LEU:HD21	1.89	0.54
1:XA:501:C:H2'	1:XA:502:G:H8	1.74	0.54
1:XA:708:C:H2'	1:XA:709:G:H8	1.72	0.54
24:YA:1062:G:H1'	24:YA:1088:A:C5	2.43	0.54
24:YA:2059:A:H5'	24:YA:2060:A:OP2	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2564:A:C2	24:YA:2647:U:H4'	2.43	0.54
45:Y0:24:LYS:HZ1	45:Y0:39:ARG:HG3	1.72	0.54
1:QA:229:U:H4'	16:QP:2:VAL:HG11	1.89	0.53
1:QA:484:G:H4'	1:QA:485:G:O5'	2.08	0.53
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.43	0.53
20:QT:35:THR:HA	20:QT:38:LYS:HE2	1.90	0.53
24:RA:17:G:H4'	39:RU:25:TRP:HE1	1.74	0.53
27:RE:23:VAL:HG12	27:RE:173:VAL:HG21	1.90	0.53
44:RZ:40:ASP:HB3	44:RZ:43:GLU:HB2	1.90	0.53
49:R4:14:ILE:HG23	49:R4:22:ILE:HB	1.90	0.53
52:R7:5:TRP:NE1	52:R7:7:PRO:HG3	2.23	0.53
53:R8:49:VAL:HG23	53:R8:53:PRO:HG3	1.89	0.53
1:XA:7:G:O2'	5:XE:120:THR:O	2.26	0.53
1:XA:718:G:C8	11:XK:116:HIS:HB3	2.42	0.53
22:XV:15:G:H22	22:XV:49:C:H41	1.56	0.53
24:YA:270(V):G:H2'	24:YA:270(W):G:H8	1.72	0.53
24:YA:1429:G:H2'	24:YA:1430:C:C6	2.43	0.53
24:YA:2074:U:HO2'	24:YA:2597:G:HO2'	1.54	0.53
24:YA:2308:G:H1	24:YA:2311:A:H2	1.53	0.53
26:YD:130:ALA:HB2	26:YD:192:THR:HG22	1.88	0.53
1:QA:384:G:H2'	1:QA:385:C:C6	2.43	0.53
1:QA:689:C:H3'	1:QA:690:G:H21	1.72	0.53
1:QA:1261:A:H62	1:QA:1274:G:H21	1.54	0.53
1:QA:1305:G:N2	1:QA:1332:A:OP2	2.38	0.53
2:QB:7:VAL:HG22	2:QB:217:ARG:HG2	1.90	0.53
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.90	0.53
9:QI:82:ALA:HB1	9:QI:96:LEU:HD11	1.90	0.53
24:RA:345:A:O2'	24:RA:347:A:N7	2.41	0.53
24:RA:704:G:O2'	24:RA:726:G:N2	2.38	0.53
24:RA:755:C:H2'	24:RA:756:C:H6	1.72	0.53
24:RA:910:A:H2'	24:RA:911:A:C8	2.44	0.53
24:RA:1889:A:H2'	24:RA:1890:A:C8	2.42	0.53
24:RA:2070:G:H2'	24:RA:2071:A:C8	2.43	0.53
1:XA:8:A:N6	4:XD:205:GLU:O	2.41	0.53
1:XA:191(A):G:H2'	1:XA:191(B):G:C8	2.43	0.53
1:XA:337:C:H2'	1:XA:338:A:C8	2.42	0.53
16:XP:6:LEU:HA	16:XP:18:ARG:O	2.08	0.53
24:YA:26:G:H1'	24:YA:515:A:H61	1.73	0.53
24:YA:458:G:O2'	24:YA:469:G:O6	2.22	0.53
24:YA:624:C:H5''	53:Y8:64:TYR:HD2	1.73	0.53
24:YA:1113:U:H2'	24:YA:1114:G:C8	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1464:C:O2'	24:YA:1528:A:H8	1.91	0.53
24:YA:2271:G:H5'	45:Y0:20:ARG:HG2	1.90	0.53
25:YB:60:C:H2'	25:YB:61:G:C8	2.43	0.53
26:YD:69:ARG:HH22	26:YD:117:VAL:HG12	1.72	0.53
38:YT:36:GLU:OE1	38:YT:41:ARG:NH1	2.39	0.53
44:YZ:121:HIS:ND1	44:YZ:169:GLU:OE1	2.41	0.53
1:QA:45:U:H2'	1:QA:46:G:C8	2.44	0.53
1:QA:45:U:H2'	1:QA:46:G:H8	1.72	0.53
1:QA:335:C:H2'	1:QA:336:C:C6	2.42	0.53
1:QA:407:G:H5''	4:QD:115:ARG:CG	2.38	0.53
14:QN:29:ARG:HH21	14:QN:32:SER:HB3	1.74	0.53
24:RA:455:C:N3	24:RA:472:A:H2'	2.23	0.53
24:RA:511:U:H4'	24:RA:1235:G:H4'	1.90	0.53
24:RA:1055:G:H22	24:RA:1105:U:H3	1.55	0.53
24:RA:1072:C:H42	24:RA:1092:C:H41	1.55	0.53
24:RA:2629:A:H4'	24:RA:2629:A:OP1	2.07	0.53
31:RI:14:ASP:C	31:RI:16:GLY:H	2.10	0.53
1:XA:955:U:H5'	13:XM:120:LYS:HE3	1.89	0.53
5:XE:81:GLU:HG2	5:XE:90:VAL:HG12	1.91	0.53
24:YA:1499:C:H2'	24:YA:1500:G:C8	2.43	0.53
26:YD:30:GLU:CD	26:YD:63:ARG:HH21	2.12	0.53
31:YI:9:LEU:HB3	31:YI:12:LEU:HB3	1.91	0.53
34:YP:64:LYS:HB3	53:Y8:25:MET:HG3	1.89	0.53
35:YQ:81:VAL:H	45:Y0:7:LEU:HD21	1.73	0.53
41:YW:83:LYS:HG2	41:YW:97:LYS:HG2	1.89	0.53
44:YZ:58:VAL:O	44:YZ:59:LEU:HB2	2.09	0.53
2:QB:31:TYR:HE2	2:QB:194:PRO:HG3	1.74	0.53
4:QD:31:CYS:HB2	56:QD:301:SF4:S3	2.48	0.53
24:RA:934:G:H2'	24:RA:935:C:H6	1.73	0.53
24:RA:1509:C:H3'	24:RA:1510:A:H5''	1.90	0.53
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.43	0.53
4:XD:111:ALA:HB2	4:XD:120:LEU:HD12	1.91	0.53
22:XV:44:A:H2'	22:XV:45:A:C8	2.43	0.53
24:YA:1590:U:H2'	24:YA:1591:G:C8	2.43	0.53
24:YA:2364:C:H2'	24:YA:2365:G:O4'	2.09	0.53
37:YS:71:ARG:NH1	37:YS:107:GLU:OE1	2.41	0.53
38:YT:3:ARG:HG3	38:YT:6:LEU:HB2	1.91	0.53
39:YU:47:TYR:HA	39:YU:50:ARG:HH11	1.74	0.53
39:YU:88:ILE:HG13	40:YV:48:GLY:HA2	1.90	0.53
45:Y0:21:LEU:HD11	45:Y0:41:ARG:NH2	2.24	0.53
4:QD:15:GLU:HG2	4:QD:63:LYS:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:30:ARG:HA	8:QH:33:GLU:HG2	1.90	0.53
24:RA:184:C:H2'	24:RA:185:U:C6	2.44	0.53
24:RA:519:U:H2'	24:RA:520:G:H8	1.72	0.53
24:RA:1678:G:N2	24:RA:1989:G:H22	2.06	0.53
26:RD:17:THR:HB	26:RD:205:VAL:H	1.74	0.53
1:XA:737:A:H2'	1:XA:738:C:H6	1.73	0.53
1:XA:1373:G:OP1	9:XI:42:ARG:NH2	2.41	0.53
24:YA:2030:A:H4'	24:YA:2031:A:H8	1.74	0.53
24:YA:2849:U:OP2	38:YT:95:ARG:NH1	2.42	0.53
31:YI:87:LYS:HA	31:YI:122:GLU:HA	1.89	0.53
1:QA:186(B):C:H2'	1:QA:186(C):G:C8	2.43	0.53
1:QA:551:U:H2'	1:QA:552:U:C6	2.43	0.53
1:QA:954:G:H21	1:QA:1227:A:H62	1.56	0.53
1:QA:1410:G:H2'	1:QA:1411:C:C6	2.44	0.53
3:QC:7:PRO:HG3	3:QC:201:TYR:HE1	1.74	0.53
24:RA:140:A:H8	24:RA:1408:C:HO2'	1.56	0.53
24:RA:890:A:H2'	24:RA:892:G:H8	1.74	0.53
24:RA:1557:C:OP2	24:RA:1558:A:O2'	2.20	0.53
1:XA:407:G:O4'	4:XD:119:GLN:NE2	2.42	0.53
1:XA:643:C:H2'	1:XA:644:G:H8	1.73	0.53
1:XA:890:G:O2'	1:XA:906:G:O6	2.24	0.53
1:XA:1129:C:H5'	1:XA:1130:A:H5'	1.91	0.53
24:YA:794:G:H2'	24:YA:795:C:C6	2.44	0.53
24:YA:848:G:H2'	24:YA:849:A:H8	1.72	0.53
24:YA:1020:A:N1	24:YA:1141:U:H2'	2.24	0.53
24:YA:2543:G:H2'	24:YA:2544:G:C8	2.44	0.53
31:YI:2:LYS:HG3	31:YI:39:ALA:HB3	1.89	0.53
1:QA:455:C:H42	1:QA:477:G:H1	1.57	0.53
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.74	0.53
2:QB:186:ALA:HB3	2:QB:197:VAL:HG11	1.91	0.53
11:QK:92:GLU:O	11:QK:96:ARG:HD3	2.08	0.53
24:RA:600:G:N2	24:RA:605:C:O3'	2.41	0.53
24:RA:823:G:H2'	24:RA:824:A:H8	1.73	0.53
24:RA:1050:A:H2'	24:RA:1051:G:O4'	2.08	0.53
24:RA:1568:G:OP2	26:RD:63:ARG:NH2	2.42	0.53
24:RA:2577:A:H5''	24:RA:2578:G:H5'	1.91	0.53
24:RA:2755:C:H2'	54:R9:19:ARG:HD2	1.91	0.53
30:RH:28:GLY:HA3	30:RH:79:VAL:HB	1.90	0.53
35:RQ:37:LEU:HD11	35:RQ:130:LYS:HB2	1.91	0.53
44:RZ:8:TYR:O	44:RZ:37:VAL:HG13	2.09	0.53
1:XA:1336:C:O2'	1:XA:1337:G:OP2	2.21	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2346:A:H5''	24:YA:2383:G:H1'	1.91	0.53
41:YW:23:LEU:HD11	50:Y5:27:PRO:HA	1.91	0.53
44:YZ:48:PHE:HE1	44:YZ:71:VAL:HG11	1.74	0.53
3:QC:18:TRP:HZ3	14:QN:55:GLY:N	2.06	0.53
15:QO:26:GLU:HB2	15:QO:81:LEU:HD13	1.91	0.53
24:RA:2475:C:H42	24:RA:2529:G:H22	1.57	0.53
26:RD:45:ASN:OD1	26:RD:46:GLN:N	2.36	0.53
40:RV:76:LYS:HD3	40:RV:81:TYR:CD2	2.43	0.53
44:RZ:55:HIS:NE2	44:RZ:135:GLU:HG3	2.23	0.53
1:XA:1240:U:H2'	7:XG:32:ARG:HG2	1.91	0.53
24:YA:67:U:H3	24:YA:74:A:H2	1.56	0.53
24:YA:1031:G:O2'	54:Y9:7:VAL:O	2.22	0.53
24:YA:1045:A:N6	24:YA:1111:A:N7	2.57	0.53
24:YA:1812:A:H2'	24:YA:1813:G:H8	1.73	0.53
25:YB:15:A:H1'	25:YB:109:G:C5	2.43	0.53
1:QA:642:A:N3	8:QH:113:SER:OG	2.33	0.53
1:QA:1111:A:N1	3:QC:177:THR:HG22	2.23	0.53
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.44	0.53
24:RA:68:G:H2'	24:RA:69:C:C6	2.44	0.53
24:RA:635:C:O2'	24:RA:639:U:OP1	2.25	0.53
24:RA:639:U:H2'	24:RA:640:C:H6	1.74	0.53
24:RA:1338:G:O2'	24:RA:1393:A:N1	2.36	0.53
24:RA:2893:G:H5''	24:RA:2894:G:H5'	1.91	0.53
28:RF:184:TYR:CE2	28:RF:188:ARG:HD2	2.43	0.53
49:R4:28:LYS:HG2	49:R4:31:ILE:HD11	1.90	0.53
1:XA:243:A:H4'	1:XA:244:U:O5'	2.08	0.53
1:XA:265:G:H2'	1:XA:266:G:H5''	1.91	0.53
5:XE:42:GLY:HA3	5:XE:66:MET:HG2	1.91	0.53
6:XF:36:ARG:NH2	6:XF:66:GLU:OE1	2.36	0.53
24:YA:1799:G:H5'	24:YA:1819:A:N6	2.24	0.53
24:YA:2867:G:OP2	38:YT:119:LYS:NZ	2.28	0.53
1:QA:181:G:O2'	1:QA:183:G:O6	2.24	0.53
10:QJ:98:ILE:O	10:QJ:99:LYS:HG2	2.08	0.53
24:RA:978:G:O4'	24:RA:1001:A:H2	1.92	0.53
34:RP:121:LYS:HB3	34:RP:123:LEU:HD22	1.91	0.53
38:RT:53:ARG:HD2	38:RT:60:THR:HB	1.91	0.53
1:XA:1320:C:H5'	19:XS:70:LYS:HD2	1.90	0.53
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.44	0.53
24:YA:796:C:H2'	24:YA:797:C:C6	2.44	0.53
24:YA:1674:G:H1'	24:YA:1676:A:N6	2.24	0.53
34:YP:61:ARG:NH1	53:Y8:56:GLU:OE1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YT:54:ARG:HA	38:YT:59:THR:HG23	1.90	0.53
1:QA:630:G:H22	1:QA:631:G:H21	1.56	0.52
1:QA:737:A:H2'	1:QA:738:C:C6	2.43	0.52
1:QA:1137:C:O2'	1:QA:1138:G:N2	2.42	0.52
1:QA:1410:G:H2'	1:QA:1411:C:H6	1.75	0.52
9:QI:28:VAL:HG13	9:QI:63:ILE:HD11	1.91	0.52
10:QJ:57:LYS:HG2	10:QJ:60:ARG:HH21	1.74	0.52
22:QV:24:C:H2'	22:QV:25:U:C6	2.44	0.52
24:RA:470:A:OP1	28:RF:59:TYR:HE1	1.92	0.52
24:RA:1079:C:N4	24:RA:1088:A:N7	2.52	0.52
25:RB:29:A:O2'	25:RB:58:A:N1	2.37	0.52
27:RE:24:THR:HG21	27:RE:188:VAL:HG22	1.91	0.52
32:RN:15:LEU:HB2	32:RN:134:ARG:HB3	1.91	0.52
35:RQ:111:GLU:HA	35:RQ:114:ALA:HB3	1.91	0.52
39:RU:83:LEU:HD12	39:RU:113:ALA:HB2	1.91	0.52
1:XA:390:C:H4'	16:XP:28:ARG:HH21	1.73	0.52
1:XA:1005:A:H3'	1:XA:1006:C:C6	2.43	0.52
1:XA:1230:C:H2'	1:XA:1231:G:C8	2.44	0.52
1:XA:1279:A:P	10:XJ:9:ARG:HH22	2.32	0.52
7:XG:29:LYS:NZ	7:XG:102:ARG:HB3	2.24	0.52
7:XG:75:VAL:HG13	7:XG:145:ALA:HA	1.90	0.52
8:XH:120:THR:HB	8:XH:123:GLU:HG2	1.89	0.52
24:YA:1571:A:H2'	24:YA:1572:A:C8	2.44	0.52
1:QA:524:G:H2'	1:QA:525:C:C6	2.44	0.52
9:QI:17:VAL:HG23	9:QI:63:ILE:HG22	1.92	0.52
12:QL:47:LYS:HD2	12:QL:47:LYS:O	2.08	0.52
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.24	0.52
24:RA:534:U:H2'	24:RA:535:C:C6	2.44	0.52
24:RA:617:G:OP1	28:RF:40:GLN:HG3	2.09	0.52
24:RA:624:C:H5''	53:R8:64:TYR:HD2	1.74	0.52
24:RA:840:C:H2'	24:RA:841:A:C8	2.44	0.52
24:RA:1278:A:H2'	24:RA:1279:G:H8	1.74	0.52
24:RA:1399:C:H2'	24:RA:1400:G:H8	1.73	0.52
44:RZ:3:TYR:O	44:RZ:57:ILE:HA	2.09	0.52
1:XA:712:A:H2'	1:XA:713:G:C8	2.44	0.52
17:XQ:56:VAL:HG21	17:XQ:81:ARG:HH21	1.75	0.52
24:YA:1204:A:O2'	24:YA:1205:U:O5'	2.26	0.52
24:YA:1430:C:H2'	24:YA:1431:U:C6	2.45	0.52
24:YA:1930:G:N2	24:YA:1969:A:OP2	2.35	0.52
24:YA:2723:C:OP1	36:YR:3:HIS:ND1	2.42	0.52
36:YR:56:LYS:HE3	36:YR:88:ARG:HA	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YT:26:ASP:HB3	38:YT:92:GLY:H	1.72	0.52
54:Y9:7:VAL:HG23	54:Y9:34:GLN:HG2	1.91	0.52
1:QA:876:G:H1'	8:QH:11:THR:HG21	1.91	0.52
1:QA:974:A:OP2	14:QN:29:ARG:NH2	2.37	0.52
1:QA:1014:A:H2	1:QA:1219:U:H1'	1.74	0.52
2:QB:102:LEU:HB2	2:QB:176:GLU:HG2	1.91	0.52
3:QC:69:HIS:CD2	3:QC:104:GLN:HB2	2.44	0.52
10:QJ:37:PRO:HA	10:QJ:72:VAL:HG12	1.91	0.52
24:RA:323:G:H2'	28:RF:169:ASN:OD1	2.09	0.52
24:RA:1270:C:H5''	24:RA:1271:G:H5'	1.92	0.52
2:XB:42:ILE:HD11	2:XB:202:PRO:HB2	1.91	0.52
11:XK:40:ILE:HD12	11:XK:75:TYR:HD2	1.74	0.52
24:YA:2065:C:H1'	24:YA:2449:U:N3	2.24	0.52
24:YA:2162:G:H3'	24:YA:2163:C:C5	2.45	0.52
24:YA:2314:C:OP1	29:YG:91:ARG:NH2	2.42	0.52
24:YA:2832:U:H4'	24:YA:2833:G:H5''	1.91	0.52
31:YI:95:LYS:HA	31:YI:111:PRO:HB3	1.91	0.52
33:YO:8:LEU:HD13	33:YO:82:ASN:HB3	1.91	0.52
34:YP:74:GLU:OE2	34:YP:79:ARG:NH2	2.33	0.52
1:QA:481:G:O2'	1:QA:482:A:H8	1.81	0.52
1:QA:1127:G:H22	1:QA:1145:C:H1'	1.75	0.52
3:QC:131:ARG:O	3:QC:134:ILE:HG22	2.10	0.52
7:QG:75:VAL:HG13	7:QG:145:ALA:HA	1.91	0.52
16:QP:18:ARG:HA	16:QP:38:TYR:HA	1.91	0.52
18:QR:31:LEU:HD11	18:QR:66:LEU:HB2	1.90	0.52
24:RA:144:C:H2'	24:RA:145:G:C8	2.44	0.52
24:RA:2224:G:OP1	26:RD:268:ARG:NH1	2.42	0.52
44:RZ:39:VAL:HG22	44:RZ:40:ASP:H	1.74	0.52
54:R9:3:VAL:HG22	54:R9:35:ARG:HD2	1.91	0.52
1:XA:45:U:H2'	1:XA:46:G:H8	1.73	0.52
11:XK:18:ARG:NH1	11:XK:35:PRO:O	2.41	0.52
12:XL:60:LEU:HD21	12:XL:64:TYR:HB2	1.91	0.52
16:XP:6:LEU:HD13	16:XP:17:TYR:CD2	2.44	0.52
24:YA:1020:A:N6	24:YA:1141:U:O2'	2.42	0.52
24:YA:1339:G:H5''	42:YX:16:LYS:HD3	1.92	0.52
24:YA:2290:G:H2'	24:YA:2291:U:O4'	2.09	0.52
25:YB:3:C:H2'	25:YB:4:C:H6	1.73	0.52
25:YB:95:U:H2'	25:YB:96:G:C8	2.45	0.52
26:YD:242:ARG:O	26:YD:244:ARG:HG2	2.09	0.52
30:YH:17:VAL:HG21	30:YH:50:VAL:HG11	1.90	0.52
38:YT:107:ASP:O	38:YT:110:ILE:HG22	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YW:50:VAL:HG12	41:YW:105:VAL:HG22	1.92	0.52
44:YZ:10:ARG:HD2	44:YZ:38:TYR:HD1	1.75	0.52
1:QA:8:A:N6	4:QD:205:GLU:O	2.43	0.52
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.91	0.52
24:RA:848:G:H2'	24:RA:849:A:H8	1.73	0.52
24:RA:1116:C:H2'	24:RA:1117:G:C8	2.44	0.52
24:RA:2291:U:OP1	24:RA:2380:C:O2'	2.26	0.52
26:RD:108:PRO:HG2	26:RD:111:LEU:HB2	1.92	0.52
30:RH:124:GLU:HG2	30:RH:132:ARG:HH11	1.74	0.52
33:RO:53:LYS:HG2	33:RO:54:GLU:H	1.74	0.52
41:RW:88:ARG:HB2	41:RW:92:ARG:HB2	1.90	0.52
4:XD:18:LYS:HE3	4:XD:31:CYS:SG	2.49	0.52
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.09	0.52
5:XE:57:LYS:HG2	5:XE:61:TYR:CE2	2.45	0.52
10:XJ:28:ARG:HH12	10:XJ:34:VAL:HB	1.75	0.52
24:YA:529:A:H8	24:YA:530:G:C6	2.27	0.52
24:YA:969:U:H2'	24:YA:970:C:C6	2.45	0.52
29:YG:37:VAL:O	29:YG:94:LEU:HB2	2.09	0.52
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.45	0.52
11:QK:121:PRO:HB2	11:QK:126:ARG:HB2	1.90	0.52
24:RA:2021:C:OP1	50:R5:12:SER:OG	2.27	0.52
24:RA:2688:U:OP1	24:RA:2713:A:N6	2.43	0.52
24:RA:2853:C:H2'	24:RA:2854:G:C8	2.45	0.52
37:RS:15:ARG:HD3	37:RS:88:ASP:OD1	2.09	0.52
44:RZ:146:ILE:HG13	44:RZ:147:GLY:H	1.75	0.52
1:XA:188:U:H2'	1:XA:189:U:H5''	1.92	0.52
6:XF:35:ALA:HA	6:XF:67:MET:HB3	1.92	0.52
30:YH:86:GLU:HB3	30:YH:165:ALA:HB3	1.91	0.52
43:YY:35:TYR:CE2	43:YY:69:ALA:HB3	2.43	0.52
5:QE:12:LEU:HD23	5:QE:31:LEU:HB3	1.91	0.52
24:RA:78:A:H2'	24:RA:79:G:H8	1.74	0.52
24:RA:251:A:C5	24:RA:252:G:H1'	2.45	0.52
24:RA:1430:C:H2'	24:RA:1431:U:C6	2.45	0.52
35:RQ:111:GLU:OE1	35:RQ:133:ARG:NH1	2.43	0.52
1:XA:34:C:H2'	1:XA:35:G:C8	2.43	0.52
1:XA:1145:C:H4'	1:XA:1146:A:H5'	1.92	0.52
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.75	0.52
1:XA:1432:G:O2'	1:XA:1468:A:N6	2.43	0.52
7:XG:115:ARG:HD3	7:XG:117:ALA:H	1.74	0.52
21:XU:6:ARG:HH11	21:XU:15:ARG:NE	2.06	0.52
24:YA:184:C:H2'	24:YA:185:U:C6	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1693:U:H1'	26:YD:14:ARG:NH1	2.25	0.52
24:YA:2150:U:H2'	24:YA:2151:G:H8	1.75	0.52
24:YA:2815:C:H5'	50:Y5:29:THR:HG21	1.91	0.52
39:YU:52:ARG:HA	39:YU:55:ARG:HE	1.74	0.52
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.45	0.52
24:RA:616:A:H4'	28:RF:182:ASN:ND2	2.25	0.52
24:RA:890:A:H2'	24:RA:892:G:C8	2.44	0.52
29:RG:110:ALA:HB1	29:RG:140:ILE:HD12	1.91	0.52
39:RU:98:LEU:HD12	39:RU:102:GLU:HB2	1.92	0.52
42:RX:18:TYR:HA	42:RX:21:PHE:CD2	2.44	0.52
8:XH:120:THR:HG22	8:XH:121:ASP:H	1.75	0.52
24:YA:2823:A:OP1	27:YE:113:PHE:HB2	2.09	0.52
40:YV:66:ARG:NH1	40:YV:88:ARG:HD3	2.24	0.52
1:QA:514:C:H2'	1:QA:515:G:H8	1.75	0.52
3:QC:16:ARG:HH21	3:QC:54:ARG:HH12	1.58	0.52
24:RA:2074:U:H2'	24:RA:2075:U:C6	2.45	0.52
24:RA:2291:U:H2'	24:RA:2292:C:C6	2.44	0.52
24:RA:2315:G:H2'	24:RA:2316:C:C6	2.45	0.52
29:RG:73:ALA:HB2	29:RG:82:LEU:HD22	1.92	0.52
31:RI:5:LEU:HD21	31:RI:12:LEU:HG	1.91	0.52
37:RS:30:ARG:HH11	37:RS:97:ARG:HH21	1.58	0.52
1:XA:264:U:O2'	17:XQ:64:PRO:O	2.26	0.52
1:XA:1314:C:H2'	1:XA:1315:U:H6	1.73	0.52
1:XA:1371:G:O3'	9:XI:69:GLY:HA3	2.09	0.52
8:XH:46:LYS:HG3	8:XH:64:LYS:HB3	1.91	0.52
24:YA:81:G:H2'	24:YA:82:G:O4'	2.10	0.52
24:YA:784:A:C6	26:YD:229:VAL:HG21	2.45	0.52
24:YA:896:A:H1'	44:YZ:146:ILE:HG21	1.91	0.52
24:YA:2647:U:H2'	24:YA:2648:C:C6	2.45	0.52
27:YE:9:VAL:HB	27:YE:25:VAL:HG13	1.92	0.52
32:YN:137:LYS:HG2	32:YN:138:LEU:H	1.75	0.52
41:YW:30:GLU:O	41:YW:34:ASN:ND2	2.43	0.52
42:YX:44:GLU:HB2	42:YX:49:VAL:O	2.10	0.52
1:QA:406:G:H21	4:QD:119:GLN:HE22	1.56	0.52
1:QA:1071:C:H2'	1:QA:1072:G:H8	1.75	0.52
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.75	0.52
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.44	0.52
24:RA:99:U:H4'	24:RA:101:G:O5'	2.09	0.52
24:RA:389:G:H1	34:RP:71:VAL:H	1.56	0.52
37:RS:88:ASP:O	37:RS:89:ARG:HB3	2.09	0.52
44:RZ:31:ARG:NH2	44:RZ:92:SER:OG	2.40	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:R6:6:ARG:HD3	51:R6:26:ASN:HA	1.90	0.52
1:XA:429:U:H1'	1:XA:430:A:H5''	1.91	0.52
1:XA:537:G:H5''	12:XL:113:ARG:HH12	1.75	0.52
1:XA:1151:A:H2'	1:XA:1152:A:H8	1.75	0.52
24:YA:557:U:H2'	24:YA:558:G:H8	1.74	0.52
24:YA:1428:C:O2'	24:YA:1569:A:OP2	2.28	0.52
40:YV:38:LEU:HD12	40:YV:57:VAL:HG23	1.92	0.52
1:QA:186:C:H5'	20:QT:78:ALA:HB1	1.91	0.51
1:QA:1167:A:H2'	1:QA:1169:A:C8	2.45	0.51
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.45	0.51
1:QA:1221:G:H5'	19:QS:36:ARG:NH2	2.25	0.51
4:QD:57:ARG:HB3	4:QD:206:PHE:HB2	1.92	0.51
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.91	0.51
24:RA:586:A:N1	24:RA:809:G:O2'	2.31	0.51
24:RA:673:C:OP1	28:RF:54:ARG:HD2	2.10	0.51
35:RQ:38:GLU:HG2	35:RQ:127:ILE:HG23	1.90	0.51
43:RY:87:LYS:HE3	43:RY:95:LYS:HG2	1.92	0.51
1:XA:1241:G:H2'	1:XA:1242:C:H6	1.74	0.51
6:XF:42:GLU:HG3	6:XF:61:LEU:HD23	1.92	0.51
9:XI:73:GLN:O	9:XI:77:ILE:HG12	2.10	0.51
24:YA:1316:U:H2'	24:YA:1317:A:H8	1.72	0.51
31:YI:68:LEU:HA	31:YI:71:ILE:HG22	1.91	0.51
39:YU:11:ARG:O	39:YU:15:LYS:HG2	2.10	0.51
50:Y5:49:CYS:O	50:Y5:56:LYS:NZ	2.42	0.51
1:QA:17:U:H2'	1:QA:18:C:H6	1.73	0.51
1:QA:630:G:H2'	1:QA:631:G:H4'	1.91	0.51
1:QA:736:C:H2'	1:QA:737:A:C8	2.45	0.51
1:QA:1002:G:H2'	1:QA:1003:G:H8	1.75	0.51
9:QI:5:TYR:CE1	9:QI:16:ARG:HG3	2.45	0.51
24:RA:139:G:N2	24:RA:1596:A:H4'	2.25	0.51
24:RA:443:A:H1'	24:RA:1201:C:O4'	2.10	0.51
24:RA:1593:G:H2'	24:RA:1594:G:C8	2.45	0.51
24:RA:2391:G:O2'	24:RA:2422:A:N7	2.43	0.51
52:R7:31:LEU:HD22	52:R7:42:LEU:HD23	1.92	0.51
1:XA:537:G:H5''	12:XL:113:ARG:NH1	2.26	0.51
1:XA:1301:U:O2'	1:XA:1302:U:H5'	2.10	0.51
1:XA:1305:G:H22	1:XA:1331:G:H2'	1.74	0.51
1:XA:1305:G:OP1	21:XU:2:GLY:HA2	2.10	0.51
8:XH:121:ASP:OD1	8:XH:122:ARG:N	2.43	0.51
24:YA:689:A:H2'	24:YA:690:G:C8	2.45	0.51
24:YA:2037:G:H2'	24:YA:2038:G:C8	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:YG:115:ARG:H	29:YG:115:ARG:HD2	1.75	0.51
41:YW:45:TYR:CZ	41:YW:49:LYS:HD2	2.45	0.51
2:QB:178:ARG:NH1	2:QB:198:ASP:OD1	2.39	0.51
24:RA:65:C:H2'	24:RA:66:C:H6	1.75	0.51
24:RA:385:C:O2'	24:RA:388:G:N2	2.44	0.51
1:XA:129(A):G:N2	1:XA:188:U:HO2'	2.08	0.51
1:XA:1348:U:N3	1:XA:1374:A:H2	2.01	0.51
2:XB:16:HIS:CD2	2:XB:210:SER:HA	2.43	0.51
17:XQ:100:LYS:HD2	17:XQ:100:LYS:O	2.10	0.51
20:XT:14:LYS:HA	20:XT:17:ARG:HG2	1.92	0.51
24:YA:218:A:C2	24:YA:235:U:H4'	2.45	0.51
24:YA:1045:A:N7	24:YA:1111:A:N6	2.58	0.51
24:YA:1427:A:H4'	24:YA:1428:C:O5'	2.10	0.51
24:YA:2319:G:O6	37:YS:4:LEU:HB2	2.11	0.51
25:YB:12:C:H2'	45:Y0:73:GLY:HA3	1.92	0.51
28:YF:184:TYR:CE2	28:YF:188:ARG:HD2	2.45	0.51
49:Y4:46:GLN:O	49:Y4:48:ARG:N	2.32	0.51
1:QA:277:C:H5''	17:QQ:68:ARG:HH21	1.76	0.51
12:QL:84:LEU:HB2	12:QL:105:TYR:HD2	1.76	0.51
12:QL:110:VAL:O	12:QL:122:THR:OG1	2.21	0.51
24:RA:576:U:H2'	24:RA:577:G:C8	2.46	0.51
24:RA:946:G:H2'	24:RA:947:G:H8	1.74	0.51
24:RA:1427:A:H4'	24:RA:1428:C:O5'	2.10	0.51
36:RR:103:ARG:HG2	36:RR:110:PRO:HA	1.91	0.51
44:RZ:54:HIS:CG	44:RZ:101:PRO:HG3	2.44	0.51
49:R4:14:ILE:CG2	49:R4:22:ILE:HB	2.39	0.51
1:XA:192:U:H4'	20:XT:57:ARG:HD3	1.92	0.51
1:XA:973:G:O3'	14:XN:41:ARG:NH2	2.43	0.51
1:XA:1291:G:HO2'	9:XI:38:GLN:NE2	2.08	0.51
24:YA:1264:G:OP1	50:Y5:19:ARG:NH1	2.42	0.51
24:YA:1489:U:HO2'	24:YA:1490:A:H8	1.58	0.51
24:YA:1844:C:H2'	24:YA:1845:G:H8	1.74	0.51
25:YB:8:U:O4	25:YB:112:G:O6	2.29	0.51
26:YD:35:LYS:O	26:YD:35:LYS:HD3	2.11	0.51
30:YH:27:LYS:O	30:YH:27:LYS:HD3	2.10	0.51
31:YI:78:THR:HG22	31:YI:141:LYS:HD3	1.91	0.51
1:QA:51:A:N1	1:QA:314:C:O2'	2.39	0.51
1:QA:980:C:H5''	1:QA:981:U:C5	2.45	0.51
1:QA:1315:U:H2'	1:QA:1316:G:O4'	2.11	0.51
4:QD:82:ALA:HB1	4:QD:92:VAL:HG13	1.92	0.51
29:RG:114:ILE:HD13	29:RG:140:ILE:HG21	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RR:56:LYS:NZ	36:RR:90:ARG:O	2.43	0.51
41:RW:10:VAL:HG12	41:RW:12:ILE:HG22	1.93	0.51
1:XA:686:U:H2'	1:XA:687:A:C8	2.44	0.51
3:XC:23:TYR:HA	10:XJ:11:PHE:CE2	2.45	0.51
7:XG:26:PHE:O	7:XG:30:ILE:HG12	2.10	0.51
20:XT:83:ARG:HA	20:XT:86:ARG:HG2	1.92	0.51
24:YA:1344:G:H4'	24:YA:1384:A:C5	2.46	0.51
24:YA:2702:U:OP1	24:YA:2702:U:H6	1.92	0.51
38:YT:91:ARG:HB2	38:YT:121:ILE:HG13	1.92	0.51
3:QC:22:TRP:HH2	3:QC:32:LEU:HD13	1.72	0.51
5:QE:15:ARG:HG3	5:QE:28:PHE:CE1	2.46	0.51
24:RA:58:G:H5'	42:RX:74:PRO:HB3	1.92	0.51
24:RA:1176:G:O3'	24:RA:1178:C:N4	2.44	0.51
29:RG:28:VAL:O	29:RG:33:ARG:NH2	2.44	0.51
36:RR:26:LYS:HE2	36:RR:70:LEU:O	2.11	0.51
42:RX:54:VAL:HG22	42:RX:81:VAL:HG12	1.91	0.51
1:XA:1079:G:H2'	1:XA:1080:A:C8	2.45	0.51
1:XA:1463:C:OP1	38:YT:111:ARG:NH1	2.44	0.51
24:YA:531:C:OP1	24:YA:561:G:N1	2.44	0.51
25:YB:3:C:H2'	25:YB:4:C:C6	2.45	0.51
26:YD:61:LEU:O	26:YD:63:ARG:NH1	2.41	0.51
38:YT:28:VAL:HG12	38:YT:88:ILE:HG13	1.92	0.51
24:RA:492:A:H2'	24:RA:493:G:O4'	2.11	0.51
24:RA:602:G:O2'	24:RA:604:G:O2'	2.24	0.51
24:RA:1055:G:H1	24:RA:1105:U:H3	1.57	0.51
24:RA:1341:U:OP2	24:RA:1394:U:O2'	2.21	0.51
24:RA:1508:A:O2'	24:RA:1509:C:O4'	2.20	0.51
24:RA:1952:A:N3	24:RA:2560:C:O2'	2.38	0.51
24:RA:2056:G:N2	50:R5:3:LYS:O	2.29	0.51
24:RA:2439:A:H5'	24:RA:2439:A:C8	2.46	0.51
24:RA:2564:A:H2'	24:RA:2565:A:C8	2.45	0.51
28:RF:181:LEU:HD11	28:RF:186:ILE:HD11	1.91	0.51
30:RH:157:TYR:CD1	30:RH:172:LYS:HG3	2.46	0.51
1:XA:191(E):G:H2'	1:XA:191(F):U:C6	2.46	0.51
1:XA:580:U:H3	1:XA:761:G:H1	1.58	0.51
1:XA:1310:G:OP2	13:XM:88:ARG:NH2	2.44	0.51
24:YA:634:C:H2'	24:YA:635:C:C6	2.46	0.51
24:YA:812:C:H5''	24:YA:1250:G:O2'	2.11	0.51
24:YA:2701:C:C3'	24:YA:2702:U:H5''	2.37	0.51
27:YE:1:MET:HG3	27:YE:200:GLU:HG2	1.93	0.51
27:YE:24:THR:HG21	27:YE:188:VAL:HG22	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
31:YI:104:GLN:HG3	31:YI:105:HIS:CD2	2.46	0.51
32:YN:73:THR:HB	32:YN:82:LEU:HD11	1.93	0.51
38:YT:51:ARG:HG2	38:YT:62:THR:HB	1.92	0.51
42:YX:25:LYS:HB3	42:YX:80:ILE:HD11	1.92	0.51
1:QA:855:G:OP2	1:QA:871:U:N3	2.43	0.51
2:QB:146:GLN:O	2:QB:150:SER:HB2	2.11	0.51
10:QJ:49:VAL:HG12	14:QN:41:ARG:HG2	1.92	0.51
11:QK:21:ILE:HG13	11:QK:30:VAL:HG12	1.91	0.51
15:QO:80:ALA:O	15:QO:83:GLU:HG3	2.10	0.51
24:RA:519:U:H2'	24:RA:520:G:C8	2.45	0.51
24:RA:1754:C:OP1	38:RT:96:ARG:NE	2.44	0.51
1:XA:186(D):C:H2'	1:XA:186(E):C:C6	2.46	0.51
1:XA:664:G:H22	1:XA:741:G:H1	1.59	0.51
1:XA:1054:C:O2'	1:XA:1055:A:H5''	2.11	0.51
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.11	0.51
24:YA:125:G:O6	52:Y7:10:ARG:NH1	2.43	0.51
24:YA:392:C:H5''	24:YA:409:C:H5''	1.93	0.51
24:YA:566:U:OP1	34:YP:29:LYS:HE2	2.11	0.51
29:YG:72:ARG:NH1	29:YG:87:PRO:HB3	2.26	0.51
1:QA:757:U:O2'	1:QA:879:C:O2	2.28	0.51
8:QH:108:GLY:HA3	8:QH:138:TRP:HB3	1.93	0.51
24:RA:389:G:H22	34:RP:72:PRO:HD3	1.76	0.51
24:RA:660:G:H21	34:RP:12:ALA:HA	1.75	0.51
24:RA:1310:G:H1'	24:RA:1611:C:H5''	1.93	0.51
24:RA:1449:A:H5'	24:RA:1449(A):G:OP2	2.10	0.51
24:RA:2070:G:H2'	24:RA:2071:A:H8	1.76	0.51
24:RA:2626:C:H2'	24:RA:2627:G:H8	1.75	0.51
24:RA:2823:A:OP1	27:RE:113:PHE:HB2	2.10	0.51
37:RS:72:ALA:O	37:RS:75:GLU:HG2	2.11	0.51
38:RT:19:LEU:HD22	38:RT:86:ILE:HG22	1.93	0.51
52:R7:12:ARG:NH2	52:R7:44:PRO:HB3	2.26	0.51
1:XA:760:G:N2	17:XQ:97:SER:OG	2.42	0.51
1:XA:806:C:H2'	1:XA:807:A:H8	1.75	0.51
24:YA:39:C:H2'	24:YA:40:C:C6	2.46	0.51
24:YA:885:C:H41	24:YA:892:G:N2	2.08	0.51
24:YA:1482:U:O4	24:YA:1510:A:H8	1.94	0.51
24:YA:2074:U:H2'	24:YA:2075:U:C6	2.45	0.51
34:YP:88:LEU:HD22	34:YP:95:VAL:HG11	1.92	0.51
1:QA:310:G:H4'	16:QP:31:LYS:HD2	1.93	0.51
1:QA:483:C:OP2	1:QA:484:G:O2'	2.19	0.51
1:QA:500:G:H2'	1:QA:501:C:C6	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:718:G:H5'	11:QK:117:ASN:OD1	2.11	0.51
26:RD:223:GLY:HA2	26:RD:226:MET:HE3	1.93	0.51
31:RI:9:LEU:HB2	31:RI:12:LEU:HB3	1.91	0.51
37:RS:26:LEU:HD13	37:RS:39:ILE:HG22	1.93	0.51
42:RX:47:PHE:HZ	47:R2:37:PHE:HE2	1.59	0.51
44:RZ:74:VAL:HG12	44:RZ:86:VAL:HG23	1.93	0.51
1:XA:126:G:H4'	1:XA:634:C:O2	2.11	0.51
1:XA:359:U:H2'	1:XA:360:A:H8	1.76	0.51
1:XA:579:G:H5'	1:XA:728:A:H1'	1.92	0.51
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.45	0.51
4:XD:162:LEU:HD22	4:XD:181:MET:HG2	1.93	0.51
9:XI:48:GLU:N	9:XI:49:PRO:HD2	2.26	0.51
15:XO:17:ARG:HD2	15:XO:77:ARG:HH21	1.76	0.51
24:YA:1270:C:H5''	24:YA:1271:G:H5'	1.93	0.51
24:YA:1316:U:H2'	24:YA:1317:A:C8	2.46	0.51
24:YA:2031:A:N3	24:YA:2455:G:O2'	2.37	0.51
24:YA:2461:C:H2'	24:YA:2462:U:C6	2.46	0.51
25:YB:111:U:H2'	25:YB:112:G:H8	1.76	0.51
31:YI:12:LEU:HG	31:YI:13:GLY:H	1.76	0.51
31:YI:129:THR:HA	31:YI:137:PRO:HA	1.93	0.51
1:QA:560:U:H4'	1:QA:561:U:O5'	2.11	0.50
1:QA:685:G:H21	1:QA:706:A:N6	2.09	0.50
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.76	0.50
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.76	0.50
3:QC:150:LYS:HB3	3:QC:201:TYR:HB2	1.94	0.50
8:QH:12:ARG:HH12	8:QH:27:PRO:HD3	1.76	0.50
24:RA:729:G:O2'	24:RA:763:G:H4'	2.11	0.50
24:RA:1752:C:H2'	24:RA:1753:G:C8	2.46	0.50
32:RN:123:TYR:CE2	32:RN:129:PRO:HD2	2.46	0.50
42:RX:28:PHE:CE1	42:RX:92:LEU:HD21	2.46	0.50
24:YA:911:A:H2'	35:YQ:9:TYR:CE2	2.46	0.50
1:QA:20:U:H2'	1:QA:21:G:O4'	2.12	0.50
1:QA:1062:U:H2'	1:QA:1063:C:C6	2.46	0.50
1:QA:1222:G:H5''	19:QS:78:ARG:NH1	2.21	0.50
2:QB:22:LYS:NZ	2:QB:35:GLU:OE2	2.44	0.50
2:QB:163:PHE:HA	2:QB:185:ILE:HG23	1.94	0.50
6:QF:35:ALA:HB1	6:QF:65:VAL:HG21	1.93	0.50
9:QI:13:ALA:HB2	9:QI:68:GLY:HA3	1.93	0.50
24:RA:1885:A:H5'	24:RA:1886:C:OP2	2.12	0.50
49:R4:37:SER:HA	49:R4:43:TYR:CD2	2.46	0.50
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:24:TRP:CE3	2:XB:26:PRO:HA	2.47	0.50
5:XE:57:LYS:HG2	5:XE:61:TYR:HE2	1.76	0.50
24:YA:609(A):G:H2'	24:YA:610:C:C6	2.46	0.50
24:YA:2118:U:H3	24:YA:2148:G:H5'	1.75	0.50
24:YA:2308:G:H22	24:YA:2311:A:H2	1.57	0.50
24:YA:2554:U:H2'	24:YA:2555:U:C6	2.46	0.50
44:YZ:40:ASP:HB3	44:YZ:43:GLU:HB2	1.93	0.50
1:QA:143:A:H2	1:QA:220:G:H1	1.58	0.50
1:QA:971:G:N2	1:QA:1363:A:OP2	2.42	0.50
1:QA:1316:G:N1	1:QA:1319:A:OP2	2.40	0.50
3:QC:79:ARG:NH2	11:XK:96:ARG:HA	2.27	0.50
10:QJ:78:ASN:O	10:QJ:81:THR:HG22	2.11	0.50
24:RA:223:A:O2'	24:RA:420:C:O2	2.29	0.50
24:RA:864:G:N2	24:RA:866:A:H61	2.08	0.50
24:RA:1277:G:H5''	36:RR:40:LYS:HZ3	1.76	0.50
24:RA:1464:C:O2'	24:RA:1528:A:H8	1.94	0.50
31:RI:54:GLN:HA	31:RI:57:ARG:HD2	1.92	0.50
1:XA:736:C:H2'	1:XA:737:A:H8	1.76	0.50
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.46	0.50
2:XB:163:PHE:HA	2:XB:185:ILE:HG13	1.93	0.50
15:XO:18:PHE:CZ	15:XO:21:ASP:HB3	2.46	0.50
15:XO:43:LEU:HD12	15:XO:56:LEU:HD13	1.94	0.50
22:XV:35:C:H2'	22:XV:36:A:H8	1.76	0.50
24:YA:907:U:O2'	35:YQ:101:ARG:NH2	2.35	0.50
24:YA:1005:C:O2'	32:YN:28:THR:HG21	2.11	0.50
24:YA:2175:C:H2'	24:YA:2176:A:N7	2.26	0.50
24:YA:2441:C:OP2	24:YA:2586:C:O2'	2.30	0.50
25:YB:15:A:H1'	25:YB:109:G:C4	2.45	0.50
30:YH:56:SER:OG	30:YH:61:HIS:ND1	2.35	0.50
43:YY:37:VAL:HG21	43:YY:72:VAL:HG11	1.93	0.50
3:QC:180:ALA:HB1	3:QC:182:ILE:HG13	1.92	0.50
9:QI:4:TYR:HB2	9:QI:19:LEU:HG	1.93	0.50
24:RA:227:A:C2	24:RA:2407:G:H1'	2.46	0.50
30:RH:88:LEU:HD13	30:RH:165:ALA:HB2	1.93	0.50
30:RH:152:ARG:CD	30:RH:153:LYS:HG3	2.40	0.50
1:XA:51:A:N7	1:XA:114:U:O2'	2.44	0.50
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.47	0.50
4:XD:154:ASN:O	4:XD:155:LEU:HB2	2.11	0.50
9:XI:26:VAL:HG12	9:XI:61:ALA:HB3	1.94	0.50
15:XO:7:GLU:OE2	15:XO:38:ARG:NH2	2.43	0.50
24:YA:2821:A:H2'	24:YA:2822:G:O4'	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:Y1:70:VAL:O	46:Y1:74:VAL:HG23	2.11	0.50
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.11	0.50
2:QB:195:ASP:O	8:QH:68:ARG:NH2	2.44	0.50
3:QC:40:ARG:HG3	14:QN:52:GLN:NE2	2.27	0.50
5:QE:67:VAL:HG11	5:QE:140:ARG:HG2	1.93	0.50
10:QJ:38:ILE:HD12	10:QJ:39:PRO:HD2	1.93	0.50
19:QS:3:ARG:HH12	19:QS:11:VAL:HG22	1.76	0.50
24:RA:844:C:H2'	24:RA:845:G:O4'	2.10	0.50
24:RA:856:C:O2'	24:RA:857:C:OP1	2.28	0.50
24:RA:1167:U:H2'	24:RA:1168:G:H8	1.77	0.50
24:RA:1263:U:H2'	24:RA:1264:G:C8	2.45	0.50
24:RA:1819:A:H5''	26:RD:161:THR:HG21	1.93	0.50
1:XA:422:C:HO2'	1:XA:423:G:N2	2.10	0.50
3:XC:134:ILE:HG23	3:XC:151:VAL:HG13	1.94	0.50
24:YA:18:C:O2'	24:YA:553:U:OP1	2.28	0.50
24:YA:31:C:O3'	24:YA:1238:G:H5''	2.11	0.50
24:YA:140:A:H8	24:YA:1408:C:O2'	1.95	0.50
24:YA:443:A:H1'	24:YA:1201:C:O4'	2.11	0.50
24:YA:1444:G:H2'	24:YA:1445:C:C5	2.47	0.50
24:YA:2019:A:N7	50:Y5:9:LYS:HE2	2.27	0.50
24:YA:2312:U:H2'	29:YG:40:ASN:HD21	1.77	0.50
24:YA:2845:G:H2'	24:YA:2846:G:C8	2.45	0.50
28:YF:117:ARG:NH2	28:YF:189:THR:O	2.39	0.50
1:QA:41:G:H2'	1:QA:42:G:H8	1.77	0.50
1:QA:243:A:H4'	1:QA:244:U:O5'	2.12	0.50
2:QB:115:LEU:HD21	2:QB:153:ARG:HH11	1.76	0.50
24:RA:608:A:OP1	28:RF:100:THR:HG21	2.11	0.50
24:RA:691:C:H2'	24:RA:692:C:H6	1.77	0.50
26:RD:208:LYS:HG3	26:RD:210:GLY:H	1.77	0.50
29:RG:63:ILE:HD13	29:RG:138:GLN:HE21	1.77	0.50
38:RT:117:ASP:OD2	38:RT:120:ARG:NE	2.44	0.50
39:RU:17:ILE:HD12	39:RU:20:LEU:HD12	1.93	0.50
1:XA:184:G:H2'	1:XA:185:A:H8	1.75	0.50
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.93	0.50
1:XA:1399:C:C2	1:XA:1502:A:N6	2.79	0.50
5:XE:77:PRO:HG2	5:XE:78:HIS:CD2	2.47	0.50
8:XH:12:ARG:HH12	8:XH:27:PRO:HD3	1.77	0.50
12:XL:77:LEU:HD21	12:XL:107:ALA:HB2	1.93	0.50
13:XM:49:THR:HB	13:XM:52:GLU:HG2	1.93	0.50
24:YA:239:U:H2'	24:YA:240:G:C8	2.47	0.50
24:YA:415:A:H2'	24:YA:416:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:576:U:H2'	24:YA:577:G:C8	2.47	0.50
24:YA:1329:U:H5''	24:YA:1330:C:H5	1.75	0.50
24:YA:2391:G:C6	24:YA:2427:C:H1'	2.47	0.50
25:YB:102:G:H21	44:YZ:73:GLN:NE2	2.09	0.50
26:YD:172:TYR:CD1	26:YD:186:HIS:HA	2.46	0.50
29:YG:109:VAL:HG23	49:Y4:33:VAL:HG11	1.93	0.50
30:YH:16:SER:HB3	30:YH:27:LYS:HB3	1.94	0.50
34:YP:63:PRO:HD3	53:Y8:13:ARG:NH1	2.27	0.50
53:Y8:52:LYS:N	53:Y8:53:PRO:HD2	2.27	0.50
1:QA:6:G:O2'	1:QA:7:G:H5''	2.12	0.50
1:QA:123:C:OP1	1:QA:311:C:O2'	2.24	0.50
8:QH:104:ARG:HG3	8:QH:107:LEU:HB2	1.94	0.50
10:QJ:79:ARG:HA	10:QJ:82:ILE:HG12	1.94	0.50
25:RB:80:U:O2	25:RB:81:G:N2	2.45	0.50
29:RG:116:ASP:O	29:RG:118:ARG:NH1	2.45	0.50
32:RN:133:GLN:C	32:RN:134:ARG:HD2	2.32	0.50
52:R7:1:MET:HG3	52:R7:2:LYS:H	1.76	0.50
1:XA:411:A:N9	1:XA:413:G:H1'	2.27	0.50
1:XA:1096:C:H2'	1:XA:1097:C:H6	1.76	0.50
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.45	0.50
2:XB:58:ILE:HG22	2:XB:61:LEU:HD12	1.94	0.50
24:YA:823:G:H2'	24:YA:824:A:H8	1.77	0.50
24:YA:970:C:H2'	24:YA:971:C:C6	2.47	0.50
30:YH:12:PRO:O	30:YH:15:VAL:HG22	2.12	0.50
1:QA:34:C:H2'	1:QA:35:G:C8	2.46	0.50
1:QA:976:G:N2	1:QA:1362(A):C:OP2	2.30	0.50
1:QA:1342:C:H5''	9:QI:125:TYR:HB3	1.94	0.50
24:RA:1283:G:N2	24:RA:1286:A:OP2	2.45	0.50
36:RR:34:ILE:HG22	36:RR:36:THR:HG23	1.94	0.50
1:XA:1015:A:H2'	1:XA:1016:A:H8	1.76	0.50
1:XA:1189:C:OP1	10:XJ:51:ARG:NH2	2.37	0.50
1:XA:1286:A:H2'	1:XA:1287:A:H4'	1.94	0.50
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.93	0.50
24:YA:805:G:H22	24:YA:828:U:H5''	1.76	0.50
24:YA:1064:C:H2'	24:YA:1065:U:O4'	2.11	0.50
24:YA:2539:C:H5'	54:Y9:3:VAL:HG21	1.94	0.50
27:YE:104:VAL:HG22	27:YE:196:VAL:HG22	1.93	0.50
29:YG:161:THR:HG22	29:YG:163:ALA:H	1.77	0.50
32:YN:133:GLN:O	32:YN:134:ARG:HD2	2.12	0.50
52:Y7:5:TRP:NE1	52:Y7:7:PRO:HG3	2.27	0.50
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:667:G:H4'	15:QO:51:HIS:CE1	2.47	0.50
1:QA:1007:C:H2'	1:QA:1008:C:H6	1.76	0.50
1:QA:1320:C:O2	19:QS:36:ARG:NH1	2.44	0.50
24:RA:616:A:H4'	28:RF:182:ASN:HD22	1.77	0.50
24:RA:1034:G:C5'	54:R9:18:ARG:HH12	2.25	0.50
24:RA:2376:A:H2'	24:RA:2377:A:O4'	2.12	0.50
25:RB:44:G:H1'	25:RB:47:C:H42	1.76	0.50
1:XA:1388:C:H2'	1:XA:1389:C:H6	1.77	0.50
24:YA:389:G:N1	34:YP:71:VAL:HG12	2.25	0.50
24:YA:1429:G:H2'	24:YA:1430:C:H6	1.76	0.50
24:YA:1759:A:H1'	24:YA:2711:A:C2	2.47	0.50
30:YH:25:LYS:HB2	30:YH:32:GLU:OE2	2.12	0.50
30:YH:58:GLU:HG2	30:YH:60:ARG:H	1.77	0.50
33:YO:104:ARG:NH2	38:YT:43:GLN:OE1	2.39	0.50
44:YZ:149:SER:OG	44:YZ:172:ALA:O	2.30	0.50
1:QA:674:G:H2'	1:QA:675:A:C8	2.45	0.49
1:QA:1124:G:H3'	1:QA:1145:C:H42	1.76	0.49
3:QC:40:ARG:HG3	14:QN:52:GLN:HE21	1.77	0.49
7:QG:41:ARG:NH2	9:QI:39:GLY:O	2.44	0.49
10:QJ:55:LYS:HD3	10:QJ:55:LYS:H	1.76	0.49
24:RA:634:C:H2'	24:RA:635:C:C6	2.47	0.49
24:RA:823:G:H2'	24:RA:824:A:C8	2.46	0.49
27:RE:10:GLY:HA3	38:RT:8:LYS:HE2	1.93	0.49
10:XJ:32:ALA:HB2	10:XJ:76:ASN:HB2	1.93	0.49
24:YA:2146:C:H4'	24:YA:2147:G:C8	2.47	0.49
24:YA:2181:G:H2'	24:YA:2182:G:C8	2.47	0.49
24:YA:2540:C:H2'	24:YA:2541:A:O4'	2.12	0.49
1:QA:266:G:H5''	1:QA:267:C:C5	2.47	0.49
1:QA:281:G:H8	1:QA:281:G:OP2	1.95	0.49
1:QA:1427:U:H2'	1:QA:1428:A:H8	1.76	0.49
4:QD:152:SER:HA	4:QD:155:LEU:HD23	1.93	0.49
9:QI:75:ASP:O	9:QI:78:LYS:HG3	2.12	0.49
24:RA:286:C:H2'	24:RA:287:C:H6	1.77	0.49
24:RA:1500:G:H21	26:RD:100:GLY:HA3	1.76	0.49
24:RA:2065:C:H1'	24:RA:2449:U:C2	2.47	0.49
25:RB:83:G:H4'	48:R3:52:HIS:CG	2.47	0.49
46:R1:83:GLU:HG2	46:R1:85:LEU:H	1.77	0.49
1:XA:129(A):G:O2'	1:XA:189:U:H3'	2.13	0.49
1:XA:377:G:H2'	1:XA:378:G:C8	2.48	0.49
1:XA:629:G:H2'	1:XA:630:G:C8	2.47	0.49
3:XC:154:SER:HB2	3:XC:165:THR:HG22	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:XD:65:ARG:NH1	4:XD:70:ILE:O	2.45	0.49
9:XI:93:ARG:HG2	9:XI:97:LYS:HB2	1.93	0.49
24:YA:2057:A:H2'	24:YA:2058:A:O4'	2.12	0.49
24:YA:2776:A:OP1	24:YA:2776:A:H3'	2.12	0.49
26:YD:77:ALA:HB2	26:YD:97:TYR:CE1	2.47	0.49
28:YF:38:ARG:HD3	28:YF:99:TYR:OH	2.12	0.49
29:YG:72:ARG:HH11	29:YG:87:PRO:HB3	1.77	0.49
30:YH:156:ALA:O	30:YH:158:HIS:N	2.45	0.49
31:YI:23:PRO:HB2	31:YI:27:ARG:NH1	2.27	0.49
37:YS:71:ARG:HH22	37:YS:107:GLU:HB2	1.76	0.49
43:YY:20:TYR:CE2	43:YY:43:ASN:HA	2.47	0.49
47:Y2:10:LEU:HD21	47:Y2:59:ARG:HD2	1.94	0.49
1:QA:254:G:O2'	17:QQ:16:GLN:O	2.30	0.49
1:QA:408:A:H5'	4:QD:116:GLN:HG3	1.94	0.49
1:QA:1104:G:O4'	2:QB:111:ARG:NH2	2.45	0.49
3:QC:82:GLU:HA	3:QC:85:ARG:NH1	2.27	0.49
4:QD:169:LYS:HB2	6:XF:21:LEU:HD21	1.93	0.49
24:RA:39:C:H2'	24:RA:40:C:C6	2.48	0.49
24:RA:1292:U:H2'	24:RA:1293:C:H6	1.74	0.49
24:RA:1628:G:H2'	24:RA:1629:U:C6	2.47	0.49
24:RA:2020:A:H4'	39:RU:25:TRP:CZ3	2.46	0.49
24:RA:2532:G:H2'	24:RA:2533:A:C8	2.47	0.49
24:RA:2636:U:HO2'	27:RE:44:TYR:HH	1.61	0.49
35:RQ:132:VAL:HG11	44:RZ:81:ARG:NH1	2.27	0.49
48:R3:15:TYR:CE2	48:R3:53:LEU:HD21	2.48	0.49
50:R5:20:ARG:HA	50:R5:23:HIS:ND1	2.28	0.49
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.11	0.49
6:XF:36:ARG:NH1	6:XF:38:GLU:HG2	2.27	0.49
24:YA:270(F):U:H2'	24:YA:270(G):C:C6	2.46	0.49
24:YA:732:C:H2'	24:YA:733:G:O4'	2.12	0.49
24:YA:1165:U:H2'	24:YA:1166:C:H6	1.76	0.49
24:YA:1729:A:C8	24:YA:1731:G:C8	3.01	0.49
24:YA:1932:A:H2'	24:YA:1933:G:O4'	2.12	0.49
24:YA:1939:U:H3'	24:YA:1940:U:H5'	1.93	0.49
24:YA:2135:A:H5''	24:YA:2136:C:H5	1.77	0.49
24:YA:2790:A:O2'	24:YA:2893:G:H2'	2.12	0.49
39:YU:65:ILE:HD11	39:YU:93:LYS:HA	1.94	0.49
46:Y1:60:PHE:HE1	46:Y1:87:PRO:HB3	1.77	0.49
1:QA:407:G:H2'	1:QA:408:A:C8	2.48	0.49
1:QA:1241:G:H2'	1:QA:1242:C:H6	1.77	0.49
24:RA:1412:A:H2'	24:RA:1413:G:C8	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2607:G:H2'	24:RA:2608:G:O4'	2.11	0.49
25:RB:7:G:N2	37:RS:38:GLN:HE22	2.10	0.49
33:RO:22:ILE:HG12	33:RO:41:ALA:HA	1.94	0.49
33:RO:122:LEU:HD22	38:RT:72:VAL:HG11	1.92	0.49
1:XA:235:C:H2'	1:XA:236:G:C8	2.47	0.49
1:XA:429:U:O2'	4:XD:22:LYS:NZ	2.45	0.49
1:XA:651:C:H2'	1:XA:652:U:C6	2.48	0.49
1:XA:678:U:H2'	1:XA:679:C:C6	2.47	0.49
24:YA:302:C:H2'	24:YA:303:U:H6	1.77	0.49
24:YA:518:G:H4'	41:YW:18:ARG:HE	1.77	0.49
24:YA:669:G:C2	24:YA:801:G:C6	3.00	0.49
24:YA:807:U:H2'	24:YA:808:G:H8	1.78	0.49
24:YA:823:G:H2'	24:YA:824:A:C8	2.47	0.49
24:YA:826:U:H4'	34:YP:55:ARG:HB3	1.93	0.49
24:YA:837:C:N3	24:YA:941:A:N6	2.61	0.49
24:YA:844:C:H2'	24:YA:845:G:O4'	2.13	0.49
24:YA:956:G:OP2	35:YQ:14:ARG:NH2	2.46	0.49
24:YA:1509:C:H2'	24:YA:1511:A:C8	2.47	0.49
24:YA:1825:A:H2'	24:YA:1826:G:C8	2.48	0.49
24:YA:2735:G:H2'	24:YA:2736:G:C8	2.48	0.49
24:YA:2774:C:H2'	24:YA:2775:A:O4'	2.12	0.49
28:YF:63:LYS:HE2	28:YF:67:GLN:HB2	1.93	0.49
1:QA:509:A:N3	1:QA:543:C:O2'	2.44	0.49
24:RA:1882:C:H5'	24:RA:1883:G:OP2	2.12	0.49
24:RA:2309:A:H2'	24:RA:2310:A:O4'	2.12	0.49
24:RA:2646:C:OP2	24:RA:2732:G:O2'	2.26	0.49
26:RD:254:THR:HG23	26:RD:255:LYS:HG3	1.95	0.49
31:RI:131:LYS:HG3	31:RI:132:PRO:HA	1.94	0.49
38:RT:111:ARG:C	38:RT:113:LYS:H	2.16	0.49
44:RZ:59:LEU:O	44:RZ:61:LEU:N	2.39	0.49
1:XA:711:G:H2'	1:XA:712:A:C8	2.47	0.49
1:XA:1511:G:H2'	1:XA:1512:U:O4'	2.13	0.49
24:YA:1475:G:H2'	24:YA:1476:C:C6	2.47	0.49
24:YA:2841:C:H2'	24:YA:2842:G:H8	1.76	0.49
30:YH:121:ILE:HD13	30:YH:144:VAL:HG21	1.95	0.49
1:QA:323:U:OP1	20:QT:26:ASN:ND2	2.43	0.49
1:QA:452:A:H62	1:QA:480:U:H3	1.59	0.49
1:QA:542:G:O3'	4:QD:14:ARG:NH2	2.46	0.49
1:QA:1053:G:O6	1:QA:1199:U:H2'	2.12	0.49
2:QB:233:SER:O	2:QB:235:SER:N	2.45	0.49
6:QF:23:LYS:HA	6:QF:26:ILE:HD12	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:16:ALA:HB2	8:QH:24:THR:HG21	1.95	0.49
8:QH:29:SER:OG	8:QH:32:LYS:HD3	2.11	0.49
9:QI:28:VAL:HG22	9:QI:63:ILE:HD11	1.95	0.49
1:XA:401:C:O2'	1:XA:621:A:N3	2.35	0.49
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.47	0.49
4:XD:13:ARG:HH22	4:XD:36:ARG:HD3	1.77	0.49
4:XD:64:LEU:HD13	4:XD:198:VAL:HG21	1.95	0.49
11:XK:33:THR:HA	11:XK:39:PRO:HA	1.94	0.49
24:YA:304:G:H2'	24:YA:305:U:C6	2.48	0.49
24:YA:524:U:H2'	24:YA:525:U:C6	2.47	0.49
24:YA:1210:A:H5'	24:YA:1212:G:O4'	2.13	0.49
24:YA:1332:G:N2	24:YA:1609:A:HO2'	2.11	0.49
24:YA:1509:C:H3'	24:YA:1510:A:H5''	1.94	0.49
24:YA:1791:A:H3'	24:YA:1792:G:H8	1.77	0.49
24:YA:2183:C:H2'	24:YA:2184:G:H8	1.78	0.49
24:YA:2286:A:H62	51:Y6:36:LEU:HD21	1.78	0.49
27:YE:92:THR:HG22	27:YE:93:VAL:H	1.76	0.49
38:YT:16:ARG:NH1	38:YT:83:ILE:HG13	2.28	0.49
43:YY:81:LYS:HE2	43:YY:101:LYS:HD3	1.94	0.49
1:QA:57:G:H2'	1:QA:58:C:C6	2.48	0.49
1:QA:552:U:O2	12:QL:31:PRO:HB3	2.12	0.49
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.13	0.49
2:QB:196:LEU:HA	8:QH:74:PRO:HG3	1.95	0.49
4:QD:167:GLY:HA3	26:YD:135:PHE:CE1	2.47	0.49
7:QG:116:ALA:HA	7:QG:119:ARG:HE	1.78	0.49
9:QI:97:LYS:HG2	9:QI:98:PRO:HD3	1.95	0.49
19:QS:40:ILE:HG22	19:QS:69:HIS:O	2.13	0.49
24:RA:1085:A:H2'	24:RA:1086:A:C4	2.47	0.49
29:RG:97:ASP:H	29:RG:100:TRP:HD1	1.61	0.49
33:RO:63:VAL:HG12	33:RO:106:LEU:HD21	1.93	0.49
41:RW:82:LEU:HD23	41:RW:82:LEU:H	1.76	0.49
1:XA:489:C:H2'	1:XA:490:G:H8	1.78	0.49
1:XA:548:G:OP1	4:XD:73:ARG:NH2	2.46	0.49
3:XC:25:GLY:H	3:XC:28:GLN:HB2	1.77	0.49
3:XC:60:ALA:HB3	3:XC:63:ASN:HD21	1.78	0.49
19:XS:10:PHE:CE2	19:XS:16:LEU:HB2	2.46	0.49
24:YA:270(I):G:H21	46:Y1:78:LYS:HE3	1.77	0.49
24:YA:2065:C:H2'	24:YA:2066:C:H6	1.78	0.49
24:YA:2123:G:H2'	24:YA:2124:G:H8	1.78	0.49
24:YA:2145:C:N3	24:YA:2147:G:N1	2.59	0.49
24:YA:2286:A:H4'	24:YA:2287:A:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YF:40:GLN:HE22	28:YF:183:VAL:H	1.61	0.49
1:QA:452:A:H2'	1:QA:453:A:C8	2.48	0.49
2:QB:163:PHE:HA	2:QB:185:ILE:O	2.12	0.49
24:RA:917:A:O2'	25:RB:98:G:H4'	2.13	0.49
24:RA:1542:G:H5''	24:RA:1543:A:OP2	2.13	0.49
24:RA:2166:G:N2	24:RA:2168:G:N7	2.61	0.49
47:R2:4:SER:O	47:R2:7:ARG:NE	2.46	0.49
1:XA:309:G:H2'	1:XA:310:G:H8	1.78	0.49
1:XA:403:C:H2'	1:XA:404:U:H6	1.78	0.49
1:XA:1147:C:O2	9:XI:16:ARG:NH1	2.46	0.49
1:XA:1235:U:H2'	1:XA:1236:A:O4'	2.13	0.49
1:XA:1251:A:N3	1:XA:1369:C:O2'	2.42	0.49
1:XA:1388:C:H2'	1:XA:1389:C:C6	2.48	0.49
3:XC:108:ASN:HD21	3:XC:144:SER:HG	1.59	0.49
4:XD:63:LYS:HD2	4:XD:198:VAL:HG12	1.95	0.49
24:YA:176:G:O2'	24:YA:177:G:H5'	2.13	0.49
24:YA:270(I):G:N2	46:Y1:78:LYS:HE3	2.28	0.49
24:YA:573:G:O2'	24:YA:574:C:H3'	2.12	0.49
24:YA:2695:C:H2'	24:YA:2696:U:H6	1.77	0.49
29:YG:27:ASN:OD1	29:YG:28:VAL:N	2.45	0.49
32:YN:13:TRP:O	32:YN:135:PRO:HD2	2.13	0.49
1:QA:505:G:H2'	1:QA:506:G:H8	1.78	0.49
1:QA:542:G:P	4:QD:10:ARG:HH12	2.35	0.49
2:QB:22:LYS:HA	2:QB:24:TRP:CD1	2.47	0.49
4:QD:79:PHE:HE1	4:QD:204:ILE:HD13	1.78	0.49
24:RA:235:U:H2'	24:RA:236:C:C6	2.48	0.49
24:RA:372:G:HO2'	24:RA:373:U:P	2.35	0.49
24:RA:623:G:H2'	24:RA:624:C:C6	2.48	0.49
24:RA:710:G:H2'	24:RA:711:G:H8	1.78	0.49
24:RA:1278:A:H4'	36:RR:34:ILE:HG23	1.94	0.49
24:RA:1667:G:H8	24:RA:1667:G:OP2	1.96	0.49
24:RA:2031:A:N3	24:RA:2455:G:O2'	2.36	0.49
24:RA:2037:G:H2'	24:RA:2038:G:H8	1.78	0.49
24:RA:2591:C:H2'	24:RA:2592:G:C8	2.48	0.49
24:RA:2867:G:HO2'	24:RA:2868:A:H8	1.61	0.49
39:RU:97:ASP:HA	39:RU:100:VAL:HG22	1.94	0.49
1:XA:67:C:H2'	1:XA:68:G:C8	2.47	0.49
1:XA:532:A:H2	1:XA:1206:G:H21	1.61	0.49
1:XA:1225:A:N3	1:XA:1225:A:H2'	2.28	0.49
10:XJ:39:PRO:HA	10:XJ:70:ARG:HG3	1.95	0.49
24:YA:956:G:H2'	24:YA:957:A:H2'	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1164:G:H2'	24:YA:1165:U:C6	2.48	0.49
24:YA:1826:G:H4'	26:YD:242:ARG:HH21	1.76	0.49
1:QA:998(A):C:H2'	1:QA:999:U:C6	2.48	0.49
1:QA:1058:G:H2'	1:QA:1059:C:C6	2.48	0.49
1:QA:1143:G:H2'	1:QA:1144:G:C8	2.48	0.49
1:QA:1151:A:H5'	10:QJ:41:PRO:HA	1.95	0.49
1:QA:1453:G:O2'	1:QA:1454:G:OP1	2.28	0.49
7:QG:89:MET:HE3	7:QG:156:TRP:HZ3	1.77	0.49
22:QV:12:G:H1'	24:RA:1923:U:H1'	1.94	0.49
24:RA:670:A:H5''	34:RP:42:SER:O	2.13	0.49
24:RA:680:G:H2'	24:RA:681:G:C8	2.48	0.49
29:RG:128:ARG:NH2	29:RG:163:ALA:O	2.46	0.49
37:RS:62:LYS:HB3	37:RS:97:ARG:HD3	1.94	0.49
40:RV:46:VAL:HG22	40:RV:52:VAL:HG11	1.94	0.49
46:R1:53:VAL:C	46:R1:55:GLY:H	2.17	0.49
1:XA:781:A:H4'	1:XA:1522:U:O2'	2.13	0.49
4:XD:11:LEU:HD23	4:XD:66:ARG:HB3	1.94	0.49
6:XF:91:VAL:HG13	18:XR:72:ARG:HH22	1.77	0.49
8:XH:109:ILE:HG13	8:XH:120:THR:HG23	1.94	0.49
16:XP:43:LYS:HG2	16:XP:48:TRP:HB2	1.94	0.49
24:YA:1018:C:O3'	24:YA:1120:G:N2	2.45	0.49
24:YA:2328:A:H2'	24:YA:2329:G:C8	2.48	0.49
24:YA:2364:C:OP1	45:Y0:55:ARG:NH2	2.45	0.49
34:YP:64:LYS:O	34:YP:66:GLY:N	2.46	0.49
1:QA:1004:A:OP1	1:QA:1025:U:N3	2.27	0.48
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.77	0.48
5:QE:15:ARG:HH21	5:QE:26:PHE:HD2	1.61	0.48
37:RS:78:LEU:HD11	37:RS:108:GLY:HA3	1.94	0.48
40:RV:35:LEU:HD12	40:RV:37:VAL:HG23	1.95	0.48
1:XA:78:G:O2'	1:XA:79:G:H8	1.96	0.48
1:XA:509:A:N3	1:XA:543:C:O2'	2.38	0.48
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.13	0.48
1:XA:1415:G:C6	1:XA:1486:G:C6	3.01	0.48
7:XG:68:ASN:O	7:XG:138:LYS:NZ	2.40	0.48
24:YA:155:C:H5'	24:YA:161:U:OP2	2.13	0.48
24:YA:587:C:OP2	34:YP:21:ARG:NH1	2.46	0.48
24:YA:870:A:H2'	24:YA:871:U:O4'	2.12	0.48
24:YA:1842:G:H2'	24:YA:1843:C:C6	2.48	0.48
24:YA:2467:C:O2	35:YQ:124:LYS:NZ	2.43	0.48
24:YA:2619:C:H5''	27:YE:152:LYS:HA	1.95	0.48
24:YA:2749:A:H5''	30:YH:6:ARG:HE	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:YH:10:PRO:HD2	30:YH:50:VAL:O	2.13	0.48
1:QA:666:G:H5'	1:QA:726:C:H1'	1.95	0.48
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.78	0.48
24:RA:271(D):G:H2'	24:RA:272:G:C8	2.46	0.48
24:RA:1264:G:H3'	24:RA:1265:A:H5''	1.94	0.48
24:RA:1792:G:H5'	26:RD:205:VAL:HG13	1.93	0.48
25:RB:3:C:H2'	25:RB:4:C:C6	2.47	0.48
30:RH:147:ASN:O	30:RH:151:ILE:HD12	2.13	0.48
34:RP:80:TYR:OH	34:RP:111:ARG:NH1	2.46	0.48
43:RY:14:LEU:HB2	43:RY:75:ILE:HD11	1.94	0.48
1:XA:377:G:H2'	1:XA:378:G:H8	1.78	0.48
1:XA:957:U:H4'	19:XS:79:THR:HG23	1.94	0.48
1:XA:1244:C:H2'	1:XA:1245:A:H8	1.77	0.48
20:XT:89:ARG:HH11	20:XT:90:GLN:NE2	2.11	0.48
24:YA:247:G:OP2	24:YA:249:C:N4	2.45	0.48
24:YA:1028:A:N3	24:YA:2486:G:O2'	2.34	0.48
24:YA:1231:G:H2'	24:YA:1232:G:H8	1.76	0.48
24:YA:1678:G:H8	24:YA:1678:G:O5'	1.96	0.48
24:YA:2185:C:H2'	24:YA:2186:G:H8	1.79	0.48
24:YA:2514:U:H2'	24:YA:2515:C:H6	1.78	0.48
1:QA:437:U:H2'	1:QA:438:G:O4'	2.13	0.48
1:QA:736:C:O2'	6:QF:90:VAL:O	2.30	0.48
1:QA:737:A:H2'	1:QA:738:C:H6	1.77	0.48
1:QA:745:C:H2'	1:QA:746:A:C8	2.48	0.48
1:QA:1236:A:H2'	1:QA:1237:C:C6	2.48	0.48
1:QA:1342:C:O2'	9:QI:124:GLN:HA	2.13	0.48
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.96	0.48
2:QB:103:THR:HG23	2:QB:176:GLU:HG3	1.94	0.48
4:QD:173:TRP:CD1	4:QD:174:LEU:HG	2.49	0.48
8:QH:17:THR:HB	8:QH:78:GLN:OE1	2.14	0.48
24:RA:673:C:H5''	28:RF:81:PRO:HD2	1.94	0.48
24:RA:1401:G:H2'	24:RA:1402:C:C6	2.48	0.48
24:RA:2303:G:O2'	29:RG:132:ASN:HB2	2.13	0.48
34:RP:64:LYS:HB3	53:R8:25:MET:HG3	1.95	0.48
44:RZ:127:LYS:HB3	44:RZ:162:GLU:HB2	1.96	0.48
44:RZ:144:LEU:HD11	44:RZ:149:SER:HA	1.96	0.48
49:R4:41:PRO:HB3	49:R4:47:GLN:HE21	1.77	0.48
1:XA:129(A):G:H1'	1:XA:190:G:H5''	1.94	0.48
3:XC:32:LEU:HD23	3:XC:59:ARG:HD3	1.94	0.48
24:YA:532:A:N1	24:YA:2035:G:N2	2.61	0.48
24:YA:997:G:O2'	24:YA:998:C:H5'	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2025:C:H2'	24:YA:2026:C:H6	1.78	0.48
24:YA:2305:A:N1	29:YG:154:GLY:N	2.54	0.48
24:YA:2698:U:H2'	24:YA:2699:C:H6	1.77	0.48
30:YH:98:LEU:HD23	30:YH:125:VAL:HG22	1.95	0.48
32:YN:114:ARG:O	32:YN:115:ARG:HB3	2.12	0.48
1:QA:356:A:N3	1:QA:368:U:O2'	2.33	0.48
1:QA:900:A:H2'	1:QA:901:A:C8	2.49	0.48
1:QA:1464:G:P	38:RT:112:ARG:HH21	2.37	0.48
1:QA:1515:C:H2'	1:QA:1516:G:H8	1.78	0.48
12:QL:84:LEU:HB2	12:QL:105:TYR:CD2	2.48	0.48
24:RA:1608:A:H1'	24:RA:1610:A:OP2	2.14	0.48
24:RA:1636:C:O2'	24:RA:1760:A:N3	2.41	0.48
24:RA:1639:U:H2'	24:RA:1640:C:H5''	1.95	0.48
24:RA:2065:C:H1'	24:RA:2449:U:N3	2.28	0.48
25:RB:40:U:H3	25:RB:43:C:H5''	1.78	0.48
27:RE:13:ARG:HA	27:RE:22:PRO:HA	1.95	0.48
29:RG:68:PRO:HB3	29:RG:92:VAL:HB	1.96	0.48
31:RI:122:GLU:O	31:RI:126:TYR:OH	2.29	0.48
35:RQ:32:TYR:HE1	35:RQ:133:ARG:HG3	1.78	0.48
36:RR:10:LEU:HD13	36:RR:40:LYS:HG2	1.96	0.48
40:RV:99:ILE:HD12	40:RV:99:ILE:O	2.12	0.48
51:R6:5:VAL:HG22	51:R6:26:ASN:HD21	1.79	0.48
1:XA:898:G:N2	1:XA:901:A:OP2	2.43	0.48
1:XA:1322:C:H5'	13:XM:100:GLY:HA2	1.94	0.48
5:XE:127:ASN:O	5:XE:131:ILE:HG12	2.13	0.48
6:XF:2:ARG:NH1	6:XF:69:GLU:OE1	2.46	0.48
6:XF:21:LEU:O	6:XF:24:GLU:HG2	2.13	0.48
11:XK:40:ILE:HD11	11:XK:77:MET:HE1	1.96	0.48
12:XL:89:ARG:HB2	12:XL:97:ARG:HD3	1.95	0.48
18:XR:22:VAL:HG21	18:XR:42:ARG:HB3	1.94	0.48
24:YA:608:A:OP1	28:YF:100:THR:HG21	2.13	0.48
24:YA:755:C:H2'	24:YA:756:C:C6	2.48	0.48
24:YA:774:A:H2	24:YA:787:U:O2'	1.97	0.48
24:YA:862:G:H2'	24:YA:863:A:O4'	2.13	0.48
24:YA:1108:U:H2'	24:YA:1109:C:C6	2.48	0.48
24:YA:1588:C:H2'	24:YA:1589:C:C6	2.48	0.48
24:YA:1946:U:H2'	24:YA:1947:C:C6	2.48	0.48
25:YB:12:C:O4'	25:YB:15:A:N6	2.46	0.48
26:YD:51:VAL:HG11	26:YD:54:ARG:HE	1.79	0.48
38:YT:35:LYS:NZ	38:YT:38:ASN:H	2.11	0.48
41:YW:110:LYS:HG3	41:YW:111:HIS:CD2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:Y0:47:PRO:HD3	45:Y0:53:MET:HE2	1.95	0.48
49:Y4:56:VAL:HG12	49:Y4:57:GLU:N	2.27	0.48
1:QA:280:C:H41	17:QQ:37:LYS:NZ	2.12	0.48
1:QA:390:C:H4'	16:QP:28:ARG:HH21	1.78	0.48
1:QA:527:G:O2'	1:QA:535:A:N1	2.43	0.48
1:QA:1511:G:H2'	1:QA:1512:U:O4'	2.13	0.48
10:QJ:6:ILE:HA	10:QJ:97:GLU:O	2.14	0.48
13:QM:84:ILE:HD11	19:QS:66:MET:HB3	1.96	0.48
24:RA:39:C:H2'	24:RA:40:C:H6	1.78	0.48
24:RA:630:G:N2	24:RA:633:A:OP2	2.44	0.48
24:RA:1164:G:H2'	24:RA:1165:U:C6	2.49	0.48
24:RA:1212:G:H1'	24:RA:1237:A:N6	2.29	0.48
24:RA:2507:C:C2	24:RA:2583:G:C2	3.02	0.48
25:RB:7:G:H2'	25:RB:8:U:O4'	2.14	0.48
29:RG:125:PHE:HB3	29:RG:166:ASP:HB2	1.95	0.48
29:RG:173:LEU:HB3	29:RG:178:PHE:CD2	2.48	0.48
35:RQ:32:TYR:CE1	35:RQ:133:ARG:HG3	2.47	0.48
38:RT:111:ARG:HB2	38:RT:112:ARG:HH11	1.78	0.48
42:RX:26:TYR:CD2	42:RX:89:ILE:HD12	2.48	0.48
43:RY:90:LEU:HD12	43:RY:94:LYS:HB2	1.94	0.48
44:RZ:117:LEU:HD11	44:RZ:172:ALA:HB1	1.96	0.48
1:XA:658:G:H2'	1:XA:659:U:C6	2.48	0.48
1:XA:947:G:H2'	1:XA:948:C:O4'	2.13	0.48
8:XH:91:ARG:HD2	17:XQ:32:TYR:O	2.13	0.48
24:YA:582:G:H2'	24:YA:583:G:C8	2.49	0.48
24:YA:1417:C:H2'	24:YA:1418:G:O4'	2.13	0.48
24:YA:1942:C:OP2	24:YA:1943:U:O2'	2.14	0.48
24:YA:2392:A:H2	24:YA:2424:C:H42	1.61	0.48
24:YA:2747:G:O2'	30:YH:67:LEU:HD23	2.14	0.48
28:YF:47:GLY:HA3	28:YF:95:ARG:O	2.14	0.48
34:YP:97:PRO:C	34:YP:99:LEU:H	2.17	0.48
15:QO:39:LEU:HD23	15:QO:56:LEU:HB2	1.95	0.48
22:QV:24:C:H2'	22:QV:25:U:H6	1.77	0.48
24:RA:589:C:H2'	24:RA:590:A:C8	2.48	0.48
24:RA:923:C:H2'	24:RA:924:C:C6	2.49	0.48
24:RA:958:U:O2	25:RB:89(A):A:O2'	2.24	0.48
24:RA:1204:A:H1'	24:RA:1206:G:C8	2.49	0.48
24:RA:2695:C:H2'	24:RA:2696:U:C6	2.49	0.48
24:RA:2696:U:H2'	24:RA:2697:G:C8	2.48	0.48
24:RA:2698:U:H2'	24:RA:2699:C:H6	1.78	0.48
24:RA:2805:G:H2'	24:RA:2807:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RD:96:HIS:CE1	26:RD:102:LYS:HE2	2.49	0.48
38:RT:54:ARG:HA	38:RT:59:THR:HG23	1.95	0.48
40:RV:76:LYS:HB3	40:RV:79:VAL:HB	1.96	0.48
53:R8:31:HIS:CG	53:R8:32:LEU:HD12	2.49	0.48
1:XA:1167:A:H2'	1:XA:1169:A:C8	2.48	0.48
14:YN:43:CYS:C	14:YN:45:ARG:H	2.15	0.48
24:YA:330:A:H2	24:YA:1210:A:HO2'	1.61	0.48
24:YA:414:C:O2	24:YA:1864:U:O2'	2.29	0.48
24:YA:709:U:H2'	24:YA:710:G:C8	2.49	0.48
24:YA:1062:G:N2	24:YA:1077:A:N1	2.57	0.48
24:YA:1204:A:H1'	24:YA:1206:G:C5	2.49	0.48
24:YA:1794:U:H2'	24:YA:1795:C:H6	1.78	0.48
24:YA:1802:A:H2'	24:YA:1803:A:H8	1.79	0.48
24:YA:2329:G:H2'	24:YA:2330:G:C8	2.49	0.48
37:YS:6:ALA:O	37:YS:10:ARG:HG2	2.13	0.48
43:YY:102:CYS:SG	43:YY:103:GLY:N	2.87	0.48
1:QA:493:G:N2	1:QA:494:U:O4	2.47	0.48
1:QA:705:U:C2	1:QA:706:A:C8	3.01	0.48
1:QA:1224:G:O2'	1:QA:1322:C:OP2	2.30	0.48
24:RA:1628:G:H2'	24:RA:1629:U:H6	1.79	0.48
24:RA:2103:C:H2'	24:RA:2104:G:C8	2.48	0.48
24:RA:2328:A:H2'	24:RA:2329:G:H8	1.79	0.48
24:RA:2712:U:H1'	24:RA:2712(A):A:C8	2.49	0.48
32:RN:47:ALA:HB2	32:RN:112:LEU:HD11	1.94	0.48
1:XA:925:G:N2	1:XA:1503:A:OP1	2.47	0.48
1:XA:1309:G:C6	1:XA:1329:A:N1	2.81	0.48
1:XA:1316:G:N2	1:XA:1318:A:H3'	2.29	0.48
11:XK:124:LYS:HE3	11:XK:125:PHE:CE1	2.49	0.48
24:YA:638:G:H2'	24:YA:639:U:C6	2.49	0.48
24:YA:1157:G:O2'	48:Y3:31:LEU:HD12	2.13	0.48
24:YA:1641:A:H2'	24:YA:1642:G:O4'	2.14	0.48
24:YA:2213:U:H1'	46:Y1:52:ARG:HH12	1.78	0.48
24:YA:2713:A:O2'	24:YA:2715:C:OP2	2.19	0.48
40:YV:52:VAL:HG21	40:YV:55:ALA:HB3	1.95	0.48
1:QA:195:A:H4'	20:QT:68:LYS:NZ	2.29	0.48
1:QA:728:A:H2'	1:QA:729:A:C8	2.48	0.48
1:QA:937:A:H1'	1:QA:1379:G:N2	2.29	0.48
9:QI:49:PRO:O	9:QI:53:VAL:HG23	2.14	0.48
11:QK:124:LYS:H	11:QK:124:LYS:HD2	1.79	0.48
13:QM:87:TYR:CZ	13:QM:91:ARG:HD2	2.49	0.48
24:RA:413:C:H2'	24:RA:414:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1316:U:H2'	24:RA:1317:A:H8	1.79	0.48
24:RA:2808:U:H3	24:RA:2892:A:N6	2.12	0.48
24:RA:2852:G:H2'	24:RA:2853:C:C6	2.49	0.48
26:RD:35:LYS:HE3	26:RD:61:LEU:HB3	1.95	0.48
45:R0:53:MET:HE3	45:R0:59:LEU:HD21	1.96	0.48
1:XA:448:A:P	1:XA:485:G:H22	2.36	0.48
1:XA:691:G:H2'	1:XA:692:U:C6	2.49	0.48
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.13	0.48
20:XT:23:ARG:HE	20:XT:27:LYS:HB2	1.79	0.48
24:YA:395:U:H2'	24:YA:396:G:N7	2.29	0.48
24:YA:1322:A:N1	24:YA:1333:C:O2'	2.43	0.48
24:YA:1467:C:C5	24:YA:1546:C:H2'	2.49	0.48
24:YA:1709:U:H2'	24:YA:1710:C:C6	2.49	0.48
24:YA:2743:C:OP2	24:YA:2755:C:N4	2.46	0.48
24:YA:2822:G:H2'	24:YA:2823:A:H5''	1.96	0.48
27:YE:79:ARG:CZ	27:YE:164:ARG:HH21	2.27	0.48
39:YU:85:LYS:NZ	39:YU:117:GLN:HB2	2.28	0.48
44:YZ:93:ASP:C	44:YZ:94:GLU:HG2	2.33	0.48
1:QA:35:G:N3	12:QL:118:SER:OG	2.43	0.48
1:QA:624:C:H2'	1:QA:625:G:H8	1.79	0.48
1:QA:1191:A:H5''	3:QC:4:LYS:HD3	1.96	0.48
10:QJ:54:PHE:O	10:QJ:56:HIS:N	2.46	0.48
24:RA:1329:U:H5''	24:RA:1330:C:H5	1.79	0.48
24:RA:2030:A:H4'	24:RA:2031:A:C8	2.49	0.48
36:RR:74:LYS:O	36:RR:75:LEU:HB3	2.14	0.48
40:RV:5:VAL:HG11	40:RV:57:VAL:HG11	1.94	0.48
51:R6:13:CYS:SG	51:R6:14:THR:N	2.86	0.48
1:XA:610:G:C4	1:XA:611:A:C8	3.01	0.48
1:XA:1191:A:H5''	3:XC:4:LYS:HE2	1.94	0.48
24:YA:600:G:N2	24:YA:605:C:O3'	2.46	0.48
33:YO:80:ASP:OD2	38:YT:64:ARG:NH2	2.47	0.48
1:QA:1225:A:H2'	1:QA:1225:A:N3	2.29	0.48
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.62	0.48
1:QA:1432:G:OP1	38:RT:108:ARG:N	2.36	0.48
7:QG:89:MET:HE3	7:QG:156:TRP:CZ3	2.49	0.48
24:RA:820:A:H4'	24:RA:836:G:N2	2.28	0.48
24:RA:2064:C:H2'	24:RA:2065:C:C6	2.48	0.48
36:RR:61:HIS:O	36:RR:65:LEU:HD13	2.14	0.48
42:RX:55:ASN:HB2	42:RX:80:ILE:HG23	1.95	0.48
1:XA:112:G:H5'	1:XA:389:A:O2'	2.14	0.48
1:XA:545:C:OP1	4:XD:61:LYS:NZ	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:XE:82:VAL:HG21	5:XE:138:ALA:HA	1.95	0.48
24:YA:222:A:H5'	24:YA:421:U:OP1	2.13	0.48
24:YA:455:C:N3	24:YA:472:A:H2'	2.28	0.48
24:YA:675:A:C8	24:YA:804:A:C6	3.02	0.48
24:YA:2809:A:H2'	24:YA:2810:A:C8	2.49	0.48
27:YE:116:VAL:O	27:YE:117:MET:HB2	2.14	0.48
1:QA:1096:C:H2'	1:QA:1097:C:H6	1.79	0.47
1:QA:1411:C:H2'	1:QA:1412:C:C6	2.49	0.47
14:QN:24:CYS:SG	14:QN:25:VAL:N	2.87	0.47
24:RA:532:A:H5'	39:RU:28:ARG:HH12	1.78	0.47
24:RA:1019:U:H3	24:RA:1142(A):A:H62	1.61	0.47
24:RA:1444:G:H2'	24:RA:1445:C:C5	2.49	0.47
33:RO:23:ARG:NH2	33:RO:28:SER:O	2.47	0.47
37:RS:35:ILE:HD11	37:RS:97:ARG:NH1	2.28	0.47
40:RV:76:LYS:HD3	40:RV:81:TYR:HD2	1.79	0.47
41:RW:12:ILE:HD12	41:RW:42:ARG:HD3	1.94	0.47
48:R3:12:PRO:HB2	48:R3:20:LYS:HG2	1.96	0.47
1:XA:127:G:H4'	17:XQ:2:PRO:HD2	1.95	0.47
1:XA:737:A:H2'	1:XA:738:C:C6	2.48	0.47
3:XC:11:ARG:O	3:XC:13:GLY:N	2.47	0.47
8:XH:120:THR:HG22	8:XH:121:ASP:N	2.28	0.47
24:YA:336:C:O2'	43:YY:35:TYR:OH	2.32	0.47
24:YA:371:A:N6	24:YA:402:A:OP2	2.47	0.47
24:YA:699:A:H2'	24:YA:700:G:O4'	2.14	0.47
24:YA:851:U:OP1	48:Y3:49:LYS:NZ	2.34	0.47
24:YA:2182:G:H2'	24:YA:2183:C:C5	2.48	0.47
24:YA:2563:U:H1'	24:YA:2566:A:N6	2.29	0.47
24:YA:2853:C:H2'	24:YA:2854:G:C8	2.49	0.47
42:YX:11:PRO:HD3	47:Y2:37:PHE:CD1	2.49	0.47
1:QA:62:U:H3	1:QA:105:G:H1	1.62	0.47
1:QA:184:G:H2'	1:QA:185:A:C8	2.49	0.47
1:QA:323:U:H2'	1:QA:324:G:O4'	2.14	0.47
1:QA:551:U:H2'	1:QA:552:U:H6	1.79	0.47
1:QA:639:G:H2'	1:QA:640:A:H8	1.79	0.47
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.14	0.47
3:QC:128:PHE:HD2	3:QC:133:ALA:HB2	1.79	0.47
10:QJ:26:ALA:O	10:QJ:29:ARG:HB3	2.14	0.47
10:QJ:99:LYS:HE2	10:QJ:99:LYS:HA	1.94	0.47
20:QT:78:ALA:HA	20:QT:81:LYS:NZ	2.29	0.47
24:RA:1416:G:H2'	24:RA:1417:C:C6	2.49	0.47
24:RA:2100:G:O6	24:RA:2189:U:O2	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2136:C:H2'	24:RA:2137:C:C6	2.50	0.47
26:RD:241:PRO:O	26:RD:242:ARG:HG2	2.14	0.47
27:RE:114:ALA:HB3	27:RE:160:TYR:HB3	1.96	0.47
36:RR:10:LEU:O	36:RR:12:ARG:HG3	2.14	0.47
41:RW:82:LEU:HD12	41:RW:84:ARG:NH2	2.29	0.47
43:RY:30:VAL:HG12	43:RY:37:VAL:HG23	1.96	0.47
1:XA:20:U:H2'	1:XA:21:G:O4'	2.15	0.47
1:XA:864:A:H2'	1:XA:865:A:C8	2.49	0.47
1:XA:1151:A:H5'	10:XJ:41:PRO:HA	1.96	0.47
1:XA:1488:G:H2'	1:XA:1489:G:C8	2.49	0.47
10:XJ:49:VAL:CG2	14:YN:41:ARG:HB2	2.44	0.47
14:YN:47:LEU:HB3	14:YN:53:LEU:HD23	1.95	0.47
24:YA:814:C:H2'	24:YA:815:C:H6	1.79	0.47
24:YA:2455:G:H2'	24:YA:2456:C:C6	2.48	0.47
26:YD:112:GLN:HG2	26:YD:115:GLN:HG3	1.96	0.47
29:YG:63:ILE:HD12	29:YG:141:PHE:CD2	2.49	0.47
34:YP:37:GLY:O	34:YP:41:ARG:HG2	2.13	0.47
34:YP:138:LEU:HD12	34:YP:141:ALA:HB3	1.96	0.47
42:YX:12:VAL:HB	42:YX:27:THR:HG23	1.96	0.47
48:Y3:23:LEU:HD22	48:Y3:50:VAL:HG11	1.96	0.47
1:QA:56:U:H2'	1:QA:57:G:C8	2.46	0.47
1:QA:540:G:H2'	1:QA:541:G:O4'	2.14	0.47
1:QA:690:G:H22	11:QK:55:LYS:NZ	2.11	0.47
1:QA:1064:G:O2'	1:QA:1065:U:O5'	2.30	0.47
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.49	0.47
9:QI:9:ARG:O	9:QI:104:ARG:HG3	2.14	0.47
13:QM:51:ALA:HB1	13:QM:55:ARG:HH21	1.80	0.47
14:QN:42:ILE:O	14:QN:45:ARG:HB3	2.15	0.47
24:RA:873:G:H4'	35:RQ:63:LYS:NZ	2.29	0.47
24:RA:1278:A:H2'	24:RA:1279:G:C8	2.50	0.47
24:RA:1423:G:H2'	24:RA:1424:G:H8	1.79	0.47
24:RA:2355:C:H4'	45:R0:24:LYS:HD2	1.96	0.47
24:RA:2478:A:OP2	54:R9:2:LYS:NZ	2.31	0.47
24:RA:2635:C:H2'	24:RA:2636:U:O4'	2.15	0.47
31:RI:21:VAL:HG22	31:RI:22:LYS:H	1.79	0.47
45:R0:18:ALA:O	45:R0:20:ARG:NH1	2.45	0.47
1:XA:224:C:H2'	1:XA:225:C:C6	2.49	0.47
1:XA:1162:C:H2'	1:XA:1163:C:C6	2.49	0.47
1:XA:1238:A:H2	1:XA:1241:G:N3	2.12	0.47
2:XB:72:GLY:O	2:XB:94:ASN:HA	2.13	0.47
3:XC:23:TYR:HA	10:XJ:11:PHE:HE2	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:XF:2:ARG:NH1	6:XF:69:GLU:HB3	2.29	0.47
12:XL:117:ARG:HG2	12:XL:122:THR:HB	1.95	0.47
19:XS:64:GLU:HB2	49:Y4:59:PHE:HE2	1.78	0.47
24:YA:288:C:H2'	24:YA:289:A:C8	2.46	0.47
24:YA:2082:A:H2'	24:YA:2083:G:O4'	2.14	0.47
26:YD:244:ARG:HB2	26:YD:245:PRO:HD2	1.95	0.47
29:YG:25:TYR:CD2	29:YG:31:VAL:HG12	2.50	0.47
32:YN:129:PRO:O	32:YN:134:ARG:NH1	2.27	0.47
34:YP:62:LEU:HD12	53:Y8:30:ARG:HE	1.79	0.47
37:YS:15:ARG:HA	37:YS:18:ILE:HG22	1.95	0.47
38:YT:110:ILE:HG23	38:YT:111:ARG:H	1.79	0.47
46:Y1:64:ALA:HA	46:Y1:67:ILE:HG13	1.96	0.47
1:QA:384:G:H2'	1:QA:385:C:H6	1.79	0.47
1:QA:1496:C:H2'	1:QA:1497:G:C8	2.48	0.47
10:QJ:29:ARG:HH21	1:XA:1164:G:P	2.38	0.47
12:QL:6:THR:HG22	12:QL:8:ASN:H	1.77	0.47
24:RA:324:A:H2'	24:RA:325:G:O4'	2.14	0.47
24:RA:588:U:O5'	24:RA:588:U:H6	1.98	0.47
24:RA:1429:G:H2'	24:RA:1430:C:C6	2.49	0.47
24:RA:1432:C:H2'	24:RA:1433:U:O4'	2.14	0.47
24:RA:1952:A:C5	33:RO:22:ILE:HD12	2.50	0.47
24:RA:1973:G:H2'	24:RA:1974:C:C6	2.48	0.47
24:RA:2123:G:H2'	24:RA:2124:G:H8	1.80	0.47
24:RA:2127:G:H8	24:RA:2127:G:OP2	1.97	0.47
48:R3:6:VAL:HG12	48:R3:56:VAL:HG12	1.96	0.47
1:XA:41:G:H2'	1:XA:42:G:H8	1.79	0.47
1:XA:376:G:H1	1:XA:387:U:H3	1.63	0.47
1:XA:391:G:O3'	16:XP:8:ARG:NH1	2.45	0.47
1:XA:1455:G:H5'	20:XT:32:ALA:HB2	1.96	0.47
12:XL:27:LEU:HB3	12:XL:33:ARG:NH1	2.29	0.47
24:YA:742:G:H2'	24:YA:743:G:C8	2.49	0.47
24:YA:978:G:O4'	24:YA:1001:A:H2	1.97	0.47
24:YA:1406:U:H3'	24:YA:1407:C:H6	1.80	0.47
24:YA:1520:U:H2'	24:YA:1521:G:O4'	2.14	0.47
24:YA:2590:A:H2'	24:YA:2591:C:C6	2.50	0.47
25:YB:50:G:C2	25:YB:51:G:H1'	2.49	0.47
31:YI:75:LEU:HD13	31:YI:105:HIS:ND1	2.30	0.47
35:YQ:4:PRO:HG3	35:YQ:69:PHE:HE2	1.79	0.47
44:YZ:30:ASN:HB3	44:YZ:90:VAL:HG22	1.95	0.47
1:QA:97:U:H2'	1:QA:99:C:C6	2.49	0.47
6:QF:50:TYR:CE1	18:QR:77:GLY:HA2	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:220:G:O2'	24:RA:233:A:N3	2.44	0.47
24:RA:669:G:C2	24:RA:801:G:C6	3.02	0.47
24:RA:934:G:H2'	24:RA:935:C:C6	2.49	0.47
24:RA:1779:U:OP2	24:RA:1784:A:N6	2.36	0.47
24:RA:2086:U:H2'	24:RA:2087:G:C8	2.49	0.47
24:RA:2576:G:O2'	24:RA:2579:C:OP2	2.26	0.47
24:RA:2792:G:C2	24:RA:2793:G:H1'	2.49	0.47
28:RF:182:ASN:O	28:RF:186:ILE:HG12	2.14	0.47
31:RI:3:VAL:HG12	31:RI:38:LEU:HA	1.96	0.47
51:R6:8:LYS:HB2	51:R6:54:ILE:HG21	1.96	0.47
1:XA:677:U:O2	1:XA:777:A:O2'	2.31	0.47
3:XC:6:HIS:CE1	3:XC:8:ILE:HB	2.49	0.47
11:XK:95:ILE:HD13	11:XK:108:ILE:HD11	1.96	0.47
24:YA:464:U:H2'	24:YA:465:G:O4'	2.15	0.47
24:YA:1608:A:H1'	24:YA:1610:A:OP2	2.14	0.47
24:YA:2114:A:H2'	24:YA:2168:G:N3	2.29	0.47
30:YH:92:ILE:HG13	30:YH:93:GLY:N	2.29	0.47
1:QA:1181:G:N7	1:QA:1182:G:N2	2.56	0.47
4:QD:109:GLY:HA3	4:QD:165:MET:HG2	1.95	0.47
24:RA:37:C:H2'	24:RA:38:A:H8	1.80	0.47
24:RA:2689:U:H4'	24:RA:2690:C:O5'	2.14	0.47
25:RB:66:A:O2'	25:RB:67:G:O5'	2.31	0.47
28:RF:157:VAL:HG21	28:RF:181:LEU:HD13	1.97	0.47
1:XA:96:G:H2'	1:XA:97:U:C6	2.50	0.47
1:XA:261:U:O2'	1:XA:263:A:N7	2.43	0.47
1:XA:792:A:H1'	1:XA:794:A:N7	2.30	0.47
1:XA:825:G:O2'	8:XH:12:ARG:NH2	2.43	0.47
1:XA:1198:G:H2'	1:XA:1199:U:C6	2.50	0.47
1:XA:1516:G:N2	1:XA:1519:A:OP2	2.46	0.47
2:XB:160:ASP:O	2:XB:183:PRO:HD2	2.15	0.47
8:XH:86:ILE:HG22	8:XH:93:VAL:HG21	1.97	0.47
19:XS:67:VAL:HB	49:Y4:58:ARG:HB3	1.95	0.47
23:XX:14:A:H3'	23:XX:15:A:H8	1.80	0.47
24:YA:243:U:OP1	53:Y8:8:LYS:NZ	2.32	0.47
24:YA:633:A:O2'	24:YA:2404:C:OP1	2.31	0.47
24:YA:1113:U:H2'	24:YA:1114:G:H8	1.79	0.47
24:YA:1139:G:O2'	24:YA:1143:A:N1	2.42	0.47
24:YA:1495:A:H2'	24:YA:1496:A:O4'	2.14	0.47
24:YA:2176:A:H2'	24:YA:2177:C:C5	2.49	0.47
24:YA:2756:U:OP2	54:Y9:19:ARG:NH2	2.44	0.47
41:YW:9:TYR:CD1	41:YW:102:HIS:HE1	2.33	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:328:C:H4'	1:QA:329:A:O5'	2.14	0.47
1:QA:401:C:O2'	1:QA:621:A:N3	2.43	0.47
1:QA:719:C:O2'	18:QR:50:ILE:O	2.24	0.47
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.50	0.47
1:QA:1014:A:H4'	19:QS:14:HIS:CG	2.50	0.47
1:QA:1301:U:O2	1:QA:1301:U:H2'	2.14	0.47
1:QA:1327:C:OP2	21:QU:6:ARG:NH1	2.45	0.47
4:QD:18:LYS:HG2	4:QD:20:TYR:HE1	1.80	0.47
4:QD:60:GLU:HG2	4:QD:202:LEU:HB2	1.96	0.47
8:QH:12:ARG:NH1	8:QH:27:PRO:HD3	2.29	0.47
12:QL:55:VAL:HG12	12:QL:69:TYR:HA	1.96	0.47
19:QS:10:PHE:CE2	19:QS:16:LEU:HB2	2.49	0.47
19:QS:40:ILE:HG23	19:QS:41:VAL:H	1.78	0.47
22:QV:37:U:H2'	22:QV:38:A:C8	2.49	0.47
24:RA:64:A:O3'	42:RX:71:GLY:HA3	2.14	0.47
24:RA:116:C:O2'	24:RA:126:A:N3	2.45	0.47
24:RA:216:A:C8	24:RA:432:A:C6	3.03	0.47
24:RA:1019:U:HO2'	24:RA:1021:A:H2	1.63	0.47
24:RA:1187:G:H5''	40:RV:81:TYR:CE1	2.50	0.47
24:RA:1332:G:N2	24:RA:1609:A:HO2'	2.13	0.47
24:RA:1482:U:H3	24:RA:1512:G:H1	1.62	0.47
24:RA:1636:C:H2'	24:RA:1637:A:C8	2.50	0.47
26:RD:69:ARG:HD2	26:RD:105:ILE:HD11	1.96	0.47
27:RE:50:GLY:HA2	27:RE:77:ILE:HA	1.96	0.47
28:RF:38:ARG:HD3	28:RF:99:TYR:OH	2.14	0.47
28:RF:117:ARG:NH2	28:RF:189:THR:O	2.41	0.47
29:RG:101:ILE:CD1	49:R4:25:TYR:HB2	2.42	0.47
29:RG:120:LEU:HB2	29:RG:180:PHE:HD1	1.79	0.47
35:RQ:10:ARG:HG2	35:RQ:11:LYS:HG3	1.97	0.47
35:RQ:81:VAL:HG13	35:RQ:82:ARG:H	1.80	0.47
44:RZ:59:LEU:HD11	44:RZ:69:THR:HG21	1.97	0.47
53:R8:3:LYS:HE3	53:R8:62:LEU:HD11	1.95	0.47
53:R8:25:MET:SD	53:R8:46:ARG:HG2	2.55	0.47
1:XA:598:U:H4'	8:XH:94:TYR:CD2	2.49	0.47
1:XA:1277:C:O2'	1:XA:1279:A:H1'	2.13	0.47
1:XA:1330:U:H3'	1:XA:1331:G:O4'	2.15	0.47
2:XB:122:PHE:HA	2:XB:139:LYS:NZ	2.29	0.47
3:XC:83:ARG:HA	3:XC:86:VAL:HG12	1.97	0.47
5:XE:75:THR:HG21	5:XE:94:ALA:H	1.80	0.47
10:XJ:48:THR:HG23	10:XJ:62:HIS:HB3	1.96	0.47
10:XJ:51:ARG:HG3	10:XJ:60:ARG:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:XP:8:ARG:HB3	16:XP:28:ARG:HH12	1.79	0.47
24:YA:151:C:H2'	24:YA:152:G:H8	1.79	0.47
24:YA:250:G:H2'	24:YA:251:A:C8	2.49	0.47
24:YA:433:C:H2'	24:YA:434:U:C6	2.50	0.47
24:YA:637:A:H4'	24:YA:638:G:O5'	2.13	0.47
24:YA:637:A:O5'	34:YP:116:GLY:HA2	2.14	0.47
24:YA:775:G:C5	24:YA:794:G:C8	3.03	0.47
24:YA:1202:C:N4	24:YA:1203:G:C6	2.83	0.47
24:YA:1384:A:N3	24:YA:1405:U:H1'	2.29	0.47
24:YA:1794:U:H2'	24:YA:1795:C:C6	2.50	0.47
24:YA:2111:C:N4	24:YA:2147:G:H22	2.13	0.47
24:YA:2733:A:H2	27:YE:203:LYS:HG2	1.79	0.47
25:YB:66:A:O2'	25:YB:67:G:O5'	2.30	0.47
27:YE:23:VAL:HG12	27:YE:173:VAL:HG21	1.96	0.47
29:YG:98:ARG:O	29:YG:101:ILE:HG13	2.15	0.47
34:YP:64:LYS:CB	53:Y8:25:MET:HG3	2.44	0.47
1:QA:235:C:H2'	1:QA:236:G:H8	1.80	0.47
1:QA:999:U:H2'	1:QA:1000:A:C8	2.49	0.47
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.50	0.47
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.50	0.47
3:QC:40:ARG:HH12	3:QC:57:ILE:HB	1.79	0.47
24:RA:184:C:H1'	24:RA:217:G:H1'	1.97	0.47
24:RA:1332:G:H21	24:RA:1610:A:H8	1.60	0.47
24:RA:1389:G:H2'	24:RA:1390:U:C6	2.50	0.47
26:RD:25:THR:O	26:RD:27:THR:N	2.43	0.47
37:RS:85:VAL:HG23	37:RS:112:PHE:HE1	1.80	0.47
41:RW:58:ALA:HB1	41:RW:64:MET:HB2	1.97	0.47
42:RX:21:PHE:CE1	42:RX:92:LEU:HB3	2.49	0.47
46:R1:11:ARG:HG3	46:R1:12:PRO:HD2	1.97	0.47
3:XC:5:ILE:HD13	14:YN:58:LYS:HZ2	1.80	0.47
11:XK:63:LEU:HD23	11:XK:66:LEU:HD12	1.97	0.47
24:YA:329:G:OP2	43:YY:71:LYS:HD2	2.15	0.47
24:YA:2335:A:O2'	24:YA:2336:A:O5'	2.30	0.47
29:YG:129:GLY:HA2	29:YG:166:ASP:HA	1.95	0.47
41:YW:11:ARG:O	41:YW:11:ARG:HD3	2.15	0.47
44:YZ:146:ILE:HD12	44:YZ:146:ILE:H	1.79	0.47
1:QA:978:A:C4	1:QA:1319:A:C2	3.02	0.47
1:QA:1111:A:H61	3:QC:177:THR:HG22	1.80	0.47
1:QA:1293:G:H2'	1:QA:1294:G:H8	1.80	0.47
1:QA:1348:U:C4	1:QA:1374:A:H2	2.33	0.47
1:QA:1411:C:H2'	1:QA:1412:C:H6	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:68:TYR:HD2	4:QD:97:LEU:HD13	1.80	0.47
10:QJ:50:ILE:HA	10:QJ:60:ARG:HG2	1.96	0.47
24:RA:122:G:OP1	24:RA:149:A:O2'	2.33	0.47
24:RA:760:G:H2'	24:RA:761:A:O4'	2.13	0.47
24:RA:935:C:H2'	24:RA:936:C:C6	2.50	0.47
24:RA:1899:G:H22	24:RA:1902:C:H41	1.59	0.47
24:RA:2377:A:H2'	24:RA:2378:A:C8	2.50	0.47
28:RF:197:ASP:C	28:RF:199:TRP:H	2.19	0.47
44:RZ:117:LEU:HD12	44:RZ:173:ALA:O	2.15	0.47
1:XA:246:A:OP1	17:XQ:100:LYS:HE2	2.14	0.47
1:XA:690:G:H2'	1:XA:691:G:O4'	2.14	0.47
1:XA:825:G:H2'	1:XA:826:C:C6	2.50	0.47
1:XA:1228:C:H5''	13:XM:108:ARG:HH22	1.80	0.47
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.50	0.47
12:XL:7:ILE:H	12:XL:7:ILE:HD12	1.79	0.47
49:Y4:44:THR:OG1	49:Y4:47:GLN:OE1	2.31	0.47
1:QA:779:C:H2'	1:QA:780:A:O4'	2.15	0.47
1:QA:1327:C:H2'	1:QA:1328:C:C6	2.50	0.47
9:QI:89:ASN:OD1	9:QI:91:ASP:HB3	2.14	0.47
19:QS:3:ARG:NH1	19:QS:8:GLY:O	2.48	0.47
24:RA:579:G:H2'	24:RA:580:C:C6	2.50	0.47
24:RA:589:C:H2'	24:RA:590:A:H8	1.80	0.47
24:RA:642:G:N2	24:RA:645:C:OP2	2.49	0.47
24:RA:1490:A:O2'	26:RD:99:ASP:OD1	2.33	0.47
24:RA:1510:A:O2'	24:RA:1512:G:N7	2.47	0.47
24:RA:1605:C:H2'	24:RA:1606:G:O4'	2.15	0.47
24:RA:2011:U:OP2	41:RW:16:LYS:NZ	2.37	0.47
24:RA:2246:G:H2'	24:RA:2247:A:C8	2.49	0.47
24:RA:2370:G:H2'	24:RA:2371:G:O4'	2.15	0.47
24:RA:2822:G:H2'	24:RA:2823:A:H5''	1.96	0.47
28:RF:185:ASP:HA	28:RF:188:ARG:HD3	1.97	0.47
29:RG:8:LYS:HE3	29:RG:12:TYR:HE2	1.79	0.47
36:RR:38:VAL:HG22	36:RR:112:ALA:HB2	1.96	0.47
39:RU:65:ILE:HD11	39:RU:93:LYS:HA	1.97	0.47
43:RY:97:ARG:HG3	43:RY:106:LEU:HB2	1.97	0.47
46:R1:89:GLU:O	46:R1:93:GLU:HB2	2.15	0.47
12:XL:117:ARG:HD2	12:XL:123:LYS:O	2.15	0.47
22:XV:24:C:H2'	22:XV:25:U:C6	2.49	0.47
24:YA:131:G:H2'	24:YA:132:G:H8	1.78	0.47
24:YA:859:G:H5'	24:YA:2268:A:O2'	2.15	0.47
24:YA:1613:G:O2'	52:Y7:3:ARG:HD2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1668:A:N3	24:YA:1670:C:C4	2.83	0.47
24:YA:2079:U:H4'	24:YA:2433:A:H2	1.80	0.47
24:YA:2282:G:N2	24:YA:2390:U:O2	2.39	0.47
24:YA:2629:A:O2'	24:YA:2630:G:H5''	2.14	0.47
24:YA:2712:U:OP1	24:YA:2714:G:H4'	2.15	0.47
24:YA:2737:G:H2'	24:YA:2738:A:C8	2.50	0.47
36:YR:26:LYS:HE2	36:YR:70:LEU:O	2.15	0.47
42:YX:28:PHE:HE1	42:YX:92:LEU:HD11	1.80	0.47
52:Y7:12:ARG:NH2	52:Y7:44:PRO:HB3	2.30	0.47
1:QA:28:G:O2'	1:QA:296:U:OP1	2.32	0.46
1:QA:444:C:H2'	1:QA:445:G:H8	1.80	0.46
1:QA:751:U:H2'	1:QA:752:G:O4'	2.15	0.46
1:QA:1237:C:O4'	1:QA:1334:G:N2	2.48	0.46
1:QA:1347:G:O2'	1:QA:1348:U:P	2.74	0.46
2:QB:82:ARG:HG2	2:QB:92:TYR:CE2	2.50	0.46
13:QM:80:ARG:NE	49:R4:58:ARG:HH12	2.13	0.46
24:RA:84:A:C2	24:RA:103:A:C5	3.03	0.46
24:RA:2315:G:H2'	24:RA:2316:C:H6	1.80	0.46
24:RA:2439:A:H5'	24:RA:2439:A:H8	1.80	0.46
24:RA:2864:G:OP1	38:RT:119:LYS:HD2	2.16	0.46
26:RD:11:PRO:O	26:RD:12:SER:OG	2.28	0.46
27:RE:47:VAL:HG11	27:RE:86:PRO:HD2	1.97	0.46
33:RO:111:PHE:HB3	33:RO:114:ILE:HD12	1.98	0.46
36:RR:58:GLY:HA2	36:RR:80:PHE:CE1	2.48	0.46
39:RU:81:HIS:NE2	39:RU:85:LYS:HD2	2.29	0.46
44:RZ:48:PHE:HE1	44:RZ:71:VAL:HG11	1.80	0.46
1:XA:254:G:H2'	1:XA:255:G:H8	1.81	0.46
8:XH:33:GLU:OE1	8:XH:50:ARG:NH2	2.48	0.46
10:XJ:69:ASN:O	10:XJ:70:ARG:HD2	2.15	0.46
13:XM:99:ARG:HB3	13:XM:101:GLN:HE22	1.80	0.46
24:YA:24:G:C6	24:YA:25:U:C4	3.03	0.46
24:YA:673:C:H5''	28:YF:81:PRO:HD2	1.97	0.46
24:YA:1062:G:H2'	24:YA:1063:G:C8	2.50	0.46
24:YA:1510:A:OP1	24:YA:1511:A:H5'	2.15	0.46
24:YA:1728:G:H3'	24:YA:1729:A:H5''	1.97	0.46
24:YA:1816:G:H3'	26:YD:62:TYR:CE1	2.50	0.46
24:YA:2805:G:H2'	24:YA:2807:G:C8	2.50	0.46
54:Y9:7:VAL:HG12	54:Y9:36:GLN:HE21	1.80	0.46
1:QA:1228:C:H5''	13:QM:108:ARG:NH2	2.29	0.46
2:QB:185:ILE:HA	2:QB:199:TYR:O	2.14	0.46
3:QC:21:ARG:HH22	10:QJ:11:PHE:HB2	1.79	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:QF:79:LEU:O	6:QF:85:VAL:HG11	2.15	0.46
24:RA:329:G:OP2	43:RY:71:LYS:NZ	2.41	0.46
24:RA:396:G:H1'	46:R1:42:GLN:HG2	1.98	0.46
24:RA:561:G:H1'	39:RU:45:TYR:HE1	1.79	0.46
24:RA:858:U:O2	24:RA:2268:A:H2'	2.15	0.46
24:RA:1812:A:H2'	24:RA:1813:G:H8	1.81	0.46
24:RA:2557:G:H2'	24:RA:2558:C:C6	2.50	0.46
24:RA:2859:G:H2'	24:RA:2860:A:C8	2.50	0.46
29:RG:120:LEU:HD22	29:RG:133:LEU:HD12	1.98	0.46
37:RS:34:HIS:CE1	37:RS:54:LEU:HD13	2.50	0.46
1:XA:501:C:H2'	1:XA:502:G:C8	2.50	0.46
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.50	0.46
1:XA:1376:U:H2'	1:XA:1377:A:H8	1.78	0.46
4:XD:55:ALA:O	4:XD:59:ARG:HG2	2.15	0.46
7:XG:88:PRO:HG2	7:XG:152:ALA:HB2	1.97	0.46
22:XV:35:C:O2'	22:XV:36:A:OP1	2.28	0.46
24:YA:690:G:H2'	24:YA:691:C:C6	2.50	0.46
31:YI:2:LYS:HA	31:YI:20:ASP:HA	1.97	0.46
1:QA:139:G:H2'	1:QA:140:A:C8	2.50	0.46
1:QA:320:C:HO2'	1:QA:1435:G:HO2'	1.59	0.46
1:QA:434:U:H2'	1:QA:435:C:C6	2.50	0.46
1:QA:878:G:H5'	8:QH:89:PRO:HG2	1.96	0.46
1:QA:1099:G:OP2	2:QB:148:TYR:OH	2.33	0.46
18:QR:44:LEU:HD11	18:QR:79:LEU:HD23	1.96	0.46
24:RA:270(D):C:H2'	24:RA:270(E):G:C8	2.50	0.46
24:RA:946:G:H2'	24:RA:947:G:C8	2.50	0.46
24:RA:1353:A:H2'	24:RA:1354:A:C8	2.50	0.46
24:RA:2102:U:O2	24:RA:2187:G:N2	2.42	0.46
24:RA:2121:G:H2'	24:RA:2122:U:C6	2.51	0.46
24:RA:2515:C:H2'	24:RA:2516:G:H8	1.81	0.46
24:RA:2849:U:H4'	24:RA:2868:A:C2	2.50	0.46
30:RH:169:VAL:HG22	30:RH:171:LEU:HG	1.96	0.46
31:RI:92:VAL:O	31:RI:120:ILE:HG22	2.15	0.46
43:RY:76:CYS:HB3	43:RY:79:CYS:H	1.80	0.46
1:XA:170:U:H2'	1:XA:171:A:H8	1.80	0.46
1:XA:538:G:H2'	1:XA:539:A:H8	1.80	0.46
1:XA:711:G:H2'	1:XA:712:A:H8	1.80	0.46
1:XA:1091:U:C2	1:XA:1095:U:C4	3.04	0.46
18:XR:74:ARG:HD3	18:XR:80:PRO:O	2.15	0.46
20:XT:29:LYS:HD2	20:XT:66:ALA:HB2	1.98	0.46
22:XV:19:G:O2'	22:XV:20:G:H5''	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:389:G:H1	34:YP:71:VAL:HG12	1.80	0.46
24:YA:747:U:O2	24:YA:2014:A:H1'	2.15	0.46
24:YA:960:A:C8	24:YA:962:G:C8	3.04	0.46
24:YA:1178:C:H2'	24:YA:1179:C:C6	2.50	0.46
24:YA:1201:C:C2	24:YA:1202:C:C5	3.04	0.46
24:YA:1248:G:O2'	39:YU:3:ARG:HA	2.15	0.46
24:YA:1359:A:N6	24:YA:1372:U:H3	2.12	0.46
24:YA:1825:A:H2'	24:YA:1826:G:H8	1.80	0.46
24:YA:2514:U:H2'	24:YA:2515:C:C6	2.50	0.46
29:YG:150:ASP:OD1	29:YG:151:ALA:N	2.48	0.46
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.31	0.46
1:QA:1210:C:O2'	1:QA:1213:A:O2'	2.28	0.46
1:QA:1317:C:O2	19:QS:37:ARG:NH1	2.49	0.46
8:QH:120:THR:HG22	8:QH:121:ASP:N	2.30	0.46
15:QO:31:LEU:O	15:QO:34:LEU:HG	2.16	0.46
24:RA:29:U:H2'	24:RA:30:G:C8	2.51	0.46
24:RA:608:A:H2'	24:RA:609:A:C8	2.51	0.46
24:RA:2455:G:H2'	24:RA:2456:C:C6	2.50	0.46
24:RA:2554:U:H2'	24:RA:2555:U:C6	2.50	0.46
24:RA:2696:U:H2'	24:RA:2697:G:H8	1.80	0.46
26:RD:77:ALA:HB2	26:RD:97:TYR:CD1	2.50	0.46
26:RD:136:ILE:CG2	26:RD:140:THR:HG21	2.43	0.46
28:RF:139:PHE:HB2	28:RF:166:ALA:HB1	1.97	0.46
40:RV:52:VAL:HG21	40:RV:55:ALA:HB3	1.97	0.46
44:RZ:181:GLU:HG2	44:RZ:183:LEU:N	2.31	0.46
1:XA:262:A:H2'	1:XA:263:A:C8	2.50	0.46
1:XA:407:G:H2'	1:XA:408:A:H8	1.81	0.46
1:XA:539:A:H2'	1:XA:540:G:C8	2.50	0.46
1:XA:658:G:H2'	1:XA:659:U:H6	1.81	0.46
19:XS:66:MET:HB2	19:XS:74:PHE:CZ	2.49	0.46
24:YA:144:C:H2'	24:YA:145:G:H8	1.80	0.46
24:YA:755:C:H2'	24:YA:756:C:H6	1.80	0.46
36:YR:117:VAL:HG22	36:YR:118:GLU:H	1.81	0.46
47:Y2:28:LYS:HD2	47:Y2:53:LEU:HD11	1.98	0.46
7:QG:32:ARG:NH1	7:QG:33:ASP:OD1	2.48	0.46
10:QJ:6:ILE:HG22	10:QJ:98:ILE:HB	1.97	0.46
22:QV:35:C:H2'	22:QV:36:A:C8	2.50	0.46
24:RA:1587:A:H2'	24:RA:1588:C:C6	2.50	0.46
24:RA:2345:G:O2'	24:RA:2381:C:O2	2.28	0.46
37:RS:39:ILE:HG12	37:RS:49:VAL:HG22	1.96	0.46
1:XA:436:C:H2'	1:XA:437:U:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.81	0.46
1:XA:1488:G:H2'	1:XA:1489:G:H8	1.80	0.46
24:YA:579:G:H2'	24:YA:580:C:H6	1.80	0.46
24:YA:590:A:H2'	24:YA:591:C:C6	2.50	0.46
24:YA:640:C:H2'	24:YA:641:C:C6	2.50	0.46
24:YA:1534:G:H2'	24:YA:1534:G:N3	2.31	0.46
24:YA:2612:C:OP2	50:Y5:2:ALA:N	2.49	0.46
25:YB:8:U:O2'	37:YS:40:ILE:HD13	2.15	0.46
45:Y0:67:VAL:HG22	45:Y0:81:VAL:HG22	1.97	0.46
1:QA:166:G:H2'	1:QA:167:G:H8	1.81	0.46
1:QA:505:G:H2'	1:QA:506:G:C8	2.50	0.46
1:QA:833:U:H3	1:QA:853:G:H1	1.63	0.46
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.33	0.46
24:RA:1046:A:H2'	24:RA:1046:A:N3	2.31	0.46
24:RA:2747:G:H21	24:RA:2757:A:H62	1.63	0.46
31:RI:9:LEU:HD11	31:RI:35:LEU:HD13	1.98	0.46
37:RS:106:ARG:O	37:RS:106:ARG:HD3	2.15	0.46
1:XA:645:C:H2'	1:XA:646:U:C6	2.51	0.46
1:XA:940:C:H2'	1:XA:941:G:C8	2.50	0.46
1:XA:1502:A:H2	1:XA:1505:G:H22	1.59	0.46
3:XC:95:THR:HG22	3:XC:96:GLY:N	2.30	0.46
24:YA:192:C:O2'	24:YA:802:A:N3	2.45	0.46
24:YA:245:G:O6	53:Y8:8:LYS:HE3	2.15	0.46
24:YA:302:C:H2'	24:YA:303:U:C6	2.50	0.46
24:YA:363(A):A:H2'	24:YA:363(B):G:H8	1.79	0.46
24:YA:1138:G:H2'	24:YA:1139:G:O4'	2.15	0.46
28:YF:11:VAL:HG22	28:YF:125:LEU:HB2	1.97	0.46
30:YH:18:GLU:HB3	30:YH:25:LYS:HG3	1.97	0.46
34:YP:29:LYS:HD2	34:YP:29:LYS:O	2.16	0.46
41:YW:65:LEU:HD21	41:YW:68:ARG:NH2	2.30	0.46
1:QA:186(B):C:H2'	1:QA:186(C):G:H8	1.81	0.46
1:QA:1175:G:N2	1:QA:1176:A:H62	2.14	0.46
3:QC:34:LEU:HD13	14:QN:25:VAL:HG21	1.98	0.46
4:QD:154:ASN:O	4:QD:155:LEU:HB2	2.16	0.46
7:QG:69:VAL:HG23	7:QG:100:ALA:HB1	1.97	0.46
16:QP:53:VAL:HG13	16:QP:79:VAL:HG22	1.97	0.46
24:RA:139:G:N2	24:RA:141:A:N1	2.56	0.46
24:RA:396:G:H1'	46:R1:42:GLN:NE2	2.30	0.46
24:RA:978:G:H2'	24:RA:979:G:O4'	2.16	0.46
24:RA:2059:A:H5'	24:RA:2060:A:OP2	2.16	0.46
24:RA:2611:U:O2'	50:R5:2:ALA:HB3	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2618:G:H21	27:RE:150:VAL:HG21	1.81	0.46
25:RB:114:G:O2'	37:RS:50:SER:OG	2.26	0.46
26:RD:218:ARG:HB3	26:RD:219:PRO:HD2	1.97	0.46
27:RE:46:ALA:HB2	27:RE:82:ARG:HA	1.98	0.46
33:RO:64:ARG:HB2	33:RO:83:ALA:HB3	1.97	0.46
1:XA:164:U:H2'	1:XA:165:C:C6	2.51	0.46
1:XA:244:U:H4'	1:XA:245:C:O5'	2.15	0.46
1:XA:337:C:H2'	1:XA:338:A:H8	1.79	0.46
1:XA:412:A:H4'	1:XA:413:G:O5'	2.15	0.46
1:XA:688:G:H2'	1:XA:689:C:C6	2.49	0.46
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.97	0.46
1:XA:1127:G:C2	1:XA:1145:C:C2	3.03	0.46
3:XC:9:GLY:HA3	14:YN:49:HIS:HA	1.97	0.46
6:XF:48:LEU:HD13	6:XF:57:GLN:HA	1.97	0.46
14:YN:46:GLU:O	14:YN:50:LYS:HG2	2.15	0.46
17:XQ:87:LYS:HA	17:XQ:90:ILE:HG22	1.97	0.46
24:YA:395:U:H2'	24:YA:396:G:C8	2.50	0.46
24:YA:588:U:H2'	24:YA:589:C:C6	2.50	0.46
24:YA:861:A:N3	25:YB:79:C:O2'	2.49	0.46
24:YA:1550:C:H2'	24:YA:1551:C:H6	1.80	0.46
24:YA:2783:G:H21	27:YE:37:ARG:NH2	2.08	0.46
25:YB:30:C:OP2	37:YS:32:LEU:HD11	2.15	0.46
25:YB:44:G:H1'	25:YB:47:C:H42	1.79	0.46
26:YD:71:ASP:HB2	26:YD:103:ARG:HH12	1.80	0.46
27:YE:14:ILE:HD12	38:YT:14:TYR:HE2	1.80	0.46
29:YG:5:VAL:HG11	29:YG:101:ILE:HG22	1.98	0.46
30:YH:4:ILE:C	30:YH:6:ARG:H	2.18	0.46
30:YH:9:ILE:CG2	30:YH:49:VAL:HB	2.46	0.46
40:YV:5:VAL:O	40:YV:11:GLN:HA	2.15	0.46
40:YV:22:VAL:HG12	40:YV:23:GLU:N	2.31	0.46
45:Y0:53:MET:HB3	45:Y0:59:LEU:HD23	1.98	0.46
51:Y6:6:ARG:HG3	51:Y6:24:GLU:OE2	2.16	0.46
1:QA:555:C:H2'	1:QA:556:C:C6	2.51	0.46
1:QA:836:G:C6	1:QA:851:G:C6	3.04	0.46
1:QA:939:G:H1	1:QA:1344:C:H42	1.64	0.46
1:QA:1015:A:H2'	1:QA:1016:A:H8	1.81	0.46
3:QC:24:ALA:HB1	3:QC:32:LEU:HD21	1.98	0.46
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.48	0.46
19:QS:41:VAL:HG12	19:QS:67:VAL:HA	1.98	0.46
20:QT:79:ARG:HE	20:QT:83:ARG:HE	1.64	0.46
24:RA:235:U:H2'	24:RA:236:C:H6	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:286:C:H2'	24:RA:287:C:C6	2.51	0.46
24:RA:729:G:H5'	24:RA:730:C:H5''	1.97	0.46
24:RA:1003:G:O2'	24:RA:1010:A:N1	2.48	0.46
24:RA:1321:A:C4	24:RA:1322:A:C8	3.03	0.46
24:RA:2287:A:H61	24:RA:2344:U:H3	1.59	0.46
24:RA:2778:A:H4'	24:RA:2779:U:OP1	2.16	0.46
27:RE:29:GLY:HA2	27:RE:180:ASN:HB3	1.97	0.46
33:RO:101:PRO:HB3	33:RO:122:LEU:HD13	1.97	0.46
53:R8:15:LYS:HG2	53:R8:46:ARG:HH22	1.81	0.46
1:XA:1328:C:H2'	1:XA:1329:A:C8	2.51	0.46
1:XA:1347:G:O2'	1:XA:1348:U:P	2.73	0.46
19:XS:64:GLU:HB2	49:Y4:59:PHE:CE2	2.51	0.46
24:YA:71:A:OP1	24:YA:72:U:H2'	2.16	0.46
24:YA:92:G:H2'	24:YA:93:C:H6	1.80	0.46
24:YA:836:G:H2'	24:YA:837:C:H6	1.81	0.46
24:YA:1000:A:H2'	24:YA:1001:A:C8	2.51	0.46
24:YA:1140:C:OP1	32:YN:23:LEU:HB3	2.16	0.46
24:YA:1190:G:H5'	34:YP:32:THR:HA	1.97	0.46
24:YA:2134:A:N6	24:YA:2157:G:H5'	2.31	0.46
24:YA:2181:G:H2'	24:YA:2182:G:H8	1.81	0.46
24:YA:2349:G:OP2	53:Y8:42:ARG:HD3	2.16	0.46
24:YA:2591:C:H2'	24:YA:2592:G:H8	1.78	0.46
24:YA:2700:C:O2'	24:YA:2701:C:H5'	2.16	0.46
27:YE:61:ARG:O	27:YE:63:LEU:N	2.49	0.46
42:YX:54:VAL:HG22	42:YX:81:VAL:HG12	1.96	0.46
4:QD:148:VAL:HG22	4:QD:152:SER:OG	2.16	0.46
5:QE:110:LEU:O	5:QE:115:VAL:HG22	2.16	0.46
7:QG:78:ARG:NH1	7:QG:80:VAL:HB	2.30	0.46
11:QK:92:GLU:HA	11:QK:95:ILE:HG12	1.98	0.46
24:RA:30:G:H2'	24:RA:31:C:H6	1.77	0.46
24:RA:1918:A:O2'	24:RA:1920:C:N4	2.49	0.46
24:RA:2150:U:H2'	24:RA:2151:G:C8	2.51	0.46
24:RA:2392:A:OP2	24:RA:2422:A:N6	2.47	0.46
24:RA:2591:C:H2'	24:RA:2592:G:H8	1.79	0.46
27:RE:143:ASN:O	27:RE:144:ARG:HG3	2.14	0.46
36:RR:33:ARG:NH1	50:R5:57:VAL:O	2.49	0.46
1:XA:181:G:HO2'	1:XA:182:U:P	2.38	0.46
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.49	0.46
2:XB:207:ALA:O	2:XB:210:SER:N	2.49	0.46
24:YA:99:U:H4'	24:YA:101:G:H5'	1.97	0.46
24:YA:270(E):G:H1	24:YA:270(U):C:H42	1.64	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:324:A:N6	24:YA:338:G:O2'	2.49	0.46
24:YA:499:U:H2'	24:YA:500:G:O4'	2.16	0.46
24:YA:1547:C:H2'	24:YA:1548:C:C6	2.51	0.46
24:YA:2039:C:H2'	24:YA:2040:C:C6	2.51	0.46
24:YA:2547:U:H2'	24:YA:2548:G:C8	2.51	0.46
24:YA:2554:U:H2'	24:YA:2555:U:H6	1.80	0.46
24:YA:2616:C:H2'	24:YA:2617:C:H6	1.80	0.46
24:YA:2683:C:O2	33:YO:70:LYS:HE3	2.15	0.46
26:YD:75:ILE:HD13	26:YD:99:ASP:OD2	2.16	0.46
31:YI:116:LEU:HD11	31:YI:120:ILE:HG23	1.98	0.46
34:YP:106:LEU:HD13	34:YP:112:LEU:HD13	1.98	0.46
51:Y6:24:GLU:O	51:Y6:25:LYS:HG3	2.15	0.46
1:QA:486:U:H2'	1:QA:487:A:H8	1.81	0.46
1:QA:718:G:C8	11:QK:116:HIS:HB3	2.50	0.46
1:QA:825:G:H2'	1:QA:826:C:H6	1.81	0.46
1:QA:972:C:O2	10:QJ:55:LYS:HG2	2.16	0.46
1:QA:1438:G:H2'	1:QA:1439:C:H6	1.80	0.46
2:QB:178:ARG:NH2	8:QH:74:PRO:HB3	2.31	0.46
3:QC:91:LEU:O	3:QC:95:THR:HG22	2.16	0.46
4:QD:173:TRP:CD2	4:QD:189:PRO:HB3	2.51	0.46
10:QJ:8:LEU:HB2	10:QJ:70:ARG:HB2	1.98	0.46
19:QS:40:ILE:HD13	19:QS:71:LEU:HD13	1.97	0.46
24:RA:123:G:H2'	24:RA:124:G:O4'	2.16	0.46
24:RA:232:G:OP2	24:RA:232:G:H8	1.98	0.46
24:RA:566:U:OP1	34:RP:29:LYS:HE3	2.15	0.46
24:RA:1084:A:H5''	24:RA:1085:A:C8	2.51	0.46
24:RA:1543:A:H1'	24:RA:1545:A:O4'	2.15	0.46
24:RA:1937:A:N7	24:RA:1939:U:O2'	2.40	0.46
24:RA:2630:G:H2'	24:RA:2631:G:H8	1.81	0.46
25:RB:13:A:N1	25:RB:69:G:O2'	2.30	0.46
27:RE:84:PHE:CZ	27:RE:86:PRO:HB3	2.51	0.46
35:RQ:77:LYS:HD3	35:RQ:80:GLU:HB2	1.97	0.46
40:RV:1:MET:HG3	40:RV:42:GLY:HA3	1.97	0.46
40:RV:18:LEU:HB3	40:RV:96:ILE:HD13	1.97	0.46
49:R4:47:GLN:HE22	49:R4:49:PHE:HB2	1.81	0.46
1:XA:315:A:H5''	1:XA:317:G:OP2	2.16	0.46
1:XA:373:A:C2	1:XA:374:A:C8	3.03	0.46
1:XA:540:G:H2'	1:XA:541:G:O4'	2.15	0.46
1:XA:1224:G:O2'	1:XA:1322:C:OP2	2.33	0.46
1:XA:1336:C:H1'	1:XA:1337:G:C6	2.51	0.46
6:XF:30:LEU:HB3	6:XF:35:ALA:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:48:LEU:HD13	13:XM:52:GLU:HG3	1.97	0.46
15:XO:39:LEU:HD23	15:XO:56:LEU:HB2	1.96	0.46
19:XS:39:THR:HG22	19:XS:40:ILE:N	2.31	0.46
19:XS:39:THR:HG22	19:XS:40:ILE:H	1.81	0.46
24:YA:248:G:H5'	24:YA:250:G:N7	2.30	0.46
24:YA:1041:C:H2'	24:YA:1042:G:H8	1.80	0.46
24:YA:1469:A:H2'	24:YA:1470:G:O4'	2.15	0.46
24:YA:1728:G:H5'	24:YA:1729:A:OP2	2.16	0.46
24:YA:1882:C:H5'	24:YA:1883:G:OP2	2.16	0.46
24:YA:2247:A:H2'	24:YA:2248:C:H6	1.80	0.46
27:YE:1:MET:O	27:YE:84:PHE:HB2	2.16	0.46
32:YN:33:LEU:HD21	32:YN:137:LYS:HE2	1.98	0.46
34:YP:91:PHE:CE2	34:YP:95:VAL:HG22	2.51	0.46
36:YR:76:VAL:HA	36:YR:79:LEU:HG	1.98	0.46
37:YS:106:ARG:HB2	37:YS:110:LEU:HG	1.98	0.46
1:QA:645:C:H2'	1:QA:646:U:C6	2.51	0.45
1:QA:861:G:O6	1:QA:869:G:N2	2.49	0.45
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.16	0.45
1:QA:1264:C:H2'	1:QA:1265:G:C8	2.51	0.45
11:QK:82:VAL:O	11:QK:108:ILE:HA	2.15	0.45
13:QM:40:ASN:O	13:QM:43:THR:HG22	2.17	0.45
24:RA:50:U:H3'	24:RA:51:G:H5'	1.98	0.45
24:RA:219:G:N3	24:RA:234:C:O2'	2.43	0.45
24:RA:2245:U:H5'	24:RA:2246:G:C5'	2.42	0.45
34:RP:97:PRO:C	34:RP:99:LEU:H	2.20	0.45
2:XB:87:ARG:HH21	2:XB:219:VAL:CG1	2.29	0.45
2:XB:185:ILE:HA	2:XB:199:TYR:O	2.15	0.45
16:XP:22:THR:HG22	16:XP:32:TYR:HB3	1.97	0.45
24:YA:935:C:H2'	24:YA:936:C:H6	1.80	0.45
24:YA:969:U:OP1	48:Y3:17:LYS:HG3	2.16	0.45
26:YD:155:LEU:HD23	26:YD:177:LEU:HD22	1.98	0.45
27:YE:3:GLY:HA3	27:YE:81:ILE:HG21	1.98	0.45
31:YI:69:LYS:HA	31:YI:136:VAL:HG21	1.96	0.45
39:YU:104:GLN:HG3	40:YV:44:LYS:HD3	1.98	0.45
1:QA:102:G:O2'	1:QA:151:A:N3	2.43	0.45
1:QA:126:G:H5'	1:QA:633:G:N2	2.31	0.45
1:QA:512:U:H2'	1:QA:513:C:C6	2.51	0.45
1:QA:939:G:H1	1:QA:1344:C:N4	2.14	0.45
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.52	0.45
4:QD:18:LYS:HG2	4:QD:20:TYR:CE1	2.51	0.45
5:QE:82:VAL:HG21	5:QE:138:ALA:HA	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:QL:84:LEU:HD23	12:QL:101:VAL:HG21	1.98	0.45
24:RA:110:G:C2	24:RA:111:A:C8	3.05	0.45
24:RA:177:G:H3'	24:RA:178:G:C8	2.51	0.45
24:RA:1689:A:OP2	24:RA:1698:A:N6	2.37	0.45
24:RA:1969:A:O2'	24:RA:1972:A:N3	2.36	0.45
24:RA:2019:A:O4'	39:RU:34:LYS:NZ	2.50	0.45
24:RA:2564:A:OP1	24:RA:2648:C:H4'	2.16	0.45
24:RA:2708:G:H5'	36:RR:68:ARG:HB2	1.97	0.45
27:RE:34:VAL:HG12	27:RE:64:LYS:HZ2	1.81	0.45
28:RF:67:GLN:HG3	28:RF:74:ARG:HB2	1.99	0.45
29:RG:116:ASP:O	29:RG:118:ARG:HD2	2.16	0.45
30:RH:25:LYS:HD3	30:RH:34:GLU:HB3	1.97	0.45
30:RH:55:PRO:HD2	30:RH:61:HIS:NE2	2.31	0.45
31:RI:14:ASP:O	31:RI:16:GLY:N	2.43	0.45
34:RP:125:VAL:HG11	34:RP:138:LEU:HD21	1.97	0.45
46:R1:12:PRO:HB3	46:R1:43:TYR:HA	1.98	0.45
50:R5:51:TYR:CE1	50:R5:56:LYS:HB3	2.51	0.45
1:XA:374:A:C6	1:XA:375:U:C4	3.05	0.45
1:XA:1262:C:H2'	1:XA:1263:C:C6	2.50	0.45
1:XA:1321:C:C3'	1:XA:1322:C:H5''	2.46	0.45
1:XA:1402:C:H2'	1:XA:1403:C:O4'	2.16	0.45
12:XL:84:LEU:HB2	12:XL:105:TYR:CD2	2.50	0.45
16:XP:6:LEU:HB2	16:XP:17:TYR:HB3	1.97	0.45
23:XX:14:A:H3'	23:XX:15:A:C8	2.51	0.45
24:YA:301:G:C4	24:YA:302:C:C5	3.04	0.45
24:YA:415:A:H2'	24:YA:416:C:H6	1.81	0.45
24:YA:1364:G:N7	46:Y1:2:SER:N	2.64	0.45
24:YA:1448:G:H5'	24:YA:1449:A:OP1	2.16	0.45
24:YA:1816:G:H8	26:YD:62:TYR:CZ	2.33	0.45
24:YA:1978:A:H2'	24:YA:1979:C:O4'	2.17	0.45
52:Y7:17:GLY:O	52:Y7:21:ARG:HG2	2.16	0.45
3:QC:121:ALA:O	3:QC:125:GLU:HG3	2.16	0.45
3:QC:127:ARG:O	3:QC:127:ARG:HD3	2.16	0.45
10:QJ:12:ASP:HB3	10:QJ:15:THR:HG22	1.97	0.45
18:QR:22:VAL:O	18:QR:25:THR:HG22	2.17	0.45
22:QV:35:C:H2'	22:QV:36:A:H8	1.82	0.45
24:RA:813:U:H2'	24:RA:814:C:C6	2.51	0.45
24:RA:1069:A:H2'	24:RA:1073:A:N7	2.31	0.45
24:RA:1093:G:H21	24:RA:1098:A:H62	1.62	0.45
24:RA:1203:G:H3'	24:RA:1204:A:H5''	1.98	0.45
24:RA:1542:G:C6	24:RA:1543:A:N6	2.84	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2611:U:C4	50:R5:3:LYS:HG2	2.51	0.45
26:RD:242:ARG:O	26:RD:244:ARG:N	2.49	0.45
27:RE:144:ARG:HB3	27:RE:145:LYS:H	1.62	0.45
35:RQ:1:MET:H1	35:RQ:48:GLU:HG3	1.80	0.45
35:RQ:65:PHE:O	35:RQ:67:ARG:N	2.48	0.45
44:RZ:6:LYS:HD3	44:RZ:8:TYR:CZ	2.51	0.45
1:XA:835:U:OP1	18:XR:64:ARG:NH2	2.44	0.45
1:XA:1095:U:P	1:XA:1108:G:H1	2.39	0.45
4:XD:18:LYS:NZ	4:XD:31:CYS:O	2.37	0.45
24:YA:709:U:H2'	24:YA:710:G:H8	1.82	0.45
24:YA:991:C:O2'	40:YV:85:LYS:NZ	2.50	0.45
24:YA:1309:G:H4'	52:Y7:7:PRO:HB2	1.98	0.45
24:YA:1814:G:H4'	26:YD:51:VAL:HG21	1.96	0.45
24:YA:2123:G:H2'	24:YA:2124:G:C8	2.52	0.45
24:YA:2529:G:H5''	24:YA:2530:A:H5''	1.98	0.45
24:YA:2857:G:N2	24:YA:2860:A:OP2	2.41	0.45
27:YE:47:VAL:HG11	27:YE:84:PHE:HD2	1.80	0.45
29:YG:16:ARG:NH2	29:YG:28:VAL:O	2.50	0.45
37:YS:87:PHE:HE1	37:YS:101:LEU:HD12	1.81	0.45
39:YU:50:ARG:HH21	40:YV:70:ILE:HD12	1.81	0.45
42:YX:39:ILE:O	42:YX:43:VAL:HG12	2.16	0.45
1:QA:890:G:O2'	1:QA:906:G:O6	2.21	0.45
1:QA:1238:A:H62	1:QA:1301:U:H3	1.65	0.45
1:QA:1499:A:H1'	1:QA:1520:G:H5'	1.98	0.45
2:QB:76:GLN:NE2	2:QB:206:ASP:OD1	2.49	0.45
6:QF:6:VAL:HG22	6:QF:90:VAL:HG12	1.98	0.45
8:QH:20:TYR:CE2	8:QH:75:ARG:HD3	2.52	0.45
12:QL:44:THR:HA	12:QL:45:PRO:HD3	1.80	0.45
13:QM:23:TYR:HB3	13:QM:67:GLU:CG	2.42	0.45
19:QS:18:LYS:HG2	19:QS:31:ILE:HD12	1.98	0.45
24:RA:1204:A:H1'	24:RA:1206:G:C5	2.52	0.45
27:RE:120:TRP:CD2	27:RE:155:LYS:HD2	2.51	0.45
29:RG:35:GLU:HG3	29:RG:36:LYS:HB2	1.98	0.45
34:RP:47:ASP:OD2	34:RP:50:ARG:NH2	2.49	0.45
42:RX:40:LYS:HA	42:RX:43:VAL:HG12	1.98	0.45
53:R8:15:LYS:HE3	53:R8:23:VAL:HB	1.98	0.45
1:XA:362:G:N2	1:XA:365:U:OP2	2.47	0.45
1:XA:1014:A:H2	1:XA:1219:U:H1'	1.80	0.45
3:XC:122:GLU:OE2	3:XC:126:ARG:NH1	2.49	0.45
4:XD:155:LEU:O	4:XD:158:ILE:HG22	2.16	0.45
5:XE:8:GLU:HG2	5:XE:34:VAL:HG12	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:13:ILE:O	8:XH:17:THR:HG23	2.16	0.45
8:XH:121:ASP:O	8:XH:125:ARG:HD3	2.17	0.45
10:XJ:51:ARG:HG2	14:XN:45:ARG:HH12	1.81	0.45
19:XS:31:ILE:HD11	19:XS:49:ILE:HG23	1.97	0.45
21:XU:14:TRP:HZ3	21:XU:15:ARG:NH1	2.15	0.45
24:YA:724:U:H2'	24:YA:725:G:O4'	2.16	0.45
24:YA:1252:G:C2	39:YU:33:ARG:HB2	2.52	0.45
24:YA:1293:C:H2'	24:YA:1294:U:H6	1.80	0.45
24:YA:1485:G:O6	24:YA:1505:C:N4	2.50	0.45
24:YA:1853:A:H2'	24:YA:1854:A:H8	1.81	0.45
24:YA:2181:G:C2	24:YA:2182:G:C5	3.04	0.45
24:YA:2650:U:H2'	24:YA:2651:C:H6	1.81	0.45
31:YI:14:ASP:OD1	31:YI:17:GLN:HB2	2.16	0.45
43:YY:96:ILE:HG13	43:YY:98:VAL:HG13	1.99	0.45
48:Y3:8:LEU:HD13	48:Y3:23:LEU:HD11	1.98	0.45
1:QA:338:A:H2'	1:QA:339:C:C6	2.50	0.45
9:QI:25:LYS:N	9:QI:60:ASP:OD1	2.45	0.45
24:RA:586:A:H5'	28:RF:89:VAL:HG21	1.98	0.45
24:RA:1012:U:O4	32:RN:28:THR:OG1	2.21	0.45
24:RA:1196:C:C2	24:RA:1197:G:C8	3.05	0.45
24:RA:1316:U:H2'	24:RA:1317:A:C8	2.51	0.45
24:RA:1397:U:OP2	24:RA:1398:C:N4	2.44	0.45
24:RA:2183:C:H2'	24:RA:2184:G:C8	2.52	0.45
24:RA:2553:G:C2	24:RA:2583:G:H1'	2.52	0.45
24:RA:2590:A:H2'	24:RA:2591:C:C6	2.52	0.45
24:RA:2745:C:H2'	24:RA:2746:U:C6	2.51	0.45
33:RO:47:ILE:HG13	33:RO:48:PRO:HD2	1.98	0.45
1:XA:1000:A:H2'	1:XA:1001:G:H8	1.82	0.45
1:XA:1321:C:H3'	1:XA:1322:C:H5''	1.98	0.45
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.17	0.45
1:XA:1459:C:H4'	20:XT:24:LEU:HD11	1.98	0.45
3:XC:84:ILE:HG12	3:XC:88:ARG:NH1	2.32	0.45
7:XG:64:GLN:HE21	7:XG:68:ASN:ND2	2.15	0.45
9:XI:112:LYS:HE2	9:XI:117:HIS:O	2.16	0.45
13:XM:4:ILE:H	13:XM:9:ILE:HG22	1.81	0.45
24:YA:742:G:H2'	24:YA:743:G:H8	1.81	0.45
24:YA:2807:G:H22	24:YA:2893:G:H1	1.65	0.45
27:YE:2:LYS:HA	27:YE:84:PHE:CD1	2.51	0.45
27:YE:92:THR:HG22	27:YE:93:VAL:N	2.32	0.45
31:YI:69:LYS:HG3	31:YI:136:VAL:HG23	1.98	0.45
35:YQ:17:LEU:HD13	35:YQ:39:PRO:HB2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:6:G:O2'	1:QA:298:A:H1'	2.17	0.45
1:QA:842:C:O2'	1:QA:848:C:N4	2.50	0.45
1:QA:1007:C:H2'	1:QA:1008:C:C6	2.52	0.45
1:QA:1135:U:H4'	1:QA:1136:U:H5	1.81	0.45
3:QC:78:GLY:C	3:QC:79:ARG:HG3	2.37	0.45
19:QS:15:LEU:H	19:QS:15:LEU:HD23	1.81	0.45
24:RA:350:U:H2'	24:RA:351:G:O4'	2.16	0.45
24:RA:532:A:H4'	24:RA:533:G:C8	2.52	0.45
24:RA:638:G:H2'	24:RA:639:U:H6	1.80	0.45
24:RA:686:G:N2	24:RA:788:A:H61	2.15	0.45
24:RA:846:C:O2'	24:RA:847:U:OP2	2.27	0.45
24:RA:1181:C:H2'	24:RA:1182:A:C8	2.51	0.45
24:RA:1709:U:H2'	24:RA:1710:C:C6	2.52	0.45
28:RF:40:GLN:NE2	28:RF:182:ASN:HB2	2.31	0.45
44:RZ:91:LEU:HD12	44:RZ:91:LEU:O	2.17	0.45
1:XA:626:U:H2'	1:XA:627:G:C8	2.51	0.45
8:XH:43:GLY:O	8:XH:64:LYS:HD3	2.17	0.45
12:XL:42:THR:HG22	12:XL:54:LYS:HG3	1.99	0.45
16:XP:26:ARG:HD2	16:XP:31:LYS:H	1.80	0.45
24:YA:626:U:O4	34:YP:81:GLN:NE2	2.46	0.45
24:YA:634:C:H2'	24:YA:635:C:H6	1.80	0.45
24:YA:1562:A:H2'	24:YA:1563:G:C8	2.52	0.45
24:YA:1788:C:H5''	26:YD:225:ALA:HB1	1.99	0.45
24:YA:1826:G:H4'	26:YD:242:ARG:NE	2.32	0.45
24:YA:2661:G:H2'	24:YA:2662:A:C8	2.52	0.45
29:YG:63:ILE:HD12	29:YG:141:PHE:HD2	1.82	0.45
36:YR:113:LEU:HD11	50:Y5:58:LEU:HD23	1.98	0.45
43:YY:77:PRO:HD3	43:YY:106:LEU:HD23	1.99	0.45
45:Y0:38:VAL:HG22	45:Y0:59:LEU:HB2	1.97	0.45
1:QA:344:A:OP2	1:QA:345:C:N4	2.49	0.45
1:QA:1137:C:HO2'	1:QA:1138:G:N2	2.15	0.45
24:RA:322:A:OP2	28:RF:169:ASN:HB2	2.16	0.45
24:RA:2023:G:H5'	24:RA:2617:C:H4'	1.99	0.45
24:RA:2285:C:H5'	24:RA:2288:A:N6	2.31	0.45
24:RA:2749:A:H5'	30:RH:6:ARG:HD3	1.98	0.45
28:RF:186:ILE:HD12	28:RF:192:LEU:HD11	1.99	0.45
41:RW:9:TYR:CD1	41:RW:102:HIS:HE1	2.35	0.45
46:R1:87:PRO:HA	46:R1:90:ILE:HG13	1.98	0.45
1:XA:69:G:H2'	1:XA:73:G:C8	2.52	0.45
1:XA:509:A:H3'	1:XA:509:A:OP2	2.16	0.45
1:XA:1347:G:C8	9:XI:107:ARG:HB3	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:455:C:HO2'	24:YA:472:A:H2	1.63	0.45
24:YA:631:A:OP1	34:YP:64:LYS:HE2	2.16	0.45
24:YA:1505:C:H2'	24:YA:1506:C:C6	2.51	0.45
24:YA:2182:G:H2'	24:YA:2183:C:C6	2.52	0.45
24:YA:2717:G:H1'	38:YT:96:ARG:NH2	2.31	0.45
25:YB:57:A:C8	29:YG:27:ASN:ND2	2.85	0.45
31:YI:74:ASN:OD1	31:YI:75:LEU:N	2.46	0.45
35:YQ:41:TRP:HB3	35:YQ:94:VAL:HB	1.99	0.45
37:YS:28:VAL:HG11	37:YS:98:VAL:HG12	1.99	0.45
1:QA:768:A:N3	1:QA:1512:U:O2'	2.50	0.45
1:QA:1073:U:C2	1:QA:1074:G:C8	3.04	0.45
1:QA:1281:U:H5''	1:QA:1282:C:H5	1.82	0.45
1:QA:1372:U:OP1	9:QI:72:GLY:N	2.49	0.45
2:QB:88:ALA:HB2	2:QB:219:VAL:HG13	1.98	0.45
3:QC:120:VAL:HA	3:QC:123:GLN:HG2	1.99	0.45
12:QL:57:LYS:HA	12:QL:67:THR:HA	1.99	0.45
22:QV:15:G:H1	22:QV:49:C:H5	1.63	0.45
24:RA:38:A:H2'	24:RA:39:C:C6	2.51	0.45
24:RA:903:C:H2'	24:RA:904:C:C6	2.49	0.45
24:RA:1064:C:H2'	24:RA:1065:U:O4'	2.17	0.45
25:RB:84:C:OP1	48:R3:15:TYR:OH	2.35	0.45
35:RQ:68:ILE:HD13	35:RQ:97:VAL:HG12	1.99	0.45
40:RV:99:ILE:H	40:RV:99:ILE:HG13	1.70	0.45
1:XA:626:U:H2'	1:XA:627:G:H8	1.81	0.45
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.64	0.45
22:XV:17:C:H3'	22:XV:18:U:H2'	1.99	0.45
24:YA:29:U:H4'	39:YU:7:GLY:O	2.17	0.45
24:YA:507:A:H5''	24:YA:508:G:H5'	1.98	0.45
24:YA:1664:A:H61	24:YA:1996:C:H42	1.63	0.45
30:YH:99:VAL:HG12	30:YH:104:GLU:HB2	1.99	0.45
35:YQ:43:THR:HG22	35:YQ:94:VAL:HG12	1.99	0.45
35:YQ:66:ILE:HG13	35:YQ:67:ARG:N	2.31	0.45
36:YR:96:ARG:O	36:YR:114:VAL:HA	2.16	0.45
42:YX:28:PHE:CE1	42:YX:92:LEU:HD11	2.52	0.45
49:Y4:61:ARG:HD2	49:Y4:62:ARG:HA	1.97	0.45
1:QA:645:C:H2'	1:QA:646:U:H6	1.82	0.45
1:QA:1443:G:H5'	1:QA:1446:A:OP2	2.17	0.45
18:QR:85:LEU:HD23	18:QR:88:LYS:HD2	1.98	0.45
24:RA:468:G:H2'	24:RA:469:G:O4'	2.17	0.45
24:RA:612:G:N2	24:RA:617:G:C5	2.84	0.45
24:RA:1709:U:H2'	24:RA:1710:C:H6	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1790:C:H5'	24:RA:1791:A:OP1	2.17	0.45
24:RA:2373:G:H2'	24:RA:2374:C:C6	2.52	0.45
24:RA:2649:U:H2'	24:RA:2650:U:H6	1.82	0.45
26:RD:145:VAL:HG22	26:RD:191:ALA:HB1	1.99	0.45
28:RF:64:ILE:HG21	28:RF:78:ILE:HD11	1.98	0.45
30:RH:127:GLU:O	30:RH:129:THR:N	2.50	0.45
51:R6:11:LEU:HB3	51:R6:49:HIS:HB3	1.97	0.45
1:XA:542:G:O3'	4:XD:14:ARG:NH2	2.42	0.45
1:XA:560:U:H5'	1:XA:566:G:N2	2.32	0.45
1:XA:659:U:H2'	1:XA:660:G:H8	1.82	0.45
1:XA:777:A:H2'	1:XA:778:G:C8	2.51	0.45
1:XA:997:U:N3	1:XA:998:G:N7	2.65	0.45
3:XC:108:ASN:ND2	3:XC:111:LEU:HD13	2.31	0.45
8:XH:123:GLU:O	8:XH:127:LEU:HD13	2.17	0.45
13:XM:45:VAL:HA	13:XM:48:LEU:HD23	1.98	0.45
24:YA:1492:G:H3'	24:YA:1493:C:H5'	1.97	0.45
24:YA:1935:G:H1'	24:YA:1964:G:N2	2.32	0.45
38:YT:94:ALA:HB1	38:YT:99:LEU:HD11	1.99	0.45
40:YV:7:THR:HG23	40:YV:22:VAL:HG11	1.99	0.45
44:YZ:59:LEU:O	44:YZ:61:LEU:N	2.41	0.45
44:YZ:124:ILE:CG2	44:YZ:163:LEU:HD11	2.47	0.45
52:Y7:29:LYS:HD3	52:Y7:32:LYS:HD2	1.99	0.45
1:QA:542:G:P	4:QD:10:ARG:HH22	2.40	0.45
1:QA:678:U:H2'	1:QA:679:C:C6	2.52	0.45
1:QA:791:G:N2	1:QA:1497:G:H4'	2.32	0.45
1:QA:1376:U:P	7:QG:94:ARG:HH21	2.40	0.45
9:QI:45:ALA:O	9:QI:48:GLU:HG2	2.16	0.45
19:QS:32:LYS:HB3	19:QS:57:HIS:CE1	2.52	0.45
24:RA:1079:C:H2'	24:RA:1080:C:O4'	2.17	0.45
24:RA:1085:A:O2'	24:RA:1086:A:OP1	2.35	0.45
24:RA:1389:G:H2'	24:RA:1390:U:H6	1.81	0.45
24:RA:1412:A:H2'	24:RA:1413:G:H8	1.82	0.45
24:RA:1590:U:H2'	24:RA:1591:G:H8	1.82	0.45
24:RA:1732:A:C2	24:RA:1733:G:H1'	2.52	0.45
24:RA:2246:G:H2'	24:RA:2247:A:H8	1.82	0.45
24:RA:2461:C:H2'	24:RA:2462:U:C6	2.52	0.45
25:RB:3:C:C2	25:RB:118:G:N2	2.85	0.45
26:RD:166:GLN:HB2	26:RD:174:ILE:HG13	1.98	0.45
27:RE:44:TYR:HE2	27:RE:80:GLU:OE2	2.00	0.45
30:RH:15:VAL:HG11	30:RH:79:VAL:HG21	1.99	0.45
42:RX:33:LYS:O	42:RX:33:LYS:HD3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RZ:19:ARG:NH1	44:RZ:84:GLU:HB2	2.32	0.45
50:R5:41:PRO:O	50:R5:44:THR:OG1	2.31	0.45
1:XA:676:A:H2'	1:XA:677:U:H6	1.81	0.45
1:XA:755:G:OP2	15:XO:65:ARG:HD2	2.17	0.45
1:XA:945:G:C2	1:XA:946:A:C8	3.04	0.45
1:XA:1127:G:C2	1:XA:1145:C:O2	2.70	0.45
1:XA:1179:A:H4'	9:XI:103:THR:HA	1.98	0.45
1:XA:1213:A:N6	1:XA:1215:G:N3	2.65	0.45
3:XC:47:LEU:HD23	3:XC:52:LEU:HD13	2.00	0.45
7:XG:38:LEU:O	7:XG:42:ILE:HG12	2.17	0.45
10:XJ:57:LYS:HE3	10:XJ:60:ARG:HH22	1.81	0.45
24:YA:863:A:H2'	24:YA:864:G:H8	1.81	0.45
24:YA:1084:A:O2'	24:YA:1106:G:H5'	2.17	0.45
24:YA:1097:U:H3'	24:YA:1098:A:H8	1.80	0.45
24:YA:1870:C:H2'	24:YA:1871:A:O4'	2.16	0.45
24:YA:2139:C:N3	24:YA:2153:G:N2	2.64	0.45
24:YA:2175:C:H2'	24:YA:2176:A:C8	2.52	0.45
24:YA:2415:G:H4'	34:YP:67:MET:N	2.31	0.45
35:YQ:20:ALA:HA	35:YQ:98:LYS:HD3	1.98	0.45
39:YU:92:ARG:C	39:YU:94:ASN:N	2.70	0.45
53:Y8:34:TRP:CE3	53:Y8:35:GLN:HB3	2.52	0.45
1:QA:730:G:C5	1:QA:731:G:H1'	2.52	0.44
1:QA:1148:U:H4'	9:QI:14:VAL:HG11	1.99	0.44
8:QH:51:VAL:HG21	8:QH:60:ARG:HB2	1.98	0.44
9:QI:10:ARG:HG3	9:QI:79:LEU:CD1	2.47	0.44
12:QL:32:PHE:HA	12:QL:85:ILE:O	2.17	0.44
17:QQ:42:TYR:HD2	17:QQ:59:ILE:HD11	1.82	0.44
24:RA:345:A:H2'	24:RA:347:A:H62	1.81	0.44
24:RA:435:C:H2'	24:RA:436:C:H5'	1.98	0.44
24:RA:813:U:H2'	24:RA:814:C:H6	1.82	0.44
24:RA:827:U:H1'	24:RA:2246:G:O2'	2.16	0.44
24:RA:1025:G:C4	24:RA:1135:C:H1'	2.52	0.44
24:RA:2029:G:H2'	24:RA:2031:A:OP1	2.17	0.44
34:RP:95:VAL:HB	34:RP:125:VAL:HG23	1.99	0.44
36:RR:38:VAL:HB	36:RR:39:PRO:HD3	1.99	0.44
37:RS:3:ARG:HG2	37:RS:4:LEU:HD23	1.98	0.44
38:RT:49:VAL:HG23	38:RT:62:THR:O	2.17	0.44
39:RU:34:LYS:HD3	39:RU:34:LYS:HA	1.70	0.44
41:RW:21:VAL:HG21	41:RW:76:VAL:HG23	1.99	0.44
48:R3:46:ASN:O	48:R3:50:VAL:HG22	2.17	0.44
1:XA:323:U:OP1	20:XT:23:ARG:HD3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:450:G:N7	1:XA:481:G:C6	2.85	0.44
1:XA:683:G:H2'	1:XA:684:A:C8	2.52	0.44
2:XB:109:SER:O	2:XB:112:VAL:HG22	2.18	0.44
3:XC:22:TRP:HZ3	3:XC:24:ALA:HB2	1.82	0.44
4:XD:187:ARG:NH1	4:XD:193:ASP:OD2	2.31	0.44
10:XJ:57:LYS:O	10:XJ:60:ARG:NH2	2.48	0.44
10:XJ:64:GLU:OE1	10:XJ:66:ARG:HG3	2.18	0.44
24:YA:612:G:N2	24:YA:617:G:C5	2.85	0.44
24:YA:666:G:N2	53:Y8:2:PRO:O	2.50	0.44
24:YA:728:G:H4'	26:YD:13:ARG:HD2	1.99	0.44
24:YA:910:A:C5	35:YQ:13:GLN:HG3	2.51	0.44
24:YA:1430:C:H2'	24:YA:1431:U:H6	1.81	0.44
24:YA:2395:C:H2'	24:YA:2396:G:O4'	2.17	0.44
29:YG:66:GLN:NE2	29:YG:93:THR:O	2.50	0.44
30:YH:121:ILE:HD11	30:YH:133:VAL:HG22	1.99	0.44
33:YO:63:VAL:HG12	33:YO:106:LEU:HD21	1.98	0.44
44:YZ:54:HIS:CD2	44:YZ:101:PRO:HG3	2.52	0.44
1:QA:357:G:O2'	31:YI:89:TYR:O	2.29	0.44
1:QA:575:G:HO2'	1:QA:821:G:H5'	1.82	0.44
1:QA:600:C:H2'	1:QA:601:C:C6	2.52	0.44
1:QA:1028:C:H2'	1:QA:1028(A):C:C6	2.52	0.44
1:QA:1236:A:O2'	1:QA:1334:G:N2	2.51	0.44
1:QA:1321:C:H3'	1:QA:1322:C:H5''	1.98	0.44
16:QP:69:THR:O	16:QP:72:ARG:HG3	2.18	0.44
24:RA:820:A:H4'	24:RA:836:G:H22	1.81	0.44
25:RB:44:G:H5''	25:RB:45:A:OP1	2.17	0.44
26:RD:90:ALA:HB3	26:RD:106:ILE:HD11	2.00	0.44
31:RI:128:LEU:O	31:RI:137:PRO:HA	2.17	0.44
38:RT:26:ASP:HB2	38:RT:90:GLN:O	2.17	0.44
40:RV:54:GLY:O	40:RV:100:ARG:NH1	2.50	0.44
44:RZ:91:LEU:HD13	44:RZ:130:PRO:HB3	1.99	0.44
1:XA:728:A:H2'	1:XA:729:A:H8	1.82	0.44
1:XA:760:G:O2'	17:XQ:98:LEU:HD23	2.17	0.44
1:XA:939:G:H2'	1:XA:940:C:C6	2.52	0.44
2:XB:106:LYS:O	2:XB:110:GLN:HG3	2.18	0.44
16:XP:43:LYS:HE3	16:XP:48:TRP:CD2	2.53	0.44
17:XQ:18:THR:OG1	17:XQ:69:LYS:NZ	2.28	0.44
18:XR:31:LEU:HD23	18:XR:31:LEU:H	1.82	0.44
24:YA:507:A:C5'	24:YA:508:G:H5'	2.47	0.44
24:YA:797:C:OP2	28:YF:62:ARG:HB3	2.16	0.44
24:YA:911:A:H2'	35:YQ:9:TYR:HE2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2369:A:H2'	24:YA:2370:G:H8	1.81	0.44
24:YA:2648:C:H2'	24:YA:2649:U:H6	1.82	0.44
24:YA:2747:G:O6	24:YA:2755:C:H5''	2.17	0.44
28:YF:123:LEU:HD13	28:YF:192:LEU:HD23	2.00	0.44
37:YS:27:SER:HA	37:YS:88:ASP:HB3	1.98	0.44
53:Y8:26:LYS:HG2	53:Y8:47:LYS:HD2	1.98	0.44
1:QA:168:G:H2'	1:QA:169:C:H5''	2.00	0.44
1:QA:683:G:C6	1:QA:684:A:C6	3.05	0.44
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.28	0.44
2:QB:204:ASN:HB3	2:QB:210:SER:OG	2.17	0.44
3:QC:12:LEU:O	3:QC:18:TRP:NE1	2.31	0.44
4:QD:3:ARG:HH11	4:QD:118:ARG:HG3	1.82	0.44
9:QI:83:ARG:HB2	9:QI:102:LEU:HD13	1.99	0.44
24:RA:345:A:H5''	24:RA:346:A:OP1	2.16	0.44
24:RA:606:U:H4'	24:RA:658:C:H4'	1.99	0.44
24:RA:824:A:H1'	24:RA:2358:G:N7	2.33	0.44
24:RA:1178:C:H4'	24:RA:1179:C:OP1	2.16	0.44
24:RA:1309:G:H4'	52:R7:7:PRO:HB2	1.99	0.44
24:RA:1346:G:C6	24:RA:1601:G:C6	3.06	0.44
24:RA:1754:C:H2'	24:RA:1755:A:C8	2.52	0.44
24:RA:2064:C:H2'	24:RA:2065:C:H6	1.82	0.44
24:RA:2118:U:H3	24:RA:2148:G:H4'	1.81	0.44
24:RA:2779:U:O2'	24:RA:2781:A:N7	2.50	0.44
26:RD:81:ALA:HB3	26:RD:94:LEU:HB3	1.99	0.44
26:RD:182:LEU:HB2	26:RD:271:ILE:HB	1.99	0.44
29:RG:68:PRO:HG2	29:RG:90:LEU:HD23	2.00	0.44
30:RH:103:LEU:HD13	30:RH:123:PHE:CZ	2.52	0.44
49:R4:62:ARG:NH2	49:R4:65:ASP:OD2	2.51	0.44
1:XA:978:A:C4	1:XA:1319:A:C2	3.04	0.44
1:XA:1151:A:H1'	10:XJ:39:PRO:CG	2.47	0.44
2:XB:70:PHE:HD2	2:XB:85:ALA:HB2	1.82	0.44
5:XE:107:ARG:HG2	5:XE:111:GLU:OE1	2.17	0.44
13:XM:56:LEU:O	13:XM:60:VAL:HG22	2.16	0.44
24:YA:265:A:N6	24:YA:428:A:C8	2.85	0.44
24:YA:1317:A:H2'	24:YA:1318:C:C6	2.52	0.44
24:YA:2018:G:C6	24:YA:2019:A:C6	3.05	0.44
24:YA:2248:C:H2'	24:YA:2249:U:O4'	2.18	0.44
24:YA:2777:G:OP2	24:YA:2781:A:O2'	2.21	0.44
26:YD:132:PRO:HG3	26:YD:190:TYR:CE1	2.51	0.44
31:YI:57:ARG:HH11	31:YI:61:ARG:NH1	2.13	0.44
34:YP:88:LEU:HD13	34:YP:125:VAL:HG11	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YZ:14:LYS:HA	44:YZ:15:PRO:HD3	1.88	0.44
47:Y2:66:GLU:HA	47:Y2:69:ARG:HH21	1.82	0.44
1:QA:651:C:N4	1:QA:753:A:OP2	2.50	0.44
1:QA:792:A:H4'	1:QA:793:U:O5'	2.17	0.44
1:QA:923:A:H2'	1:QA:924:C:C6	2.53	0.44
8:QH:12:ARG:NH1	8:QH:25:ASP:O	2.45	0.44
8:QH:84:ARG:HE	8:QH:85:ARG:H	1.65	0.44
24:RA:213:A:H2'	24:RA:214:G:O4'	2.17	0.44
24:RA:396:G:N3	46:R1:42:GLN:NE2	2.65	0.44
24:RA:561:G:H1'	39:RU:45:TYR:CE1	2.53	0.44
24:RA:1282:U:H2'	24:RA:1283:G:O4'	2.17	0.44
24:RA:2612:C:P	50:R5:2:ALA:N	2.91	0.44
36:RR:44:LEU:HD23	36:RR:114:VAL:HG11	1.99	0.44
42:RX:60:ARG:HH22	52:R7:47:ARG:NH2	2.15	0.44
43:RY:13:VAL:HB	43:RY:72:VAL:HG22	1.99	0.44
1:XA:130:A:H1'	1:XA:264:U:H5'	2.00	0.44
1:XA:1010:G:H2'	1:XA:1011:G:C8	2.53	0.44
9:XI:97:LYS:HB3	9:XI:98:PRO:HD3	1.98	0.44
24:YA:238:C:H2'	24:YA:239:U:O4'	2.17	0.44
24:YA:396:G:H1'	46:Y1:42:GLN:OE1	2.17	0.44
24:YA:744:G:OP1	27:YE:132:HIS:HA	2.17	0.44
24:YA:1790:C:H2'	24:YA:1791:A:C5	2.53	0.44
24:YA:2127:G:O6	24:YA:2162:G:H1'	2.17	0.44
24:YA:2363:C:O2'	45:Y0:39:ARG:NH2	2.49	0.44
25:YB:19:G:H2'	25:YB:20:C:O4'	2.17	0.44
27:YE:167:VAL:HG23	27:YE:170:LEU:HD11	2.00	0.44
37:YS:88:ASP:O	37:YS:89:ARG:HB3	2.17	0.44
44:YZ:110:GLY:HA3	44:YZ:145:GLU:HG2	1.99	0.44
53:Y8:34:TRP:CZ3	53:Y8:35:GLN:HB3	2.52	0.44
1:QA:512:U:H2'	1:QA:513:C:H6	1.83	0.44
1:QA:522:C:H41	12:QL:53:ARG:HH22	1.66	0.44
1:QA:659:U:P	15:QO:8:LYS:HE3	2.58	0.44
1:QA:902:G:H2'	1:QA:903:G:H8	1.83	0.44
2:QB:54:THR:HG23	2:QB:199:TYR:HB3	1.99	0.44
3:QC:112:SER:HB3	3:QC:115:LEU:HD12	1.99	0.44
6:QF:22:GLU:O	6:QF:25:ILE:HG13	2.16	0.44
13:QM:102:ARG:HG2	13:QM:104:ARG:H	1.83	0.44
19:QS:10:PHE:HE2	19:QS:16:LEU:HB2	1.83	0.44
24:RA:414:C:H1'	24:RA:1864:U:H1'	1.99	0.44
24:RA:587:C:H4'	24:RA:588:U:O5'	2.18	0.44
24:RA:686:G:H1	52:R7:16:HIS:CD2	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:712:G:H2'	24:RA:713:G:H8	1.82	0.44
24:RA:860:U:H2'	24:RA:861:A:C8	2.48	0.44
24:RA:2298:A:H62	24:RA:2318:G:H8	1.64	0.44
24:RA:2540:C:O2'	24:RA:2740:A:N3	2.41	0.44
30:RH:11:VAL:HG22	30:RH:49:VAL:HG12	1.99	0.44
42:RX:47:PHE:O	42:RX:49:VAL:HG23	2.17	0.44
46:R1:60:PHE:HZ	46:R1:90:ILE:HD11	1.83	0.44
1:XA:160:A:H61	1:XA:347:G:H1'	1.82	0.44
1:XA:652:U:O4	1:XA:752:G:O2'	2.23	0.44
1:XA:940:C:H2'	1:XA:941:G:H8	1.81	0.44
2:XB:118:LEU:HD11	2:XB:145:LEU:HD12	2.00	0.44
4:XD:101:LEU:HA	4:XD:104:VAL:HG22	1.99	0.44
5:XE:80:ILE:HG22	5:XE:91:LEU:HB2	2.00	0.44
6:XF:24:GLU:HG3	6:XF:28:ARG:HH21	1.83	0.44
24:YA:341:G:H2'	24:YA:342:G:O4'	2.18	0.44
24:YA:764:A:H5'	26:YD:210:GLY:HA2	2.00	0.44
24:YA:903:C:H2'	24:YA:904:C:H6	1.81	0.44
24:YA:1138:G:N2	32:YN:106:MET:HE3	2.17	0.44
24:YA:1472:A:H2'	24:YA:1473:G:O4'	2.18	0.44
24:YA:1945:G:H2'	24:YA:1946:U:C6	2.52	0.44
27:YE:2:LYS:HA	27:YE:84:PHE:CE1	2.52	0.44
27:YE:61:ARG:HH11	27:YE:61:ARG:HD2	1.63	0.44
35:YQ:75:THR:HG21	35:YQ:85:LYS:HE3	2.00	0.44
1:QA:116:A:H61	1:QA:313:A:H1'	1.82	0.44
1:QA:687:A:H2	1:QA:704:A:C6	2.36	0.44
1:QA:736:C:H2'	1:QA:737:A:H8	1.81	0.44
1:QA:768:A:H5'	1:QA:1524:C:H1'	2.00	0.44
1:QA:1060:C:H4'	10:QJ:51:ARG:CB	2.48	0.44
1:QA:1429:C:H2'	1:QA:1430:C:C6	2.52	0.44
2:QB:98:LEU:HB2	2:QB:101:MET:HE3	1.99	0.44
6:QF:20:ALA:O	6:QF:23:LYS:HG3	2.18	0.44
11:QK:81:ASP:OD1	11:QK:106:LYS:HB3	2.18	0.44
18:QR:37:VAL:O	18:QR:41:LYS:HG2	2.17	0.44
24:RA:969:U:OP1	48:R3:17:LYS:HG3	2.17	0.44
24:RA:1430:C:H2'	24:RA:1431:U:H6	1.80	0.44
24:RA:2130:U:O2'	24:RA:2133:G:O2'	2.22	0.44
24:RA:2364:C:H2'	24:RA:2365:G:O4'	2.18	0.44
24:RA:2444:G:P	28:RF:68:LYS:HD2	2.57	0.44
24:RA:2649:U:H2'	24:RA:2650:U:C6	2.53	0.44
27:RE:170:LEU:HD22	27:RE:185:LYS:HB3	2.00	0.44
30:RH:90:LYS:HD3	30:RH:163:TYR:HD2	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RZ:126:VAL:HG12	44:RZ:163:LEU:HD23	2.00	0.44
1:XA:140:A:H2	1:XA:182:U:H3	1.65	0.44
1:XA:745:C:O3'	1:XA:836:G:N2	2.47	0.44
1:XA:1210:C:O2'	1:XA:1213:A:O2'	2.29	0.44
9:XI:34:ASN:O	9:XI:38:GLN:HB3	2.18	0.44
16:XP:69:THR:O	16:XP:72:ARG:HG3	2.18	0.44
24:YA:448:U:C4	24:YA:583:G:HI1'	2.53	0.44
24:YA:828:U:H2'	24:YA:829:A:C8	2.52	0.44
24:YA:1178:C:H2'	24:YA:1179:C:H6	1.82	0.44
24:YA:1287:A:C8	36:YR:107:ASP:HB2	2.53	0.44
24:YA:1636:C:H2'	24:YA:1637:A:C8	2.53	0.44
28:YF:34:TRP:CZ3	34:YP:8:PRO:HB3	2.52	0.44
39:YU:61:TRP:HB3	39:YU:93:LYS:O	2.18	0.44
44:YZ:1:MET:HG2	44:YZ:2:GLU:H	1.82	0.44
1:QA:543:C:OP2	4:QD:10:ARG:NH2	2.51	0.44
1:QA:600:C:H2'	1:QA:601:C:H6	1.83	0.44
1:QA:768:A:H4'	1:QA:1523:G:N2	2.32	0.44
1:QA:848:C:H2'	1:QA:849:C:C6	2.52	0.44
2:QB:47:THR:HA	2:QB:202:PRO:HG2	2.00	0.44
3:QC:23:TYR:HB3	10:QJ:93:GLY:O	2.18	0.44
5:QE:142:LEU:O	5:QE:143:ARG:HD3	2.17	0.44
17:QQ:83:ASP:OD1	17:QQ:84:LEU:N	2.51	0.44
24:RA:205:G:O2'	24:RA:206:U:OP2	2.35	0.44
24:RA:947:G:H2'	24:RA:948:G:C8	2.52	0.44
24:RA:2611:U:H2'	50:R5:2:ALA:O	2.18	0.44
27:RE:14:ILE:HD13	27:RE:173:VAL:HG11	1.98	0.44
30:RH:97:ARG:HE	30:RH:98:LEU:H	1.66	0.44
35:RQ:80:GLU:OE1	45:R0:7:LEU:HG	2.17	0.44
42:RX:11:PRO:HD3	47:R2:37:PHE:CD1	2.52	0.44
45:R0:48:GLY:HA3	45:R0:80:HIS:ND1	2.33	0.44
1:XA:266:G:O2'	1:XA:267:C:OP2	2.32	0.44
1:XA:816:A:OP2	1:XA:1527:C:H5'	2.18	0.44
2:XB:16:HIS:HA	2:XB:210:SER:OG	2.18	0.44
4:XD:79:PHE:HE1	4:XD:204:ILE:HD13	1.83	0.44
7:XG:95:ARG:O	7:XG:99:LEU:HG	2.18	0.44
15:XO:26:GLU:OE2	15:XO:77:ARG:NH2	2.51	0.44
20:XT:73:HIS:O	20:XT:74:LYS:O	2.34	0.44
24:YA:662:G:H5''	34:YP:17:LYS:HG2	2.00	0.44
24:YA:1614:A:N1	41:YW:91:GLY:HA2	2.32	0.44
24:YA:1782:C:H1'	24:YA:2609:U:H5''	2.00	0.44
24:YA:1992:G:H5'	24:YA:1994:C:H41	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2141:G:H2'	24:YA:2142:C:C6	2.51	0.44
24:YA:2355:C:H4'	45:Y0:24:LYS:HD2	1.98	0.44
27:YE:29:GLY:HA2	27:YE:180:ASN:HB3	1.99	0.44
29:YG:25:TYR:HD2	29:YG:31:VAL:HG12	1.81	0.44
38:YT:3:ARG:HG2	38:YT:6:LEU:HD12	2.00	0.44
48:Y3:26:LEU:O	48:Y3:35:ARG:NE	2.50	0.44
48:Y3:40:THR:HB	48:Y3:43:ILE:HG12	1.99	0.44
1:QA:139:G:H2'	1:QA:140:A:H8	1.83	0.44
1:QA:522:C:H41	12:QL:53:ARG:NH2	2.16	0.44
1:QA:892:A:H2'	1:QA:893:C:C6	2.52	0.44
1:QA:1032(A):G:H2'	1:QA:1032(B):G:H8	1.82	0.44
1:QA:1288:A:N3	1:QA:1352:C:O2'	2.44	0.44
5:QE:143:ARG:NH1	8:QH:77:GLU:OE2	2.51	0.44
13:QM:10:PRO:HB2	13:QM:18:ALA:HB1	1.99	0.44
13:QM:50:GLU:HA	13:QM:53:VAL:HG22	1.99	0.44
20:QT:89:ARG:HD3	20:QT:104:LEU:HD13	1.98	0.44
22:QV:1:C:O3'	35:RQ:87:LYS:NZ	2.51	0.44
24:RA:330:A:O2'	24:RA:331:A:H2'	2.17	0.44
24:RA:524:U:H2'	24:RA:525:U:C6	2.53	0.44
24:RA:785:G:O2'	24:RA:1779:U:H5''	2.18	0.44
24:RA:1021:A:H3'	24:RA:1022:G:H5''	2.00	0.44
24:RA:1473:G:H2'	24:RA:1474:C:O4'	2.18	0.44
24:RA:1686:C:H3'	24:RA:1687:G:H8	1.82	0.44
24:RA:1831:G:H2'	24:RA:1832:C:C6	2.53	0.44
24:RA:2291:U:H2'	24:RA:2292:C:H6	1.82	0.44
24:RA:2341:G:H2'	24:RA:2342:C:H6	1.82	0.44
24:RA:2821:A:H2'	24:RA:2822:G:C8	2.53	0.44
29:RG:107:LEU:HD21	29:RG:178:PHE:CD1	2.53	0.44
38:RT:48:ILE:HD11	38:RT:114:LEU:HD13	2.00	0.44
44:RZ:114:GLY:HA3	44:RZ:177:PRO:HG3	1.99	0.44
47:R2:26:ARG:HG2	47:R2:29:LYS:HE3	1.99	0.44
1:XA:1435:G:H2'	1:XA:1436:U:H6	1.82	0.44
2:XB:70:PHE:HB3	2:XB:81:VAL:HG13	1.99	0.44
3:XC:134:ILE:HD11	3:XC:153:VAL:HG12	2.00	0.44
4:XD:104:VAL:HG11	4:XD:140:VAL:HG21	1.99	0.44
8:XH:11:THR:HG22	8:XH:14:ARG:NH1	2.33	0.44
12:XL:43:VAL:HG23	12:XL:93:LEU:HD22	1.99	0.44
12:XL:69:TYR:HB2	12:XL:96:VAL:HG11	2.00	0.44
17:XQ:64:PRO:HB3	17:XQ:70:ARG:NH1	2.33	0.44
22:XV:24:C:H2'	22:XV:25:U:H6	1.83	0.44
24:YA:116:C:H2'	24:YA:117:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:142:G:H2'	24:YA:143:C:C6	2.52	0.44
24:YA:534:U:H2'	24:YA:535:C:C6	2.53	0.44
24:YA:1336:A:H2'	24:YA:1337:G:H8	1.83	0.44
24:YA:1636:C:H2'	24:YA:1637:A:H8	1.83	0.44
24:YA:2065:C:H2'	24:YA:2066:C:C6	2.52	0.44
28:YF:32:LEU:HD13	28:YF:112:MET:HE1	2.00	0.44
34:YP:58:THR:O	34:YP:61:ARG:CD	2.66	0.44
35:YQ:79:LEU:HD23	35:YQ:79:LEU:O	2.17	0.44
45:Y0:23:VAL:HG13	45:Y0:38:VAL:HG12	2.00	0.44
1:QA:636:U:H5'	17:QQ:2:PRO:HG3	2.00	0.44
1:QA:945:G:C2	1:QA:946:A:C8	3.05	0.44
1:QA:962:C:H2'	1:QA:963:G:H8	1.82	0.44
1:QA:1004:A:H2'	1:QA:1005:A:N3	2.33	0.44
1:QA:1006:C:H2'	1:QA:1007:C:C6	2.53	0.44
1:QA:1258:G:H2'	1:QA:1259:C:C6	2.53	0.44
19:QS:39:THR:HG22	19:QS:40:ILE:N	2.29	0.44
19:QS:69:HIS:HB3	19:QS:73:GLU:OE1	2.18	0.44
24:RA:273:G:C2	24:RA:273(A):G:C8	3.06	0.44
24:RA:372:G:O2'	24:RA:373:U:O5'	2.32	0.44
24:RA:478:A:N6	24:RA:480:A:N1	2.65	0.44
24:RA:1581:G:H2'	24:RA:1582:C:O4'	2.18	0.44
24:RA:1654:A:OP1	36:RR:2:ARG:HD3	2.17	0.44
24:RA:2250:G:C4	35:RQ:82:ARG:HG3	2.53	0.44
24:RA:2313:C:O4'	29:RG:40:ASN:ND2	2.51	0.44
24:RA:2400:G:H4'	51:R6:18:ARG:HE	1.83	0.44
25:RB:75:G:H1'	44:RZ:27:VAL:HG11	2.00	0.44
35:RQ:116:GLU:O	35:RQ:120:ILE:HG12	2.18	0.44
42:RX:60:ARG:NH1	52:R7:47:ARG:HH22	2.10	0.44
47:R2:35:LEU:HB3	47:R2:50:ILE:CD1	2.48	0.44
1:XA:329:A:C5	1:XA:332:G:C6	3.06	0.44
1:XA:563:A:H2'	1:XA:567:G:C8	2.52	0.44
1:XA:738:C:H5''	6:XF:69:GLU:HB2	1.99	0.44
1:XA:1127:G:H2'	1:XA:1128:C:C6	2.53	0.44
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.33	0.44
1:XA:1499:A:H1'	1:XA:1520:G:H5'	2.00	0.44
2:XB:112:VAL:HG21	2:XB:156:LYS:HE2	1.99	0.44
5:XE:51:VAL:HB	5:XE:52:PRO:HD3	1.99	0.44
7:XG:42:ILE:HD12	7:XG:116:ALA:HB3	2.00	0.44
20:XT:89:ARG:HH11	20:XT:90:GLN:HE22	1.66	0.44
21:XU:17:THR:O	21:XU:22:ARG:NH1	2.50	0.44
24:YA:959:A:H2'	24:YA:960:A:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1130:U:N3	27:YE:147:PRO:HB3	2.33	0.44
24:YA:1593:G:H2'	24:YA:1594:G:H8	1.82	0.44
24:YA:2155:G:H3'	24:YA:2156:G:H8	1.82	0.44
24:YA:2314:C:H2'	24:YA:2315:G:H8	1.82	0.44
24:YA:2487:G:H2'	24:YA:2488:A:C8	2.53	0.44
24:YA:2712:U:O2'	24:YA:2712(A):A:C8	2.63	0.44
25:YB:14:U:O3'	25:YB:107:U:O2'	2.27	0.44
26:YD:37:LEU:HD23	26:YD:62:TYR:HD2	1.83	0.44
29:YG:37:VAL:HG12	29:YG:99:MET:HB2	1.99	0.44
44:YZ:10:ARG:O	44:YZ:36:LYS:HG3	2.17	0.44
44:YZ:30:ASN:OD1	44:YZ:33:LEU:HD23	2.18	0.44
44:YZ:112:ARG:HG3	44:YZ:113:ALA:N	2.33	0.44
45:Y0:69:PHE:CE1	45:Y0:79:VAL:HG13	2.53	0.44
1:QA:1032:A:C5	1:QA:1032(A):G:H1'	2.53	0.43
1:QA:1072:G:H2'	1:QA:1073:U:H6	1.83	0.43
1:QA:1287:A:C2	1:QA:1353:G:H1'	2.53	0.43
5:QE:121:LYS:NZ	5:QE:123:LEU:HB3	2.33	0.43
9:QI:97:LYS:CG	9:QI:98:PRO:HD3	2.47	0.43
10:QJ:53:PRO:HG2	10:QJ:54:PHE:HD1	1.82	0.43
12:QL:117:ARG:HG3	12:QL:122:THR:HB	2.00	0.43
13:QM:115:LYS:O	13:QM:117:VAL:HG23	2.18	0.43
17:QQ:74:LEU:HB3	17:QQ:75:ARG:HE	1.83	0.43
20:QT:100:ILE:HG23	20:QT:102:GLY:H	1.83	0.43
24:RA:57:C:H2'	24:RA:58:G:O4'	2.18	0.43
24:RA:182:A:H2'	24:RA:183:C:H6	1.83	0.43
24:RA:270(T):G:H5''	46:R1:97:LEU:HD13	2.00	0.43
24:RA:322:A:H5'	24:RA:340:A:H1'	2.00	0.43
24:RA:691:C:H2'	24:RA:692:C:C6	2.53	0.43
24:RA:1277:G:H5''	36:RR:40:LYS:NZ	2.33	0.43
24:RA:2543:G:H2'	24:RA:2544:G:C8	2.53	0.43
24:RA:2776:A:H4'	24:RA:2777:G:H5''	1.99	0.43
27:RE:105:THR:HG23	27:RE:166:THR:HG22	2.00	0.43
37:RS:24:LEU:HD23	37:RS:39:ILE:HD12	2.00	0.43
41:RW:71:VAL:HA	41:RW:107:LEU:HD23	1.99	0.43
44:RZ:24:LEU:HD23	44:RZ:25:PRO:O	2.18	0.43
1:XA:8:A:N1	4:XD:57:ARG:NH1	2.66	0.43
1:XA:200:G:H2'	1:XA:201:C:O4'	2.18	0.43
1:XA:412:A:C6	4:XD:35:ARG:HG2	2.53	0.43
2:XB:87:ARG:NH2	2:XB:219:VAL:HG13	2.33	0.43
10:XJ:49:VAL:HG23	14:XN:41:ARG:HB2	1.99	0.43
10:XJ:79:ARG:HA	10:XJ:82:ILE:HG12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:65:LYS:HD2	13:XM:73:GLU:OE1	2.17	0.43
14:YN:33:VAL:HG12	14:YN:40:CYS:HA	1.99	0.43
16:XP:5:ARG:HH12	16:XP:28:ARG:HA	1.82	0.43
24:YA:526:A:N6	24:YA:2626:C:H4'	2.33	0.43
24:YA:582:G:H2'	24:YA:583:G:H8	1.83	0.43
24:YA:1021:A:H8	24:YA:1021:A:H3'	1.83	0.43
24:YA:1416:G:H2'	24:YA:1417:C:C6	2.53	0.43
24:YA:2331:G:N2	24:YA:2385:C:C4	2.86	0.43
24:YA:2701:C:H3'	24:YA:2702:U:C5'	2.42	0.43
28:YF:110:LEU:HG	28:YF:202:PHE:HE1	1.82	0.43
28:YF:182:ASN:O	28:YF:186:ILE:HG12	2.17	0.43
29:YG:86:MET:O	29:YG:88:ILE:HG23	2.18	0.43
30:YH:164:TYR:HB2	30:YH:167:GLU:HB2	2.00	0.43
33:YO:79:PHE:HD1	38:YT:72:VAL:HG22	1.83	0.43
35:YQ:34:LEU:HB3	35:YQ:103:MET:O	2.18	0.43
44:YZ:54:HIS:CG	44:YZ:101:PRO:HG3	2.53	0.43
53:Y8:61:LEU:C	53:Y8:63:PRO:HD3	2.39	0.43
1:QA:186(F):C:H2'	1:QA:187:C:O4'	2.18	0.43
1:QA:272:C:H2'	1:QA:273:A:C8	2.51	0.43
1:QA:513:C:H2'	1:QA:514:C:H6	1.84	0.43
1:QA:583:A:H2'	1:QA:584:G:O4'	2.18	0.43
1:QA:1228:C:OP1	13:QM:115:LYS:N	2.48	0.43
1:QA:1350:A:OP2	9:QI:118:LYS:HD3	2.17	0.43
5:QE:81:GLU:HG2	5:QE:90:VAL:HG22	2.00	0.43
8:QH:4:ASP:HB2	8:QH:85:ARG:HH12	1.83	0.43
19:QS:36:ARG:HD2	19:QS:72:GLY:HA2	2.00	0.43
22:QV:75:C:O2'	22:QV:76:C:H5'	2.17	0.43
24:RA:873:G:H4'	35:RQ:63:LYS:HZ1	1.82	0.43
24:RA:989:G:OP2	48:R3:11:SER:OG	2.22	0.43
24:RA:1015:G:O6	24:RA:1148:A:N6	2.51	0.43
24:RA:2085:C:H2'	24:RA:2086:U:O4'	2.18	0.43
24:RA:2512:C:H2'	24:RA:2513:G:O4'	2.18	0.43
24:RA:2891:G:H5'	24:RA:2892:A:OP1	2.18	0.43
27:RE:61:ARG:O	27:RE:63:LEU:N	2.50	0.43
36:RR:55:ALA:HA	36:RR:80:PHE:CE1	2.53	0.43
37:RS:14:VAL:O	37:RS:18:ILE:HG12	2.18	0.43
39:RU:80:ILE:HG22	39:RU:84:LYS:HZ3	1.83	0.43
1:XA:27:G:C6	1:XA:557:G:N1	2.86	0.43
1:XA:512:U:H2'	1:XA:513:C:C6	2.53	0.43
1:XA:978:A:H61	1:XA:1316:G:H1'	1.83	0.43
12:XL:10:LEU:HB3	17:XQ:32:TYR:CE2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:YN:39:LEU:HB2	14:YN:44:LEU:HD12	1.99	0.43
16:XP:9:PHE:CE2	16:XP:18:ARG:HD2	2.53	0.43
16:XP:79:VAL:HG13	16:XP:80:PHE:CD1	2.53	0.43
24:YA:224:G:O6	24:YA:419:C:O2'	2.37	0.43
24:YA:995:C:O2	32:YN:3:THR:HG23	2.17	0.43
24:YA:2099:U:C4	24:YA:2190:G:O6	2.71	0.43
24:YA:2700:C:C2'	24:YA:2701:C:H5'	2.47	0.43
25:YB:28:C:H2'	25:YB:29:A:O4'	2.18	0.43
31:YI:37:VAL:HG22	31:YI:38:LEU:H	1.83	0.43
38:YT:114:LEU:HD12	38:YT:114:LEU:O	2.18	0.43
47:Y2:18:PRO:HA	47:Y2:21:LEU:HD12	1.99	0.43
1:QA:1147:C:O2	9:QI:16:ARG:NH2	2.52	0.43
1:QA:1213:A:N6	1:QA:1215:G:N3	2.67	0.43
3:QC:19:GLU:O	3:QC:40:ARG:NH2	2.51	0.43
4:QD:21:LEU:HD21	4:QD:66:ARG:O	2.18	0.43
9:QI:4:TYR:CZ	9:QI:88:TYR:HB2	2.53	0.43
9:QI:112:LYS:HD2	9:QI:117:HIS:O	2.19	0.43
12:QL:126:LYS:O	12:QL:126:LYS:HG2	2.17	0.43
20:QT:29:LYS:HE3	20:QT:29:LYS:HB3	1.92	0.43
24:RA:210:C:H4'	24:RA:1367:A:H1'	2.00	0.43
24:RA:301:G:C4	24:RA:302:C:C5	3.06	0.43
24:RA:612:G:C2	24:RA:617:G:C6	3.06	0.43
24:RA:954:G:O2'	24:RA:2274:A:N1	2.48	0.43
24:RA:1475:G:H2'	24:RA:1476:C:C6	2.53	0.43
24:RA:1826:G:H2'	24:RA:1827:C:H6	1.83	0.43
24:RA:2494:G:C2	24:RA:2495:G:C8	3.07	0.43
36:RR:8:ARG:HH11	36:RR:39:PRO:HB3	1.84	0.43
37:RS:58:LEU:HD13	37:RS:59:LYS:N	2.34	0.43
39:RU:44:ASN:OD1	40:RV:75:PHE:HB3	2.18	0.43
44:RZ:6:LYS:HD3	44:RZ:8:TYR:CE1	2.53	0.43
44:RZ:6:LYS:CE	44:RZ:40:ASP:HB2	2.47	0.43
1:XA:49:U:C2	1:XA:361:G:N2	2.87	0.43
1:XA:149:A:H2'	1:XA:150:C:C6	2.53	0.43
1:XA:410:G:H4'	1:XA:411:A:OP1	2.19	0.43
1:XA:939:G:H4'	7:XG:102:ARG:NH2	2.33	0.43
1:XA:1262:C:H2'	1:XA:1263:C:H6	1.84	0.43
9:XI:63:ILE:HG21	9:XI:77:ILE:HD12	2.00	0.43
16:XP:67:THR:HG23	16:XP:70:ALA:H	1.83	0.43
19:XS:15:LEU:HD23	19:XS:15:LEU:H	1.83	0.43
22:XV:10:G:N2	22:XV:27:G:H1'	2.33	0.43
24:YA:77:C:OP1	47:Y2:59:ARG:HD3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:78:A:H2'	24:YA:79:G:H8	1.83	0.43
24:YA:265:A:H2'	24:YA:266:G:O4'	2.18	0.43
24:YA:630:G:N2	24:YA:633:A:OP2	2.37	0.43
24:YA:1726:G:H2'	24:YA:1727:U:C6	2.52	0.43
24:YA:1946:U:H2'	24:YA:1947:C:H6	1.84	0.43
24:YA:2688:U:OP1	24:YA:2713:A:N6	2.51	0.43
25:YB:29:A:H2'	25:YB:30:C:H6	1.84	0.43
26:YD:30:GLU:HG2	26:YD:63:ARG:HE	1.83	0.43
27:YE:143:ASN:OD1	27:YE:147:PRO:HD2	2.19	0.43
28:YF:116:ASP:OD1	28:YF:119:ARG:NH2	2.51	0.43
30:YH:97:ARG:NH1	30:YH:104:GLU:OE1	2.50	0.43
41:YW:20:VAL:HG23	41:YW:47:VAL:HG21	1.99	0.43
1:QA:12:U:H3	1:QA:22:G:H1	1.66	0.43
1:QA:110:C:H2'	1:QA:111:G:O4'	2.18	0.43
1:QA:171:A:H2'	1:QA:172:A:C8	2.53	0.43
1:QA:374:A:C6	1:QA:375:U:C4	3.06	0.43
1:QA:731:G:H5'	1:QA:766:A:H4'	2.00	0.43
1:QA:1262:C:H2'	1:QA:1263:C:H6	1.83	0.43
1:QA:1469:G:H2'	1:QA:1470:G:H8	1.83	0.43
2:QB:68:ILE:HG22	2:QB:90:MET:SD	2.59	0.43
4:QD:57:ARG:NH2	5:QE:107:ARG:HD3	2.33	0.43
5:QE:96:PRO:HA	5:QE:117:ASP:OD2	2.19	0.43
19:QS:36:ARG:HH11	19:QS:72:GLY:HA3	1.82	0.43
20:QT:71:THR:OG1	20:QT:72:LEU:N	2.51	0.43
24:RA:566:U:O4	40:RV:78:LYS:HD3	2.18	0.43
24:RA:680:G:H2'	24:RA:681:G:H8	1.82	0.43
24:RA:851:U:OP1	48:R3:49:LYS:NZ	2.32	0.43
24:RA:1258:C:H2'	24:RA:1259:G:C8	2.54	0.43
24:RA:1710:C:O2'	24:RA:2858:C:N3	2.50	0.43
24:RA:2292:C:H2'	24:RA:2293:C:H6	1.83	0.43
25:RB:50:G:OP1	37:RS:63:THR:HG23	2.17	0.43
33:RO:17:ARG:HH21	33:RO:47:ILE:HD13	1.83	0.43
42:RX:47:PHE:CD2	42:RX:89:ILE:HD13	2.53	0.43
45:R0:21:LEU:HD21	45:R0:41:ARG:NH2	2.33	0.43
47:R2:24:LEU:O	47:R2:28:LYS:HG2	2.17	0.43
1:XA:842:C:H5'	1:XA:843:U:OP1	2.18	0.43
2:XB:59:GLU:HG3	2:XB:221:LEU:HD11	1.99	0.43
24:YA:839:U:H1'	24:YA:1191:G:H1'	2.00	0.43
24:YA:1826:G:OP1	26:YD:224:ALA:N	2.51	0.43
24:YA:2024:G:H2'	24:YA:2025:C:C6	2.53	0.43
24:YA:2422:A:N7	53:Y8:31:HIS:HE1	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2566:A:H4'	24:YA:2567:G:O5'	2.17	0.43
24:YA:2647:U:H2'	24:YA:2648:C:H6	1.83	0.43
26:YD:77:ALA:O	26:YD:116:GLN:HA	2.19	0.43
28:YF:197:ASP:C	28:YF:199:TRP:H	2.21	0.43
29:YG:129:GLY:O	29:YG:161:THR:HB	2.18	0.43
36:YR:64:ARG:O	36:YR:68:ARG:HG3	2.18	0.43
41:YW:82:LEU:HD23	41:YW:84:ARG:NH2	2.33	0.43
1:QA:255:G:H1'	17:QQ:16:GLN:OE1	2.17	0.43
1:QA:690:G:H2'	1:QA:691:G:O4'	2.19	0.43
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.17	0.43
1:QA:1104:G:C1'	2:QB:111:ARG:HH22	2.31	0.43
5:QE:51:VAL:HB	5:QE:52:PRO:HD3	2.00	0.43
9:QI:27:THR:HG23	9:QI:62:TYR:HD1	1.83	0.43
9:QI:117:HIS:CB	9:QI:121:ARG:HE	2.24	0.43
11:QK:18:ARG:HA	11:QK:81:ASP:H	1.83	0.43
24:RA:24:G:C6	24:RA:25:U:C4	3.06	0.43
24:RA:443:A:C4	28:RF:45:ARG:NH1	2.87	0.43
24:RA:527:C:H4'	24:RA:528:A:O4'	2.18	0.43
24:RA:1332:G:N2	24:RA:1609:A:O2'	2.52	0.43
24:RA:2002:G:OP1	36:RR:9:LYS:HD3	2.19	0.43
24:RA:2306:C:H2'	24:RA:2307:G:H21	1.82	0.43
24:RA:2392:A:H1'	34:RP:60:MET:HE3	1.99	0.43
24:RA:2566:A:H4'	24:RA:2567:G:O5'	2.19	0.43
24:RA:2592:G:C6	24:RA:2593:U:C4	3.07	0.43
24:RA:2745:C:H2'	24:RA:2746:U:H6	1.82	0.43
24:RA:2822:G:H5''	27:RE:159:HIS:CE1	2.54	0.43
28:RF:120:GLU:HG3	28:RF:122:LYS:HD3	2.00	0.43
28:RF:197:ASP:O	28:RF:199:TRP:N	2.48	0.43
44:RZ:73:GLN:HB3	44:RZ:87:ASP:OD2	2.18	0.43
46:R1:18:ILE:HG12	46:R1:37:ILE:HG12	1.99	0.43
49:R4:59:PHE:HD2	49:R4:60:GLN:OE1	2.01	0.43
51:R6:26:ASN:HD22	51:R6:27:LYS:N	2.17	0.43
1:XA:266:G:H5'	1:XA:268:C:H41	1.82	0.43
1:XA:1343:G:H2'	1:XA:1344:C:C6	2.54	0.43
2:XB:205:ASP:OD1	2:XB:206:ASP:N	2.51	0.43
13:XM:58:GLU:O	13:XM:62:ASN:ND2	2.50	0.43
16:XP:6:LEU:HD13	16:XP:17:TYR:CG	2.53	0.43
20:XT:83:ARG:O	20:XT:87:LYS:HG3	2.17	0.43
24:YA:1971:A:N3	26:YD:239:ARG:O	2.52	0.43
24:YA:2389:G:H5''	24:YA:2390:U:O4'	2.18	0.43
26:YD:25:THR:HG21	26:YD:113:VAL:HG11	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:YD:32:SER:C	26:YD:34:VAL:H	2.20	0.43
27:YE:31:CYS:HB3	27:YE:49:LEU:HB3	2.00	0.43
28:YF:124:LEU:HD23	28:YF:191:ARG:HH21	1.82	0.43
29:YG:114:ILE:HD11	29:YG:117:PHE:HD1	1.83	0.43
1:QA:368:U:P	31:YI:91:SER:HG	2.41	0.43
1:QA:1189:C:H5''	3:QC:5:ILE:HD13	2.00	0.43
1:QA:1226:C:OP2	13:QM:103:THR:OG1	2.19	0.43
3:QC:53:ALA:HB2	3:QC:115:LEU:HG	2.00	0.43
6:QF:46:ARG:NH2	18:QR:78:LEU:HD22	2.33	0.43
9:QI:46:ALA:HA	9:QI:78:LYS:HB3	2.01	0.43
9:QI:82:ALA:O	9:QI:86:VAL:HG23	2.18	0.43
17:QQ:92:ARG:HD3	17:QQ:95:TYR:CE2	2.46	0.43
24:RA:28:A:C2	24:RA:513:A:C8	3.06	0.43
24:RA:194:G:H2'	24:RA:195:A:O4'	2.18	0.43
24:RA:303:U:H2'	24:RA:304:G:H8	1.83	0.43
24:RA:412:A:N7	24:RA:2411:A:H2	2.17	0.43
24:RA:1540:G:H2'	24:RA:1541:U:C6	2.53	0.43
25:RB:7:G:H21	37:RS:38:GLN:HE22	1.66	0.43
25:RB:79:C:H2'	25:RB:80:U:O4'	2.18	0.43
30:RH:52:VAL:H	30:RH:69:ARG:NH2	2.17	0.43
34:RP:28:GLY:O	34:RP:29:LYS:HG2	2.19	0.43
34:RP:106:LEU:HD23	34:RP:112:LEU:HD23	2.01	0.43
53:R8:26:LYS:HE2	53:R8:47:LYS:HB3	1.99	0.43
1:XA:76:G:H1	1:XA:93:U:H3	1.65	0.43
1:XA:246:A:C2	1:XA:282:A:C5	3.07	0.43
1:XA:376:G:H4'	16:XP:5:ARG:HH11	1.84	0.43
1:XA:552:U:H2'	1:XA:553:A:C8	2.53	0.43
1:XA:1177:G:OP2	9:XI:97:LYS:HD2	2.18	0.43
5:XE:143:ARG:NE	8:XH:77:GLU:OE2	2.51	0.43
7:XG:16:LEU:HD11	9:XI:45:ALA:HB2	2.00	0.43
9:XI:3:GLN:OE1	9:XI:20:ARG:NH2	2.51	0.43
11:XK:65:ALA:HB3	11:XK:97:ALA:HB3	1.99	0.43
13:XM:7:VAL:HB	29:YG:115:ARG:HH21	1.84	0.43
17:XQ:50:LYS:HG3	17:XQ:51:TYR:CD1	2.53	0.43
24:YA:84:A:OP2	43:YY:8:LYS:HD3	2.19	0.43
24:YA:92:G:H2'	24:YA:93:C:C6	2.53	0.43
24:YA:666:G:H4'	34:YP:49:ARG:HH21	1.82	0.43
24:YA:764:A:N3	26:YD:213:ARG:NH1	2.65	0.43
24:YA:1021:A:H2'	24:YA:1023:U:H5'	1.99	0.43
24:YA:1191:G:OP1	34:YP:32:THR:HB	2.19	0.43
24:YA:1317:A:H2'	24:YA:1318:C:H6	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1400:G:H2'	24:YA:1401:G:H8	1.84	0.43
26:YD:231:HIS:HD2	26:YD:249:PRO:HG3	1.82	0.43
28:YF:178:PRO:HB3	28:YF:198:ALA:CB	2.49	0.43
30:YH:46:GLU:OE2	30:YH:51:ARG:NH1	2.51	0.43
32:YN:13:TRP:HB2	32:YN:133:GLN:O	2.18	0.43
39:YU:21:ALA:HA	39:YU:24:TYR:CE2	2.54	0.43
1:QA:41:G:H2'	1:QA:42:G:C8	2.53	0.43
1:QA:309:G:O2'	1:QA:607:A:N1	2.51	0.43
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.99	0.43
1:QA:1288:A:H2'	1:QA:1289:A:C8	2.54	0.43
1:QA:1334:G:H5'	1:QA:1335:C:OP2	2.19	0.43
1:QA:1388:C:H2'	1:QA:1389:C:C6	2.54	0.43
8:QH:114:THR:HG22	8:QH:116:LYS:H	1.83	0.43
10:QJ:5:ARG:O	10:QJ:98:ILE:HA	2.19	0.43
10:QJ:78:ASN:HB2	10:QJ:81:THR:HG22	2.01	0.43
22:QV:54:G:HO2'	22:QV:55:U:H6	1.65	0.43
24:RA:1221:C:H2'	24:RA:1222:C:H6	1.84	0.43
24:RA:1509:C:N3	24:RA:1511:A:N6	2.67	0.43
24:RA:2590:A:H2'	24:RA:2591:C:H6	1.83	0.43
24:RA:2862:G:H2'	24:RA:2863:C:H6	1.83	0.43
26:RD:264:LYS:HD3	26:RD:265:PRO:HD2	2.01	0.43
30:RH:54:ARG:NH2	30:RH:57:ASP:OD1	2.52	0.43
33:RO:78:ARG:HH21	38:RT:103:ARG:NH2	2.17	0.43
37:RS:27:SER:HA	37:RS:88:ASP:HB3	2.00	0.43
4:XD:129:ASN:HB2	4:XD:131:ARG:NH1	2.34	0.43
9:XI:10:ARG:HG3	9:XI:11:LYS:HG2	2.01	0.43
12:XL:45:PRO:HB3	12:XL:92:ASP:HB3	2.00	0.43
24:YA:57:C:H2'	24:YA:58:G:O4'	2.17	0.43
24:YA:1231:G:H2'	24:YA:1232:G:C8	2.53	0.43
24:YA:1438:U:H2'	24:YA:1439:A:H8	1.84	0.43
24:YA:1853:A:H2'	24:YA:1854:A:C8	2.53	0.43
24:YA:1972:A:H2'	24:YA:1973:G:C8	2.53	0.43
24:YA:2037:G:H2'	24:YA:2038:G:H8	1.83	0.43
24:YA:2648:C:H2'	24:YA:2649:U:C6	2.53	0.43
24:YA:2815:C:C5'	50:Y5:29:THR:HG21	2.48	0.43
25:YB:30:C:H1'	25:YB:57:A:H61	1.84	0.43
29:YG:37:VAL:HG13	29:YG:94:LEU:HB2	1.99	0.43
29:YG:113:ARG:HD2	49:Y4:33:VAL:HG13	2.00	0.43
38:YT:6:LEU:O	38:YT:10:VAL:HG23	2.17	0.43
41:YW:46:PHE:O	41:YW:50:VAL:HG23	2.18	0.43
50:Y5:33:CYS:HB3	50:Y5:40:LYS:HE3	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:62:U:H2'	1:QA:63:C:C6	2.54	0.43
2:QB:70:PHE:O	2:QB:92:TYR:HA	2.19	0.43
3:QC:24:ALA:HB3	3:QC:29:TYR:HD1	1.83	0.43
7:QG:32:ARG:O	7:QG:35:LYS:HG2	2.18	0.43
16:QP:4:ILE:HA	16:QP:20:VAL:O	2.19	0.43
24:RA:994:C:OP1	39:RU:53:ARG:NH2	2.52	0.43
24:RA:1056:G:H21	24:RA:1103:A:H62	1.67	0.43
24:RA:1310:G:N2	24:RA:1313:U:C4	2.87	0.43
24:RA:2111:C:H41	24:RA:2147:G:N2	2.17	0.43
24:RA:2314:C:H2'	24:RA:2315:G:C8	2.54	0.43
29:RG:82:LEU:HD21	29:RG:88:ILE:HG21	2.01	0.43
30:RH:53:GLU:HA	30:RH:65:HIS:NE2	2.33	0.43
32:RN:24:GLY:O	32:RN:28:THR:HG23	2.18	0.43
35:RQ:141:GLN:NE2	44:RZ:122:ARG:HH21	2.16	0.43
43:RY:97:ARG:HH21	43:RY:106:LEU:HD13	1.83	0.43
47:R2:16:LEU:HD21	47:R2:20:GLU:HB3	2.01	0.43
1:XA:181:G:O2'	1:XA:182:U:O5'	2.36	0.43
1:XA:272:C:H2'	1:XA:273:A:C8	2.49	0.43
1:XA:401:C:H2'	1:XA:402:G:C8	2.51	0.43
1:XA:411:A:P	4:XD:30:LYS:HZ2	2.42	0.43
1:XA:458:C:H2'	1:XA:464:G:O4'	2.19	0.43
1:XA:486:U:H2'	1:XA:487:A:C8	2.51	0.43
1:XA:1354:C:H2'	1:XA:1355:G:H8	1.84	0.43
3:XC:84:ILE:HG13	3:XC:101:LEU:HD23	2.00	0.43
7:XG:15:ASP:OD1	7:XG:16:LEU:N	2.47	0.43
7:XG:70:LYS:HB3	7:XG:96:GLN:HE21	1.83	0.43
9:XI:117:HIS:HB2	9:XI:121:ARG:HD2	1.99	0.43
11:XK:21:ILE:HD11	11:XK:98:LEU:HD11	2.00	0.43
20:XT:14:LYS:O	20:XT:18:GLN:HG2	2.18	0.43
24:YA:470:A:OP1	28:YF:59:TYR:HE1	2.00	0.43
24:YA:1014:U:H2'	24:YA:1015:G:H5''	2.00	0.43
24:YA:2605:U:H2'	24:YA:2606:C:C6	2.53	0.43
25:YB:8:U:O2'	37:YS:25:ARG:NH2	2.52	0.43
26:YD:118:VAL:HG23	26:YD:123:ALA:HB1	2.00	0.43
26:YD:176:ARG:HA	26:YD:181:GLU:O	2.18	0.43
1:QA:306:G:C2	1:QA:307:C:C6	3.07	0.43
1:QA:769:G:H4'	1:QA:1513:A:H4'	2.00	0.43
1:QA:1515:C:H2'	1:QA:1516:G:C8	2.54	0.43
4:QD:197:PRO:HD3	6:XF:16:GLN:HG3	2.00	0.43
24:RA:450:G:P	24:RA:1248:G:H22	2.42	0.43
24:RA:582:G:H2'	24:RA:583:G:C8	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:866:A:C2	24:RA:914:C:H5'	2.54	0.43
24:RA:1638:C:H2'	24:RA:1639:U:O4'	2.19	0.43
24:RA:2354:G:H4'	45:R0:35:ASN:HD22	1.83	0.43
24:RA:2592:G:C5	24:RA:2593:U:C5	3.06	0.43
29:RG:161:THR:HG22	29:RG:163:ALA:H	1.84	0.43
35:RQ:79:LEU:HD13	35:RQ:79:LEU:O	2.19	0.43
36:RR:74:LYS:C	36:RR:76:VAL:H	2.22	0.43
38:RT:3:ARG:HG3	38:RT:6:LEU:HB3	2.00	0.43
39:RU:52:ARG:HA	39:RU:55:ARG:HE	1.83	0.43
1:XA:452:A:H2'	1:XA:453:A:H8	1.83	0.43
1:XA:828:A:H2'	1:XA:829:G:O4'	2.18	0.43
1:XA:1347:G:OP2	9:XI:107:ARG:HG2	2.18	0.43
1:XA:1523:G:H2'	1:XA:1524:C:C6	2.54	0.43
3:XC:147:LYS:HE3	3:XC:203:PHE:CE2	2.54	0.43
8:XH:83:ILE:HG22	8:XH:137:VAL:HB	2.00	0.43
15:XO:53:HIS:NE2	24:YA:715:G:O6	2.37	0.43
23:XX:17:U:O2'	23:XX:18:G:H5'	2.18	0.43
24:YA:151:C:H2'	24:YA:152:G:C8	2.54	0.43
24:YA:262:A:H2'	24:YA:263:C:O4'	2.19	0.43
24:YA:814:C:H2'	24:YA:815:C:C6	2.54	0.43
24:YA:1106:G:C4	24:YA:1107:G:C8	3.07	0.43
24:YA:1432:C:H2'	24:YA:1433:U:O4'	2.18	0.43
24:YA:1590:U:H2'	24:YA:1591:G:H8	1.83	0.43
24:YA:1686:C:H3'	24:YA:1687:G:H8	1.84	0.43
24:YA:1791:A:H5'	26:YD:206:LEU:HD12	2.01	0.43
24:YA:1841:U:H2'	24:YA:1842:G:H8	1.83	0.43
24:YA:2226:C:C2	24:YA:2227:A:C8	3.07	0.43
24:YA:2650:U:H2'	24:YA:2651:C:C6	2.54	0.43
44:YZ:155:LEU:HD23	44:YZ:155:LEU:H	1.84	0.43
48:Y3:8:LEU:HG	48:Y3:31:LEU:HD23	2.00	0.43
1:QA:260:G:H2'	1:QA:261:U:C6	2.54	0.43
1:QA:1107:C:C4	1:QA:1108:G:C8	3.07	0.43
17:QQ:45:HIS:CD2	17:QQ:47:PRO:HG3	2.54	0.43
24:RA:78:A:H2'	24:RA:79:G:C8	2.52	0.43
24:RA:264:C:O2'	24:RA:265:A:H5''	2.18	0.43
24:RA:528:A:H2	24:RA:2043:C:O5'	2.02	0.43
24:RA:631:A:H2'	24:RA:632:A:O4'	2.19	0.43
24:RA:1341:U:O2	42:RX:80:ILE:HG21	2.18	0.43
24:RA:2677:G:H2'	24:RA:2678:C:C6	2.54	0.43
24:RA:2695:C:H2'	24:RA:2696:U:H6	1.82	0.43
25:RB:16:G:N2	25:RB:69:G:H1'	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:RD:206:LEU:O	26:RD:211:ARG:HD3	2.19	0.43
33:RO:68:GLU:HG3	33:RO:78:ARG:HD3	2.01	0.43
39:RU:61:TRP:HB3	39:RU:93:LYS:O	2.18	0.43
44:RZ:151:HIS:CB	44:RZ:170:THR:HA	2.47	0.43
1:XA:19:C:H2'	1:XA:20:U:C6	2.54	0.43
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.16	0.43
1:XA:1281:U:OP2	1:XA:1282:C:N4	2.52	0.43
2:XB:189:ASP:HB3	2:XB:203:GLY:O	2.19	0.43
7:XG:99:LEU:HD13	7:XG:103:TRP:CH2	2.54	0.43
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	2.00	0.43
19:XS:63:THR:HG22	19:XS:64:GLU:H	1.83	0.43
24:YA:270:A:C2	24:YA:366:C:H4'	2.54	0.43
24:YA:847:U:H3	24:YA:934:G:N2	2.17	0.43
24:YA:881:G:O6	24:YA:895:U:C2	2.72	0.43
24:YA:1165:U:H3	24:YA:1184:G:H1	1.67	0.43
24:YA:1477:A:H2'	24:YA:1478:G:O4'	2.19	0.43
24:YA:1604:C:C2	24:YA:1605:C:C5	3.07	0.43
24:YA:2008:C:H2'	24:YA:2009:G:H8	1.83	0.43
24:YA:2399:G:C6	24:YA:2418:A:C6	3.07	0.43
29:YG:15:VAL:HG13	29:YG:175:LEU:HB2	2.00	0.43
54:Y9:27:CYS:SG	54:Y9:28:GLU:N	2.92	0.43
1:QA:536:C:H2'	1:QA:537:G:H8	1.84	0.42
1:QA:673:G:H1'	18:QR:75:ILE:HD12	2.00	0.42
1:QA:678:U:H2'	1:QA:679:C:H6	1.83	0.42
1:QA:771:G:H2'	1:QA:772:U:C6	2.54	0.42
1:QA:940:C:H2'	1:QA:941:G:C8	2.54	0.42
1:QA:1203:C:H2'	1:QA:1204:A:C8	2.54	0.42
1:QA:1347:G:H22	1:QA:1374:A:P	2.34	0.42
2:QB:189:ASP:HB3	2:QB:203:GLY:O	2.19	0.42
10:QJ:50:ILE:HG12	14:QN:41:ARG:NH1	2.34	0.42
10:QJ:78:ASN:HB2	10:QJ:81:THR:CG2	2.49	0.42
13:QM:57:ARG:O	13:QM:61:GLU:HB2	2.19	0.42
24:RA:242:G:O2'	24:RA:254:G:O6	2.24	0.42
24:RA:249:C:OP2	24:RA:2394:C:O2'	2.32	0.42
24:RA:478:A:C6	24:RA:480:A:C6	3.07	0.42
24:RA:598:G:H1'	34:RP:12:ALA:HB2	2.01	0.42
24:RA:864:G:H21	24:RA:866:A:N6	2.16	0.42
24:RA:1106:G:H2'	24:RA:1107:G:C8	2.53	0.42
24:RA:2257:U:H2'	24:RA:2258:C:C6	2.54	0.42
24:RA:2312:U:H5'	29:RG:88:ILE:HD11	2.01	0.42
24:RA:2314:C:H5'	29:RG:38:VAL:HG11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RP:82:GLY:HA3	34:RP:115:LEU:HD21	2.00	0.42
35:RQ:81:VAL:HG13	35:RQ:82:ARG:N	2.34	0.42
44:RZ:5:LEU:HD12	44:RZ:59:LEU:HD23	2.01	0.42
1:XA:360:A:H2'	1:XA:361:G:C8	2.54	0.42
1:XA:731:G:OP1	1:XA:766:A:H1'	2.19	0.42
1:XA:859:A:H2'	1:XA:860:A:O4'	2.19	0.42
1:XA:1074:G:O2'	1:XA:1101:A:N1	2.49	0.42
8:XH:6:ILE:H	8:XH:6:ILE:HD12	1.83	0.42
12:XL:36:VAL:HG12	12:XL:82:VAL:HG22	2.00	0.42
19:XS:19:VAL:HG21	19:XS:44:MET:SD	2.59	0.42
24:YA:184:C:H2'	24:YA:185:U:H6	1.82	0.42
24:YA:780:G:H21	24:YA:783:A:H62	1.67	0.42
24:YA:1006:C:H5'	32:YN:28:THR:HG23	2.01	0.42
24:YA:1401:G:H2'	24:YA:1402:C:C6	2.53	0.42
24:YA:2161:C:H2'	24:YA:2162:G:H8	1.84	0.42
24:YA:2572:A:OP2	27:YE:144:ARG:HB3	2.19	0.42
25:YB:95:U:H2'	25:YB:96:G:H8	1.81	0.42
1:QA:6:G:O6	5:QE:95:ALA:N	2.50	0.42
1:QA:52:G:H2'	1:QA:53:A:H8	1.84	0.42
1:QA:57:G:H2'	1:QA:58:C:H6	1.84	0.42
1:QA:581:G:OP1	15:QO:61:GLY:HA3	2.19	0.42
1:QA:687:A:C2	1:QA:704:A:C5	3.07	0.42
1:QA:1074:G:O4'	2:QB:104:ASN:HB2	2.19	0.42
2:QB:109:SER:HA	2:QB:112:VAL:HG22	2.02	0.42
2:QB:121:LEU:O	2:QB:121:LEU:HD13	2.19	0.42
13:QM:91:ARG:HB2	13:QM:98:VAL:HG23	2.00	0.42
20:QT:85:MET:HA	20:QT:88:VAL:HG22	2.01	0.42
24:RA:296:C:H2'	24:RA:297:C:H6	1.84	0.42
24:RA:646:A:H2'	24:RA:647:G:O4'	2.19	0.42
24:RA:1313:U:C2	24:RA:1610:A:H2	2.37	0.42
24:RA:1426:G:OP2	24:RA:1427:A:O2'	2.29	0.42
24:RA:1651:G:H4'	36:RR:39:PRO:HG2	2.01	0.42
28:RF:47:GLY:HA3	28:RF:95:ARG:O	2.19	0.42
28:RF:164:ARG:O	28:RF:168:ARG:HG3	2.19	0.42
29:RG:27:ASN:OD1	29:RG:28:VAL:N	2.50	0.42
43:RY:8:LYS:HG3	43:RY:97:ARG:NH1	2.34	0.42
52:R7:17:GLY:O	52:R7:21:ARG:HG2	2.18	0.42
1:XA:1206:G:O4'	3:XC:194:GLY:HA2	2.19	0.42
1:XA:1255:G:P	10:XJ:45:ARG:HH22	2.42	0.42
3:XC:14:ILE:O	3:XC:15:THR:OG1	2.30	0.42
10:XJ:29:ARG:NH2	10:XJ:84:GLN:OE1	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:XQ:12:SER:HB2	17:XQ:14:LYS:HG2	2.00	0.42
24:YA:265:A:H2'	24:YA:266:G:C4'	2.48	0.42
24:YA:372:G:O2'	24:YA:373:U:P	2.77	0.42
24:YA:389:G:H22	34:YP:72:PRO:CD	2.32	0.42
24:YA:558:G:P	32:YN:111:PRO:HD2	2.59	0.42
24:YA:613:U:H5'	24:YA:616:A:N6	2.34	0.42
24:YA:935:C:H2'	24:YA:936:C:C6	2.54	0.42
24:YA:1021:A:H3'	24:YA:1021:A:C8	2.54	0.42
24:YA:1056:G:H1'	24:YA:1086:A:H8	1.84	0.42
24:YA:1082:U:H5'	24:YA:1083:U:O5'	2.19	0.42
24:YA:1130:U:C2	27:YE:147:PRO:HB3	2.54	0.42
24:YA:1287:A:N7	36:YR:107:ASP:HB2	2.34	0.42
24:YA:2453:A:H2'	24:YA:2454:G:C8	2.54	0.42
24:YA:2574:G:O2'	27:YE:143:ASN:HB2	2.19	0.42
24:YA:2593:U:H2'	24:YA:2594:C:C6	2.55	0.42
26:YD:11:PRO:O	26:YD:12:SER:OG	2.33	0.42
30:YH:84:SER:HB2	30:YH:132:ARG:HD2	2.01	0.42
42:YX:43:VAL:HG13	42:YX:51:VAL:HG21	2.01	0.42
1:QA:614:A:P	4:QD:85:LYS:HZ1	2.42	0.42
1:QA:624:C:H2'	1:QA:625:G:C8	2.54	0.42
1:QA:926:G:H22	23:QX:16:A:P	2.42	0.42
1:QA:1387:G:H2'	1:QA:1388:C:H6	1.84	0.42
2:QB:71:VAL:HA	2:QB:93:VAL:HG12	2.01	0.42
9:QI:10:ARG:HD3	9:QI:75:ASP:HB3	2.01	0.42
12:QL:40:VAL:HG12	12:QL:56:ALA:HB2	2.01	0.42
13:QM:23:TYR:HD2	13:QM:67:GLU:HA	1.84	0.42
19:QS:41:VAL:HA	19:QS:44:MET:HB2	2.01	0.42
24:RA:48:G:H22	24:RA:177:G:H5'	1.84	0.42
24:RA:2120:G:N1	24:RA:2121:G:O6	2.50	0.42
24:RA:2577:A:O4'	50:R5:3:LYS:HD2	2.19	0.42
25:RB:28:C:H2'	25:RB:29:A:O4'	2.20	0.42
31:RI:44:LEU:O	31:RI:48:GLU:HG3	2.19	0.42
33:RO:80:ASP:OD2	38:RT:64:ARG:NH2	2.52	0.42
34:RP:91:PHE:CZ	34:RP:95:VAL:HG22	2.55	0.42
38:RT:46:GLU:O	38:RT:65:LYS:HD3	2.20	0.42
44:RZ:5:LEU:HD13	44:RZ:39:VAL:HG21	2.01	0.42
1:XA:1152:A:H2'	1:XA:1153:C:H6	1.84	0.42
11:XK:31:THR:HG22	11:XK:42:TRP:HB2	2.02	0.42
15:XO:27:VAL:O	15:XO:31:LEU:HD23	2.19	0.42
20:XT:64:ASP:HA	20:XT:67:ALA:HB3	2.01	0.42
22:XV:13:C:O2'	24:YA:1924:C:H4'	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:38:A:H2'	24:YA:39:C:H6	1.85	0.42
24:YA:571:A:OP2	24:YA:2030:A:N6	2.52	0.42
24:YA:616:A:H4'	28:YF:182:ASN:ND2	2.34	0.42
24:YA:1084:A:H5''	24:YA:1085:A:OP2	2.20	0.42
24:YA:1790:C:H5''	24:YA:1791:A:OP1	2.18	0.42
24:YA:2173:A:H2'	24:YA:2173:A:N3	2.33	0.42
24:YA:2290:G:C2	24:YA:2343:C:O2	2.71	0.42
25:YB:55:U:H2'	25:YB:56:G:C8	2.54	0.42
32:YN:51:PHE:CE1	32:YN:119:ARG:HG2	2.54	0.42
35:YQ:24:GLY:H	35:YQ:101:ARG:HD2	1.85	0.42
36:YR:9:LYS:HA	36:YR:17:ARG:HH12	1.84	0.42
1:QA:265:G:H5'	17:QQ:64:PRO:O	2.19	0.42
1:QA:718:G:N2	18:QR:49:LYS:HG2	2.34	0.42
1:QA:998(A):C:H2'	1:QA:999:U:H6	1.84	0.42
1:QA:1024:G:H4'	1:QA:1024:G:OP1	2.20	0.42
1:QA:1104:G:H1'	2:QB:111:ARG:HH22	1.83	0.42
1:QA:1308:U:H5''	13:QM:98:VAL:HG12	2.01	0.42
1:QA:1392:G:H21	1:QA:1502:A:H8	1.67	0.42
7:QG:6:ARG:HG2	7:QG:6:ARG:O	2.19	0.42
13:QM:76:ALA:O	13:QM:80:ARG:HG2	2.19	0.42
24:RA:245:G:O6	53:R8:8:LYS:HE3	2.19	0.42
24:RA:851:U:H2'	24:RA:852:G:H8	1.84	0.42
24:RA:1224:G:N2	24:RA:1227:A:OP2	2.48	0.42
24:RA:1436:G:H1'	24:RA:1477:A:O2'	2.19	0.42
24:RA:1469:A:H2'	24:RA:1470:G:O4'	2.19	0.42
24:RA:2340:G:O2'	24:RA:2341:G:H5'	2.19	0.42
24:RA:2805:G:H2'	24:RA:2807:G:H8	1.83	0.42
25:RB:118:G:H2'	25:RB:119:A:O4'	2.19	0.42
28:RF:28:ILE:HA	28:RF:112:MET:SD	2.58	0.42
28:RF:155:LEU:HB2	28:RF:189:THR:HG21	2.01	0.42
35:RQ:40:ALA:CB	35:RQ:127:ILE:HD11	2.50	0.42
38:RT:3:ARG:HD2	38:RT:3:ARG:HA	1.78	0.42
41:RW:46:PHE:O	41:RW:50:VAL:HG23	2.19	0.42
1:XA:89:U:HO2'	1:XA:90:C:P	2.42	0.42
1:XA:875:C:O2'	8:XH:14:ARG:NH1	2.41	0.42
2:XB:21:ARG:HD3	2:XB:21:ARG:O	2.18	0.42
14:YN:32:SER:OG	14:YN:41:ARG:HG2	2.20	0.42
24:YA:242:G:C8	53:Y8:5:LYS:HG2	2.54	0.42
24:YA:273:G:H1	24:YA:364:C:H42	1.66	0.42
24:YA:1818:U:H2'	26:YD:157:ARG:HG3	2.01	0.42
25:YB:66:A:N3	25:YB:108:C:N4	2.68	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:YE:184:VAL:HG12	27:YE:185:LYS:N	2.34	0.42
28:YF:182:ASN:OD1	28:YF:185:ASP:HB2	2.19	0.42
30:YH:4:ILE:HG21	30:YH:6:ARG:NE	2.35	0.42
37:YS:3:ARG:HG2	37:YS:4:LEU:HD23	2.01	0.42
1:QA:32:A:H2'	1:QA:33:A:H8	1.83	0.42
1:QA:1145:C:H4'	1:QA:1146:A:C8	2.54	0.42
2:QB:223:ILE:HG23	2:QB:229:VAL:HG22	2.02	0.42
10:QJ:39:PRO:HA	10:QJ:70:ARG:HD3	1.99	0.42
20:QT:29:LYS:NZ	20:QT:72:LEU:HB2	2.34	0.42
24:RA:49:A:N6	24:RA:177:G:C4	2.87	0.42
24:RA:710:G:H2'	24:RA:711:G:C8	2.54	0.42
24:RA:900:A:C4	24:RA:901:A:C8	3.07	0.42
24:RA:935:C:H2'	24:RA:936:C:H6	1.84	0.42
24:RA:1085:A:O2'	24:RA:1086:A:P	2.78	0.42
24:RA:1431:U:H2'	24:RA:1432:C:H6	1.83	0.42
24:RA:1914:C:H3'	24:RA:1915:U:H6	1.84	0.42
26:RD:244:ARG:HB2	26:RD:245:PRO:HD2	2.01	0.42
28:RF:129:PHE:C	28:RF:131:GLY:H	2.22	0.42
30:RH:144:VAL:O	30:RH:148:ILE:HG12	2.20	0.42
1:XA:218:C:H4'	1:XA:466:C:N4	2.35	0.42
1:XA:280:C:H3'	1:XA:281:G:H5'	2.01	0.42
1:XA:584:G:H2'	1:XA:585:G:H8	1.84	0.42
1:XA:857:C:H2'	1:XA:858:G:O4'	2.19	0.42
2:XB:93:VAL:HG11	2:XB:97:TRP:CE3	2.54	0.42
2:XB:187:LEU:HD12	2:XB:201:ILE:O	2.19	0.42
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.35	0.42
11:XK:48:ILE:HG12	11:XK:63:LEU:HB3	2.00	0.42
24:YA:218:A:N1	24:YA:235:U:H4'	2.34	0.42
24:YA:495:G:H21	41:YW:61:ASN:HD21	1.66	0.42
24:YA:540:G:H5'	24:YA:541:C:OP2	2.19	0.42
24:YA:1286:A:H1'	24:YA:1288:U:OP2	2.18	0.42
24:YA:1656:C:H2'	24:YA:1657:C:H6	1.85	0.42
24:YA:1799:G:H8	26:YD:181:GLU:OE1	2.01	0.42
24:YA:1812:A:H2'	24:YA:1813:G:C8	2.53	0.42
24:YA:1826:G:H2'	24:YA:1827:C:C6	2.55	0.42
24:YA:2533:A:H2'	24:YA:2534:A:O4'	2.19	0.42
24:YA:2696:U:H2'	24:YA:2697:G:H8	1.85	0.42
25:YB:86:G:H2'	25:YB:87:G:C8	2.54	0.42
26:YD:77:ALA:HB2	26:YD:97:TYR:HE1	1.85	0.42
29:YG:114:ILE:HD11	29:YG:117:PHE:CD1	2.54	0.42
32:YN:42:TRP:CZ2	32:YN:44:PRO:HB3	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YP:52:GLU:HB2	34:YP:57:THR:HG22	2.01	0.42
42:YX:43:VAL:CG1	42:YX:51:VAL:HG21	2.49	0.42
1:QA:219:C:H2'	1:QA:220:G:O4'	2.20	0.42
1:QA:265:G:H2'	1:QA:267:C:H5	1.85	0.42
1:QA:825:G:H2'	1:QA:826:C:C6	2.54	0.42
1:QA:1469:G:H2'	1:QA:1470:G:C8	2.54	0.42
7:QG:46:ALA:O	7:QG:50:ILE:HG12	2.19	0.42
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.34	0.42
13:QM:15:VAL:HA	13:QM:18:ALA:HB3	2.00	0.42
24:RA:1510:A:OP1	24:RA:1511:A:H5'	2.20	0.42
24:RA:1565:C:H2'	26:RD:21:PHE:HE2	1.83	0.42
24:RA:2436:G:C6	24:RA:2437:U:C4	3.07	0.42
24:RA:2809:A:OP2	24:RA:2891:G:N1	2.51	0.42
27:RE:181:LEU:HD11	38:RT:7:ILE:HG23	2.01	0.42
32:RN:136:GLU:O	32:RN:137:LYS:HD2	2.19	0.42
40:RV:66:ARG:HG2	40:RV:88:ARG:HB3	2.01	0.42
47:R2:26:ARG:HA	47:R2:29:LYS:HG2	2.00	0.42
10:XJ:54:PHE:CD2	10:XJ:55:LYS:HG2	2.54	0.42
10:XJ:78:ASN:HB2	10:XJ:81:THR:HG23	2.01	0.42
13:XM:37:THR:O	13:XM:55:ARG:NH2	2.52	0.42
24:YA:253:C:H2'	24:YA:254:G:O4'	2.19	0.42
24:YA:700:G:O2'	24:YA:1632:A:N3	2.39	0.42
24:YA:1844:C:H2'	24:YA:1845:G:C8	2.53	0.42
24:YA:2048:G:C5	24:YA:2049:G:C8	3.08	0.42
24:YA:2071:A:H2'	24:YA:2072:G:H8	1.84	0.42
24:YA:2175:C:N3	24:YA:2176:A:N6	2.68	0.42
24:YA:2259:G:H1'	24:YA:2427:C:C2	2.54	0.42
24:YA:2292:C:OP1	37:YS:17:ARG:NH2	2.53	0.42
24:YA:2308:G:N1	24:YA:2311:A:H2	2.18	0.42
24:YA:2410:G:C2	24:YA:2411:A:H1'	2.55	0.42
54:Y9:19:ARG:HB3	54:Y9:24:TYR:CE2	2.54	0.42
1:QA:130:A:OP2	17:QQ:63:ARG:NH2	2.52	0.42
1:QA:1103:C:H5'	2:QB:98:LEU:HD12	2.01	0.42
1:QA:1159:U:O2'	1:QA:1160:G:N7	2.53	0.42
1:QA:1333:A:H2'	1:QA:1334:G:O4'	2.20	0.42
3:QC:29:TYR:OH	14:QN:54:PRO:O	2.38	0.42
4:QD:148:VAL:HG22	4:QD:149:ALA:H	1.85	0.42
6:QF:8:ILE:HG22	6:QF:10:LEU:HD12	2.02	0.42
13:QM:82:MET:HG2	13:QM:89:GLY:O	2.20	0.42
15:QO:68:ARG:HA	15:QO:71:GLN:HG2	2.02	0.42
24:RA:244:A:H4'	34:RP:74:GLU:HB2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:631:A:H61	24:RA:2402:C:N4	2.18	0.42
24:RA:1275:A:C4	36:RR:16:HIS:ND1	2.88	0.42
24:RA:1276:A:H1'	36:RR:16:HIS:HE1	1.83	0.42
24:RA:2596:U:H2'	24:RA:2597:G:O4'	2.19	0.42
24:RA:2836:U:H2'	24:RA:2837:G:C8	2.54	0.42
27:RE:61:ARG:HB2	27:RE:62:PRO:HD3	2.01	0.42
28:RF:29:ASN:HD22	28:RF:32:LEU:HD23	1.84	0.42
30:RH:12:PRO:HD2	30:RH:48:GLY:O	2.19	0.42
49:R4:11:PRO:HA	49:R4:25:TYR:CD1	2.54	0.42
49:R4:47:GLN:OE1	49:R4:49:PHE:HB2	2.19	0.42
1:XA:1227:A:OP2	13:XM:111:LYS:NZ	2.50	0.42
1:XA:1321:C:H5''	1:XA:1322:C:H5''	2.01	0.42
2:XB:96:ARG:HE	2:XB:97:TRP:N	2.17	0.42
2:XB:121:LEU:HD13	2:XB:130:ARG:NH2	2.34	0.42
3:XC:119:ARG:HG2	3:XC:140:ARG:HH22	1.84	0.42
3:XC:148:GLY:HA3	3:XC:172:ARG:O	2.19	0.42
4:XD:60:GLU:HG3	4:XD:202:LEU:HD12	2.01	0.42
6:XF:46:ARG:HH21	6:XF:60:PHE:HD2	1.68	0.42
24:YA:82:G:N2	24:YA:103:A:OP2	2.43	0.42
24:YA:521:G:H2'	24:YA:522:G:H8	1.84	0.42
24:YA:530:G:C5	24:YA:2022:U:H5''	2.54	0.42
24:YA:627:A:H4'	24:YA:628:G:H5'	2.02	0.42
24:YA:760:G:H2'	24:YA:761:A:O4'	2.19	0.42
24:YA:2021:C:OP1	50:Y5:12:SER:OG	2.33	0.42
24:YA:2526:G:O2'	54:Y9:1:MET:N	2.40	0.42
24:YA:2649:U:H2'	24:YA:2650:U:C6	2.54	0.42
24:YA:2891:G:H5'	24:YA:2892:A:OP1	2.20	0.42
29:YG:32:PRO:HB2	29:YG:172:LEU:HD22	2.02	0.42
38:YT:102:ILE:HG23	38:YT:110:ILE:HD12	2.02	0.42
38:YT:128:GLU:HG3	38:YT:132:LYS:NZ	2.34	0.42
45:Y0:30:VAL:HG22	45:Y0:66:VAL:HG12	2.00	0.42
46:Y1:74:VAL:O	46:Y1:74:VAL:HG12	2.19	0.42
1:QA:1028(A):C:N3	1:QA:1033:G:N2	2.67	0.42
2:QB:18:GLY:HA2	2:QB:42:ILE:HD12	2.02	0.42
2:QB:157:ARG:HG3	2:QB:158:LEU:N	2.31	0.42
4:QD:81:GLU:O	4:QD:85:LYS:HG2	2.19	0.42
4:QD:108:LEU:HD23	4:QD:170:VAL:HG21	2.01	0.42
7:QG:50:ILE:HG23	7:QG:121:ALA:HB1	2.01	0.42
9:QI:128:ARG:NH2	22:QV:34:U:OP2	2.52	0.42
24:RA:38:A:H2'	24:RA:39:C:H6	1.83	0.42
24:RA:705:A:C2	24:RA:727:A:H1'	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1683:C:H2'	24:RA:1684:C:C6	2.55	0.42
24:RA:1759:A:H1'	24:RA:2711:A:C2	2.54	0.42
24:RA:1870:C:H2'	24:RA:1871:A:C8	2.54	0.42
24:RA:2081:C:H2'	24:RA:2082:A:H8	1.85	0.42
24:RA:2106:G:H2'	24:RA:2107:C:O4'	2.20	0.42
24:RA:2647:U:H2'	24:RA:2648:C:H6	1.85	0.42
27:RE:63:LEU:HD12	27:RE:65:GLY:N	2.34	0.42
30:RH:156:ALA:HA	30:RH:172:LYS:NZ	2.34	0.42
37:RS:34:HIS:HE1	37:RS:54:LEU:HD13	1.85	0.42
46:R1:81:LYS:HD2	46:R1:81:LYS:HA	1.89	0.42
1:XA:161:A:H2'	1:XA:162:A:C8	2.55	0.42
1:XA:186(D):C:H2'	1:XA:186(E):C:H6	1.83	0.42
1:XA:222:U:H2'	1:XA:223:U:H6	1.85	0.42
1:XA:484:G:H1'	1:XA:485:G:OP2	2.20	0.42
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.55	0.42
1:XA:1479:C:H2'	1:XA:1480:G:H8	1.85	0.42
6:XF:91:VAL:HG13	18:XR:72:ARG:NH2	2.35	0.42
24:YA:27:G:H1'	24:YA:513:A:N6	2.34	0.42
24:YA:638:G:C5	24:YA:651:G:C2	3.08	0.42
24:YA:1006:C:C2	24:YA:1138:G:N2	2.88	0.42
24:YA:1491:G:O4'	26:YD:99:ASP:HB3	2.20	0.42
24:YA:1666:G:O3'	33:YO:6:THR:HG23	2.19	0.42
24:YA:1707:G:H2'	24:YA:1708:C:C6	2.55	0.42
24:YA:1826:G:OP2	26:YD:222:ARG:HB2	2.20	0.42
24:YA:2153:G:H2'	24:YA:2154:G:C8	2.54	0.42
24:YA:2409:G:H2'	24:YA:2410:G:O4'	2.20	0.42
24:YA:2884:U:H2'	24:YA:2885:C:O4'	2.19	0.42
25:YB:40:U:H3	25:YB:43:C:H5''	1.85	0.42
26:YD:37:LEU:HD23	26:YD:62:TYR:CD2	2.55	0.42
26:YD:142:VAL:HA	26:YD:194:GLY:H	1.85	0.42
33:YO:18:LYS:HB2	33:YO:45:GLU:HG2	2.02	0.42
1:QA:687:A:C2	1:QA:704:A:C6	3.07	0.42
1:QA:960:U:O2	1:QA:960:U:H2'	2.19	0.42
1:QA:1347:G:C8	9:QI:107:ARG:HG2	2.55	0.42
24:RA:71:A:H4'	24:RA:72:U:H5''	2.01	0.42
24:RA:84:A:N1	24:RA:98:G:O2'	2.51	0.42
24:RA:280:C:C2	24:RA:361:G:N2	2.87	0.42
24:RA:605:C:H1'	24:RA:657:U:O2'	2.20	0.42
24:RA:626:U:H5''	24:RA:627:A:H5'	2.02	0.42
24:RA:1186:G:H2'	24:RA:1187:G:O4'	2.20	0.42
24:RA:1774:C:O2	24:RA:1774:C:H2'	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2075:U:H4'	24:RA:2596:U:O2	2.20	0.42
24:RA:2656:U:O4	24:RA:2665:A:H2	2.02	0.42
24:RA:2838:G:C4	24:RA:2839:G:C8	3.08	0.42
25:RB:114:G:HO2'	37:RS:50:SER:HG	1.57	0.42
28:RF:34:TRP:CZ3	34:RP:8:PRO:HB3	2.55	0.42
33:RO:8:LEU:HD13	33:RO:84:ALA:HB2	2.01	0.42
34:RP:61:ARG:HH11	53:R8:10:ALA:HA	1.84	0.42
35:RQ:138:ASP:HB2	44:RZ:122:ARG:NH2	2.32	0.42
1:XA:19:C:H2'	1:XA:20:U:H6	1.85	0.42
1:XA:695:A:OP1	11:XK:52:GLY:HA3	2.20	0.42
1:XA:946:A:C2	1:XA:947:G:C5	3.08	0.42
1:XA:1237:C:O2'	1:XA:1300:G:N1	2.46	0.42
1:XA:1245:A:H2'	1:XA:1246:C:C6	2.54	0.42
20:XT:22:ARG:HG3	20:XT:25:ARG:HD3	2.02	0.42
24:YA:34:C:H41	24:YA:447:A:N6	2.17	0.42
24:YA:483:A:O4'	43:YY:48:ALA:HB1	2.19	0.42
24:YA:817:C:O2'	24:YA:839:U:H5''	2.20	0.42
24:YA:1558:A:H1'	24:YA:1559:G:OP2	2.19	0.42
24:YA:1607:C:H4'	24:YA:1608:A:O5'	2.20	0.42
24:YA:1690:A:H2'	24:YA:1691:C:O4'	2.20	0.42
24:YA:2090:G:C6	24:YA:2230:G:C6	3.08	0.42
26:YD:96:HIS:CD2	26:YD:102:LYS:HG2	2.55	0.42
27:YE:63:LEU:HD12	27:YE:65:GLY:N	2.35	0.42
29:YG:113:ARG:HH12	29:YG:142:PRO:HA	1.85	0.42
30:YH:107:VAL:HG11	30:YH:162:ILE:HD11	2.01	0.42
31:YI:77:LEU:HD12	31:YI:104:GLN:HG2	2.01	0.42
39:YU:17:ILE:HG13	39:YU:32:PHE:HE1	1.83	0.42
43:YY:14:LEU:HB3	43:YY:73:ARG:HG2	2.02	0.42
44:YZ:79:ARG:HG3	44:YZ:80:ARG:HD3	2.02	0.42
1:QA:26:A:H61	1:QA:558:G:H1'	1.85	0.42
1:QA:272:C:C2	1:QA:273:A:C8	3.07	0.42
1:QA:859:A:H2'	1:QA:860:A:O4'	2.20	0.42
1:QA:922:G:N3	1:QA:1398:A:H2	2.17	0.42
1:QA:1330:U:H4'	13:QM:23:TYR:CE1	2.55	0.42
3:QC:110:ASN:ND2	3:QC:144:SER:OG	2.39	0.42
11:QK:20:TYR:HB2	11:QK:31:THR:OG1	2.20	0.42
12:QL:24:VAL:HG13	12:QL:98:TYR:HE1	1.84	0.42
12:QL:27:LEU:HD23	12:QL:33:ARG:HH22	1.85	0.42
12:QL:66:VAL:HG21	12:QL:98:TYR:HE2	1.84	0.42
12:QL:70:ILE:HD13	12:QL:77:LEU:HD12	2.02	0.42
24:RA:414:C:H2'	24:RA:415:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:688:U:H5'	24:RA:1780:A:C2	2.54	0.42
24:RA:1022:G:N7	24:RA:1140:C:N4	2.68	0.42
24:RA:1165:U:H2'	24:RA:1166:C:H6	1.85	0.42
24:RA:1336:A:H2'	24:RA:1337:G:C8	2.55	0.42
24:RA:1408:C:H2'	24:RA:1409:C:C6	2.55	0.42
24:RA:2812:G:H2'	24:RA:2813:A:H8	1.85	0.42
25:RB:15:A:H3'	25:RB:16:G:H5'	2.02	0.42
29:RG:36:LYS:HE2	29:RG:95:ARG:NH2	2.32	0.42
32:RN:34:LEU:O	32:RN:49:GLY:HA3	2.19	0.42
35:RQ:58:PHE:CD2	35:RQ:61:GLY:HA3	2.53	0.42
49:R4:47:GLN:NE2	49:R4:49:PHE:HB2	2.35	0.42
1:XA:110:C:H2'	1:XA:111:G:O4'	2.20	0.42
1:XA:224:C:H2'	1:XA:225:C:H6	1.84	0.42
1:XA:1058:G:H2'	1:XA:1059:C:C6	2.55	0.42
1:XA:1223:C:P	19:XS:78:ARG:HH21	2.42	0.42
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	2.02	0.42
7:XG:65:ALA:HB1	7:XG:127:ALA:HB3	2.02	0.42
8:XH:12:ARG:NH1	8:XH:27:PRO:HD3	2.35	0.42
18:XR:19:LYS:O	18:XR:55:ARG:NH1	2.53	0.42
24:YA:957:A:N6	24:YA:2459:A:C8	2.88	0.42
24:YA:1103:A:H3'	24:YA:1104:C:C6	2.55	0.42
24:YA:1269:A:H2'	24:YA:1270:C:C6	2.55	0.42
24:YA:2078:C:H2'	24:YA:2079:U:C6	2.54	0.42
24:YA:2122:U:H2'	24:YA:2123:G:H8	1.84	0.42
24:YA:2291:U:H2'	24:YA:2292:C:H6	1.80	0.42
24:YA:2460:U:C4	24:YA:2461:C:C5	3.08	0.42
26:YD:34:VAL:N	26:YD:36:PRO:HD3	2.35	0.42
28:YF:36:VAL:HG22	28:YF:101:LEU:HD21	2.02	0.42
31:YI:69:LYS:NZ	31:YI:73:GLU:OE1	2.51	0.42
44:YZ:151:HIS:CB	44:YZ:170:THR:HA	2.49	0.42
47:Y2:27:GLU:O	47:Y2:30:ARG:HG2	2.20	0.42
1:QA:309:G:H2'	1:QA:310:G:H8	1.85	0.41
1:QA:978:A:O2'	1:QA:1322:C:N3	2.44	0.41
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.40	0.41
1:QA:1329:A:H5''	13:QM:26:GLY:N	2.33	0.41
1:QA:1415:G:C6	1:QA:1486:G:C6	3.08	0.41
1:QA:1493:A:H4'	23:QX:19:U:H1'	2.02	0.41
3:QC:28:GLN:O	3:QC:32:LEU:HG	2.20	0.41
3:QC:75:VAL:O	3:QC:83:ARG:HD2	2.20	0.41
4:QD:200:GLU:O	4:QD:204:ILE:HG12	2.20	0.41
8:QH:11:THR:HG22	8:QH:14:ARG:NH1	2.33	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:QI:73:GLN:O	9:QI:77:ILE:HG13	2.19	0.41
15:QO:17:ARG:HH12	15:QO:26:GLU:H	1.68	0.41
24:RA:550:G:H2'	24:RA:551:G:H8	1.84	0.41
24:RA:828:U:H4'	24:RA:831:G:N1	2.35	0.41
24:RA:863:A:H2'	24:RA:864:G:C8	2.55	0.41
24:RA:1163:G:C2	24:RA:1164:G:C8	3.08	0.41
24:RA:1246:A:OP1	28:RF:38:ARG:NH2	2.50	0.41
24:RA:2320:A:N3	24:RA:2320:A:H2'	2.35	0.41
29:RG:23:PHE:HD2	29:RG:25:TYR:HH	1.68	0.41
37:RS:62:LYS:O	37:RS:65:VAL:HB	2.20	0.41
39:RU:92:ARG:HD3	39:RU:92:ARG:HA	1.90	0.41
46:R1:17:SER:HB3	46:R1:40:ARG:HD2	2.01	0.41
1:XA:69:G:H2'	1:XA:73:G:H8	1.84	0.41
1:XA:148:G:H2'	1:XA:149:A:C8	2.55	0.41
1:XA:604:G:C6	1:XA:635:G:C6	3.08	0.41
1:XA:923:A:O2'	1:XA:1399:C:OP2	2.24	0.41
1:XA:955:U:H1'	1:XA:1227:A:N6	2.35	0.41
3:XC:150:LYS:HD2	3:XC:167:TRP:NE1	2.30	0.41
22:XV:15:G:N1	22:XV:49:C:H5	2.14	0.41
24:YA:277:C:H3'	24:YA:278:A:C5'	2.51	0.41
24:YA:834:C:H1'	24:YA:2358:G:N3	2.35	0.41
24:YA:1103:A:H5'	24:YA:1104:C:H5	1.85	0.41
24:YA:1550:C:H5'	24:YA:1733:G:N2	2.35	0.41
24:YA:1674:G:H1'	24:YA:1676:A:H62	1.84	0.41
24:YA:2315:G:H2'	24:YA:2316:C:C6	2.55	0.41
24:YA:2513:G:H2'	24:YA:2514:U:C6	2.55	0.41
24:YA:2712:U:O2'	24:YA:2712(A):A:P	2.78	0.41
25:YB:24:G:N7	25:YB:56:G:H2'	2.35	0.41
1:QA:321:A:H2'	1:QA:322:C:C6	2.55	0.41
1:QA:452:A:O2'	1:QA:453:A:O5'	2.37	0.41
1:QA:538:G:H2'	1:QA:539:A:H8	1.84	0.41
1:QA:676:A:H2'	1:QA:677:U:H6	1.84	0.41
1:QA:745:C:H2'	1:QA:746:A:H8	1.83	0.41
1:QA:1152:A:H2'	1:QA:1153:C:H6	1.85	0.41
7:QG:20:ASP:OD1	7:QG:21:VAL:N	2.53	0.41
8:QH:12:ARG:NH1	8:QH:26:VAL:HA	2.35	0.41
9:QI:16:ARG:HD3	9:QI:18:PHE:CZ	2.55	0.41
17:QQ:52:LYS:N	17:QQ:55:ASP:OD2	2.51	0.41
24:RA:52:A:H2'	24:RA:53:A:C8	2.54	0.41
24:RA:116:C:H2'	24:RA:117:G:O4'	2.20	0.41
24:RA:142:G:H2'	24:RA:143:C:C6	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:656:G:H2'	24:RA:657:U:O4'	2.20	0.41
24:RA:845:G:H8	24:RA:845:G:OP2	2.04	0.41
24:RA:1220:A:H5'	24:RA:1221:C:OP2	2.20	0.41
24:RA:1496:A:H8	24:RA:1577:C:HO2'	1.67	0.41
24:RA:2450:A:C2	24:RA:2451:A:C4	3.09	0.41
24:RA:2461:C:H2'	24:RA:2462:U:H6	1.84	0.41
24:RA:2567:G:H2'	24:RA:2568:C:C6	2.55	0.41
24:RA:2779:U:O2'	24:RA:2781:A:C8	2.73	0.41
25:RB:105:G:C2	25:RB:106:G:C8	3.08	0.41
28:RF:24:LEU:HD23	28:RF:115:ALA:HA	2.02	0.41
30:RH:52:VAL:O	30:RH:65:HIS:NE2	2.42	0.41
39:RU:28:ARG:HD3	39:RU:38:THR:OG1	2.19	0.41
42:RX:57:LEU:HG	42:RX:78:LYS:HB2	2.01	0.41
1:XA:41:G:H2'	1:XA:42:G:C8	2.55	0.41
1:XA:113:G:O4'	1:XA:354:G:H4'	2.21	0.41
1:XA:580:U:H2'	1:XA:581:G:O4'	2.20	0.41
1:XA:954:G:H21	1:XA:1227:A:H62	1.67	0.41
1:XA:1005:A:H3'	1:XA:1006:C:H6	1.83	0.41
1:XA:1446:A:HO2'	1:XA:1447:G:P	2.41	0.41
2:XB:221:LEU:O	2:XB:221:LEU:HD13	2.20	0.41
3:XC:179:ARG:O	3:XC:206:GLU:HA	2.20	0.41
8:XH:91:ARG:HB2	12:XL:7:ILE:HG21	2.01	0.41
24:YA:286:C:H2'	24:YA:287:C:C6	2.55	0.41
24:YA:363(B):G:H2'	24:YA:363(C):G:H8	1.85	0.41
24:YA:856:C:H2'	24:YA:857:C:C6	2.55	0.41
24:YA:1028:A:H2'	24:YA:1029:A:H8	1.81	0.41
24:YA:2331:G:H4'	45:Y0:43:THR:H	1.84	0.41
24:YA:2840:C:H2'	24:YA:2841:C:C6	2.56	0.41
30:YH:92:ILE:HG13	30:YH:93:GLY:H	1.84	0.41
30:YH:144:VAL:O	30:YH:148:ILE:HG12	2.20	0.41
33:YO:79:PHE:CD1	38:YT:72:VAL:HG22	2.55	0.41
34:YP:90:ARG:HH22	34:YP:103:ALA:HB1	1.85	0.41
37:YS:42:ASP:O	37:YS:43:GLU:HB3	2.20	0.41
46:Y1:53:VAL:HG12	46:Y1:74:VAL:HG13	2.02	0.41
1:QA:218:C:H5'	1:QA:466:C:N4	2.32	0.41
1:QA:376:G:H5''	16:QP:5:ARG:HB2	2.02	0.41
1:QA:627:G:H2'	1:QA:628:G:H8	1.85	0.41
9:QI:125:TYR:CE2	9:QI:127:LYS:HE2	2.40	0.41
10:QJ:49:VAL:O	10:QJ:60:ARG:HB3	2.20	0.41
14:QN:37:PHE:CD1	14:QN:53:LEU:HD11	2.55	0.41
15:QO:15:PHE:HZ	15:QO:84:LYS:HD2	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:527:C:N4	24:RA:2779:U:OP2	2.44	0.41
36:RR:65:LEU:O	36:RR:68:ARG:HG2	2.21	0.41
38:RT:51:ARG:H	38:RT:62:THR:HG22	1.83	0.41
1:XA:152:A:H62	1:XA:169:C:H42	1.69	0.41
1:XA:403:C:H4'	4:XD:122:ARG:NH1	2.35	0.41
1:XA:440:A:H3'	1:XA:442:C:H6	1.85	0.41
1:XA:674:G:H2'	1:XA:675:A:C8	2.50	0.41
1:XA:689:C:H3'	1:XA:690:G:H21	1.85	0.41
1:XA:902:G:H2'	1:XA:903:G:C8	2.51	0.41
1:XA:1347:G:H1'	1:XA:1348:U:H5	1.85	0.41
10:XJ:55:LYS:HG3	10:XJ:55:LYS:O	2.20	0.41
22:XV:26:C:H2'	22:XV:27:G:O4'	2.20	0.41
24:YA:389:G:H1	34:YP:71:VAL:H	1.67	0.41
24:YA:1278:A:H2'	24:YA:1279:G:H8	1.85	0.41
24:YA:2055:C:H5'	24:YA:2056:G:O5'	2.21	0.41
24:YA:2553:G:N1	24:YA:2554:U:O2	2.54	0.41
24:YA:2572:A:P	27:YE:144:ARG:HB3	2.59	0.41
27:YE:12:THR:OG1	38:YT:8:LYS:HD2	2.20	0.41
29:YG:68:PRO:HB3	29:YG:92:VAL:HB	2.01	0.41
44:YZ:102:LEU:HD11	44:YZ:124:ILE:HG13	2.01	0.41
47:Y2:41:ILE:HD11	47:Y2:44:LEU:HD22	2.02	0.41
1:QA:1158:C:O2	1:QA:1158:C:H2'	2.20	0.41
1:QA:1216:G:H5''	14:QN:5:ALA:HB2	2.02	0.41
3:QC:157:ILE:HD12	3:QC:164:ARG:HG3	2.03	0.41
6:QF:50:TYR:OH	18:QR:74:ARG:O	2.31	0.41
9:QI:9:ARG:HG2	9:QI:14:VAL:HG22	2.02	0.41
9:QI:48:GLU:N	9:QI:49:PRO:HD2	2.35	0.41
24:RA:226:G:H2'	24:RA:227:A:C8	2.55	0.41
24:RA:831:G:OP1	34:RP:36:LYS:HE2	2.21	0.41
24:RA:1627:G:C6	24:RA:1640:C:C5	3.08	0.41
24:RA:1791:A:H3'	24:RA:1792:G:H8	1.86	0.41
24:RA:2321:G:N3	24:RA:2321:G:H2'	2.34	0.41
24:RA:2656:U:C4	24:RA:2665:A:H2	2.39	0.41
30:RH:152:ARG:HE	30:RH:153:LYS:HE3	1.84	0.41
44:RZ:30:ASN:HB3	44:RZ:90:VAL:HG22	2.03	0.41
46:R1:86:SER:N	46:R1:87:PRO:HD2	2.35	0.41
47:R2:50:ILE:HG22	47:R2:54:LYS:NZ	2.36	0.41
1:XA:186(E):C:H2'	1:XA:186(F):C:C6	2.55	0.41
1:XA:737:A:OP1	6:XF:92:LYS:HG2	2.20	0.41
1:XA:919:A:O2'	1:XA:1080:A:N1	2.45	0.41
24:YA:740:U:H2'	24:YA:741:G:C8	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:1024:G:C6	24:YA:1025:G:C6	3.09	0.41
24:YA:1112:G:O2'	30:YH:2:SER:HB2	2.21	0.41
24:YA:1153:C:H2'	24:YA:1154:G:O4'	2.20	0.41
24:YA:1543:A:H8	24:YA:1545:A:OP2	2.04	0.41
24:YA:1587:A:H2'	24:YA:1588:C:C6	2.55	0.41
24:YA:1752:C:H2'	24:YA:1753:G:C8	2.54	0.41
24:YA:2024:G:H2'	24:YA:2025:C:H6	1.85	0.41
24:YA:2031:A:N6	24:YA:2498:C:O4'	2.54	0.41
24:YA:2100:G:C6	24:YA:2190:G:C6	3.09	0.41
24:YA:2291:U:OP1	24:YA:2380:C:O2'	2.37	0.41
28:YF:28:ILE:HG23	28:YF:112:MET:HB3	2.02	0.41
28:YF:34:TRP:CE3	34:YP:8:PRO:HB3	2.55	0.41
28:YF:188:ARG:HG2	34:YP:3:LEU:HD11	2.01	0.41
48:Y3:6:VAL:HB	48:Y3:54:VAL:HG21	2.03	0.41
54:Y9:2:LYS:O	54:Y9:34:GLN:HA	2.20	0.41
1:QA:1250:A:H2	1:QA:1370:G:H1'	1.84	0.41
2:QB:207:ALA:O	2:QB:209:ARG:N	2.53	0.41
5:QE:18:ARG:HG2	5:QE:25:ARG:NH1	2.34	0.41
6:QF:22:GLU:OE1	6:QF:84:ASN:HB2	2.21	0.41
13:QM:80:ARG:HE	49:R4:58:ARG:NH1	2.19	0.41
20:QT:54:LYS:O	20:QT:57:ARG:HG2	2.20	0.41
24:RA:191:A:H2'	24:RA:192:C:C6	2.55	0.41
24:RA:236:C:O2'	24:RA:431:U:H4'	2.20	0.41
24:RA:270(R):G:H2'	24:RA:270(S):G:C8	2.56	0.41
24:RA:1000:A:N6	24:RA:1155:A:C8	2.89	0.41
24:RA:2015:A:N3	50:R5:6:VAL:HG12	2.36	0.41
24:RA:2365:G:O6	53:R8:39:LYS:NZ	2.54	0.41
26:RD:262:ARG:HD3	26:RD:262:ARG:HA	1.86	0.41
28:RF:170:LEU:HB2	28:RF:173:VAL:HG12	2.02	0.41
35:RQ:4:PRO:HD2	35:RQ:93:TYR:CD2	2.56	0.41
35:RQ:110:THR:HG23	35:RQ:113:GLN:HG2	2.03	0.41
38:RT:26:ASP:HB2	38:RT:91:ARG:HA	2.03	0.41
1:XA:434:U:H2'	1:XA:435:C:C6	2.56	0.41
1:XA:659:U:H2'	1:XA:660:G:C8	2.56	0.41
1:XA:998:G:H2'	1:XA:998(A):C:H6	1.84	0.41
1:XA:1028(A):C:C2	1:XA:1028(B):C:H5	2.39	0.41
1:XA:1128:C:N3	1:XA:1144:G:N2	2.68	0.41
2:XB:6:THR:O	2:XB:217:ARG:NH1	2.53	0.41
5:XE:152:ARG:HG2	8:XH:79:VAL:HG13	2.03	0.41
6:XF:77:ARG:O	6:XF:81:ILE:HG13	2.20	0.41
7:XG:57:GLU:O	7:XG:60:LYS:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:51:ARG:HA	14:XN:45:ARG:NH1	2.36	0.41
24:YA:375:C:H2'	24:YA:376:C:C6	2.55	0.41
24:YA:1187:G:H8	24:YA:1187:G:O5'	2.02	0.41
24:YA:1341:U:P	24:YA:1397:U:H3	2.43	0.41
24:YA:1562:A:H2'	24:YA:1563:G:H8	1.86	0.41
24:YA:1686:C:H2'	24:YA:1687:G:O4'	2.20	0.41
24:YA:1843:C:H5'	26:YD:253:GLN:OE1	2.21	0.41
24:YA:2618:G:H21	27:YE:150:VAL:HG21	1.86	0.41
27:YE:12:THR:HG22	27:YE:13:ARG:N	2.35	0.41
27:YE:176:ILE:O	27:YE:176:ILE:HG13	2.19	0.41
44:YZ:129:SER:OG	44:YZ:132:ASN:OD1	2.35	0.41
53:Y8:40:GLU:O	53:Y8:44:LYS:HD3	2.21	0.41
1:QA:186(E):C:C2	1:QA:191(C):G:N2	2.89	0.41
1:QA:246:A:C2	1:QA:282:A:C5	3.09	0.41
1:QA:370:C:H2'	1:QA:371:G:C8	2.55	0.41
1:QA:743:U:H2'	1:QA:744:C:C6	2.56	0.41
5:QE:9:LYS:HG2	5:QE:112:LEU:HD11	2.02	0.41
8:QH:5:PRO:HB2	8:QH:32:LYS:CE	2.48	0.41
11:QK:65:ALA:HB1	11:QK:98:LEU:HD12	2.02	0.41
14:QN:3:ARG:O	14:QN:7:ILE:HG23	2.21	0.41
19:QS:40:ILE:HG13	19:QS:41:VAL:N	2.35	0.41
24:RA:637:A:O5'	34:RP:116:GLY:HA2	2.21	0.41
24:RA:997:G:C2	24:RA:1159:U:C2	3.09	0.41
24:RA:1040:C:H2'	24:RA:1041:C:C6	2.56	0.41
24:RA:1289:C:H2'	24:RA:1290:C:C6	2.55	0.41
24:RA:2013:A:H5'	41:RW:96:ILE:HA	2.02	0.41
24:RA:2122:U:H2'	24:RA:2123:G:H8	1.85	0.41
24:RA:2314:C:C5'	29:RG:38:VAL:HG11	2.50	0.41
24:RA:2626:C:H2'	24:RA:2627:G:C8	2.53	0.41
25:RB:114:G:H2'	25:RB:115:G:O4'	2.21	0.41
26:RD:66:ASP:OD2	26:RD:69:ARG:HG2	2.21	0.41
28:RF:162:LEU:HD23	28:RF:165:ARG:HH21	1.85	0.41
28:RF:178:PRO:HB3	28:RF:198:ALA:CB	2.50	0.41
29:RG:32:PRO:HB2	29:RG:172:LEU:CD1	2.49	0.41
34:RP:37:GLY:O	34:RP:41:ARG:HG2	2.21	0.41
39:RU:92:ARG:C	39:RU:94:ASN:N	2.72	0.41
47:R2:16:LEU:HD21	47:R2:20:GLU:OE1	2.20	0.41
47:R2:28:LYS:HE2	47:R2:53:LEU:HD11	2.03	0.41
54:R9:14:CYS:HA	54:R9:27:CYS:SG	2.61	0.41
1:XA:29:G:O2'	1:XA:30:U:H5'	2.20	0.41
1:XA:284:G:H2'	1:XA:285:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1126:U:H1'	1:XA:1280:A:N7	2.35	0.41
1:XA:1127:G:N2	1:XA:1145:C:O2	2.52	0.41
1:XA:1404:C:H2'	1:XA:1405:G:C8	2.55	0.41
2:XB:61:LEU:HD13	2:XB:68:ILE:HG21	2.02	0.41
3:XC:60:ALA:N	3:XC:63:ASN:OD1	2.50	0.41
24:YA:27:G:H1'	24:YA:513:A:H62	1.84	0.41
24:YA:988:A:OP2	48:Y3:11:SER:OG	2.34	0.41
24:YA:1194:A:H2'	24:YA:1195:G:O4'	2.20	0.41
24:YA:1956:U:C4	24:YA:1957:C:C5	3.08	0.41
24:YA:2384:G:OP2	45:Y0:55:ARG:HD2	2.20	0.41
24:YA:2436:G:C6	24:YA:2437:U:C4	3.09	0.41
24:YA:2703:C:C2	24:YA:2704:C:C5	3.09	0.41
25:YB:9:G:C6	25:YB:112:G:C6	3.08	0.41
25:YB:9:G:OP1	37:YS:15:ARG:HD3	2.20	0.41
31:YI:14:ASP:C	31:YI:16:GLY:N	2.72	0.41
31:YI:71:ILE:HG23	31:YI:72:LEU:HG	2.03	0.41
1:QA:338:A:H2'	1:QA:339:C:H6	1.85	0.41
1:QA:353:A:H5'	1:QA:353:A:H8	1.85	0.41
1:QA:355:C:C4	1:QA:356:A:N7	2.88	0.41
1:QA:768:A:H4'	1:QA:1523:G:H21	1.85	0.41
1:QA:954:G:H21	1:QA:1227:A:N6	2.19	0.41
3:QC:154:SER:HB2	3:QC:165:THR:HG22	2.02	0.41
5:QE:100:VAL:O	5:QE:107:ARG:NH2	2.48	0.41
14:QN:15:LYS:HE3	14:QN:19:ARG:HH12	1.85	0.41
19:QS:49:ILE:HD13	19:QS:62:ILE:HD11	2.02	0.41
22:QV:6:G:H2'	22:QV:7:G:H5''	2.03	0.41
24:RA:37:C:H2'	24:RA:38:A:C8	2.55	0.41
24:RA:515:A:H1'	24:RA:581:C:H1'	2.03	0.41
24:RA:690:G:H2'	24:RA:691:C:H6	1.84	0.41
24:RA:1308:A:H2'	24:RA:1309:G:O4'	2.20	0.41
24:RA:1790:C:H2'	24:RA:1791:A:C5	2.55	0.41
24:RA:2811:G:OP1	27:RE:61:ARG:HG2	2.20	0.41
27:RE:122:PHE:HZ	27:RE:155:LYS:HB2	1.86	0.41
28:RF:73:ALA:HB3	28:RF:75:HIS:CE1	2.56	0.41
31:RI:92:VAL:HB	31:RI:120:ILE:HG22	2.03	0.41
1:XA:116:A:H61	1:XA:313:A:H1'	1.84	0.41
1:XA:376:G:H5''	16:XP:5:ARG:HD2	2.01	0.41
1:XA:384:G:H2'	1:XA:385:C:C6	2.55	0.41
1:XA:768:A:H4'	1:XA:1523:G:N2	2.35	0.41
1:XA:993:G:H2'	1:XA:995:C:H41	1.86	0.41
2:XB:115:LEU:HA	2:XB:118:LEU:HD12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:167:PRO:HG2	2:XB:192:SER:OG	2.20	0.41
5:XE:15:ARG:HG3	5:XE:28:PHE:HE1	1.84	0.41
24:YA:177:G:H3'	24:YA:178:G:H8	1.85	0.41
24:YA:286:C:H2'	24:YA:287:C:H6	1.86	0.41
24:YA:448:U:O4	24:YA:583:G:H1'	2.20	0.41
24:YA:606:U:H4'	24:YA:658:C:H4'	2.03	0.41
24:YA:1359:A:H2'	24:YA:1360:A:H5'	2.03	0.41
24:YA:1482:U:H5'	24:YA:1483:G:OP2	2.20	0.41
24:YA:2332:U:H5'	24:YA:2336:A:N6	2.35	0.41
36:YR:75:LEU:O	36:YR:75:LEU:HD13	2.21	0.41
39:YU:92:ARG:HD2	40:YV:11:GLN:CG	2.51	0.41
39:YU:104:GLN:CG	40:YV:44:LYS:HD3	2.49	0.41
46:Y1:51:VAL:HG21	46:Y1:74:VAL:HG21	2.02	0.41
50:Y5:38:ALA:HB3	50:Y5:48:GLU:OE2	2.21	0.41
1:QA:113:G:H2'	1:QA:114:U:H6	1.86	0.41
1:QA:362:G:N2	1:QA:365:U:OP2	2.54	0.41
1:QA:575:G:O2'	1:QA:821:G:H5'	2.21	0.41
1:QA:976:G:OP1	14:QN:32:SER:N	2.53	0.41
1:QA:1157:A:H4'	1:QA:1158:C:H5	1.86	0.41
1:QA:1478:C:H2'	1:QA:1479:C:H6	1.86	0.41
3:QC:67:THR:HG22	3:QC:102:ASN:HB2	2.03	0.41
5:QE:20:GLN:HG3	5:QE:21:ALA:H	1.84	0.41
8:QH:109:ILE:HG22	8:QH:137:VAL:HG13	2.03	0.41
24:RA:68:G:H2'	24:RA:69:C:H6	1.85	0.41
24:RA:207:A:H2'	24:RA:208:C:O4'	2.21	0.41
24:RA:1018:C:H2'	24:RA:1019:U:H6	1.86	0.41
24:RA:1164:G:H2'	24:RA:1165:U:H6	1.84	0.41
24:RA:1171:G:N7	24:RA:1174:A:N6	2.69	0.41
24:RA:1503:U:H2'	24:RA:1504:C:C6	2.55	0.41
24:RA:1869:G:H5'	24:RA:1870:C:OP2	2.20	0.41
24:RA:2347:C:HO2'	51:R6:21:TYR:HH	1.61	0.41
25:RB:11:C:OP2	25:RB:12:C:N4	2.40	0.41
29:RG:173:LEU:HD22	29:RG:178:PHE:CE2	2.55	0.41
30:RH:107:VAL:HB	30:RH:109:PHE:CE2	2.55	0.41
33:RO:115:VAL:HG13	33:RO:121:VAL:HG21	2.02	0.41
45:R0:74:ARG:HG3	45:R0:75:LEU:HD12	2.03	0.41
51:R6:9:LEU:HD11	51:R6:23:THR:HG22	2.03	0.41
1:XA:321:A:C2	1:XA:333:G:C2	3.09	0.41
1:XA:538:G:H2'	1:XA:539:A:C8	2.56	0.41
1:XA:584:G:H2'	1:XA:585:G:C8	2.56	0.41
1:XA:842:C:O2'	1:XA:848:C:N4	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:920:U:H2'	1:XA:921:U:H6	1.82	0.41
1:XA:1329:A:H5''	13:XM:26:GLY:H	1.86	0.41
1:XA:1350:A:H2'	1:XA:1351:U:C6	2.56	0.41
7:XG:104:LEU:HD22	7:XG:123:GLU:OE1	2.20	0.41
20:XT:34:LYS:O	20:XT:38:LYS:HG2	2.20	0.41
24:YA:139:G:H4'	24:YA:140:A:H2	1.85	0.41
24:YA:443:A:C5	28:YF:45:ARG:HD3	2.56	0.41
24:YA:591:C:H1'	53:Y8:2:PRO:HA	2.02	0.41
24:YA:860:U:H5	24:YA:917:A:C2	2.38	0.41
24:YA:1027:A:C2	24:YA:2488:A:H5'	2.55	0.41
24:YA:1462:C:H4'	24:YA:2703:C:O4'	2.20	0.41
24:YA:1655:A:H1'	27:YE:113:PHE:CD2	2.56	0.41
24:YA:1773:A:N7	24:YA:1829:A:H1'	2.35	0.41
24:YA:2079:U:H4'	24:YA:2433:A:C2	2.55	0.41
24:YA:2442:C:H2'	24:YA:2443:C:C6	2.56	0.41
25:YB:111:U:H2'	25:YB:112:G:C8	2.55	0.41
26:YD:31:LYS:NZ	26:YD:34:VAL:HB	2.35	0.41
28:YF:134:GLY:H	28:YF:162:LEU:HD23	1.86	0.41
28:YF:185:ASP:HA	28:YF:188:ARG:HD3	2.03	0.41
33:YO:8:LEU:HB2	33:YO:19:ILE:HG13	2.03	0.41
39:YU:12:ARG:O	39:YU:16:LYS:HD3	2.20	0.41
1:QA:15:G:C4	1:QA:16:A:C8	3.09	0.41
1:QA:102:G:P	20:QT:14:LYS:HZ3	2.44	0.41
1:QA:397:A:N7	1:QA:547:A:O2'	2.52	0.41
1:QA:444:C:H2'	1:QA:445:G:C8	2.55	0.41
1:QA:537:G:H5''	12:QL:113:ARG:HH12	1.86	0.41
1:QA:690:G:N2	11:QK:55:LYS:HZ3	2.18	0.41
1:QA:738:C:H2'	1:QA:739:C:C6	2.56	0.41
1:QA:792:A:H2'	1:QA:792:A:N3	2.36	0.41
1:QA:855:G:C6	1:QA:856:C:C4	3.08	0.41
1:QA:953:G:C6	1:QA:1229:A:C6	3.09	0.41
1:QA:1086:U:H3	1:QA:1099:G:H22	1.68	0.41
1:QA:1254:C:H5''	10:QJ:45:ARG:NH1	2.36	0.41
1:QA:1368:G:O3'	14:QN:61:TRP:HH2	2.04	0.41
4:QD:197:PRO:HD3	6:XF:16:GLN:NE2	2.36	0.41
7:QG:50:ILE:HG13	7:QG:50:ILE:O	2.21	0.41
7:QG:78:ARG:O	7:QG:84:ASN:HA	2.21	0.41
12:QL:69:TYR:HB3	12:QL:99:HIS:CD2	2.56	0.41
17:QQ:43:LEU:O	17:QQ:69:LYS:HG3	2.20	0.41
22:QV:53:G:O2'	22:QV:54:G:OP1	2.35	0.41
24:RA:51:G:OP2	24:RA:51:G:H8	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:303:U:H2'	24:RA:304:G:C8	2.55	0.41
24:RA:404:C:H1'	24:RA:405:U:OP2	2.20	0.41
24:RA:445:C:H2'	24:RA:446:G:O4'	2.20	0.41
24:RA:522:G:H2'	24:RA:523:C:C6	2.56	0.41
24:RA:569:U:H2'	24:RA:570:G:C8	2.56	0.41
24:RA:637:A:H4'	24:RA:638:G:O5'	2.20	0.41
24:RA:764:A:H5'	26:RD:210:GLY:HA2	2.03	0.41
24:RA:1040:C:H2'	24:RA:1041:C:H6	1.86	0.41
24:RA:1266:G:N7	41:RW:15:ARG:NE	2.66	0.41
24:RA:1449:A:C4	24:RA:1529:A:C2	3.09	0.41
24:RA:1632:A:H2'	24:RA:1633:G:C8	2.55	0.41
24:RA:1751:C:H2'	24:RA:1752:C:C6	2.56	0.41
24:RA:1843:C:H5'	26:RD:253:GLN:OE1	2.21	0.41
24:RA:1995:U:H2'	24:RA:1996:C:C5	2.56	0.41
24:RA:2355:C:H4'	45:R0:24:LYS:HE3	2.03	0.41
24:RA:2704:C:H2'	24:RA:2705:A:O4'	2.21	0.41
24:RA:2840:C:H5''	36:RR:53:HIS:ND1	2.35	0.41
26:RD:245:PRO:HA	26:RD:246:PRO:HD3	1.86	0.41
28:RF:128:ALA:O	28:RF:130:ALA:N	2.54	0.41
29:RG:98:ARG:O	29:RG:101:ILE:HG22	2.21	0.41
29:RG:111:LEU:HD22	29:RG:117:PHE:CE1	2.55	0.41
30:RH:26:VAL:HG13	30:RH:27:LYS:N	2.35	0.41
30:RH:41:MET:HE3	30:RH:64:LEU:HB3	2.02	0.41
44:RZ:23:LYS:HD2	44:RZ:38:TYR:CE2	2.56	0.41
48:R3:16:PRO:HB2	48:R3:18:ASP:OD1	2.21	0.41
49:R4:61:ARG:HH11	49:R4:62:ARG:CA	2.25	0.41
51:R6:25:LYS:NZ	51:R6:34:LEU:HB2	2.35	0.41
1:XA:49:U:H3	1:XA:362:G:H1'	1.86	0.41
1:XA:68:G:N2	1:XA:152:A:O2'	2.54	0.41
1:XA:177:C:H2'	1:XA:178:C:C6	2.56	0.41
1:XA:276:G:OP2	17:XQ:14:LYS:HE3	2.21	0.41
1:XA:411:A:C4	1:XA:413:G:H1'	2.55	0.41
1:XA:750:G:C2	1:XA:751:U:C5	3.08	0.41
1:XA:777:A:H2'	1:XA:778:G:H8	1.85	0.41
1:XA:868:C:H2'	1:XA:869:G:O4'	2.20	0.41
1:XA:925:G:C2	1:XA:927:G:C8	3.09	0.41
1:XA:998:G:H2'	1:XA:998(A):C:C6	2.56	0.41
1:XA:1009:G:C6	1:XA:1021:G:C6	3.08	0.41
1:XA:1034:G:H2'	1:XA:1035:A:C8	2.55	0.41
1:XA:1251:A:H2'	1:XA:1252:A:C8	2.56	0.41
1:XA:1427:U:H2'	1:XA:1428:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:49:GLU:OE2	8:XH:62:TYR:OH	2.31	0.41
10:XJ:84:GLN:HG3	10:XJ:85:LEU:HG	2.02	0.41
17:XQ:18:THR:HG1	17:XQ:69:LYS:HZ1	1.61	0.41
18:XR:68:LYS:O	18:XR:72:ARG:HG3	2.21	0.41
24:YA:152:G:H2'	24:YA:153:C:C6	2.56	0.41
24:YA:194:G:H2'	24:YA:195:A:O4'	2.21	0.41
24:YA:301:G:C6	24:YA:317:G:C6	3.09	0.41
24:YA:459:U:H4'	52:Y7:40:TRP:CZ3	2.56	0.41
24:YA:570:G:H2'	24:YA:2030:A:C5	2.56	0.41
24:YA:896:A:O2'	44:YZ:176:PRO:HG3	2.20	0.41
24:YA:1517:G:H2'	24:YA:1518:C:C6	2.56	0.41
24:YA:1547:C:O2'	24:YA:1548:C:H5'	2.20	0.41
24:YA:1651:G:H5'	36:YR:39:PRO:HG2	2.02	0.41
24:YA:1709:U:H2'	24:YA:1710:C:H6	1.84	0.41
24:YA:2020:A:H4'	39:YU:25:TRP:HZ3	1.86	0.41
24:YA:2106:G:H2'	24:YA:2107:C:C6	2.56	0.41
24:YA:2137:C:H2'	24:YA:2138:C:C6	2.56	0.41
24:YA:2330:G:H2'	24:YA:2331:G:O4'	2.20	0.41
24:YA:2331:G:O2'	45:Y0:43:THR:HG22	2.20	0.41
24:YA:2356:C:H2'	24:YA:2357:U:O4'	2.21	0.41
24:YA:2369:A:H2'	24:YA:2370:G:C8	2.56	0.41
24:YA:2415:G:H4'	34:YP:67:MET:H	1.84	0.41
24:YA:2459:A:C4	24:YA:2460:U:C6	3.09	0.41
24:YA:2696:U:H2'	24:YA:2697:G:C8	2.56	0.41
25:YB:47:C:H4'	37:YS:93:LYS:NZ	2.36	0.41
26:YD:28:GLU:HG2	26:YD:29:PRO:CD	2.49	0.41
26:YD:116:GLN:OE1	26:YD:118:VAL:HG13	2.21	0.41
28:YF:39:TRP:CH2	28:YF:106:ARG:HD3	2.56	0.41
28:YF:155:LEU:HD13	28:YF:174:VAL:HG13	2.03	0.41
32:YN:3:THR:CG2	39:YU:61:TRP:HE1	2.34	0.41
32:YN:17:ASP:O	32:YN:56:ASN:HB2	2.21	0.41
32:YN:52:VAL:HB	32:YN:120:LEU:HD23	2.02	0.41
35:YQ:78:PRO:HD2	35:YQ:80:GLU:OE1	2.21	0.41
37:YS:31:SER:OG	37:YS:34:HIS:O	2.38	0.41
38:YT:26:ASP:HB2	38:YT:90:GLN:O	2.21	0.41
43:YY:28:LYS:HB3	43:YY:38:ILE:HG22	2.03	0.41
43:YY:55:TYR:CE1	43:YY:61:ILE:HG21	2.56	0.41
44:YZ:124:ILE:HG21	44:YZ:163:LEU:HD11	2.02	0.41
1:QA:848:C:H2'	1:QA:849:C:H6	1.85	0.41
1:QA:1027:C:HO2'	1:QA:1028:C:H3'	1.86	0.41
1:QA:1290:G:O3'	7:QG:37:ASN:ND2	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1431:C:H2'	1:QA:1432:G:O4'	2.20	0.41
1:QA:1491:G:H5''	1:QA:1492:A:OP2	2.21	0.41
3:QC:12:LEU:HB3	14:QN:57:ARG:HG3	2.02	0.41
13:QM:12:ASN:O	13:QM:13:LYS:HB2	2.21	0.41
13:QM:80:ARG:HD2	49:R4:58:ARG:HH22	1.85	0.41
13:QM:108:ARG:HH12	13:QM:114:ARG:NH1	2.19	0.41
24:RA:432:A:H2'	24:RA:433:C:C6	2.56	0.41
24:RA:635:C:H2'	24:RA:636:G:O4'	2.21	0.41
24:RA:666:G:H1'	53:R8:4:MET:SD	2.61	0.41
24:RA:1142(A):A:H4'	32:RN:25:ARG:NH2	2.29	0.41
24:RA:2090:G:C6	24:RA:2230:G:C6	3.09	0.41
24:RA:2187:G:H2'	24:RA:2188:C:C6	2.56	0.41
24:RA:2816:C:O2	24:RA:2883:A:O2'	2.36	0.41
25:RB:33:G:O2'	25:RB:34:U:H5'	2.21	0.41
25:RB:49:C:H2'	25:RB:50:G:H8	1.85	0.41
27:RE:6:GLY:HA2	27:RE:51:PHE:CZ	2.56	0.41
28:RF:110:LEU:HG	28:RF:202:PHE:HE1	1.86	0.41
28:RF:195:ASP:N	28:RF:195:ASP:OD1	2.54	0.41
29:RG:113:ARG:NH1	49:R4:34:GLU:OE1	2.46	0.41
30:RH:16:SER:OG	30:RH:27:LYS:HB2	2.21	0.41
31:RI:79:ILE:O	31:RI:79:ILE:HD12	2.21	0.41
34:RP:29:LYS:HG3	34:RP:30:THR:HG23	2.03	0.41
34:RP:57:THR:HG23	34:RP:59:LEU:H	1.85	0.41
51:R6:26:ASN:HD22	51:R6:27:LYS:H	1.68	0.41
1:XA:600:C:H4'	8:XH:128:GLY:O	2.21	0.41
1:XA:791:G:C6	1:XA:792:A:N1	2.89	0.41
1:XA:1298:C:H4'	1:XA:1299:A:O4'	2.21	0.41
4:XD:18:LYS:HA	4:XD:18:LYS:HD3	1.92	0.41
7:XG:111:ARG:HB3	7:XG:113:GLU:OE1	2.21	0.41
10:XJ:44:VAL:HG22	10:XJ:66:ARG:HG2	2.03	0.41
13:XM:65:LYS:C	13:XM:66:LEU:HD12	2.42	0.41
20:XT:39:LYS:HG3	20:XT:55:ILE:HG21	2.03	0.41
24:YA:278:A:H2'	24:YA:279:C:H6	1.80	0.41
24:YA:320:A:O2'	28:YF:169:ASN:ND2	2.48	0.41
24:YA:455:C:N3	24:YA:473:G:H5'	2.35	0.41
24:YA:795:C:H2'	24:YA:796:C:C6	2.56	0.41
24:YA:957:A:N1	24:YA:2458:G:H4'	2.36	0.41
24:YA:1598:C:O3'	42:YX:35:THR:OG1	2.35	0.41
24:YA:2100:G:N3	24:YA:2100:G:H2'	2.36	0.41
24:YA:2164:C:H5''	24:YA:2165:G:OP2	2.20	0.41
24:YA:2266:A:H4'	24:YA:2267:A:N3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:2459:A:C5	24:YA:2460:U:C5	3.09	0.41
26:YD:35:LYS:HG3	26:YD:63:ARG:HD2	2.04	0.41
29:YG:15:VAL:HG21	29:YG:176:LEU:HD23	2.03	0.41
35:YQ:50:ALA:HB1	35:YQ:121:ALA:HB1	2.02	0.41
39:YU:31:SER:HB3	39:YU:34:LYS:HB2	2.03	0.41
1:QA:643:C:H2'	1:QA:644:G:H8	1.86	0.40
1:QA:1213:A:C6	1:QA:1215:G:C4	3.09	0.40
1:QA:1301:U:H3'	1:QA:1302:U:H5'	2.02	0.40
19:QS:10:PHE:HA	19:QS:38:SER:HB3	2.03	0.40
24:RA:108:U:H2'	24:RA:109:G:H8	1.86	0.40
24:RA:270(I):G:H2'	24:RA:270(J):G:C8	2.55	0.40
24:RA:299:A:N3	24:RA:319:C:O2'	2.51	0.40
24:RA:512:G:H4'	24:RA:513:A:O5'	2.21	0.40
24:RA:1759:A:H4'	24:RA:2715:C:O4'	2.21	0.40
24:RA:1826:G:H2'	24:RA:1827:C:C6	2.55	0.40
24:RA:2867:G:O2'	24:RA:2868:A:C8	2.70	0.40
25:RB:24:G:H1'	25:RB:26:A:H62	1.86	0.40
26:RD:72:LYS:NZ	26:RD:99:ASP:OD2	2.54	0.40
29:RG:41:GLN:HB2	29:RG:60:LEU:HD22	2.03	0.40
35:RQ:16:ARG:NH2	35:RQ:18:LYS:HG2	2.35	0.40
38:RT:53:ARG:HD3	38:RT:53:ARG:O	2.21	0.40
44:RZ:152:ALA:CB	44:RZ:168:GLU:HA	2.51	0.40
1:XA:36:C:O2'	1:XA:501:C:OP1	2.33	0.40
1:XA:624:C:O3'	16:XP:10:GLY:HA2	2.20	0.40
1:XA:1135:U:H4'	1:XA:1136:U:H5	1.85	0.40
1:XA:1152:A:H2'	1:XA:1153:C:C6	2.56	0.40
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.56	0.40
6:XF:9:VAL:HG22	6:XF:60:PHE:CD1	2.56	0.40
8:XH:120:THR:HG22	8:XH:121:ASP:OD1	2.21	0.40
12:XL:89:ARG:HE	12:XL:91:LYS:HA	1.86	0.40
18:XR:21:LYS:HD3	18:XR:57:GLY:HA3	2.03	0.40
20:XT:100:ILE:HG13	20:XT:102:GLY:N	2.34	0.40
24:YA:686:G:N2	24:YA:788:A:H61	2.18	0.40
24:YA:775:G:C4	24:YA:794:G:C8	3.09	0.40
24:YA:809:G:H2'	24:YA:810:U:C6	2.56	0.40
24:YA:1265:A:H8	24:YA:1265:A:OP1	2.03	0.40
24:YA:1790:C:H2'	24:YA:1791:A:C8	2.56	0.40
24:YA:2022:U:O2'	24:YA:2617:C:H5'	2.21	0.40
24:YA:2163:C:H2'	24:YA:2164:C:C6	2.56	0.40
24:YA:2259:G:C8	24:YA:2427:C:C4	3.08	0.40
24:YA:2705:A:H2	36:YR:64:ARG:HH22	1.68	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:YF:64:ILE:HG21	28:YF:78:ILE:HD11	2.02	0.40
30:YH:103:LEU:HB3	30:YH:115:VAL:CG2	2.51	0.40
35:YQ:34:LEU:HB2	35:YQ:118:LEU:HD22	2.03	0.40
36:YR:28:LEU:HD13	36:YR:34:ILE:HG12	2.03	0.40
38:YT:35:LYS:HZ2	38:YT:38:ASN:H	1.68	0.40
42:YX:36:LYS:HB2	42:YX:54:VAL:HB	2.04	0.40
44:YZ:23:LYS:HG2	44:YZ:40:ASP:HA	2.02	0.40
1:QA:580:U:H5''	15:QO:58:MET:HG2	2.02	0.40
1:QA:604:G:C6	1:QA:635:G:C6	3.10	0.40
1:QA:659:U:OP1	15:QO:9:GLN:NE2	2.52	0.40
1:QA:1352:C:OP1	21:QU:3:LYS:NZ	2.36	0.40
1:QA:1360:A:H2'	1:QA:1361:G:C8	2.56	0.40
3:QC:108:ASN:HD21	3:QC:144:SER:HB3	1.86	0.40
4:QD:4:TYR:OH	4:QD:7:PRO:O	2.30	0.40
14:QN:15:LYS:HE3	14:QN:19:ARG:NH1	2.37	0.40
24:RA:483:A:O4'	43:RY:48:ALA:HB1	2.19	0.40
24:RA:1297:C:H2'	24:RA:1298:C:H6	1.86	0.40
24:RA:1936:A:N7	24:RA:1945:G:C8	2.89	0.40
24:RA:2306:C:H2'	24:RA:2307:G:N2	2.36	0.40
24:RA:2543:G:H21	24:RA:2646:C:H5''	1.85	0.40
24:RA:2803:C:H2'	24:RA:2804:C:C6	2.57	0.40
27:RE:73:GLU:CG	27:RE:74:PRO:HD2	2.52	0.40
27:RE:82:ARG:O	27:RE:83:ASP:HB2	2.21	0.40
31:RI:81:VAL:HG11	31:RI:92:VAL:HG22	2.03	0.40
31:RI:113:ARG:O	31:RI:113:ARG:HD3	2.21	0.40
39:RU:90:VAL:HG13	40:RV:39:LEU:HD22	2.03	0.40
1:XA:238:G:P	17:XQ:25:ARG:HH22	2.45	0.40
1:XA:411:A:P	4:XD:30:LYS:NZ	2.94	0.40
1:XA:546:G:H4'	1:XA:548:G:H4'	2.03	0.40
1:XA:552:U:H5'	12:XL:86:ARG:HH11	1.86	0.40
1:XA:909:A:H2'	1:XA:910:C:O4'	2.21	0.40
1:XA:964:A:O3'	10:XJ:55:LYS:NZ	2.54	0.40
1:XA:967:C:H5''	1:XA:968:A:OP2	2.21	0.40
6:XF:37:VAL:HA	6:XF:65:VAL:HG12	2.04	0.40
10:XJ:54:PHE:HD2	10:XJ:55:LYS:HG2	1.87	0.40
12:XL:92:ASP:O	12:XL:94:PRO:HD3	2.21	0.40
13:XM:3:ARG:NH1	29:YG:113:ARG:HH21	2.19	0.40
17:XQ:60:ILE:CG2	17:XQ:72:ARG:HG2	2.50	0.40
22:XV:19:G:H21	22:XV:59:A:H5'	1.85	0.40
24:YA:106:C:H2'	24:YA:107:C:H6	1.86	0.40
24:YA:265:A:N6	24:YA:428:A:N7	2.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:305:U:H2'	24:YA:306:U:C6	2.57	0.40
24:YA:1173:G:H1'	24:YA:1175:U:C5	2.56	0.40
24:YA:1293:C:H2'	24:YA:1294:U:C6	2.56	0.40
24:YA:1817:G:N3	24:YA:1817:G:H2'	2.35	0.40
24:YA:1878:G:H2'	24:YA:1879:C:H6	1.85	0.40
26:YD:142:VAL:HG12	26:YD:193:VAL:HG23	2.03	0.40
27:YE:82:ARG:O	27:YE:83:ASP:HB2	2.21	0.40
29:YG:109:VAL:HG11	29:YG:142:PRO:HG3	2.03	0.40
32:YN:34:LEU:HD11	32:YN:120:LEU:HG	2.02	0.40
39:YU:80:ILE:HG22	39:YU:84:LYS:HE2	2.03	0.40
44:YZ:59:LEU:C	44:YZ:61:LEU:H	2.20	0.40
44:YZ:61:LEU:HD23	44:YZ:65:GLN:HB2	2.03	0.40
49:Y4:53:GLU:HB2	49:Y4:56:VAL:CG2	2.50	0.40
1:QA:191(G):G:O2'	20:QT:101:GLY:O	2.35	0.40
1:QA:1048:G:OP1	14:QN:3:ARG:HG2	2.21	0.40
1:QA:1051:C:H2'	1:QA:1052:U:C6	2.56	0.40
3:QC:11:ARG:C	3:QC:13:GLY:H	2.24	0.40
4:QD:21:LEU:HD11	4:QD:67:ILE:HA	2.04	0.40
8:QH:6:ILE:HD11	8:QH:31:PHE:CD2	2.56	0.40
24:RA:191:A:H2'	24:RA:192:C:H6	1.86	0.40
24:RA:824:A:H2'	24:RA:825:C:C6	2.56	0.40
24:RA:835:A:C4	24:RA:836:G:C8	3.10	0.40
24:RA:860:U:C5	24:RA:917:A:C2	3.09	0.40
24:RA:957:A:N6	24:RA:2459:A:C8	2.90	0.40
24:RA:1520:U:H2'	24:RA:1521:G:O4'	2.22	0.40
24:RA:1651:G:N2	24:RA:2007:C:C2	2.89	0.40
24:RA:2168:G:N2	24:RA:2170:A:N7	2.70	0.40
24:RA:2845:G:H5''	38:RT:54:ARG:O	2.22	0.40
25:RB:93:C:H2'	25:RB:94:C:H6	1.87	0.40
26:RD:123:ALA:O	26:RD:131:LEU:HD11	2.22	0.40
29:RG:38:VAL:HG13	29:RG:158:ALA:HB3	2.03	0.40
45:R0:32:ARG:N	45:R0:35:ASN:OD1	2.49	0.40
1:XA:178:C:C2	1:XA:179:A:C8	3.09	0.40
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.54	0.40
1:XA:718:G:N2	18:XR:49:LYS:HB3	2.37	0.40
1:XA:728:A:H2'	1:XA:729:A:C8	2.56	0.40
13:XM:45:VAL:HG23	13:XM:48:LEU:HD21	2.04	0.40
15:XO:40:SER:O	15:XO:44:LYS:HG3	2.21	0.40
19:XS:80:TYR:O	19:XS:81:ARG:HG2	2.21	0.40
24:YA:32:C:O2'	24:YA:33:U:H5'	2.21	0.40
24:YA:171:G:H2'	24:YA:172:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:YA:307:G:H21	24:YA:330:A:N6	2.19	0.40
24:YA:363(D):G:H2'	24:YA:363(E):U:H6	1.85	0.40
24:YA:379:G:C6	24:YA:396:G:C6	3.10	0.40
24:YA:794:G:H2'	24:YA:795:C:H6	1.84	0.40
24:YA:807:U:H2'	24:YA:808:G:C8	2.55	0.40
24:YA:1694:C:H4'	24:YA:1695:G:O5'	2.21	0.40
24:YA:1826:G:H2'	24:YA:1827:C:H6	1.86	0.40
24:YA:1872:A:H5'	24:YA:1878:G:OP2	2.21	0.40
24:YA:2102:U:H2'	24:YA:2103:C:C6	2.57	0.40
24:YA:2289:G:N2	24:YA:2344:U:O2	2.54	0.40
24:YA:2295:C:OP2	37:YS:10:ARG:HD3	2.21	0.40
24:YA:2317:C:H2'	24:YA:2318:G:O4'	2.22	0.40
24:YA:2373:G:H5'	51:Y6:37:ARG:HH22	1.85	0.40
24:YA:2418:A:H2'	24:YA:2419:U:C6	2.56	0.40
24:YA:2467:C:H4'	35:YQ:123:HIS:CD2	2.57	0.40
24:YA:2516:G:C4	24:YA:2569:G:N2	2.90	0.40
24:YA:2567:G:H2'	24:YA:2568:C:C6	2.56	0.40
27:YE:101:ARG:HA	27:YE:170:LEU:O	2.21	0.40
29:YG:105:LYS:HE2	49:Y4:26:SER:HB3	2.03	0.40
29:YG:107:LEU:HD21	29:YG:178:PHE:CE1	2.57	0.40
31:YI:40:THR:HG22	31:YI:42:SER:H	1.86	0.40
33:YO:7:TYR:HE1	33:YO:44:LYS:HG3	1.86	0.40
36:YR:49:ASP:OD1	36:YR:95:THR:HG23	2.21	0.40
39:YU:97:ASP:OD1	39:YU:101:ARG:HG3	2.21	0.40
46:Y1:53:VAL:C	46:Y1:55:GLY:H	2.25	0.40
1:QA:49:U:C2	1:QA:361:G:N2	2.90	0.40
1:QA:148:G:H2'	1:QA:149:A:C8	2.56	0.40
1:QA:504:C:C2	1:QA:542:G:N2	2.90	0.40
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.52	0.40
1:QA:828:A:H2'	1:QA:829:G:O4'	2.22	0.40
1:QA:1225:A:H4'	19:QS:78:ARG:HE	1.86	0.40
1:QA:1236:A:H4'	1:QA:1304:G:H4'	2.04	0.40
1:QA:1371:G:H2'	1:QA:1372:U:C6	2.56	0.40
2:QB:131:PRO:O	2:QB:135:GLN:HG3	2.22	0.40
9:QI:26:VAL:HG22	9:QI:61:ALA:HB3	2.03	0.40
12:QL:38:THR:OG1	12:QL:57:LYS:HG3	2.22	0.40
12:QL:45:PRO:HG3	12:QL:53:ARG:HD3	2.03	0.40
17:QQ:43:LEU:HD12	17:QQ:68:ARG:HG3	2.03	0.40
24:RA:754:C:H2'	24:RA:755:C:C6	2.56	0.40
24:RA:968:G:H2'	24:RA:969:U:C6	2.56	0.40
24:RA:1331:A:O2'	24:RA:1332:G:H8	2.05	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:1790:C:H2'	24:RA:1791:A:C8	2.55	0.40
24:RA:2532:G:C6	24:RA:2533:A:C6	3.10	0.40
24:RA:2562:U:H4'	33:RO:25:LEU:HD21	2.03	0.40
27:RE:2:LYS:HB2	27:RE:200:GLU:HG2	2.03	0.40
35:RQ:40:ALA:HB2	35:RQ:127:ILE:HD11	2.03	0.40
37:RS:10:ARG:HA	37:RS:13:ARG:HE	1.85	0.40
44:RZ:5:LEU:HB2	44:RZ:59:LEU:HA	2.02	0.40
1:XA:1000:A:H2'	1:XA:1001:G:C8	2.57	0.40
1:XA:1009:G:C2	1:XA:1010:G:C8	3.10	0.40
2:XB:11:LEU:HG	2:XB:213:LEU:HD11	2.02	0.40
3:XC:26:LYS:HA	14:YN:36:PHE:HE1	1.85	0.40
4:XD:68:TYR:CE2	4:XD:97:LEU:HB3	2.57	0.40
6:XF:97:PHE:N	18:XR:30:ASP:OD1	2.54	0.40
7:XG:35:LYS:HE3	7:XG:37:ASN:HB3	2.04	0.40
9:XI:71:SER:O	9:XI:74:ILE:HG13	2.21	0.40
13:XM:96:LEU:HB3	13:XM:97:PRO:HD2	2.02	0.40
24:YA:37:C:H2'	24:YA:38:A:C8	2.56	0.40
24:YA:219:G:H2'	24:YA:220:G:O4'	2.21	0.40
24:YA:273:G:H2'	24:YA:273(A):G:H8	1.87	0.40
24:YA:602:G:O2'	24:YA:655:A:N6	2.53	0.40
24:YA:994:C:H3'	39:YU:54:LYS:HE3	2.04	0.40
24:YA:1074:G:OP2	24:YA:1074:G:H8	2.05	0.40
24:YA:1331:A:O2'	24:YA:1332:G:H5'	2.22	0.40
24:YA:1728:G:H3'	24:YA:1729:A:C5'	2.51	0.40
24:YA:2061:G:N3	24:YA:2063:C:C5	2.89	0.40
24:YA:2143:C:H2'	24:YA:2144:U:O4'	2.21	0.40
24:YA:2657:A:H1'	24:YA:2665:A:N6	2.35	0.40
25:YB:69:G:C5	25:YB:70:C:C5	3.10	0.40
32:YN:68:GLU:HG2	32:YN:88:GLU:CD	2.41	0.40
37:YS:18:ILE:HG12	37:YS:88:ASP:HA	2.02	0.40
1:QA:192:U:H2'	1:QA:193:C:C6	2.56	0.40
1:QA:198:G:C4	1:QA:199:G:C8	3.10	0.40
1:QA:628:G:H2'	1:QA:629:G:C8	2.56	0.40
1:QA:658:G:H5''	15:QO:8:LYS:NZ	2.36	0.40
1:QA:922:G:H2'	1:QA:923:A:H8	1.84	0.40
1:QA:925:G:H1'	1:QA:1502:A:C4	2.56	0.40
1:QA:946:A:H2'	1:QA:947:G:H8	1.81	0.40
1:QA:973:G:H3'	1:QA:974:A:C5'	2.51	0.40
1:QA:984:C:H2'	1:QA:985:C:C6	2.57	0.40
1:QA:1349:A:OP2	9:QI:118:LYS:HE2	2.21	0.40
2:QB:145:LEU:O	2:QB:149:LEU:HG	2.22	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:QH:129:VAL:HG13	8:QH:130:GLY:N	2.37	0.40
12:QL:109:GLY:HA3	12:QL:121:GLY:O	2.21	0.40
13:QM:81:LEU:O	13:QM:84:ILE:HG22	2.22	0.40
15:QO:17:ARG:NH1	15:QO:26:GLU:HG2	2.37	0.40
15:QO:48:LYS:HD3	15:QO:48:LYS:O	2.22	0.40
24:RA:458:G:H8	52:R7:37:LYS:O	2.05	0.40
24:RA:751:A:C6	24:RA:789:A:C5	3.09	0.40
24:RA:2450:A:C2	24:RA:2451:A:C5	3.10	0.40
24:RA:2459:A:C5	24:RA:2460:U:C5	3.10	0.40
24:RA:2666:C:O2	30:RH:152:ARG:NH1	2.54	0.40
24:RA:2884:U:H2'	24:RA:2885:C:O4'	2.22	0.40
25:RB:24:G:H5''	25:RB:25:A:OP1	2.21	0.40
27:RE:79:ARG:HG3	27:RE:197:ILE:HG21	2.02	0.40
29:RG:53:LEU:HD13	29:RG:87:PRO:HB2	2.04	0.40
33:RO:69:ILE:HD11	33:RO:77:ILE:HG22	2.03	0.40
1:XA:112:G:H4'	1:XA:389:A:H4'	2.03	0.40
1:XA:552:U:O2	12:XL:31:PRO:HB3	2.22	0.40
1:XA:918:A:H2'	1:XA:919:A:C8	2.56	0.40
1:XA:923:A:H2'	1:XA:924:C:C6	2.57	0.40
1:XA:1029:G:O2'	1:XA:1032(A):G:N1	2.40	0.40
1:XA:1466:C:H2'	1:XA:1467:G:O4'	2.21	0.40
9:XI:10:ARG:HG2	9:XI:75:ASP:HB2	2.03	0.40
15:XO:57:LEU:HA	15:XO:60:VAL:HG22	2.03	0.40
24:YA:297:C:H2'	24:YA:298:G:O4'	2.20	0.40
24:YA:373:U:H2'	24:YA:374:A:H8	1.87	0.40
24:YA:811:U:H3'	34:YP:22:GLY:HA2	2.04	0.40
24:YA:863:A:H2'	24:YA:864:G:C8	2.56	0.40
24:YA:1575:C:H2'	24:YA:1576:U:O4'	2.20	0.40
24:YA:2308:G:N2	24:YA:2311:A:H2	2.19	0.40
24:YA:2320:A:C8	24:YA:2333:A:N6	2.90	0.40
24:YA:2397:G:H5''	46:Y1:28:GLY:HA2	2.04	0.40
24:YA:2547:U:H2'	24:YA:2548:G:H8	1.86	0.40
25:YB:39:A:N3	25:YB:44:G:C2	2.90	0.40
26:YD:31:LYS:HE2	26:YD:102:LYS:HB3	2.04	0.40
28:YF:196:LEU:HD23	28:YF:196:LEU:HA	1.93	0.40
34:YP:82:GLY:HA2	34:YP:113:LYS:O	2.22	0.40
34:YP:98:GLU:HA	34:YP:101:VAL:HG12	2.03	0.40

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

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:RA:2217:G:OP1	4:XD:159:ARG:NH2[4_555]	2.08	0.12
31:RI:89:TYR:O	1:XA:357:G:O2'[4_555]	2.11	0.09
40:YV:49:THR:OG1	50:Y5:60:VAL:O[4_445]	2.12	0.08
24:RA:310:A:OP2	47:Y2:71:ASN:ND2[3_555]	2.14	0.06
31:RI:91:SER:OG	1:XA:368:U:OP1[4_555]	2.17	0.03

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%)	197 (84%)	35 (15%)	1 (0%)	34	72
2	XB	234/256 (91%)	203 (87%)	31 (13%)	0	100	100
3	QC	203/239 (85%)	186 (92%)	16 (8%)	1 (0%)	29	68
3	XC	203/239 (85%)	188 (93%)	14 (7%)	1 (0%)	29	68
4	QD	206/209 (99%)	189 (92%)	16 (8%)	1 (0%)	29	68
4	XD	206/209 (99%)	196 (95%)	8 (4%)	2 (1%)	15	54
5	QE	149/162 (92%)	139 (93%)	10 (7%)	0	100	100
5	XE	149/162 (92%)	144 (97%)	4 (3%)	1 (1%)	22	61
6	QF	99/101 (98%)	96 (97%)	3 (3%)	0	100	100
6	XF	99/101 (98%)	99 (100%)	0	0	100	100
7	QG	153/156 (98%)	143 (94%)	10 (6%)	0	100	100
7	XG	153/156 (98%)	144 (94%)	9 (6%)	0	100	100
8	QH	135/138 (98%)	128 (95%)	7 (5%)	0	100	100
8	XH	135/138 (98%)	129 (96%)	6 (4%)	0	100	100
9	QI	125/128 (98%)	110 (88%)	15 (12%)	0	100	100
9	XI	124/128 (97%)	114 (92%)	10 (8%)	0	100	100
10	QJ	97/105 (92%)	90 (93%)	6 (6%)	1 (1%)	15	54
10	XJ	94/105 (90%)	86 (92%)	8 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	QK	117/129 (91%)	109 (93%)	8 (7%)	0	100	100
11	XK	114/129 (88%)	108 (95%)	6 (5%)	0	100	100
12	QL	123/132 (93%)	109 (89%)	12 (10%)	2 (2%)	9	43
12	XL	120/132 (91%)	104 (87%)	14 (12%)	2 (2%)	9	42
13	QM	118/126 (94%)	102 (86%)	14 (12%)	2 (2%)	9	42
13	XM	117/126 (93%)	104 (89%)	12 (10%)	1 (1%)	17	56
14	QN	58/61 (95%)	49 (84%)	8 (14%)	1 (2%)	9	42
14	XN	58/61 (95%)	50 (86%)	7 (12%)	1 (2%)	9	42
15	QO	86/89 (97%)	79 (92%)	7 (8%)	0	100	100
15	XO	85/89 (96%)	81 (95%)	4 (5%)	0	100	100
16	QP	82/88 (93%)	78 (95%)	4 (5%)	0	100	100
16	XP	82/88 (93%)	78 (95%)	4 (5%)	0	100	100
17	QQ	98/105 (93%)	94 (96%)	4 (4%)	0	100	100
17	XQ	98/105 (93%)	93 (95%)	5 (5%)	0	100	100
18	QR	68/88 (77%)	67 (98%)	1 (2%)	0	100	100
18	XR	68/88 (77%)	65 (96%)	3 (4%)	0	100	100
19	QS	81/93 (87%)	66 (82%)	14 (17%)	1 (1%)	13	50
19	XS	82/93 (88%)	69 (84%)	13 (16%)	0	100	100
20	QT	97/106 (92%)	83 (86%)	11 (11%)	3 (3%)	4	30
20	XT	97/106 (92%)	86 (89%)	9 (9%)	2 (2%)	7	38
21	QU	23/27 (85%)	21 (91%)	2 (9%)	0	100	100
21	XU	23/27 (85%)	21 (91%)	2 (9%)	0	100	100
26	RD	270/276 (98%)	251 (93%)	19 (7%)	0	100	100
26	YD	270/276 (98%)	244 (90%)	25 (9%)	1 (0%)	34	72
27	RE	203/206 (98%)	169 (83%)	31 (15%)	3 (2%)	10	45
27	YE	203/206 (98%)	173 (85%)	29 (14%)	1 (0%)	29	68
28	RF	200/210 (95%)	183 (92%)	16 (8%)	1 (0%)	29	68
28	YF	200/210 (95%)	185 (92%)	15 (8%)	0	100	100
29	RG	179/182 (98%)	148 (83%)	30 (17%)	1 (1%)	25	64
29	YG	179/182 (98%)	157 (88%)	22 (12%)	0	100	100
30	RH	172/180 (96%)	151 (88%)	21 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
30	YH	172/180 (96%)	145 (84%)	25 (14%)	2 (1%)	13	50
31	RI	144/148 (97%)	113 (78%)	28 (19%)	3 (2%)	7	38
31	YI	144/148 (97%)	123 (85%)	18 (12%)	3 (2%)	7	38
32	RN	136/140 (97%)	121 (89%)	15 (11%)	0	100	100
32	YN	136/140 (97%)	119 (88%)	17 (12%)	0	100	100
33	RO	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
33	YO	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
34	RP	148/150 (99%)	123 (83%)	25 (17%)	0	100	100
34	YP	145/150 (97%)	111 (77%)	34 (23%)	0	100	100
35	RQ	139/141 (99%)	115 (83%)	22 (16%)	2 (1%)	11	46
35	YQ	139/141 (99%)	118 (85%)	19 (14%)	2 (1%)	11	46
36	RR	115/118 (98%)	108 (94%)	6 (5%)	1 (1%)	17	56
36	YR	115/118 (98%)	108 (94%)	6 (5%)	1 (1%)	17	56
37	RS	109/112 (97%)	91 (84%)	18 (16%)	0	100	100
37	YS	109/112 (97%)	93 (85%)	16 (15%)	0	100	100
38	RT	135/146 (92%)	120 (89%)	15 (11%)	0	100	100
38	YT	135/146 (92%)	115 (85%)	20 (15%)	0	100	100
39	RU	115/118 (98%)	107 (93%)	4 (4%)	4 (4%)	3	27
39	YU	115/118 (98%)	104 (90%)	8 (7%)	3 (3%)	5	33
40	RV	99/101 (98%)	84 (85%)	15 (15%)	0	100	100
40	YV	99/101 (98%)	89 (90%)	10 (10%)	0	100	100
41	RW	111/113 (98%)	101 (91%)	10 (9%)	0	100	100
41	YW	111/113 (98%)	101 (91%)	10 (9%)	0	100	100
42	RX	90/96 (94%)	85 (94%)	5 (6%)	0	100	100
42	YX	90/96 (94%)	86 (96%)	4 (4%)	0	100	100
43	RY	105/110 (96%)	99 (94%)	6 (6%)	0	100	100
43	YY	105/110 (96%)	103 (98%)	2 (2%)	0	100	100
44	RZ	181/206 (88%)	147 (81%)	30 (17%)	4 (2%)	6	37
44	YZ	181/206 (88%)	145 (80%)	32 (18%)	4 (2%)	6	37
45	R0	79/85 (93%)	75 (95%)	4 (5%)	0	100	100
45	Y0	80/85 (94%)	76 (95%)	4 (5%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
46	R1	92/98 (94%)	79 (86%)	13 (14%)	0	100	100
46	Y1	91/98 (93%)	81 (89%)	10 (11%)	0	100	100
47	R2	67/72 (93%)	60 (90%)	6 (9%)	1 (2%)	10	45
47	Y2	67/72 (93%)	63 (94%)	4 (6%)	0	100	100
48	R3	57/60 (95%)	56 (98%)	1 (2%)	0	100	100
48	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100	100
49	R4	67/71 (94%)	51 (76%)	11 (16%)	5 (8%)	1	11
49	Y4	67/71 (94%)	51 (76%)	12 (18%)	4 (6%)	1	15
50	R5	57/60 (95%)	52 (91%)	5 (9%)	0	100	100
50	Y5	57/60 (95%)	53 (93%)	4 (7%)	0	100	100
51	R6	51/54 (94%)	49 (96%)	2 (4%)	0	100	100
51	Y6	51/54 (94%)	46 (90%)	5 (10%)	0	100	100
52	R7	45/49 (92%)	45 (100%)	0	0	100	100
52	Y7	46/49 (94%)	46 (100%)	0	0	100	100
53	R8	62/65 (95%)	51 (82%)	9 (14%)	2 (3%)	4	29
53	Y8	62/65 (95%)	48 (77%)	14 (23%)	0	100	100
54	R9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
54	Y9	35/37 (95%)	34 (97%)	1 (3%)	0	100	100
All	All	11456/12128 (94%)	10265 (90%)	1120 (10%)	71 (1%)	25	64

All (71) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	QC	12	LEU
20	QT	74	LYS
39	RU	91	ASP
39	RU	92	ARG
44	RZ	53	ILE
49	R4	57	GLU
53	R8	29	LYS
53	R8	30	ARG
20	XT	74	LYS
20	XT	75	ASN
39	YU	91	ASP
39	YU	92	ARG
44	YZ	53	ILE

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Mol	Chain	Res	Type
44	YZ	180	VAL
49	Y4	57	GLU
20	QT	75	ASN
31	RI	132	PRO
49	R4	58	ARG
3	XC	12	LEU
30	YH	157	TYR
31	YI	15	VAL
31	YI	122	GLU
31	YI	132	PRO
49	Y4	47	GLN
4	QD	154	ASN
12	QL	105	TYR
14	QN	17	LYS
20	QT	73	HIS
27	RE	83	ASP
29	RG	82	LEU
31	RI	122	GLU
36	RR	4	LEU
44	RZ	180	VAL
49	R4	47	GLN
4	XD	156	GLU
12	XL	105	TYR
27	YE	83	ASP
2	QB	208	ILE
31	RI	15	VAL
39	RU	93	LYS
44	RZ	60	GLU
44	RZ	179	ASP
47	R2	70	GLN
12	XL	106	ASP
13	XM	13	LYS
26	YD	243	GLY
36	YR	4	LEU
44	YZ	178	GLU
13	QM	14	ARG
27	RE	144	ARG
35	RQ	78	PRO
49	R4	48	ARG
4	XD	154	ASN
14	XN	17	LYS
30	YH	156	ALA

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Mol	Chain	Res	Type
35	YQ	105	GLU
44	YZ	60	GLU
49	Y4	48	ARG
10	QJ	55	LYS
13	QM	13	LYS
28	RF	130	ALA
19	QS	42	PRO
27	RE	130	GLY
39	RU	90	VAL
49	R4	56	VAL
35	YQ	78	PRO
39	YU	90	VAL
5	XE	74	GLY
12	QL	47	LYS
35	RQ	66	ILE
49	Y4	56	VAL

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	QB	203/220 (92%)	200 (98%)	3 (2%)	65	84
2	XB	204/220 (93%)	199 (98%)	5 (2%)	47	75
3	QC	159/188 (85%)	158 (99%)	1 (1%)	86	94
3	XC	159/188 (85%)	158 (99%)	1 (1%)	86	94
4	QD	180/181 (99%)	178 (99%)	2 (1%)	73	88
4	XD	180/181 (99%)	173 (96%)	7 (4%)	32	64
5	QE	116/123 (94%)	113 (97%)	3 (3%)	46	74
5	XE	116/123 (94%)	115 (99%)	1 (1%)	78	90
6	QF	90/90 (100%)	88 (98%)	2 (2%)	52	78
6	XF	90/90 (100%)	87 (97%)	3 (3%)	38	68
7	QG	126/127 (99%)	124 (98%)	2 (2%)	62	83

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	XG	126/127 (99%)	122 (97%)	4 (3%)	39	69
8	QH	118/119 (99%)	116 (98%)	2 (2%)	60	82
8	XH	118/119 (99%)	117 (99%)	1 (1%)	81	91
9	QI	98/99 (99%)	94 (96%)	4 (4%)	30	63
9	XI	97/99 (98%)	94 (97%)	3 (3%)	40	70
10	QJ	89/92 (97%)	88 (99%)	1 (1%)	73	88
10	XJ	86/92 (94%)	86 (100%)	0	100	100
11	QK	90/99 (91%)	88 (98%)	2 (2%)	52	78
11	XK	88/99 (89%)	88 (100%)	0	100	100
12	QL	104/109 (95%)	98 (94%)	6 (6%)	20	53
12	XL	103/109 (94%)	101 (98%)	2 (2%)	57	80
13	QM	96/101 (95%)	95 (99%)	1 (1%)	76	88
13	XM	95/101 (94%)	95 (100%)	0	100	100
14	QN	49/50 (98%)	49 (100%)	0	100	100
14	XN	49/50 (98%)	45 (92%)	4 (8%)	11	40
15	QO	79/80 (99%)	79 (100%)	0	100	100
15	XO	79/80 (99%)	78 (99%)	1 (1%)	69	86
16	QP	72/74 (97%)	71 (99%)	1 (1%)	67	85
16	XP	72/74 (97%)	70 (97%)	2 (3%)	43	72
17	QQ	95/97 (98%)	93 (98%)	2 (2%)	53	79
17	XQ	95/97 (98%)	93 (98%)	2 (2%)	53	79
18	QR	61/77 (79%)	61 (100%)	0	100	100
18	XR	61/77 (79%)	60 (98%)	1 (2%)	62	83
19	QS	72/80 (90%)	70 (97%)	2 (3%)	43	72
19	XS	73/80 (91%)	72 (99%)	1 (1%)	67	85
20	QT	76/82 (93%)	75 (99%)	1 (1%)	69	86
20	XT	76/82 (93%)	76 (100%)	0	100	100
21	QU	20/22 (91%)	19 (95%)	1 (5%)	24	58
21	XU	20/22 (91%)	20 (100%)	0	100	100
26	RD	214/218 (98%)	214 (100%)	0	100	100
26	YD	214/218 (98%)	212 (99%)	2 (1%)	78	90

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
27	RE	165/166 (99%)	163 (99%)	2 (1%)	71	87
27	YE	165/166 (99%)	163 (99%)	2 (1%)	71	87
28	RF	161/166 (97%)	160 (99%)	1 (1%)	86	94
28	YF	161/166 (97%)	158 (98%)	3 (2%)	57	80
29	RG	155/156 (99%)	153 (99%)	2 (1%)	69	86
29	YG	155/156 (99%)	153 (99%)	2 (1%)	69	86
30	RH	145/148 (98%)	142 (98%)	3 (2%)	53	79
30	YH	145/148 (98%)	143 (99%)	2 (1%)	67	85
31	RI	122/124 (98%)	118 (97%)	4 (3%)	38	68
31	YI	122/124 (98%)	120 (98%)	2 (2%)	62	83
32	RN	117/119 (98%)	117 (100%)	0	100	100
32	YN	117/119 (98%)	116 (99%)	1 (1%)	78	90
33	RO	100/100 (100%)	99 (99%)	1 (1%)	76	88
33	YO	100/100 (100%)	100 (100%)	0	100	100
34	RP	116/116 (100%)	114 (98%)	2 (2%)	60	82
34	YP	114/116 (98%)	111 (97%)	3 (3%)	46	74
35	RQ	111/111 (100%)	110 (99%)	1 (1%)	78	90
35	YQ	111/111 (100%)	109 (98%)	2 (2%)	59	81
36	RR	100/101 (99%)	99 (99%)	1 (1%)	76	88
36	YR	100/101 (99%)	97 (97%)	3 (3%)	41	71
37	RS	87/88 (99%)	86 (99%)	1 (1%)	73	88
37	YS	87/88 (99%)	85 (98%)	2 (2%)	50	77
38	RT	120/127 (94%)	116 (97%)	4 (3%)	38	68
38	YT	120/127 (94%)	119 (99%)	1 (1%)	81	91
39	RU	93/94 (99%)	91 (98%)	2 (2%)	52	78
39	YU	93/94 (99%)	93 (100%)	0	100	100
40	RV	82/82 (100%)	82 (100%)	0	100	100
40	YV	82/82 (100%)	82 (100%)	0	100	100
41	RW	92/92 (100%)	89 (97%)	3 (3%)	38	68
41	YW	92/92 (100%)	90 (98%)	2 (2%)	52	78
42	RX	74/78 (95%)	73 (99%)	1 (1%)	67	85

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
42	YX	74/78 (95%)	73 (99%)	1 (1%)	67	85
43	RY	88/91 (97%)	86 (98%)	2 (2%)	50	77
43	YY	88/91 (97%)	88 (100%)	0	100	100
44	RZ	162/179 (90%)	159 (98%)	3 (2%)	57	80
44	YZ	162/179 (90%)	160 (99%)	2 (1%)	71	87
45	R0	65/67 (97%)	64 (98%)	1 (2%)	65	84
45	Y0	65/67 (97%)	63 (97%)	2 (3%)	40	70
46	R1	81/83 (98%)	79 (98%)	2 (2%)	47	75
46	Y1	78/83 (94%)	78 (100%)	0	100	100
47	R2	64/67 (96%)	60 (94%)	4 (6%)	18	51
47	Y2	64/67 (96%)	64 (100%)	0	100	100
48	R3	51/52 (98%)	51 (100%)	0	100	100
48	Y3	51/52 (98%)	51 (100%)	0	100	100
49	R4	62/63 (98%)	59 (95%)	3 (5%)	25	60
49	Y4	62/63 (98%)	58 (94%)	4 (6%)	17	50
50	R5	51/52 (98%)	48 (94%)	3 (6%)	19	53
50	Y5	51/52 (98%)	50 (98%)	1 (2%)	55	79
51	R6	51/52 (98%)	50 (98%)	1 (2%)	55	79
51	Y6	51/52 (98%)	49 (96%)	2 (4%)	32	64
52	R7	40/42 (95%)	40 (100%)	0	100	100
52	Y7	41/42 (98%)	41 (100%)	0	100	100
53	R8	54/55 (98%)	52 (96%)	2 (4%)	34	65
53	Y8	54/55 (98%)	53 (98%)	1 (2%)	57	80
54	R9	34/34 (100%)	32 (94%)	2 (6%)	19	53
54	Y9	34/34 (100%)	33 (97%)	1 (3%)	42	71
All	All	9690/10066 (96%)	9524 (98%)	166 (2%)	60	82

All (166) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	96	ARG
2	QB	111	ARG
2	QB	153	ARG

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Mol	Chain	Res	Type
3	QC	79	ARG
4	QD	132	ARG
4	QD	141	ARG
5	QE	18	ARG
5	QE	25	ARG
5	QE	40	ARG
6	QF	23	LYS
6	QF	36	ARG
7	QG	70	LYS
7	QG	156	TRP
8	QH	98	LYS
8	QH	122	ARG
9	QI	19	LEU
9	QI	78	LYS
9	QI	104	ARG
9	QI	121	ARG
10	QJ	80	LYS
11	QK	96	ARG
11	QK	124	LYS
12	QL	20	LYS
12	QL	41	ARG
12	QL	46	LYS
12	QL	47	LYS
12	QL	124	LYS
12	QL	126	LYS
13	QM	11	ARG
16	QP	25	ARG
17	QQ	37	LYS
17	QQ	75	ARG
19	QS	29	ARG
19	QS	66	MET
20	QT	29	LYS
21	QU	22	ARG
27	RE	97	LYS
27	RE	203	LYS
28	RF	38	ARG
29	RG	128	ARG
29	RG	153	ARG
30	RH	23	ARG
30	RH	130	ARG
30	RH	152	ARG
31	RI	56	LYS

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Mol	Chain	Res	Type
31	RI	57	ARG
31	RI	103	ARG
31	RI	113	ARG
33	RO	113	LYS
34	RP	61	ARG
34	RP	90	ARG
35	RQ	59	ARG
36	RR	57	ARG
37	RS	106	ARG
38	RT	51	ARG
38	RT	53	ARG
38	RT	96	ARG
38	RT	115	ARG
39	RU	12	ARG
39	RU	58	ARG
41	RW	37	ARG
41	RW	40	ASN
41	RW	42	ARG
42	RX	65	ARG
43	RY	46	LYS
43	RY	88	LYS
44	RZ	6	LYS
44	RZ	31	ARG
44	RZ	34	ASN
45	R0	82	ARG
46	R1	76	ARG
46	R1	88	LYS
47	R2	7	ARG
47	R2	15	LYS
47	R2	65	ASN
47	R2	68	ARG
49	R4	47	GLN
49	R4	58	ARG
49	R4	61	ARG
50	R5	16	ARG
50	R5	39	MET
50	R5	56	LYS
51	R6	26	ASN
53	R8	15	LYS
53	R8	44	LYS
54	R9	18	ARG
54	R9	35	ARG

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Mol	Chain	Res	Type
2	XB	21	ARG
2	XB	23	ARG
2	XB	53	ARG
2	XB	106	LYS
2	XB	157	ARG
3	XC	85	ARG
4	XD	3	ARG
4	XD	49	ARG
4	XD	50	ARG
4	XD	103	ASN
4	XD	131	ARG
4	XD	169	LYS
4	XD	182	LYS
5	XE	47	LYS
6	XF	2	ARG
6	XF	3	ARG
6	XF	80	ARG
7	XG	5	ARG
7	XG	60	LYS
7	XG	115	ARG
7	XG	149	ARG
8	XH	125	ARG
9	XI	66	ARG
9	XI	111	ARG
9	XI	121	ARG
12	XL	17	LYS
12	XL	89	ARG
14	XN	3	ARG
14	XN	15	LYS
14	XN	17	LYS
14	XN	45	ARG
15	XO	64	ARG
16	XP	35	LYS
16	XP	72	ARG
17	XQ	34	LYS
17	XQ	52	LYS
18	XR	84	LYS
19	XS	29	ARG
26	YD	43	ARG
26	YD	262	ARG
27	YE	19	ARG
27	YE	57	LYS

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Mol	Chain	Res	Type
28	YF	38	ARG
28	YF	44	ARG
28	YF	72	ARG
29	YG	115	ARG
29	YG	153	ARG
30	YH	23	ARG
30	YH	25	LYS
31	YI	52	ARG
31	YI	67	ARG
32	YN	115	ARG
34	YP	36	LYS
34	YP	61	ARG
34	YP	108	LYS
35	YQ	5	ARG
35	YQ	133	ARG
36	YR	17	ARG
36	YR	33	ARG
36	YR	57	ARG
37	YS	89	ARG
37	YS	106	ARG
38	YT	41	ARG
41	YW	11	ARG
41	YW	15	ARG
42	YX	65	ARG
44	YZ	10	ARG
44	YZ	34	ASN
45	Y0	11	ARG
45	Y0	74	ARG
49	Y4	58	ARG
49	Y4	61	ARG
49	Y4	62	ARG
49	Y4	68	ARG
50	Y5	3	LYS
51	Y6	27	LYS
51	Y6	33	LYS
53	Y8	44	LYS
54	Y9	18	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	76	GLN

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Mol	Chain	Res	Type
3	QC	37	GLN
4	QD	119	GLN
14	QN	52	GLN
26	RD	96	HIS
28	RF	40	GLN
29	RG	138	GLN
34	RP	68	GLN
36	RR	53	HIS
47	R2	65	ASN
49	R4	47	GLN
51	R6	26	ASN
51	R6	29	ASN
4	XD	161	ASN
7	XG	68	ASN
7	XG	96	GLN
9	XI	38	GLN
20	XT	90	GLN
31	YI	28	ASN
41	YW	61	ASN
45	Y0	3	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1508 (99%)	263 (17%)	30 (2%)
1	XA	1498/1508 (99%)	286 (19%)	27 (1%)
22	QV	76/77 (98%)	18 (23%)	2 (2%)
22	XV	76/77 (98%)	16 (21%)	3 (3%)
23	QX	11/25 (44%)	7 (63%)	0
23	XX	10/25 (40%)	6 (60%)	0
24	RA	2879/2915 (98%)	577 (20%)	33 (1%)
24	YA	2880/2915 (98%)	570 (19%)	36 (1%)
25	RB	119/122 (97%)	24 (20%)	1 (0%)
25	YB	119/122 (97%)	23 (19%)	1 (0%)
All	All	9166/9294 (98%)	1790 (19%)	133 (1%)

All (1790) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	9	G

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Mol	Chain	Res	Type
1	QA	32	A
1	QA	39	G
1	QA	48	C
1	QA	50	A
1	QA	51	A
1	QA	65	U
1	QA	66	G
1	QA	76	G
1	QA	82	U
1	QA	90	C
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	121	C
1	QA	127	G
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	169	C
1	QA	171	A
1	QA	173	U
1	QA	174	C
1	QA	187	C
1	QA	191(A)	G
1	QA	191(C)	G
1	QA	195	A
1	QA	197	A
1	QA	209	U
1	QA	210	U
1	QA	231	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	250	A
1	QA	251	G
1	QA	267	C
1	QA	270	A
1	QA	281	G
1	QA	289	G
1	QA	298	A
1	QA	321	A

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Mol	Chain	Res	Type
1	QA	328	C
1	QA	329	A
1	QA	332	G
1	QA	346	G
1	QA	349	A
1	QA	351	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	367	U
1	QA	372	C
1	QA	384	G
1	QA	390	C
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	412	A
1	QA	413	G
1	QA	422	C
1	QA	423	G
1	QA	426	G
1	QA	428	G
1	QA	429	U
1	QA	435	C
1	QA	440	A
1	QA	465	A
1	QA	466	C
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	508	C
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C
1	QA	527	G
1	QA	531	U
1	QA	532	A
1	QA	533	A
1	QA	547	A

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Mol	Chain	Res	Type
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	592	G
1	QA	618	C
1	QA	630	G
1	QA	631	G
1	QA	633	G
1	QA	652	U
1	QA	653	A
1	QA	661	G
1	QA	665	A
1	QA	686	U
1	QA	688	G
1	QA	693	G
1	QA	701	C
1	QA	702	A
1	QA	703	G
1	QA	704	A
1	QA	723	U
1	QA	731	G
1	QA	749	C
1	QA	754	C
1	QA	755	G
1	QA	773	G
1	QA	774	G
1	QA	777	A
1	QA	786	G
1	QA	792	A
1	QA	793	U
1	QA	794	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

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Mol	Chain	Res	Type
1	QA	843	U
1	QA	848	C
1	QA	859	A
1	QA	868	C
1	QA	870	U
1	QA	872	A
1	QA	873	A
1	QA	889	A
1	QA	902	G
1	QA	914	A
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	968	A
1	QA	969	A
1	QA	971	G
1	QA	972	C
1	QA	974	A
1	QA	975	A
1	QA	976	G
1	QA	977	A
1	QA	982	U
1	QA	989	C
1	QA	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	1004	A
1	QA	1006	C
1	QA	1009	G
1	QA	1020	U
1	QA	1023	G
1	QA	1024	G
1	QA	1025	U
1	QA	1027	C
1	QA	1028	C
1	QA	1028(A)	C
1	QA	1029	G
1	QA	1032(A)	G
1	QA	1033	G
1	QA	1036	G

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Mol	Chain	Res	Type
1	QA	1040	U
1	QA	1042	G
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	1094	G
1	QA	1101	A
1	QA	1124	G
1	QA	1125	U
1	QA	1126	U
1	QA	1130	A
1	QA	1131	G
1	QA	1136	U
1	QA	1137	C
1	QA	1138	G
1	QA	1139	G
1	QA	1146	A
1	QA	1157	A
1	QA	1158	C
1	QA	1159	U
1	QA	1160	G
1	QA	1163	C
1	QA	1171	G
1	QA	1177	G
1	QA	1181	G
1	QA	1183	A
1	QA	1187	G
1	QA	1190	G
1	QA	1196	U
1	QA	1201	A
1	QA	1211	U
1	QA	1212	U
1	QA	1221	G
1	QA	1224	G
1	QA	1225	A
1	QA	1228	C
1	QA	1238	A
1	QA	1240	U

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Mol	Chain	Res	Type
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1267	C
1	QA	1270	C
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1300	G
1	QA	1301	U
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1320	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1335	C
1	QA	1336	C
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	1378	C
1	QA	1379	G
1	QA	1397	C
1	QA	1398	A
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1454	G
1	QA	1492	A
1	QA	1493	A

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Mol	Chain	Res	Type
1	QA	1499	A
1	QA	1502	A
1	QA	1503	A
1	QA	1506	U
1	QA	1517	G
1	QA	1519	A
1	QA	1520	G
1	QA	1529	G
1	QA	1530	G
22	QV	5	G
22	QV	7	G
22	QV	8	U
22	QV	18	U
22	QV	19	G
22	QV	20	G
22	QV	21	U
22	QV	22	A
22	QV	35	C
22	QV	36	A
22	QV	48	U
22	QV	49	C
22	QV	53	G
22	QV	54	G
22	QV	55	U
22	QV	59	A
22	QV	76	C
22	QV	77	A
23	QX	9	G
23	QX	10	G
23	QX	11	U
23	QX	12	A
23	QX	13	A
23	QX	15	A
23	QX	19	U
24	RA	10	G
24	RA	12	U
24	RA	14	A
24	RA	15	G
24	RA	34	C
24	RA	35	G
24	RA	46	C
24	RA	51	G

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Mol	Chain	Res	Type
24	RA	55	G
24	RA	72	U
24	RA	73	A
24	RA	74	A
24	RA	75	G
24	RA	82	G
24	RA	83	G
24	RA	90	U
24	RA	101	G
24	RA	103	A
24	RA	118	A
24	RA	120	U
24	RA	121	G
24	RA	131	G
24	RA	161	U
24	RA	177	G
24	RA	181	A
24	RA	188	G
24	RA	196	A
24	RA	199	A
24	RA	215	G
24	RA	216	A
24	RA	221	A
24	RA	222	A
24	RA	223	A
24	RA	229	A
24	RA	230	U
24	RA	233	A
24	RA	248	G
24	RA	249	C
24	RA	250	G
24	RA	252	G
24	RA	265	A
24	RA	266	G
24	RA	269	U
24	RA	270(L)	U
24	RA	270(M)	U
24	RA	270(N)	G
24	RA	270(P)	C
24	RA	271(C)	U
24	RA	271(D)	G
24	RA	273(F)	C

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Mol	Chain	Res	Type
24	RA	275	G
24	RA	276	A
24	RA	277	C
24	RA	283	A
24	RA	299	A
24	RA	311	A
24	RA	323	G
24	RA	324	A
24	RA	329	G
24	RA	330	A
24	RA	342	G
24	RA	346	A
24	RA	352	G
24	RA	364	C
24	RA	371	A
24	RA	372	G
24	RA	373	U
24	RA	386	G
24	RA	395	U
24	RA	405	U
24	RA	406	G
24	RA	411	G
24	RA	412	A
24	RA	428	A
24	RA	435	C
24	RA	444	C
24	RA	448	U
24	RA	454	A
24	RA	455	C
24	RA	456	C
24	RA	457	A
24	RA	467	G
24	RA	470	A
24	RA	481	G
24	RA	504	U
24	RA	505	A
24	RA	509	C
24	RA	512	G
24	RA	513	A
24	RA	528	A
24	RA	529	A
24	RA	532	A

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Mol	Chain	Res	Type
24	RA	533	G
24	RA	537	C
24	RA	539	G
24	RA	540	G
24	RA	546	C
24	RA	547	A
24	RA	549	G
24	RA	556	G
24	RA	563	G
24	RA	573	G
24	RA	574	C
24	RA	575	A
24	RA	588	U
24	RA	603	A
24	RA	607	U
24	RA	614	U
24	RA	615	G
24	RA	616	A
24	RA	617	G
24	RA	621	A
24	RA	627	A
24	RA	629	G
24	RA	637	A
24	RA	638	G
24	RA	645	C
24	RA	646	A
24	RA	651	G
24	RA	652	C
24	RA	654	A
24	RA	654(A)	G
24	RA	669	G
24	RA	670	A
24	RA	686	G
24	RA	701	G
24	RA	702	G
24	RA	708	C
24	RA	717	G
24	RA	722	A
24	RA	730	C
24	RA	753	C
24	RA	764	A
24	RA	775	G

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Mol	Chain	Res	Type
24	RA	776	G
24	RA	782	A
24	RA	783	A
24	RA	784	A
24	RA	785	G
24	RA	790	C
24	RA	791	C
24	RA	792	G
24	RA	805	G
24	RA	812	C
24	RA	819	A
24	RA	827	U
24	RA	828	U
24	RA	846	C
24	RA	847	U
24	RA	856	C
24	RA	857	C
24	RA	859	G
24	RA	866	A
24	RA	869	G
24	RA	882	G
24	RA	884	C
24	RA	885	C
24	RA	886	C
24	RA	888	C
24	RA	889	C
24	RA	890	A
24	RA	893	C
24	RA	896	A
24	RA	897	C
24	RA	900	A
24	RA	907	U
24	RA	910	A
24	RA	914	C
24	RA	915	C
24	RA	917	A
24	RA	932	G
24	RA	938	G
24	RA	941	A
24	RA	945	A
24	RA	946	G
24	RA	959	A

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Mol	Chain	Res	Type
24	RA	961	C
24	RA	974	G
24	RA	974(A)	C
24	RA	980	A
24	RA	983	A
24	RA	989	G
24	RA	996	A
24	RA	1003	G
24	RA	1011	G
24	RA	1012	U
24	RA	1013	C
24	RA	1017	G
24	RA	1022	G
24	RA	1023	U
24	RA	1024	G
24	RA	1026	U
24	RA	1027	A
24	RA	1033	U
24	RA	1044	G
24	RA	1045	A
24	RA	1046	A
24	RA	1047	G
24	RA	1050	A
24	RA	1054	A
24	RA	1055	G
24	RA	1057	A
24	RA	1058	G
24	RA	1059	G
24	RA	1060	U
24	RA	1061	U
24	RA	1062	G
24	RA	1066	U
24	RA	1070	A
24	RA	1071	G
24	RA	1076	C
24	RA	1077	A
24	RA	1078	U
24	RA	1079	C
24	RA	1081	U
24	RA	1082	U
24	RA	1083	U
24	RA	1084	A

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Mol	Chain	Res	Type
24	RA	1085	A
24	RA	1086	A
24	RA	1087	G
24	RA	1088	A
24	RA	1089	G
24	RA	1090	U
24	RA	1091	G
24	RA	1093	G
24	RA	1096	A
24	RA	1103	A
24	RA	1105	U
24	RA	1110	G
24	RA	1111	A
24	RA	1112	G
24	RA	1122	G
24	RA	1126	A
24	RA	1131	G
24	RA	1135	C
24	RA	1136	G
24	RA	1142(A)	A
24	RA	1173	G
24	RA	1174	A
24	RA	1175	U
24	RA	1176	G
24	RA	1178	C
24	RA	1179	C
24	RA	1181	C
24	RA	1189	A
24	RA	1191	G
24	RA	1195	G
24	RA	1204	A
24	RA	1205	U
24	RA	1206	G
24	RA	1210	A
24	RA	1211	U
24	RA	1220	A
24	RA	1221	C
24	RA	1225	C
24	RA	1226	G
24	RA	1236	G
24	RA	1238	G
24	RA	1250	G

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Mol	Chain	Res	Type
24	RA	1253	A
24	RA	1256	G
24	RA	1265	A
24	RA	1272	A
24	RA	1273	U
24	RA	1288	U
24	RA	1300	U
24	RA	1301	A
24	RA	1302	A
24	RA	1312	U
24	RA	1313	U
24	RA	1314	C
24	RA	1321	A
24	RA	1329	U
24	RA	1349	A
24	RA	1352	U
24	RA	1365	A
24	RA	1370	C
24	RA	1379	A
24	RA	1380	G
24	RA	1384	A
24	RA	1385	G
24	RA	1391	U
24	RA	1395	A
24	RA	1407	C
24	RA	1408	C
24	RA	1411	C
24	RA	1416	G
24	RA	1419	A
24	RA	1420	U
24	RA	1421	G
24	RA	1428	C
24	RA	1444(A)	A
24	RA	1445	C
24	RA	1449	A
24	RA	1449(A)	G
24	RA	1454	U
24	RA	1455	G
24	RA	1460	A
24	RA	1461	G
24	RA	1471	A
24	RA	1474	C

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Mol	Chain	Res	Type
24	RA	1482	U
24	RA	1483	G
24	RA	1487	G
24	RA	1493	C
24	RA	1494	A
24	RA	1497	U
24	RA	1504	C
24	RA	1505	C
24	RA	1507	A
24	RA	1510	A
24	RA	1511	A
24	RA	1513	C
24	RA	1514	U
24	RA	1516	U
24	RA	1522	G
24	RA	1528	A
24	RA	1534	G
24	RA	1535	U
24	RA	1536	A
24	RA	1537	C
24	RA	1538	G
24	RA	1543	A
24	RA	1544	C
24	RA	1545	A
24	RA	1558	A
24	RA	1559	G
24	RA	1566	A
24	RA	1569	A
24	RA	1578	U
24	RA	1580	A
24	RA	1581	G
24	RA	1583	A
24	RA	1586	A
24	RA	1598	C
24	RA	1608	A
24	RA	1609	A
24	RA	1611	C
24	RA	1616	A
24	RA	1617	C
24	RA	1640	C
24	RA	1648	C
24	RA	1654	A

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Mol	Chain	Res	Type
24	RA	1667	G
24	RA	1674	G
24	RA	1725	G
24	RA	1728	G
24	RA	1729	A
24	RA	1731	G
24	RA	1742	C
24	RA	1743	G
24	RA	1750	G
24	RA	1756	G
24	RA	1762	A
24	RA	1763	G
24	RA	1764	G
24	RA	1769	G
24	RA	1773	A
24	RA	1774	C
24	RA	1779	U
24	RA	1780	A
24	RA	1782	C
24	RA	1791	A
24	RA	1799	G
24	RA	1800	C
24	RA	1801	G
24	RA	1816	G
24	RA	1820	U
24	RA	1847	A
24	RA	1848	A
24	RA	1858	G
24	RA	1869	G
24	RA	1870	C
24	RA	1871	A
24	RA	1878	G
24	RA	1882	C
24	RA	1888	G
24	RA	1889	A
24	RA	1903	G
24	RA	1905	C
24	RA	1906	G
24	RA	1914	C
24	RA	1929	G
24	RA	1930	G
24	RA	1936	A

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Mol	Chain	Res	Type
24	RA	1938	A
24	RA	1939	U
24	RA	1955	U
24	RA	1963	U
24	RA	1967	C
24	RA	1969	A
24	RA	1970	A
24	RA	1971	A
24	RA	1972	A
24	RA	1982	C
24	RA	1992	G
24	RA	1993	U
24	RA	1996	C
24	RA	2020	A
24	RA	2023	G
24	RA	2031	A
24	RA	2032	G
24	RA	2033	A
24	RA	2039	C
24	RA	2043	C
24	RA	2055	C
24	RA	2056	G
24	RA	2059	A
24	RA	2060	A
24	RA	2061	G
24	RA	2062	A
24	RA	2069	G
24	RA	2093	G
24	RA	2107	C
24	RA	2109	U
24	RA	2111	C
24	RA	2113	U
24	RA	2114	A
24	RA	2115	G
24	RA	2116	G
24	RA	2117	A
24	RA	2118	U
24	RA	2126	A
24	RA	2127	G
24	RA	2128	C
24	RA	2131	G
24	RA	2132	U

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Mol	Chain	Res	Type
24	RA	2133	G
24	RA	2136	C
24	RA	2146	C
24	RA	2147	G
24	RA	2148	G
24	RA	2157	G
24	RA	2161	C
24	RA	2163	C
24	RA	2165	G
24	RA	2166	G
24	RA	2168	G
24	RA	2173	A
24	RA	2174	C
24	RA	2189	U
24	RA	2190	G
24	RA	2192	G
24	RA	2198	A
24	RA	2210	G
24	RA	2211	G
24	RA	2212	A
24	RA	2215	G
24	RA	2225	A
24	RA	2238	G
24	RA	2239	G
24	RA	2243	U
24	RA	2246	G
24	RA	2266	A
24	RA	2273	A
24	RA	2275	C
24	RA	2278	A
24	RA	2280	G
24	RA	2283	C
24	RA	2284	C
24	RA	2285	C
24	RA	2287	A
24	RA	2288	A
24	RA	2300	G
24	RA	2307	G
24	RA	2308	G
24	RA	2311	A
24	RA	2320	A
24	RA	2325	G

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Mol	Chain	Res	Type
24	RA	2334	G
24	RA	2336	A
24	RA	2345	G
24	RA	2346	A
24	RA	2347	C
24	RA	2350	C
24	RA	2354	G
24	RA	2358	G
24	RA	2383	G
24	RA	2385	C
24	RA	2391	G
24	RA	2394	C
24	RA	2402	C
24	RA	2403	C
24	RA	2406	U
24	RA	2422	A
24	RA	2424	C
24	RA	2425	A
24	RA	2429	G
24	RA	2430	A
24	RA	2434	A
24	RA	2435	A
24	RA	2439	A
24	RA	2440	C
24	RA	2441	C
24	RA	2448	A
24	RA	2469	A
24	RA	2474	C
24	RA	2475	C
24	RA	2478	A
24	RA	2480	C
24	RA	2494	G
24	RA	2502	G
24	RA	2504	U
24	RA	2505	G
24	RA	2518	A
24	RA	2519	U
24	RA	2520	C
24	RA	2529	G
24	RA	2542	A
24	RA	2543	G
24	RA	2554	U

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Mol	Chain	Res	Type
24	RA	2567	G
24	RA	2569	G
24	RA	2572	A
24	RA	2602	A
24	RA	2609	U
24	RA	2611	U
24	RA	2612	C
24	RA	2623	G
24	RA	2629	A
24	RA	2636	U
24	RA	2654	A
24	RA	2655	G
24	RA	2665	A
24	RA	2673	G
24	RA	2689	U
24	RA	2690	C
24	RA	2691	C
24	RA	2702	U
24	RA	2703	C
24	RA	2712(A)	A
24	RA	2713	A
24	RA	2714	G
24	RA	2726	U
24	RA	2732	G
24	RA	2733	A
24	RA	2739	U
24	RA	2744	G
24	RA	2748	A
24	RA	2752	C
24	RA	2758	A
24	RA	2761	G
24	RA	2764	A
24	RA	2765	A
24	RA	2766	G
24	RA	2778	A
24	RA	2779	U
24	RA	2780	G
24	RA	2787	C
24	RA	2789	C
24	RA	2790	A
24	RA	2791	C
24	RA	2797	U

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Mol	Chain	Res	Type
24	RA	2798	C
24	RA	2810	A
24	RA	2818	G
24	RA	2820	A
24	RA	2821	A
24	RA	2833	G
24	RA	2834	G
24	RA	2835	A
24	RA	2844	G
24	RA	2847	U
24	RA	2849	U
24	RA	2867	G
24	RA	2868	A
24	RA	2871	C
24	RA	2872	G
24	RA	2879	C
24	RA	2880	C
24	RA	2884	U
24	RA	2891	G
24	RA	2892	A
24	RA	2894	G
24	RA	2895	U
24	RA	2897	U
25	RB	8	U
25	RB	13	A
25	RB	15	A
25	RB	16	G
25	RB	22	U
25	RB	25	A
25	RB	26	A
25	RB	40	U
25	RB	41	U
25	RB	42	C
25	RB	43	C
25	RB	44	G
25	RB	45	A
25	RB	47	C
25	RB	52	A
25	RB	56	G
25	RB	67	G
25	RB	73	A
25	RB	81	G

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Mol	Chain	Res	Type
25	RB	89	G
25	RB	105	G
25	RB	108	C
25	RB	109	G
25	RB	115	G
1	XA	6	G
1	XA	7	G
1	XA	9	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	50	A
1	XA	51	A
1	XA	54	C
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	79	G
1	XA	80	G
1	XA	89	U
1	XA	90	C
1	XA	91	C
1	XA	92	G
1	XA	95	G
1	XA	101	A
1	XA	116	A
1	XA	121	C
1	XA	129(A)	G
1	XA	130	A
1	XA	131	C
1	XA	144	G
1	XA	147	G
1	XA	151	A
1	XA	163	C
1	XA	169	C
1	XA	172	A
1	XA	173	U
1	XA	174	C
1	XA	182	U
1	XA	190	G
1	XA	191(C)	G

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Mol	Chain	Res	Type
1	XA	195	A
1	XA	197	A
1	XA	199	G
1	XA	201	C
1	XA	209	U
1	XA	210	U
1	XA	216	G
1	XA	222	U
1	XA	226	G
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	262	A
1	XA	267	C
1	XA	281	G
1	XA	289	G
1	XA	316	G
1	XA	321	A
1	XA	325	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
1	XA	346	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	367	U
1	XA	372	C
1	XA	383	A
1	XA	384	G
1	XA	389	A
1	XA	397	A
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	414	A
1	XA	422	C
1	XA	423	G

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Mol	Chain	Res	Type
1	XA	424	G
1	XA	429	U
1	XA	430	A
1	XA	438	G
1	XA	439	A
1	XA	452	A
1	XA	464	G
1	XA	466	C
1	XA	467	G
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	505	G
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	562	C
1	XA	566	G
1	XA	568	G
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	587	G
1	XA	618	C
1	XA	630	G
1	XA	631	G
1	XA	632	A
1	XA	633	G
1	XA	634	C
1	XA	639	G
1	XA	642	A

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Mol	Chain	Res	Type
1	XA	653	A
1	XA	665	A
1	XA	688	G
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	753	A
1	XA	755	G
1	XA	774	G
1	XA	777	A
1	XA	792	A
1	XA	793	U
1	XA	794	A
1	XA	799	G
1	XA	813	U
1	XA	816	A
1	XA	817	C
1	XA	818	G
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	842	C
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	870	U
1	XA	871	U
1	XA	872	A
1	XA	889	A
1	XA	891	U
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	942	G
1	XA	958	A
1	XA	960	U
1	XA	968	A

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Mol	Chain	Res	Type
1	XA	969	A
1	XA	971	G
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	982	U
1	XA	983	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1002	G
1	XA	1004	A
1	XA	1006	C
1	XA	1008	C
1	XA	1009	G
1	XA	1020	U
1	XA	1024	G
1	XA	1025	U
1	XA	1027	C
1	XA	1028	C
1	XA	1028(A)	C
1	XA	1029	G
1	XA	1031	G
1	XA	1032(A)	G
1	XA	1040	U
1	XA	1042	G
1	XA	1053	G
1	XA	1054	C
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1085	U
1	XA	1094	G
1	XA	1101	A
1	XA	1108	G
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1136	U

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Mol	Chain	Res	Type
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1162	C
1	XA	1171	G
1	XA	1176	A
1	XA	1177	G
1	XA	1178	G
1	XA	1180	A
1	XA	1181	G
1	XA	1182	G
1	XA	1183	A
1	XA	1190	G
1	XA	1196	U
1	XA	1200	C
1	XA	1212	U
1	XA	1215	G
1	XA	1225	A
1	XA	1236	A
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1270	C
1	XA	1272	G
1	XA	1280	A
1	XA	1281	U
1	XA	1282	C
1	XA	1286	A
1	XA	1287	A
1	XA	1300	G
1	XA	1302	U
1	XA	1305	G
1	XA	1319	A
1	XA	1320	C

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Mol	Chain	Res	Type
1	XA	1321	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1334	G
1	XA	1335	C
1	XA	1336	C
1	XA	1337	G
1	XA	1338	G
1	XA	1348	U
1	XA	1353	G
1	XA	1363	A
1	XA	1364	U
1	XA	1379	G
1	XA	1398	A
1	XA	1419	G
1	XA	1442	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1487	G
1	XA	1492	A
1	XA	1493	A
1	XA	1494	G
1	XA	1497	G
1	XA	1499	A
1	XA	1502	A
1	XA	1503	A
1	XA	1504	G
1	XA	1505	G
1	XA	1506	U
1	XA	1507	A
1	XA	1517	G
1	XA	1518	A
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
22	XV	18	U
22	XV	19	G
22	XV	20	G

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Mol	Chain	Res	Type
22	XV	21	U
22	XV	35	C
22	XV	36	A
22	XV	48	U
22	XV	49	C
22	XV	53	G
22	XV	54	G
22	XV	55	U
22	XV	59	A
22	XV	64	G
22	XV	66	C
22	XV	76	C
22	XV	77	A
23	XX	10	G
23	XX	11	U
23	XX	13	A
23	XX	14	A
23	XX	15	A
23	XX	19	U
24	YA	26	G
24	YA	34	C
24	YA	35	G
24	YA	46	C
24	YA	61	G
24	YA	64	A
24	YA	72	U
24	YA	74	A
24	YA	75	G
24	YA	101	G
24	YA	102	G
24	YA	118	A
24	YA	120	U
24	YA	125	G
24	YA	140	A
24	YA	161	U
24	YA	162	U
24	YA	181	A
24	YA	188	G
24	YA	196	A
24	YA	199	A
24	YA	214	G
24	YA	215	G

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Mol	Chain	Res	Type
24	YA	216	A
24	YA	222	A
24	YA	223	A
24	YA	226	G
24	YA	228	A
24	YA	229	A
24	YA	230	U
24	YA	232	G
24	YA	242	G
24	YA	243	U
24	YA	248	G
24	YA	252	G
24	YA	265	A
24	YA	266	G
24	YA	270(G)	C
24	YA	270(L)	U
24	YA	270(M)	U
24	YA	270(N)	G
24	YA	270(O)	U
24	YA	271(B)	G
24	YA	271(C)	U
24	YA	271(D)	G
24	YA	274	G
24	YA	275	G
24	YA	276	A
24	YA	278	A
24	YA	279	C
24	YA	299	A
24	YA	311	A
24	YA	323	G
24	YA	324	A
24	YA	329	G
24	YA	330	A
24	YA	332	A
24	YA	342	G
24	YA	345	A
24	YA	352	G
24	YA	360	G
24	YA	363	G
24	YA	363(E)	U
24	YA	364	C
24	YA	371	A

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Mol	Chain	Res	Type
24	YA	372	G
24	YA	373	U
24	YA	386	G
24	YA	387	U
24	YA	395	U
24	YA	396	G
24	YA	405	U
24	YA	406	G
24	YA	411	G
24	YA	412	A
24	YA	428	A
24	YA	443	A
24	YA	444	C
24	YA	448	U
24	YA	454	A
24	YA	455	C
24	YA	457	A
24	YA	458	G
24	YA	470	A
24	YA	481	G
24	YA	504	U
24	YA	505	A
24	YA	509	C
24	YA	510	C
24	YA	512	G
24	YA	531	C
24	YA	532	A
24	YA	537	C
24	YA	539	G
24	YA	540	G
24	YA	546	C
24	YA	547	A
24	YA	549	G
24	YA	563	G
24	YA	568	U
24	YA	571	A
24	YA	573	G
24	YA	575	A
24	YA	603	A
24	YA	607	U
24	YA	614	U
24	YA	615	G

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Mol	Chain	Res	Type
24	YA	616	A
24	YA	617	G
24	YA	621	A
24	YA	627	A
24	YA	637	A
24	YA	638	G
24	YA	645	C
24	YA	646	A
24	YA	651	G
24	YA	654(A)	G
24	YA	669	G
24	YA	686	G
24	YA	702	G
24	YA	717	G
24	YA	722	A
24	YA	730	C
24	YA	753	C
24	YA	764	A
24	YA	775	G
24	YA	776	G
24	YA	782	A
24	YA	783	A
24	YA	784	A
24	YA	785	G
24	YA	790	C
24	YA	791	C
24	YA	792	G
24	YA	805	G
24	YA	812	C
24	YA	819	A
24	YA	827	U
24	YA	828	U
24	YA	831	G
24	YA	846	C
24	YA	847	U
24	YA	856	C
24	YA	857	C
24	YA	860	U
24	YA	866	A
24	YA	881	G
24	YA	882	G
24	YA	884	C

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Mol	Chain	Res	Type
24	YA	885	C
24	YA	886	C
24	YA	888	C
24	YA	889	C
24	YA	890	A
24	YA	896	A
24	YA	897	C
24	YA	898	C
24	YA	900	A
24	YA	907	U
24	YA	910	A
24	YA	914	C
24	YA	915	C
24	YA	917	A
24	YA	918	A
24	YA	932	G
24	YA	941	A
24	YA	945	A
24	YA	946	G
24	YA	959	A
24	YA	961	C
24	YA	973	A
24	YA	974	G
24	YA	974(A)	C
24	YA	980	A
24	YA	983	A
24	YA	996	A
24	YA	1005	C
24	YA	1011	G
24	YA	1012	U
24	YA	1013	C
24	YA	1015	G
24	YA	1022	G
24	YA	1023	U
24	YA	1025	G
24	YA	1026	U
24	YA	1027	A
24	YA	1033	U
24	YA	1046	A
24	YA	1047	G
24	YA	1050	A
24	YA	1054	A

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Mol	Chain	Res	Type
24	YA	1059	G
24	YA	1060	U
24	YA	1061	U
24	YA	1063	G
24	YA	1065	U
24	YA	1066	U
24	YA	1067	A
24	YA	1068	G
24	YA	1070	A
24	YA	1071	G
24	YA	1074	G
24	YA	1079	C
24	YA	1082	U
24	YA	1083	U
24	YA	1084	A
24	YA	1085	A
24	YA	1086	A
24	YA	1087	G
24	YA	1088	A
24	YA	1093	G
24	YA	1096	A
24	YA	1097	U
24	YA	1099	G
24	YA	1103	A
24	YA	1104	C
24	YA	1110	G
24	YA	1111	A
24	YA	1122	G
24	YA	1126	A
24	YA	1130	U
24	YA	1131	G
24	YA	1135	C
24	YA	1136	G
24	YA	1139	G
24	YA	1142(A)	A
24	YA	1151	G
24	YA	1168	G
24	YA	1173	G
24	YA	1174	A
24	YA	1175	U
24	YA	1176	G
24	YA	1179	C

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Mol	Chain	Res	Type
24	YA	1195	G
24	YA	1204	A
24	YA	1205	U
24	YA	1211	U
24	YA	1220	A
24	YA	1225	C
24	YA	1226	G
24	YA	1236	G
24	YA	1237	A
24	YA	1238	G
24	YA	1250	G
24	YA	1253	A
24	YA	1256	G
24	YA	1265	A
24	YA	1272	A
24	YA	1300	U
24	YA	1301	A
24	YA	1313	U
24	YA	1329	U
24	YA	1341	U
24	YA	1349	A
24	YA	1352	U
24	YA	1365	A
24	YA	1368	G
24	YA	1370	C
24	YA	1379	A
24	YA	1384	A
24	YA	1385	G
24	YA	1391	U
24	YA	1406	U
24	YA	1407	C
24	YA	1411	C
24	YA	1416	G
24	YA	1419	A
24	YA	1420	U
24	YA	1421	G
24	YA	1428	C
24	YA	1444(A)	A
24	YA	1445	C
24	YA	1449	A
24	YA	1449(A)	G
24	YA	1455	G

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Mol	Chain	Res	Type
24	YA	1458	C
24	YA	1460	A
24	YA	1461	G
24	YA	1467	C
24	YA	1471	A
24	YA	1478	G
24	YA	1482	U
24	YA	1483	G
24	YA	1487	G
24	YA	1490	A
24	YA	1493	C
24	YA	1496	A
24	YA	1497	U
24	YA	1506	C
24	YA	1507	A
24	YA	1510	A
24	YA	1511	A
24	YA	1520	U
24	YA	1522	G
24	YA	1523	U
24	YA	1535	U
24	YA	1536	A
24	YA	1537	C
24	YA	1538	G
24	YA	1540	G
24	YA	1541	U
24	YA	1543	A
24	YA	1544	C
24	YA	1545	A
24	YA	1547	C
24	YA	1558	A
24	YA	1559	G
24	YA	1566	A
24	YA	1569	A
24	YA	1578	U
24	YA	1580	A
24	YA	1581	G
24	YA	1586	A
24	YA	1591	G
24	YA	1597	A
24	YA	1598	C
24	YA	1608	A

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Mol	Chain	Res	Type
24	YA	1609	A
24	YA	1616	A
24	YA	1617	C
24	YA	1618	A
24	YA	1640	C
24	YA	1648	C
24	YA	1654	A
24	YA	1672	C
24	YA	1674	G
24	YA	1675	C
24	YA	1688	U
24	YA	1693	U
24	YA	1695	G
24	YA	1698	A
24	YA	1725	G
24	YA	1729	A
24	YA	1731	G
24	YA	1732	A
24	YA	1733	G
24	YA	1743	G
24	YA	1750	G
24	YA	1753	G
24	YA	1754	C
24	YA	1756	G
24	YA	1763	G
24	YA	1764	G
24	YA	1773	A
24	YA	1780	A
24	YA	1782	C
24	YA	1784	A
24	YA	1786	A
24	YA	1791	A
24	YA	1799	G
24	YA	1800	C
24	YA	1801	G
24	YA	1809	A
24	YA	1816	G
24	YA	1829	A
24	YA	1847	A
24	YA	1848	A
24	YA	1858	G
24	YA	1869	G

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Mol	Chain	Res	Type
24	YA	1870	C
24	YA	1872	A
24	YA	1878	G
24	YA	1882	C
24	YA	1889	A
24	YA	1899	G
24	YA	1903	G
24	YA	1906	G
24	YA	1913	A
24	YA	1914	C
24	YA	1919	A
24	YA	1927	A
24	YA	1929	G
24	YA	1930	G
24	YA	1936	A
24	YA	1938	A
24	YA	1939	U
24	YA	1940	U
24	YA	1955	U
24	YA	1960	A
24	YA	1963	U
24	YA	1967	C
24	YA	1969	A
24	YA	1970	A
24	YA	1971	A
24	YA	1972	A
24	YA	1982	C
24	YA	1992	G
24	YA	1993	U
24	YA	2013	A
24	YA	2020	A
24	YA	2021	C
24	YA	2023	G
24	YA	2031	A
24	YA	2033	A
24	YA	2043	C
24	YA	2052	G
24	YA	2055	C
24	YA	2056	G
24	YA	2059	A
24	YA	2060	A
24	YA	2061	G

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Mol	Chain	Res	Type
24	YA	2062	A
24	YA	2069	G
24	YA	2093	G
24	YA	2099	U
24	YA	2100	G
24	YA	2104	G
24	YA	2105	C
24	YA	2111	C
24	YA	2113	U
24	YA	2114	A
24	YA	2115	G
24	YA	2116	G
24	YA	2117	A
24	YA	2118	U
24	YA	2120	G
24	YA	2122	U
24	YA	2126	A
24	YA	2127	G
24	YA	2128	C
24	YA	2132	U
24	YA	2133	G
24	YA	2134	A
24	YA	2136	C
24	YA	2138	C
24	YA	2145	C
24	YA	2146	C
24	YA	2147	G
24	YA	2149	G
24	YA	2152	G
24	YA	2155	G
24	YA	2156	G
24	YA	2157	G
24	YA	2158	A
24	YA	2163	C
24	YA	2164	C
24	YA	2165	G
24	YA	2166	G
24	YA	2168	G
24	YA	2169	A
24	YA	2171	A
24	YA	2173	A
24	YA	2175	C

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Mol	Chain	Res	Type
24	YA	2176	A
24	YA	2180	U
24	YA	2189	U
24	YA	2190	G
24	YA	2192	G
24	YA	2193	G
24	YA	2194	G
24	YA	2198	A
24	YA	2210	G
24	YA	2211	G
24	YA	2212	A
24	YA	2213	U
24	YA	2215	G
24	YA	2225	A
24	YA	2238	G
24	YA	2239	G
24	YA	2243	U
24	YA	2266	A
24	YA	2275	C
24	YA	2278	A
24	YA	2280	G
24	YA	2283	C
24	YA	2287	A
24	YA	2288	A
24	YA	2305	A
24	YA	2307	G
24	YA	2308	G
24	YA	2311	A
24	YA	2320	A
24	YA	2325	G
24	YA	2334	G
24	YA	2335	A
24	YA	2346	A
24	YA	2347	C
24	YA	2350	C
24	YA	2358	G
24	YA	2383	G
24	YA	2385	C
24	YA	2392	A
24	YA	2394	C
24	YA	2402	C
24	YA	2403	C

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Mol	Chain	Res	Type
24	YA	2406	U
24	YA	2410	G
24	YA	2423	U
24	YA	2425	A
24	YA	2427	C
24	YA	2429	G
24	YA	2430	A
24	YA	2435	A
24	YA	2439	A
24	YA	2441	C
24	YA	2446	G
24	YA	2448	A
24	YA	2450	A
24	YA	2465	C
24	YA	2469	A
24	YA	2470	G
24	YA	2475	C
24	YA	2480	C
24	YA	2494	G
24	YA	2502	G
24	YA	2505	G
24	YA	2518	A
24	YA	2520	C
24	YA	2525	G
24	YA	2529	G
24	YA	2542	A
24	YA	2554	U
24	YA	2567	G
24	YA	2576	G
24	YA	2602	A
24	YA	2609	U
24	YA	2611	U
24	YA	2612	C
24	YA	2615	U
24	YA	2629	A
24	YA	2655	G
24	YA	2656	U
24	YA	2665	A
24	YA	2666	C
24	YA	2673	G
24	YA	2675	A
24	YA	2682	U

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Mol	Chain	Res	Type
24	YA	2689	U
24	YA	2701	C
24	YA	2702	U
24	YA	2707	G
24	YA	2712	U
24	YA	2712(A)	A
24	YA	2713	A
24	YA	2724	C
24	YA	2726	U
24	YA	2733	A
24	YA	2734	A
24	YA	2739	U
24	YA	2744	G
24	YA	2758	A
24	YA	2762	G
24	YA	2764	A
24	YA	2765	A
24	YA	2766	G
24	YA	2777	G
24	YA	2778	A
24	YA	2779	U
24	YA	2789	C
24	YA	2790	A
24	YA	2791	C
24	YA	2797	U
24	YA	2804	C
24	YA	2807	G
24	YA	2808	U
24	YA	2818	G
24	YA	2820	A
24	YA	2821	A
24	YA	2830	G
24	YA	2832	U
24	YA	2833	G
24	YA	2834	G
24	YA	2835	A
24	YA	2867	G
24	YA	2868	A
24	YA	2872	G
24	YA	2891	G
24	YA	2892	A
24	YA	2893	G

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Mol	Chain	Res	Type
24	YA	2894	G
25	YB	8	U
25	YB	13	A
25	YB	15	A
25	YB	16	G
25	YB	19	G
25	YB	21	G
25	YB	25	A
25	YB	32	C
25	YB	33	G
25	YB	41	U
25	YB	42	C
25	YB	44	G
25	YB	45	A
25	YB	52	A
25	YB	56	G
25	YB	67	G
25	YB	73	A
25	YB	81	G
25	YB	82	G
25	YB	89	G
25	YB	105	G
25	YB	108	C
25	YB	109	G

All (133) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	64	G
1	QA	115	G
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	412	A
1	QA	428	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	560	U
1	QA	687	A

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Mol	Chain	Res	Type
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	913	A
1	QA	992	U
1	QA	1027	C
1	QA	1065	U
1	QA	1200	C
1	QA	1285	A
1	QA	1301	U
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1453	G
1	QA	1498	U
1	QA	1528	U
22	QV	35	C
22	QV	53	G
24	RA	74	A
24	RA	99	U
24	RA	229	A
24	RA	271(B)	G
24	RA	345	A
24	RA	372	G
24	RA	404	C
24	RA	508	G
24	RA	512	G
24	RA	587	C
24	RA	637	A
24	RA	752	A
24	RA	846	C
24	RA	856	C
24	RA	1022	G
24	RA	1026	U
24	RA	1085	A
24	RA	1178	C
24	RA	1204	A
24	RA	1210	A
24	RA	1312	U
24	RA	1427	A
24	RA	1558	A
24	RA	1653	G

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Mol	Chain	Res	Type
24	RA	1786	A
24	RA	1819	A
24	RA	1992	G
24	RA	2126	A
24	RA	2439	A
24	RA	2566	A
24	RA	2610	C
24	RA	2689	U
24	RA	2867	G
25	RB	66	A
1	XA	60	A
1	XA	78	G
1	XA	89	U
1	XA	115	G
1	XA	181	G
1	XA	243	A
1	XA	244	U
1	XA	250	A
1	XA	266	G
1	XA	328	C
1	XA	388	G
1	XA	410	G
1	XA	412	A
1	XA	429	U
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	687	A
1	XA	703	G
1	XA	812	C
1	XA	913	A
1	XA	992	U
1	XA	1285	A
1	XA	1336	C
1	XA	1347	G
1	XA	1446	A
1	XA	1498	U
22	XV	20	G
22	XV	35	C
22	XV	53	G
24	YA	99	U
24	YA	229	A

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Mol	Chain	Res	Type
24	YA	241	A
24	YA	242	G
24	YA	271(B)	G
24	YA	278	A
24	YA	372	G
24	YA	404	C
24	YA	503	A
24	YA	637	A
24	YA	654	A
24	YA	752	A
24	YA	846	C
24	YA	856	C
24	YA	859	G
24	YA	1022	G
24	YA	1026	U
24	YA	1082	U
24	YA	1085	A
24	YA	1178	C
24	YA	1204	A
24	YA	1225	C
24	YA	1427	A
24	YA	1460	A
24	YA	1558	A
24	YA	1653	G
24	YA	1694	C
24	YA	1799	G
24	YA	1992	G
24	YA	2566	A
24	YA	2610	C
24	YA	2681	C
24	YA	2712	U
24	YA	2776	A
24	YA	2832	U
24	YA	2867	G
25	YB	66	A

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 1464 ligands modelled in this entry, 1462 are monoatomic - leaving 2 for Mogul analysis.

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

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

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

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
56	QD	301	SF4	1	0
56	XD	301	SF4	2	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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

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

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

6.3 Carbohydrates [i](#)

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

6.4 Ligands [i](#)

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

6.5 Other polymers [i](#)

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