Full wwPDB X-ray Structure Validation Report ⓘ

Mar 22, 2023 – 10:51 AM EDT

PDB ID	:	8FOM
Title	:	Crystal structure of tRNA^Lys(SUU) bound to UAA codon in the ribosomal P site
Authors	:	Nguyen, H.A.; Hoffer, E.D.; Maehigashi, T.; Fagan, C.E.; Dunham, C.M.
Deposited on	:	2023-01-02
Resolution	:	3.58 Å(reported)

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

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

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

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

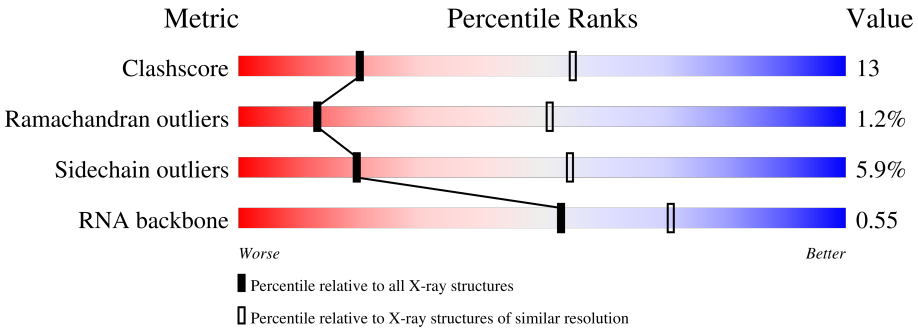
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.32.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.58 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	1181 (3.66-3.50)
Ramachandran outliers	138981	1143 (3.66-3.50)
Sidechain outliers	138945	1143 (3.66-3.50)
RNA backbone	3102	1008 (4.10-3.00)

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

Note EDS failed to run properly.

Mol	Chain	Length	Quality of chain
1	QA	1522	49% 41% 8%
1	XA	1522	53% 38% 7%
2	QB	256	42% 45% 7%
2	XB	256	47% 41% 7%
3	QC	239	52% 32% 14%
3	XC	239	55% 28% 14%

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Mol	Chain	Length	Quality of chain
4	QD	209	51% 42% 6%
4	XD	209	64% 34%
5	QE	162	71% 21% 7%
5	XE	162	70% 21% 7%
6	QF	101	78% 22%
6	XF	101	87% 13%
7	QG	156	83% 16%
7	XG	156	83% 15%
8	QH	138	70% 29%
8	XH	138	74% 24%
9	QI	128	66% 32%
9	XI	128	54% 40%
10	QJ	105	59% 33% 6%
10	XJ	105	63% 29% 6%
11	QK	129	59% 31% 8%
11	XK	129	70% 20% 8%
12	QL	131	66% 28% 5%
12	XL	131	56% 36% 5%
13	QM	126	48% 43% 5%
13	XM	126	57% 33% 6%
14	QN	61	59% 33% 7%
14	XN	61	69% 26%
15	QO	89	83% 16%
15	XO	89	78% 20%
16	QP	88	67% 26% 5%

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Mol	Chain	Length	Quality of chain
16	XP	88	68% 25% 5%
17	QQ	105	70% 24% 5%
17	XQ	105	59% 31% 5% 5%
18	QR	88	49% 27% 20%
18	XR	88	63% 16% 20%
19	QS	93	49% 34% 10%
19	XS	93	44% 43% 10%
20	QT	106	60% 30% 7%
20	XT	106	68% 25% 7%
21	QU	27	52% 33% 7% 7%
21	XU	27	48% 33% 11% 7%
22	QV	76	51% 38% 8%
22	XV	76	43% 43% 11%
23	QX	23	13% 87%
23	XX	23	43% 35% 22%
24	R0	85	69% 25%
24	Y0	85	71% 24%
25	R1	98	68% 28%
25	Y1	98	72% 26%
26	R2	72	57% 32% 7%
26	Y2	72	69% 28%
27	R3	60	63% 32%
27	Y3	60	67% 32%
28	R4	71	46% 38% 13%
28	Y4	71	42% 46% 10%

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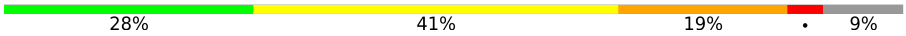
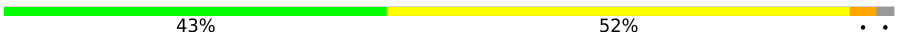
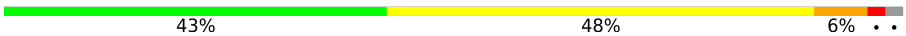
Mol	Chain	Length	Quality of chain
29	R5	60	
29	Y5	60	
30	R6	54	
30	Y6	54	
31	R7	49	
31	Y7	49	
32	R8	65	
32	Y8	65	
33	R9	37	
33	Y9	37	
34	RA	2915	
34	YA	2915	
35	RB	122	
35	YB	122	
36	RD	276	
36	YD	276	
37	RE	206	
37	YE	206	
38	RF	210	
38	YF	210	
39	RG	182	
39	YG	182	
40	RH	180	
40	YH	180	
41	RI	148	

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Mol	Chain	Length	Quality of chain
41	YI	148	53% 37% 7%
42	RN	140	74% 20%
42	YN	140	65% 29%
43	RO	122	74% 25%
43	YO	122	77% 20%
44	RP	150	61% 34%
44	YP	150	59% 36% 5%
45	RQ	141	59% 37%
45	YQ	141	59% 37%
46	RR	118	60% 36%
46	YR	118	74% 25%
47	RS	112	62% 32% 5%
47	YS	112	49% 46%
48	RT	146	65% 24% 5% 6%
48	YT	146	56% 33% 5% 6%
49	RU	118	75% 20%
49	YU	118	72% 25%
50	RV	101	59% 33% 6%
50	YV	101	51% 43%
51	RW	113	72% 27%
51	YW	113	74% 24%
52	RX	96	64% 28%
52	YX	96	63% 29%
53	RY	110	52% 36% 7%
53	YY	110	46% 36% 9% 7%

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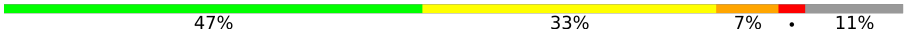
Mol	Chain	Length	Quality of chain
54	RZ	206	
54	YZ	206	
55	XY	17	
56	Z6	3	
56	Z8	3	

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
58	SF4	XD	301	-	-	X	-

2 Entry composition

There are 59 unique types of molecules in this entry. The entry contains 292176 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	QA	1500	Total	C	N	O	P	0	0	0
			32247	14353	5981	10414	1499			
1	XA	1511	Total	C	N	O	P	0	0	0
			32471	14454	6014	10493	1510			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	QB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			
2	XB	237	Total	C	N	O	S	0	0	0
			1924	1228	344	347	5			

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	QH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			
8	XH	138	Total	C	N	O	S	0	0	0
			1116	705	215	193	3			

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	QM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			
13	XM	121	Total	C	N	O	S	0	0	0
			964	597	199	166	2			

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

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

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	QO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	2			
15	XO	88	Total	C	N	O	S	0	0	0
			734	459	147	126	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	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			
19	XS	84	Total	C	N	O	S	0	0	0
			674	430	126	116	2			

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

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

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

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

- Molecule 22 is a RNA chain called P-site tRNA^Lys(SUU).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	QV	74	Total 1594	C 717	N 279	O 525	P 73	0	0	0
22	XV	74	Total 1594	C 717	N 279	O 525	P 73	0	0	0

- Molecule 23 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	QX	3	Total 65	C 29	N 12	O 21	P 3	0	0	0
23	XX	23	Total 502	C 224	N 98	O 157	P 23	0	0	0

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

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

- Molecule 25 is a protein called 50S ribosomal protein L28.

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

- Molecule 26 is a protein called 50S ribosomal protein L29.

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

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	Y2	71	Total	C	N	O	S	0	0	0
			598	370	121	106	1			

- Molecule 27 is a protein called 50S ribosomal protein L30.

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

- Molecule 28 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	R4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			
28	Y4	71	Total	C	N	O	S	0	0	0
			581	364	108	104	5			

- Molecule 29 is a protein called 50S ribosomal protein L32.

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

- Molecule 30 is a protein called 50S ribosomal protein L33.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	R6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			
30	Y6	49	Total	C	N	O	S	0	0	0
			424	264	87	69	4			

- Molecule 31 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	R7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			
31	Y7	49	Total	C	N	O	S	0	0	0
			430	263	108	57	2			

- Molecule 32 is a protein called 50S ribosomal protein L35.

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

- Molecule 33 is a protein called 50S ribosomal protein L36.

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

- Molecule 34 is a RNA chain called 23S rRNA.

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

- Molecule 35 is a RNA chain called 5S rRNA.

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

- Molecule 36 is a protein called 50S ribosomal protein L2.

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

- Molecule 37 is a protein called 50S ribosomal protein L3.

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

- Molecule 38 is a protein called 50S ribosomal protein L4.

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

- Molecule 39 is a protein called 50S ribosomal protein L5.

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

- Molecule 40 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
40	RH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			
40	YH	170	Total	C	N	O	S	0	0	0
			1307	829	245	232	1			

- Molecule 41 is a protein called 50S ribosomal protein L9.

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

- Molecule 42 is a protein called 50S ribosomal protein L13.

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

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

- Molecule 43 is a protein called 50S ribosomal protein L14.

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

- Molecule 44 is a protein called 50S ribosomal protein L15.

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

- Molecule 45 is a protein called 50S ribosomal protein L16.

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

- Molecule 46 is a protein called 50S ribosomal protein L17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
46	RR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			
46	YR	118	Total	C	N	O	S	0	0	0
			968	604	203	160	1			

- Molecule 47 is a protein called 50S ribosomal protein L18.

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

- Molecule 48 is a protein called 50S ribosomal protein L19.

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

- Molecule 49 is a protein called 50S ribosomal protein L20.

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

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

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

- Molecule 51 is a protein called 50S ribosomal protein L22.

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

- Molecule 52 is a protein called 50S ribosomal protein L23.

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

- Molecule 53 is a protein called 50S ribosomal protein L24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
53	RY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			
53	YY	102	Total	C	N	O	S	0	0	0
			785	505	150	125	5			

- Molecule 54 is a protein called 50S ribosomal protein L25.

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

- Molecule 55 is a RNA chain called A-site ASL^Phe.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
55	XY	17	Total	C	N	O	P	0	0	0
			362	163	68	115	16			

- Molecule 56 is a RNA chain called CC-puro.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
56	Z6	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			
56	Z8	3	Total	C	N	O	P	0	0	0
			74	40	13	19	2			

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
57	QA	54	Total	Mg	0	0
			54	54		
57	QV	1	Total	Mg	0	0
			1	1		
57	R0	1	Total	Mg	0	0
			1	1		
57	R5	1	Total	Mg	0	0
			1	1		
57	R7	1	Total	Mg	0	0
			1	1		
57	R8	1	Total	Mg	0	0
			1	1		

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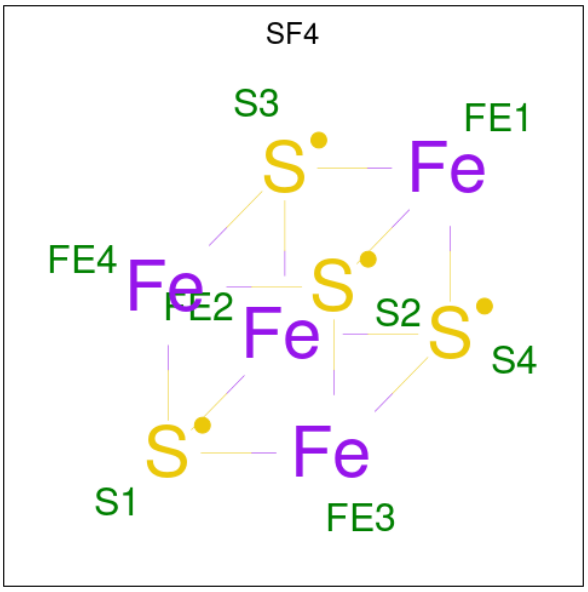
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
57	RA	333	Total Mg 333 333	0	0
57	RB	5	Total Mg 5 5	0	0
57	RE	1	Total Mg 1 1	0	0
57	RF	1	Total Mg 1 1	0	0
57	RR	2	Total Mg 2 2	0	0
57	XA	58	Total Mg 58 58	0	0
57	XV	2	Total Mg 2 2	0	0
57	XX	1	Total Mg 1 1	0	0
57	Y0	1	Total Mg 1 1	0	0
57	Y1	1	Total Mg 1 1	0	0
57	Y3	1	Total Mg 1 1	0	0
57	Y5	1	Total Mg 1 1	0	0
57	Y7	2	Total Mg 2 2	0	0
57	YA	361	Total Mg 361 361	0	0
57	YB	4	Total Mg 4 4	0	0
57	YE	2	Total Mg 2 2	0	0
57	YP	2	Total Mg 2 2	0	0
57	YQ	2	Total Mg 2 2	0	0
57	YR	2	Total Mg 2 2	0	0
57	YY	1	Total Mg 1 1	0	0

- Molecule 58 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



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

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

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

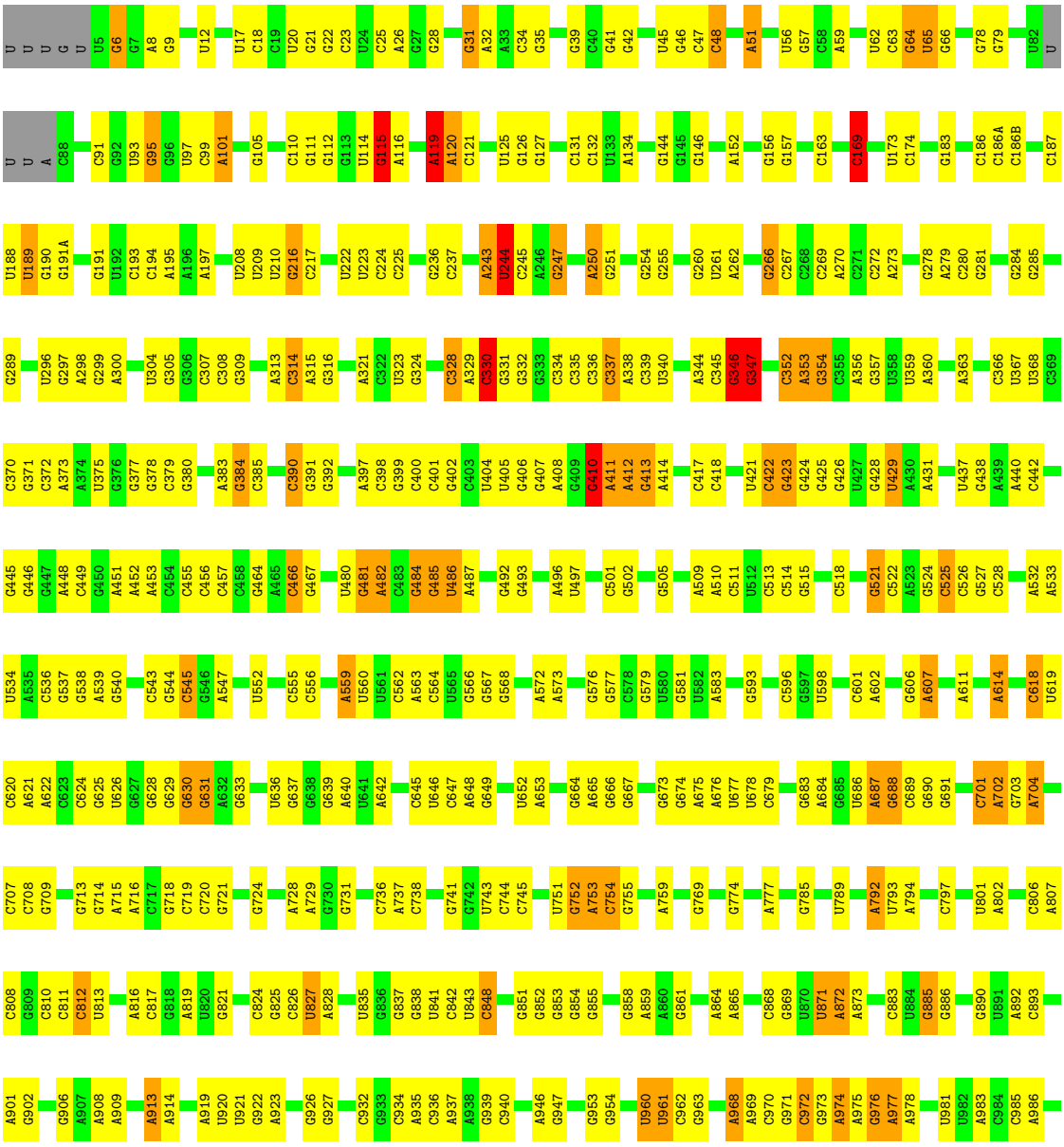
3 Residue-property plots (i)

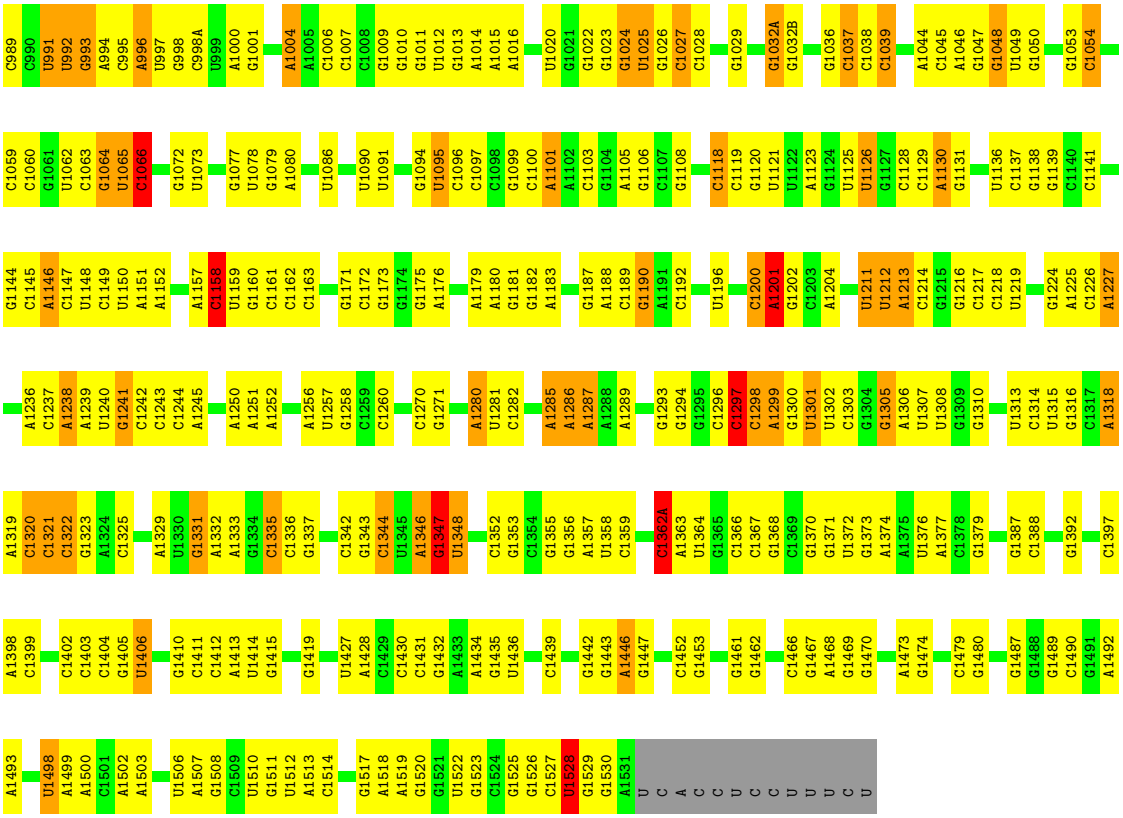
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS failed to run properly.

- Molecule 1: 16S rRNA

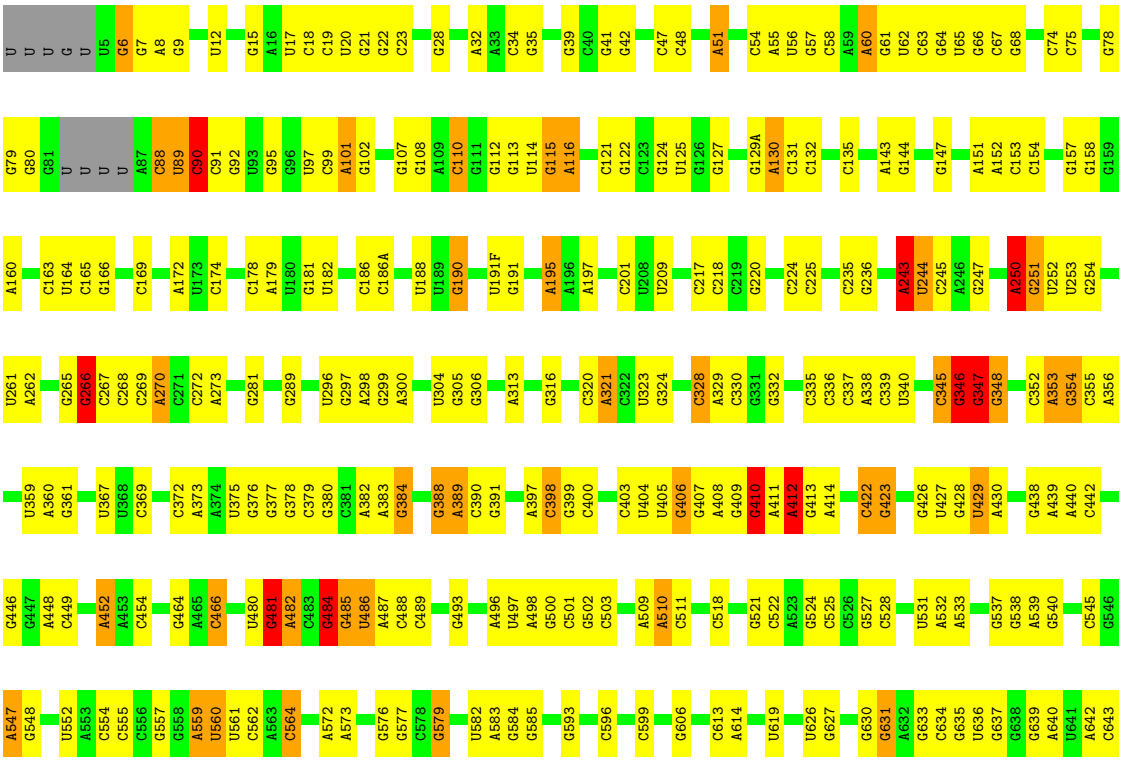
Chain QA: 

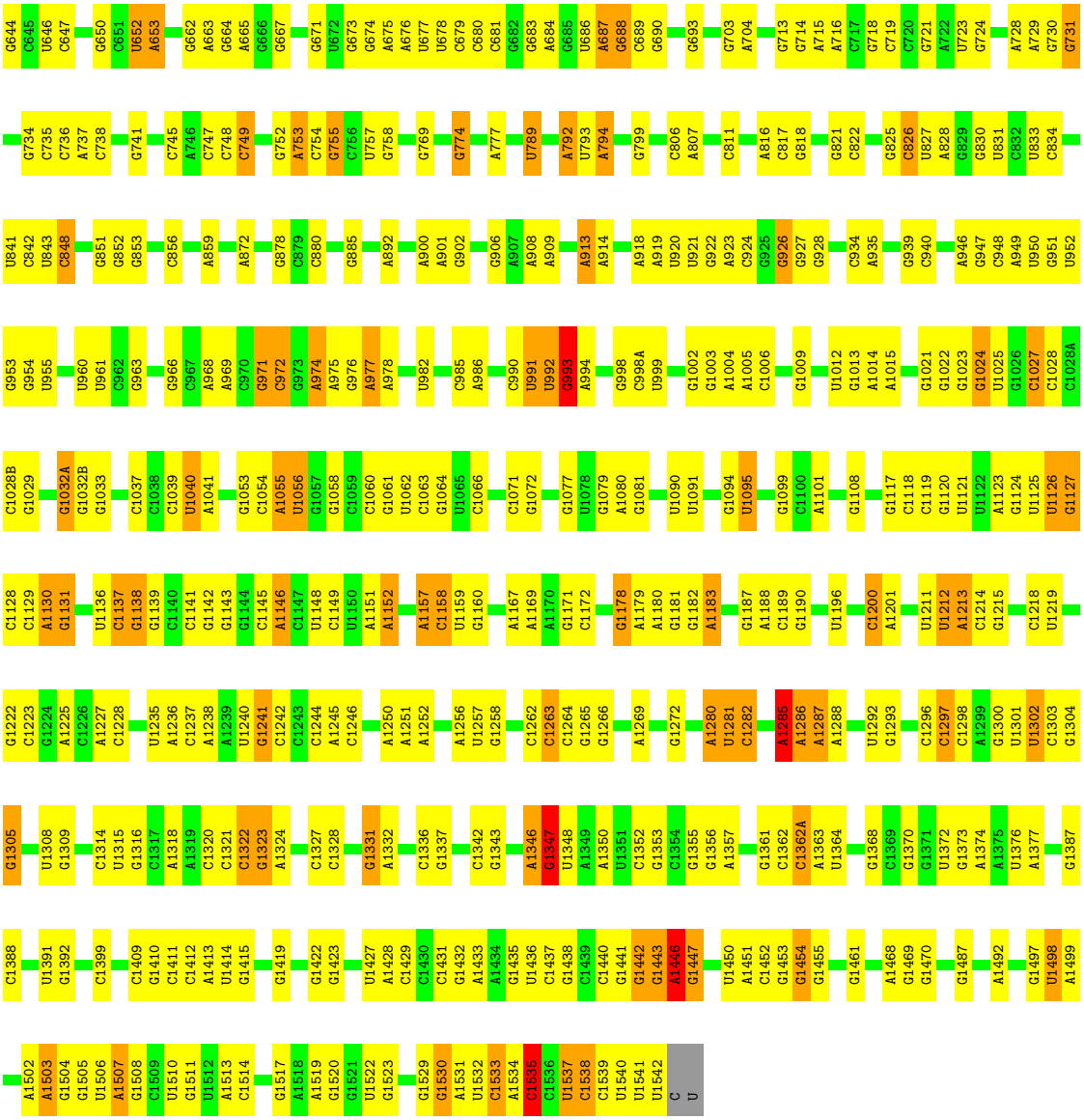




• Molecule 1: 16S rRNA

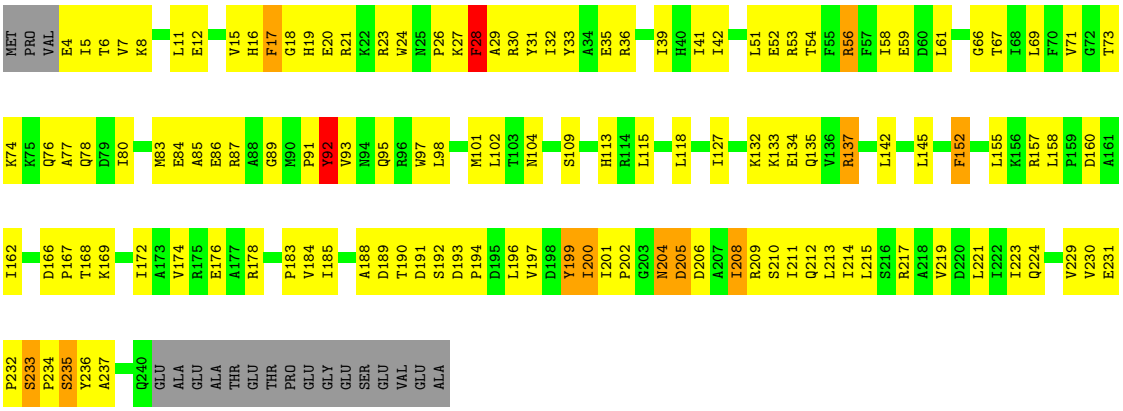
Chain XA:





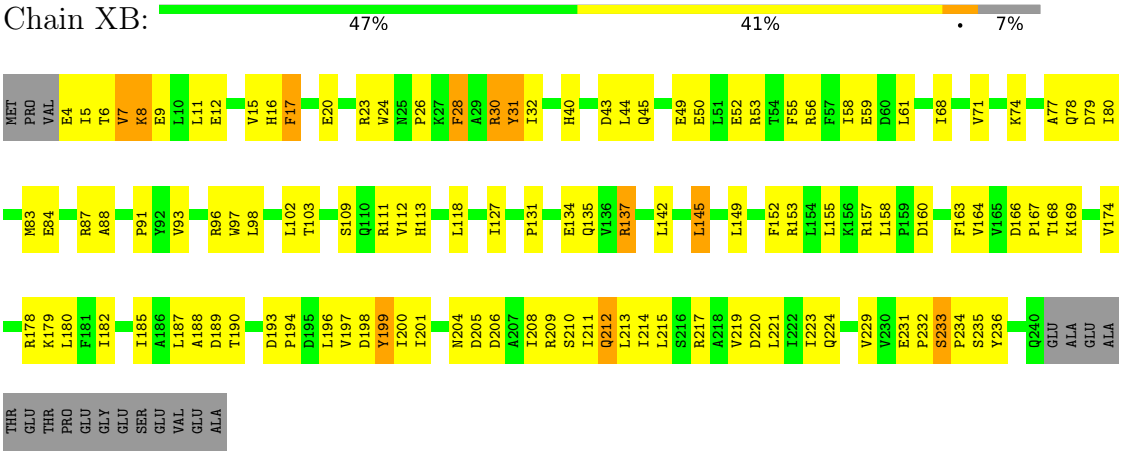
• Molecule 2: 30S ribosomal protein S2

Chain QB:



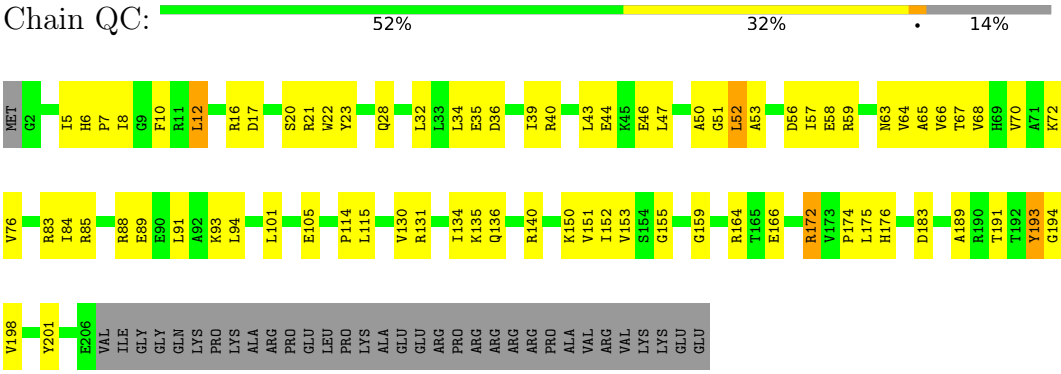
• Molecule 2: 30S ribosomal protein S2

Chain XB:



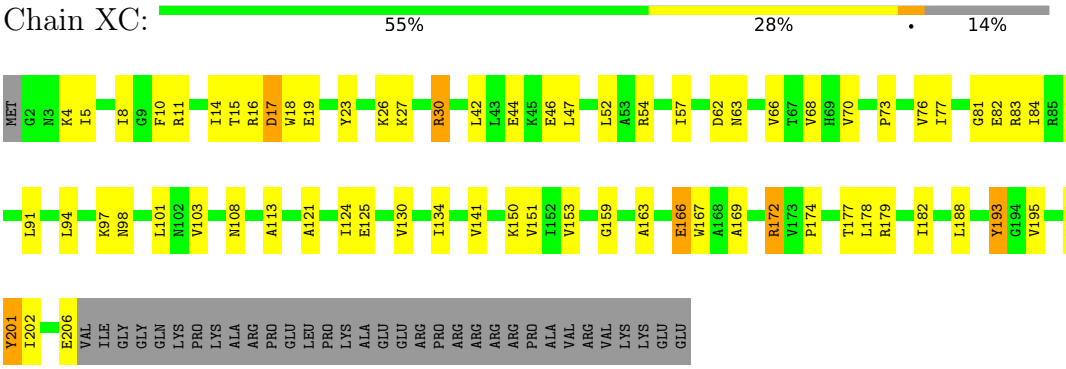
• Molecule 3: 30S ribosomal protein S3

Chain QC:



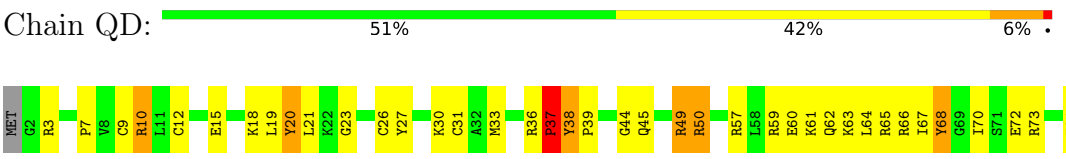
• Molecule 3: 30S ribosomal protein S3

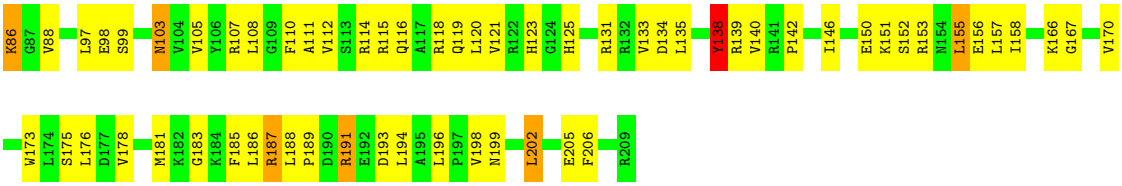
Chain XC:



• Molecule 4: 30S ribosomal protein S4

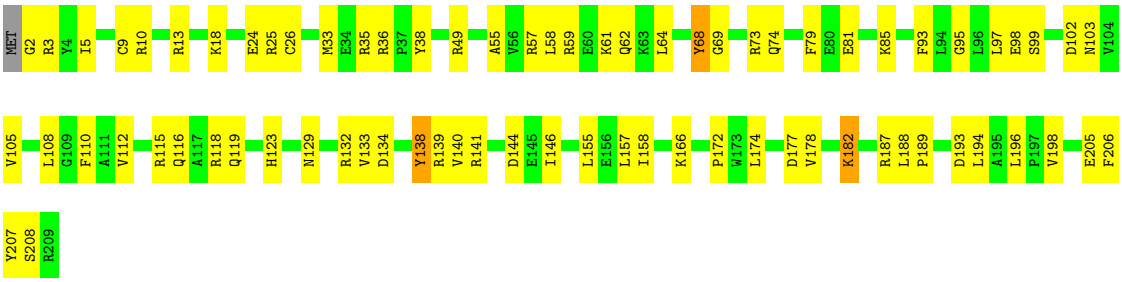
Chain QD:





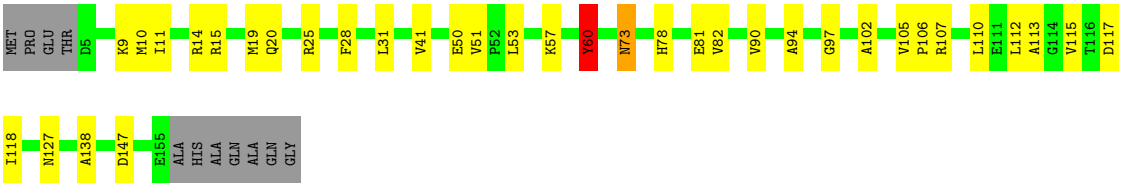
• Molecule 4: 30S ribosomal protein S4

Chain XD:



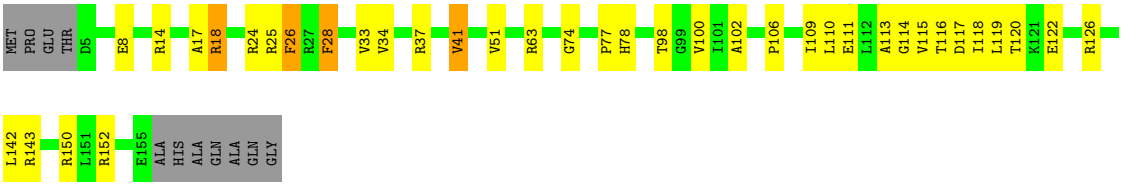
• Molecule 5: 30S ribosomal protein S5

Chain QE:



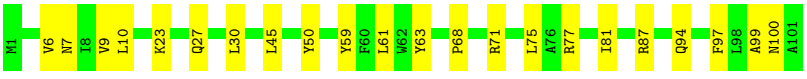
• Molecule 5: 30S ribosomal protein S5

Chain XE:



• Molecule 6: 30S ribosomal protein S6

Chain QF:

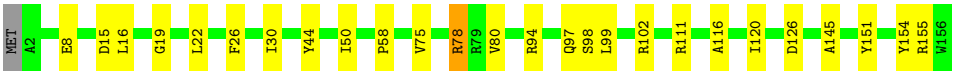


• Molecule 6: 30S ribosomal protein S6

Chain XF:

• Molecule 7: 30S ribosomal protein S7

Chain QG:

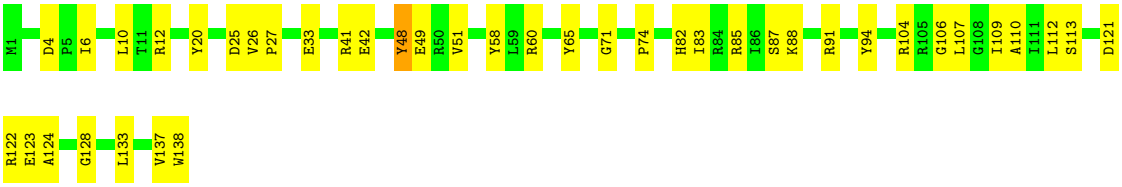


• Molecule 7: 30S ribosomal protein S7

Chain XG:

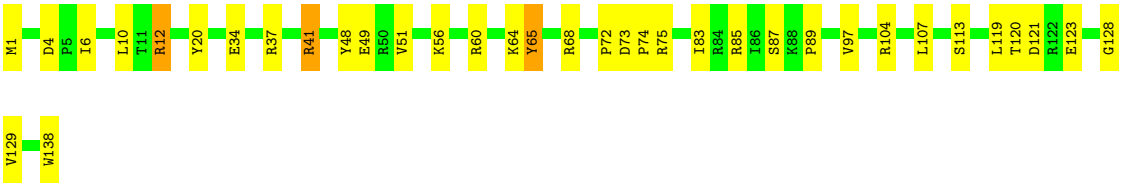
• Molecule 8: 30S ribosomal protein S8

Chain QH:



• Molecule 8: 30S ribosomal protein S8

Chain XH:

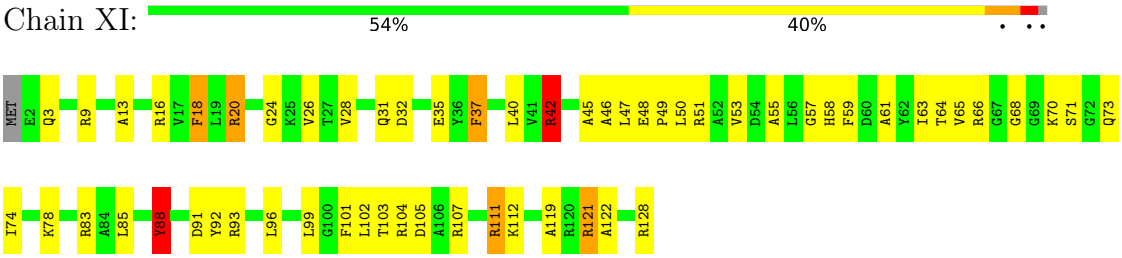


• Molecule 9: 30S ribosomal protein S9

Chain QI:

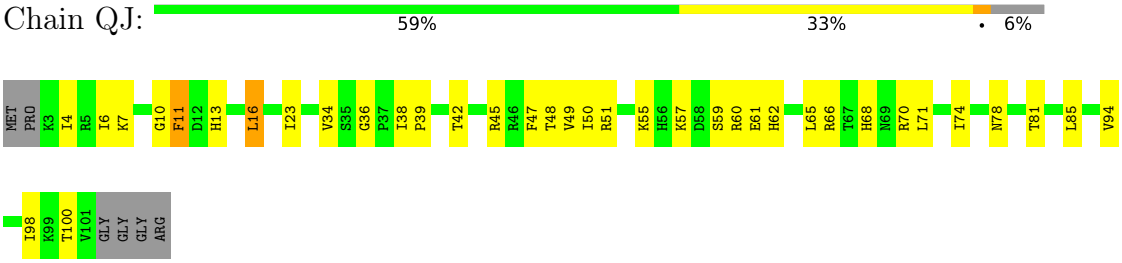
• Molecule 9: 30S ribosomal protein S9

Chain XI:



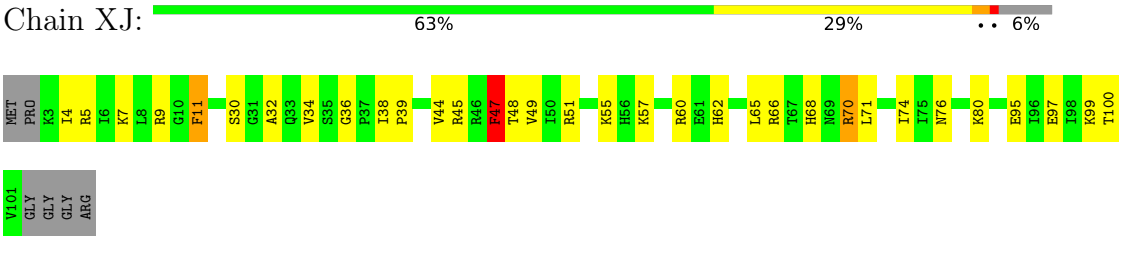
• Molecule 10: 30S ribosomal protein S10

Chain QJ:



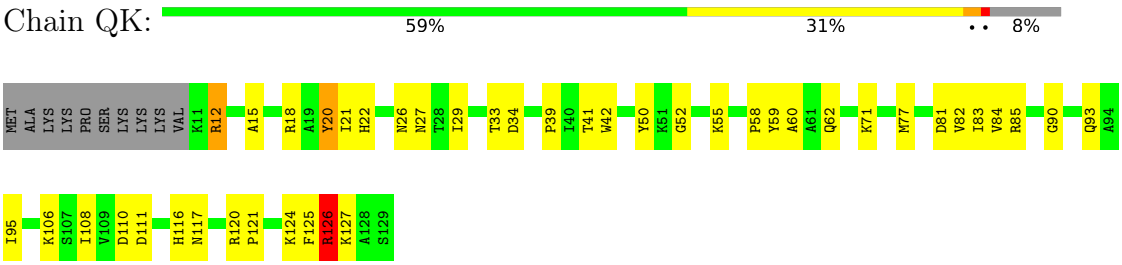
• Molecule 10: 30S ribosomal protein S10

Chain XJ:



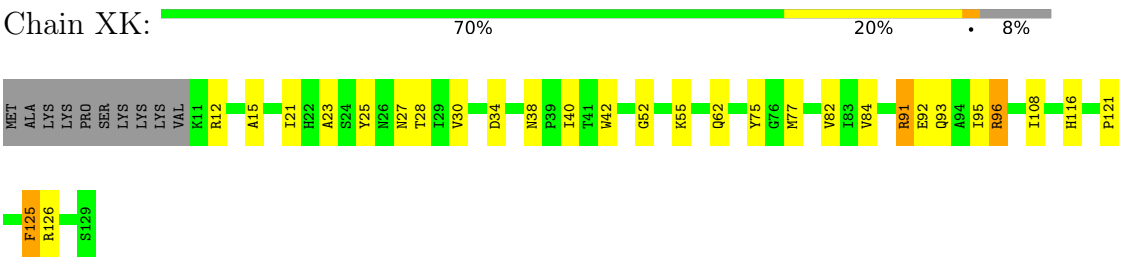
• Molecule 11: 30S ribosomal protein S11

Chain QK:



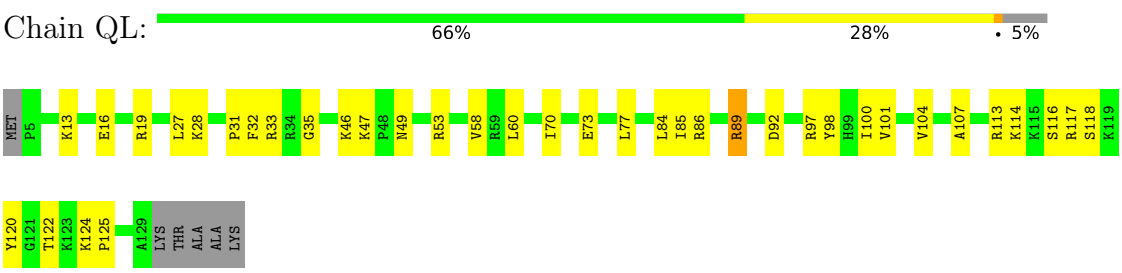
• Molecule 11: 30S ribosomal protein S11

Chain XK:



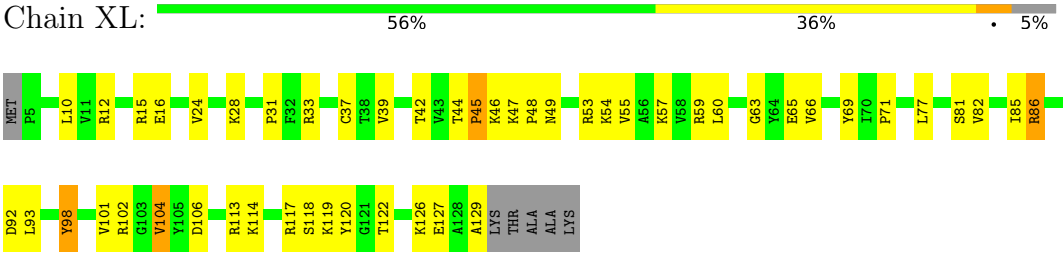
• Molecule 12: 30S ribosomal protein S12

Chain QL:



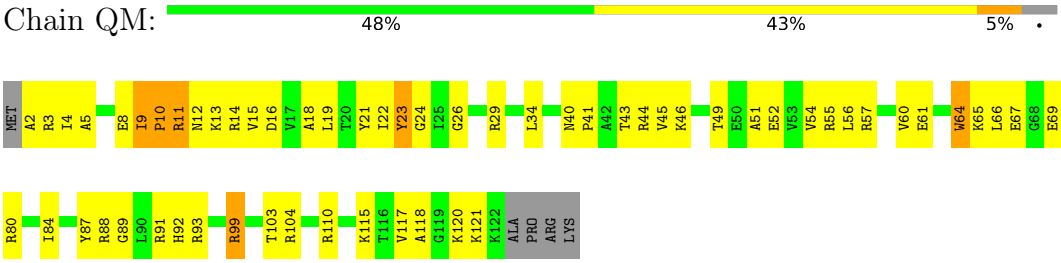
• Molecule 12: 30S ribosomal protein S12

Chain XL:



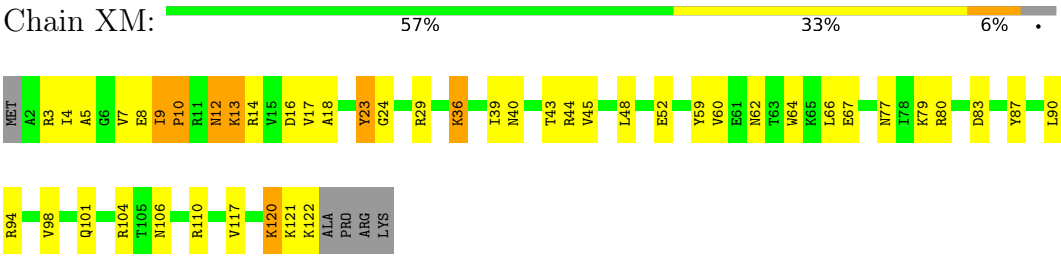
• Molecule 13: 30S ribosomal protein S13

Chain QM:



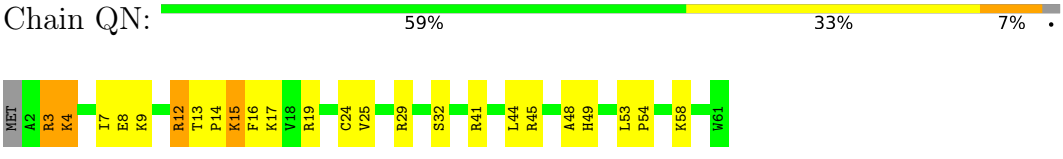
• Molecule 13: 30S ribosomal protein S13

Chain XM:



• Molecule 14: 30S ribosomal protein S14 type Z

Chain QN:



• Molecule 14: 30S ribosomal protein S14 type Z

Chain XN:

• Molecule 15: 30S ribosomal protein S15

Chain QO:

• Molecule 15: 30S ribosomal protein S15

Chain XO:

• Molecule 16: 30S ribosomal protein S16

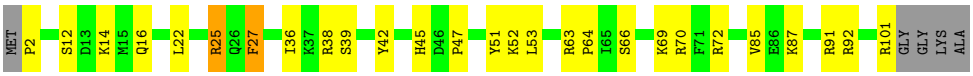
Chain QP:

• Molecule 16: 30S ribosomal protein S16

Chain XP:

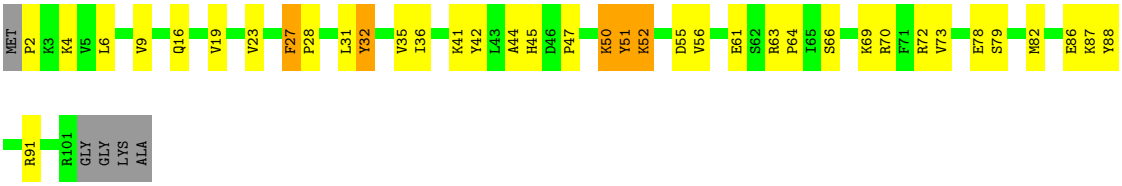
• Molecule 17: 30S ribosomal protein S17

Chain QQ:



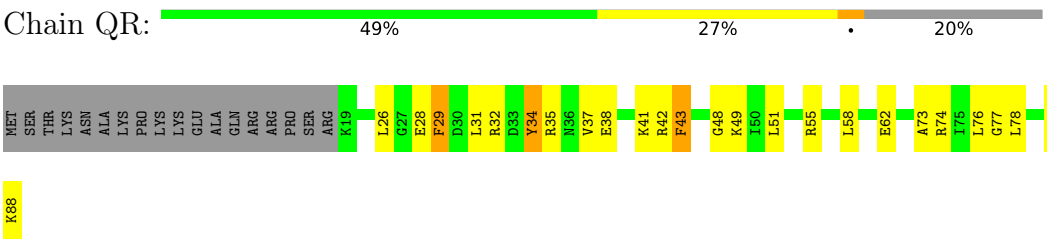
• Molecule 17: 30S ribosomal protein S17

Chain XQ:



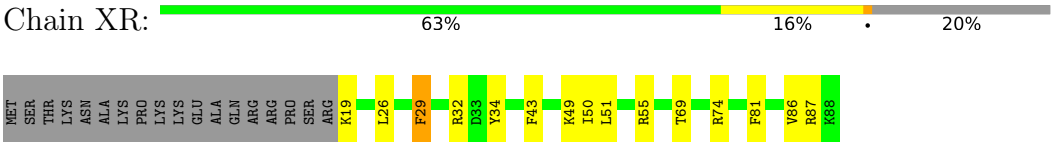
• Molecule 18: 30S ribosomal protein S18

Chain QR:



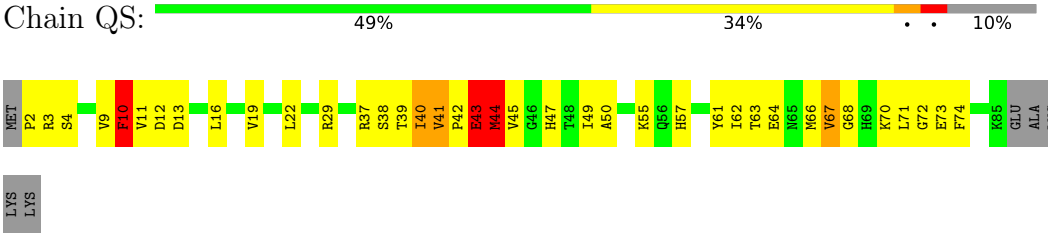
• Molecule 18: 30S ribosomal protein S18

Chain XR:



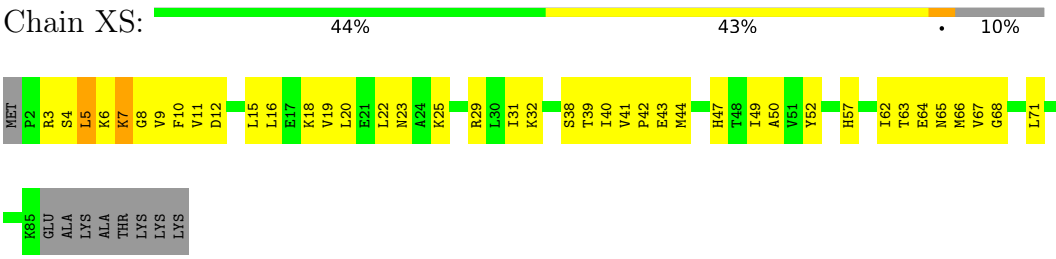
• Molecule 19: 30S ribosomal protein S19

Chain QS:



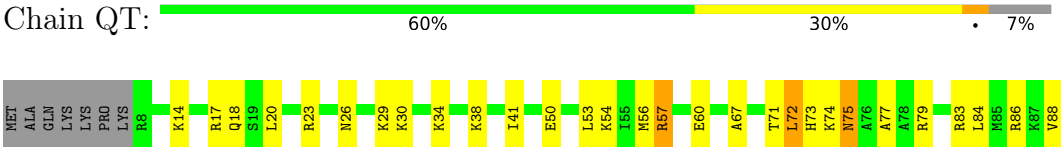
• Molecule 19: 30S ribosomal protein S19

Chain XS:



• Molecule 20: 30S ribosomal protein S20

Chain QT:



• Molecule 20: 30S ribosomal protein S20

Chain XT:

• Molecule 21: 30S ribosomal protein Thx

Chain QU:

• Molecule 21: 30S ribosomal protein Thx

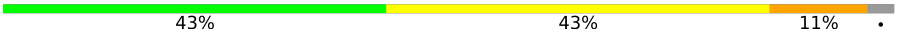
Chain XU:

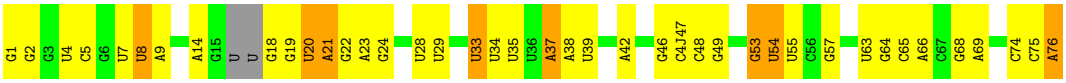
• Molecule 22: P-site tRNA^Lys(SUU)

Chain QV:

• Molecule 22: P-site tRNA^Lys(SUU)

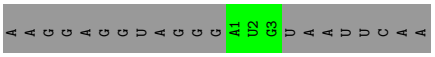
Chain XV:





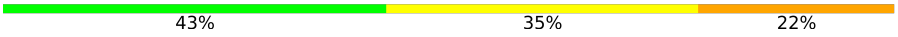
• Molecule 23: mRNA

Chain QX:



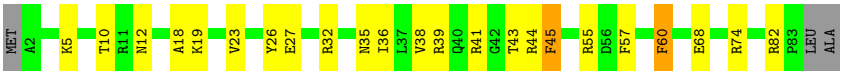
• Molecule 23: mRNA

Chain XX:



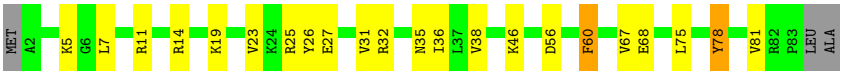
• Molecule 24: 50S ribosomal protein L27

Chain R0:



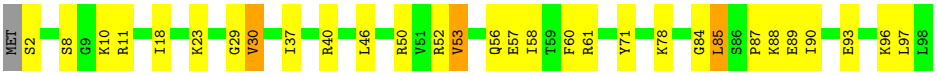
• Molecule 24: 50S ribosomal protein L27

Chain Y0:



• Molecule 25: 50S ribosomal protein L28

Chain R1:

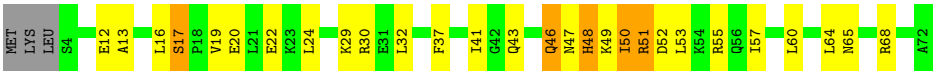


• Molecule 25: 50S ribosomal protein L28

Chain Y1:

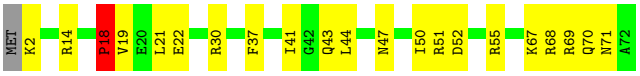
• Molecule 26: 50S ribosomal protein L29

Chain R2:



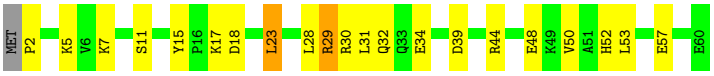
• Molecule 26: 50S ribosomal protein L29

Chain Y2:



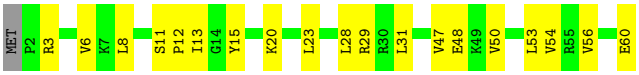
• Molecule 27: 50S ribosomal protein L30

Chain R3:



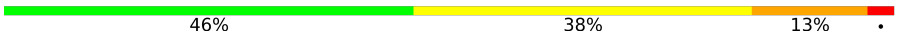
• Molecule 27: 50S ribosomal protein L30

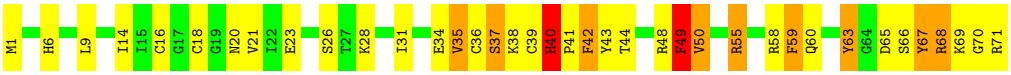
Chain Y3:



• Molecule 28: 50S ribosomal protein L31

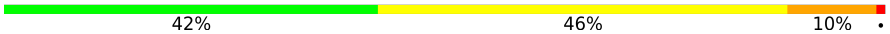
Chain R4:





• Molecule 28: 50S ribosomal protein L31

Chain Y4:



• Molecule 29: 50S ribosomal protein L32

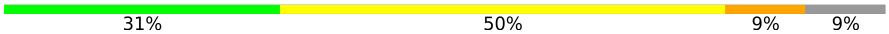
Chain R5:

• Molecule 29: 50S ribosomal protein L32

Chain Y5:

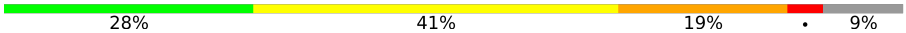
• Molecule 30: 50S ribosomal protein L33

Chain R6:



• Molecule 30: 50S ribosomal protein L33

Chain Y6:

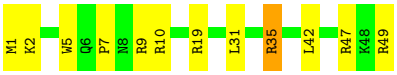


• Molecule 31: 50S ribosomal protein L34

Chain R7:

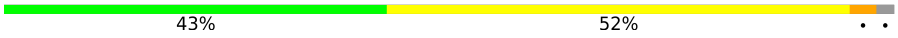
• Molecule 31: 50S ribosomal protein L34

Chain Y7:



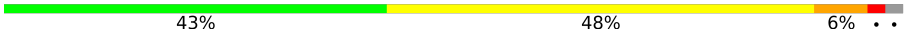
• Molecule 32: 50S ribosomal protein L35

Chain R8:



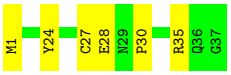
• Molecule 32: 50S ribosomal protein L35

Chain Y8:



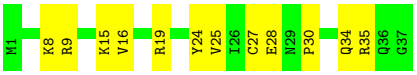
• Molecule 33: 50S ribosomal protein L36

Chain R9:



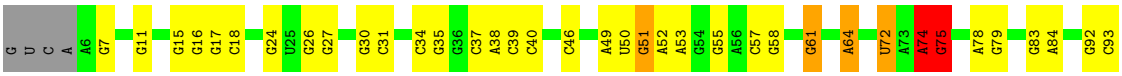
• Molecule 33: 50S ribosomal protein L36

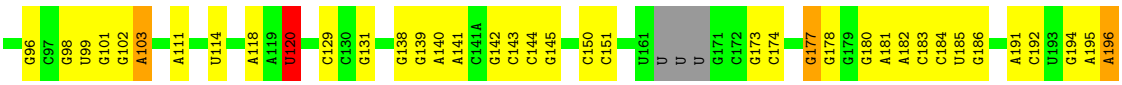
Chain Y9:



• Molecule 34: 23S rRNA

Chain RA:





A197 C198 A199 G214 G215 A216 A221 A222 A223 A227 A228 A229 U230 C231 G232 A233 G242 U243 A244 G245 C246 G247 G248 C249 G252 A256 A257 G258 G259 A262 C263 C264 A265 G266 U269 G270I U270L U270M G270N U270O C270P C270Q G270R G270S G270T C270U G270V G270W G271B
U271C G271 G275 A276 C277 C285 C288 A289 C297 G298 A299 A300 U305 U306 G307 G308 G309 A310 A311 G312 C316 C319 A320 G321 A322 G323 A324 G325 G326 G327 U328 G329 A330 G333 G342 A345 A346 A347 G348 G352 C364 A371 G372 U373 A374 U380
G381 G386 G389 C392 C393 A394 U395 C404 U405 G406 G407 G408 C409 G410 G411 A412 C413 C414 A415 U427 A428 C435 G442 A443 C444 U448 A457 G458 G463 U464 G465 A466 G469 A470 A479 A480 G481 A482 A483 C484 C485 C486 G496 A503 U504 A505
G508 C509 G512 A513 A514 A515 C516 C517 G520 G521 G522 C527 A528 A529 G530 C531 A532 G533 C537 G539 G540 C546 G549 G550 G551 G552 U553 U554 G556 U557 G558 G563 C564 C565 G570 G573 C574 A575 U576 G577 A578 G579 C580 C581 G582 G583 A586 C587 U588
C589 A590 C591 G592 G593 U594 C595 G598 A603 G604 C605 U606 U607 A608 A609 C609A C610 U614 G615 A616 G617 G620 A621 G622 A627 A631 A632 C635 G636 A637 G638 U639 C640 C641 G642 C645 A646 G651 C652 A653 A654 G654A C654B G C C C G C A
C G G G G C C G654S C654T A655 G656 U657 G662 G663 C664 C665 G666 U667 G668 G669 A670 C671 C672 C673 G674 A675 A676 C679 G680 G686 C687 U688 A689 G690 C691 C692 G702 C708 U709 G710 G711 G717 A722 G723 U724 G725 G729 C730 A746
U747 C753 C754 C755 C756 U762 G763 A764 G765 G768 G771 G776 A782 A783 A784 G785 A788 A789 C790 C791 G792 C796 C797 G805 C806 U807 G808 G809 C812 U813 C814 G818 A819 G823 A824 C825 U826 U827 U828 G831 G832 A835 G836 U839 C840
A841 C844 G845 C846 U847 G848 A849 G852 G853 C856 C857 U858 G859 U860 A863 G864 C867 U868 G869 A872 G873 G881 G882 G883 C884 C885 C886 A887 C888 C889 C893 A896 C897 C898 A899 A900 A901 C902 C903 C904 U905 G906 U907 A910 C914 C915 G916 A917 A918
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A1177 C1178 C1179 C1180 G1183 G1187 U1188 G1191 A1194 G1195 U1198 U1199 C1200 C1201 C1202 G1203 A1204 U1205 G1206 A1210 U1211 G1212 A1213 A1214 A1220 G1224 C1225 G1226 A1227 C1230 G1231 G1232 G1236 A1237 G1238 G1243 G1244 G1245 A1246 G1252 A1253 A1254 U1255 G1256 C1257 A1265 G1266
G1271 A1272 U1273 A1274 A1275 A1278 G1279 A1287 U1288 C1289 C1290 C1291 U1292 C1293 U1294 C1295 G1296 G1299 U1300 A1301 A1308 G1309 G1310 G1311 U1312 U1313 C1314 C1315 U1316 A1317 A1321 U1329 C1330 U1335 A1336 G1337 U1341 A1349 U1352 A1353 A1364 G1355 G1364 A1365 G1368 G1369 C1370
A1378 A1379 G1380 A1384 G1385 U1390 U1391 A1392 A1393 U1394 A1395 C1403 C1404 U1405 U1406 C1407 C1408 C1409 G1410 C1411 A1412 G1413 G1416 C1417 G1418 A1419 U1420 G1423 G1424 A1427 C1428 G1429 C1430 U1431 C1432 U1433 A1434 G1435 G1436 C1437 G1441 G1442 A1444A C1445 A1449 G1449A U1454 G1455
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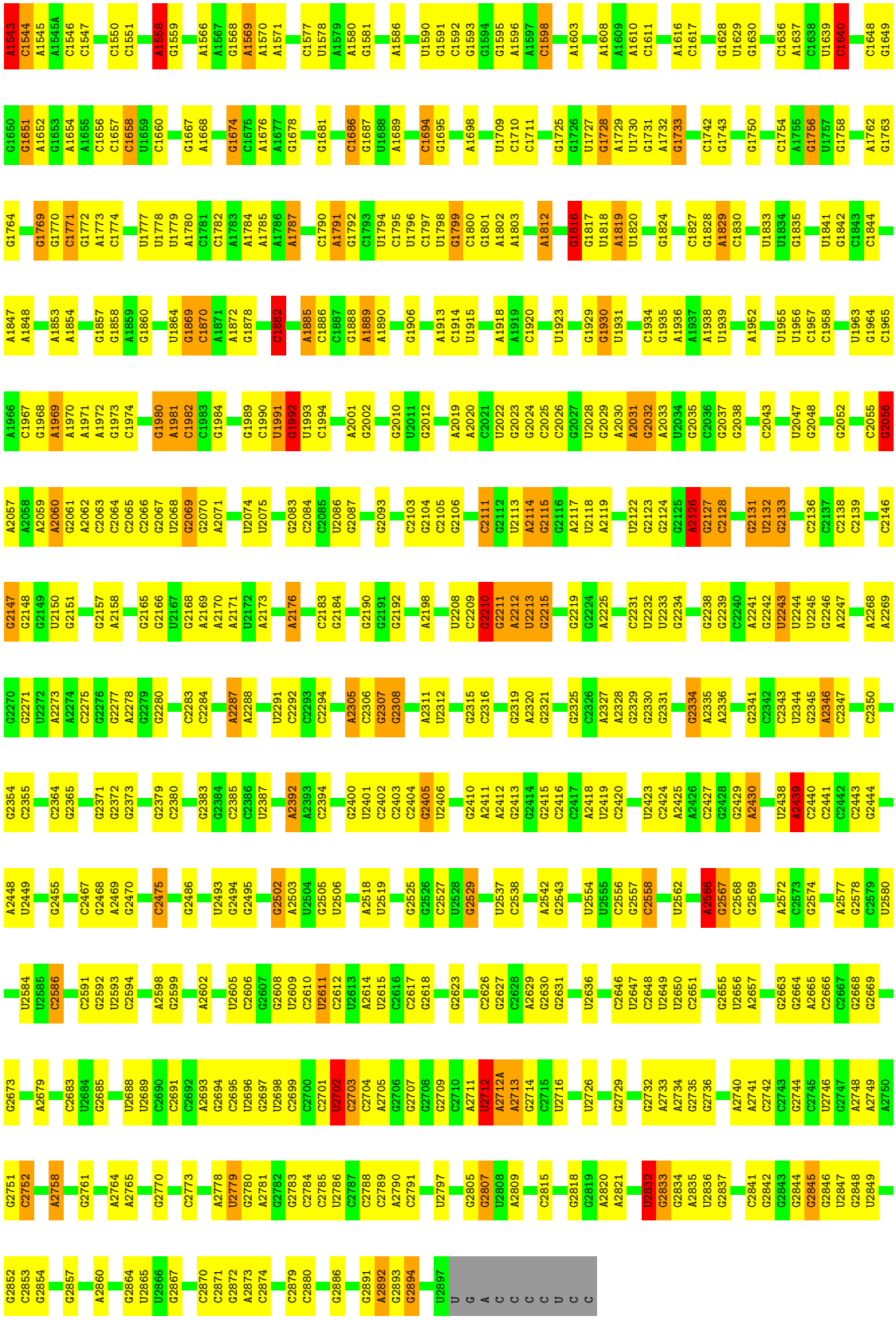
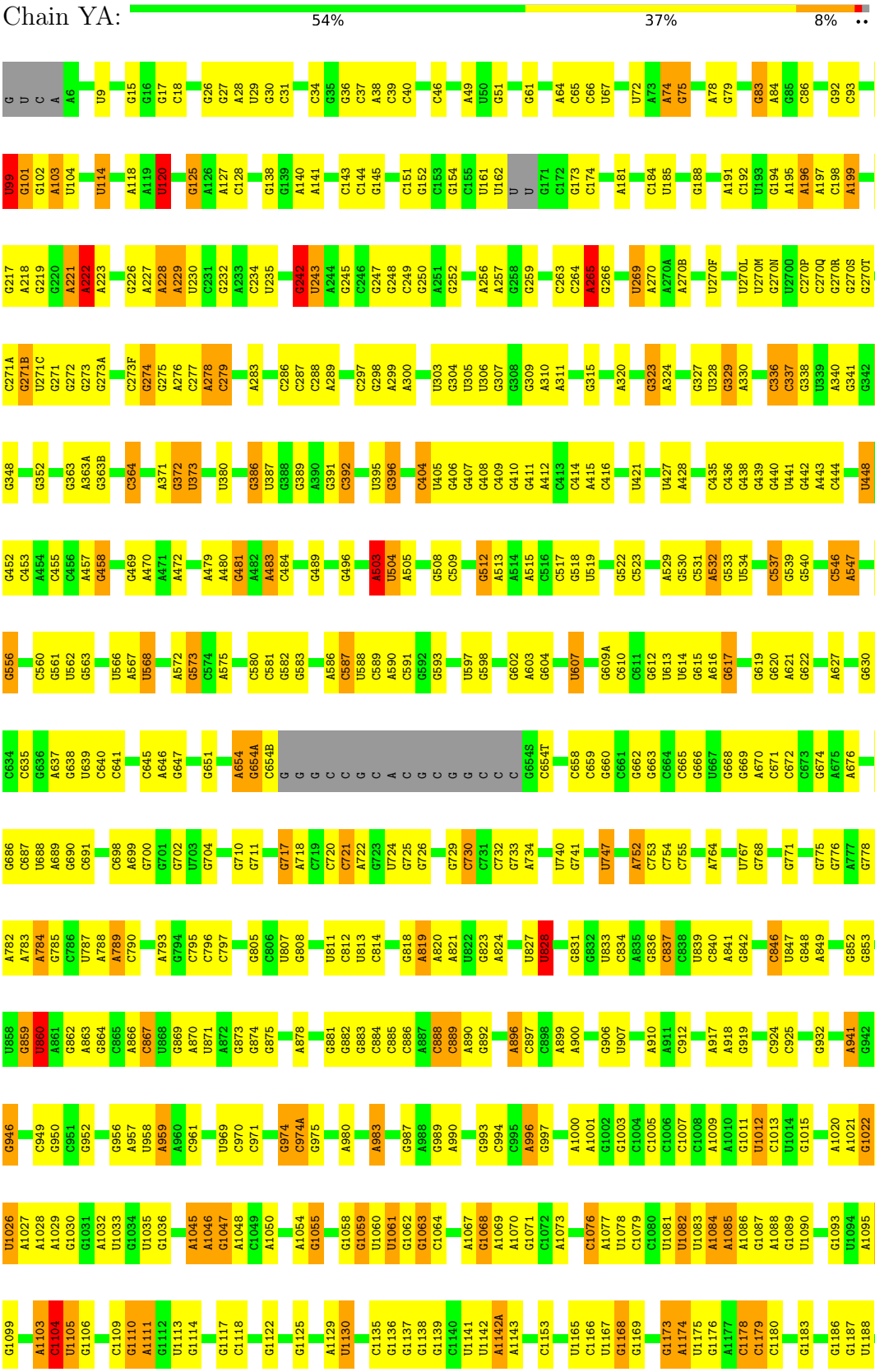
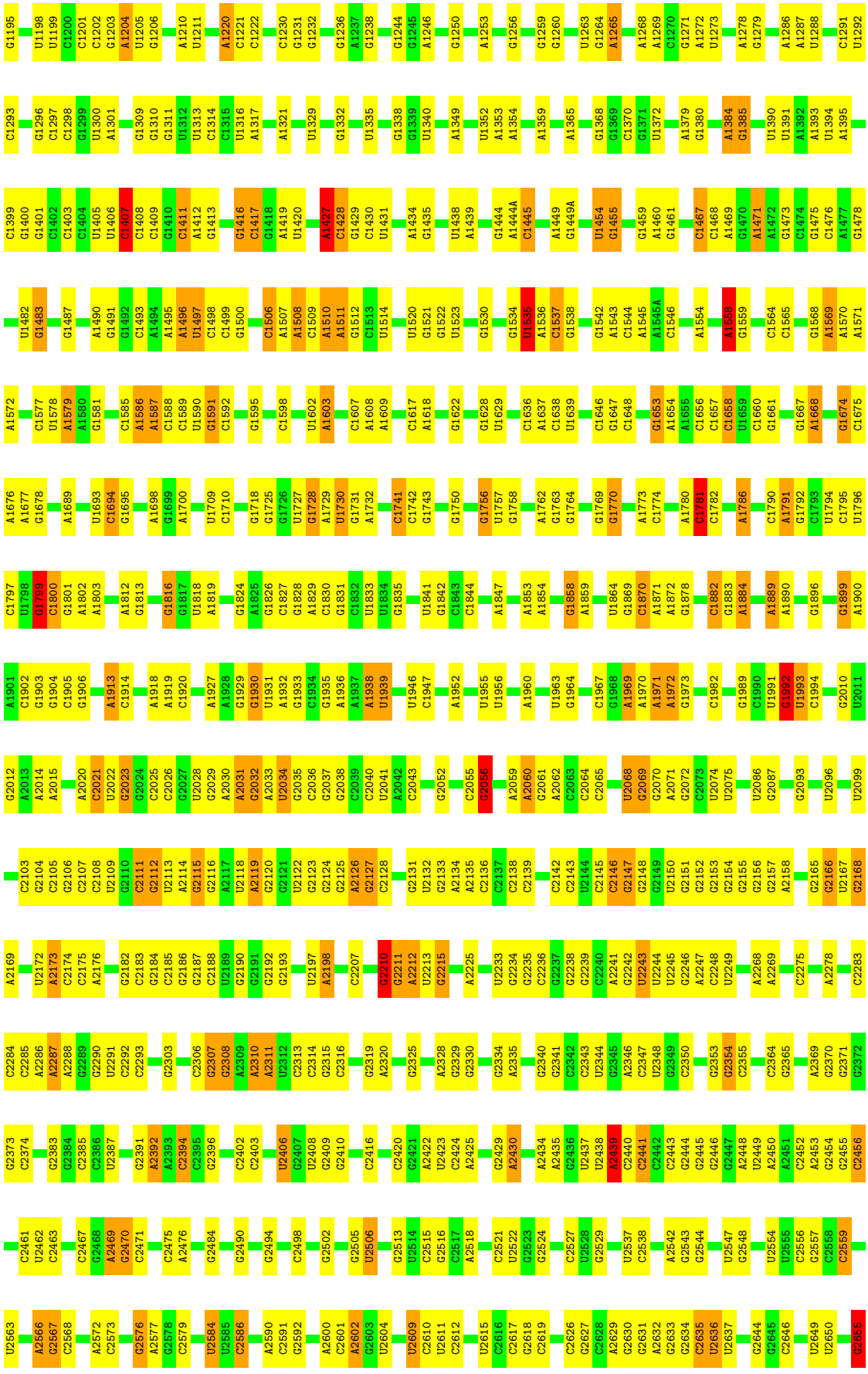


• Molecule 34: 23S rRNA

Chain YA:

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A1210 U1211
A1220 C1221 C1222
C1230 G1231 G1232
G1236 A1237 G1238
G1244 G1245 A1246
G1250
A1253
G1256
G1259 G1260
U1263 G1264 A1265
A1268 A1269 C1270 G1271 A1272 U1273
A1278 G1279
A1286 A1287 U1288
C1291 U1292
C1293
G1296 C1297 C1298 G1299 U1300 A1301
G1309 G1310 G1311 U1312 U1313 C1314 C1315 U1316 A1317
A1321
U1329
G1332
U1335
G1338 G1339 U1340
A1349
U1352 A1353 A1354
A1359
A1365
G1368 G1369 C1370 G1371 U1372
A1379 G1380
A1384 G1385
U1390 U1391 A1392 A1393 U1394 A1395
C1399 G1400 G1401 C1402 C1403 C1404 U1405 U1406 C1407
C1408 C1409 G1410 C1411 A1412 G1413 C1414 C1415 G1416 C1417 G1418 A1419 U1420
A1427 C1428 G1429 C1430 U1431
A1434 G1435
U1438 A1439
G1444 A1444A C1445
A1449 G1449A
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G1459 A1460 G1461
C1467 C1468 A1469 G1470 A1471 A1472 G1473 C1474 C1475 C1476 A1477 G1478
U1482 G1483
G1487
A1490 G1491 G1492
C1493 A1494 A1495 A1496 U1497 C1498 C1499 G1500
C1506 A1507 A1508 C1509 A1510 A1511 G1512 C1513 U1514
U1520 G1521 G1522 U1523
G1530
G1534 U1535 A1536 C1537 G1538
G1542 A1543 C1544 A1545 A1545A C1546
A1554
A1558 G1559
C1564 C1565
G1568 A1569 A1570 A1571
A1572 C1577 U1578 A1579 A1580 G1581 C1585 A1586 A1587 C1588 C1589 U1590 G1591 C1592 G1595 C1598 U1602 A1603 C1607 A1608 A1609 C1617 A1618 G1622 G1628 U1629 C1636 A1637 C1638 U1639 C1646 G1647 C1648 G1653 A1654 A1655 C1656 C1657 C1658 U1659 C1660 G1661 G1667 A1668 G1674 C1675
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G2012 A2013 A2014 A2015 A2020 C2021 U2022 G2023 G2024 C2025 C2026 G2027 U2028 G2029 A2030 A2031 A2032 A2033 U2034 G2035 C2036 G2037 G2038 C2039 C2040 U2041 A2042 C2043 G2052 C2055 G2056 A2059 A2060 G2061 A2062 C2063 C2064 C2065 U2068 G2069 G2070 A2071 G2072 C2073 U2074 U2075 U2086 G2087 G2093 U2096 U2099
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C2284 C2285 A2286 A2287 A2288 G2289 G2290 U2291 C2292 C2293 G2303 C2306 G2307 G2308 A2309 A2310 A2311 U2312 C2313 C2314 G2315 C2316 G2319 A2320 G2325 A2328 G2329 G2330 G2334 A2335 G2340 G2341 C2342 C2343 U2344 G2345 A2346 C2347 U2348 G2349 C2350 G2353 G2354 C2355 C2364 G2365 A2369 G2370 G2371 G2372
G2373 C2374 G2383 G2384 C2385 C2386 U2387 G2391 A2392 A2393 C2394 C2395 G2396 C2402 C2403 U2406 C2407 U2408 G2409 G2410 C2416 C2420 G2421 A2422 U2423 C2424 A2425 G2429 A2430 A2434 A2435 G2436 U2437 U2438 A2439 C2440 C2441 C2442 C2443 C2444 C2445 G2446 G2447 A2448 U2449 A2450 A2451 C2452 A2453 G2454 G2455 C2456
C2461 U2462 C2463 C2467 G2468 A2469 G2470 C2471 C2475 A2476 G2484 G2490 G2494 C2498 G2502 G2505 U2506 G2513 U2514 C2515 G2516 C2517 A2518 C2521 U2522 G2523 G2524 C2527 U2528 G2529 U2537 C2538 A2542 G2543 G2544 U2547 G2548 U2554 U2555 C2556 G2557 C2558 C2559
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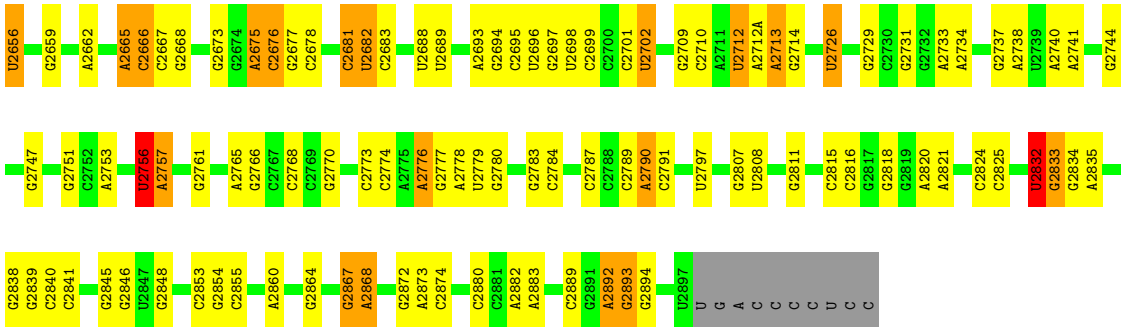
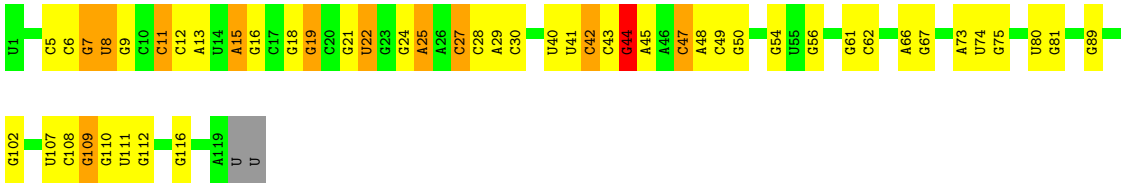


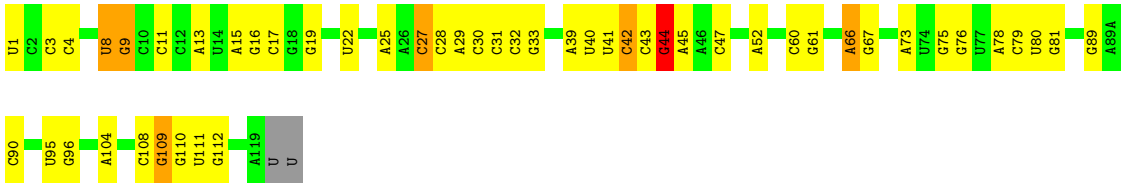
• Molecule 35: 5S rRNA

Chain RB:



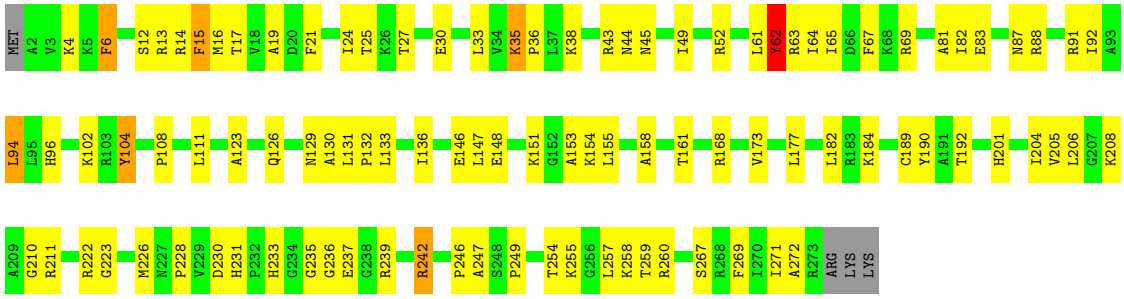
• Molecule 35: 5S rRNA

Chain YB:



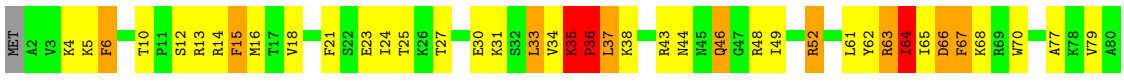
• Molecule 36: 50S ribosomal protein L2

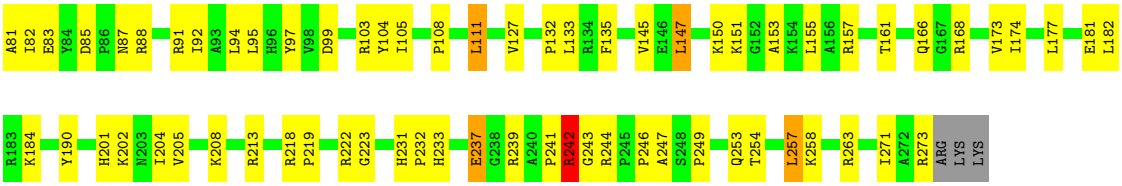
Chain RD:



• Molecule 36: 50S ribosomal protein L2

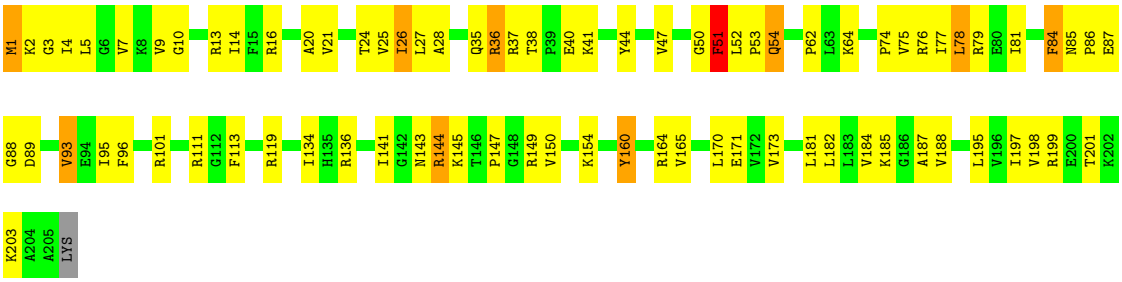
Chain YD:





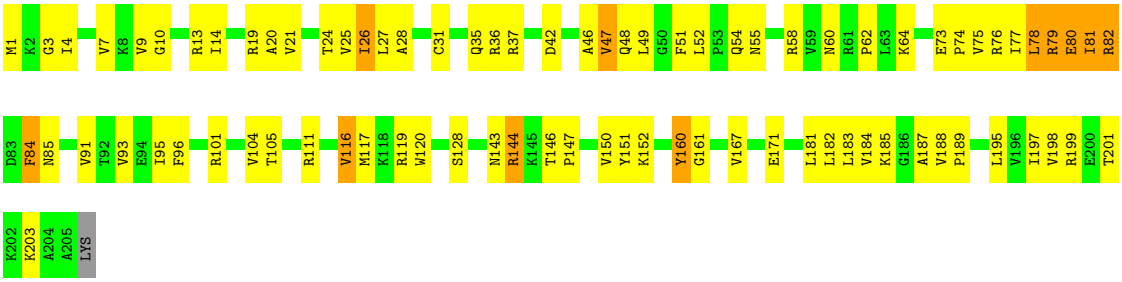
• Molecule 37: 50S ribosomal protein L3

Chain RE:



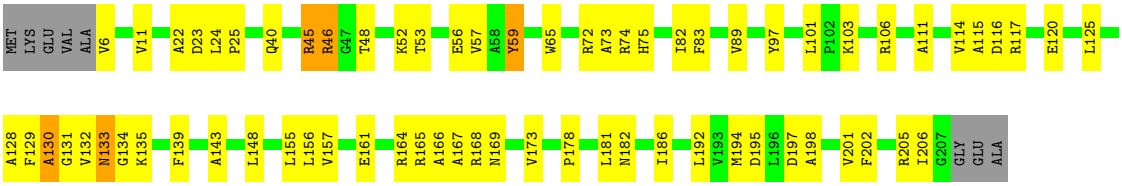
• Molecule 37: 50S ribosomal protein L3

Chain YE:



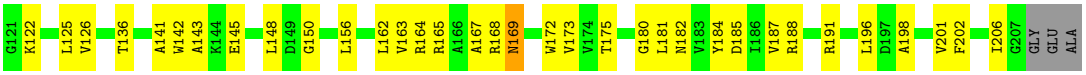
• Molecule 38: 50S ribosomal protein L4

Chain RF:



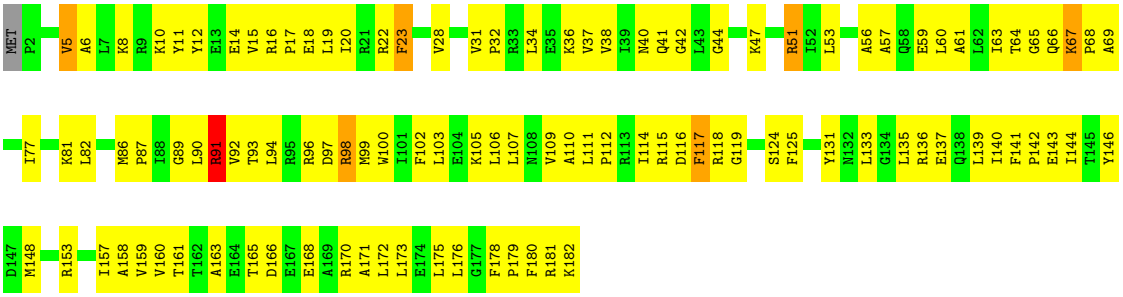
• Molecule 38: 50S ribosomal protein L4

Chain YF:



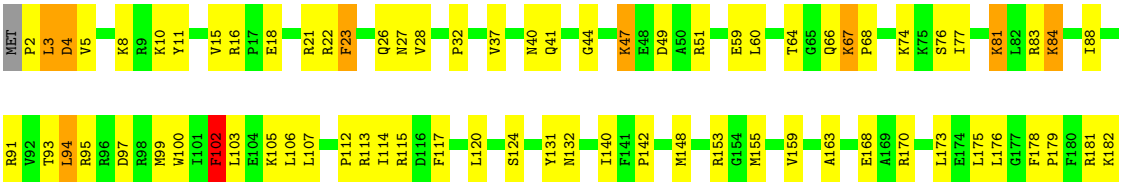
• Molecule 39: 50S ribosomal protein L5

Chain RG:



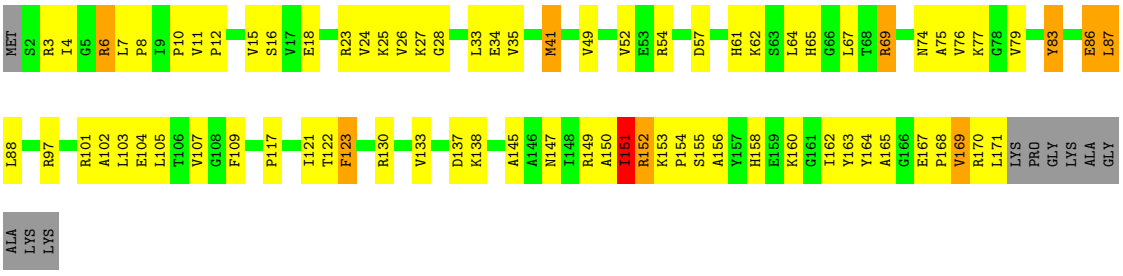
• Molecule 39: 50S ribosomal protein L5

Chain YG:



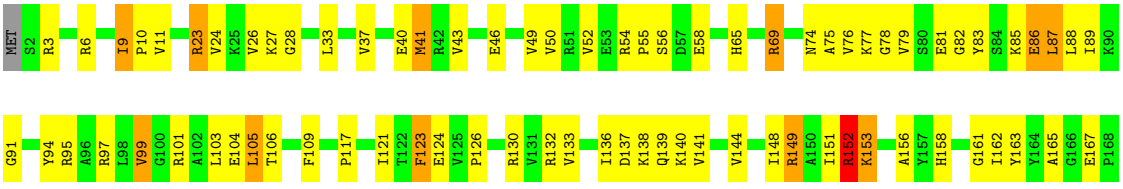
• Molecule 40: 50S ribosomal protein L6

Chain RH:



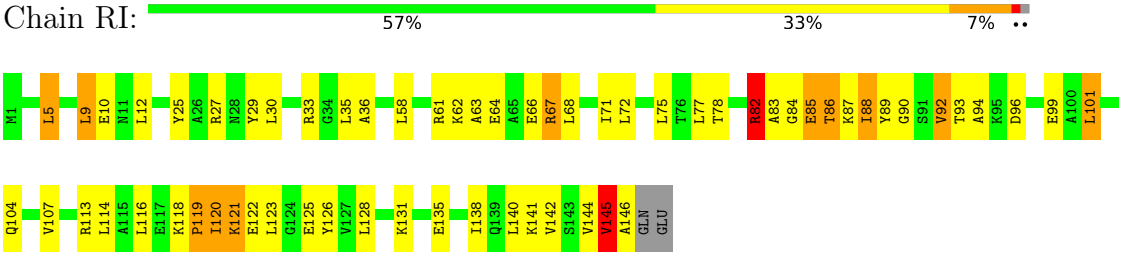
• Molecule 40: 50S ribosomal protein L6

Chain YH:



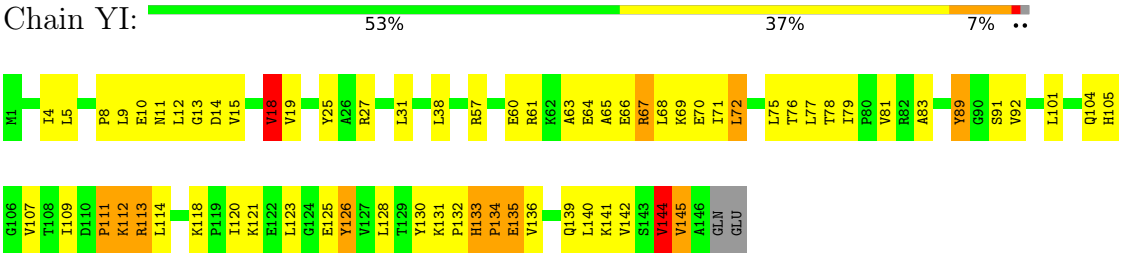
• Molecule 41: 50S ribosomal protein L9

Chain RI:



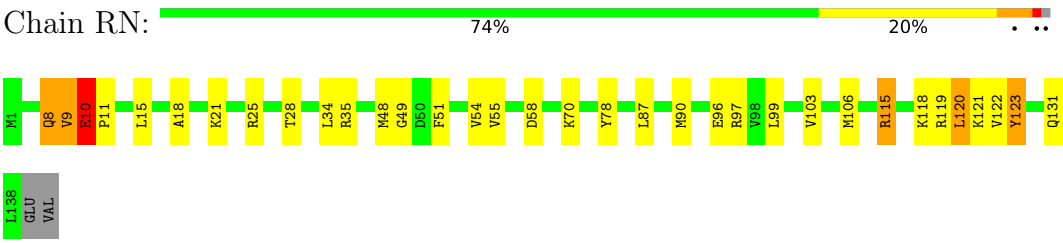
• Molecule 41: 50S ribosomal protein L9

Chain YI:



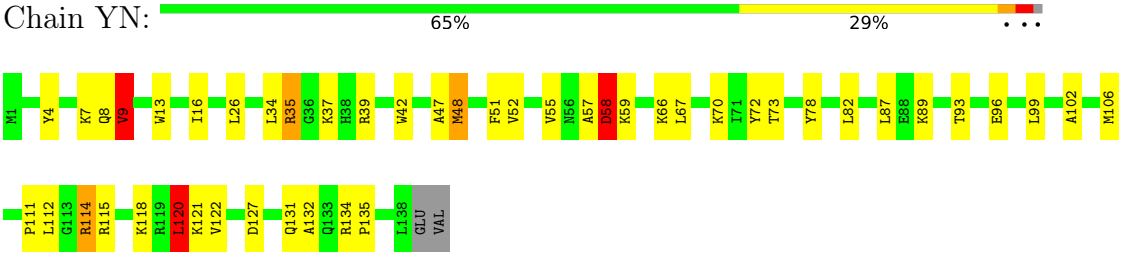
• Molecule 42: 50S ribosomal protein L13

Chain RN:



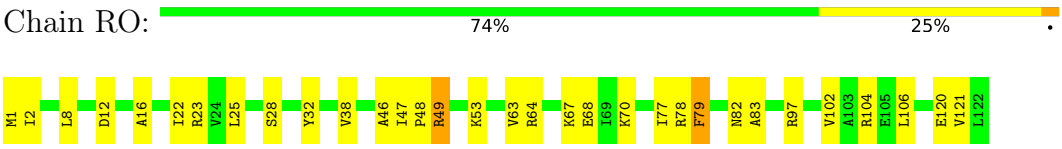
• Molecule 42: 50S ribosomal protein L13

Chain YN:



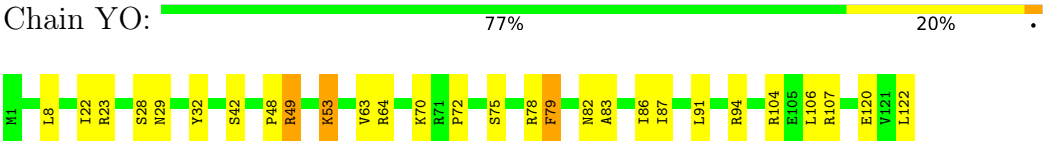
• Molecule 43: 50S ribosomal protein L14

Chain RO:



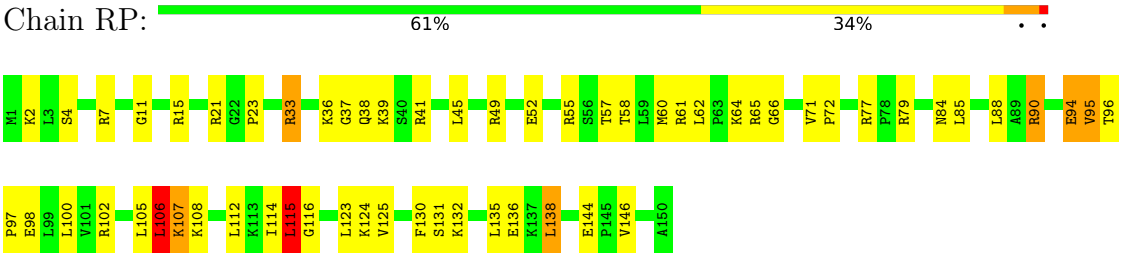
• Molecule 43: 50S ribosomal protein L14

Chain YO:



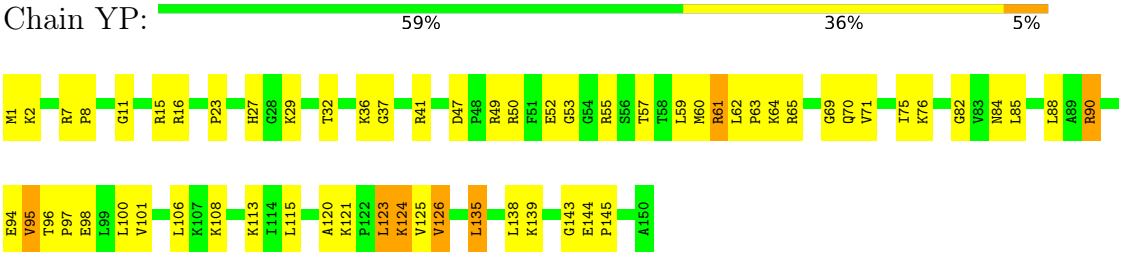
• Molecule 44: 50S ribosomal protein L15

Chain RP:



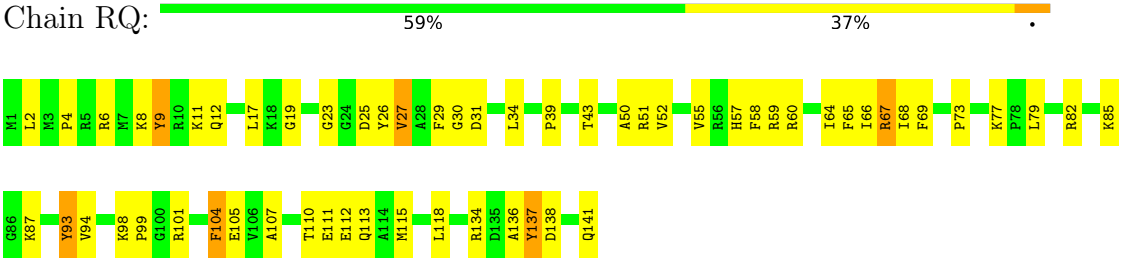
• Molecule 44: 50S ribosomal protein L15

Chain YP:



• Molecule 45: 50S ribosomal protein L16

Chain RQ:

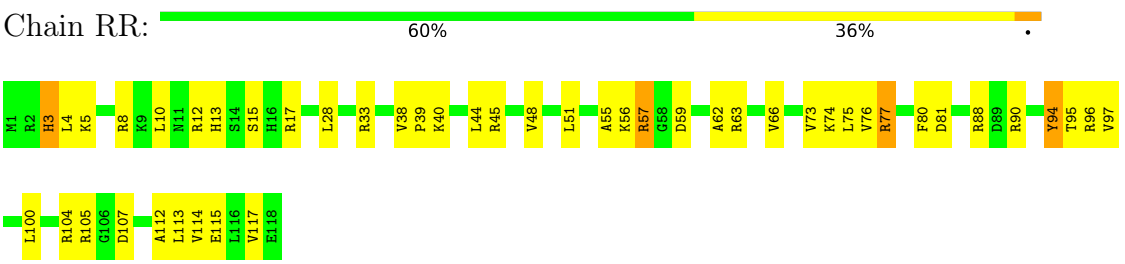


• Molecule 45: 50S ribosomal protein L16

Chain YQ:

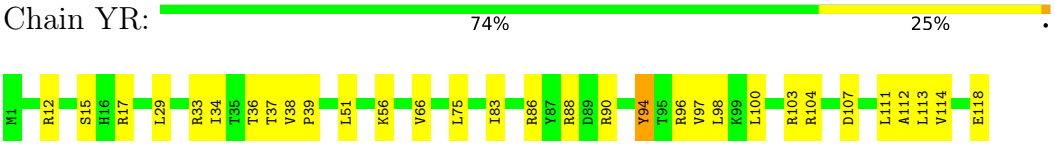
• Molecule 46: 50S ribosomal protein L17

Chain RR:



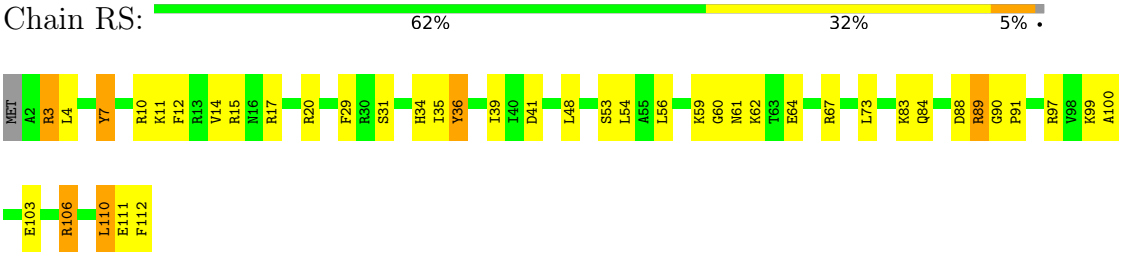
• Molecule 46: 50S ribosomal protein L17

Chain YR:



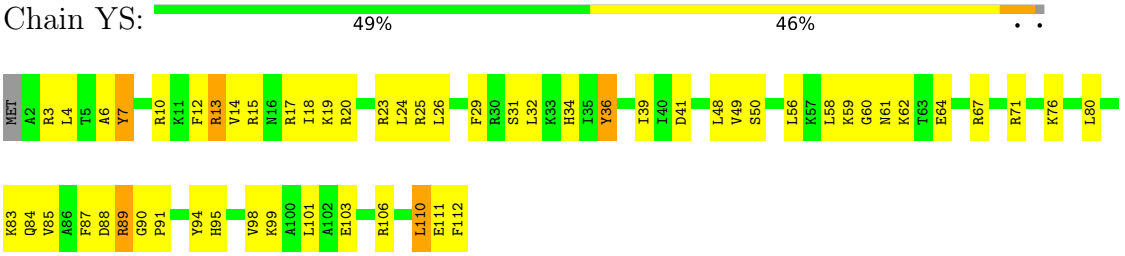
• Molecule 47: 50S ribosomal protein L18

Chain RS:



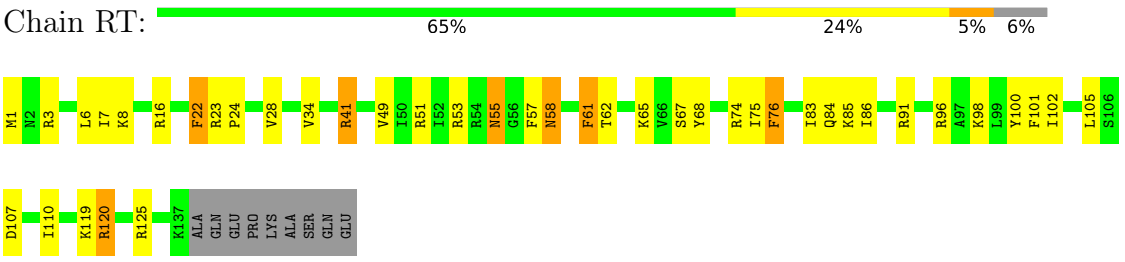
• Molecule 47: 50S ribosomal protein L18

Chain YS:



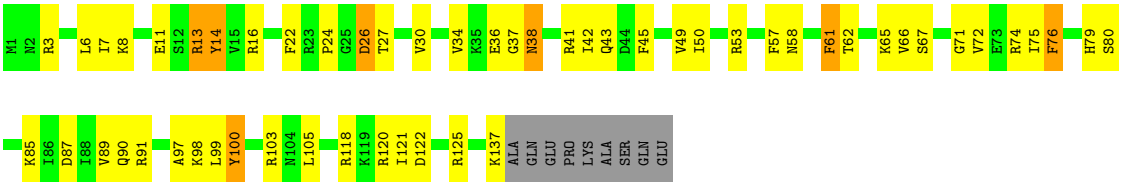
• Molecule 48: 50S ribosomal protein L19

Chain RT:



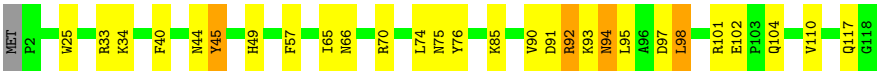
• Molecule 48: 50S ribosomal protein L19

Chain YT:



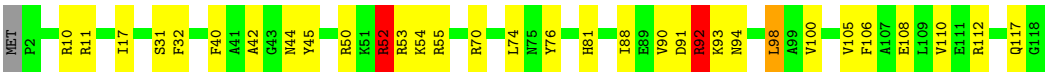
• Molecule 49: 50S ribosomal protein L20

Chain RU:



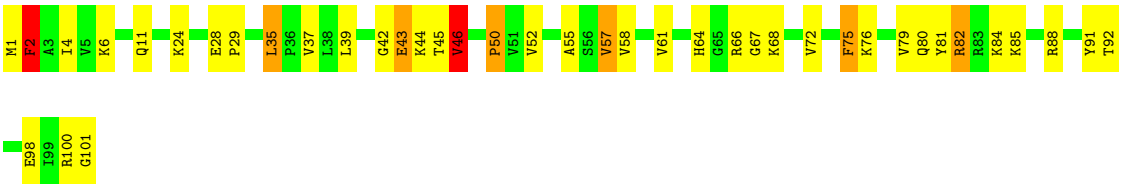
• Molecule 49: 50S ribosomal protein L20

Chain YU:



• Molecule 50: 50S ribosomal protein L21

Chain RV:

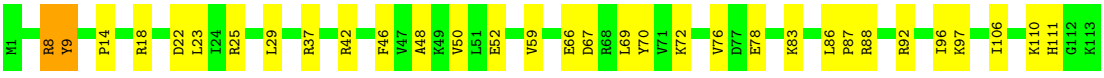


• Molecule 50: 50S ribosomal protein L21

Chain YV:

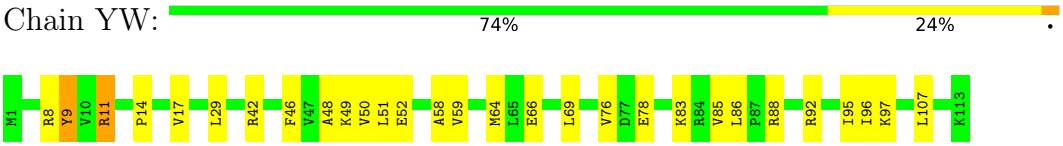
• Molecule 51: 50S ribosomal protein L22

Chain RW:



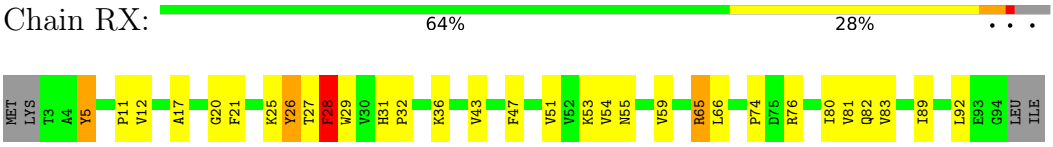
• Molecule 51: 50S ribosomal protein L22

Chain YW:



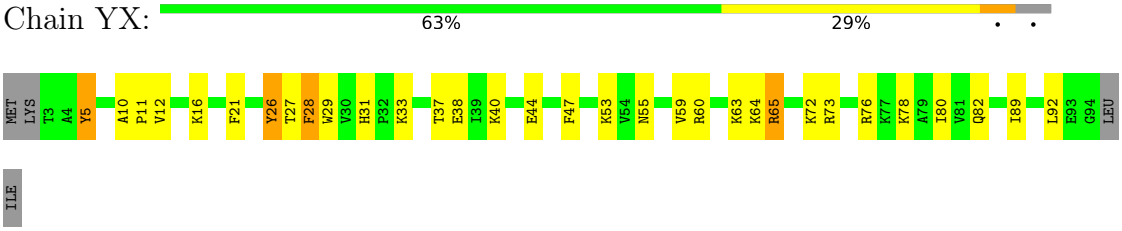
• Molecule 52: 50S ribosomal protein L23

Chain RX:



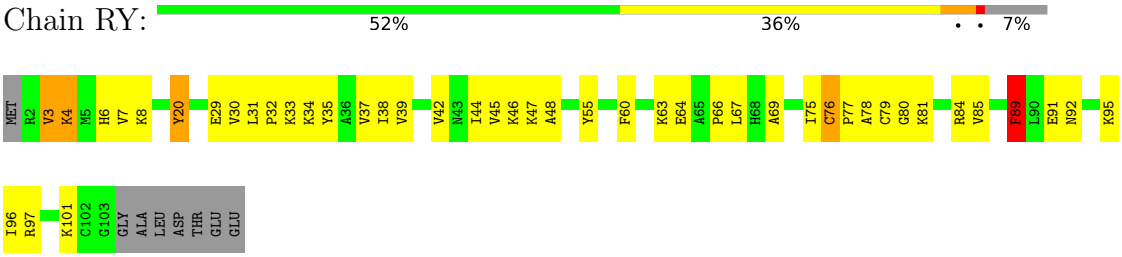
• Molecule 52: 50S ribosomal protein L23

Chain YX:



• Molecule 53: 50S ribosomal protein L24

Chain RY:

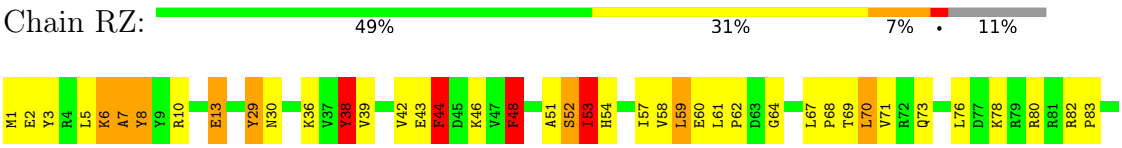


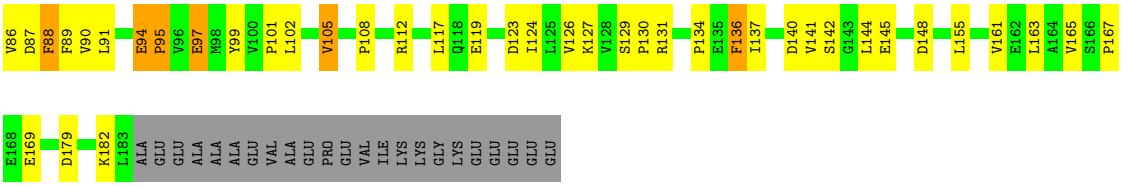
• Molecule 53: 50S ribosomal protein L24

Chain YY:

• Molecule 54: 50S ribosomal protein L25

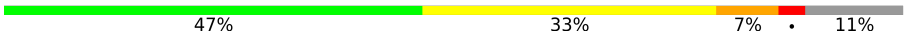
Chain RZ:

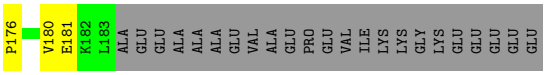




• Molecule 54: 50S ribosomal protein L25

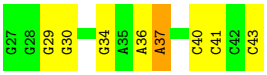
Chain YZ:





• Molecule 55: A-site ASL^Phe

Chain XY:



• Molecule 56: CC-puro

Chain Z6:

• Molecule 56: CC-puro

Chain Z8:

4 Data and refinement statistics (i)

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

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	209.72Å 449.48Å 617.34Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	153.33 – 3.58	Depositor
% Data completeness (in resolution range)	98.3 (153.33-3.58)	Depositor
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.30 (at 3.41Å)	Xtriage
Refinement program	PHENIX 1.19.2_4158	Depositor
R, R_{free}	0.205 , 0.255	Depositor
Wilson B-factor (Å^2)	96.7	Xtriage
Anisotropy	0.201	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.39$, $< L^2 > = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	292176	wwPDB-VP
Average B, all atoms (Å^2)	118.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.75% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: MNU, SF4, H2U, C4J, 7MG, T6A, PSU, ZN, MG, 5MU, PPU

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	0.30	4/36098 (0.0%)	0.93	84/56341 (0.1%)
1	XA	0.29	1/36346 (0.0%)	0.93	69/56725 (0.1%)
2	QB	0.35	0/1959	0.75	4/2642 (0.2%)
2	XB	0.38	0/1959	0.76	2/2642 (0.1%)
3	QC	0.30	0/1629	0.61	1/2195 (0.0%)
3	XC	0.36	0/1629	0.69	0/2195
4	QD	0.37	0/1733	0.73	3/2318 (0.1%)
4	XD	0.33	0/1733	0.59	0/2318
5	QE	0.29	0/1171	0.59	1/1576 (0.1%)
5	XE	0.34	0/1171	0.64	0/1576
6	QF	0.26	0/856	0.56	0/1154
6	XF	0.27	0/856	0.56	0/1154
7	QG	0.28	0/1276	0.55	0/1709
7	XG	0.31	0/1276	0.58	0/1709
8	QH	0.28	0/1136	0.57	0/1527
8	XH	0.45	2/1136 (0.2%)	0.72	2/1527 (0.1%)
9	QI	0.37	0/1029	0.66	0/1379
9	XI	0.47	1/1029 (0.1%)	0.86	6/1379 (0.4%)
10	QJ	0.29	0/814	0.63	1/1095 (0.1%)
10	XJ	0.35	0/814	0.73	2/1095 (0.2%)
11	QK	0.29	0/900	0.65	1/1213 (0.1%)
11	XK	0.31	0/900	0.65	0/1213
12	QL	0.33	0/991	0.66	0/1327
12	XL	0.36	0/991	0.67	0/1327
13	QM	0.36	0/974	0.69	0/1303
13	XM	0.60	2/974 (0.2%)	0.75	1/1303 (0.1%)
14	QN	0.33	0/501	0.61	0/664
14	XN	0.32	0/501	0.64	0/664
15	QO	0.27	0/745	0.55	0/992
15	XO	0.26	0/745	0.59	0/992
16	QP	0.34	0/721	0.74	3/970 (0.3%)
16	XP	0.30	0/721	0.62	0/970

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
17	QQ	0.29	0/847	0.65	0/1131
17	XQ	0.30	0/847	0.60	0/1131
18	QR	0.29	0/579	0.62	0/768
18	XR	0.29	0/579	0.67	0/768
19	QS	0.43	0/689	0.84	5/926 (0.5%)
19	XS	0.38	0/689	0.67	0/926
20	QT	0.34	0/765	0.66	0/1007
20	XT	0.34	0/765	0.67	1/1007 (0.1%)
21	QU	0.36	0/221	0.77	0/288
21	XU	0.40	0/221	0.85	2/288 (0.7%)
22	QV	0.44	0/1569	1.10	11/2437 (0.5%)
22	XV	0.28	0/1569	0.92	0/2437
23	QX	0.19	0/72	0.69	0/110
23	XX	0.34	0/564	1.02	0/879
24	R0	0.32	0/657	0.68	0/874
24	Y0	0.36	0/657	0.75	1/874 (0.1%)
25	R1	0.36	0/770	0.66	0/1022
25	Y1	0.35	0/770	0.67	0/1022
26	R2	0.37	0/583	0.61	0/771
26	Y2	0.34	0/600	0.69	0/793
27	R3	0.30	0/474	0.55	0/635
27	Y3	0.30	0/474	0.59	0/635
28	R4	0.42	0/594	0.76	0/795
28	Y4	0.59	1/594 (0.2%)	1.06	4/795 (0.5%)
29	R5	0.41	0/473	0.66	0/639
29	Y5	0.40	0/473	0.65	0/639
30	R6	0.40	0/431	0.86	0/575
30	Y6	0.49	0/431	0.96	2/575 (0.3%)
31	R7	0.26	0/438	0.53	0/575
31	Y7	0.27	0/438	0.57	0/575
32	R8	0.31	0/525	0.69	0/691
32	Y8	0.40	0/525	0.78	1/691 (0.1%)
33	R9	0.28	0/310	0.56	0/407
33	Y9	0.27	0/310	0.54	0/407
34	RA	0.31	6/69521 (0.0%)	0.95	155/108529 (0.1%)
34	YA	0.31	6/69543 (0.0%)	0.94	127/108563 (0.1%)
35	RB	0.29	0/2878	0.99	11/4490 (0.2%)
35	YB	0.31	0/2878	1.04	12/4490 (0.3%)
36	RD	0.35	0/2165	0.72	3/2919 (0.1%)
36	YD	0.51	3/2165 (0.1%)	0.85	4/2919 (0.1%)
37	RE	0.46	1/1601 (0.1%)	0.79	3/2160 (0.1%)
37	YE	0.39	0/1601	0.76	2/2160 (0.1%)
38	RF	0.35	0/1620	0.67	1/2194 (0.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
38	YF	0.32	0/1620	0.62	0/2194
39	RG	0.53	2/1499 (0.1%)	0.86	3/2016 (0.1%)
39	YG	0.39	0/1499	0.76	2/2016 (0.1%)
40	RH	0.37	0/1332	0.73	0/1802
40	YH	0.35	0/1332	0.77	1/1802 (0.1%)
41	RI	0.39	0/1151	0.72	1/1558 (0.1%)
41	YI	0.42	0/1151	0.73	0/1558
42	RN	0.41	1/1131 (0.1%)	0.68	1/1525 (0.1%)
42	YN	0.34	0/1131	0.70	1/1525 (0.1%)
43	RO	0.31	0/943	0.64	0/1269
43	YO	0.30	0/943	0.62	0/1269
44	RP	0.36	0/1162	0.75	1/1544 (0.1%)
44	YP	0.37	0/1162	0.87	6/1544 (0.4%)
45	RQ	0.45	0/1143	0.89	5/1527 (0.3%)
45	YQ	0.40	0/1143	0.76	1/1527 (0.1%)
46	RR	0.32	0/982	0.73	1/1312 (0.1%)
46	YR	0.31	0/982	0.73	3/1312 (0.2%)
47	RS	0.31	0/892	0.77	1/1187 (0.1%)
47	YS	0.35	0/892	0.80	1/1187 (0.1%)
48	RT	0.33	0/1155	0.69	0/1542
48	YT	0.34	0/1155	0.77	2/1542 (0.1%)
49	RU	0.32	0/982	0.62	0/1306
49	YU	0.39	0/982	0.72	2/1306 (0.2%)
50	RV	0.38	0/790	0.82	3/1057 (0.3%)
50	YV	0.38	0/790	0.80	1/1057 (0.1%)
51	RW	0.29	0/911	0.62	0/1220
51	YW	0.29	0/911	0.57	0/1220
52	RX	0.34	0/739	0.70	1/993 (0.1%)
52	YX	0.36	0/739	0.67	0/993
53	RY	0.43	0/798	0.83	2/1064 (0.2%)
53	YY	0.47	0/798	0.86	2/1064 (0.2%)
54	RZ	0.43	0/1493	0.88	7/2026 (0.3%)
54	YZ	0.52	2/1493 (0.1%)	0.85	5/2026 (0.2%)
55	XY	0.35	0/405	1.12	0/630
56	Z6	0.26	0/40	1.13	0/60
56	Z8	0.25	0/40	1.04	0/60
All	All	0.33	32/316100 (0.0%)	0.89	578/472551 (0.1%)

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
8	XH	0	1
39	RG	0	1
All	All	0	2

All (32) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	XM	10	PRO	N-CA	13.55	1.70	1.47
54	YZ	67	LEU	C-N	8.95	1.51	1.34
37	RE	144	ARG	CB-CG	-8.82	1.28	1.52
54	YZ	61	LEU	C-N	8.61	1.50	1.34
36	YD	35	LYS	C-N	8.57	1.50	1.34
42	RN	10	GLU	C-N	8.38	1.50	1.34
36	YD	242	ARG	CB-CG	-7.92	1.31	1.52
39	RG	51	ARG	CG-CD	7.57	1.70	1.51
34	RA	1771	C	O3'-P	-7.45	1.52	1.61
1	QA	336	C	O3'-P	-6.85	1.52	1.61
34	RA	1982	C	O3'-P	-6.72	1.53	1.61
39	RG	91	ARG	CZ-NH2	6.67	1.41	1.33
36	YD	242	ARG	CG-CD	6.58	1.68	1.51
34	RA	2606	C	O3'-P	-6.29	1.53	1.61
34	YA	2675	A	O3'-P	-6.25	1.53	1.61
1	XA	316	G	O3'-P	-6.15	1.53	1.61
34	YA	336	C	O3'-P	-6.14	1.53	1.61
8	XH	41	ARG	CZ-NH2	6.11	1.41	1.33
34	RA	1769	G	O3'-P	-6.08	1.53	1.61
13	XM	9	ILE	C-N	6.06	1.45	1.34
1	QA	337	C	O3'-P	-6.05	1.53	1.61
8	XH	12	ARG	CG-CD	5.97	1.66	1.51
34	RA	1770	G	O3'-P	-5.96	1.53	1.61
9	XI	42	ARG	NE-CZ	5.91	1.40	1.33
1	QA	330	C	O3'-P	-5.86	1.54	1.61
28	Y4	71	ARG	CD-NE	-5.85	1.36	1.46
34	YA	2731	G	O3'-P	-5.74	1.54	1.61
34	YA	337	C	O3'-P	-5.68	1.54	1.61
34	YA	2676	C	O3'-P	-5.61	1.54	1.61
34	RA	2605	U	O3'-P	-5.42	1.54	1.61
1	QA	314	C	O3'-P	-5.11	1.55	1.61
34	YA	2644	G	O3'-P	-5.03	1.55	1.61

All (578) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	YD	242	ARG	NE-CZ-NH2	17.50	129.05	120.30
36	YD	242	ARG	NE-CZ-NH1	-11.80	114.40	120.30
44	YP	90	ARG	NE-CZ-NH1	11.38	125.99	120.30
1	QA	1158	C	N1-C2-O2	10.88	125.43	118.90
1	QA	1158	C	C2-N1-C1'	10.11	129.92	118.80
1	XA	1158	C	C2-N1-C1'	9.78	129.56	118.80
39	YG	102	PHE	CB-CG-CD1	9.77	127.64	120.80
34	RA	1816	G	N7-C8-N9	9.37	117.79	113.10
1	XA	1158	C	N1-C2-O2	9.31	124.49	118.90
35	YB	31	C	C2-N1-C1'	9.30	129.03	118.80
45	RQ	60	ARG	NE-CZ-NH1	9.27	124.94	120.30
37	RE	144	ARG	CG-CD-NE	9.20	131.13	111.80
1	XA	992	U	P-O3'-C3'	9.04	130.54	119.70
1	QA	1037	C	C6-N1-C2	-8.83	116.77	120.30
1	QA	328	C	N1-C2-O2	8.64	124.09	118.90
34	RA	828	U	C2-N1-C1'	8.57	127.98	117.70
1	QA	1200	C	P-O3'-C3'	8.55	129.97	119.70
34	RA	1313	U	C2-N1-C1'	8.48	127.88	117.70
34	RA	1980	G	C2'-C3'-O3'	8.40	127.99	109.50
30	Y6	44	ARG	NE-CZ-NH2	-8.40	116.10	120.30
34	RA	856	C	C6-N1-C2	-8.39	116.95	120.30
34	RA	2506	U	C2-N1-C1'	8.34	127.71	117.70
28	Y4	71	ARG	NE-CZ-NH2	8.34	124.47	120.30
8	XH	41	ARG	CA-CB-CG	8.31	131.69	113.40
1	QA	1158	C	N3-C2-O2	-8.31	116.09	121.90
34	RA	2506	U	N1-C2-O2	8.27	128.59	122.80
34	RA	904	C	C2-N1-C1'	8.25	127.87	118.80
54	RZ	48	PHE	CB-CG-CD1	8.20	126.54	120.80
54	YZ	44	PHE	CB-CG-CD1	8.20	126.54	120.80
44	YP	90	ARG	NE-CZ-NH2	-8.18	116.21	120.30
34	RA	1816	G	C8-N9-C4	-8.16	103.14	106.40
34	YA	1313	U	C2-N1-C1'	8.15	127.47	117.70
9	XI	42	ARG	NE-CZ-NH2	8.14	124.37	120.30
1	XA	347	G	O4'-C1'-N9	8.13	114.70	108.20
1	QA	328	C	C2-N1-C1'	8.11	127.72	118.80
1	QA	1066	C	C2-N1-C1'	8.04	127.65	118.80
35	RB	47	C	N1-C2-O2	8.03	123.72	118.90
1	QA	1037	C	C5-C6-N1	8.03	125.02	121.00
34	YA	1781	C	N1-C2-O2	7.98	123.69	118.90
34	YA	2506	U	C2-N1-C1'	7.96	127.25	117.70
34	RA	1535	U	C2-N1-C1'	7.95	127.24	117.70
34	YA	828	U	C2-N1-C1'	7.88	127.16	117.70
34	RA	1313	U	N1-C2-O2	7.85	128.30	122.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
47	YS	110	LEU	CA-CB-CG	7.85	133.35	115.30
19	QS	44	MET	CB-CA-C	7.85	126.10	110.40
54	RZ	38	TYR	CA-CB-CG	7.76	128.15	113.40
8	XH	41	ARG	CB-CG-CD	-7.71	91.56	111.60
13	XM	10	PRO	CA-N-CD	-7.68	100.75	111.50
39	YG	102	PHE	CB-CG-CD2	-7.63	115.46	120.80
46	YR	103	ARG	CG-CD-NE	7.63	127.82	111.80
54	RZ	44	PHE	CB-CG-CD1	7.59	126.12	120.80
1	XA	1158	C	C6-N1-C2	-7.58	117.27	120.30
1	QA	1201	A	C2'-C3'-O3'	7.55	126.11	109.50
34	RA	828	U	N1-C2-O2	7.54	128.08	122.80
34	YA	1417	C	C5-C6-N1	7.54	124.77	121.00
34	YA	2889	C	C2-N1-C1'	7.54	127.10	118.80
32	Y8	34	TRP	CA-CB-CG	7.54	128.02	113.70
1	QA	1301	U	N1-C2-O2	7.52	128.06	122.80
34	RA	2702	U	C2-N1-C1'	7.50	126.70	117.70
45	RQ	60	ARG	CA-CB-CG	7.45	129.78	113.40
1	XA	328	C	C2-N1-C1'	7.41	126.95	118.80
34	RA	1535	U	N1-C2-O2	7.39	127.97	122.80
37	RE	144	ARG	NE-CZ-NH1	7.37	123.98	120.30
36	YD	242	ARG	CG-CD-NE	7.37	127.27	111.80
37	RE	78	LEU	CA-CB-CG	7.34	132.19	115.30
1	XA	1158	C	N3-C2-O2	-7.34	116.76	121.90
34	YA	1882	C	C2-N1-C1'	7.33	126.86	118.80
34	YA	828	U	N1-C2-O2	7.27	127.89	122.80
44	YP	16	ARG	CG-CD-NE	7.26	127.04	111.80
34	RA	2506	U	N3-C2-O2	-7.23	117.14	122.20
34	YA	1535	U	C2-N1-C1'	7.22	126.37	117.70
1	XA	747	C	N1-C2-O2	7.21	123.22	118.90
34	RA	708	C	C2-N1-C1'	7.17	126.68	118.80
1	QA	1066	C	N1-C2-O2	7.16	123.19	118.90
1	XA	1535	C	C5-C6-N1	7.15	124.58	121.00
34	YA	1535	U	N1-C2-O2	7.15	127.80	122.80
30	Y6	44	ARG	NE-CZ-NH1	7.13	123.87	120.30
4	QD	191	ARG	NE-CZ-NH1	7.13	123.86	120.30
49	YU	52	ARG	CG-CD-NE	-7.11	96.86	111.80
34	RA	537	C	C2-N1-C1'	7.09	126.60	118.80
54	YZ	38	TYR	CA-CB-CG	7.08	126.86	113.40
45	RQ	60	ARG	CG-CD-NE	-7.07	96.95	111.80
34	RA	1474	C	C2-N1-C1'	7.05	126.56	118.80
1	XA	328	C	N1-C2-O2	7.04	123.12	118.90
54	YZ	44	PHE	CB-CG-CD2	-7.04	115.87	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	YA	1774	C	N3-C2-O2	-7.04	116.97	121.90
53	RY	89	PHE	CB-CG-CD2	-7.02	115.89	120.80
21	XU	15	ARG	NE-CZ-NH1	-7.02	116.79	120.30
34	RA	2702	U	N1-C2-O2	7.01	127.71	122.80
34	RA	1774	C	N3-C2-O2	-6.98	117.01	121.90
34	RA	1535	U	N3-C2-O2	-6.97	117.32	122.20
34	RA	1882	C	N1-C2-O2	6.96	123.08	118.90
1	QA	1158	C	C6-N1-C2	-6.94	117.52	120.30
1	QA	1039	C	C2-N1-C1'	6.93	126.42	118.80
34	YA	265	A	O4'-C1'-N9	6.91	113.73	108.20
39	RG	51	ARG	CD-NE-CZ	6.91	133.28	123.60
1	QA	1158	C	C6-N1-C1'	-6.91	112.51	120.80
1	XA	747	C	N3-C2-O2	-6.91	117.07	121.90
34	RA	1313	U	N3-C2-O2	-6.90	117.37	122.20
1	XA	1348	U	C2-N3-C4	6.89	131.14	127.00
34	YA	1313	U	N1-C2-O2	6.88	127.61	122.80
35	RB	44	G	N3-C4-N9	-6.86	121.89	126.00
22	QV	35	U	N3-C2-O2	-6.85	117.40	122.20
34	YA	1781	C	C2-N1-C1'	6.84	126.33	118.80
34	RA	1513	C	C2-N1-C1'	6.83	126.31	118.80
34	RA	828	U	N3-C2-O2	-6.82	117.42	122.20
40	YH	105	LEU	CA-CB-CG	6.82	130.99	115.30
34	RA	856	C	C5-C6-N1	6.81	124.41	121.00
34	YA	2506	U	N1-C2-O2	6.81	127.57	122.80
45	RQ	60	ARG	CB-CG-CD	-6.79	93.96	111.60
1	XA	827	U	N3-C2-O2	-6.78	117.45	122.20
22	QV	40	C	N1-C2-O2	6.78	122.97	118.90
35	YB	31	C	N1-C2-O2	6.76	122.96	118.90
34	YA	1314	C	C2-N1-C1'	6.74	126.21	118.80
34	YA	2056	G	N3-C2-N2	-6.73	115.19	119.90
1	QA	328	C	N3-C2-O2	-6.69	117.22	121.90
1	QA	449	C	N1-C2-O2	6.69	122.92	118.90
34	YA	828	U	N3-C2-O2	-6.69	117.52	122.20
34	RA	860	U	N3-C2-O2	-6.68	117.52	122.20
1	QA	827	U	C2-N1-C1'	6.68	125.71	117.70
34	RA	229	A	OP2-P-O3'	6.67	119.88	105.20
34	YA	607	U	N3-C2-O2	-6.67	117.53	122.20
34	YA	1816	G	N7-C8-N9	6.65	116.43	113.10
1	XA	827	U	C2-N1-C1'	6.63	125.66	117.70
34	YA	2584	U	N3-C2-O2	-6.63	117.56	122.20
35	RB	44	G	C8-N9-C1'	6.62	135.60	127.00
35	RB	44	G	C4-N9-C1'	-6.62	117.90	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	RA	1012	U	OP2-P-O3'	6.60	119.72	105.20
34	YA	1535	U	N3-C2-O2	-6.60	117.58	122.20
1	QA	1066	C	C5-C6-N1	6.60	124.30	121.00
34	RA	1774	C	N1-C2-O2	6.58	122.85	118.90
34	YA	1774	C	N1-C2-O2	6.57	122.84	118.90
34	YA	1914	C	N1-C2-O2	6.56	122.84	118.90
9	XI	88	TYR	CA-CB-CG	6.55	125.85	113.40
34	RA	2712	U	C2-N1-C1'	6.55	125.56	117.70
34	YA	1914	C	C2-N1-C1'	6.52	125.98	118.80
1	QA	328	C	P-O3'-C3'	6.52	127.52	119.70
35	YB	31	C	C6-N1-C1'	-6.51	112.99	120.80
34	RA	1411	C	C2-N1-C1'	6.51	125.96	118.80
1	QA	1301	U	N3-C2-O2	-6.50	117.65	122.20
34	RA	1505	C	C2-N1-C1'	6.49	125.94	118.80
34	RA	1914	C	C2-N1-C1'	6.49	125.93	118.80
1	QA	789	U	C2-N1-C1'	6.48	125.47	117.70
34	RA	2712	U	N1-C2-O2	6.45	127.32	122.80
1	QA	1027	C	OP1-P-O3'	6.45	119.39	105.20
34	RA	1914	C	N1-C2-O2	6.45	122.77	118.90
1	QA	1027	C	P-O3'-C3'	6.44	127.42	119.70
34	RA	1417	C	C5-C6-N1	6.43	124.22	121.00
34	RA	435	C	N1-C2-O2	6.41	122.75	118.90
34	RA	1406	U	C2-N1-C1'	6.40	125.39	117.70
34	RA	2752	C	N1-C2-O2	6.39	122.73	118.90
1	XA	1158	C	C6-N1-C1'	-6.38	113.14	120.80
1	QA	1301	U	C2-N1-C1'	6.38	125.35	117.70
1	QA	449	C	C2-N1-C1'	6.38	125.81	118.80
44	YP	90	ARG	CD-NE-CZ	6.37	132.51	123.60
1	QA	307	C	N1-C2-O2	6.36	122.72	118.90
1	XA	328	C	P-O3'-C3'	6.36	127.33	119.70
34	RA	1992	G	P-O3'-C3'	6.35	127.33	119.70
34	YA	99	U	OP2-P-O3'	6.34	119.16	105.20
54	RZ	44	PHE	CB-CG-CD2	-6.34	116.36	120.80
50	YV	35	LEU	CA-CB-CG	6.34	129.88	115.30
46	YR	103	ARG	NE-CZ-NH2	-6.33	117.14	120.30
34	RA	1882	C	C2-N1-C1'	6.32	125.75	118.80
34	RA	1314	C	C2-N1-C1'	6.32	125.75	118.80
34	YA	1506	C	C2-N1-C1'	6.32	125.75	118.80
9	XI	42	ARG	NH1-CZ-NH2	-6.31	112.45	119.40
2	QB	28	PHE	CB-CG-CD2	-6.29	116.40	120.80
1	XA	252	U	C2-N1-C1'	6.29	125.24	117.70
35	RB	11	C	N3-C2-O2	-6.28	117.51	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	QJ	16	LEU	CA-CB-CG	6.27	129.72	115.30
35	RB	27	C	N1-C2-O2	6.27	122.66	118.90
1	XA	1533	C	N1-C2-O2	6.26	122.66	118.90
34	YA	2832	U	P-O3'-C3'	6.26	127.21	119.70
1	XA	158	G	N3-C2-N2	-6.25	115.52	119.90
34	RA	2832	U	P-O3'-C3'	6.25	127.20	119.70
34	RA	860	U	C2-N1-C1'	6.23	125.18	117.70
34	YA	99	U	P-O3'-C3'	6.23	127.18	119.70
34	RA	1012	U	P-O3'-C3'	6.23	127.18	119.70
44	YP	16	ARG	NE-CZ-NH1	-6.21	117.19	120.30
28	Y4	51	ASP	CB-CG-OD1	6.20	123.88	118.30
34	RA	1480	G	N3-C4-N9	6.19	129.72	126.00
34	YA	1313	U	N3-C2-O2	-6.19	117.87	122.20
34	RA	74	A	O4'-C1'-N9	-6.18	103.26	108.20
1	XA	1028(B)	C	N3-C2-O2	-6.17	117.58	121.90
34	RA	1514	U	N1-C2-O2	6.17	127.12	122.80
34	YA	1781	C	N3-C2-O2	-6.16	117.58	121.90
48	YT	105	LEU	CA-CB-CG	6.16	129.47	115.30
1	XA	1158	C	C5-C6-N1	6.14	124.07	121.00
36	RD	62	TYR	CB-CG-CD1	6.14	124.68	121.00
34	RA	904	C	C6-N1-C1'	-6.14	113.44	120.80
34	RA	2666	C	N1-C2-O2	6.12	122.58	118.90
34	RA	229	A	P-O3'-C3'	6.12	127.04	119.70
35	YB	31	C	C6-N1-C2	-6.12	117.85	120.30
34	RA	1180	C	C2-N1-C1'	6.10	125.51	118.80
35	RB	44	G	C6-C5-N7	6.10	134.06	130.40
34	YA	2506	U	N3-C2-O2	-6.10	117.93	122.20
1	XA	1027	C	P-O3'-C3'	6.09	127.01	119.70
34	RA	269	U	C2-N1-C1'	6.08	125.00	117.70
37	YE	199	ARG	NE-CZ-NH2	-6.08	117.26	120.30
34	YA	2889	C	C6-N1-C1'	-6.07	113.52	120.80
1	XA	135	C	N1-C2-O2	6.06	122.54	118.90
53	RY	89	PHE	CB-CG-CD1	6.05	125.04	120.80
1	QA	1038	C	C2-N1-C1'	6.05	125.46	118.80
1	QA	789	U	N3-C2-O2	-6.05	117.97	122.20
1	QA	1297	C	P-O3'-C3'	6.05	126.96	119.70
34	RA	1417	C	C2-N1-C1'	6.04	125.45	118.80
34	YA	1022	G	P-O3'-C3'	6.04	126.95	119.70
34	RA	1502	C	C2-N1-C1'	6.04	125.44	118.80
34	RA	1956	U	N3-C2-O2	-6.04	117.97	122.20
1	QA	1346	A	P-O3'-C3'	6.04	126.94	119.70
1	QA	961	U	N1-C2-N3	6.03	118.52	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	QA	1285	A	P-O3'-C3'	6.02	126.93	119.70
53	YY	90	LEU	CA-CB-CG	6.02	129.15	115.30
2	XB	152	PHE	CB-CG-CD2	-6.02	116.59	120.80
1	QA	1065	U	P-O3'-C3'	6.01	126.92	119.70
37	YE	117	MET	CA-CB-CG	6.01	123.52	113.30
34	YA	1816	G	C8-N9-C4	-6.01	104.00	106.40
35	YB	44	G	C4-N9-C1'	-6.00	118.69	126.50
1	XA	1297	C	P-O3'-C3'	6.00	126.91	119.70
34	YA	1026	U	P-O3'-C3'	6.00	126.90	119.70
34	YA	1407	C	C6-N1-C2	-6.00	117.90	120.30
1	QA	1163	C	C2-N1-C1'	6.00	125.40	118.80
1	XA	90	C	N1-C2-O2	-5.99	115.31	118.90
34	RA	893	C	N1-C2-O2	5.99	122.49	118.90
42	YN	120	LEU	CA-CB-CG	5.97	129.03	115.30
34	RA	2210	G	C4-N9-C1'	5.97	134.26	126.50
1	QA	827	U	N3-C2-O2	-5.96	118.03	122.20
34	RA	1914	C	N3-C2-O2	-5.96	117.73	121.90
34	YA	1332	G	C4-N9-C1'	5.96	134.25	126.50
34	YA	1104	C	N3-C4-C5	-5.95	119.52	121.90
34	YA	2681	C	P-O3'-C3'	5.95	126.84	119.70
1	XA	1285	A	P-O3'-C3'	5.95	126.83	119.70
20	XT	84	LEU	CA-CB-CG	5.94	128.97	115.30
34	YA	2559	C	C2-N1-C1'	5.94	125.33	118.80
1	XA	856	C	C6-N1-C2	-5.94	117.92	120.30
2	QB	17	PHE	CB-CG-CD2	-5.91	116.66	120.80
34	RA	530	G	O4'-C1'-N9	5.91	112.93	108.20
34	RA	846	C	P-O3'-C3'	5.91	126.79	119.70
34	RA	2702	U	N3-C2-O2	-5.91	118.07	122.20
41	RI	5	LEU	CB-CG-CD2	-5.91	100.96	111.00
1	XA	454	C	N3-C2-O2	-5.90	117.77	121.90
34	YA	1558	A	P-O3'-C3'	5.90	126.78	119.70
1	XA	687	A	P-O3'-C3'	5.89	126.77	119.70
9	XI	88	TYR	CB-CG-CD1	5.89	124.53	121.00
34	RA	120	U	C2-N1-C1'	5.89	124.77	117.70
35	YB	44	G	C8-N9-C1'	5.89	134.65	127.00
1	QA	183	G	N3-C4-N9	5.89	129.53	126.00
1	QA	1158	C	C5-C6-N1	5.88	123.94	121.00
34	RA	1658	C	C5-C6-N1	5.87	123.94	121.00
34	YA	120	U	C2-N1-C1'	5.87	124.74	117.70
34	RA	1022	G	P-O3'-C3'	5.87	126.74	119.70
34	RA	930	U	N3-C2-O2	-5.86	118.10	122.20
34	YA	404	C	P-O3'-C3'	5.86	126.73	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	QS	44	MET	CA-C-O	-5.86	107.80	120.10
22	QV	35	U	N1-C2-O2	5.86	126.90	122.80
34	RA	227	A	P-O3'-C3'	5.86	126.73	119.70
22	QV	76	A	N3-C4-N9	5.85	132.08	127.40
34	RA	898	C	N1-C2-O2	5.84	122.41	118.90
28	Y4	71	ARG	NE-CZ-NH1	-5.84	117.38	120.30
47	RS	56	LEU	CA-CB-CG	5.84	128.73	115.30
1	QA	960	U	N1-C2-O2	5.84	126.89	122.80
34	RA	269	U	N1-C2-O2	5.83	126.88	122.80
34	RA	1406	U	C5-C6-N1	5.83	125.61	122.70
34	YA	1658	C	C5-C6-N1	5.83	123.91	121.00
34	YA	856	C	C6-N1-C2	-5.82	117.97	120.30
1	QA	913	A	P-O3'-C3'	5.82	126.68	119.70
34	RA	1026	U	P-O3'-C3'	5.82	126.68	119.70
1	QA	753	A	P-O3'-C3'	5.82	126.68	119.70
34	YA	846	C	P-O3'-C3'	5.81	126.68	119.70
34	RA	114	U	C2-N1-C1'	5.81	124.67	117.70
34	YA	503	A	P-O3'-C3'	5.81	126.67	119.70
34	RA	856	C	C2-N1-C1'	5.80	125.18	118.80
34	RA	285	C	C2-N1-C1'	5.80	125.18	118.80
34	RA	1558	A	P-O3'-C3'	5.80	126.66	119.70
34	YA	2584	U	C2-N1-C1'	5.78	124.63	117.70
34	YA	1694	C	P-O3'-C3'	5.77	126.63	119.70
2	QB	28	PHE	CB-CG-CD1	5.77	124.84	120.80
34	RA	404	C	P-O3'-C3'	5.77	126.62	119.70
1	XA	1347	G	O4'-C1'-N9	5.77	112.82	108.20
36	RD	62	TYR	CA-CB-CG	5.76	124.35	113.40
1	QA	1344	C	C6-N1-C2	-5.76	118.00	120.30
1	QA	250	A	P-O3'-C3'	5.75	126.61	119.70
1	XA	913	A	P-O3'-C3'	5.75	126.60	119.70
34	RA	828	U	C6-N1-C1'	-5.75	113.15	121.20
34	RA	1176	G	N3-C4-C5	-5.75	125.73	128.60
1	XA	454	C	N1-C2-O2	5.75	122.35	118.90
1	XA	1027	C	OP1-P-O3'	5.75	117.84	105.20
34	RA	1313	U	C6-N1-C1'	-5.74	113.16	121.20
34	RA	196	A	O4'-C1'-N9	5.74	112.79	108.20
34	YA	2712	U	N1-C2-O2	5.74	126.82	122.80
34	RA	120	U	N1-C2-O2	5.74	126.82	122.80
1	QA	410	G	OP1-P-O3'	5.74	117.82	105.20
1	QA	812	C	P-O3'-C3'	5.73	126.57	119.70
34	YA	860	U	C2-N1-C1'	5.72	124.56	117.70
45	YQ	25	ASP	CB-CG-OD1	5.72	123.45	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	RA	1543	A	O4'-C1'-N9	5.71	112.77	108.20
54	YZ	89	PHE	CB-CG-CD1	5.71	124.80	120.80
38	RF	197	ASP	CB-CG-OD1	5.71	123.44	118.30
35	RB	47	C	N3-C2-O2	-5.71	117.91	121.90
1	QA	687	A	P-O3'-C3'	5.70	126.54	119.70
34	RA	2712	U	N3-C2-O2	-5.70	118.21	122.20
35	YB	31	C	C5-C6-N1	5.70	123.85	121.00
1	XA	110	C	N1-C2-O2	5.70	122.32	118.90
34	YA	271(B)	G	P-O3'-C3'	5.69	126.53	119.70
34	YA	607	U	N1-C2-O2	5.69	126.78	122.80
16	QP	38	TYR	CA-CB-CG	5.69	124.20	113.40
34	RA	1176	G	C4-N9-C1'	5.69	133.89	126.50
1	XA	1537	U	N3-C2-O2	-5.69	118.22	122.20
1	QA	347	G	O4'-C1'-N9	5.68	112.74	108.20
34	RA	1686	C	C2-N1-C1'	5.68	125.04	118.80
34	RA	1694	C	P-O3'-C3'	5.67	126.51	119.70
34	YA	1407	C	C2-N1-C1'	5.67	125.03	118.80
54	RZ	48	PHE	CB-CG-CD2	-5.66	116.84	120.80
34	RA	74	A	P-O3'-C3'	5.66	126.49	119.70
1	QA	1528	U	P-O3'-C3'	5.65	126.48	119.70
54	YZ	89	PHE	CB-CG-CD2	-5.65	116.84	120.80
1	XA	650	G	N3-C2-N2	-5.65	115.94	119.90
1	QA	328	C	C6-N1-C1'	-5.65	114.02	120.80
34	RA	269	U	N3-C2-O2	-5.64	118.25	122.20
34	YA	1914	C	N3-C2-O2	-5.64	117.95	121.90
34	YA	2456	C	C5-C6-N1	5.64	123.82	121.00
34	YA	372	G	P-O3'-C3'	5.64	126.46	119.70
3	QC	52	LEU	CA-CB-CG	5.63	128.26	115.30
34	RA	1914	C	C6-N1-C2	-5.63	118.05	120.30
1	QA	961	U	N3-C2-O2	-5.62	118.26	122.20
1	QA	1498	U	P-O3'-C3'	5.62	126.45	119.70
34	RA	372	G	P-O3'-C3'	5.62	126.44	119.70
34	RA	930	U	N1-C2-O2	5.62	126.73	122.80
1	QA	1066	C	C6-N1-C1'	-5.62	114.06	120.80
34	YA	279	C	C6-N1-C2	-5.61	118.06	120.30
1	QA	792	A	P-O3'-C3'	5.61	126.43	119.70
34	YA	2874	C	C2-N1-C1'	5.61	124.97	118.80
35	YB	44	G	N3-C4-N9	-5.60	122.64	126.00
1	XA	993	G	O5'-P-OP1	-5.60	100.66	105.70
50	RV	2	PHE	CB-CG-CD1	5.60	124.72	120.80
1	QA	484	G	P-O3'-C3'	5.59	126.41	119.70
34	YA	1407	C	C5-C6-N1	5.59	123.80	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
39	RG	91	ARG	CG-CD-NE	5.59	123.54	111.80
36	YD	242	ARG	CA-CB-CG	5.59	125.70	113.40
34	RA	2126	A	P-O3'-C3'	5.59	126.41	119.70
22	QV	38	A	C8-N9-C4	-5.59	103.57	105.80
34	RA	2506	U	C6-N1-C1'	-5.58	113.38	121.20
49	YU	52	ARG	CD-NE-CZ	5.58	131.42	123.60
44	RP	106	LEU	CA-CB-CG	5.58	128.12	115.30
34	YA	1063	G	C6-C5-N7	-5.57	127.06	130.40
1	QA	115	G	P-O3'-C3'	5.57	126.39	119.70
4	QD	138	TYR	CB-CG-CD1	5.57	124.34	121.00
1	XA	753	A	P-O3'-C3'	5.57	126.38	119.70
34	RA	435	C	N3-C2-O2	-5.56	118.01	121.90
34	RA	1992	G	OP2-P-O3'	5.56	117.44	105.20
22	QV	70	C	C6-N1-C2	-5.55	118.08	120.30
34	YA	2655	G	P-O3'-C3'	5.55	126.36	119.70
34	RA	1312	U	P-O3'-C3'	5.54	126.35	119.70
1	XA	60	A	P-O3'-C3'	5.54	126.35	119.70
1	QA	169	C	N1-C2-O2	5.54	122.22	118.90
34	RA	2586	C	N1-C2-O2	5.53	122.22	118.90
1	XA	135	C	N3-C2-O2	-5.53	118.03	121.90
34	YA	974(A)	C	N1-C2-O2	5.53	122.22	118.90
52	RX	28	PHE	CB-CG-CD1	5.52	124.66	120.80
1	XA	449	C	C2-N1-C1'	5.52	124.87	118.80
1	QA	827	U	N1-C2-O2	5.52	126.66	122.80
34	YA	1741	C	C2-N1-C1'	5.52	124.87	118.80
34	YA	242	G	P-O3'-C3'	5.51	126.32	119.70
34	YA	1180	C	C2-N1-C1'	5.51	124.86	118.80
1	QA	1362(A)	C	N3-C2-O2	-5.51	118.04	121.90
34	YA	537	C	C2-N1-C1'	5.51	124.86	118.80
34	RA	2525	G	N3-C2-N2	-5.51	116.05	119.90
1	QA	789	U	N1-C2-O2	5.50	126.65	122.80
34	RA	1506	C	C2-N1-C1'	5.50	124.85	118.80
34	YA	222	A	P-O3'-C3'	5.50	126.30	119.70
1	XA	328	C	N3-C2-O2	-5.50	118.05	121.90
34	RA	2584	U	C2-N1-C1'	5.49	124.29	117.70
34	YA	1799	G	C2'-C3'-O3'	5.49	122.48	113.70
34	YA	2726	U	C2-N1-C1'	5.49	124.28	117.70
34	RA	2752	C	C2-N1-C1'	5.48	124.83	118.80
1	QA	754	C	N1-C2-O2	5.48	122.19	118.90
16	QP	38	TYR	CB-CG-CD2	-5.47	117.72	121.00
34	YA	860	U	N3-C2-O2	-5.47	118.37	122.20
34	YA	1411	C	C2-N1-C1'	5.47	124.82	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	YA	1956	U	N1-C2-O2	5.47	126.63	122.80
11	QK	126	ARG	NE-CZ-NH2	-5.47	117.56	120.30
35	YB	1	U	N3-C2-O2	-5.47	118.37	122.20
22	QV	40	C	N3-C2-O2	-5.46	118.08	121.90
1	XA	1498	U	P-O3'-C3'	5.46	126.25	119.70
1	QA	961	U	C2-N3-C4	-5.46	123.73	127.00
1	QA	449	C	N3-C2-O2	-5.45	118.08	121.90
34	RA	1956	U	N1-C2-O2	5.45	126.61	122.80
1	XA	412	A	P-O3'-C3'	5.45	126.23	119.70
34	RA	930	U	C2-N1-C1'	5.44	124.23	117.70
35	RB	22	U	C2-N1-C1'	5.44	124.23	117.70
1	XA	1301	U	N3-C2-O2	-5.44	118.39	122.20
4	QD	138	TYR	CA-CB-CG	5.44	123.73	113.40
1	XA	484	G	P-O3'-C3'	5.43	126.22	119.70
34	YA	1385	G	O4'-C1'-N9	5.43	112.54	108.20
1	QA	1406	U	N1-C2-O2	5.42	126.59	122.80
34	RA	1130	U	P-O3'-C3'	5.42	126.20	119.70
34	YA	856	C	C2-N1-C1'	5.42	124.76	118.80
54	RZ	38	TYR	CB-CG-CD2	-5.41	117.75	121.00
1	QA	960	U	C2-N1-C1'	5.41	124.19	117.70
1	QA	525	C	C5-C6-N1	5.40	123.70	121.00
34	RA	893	C	C2-N1-C1'	5.40	124.74	118.80
1	XA	1028(B)	C	N1-C2-O2	5.40	122.14	118.90
34	YA	1063	G	N3-C4-N9	5.40	129.24	126.00
1	XA	135	C	C6-N1-C2	-5.40	118.14	120.30
34	YA	654	A	C2-N3-C4	5.40	113.30	110.60
22	QV	76	A	C2-N3-C4	5.39	113.30	110.60
34	RA	2210	G	N3-C4-C5	-5.38	125.91	128.60
34	RA	1513	C	N1-C2-O2	5.38	122.13	118.90
34	YA	856	C	C5-C6-N1	5.38	123.69	121.00
34	YA	2712	U	N3-C2-O2	-5.38	118.44	122.20
34	RA	221	A	P-O3'-C3'	5.37	126.14	119.70
34	YA	2712	U	C2-N1-C1'	5.37	124.14	117.70
34	YA	752	A	P-O3'-C3'	5.37	126.14	119.70
1	XA	266	G	P-O3'-C3'	5.36	126.13	119.70
50	RV	35	LEU	CA-CB-CG	5.35	127.61	115.30
34	RA	2439	A	P-O3'-C3'	5.35	126.12	119.70
2	QB	92	TYR	CA-CB-CG	5.35	123.56	113.40
34	YA	114	U	C2-N1-C1'	5.34	124.11	117.70
34	YA	1956	U	N3-C2-O2	-5.34	118.46	122.20
19	QS	43	GLU	O-C-N	5.34	131.25	122.70
34	RA	242	G	P-O3'-C3'	5.34	126.11	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	XI	42	ARG	CA-CB-CG	5.34	125.15	113.40
34	RA	1176	G	N3-C4-N9	5.33	129.20	126.00
34	YA	503	A	OP2-P-O3'	5.33	116.94	105.20
35	YB	44	G	C6-C5-N7	5.33	133.60	130.40
1	QA	1066	C	C6-N1-C2	-5.33	118.17	120.30
34	RA	1417	C	N1-C2-O2	5.33	122.10	118.90
34	RA	1474	C	C5-C6-N1	5.33	123.67	121.00
19	QS	43	GLU	C-N-CA	-5.33	108.37	121.70
34	YA	1992	G	P-O3'-C3'	5.33	126.10	119.70
34	YA	721	C	C6-N1-C2	-5.33	118.17	120.30
44	YP	135	LEU	CA-CB-CG	5.33	127.56	115.30
34	YA	859	G	P-O3'-C3'	5.32	126.09	119.70
34	YA	1332	G	C8-N9-C1'	-5.31	120.09	127.00
19	QS	44	MET	C-N-CA	5.31	134.97	121.70
1	XA	481	G	P-O3'-C3'	5.31	126.07	119.70
34	RA	1882	C	N3-C2-O2	-5.31	118.18	121.90
34	YA	2776	A	P-O3'-C3'	5.31	126.07	119.70
1	QA	960	U	N3-C2-O2	-5.30	118.49	122.20
1	XA	410	G	OP1-P-O3'	5.30	116.85	105.20
48	YT	26	ASP	CB-CG-OD1	5.30	123.07	118.30
34	RA	669	G	C4-N9-C1'	5.29	133.38	126.50
1	XA	1346	A	O4'-C1'-N9	5.29	112.44	108.20
34	YA	1653	G	P-O3'-C3'	5.29	126.05	119.70
1	XA	250	A	P-O3'-C3'	5.29	126.05	119.70
34	YA	1506	C	N1-C2-O2	5.29	122.07	118.90
1	XA	346	G	C4-N9-C1'	5.29	133.37	126.50
1	XA	826	C	C6-N1-C2	-5.28	118.19	120.30
1	QA	307	C	N3-C2-O2	-5.28	118.20	121.90
34	RA	1529	A	N1-C2-N3	5.28	131.94	129.30
1	QA	410	G	P-O3'-C3'	5.28	126.03	119.70
34	RA	75	G	N3-C2-N2	-5.28	116.21	119.90
1	XA	346	G	N3-C4-C5	-5.27	125.96	128.60
34	YA	837	C	C5-C6-N1	5.27	123.64	121.00
34	YA	1026	U	OP1-P-O3'	5.27	116.79	105.20
1	QA	119	A	P-O3'-C3'	5.27	126.02	119.70
9	XI	42	ARG	NE-CZ-NH1	5.27	122.93	120.30
1	QA	346	G	N3-C4-N9	5.26	129.15	126.00
1	QA	932	C	C2-N1-C1'	5.26	124.58	118.80
1	QA	328	C	C6-N1-C2	-5.25	118.20	120.30
34	RA	120	U	N3-C2-O2	-5.25	118.52	122.20
34	YA	2394	C	N1-C2-O2	5.25	122.05	118.90
1	QA	455	C	C2-N1-C1'	5.25	124.57	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	YA	343	C	C5-C6-N1	5.25	123.62	121.00
34	RA	1513	C	C6-N1-C1'	-5.25	114.50	120.80
34	RA	1640	C	N1-C2-O2	5.25	122.05	118.90
34	YA	343	C	C2-N1-C1'	5.25	124.57	118.80
1	XA	90	C	C2-N1-C1'	-5.24	113.03	118.80
46	YR	103	ARG	NE-CZ-NH1	5.24	122.92	120.30
34	YA	1063	G	C4-N9-C1'	5.24	133.31	126.50
34	YA	1882	C	C6-N1-C1'	-5.24	114.52	120.80
1	XA	115	G	P-O3'-C3'	5.24	125.98	119.70
34	YA	1781	C	C6-N1-C1'	-5.24	114.52	120.80
21	XU	15	ARG	NE-CZ-NH2	5.23	122.92	120.30
34	RA	1407	C	C6-N1-C2	-5.23	118.21	120.30
50	RV	2	PHE	CB-CG-CD2	-5.23	117.14	120.80
34	YA	1417	C	C2-N1-C1'	5.23	124.55	118.80
34	RA	2321	G	C4-N9-C1'	5.22	133.29	126.50
34	YA	2210	G	N3-C4-N9	5.21	129.12	126.00
34	RA	1026	U	OP1-P-O3'	5.21	116.65	105.20
34	RA	1045	A	P-O3'-C3'	5.20	125.94	119.70
34	RA	2874	C	N1-C2-O2	5.20	122.02	118.90
34	YA	1055	G	N1-C6-O6	-5.20	116.78	119.90
34	RA	708	C	C6-N1-C1'	-5.20	114.56	120.80
34	YA	229	A	P-O3'-C3'	5.20	125.93	119.70
34	YA	392	C	C2-N1-C1'	5.20	124.52	118.80
34	YA	1313	U	C6-N1-C1'	-5.20	113.93	121.20
34	RA	537	C	C6-N1-C1'	-5.19	114.57	120.80
2	XB	152	PHE	CB-CG-CD1	5.19	124.43	120.80
34	YA	196	A	O4'-C1'-N9	5.19	112.35	108.20
1	QA	1039	C	C6-N1-C1'	-5.19	114.58	120.80
34	RA	512	G	P-O3'-C3'	5.19	125.93	119.70
34	RA	846	C	O5'-P-OP1	-5.18	101.03	105.70
22	QV	5	C	C5-C6-N1	5.18	123.59	121.00
1	XA	243	A	P-O3'-C3'	5.18	125.91	119.70
1	XA	328	C	C6-N1-C1'	-5.18	114.59	120.80
34	YA	828	U	C6-N1-C1'	-5.18	113.95	121.20
1	XA	1301	U	N1-C2-O2	5.18	126.42	122.80
1	QA	431	A	N1-C6-N6	-5.17	115.50	118.60
1	QA	1347	G	P-O3'-C3'	5.17	125.90	119.70
34	RA	1407	C	C2-N1-C1'	5.17	124.48	118.80
34	RA	2702	U	C6-N1-C1'	-5.17	113.96	121.20
34	RA	537	C	C5-C6-N1	5.15	123.58	121.00
34	RA	867	C	N1-C2-O2	5.15	121.99	118.90
1	XA	449	C	N1-C2-O2	5.14	121.99	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	YA	1015	G	N3-C2-N2	-5.14	116.30	119.90
16	QP	38	TYR	CB-CG-CD1	5.14	124.08	121.00
54	RZ	38	TYR	CB-CG-CD1	5.14	124.08	121.00
34	YA	279	C	C5-C6-N1	5.14	123.57	121.00
34	YA	2439	A	P-O3'-C3'	5.14	125.86	119.70
34	RA	904	C	C5-C6-N1	5.13	123.56	121.00
36	RD	94	LEU	CA-CB-CG	5.13	127.10	115.30
1	QA	266	G	P-O3'-C3'	5.13	125.86	119.70
5	QE	60	TYR	CA-CB-CG	5.13	123.14	113.40
35	YB	27	C	N1-C2-O2	5.13	121.98	118.90
1	QA	449	C	C6-N1-C2	-5.12	118.25	120.30
1	XA	1028(B)	C	C6-N1-C2	-5.12	118.25	120.30
34	RA	2128	C	C2-N1-C1'	5.12	124.43	118.80
34	YA	269	U	N3-C2-O2	-5.12	118.62	122.20
34	YA	2506	U	C6-N1-C1'	-5.12	114.04	121.20
34	RA	503	A	P-O3'-C3'	5.11	125.84	119.70
34	RA	2210	G	N3-C4-N9	5.11	129.07	126.00
10	XJ	47	PHE	CB-CG-CD2	-5.11	117.22	120.80
1	QA	412	A	P-O3'-C3'	5.11	125.83	119.70
34	RA	1915	U	N1-C2-O2	5.11	126.38	122.80
24	Y0	56	ASP	CB-CG-OD1	5.11	122.90	118.30
45	RQ	79	LEU	CA-CB-CG	5.11	127.05	115.30
34	RA	1514	U	N3-C2-O2	-5.11	118.62	122.20
34	RA	1598	C	N3-C2-O2	-5.10	118.33	121.90
1	XA	88	C	N1-C2-O2	5.09	121.96	118.90
34	RA	1535	U	C6-N1-C1'	-5.09	114.07	121.20
34	YA	837	C	C6-N1-C2	-5.09	118.26	120.30
28	Y4	71	ARG	CD-NE-CZ	-5.09	116.48	123.60
34	RA	1816	G	C5-N7-C8	-5.09	101.76	104.30
35	RB	27	C	N3-C2-O2	-5.09	118.34	121.90
46	RR	75	LEU	CA-CB-CG	5.09	127.00	115.30
34	YA	721	C	C2-N1-C1'	5.09	124.40	118.80
34	YA	1483	G	N3-C4-N9	5.08	129.05	126.00
34	RA	2848	G	O4'-C1'-N9	5.08	112.27	108.20
34	YA	373	U	N1-C2-O2	5.08	126.36	122.80
34	YA	867	C	N1-C2-O2	5.08	121.95	118.90
34	RA	1514	U	C2-N1-C1'	5.08	123.79	117.70
1	QA	1439	C	C2-N1-C1'	5.07	124.38	118.80
1	XA	1446	A	P-O3'-C3'	5.07	125.79	119.70
34	RA	1598	C	N1-C2-O2	5.07	121.94	118.90
42	RN	120	LEU	CA-CB-CG	5.07	126.95	115.30
34	YA	647	G	N3-C4-N9	5.07	129.04	126.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	YA	2506	U	C5-C6-N1	5.07	125.23	122.70
34	YA	613	U	N1-C2-O2	-5.06	119.26	122.80
34	YA	1992	G	OP2-P-O3'	5.06	116.33	105.20
53	YY	77	PRO	C-N-CA	5.06	134.35	121.70
22	QV	32	U	C5-C6-N1	5.06	125.23	122.70
34	YA	1427	A	P-O3'-C3'	5.06	125.77	119.70
1	QA	183	G	C6-C5-N7	-5.06	127.37	130.40
34	RA	2752	C	N3-C2-O2	-5.05	118.36	121.90
35	RB	44	G	N9-C4-C5	5.05	107.42	105.40
22	QV	70	C	C5-C6-N1	5.04	123.52	121.00
34	RA	1474	C	C6-N1-C1'	-5.04	114.75	120.80
1	XA	88	C	N3-C2-O2	-5.04	118.37	121.90
1	XA	252	U	C5-C6-N1	5.04	125.22	122.70
34	RA	2584	U	N3-C2-O2	-5.04	118.67	122.20
34	RA	2060	A	P-O3'-C3'	5.04	125.75	119.70
34	YA	269	U	N1-C2-O2	5.04	126.33	122.80
34	YA	2756	U	OP1-P-O3'	5.03	116.28	105.20
34	YA	221	A	P-O3'-C3'	5.03	125.73	119.70
1	QA	346	G	N3-C4-C5	-5.02	126.09	128.60
34	RA	1658	C	C6-N1-C2	-5.02	118.29	120.30
1	XA	789	U	C2-N1-C1'	5.02	123.72	117.70
34	RA	2566	A	P-O3'-C3'	5.02	125.72	119.70
10	XJ	70	ARG	CG-CD-NE	-5.01	101.27	111.80
1	XA	826	C	C5-C6-N1	5.01	123.51	121.00
34	RA	974(A)	C	N1-C2-O2	5.01	121.91	118.90
39	RG	91	ARG	CD-NE-CZ	5.01	130.61	123.60
34	RA	1437	C	C2-N1-C1'	5.01	124.31	118.80
1	QA	244	U	P-O3'-C3'	5.00	125.71	119.70
34	RA	2056	G	N3-C2-N2	-5.00	116.40	119.90
35	YB	66	A	P-O3'-C3'	5.00	125.70	119.70
34	YA	587	C	P-O3'-C3'	5.00	125.70	119.70

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
39	RG	91	ARG	Sidechain
8	XH	41	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	QA	32247	0	16278	533	0
1	XA	32471	0	16395	479	0
2	QB	1924	0	1975	111	0
2	XB	1924	0	1975	105	0
3	QC	1605	0	1668	60	0
3	XC	1605	0	1668	54	0
4	QD	1703	0	1766	94	0
4	XD	1703	0	1767	73	0
5	QE	1155	0	1213	28	0
5	XE	1155	0	1213	31	0
6	QF	843	0	857	15	0
6	XF	843	0	857	9	0
7	QG	1257	0	1296	14	0
7	XG	1257	0	1296	18	0
8	QH	1116	0	1177	30	0
8	XH	1116	0	1177	27	0
9	QI	1010	0	1037	39	0
9	XI	1010	0	1037	49	0
10	QJ	801	0	849	30	0
10	XJ	801	0	849	29	0
11	QK	885	0	904	32	0
11	XK	885	0	904	22	0
12	QL	975	0	1062	46	0
12	XL	975	0	1062	49	0
13	QM	964	0	1034	79	0
13	XM	964	0	1034	48	0
14	QN	492	0	530	31	0
14	XN	492	0	529	17	0
15	QO	734	0	771	9	0
15	XO	734	0	771	11	0
16	QP	705	0	725	21	0
16	XP	705	0	725	21	0
17	QQ	834	0	904	21	0
17	XQ	834	0	904	29	0
18	QR	574	0	644	27	0
18	XR	574	0	644	11	0
19	QS	674	0	699	91	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
19	XS	674	0	699	63	0
20	QT	763	0	861	29	0
20	XT	763	0	861	22	0
21	QU	217	0	234	11	0
21	XU	217	0	234	14	0
22	QV	1594	0	806	8	0
22	XV	1594	0	806	25	0
23	QX	65	0	33	0	0
23	XX	502	0	249	10	0
24	R0	648	0	672	18	0
24	Y0	648	0	672	20	0
25	R1	763	0	848	28	0
25	Y1	763	0	848	22	0
26	R2	581	0	629	40	0
26	Y2	598	0	653	12	0
27	R3	469	0	518	14	0
27	Y3	469	0	518	12	0
28	R4	581	0	577	75	0
28	Y4	581	0	577	92	0
29	R5	459	0	480	59	0
29	Y5	459	0	480	58	0
30	R6	424	0	450	48	0
30	Y6	424	0	450	62	0
31	R7	430	0	480	5	0
31	Y7	430	0	480	13	0
32	R8	517	0	582	35	0
32	Y8	517	0	582	66	0
33	R9	307	0	338	4	0
33	Y9	307	0	338	9	0
34	RA	62071	0	31290	715	0
34	YA	62091	0	31297	783	0
35	RB	2573	0	1306	42	0
35	YB	2573	0	1305	34	0
36	RD	2115	0	2195	95	0
36	YD	2115	0	2195	132	0
37	RE	1568	0	1634	83	0
37	YE	1568	0	1634	94	0
38	RF	1585	0	1632	69	0
38	YF	1585	0	1632	50	0
39	RG	1474	0	1535	128	0
39	YG	1474	0	1535	83	0
40	RH	1307	0	1382	89	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
40	YH	1307	0	1382	65	0
41	RI	1136	0	1223	75	0
41	YI	1136	0	1223	76	0
42	RN	1104	0	1180	33	0
42	YN	1104	0	1180	35	0
43	RO	933	0	996	28	0
43	YO	933	0	996	26	0
44	RP	1145	0	1228	56	0
44	YP	1145	0	1228	78	0
45	RQ	1122	0	1179	42	0
45	YQ	1122	0	1179	44	0
46	RR	968	0	1033	34	0
46	YR	968	0	1033	34	0
47	RS	882	0	943	27	0
47	YS	882	0	943	58	0
48	RT	1141	0	1202	35	0
48	YT	1141	0	1202	50	0
49	RU	964	0	1022	31	0
49	YU	964	0	1022	35	0
50	RV	779	0	852	44	0
50	YV	779	0	852	34	0
51	RW	900	0	964	22	0
51	YW	900	0	964	18	0
52	RX	725	0	778	26	0
52	YX	725	0	778	33	0
53	RY	785	0	878	34	0
53	YY	785	0	878	50	0
54	RZ	1461	0	1493	97	0
54	YZ	1461	0	1493	120	0
55	XY	362	0	186	3	0
56	Z6	74	0	51	0	0
56	Z8	74	0	51	2	0
57	QA	54	0	0	0	0
57	QV	1	0	0	0	0
57	R0	1	0	0	0	0
57	R5	1	0	0	0	0
57	R7	1	0	0	0	0
57	R8	1	0	0	0	0
57	RA	333	0	0	0	0
57	RB	5	0	0	0	0
57	RE	1	0	0	0	0
57	RF	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
57	RR	2	0	0	0	0
57	XA	58	0	0	0	0
57	XV	2	0	0	0	0
57	XX	1	0	0	0	0
57	Y0	1	0	0	0	0
57	Y1	1	0	0	0	0
57	Y3	1	0	0	0	0
57	Y5	1	0	0	0	0
57	Y7	2	0	0	0	0
57	YA	361	0	0	0	0
57	YB	4	0	0	0	0
57	YE	2	0	0	0	0
57	YP	2	0	0	0	0
57	YQ	2	0	0	0	0
57	YR	2	0	0	0	0
57	YY	1	0	0	0	0
58	QD	8	0	0	0	0
58	XD	8	0	0	2	0
59	QN	1	0	0	0	0
59	XN	1	0	0	0	0
All	All	292176	0	198335	6065	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 13.

All (6065) 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)
19:QS:44:MET:SD	19:QS:49:ILE:HD11	1.50	1.48
53:RY:76:CYS:SG	53:RY:77:PRO:HD3	1.53	1.48
13:XM:10:PRO:N	13:XM:10:PRO:CA	1.70	1.46
41:RI:83:ALA:C	41:RI:144:VAL:HG13	1.33	1.44
26:R2:13:ALA:HA	26:R2:16:LEU:CD1	1.50	1.40
54:RZ:94:GLU:HB2	54:RZ:95:PRO:CD	1.51	1.40
41:RI:92:VAL:HG22	41:RI:120:ILE:CG2	1.54	1.35
28:Y4:18:CYS:SG	28:Y4:39:CYS:HB2	1.65	1.35
29:R5:58:LEU:HD13	29:R5:60:VAL:CG1	1.57	1.34
28:Y4:18:CYS:HB2	28:Y4:39:CYS:SG	1.65	1.34
19:QS:19:VAL:CG1	19:QS:44:MET:HG3	1.58	1.32
2:QB:233:SER:OG	2:QB:234:PRO:HD3	1.26	1.30
54:YZ:61:LEU:HD11	54:YZ:67:LEU:CD2	1.63	1.28

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:Y4:39:CYS:C	28:Y4:41:PRO:HD3	1.56	1.25
53:YY:76:CYS:SG	53:YY:77:PRO:HD2	1.76	1.25
2:QB:233:SER:OG	2:QB:234:PRO:CD	1.84	1.24
29:Y5:40:LYS:CD	29:Y5:46:CYS:SG	2.25	1.24
29:Y5:40:LYS:HD3	29:Y5:46:CYS:SG	1.78	1.24
1:QA:1316:G:H5"	14:QN:17:LYS:NZ	1.51	1.23
41:RI:123:LEU:HD11	41:RI:144:VAL:CG2	1.68	1.22
37:YE:146:THR:OG1	37:YE:147:PRO:HD3	1.37	1.22
19:QS:44:MET:SD	19:QS:49:ILE:CD1	2.29	1.20
53:RY:76:CYS:SG	53:RY:77:PRO:CD	2.28	1.20
12:QL:117:ARG:NH2	12:QL:124:LYS:HD3	1.53	1.20
4:XD:36:ARG:HB2	4:XD:38:TYR:CE2	1.77	1.19
41:RI:83:ALA:CA	41:RI:144:VAL:HG13	1.72	1.19
53:YY:76:CYS:HB3	53:YY:96:ILE:HD13	1.23	1.18
41:RI:82:ARG:NH2	41:RI:146:ALA:HB3	1.55	1.18
54:RZ:94:GLU:HA	54:RZ:130:PRO:CD	1.73	1.18
38:RF:45:ARG:CD	38:RF:97:TYR:CD2	2.27	1.17
29:Y5:40:LYS:HD3	29:Y5:46:CYS:CB	1.75	1.17
28:R4:59:PHE:HE1	28:R4:70:GLY:CA	1.59	1.16
45:YQ:102:VAL:HG11	45:YQ:105:GLU:OE2	1.45	1.16
54:RZ:94:GLU:HA	54:RZ:130:PRO:HD3	1.23	1.16
40:RH:147:ASN:HA	40:RH:150:ALA:HB2	1.24	1.16
32:Y8:61:LEU:HD11	34:YA:593:G:O2'	1.43	1.16
41:RI:123:LEU:CD1	41:RI:144:VAL:CG2	2.24	1.15
4:XD:36:ARG:HB2	4:XD:38:TYR:HE2	1.00	1.15
32:Y8:62:LEU:CD1	34:YA:242:G:H3'	1.75	1.15
19:XS:10:PHE:CZ	19:XS:16:LEU:HD22	1.81	1.15
40:RH:147:ASN:O	40:RH:150:ALA:HB3	1.46	1.14
36:YD:233:HIS:CD2	36:YD:242:ARG:HB2	1.83	1.14
29:Y5:55:ARG:CZ	46:YR:113:LEU:HD13	1.76	1.14
54:YZ:67:LEU:O	54:YZ:67:LEU:HD12	1.47	1.14
19:QS:10:PHE:CE2	19:QS:12:ASP:HB2	1.82	1.13
26:R2:13:ALA:HA	26:R2:16:LEU:HD11	1.22	1.13
39:RG:38:VAL:HG21	39:RG:91:ARG:HD2	1.18	1.13
19:QS:19:VAL:HG21	19:QS:44:MET:SD	1.87	1.12
38:RF:45:ARG:HD2	38:RF:97:TYR:CD2	1.84	1.13
28:Y4:37:SER:HA	28:Y4:41:PRO:HG2	1.26	1.12
26:R2:13:ALA:HA	26:R2:16:LEU:HD12	1.24	1.12
44:YP:121:LYS:O	44:YP:123:LEU:HD23	1.49	1.12
19:QS:19:VAL:HG11	19:QS:44:MET:HG3	1.13	1.12
29:R5:58:LEU:CD1	29:R5:60:VAL:CG1	2.27	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:528:C:H41	12:XL:49:ASN:ND2	1.44	1.12
32:Y8:62:LEU:HD13	34:YA:242:G:H5"	1.16	1.12
44:YP:96:THR:HG22	44:YP:126:VAL:CG2	1.80	1.12
29:R5:56:LYS:H	29:R5:56:LYS:HD2	1.11	1.11
44:YP:96:THR:CG2	44:YP:126:VAL:HG21	1.78	1.11
30:R6:8:LYS:CB	30:R6:27:LYS:HB2	1.80	1.11
37:YE:143:ASN:HB2	37:YE:147:PRO:HG2	1.21	1.11
28:R4:42:PHE:CZ	28:R4:43:TYR:HB3	1.86	1.11
34:YA:2675:A:H5"	34:YA:2675:A:H8	1.16	1.11
44:YP:125:VAL:HB	44:YP:144:GLU:HB2	1.26	1.10
40:RH:41:MET:HE3	40:RH:65:HIS:HA	1.31	1.10
34:YA:2636:U:OP1	37:YE:79:ARG:HA	1.50	1.10
40:YH:41:MET:HG2	40:YH:54:ARG:HA	1.32	1.09
41:YI:5:LEU:HD22	41:YI:13:GLY:O	1.50	1.09
54:RZ:59:LEU:HD11	54:RZ:69:THR:OG1	1.51	1.08
28:R4:59:PHE:HE1	28:R4:70:GLY:HA2	1.17	1.08
41:RI:123:LEU:HD11	41:RI:144:VAL:HG22	1.31	1.08
39:RG:5:VAL:CG1	39:RG:8:LYS:HB2	1.83	1.08
36:YD:35:LYS:HB2	36:YD:36:PRO:CD	1.83	1.08
36:YD:233:HIS:HD2	36:YD:242:ARG:HB2	0.98	1.08
54:RZ:94:GLU:HB2	54:RZ:95:PRO:HD3	1.13	1.08
19:QS:10:PHE:HE2	19:QS:12:ASP:CB	1.67	1.07
41:RI:92:VAL:HG22	41:RI:120:ILE:HG21	1.12	1.07
2:XB:16:HIS:NE2	2:XB:213:LEU:HD23	1.66	1.07
19:XS:10:PHE:CZ	19:XS:16:LEU:HD13	1.89	1.07
32:Y8:62:LEU:H	32:Y8:63:PRO:CD	1.67	1.07
36:YD:35:LYS:CB	36:YD:36:PRO:HD2	1.84	1.07
9:QI:9:ARG:HG2	9:QI:14:VAL:HG22	1.34	1.07
29:Y5:40:LYS:HD2	29:Y5:46:CYS:SG	1.91	1.07
44:YP:125:VAL:HG21	44:YP:138:LEU:HD21	1.37	1.07
30:Y6:8:LYS:HB2	30:Y6:27:LYS:CB	1.85	1.06
54:YZ:61:LEU:CD1	54:YZ:67:LEU:HD23	1.86	1.06
30:R6:8:LYS:HB2	30:R6:27:LYS:CB	1.85	1.05
32:Y8:61:LEU:CD1	34:YA:593:G:H4'	1.86	1.05
41:YI:130:TYR:CE2	41:YI:132:PRO:HG3	1.91	1.05
40:RH:41:MET:HE3	40:RH:65:HIS:CA	1.85	1.05
21:XU:18:TYR:CD1	21:XU:24:ARG:NH1	2.23	1.05
41:YI:133:HIS:HB2	41:YI:134:PRO:HD3	1.33	1.05
1:QA:992:U:H5"	1:QA:992:U:H6	1.17	1.05
30:Y6:8:LYS:HB2	30:Y6:27:LYS:HB2	1.35	1.05
41:YI:9:LEU:HD21	41:YI:12:LEU:HB3	1.34	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RF:45:ARG:HD2	38:RF:97:TYR:CG	1.91	1.04
54:RZ:48:PHE:HA	54:RZ:51:ALA:HB3	1.38	1.04
28:Y4:39:CYS:SG	28:Y4:41:PRO:HG3	1.97	1.04
42:YN:7:LYS:HG2	42:YN:8:GLN:H	1.22	1.04
39:YG:84:LYS:HE2	39:YG:84:LYS:HA	1.41	1.03
41:RI:83:ALA:HA	41:RI:144:VAL:CG1	1.89	1.03
5:XE:110:LEU:HB3	5:XE:115:VAL:HG11	1.37	1.03
28:R4:42:PHE:CE1	28:R4:43:TYR:HB3	1.95	1.02
54:RZ:94:GLU:CA	54:RZ:130:PRO:HD3	1.87	1.02
1:XA:112:G:N2	1:XA:330:C:C4	2.26	1.02
36:YD:233:HIS:CE1	36:YD:247:ALA:H	1.76	1.02
54:YZ:61:LEU:HD21	54:YZ:67:LEU:HD21	1.42	1.02
54:YZ:61:LEU:CB	54:YZ:62:PRO:HD2	1.89	1.02
29:R5:58:LEU:CD1	29:R5:60:VAL:HG12	1.86	1.02
36:YD:35:LYS:HA	36:YD:35:LYS:HZ3	1.24	1.01
41:RI:83:ALA:C	41:RI:144:VAL:CG1	2.27	1.01
28:Y4:39:CYS:C	28:Y4:41:PRO:CD	2.27	1.01
26:R2:13:ALA:CA	26:R2:16:LEU:CD1	2.37	1.01
12:QL:117:ARG:HE	12:QL:124:LYS:HA	1.25	1.01
54:RZ:59:LEU:HD21	54:RZ:88:PHE:CD2	1.96	1.01
32:Y8:62:LEU:HD12	34:YA:242:G:H3'	1.39	1.01
35:RB:42:C:O2	39:RG:93:THR:HG22	1.60	1.00
1:QA:353:A:H5'	1:QA:353:A:H8	1.23	1.00
26:R2:13:ALA:CA	26:R2:16:LEU:HD12	1.90	1.00
39:RG:5:VAL:HG11	39:RG:8:LYS:HB2	1.42	1.00
30:Y6:17:LYS:HA	30:Y6:17:LYS:NZ	1.77	1.00
40:YH:163:TYR:HE2	40:YH:169:VAL:HG21	1.25	1.00
12:QL:117:ARG:NH2	12:QL:124:LYS:CD	2.24	1.00
19:QS:19:VAL:HG11	19:QS:44:MET:CG	1.91	1.00
44:RP:84:ASN:OD1	44:RP:116:GLY:HA3	1.61	0.99
1:QA:1316:G:H5"	14:QN:17:LYS:HZ1	1.01	0.99
2:XB:16:HIS:CE1	2:XB:213:LEU:HB3	1.97	0.99
29:Y5:38:ALA:HB3	29:Y5:40:LYS:NZ	1.75	0.99
32:Y8:62:LEU:HD13	34:YA:242:G:C5'	1.91	0.99
54:YZ:61:LEU:HB2	54:YZ:62:PRO:HD2	1.42	0.99
29:R5:32:PRO:HG3	29:R5:39:MET:HE1	1.41	0.99
41:YI:69:LYS:HA	41:YI:136:VAL:HG21	1.44	0.99
29:R5:58:LEU:CD1	29:R5:60:VAL:HG13	1.91	0.99
44:YP:125:VAL:O	44:YP:145:PRO:HD2	1.63	0.99
40:RH:163:TYR:HA	40:RH:167:GLU:OE2	1.62	0.99
44:YP:88:LEU:CD1	44:YP:95:VAL:HG11	1.93	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:652:C:H5"	34:RA:652:C:H6	1.28	0.98
41:RI:82:ARG:HH21	41:RI:146:ALA:CB	1.76	0.98
1:QA:262:A:C8	20:QT:74:LYS:NZ	2.31	0.98
35:RB:42:C:C2	39:RG:93:THR:HG22	1.98	0.98
29:Y5:55:ARG:CZ	46:YR:113:LEU:CD1	2.42	0.98
32:Y8:61:LEU:HD12	34:YA:593:G:H4'	1.45	0.98
37:YE:146:THR:HG1	37:YE:147:PRO:HD3	1.09	0.98
28:R4:59:PHE:CE1	28:R4:70:GLY:HA2	1.99	0.97
28:R4:42:PHE:CG	28:R4:43:TYR:N	2.29	0.97
1:QA:992:U:H5"	1:QA:992:U:C6	2.00	0.97
54:RZ:94:GLU:CB	54:RZ:95:PRO:CD	2.42	0.97
44:YP:125:VAL:CG2	44:YP:138:LEU:HD21	1.95	0.97
41:RI:92:VAL:CG2	41:RI:120:ILE:HG21	1.92	0.97
44:YP:88:LEU:HD11	44:YP:95:VAL:HG11	1.45	0.97
1:XA:826:C:H5'	8:XH:12:ARG:HH21	1.29	0.97
41:RI:92:VAL:HG22	41:RI:120:ILE:HG22	1.41	0.97
41:RI:123:LEU:HD13	41:RI:144:VAL:HG23	1.45	0.97
54:YZ:61:LEU:CB	54:YZ:62:PRO:CD	2.42	0.97
41:RI:83:ALA:O	41:RI:144:VAL:HG13	1.64	0.96
34:RA:906:G:H8	34:RA:906:G:H5"	1.30	0.96
45:RQ:67:ARG:HD3	45:RQ:105:GLU:OE1	1.65	0.96
53:YY:36:ALA:HB1	53:YY:67:LEU:O	1.64	0.96
28:Y4:18:CYS:SG	28:Y4:39:CYS:CB	2.54	0.96
54:YZ:28:MET:CE	54:YZ:61:LEU:HD21	1.96	0.96
4:XD:59:ARG:HA	4:XD:59:ARG:HE	1.29	0.96
29:Y5:40:LYS:HD3	29:Y5:46:CYS:HB3	1.45	0.96
34:RA:652:C:H5"	34:RA:652:C:C6	2.01	0.96
45:RQ:29:PHE:HB3	45:RQ:65:PHE:CD2	2.01	0.96
29:Y5:55:ARG:NH1	46:YR:113:LEU:HD13	1.79	0.96
47:YS:87:PHE:HE2	47:YS:98:VAL:CG1	1.77	0.96
30:R6:20:ASN:ND2	30:R6:42:TRP:CE2	2.32	0.95
44:RP:88:LEU:CD1	44:RP:95:VAL:HG11	1.96	0.95
41:RI:82:ARG:HH21	41:RI:146:ALA:HB3	0.81	0.95
32:Y8:62:LEU:HD13	34:YA:242:G:H3'	1.48	0.95
40:RH:41:MET:CE	40:RH:65:HIS:CA	2.43	0.95
36:YD:65:ILE:CD1	36:YD:88:ARG:CZ	2.45	0.95
29:Y5:55:ARG:HD3	46:YR:113:LEU:HD22	1.48	0.95
28:R4:42:PHE:CZ	28:R4:43:TYR:CB	2.49	0.94
28:Y4:39:CYS:N	28:Y4:41:PRO:HD2	1.82	0.94
2:QB:233:SER:CB	2:QB:234:PRO:HD2	1.97	0.94
34:YA:1786:A:C8	34:YA:1938:A:C6	2.56	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:233:SER:CB	2:QB:234:PRO:CD	2.42	0.93
39:RG:5:VAL:HG12	39:RG:8:LYS:CB	1.98	0.93
30:R6:8:LYS:HB2	30:R6:27:LYS:HB2	0.94	0.93
40:YH:163:TYR:CE2	40:YH:169:VAL:HG21	2.02	0.93
19:QS:63:THR:HG22	19:QS:66:MET:CE	1.98	0.93
41:RI:83:ALA:CA	41:RI:144:VAL:CG1	2.45	0.93
41:RI:123:LEU:CD1	41:RI:144:VAL:HG23	1.94	0.93
28:R4:59:PHE:CE1	28:R4:70:GLY:CA	2.51	0.93
36:YD:35:LYS:HB2	36:YD:36:PRO:HD2	0.96	0.93
29:Y5:40:LYS:CD	29:Y5:46:CYS:HB3	1.99	0.93
54:YZ:61:LEU:HD11	54:YZ:67:LEU:HD23	0.94	0.93
39:RG:5:VAL:CG1	39:RG:8:LYS:CB	2.47	0.93
1:XA:1228:C:O2'	13:XM:117:VAL:HG12	1.68	0.92
19:XS:5:LEU:HD11	28:Y4:66:SER:HA	1.51	0.92
54:YZ:7:ALA:CB	54:YZ:39:VAL:HG12	1.98	0.92
36:YD:35:LYS:HE2	36:YD:35:LYS:H	1.35	0.92
40:RH:41:MET:CE	40:RH:65:HIS:N	2.32	0.92
40:RH:41:MET:HE1	40:RH:65:HIS:HB2	1.51	0.92
28:Y4:40:HIS:N	28:Y4:41:PRO:CD	2.31	0.92
29:Y5:40:LYS:CD	29:Y5:46:CYS:CB	2.48	0.92
54:RZ:94:GLU:HB2	54:RZ:95:PRO:HD2	1.49	0.92
34:YA:2675:A:H5"	34:YA:2675:A:C8	2.04	0.92
12:QL:117:ARG:NE	12:QL:124:LYS:HA	1.85	0.91
41:RI:83:ALA:HA	41:RI:145:VAL:H	1.35	0.91
38:RF:45:ARG:HD3	38:RF:97:TYR:CD2	2.03	0.91
13:XM:10:PRO:HB2	13:XM:18:ALA:HB1	1.49	0.91
19:XS:10:PHE:HZ	19:XS:16:LEU:HD13	1.30	0.91
29:Y5:36:CYS:SG	29:Y5:49:CYS:O	2.29	0.91
32:R8:62:LEU:HD13	34:RA:242:G:H5"	1.52	0.91
54:YZ:59:LEU:HD12	54:YZ:67:LEU:HD11	1.50	0.91
29:R5:58:LEU:HD13	29:R5:60:VAL:HG12	0.94	0.91
5:XE:41:VAL:HG13	5:XE:113:ALA:HB2	1.51	0.91
28:Y4:18:CYS:CB	28:Y4:39:CYS:SG	2.58	0.91
30:Y6:21:TYR:HE1	30:Y6:52:VAL:HG13	1.36	0.91
36:YD:233:HIS:HE1	36:YD:247:ALA:H	1.12	0.91
35:RB:43:C:O2	39:RG:93:THR:HG21	1.69	0.91
47:YS:87:PHE:CE2	47:YS:98:VAL:CG1	2.54	0.91
19:XS:10:PHE:HZ	19:XS:16:LEU:CD1	1.84	0.90
37:RE:52:LEU:HB3	37:RE:54:GLN:HG3	1.54	0.90
36:YD:65:ILE:CD1	36:YD:88:ARG:NH1	2.34	0.90
37:YE:146:THR:OG1	37:YE:147:PRO:CD	2.19	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:YS:87:PHE:HE1	47:YS:101:LEU:HD12	1.36	0.90
44:YP:96:THR:HA	44:YP:126:VAL:HG23	1.53	0.90
12:QL:117:ARG:HH22	12:QL:124:LYS:HD3	1.30	0.90
30:R6:8:LYS:HD3	30:R6:27:LYS:HG3	1.53	0.90
40:RH:147:ASN:HA	40:RH:150:ALA:CB	2.02	0.90
32:Y8:62:LEU:H	32:Y8:63:PRO:HD3	1.36	0.90
36:RD:231:HIS:HE1	36:RD:233:HIS:ND1	1.70	0.89
54:YZ:28:MET:SD	54:YZ:61:LEU:HD21	2.12	0.89
13:QM:14:ARG:H	13:QM:44:ARG:HD3	1.35	0.89
29:R5:58:LEU:HD11	29:R5:60:VAL:HG13	1.53	0.89
1:QA:353:A:H5'	1:QA:353:A:C8	2.08	0.89
47:YS:87:PHE:CE2	47:YS:98:VAL:HG12	2.08	0.88
41:RI:82:ARG:NE	41:RI:82:ARG:HA	1.87	0.88
2:XB:15:VAL:HG21	2:XB:209:ARG:HG3	1.54	0.88
2:XB:74:LYS:HD2	2:XB:166:ASP:HB2	1.53	0.88
47:YS:87:PHE:HE2	47:YS:98:VAL:HG12	1.36	0.88
44:YP:121:LYS:O	44:YP:123:LEU:CD2	2.22	0.88
32:Y8:61:LEU:CD1	34:YA:593:G:O2'	2.22	0.88
30:R6:6:ARG:HG2	30:R6:6:ARG:HH11	1.37	0.88
39:RG:38:VAL:HG21	39:RG:91:ARG:CD	2.03	0.88
53:RY:76:CYS:CB	53:RY:77:PRO:CD	2.52	0.88
1:QA:991:U:O2'	1:QA:993:G:H8	1.55	0.87
2:QB:233:SER:HB3	2:QB:234:PRO:HD2	1.54	0.87
19:QS:40:ILE:HG23	19:QS:41:VAL:HG23	1.54	0.87
37:RE:36:ARG:HG2	37:RE:36:ARG:HH11	1.37	0.87
28:Y4:58:ARG:NH1	28:Y4:58:ARG:O	2.08	0.87
41:YI:66:GLU:O	41:YI:70:GLU:HG3	1.74	0.87
53:RY:4:LYS:HD2	53:RY:4:LYS:N	1.90	0.87
12:QL:117:ARG:HH21	12:QL:124:LYS:HB2	1.40	0.87
34:YA:1786:A:C8	34:YA:1938:A:C5	2.62	0.87
37:YE:35:GLN:HE21	37:YE:37:ARG:CZ	1.86	0.87
40:YH:97:ARG:HH12	40:YH:99:VAL:HG13	1.38	0.87
28:R4:42:PHE:CE2	28:R4:43:TYR:HB2	2.09	0.86
29:Y5:49:CYS:HA	29:Y5:56:LYS:HG3	1.55	0.86
38:RF:45:ARG:HD3	38:RF:97:TYR:CE2	2.10	0.86
37:RE:111:ARG:HB2	37:RE:160:TYR:HB3	1.58	0.86
12:QL:117:ARG:HG2	12:QL:117:ARG:HH11	1.39	0.86
30:Y6:21:TYR:CE1	30:Y6:52:VAL:CG1	2.58	0.86
40:RH:163:TYR:CA	40:RH:167:GLU:OE2	2.23	0.86
25:Y1:53:VAL:HB	25:Y1:58:ILE:HD13	1.56	0.86
44:YP:125:VAL:HG21	44:YP:138:LEU:CD2	2.04	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
21:XU:18:TYR:HD1	21:XU:24:ARG:NH1	1.73	0.86
45:RQ:25:ASP:OD2	54:RZ:78:LYS:HA	1.75	0.85
29:R5:56:LYS:HD2	29:R5:56:LYS:N	1.90	0.85
44:YP:121:LYS:C	44:YP:123:LEU:HD23	1.96	0.85
34:RA:2068:U:H3	34:RA:2430:A:H2	1.24	0.85
19:QS:10:PHE:CE2	19:QS:12:ASP:O	2.29	0.85
19:XS:10:PHE:HZ	19:XS:16:LEU:HD22	1.39	0.85
39:YG:44:GLY:O	39:YG:47:LYS:HG3	1.76	0.85
41:RI:83:ALA:HA	41:RI:144:VAL:HG13	1.49	0.85
41:YI:112:LYS:H	41:YI:112:LYS:HD2	1.42	0.85
54:RZ:94:GLU:CB	54:RZ:95:PRO:HD3	2.04	0.85
13:QM:10:PRO:HG2	13:QM:18:ALA:HB1	1.57	0.85
38:RF:45:ARG:CD	38:RF:97:TYR:CE2	2.60	0.85
30:R6:8:LYS:CD	30:R6:27:LYS:HG3	2.07	0.85
41:RI:5:LEU:HG	41:RI:9:LEU:HD21	1.58	0.85
34:YA:337:C:O2	34:YA:338:G:O4'	1.95	0.84
39:RG:5:VAL:HG12	39:RG:8:LYS:HB2	1.57	0.84
13:XM:10:PRO:CB	13:XM:18:ALA:HB1	2.05	0.84
19:XS:68:GLY:HA2	28:Y4:68:ARG:HG2	1.58	0.84
36:YD:35:LYS:HE2	36:YD:35:LYS:N	1.91	0.84
53:RY:76:CYS:HG	53:RY:77:PRO:HD3	1.05	0.84
2:XB:16:HIS:NE2	2:XB:213:LEU:HB3	1.93	0.84
5:XE:110:LEU:HB3	5:XE:115:VAL:CG1	2.07	0.84
45:RQ:34:LEU:HB2	45:RQ:118:LEU:HD12	1.58	0.84
34:YA:1103:A:H5'	34:YA:1104:C:H5	1.40	0.84
32:Y8:62:LEU:CD1	34:YA:242:G:H5"	2.03	0.84
44:YP:95:VAL:HG21	44:YP:123:LEU:HD12	1.58	0.84
1:QA:977:A:HO2'	1:QA:981:U:H3	1.25	0.84
1:XA:528:C:N4	12:XL:49:ASN:ND2	2.26	0.84
30:Y6:17:LYS:HB3	30:Y6:44:ARG:NH2	1.92	0.84
41:RI:92:VAL:CG2	41:RI:120:ILE:CG2	2.47	0.84
54:YZ:61:LEU:CD1	54:YZ:67:LEU:CD2	2.51	0.84
19:XS:10:PHE:CE1	19:XS:16:LEU:HB2	2.12	0.84
12:QL:117:ARG:HH21	12:QL:124:LYS:CB	1.89	0.84
28:R4:59:PHE:CE1	28:R4:70:GLY:C	2.51	0.84
39:YG:81:LYS:HE3	39:YG:81:LYS:H	1.42	0.84
53:YY:76:CYS:HB3	53:YY:96:ILE:CD1	2.07	0.84
19:XS:10:PHE:HZ	19:XS:16:LEU:CD2	1.90	0.83
29:Y5:40:LYS:CE	29:Y5:46:CYS:HB3	2.07	0.83
13:XM:10:PRO:HB2	13:XM:18:ALA:CB	2.07	0.83
31:Y7:49:ARG:HH12	34:YA:128:C:H4'	1.43	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:528:C:H41	12:XL:49:ASN:HD21	1.19	0.83
44:YP:95:VAL:CG2	44:YP:123:LEU:HD12	2.07	0.83
25:R1:56:GLN:OE1	25:R1:56:GLN:N	2.12	0.83
40:RH:147:ASN:CA	40:RH:150:ALA:HB2	2.08	0.83
19:XS:10:PHE:CZ	19:XS:16:LEU:CD2	2.60	0.83
26:R2:13:ALA:CA	26:R2:16:LEU:HD11	2.06	0.83
19:XS:10:PHE:HZ	19:XS:16:LEU:CG	1.92	0.83
54:YZ:61:LEU:HB3	54:YZ:62:PRO:CD	2.07	0.83
1:QA:255:G:H1'	17:QQ:16:GLN:HE21	1.43	0.83
29:R5:33:CYS:SG	29:R5:40:LYS:HD2	2.18	0.83
29:R5:55:ARG:HG2	46:RR:33:ARG:NH2	1.94	0.83
54:RZ:59:LEU:CD1	54:RZ:69:THR:OG1	2.26	0.83
25:R1:53:VAL:CG2	25:R1:58:ILE:HD12	2.08	0.83
40:RH:147:ASN:O	40:RH:150:ALA:CB	2.24	0.83
54:YZ:53:ILE:HG22	54:YZ:71:VAL:HG13	1.60	0.83
37:YE:143:ASN:CB	37:YE:147:PRO:HG2	2.07	0.83
1:QA:51:A:C6	1:QA:353:A:C2	2.67	0.83
36:YD:35:LYS:HA	36:YD:35:LYS:NZ	1.94	0.83
45:RQ:29:PHE:HB3	45:RQ:65:PHE:CE2	2.14	0.82
12:QL:84:LEU:HD22	12:QL:104:VAL:HG11	1.59	0.82
19:QS:19:VAL:CG1	19:QS:44:MET:CG	2.51	0.82
41:RI:83:ALA:HA	41:RI:144:VAL:HG12	1.60	0.82
19:QS:68:GLY:HA2	28:R4:68:ARG:CD	2.09	0.82
37:RE:36:ARG:HH21	37:RE:88:GLY:CA	1.93	0.82
44:YP:97:PRO:HD3	44:YP:126:VAL:O	1.78	0.82
35:YB:80:U:H2'	35:YB:81:G:H21	1.43	0.82
14:QN:9:LYS:HA	14:QN:12:ARG:HE	1.42	0.82
29:R5:32:PRO:CG	29:R5:39:MET:HE1	2.08	0.82
1:XA:949:A:OP1	13:XM:101:GLN:HB2	1.78	0.82
19:QS:10:PHE:CZ	19:QS:12:ASP:O	2.33	0.82
40:RH:41:MET:CE	40:RH:65:HIS:HA	2.05	0.82
4:XD:59:ARG:HA	4:XD:59:ARG:NE	1.95	0.82
12:QL:117:ARG:HE	12:QL:124:LYS:CA	1.91	0.82
25:R1:53:VAL:HG23	25:R1:58:ILE:HD12	1.59	0.82
30:Y6:21:TYR:HE1	30:Y6:52:VAL:CG1	1.93	0.82
28:R4:59:PHE:HE1	28:R4:70:GLY:C	1.82	0.82
35:RB:43:C:C2	39:RG:93:THR:HG21	2.14	0.82
12:XL:46:LYS:HG3	12:XL:92:ASP:O	1.80	0.82
34:RA:533:G:H21	49:RU:45:TYR:HD2	1.28	0.81
44:YP:125:VAL:HB	44:YP:144:GLU:CB	2.07	0.81
47:YS:15:ARG:HD3	47:YS:88:ASP:OD1	1.79	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Y8:62:LEU:CD1	34:YA:242:G:C3'	2.58	0.81
34:YA:676:A:H8	34:YA:2069:G:H21	1.28	0.81
19:QS:10:PHE:CE2	19:QS:12:ASP:CB	2.50	0.81
29:Y5:38:ALA:HB3	29:Y5:40:LYS:HZ1	1.41	0.81
19:QS:63:THR:HG22	19:QS:66:MET:HE2	1.62	0.81
39:RG:38:VAL:CG2	39:RG:91:ARG:HD2	2.07	0.81
41:RI:123:LEU:HD13	41:RI:144:VAL:CG2	2.04	0.81
30:Y6:21:TYR:CE1	30:Y6:52:VAL:HG11	2.14	0.81
32:Y8:62:LEU:N	32:Y8:63:PRO:CD	2.43	0.81
36:YD:43:ARG:NH1	36:YD:44:ASN:OD1	2.13	0.80
45:RQ:67:ARG:CD	45:RQ:105:GLU:OE1	2.30	0.80
28:Y4:67:TYR:HB3	28:Y4:69:LYS:HE3	1.60	0.80
32:Y8:61:LEU:CD1	34:YA:593:G:C4'	2.59	0.80
9:QI:9:ARG:HG2	9:QI:14:VAL:CG2	2.12	0.80
37:YE:52:LEU:HD12	37:YE:76:ARG:HH12	1.46	0.80
28:Y4:37:SER:CA	28:Y4:41:PRO:HG2	2.11	0.80
30:Y6:16:CYS:HB2	30:Y6:47:THR:HG21	1.63	0.80
37:YE:3:GLY:HA3	37:YE:81:ILE:HG13	1.61	0.80
19:QS:63:THR:HG22	19:QS:66:MET:HE1	1.63	0.80
19:QS:10:PHE:HE2	19:QS:12:ASP:CA	1.94	0.80
36:YD:168:ARG:HG3	36:YD:173:VAL:HG12	1.64	0.80
1:XA:664:G:H22	1:XA:741:G:H1	1.28	0.80
28:Y4:68:ARG:H	28:Y4:68:ARG:NE	1.78	0.80
29:Y5:40:LYS:HE2	29:Y5:46:CYS:HB3	1.64	0.80
32:Y8:61:LEU:HD13	34:YA:593:G:H4'	1.61	0.80
40:RH:149:ARG:HE	40:RH:154:PRO:HG2	1.47	0.79
39:RG:5:VAL:HG12	39:RG:8:LYS:H	1.45	0.79
36:YD:34:VAL:HG13	36:YD:35:LYS:HG2	1.64	0.79
19:QS:64:GLU:HB2	28:R4:55:ARG:HH21	1.47	0.79
37:YE:74:PRO:HG2	37:YE:77:ILE:HG23	1.64	0.79
51:RW:14:PRO:HG2	51:RW:78:GLU:HG2	1.63	0.79
28:Y4:37:SER:HB2	39:YG:112:PRO:HB3	1.62	0.79
32:Y8:61:LEU:HD13	34:YA:593:G:O3'	1.81	0.79
1:QA:991:U:H5"	1:QA:991:U:H6	1.48	0.79
34:RA:906:G:H5"	34:RA:906:G:C8	2.18	0.79
28:R4:55:ARG:NH1	28:R4:55:ARG:O	2.16	0.79
34:RA:1061:U:H5'	34:RA:1070:A:H1'	1.64	0.79
54:YZ:28:MET:CE	54:YZ:61:LEU:CD2	2.61	0.79
3:QC:47:LEU:HD21	3:QC:76:VAL:HG12	1.65	0.79
54:YZ:4:ARG:HG2	54:YZ:58:VAL:HB	1.64	0.79
46:RR:59:ASP:HB2	46:RR:62:ALA:H	1.48	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YI:131:LYS:NZ	41:YI:131:LYS:HB2	1.98	0.78
1:QA:677:U:H3	1:QA:713:G:H22	1.31	0.78
36:YD:65:ILE:HD12	36:YD:88:ARG:CZ	2.13	0.78
37:YE:78:LEU:O	37:YE:78:LEU:HD23	1.84	0.78
53:YY:76:CYS:CB	53:YY:96:ILE:HD13	2.10	0.78
54:RZ:99:TYR:HB3	54:RZ:123:ASP:HB2	1.64	0.78
2:XB:167:PRO:HB3	2:XB:196:LEU:HD11	1.63	0.78
44:YP:121:LYS:HB3	44:YP:123:LEU:HD21	1.65	0.78
38:RF:46:ARG:HG2	38:RF:46:ARG:HH11	1.49	0.78
42:RN:8:GLN:NE2	42:RN:8:GLN:O	2.16	0.78
44:RP:138:LEU:HD11	44:RP:144:GLU:HB3	1.65	0.78
1:QA:1316:G:C5'	14:QN:17:LYS:HZ1	1.91	0.78
34:YA:2701:C:H3'	34:YA:2702:U:H5"	1.64	0.78
39:YG:5:VAL:CG1	39:YG:100:TRP:HB3	2.14	0.78
54:YZ:95:PRO:HG2	54:YZ:127:LYS:HE3	1.66	0.78
2:XB:71:VAL:HB	2:XB:164:VAL:HG12	1.65	0.78
42:YN:58:ASP:OD1	42:YN:58:ASP:N	2.17	0.78
1:QA:1297:C:H3'	13:QM:13:LYS:HE2	1.64	0.78
1:XA:353:A:H5'	1:XA:353:A:H8	1.49	0.78
40:RH:88:LEU:HA	40:RH:130:ARG:HA	1.66	0.78
36:YD:33:LEU:O	36:YD:33:LEU:HD22	1.83	0.78
36:YD:218:ARG:HG2	36:YD:219:PRO:HD2	1.66	0.78
40:YH:124:GLU:HG2	40:YH:126:PRO:HD3	1.66	0.78
54:YZ:7:ALA:HB2	54:YZ:39:VAL:HG12	1.66	0.78
19:QS:68:GLY:HA2	28:R4:68:ARG:HD3	1.64	0.77
39:RG:5:VAL:HG11	39:RG:8:LYS:HE3	1.66	0.77
54:RZ:108:PRO:HA	54:RZ:142:SER:HA	1.65	0.77
9:XI:42:ARG:HH21	9:XI:71:SER:HB2	1.48	0.77
41:YI:130:TYR:HE2	41:YI:132:PRO:HG3	1.44	0.77
54:YZ:91:LEU:HD12	54:YZ:130:PRO:HB3	1.66	0.77
1:QA:262:A:O4'	20:QT:74:LYS:HE3	1.84	0.77
40:RH:41:MET:HE3	40:RH:65:HIS:N	1.94	0.77
41:YI:8:PRO:HA	41:YI:14:ASP:HB3	1.66	0.77
29:Y5:55:ARG:NE	46:YR:113:LEU:CD1	2.47	0.77
2:QB:87:ARG:HD3	2:QB:234:PRO:HG2	1.66	0.77
30:Y6:15:GLU:HB3	30:Y6:20:ASN:OD1	1.84	0.77
40:YH:6:ARG:HD2	40:YH:65:HIS:HB3	1.67	0.77
45:YQ:136:ALA:HB1	54:YZ:52:SER:HB2	1.65	0.77
54:YZ:61:LEU:HD21	54:YZ:67:LEU:CD2	2.14	0.77
19:QS:19:VAL:CG2	19:QS:44:MET:HG3	2.15	0.77
1:XA:677:U:H3	1:XA:713:G:H22	1.31	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:11:LEU:O	2:XB:16:HIS:HD2	1.67	0.77
39:YG:84:LYS:HA	39:YG:84:LYS:CE	2.05	0.77
54:YZ:28:MET:SD	54:YZ:67:LEU:HD21	2.24	0.77
2:QB:178:ARG:HH22	8:QH:74:PRO:HB3	1.48	0.77
13:QM:9:ILE:H	13:QM:9:ILE:HD12	1.49	0.77
1:QA:1297:C:O5'	13:QM:13:LYS:HE2	1.85	0.77
36:YD:237:GLU:OE1	36:YD:237:GLU:HA	1.85	0.77
50:YV:60:GLU:HB2	50:YV:97:LYS:HE3	1.67	0.77
18:XR:86:VAL:HG12	18:XR:87:ARG:HG2	1.67	0.77
20:XT:57:ARG:HH12	20:XT:100:ILE:HG12	1.49	0.77
47:YS:88:ASP:C	47:YS:90:GLY:H	1.88	0.77
12:QL:117:ARG:HH21	12:QL:124:LYS:HD3	1.48	0.77
30:R6:6:ARG:HG2	30:R6:6:ARG:NH1	1.97	0.77
34:YA:2636:U:P	37:YE:79:ARG:HA	2.24	0.77
54:YZ:67:LEU:O	54:YZ:67:LEU:CD1	2.31	0.76
37:RE:52:LEU:O	37:RE:74:PRO:HA	1.84	0.76
42:RN:10:GLU:OE1	42:RN:10:GLU:HA	1.84	0.76
29:Y5:38:ALA:HB3	29:Y5:40:LYS:HZ2	1.46	0.76
36:YD:65:ILE:HD12	36:YD:88:ARG:NH1	1.99	0.76
54:YZ:61:LEU:CD2	54:YZ:67:LEU:HD21	2.14	0.76
26:R2:46:GLN:OE1	26:R2:46:GLN:HA	1.83	0.76
47:YS:85:VAL:HG22	47:YS:110:LEU:HG	1.67	0.76
19:QS:19:VAL:HG13	19:QS:44:MET:HG3	1.65	0.76
41:RI:83:ALA:CA	41:RI:145:VAL:H	1.98	0.76
21:XU:18:TYR:CE1	21:XU:24:ARG:NH1	2.52	0.76
41:YI:69:LYS:HG3	41:YI:136:VAL:HG23	1.68	0.76
13:QM:84:ILE:O	19:QS:74:PHE:CE1	2.39	0.76
2:XB:17:PHE:HB3	2:XB:44:LEU:HD21	1.68	0.76
30:Y6:8:LYS:HB2	30:Y6:27:LYS:HB3	1.67	0.76
47:YS:87:PHE:CE1	47:YS:101:LEU:HD12	2.21	0.76
36:YD:65:ILE:HD13	36:YD:88:ARG:CZ	2.14	0.76
54:YZ:28:MET:SD	54:YZ:67:LEU:CD2	2.74	0.76
21:XU:15:ARG:HB3	21:XU:17:THR:HG23	1.66	0.76
1:QA:606:G:H22	1:QA:631:G:H5'	1.50	0.76
41:RI:83:ALA:HA	41:RI:145:VAL:N	1.99	0.76
32:Y8:62:LEU:HD13	34:YA:242:G:C3'	2.15	0.76
1:XA:1286:A:H5"	21:XU:26:LYS:HD2	1.65	0.76
36:YD:233:HIS:HD2	36:YD:242:ARG:CB	1.91	0.76
37:YE:37:ARG:HD3	37:YE:42:ASP:OD1	1.86	0.76
47:YS:41:ASP:HB2	47:YS:48:LEU:HD11	1.67	0.76
38:RF:46:ARG:HG2	38:RF:46:ARG:NH1	2.00	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:10:PHE:CD2	19:QS:12:ASP:HB2	2.20	0.75
40:RH:26:VAL:HG11	40:RH:75:ALA:HB1	1.68	0.75
28:Y4:18:CYS:HG	28:Y4:39:CYS:HB2	1.51	0.75
34:RA:2287:A:H62	34:RA:2344:U:H3	1.32	0.75
1:XA:1178:G:H5"	9:XI:93:ARG:HH22	1.52	0.75
34:YA:327:G:N2	34:YA:336:C:C2	2.55	0.75
29:Y5:55:ARG:HD3	46:YR:113:LEU:CD2	2.15	0.75
26:R2:41:ILE:HD12	26:R2:43:GLN:H	1.52	0.75
53:RY:76:CYS:HB3	53:RY:77:PRO:HD2	1.66	0.75
28:Y4:39:CYS:O	28:Y4:40:HIS:HB2	1.86	0.75
28:Y4:56:VAL:HA	28:Y4:60:GLN:HB3	1.69	0.75
54:YZ:9:TYR:HE2	54:YZ:61:LEU:HD22	1.50	0.75
2:QB:80:ILE:HD11	2:QB:208:ILE:HG23	1.69	0.75
1:QA:51:A:C5	1:QA:353:A:C2	2.75	0.75
36:RD:233:HIS:CE1	36:RD:247:ALA:H	2.05	0.75
2:XB:87:ARG:HD3	2:XB:231:GLU:HG2	1.68	0.75
30:Y6:17:LYS:HB3	30:Y6:44:ARG:HH21	1.50	0.75
54:YZ:61:LEU:HB2	54:YZ:62:PRO:CD	2.13	0.75
40:RH:41:MET:HE1	40:RH:65:HIS:CB	2.17	0.74
1:QA:1296:C:H4'	13:QM:14:ARG:HH12	1.51	0.74
30:R6:8:LYS:HE2	34:RA:2284:C:OP2	1.86	0.74
44:RP:84:ASN:OD1	44:RP:116:GLY:CA	2.35	0.74
1:XA:51:A:C6	1:XA:353:A:C2	2.75	0.74
30:Y6:14:THR:HG22	30:Y6:52:VAL:HB	1.69	0.74
2:QB:86:GLU:HG3	2:QB:92:TYR:HE2	1.51	0.74
39:RG:91:ARG:NH1	39:RG:93:THR:HB	2.02	0.74
19:XS:40:ILE:HG23	19:XS:41:VAL:HG13	1.70	0.74
24:R0:10:THR:HG22	24:R0:12:ASN:H	1.51	0.74
44:RP:88:LEU:HD12	44:RP:95:VAL:HG11	1.68	0.74
34:YA:327:G:C2	34:YA:336:C:N3	2.55	0.74
40:YH:153:LYS:HB3	40:YH:162:ILE:H	1.50	0.74
28:R4:42:PHE:CE2	28:R4:43:TYR:CB	2.69	0.74
39:RG:10:LYS:NZ	39:RG:175:LEU:O	2.20	0.74
54:RZ:94:GLU:C	54:RZ:130:PRO:HD3	2.07	0.74
28:Y4:39:CYS:SG	28:Y4:41:PRO:CG	2.75	0.74
32:Y8:62:LEU:H	32:Y8:63:PRO:HD2	1.53	0.74
26:R2:13:ALA:O	26:R2:16:LEU:HD12	1.88	0.74
19:QS:19:VAL:HG21	19:QS:44:MET:CG	2.17	0.74
29:R5:55:ARG:HG2	46:RR:33:ARG:HH21	1.53	0.74
28:Y4:39:CYS:N	28:Y4:41:PRO:CD	2.50	0.74
34:YA:888:C:H3'	34:YA:889:C:H4'	1.69	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:991:U:O2'	1:QA:993:G:C8	2.34	0.73
7:QG:22:LEU:HD13	7:QG:97:GLN:HE21	1.51	0.73
37:RE:54:GLN:HB2	37:RE:75:VAL:CG2	2.18	0.73
1:XA:1151:A:O2'	10:XJ:70:ARG:NH2	2.21	0.73
34:YA:819:A:OP2	34:YA:1187:G:N2	2.21	0.73
34:YA:1021:A:H61	34:YA:1142(A):A:H61	1.36	0.73
44:YP:59:LEU:HA	44:YP:61:ARG:HH21	1.51	0.73
29:R5:4:HIS:HA	34:RA:2056:G:H22	1.54	0.73
34:RA:906:G:H8	34:RA:906:G:C5'	2.00	0.73
54:RZ:53:ILE:O	54:RZ:70:LEU:HD21	1.87	0.73
38:YF:198:ALA:O	38:YF:201:VAL:HB	1.88	0.73
36:RD:27:THR:HG21	36:RD:81:ALA:HB1	1.69	0.73
28:Y4:39:CYS:H	28:Y4:41:PRO:HD2	1.50	0.73
1:QA:962:C:H1'	1:QA:1201:A:N6	2.03	0.73
44:RP:58:THR:O	44:RP:61:ARG:NH2	2.21	0.73
2:XB:16:HIS:CD2	2:XB:213:LEU:HD23	2.23	0.73
30:Y6:15:GLU:HG3	30:Y6:16:CYS:H	1.52	0.73
34:YA:2086:U:OP2	36:YD:263:ARG:NH1	2.20	0.73
54:YZ:67:LEU:HD13	54:YZ:90:VAL:HG22	1.68	0.73
1:QA:237:C:H5"	17:QQ:25:ARG:HH12	1.53	0.73
30:R6:8:LYS:CE	34:RA:2284:C:OP2	2.36	0.73
39:RG:16:ARG:NH2	39:RG:28:VAL:O	2.20	0.73
30:Y6:17:LYS:HA	30:Y6:17:LYS:CE	2.17	0.73
1:QA:1310:G:OP2	13:QM:88:ARG:NH2	2.21	0.73
3:QC:172:ARG:HD2	3:QC:174:PRO:HD3	1.69	0.73
19:QS:47:HIS:HB2	19:QS:62:ILE:HD11	1.70	0.73
37:RE:78:LEU:HD23	37:RE:79:ARG:HG2	1.69	0.73
39:RG:64:THR:HG23	39:RG:66:GLN:H	1.53	0.73
21:XU:18:TYR:HD1	21:XU:24:ARG:CZ	2.01	0.73
41:YI:131:LYS:HB2	41:YI:131:LYS:HZ3	1.52	0.73
12:XL:86:ARG:HB3	12:XL:101:VAL:HG22	1.71	0.73
33:Y9:30:PRO:HB2	34:YA:2527:C:H5"	1.70	0.73
53:RY:76:CYS:SG	53:RY:77:PRO:HD2	2.27	0.73
9:XI:112:LYS:HA	9:XI:119:ALA:HB2	1.71	0.73
30:Y6:12:GLU:HB3	30:Y6:21:TYR:HD1	1.52	0.73
44:YP:95:VAL:HG21	44:YP:123:LEU:CD1	2.18	0.73
44:YP:125:VAL:O	44:YP:145:PRO:CD	2.36	0.73
1:XA:1502:A:H2	1:XA:1505:G:H1	1.36	0.73
2:XB:16:HIS:NE2	2:XB:213:LEU:CD2	2.50	0.73
34:YA:337:C:O2	34:YA:338:G:C1'	2.37	0.73
37:YE:76:ARG:HD3	37:YE:195:LEU:HD22	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R1:85:LEU:HD12	25:R1:88:LYS:HE3	1.71	0.72
30:Y6:17:LYS:HA	30:Y6:17:LYS:HZ2	1.51	0.72
33:R9:30:PRO:HB2	34:RA:2527:C:H5"	1.70	0.72
34:RA:265:A:N6	34:RA:427:U:O2'	2.23	0.72
29:Y5:47:PRO:HG2	29:Y5:48:GLU:OE1	1.88	0.72
1:QA:262:A:H8	20:QT:74:LYS:NZ	1.84	0.72
21:XU:3:LYS:O	21:XU:15:ARG:NH1	2.23	0.72
29:Y5:2:ALA:HA	34:YA:2015:A:H1'	1.69	0.72
34:YA:443:A:H3'	38:YF:45:ARG:HH12	1.53	0.72
20:QT:54:LYS:HA	20:QT:57:ARG:HE	1.54	0.72
29:R5:32:PRO:HG3	29:R5:39:MET:CE	2.18	0.72
30:R6:18:ARG:HH12	34:RA:2401:U:H5'	1.53	0.72
37:YE:201:THR:HG22	37:YE:203:LYS:H	1.54	0.72
16:XP:38:TYR:HE1	16:XP:50:LYS:HB3	1.53	0.72
47:YS:15:ARG:CD	47:YS:88:ASP:OD1	2.37	0.72
3:QC:16:ARG:NH2	3:QC:183:ASP:OD1	2.22	0.72
13:QM:9:ILE:HG21	13:QM:11:ARG:HH21	1.53	0.72
54:RZ:7:ALA:O	54:RZ:62:PRO:HD3	1.88	0.72
29:Y5:4:HIS:HA	34:YA:2056:G:H22	1.53	0.72
34:YA:1826:G:H4'	36:YD:242:ARG:HH21	1.53	0.72
13:QM:9:ILE:HD12	13:QM:9:ILE:N	2.05	0.72
34:RA:96:G:H5"	34:RA:96:G:H8	1.54	0.72
36:RD:233:HIS:HE2	36:RD:246:PRO:HA	1.53	0.72
28:Y4:40:HIS:N	28:Y4:41:PRO:HD2	2.03	0.72
30:Y6:12:GLU:HB3	30:Y6:21:TYR:CD1	2.24	0.72
5:QE:102:ALA:HB1	5:QE:106:PRO:HG2	1.72	0.72
46:RR:3:HIS:O	46:RR:5:LYS:N	2.23	0.72
34:YA:662:G:OP1	44:YP:15:ARG:NH1	2.23	0.72
36:YD:233:HIS:HE1	36:YD:247:ALA:N	1.86	0.72
39:YG:5:VAL:CG1	39:YG:100:TRP:CB	2.68	0.72
41:YI:133:HIS:HB2	41:YI:134:PRO:CD	2.16	0.72
1:QA:1004:A:H1'	1:QA:1036:G:H22	1.55	0.71
34:RA:2785:C:O2	37:RE:64:LYS:HD3	1.90	0.71
40:YH:40:GLU:OE1	40:YH:40:GLU:N	2.16	0.71
16:QP:4:ILE:HG12	16:QP:21:VAL:HG12	1.71	0.71
14:XN:6:LEU:HB3	14:XN:23:ARG:HH22	1.55	0.71
34:YA:2287:A:H62	34:YA:2344:U:H3	1.35	0.71
36:YD:253:GLN:HB2	36:YD:257:LEU:HD23	1.71	0.71
39:YG:60:LEU:HD22	39:YG:68:PRO:HB3	1.72	0.71
4:QD:81:GLU:OE2	4:QD:139:ARG:NH1	2.23	0.71
4:QD:187:ARG:NH2	4:QD:193:ASP:OD2	2.24	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:RD:148:GLU:HB2	36:RD:151:LYS:HD2	1.73	0.71
39:RG:109:VAL:HG11	39:RG:142:PRO:HB3	1.73	0.71
40:RH:149:ARG:NE	40:RH:154:PRO:HG2	2.05	0.71
2:XB:185:ILE:HG22	2:XB:199:TYR:HB2	1.72	0.71
40:YH:41:MET:HA	40:YH:55:PRO:HD3	1.71	0.71
53:YY:36:ALA:CB	53:YY:67:LEU:O	2.37	0.71
13:QM:52:GLU:HG2	13:QM:55:ARG:HH21	1.55	0.71
34:RA:442:G:H1'	38:RF:48:THR:HG21	1.71	0.71
38:RF:133:ASN:O	38:RF:135:LYS:N	2.23	0.71
1:XA:446:G:H1	1:XA:488:C:H42	1.36	0.71
2:XB:88:ALA:HB2	2:XB:219:VAL:HG13	1.72	0.71
19:XS:10:PHE:HE1	19:XS:16:LEU:HB2	1.55	0.71
34:YA:2166:G:N2	34:YA:2168:G:N7	2.37	0.71
39:RG:181:ARG:HG2	39:RG:182:LYS:HG2	1.72	0.71
28:Y4:16:CYS:SG	28:Y4:18:CYS:HB3	2.30	0.71
39:YG:81:LYS:HE3	39:YG:81:LYS:N	2.06	0.71
48:YT:36:GLU:HG3	48:YT:41:ARG:HE	1.55	0.71
14:QN:3:ARG:O	14:QN:7:ILE:HG23	1.91	0.71
1:XA:674:G:H2'	1:XA:675:A:H8	1.56	0.71
1:XA:1422:G:H5"	43:YO:48:PRO:HB3	1.72	0.71
34:YA:2572:A:OP2	37:YE:146:THR:HG23	1.90	0.71
9:QI:36:TYR:OH	9:QI:73:GLN:NE2	2.24	0.71
29:Y5:55:ARG:NE	46:YR:113:LEU:HD13	2.05	0.71
48:YT:98:LYS:HB3	48:YT:100:TYR:HE1	1.56	0.71
34:RA:2773:C:H5"	37:RE:164:ARG:HG3	1.72	0.71
36:RD:62:TYR:HA	36:RD:87:ASN:HD21	1.54	0.71
1:QA:254:G:H5"	17:QQ:69:LYS:HD2	1.73	0.70
13:QM:40:ASN:HB3	13:QM:43:THR:HG23	1.73	0.70
14:QN:13:THR:N	14:QN:14:PRO:CD	2.53	0.70
28:R4:9:LEU:HD13	39:RG:65:GLY:HA3	1.73	0.70
34:RA:2786:U:O4'	37:RE:64:LYS:HG2	1.90	0.70
48:RT:62:THR:HG22	48:RT:75:ILE:HG12	1.71	0.70
42:YN:7:LYS:HG2	42:YN:8:GLN:N	2.03	0.70
54:YZ:67:LEU:HD12	54:YZ:69:THR:HG23	1.73	0.70
1:QA:674:G:H2'	1:QA:675:A:H8	1.55	0.70
1:QA:963:G:N3	10:QJ:55:LYS:NZ	2.38	0.70
21:XU:18:TYR:CD1	21:XU:24:ARG:CZ	2.74	0.70
28:Y4:39:CYS:O	28:Y4:41:PRO:HD3	1.90	0.70
30:Y6:6:ARG:CZ	30:Y6:6:ARG:HA	2.21	0.70
48:RT:51:ARG:HG2	48:RT:98:LYS:HE2	1.73	0.70
29:Y5:45:VAL:HG12	29:Y5:57:VAL:HG23	1.73	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:39:PRO:HB2	4:QD:44:GLY:HA3	1.72	0.70
44:YP:96:THR:HG22	44:YP:126:VAL:HG21	0.86	0.70
2:QB:188:ALA:HB2	2:QB:200:ILE:HG22	1.74	0.70
28:R4:23:GLU:HG3	39:RG:6:ALA:HB2	1.74	0.70
3:XC:76:VAL:HG21	3:XC:103:VAL:HG21	1.73	0.70
51:YW:83:LYS:HE2	51:YW:97:LYS:HE2	1.72	0.70
54:RZ:59:LEU:CD2	54:RZ:88:PHE:CD2	2.75	0.70
2:XB:220:ASP:HA	2:XB:223:ILE:HD12	1.73	0.70
41:YI:123:LEU:HA	41:YI:142:VAL:HG21	1.74	0.70
47:YS:23:ARG:HD3	47:YS:85:VAL:O	1.91	0.70
54:YZ:28:MET:HE1	54:YZ:61:LEU:HD21	1.71	0.70
39:RG:38:VAL:CG2	39:RG:91:ARG:CG	2.70	0.70
41:RI:90:GLY:O	41:RI:121:LYS:HE2	1.90	0.70
1:XA:880:C:OP1	12:XL:12:ARG:NH1	2.25	0.70
41:YI:112:LYS:H	41:YI:112:LYS:CD	2.04	0.70
12:QL:117:ARG:HH21	12:QL:124:LYS:CD	2.01	0.70
34:YA:141:A:H8	34:YA:1595:G:H21	1.38	0.70
54:YZ:9:TYR:CE2	54:YZ:61:LEU:HD22	2.27	0.70
28:R4:63:TYR:HD1	28:R4:68:ARG:HE	1.39	0.70
34:RA:1689:A:H62	34:RA:1698:A:H2	1.40	0.70
34:YA:2068:U:H3	34:YA:2430:A:H2	1.40	0.70
39:YG:76:SER:OG	39:YG:83:ARG:HA	1.92	0.70
54:YZ:7:ALA:CA	54:YZ:39:VAL:HG12	2.21	0.70
22:XV:63:U:H5"	24:Y0:11:ARG:HH22	1.55	0.70
19:QS:10:PHE:CE2	19:QS:12:ASP:CA	2.74	0.69
19:QS:10:PHE:HB2	19:QS:38:SER:HA	1.74	0.69
41:RI:86:THR:HG23	41:RI:122:GLU:OE2	1.92	0.69
54:YZ:29:TYR:HE1	54:YZ:87:ASP:HB3	1.55	0.69
40:RH:151:ILE:HD13	40:RH:151:ILE:N	2.07	0.69
49:RU:91:ASP:HA	49:RU:95:LEU:HB2	1.74	0.69
17:XQ:66:SER:O	17:XQ:70:ARG:NH1	2.25	0.69
41:YI:133:HIS:CB	41:YI:134:PRO:HD3	2.16	0.69
44:YP:121:LYS:HB3	44:YP:123:LEU:CD2	2.22	0.69
26:R2:50:ILE:N	26:R2:50:ILE:HD12	2.06	0.69
19:XS:41:VAL:HG21	19:XS:67:VAL:HG22	1.72	0.69
19:XS:41:VAL:HB	19:XS:42:PRO:HA	1.74	0.69
37:YE:55:ASN:OD1	37:YE:58:ARG:NH2	2.25	0.69
40:YH:149:ARG:NH2	40:YH:167:GLU:OE2	2.25	0.69
54:YZ:67:LEU:CD1	54:YZ:69:THR:CG2	2.70	0.69
19:QS:66:MET:SD	19:QS:74:PHE:CZ	2.85	0.69
53:RY:76:CYS:CB	53:RY:77:PRO:HD2	2.20	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:XS:3:ARG:HG2	28:Y4:67:TYR:OH	1.90	0.69
42:YN:111:PRO:HA	42:YN:114:ARG:HD3	1.73	0.69
37:RE:201:THR:HG22	37:RE:203:LYS:H	1.58	0.69
50:RV:1:MET:SD	50:RV:43:GLU:HB2	2.32	0.69
1:XA:112:G:N2	1:XA:330:C:C5	2.59	0.69
1:XA:993:G:H2'	1:XA:993:G:N3	2.06	0.69
30:Y6:21:TYR:CE1	30:Y6:52:VAL:HG13	2.22	0.69
1:QA:51:A:C6	1:QA:353:A:H2	2.08	0.69
1:QA:954:G:H21	1:QA:1227:A:H62	1.39	0.69
1:QA:1329:A:N7	21:QU:7:ARG:NH2	2.39	0.69
3:QC:21:ARG:HB2	3:QC:58:GLU:HG2	1.74	0.69
30:R6:41:PRO:HD2	30:R6:46:HIS:H	1.58	0.69
34:RA:2701:C:H3'	34:RA:2702:U:H5"	1.74	0.69
36:RD:24:ILE:HD11	36:RD:91:ARG:HD2	1.75	0.69
40:RH:149:ARG:HG3	40:RH:154:PRO:HG2	1.73	0.69
46:RR:96:ARG:HH21	46:RR:117:VAL:HG23	1.57	0.69
40:RH:28:GLY:HA3	40:RH:79:VAL:HB	1.74	0.69
28:Y4:39:CYS:HG	28:Y4:41:PRO:HG3	1.56	0.69
30:Y6:6:ARG:HA	30:Y6:6:ARG:NE	2.07	0.69
34:YA:2882:A:OP1	46:YR:96:ARG:HD3	1.93	0.69
9:QI:19:LEU:HD23	9:QI:61:ALA:HB2	1.73	0.69
28:R4:18:CYS:HB2	28:R4:39:CYS:SG	2.33	0.69
32:R8:63:PRO:O	32:R8:64:TYR:CD2	2.46	0.69
47:YS:88:ASP:O	47:YS:90:GLY:N	2.26	0.69
19:QS:50:ALA:HB1	19:QS:57:HIS:HB3	1.75	0.69
40:RH:41:MET:HE1	40:RH:65:HIS:CA	2.22	0.69
44:RP:52:GLU:HG3	44:RP:57:THR:HA	1.74	0.69
36:YD:35:LYS:CB	36:YD:36:PRO:CD	2.56	0.69
3:QC:164:ARG:NH1	3:QC:166:GLU:OE1	2.26	0.69
36:RD:151:LYS:O	36:RD:154:LYS:NZ	2.26	0.69
2:XB:12:GLU:O	2:XB:16:HIS:HB2	1.93	0.69
34:YA:2119:A:H61	34:YA:2168:G:H22	1.40	0.69
34:YA:2729:G:H1'	37:YE:187:ALA:HB2	1.75	0.69
41:RI:78:THR:O	41:RI:104:GLN:NE2	2.25	0.68
1:XA:953:G:N7	13:XM:104:ARG:NH2	2.41	0.68
5:XE:98:THR:HB	5:XE:117:ASP:HB3	1.74	0.68
9:XI:121:ARG:NH1	9:XI:122:ALA:O	2.25	0.68
54:YZ:59:LEU:HD12	54:YZ:69:THR:HG21	1.75	0.68
1:QA:345:C:H3'	48:RT:41:ARG:HH12	1.56	0.68
13:QM:84:ILE:HG13	19:QS:66:MET:HG2	1.74	0.68
19:QS:19:VAL:CG2	19:QS:44:MET:SD	2.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:353:A:H8	1:XA:353:A:C5'	2.04	0.68
1:XA:689:C:H3'	1:XA:690:G:H21	1.58	0.68
2:XB:112:VAL:HG11	2:XB:153:ARG:HA	1.75	0.68
32:Y8:61:LEU:CD1	34:YA:593:G:C3'	2.71	0.68
34:YA:1993:U:H4'	37:YE:128:SER:HB2	1.74	0.68
44:RP:100:LEU:HB3	44:RP:106:LEU:HB2	1.75	0.68
4:XD:81:GLU:OE2	4:XD:139:ARG:NH1	2.26	0.68
36:YD:61:LEU:O	36:YD:63:ARG:NH2	2.24	0.68
37:YE:181:LEU:HD21	48:YT:7:ILE:HD12	1.74	0.68
26:R2:13:ALA:C	26:R2:16:LEU:HD12	2.14	0.68
30:R6:13:CYS:HB2	30:R6:22:ALA:HB3	1.74	0.68
34:RA:617:G:O2'	38:RF:205:ARG:NH2	2.23	0.68
34:RA:2133:G:H1'	34:RA:2158:A:H61	1.58	0.68
30:Y6:24:GLU:OE2	34:YA:2286:A:N6	2.26	0.68
4:QD:68:TYR:HA	4:QD:114:ARG:HH11	1.58	0.68
34:RA:1816:G:H8	36:RD:62:TYR:CE2	2.11	0.68
35:RB:116:G:H4'	47:RS:54:LEU:HD22	1.74	0.68
38:RF:45:ARG:CD	38:RF:97:TYR:CG	2.66	0.68
2:XB:5:ILE:HG12	2:XB:221:LEU:HD23	1.73	0.68
54:YZ:53:ILE:C	54:YZ:53:ILE:HD12	2.14	0.68
4:QD:88:VAL:HG12	5:QE:97:GLY:HA3	1.74	0.68
34:RA:1816:G:H3'	36:RD:62:TYR:HE2	1.58	0.68
54:RZ:94:GLU:HA	54:RZ:130:PRO:HD2	1.74	0.68
35:YB:11:C:O2	35:YB:109:G:N2	2.23	0.68
29:R5:29:THR:HG21	34:RA:2815:C:H5'	1.75	0.68
30:R6:28:ARG:HG3	30:R6:30:THR:H	1.59	0.68
34:RA:530:G:O2'	34:RA:532:A:N7	2.27	0.68
41:RI:86:THR:O	41:RI:122:GLU:HB3	1.94	0.68
4:XD:172:PRO:HB2	4:XD:187:ARG:HH21	1.58	0.68
28:Y4:39:CYS:H	28:Y4:41:PRO:CD	2.05	0.68
34:YA:958:U:OP2	45:YQ:14:ARG:NH1	2.27	0.68
54:YZ:61:LEU:HB3	54:YZ:62:PRO:HD2	1.67	0.68
1:QA:34:C:H2'	1:QA:35:G:H8	1.59	0.68
49:RU:44:ASN:HD21	50:RV:75:PHE:HB3	1.59	0.68
2:XB:16:HIS:CE1	2:XB:214:ILE:HG13	2.28	0.68
34:YA:1153:C:H5'	49:YU:76:TYR:HE2	1.59	0.68
36:YD:79:VAL:HG22	36:YD:95:LEU:HD22	1.76	0.68
54:YZ:7:ALA:HA	54:YZ:39:VAL:HG12	1.75	0.68
30:R6:13:CYS:O	30:R6:21:TYR:HA	1.94	0.68
34:RA:297:C:H5"	53:RY:85:VAL:HG21	1.76	0.68
19:XS:10:PHE:CZ	19:XS:16:LEU:HB2	2.29	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YD:184:LYS:HG3	36:YD:271:ILE:HD11	1.76	0.68
4:QD:64:LEU:HB2	4:QD:198:VAL:HG11	1.76	0.67
54:RZ:59:LEU:HD11	54:RZ:69:THR:CB	2.24	0.67
2:XB:8:LYS:HD3	2:XB:11:LEU:HD23	1.75	0.67
2:XB:80:ILE:HD11	2:XB:208:ILE:HG23	1.76	0.67
34:YA:1403:C:H5"	34:YA:1471:A:H1'	1.76	0.67
14:QN:13:THR:N	14:QN:14:PRO:HD2	2.10	0.67
32:R8:30:ARG:HE	44:RP:62:LEU:HD12	1.60	0.67
21:XU:12:LYS:HB3	21:XU:22:ARG:HD3	1.75	0.67
1:QA:31:G:O2'	1:QA:48:C:N4	2.27	0.67
11:QK:22:HIS:HB3	11:QK:29:ILE:HG23	1.77	0.67
34:RA:1007:C:OP1	42:RN:35:ARG:NH1	2.26	0.67
39:RG:38:VAL:CG2	39:RG:91:ARG:HG3	2.24	0.67
3:XC:188:LEU:HD11	3:XC:195:VAL:HB	1.76	0.67
9:XI:46:ALA:HB2	9:XI:74:ILE:HG23	1.77	0.67
29:Y5:55:ARG:NE	46:YR:113:LEU:HD11	2.09	0.67
30:Y6:13:CYS:O	30:Y6:21:TYR:HA	1.95	0.67
4:QD:38:TYR:CE2	4:QD:45:GLN:HG2	2.28	0.67
32:R8:22:VAL:HB	32:R8:53:PRO:HB3	1.75	0.67
45:RQ:137:TYR:HE2	54:RZ:83:PRO:HG3	1.58	0.67
36:YD:24:ILE:HD11	36:YD:91:ARG:HD2	1.76	0.67
44:YP:123:LEU:HD23	44:YP:123:LEU:N	2.10	0.67
2:XB:15:VAL:O	2:XB:210:SER:HB2	1.93	0.67
2:XB:174:VAL:HG11	2:XB:196:LEU:HD13	1.77	0.67
54:YZ:61:LEU:HB3	54:YZ:62:PRO:HD3	1.76	0.67
36:RD:233:HIS:HD2	36:RD:242:ARG:HB2	1.59	0.67
54:RZ:53:ILE:C	54:RZ:53:ILE:HD12	2.15	0.67
4:XD:98:GLU:HA	4:XD:103:ASN:HD22	1.58	0.67
37:YE:48:GLN:HE22	37:YE:64:LYS:NZ	1.93	0.67
53:YY:79:CYS:SG	53:YY:80:GLY:N	2.68	0.67
34:RA:2119:A:N6	34:RA:2170:A:N7	2.43	0.67
28:Y4:23:GLU:CD	39:YG:4:ASP:OD2	2.33	0.67
34:YA:764:A:N3	36:YD:213:ARG:NH1	2.43	0.67
39:YG:5:VAL:HG11	39:YG:100:TRP:CB	2.25	0.67
1:QA:337:C:H2'	1:QA:338:A:H8	1.59	0.67
1:QA:559:A:H4'	1:QA:560:U:H3'	1.76	0.67
39:RG:68:PRO:HB3	39:RG:92:VAL:HB	1.75	0.67
40:RH:107:VAL:HB	40:RH:153:LYS:HE2	1.75	0.67
47:RS:34:HIS:HB3	47:RS:53:SER:HB2	1.77	0.67
1:XA:80:G:H1	1:XA:89:U:H3	1.41	0.67
2:XB:188:ALA:N	2:XB:201:ILE:O	2.28	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:1675:C:N3	37:YE:128:SER:OG	2.28	0.67
24:R0:60:PHE:HE1	34:RA:2365:G:H4'	1.60	0.67
30:R6:41:PRO:HD3	30:R6:47:THR:HG22	1.75	0.67
54:YZ:9:TYR:HE2	54:YZ:61:LEU:CD2	2.08	0.67
54:YZ:65:GLN:HG2	54:YZ:66:SER:H	1.59	0.67
1:QA:189:U:O2'	17:QQ:63:ARG:NH2	2.28	0.66
9:QI:35:GLU:HA	9:QI:38:GLN:HB2	1.77	0.66
34:RA:819:A:OP2	34:RA:1187:G:N2	2.23	0.66
46:RR:10:LEU:HD13	46:RR:40:LYS:HG2	1.77	0.66
30:Y6:15:GLU:HG3	30:Y6:16:CYS:N	2.09	0.66
32:Y8:61:LEU:CD1	34:YA:593:G:O3'	2.42	0.66
1:QA:583:A:OP1	17:QQ:87:LYS:NZ	2.27	0.66
19:QS:19:VAL:CG2	19:QS:44:MET:CG	2.73	0.66
37:RE:36:ARG:HG2	37:RE:36:ARG:NH1	2.09	0.66
2:XB:93:VAL:HG11	2:XB:97:TRP:HD1	1.59	0.66
34:YA:1728:G:N1	34:YA:1730:U:OP2	2.28	0.66
34:YA:1918:A:O2'	34:YA:1920:C:N4	2.28	0.66
36:YD:33:LEU:HD22	36:YD:33:LEU:C	2.15	0.66
36:YD:81:ALA:HB3	36:YD:94:LEU:HB3	1.77	0.66
46:YR:56:LYS:HD2	46:YR:94:TYR:HE2	1.60	0.66
34:RA:27:G:N2	34:RA:513:A:OP2	2.28	0.66
29:Y5:33:CYS:SG	29:Y5:36:CYS:HB2	2.36	0.66
34:YA:918:A:N3	35:YB:80:U:O2'	2.27	0.66
12:QL:117:ARG:HG2	12:QL:117:ARG:NH1	2.11	0.66
25:R1:23:LYS:HB3	25:R1:29:GLY:HA3	1.77	0.66
34:RA:768:G:O2'	34:RA:1379:A:N6	2.29	0.66
34:RA:1791:A:N6	34:RA:1828:G:O2'	2.29	0.66
35:RB:8:U:H3	35:RB:112:G:H1	1.43	0.66
1:XA:673:G:H2'	1:XA:674:G:C8	2.30	0.66
4:XD:3:ARG:HH11	4:XD:69:GLY:HA3	1.59	0.66
1:QA:1522:U:H2'	1:QA:1523:G:H8	1.60	0.66
18:QR:51:LEU:HD22	18:QR:55:ARG:HD2	1.75	0.66
54:RZ:126:VAL:HG12	54:RZ:163:LEU:HA	1.77	0.66
12:XL:71:PRO:O	12:XL:102:ARG:NH1	2.29	0.66
44:YP:27:HIS:HA	44:YP:32:THR:HG23	1.77	0.66
1:QA:501:C:H2'	1:QA:502:G:H8	1.60	0.66
1:QA:1130:A:O2'	9:QI:3:GLN:NE2	2.24	0.66
5:QE:115:VAL:HG12	5:QE:118:ILE:HB	1.78	0.66
19:QS:67:VAL:HB	28:R4:59:PHE:CD2	2.29	0.66
50:RV:72:VAL:HG13	50:RV:85:LYS:HB3	1.77	0.66
1:XA:448:A:OP2	1:XA:485:G:N2	2.25	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:134:ILE:HG23	3:XC:151:VAL:HB	1.78	0.66
34:YA:1930:G:N2	34:YA:1969:A:OP2	2.28	0.66
2:QB:233:SER:HG	2:QB:234:PRO:HD3	1.53	0.66
13:QM:14:ARG:H	13:QM:44:ARG:CD	2.08	0.66
17:QQ:53:LEU:HD21	17:QQ:85:VAL:HG11	1.78	0.66
36:RD:184:LYS:HG3	36:RD:271:ILE:HD11	1.78	0.66
40:RH:18:GLU:HG3	40:RH:25:LYS:HB2	1.76	0.66
54:RZ:59:LEU:CD2	54:RZ:88:PHE:CE2	2.79	0.66
28:Y4:37:SER:HB3	28:Y4:42:PHE:CD1	2.30	0.66
1:QA:278:G:N7	17:QQ:92:ARG:NH1	2.43	0.66
2:QB:212:GLN:NE2	2:QB:235:SER:O	2.29	0.66
9:QI:6:GLY:HA3	9:QI:83:ARG:HG3	1.77	0.66
9:QI:112:LYS:NZ	9:QI:116:LYS:O	2.24	0.66
9:XI:55:ALA:HB1	9:XI:58:HIS:HB2	1.76	0.66
50:RV:24:LYS:HA	50:RV:92:THR:HG23	1.77	0.66
34:RA:83:G:N2	34:RA:103:A:OP2	2.29	0.66
49:RU:90:VAL:HG22	50:RV:39:LEU:HB3	1.78	0.66
34:YA:67:U:H3	34:YA:74:A:H2	1.41	0.66
34:YA:1802:A:H2'	34:YA:1803:A:C8	2.31	0.66
37:YE:81:ILE:HG21	37:YE:84:PHE:HD1	1.61	0.66
38:RF:24:LEU:HD23	38:RF:115:ALA:HA	1.77	0.65
2:XB:52:GLU:OE2	2:XB:56:ARG:NH1	2.29	0.65
2:XB:127:ILE:O	2:XB:135:GLN:NE2	2.29	0.65
3:XC:26:LYS:HG3	3:XC:27:LYS:HD2	1.76	0.65
18:XR:32:ARG:HA	18:XR:69:THR:HG21	1.78	0.65
28:Y4:18:CYS:HB2	28:Y4:39:CYS:CB	2.25	0.65
54:YZ:163:LEU:C	54:YZ:163:LEU:HD12	2.16	0.65
2:QB:233:SER:OG	2:QB:234:PRO:HD2	1.87	0.65
5:QE:11:ILE:HD11	5:QE:31:LEU:HD22	1.78	0.65
37:RE:87:GLU:HG2	37:RE:89:ASP:H	1.61	0.65
1:XA:562:C:H1'	12:XL:15:ARG:HD2	1.78	0.65
1:XA:1302:U:OP1	13:XM:17:VAL:HG13	1.96	0.65
10:XJ:7:LYS:HB2	10:XJ:97:GLU:HB2	1.77	0.65
32:Y8:61:LEU:HD12	34:YA:593:G:C4'	2.23	0.65
37:YE:111:ARG:HB2	37:YE:160:TYR:HB3	1.77	0.65
1:QA:842:C:O2'	1:QA:848:C:N4	2.30	0.65
28:R4:9:LEU:HD12	28:R4:26:SER:HA	1.77	0.65
30:R6:19:ARG:HD2	30:R6:21:TYR:HE1	1.61	0.65
34:RA:818:G:N1	34:RA:1188:U:OP2	2.27	0.65
54:RZ:70:LEU:HB2	54:RZ:91:LEU:HD21	1.79	0.65
1:XA:112:G:C2	1:XA:330:C:C5	2.85	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:YG:41:GLN:NE2	39:YG:155:MET:SD	2.67	0.65
50:YV:38:LEU:H	50:YV:51:VAL:HG13	1.61	0.65
29:R5:46:CYS:HB2	29:R5:50:GLY:HA2	1.78	0.65
30:Y6:11:LEU:HD23	30:Y6:26:ASN:HB3	1.77	0.65
34:YA:778:G:H5'	36:YD:48:ARG:HH11	1.61	0.65
1:QA:56:U:H2'	1:QA:57:G:H8	1.61	0.65
1:QA:991:U:H5"	1:QA:991:U:C6	2.30	0.65
13:QM:84:ILE:O	19:QS:74:PHE:HE1	1.78	0.65
34:RA:1335:U:OP2	52:RX:65:ARG:NH2	2.27	0.65
34:RA:2746:U:H5"	40:RH:138:LYS:HE2	1.78	0.65
34:RA:2785:C:C1'	37:RE:35:GLN:HE22	2.09	0.65
36:RD:231:HIS:CE1	36:RD:233:HIS:ND1	2.58	0.65
1:XA:375:U:H5"	16:XP:69:THR:HG21	1.78	0.65
19:XS:6:LYS:HG3	19:XS:7:LYS:HG2	1.79	0.65
26:Y2:41:ILE:HD11	26:Y2:44:LEU:HB2	1.78	0.65
36:YD:34:VAL:HG22	36:YD:35:LYS:HE2	1.77	0.65
54:YZ:45:ASP:OD1	54:YZ:49:ARG:NE	2.30	0.65
37:YE:7:VAL:HG22	37:YE:27:LEU:HB3	1.78	0.65
39:RG:15:VAL:HG21	39:RG:176:LEU:HD23	1.79	0.65
41:RI:72:LEU:HD11	41:RI:107:VAL:HG11	1.78	0.65
52:RX:53:LYS:HB3	52:RX:82:GLN:HB3	1.79	0.65
54:RZ:137:ILE:HG21	54:RZ:155:LEU:HD13	1.79	0.65
34:YA:2293:C:OP1	47:YS:89:ARG:NH2	2.29	0.65
13:QM:14:ARG:N	13:QM:44:ARG:HD3	2.11	0.65
34:RA:75:G:H22	34:RA:111:A:H2	1.44	0.65
34:RA:2123:G:H2'	34:RA:2124:G:H8	1.62	0.65
34:RA:2749:A:H4'	40:RH:62:LYS:HB3	1.79	0.65
34:YA:2151:G:H2'	34:YA:2152:G:H8	1.60	0.65
8:QH:41:ARG:NH1	8:QH:123:GLU:OE2	2.30	0.65
9:QI:121:ARG:NH1	9:QI:122:ALA:O	2.29	0.65
37:RE:3:GLY:H	37:RE:84:PHE:HE1	1.45	0.65
1:XA:713:G:H2'	1:XA:714:G:C8	2.31	0.65
32:Y8:32:LEU:O	32:Y8:36:LYS:NZ	2.30	0.65
45:YQ:67:ARG:NH1	45:YQ:105:GLU:OE2	2.29	0.65
2:QB:7:VAL:HG21	2:QB:217:ARG:HD2	1.79	0.65
4:QD:19:LEU:HB2	4:QD:21:LEU:HG	1.79	0.65
38:RF:117:ARG:NH1	38:RF:120:GLU:OE2	2.30	0.65
5:XE:8:GLU:HG2	5:XE:34:VAL:HG22	1.79	0.65
40:YH:121:ILE:HG12	40:YH:140:LYS:HE2	1.79	0.65
6:QF:68:PRO:HG3	6:QF:71:ARG:HH21	1.61	0.64
17:QQ:66:SER:O	17:QQ:70:ARG:NH1	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:R6:26:ASN:HD21	30:R6:31:PRO:HG2	1.62	0.64
34:RA:1918:A:O2'	34:RA:1920:C:N4	2.30	0.64
38:RF:45:ARG:NE	38:RF:97:TYR:CZ	2.65	0.64
34:YA:2105:C:H2'	34:YA:2106:G:H8	1.61	0.64
40:YH:97:ARG:NH2	40:YH:104:GLU:OE1	2.30	0.64
53:YY:14:LEU:HB2	53:YY:75:ILE:HD11	1.78	0.64
1:QA:353:A:H8	1:QA:353:A:C5'	2.05	0.64
32:R8:12:LYS:NZ	34:RA:249:C:O2	2.29	0.64
34:RA:1403:C:H5"	34:RA:1471:A:H1'	1.79	0.64
37:RE:36:ARG:HH21	37:RE:88:GLY:N	1.94	0.64
28:Y4:39:CYS:SG	28:Y4:41:PRO:HD3	2.37	0.64
37:YE:46:ALA:HB1	37:YE:80:GLU:HB2	1.79	0.64
45:YQ:141:GLN:NE2	54:YZ:123:ASP:OD1	2.30	0.64
54:RZ:52:SER:O	54:RZ:52:SER:OG	2.13	0.64
1:XA:1302:U:OP1	13:XM:17:VAL:CG1	2.46	0.64
34:YA:247:G:OP2	34:YA:249:C:N4	2.30	0.64
34:YA:993:G:OP1	49:YU:50:ARG:NH2	2.25	0.64
41:YI:113:ARG:HB3	41:YI:131:LYS:NZ	2.12	0.64
47:YS:85:VAL:HG23	47:YS:112:PHE:HE1	1.61	0.64
34:RA:1542:G:O6	34:RA:1543:A:N6	2.30	0.64
54:RZ:61:LEU:HD22	54:RZ:67:LEU:HG	1.80	0.64
13:XM:10:PRO:O	13:XM:45:VAL:HG11	1.98	0.64
16:XP:6:LEU:HB3	16:XP:17:TYR:HD2	1.61	0.64
26:Y2:70:GLN:NE2	26:Y2:71:ASN:OD1	2.30	0.64
29:Y5:35:GLU:HG2	29:Y5:50:GLY:O	1.97	0.64
34:YA:270(F):U:H3	34:YA:270(T):G:H1	1.44	0.64
34:YA:561:G:HO2'	49:YU:45:TYR:HH	1.45	0.64
42:YN:34:LEU:HD21	42:YN:120:LEU:HB2	1.77	0.64
44:YP:121:LYS:C	44:YP:123:LEU:CD2	2.65	0.64
48:YT:27:THR:HG23	48:YT:89:VAL:HG13	1.79	0.64
1:QA:45:U:H2'	1:QA:46:G:H8	1.62	0.64
3:QC:43:LEU:HD11	3:QC:91:LEU:HD11	1.79	0.64
34:RA:676:A:H8	34:RA:2069:G:H21	1.45	0.64
39:RG:66:GLN:HE21	39:RG:98:ARG:HH21	1.43	0.64
40:RH:25:LYS:HG2	40:RH:34:GLU:HG3	1.77	0.64
40:RH:151:ILE:HB	40:RH:153:LYS:HG2	1.78	0.64
1:XA:971:G:N2	1:XA:1363:A:OP2	2.31	0.64
9:XI:85:LEU:HD11	9:XI:96:LEU:HD22	1.79	0.64
28:Y4:18:CYS:CB	28:Y4:39:CYS:CB	2.76	0.64
28:Y4:71:ARG:N	28:Y4:71:ARG:HD3	2.12	0.64
47:YS:50:SER:O	47:YS:76:LYS:NZ	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:R0:60:PHE:CE1	34:RA:2365:G:H4'	2.32	0.64
32:R8:64:TYR:O	32:R8:65:GLU:OXT	2.15	0.64
41:RI:128:LEU:HD23	41:RI:140:LEU:HD21	1.77	0.64
42:RN:18:ALA:HA	42:RN:21:LYS:HD2	1.79	0.64
44:RP:88:LEU:HD11	44:RP:95:VAL:HG11	1.76	0.64
54:RZ:48:PHE:CE1	54:RZ:52:SER:HA	2.32	0.64
1:XA:1002:G:H2'	1:XA:1003:G:H8	1.63	0.64
1:XA:1450:U:O2'	1:XA:1451:A:N7	2.31	0.64
2:QB:224:GLN:HG2	2:QB:229:VAL:HG22	1.80	0.64
3:QC:22:TRP:NE1	3:QC:36:ASP:OD2	2.30	0.64
34:YA:2391:G:O2'	34:YA:2422:A:N7	2.31	0.64
1:QA:261:U:OP2	20:QT:79:ARG:NH2	2.31	0.64
1:QA:1243:C:OP2	21:QU:10:ARG:NH2	2.30	0.64
3:XC:150:LYS:HE3	3:XC:167:TRP:HE1	1.63	0.64
30:Y6:20:ASN:HB2	30:Y6:42:TRP:CH2	2.33	0.64
19:QS:19:VAL:CB	19:QS:44:MET:HG3	2.25	0.64
52:RX:27:THR:HB	52:RX:80:ILE:HG22	1.80	0.64
1:XA:1318:A:H4'	19:XS:11:VAL:HG11	1.80	0.64
24:Y0:23:VAL:HG21	34:YA:857:C:H4'	1.78	0.64
34:YA:1340:U:H4'	34:YA:1394:U:O2'	1.97	0.64
54:YZ:7:ALA:HB2	54:YZ:39:VAL:CG1	2.28	0.64
2:QB:184:VAL:HG12	2:QB:197:VAL:HG13	1.80	0.64
34:RA:2328:A:H2'	34:RA:2329:G:C8	2.33	0.64
40:RH:15:VAL:HG21	40:RH:79:VAL:HG21	1.80	0.64
1:XA:380:G:N2	1:XA:383:A:OP2	2.30	0.64
19:XS:41:VAL:H	19:XS:44:MET:HB2	1.63	0.64
39:YG:44:GLY:O	39:YG:47:LYS:CG	2.46	0.64
9:QI:112:LYS:HA	9:QI:119:ALA:HB2	1.80	0.63
2:XB:84:GLU:HB3	2:XB:219:VAL:HG21	1.77	0.63
6:QF:10:LEU:HD13	6:QF:61:LEU:HD13	1.79	0.63
34:RA:504:U:H5"	34:RA:505:A:H5'	1.81	0.63
40:RH:149:ARG:CG	40:RH:154:PRO:HG2	2.28	0.63
47:RS:84:GLN:HA	47:RS:111:GLU:HG3	1.81	0.63
10:XJ:9:ARG:HB2	10:XJ:95:GLU:HB3	1.80	0.63
41:YI:130:TYR:CE2	41:YI:132:PRO:CG	2.76	0.63
3:QC:131:ARG:NH2	3:QC:166:GLU:OE2	2.31	0.63
13:QM:10:PRO:HG2	13:QM:18:ALA:CB	2.26	0.63
27:R3:5:LYS:HB3	27:R3:57:GLU:HG2	1.78	0.63
34:RA:1528:A:H2'	34:RA:1529:A:C8	2.34	0.63
35:RB:43:C:O2	39:RG:93:THR:CG2	2.44	0.63
36:RD:25:THR:HG22	36:RD:82:ILE:H	1.61	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:RI:92:VAL:O	41:RI:120:ILE:HG22	1.97	0.63
2:XB:178:ARG:NH2	2:XB:198:ASP:OD1	2.22	0.63
3:XC:172:ARG:HD3	3:XC:174:PRO:HD3	1.78	0.63
12:XL:47:LYS:N	12:XL:48:PRO:HD2	2.13	0.63
35:YB:8:U:H3	35:YB:112:G:H1	1.46	0.63
5:QE:78:HIS:HB3	8:QH:107:LEU:HD12	1.81	0.63
28:R4:48:ARG:O	28:R4:48:ARG:HG2	1.98	0.63
34:RA:603:A:H5"	34:RA:655:A:H61	1.63	0.63
16:XP:4:ILE:HG12	16:XP:21:VAL:HG12	1.80	0.63
16:XP:13:HIS:O	16:XP:42:ARG:NH1	2.30	0.63
36:YD:67:PHE:HB3	36:YD:153:ALA:HB3	1.80	0.63
37:YE:35:GLN:OE1	37:YE:48:GLN:NE2	2.30	0.63
38:YF:59:TYR:HD1	38:YF:78:ILE:HB	1.63	0.63
41:YI:83:ALA:HB2	41:YI:144:VAL:CG2	2.29	0.63
1:QA:1152:A:H5'	10:QJ:70:ARG:HH22	1.62	0.63
4:QD:188:LEU:HD22	4:QD:189:PRO:HD2	1.80	0.63
28:R4:37:SER:C	28:R4:39:CYS:H	2.01	0.63
4:XD:36:ARG:CB	4:XD:38:TYR:HE2	1.92	0.63
9:XI:99:LEU:HB3	9:XI:101:PHE:CD2	2.33	0.63
20:XT:97:ALA:HB3	20:XT:99:LEU:HD12	1.81	0.63
39:YG:5:VAL:HB	39:YG:8:LYS:HB3	1.80	0.63
15:QO:69:TYR:HD1	15:QO:72:ARG:HH21	1.46	0.63
29:R5:55:ARG:HD3	29:R5:55:ARG:C	2.18	0.63
34:RA:2785:C:H1'	37:RE:35:GLN:HE22	1.62	0.63
34:RA:2852:G:H1	34:RA:2865:U:H3	1.47	0.63
40:RH:163:TYR:CB	40:RH:167:GLU:OE2	2.46	0.63
41:RI:9:LEU:HD22	41:RI:35:LEU:HD12	1.81	0.63
1:XA:690:G:H1	11:XK:55:LYS:HZ1	1.47	0.63
34:RA:598:G:H5'	44:RP:11:GLY:HA3	1.80	0.63
48:RT:65:LYS:HE2	48:RT:67:SER:HB3	1.81	0.63
1:QA:972:C:H4'	10:QJ:57:LYS:HB2	1.81	0.63
13:QM:19:LEU:HD21	13:QM:56:LEU:HD11	1.81	0.63
29:R5:32:PRO:CD	29:R5:39:MET:HE1	2.28	0.63
40:RH:86:GLU:HG3	40:RH:165:ALA:H	1.63	0.63
41:RI:113:ARG:HG3	41:RI:131:LYS:HE2	1.79	0.63
48:RT:57:PHE:O	48:RT:58:ASN:OD1	2.16	0.63
3:XC:179:ARG:HB3	3:XC:206:GLU:HG2	1.81	0.63
34:YA:1728:G:H8	34:YA:1732:A:H62	1.44	0.63
1:QA:262:A:O4'	20:QT:74:LYS:CE	2.46	0.63
1:QA:713:G:H2'	1:QA:714:G:C8	2.33	0.63
34:RA:1860:G:H1	34:RA:1882:C:H42	1.47	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
35:RB:42:C:H5”	39:RG:69:ALA:HB2	1.80	0.63
41:RI:30:LEU:HD22	41:RI:35:LEU:HD11	1.81	0.63
1:XA:34:C:H2’	1:XA:35:G:H8	1.64	0.63
1:XA:427:U:OP1	4:XD:13:ARG:NH2	2.31	0.63
3:XC:153:VAL:HG22	3:XC:198:VAL:HG22	1.81	0.63
44:YP:52:GLU:HG3	44:YP:57:THR:HA	1.81	0.63
47:YS:3:ARG:HE	47:YS:4:LEU:HD13	1.62	0.63
53:YY:54:LYS:H	53:YY:54:LYS:HD2	1.64	0.63
6:QF:99:ALA:HB3	18:QR:29:PHE:HE2	1.63	0.62
18:QR:43:PHE:HE2	18:QR:58:LEU:HD11	1.63	0.62
34:RA:587:C:OP2	44:RP:21:ARG:NH2	2.32	0.62
46:RR:104:ARG:HD2	46:RR:107:ASP:OD2	1.99	0.62
29:Y5:35:GLU:CG	29:Y5:50:GLY:HA2	2.29	0.62
31:Y7:19:ARG:HD3	34:YA:125:G:H5’	1.81	0.62
37:YE:9:VAL:HB	37:YE:25:VAL:HG23	1.80	0.62
41:YI:60:GLU:OE1	41:YI:61:ARG:NH2	2.32	0.62
53:YY:94:LYS:HD2	53:YY:101:LYS:NZ	2.12	0.62
2:QB:19:HIS:CD2	2:QB:189:ASP:HB2	2.33	0.62
2:XB:11:LEU:O	2:XB:16:HIS:CD2	2.52	0.62
1:QA:1217:C:OP1	14:QN:9:LYS:NZ	2.32	0.62
34:RA:2404:C:O3’	44:RP:77:ARG:NH2	2.33	0.62
44:RP:115:LEU:HB3	44:RP:131:SER:HB2	1.82	0.62
1:XA:686:U:H1’	11:XK:42:TRP:HE1	1.63	0.62
13:XM:3:ARG:HD2	13:XM:9:ILE:HB	1.80	0.62
50:YV:5:VAL:HB	50:YV:35:LEU:HD11	1.81	0.62
2:QB:51:LEU:HD21	2:QB:217:ARG:HH22	1.65	0.62
9:QI:8:GLY:HA2	9:QI:79:LEU:HD12	1.82	0.62
34:RA:1316:U:H2’	34:RA:1317:A:H8	1.65	0.62
41:RI:68:LEU:HD12	41:RI:71:ILE:HD11	1.82	0.62
1:XA:1058:G:OP1	3:XC:199:LYS:NZ	2.33	0.62
44:YP:96:THR:HA	44:YP:126:VAL:CG2	2.27	0.62
1:QA:45:U:H2’	1:QA:46:G:C8	2.34	0.62
19:QS:39:THR:HA	19:QS:70:LYS:HD3	1.81	0.62
2:XB:12:GLU:HA	2:XB:16:HIS:HB2	1.80	0.62
34:YA:83:G:N2	34:YA:103:A:OP2	2.24	0.62
34:YA:1791:A:H3’	34:YA:1792:G:H8	1.65	0.62
1:QA:1318:A:H1’	19:QS:37:ARG:HH21	1.65	0.62
4:QD:3:ARG:HD2	4:QD:118:ARG:HE	1.63	0.62
37:RE:52:LEU:O	37:RE:75:VAL:N	2.31	0.62
50:RV:52:VAL:HG21	50:RV:55:ALA:HB3	1.81	0.62
1:XA:991:U:H2’	1:XA:991:U:O2	1.98	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:197:VAL:HB	2:XB:200:ILE:HG13	1.82	0.62
44:YP:52:GLU:OE1	44:YP:55:ARG:NH1	2.33	0.62
48:YT:122:ASP:OD1	48:YT:125:ARG:NH2	2.30	0.62
39:RG:93:THR:HG23	39:RG:93:THR:O	1.99	0.62
46:RR:38:VAL:HG22	46:RR:112:ALA:HB2	1.80	0.62
48:RT:84:GLN:HG3	48:RT:85:LYS:HG2	1.81	0.62
3:XC:23:TYR:HA	10:XJ:11:PHE:HE1	1.64	0.62
12:XL:10:LEU:HB3	17:XQ:32:TYR:CE2	2.34	0.62
34:YA:337:C:N3	34:YA:338:G:H1'	2.15	0.62
1:QA:673:G:H2'	1:QA:674:G:C8	2.35	0.62
1:QA:1188:A:H4'	14:QN:58:LYS:HE3	1.81	0.62
5:QE:9:LYS:HB3	5:QE:112:LEU:HD11	1.81	0.62
41:RI:9:LEU:HD22	41:RI:35:LEU:CD1	2.29	0.62
53:RY:76:CYS:HB3	53:RY:77:PRO:CD	2.26	0.62
13:XM:8:GLU:OE1	13:XM:8:GLU:N	2.30	0.62
34:YA:581:C:H2'	34:YA:582:G:H8	1.65	0.62
41:YI:78:THR:O	41:YI:104:GLN:NE2	2.31	0.62
53:YY:89:PHE:HD1	53:YY:89:PHE:H	1.46	0.62
1:QA:1347:G:N2	1:QA:1374:A:OP2	2.30	0.62
2:QB:109:SER:O	2:QB:113:HIS:ND1	2.32	0.62
37:RE:134:ILE:C	37:RE:134:ILE:HD12	2.20	0.62
47:RS:3:ARG:HD3	47:RS:4:LEU:HB2	1.82	0.62
1:XA:1131:G:H1	1:XA:1143:G:H21	1.47	0.62
1:XA:1308:U:H2'	1:XA:1309:G:H8	1.64	0.62
33:Y9:19:ARG:NH2	34:YA:2756:U:OP2	2.33	0.62
34:YA:2115:G:N2	34:YA:2165:G:N7	2.47	0.62
1:QA:438:G:OP1	4:QD:151:LYS:NZ	2.32	0.62
2:QB:28:PHE:HB2	2:QB:194:PRO:HD3	1.81	0.62
4:QD:49:ARG:HD3	4:QD:49:ARG:H	1.65	0.62
12:QL:84:LEU:CD2	12:QL:104:VAL:HG11	2.29	0.62
34:RA:84:A:N1	34:RA:98:G:O2'	2.33	0.62
39:RG:5:VAL:HG12	39:RG:8:LYS:N	2.15	0.62
5:XE:78:HIS:HB3	8:XH:107:LEU:HD12	1.82	0.62
37:YE:101:ARG:HH11	37:YE:171:GLU:HB2	1.65	0.62
1:QA:1510:U:H2'	1:QA:1511:G:C8	2.35	0.61
25:R1:78:LYS:HE3	34:RA:270(R):G:H21	1.64	0.61
34:RA:141:A:H8	34:RA:1595:G:H21	1.46	0.61
37:RE:197:ILE:HD12	37:RE:199:ARG:HH22	1.64	0.61
39:RG:19:LEU:HD13	39:RG:32:PRO:HD2	1.82	0.61
1:XA:1469:G:H2'	1:XA:1470:G:H8	1.65	0.61
4:XD:59:ARG:HE	4:XD:59:ARG:CA	2.08	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:Y1:18:ILE:HG12	25:Y1:37:ILE:HG12	1.82	0.61
32:Y8:22:VAL:HB	32:Y8:53:PRO:HB3	1.81	0.61
35:YB:42:C:H4'	39:YG:67:LYS:HG2	1.82	0.61
36:YD:79:VAL:HG21	36:YD:111:LEU:HD11	1.81	0.61
41:YI:83:ALA:HB2	41:YI:144:VAL:HG23	1.80	0.61
46:RR:97:VAL:HG22	46:RR:114:VAL:HG22	1.81	0.61
1:XA:689:C:OP1	11:XK:27:ASN:ND2	2.32	0.61
3:XC:30:ARG:NH1	14:XN:35:ARG:O	2.34	0.61
8:XH:104:ARG:HD2	8:XH:138:TRP:CD2	2.35	0.61
13:XM:10:PRO:CG	13:XM:18:ALA:HB1	2.29	0.61
22:XV:8:U:H3	22:XV:14:A:H62	1.48	0.61
28:Y4:38:LYS:HD3	39:YG:112:PRO:HG3	1.82	0.61
47:YS:59:LYS:HG3	47:YS:60:GLY:H	1.66	0.61
1:QA:686:U:H1'	11:QK:42:TRP:HE1	1.64	0.61
1:QA:978:A:OP2	1:QA:1362(A):C:N4	2.33	0.61
2:QB:209:ARG:HH21	2:QB:236:TYR:HE1	1.48	0.61
18:QR:86:VAL:HG12	18:QR:87:ARG:HG2	1.82	0.61
20:QT:30:LYS:HD3	20:QT:72:LEU:HD12	1.82	0.61
34:RA:96:G:H5"	34:RA:96:G:C8	2.35	0.61
34:RA:2183:C:H2'	34:RA:2184:G:H8	1.66	0.61
38:RF:22:ALA:HB1	38:RF:24:LEU:HD13	1.80	0.61
41:RI:94:ALA:HB2	41:RI:116:LEU:HD21	1.82	0.61
13:QM:16:ASP:N	13:QM:16:ASP:OD1	2.33	0.61
29:R5:57:VAL:O	29:R5:57:VAL:HG13	2.01	0.61
34:RA:581:C:H2'	34:RA:582:G:H8	1.64	0.61
34:RA:1652:A:OP1	46:RR:8:ARG:NH1	2.32	0.61
34:RA:2657:A:O2'	40:RH:160:LYS:NZ	2.34	0.61
34:RA:2784:C:H5"	37:RE:41:LYS:HE3	1.81	0.61
40:RH:54:ARG:NH2	40:RH:57:ASP:OD1	2.34	0.61
34:YA:996:A:OP2	49:YU:92:ARG:NH2	2.33	0.61
34:YA:1062:G:H2'	34:YA:1063:G:C8	2.36	0.61
48:YT:22:PHE:HA	48:YT:91:ARG:HH12	1.65	0.61
1:QA:339:C:OP2	43:RO:97:ARG:NH1	2.32	0.61
1:QA:664:G:H22	1:QA:741:G:H1	1.47	0.61
2:QB:67:THR:HG21	2:QB:155:LEU:HD11	1.83	0.61
4:QD:68:TYR:CE2	4:QD:97:LEU:HB3	2.36	0.61
9:QI:32:ASP:HB3	9:QI:35:GLU:HG2	1.80	0.61
17:QQ:22:LEU:HD11	17:QQ:39:SER:HB2	1.83	0.61
19:QS:10:PHE:HE2	19:QS:12:ASP:O	1.84	0.61
25:R1:71:TYR:HE2	41:RI:27:ARG:HB2	1.65	0.61
42:RN:9:VAL:HG23	42:RN:9:VAL:O	2.01	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:RS:34:HIS:HB2	47:RS:36:TYR:HE1	1.66	0.61
50:RV:46:VAL:O	50:RV:46:VAL:HG22	2.01	0.61
48:YT:37:GLY:O	48:YT:38:ASN:ND2	2.32	0.61
1:QA:1296:C:C4'	13:QM:14:ARG:HH12	2.12	0.61
13:QM:54:VAL:HG22	13:QM:57:ARG:HH22	1.64	0.61
34:RA:2416:C:H5"	44:RP:64:LYS:HE3	1.83	0.61
35:RB:42:C:N3	39:RG:93:THR:HG22	2.14	0.61
48:RT:61:PHE:HE1	48:RT:76:PHE:HB2	1.64	0.61
34:YA:2853:C:H2'	34:YA:2854:G:H8	1.65	0.61
39:YG:74:LYS:C	39:YG:84:LYS:HE3	2.21	0.61
40:YH:86:GLU:HG3	40:YH:165:ALA:H	1.64	0.61
1:QA:237:C:H5"	17:QQ:25:ARG:NH1	2.15	0.61
31:R7:7:PRO:HB2	34:RA:1309:G:H4'	1.83	0.61
34:RA:1824:G:N3	36:RD:254:THR:OG1	2.34	0.61
36:RD:81:ALA:HB3	36:RD:94:LEU:HB3	1.82	0.61
42:RN:70:LYS:HD3	42:RN:87:LEU:HD12	1.83	0.61
24:Y0:60:PHE:CE1	34:YA:2365:G:H4'	2.35	0.61
29:Y5:33:CYS:SG	29:Y5:36:CYS:N	2.74	0.61
34:YA:265:A:N6	34:YA:427:U:O2'	2.28	0.61
34:YA:1068:G:O2'	34:YA:1096:A:N3	2.33	0.61
35:YB:9:G:OP1	47:YS:15:ARG:NH1	2.34	0.61
54:YZ:11:GLU:OE1	54:YZ:35:ARG:NH1	2.34	0.61
41:RI:77:LEU:HD13	41:RI:101:LEU:HD22	1.81	0.61
9:XI:13:ALA:HB2	9:XI:68:GLY:HA3	1.83	0.61
1:QA:983:A:H1'	1:QA:1049:U:O2	2.01	0.61
39:RG:47:LYS:HD2	39:RG:81:LYS:O	2.01	0.61
54:RZ:53:ILE:O	54:RZ:53:ILE:HD12	2.00	0.61
19:XS:64:GLU:HG3	28:Y4:55:ARG:HH22	1.66	0.61
29:Y5:55:ARG:CD	46:YR:113:LEU:CD2	2.79	0.61
34:YA:337:C:C2	34:YA:338:G:C1'	2.84	0.61
34:YA:589:C:H2'	34:YA:590:A:H8	1.65	0.61
34:YA:1316:U:H2'	34:YA:1317:A:H8	1.66	0.61
34:YA:2246:G:H2'	34:YA:2247:A:C8	2.35	0.61
36:YD:133:LEU:HB3	36:YD:173:VAL:HG21	1.82	0.61
1:QA:132:C:H4'	20:QT:74:LYS:HD2	1.81	0.61
13:QM:84:ILE:CG1	19:QS:66:MET:HG2	2.30	0.61
37:RE:52:LEU:O	37:RE:74:PRO:CA	2.49	0.61
46:RR:56:LYS:HD2	46:RR:94:TYR:HE2	1.65	0.61
4:XD:98:GLU:OE1	4:XD:103:ASN:ND2	2.33	0.61
12:XL:57:LYS:HD2	12:XL:65:GLU:HB3	1.83	0.61
40:YH:109:PHE:HE2	40:YH:152:ARG:HH11	1.49	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:YZ:144:LEU:HD21	54:YZ:150:LEU:HD11	1.81	0.61
26:R2:50:ILE:HD12	26:R2:50:ILE:H	1.66	0.60
34:RA:1817:G:OP1	36:RD:88:ARG:NH2	2.34	0.60
1:XA:714:G:H2'	1:XA:715:A:C8	2.35	0.60
33:Y9:8:LYS:O	33:Y9:34:GLN:NE2	2.33	0.60
47:YS:95:HIS:HA	47:YS:99:LYS:HE3	1.81	0.60
53:YY:35:TYR:HE1	53:YY:69:ALA:HB3	1.66	0.60
19:QS:19:VAL:HG11	19:QS:44:MET:CB	2.30	0.60
32:R8:62:LEU:N	32:R8:63:PRO:HD3	2.15	0.60
34:RA:900:A:H3'	34:RA:901:A:H8	1.66	0.60
35:RB:42:C:N3	39:RG:93:THR:CG2	2.64	0.60
40:RH:101:ARG:HB3	40:RH:117:PRO:HG3	1.83	0.60
2:QB:231:GLU:HG3	2:QB:232:PRO:HD2	1.83	0.60
36:RD:61:LEU:O	36:RD:63:ARG:NH1	2.33	0.60
39:RG:77:ILE:O	39:RG:82:LEU:N	2.31	0.60
12:XL:82:VAL:O	12:XL:106:ASP:HB3	2.01	0.60
34:YA:1335:U:OP2	52:YX:65:ARG:NH2	2.31	0.60
34:YA:2308:G:H2'	34:YA:2308:G:N3	2.15	0.60
45:YQ:50:ALA:HB3	45:YQ:104:PHE:HE2	1.65	0.60
50:YV:52:VAL:HG21	50:YV:55:ALA:HB3	1.83	0.60
13:QM:11:ARG:HA	13:QM:45:VAL:HG13	1.84	0.60
34:RA:309:G:N3	34:RA:329:G:O2'	2.33	0.60
39:RG:5:VAL:CG1	39:RG:8:LYS:HB3	2.31	0.60
34:YA:84:A:N1	34:YA:98:G:O2'	2.28	0.60
34:YA:1055:G:O2'	34:YA:1085:A:N1	2.30	0.60
37:YE:119:ARG:HA	37:YE:160:TYR:CE1	2.36	0.60
41:YI:9:LEU:CD2	41:YI:12:LEU:HB3	2.21	0.60
2:QB:157:ARG:NE	2:QB:158:LEU:O	2.31	0.60
3:QC:150:LYS:HE2	3:QC:152:ILE:HD11	1.83	0.60
5:QE:41:VAL:CG1	5:QE:113:ALA:HB2	2.32	0.60
36:RD:35:LYS:HD3	36:RD:63:ARG:HB3	1.84	0.60
37:RE:76:ARG:HD3	37:RE:195:LEU:HD22	1.84	0.60
41:RI:82:ARG:NH2	41:RI:146:ALA:CB	2.48	0.60
54:RZ:57:ILE:HG22	54:RZ:59:LEU:H	1.66	0.60
54:RZ:59:LEU:HD21	54:RZ:88:PHE:CE2	2.36	0.60
1:XA:502:G:OP1	12:XL:118:SER:HB3	2.01	0.60
3:XC:124:ILE:HG12	3:XC:130:VAL:HG22	1.83	0.60
12:XL:89:ARG:HE	12:XL:91:LYS:HA	1.66	0.60
34:YA:452:G:H5'	38:YF:59:TYR:HE2	1.66	0.60
38:YF:32:LEU:HD11	38:YF:105:VAL:HG13	1.82	0.60
1:QA:1306:A:N6	1:QA:1331:G:O2'	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1991:U:H2'	34:RA:1992:G:H5"	1.83	0.60
1:XA:1347:G:N2	1:XA:1374:A:OP2	2.34	0.60
15:XO:26:GLU:OE2	15:XO:77:ARG:NH1	2.34	0.60
34:YA:337:C:O2	34:YA:338:G:H1'	2.02	0.60
34:YA:1791:A:N6	34:YA:1828:G:O2'	2.30	0.60
39:YG:64:THR:HG23	39:YG:66:GLN:H	1.65	0.60
51:YW:11:ARG:O	51:YW:11:ARG:NH1	2.32	0.60
34:RA:2502:G:H5"	34:RA:2503:A:H5"	1.84	0.60
3:XC:14:ILE:HD11	3:XC:178:LEU:HB3	1.82	0.60
10:XJ:5:ARG:HH21	10:XJ:99:LYS:HD2	1.67	0.60
34:YA:2030:A:H4'	34:YA:2031:A:H8	1.67	0.60
34:YA:2134:A:OP2	34:YA:2157:G:N2	2.34	0.60
39:YG:74:LYS:O	39:YG:84:LYS:HE3	2.02	0.60
3:QC:58:GLU:HB2	3:QC:65:ALA:HB3	1.84	0.60
37:RE:36:ARG:HH21	37:RE:88:GLY:HA2	1.65	0.60
1:XA:501:C:H2'	1:XA:502:G:H8	1.67	0.60
1:XA:842:C:O2'	1:XA:848:C:N4	2.34	0.60
2:XB:28:PHE:HB2	2:XB:194:PRO:HD3	1.83	0.60
2:XB:30:ARG:HB3	2:XB:31:TYR:CD1	2.37	0.60
11:XK:15:ALA:HA	11:XK:77:MET:HA	1.84	0.60
23:XX:-13:A:H3'	23:XX:-12:G:H8	1.66	0.60
32:Y8:34:TRP:HE3	32:Y8:35:GLN:H	1.49	0.60
32:Y8:57:ARG:O	32:Y8:61:LEU:HD23	2.02	0.60
43:YO:64:ARG:HB2	43:YO:83:ALA:HB3	1.83	0.60
1:QA:1077:G:N2	1:QA:1080:A:OP2	2.33	0.60
13:QM:12:ASN:N	13:QM:45:VAL:CG1	2.65	0.60
27:R3:23:LEU:HD12	27:R3:28:LEU:HB2	1.84	0.60
1:XA:545:C:OP1	4:XD:61:LYS:NZ	2.35	0.60
1:XA:1323:G:N2	1:XA:1361:G:O2'	2.35	0.60
1:XA:1436:U:OP1	20:XT:23:ARG:NH2	2.35	0.60
4:XD:188:LEU:HD22	4:XD:189:PRO:HD2	1.83	0.60
28:Y4:59:PHE:HD1	28:Y4:68:ARG:HB2	1.67	0.60
35:YB:44:G:O2'	35:YB:47:C:N4	2.34	0.60
54:YZ:65:GLN:HG2	54:YZ:66:SER:N	2.17	0.60
1:QA:1179:A:OP2	9:QI:93:ARG:NH2	2.35	0.60
2:QB:28:PHE:CD1	2:QB:31:TYR:HB2	2.36	0.60
14:QN:13:THR:H	14:QN:14:PRO:CD	2.15	0.60
39:RG:5:VAL:HG12	39:RG:5:VAL:O	2.02	0.60
1:XA:1296:C:OP1	13:XM:44:ARG:NH2	2.35	0.60
1:XA:1412:C:H2'	1:XA:1413:A:C8	2.37	0.60
3:XC:8:ILE:HG23	3:XC:16:ARG:HE	1.67	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:85:ARG:NE	8:XH:87:SER:O	2.35	0.60
38:YF:110:LEU:HD11	38:YF:181:LEU:HD13	1.84	0.60
41:YI:15:VAL:HG23	41:YI:15:VAL:O	2.01	0.60
14:QN:12:ARG:HB2	14:QN:14:PRO:HD2	1.84	0.59
19:QS:68:GLY:HA2	28:R4:68:ARG:HD2	1.84	0.59
39:RG:38:VAL:HG22	39:RG:91:ARG:HG3	1.84	0.59
1:XA:112:G:C2	1:XA:330:C:C4	2.90	0.59
1:XA:452:A:H62	1:XA:480:U:H3	1.47	0.59
1:XA:528:C:N4	12:XL:49:ASN:HD21	1.95	0.59
40:YH:41:MET:HG2	40:YH:54:ARG:CA	2.20	0.59
43:YO:107:ARG:NH1	48:YT:36:GLU:OE1	2.34	0.59
1:QA:1123:A:H4'	10:QJ:36:GLY:HA3	1.83	0.59
30:R6:6:ARG:HH11	30:R6:6:ARG:CG	2.10	0.59
34:RA:1802:A:H2'	34:RA:1803:A:C8	2.36	0.59
1:XA:1356:G:H2'	1:XA:1357:A:C8	2.37	0.59
19:XS:65:ASN:HB3	28:Y4:55:ARG:HE	1.66	0.59
32:Y8:23:VAL:O	44:YP:65:ARG:NH2	2.35	0.59
34:YA:337:C:C2	34:YA:338:G:H1'	2.37	0.59
34:YA:392:C:H5"	34:YA:409:C:H5"	1.84	0.59
34:YA:589:C:H2'	34:YA:590:A:C8	2.37	0.59
46:YR:97:VAL:HG22	46:YR:114:VAL:HG22	1.83	0.59
49:YU:90:VAL:HG12	49:YU:91:ASP:H	1.66	0.59
51:YW:86:LEU:HD22	51:YW:96:ILE:HD11	1.82	0.59
54:YZ:67:LEU:HD12	54:YZ:69:THR:CG2	2.30	0.59
6:QF:45:LEU:HD12	6:QF:59:TYR:HD1	1.67	0.59
34:RA:565:C:OP1	50:RV:82:ARG:NH2	2.35	0.59
34:YA:1062:G:H2'	34:YA:1063:G:H8	1.67	0.59
48:YT:62:THR:HG22	48:YT:75:ILE:HG12	1.84	0.59
11:QK:18:ARG:NH1	11:QK:20:TYR:OH	2.36	0.59
34:RA:586:A:H5'	38:RF:89:VAL:HG21	1.82	0.59
34:RA:2291:U:H2'	34:RA:2292:C:C6	2.37	0.59
34:RA:2577:A:H5"	34:RA:2578:G:H5'	1.83	0.59
37:RE:119:ARG:HA	37:RE:160:TYR:CD1	2.37	0.59
1:XA:774:G:OP1	36:YD:202:LYS:NZ	2.35	0.59
8:XH:10:LEU:HD22	8:XH:83:ILE:HD11	1.83	0.59
32:Y8:14:VAL:HG13	32:Y8:22:VAL:HG13	1.84	0.59
32:Y8:61:LEU:HD13	34:YA:593:G:C4'	2.27	0.59
34:YA:2105:C:H2'	34:YA:2106:G:C8	2.37	0.59
37:YE:48:GLN:HE22	37:YE:64:LYS:HZ3	1.49	0.59
53:YY:75:ILE:HG22	53:YY:76:CYS:N	2.17	0.59
34:YA:1824:G:OP1	36:YD:52:ARG:NH1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:YI:142:VAL:HG23	41:YI:142:VAL:O	2.02	0.59
51:YW:8:ARG:HB3	51:YW:9:TYR:HD1	1.66	0.59
1:QA:260:G:OP2	20:QT:83:ARG:NH1	2.36	0.59
1:QA:614:A:OP1	4:QD:85:LYS:NZ	2.34	0.59
7:QG:78:ARG:HH21	7:QG:80:VAL:HG21	1.68	0.59
34:RA:1405:U:H2'	34:RA:1406:U:H6	1.67	0.59
34:RA:2805:G:H2'	34:RA:2807:G:C8	2.38	0.59
39:RG:139:LEU:HB2	39:RG:146:TYR:CD1	2.36	0.59
1:XA:833:U:H3	1:XA:853:G:H1	1.50	0.59
3:XC:5:ILE:HD13	3:XC:10:PHE:HB2	1.84	0.59
32:Y8:6:THR:HG23	32:Y8:62:LEU:HD12	1.85	0.59
49:YU:91:ASP:O	49:YU:93:LYS:N	2.35	0.59
50:YV:66:ARG:HG2	50:YV:88:ARG:HB3	1.85	0.59
34:RA:521:G:H2'	34:RA:522:G:H8	1.68	0.59
34:RA:1657:C:H2'	34:RA:1658:C:H6	1.68	0.59
51:RW:86:LEU:HD22	51:RW:96:ILE:HD11	1.85	0.59
1:XA:243:A:H4'	1:XA:244:U:H3'	1.85	0.59
4:XD:64:LEU:HB2	4:XD:198:VAL:HG21	1.84	0.59
34:YA:1359:A:H62	34:YA:1372:U:H3	1.51	0.59
34:YA:2306:C:H3'	34:YA:2307:G:H5"	1.84	0.59
37:YE:35:GLN:HE21	37:YE:37:ARG:NH1	1.99	0.59
41:YI:8:PRO:HA	41:YI:14:ASP:CB	2.32	0.59
54:YZ:28:MET:SD	54:YZ:67:LEU:HD22	2.43	0.59
1:QA:689:C:H3'	1:QA:690:G:H21	1.68	0.59
13:QM:93:ARG:NH2	34:RA:888:C:OP1	2.34	0.59
19:QS:43:GLU:N	19:QS:43:GLU:OE1	2.36	0.59
37:RE:9:VAL:HB	37:RE:25:VAL:HG23	1.83	0.59
38:RF:45:ARG:NE	38:RF:97:TYR:CE2	2.71	0.59
38:RF:181:LEU:HD22	38:RF:186:ILE:HD11	1.84	0.59
48:RT:24:PRO:HA	48:RT:49:VAL:HG13	1.85	0.59
20:XT:57:ARG:NH1	20:XT:102:GLY:O	2.35	0.59
47:YS:67:ARG:NH2	47:YS:103:GLU:OE1	2.34	0.59
1:QA:973:G:O6	1:QA:974:A:N6	2.35	0.59
2:QB:18:GLY:HA2	2:QB:41:ILE:HA	1.85	0.59
34:RA:2111:C:N3	34:RA:2118:U:O2'	2.34	0.59
36:RD:17:THR:HB	36:RD:205:VAL:H	1.68	0.59
40:RH:8:PRO:HG2	40:RH:69:ARG:HE	1.67	0.59
1:XA:1308:U:H2'	1:XA:1309:G:C8	2.38	0.59
34:YA:2135:A:N6	34:YA:2156:G:O2'	2.36	0.59
1:QA:1525:G:H2'	1:QA:1526:G:H8	1.68	0.59
2:QB:15:VAL:HG21	2:QB:209:ARG:HG3	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:84:GLU:HB3	2:QB:219:VAL:HG21	1.82	0.59
19:QS:10:PHE:CE2	19:QS:12:ASP:N	2.71	0.59
36:RD:237:GLU:OE1	36:RD:237:GLU:HA	2.03	0.59
54:RZ:30:ASN:HB2	54:RZ:90:VAL:HB	1.84	0.59
1:XA:390:C:H2'	1:XA:391:G:C8	2.38	0.59
1:XA:1347:G:C8	9:XI:107:ARG:HG3	2.38	0.59
1:XA:1376:U:H2'	1:XA:1377:A:H8	1.67	0.59
5:XE:115:VAL:O	5:XE:115:VAL:HG12	2.01	0.59
34:YA:560:C:H4'	49:YU:52:ARG:NH1	2.17	0.59
34:YA:2455:G:H2'	34:YA:2456:C:C6	2.38	0.59
41:YI:68:LEU:O	41:YI:72:LEU:HB2	2.03	0.59
42:YN:73:THR:HB	42:YN:82:LEU:HD11	1.83	0.59
44:YP:95:VAL:HG23	44:YP:123:LEU:HD12	1.84	0.59
48:YT:24:PRO:HA	48:YT:49:VAL:HG13	1.85	0.59
1:QA:262:A:C1'	20:QT:74:LYS:HZ2	2.16	0.58
34:RA:288:C:H2'	34:RA:289:A:H8	1.67	0.58
35:RB:42:C:N4	39:RG:91:ARG:HH22	2.01	0.58
40:RH:150:ALA:C	40:RH:152:ARG:H	2.05	0.58
41:RI:123:LEU:CD1	41:RI:144:VAL:HG21	2.27	0.58
13:XM:91:ARG:HB2	13:XM:98:VAL:HG12	1.85	0.58
18:XR:74:ARG:HB3	18:XR:81:PHE:CE1	2.37	0.58
29:Y5:55:ARG:CD	46:YR:113:LEU:HD22	2.30	0.58
34:YA:1824:G:N3	36:YD:254:THR:OG1	2.35	0.58
34:YA:2698:U:H2'	34:YA:2699:C:C6	2.37	0.58
1:QA:501:C:H2'	1:QA:502:G:C8	2.38	0.58
1:QA:936:C:H2'	1:QA:937:A:H8	1.68	0.58
37:RE:10:GLY:HA3	48:RT:8:LYS:HD3	1.85	0.58
54:RZ:1:MET:HG2	54:RZ:2:GLU:H	1.67	0.58
2:XB:201:ILE:HG21	2:XB:214:ILE:HG21	1.86	0.58
24:Y0:75:LEU:HD21	34:YA:2334:G:C6	2.38	0.58
1:QA:806:C:H2'	1:QA:807:A:H8	1.69	0.58
16:QP:45:THR:HG22	16:QP:47:ASP:H	1.68	0.58
34:RA:1019:U:H3	34:RA:1142(A):A:H62	1.51	0.58
34:YA:138:G:N2	52:YX:44:GLU:OE2	2.37	0.58
34:YA:2467:C:O2	45:YQ:124:LYS:NZ	2.36	0.58
1:QA:407:G:OP1	4:QD:115:ARG:NH2	2.28	0.58
1:QA:618:C:H5'	1:QA:619:U:H5"	1.84	0.58
19:QS:61:TYR:O	19:QS:66:MET:CE	2.52	0.58
32:R8:32:LEU:O	32:R8:36:LYS:NZ	2.37	0.58
34:RA:144:C:H2'	34:RA:145:G:H8	1.68	0.58
36:RD:35:LYS:HG2	36:RD:64:ILE:N	2.18	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RE:21:VAL:HG13	37:RE:185:LYS:HE3	1.85	0.58
38:RF:161:GLU:OE2	38:RF:164:ARG:NH2	2.37	0.58
28:Y4:71:ARG:HD3	28:Y4:71:ARG:H	1.68	0.58
34:YA:2329:G:H2'	34:YA:2330:G:C8	2.39	0.58
39:YG:49:ASP:OD2	39:YG:51:ARG:NH2	2.36	0.58
51:YW:8:ARG:HB3	51:YW:9:TYR:CD1	2.39	0.58
2:QB:214:ILE:HA	2:QB:217:ARG:HH21	1.68	0.58
10:QJ:48:THR:HA	10:QJ:62:HIS:HB3	1.86	0.58
16:QP:6:LEU:HB3	16:QP:17:TYR:HD2	1.67	0.58
38:RF:25:PRO:HD2	38:RF:115:ALA:HB2	1.85	0.58
54:RZ:48:PHE:HA	54:RZ:51:ALA:CB	2.22	0.58
1:XA:405:U:O4	4:XD:2:GLY:N	2.36	0.58
1:XA:1236:A:H4'	1:XA:1304:G:H4'	1.84	0.58
22:XV:76:A:O2'	34:YA:2602:A:N6	2.36	0.58
33:Y9:15:LYS:NZ	34:YA:2753:A:O2'	2.36	0.58
36:YD:231:HIS:HD2	36:YD:232:PRO:HD2	1.67	0.58
41:YI:5:LEU:HD11	41:YI:19:VAL:HG12	1.85	0.58
1:QA:401:C:OP2	4:QD:73:ARG:NH2	2.36	0.58
34:RA:414:C:H2'	34:RA:415:A:H8	1.69	0.58
34:RA:527:C:N4	34:RA:2779:U:OP2	2.37	0.58
38:RF:157:VAL:HB	38:RF:194:MET:HG2	1.85	0.58
44:RP:23:PRO:HB3	50:RV:80:GLN:OE1	2.03	0.58
34:YA:181:A:H1'	34:YA:435:C:H5'	1.86	0.58
34:YA:1510:A:O2'	34:YA:1512:G:N7	2.33	0.58
36:YD:27:THR:HG21	36:YD:83:GLU:HG2	1.85	0.58
47:YS:15:ARG:NE	47:YS:88:ASP:OD1	2.36	0.58
47:YS:24:LEU:HB2	47:YS:85:VAL:HG12	1.84	0.58
54:YZ:52:SER:O	54:YZ:52:SER:OG	2.17	0.58
3:QC:73:PRO:HG3	3:QC:105:GLU:HG2	1.86	0.58
9:QI:79:LEU:HD13	9:QI:83:ARG:HD2	1.86	0.58
26:R2:12:GLU:O	26:R2:16:LEU:CG	2.52	0.58
34:RA:1981:A:H8	34:RA:1981:A:H3'	1.66	0.58
35:RB:49:C:H2'	35:RB:50:G:C8	2.39	0.58
36:RD:136:ILE:O	36:RD:168:ARG:NH2	2.36	0.58
1:XA:528:C:H41	12:XL:49:ASN:CG	2.05	0.58
17:XQ:9:VAL:HG22	17:XQ:56:VAL:HG22	1.85	0.58
25:Y1:96:LYS:HB3	25:Y1:97:LEU:HD12	1.86	0.58
34:YA:793:A:OP2	34:YA:2071:A:O2'	2.20	0.58
34:YA:1568:G:H5"	36:YD:61:LEU:HD23	1.86	0.58
36:YD:145:VAL:HB	36:YD:155:LEU:HB2	1.86	0.58
1:QA:619:U:H4'	4:QD:131:ARG:HH22	1.69	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R1:56:GLN:HG3	25:R1:84:GLY:HA2	1.86	0.58
34:RA:1309:G:HO2'	34:RA:1611:C:HO2'	1.51	0.58
9:XI:32:ASP:HB3	9:XI:35:GLU:HG2	1.85	0.58
14:XN:4:LYS:HA	14:XN:7:ILE:HG12	1.85	0.58
34:YA:219:G:N3	34:YA:234:C:O2'	2.37	0.58
37:YE:3:GLY:H	37:YE:84:PHE:HE1	1.52	0.58
1:QA:353:A:C8	1:QA:353:A:C5'	2.85	0.58
9:QI:29:ASN:N	9:QI:63:ILE:O	2.33	0.58
10:QJ:78:ASN:HB2	10:QJ:81:THR:HG23	1.85	0.58
12:QL:77:LEU:HD21	12:QL:107:ALA:HB2	1.86	0.58
28:R4:37:SER:HB3	39:RG:112:PRO:HB3	1.86	0.58
34:RA:689:A:H2'	34:RA:690:G:C8	2.39	0.58
34:RA:1316:U:H2'	34:RA:1317:A:C8	2.39	0.58
39:RG:119:GLY:HA3	39:RG:181:ARG:HB2	1.85	0.58
41:RI:83:ALA:O	41:RI:144:VAL:CG1	2.44	0.58
1:XA:583:A:OP1	17:XQ:87:LYS:NZ	2.36	0.58
12:XL:37:CYS:HB2	12:XL:81:SER:HB3	1.85	0.58
30:Y6:16:CYS:CB	30:Y6:47:THR:HG21	2.33	0.58
34:YA:29:U:H2'	34:YA:30:G:C8	2.38	0.58
34:YA:971:C:O2'	34:YA:983:A:N3	2.34	0.58
34:YA:2291:U:H2'	34:YA:2292:C:C6	2.39	0.58
34:YA:2469:A:H5"	34:YA:2470:G:C8	2.38	0.58
36:YD:5:LYS:NZ	36:YD:14:ARG:O	2.29	0.58
1:QA:1064:G:H1'	1:QA:1066:C:C6	2.39	0.58
19:QS:9:VAL:HG21	28:R4:63:TYR:OH	2.03	0.58
34:RA:2618:G:H21	37:RE:150:VAL:HG21	1.69	0.58
38:RF:178:PRO:HB3	38:RF:198:ALA:HB2	1.84	0.58
13:XM:13:LYS:H	13:XM:13:LYS:HZ3	1.52	0.58
28:Y4:68:ARG:H	28:Y4:68:ARG:HE	1.52	0.58
38:YF:22:ALA:HB1	38:YF:24:LEU:HD13	1.84	0.58
20:QT:57:ARG:HA	20:QT:60:GLU:HG2	1.85	0.57
30:R6:41:PRO:HD2	30:R6:46:HIS:N	2.18	0.57
12:XL:77:LEU:HD22	12:XL:81:SER:OG	2.04	0.57
13:XM:14:ARG:NH2	13:XM:16:ASP:OD2	2.37	0.57
25:Y1:80:LEU:HD13	25:Y1:81:LYS:HD3	1.84	0.57
34:YA:1571:A:H2'	34:YA:1572:A:C8	2.38	0.57
34:YA:2675:A:C8	34:YA:2675:A:C5'	2.85	0.57
1:QA:736:C:H2'	1:QA:737:A:C8	2.39	0.57
4:QD:166:LYS:HB2	4:QD:178:VAL:HG11	1.86	0.57
13:QM:19:LEU:HA	13:QM:22:ILE:HD12	1.86	0.57
25:R1:53:VAL:CG2	25:R1:58:ILE:CD1	2.82	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:R2:29:LYS:HE3	26:R2:57:ILE:HG21	1.85	0.57
34:RA:1812:A:N3	36:RD:45:ASN:ND2	2.52	0.57
34:RA:2343:C:HO2'	34:RA:2373:G:HO2'	1.49	0.57
53:RY:42:VAL:HG21	53:RY:67:LEU:HD11	1.85	0.57
1:XA:1510:U:H2'	1:XA:1511:G:C8	2.39	0.57
28:Y4:37:SER:HB3	28:Y4:42:PHE:HD1	1.68	0.57
34:YA:2310:A:H4'	34:YA:2310:A:OP1	2.03	0.57
54:YZ:61:LEU:CG	54:YZ:67:LEU:HD21	2.34	0.57
1:QA:390:C:H4'	16:QP:28:ARG:HH21	1.68	0.57
1:QA:1103:C:H5'	2:QB:98:LEU:HD21	1.86	0.57
1:QA:1119:C:H2'	1:QA:1120:G:H8	1.69	0.57
28:R4:1:MET:SD	39:RG:98:ARG:NH1	2.76	0.57
34:RA:84:A:H3'	53:RY:8:LYS:HG3	1.86	0.57
34:RA:1336:A:H2'	34:RA:1337:G:C8	2.39	0.57
39:RG:41:GLN:HE22	39:RG:59:GLU:HG3	1.69	0.57
1:XA:522:C:H41	12:XL:53:ARG:NH2	2.02	0.57
1:XA:946:A:H2'	1:XA:947:G:C8	2.40	0.57
12:XL:101:VAL:HB	12:XL:104:VAL:HG21	1.86	0.57
34:YA:1316:U:H2'	34:YA:1317:A:C8	2.38	0.57
37:YE:3:GLY:CA	37:YE:81:ILE:HG13	2.33	0.57
37:YE:143:ASN:ND2	37:YE:151:TYR:OH	2.36	0.57
54:YZ:5:LEU:HD12	54:YZ:39:VAL:HB	1.86	0.57
1:QA:1414:U:H2'	1:QA:1415:G:H8	1.69	0.57
2:QB:84:GLU:HG3	2:QB:215:LEU:HB3	1.86	0.57
19:QS:22:LEU:HD21	19:QS:29:ARG:HB3	1.86	0.57
39:RG:36:LYS:HB3	39:RG:160:VAL:HB	1.87	0.57
1:XA:693:G:C4	23:XX:-2:A:H1'	2.39	0.57
2:XB:11:LEU:HD12	2:XB:213:LEU:HD11	1.86	0.57
10:XJ:39:PRO:HA	10:XJ:70:ARG:HG2	1.85	0.57
34:YA:1405:U:H2'	34:YA:1406:U:H6	1.68	0.57
40:YH:153:LYS:HE2	40:YH:153:LYS:HA	1.86	0.57
48:YT:3:ARG:HB2	48:YT:6:LEU:HB3	1.85	0.57
11:QK:81:ASP:OD1	11:QK:106:LYS:NZ	2.32	0.57
34:RA:2729:G:H1'	37:RE:187:ALA:HB2	1.87	0.57
37:RE:52:LEU:HB2	37:RE:75:VAL:HB	1.86	0.57
54:RZ:141:VAL:HA	54:RZ:144:LEU:HD23	1.86	0.57
11:XK:34:ASP:HB3	11:XK:40:ILE:HD11	1.86	0.57
19:XS:10:PHE:CZ	19:XS:16:LEU:CD1	2.65	0.57
34:YA:612:G:O2'	34:YA:616:A:N1	2.33	0.57
36:YD:66:ASP:OD1	36:YD:68:LYS:O	2.21	0.57
41:YI:69:LYS:CA	41:YI:136:VAL:HG21	2.27	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YN:96:GLU:HB2	42:YN:122:VAL:HG12	1.85	0.57
1:QA:486:U:H2'	1:QA:487:A:H8	1.70	0.57
8:QH:10:LEU:HD22	8:QH:83:ILE:HD11	1.86	0.57
28:R4:49:PHE:CD1	28:R4:49:PHE:N	2.72	0.57
39:RG:77:ILE:H	39:RG:82:LEU:HB2	1.68	0.57
41:RI:83:ALA:O	41:RI:144:VAL:HG22	2.03	0.57
54:RZ:10:ARG:O	54:RZ:36:LYS:NZ	2.33	0.57
1:XA:353:A:H5'	1:XA:353:A:C8	2.35	0.57
3:XC:19:GLU:HG2	3:XC:54:ARG:HE	1.68	0.57
34:YA:2311:A:H8	39:YG:88:ILE:HD11	1.69	0.57
34:YA:2787:C:H1'	37:YE:62:PRO:HG3	1.85	0.57
36:YD:65:ILE:HD11	36:YD:88:ARG:NH1	2.17	0.57
52:YX:53:LYS:H	52:YX:82:GLN:HB3	1.68	0.57
52:YX:59:VAL:HB	52:YX:76:ARG:HG3	1.86	0.57
28:R4:59:PHE:CD1	28:R4:70:GLY:O	2.58	0.57
52:RX:54:VAL:HG22	52:RX:81:VAL:HG12	1.87	0.57
1:XA:1148:U:H1'	9:XI:16:ARG:HH21	1.69	0.57
36:YD:25:THR:HG22	36:YD:82:ILE:H	1.70	0.57
50:YV:4:ILE:HG22	50:YV:39:LEU:HD23	1.86	0.57
1:QA:745:C:OP1	1:QA:851:G:O2'	2.23	0.57
2:QB:27:LYS:O	2:QB:30:ARG:NH1	2.36	0.57
19:QS:3:ARG:HG3	19:QS:4:SER:H	1.69	0.57
19:QS:63:THR:CG2	19:QS:66:MET:HE2	2.32	0.57
30:R6:27:LYS:HD3	30:R6:27:LYS:N	2.19	0.57
34:RA:904:C:O2'	54:RZ:169:GLU:OE1	2.21	0.57
34:RA:1353:A:O3'	36:RD:38:LYS:NZ	2.37	0.57
34:RA:2591:C:H2'	34:RA:2592:G:C8	2.40	0.57
34:RA:2679:A:H5'	37:RE:165:VAL:HG21	1.87	0.57
41:RI:101:LEU:HD12	41:RI:107:VAL:HB	1.86	0.57
47:RS:110:LEU:HD23	47:RS:112:PHE:H	1.69	0.57
34:YA:1889:A:N3	34:YA:2086:U:O2'	2.37	0.57
37:YE:144:ARG:O	37:YE:147:PRO:HD2	2.04	0.57
47:YS:10:ARG:HA	47:YS:13:ARG:NE	2.20	0.57
1:QA:346:G:H1'	1:QA:347:G:H5'	1.86	0.57
4:QD:38:TYR:N	4:QD:38:TYR:CD1	2.71	0.57
40:RH:16:SER:OG	40:RH:27:LYS:O	2.21	0.57
54:RZ:145:GLU:H	54:RZ:148:ASP:HB2	1.70	0.57
2:XB:87:ARG:HH12	2:XB:233:SER:HB3	1.69	0.57
4:XD:98:GLU:HA	4:XD:103:ASN:ND2	2.20	0.57
13:XM:12:ASN:H	13:XM:45:VAL:CG1	2.18	0.57
34:YA:2086:U:H2'	34:YA:2087:G:C8	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:2683:C:OP1	48:YT:53:ARG:NH2	2.38	0.57
8:QH:83:ILE:HG13	8:QH:137:VAL:HG22	1.87	0.57
13:QM:5:ALA:HB2	13:QM:66:LEU:HD22	1.85	0.57
13:QM:12:ASN:H	13:QM:45:VAL:CG1	2.18	0.57
30:R6:15:GLU:HG3	30:R6:47:THR:HG21	1.87	0.57
40:RH:147:ASN:CA	40:RH:150:ALA:CB	2.77	0.57
9:XI:128:ARG:HH22	22:XV:33:U:H3'	1.69	0.57
30:Y6:14:THR:CG2	30:Y6:52:VAL:HB	2.34	0.57
30:Y6:15:GLU:CD	30:Y6:20:ASN:HB3	2.24	0.57
34:YA:987:G:O2'	34:YA:1000:A:N3	2.32	0.57
34:YA:1819:A:H5"	36:YD:161:THR:HG21	1.85	0.57
34:YA:2853:C:H2'	34:YA:2854:G:C8	2.39	0.57
40:YH:163:TYR:HB3	40:YH:167:GLU:OE1	2.05	0.57
19:QS:9:VAL:HG21	28:R4:63:TYR:CZ	2.40	0.56
34:RA:581:C:H2'	34:RA:582:G:C8	2.39	0.56
47:RS:29:PHE:HE2	47:RS:31:SER:HB3	1.70	0.56
1:XA:748:C:H1'	1:XA:749:C:H5	1.69	0.56
1:XA:1342:C:H2'	1:XA:1343:G:H8	1.70	0.56
8:XH:51:VAL:HG21	8:XH:60:ARG:HG3	1.86	0.56
30:Y6:8:LYS:CB	30:Y6:27:LYS:HB3	2.34	0.56
2:QB:24:TRP:HZ3	2:QB:29:ALA:HB2	1.70	0.56
36:RD:147:LEU:HD12	36:RD:155:LEU:HD11	1.86	0.56
41:RI:85:GLU:HA	41:RI:85:GLU:OE1	2.03	0.56
47:RS:11:LYS:O	47:RS:15:ARG:HG2	2.04	0.56
9:XI:28:VAL:HG22	9:XI:63:ILE:HB	1.86	0.56
16:XP:15:PRO:HB3	16:XP:17:TYR:HE1	1.70	0.56
32:Y8:7:HIS:HD2	44:YP:50:ARG:HH11	1.53	0.56
34:YA:323:G:H2'	38:YF:169:ASN:ND2	2.20	0.56
34:YA:414:C:H2'	34:YA:415:A:C8	2.40	0.56
45:YQ:137:TYR:HE2	54:YZ:83:PRO:HG3	1.69	0.56
1:QA:56:U:H2'	1:QA:57:G:C8	2.38	0.56
1:QA:280:C:O4'	17:QQ:38:ARG:NH1	2.39	0.56
1:QA:1147:C:O2	9:QI:16:ARG:NH1	2.39	0.56
1:QA:1218:C:H2'	1:QA:1219:U:C6	2.40	0.56
7:QG:15:ASP:OD1	7:QG:16:LEU:N	2.37	0.56
20:QT:26:ASN:HB2	20:QT:71:THR:HG23	1.87	0.56
28:R4:18:CYS:HB2	28:R4:39:CYS:HB2	1.87	0.56
28:R4:36:CYS:O	28:R4:36:CYS:SG	2.63	0.56
29:R5:20:ARG:HA	29:R5:23:HIS:ND1	2.20	0.56
29:R5:56:LYS:O	29:R5:56:LYS:HG2	2.05	0.56
34:RA:24:G:O2'	51:RW:78:GLU:O	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1278:A:H2'	34:RA:1279:G:C8	2.40	0.56
34:RA:2701:C:H3'	34:RA:2702:U:C5'	2.36	0.56
39:RG:124:SER:HB2	39:RG:131:TYR:HE1	1.69	0.56
43:RO:102:VAL:HB	43:RO:106:LEU:HD12	1.86	0.56
47:RS:29:PHE:CE2	47:RS:31:SER:HB3	2.40	0.56
47:RS:59:LYS:HD3	47:RS:60:GLY:H	1.68	0.56
1:XA:390:C:H4'	16:XP:28:ARG:HH21	1.70	0.56
1:XA:439:A:OP2	1:XA:493:G:N1	2.29	0.56
1:XA:1118:C:OP1	9:XI:9:ARG:NH1	2.39	0.56
1:XA:1414:U:H2'	1:XA:1415:G:H8	1.70	0.56
2:XB:16:HIS:HE1	2:XB:213:LEU:HB3	1.67	0.56
3:XC:88:ARG:HE	3:XC:101:LEU:HB3	1.70	0.56
9:XI:37:PHE:HB3	9:XI:40:LEU:HD12	1.87	0.56
10:XJ:38:ILE:HD11	10:XJ:71:LEU:HD23	1.87	0.56
28:Y4:25:TYR:OH	39:YG:4:ASP:HB3	2.05	0.56
28:Y4:48:ARG:NH2	28:Y4:52:THR:O	2.38	0.56
29:Y5:4:HIS:O	34:YA:2056:G:N2	2.39	0.56
30:Y6:15:GLU:CG	30:Y6:16:CYS:H	2.15	0.56
34:YA:994:C:OP1	49:YU:53:ARG:NH2	2.38	0.56
34:YA:1311:G:H21	34:YA:1603:A:H62	1.52	0.56
34:YA:1530:G:O6	34:YA:1542:G:N2	2.38	0.56
34:YA:1841:U:H2'	34:YA:1842:G:H8	1.68	0.56
34:YA:2328:A:H2'	34:YA:2329:G:C8	2.41	0.56
37:YE:1:MET:O	37:YE:81:ILE:HG21	2.06	0.56
41:YI:65:ALA:HB2	41:YI:133:HIS:ND1	2.20	0.56
41:YI:71:ILE:HG23	41:YI:71:ILE:O	2.05	0.56
43:YO:120:GLU:OE1	48:YT:67:SER:OG	2.21	0.56
54:YZ:102:LEU:HD21	54:YZ:124:ILE:HG22	1.87	0.56
1:QA:1010:G:H2'	1:QA:1011:G:H8	1.70	0.56
2:QB:178:ARG:NH1	2:QB:196:LEU:O	2.38	0.56
26:R2:32:LEU:HB2	26:R2:53:LEU:HD22	1.87	0.56
37:RE:16:ARG:HD2	37:RE:173:VAL:HG13	1.86	0.56
1:XA:235:C:H2'	1:XA:236:G:H8	1.69	0.56
1:XA:266:G:H5'	1:XA:268:C:H41	1.70	0.56
3:XC:81:GLY:HA2	3:XC:84:ILE:HG22	1.88	0.56
20:XT:89:ARG:HG2	20:XT:104:LEU:HD21	1.87	0.56
34:YA:534:U:H5'	49:YU:42:ALA:HB1	1.88	0.56
34:YA:2154:G:H2'	34:YA:2155:G:H8	1.70	0.56
42:YN:47:ALA:HB2	42:YN:112:LEU:HD11	1.87	0.56
53:YY:81:LYS:HD3	53:YY:97:ARG:HB3	1.87	0.56
1:QA:17:U:H2'	1:QA:18:C:C6	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:689:C:OP1	11:QK:27:ASN:ND2	2.38	0.56
1:QA:824:C:H2'	1:QA:825:G:H8	1.69	0.56
18:QR:38:GLU:HG3	18:QR:41:LYS:HE3	1.87	0.56
30:R6:20:ASN:ND2	30:R6:42:TRP:NE1	2.53	0.56
34:RA:589:C:H2'	34:RA:590:A:C8	2.41	0.56
34:RA:2328:A:H2'	34:RA:2329:G:H8	1.70	0.56
37:RE:50:GLY:HA2	37:RE:77:ILE:HA	1.88	0.56
44:RP:98:GLU:OE2	44:RP:102:ARG:NH1	2.38	0.56
1:XA:1188:A:H4'	14:XN:58:LYS:HE3	1.86	0.56
19:XS:5:LEU:HD12	19:XS:5:LEU:O	2.05	0.56
34:YA:878:A:N6	34:YA:899:A:O2'	2.37	0.56
34:YA:1416:G:H2'	34:YA:1417:C:C6	2.41	0.56
47:YS:87:PHE:CZ	47:YS:98:VAL:HG13	2.41	0.56
50:YV:27:ALA:O	50:YV:64:HIS:CE1	2.59	0.56
52:YX:21:PHE:HE1	52:YX:92:LEU:HB3	1.69	0.56
2:QB:212:GLN:HG3	2:QB:237:ALA:H	1.71	0.56
5:QE:11:ILE:HD12	5:QE:105:VAL:HG22	1.88	0.56
13:QM:10:PRO:CG	13:QM:18:ALA:HB1	2.34	0.56
30:R6:14:THR:HG21	30:R6:19:ARG:HH11	1.70	0.56
34:RA:1569:A:H5'	36:RD:61:LEU:HD21	1.87	0.56
39:RG:106:LEU:HA	39:RG:110:ALA:HB3	1.86	0.56
41:RI:84:GLY:O	41:RI:144:VAL:HG21	2.06	0.56
42:RN:115:ARG:O	42:RN:119:ARG:HG2	2.05	0.56
54:RZ:42:VAL:HG12	54:RZ:46:LYS:HE3	1.88	0.56
16:XP:45:THR:HG22	16:XP:47:ASP:H	1.70	0.56
32:Y8:49:VAL:HG23	32:Y8:53:PRO:HD3	1.87	0.56
34:YA:2845:G:H2'	34:YA:2846:G:H8	1.71	0.56
43:YO:104:ARG:NH1	48:YT:36:GLU:OE2	2.39	0.56
48:YT:16:ARG:NH1	48:YT:80:SER:O	2.38	0.56
1:QA:629:G:H2'	1:QA:630:G:C8	2.41	0.56
25:R1:71:TYR:CE2	41:RI:27:ARG:HB2	2.41	0.56
29:R5:36:CYS:SG	29:R5:48:GLU:OE2	2.64	0.56
34:RA:1853:A:N3	34:RA:2233:U:O2'	2.37	0.56
34:RA:2292:C:OP1	47:RS:17:ARG:NH2	2.36	0.56
34:RA:2685:G:H5'	43:RO:68:GLU:OE2	2.06	0.56
3:XC:18:TRP:HH2	14:XN:57:ARG:HH21	1.53	0.56
13:XM:24:GLY:O	13:XM:29:ARG:NH1	2.39	0.56
28:Y4:39:CYS:CA	28:Y4:41:PRO:HD3	2.33	0.56
28:Y4:68:ARG:H	28:Y4:68:ARG:CD	2.18	0.56
28:Y4:71:ARG:H	28:Y4:71:ARG:CD	2.19	0.56
34:YA:1007:C:H5"	42:YN:35:ARG:NH1	2.21	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YE:91:VAL:HG13	37:YE:95:ILE:HG13	1.87	0.56
41:YI:131:LYS:HG2	41:YI:135:GLU:HB3	1.87	0.56
53:YY:81:LYS:HD2	53:YY:96:ILE:HD12	1.87	0.56
2:QB:188:ALA:HB3	2:QB:202:PRO:HA	1.88	0.56
29:R5:4:HIS:HD2	34:RA:2056:G:H1	1.54	0.56
32:R8:10:ALA:HB3	32:R8:60:LEU:HD21	1.88	0.56
34:RA:639:U:H2'	34:RA:640:C:H6	1.71	0.56
43:RO:68:GLU:HB3	43:RO:78:ARG:HB3	1.88	0.56
1:XA:254:G:H5"	17:XQ:69:LYS:HD2	1.88	0.56
1:XA:269:C:H2'	1:XA:270:A:C8	2.40	0.56
9:XI:26:VAL:HG22	9:XI:61:ALA:HB3	1.88	0.56
17:XQ:44:ALA:HB1	17:XQ:73:VAL:HG22	1.87	0.56
29:Y5:16:ARG:NH2	34:YA:517:C:OP1	2.38	0.56
34:YA:573:G:N1	34:YA:2031:A:OP2	2.31	0.56
34:YA:2233:U:H2'	34:YA:2234:G:C8	2.41	0.56
47:YS:49:VAL:HG22	47:YS:80:LEU:HD12	1.87	0.56
50:YV:24:LYS:HD3	50:YV:90:PRO:HB2	1.88	0.56
1:QA:890:G:O2'	1:QA:906:G:O6	2.23	0.56
13:QM:84:ILE:HG13	19:QS:66:MET:CG	2.35	0.56
27:R3:7:LYS:HE3	27:R3:32:GLN:HA	1.87	0.56
28:R4:42:PHE:CZ	28:R4:43:TYR:HB2	2.31	0.56
34:RA:859:G:N2	34:RA:917:A:OP2	2.36	0.56
34:RA:1353:A:H2'	34:RA:1354:A:C8	2.41	0.56
34:RA:2115:G:N2	34:RA:2165:G:N7	2.46	0.56
34:RA:2646:C:OP2	34:RA:2732:G:O2'	2.23	0.56
34:RA:2788:C:O2'	34:RA:2809:A:N3	2.39	0.56
37:RE:143:ASN:O	37:RE:144:ARG:HG2	2.06	0.56
40:RH:97:ARG:NH2	40:RH:104:GLU:OE1	2.38	0.56
45:RQ:12:GLN:HG2	45:RQ:73:PRO:HD2	1.88	0.56
54:RZ:102:LEU:HD11	54:RZ:124:ILE:HB	1.88	0.56
30:Y6:15:GLU:HA	30:Y6:49:HIS:CE1	2.40	0.56
34:YA:1113:U:H2'	34:YA:1114:G:C8	2.41	0.56
1:QA:543:C:P	4:QD:10:ARG:HH12	2.29	0.56
1:QA:1356:G:H2'	1:QA:1357:A:C8	2.40	0.56
4:QD:155:LEU:O	4:QD:158:ILE:N	2.40	0.56
40:RH:170:ARG:HG3	40:RH:171:LEU:H	1.70	0.56
50:RV:2:PHE:O	50:RV:42:GLY:N	2.39	0.56
1:XA:547:A:OP1	4:XD:73:ARG:NH2	2.39	0.56
2:XB:84:GLU:OE1	2:XB:87:ARG:NH2	2.39	0.56
25:Y1:11:ARG:HD3	25:Y1:12:PRO:HD2	1.88	0.56
41:YI:114:LEU:HD12	41:YI:114:LEU:O	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:YP:125:VAL:HG23	44:YP:138:LEU:HD21	1.83	0.56
54:YZ:5:LEU:HD22	54:YZ:43:GLU:HG2	1.86	0.56
3:QC:50:ALA:HB1	3:QC:70:VAL:HG11	1.88	0.55
10:QJ:38:ILE:HD11	10:QJ:71:LEU:HD23	1.87	0.55
12:QL:46:LYS:HG2	12:QL:47:LYS:H	1.71	0.55
28:R4:18:CYS:CB	28:R4:39:CYS:HB2	2.36	0.55
28:R4:59:PHE:HD1	28:R4:70:GLY:O	1.89	0.55
28:R4:68:ARG:HD2	28:R4:69:LYS:H	1.70	0.55
34:RA:1857:G:O2'	34:RA:1885:A:N6	2.40	0.55
37:RE:141:ILE:O	37:RE:154:LYS:NZ	2.40	0.55
38:RF:23:ASP:N	38:RF:23:ASP:OD1	2.37	0.55
39:RG:19:LEU:HG	39:RG:175:LEU:HD12	1.89	0.55
1:XA:269:C:H2'	1:XA:270:A:H8	1.71	0.55
1:XA:1432:G:O2'	1:XA:1468:A:N6	2.38	0.55
8:XH:104:ARG:HD2	8:XH:138:TRP:CG	2.41	0.55
9:XI:47:LEU:HD12	9:XI:50:LEU:HD12	1.89	0.55
24:Y0:32:ARG:HH22	34:YA:2353:G:H5"	1.71	0.55
32:Y8:28:GLY:O	32:Y8:44:LYS:NZ	2.24	0.55
34:YA:581:C:H2'	34:YA:582:G:C8	2.41	0.55
36:YD:35:LYS:CA	36:YD:35:LYS:CE	2.84	0.55
41:YI:144:VAL:O	41:YI:144:VAL:HG22	2.06	0.55
44:YP:94:GLU:HG3	44:YP:124:LYS:HD3	1.86	0.55
1:QA:688:G:O2'	1:QA:704:A:N1	2.37	0.55
1:QA:991:U:HO2'	1:QA:993:G:H8	0.72	0.55
1:QA:1500:A:H5"	1:QA:1508:G:H5"	1.87	0.55
1:QA:1513:A:H2'	1:QA:1514:C:C6	2.41	0.55
2:QB:8:LYS:HE2	2:QB:11:LEU:HB3	1.88	0.55
25:R1:97:LEU:HD13	34:RA:270(T):G:H5"	1.89	0.55
34:RA:1791:A:H3'	34:RA:1792:G:H8	1.70	0.55
1:XA:606:G:H22	1:XA:631:G:H5"	1.71	0.55
3:XC:17:ASP:O	3:XC:54:ARG:NH2	2.40	0.55
10:XJ:47:PHE:CE2	14:XN:37:PHE:HE2	2.24	0.55
34:YA:811:U:H3'	44:YP:23:PRO:HD3	1.87	0.55
50:YV:24:LYS:HA	50:YV:92:THR:HG23	1.87	0.55
51:YW:88:ARG:HB2	51:YW:92:ARG:HB3	1.88	0.55
52:YX:64:LYS:HE3	52:YX:73:ARG:HH21	1.71	0.55
30:R6:25:LYS:HD3	32:R8:34:TRP:HE1	1.71	0.55
32:R8:14:VAL:HG13	32:R8:22:VAL:HG13	1.88	0.55
45:RQ:64:ILE:HG23	45:RQ:104:PHE:O	2.07	0.55
48:RT:102:ILE:HB	48:RT:110:ILE:HD13	1.88	0.55
12:XL:45:PRO:HA	12:XL:93:LEU:HD23	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Y5:19:ARG:NH2	34:YA:1264:G:OP1	2.38	0.55
32:Y8:61:LEU:HD13	34:YA:593:G:C3'	2.35	0.55
34:YA:38:A:N3	38:YF:48:THR:OG1	2.38	0.55
35:YB:111:U:H2'	35:YB:112:G:H8	1.71	0.55
37:YE:26:ILE:HG13	37:YE:182:LEU:HB3	1.88	0.55
37:YE:146:THR:HG1	37:YE:147:PRO:CD	2.01	0.55
1:QA:452:A:H2'	1:QA:453:A:H8	1.72	0.55
1:QA:1287:A:H2	1:QA:1353:G:H1'	1.72	0.55
2:QB:32:ILE:HA	2:QB:42:ILE:HA	1.88	0.55
34:RA:1226:G:H4'	50:RV:84:LYS:HG2	1.89	0.55
34:RA:2307:G:O6	39:RG:44:GLY:N	2.39	0.55
1:XA:538:G:H5"	12:XL:114:LYS:HB2	1.87	0.55
5:XE:41:VAL:HG13	5:XE:113:ALA:CB	2.32	0.55
7:XG:18:TYR:HD2	7:XG:59:LEU:HD13	1.72	0.55
24:Y0:19:LYS:NZ	34:YA:2387:U:O2'	2.39	0.55
28:Y4:39:CYS:SG	28:Y4:41:PRO:CD	2.94	0.55
30:Y6:9:LEU:HD13	30:Y6:10:LEU:H	1.70	0.55
34:YA:1165:U:H2'	34:YA:1166:C:C6	2.42	0.55
34:YA:1782:C:H1'	34:YA:2609:U:H5"	1.88	0.55
34:YA:2630:G:H2'	34:YA:2631:G:H8	1.71	0.55
37:YE:78:LEU:HD23	37:YE:78:LEU:C	2.26	0.55
47:YS:87:PHE:CE2	47:YS:98:VAL:HG13	2.41	0.55
1:QA:373:A:O2'	1:QA:451:A:N7	2.39	0.55
1:QA:407:G:H2'	1:QA:408:A:C8	2.42	0.55
1:QA:865:A:H5'	1:QA:1078:U:H5	1.72	0.55
1:QA:1147:C:H2'	1:QA:1148:U:H6	1.72	0.55
1:QA:1300:G:C6	1:QA:1335:C:C6	2.95	0.55
1:QA:1310:G:OP1	13:QM:80:ARG:NH2	2.36	0.55
34:RA:589:C:H2'	34:RA:590:A:H8	1.71	0.55
34:RA:1568:G:P	36:RD:63:ARG:HH22	2.28	0.55
39:RG:18:GLU:O	39:RG:22:ARG:HB2	2.05	0.55
45:RQ:51:ARG:HD3	45:RQ:66:ILE:HD11	1.88	0.55
49:RU:40:PHE:HD1	50:RV:75:PHE:CE1	2.24	0.55
2:XB:77:ALA:HB2	2:XB:211:ILE:HD13	1.89	0.55
2:XB:213:LEU:HG	2:XB:217:ARG:NH1	2.22	0.55
12:XL:85:ILE:HG21	12:XL:98:TYR:HD2	1.72	0.55
15:XO:87:ILE:HG22	15:XO:88:ARG:H	1.72	0.55
29:Y5:35:GLU:HG3	29:Y5:50:GLY:HA2	1.88	0.55
34:YA:1657:C:H2'	34:YA:1658:C:H6	1.72	0.55
35:YB:44:G:H1'	35:YB:47:C:H42	1.71	0.55
44:YP:100:LEU:HB2	44:YP:106:LEU:HD12	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:718:G:H5'	11:QK:117:ASN:ND2	2.21	0.55
1:QA:811:C:O2'	1:QA:901:A:N1	2.38	0.55
1:QA:992:U:H3	1:QA:1044:A:H62	1.55	0.55
1:QA:1010:G:H2'	1:QA:1011:G:C8	2.42	0.55
5:QE:78:HIS:CE1	8:QH:104:ARG:HH21	2.24	0.55
9:QI:9:ARG:CG	9:QI:14:VAL:HG13	2.37	0.55
28:R4:63:TYR:CD1	28:R4:68:ARG:NE	2.74	0.55
30:R6:17:LYS:HB2	30:R6:44:ARG:HH12	1.71	0.55
30:R6:24:GLU:OE2	34:RA:2346:A:O2'	2.25	0.55
38:RF:65:TRP:CH2	38:RF:72:ARG:HD2	2.41	0.55
39:RG:23:PHE:CD2	39:RG:168:GLU:HG2	2.42	0.55
48:RT:55:ASN:HB3	48:RT:58:ASN:HB2	1.88	0.55
4:XD:166:LYS:HB2	4:XD:178:VAL:HG11	1.88	0.55
8:XH:97:VAL:HG21	8:XH:128:GLY:HA2	1.89	0.55
16:XP:26:ARG:HG2	16:XP:27:LYS:H	1.71	0.55
29:Y5:4:HIS:HB3	34:YA:2577:A:H1'	1.86	0.55
31:Y7:7:PRO:HB2	34:YA:1309:G:H4'	1.89	0.55
34:YA:1792:G:H5'	36:YD:205:VAL:HG13	1.88	0.55
34:YA:1853:A:H2'	34:YA:1854:A:C8	2.42	0.55
34:YA:2636:U:H4'	37:YE:80:GLU:OE1	2.06	0.55
36:YD:70:TRP:CH2	36:YD:150:LYS:HA	2.42	0.55
13:QM:15:VAL:HG22	13:QM:45:VAL:HA	1.89	0.55
34:RA:1062:G:H2'	34:RA:1063:G:C8	2.42	0.55
34:RA:1341:U:OP2	34:RA:1394:U:O2'	2.22	0.55
44:RP:106:LEU:HD23	44:RP:112:LEU:HD23	1.89	0.55
54:RZ:44:PHE:CZ	54:RZ:86:VAL:HG21	2.41	0.55
1:XA:407:G:H2'	1:XA:408:A:H8	1.72	0.55
34:YA:2543:G:H2'	34:YA:2544:G:C8	2.42	0.55
34:YA:2618:G:H21	37:YE:150:VAL:HG21	1.72	0.55
52:YX:63:LYS:O	52:YX:65:ARG:NH1	2.40	0.55
53:YY:19:LYS:HG3	53:YY:20:TYR:HD1	1.72	0.55
1:QA:18:C:H5"	5:QE:127:ASN:HD21	1.72	0.55
2:QB:223:ILE:HG21	2:QB:230:VAL:HG22	1.88	0.55
34:RA:443:A:H3'	38:RF:45:ARG:HH12	1.72	0.55
34:RA:1257:C:H5'	38:RF:75:HIS:CE1	2.42	0.55
34:RA:2086:U:H2'	34:RA:2087:G:C8	2.42	0.55
1:XA:186(A):C:O2'	20:XT:89:ARG:HD2	2.06	0.55
5:XE:33:VAL:HG11	5:XE:109:ILE:HA	1.88	0.55
11:XK:23:ALA:HB2	11:XK:91:ARG:HB3	1.88	0.55
34:YA:639:U:H2'	34:YA:640:C:C6	2.41	0.55
34:YA:1167:U:H2'	34:YA:1168:G:H8	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YE:116:VAL:HG23	37:YE:120:TRP:HD1	1.71	0.55
40:YH:97:ARG:NH1	40:YH:99:VAL:HG13	2.17	0.55
52:YX:27:THR:HB	52:YX:80:ILE:HG22	1.88	0.55
3:QC:159:GLY:HA2	3:QC:193:TYR:HD2	1.72	0.55
34:RA:1308:A:H3'	34:RA:1309:G:H8	1.71	0.55
34:RA:1754:C:N3	34:RA:2716:U:O2'	2.33	0.55
34:RA:2246:G:H2'	34:RA:2247:A:H8	1.72	0.55
45:RQ:50:ALA:HB3	45:RQ:104:PHE:HE2	1.72	0.55
5:XE:78:HIS:CE1	8:XH:104:ARG:HH21	2.25	0.55
34:YA:1799:G:H5'	34:YA:1819:A:H61	1.72	0.55
37:YE:105:THR:HB	37:YE:197:ILE:HG12	1.87	0.55
39:YG:94:LEU:HD12	39:YG:99:MET:HA	1.89	0.55
50:YV:21:ARG:HD2	50:YV:91:TYR:CE2	2.42	0.55
1:QA:522:C:H41	12:QL:53:ARG:HH22	1.55	0.55
1:QA:741:G:H5'	15:QO:39:LEU:HD21	1.88	0.55
13:QM:15:VAL:O	13:QM:18:ALA:HB3	2.07	0.55
18:QR:48:GLY:O	18:QR:74:ARG:NH2	2.40	0.55
29:R5:3:LYS:HD3	29:R5:4:HIS:H	1.72	0.55
34:RA:747:U:H6	34:RA:747:U:O5'	1.90	0.55
34:RA:1497:U:H5"	34:RA:1498:C:H5	1.72	0.55
37:RE:27:LEU:HD13	48:RT:1:MET:HE2	1.89	0.55
42:RN:99:LEU:HD12	42:RN:122:VAL:HG21	1.88	0.55
43:RO:104:ARG:HH11	43:RO:121:VAL:HG12	1.72	0.55
1:XA:17:U:H2'	1:XA:18:C:C6	2.42	0.55
1:XA:107:G:O6	20:XT:15:ARG:NH1	2.39	0.55
4:XD:133:VAL:HG11	4:XD:138:TYR:HD2	1.71	0.55
12:XL:53:ARG:HB3	12:XL:69:TYR:HE1	1.72	0.55
20:XT:10:LEU:HG	20:XT:12:ALA:H	1.72	0.55
34:YA:1430:C:H2'	34:YA:1431:U:C6	2.42	0.55
36:YD:94:LEU:C	36:YD:94:LEU:HD13	2.28	0.55
1:QA:853:G:H2'	1:QA:854:G:H8	1.71	0.54
3:QC:57:ILE:HG12	3:QC:66:VAL:HG22	1.87	0.54
22:QV:12:U:HO2'	34:RA:1923:U:HO2'	1.55	0.54
26:R2:12:GLU:O	26:R2:16:LEU:HG	2.06	0.54
39:RG:91:ARG:HH11	39:RG:93:THR:HB	1.72	0.54
43:RO:64:ARG:HG2	43:RO:83:ALA:HB3	1.89	0.54
1:XA:112:G:N1	1:XA:330:C:C5	2.75	0.54
4:XD:68:TYR:CE2	4:XD:97:LEU:HB3	2.43	0.54
34:YA:2125:G:O2'	34:YA:2173:A:N6	2.40	0.54
40:YH:56:SER:OG	40:YH:58:GLU:OE1	2.23	0.54
41:YI:123:LEU:HA	41:YI:142:VAL:CG2	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:YQ:102:VAL:HG11	45:YQ:105:GLU:CD	2.25	0.54
47:YS:67:ARG:HD3	47:YS:71:ARG:HH21	1.72	0.54
1:QA:674:G:H2'	1:QA:675:A:C8	2.40	0.54
3:QC:5:ILE:HD13	3:QC:10:PHE:HB2	1.88	0.54
29:R5:16:ARG:NH2	34:RA:517:C:OP1	2.39	0.54
34:RA:1796:U:H2'	34:RA:1797:C:C6	2.43	0.54
37:RE:184:VAL:HG12	37:RE:185:LYS:H	1.72	0.54
38:RF:45:ARG:NE	38:RF:97:TYR:CE1	2.75	0.54
39:RG:38:VAL:CG2	39:RG:91:ARG:CD	2.76	0.54
48:RT:3:ARG:HG3	48:RT:7:ILE:HG13	1.89	0.54
49:RU:92:ARG:HH11	50:RV:11:GLN:HB2	1.71	0.54
1:XA:715:A:H2'	1:XA:716:A:C8	2.42	0.54
1:XA:1117:G:H21	1:XA:1180:A:H1'	1.72	0.54
3:XC:57:ILE:HG23	3:XC:66:VAL:HG22	1.89	0.54
26:Y2:50:ILE:HD12	26:Y2:51:ARG:H	1.72	0.54
1:QA:21:G:H2'	1:QA:22:G:C8	2.43	0.54
1:QA:714:G:H2'	1:QA:715:A:C8	2.42	0.54
26:R2:47:ASN:OD1	34:RA:61:G:C5	2.61	0.54
29:R5:32:PRO:CG	29:R5:39:MET:CE	2.82	0.54
34:RA:557:U:H2'	34:RA:558:G:H8	1.70	0.54
34:RA:2630:G:H2'	34:RA:2631:G:H8	1.72	0.54
40:RH:41:MET:HE1	40:RH:65:HIS:N	2.19	0.54
1:XA:8:A:N6	4:XD:208:SER:O	2.39	0.54
1:XA:486:U:H2'	1:XA:487:A:H8	1.72	0.54
34:YA:956:G:H5"	45:YQ:77:LYS:HD2	1.87	0.54
37:YE:36:ARG:NH1	37:YE:85:ASN:OD1	2.41	0.54
38:YF:78:ILE:HG23	38:YF:83:PHE:HD2	1.72	0.54
44:YP:59:LEU:HA	44:YP:61:ARG:NH2	2.22	0.54
48:YT:34:VAL:HG12	48:YT:36:GLU:HG2	1.88	0.54
54:YZ:59:LEU:CD1	54:YZ:67:LEU:HD11	2.29	0.54
1:QA:1355:G:H2'	1:QA:1356:G:C8	2.42	0.54
2:QB:87:ARG:NH1	2:QB:234:PRO:O	2.40	0.54
13:QM:14:ARG:HA	13:QM:43:THR:O	2.07	0.54
28:R4:42:PHE:CD1	28:R4:43:TYR:N	2.75	0.54
34:RA:859:G:O2'	34:RA:916:G:O6	2.25	0.54
36:RD:231:HIS:HD2	36:RD:249:PRO:HG3	1.72	0.54
39:RG:12:TYR:HA	39:RG:16:ARG:HG2	1.89	0.54
1:XA:1342:C:H2'	1:XA:1343:G:C8	2.43	0.54
1:XA:1534:A:H2'	1:XA:1535:C:C6	2.43	0.54
34:YA:84:A:H3'	53:YY:8:LYS:HG3	1.88	0.54
34:YA:919:G:N2	34:YA:2269:A:OP2	2.39	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:107:ARG:HH12	4:QD:114:ARG:HH21	1.55	0.54
5:QE:50:GLU:HB3	5:QE:53:LEU:HD13	1.89	0.54
34:RA:622:G:OP2	44:RP:108:LYS:NZ	2.36	0.54
34:RA:1243:G:H4'	44:RP:7:ARG:HH21	1.73	0.54
36:RD:123:ALA:HB3	36:RD:131:LEU:HG	1.90	0.54
45:RQ:137:TYR:CE2	54:RZ:83:PRO:HG3	2.41	0.54
54:RZ:39:VAL:HG21	54:RZ:44:PHE:HD2	1.71	0.54
16:XP:38:TYR:CE1	16:XP:50:LYS:HB3	2.38	0.54
25:Y1:53:VAL:HG11	25:Y1:90:ILE:HD11	1.88	0.54
25:Y1:71:TYR:CE2	41:YI:27:ARG:HB2	2.43	0.54
25:Y1:83:GLU:HG2	25:Y1:85:LEU:H	1.72	0.54
30:Y6:14:THR:HG22	30:Y6:52:VAL:CB	2.38	0.54
34:YA:698:C:O2'	34:YA:734:A:N6	2.40	0.54
34:YA:783:A:H8	34:YA:784:A:H4'	1.73	0.54
34:YA:2441:C:OP2	34:YA:2586:C:O2'	2.24	0.54
35:YB:90:C:H5'	45:YQ:18:LYS:HA	1.90	0.54
40:YH:163:TYR:CE2	40:YH:169:VAL:CG2	2.86	0.54
41:YI:92:VAL:HG13	41:YI:120:ILE:HG23	1.89	0.54
48:YT:3:ARG:HG3	48:YT:7:ILE:HG12	1.89	0.54
48:YT:85:LYS:NZ	48:YT:87:ASP:OD2	2.37	0.54
1:QA:624:C:H2'	1:QA:625:G:H8	1.72	0.54
1:QA:1073:U:O2	2:QB:104:ASN:ND2	2.41	0.54
2:QB:115:LEU:HD13	2:QB:145:LEU:HB2	1.90	0.54
20:QT:56:MET:HG3	20:QT:84:LEU:HD22	1.90	0.54
24:R0:41:ARG:NH2	34:RA:2387:U:O2'	2.41	0.54
25:R1:18:ILE:HG12	25:R1:37:ILE:HG12	1.90	0.54
34:RA:1844:C:H5"	36:RD:258:LYS:HD3	1.88	0.54
1:XA:262:A:H5"	20:XT:76:ALA:HB2	1.88	0.54
10:XJ:49:VAL:HG23	14:XN:41:ARG:HB2	1.90	0.54
10:XJ:51:ARG:HG3	10:XJ:60:ARG:HA	1.90	0.54
13:XM:93:ARG:NH1	34:YA:888:C:OP1	2.41	0.54
19:XS:32:LYS:HA	19:XS:50:ALA:HB3	1.89	0.54
34:YA:458:G:O2'	34:YA:469:G:O6	2.21	0.54
34:YA:1259:G:H2'	34:YA:1260:G:C8	2.43	0.54
34:YA:2023:G:H5'	34:YA:2617:C:H4'	1.90	0.54
39:YG:18:GLU:OE2	39:YG:21:ARG:NH2	2.40	0.54
40:YH:89:ILE:HA	40:YH:162:ILE:HA	1.89	0.54
41:YI:61:ARG:HB3	41:YI:133:HIS:NE2	2.22	0.54
44:YP:135:LEU:HD13	44:YP:139:LYS:HE3	1.90	0.54
45:YQ:102:VAL:CG1	45:YQ:105:GLU:OE2	2.37	0.54
4:QD:23:GLY:N	4:QD:26:CYS:SG	2.76	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
25:R1:50:ARG:NH1	25:R1:57:GLU:OE2	2.40	0.54
28:R4:38:LYS:NZ	39:RG:179:PRO:HB3	2.23	0.54
34:RA:414:C:H2'	34:RA:415:A:C8	2.42	0.54
39:RG:5:VAL:HG12	39:RG:8:LYS:HB3	1.84	0.54
1:XA:21:G:H2'	1:XA:22:G:C8	2.43	0.54
1:XA:1005:A:HO2'	1:XA:1037:C:HO2'	1.54	0.54
2:XB:16:HIS:NE2	2:XB:213:LEU:CB	2.68	0.54
4:XD:187:ARG:NH1	4:XD:193:ASP:OD2	2.34	0.54
34:YA:305:U:H2'	34:YA:306:U:C6	2.43	0.54
34:YA:1139:G:O2'	34:YA:1143:A:N1	2.36	0.54
34:YA:1438:U:H2'	34:YA:1439:A:H8	1.73	0.54
34:YA:2292:C:OP1	47:YS:17:ARG:NH2	2.37	0.54
39:YG:5:VAL:O	39:YG:8:LYS:N	2.41	0.54
47:YS:7:TYR:CE1	47:YS:91:PRO:HG3	2.42	0.54
1:QA:269:C:H2'	1:QA:270:A:H8	1.73	0.54
1:QA:985:C:H2'	1:QA:986:A:C8	2.43	0.54
3:QC:44:GLU:HG3	3:QC:52:LEU:HD21	1.90	0.54
4:QD:38:TYR:N	4:QD:38:TYR:HD1	2.05	0.54
34:RA:259:G:H21	34:RA:621:A:H8	1.56	0.54
34:RA:1981:A:H3'	34:RA:1981:A:C8	2.42	0.54
34:RA:2698:U:H2'	34:RA:2699:C:C6	2.42	0.54
35:RB:24:G:H4'	35:RB:25:A:C8	2.42	0.54
36:RD:14:ARG:HB2	36:RD:15:PHE:CD1	2.43	0.54
40:RH:149:ARG:HG2	40:RH:149:ARG:O	2.08	0.54
1:XA:422:C:O2'	1:XA:423:G:N2	2.41	0.54
1:XA:1281:U:H5"	1:XA:1282:C:H5	1.73	0.54
13:XM:3:ARG:HH21	13:XM:7:VAL:HB	1.72	0.54
17:XQ:50:LYS:HD3	17:XQ:51:TYR:CE1	2.43	0.54
19:XS:68:GLY:HA2	28:Y4:68:ARG:CG	2.33	0.54
34:YA:1454:U:O2'	34:YA:1455:G:N7	2.33	0.54
34:YA:2789:C:H1'	34:YA:2892:A:H2	1.73	0.54
51:YW:17:VAL:HG13	51:YW:76:VAL:HG11	1.89	0.54
1:QA:1297:C:O5'	13:QM:13:LYS:CE	2.54	0.54
13:QM:24:GLY:O	13:QM:29:ARG:NH1	2.41	0.54
16:QP:13:HIS:O	16:QP:42:ARG:NH1	2.41	0.54
34:RA:550:G:H5"	50:RV:68:LYS:NZ	2.23	0.54
34:RA:579:G:O2'	34:RA:2019:A:OP1	2.26	0.54
34:RA:2566:A:H61	43:RO:28:SER:HB2	1.72	0.54
34:RA:2844:G:H3'	34:RA:2845:G:H8	1.73	0.54
54:RZ:105:VAL:HG12	54:RZ:140:ASP:HA	1.89	0.54
1:XA:390:C:H2'	1:XA:391:G:H8	1.73	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1287:A:H2'	1:XA:1288:A:C8	2.43	0.54
5:XE:110:LEU:CB	5:XE:115:VAL:HG11	2.24	0.54
24:Y0:27:GLU:HG3	24:Y0:68:GLU:HA	1.90	0.54
25:Y1:87:PRO:HA	25:Y1:90:ILE:HB	1.90	0.54
33:Y9:16:VAL:HG22	33:Y9:25:VAL:HG22	1.88	0.54
34:YA:26:G:H1'	34:YA:515:A:H61	1.72	0.54
34:YA:1607:C:N4	34:YA:1622:G:OP2	2.35	0.54
41:YI:69:LYS:HG3	41:YI:136:VAL:CG2	2.35	0.54
54:YZ:5:LEU:HD13	54:YZ:6:LYS:H	1.71	0.54
1:QA:562:C:O2'	12:QL:16:GLU:O	2.23	0.54
1:QA:684:A:H1'	11:QK:39:PRO:HD2	1.90	0.54
1:QA:1007:C:H42	1:QA:1022:G:H1	1.56	0.54
2:QB:185:ILE:HG22	2:QB:199:TYR:HB2	1.88	0.54
3:QC:23:TYR:HA	10:QJ:11:PHE:HE1	1.72	0.54
28:R4:55:ARG:O	28:R4:59:PHE:HB2	2.08	0.54
29:R5:51:TYR:O	29:R5:56:LYS:HE3	2.07	0.54
34:RA:1028:A:N3	34:RA:2486:G:O2'	2.37	0.54
39:RG:173:LEU:HB3	39:RG:178:PHE:CG	2.43	0.54
30:Y6:41:PRO:HD2	30:Y6:46:HIS:H	1.72	0.54
34:YA:831:G:N2	44:YP:53:GLY:O	2.39	0.54
36:YD:223:GLY:HA3	36:YD:231:HIS:ND1	2.22	0.54
38:YF:24:LEU:HD23	38:YF:115:ALA:HA	1.89	0.54
46:YR:86:ARG:NH2	46:YR:118:GLU:OXT	2.40	0.54
53:YY:55:TYR:CD2	53:YY:55:TYR:N	2.76	0.54
53:YY:75:ILE:CG2	53:YY:76:CYS:N	2.70	0.54
54:YZ:57:ILE:N	54:YZ:57:ILE:HD12	2.23	0.54
1:QA:323:U:OP1	20:QT:26:ASN:ND2	2.35	0.53
1:QA:626:U:H4'	16:QP:38:TYR:CE2	2.42	0.53
1:QA:1316:G:C5'	14:QN:17:LYS:NZ	2.46	0.53
4:QD:194:LEU:HD23	4:QD:196:LEU:HD11	1.90	0.53
26:R2:47:ASN:OD1	34:RA:61:G:C8	2.61	0.53
28:R4:18:CYS:HB2	28:R4:39:CYS:CB	2.38	0.53
34:RA:639:U:H2'	34:RA:640:C:C6	2.43	0.53
34:RA:1657:C:H2'	34:RA:1658:C:C6	2.44	0.53
34:RA:1771:C:H2'	34:RA:1772:G:C8	2.43	0.53
34:RA:2327:A:H2'	34:RA:2328:A:C8	2.43	0.53
34:RA:2735:G:H2'	34:RA:2736:G:H8	1.72	0.53
36:RD:36:PRO:HB3	36:RD:61:LEU:HB3	1.89	0.53
1:XA:1023:G:H3'	1:XA:1024:G:H5"	1.89	0.53
1:XA:1179:A:O3'	9:XI:103:THR:OG1	2.24	0.53
18:XR:26:LEU:HD11	18:XR:29:PHE:CD1	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y6:8:LYS:HG3	30:Y6:27:LYS:HB3	1.89	0.53
30:Y6:42:TRP:CD1	34:YA:2348:U:H4'	2.43	0.53
34:YA:1405:U:H2'	34:YA:1406:U:C6	2.42	0.53
34:YA:1786:A:N7	34:YA:1938:A:C5	2.75	0.53
34:YA:2150:U:H2'	34:YA:2151:G:C8	2.44	0.53
37:YE:52:LEU:CD1	37:YE:76:ARG:HH12	2.20	0.53
44:YP:1:MET:HG2	44:YP:2:LYS:H	1.73	0.53
44:YP:88:LEU:HD21	44:YP:123:LEU:HD11	1.88	0.53
1:QA:448:A:OP2	1:QA:485:G:N2	2.30	0.53
24:R0:68:GLU:OE1	24:R0:82:ARG:NH1	2.41	0.53
30:R6:35:GLU:HG2	30:R6:51:GLU:OE1	2.08	0.53
34:RA:144:C:H2'	34:RA:145:G:C8	2.44	0.53
34:RA:414:C:O2	34:RA:1864:U:O2'	2.25	0.53
34:RA:840:C:H2'	34:RA:841:A:C8	2.44	0.53
34:RA:1005:C:O2'	42:RN:28:THR:HG21	2.08	0.53
34:RA:2438:U:O3'	34:RA:2439:A:H3'	2.09	0.53
1:XA:1513:A:H2'	1:XA:1514:C:C6	2.43	0.53
9:XI:83:ARG:HB3	9:XI:102:LEU:HD21	1.89	0.53
12:XL:59:ARG:NH1	12:XL:63:GLY:O	2.41	0.53
32:Y8:11:LYS:NZ	32:Y8:63:PRO:HB3	2.22	0.53
32:Y8:24:ALA:HA	44:YP:65:ARG:HH22	1.73	0.53
35:YB:104:A:OP1	54:YZ:72:ARG:NH2	2.33	0.53
41:YI:79:ILE:HG22	41:YI:81:VAL:HG13	1.90	0.53
42:YN:42:TRP:HE3	42:YN:48:MET:HE1	1.73	0.53
1:QA:827:U:H5	1:QA:872:A:H61	1.55	0.53
1:QA:1032(A):G:H2'	1:QA:1032(B):G:C8	2.43	0.53
1:QA:1106:G:H5"	3:QC:172:ARG:HB3	1.91	0.53
1:QA:1118:C:H1'	1:QA:1179:A:C4	2.44	0.53
34:RA:458:G:O2'	34:RA:469:G:O6	2.23	0.53
34:RA:2037:G:H2'	34:RA:2038:G:C8	2.44	0.53
34:RA:2751:G:C4	40:RH:3:ARG:HB2	2.43	0.53
47:RS:41:ASP:HB2	47:RS:48:LEU:HD21	1.89	0.53
48:RT:23:ARG:HG2	48:RT:120:ARG:HH12	1.72	0.53
50:RV:1:MET:CE	50:RV:43:GLU:HG2	2.37	0.53
1:XA:728:A:H2'	1:XA:729:A:C8	2.43	0.53
16:XP:21:VAL:HG23	16:XP:33:ILE:HB	1.90	0.53
34:YA:780:G:OP1	36:YD:218:ARG:NH2	2.41	0.53
34:YA:1709:U:H2'	34:YA:1710:C:C6	2.44	0.53
34:YA:1799:G:H8	36:YD:181:GLU:OE1	1.92	0.53
34:YA:2584:U:H5'	56:Z8:76:PPU:H103	1.90	0.53
1:QA:606:G:H22	1:QA:631:G:C5'	2.19	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1148:U:H5'	9:QI:7:THR:HG21	1.89	0.53
18:QR:74:ARG:HB3	18:QR:81:PHE:CE1	2.43	0.53
19:QS:19:VAL:HG21	19:QS:44:MET:HG3	1.82	0.53
22:QV:65:C:H2'	22:QV:66:A:H8	1.73	0.53
26:R2:13:ALA:O	26:R2:16:LEU:CD1	2.55	0.53
34:RA:996:A:H4'	49:RU:92:ARG:HE	1.73	0.53
35:RB:109:G:H2'	35:RB:110:G:H8	1.73	0.53
38:RF:46:ARG:HH11	38:RF:46:ARG:CG	2.14	0.53
40:RH:41:MET:HE3	40:RH:64:LEU:C	2.29	0.53
45:RQ:29:PHE:N	45:RQ:105:GLU:OE2	2.42	0.53
1:XA:224:C:H2'	1:XA:225:C:C6	2.43	0.53
2:XB:134:GLU:HA	2:XB:137:ARG:NE	2.23	0.53
34:YA:2619:C:H5"	37:YE:152:LYS:HA	1.91	0.53
34:YA:2683:C:H4'	37:YE:13:ARG:HH21	1.73	0.53
36:YD:233:HIS:CD2	36:YD:242:ARG:CB	2.74	0.53
37:YE:104:VAL:HG13	37:YE:198:VAL:HG22	1.90	0.53
54:YZ:44:PHE:CZ	54:YZ:86:VAL:HG21	2.44	0.53
1:QA:684:A:O2'	11:QK:39:PRO:O	2.25	0.53
28:R4:68:ARG:NE	28:R4:68:ARG:H	2.07	0.53
32:R8:15:LYS:HB2	44:RP:65:ARG:HH21	1.74	0.53
34:RA:2734:A:H3'	34:RA:2735:G:H8	1.74	0.53
40:RH:102:ALA:HB2	40:RH:117:PRO:HD3	1.90	0.53
44:RP:132:LYS:NZ	44:RP:136:GLU:OE2	2.40	0.53
1:XA:674:G:H2'	1:XA:675:A:C8	2.40	0.53
1:XA:1507:A:H2'	1:XA:1508:G:C8	2.44	0.53
2:XB:166:ASP:OD2	2:XB:168:THR:N	2.41	0.53
5:XE:152:ARG:O	8:XH:64:LYS:NZ	2.41	0.53
30:Y6:17:LYS:HA	30:Y6:17:LYS:HZ3	1.69	0.53
34:YA:273:G:H2'	34:YA:273(A):G:H8	1.73	0.53
38:YF:31:HIS:NE2	38:YF:35:GLU:OE2	2.42	0.53
53:YY:35:TYR:CE1	53:YY:69:ALA:HB3	2.43	0.53
54:YZ:98:MET:O	54:YZ:126:VAL:N	2.33	0.53
54:YZ:166:SER:OG	54:YZ:167:PRO:HD2	2.08	0.53
1:QA:1244:C:H2'	1:QA:1245:A:H8	1.74	0.53
1:QA:1376:U:H2'	1:QA:1377:A:C8	2.44	0.53
4:QD:20:TYR:CE2	6:XF:15:ASP:HB3	2.44	0.53
6:QF:9:VAL:HB	6:QF:87:ARG:HB2	1.90	0.53
10:QJ:34:VAL:HG22	10:QJ:74:ILE:HG22	1.91	0.53
34:RA:1278:A:H2'	34:RA:1279:G:H8	1.74	0.53
34:RA:2392:A:H2	34:RA:2424:C:H42	1.54	0.53
37:RE:5:LEU:HD22	37:RE:197:ILE:HG22	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:110:C:O2'	16:XP:25:ARG:O	2.24	0.53
1:XA:353:A:C5'	1:XA:353:A:C8	2.88	0.53
2:XB:98:LEU:HD12	2:XB:149:LEU:HD21	1.90	0.53
5:XE:100:VAL:HG23	5:XE:116:THR:O	2.09	0.53
34:YA:635:C:O2'	34:YA:639:U:OP1	2.26	0.53
48:YT:66:VAL:HA	48:YT:71:GLY:HA2	1.91	0.53
48:YT:98:LYS:HB3	48:YT:100:TYR:CE1	2.41	0.53
1:QA:1297:C:H5"	13:QM:13:LYS:NZ	2.23	0.53
17:QQ:27:PHE:CD2	17:QQ:36:ILE:HG13	2.43	0.53
26:R2:13:ALA:O	26:R2:16:LEU:CG	2.57	0.53
26:R2:30:ARG:HH11	52:RX:5:TYR:HE2	1.57	0.53
29:R5:58:LEU:O	29:R5:58:LEU:HD12	2.09	0.53
34:RA:906:G:C8	34:RA:906:G:C5'	2.85	0.53
34:RA:2696:U:H2'	34:RA:2697:G:C8	2.44	0.53
54:RZ:97:GLU:HA	54:RZ:127:LYS:HA	1.91	0.53
1:XA:1123:A:H4'	10:XJ:36:GLY:HA3	1.91	0.53
30:Y6:15:GLU:HA	30:Y6:49:HIS:ND1	2.24	0.53
34:YA:1084:A:H5"	34:YA:1085:A:H8	1.72	0.53
34:YA:1103:A:H5'	34:YA:1104:C:C5	2.31	0.53
34:YA:1689:A:H62	34:YA:1698:A:H2	1.57	0.53
34:YA:2212:A:H1'	34:YA:2215:G:C5	2.44	0.53
45:YQ:31:ASP:HA	45:YQ:134:ARG:HD2	1.89	0.53
1:QA:34:C:H2'	1:QA:35:G:C8	2.42	0.53
1:QA:1469:G:H2'	1:QA:1470:G:C8	2.44	0.53
19:QS:67:VAL:HG21	28:R4:60:GLN:OE1	2.09	0.53
22:QV:1:G:O2'	24:R0:5:LYS:NZ	2.35	0.53
36:RD:108:PRO:HG2	36:RD:111:LEU:HB2	1.90	0.53
50:RV:28:GLU:HG2	50:RV:29:PRO:HD2	1.91	0.53
1:XA:501:C:H2'	1:XA:502:G:C8	2.44	0.53
1:XA:1469:G:H2'	1:XA:1470:G:C8	2.43	0.53
28:Y4:33:VAL:HG13	39:YG:113:ARG:HD2	1.90	0.53
34:YA:630:G:N2	34:YA:633:A:OP2	2.33	0.53
34:YA:2071:A:H2'	34:YA:2072:G:H8	1.73	0.53
34:YA:2246:G:H2'	34:YA:2247:A:H8	1.71	0.53
36:YD:52:ARG:NH2	36:YD:249:PRO:HG2	2.23	0.53
41:YI:130:TYR:CD2	41:YI:132:PRO:HD3	2.43	0.53
41:YI:136:VAL:O	41:YI:136:VAL:HG13	2.09	0.53
1:QA:404:U:H2'	1:QA:405:U:H6	1.73	0.53
1:QA:425:G:O3'	4:QD:45:GLN:NE2	2.40	0.53
3:QC:17:ASP:HB3	3:QC:21:ARG:HH12	1.73	0.53
4:QD:62:GLN:OE1	4:QD:65:ARG:NH2	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:44:MET:O	19:QS:47:HIS:ND1	2.42	0.53
21:QU:18:TYR:CD2	21:QU:24:ARG:HB3	2.43	0.53
49:RU:70:ARG:NH1	49:RU:75:ASN:OD1	2.42	0.53
1:XA:22:G:H4'	1:XA:885:G:C8	2.44	0.53
17:XQ:45:HIS:HB3	17:XQ:72:ARG:HG2	1.91	0.53
34:YA:29:U:H2'	34:YA:30:G:H8	1.72	0.53
34:YA:1434:A:H2'	34:YA:1435:G:C8	2.44	0.53
36:YD:14:ARG:HB2	36:YD:15:PHE:CD1	2.43	0.53
1:QA:297:G:N2	1:QA:300:A:OP2	2.36	0.53
1:QA:422:C:HO2'	1:QA:423:G:N2	2.07	0.53
1:QA:1404:C:H2'	1:QA:1405:G:C8	2.44	0.53
1:QA:1412:C:H2'	1:QA:1413:A:C8	2.44	0.53
3:QC:191:THR:OG1	3:QC:194:GLY:O	2.25	0.53
8:QH:104:ARG:HD2	8:QH:138:TRP:CD2	2.44	0.53
26:R2:13:ALA:C	26:R2:16:LEU:CD1	2.76	0.53
28:R4:63:TYR:HD1	28:R4:68:ARG:NE	2.05	0.53
37:RE:47:VAL:HG22	37:RE:84:PHE:HB3	1.91	0.53
39:RG:143:GLU:OE1	39:RG:143:GLU:N	2.37	0.53
45:RQ:66:ILE:HA	45:RQ:104:PHE:HA	1.91	0.53
50:RV:76:LYS:CG	50:RV:81:TYR:CD1	2.92	0.53
1:XA:67:C:H2'	1:XA:68:G:C8	2.44	0.53
1:XA:191(F):U:H2'	1:XA:191:G:H8	1.72	0.53
1:XA:376:G:H5"	16:XP:5:ARG:HB2	1.91	0.53
1:XA:1522:U:H2'	1:XA:1523:G:H8	1.74	0.53
28:Y4:59:PHE:CD1	28:Y4:68:ARG:HB2	2.43	0.53
29:Y5:20:ARG:HA	29:Y5:23:HIS:ND1	2.23	0.53
34:YA:78:A:H2'	34:YA:79:G:H8	1.73	0.53
34:YA:227:A:H5"	44:YP:76:LYS:HE2	1.91	0.53
34:YA:2445:G:OP1	38:YF:74:ARG:NH2	2.39	0.53
34:YA:2591:C:H2'	34:YA:2592:G:C8	2.44	0.53
35:YB:33:G:H5'	39:YG:2:PRO:HG3	1.91	0.53
1:QA:581:G:N2	1:QA:759:A:OP2	2.36	0.52
1:QA:1023:G:H3'	1:QA:1024:G:H5"	1.91	0.52
32:R8:61:LEU:HD13	34:RA:593:G:H4'	1.90	0.52
34:RA:987:G:O2'	34:RA:1000:A:N3	2.36	0.52
34:RA:1000:A:H2'	34:RA:1001:A:C8	2.43	0.52
38:RF:53:THR:O	38:RF:57:VAL:HG23	2.09	0.52
38:RF:143:ALA:HB1	38:RF:148:LEU:HB2	1.91	0.52
53:RY:63:LYS:HG3	53:RY:64:GLU:H	1.73	0.52
1:XA:908:A:H2'	1:XA:909:A:C8	2.44	0.52
1:XA:1032(A):G:H2'	1:XA:1032(B):G:C8	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:53:ARG:HH12	12:XL:92:ASP:HB2	1.72	0.52
13:XM:23:TYR:HB3	13:XM:67:GLU:HG2	1.91	0.52
19:XS:41:VAL:HG11	19:XS:67:VAL:HA	1.91	0.52
28:Y4:38:LYS:NZ	39:YG:179:PRO:HG3	2.24	0.52
34:YA:796:C:H2'	34:YA:797:C:C6	2.45	0.52
34:YA:2183:C:H2'	34:YA:2184:G:H8	1.74	0.52
34:YA:2633:G:O2'	37:YE:60:ASN:ND2	2.42	0.52
34:YA:2701:C:H3'	34:YA:2702:U:C5'	2.38	0.52
35:YB:76:G:O3'	54:YZ:19:ARG:NH2	2.41	0.52
44:YP:85:LEU:HD13	44:YP:120:ALA:HB2	1.90	0.52
47:YS:87:PHE:CZ	47:YS:98:VAL:CG1	2.92	0.52
49:YU:74:LEU:HD21	49:YU:110:VAL:HG13	1.91	0.52
3:QC:136:GLN:HB3	3:QC:140:ARG:HH21	1.73	0.52
14:QN:45:ARG:HG2	14:QN:49:HIS:HE1	1.74	0.52
28:R4:38:LYS:HG2	28:R4:44:THR:HG23	1.91	0.52
34:RA:668:G:H2'	34:RA:670:A:H62	1.74	0.52
34:RA:2372:G:H2'	34:RA:2373:G:H8	1.74	0.52
40:RH:149:ARG:HG3	40:RH:154:PRO:CG	2.39	0.52
52:RX:26:TYR:CE2	52:RX:89:ILE:HB	2.44	0.52
2:XB:59:GLU:HB2	2:XB:221:LEU:HD11	1.91	0.52
2:XB:109:SER:O	2:XB:113:HIS:ND1	2.42	0.52
34:YA:273:G:H1	34:YA:364:C:H42	1.57	0.52
34:YA:813:U:H2'	34:YA:814:C:C6	2.45	0.52
36:YD:132:PRO:HG3	36:YD:190:TYR:CE1	2.44	0.52
41:YI:4:ILE:HG12	41:YI:18:VAL:HG23	1.91	0.52
1:QA:718:G:OP2	1:QA:720:C:N4	2.41	0.52
1:QA:865:A:H5'	1:QA:1078:U:C5	2.44	0.52
6:QF:94:GLN:OE1	18:QR:32:ARG:NH1	2.42	0.52
8:QH:82:HIS:N	8:QH:138:TRP:OXT	2.42	0.52
14:QN:45:ARG:HG2	14:QN:49:HIS:CE1	2.44	0.52
25:R1:52:ARG:HE	25:R1:57:GLU:N	2.08	0.52
26:R2:37:PHE:CD1	52:RX:11:PRO:HD3	2.44	0.52
28:R4:59:PHE:CD1	28:R4:70:GLY:C	2.83	0.52
34:RA:30:G:O2'	34:RA:1214:A:N3	2.37	0.52
34:RA:139:G:N2	34:RA:1596:A:H4'	2.25	0.52
36:RD:233:HIS:CD2	36:RD:242:ARG:HB2	2.43	0.52
37:RE:84:PHE:HD2	37:RE:85:ASN:N	2.06	0.52
41:RI:29:TYR:O	41:RI:33:ARG:HG2	2.09	0.52
42:RN:49:GLY:O	42:RN:119:ARG:NH1	2.42	0.52
48:RT:16:ARG:NH1	48:RT:83:ILE:O	2.36	0.52
1:XA:673:G:H5"	6:XF:87:ARG:NH1	2.25	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:908:A:H2'	1:XA:909:A:H8	1.75	0.52
1:XA:1352:C:H2'	1:XA:1353:G:C8	2.44	0.52
25:Y1:30:VAL:HG12	34:YA:2396:G:H1'	1.91	0.52
25:Y1:92:LYS:O	25:Y1:96:LYS:N	2.42	0.52
34:YA:259:G:H21	34:YA:621:A:H8	1.57	0.52
34:YA:2392:A:C8	44:YP:60:MET:HG2	2.44	0.52
40:YH:151:ILE:O	40:YH:153:LYS:HG2	2.09	0.52
44:YP:37:GLY:O	44:YP:41:ARG:HG2	2.09	0.52
45:YQ:47:ILE:HA	45:YQ:104:PHE:HZ	1.73	0.52
53:YY:27:VAL:HA	53:YY:39:VAL:HA	1.91	0.52
11:QK:84:VAL:HG11	11:QK:95:ILE:HD11	1.91	0.52
19:QS:62:ILE:O	19:QS:62:ILE:HG13	2.08	0.52
32:R8:62:LEU:N	32:R8:63:PRO:CD	2.73	0.52
34:RA:2246:G:H2'	34:RA:2247:A:C8	2.45	0.52
34:RA:2329:G:H2'	34:RA:2330:G:C8	2.45	0.52
37:RE:2:LYS:HD3	37:RE:95:ILE:HG22	1.89	0.52
1:XA:160:A:N6	1:XA:346:G:O6	2.43	0.52
1:XA:503:C:OP1	12:XL:119:LYS:NZ	2.39	0.52
5:XE:37:ARG:NH1	5:XE:111:GLU:O	2.42	0.52
19:XS:18:LYS:HG2	19:XS:31:ILE:HD12	1.91	0.52
27:Y3:29:ARG:NH1	34:YA:1183:G:O3'	2.42	0.52
28:Y4:68:ARG:CD	28:Y4:68:ARG:N	2.72	0.52
34:YA:27:G:N2	34:YA:513:A:OP2	2.40	0.52
34:YA:2034:U:H2'	34:YA:2035:G:H5'	1.91	0.52
36:YD:147:LEU:HD22	36:YD:155:LEU:HD11	1.90	0.52
45:YQ:137:TYR:CE2	54:YZ:83:PRO:HG3	2.43	0.52
49:YU:105:VAL:HG11	50:YV:40:LEU:HD21	1.90	0.52
1:QA:152:A:H62	1:QA:169:C:H42	1.56	0.52
1:QA:701:C:OP1	1:QA:702:A:O2'	2.24	0.52
1:QA:1172:C:H2'	1:QA:1173:G:H8	1.74	0.52
2:QB:118:LEU:HB3	2:QB:142:LEU:HD12	1.90	0.52
4:QD:133:VAL:HG21	4:QD:138:TYR:CE2	2.44	0.52
13:QM:3:ARG:HD3	28:R4:34:GLU:HB3	1.92	0.52
28:R4:1:MET:N	35:RB:44:G:OP1	2.39	0.52
30:R6:11:LEU:HG	30:R6:35:GLU:HG3	1.90	0.52
30:R6:28:ARG:NH1	30:R6:29:ASN:OD1	2.43	0.52
34:RA:943:U:OP2	44:RP:36:LYS:HE3	2.09	0.52
34:RA:1754:C:H5	48:RT:96:ARG:HH22	1.57	0.52
37:RE:38:THR:OG1	37:RE:40:GLU:OE1	2.28	0.52
44:RP:88:LEU:HD21	44:RP:123:LEU:HD11	1.92	0.52
50:RV:76:LYS:HG2	50:RV:81:TYR:CD1	2.44	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:56:U:H2'	1:XA:57:G:C8	2.45	0.52
1:XA:102:G:O2'	1:XA:151:A:N3	2.38	0.52
1:XA:946:A:H2'	1:XA:947:G:H8	1.73	0.52
11:XK:84:VAL:HG11	11:XK:95:ILE:HD11	1.90	0.52
34:YA:288:C:H2'	34:YA:289:A:H8	1.74	0.52
34:YA:307:G:N2	34:YA:310:A:OP2	2.42	0.52
34:YA:1130:U:O4	37:YE:146:THR:O	2.28	0.52
39:YG:15:VAL:HG21	39:YG:176:LEU:HD23	1.90	0.52
54:YZ:144:LEU:HD11	54:YZ:150:LEU:HG	1.91	0.52
1:QA:368:U:OP1	41:YI:91:SER:OG	2.28	0.52
1:QA:1435:G:H2'	1:QA:1436:U:C6	2.45	0.52
2:QB:166:ASP:OD2	2:QB:168:THR:HG22	2.09	0.52
29:R5:32:PRO:N	29:R5:39:MET:CE	2.72	0.52
29:R5:36:CYS:SG	29:R5:37:LYS:N	2.82	0.52
34:RA:576:U:H2'	34:RA:577:G:C8	2.45	0.52
36:RD:228:PRO:HG3	36:RD:235:GLY:HA3	1.90	0.52
39:RG:11:TYR:HA	39:RG:15:VAL:HB	1.92	0.52
42:RN:96:GLU:HB2	42:RN:122:VAL:HG12	1.92	0.52
43:RO:104:ARG:HH21	48:RT:34:VAL:HG21	1.74	0.52
19:XS:5:LEU:HD13	28:Y4:67:TYR:HD2	1.74	0.52
32:Y8:62:LEU:N	32:Y8:63:PRO:HD3	2.15	0.52
34:YA:2630:G:H2'	34:YA:2631:G:C8	2.44	0.52
1:QA:1293:G:H2'	1:QA:1294:G:C8	2.45	0.52
19:QS:44:MET:O	19:QS:47:HIS:CG	2.62	0.52
19:QS:70:LYS:HB2	19:QS:73:GLU:HG3	1.92	0.52
29:R5:58:LEU:CD1	29:R5:60:VAL:OXT	2.57	0.52
34:RA:479:A:HO2'	34:RA:481:G:H8	1.55	0.52
34:RA:605:C:O2	34:RA:657:U:O2'	2.27	0.52
34:RA:1981:A:C8	34:RA:1981:A:C3'	2.92	0.52
37:RE:147:PRO:HB2	37:RE:149:ARG:HG2	1.91	0.52
44:RP:88:LEU:HD12	44:RP:95:VAL:CG1	2.39	0.52
45:RQ:23:GLY:HA2	45:RQ:101:ARG:NH1	2.24	0.52
2:XB:4:GLU:HG3	2:XB:6:THR:HG22	1.91	0.52
19:XS:5:LEU:HA	28:Y4:67:TYR:HE2	1.75	0.52
32:Y8:61:LEU:HD11	34:YA:593:G:C2'	2.39	0.52
34:YA:1045:A:O2'	34:YA:1046:A:OP2	2.27	0.52
34:YA:1311:G:N2	34:YA:1603:A:H62	2.07	0.52
34:YA:1657:C:H2'	34:YA:1658:C:C6	2.43	0.52
35:YB:60:C:H2'	35:YB:61:G:H8	1.74	0.52
39:YG:114:ILE:HG22	39:YG:117:PHE:HB2	1.92	0.52
41:YI:64:GLU:O	41:YI:67:ARG:HG3	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YN:57:ALA:C	42:YN:59:LYS:H	2.12	0.52
44:YP:96:THR:CA	44:YP:126:VAL:HG23	2.33	0.52
1:QA:946:A:H2'	1:QA:947:G:C8	2.45	0.52
14:QN:24:CYS:HB3	14:QN:29:ARG:H	1.75	0.52
18:QR:34:TYR:HD2	18:QR:35:ARG:HG3	1.74	0.52
19:QS:10:PHE:CE2	19:QS:12:ASP:C	2.83	0.52
30:R6:46:HIS:ND1	34:RA:2371:G:O2'	2.42	0.52
34:RA:2683:C:OP1	48:RT:53:ARG:NH2	2.38	0.52
34:RA:2853:C:H2'	34:RA:2854:G:H8	1.74	0.52
35:RB:43:C:H1'	39:RG:93:THR:CG2	2.40	0.52
37:RE:47:VAL:HG11	37:RE:86:PRO:HD2	1.92	0.52
51:RW:88:ARG:HB2	51:RW:92:ARG:HB2	1.92	0.52
1:XA:1056:U:H5'	3:XC:163:ALA:HB2	1.91	0.52
1:XA:1266:G:N2	1:XA:1269:A:OP2	2.40	0.52
19:XS:5:LEU:HD13	28:Y4:67:TYR:CD2	2.44	0.52
30:Y6:17:LYS:HD3	30:Y6:18:ARG:H	1.75	0.52
32:Y8:62:LEU:HD13	34:YA:242:G:C4'	2.39	0.52
34:YA:414:C:H2'	34:YA:415:A:H8	1.75	0.52
34:YA:740:U:H2'	34:YA:741:G:C8	2.45	0.52
34:YA:789:A:O3'	34:YA:1781:C:N4	2.43	0.52
34:YA:1259:G:H2'	34:YA:1260:G:H8	1.74	0.52
39:YG:5:VAL:HG11	39:YG:100:TRP:HB2	1.91	0.52
52:YX:21:PHE:CE1	52:YX:92:LEU:HB3	2.45	0.52
54:YZ:28:MET:HE2	54:YZ:61:LEU:CD2	2.40	0.52
1:QA:946:A:O2'	1:QA:1333:A:N3	2.37	0.52
1:QA:985:C:H2'	1:QA:986:A:H8	1.73	0.52
2:QB:11:LEU:HG	2:QB:209:ARG:HH22	1.75	0.52
5:QE:73:ASN:O	5:QE:73:ASN:ND2	2.36	0.52
28:R4:58:ARG:NH1	28:R4:68:ARG:HA	2.24	0.52
32:R8:27:THR:HG22	44:RP:62:LEU:HD22	1.92	0.52
34:RA:557:U:H2'	34:RA:558:G:C8	2.45	0.52
34:RA:1299:G:H22	34:RA:1640:C:H5'	1.74	0.52
34:RA:2291:U:H3	34:RA:2341:G:H1	1.58	0.52
34:RA:2443:C:H2'	34:RA:2444:G:H8	1.74	0.52
34:RA:2537:U:H2'	34:RA:2538:C:C6	2.45	0.52
34:RA:2562:U:H1'	43:RO:23:ARG:HH11	1.75	0.52
42:RN:115:ARG:HA	42:RN:118:LYS:HB2	1.92	0.52
43:RO:48:PRO:HB2	43:RO:49:ARG:HE	1.75	0.52
45:RQ:43:THR:HG22	45:RQ:94:VAL:HG12	1.92	0.52
1:XA:272:C:H2'	1:XA:273:A:H8	1.75	0.52
1:XA:1182:G:H5"	1:XA:1183:A:H5'	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:Y5:55:ARG:HH12	46:YR:100:LEU:CD1	2.23	0.52
34:YA:996:A:H4'	49:YU:92:ARG:HE	1.75	0.52
38:YF:34:TRP:CE2	44:YP:8:PRO:HB3	2.45	0.52
54:YZ:29:TYR:CE1	54:YZ:87:ASP:HB3	2.43	0.52
5:QE:81:GLU:HG2	5:QE:90:VAL:HG13	1.92	0.52
25:R1:11:ARG:NH2	34:RA:1365:A:O2'	2.36	0.52
36:RD:62:TYR:HD1	36:RD:63:ARG:N	2.08	0.52
39:RG:19:LEU:HD13	39:RG:31:VAL:HG13	1.91	0.52
41:RI:92:VAL:CG2	41:RI:120:ILE:HG22	2.27	0.52
42:RN:10:GLU:OE1	42:RN:11:PRO:CD	2.58	0.52
1:XA:337:C:H2'	1:XA:338:A:H8	1.75	0.52
1:XA:537:G:H5"	12:XL:113:ARG:HH12	1.75	0.52
2:XB:178:ARG:NH2	8:XH:68:ARG:HH22	2.07	0.52
8:XH:34:GLU:OE1	8:XH:37:ARG:NH2	2.43	0.52
13:XM:12:ASN:H	13:XM:45:VAL:HG13	1.73	0.52
30:Y6:8:LYS:CB	30:Y6:27:LYS:CB	2.76	0.52
37:YE:10:GLY:HA3	48:YT:8:LYS:HE3	1.92	0.52
41:YI:113:ARG:HD3	41:YI:113:ARG:N	2.25	0.52
42:YN:72:TYR:HE2	42:YN:87:LEU:HD23	1.75	0.52
54:YZ:53:ILE:HD11	54:YZ:99:TYR:HB2	1.90	0.52
1:QA:191:G:C4	20:QT:105:SER:HB3	2.45	0.51
1:QA:380:G:N2	1:QA:383:A:OP2	2.41	0.51
34:RA:195:A:H61	34:RA:198:C:H3'	1.75	0.51
34:RA:1636:C:H2'	34:RA:1637:A:C8	2.45	0.51
34:RA:2010:G:H5"	51:RW:42:ARG:HB2	1.92	0.51
34:RA:2683:C:O2	43:RO:70:LYS:NZ	2.31	0.51
35:RB:111:U:H2'	35:RB:112:G:H8	1.75	0.51
41:RI:64:GLU:O	41:RI:67:ARG:HG3	2.10	0.51
44:RP:114:ILE:HG21	44:RP:125:VAL:HG21	1.91	0.51
47:RS:61:ASN:O	47:RS:64:GLU:N	2.42	0.51
49:RU:97:ASP:O	49:RU:101:ARG:N	2.38	0.51
54:RZ:68:PRO:HG2	54:RZ:91:LEU:O	2.09	0.51
1:XA:99:C:H2'	1:XA:101:A:C8	2.45	0.51
1:XA:152:A:H62	1:XA:169:C:H42	1.57	0.51
10:XJ:34:VAL:HG22	10:XJ:74:ILE:HG22	1.92	0.51
34:YA:86:C:H4'	34:YA:104:U:H1'	1.92	0.51
34:YA:837:C:N3	34:YA:941:A:N6	2.57	0.51
34:YA:1353:A:H2'	34:YA:1354:A:C8	2.45	0.51
34:YA:1939:U:OP1	34:YA:2604:U:O2'	2.28	0.51
42:YN:16:ILE:HG21	42:YN:26:LEU:HD11	1.92	0.51
46:YR:104:ARG:NE	46:YR:111:LEU:HD21	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:YY:37:VAL:HG21	53:YY:72:VAL:HG21	1.92	0.51
1:QA:648:A:H2'	1:QA:649:G:H8	1.74	0.51
1:QA:1032(A):G:H2'	1:QA:1032(B):G:H8	1.75	0.51
1:QA:1175:G:H2'	1:QA:1176:A:H8	1.75	0.51
9:QI:112:LYS:NZ	9:QI:113:LYS:O	2.38	0.51
12:QL:117:ARG:HE	12:QL:124:LYS:N	2.08	0.51
34:RA:666:G:H4'	44:RP:49:ARG:HH12	1.75	0.51
34:RA:1045:A:O4'	34:RA:1111:A:N6	2.43	0.51
43:RO:63:VAL:HB	43:RO:102:VAL:HG12	1.93	0.51
54:RZ:54:HIS:ND1	54:RZ:101:PRO:HG3	2.24	0.51
54:RZ:91:LEU:HD22	54:RZ:91:LEU:N	2.25	0.51
1:XA:113:G:H1'	1:XA:354:G:H5'	1.91	0.51
1:XA:186:C:H2'	1:XA:186(A):C:C6	2.46	0.51
1:XA:410:G:H2'	1:XA:429:U:C5	2.45	0.51
1:XA:1414:U:H2'	1:XA:1415:G:C8	2.45	0.51
9:XI:65:VAL:HG21	9:XI:73:GLN:HG3	1.93	0.51
19:XS:41:VAL:HG21	19:XS:67:VAL:HG13	1.93	0.51
34:YA:263:C:H2'	34:YA:264:C:O4'	2.10	0.51
34:YA:566:U:OP1	44:YP:29:LYS:HE2	2.10	0.51
34:YA:1007:C:OP1	42:YN:35:ARG:NH1	2.43	0.51
34:YA:1084:A:H5"	34:YA:1085:A:C8	2.44	0.51
34:YA:2032:G:OP2	34:YA:2454:G:O2'	2.22	0.51
34:YA:2243:U:H2'	34:YA:2244:U:C6	2.45	0.51
40:YH:33:LEU:HD21	40:YH:136:ILE:HD13	1.93	0.51
46:YR:96:ARG:HD2	46:YR:98:LEU:HD11	1.91	0.51
1:QA:908:A:H2'	1:QA:909:A:C8	2.46	0.51
2:QB:19:HIS:CD2	2:QB:20:GLU:HG2	2.46	0.51
8:QH:49:GLU:HG3	8:QH:51:VAL:HG13	1.91	0.51
19:QS:44:MET:SD	19:QS:49:ILE:HD12	2.40	0.51
24:R0:19:LYS:NZ	34:RA:2387:U:O2'	2.43	0.51
34:RA:823:G:H2'	34:RA:824:A:H8	1.76	0.51
34:RA:1178:C:H2'	34:RA:1179:C:C6	2.45	0.51
34:RA:2291:U:OP1	34:RA:2380:C:O2'	2.29	0.51
35:RB:43:C:H1'	39:RG:93:THR:HG23	1.92	0.51
38:RF:11:VAL:HG22	38:RF:125:LEU:HB2	1.92	0.51
48:RT:22:PHE:HE1	48:RT:86:ILE:HD13	1.75	0.51
54:RZ:61:LEU:N	54:RZ:61:LEU:CD1	2.73	0.51
1:XA:377:G:H2'	1:XA:378:G:C8	2.46	0.51
1:XA:1454:G:H2'	1:XA:1455:G:C8	2.45	0.51
2:XB:53:ARG:NH2	2:XB:200:ILE:H	2.08	0.51
19:XS:64:GLU:HG3	28:Y4:55:ARG:NH2	2.25	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:Y2:22:GLU:OE2	26:Y2:68:ARG:NH2	2.43	0.51
34:YA:1406:U:H2'	34:YA:1407:C:H6	1.75	0.51
34:YA:2123:G:H2'	34:YA:2124:G:C8	2.45	0.51
40:YH:153:LYS:HD3	40:YH:161:GLY:HA2	1.92	0.51
54:YZ:28:MET:HE1	54:YZ:61:LEU:CD2	2.33	0.51
54:YZ:163:LEU:HD12	54:YZ:163:LEU:O	2.09	0.51
1:QA:976:G:OP2	1:QA:1358:U:O2'	2.29	0.51
1:QA:1015:A:N3	1:QA:1218:C:O2'	2.38	0.51
1:QA:1286:A:H5"	21:QU:26:LYS:HD2	1.92	0.51
8:QH:106:GLY:O	8:QH:122:ARG:NH2	2.40	0.51
11:QK:33:THR:HG22	11:QK:39:PRO:HA	1.92	0.51
18:QR:58:LEU:HD23	18:QR:62:GLU:HB3	1.92	0.51
34:RA:1059:G:O6	34:RA:1079:C:N4	2.44	0.51
44:RP:2:LYS:HE3	44:RP:4:SER:HB2	1.93	0.51
47:RS:10:ARG:HH21	47:RS:91:PRO:HB2	1.76	0.51
53:RY:79:CYS:SG	53:RY:80:GLY:N	2.83	0.51
3:XC:84:ILE:HD12	3:XC:87:LEU:HD12	1.92	0.51
9:XI:59:PHE:HZ	9:XI:88:TYR:HE2	1.58	0.51
19:XS:68:GLY:CA	28:Y4:68:ARG:HG2	2.36	0.51
28:Y4:42:PHE:C	28:Y4:44:THR:H	2.14	0.51
30:Y6:14:THR:HG22	30:Y6:52:VAL:CG1	2.40	0.51
34:YA:38:A:H2'	34:YA:39:C:C6	2.44	0.51
39:YG:84:LYS:HE2	39:YG:84:LYS:CA	2.26	0.51
19:QS:61:TYR:O	19:QS:66:MET:HE3	2.10	0.51
34:RA:247:G:H4'	34:RA:386:G:C5	2.45	0.51
34:RA:587:C:N3	44:RP:33:ARG:NH1	2.59	0.51
34:RA:2074:U:H2'	34:RA:2075:U:C6	2.46	0.51
40:RH:147:ASN:C	40:RH:150:ALA:CB	2.79	0.51
43:RO:2:ILE:HD13	43:RO:8:LEU:HD11	1.91	0.51
1:XA:406:G:H21	4:XD:119:GLN:HE22	1.58	0.51
1:XA:636:U:H2'	1:XA:637:G:H8	1.75	0.51
1:XA:1241:G:H2'	1:XA:1242:C:C6	2.46	0.51
2:XB:50:GLU:OE1	2:XB:53:ARG:NH2	2.38	0.51
16:XP:22:THR:HA	16:XP:33:ILE:HG12	1.92	0.51
30:Y6:8:LYS:CG	30:Y6:27:LYS:HB3	2.39	0.51
34:YA:270(B):A:O2'	34:YA:364:C:O2	2.24	0.51
34:YA:337:C:C2	34:YA:338:G:O4'	2.63	0.51
34:YA:532:A:H4'	34:YA:533:G:C8	2.45	0.51
38:YF:122:LYS:HA	38:YF:191:ARG:HH11	1.74	0.51
41:YI:31:LEU:HD21	41:YI:38:LEU:HG	1.91	0.51
1:QA:1119:C:H2'	1:QA:1120:G:C8	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:QM:12:ASN:N	13:QM:45:VAL:HG12	2.26	0.51
30:R6:20:ASN:ND2	30:R6:42:TRP:CZ2	2.71	0.51
34:RA:577:G:O2'	34:RA:1254:A:OP1	2.28	0.51
34:RA:593:G:H2'	34:RA:594:U:C6	2.46	0.51
34:RA:2103:C:H2'	34:RA:2104:G:C8	2.46	0.51
34:RA:2315:G:H2'	34:RA:2316:C:C6	2.45	0.51
34:RA:2494:G:H2'	34:RA:2495:G:H8	1.75	0.51
50:RV:66:ARG:HG2	50:RV:88:ARG:HB3	1.92	0.51
53:RY:46:LYS:NZ	53:RY:63:LYS:HB3	2.25	0.51
54:RZ:59:LEU:HD11	54:RZ:69:THR:CG2	2.41	0.51
1:XA:1391:U:H2'	1:XA:1392:G:C8	2.46	0.51
1:XA:1442:G:H1	1:XA:1461:G:H21	1.58	0.51
1:XA:1530:G:H2'	1:XA:1531:A:H8	1.76	0.51
3:XC:91:LEU:HD11	3:XC:101:LEU:HD12	1.92	0.51
32:Y8:62:LEU:HD12	34:YA:242:G:C3'	2.24	0.51
34:YA:337:C:O2	34:YA:337:C:H2'	2.10	0.51
34:YA:2469:A:H5"	34:YA:2470:G:H8	1.75	0.51
34:YA:2751:G:C6	40:YH:3:ARG:HG3	2.46	0.51
37:YE:101:ARG:NH1	37:YE:171:GLU:HB2	2.24	0.51
39:YG:81:LYS:N	39:YG:81:LYS:CD	2.74	0.51
40:YH:24:VAL:HG11	40:YH:43:VAL:HG11	1.91	0.51
40:YH:124:GLU:HB3	40:YH:132:ARG:HB3	1.91	0.51
42:YN:114:ARG:H	42:YN:114:ARG:HD2	1.75	0.51
1:QA:715:A:H2'	1:QA:716:A:C8	2.46	0.51
1:QA:1022:G:H2'	1:QA:1023:G:C8	2.46	0.51
3:QC:53:ALA:HB2	3:QC:115:LEU:HG	1.92	0.51
4:QD:39:PRO:HB2	4:QD:44:GLY:CA	2.37	0.51
8:QH:4:ASP:OD2	8:QH:85:ARG:NH1	2.43	0.51
27:R3:11:SER:HA	27:R3:31:LEU:HD21	1.91	0.51
34:RA:1503:U:H2'	34:RA:1504:C:C6	2.45	0.51
34:RA:2245:U:H5"	34:RA:2246:G:H5'	1.92	0.51
34:RA:2306:C:H3'	34:RA:2307:G:H5"	1.93	0.51
34:RA:2415:G:H4'	44:RP:66:GLY:HA2	1.93	0.51
34:RA:2841:C:H2'	34:RA:2842:G:H8	1.76	0.51
36:RD:130:ALA:HB2	36:RD:192:THR:HB	1.93	0.51
39:RG:97:ASP:H	39:RG:100:TRP:HD1	1.59	0.51
41:RI:125:GLU:HA	41:RI:141:LYS:HA	1.93	0.51
1:XA:80:G:O6	1:XA:89:U:O4	2.28	0.51
1:XA:1422:G:O3'	43:YO:49:ARG:NH2	2.43	0.51
7:XG:15:ASP:OD1	7:XG:16:LEU:N	2.42	0.51
12:XL:37:CYS:SG	12:XL:81:SER:HB3	2.51	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:Y8:11:LYS:HB2	32:Y8:60:LEU:HD21	1.93	0.51
34:YA:2103:C:H2'	34:YA:2104:G:C8	2.45	0.51
34:YA:2768:C:O2'	42:YN:89:LYS:NZ	2.44	0.51
36:YD:10:THR:OG1	36:YD:13:ARG:HG2	2.11	0.51
40:YH:88:LEU:HA	40:YH:130:ARG:HA	1.91	0.51
52:YX:26:TYR:CE2	52:YX:89:ILE:HB	2.46	0.51
1:QA:908:A:H2'	1:QA:909:A:H8	1.76	0.51
1:QA:1120:G:H2'	1:QA:1121:U:C6	2.46	0.51
1:QA:1297:C:H5"	13:QM:13:LYS:HZ3	1.74	0.51
1:QA:1525:G:H2'	1:QA:1526:G:C8	2.45	0.51
4:QD:138:TYR:HD1	4:QD:139:ARG:N	2.09	0.51
21:QU:10:ARG:HA	21:QU:13:ILE:HB	1.93	0.51
34:RA:642:G:H21	34:RA:646:A:H2	1.58	0.51
34:RA:652:C:C6	34:RA:652:C:C5'	2.85	0.51
34:RA:1165:U:H2'	34:RA:1166:C:C6	2.46	0.51
40:RH:54:ARG:HD2	40:RH:61:HIS:HB3	1.93	0.51
41:RI:123:LEU:HD23	41:RI:142:VAL:HG12	1.92	0.51
43:RO:12:ASP:N	43:RO:12:ASP:OD1	2.44	0.51
45:RQ:23:GLY:HA2	45:RQ:101:ARG:HH11	1.75	0.51
1:XA:789:U:H1'	1:XA:792:A:H2	1.76	0.51
1:XA:1252:A:H61	1:XA:1285:A:H61	1.59	0.51
11:XK:82:VAL:HB	11:XK:108:ILE:HG13	1.92	0.51
33:Y9:27:CYS:SG	33:Y9:28:GLU:N	2.84	0.51
34:YA:144:C:H2'	34:YA:145:G:H8	1.75	0.51
34:YA:1495:A:H1'	34:YA:1579:A:H5"	1.92	0.51
34:YA:2071:A:H2'	34:YA:2072:G:C8	2.46	0.51
34:YA:2655:G:H4'	34:YA:2656:U:O5'	2.10	0.51
34:YA:2659:G:N2	34:YA:2662:A:OP2	2.44	0.51
34:YA:2816:C:O2	34:YA:2883:A:O2'	2.23	0.51
38:YF:122:LYS:HB3	38:YF:191:ARG:HA	1.93	0.51
45:YQ:24:GLY:H	45:YQ:101:ARG:HD2	1.76	0.51
45:YQ:58:PHE:HB2	45:YQ:61:GLY:HA3	1.93	0.51
49:YU:40:PHE:HD1	50:YV:75:PHE:CE1	2.29	0.51
1:QA:125:U:H2'	1:QA:126:G:C8	2.45	0.51
1:QA:1045:C:O2	1:QA:1045:C:H2'	2.11	0.51
6:QF:6:VAL:HB	6:QF:63:TYR:HB2	1.91	0.51
6:QF:97:PHE:HD2	18:QR:31:LEU:HD12	1.75	0.51
25:R1:52:ARG:HA	25:R1:57:GLU:HA	1.92	0.51
34:RA:1231:G:H2'	34:RA:1232:G:C8	2.46	0.51
41:RI:86:THR:O	41:RI:122:GLU:CB	2.58	0.51
43:RO:1:MET:HE3	43:RO:67:LYS:HE2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:RU:92:ARG:HD3	50:RV:11:GLN:HB2	1.91	0.51
1:XA:7:G:H5'	1:XA:298:A:O4'	2.10	0.51
1:XA:360:A:H2'	1:XA:361:G:C8	2.46	0.51
1:XA:878:G:H5'	8:XH:89:PRO:HG2	1.92	0.51
1:XA:1356:G:H2'	1:XA:1357:A:H8	1.75	0.51
9:XI:70:LYS:HA	9:XI:73:GLN:HE21	1.75	0.51
17:XQ:56:VAL:N	17:XQ:78:GLU:O	2.41	0.51
34:YA:860:U:H1'	34:YA:2268:A:H5'	1.93	0.51
34:YA:863:A:H2'	34:YA:864:G:C8	2.45	0.51
34:YA:2438:U:O3'	34:YA:2439:A:H3'	2.11	0.51
34:YA:2747:G:OP1	40:YH:138:LYS:NZ	2.40	0.51
36:YD:241:PRO:C	36:YD:243:GLY:H	2.15	0.51
53:YY:42:VAL:HG21	53:YY:67:LEU:HD11	1.92	0.51
1:QA:105:G:OP2	20:QT:18:GLN:NE2	2.44	0.51
1:QA:851:G:H2'	1:QA:852:G:H8	1.76	0.51
8:QH:124:ALA:O	8:QH:128:GLY:N	2.41	0.51
25:R1:46:LEU:HD23	25:R1:61:ARG:HG2	1.92	0.51
34:RA:1853:A:H2'	34:RA:1854:A:C8	2.46	0.51
49:RU:104:GLN:HG3	50:RV:44:LYS:HD3	1.93	0.51
1:XA:718:G:H21	18:XR:49:LYS:HG2	1.74	0.51
22:XV:18:G:O2'	22:XV:57:G:N2	2.42	0.51
34:YA:1406:U:H2'	34:YA:1407:C:C6	2.46	0.51
34:YA:2845:G:H2'	34:YA:2846:G:C8	2.46	0.51
40:YH:89:ILE:HG22	40:YH:162:ILE:HG23	1.93	0.51
44:YP:144:GLU:OE1	44:YP:144:GLU:N	2.44	0.51
53:YY:55:TYR:N	53:YY:56:PRO:HD3	2.26	0.51
1:QA:28:G:O2'	1:QA:296:U:OP1	2.25	0.50
1:QA:269:C:H2'	1:QA:270:A:C8	2.45	0.50
1:QA:545:C:OP2	4:QD:61:LYS:NZ	2.44	0.50
1:QA:1101:A:N6	2:QB:176:GLU:OE2	2.44	0.50
2:QB:52:GLU:O	2:QB:56:ARG:HD2	2.11	0.50
4:QD:133:VAL:HG12	4:QD:135:LEU:H	1.76	0.50
5:QE:82:VAL:HG21	5:QE:138:ALA:HA	1.94	0.50
13:QM:4:ILE:HG13	13:QM:22:ILE:HD11	1.92	0.50
20:QT:88:VAL:O	20:QT:92:LEU:HB2	2.11	0.50
34:RA:1992:G:H5'	34:RA:1994:C:H41	1.76	0.50
39:RG:18:GLU:O	39:RG:22:ARG:CB	2.59	0.50
44:RP:52:GLU:OE1	44:RP:55:ARG:NH1	2.44	0.50
45:RQ:134:ARG:HH12	54:RZ:119:GLU:HG3	1.75	0.50
47:RS:88:ASP:O	47:RS:89:ARG:HG3	2.11	0.50
51:RW:22:ASP:OD1	51:RW:25:ARG:NH1	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:398:C:H2'	1:XA:399:G:H8	1.76	0.50
1:XA:918:A:H2'	1:XA:919:A:C8	2.46	0.50
1:XA:1060:C:H2'	1:XA:1061:G:H8	1.76	0.50
1:XA:1222:G:OP1	19:XS:78:ARG:NH2	2.44	0.50
2:XB:74:LYS:O	2:XB:78:GLN:HG3	2.09	0.50
6:XF:47:ARG:HD2	6:XF:57:GLN:HB3	1.92	0.50
27:Y3:6:VAL:HG12	27:Y3:56:VAL:HG22	1.93	0.50
34:YA:689:A:H2'	34:YA:690:G:C8	2.46	0.50
36:YD:62:TYR:HA	36:YD:87:ASN:HD21	1.75	0.50
40:YH:133:VAL:HG12	40:YH:141:VAL:HG13	1.93	0.50
1:QA:996:A:H2'	1:QA:997:U:C6	2.46	0.50
3:QC:153:VAL:HG22	3:QC:198:VAL:HG22	1.93	0.50
13:QM:14:ARG:C	13:QM:43:THR:O	2.50	0.50
19:QS:10:PHE:HZ	19:QS:16:LEU:HB2	1.76	0.50
29:R5:32:PRO:CD	29:R5:39:MET:CE	2.89	0.50
29:R5:58:LEU:HD12	29:R5:58:LEU:C	2.31	0.50
32:R8:25:MET:O	32:R8:47:LYS:NZ	2.44	0.50
32:R8:49:VAL:HG23	32:R8:53:PRO:HD3	1.92	0.50
34:RA:37:C:H2'	34:RA:38:A:C8	2.46	0.50
34:RA:691:C:H2'	34:RA:692:C:H6	1.75	0.50
35:RB:102:G:N3	54:RZ:73:GLN:NE2	2.57	0.50
40:RH:11:VAL:HG12	40:RH:49:VAL:HG12	1.94	0.50
44:RP:90:ARG:O	44:RP:90:ARG:HG2	2.02	0.50
1:XA:323:U:OP1	20:XT:26:ASN:ND2	2.41	0.50
1:XA:642:A:N3	8:XH:113:SER:OG	2.34	0.50
1:XA:978:A:OP2	1:XA:1362(A):C:N4	2.38	0.50
19:XS:22:LEU:HB3	19:XS:47:HIS:CE1	2.45	0.50
29:Y5:35:GLU:CG	29:Y5:50:GLY:CA	2.89	0.50
38:YF:185:ASP:HA	38:YF:188:ARG:HD3	1.93	0.50
47:YS:84:GLN:HG2	47:YS:110:LEU:H	1.76	0.50
1:QA:401:C:H2'	1:QA:402:G:H8	1.76	0.50
1:QA:1298:C:H4'	1:QA:1299:A:C8	2.46	0.50
5:QE:57:LYS:HA	5:QE:60:TYR:CD1	2.46	0.50
19:QS:10:PHE:HE2	19:QS:12:ASP:C	2.14	0.50
25:R1:53:VAL:HG21	25:R1:58:ILE:HD12	1.93	0.50
34:RA:848:G:H2'	34:RA:849:A:C8	2.47	0.50
34:RA:964:C:O2'	34:RA:2273:A:N3	2.36	0.50
39:RG:11:TYR:CD1	39:RG:176:LEU:HD21	2.46	0.50
42:RN:10:GLU:OE1	42:RN:11:PRO:HD3	2.11	0.50
46:RR:77:ARG:O	46:RR:81:ASP:HB2	2.11	0.50
19:XS:40:ILE:HD13	19:XS:71:LEU:HD21	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:14:A:H61	22:XV:21:A:H2	1.57	0.50
28:Y4:12:ALA:HA	28:Y4:29:PRO:HB3	1.93	0.50
34:YA:218:A:C2	34:YA:235:U:H4'	2.46	0.50
34:YA:2030:A:H4'	34:YA:2031:A:C8	2.46	0.50
34:YA:2682:U:O3'	48:YT:58:ASN:ND2	2.44	0.50
36:YD:37:LEU:C	36:YD:37:LEU:HD12	2.32	0.50
37:YE:35:GLN:HG2	37:YE:37:ARG:NE	2.25	0.50
37:YE:143:ASN:HD22	37:YE:147:PRO:CG	2.24	0.50
39:YG:37:VAL:HG21	39:YG:103:LEU:HD11	1.93	0.50
42:YN:66:LYS:O	42:YN:70:LYS:N	2.44	0.50
45:YQ:17:LEU:HA	45:YQ:98:LYS:HE2	1.94	0.50
4:QD:68:TYR:CD2	4:QD:97:LEU:HB3	2.47	0.50
4:QD:146:ILE:N	4:QD:183:GLY:O	2.45	0.50
9:QI:29:ASN:ND2	9:QI:65:VAL:O	2.44	0.50
29:R5:4:HIS:O	34:RA:2056:G:N2	2.44	0.50
30:R6:13:CYS:HB3	30:R6:49:HIS:HB3	1.93	0.50
34:RA:755:C:H2'	34:RA:756:C:C6	2.46	0.50
34:RA:1166:C:H2'	34:RA:1167:U:C6	2.46	0.50
34:RA:1416:G:H2'	34:RA:1417:C:C6	2.47	0.50
44:RP:39:LYS:HG3	44:RP:45:LEU:HD13	1.93	0.50
54:RZ:136:PHE:H	54:RZ:136:PHE:HD2	1.58	0.50
1:XA:191:G:C4	20:XT:105:SER:HB3	2.47	0.50
1:XA:337:C:H2'	1:XA:338:A:C8	2.47	0.50
22:XV:37:T6A:N1	22:XV:37:T6A:N11	2.57	0.50
29:Y5:51:TYR:H	29:Y5:56:LYS:HG2	1.76	0.50
34:YA:336:C:O2'	53:YY:35:TYR:OH	2.29	0.50
34:YA:568:U:O5'	34:YA:945:A:N6	2.44	0.50
34:YA:598:G:H5'	44:YP:11:GLY:HA3	1.94	0.50
34:YA:1204:A:H1'	34:YA:1206:G:C8	2.46	0.50
34:YA:1278:A:H2'	34:YA:1279:G:C8	2.47	0.50
34:YA:1408:C:H2'	34:YA:1409:C:C6	2.46	0.50
34:YA:2416:C:H5"	44:YP:64:LYS:HE3	1.93	0.50
35:YB:109:G:H2'	35:YB:110:G:C8	2.47	0.50
37:YE:28:ALA:HB3	37:YE:93:VAL:HG23	1.92	0.50
38:YF:125:LEU:HD12	38:YF:196:LEU:HD23	1.93	0.50
38:YF:143:ALA:HB1	38:YF:148:LEU:HB2	1.93	0.50
1:QA:353:A:C8	1:QA:353:A:C3'	2.95	0.50
1:QA:611:A:H2	1:QA:629:G:H22	1.58	0.50
10:QJ:50:ILE:HB	14:QN:41:ARG:NE	2.26	0.50
24:R0:39:ARG:HH21	34:RA:2355:C:H1'	1.76	0.50
28:R4:55:ARG:O	28:R4:59:PHE:CB	2.59	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
32:R8:51:ALA:N	32:R8:53:PRO:HD2	2.27	0.50
34:RA:1816:G:H3'	36:RD:62:TYR:CE2	2.42	0.50
34:RA:2443:C:H2'	34:RA:2444:G:C8	2.47	0.50
35:RB:42:C:O3'	39:RG:67:LYS:HD3	2.11	0.50
39:RG:11:TYR:HD1	39:RG:176:LEU:HD21	1.75	0.50
41:RI:61:ARG:NH2	41:RI:64:GLU:OE1	2.33	0.50
44:RP:94:GLU:HG3	44:RP:124:LYS:HD3	1.92	0.50
1:XA:452:A:O2'	16:XP:72:ARG:NE	2.44	0.50
1:XA:811:C:O2'	1:XA:901:A:N1	2.44	0.50
1:XA:1071:C:H2'	1:XA:1072:G:H8	1.76	0.50
4:XD:18:LYS:HG2	4:XD:33:MET:HG3	1.92	0.50
4:XD:81:GLU:O	4:XD:85:LYS:HG2	2.11	0.50
4:XD:177:ASP:OD2	4:XD:182:LYS:NZ	2.41	0.50
34:YA:1113:U:H2'	34:YA:1114:G:H8	1.75	0.50
34:YA:1799:G:H8	36:YD:181:GLU:CD	2.15	0.50
34:YA:2245:U:H5"	34:YA:2246:G:H5'	1.94	0.50
39:YG:5:VAL:O	39:YG:8:LYS:HB3	2.12	0.50
39:YG:114:ILE:HD13	39:YG:140:ILE:HD13	1.92	0.50
40:YH:87:LEU:HD22	40:YH:162:ILE:HG22	1.94	0.50
46:YR:83:ILE:HA	46:YR:86:ARG:HD3	1.93	0.50
50:YV:14:VAL:HG21	50:YV:57:VAL:HG11	1.92	0.50
53:YY:55:TYR:N	53:YY:56:PRO:CD	2.74	0.50
3:QC:20:SER:HB2	3:QC:40:ARG:HH22	1.76	0.50
34:RA:652:C:H6	34:RA:652:C:C5'	2.13	0.50
34:RA:1629:U:H2'	34:RA:1630:G:C8	2.47	0.50
34:RA:2183:C:H2'	34:RA:2184:G:C8	2.45	0.50
39:RG:38:VAL:HG12	39:RG:158:ALA:HB3	1.92	0.50
43:RO:104:ARG:NH2	48:RT:34:VAL:HG11	2.27	0.50
2:XB:12:GLU:HA	2:XB:16:HIS:CD2	2.47	0.50
2:XB:15:VAL:HG21	2:XB:209:ARG:CG	2.33	0.50
22:XV:63:U:H5"	24:Y0:11:ARG:HH12	1.76	0.50
34:YA:2074:U:H2'	34:YA:2075:U:C6	2.45	0.50
39:YG:5:VAL:CG1	39:YG:100:TRP:HB2	2.41	0.50
49:YU:81:HIS:ND1	49:YU:117:GLN:HG2	2.27	0.50
51:YW:58:ALA:HB1	51:YW:64:MET:HB2	1.94	0.50
3:QC:39:ILE:HG13	3:QC:94:LEU:HD11	1.94	0.50
11:QK:121:PRO:HB2	11:QK:126:ARG:HD2	1.94	0.50
12:QL:117:ARG:HB2	12:QL:122:THR:HB	1.93	0.50
20:QT:30:LYS:HG3	20:QT:34:LYS:HE3	1.93	0.50
34:RA:1050:A:H2'	34:RA:1051:G:O4'	2.11	0.50
40:RH:147:ASN:C	40:RH:150:ALA:HB3	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:RO:77:ILE:HB	48:RT:74:ARG:HD2	1.94	0.50
1:XA:652:U:O4	1:XA:752:G:O2'	2.22	0.50
1:XA:1537:U:H2'	1:XA:1538:C:C6	2.47	0.50
2:XB:157:ARG:HD2	2:XB:158:LEU:H	1.77	0.50
8:XH:20:TYR:HA	8:XH:65:TYR:CE2	2.46	0.50
13:XM:4:ILE:HG22	13:XM:5:ALA:H	1.76	0.50
17:XQ:19:VAL:HG23	17:XQ:44:ALA:HB3	1.94	0.50
25:Y1:52:ARG:HD2	25:Y1:57:GLU:HB2	1.94	0.50
26:Y2:14:ARG:HA	26:Y2:67:LYS:HE3	1.93	0.50
34:YA:1167:U:H2'	34:YA:1168:G:C8	2.47	0.50
34:YA:1400:G:H2'	34:YA:1401:G:H8	1.76	0.50
48:YT:91:ARG:HD2	48:YT:120:ARG:NH1	2.27	0.50
54:YZ:54:HIS:HB3	54:YZ:101:PRO:HD3	1.93	0.50
1:QA:222:U:H2'	1:QA:223:U:C6	2.47	0.50
1:QA:359:U:H2'	1:QA:360:A:C8	2.46	0.50
1:QA:619:U:H4'	4:QD:131:ARG:NH2	2.27	0.50
9:QI:63:ILE:HG21	9:QI:77:ILE:HG12	1.94	0.50
28:R4:63:TYR:C	28:R4:63:TYR:CD2	2.86	0.50
34:RA:38:A:H2'	34:RA:39:C:C6	2.46	0.50
34:RA:1139:G:O2'	34:RA:1143:A:N1	2.38	0.50
37:RE:79:ARG:HD2	37:RE:197:ILE:HD13	1.93	0.50
38:RF:198:ALA:HA	38:RF:201:VAL:HB	1.93	0.50
49:RU:98:LEU:O	49:RU:102:GLU:N	2.42	0.50
1:XA:990:C:H2'	1:XA:991:U:C6	2.46	0.50
1:XA:1355:G:H2'	1:XA:1356:G:C8	2.47	0.50
4:XD:3:ARG:HH21	4:XD:118:ARG:HD2	1.76	0.50
9:XI:111:ARG:HH22	10:XJ:62:HIS:CE1	2.29	0.50
19:XS:8:GLY:HA2	28:Y4:67:TYR:CZ	2.47	0.50
22:XV:63:U:H2'	22:XV:64:G:H8	1.76	0.50
34:YA:337:C:N3	34:YA:338:G:C1'	2.75	0.50
34:YA:503:A:H4'	34:YA:504:U:H5'	1.93	0.50
34:YA:2306:C:H2'	34:YA:2307:G:H21	1.77	0.50
34:YA:2784:C:O2'	37:YE:37:ARG:NH1	2.45	0.50
36:YD:25:THR:HG21	36:YD:81:ALA:HA	1.93	0.50
36:YD:62:TYR:HA	36:YD:87:ASN:ND2	2.26	0.50
3:QC:189:ALA:HB3	3:QC:196:LEU:HB2	1.94	0.50
5:QE:147:ASP:N	5:QE:147:ASP:OD1	2.43	0.50
34:RA:345:A:N3	34:RA:347:A:N6	2.58	0.50
34:RA:380:U:H2'	34:RA:381:G:H8	1.77	0.50
34:RA:674:G:H1'	38:RF:74:ARG:HH11	1.77	0.50
34:RA:796:C:H2'	34:RA:797:C:C6	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:RF:103:LYS:HG2	38:RF:106:ARG:HH21	1.77	0.50
40:RH:6:ARG:HH12	40:RH:62:LYS:HG2	1.76	0.50
1:XA:1435:G:H2'	1:XA:1436:U:C6	2.46	0.50
28:Y4:39:CYS:CA	28:Y4:41:PRO:CD	2.89	0.50
34:YA:363(A):A:H2'	34:YA:363(B):G:H8	1.76	0.50
37:YE:19:ARG:HG3	43:YO:72:PRO:HB2	1.94	0.50
38:YF:184:TYR:CE2	38:YF:188:ARG:HD2	2.46	0.50
39:YG:170:ARG:HH21	39:YG:182:LYS:HG2	1.75	0.50
53:YY:6:HIS:HD2	53:YY:74:PRO:HD3	1.77	0.50
1:QA:437:U:H2'	1:QA:438:G:O4'	2.12	0.49
1:QA:514:C:H2'	1:QA:515:G:H8	1.77	0.49
1:QA:1014:A:H2'	1:QA:1015:A:C8	2.47	0.49
1:QA:1128:C:H5'	9:QI:16:ARG:HH22	1.77	0.49
3:QC:8:ILE:HG23	3:QC:16:ARG:HD2	1.94	0.49
10:QJ:16:LEU:HD23	10:QJ:94:VAL:HG13	1.93	0.49
11:QK:108:ILE:HG12	18:QR:87:ARG:NH2	2.28	0.49
15:QO:82:ILE:O	15:QO:86:GLY:N	2.36	0.49
20:QT:75:ASN:OD1	20:QT:75:ASN:N	2.44	0.49
28:R4:37:SER:CB	39:RG:112:PRO:HB3	2.41	0.49
29:R5:4:HIS:HB2	29:R5:5:PRO:HD3	1.94	0.49
34:RA:1444(A):A:O2'	34:RA:1460:A:N3	2.44	0.49
37:RE:54:GLN:HB2	37:RE:75:VAL:HG23	1.93	0.49
39:RG:161:THR:HG23	39:RG:163:ALA:H	1.76	0.49
44:RP:95:VAL:HG21	44:RP:123:LEU:HD13	1.94	0.49
7:XG:113:GLU:HB3	7:XG:118:VAL:HG23	1.94	0.49
30:Y6:14:THR:O	30:Y6:49:HIS:HA	2.12	0.49
32:Y8:7:HIS:CD2	44:YP:50:ARG:HE	2.30	0.49
34:YA:28:A:H2	49:YU:11:ARG:HH12	1.58	0.49
34:YA:863:A:H2'	34:YA:864:G:H8	1.77	0.49
34:YA:2311:A:C8	39:YG:88:ILE:HD11	2.47	0.49
34:YA:2576:G:O2'	34:YA:2579:C:OP2	2.23	0.49
38:YF:167:ALA:HB1	38:YF:173:VAL:HG11	1.93	0.49
39:YG:81:LYS:N	39:YG:81:LYS:CE	2.73	0.49
45:YQ:39:PRO:HB3	45:YQ:99:PRO:HD3	1.93	0.49
53:YY:19:LYS:HG3	53:YY:20:TYR:CD1	2.46	0.49
1:QA:299:G:H2'	1:QA:300:A:C8	2.47	0.49
1:QA:769:G:H4'	1:QA:1513:A:H4'	1.93	0.49
1:QA:1512:U:H2'	1:QA:1513:A:C8	2.47	0.49
2:QB:5:ILE:HB	2:QB:221:LEU:HD23	1.93	0.49
2:QB:87:ARG:NH1	2:QB:232:PRO:O	2.46	0.49
3:QC:22:TRP:CE2	14:QN:54:PRO:HG2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:QD:116:GLN:HE21	4:QD:157:LEU:HD21	1.77	0.49
34:RA:373:U:H2'	34:RA:374:A:H8	1.77	0.49
34:RA:2599:G:C8	36:RD:236:GLY:HA2	2.48	0.49
54:RZ:6:LYS:NZ	54:RZ:43:GLU:OE1	2.45	0.49
11:XK:34:ASP:OD1	11:XK:38:ASN:N	2.45	0.49
24:Y0:23:VAL:HG13	24:Y0:38:VAL:HG22	1.93	0.49
32:Y8:27:THR:HA	44:YP:62:LEU:HD22	1.93	0.49
34:YA:662:G:H2'	34:YA:663:G:H8	1.76	0.49
34:YA:1292:U:H2'	34:YA:1293:C:C6	2.47	0.49
34:YA:1656:C:H2'	34:YA:1657:C:H6	1.77	0.49
34:YA:1859:A:N6	34:YA:1883:G:O2'	2.45	0.49
38:YF:24:LEU:HD21	38:YF:114:VAL:HG12	1.94	0.49
45:YQ:74:TYR:CD2	45:YQ:91:GLU:HB3	2.47	0.49
45:YQ:77:LYS:HG2	45:YQ:86:GLY:HA2	1.94	0.49
53:YY:20:TYR:OH	53:YY:43:ASN:OD1	2.30	0.49
54:YZ:30:ASN:OD1	54:YZ:33:LEU:N	2.38	0.49
1:QA:953:G:N7	13:QM:104:ARG:NH2	2.60	0.49
1:QA:970:C:N4	9:QI:128:ARG:OXT	2.39	0.49
1:QA:1148:U:C5'	9:QI:7:THR:HG21	2.42	0.49
1:QA:1251:A:H2'	1:QA:1252:A:C8	2.47	0.49
4:QD:20:TYR:CZ	6:XF:15:ASP:HB3	2.47	0.49
4:QD:98:GLU:OE2	4:QD:194:LEU:HD22	2.12	0.49
16:QP:34:GLU:OE1	16:QP:55:ARG:HD3	2.12	0.49
28:R4:37:SER:C	28:R4:39:CYS:N	2.65	0.49
34:RA:1292:U:H2'	34:RA:1293:C:C6	2.47	0.49
37:RE:36:ARG:NH1	37:RE:36:ARG:CG	2.74	0.49
41:RI:83:ALA:N	41:RI:145:VAL:H	2.10	0.49
45:RQ:138:ASP:HB3	45:RQ:141:GLN:OE1	2.12	0.49
48:RT:22:PHE:HA	48:RT:91:ARG:HH12	1.77	0.49
7:XG:64:GLN:HE21	7:XG:68:ASN:HD21	1.61	0.49
13:XM:79:LYS:NZ	13:XM:83:ASP:OD2	2.35	0.49
34:YA:2012:G:OP1	51:YW:11:ARG:NH2	2.46	0.49
34:YA:2311:A:H8	39:YG:88:ILE:CD1	2.25	0.49
46:YR:38:VAL:HG22	46:YR:112:ALA:HB2	1.93	0.49
1:QA:1443:G:N2	34:RA:2864:G:OP1	2.41	0.49
2:QB:162:ILE:HD11	2:QB:184:VAL:HG22	1.94	0.49
25:R1:2:SER:N	34:RA:1364:G:N7	2.60	0.49
34:RA:1201:C:H2'	34:RA:1202:C:H6	1.76	0.49
34:RA:2577:A:C2	34:RA:2614:A:C2	3.00	0.49
45:RQ:2:LEU:H	45:RQ:2:LEU:HD23	1.78	0.49
47:RS:106:ARG:HG2	47:RS:110:LEU:HG	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:RU:92:ARG:NH2	49:RU:94:ASN:OD1	2.45	0.49
50:RV:55:ALA:HA	50:RV:101:GLY:HA3	1.94	0.49
1:XA:22:G:H2'	1:XA:23:C:C6	2.47	0.49
1:XA:1245:A:H2'	1:XA:1246:C:C6	2.48	0.49
2:XB:127:ILE:HG13	2:XB:135:GLN:HG2	1.95	0.49
4:XD:64:LEU:HD13	4:XD:198:VAL:HG11	1.94	0.49
28:Y4:63:TYR:CD1	28:Y4:63:TYR:C	2.85	0.49
34:YA:151:C:H2'	34:YA:152:G:H8	1.77	0.49
34:YA:309:G:N3	34:YA:329:G:O2'	2.46	0.49
35:YB:75:G:H4'	54:YZ:36:LYS:HD3	1.94	0.49
36:YD:81:ALA:HB3	36:YD:94:LEU:CB	2.41	0.49
39:YG:114:ILE:HD12	39:YG:140:ILE:HG21	1.95	0.49
41:YI:69:LYS:HA	41:YI:136:VAL:CG2	2.29	0.49
42:YN:16:ILE:HD13	42:YN:52:VAL:HG13	1.94	0.49
1:QA:126:G:C2	1:QA:236:G:C6	3.01	0.49
1:QA:708:C:H2'	1:QA:709:G:H8	1.78	0.49
1:QA:1370:G:H2'	1:QA:1371:G:H8	1.78	0.49
1:QA:1427:U:H2'	1:QA:1428:A:C8	2.48	0.49
13:QM:65:LYS:HE2	28:R4:50:VAL:HG21	1.93	0.49
18:QR:34:TYR:CD2	18:QR:35:ARG:HG3	2.48	0.49
25:R1:87:PRO:HA	25:R1:90:ILE:HB	1.95	0.49
29:R5:55:ARG:HG2	46:RR:33:ARG:CZ	2.43	0.49
30:R6:41:PRO:HD3	30:R6:47:THR:H	1.77	0.49
34:RA:1796:U:H2'	34:RA:1797:C:H6	1.76	0.49
34:RA:1889:A:H2'	34:RA:1890:A:C8	2.47	0.49
34:RA:2231:C:H2'	34:RA:2232:U:O4'	2.12	0.49
36:RD:12:SER:HB2	36:RD:208:LYS:HB3	1.94	0.49
39:RG:23:PHE:HZ	39:RG:171:ALA:HB3	1.76	0.49
39:RG:135:LEU:HD23	39:RG:140:ILE:HD11	1.93	0.49
42:RN:54:VAL:HB	42:RN:122:VAL:HG22	1.93	0.49
42:RN:115:ARG:HA	42:RN:118:LYS:HE3	1.95	0.49
1:XA:539:A:H2'	1:XA:540:G:C8	2.47	0.49
1:XA:949:A:OP1	13:XM:101:GLN:CB	2.56	0.49
1:XA:1303:C:H2'	1:XA:1304:G:O4'	2.12	0.49
21:XU:4:GLY:HA2	21:XU:15:ARG:HH12	1.77	0.49
32:Y8:30:ARG:H	32:Y8:33:ASN:HD21	1.59	0.49
34:YA:602:G:HO2'	34:YA:604:G:HO2'	1.59	0.49
34:YA:1087:G:C5	34:YA:1089:G:H1'	2.48	0.49
34:YA:1535:U:H5"	34:YA:1537:C:C4	2.48	0.49
34:YA:1853:A:H2'	34:YA:1854:A:H8	1.77	0.49
49:YU:40:PHE:HB3	50:YV:75:PHE:HD1	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:806:C:H2'	1:QA:807:A:C8	2.46	0.49
1:QA:1129:C:H42	1:QA:1141:C:N4	2.10	0.49
19:QS:10:PHE:HZ	19:QS:12:ASP:O	1.93	0.49
20:QT:53:LEU:O	20:QT:57:ARG:HD3	2.12	0.49
28:R4:14:ILE:O	28:R4:20:ASN:HA	2.12	0.49
34:RA:594:U:H2'	34:RA:595:C:C6	2.48	0.49
34:RA:1230:C:H2'	34:RA:1231:G:H8	1.76	0.49
34:RA:2212:A:H1'	34:RA:2215:G:C5	2.48	0.49
34:RA:2233:U:H2'	34:RA:2234:G:C8	2.47	0.49
34:RA:2572:A:OP1	34:RA:2574:G:O2'	2.24	0.49
36:RD:69:ARG:HE	36:RD:130:ALA:HB2	1.78	0.49
51:RW:8:ARG:HG2	51:RW:9:TYR:HD1	1.77	0.49
1:XA:1350:A:O2'	7:XG:33:ASP:OD1	2.28	0.49
2:XB:24:TRP:CZ3	2:XB:26:PRO:HA	2.47	0.49
27:Y3:8:LEU:HD12	27:Y3:28:LEU:HB3	1.94	0.49
34:YA:436:C:H2'	34:YA:438:G:C8	2.48	0.49
34:YA:720:C:H2'	34:YA:721:C:H6	1.77	0.49
34:YA:1202:C:HO2'	38:YF:184:TYR:HH	1.61	0.49
34:YA:1384:A:N3	34:YA:1405:U:H1'	2.28	0.49
34:YA:1588:C:H2'	34:YA:1589:C:H6	1.77	0.49
34:YA:2185:C:H2'	34:YA:2186:G:H8	1.77	0.49
34:YA:2636:U:H1'	34:YA:2783:G:N2	2.27	0.49
37:YE:78:LEU:HG	37:YE:79:ARG:HD2	1.95	0.49
54:YZ:97:GLU:HG2	54:YZ:125:LEU:HG	1.93	0.49
1:QA:563:A:H2'	1:QA:567:G:C8	2.48	0.49
1:QA:1128:C:N3	1:QA:1144:G:N2	2.61	0.49
2:QB:91:PRO:HG2	2:QB:155:LEU:HB2	1.94	0.49
15:QO:87:ILE:HG22	15:QO:88:ARG:H	1.77	0.49
19:QS:64:GLU:HB2	28:R4:55:ARG:NH2	2.22	0.49
26:R2:47:ASN:OD1	34:RA:61:G:C4	2.66	0.49
28:R4:39:CYS:SG	28:R4:40:HIS:N	2.86	0.49
30:R6:13:CYS:O	30:R6:21:TYR:CA	2.60	0.49
34:RA:1476:C:H2'	34:RA:1477:A:H8	1.77	0.49
34:RA:1819:A:H5"	36:RD:161:THR:HG21	1.93	0.49
34:RA:2599:G:H8	36:RD:236:GLY:HA2	1.77	0.49
35:RB:5:C:OP1	35:RB:61:G:O2'	2.28	0.49
35:RB:40:U:H3	35:RB:43:C:H5"	1.78	0.49
36:RD:52:ARG:NH1	36:RD:249:PRO:HG2	2.27	0.49
36:RD:67:PHE:HB3	36:RD:153:ALA:HB3	1.93	0.49
50:RV:67:GLY:O	50:RV:88:ARG:NE	2.24	0.49
53:RY:76:CYS:HB3	53:RY:96:ILE:HD13	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:8:A:N6	4:XD:205:GLU:O	2.46	0.49
1:XA:985:C:H2'	1:XA:986:A:H8	1.78	0.49
1:XA:1305:G:O2'	1:XA:1332:A:N6	2.46	0.49
2:XB:32:ILE:HD12	2:XB:40:HIS:HB3	1.95	0.49
9:XI:59:PHE:HZ	9:XI:88:TYR:CE2	2.30	0.49
19:XS:10:PHE:CZ	19:XS:16:LEU:CG	2.82	0.49
19:XS:19:VAL:HG21	19:XS:44:MET:HG2	1.94	0.49
24:Y0:7:LEU:HD11	45:YQ:81:VAL:HG23	1.95	0.49
34:YA:140:A:H8	34:YA:1408:C:HO2'	1.61	0.49
34:YA:1203:G:H3'	34:YA:1204:A:H5"	1.95	0.49
39:YG:11:TYR:CZ	39:YG:16:ARG:HD3	2.48	0.49
53:YY:87:LYS:HD2	53:YY:92:ASN:HB3	1.94	0.49
2:QB:4:GLU:HG3	2:QB:6:THR:H	1.76	0.49
2:QB:67:THR:OG1	2:QB:157:ARG:NH2	2.45	0.49
4:QD:15:GLU:HG2	4:QD:63:LYS:HB2	1.94	0.49
13:QM:11:ARG:HA	13:QM:45:VAL:CG1	2.42	0.49
28:R4:28:LYS:HE3	28:R4:31:ILE:HG12	1.94	0.49
28:R4:39:CYS:SG	28:R4:41:PRO:HD3	2.53	0.49
34:RA:949:C:H2'	34:RA:950:G:H8	1.78	0.49
52:RX:82:GLN:NE2	52:RX:83:VAL:O	2.46	0.49
1:XA:266:G:O2'	1:XA:268:C:OP2	2.25	0.49
1:XA:1422:G:H2'	1:XA:1423:G:H8	1.77	0.49
1:XA:1446:A:O2'	1:XA:1447:G:O5'	2.28	0.49
3:XC:159:GLY:HA2	3:XC:193:TYR:CD2	2.47	0.49
8:XH:49:GLU:HG3	8:XH:51:VAL:HG13	1.95	0.49
12:XL:127:GLU:HG2	12:XL:129:ALA:H	1.77	0.49
14:XN:26:ARG:NH1	14:XN:43:CYS:SG	2.85	0.49
28:Y4:68:ARG:HD2	28:Y4:69:LYS:H	1.77	0.49
40:YH:6:ARG:HB3	40:YH:65:HIS:CE1	2.47	0.49
42:YN:9:VAL:HG21	42:YN:48:MET:HB2	1.95	0.49
54:YZ:57:ILE:HG22	54:YZ:59:LEU:H	1.78	0.49
54:YZ:94:GLU:OE1	54:YZ:131:ARG:NE	2.46	0.49
6:QF:30:LEU:HD23	6:QF:75:LEU:HD11	1.93	0.49
13:QM:14:ARG:O	13:QM:45:VAL:N	2.45	0.49
20:QT:56:MET:HE1	20:QT:104:LEU:HD13	1.94	0.49
28:R4:14:ILE:HB	28:R4:21:VAL:HB	1.94	0.49
30:R6:14:THR:HA	30:R6:21:TYR:HA	1.94	0.49
34:RA:823:G:H2'	34:RA:824:A:C8	2.47	0.49
34:RA:1287:A:C8	46:RR:107:ASP:HB2	2.48	0.49
37:RE:201:THR:HG22	37:RE:203:LYS:N	2.24	0.49
38:RF:117:ARG:HG3	38:RF:192:LEU:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:RH:6:ARG:HB2	40:RH:65:HIS:CD2	2.48	0.49
43:RO:25:LEU:HB2	43:RO:38:VAL:HG13	1.94	0.49
1:XA:186:C:H2'	1:XA:186(A):C:H6	1.78	0.49
2:XB:232:PRO:O	2:XB:233:SER:OG	2.29	0.49
13:XM:60:VAL:HG12	13:XM:66:LEU:HD11	1.95	0.49
31:Y7:5:TRP:NE1	31:Y7:7:PRO:HG3	2.28	0.49
31:Y7:47:ARG:HH12	52:YX:60:ARG:HH22	1.59	0.49
32:Y8:51:ALA:N	32:Y8:53:PRO:HD2	2.28	0.49
34:YA:729:G:H5'	34:YA:730:C:H5"	1.94	0.49
34:YA:2683:C:H5'	48:YT:58:ASN:HD22	1.77	0.49
34:YA:2710:C:OP1	46:YR:15:SER:OG	2.26	0.49
38:YF:41:LEU:HA	38:YF:44:ARG:HD3	1.94	0.49
38:YF:164:ARG:O	38:YF:168:ARG:HG3	2.13	0.49
46:YR:56:LYS:NZ	46:YR:90:ARG:O	2.41	0.49
54:YZ:8:TYR:HB2	54:YZ:38:TYR:CE1	2.48	0.49
54:YZ:24:LEU:HD23	54:YZ:41:LEU:HD22	1.94	0.49
1:QA:186(A):C:H2'	1:QA:186(B):C:C6	2.47	0.49
1:QA:284:G:H2'	1:QA:285:G:H8	1.78	0.49
1:QA:601:C:H2'	1:QA:602:A:C8	2.47	0.49
1:QA:978:A:H61	1:QA:1316:G:H1'	1.78	0.49
1:QA:1044:A:C5	1:QA:1045:C:H1'	2.48	0.49
1:QA:1392:G:N2	1:QA:1502:A:H8	2.11	0.49
2:QB:168:THR:HG21	2:QB:191:ASP:OD2	2.13	0.49
5:QE:41:VAL:HG11	5:QE:113:ALA:HB2	1.95	0.49
24:R0:12:ASN:ND2	34:RA:2278:A:OP2	2.46	0.49
32:R8:39:LYS:O	32:R8:43:GLN:HG2	2.12	0.49
34:RA:922:U:H2'	34:RA:923:C:C6	2.48	0.49
34:RA:1028:A:H2'	34:RA:1029:A:C8	2.48	0.49
39:RG:125:PHE:HE1	39:RG:180:PHE:CE2	2.31	0.49
1:XA:346:G:H1'	1:XA:347:G:H5'	1.95	0.49
1:XA:347:G:O2'	1:XA:348:G:H5"	2.13	0.49
1:XA:926:G:O2'	23:XX:-3:G:N2	2.46	0.49
1:XA:1141:C:H2'	1:XA:1142:G:H8	1.77	0.49
1:XA:1321:C:H3'	1:XA:1322:C:H5"	1.94	0.49
4:XD:3:ARG:NH2	4:XD:118:ARG:HD2	2.28	0.49
4:XD:196:LEU:HB2	4:XD:198:VAL:HG12	1.95	0.49
15:XO:76:GLU:OE1	15:XO:79:ARG:NH1	2.46	0.49
34:YA:327:G:N2	34:YA:336:C:N3	2.59	0.49
34:YA:1244:G:H4'	44:YP:8:PRO:HD2	1.95	0.49
34:YA:2490:G:OP2	34:YA:2490:G:N2	2.44	0.49
34:YA:2729:G:H4'	37:YE:185:LYS:HG3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YD:38:LYS:HA	36:YD:61:LEU:HD13	1.94	0.49
43:YO:75:SER:HB2	48:YT:74:ARG:HH12	1.78	0.49
45:YQ:60:ARG:NH2	54:YZ:112:ARG:HE	2.11	0.49
1:QA:368:U:OP2	41:YI:121:LYS:NZ	2.44	0.48
1:QA:1342:C:H2'	1:QA:1343:G:C8	2.48	0.48
3:QC:134:ILE:HD11	3:QC:153:VAL:HG23	1.95	0.48
26:R2:50:ILE:H	26:R2:50:ILE:CD1	2.20	0.48
30:R6:19:ARG:HD2	30:R6:21:TYR:CE1	2.46	0.48
34:RA:608:A:H2'	34:RA:609:A:C8	2.48	0.48
34:RA:975:G:N2	34:RA:1156:A:O2'	2.46	0.48
34:RA:1289:C:H2'	34:RA:1290:C:H6	1.78	0.48
1:XA:489:C:OP1	4:XD:132:ARG:NH2	2.46	0.48
1:XA:1346:A:N7	7:XG:10:ARG:NH2	2.60	0.48
3:XC:113:ALA:HB2	3:XC:202:ILE:HG12	1.95	0.48
3:XC:150:LYS:HG3	3:XC:169:ALA:HB2	1.94	0.48
4:XD:3:ARG:HH22	4:XD:115:ARG:HA	1.78	0.48
22:XV:7:U:H3'	22:XV:8:U:H5'	1.94	0.48
34:YA:327:G:C2	34:YA:336:C:C2	3.01	0.48
34:YA:828:U:H4'	34:YA:831:G:N1	2.28	0.48
34:YA:2462:U:H2'	34:YA:2463:C:C6	2.48	0.48
36:YD:35:LYS:HD3	36:YD:104:TYR:CG	2.47	0.48
44:YP:62:LEU:HD23	44:YP:62:LEU:H	1.78	0.48
10:QJ:42:THR:HG21	10:QJ:66:ARG:HG3	1.95	0.48
15:QO:15:PHE:CD2	15:QO:30:ALA:HB2	2.48	0.48
19:QS:10:PHE:CD2	19:QS:10:PHE:C	2.85	0.48
34:RA:18:C:O2'	34:RA:553:U:OP1	2.28	0.48
34:RA:78:A:H2'	34:RA:79:G:H8	1.77	0.48
34:RA:263:C:H2'	34:RA:264:C:O4'	2.13	0.48
34:RA:270(U):C:H2'	34:RA:270(V):G:H8	1.77	0.48
34:RA:783:A:H8	34:RA:784:A:H4'	1.78	0.48
34:RA:918:A:N3	35:RB:80:U:O2'	2.43	0.48
38:RF:128:ALA:O	38:RF:130:ALA:N	2.41	0.48
40:RH:150:ALA:C	40:RH:152:ARG:N	2.66	0.48
40:RH:163:TYR:HB3	40:RH:167:GLU:OE2	2.12	0.48
1:XA:12:U:H3	1:XA:22:G:H1	1.60	0.48
1:XA:164:U:H2'	1:XA:165:C:C6	2.48	0.48
1:XA:1212:U:H4'	1:XA:1213:A:C8	2.48	0.48
1:XA:1409:C:H2'	1:XA:1410:G:C8	2.47	0.48
22:XV:1:G:O2'	24:Y0:5:LYS:HD2	2.13	0.48
55:XY:37:A:O2'	34:YA:1913:A:N1	2.43	0.48
29:Y5:55:ARG:CD	46:YR:113:LEU:CD1	2.92	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:710:G:H2'	34:YA:711:G:C8	2.48	0.48
34:YA:867:C:O2	34:YA:912:C:O2'	2.30	0.48
34:YA:2151:G:H2'	34:YA:2152:G:C8	2.45	0.48
36:YD:231:HIS:CE1	36:YD:233:HIS:HB2	2.48	0.48
1:QA:544:G:OP1	4:QD:59:ARG:NH2	2.45	0.48
1:QA:851:G:H2'	1:QA:852:G:C8	2.49	0.48
1:QA:1238:A:H62	1:QA:1299:A:N6	2.12	0.48
19:QS:10:PHE:HB3	19:QS:39:THR:OG1	2.13	0.48
34:RA:521:G:H2'	34:RA:522:G:C8	2.47	0.48
34:RA:1501:C:H2'	34:RA:1502:C:C6	2.48	0.48
34:RA:1686:C:H3'	34:RA:1687:G:H8	1.77	0.48
54:RZ:94:GLU:CB	54:RZ:95:PRO:HD2	2.28	0.48
1:XA:486:U:H2'	1:XA:487:A:C8	2.48	0.48
1:XA:1292:U:H2'	1:XA:1293:G:C8	2.49	0.48
13:XM:39:ILE:HD11	13:XM:52:GLU:HB3	1.94	0.48
19:XS:15:LEU:HD11	19:XS:49:ILE:HD13	1.95	0.48
30:Y6:41:PRO:HD2	30:Y6:46:HIS:N	2.28	0.48
34:YA:820:A:H4'	34:YA:836:G:N2	2.28	0.48
34:YA:994:C:O2'	34:YA:996:A:OP1	2.22	0.48
34:YA:1178:C:H2'	34:YA:1179:C:C6	2.48	0.48
34:YA:2695:C:H2'	34:YA:2696:U:C6	2.48	0.48
52:YX:31:HIS:HE1	52:YX:33:LYS:HE3	1.77	0.48
1:QA:438:G:H4'	4:QD:123:HIS:ND1	2.28	0.48
1:QA:1175:G:H2'	1:QA:1176:A:C8	2.49	0.48
3:QC:175:LEU:HD21	3:QC:201:TYR:HE2	1.79	0.48
9:QI:9:ARG:HG3	9:QI:14:VAL:HG13	1.95	0.48
20:QT:38:LYS:HA	20:QT:41:ILE:HG12	1.95	0.48
25:R1:78:LYS:HE2	34:RA:270(S):G:H1'	1.94	0.48
29:R5:27:PRO:HA	51:RW:23:LEU:HD21	1.95	0.48
32:R8:5:LYS:HA	34:RA:242:G:H2'	1.95	0.48
34:RA:74:A:H4'	34:RA:75:G:O5'	2.13	0.48
34:RA:590:A:H2'	34:RA:591:C:C6	2.48	0.48
34:RA:617:G:OP1	38:RF:40:GLN:HG3	2.13	0.48
47:RS:83:LYS:HD3	47:RS:84:GLN:HG3	1.94	0.48
53:RY:38:ILE:HG22	53:RY:66:PRO:HA	1.95	0.48
54:RZ:48:PHE:HD1	54:RZ:48:PHE:O	1.96	0.48
1:XA:127:G:HO2'	17:XQ:2:PRO:N	2.12	0.48
2:XB:74:LYS:NZ	2:XB:206:ASP:OD1	2.35	0.48
21:XU:20:LYS:HD2	21:XU:21:TYR:CD1	2.47	0.48
26:Y2:18:PRO:O	26:Y2:21:LEU:N	2.46	0.48
34:YA:2315:G:H2'	34:YA:2316:C:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:2340:G:H2'	34:YA:2341:G:C8	2.49	0.48
34:YA:2740:A:H2'	34:YA:2741:A:C8	2.47	0.48
36:YD:35:LYS:HD3	36:YD:104:TYR:CD1	2.49	0.48
39:YG:3:LEU:HD12	39:YG:4:ASP:H	1.78	0.48
53:YY:83:THR:HG23	53:YY:94:LYS:HB2	1.95	0.48
1:QA:743:U:H2'	1:QA:744:C:C6	2.49	0.48
10:QJ:13:HIS:HB3	10:QJ:68:HIS:CD2	2.48	0.48
12:QL:117:ARG:CZ	12:QL:124:LYS:HA	2.40	0.48
14:QN:16:PHE:HE2	14:QN:19:ARG:NH2	2.12	0.48
15:QO:6:GLU:OE1	15:QO:6:GLU:N	2.40	0.48
20:QT:14:LYS:HA	20:QT:17:ARG:HE	1.77	0.48
26:R2:48:HIS:NE2	26:R2:49:LYS:HE2	2.29	0.48
34:RA:635:C:O2'	34:RA:639:U:OP1	2.30	0.48
34:RA:1266:G:O2'	34:RA:2012:G:O6	2.24	0.48
34:RA:1336:A:H2'	34:RA:1337:G:H8	1.78	0.48
34:RA:1441:G:H2'	34:RA:1442:G:H8	1.79	0.48
34:RA:2126:A:H4'	34:RA:2127:G:O5'	2.13	0.48
34:RA:2688:U:OP1	34:RA:2713:A:N6	2.46	0.48
34:RA:2696:U:H2'	34:RA:2697:G:H8	1.79	0.48
40:RH:156:ALA:CB	40:RH:158:HIS:O	2.61	0.48
41:RI:88:ILE:HD12	41:RI:89:TYR:HD2	1.78	0.48
48:RT:107:ASP:O	48:RT:110:ILE:HG22	2.13	0.48
49:RU:92:ARG:NH1	50:RV:11:GLN:HB2	2.27	0.48
54:RZ:44:PHE:O	54:RZ:44:PHE:HD1	1.96	0.48
54:RZ:59:LEU:HB2	54:RZ:61:LEU:HD11	1.95	0.48
1:XA:1077:G:N2	1:XA:1080:A:OP2	2.35	0.48
2:XB:79:ASP:O	2:XB:83:MET:HG2	2.12	0.48
2:XB:178:ARG:NH1	8:XH:74:PRO:HG3	2.28	0.48
29:Y5:29:THR:HG21	34:YA:2815:C:H5'	1.95	0.48
32:Y8:34:TRP:HE3	32:Y8:35:GLN:N	2.11	0.48
34:YA:184:C:O2'	34:YA:217:G:N3	2.46	0.48
34:YA:2138:C:H2'	34:YA:2139:C:C6	2.49	0.48
35:YB:28:C:H2'	35:YB:29:A:C8	2.49	0.48
38:YF:12:LEU:HD13	38:YF:17:ARG:HE	1.77	0.48
38:YF:78:ILE:HA	38:YF:83:PHE:CD2	2.48	0.48
44:YP:124:LYS:HA	44:YP:143:GLY:O	2.13	0.48
54:YZ:5:LEU:CD2	54:YZ:43:GLU:HG2	2.43	0.48
54:YZ:67:LEU:HD12	54:YZ:67:LEU:C	2.29	0.48
54:YZ:141:VAL:HA	54:YZ:144:LEU:HD23	1.96	0.48
1:QA:1151:A:H2'	1:QA:1152:A:C8	2.48	0.48
1:QA:1211:U:H1'	1:QA:1213:A:C2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:35:GLU:HB2	3:QC:59:ARG:HH22	1.79	0.48
4:QD:7:PRO:HB2	4:QD:10:ARG:HG2	1.95	0.48
10:QJ:47:PHE:HE2	14:QN:44:LEU:HD11	1.79	0.48
29:R5:33:CYS:HB2	29:R5:36:CYS:HB3	1.95	0.48
34:RA:52:A:H2'	34:RA:53:A:H8	1.78	0.48
34:RA:1471:A:OP2	34:RA:1521:G:N1	2.35	0.48
36:RD:168:ARG:HG2	36:RD:173:VAL:HG12	1.96	0.48
49:RU:40:PHE:CZ	50:RV:82:ARG:HG2	2.48	0.48
50:RV:2:PHE:H	50:RV:42:GLY:HA3	1.76	0.48
53:RY:91:GLU:HG3	53:RY:92:ASN:H	1.78	0.48
54:RZ:60:GLU:OE1	54:RZ:60:GLU:HA	2.14	0.48
1:XA:113:G:H2'	1:XA:114:U:C6	2.48	0.48
1:XA:355:C:H5'	1:XA:389:A:OP2	2.13	0.48
1:XA:426:G:OP1	4:XD:38:TYR:OH	2.30	0.48
3:XC:76:VAL:HG21	3:XC:103:VAL:HG11	1.95	0.48
19:XS:10:PHE:CZ	19:XS:16:LEU:CB	2.97	0.48
32:Y8:61:LEU:CD1	34:YA:593:G:C2'	2.91	0.48
34:YA:530:G:C5	34:YA:2022:U:H5"	2.47	0.48
34:YA:688:U:H2'	34:YA:689:A:H8	1.77	0.48
34:YA:1063:G:H2'	34:YA:1064:C:O4'	2.13	0.48
34:YA:2152:G:H2'	34:YA:2153:G:C8	2.48	0.48
34:YA:2152:G:H2'	34:YA:2153:G:H8	1.79	0.48
34:YA:2455:G:H2'	34:YA:2456:C:H6	1.79	0.48
34:YA:2515:C:H2'	34:YA:2516:G:H8	1.77	0.48
36:YD:23:GLU:HG3	36:YD:82:ILE:HG21	1.95	0.48
37:YE:78:LEU:CD2	37:YE:79:ARG:HD2	2.43	0.48
50:YV:43:GLU:O	50:YV:46:VAL:HG12	2.14	0.48
53:YY:35:TYR:O	53:YY:35:TYR:HD1	1.96	0.48
1:QA:17:U:H2'	1:QA:18:C:H6	1.78	0.48
1:QA:555:C:H2'	1:QA:556:C:C6	2.48	0.48
1:QA:573:A:N3	1:QA:883:C:O2'	2.46	0.48
1:QA:621:A:H2'	1:QA:622:A:C8	2.49	0.48
18:QR:37:VAL:HG22	18:QR:78:LEU:HB3	1.95	0.48
20:QT:67:ALA:HB2	20:QT:77:ALA:HB2	1.94	0.48
22:QV:27:G:H1	22:QV:43:U:H3	1.61	0.48
28:R4:16:CYS:HB2	28:R4:36:CYS:H	1.78	0.48
28:R4:42:PHE:CD2	28:R4:43:TYR:N	2.54	0.48
32:R8:11:LYS:HG3	32:R8:60:LEU:HD22	1.95	0.48
34:RA:1065:U:O2	34:RA:1074:G:N1	2.46	0.48
34:RA:1405:U:H2'	34:RA:1406:U:C6	2.47	0.48
34:RA:1434:A:H2'	34:RA:1435:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1543:A:O2'	34:RA:1544:C:H3'	2.12	0.48
34:RA:2131:G:H4'	34:RA:2132:U:H4'	1.95	0.48
34:RA:2150:U:H2'	34:RA:2151:G:H8	1.78	0.48
34:RA:2305:A:H1'	39:RG:136:ARG:HG2	1.96	0.48
34:RA:2334:G:C4	47:RS:12:PHE:HD2	2.30	0.48
34:RA:2630:G:H2'	34:RA:2631:G:C8	2.48	0.48
37:RE:36:ARG:HG3	37:RE:47:VAL:HG12	1.96	0.48
1:XA:57:G:H2'	1:XA:58:C:C6	2.48	0.48
1:XA:1167:A:H2'	1:XA:1169:A:C8	2.48	0.48
1:XA:1355:G:H2'	1:XA:1356:G:H8	1.79	0.48
2:XB:211:ILE:O	2:XB:215:LEU:HB2	2.13	0.48
3:XC:46:GLU:HB2	3:XC:47:LEU:HD22	1.95	0.48
18:XR:26:LEU:HD11	18:XR:29:PHE:HD1	1.78	0.48
19:XS:41:VAL:CB	19:XS:42:PRO:HA	2.42	0.48
23:XX:-12:G:H2'	23:XX:-11:G:C8	2.49	0.48
23:XX:-11:G:H2'	23:XX:-10:A:C8	2.49	0.48
27:Y3:12:PRO:HB2	27:Y3:20:LYS:HG2	1.94	0.48
28:Y4:16:CYS:HB2	28:Y4:36:CYS:HB2	1.96	0.48
30:Y6:27:LYS:HZ1	34:YA:2285:C:H41	1.59	0.48
34:YA:272:G:H2'	34:YA:273:G:C8	2.49	0.48
34:YA:1496:A:H8	34:YA:1577:C:HO2'	1.57	0.48
34:YA:1899:G:H21	34:YA:1902:C:N4	2.11	0.48
39:YG:120:LEU:HB3	39:YG:131:TYR:OH	2.14	0.48
42:YN:99:LEU:HD12	42:YN:122:VAL:HG21	1.95	0.48
52:YX:12:VAL:HG12	52:YX:29:TRP:CE2	2.48	0.48
54:YZ:65:GLN:CG	54:YZ:66:SER:H	2.25	0.48
1:QA:6:G:H4'	1:QA:298:A:H4'	1.94	0.48
1:QA:1296:C:H4'	13:QM:14:ARG:NH1	2.25	0.48
4:QD:99:SER:HB2	4:QD:139:ARG:HG2	1.95	0.48
9:QI:47:LEU:HD12	9:QI:50:LEU:HD12	1.95	0.48
12:QL:113:ARG:HH21	12:QL:116:SER:HB2	1.78	0.48
34:RA:389:G:H22	44:RP:72:PRO:HD3	1.79	0.48
34:RA:746:A:C6	34:RA:2611:U:H5"	2.48	0.48
34:RA:947:G:H2'	34:RA:948:G:C8	2.48	0.48
34:RA:1827:C:OP2	36:RD:222:ARG:NH1	2.46	0.48
35:RB:42:C:H42	39:RG:91:ARG:HH22	1.60	0.48
35:RB:49:C:H2'	35:RB:50:G:H8	1.76	0.48
36:RD:233:HIS:HE1	36:RD:247:ALA:H	1.58	0.48
37:RE:47:VAL:HG21	37:RE:86:PRO:HD3	1.96	0.48
39:RG:170:ARG:HH21	39:RG:180:PHE:HB3	1.78	0.48
46:RR:100:LEU:HD11	46:RR:113:LEU:HB2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:RS:7:TYR:CE1	47:RS:91:PRO:HG3	2.49	0.48
50:RV:76:LYS:HB2	50:RV:81:TYR:HB3	1.96	0.48
1:XA:28:G:O2'	1:XA:296:U:OP1	2.30	0.48
1:XA:579:G:H5'	1:XA:728:A:H1'	1.95	0.48
1:XA:1015:A:N3	1:XA:1218:C:O2'	2.43	0.48
1:XA:1032(B):G:H2'	1:XA:1033:G:H8	1.78	0.48
4:XD:68:TYR:CD2	4:XD:97:LEU:HB3	2.49	0.48
9:XI:53:VAL:HG13	9:XI:92:TYR:HE1	1.79	0.48
10:XJ:4:ILE:HB	10:XJ:74:ILE:HG13	1.95	0.48
24:Y0:67:VAL:HG22	24:Y0:81:VAL:HG22	1.96	0.48
34:YA:690:G:H2'	34:YA:691:C:C6	2.49	0.48
34:YA:1230:C:H2'	34:YA:1231:G:H8	1.78	0.48
40:YH:87:LEU:HD21	40:YH:149:ARG:HB2	1.96	0.48
45:YQ:19:GLY:O	45:YQ:98:LYS:HD3	2.13	0.48
53:YY:75:ILE:HA	53:YY:80:GLY:HA2	1.96	0.48
1:QA:112:G:H1	1:QA:315:A:H61	1.61	0.48
1:QA:452:A:H62	1:QA:480:U:H3	1.61	0.48
1:QA:678:U:H2'	1:QA:679:C:C6	2.49	0.48
1:QA:1352:C:H2'	1:QA:1353:G:C8	2.48	0.48
3:QC:66:VAL:HG12	3:QC:68:VAL:HG23	1.96	0.48
4:QD:133:VAL:HG21	4:QD:138:TYR:HE2	1.79	0.48
9:QI:17:VAL:HG22	9:QI:63:ILE:HG12	1.95	0.48
34:RA:530:G:N1	34:RA:2022:U:OP1	2.47	0.48
34:RA:532:A:N1	34:RA:2035:G:N2	2.62	0.48
34:RA:2556:C:H2'	34:RA:2557:G:O4'	2.14	0.48
1:XA:97:U:H2'	1:XA:99:C:C6	2.49	0.48
1:XA:369:C:OP2	1:XA:388:G:N2	2.43	0.48
1:XA:407:G:H2'	1:XA:408:A:C8	2.49	0.48
1:XA:736:C:H2'	1:XA:737:A:C8	2.48	0.48
2:XB:20:GLU:HB2	2:XB:190:THR:HB	1.96	0.48
9:XI:42:ARG:HH21	9:XI:71:SER:CB	2.22	0.48
34:YA:554:U:H2'	34:YA:556:G:C8	2.49	0.48
34:YA:1400:G:H2'	34:YA:1401:G:C8	2.49	0.48
34:YA:1667:G:O2'	34:YA:1991:U:O4	2.20	0.48
38:YF:126:VAL:HG11	38:YF:142:TRP:HZ2	1.78	0.48
43:YO:87:ILE:HD12	43:YO:91:LEU:HA	1.94	0.48
48:YT:26:ASP:O	48:YT:49:VAL:HG12	2.14	0.48
1:QA:1216:G:H2'	1:QA:1217:C:C6	2.49	0.48
2:QB:132:LYS:HD2	2:QB:135:GLN:HB3	1.96	0.48
4:QD:12:CYS:HB3	4:QD:18:LYS:HA	1.95	0.48
4:QD:50:ARG:N	4:QD:50:ARG:HD2	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:QQ:45:HIS:NE2	17:QQ:47:PRO:HG3	2.28	0.48
32:R8:34:TRP:CE2	32:R8:35:GLN:HG2	2.48	0.48
32:R8:63:PRO:O	32:R8:64:TYR:CG	2.67	0.48
32:R8:64:TYR:O	32:R8:64:TYR:CD1	2.67	0.48
34:RA:609(A):G:H2'	34:RA:610:C:C6	2.49	0.48
34:RA:813:U:H2'	34:RA:814:C:C6	2.48	0.48
35:RB:42:C:N4	39:RG:91:ARG:NH2	2.61	0.48
39:RG:105:LYS:O	39:RG:109:VAL:HB	2.13	0.48
41:RI:58:LEU:O	41:RI:62:LYS:HG2	2.14	0.48
45:RQ:110:THR:HG22	45:RQ:112:GLU:OE1	2.14	0.48
47:RS:99:LYS:O	47:RS:103:GLU:HG2	2.14	0.48
1:XA:690:G:H22	11:XK:55:LYS:HZ1	1.60	0.48
22:XV:68:G:H2'	22:XV:69:A:C8	2.49	0.48
30:Y6:45:LYS:NZ	34:YA:2370:G:H21	2.11	0.48
32:Y8:62:LEU:N	32:Y8:63:PRO:HD2	2.22	0.48
34:YA:1497:U:H5"	34:YA:1498:C:H5	1.78	0.48
41:YI:75:LEU:HD11	41:YI:105:HIS:CD2	2.49	0.48
19:QS:61:TYR:O	19:QS:66:MET:HE1	2.13	0.47
29:R5:33:CYS:SG	29:R5:40:LYS:CD	2.98	0.47
32:R8:52:LYS:N	32:R8:53:PRO:HD2	2.29	0.47
34:RA:617:G:HO2'	38:RF:205:ARG:HH22	1.58	0.47
34:RA:654(S):G:H2'	34:RA:654(T):C:C6	2.49	0.47
34:RA:2611:U:H3'	34:RA:2611:U:P	2.54	0.47
36:RD:27:THR:HG23	36:RD:83:GLU:HG2	1.96	0.47
37:RE:4:ILE:HD13	37:RE:28:ALA:HB1	1.95	0.47
37:RE:13:ARG:NH1	37:RE:20:ALA:HB1	2.28	0.47
46:RR:57:ARG:NE	46:RR:59:ASP:OD2	2.46	0.47
51:RW:46:PHE:O	51:RW:50:VAL:HG23	2.13	0.47
1:XA:1178:G:H5"	9:XI:93:ARG:NH2	2.24	0.47
1:XA:1507:A:H2'	1:XA:1508:G:H8	1.78	0.47
12:XL:114:LYS:O	12:XL:117:ARG:NH1	2.47	0.47
32:Y8:39:LYS:O	32:Y8:43:GLN:HG2	2.14	0.47
34:YA:272:G:H2'	34:YA:273:G:H8	1.79	0.47
34:YA:890:A:H2'	34:YA:892:G:H8	1.77	0.47
34:YA:1287:A:C8	46:YR:107:ASP:HB2	2.49	0.47
34:YA:1399:C:H2'	34:YA:1400:G:H8	1.78	0.47
36:YD:35:LYS:NZ	36:YD:35:LYS:CA	2.73	0.47
37:YE:4:ILE:HD13	37:YE:91:VAL:HG12	1.95	0.47
38:YF:63:LYS:HA	38:YF:76:GLY:O	2.15	0.47
49:YU:44:ASN:HD21	50:YV:75:PHE:HB3	1.79	0.47
53:YY:21:LYS:HD3	53:YY:22:GLY:N	2.28	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:25:C:H2'	1:QA:26:A:C8	2.49	0.47
1:QA:222:U:H2'	1:QA:223:U:H6	1.80	0.47
1:QA:1047:G:C2'	1:QA:1048:G:H5'	2.44	0.47
1:QA:1096:C:H2'	1:QA:1097:C:C6	2.49	0.47
1:QA:1387:G:H2'	1:QA:1388:C:C6	2.49	0.47
2:QB:101:MET:HB3	2:QB:152:PHE:CZ	2.49	0.47
2:QB:192:SER:OG	2:QB:193:ASP:N	2.48	0.47
11:QK:41:THR:OG1	11:QK:71:LYS:HD3	2.14	0.47
11:QK:81:ASP:OD1	11:QK:106:LYS:HB2	2.14	0.47
17:QQ:12:SER:HB2	17:QQ:14:LYS:HD2	1.96	0.47
34:RA:1423:G:H2'	34:RA:1424:G:H8	1.78	0.47
34:RA:2123:G:H2'	34:RA:2124:G:C8	2.46	0.47
34:RA:2695:C:H2'	34:RA:2696:U:C6	2.49	0.47
36:RD:44:ASN:HB3	36:RD:49:ILE:HG22	1.96	0.47
38:RF:186:ILE:HD12	38:RF:192:LEU:HD11	1.96	0.47
45:RQ:39:PRO:HB3	45:RQ:99:PRO:HD3	1.95	0.47
1:XA:1002:G:H2'	1:XA:1003:G:C8	2.48	0.47
9:XI:64:THR:OG1	9:XI:66:ARG:NH1	2.39	0.47
12:XL:55:VAL:HG12	12:XL:69:TYR:HA	1.96	0.47
12:XL:101:VAL:O	12:XL:104:VAL:HG23	2.14	0.47
14:XN:32:SER:HB3	14:XN:41:ARG:HB3	1.95	0.47
19:XS:3:ARG:HH12	19:XS:11:VAL:HG12	1.79	0.47
34:YA:1105:U:H2'	34:YA:1106:G:H8	1.79	0.47
34:YA:1201:C:H2'	34:YA:1202:C:H6	1.78	0.47
38:YF:9:ILE:HD11	38:YF:20:LEU:HD23	1.95	0.47
53:YY:69:ALA:HA	53:YY:72:VAL:HG22	1.96	0.47
2:QB:24:TRP:CZ3	2:QB:26:PRO:HA	2.50	0.47
2:QB:209:ARG:HG3	2:QB:209:ARG:HH11	1.79	0.47
3:QC:64:VAL:HG12	3:QC:66:VAL:HG23	1.96	0.47
3:QC:84:ILE:HG13	3:QC:101:LEU:HD22	1.97	0.47
4:QD:170:VAL:HG11	4:QD:175:SER:HA	1.95	0.47
11:QK:52:GLY:H	11:QK:55:LYS:HE3	1.79	0.47
12:QL:70:ILE:HG12	12:QL:100:ILE:HD12	1.95	0.47
14:QN:9:LYS:HA	14:QN:12:ARG:NE	2.21	0.47
30:R6:19:ARG:NH1	30:R6:52:VAL:HG11	2.29	0.47
34:RA:671:C:H2'	34:RA:672:C:H6	1.79	0.47
34:RA:832:G:H5'	44:RP:45:LEU:HD21	1.97	0.47
34:RA:2065:C:H1'	34:RA:2449:U:H3	1.79	0.47
34:RA:2857:G:N2	34:RA:2860:A:OP2	2.41	0.47
43:RO:63:VAL:HG12	43:RO:106:LEU:HD11	1.96	0.47
45:RQ:19:GLY:O	45:RQ:98:LYS:HD3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:RX:17:ALA:O	52:RX:20:GLY:N	2.47	0.47
1:XA:406:G:N2	4:XD:119:GLN:HE22	2.12	0.47
13:XM:77:ASN:HA	28:Y4:71:ARG:HH21	1.78	0.47
13:XM:80:ARG:HH12	28:Y4:70:GLY:HA2	1.80	0.47
30:Y6:46:HIS:ND1	34:YA:2371:G:O2'	2.47	0.47
32:Y8:12:LYS:HE2	34:YA:249:C:O2	2.15	0.47
34:YA:479:A:HO2'	34:YA:481:G:H8	1.62	0.47
34:YA:2373:G:H2'	34:YA:2374:C:C6	2.50	0.47
34:YA:2675:A:O2'	43:YO:29:ASN:ND2	2.47	0.47
39:YG:173:LEU:HB3	39:YG:178:PHE:CD2	2.49	0.47
45:YQ:32:TYR:CE1	45:YQ:133:ARG:HG3	2.49	0.47
48:YT:30:VAL:HG11	48:YT:61:PHE:HZ	1.80	0.47
49:YU:98:LEU:HG	49:YU:106:PHE:HB2	1.96	0.47
1:QA:127:G:HO2'	17:QQ:2:PRO:N	2.11	0.47
1:QA:524:G:H2'	1:QA:525:C:C6	2.49	0.47
1:QA:539:A:H2'	1:QA:540:G:C8	2.49	0.47
2:QB:7:VAL:HG11	2:QB:217:ARG:HD2	1.95	0.47
4:QD:142:PRO:HA	4:QD:185:PHE:HD2	1.79	0.47
8:QH:51:VAL:HG21	8:QH:60:ARG:HG2	1.95	0.47
13:QM:92:HIS:HA	13:QM:110:ARG:NH2	2.29	0.47
24:R0:55:ARG:NH1	34:RA:2364:C:OP1	2.45	0.47
26:R2:47:ASN:O	26:R2:49:LYS:HG2	2.14	0.47
28:R4:38:LYS:HE3	39:RG:179:PRO:HG3	1.95	0.47
29:R5:15:ARG:NH2	34:RA:2022:U:OP2	2.47	0.47
30:R6:14:THR:HG21	30:R6:19:ARG:NH1	2.28	0.47
34:RA:64:A:C5	52:RX:66:LEU:HD13	2.49	0.47
34:RA:270(S):G:H2'	34:RA:270(T):G:H8	1.78	0.47
34:RA:662:G:OP1	44:RP:15:ARG:NH2	2.48	0.47
34:RA:1086:A:OP1	34:RA:1104:C:O2'	2.31	0.47
34:RA:1952:A:C5	43:RO:22:ILE:HD12	2.50	0.47
34:RA:2586:C:OP2	34:RA:2608:G:N1	2.36	0.47
39:RG:170:ARG:NH2	39:RG:182:LYS:O	2.47	0.47
40:RH:6:ARG:HG2	40:RH:7:LEU:N	2.30	0.47
48:RT:3:ARG:HB2	48:RT:6:LEU:HB2	1.97	0.47
49:RU:104:GLN:CG	50:RV:44:LYS:HD3	2.44	0.47
1:XA:157:G:H1	1:XA:164:U:H3	1.60	0.47
1:XA:335:C:O2'	1:XA:1433:A:N3	2.37	0.47
1:XA:676:A:H2'	1:XA:677:U:H6	1.80	0.47
1:XA:1099:G:OP1	2:XB:96:ARG:NH2	2.47	0.47
34:YA:78:A:H2'	34:YA:79:G:C8	2.49	0.47
34:YA:679:C:H2'	34:YA:680:G:H8	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:1564:C:H2'	34:YA:1565:C:C6	2.49	0.47
34:YA:2031:A:N3	34:YA:2455:G:O2'	2.41	0.47
34:YA:2683:C:O2	43:YO:70:LYS:HE3	2.13	0.47
34:YA:2737:G:H2'	34:YA:2738:A:C8	2.50	0.47
36:YD:27:THR:OG1	36:YD:83:GLU:OE2	2.31	0.47
36:YD:94:LEU:HD23	36:YD:104:TYR:CE1	2.49	0.47
39:YG:67:LYS:H	39:YG:67:LYS:HD2	1.79	0.47
45:YQ:116:GLU:O	45:YQ:120:ILE:HG12	2.13	0.47
53:YY:76:CYS:SG	53:YY:77:PRO:CD	2.72	0.47
1:QA:675:A:H1'	11:QK:116:HIS:ND1	2.29	0.47
1:QA:1079:G:O3'	5:QE:14:ARG:NH2	2.47	0.47
3:QC:6:HIS:ND1	14:QN:49:HIS:HB3	2.29	0.47
8:QH:42:GLU:HG3	8:QH:109:ILE:HD12	1.96	0.47
19:QS:10:PHE:CD2	19:QS:12:ASP:N	2.83	0.47
26:R2:22:GLU:HG2	26:R2:64:LEU:HD11	1.96	0.47
34:RA:140:A:H8	34:RA:1408:C:HO2'	1.58	0.47
34:RA:270(I):G:H1	34:RA:270(Q):C:H42	1.62	0.47
34:RA:2103:C:H2'	34:RA:2104:G:H8	1.80	0.47
34:RA:2735:G:H2'	34:RA:2736:G:C8	2.50	0.47
1:XA:593:G:H1	1:XA:646:U:H3	1.60	0.47
1:XA:1431:C:H2'	1:XA:1432:G:O4'	2.14	0.47
1:XA:1443:G:N2	34:YA:2864:G:OP1	2.43	0.47
7:XG:17:VAL:HG21	7:XG:44:TYR:HE1	1.80	0.47
24:Y0:35:ASN:HD22	34:YA:2354:G:H4'	1.79	0.47
34:YA:1020:A:N1	34:YA:1141:U:H2'	2.30	0.47
34:YA:1797:C:H4'	36:YD:257:LEU:O	2.15	0.47
34:YA:2437:U:H2'	34:YA:2438:U:C6	2.50	0.47
37:YE:35:GLN:HE21	37:YE:37:ARG:NE	2.10	0.47
39:YG:76:SER:OG	39:YG:83:ARG:CA	2.62	0.47
45:YQ:58:PHE:HD1	45:YQ:109:VAL:HG21	1.80	0.47
54:YZ:53:ILE:HD12	54:YZ:53:ILE:O	2.14	0.47
54:YZ:62:PRO:C	54:YZ:64:GLY:H	2.17	0.47
1:QA:922:G:H2'	1:QA:923:A:C8	2.49	0.47
1:QA:1004:A:C2	1:QA:1025:U:H1'	2.50	0.47
1:QA:1086:U:H3	1:QA:1099:G:H22	1.61	0.47
4:QD:133:VAL:HG11	4:QD:138:TYR:CD2	2.50	0.47
13:QM:34:LEU:HD13	13:QM:41:PRO:HA	1.97	0.47
34:RA:689:A:H2'	34:RA:690:G:H8	1.78	0.47
34:RA:1153:C:H5'	49:RU:76:TYR:HE2	1.80	0.47
34:RA:1454:U:O2'	34:RA:1455:G:N7	2.41	0.47
34:RA:1869:G:H5'	34:RA:1870:C:OP2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:RP:37:GLY:O	44:RP:41:ARG:HG2	2.14	0.47
8:XH:6:ILE:HB	8:XH:85:ARG:NH1	2.28	0.47
22:XV:63:U:H2'	22:XV:64:G:C8	2.50	0.47
22:XV:63:U:OP1	24:Y0:11:ARG:NH2	2.48	0.47
25:Y1:58:ILE:HG21	25:Y1:87:PRO:HG3	1.97	0.47
26:Y2:2:LYS:NZ	26:Y2:52:ASP:OD1	2.45	0.47
32:Y8:54:GLU:O	32:Y8:58:ILE:HG12	2.13	0.47
34:YA:99:U:H4'	34:YA:101:G:H5'	1.96	0.47
34:YA:530:G:N1	34:YA:2022:U:OP1	2.47	0.47
34:YA:780:G:H21	34:YA:783:A:H62	1.61	0.47
34:YA:1009:A:OP2	42:YN:37:LYS:NZ	2.37	0.47
34:YA:1231:G:H2'	34:YA:1232:G:C8	2.50	0.47
34:YA:1490:A:O2'	36:YD:99:ASP:OD1	2.33	0.47
38:YF:168:ARG:HG2	38:YF:175:THR:HG21	1.96	0.47
40:YH:74:ASN:HA	40:YH:83:TYR:OH	2.15	0.47
41:YI:78:THR:HG22	41:YI:141:LYS:HD3	1.97	0.47
46:YR:37:THR:HG22	46:YR:39:PRO:HD2	1.95	0.47
47:YS:29:PHE:CE2	47:YS:31:SER:HB2	2.49	0.47
53:YY:24:VAL:HG22	53:YY:75:ILE:CD1	2.45	0.47
54:YZ:29:TYR:O	54:YZ:89:PHE:HA	2.14	0.47
1:QA:1241:G:H2'	1:QA:1242:C:H6	1.80	0.47
1:QA:1366:C:O2'	10:QJ:60:ARG:NH1	2.44	0.47
2:QB:174:VAL:O	2:QB:178:ARG:HG2	2.14	0.47
26:R2:12:GLU:O	26:R2:16:LEU:HD21	2.15	0.47
27:R3:29:ARG:HD3	27:R3:29:ARG:H	1.79	0.47
29:R5:37:LYS:HA	29:R5:37:LYS:HD2	1.63	0.47
31:R7:48:LYS:HE3	34:RA:1311:G:O6	2.15	0.47
34:RA:58:G:H5'	52:RX:74:PRO:HB3	1.95	0.47
34:RA:392:C:H5"	34:RA:409:C:H5"	1.96	0.47
34:RA:686:G:N2	34:RA:788:A:H61	2.13	0.47
34:RA:1007:C:H5"	42:RN:35:ARG:HH11	1.79	0.47
34:RA:1434:A:H61	34:RA:1558:A:N6	2.12	0.47
34:RA:2001:A:H2'	34:RA:2002:G:C8	2.49	0.47
34:RA:2364:C:H2'	34:RA:2365:G:O4'	2.15	0.47
34:RA:2668:G:H2'	34:RA:2669:G:H8	1.79	0.47
45:RQ:67:ARG:HD2	45:RQ:105:GLU:OE1	2.14	0.47
47:RS:67:ARG:HG3	47:RS:100:ALA:HB1	1.96	0.47
54:RZ:58:VAL:HG12	54:RZ:60:GLU:H	1.79	0.47
1:XA:191(F):U:H2'	1:XA:191:G:C8	2.49	0.47
1:XA:254:G:O2'	17:XQ:16:GLN:O	2.31	0.47
1:XA:920:U:H2'	1:XA:921:U:C6	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1152:A:OP1	10:XJ:68:HIS:NE2	2.48	0.47
2:XB:7:VAL:HG13	2:XB:12:GLU:OE2	2.15	0.47
3:XC:130:VAL:O	3:XC:134:ILE:HG12	2.15	0.47
4:XD:98:GLU:OE2	4:XD:194:LEU:HD22	2.15	0.47
5:XE:28:PHE:CD2	5:XE:51:VAL:HG22	2.49	0.47
5:XE:110:LEU:HD13	5:XE:118:ILE:HG21	1.96	0.47
10:XJ:44:VAL:HG22	10:XJ:66:ARG:HD3	1.96	0.47
10:XJ:47:PHE:HE2	14:XN:37:PHE:HE2	1.62	0.47
13:XM:13:LYS:H	13:XM:13:LYS:NZ	2.12	0.47
17:XQ:28:PRO:HA	17:XQ:35:VAL:HA	1.96	0.47
24:Y0:46:LYS:HB2	24:Y0:78:TYR:CD1	2.50	0.47
28:Y4:16:CYS:SG	28:Y4:18:CYS:N	2.87	0.47
29:Y5:51:TYR:HB2	29:Y5:56:LYS:CD	2.45	0.47
34:YA:572:A:OP2	50:YV:78:LYS:NZ	2.44	0.47
34:YA:581:C:OP1	49:YU:31:SER:OG	2.30	0.47
34:YA:619:G:H3'	34:YA:620:G:H21	1.78	0.47
34:YA:767:U:H2'	34:YA:768:G:H8	1.80	0.47
34:YA:823:G:H2'	34:YA:824:A:C8	2.50	0.47
34:YA:997:G:OP1	49:YU:93:LYS:HD3	2.14	0.47
34:YA:2506:U:C6	56:Z8:76:PPU:HD1	2.50	0.47
34:YA:2693:A:H2'	34:YA:2694:G:H8	1.79	0.47
34:YA:2783:G:H2'	34:YA:2784:C:C6	2.49	0.47
36:YD:35:LYS:HE2	36:YD:35:LYS:CA	2.45	0.47
36:YD:65:ILE:HD11	36:YD:85:ASP:OD2	2.14	0.47
36:YD:77:ALA:HA	36:YD:97:TYR:HA	1.96	0.47
36:YD:108:PRO:HG2	36:YD:111:LEU:HB2	1.96	0.47
45:YQ:87:LYS:HE2	45:YQ:87:LYS:HB3	1.81	0.47
47:YS:61:ASN:O	47:YS:64:GLU:N	2.48	0.47
49:YU:112:ARG:NH2	50:YV:45:THR:HG23	2.30	0.47
4:QD:146:ILE:O	4:QD:183:GLY:N	2.45	0.47
4:QD:150:GLU:OE2	4:QD:153:ARG:NH2	2.38	0.47
9:QI:9:ARG:HG2	9:QI:14:VAL:HG13	1.97	0.47
13:QM:84:ILE:HG23	19:QS:74:PHE:HE1	1.80	0.47
13:QM:117:VAL:HG22	13:QM:118:ALA:H	1.79	0.47
26:R2:12:GLU:O	26:R2:16:LEU:HD11	2.15	0.47
34:RA:2372:G:H2'	34:RA:2373:G:C8	2.50	0.47
36:RD:52:ARG:HH12	36:RD:249:PRO:HG2	1.79	0.47
54:RZ:71:VAL:HA	54:RZ:88:PHE:HA	1.97	0.47
1:XA:404:U:H2'	1:XA:405:U:H6	1.80	0.47
1:XA:1392:G:N2	1:XA:1502:A:H8	2.13	0.47
1:XA:1503:A:H5'	1:XA:1531:A:H1'	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:XH:119:LEU:HD22	8:XH:123:GLU:HG2	1.96	0.47
10:XJ:45:ARG:HB3	10:XJ:65:LEU:HB3	1.97	0.47
19:XS:65:ASN:HA	28:Y4:59:PHE:HE2	1.80	0.47
30:Y6:33:LYS:HD3	30:Y6:33:LYS:H	1.78	0.47
34:YA:1709:U:H2'	34:YA:1710:C:H6	1.79	0.47
36:YD:231:HIS:HD2	36:YD:249:PRO:HA	1.80	0.47
37:YE:25:VAL:HG12	37:YE:183:LEU:HG	1.96	0.47
41:YI:79:ILE:N	41:YI:141:LYS:O	2.43	0.47
47:YS:23:ARG:NH1	47:YS:84:GLN:HB3	2.30	0.47
53:YY:20:TYR:CE2	53:YY:42:VAL:HA	2.49	0.47
54:YZ:15:PRO:O	54:YZ:19:ARG:HG3	2.14	0.47
1:QA:417:C:H2'	1:QA:418:C:H6	1.80	0.47
4:QD:15:GLU:OE1	4:QD:66:ARG:NH1	2.47	0.47
5:QE:110:LEU:HD13	5:QE:118:ILE:HG12	1.96	0.47
11:QK:110:ASP:HB2	18:QR:88:LYS:HG3	1.96	0.47
12:QL:32:PHE:HE1	12:QL:86:ARG:HG3	1.80	0.47
13:QM:2:ALA:HB3	13:QM:9:ILE:HG22	1.97	0.47
28:R4:38:LYS:HG2	28:R4:44:THR:CG2	2.45	0.47
32:R8:56:GLU:OE2	44:RP:61:ARG:NH2	2.48	0.47
34:RA:140:A:H1'	34:RA:1409:C:H5'	1.97	0.47
46:RR:55:ALA:HA	46:RR:80:PHE:CE1	2.50	0.47
53:RY:44:ILE:HG13	53:RY:45:VAL:H	1.80	0.47
1:XA:235:C:H5'	17:XQ:70:ARG:HG2	1.97	0.47
1:XA:355:C:H1'	1:XA:388:G:H2'	1.97	0.47
1:XA:619:U:N3	4:XD:134:ASP:OD1	2.37	0.47
1:XA:985:C:H2'	1:XA:986:A:C8	2.50	0.47
3:XC:8:ILE:HD12	3:XC:16:ARG:NE	2.30	0.47
5:XE:110:LEU:O	5:XE:115:VAL:HB	2.15	0.47
19:XS:40:ILE:O	19:XS:41:VAL:HG22	2.15	0.47
28:Y4:71:ARG:N	28:Y4:71:ARG:CD	2.77	0.47
34:YA:49:A:N7	34:YA:120:U:H5	2.12	0.47
40:YH:136:ILE:H	40:YH:136:ILE:HG13	1.50	0.47
41:YI:109:ILE:HB	41:YI:130:TYR:CE1	2.50	0.47
45:YQ:31:ASP:O	45:YQ:134:ARG:HG3	2.15	0.47
1:QA:991:U:H6	1:QA:991:U:C5'	2.25	0.47
1:QA:1100:C:N4	1:QA:1103:C:OP1	2.48	0.47
2:QB:73:THR:HG22	2:QB:95:GLN:O	2.15	0.47
3:QC:6:HIS:HD2	3:QC:7:PRO:HD2	1.79	0.47
3:QC:155:GLY:HA3	3:QC:196:LEU:HD13	1.96	0.47
34:RA:305:U:H2'	34:RA:306:U:C6	2.50	0.47
34:RA:1006:C:H1'	42:RN:106:MET:HG3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1935:G:H1'	34:RA:1964:G:N2	2.30	0.47
34:RA:1990:C:H2'	34:RA:1991:U:C6	2.50	0.47
54:RZ:94:GLU:O	54:RZ:130:PRO:HD3	2.15	0.47
1:XA:359:U:H2'	1:XA:360:A:C8	2.51	0.47
1:XA:1218:C:H2'	1:XA:1219:U:C6	2.49	0.47
4:XD:36:ARG:HD2	4:XD:38:TYR:OH	2.15	0.47
12:XL:33:ARG:HG3	12:XL:60:LEU:HD22	1.97	0.47
17:XQ:41:LYS:NZ	17:XQ:88:TYR:OH	2.36	0.47
25:Y1:77:ALA:O	25:Y1:78:LYS:HE2	2.15	0.47
32:Y8:30:ARG:O	34:YA:2420:C:N4	2.45	0.47
33:Y9:9:ARG:HE	33:Y9:16:VAL:HG23	1.79	0.47
34:YA:1291:C:H2'	34:YA:1292:U:C6	2.49	0.47
34:YA:1668:A:O2'	34:YA:1674:G:N7	2.41	0.47
34:YA:2010:G:H5"	51:YW:42:ARG:HB2	1.95	0.47
34:YA:2310:A:C5	39:YG:77:ILE:HG21	2.50	0.47
34:YA:2313:C:H4'	39:YG:91:ARG:HG3	1.97	0.47
37:YE:48:GLN:NE2	37:YE:64:LYS:NZ	2.62	0.47
41:YI:78:THR:HA	41:YI:141:LYS:HB2	1.97	0.47
43:YO:63:VAL:HG12	43:YO:106:LEU:HD11	1.97	0.47
45:YQ:34:LEU:HB2	45:YQ:118:LEU:HD22	1.97	0.47
1:QA:1305:G:HO2'	1:QA:1306:A:H8	1.64	0.46
1:QA:1325:C:H4'	21:QU:17:THR:HG21	1.96	0.46
1:QA:1348:U:H4'	9:QI:120:ARG:HH11	1.80	0.46
4:QD:57:ARG:HH12	5:QE:107:ARG:NH1	2.13	0.46
7:QG:15:ASP:HB3	7:QG:19:GLY:H	1.79	0.46
13:QM:93:ARG:NH2	34:RA:887:A:OP1	2.34	0.46
20:QT:89:ARG:HH12	20:QT:106:ALA:HB2	1.80	0.46
34:RA:30:G:H2'	34:RA:31:C:C6	2.50	0.46
34:RA:513:A:H2	34:RA:582:G:H4'	1.80	0.46
34:RA:1785:A:C8	34:RA:1787:A:C5	3.04	0.46
34:RA:1794:U:H2'	34:RA:1795:C:H6	1.80	0.46
34:RA:2047:U:H2'	34:RA:2048:G:H8	1.79	0.46
35:RB:42:C:C2	39:RG:93:THR:CG2	2.85	0.46
37:RE:51:PHE:CD2	37:RE:52:LEU:HD12	2.50	0.46
38:RF:167:ALA:HB1	38:RF:173:VAL:HG11	1.97	0.46
38:RF:202:PHE:O	38:RF:206:ILE:HG22	2.16	0.46
40:RH:41:MET:CE	40:RH:64:LEU:C	2.82	0.46
46:RR:73:VAL:O	46:RR:77:ARG:HD3	2.16	0.46
49:RU:74:LEU:HD21	49:RU:110:VAL:HG13	1.97	0.46
51:RW:83:LYS:HG2	51:RW:97:LYS:HG2	1.96	0.46
54:RZ:52:SER:C	54:RZ:54:HIS:H	2.19	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:243:A:H4'	1:XA:244:U:O5'	2.14	0.46
1:XA:272:C:H2'	1:XA:273:A:C8	2.49	0.46
8:XH:4:ASP:OD2	8:XH:85:ARG:NH1	2.48	0.46
34:YA:1166:C:H2'	34:YA:1167:U:C6	2.50	0.46
34:YA:1812:A:H2'	34:YA:1813:G:H8	1.80	0.46
35:YB:42:C:O3'	39:YG:67:LYS:HD3	2.16	0.46
40:YH:10:PRO:HD2	40:YH:50:VAL:O	2.15	0.46
47:YS:34:HIS:HB2	47:YS:36:TYR:HE1	1.79	0.46
47:YS:110:LEU:HD23	47:YS:112:PHE:CE1	2.50	0.46
1:QA:134:A:H61	16:QP:25:ARG:NH1	2.13	0.46
1:QA:885:G:H2'	1:QA:886:G:H8	1.80	0.46
1:QA:1355:G:H2'	1:QA:1356:G:H8	1.80	0.46
1:QA:1469:G:H2'	1:QA:1470:G:H8	1.80	0.46
16:QP:36:ILE:HG22	16:QP:55:ARG:HG2	1.98	0.46
35:RB:18:G:H2'	35:RB:19:G:C8	2.50	0.46
39:RG:41:GLN:NE2	39:RG:56:ALA:O	2.48	0.46
40:RH:16:SER:OG	40:RH:26:VAL:O	2.33	0.46
40:RH:137:ASP:OD1	40:RH:138:LYS:N	2.48	0.46
41:RI:114:LEU:HB3	41:RI:116:LEU:HD22	1.96	0.46
53:RY:20:TYR:CE2	53:RY:42:VAL:HA	2.51	0.46
54:RZ:29:TYR:CE1	54:RZ:87:ASP:HB3	2.51	0.46
1:XA:718:G:O6	18:XR:74:ARG:NH1	2.47	0.46
1:XA:769:G:H4'	1:XA:1513:A:H4'	1.97	0.46
12:XL:45:PRO:HB2	12:XL:92:ASP:HB3	1.97	0.46
34:YA:2840:C:H2'	34:YA:2841:C:C6	2.50	0.46
42:YN:4:TYR:CE2	49:YU:100:VAL:HG11	2.51	0.46
43:YO:78:ARG:HH12	48:YT:75:ILE:HD11	1.80	0.46
52:YX:21:PHE:CZ	52:YX:92:LEU:HD12	2.50	0.46
54:YZ:28:MET:SD	54:YZ:61:LEU:CD2	2.96	0.46
1:QA:353:A:C8	1:QA:353:A:H3'	2.51	0.46
1:QA:1244:C:H2'	1:QA:1245:A:C8	2.50	0.46
1:QA:1368:G:OP2	9:QI:112:LYS:HD3	2.15	0.46
21:QU:18:TYR:CE2	21:QU:24:ARG:HB3	2.51	0.46
24:R0:27:GLU:HG3	24:R0:68:GLU:HA	1.97	0.46
27:R3:30:ARG:NH2	34:RA:1159:U:OP2	2.39	0.46
34:RA:863:A:H2'	34:RA:864:G:C8	2.50	0.46
34:RA:1188:U:H5'	50:RV:79:VAL:HG13	1.96	0.46
36:RD:126:GLN:HB2	36:RD:129:ASN:HD22	1.80	0.46
40:RH:10:PRO:HG3	40:RH:69:ARG:NH1	2.30	0.46
40:RH:12:PRO:HA	40:RH:76:VAL:HG13	1.96	0.46
40:RH:156:ALA:HB3	40:RH:158:HIS:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:RR:13:HIS:CE1	46:RR:15:SER:HB2	2.51	0.46
53:RY:89:PHE:N	53:RY:89:PHE:CD1	2.81	0.46
54:RZ:134:PRO:HG3	54:RZ:161:VAL:HG21	1.96	0.46
1:XA:112:G:N2	1:XA:330:C:N4	2.59	0.46
1:XA:1014:A:H2'	1:XA:1015:A:C8	2.49	0.46
1:XA:1287:A:H2	1:XA:1353:G:H1'	1.80	0.46
4:XD:95:GLY:HA3	4:XD:188:LEU:HD11	1.97	0.46
7:XG:115:ARG:HB2	7:XG:118:VAL:HG22	1.97	0.46
30:Y6:8:LYS:O	30:Y6:26:ASN:O	2.34	0.46
34:YA:2111:C:N3	34:YA:2118:U:O2'	2.48	0.46
35:YB:42:C:O2	39:YG:93:THR:N	2.34	0.46
38:YF:117:ARG:HH21	38:YF:187:VAL:HA	1.79	0.46
40:YH:101:ARG:HB3	40:YH:117:PRO:HG3	1.97	0.46
53:YY:5:MET:HE1	53:YY:32:PRO:HB3	1.97	0.46
1:QA:452:A:H2'	1:QA:453:A:C8	2.50	0.46
1:QA:728:A:H2'	1:QA:729:A:C8	2.49	0.46
2:QB:51:LEU:HD23	2:QB:201:ILE:HD13	1.97	0.46
4:QD:108:LEU:HD23	4:QD:110:PHE:CE2	2.50	0.46
19:QS:2:PRO:HG2	28:R4:67:TYR:CE2	2.50	0.46
34:RA:586:A:N1	34:RA:809:G:O2'	2.37	0.46
34:RA:997:G:OP1	49:RU:93:LYS:HD3	2.16	0.46
34:RA:1417:C:H2'	34:RA:1418:G:O4'	2.16	0.46
34:RA:1727:U:H2'	34:RA:1728:G:O4'	2.15	0.46
34:RA:2291:U:H2'	34:RA:2292:C:H6	1.81	0.46
37:RE:3:GLY:HA3	37:RE:81:ILE:HG21	1.97	0.46
53:RY:30:VAL:HG13	53:RY:37:VAL:HG22	1.97	0.46
1:XA:299:G:H2'	1:XA:300:A:C8	2.51	0.46
1:XA:737:A:H2'	1:XA:738:C:C6	2.51	0.46
1:XA:1120:G:H2'	1:XA:1121:U:C6	2.51	0.46
2:XB:12:GLU:CA	2:XB:16:HIS:HB2	2.46	0.46
34:YA:36:G:N3	34:YA:450:G:O2'	2.47	0.46
34:YA:184:C:H2'	34:YA:185:U:C6	2.50	0.46
34:YA:297:C:H2'	34:YA:298:G:O4'	2.16	0.46
34:YA:439:G:H2'	34:YA:440:G:C8	2.50	0.46
34:YA:638:G:H2'	34:YA:639:U:C6	2.51	0.46
34:YA:969:U:H2'	34:YA:970:C:C6	2.51	0.46
34:YA:1628:G:H2'	34:YA:1629:U:C6	2.50	0.46
34:YA:1818:U:H2'	36:YD:157:ARG:HB2	1.96	0.46
37:YE:104:VAL:HG11	37:YE:188:VAL:HG23	1.98	0.46
39:YG:81:LYS:N	39:YG:81:LYS:HD2	2.30	0.46
40:YH:10:PRO:HG3	40:YH:69:ARG:NH1	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:YH:46:GLU:HB2	40:YH:49:VAL:HG23	1.96	0.46
41:YI:113:ARG:HB3	41:YI:131:LYS:HZ1	1.79	0.46
42:YN:67:LEU:HA	42:YN:87:LEU:HD12	1.97	0.46
48:YT:13:ARG:HG2	48:YT:14:TYR:CD1	2.50	0.46
1:QA:390:C:H2'	1:QA:391:G:C8	2.51	0.46
1:QA:837:G:H2'	1:QA:838:G:C8	2.50	0.46
1:QA:1105:A:H2'	1:QA:1106:G:H8	1.80	0.46
4:QD:65:ARG:HG3	4:QD:70:ILE:HG23	1.97	0.46
4:QD:125:HIS:ND1	4:QD:152:SER:OG	2.39	0.46
8:QH:12:ARG:NH1	8:QH:26:VAL:HA	2.31	0.46
34:RA:831:G:O2'	44:RP:38:GLN:OE1	2.33	0.46
34:RA:1291:C:H2'	34:RA:1292:U:C6	2.51	0.46
2:XB:83:MET:O	2:XB:87:ARG:HB2	2.15	0.46
20:XT:30:LYS:HE2	20:XT:72:LEU:HD11	1.97	0.46
30:Y6:13:CYS:HB2	30:Y6:22:ALA:HB3	1.98	0.46
32:Y8:12:LYS:NZ	34:YA:247:G:O6	2.41	0.46
34:YA:185:U:H4'	34:YA:218:A:H4'	1.98	0.46
34:YA:583:G:OP2	49:YU:10:ARG:NH1	2.48	0.46
34:YA:616:A:C4	38:YF:180:GLY:HA3	2.49	0.46
34:YA:1047:G:HO2'	34:YA:1048:A:H8	1.63	0.46
37:YE:13:ARG:NH1	37:YE:20:ALA:HB1	2.31	0.46
39:YG:124:SER:HB2	39:YG:131:TYR:CE1	2.50	0.46
40:YH:28:GLY:HA3	40:YH:79:VAL:HB	1.98	0.46
40:YH:78:GLY:HA2	40:YH:82:GLY:CA	2.45	0.46
41:YI:135:GLU:N	41:YI:135:GLU:OE2	2.48	0.46
44:YP:121:LYS:CB	44:YP:123:LEU:CD2	2.92	0.46
49:YU:40:PHE:HB3	50:YV:75:PHE:CD1	2.50	0.46
54:YZ:105:VAL:O	54:YZ:141:VAL:HG12	2.15	0.46
1:QA:272:C:H2'	1:QA:273:A:H8	1.81	0.46
1:QA:707:C:H2'	1:QA:708:C:H6	1.81	0.46
7:QG:50:ILE:HB	7:QG:58:PRO:HB3	1.97	0.46
9:QI:42:ARG:NH1	9:QI:75:ASP:OD1	2.47	0.46
12:QL:124:LYS:HD2	12:QL:125:PRO:HD2	1.96	0.46
13:QM:77:ASN:O	13:QM:80:ARG:HG2	2.16	0.46
14:QN:15:LYS:HB3	14:QN:15:LYS:HE2	1.64	0.46
25:R1:23:LYS:HD3	25:R1:29:GLY:HA3	1.98	0.46
26:R2:17:SER:HB2	26:R2:20:GLU:HG3	1.96	0.46
28:R4:38:LYS:CG	28:R4:42:PHE:HE1	2.28	0.46
29:R5:5:PRO:HB3	34:RA:2614:A:H5'	1.98	0.46
29:R5:50:GLY:H	29:R5:56:LYS:HB2	1.81	0.46
34:RA:679:C:H2'	34:RA:680:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:863:A:H2'	34:RA:864:G:H8	1.81	0.46
34:RA:2683:C:H4'	37:RE:13:ARG:HH21	1.80	0.46
34:RA:2693:A:H2'	34:RA:2694:G:H8	1.81	0.46
36:RD:231:HIS:CD2	36:RD:249:PRO:HG3	2.49	0.46
38:RF:24:LEU:HD21	38:RF:114:VAL:HG12	1.97	0.46
40:RH:121:ILE:HG21	40:RH:133:VAL:HG13	1.98	0.46
42:RN:15:LEU:HB2	42:RN:134:ARG:HG3	1.97	0.46
1:XA:7:G:O2'	5:XE:120:THR:O	2.33	0.46
1:XA:963:G:H21	10:XJ:55:LYS:HE2	1.81	0.46
1:XA:1145:C:H4'	1:XA:1146:A:H8	1.80	0.46
1:XA:1211:U:H1'	1:XA:1213:A:C2	2.50	0.46
1:XA:1454:G:H2'	1:XA:1455:G:H8	1.81	0.46
5:XE:37:ARG:HA	5:XE:114:GLY:H	1.80	0.46
11:XK:21:ILE:HD13	11:XK:82:VAL:HG13	1.96	0.46
19:XS:52:TYR:HB2	19:XS:57:HIS:CE1	2.51	0.46
28:Y4:36:CYS:O	28:Y4:37:SER:C	2.51	0.46
31:Y7:2:LYS:HZ3	34:YA:687:C:H5"	1.81	0.46
32:Y8:52:LYS:N	32:Y8:53:PRO:HD2	2.30	0.46
34:YA:580:C:H2'	34:YA:581:C:C6	2.51	0.46
34:YA:704:G:O2'	34:YA:726:G:N2	2.40	0.46
34:YA:710:G:H2'	34:YA:711:G:H8	1.81	0.46
34:YA:1812:A:H2'	34:YA:1813:G:C8	2.51	0.46
36:YD:85:ASP:HB2	36:YD:92:ILE:HD13	1.98	0.46
50:YV:41:GLY:H	50:YV:46:VAL:HG13	1.81	0.46
1:QA:426:G:OP1	4:QD:36:ARG:NH1	2.48	0.46
1:QA:676:A:H2'	1:QA:677:U:H6	1.81	0.46
4:QD:167:GLY:HA2	36:YD:135:PHE:CE1	2.51	0.46
8:QH:88:LYS:HB2	8:QH:91:ARG:HB3	1.98	0.46
17:QQ:45:HIS:HB3	17:QQ:72:ARG:HG2	1.97	0.46
19:QS:10:PHE:CB	19:QS:39:THR:H	2.28	0.46
34:RA:485:C:H2'	34:RA:486:C:H6	1.81	0.46
34:RA:671:C:H2'	34:RA:672:C:C6	2.50	0.46
34:RA:2758:A:C4	40:RH:67:LEU:HD21	2.50	0.46
36:RD:65:ILE:HD13	36:RD:67:PHE:CE1	2.50	0.46
37:RE:25:VAL:HB	37:RE:181:LEU:HD12	1.96	0.46
38:RF:52:LYS:HG3	38:RF:56:GLU:HB3	1.96	0.46
39:RG:61:ALA:O	39:RG:65:GLY:N	2.41	0.46
9:XI:128:ARG:NH2	22:XV:33:U:H3'	2.30	0.46
20:XT:57:ARG:NH1	20:XT:100:ILE:HG12	2.25	0.46
28:Y4:26:SER:HB2	39:YG:105:LYS:HD3	1.98	0.46
34:YA:127:A:H5"	34:YA:128:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:1028:A:H2'	34:YA:1029:A:C8	2.51	0.46
34:YA:1509:C:H3'	34:YA:1510:A:H5"	1.97	0.46
34:YA:1660:C:H2'	34:YA:1661:G:H8	1.80	0.46
36:YD:242:ARG:O	36:YD:244:ARG:HG2	2.15	0.46
40:YH:103:LEU:HD22	40:YH:123:PHE:CE2	2.51	0.46
44:YP:88:LEU:HD12	44:YP:95:VAL:HG11	1.90	0.46
50:YV:75:PHE:HD2	50:YV:76:LYS:N	2.12	0.46
53:YY:81:LYS:HE2	53:YY:98:VAL:HB	1.97	0.46
53:YY:94:LYS:HD2	53:YY:101:LYS:HZ3	1.81	0.46
54:YZ:131:ARG:H	54:YZ:131:ARG:HD2	1.81	0.46
1:QA:193:C:H2'	1:QA:194:C:C6	2.51	0.46
1:QA:513:C:H2'	1:QA:514:C:C6	2.51	0.46
1:QA:997:U:H2'	1:QA:998:G:C8	2.51	0.46
4:QD:173:TRP:CE2	4:QD:189:PRO:HB3	2.51	0.46
12:QL:114:LYS:HE3	12:QL:125:PRO:HG3	1.98	0.46
30:R6:14:THR:N	30:R6:50:ARG:O	2.45	0.46
34:RA:709:U:H2'	34:RA:710:G:C8	2.51	0.46
34:RA:1777:U:H2'	34:RA:1778:U:C6	2.51	0.46
34:RA:2241:A:H2'	34:RA:2242:G:C8	2.50	0.46
34:RA:2853:C:H2'	34:RA:2854:G:C8	2.50	0.46
36:RD:233:HIS:HE1	36:RD:247:ALA:O	1.99	0.46
42:RN:8:GLN:HE21	42:RN:8:GLN:C	2.19	0.46
46:RR:56:LYS:NZ	46:RR:90:ARG:O	2.49	0.46
48:RT:101:PHE:HD2	48:RT:105:LEU:HD21	1.80	0.46
1:XA:6:G:C4	5:XE:119:LEU:HD11	2.50	0.46
1:XA:359:U:H2'	1:XA:360:A:H8	1.80	0.46
1:XA:389:A:C6	1:XA:390:C:H1'	2.51	0.46
1:XA:1022:G:H2'	1:XA:1023:G:H8	1.80	0.46
12:XL:89:ARG:HH21	12:XL:91:LYS:HD3	1.80	0.46
32:Y8:58:ILE:HB	44:YP:49:ARG:HD2	1.98	0.46
34:YA:632:A:H2'	34:YA:633:A:C8	2.50	0.46
34:YA:848:G:H2'	34:YA:849:A:C8	2.51	0.46
34:YA:1429:G:H2'	34:YA:1430:C:C6	2.50	0.46
34:YA:1830:C:H2'	34:YA:1831:G:H8	1.79	0.46
34:YA:2452:C:H2'	34:YA:2453:A:C8	2.51	0.46
34:YA:2567:G:H2'	34:YA:2568:C:C6	2.51	0.46
41:YI:128:LEU:HD23	41:YI:140:LEU:HD12	1.96	0.46
44:YP:47:ASP:OD1	44:YP:49:ARG:NH1	2.48	0.46
45:YQ:67:ARG:HH11	45:YQ:105:GLU:CD	2.19	0.46
47:YS:14:VAL:HG21	47:YS:90:GLY:O	2.15	0.46
1:QA:399:G:H2'	1:QA:400:C:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:636:U:H2'	1:QA:637:G:H8	1.80	0.46
1:QA:1466:C:H2'	1:QA:1467:G:O4'	2.15	0.46
1:QA:1510:U:H2'	1:QA:1511:G:H8	1.80	0.46
2:QB:53:ARG:HH22	2:QB:200:ILE:HD12	1.81	0.46
2:QB:61:LEU:O	2:QB:66:GLY:N	2.40	0.46
4:QD:175:SER:HB3	4:QD:186:LEU:HD11	1.96	0.46
7:QG:75:VAL:HG13	7:QG:145:ALA:HA	1.98	0.46
8:QH:112:LEU:HB3	8:QH:133:LEU:HA	1.98	0.46
17:QQ:64:PRO:HB3	17:QQ:70:ARG:NH1	2.31	0.46
28:R4:6:HIS:CE1	39:RG:66:GLN:HA	2.51	0.46
31:R7:5:TRP:NE1	31:R7:7:PRO:HG3	2.30	0.46
34:RA:347:A:H2'	34:RA:348:G:C8	2.51	0.46
34:RA:840:C:H2'	34:RA:841:A:H8	1.80	0.46
34:RA:969:U:H2'	34:RA:970:C:C6	2.50	0.46
34:RA:1709:U:H2'	34:RA:1710:C:C6	2.51	0.46
36:RD:15:PHE:CD1	36:RD:15:PHE:N	2.84	0.46
41:RI:88:ILE:HD12	41:RI:89:TYR:H	1.81	0.46
44:RP:85:LEU:HD21	44:RP:114:ILE:HD12	1.97	0.46
54:RZ:59:LEU:CD1	54:RZ:69:THR:HG21	2.46	0.46
1:XA:1376:U:H2'	1:XA:1377:A:C8	2.50	0.46
22:XV:28:U:H2'	22:XV:29:U:C6	2.51	0.46
27:Y3:6:VAL:HB	27:Y3:54:VAL:HG21	1.97	0.46
34:YA:151:C:H2'	34:YA:152:G:C8	2.51	0.46
34:YA:1231:G:H2'	34:YA:1232:G:H8	1.80	0.46
34:YA:1678:G:H22	34:YA:1989:G:H22	1.63	0.46
34:YA:2210:G:OP1	36:YD:68:LYS:NZ	2.49	0.46
37:YE:183:LEU:HD21	48:YT:11:GLU:HG2	1.98	0.46
1:QA:243:A:H4'	1:QA:244:U:H3'	1.98	0.46
1:QA:797:C:OP1	11:QK:124:LYS:HD3	2.15	0.46
1:QA:995:C:O2	1:QA:995:C:H2'	2.16	0.46
1:QA:1216:G:H2'	1:QA:1217:C:H6	1.80	0.46
1:QA:1236:A:H2'	1:QA:1237:C:C6	2.49	0.46
1:QA:1320:C:H2'	1:QA:1321:C:C6	2.51	0.46
4:QD:38:TYR:CD1	4:QD:38:TYR:O	2.69	0.46
4:QD:173:TRP:CD2	4:QD:189:PRO:HB3	2.51	0.46
11:QK:21:ILE:HD13	11:QK:82:VAL:HG13	1.98	0.46
13:QM:118:ALA:HB1	13:QM:120:LYS:HG2	1.96	0.46
14:QN:4:LYS:HE2	14:QN:7:ILE:HD11	1.98	0.46
26:R2:48:HIS:CG	26:R2:48:HIS:O	2.69	0.46
33:R9:24:TYR:CE1	33:R9:35:ARG:HG3	2.51	0.46
34:RA:847:U:H3	34:RA:934:G:N2	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:924:C:H2'	34:RA:925:C:C6	2.51	0.46
37:RE:4:ILE:HG22	37:RE:96:PHE:HE2	1.81	0.46
37:RE:14:ILE:HG22	37:RE:21:VAL:HB	1.98	0.46
39:RG:59:GLU:O	39:RG:63:ILE:HG23	2.15	0.46
43:RO:64:ARG:HD2	43:RO:79:PHE:CD2	2.51	0.46
45:RQ:8:LYS:HE3	45:RQ:9:TYR:HE1	1.80	0.46
51:RW:110:LYS:HE3	51:RW:111:HIS:CE1	2.51	0.46
53:RY:29:GLU:HG2	53:RY:38:ILE:HG12	1.97	0.46
2:XB:58:ILE:HG23	2:XB:221:LEU:HD12	1.98	0.46
5:XE:78:HIS:CD2	5:XE:143:ARG:H	2.34	0.46
34:YA:28:A:N6	34:YA:512:G:H1'	2.31	0.46
34:YA:270(R):G:H2'	34:YA:270(S):G:H8	1.81	0.46
34:YA:617:G:H5"	38:YF:39:TRP:HH2	1.80	0.46
34:YA:720:C:H2'	34:YA:721:C:C6	2.50	0.46
34:YA:956:G:OP2	45:YQ:14:ARG:NH2	2.49	0.46
36:YD:15:PHE:CD1	36:YD:15:PHE:N	2.84	0.46
40:YH:27:LYS:O	40:YH:27:LYS:HD3	2.15	0.46
1:QA:892:A:H2'	1:QA:893:C:C6	2.51	0.45
1:QA:989:C:H1'	1:QA:1016:A:H2	1.80	0.45
1:QA:1446:A:O2'	48:RT:125:ARG:NH1	2.39	0.45
10:QJ:51:ARG:NH2	10:QJ:61:GLU:HB3	2.31	0.45
13:QM:12:ASN:OD1	13:QM:46:LYS:HD3	2.16	0.45
29:R5:39:MET:H	29:R5:39:MET:HG2	1.40	0.45
34:RA:579:G:H2'	34:RA:580:C:C6	2.51	0.45
34:RA:813:U:H2'	34:RA:814:C:H6	1.79	0.45
36:RD:126:GLN:HB2	36:RD:129:ASN:ND2	2.31	0.45
41:RI:120:ILE:HD12	41:RI:121:LYS:H	1.80	0.45
46:RR:12:ARG:HB2	46:RR:17:ARG:HG3	1.98	0.45
49:RU:40:PHE:CE1	50:RV:82:ARG:HG2	2.51	0.45
51:RW:66:GLU:O	51:RW:69:LEU:HG	2.15	0.45
52:RX:21:PHE:CZ	52:RX:92:LEU:HD12	2.51	0.45
53:RY:47:LYS:HG2	53:RY:60:PHE:CD1	2.51	0.45
1:XA:524:G:H2'	1:XA:525:C:C6	2.51	0.45
1:XA:728:A:H2'	1:XA:729:A:H8	1.81	0.45
1:XA:1079:G:O3'	5:XE:14:ARG:NH2	2.48	0.45
1:XA:1410:G:H2'	1:XA:1411:C:C6	2.51	0.45
1:XA:1441:G:H5"	1:XA:1442:G:H5'	1.98	0.45
2:XB:31:TYR:HD1	2:XB:31:TYR:H	1.63	0.45
5:XE:102:ALA:HB1	5:XE:106:PRO:HG2	1.97	0.45
6:XF:3:ARG:NH1	6:XF:66:GLU:OE1	2.49	0.45
11:XK:62:GLN:HB2	11:XK:93:GLN:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:XL:39:VAL:HG12	12:XL:57:LYS:HB3	1.97	0.45
13:XM:36:LYS:HE2	13:XM:59:TYR:CD2	2.51	0.45
17:XQ:45:HIS:NE2	17:XQ:47:PRO:HG3	2.31	0.45
34:YA:218:A:H2	34:YA:235:U:H4'	1.81	0.45
34:YA:550:G:O2'	34:YA:1220:A:N3	2.44	0.45
34:YA:807:U:O2'	34:YA:2060:A:N1	2.40	0.45
34:YA:875:G:H5"	54:YZ:149:SER:HB3	1.98	0.45
34:YA:1296:G:OP1	34:YA:2709:G:O2'	2.28	0.45
34:YA:2340:G:H2'	34:YA:2341:G:H8	1.80	0.45
34:YA:2547:U:H2'	34:YA:2548:G:C8	2.51	0.45
36:YD:174:ILE:HG13	36:YD:184:LYS:HG2	1.99	0.45
36:YD:231:HIS:CD2	36:YD:249:PRO:HA	2.51	0.45
39:YG:59:GLU:OE1	39:YG:153:ARG:NH2	2.49	0.45
4:QD:116:GLN:HE22	4:QD:157:LEU:HD11	1.81	0.45
13:QM:15:VAL:O	13:QM:18:ALA:N	2.49	0.45
34:RA:458:G:N2	34:RA:470:A:OP2	2.39	0.45
34:RA:1035:U:H2'	34:RA:1036:G:H8	1.82	0.45
34:RA:1165:U:H2'	34:RA:1166:C:H6	1.80	0.45
34:RA:1434:A:H61	34:RA:1558:A:H62	1.63	0.45
38:RF:157:VAL:HG21	38:RF:181:LEU:HD21	1.99	0.45
45:RQ:111:GLU:O	45:RQ:115:MET:HG2	2.16	0.45
1:XA:217:C:H2'	1:XA:218:C:H6	1.81	0.45
1:XA:636:U:H2'	1:XA:637:G:C8	2.51	0.45
1:XA:757:U:OP1	1:XA:822:C:O2'	2.33	0.45
5:XE:78:HIS:NE2	5:XE:142:LEU:HA	2.29	0.45
8:XH:120:THR:H	8:XH:123:GLU:HB3	1.80	0.45
19:XS:19:VAL:HG13	19:XS:47:HIS:CD2	2.52	0.45
19:XS:50:ALA:HB1	19:XS:57:HIS:HB3	1.98	0.45
20:XT:30:LYS:HG3	20:XT:34:LYS:HE3	1.99	0.45
24:Y0:25:ARG:HH12	34:YA:2355:C:H5'	1.81	0.45
25:Y1:53:VAL:HB	25:Y1:58:ILE:CD1	2.39	0.45
26:Y2:47:ASN:OD1	26:Y2:47:ASN:N	2.48	0.45
27:Y3:15:TYR:CE2	27:Y3:53:LEU:HD21	2.50	0.45
30:Y6:11:LEU:HA	30:Y6:11:LEU:HD13	1.69	0.45
34:YA:1992:G:H5'	34:YA:1994:C:H41	1.82	0.45
39:YG:107:LEU:HD11	39:YG:178:PHE:CE1	2.51	0.45
40:YH:26:VAL:HG11	40:YH:75:ALA:HB1	1.98	0.45
49:YU:91:ASP:C	49:YU:93:LYS:H	2.18	0.45
50:YV:72:VAL:HG13	50:YV:85:LYS:HB3	1.98	0.45
52:YX:55:ASN:HB2	52:YX:80:ILE:HG12	1.98	0.45
1:QA:552:U:H4'	12:QL:86:ARG:HG2	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:737:A:H2'	1:QA:738:C:C6	2.52	0.45
1:QA:1513:A:H2'	1:QA:1514:C:H6	1.82	0.45
2:QB:53:ARG:NH2	2:QB:200:ILE:HD12	2.31	0.45
12:QL:19:ARG:HD3	12:QL:19:ARG:HA	1.81	0.45
28:R4:65:ASP:OD1	28:R4:66:SER:N	2.49	0.45
29:R5:4:HIS:CD2	34:RA:2056:G:H1	2.33	0.45
34:RA:26:G:H1'	34:RA:515:A:H61	1.82	0.45
34:RA:322:A:OP2	38:RF:169:ASN:HB2	2.16	0.45
34:RA:1779:U:OP2	34:RA:1784:A:N6	2.38	0.45
40:RH:41:MET:HE2	40:RH:64:LEU:HB3	1.98	0.45
40:RH:77:LYS:HB3	40:RH:83:TYR:HE1	1.80	0.45
40:RH:103:LEU:HD22	40:RH:123:PHE:CE2	2.51	0.45
40:RH:109:PHE:CZ	40:RH:151:ILE:HG22	2.51	0.45
41:RI:63:ALA:O	41:RI:66:GLU:HB3	2.16	0.45
45:RQ:57:HIS:HE1	45:RQ:113:GLN:HA	1.80	0.45
1:XA:41:G:H2'	1:XA:42:G:C8	2.52	0.45
1:XA:582:U:H2'	1:XA:583:A:H8	1.81	0.45
10:XJ:32:ALA:HB3	10:XJ:76:ASN:HB2	1.97	0.45
22:XV:53:G:H3'	22:XV:54:5MU:H71	1.97	0.45
29:Y5:35:GLU:HB2	29:Y5:50:GLY:HA2	1.97	0.45
29:Y5:55:ARG:CD	46:YR:113:LEU:HD13	2.47	0.45
34:YA:1063:G:N1	34:YA:1076:C:O2	2.49	0.45
34:YA:1117:G:H2'	34:YA:1118:C:C6	2.51	0.45
34:YA:1438:U:H2'	34:YA:1439:A:C8	2.50	0.45
35:YB:29:A:P	47:YS:31:SER:HG	2.38	0.45
38:YF:75:HIS:CD2	38:YF:83:PHE:HE1	2.33	0.45
47:YS:39:ILE:HD12	47:YS:85:VAL:HG11	1.97	0.45
1:QA:51:A:C4	1:QA:353:A:C2	3.05	0.45
1:QA:51:A:N1	1:QA:314:C:O2'	2.46	0.45
1:QA:1004:A:H2	1:QA:1024:G:H2'	1.81	0.45
1:QA:1095:U:P	1:QA:1108:G:H1	2.40	0.45
2:QB:32:ILE:HG22	2:QB:42:ILE:HG13	1.99	0.45
2:QB:167:PRO:HB2	2:QB:192:SER:OG	2.16	0.45
3:QC:134:ILE:HD12	3:QC:151:VAL:HG12	1.97	0.45
12:QL:89:ARG:HB3	12:QL:97:ARG:HA	1.99	0.45
20:QT:50:GLU:HA	20:QT:100:ILE:HG22	1.99	0.45
25:R1:52:ARG:HH22	34:RA:2213:U:H4'	1.81	0.45
29:R5:56:LYS:HG2	29:R5:58:LEU:HD23	1.98	0.45
34:RA:39:C:O2	38:RF:46:ARG:NH2	2.41	0.45
34:RA:550:G:H2'	34:RA:551:G:H8	1.81	0.45
34:RA:762:U:N3	34:RA:1431:U:OP1	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:903:C:H2'	34:RA:904:C:C6	2.51	0.45
34:RA:1818:U:H5"	36:RD:158:ALA:HB2	1.99	0.45
34:RA:2740:A:H2'	34:RA:2741:A:C8	2.52	0.45
45:RQ:11:LYS:HD3	45:RQ:87:LYS:HA	1.98	0.45
50:RV:1:MET:HE2	50:RV:43:GLU:HG2	1.98	0.45
53:RY:39:VAL:H	53:RY:67:LEU:HD23	1.81	0.45
1:XA:129(A):G:H1'	1:XA:190:G:H5"	1.97	0.45
1:XA:406:G:H5'	4:XD:5:ILE:HD13	1.98	0.45
1:XA:537:G:H5"	12:XL:113:ARG:NH1	2.32	0.45
1:XA:718:G:N2	18:XR:49:LYS:HG2	2.30	0.45
3:XC:83:ARG:O	3:XC:86:VAL:HG22	2.16	0.45
9:XI:48:GLU:HA	9:XI:51:ARG:HD3	1.99	0.45
12:XL:42:THR:HG22	12:XL:54:LYS:HG3	1.97	0.45
12:XL:66:VAL:HG21	12:XL:98:TYR:CE2	2.51	0.45
34:YA:1952:A:C5	43:YO:22:ILE:HD12	2.52	0.45
34:YA:2824:C:H2'	34:YA:2825:C:O4'	2.17	0.45
39:YG:102:PHE:HE1	39:YG:106:LEU:HD13	1.82	0.45
41:YI:61:ARG:HB3	41:YI:133:HIS:CE1	2.51	0.45
49:YU:50:ARG:O	49:YU:54:LYS:NZ	2.49	0.45
1:QA:12:U:H4'	1:QA:526:C:H4'	1.99	0.45
1:QA:304:U:H2'	1:QA:305:G:C8	2.51	0.45
1:QA:445:G:H2'	1:QA:446:G:C8	2.51	0.45
1:QA:708:C:H2'	1:QA:709:G:C8	2.52	0.45
2:QB:19:HIS:NE2	2:QB:20:GLU:OE2	2.50	0.45
3:QC:46:GLU:HB3	3:QC:83:ARG:HH22	1.80	0.45
4:QD:111:ALA:HB2	4:QD:120:LEU:HD12	1.99	0.45
11:QK:20:TYR:CE1	11:QK:83:ILE:HD13	2.52	0.45
16:QP:38:TYR:CE1	16:QP:50:LYS:HB3	2.51	0.45
24:R0:43:THR:HG22	34:RA:2331:G:O2'	2.16	0.45
34:RA:1930:G:H2'	34:RA:1968:G:N1	2.31	0.45
34:RA:2598:A:H5"	36:RD:235:GLY:HA3	1.98	0.45
36:RD:94:LEU:HD23	36:RD:104:TYR:CE1	2.52	0.45
39:RG:94:LEU:O	39:RG:99:MET:HB3	2.17	0.45
54:RZ:10:ARG:HG3	54:RZ:38:TYR:HB3	1.99	0.45
54:RZ:60:GLU:HG3	54:RZ:60:GLU:O	2.17	0.45
1:XA:409:G:OP1	4:XD:24:GLU:HB3	2.16	0.45
1:XA:582:U:H2'	1:XA:583:A:C8	2.51	0.45
1:XA:689:C:OP2	11:XK:55:LYS:NZ	2.46	0.45
2:XB:9:GLU:OE1	2:XB:9:GLU:N	2.42	0.45
2:XB:40:HIS:CG	2:XB:190:THR:HG21	2.52	0.45
10:XJ:47:PHE:HE2	14:XN:37:PHE:CE2	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:XV:23:A:H2'	22:XV:24:G:H8	1.82	0.45
26:Y2:30:ARG:HH11	52:YX:5:TYR:HE2	1.64	0.45
28:Y4:15:ILE:HB	28:Y4:32:TYR:HD1	1.82	0.45
33:Y9:24:TYR:CE1	33:Y9:35:ARG:HG3	2.52	0.45
34:YA:546:C:H5"	34:YA:547:A:N7	2.32	0.45
34:YA:609(A):G:H2'	34:YA:610:C:C6	2.52	0.45
34:YA:896:A:N3	54:YZ:176:PRO:HB3	2.30	0.45
34:YA:1338:G:O2'	34:YA:1393:A:N1	2.44	0.45
34:YA:2126:A:H4'	34:YA:2127:G:O5'	2.17	0.45
34:YA:2235:G:H2'	34:YA:2236:C:C6	2.51	0.45
34:YA:2521:C:H2'	34:YA:2522:U:C6	2.51	0.45
34:YA:2832:U:H4'	34:YA:2833:G:H5"	1.98	0.45
36:YD:67:PHE:HZ	36:YD:88:ARG:HH21	1.63	0.45
37:YE:1:MET:O	37:YE:81:ILE:CG2	2.64	0.45
41:YI:101:LEU:HD22	41:YI:107:VAL:HB	1.98	0.45
42:YN:72:TYR:CE2	42:YN:87:LEU:HD23	2.52	0.45
48:YT:26:ASP:HB2	48:YT:91:ARG:HA	1.99	0.45
49:YU:17:ILE:HG13	49:YU:32:PHE:HE1	1.80	0.45
1:QA:538:G:H2'	1:QA:539:A:H8	1.82	0.45
1:QA:639:G:H2'	1:QA:640:A:H8	1.82	0.45
1:QA:1343:G:H2'	1:QA:1344:C:C6	2.52	0.45
2:QB:77:ALA:HB2	2:QB:211:ILE:HG21	1.99	0.45
2:QB:160:ASP:O	2:QB:183:PRO:HD2	2.17	0.45
3:QC:136:GLN:HB3	3:QC:140:ARG:NH2	2.31	0.45
4:QD:140:VAL:HG11	4:QD:146:ILE:HD11	1.98	0.45
8:QH:110:ALA:HB3	8:QH:121:ASP:HB3	1.99	0.45
12:QL:60:LEU:HD21	12:QL:85:ILE:HG13	1.98	0.45
13:QM:4:ILE:HG22	13:QM:5:ALA:H	1.81	0.45
27:R3:15:TYR:HE2	27:R3:52:HIS:CD2	2.34	0.45
32:R8:8:LYS:NZ	34:RA:245:G:O6	2.38	0.45
34:RA:1816:G:H5'	36:RD:62:TYR:CE2	2.52	0.45
34:RA:1930:G:H2'	34:RA:1968:G:H1	1.81	0.45
34:RA:2703:C:H2'	34:RA:2704:C:H6	1.81	0.45
35:RB:42:C:H2'	35:RB:43:C:O4'	2.17	0.45
48:RT:57:PHE:O	48:RT:57:PHE:CG	2.70	0.45
1:XA:1137:C:O2'	1:XA:1138:G:N2	2.49	0.45
2:XB:28:PHE:CE1	2:XB:31:TYR:HB2	2.51	0.45
4:XD:57:ARG:HB3	4:XD:206:PHE:HB2	1.98	0.45
4:XD:105:VAL:HG13	4:XD:110:PHE:HB2	1.99	0.45
9:XI:91:ASP:N	9:XI:91:ASP:OD1	2.48	0.45
11:XK:52:GLY:H	11:XK:55:LYS:HE2	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:XO:17:ARG:HB2	15:XO:18:PHE:HD1	1.81	0.45
34:YA:1796:U:H2'	34:YA:1797:C:H6	1.81	0.45
34:YA:2789:C:H1'	34:YA:2892:A:C2	2.50	0.45
36:YD:64:ILE:HG23	36:YD:64:ILE:O	2.17	0.45
41:YI:67:ARG:HA	41:YI:70:GLU:CD	2.37	0.45
43:YO:8:LEU:HD13	43:YO:82:ASN:HB3	1.98	0.45
47:YS:56:LEU:HD11	47:YS:58:LEU:HD13	1.99	0.45
50:YV:22:VAL:HG12	50:YV:23:GLU:H	1.80	0.45
54:YZ:48:PHE:O	54:YZ:52:SER:N	2.48	0.45
54:YZ:59:LEU:HA	54:YZ:59:LEU:HD23	1.68	0.45
1:QA:22:G:H2'	1:QA:23:C:H6	1.82	0.45
1:QA:688:G:H2'	1:QA:689:C:H6	1.81	0.45
11:QK:124:LYS:HG3	11:QK:125:PHE:CD1	2.52	0.45
16:QP:15:PRO:HB3	16:QP:17:TYR:HE1	1.82	0.45
25:R1:89:GLU:HA	25:R1:93:GLU:HB2	1.98	0.45
29:R5:32:PRO:CA	29:R5:39:MET:HE3	2.46	0.45
34:RA:49:A:N7	34:RA:120:U:H5	2.15	0.45
34:RA:177:G:OP2	34:RA:177:G:N2	2.46	0.45
34:RA:1467:C:C5	34:RA:1546:C:H2'	2.52	0.45
34:RA:1475:G:H2'	34:RA:1476:C:C6	2.51	0.45
34:RA:1540:G:H2'	34:RA:1541:U:C6	2.52	0.45
34:RA:2019:A:H4'	49:RU:34:LYS:HD2	1.98	0.45
38:RF:103:LYS:HG2	38:RF:106:ARG:NH2	2.31	0.45
39:RG:139:LEU:HB2	39:RG:146:TYR:CE1	2.51	0.45
40:RH:77:LYS:HD2	40:RH:83:TYR:CE1	2.51	0.45
40:RH:87:LEU:HD11	40:RH:145:ALA:O	2.16	0.45
40:RH:107:VAL:HG11	40:RH:162:ILE:HD11	1.97	0.45
1:XA:323:U:H2'	1:XA:324:G:O4'	2.16	0.45
1:XA:377:G:H2'	1:XA:378:G:H8	1.81	0.45
1:XA:626:U:H2'	1:XA:627:G:C8	2.52	0.45
1:XA:825:G:H2'	1:XA:826:C:C6	2.52	0.45
2:XB:189:ASP:OD1	2:XB:189:ASP:N	2.49	0.45
9:XI:128:ARG:NH2	22:XV:35:U:OP2	2.30	0.45
10:XJ:65:LEU:HD12	10:XJ:65:LEU:HA	1.81	0.45
19:XS:3:ARG:HB3	28:Y4:67:TYR:CE1	2.51	0.45
22:XV:63:U:H5"	24:Y0:11:ARG:NH2	2.26	0.45
26:Y2:37:PHE:CD1	52:YX:11:PRO:HD3	2.52	0.45
34:YA:1186:G:H2'	34:YA:1187:G:O4'	2.17	0.45
34:YA:1265:A:H8	34:YA:1265:A:OP1	1.99	0.45
42:YN:57:ALA:C	42:YN:59:LYS:N	2.69	0.45
49:YU:44:ASN:ND2	50:YV:75:PHE:HB3	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1072:G:H2'	1:QA:1073:U:C6	2.51	0.45
1:QA:1413:A:H2	1:QA:1487:G:H22	1.65	0.45
9:QI:114:TYR:CE2	10:QJ:59:SER:HA	2.52	0.45
12:QL:86:ARG:HB2	12:QL:101:VAL:HG22	1.98	0.45
13:QM:12:ASN:H	13:QM:45:VAL:HG13	1.82	0.45
13:QM:60:VAL:HG13	13:QM:64:TRP:HE1	1.81	0.45
17:QQ:91:ARG:HG2	17:QQ:92:ARG:HG2	1.98	0.45
24:R0:18:ALA:HB1	34:RA:2271:G:OP1	2.17	0.45
32:R8:2:PRO:O	34:RA:666:G:N2	2.49	0.45
34:RA:16:G:H2'	34:RA:17:G:H8	1.82	0.45
34:RA:943:U:OP2	44:RP:36:LYS:HB2	2.17	0.45
34:RA:1275:A:N1	34:RA:1295:C:O2'	2.42	0.45
34:RA:1528:A:H2'	34:RA:1529:A:H8	1.79	0.45
34:RA:1833:U:O2'	34:RA:1969:A:N1	2.41	0.45
34:RA:2712:U:HO2'	34:RA:2712(A):A:P	2.40	0.45
36:RD:30:GLU:HG3	36:RD:63:ARG:NH2	2.31	0.45
39:RG:10:LYS:HD2	39:RG:14:GLU:HB2	1.99	0.45
50:RV:39:LEU:HD22	50:RV:50:PRO:O	2.16	0.45
54:RZ:62:PRO:C	54:RZ:64:GLY:N	2.70	0.45
1:XA:634:C:H2'	1:XA:635:G:H8	1.81	0.45
1:XA:928:G:O2'	1:XA:1533:C:OP1	2.32	0.45
1:XA:1095:U:OP2	1:XA:1108:G:N1	2.50	0.45
1:XA:1292:U:H2'	1:XA:1293:G:H8	1.82	0.45
2:XB:212:GLN:CD	2:XB:235:SER:HA	2.37	0.45
9:XI:53:VAL:HG13	9:XI:92:TYR:CE1	2.51	0.45
29:Y5:2:ALA:N	34:YA:2015:A:N3	2.64	0.45
30:Y6:46:HIS:CE1	34:YA:2371:G:HO2'	2.32	0.45
32:Y8:59:LYS:HA	44:YP:49:ARG:HE	1.82	0.45
34:YA:37:C:H2'	34:YA:38:A:H8	1.81	0.45
34:YA:336:C:H4'	53:YY:6:HIS:CE1	2.52	0.45
34:YA:1769:G:C2'	34:YA:1770:G:H5'	2.47	0.45
34:YA:2123:G:H2'	34:YA:2124:G:H8	1.82	0.45
38:YF:120:GLU:HG3	38:YF:122:LYS:HG2	1.99	0.45
44:YP:96:THR:CG2	44:YP:126:VAL:CG2	2.63	0.45
47:YS:18:ILE:HG21	47:YS:25:ARG:HG3	1.98	0.45
52:YX:12:VAL:HG11	52:YX:78:LYS:HG3	1.99	0.45
1:QA:855:G:OP2	1:QA:871:U:N3	2.39	0.45
1:QA:920:U:H2'	1:QA:921:U:C6	2.52	0.45
1:QA:939:G:H2'	1:QA:940:C:C6	2.52	0.45
1:QA:1161:C:H2'	1:QA:1162:C:C6	2.52	0.45
1:QA:1507:A:H2'	1:QA:1508:G:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:1510:U:H3	1:QA:1525:G:H1	1.65	0.45
16:QP:69:THR:HA	16:QP:72:ARG:HG2	1.99	0.45
34:RA:380:U:H2'	34:RA:381:G:C8	2.52	0.45
34:RA:1841:U:H2'	34:RA:1842:G:H8	1.82	0.45
34:RA:2070:G:H2'	34:RA:2071:A:C8	2.52	0.45
36:RD:132:PRO:HG3	36:RD:190:TYR:CE1	2.51	0.45
36:RD:223:GLY:HA2	36:RD:226:MET:HE3	1.99	0.45
39:RG:125:PHE:HB3	39:RG:166:ASP:HB2	1.99	0.45
39:RG:171:ALA:O	39:RG:175:LEU:HG	2.15	0.45
40:RH:6:ARG:HG3	40:RH:65:HIS:ND1	2.32	0.45
40:RH:24:VAL:HG23	40:RH:35:VAL:HB	1.99	0.45
40:RH:149:ARG:NH2	40:RH:167:GLU:OE1	2.44	0.45
54:RZ:70:LEU:O	54:RZ:89:PHE:N	2.49	0.45
3:XC:68:VAL:HG12	3:XC:70:VAL:HG23	1.97	0.45
28:Y4:16:CYS:CB	28:Y4:36:CYS:HB2	2.47	0.45
28:Y4:38:LYS:HZ3	39:YG:179:PRO:HG3	1.81	0.45
31:Y7:9:ARG:NH1	34:YA:1310:G:OP2	2.50	0.45
34:YA:245:G:H5'	44:YP:69:GLY:HA3	1.99	0.45
34:YA:441:U:O2	38:YF:46:ARG:NH2	2.50	0.45
34:YA:1012:U:P	49:YU:70:ARG:HH22	2.40	0.45
34:YA:1693:U:H1'	36:YD:14:ARG:HH21	1.81	0.45
34:YA:2790:A:O2'	34:YA:2893:G:N3	2.50	0.45
37:YE:46:ALA:HB1	37:YE:80:GLU:CB	2.44	0.45
50:YV:6:LYS:HB2	50:YV:39:LEU:HD21	1.98	0.45
53:YY:35:TYR:O	53:YY:35:TYR:CD1	2.69	0.45
54:YZ:34:ASN:HD22	54:YZ:35:ARG:H	1.65	0.45
1:QA:51:A:C2	1:QA:353:A:N1	2.85	0.45
1:QA:93:U:H2'	1:QA:95:G:C8	2.52	0.45
1:QA:704:A:H8	1:QA:704:A:OP2	2.00	0.45
1:QA:919:A:O2'	1:QA:1080:A:N1	2.46	0.45
1:QA:1158:C:O2'	2:QB:133:LYS:HD3	2.17	0.45
1:QA:1226:C:O2'	13:QM:103:THR:O	2.22	0.45
1:QA:1308:U:C5	13:QM:99:ARG:NH1	2.84	0.45
1:QA:1392:G:H21	1:QA:1502:A:H8	1.65	0.45
3:QC:59:ARG:HA	3:QC:63:ASN:O	2.17	0.45
11:QK:62:GLN:HB3	11:QK:93:GLN:HG3	1.98	0.45
27:R3:18:ASP:OD1	27:R3:18:ASP:N	2.49	0.45
33:R9:27:CYS:SG	33:R9:28:GLU:N	2.90	0.45
34:RA:182:A:H2'	34:RA:183:C:H6	1.81	0.45
34:RA:320:A:H4'	34:RA:322:A:C8	2.52	0.45
34:RA:881:G:C2	34:RA:882:G:H1'	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1592:C:H2'	34:RA:1593:G:H8	1.81	0.45
35:RB:7:G:H4'	47:RS:29:PHE:CD1	2.51	0.45
37:RE:24:THR:HG21	37:RE:188:VAL:CG1	2.47	0.45
37:RE:28:ALA:HB3	37:RE:93:VAL:HG23	1.98	0.45
44:RP:96:THR:O	44:RP:100:LEU:HD23	2.17	0.45
45:RQ:77:LYS:HE2	45:RQ:82:ARG:HA	1.98	0.45
52:RX:31:HIS:CD2	52:RX:32:PRO:HD2	2.52	0.45
53:RY:6:HIS:CD2	53:RY:7:VAL:HG13	2.52	0.45
1:XA:643:C:H2'	1:XA:644:G:H8	1.81	0.45
2:XB:43:ASP:OD2	2:XB:45:GLN:HB3	2.17	0.45
2:XB:61:LEU:HD23	2:XB:68:ILE:HD11	1.98	0.45
2:XB:179:LYS:HA	8:XH:72:PRO:HD3	1.99	0.45
2:XB:193:ASP:HB3	2:XB:196:LEU:HG	1.99	0.45
3:XC:101:LEU:HD21	3:XC:103:VAL:HG23	1.99	0.45
9:XI:104:ARG:HG2	9:XI:105:ASP:N	2.32	0.45
11:XK:125:PHE:N	11:XK:125:PHE:CD1	2.84	0.45
17:XQ:88:TYR:O	17:XQ:91:ARG:HG2	2.17	0.45
25:Y1:92:LYS:HD2	25:Y1:92:LYS:HA	1.78	0.45
28:Y4:25:TYR:CE2	39:YG:4:ASP:HB3	2.51	0.45
29:Y5:19:ARG:NH1	34:YA:1265:A:H5'	2.31	0.45
34:YA:747:U:O2	34:YA:2014:A:H1'	2.17	0.45
34:YA:1153:C:H5'	49:YU:76:TYR:CE2	2.46	0.45
34:YA:1286:A:H1'	34:YA:1288:U:OP2	2.17	0.45
34:YA:2064:C:H2'	34:YA:2065:C:C6	2.53	0.45
34:YA:2153:G:H2'	34:YA:2154:G:C8	2.52	0.45
34:YA:2406:U:O4	44:YP:70:GLN:HB2	2.17	0.45
42:YN:102:ALA:O	42:YN:106:MET:HG2	2.17	0.45
45:YQ:62:GLY:HA2	54:YZ:116:VAL:HG22	1.99	0.45
1:QA:323:U:H2'	1:QA:324:G:O4'	2.17	0.44
1:QA:922:G:H4'	5:QE:20:GLN:HA	1.98	0.44
1:QA:1062:U:H2'	1:QA:1063:C:C2	2.53	0.44
1:QA:1090:U:H2'	1:QA:1091:U:C6	2.51	0.44
2:QB:16:HIS:NE2	2:QB:210:SER:HA	2.32	0.44
2:QB:85:ALA:O	2:QB:89:GLY:N	2.50	0.44
2:QB:134:GLU:O	2:QB:137:ARG:HG3	2.17	0.44
4:QD:65:ARG:HD2	4:QD:72:GLU:HA	1.98	0.44
5:QE:28:PHE:CD2	5:QE:51:VAL:HG22	2.52	0.44
12:QL:117:ARG:HH21	12:QL:124:LYS:CG	2.30	0.44
12:QL:117:ARG:NH1	12:QL:117:ARG:CG	2.73	0.44
18:QR:43:PHE:N	18:QR:43:PHE:CD1	2.86	0.44
27:R3:5:LYS:HE3	27:R3:57:GLU:HG2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:R3:23:LEU:HD22	27:R3:50:VAL:HG11	1.99	0.44
34:RA:679:C:H2'	34:RA:680:G:H8	1.82	0.44
34:RA:919:G:N2	34:RA:2269:A:OP2	2.46	0.44
34:RA:949:C:H2'	34:RA:950:G:C8	2.52	0.44
37:RE:95:ILE:HD12	37:RE:95:ILE:H	1.82	0.44
38:RF:155:LEU:HD23	38:RF:186:ILE:HD13	1.98	0.44
45:RQ:66:ILE:HG22	45:RQ:68:ILE:H	1.83	0.44
53:RY:35:TYR:CE2	53:RY:69:ALA:HB3	2.52	0.44
1:XA:41:G:H2'	1:XA:42:G:H8	1.81	0.44
1:XA:131:C:H2'	1:XA:132:C:C6	2.52	0.44
1:XA:250:A:H4'	1:XA:251:G:O5'	2.17	0.44
1:XA:998:G:H2'	1:XA:998(A):C:C6	2.52	0.44
1:XA:1410:G:H2'	1:XA:1411:C:H6	1.82	0.44
2:XB:17:PHE:CD2	2:XB:17:PHE:O	2.70	0.44
25:Y1:89:GLU:HA	25:Y1:93:GLU:HB3	2.00	0.44
32:Y8:3:LYS:HE2	34:YA:242:G:C8	2.52	0.44
32:Y8:11:LYS:HZ3	32:Y8:63:PRO:HB3	1.82	0.44
34:YA:699:A:H2'	34:YA:700:G:O4'	2.17	0.44
34:YA:754:C:H2'	34:YA:755:C:C6	2.53	0.44
34:YA:952:G:OP1	45:YQ:16:ARG:NH1	2.42	0.44
34:YA:1030:G:OP2	45:YQ:128:LYS:NZ	2.32	0.44
34:YA:1434:A:H61	34:YA:1558:A:H62	1.65	0.44
34:YA:1841:U:H2'	34:YA:1842:G:C8	2.50	0.44
34:YA:2037:G:H2'	34:YA:2038:G:C8	2.53	0.44
34:YA:2186:G:H2'	34:YA:2187:G:C8	2.52	0.44
37:YE:171:GLU:O	37:YE:184:VAL:HA	2.17	0.44
40:YH:23:ARG:HA	40:YH:37:VAL:HG22	1.98	0.44
46:YR:51:LEU:HD12	46:YR:66:VAL:HG13	1.98	0.44
52:YX:28:PHE:N	52:YX:28:PHE:CD1	2.85	0.44
1:QA:353:A:C8	1:QA:353:A:C4'	3.00	0.44
1:QA:363:A:OP1	12:QL:33:ARG:HD3	2.18	0.44
1:QA:1305:G:N2	1:QA:1332:A:OP2	2.49	0.44
2:QB:20:GLU:HB2	2:QB:190:THR:HB	1.98	0.44
10:QJ:6:ILE:HG22	10:QJ:98:ILE:HG13	1.99	0.44
10:QJ:45:ARG:HB3	10:QJ:65:LEU:HB3	1.98	0.44
13:QM:69:GLU:OE1	39:RG:118:ARG:NH2	2.51	0.44
13:QM:89:GLY:O	13:QM:93:ARG:HG3	2.17	0.44
34:RA:1035:U:H2'	34:RA:1036:G:C8	2.52	0.44
45:RQ:136:ALA:HB1	54:RZ:52:SER:HB2	2.00	0.44
47:RS:39:ILE:HD11	47:RS:73:LEU:HD11	1.98	0.44
51:RW:86:LEU:HD12	51:RW:87:PRO:HD2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:484:G:H4'	1:XA:485:G:O5'	2.17	0.44
1:XA:693:G:C5	23:XX:-2:A:H1'	2.51	0.44
1:XA:1323:G:HO2'	1:XA:1362:C:HO2'	1.66	0.44
1:XA:1387:G:H2'	1:XA:1388:C:C6	2.52	0.44
12:XL:113:ARG:HB3	12:XL:122:THR:HG21	1.97	0.44
18:XR:34:TYR:H	18:XR:34:TYR:HD1	1.63	0.44
19:XS:44:MET:HA	19:XS:47:HIS:HD2	1.82	0.44
23:XX:-10:A:H2'	23:XX:-9:G:H8	1.82	0.44
25:Y1:96:LYS:NZ	34:YA:154:G:OP1	2.44	0.44
26:Y2:55:ARG:NH2	34:YA:75:G:H4'	2.32	0.44
34:YA:303:U:H2'	34:YA:304:G:H8	1.82	0.44
34:YA:483:A:H3'	34:YA:484:C:H6	1.82	0.44
34:YA:530:G:H1'	34:YA:2021:C:O2'	2.17	0.44
34:YA:1059:G:H22	34:YA:1062:G:H4'	1.83	0.44
34:YA:1291:C:H2'	34:YA:1292:U:H6	1.82	0.44
40:YH:95:ARG:HG2	40:YH:106:THR:OG1	2.17	0.44
51:YW:59:VAL:HG21	51:YW:66:GLU:HB2	2.00	0.44
2:QB:28:PHE:CE1	2:QB:31:TYR:HB2	2.51	0.44
11:QK:124:LYS:HG3	11:QK:125:PHE:HD1	1.81	0.44
15:QO:23:GLY:O	15:QO:28:GLN:NE2	2.44	0.44
29:R5:48:GLU:OE1	29:R5:48:GLU:N	2.50	0.44
32:R8:54:GLU:O	32:R8:58:ILE:HG12	2.17	0.44
34:RA:64:A:C4	52:RX:66:LEU:HD13	2.53	0.44
34:RA:616:A:H4'	38:RF:182:ASN:HD22	1.82	0.44
34:RA:662:G:H2'	34:RA:663:G:H8	1.83	0.44
34:RA:807:U:OP2	44:RP:41:ARG:NH1	2.49	0.44
34:RA:844:C:H2'	34:RA:845:G:O4'	2.17	0.44
34:RA:1246:A:OP2	44:RP:15:ARG:HD2	2.17	0.44
34:RA:1797:C:H4'	36:RD:257:LEU:O	2.17	0.44
34:RA:1830:C:H4'	36:RD:15:PHE:HE2	1.81	0.44
35:RB:74:U:H2'	35:RB:75:G:O4'	2.17	0.44
37:RE:36:ARG:NH2	37:RE:88:GLY:N	2.64	0.44
38:RF:82:ILE:HG13	38:RF:83:PHE:HD1	1.82	0.44
38:RF:178:PRO:HB3	38:RF:198:ALA:CB	2.47	0.44
39:RG:38:VAL:CG1	39:RG:158:ALA:HB3	2.47	0.44
39:RG:63:ILE:HD12	39:RG:102:PHE:CE1	2.52	0.44
1:XA:403:C:OP2	4:XD:74:GLN:NE2	2.47	0.44
1:XA:410:G:H3'	4:XD:25:ARG:HH12	1.82	0.44
1:XA:892:A:N6	1:XA:906:G:O2'	2.50	0.44
1:XA:950:U:H2'	1:XA:951:G:C8	2.52	0.44
1:XA:1368:G:OP1	9:XI:111:ARG:NH2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:11:ARG:NH2	3:XC:177:THR:O	2.50	0.44
4:XD:55:ALA:O	4:XD:59:ARG:HG2	2.18	0.44
5:XE:17:ALA:HA	5:XE:26:PHE:HA	1.98	0.44
20:XT:51:GLU:HA	20:XT:54:LYS:HZ3	1.81	0.44
28:Y4:6:HIS:CE1	39:YG:66:GLN:HA	2.52	0.44
34:YA:226:G:O2'	34:YA:228:A:N6	2.50	0.44
34:YA:442:G:H1'	38:YF:48:THR:HG21	1.99	0.44
34:YA:924:C:H2'	34:YA:925:C:C6	2.51	0.44
34:YA:2185:C:H2'	34:YA:2186:G:C8	2.51	0.44
34:YA:2328:A:H2'	34:YA:2329:G:H8	1.82	0.44
36:YD:12:SER:HB2	36:YD:208:LYS:HB3	1.99	0.44
43:YO:23:ARG:NH2	43:YO:28:SER:O	2.50	0.44
48:YT:61:PHE:HE1	48:YT:76:PHE:HB2	1.81	0.44
53:YY:44:ILE:O	53:YY:62:GLU:O	2.36	0.44
1:QA:1012:U:H2'	1:QA:1013:G:C8	2.52	0.44
1:QA:1053:G:H5'	1:QA:1054:C:H5'	2.00	0.44
1:QA:1147:C:H2'	1:QA:1148:U:C6	2.51	0.44
1:QA:1406:U:H1'	1:QA:1518:A:H4'	2.00	0.44
29:R5:3:LYS:HD3	29:R5:3:LYS:HA	1.71	0.44
34:RA:710:G:H2'	34:RA:711:G:C8	2.53	0.44
34:RA:1430:C:H2'	34:RA:1431:U:C6	2.53	0.44
34:RA:1454:U:H5'	46:RR:63:ARG:HE	1.83	0.44
34:RA:1799:G:N2	34:RA:1818:U:O2'	2.50	0.44
34:RA:2663:G:H3'	34:RA:2664:G:H8	1.82	0.44
34:RA:2864:G:OP1	48:RT:119:LYS:HD2	2.17	0.44
40:RH:6:ARG:HG3	40:RH:65:HIS:CE1	2.52	0.44
46:RR:28:LEU:HD13	46:RR:48:VAL:HG21	1.99	0.44
48:RT:28:VAL:HG22	48:RT:86:ILE:HG12	1.99	0.44
1:XA:378:G:H2'	1:XA:379:C:C6	2.53	0.44
1:XA:414:A:OP2	1:XA:428:G:N2	2.26	0.44
1:XA:690:G:H22	11:XK:55:LYS:NZ	2.16	0.44
1:XA:833:U:H2'	1:XA:834:C:C6	2.52	0.44
1:XA:1227:A:OP1	19:XS:80:TYR:OH	2.21	0.44
1:XA:1409:C:H2'	1:XA:1410:G:H8	1.82	0.44
29:Y5:51:TYR:N	29:Y5:56:LYS:HE2	2.32	0.44
34:YA:17:G:H2'	34:YA:18:C:C6	2.52	0.44
34:YA:1656:C:H2'	34:YA:1657:C:C6	2.53	0.44
34:YA:1786:A:C8	34:YA:1938:A:N6	2.84	0.44
34:YA:1870:C:H2'	34:YA:1871:A:O4'	2.17	0.44
34:YA:1935:G:H1'	34:YA:1964:G:N2	2.31	0.44
34:YA:1971:A:C8	36:YD:241:PRO:HB3	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:YD:13:ARG:NH1	36:YD:16:MET:SD	2.90	0.44
40:YH:85:LYS:HG2	40:YH:141:VAL:HG12	2.00	0.44
48:YT:13:ARG:HD3	48:YT:13:ARG:H	1.81	0.44
7:QG:116:ALA:O	7:QG:120:ILE:HG12	2.18	0.44
14:QN:48:ALA:HB2	14:QN:53:LEU:HD12	1.99	0.44
16:QP:55:ARG:HG3	16:QP:59:TRP:CD1	2.52	0.44
34:RA:177:G:H3'	34:RA:178:G:H8	1.82	0.44
34:RA:463:G:N2	34:RA:466:A:OP2	2.40	0.44
34:RA:872:A:H8	34:RA:872:A:O5'	2.01	0.44
34:RA:2405:G:O2'	34:RA:2411:A:N6	2.50	0.44
51:RW:8:ARG:HG2	51:RW:9:TYR:CD1	2.52	0.44
54:RZ:10:ARG:HB3	54:RZ:13:GLU:OE2	2.17	0.44
1:XA:653:A:C8	8:XH:56:LYS:HG2	2.53	0.44
1:XA:1179:A:H2'	1:XA:1180:A:O4'	2.17	0.44
2:XB:118:LEU:HB3	2:XB:142:LEU:HD12	1.99	0.44
2:XB:233:SER:O	2:XB:235:SER:N	2.50	0.44
3:XC:77:ILE:HA	3:XC:84:ILE:HB	1.99	0.44
5:XE:77:PRO:HD2	5:XE:142:LEU:HD22	2.00	0.44
5:XE:122:GLU:O	5:XE:126:ARG:NH1	2.48	0.44
28:Y4:2:LYS:N	35:YB:40:U:O4	2.50	0.44
28:Y4:63:TYR:CD1	28:Y4:63:TYR:O	2.70	0.44
31:Y7:49:ARG:NH1	34:YA:128:C:H4'	2.23	0.44
34:YA:839:U:H2'	34:YA:840:C:C6	2.53	0.44
34:YA:1727:U:H2'	34:YA:1728:G:O4'	2.17	0.44
34:YA:1991:U:H2'	34:YA:1992:G:H5"	2.00	0.44
34:YA:2028:U:H2'	34:YA:2029:G:C8	2.53	0.44
34:YA:2174:C:H2'	34:YA:2175:C:C6	2.52	0.44
34:YA:2676:C:O5'	34:YA:2676:C:H6	2.01	0.44
36:YD:12:SER:O	36:YD:16:MET:HB2	2.17	0.44
37:YE:36:ARG:HG2	37:YE:47:VAL:HG12	1.99	0.44
37:YE:52:LEU:HB2	37:YE:75:VAL:HG23	1.99	0.44
40:YH:6:ARG:HB3	40:YH:65:HIS:ND1	2.33	0.44
40:YH:41:MET:HG3	40:YH:55:PRO:HD2	1.98	0.44
42:YN:131:GLN:HG3	42:YN:132:ALA:N	2.32	0.44
43:YO:53:LYS:H	43:YO:53:LYS:HD2	1.82	0.44
45:YQ:7:MET:SD	45:YQ:93:TYR:HE2	2.40	0.44
54:YZ:5:LEU:HD22	54:YZ:5:LEU:HA	1.74	0.44
1:QA:411:A:H62	1:QA:413:G:H21	1.65	0.44
1:QA:502:G:OP1	12:QL:118:SER:HB3	2.17	0.44
1:QA:1270:C:H2'	1:QA:1271:G:H8	1.83	0.44
1:QA:1410:G:H2'	1:QA:1411:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:QB:19:HIS:CE1	2:QB:206:ASP:H	2.36	0.44
2:QB:166:ASP:HB3	2:QB:169:LYS:HB3	1.98	0.44
9:QI:16:ARG:O	9:QI:63:ILE:HA	2.17	0.44
19:QS:10:PHE:O	19:QS:10:PHE:CG	2.70	0.44
24:R0:36:ILE:HA	24:R0:60:PHE:HA	2.00	0.44
29:R5:45:VAL:HG22	29:R5:51:TYR:HD2	1.83	0.44
34:RA:2562:U:H1'	43:RO:23:ARG:NH1	2.32	0.44
34:RA:2647:U:H2'	34:RA:2648:C:H6	1.82	0.44
34:RA:2836:U:H2'	34:RA:2837:G:C8	2.52	0.44
35:RB:28:C:H2'	35:RB:29:A:C8	2.53	0.44
37:RE:134:ILE:C	37:RE:134:ILE:CD1	2.85	0.44
54:RZ:99:TYR:HA	54:RZ:124:ILE:O	2.17	0.44
1:XA:195:A:H4'	20:XT:68:LYS:HD3	2.00	0.44
1:XA:730:G:C5	1:XA:731:G:H1'	2.53	0.44
4:XD:3:ARG:NH2	4:XD:115:ARG:HA	2.33	0.44
5:XE:34:VAL:HG11	5:XE:63:ARG:NH1	2.32	0.44
7:XG:85:TYR:HD2	7:XG:151:TYR:CE2	2.35	0.44
29:Y5:41:PRO:HA	29:Y5:42:PRO:HD3	1.87	0.44
32:Y8:46:ARG:NH1	34:YA:631:A:OP2	2.50	0.44
34:YA:143:C:H4'	52:YX:38:GLU:OE1	2.17	0.44
34:YA:1827:C:OP2	36:YD:222:ARG:NH1	2.50	0.44
34:YA:2112:G:O6	34:YA:2169:A:N6	2.50	0.44
34:YA:2154:G:H2'	34:YA:2155:G:C8	2.51	0.44
41:YI:9:LEU:HD11	41:YI:12:LEU:HD22	1.99	0.44
47:YS:6:ALA:O	47:YS:10:ARG:HG3	2.18	0.44
1:QA:345:C:H3'	48:RT:41:ARG:NH1	2.30	0.44
1:QA:422:C:O2'	1:QA:423:G:N2	2.51	0.44
1:QA:673:G:O3'	6:QF:87:ARG:NH2	2.50	0.44
1:QA:835:U:H3	1:QA:851:G:H1	1.65	0.44
1:QA:864:A:O2'	1:QA:1078:U:O4	2.32	0.44
1:QA:1004:A:C2	1:QA:1024:G:H2'	2.52	0.44
1:QA:1129:C:H4'	1:QA:1130:A:H8	1.82	0.44
4:QD:60:GLU:HG3	4:QD:202:LEU:HD12	2.00	0.44
5:QE:94:ALA:HB3	5:QE:117:ASP:HB3	1.99	0.44
13:QM:49:THR:HG22	13:QM:51:ALA:H	1.82	0.44
20:QT:20:LEU:HA	20:QT:23:ARG:HG2	1.99	0.44
27:R3:52:HIS:CD2	27:R3:53:LEU:HG	2.52	0.44
34:RA:185:U:H2'	34:RA:186:G:C8	2.52	0.44
34:RA:1434:A:H2'	34:RA:1435:G:H8	1.81	0.44
34:RA:2048:G:H21	37:RE:113:PHE:HZ	1.66	0.44
34:RA:2702:U:H3	34:RA:2705:A:H61	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:RQ:4:PRO:HG3	45:RQ:69:PHE:HE2	1.82	0.44
49:RU:66:ASN:O	49:RU:70:ARG:HG2	2.18	0.44
50:RV:58:VAL:HB	50:RV:98:GLU:HB3	2.00	0.44
54:RZ:5:LEU:H	54:RZ:59:LEU:HA	1.82	0.44
1:XA:438:G:H4'	4:XD:123:HIS:CG	2.52	0.44
1:XA:559:A:H4'	1:XA:560:U:H3'	1.99	0.44
1:XA:584:G:H2'	1:XA:585:G:C8	2.53	0.44
1:XA:675:A:H1'	11:XK:116:HIS:ND1	2.33	0.44
1:XA:1189:C:H5"	3:XC:5:ILE:HG12	1.99	0.44
1:XA:1264:C:H2'	1:XA:1265:G:H8	1.83	0.44
1:XA:1327:C:H2'	1:XA:1328:C:H6	1.82	0.44
3:XC:23:TYR:HA	10:XJ:11:PHE:CE1	2.48	0.44
6:XF:33:TYR:HB2	6:XF:75:LEU:HD12	1.99	0.44
17:XQ:50:LYS:HD3	17:XQ:51:TYR:HE1	1.82	0.44
19:XS:20:LEU:HA	19:XS:23:ASN:HD22	1.83	0.44
23:XX:-10:A:H2'	23:XX:-9:G:C8	2.53	0.44
27:Y3:3:ARG:NE	27:Y3:60:GLU:O	2.51	0.44
34:YA:1638:C:H2'	34:YA:1639:U:O4'	2.18	0.44
34:YA:2150:U:H2'	34:YA:2151:G:H8	1.83	0.44
36:YD:233:HIS:CE1	36:YD:246:PRO:HA	2.53	0.44
42:YN:7:LYS:CG	42:YN:8:GLN:H	2.06	0.44
52:YX:5:TYR:N	52:YX:5:TYR:CD1	2.86	0.44
54:YZ:65:GLN:CG	54:YZ:66:SER:N	2.81	0.44
1:QA:119:A:H4'	1:QA:120:A:O5'	2.18	0.44
1:QA:384:G:H2'	1:QA:385:C:C6	2.53	0.44
1:QA:868:C:H2'	1:QA:869:G:O4'	2.18	0.44
1:QA:1314:C:H2'	1:QA:1315:U:H6	1.83	0.44
4:QD:98:GLU:OE1	4:QD:103:ASN:ND2	2.50	0.44
9:QI:70:LYS:O	9:QI:73:GLN:HB3	2.18	0.44
29:R5:58:LEU:HD12	29:R5:60:VAL:OXT	2.17	0.44
30:R6:8:LYS:HE3	34:RA:2284:C:P	2.58	0.44
34:RA:142:G:H2'	34:RA:143:C:C6	2.53	0.44
34:RA:242:G:H4'	34:RA:243:U:O5'	2.18	0.44
34:RA:580:C:H2'	34:RA:581:C:C6	2.53	0.44
34:RA:1040:C:H2'	34:RA:1041:C:C6	2.53	0.44
34:RA:1628:G:H2'	34:RA:1629:U:C6	2.53	0.44
36:RD:182:LEU:H	36:RD:272:ALA:HB3	1.81	0.44
39:RG:66:GLN:NE2	39:RG:98:ARG:HH21	2.13	0.44
45:RQ:4:PRO:HD2	45:RQ:93:TYR:CD2	2.52	0.44
1:XA:939:G:H2'	1:XA:940:C:C6	2.52	0.44
1:XA:1055:A:H62	1:XA:1200:C:H42	1.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:XC:73:PRO:O	3:XC:76:VAL:HG22	2.18	0.44
29:Y5:51:TYR:HB2	29:Y5:56:LYS:CE	2.48	0.44
34:YA:1061:U:H5'	34:YA:1070:A:O2'	2.17	0.44
41:YI:67:ARG:O	41:YI:70:GLU:HB2	2.18	0.44
54:YZ:128:VAL:HB	54:YZ:161:VAL:HG22	2.00	0.44
1:QA:152:A:H62	1:QA:169:C:N4	2.15	0.44
1:QA:186(A):C:H2'	1:QA:186(B):C:H6	1.83	0.44
1:QA:352:C:O2'	1:QA:354:G:OP1	2.23	0.44
1:QA:539:A:H2'	1:QA:540:G:H8	1.83	0.44
1:QA:853:G:H2'	1:QA:854:G:C8	2.51	0.44
1:QA:986:A:O2'	19:QS:55:LYS:O	2.36	0.44
1:QA:1095:U:H2'	1:QA:1096:C:C6	2.52	0.44
1:QA:1118:C:OP1	9:QI:104:ARG:NH1	2.51	0.44
1:QA:1189:C:H5"	3:QC:5:ILE:HG12	1.99	0.44
1:QA:1213:A:H5"	1:QA:1213:A:H8	1.82	0.44
1:QA:1300:G:N1	1:QA:1335:C:C6	2.86	0.44
1:QA:1372:U:H2'	1:QA:1373:G:O4'	2.18	0.44
2:QB:74:LYS:HE3	2:QB:205:ASP:OD1	2.18	0.44
2:QB:97:TRP:CZ2	2:QB:102:LEU:HD13	2.52	0.44
3:QC:34:LEU:HG	14:QN:25:VAL:HG11	2.00	0.44
4:QD:105:VAL:HG13	4:QD:110:PHE:HB2	2.00	0.44
7:QG:94:ARG:NH1	7:QG:98:SER:OG	2.51	0.44
8:QH:104:ARG:HD2	8:QH:138:TRP:CG	2.53	0.44
10:QJ:39:PRO:HB3	10:QJ:70:ARG:HH11	1.82	0.44
12:QL:58:VAL:HG21	12:QL:85:ILE:HD11	1.99	0.44
13:QM:10:PRO:O	13:QM:45:VAL:HG11	2.17	0.44
26:R2:13:ALA:O	26:R2:16:LEU:HB2	2.17	0.44
26:R2:22:GLU:OE2	26:R2:68:ARG:NH2	2.51	0.44
34:RA:184:C:H2'	34:RA:185:U:C6	2.53	0.44
34:RA:1130:U:O2'	34:RA:1131:G:O5'	2.34	0.44
34:RA:1769:G:O2'	34:RA:1958:C:OP1	2.29	0.44
34:RA:2030:A:H4'	34:RA:2031:A:H8	1.81	0.44
50:RV:4:ILE:O	50:RV:39:LEU:N	2.46	0.44
1:XA:116:A:H61	1:XA:313:A:H1'	1.82	0.44
1:XA:1003:G:H21	1:XA:1005:A:H5'	1.83	0.44
1:XA:1530:G:H2'	1:XA:1531:A:C8	2.51	0.44
2:XB:102:LEU:HD23	2:XB:182:ILE:HD12	2.00	0.44
2:XB:224:GLN:HA	2:XB:229:VAL:HG21	2.00	0.44
3:XC:172:ARG:NH1	3:XC:174:PRO:HB3	2.33	0.44
15:XO:15:PHE:CD2	15:XO:30:ALA:HB2	2.53	0.44
15:XO:77:ARG:HA	15:XO:80:ALA:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
27:Y3:11:SER:OG	27:Y3:13:ILE:HG12	2.18	0.44
33:Y9:19:ARG:HA	34:YA:2757:A:OP1	2.18	0.44
34:YA:39:C:H2'	34:YA:40:C:C6	2.53	0.44
34:YA:1069:A:H2'	34:YA:1073:A:N7	2.33	0.44
34:YA:1246:A:P	44:YP:15:ARG:HE	2.40	0.44
34:YA:1292:U:H2'	34:YA:1293:C:H6	1.83	0.44
34:YA:2635:C:C5'	37:YE:78:LEU:HA	2.48	0.44
34:YA:2665:A:H2'	34:YA:2666:C:O4'	2.17	0.44
36:YD:35:LYS:HA	36:YD:35:LYS:CE	2.48	0.44
42:YN:35:ARG:O	42:YN:37:LYS:N	2.49	0.44
54:YZ:7:ALA:CB	54:YZ:39:VAL:CG1	2.80	0.44
1:QA:216:G:H2'	1:QA:217:C:C6	2.52	0.43
1:QA:445:G:H2'	1:QA:446:G:H8	1.83	0.43
1:QA:614:A:OP1	4:QD:86:LYS:NZ	2.50	0.43
1:QA:977:A:N6	1:QA:1224:G:O5'	2.51	0.43
10:QJ:50:ILE:HB	14:QN:41:ARG:HE	1.83	0.43
11:QK:12:ARG:NH1	11:QK:34:ASP:OD2	2.50	0.43
13:QM:84:ILE:CG1	19:QS:66:MET:CG	2.96	0.43
20:QT:29:LYS:HG3	20:QT:71:THR:HG21	2.00	0.43
21:QU:6:ARG:HE	21:QU:15:ARG:NH2	2.16	0.43
34:RA:39:C:H2'	34:RA:40:C:C6	2.53	0.43
34:RA:307:G:H21	34:RA:330:A:H62	1.65	0.43
34:RA:1143:A:H62	42:RN:25:ARG:HD3	1.82	0.43
34:RA:1164:G:H2'	34:RA:1165:U:C6	2.52	0.43
34:RA:1598:C:H5'	52:RX:36:LYS:HB2	1.99	0.43
34:RA:2647:U:H2'	34:RA:2648:C:C6	2.53	0.43
41:RI:78:THR:HA	41:RI:141:LYS:HG2	2.00	0.43
1:XA:112:G:OP2	16:XP:27:LYS:NZ	2.50	0.43
1:XA:178:C:H2'	1:XA:179:A:H8	1.82	0.43
1:XA:186:C:H5'	20:XT:78:ALA:HB1	1.99	0.43
1:XA:399:G:H2'	1:XA:400:C:C6	2.52	0.43
1:XA:735:C:H2'	1:XA:736:C:C6	2.53	0.43
1:XA:1120:G:H2'	1:XA:1121:U:H6	1.83	0.43
1:XA:1190:G:OP1	3:XC:4:LYS:HA	2.18	0.43
2:XB:111:ARG:HB3	2:XB:145:LEU:HD11	1.99	0.43
11:XK:121:PRO:HB2	11:XK:126:ARG:HB2	2.00	0.43
34:YA:320:A:H2'	38:YF:136:THR:HG21	1.99	0.43
34:YA:560:C:C4'	49:YU:52:ARG:NH1	2.80	0.43
34:YA:1032:A:H2	34:YA:1122:G:H22	1.65	0.43
34:YA:1588:C:H2'	34:YA:1589:C:C6	2.53	0.43
34:YA:2197:U:H1'	34:YA:2198:A:C8	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:2867:G:O2'	34:YA:2868:A:H8	2.01	0.43
37:YE:54:GLN:OE1	37:YE:54:GLN:HA	2.18	0.43
38:YF:162:LEU:HD22	38:YF:165:ARG:HH21	1.83	0.43
39:YG:22:ARG:HD2	39:YG:23:PHE:CE1	2.53	0.43
39:YG:32:PRO:HB3	39:YG:163:ALA:HB2	2.00	0.43
46:YR:33:ARG:HD3	46:YR:113:LEU:HD11	2.00	0.43
51:YW:29:LEU:HD22	51:YW:69:LEU:HD11	2.00	0.43
1:QA:410:G:H5"	4:QD:30:LYS:HE3	2.00	0.43
1:QA:646:U:H2'	1:QA:647:C:C6	2.53	0.43
1:QA:954:G:H4'	13:QM:121:LYS:HD3	2.00	0.43
1:QA:1126:U:H1'	1:QA:1280:A:N7	2.33	0.43
1:QA:1402:C:H2'	1:QA:1403:C:O4'	2.17	0.43
2:QB:12:GLU:HA	2:QB:16:HIS:ND1	2.34	0.43
3:QC:175:LEU:HD21	3:QC:201:TYR:CE2	2.53	0.43
4:QD:108:LEU:HD21	4:QD:183:GLY:HA3	2.01	0.43
4:QD:191:ARG:O	4:QD:191:ARG:HG3	2.18	0.43
21:QU:7:ARG:HB3	21:QU:21:TYR:CE2	2.53	0.43
34:RA:247:G:H4'	34:RA:386:G:C4	2.53	0.43
34:RA:1084:A:H5"	34:RA:1085:A:C8	2.53	0.43
34:RA:1423:G:H2'	34:RA:1424:G:C8	2.53	0.43
34:RA:1639:U:H2'	34:RA:1640:C:H5"	1.99	0.43
34:RA:2114:A:N6	34:RA:2119:A:N7	2.66	0.43
34:RA:2138:C:H2'	34:RA:2139:C:H6	1.83	0.43
34:RA:2208:U:H2'	34:RA:2209:C:C6	2.53	0.43
35:RB:42:C:N3	39:RG:91:ARG:NH1	2.66	0.43
36:RD:96:HIS:CD2	36:RD:102:LYS:HG2	2.53	0.43
37:RE:79:ARG:HG3	37:RE:197:ILE:HG21	1.99	0.43
50:RV:81:TYR:CD1	50:RV:81:TYR:O	2.70	0.43
53:RY:96:ILE:HG23	53:RY:101:LYS:HD3	1.99	0.43
54:RZ:44:PHE:CE1	54:RZ:48:PHE:CD2	3.06	0.43
54:RZ:59:LEU:HB2	54:RZ:61:LEU:CD1	2.47	0.43
1:XA:375:U:H4'	16:XP:17:TYR:HE2	1.82	0.43
1:XA:428:G:OP2	4:XD:10:ARG:NH2	2.41	0.43
1:XA:830:G:H2'	1:XA:831:U:O4'	2.18	0.43
1:XA:1040:U:O4	1:XA:1041:A:N6	2.50	0.43
3:XC:47:LEU:HD12	3:XC:76:VAL:HG12	2.00	0.43
13:XM:13:LYS:HD3	13:XM:13:LYS:HA	1.60	0.43
34:YA:92:G:H2'	34:YA:93:C:C6	2.53	0.43
34:YA:956:G:N2	34:YA:959:A:H3'	2.32	0.43
34:YA:2182:G:H2'	34:YA:2183:C:C6	2.53	0.43
34:YA:2306:C:H2'	34:YA:2307:G:N2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:2626:C:H2'	34:YA:2627:G:H8	1.82	0.43
39:YG:94:LEU:O	39:YG:99:MET:HB3	2.18	0.43
41:YI:9:LEU:HD11	41:YI:12:LEU:CD2	2.48	0.43
45:YQ:102:VAL:CG1	45:YQ:105:GLU:CG	2.95	0.43
47:YS:83:LYS:O	47:YS:110:LEU:HD12	2.18	0.43
50:YV:61:VAL:HA	50:YV:94:LEU:HD23	2.00	0.43
52:YX:10:ALA:O	52:YX:29:TRP:N	2.48	0.43
53:YY:7:VAL:HG21	53:YY:37:VAL:HG11	1.98	0.43
54:YZ:7:ALA:HB3	54:YZ:59:LEU:HD22	2.00	0.43
54:YZ:163:LEU:C	54:YZ:163:LEU:CD1	2.85	0.43
1:QA:8:A:N6	4:QD:205:GLU:O	2.51	0.43
1:QA:41:G:H2'	1:QA:42:G:C8	2.53	0.43
1:QA:156:G:H2'	1:QA:157:G:H8	1.82	0.43
1:QA:1432:G:O2'	1:QA:1468:A:N6	2.51	0.43
2:QB:53:ARG:NH2	2:QB:200:ILE:H	2.16	0.43
2:QB:74:LYS:HG3	2:QB:169:LYS:HG2	1.99	0.43
3:QC:131:ARG:O	3:QC:135:LYS:HG2	2.18	0.43
28:R4:38:LYS:HE3	39:RG:179:PRO:HB3	1.99	0.43
28:R4:38:LYS:CE	39:RG:179:PRO:HB3	2.48	0.43
29:R5:6:VAL:HG11	34:RA:2057:A:H4'	2.00	0.43
29:R5:58:LEU:HD11	29:R5:60:VAL:OXT	2.18	0.43
30:R6:34:LEU:HD21	30:R6:50:ARG:HD2	2.00	0.43
34:RA:654(A):G:H1	34:RA:654(T):C:H42	1.65	0.43
34:RA:807:U:H2'	34:RA:808:G:H8	1.82	0.43
34:RA:1070:A:N7	34:RA:1096:A:H2'	2.33	0.43
34:RA:1296:G:OP1	34:RA:2709:G:O2'	2.22	0.43
34:RA:1957:C:O2'	34:RA:1984:G:N2	2.51	0.43
34:RA:2064:C:H2'	34:RA:2065:C:C6	2.54	0.43
34:RA:2294:C:OP1	47:RS:10:ARG:HD2	2.18	0.43
34:RA:2392:A:C8	44:RP:60:MET:HG2	2.53	0.43
54:RZ:61:LEU:N	54:RZ:61:LEU:HD12	2.34	0.43
54:RZ:69:THR:HG22	54:RZ:90:VAL:HA	1.99	0.43
1:XA:143:A:H2	1:XA:220:G:H1	1.65	0.43
1:XA:683:G:H2'	1:XA:684:A:C8	2.53	0.43
1:XA:719:C:O2	18:XR:50:ILE:N	2.48	0.43
1:XA:952:U:H2'	1:XA:953:G:H8	1.83	0.43
1:XA:1264:C:H2'	1:XA:1265:G:C8	2.54	0.43
1:XA:1316:G:O2'	1:XA:1318:A:N7	2.31	0.43
1:XA:1427:U:H2'	1:XA:1428:A:C8	2.53	0.43
1:XA:1455:G:H5'	20:XT:32:ALA:HB2	1.98	0.43
4:XD:99:SER:O	4:XD:140:VAL:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:65:VAL:CG2	9:XI:73:GLN:HG3	2.48	0.43
14:XN:27:CYS:SG	14:XN:28:GLY:N	2.91	0.43
17:XQ:55:ASP:HA	17:XQ:79:SER:HA	1.99	0.43
22:XV:65:C:H2'	22:XV:66:A:H8	1.81	0.43
31:Y7:47:ARG:HH22	52:YX:60:ARG:NH1	2.16	0.43
32:Y8:13:ARG:NH1	44:YP:63:PRO:HD3	2.34	0.43
34:YA:906:G:H5'	45:YQ:26:TYR:CD2	2.52	0.43
34:YA:1800:C:N3	34:YA:1818:U:O2	2.51	0.43
37:YE:78:LEU:HD21	37:YE:79:ARG:HD2	2.00	0.43
40:YH:137:ASP:O	40:YH:141:VAL:HG23	2.18	0.43
48:YT:42:ILE:H	48:YT:42:ILE:HG13	1.64	0.43
54:YZ:103:ARG:HD3	54:YZ:136:PHE:HD2	1.82	0.43
1:QA:378:G:H2'	1:QA:379:C:C6	2.54	0.43
1:QA:552:U:O2	12:QL:31:PRO:HB3	2.18	0.43
1:QA:1321:C:H3'	1:QA:1322:C:H5"	2.00	0.43
4:QD:33:MET:HE3	4:QD:37:PRO:CB	2.49	0.43
7:QG:15:ASP:OD1	7:QG:44:TYR:OH	2.37	0.43
24:R0:32:ARG:H	24:R0:35:ASN:ND2	2.16	0.43
27:R3:7:LYS:HB2	27:R3:34:GLU:HG2	2.01	0.43
32:R8:25:MET:HG3	44:RP:64:LYS:HB2	1.99	0.43
34:RA:52:A:H2'	34:RA:53:A:C8	2.53	0.43
34:RA:1203:G:H3'	34:RA:1204:A:H5"	2.00	0.43
34:RA:2025:C:H2'	34:RA:2026:C:C6	2.52	0.43
34:RA:2577:A:N1	34:RA:2614:A:C2	2.87	0.43
35:RB:109:G:H2'	35:RB:110:G:C8	2.52	0.43
37:RE:170:LEU:HD13	37:RE:185:LYS:HB3	2.00	0.43
1:XA:383:A:C5	1:XA:384:G:H1'	2.54	0.43
1:XA:923:A:O2'	1:XA:1399:C:OP2	2.31	0.43
3:XC:141:VAL:HG11	3:XC:202:ILE:HD12	1.99	0.43
4:XD:140:VAL:HG11	4:XD:146:ILE:HD11	2.01	0.43
11:XK:92:GLU:HG3	11:XK:96:ARG:NE	2.33	0.43
19:XS:12:ASP:HB2	19:XS:38:SER:HB3	2.01	0.43
30:Y6:15:GLU:CG	30:Y6:16:CYS:N	2.73	0.43
32:Y8:34:TRP:CE3	32:Y8:35:GLN:N	2.86	0.43
34:YA:443:A:C3'	38:YF:45:ARG:HH12	2.27	0.43
34:YA:590:A:H2'	34:YA:591:C:C6	2.53	0.43
34:YA:873:G:H2'	34:YA:874:G:H8	1.82	0.43
34:YA:1278:A:H2'	34:YA:1279:G:H8	1.83	0.43
34:YA:1288:U:O2'	34:YA:1647:G:N2	2.51	0.43
34:YA:1434:A:H61	34:YA:1558:A:N6	2.15	0.43
34:YA:1799:G:H5'	34:YA:1819:A:N6	2.32	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:1833:U:O2'	34:YA:1969:A:N1	2.40	0.43
34:YA:2187:G:H2'	34:YA:2188:C:C6	2.53	0.43
34:YA:2636:U:H2'	34:YA:2637:U:C6	2.54	0.43
36:YD:133:LEU:HD11	36:YD:145:VAL:HG13	2.01	0.43
41:YI:131:LYS:HB2	41:YI:131:LYS:HZ2	1.82	0.43
42:YN:13:TRP:O	42:YN:135:PRO:HD2	2.18	0.43
44:YP:95:VAL:O	44:YP:126:VAL:HG23	2.18	0.43
46:YR:56:LYS:HE3	46:YR:88:ARG:HA	2.00	0.43
47:YS:87:PHE:CD1	47:YS:112:PHE:CE2	3.05	0.43
51:YW:48:ALA:O	51:YW:52:GLU:HG2	2.18	0.43
54:YZ:102:LEU:HG	54:YZ:123:ASP:HA	2.00	0.43
1:QA:279:A:OP1	1:QA:280:C:O2'	2.24	0.43
1:QA:370:C:H2'	1:QA:371:G:H8	1.84	0.43
1:QA:1079:G:H2'	1:QA:1080:A:C8	2.54	0.43
2:QB:98:LEU:O	2:QB:101:MET:HG3	2.18	0.43
6:QF:100:ASN:HB2	18:QR:28:GLU:HA	2.00	0.43
8:QH:85:ARG:NE	8:QH:87:SER:O	2.51	0.43
19:QS:13:ASP:OD1	19:QS:13:ASP:N	2.51	0.43
19:QS:43:GLU:OE1	19:QS:44:MET:N	2.52	0.43
26:R2:51:ARG:HE	26:R2:51:ARG:HB2	1.59	0.43
28:R4:49:PHE:N	28:R4:49:PHE:HD1	2.15	0.43
34:RA:1041:C:H2'	34:RA:1042:G:H8	1.83	0.43
34:RA:2030:A:H4'	34:RA:2031:A:C8	2.54	0.43
34:RA:2846:G:H2'	34:RA:2847:U:C6	2.53	0.43
39:RG:37:VAL:HA	39:RG:158:ALA:O	2.17	0.43
39:RG:111:LEU:HB3	39:RG:117:PHE:CE1	2.54	0.43
41:RI:125:GLU:HG3	41:RI:141:LYS:CB	2.48	0.43
44:RP:97:PRO:O	44:RP:98:GLU:HB3	2.18	0.43
46:RR:59:ASP:HB2	46:RR:62:ALA:N	2.27	0.43
48:RT:76:PHE:CD1	48:RT:76:PHE:N	2.87	0.43
51:RW:67:ASP:OD1	51:RW:67:ASP:N	2.44	0.43
1:XA:680:C:H2'	1:XA:681:C:C6	2.53	0.43
1:XA:982:U:H5"	14:XN:6:LEU:HD21	2.00	0.43
1:XA:1422:G:H2'	1:XA:1423:G:C8	2.54	0.43
1:XA:1428:A:H2'	1:XA:1429:C:C6	2.53	0.43
2:XB:131:PRO:O	2:XB:135:GLN:HG3	2.18	0.43
3:XC:63:ASN:HB2	3:XC:98:ASN:OD1	2.19	0.43
3:XC:121:ALA:O	3:XC:125:GLU:HG3	2.17	0.43
17:XQ:6:LEU:HD22	17:XQ:23:VAL:HG11	2.00	0.43
20:XT:30:LYS:NZ	20:XT:80:ARG:HH12	2.16	0.43
34:YA:144:C:H2'	34:YA:145:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:247:G:H4'	34:YA:386:G:C5	2.54	0.43
34:YA:665:C:H2'	34:YA:666:G:H8	1.82	0.43
34:YA:671:C:H2'	34:YA:672:C:C6	2.53	0.43
34:YA:841:A:H2'	34:YA:842:G:C8	2.54	0.43
34:YA:1268:A:H2'	34:YA:1269:A:O4'	2.19	0.43
34:YA:2392:A:H1'	44:YP:60:MET:HE3	2.01	0.43
34:YA:2547:U:H2'	34:YA:2548:G:H8	1.83	0.43
39:YG:26:GLN:NE2	39:YG:27:ASN:HB2	2.33	0.43
42:YN:9:VAL:HB	42:YN:39:ARG:HH22	1.83	0.43
48:YT:13:ARG:HG2	48:YT:14:TYR:HD1	1.84	0.43
48:YT:118:ARG:HA	48:YT:118:ARG:HE	1.83	0.43
1:QA:429:U:H3'	4:QD:9:CYS:SG	2.58	0.43
1:QA:973:G:H3'	1:QA:974:A:H5"	2.00	0.43
1:QA:1489:G:H2'	1:QA:1490:C:C6	2.53	0.43
2:QB:54:THR:O	2:QB:58:ILE:HG12	2.18	0.43
4:QD:86:LYS:H	4:QD:86:LYS:HD2	1.84	0.43
6:QF:23:LYS:O	6:QF:27:GLN:HG2	2.18	0.43
17:QQ:91:ARG:HG2	17:QQ:92:ARG:N	2.33	0.43
18:QR:73:ALA:HB1	18:QR:78:LEU:HB2	2.01	0.43
21:QU:6:ARG:HE	21:QU:15:ARG:HH21	1.65	0.43
34:RA:1198:U:H2'	34:RA:1199:U:C6	2.53	0.43
34:RA:1230:C:H2'	34:RA:1231:G:C8	2.54	0.43
34:RA:1496:A:H8	34:RA:1577:C:HO2'	1.67	0.43
34:RA:2557:G:H2'	34:RA:2558:C:C6	2.53	0.43
42:RN:58:ASP:N	42:RN:58:ASP:OD1	2.51	0.43
49:RU:91:ASP:O	49:RU:93:LYS:N	2.52	0.43
52:RX:25:LYS:HD2	52:RX:82:GLN:OE1	2.19	0.43
54:RZ:165:VAL:HG12	54:RZ:167:PRO:HA	2.00	0.43
1:XA:428:G:P	4:XD:10:ARG:HH21	2.40	0.43
1:XA:972:C:O3'	10:XJ:57:LYS:HE2	2.19	0.43
1:XA:1129:C:H4'	1:XA:1130:A:H5'	2.00	0.43
2:XB:31:TYR:HE2	2:XB:50:GLU:HG3	1.84	0.43
3:XC:88:ARG:NE	3:XC:101:LEU:HB3	2.34	0.43
7:XG:26:PHE:O	7:XG:30:ILE:HG12	2.18	0.43
9:XI:18:PHE:N	9:XI:18:PHE:CD1	2.87	0.43
16:XP:8:ARG:HB3	16:XP:28:ARG:NH1	2.33	0.43
28:Y4:34:GLU:H	28:Y4:34:GLU:HG3	1.57	0.43
34:YA:347:A:H2'	34:YA:348:G:C8	2.54	0.43
34:YA:436:C:H2'	34:YA:438:G:H8	1.84	0.43
34:YA:1826:G:C4'	36:YD:242:ARG:HH21	2.29	0.43
34:YA:2142:C:H2'	34:YA:2143:C:C6	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:2626:C:H2'	34:YA:2627:G:C8	2.54	0.43
36:YD:34:VAL:HG13	36:YD:35:LYS:CG	2.43	0.43
36:YD:111:LEU:HD23	36:YD:127:VAL:HG12	2.01	0.43
42:YN:115:ARG:HA	42:YN:118:LYS:HD2	2.00	0.43
45:YQ:4:PRO:HD2	45:YQ:93:TYR:CD2	2.53	0.43
1:QA:728:A:H2'	1:QA:729:A:H8	1.83	0.43
1:QA:861:G:O6	1:QA:869:G:N2	2.52	0.43
1:QA:1009:G:C2	1:QA:1010:G:C8	3.06	0.43
1:QA:1239:A:O2'	1:QA:1298:C:N4	2.52	0.43
11:QK:59:TYR:O	11:QK:62:GLN:HG2	2.18	0.43
19:QS:9:VAL:O	19:QS:9:VAL:HG23	2.19	0.43
30:R6:15:GLU:OE2	30:R6:44:ARG:HD2	2.18	0.43
30:R6:26:ASN:ND2	30:R6:35:GLU:OE1	2.47	0.43
34:RA:180:G:N1	34:RA:214:G:N7	2.59	0.43
34:RA:443:A:H3'	38:RF:45:ARG:NH1	2.33	0.43
34:RA:872:A:H2'	34:RA:873:G:C8	2.54	0.43
34:RA:1308:A:H3'	34:RA:1309:G:C8	2.53	0.43
34:RA:1441:G:H2'	34:RA:1442:G:C8	2.53	0.43
34:RA:2419:U:H2'	34:RA:2420:C:C6	2.54	0.43
34:RA:2784:C:H2'	34:RA:2785:C:C6	2.53	0.43
34:RA:2786:U:O2	37:RE:62:PRO:HB3	2.18	0.43
42:RN:10:GLU:OE1	42:RN:11:PRO:HD2	2.18	0.43
48:RT:102:ILE:HA	48:RT:105:LEU:HG	2.01	0.43
51:RW:59:VAL:HG21	51:RW:66:GLU:HG3	2.01	0.43
1:XA:667:G:H4'	15:XO:51:HIS:ND1	2.34	0.43
1:XA:757:U:H2'	1:XA:758:G:O4'	2.19	0.43
1:XA:806:C:H2'	1:XA:807:A:C8	2.54	0.43
1:XA:1262:C:H2'	1:XA:1263:C:C6	2.54	0.43
14:XN:21:TYR:HE2	14:XN:23:ARG:HH21	1.66	0.43
17:XQ:82:MET:O	17:XQ:86:GLU:HG2	2.19	0.43
25:Y1:58:ILE:CG2	25:Y1:87:PRO:HG3	2.49	0.43
30:Y6:20:ASN:HB2	30:Y6:42:TRP:CZ3	2.54	0.43
34:YA:277:C:H5'	34:YA:278:A:H5"	2.01	0.43
34:YA:795:C:H2'	34:YA:796:C:C6	2.53	0.43
34:YA:1586:A:H3'	34:YA:1587:A:H8	1.84	0.43
34:YA:1791:A:H3'	34:YA:1792:G:C8	2.50	0.43
34:YA:1844:C:H5"	36:YD:258:LYS:HD3	2.00	0.43
34:YA:1889:A:H2'	34:YA:1890:A:C8	2.53	0.43
45:YQ:17:LEU:HD23	45:YQ:41:TRP:CD1	2.52	0.43
54:YZ:62:PRO:C	54:YZ:64:GLY:N	2.72	0.43
1:QA:243:A:H4'	1:QA:244:U:O5'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:593:G:H1	1:QA:646:U:H3	1.67	0.43
1:QA:1297:C:C5'	13:QM:13:LYS:HE2	2.48	0.43
8:QH:6:ILE:HB	8:QH:85:ARG:NH1	2.33	0.43
10:QJ:23:ILE:HG23	10:QJ:85:LEU:HD22	2.00	0.43
11:QK:50:TYR:CD2	11:QK:60:ALA:HB2	2.53	0.43
20:QT:30:LYS:HA	20:QT:30:LYS:HD2	1.86	0.43
34:RA:27:G:H1'	34:RA:513:A:N6	2.33	0.43
34:RA:858:U:O2	34:RA:2268:A:H2'	2.19	0.43
34:RA:1159:U:H2'	34:RA:1160:G:H8	1.84	0.43
34:RA:1204:A:H1'	34:RA:1206:G:C4	2.54	0.43
36:RD:92:ILE:HD12	36:RD:104:TYR:CD2	2.53	0.43
36:RD:133:LEU:HB3	36:RD:173:VAL:HG21	2.01	0.43
39:RG:137:GLU:HB2	39:RG:139:LEU:HG	2.00	0.43
40:RH:76:VAL:O	40:RH:79:VAL:HG22	2.19	0.43
42:RN:118:LYS:O	42:RN:121:LYS:NZ	2.51	0.43
47:RS:14:VAL:HG11	47:RS:90:GLY:O	2.19	0.43
53:RY:3:VAL:CG2	53:RY:32:PRO:HB2	2.49	0.43
1:XA:296:U:H2'	1:XA:297:G:C8	2.53	0.43
1:XA:639:G:H2'	1:XA:640:A:H8	1.83	0.43
1:XA:1314:C:H2'	1:XA:1315:U:H6	1.84	0.43
16:XP:4:ILE:HB	16:XP:66:PRO:HB3	2.00	0.43
30:Y6:32:ASN:OD1	30:Y6:32:ASN:N	2.52	0.43
34:YA:270:A:OP2	34:YA:270(Y):G:N1	2.46	0.43
34:YA:616:A:H4'	38:YF:182:ASN:HD22	1.82	0.43
34:YA:779:U:OP1	36:YD:49:ILE:HG23	2.19	0.43
34:YA:1677:A:H2'	34:YA:1678:G:O4'	2.18	0.43
34:YA:2334:G:C4	47:YS:12:PHE:HD2	2.37	0.43
35:YB:47:C:H5'	47:YS:10:ARG:HH12	1.83	0.43
36:YD:65:ILE:HD12	36:YD:88:ARG:NH2	2.33	0.43
38:YF:150:GLY:HA2	38:YF:172:TRP:CE3	2.54	0.43
46:YR:96:ARG:HD2	46:YR:98:LEU:CD1	2.49	0.43
47:YS:15:ARG:HG3	47:YS:19:LYS:HZ2	1.83	0.43
49:YU:88:ILE:HA	50:YV:49:THR:O	2.19	0.43
54:YZ:24:LEU:N	54:YZ:39:VAL:O	2.49	0.43
54:YZ:105:VAL:HG12	54:YZ:140:ASP:HA	2.01	0.43
1:QA:401:C:H2'	1:QA:402:G:C8	2.53	0.43
1:QA:485:G:H1'	1:QA:486:U:H5	1.83	0.43
1:QA:563:A:O2'	1:QA:566:G:O3'	2.37	0.43
1:QA:667:G:H4'	15:QO:51:HIS:ND1	2.34	0.43
1:QA:677:U:O2	1:QA:777:A:O2'	2.36	0.43
34:RA:177:G:H3'	34:RA:178:G:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:533:G:N2	49:RU:49:HIS:HE1	2.17	0.43
34:RA:570:G:H2'	34:RA:2030:A:C5	2.54	0.43
34:RA:1201:C:H2'	34:RA:1202:C:C6	2.54	0.43
34:RA:2892:A:H2'	34:RA:2893:G:O4'	2.19	0.43
36:RD:260:ARG:NH1	36:RD:267:SER:OG	2.51	0.43
40:RH:52:VAL:HG12	40:RH:65:HIS:CD2	2.54	0.43
45:RQ:82:ARG:CZ	45:RQ:82:ARG:HB3	2.48	0.43
1:XA:1171:G:H2'	1:XA:1172:C:C6	2.54	0.43
1:XA:1331:G:OP2	13:XM:23:TYR:HB2	2.19	0.43
2:XB:103:THR:HA	2:XB:180:LEU:HD11	2.00	0.43
2:XB:166:ASP:HB3	2:XB:169:LYS:HB3	2.00	0.43
4:XD:129:ASN:ND2	4:XD:144:ASP:OD1	2.47	0.43
4:XD:133:VAL:HG11	4:XD:138:TYR:CD2	2.52	0.43
7:XG:113:GLU:HB2	7:XG:119:ARG:HG2	2.00	0.43
28:Y4:1:MET:HA	35:YB:43:C:H5'	2.00	0.43
34:YA:453:C:H4'	34:YA:472:A:N6	2.34	0.43
34:YA:659:C:H2'	34:YA:660:G:H8	1.83	0.43
34:YA:688:U:H2'	34:YA:689:A:C8	2.54	0.43
34:YA:1221:C:H2'	34:YA:1222:C:H6	1.84	0.43
34:YA:2364:C:H2'	34:YA:2365:G:O4'	2.18	0.43
34:YA:2446:G:N2	34:YA:2449:U:O2	2.51	0.43
34:YA:2513:G:N2	37:YE:143:ASN:OD1	2.52	0.43
34:YA:2848:G:C8	48:YT:97:ALA:HB2	2.53	0.43
35:YB:16:G:H2'	35:YB:17:C:H6	1.84	0.43
37:YE:48:GLN:NE2	37:YE:64:LYS:HZ3	2.17	0.43
1:QA:1316:G:N2	1:QA:1319:A:H5'	2.34	0.43
6:QF:50:TYR:CE1	18:QR:77:GLY:HA2	2.53	0.43
11:QK:85:ARG:HE	11:QK:111:ASP:HB3	1.83	0.43
11:QK:120:ARG:CZ	11:QK:126:ARG:HH22	2.32	0.43
22:QV:8:U:H3	22:QV:14:A:H62	1.67	0.43
29:R5:55:ARG:HB3	46:RR:115:GLU:OE1	2.18	0.43
32:R8:13:ARG:CD	44:RP:61:ARG:HG3	2.49	0.43
34:RA:1047:G:H2'	34:RA:1110:G:N1	2.34	0.43
34:RA:1476:C:H2'	34:RA:1477:A:C8	2.54	0.43
34:RA:1771:C:H2'	34:RA:1772:G:H8	1.84	0.43
34:RA:1853:A:H2'	34:RA:1854:A:H8	1.82	0.43
34:RA:2572:A:OP1	37:RE:144:ARG:HB2	2.19	0.43
36:RD:35:LYS:HE2	36:RD:104:TYR:HB2	2.01	0.43
36:RD:206:LEU:HA	36:RD:211:ARG:HD3	2.00	0.43
53:RY:31:LEU:HD11	53:RY:34:LYS:HE2	2.01	0.43
1:XA:112:G:C2	1:XA:330:C:N4	2.87	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:676:A:H2'	1:XA:677:U:C6	2.54	0.43
1:XA:1314:C:H2'	1:XA:1315:U:C6	2.54	0.43
4:XD:155:LEU:HB2	4:XD:158:ILE:HG22	2.00	0.43
7:XG:113:GLU:OE1	7:XG:113:GLU:N	2.50	0.43
8:XH:121:ASP:OD1	8:XH:121:ASP:N	2.52	0.43
10:XJ:4:ILE:HG12	10:XJ:100:THR:HG22	2.00	0.43
12:XL:37:CYS:CB	12:XL:81:SER:HB3	2.48	0.43
19:XS:3:ARG:CG	28:Y4:67:TYR:OH	2.63	0.43
27:Y3:23:LEU:HD22	27:Y3:50:VAL:HG11	2.01	0.43
34:YA:194:G:H2'	34:YA:195:A:O4'	2.18	0.43
34:YA:273(F):C:H2'	34:YA:274:G:H5"	2.00	0.43
34:YA:654(A):G:H1	34:YA:654(T):C:H42	1.66	0.43
34:YA:1427:A:H4'	34:YA:1428:C:O5'	2.19	0.43
34:YA:1796:U:H2'	34:YA:1797:C:C6	2.54	0.43
34:YA:1952:A:OP1	43:YO:42:SER:OG	2.31	0.43
34:YA:2369:A:H2'	34:YA:2370:G:H8	1.84	0.43
39:YG:102:PHE:CD1	39:YG:102:PHE:C	2.92	0.43
40:YH:156:ALA:CB	40:YH:158:HIS:H	2.32	0.43
41:YI:4:ILE:CG1	41:YI:18:VAL:HG23	2.49	0.43
43:YO:122:LEU:HD23	48:YT:43:GLN:NE2	2.34	0.43
45:YQ:111:GLU:OE1	45:YQ:133:ARG:NH1	2.34	0.43
48:YT:61:PHE:CE1	48:YT:76:PHE:HB2	2.54	0.43
52:YX:89:ILE:HG21	52:YX:92:LEU:HD23	2.01	0.43
1:QA:314:C:C2'	1:QA:315:A:H5'	2.49	0.42
1:QA:339:C:H2'	1:QA:340:U:H6	1.84	0.42
1:QA:536:C:H2'	1:QA:537:G:C8	2.54	0.42
1:QA:1172:C:H2'	1:QA:1173:G:C8	2.54	0.42
1:QA:1245:A:OP2	21:QU:9:ARG:NH2	2.52	0.42
1:QA:1316:G:N2	1:QA:1319:A:OP2	2.49	0.42
1:QA:1343:G:O2'	9:QI:121:ARG:HD2	2.19	0.42
2:QB:51:LEU:HD23	2:QB:51:LEU:HA	1.88	0.42
3:QC:23:TYR:CD1	10:QJ:10:GLY:HA2	2.54	0.42
13:QM:87:TYR:O	13:QM:91:ARG:HG2	2.19	0.42
14:QN:4:LYS:HA	14:QN:7:ILE:HG12	2.01	0.42
16:QP:53:VAL:HG12	16:QP:79:VAL:HG22	2.01	0.42
19:QS:43:GLU:N	19:QS:43:GLU:CD	2.73	0.42
32:R8:29:LYS:HD2	32:R8:44:LYS:HB3	2.01	0.42
34:RA:747:U:O2'	51:RW:92:ARG:NH1	2.52	0.42
35:RB:29:A:H2'	35:RB:30:C:C6	2.54	0.42
36:RD:130:ALA:HA	36:RD:192:THR:HA	2.01	0.42
36:RD:132:PRO:HG3	36:RD:190:TYR:HE1	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:RE:26:ILE:HG13	37:RE:182:LEU:HB3	2.01	0.42
42:RN:15:LEU:HD21	42:RN:55:VAL:HG13	2.01	0.42
45:RQ:29:PHE:CB	45:RQ:65:PHE:CD2	2.89	0.42
1:XA:554:C:H2'	1:XA:555:C:H6	1.84	0.42
1:XA:662:G:H2'	1:XA:663:A:C8	2.54	0.42
1:XA:1090:U:H2'	1:XA:1091:U:C6	2.53	0.42
1:XA:1440:C:H2'	1:XA:1441:G:O4'	2.19	0.42
9:XI:3:GLN:NE2	9:XI:20:ARG:NH2	2.66	0.42
10:XJ:47:PHE:N	10:XJ:47:PHE:CD1	2.87	0.42
26:Y2:50:ILE:H	26:Y2:50:ILE:HG13	1.43	0.42
34:YA:562:U:O4	34:YA:2036:C:H1'	2.19	0.42
34:YA:732:C:H2'	34:YA:733:G:O4'	2.19	0.42
34:YA:852:G:H2'	34:YA:853:G:C8	2.53	0.42
37:YE:24:THR:HG21	37:YE:188:VAL:CG1	2.49	0.42
38:YF:32:LEU:HD23	38:YF:112:MET:HE1	2.01	0.42
38:YF:185:ASP:OD1	38:YF:188:ARG:NH1	2.50	0.42
41:YI:131:LYS:NZ	41:YI:131:LYS:CB	2.73	0.42
48:YT:118:ARG:HH21	48:YT:121:ILE:HD13	1.83	0.42
50:YV:1:MET:HG3	50:YV:42:GLY:HA3	2.01	0.42
52:YX:29:TRP:CZ3	52:YX:76:ARG:HD3	2.54	0.42
54:YZ:8:TYR:H	54:YZ:8:TYR:HD1	1.65	0.42
1:QA:1427:U:H2'	1:QA:1428:A:H8	1.85	0.42
2:QB:5:ILE:HD13	2:QB:59:GLU:OE2	2.18	0.42
2:QB:74:LYS:O	2:QB:78:GLN:HG3	2.18	0.42
3:QC:130:VAL:O	3:QC:134:ILE:HG12	2.19	0.42
13:QM:23:TYR:O	13:QM:67:GLU:HG2	2.19	0.42
18:QR:43:PHE:HA	18:QR:51:LEU:HD12	2.00	0.42
19:QS:62:ILE:HA	19:QS:66:MET:HE3	2.01	0.42
34:RA:177:G:H5'	34:RA:178:G:N7	2.34	0.42
34:RA:1710:C:H2'	34:RA:1711:C:H6	1.84	0.42
34:RA:2307:G:H1'	34:RA:2308:G:N2	2.34	0.42
39:RG:32:PRO:HB2	39:RG:172:LEU:HD22	2.01	0.42
39:RG:41:GLN:NE2	39:RG:60:LEU:HG	2.34	0.42
39:RG:114:ILE:HG12	39:RG:140:ILE:HG21	2.00	0.42
40:RH:101:ARG:HD2	40:RH:122:THR:HG23	2.01	0.42
53:RY:81:LYS:HD2	53:RY:97:ARG:HB3	2.00	0.42
1:XA:34:C:H2'	1:XA:35:G:C8	2.48	0.42
1:XA:130:A:H5'	17:XQ:63:ARG:NH2	2.35	0.42
1:XA:678:U:H2'	1:XA:679:C:C6	2.53	0.42
1:XA:1128:C:H1'	1:XA:1146:A:H61	1.84	0.42
4:XD:102:ASP:OD1	4:XD:103:ASN:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:XG:74:GLU:O	7:XG:88:PRO:HA	2.19	0.42
9:XI:55:ALA:HA	9:XI:58:HIS:ND1	2.35	0.42
13:XM:16:ASP:OD1	13:XM:17:VAL:N	2.51	0.42
19:XS:5:LEU:HD13	19:XS:5:LEU:HA	1.89	0.42
19:XS:5:LEU:HA	28:Y4:67:TYR:CE2	2.54	0.42
19:XS:67:VAL:HB	28:Y4:59:PHE:CZ	2.53	0.42
29:Y5:11:THR:OG1	34:YA:1263:U:O3'	2.38	0.42
34:YA:582:G:H2'	34:YA:583:G:C8	2.54	0.42
34:YA:807:U:H2'	34:YA:808:G:H8	1.84	0.42
34:YA:1035:U:H2'	34:YA:1036:G:C8	2.55	0.42
34:YA:1509:C:H2'	34:YA:1511:A:C8	2.54	0.42
34:YA:2590:A:H2'	34:YA:2591:C:C6	2.54	0.42
34:YA:2693:A:H2'	34:YA:2694:G:C8	2.54	0.42
36:YD:35:LYS:HD3	36:YD:104:TYR:CD2	2.53	0.42
36:YD:46:GLN:H	36:YD:46:GLN:HG3	1.63	0.42
40:YH:103:LEU:HD22	40:YH:123:PHE:CD2	2.55	0.42
50:YV:57:VAL:HG12	50:YV:99:ILE:HG22	2.01	0.42
1:QA:492:G:H2'	1:QA:493:G:O4'	2.19	0.42
1:QA:598:U:H4'	8:QH:94:TYR:CD2	2.54	0.42
1:QA:606:G:H5"	1:QA:607:A:H5'	2.01	0.42
1:QA:1250:A:H2	1:QA:1370:G:H1'	1.83	0.42
2:QB:91:PRO:CG	2:QB:155:LEU:HB2	2.49	0.42
4:QD:99:SER:O	4:QD:140:VAL:N	2.38	0.42
5:QE:15:ARG:HG3	5:QE:28:PHE:HE1	1.84	0.42
6:QF:7:ASN:HB3	18:QR:76:LEU:HD11	2.01	0.42
26:R2:24:LEU:HD22	26:R2:60:LEU:HD11	2.02	0.42
34:RA:828:U:H4'	34:RA:831:G:N1	2.35	0.42
34:RA:835:A:H2'	34:RA:836:G:H8	1.84	0.42
34:RA:995:C:C4	49:RU:57:PHE:HE2	2.37	0.42
34:RA:1062:G:H2'	34:RA:1063:G:H8	1.84	0.42
34:RA:2210:G:H5'	34:RA:2211:G:C6	2.55	0.42
34:RA:2832:U:H4'	34:RA:2833:G:H5"	2.00	0.42
34:RA:2867:G:OP2	48:RT:119:LYS:NZ	2.26	0.42
38:RF:45:ARG:CZ	38:RF:97:TYR:CZ	3.02	0.42
45:RQ:30:GLY:HA2	45:RQ:107:ALA:HB2	2.00	0.42
48:RT:57:PHE:O	48:RT:57:PHE:CD2	2.73	0.42
50:RV:2:PHE:CD2	50:RV:42:GLY:HA2	2.54	0.42
54:RZ:117:LEU:HD12	54:RZ:141:VAL:HG21	2.00	0.42
1:XA:339:C:H2'	1:XA:340:U:H6	1.84	0.42
1:XA:382:A:H2'	1:XA:383:A:C8	2.54	0.42
1:XA:688:G:H2'	1:XA:689:C:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:1305:G:N2	1:XA:1331:G:H2'	2.34	0.42
2:XB:58:ILE:HD12	2:XB:58:ILE:HA	1.88	0.42
3:XC:166:GLU:OE1	3:XC:166:GLU:HA	2.19	0.42
3:XC:182:ILE:HG23	3:XC:201:TYR:HB3	2.01	0.42
12:XL:24:VAL:HG23	12:XL:98:TYR:CE1	2.54	0.42
17:XQ:50:LYS:H	17:XQ:50:LYS:HD2	1.84	0.42
28:Y4:12:ALA:HB2	28:Y4:26:SER:O	2.20	0.42
34:YA:1000:A:H2'	34:YA:1001:A:C8	2.54	0.42
34:YA:1786:A:N7	34:YA:1938:A:C4	2.88	0.42
36:YD:33:LEU:C	36:YD:33:LEU:CD2	2.86	0.42
36:YD:233:HIS:CE1	36:YD:247:ALA:N	2.60	0.42
37:YE:47:VAL:CG2	37:YE:84:PHE:HB3	2.49	0.42
49:YU:108:GLU:O	49:YU:112:ARG:HG2	2.19	0.42
53:YY:63:LYS:HD2	53:YY:64:GLU:H	1.82	0.42
1:QA:131:C:H2'	1:QA:132:C:C6	2.55	0.42
1:QA:375:U:H5"	16:QP:69:THR:HG21	2.01	0.42
1:QA:718:G:C5	11:QK:116:HIS:CD2	3.07	0.42
1:QA:751:U:H2'	1:QA:752:G:O4'	2.19	0.42
1:QA:962:C:C1'	1:QA:1201:A:N6	2.79	0.42
1:QA:1313:U:H2'	1:QA:1314:C:C6	2.54	0.42
1:QA:1411:C:H2'	1:QA:1412:C:C6	2.54	0.42
2:QB:97:TRP:HZ2	2:QB:102:LEU:HD13	1.85	0.42
4:QD:37:PRO:HG2	4:QD:37:PRO:O	2.20	0.42
4:QD:112:VAL:HG12	4:QD:116:GLN:OE1	2.20	0.42
7:QG:26:PHE:O	7:QG:30:ILE:HG12	2.19	0.42
9:QI:20:ARG:O	9:QI:60:ASP:N	2.30	0.42
28:R4:40:HIS:H	28:R4:41:PRO:CD	2.32	0.42
32:R8:4:MET:CE	34:RA:592:G:H21	2.32	0.42
34:RA:194:G:H2'	34:RA:195:A:O4'	2.20	0.42
34:RA:729:G:O2'	34:RA:763:G:H4'	2.18	0.42
34:RA:839:U:H2'	34:RA:840:C:C6	2.55	0.42
34:RA:1431:U:H2'	34:RA:1432:C:C6	2.55	0.42
34:RA:2244:U:H2'	34:RA:2245:U:O4'	2.19	0.42
34:RA:2567:G:H2'	34:RA:2568:C:C6	2.55	0.42
36:RD:6:PHE:N	36:RD:6:PHE:CD1	2.87	0.42
39:RG:60:LEU:O	39:RG:64:THR:HG22	2.19	0.42
39:RG:124:SER:HB2	39:RG:131:TYR:CE1	2.51	0.42
41:RI:71:ILE:O	41:RI:75:LEU:HD13	2.19	0.42
54:RZ:80:ARG:HD2	54:RZ:82:ARG:HH12	1.83	0.42
1:XA:806:C:H2'	1:XA:807:A:H8	1.84	0.42
1:XA:1003:G:N2	1:XA:1005:A:H5'	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:91:PRO:HG3	2:XB:155:LEU:HD12	2.01	0.42
4:XD:9:CYS:HA	58:XD:301:SF4:S1	2.59	0.42
4:XD:79:PHE:HB2	4:XD:93:PHE:HE1	1.83	0.42
6:XF:7:ASN:ND2	6:XF:62:TRP:HD1	2.16	0.42
21:XU:3:LYS:HD3	21:XU:14:TRP:CD1	2.54	0.42
22:XV:28:U:H2'	22:XV:29:U:H6	1.84	0.42
23:XX:-7:U:H2'	23:XX:-6:A:C8	2.54	0.42
55:XY:40:C:H2'	55:XY:41:C:C6	2.54	0.42
29:Y5:58:LEU:HB3	29:Y5:60:VAL:HG23	2.01	0.42
31:Y7:10:ARG:HD2	34:YA:125:G:C6	2.54	0.42
34:YA:609(A):G:H2'	34:YA:610:C:H6	1.84	0.42
34:YA:776:G:N7	34:YA:793:A:O2'	2.52	0.42
34:YA:1475:G:H2'	34:YA:1476:C:C6	2.54	0.42
34:YA:1756:G:H4'	34:YA:1758:G:O4'	2.19	0.42
34:YA:2667:C:H2'	34:YA:2668:G:O4'	2.19	0.42
35:YB:43:C:O2	39:YG:95:ARG:NH2	2.38	0.42
1:QA:97:U:H2'	1:QA:99:C:C6	2.54	0.42
1:QA:1004:A:P	1:QA:1025:U:H3	2.42	0.42
1:QA:1241:G:H2'	1:QA:1242:C:C6	2.55	0.42
1:QA:1329:A:H5"	13:QM:26:GLY:H	1.84	0.42
5:QE:41:VAL:HG13	5:QE:113:ALA:HB2	2.00	0.42
19:QS:44:MET:HE3	19:QS:44:MET:HB3	1.85	0.42
34:RA:627:A:H62	44:RP:116:GLY:HA2	1.84	0.42
34:RA:1007:C:H5"	42:RN:35:ARG:NH1	2.35	0.42
34:RA:1085:A:H2'	34:RA:1086:A:C4	2.54	0.42
34:RA:2329:G:H2'	34:RA:2330:G:H8	1.82	0.42
37:RE:87:GLU:HG2	37:RE:89:ASP:N	2.32	0.42
38:RF:116:ASP:O	38:RF:120:GLU:HG2	2.20	0.42
43:RO:16:ALA:HA	43:RO:46:ALA:HA	2.02	0.42
46:RR:94:TYR:N	46:RR:94:TYR:CD1	2.88	0.42
51:RW:18:ARG:HG3	51:RW:76:VAL:HG22	2.01	0.42
53:RY:84:ARG:O	53:RY:95:LYS:N	2.38	0.42
1:XA:15:G:H4'	5:XE:24:ARG:NH1	2.35	0.42
1:XA:412:A:C6	4:XD:35:ARG:HG3	2.54	0.42
1:XA:1012:U:H2'	1:XA:1013:G:C8	2.54	0.42
1:XA:1368:G:H5"	9:XI:112:LYS:HB3	2.00	0.42
3:XC:5:ILE:H	3:XC:5:ILE:HG13	1.68	0.42
4:XD:112:VAL:HG12	4:XD:116:GLN:OE1	2.19	0.42
13:XM:62:ASN:HA	28:Y4:49:PHE:HD2	1.84	0.42
13:XM:87:TYR:O	13:XM:90:LEU:HG	2.20	0.42
20:XT:50:GLU:HB3	20:XT:99:LEU:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Y0:25:ARG:HG2	24:Y0:31:VAL:HG12	2.01	0.42
27:Y3:23:LEU:HD12	27:Y3:28:LEU:HB2	2.01	0.42
30:Y6:27:LYS:HD2	34:YA:2284:C:OP2	2.19	0.42
31:Y7:31:LEU:O	31:Y7:35:ARG:HD2	2.19	0.42
34:YA:270(R):G:H2'	34:YA:270(S):G:C8	2.55	0.42
34:YA:674:G:H1'	38:YF:74:ARG:HD3	2.00	0.42
34:YA:1678:G:N2	34:YA:1989:G:H22	2.16	0.42
34:YA:2334:G:N3	47:YS:12:PHE:HD2	2.18	0.42
39:YG:81:LYS:H	39:YG:81:LYS:CE	2.20	0.42
40:YH:77:LYS:HD3	40:YH:83:TYR:CE1	2.54	0.42
51:YW:46:PHE:O	51:YW:50:VAL:HG23	2.19	0.42
52:YX:72:LYS:HD2	52:YX:73:ARG:O	2.19	0.42
54:YZ:44:PHE:C	54:YZ:44:PHE:CD1	2.92	0.42
1:QA:59:A:H3'	1:QA:331:G:H22	1.84	0.42
1:QA:359:U:H2'	1:QA:360:A:H8	1.84	0.42
3:QC:75:VAL:O	3:QC:83:ARG:HD3	2.19	0.42
4:QD:38:TYR:HD1	4:QD:38:TYR:H	1.66	0.42
4:QD:121:VAL:O	4:QD:134:ASP:HA	2.20	0.42
8:QH:25:ASP:HB3	8:QH:58:TYR:HD2	1.84	0.42
18:QR:26:LEU:HD21	18:QR:43:PHE:HE1	1.84	0.42
34:RA:299:A:N3	34:RA:319:C:O2'	2.48	0.42
34:RA:662:G:H2'	34:RA:663:G:C8	2.54	0.42
34:RA:690:G:H2'	34:RA:691:C:C6	2.54	0.42
34:RA:710:G:H2'	34:RA:711:G:H8	1.83	0.42
34:RA:1289:C:H2'	34:RA:1290:C:C6	2.54	0.42
34:RA:1750:G:O2'	34:RA:2860:A:N1	2.45	0.42
34:RA:1798:U:H5'	36:RD:259:THR:HG22	2.01	0.42
34:RA:2593:U:H2'	34:RA:2594:C:C6	2.54	0.42
35:RB:15:A:OP1	35:RB:107:U:O2'	2.34	0.42
38:RF:129:PHE:C	38:RF:131:GLY:H	2.23	0.42
39:RG:93:THR:CG2	39:RG:93:THR:O	2.65	0.42
42:RN:8:GLN:NE2	42:RN:8:GLN:C	2.73	0.42
42:RN:10:GLU:HA	42:RN:11:PRO:HD3	1.67	0.42
54:RZ:44:PHE:CD1	54:RZ:44:PHE:C	2.93	0.42
54:RZ:48:PHE:CD1	54:RZ:52:SER:HA	2.54	0.42
1:XA:552:U:O2	12:XL:31:PRO:HB3	2.20	0.42
1:XA:599:C:O2'	8:XH:129:VAL:O	2.25	0.42
1:XA:792:A:O2'	1:XA:794:A:N7	2.49	0.42
2:XB:7:VAL:HB	2:XB:217:ARG:HD2	2.01	0.42
4:XD:172:PRO:HB2	4:XD:187:ARG:NH2	2.31	0.42
9:XI:45:ALA:HA	9:XI:48:GLU:HG2	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:XJ:49:VAL:O	10:XJ:60:ARG:HB2	2.20	0.42
32:Y8:61:LEU:O	32:Y8:62:LEU:HD23	2.20	0.42
34:YA:337:C:O2	34:YA:337:C:C2'	2.68	0.42
34:YA:1790:C:H2'	34:YA:1791:A:C5	2.55	0.42
34:YA:1946:U:H2'	34:YA:1947:C:C6	2.55	0.42
34:YA:1946:U:H2'	34:YA:1947:C:H6	1.83	0.42
34:YA:2248:C:H2'	34:YA:2249:U:O4'	2.19	0.42
34:YA:2303:G:N3	39:YG:132:ASN:ND2	2.67	0.42
34:YA:2572:A:H2'	37:YE:144:ARG:HD3	2.02	0.42
34:YA:2848:G:O2'	34:YA:2867:G:N2	2.52	0.42
37:YE:167:VAL:HG12	37:YE:189:PRO:HD3	2.02	0.42
39:YG:27:ASN:OD1	39:YG:28:VAL:N	2.51	0.42
39:YG:102:PHE:C	39:YG:102:PHE:HD1	2.22	0.42
40:YH:153:LYS:HG3	40:YH:162:ILE:HD12	2.01	0.42
41:YI:5:LEU:CD2	41:YI:13:GLY:O	2.42	0.42
45:YQ:52:VAL:HA	45:YQ:55:VAL:HG22	2.02	0.42
47:YS:89:ARG:HD3	47:YS:94:TYR:HB2	2.01	0.42
50:YV:75:PHE:CE2	50:YV:77:ALA:HA	2.55	0.42
1:QA:46:G:H2'	1:QA:366:C:C5	2.55	0.42
1:QA:337:C:H2'	1:QA:338:A:C8	2.47	0.42
1:QA:630:G:H2'	1:QA:631:G:H4'	2.02	0.42
1:QA:676:A:H2'	1:QA:677:U:C6	2.55	0.42
1:QA:1096:C:H2'	1:QA:1097:C:H6	1.84	0.42
1:QA:1161:C:H2'	1:QA:1162:C:H6	1.84	0.42
2:QB:185:ILE:HA	2:QB:199:TYR:O	2.19	0.42
4:QD:199:ASN:HB3	4:QD:202:LEU:HB2	2.01	0.42
12:QL:35:GLY:HA3	12:QL:60:LEU:HA	2.00	0.42
18:QR:29:PHE:HE1	18:QR:43:PHE:HZ	1.67	0.42
25:R1:53:VAL:HB	25:R1:58:ILE:HD11	2.01	0.42
34:RA:191:A:H2'	34:RA:192:C:H6	1.84	0.42
34:RA:1295:C:H2'	34:RA:1296:G:H8	1.85	0.42
34:RA:2028:U:H2'	34:RA:2029:G:C8	2.54	0.42
34:RA:2591:C:P	36:RD:239:ARG:HG3	2.60	0.42
34:RA:2649:U:H2'	34:RA:2650:U:H6	1.85	0.42
37:RE:119:ARG:HA	37:RE:160:TYR:CE1	2.54	0.42
39:RG:57:ALA:HA	39:RG:90:LEU:HD21	2.02	0.42
50:RV:6:LYS:O	50:RV:37:VAL:HG21	2.19	0.42
1:XA:51:A:C2	1:XA:353:A:N1	2.87	0.42
1:XA:948:C:H2'	1:XA:949:A:H8	1.85	0.42
3:XC:42:LEU:HD23	3:XC:91:LEU:HD23	2.01	0.42
4:XD:79:PHE:CG	4:XD:207:TYR:HD2	2.38	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:XI:31:GLN:H	9:XI:31:GLN:HG2	1.67	0.42
34:YA:1137:G:H2'	34:YA:1138:G:C8	2.55	0.42
34:YA:1173:G:H4'	34:YA:1174:A:C8	2.54	0.42
34:YA:1467:C:C5	34:YA:1546:C:H2'	2.55	0.42
34:YA:1500:G:N2	36:YD:99:ASP:O	2.45	0.42
34:YA:1636:C:H2'	34:YA:1637:A:C8	2.54	0.42
34:YA:2210:G:H5'	34:YA:2211:G:C5	2.55	0.42
35:YB:78:A:H2'	35:YB:79:C:O4'	2.20	0.42
36:YD:94:LEU:HD13	36:YD:95:LEU:N	2.35	0.42
41:YI:77:LEU:HD11	41:YI:140:LEU:HD22	2.01	0.42
43:YO:78:ARG:NH1	48:YT:75:ILE:HD11	2.34	0.42
43:YO:79:PHE:N	43:YO:79:PHE:CD1	2.88	0.42
48:YT:26:ASP:HB2	48:YT:90:GLN:O	2.20	0.42
50:YV:6:LYS:O	50:YV:37:VAL:HG21	2.18	0.42
1:QA:521:G:H4'	12:QL:73:GLU:HG2	2.01	0.42
1:QA:939:G:H5"	7:QG:102:ARG:NH2	2.35	0.42
1:QA:1430:C:H2'	1:QA:1431:C:C6	2.55	0.42
13:QM:8:GLU:OE1	13:QM:8:GLU:N	2.52	0.42
24:R0:44:ARG:C	24:R0:45:PHE:HD1	2.23	0.42
29:R5:32:PRO:HA	29:R5:39:MET:HE3	2.01	0.42
34:RA:57:C:H2'	34:RA:58:G:O4'	2.20	0.42
34:RA:256:A:H2'	34:RA:257:A:H8	1.84	0.42
34:RA:1435:G:H2'	34:RA:1436:G:C8	2.55	0.42
34:RA:1656:C:H2'	34:RA:1657:C:H6	1.85	0.42
34:RA:1681:G:HO2'	34:RA:1762:A:HO2'	1.62	0.42
34:RA:2493:U:H2'	34:RA:2494:G:O4'	2.19	0.42
34:RA:2870:C:H2'	34:RA:2871:C:O4'	2.19	0.42
37:RE:14:ILE:HG21	37:RE:173:VAL:HG11	2.01	0.42
37:RE:74:PRO:HG2	37:RE:77:ILE:HG23	2.02	0.42
38:RF:182:ASN:O	38:RF:186:ILE:HG12	2.20	0.42
39:RG:37:VAL:HG22	39:RG:159:VAL:HG12	2.02	0.42
40:RH:77:LYS:HB3	40:RH:83:TYR:CE1	2.55	0.42
52:RX:59:VAL:HB	52:RX:76:ARG:HG3	2.02	0.42
54:RZ:8:TYR:HB2	54:RZ:38:TYR:CD1	2.55	0.42
1:XA:74:C:H2'	1:XA:75:C:C6	2.54	0.42
1:XA:974:A:OP2	14:XN:41:ARG:NH1	2.53	0.42
13:XM:7:VAL:N	13:XM:8:GLU:OE1	2.50	0.42
24:Y0:25:ARG:NH1	34:YA:2355:C:H5'	2.35	0.42
28:Y4:71:ARG:HD3	28:Y4:71:ARG:HH11	1.35	0.42
34:YA:389:G:N1	44:YP:71:VAL:HG12	2.34	0.42
34:YA:823:G:H2'	34:YA:824:A:H8	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:943:U:OP2	44:YP:36:LYS:HB2	2.19	0.42
34:YA:949:C:H2'	34:YA:950:G:H8	1.84	0.42
34:YA:1048:A:P	34:YA:1110:G:H22	2.43	0.42
34:YA:1198:U:H2'	34:YA:1199:U:C6	2.55	0.42
34:YA:1198:U:H2'	34:YA:1199:U:H6	1.85	0.42
34:YA:1826:G:H4'	36:YD:242:ARG:NH2	2.27	0.42
34:YA:2106:G:H2'	34:YA:2107:C:O4'	2.19	0.42
39:YG:131:TYR:O	39:YG:159:VAL:HG22	2.20	0.42
40:YH:11:VAL:O	40:YH:76:VAL:HG11	2.18	0.42
40:YH:152:ARG:HD3	40:YH:153:LYS:HE3	2.00	0.42
43:YO:64:ARG:HG2	43:YO:79:PHE:CD2	2.55	0.42
47:YS:26:LEU:HD13	47:YS:112:PHE:HZ	1.84	0.42
1:QA:377:G:OP1	16:QP:3:LYS:HD2	2.20	0.42
1:QA:452:A:O2'	1:QA:453:A:O4'	2.33	0.42
1:QA:538:G:H2'	1:QA:539:A:C8	2.54	0.42
1:QA:1059:C:H2'	1:QA:1060:C:H6	1.85	0.42
1:QA:1190:G:OP1	3:QC:5:ILE:HG13	2.19	0.42
4:QD:60:GLU:OE1	4:QD:198:VAL:HA	2.19	0.42
11:QK:127:LYS:HB3	11:QK:127:LYS:HE3	1.81	0.42
26:R2:52:ASP:O	26:R2:55:ARG:N	2.53	0.42
30:R6:8:LYS:CB	30:R6:27:LYS:CB	2.67	0.42
34:RA:324:A:H2'	34:RA:325:G:O4'	2.20	0.42
34:RA:852:G:H2'	34:RA:853:G:C8	2.55	0.42
34:RA:2418:A:H2'	34:RA:2419:U:O4'	2.20	0.42
34:RA:2841:C:H2'	34:RA:2842:G:C8	2.55	0.42
35:RB:11:C:H3'	35:RB:12:C:H6	1.85	0.42
39:RG:16:ARG:O	39:RG:20:ILE:HG12	2.20	0.42
39:RG:42:GLY:HA3	39:RG:89:GLY:HA2	2.00	0.42
39:RG:86:MET:HA	39:RG:87:PRO:HD2	1.84	0.42
1:XA:564:C:OP2	12:XL:15:ARG:NH2	2.49	0.42
1:XA:1315:U:H2'	1:XA:1316:G:O4'	2.19	0.42
2:XB:187:LEU:HD22	2:XB:205:ASP:HA	2.02	0.42
29:Y5:31:VAL:HG13	29:Y5:42:PRO:HG3	2.02	0.42
34:YA:198:C:O2'	34:YA:199:A:H5'	2.20	0.42
34:YA:775:G:H4'	34:YA:776:G:H5'	2.02	0.42
34:YA:974:G:N2	34:YA:989:G:H1'	2.35	0.42
34:YA:1201:C:H2'	34:YA:1202:C:C6	2.55	0.42
34:YA:1520:U:H2'	34:YA:1521:G:O4'	2.20	0.42
34:YA:1709:U:H1'	34:YA:2860:A:N3	2.35	0.42
34:YA:2022:U:O2'	34:YA:2617:C:H5'	2.19	0.42
37:YE:73:GLU:HA	37:YE:74:PRO:HD2	1.90	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:YN:70:LYS:HB3	42:YN:87:LEU:HB2	2.02	0.42
43:YO:86:ILE:HG22	43:YO:94:ARG:HD3	2.01	0.42
48:YT:76:PHE:N	48:YT:76:PHE:CD1	2.88	0.42
54:YZ:44:PHE:C	54:YZ:44:PHE:HD1	2.23	0.42
1:QA:64:G:H4'	1:QA:65:U:H5'	2.02	0.42
1:QA:552:U:O2'	12:QL:86:ARG:O	2.38	0.42
1:QA:807:A:H2'	1:QA:808:C:C6	2.55	0.42
1:QA:1095:U:OP1	1:QA:1108:G:N2	2.44	0.42
4:QD:98:GLU:HG3	4:QD:189:PRO:HG3	2.01	0.42
4:QD:103:ASN:HD22	4:QD:103:ASN:C	2.22	0.42
7:QG:15:ASP:HB3	7:QG:19:GLY:N	2.34	0.42
19:QS:41:VAL:HG22	19:QS:62:ILE:HB	2.01	0.42
19:QS:44:MET:HB3	19:QS:62:ILE:HD12	2.02	0.42
34:RA:84:A:C2	34:RA:103:A:C5	3.08	0.42
34:RA:150:C:H2'	34:RA:151:C:H6	1.85	0.42
34:RA:529:A:H8	34:RA:530:G:C6	2.38	0.42
34:RA:532:A:H4'	34:RA:533:G:C8	2.54	0.42
34:RA:903:C:H2'	34:RA:904:C:H6	1.85	0.42
34:RA:1728:G:H2'	34:RA:1731:G:O6	2.20	0.42
39:RG:165:THR:OG1	39:RG:168:GLU:HG3	2.19	0.42
43:RO:79:PHE:CD1	43:RO:79:PHE:N	2.88	0.42
46:RR:56:LYS:HE3	46:RR:88:ARG:HA	2.02	0.42
49:RU:85:LYS:HG3	49:RU:117:GLN:HB3	2.02	0.42
51:RW:72:LYS:HB3	51:RW:106:ILE:HD11	2.02	0.42
52:RX:12:VAL:HG12	52:RX:29:TRP:CE2	2.55	0.42
54:RZ:59:LEU:HD11	54:RZ:69:THR:HG21	2.01	0.42
1:XA:62:U:H2'	1:XA:63:C:C6	2.55	0.42
1:XA:165:C:H2'	1:XA:166:G:H8	1.85	0.42
1:XA:554:C:H2'	1:XA:555:C:C6	2.55	0.42
1:XA:584:G:H2'	1:XA:585:G:H8	1.85	0.42
1:XA:688:G:H2'	1:XA:689:C:H6	1.85	0.42
1:XA:953:G:H2'	1:XA:954:G:O4'	2.20	0.42
1:XA:1287:A:C2	1:XA:1353:G:H1'	2.54	0.42
1:XA:1323:G:H2'	1:XA:1324:A:C8	2.54	0.42
2:XB:163:PHE:HA	2:XB:185:ILE:O	2.20	0.42
5:XE:18:ARG:NH1	5:XE:25:ARG:HB2	2.35	0.42
6:XF:9:VAL:HB	6:XF:87:ARG:HB2	2.01	0.42
14:XN:43:CYS:C	14:XN:45:ARG:H	2.23	0.42
15:XO:29:VAL:HG13	15:XO:63:ARG:HG3	2.01	0.42
23:XX:-13:A:H3'	23:XX:-12:G:C8	2.50	0.42
25:Y1:78:LYS:HD2	34:YA:270(S):G:H1'	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:37:C:H2'	34:YA:38:A:C8	2.55	0.42
34:YA:242:G:H4'	34:YA:243:U:O5'	2.20	0.42
34:YA:679:C:H2'	34:YA:680:G:C8	2.54	0.42
34:YA:870:A:H2'	34:YA:871:U:O4'	2.20	0.42
34:YA:1499:C:H2'	34:YA:1500:G:H8	1.85	0.42
34:YA:1932:A:H2'	34:YA:1933:G:O4'	2.20	0.42
34:YA:2590:A:H5"	36:YD:239:ARG:HE	1.85	0.42
34:YA:2751:G:N1	40:YH:3:ARG:HG3	2.35	0.42
40:YH:83:TYR:CE2	40:YH:138:LYS:HB2	2.55	0.42
50:YV:2:PHE:HB2	50:YV:13:ARG:HE	1.84	0.42
53:YY:88:LYS:C	53:YY:90:LEU:H	2.23	0.42
1:QA:464:G:O6	1:QA:466:C:H5'	2.19	0.41
1:QA:677:U:H2'	1:QA:678:U:C6	2.55	0.41
1:QA:683:G:H2'	1:QA:684:A:C8	2.55	0.41
1:QA:972:C:OP2	10:QJ:57:LYS:HG2	2.20	0.41
1:QA:998:G:H2'	1:QA:998(A):C:C6	2.55	0.41
1:QA:1296:C:O5'	13:QM:14:ARG:NH1	2.53	0.41
1:QA:1318:A:H4'	19:QS:11:VAL:HG11	2.02	0.41
2:QB:24:TRP:CZ3	2:QB:29:ALA:HB2	2.52	0.41
3:QC:114:PRO:HD3	3:QC:183:ASP:OD2	2.20	0.41
4:QD:103:ASN:HD21	4:QD:107:ARG:CZ	2.33	0.41
8:QH:48:TYR:HA	8:QH:60:ARG:O	2.19	0.41
28:R4:38:LYS:HG2	28:R4:42:PHE:HE1	1.85	0.41
30:R6:25:LYS:HB2	32:R8:34:TRP:HD1	1.85	0.41
34:RA:27:G:H1'	34:RA:513:A:H62	1.83	0.41
34:RA:50:U:H3'	34:RA:51:G:H5'	2.02	0.41
35:RB:44:G:H1'	35:RB:47:C:N4	2.35	0.41
36:RD:52:ARG:H	36:RD:52:ARG:HG2	1.48	0.41
36:RD:146:GLU:HB3	36:RD:189:CYS:HB3	2.02	0.41
38:RF:6:VAL:HG11	38:RF:25:PRO:O	2.20	0.41
42:RN:121:LYS:HB3	42:RN:123:TYR:HE1	1.84	0.41
43:RO:1:MET:H1	43:RO:67:LYS:HB3	1.85	0.41
46:RR:51:LEU:HD22	46:RR:66:VAL:HG13	2.02	0.41
1:XA:265:G:H4'	17:XQ:66:SER:HA	2.01	0.41
1:XA:464:G:O6	1:XA:466:C:H5'	2.20	0.41
1:XA:735:C:H2'	1:XA:736:C:H6	1.85	0.41
1:XA:924:C:O2'	1:XA:1502:A:N6	2.51	0.41
1:XA:1127:G:H2'	1:XA:1128:C:C6	2.55	0.41
1:XA:1157:A:H62	1:XA:1178:G:N2	2.18	0.41
4:XD:61:LYS:NZ	4:XD:62:GLN:OE1	2.37	0.41
9:XI:9:ARG:HG3	9:XI:104:ARG:CZ	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:120:LYS:HA	13:XM:120:LYS:HD3	1.56	0.41
17:XQ:27:PHE:CE2	17:XQ:36:ILE:HG13	2.55	0.41
29:Y5:4:HIS:HB2	29:Y5:5:PRO:HD3	2.02	0.41
29:Y5:35:GLU:CB	29:Y5:50:GLY:HA2	2.50	0.41
34:YA:724:U:H2'	34:YA:725:G:O4'	2.20	0.41
34:YA:820:A:N3	34:YA:943:U:O2'	2.45	0.41
34:YA:1468:C:H2'	34:YA:1469:A:C8	2.55	0.41
34:YA:2649:U:H2'	34:YA:2650:U:C6	2.55	0.41
35:YB:28:C:H2'	35:YB:29:A:H8	1.85	0.41
37:YE:14:ILE:O	37:YE:21:VAL:N	2.50	0.41
40:YH:9:ILE:CG2	40:YH:49:VAL:HB	2.51	0.41
41:YI:57:ARG:O	41:YI:61:ARG:HG2	2.19	0.41
43:YO:78:ARG:HH21	48:YT:103:ARG:NH2	2.18	0.41
1:QA:62:U:H2'	1:QA:63:C:C6	2.55	0.41
1:QA:628:G:H2'	1:QA:629:G:C8	2.55	0.41
1:QA:1307:U:H2'	1:QA:1308:U:C6	2.55	0.41
1:QA:1399:C:C2	1:QA:1502:A:N6	2.88	0.41
2:QB:71:VAL:HA	2:QB:93:VAL:HB	2.02	0.41
2:QB:172:ILE:H	2:QB:172:ILE:HG13	1.49	0.41
3:QC:8:ILE:HG22	3:QC:12:LEU:HD23	2.01	0.41
4:QD:21:LEU:HD21	4:QD:67:ILE:HA	2.02	0.41
9:QI:6:GLY:H	9:QI:84:ALA:HB2	1.85	0.41
13:QM:84:ILE:HG23	19:QS:74:PHE:CE1	2.55	0.41
27:R3:39:ASP:OD1	27:R3:44:ARG:NH1	2.39	0.41
34:RA:808:G:H2'	34:RA:809:G:C8	2.55	0.41
34:RA:1252:G:C2	49:RU:33:ARG:HB3	2.55	0.41
34:RA:1492:G:OP1	34:RA:2210:G:N1	2.51	0.41
34:RA:1637:A:H4'	34:RA:2711:A:O2'	2.20	0.41
36:RD:13:ARG:NH1	36:RD:16:MET:SD	2.93	0.41
43:RO:8:LEU:HD13	43:RO:82:ASN:HB3	2.02	0.41
43:RO:47:ILE:HG13	43:RO:48:PRO:HD2	2.02	0.41
50:RV:35:LEU:CD2	50:RV:57:VAL:HG22	2.51	0.41
52:RX:5:TYR:N	52:RX:5:TYR:CD1	2.87	0.41
54:RZ:59:LEU:CD1	54:RZ:69:THR:CG2	2.98	0.41
1:XA:297:G:H4'	1:XA:557:G:H4'	2.02	0.41
1:XA:689:C:H3'	1:XA:690:G:N2	2.31	0.41
1:XA:1437:C:H2'	1:XA:1438:G:C8	2.55	0.41
13:XM:40:ASN:HB3	13:XM:43:THR:HG23	2.02	0.41
17:XQ:31:LEU:HD23	17:XQ:32:TYR:CE1	2.55	0.41
22:XV:23:A:H2'	22:XV:24:G:C8	2.55	0.41
24:Y0:36:ILE:HA	24:Y0:60:PHE:HA	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Y6:41:PRO:O	30:Y6:45:LYS:HE2	2.19	0.41
31:Y7:47:ARG:HH12	52:YX:60:ARG:NH2	2.18	0.41
34:YA:65:C:H2'	34:YA:66:C:H6	1.84	0.41
34:YA:340:A:H2'	34:YA:341:G:O4'	2.19	0.41
34:YA:518:G:H2'	34:YA:519:U:C6	2.55	0.41
34:YA:990:A:C6	34:YA:1186:G:H1'	2.55	0.41
34:YA:1569:A:O2'	36:YD:38:LYS:HG3	2.21	0.41
34:YA:2461:C:H2'	34:YA:2462:U:C6	2.55	0.41
34:YA:2696:U:H2'	34:YA:2697:G:H8	1.85	0.41
35:YB:60:C:H2'	35:YB:61:G:C8	2.55	0.41
35:YB:95:U:H2'	35:YB:96:G:C8	2.55	0.41
36:YD:6:PHE:N	36:YD:6:PHE:CD1	2.89	0.41
37:YE:4:ILE:HG22	37:YE:96:PHE:HE2	1.85	0.41
39:YG:23:PHE:CE2	39:YG:168:GLU:HG2	2.55	0.41
40:YH:78:GLY:HA2	40:YH:82:GLY:HA3	2.02	0.41
44:YP:98:GLU:HA	44:YP:101:VAL:HB	2.01	0.41
52:YX:37:THR:O	52:YX:40:LYS:HG2	2.21	0.41
1:QA:645:C:H2'	1:QA:646:U:C6	2.56	0.41
1:QA:1145:C:H4'	1:QA:1146:A:C8	2.54	0.41
2:QB:76:GLN:OE1	2:QB:206:ASP:HA	2.20	0.41
5:QE:57:LYS:HA	5:QE:60:TYR:CE1	2.55	0.41
18:QR:38:GLU:O	18:QR:42:ARG:HG3	2.20	0.41
34:RA:996:A:H4'	49:RU:92:ARG:NE	2.35	0.41
34:RA:1149:G:H2'	34:RA:1150:C:C6	2.56	0.41
34:RA:1785:A:N7	34:RA:1787:A:C5	2.89	0.41
34:RA:1885:A:H3'	34:RA:1886:C:H6	1.85	0.41
34:RA:2846:G:H2'	34:RA:2847:U:H6	1.85	0.41
38:RF:111:ALA:HB2	38:RF:206:ILE:HG12	2.03	0.41
39:RG:141:PHE:O	39:RG:144:ILE:HG22	2.20	0.41
42:RN:90:MET:HE1	42:RN:97:ARG:HD2	2.01	0.41
46:RR:33:ARG:HD3	46:RR:113:LEU:HD11	2.02	0.41
46:RR:74:LYS:C	46:RR:76:VAL:H	2.24	0.41
46:RR:96:ARG:NH2	46:RR:117:VAL:HG23	2.32	0.41
47:RS:14:VAL:HG21	47:RS:89:ARG:HE	1.86	0.41
53:RY:4:LYS:N	53:RY:4:LYS:CD	2.72	0.41
54:RZ:53:ILE:O	54:RZ:70:LEU:CD2	2.61	0.41
1:XA:20:U:H2'	1:XA:21:G:O4'	2.20	0.41
1:XA:429:U:H5'	4:XD:9:CYS:SG	2.60	0.41
1:XA:562:C:N3	12:XL:16:GLU:HB3	2.35	0.41
1:XA:833:U:H2'	1:XA:834:C:H6	1.86	0.41
1:XA:851:G:H2'	1:XA:852:G:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:XB:31:TYR:CD1	2:XB:31:TYR:N	2.87	0.41
4:XD:116:GLN:HE21	4:XD:157:LEU:HD11	1.85	0.41
7:XG:73:MET:HG2	7:XG:90:GLU:HA	2.02	0.41
9:XI:24:GLY:HA3	9:XI:57:GLY:HA2	2.01	0.41
12:XL:126:LYS:HA	12:XL:126:LYS:HD2	1.77	0.41
13:XM:45:VAL:HA	13:XM:48:LEU:HD13	2.02	0.41
17:XQ:64:PRO:HB3	17:XQ:70:ARG:NH1	2.35	0.41
30:Y6:15:GLU:OE2	30:Y6:20:ASN:HB3	2.21	0.41
34:YA:49:A:H5"	34:YA:51:G:O4'	2.20	0.41
34:YA:114:U:O2'	52:YX:33:LYS:NZ	2.54	0.41
34:YA:1028:A:N6	34:YA:1125:G:H2'	2.35	0.41
34:YA:2408:U:H2'	34:YA:2409:G:C8	2.55	0.41
34:YA:2773:C:H2'	34:YA:2774:C:H6	1.84	0.41
39:YG:23:PHE:CD2	39:YG:168:GLU:HG2	2.56	0.41
39:YG:97:ASP:HA	39:YG:100:TRP:HD1	1.85	0.41
41:YI:67:ARG:HA	41:YI:70:GLU:OE1	2.20	0.41
46:YR:34:ILE:HG22	46:YR:36:THR:HG23	2.02	0.41
1:QA:114:U:H2'	1:QA:115:G:C8	2.56	0.41
1:QA:370:C:H2'	1:QA:371:G:C8	2.54	0.41
1:QA:481:G:O2'	1:QA:482:A:O5'	2.37	0.41
1:QA:522:C:H41	12:QL:53:ARG:NH2	2.16	0.41
1:QA:921:U:O2'	5:QE:19:MET:O	2.26	0.41
1:QA:976:G:P	14:QN:32:SER:H	2.44	0.41
1:QA:991:U:H3	1:QA:1212:U:HO2'	1.66	0.41
1:QA:1473:A:H2'	1:QA:1474:G:C8	2.55	0.41
2:QB:127:ILE:HG12	2:QB:135:GLN:NE2	2.35	0.41
3:QC:43:LEU:O	3:QC:47:LEU:HB3	2.19	0.41
4:QD:49:ARG:HD3	4:QD:49:ARG:N	2.33	0.41
19:QS:66:MET:SD	19:QS:74:PHE:CE1	3.14	0.41
22:QV:33:U:N3	22:QV:36:U:OP2	2.48	0.41
26:R2:47:ASN:HD22	26:R2:47:ASN:N	2.18	0.41
28:R4:68:ARG:H	28:R4:68:ARG:CZ	2.33	0.41
29:R5:20:ARG:HA	29:R5:23:HIS:HD1	1.85	0.41
34:RA:139:G:N2	34:RA:141:A:C6	2.83	0.41
34:RA:520:G:H2'	34:RA:521:G:H8	1.86	0.41
34:RA:755:C:H2'	34:RA:756:C:H6	1.84	0.41
34:RA:764:A:H5'	36:RD:210:GLY:HA2	2.02	0.41
34:RA:1732:A:H3'	34:RA:1733:G:H8	1.84	0.41
34:RA:2105:C:H2'	34:RA:2106:G:C8	2.55	0.41
34:RA:2212:A:H1'	34:RA:2215:G:C4	2.56	0.41
34:RA:2412:A:H2'	34:RA:2413:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:2649:U:H2'	34:RA:2650:U:C6	2.55	0.41
36:RD:155:LEU:HD23	36:RD:177:LEU:HD22	2.01	0.41
37:RE:1:MET:HG3	37:RE:199:ARG:HD3	2.01	0.41
38:RF:129:PHE:C	38:RF:131:GLY:N	2.74	0.41
38:RF:129:PHE:CE1	38:RF:156:LEU:HD11	2.56	0.41
39:RG:42:GLY:CA	39:RG:89:GLY:HA2	2.50	0.41
45:RQ:8:LYS:HG2	45:RQ:9:TYR:CE1	2.55	0.41
52:RX:17:ALA:O	52:RX:21:PHE:HD2	2.03	0.41
1:XA:261:U:OP2	20:XT:79:ARG:NH2	2.53	0.41
1:XA:977:A:H8	1:XA:1223:C:C4	2.38	0.41
1:XA:1327:C:H2'	1:XA:1328:C:C6	2.55	0.41
2:XB:16:HIS:NE2	2:XB:213:LEU:CG	2.83	0.41
2:XB:50:GLU:HB3	2:XB:200:ILE:O	2.19	0.41
2:XB:178:ARG:HH22	8:XH:68:ARG:HH22	1.68	0.41
3:XC:82:GLU:O	3:XC:86:VAL:HG13	2.19	0.41
4:XD:108:LEU:HD21	4:XD:174:LEU:HD22	2.01	0.41
10:XJ:48:THR:HG23	10:XJ:62:HIS:HB3	2.01	0.41
13:XM:121:LYS:HE3	55:XY:40:C:O2'	2.20	0.41
15:XO:82:ILE:HD11	15:XO:88:ARG:CG	2.50	0.41
30:Y6:16:CYS:HB2	30:Y6:47:THR:CG2	2.43	0.41
34:YA:256:A:H2'	34:YA:257:A:H8	1.85	0.41
34:YA:407:G:H2'	34:YA:408:G:C8	2.55	0.41
34:YA:821:A:H2'	34:YA:946:G:H5"	2.02	0.41
34:YA:833:U:H2'	34:YA:834:C:C6	2.55	0.41
34:YA:2096:U:H3	34:YA:2193:G:H1	1.69	0.41
35:YB:29:A:H2'	35:YB:30:C:C6	2.56	0.41
42:YN:111:PRO:HA	42:YN:114:ARG:HH11	1.85	0.41
48:YT:57:PHE:CE1	48:YT:79:HIS:HB2	2.56	0.41
52:YX:89:ILE:HG22	52:YX:92:LEU:H	1.84	0.41
54:YZ:31:ARG:NH2	54:YZ:93:ASP:OD2	2.48	0.41
54:YZ:53:ILE:HG22	54:YZ:71:VAL:CG1	2.41	0.41
1:QA:20:U:H2'	1:QA:21:G:O4'	2.20	0.41
1:QA:110:C:H2'	1:QA:111:G:O4'	2.21	0.41
1:QA:284:G:H2'	1:QA:285:G:C8	2.56	0.41
1:QA:308:C:H2'	1:QA:309:G:C8	2.55	0.41
1:QA:330:C:O2	1:QA:330:C:H2'	2.20	0.41
1:QA:375:U:H4'	16:QP:17:TYR:HE2	1.85	0.41
1:QA:528:C:H41	12:QL:49:ASN:ND2	2.19	0.41
1:QA:620:C:C2	4:QD:135:LEU:HG	2.56	0.41
1:QA:636:U:H2'	1:QA:637:G:C8	2.55	0.41
1:QA:690:G:H2'	1:QA:691:G:O4'	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:QA:837:G:H2'	1:QA:838:G:H8	1.86	0.41
1:QA:1108:G:H5'	3:QC:176:HIS:CD2	2.55	0.41
1:QA:1527:C:H2'	1:QA:1528:U:C6	2.56	0.41
2:QB:21:ARG:O	2:QB:23:ARG:N	2.54	0.41
4:QD:57:ARG:HB3	4:QD:206:PHE:HB2	2.02	0.41
18:QR:38:GLU:HA	18:QR:41:LYS:HG2	2.02	0.41
30:R6:46:HIS:CE1	34:RA:2371:G:HO2'	2.37	0.41
31:R7:2:LYS:HE2	34:RA:687:C:H5"	2.03	0.41
34:RA:276:A:OP1	34:RA:276:A:H4'	2.21	0.41
34:RA:288:C:H2'	34:RA:289:A:C8	2.50	0.41
34:RA:784:A:O2'	34:RA:785:G:H5'	2.20	0.41
34:RA:1291:C:H2'	34:RA:1292:U:H6	1.85	0.41
34:RA:1520:U:H2'	34:RA:1521:G:O4'	2.20	0.41
34:RA:1794:U:H2'	34:RA:1795:C:C6	2.55	0.41
34:RA:2083:G:H2'	34:RA:2084:C:C6	2.56	0.41
34:RA:2122:U:H3	34:RA:2176:A:H61	1.68	0.41
34:RA:2277:G:H5'	45:RQ:85:LYS:HD3	2.02	0.41
34:RA:2467:C:N4	34:RA:2468:G:O6	2.53	0.41
34:RA:2852:G:H2'	34:RA:2853:C:C6	2.54	0.41
39:RG:5:VAL:O	39:RG:8:LYS:N	2.53	0.41
47:RS:35:ILE:HB	47:RS:97:ARG:HH21	1.85	0.41
49:RU:90:VAL:HG12	49:RU:91:ASP:H	1.85	0.41
52:RX:21:PHE:CE1	52:RX:92:LEU:HB3	2.56	0.41
54:RZ:48:PHE:O	54:RZ:52:SER:N	2.53	0.41
54:RZ:97:GLU:H	54:RZ:97:GLU:HG2	1.57	0.41
1:XA:19:C:H2'	1:XA:20:U:C6	2.55	0.41
1:XA:736:C:H2'	1:XA:737:A:H8	1.84	0.41
1:XA:978:A:O2'	1:XA:1322:C:N3	2.44	0.41
1:XA:1539:C:H2'	1:XA:1540:U:C6	2.55	0.41
9:XI:49:PRO:HB2	9:XI:85:LEU:HD21	2.03	0.41
10:XJ:30:SER:HB2	10:XJ:80:LYS:HB3	2.03	0.41
11:XK:21:ILE:HG13	11:XK:30:VAL:HG12	2.02	0.41
13:XM:93:ARG:HG2	13:XM:94:ARG:NH1	2.36	0.41
15:XO:21:ASP:OD2	15:XO:24:SER:HB2	2.21	0.41
25:Y1:53:VAL:CG1	25:Y1:90:ILE:HD11	2.50	0.41
34:YA:1972:A:H2'	34:YA:1973:G:H8	1.84	0.41
34:YA:2040:C:H2'	34:YA:2041:U:C6	2.55	0.41
34:YA:2146:C:H4'	34:YA:2147:G:C8	2.56	0.41
34:YA:2838:G:C4	34:YA:2839:G:C8	3.09	0.41
38:YF:8:GLN:OE1	38:YF:8:GLN:N	2.51	0.41
40:YH:52:VAL:O	40:YH:65:HIS:NE2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:YS:24:LEU:HD12	47:YS:41:ASP:HA	2.03	0.41
51:YW:14:PRO:HG2	51:YW:78:GLU:HB3	2.02	0.41
54:YZ:28:MET:O	54:YZ:35:ARG:N	2.54	0.41
54:YZ:67:LEU:O	54:YZ:67:LEU:CG	2.68	0.41
1:QA:968:A:C4	1:QA:1062:U:H4'	2.56	0.41
1:QA:1242:C:H2'	1:QA:1243:C:C6	2.56	0.41
1:QA:1314:C:H2'	1:QA:1315:U:C6	2.55	0.41
1:QA:1315:U:H2'	1:QA:1316:G:O4'	2.21	0.41
2:QB:16:HIS:NE2	2:QB:213:LEU:HD22	2.34	0.41
11:QK:58:PRO:HA	11:QK:90:GLY:HA3	2.02	0.41
12:QL:53:ARG:HH12	12:QL:92:ASP:HB2	1.84	0.41
24:R0:23:VAL:HG22	24:R0:38:VAL:HG22	2.02	0.41
34:RA:17:G:H4'	49:RU:25:TRP:HE1	1.86	0.41
34:RA:191:A:H2'	34:RA:192:C:C6	2.55	0.41
34:RA:262:A:H2'	34:RA:263:C:O4'	2.20	0.41
34:RA:270(V):G:H2'	34:RA:270(W):G:H8	1.86	0.41
34:RA:724:U:H2'	34:RA:725:G:O4'	2.21	0.41
34:RA:824:A:H2'	34:RA:825:C:C6	2.56	0.41
34:RA:1354:A:H3'	34:RA:1355:G:H8	1.85	0.41
34:RA:2626:C:H2'	34:RA:2627:G:C8	2.56	0.41
37:RE:13:ARG:HH11	37:RE:20:ALA:HB1	1.86	0.41
39:RG:107:LEU:HD11	39:RG:178:PHE:CD1	2.56	0.41
40:RH:164:TYR:N	40:RH:167:GLU:OE2	2.53	0.41
54:RZ:8:TYR:N	54:RZ:8:TYR:CD1	2.89	0.41
1:XA:57:G:H2'	1:XA:58:C:H6	1.85	0.41
1:XA:101:A:H2'	1:XA:102:G:H8	1.85	0.41
1:XA:124:G:H2'	1:XA:125:U:C6	2.55	0.41
7:XG:113:GLU:OE2	7:XG:122:HIS:ND1	2.41	0.41
9:XI:46:ALA:HA	9:XI:78:LYS:HB2	2.03	0.41
11:XK:27:ASN:OD1	11:XK:28:THR:N	2.53	0.41
13:XM:92:HIS:HA	13:XM:110:ARG:NH2	2.36	0.41
19:XS:40:ILE:HG12	19:XS:62:ILE:HD12	2.03	0.41
27:Y3:11:SER:HA	27:Y3:31:LEU:HD21	2.03	0.41
34:YA:415:A:H2'	34:YA:416:C:C6	2.54	0.41
34:YA:658:C:H2'	34:YA:659:C:C6	2.55	0.41
34:YA:1491:G:O4'	36:YD:99:ASP:HB3	2.20	0.41
34:YA:2025:C:H2'	34:YA:2026:C:C6	2.56	0.41
34:YA:2070:G:H2'	34:YA:2071:A:C8	2.56	0.41
34:YA:2591:C:H2'	34:YA:2592:G:H8	1.82	0.41
34:YA:2734:A:N6	34:YA:2770:G:O2'	2.53	0.41
37:YE:24:THR:HG21	37:YE:188:VAL:HG11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:YF:156:LEU:HD21	38:YF:163:VAL:HG12	2.02	0.41
41:YI:120:ILE:HG12	41:YI:126:TYR:CE2	2.56	0.41
41:YI:125:GLU:OE2	41:YI:141:LYS:HG2	2.21	0.41
44:YP:75:ILE:HD12	44:YP:75:ILE:H	1.86	0.41
46:YR:94:TYR:N	46:YR:94:TYR:CD1	2.88	0.41
48:YT:50:ILE:HG13	48:YT:99:LEU:O	2.20	0.41
50:YV:43:GLU:N	50:YV:43:GLU:OE2	2.54	0.41
50:YV:44:LYS:H	50:YV:44:LYS:HG2	1.66	0.41
54:YZ:1:MET:HB3	54:YZ:3:TYR:CE1	2.56	0.41
1:QA:22:G:H2'	1:QA:23:C:C6	2.56	0.41
1:QA:626:U:H4'	16:QP:38:TYR:HE2	1.84	0.41
1:QA:648:A:H2'	1:QA:649:G:C8	2.54	0.41
1:QA:1126:U:H1'	1:QA:1280:A:C5	2.56	0.41
1:QA:1301:U:H5"	13:QM:21:TYR:HE1	1.85	0.41
1:QA:1461:G:H2'	1:QA:1462:G:H8	1.86	0.41
34:RA:631:A:H2'	34:RA:632:A:O4'	2.21	0.41
34:RA:1257:C:H5'	38:RF:75:HIS:HE1	1.85	0.41
34:RA:1315:C:O2'	34:RA:1392:A:N3	2.41	0.41
34:RA:2146:C:H4'	34:RA:2147:G:C8	2.56	0.41
34:RA:2693:A:H2'	34:RA:2694:G:C8	2.56	0.41
39:RG:44:GLY:O	39:RG:47:LYS:HG2	2.20	0.41
39:RG:125:PHE:CB	39:RG:166:ASP:HB2	2.50	0.41
40:RH:151:ILE:HD13	40:RH:151:ILE:H	1.83	0.41
44:RP:106:LEU:O	44:RP:107:LYS:HG2	2.20	0.41
52:RX:12:VAL:HG12	52:RX:29:TRP:CD1	2.55	0.41
52:RX:28:PHE:N	52:RX:28:PHE:CD1	2.89	0.41
1:XA:217:C:H2'	1:XA:218:C:C6	2.56	0.41
1:XA:320:C:H2'	1:XA:321:A:C8	2.56	0.41
1:XA:646:U:H2'	1:XA:647:C:C6	2.56	0.41
1:XA:745:C:OP1	1:XA:851:G:O2'	2.37	0.41
1:XA:1126:U:H1'	1:XA:1280:A:C5	2.56	0.41
1:XA:1399:C:C2	1:XA:1502:A:N6	2.89	0.41
4:XD:61:LYS:HE2	4:XD:206:PHE:CE2	2.55	0.41
7:XG:27:ILE:HG12	7:XG:40:ALA:HA	2.02	0.41
17:XQ:4:LYS:HB3	17:XQ:61:GLU:HG3	2.03	0.41
19:XS:22:LEU:HD11	19:XS:29:ARG:HB3	2.02	0.41
21:XU:12:LYS:HB3	21:XU:22:ARG:CD	2.46	0.41
30:Y6:25:LYS:HE2	30:Y6:27:LYS:HZ1	1.86	0.41
34:YA:29:U:O4'	49:YU:11:ARG:NH2	2.54	0.41
34:YA:30:G:H2'	34:YA:31:C:C6	2.54	0.41
34:YA:191:A:H2'	34:YA:192:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:222:A:H5"	34:YA:421:U:OP1	2.21	0.41
34:YA:787:U:H5"	34:YA:788:A:H5'	2.03	0.41
34:YA:1394:U:O2	52:YX:16:LYS:NZ	2.48	0.41
34:YA:1473:G:H1	34:YA:1520:U:H3	1.68	0.41
37:YE:55:ASN:HA	37:YE:58:ARG:NH2	2.36	0.41
37:YE:143:ASN:HD22	37:YE:147:PRO:HG2	1.85	0.41
48:YT:45:PHE:CZ	48:YT:65:LYS:HG2	2.55	0.41
51:YW:69:LEU:HD13	51:YW:107:LEU:HD13	2.03	0.41
53:YY:20:TYR:CZ	53:YY:42:VAL:HA	2.55	0.41
53:YY:54:LYS:HD2	53:YY:54:LYS:N	2.33	0.41
1:QA:224:C:H2'	1:QA:225:C:C6	2.55	0.41
1:QA:816:A:OP1	1:QA:1526:G:O2'	2.36	0.41
1:QA:1149:C:H2'	1:QA:1150:U:C6	2.55	0.41
1:QA:1293:G:H2'	1:QA:1294:G:H8	1.84	0.41
2:QB:83:MET:HG2	2:QB:234:PRO:HB2	2.02	0.41
2:QB:178:ARG:NH2	8:QH:71:GLY:O	2.54	0.41
8:QH:12:ARG:HH12	8:QH:27:PRO:HD3	1.86	0.41
8:QH:33:GLU:HG3	8:QH:48:TYR:CE2	2.55	0.41
17:QQ:27:PHE:H	17:QQ:27:PHE:HD2	1.68	0.41
19:QS:10:PHE:HB2	19:QS:39:THR:H	1.86	0.41
24:R0:43:THR:HG21	34:RA:2336:A:H61	1.85	0.41
25:R1:8:SER:HB3	25:R1:10:LYS:HG3	2.03	0.41
26:R2:65:ASN:ND2	34:RA:72:U:O4	2.54	0.41
34:RA:465:G:H2'	34:RA:466:A:C8	2.55	0.41
34:RA:550:G:H5"	50:RV:68:LYS:HZ1	1.85	0.41
34:RA:1198:U:H2'	34:RA:1199:U:H6	1.85	0.41
34:RA:1265:A:H8	34:RA:1265:A:OP1	2.04	0.41
34:RA:1790:C:H2'	34:RA:1791:A:C8	2.56	0.41
34:RA:2627:G:O2'	34:RA:2781:A:N1	2.44	0.41
34:RA:2779:U:H1'	34:RA:2781:A:C5	2.56	0.41
39:RG:116:ASP:O	39:RG:118:ARG:NH1	2.54	0.41
39:RG:133:LEU:HG	39:RG:157:ILE:HB	2.03	0.41
50:RV:98:GLU:HG2	50:RV:100:ARG:HD3	2.03	0.41
1:XA:51:A:C5	1:XA:353:A:C2	3.08	0.41
1:XA:481:G:O2'	1:XA:482:A:O5'	2.38	0.41
1:XA:1178:G:OP2	9:XI:93:ARG:NH2	2.54	0.41
1:XA:1236:A:H2'	1:XA:1237:C:C6	2.56	0.41
2:XB:49:GLU:O	2:XB:52:GLU:HB3	2.21	0.41
2:XB:205:ASP:OD1	2:XB:206:ASP:N	2.54	0.41
4:XD:58:LEU:HD23	4:XD:206:PHE:CZ	2.56	0.41
9:XI:111:ARG:NE	9:XI:112:LYS:O	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:XM:7:VAL:HG21	39:YG:115:ARG:CZ	2.51	0.41
22:XV:4:U:H2'	22:XV:5:C:C6	2.55	0.41
34:YA:270(Q):C:H2'	34:YA:270(R):G:C8	2.56	0.41
34:YA:363(A):A:H2'	34:YA:363(B):G:C8	2.54	0.41
34:YA:395:U:H2'	34:YA:396:G:C8	2.56	0.41
34:YA:407:G:H2'	34:YA:408:G:H8	1.86	0.41
34:YA:448:U:C4	34:YA:583:G:H1'	2.55	0.41
34:YA:862:G:H2'	34:YA:863:A:O4'	2.21	0.41
34:YA:873:G:H2'	34:YA:874:G:C8	2.56	0.41
34:YA:1111:A:O2'	40:YH:3:ARG:NH1	2.54	0.41
34:YA:1412:A:H2'	34:YA:1413:G:C8	2.56	0.41
34:YA:1444:G:H2'	34:YA:1445:C:C5	2.56	0.41
34:YA:1569:A:H2'	34:YA:1570:A:C8	2.56	0.41
34:YA:1904:G:H2'	34:YA:1905:C:O4'	2.21	0.41
34:YA:2122:U:H2'	34:YA:2123:G:C8	2.56	0.41
34:YA:2392:A:H8	44:YP:60:MET:HG2	1.82	0.41
38:YF:141:ALA:O	38:YF:145:GLU:HG2	2.20	0.41
39:YG:23:PHE:N	39:YG:23:PHE:CD1	2.89	0.41
39:YG:77:ILE:O	39:YG:77:ILE:HG22	2.21	0.41
43:YO:122:LEU:HD13	48:YT:72:VAL:HG11	2.02	0.41
49:YU:52:ARG:HE	49:YU:55:ARG:HH21	1.68	0.41
52:YX:21:PHE:HZ	52:YX:92:LEU:HD12	1.85	0.41
1:QA:41:G:H2'	1:QA:42:G:H8	1.84	0.41
1:QA:334:C:H2'	1:QA:335:C:C6	2.56	0.41
1:QA:357:G:O2'	41:YI:89:TYR:HB3	2.21	0.41
1:QA:456:C:H2'	1:QA:457:C:H6	1.85	0.41
1:QA:642:A:N3	8:QH:113:SER:OG	2.46	0.41
1:QA:1192:C:O2	5:QE:25:ARG:NH2	2.31	0.41
1:QA:1297:C:C5'	13:QM:13:LYS:CE	2.99	0.41
1:QA:1316:G:N2	1:QA:1318:A:H3'	2.36	0.41
2:QB:33:TYR:N	2:QB:41:ILE:O	2.54	0.41
2:QB:69:LEU:HD13	2:QB:91:PRO:HB2	2.02	0.41
3:QC:70:VAL:HG12	3:QC:72:LYS:N	2.35	0.41
3:QC:85:ARG:HH11	3:QC:88:ARG:HH11	1.68	0.41
3:QC:89:GLU:OE2	3:QC:93:LYS:NZ	2.46	0.41
9:QI:65:VAL:HG22	9:QI:73:GLN:HG3	2.02	0.41
10:QJ:7:LYS:HG2	10:QJ:71:LEU:HD13	2.03	0.41
10:QJ:39:PRO:HB3	10:QJ:70:ARG:NH1	2.36	0.41
10:QJ:49:VAL:HG13	14:QN:41:ARG:HB2	2.02	0.41
10:QJ:61:GLU:HB2	14:QN:58:LYS:NZ	2.36	0.41
16:QP:6:LEU:HB3	16:QP:17:TYR:CD2	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:QS:40:ILE:HG13	19:QS:71:LEU:HA	2.02	0.41
25:R1:96:LYS:HB3	25:R1:96:LYS:HE2	1.77	0.41
27:R3:2:PRO:O	27:R3:39:ASP:HB2	2.20	0.41
34:RA:469:G:OP1	38:RF:59:TYR:HB3	2.21	0.41
34:RA:620:G:H4'	34:RA:621:A:H5"	2.03	0.41
34:RA:675:A:N3	34:RA:2443:C:O2'	2.44	0.41
34:RA:729:G:H5'	34:RA:730:C:H5"	2.02	0.41
34:RA:825:C:H2'	34:RA:826:U:O4'	2.21	0.41
34:RA:934:G:H2'	34:RA:935:C:C6	2.55	0.41
34:RA:1462:C:H4'	34:RA:2703:C:H5'	2.02	0.41
34:RA:1590:U:H2'	34:RA:1591:G:C8	2.56	0.41
34:RA:1756:G:H4'	34:RA:1758:G:O4'	2.21	0.41
34:RA:2022:U:O2'	34:RA:2617:C:H5'	2.20	0.41
34:RA:2893:G:H5"	34:RA:2894:G:H5'	2.02	0.41
38:RF:164:ARG:O	38:RF:168:ARG:HG3	2.21	0.41
39:RG:37:VAL:HG21	39:RG:103:LEU:HD11	2.01	0.41
40:RH:33:LEU:HD23	40:RH:33:LEU:HA	1.92	0.41
41:RI:93:THR:HG22	41:RI:119:PRO:HB3	2.03	0.41
41:RI:113:ARG:HB3	41:RI:131:LYS:HG3	2.02	0.41
42:RN:103:VAL:HG11	42:RN:120:LEU:HG	2.03	0.41
49:RU:65:ILE:HD11	49:RU:93:LYS:HA	2.02	0.41
50:RV:43:GLU:OE2	50:RV:43:GLU:HA	2.19	0.41
50:RV:75:PHE:HD2	50:RV:76:LYS:N	2.19	0.41
54:RZ:94:GLU:HB3	54:RZ:129:SER:HB2	2.03	0.41
1:XA:251:G:N2	1:XA:253:U:O4	2.54	0.41
1:XA:613:C:H2'	1:XA:614:A:H8	1.86	0.41
1:XA:900:A:H2'	1:XA:901:A:C8	2.56	0.41
1:XA:1062:U:H2'	1:XA:1063:C:C6	2.55	0.41
1:XA:1244:C:H2'	1:XA:1245:A:C8	2.56	0.41
2:XB:55:PHE:HA	2:XB:58:ILE:HG22	2.03	0.41
3:XC:44:GLU:HA	3:XC:52:LEU:HD11	2.03	0.41
12:XL:53:ARG:HH12	12:XL:92:ASP:CB	2.34	0.41
19:XS:25:LYS:O	19:XS:25:LYS:HD3	2.21	0.41
22:XV:75:C:N3	22:XV:76:A:N6	2.69	0.41
28:Y4:2:LYS:HG2	35:YB:40:U:C5	2.56	0.41
29:Y5:51:TYR:N	29:Y5:56:LYS:HG2	2.36	0.41
29:Y5:55:ARG:NH1	46:YR:100:LEU:HD11	2.36	0.41
30:Y6:36:LEU:HD22	30:Y6:50:ARG:HD2	2.02	0.41
32:Y8:13:ARG:HD2	44:YP:61:ARG:NH2	2.36	0.41
32:Y8:54:GLU:HG2	32:Y8:57:ARG:NH2	2.36	0.41
34:YA:138:G:H22	52:YX:44:GLU:CD	2.24	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:197:A:H2	34:YA:2434:A:H62	1.69	0.41
34:YA:414:C:O2	34:YA:1864:U:O2'	2.38	0.41
34:YA:522:G:H2'	34:YA:523:C:C6	2.56	0.41
34:YA:717:G:H2'	34:YA:718:A:O4'	2.21	0.41
34:YA:1165:U:H2'	34:YA:1166:C:H6	1.84	0.41
34:YA:1676:A:H2'	34:YA:1677:A:O4'	2.21	0.41
34:YA:1725:G:C2	34:YA:1741:C:C2	3.09	0.41
34:YA:1794:U:H2'	34:YA:1795:C:H6	1.85	0.41
34:YA:2314:C:H2'	34:YA:2315:G:C8	2.56	0.41
34:YA:2392:A:OP2	34:YA:2422:A:N6	2.54	0.41
34:YA:2547:U:O2	43:YO:23:ARG:NH1	2.41	0.41
34:YA:2563:U:H1'	34:YA:2566:A:N6	2.36	0.41
35:YB:29:A:H2'	35:YB:30:C:H6	1.86	0.41
36:YD:25:THR:O	36:YD:27:THR:N	2.48	0.41
36:YD:166:GLN:HG3	36:YD:182:LEU:HD21	2.03	0.41
37:YE:80:GLU:H	37:YE:80:GLU:HG2	1.62	0.41
39:YG:124:SER:HB2	39:YG:131:TYR:HE1	1.84	0.41
41:YI:76:THR:HG23	41:YI:139:GLN:HB2	2.03	0.41
45:YQ:134:ARG:NH2	54:YZ:122:ARG:HD2	2.35	0.41
47:YS:7:TYR:HE1	47:YS:91:PRO:HG3	1.86	0.41
47:YS:88:ASP:C	47:YS:90:GLY:N	2.54	0.41
54:YZ:158:PRO:HA	54:YZ:159:PRO:HD3	1.85	0.41
1:QA:99:C:H2'	1:QA:101:A:C8	2.55	0.41
1:QA:825:G:H2'	1:QA:826:C:C6	2.55	0.41
1:QA:1179:A:H2'	1:QA:1180:A:O4'	2.21	0.41
1:QA:1321:C:H5"	1:QA:1322:C:H5"	2.02	0.41
2:QB:19:HIS:HB2	2:QB:204:ASN:HA	2.01	0.41
2:QB:35:GLU:O	2:QB:36:ARG:NH1	2.47	0.41
2:QB:83:MET:CG	2:QB:234:PRO:HB2	2.51	0.41
2:QB:178:ARG:HH12	8:QH:74:PRO:HG3	1.87	0.41
4:QD:119:GLN:HG2	4:QD:123:HIS:CD2	2.56	0.41
7:QG:99:LEU:HD23	7:QG:102:ARG:NH1	2.36	0.41
7:QG:111:ARG:NH2	7:QG:126:ASP:OD2	2.52	0.41
13:QM:57:ARG:O	13:QM:61:GLU:HG2	2.20	0.41
18:QR:43:PHE:N	18:QR:43:PHE:HD1	2.18	0.41
29:R5:4:HIS:HA	34:RA:2056:G:N2	2.30	0.41
34:RA:49:A:H61	34:RA:177:G:H2'	1.86	0.41
34:RA:389:G:N1	44:RP:71:VAL:HG12	2.36	0.41
34:RA:582:G:H2'	34:RA:583:G:H8	1.86	0.41
34:RA:640:C:H2'	34:RA:641:C:C6	2.56	0.41
34:RA:987:G:H2'	34:RA:988:A:O4'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:1674:G:H1'	34:RA:1676:A:N6	2.35	0.41
34:RA:1678:G:H22	34:RA:1989:G:H1	1.69	0.41
34:RA:2405:G:H1'	34:RA:2412:A:N6	2.36	0.41
34:RA:2668:G:H2'	34:RA:2669:G:C8	2.56	0.41
36:RD:147:LEU:HD23	36:RD:148:GLU:HG3	2.03	0.41
37:RE:52:LEU:HA	37:RE:53:PRO:HD2	1.94	0.41
38:RF:72:ARG:HG2	38:RF:73:ALA:H	1.85	0.41
40:RH:97:ARG:O	40:RH:104:GLU:N	2.43	0.41
41:RI:96:ASP:O	41:RI:99:GLU:HG2	2.20	0.41
41:RI:138:ILE:HG23	41:RI:140:LEU:HD22	2.03	0.41
42:RN:121:LYS:HB3	42:RN:123:TYR:CE1	2.56	0.41
46:RR:94:TYR:N	46:RR:94:TYR:HD1	2.19	0.41
54:RZ:48:PHE:HD1	54:RZ:52:SER:H	1.67	0.41
1:XA:129(A):G:C6	1:XA:188:U:H4'	2.56	0.41
1:XA:755:G:OP2	15:XO:65:ARG:HD2	2.21	0.41
1:XA:1032(B):G:H2'	1:XA:1033:G:C8	2.56	0.41
2:XB:231:GLU:HA	2:XB:232:PRO:HD3	1.93	0.41
12:XL:47:LYS:N	12:XL:48:PRO:CD	2.83	0.41
13:XM:36:LYS:HE2	13:XM:59:TYR:CG	2.56	0.41
14:XN:37:PHE:CE1	14:XN:53:LEU:HD22	2.56	0.41
18:XR:51:LEU:HD22	18:XR:55:ARG:HD2	2.03	0.41
28:Y4:36:CYS:C	28:Y4:37:SER:O	2.59	0.41
32:Y8:60:LEU:HB3	32:Y8:63:PRO:HG3	2.02	0.41
34:YA:286:C:H2'	34:YA:287:C:C6	2.56	0.41
34:YA:391:G:O2'	34:YA:410:G:OP1	2.32	0.41
34:YA:2108:C:H2'	34:YA:2109:U:C6	2.56	0.41
34:YA:2207:C:O2	36:YD:151:LYS:NZ	2.48	0.41
34:YA:2290:G:H2'	34:YA:2291:U:O4'	2.21	0.41
34:YA:2537:U:H2'	34:YA:2538:C:C6	2.56	0.41
45:YQ:58:PHE:HE2	45:YQ:64:ILE:HD11	1.86	0.41
47:YS:84:GLN:HA	47:YS:110:LEU:HA	2.03	0.41
1:QA:624:C:H2'	1:QA:625:G:C8	2.52	0.40
1:QA:688:G:H2'	1:QA:689:C:C6	2.57	0.40
1:QA:719:C:O2'	18:QR:49:LYS:HB3	2.21	0.40
1:QA:1434:A:H2'	1:QA:1435:G:O4'	2.21	0.40
3:QC:56:ASP:HB2	3:QC:67:THR:HB	2.03	0.40
4:QD:153:ARG:HH11	4:QD:181:MET:HB2	1.86	0.40
10:QJ:4:ILE:HG12	10:QJ:100:THR:HG22	2.02	0.40
11:QK:15:ALA:HA	11:QK:77:MET:HA	2.02	0.40
12:QL:101:VAL:HG12	12:QL:104:VAL:HG23	2.03	0.40
34:RA:92:G:H2'	34:RA:93:C:C6	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:RA:305:U:H2'	34:RA:306:U:C5	2.57	0.40
34:RA:839:U:H1'	34:RA:1191:G:H1'	2.04	0.40
34:RA:1657:C:OP1	37:RE:136:ARG:N	2.54	0.40
34:RA:2024:G:H2'	34:RA:2025:C:C6	2.56	0.40
34:RA:2243:U:H2'	34:RA:2244:U:C6	2.56	0.40
38:RF:45:ARG:HD2	38:RF:97:TYR:CB	2.47	0.40
38:RF:139:PHE:HB2	38:RF:166:ALA:HB1	2.02	0.40
39:RG:8:LYS:HG2	39:RG:12:TYR:CE2	2.56	0.40
41:RI:30:LEU:HB3	41:RI:36:ALA:HB3	2.02	0.40
41:RI:125:GLU:HG3	41:RI:141:LYS:HB3	2.02	0.40
45:RQ:52:VAL:HA	45:RQ:55:VAL:HG22	2.03	0.40
46:RR:45:ARG:HA	46:RR:95:THR:HG21	2.02	0.40
52:RX:28:PHE:HE2	52:RX:47:PHE:CE2	2.39	0.40
52:RX:43:VAL:HG13	52:RX:51:VAL:HG21	2.03	0.40
54:RZ:44:PHE:CE1	54:RZ:48:PHE:HD2	2.39	0.40
1:XA:335:C:H2'	1:XA:336:C:C6	2.55	0.40
1:XA:345:C:H4'	1:XA:346:G:O5'	2.21	0.40
1:XA:498:A:O3'	1:XA:500:G:H8	2.04	0.40
1:XA:510:A:P	4:XD:49:ARG:HH21	2.43	0.40
1:XA:998(A):C:H2'	1:XA:999:U:H6	1.85	0.40
1:XA:1071:C:H2'	1:XA:1072:G:C8	2.56	0.40
1:XA:1151:A:H2'	1:XA:1152:A:C8	2.56	0.40
1:XA:1235:U:H5"	21:XU:3:LYS:HD2	2.02	0.40
1:XA:1372:U:H2'	1:XA:1373:G:O4'	2.20	0.40
3:XC:62:ASP:HA	3:XC:97:LYS:HD2	2.02	0.40
5:XE:37:ARG:HH12	5:XE:111:GLU:HG2	1.86	0.40
19:XS:19:VAL:HG11	19:XS:44:MET:HG2	2.02	0.40
28:Y4:31:ILE:CG2	39:YG:142:PRO:HB2	2.51	0.40
34:YA:489:G:N7	51:YW:49:LYS:NZ	2.69	0.40
34:YA:597:U:H2'	34:YA:598:G:C8	2.56	0.40
34:YA:781:A:C8	36:YD:219:PRO:HG3	2.56	0.40
34:YA:818:G:N1	34:YA:1188:U:OP2	2.43	0.40
35:YB:47:C:C5'	47:YS:10:ARG:HH12	2.34	0.40
36:YD:4:LYS:N	36:YD:18:VAL:O	2.53	0.40
36:YD:65:ILE:HD13	36:YD:88:ARG:NE	2.34	0.40
39:YG:10:LYS:HE2	39:YG:175:LEU:O	2.20	0.40
41:YI:83:ALA:HB2	41:YI:144:VAL:HG21	2.02	0.40
47:YS:31:SER:OG	47:YS:32:LEU:N	2.55	0.40
1:QA:626:U:H5"	16:QP:38:TYR:CD2	2.56	0.40
1:QA:801:U:H2'	1:QA:802:A:C8	2.57	0.40
1:QA:1204:A:P	14:QN:3:ARG:HH12	2.44	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:QC:8:ILE:HD12	3:QC:16:ARG:HE	1.85	0.40
6:QF:77:ARG:O	6:QF:81:ILE:HG13	2.20	0.40
8:QH:20:TYR:HA	8:QH:65:TYR:CZ	2.56	0.40
10:QJ:57:LYS:HE3	10:QJ:60:ARG:NH2	2.36	0.40
19:QS:66:MET:CG	19:QS:74:PHE:CZ	3.04	0.40
30:R6:18:ARG:NH1	34:RA:2401:U:H5'	2.30	0.40
32:R8:29:LYS:HB2	32:R8:44:LYS:HG2	2.03	0.40
34:RA:7:G:O4'	42:RN:131:GLN:HG3	2.21	0.40
34:RA:139:G:H22	34:RA:1596:A:H4'	1.86	0.40
34:RA:483:A:O2'	53:RY:48:ALA:O	2.36	0.40
34:RA:746:A:C5	34:RA:2611:U:H5"	2.56	0.40
34:RA:1651:G:H5'	46:RR:39:PRO:HG2	2.03	0.40
34:RA:1829:A:H3'	34:RA:1830:C:H6	1.86	0.40
34:RA:2591:C:H2'	34:RA:2592:G:H8	1.85	0.40
34:RA:2650:U:H2'	34:RA:2651:C:C6	2.57	0.40
36:RD:4:LYS:NZ	36:RD:19:ALA:O	2.39	0.40
36:RD:35:LYS:HE2	36:RD:104:TYR:CG	2.56	0.40
36:RD:201:HIS:O	36:RD:204:ILE:HG12	2.21	0.40
37:RE:3:GLY:HA2	37:RE:198:VAL:O	2.22	0.40
37:RE:35:GLN:HG2	37:RE:37:ARG:NH2	2.36	0.40
39:RG:5:VAL:HG11	39:RG:8:LYS:CB	2.22	0.40
40:RH:156:ALA:C	40:RH:158:HIS:N	2.75	0.40
40:RH:163:TYR:HB3	40:RH:167:GLU:CG	2.52	0.40
41:RI:86:THR:O	41:RI:122:GLU:HA	2.21	0.40
45:RQ:59:ARG:HG2	54:RZ:179:ASP:OD2	2.21	0.40
50:RV:81:TYR:O	50:RV:81:TYR:CG	2.73	0.40
51:RW:48:ALA:O	51:RW:52:GLU:HG2	2.20	0.40
1:XA:186(A):C:N3	20:XT:105:SER:OG	2.52	0.40
1:XA:464:G:C6	1:XA:466:C:H5'	2.56	0.40
1:XA:613:C:H2'	1:XA:614:A:C8	2.55	0.40
1:XA:1250:A:H2'	1:XA:1251:A:C8	2.57	0.40
1:XA:1532:U:H2'	1:XA:1533:C:C6	2.56	0.40
2:XB:59:GLU:CB	2:XB:221:LEU:HD11	2.51	0.40
3:XC:57:ILE:HG12	3:XC:66:VAL:HG22	2.03	0.40
7:XG:151:TYR:CD1	7:XG:151:TYR:N	2.90	0.40
11:XK:91:ARG:HD3	11:XK:92:GLU:N	2.37	0.40
27:Y3:47:VAL:HG13	27:Y3:56:VAL:HG21	2.03	0.40
34:YA:2122:U:H2'	34:YA:2123:G:H8	1.86	0.40
34:YA:2556:C:H2'	34:YA:2557:G:O4'	2.22	0.40
34:YA:2600:A:H2'	34:YA:2601:C:C6	2.56	0.40
35:YB:3:C:H2'	35:YB:4:C:C6	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:YE:13:ARG:HG2	48:YT:58:ASN:HB3	2.02	0.40
40:YH:91:GLY:HA3	40:YH:94:TYR:CD2	2.56	0.40
42:YN:89:LYS:O	42:YN:93:THR:HG22	2.21	0.40
44:YP:82:GLY:HA2	44:YP:113:LYS:O	2.20	0.40
44:YP:84:ASN:HA	44:YP:115:LEU:O	2.20	0.40
46:YR:12:ARG:HB2	46:YR:17:ARG:HG3	2.02	0.40
47:YS:56:LEU:HG	47:YS:58:LEU:HD22	2.02	0.40
54:YZ:44:PHE:CE2	54:YZ:86:VAL:HG11	2.55	0.40
1:QA:216:G:H2'	1:QA:217:C:H6	1.85	0.40
2:QB:209:ARG:HA	2:QB:209:ARG:HD2	1.87	0.40
3:QC:51:GLY:O	3:QC:115:LEU:HD21	2.21	0.40
12:QL:117:ARG:NH2	12:QL:124:LYS:HD2	2.27	0.40
15:QO:78:TYR:CZ	15:QO:82:ILE:HD11	2.57	0.40
19:QS:44:MET:HG2	19:QS:47:HIS:ND1	2.37	0.40
25:R1:52:ARG:NH1	34:RA:2213:U:O2'	2.45	0.40
26:R2:12:GLU:O	26:R2:16:LEU:CD2	2.70	0.40
34:RA:173:G:H2'	34:RA:174:C:C6	2.57	0.40
34:RA:1224:G:N2	34:RA:1227:A:OP2	2.41	0.40
34:RA:1231:G:H2'	34:RA:1232:G:H8	1.85	0.40
34:RA:1329:U:H5"	34:RA:1330:C:H5	1.86	0.40
34:RA:1424:G:OP1	36:RD:33:LEU:HD12	2.20	0.40
34:RA:2032:G:H1'	37:RE:145:LYS:HD3	2.03	0.40
34:RA:2065:C:H2'	34:RA:2066:C:H6	1.86	0.40
34:RA:2636:U:H1'	34:RA:2783:G:N2	2.36	0.40
35:RB:5:C:H2'	35:RB:6:C:C6	2.56	0.40
36:RD:226:MET:HB3	36:RD:230:ASP:HB2	2.02	0.40
36:RD:233:HIS:CE1	36:RD:247:ALA:O	2.74	0.40
36:RD:254:THR:HG23	36:RD:255:LYS:HD3	2.03	0.40
38:RF:165:ARG:HG2	38:RF:168:ARG:HH21	1.86	0.40
39:RG:14:GLU:C	39:RG:17:PRO:HD2	2.42	0.40
39:RG:23:PHE:CE2	39:RG:168:GLU:HA	2.56	0.40
43:RO:120:GLU:HB2	48:RT:68:TYR:HE2	1.86	0.40
44:RP:130:PHE:HE2	44:RP:146:VAL:HA	1.85	0.40
50:RV:64:HIS:CD2	50:RV:92:THR:HG22	2.56	0.40
52:RX:55:ASN:HB2	52:RX:80:ILE:HG13	2.03	0.40
1:XA:89:U:O2'	1:XA:90:C:OP1	2.38	0.40
1:XA:1118:C:H2'	1:XA:1119:C:H6	1.87	0.40
4:XD:26:CYS:HB3	58:XD:301:SF4:S3	2.60	0.40
7:XG:115:ARG:O	7:XG:119:ARG:HG3	2.22	0.40
8:XH:73:ASP:OD1	8:XH:75:ARG:NH1	2.54	0.40
25:Y1:52:ARG:HH11	25:Y1:57:GLU:HB2	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
34:YA:882:G:H2'	34:YA:883:G:C8	2.56	0.40
34:YA:1508:A:O2'	34:YA:1509:C:O4'	2.33	0.40
34:YA:2677:G:H2'	34:YA:2678:C:C6	2.57	0.40
37:YE:31:CYS:HB3	37:YE:49:LEU:HB3	2.02	0.40
37:YE:160:TYR:HD2	37:YE:161:GLY:N	2.20	0.40
39:YG:102:PHE:HD1	39:YG:102:PHE:O	2.05	0.40
53:YY:67:LEU:HD13	53:YY:67:LEU:HA	1.94	0.40
1:QA:186:C:H2'	1:QA:186(A):C:C6	2.56	0.40
1:QA:998:G:H2'	1:QA:998(A):C:H6	1.87	0.40
1:QA:1479:C:H2'	1:QA:1480:G:H8	1.86	0.40
2:QB:21:ARG:HA	2:QB:39:ILE:HA	2.03	0.40
3:QC:28:GLN:O	3:QC:32:LEU:HG	2.22	0.40
12:QL:77:LEU:HA	12:QL:77:LEU:HD23	1.89	0.40
13:QM:9:ILE:N	13:QM:9:ILE:CD1	2.73	0.40
16:QP:14:ASN:HA	16:QP:42:ARG:HH11	1.86	0.40
19:QS:63:THR:OG1	19:QS:64:GLU:N	2.51	0.40
22:QV:65:C:H2'	22:QV:66:A:C8	2.55	0.40
29:R5:33:CYS:SG	29:R5:38:ALA:O	2.80	0.40
33:R9:35:ARG:HD3	34:RA:2742:C:OP1	2.22	0.40
34:RA:223:A:N1	34:RA:407:G:O2'	2.43	0.40
34:RA:608:A:H2'	34:RA:609:A:H8	1.86	0.40
34:RA:1020:A:N1	34:RA:1141:U:H2'	2.37	0.40
34:RA:1570:A:H2'	34:RA:1571:A:C8	2.55	0.40
34:RA:2037:G:H2'	34:RA:2038:G:H8	1.86	0.40
34:RA:2086:U:H2'	34:RA:2087:G:H8	1.86	0.40
34:RA:2475:C:H42	34:RA:2529:G:H22	1.69	0.40
34:RA:2592:G:H2'	34:RA:2593:U:O4'	2.22	0.40
35:RB:48:A:H2'	35:RB:49:C:C6	2.56	0.40
36:RD:133:LEU:HD23	36:RD:136:ILE:HD12	2.04	0.40
37:RE:76:ARG:NH1	37:RE:195:LEU:HB2	2.36	0.40
37:RE:101:ARG:NH1	37:RE:171:GLU:HB2	2.37	0.40
40:RH:7:LEU:N	40:RH:8:PRO:HD2	2.36	0.40
40:RH:74:ASN:HA	40:RH:83:TYR:OH	2.22	0.40
44:RP:88:LEU:CG	44:RP:95:VAL:HG11	2.49	0.40
45:RQ:12:GLN:CG	45:RQ:73:PRO:HD2	2.51	0.40
45:RQ:31:ASP:OD1	45:RQ:134:ARG:NH1	2.54	0.40
51:RW:8:ARG:NE	51:RW:9:TYR:HE1	2.19	0.40
54:RZ:10:ARG:HB2	54:RZ:36:LYS:HB3	2.03	0.40
1:XA:107:G:C2	1:XA:108:G:H1'	2.57	0.40
1:XA:153:C:H2'	1:XA:154:C:C6	2.56	0.40
1:XA:851:G:H2'	1:XA:852:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:955:U:OP1	13:XM:121:LYS:HE2	2.21	0.40
4:XD:13:ARG:HA	4:XD:33:MET:SD	2.62	0.40
6:XF:68:PRO:HG3	6:XF:71:ARG:NH2	2.36	0.40
16:XP:67:THR:HG22	16:XP:68:ASP:H	1.87	0.40
19:XS:63:THR:HG23	19:XS:66:MET:HB2	2.04	0.40
34:YA:173:G:H2'	34:YA:174:C:C6	2.57	0.40
34:YA:327:G:H2'	34:YA:328:U:C6	2.57	0.40
34:YA:1297:C:H2'	34:YA:1298:C:H6	1.87	0.40
34:YA:2314:C:H2'	34:YA:2315:G:H8	1.85	0.40
34:YA:2329:G:H2'	34:YA:2330:G:H8	1.83	0.40
34:YA:2854:G:H2'	34:YA:2855:C:H6	1.87	0.40
36:YD:201:HIS:O	36:YD:204:ILE:HG12	2.22	0.40
40:YH:144:VAL:O	40:YH:148:ILE:HG12	2.21	0.40
46:YR:29:LEU:HB3	46:YR:75:LEU:HD21	2.03	0.40
48:YT:45:PHE:CD1	48:YT:65:LYS:HE3	2.57	0.40
1:QA:51:A:N1	1:QA:353:A:C2	2.90	0.40
1:QA:247:G:OP2	17:QQ:101:ARG:HG2	2.22	0.40
1:QA:339:C:H2'	1:QA:340:U:C6	2.57	0.40
1:QA:1151:A:H2'	1:QA:1152:A:H8	1.86	0.40
1:QA:1366:C:H2'	1:QA:1367:C:C6	2.57	0.40
1:QA:1461:G:H2'	1:QA:1462:G:C8	2.57	0.40
19:QS:40:ILE:HD12	19:QS:74:PHE:CE2	2.56	0.40
22:QV:9:A:O2'	22:QV:10:G:N7	2.55	0.40
31:R7:49:ARG:HH22	34:RA:129:C:H5'	1.86	0.40
34:RA:485:C:H2'	34:RA:486:C:C6	2.56	0.40
34:RA:664:C:H2'	34:RA:665:C:C6	2.56	0.40
34:RA:935:C:H2'	34:RA:936:C:C6	2.56	0.40
34:RA:1550:C:H2'	34:RA:1551:C:H6	1.86	0.40
34:RA:1777:U:H2'	34:RA:1778:U:H6	1.86	0.40
34:RA:1973:G:H2'	34:RA:1974:C:C6	2.57	0.40
34:RA:2031:A:N3	34:RA:2455:G:O2'	2.39	0.40
34:RA:2219:G:H5"	36:RD:269:PHE:HZ	1.86	0.40
34:RA:2591:C:OP1	36:RD:239:ARG:HG3	2.21	0.40
35:RB:43:C:C2	39:RG:93:THR:CG2	2.95	0.40
35:RB:61:G:H2'	35:RB:62:C:C6	2.56	0.40
38:RF:101:LEU:HB3	38:RF:106:ARG:HD3	2.02	0.40
41:RI:135:GLU:H	41:RI:135:GLU:HG3	1.62	0.40
51:RW:29:LEU:HB2	51:RW:69:LEU:HD12	2.03	0.40
1:XA:304:U:H2'	1:XA:305:G:C8	2.57	0.40
1:XA:390:C:O3'	16:XP:28:ARG:NH2	2.54	0.40
1:XA:398:C:H2'	1:XA:399:G:C8	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:XA:922:G:H2'	1:XA:923:A:C8	2.57	0.40
1:XA:1148:U:H2'	1:XA:1149:C:O4'	2.20	0.40
1:XA:1443:G:H5'	1:XA:1446:A:OP2	2.22	0.40
2:XB:61:LEU:HD21	2:XB:160:ASP:HB3	2.03	0.40
2:XB:178:ARG:NH1	2:XB:196:LEU:HA	2.36	0.40
13:XM:29:ARG:HB3	13:XM:64:TRP:CH2	2.57	0.40
17:XQ:52:LYS:HD2	17:XQ:55:ASP:OD2	2.21	0.40
28:Y4:42:PHE:CD1	28:Y4:42:PHE:C	2.94	0.40
31:Y7:35:ARG:HG3	31:Y7:42:LEU:HD21	2.03	0.40
32:Y8:16:ILE:HD13	32:Y8:22:VAL:HG22	2.04	0.40
34:YA:303:U:H2'	34:YA:304:G:C8	2.56	0.40
34:YA:640:C:H2'	34:YA:641:C:C6	2.57	0.40
34:YA:852:G:H2'	34:YA:853:G:H8	1.86	0.40
34:YA:1035:U:H2'	34:YA:1036:G:H8	1.86	0.40
34:YA:1081:U:H3'	34:YA:1082:U:H4'	2.04	0.40
34:YA:1590:U:H2'	34:YA:1591:G:H8	1.85	0.40
34:YA:1799:G:C6	36:YD:177:LEU:HB3	2.56	0.40
34:YA:1858:G:O2'	34:YA:1884:A:N6	2.54	0.40
34:YA:2241:A:H2'	34:YA:2242:G:C8	2.56	0.40
34:YA:2443:C:H2'	34:YA:2444:G:C8	2.55	0.40
34:YA:2688:U:OP1	34:YA:2713:A:N6	2.47	0.40
36:YD:34:VAL:HG22	36:YD:35:LYS:H	1.86	0.40
38:YF:202:PHE:O	38:YF:206:ILE:HG22	2.21	0.40
41:YI:63:ALA:O	41:YI:66:GLU:HG2	2.21	0.40
51:YW:85:VAL:HG12	51:YW:95:ILE:HG22	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	QB	235/256 (92%)	215 (92%)	18 (8%)	2 (1%)	17 57

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	XB	235/256 (92%)	213 (91%)	20 (8%)	2 (1%)	17 57
3	QC	203/239 (85%)	190 (94%)	13 (6%)	0	100 100
3	XC	203/239 (85%)	192 (95%)	11 (5%)	0	100 100
4	QD	206/209 (99%)	200 (97%)	3 (2%)	3 (2%)	10 47
4	XD	206/209 (99%)	199 (97%)	7 (3%)	0	100 100
5	QE	149/162 (92%)	137 (92%)	12 (8%)	0	100 100
5	XE	149/162 (92%)	143 (96%)	5 (3%)	1 (1%)	22 62
6	QF	99/101 (98%)	97 (98%)	2 (2%)	0	100 100
6	XF	99/101 (98%)	97 (98%)	2 (2%)	0	100 100
7	QG	153/156 (98%)	144 (94%)	9 (6%)	0	100 100
7	XG	153/156 (98%)	149 (97%)	4 (3%)	0	100 100
8	QH	136/138 (99%)	125 (92%)	11 (8%)	0	100 100
8	XH	136/138 (99%)	123 (90%)	13 (10%)	0	100 100
9	QI	125/128 (98%)	117 (94%)	8 (6%)	0	100 100
9	XI	125/128 (98%)	119 (95%)	6 (5%)	0	100 100
10	QJ	97/105 (92%)	84 (87%)	13 (13%)	0	100 100
10	XJ	97/105 (92%)	86 (89%)	11 (11%)	0	100 100
11	QK	117/129 (91%)	111 (95%)	6 (5%)	0	100 100
11	XK	117/129 (91%)	113 (97%)	4 (3%)	0	100 100
12	QL	123/131 (94%)	111 (90%)	11 (9%)	1 (1%)	19 59
12	XL	123/131 (94%)	113 (92%)	8 (6%)	2 (2%)	9 45
13	QM	119/126 (94%)	106 (89%)	12 (10%)	1 (1%)	19 59
13	XM	119/126 (94%)	105 (88%)	13 (11%)	1 (1%)	19 59
14	QN	58/61 (95%)	53 (91%)	5 (9%)	0	100 100
14	XN	58/61 (95%)	52 (90%)	5 (9%)	1 (2%)	9 44
15	QO	86/89 (97%)	80 (93%)	6 (7%)	0	100 100
15	XO	86/89 (97%)	82 (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%)	98 (100%)	0	0	100 100
17	XQ	98/105 (93%)	98 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
18	QR	68/88 (77%)	67 (98%)	1 (2%)	0	100 100
18	XR	68/88 (77%)	64 (94%)	4 (6%)	0	100 100
19	QS	82/93 (88%)	64 (78%)	13 (16%)	5 (6%)	1 17
19	XS	82/93 (88%)	73 (89%)	8 (10%)	1 (1%)	13 51
20	QT	97/106 (92%)	88 (91%)	9 (9%)	0	100 100
20	XT	97/106 (92%)	87 (90%)	10 (10%)	0	100 100
21	QU	23/27 (85%)	20 (87%)	3 (13%)	0	100 100
21	XU	23/27 (85%)	21 (91%)	2 (9%)	0	100 100
24	R0	80/85 (94%)	74 (92%)	6 (8%)	0	100 100
24	Y0	80/85 (94%)	76 (95%)	4 (5%)	0	100 100
25	R1	95/98 (97%)	87 (92%)	6 (6%)	2 (2%)	7 40
25	Y1	95/98 (97%)	92 (97%)	2 (2%)	1 (1%)	14 53
26	R2	67/72 (93%)	65 (97%)	2 (3%)	0	100 100
26	Y2	69/72 (96%)	64 (93%)	4 (6%)	1 (1%)	11 48
27	R3	57/60 (95%)	56 (98%)	1 (2%)	0	100 100
27	Y3	57/60 (95%)	55 (96%)	2 (4%)	0	100 100
28	R4	69/71 (97%)	52 (75%)	13 (19%)	4 (6%)	1 18
28	Y4	69/71 (97%)	48 (70%)	19 (28%)	2 (3%)	4 33
29	R5	57/60 (95%)	48 (84%)	6 (10%)	3 (5%)	2 19
29	Y5	57/60 (95%)	50 (88%)	6 (10%)	1 (2%)	8 43
30	R6	47/54 (87%)	36 (77%)	10 (21%)	1 (2%)	7 40
30	Y6	47/54 (87%)	34 (72%)	9 (19%)	4 (8%)	1 10
31	R7	47/49 (96%)	45 (96%)	2 (4%)	0	100 100
31	Y7	47/49 (96%)	45 (96%)	2 (4%)	0	100 100
32	R8	62/65 (95%)	53 (86%)	9 (14%)	0	100 100
32	Y8	62/65 (95%)	53 (86%)	7 (11%)	2 (3%)	4 31
33	R9	35/37 (95%)	35 (100%)	0	0	100 100
33	Y9	35/37 (95%)	34 (97%)	1 (3%)	0	100 100
36	RD	270/276 (98%)	251 (93%)	18 (7%)	1 (0%)	34 71
36	YD	270/276 (98%)	246 (91%)	21 (8%)	3 (1%)	14 53
37	RE	203/206 (98%)	177 (87%)	23 (11%)	3 (2%)	10 47

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
37	YE	203/206 (98%)	174 (86%)	27 (13%)	2 (1%)	15 55
38	RF	200/210 (95%)	188 (94%)	9 (4%)	3 (2%)	10 47
38	YF	200/210 (95%)	189 (94%)	11 (6%)	0	100 100
39	RG	179/182 (98%)	159 (89%)	18 (10%)	2 (1%)	14 53
39	YG	179/182 (98%)	160 (89%)	19 (11%)	0	100 100
40	RH	168/180 (93%)	136 (81%)	26 (16%)	6 (4%)	3 29
40	YH	168/180 (93%)	145 (86%)	18 (11%)	5 (3%)	4 33
41	RI	144/148 (97%)	130 (90%)	9 (6%)	5 (4%)	3 30
41	YI	144/148 (97%)	123 (85%)	11 (8%)	10 (7%)	1 15
42	RN	136/140 (97%)	129 (95%)	6 (4%)	1 (1%)	22 62
42	YN	136/140 (97%)	126 (93%)	8 (6%)	2 (2%)	10 47
43	RO	120/122 (98%)	116 (97%)	4 (3%)	0	100 100
43	YO	120/122 (98%)	113 (94%)	7 (6%)	0	100 100
44	RP	148/150 (99%)	129 (87%)	16 (11%)	3 (2%)	7 41
44	YP	148/150 (99%)	129 (87%)	16 (11%)	3 (2%)	7 41
45	RQ	139/141 (99%)	114 (82%)	24 (17%)	1 (1%)	22 62
45	YQ	139/141 (99%)	113 (81%)	22 (16%)	4 (3%)	4 33
46	RR	116/118 (98%)	108 (93%)	6 (5%)	2 (2%)	9 44
46	YR	116/118 (98%)	113 (97%)	3 (3%)	0	100 100
47	RS	109/112 (97%)	93 (85%)	14 (13%)	2 (2%)	8 43
47	YS	109/112 (97%)	94 (86%)	12 (11%)	3 (3%)	5 34
48	RT	135/146 (92%)	124 (92%)	9 (7%)	2 (2%)	10 47
48	YT	135/146 (92%)	127 (94%)	8 (6%)	0	100 100
49	RU	115/118 (98%)	109 (95%)	5 (4%)	1 (1%)	17 57
49	YU	115/118 (98%)	109 (95%)	5 (4%)	1 (1%)	17 57
50	RV	99/101 (98%)	92 (93%)	5 (5%)	2 (2%)	7 41
50	YV	99/101 (98%)	86 (87%)	8 (8%)	5 (5%)	2 20
51	RW	111/113 (98%)	108 (97%)	3 (3%)	0	100 100
51	YW	111/113 (98%)	105 (95%)	6 (5%)	0	100 100
52	RX	90/96 (94%)	86 (96%)	4 (4%)	0	100 100
52	YX	90/96 (94%)	90 (100%)	0	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
53	RY	100/110 (91%)	85 (85%)	13 (13%)	2 (2%)	7 41
53	YY	100/110 (91%)	77 (77%)	18 (18%)	5 (5%)	2 21
54	RZ	181/206 (88%)	158 (87%)	18 (10%)	5 (3%)	5 34
54	YZ	181/206 (88%)	159 (88%)	13 (7%)	9 (5%)	2 21
All	All	11472/12126 (95%)	10464 (91%)	874 (8%)	134 (1%)	13 51

All (134) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	QB	233	SER
19	QS	67	VAL
25	R1	30	VAL
28	R4	49	PHE
28	R4	50	VAL
29	R5	55	ARG
38	RF	134	GLY
41	RI	82	ARG
46	RR	4	LEU
53	RY	76	CYS
54	RZ	53	ILE
54	RZ	94	GLU
26	Y2	18	PRO
28	Y4	40	HIS
32	Y8	62	LEU
36	YD	35	LYS
36	YD	36	PRO
41	YI	111	PRO
41	YI	145	VAL
47	YS	89	ARG
53	YY	77	PRO
53	YY	78	ALA
54	YZ	61	LEU
4	QD	37	PRO
28	R4	35	VAL
28	R4	40	HIS
29	R5	34	PRO
29	R5	57	VAL
37	RE	54	GLN
40	RH	151	ILE
40	RH	169	VAL
44	RP	107	LYS

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Mol	Chain	Res	Type
45	RQ	27	VAL
48	RT	58	ASN
49	RU	92	ARG
50	RV	46	VAL
53	RY	78	ALA
13	XM	106	ASN
14	XN	17	LYS
28	Y4	20	ASN
30	Y6	19	ARG
41	YI	144	VAL
45	YQ	27	VAL
45	YQ	29	PHE
49	YU	92	ARG
50	YV	44	LYS
53	YY	6	HIS
53	YY	58	GLY
2	QB	208	ILE
4	QD	155	LEU
19	QS	72	GLY
37	RE	51	PHE
39	RG	117	PHE
40	RH	87	LEU
40	RH	155	SER
41	RI	10	GLU
46	RR	3	HIS
25	Y1	54	ALA
29	Y5	58	LEU
40	YH	87	LEU
40	YH	169	VAL
41	YI	72	LEU
41	YI	133	HIS
42	YN	9	VAL
44	YP	108	LYS
45	YQ	28	ALA
47	YS	62	LYS
47	YS	111	GLU
50	YV	43	GLU
54	YZ	54	HIS
54	YZ	59	LEU
54	YZ	94	GLU
4	QD	156	GLU
12	QL	28	LYS

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Mol	Chain	Res	Type
13	QM	10	PRO
19	QS	45	VAL
36	RD	35	LYS
38	RF	130	ALA
40	RH	86	GLU
40	RH	168	PRO
41	RI	145	VAL
42	RN	9	VAL
47	RS	110	LEU
12	XL	45	PRO
19	XS	9	VAL
30	Y6	16	CYS
41	YI	11	ASN
41	YI	18	VAL
45	YQ	78	PRO
50	YV	30	GLY
54	YZ	7	ALA
54	YZ	165	VAL
25	R1	53	VAL
30	R6	7	ILE
37	RE	93	VAL
38	RF	133	ASN
41	RI	118	LYS
44	RP	115	LEU
47	RS	62	LYS
54	RZ	6	LYS
54	RZ	7	ALA
54	RZ	95	PRO
12	XL	28	LYS
30	Y6	18	ARG
37	YE	82	ARG
37	YE	144	ARG
40	YH	86	GLU
42	YN	58	ASP
54	YZ	63	ASP
19	QS	10	PHE
48	RT	55	ASN
50	RV	50	PRO
2	XB	233	SER
30	Y6	46	HIS
36	YD	64	ILE
40	YH	152	ARG

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Mol	Chain	Res	Type
41	YI	10	GLU
50	YV	50	PRO
54	YZ	53	ILE
19	QS	42	PRO
41	RI	119	PRO
2	XB	234	PRO
5	XE	74	GLY
53	YY	53	PRO
41	YI	134	PRO
54	YZ	62	PRO
32	Y8	63	PRO
39	RG	5	VAL
44	RP	95	VAL
40	YH	153	LYS
44	YP	7	ARG
50	YV	48	GLY
41	YI	118	LYS
44	YP	95	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	205/220 (93%)	194 (95%)	11 (5%)	22 57
2	XB	205/220 (93%)	192 (94%)	13 (6%)	18 52
3	QC	159/188 (85%)	156 (98%)	3 (2%)	57 80
3	XC	159/188 (85%)	150 (94%)	9 (6%)	20 55
4	QD	180/181 (99%)	165 (92%)	15 (8%)	11 42
4	XD	180/181 (99%)	176 (98%)	4 (2%)	52 78
5	QE	116/123 (94%)	113 (97%)	3 (3%)	46 74
5	XE	116/123 (94%)	111 (96%)	5 (4%)	29 63
6	QF	90/90 (100%)	90 (100%)	0	100 100
6	XF	90/90 (100%)	90 (100%)	0	100 100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	QG	126/127 (99%)	121 (96%)	5 (4%)	31 65
7	XG	126/127 (99%)	122 (97%)	4 (3%)	39 70
8	QH	119/119 (100%)	118 (99%)	1 (1%)	81 92
8	XH	119/119 (100%)	116 (98%)	3 (2%)	47 75
9	QI	98/99 (99%)	95 (97%)	3 (3%)	40 71
9	XI	98/99 (99%)	91 (93%)	7 (7%)	14 48
10	QJ	89/92 (97%)	88 (99%)	1 (1%)	73 88
10	XJ	89/92 (97%)	87 (98%)	2 (2%)	52 78
11	QK	90/99 (91%)	86 (96%)	4 (4%)	28 63
11	XK	90/99 (91%)	84 (93%)	6 (7%)	16 50
12	QL	104/108 (96%)	99 (95%)	5 (5%)	25 60
12	XL	104/108 (96%)	98 (94%)	6 (6%)	20 55
13	QM	97/101 (96%)	91 (94%)	6 (6%)	18 53
13	XM	97/101 (96%)	91 (94%)	6 (6%)	18 53
14	QN	49/50 (98%)	44 (90%)	5 (10%)	7 34
14	XN	49/50 (98%)	47 (96%)	2 (4%)	30 64
15	QO	79/80 (99%)	79 (100%)	0	100 100
15	XO	79/80 (99%)	77 (98%)	2 (2%)	47 75
16	QP	72/74 (97%)	68 (94%)	4 (6%)	21 56
16	XP	72/74 (97%)	70 (97%)	2 (3%)	43 73
17	QQ	95/97 (98%)	90 (95%)	5 (5%)	22 57
17	XQ	95/97 (98%)	89 (94%)	6 (6%)	18 52
18	QR	61/77 (79%)	58 (95%)	3 (5%)	25 59
18	XR	61/77 (79%)	58 (95%)	3 (5%)	25 59
19	QS	73/80 (91%)	68 (93%)	5 (7%)	16 49
19	XS	73/80 (91%)	67 (92%)	6 (8%)	11 42
20	QT	76/82 (93%)	71 (93%)	5 (7%)	16 51
20	XT	76/82 (93%)	75 (99%)	1 (1%)	69 87
21	QU	20/22 (91%)	18 (90%)	2 (10%)	7 35
21	XU	20/22 (91%)	18 (90%)	2 (10%)	7 35
24	R0	65/67 (97%)	60 (92%)	5 (8%)	13 44

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
24	Y0	65/67 (97%)	61 (94%)	4 (6%)	18 53
25	R1	82/83 (99%)	78 (95%)	4 (5%)	25 59
25	Y1	82/83 (99%)	79 (96%)	3 (4%)	34 66
26	R2	64/67 (96%)	58 (91%)	6 (9%)	8 38
26	Y2	66/67 (98%)	62 (94%)	4 (6%)	18 53
27	R3	51/52 (98%)	47 (92%)	4 (8%)	12 44
27	Y3	51/52 (98%)	50 (98%)	1 (2%)	55 79
28	R4	63/63 (100%)	52 (82%)	11 (18%)	2 12
28	Y4	63/63 (100%)	55 (87%)	8 (13%)	4 24
29	R5	51/52 (98%)	44 (86%)	7 (14%)	3 22
29	Y5	51/52 (98%)	47 (92%)	4 (8%)	12 44
30	R6	48/52 (92%)	43 (90%)	5 (10%)	7 34
30	Y6	48/52 (92%)	36 (75%)	12 (25%)	0 4
31	R7	42/42 (100%)	42 (100%)	0	100 100
31	Y7	42/42 (100%)	40 (95%)	2 (5%)	25 60
32	R8	54/55 (98%)	52 (96%)	2 (4%)	34 66
32	Y8	54/55 (98%)	50 (93%)	4 (7%)	13 46
33	R9	34/34 (100%)	33 (97%)	1 (3%)	42 72
33	Y9	34/34 (100%)	34 (100%)	0	100 100
36	RD	214/218 (98%)	207 (97%)	7 (3%)	38 69
36	YD	214/218 (98%)	191 (89%)	23 (11%)	6 33
37	RE	165/166 (99%)	157 (95%)	8 (5%)	25 60
37	YE	165/166 (99%)	154 (93%)	11 (7%)	16 50
38	RF	161/166 (97%)	156 (97%)	5 (3%)	40 71
38	YF	161/166 (97%)	159 (99%)	2 (1%)	71 87
39	RG	155/156 (99%)	144 (93%)	11 (7%)	14 48
39	YG	155/156 (99%)	143 (92%)	12 (8%)	13 44
40	RH	142/148 (96%)	131 (92%)	11 (8%)	13 44
40	YH	142/148 (96%)	130 (92%)	12 (8%)	10 41
41	RI	122/124 (98%)	107 (88%)	15 (12%)	4 26
41	YI	122/124 (98%)	111 (91%)	11 (9%)	9 39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
42	RN	117/119 (98%)	108 (92%)	9 (8%)	13 44
42	YN	117/119 (98%)	105 (90%)	12 (10%)	7 34
43	RO	100/100 (100%)	96 (96%)	4 (4%)	31 65
43	YO	100/100 (100%)	96 (96%)	4 (4%)	31 65
44	RP	116/116 (100%)	107 (92%)	9 (8%)	12 44
44	YP	116/116 (100%)	111 (96%)	5 (4%)	29 63
45	RQ	111/111 (100%)	101 (91%)	10 (9%)	9 39
45	YQ	111/111 (100%)	101 (91%)	10 (9%)	9 39
46	RR	101/101 (100%)	96 (95%)	5 (5%)	24 59
46	YR	101/101 (100%)	100 (99%)	1 (1%)	76 89
47	RS	87/88 (99%)	81 (93%)	6 (7%)	15 49
47	YS	87/88 (99%)	82 (94%)	5 (6%)	20 55
48	RT	120/127 (94%)	114 (95%)	6 (5%)	24 59
48	YT	120/127 (94%)	113 (94%)	7 (6%)	20 55
49	RU	93/94 (99%)	90 (97%)	3 (3%)	39 70
49	YU	93/94 (99%)	89 (96%)	4 (4%)	29 63
50	RV	82/82 (100%)	73 (89%)	9 (11%)	6 31
50	YV	82/82 (100%)	76 (93%)	6 (7%)	14 46
51	RW	92/92 (100%)	88 (96%)	4 (4%)	29 63
51	YW	92/92 (100%)	89 (97%)	3 (3%)	38 69
52	RX	74/78 (95%)	70 (95%)	4 (5%)	22 57
52	YX	74/78 (95%)	69 (93%)	5 (7%)	16 49
53	RY	85/91 (93%)	78 (92%)	7 (8%)	11 42
53	YY	85/91 (93%)	75 (88%)	10 (12%)	5 28
54	RZ	162/179 (90%)	143 (88%)	19 (12%)	5 29
54	YZ	162/179 (90%)	145 (90%)	17 (10%)	7 33
All	All	9704/10064 (96%)	9130 (94%)	574 (6%)	19 54

All (574) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	QB	17	PHE
2	QB	28	PHE

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Mol	Chain	Res	Type
2	QB	56	ARG
2	QB	92	TYR
2	QB	137	ARG
2	QB	152	PHE
2	QB	199	TYR
2	QB	200	ILE
2	QB	204	ASN
2	QB	205	ASP
2	QB	235	SER
3	QC	12	LEU
3	QC	172	ARG
3	QC	193	TYR
4	QD	10	ARG
4	QD	20	TYR
4	QD	27	TYR
4	QD	31	CYS
4	QD	37	PRO
4	QD	38	TYR
4	QD	49	ARG
4	QD	50	ARG
4	QD	68	TYR
4	QD	86	LYS
4	QD	103	ASN
4	QD	138	TYR
4	QD	176	LEU
4	QD	187	ARG
4	QD	202	LEU
5	QE	10	MET
5	QE	60	TYR
5	QE	73	ASN
7	QG	8	GLU
7	QG	78	ARG
7	QG	151	TYR
7	QG	154	TYR
7	QG	155	ARG
8	QH	48	TYR
9	QI	10	ARG
9	QI	104	ARG
9	QI	111	ARG
10	QJ	11	PHE
11	QK	12	ARG
11	QK	20	TYR

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Mol	Chain	Res	Type
11	QK	26	ASN
11	QK	126	ARG
12	QL	13	LYS
12	QL	27	LEU
12	QL	89	ARG
12	QL	98	TYR
12	QL	120	TYR
13	QM	9	ILE
13	QM	11	ARG
13	QM	23	TYR
13	QM	64	TRP
13	QM	99	ARG
13	QM	115	LYS
14	QN	3	ARG
14	QN	4	LYS
14	QN	8	GLU
14	QN	12	ARG
14	QN	15	LYS
16	QP	17	TYR
16	QP	20	VAL
16	QP	38	TYR
16	QP	58	TYR
17	QQ	25	ARG
17	QQ	27	PHE
17	QQ	42	TYR
17	QQ	51	TYR
17	QQ	52	LYS
18	QR	29	PHE
18	QR	34	TYR
18	QR	43	PHE
19	QS	10	PHE
19	QS	40	ILE
19	QS	41	VAL
19	QS	43	GLU
19	QS	44	MET
20	QT	57	ARG
20	QT	72	LEU
20	QT	73	HIS
20	QT	75	ASN
20	QT	86	ARG
21	QU	18	TYR
21	QU	21	TYR

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Mol	Chain	Res	Type
24	R0	26	TYR
24	R0	45	PHE
24	R0	57	PHE
24	R0	60	PHE
24	R0	74	ARG
25	R1	30	VAL
25	R1	40	ARG
25	R1	60	PHE
25	R1	85	LEU
26	R2	17	SER
26	R2	19	VAL
26	R2	46	GLN
26	R2	48	HIS
26	R2	50	ILE
26	R2	51	ARG
27	R3	17	LYS
27	R3	23	LEU
27	R3	29	ARG
27	R3	48	GLU
28	R4	35	VAL
28	R4	37	SER
28	R4	40	HIS
28	R4	42	PHE
28	R4	49	PHE
28	R4	55	ARG
28	R4	59	PHE
28	R4	63	TYR
28	R4	67	TYR
28	R4	68	ARG
28	R4	71	ARG
29	R5	3	LYS
29	R5	6	VAL
29	R5	33	CYS
29	R5	37	LYS
29	R5	39	MET
29	R5	55	ARG
29	R5	56	LYS
30	R6	6	ARG
30	R6	7	ILE
30	R6	8	LYS
30	R6	20	ASN
30	R6	27	LYS

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Mol	Chain	Res	Type
32	R8	8	LYS
32	R8	62	LEU
33	R9	1	MET
36	RD	6	PHE
36	RD	15	PHE
36	RD	21	PHE
36	RD	43	ARG
36	RD	62	TYR
36	RD	104	TYR
36	RD	242	ARG
37	RE	1	MET
37	RE	7	VAL
37	RE	26	ILE
37	RE	36	ARG
37	RE	44	TYR
37	RE	51	PHE
37	RE	84	PHE
37	RE	160	TYR
38	RF	45	ARG
38	RF	46	ARG
38	RF	59	TYR
38	RF	132	VAL
38	RF	195	ASP
39	RG	23	PHE
39	RG	34	LEU
39	RG	40	ASN
39	RG	51	ARG
39	RG	53	LEU
39	RG	67	LYS
39	RG	96	ARG
39	RG	98	ARG
39	RG	115	ARG
39	RG	148	MET
39	RG	153	ARG
40	RH	4	ILE
40	RH	6	ARG
40	RH	23	ARG
40	RH	41	MET
40	RH	69	ARG
40	RH	83	TYR
40	RH	105	LEU
40	RH	123	PHE

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Mol	Chain	Res	Type
40	RH	151	ILE
40	RH	152	ARG
40	RH	169	VAL
41	RI	9	LEU
41	RI	12	LEU
41	RI	25	TYR
41	RI	67	ARG
41	RI	82	ARG
41	RI	85	GLU
41	RI	86	THR
41	RI	87	LYS
41	RI	88	ILE
41	RI	92	VAL
41	RI	101	LEU
41	RI	120	ILE
41	RI	121	LYS
41	RI	126	TYR
41	RI	145	VAL
42	RN	8	GLN
42	RN	10	GLU
42	RN	34	LEU
42	RN	48	MET
42	RN	51	PHE
42	RN	78	TYR
42	RN	115	ARG
42	RN	123	TYR
42	RN	134	ARG
43	RO	32	TYR
43	RO	49	ARG
43	RO	53	LYS
43	RO	79	PHE
44	RP	33	ARG
44	RP	79	ARG
44	RP	90	ARG
44	RP	94	GLU
44	RP	105	LEU
44	RP	106	LEU
44	RP	115	LEU
44	RP	135	LEU
44	RP	138	LEU
45	RQ	6	ARG
45	RQ	9	TYR

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Mol	Chain	Res	Type
45	RQ	17	LEU
45	RQ	26	TYR
45	RQ	27	VAL
45	RQ	58	PHE
45	RQ	67	ARG
45	RQ	93	TYR
45	RQ	104	PHE
45	RQ	137	TYR
46	RR	44	LEU
46	RR	57	ARG
46	RR	77	ARG
46	RR	94	TYR
46	RR	105	ARG
47	RS	3	ARG
47	RS	7	TYR
47	RS	20	ARG
47	RS	36	TYR
47	RS	89	ARG
47	RS	106	ARG
48	RT	22	PHE
48	RT	41	ARG
48	RT	61	PHE
48	RT	76	PHE
48	RT	100	TYR
48	RT	120	ARG
49	RU	45	TYR
49	RU	94	ASN
49	RU	98	LEU
50	RV	2	PHE
50	RV	43	GLU
50	RV	45	THR
50	RV	46	VAL
50	RV	57	VAL
50	RV	61	VAL
50	RV	75	PHE
50	RV	82	ARG
50	RV	91	TYR
51	RW	8	ARG
51	RW	9	TYR
51	RW	37	ARG
51	RW	70	TYR
52	RX	5	TYR

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Mol	Chain	Res	Type
52	RX	26	TYR
52	RX	28	PHE
52	RX	65	ARG
53	RY	3	VAL
53	RY	4	LYS
53	RY	20	TYR
53	RY	33	LYS
53	RY	55	TYR
53	RY	75	ILE
53	RY	89	PHE
54	RZ	3	TYR
54	RZ	8	TYR
54	RZ	13	GLU
54	RZ	29	TYR
54	RZ	38	TYR
54	RZ	44	PHE
54	RZ	48	PHE
54	RZ	52	SER
54	RZ	53	ILE
54	RZ	59	LEU
54	RZ	70	LEU
54	RZ	76	LEU
54	RZ	88	PHE
54	RZ	97	GLU
54	RZ	105	VAL
54	RZ	112	ARG
54	RZ	131	ARG
54	RZ	136	PHE
54	RZ	182	LYS
2	XB	7	VAL
2	XB	8	LYS
2	XB	17	PHE
2	XB	23	ARG
2	XB	28	PHE
2	XB	30	ARG
2	XB	31	TYR
2	XB	137	ARG
2	XB	145	LEU
2	XB	199	TYR
2	XB	204	ASN
2	XB	212	GLN
2	XB	236	TYR

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Mol	Chain	Res	Type
3	XC	15	THR
3	XC	17	ASP
3	XC	30	ARG
3	XC	94	LEU
3	XC	108	ASN
3	XC	166	GLU
3	XC	172	ARG
3	XC	193	TYR
3	XC	201	TYR
4	XD	68	TYR
4	XD	138	TYR
4	XD	141	ARG
4	XD	182	LYS
5	XE	18	ARG
5	XE	26	PHE
5	XE	28	PHE
5	XE	41	VAL
5	XE	150	ARG
7	XG	18	TYR
7	XG	85	TYR
7	XG	151	TYR
7	XG	155	ARG
8	XH	1	MET
8	XH	48	TYR
8	XH	65	TYR
9	XI	18	PHE
9	XI	20	ARG
9	XI	37	PHE
9	XI	42	ARG
9	XI	88	TYR
9	XI	111	ARG
9	XI	121	ARG
10	XJ	11	PHE
10	XJ	47	PHE
11	XK	12	ARG
11	XK	25	TYR
11	XK	75	TYR
11	XK	91	ARG
11	XK	96	ARG
11	XK	125	PHE
12	XL	44	THR
12	XL	86	ARG

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Mol	Chain	Res	Type
12	XL	89	ARG
12	XL	98	TYR
12	XL	104	VAL
12	XL	120	TYR
13	XM	12	ASN
13	XM	13	LYS
13	XM	23	TYR
13	XM	36	LYS
13	XM	120	LYS
13	XM	122	LYS
14	XN	41	ARG
14	XN	45	ARG
15	XO	15	PHE
15	XO	72	ARG
16	XP	17	TYR
16	XP	38	TYR
17	XQ	27	PHE
17	XQ	32	TYR
17	XQ	42	TYR
17	XQ	50	LYS
17	XQ	51	TYR
17	XQ	52	LYS
18	XR	19	LYS
18	XR	29	PHE
18	XR	43	PHE
19	XS	4	SER
19	XS	5	LEU
19	XS	7	LYS
19	XS	39	THR
19	XS	43	GLU
19	XS	78	ARG
20	XT	93	GLU
21	XU	20	LYS
21	XU	21	TYR
24	Y0	14	ARG
24	Y0	26	TYR
24	Y0	60	PHE
24	Y0	78	TYR
25	Y1	43	TYR
25	Y1	60	PHE
25	Y1	85	LEU
26	Y2	18	PRO

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Mol	Chain	Res	Type
26	Y2	19	VAL
26	Y2	43	GLN
26	Y2	69	ARG
27	Y3	48	GLU
28	Y4	34	GLU
28	Y4	42	PHE
28	Y4	43	TYR
28	Y4	58	ARG
28	Y4	63	TYR
28	Y4	66	SER
28	Y4	68	ARG
28	Y4	71	ARG
29	Y5	49	CYS
29	Y5	51	TYR
29	Y5	52	TYR
29	Y5	56	LYS
30	Y6	7	ILE
30	Y6	8	LYS
30	Y6	9	LEU
30	Y6	11	LEU
30	Y6	14	THR
30	Y6	16	CYS
30	Y6	17	LYS
30	Y6	18	ARG
30	Y6	20	ASN
30	Y6	33	LYS
30	Y6	39	TYR
30	Y6	42	TRP
31	Y7	1	MET
31	Y7	35	ARG
32	Y8	34	TRP
32	Y8	44	LYS
32	Y8	61	LEU
32	Y8	64	TYR
36	YD	6	PHE
36	YD	15	PHE
36	YD	21	PHE
36	YD	30	GLU
36	YD	31	LYS
36	YD	33	LEU
36	YD	35	LYS
36	YD	36	PRO

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Mol	Chain	Res	Type
36	YD	37	LEU
36	YD	46	GLN
36	YD	52	ARG
36	YD	63	ARG
36	YD	64	ILE
36	YD	66	ASP
36	YD	67	PHE
36	YD	103	ARG
36	YD	105	ILE
36	YD	111	LEU
36	YD	147	LEU
36	YD	237	GLU
36	YD	242	ARG
36	YD	257	LEU
36	YD	273	ARG
37	YE	26	ILE
37	YE	47	VAL
37	YE	51	PHE
37	YE	78	LEU
37	YE	79	ARG
37	YE	80	GLU
37	YE	81	ILE
37	YE	82	ARG
37	YE	84	PHE
37	YE	116	VAL
37	YE	160	TYR
38	YF	7	TYR
38	YF	169	ASN
39	YG	3	LEU
39	YG	4	ASP
39	YG	23	PHE
39	YG	40	ASN
39	YG	47	LYS
39	YG	67	LYS
39	YG	81	LYS
39	YG	84	LYS
39	YG	94	LEU
39	YG	102	PHE
39	YG	148	MET
39	YG	181	ARG
40	YH	9	ILE
40	YH	23	ARG

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Mol	Chain	Res	Type
40	YH	41	MET
40	YH	69	ARG
40	YH	81	GLU
40	YH	99	VAL
40	YH	105	LEU
40	YH	123	PHE
40	YH	139	GLN
40	YH	149	ARG
40	YH	152	ARG
40	YH	169	VAL
41	YI	18	VAL
41	YI	25	TYR
41	YI	67	ARG
41	YI	89	TYR
41	YI	111	PRO
41	YI	112	LYS
41	YI	113	ARG
41	YI	126	TYR
41	YI	135	GLU
41	YI	144	VAL
41	YI	145	VAL
42	YN	9	VAL
42	YN	35	ARG
42	YN	48	MET
42	YN	51	PHE
42	YN	55	VAL
42	YN	58	ASP
42	YN	78	TYR
42	YN	114	ARG
42	YN	120	LEU
42	YN	121	LYS
42	YN	127	ASP
42	YN	134	ARG
43	YO	32	TYR
43	YO	49	ARG
43	YO	53	LYS
43	YO	79	PHE
44	YP	61	ARG
44	YP	90	ARG
44	YP	123	LEU
44	YP	124	LYS
44	YP	126	VAL

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Mol	Chain	Res	Type
45	YQ	6	ARG
45	YQ	17	LEU
45	YQ	26	TYR
45	YQ	58	PHE
45	YQ	59	ARG
45	YQ	79	LEU
45	YQ	93	TYR
45	YQ	104	PHE
45	YQ	137	TYR
45	YQ	139	GLU
46	YR	94	TYR
47	YS	7	TYR
47	YS	13	ARG
47	YS	20	ARG
47	YS	36	TYR
47	YS	106	ARG
48	YT	13	ARG
48	YT	14	TYR
48	YT	38	ASN
48	YT	61	PHE
48	YT	76	PHE
48	YT	100	TYR
48	YT	137	LYS
49	YU	52	ARG
49	YU	92	ARG
49	YU	94	ASN
49	YU	98	LEU
50	YV	2	PHE
50	YV	43	GLU
50	YV	44	LYS
50	YV	75	PHE
50	YV	81	TYR
50	YV	91	TYR
51	YW	9	TYR
51	YW	11	ARG
51	YW	51	LEU
52	YX	5	TYR
52	YX	26	TYR
52	YX	28	PHE
52	YX	47	PHE
52	YX	65	ARG
53	YY	20	TYR

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Mol	Chain	Res	Type
53	YY	27	VAL
53	YY	33	LYS
53	YY	34	LYS
53	YY	35	TYR
53	YY	55	TYR
53	YY	63	LYS
53	YY	87	LYS
53	YY	89	PHE
53	YY	101	LYS
54	YZ	3	TYR
54	YZ	5	LEU
54	YZ	8	TYR
54	YZ	34	ASN
54	YZ	38	TYR
54	YZ	41	LEU
54	YZ	44	PHE
54	YZ	53	ILE
54	YZ	59	LEU
54	YZ	61	LEU
54	YZ	63	ASP
54	YZ	71	VAL
54	YZ	89	PHE
54	YZ	112	ARG
54	YZ	136	PHE
54	YZ	180	VAL
54	YZ	181	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
2	QB	204	ASN
4	QD	103	ASN
7	QG	97	GLN
9	QI	3	GLN
9	QI	73	GLN
17	QQ	16	GLN
26	R2	47	ASN
29	R5	4	HIS
36	RD	231	HIS
38	RF	40	GLN
39	RG	41	GLN
39	RG	66	GLN

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Mol	Chain	Res	Type
42	RN	8	GLN
48	RT	55	ASN
51	RW	111	HIS
2	XB	16	HIS
2	XB	19	HIS
2	XB	204	ASN
7	XG	68	ASN
11	XK	116	HIS
12	XL	49	ASN
36	YD	231	HIS
36	YD	233	HIS
41	YI	105	HIS
48	YT	38	ASN
48	YT	58	ASN
54	YZ	34	ASN
54	YZ	85	HIS

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	QA	1498/1522 (98%)	271 (18%)	40 (2%)
1	XA	1509/1522 (99%)	258 (17%)	33 (2%)
22	QV	70/76 (92%)	14 (20%)	0
22	XV	70/76 (92%)	15 (21%)	0
23	QX	2/23 (8%)	0	0
23	XX	22/23 (95%)	9 (40%)	0
34	RA	2879/2915 (98%)	555 (19%)	47 (1%)
34	YA	2880/2915 (98%)	557 (19%)	47 (1%)
35	RB	119/122 (97%)	23 (19%)	1 (0%)
35	YB	119/122 (97%)	20 (16%)	1 (0%)
55	XY	16/17 (94%)	6 (37%)	0
56	Z6	1/3 (33%)	0	0
56	Z8	1/3 (33%)	0	0
All	All	9186/9339 (98%)	1728 (18%)	169 (1%)

All (1728) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	QA	6	G
1	QA	9	G
1	QA	32	A

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Mol	Chain	Res	Type
1	QA	39	G
1	QA	47	C
1	QA	48	C
1	QA	51	A
1	QA	64	G
1	QA	65	U
1	QA	66	G
1	QA	78	G
1	QA	79	G
1	QA	91	C
1	QA	95	G
1	QA	101	A
1	QA	116	A
1	QA	120	A
1	QA	121	C
1	QA	144	G
1	QA	146	G
1	QA	163	C
1	QA	169	C
1	QA	173	U
1	QA	174	C
1	QA	187	C
1	QA	188	U
1	QA	189	U
1	QA	190	G
1	QA	191(A)	G
1	QA	195	A
1	QA	197	A
1	QA	208	U
1	QA	209	U
1	QA	210	U
1	QA	216	G
1	QA	244	U
1	QA	245	C
1	QA	247	G
1	QA	251	G
1	QA	267	C
1	QA	281	G
1	QA	289	G
1	QA	313	A
1	QA	316	G
1	QA	321	A

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Mol	Chain	Res	Type
1	QA	328	C
1	QA	329	A
1	QA	330	C
1	QA	332	G
1	QA	344	A
1	QA	346	G
1	QA	347	G
1	QA	352	C
1	QA	353	A
1	QA	354	G
1	QA	356	A
1	QA	367	U
1	QA	372	C
1	QA	384	G
1	QA	390	C
1	QA	392	G
1	QA	397	A
1	QA	398	C
1	QA	406	G
1	QA	411	A
1	QA	412	A
1	QA	413	G
1	QA	414	A
1	QA	421	U
1	QA	422	C
1	QA	423	G
1	QA	424	G
1	QA	429	U
1	QA	440	A
1	QA	442	C
1	QA	466	C
1	QA	467	G
1	QA	482	A
1	QA	485	G
1	QA	486	U
1	QA	496	A
1	QA	497	U
1	QA	505	G
1	QA	509	A
1	QA	510	A
1	QA	511	C
1	QA	518	C

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Mol	Chain	Res	Type
1	QA	521	G
1	QA	527	G
1	QA	532	A
1	QA	533	A
1	QA	534	U
1	QA	545	C
1	QA	547	A
1	QA	559	A
1	QA	564	C
1	QA	568	G
1	QA	572	A
1	QA	576	G
1	QA	577	G
1	QA	579	G
1	QA	596	C
1	QA	607	A
1	QA	614	A
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	665	A
1	QA	666	G
1	QA	688	G
1	QA	701	C
1	QA	702	A
1	QA	704	A
1	QA	721	G
1	QA	724	G
1	QA	731	G
1	QA	752	G
1	QA	753	A
1	QA	754	C
1	QA	755	G
1	QA	774	G
1	QA	785	G
1	QA	792	A
1	QA	793	U
1	QA	794	A
1	QA	810	C

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Mol	Chain	Res	Type
1	QA	813	U
1	QA	817	C
1	QA	819	A
1	QA	821	G
1	QA	828	A
1	QA	841	U
1	QA	843	U
1	QA	848	C
1	QA	858	G
1	QA	859	A
1	QA	871	U
1	QA	872	A
1	QA	873	A
1	QA	885	G
1	QA	902	G
1	QA	914	A
1	QA	926	G
1	QA	927	G
1	QA	934	C
1	QA	935	A
1	QA	960	U
1	QA	961	U
1	QA	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	991	U
1	QA	992	U
1	QA	993	G
1	QA	994	A
1	QA	996	A
1	QA	1000	A
1	QA	1001	G
1	QA	1004	A
1	QA	1006	C
1	QA	1020	U
1	QA	1024	G
1	QA	1025	U

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Mol	Chain	Res	Type
1	QA	1026	G
1	QA	1028	C
1	QA	1029	G
1	QA	1032(A)	G
1	QA	1037	C
1	QA	1039	C
1	QA	1046	A
1	QA	1048	G
1	QA	1050	G
1	QA	1054	C
1	QA	1064	G
1	QA	1065	U
1	QA	1066	C
1	QA	1094	G
1	QA	1095	U
1	QA	1101	A
1	QA	1118	C
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	1171	G
1	QA	1181	G
1	QA	1182	G
1	QA	1183	A
1	QA	1187	G
1	QA	1190	G
1	QA	1196	U
1	QA	1200	C
1	QA	1201	A
1	QA	1202	G
1	QA	1211	U
1	QA	1212	U

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Mol	Chain	Res	Type
1	QA	1213	A
1	QA	1214	C
1	QA	1225	A
1	QA	1227	A
1	QA	1238	A
1	QA	1240	U
1	QA	1241	G
1	QA	1256	A
1	QA	1257	U
1	QA	1258	G
1	QA	1260	C
1	QA	1280	A
1	QA	1281	U
1	QA	1282	C
1	QA	1286	A
1	QA	1287	A
1	QA	1289	A
1	QA	1297	C
1	QA	1298	C
1	QA	1299	A
1	QA	1302	U
1	QA	1303	C
1	QA	1305	G
1	QA	1318	A
1	QA	1320	C
1	QA	1321	C
1	QA	1322	C
1	QA	1323	G
1	QA	1331	G
1	QA	1335	C
1	QA	1336	C
1	QA	1337	G
1	QA	1346	A
1	QA	1347	G
1	QA	1348	U
1	QA	1359	C
1	QA	1362(A)	C
1	QA	1363	A
1	QA	1364	U
1	QA	1379	G
1	QA	1397	C
1	QA	1398	A

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Mol	Chain	Res	Type
1	QA	1419	G
1	QA	1442	G
1	QA	1446	A
1	QA	1447	G
1	QA	1452	C
1	QA	1453	G
1	QA	1492	A
1	QA	1493	A
1	QA	1499	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	2	G
22	QV	8	U
22	QV	9	A
22	QV	19	G
22	QV	20	H2U
22	QV	22	G
22	QV	33	U
22	QV	38	A
22	QV	42	A
22	QV	48	C
22	QV	49	G
22	QV	53	G
22	QV	74	C
22	QV	76	A
34	RA	11	G
34	RA	15	G
34	RA	34	C
34	RA	35	G
34	RA	46	C
34	RA	51	G
34	RA	55	G
34	RA	61	G
34	RA	64	A
34	RA	72	U
34	RA	74	A
34	RA	75	G

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Mol	Chain	Res	Type
34	RA	101	G
34	RA	102	G
34	RA	103	A
34	RA	118	A
34	RA	120	U
34	RA	131	G
34	RA	138	G
34	RA	177	G
34	RA	181	A
34	RA	196	A
34	RA	199	A
34	RA	215	G
34	RA	216	A
34	RA	221	A
34	RA	222	A
34	RA	223	A
34	RA	228	A
34	RA	229	A
34	RA	230	U
34	RA	232	G
34	RA	233	A
34	RA	242	G
34	RA	243	U
34	RA	248	G
34	RA	252	G
34	RA	265	A
34	RA	266	G
34	RA	269	U
34	RA	270(L)	U
34	RA	270(M)	U
34	RA	270(N)	G
34	RA	270(P)	C
34	RA	271(C)	U
34	RA	271	G
34	RA	275	G
34	RA	276	A
34	RA	277	C
34	RA	299	A
34	RA	300	A
34	RA	309	G
34	RA	311	A
34	RA	312	G

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Mol	Chain	Res	Type
34	RA	316	C
34	RA	323	G
34	RA	324	A
34	RA	327	G
34	RA	329	G
34	RA	330	A
34	RA	333	G
34	RA	342	G
34	RA	346	A
34	RA	352	G
34	RA	364	C
34	RA	371	A
34	RA	372	G
34	RA	373	U
34	RA	386	G
34	RA	394	A
34	RA	395	U
34	RA	405	U
34	RA	411	G
34	RA	412	A
34	RA	428	A
34	RA	444	C
34	RA	448	U
34	RA	457	A
34	RA	470	A
34	RA	481	G
34	RA	496	G
34	RA	504	U
34	RA	505	A
34	RA	508	G
34	RA	509	C
34	RA	513	A
34	RA	527	C
34	RA	529	A
34	RA	530	G
34	RA	532	A
34	RA	533	G
34	RA	537	C
34	RA	539	G
34	RA	540	G
34	RA	546	C
34	RA	549	G

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Mol	Chain	Res	Type
34	RA	554	U
34	RA	556	G
34	RA	563	G
34	RA	573	G
34	RA	575	A
34	RA	588	U
34	RA	595	C
34	RA	603	A
34	RA	607	U
34	RA	614	U
34	RA	615	G
34	RA	617	G
34	RA	621	A
34	RA	627	A
34	RA	637	A
34	RA	638	G
34	RA	645	C
34	RA	646	A
34	RA	651	G
34	RA	652	C
34	RA	653	A
34	RA	654	A
34	RA	654(A)	G
34	RA	669	G
34	RA	686	G
34	RA	702	G
34	RA	717	G
34	RA	722	A
34	RA	730	C
34	RA	753	C
34	RA	764	A
34	RA	765	G
34	RA	771	G
34	RA	776	G
34	RA	782	A
34	RA	784	A
34	RA	785	G
34	RA	789	A
34	RA	790	C
34	RA	792	G
34	RA	805	G
34	RA	812	C

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Mol	Chain	Res	Type
34	RA	819	A
34	RA	827	U
34	RA	828	U
34	RA	846	C
34	RA	847	U
34	RA	856	C
34	RA	857	C
34	RA	859	G
34	RA	869	G
34	RA	881	G
34	RA	884	C
34	RA	885	C
34	RA	886	C
34	RA	888	C
34	RA	889	C
34	RA	893	C
34	RA	896	A
34	RA	897	C
34	RA	900	A
34	RA	901	A
34	RA	904	C
34	RA	905	U
34	RA	906	G
34	RA	907	U
34	RA	910	A
34	RA	914	C
34	RA	917	A
34	RA	918	A
34	RA	930	U
34	RA	932	G
34	RA	941	A
34	RA	945	A
34	RA	946	G
34	RA	957	A
34	RA	959	A
34	RA	961	C
34	RA	973	A
34	RA	974	G
34	RA	974(A)	C
34	RA	975	G
34	RA	980	A
34	RA	983	A

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Mol	Chain	Res	Type
34	RA	996	A
34	RA	1003	G
34	RA	1011	G
34	RA	1012	U
34	RA	1013	C
34	RA	1016	G
34	RA	1022	G
34	RA	1023	U
34	RA	1025	G
34	RA	1026	U
34	RA	1027	A
34	RA	1033	U
34	RA	1045	A
34	RA	1046	A
34	RA	1050	A
34	RA	1054	A
34	RA	1055	G
34	RA	1059	G
34	RA	1060	U
34	RA	1061	U
34	RA	1065	U
34	RA	1066	U
34	RA	1067	A
34	RA	1068	G
34	RA	1071	G
34	RA	1076	C
34	RA	1077	A
34	RA	1078	U
34	RA	1082	U
34	RA	1083	U
34	RA	1084	A
34	RA	1085	A
34	RA	1086	A
34	RA	1087	G
34	RA	1088	A
34	RA	1090	U
34	RA	1091	G
34	RA	1093	G
34	RA	1095	A
34	RA	1096	A
34	RA	1103	A
34	RA	1104	C

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Mol	Chain	Res	Type
34	RA	1110	G
34	RA	1112	G
34	RA	1122	G
34	RA	1129	A
34	RA	1131	G
34	RA	1135	C
34	RA	1136	G
34	RA	1139	G
34	RA	1141	U
34	RA	1142	U
34	RA	1142(A)	A
34	RA	1151	G
34	RA	1169	G
34	RA	1170	G
34	RA	1175	U
34	RA	1176	G
34	RA	1177	A
34	RA	1179	C
34	RA	1180	C
34	RA	1183	G
34	RA	1194	A
34	RA	1195	G
34	RA	1204	A
34	RA	1205	U
34	RA	1210	A
34	RA	1211	U
34	RA	1212	G
34	RA	1220	A
34	RA	1236	G
34	RA	1238	G
34	RA	1244	G
34	RA	1253	A
34	RA	1256	G
34	RA	1265	A
34	RA	1271	G
34	RA	1272	A
34	RA	1273	U
34	RA	1300	U
34	RA	1301	A
34	RA	1308	A
34	RA	1312	U
34	RA	1313	U

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Mol	Chain	Res	Type
34	RA	1314	C
34	RA	1321	A
34	RA	1329	U
34	RA	1349	A
34	RA	1352	U
34	RA	1365	A
34	RA	1368	G
34	RA	1370	C
34	RA	1378	A
34	RA	1379	A
34	RA	1380	G
34	RA	1384	A
34	RA	1385	G
34	RA	1390	U
34	RA	1395	A
34	RA	1407	C
34	RA	1411	C
34	RA	1413	G
34	RA	1416	G
34	RA	1420	U
34	RA	1428	C
34	RA	1444(A)	A
34	RA	1445	C
34	RA	1449	A
34	RA	1449(A)	G
34	RA	1455	G
34	RA	1458	C
34	RA	1461	G
34	RA	1467	C
34	RA	1471	A
34	RA	1474	C
34	RA	1477	A
34	RA	1482	U
34	RA	1483	G
34	RA	1487	G
34	RA	1493	C
34	RA	1496	A
34	RA	1497	U
34	RA	1505	C
34	RA	1506	C
34	RA	1507	A
34	RA	1508	A

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Mol	Chain	Res	Type
34	RA	1510	A
34	RA	1514	U
34	RA	1515	C
34	RA	1522	G
34	RA	1533	C
34	RA	1535	U
34	RA	1536	A
34	RA	1537	C
34	RA	1538	G
34	RA	1543	A
34	RA	1544	C
34	RA	1545	A
34	RA	1547	C
34	RA	1558	A
34	RA	1559	G
34	RA	1566	A
34	RA	1569	A
34	RA	1578	U
34	RA	1580	A
34	RA	1581	G
34	RA	1586	A
34	RA	1603	A
34	RA	1608	A
34	RA	1610	A
34	RA	1616	A
34	RA	1617	C
34	RA	1640	C
34	RA	1648	C
34	RA	1649	G
34	RA	1651	G
34	RA	1654	A
34	RA	1660	C
34	RA	1667	G
34	RA	1668	A
34	RA	1674	G
34	RA	1695	G
34	RA	1725	G
34	RA	1728	G
34	RA	1729	A
34	RA	1730	U
34	RA	1733	G
34	RA	1742	C

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Mol	Chain	Res	Type
34	RA	1743	G
34	RA	1756	G
34	RA	1763	G
34	RA	1764	G
34	RA	1773	A
34	RA	1780	A
34	RA	1782	C
34	RA	1787	A
34	RA	1791	A
34	RA	1799	G
34	RA	1800	C
34	RA	1801	G
34	RA	1812	A
34	RA	1816	G
34	RA	1820	U
34	RA	1829	A
34	RA	1835	G
34	RA	1847	A
34	RA	1848	A
34	RA	1858	G
34	RA	1869	G
34	RA	1870	C
34	RA	1872	A
34	RA	1878	G
34	RA	1882	C
34	RA	1885	A
34	RA	1888	G
34	RA	1889	A
34	RA	1906	G
34	RA	1913	A
34	RA	1929	G
34	RA	1930	G
34	RA	1931	U
34	RA	1934	C
34	RA	1936	A
34	RA	1938	A
34	RA	1939	U
34	RA	1955	U
34	RA	1963	U
34	RA	1965	C
34	RA	1967	C
34	RA	1969	A

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Mol	Chain	Res	Type
34	RA	1970	A
34	RA	1971	A
34	RA	1972	A
34	RA	1980	G
34	RA	1981	A
34	RA	1982	C
34	RA	1991	U
34	RA	1993	U
34	RA	2020	A
34	RA	2023	G
34	RA	2031	A
34	RA	2032	G
34	RA	2033	A
34	RA	2043	C
34	RA	2052	G
34	RA	2055	C
34	RA	2056	G
34	RA	2059	A
34	RA	2060	A
34	RA	2061	G
34	RA	2062	A
34	RA	2063	C
34	RA	2067	G
34	RA	2069	G
34	RA	2093	G
34	RA	2111	C
34	RA	2113	U
34	RA	2114	A
34	RA	2115	G
34	RA	2117	A
34	RA	2126	A
34	RA	2127	G
34	RA	2128	C
34	RA	2131	G
34	RA	2132	U
34	RA	2133	G
34	RA	2136	C
34	RA	2147	G
34	RA	2148	G
34	RA	2157	G
34	RA	2166	G
34	RA	2168	G

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Mol	Chain	Res	Type
34	RA	2169	A
34	RA	2171	A
34	RA	2173	A
34	RA	2176	A
34	RA	2190	G
34	RA	2192	G
34	RA	2198	A
34	RA	2210	G
34	RA	2211	G
34	RA	2212	A
34	RA	2213	U
34	RA	2215	G
34	RA	2225	A
34	RA	2238	G
34	RA	2239	G
34	RA	2243	U
34	RA	2275	C
34	RA	2280	G
34	RA	2283	C
34	RA	2287	A
34	RA	2288	A
34	RA	2305	A
34	RA	2307	G
34	RA	2308	G
34	RA	2311	A
34	RA	2312	U
34	RA	2319	G
34	RA	2320	A
34	RA	2325	G
34	RA	2334	G
34	RA	2335	A
34	RA	2345	G
34	RA	2346	A
34	RA	2347	C
34	RA	2350	C
34	RA	2354	G
34	RA	2379	G
34	RA	2383	G
34	RA	2385	C
34	RA	2392	A
34	RA	2394	C
34	RA	2400	G

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Mol	Chain	Res	Type
34	RA	2402	C
34	RA	2403	C
34	RA	2406	U
34	RA	2410	G
34	RA	2423	U
34	RA	2425	A
34	RA	2427	C
34	RA	2429	G
34	RA	2430	A
34	RA	2439	A
34	RA	2440	C
34	RA	2441	C
34	RA	2448	A
34	RA	2469	A
34	RA	2470	G
34	RA	2475	C
34	RA	2502	G
34	RA	2505	G
34	RA	2519	U
34	RA	2529	G
34	RA	2542	A
34	RA	2543	G
34	RA	2554	U
34	RA	2558	C
34	RA	2567	G
34	RA	2569	G
34	RA	2580	U
34	RA	2602	A
34	RA	2609	U
34	RA	2611	U
34	RA	2612	C
34	RA	2615	U
34	RA	2623	G
34	RA	2629	A
34	RA	2655	G
34	RA	2656	U
34	RA	2665	A
34	RA	2673	G
34	RA	2689	U
34	RA	2691	C
34	RA	2702	U
34	RA	2703	C

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Mol	Chain	Res	Type
34	RA	2707	G
34	RA	2712	U
34	RA	2712(A)	A
34	RA	2713	A
34	RA	2714	G
34	RA	2726	U
34	RA	2733	A
34	RA	2744	G
34	RA	2748	A
34	RA	2752	C
34	RA	2758	A
34	RA	2761	G
34	RA	2764	A
34	RA	2765	A
34	RA	2770	G
34	RA	2778	A
34	RA	2779	U
34	RA	2780	G
34	RA	2789	C
34	RA	2790	A
34	RA	2791	C
34	RA	2797	U
34	RA	2807	G
34	RA	2818	G
34	RA	2820	A
34	RA	2821	A
34	RA	2833	G
34	RA	2834	G
34	RA	2835	A
34	RA	2845	G
34	RA	2849	U
34	RA	2872	G
34	RA	2873	A
34	RA	2879	C
34	RA	2880	C
34	RA	2886	G
34	RA	2891	G
34	RA	2892	A
34	RA	2894	G
35	RB	7	G
35	RB	8	U
35	RB	9	G

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Mol	Chain	Res	Type
35	RB	13	A
35	RB	15	A
35	RB	16	G
35	RB	19	G
35	RB	21	G
35	RB	22	U
35	RB	25	A
35	RB	27	C
35	RB	41	U
35	RB	42	C
35	RB	44	G
35	RB	45	A
35	RB	54	G
35	RB	56	G
35	RB	67	G
35	RB	73	A
35	RB	81	G
35	RB	89	G
35	RB	108	C
35	RB	109	G
1	XA	6	G
1	XA	9	G
1	XA	32	A
1	XA	39	G
1	XA	47	C
1	XA	48	C
1	XA	51	A
1	XA	54	C
1	XA	55	A
1	XA	61	G
1	XA	65	U
1	XA	66	G
1	XA	78	G
1	XA	79	G
1	XA	88	C
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

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Mol	Chain	Res	Type
1	XA	121	C
1	XA	122	G
1	XA	130	A
1	XA	144	G
1	XA	147	G
1	XA	163	C
1	XA	172	A
1	XA	174	C
1	XA	182	U
1	XA	190	G
1	XA	195	A
1	XA	197	A
1	XA	201	C
1	XA	209	U
1	XA	244	U
1	XA	245	C
1	XA	247	G
1	XA	251	G
1	XA	267	C
1	XA	270	A
1	XA	281	G
1	XA	289	G
1	XA	306	G
1	XA	321	A
1	XA	328	C
1	XA	329	A
1	XA	332	G
1	XA	345	C
1	XA	346	G
1	XA	347	G
1	XA	348	G
1	XA	352	C
1	XA	353	A
1	XA	354	G
1	XA	356	A
1	XA	367	U
1	XA	372	C
1	XA	373	A
1	XA	384	G
1	XA	388	G
1	XA	389	A
1	XA	397	A

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Mol	Chain	Res	Type
1	XA	398	C
1	XA	406	G
1	XA	411	A
1	XA	412	A
1	XA	413	G
1	XA	422	C
1	XA	423	G
1	XA	429	U
1	XA	430	A
1	XA	440	A
1	XA	442	C
1	XA	452	A
1	XA	466	C
1	XA	482	A
1	XA	485	G
1	XA	486	U
1	XA	496	A
1	XA	497	U
1	XA	509	A
1	XA	510	A
1	XA	511	C
1	XA	518	C
1	XA	521	G
1	XA	527	G
1	XA	531	U
1	XA	532	A
1	XA	533	A
1	XA	547	A
1	XA	548	G
1	XA	559	A
1	XA	560	U
1	XA	561	U
1	XA	564	C
1	XA	572	A
1	XA	573	A
1	XA	576	G
1	XA	577	G
1	XA	579	G
1	XA	596	C
1	XA	630	G
1	XA	631	G
1	XA	633	G

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Mol	Chain	Res	Type
1	XA	652	U
1	XA	653	A
1	XA	665	A
1	XA	671	G
1	XA	688	G
1	XA	703	G
1	XA	704	A
1	XA	721	G
1	XA	723	U
1	XA	724	G
1	XA	731	G
1	XA	734	G
1	XA	749	C
1	XA	754	C
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	816	A
1	XA	817	C
1	XA	818	G
1	XA	821	G
1	XA	828	A
1	XA	841	U
1	XA	843	U
1	XA	848	C
1	XA	859	A
1	XA	872	A
1	XA	902	G
1	XA	914	A
1	XA	926	G
1	XA	927	G
1	XA	934	C
1	XA	935	A
1	XA	960	U
1	XA	961	U
1	XA	966	G
1	XA	968	A
1	XA	969	A

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Mol	Chain	Res	Type
1	XA	971	G
1	XA	972	C
1	XA	974	A
1	XA	975	A
1	XA	976	G
1	XA	977	A
1	XA	991	U
1	XA	992	U
1	XA	993	G
1	XA	994	A
1	XA	1004	A
1	XA	1006	C
1	XA	1009	G
1	XA	1021	G
1	XA	1024	G
1	XA	1025	U
1	XA	1028	C
1	XA	1029	G
1	XA	1032(A)	G
1	XA	1039	C
1	XA	1040	U
1	XA	1053	G
1	XA	1054	C
1	XA	1055	A
1	XA	1056	U
1	XA	1064	G
1	XA	1066	C
1	XA	1081	G
1	XA	1094	G
1	XA	1095	U
1	XA	1101	A
1	XA	1124	G
1	XA	1125	U
1	XA	1126	U
1	XA	1127	G
1	XA	1130	A
1	XA	1131	G
1	XA	1136	U
1	XA	1137	C
1	XA	1138	G
1	XA	1139	G
1	XA	1146	A

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Mol	Chain	Res	Type
1	XA	1152	A
1	XA	1157	A
1	XA	1158	C
1	XA	1159	U
1	XA	1160	G
1	XA	1178	G
1	XA	1181	G
1	XA	1183	A
1	XA	1187	G
1	XA	1196	U
1	XA	1201	A
1	XA	1212	U
1	XA	1213	A
1	XA	1214	C
1	XA	1215	G
1	XA	1225	A
1	XA	1238	A
1	XA	1240	U
1	XA	1241	G
1	XA	1256	A
1	XA	1257	U
1	XA	1258	G
1	XA	1263	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	1298	C
1	XA	1300	G
1	XA	1302	U
1	XA	1305	G
1	XA	1320	C
1	XA	1322	C
1	XA	1323	G
1	XA	1331	G
1	XA	1336	C
1	XA	1337	G
1	XA	1347	G
1	XA	1362(A)	C
1	XA	1364	U

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Mol	Chain	Res	Type
1	XA	1370	G
1	XA	1419	G
1	XA	1442	G
1	XA	1443	G
1	XA	1446	A
1	XA	1447	G
1	XA	1452	C
1	XA	1453	G
1	XA	1454	G
1	XA	1487	G
1	XA	1492	A
1	XA	1497	G
1	XA	1499	A
1	XA	1503	A
1	XA	1504	G
1	XA	1506	U
1	XA	1507	A
1	XA	1517	G
1	XA	1519	A
1	XA	1520	G
1	XA	1529	G
1	XA	1530	G
1	XA	1535	C
1	XA	1538	C
1	XA	1541	U
1	XA	1542	U
22	XV	2	G
22	XV	8	U
22	XV	9	A
22	XV	19	G
22	XV	20	H2U
22	XV	21	A
22	XV	22	G
22	XV	33	U
22	XV	38	A
22	XV	42	A
22	XV	48	C
22	XV	49	G
22	XV	53	G
22	XV	74	C
22	XV	76	A
23	XX	-12	G

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Mol	Chain	Res	Type
23	XX	-11	G
23	XX	-8	G
23	XX	-7	U
23	XX	-5	G
23	XX	-3	G
23	XX	-2	A
23	XX	0	G
23	XX	2	A
55	XY	29	G
55	XY	30	G
55	XY	34	G
55	XY	36	A
55	XY	37	A
55	XY	43	C
34	YA	9	U
34	YA	15	G
34	YA	34	C
34	YA	46	C
34	YA	61	G
34	YA	64	A
34	YA	72	U
34	YA	74	A
34	YA	75	G
34	YA	83	G
34	YA	96	G
34	YA	101	G
34	YA	102	G
34	YA	103	A
34	YA	118	A
34	YA	120	U
34	YA	125	G
34	YA	161	U
34	YA	162	U
34	YA	188	G
34	YA	196	A
34	YA	199	A
34	YA	214	G
34	YA	215	G
34	YA	216	A
34	YA	221	A
34	YA	222	A
34	YA	223	A

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Mol	Chain	Res	Type
34	YA	228	A
34	YA	229	A
34	YA	230	U
34	YA	232	G
34	YA	242	G
34	YA	243	U
34	YA	248	G
34	YA	250	G
34	YA	252	G
34	YA	265	A
34	YA	266	G
34	YA	269	U
34	YA	270(L)	U
34	YA	270(M)	U
34	YA	270(N)	G
34	YA	270(P)	C
34	YA	271(A)	C
34	YA	271(B)	G
34	YA	271(C)	U
34	YA	271	G
34	YA	274	G
34	YA	275	G
34	YA	276	A
34	YA	278	A
34	YA	279	C
34	YA	283	A
34	YA	299	A
34	YA	300	A
34	YA	311	A
34	YA	315	G
34	YA	323	G
34	YA	324	A
34	YA	329	G
34	YA	330	A
34	YA	343	C
34	YA	352	G
34	YA	363	G
34	YA	364	C
34	YA	371	A
34	YA	372	G
34	YA	373	U
34	YA	380	U

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Mol	Chain	Res	Type
34	YA	386	G
34	YA	387	U
34	YA	396	G
34	YA	405	U
34	YA	406	G
34	YA	411	G
34	YA	412	A
34	YA	428	A
34	YA	444	C
34	YA	448	U
34	YA	455	C
34	YA	457	A
34	YA	458	G
34	YA	470	A
34	YA	480	A
34	YA	481	G
34	YA	483	A
34	YA	496	G
34	YA	504	U
34	YA	505	A
34	YA	509	C
34	YA	512	G
34	YA	529	A
34	YA	531	C
34	YA	532	A
34	YA	537	C
34	YA	539	G
34	YA	540	G
34	YA	546	C
34	YA	547	A
34	YA	556	G
34	YA	563	G
34	YA	567	A
34	YA	568	U
34	YA	573	G
34	YA	575	A
34	YA	586	A
34	YA	588	U
34	YA	603	A
34	YA	607	U
34	YA	614	U
34	YA	615	G

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Mol	Chain	Res	Type
34	YA	617	G
34	YA	622	G
34	YA	627	A
34	YA	637	A
34	YA	645	C
34	YA	646	A
34	YA	651	G
34	YA	654	A
34	YA	654(A)	G
34	YA	654(B)	C
34	YA	668	G
34	YA	669	G
34	YA	670	A
34	YA	686	G
34	YA	702	G
34	YA	717	G
34	YA	722	A
34	YA	730	C
34	YA	747	U
34	YA	753	C
34	YA	771	G
34	YA	782	A
34	YA	784	A
34	YA	785	G
34	YA	789	A
34	YA	790	C
34	YA	805	G
34	YA	812	C
34	YA	819	A
34	YA	827	U
34	YA	828	U
34	YA	847	U
34	YA	856	C
34	YA	857	C
34	YA	860	U
34	YA	866	A
34	YA	869	G
34	YA	881	G
34	YA	884	C
34	YA	885	C
34	YA	886	C
34	YA	888	C

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Mol	Chain	Res	Type
34	YA	889	C
34	YA	896	A
34	YA	897	C
34	YA	900	A
34	YA	907	U
34	YA	910	A
34	YA	917	A
34	YA	932	G
34	YA	941	A
34	YA	945	A
34	YA	946	G
34	YA	957	A
34	YA	959	A
34	YA	961	C
34	YA	974	G
34	YA	974(A)	C
34	YA	975	G
34	YA	980	A
34	YA	983	A
34	YA	996	A
34	YA	1003	G
34	YA	1005	C
34	YA	1011	G
34	YA	1012	U
34	YA	1013	C
34	YA	1023	U
34	YA	1025	G
34	YA	1026	U
34	YA	1027	A
34	YA	1033	U
34	YA	1045	A
34	YA	1046	A
34	YA	1047	G
34	YA	1050	A
34	YA	1054	A
34	YA	1058	G
34	YA	1059	G
34	YA	1060	U
34	YA	1061	U
34	YA	1067	A
34	YA	1068	G
34	YA	1071	G

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Mol	Chain	Res	Type
34	YA	1076	C
34	YA	1077	A
34	YA	1078	U
34	YA	1079	C
34	YA	1082	U
34	YA	1083	U
34	YA	1084	A
34	YA	1085	A
34	YA	1086	A
34	YA	1088	A
34	YA	1090	U
34	YA	1093	G
34	YA	1095	A
34	YA	1096	A
34	YA	1097	U
34	YA	1099	G
34	YA	1103	A
34	YA	1104	C
34	YA	1105	U
34	YA	1110	G
34	YA	1111	A
34	YA	1129	A
34	YA	1130	U
34	YA	1135	C
34	YA	1136	G
34	YA	1142	U
34	YA	1142(A)	A
34	YA	1168	G
34	YA	1169	G
34	YA	1173	G
34	YA	1174	A
34	YA	1175	U
34	YA	1176	G
34	YA	1179	C
34	YA	1191	G
34	YA	1195	G
34	YA	1204	A
34	YA	1205	U
34	YA	1210	A
34	YA	1211	U
34	YA	1220	A
34	YA	1236	G

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Mol	Chain	Res	Type
34	YA	1238	G
34	YA	1250	G
34	YA	1253	A
34	YA	1256	G
34	YA	1265	A
34	YA	1271	G
34	YA	1272	A
34	YA	1273	U
34	YA	1300	U
34	YA	1301	A
34	YA	1321	A
34	YA	1329	U
34	YA	1349	A
34	YA	1352	U
34	YA	1365	A
34	YA	1368	G
34	YA	1370	C
34	YA	1379	A
34	YA	1380	G
34	YA	1384	A
34	YA	1385	G
34	YA	1390	U
34	YA	1391	U
34	YA	1395	A
34	YA	1407	C
34	YA	1411	C
34	YA	1416	G
34	YA	1419	A
34	YA	1420	U
34	YA	1428	C
34	YA	1444(A)	A
34	YA	1445	C
34	YA	1449	A
34	YA	1449(A)	G
34	YA	1454	U
34	YA	1455	G
34	YA	1459	G
34	YA	1460	A
34	YA	1461	G
34	YA	1467	C
34	YA	1471	A
34	YA	1478	G

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Mol	Chain	Res	Type
34	YA	1482	U
34	YA	1483	G
34	YA	1487	G
34	YA	1493	C
34	YA	1496	A
34	YA	1497	U
34	YA	1506	C
34	YA	1507	A
34	YA	1508	A
34	YA	1510	A
34	YA	1511	A
34	YA	1514	U
34	YA	1522	G
34	YA	1523	U
34	YA	1534	G
34	YA	1535	U
34	YA	1536	A
34	YA	1537	C
34	YA	1538	G
34	YA	1543	A
34	YA	1544	C
34	YA	1545	A
34	YA	1554	A
34	YA	1558	A
34	YA	1559	G
34	YA	1569	A
34	YA	1578	U
34	YA	1579	A
34	YA	1581	G
34	YA	1585	C
34	YA	1586	A
34	YA	1587	A
34	YA	1591	G
34	YA	1592	C
34	YA	1598	C
34	YA	1602	U
34	YA	1603	A
34	YA	1608	A
34	YA	1609	A
34	YA	1617	C
34	YA	1618	A
34	YA	1646	C

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Mol	Chain	Res	Type
34	YA	1648	C
34	YA	1654	A
34	YA	1668	A
34	YA	1674	G
34	YA	1694	C
34	YA	1695	G
34	YA	1700	A
34	YA	1718	G
34	YA	1728	G
34	YA	1729	A
34	YA	1730	U
34	YA	1731	G
34	YA	1742	C
34	YA	1743	G
34	YA	1750	G
34	YA	1756	G
34	YA	1757	U
34	YA	1762	A
34	YA	1763	G
34	YA	1764	G
34	YA	1770	G
34	YA	1773	A
34	YA	1780	A
34	YA	1781	C
34	YA	1786	A
34	YA	1791	A
34	YA	1799	G
34	YA	1800	C
34	YA	1801	G
34	YA	1816	G
34	YA	1829	A
34	YA	1835	G
34	YA	1847	A
34	YA	1858	G
34	YA	1869	G
34	YA	1870	C
34	YA	1872	A
34	YA	1878	G
34	YA	1882	C
34	YA	1884	A
34	YA	1889	A
34	YA	1896	G

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Mol	Chain	Res	Type
34	YA	1899	G
34	YA	1900	A
34	YA	1903	G
34	YA	1906	G
34	YA	1913	A
34	YA	1919	A
34	YA	1927	A
34	YA	1929	G
34	YA	1930	G
34	YA	1931	U
34	YA	1936	A
34	YA	1938	A
34	YA	1939	U
34	YA	1955	U
34	YA	1960	A
34	YA	1963	U
34	YA	1967	C
34	YA	1969	A
34	YA	1970	A
34	YA	1971	A
34	YA	1972	A
34	YA	1982	C
34	YA	1993	U
34	YA	2020	A
34	YA	2021	C
34	YA	2023	G
34	YA	2031	A
34	YA	2032	G
34	YA	2033	A
34	YA	2034	U
34	YA	2043	C
34	YA	2052	G
34	YA	2055	C
34	YA	2056	G
34	YA	2059	A
34	YA	2060	A
34	YA	2061	G
34	YA	2062	A
34	YA	2068	U
34	YA	2069	G
34	YA	2093	G
34	YA	2099	U

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Mol	Chain	Res	Type
34	YA	2111	C
34	YA	2112	G
34	YA	2113	U
34	YA	2114	A
34	YA	2115	G
34	YA	2116	G
34	YA	2119	A
34	YA	2120	G
34	YA	2126	A
34	YA	2127	G
34	YA	2128	C
34	YA	2131	G
34	YA	2132	U
34	YA	2133	G
34	YA	2136	C
34	YA	2145	C
34	YA	2146	C
34	YA	2147	G
34	YA	2148	G
34	YA	2158	A
34	YA	2166	G
34	YA	2167	U
34	YA	2168	G
34	YA	2172	U
34	YA	2173	A
34	YA	2176	A
34	YA	2190	G
34	YA	2192	G
34	YA	2198	A
34	YA	2210	G
34	YA	2211	G
34	YA	2212	A
34	YA	2213	U
34	YA	2215	G
34	YA	2225	A
34	YA	2238	G
34	YA	2239	G
34	YA	2243	U
34	YA	2275	C
34	YA	2278	A
34	YA	2283	C
34	YA	2287	A

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Mol	Chain	Res	Type
34	YA	2288	A
34	YA	2307	G
34	YA	2308	G
34	YA	2310	A
34	YA	2311	A
34	YA	2319	G
34	YA	2320	A
34	YA	2325	G
34	YA	2335	A
34	YA	2343	C
34	YA	2346	A
34	YA	2347	C
34	YA	2350	C
34	YA	2354	G
34	YA	2383	G
34	YA	2385	C
34	YA	2392	A
34	YA	2394	C
34	YA	2402	C
34	YA	2403	C
34	YA	2406	U
34	YA	2410	G
34	YA	2423	U
34	YA	2424	C
34	YA	2425	A
34	YA	2429	G
34	YA	2430	A
34	YA	2435	A
34	YA	2439	A
34	YA	2440	C
34	YA	2441	C
34	YA	2448	A
34	YA	2450	A
34	YA	2469	A
34	YA	2470	G
34	YA	2471	C
34	YA	2475	C
34	YA	2476	A
34	YA	2484	G
34	YA	2494	G
34	YA	2498	C
34	YA	2502	G

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Mol	Chain	Res	Type
34	YA	2505	G
34	YA	2518	A
34	YA	2524	G
34	YA	2529	G
34	YA	2542	A
34	YA	2554	U
34	YA	2559	C
34	YA	2566	A
34	YA	2567	G
34	YA	2573	C
34	YA	2576	G
34	YA	2586	C
34	YA	2602	A
34	YA	2609	U
34	YA	2610	C
34	YA	2611	U
34	YA	2612	C
34	YA	2615	U
34	YA	2629	A
34	YA	2632	A
34	YA	2634	G
34	YA	2635	C
34	YA	2636	U
34	YA	2646	C
34	YA	2655	G
34	YA	2656	U
34	YA	2665	A
34	YA	2666	C
34	YA	2673	G
34	YA	2682	U
34	YA	2689	U
34	YA	2702	U
34	YA	2712	U
34	YA	2712(A)	A
34	YA	2713	A
34	YA	2714	G
34	YA	2726	U
34	YA	2733	A
34	YA	2744	G
34	YA	2757	A
34	YA	2761	G
34	YA	2765	A

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Mol	Chain	Res	Type
34	YA	2766	G
34	YA	2777	G
34	YA	2778	A
34	YA	2779	U
34	YA	2780	G
34	YA	2790	A
34	YA	2791	C
34	YA	2797	U
34	YA	2807	G
34	YA	2808	U
34	YA	2811	G
34	YA	2818	G
34	YA	2820	A
34	YA	2821	A
34	YA	2833	G
34	YA	2834	G
34	YA	2835	A
34	YA	2867	G
34	YA	2868	A
34	YA	2872	G
34	YA	2873	A
34	YA	2880	C
34	YA	2892	A
34	YA	2893	G
34	YA	2894	G
35	YB	8	U
35	YB	9	G
35	YB	13	A
35	YB	15	A
35	YB	19	G
35	YB	22	U
35	YB	25	A
35	YB	27	C
35	YB	32	C
35	YB	39	A
35	YB	41	U
35	YB	42	C
35	YB	44	G
35	YB	45	A
35	YB	52	A
35	YB	67	G
35	YB	73	A

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Mol	Chain	Res	Type
35	YB	89	G
35	YB	108	C
35	YB	109	G

All (169) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	QA	31	G
1	QA	64	G
1	QA	115	G
1	QA	119	A
1	QA	243	A
1	QA	244	U
1	QA	250	A
1	QA	266	G
1	QA	328	C
1	QA	410	G
1	QA	412	A
1	QA	428	G
1	QA	481	G
1	QA	484	G
1	QA	485	G
1	QA	509	A
1	QA	533	A
1	QA	687	A
1	QA	703	G
1	QA	753	A
1	QA	792	A
1	QA	812	C
1	QA	913	A
1	QA	991	U
1	QA	992	U
1	QA	1025	U
1	QA	1027	C
1	QA	1064	G
1	QA	1065	U
1	QA	1200	C
1	QA	1201	A
1	QA	1213	A
1	QA	1285	A
1	QA	1297	C
1	QA	1336	C

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Mol	Chain	Res	Type
1	QA	1346	A
1	QA	1347	G
1	QA	1446	A
1	QA	1498	U
1	QA	1528	U
34	RA	74	A
34	RA	99	U
34	RA	102	G
34	RA	221	A
34	RA	227	A
34	RA	229	A
34	RA	242	G
34	RA	271(B)	G
34	RA	271(C)	U
34	RA	372	G
34	RA	404	C
34	RA	503	A
34	RA	512	G
34	RA	528	A
34	RA	587	C
34	RA	637	A
34	RA	652	C
34	RA	845	G
34	RA	846	C
34	RA	856	C
34	RA	974(A)	C
34	RA	1012	U
34	RA	1022	G
34	RA	1026	U
34	RA	1045	A
34	RA	1085	A
34	RA	1130	U
34	RA	1175	U
34	RA	1178	C
34	RA	1210	A
34	RA	1312	U
34	RA	1427	A
34	RA	1558	A
34	RA	1694	C
34	RA	1819	A
34	RA	1930	G
34	RA	1980	G

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Mol	Chain	Res	Type
34	RA	1992	G
34	RA	2060	A
34	RA	2126	A
34	RA	2405	G
34	RA	2439	A
34	RA	2518	A
34	RA	2566	A
34	RA	2610	C
34	RA	2712	U
34	RA	2832	U
35	RB	66	A
1	XA	60	A
1	XA	64	G
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	345	C
1	XA	353	A
1	XA	410	G
1	XA	412	A
1	XA	429	U
1	XA	481	G
1	XA	484	G
1	XA	485	G
1	XA	509	A
1	XA	560	U
1	XA	687	A
1	XA	703	G
1	XA	753	A
1	XA	913	A
1	XA	992	U
1	XA	1027	C
1	XA	1200	C
1	XA	1285	A
1	XA	1297	C
1	XA	1336	C

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Mol	Chain	Res	Type
1	XA	1446	A
1	XA	1498	U
34	YA	99	U
34	YA	102	G
34	YA	221	A
34	YA	222	A
34	YA	229	A
34	YA	242	G
34	YA	271(B)	G
34	YA	278	A
34	YA	372	G
34	YA	404	C
34	YA	503	A
34	YA	508	G
34	YA	587	C
34	YA	752	A
34	YA	846	C
34	YA	856	C
34	YA	859	G
34	YA	974(A)	C
34	YA	1022	G
34	YA	1026	U
34	YA	1045	A
34	YA	1078	U
34	YA	1085	A
34	YA	1109	C
34	YA	1178	C
34	YA	1210	A
34	YA	1379	A
34	YA	1427	A
34	YA	1558	A
34	YA	1653	G
34	YA	1694	C
34	YA	1799	G
34	YA	1800	C
34	YA	1930	G
34	YA	1992	G
34	YA	2032	G
34	YA	2126	A
34	YA	2439	A
34	YA	2566	A
34	YA	2610	C

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Mol	Chain	Res	Type
34	YA	2655	G
34	YA	2681	C
34	YA	2712	U
34	YA	2756	U
34	YA	2776	A
34	YA	2832	U
34	YA	2867	G
35	YB	66	A

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

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

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
22	7MG	QV	46	22	22,26,27	1.40	5 (22%)	29,39,42	2.42	6 (20%)
22	PSU	XV	55	22	18,21,22	1.37	2 (11%)	22,30,33	1.87	3 (13%)
22	H2U	QV	20	22	18,21,22	1.04	1 (5%)	21,30,33	2.35	3 (14%)
22	C4J	QV	47	22	24,29,30	2.93	6 (25%)	29,42,45	1.63	5 (17%)
22	PSU	QV	55	22	18,21,22	1.42	2 (11%)	22,30,33	1.93	3 (13%)
22	PSU	XV	39	22	18,21,22	1.37	2 (11%)	22,30,33	1.84	3 (13%)
22	T6A	XV	37	22	27,34,35	0.95	1 (3%)	29,49,52	1.83	6 (20%)
22	C4J	XV	47	22	24,29,30	2.86	7 (29%)	29,42,45	1.49	5 (17%)
22	5MU	QV	54	22	19,22,23	1.36	4 (21%)	28,32,35	2.03	8 (28%)
22	T6A	QV	37	22	27,34,35	0.92	1 (3%)	29,49,52	2.29	5 (17%)
22	7MG	XV	46	22	22,26,27	1.30	3 (13%)	29,39,42	2.51	7 (24%)
22	PSU	QV	39	22	18,21,22	1.39	2 (11%)	22,30,33	1.95	4 (18%)
22	5MU	XV	54	22	19,22,23	1.36	5 (26%)	28,32,35	1.98	7 (25%)
56	PPU	Z6	76	56,34	32,40,41	0.84	1 (3%)	33,57,60	1.42	6 (18%)
56	PPU	Z8	76	56,34	32,40,41	0.89	1 (3%)	33,57,60	1.35	5 (15%)
22	MNU	QV	34	22,23	20,24,25	1.28	3 (15%)	28,34,37	1.72	8 (28%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
22	H2U	XV	20	22	18,21,22	1.04	2 (11%)	21,30,33	2.39	4 (19%)
22	MNU	XV	34	22,23	20,24,25	1.30	3 (15%)	28,34,37	1.84	7 (25%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
22	7MG	QV	46	22	-	2/7/37/38	0/3/3/3
22	PSU	XV	55	22	-	0/7/25/26	0/2/2/2
22	H2U	QV	20	22	-	5/7/38/39	0/2/2/2
22	C4J	QV	47	22	-	4/16/34/35	0/2/2/2
22	PSU	QV	55	22	-	0/7/25/26	0/2/2/2
22	PSU	XV	39	22	-	0/7/25/26	0/2/2/2
22	T6A	XV	37	22	-	9/19/41/42	0/3/3/3
22	C4J	XV	47	22	-	5/16/34/35	0/2/2/2
22	5MU	QV	54	22	-	0/7/25/26	0/2/2/2
22	T6A	QV	37	22	-	10/19/41/42	0/3/3/3
22	7MG	XV	46	22	-	0/7/37/38	0/3/3/3
22	PSU	QV	39	22	-	0/7/25/26	0/2/2/2
22	5MU	XV	54	22	-	0/7/25/26	0/2/2/2
56	PPU	Z6	76	56,34	-	3/21/43/44	0/4/4/4
56	PPU	Z8	76	56,34	-	3/21/43/44	0/4/4/4
22	MNU	QV	34	22,23	-	2/9/28/29	0/2/2/2
22	H2U	XV	20	22	-	5/7/38/39	0/2/2/2
22	MNU	XV	34	22,23	-	3/9/28/29	0/2/2/2

All (51) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	QV	47	C4J	C6-C5	10.60	1.49	1.34
22	XV	47	C4J	C6-C5	10.44	1.49	1.34
22	QV	47	C4J	C2-N3	6.45	1.50	1.38
22	XV	47	C4J	C2-N3	6.01	1.49	1.38
22	QV	55	PSU	C6-C5	3.57	1.39	1.35
22	XV	47	C4J	C6-N1	3.54	1.45	1.36
22	QV	47	C4J	C6-N1	3.50	1.45	1.36
22	XV	55	PSU	C6-C5	3.47	1.39	1.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	QV	47	C4J	C2-N1	3.47	1.49	1.39
22	XV	47	C4J	C2-N1	3.42	1.49	1.39
22	XV	39	PSU	C6-C5	3.38	1.39	1.35
22	QV	39	PSU	C6-C5	3.36	1.39	1.35
22	QV	46	7MG	C5-C4	3.22	1.48	1.38
22	QV	47	C4J	C4-N3	3.11	1.45	1.40
22	XV	47	C4J	C4-N3	3.10	1.45	1.40
22	XV	46	7MG	C4-N9	-3.09	1.34	1.37
22	XV	46	7MG	C5-C4	2.95	1.47	1.38
22	XV	34	MNU	C2-N1	2.93	1.43	1.38
22	QV	34	MNU	C4-N3	-2.86	1.33	1.38
22	XV	20	H2U	C2-N3	-2.81	1.33	1.38
22	QV	20	H2U	C2-N3	-2.78	1.33	1.38
56	Z8	76	PPU	C5-C4	2.78	1.48	1.40
22	QV	46	7MG	C8-N9	2.73	1.47	1.46
22	QV	55	PSU	C4-N3	-2.70	1.33	1.38
22	XV	34	MNU	C4-N3	-2.68	1.33	1.38
56	Z6	76	PPU	C5-C4	2.66	1.48	1.40
22	QV	54	5MU	C6-C5	2.65	1.38	1.34
22	QV	34	MNU	C2-N1	2.65	1.42	1.38
22	XV	54	5MU	C6-C5	2.63	1.38	1.34
22	XV	55	PSU	C4-N3	-2.59	1.34	1.38
22	XV	39	PSU	C4-N3	-2.57	1.34	1.38
22	XV	37	T6A	C5-C4	2.53	1.47	1.40
22	QV	54	5MU	C4-C5	2.51	1.49	1.44
22	XV	54	5MU	C4-N3	-2.50	1.34	1.38
22	QV	37	T6A	C5-C4	2.50	1.47	1.40
22	QV	54	5MU	C4-N3	-2.41	1.34	1.38
22	QV	46	7MG	C4-N9	-2.35	1.35	1.37
22	QV	46	7MG	C6-N1	-2.32	1.34	1.38
22	XV	54	5MU	C2-N1	2.29	1.42	1.38
22	XV	20	H2U	C4-N3	-2.29	1.33	1.37
22	XV	46	7MG	C6-N1	-2.25	1.34	1.38
22	XV	54	5MU	C4-C5	2.20	1.48	1.44
22	QV	54	5MU	C2-N1	2.14	1.41	1.38
22	QV	39	PSU	C4-N3	-2.13	1.34	1.38
22	XV	47	C4J	O4-C4	-2.06	1.18	1.23
22	QV	47	C4J	O2-C2	-2.05	1.18	1.22
22	QV	34	MNU	C2-N3	-2.04	1.34	1.38
22	QV	46	7MG	C5-C6	2.03	1.48	1.43
22	XV	54	5MU	C6-N1	-2.03	1.34	1.38
22	XV	34	MNU	C6-N1	-2.02	1.34	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
22	XV	47	C4J	O2-C2	-2.01	1.18	1.22

All (95) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	XV	20	H2U	C4-N3-C2	-9.66	117.78	125.79
22	QV	20	H2U	C4-N3-C2	-9.15	118.20	125.79
22	QV	37	T6A	C2-N1-C6	8.74	124.08	116.59
22	XV	46	7MG	N9-C4-N3	8.72	138.52	125.47
22	QV	46	7MG	N9-C4-N3	8.52	138.21	125.47
22	XV	37	T6A	C2-N1-C6	6.50	122.16	116.59
22	QV	55	PSU	N1-C2-N3	6.30	122.27	115.13
22	QV	39	PSU	N1-C2-N3	5.92	121.84	115.13
22	XV	55	PSU	N1-C2-N3	5.80	121.70	115.13
22	XV	39	PSU	N1-C2-N3	5.75	121.65	115.13
22	QV	46	7MG	C5-C4-N3	-5.48	117.69	128.13
22	XV	46	7MG	C5-C4-N3	-5.28	118.06	128.13
22	XV	46	7MG	N9-C8-N7	-5.19	95.96	103.38
22	QV	47	C4J	C4-N3-C2	-5.06	119.06	125.46
22	QV	54	5MU	N3-C2-N1	5.01	121.54	114.89
22	XV	54	5MU	N3-C2-N1	4.93	121.43	114.89
22	QV	37	T6A	N6-C10-N11	4.84	120.53	113.76
22	XV	54	5MU	C4-N3-C2	-4.83	121.09	127.35
22	QV	54	5MU	C4-N3-C2	-4.81	121.12	127.35
22	QV	46	7MG	N9-C8-N7	-4.80	96.51	103.38
22	XV	47	C4J	C4-N3-C2	-4.79	119.40	125.46
22	XV	34	MNU	N3-C2-N1	4.60	120.99	114.89
22	XV	34	MNU	C4-N3-C2	-4.42	121.63	127.35
22	QV	46	7MG	C2-N3-C4	4.32	120.00	112.30
22	XV	46	7MG	C2-N3-C4	4.32	120.00	112.30
22	QV	39	PSU	O2-C2-N1	-4.30	118.05	122.79
22	QV	34	MNU	N3-C2-N1	4.21	120.48	114.89
22	QV	54	5MU	C5-C4-N3	4.15	118.85	115.31
22	XV	54	5MU	C5-C4-N3	4.13	118.84	115.31
22	XV	37	T6A	N6-C10-N11	3.97	119.31	113.76
22	QV	37	T6A	N3-C2-N1	-3.94	122.53	128.68
22	XV	54	5MU	O4-C4-C5	-3.91	120.37	124.90
22	QV	55	PSU	C4-N3-C2	-3.88	120.75	126.34
22	XV	55	PSU	C4-N3-C2	-3.84	120.80	126.34
22	QV	20	H2U	N3-C2-N1	-3.83	112.60	116.65
22	XV	34	MNU	C1'-N1-C2	3.76	124.38	117.57
22	XV	39	PSU	C4-N3-C2	-3.70	121.00	126.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	QV	54	5MU	O4-C4-C5	-3.61	120.72	124.90
22	QV	39	PSU	C4-N3-C2	-3.59	121.16	126.34
56	Z8	76	PPU	C4-C5-N7	-3.54	105.71	109.40
56	Z6	76	PPU	C4-C5-N7	-3.42	105.84	109.40
22	XV	39	PSU	O2-C2-N1	-3.40	119.04	122.79
22	QV	34	MNU	C4-N3-C2	-3.40	122.95	127.35
22	XV	55	PSU	O2-C2-N1	-3.38	119.07	122.79
22	QV	34	MNU	O4-C4-C5	-3.35	119.97	124.96
22	QV	34	MNU	C1'-N1-C2	3.35	123.63	117.57
56	Z6	76	PPU	C10-N6-C6	-3.35	109.39	119.51
22	QV	37	T6A	O10-C10-N6	-3.33	118.00	123.62
56	Z8	76	PPU	C10-N6-C6	-3.30	109.53	119.51
22	XV	37	T6A	N6-C6-N1	3.26	123.09	118.72
22	XV	37	T6A	N3-C2-N1	-3.13	123.78	128.68
22	XV	20	H2U	N3-C2-N1	-3.12	113.35	116.65
22	XV	34	MNU	C1'-N1-C6	-3.04	116.06	121.12
22	QV	54	5MU	C5M-C5-C4	3.03	122.10	118.77
22	QV	55	PSU	O2-C2-N1	-2.98	119.51	122.79
22	QV	47	C4J	N3-C2-N1	2.95	120.92	116.76
56	Z6	76	PPU	N1-C6-N6	2.91	120.12	117.06
56	Z8	76	PPU	N3-C2-N1	-2.90	124.14	128.68
22	XV	34	MNU	O4-C4-C5	-2.89	120.66	124.96
56	Z6	76	PPU	C10-N6-C9	-2.84	106.96	116.12
22	QV	54	5MU	O2-C2-N1	-2.84	119.01	122.79
22	XV	34	MNU	C5-C4-N3	2.81	118.92	114.97
22	QV	34	MNU	C5-C4-N3	2.79	118.89	114.97
22	QV	47	C4J	C3-N3-C2	2.76	121.80	117.67
22	QV	47	C4J	O4'-C1'-C2'	2.73	108.99	105.14
56	Z8	76	PPU	C10-N6-C9	-2.69	107.44	116.12
22	XV	54	5MU	C5-C6-N1	-2.69	120.57	123.34
22	XV	46	7MG	C5-C6-N1	2.68	115.71	110.99
56	Z6	76	PPU	N3-C2-N1	-2.63	124.58	128.68
22	XV	34	MNU	O2-C2-N3	-2.58	116.69	121.50
22	QV	34	MNU	O2-C2-N3	-2.57	116.72	121.50
22	QV	54	5MU	C5-C6-N1	-2.57	120.70	123.34
22	XV	47	C4J	N3-C2-N1	2.52	120.31	116.76
56	Z6	76	PPU	C9-N6-C6	-2.51	111.92	119.51
22	QV	34	MNU	C6-N1-C2	-2.49	118.77	121.30
22	XV	54	5MU	O2-C2-N1	-2.45	119.53	122.79
22	QV	37	T6A	N6-C6-N1	2.44	122.00	118.72
22	QV	46	7MG	C5-C6-N1	2.43	115.28	110.99
56	Z8	76	PPU	N1-C6-N6	2.42	119.60	117.06

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	QV	39	PSU	C6-C5-C4	-2.36	116.55	118.20
22	XV	20	H2U	C5-C6-N1	-2.34	103.90	111.61
22	XV	47	C4J	C5-C4-N3	2.31	120.45	116.17
22	XV	47	C4J	O4'-C1'-C2'	2.30	108.39	105.14
22	XV	37	T6A	O10-C10-N6	-2.30	119.73	123.62
22	XV	46	7MG	C5-C4-N9	-2.26	103.42	106.35
22	QV	54	5MU	C5M-C5-C6	-2.25	119.84	122.85
22	QV	47	C4J	C5-C4-N3	2.19	120.24	116.17
22	QV	34	MNU	C1'-N1-C6	-2.16	117.53	121.12
22	XV	20	H2U	O2-C2-N1	2.13	125.79	123.11
22	QV	20	H2U	C5-C6-N1	-2.12	104.63	111.61
22	XV	47	C4J	C3-N3-C2	2.11	120.83	117.67
22	XV	46	7MG	O6-C6-C5	-2.07	122.47	127.54
22	XV	37	T6A	C4-C5-N7	-2.06	107.25	109.40
22	QV	46	7MG	CM7-N7-C5	2.06	131.71	126.40
22	XV	54	5MU	C5M-C5-C4	2.05	121.03	118.77

There are no chirality outliers.

All (51) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
22	QV	20	H2U	C3'-C4'-C5'-O5'
22	XV	20	H2U	C3'-C4'-C5'-O5'
22	XV	20	H2U	C2'-C1'-N1-C2
22	QV	34	MNU	C6-C5-C7-N8
22	QV	34	MNU	C4-C5-C7-N8
22	XV	34	MNU	C6-C5-C7-N8
22	XV	34	MNU	C4-C5-C7-N8
22	QV	37	T6A	N6-C10-N11-C12
22	QV	37	T6A	N11-C12-C13-ODB
22	QV	37	T6A	C13-C12-C14-O14
22	QV	37	T6A	C13-C12-C14-C15
22	XV	37	T6A	N6-C10-N11-C12
22	XV	37	T6A	C13-C12-C14-O14
22	XV	37	T6A	C13-C12-C14-C15
22	QV	47	C4J	N3-C3-C31-C32
22	XV	47	C4J	N3-C3-C31-C32
56	Z6	76	PPU	CE1-CZ-OC-CM
56	Z6	76	PPU	CE2-CZ-OC-CM
22	QV	37	T6A	O10-C10-N11-C12
22	XV	37	T6A	O10-C10-N11-C12
56	Z8	76	PPU	CE1-CZ-OC-CM

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Mol	Chain	Res	Type	Atoms
56	Z8	76	PPU	CE2-CZ-OC-CM
22	QV	20	H2U	C2'-C1'-N1-C2
22	XV	20	H2U	O4'-C4'-C5'-O5'
22	QV	20	H2U	C2'-C1'-N1-C6
22	XV	20	H2U	C2'-C1'-N1-C6
22	QV	37	T6A	C5-C6-N6-C10
22	XV	37	T6A	C5-C6-N6-C10
22	QV	37	T6A	N11-C12-C14-O14
22	QV	37	T6A	N11-C12-C14-C15
22	XV	37	T6A	N11-C12-C14-O14
22	XV	37	T6A	N11-C12-C14-C15
22	QV	20	H2U	O4'-C4'-C5'-O5'
22	QV	37	T6A	N11-C12-C13-ODA
56	Z8	76	PPU	C5-C6-N6-C9
22	XV	47	C4J	C4'-C5'-O5'-P
56	Z6	76	PPU	C5-C6-N6-C9
22	XV	20	H2U	C4'-C5'-O5'-P
22	QV	47	C4J	C31-C32-C34-O35
22	XV	37	T6A	N11-C12-C13-ODB
22	XV	47	C4J	C31-C32-C34-O35
22	QV	47	C4J	C4'-C5'-O5'-P
22	QV	37	T6A	C3'-C4'-C5'-O5'
22	QV	46	7MG	O4'-C4'-C5'-O5'
22	XV	47	C4J	C31-C32-C34-O36
22	XV	37	T6A	N11-C12-C13-ODA
22	QV	47	C4J	C31-C32-C34-O36
22	QV	46	7MG	C3'-C4'-C5'-O5'
22	XV	47	C4J	C3-C31-C32-N33
22	XV	34	MNU	C2'-C1'-N1-C2
22	QV	20	H2U	C4'-C5'-O5'-P

There are no ring outliers.

3 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
22	XV	37	T6A	1	0
22	XV	54	5MU	1	0
56	Z8	76	PPU	2	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 846 ligands modelled in this entry, 844 are monoatomic - leaving 2 for Mogul analysis.

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

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

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

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

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
58	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

6.1 Protein, DNA and RNA chains

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

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

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

6.3 Carbohydrates

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

6.4 Ligands

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

6.5 Other polymers

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